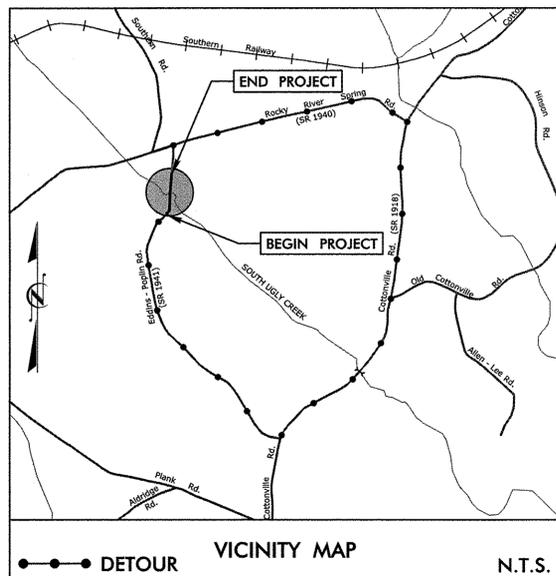


PROJECT: WBS 17BP.10.R.33

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



FINAL PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STANLY COUNTY

**LOCATION: BRIDGE #220 OVER SOUTH UGLY CREEK
ON SR 1941 (EDDINS-POPLIN ROAD)**

TYPE OF WORK: GRADING, PAVING, DRAINAGE & STRUCTURE

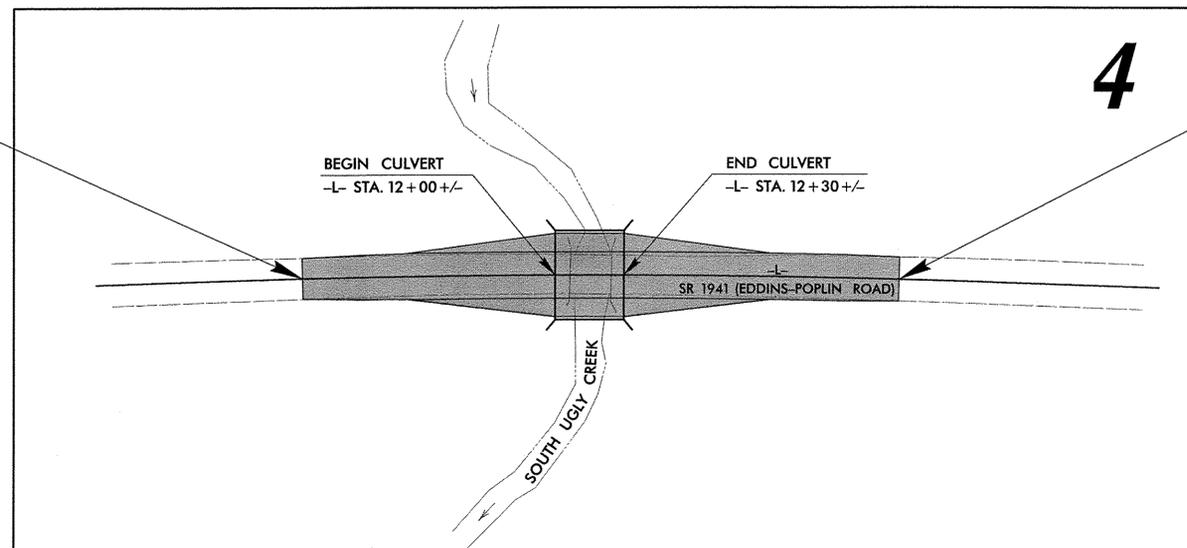


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.R.33	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.10.R.33		P.E.	
17BP.10.R.33		RW & UTILITIES	
17BP.10.R.33		CONST.	

BEGIN PROJECT WBS 17BP.10.R.33
-L- STA. 10 + 90.00

END PROJECT WBS 17BP.10.R.33
-L- STA. 13 + 50.00

← TO COTTONVILLE ROAD
(SR 1918)

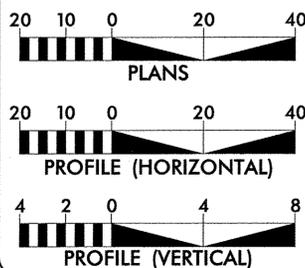


TO ROCKY RIVER SPRING ROAD
(SR 1940) →

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

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 130
ADT 2035 = 259
DHV = N/A
D = N/A
T = N/A
V = 45 MPH
FUNC. CLASSIFICATION:
LOCAL

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT WBS 17BP.10.R.33 = 0.043 MILES
LENGTH OF STRUCTURE PROJECT WBS 17BP.10.R.33 = 0.006 MILES
TOTAL LENGTH OF PROJECT WBS 17BP.10.R.33 = 0.049 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:
AUGUST 20, 2012

LETTING DATE:
FEBRUARY 20, 2013

NIKKI T. HONEYCUTT, PE
PROJECT ENGINEER

ALLISON DRAKE, EI
PROJECT DESIGN ENGINEER

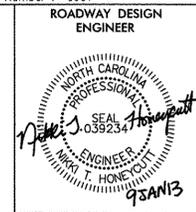
HYDRAULICS
ENGINEER

David Morrison
SIGNATURE: 1-9-13
P.E.

ROADWAY
DESIGN
ENGINEER

Nikki T. Honeycutt
SIGNATURE: 9SAN13
P.E.





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
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 THRU X-2	CROSS-SECTIONS
C-1 THRU C-4	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
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
1630.04	Stilling Basin For Pumped Effluent
1630.06	Special Stilling Basin

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	_____ 
Property Corner	_____ 
Property Monument	_____ 
Parcel/Sequence Number	_____ 
Existing Fence Line	_____ 
Proposed Woven Wire Fence	_____ 
Proposed Chain Link Fence	_____ 
Proposed Barbed Wire Fence	_____ 
Existing Wetland Boundary	_____ 
Proposed Wetland Boundary	_____ 
Existing Endangered Animal Boundary	_____ 
Existing Endangered Plant Boundary	_____ 
Known Soil Contamination: Boundary or Site	_____ 
Potential Soil Contamination: Boundary or Site	_____ 

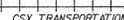
BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	_____ 
Sign	_____ 
Well	_____ 
Small Mine	_____ 
Foundation	_____ 
Area Outline	_____ 
Cemetery	_____ 
Building	_____ 
School	_____ 
Church	_____ 
Dam	_____ 

HYDROLOGY:

Stream or Body of Water	_____
Hydro, Pool or Reservoir	_____ 
Jurisdictional Stream	_____ 
Buffer Zone 1	_____ 
Buffer Zone 2	_____ 
Flow Arrow	_____ 
Disappearing Stream	_____ 
Spring	_____ 
Wetland	_____ 
Proposed Lateral, Tail, Head Ditch	_____ 
False Sump	_____ 

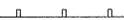
RAILROADS:

Standard Gauge	_____ 
RR Signal Milepost	_____ 
Switch	_____ 
RR Abandoned	_____ 
RR Dismantled	_____ 

RIGHT OF WAY:

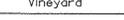
Baseline Control Point	_____ 
Existing Right of Way Marker	_____ 
Existing Right of Way Line	_____ 
Proposed Right of Way Line	_____ 
Proposed Right of Way Line with Iron Pin and Cap Marker	_____ 
Proposed Right of Way Line with Concrete or Granite Marker	_____ 
Existing Control of Access	_____ 
Proposed 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	_____ 

ROADS AND RELATED FEATURES:

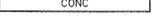
Existing Edge of Pavement	_____ 
Existing Curb	_____ 
Proposed Slope Stakes Cut	_____ 
Proposed Slope Stakes Fill	_____ 
Proposed Curb Ramp	_____ 
Curb Cut Future Ramp	_____ 
Existing Metal Guardrail	_____ 
Proposed Guardrail	_____ 
Existing Cable Guiderail	_____ 
Proposed Cable Guiderail	_____ 
Equality 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.*)	_____ 

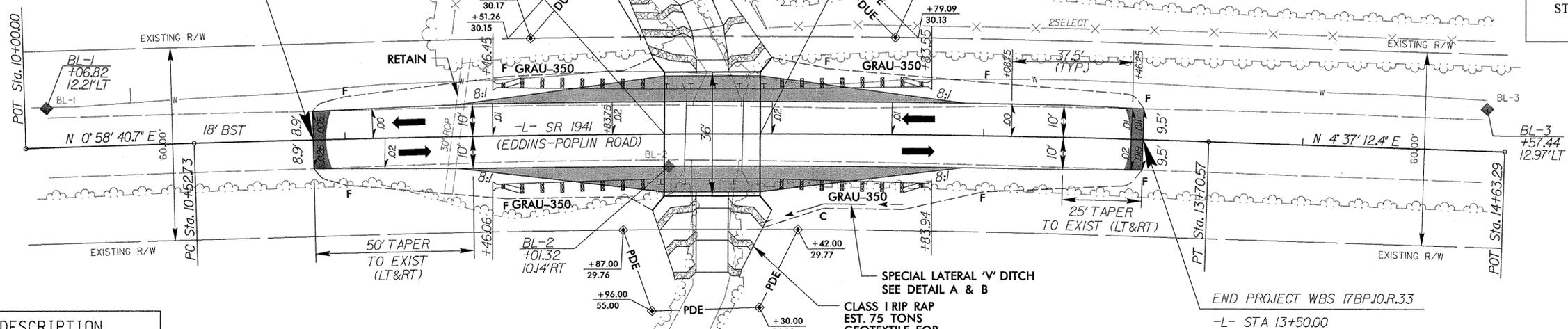
MISCELLANEOUS:

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	_____ 
End of Information	_____ 

AATUR
E.O.I.

