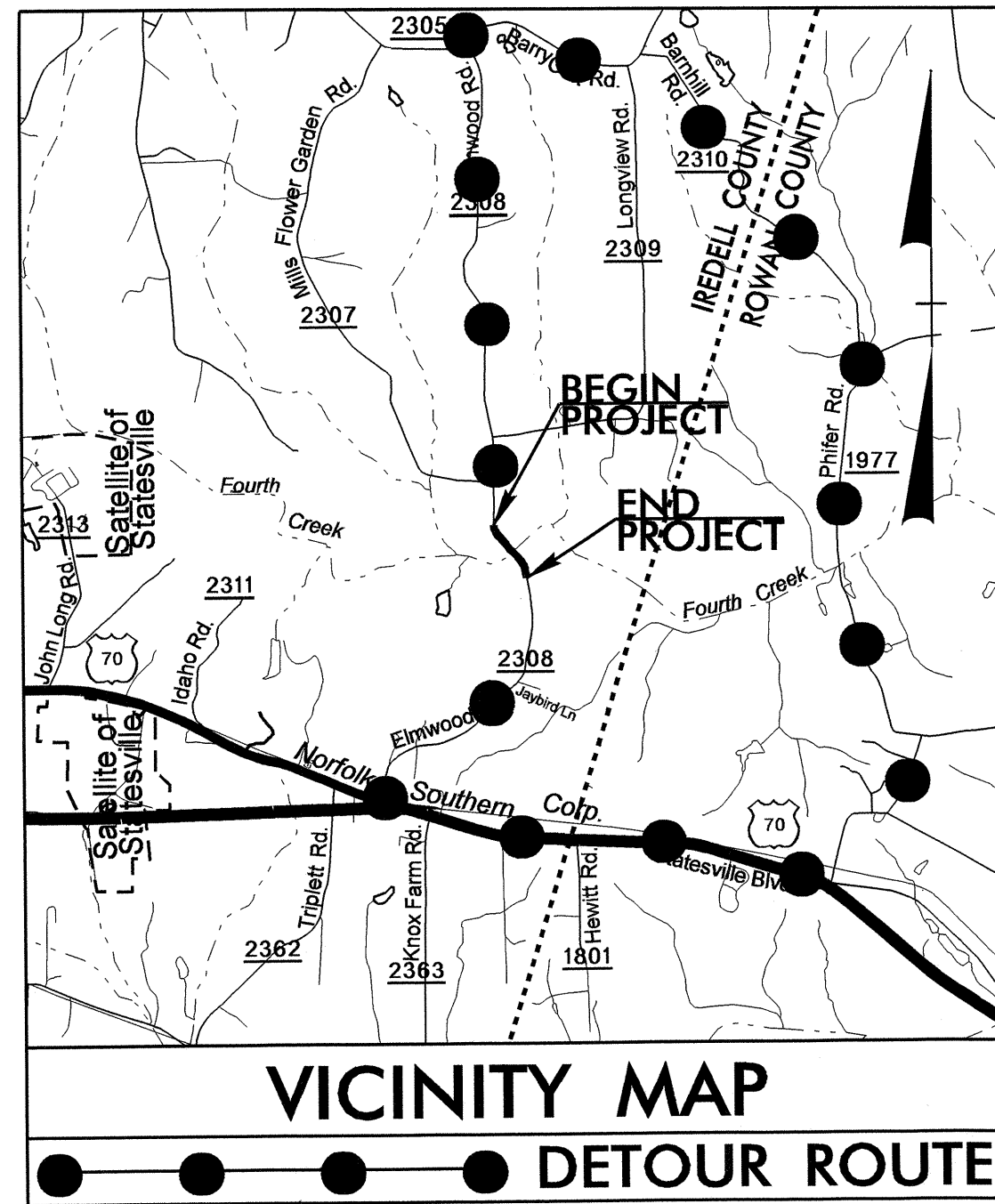


09/08/99

TIP PROJECT: B-4553

CONTRACT: C202779

See Sheet 1-A For Index of Sheets



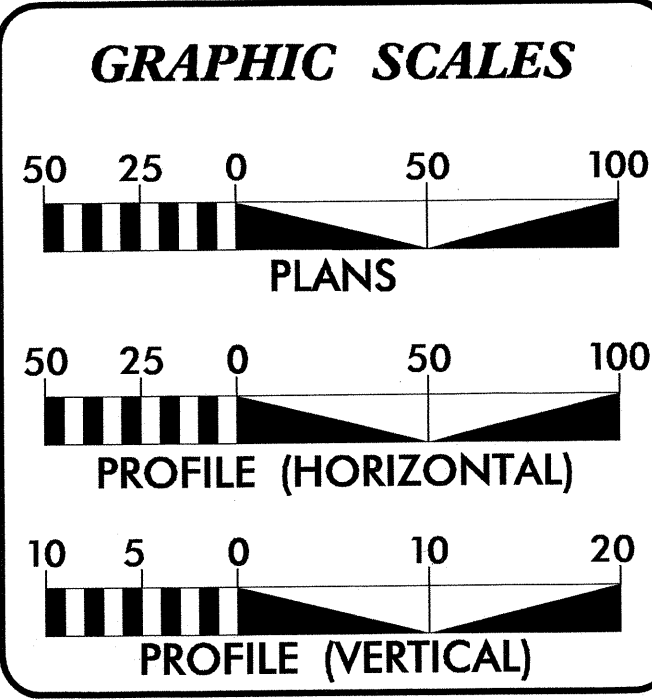
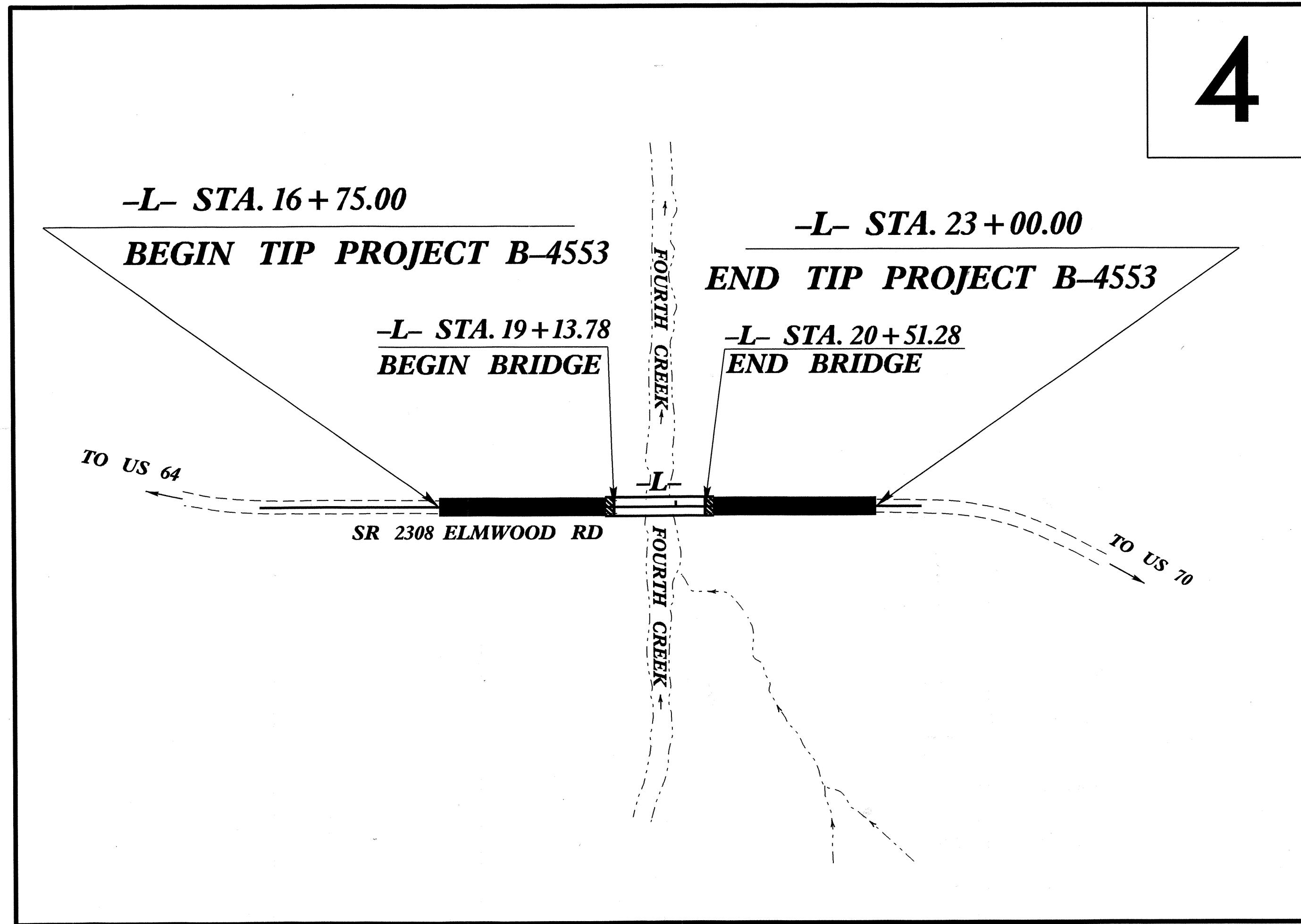
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

IREDELL COUNTY

LOCATION: BRIDGE NO. 312 OVER FOURTH CREEK
ON SR 2308 (ELMWOOD ROAD)

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4553	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33766.1.1	BRSTP - 2308(2)	PE	
33766.2.1	BRSTP - 2308(2)	RW, UTIL.	
33766.3.1	BRSTP-2308(2)	CONST.	



DESIGN DATA

ADT 2011 =	970
ADT 2035 =	1500
DHV =	11 %
D =	60 %
T =	3 % **
V =	55 MPH
SUB-REGIONAL TIER	
RURAL COLLECTOR	
** TTST 1% + DUAL 2%	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4553 =	0.092 MI
LENGTH OF STRUCTURE TIP PROJECT B-4553 =	0.026 MI
TOTAL LENGTH OF TIP PROJECT B-4553 =	0.118 MI

Prepared in the Office of:

DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 14, 2011

LETTING DATE:
FEBRUARY 21, 2012

G. E. BREW, PE
PROJECT ENGINEER

W. T. BEST
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *Gregory E. Brew*

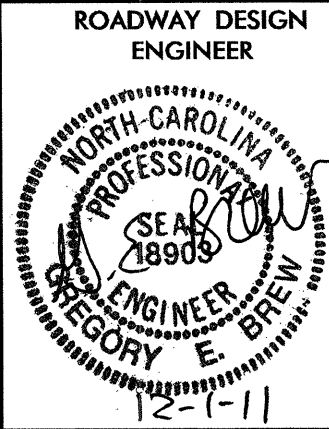
ROADWAY DESIGN ENGINEER

SIGNATURE: *Gregory E. Brew*

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

15-NOV-2011 13:52
f:\v\odyssey\p\o\1_b-4553_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$



SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-D	SURVEY CONTROL SHEETS
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAIL
2-A	DETAIL OF WOODEN FENCE
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES
3-B	SUMMARY OF EARTHWORK, SUMMARY OF WOVEN WIRE FENCE, 48" WOODEN RAIL FENCE, SUMMARY OF GUARDRAIL, SUMMARY 3-STRAND BARBED WIRE FENCE WITH POST, EXISTING ASPHALT PAVEMENT REMOVAL SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1A	SUMMARY OF CROSS-SECTIONS
