

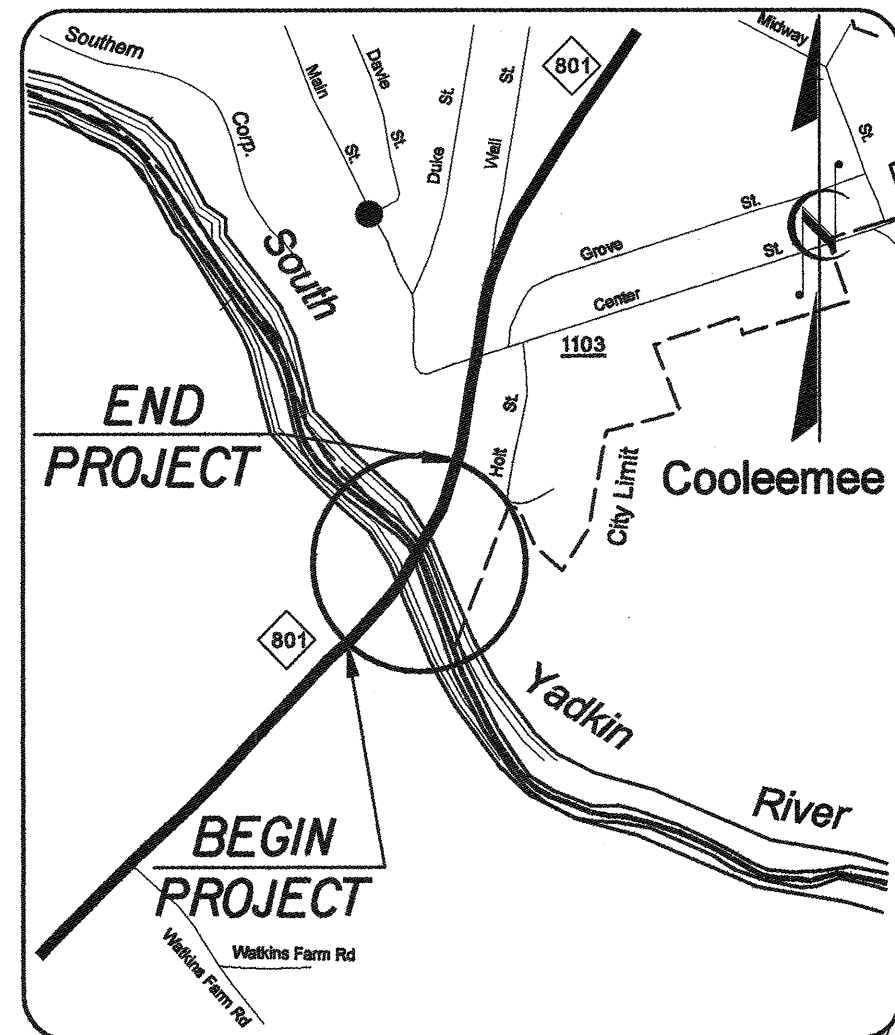
TIP: B-4256

CONTRACT: C201224

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4256	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33598.1.1	BRSTP-801(1)	P.E.	
33598.2.1	BRSTP-801(1)	RW, UTIL.	
33598.3.2	BRSTP-801(6)	CONST	

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

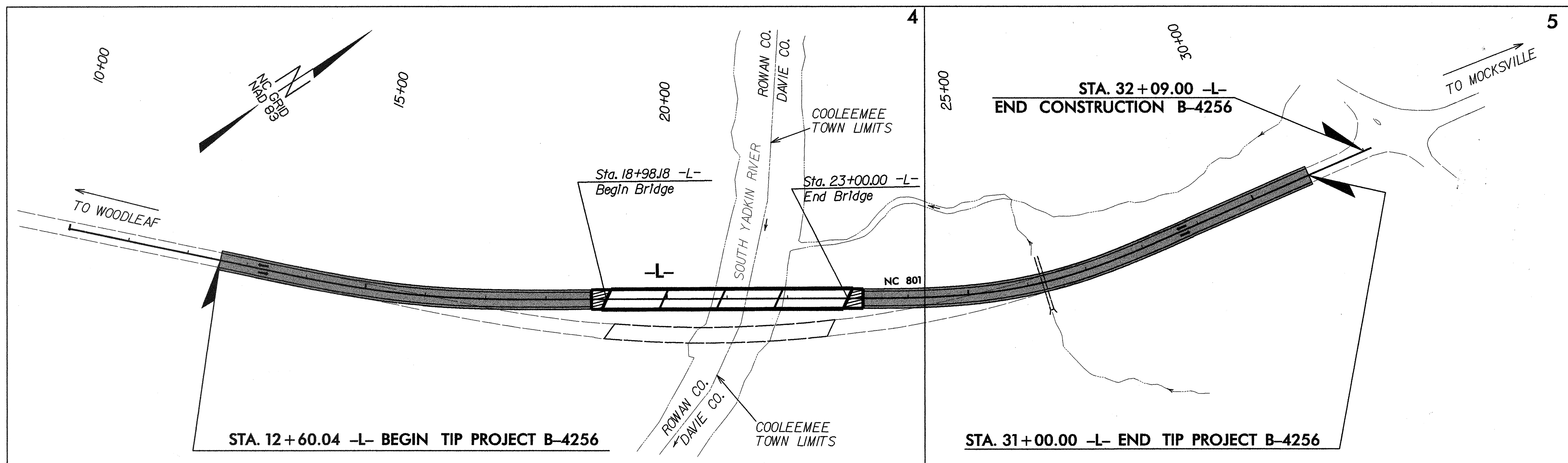


VICINITY MAP

ROWAN-DAVIE COUNTIES

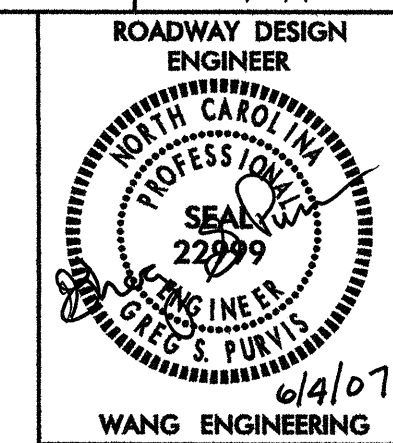
LOCATION: BRIDGE NO. 80 OVER SOUTH YADKIN RIVER ON NC 801

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



NCDOT CONTACT: CATHY HOUSER, P.E., PROJECT ENGINEER - ROADWAY DESIGN

<p>GRAPHIC SCALES</p> <p>50 25 0 50 100 PLANS</p> <p>50 25 0 50 100 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p>	<p>DESIGN DATA</p> <p>ADT 2007 = 6400 ADT 2030 = 11000 DHV = 10 % D = 60 % T = 5 % * ** V = 50 MPH *** V = 60 MPH * TTST 2% DUAL 3% ** DAVIE CO. *** ROWAN CO.</p>	<p>PROJECT LENGTH</p> <p>LENGTH ROADWAY TIP PROJECT B-4256 = 0.273 mi LENGTH STRUCTURE TIP PROJECT B-4256 = 0.076 mi TOTAL LENGTH OF TIP PROJECT B-4256 = 0.349 mi</p>	<p>Prepared in the Office of: WANG ENGINEERING COMPANY, INC. CARY, N.C. FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION</p> <p>2006 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: MAY 21, 2004</p> <p>LETTING DATE: September 18, 2007</p> <p>GREG S. PURVIS, P. E. PROJECT ENGINEER</p> <p>SCOTT L. KENNEDY PROJECT DESIGN ENGINEER</p>	<p>HYDRAULICS ENGINEER</p> <p><i>[Signature]</i> SIGNATURE: P.E.</p> <p>ROADWAY DESIGN ENGINEER</p> <p><i>[Seal: North Carolina Professional Engineer Seal 9334]</i></p> <p><i>[Seal: North Carolina Professional Engineer Seal 22999]</i></p> <p>GREG S. PURVIS P.E. 01/4/07</p>	<p>DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA</p> <p><i>[Signature: Curt McMillan]</i> STATE DESIGN ENGINEER</p> <p>DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION</p> <p>APPROVED DIVISION ADMINISTRATOR</p> <p>DATE</p>
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SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
1-D	CENTERLINE COORDINATE LIST
2	TYPICAL SECTIONS, PAVEMENT SCHEDULE, AND AND ROCK PLATING DETAIL
2-A	DETAIL OF ANCHORAGE OF FRAMES - BRICK/CONCRETE/PRECAST CONCRETE
3	SUMMARY OF QUANTITIES
3A	SUMMARY OF EARTHWORK SUMMARY OF GUARDRAIL, LIST OF PIPES, ENDWALLS, ETC., ASPHALT PAVEMENT REMOVAL SUMMARY AND PARCEL INDEX
4 THRU 5	PLAN/PROFILE SHEETS
TCP-1 THRU TCP-6	TRAFFIC CONTROL PLANS
PM-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-7 RF-1 UC-1 THRU UC-3	EROSION CONTROL PLANS REFORESTATION PLAN UTILITY CONSTRUCTION PLANS
UD-1	UTILITIES BY OTHERS
X-1 X-2 THRU X-14	CROSS SECTION INDEX AND SUMMARY SHEET CROSS-SECTIONS
S-1 THRU S-36 C-1 THRU C-7	STRUCTURE PLANS CULVERT PLANS

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	
200.03	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 - Method 'A'
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
840.00	Concrete Base Pad for Drainage Structures
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.72	Pipe Collar
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets

GENERAL NOTES:

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

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADII OR RADII 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.

