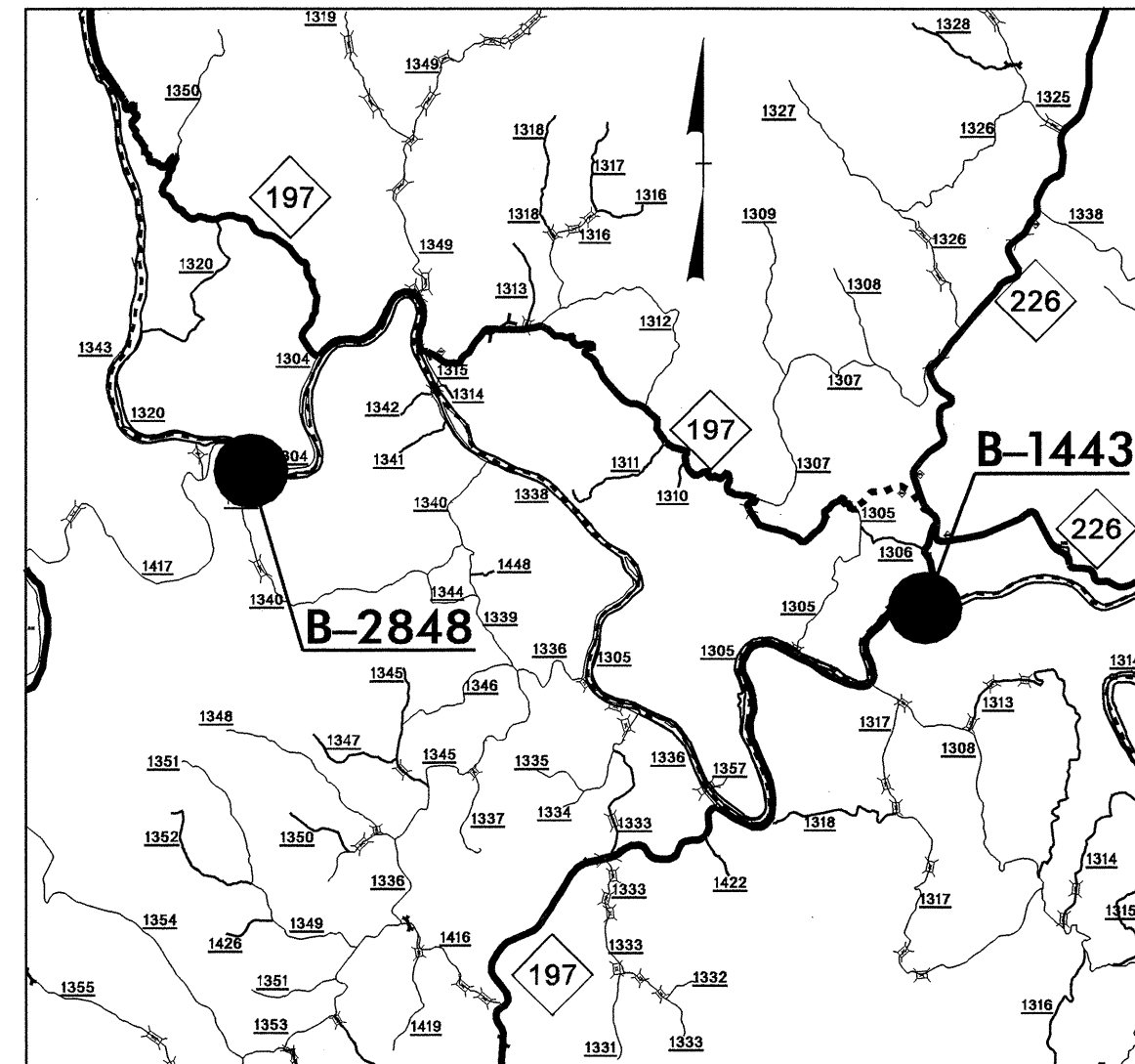


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2848/B-1443	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
32728.1.1	BRZ-1304(4)	B-2848 (PE)	
32728.2.2	BRZ-1304(4)	B-2848 (RW&UTIL.)	
32728.3.2	BRZ-1304(9)	B-2848 (CONST.)	
32597.1.1	BRSTP-197(1)	B-1443 (PE)	
32597.2.2	BRSTP-197(1)	B-1443 (RW&UTIL.)	
32597.3.2	BRSTP-197(1)	B-1443 (CONST.)	

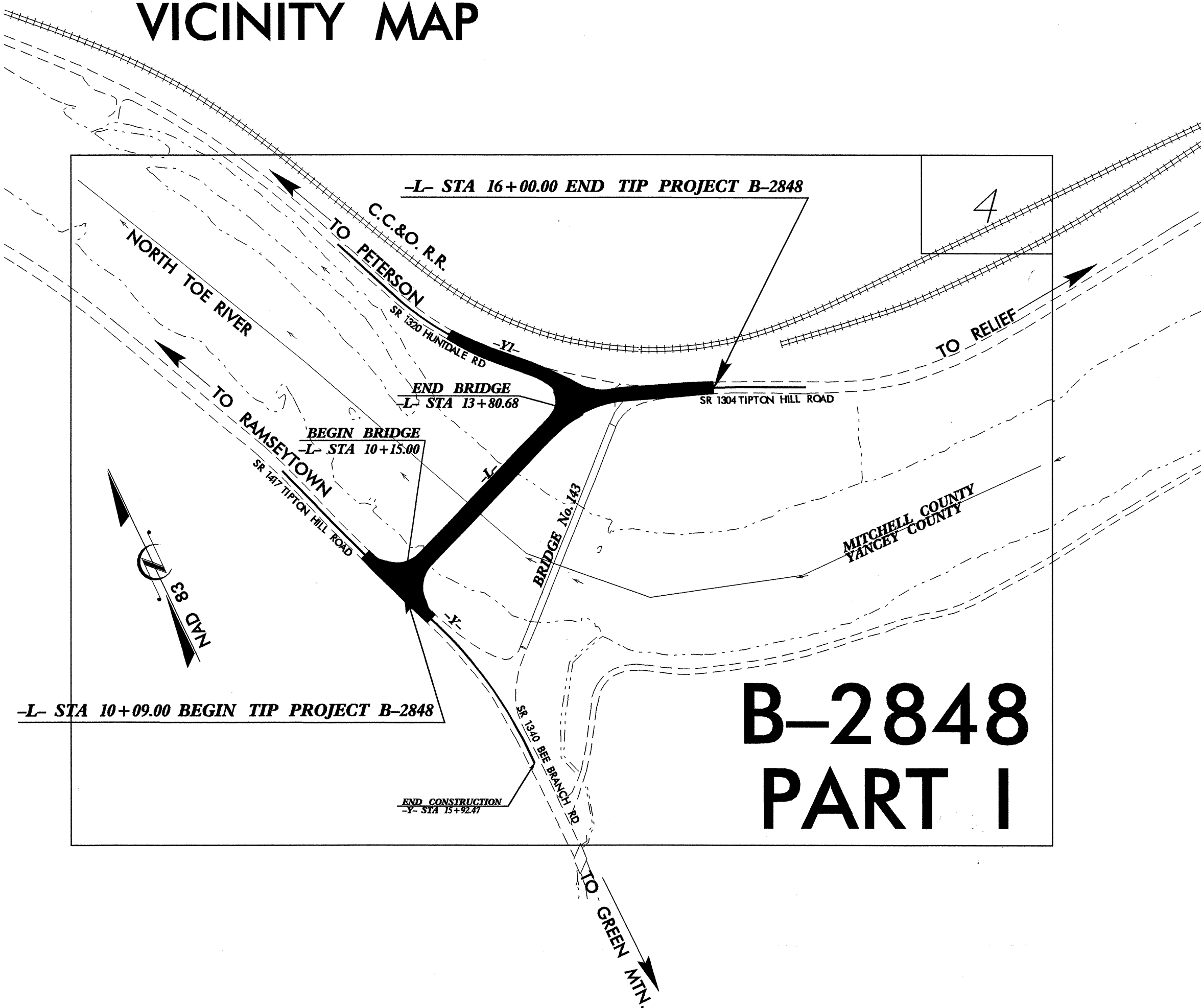
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MITCHELL & YANCEY COUNTIES

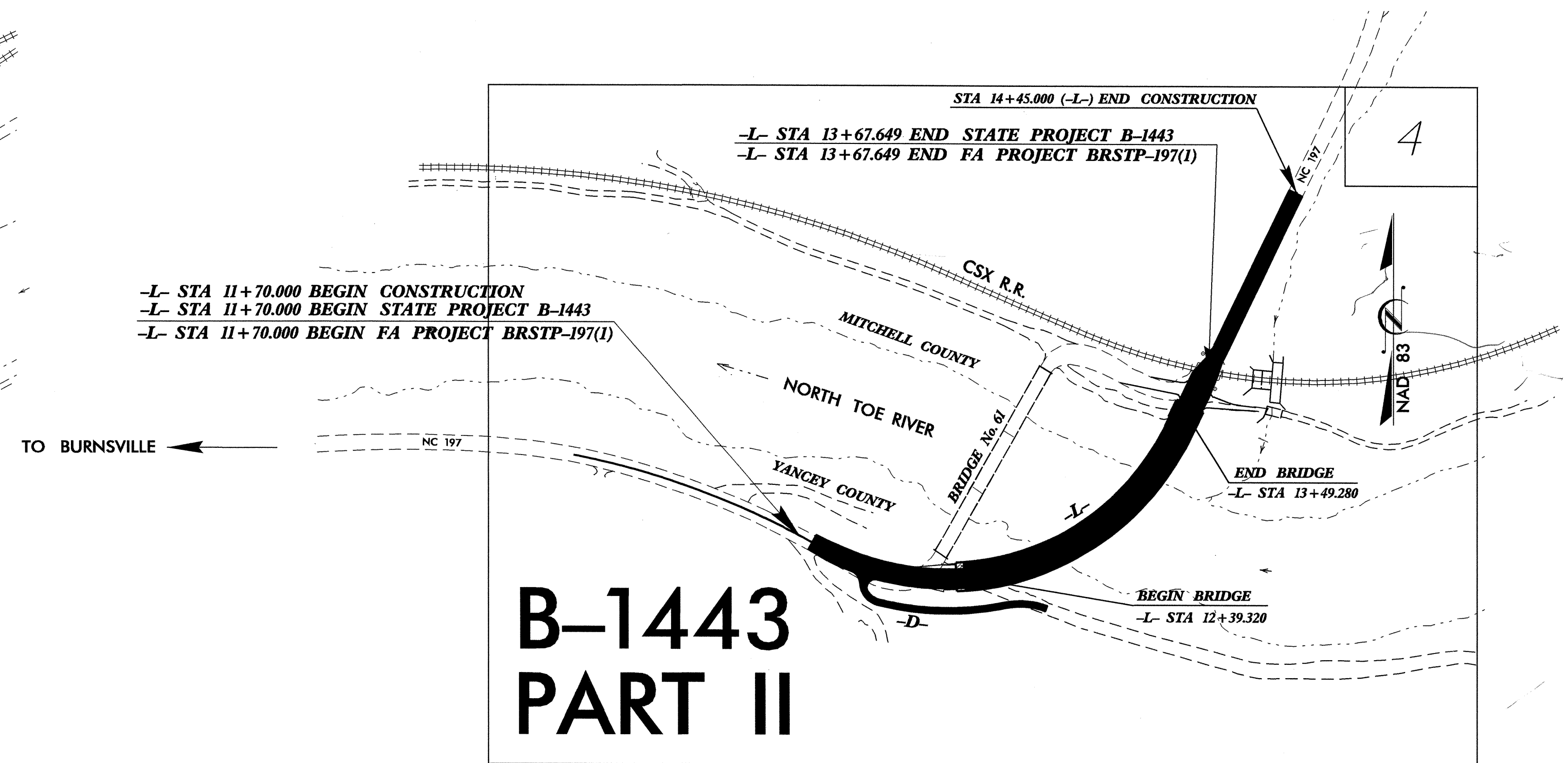
**LOCATION: BRIDGE No. 143 ON SR 1304 AND
BRIDGE No. 61 ON NC 197 BOTH
OVER THE NORTH TOE RIVER**
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURES



VICINITY MAP



**B-2848
PART I**



**B-1443
PART II**

CONTRACT: C201180 TIP PROJECTS: B-2848/B-1443

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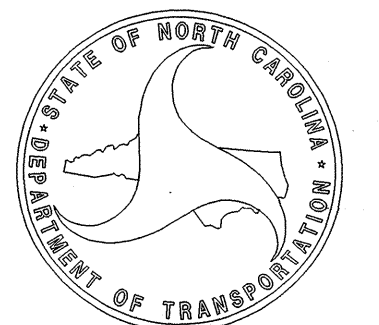
PROJECT LENGTH

LENGTH ROADWAY TIP PROJECTS B-2848/B-1443 = 0.097 MI
LENGTH STRUCTURES TIP PROJECTS B-2848/B-1443 = 0.138 MI
TOTAL LENGTH TIP PROJECTS B-2848/B-1443 = 0.235 MI

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

RIGHT OF WAY DATE: (B-2848)
AUGUST 28, 2003
RIGHT OF WAY DATE: (B-1443)
FEBRUARY 26, 2004
SETTING DATE:
FEBRUARY 20, 2007

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**



Out on miller P.E.
STATE HIGHWAY DESIGN ENGINEER

6/15/99

INDEX OF SHEETS

Table with 2 columns: SHEET NUMBER and SHEET. Rows include 1 (TITLE SHEET), 1-A (INDEX OF SHEETS), 1-B (CONVENTIONAL SYMBOLS), and 3 (SUMMARY OF QUANTITIES).

