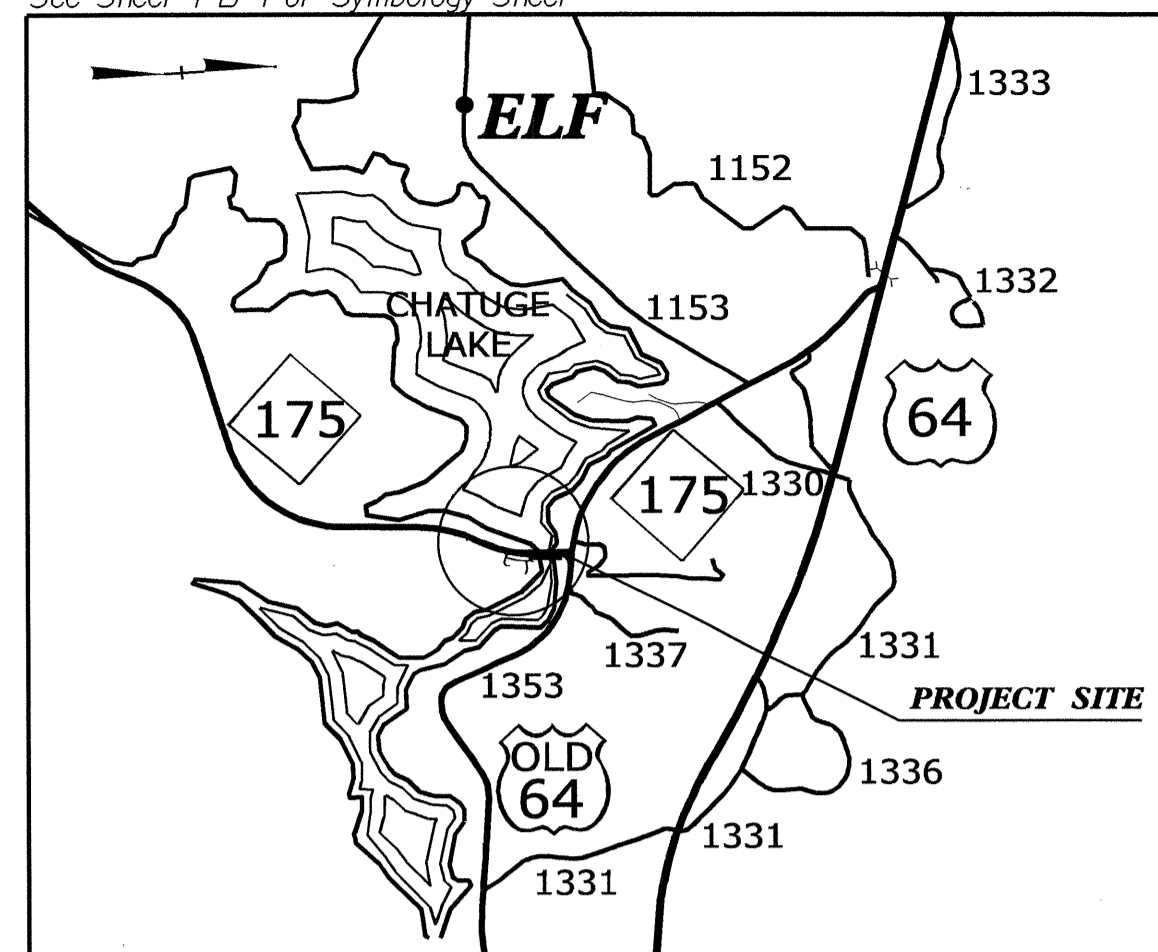


09/08/99

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Symbology Sheet



VICINITY MAP

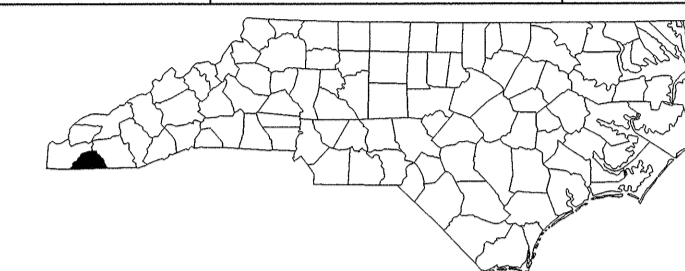
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CLAY COUNTY

LOCATION: BRIDGE NO. 11 OVER CHATUGE LAKE ON NC 175

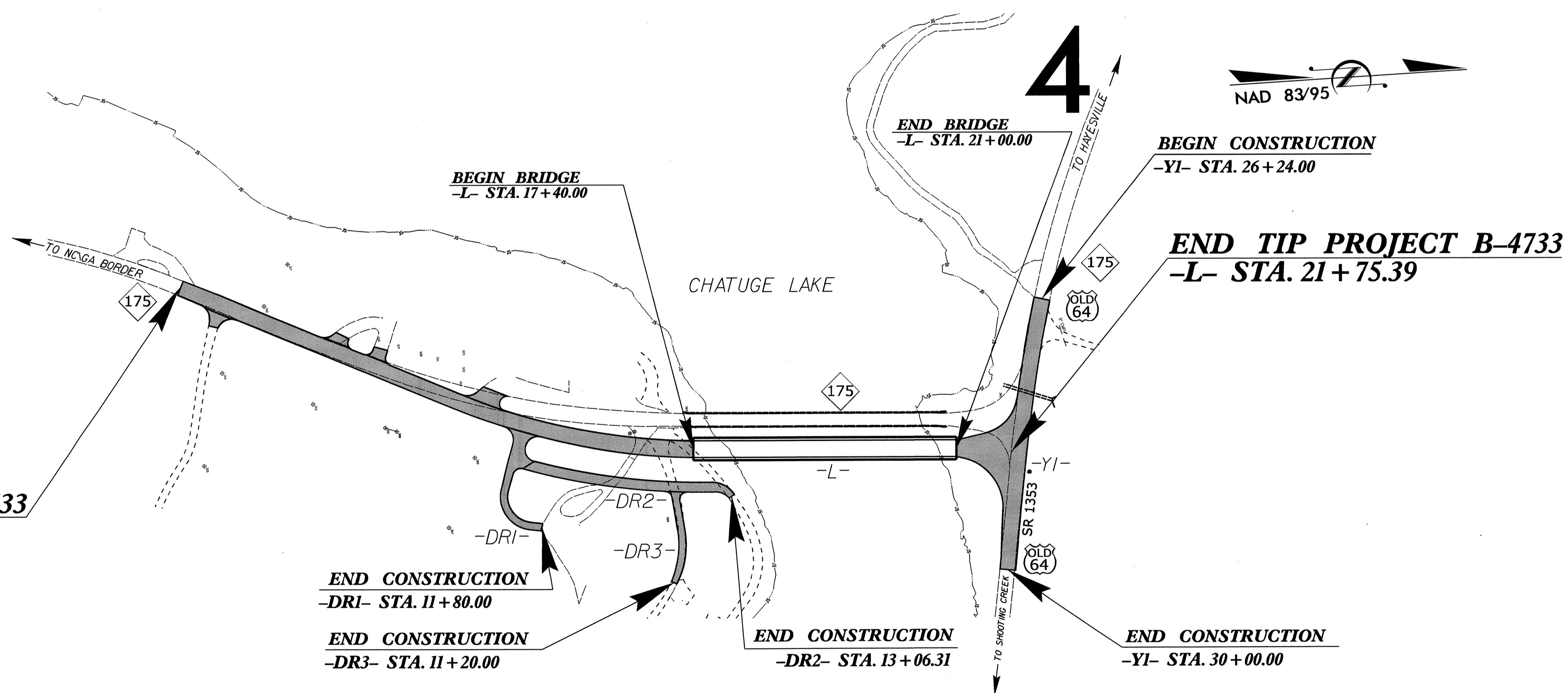
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4733	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38506.1.1	BRSTP-175(7)	P.E.	
38506.2.1	BRSTP-175(7)	RW, UTL.	
38506.3.1	BRSTP-175(7)	CONST.	

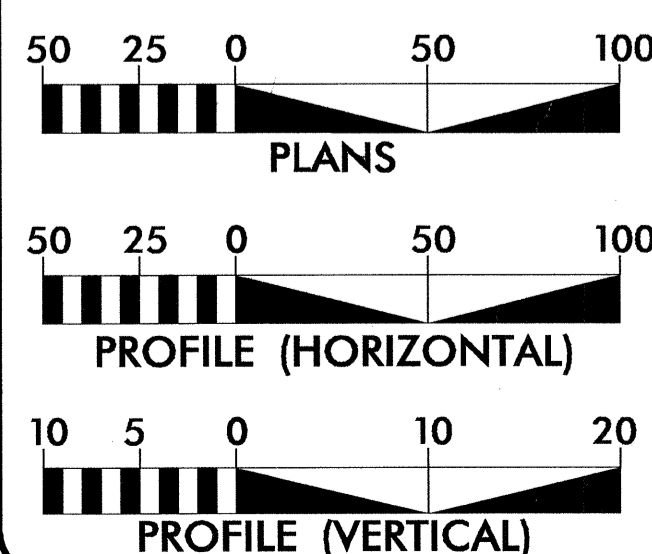


TIP PROJECT: B-4733

CONTRACT: C203158



GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 5,140
 ADT 2033 = 9,925
 DHV = 11 %
 D = 55 %
 T = 8 % *
 V = 50 MPH
 FUNC. CLASS = MAJOR COLLECTOR
 REGIONAL TIER
 * (TTST 2% + DUAL 6%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4733 = 0.155 MILES
 LENGTH STRUCTURE TIP PROJECT B-4733 = 0.068 MILES
 TOTAL LENGTH OF TIP PROJECT B-4733 = 0.223 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 JUNE 8, 2012

LETTING DATE:
 JUNE 18, 2013

G. E. BREW, PE
 PROJECT ENGINEER

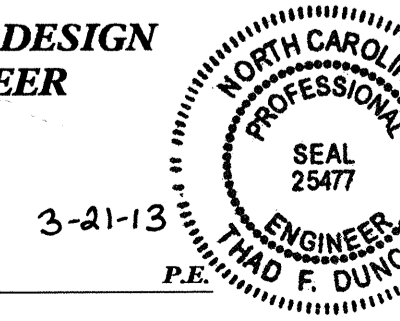
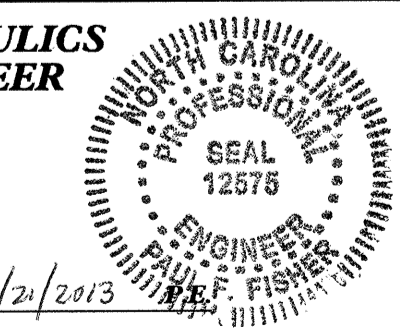
THAD F. DUNCAN, PE
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

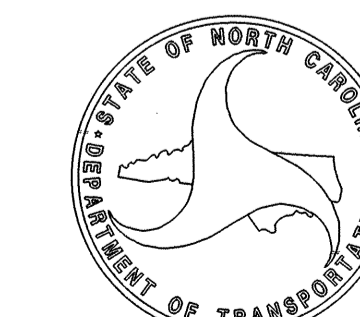
SIGNATURE: [Signature] 3/21/2013

ROADWAY DESIGN ENGINEER

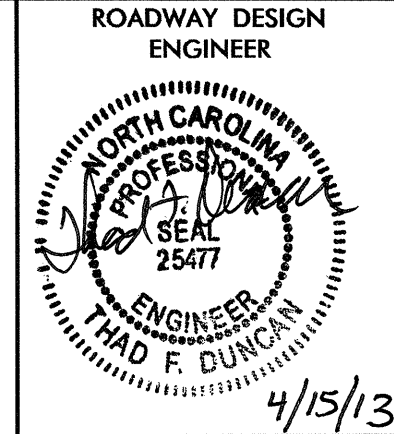
SIGNATURE: [Signature]



STATE OF NORTH CAROLINA



20-MAR-2013 11:48 R:\CADD\CLAY\B-4733.rdy_tsh.dgn



8/17/09

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

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
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, SHOULDER BERM GUTTER DETAIL, AND WEDGING DETAIL
2-A	MODIFIED CONCRETE FLUME DETAIL
2-B	TYPE III - SHOP CURVED STRUCTURE ANCHOR UNIT DETAIL
2-C	TEMPORARY CONTAINMENT OF CONTAMINATED SOIL DETAIL
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES
3-B	SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, ASPHALT PAVEMENT REMOVAL SUMMARY, AND SUMMARY OF CHAIN LINK FENCE VINYL COATED
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-5A	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
UC-1 THRU UC-5	UTILITY CONSTRUCTION PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS PLANS
X-1A	CROSS SECTION SUMMARY
X-1 THRU X-12	CROSS-SECTIONS
S-1 THRU S-34	STRUCTURE PLANS

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	
200.02	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
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	
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units (Details in Lieu of Standard Drawing as March 2013 Letting)
866.01	Chain Link Fence - 4', 5' and 6' High Fence
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets

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

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

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

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 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.

