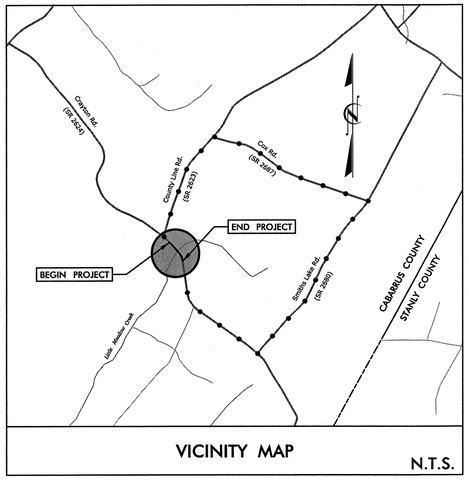
PROJECT: WBS 17BP.10.R.26

CONTRACT:

FINAL PLANS
1/2/2012

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



VICINITY MAP N.T.S.

FINAL PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CABARRUS COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.R.26	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
17BP.10.R.26		P.E.
17BP.10.R.26		R/W & UTILITIES
17BP.10.R.26		CONST.

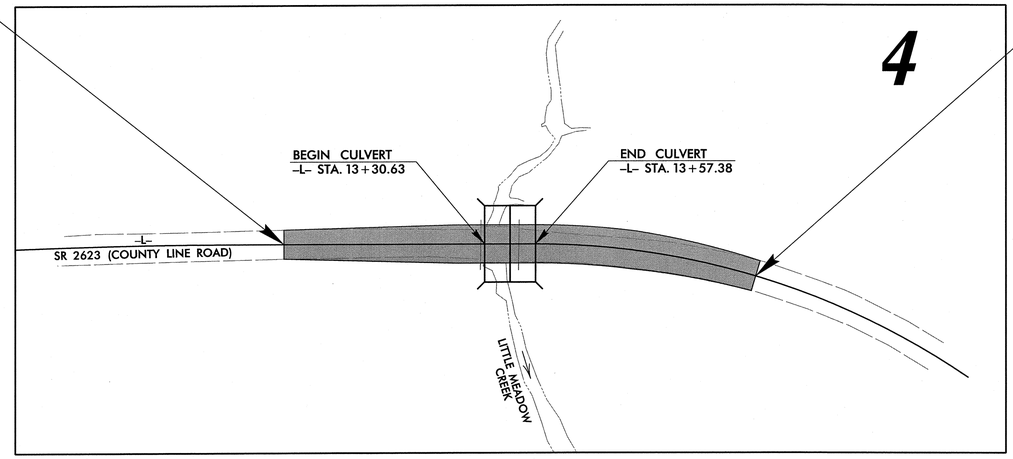
LOCATION: CULVERT #293 OVER LITTLE MEADOW CREEK ON SR 2623 (COUNTY LINE ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE & STRUCTURE

NAD 83 / NSRS 2007

BEGIN PROJECT WBS 17BP.10.R.26
–L– STA. 12+25.00

END PROJECT WBS 17BP.10.R.26
–L– STA. 14+75.00



← ***TO MT. PLEASANT***

TO LOCUST →

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

GRAPHIC SCALES

PLANS: 20 10 0 20 40

PROFILE (HORIZONTAL): 20 10 0 20 40

PROFILE (VERTICAL): 4 2 0 4 8

DESIGN DATA

ADT 2012 = 220
ADT 2035 = 370
DHV = N/A
D = N/A
T = 6%
V = 35 MPH

FUNC. CLASSIFICATION: LOCAL

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT WBS 17BP.10.R.26 = 0.042 MILES

LENGTH OF STRUCTURE PROJECT WBS 17BP.10.R.26 = 0.005 MILES

TOTAL LENGTH OF PROJECT WBS 17BP.10.R.26 = 0.047 MILES

NCDOT CONTACT: GARLAND HAYWOOD, PE
Division Bridge Manager

PLANS PREPARED FOR THE NCDOT BY:
STV/RALPH WHITEHEAD ASSOCIATES, INC.
1000 West Morehead St., Ste. 200, Charlotte NC, 28208
NC License Number F-0991

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 19, 2012

LETTING DATE: DECEMBER 19, 2012

NIKKI T. HONEYCUTT, PE
PROJECT ENGINEER

ALLISON DRAKE, EI
PROJECT DESIGNER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVID C. MORRISON

SIGNATURE: 11/14/12 *P.E.*

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 039234 ENGINEER NIKKI T. HONEYCUTT

SIGNATURE: 5NOV12 *P.E.*

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

PROJECT REFERENCE NO.	SHEET NO.
I7BPJ0.R.26	1-A
R/W SHEET NO.	

STV/ Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 039234 ENGINEER NIKKI T. HONEYCUTT

5/20/12

INDEX OF SHEETS

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
3	SUMMARIES AND TYPICALS
4	PLAN AND PROFILE SHEET
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
TCP-1 THRU TCP-2	TRAFFIC CONTROL PLANS
EC-1 THRU EC-4	EROSION CONTROL PLANS
X-1	CROSS-SECTIONS
C-1 THRU C-5	CULVERT PLANS

GENERAL NOTES

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-01-2012

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

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.

RIGHT-OF-WAY MARKERS:

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

STANDARD DRAWINGS

2012 ROADWAY ENGLISH STANDARD DRAWINGS EFF. January, 2012

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 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets
DIVISION 11 - WORK ZONE TRAFFIC CONTROL	
1110.01	Stationary Work Zone Signs - Mounting Height & Lateral Clearance
1145.01	Barricades - Type III
DIVISION 16 - EROSION CONTROL AND ROADSIDE DEVELOPMENT	
1605.01	Temporary Silt Fence
1606.01	Special Sediment Control Fence
1607.01	Gravel Construction Entrance
1622.01	Guide for Temporary Berms and Slope Drains
1630.06	Special Stilling Basin

11/2/2012 r:\roadway\proj\NOR26_rdy_pst01A.dgn

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
17BPJ0.R.26	1-B

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 — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- 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: Boundary or Site
- Potential Soil Contamination: Boundary or Site

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 — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — 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 Marker — RW
- 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
- Curb Cut Future Ramp — CCFR
- 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 — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H–Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

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

TV:

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

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (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
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- 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.

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.26	1-C
Location and Surveys	

SURVEY CONTROL SHEET

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1	577119.3810	1574167.0370	606.97	15+76.92	11.35 LT
2	BL-2	577346.2370	1574042.3890	605.81	13+20.87	13.68 LT
3	BL-3	577543.6160	1573855.4470	612.52	10+49.67	13.76 LT

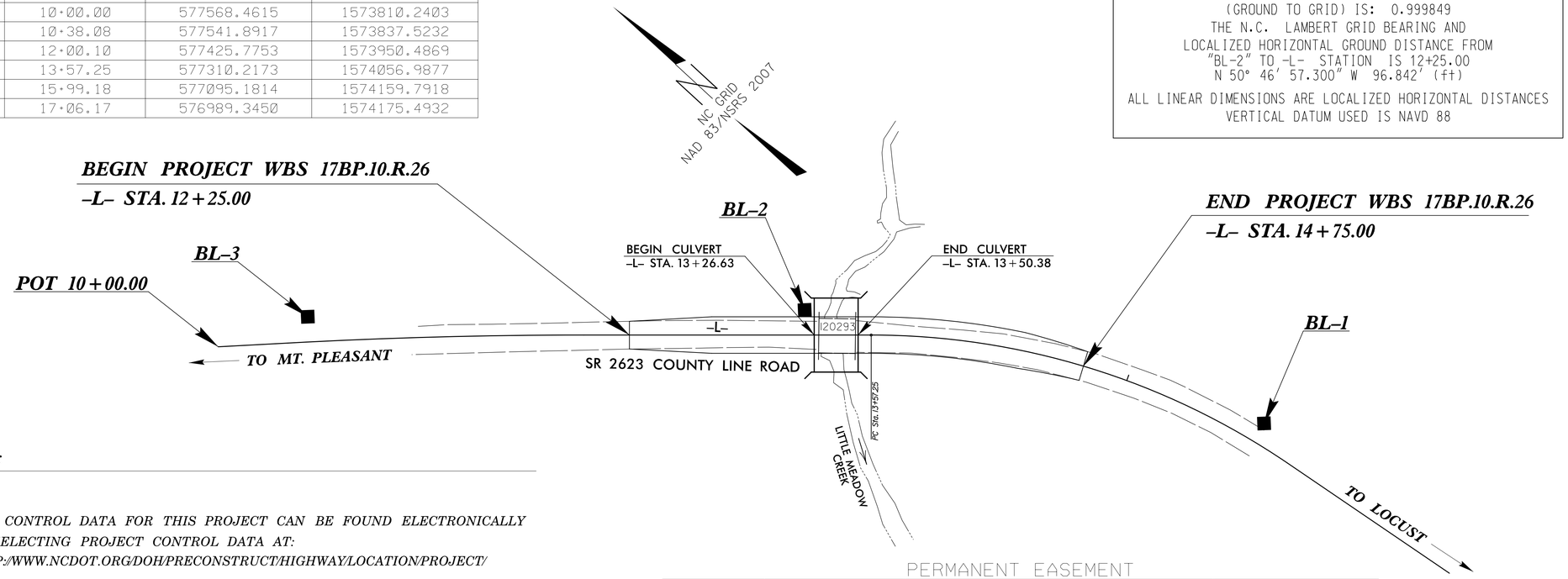
L

TYPE	STATION	NORTH	EAST
POT	10+00.00	577568.4615	1573810.2403
PC	10+38.08	577541.8917	1573837.5232
PT	12+00.10	577425.7753	1573950.4869
PC	13+57.25	577310.2173	1574056.9877
PT	15+99.18	577095.1814	1574159.7918
POT	17+06.17	576989.3450	1574175.4932

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-2"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 577346.237(ft) EASTING: 1574042.389(ft)
ELEVATION: 605.81(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999849
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-2" TO -L- STATION IS 12+25.00
N 50° 46' 57.300" W 96.842' (ft)

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



PERMANENT EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+05.00	25.08	577331.6440	1574003.1359
L	13+10.00	-24.89	577361.8279	1574043.2645
L	13+12.00	37.00	577318.4177	1573999.1129
L	13+15.00	-38.00	577367.0393	1574056.2962
L	13+30.00	-63.00	577372.9518	1574084.8452
L	13+44.00	68.00	577273.8781	1573998.0039
L	13+62.00	-67.00	577351.5324	1574109.9814
L	13+65.00	60.00	577264.6593	1574017.2938
L	13+70.00	25.73	577283.8736	1574046.0163
L	13+70.00	33.00	577279.1193	1574040.5202
L	13+75.00	-62.00	577336.8871	1574116.1136
L	13+80.00	-41.00	577319.1152	1574103.5875
L	14+65.00	-38.00	577239.7613	1574152.4035
L	15+00.00	-24.81	577200.0192	1574156.3579

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/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   120293_LS_CONTROL.TXT

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

3. *PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM. POSITIONS ESTABLISHED USING NCGS REAL TIME KINEMATIC NETWORK (VRS)*

   MONUMENTS USED OR SET FOR PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT:

- ⬢ *INDICATES GEODETIC CONTROL MONUMENTS FOR HORIZONTAL CONTROL*
- ■ *INDICATES BASELINE MONUMENTS FOR HORIZONTAL PROJECT CONTROL*
- ⋈ *INDICATES BENCHMARKS FOR VERTICAL PROJECT CONTROL*

NOTE: DRAWING NOT TO SCALE

R:\Roadway\Pro_N\0R26_rdy_psh01C.dgn

11/14/2012

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.26	3
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 039234 ENGINEER RICHARD T. HONEYCUTT
Richard T. Honeycutt 14 NOV 12

PAVEMENT DESIGN ENGINEER

PAVEMENT DESIGN PROVIDED BY NCDOT

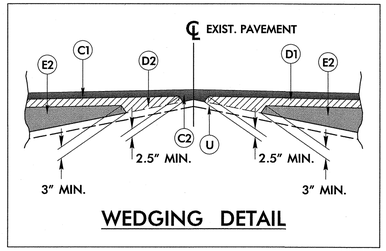
STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

EARTHWORK SUMMARY (IN CUBIC YARDS)

CHAIN	FROM STATION	TO STATION	SIDE	UNCL. EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
–L–	12+25.00	13+45.00	LT & RT	11		130	119	
SUBTOTAL SUMMARY NO. 1				11		130	119	
–L–	13+45.00	14+75.00	LT & RT	18		149	131	
SUBTOTAL SUMMARY NO. 2				18		149	131	
SUBTOTAL SUMMARY 1–2				29		279	250	
LOSS DUE TO CLEARING AND GRUBBING							118	
PROJECT TOTAL				29		279	368	
WASTE IN LIEU OF BORROW								
ESTIMATE 5% FOR TOPSOIL ON BORROW PITS							18	
GRAND TOTAL				29		279	386	
SAY				30			390	

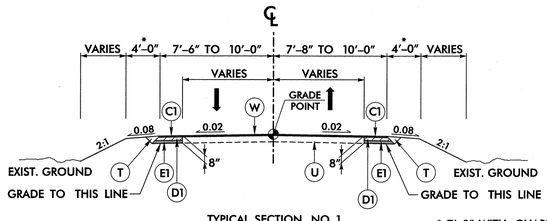
NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

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."