PART I (B-2848)

PART II (B-1443)

Main index table with 4 columns: SHEET NUMBER, SHEET, SHEET NUMBER, SHEET. It lists various drawing sheets like 'TITLE SHEET', 'INDEX OF SHEETS', 'CONVENTIONAL SYMBOLS', 'SURVEY CONTROL DATA SHEET', 'PAVEMENT SCHEDULE', 'DETAIL OF PREFORMED SCOUR HOLE', 'SUMMARY OF DRAINAGE QUANTITIES', 'PLAN SHEET', 'PROFILE SHEET', 'TRAFFIC CONTROL PLANS', 'PAVEMENT MARKING PLANS', 'REFORSTATION PLAN', 'EROSION CONTROL PLANS', 'SIGNAL PLANS', 'CROSS SECTION SUMMARY', 'CROSS-SECTIONS', 'STRUCTURE PLANS', 'SIGNING PLANS', 'UTILITIES BY OTHERS', 'EARTHWORK VOLUME SUMMARY', 'CROSS-SECTIONS', and 'STRUCTURE PLANS'.

PART I (B-2848)

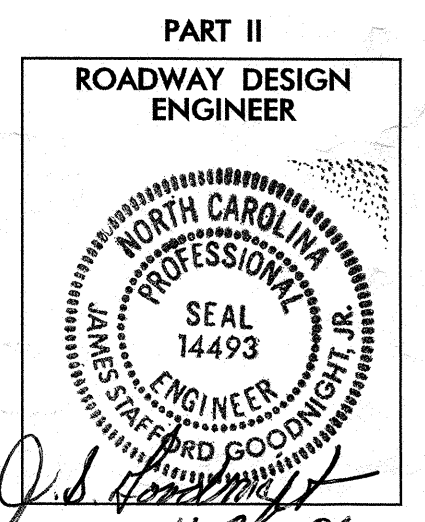
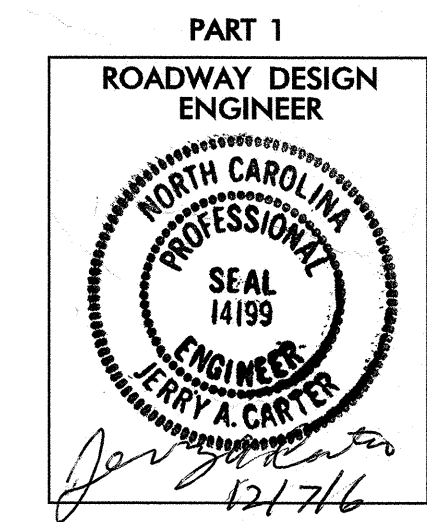
GENERAL NOTES: 2006 SPECIFICATIONS EFFECTIVE: 07-18-06 REVISED: GRADING AND SURFACING OR RESURFACING AND WIDENING: THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN. CLEARING: CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II. SUPERELEVATION: ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. SHOULDER CONSTRUCTION: ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01. SIDE ROADS: THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED. DRIVEWAYS: DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS 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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR TEMPORARY SHORING OR TEMPORARY SHORING-BARRIER SUPPORTED DEPENDING UPON THE LOCATION OF THE SHORING. SUBSURFACE PLANS: NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS. END BENTS: THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE. UTILITIES: UTILITY OWNERS ON THIS PROJECT ARE DUKE POWER, CENTEL/SPRINT TELEPHONE. ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS. RIGHT-OF-WAY MARKERS: ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

Table with 2 columns: STD.NO. and TITLE. Lists various drawing standards like '2006 ROADWAY STANDARD DRAWINGS', 'DIVISION 2 - EARTHWORK', 'DIVISION 3 - PIPE CULVERTS', 'DIVISION 4 - MAJOR STRUCTURES', 'DIVISION 5 - SUBGRADE, BASES AND SHOULDERS', 'DIVISION 6 - INCIDENTALS', 'DIVISION 7 - BRIDGE APPROACH FILLS', 'DIVISION 8 - INCIDENTALS', 'CONCRETE RIGHT-OF-WAY MARKER', 'CONCRETE BASE PAD FOR DRAINAGE STRUCTURES', 'CONCRETE GRATED DROP INLET TYPE 'D' - 12" THRU 36" PIPE', 'FRAMES AND WIDE SLOT SAG GRATES', 'BRICK GRATED DROP INLET TYPE 'D' - 12" THRU 36" PIPE', 'FRAMES AND NARROW SLOT FLAT GRATES', 'TRAFFIC BEARING DROP INLET - FOR CAST IRON DOUBLE FRAME AND GRATES', 'DRAINAGE STRUCTURE STEPS', 'PIPE COLLAR', 'CONCRETE CURB, GUTTER AND CURB & GUTTER', 'DROP INLET INSTALLATION IN SHOULDER BERM GUTTER', 'GUARDRAIL PLACEMENT', 'GUARDRAIL INSTALLATION', 'STRUCTURE ANCHOR UNITS', and 'GUIDE FOR RIP RAP AT PIPE OUTLETS'.

PART II (B-1443)

GENERAL NOTES: 2002 SPECIFICATIONS EFFECTIVE: 01-15-02 REVISED: 05-14-03 GRADING AND SURFACING OR RESURFACING AND WIDENING: THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN. CLEARING: CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II. SUPERELEVATION: ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. SHOULDER CONSTRUCTION: ASPHALT AND EARTH 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. BERM DITCHES: BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. UNDERDRAINS: UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER. DRIVEWAYS: DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS IN PLANS USING 3' 900 MM RADIUS OR RADIUS AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS 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. UTILITIES: UTILITY OWNERS ON THIS PROJECT ARE FRENCH BROAD EMC- POWER DISTRIBUTION, VERIZON - TELEPHONE. 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.

Table with 2 columns: STD.NO. and TITLE. Lists various drawing standards like 'ROADWAY ENGLISH STANDARD DRAWINGS', 'DIVISION 2 - EARTHWORK', 'DIVISION 3 - PIPE CULVERTS', 'DIVISION 4 - MAJOR STRUCTURES', 'DIVISION 5 - SUBGRADE, BASES AND SHOULDERS', 'DIVISION 6 - INCIDENTALS', 'CONCRETE RIGHT-OF-WAY MARKER', 'GRANITE RIGHT-OF-WAY MARKER', 'PIPE UNDERDRAIN AND BLIND DRAIN', 'MARKERS FOR DRAINAGE STRUCTURE AND CONCRETE PAD', 'CONCRETE DROP INLET', 'BRICK DROP INLET', 'CONCRETE MEDIAN DROP INLET TYPE 'B' - 300MM THRU 900MM PIPE', 'FRAMES AND NARROW SLOT SAG GRATES', 'BRICK MEDIAN DROP INLET TYPE 'B' - 300MM THRU 900MM PIPE', 'FRAMES AND NARROW SLOT FLAT GRATES', 'TRAFFIC BEARING DROP INLET - FOR CAST IRON DOUBLE FRAME AND GRATES', 'PRECAST DRAINAGE STRUCTURE', 'TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE', 'DRAINAGE STRUCTURE STEPS', 'CONCRETE AND BRICK PIPE PLUG', 'CONCRETE CURB, GUTTER AND CURB & GUTTER', 'GUIDE FOR BERM DRAINAGE OUTLET - 600MM AND 800MM PIPE', 'GUARDRAIL PLACEMENT', 'RIP RAP IN CHANNELS', and 'GUIDE FOR RIP RAP AT PIPE OUTLETS'.



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*S.U.E = SUBSURFACE UTILITY ENGINEER

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

Edge of Pavement	-----
Curb	-----
Prop. Slope Stakes Cut	----- C
Prop. Slope Stakes Fill	----- F
Prop. Woven Wire Fence	-----
Prop. Chain Link Fence	-----
Prop. Barbed Wire Fence	-----
Prop. Wheelchair Ramp	----- WCR
Curb Cut For Future Wheelchair Ramp	----- CCFR
Exist. Guardrail	-----
Prop. Guardrail	-----
Exist. Cable Guiderail	-----
Prop. Cable Guiderail	-----
Equality Symbol	-----
Pavement Removal	-----

RIGHT OF WAY

Baseline Control Point	-----
Existing Right of Way Marker	-----
Exist. Right of Way Line w/Marker	-----
Prop. Right of Way Line with Proposed RW marker (Iron Pin & Cap)	-----
Prop. Right of Way Line with Proposed (Concrete or Granite) R/w Marker	-----
Exist. Control of Access Line	-----
Prop. Control of Access Line	-----
Exist. Easement Line	-----
Prop. Temp. Construction Easement Line	-----
Prop. Temp. Drainage Easement Line	-----
Prop. Perm. Drainage Easement Line	-----

HYDROLOGY

Stream or Body of Water	-----
Flow Arrow	-----
Disappearing Stream	-----
Spring	-----
Swamp Marsh	-----
Shoreline	-----
Falls, Rapids	-----
Prop Lateral, Tail, Head Ditches	-----

STRUCTURES

MAJOR	
Bridge, Tunnel, or Box Culvert	----- CONC
Bridge Wing Wall, Head Wall and End Wall	----- CONC WW

MINOR

Head & End Wall	----- CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Boxes	----- CB
Paved Ditch Gutter	-----

UTILITIES

Exist. Pole	-----
Exist. Power Pole	-----
Prop. Power Pole	-----
Exist. Telephone Pole	-----
Prop. Telephone Pole	-----
Exist. Joint Use Pole	-----
Prop. Joint Use Pole	-----
Telephone Pedestal	-----
Cable TV Pedestal	-----
Hydrant	-----
Satellite Dish	-----
Exist. Water Valve	-----
Sewer Clean Out	-----
Power Manhole	-----
Telephone Booth	-----
Water Manhole	-----
Light Pole	-----
H-Frame Pole	-----
Power Line Tower	-----
Pole with Base	-----
Gas Valve	-----
Gas Meter	-----
Telephone Manhole	-----
Power Transformer	-----
Sanitary Sewer Manhole	-----
Storm Sewer Manhole	-----
Tank; Water, Gas, Oil	-----
Water Tank With Legs	-----
Traffic Signal Junction Box	-----
Fiber Optic Splice Box	-----
Television or Radio Tower	-----
Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement	-----

Recorded Water Line	----- W
Designated Water Line (S.U.E.*)	----- W
Sanitary Sewer	----- SS
Recorded Sanitary Sewer Force Main	----- FSS
Designated Sanitary Sewer Force Main(S.U.E.*)	----- FSS
Recorded Gas Line	----- G
Designated Gas Line (S.U.E.*)	----- G
Storm Sewer	----- S
Recorded Power Line	----- P
Designated Power Line (S.U.E.*)	----- P
Recorded Telephone Cable	----- T
Designated Telephone Cable (S.U.E.*)	----- T
Recorded U/G Telephone Conduit	----- TC
Designated U/G Telephone Conduit (S.U.E.*)	----- TC
Unknown Utility (S.U.E.*)	----- ?UTL
Recorded Television Cable	----- TV
Designated Television Cable (S.U.E.*)	----- TV
Recorded Fiber Optics Cable	----- FO
Designated Fiber Optics Cable (S.U.E.*)	----- FO
Exist. Water Meter	-----
U/G Test Hole (S.U.E.*)	-----
Abandoned According to U/G Record	----- ATTUR
End of Information	----- E.O.I.