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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

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 FRONTIER COMMUNICATIONS, WINDSTREAM, CLAY COUNTY WATER AND SEWER, BLUE RIDGE MOUNTAIN EMC, AND BALSAM WEST FIBERNET.
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 OTHERS.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

04/16/11

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	⊕
Property Monument	⊕
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-
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○
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	○
Switch	⊕
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	⊕
Proposed Control of Access	⊕
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----
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	-----
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	-----

EXISTING STRUCTURES:

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

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊕
Power Transformer	⊕
U/G Power Cable Hand Hole	⊕
H-Frame Pole	●
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	⊕
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊕
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊕
U/G TV Cable Hand Hole	⊕
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

MISCELLANEOUS:

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

SURVEY CONTROL SHEET B-4733

-FINAL-

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	29+00.00	80.00	497592.8177	584272.3520

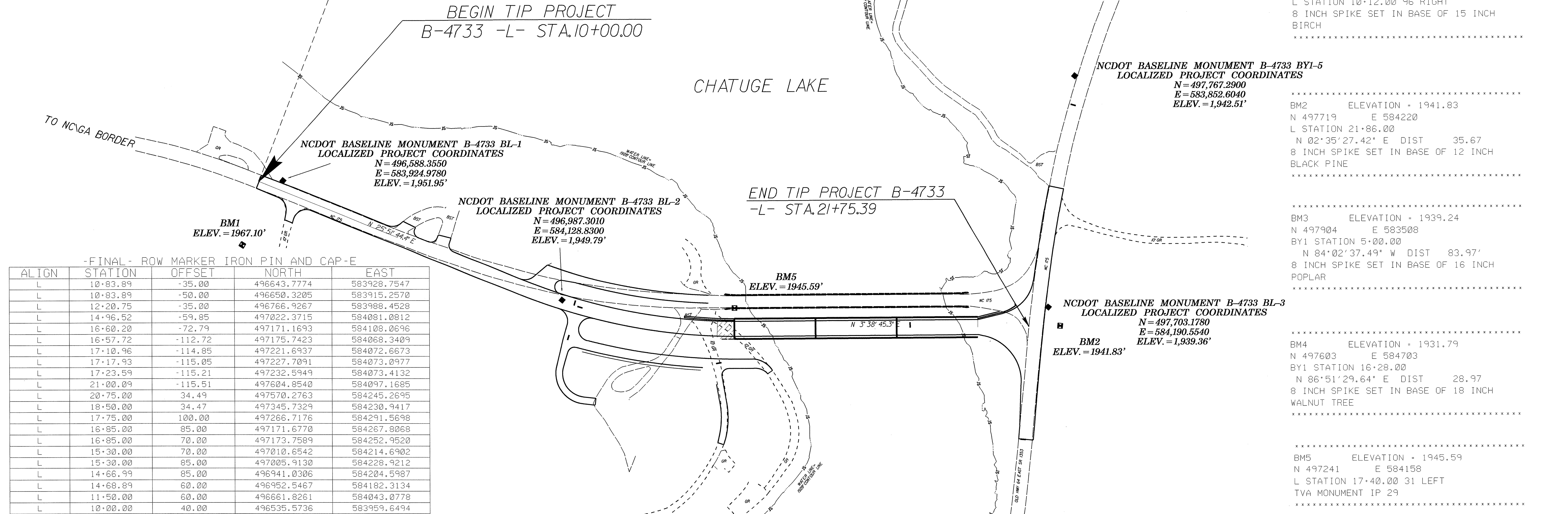
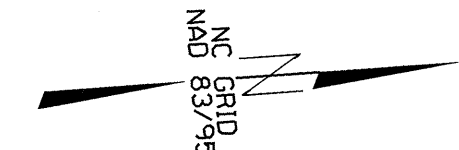
NCDOT GPS MONUMENT A-0011BB GPS-108
LOCALIZED PROJECT COORDINATES
N = 503,562.8580
E = 568,964.5420
ELEV. = 1,939.75'

FINAL -L-			
TYPE	STATION	NORTH	EAST
POT	10+00.00	496553.0220	583923.6556
PC	14+19.68	496930.6688	584106.7243
PT	17+49.27	497247.3959	584190.1359
POT	21+85.97	497683.2132	584217.9057

FINAL -Y1-			
TYPE	STATION	NORTH	EAST
POT	10+00.00	498804.5518	582800.4576
TS	10+55.54	498754.1181	582903.7278
SC	13+55.60	498485.7286	583037.6527
CS	26+58.93	497718.8811	584048.9620
ST	29+58.91	497662.3628	584343.4557
TS	29+82.37	497658.6469	584366.6179
SC	32+42.37	497605.9046	584620.9935
CS	39+73.20	497158.6744	585176.4564
ST	42+33.18	496921.4323	585282.2606

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	1	BL-1	496588.3550	583924.9780	1951.95	10+32.37	14.22 LT
	2	BL-2	496987.3010	584128.8300	1949.79	14+80.52	2.64 LT
	3	BL-3	497703.1780	584190.5540	1939.36		OUTSIDE PROJECT LIMITS

BY1	POINT	DESC.	NORTH	EAST	ELEVATION	REFERENCE
	4	BY1-4	497895.0200	583592.0020	1942.16	NO REFERENCE CHAIN
	5	BY1-5	497767.2900	583852.6040	1942.51	
	33	BL-3	497703.1780	584190.5540	1939.36	
	6	BY1-6	497600.9850	584673.6420	1935.78	



ALIGN	STATION	OFFSET	NORTH	EAST
L	10+83.89	-35.00	496643.7774	583928.7547
L	10+83.89	-50.00	496650.3205	583915.2570
L	12+20.75	-35.00	496766.9267	583988.4528
L	14+96.52	-59.85	497022.3715	584081.0812
L	16+60.20	-72.79	497171.1693	584108.0696
L	16+57.72	-112.72	497175.7423	584068.3409
L	17+10.96	-114.85	497221.6937	584072.6673
L	17+17.93	-115.05	497227.7091	584073.0977
L	17+23.59	-115.21	497232.5949	584073.4132
L	21+00.09	-115.51	497604.8540	584097.1685
L	20+75.00	34.49	497570.2763	584245.2695
L	18+50.00	34.47	497345.7329	584230.9417
L	17+75.00	100.00	497266.7176	584291.5698
L	16+85.00	85.00	497171.6770	584267.8068
L	16+85.00	70.00	497173.7589	584252.9520
L	15+30.00	70.00	497010.6542	584214.6902
L	15+30.00	85.00	497005.9130	584228.9212
L	14+66.99	85.00	496941.0306	584204.5987
L	14+68.89	60.00	496952.5467	584182.3134
L	11+50.00	60.00	496661.8261	584043.0778
L	10+00.00	40.00	496535.5736	583959.6494

 BM1 ELEVATION - 1967.10
 N 496522 E 584015
 L STATION 10+12.00 96 RIGHT
 8 INCH SPIKE SET IN BASE OF 15 INCH BIRCH

 NCDOT BASELINE MONUMENT B-4733 BY1-4
 LOCALIZED PROJECT COORDINATES
 N = 497,895.0200
 E = 583,592.0020
 ELEV. = 1,942.16'

 NCDOT BASELINE MONUMENT B-4733 BY1-5
 LOCALIZED PROJECT COORDINATES
 N = 497,767.2900
 E = 583,852.6040
 ELEV. = 1,942.51'

 BM2 ELEVATION - 1941.83
 N 497719 E 584220
 L STATION 21+86.00
 N 02°35'27.42" E DIST 35.67
 8 INCH SPIKE SET IN BASE OF 12 INCH BLACK PINE

 NCDOT BASELINE MONUMENT B-4733 BL-3
 LOCALIZED PROJECT COORDINATES
 N = 497,703.1780
 E = 584,190.5540
 ELEV. = 1,939.36'

 BM3 ELEVATION - 1939.24
 N 497904 E 583508
 BY1 STATION 5+00.00
 N 84°02'37.49" W DIST 83.97'
 8 INCH SPIKE SET IN BASE OF 16 INCH POPLAR

 BM4 ELEVATION - 1931.79
 N 497603 E 584703
 BY1 STATION 16+28.00
 N 86°51'29.64" E DIST 28.97
 8 INCH SPIKE SET IN BASE OF 18 INCH WALNUT TREE

 BM5 ELEVATION - 1945.59
 N 497241 E 584158
 L STATION 17+40.00 31 LEFT
 TVA MONUMENT IP 29

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "A0011BB (GPS-10)" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 503562.858(ft) EASTING: 568964.542(ft)
 ELEVATION: 1939.75(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99979057
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "A0011BB (GPS-10)" TO -L- STATION 10+00.00 IS
 N 64°53'32" W 16520.08'
 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:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4733_LS_CONTROL.TXT
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION

GEOID: GEOID03
 NOTE: DRAWING NOT TO SCALE

6/2/99

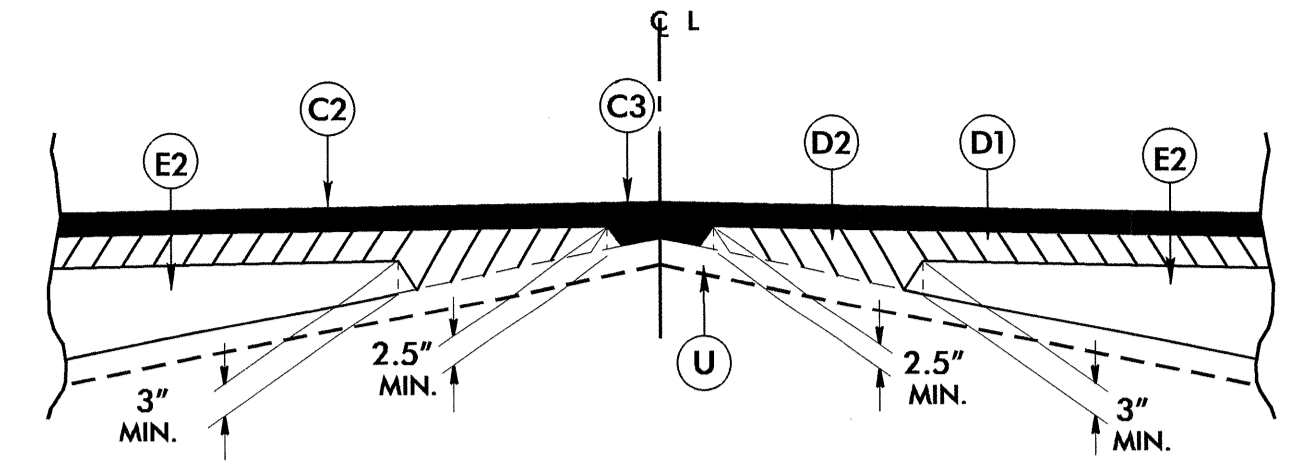
09-MAY-2013 08:17
 R:\Roadway\Proj\B-4733.Ls.Lc.dgn
 \$\$\$USER\$

6/2/09

FINAL PAVEMENT SCHEDULE

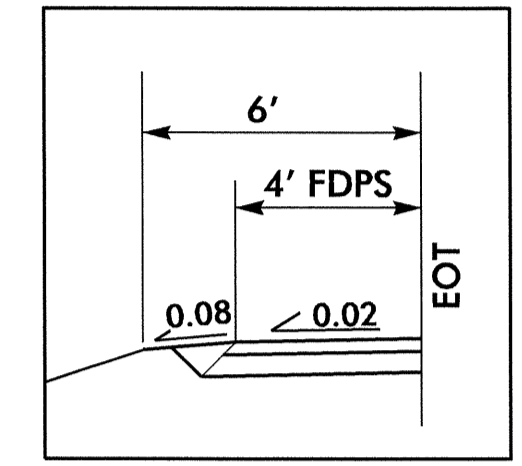
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1.5" OR GREATER THAN 2" IN DEPTH.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 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 2.5" 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 STANDARD WEDGING DETAIL).

NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS NOTED OTHERWISE.



DETAIL SHOWING METHOD OF WEDGING

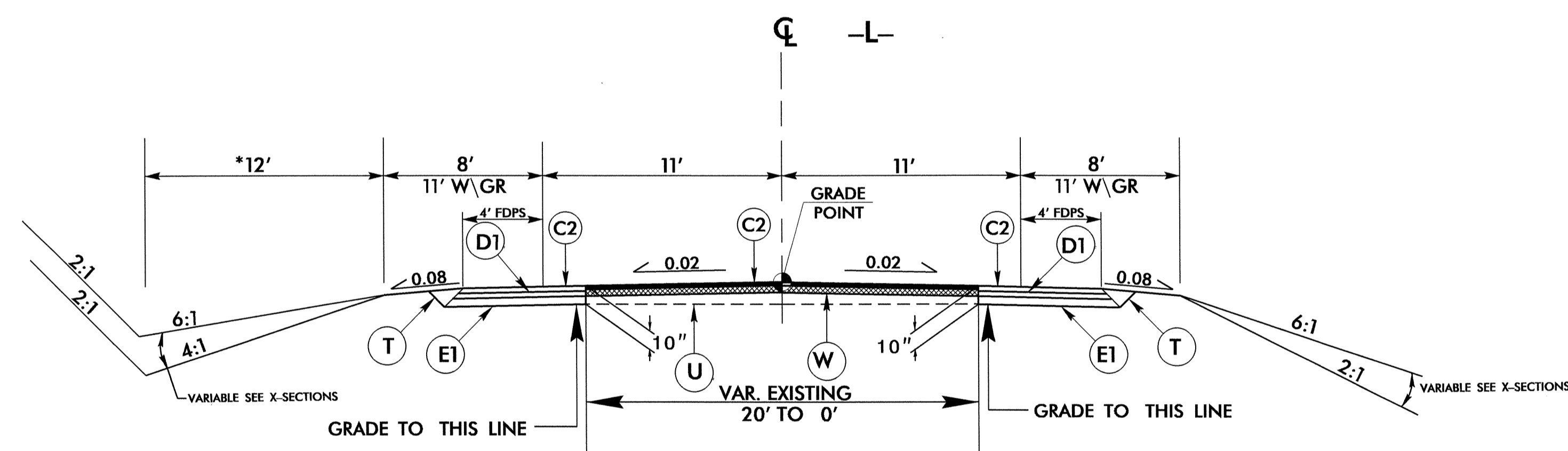
USE WITH TYPICAL SECTION NO. 1



**SHOULDER DETAIL NO. 1

- DR1- STA. 10+11.00 TO 10+52.00 LT & RT
- DR1- STA. 10+52.00 TO 10+70.00 RT
- DR2- STA. 10+07.00 TO 10+25.00 LT & RT
- DR2- STA. 10+25.00 TO 10+50.00 LT
- DR3- STA. 10+07.16 TO 10+45.00 RT