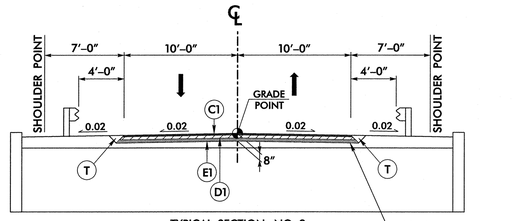
WEDGING DETAIL

	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. 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" IN DEPTH OR GREATER THAN 2.0" 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 2.5" 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 3.0" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	PAVEMENT WEDGING

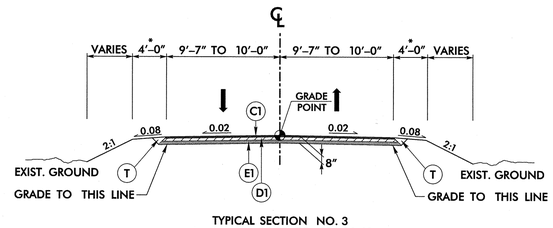


TYPICAL SECTION NO. 1
–L– STA. 12+25.00 TO 13+00.00
–L– STA. 13+80.00 TO 14+75.00

* 7'–0" WITH GUARDRAIL
** ALL PAVEMENT SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 2
–L– STA. 13+30.63 TO 13+57.38



TYPICAL SECTION NO. 3
–L– STA. 13+00.00 TO 13+30.63
–L– STA. 13+57.38 TO 13+80.00

* W MEASURED FROM "N" AT THE BEGINNING OF THE ANCHOR TO "N" AT THE END OF THE ANCHOR.
"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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH: STRAIGHT	LENGTH: SHOP CURVED	LENGTH: DOUBLE FACED	WARRANT POINT: APPROACH END	WARRANT POINT: TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH: APPROACH END	FLARE LENGTH: TRAILING END	W*: APPROACH END	W*: TRAILING END	ANCHORS: XI MOD	B–77	GRAU 350	M–350	TYPE III	CAT–1	VI MOD	BIC	AT–1	IMPACT ATTENUATOR TYPE 350: EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
–L–	12+81.50	14+04.72	LT	125.00			13+26.96	13+60.83	4.00–6.60	7.00–8.60	50.00′	50.00′	1.00′	2.60′			2														
–L–	12+81.50	14+08.30	RT	125.00			13+61.18	13+26.88	4.00–5.00	7.00–8.00	50.00′	50.00′	1.00′	1.00′			2														
			TOTAL:	250.00													4													
			TOTAL ANCHOR LENGTH:	200.00																											
			TOTAL GUARDRAIL LENGTH:	50.00																											
			SAY:	50.00																											

R:\Roadway\Pro\N0R26_rdy_psh03.dgn
11/14/2012

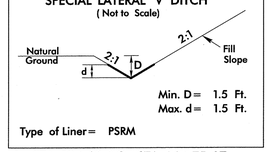
PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.26	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 039234 ENGINEER PETER J. HOFGARD — 5/10/12

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 038082 ENGINEER CLAIRE C. MORRISON — 11/14/12

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.5 Ft.
Max. d = 1.5 Ft.

Type of Liner = PSRM

-L- STA. 13+60 TO STA. 14+75 LT.
-L- STA. 12+75 TO STA. 13+25 RT.

NAD 83 NSRS 2007

PI Sta 11+19.11
△ = 3° 05' 39.6" (RT)
D = 1° 54' 35.5"
L = 162.02'
T = 81.03'
R = 3,000.00'

BEGIN PROJECT WBS 17BP.10.R.26
-L- POT 12+25.00

PC Sta. 10+38.08

PT Sta. 12+00.10

PI Sta 14+81.95
△ = 34° 13' 32.7" (RT)
D = 14° 08' 49.6"
L = 241.93'
T = 124.69'
R = 405.00'

PT Sta. 15+99.18

END CULVERT
-L- STA. 13+57.38

END PROJECT WBS 17BP.10.R.26
-L- POC 14+75.00

SR 2623 COUNTY LINE ROAD 15'BST

S 42° 39' 51.6" E

-L- COUNTY LINE ROAD

EXISTING R/W

5SELECW

GRAU-350

T FO

BL-1

BL-2

BL-3

RUTH B SMITH
DB 831 PG 424
DB 506 PG 090

150 TN CLASS I RIP RAP W/
120 SY GEO FABRIC FOR DRAINAGE

75 TN CLASS I RIP RAP W/
60 SY GEO FABRIC FOR DRAINAGE

SPECIAL LATERAL
'V' DITCH
SEE DETAIL A

BEGIN CULVERT
-L- STA. 13+30.63

90' TAPER
TO EXIST
(LT&RT)

65' TAPER
TO EXIST
(LT&RT)

+20.87
13.68' LT

+49.67
13.76' LT

+81.50
(LT&RT)

+76.92
11.35' LT

+60.60

+04.72

+08.30

+23.30

16.1'
(TYP.)

50.40'

7.5'

7.7'

8.2'

40'

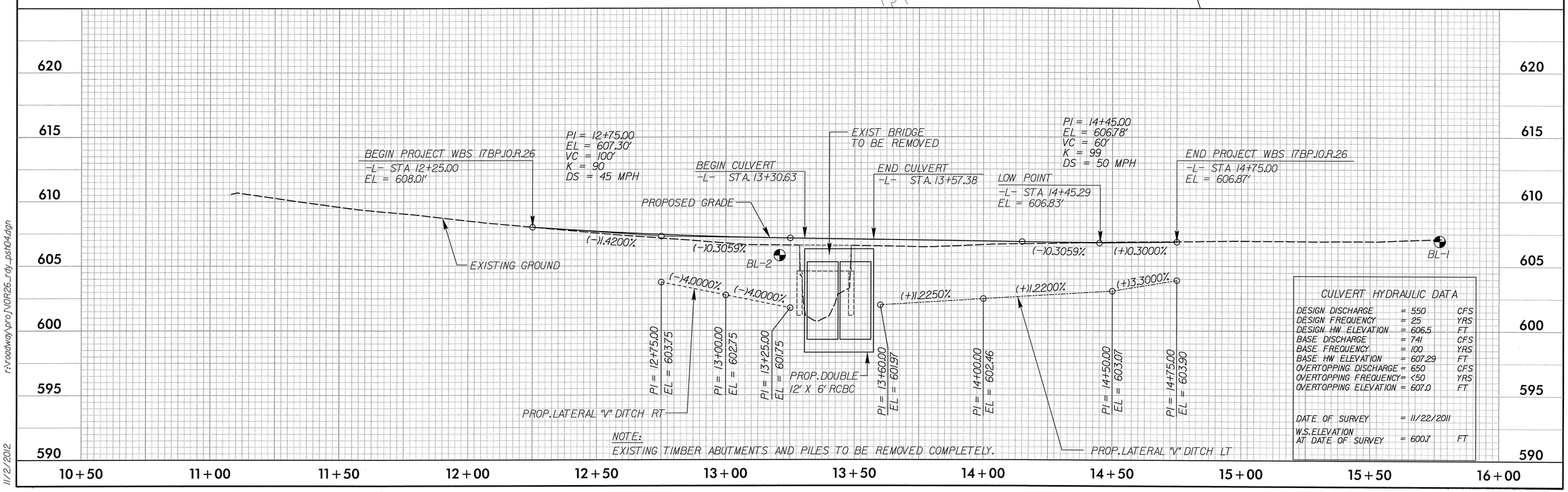
10'

65.00'

50.00'

LITTLE MEADOW CREEK

NOTE: INCIDENTAL MILL APPROX 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 550	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 606.5	FT
BASE DISCHARGE	= 741	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 607.29	FT
OVERTOPPING DISCHARGE	= 650	CFS
OVERTOPPING FREQUENCY	= <50	YRS
OVERTOPPING ELEVATION	= 607.0	FT
DATE OF SURVEY	= 11/22/2011	
W.S. ELEVATION AT DATE OF SURVEY	= 600.7	FT

r:\roadway\pro\NOR26_rdy_pshO4.dgn
11/2/2012

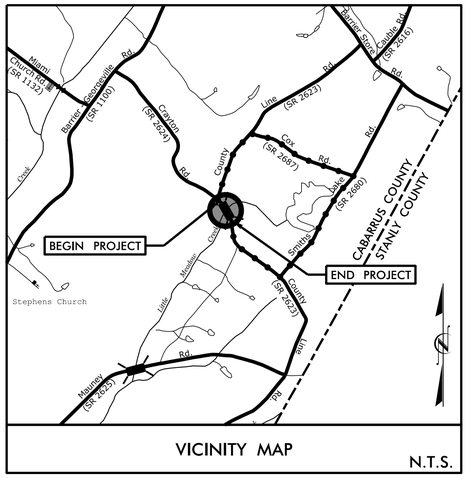
PROJECT: WBS 17BP.10.R.26

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

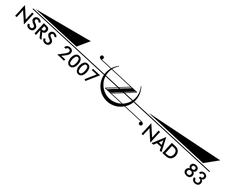
T.I.P. NO.	SHEET NO.
17BP.10.R.26	UO–1

UTILITIES BY OTHERS PLANS
CABARRUS COUNTY



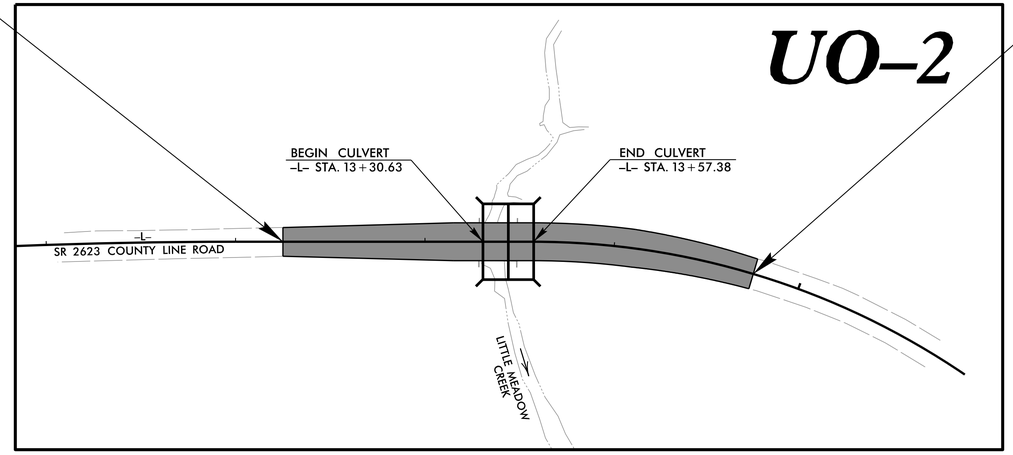
LOCATION: BRIDGE #293 OVER LITTLE MEADOW CREEK
ON SR 2623 (COUNTY LINE ROAD)