X-1 THRU X-5	CROSS-SECTIONS SHEETS
S-1 THRU S-25	STRUCTURE PLANS

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 11/01/11

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

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

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

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

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

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

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

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

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

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE AT&T, ENERGY UNITED, AND TIME WARNER CABLE.
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.

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
DIVISION 4 - MAJOR STRUCTURES	
422.11	REINFORCED BRIDGE APPROACH FILLS - SUB-REGIONAL TIER
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE - METHOD I
DIVISION 8 - INCIDENTALS	
815.03	PIPE UNDERDRAIN AND BLIND DRAIN
840.00	CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
840.25	ANCHORAGE FOR FRAMES - BRICK OR CONCRETE OR PRECAST
840.29	FRAMES AND NARROW SLOT FLAT GRATES
840.35	TRAFFIC BEARING GRATED DROP INLET - FOR CAST IRON DOUBLE FRAME AND GRATES
840.36	TRAFFIC BEARING GRATED DROP INLET - FOR STEEL (840.37) DOUBLE FRAME AND GRATES
840.37	STEEL GRATE AND FRAME
840.46	TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE
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
866.02	WOVEN WIRE FENCE - WITH WOOD POSTS
866.04	BARBED WIRE FENCE WITH WOOD POSTS (2-7 STRANDS)
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	⑩23
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-