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

Power - Duke Power

Water - Town of Cooleemee

Telephone - Southern Bell

Gas - Piedmont Natural Gas

Cable -Time Warner

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.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

*S.U.E = SUBSURFACE UTILITY ENGINEER

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	-----
Equality Symbol	⊕
Pavement Removal	XXXXXX

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) RW Marker	-----▲-----
Exist. Control of Access Line	-----C-----
Prop. Control of Access Line	-----C-----
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	□
UG Telephone Cable Hand Hold	□
Cable TV Pedestal	□
UG TV Cable Hand Hold	□
UG Power Cable Hand Hold	□
Hydrant	⊕
Satellite Dish	⊕
Exist. Water Valve	⊕
Sewer Clean Out	⊕
Power Manhole	⊕
Telephone Booth	⊕
Cellular Telephone Tower	⊕
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	-----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.*)	-----?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	⊕
UG 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	-----X-----
Existing Wetland Boundaries	-----WLB-----
High Quality Wetland Boundary	-----HQ WLB-----
Medium Quality Wetland Boundaries	-----MQ WLB-----
Low Quality Wetland Boundaries	-----LO 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	-----

RAILROADS

Standard Gauge	-----
RR Signal Milepost	-----
Switch	-----

SURVEY CONTROL SHEET B4256

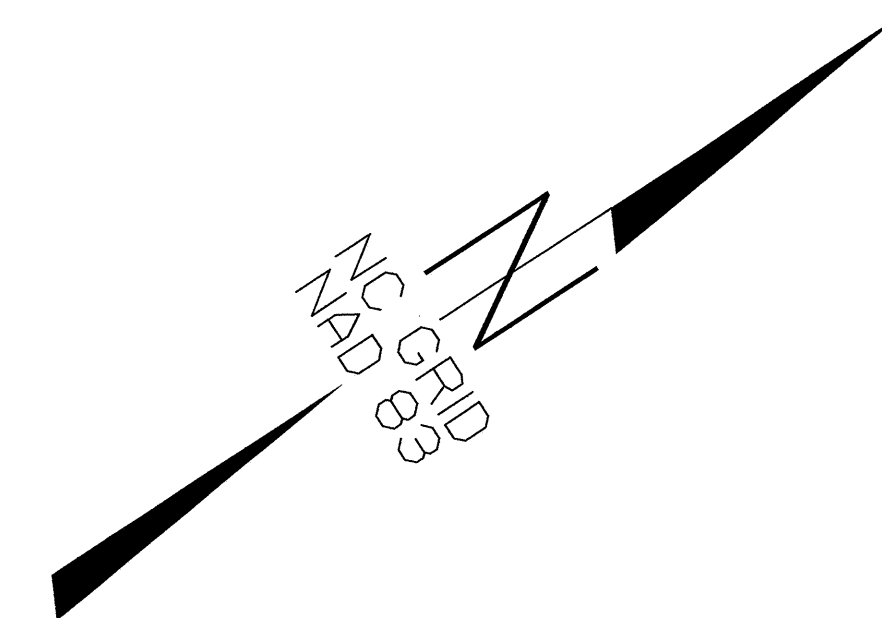
PROJECT REFERENCE NO. B4256	SHEET NO. 1C
Location and Surveys	

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	BL-3		749924.2560	1537284.9960	680.37	OUTSIDE PROJECT LIMITS	
2	B4256-2		750810.2780	1538221.1180	662.87	17+83.20	66.68 RT
4	BL-4		751263.7650	1538507.5440	662.37	23+18.83	61.21 RT
5	BL-5		752236.5990	1538753.8520	659.04	OUTSIDE PROJECT LIMITS	

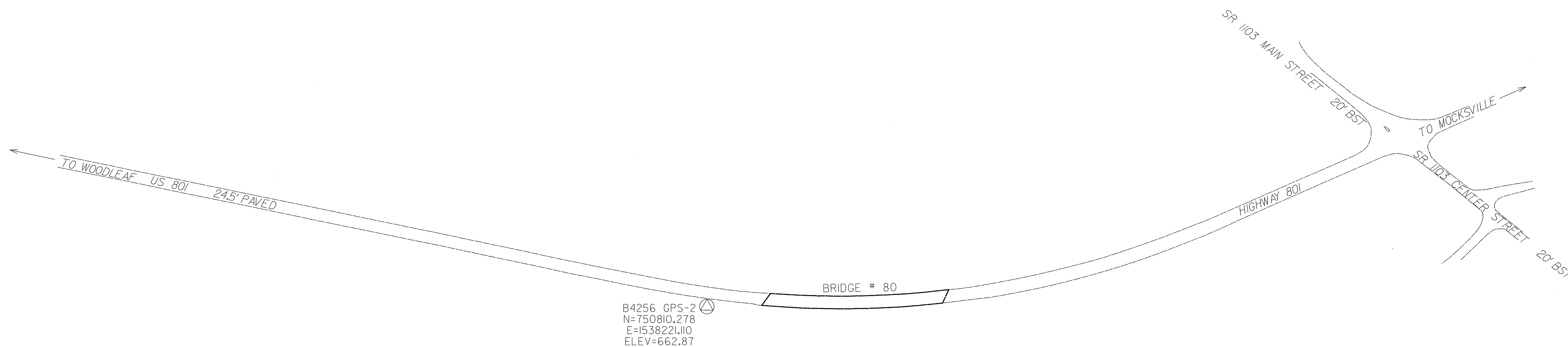
 BM1 ELEV=685.45
 N 750037 E 1537192
 CHISTLED SQUARE IN THE NE
 CORNER OF A CONCRETE PAD
 AT OLD ABANDONED BAR, NOW
 SURVING AS A JUNKYARD
 L STATION 10+00
 S 63° 29' 31.1" W DIST 507.31

 BM2 ELEV=674.02
 N 752227 E 1538922
 R/R SPIKE IN ROOT ON THE
 NW SIDE OF A 24" WILLOW OAK,
 17.25' FROM THE EP OF
 CENTER ST.
 L STATION 32+50
 N 76° 57' 49.4" E DIST 212.18

 389 JAS ELEV=661.88
 N 751243 E 1538461
 LOCATED ON BRIDGE#80 OVER
 THE SOUTH YADKIN RIVER, IN THE
 NE END OF THE WHEELGUARD OF
 BRIDGE. STANDARD TABLET STAMPED
 "389 JAS 1965 663"
 L STATION 22+76 34 RIGHT



B4256 GPS-1
 N=749374.387
 E=1536725.371
 ELEV=698.40



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4256-1"

WITH NAD 83 STATE PLANE GRID COORDINATES OF
 NORTHING: 749374.387 (ft) EASTING: 1536725.371 (ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
 (GROUND TO GRID) IS: 0.999889750

THE N.C. LAMBERT GRID BEARING AND
 LOCALIZED HORIZONTAL GROUND DISTANCE FROM
 "B4256-1" TO -L- STATION 10+00.00 IS
 N 45° 59' 47.34" E 1279.70'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NGVD 29

NOTES:

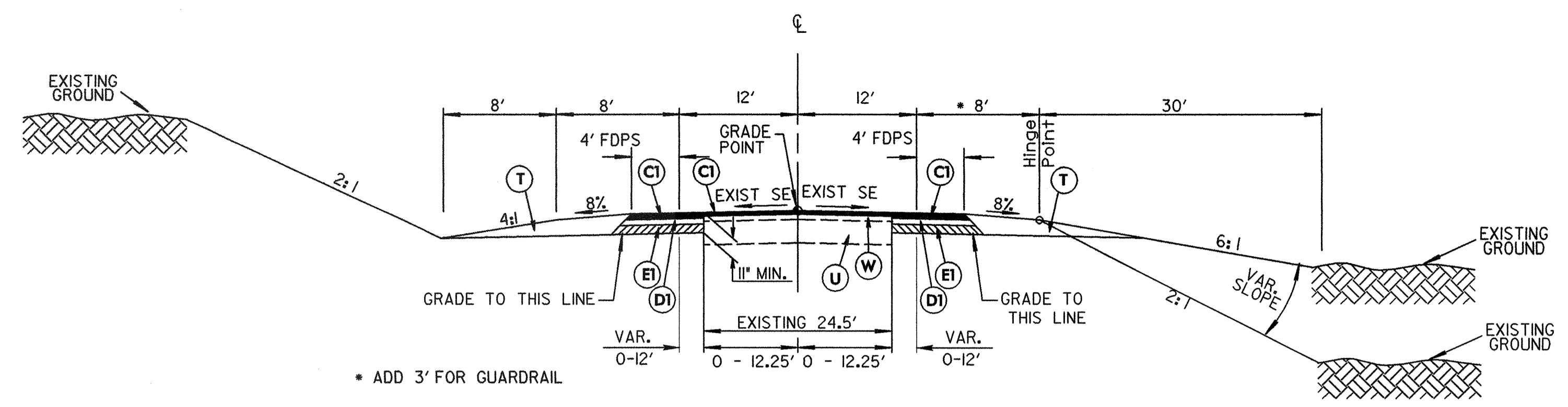
- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/B4256_LS_CONTROL_031209.TXT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/B4256_LS_CONTROL_031209.TXT)
- 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

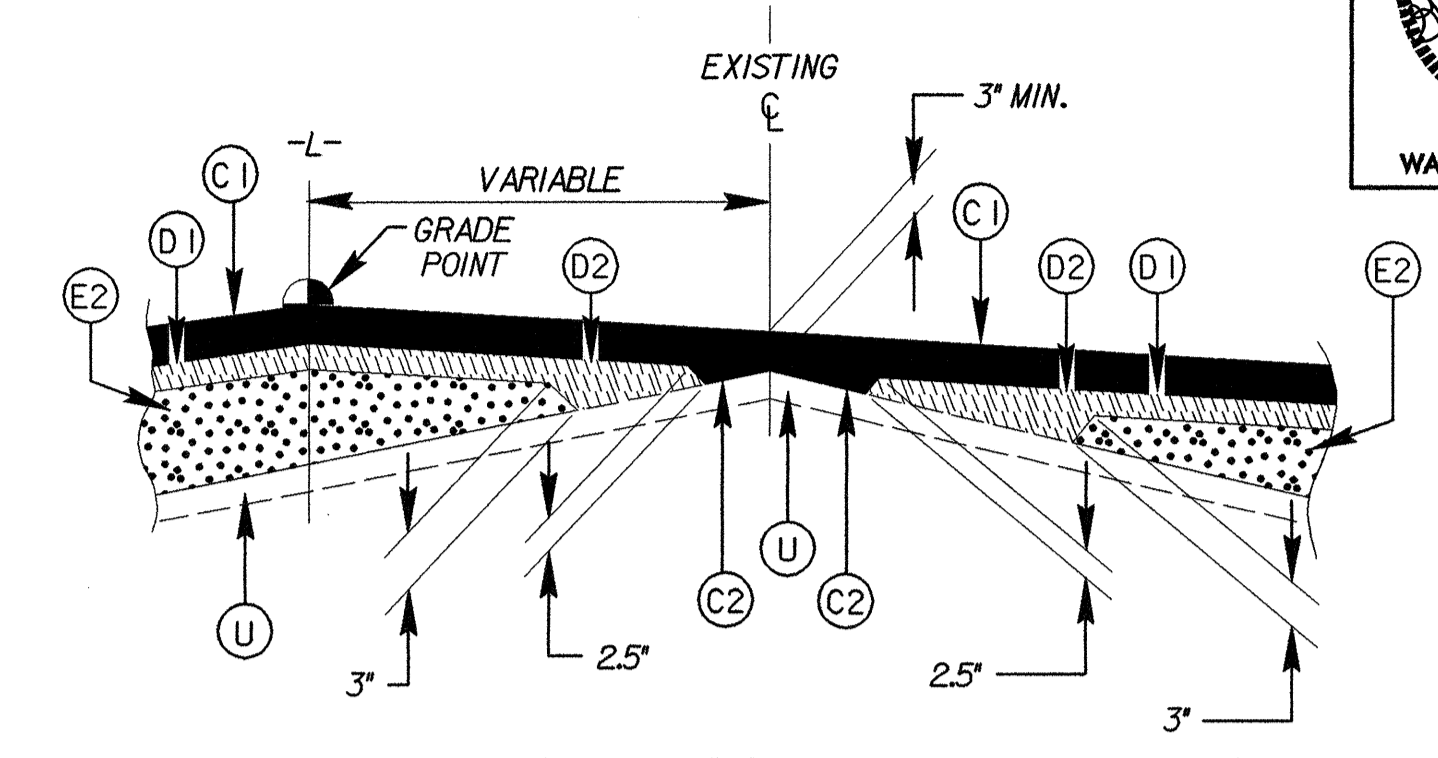
CENTERLINE COORDINATE LIST B4256

Disclaimer: This coordinate list is provided for the convenience of interested contractors and is intended for use during the project bidding process only. Coordinates are localized to this particular project and any conversion to state grid coordinates or other formats will be the responsibility of the recipient. While every effort has been made to provide up-to-date, accurate information, NCDOT makes no express guarantee as to the validity or potential for revision of this information prior to project letting.

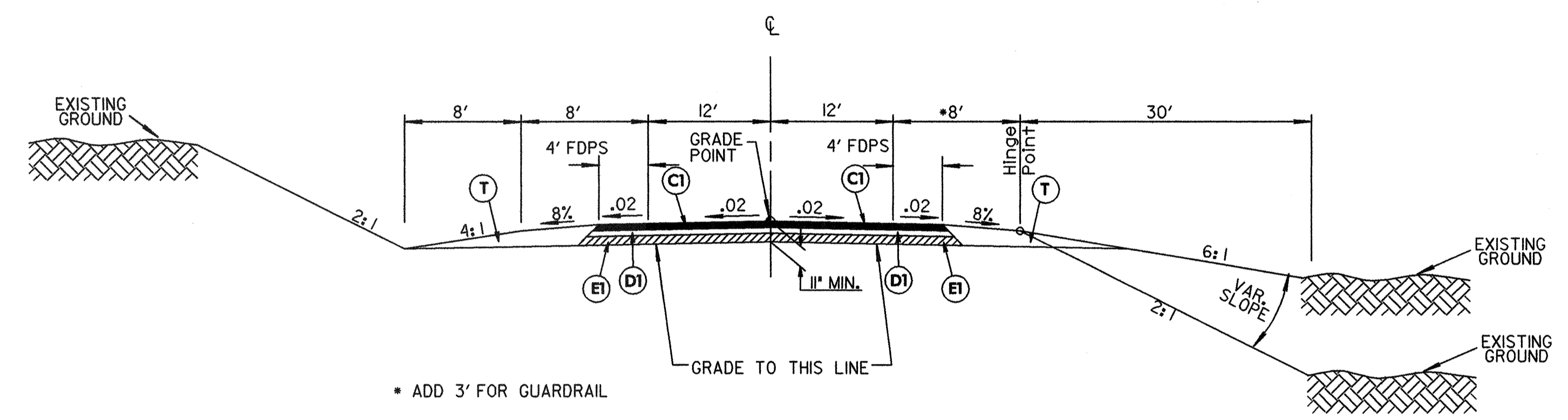
Point #	Chain	Station	Northing(Y)	Easting(X)
1	L	10+00.00	750263.3955	1537645.8532
2	L	11+00.00	750334.2336	1537716.4363
3	L	12+00.00	750405.0716	1537787.0194
4	L	13+00.00	750475.9109	1537857.6012
5	L	14+00.00	750547.3027	1537927.6215
6	L	15+00.00	750621.0993	1537995.0912
7	L	16+00.00	750698.1448	1538058.8243
8	L	17+00.00	750778.2794	1538118.6270
9	L	18+00.00	750861.0670	1538174.7082
10	L	19+00.00	750945.0137	1538229.0490
11	L	20+00.00	751029.0428	1538283.2625
12	L	21+00.00	751113.0720	1538337.4760
13	L	22+00.00	751197.1011	1538391.6895
14	L	23+00.00	751281.1302	1538445.9030
15	L	24+00.00	751365.2159	1538500.0284
16	L	25+00.00	751451.2567	1538550.9406
17	L	26+00.00	751542.1225	1538592.5515
18	L	27+00.00	751637.3088	1538623.0082
19	L	28+00.00	751735.2316	1538643.1496
20	L	29+00.00	751833.9226	1538659.2757
21	L	30+00.00	751932.6368	1538675.2605
22	L	31+00.00	752031.3509	1538691.2453
23	L	32+00.00	752130.0651	1538707.2301
24	L	32+49.53	752178.9570	1538715.1472
25	L	32+49.53	752178.9570	1538715.1472