TYPE OF WORK: TELEPHONE

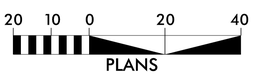


BEGIN PROJECT WBS 17BP.10.R.26
–L– STA. 12+25.00

END PROJECT WBS 17BP.10.R.26
–L– STA. 14+75.00



GRAPHIC SCALES



INDEX OF SHEETS

UTILITY OWNERS ON PROJECT

(1) TELEPHONE – WINDSTREAM

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER REECE M. SCHULER
11/02/2012

Vaughn & Melton
Consulting Engineers
3089-L Beam Road
Charlotte, NC 28217
704-357-0488

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION
1591 MAIL SERVICES CENTER
RALEIGH NC 27699–1591
PHONE (919) 250–4128
FAX (919) 250–4119

Roger Worthington, P.E. — UTILITIES SECTION ENGINEER
Xxxxx Xxxxx, P.E. — UTILITIES SQUAD LEADER PROJECT ENGINEER
Reece Schuler, PE — UTILITIES PROJECT DESIGNER

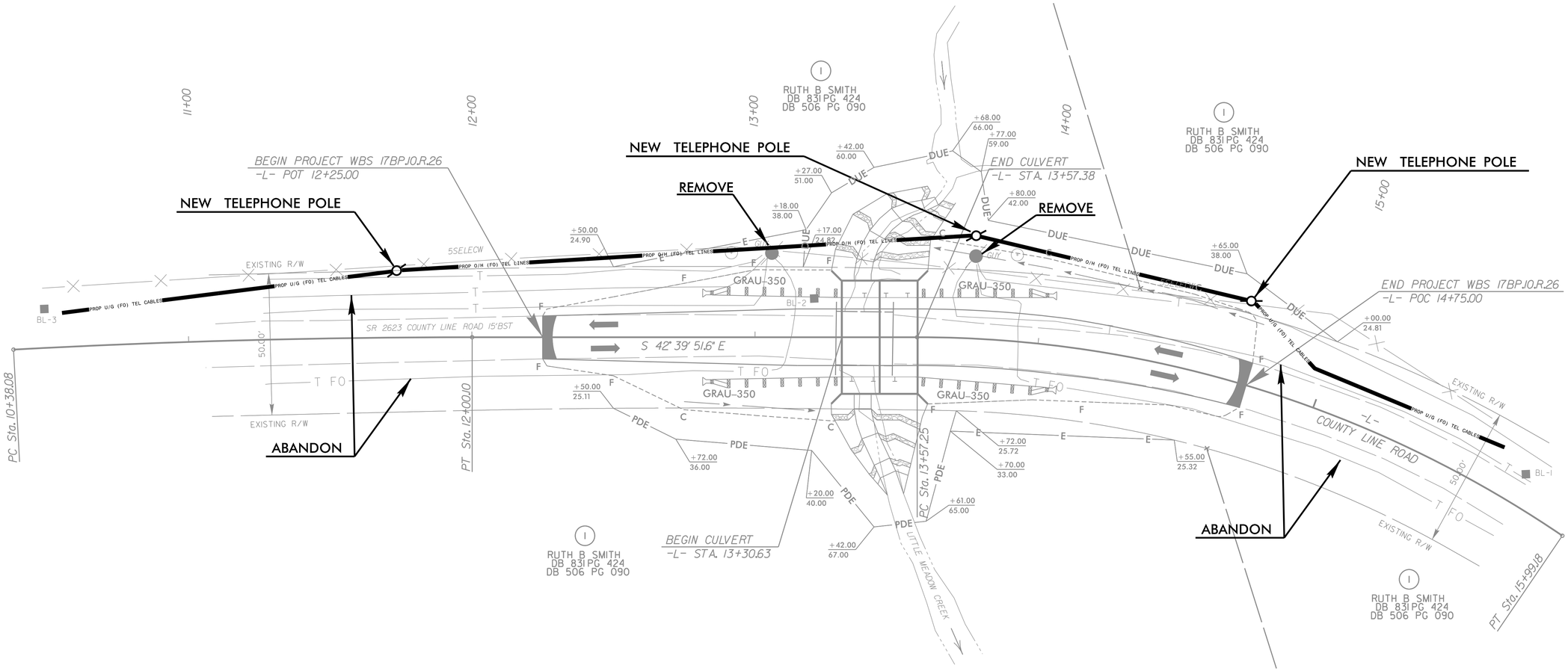
PROJECT REFERENCE NO.	SHEET NO.
WBS 17BP.10.R.26	U0-2

UTILITIES BY OTHERS

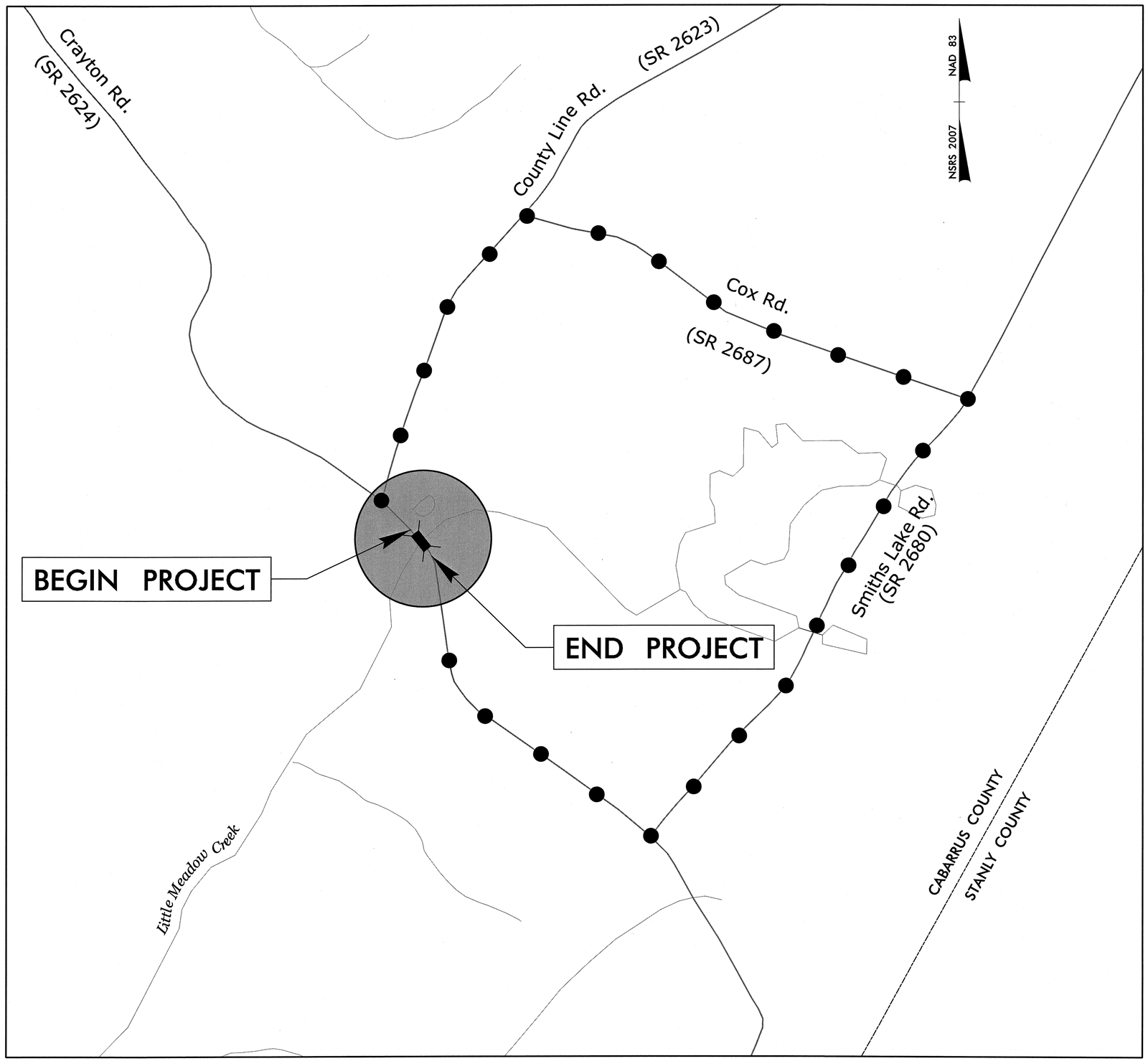
NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

Vaughn & Melton
Consulting Engineers
Asheville, North Carolina 828-253-2796
Tri-Cities, Tennessee 423-467-8410
Knoxville, Tennessee 865 546-5800
Middlesboro, Kentucky 606-248-6600
Charlotte, North Carolina 704-357-0488
Spartanburg, South Carolina 864-574-4775

REVISIONS
8/17/99



DETOUR ROUTE



PROJECT REFERENCE NO.	SHEET NO.
17BPJ0.R.26	TCP-1
R/W SHEET NO.	

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 039234 ENGINEER NIKKI T. HONEYCUTT