POPLIN RALPH RAY & BRENDA B
DB 615 PG 245

BEGIN PROJECT WBS 17BP10.R.33
-L- STA 10+90.00

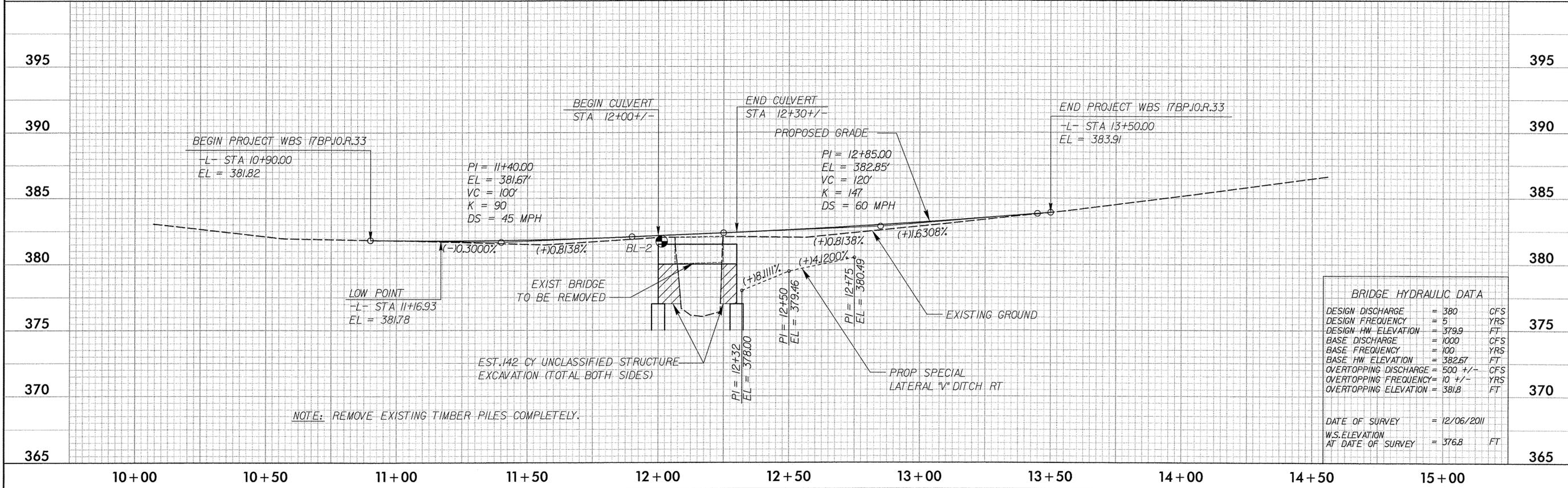
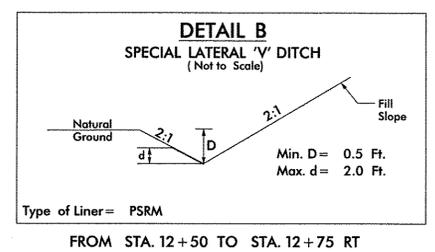
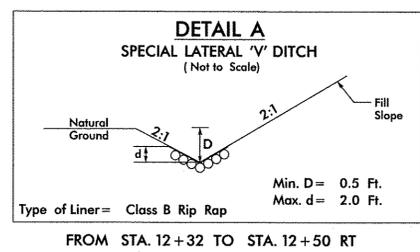


DATUM DESCRIPTION
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 536715.318(FT) EASTING: 1642122.566(FT) ELEVATION: 381.70(FT) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999859 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-2" TO -L- STATION 10+90.00 IS S 7° 15' 14.599" W 111.665 (FT) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

BL-1	N 536521.594	E 1642094.696	ELEV 382.76
BL-2	N 536715.318	E 1642122.566	ELEV 381.70
BL-3	N 536972.330	E 1642117.279	ELEV 386.22

PI Sta 12+11.71
Δ = 3° 38' 31.7" (RT)
D = 1° 08' 45.3"
L = 317.84'
T = 158.97'
R = 5,000.00'

- NOTES:**
- INCIDENTAL MILL APPROX 35' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT SEE STRUCTURE PLANS FOR GUARDRAIL ATTACHMENT DETAIL



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 380	CFS
DESIGN FREQUENCY	= 5	YRS
DESIGN HW ELEVATION	= 379.9	FT
BASE DISCHARGE	= 1000	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 382.67	FT
OVERTOPPING DISCHARGE	= 500 +/-	CFS
OVERTOPPING FREQUENCY	= 10 +/-	YRS
OVERTOPPING ELEVATION	= 381.8	FT

DATE OF SURVEY = 12/06/2011
W.S. ELEVATION AT DATE OF SURVEY = 376.8 FT

PROJECT REFERENCE NO. 17BP10.R.33 SHEET NO. 4

ROADWAY DESIGN ENGINEER: [Signature]

HYDRAULICS ENGINEER: [Signature]

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

PROJECT: WBS 17BP.10.R.33

CONTRACT:

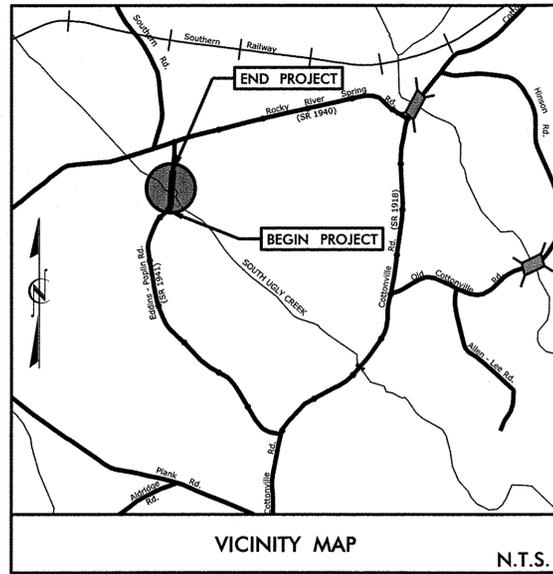
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
WBS 17BP.10.R.33	UO-1

UTILITIES BY OTHERS PLANS STANLY COUNTY

**LOCATION: BRIDGE #220 OVER SOUTH UGLY CREEK
ON SR 1941 (EDDINS-POPLIN ROAD)**

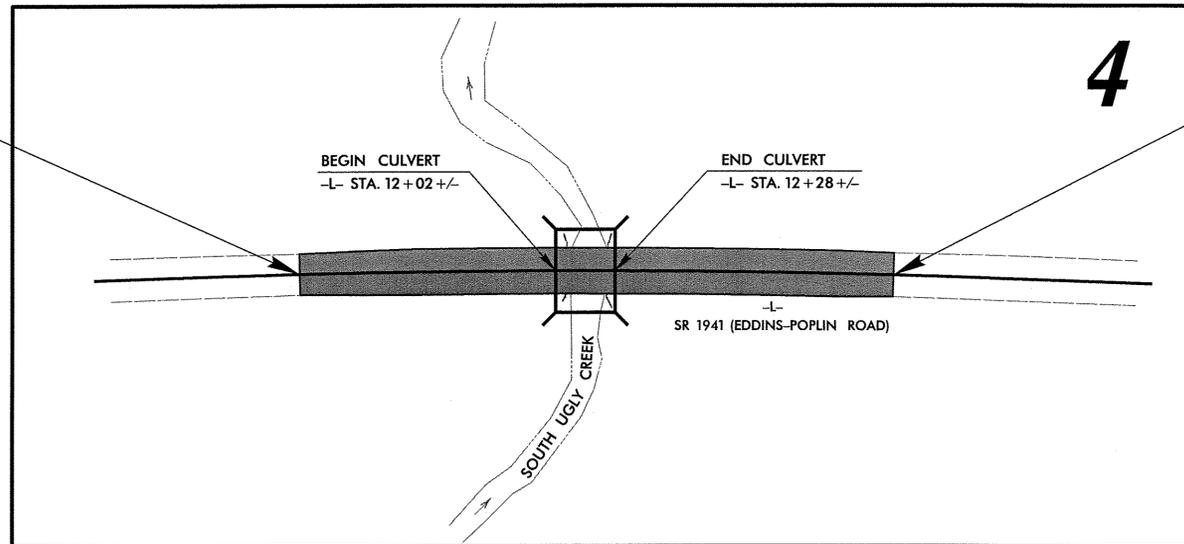
TYPE OF WORK: WATER MAIN



NSRS 2007 NAD 83

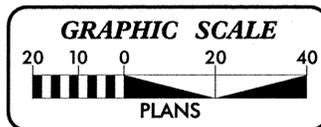
BEGIN PROJECT WBS 17BP.10.R.33
-L- STA. 10 + 90.00

END PROJECT WBS 17BP.10.R.33
-L- STA. 13 + 50.00



← TO SR 1918

TO SR 1940 →



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITIES BY OTHERS PLAN SHEET

UTILITY OWNERS ON PROJECT

(1) WATER - STANLY COUNTY UTILITIES DEPARTMENT

SEAL

V&M
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
Xxxx Xxxx, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Reece Schuler, PE UTILITIES PROJECT DESIGNER

