

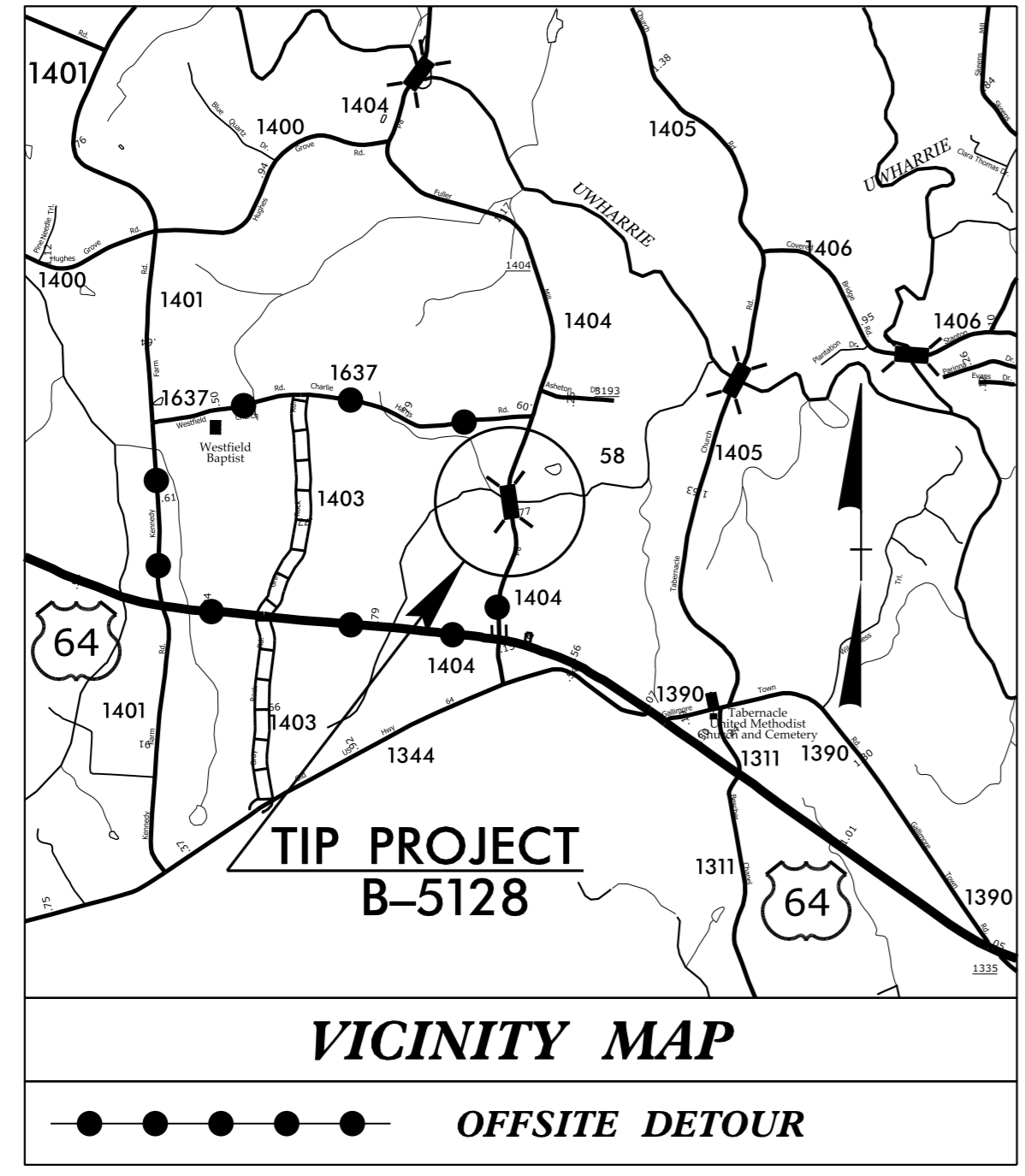
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09/08/99