TYPICAL SECTION NO. 1
 USE TYPICAL SECTION NO. 1 AS FOLLOWS
 -L- Sta. 12+60.04 to Sta. 17+09.14
 -L- Sta. 26+18.64 to Sta. 31+00.00



DETAIL SHOWING METHOD OF WEDGING

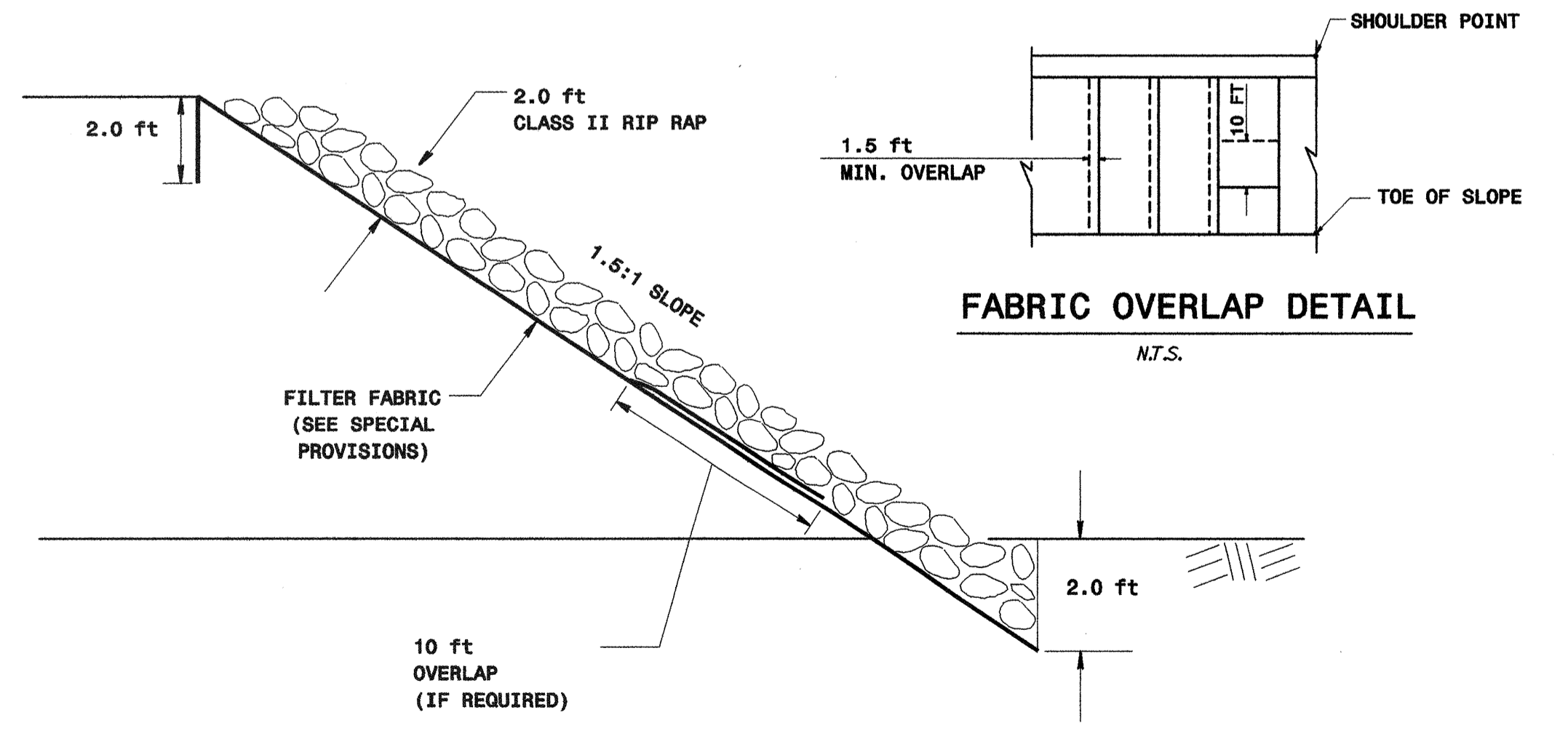


TYPICAL SECTION NO. 2
 USE TYPICAL SECTION NO. 2 AS FOLLOWS
 -L- Sta. 17+09.14 to Sta. 18+98.18
 -L- Sta. 23+00.00 to Sta. 26+18.64

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" OR GREATER THAN 2" IN DEPTH.
D1	PROP. APPROX. 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONC. 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 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONC. SURFACE 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" OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH PAVEMENT (SEE WEDGING DETAILS)

NOTE: ALL SLOPES 1:1 UNLESS OTHERWISE SPECIFIED

**ROCK PLATING
DETAIL**



ROCK PLATING DETAIL
 -L- Sta. 28+00.00 to -L- Sta. 29+50.00 LT.
 N.T.S.

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

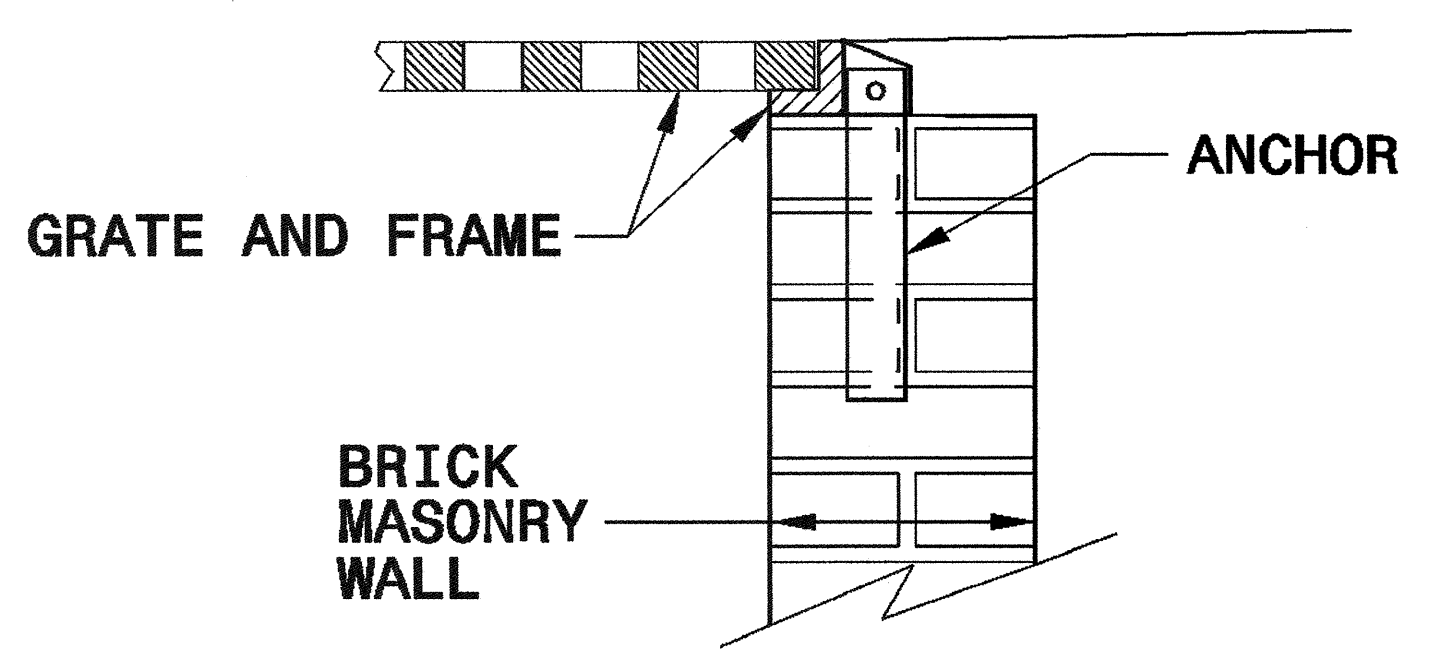
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