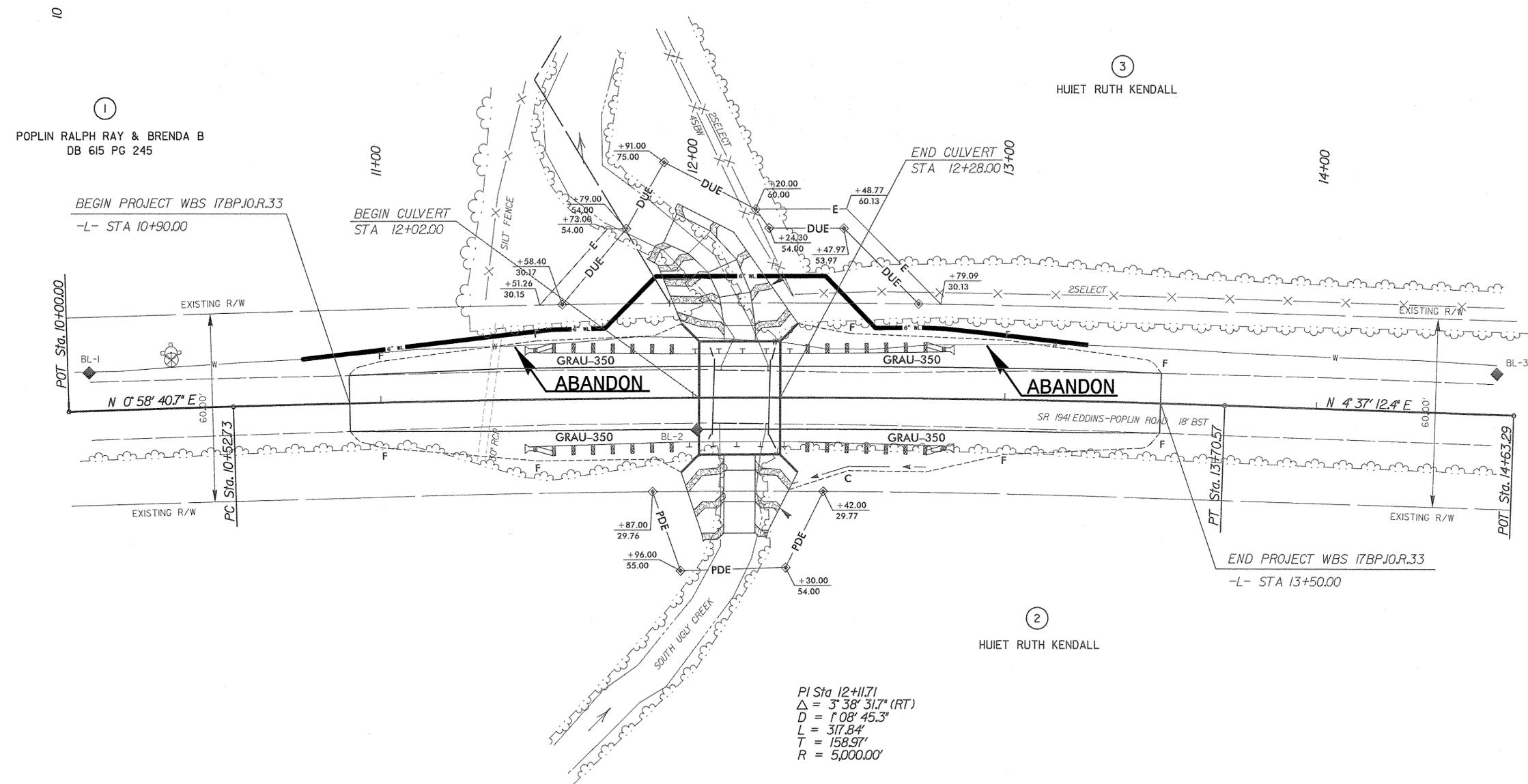
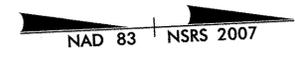
UTILITIES BY OTHERS

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

V&M
Vaughn & Melton
Consulting Engineers

Asheville, North Carolina 828-253-2796
Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 615-546-5800
Middlesboro, Kentucky 606-248-4600
Charlotte, North Carolina 704-357-0488
Spartanburg, South Carolina 864-574-4775

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PI Sta 12+11.71
 $\Delta = 3^{\circ} 38' 31.7''$ (RT)
 $D = 1^{\circ} 08' 45.3''$
 $L = 317.84'$
 $T = 158.97'$
 $R = 5,000.00'$

POPLIN RALPH RAY & BRENDA B
DB 615 PG 245

BEGIN PROJECT WBS 17BP.10.R.33
-L- STA 10+90.00

BEGIN CULVERT
STA 12+02.00

END CULVERT
STA 12+28.00

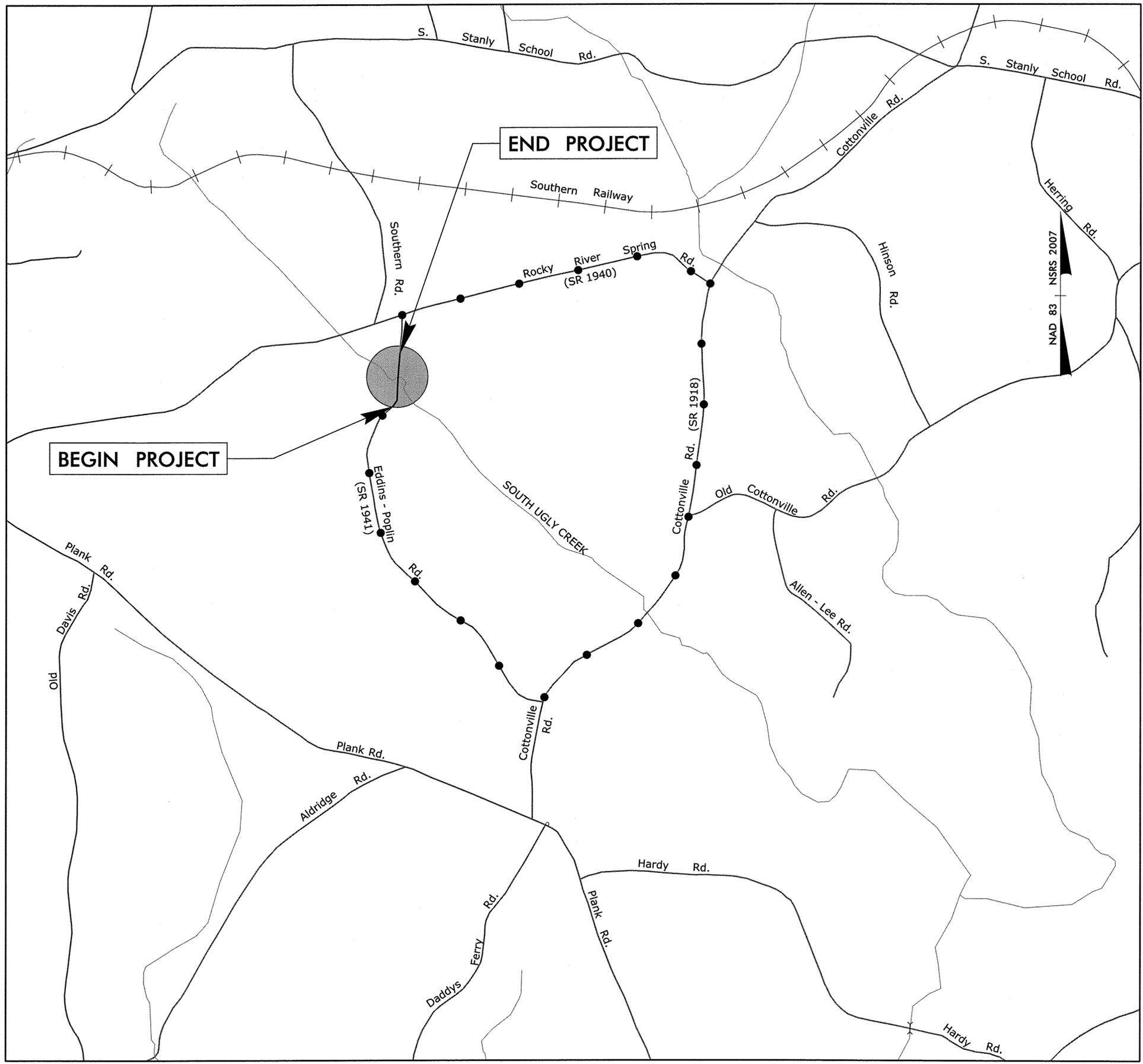
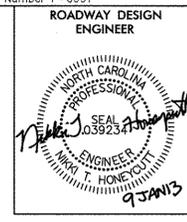
END PROJECT WBS 17BP.10.R.33
-L- STA 13+50.00

\$DATE\$

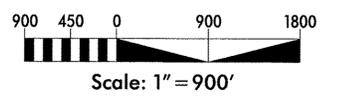
\$FILE\$

DETOUR ROUTE

PROJECT REFERENCE NO. 17BP10R.33	SHEET NO. TCP-1
RW SHEET NO.	
 STV / Ralph Whitehead Associates, Inc. 1000 West Morehead St., Ste. 200 Charlotte, NC 28208 NC License Number F-0991	