BOUNDARIES & PROPERTIES

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Property Line Symbol	-----
Exist. Iron Pin	-----
Property Corner	-----
Property Monument	-----
Property Number	-----
Parcel Number	-----
Fence Line	----- WW & ISBW
Existing Wetland Boundaries	----- WLB
Proposed Wetland Boundaries	----- WLB
Existing Endangered Animal Boundaries	----- EAB
Existing Endangered Plant Boundaries	----- EPB

BUILDINGS & OTHER CULTURE

Buildings	-----
Foundations	-----
Area Outline	-----
Gate	-----
Gas Pump Vent or U/G Tank Cap	-----
Church	-----
School	-----
Park	-----
Cemetery	-----
Dam	-----
Sign	-----
Well	-----
Small Mine	-----
Swimming Pool	-----

TOPOGRAPHY

Loose Surface	-----
Hard Surface	-----
Change in Road Surface	-----
Curb	-----
Right of Way Symbol	----- R/W
Guard Post	----- O GP
Paved Walk	-----
Bridge	-----
Box Culvert or Tunnel	-----
Ferry	-----
Culvert	-----
Footbridge	-----
Trail, Footpath	-----
Light House	-----

VEGETATION

Single Tree	-----
Single Shrub	-----
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	----- VINEYARD

RAILROADS

Standard Gauge	-----
RR Signal Milepost	----- MILEPOST 35
Switch	-----



STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201180

ItemNumber	Sec #	Quantity	Unit	Description														
0000100000-N	800	Lump Sum		MOBILIZATION														
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING														
0022000000-E	225	6,050	CY	UNCLASSIFIED EXCAVATION														
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (12+94.30)	315000000-N	862	10	EA	ADDITIONAL GUARDRAIL POSTS	490500000-N	1253	32	EA	SNOWPLOWABLE PAVEMENT MARKERS				
0050000000-E	226	2	ACR	SUPPLEMENTARY CLEARING & GRUB- BING	318000000-N	862	2	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** (III, SHOP CURVED)	600000000-E	1605	1,055	LF	TEMPORARY SILT FENCE				
0057000000-E	226	131	CY	UNDERCUT EXCAVATION	319500000-N	862	2	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1	600600000-E	1610	230	TON	STONE FOR EROSION CONTROL, CLASS A				
0063000000-N	SP	Lump Sum		GRADING	321000000-N	862	2	EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1	600900000-E	1610	320	TON	STONE FOR EROSION CONTROL, CLASS B				
0080000000-E	SP	550	TON	CLASS IV SUBGRADE STABILIZA- TION	321500000-N	862	6	EA	GUARDRAIL ANCHOR UNITS, TYPE III	601200000-E	1610	540	TON	SEDIMENT CONTROL STONE				
0134000000-E	240	157	CY	DRAINAGE DITCH EXCAVATION	327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	601500000-E	1615	3.5	ACR	TEMPORARY MULCHING				
0141000000-E	240	200	LF	BERM DITCH CONSTRUCTION	327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	601800000-E	1620	165	LB	SEED FOR TEMPORARY SEEDING				
0195000000-E	265	654	CY	SELECT GRANULAR MATERIAL	336000000-E	863	150	LF	REMOVE EXISTING GUARDRAIL	602100000-E	1620	0.85	TON	FERTILIZER FOR TEMPORARY SEED- ING				
0196000000-E	270	598	SY	FABRIC FOR SOIL STABILIZATION	338200000-E	862	62.5	LF	TEMPORARY STEEL BM GUARDRAIL (SHOP CURVED)	602900000-E	SP	1,465	LF	SAFETY FENCE				
0199000000-E	SP	290	SF	TEMPORARY SHORING	338700000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** TEMPORARY (AT-1)	603000000-E	1630	1,600	CY	SILT EXCAVATION				
0318000000-E	300	48	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRS	338700000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** TEMPORARY (AT-1)	603600000-E	1631	800	SY	MATTING FOR EROSION CONTROL				
0366000000-E	310	96	LF	15" RC PIPE CULVERTS, CLASS III	338910000-N	SP	1	EA	GUARDRAIL ANCHOR UNITS, TYPE 350 TEMPORARY	603800000-E	SP	350	SY	PERMANENT SOIL REINFORCEMENT MAT				
0372000000-E	310	28	LF	18" RC PIPE CULVERTS, CLASS III	362800000-E	876	24	TON	RIP RAP, CLASS I	604200000-E	1632	125	LF	1/4" HARDWARE CLOTH				
0714000000-E	310	52	LF	18" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK	363500000-E	876	22	TON	RIP RAP, CLASS II	607000000-N	SP	18	EA	SPECIAL STILLING BASINS				
0720000000-E	310	216	LF	24" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK	364900000-E	876	33	TON	RIP RAP, CLASS B	608400000-E	1660	3.5	ACR	SEEDING & MULCHING				
0807000000-E	310	2	EA	18" BIT COAT CS PIPE ELBOWS, T YPE B 0.064" THICK	365600000-E	876	2,035.8	SY	FILTER FABRIC FOR DRAINAGE	608700000-E	1660	1.75	ACR	MOWING				
0808000000-E	310	4	EA	24" BIT COAT CS PIPE ELBOWS, T YPE B 0.064" THICK	365900000-N	SP	1	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON	609000000-E	1661	110	LB	SEED FOR REPAIR SEEDING				
0986000000-E	SP	355	LF	GENERIC PIPE ITEM 16" PVC DRAIN PIPE	409600000-N	904	4	EA	SIGN ERECTION, TYPE D	609300000-E	1661	0.55	TON	FERTILIZER FOR REPAIR SEEDING				
0995000000-E	340	50	LF	PIPE REMOVAL	410200000-N	904	1	EA	SIGN ERECTION, TYPE E	609600000-E	1662	110	LB	SEED FOR SUPPLEMENTAL SEEDING				
1121000000-E	520	92	TON	AGGREGATE BASE COURSE	415500000-N	907	11	EA	DISPOSAL OF SIGN SYSTEM, U- CHANNEL	610800000-E	1665	2.45	TON	FERTILIZER TOPDRESSING				
1220000000-E	545	150	TON	INCIDENTAL STONE BASE	440000000-E	1110	1,299	SF	WORK ZONE SIGNS (STATIONARY)	611400000-N	SP	2.5	HR	SPECIALIZED HAND MOWING				
1489000000-E	610	338	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B	440500000-E	1110	320	SF	WORK ZONE SIGNS (PORTABLE)	611700000-N	SP	16	EA	RESPONSE FOR EROSION CONTROL				
1498000000-E	610	61	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B	441000000-E	1110	230	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)	612300000-E	1670	0.45	ACR	REFORESTATION				
1519000000-E	610	171	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	442000000-N	1120	2	EA	CHANGEABLE MESSAGE SIGN	706000000-E	1705	640	LF	SIGNAL CABLE				
1525000000-E	610	170	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A	443000000-N	1130	105	EA	DRUMS	712000000-E	1705	4	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)				
1560000000-E	620	40	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22	443500000-N	1135	80	EA	CONES	726400000-E	1710	450	LF	MESSENGER CABLE (3/8")				
1693000000-E	654	20	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR	444500000-E	1145	278	LF	BARRICADES (TYPE III)	730000000-E	1715	14	LF	UNPAVED TRENCHING (***** (1, 2"))				
2000000000-N	806	27	EA	RIGHT OF WAY MARKERS	445000000-N	1150	470	HR	FLAGGER	736000000-N	1720	4	EA	WOOD POLE				
2022000000-E	815	215	CY	SUBDRAIN EXCAVATION	446500000-N	1160	4	EA	TEMPORARY CRASH CUSHIONS	737200000-N	1721	4	EA	GUY ASSEMBLY				
2033000000-E	815	162	CY	SUBDRAIN FINE AGGREGATE	448000000-N	1165	2	EA	TMIA	740800000-E	1722	1	EA	1" RISER WITH WEATHERHEAD				
2044000000-E	815	985	LF	6" PERFORATED SUBDRAIN PIPE	448500000-E	1170	240	LF	PORTABLE CONCRETE BARRIER	742000000-E	1722	5	EA	2" RISER WITH WEATHERHEAD				
2055000000-E	815	30	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS	448500000-E	1170	240	LF	PORTABLE CONCRETE BARRIER	744400000-E	1725	361	LF	INDUCTIVE LOOP SAWCUT				
2066000000-N	815	2	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET	465000000-N	1251	20	EA	TEMPORARY RAISED PAVEMENT MARKERS	745600000-E	1726	590	LF	LEAD-IN CABLE (***** (18-2))				
2077000000-E	815	12	LF	6" OUTLET PIPE (SUBDRAINS)	468500000-E	1205	1,772	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	776800000-N	1751	1	EA	CONTROLLER WITH CABINET (TYPE 2070L, POLE MOUNTED)				
2253000000-E	840	0.5	CY	PIPE COLLARS	468600000-E	1205	1,772	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	778000000-N	1751	1	EA	DETECTOR CARD (TYPE 2070L)				
2264000000-E	840	0.13	CY	PIPE PLUGS	470500000-E	1205	82	LF	THERMOPLASTIC PAVEMENT MARKING LINES (16", 120 MILS)	2529	SP	1,550	SF	Temporary Shoring - Contractor Designed				
2286000000-N	840	7	EA	MASONRY DRAINAGE STRUCTURES	471000000-E	1205	69	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)									
2308000000-E	840	0.85	LF	MASONRY DRAINAGE STRUCTURES	472100000-E	1205	4	EA	THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)									
2364000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.16	481000000-E	1205	20,248	LF	PAINT PAVEMENT MARKING LINES (4")									
2365000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.22	483000000-E	1205	46	LF	PAINT PAVEMENT MARKING LINES (16")									
2366000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.24	483500000-E	1205	158	LF	PAINT PAVEMENT MARKING LINES (24")									
2367000000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29	484500000-N	1205	4	EA	PAINT PAVEMENT MARKING SYMBOL									
2520000000-E	SP	1,550	SF	GENERIC GRADING ITEM (SP) TEMPORARY SOIL NAIL WALL	485000000-E	1205	400	LF	REMOVAL OF PAVEMENT MARKING LINES (4")									
2556000000-E	846	126.5	LF	SHOULDER BERM GUTTER	486500000-E	1205	43	LF	REMOVAL OF PAVEMENT MARKING LINES (12")									
3030000000-E	862	400	LF	STEEL BM GUARDRAIL	487000000-E	1205	40	LF	REMOVAL OF PAVEMENT MARKING LINES (24")									
					487500000-N	1205	2	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS									

6/15/99
 r:\proj\105-0112\006-1428-Prod\14143-b2848-combined.tsh

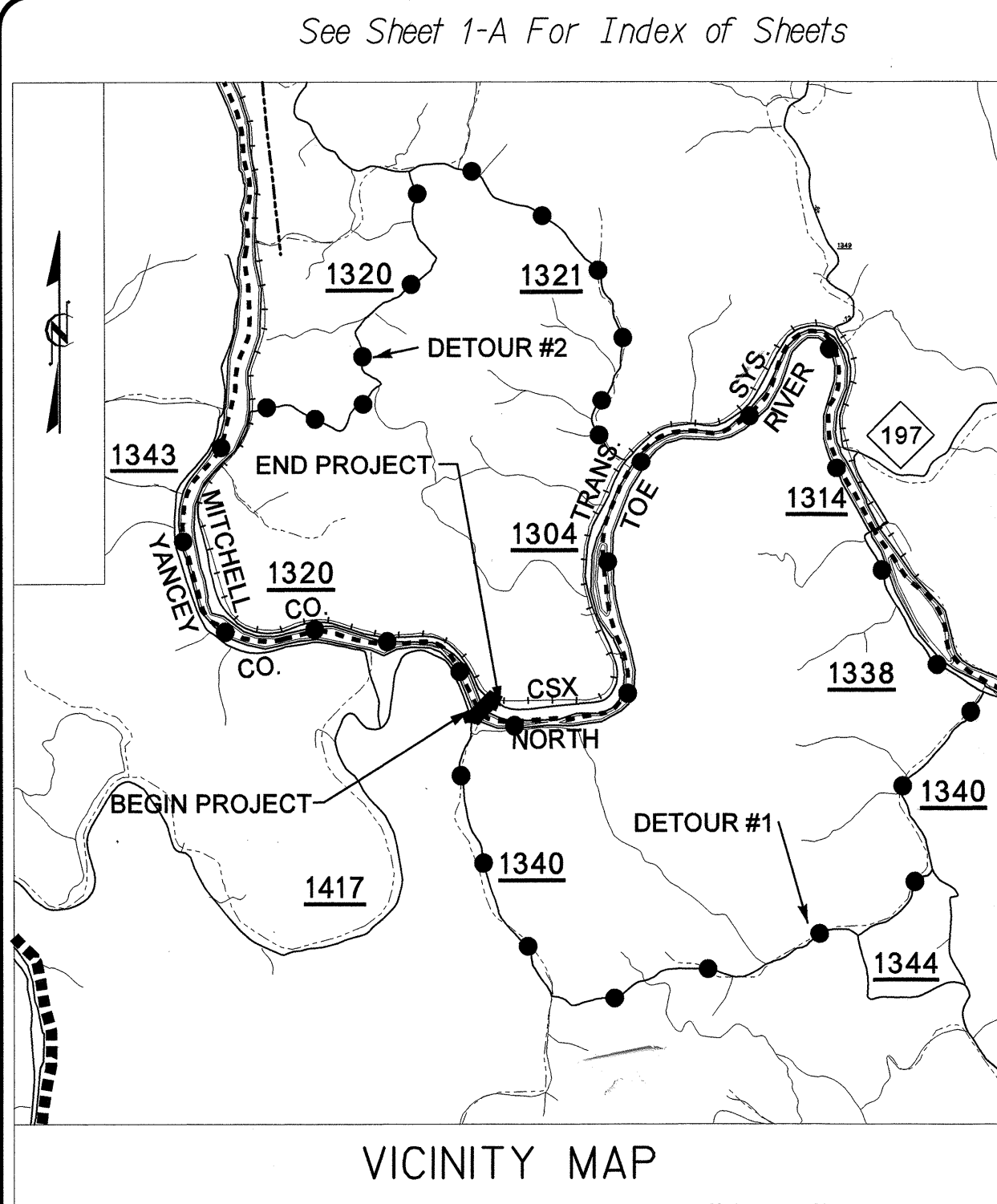
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2848	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
32728.1.1	BRZ-1304(4)	PE	
32728.2.2	BRZ-1304(4)	R/W & UTIL.	
32728.3.2	BRZ-1304(9)	CONST.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