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



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

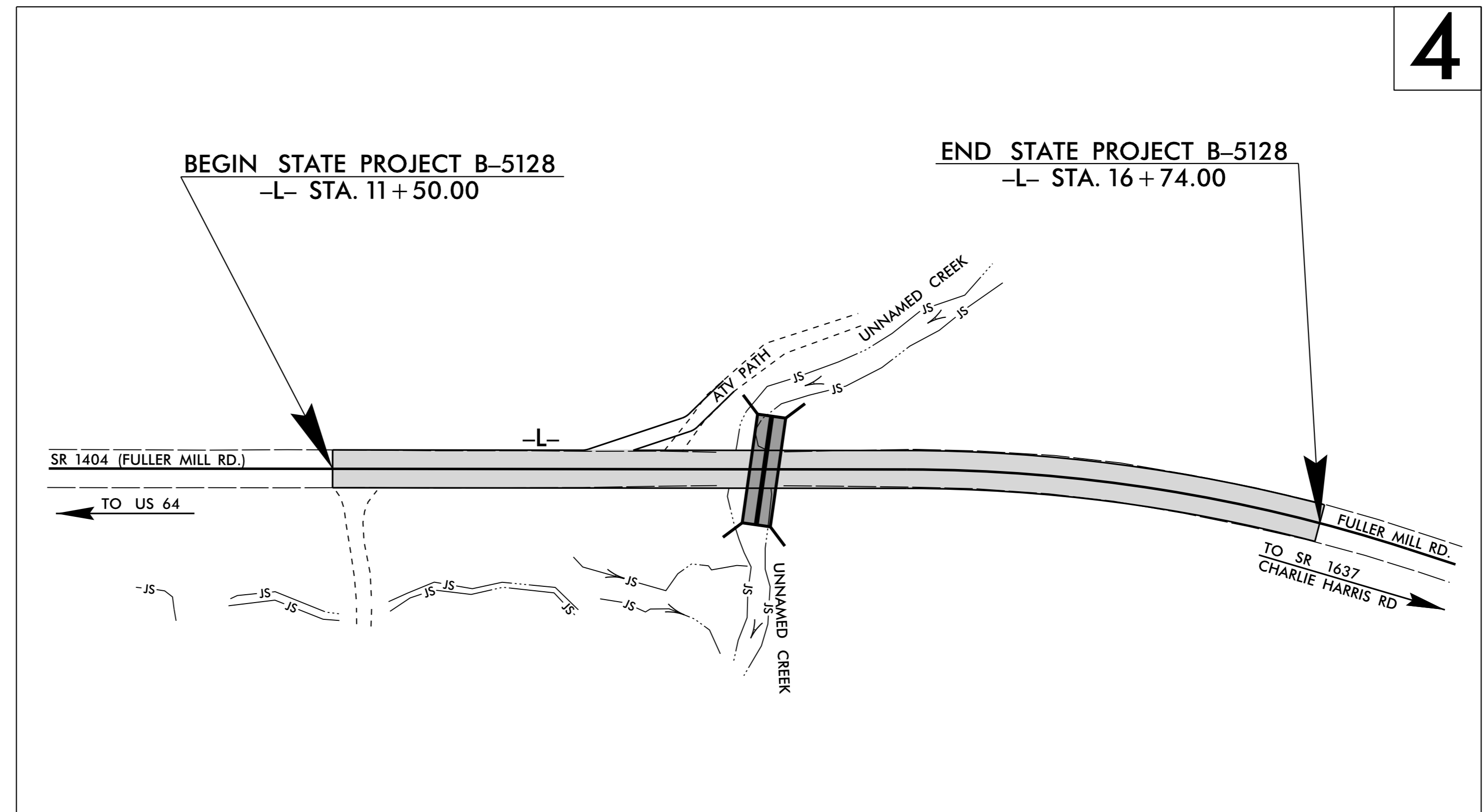
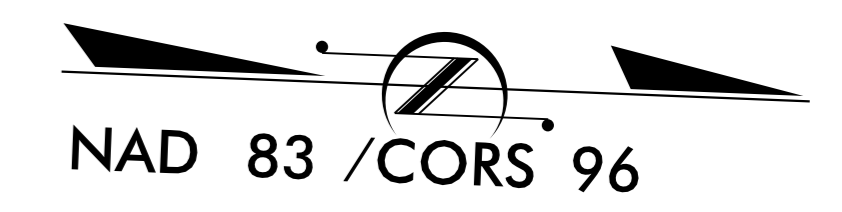
RANDOLPH COUNTY

**LOCATION: BRIDGE 58 ON SR 1404 (FULLER MILL RD.)
OVER AN UNNAMED TRIBUTARY OF LITTLE UWHARRIE RIVER**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5128	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42286.1.1	BRZ-1404 (12)	PE	
42286.2.FD1	BRZ-1404 (12)	RW, UTIL.	
42286.3.FD1	BRZ-1404 (12)	CONST.	

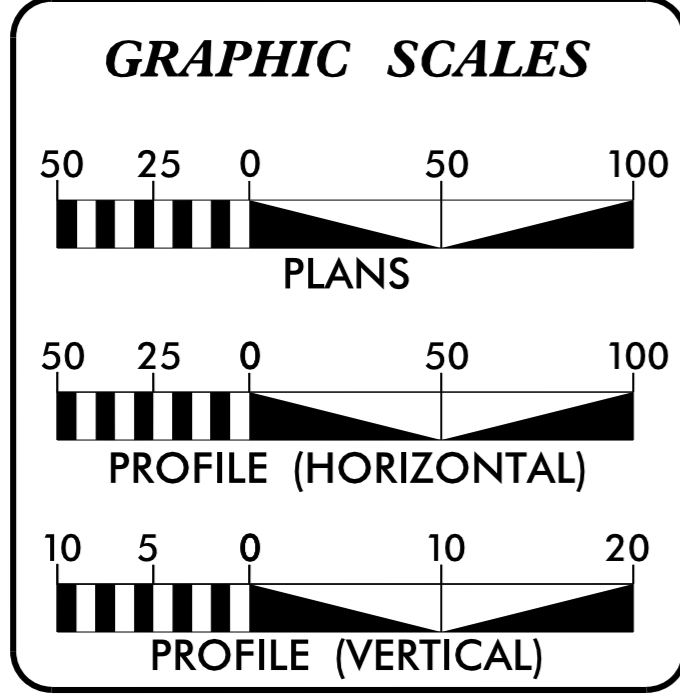
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UNLESS ALL SIGNATURES COMPLETED



*DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K FACTORS AND NIGHTTIME SSD

TIP PROJECT: B-5128

CONTRACT: C203674



DESIGN DATA

ADT 2016 =	600
ADT 2035 =	900
K =	10 %
D =	65 %
T =	5 % *
V =	55 MPH
* TTST 1%	DUAL 4%
FUNC CLASS=RURAL LOCAL SUB REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5128 =	0.099 MI
TOTAL LENGTH TIP PROJECT B-5128 =	0.099 MI