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG 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	○
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	-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 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 Wheel Chair Ramp	○ WCR
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	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○ S
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	○ P
Power Line Tower	⊗
Power Transformer	⊗
UG Power Cable Hand Hole	□ PH
H-Frame Pole	●
Recorded UG Power Line	-----
Designated UG Power Line (S.U.E.*)	-----

TELEPHONE:

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

WATER:

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

TV:

TV Satellite Dish	⊗
TV Pedestal	⊕
TV Tower	⊗
UG TV Cable Hand Hole	□ PH
Recorded UG TV Cable	-----
Designated UG TV Cable (S.U.E.*)	-----
Recorded UG Fiber Optic Cable	-----
Designated UG Fiber Optic Cable (S.U.E.*)	-----

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

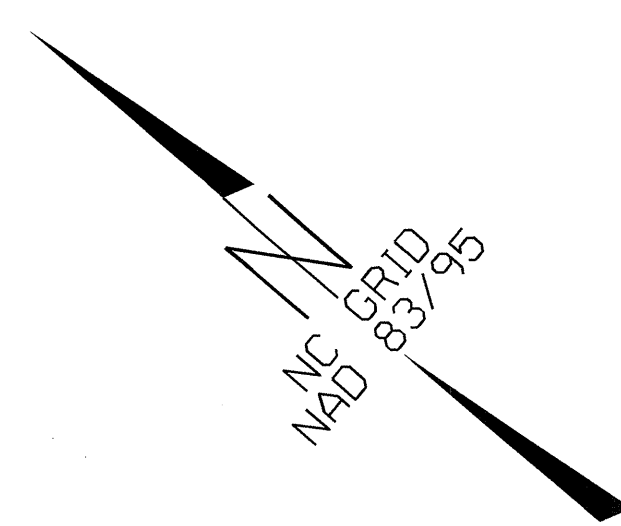
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown UG Line	-----
UG Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
UG Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

6/2/99

SURVEY CONTROL SHEET B-4553

PROJECT REFERENCE NO.	SHEET NO.
B-4553	1C
Location and Surveys	

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3		BL-3	740175.4140	1480464.4080	771.87	OUTSIDE PROJECT LIMITS	
2		B4553 GPS-2	739733.6530	1480472.1240	754.42	12+96.79	18.39 RT
4		BL-4	739277.8050	1480879.7890	738.95	19+04.83	11.79 LT
1		B4553 GPS-1	738859.4950	1481230.2850	748.03	24+47.13	18.23 LT
5		BL-5	738320.7540	1481359.1720	768.75	OUTSIDE PROJECT LIMITS	



 BM1 ELEVATION = 731.45
 N 739614 E 1480866
 L STATION 16+41 221 LEFT
 RAILROAD SPIKE IN SOUTHERN MOST ROOT
 OF A 28" WILLOW OAK.

 BM2 ELEVATION = 768.75
 N 738320 E 1481359
 L STATION 27+09
 S 15° 38' 28.7" E DIST 289.78
 NCDOT CONTROL POINT BL-5

BL-3
 N=740175.414
 E=1480464.408
 ELEV=771.87

BM#1
 N=739614
 E=1480866
 ELEV=731.45'

BEGIN TIP PROJECT B-4553
 -L- STA. 16+75.00

BL-4
 N=739277.805
 E=1480879.789
 ELEV=738.95'

END TIP PROJECT B-4553
 -L- STA. 22+75.00

B4553-1
 N=738859.495
 E=1481230.285
 ELEV=748.03'

B4553-2
 N=739733.653
 E=1480472.124
 ELEV=754.42'

BL-5
 N=738320.754
 E=1481359.172
 ELEV=768.75'

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4553-1"

WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 738859.4950(++) EASTING: 1481230.285(++)
 ELEVATION: 748.03(++)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998823

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4553-1" TO -L- STATION 10+00.00 IS
 N 33° 44' 13" W 1410.11'

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

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/doh/preconstruct/highway/location/project/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4553_LS_CONTROL.HTML
- 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

08-NOV-2011 13:36
 P:\Locations\B4553\B4553-1c.dgn
 \$\$\$USERNAME\$\$\$

SURVEY CONTROL SHEET B-4553

DESIGN ALIGNMENT -L-

TYPE	STATION	NORTH	EAST
POT	10+00.00	740032.1401	1480447.1353
PC	11+02.25	739929.8865	1480447.5579
PT	14+27.79	739631.3132	1480559.2505
PC	23+37.62	738942.4050	1481153.5574
PT	25+57.87	738747.0143	1481250.0331
POT	27+09.02	738599.0490	1481280.8712

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	16+75.00	45.00	739414.7344	1480686.6604
L	16+75.00	-45.00	739473.5228	1480754.8067
L	23+00.00	-45.00	739000.2845	1481163.0597
L	23+00.00	45.00	738941.4961	1481094.9133
L	16+75.00	-20.00	739457.1913	1480735.8756
L	16+75.00	20.00	739431.0632	1480705.5883
L	23+00.00	20.00	738957.8262	1481113.8429
L	23+00.00	-20.00	738983.9544	1481144.1301

PERMANENT UTILITY EASEMENT IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	21+50.00	-45.00	739113.8603	1481065.0774
L	21+50.00	-65.00	739126.9244	1481080.2210
L	17+50.00	-65.00	739429.7970	1480818.9391
L	17+50.00	-45.00	739416.7329	1480803.7955

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4553-1"

WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 738859.4950(ft) EASTING: 1481230.285(ft)
 ELEVATION: 748.03(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998823

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM

"B4553-1" TO -L- STATION 10+00.00 IS
 N 33° 44' 13" W 1410.11'

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

NOTES:

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

THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4553_LS_CONTROL.HTML

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.