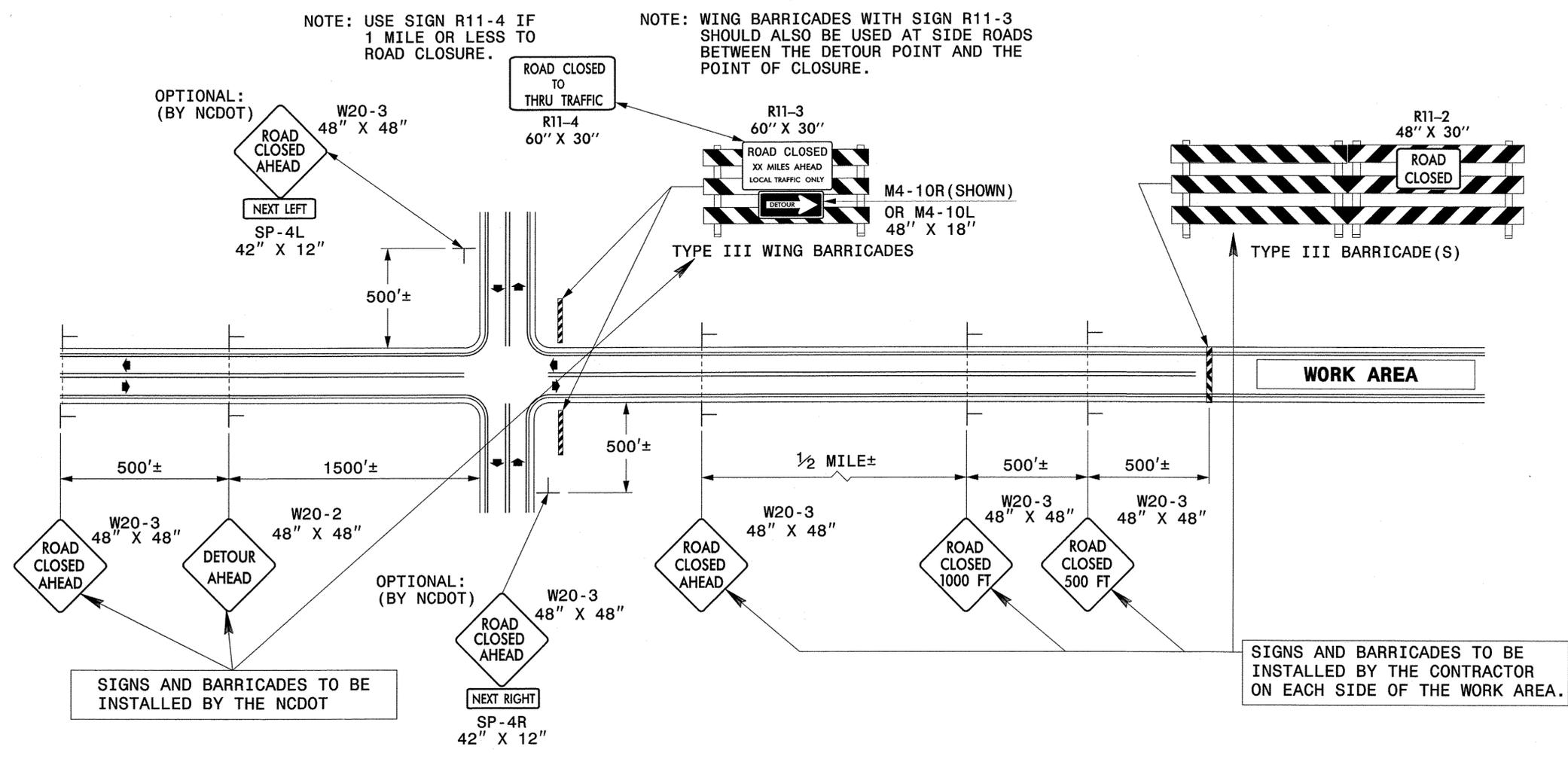


NAD 83 NSRS 2007



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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

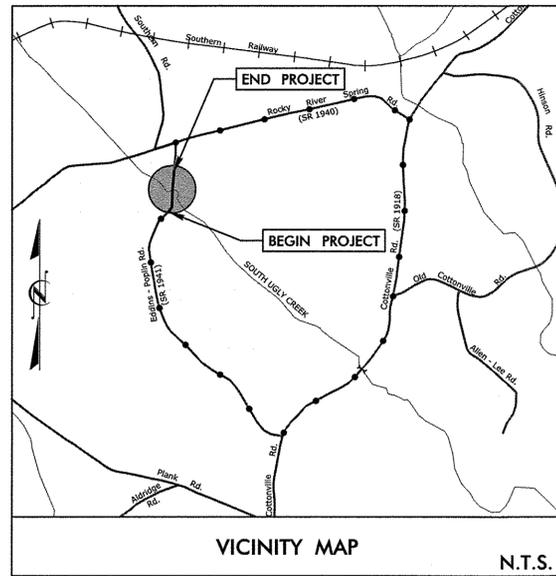
| STATIONARY SIGN

◄ DIRECTION OF TRAFFIC FLOW

I:\9\2013\17BP10.R.33\TrafficControl\CP\NOR33_rdy_top02.dgn

CONTRACT:

PROJECT: WBS 17BP.10.R.33

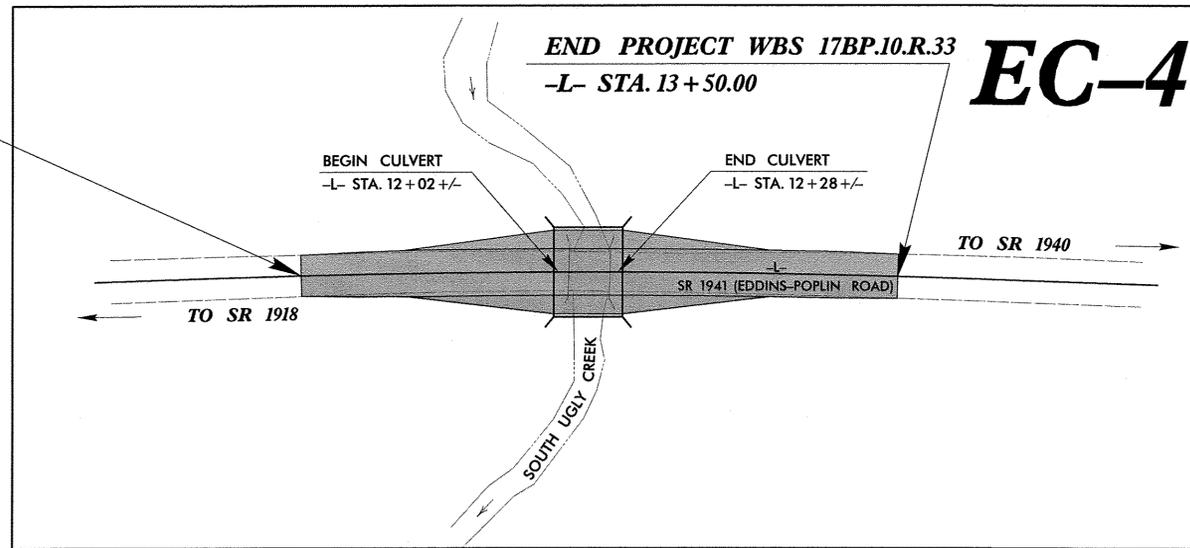


EROSION CONTROL PLANS

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

**LOCATION: BRIDGE #220 OVER SOUTH UGLY CREEK
ON SR 1941 (EDDINS-POPLIN ROAD)**

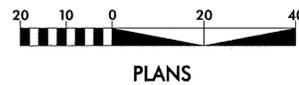
BEGIN PROJECT WBS 17BP.10.R.33
-L- STA. 10 + 90.00



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.

GRAPHIC SCALE



PLANS

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Level III Designer
Davin Morrison, PE #3126



Prepared In the Office of:

ST/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

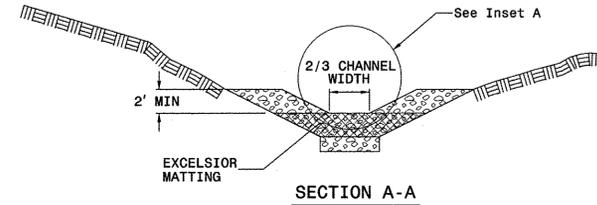
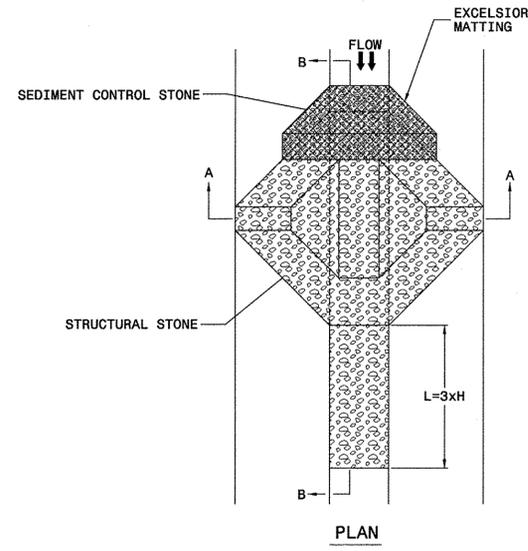
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.R.33	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.10.R.33		P.E.	
17BP.10.R.33		R/W & UTILITIES	
17BP.10.R.33		CONST.	