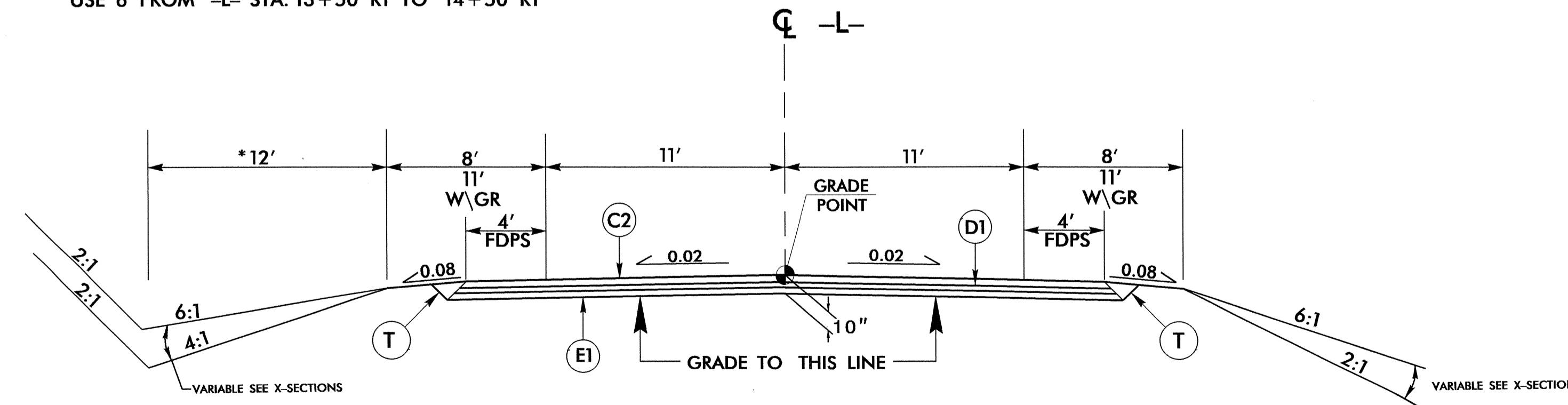
PROJECT REFERENCE NO. B-4733	SHEET NO. 2
ROADWAY DESIGN ENGINEER <i>[Signature]</i>	PAVEMENT DESIGN ENGINEER <i>[Signature]</i>
SEAL 25477 THOMAS F. DUNCAN 3-21-13	SEAL 22898 CLARK S. MORRISON 3/24/13



TYPICAL SECTION NO. 1

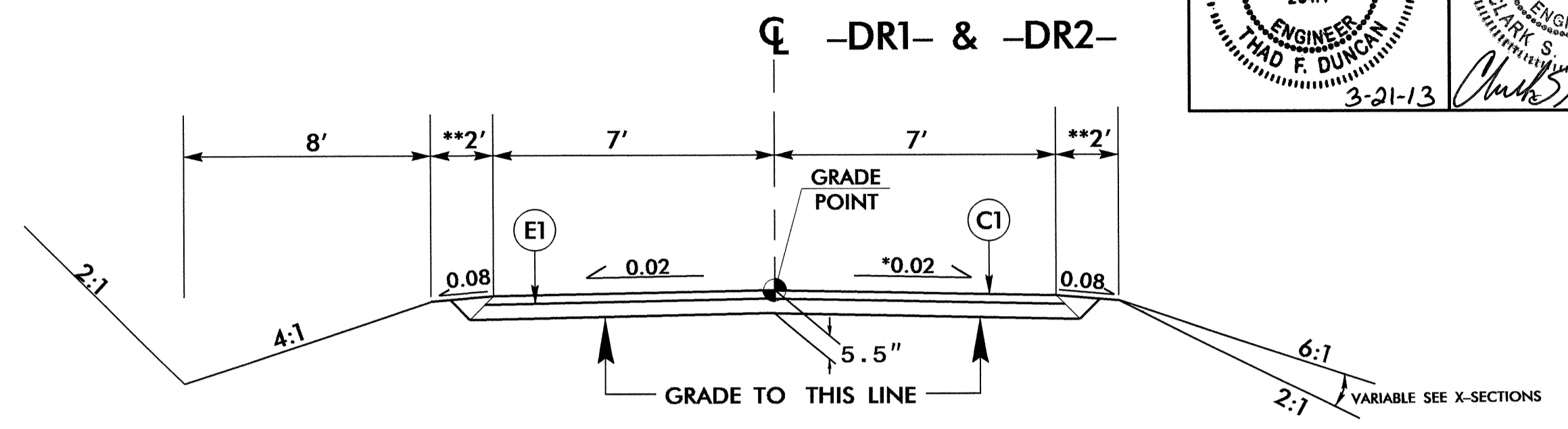
USE TYPICAL SECTION NO. 1
-L- STA. 10+00.00 TO 14+50.00

*USE 6' FROM -L- STA. 13+50 RT TO 14+50 RT



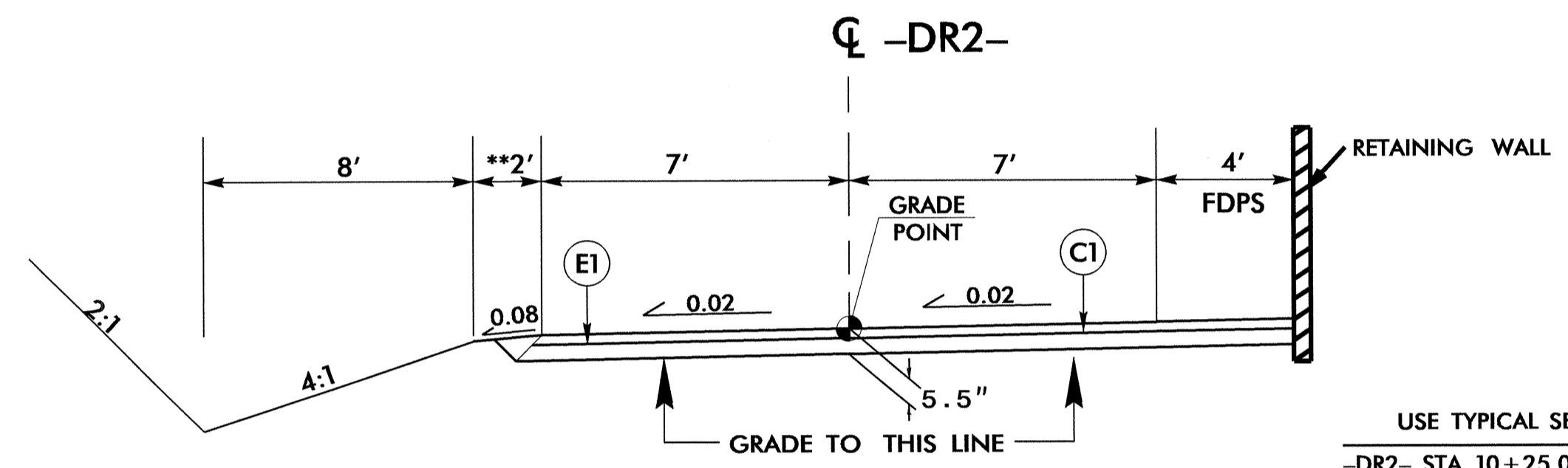
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- STA. 14+50.00 TO 17+40.00 (BEGIN BRIDGE)
-L- STA. 21+00.00 (END BRIDGE) TO 21+75.39



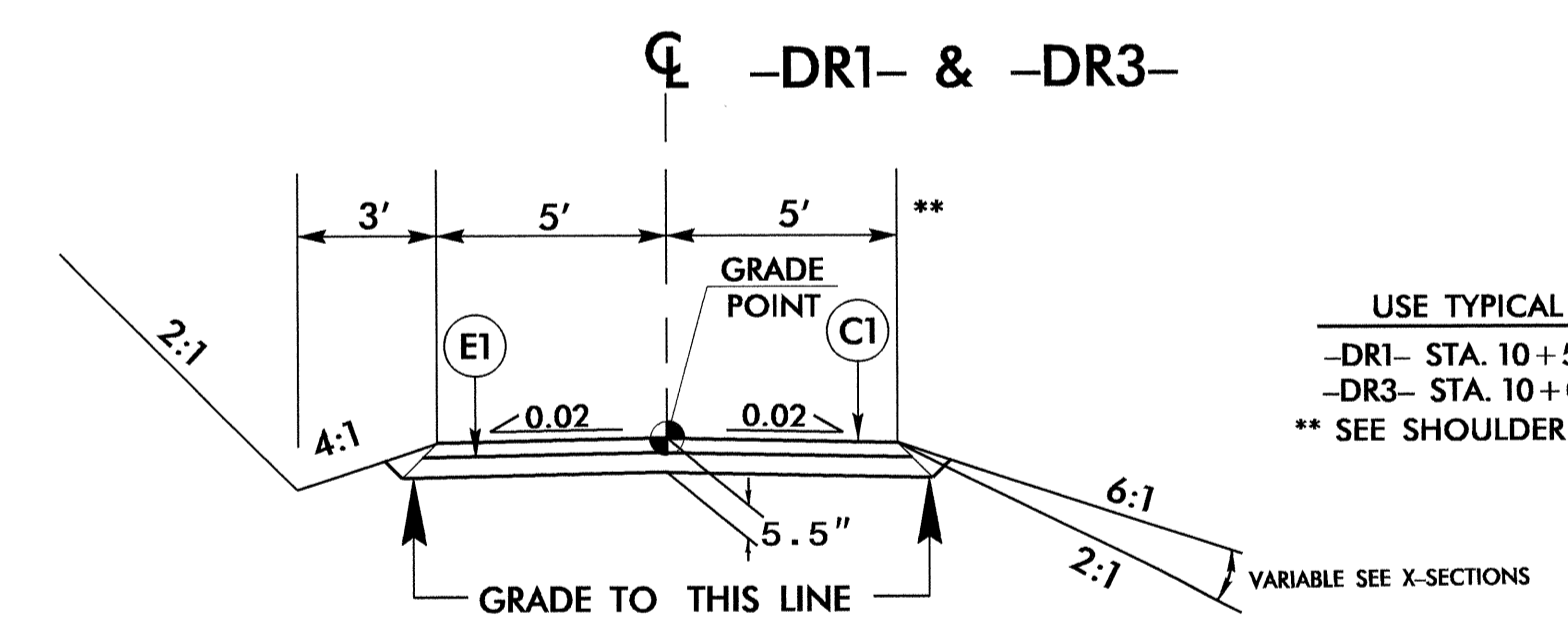
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
-DR1- STA. 10+11.00 TO 10+52.00
-DR2- STA. 10+07.00 TO 10+25.00
-DR2- STA. 12+00.00 TO 13+06.31
* SEE PLAN SHEET FOR -DR2- SUPER ELEVATION
** SEE SHOULDER DETAIL NO. 1



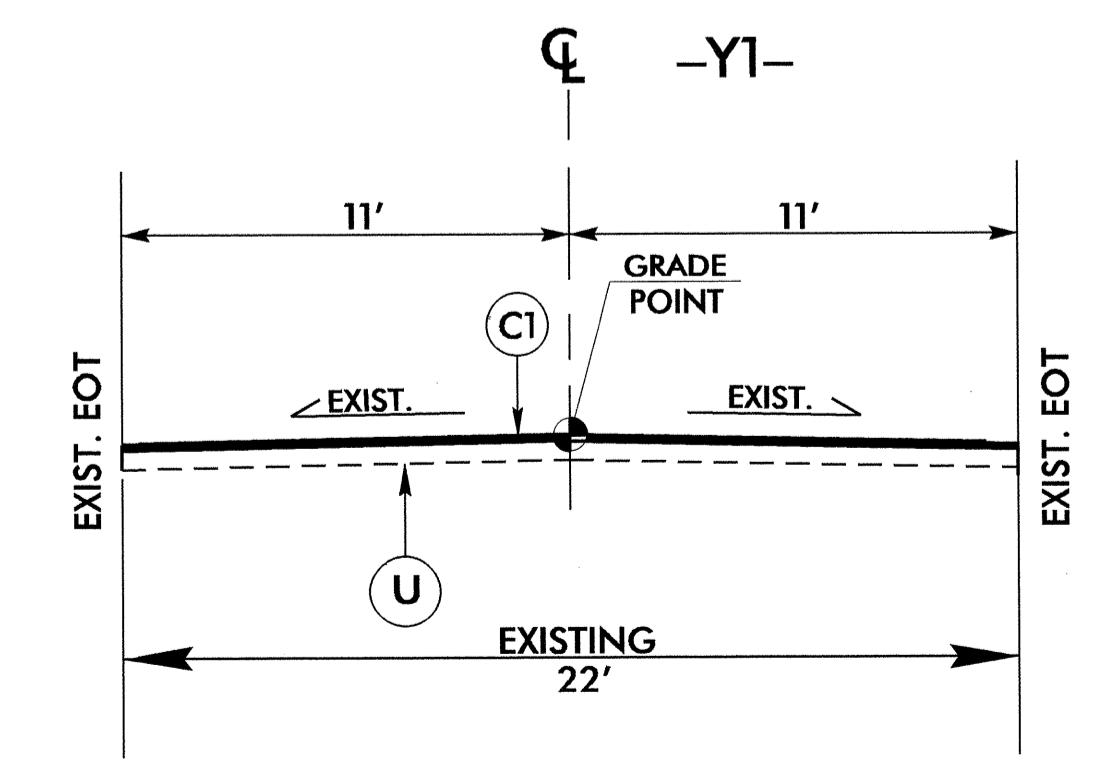
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
-DR2- STA. 10+25.00 TO 12+00.00
** SEE SHOULDER DETAIL NO. 1