YANCEY & MITCHELL COUNTIES

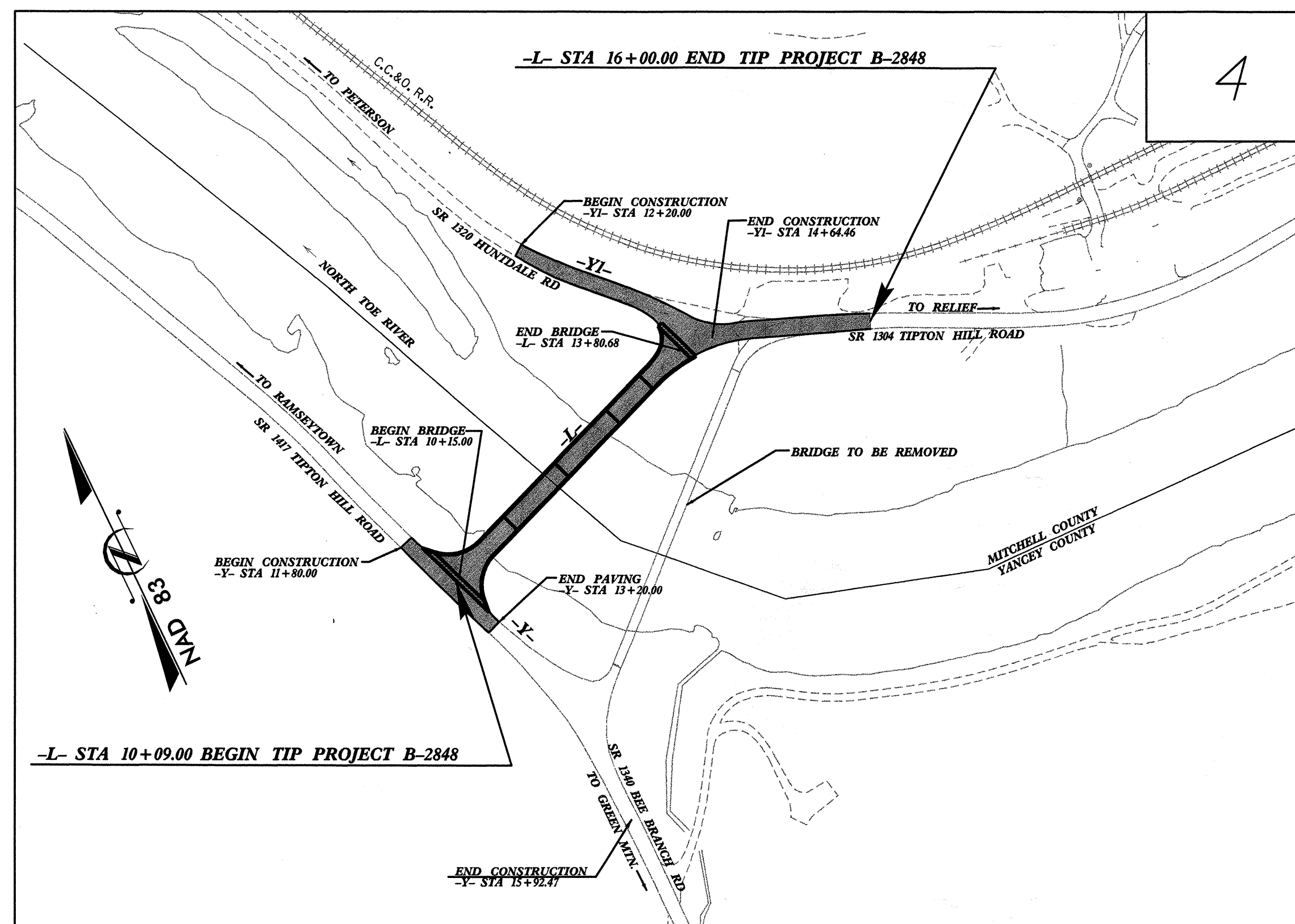
LOCATION: Bridge #143 on SR 1304
over North Toe River

TYPE OF WORK: Grading, Paving, Drainage, and Structure



VICINITY MAP

●—●—●—● DETOUR ROUTE



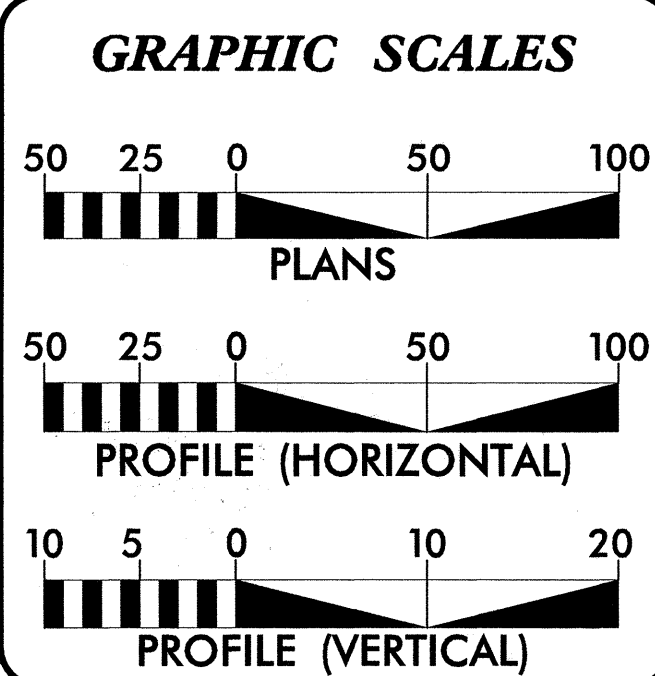
4

NCDOT Contact: Teresa Bruton, PE – Project Engineer – Design Services

V&M
Vaughn & Melton
Consulting Engineers

Middlesboro, Kentucky 606-248-6600
Greeneville, Tennessee 423-636-0201
Asheville, North Carolina 828-253-2796

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DESIGN DATA

ADT 2001 =	300
ADT 2025 =	500
DHV =	11 %
D =	70 %
T =	5 % *
V =	35 MPH**
* TTST 2 %	DUAL 3 %

** DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVE

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-2848 =	0.043 MI
LENGTH STRUCTURE TIP PROJECT B-2848 =	0.069 MI
TOTAL LENGTH TIP PROJECT B-2848 =	0.112 MI

Prepared For:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 28, 2003

LETTING DATE:
FEBRUARY 20, 2007

JERRY A. CARTER, PE
PROJECT ENGINEER

REECE M. SCHULER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SEAL 9334

HEAVY WELLS

SIGNATURE: [Signature]

ROADWAY DESIGN ENGINEER

SEAL 26960

SIGNATURE: [Signature]

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

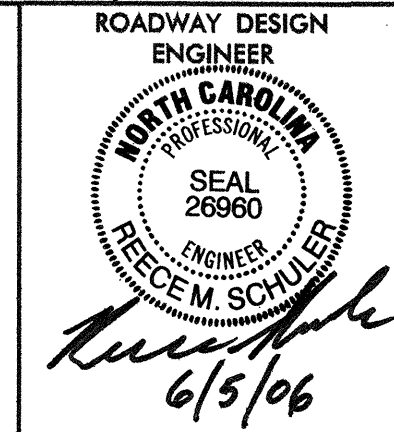
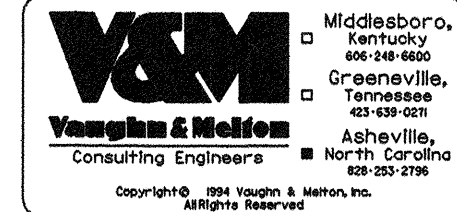
APPROVED
DIVISION ADMINISTRATOR

DATE

CONTRACT: C200905 TIP PROJECT: B-2848

8/17/99

8/17/99



SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-D	SURVEY CONTROL SHEETS
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-B	DETAIL OF PERFORMED SCOUR HOLE
3-A THRU 3-B	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
4	PLAN SHEET
5 THRU 6	PROFILE SHEET
TCP-1 THRU TCP-109	TRAFFIC CONTROL PLANS
PM-1	PAVEMENT MARKING PLANS
RF-1	REFORESTATION PLANS
EC-1 THRU EC-4	EROSION CONTROL PLANS
SIG-1 THRU SIG-4	SIGNAL PLANS
X-1A	CROSS SECTION SUMMARY
X-1 THRU X-17	CROSS-SECTIONS
S-1 THRU S-47	STRUCTURE PLANS

GENERAL NOTES:

2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS 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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING" OR "TEMPORARY SHORING-BARRIER SUPPORTED" DEPENDING UPON THE LOCATION OF THE SHORING.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE Duke Power, Centel/Sprint Telephone
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

2006 ROADWAY STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
840.00	Concrete Base Pad for Drainage Structures
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.22	Frames and Wide Slot Sag Grates
840.26	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.36	Traffic Bearing Junction Box - for Use with Pipes 42" and Larger
840.54	Reinforced Concrete Drop Inlet - for Cast Iron Double Frame and Grates
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

EFF. 07-18-06

5/28/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

*S.U.E = SUBSURFACE UTILITY ENGINEER

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

Edge of Pavement	-----
Curb	-----
Prop. Slope Stakes Cut	-----C-----
Prop. Slope Stakes Fill	-----F-----
Prop. Woven Wire Fence	-----○-----
Prop. Chain Link Fence	-----□-----
Prop. Barbed Wire Fence	-----◇-----
Prop. Wheelchair Ramp	-----WCR-----
Curb Cut for Future Wheelchair Ramp	-----CCFR-----
Exist. Guardrail	-----T-----
Prop. Guardrail	-----T-----
Equality Symbol	-----⊕-----
Pavement Removal	-----X-----

RIGHT OF WAY

Baseline Control Point	-----◆-----
Existing Right of Way Marker	-----△-----
Exist. Right of Way Line w/Marker	-----△-----
Prop. Right of Way Line with Proposed	-----▲-----
R/W Marker (Iron Pin & Cap)	-----▲-----
Prop. Right of Way Line with Proposed	-----▲-----
(Concrete or Granite) RW Marker	-----⊙-----
Exist. Control of Access Line	-----⊙-----
Prop. Control of Access Line	-----⊙-----
Exist. Easement Line	-----E-----
Prop. Temp. Construction Easement Line	-----E-----
Prop. Temp. Drainage Easement Line	-----TDE-----
Prop. Perm. Drainage Easement Line	-----PDE-----

HYDROLOGY

Stream or Body of Water	-----
River Basin Buffer	-----RBB-----
Flow Arrow	-----→-----
Disappearing Stream	----->-----
Spring	-----○-----
Swamp Marsh	-----↓-----
Shoreline	-----
Falls, Rapids	-----+
Prop Lateral, Tail, Head Ditches	-----<-----

STRUCTURES

MAJOR	
Bridge, Tunnel, or Box Culvert	-----CONC-----
Bridge Wing Wall, Head Wall and End Wall	-----CONC WW-----

MINOR	
Head & End Wall	-----CONC HW-----
Pipe Culvert	-----
Footbridge	----->-----
Drainage Boxes	-----□ CB-----
Paved Ditch Gutter	-----