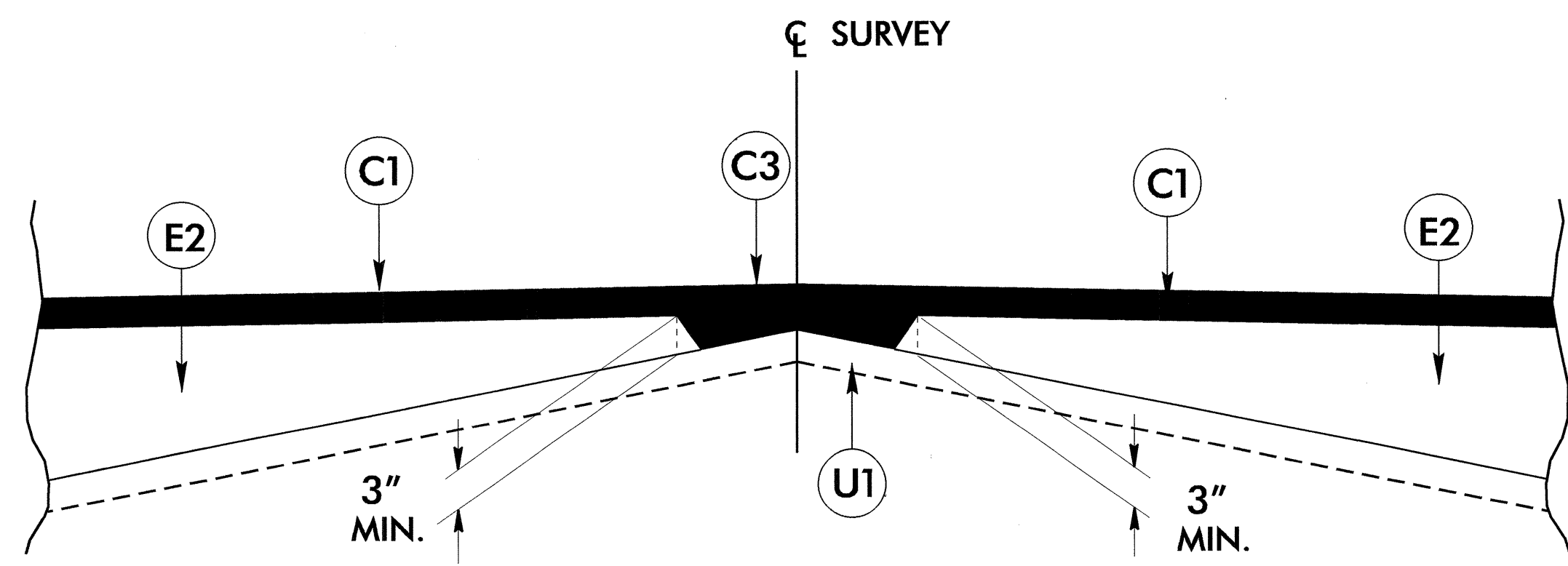
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

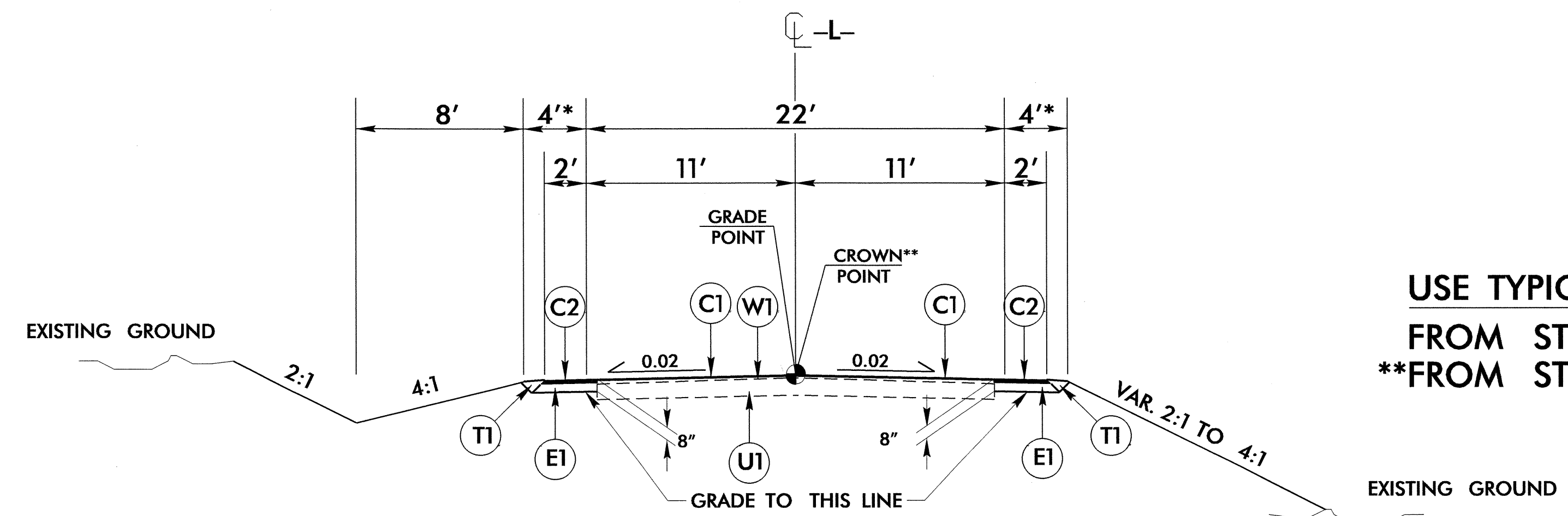
03-NOV-2011 13:49 \\B4553.LS-1.dwg

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.50 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.50 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	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 1½" IN DEPTH.
E1	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627.00 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
T1	EARTH MATERIAL.
U1	EXISTING PAVEMENT.
W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2)