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
-DR1- STA. 10+52.00 TO 11+80.00
-DR3- STA. 10+07.16 TO 11+20.00
** SEE SHOULDER DETAIL NO. 1



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6
-Y1- STA. 26+24.00 TO 30+00.00

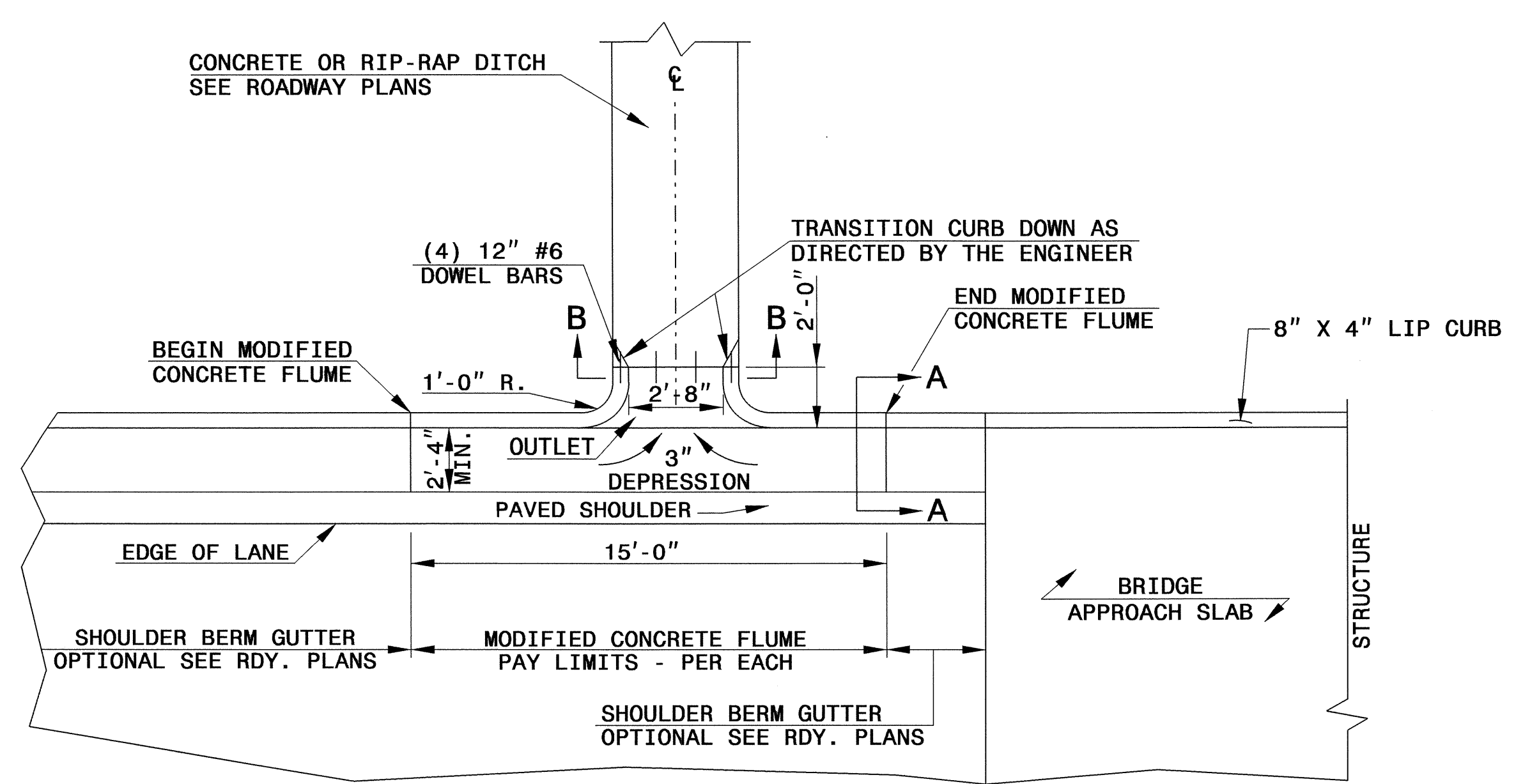
12-MAR-2013 15:18
P:\Roadway\Projects\B-4733-Rdu-tyr.dgn
3:31:51 PM

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

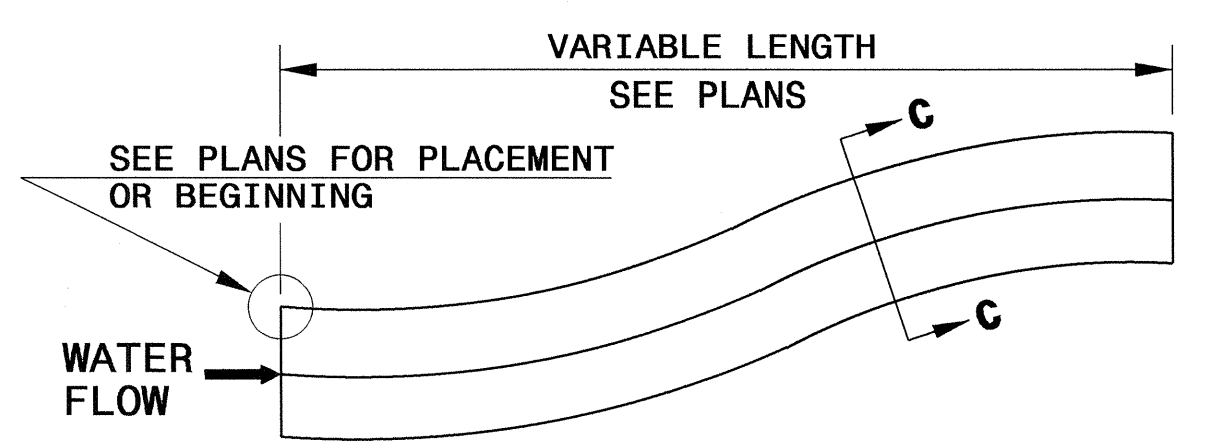
ENGLISH DETAIL DRAWING FOR
MODIFIED CONCRETE FLUME
 WITH CONCRETE OR RIP-RAP DITCH

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

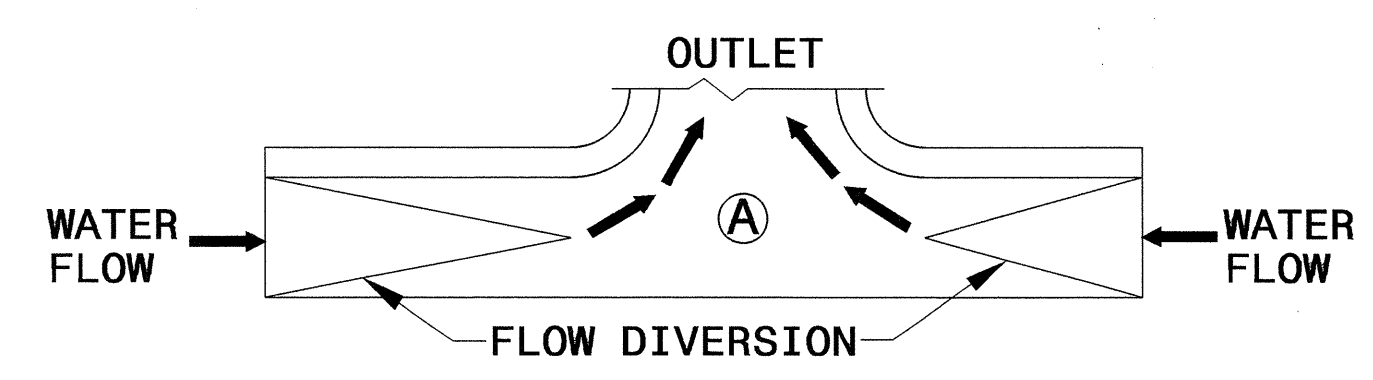
ENGLISH DETAIL DRAWING FOR
MODIFIED CONCRETE FLUME
 WITH CONCRETE OR RIP-RAP DITCH



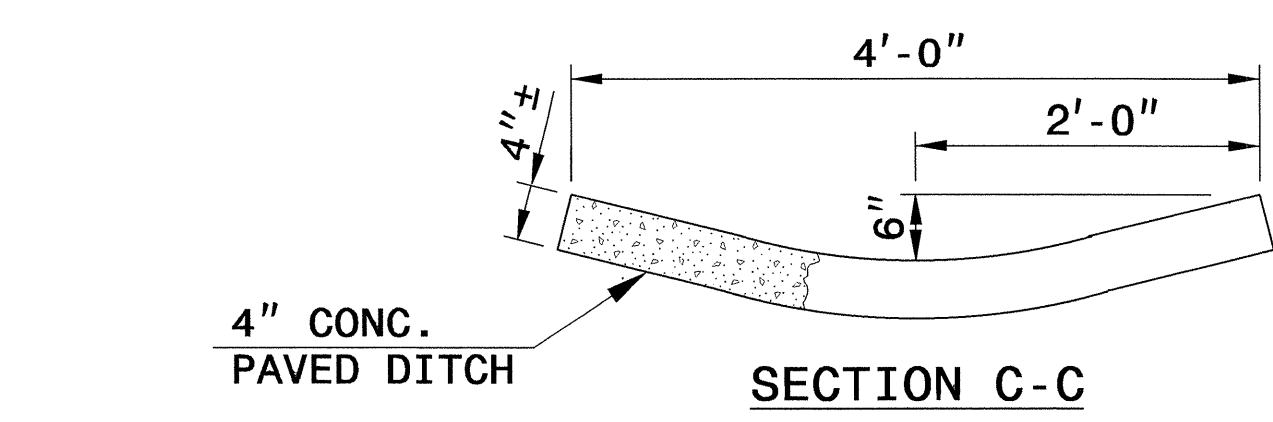
PLAN VIEW



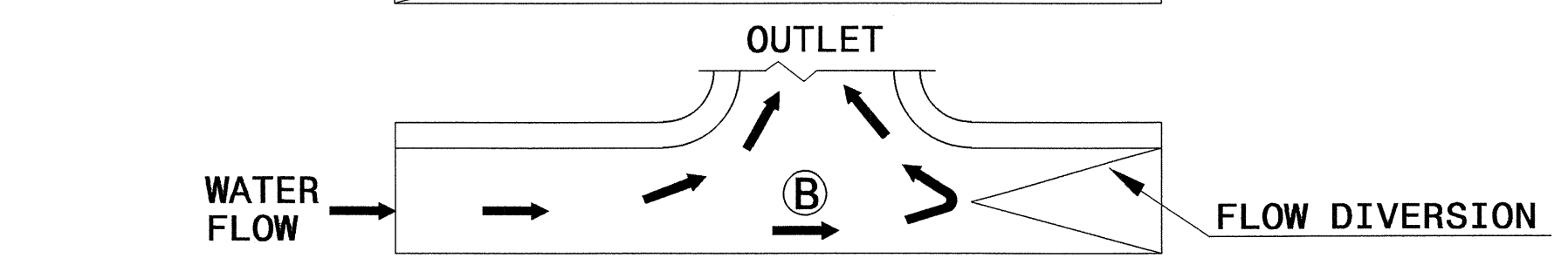
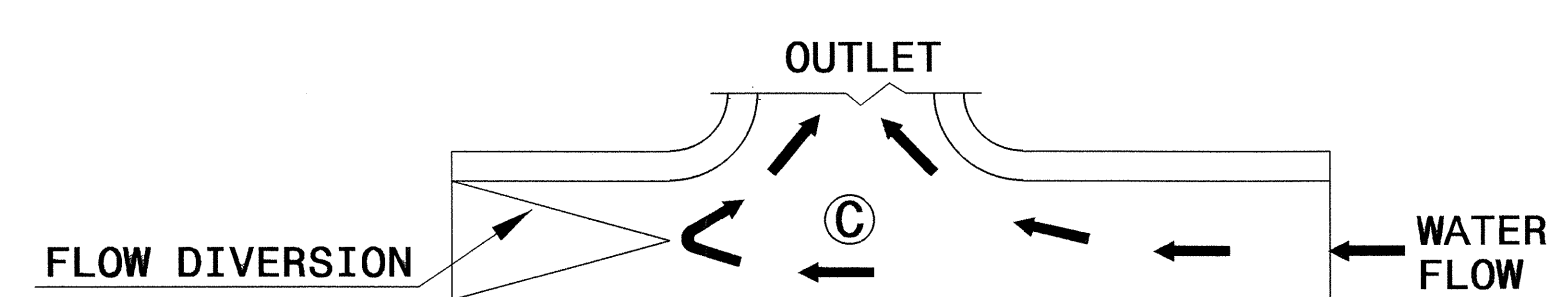
DOWNGRADE OR SAG