5/10/12

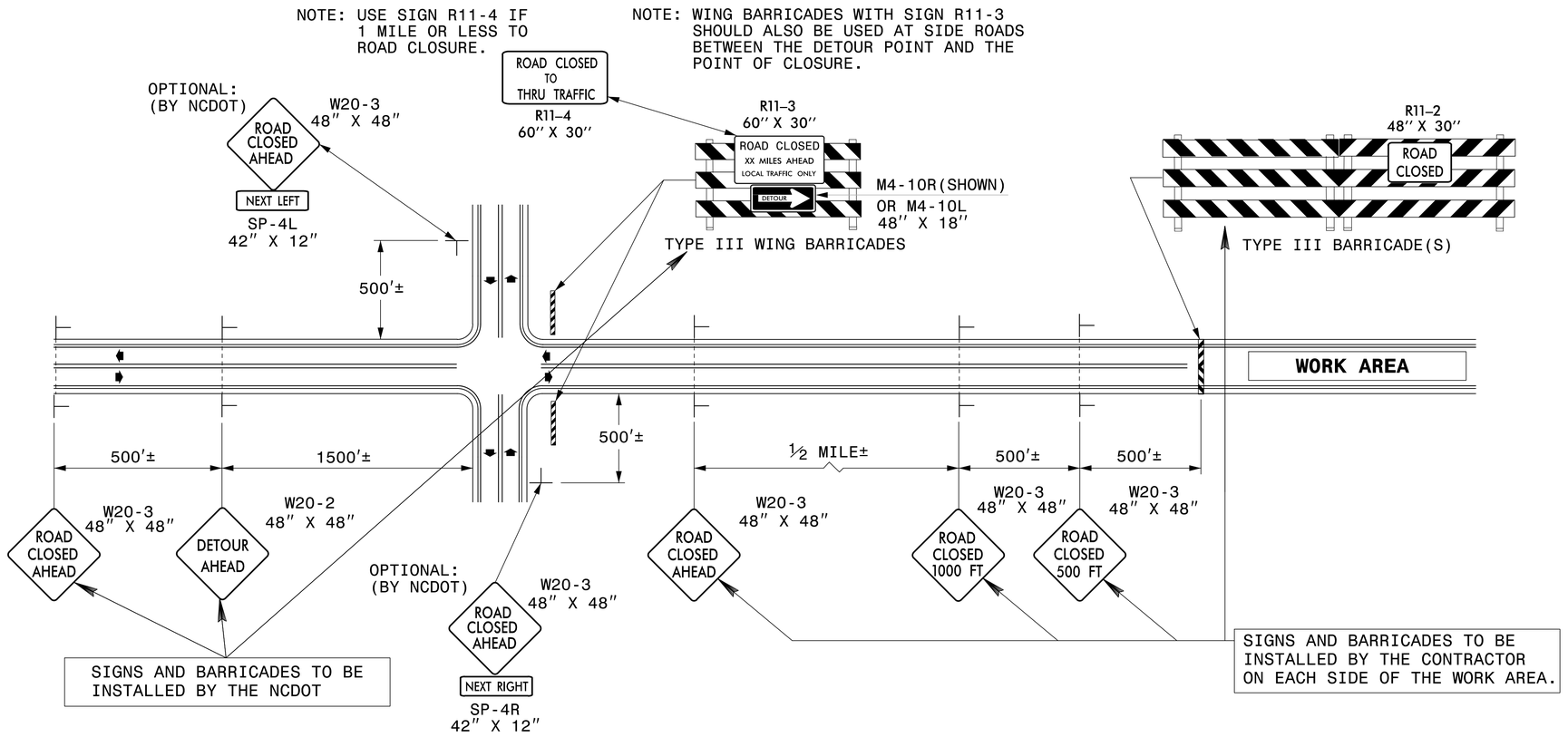
r:\Traffic\Traffic Control\TCP\0R26_rdy_tcp01.dgn

11/2/2012

PROJECT REFERENCE NO.	SHEET NO.
17BPJ0.R.26	TCP-2
R/W SHEET NO.	

TEMPORARY ROAD CLOSURE

CLOSURE BEYOND DETOUR POINT



GENERAL NOTES

1-IF NECESSARY USE THIS STD. FOR TWO-LANE, TWO-WAY, AND MULTILANE DIVIDED AND UNDIVIDED ROADWAYS.

2-INSTALLATION OF DETOUR ROUTING PANELS, TEMPORARY ROUTE MARKERS, DESTINATION SIGNS, AND ANY NECESSARY MODIFICATIONS TO EXISTING OR PROPOSED REGULATORY OR WARNING SIGNS WILL BE MADE BY NCDOT FORCES UNLESS OTHERWISE DESIGNATED IN THE PLANS. PROVIDE A MINIMUM 21 CALENDAR DAY NOTICE TO STATE FORCES BEFORE A ROADWAY IS CLOSED TO TRAFFIC SUCH THAT THE NECESSARY PROVISIONS CAN BE MADE TO INSTALL DETOUR ROUTE SIGNS, INFORM LOCAL EMERGENCY AND LAW ENFORCEMENT PERSONNEL, SCHOOLS, OR ANY OTHER PARTIES AFFECTED BY THE ROAD CLOSURE.

3-INSTALL SIGNS BEFORE THE BARRICADES WHEN CLOSING THE ROADWAY TO TRAFFIC. REMOVE BARRICADES BEFORE SIGNS WHEN OPENING THE ROADWAY TO TRAFFIC. INSTALL/REMOVE SIGNS AND BARRICADES WITHIN THE SAME CALENDAR DAY.

4-USE ADDITIONAL TYPE III BARRICADES IN STAGGERED LOCATIONS SUPPLEMENTED WITH SIGN R11-4 "ROAD CLOSED TO THRU TRAFFIC" IN THE EVENT THAT TRAFFIC MUST BE MAINTAINED BEYOND THE DETOUR POINT.

5-DO NOT DISPLAY FRACTIONS OR DECIMALS ON SIGN R11-3 "ROAD CLOSED XX MILES AHEAD".

6-POSITION WING BARRICADES ON THE SHOULDERS AND SLOPE THE STRIPES DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING.

7-USE PORTABLE SIGNS IF ROAD CLOSURE IS TO BE IMPLEMENTED FOR LESS THAN ONE DAY OR FOR EMERGENCIES.

LEGEND

- ├ STATIONARY SIGN
- ⬮ DIRECTION OF TRAFFIC FLOW

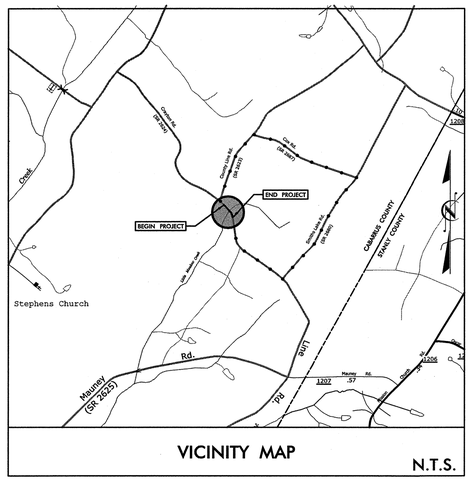
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.R.26	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
17BP.10.R.26		P.E.
17BP.10.R.26		R/W & UTILITIES
17BP.10.R.26		CONST.

PROJECT: WBS 17BP.10.R.26

CONTRACT:

EROSION CONTROL PLANS



VICINITY MAP N.T.S.

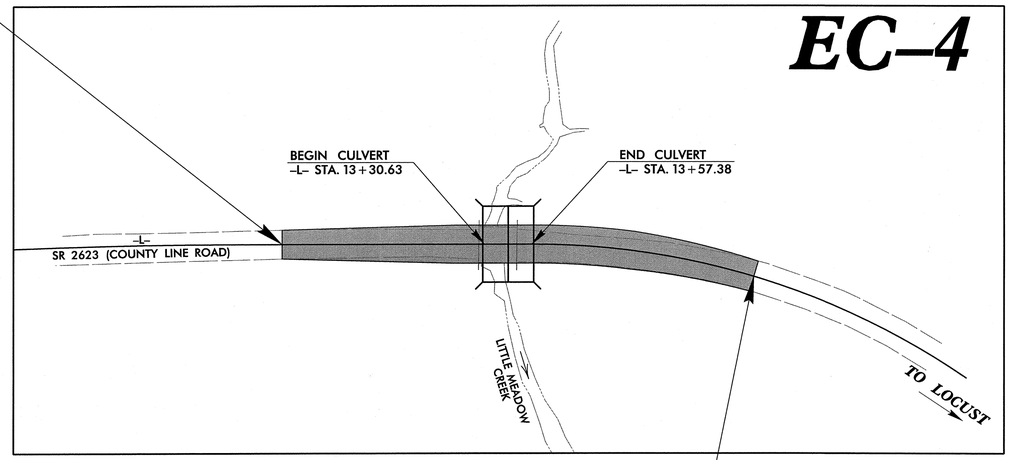
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
CABARRUS COUNTY

LOCATION: BRIDGE #293 OVER LITTLE MEADOW CREEK ON SR 2623 (COUNTY LINE ROAD)

NAD 83 NSRS 2007

BEGIN PROJECT WBS 17BP.10.R.26
–L– STA. 12+25.00

EC–4



← *TO MT. PLEASANT*

END PROJECT WBS 17BP.10.R.26
–L– STA. 14+75.00

These Erosion and Sediment Control Plans comply with the regulations set forth by the NCG010000 general construction permit effective August 3, 2011 issued by the North Carolina Department of Environment and Natural resources Division of Water Quality.

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

EROSION AND SEDIMENT CONTROL MEASURES

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1607.01	Gravel Construction Entrance	
1622.01	Temporary Berms and Slope Drains	
1630.01	Riser Basin	
1630.03	Temporary Silt Ditch	TRD
1630.04	Stilling Basin	
1630.05	Temporary Diversion	TD
1630.06	Special Stilling Basin	
1632.01	Rock Inlet Sediment Trap Type A	A
1632.02	Rock Inlet Sediment Trap Type B	B
1632.03	Rock Inlet Sediment Trap Type C	C
1633.01	Temporary Rock Silt Check Type-A	
1633.02	Temporary Rock Silt Check Type-B	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
SP	Silt Basin Type B	
SP	Skimmer Basin	
SP	Tiered Skimmer Basin	
SP	Infiltration Basin	
SP	Wattle	
SP	Wattle w/ Polyacrylamide (PAM)	
SP	Coir Fiber Matting	

GRAPHIC SCALE

20 10 0 20 40

PLANS

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Level III Designer
Davin Morrison, PE #3126

NORTH CAROLINA PROFESSIONAL SEAL 038059 ENGINEER DAVIN C. MORRISON
11/14/12

Prepared In the Office of:

STV/RALPH WHITEHEAD ASSOCIATES, INC.
1000 West Morehead St., Ste. 200, Charlotte NC, 28208
NC License Number F-0991
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

EROSION CONTROL PLANS
11/2/2012

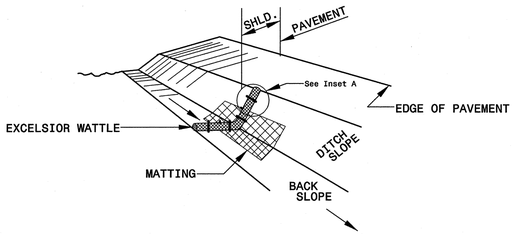
PROJECT REFERENCE NO.	SHEET NO.
I7BPJ0.R.2	EC-2
R/W SHEET NO.	

STV/ Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

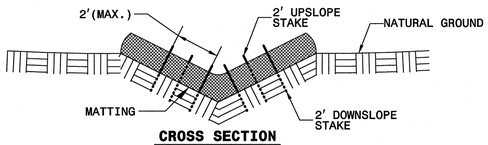
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038057 ENGINEER KEVIN C. MORRISON
11/14/12

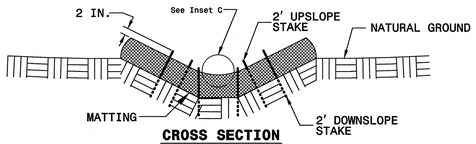
WATTLE WITH POLYACRYLAMIDE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

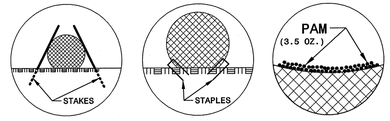
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

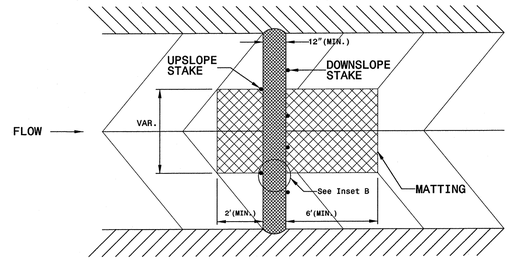
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



INSET A INSET B INSET C



TOP VIEW

STABILIZATION REQUIREMENTS

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective August 3, 2011 issued by the North Carolina Department of Environment and Natural Resources Division of Water Quality. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

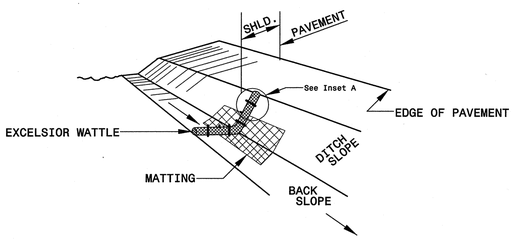
· Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less

· Slopes 3:1 or flatter, with a slope of length of 50 ft. or less

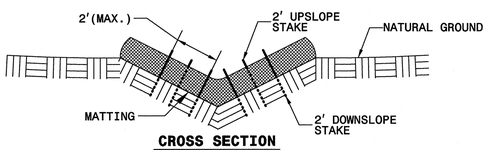
· Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

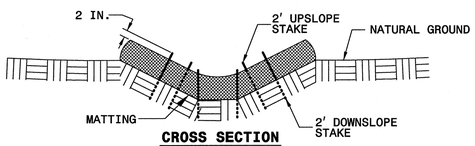
WATTLE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.