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



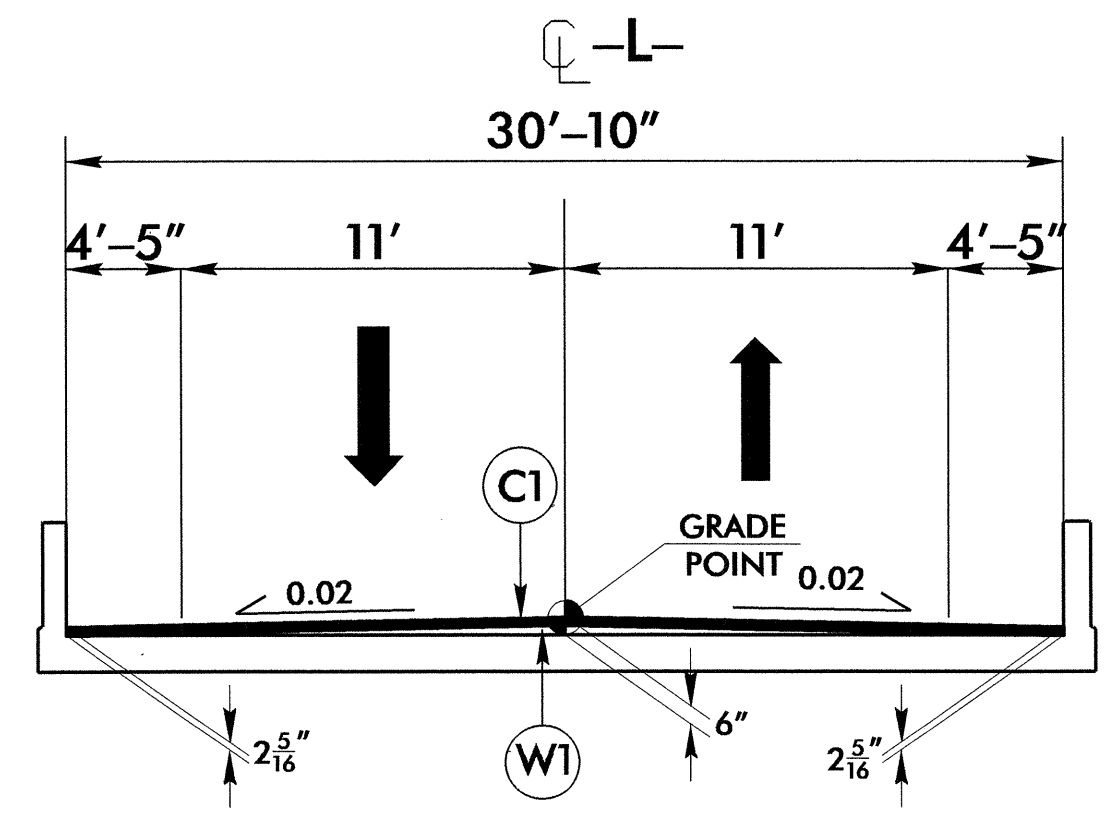
Detail Showing Method of Wedging



TYPICAL SECTION NO. 1

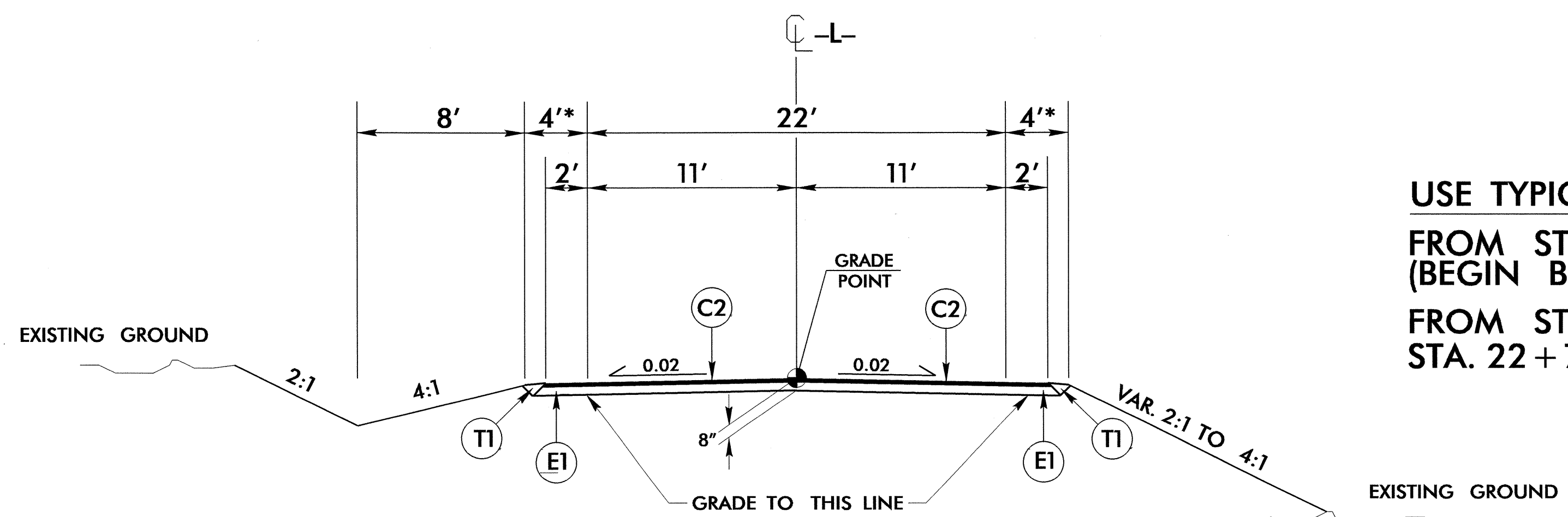
*NOTE: USE 7' WITH GUARDRAIL

USE TYPICAL SECTION NO.1
FROM STA. 16+75.00 TO STA. 17+00.00
**FROM STA. 22+75.00 TO STA. 23+00.00



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO.2
FROM STA. 19+13.78 (BEGIN BRIDGE) TO
STA. 20+51.28 (END BRIDGE)