UTILITIES

Exist. Pole	-----●-----
Exist. Power Pole	-----○-----
Prop. Power Pole	-----○-----
Exist. Telephone Pole	-----○-----
Prop. Telephone Pole	-----○-----
Exist. Joint Use Pole	-----○-----
Prop. Joint Use Pole	-----○-----
Telephone Pedestal	-----T-----
UG Telephone Cable Hand Hold	-----T-----
Cable TV Pedestal	-----C-----
UG TV Cable Hand Hold	-----C-----
UG Power Cable Hand Hold	-----P-----
Hydrant	-----H-----
Satellite Dish	-----S-----
Exist. Water Valve	-----V-----
Sewer Clean Out	-----C-----
Power Manhole	-----P-----
Telephone Booth	-----B-----
Cellular Telephone Tower	-----C-----
Water Manhole	-----W-----
Light Pole	-----L-----
H-Frame Pole	-----H-----
Power Line Tower	-----T-----
Pole with Base	-----P-----
Gas Valve	-----V-----
Gas Meter	-----M-----
Telephone Manhole	-----T-----
Power Transformer	-----P-----
Sanitary Sewer Manhole	-----S-----
Storm Sewer Manhole	-----S-----
Tank; Water, Gas, Oil	-----T-----
Water Tank With Legs	-----T-----
Traffic Signal Junction Box	-----S-----
Fiber Optic Splice Box	-----F-----
Television or Radio Tower	-----T-----
Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement	-----TS-----

Recorded Water Line	-----W-----
Designated Water Line (S.U.E.*)	-----W-----
Sanitary Sewer	-----SS-----
Recorded Sanitary Sewer Force Main	-----FSS-----
Designated Sanitary Sewer Force Main(S.U.E.*)	-----FSS-----
Recorded Gas Line	-----G-----
Designated Gas Line (S.U.E.*)	-----G-----
Storm Sewer	-----S-----
Recorded Power Line	-----P-----
Designated Power Line (S.U.E.*)	-----P-----
Recorded Telephone Cable	-----T-----
Designated Telephone Cable (S.U.E.*)	-----T-----
Recorded U/G Telephone Conduit	-----TC-----
Designated U/G Telephone Conduit (S.U.E.*)	-----TC-----
Unknown Utility (S.U.E.*)	-----PUTL-----
Recorded Television Cable	-----TV-----
Designated Television Cable (S.U.E.*)	-----TV-----
Recorded Fiber Optics Cable	-----FO-----
Designated Fiber Optics Cable (S.U.E.*)	-----FO-----
Exist. Water Meter	-----○-----
U/G Test Hole (S.U.E.*)	-----⊙-----
Abandoned According to U/G Record	-----ATTUR-----
End of Information	-----E.O.I-----

BOUNDARIES & PROPERTIES

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Property Line Symbol	-----P-----
Exist. Iron Pin	-----⊙ EIP-----
Property Corner	-----+-----
Property Monument	-----ECM-----
Property Number	-----123-----
Parcel Number	-----6-----
Fence Line	-----X-----
Existing Wetland Boundaries	-----WW & ISBW-----
High Quality Wetland Boundary	-----WLB-----
Medium Quality Wetland Boundaries	-----MQ WLB-----
Low Quality Wetland Boundaries	-----LQ WLB-----
Proposed Wetland Boundaries	-----WLB-----
Existing Endangered Animal Boundaries	-----EAB-----
Existing Endangered Plant Boundaries	-----EPB-----

BUILDINGS & OTHER CULTURE

Buildings	-----
Foundations	-----
Area Outline	-----
Gate	-----
Gas Pump Vent or U/G Tank Cap	-----
Church	-----
School	-----
Park	-----
Cemetery	-----
Dam	-----
Sign	-----
Well	-----
Small Mine	-----
Swimming Pool	-----

TOPOGRAPHY

Loose Surface	-----
Hard Surface	-----
Change in Road Surface	-----
Curb	-----
Right of Way Symbol	-----R/W-----
Guard Post	-----○ GP-----
Paved Walk	-----
Bridge	-----
Box Culvert or Tunnel	-----
Ferry	-----
Culvert	-----
Footbridge	-----
Trail, Footpath	-----
Light House	-----

VEGETATION

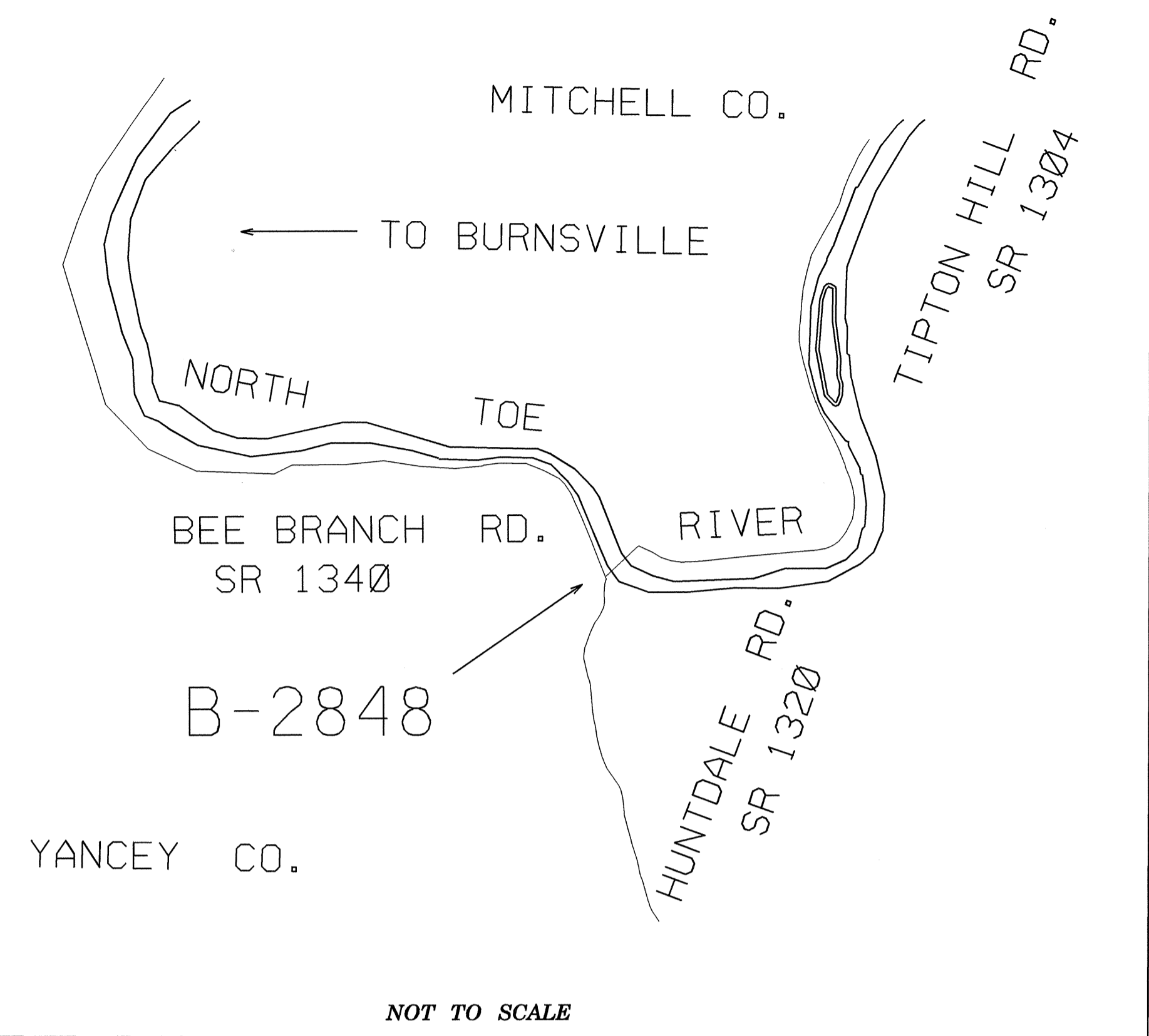
Single Tree	-----
Single Shrub	-----
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----VINEYARD-----

RAILROADS

Standard Gauge	-----
RR Signal Milepost	-----MILEPOST 35-----
Switch	-----SWITCH-----

SURVEY CONTROL SHEET B-2848

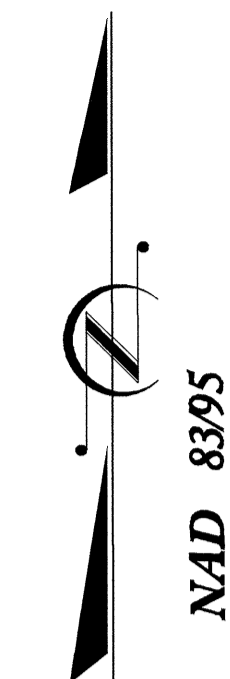
PROJECT REFERENCE NO.	SHEET NO.
B 2848	1 C
LOCATION AND SURVEYS	



NOT TO SCALE

NOTES

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NGS FOR MONUMENT "HUNTDAL" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 844886.8900(1) EASTING: 1019080.4000(1) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99905557 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "HUNTDAL" TO -L- STATION 10+00.00 IS S 85 39 48.14 W 1,105.6888 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88



-L- STA 10+00.000 BEGIN STATE PROJECT 32728.3.2 LOCALIZED PROJECT COORDINATES
 N = 844803.2820
 E = 1017977.8768

-L- STA 17+41.0744 END STATE PROJECT 32728.3.2 LOCALIZED PROJECT COORDINATES
 N = 844809.6735
 E = 1018671.9243

● ← NGS HARN MON "HUNTDAL" LOCALIZED PROJECT COORDINATES
 N = 844886.8900
 E = 1019080.4000

● NCDOT GPS STATION "HUNTDAL AZ." LOCALIZED PROJECT COORDINATES
 N = 844850.4882
 E = 1020191.4387

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATIONPROJECT/B2848_LS_CONTROL_050215.TXT](http://www.doh.dot.state.nc.us/preconstruct/highway/locationproject/B2848_LS_CONTROL_050215.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 NCGS MONUMENT "HUNTDAL"

NOTE: DRAWING NOT TO SCALE

SURVEY CONTROL SHEET B-2848

PROJECT REFERENCE NO.	SHEET NO.
B 2848	1 D
Location and Surveys	

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3		BL 3	844594.5890	1018082.1780	2056.91	10+23.67	232.10 RT
5		BL 5	844910.3290	1018394.3680	2054.60	14+43.79	15.64 RT

BY	POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
1		BY 1	845491.1000	1017691.0100	2055.19		OUTSIDE PROJECT LIMITS
2		BY 2	845103.7000	1017881.2750	2058.55		OUTSIDE PROJECT LIMITS
3		BL 3	844594.5890	1018082.1780	2056.91	14+75.94	39.09 LT
4		BY 4	844260.8390	1018057.4100	2049.51		OUTSIDE PROJECT LIMITS

BY1	POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
9		BY 1-9	845432.0070	1018060.0880	2034.68		OUTSIDE PROJECT LIMITS
6		BY 1-6	845200.9790	1018150.7290	2036.10	11+16.45	13.68 RT
10		BY1-10	845153.6610	1018179.8730	2037.06	11+70.55	8.43 RT
5		BL -5	844910.3290	1018394.3680	2054.60		OUTSIDE PROJECT LIMITS
7		BY1-7	844739.5480	1018868.2030	2050.01		OUTSIDE PROJECT LIMITS
8		BY1-8	844773.5490	1019330.7650	2048.86		OUTSIDE PROJECT LIMITS

```

.....
BM1      ELEVATION = 2062.29
N 845509      E 1017640
Y STATION 10+00
N 28° 30' 48.0" W DIST 533.46
.....

.....
BM2      ELEVATION = 2059.66
N 844887      E 1019080
Y1 STATION 14+64
S 86° 28' 53.1" E DIST 709.83
.....
    
```

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NGS FOR MONUMENT "HUNTDALÉ"

WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 844886.8900(ft) EASTING: 1019080.4000(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99905557

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "HUNTDALÉ" TO -L- STATION 10+00.00 IS
S 85° 39' 48.14" W 1,105.6888

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

NOTES:

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOHDOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT B2848_LS_CONTROL_0502151.TXT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/B2848_LS_CONTROL_0502151.TXT)

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.
 IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

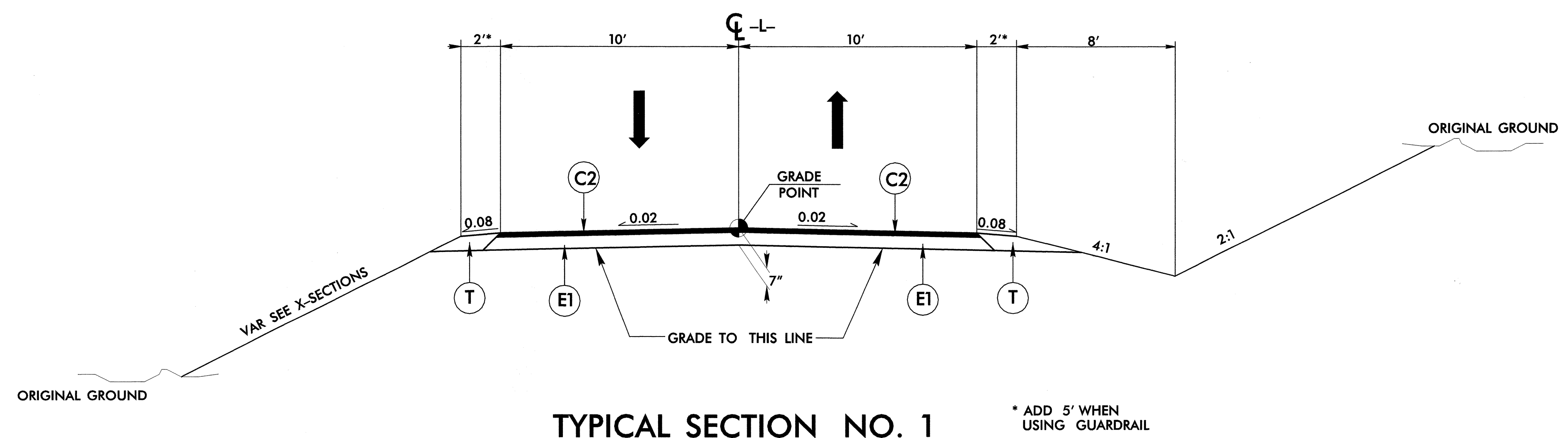
NETWORK ESTABLISHED FROM NGS HARN MONUMENT "HUNTDALÉ"
 BY THE NCDOT LOCATION AND SURVEYS UNIT.