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

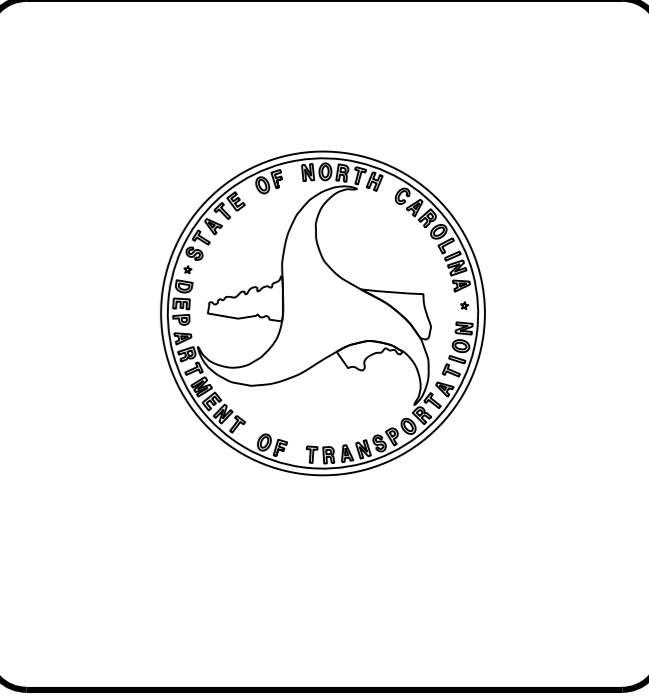
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: FEBRUARY 12, 2015	JAMES A. SPEER, PE PROJECT ENGINEER
LETTING DATE: MARCH 15, 2016	ALLISON K. WHITE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

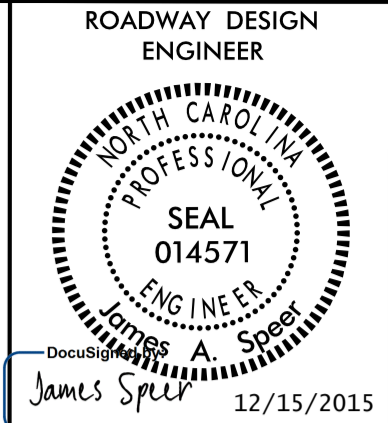
DocuSigned by:
Ray D. Lovinggood 12/21/2015
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

DocuSigned by:
James A. Speer 12/15/2015
SIGNATURE: P.E.



04-DEC-2015 11:13 R:\Roadway\Proj\B5128-Rdy_T-sh.dgn \$\$\$USERNAME\$\$\$



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1	SURVEY CONTROL SHEETS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1	ROADWAY SUMMARIES (DRAINAGE, EARTHWORK, GUARDRAIL, REMOVAL OF EXISTING ASPHALT PAVEMENT AND BREAKING OF EXISTING ASPHALT PAVEMENT)
4 THRU 5	PLAN AND PROFILE SHEET
TMP-1 THRU TMP- 4	TRAFFIC MANAGEMENT PLANS
PM-1	PAVEMENT MARKING PLANS
SIGN-1	SIGNING PLANS
EC-1 THRU EC-6	EROSION CONTROL PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-4	CROSS-SECTIONS
C-1 THRU C-4	STRUCTURE PLANS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

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.

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

UNDERDRAINS:
UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

GUARDRAIL:
THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

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

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE DAVIDSON WATER, AND NORTH STATE COMMUNICATIONS. ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

2012 ROADWAY ENGLISH STANDARD DRAWINGS
The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
862.01	Guardrail Placement
862.02	Guardrail Installation
876.01	Rip Rap in Channels
876.04	Drainage Ditches with Class 'B' Rip Rap

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering

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	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- WLB
Proposed Wetland Boundary	----- WLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Existing Historic Property Boundary	----- HPB
Known Contamination Area: Soil	----- ☠
Potential Contamination Area: Soil	----- ☠
Known Contamination Area: Water	----- ☠
Potential Contamination Area: Water	----- ☠
Contaminated Site: Known or Potential	----- ☠

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ †
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	----- JS
Buffer Zone 1	----- BZ 1
Buffer Zone 2	----- BZ 2
Flow Arrow	←
Disappearing Stream	----->
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ CSX TRANSPORTATION MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	----- RW
Proposed Right of Way Line with Iron Pin and Cap Marker	----- RW
Proposed Right of Way Line with Concrete or Granite R/W Marker	----- RW
Proposed Control of Access Line with Concrete CA Marker	----- CA
Existing Control of Access	----- CA
Proposed Control of Access	----- CA
Existing Easement Line	----- E
Proposed Temporary Construction Easement	----- E
Proposed Temporary Drainage Easement	----- TDE
Proposed Permanent Drainage Easement	----- PDE
Proposed Permanent Drainage / Utility Easement	----- DUE
Proposed Permanent Utility Easement	----- PUE
Proposed Temporary Utility Easement	----- TUE
Proposed Aerial Utility Easement	----- AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- C
Proposed Slope Stakes Fill	----- F
Proposed Curb Ramp	----- CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	☼ ☼ ☼ ☼
Vineyard	□ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	----- CONC
Bridge Wing Wall, Head Wall and End Wall	----- CONC WW
MINOR:	
Head and End Wall	----- CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○ S
Storm Sewer	----- S

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	○
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	----- P
U/G Power Line LOS C (S.U.E.*)	----- P
U/G Power Line LOS D (S.U.E.*)	----- P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊗
U/G Telephone Cable Hand Hole	○
U/G Telephone Cable LOS B (S.U.E.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	----- W
U/G Water Line LOS C (S.U.E.*)	----- W
U/G Water Line LOS D (S.U.E.*)	----- W
Above Ground Water Line	----- A/G Water

TV:

TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	○
U/G TV Cable LOS B (S.U.E.*)	----- TV
U/G TV Cable LOS C (S.U.E.*)	----- TV
U/G TV Cable LOS D (S.U.E.*)	----- TV
U/G Fiber Optic Cable LOS B (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS C (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS D (S.U.E.*)	----- TV FO

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	----- G
U/G Gas Line LOS C (S.U.E.*)	----- G
U/G Gas Line LOS D (S.U.E.*)	----- G
Above Ground Gas Line	----- A/G Gas