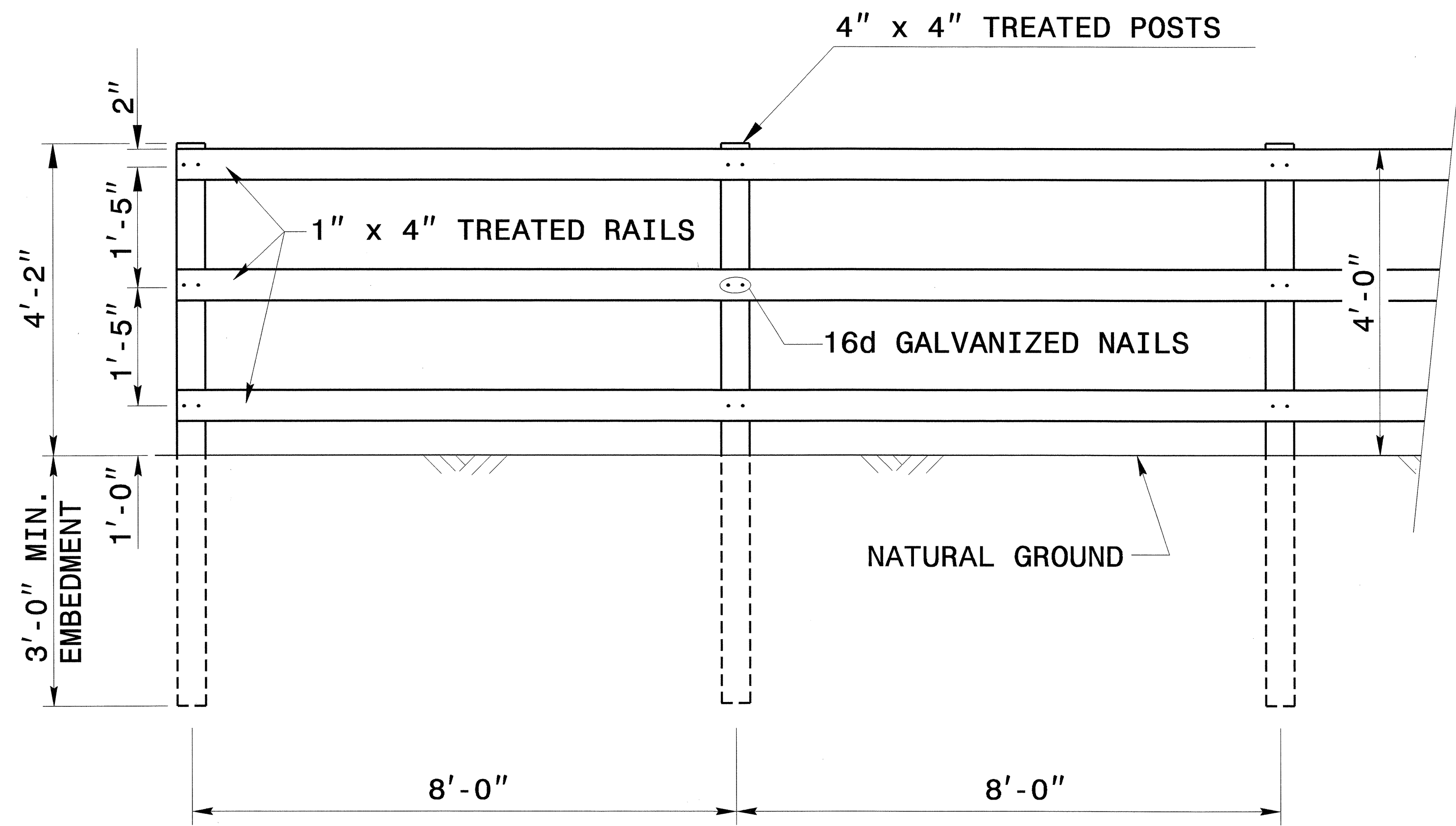
TYPICAL SECTION NO. 2

*NOTE: USE 7' WITH GUARDRAIL

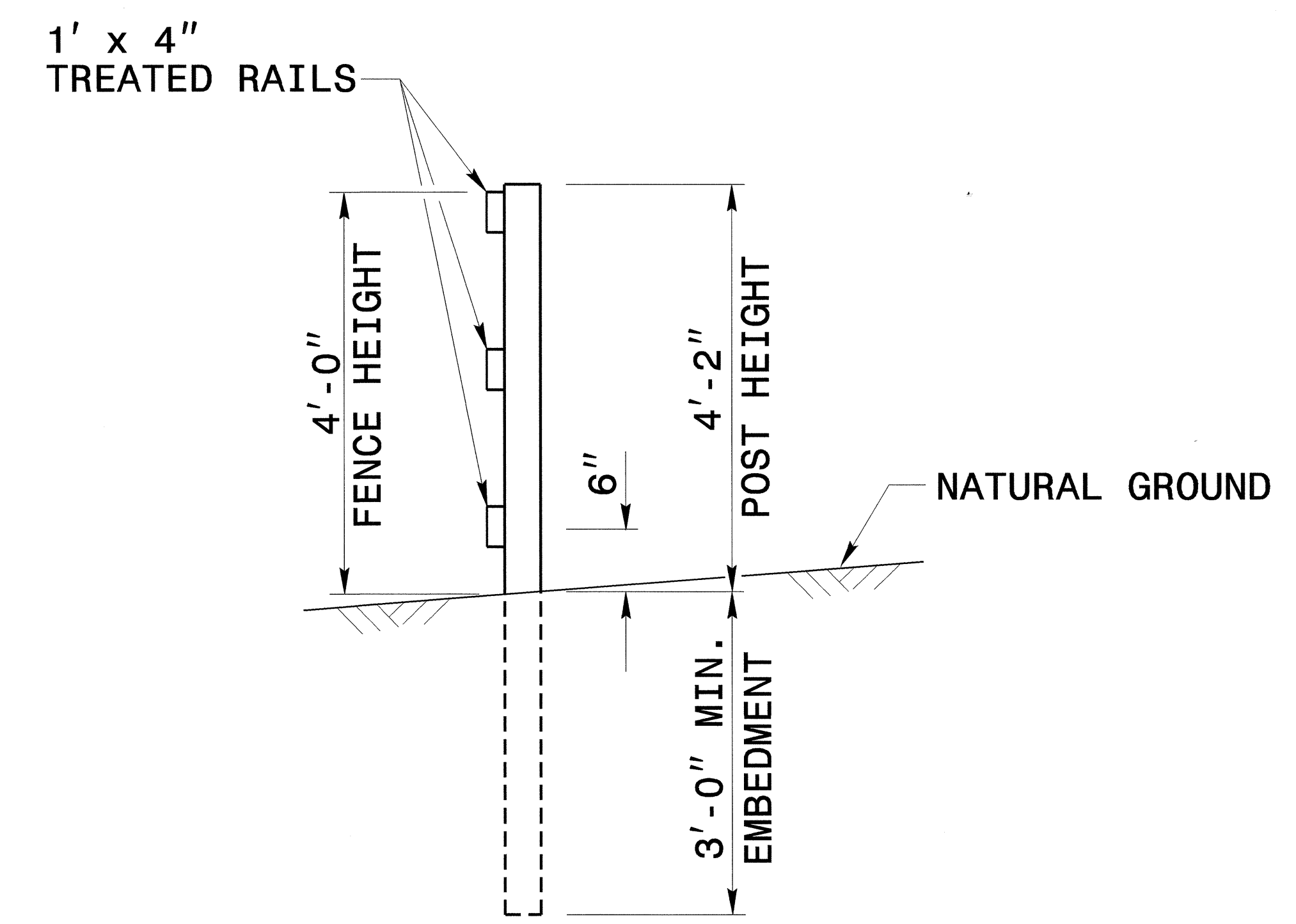
USE TYPICAL SECTION NO.2
FROM STA. 17+00.00 TO STA. 19+13.78
(BEGIN BRIDGE)
FROM STA. 20+51.28 (END BRIDGE) TO
STA. 22+75.00

5/14/99
20-NOV-2011 15:45
C:\Users\perry\Documents\Projects\B-4553_rdy_typ.dgn

5/14/99

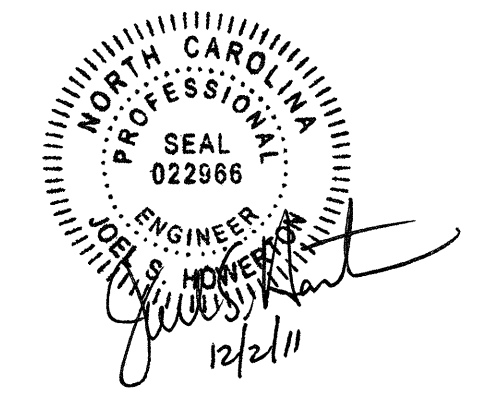


ELEVATION VIEW



SECTION VIEW

GENERAL NOTES:
 -PROVIDE TREATED LUMBER IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATION SECTION 1082.
 -PROVIDE GALVANIZED HARDWARE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATION SECTION 1076.
 -FASTEN 1" X 4" PLANKS WITH 16d GALVANIZED NAILS.