5/28/99

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

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

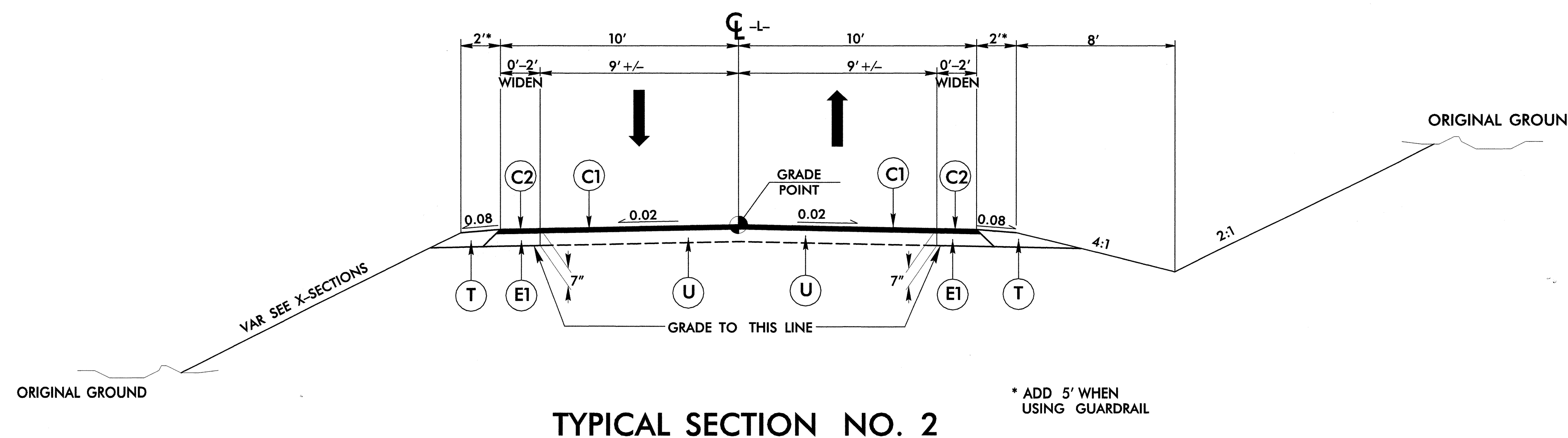
PROJECT REFERENCE NO. B-2848	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	ENGINEER



TYPICAL SECTION NO. 1

* ADD 5' WHEN USING GUARDRAIL

USE TYPICAL SECTION NO. 1
 -L- STA. 10+09.00 TO -L- STA. 10+15.00 (BEG. BRIDGE)
 -L- STA. 13+80.68 (END BRIDGE) TO STA. 15+50.00



TYPICAL SECTION NO. 2

* ADD 5' WHEN USING GUARDRAIL

USE TYPICAL SECTION NO. 2
 -L- STA. 15+50.00 TO STA. 16+00.00

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	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.
E1	PROP. APPROX. 4½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

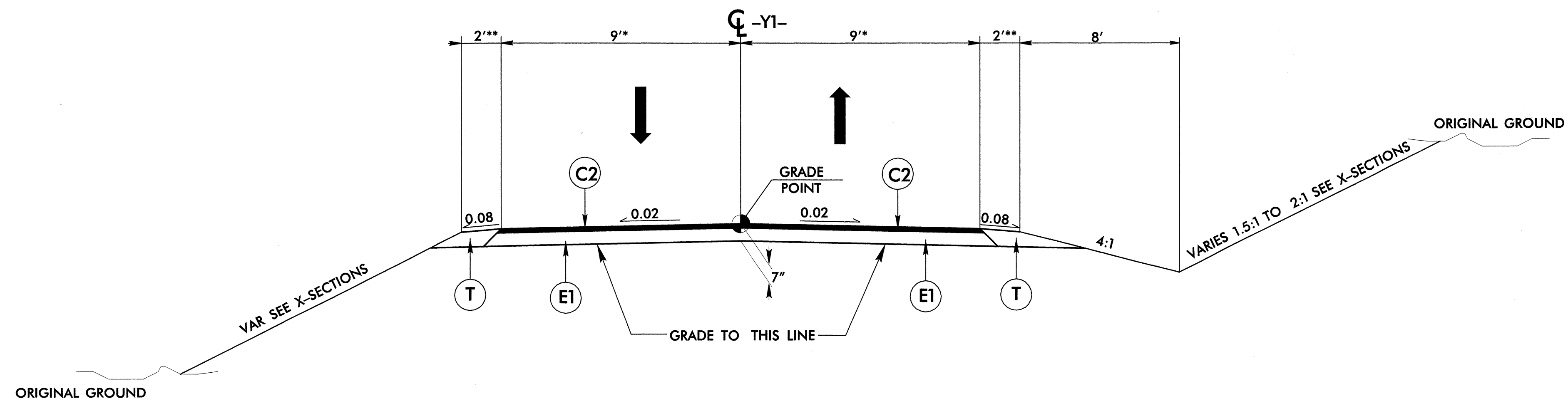
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO. B-2848	SHEET NO. 2-A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	ENGINEER

V&M
Vaughan & Mellon
Consulting Engineers

Middleboro, Kentucky 402-248-6500
Greenville, Tennessee 423-639-0021
Asheville, North Carolina 828-252-2796

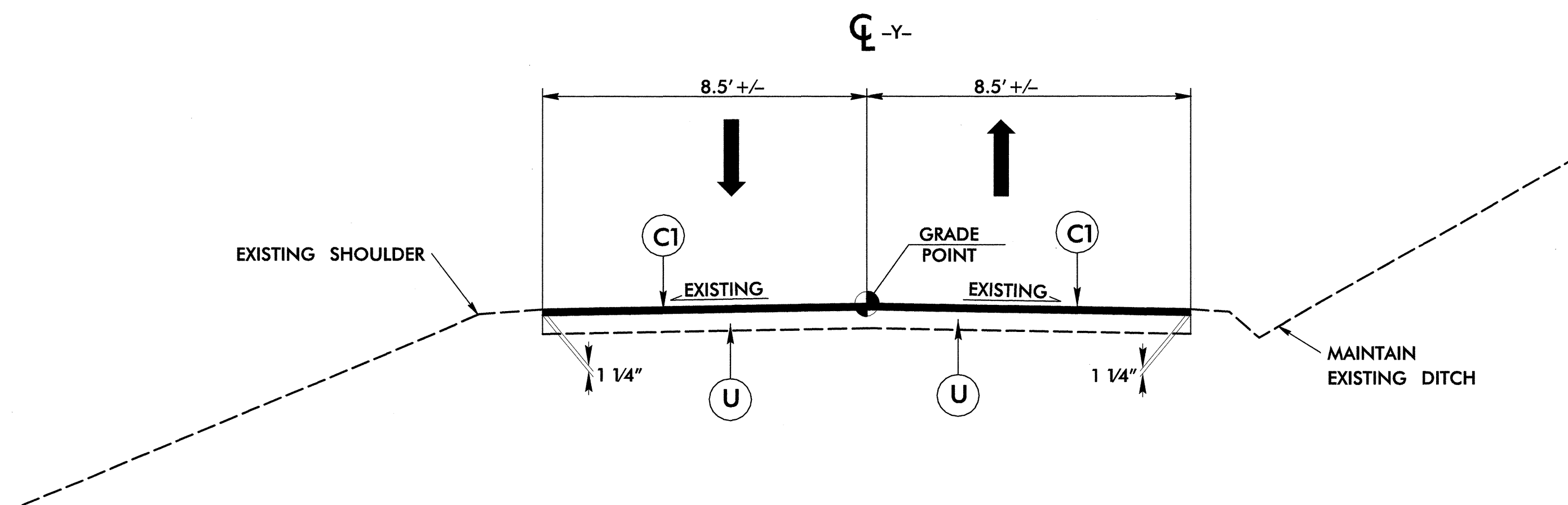
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TYPICAL SECTION NO. 3

* VARIES FROM 7.5' TO 9'
STA 12+20 TO STA 12+70
** ADD 5' WHEN USING GUARDRAIL

USE TYPICAL SECTION NO. 3
-Y1- STA. 12+20.00 TO STA. 14+64.46



TYPICAL SECTION NO. 4

* ADD 5' WHEN USING GUARDRAIL

USE TYPICAL SECTION NO. 4
-Y- STA. 11+80.00 TO STA. 13+20.00

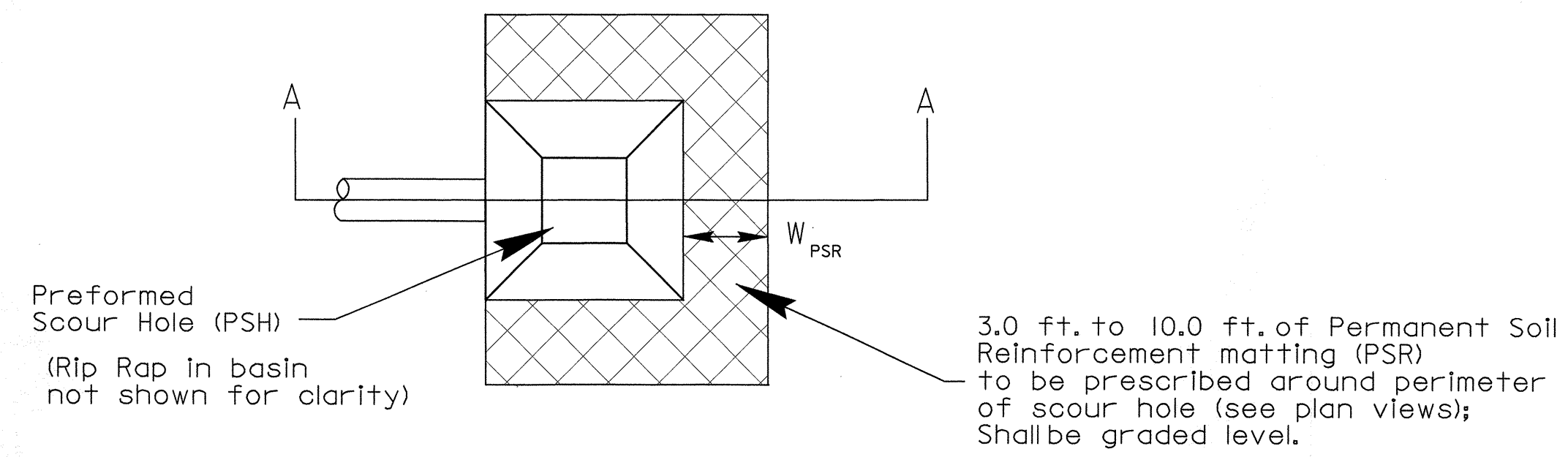
7/2/99

REVISIONS

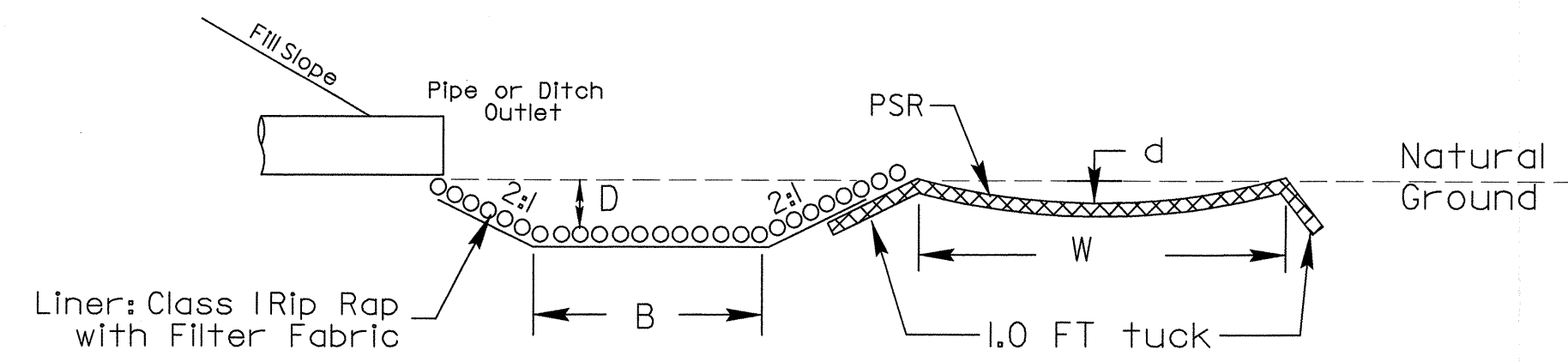
PROJECT REFERENCE NO. B-2848	SHEET NO. 2-B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PREFORMED SCOUR HOLE

(Not to scale)



Section A-A



NOTE: "B" denotes size of basin;
For example: 5.0ft.x 5.0ft. PSH, B=5

NOTE: The Permanent Soil Reinforcement matting (PSR) shall be seeded with native grasses at installation.