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 revision 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	TD
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	▨

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

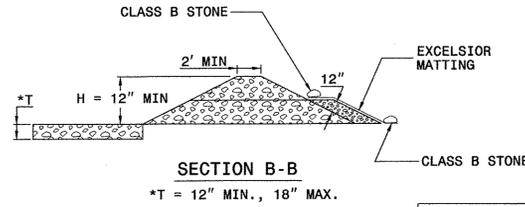
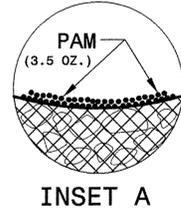


NOTES

USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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 ROCK SILT CHECK.

INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



NOT TO SCALE

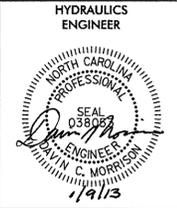
STABILIZATION REQUIREMENTS

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 landdisturbing 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:

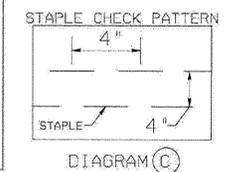
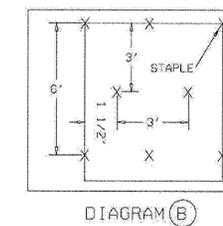
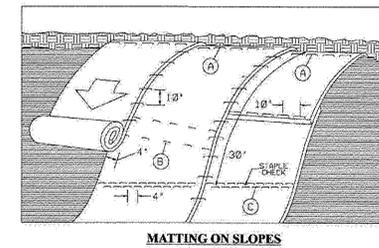
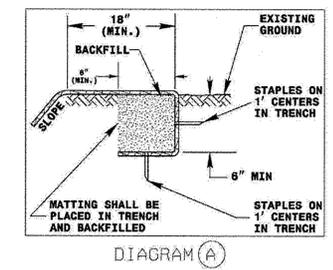
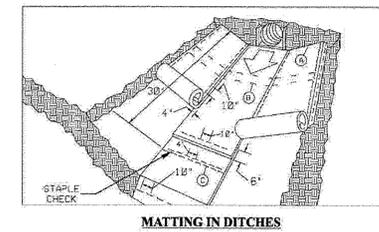
- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

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.

PROJECT REFERENCE NO. 17BP10.R.33	SHEET NO. EC-2
RW SHEET NO.	
 STV / Ralph Whitehead Associates, Inc. 1000 West Morehead St., Ste. 200 Charlotte, NC 28208 NC License Number F-0991	



MATTING INSTALLATION DETAIL



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.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. I7BPJ0R.33	SHEET NO. EC-3
RW SHEET NO.	
 STV / Ralph Whitehead Associates, Inc. <small>1000 West Morehead St., Ste. 200 Charlotte, NC 28208 NC License Number F-0991</small>	

HYDRAULICS
ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL (FOR SLOPE STABILIZATION)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
			SUBTOTAL		425
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				45
				TOTAL	470
				SAY	470

CLASS 'B' RIP RAP (FOR DITCH STABILIZATION)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	CLASS 'B' RIP RAP ESTIMATE (TN)
4	-L- V-DITCH	12+32	12+50	RT	5
				SUBTOTAL	5
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				5
				TOTAL	10
				SAY	10

PERMANENT SOIL REINFORCEMENT MATTING (FOR DITCH STABILIZATION)

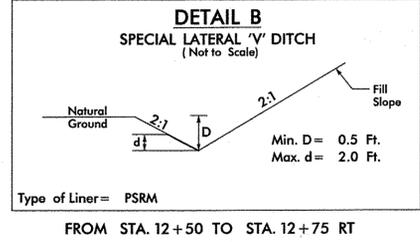
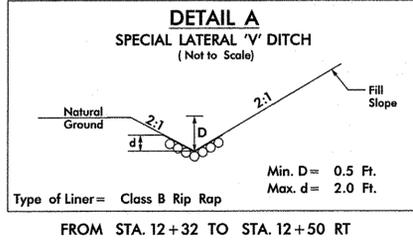
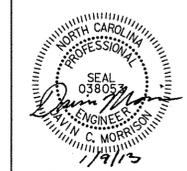
CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L- V-DITCH	12+50	12+75	RT	20
			SUBTOTAL		20
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				5
				TOTAL	25
				SAY	25

GEOTEXTILE FOR DRAINAGE (FOR DITCH STABILIZATION)

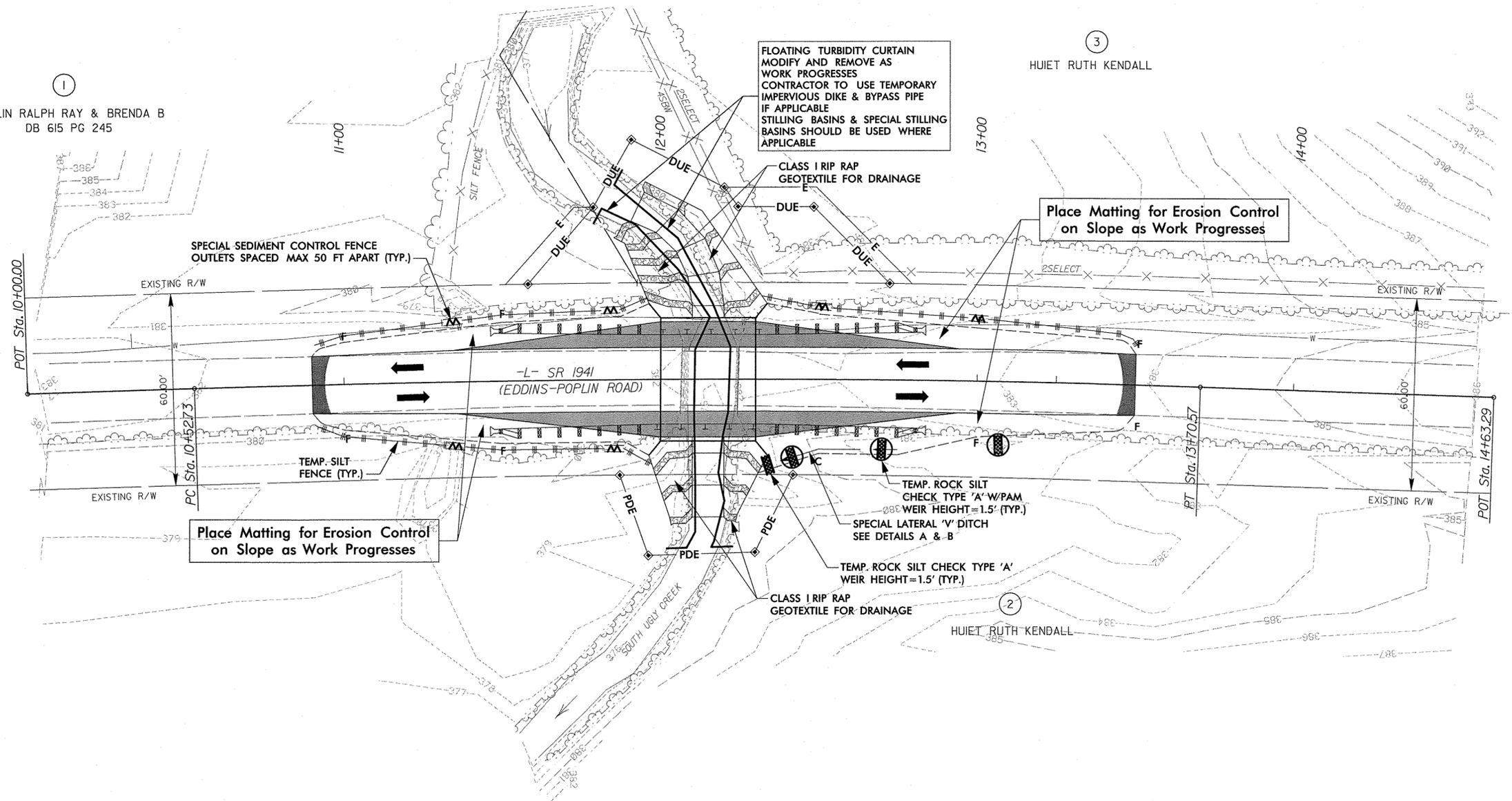
CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	GEO. FOR DRAINAGE ESTIMATE (SY)
4	-L- V-DITCH	12+32	12+50	RT	10
				SUBTOTAL	10
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				5
				TOTAL	15
				SAY	15

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1/9/2013



①
POPLIN RALPH RAY & BRENDA B
DB 615 PG 245



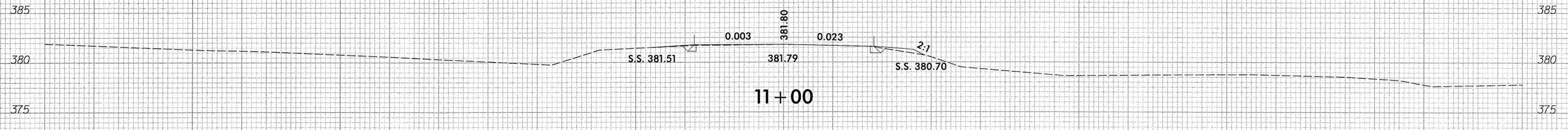
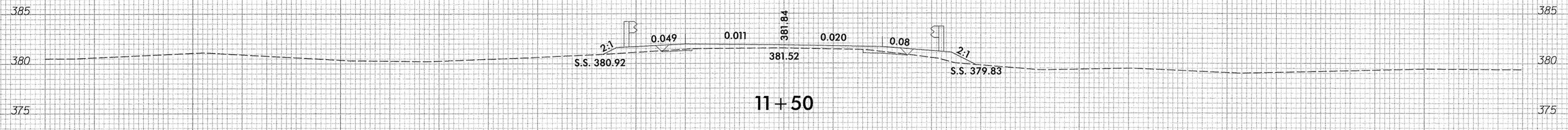
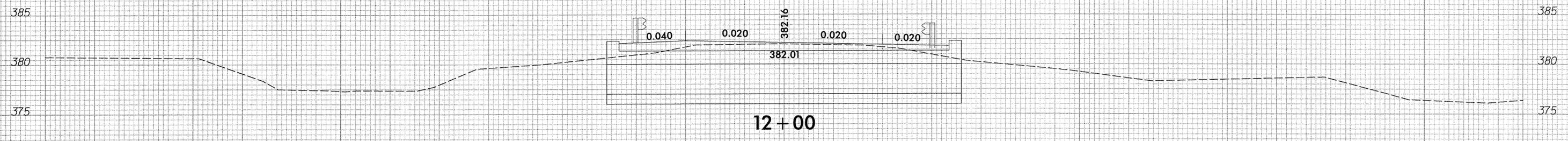
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

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

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	17BP.10.R.33	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



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."