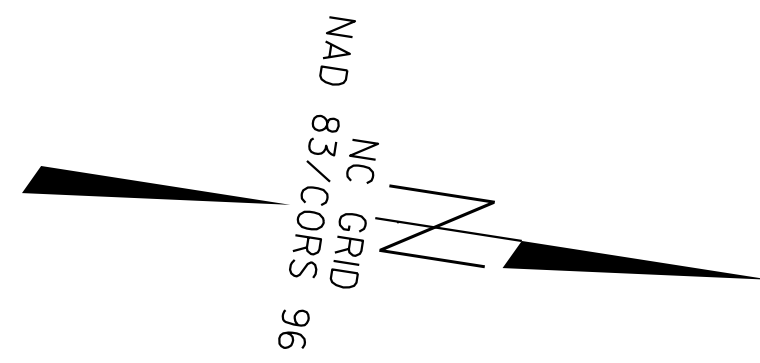
SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

MISCELLANEOUS:

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

SURVEY CONTROL SHEET B-5128



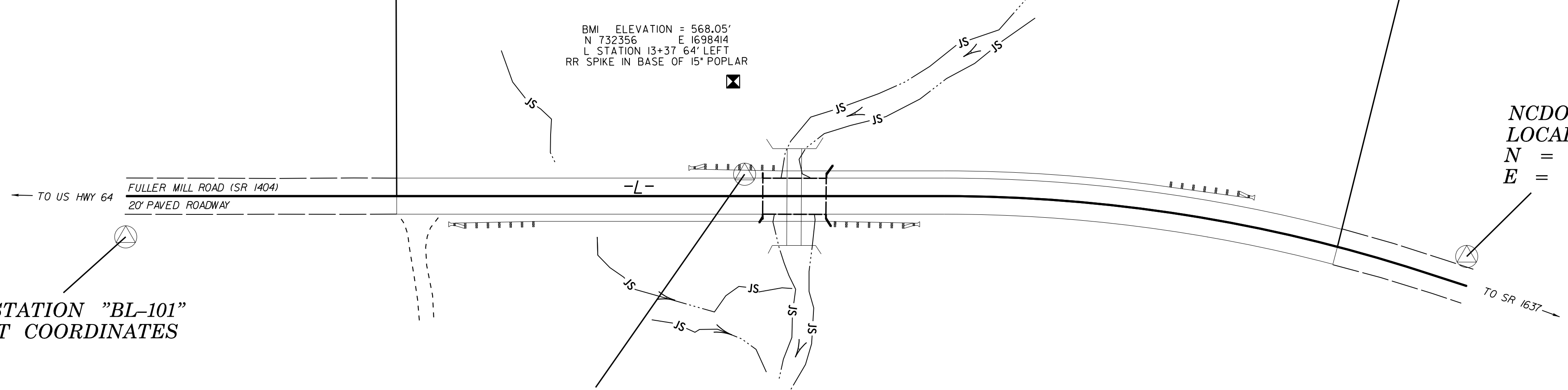
LOCALIZED PROJECT COORDINATES
-L- STA. 11+50.00 BEGIN TIP PROJECT B-5128
N = 732181.6060
E = 1698505.3538

LOCALIZED PROJECT COORDINATES
-L- STA. 16+74.00 END TIP PROJECT B-5128
N = 732701.2993
E = 1698452.7438

NCDOT BASELINE STATION "BL-101"
LOCALIZED PROJECT COORDINATES
N = 732036.6410
E = 1698550.8430

NCDOT BASELINE STATION "BL-102"
LOCALIZED PROJECT COORDINATES
N = 732370.3410
E = 1698463.6430

NCDOT BASELINE STATION "BL-103"
LOCALIZED PROJECT COORDINATES
N = 732772.9570
E = 1698446.9920



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5128-1" WITH NAD 83/CORS 96 STATE PLANE GRID COORDINATES OF NORTHING: 733928.2490(±) EASTING: 1698840.4870(±) ELEVATION: 628.930(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998868100 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5128-1" TO -L- STATION 11+50.00 IS S 10° 51' 41.4" W 1778.504' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	732036.6410	1698550.8430	583.10	OUTSIDE PROJECT LIMITS	
102	BL-102	732370.3410	1698463.6430	560.07	13+42.91	12.13 LT
103	BL-103	732772.9570	1698446.9920	579.77	17+43.89	15.59 LT

.....
 BM1 ELEVATION = 568.05
 N 732356 E 1698414
 L STATION 13+37.00 64 LEFT
 RR SPIKE IN BASE OF 15' POPLAR

NOTES:

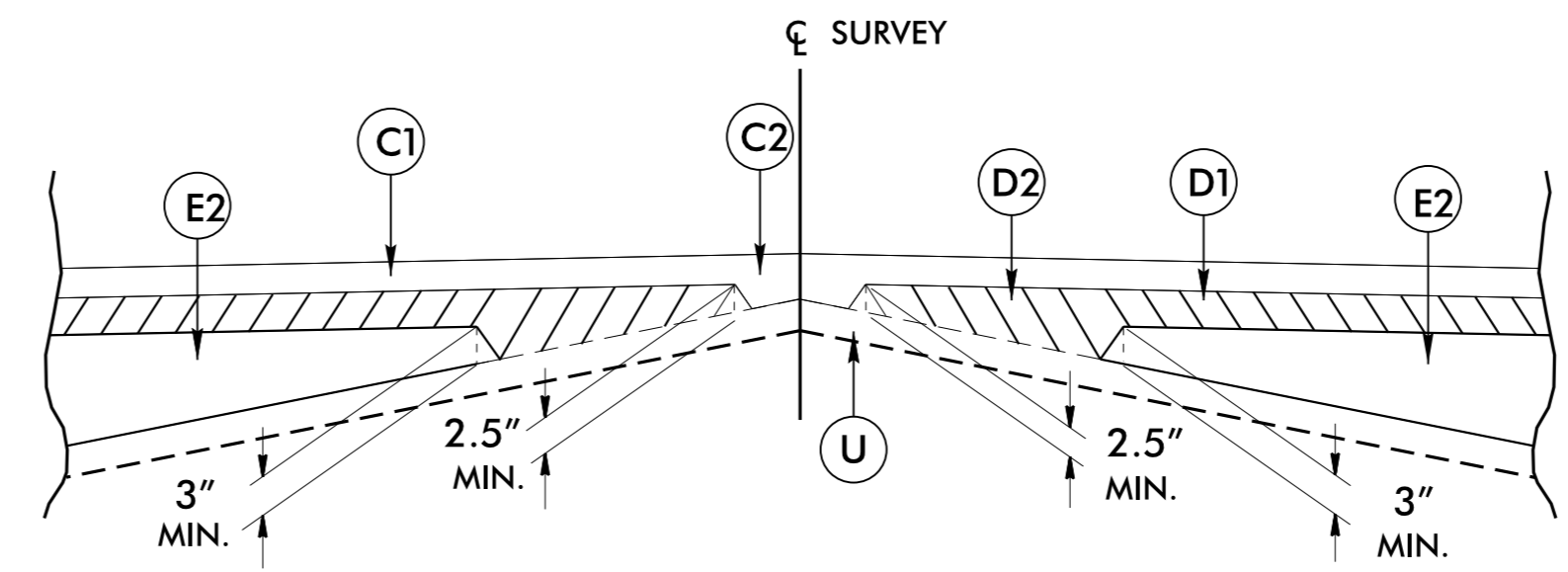
- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: [HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/) THE FILES TO BE FOUND ARE AS FOLLOWS: B5128_LS_CONTROL.TXT SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED 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 SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

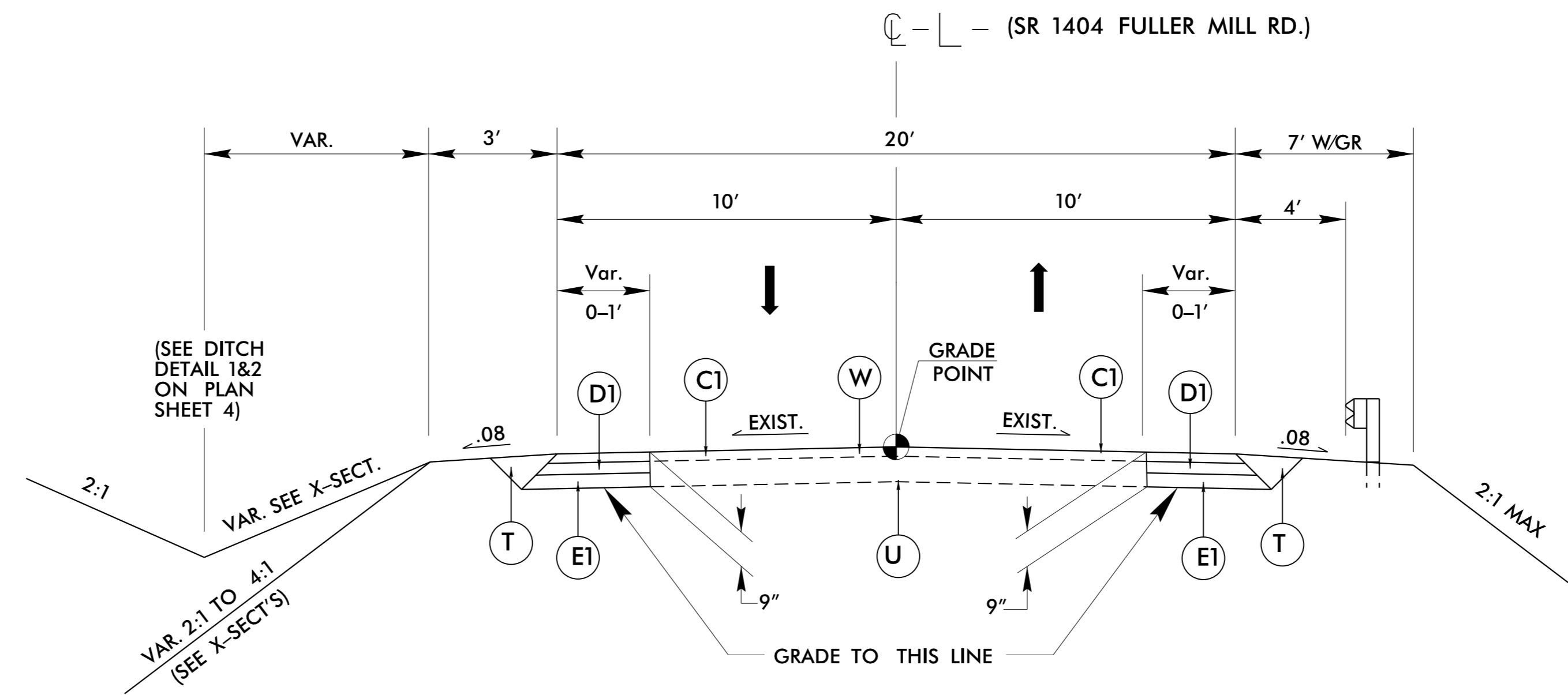
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PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
D1	PROP. APPROX. 2.5" 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 2 1/2" 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 5 1/2" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT. SEE WEDGING DETAIL