STATION	B FT.	D FT.	W _{PSR} FT.	d FT.	CLASS I RIP RAP TONS	DDE (CU YD)	FILTER FABRIC (SQ YD)
14+16 -L- RT	6.0	2.0	4	1.0	22	23	24.8

SYSTEMS DESIGN & CONSTRUCTION SERVICES

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY 1					
-Y- 11+80.00 TO -Y- 13+20.00	0		1	1	
-L- 10+09.00 TO -L- 10+15.00 (BEG. BRIDGE)	0		0	0	
SUBTOTAL SUMMARY 1	0		1	1	
SUMMARY 2					
-L- 13+80.68 (END BRIDGE) TO -L- 16+00.00	320		604	284	
-YI- 12+20.00 TO -YI- 14+64.46	710		824	114	
SUBTOTAL SUMMARY 2	1030		1428	398	
TOTAL					
	1030		1429	399	
ESTIMATED SHOULDER CONSTRUCTION					
			151	151	
B-2848 PROJECT TOTAL					
	1030		1580	550	0
B-1443 PROJECT TOTAL					
	4946		917	0	4042
B-2848 & B-1443 TOTAL					
	5976		2497	550	4042
WASTE IN LIEU OF BORROW					
				-550	-550
B-2848 & B-1443 PROJECT TOTAL					
	5976		2497	0	3492
B-2848 & B-1443 GRAND TOTAL					
	5976			0	3492
SAY					
	6050				
B-2848 DDE = 65 CY					
B-1443 DDE = 92 CY					
EST FABRIC FOR SOIL STABILIZATION					
	598 SY				
EST GRADE POINT UNDERCUT					
	131 CY				
EST SELECT GRANULAR MATERIAL					
	654 CY				
EST SUBGRADE STABILIZATION MATERIAL CLASS IV					
	550 TONS				

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

6/21/00

COMPUTED BY: ACC DATE: 3/24/04
CHECKED BY: RMS DATE: 3/24/04

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. B-2848
SHEET NO. 3-B

RIGHT OF WAY AREA DATA

Table with columns: PARCEL NO., PROPERTY OWNERS NAMES, TOTAL ACREAGE, AREA TAKEN, AREA REMAINING RT., AREA REMAINING LT., CONST. EASE., PERM. DRAIN. EASE., TEMP. DRAIN. EASE.

PAVEMENT REMOVAL SUMMARY

Table with columns: LINE, LOCATION, ASPHALT REMOVAL, ASPHALT BREAK-UP, CONCRETE REMOVAL, CONCRETE REMOVAL. Includes project totals for B-2848, B-1443, and combined.

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

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

Large table detailing pipe specifications: STATION, LOCATION, STRUCTURE NO., TOP ELEVATION, INVERT ELEVATION, SLOPE CRITICAL, CLASS III R.C. PIPE, BITUMINOUS COATED C.S. PIPE TYPE B, ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES AND HOOD STANDARD 840.03, TYPE OF GRATE, CONC. & BRICK PIPE PLUG, CORR. STEEL ELBOWS, CONC. COLLARS, PIPE REMOVAL LIN.FT., ABBREVIATIONS, REMARKS.

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.

GUARDRAIL SUMMARY

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

06-OCT-2006 14:26
r:\prj\06\1443_b2848_combined\1443_b2848_combined.dwg
\$\$\$\$\$USER\$RNM\$3333

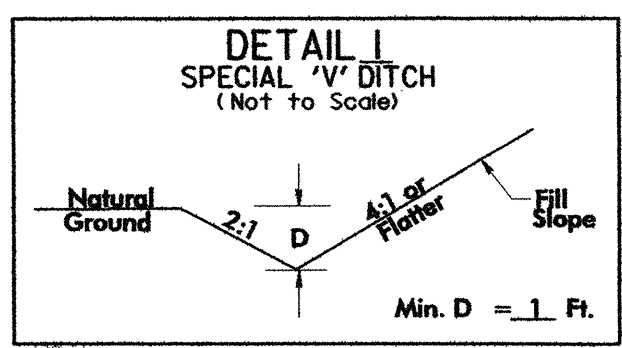
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NGS FOR MONUMENT "HUNTDAL".

WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 844886.890(1) EASTING: 1019080.400(1) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99905557

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "HUNTDAL" TO -L- STATION 10+00.00 IS S 85° 39' 48.1" W 1,105.69'

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



-L- CURVE DATA

PI Sta 13+99.65	PI Sta 16+05.95
$\Delta = 4^\circ 55' 21.9"$ (RT)	$\Delta = 4^\circ 19' 27.3"$ (RT)
D = 30' 58' 14.5"	D = 6' 08' 53.3"
L = 135.36'	L = 70.72'
T = 70.87'	T = 35.38'
** R = 185.00'	R = 937.00'
SE = 0.06	SE = 0.04
RO = 34.34'	RO = 39'

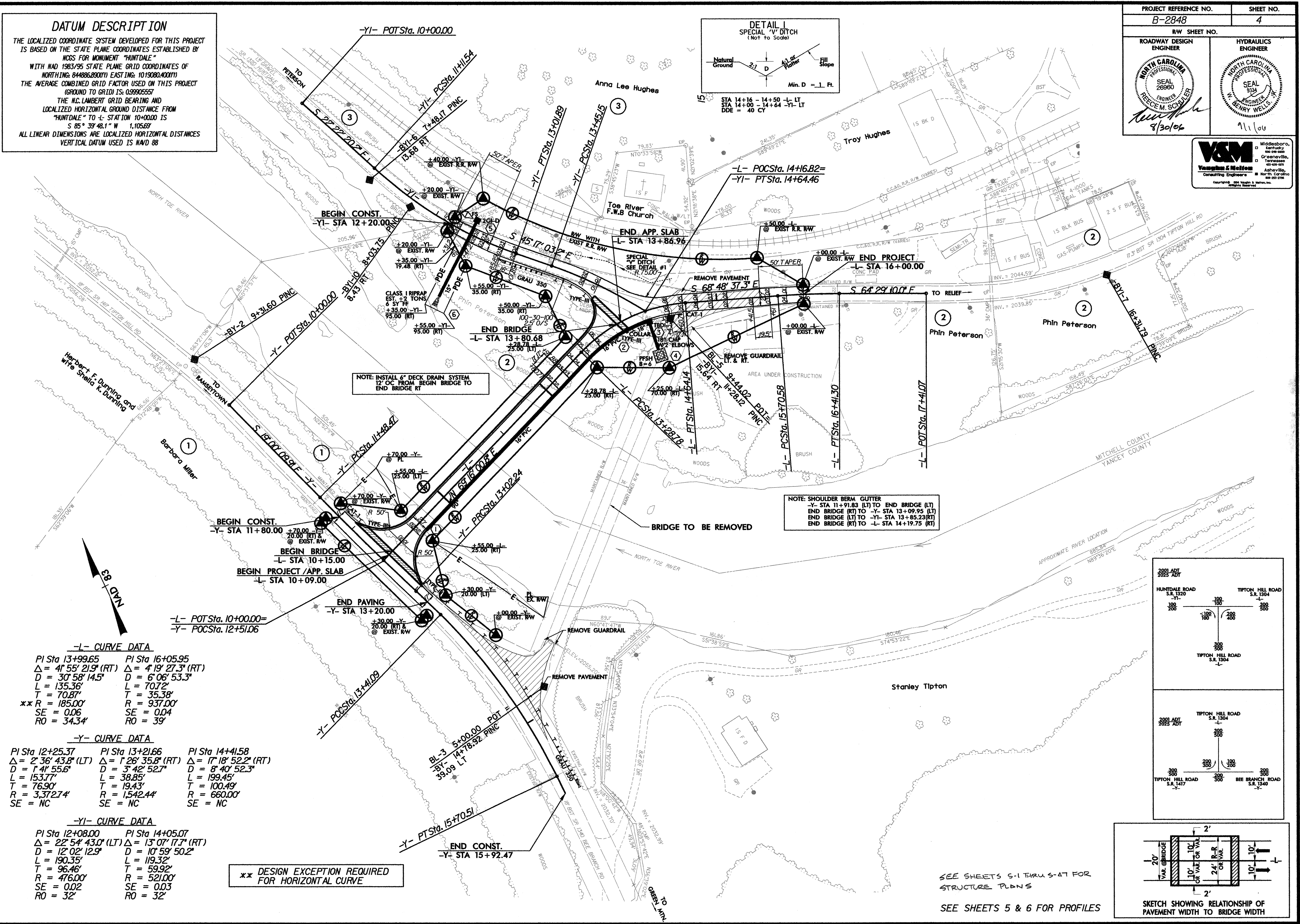
-Y- CURVE DATA

PI Sta 12+25.37	PI Sta 14+11.66	PI Sta 14+41.58
$\Delta = 2^\circ 36' 43.8"$ (LT)	$\Delta = 1^\circ 28' 35.8"$ (RT)	$\Delta = 1^\circ 18' 52.2"$ (RT)
D = 1' 4" 55.6"	D = 3' 42' 52.7"	D = 8' 40' 52.3"
L = 153.77'	L = 38.85'	L = 199.45'
T = 76.90'	T = 19.43'	T = 100.49'
R = 3,372.74'	R = 1,542.44'	R = 660.00'
SE = NC	SE = NC	SE = NC