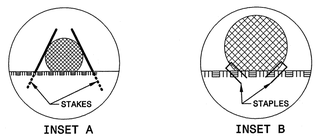
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

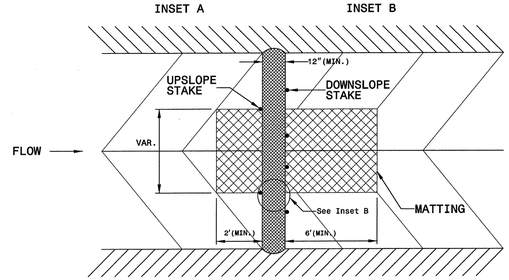
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

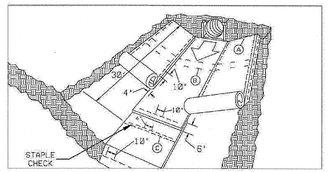


INSET A INSET B



TOP VIEW

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

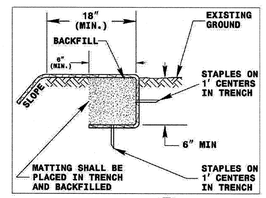
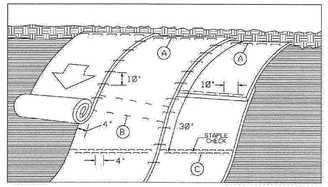


DIAGRAM (A)



MATTING ON SLOPES

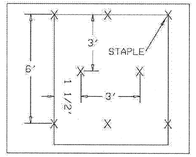


DIAGRAM (B)

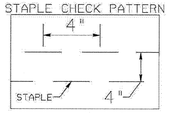


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

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11/2/2012

PROJECT REFERENCE NO.	SHEET NO.
17BPJ0.R.2	EC-3
R/W SHEET NO.	

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038088 ENGINEER BRYAN C. MORRISON
11/14/12

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL (FOR SLOPE STABILIZATION)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
				SUBTOTAL	500
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					50
				TOTAL	550
				SAY	550

PERMANENT SOIL REINFORCEMENT MATTING (FOR DITCH STABILIZATION)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L- V-DITCH	13+60	14+75	LT	80
4	-L- V-DITCH	12+75	13+25	RT	35
				SUBTOTAL	115
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					15
				TOTAL	130
				SAY	130

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PROJECT REFERENCE NO.	SHEET NO.
17BPJ0.R.26	EC-4
R/W SHEET NO.	

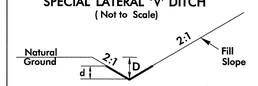
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038027 ENGINEER DAVID C. MORRISON
11/9/12

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

NAD 83 / NSRS 2007

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.5 Ft.
Max. d = 1.5 Ft.

Type of Liner = PSRM

-L- STA. 13+60 TO STA. 14+75 LT.
-L- STA. 12+75 TO STA. 13+25 RT.

11+00 12+00 13+00 14+00 15+00

RUTH B SMITH DB 831 PG 424 DB 506 PG 090

Floating Turbidity Curtain, Modify and Remove as Work Progresses

Place Matting for Erosion Control on Slope as Work Progresses

TEMP. WATTLE WEIR HEIGHT = 1.0' (TYP.)

TEMP. WATTLE W/PAM WEIR HEIGHT = 1.0' (TYP.)

DUE

PDE

EXISTING R/W

50.00'

SR 2623 COUNTY LINE ROAD 15'BST

5SELECW

TEMP. SILT FENCE (TYP.)

SPECIAL SEDIMENT CONTROL FENCE OUTLETS SPACED MAX 50 FT APART (TYP.)

LITTLE MEADOW CREEK

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	17BP.10.R.26	X-1

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

610 / 605 / 600

606.83
0.020 0.067
606.85
S.S. 604.18
2:1 2:1 2:1 2:1
603.07
S.S. 605.49

14+50

606.92
0.020 0.036
606.64
S.S. 604.09
2:1 2:1 2:1
602.46
S.S. 604.52

14+00

END CULVERT 13+57.38

607.07
0.020 0.020 0.020 0.020
606.57
S.S. 603.17
2:1
S.S. 600.18

13+50

BEGIN CULVERT 13+30.63

607.26
0.004 0.020
606.77
2:1 2:1 2:1
S.S. 603.51
S.S. 604.32
602.75

13+00

607.69
0.020 0.020
607.55
2:1 2:1
S.S. 606.65
S.S. 606.91

12+50

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."

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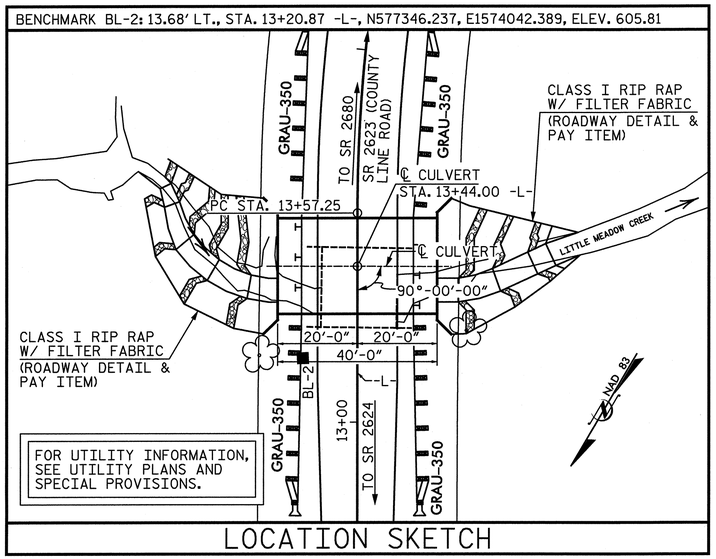


LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE: 550 CFS
FREQUENCY OF DESIGN FLOOD: 25 YRS.
DESIGN HIGH WATER ELEVATION: 606.5
DRAINAGE AREA: 1.0 SQ. MI.
BASIC DISCHARGE (Q100): 741 CFS
BASIC HIGH WATER ELEVATION: 607.29

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE: 650 CFS
FREQUENCY OF OVERTOPPING FLOOD: <50 YRS.
OVERTOPPING FLOOD ELEVATION: 607.0

GRADE DATA

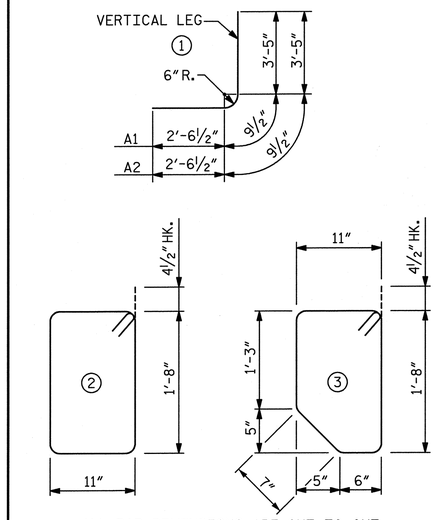
GRADE POINT ELEVATION @ STA. 13+44.00 -L- 607.09

BED ELEVATION @ STA. 13+44.00 -L- 600.30◆

ROADWAY FILL SLOPES 2:1 (MAX)

◆CULVERT INVERT TO BE BURIED 1'-0"

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF REINFORCING FOR BARREL

MARK	NO.	SIZE	TYPE	LENGTH	WEIGHT
A100	80	#5	STR	26'-5"	2,204
A200	80	#5	STR	26'-5"	2,204
A300	80	#5	STR	26'-5"	2,204
A400	80	#5	STR	26'-5"	2,204
A1	160	#5	①	6'-9"	1,126
A2	160	#5	①	6'-9"	1,126
B1	106	#4	STR	7'-7"	537
B2	160	#5	STR	5'-4"	890
B3	106	#4	STR	7'-7"	537
C1	143	#4	STR	12'-2"	1,162
C2	143	#4	STR	30'-0"	2,866
D1	16	#6	STR	2'-7"	62
D2	8	#6	STR	1'-7"	19
G1	12	#6	STR	26'-5"	476
S1	26	#4	②	5'-11"	103
S2	26	#4	③	5'-8"	98

TOTAL BARREL REINFORCING STEEL = 17,818 LBS.

NOTES

ASSUMED LIVE LOAD ---------- HL-93

DESIGN FILL---------- 1.77'

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

THE EXISTING STRUCTURE CONSISTING OF A SINGLE 21' TIMBER DECK ON STEEL I-BEAM SPAN WITH A CLEAR ROADWAY WIDTH OF 19.3', SUPPORTED BY TIMBER CAPS AND POSTS, AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "REMOVAL OF EXISTING STRUCTURE AT STA 13+44.00".

FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTE SHEET.

3"Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT AND SILLS AND BAFFLES.
3. ROOF SLAB AND HEADWALLS.

DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET (SHEET C-5 OF 5).

STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR WALLS ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE 3'-0" FOR #5 BARS AND 2'-5" FOR #4 BARS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

AT THE CONTRACTOR'S OPTION, HE MAY SUBMIT TO THE ENGINEER FOR APPROVAL DESIGN AND DETAILED DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

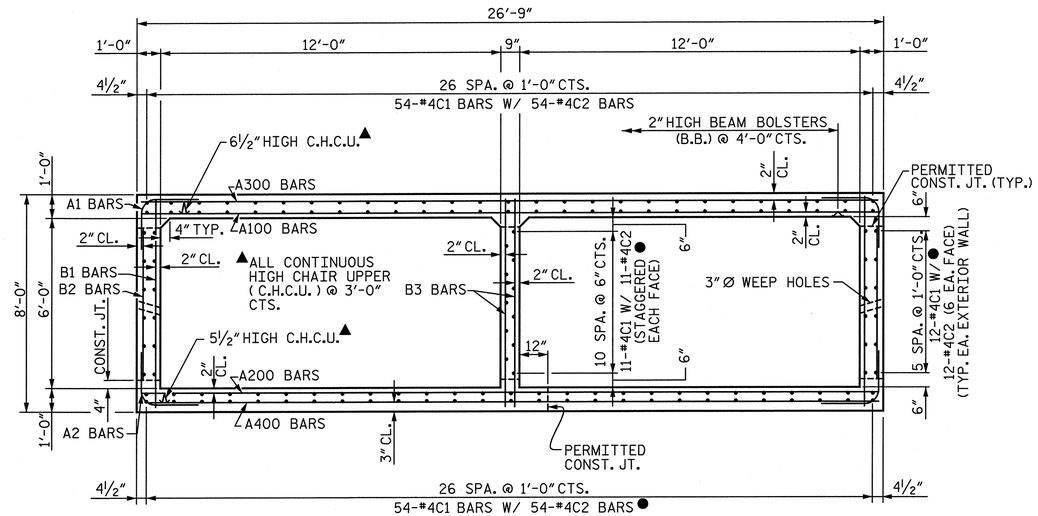
A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

EXCAVATE 1 FOOT BELOW CULVERT AND FOOTING AND REPLACE WITH FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH ARTICLE 414 OF THE STANDARD SPECIFICATIONS.