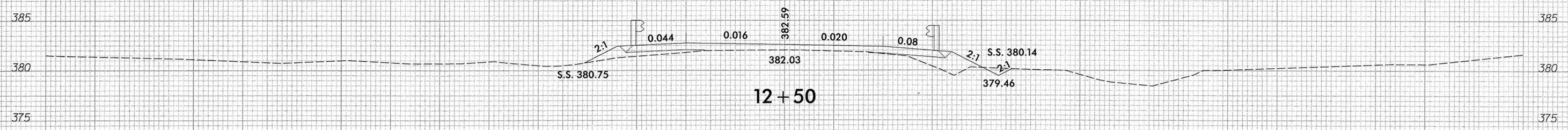
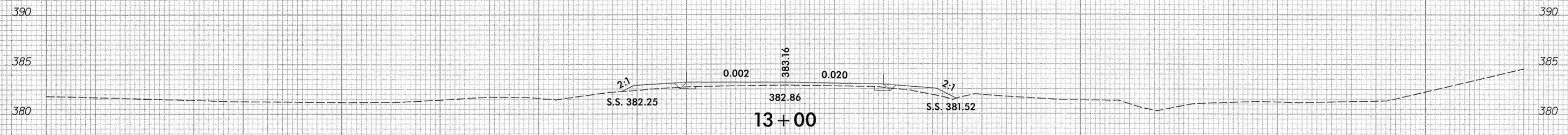
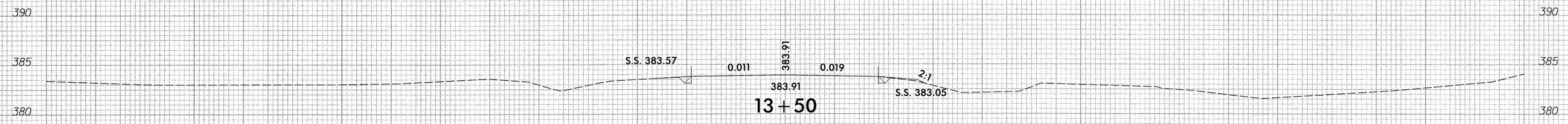
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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

8/23/99

0	2.5	5	PROJ. REFERENCE NO.	SHEET NO.
			17BP.10.R.33	X-2

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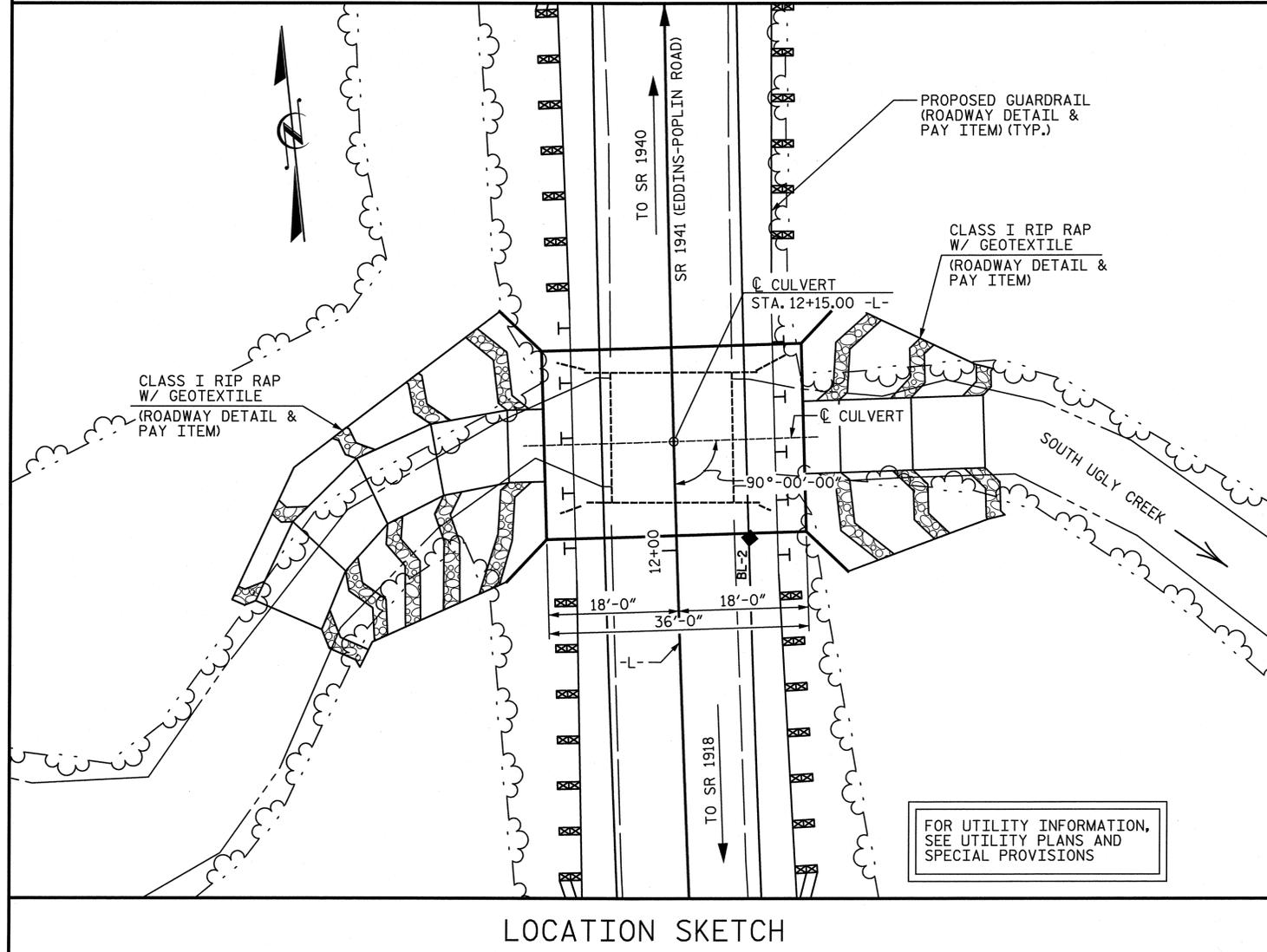
END CULVERT 12+30 +/-
 BEGIN CULVERT 12+00 +/-



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

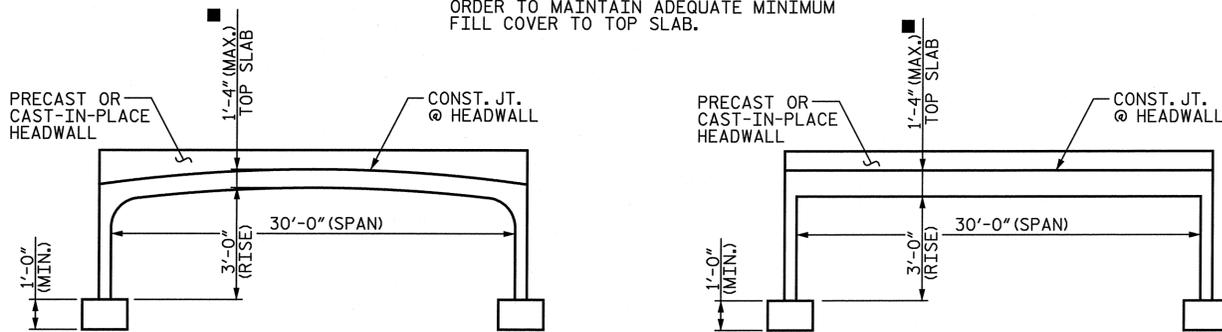
I:\9\2003
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 stephase

BENCHMARK BL-2: 10.14' RT STA. 12+01.32 -L-, N 536715.3180, E 1642122.5660, ELEV. 381.70



LOCATION SKETCH

■ MAXIMUM ASSUMED TOP SLAB THICKNESS SHALL BE ACHIEVED DURING DESIGN IN ORDER TO MAINTAIN ADEQUATE MINIMUM FILL COVER TO TOP SLAB.