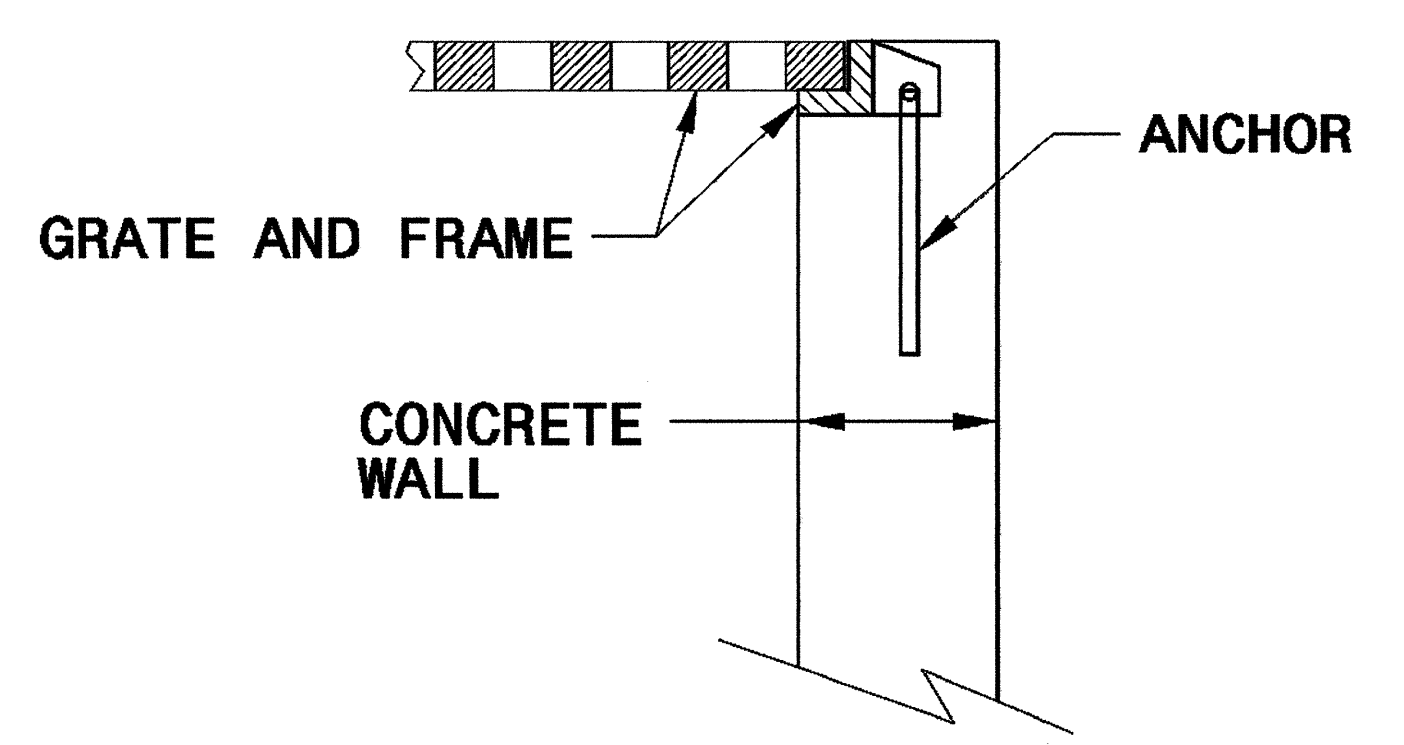
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

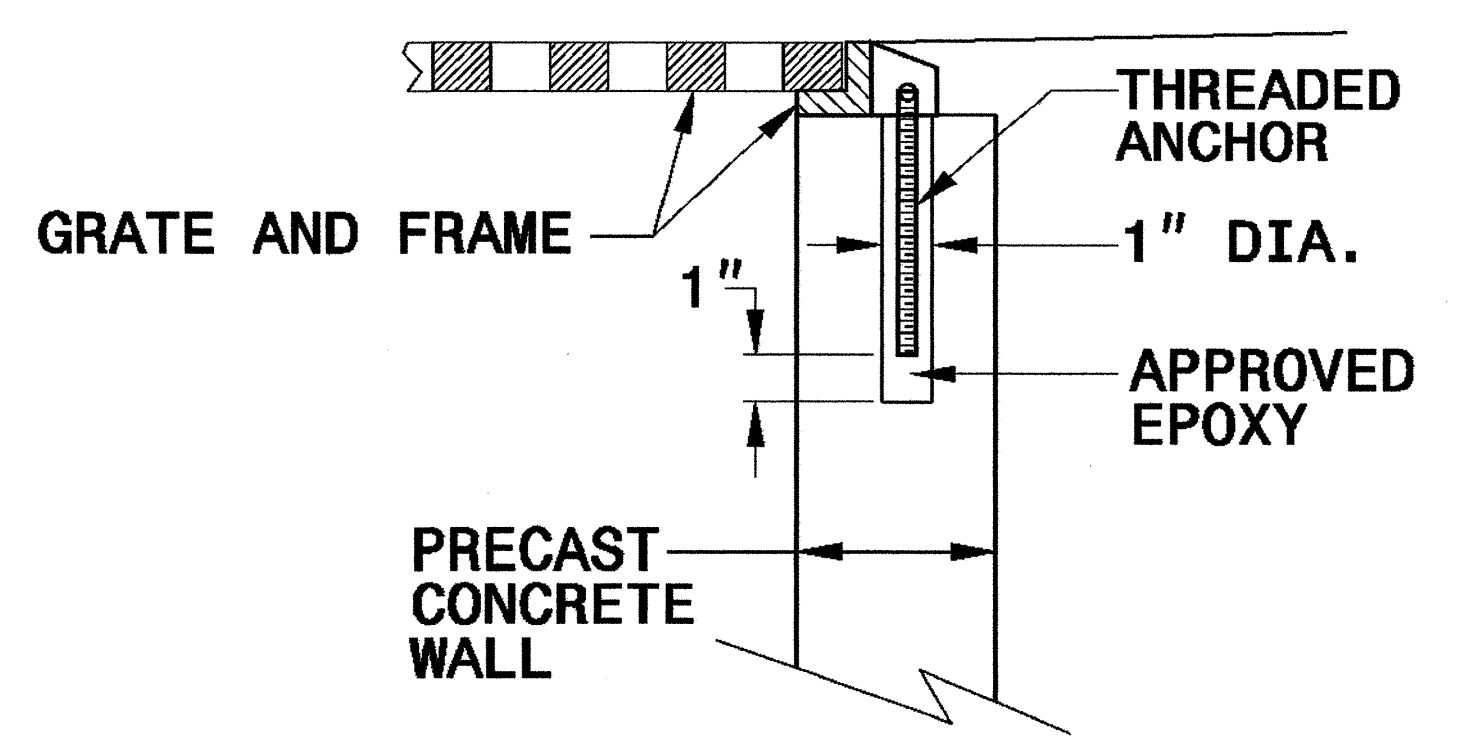
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



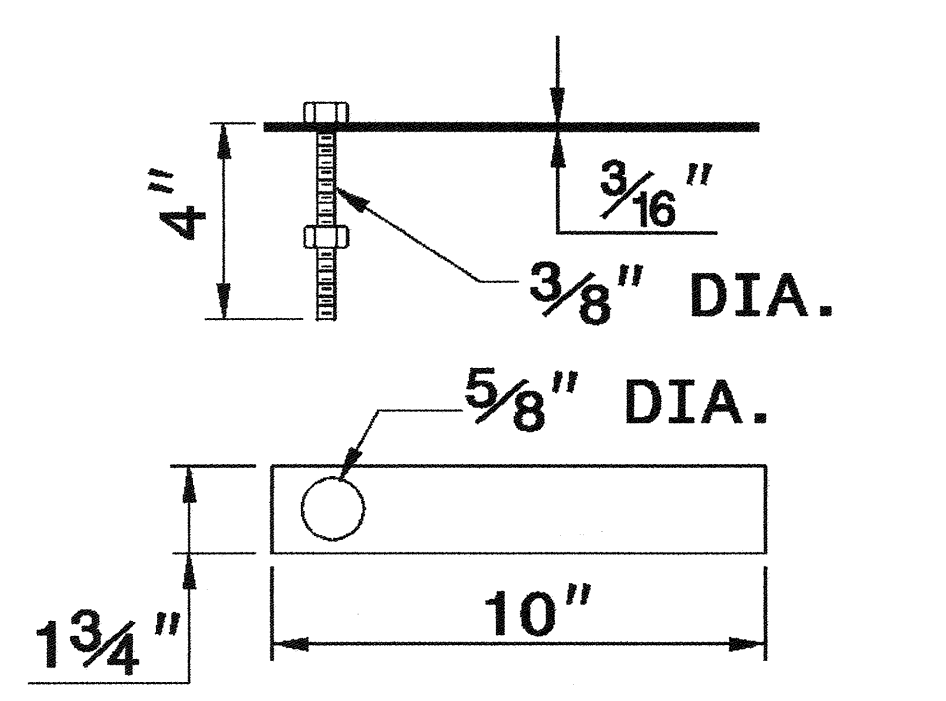
CONCRETE CONSTRUCTION



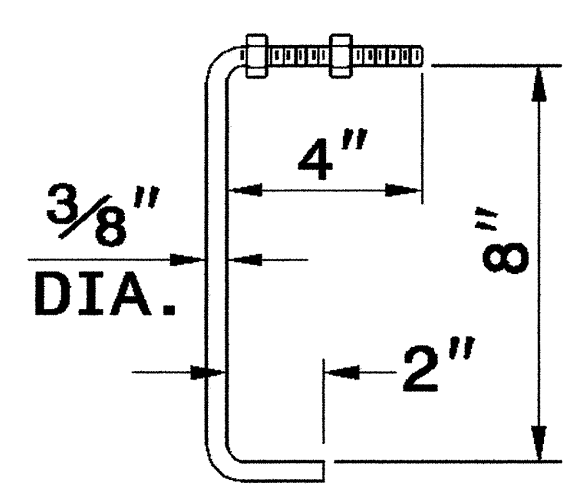
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