SAG

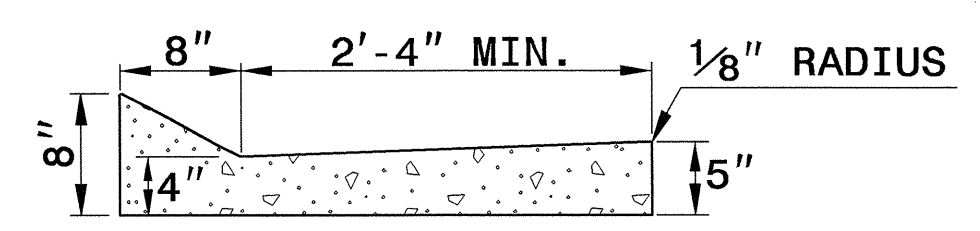


SECTION C-C

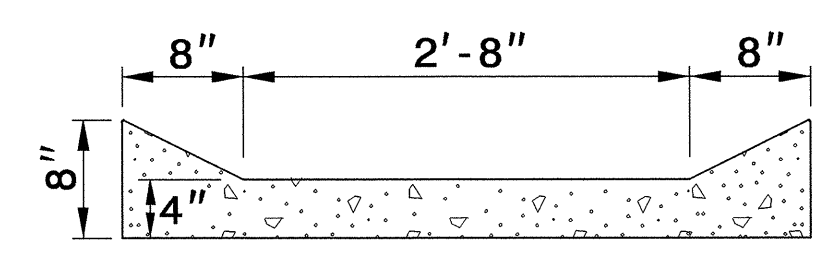


DOWN GRADE

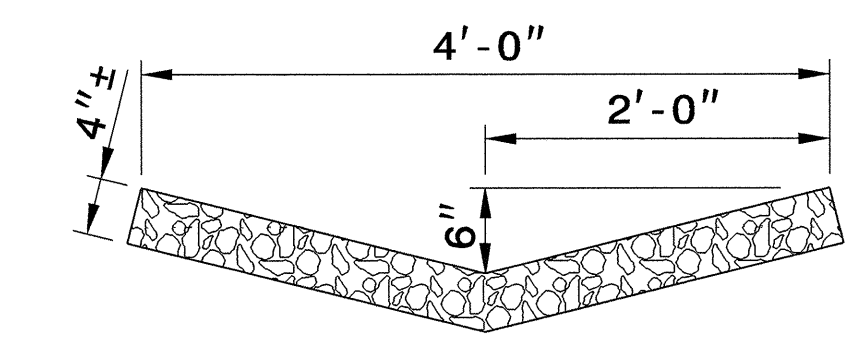
FLOW DIVERSION EXAMPLES



SECTION A-A



SECTION B-B



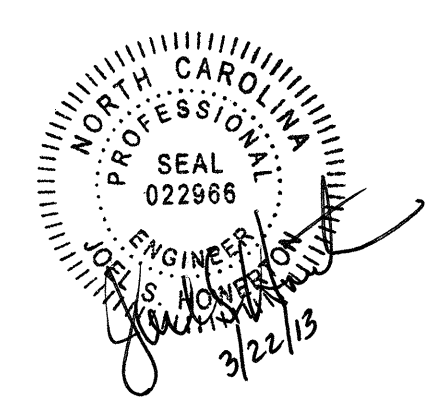
RIP-RAP LINED DITCH

NOTES:

- CONSTRUCT MODIFIED CONCRETE FLUME AND SHOULDER BERM GUTTER IN ACCORDANCE WITH THIS DETAIL.
- CONSTRUCT CONCRETE DITCH IN ACCORDANCE WITH STD. DWG. NO. 850.01.
- CONSTRUCT RIP RAP LINED DITCH IN ACCORDANCE WITH THIS DETAIL, IF CALLED FOR IN PLANS.
- CONCRETE OR RIP RAP LINED DITCH SHALL BE THE TYPE AND LENGTH SPECIFIED BY THE ROADWAY PLANS. THE DITCH SHALL TERMINATE AS SHOWN ON THE PLANS. IF NO TERMINATION IS INDICATED PLACE RIP-RAP AT THE END OF THE DITCH AS INDICATED BY STD. DWG. 876.02 FOR AN 18" PIPE. TRANSITIONS FROM THE DITCH TO TERMINATION SHALL BE AS DIRECTED BY THE ENGINEER.
- MODIFICATIONS SHALL BE AS DICTATED BY SITE CONDITIONS AND DIRECTED BY THE ENGINEER.

SHEET 1 OF 1
MODFLMDTCH

SHEET 1 OF 1
MODFLMDTCH



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

SEE PLATE FOR TITLE

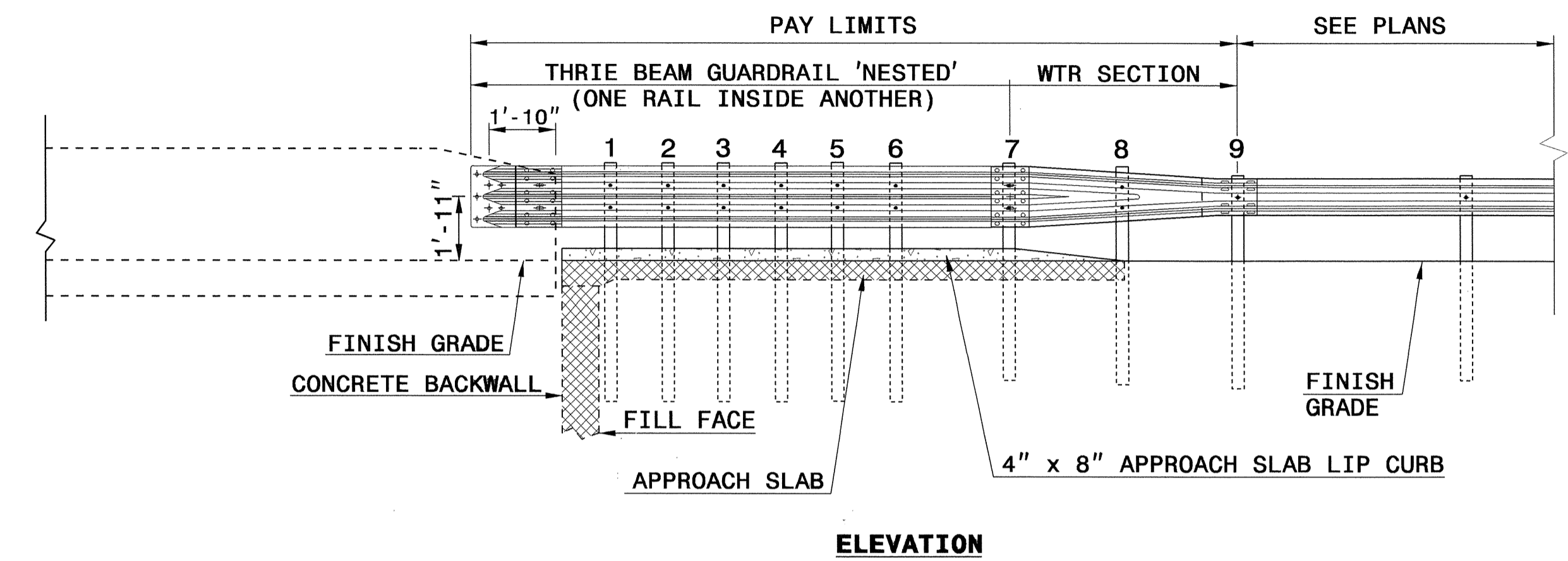
ORIGINAL BY: E.E. Ward DATE: Apr. 2002
 MODIFIED BY: E.E. Ward DATE: July 2004
 CHECKED BY: [Signature] DATE: 3/7/13
 FILE SPEC: [path]stand\modifiedflume.dwg

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

ENGLISH DETAIL DRAWING FOR
**TYPE III - SHOP CURVED
STRUCTURE ANCHOR UNIT**

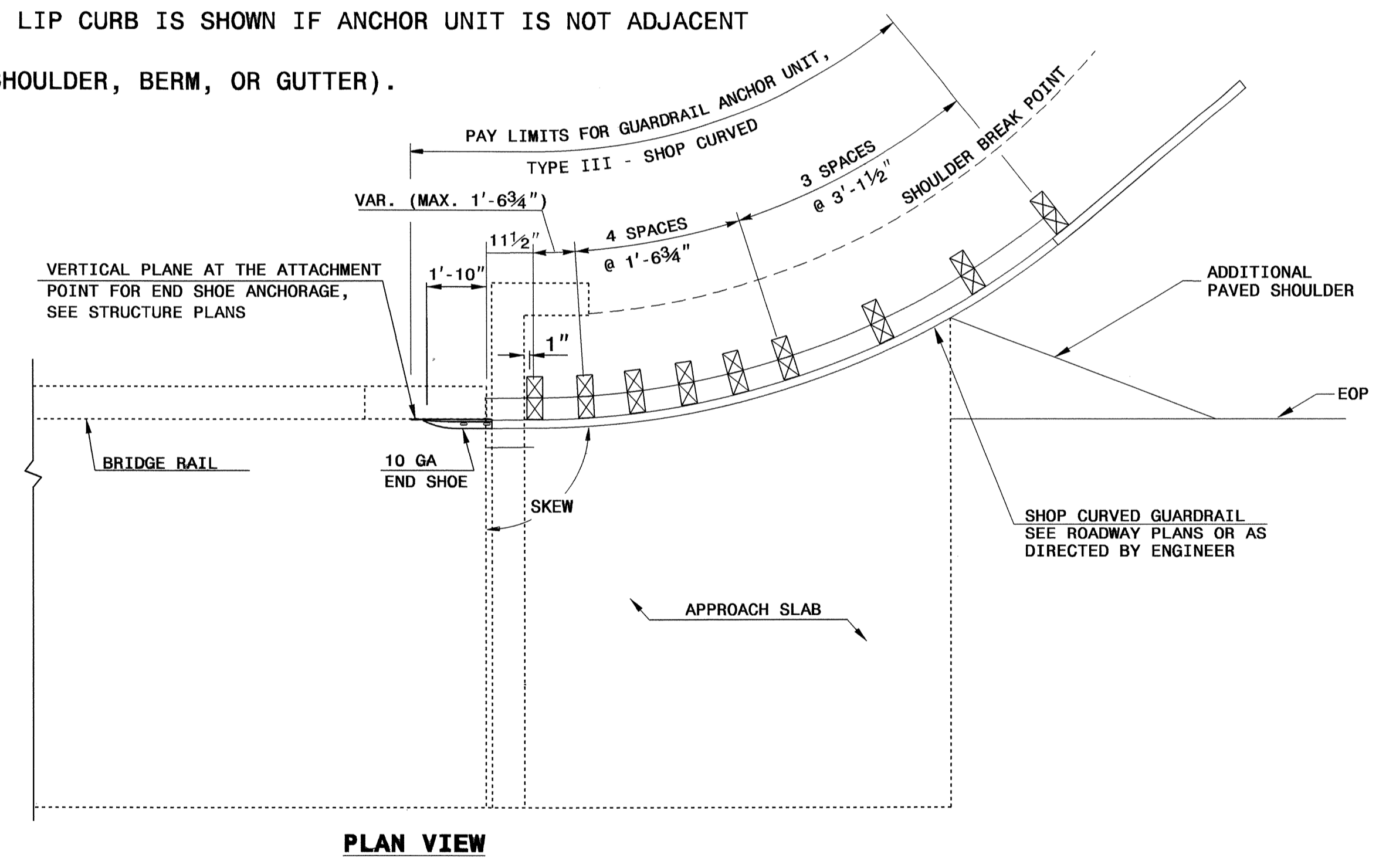
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
**TYPE III - SHOP CURVED
STRUCTURE ANCHOR UNIT**



SEE ROADWAY PLANS FOR END TREATMENT

- NOTE:
- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 - *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
 - SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
 - MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
 - USE NO STEEL POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
 - LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 - SEE STANDARD 862.03 SHEET 4 FOR POST SECTIONS 1 THRU 9.