ARCH ALTERNATE

FLAT TOPPED ALTERNATE

RIGHT ANGLE SECTION OF PRECAST CONCRETE THREE-SIDED CULVERT

TOP OF FOOTING EL. = 377.0
MIN. LOW CHORD EL. = 380.0 @ CULVERT

NOTES

- ASSUMED LIVE LOAD -----HL-93 OR ALTERNATE LOADING.
- MAXIMUM DESIGN FILL----- 1.3'
- MINIMUM DESIGN FILL----- 0.5'
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18 - EVALUATING SCOUR AT BRIDGES."
- THE EXISTING STRUCTURE, CONSISTING OF 1-SPAN AT 18'-6" TIMBER DECK ON I-BEAMS WITH A 17.0' CLEAR ROADWAY WIDTH AND SUPPORTED ON A SUBSTRUCTURE OF TIMBER CAPS AND PILES AND LOCATED AT THE PROPOSED STRUCTURE, SHALL BE REMOVED.
- 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 SPECIFICATION.
- FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
- FOR PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT, 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.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

- THE PRECAST CULVERT SECTIONS AND WINGS SHALL BE DESIGNED TO HANDLE FULL DEPTH HYDROSTATIC PRESSURE IF WEEP HOLES ARE NOT UTILIZED. IF PROVIDED, WEEP HOLES SHALL BE LOCATED A MINIMUM HEIGHT OF 6 INCHES ABOVE THE NORMAL FLOW LINE AND HAVE A MAXIMUM SPACING OF 10 FEET.
- 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 COST RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE."
- THE REQUIRED BEARING CAPACITY OF THE SPREAD FOOTINGS IS 4 TSF. THE REQUIRED BEARING CAPACITY SHALL BE VERIFIED.
- FOOTINGS SHALL BE KEYED A MINIMUM OF 12 INCHES INTO ROCK WITH A MINIMUM THICKNESS AS SHOWN ON THE PLANS.
- TO PROVIDE PROTECTION FROM POSSIBLE SCOUR, THE FOOTING SHALL NOT BE CONSTRUCTED AT AN ELEVATION HIGHER THAN SHOWN ON THE PLANS.
- SCOUR PROTECTION SHALL BE REQUIRED. RIP RAP NOT TO BE PLACED ABOVE THE STREAMBED.
- THE SCOUR CRITICAL ELEVATION IS THE AS BUILT BOTTOM OF FOOTING ELEVATION. THE SCOUR CRITICAL ELEVATIONS ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
- FOR BLASTING ADJACENT TO HIGHWAY STRUCTURES, SEE STANDARD SPECIFICATIONS ARTICLE 410-9.
- THE BOTTOM OF FOOTING ELEVATION MAY BE LOWERED IN ORDER TO SATISFY BEARING CAPACITY AND MINIMUM ROCK EMBEDMENT REQUIREMENTS.

TOTAL STRUCTURE QUANTITIES		
REMOVAL OF EXISTING STRUCTURE @ STA. 12+15.00 -L-		LUMP SUM
PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT @ STA. 12+15.00 -L-		LUMP SUM
CLASS A CONCRETE	19.0	CU. YDS.

HYDRAULIC DATA

DESIGN DISCHARGE: 380 CFS
 FREQUENCY OF DESIGN FLOOD: 5 YRS.
 DESIGN HIGH WATER ELEVATION: 379.9
 DRAINAGE AREA: 1.5 SQ. MI.
 BASIC DISCHARGE (Q100): 1000 CFS
 BASIC HIGH WATER ELEVATION: 382.67

OVERTOPPING FLOOD DATA

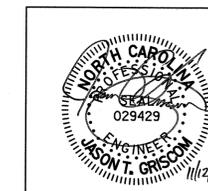
OVERTOPPING DISCHARGE: 500± CFS
 FREQUENCY OF OVERTOPPING FLOOD: 10± YRS.
 OVERTOPPING FLOOD ELEVATION: 381.8

GRADE DATA

GRADE POINT ELEVATION @ STA. 12+15.00 -L- 382.28
 BED ELEVATION @ STA. 12+15.00 -L- 375.78
 ROADWAY FILL SLOPES 2:1 (MAX.)

PROJECT NO. 17BP.10.R.33
 STANLY COUNTY
 STATION: 12+15.00 -L-

SHEET 1 OF 4 REPLACES BRIDGE NO. 220



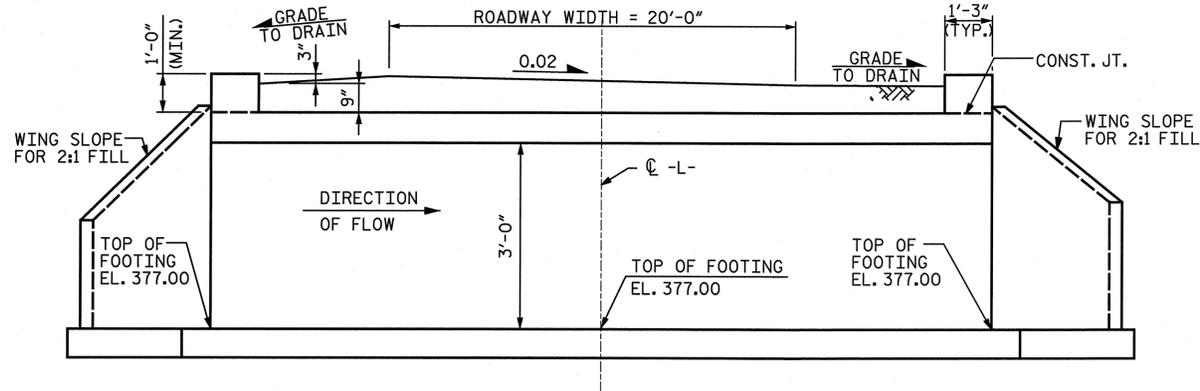
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT
 90° SKEW

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

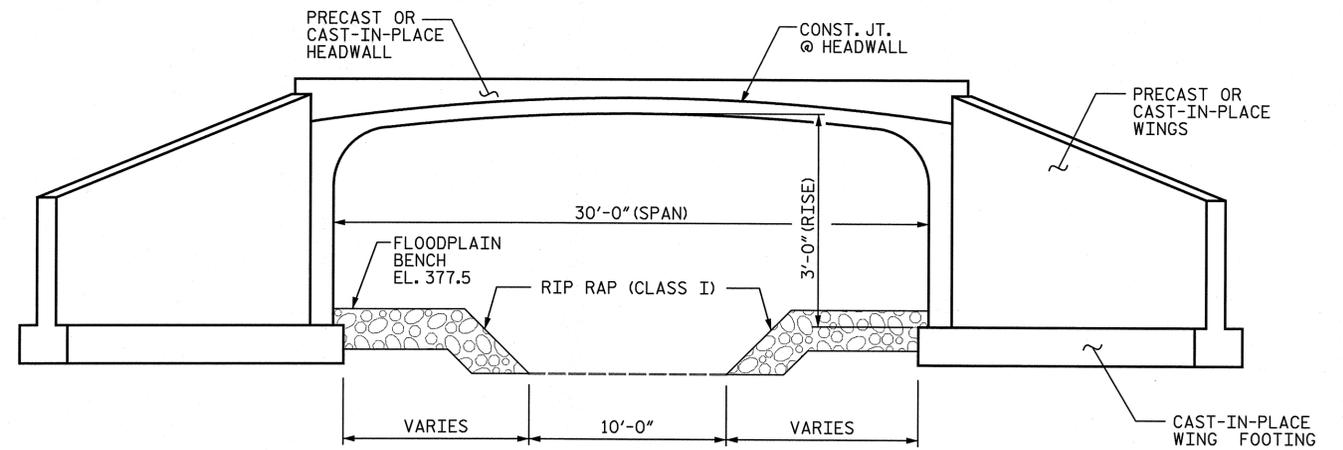
STV/ Ralph Whitehead Associates, Inc.
 1000 West Morehead St., Ste. 200
 Charlotte, NC 28208
 NC License No. F-0991