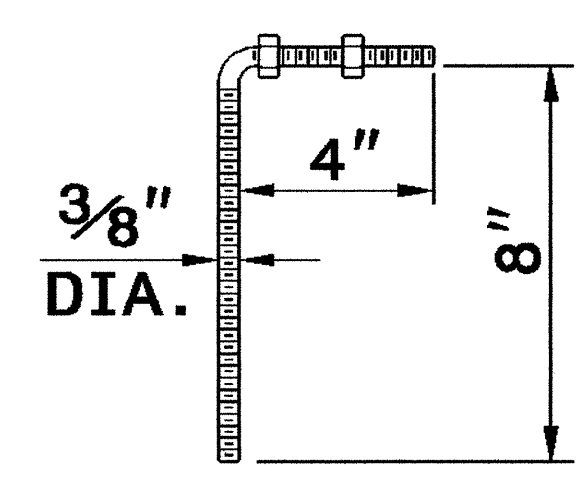
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



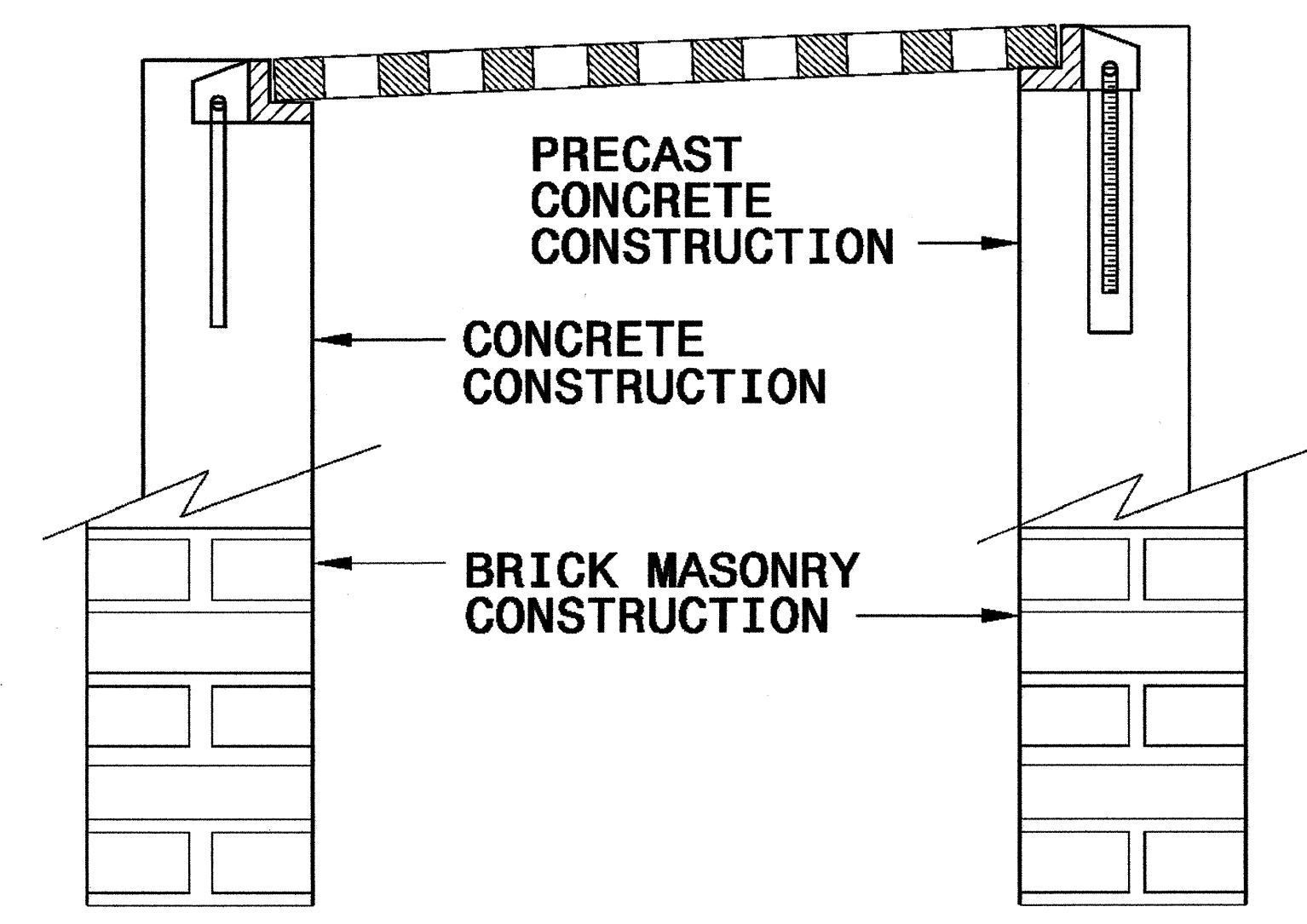
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



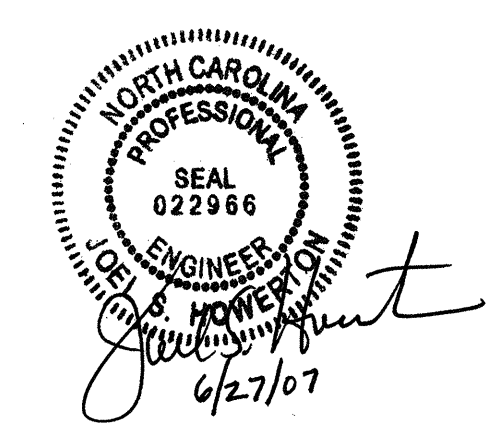
CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR



FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS



PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E.E. WARD DATE: 9/25/06
CHECKED BY: DATE: _____
FILE SPEC.: _____