**GUARDRAIL ANCHOR UNIT, TYPE III - SHOP CURVED
FOR ATTACHMENT TO RAIL ON BRIDGE**

SHEET 1 OF 1
TYPE III SC

SHEET 1 OF 1
TYPE III SC



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

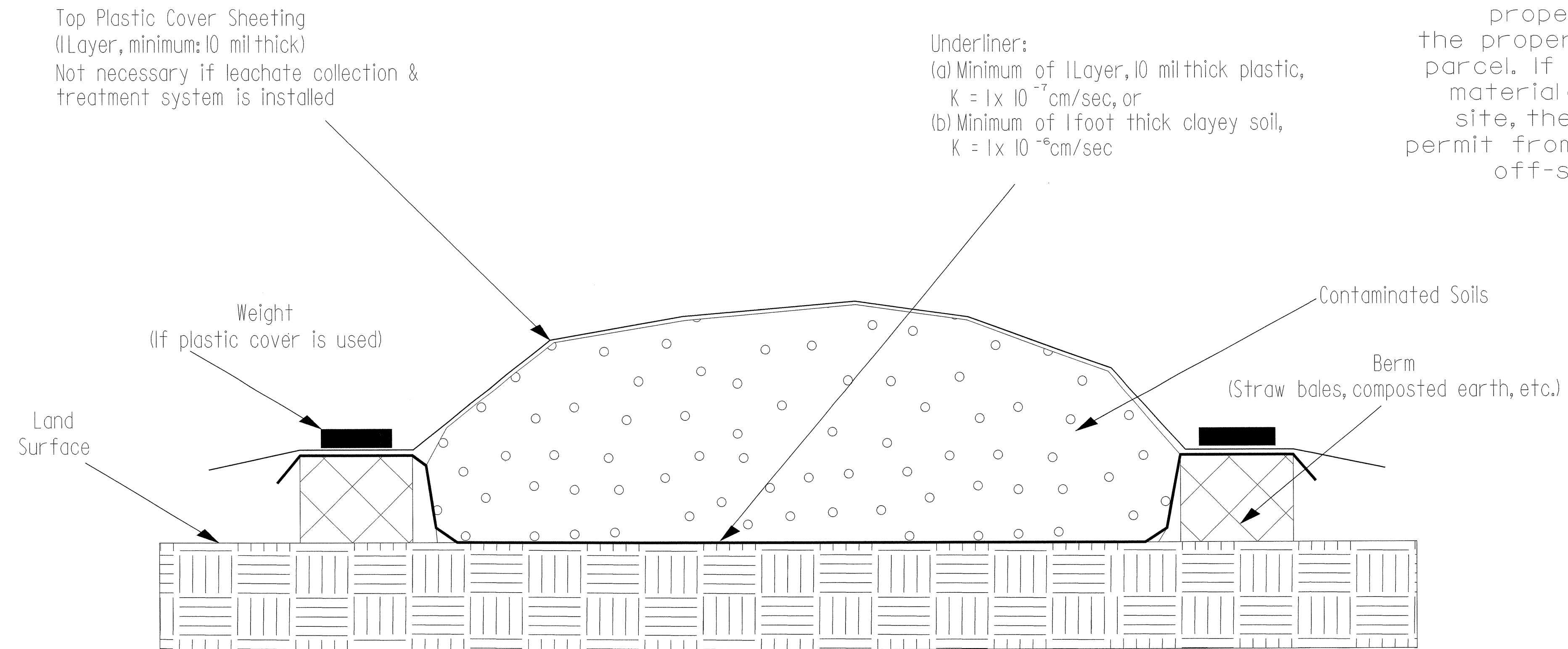
SEE PLATE FOR TITLE

ORIGINAL BY: E.E. Ward DATE: 4-4-02
 MODIFIED BY: T.S. Spell DATE: 5-29-09
 CHECKED BY: J. H. H. DATE: 3/11/13
 FILE SPEC.: ward:\usr\details\stand\862stds\typeiiisc.dgn

PROJECT REFERENCE NO.	SHEET
B-4733	2-C

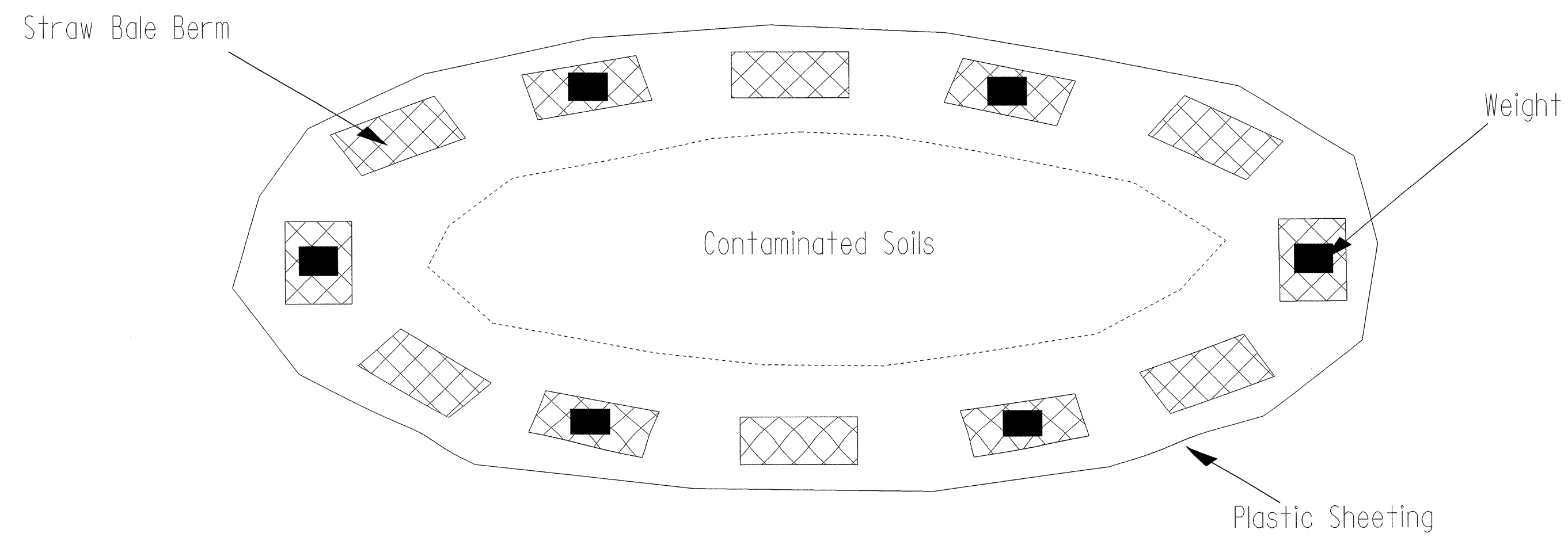
Detail for Temporary Containment of Contaminated Soil

Cross-Section View



NOTE:
The Contractor shall stockpile all contaminated soil excavated from a property in a location within the property boundaries of the source parcel. If the volume of contaminated material exceeds available space on site, the Contractor shall obtain a permit from the NCDENR UST Section for off-site temporary storage.

Map View



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203158

ItemNumber	Sec #	Quantity	Unit	Description
000010000-N	800	Lump Sum		MOBILIZATION
000040000-N	801	Lump Sum		CONSTRUCTION SURVEYING
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (19+20.00-L-)
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
005700000-E	226	20	CY	UNDERCUT EXCAVATION
013400000-E	240	40	CY	DRAINAGE DITCH EXCAVATION
019400000-E	SP	100	CY	SELECT GRANULAR MATERIAL, CLASS III
019600000-E	270	100	SY	GEOTEXTILE FOR SOIL STABILIZATION
019900000-E	SP	365	SF	TEMPORARY SHORING
031800000-E	300	102	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
032000000-E	300	436	SY	FOUNDATION CONDITIONING GEOTEXTILE
033200000-E	305	368	LF	15" DRAINAGE PIPE
033530000-E	305	72	LF	18" DRAINAGE PIPE
033540000-E	305	16	LF	24" DRAINAGE PIPE
044820000-E	310	52	LF	15" RC PIPE CULVERTS, CLASS IV
099500000-E	340	38	LF	PIPE REMOVAL
109950000-E	505	60	CY	SHALLOW UNDERCUT
109970000-E	505	100	TON	CLASS IV SUBGRADE STABILIZATION
122000000-E	545	50	TON	INCIDENTAL STONE BASE
148900000-E	610	730	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	380	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
151900000-E	610	840	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
157500000-E	620	105	TON	ASPHALT BINDER FOR PLANT MIX

ItemNumber	Sec #	Quantity	Unit	Description
570920000-E	1520	799	LF	4" FORCE MAIN SEWER
600000000-E	1605	2,300	LF	TEMPORARY SILT FENCE
600600000-E	1610	360	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	250	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	295	TON	SEDIMENT CONTROL STONE
601500000-E	1615	3	ACR	TEMPORARY MULCHING
601800000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.5	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
602900000-E	SP	100	LF	SAFETY FENCE
603000000-E	1630	440	CY	SILT EXCAVATION
603600000-E	1631	10,000	SY	MATTING FOR EROSION CONTROL
603700000-E	SP	200	SY	COIR FIBER MAT
603800000-E	SP	675	SY	PERMANENT SOIL REINFORCEMENT MAT
604200000-E	1632	650	LF	1/4" HARDWARE CLOTH
607000000-N	1639	4	EA	SPECIAL STILLING BASINS
607101000-E	SP	300	LF	WATTLE
607102000-E	SP	125	LB	POLYACRYLAMIDE (PAM)
607103000-E	1640	75	LF	COIR FIBER BAFFLE
608400000-E	1660	3	ACR	SEEDING & MULCHING
608700000-E	1660	2	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
611450000-N	1667	10	MHR	SPECIALIZED HAND MOWING

SUMMARY OF QUANTITIES - B-4733

ItemNumber	Sec #	Quantity	Unit	Description
202200000-E	815	33.6	CY	SUBDRAIN EXCAVATION
203300000-E	815	16.8	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE
207000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE
228600000-N	840	9	EA	MASONRY DRAINAGE STRUCTURES
230800000-E	840	3.29	LF	MASONRY DRAINAGE STRUCTURES
236600000-N	840	6	EA	FRAME WITH TWO GRATES, STD 840.24
236700000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.29
239600000-N	840	2	EA	FRAME WITH COVER, STD 840.54
255600000-E	846	132	LF	SHOULDER BERM GUTTER
257000000-N	SP	1	EA	MODIFIED CONCRETE FLUME
303000000-E	862	325	LF	STEEL BM GUARDRAIL
304500000-E	862	150	LF	STEEL BM GUARDRAIL, SHOP CURVED
310500000-N	862	2	EA	STEEL BM GUARDRAIL TERMINAL SECTIONS
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
318000000-N	862	2	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** (III SHOP CURVED)
321500000-N	862	2	EA	GUARDRAIL ANCHOR UNITS, TYPE III
327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
357500000-E	SP	201	LF	GENERIC FENCING ITEM BLACK VINYL COATED CHAIN LINK FENCE 48" FABRIC
362800000-E	876	30	TON	RIP RAP, CLASS I
365600000-E	876	1,035	SY	GEOTEXTILE FOR DRAINAGE
407200000-E	903	165	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
409600000-N	904	2	EA	SIGN ERECTION, TYPE D
410200000-N	904	6	EA	SIGN ERECTION, TYPE E

ItemNumber	Sec #	Quantity	Unit	Description
611700000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL

ItemNumber	Sec #	Quantity	Unit	Description
410800000-N	904	1	EA	SIGN ERECTION, TYPE F
411610000-N	904	1	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (E)
415500000-N	907	14	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
419200000-N	907	1	EA	DISPOSAL OF SUPPORT, U-CHANNEL
440000000-E	1110	210	SF	WORK ZONE SIGNS (STATIONARY)
440500000-E	1110	192	SF	WORK ZONE SIGNS (PORTABLE)
441000000-E	1110	20	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
443000000-N	1130	23	EA	DRUMS
444500000-E	1145	32	LF	BARRICADES (TYPE III)
445000000-N	1150	960	HR	FLAGGER
446500000-N	1160	1	EA	TEMPORARY CRASH CUSHIONS
448000000-N	1165	1	EA	TMA
448500000-E	1170	70	LF	PORTABLE CONCRETE BARRIER
451600000-N	1180	6	EA	SKINNY DRUM
468500000-E	1205	2,293	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
468600000-E	1205	2,293	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
471000000-E	1205	58	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
477000000-E	1205	1,440	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (I)
481000000-E	1205	8,000	LF	PAINT PAVEMENT MARKING LINES (4")
490000000-N	1251	5	EA	PERMANENT RAISED PAVEMENT MARKERS
490500000-N	1253	15	EA	SNOWPLOWABLE PAVEMENT MARKERS
491500000-E	1264	3	EA	7' U-CHANNEL POSTS
495500000-N	1264	3	EA	OBJECT MARKERS (END OF ROAD)
553800000-E	1515	2	EA	4" VALVE

COMPUTED BY: A. J. FOSTER DATE: 2/1/2012
 CHECKED BY: T. F. D DATE: 2/22/2012

PROJECT NO. B-4733 SHEET NO. 3-B

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L- STA 10+00 (w/DR2)	-L- STA 17+40 (w/DR2)	3,538	698	0	2,840
-DR1- STA 10+11	-DR1- STA 12+02.75	688			688
-DR3- STA 10+07.16	-DR3- STA 11+20	449			449
SUBTOTALS:		4,675	698	0	3,977
-L- STA 21+00	-L- STA 21+75.39	508	200	0	308
SUBTOTALS:		508	200	0	308
TOTALS:		5,183	898	0	4,285
LOSS DUE TO CLEARING AND GRUBB.		-5			-5
PROJECT TOTALS:		5,178	898	0	4,280
GRAND TOTALS:		5,178		0	
SAY:		5,200		0	

PER DIVISION 14: ESTIMATED 20 CY UNDERCUT

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

LINE	Station	Station	LOC LT/RT/CL	YD ²
-L-	13+36.00	17+41.00	LT	477.49
-L-	21+00.00	21+75.39	LT	424.56
-DR1-	10+00.00	12+02.75	LT	186.86
TOTAL:				1,088.91
SAY:				1,090

CHAIN LINK FENCE VINYL COATED

STATION TO STATION	LOC LT/RT/CL	FABRIC L.F.	LINE POSTS	TERMINAL POSTS
-DR1- 10+76.04.62 TO -DR2- 10+26.07	LT	13.37	1	1
-DR2- 10+26.07 TO -DR2- 11+98.18	RT	174.59	15	2
-DR2- 11+98.18 TO -DR3- 10+20	RT	12.64	1	1
TOTAL:		200.6	17	4
SAY:		201	17	4

Note: 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. Fine grading, clearing and grubbing, removal of existing pavement, and unclassified excavation, will be paid for at the lump sum price for "Grading".