THE SCOUR CRITICAL ELEVATION IS THE BOTTOM OF FOOTING OR BASE SLAB ELEVATION. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

NO WORK SHALL BE DONE ON THE CULVERT UNTIL THE AREA OF THE BOX CULVERT HAS BEEN UNDERCUT AND UNSUITABLE MATERIAL REPLACED WITH SUITABLE MATERIAL, PROPERLY COMPACTED TO THE ELEVATION OF THE BOTTOM OF THE PROPOSED FLOOR SLAB. THE LIMITS OF THE UNDERCUT EXCAVATION SHALL BE AT LEAST THE LIMITS OF THE BOX CULVERT INCLUDING THE WINGS.

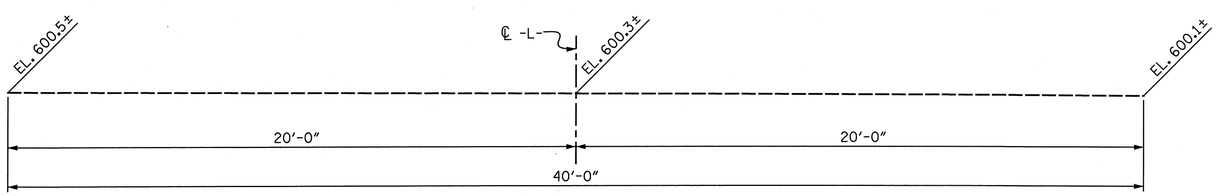
THE REQUIRED BEARING CAPACITY OF THE SPREAD FOOTINGS AND BASE SLAB IS 4 TSF. THE REQUIRED BEARING CAPACITY SHALL BE VERIFIED.



RIGHT ANGLE SECTION OF BARREL

THERE ARE 143 "C" BARS IN SECTION OF BARREL.

●SPLICE LENGTH FOR C1/C2 BARS = 2'-5"



PROFILE ALONG ℄ CULVERT

TOTAL STRUCTURE QUANTITIES

REMOVAL OF EXISTING STRUCTURE AT STA 13+44.00	LUMP SUM
CULVERT EXCAVATION STA 13+44.00	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	
TOTAL:	76 TONS
CLASS AA CONCRETE	
BARREL:	2.6 CY/FT = 104.0 C.Y.
WINGS, ETC.:	26.3 C.Y.
TOTAL:	130.3 C.Y.
REINFORCING STEEL	
BARREL:	17,818 LBS.
WINGS, ETC.:	1,749 LBS.
TOTAL:	19,567 LBS.

DRAWN BY : JWJ DATE : 8-12
CHECKED BY : JAD DATE : 8-12

PROJECT NO. 17BP.10.R.26
CABARRUS COUNTY
STATION: 13+44.00 -L-

REPLACES BRIDGE NO. 293

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DOUBLE BARREL 12 FT. X 6 FT. CONCRETE BOX CULVERT 90° SKEW

NORTH CAROLINA PROFESSIONAL SEAL 038640 ENGINEER WESLEY JONES
10/19/12

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St. Ste. 200
Charlotte, NC 28208
NC License No. F-0991

REVISIONS						SHEET NO.
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2			4			5

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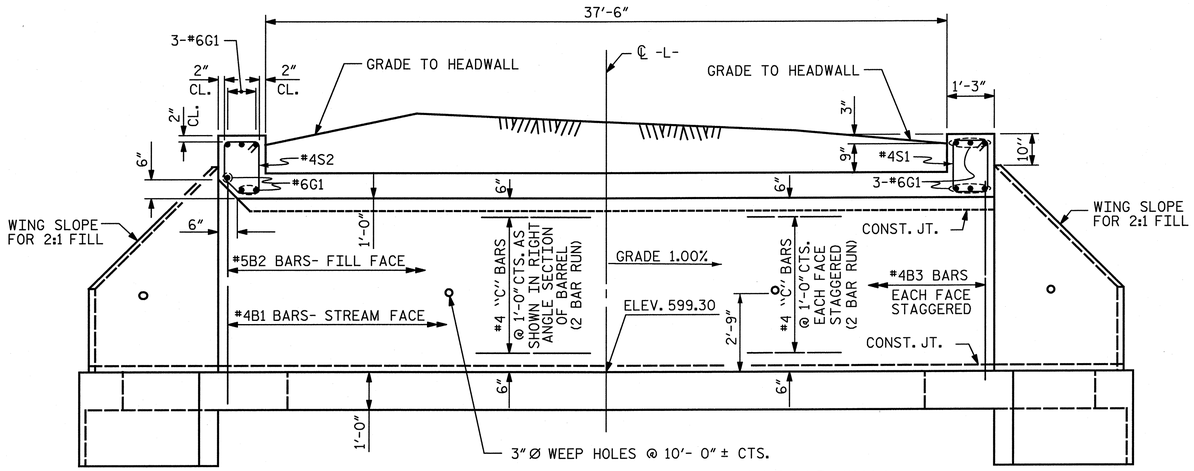
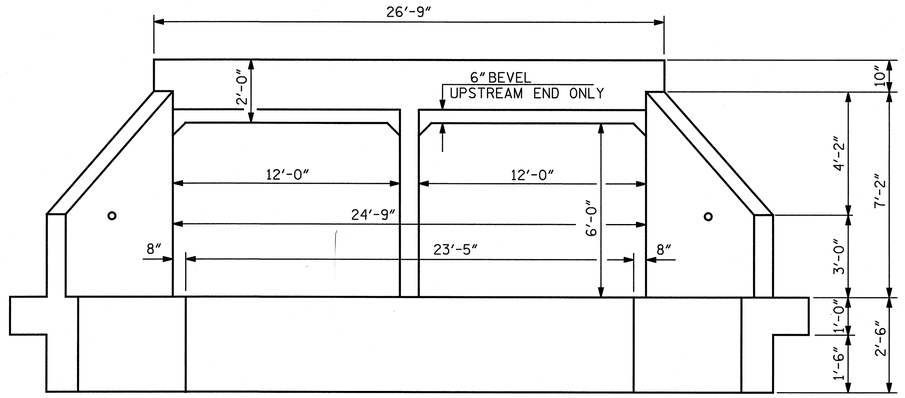
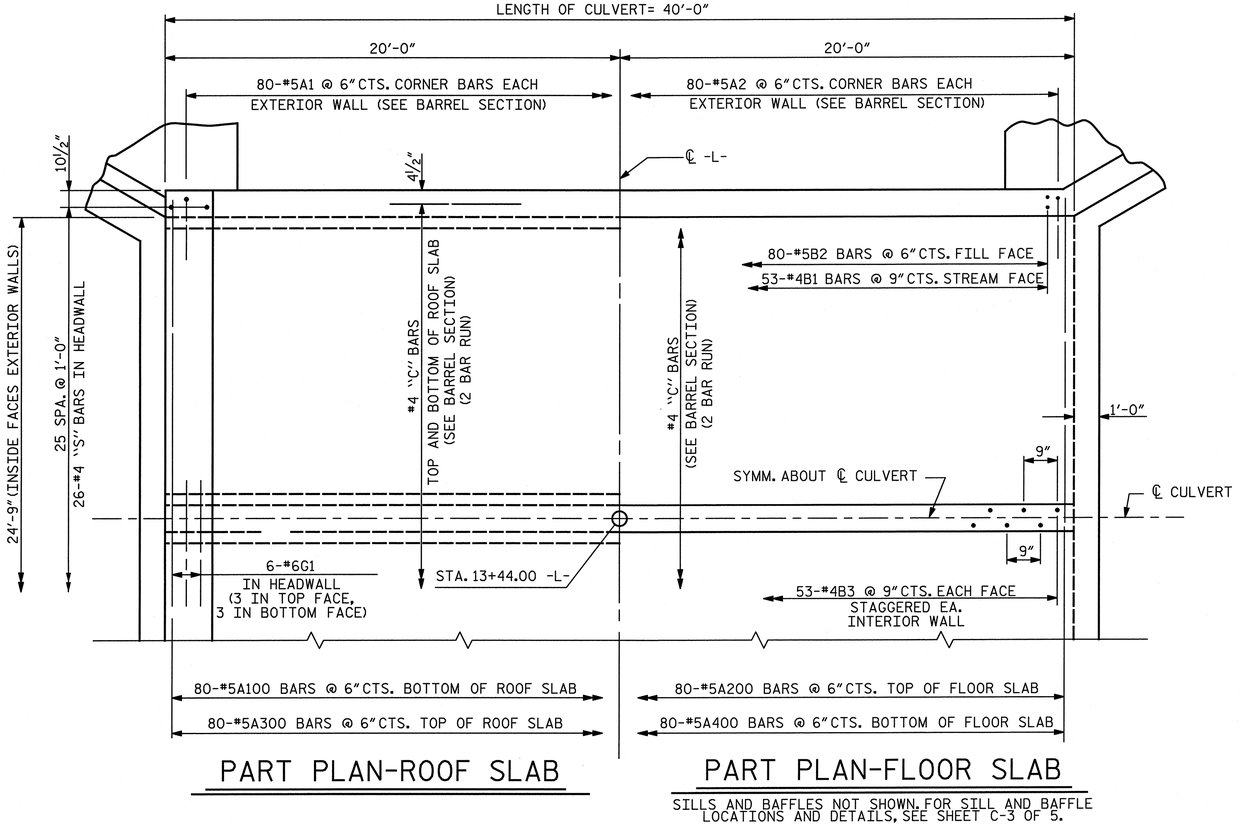


CULVERT SECTION NORMAL TO ROADWAY



END ELEVATION



PART PLAN-ROOF SLAB

PART PLAN-FLOOR SLAB

SILLS AND BAFFLES NOT SHOWN. FOR SILL AND BAFFLE LOCATIONS AND DETAILS, SEE SHEET C-3 OF 5.

PROJECT NO. 17BP.10.R.26

CABARRUS COUNTY

STATION: 13+44.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DOUBLE BARREL 12 FT. X 6 FT. CONCRETE BOX CULVERT 90° SKEW

NORTH CAROLINA PROFESSIONAL SEAL 038640 ENGINEER J. WESLEY JONES
10/19/12

STV/ Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License No. F-0991

REVISIONS						SHEET NO.
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ASSEMBLED BY : JTG DATE : 8-12
CHECKED BY : JAD DATE : 8-12