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201224

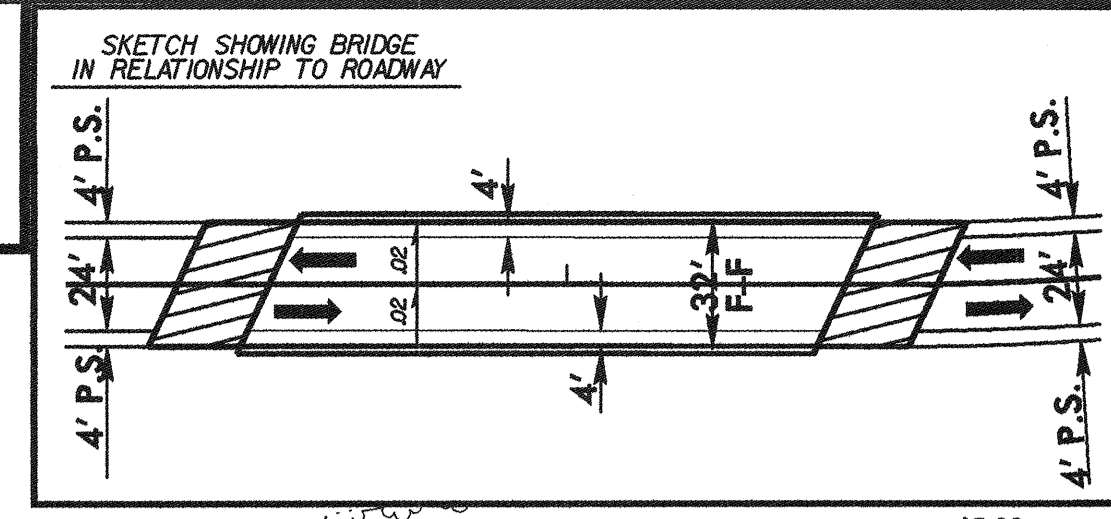
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (21+00.00)
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB- BING
005700000-E	226	1,250	CY	UNDERCUT EXCAVATION
006300000-N	SP	Lump Sum		GRADING
008000000-E	SP	30	TON	CLASS IV SUBGRADE STABILIZA- TION
010600000-E	230	23,375	CY	BORROW EXCAVATION
013400000-E	240	2,720	CY	DRAINAGE DITCH EXCAVATION
019500000-E	265	1,000	CY	SELECT GRANULAR MATERIAL
019600000-E	270	1,000	SY	FABRIC FOR SOIL STABILIZATION
024100000-E	SP	550	SY	GENERIC GRADING ITEM ROCK PLATING EMBANKMENT
025500000-E	SP	50	TON	GENERIC GRADING ITEM DISPOSAL OF CONTAMINATED SOIL
031800000-E	300	47	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRS
034300000-E	310	28	LF	15" SIDE DRAIN PIPE
034400000-E	310	40	LF	18" SIDE DRAIN PIPE
036600000-E	310	104	LF	15" RC PIPE CULVERTS, CLASS III
037200000-E	310	20	LF	18" RC PIPE CULVERTS, CLASS III
070800000-E	310	250	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
080600000-E	310	4	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
099500000-E	340	105	LF	PIPE REMOVAL
122000000-E	545	100	TON	INCIDENTAL STONE BASE
148900000-E	610	757	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	462	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE 119.0B
151900000-E	610	1,050	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
156000000-E	620	118	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
169300000-E	654	30	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
200000000-N	806	12	EA	RIGHT OF WAY MARKERS
225300000-E	840	0.45	CY	PIPE COLLARS
228600000-N	840	4	EA	MASONRY DRAINAGE STRUCTURES
236700000-N	840	4	EA	FRAME WITH TWO GRATES, STD 840.29
255600000-E	846	401	LF	SHOULDER BERM GUTTER
283000000-N	858	1	EA	ADJUSTMENT OF MANHOLES
303000000-E	862	1,775	LF	STEEL BM GUARDRAIL
304500000-E	862	75	LF	STEEL BM GUARDRAIL, SHOP CURVED
315000000-N	862	3	EA	ADDITIONAL GUARDRAIL POSTS
319500000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1
327000000-N	SP	3	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
331700000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
336000000-E	863	1,876	LF	REMOVE EXISTING GUARDRAIL
338910000-N	SP	2	EA	GUARDRAIL ANCHOR UNITS, TYPE 350 TEMPORARY
363500000-E	876	110	TON	RIP RAP, CLASS II
364900000-E	876	5	TON	RIP RAP, CLASS B
365600000-E	876	945	SY	FILTER FABRIC FOR DRAINAGE
440000000-E	1110	52	SF	WORK ZONE SIGNS (STATIONARY)
440500000-E	1110	96	SF	WORK ZONE SIGNS (PORTABLE)
441000000-E	1110	20	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
443000000-N	1130	25	EA	DRUMS
443500000-N	1135	32	EA	CONES

ItemNumber	Sec #	Quantity	Unit	Description
444500000-E	1145	375	LF	BARRICADES (TYPE III)
445000000-N	1150	140	HR	FLAGGER
465000000-N	1251	46	EA	TEMPORARY RAISED PAVEMENT MARKERS
468500000-E	1205	2,880	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
468600000-E	1205	2,880	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
473000000-E	1205	1,600	LF	EPOXY PAVEMENT MARKING LINES (4")
481000000-E	1205	7,360	LF	PAINT PAVEMENT MARKING LINES (4")
490000000-N	1251	10	EA	PERMANENT RAISED PAVEMENT MARKERS
490500000-N	1253	36	EA	SNOWPLOWABLE PAVEMENT MARKERS
564800000-N	1515	4	EA	RELOCATE WATER METER
567200000-N	1515	1	EA	RELOCATE FIRE HYDRANT
576800000-N	1520	4	EA	SANITARY SEWER CLEAN-OUT
600000000-E	1605	1,200	LF	TEMPORARY SILT FENCE
600600000-E	1610	100	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	500	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	450	TON	SEDIMENT CONTROL STONE
601500000-E	1615	3.5	ACR	TEMPORARY MULCHING
601800000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.5	TON	FERTILIZER FOR TEMPORARY SEED- ING
602400000-E	1622	335	LF	TEMPORARY SLOPE DRAINS
602700000-N	1622	7	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
602900000-E	SP	750	LF	SAFETY FENCE
603000000-E	1630	1,210	CY	SILT EXCAVATION
603600000-E	1631	1,270	SY	MATTING FOR EROSION CONTROL
604200000-E	1632	100	LF	1/4" HARDWARE CLOTH

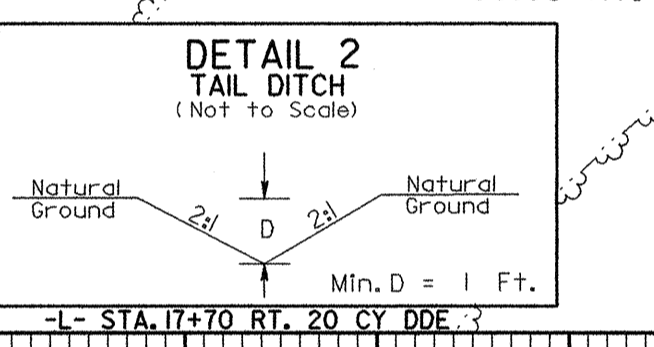
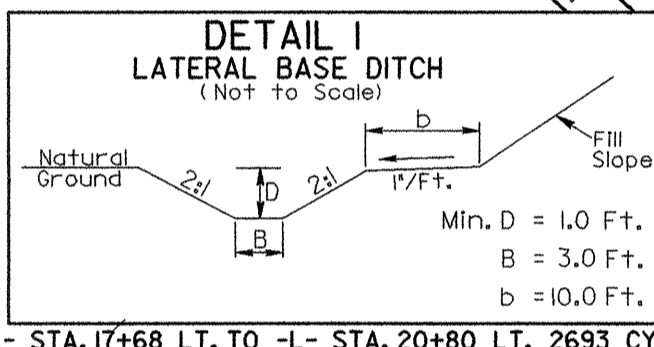
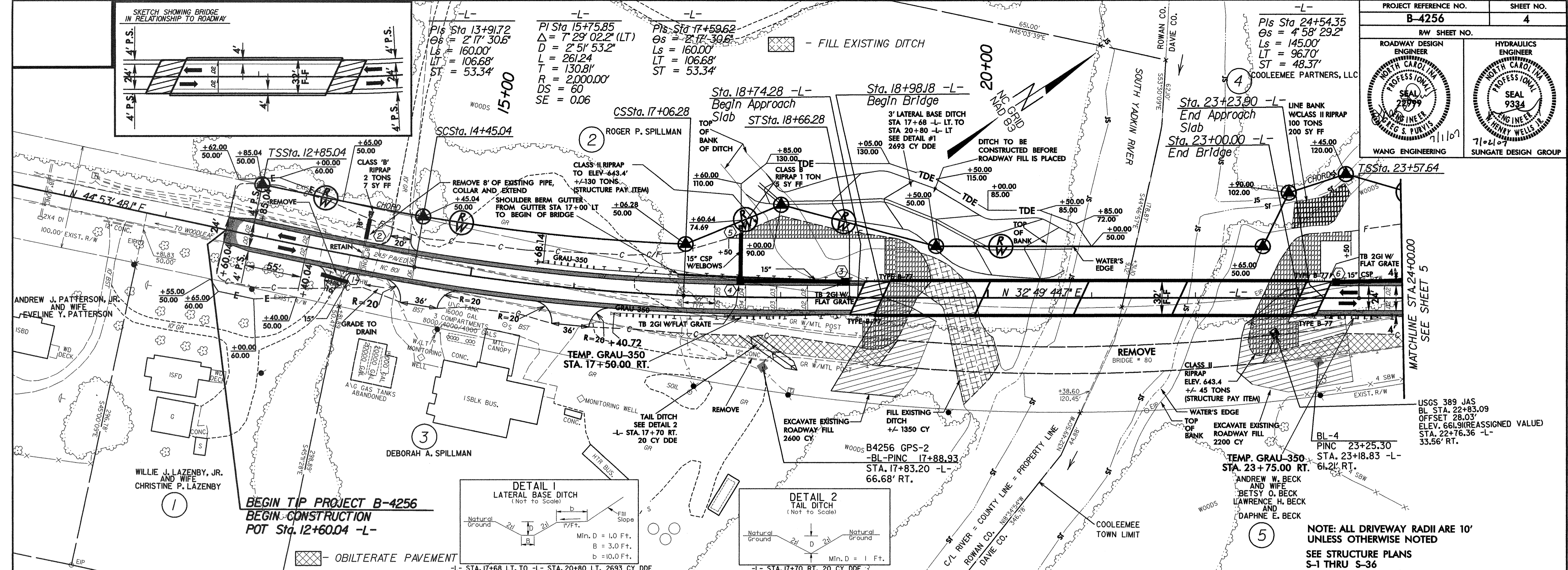
ItemNumber	Sec #	Quantity	Unit	Description
604500000-E	SP	60	LF	*** TEMPORARY PIPE (18")
604800000-E	SP	150	SY	FLOATING TURBIDITY CURTAIN
606900000-E	1638	40	CY	STILLING BASINS
607000000-N	SP	12	EA	SPECIAL STILLING BASINS
607103000-E	SP	350	LF	COIR FIBER BAFFLES
608400000-E	1660	3.5	ACR	SEEDING & MULCHING
608700000-E	1660	2.5	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	100	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	2.75	TON	FERTILIZER TOPDRESSING
611000000-E	SP	45	LF	IMPERVIOUS DIKE
611400000-N	SP	4.5	HR	SPECIALIZED HAND MOWING
611700000-N	SP	8	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	1.35	ACR	REFORESTATION