CONTRACT STANDARDS & DEVELOPMENT UNIT
STANDARDS AND SPECIAL DESIGN
 Office 919-250-4128 FAX 919-250-4119

WOODEN FENCE
 STA. 22+85 TO STA. 24+25 RT.

ORIGINAL BY: _____ DATE: _____
 MODIFIED BY: rnbritt DATE: 09-30-04
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: details/nrbritt/english/misc/woodfence.dgn

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202779

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (19+82.53)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	200	CY	UNDERCUT EXCAVATION
0195000000-E	265	500	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	1,200	SY	GEOTEXTILE FOR SOIL STABILIZATION
0318000000-E	300	20	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	55	SY	FOUNDATION CONDITIONING GEOTEXTILE
0335200000-E	305	60	LF	15" DRAINAGE PIPE
0335400000-E	305	76	LF	24" DRAINAGE PIPE
0582000000-E	310	20	LF	15" CS PIPE CULVERTS, 0.064" THICK
0636000000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (15", 0.064")
1099500000-E	505	200	CY	SHALLOW UNDERCUT
1099700000-E	505	400	TON	CLASS IV SUBGRADE STABILIZATION
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1489000000-E	610	325	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	250	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1575000000-E	620	32	TON	ASPHALT BINDER FOR PLANT MIX
2022000000-E	815	50	CY	SUBDRAIN EXCAVATION
2033000000-E	815	40	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	200	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	1	EA	SUBDRAIN PIPE OUTLET

ItemNumber	Sec #	Quantity	Unit	Description
2077000000-E	815	1	LF	6" OUTLET PIPE
2286000000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	1	LF	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	55	LF	SHOULDER BERM GUTTER
3030000000-E	862	150	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3500000000-E	866	75	LF	WOVEN WIRE FENCE, *** FABRIC (36")
3509000000-E	866	4	EA	4" TIMBER FENCE POSTS, 7'-6" LONG
3515000000-E	866	7	EA	5" TIMBER FENCE POSTS, 8'-0" LONG
3557000000-E	866	75	LF	ADDITIONAL BARBED WIRE
3559000000-E	866	260	LF	** STRAND BARBED WIRE FENCE WITH POSTS (3)
3575000000-E	SP	255	LF	GENERIC FENCING ITEM 48" WOODEN RAIL FENCE
3649000000-E	876	1	TON	RIP RAP, CLASS B
3656000000-E	876	830	SY	GEOTEXTILE FOR DRAINAGE
4400000000-E	1110	447	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	144	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	96	LF	BARRICADES (TYPE III)
4810000000-E	1205	5,000	LF	PAINT PAVEMENT MARKING LINES (4")
6000000000-E	1605	250	LF	TEMPORARY SILT FENCE
6006000000-E	1610	160	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	110	TON	STONE FOR EROSION CONTROL, CLASS B

ItemNumber	Sec #	Quantity	Unit	Description
6012000000-E	1610	205	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	250	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	300	LF	SAFETY FENCE
6030000000-E	1630	290	CY	SILT EXCAVATION
6036000000-E	1631	2,000	SY	MATting FOR EROSION CONTROL
6037000000-E	SP	60	SY	COIR FIBER MAT
6042000000-E	1632	150	LF	1/4" HARDWARE CLOTH
6070000000-N	1639	8	EA	SPECIAL STILLING BASINS
6071010000-E	SP	180	LF	WATTLE
6071020000-E	SP	25	LB	POLYACRYLAMIDE (PAM)
6071030000-E	1640	120	LF	COIR FIBER BAFFLE
6071050000-E	SP	4	EA	*** SKIMMER (1-1/2")
6084000000-E	1660	1.5	ACR	SEEDING & MULCHING
6087000000-E	1660	0.5	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	0.75	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	30	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL

5/28/99

08-NOV-2011 11:44
R:\Roadway\Projects\AR-2237C_Rdy_3_Sht.dgn
\$\$\$\$\$SUSTAINMENT\$\$\$\$\$

COMPUTED BY: S.W. HADDOCK DATE: 11/1/2011
 CHECKED BY: W.T. BEST DATE: 11/3/2011

PROJECT NO. B-4553 SHEET NO. 3-B

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
SUMMARY NO. 1					
16+75.00	19+13.75	117	542	425	
SUMMARY NO. 1 TOTAL		117	542	425	
SUMMARY NO. 2					
20+51.28	23+00.00	31	362	331	
SUMMARY NO. 2 TOTAL		31	362	331	
PROJECT TOTALS:					
		148	904	756	
EST. 5% FOR REPLACING TOPSOIL AT BORROW PIT					
				38	
GRAND TOTAL:					
		148		794	
SAY:		170		825	
UNDERCUT EXCAVATION		200 CY			
CLASS IV SUBGRADE STABILIZATION		400 TONS			
SHALLOW UNDERCUT		200 CY			

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 group.

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Clearing and Grubbing, Fine Grading, and Removal of Existing Pavement will be paid for at the Contract Lump Sum Price for "Grading".

SUMMARY OF WOVEN WIRE FENCE

Survey Line	Station	Station	Location	Fabric Ln. Ft.	4" Post Ea.	5" Post Ea.
-L-	22+46.41	23+00.00	RT	72	4	7
				TOTAL	4	7
				SAY	4	7

SUMMARY FOR 48" WOODEN RAIL FENCE

Survey Line	Station	Station	Location	Length Ln. Ft.	
-L-	16+75.00	19+18.93	LT	250.17	
				TOTAL	250.17
				SAY	255

SUMMARY FOR 3 STRAND BARBED WIRE FENCE WITH POSTES

Survey Line	Station	Station	Location	Length Ln. Ft.	
-L-	16+75.00	19+10.00	RT	257.00	
				TOTAL	257.00
				SAY	260
Additional Barbed Wire					
-L-	22+46.41	23+00.00	RT	72	
				TOTAL	72
				SAY	75