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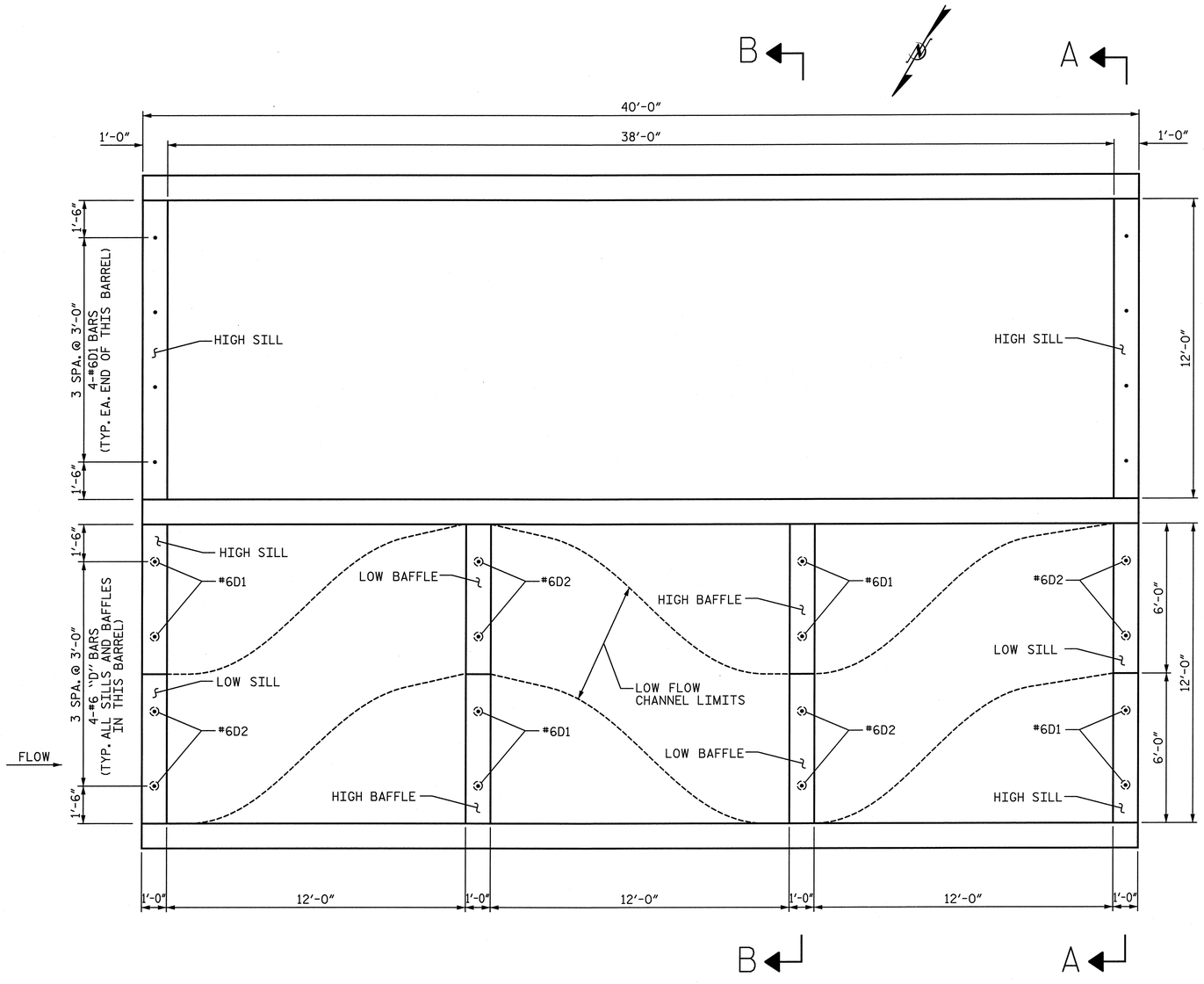
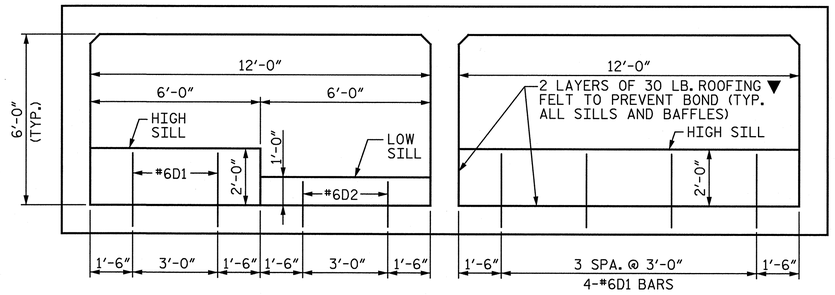


PLAN VIEW - LOCATION OF SILLS & BAFFLES

FOR NOTES, SEE ROADWAY PLANS

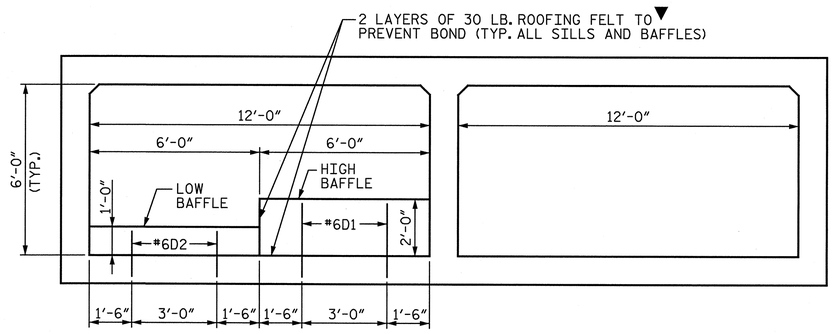


SECTION A-A

SECTION AT OUTLET END

NOTES: SECTION AT INLET END IS SIMILAR, BUT THE SILLS IN THE BARREL WITH DIFFERENT SILL HEIGHTS ARE OPPOSITE.

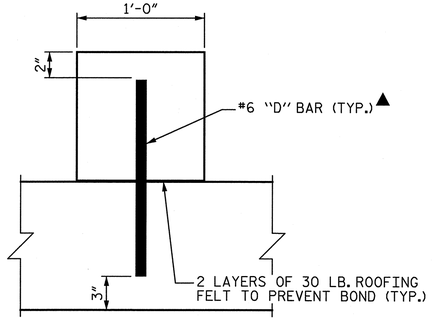
▼ THE COST OF THE ROOFING FELT IS INCIDENTAL AND SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.



SECTION B-B

NOTES: OTHER BAFFLE LOCATION SIMILAR, BUT BAFFLES ARE OPPOSITE.

▼ THE COST OF THE ROOFING FELT IS INCIDENTAL AND SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.



▲ DOWELS MAY BE PUSHED INTO GREEN CONCRETE AFTER SLAB HAS BEEN FLOAT FINSIHED.

SECTION THROUGH SILL OR BAFFLE

PROJECT NO. 17BP.10.R.26

CABARRUS COUNTY

STATION: 13+44.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CULVERT SILL AND BAFFLE DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 038640 ENGINEER J. WESLEY JONES
10/19/12

STV/ Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License No. F-0991

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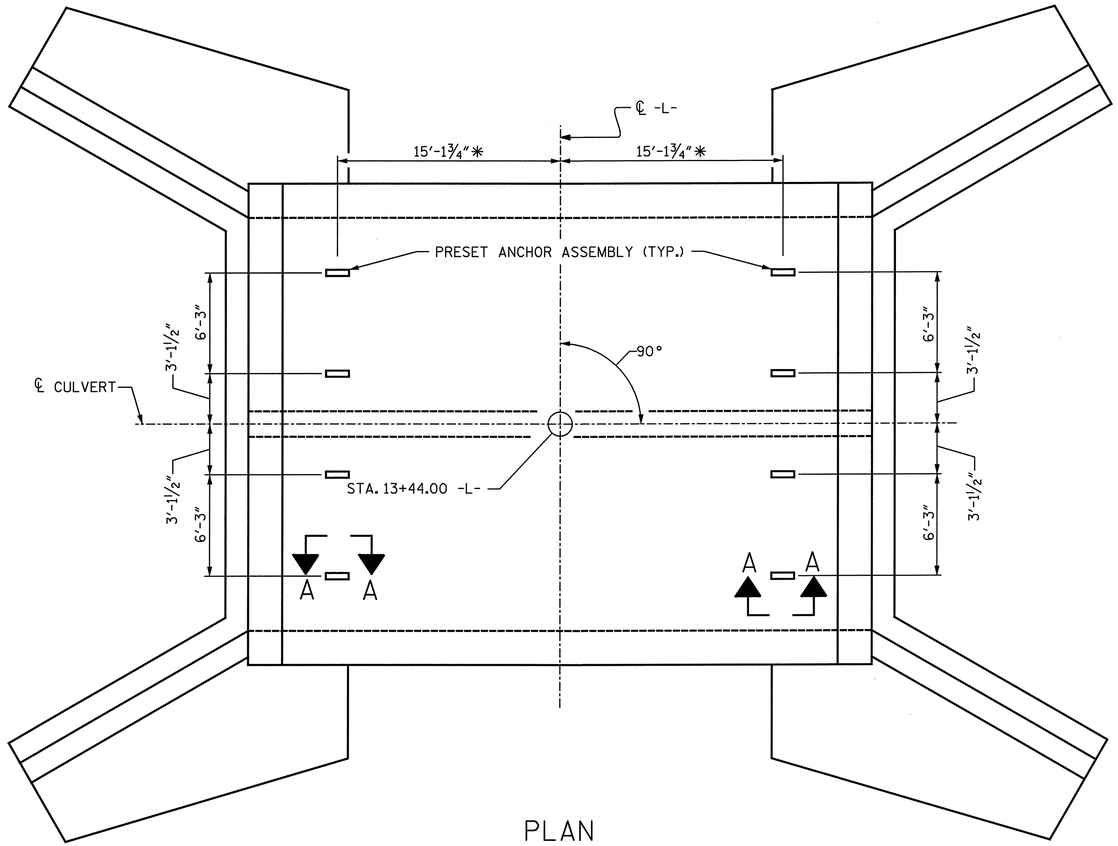
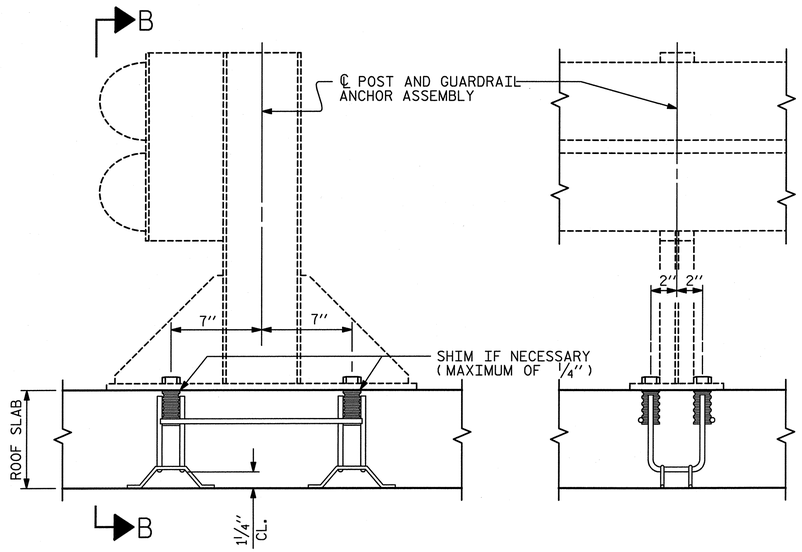
DRAWN BY : MTC DATE : 8-12
CHECKED BY : JAD DATE : 8-12



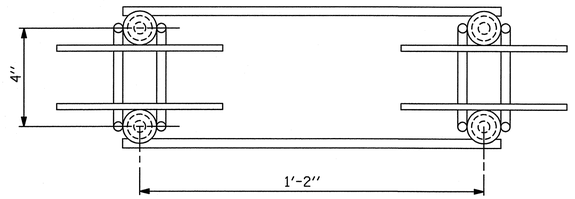
PLAN

SHOWING : GUARDRAIL ANCHOR ASSEMBLY SPACING.
* THIS DIMENSION TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

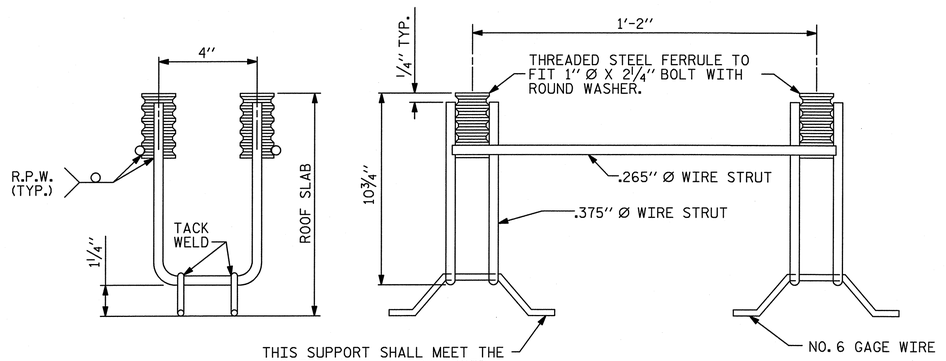


SECTION A-A

SECTION B-B



PLAN



ELEVATION

SIDE VIEW

GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS SHALL CONSIST OF THE FOLLOWING COMPONENTS :

A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM THREAD LENGTH OF 2½″.