Pi Sta 13+91.72
 $\Delta s = 2' 17' 30.6''$
 $Ls = 160.00'$
 $LT = 106.68'$
 $ST = 53.34'$

Pi Sta 15+75.85
 $\Delta = 7' 29' 02.2''$ (LT)
 $D = 2' 51' 53.2''$
 $L = 261.24'$
 $T = 130.81'$
 $R = 2,000.00'$
 $DS = 60$
 $SE = 0.06$

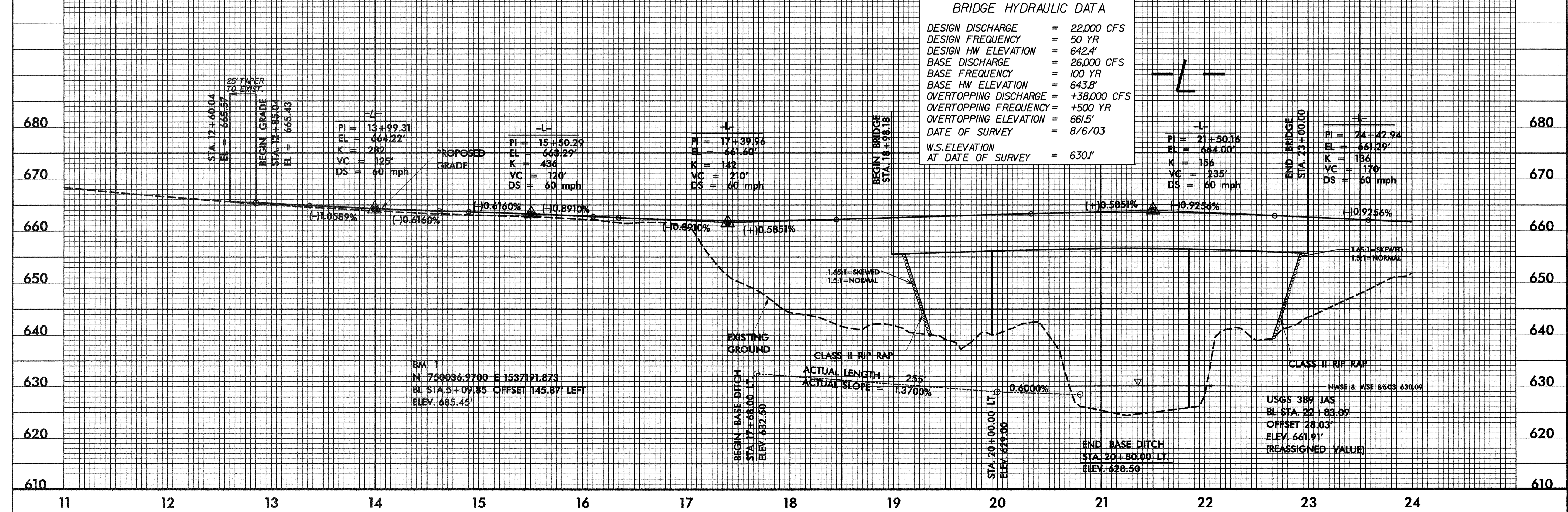
Pi Sta 17+59.62
 $\Delta s = 2' 17' 30.6''$
 $Ls = 160.00'$
 $LT = 106.68'$
 $ST = 53.34'$

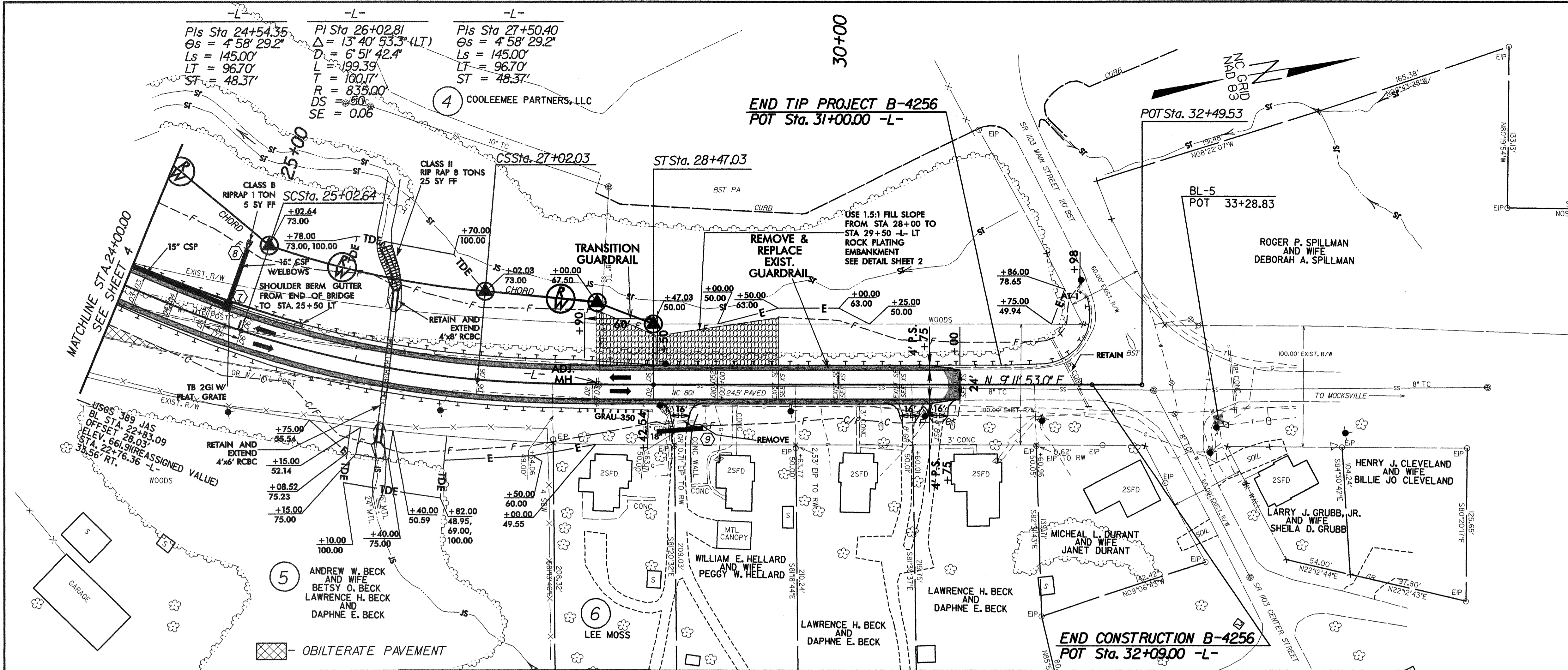


NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
 SEE STRUCTURE PLANS S-1 THRU S-36

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 22,000 CFS
DESIGN FREQUENCY	= 50 YR
DESIGN HW ELEVATION	= 642.4'
BASE DISCHARGE	= 26,000 CFS
BASE FREQUENCY	= 100 YR
BASE HW ELEVATION	= 643.8'
OVERTOPPING DISCHARGE	= +38,000 CFS
OVERTOPPING FREQUENCY	= +500 YR
OVERTOPPING ELEVATION	= 661.5'
DATE OF SURVEY	= 8/6/03
W.S. ELEVATION AT DATE OF SURVEY	= 630.1'





SEE STRUCTURE PLANS C-1 THRU C-7 FOR CULVERT
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