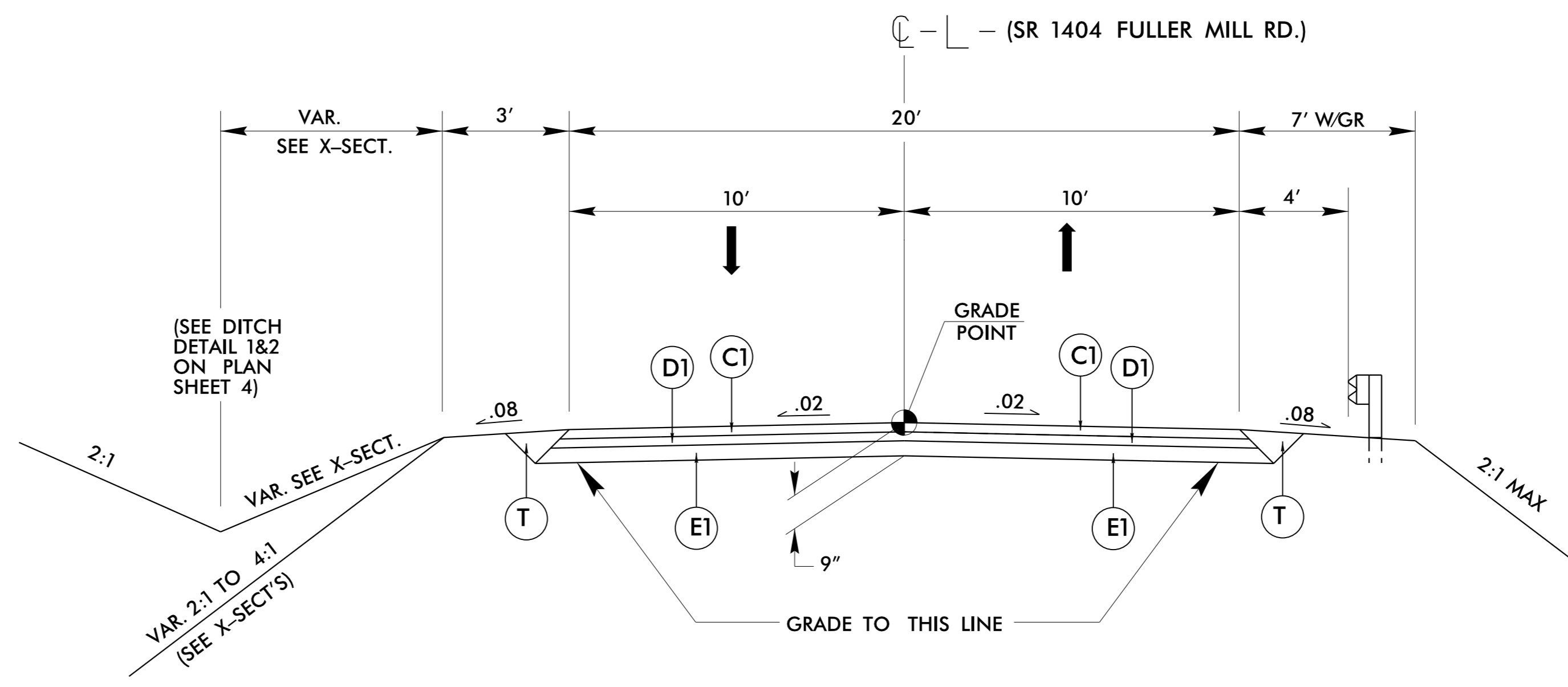
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



Detail Showing Method of Wedging



TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2

PROJECT REFERENCE NO. B-5128	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER SEAL 014571 James A. Speer	PAVEMENT DESIGN ENGINEER SEAL 022896 Clark S. Morrison
12/15/2015	12/15/2015
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

TYPICAL SECTION NO. 1

-L- STA. 11+50.00 TO -L- STA. 12+50.00
-L- STA. 16+00.00 TO -L- STA. 16+74.00

TYPICAL SECTION NO. 2

-L- STA. 12+50.00 TO -L- STA. 16+00.00

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12/06/07

COMPUTED BY: WAD DATE: 5/22/2014
CHECKED BY: L.JAH DATE: 10/7/2015

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. B-5128
SHEET NO. 3B-1

SUMMARY OF EARTHWORK
IN CUBIC YARD

Table with columns: STATION, UNCL. EXCAV., EMBANK. +%, BORROW, WASTE. Includes subtotals and grand totals for excavation, embankment, and borrow.

UNDERCUT EXCAVATION = 400 CY (CONTINGENCY)
SELECT GRANULAR MATERIAL = 400 CY (CONTINGENCY)
UNDERDRAINS = 400 LF (CONTINGENCY)
GEOTEXTILE FOR SOIL STABILIZATION = 500 SY (CONTINGENCY)

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Note: 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."

SUMMARY OF REMOVAL
EXISTING ASPHALT PAVEMENT

Table with columns: SURVEY LINE, STATION, STATION, LOCATION, YD^2. Shows removal data for two stations.

SUMMARY OF BREAKING OF
EXISTING ASPHALT PAVEMENT

Table with columns: SURVEY LINE, STATION, STATION, LOCATION, YD^2. Shows breaking data for two stations.

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

Large table listing pipe specifications including station, size, thickness, location, invert elevation, pipe type (DRAINAGE PIPE, C.S. PIPE, CLASS III R.C. PIPE), endwalls, and frame/grates.