"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

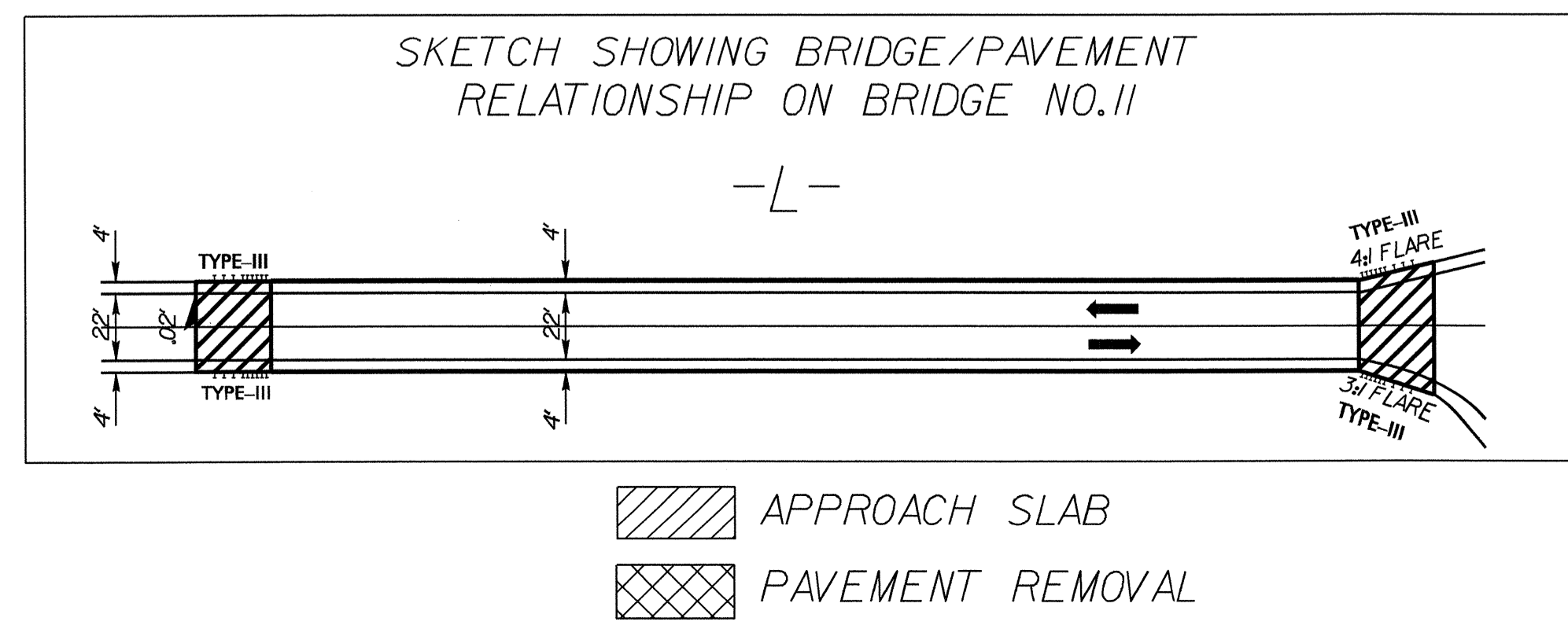
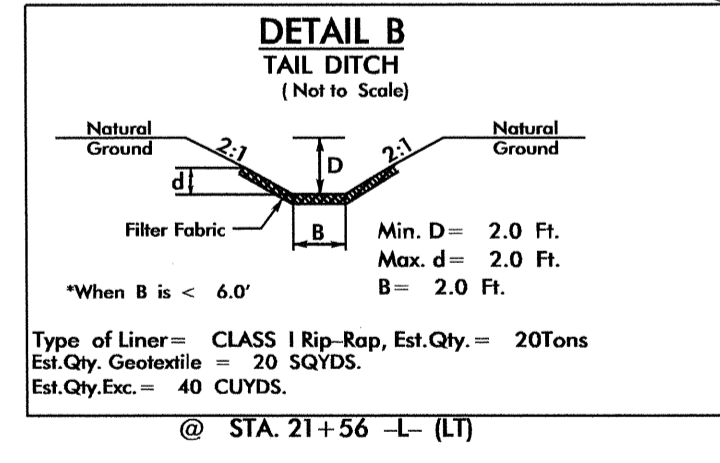
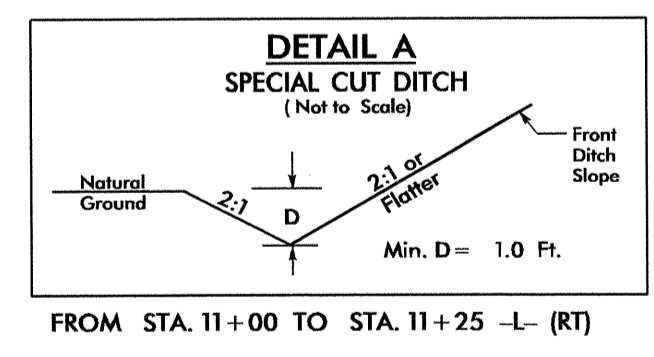
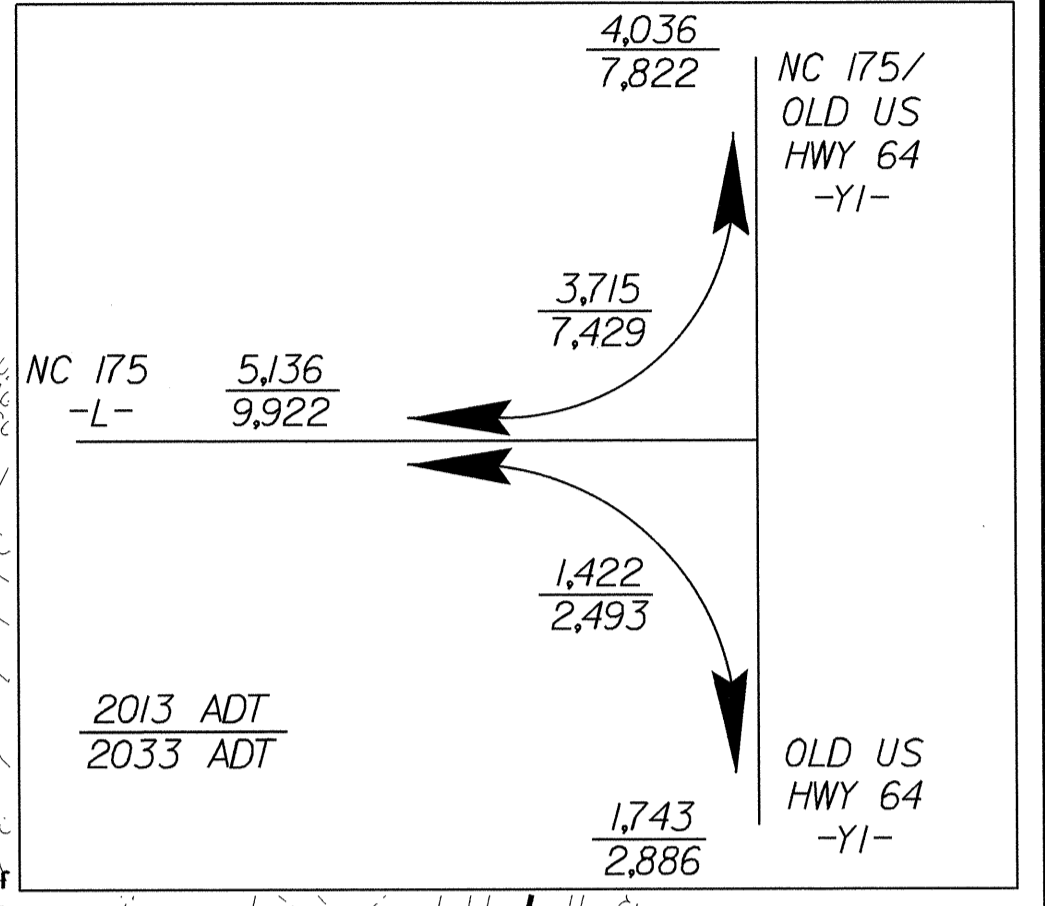
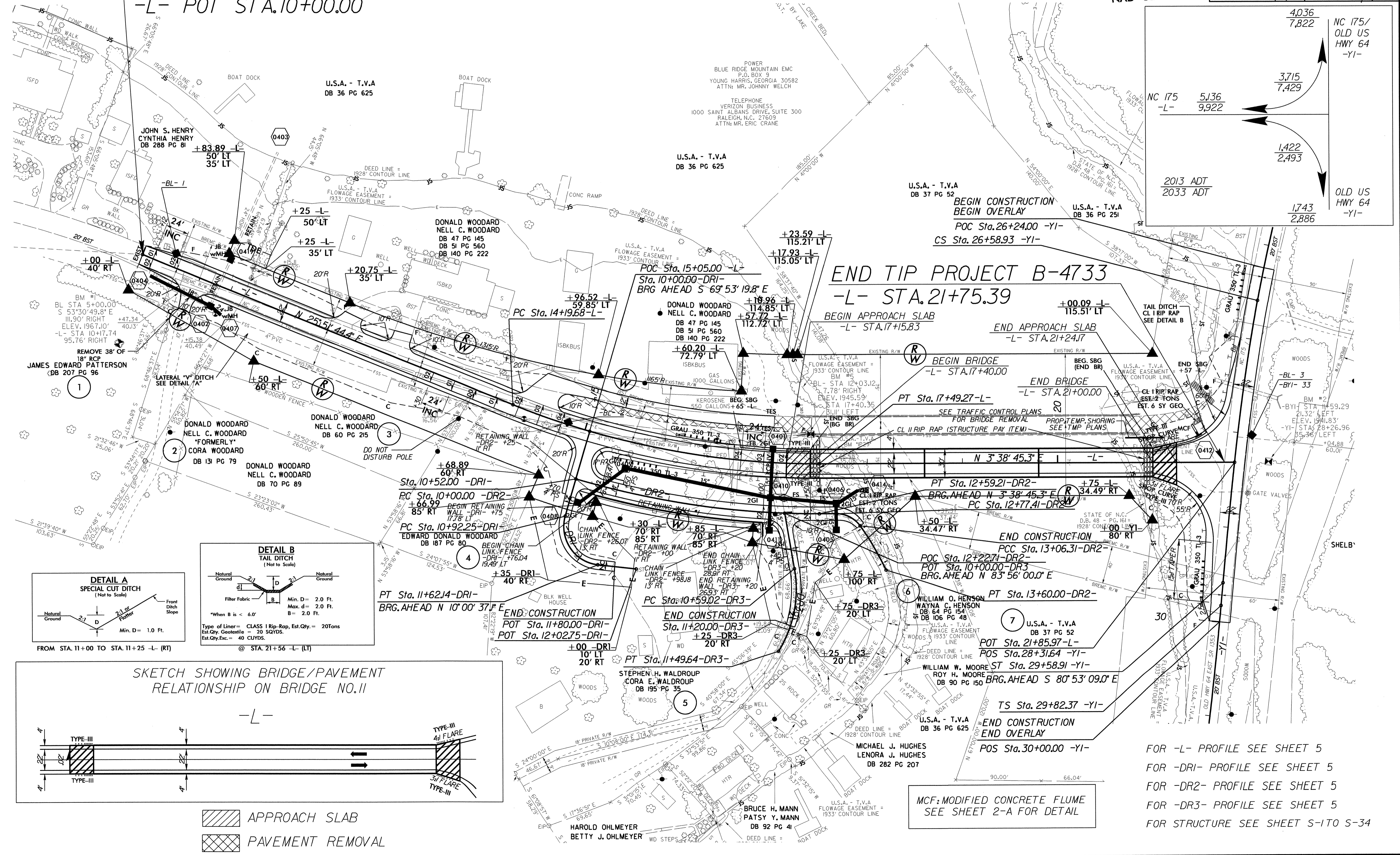
LINE	BEG. STA.	END STA.	LOC.	LENGTH			WARRANT POINT		"N" DIST FROM E.O.L.	TOTAL SHLDR WIDTH	FLAIR LENGTH		W		ANCHORS				IMP. ATTEN. TYPE 350			REMOVE EXISTING GRDRAIL	ADDITIONAL GUARDRAIL POSTS	REMARKS	
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPR. END	TRAIL. END			APPR. END	TRAIL. END	APPR. END	TRAIL. END	TYPE-III	GRAU 350	SHOP CURVE TYPE-III	TES	EA	G	NG				
-L-	15+33.75	17+40.00	RT	206.25'				17+40 (BG BR)	VAR	VAR	187.50'		4'		1	1									
-L-	15+96.25	17+40.00	LT	143.75'				17+40 (BG BR)	VAR	VAR		125'	2.75'		1	1									
-L-, -Y1-	21+00.00	26+28.77 (-Y1-)	LT	156.25'	75'			21+00(ENDBR)	VAR	VAR	50'		4.25'			1	1								
-L-, -Y1-	21+00.00	29+77.19 (-Y1-)	RT	81.25'	75'			21+00(ENDBR)	VAR	VAR		50'	4.25'			1	1								
-L-	17+00.00	17+00.00	LT	17.00'																					
SUB-TOTAL				604.50 FT	150 FT										TOTAL ANCHORS				2	4	2	2			5
ANCHOR DEDUCTION				-279.50 FT											PER EACH ANCHOR LENGTH				18.75 FT	50 FT	18.75 FT	2.25 FT			
TOTAL				325.00 FT	150 FT										TOTAL ANCHOR LENGTH				37.50 FT	200 FT	37.50 FT	4.50 FT			
SAY				325 FT	150 FT										GRAND TOTAL						279.50 FT				5