-YI- CURVE DATA

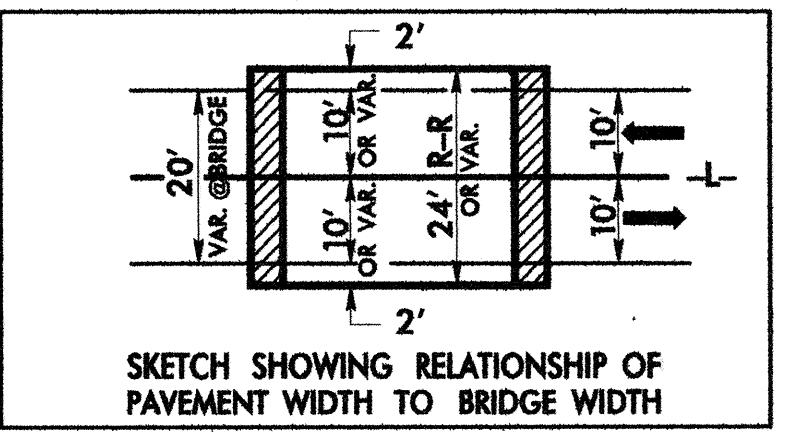
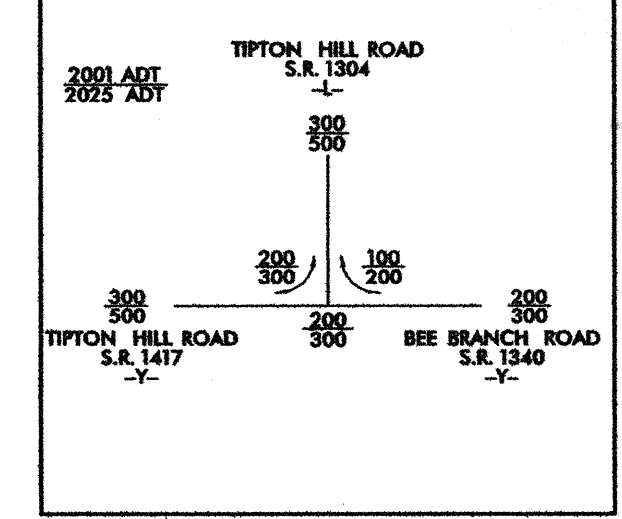
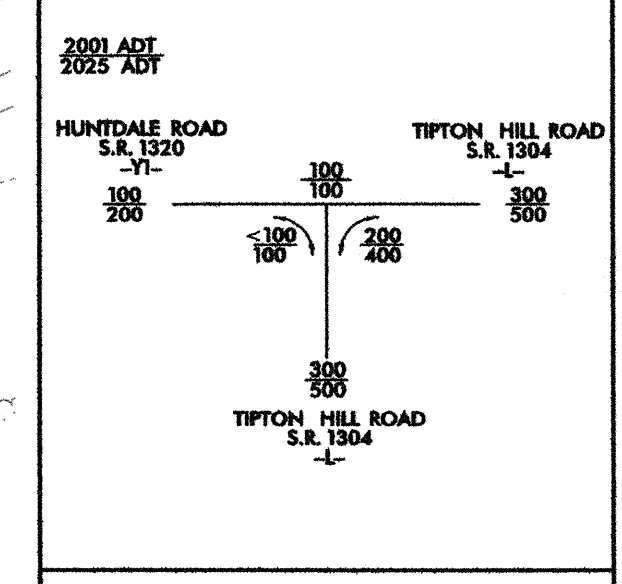
PI Sta 12+08.00	PI Sta 14+05.07
$\Delta = 22^\circ 54' 43.0"$ (LT)	$\Delta = 13^\circ 07' 17.7"$ (RT)
D = 12' 02' 12.9"	D = 10' 59' 50.2"
L = 190.35'	L = 119.32'
T = 96.46'	T = 59.92'
R = 476.00'	R = 521.00'
SE = 0.02	SE = 0.03
RO = 32'	RO = 32'

**** DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVE**



NOTE: SHOULDER BERM GUTTER
 -Y- STA 11+91.83 (LT) TO END BRIDGE (LT)
 END BRIDGE (RT) TO -Y- STA 13+09.95 (LT)
 END BRIDGE (LT) TO -YI- STA 13+85.23 (RT)
 END BRIDGE (RT) TO -L- STA 14+19.75 (RT)

NOTE: INSTALL 4" DECK DRAIN SYSTEM
 12" OC FROM BEGIN BRIDGE TO END BRIDGE RT



SEE SHEETS S-1 THRU S-47 FOR STRUCTURE PLANS

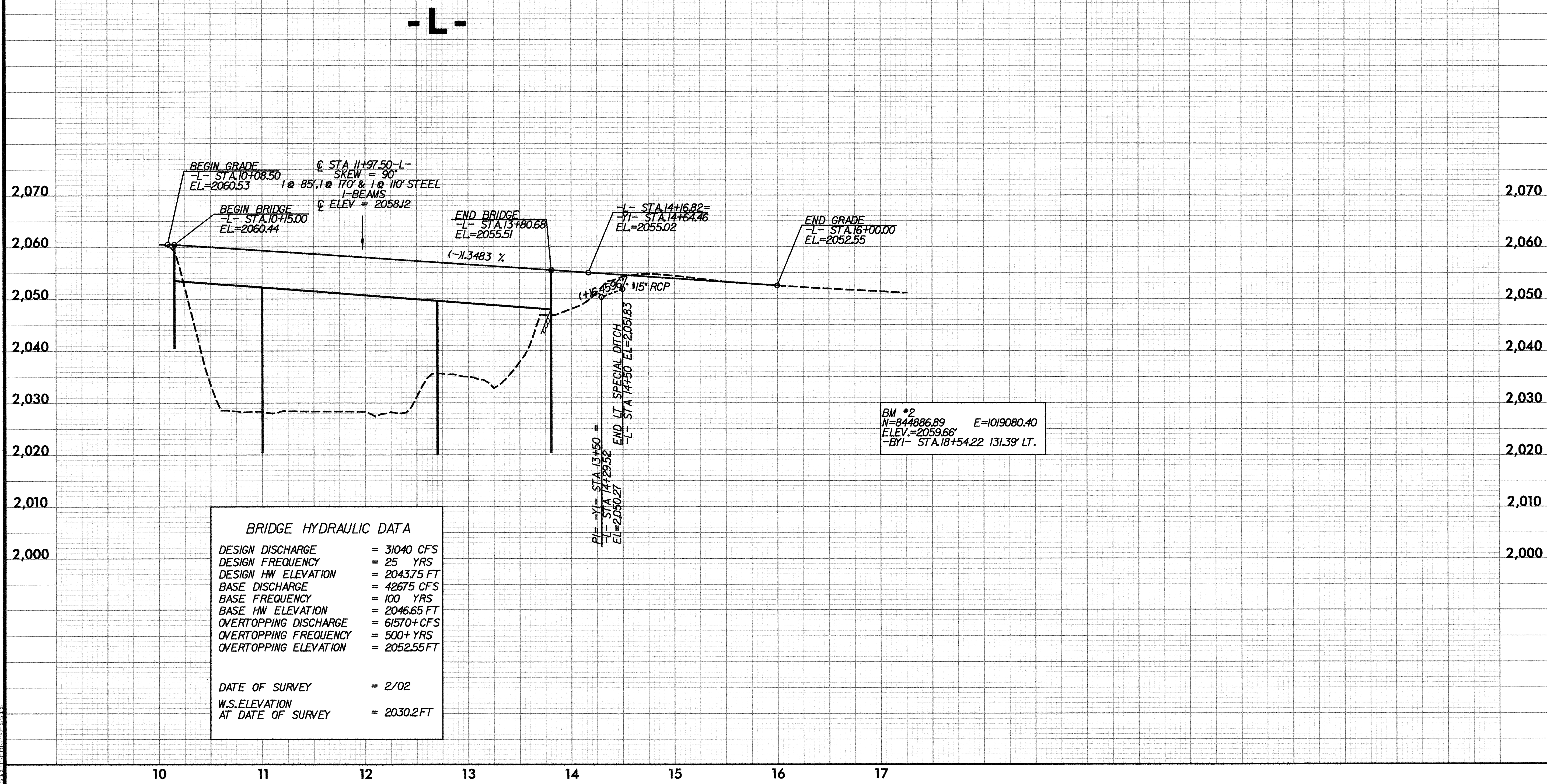
SEE SHEETS 5 & 6 FOR PROFILES

REVISIONS

8/17/06

5/14/99

PROJECT REFERENCE NO. B-2848	SHEET NO. 5
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26960 REC'D M. SCHULER 8/30/00 <i>Kevin Wade</i>	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 911 W. HENRY WELLS 9/1/00

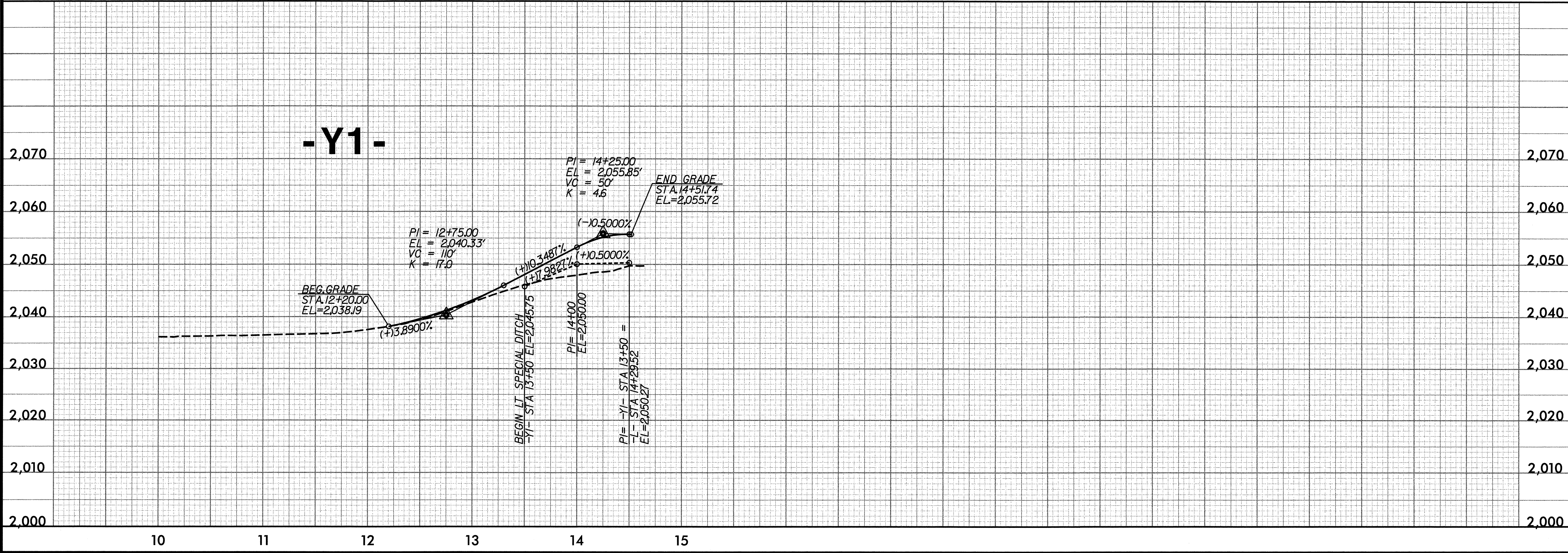
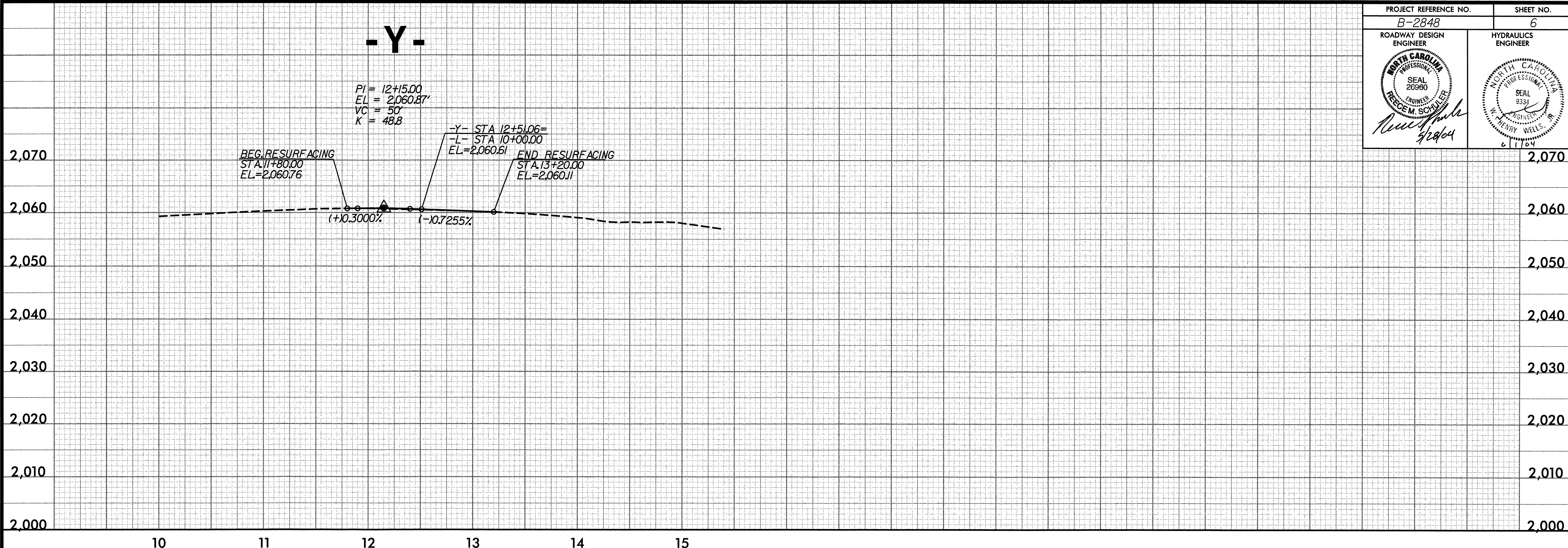


STIMES DONOR'S NAME

1/25/2004 10:52:08 AM DEL 100 7/27/2006 10:51:40 AM

5/28/99

PROJECT REFERENCE NO. B-2848	SHEET NO. 6
ROADWAY DESIGN ENGINEER RECEM. SCHULLER SEAL 20960 9/29/04	HYDRAULICS ENGINEER HENRY WELLS SEAL 9334 6/1/04



SYTIME