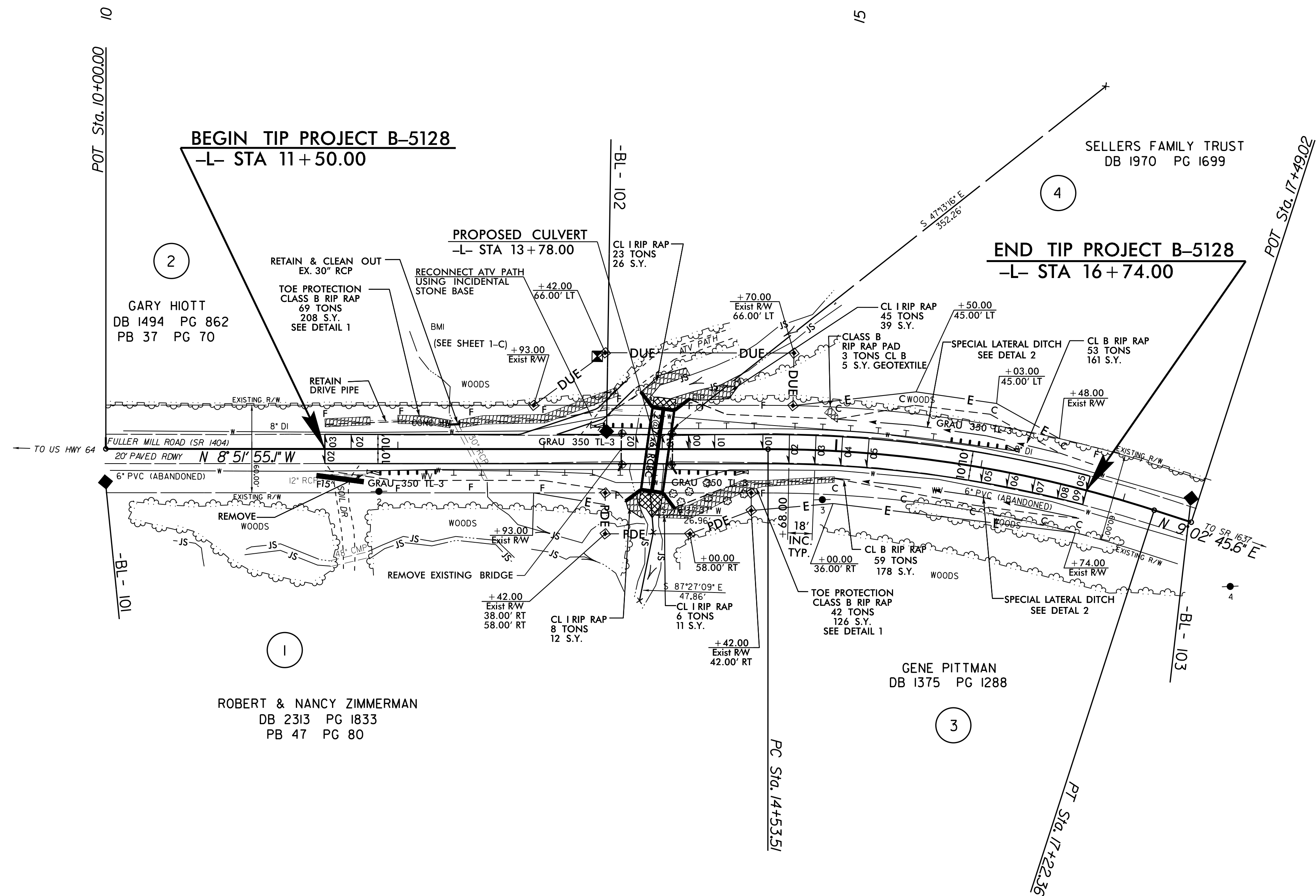
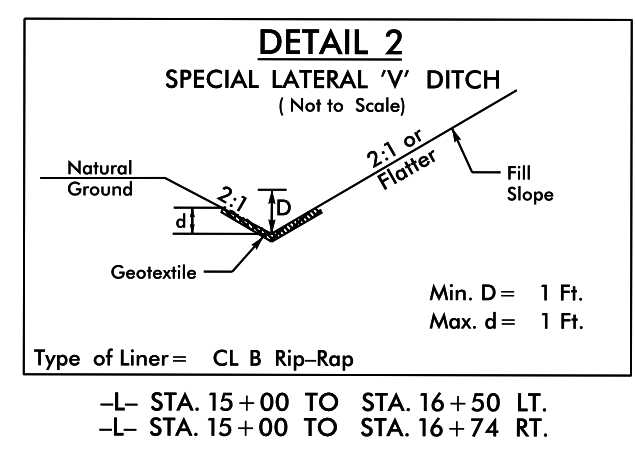
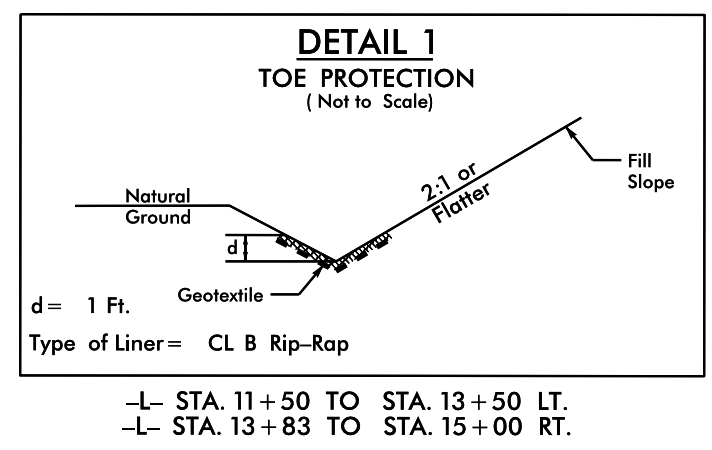
"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

Table summarizing guardrail data including survey line, station, length, warrant point, flare length, w, anchors, and remarks.

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NAD 83 / CORS 96



REVISIONS

8/17/99

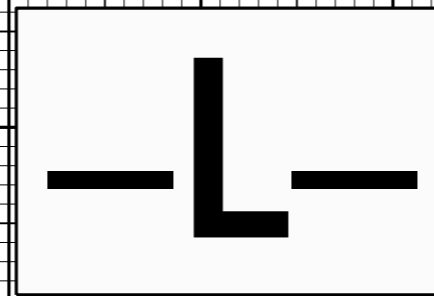
10 DEC 2015 14:36 \\s\p\B5128_Rdy_psh-4.dgn

-L-
 PI Sta 15+89.04
 $\Delta = 17^{\circ} 54' 40.7''$ (RT)
 D = 6' 39" 44.3"
 L = 268.85'
 T = 135.53'
 R = 860.00'
 SE = 05
 RO = 90.00'