-L-	-DRI-	-DR2-	-DR3-	-YI-							
PI Sta 15+86.57 Δ = 22° 12' 59.1" (LT) D = 6' 44" 26.4" L = 329.59' T = 166.89' R = 850.00' SE = SEE PLANS RO = SEE PLANS	PI Sta 11+40.01 Δ = 100° 06' 03.1" (LT) D = 143' 14" 22.0" L = 69.88' T = 47.76' R = 40.00' SE = NC	PI Sta 11+30.50 Δ = 16° 27' 55.0" (LT) D = 6' 21' 07.5" L = 259.21' T = 130.50' R = 902.00' SE = NC	PI Sta 12+93.09 Δ = 55° 10' 56.2" (RT) D = 190' 59' 09.4" L = 28.89' T = 15.68' R = 330.00' SE = NC	PI Sta 13+33.21 Δ = 9° 19' 23.0" (RT) D = 17' 21' 44.5" L = 53.70' T = 26.91' R = 30.00' SE = NC	PI Sta 11+06.42 Δ = 41° 31' 58.4" (RT) D = 45' 50" 11.8" L = 90.61' T = 47.40' R = 125.00' SE = NC	PI Sta 12+55.67 Δ = 5° 15' 03.8" Ls = 300.06' L = 200.13' ST = 100.07'	PI Sta 20+44.02 Δ = 45° 36' 59.0" (LT) D = 3' 30' 00.0" L = 1,303.32' T = 688.42' R = 1,637.02'	PIs Sta 27+59.00 Δs = 5° 14' 58.8" Ls = 299.98' L = 200.07' ST = 100.07'	PIs Sta 31+55.87 Δs = 7° 48' 00.0" Ls = 260.00' L = 173.50' T = 86.82'	PIs Sta 36+26.73 Δ = 43° 51' 00.5" (RT) D = 6' 00" 00.0" L = 730.84' T = 384.36' R = 954.93'	PIs Sta 40+60.01 Δs = 7° 47' 57.8" Ls = 259.98' L = 173.49' T = 86.81'

PROJECT REFERENCE NO. B-4733	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BEGIN TIP PROJECT B-4733
-L- POT STA. 10+00.00

END TIP PROJECT B-4733
-L- STA. 21+75.39



MCF: MODIFIED CONCRETE FLUME
SEE SHEET 2-A FOR DETAIL

FOR -L- PROFILE SEE SHEET 5
FOR -DRI- PROFILE SEE SHEET 5
FOR -DR2- PROFILE SEE SHEET 5
FOR -DR3- PROFILE SEE SHEET 5
FOR STRUCTURE SEE SHEET S-1 TO S-34

REVISIONS

15-APR-2013 09:19 B-4733-Rdy_psh.dgn

5/28/99

BM.*1 - 8 INCH SPIKE SET
IN BASE OF 15' BIRCH
L STATION 10+32.37 111.90' LT.
EL. 1967.10
N 496522 E 584015

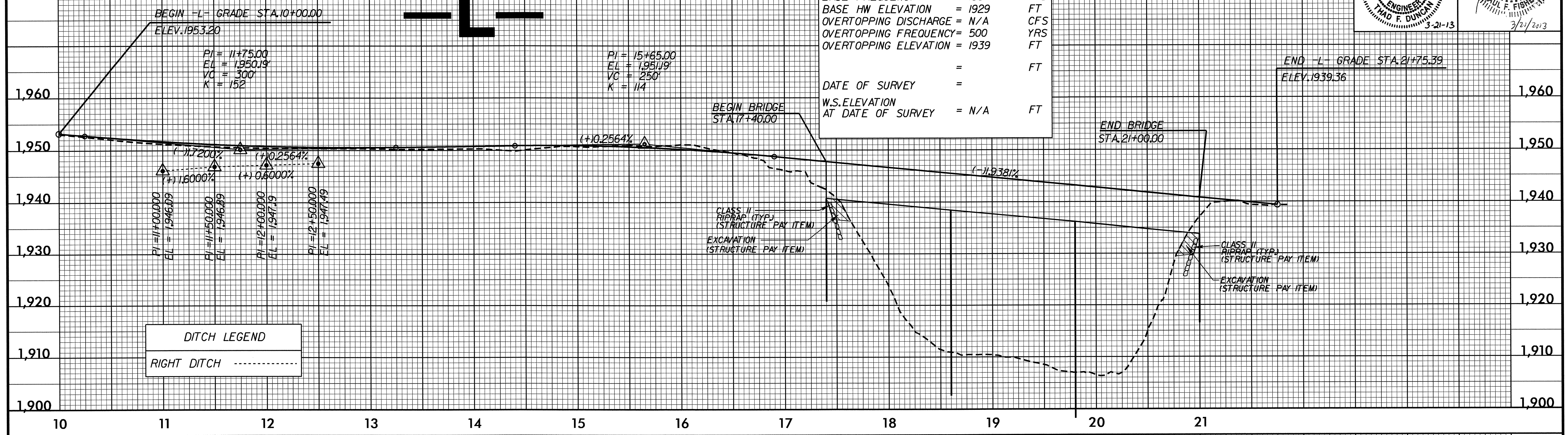
BM.*2 - 8 INCH SPIKE SET
IN BASE OF 12' BLACK PINE
L STATION 14+80.52 21' LT.
EL. 1941.83
N 497719 E 584220

BRIDGE HYDRAULIC DATA

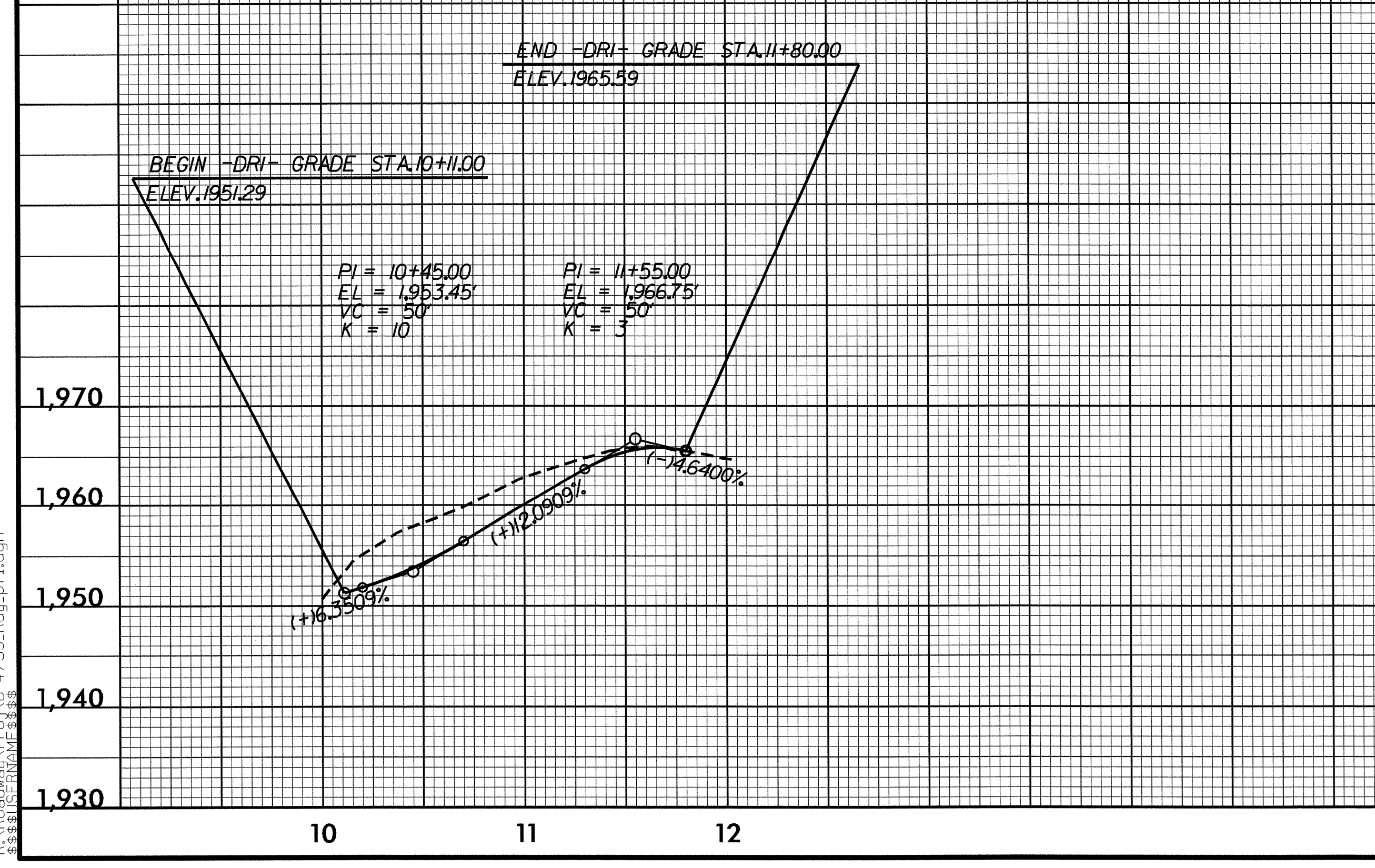
DESIGN DISCHARGE = 7000 CFS
 DESIGN FREQUENCY = 50 YRS
 DESIGN HW ELEVATION = N/A FT
 BASE DISCHARGE = 8300 CFS
 BASE FREQUENCY = 100 YRS
 BASE HW ELEVATION = 1929 FT
 OVERTOPPING DISCHARGE = N/A CFS
 OVERTOPPING FREQUENCY = 500 YRS
 OVERTOPPING ELEVATION = 1939 FT

DATE OF SURVEY = FT
 W.S. ELEVATION AT DATE OF SURVEY = N/A FT

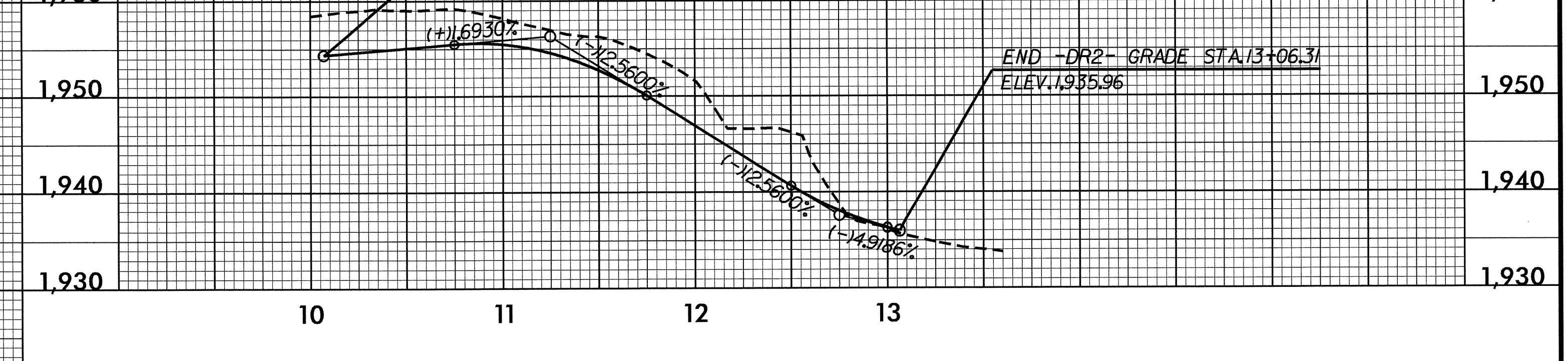
PROJECT REFERENCE NO. B-4733	SHEET NO. 5
ROADWAY DESIGN ENGINEER [Signature]	HYDRAULICS ENGINEER [Signature]
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 25477 MAD. F. DUNCAN 3-21-13	NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 12574 PAUL F. FISHER 3/21/2013



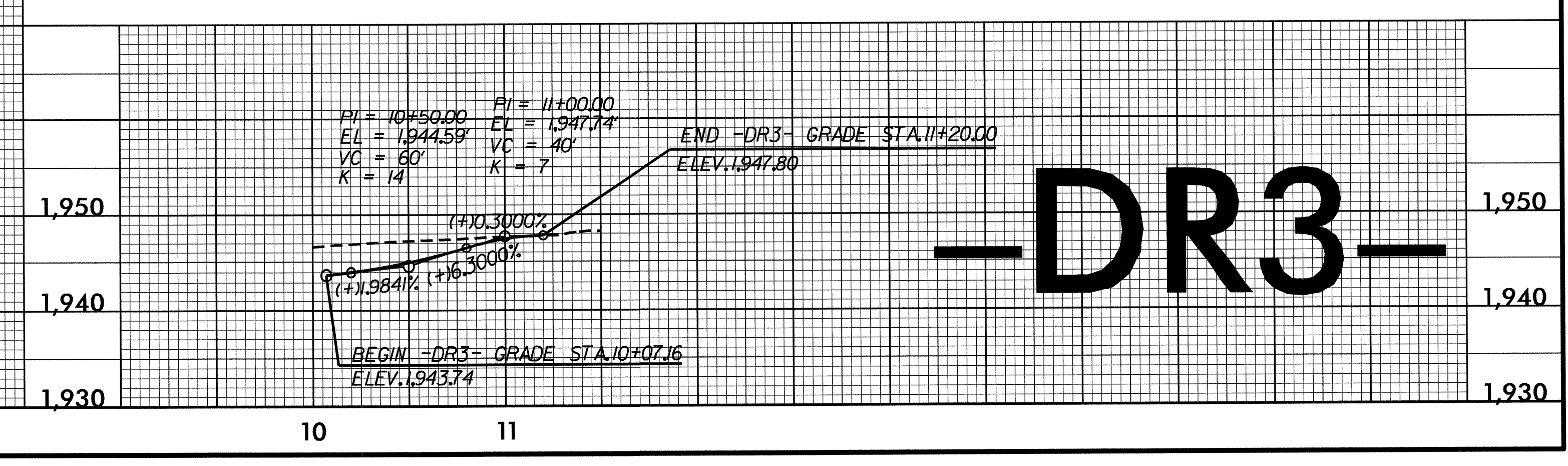
-DR1-



-DR2-



-DR3-



12-MAR-2013 15:17
R:\Vocad\p1.dgn
B-4733-Rdy-p1.dgn