B. 4 - 1″ Ø X 2¼″ BOLTS WITH WASHERS. BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1″ Ø X 2¼″ GALVANIZED BOLTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

C. WIRE STRUTS SHOWN IN THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS DETAIL ARE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 P.S.I. AS AN OPTION, A 7/16″ Ø WIRE STRUT WITH A MINIMUM TENSILE STRENGTH OF 90,000 PSI IS ACCEPTABLE.

GUARDRAIL ANCHOR ASSEMBLY WITH BOLTS SHALL BE ASSEMBLED IN THE SHOP. BOLT THREADS MAY BE RECUT AS NECESSARY TO INSURE FIT.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS, COMPLETE AND IN PLACE, SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CLASS "AA" CONCRETE.

FERRULES TO BE PLUGGED DURING POURING OF SLAB AS RECOMMENDED BY THE MANUFACTURER.

AT THE CONTRACTOR'S OPTION, FERRULES WITH OPEN OR CLOSED ENDS MAY BE USED.

THE COST FOR GUARDRAIL, POSTS, AND POST BASE PLATES SHALL BE INCLUDED IN THE ROADWAY PAY ITEMS.

ROOF SLAB REINFORCING STEEL MAY BE SHIFTED AS NECESSARY TO CLEAR GUARDRAIL ANCHOR ASSEMBLY. CARE SHALL BE TAKEN TO MINIMIZE THE SHIFTING OF REINFORCING STEEL.

THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF GUARDRAIL ANCHOR ASSEMBLY. LEVEL TWO FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 1″Ø BOLT IS 21.8 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

PROJECT NO. 17BP.10.R.26
CABARRUS COUNTY
STATION: 13+44.00 -L-

ASSEMBLED BY :	MTC	DATE :	8-12
CHECKED BY :	JAD	DATE :	8-12
DRAWN BY : FCJ	6/88	REV. 7/10/01	LES/RDR
CHECKED BY : ARB	6/88	REV. 5/7/03	RWW/JTE
		REV. 5/1/06R	KMM/GM

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

ANCHORAGE DETAILS FOR GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS

NORTH CAROLINA PROFESSIONAL SEAL 038640 ENGINEER J. WESLEY JONES
10/9/12

STV/ Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License No. F-0991

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
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STD. NO. GRA1

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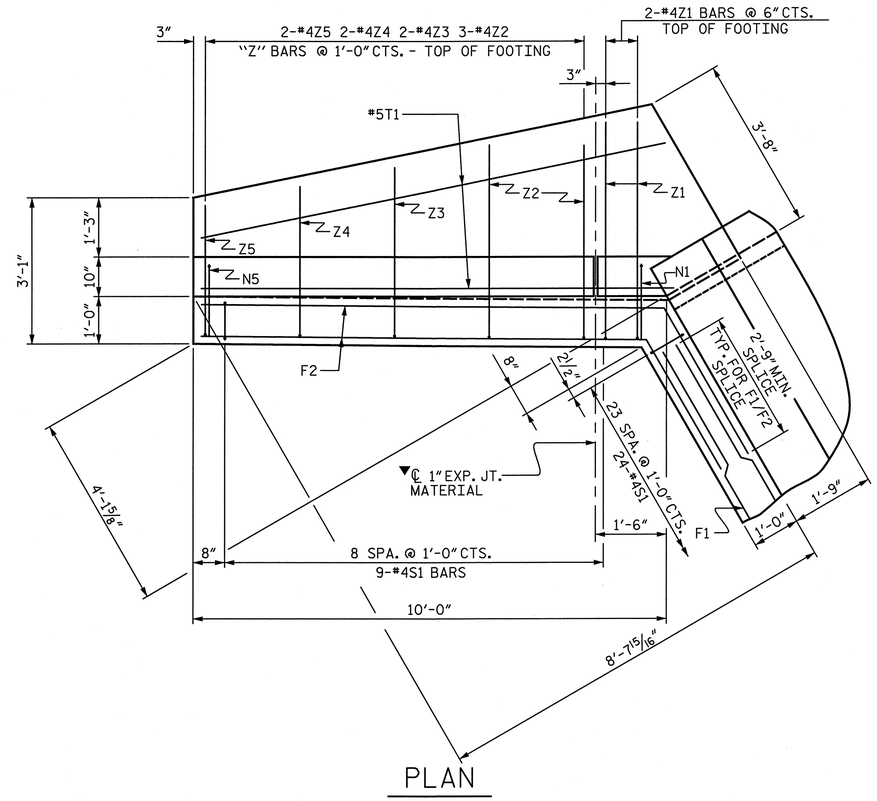
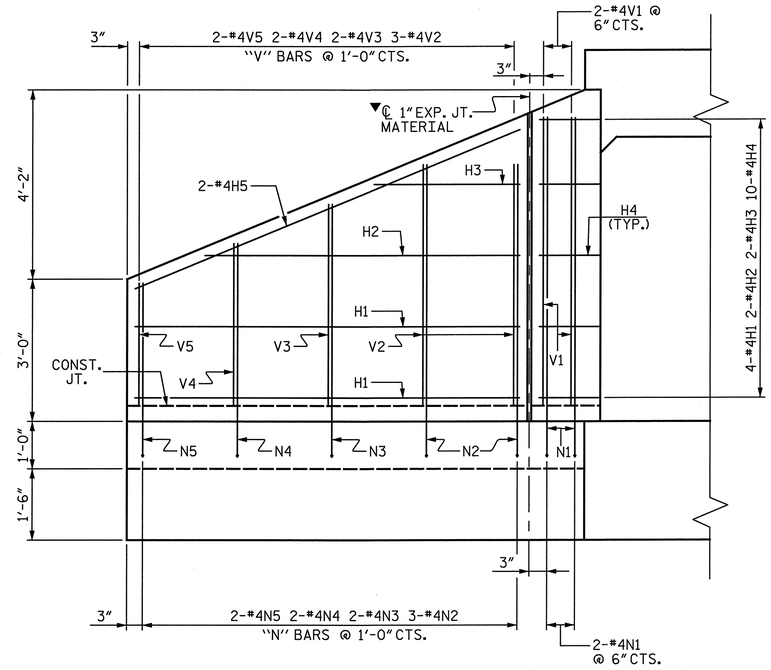
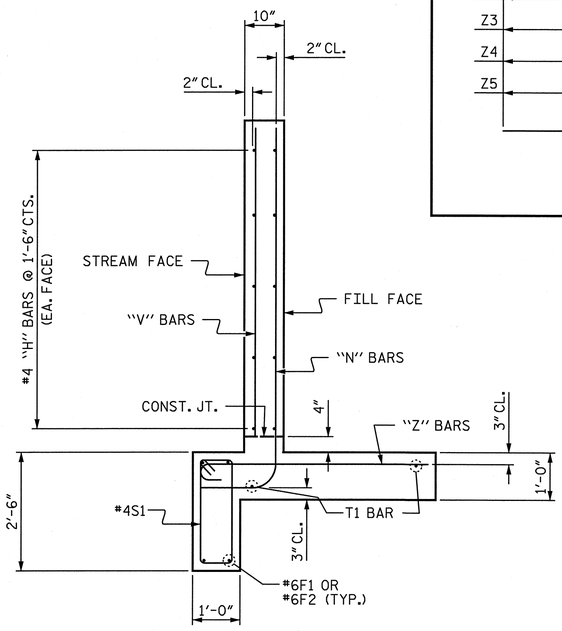


PLAN

▼THE COST OF THE EXPANSION JOINT MATERIAL IS INCIDENTAL AND SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.



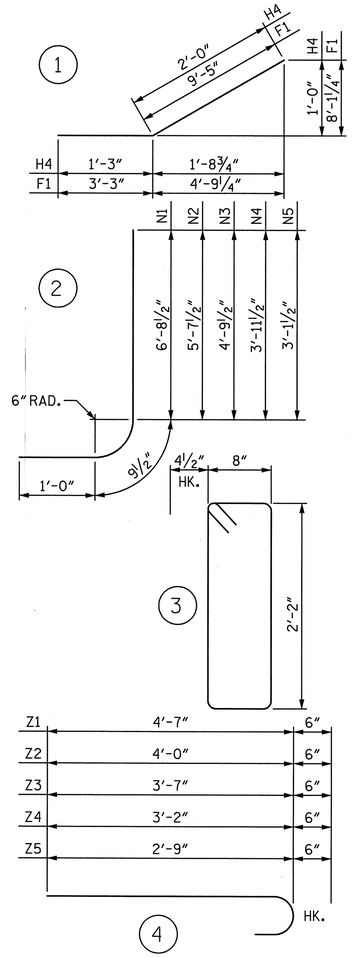
ELEVATION



TYPICAL WING SECTION

BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT.



BILL OF MATERIAL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
F1	8	#6	STR	23'-7"	283
F2	16	#6	①	12'-8"	304
H1	16	#4	STR	8'-1"	86
H2	8	#4	STR	6'-8"	36
H3	8	#4	STR	3'-1"	16
H4	40	#4	①	3'-3"	87
H5	8	#4	STR	8'-9"	47
N1	8	#4	②	8'-6"	45
N2	12	#4	②	7'-5"	59
N3	8	#4	②	6'-7"	35
N4	8	#4	②	5'-9"	31
N5	8	#4	②	4'-11"	26
S1	84	#4	③	6'-5"	360
T1	8	#5	STR	10'-0"	83
V1	8	#4	STR	6'-1"	33
V2	12	#4	STR	5'-1"	41
V3	8	#4	STR	4'-3"	23
V4	8	#4	STR	3'-5"	18
V5	8	#4	STR	2'-7"	14
Z1	8	#4	④	5'-1"	27
Z2	12	#4	④	4'-6"	36
Z3	8	#4	④	4'-1"	22
Z4	8	#4	④	3'-8"	20
Z5	8	#4	④	3'-3"	17

REINFORCING STEEL FOR 4 WINGS 1,749 LBS

CLASS AA CONCRETE
- 4 WINGS 11.2 CY
- 2 HEADWALLS 2.5 CY
- END CURTAIN WALLS 8.1 CY
- SILLS AND BAFFLES 4.5 CY
- TOTAL 26.3 CY

PROJECT NO. 17BP.10.R.26

CABARRUS COUNTY

STATION: 13+44.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

WINGS FOR CONCRETE BOX CULVERT

H = 6'-0" SLOPE = 2:1
90° SKEW

NORTH CAROLINA PROFESSIONAL SEAL 038640 ENGINEER J. WESLEY JONES 10/19/12

STV/ Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License No. F-0991

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-5
1			3			TOTAL SHEETS
2			4			5

ASSEMBLED BY : JWJ DATE : 8-12
CHECKED BY : JAD DATE : 8-12

10/19/2012 11:03:18 AM R:\Structures\Finals\R.26 - Sheet 5.dgn Jones

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF	
STRUCTURAL STEEL - AASHTO M270 GRADE 36	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION	
GRADE 60	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR	
UNTREATED - EXTREME FIBER STRESS	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

REV. 6-16-95 EEM (c) RGW REV. 5-7-03 RWW (c) JTE REV. 10-1-11 MAA (c) GM
REV. 8-16-99 RWW (c) LES REV. 5-1-06 TLA (c) GM

10/19/2012
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jjonas