NOTE: SEE SHEET NO. 5 FOR -L- PROFILE
 NOTE: SEE SHEET C-1 THRU C-4 FOR CULVERT PLANS

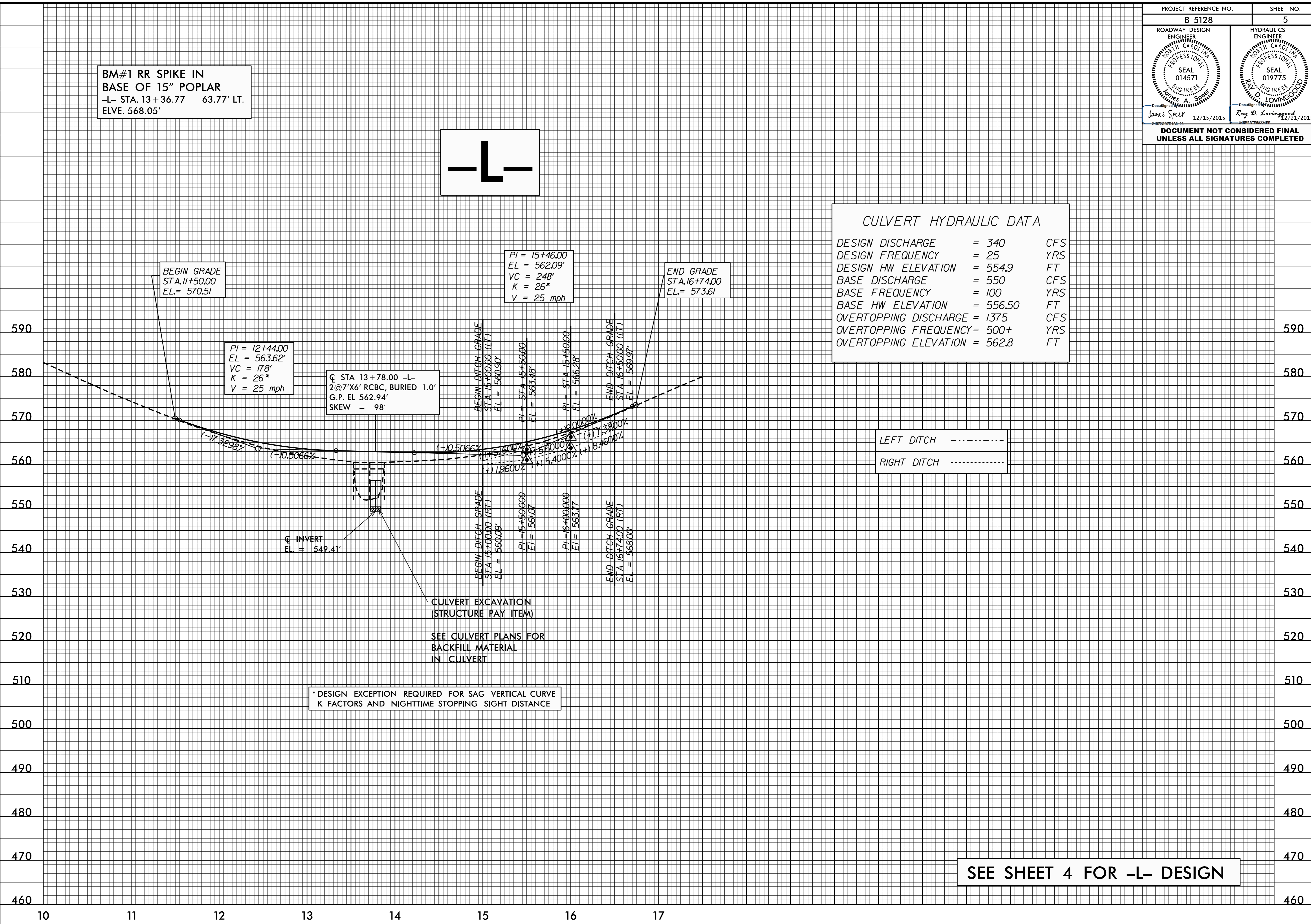
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

**BM#1 RR SPIKE IN
BASE OF 15" POPLAR**
-L- STA. 13+36.77 63.77' LT.
ELVE. 568.05'



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 340	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 554.9	FT
BASE DISCHARGE	= 550	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 556.50	FT
OVERTOPPING DISCHARGE	= 1375	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 562.8	FT



BEGIN GRADE
STA. 11+50.00
EL. = 570.51

PI = 12+44.00
EL = 563.62'
VC = 178'
K = 26*
V = 25 mph

STA 13+78.00 -L-
2@7'X6' RCBC, BURIED 1.0'
G.P. EL 562.94'
SKEW = 98'

PI = 15+46.00
EL = 562.09'
VC = 248'
K = 26*
V = 25 mph

END GRADE
STA. 16+74.00
EL. = 573.61

BEGIN DITCH GRADE
STA 15+00.00 (LT)
EL = 560.90'

PI = STA 15+50.00
EL = 563.48'

PI = STA 15+50.00
EL = 566.28'

END DITCH GRADE
STA 16+50.00 (LT)
EL = 569.97'

G INVERT
EL = 549.41'

BEGIN DITCH GRADE
STA 15+00.00 (RT)
EL = 560.09'

PI = 15+50.000
EL = 561.07'

PI = 16+00.000
EL = 563.77'

END DITCH GRADE
STA 16+74.00 (RT)
EL = 568.00'

CULVERT EXCAVATION
(STRUCTURE PAY ITEM)

SEE CULVERT PLANS FOR
BACKFILL MATERIAL
IN CULVERT

* DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE
K FACTORS AND NIGHTTIME STOPPING SIGHT DISTANCE

LEFT DITCH -----
RIGHT DITCH -----

SEE SHEET 4 FOR -L- DESIGN

5/14/99

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