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

LINE	LOCATION	LT/RT/CL	SQUARE YARDS
EXISTING -L-	17+00.00 TO 19+18.86	CL	438
EXISTING -L-	20+38.78 TO 20+75.00	CL	72
TOTAL:			510
SAY:			520

Fine Grading, and Removal of Existing Pavement will be paid for at the Contract 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	REMARKS		
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPR. END	TRAIL. END			APPR. END	TRAIL. END	APPR. END	TRAIL. END	TL-3 GRAU 350	TYPE III	EA	G	NG						
-L-	18+32.50	19+13.75	RT	81.25'			19+13.75		4.5'	7.5'	37.5'		0.75'												
-L-	18+32.50	19+13.75	LT	81.25'				19+13.75	4.5'	7.5'		37.5'		0.75'											
-L-	20+51.28	21+32.53	RT	81.25'				20+51.28	4.5'	7.5'		37.5'		0.75'											
-L-	20+51.28	21+32.53	LT	81.25'			20+51.28		4.5'	7.5'	37.5'		0.75'												
SUB - TOTAL				325'																					
DEDUCTION FOR ANCHOR UNITS				-175'																					
TOTAL				-175'																					
SAY				150'																					
DEDUCTIONS FOR GUARDRAIL ANCHOR UNITS																									
																TYPE GRAU-350		4 @ 25.00' =		100'					
																TYPE III		4 @ 18.75' =		75'					
																TOTAL				175'					

5/14/99

PROJECT REFERENCE NO. B-4553	SHEET NO. 5
ROADWAY DESIGN ENGINEER GREGORY E. BREW	HYDRAULICS ENGINEER AMY A. BILLINGS
12-1-11	11/27/11

BM * 1 - BL - STA. 12+93.00 2 1/4' LEFT
RAILROAD SPIKE IN SOUTHERN MOST ROOT
OF A 28' WILLOW OAK
ELEV. = 731.45

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 5

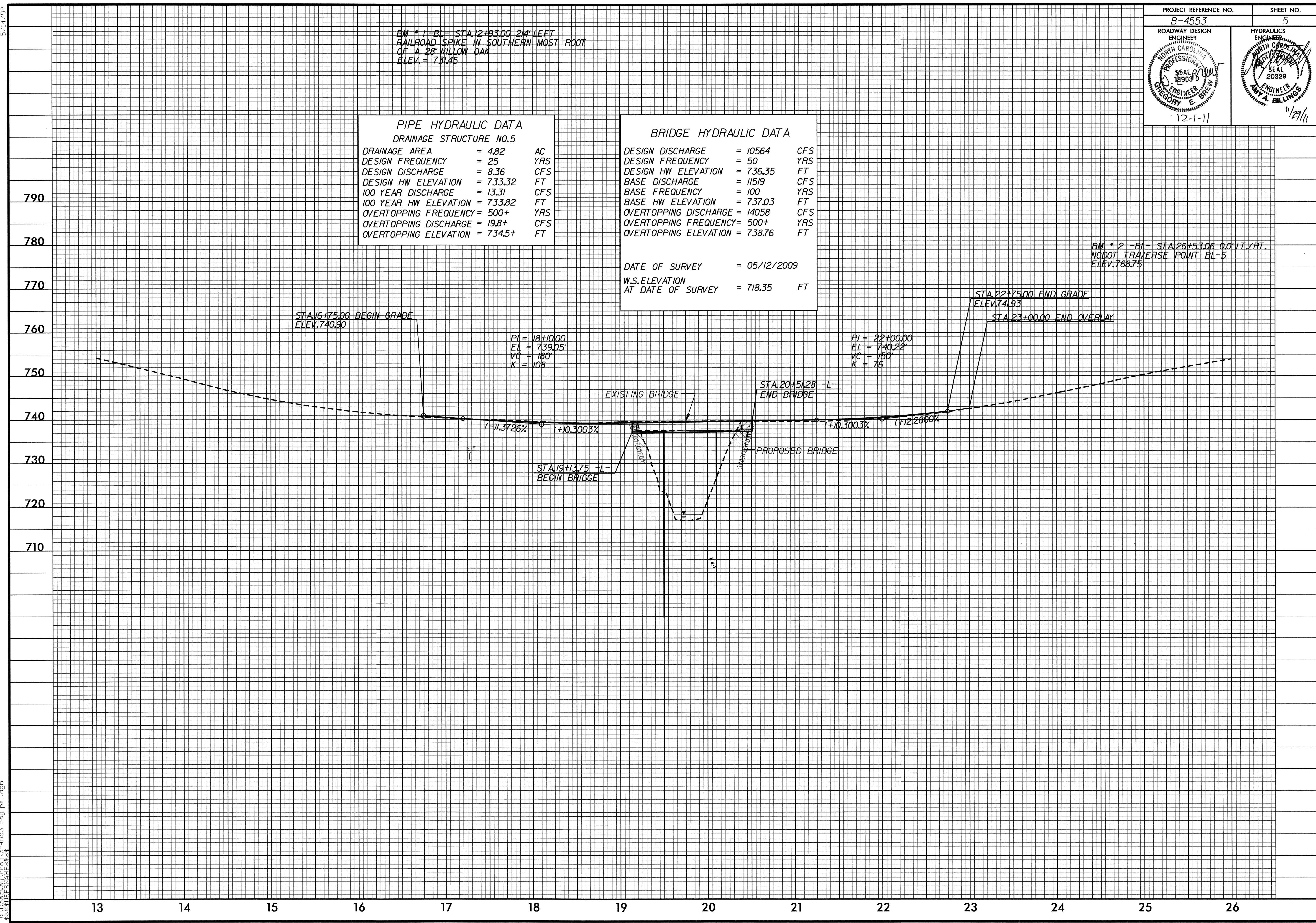
DRAINAGE AREA	= 4.82	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 8.36	CFS
DESIGN HW ELEVATION	= 733.32	FT
100 YEAR DISCHARGE	= 13.31	CFS
100 YEAR HW ELEVATION	= 733.82	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 19.8+	CFS
OVERTOPPING ELEVATION	= 734.5+	FT

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 10564	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 736.35	FT
BASE DISCHARGE	= 11519	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 737.03	FT
OVERTOPPING DISCHARGE	= 14058	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 738.76	FT

DATE OF SURVEY = 05/12/2009
W.S. ELEVATION AT DATE OF SURVEY = 718.35 FT

BM * 2 - BL - STA. 26+53.06 0.0' LT./RT.
NODOT TRAVERSE POINT BL-5
ELEV. 768.75



I5-NOV-2011 11:24
F:\Roadway\Projects\B-4553\rdy-pf1.dgn