DRAWN BY : LEM DATE : 8-12
 CHECKED BY : JTG DATE : 10-12

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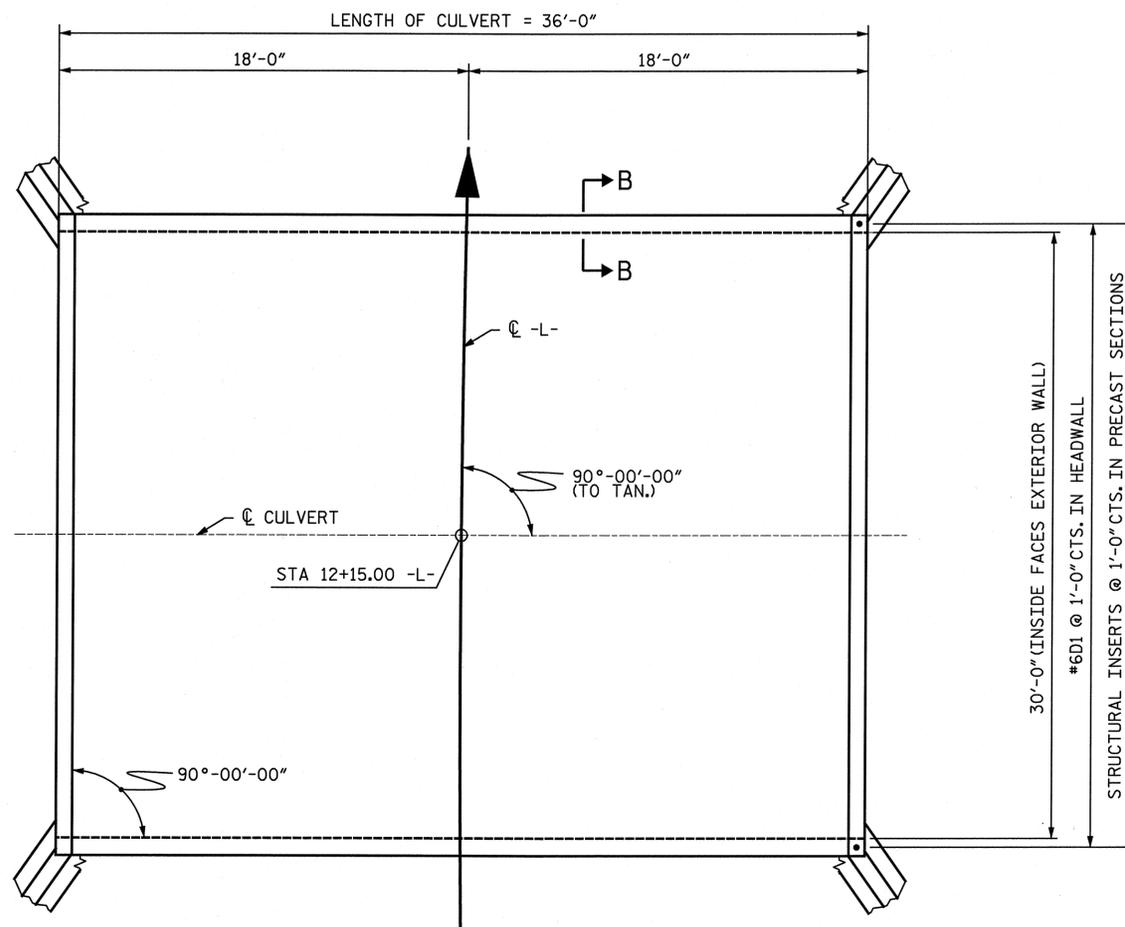


CULVERT SECTION NORMAL TO ROADWAY



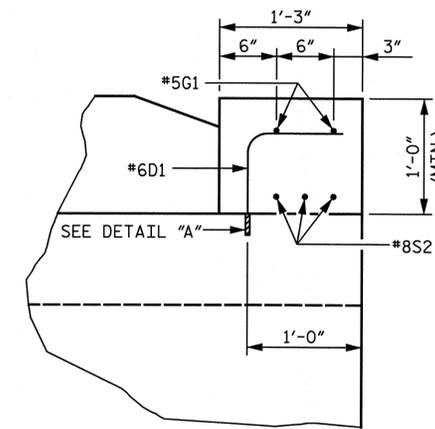
END ELEVATION NORMAL TO SKEW

(SECTION THRU CULVERT SIMILAR)



LENGTH FOR PRECAST THREE-SIDED CULVERT

(SEE SHEET 3 OF 4 FOR SECTION B-B)



SECTION THRU HEADWALL



DETAIL "A"

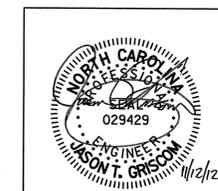
** APPROVED GALVANIZED CONCRETE INSERTS HAVING A MINIMUM WORKING LOAD TENSION CAPACITY OF 2.5 KIPS. DIA. = 3/4", NO. REQUIRED 62

BAR SCHEDULE					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	62	#6	①	1'-8"	155
G1	4	#5	STR	31'-8"	132
S2	6	#8	STR	31'-8"	507
TOTAL				LBS	794

BAR TYPE	
①	9" D1
	11" 2 1/4" THREADED

PROJECT NO. 17BP.10.R.33
 STANLY COUNTY
 STATION: 12+15.00 -L-

SHEET 2 OF 4



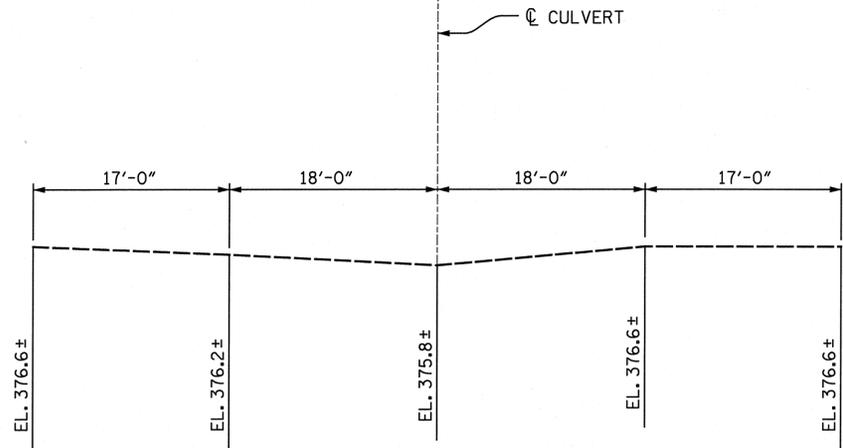
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PRECAST REINFORCED
 CONCRETE THREE-SIDED
 CULVERT
 90° SKEW

DRAWN BY : LEM DATE : 8-12
 CHECKED BY : JTG DATE : 10-12

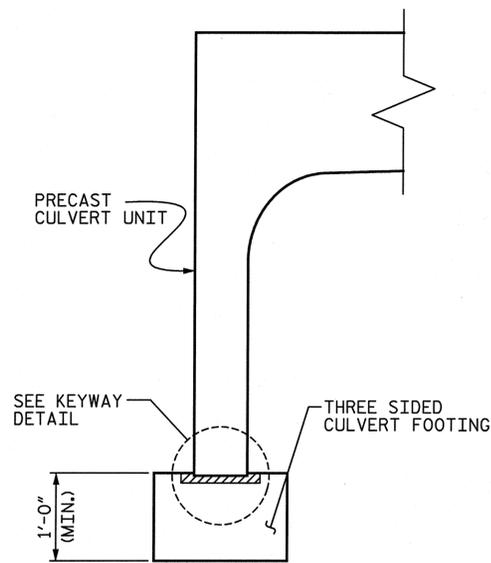
STV / Ralph Whitehead Associates, Inc.
 1000 West Morehead St., Ste. 200
 Charlotte, NC 28208
 NC License No. F-0991

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

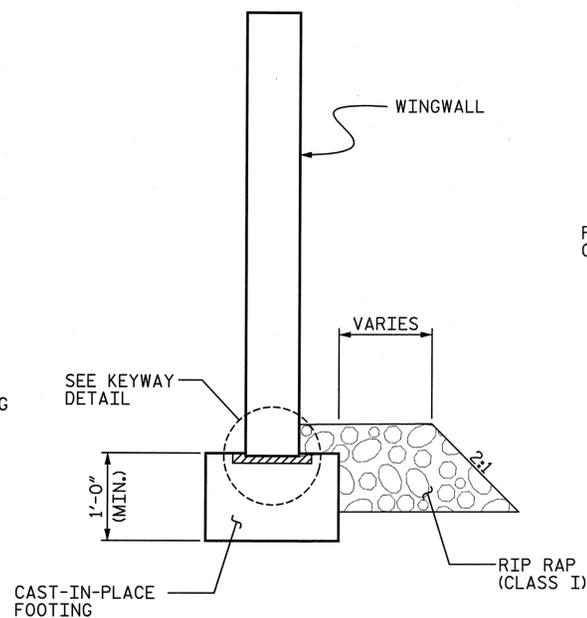
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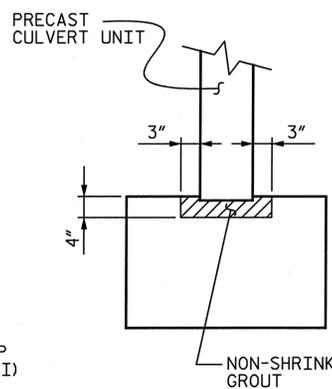
PROFILE ALONG C CULVERT



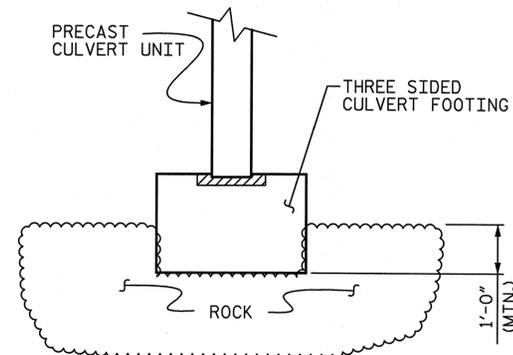
SECTION B-B



SECTION THRU WINGWALL



KEYWAY DETAIL

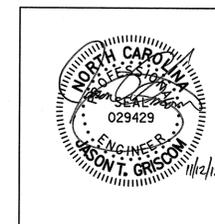


KEYED FOOTING DETAIL

SIDES OF FOOTING SHALL BE IN CONTACT WITH UNDISTURBED MATERIAL FOR MINIMUM DIMENSION SHOWN.

PROJECT NO. 17BP.10.R.33
STANLY COUNTY
 STATION: 12+15.00 -L-

SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PRECAST REINFORCED
 CONCRETE THREE-SIDED
 CULVERT
 90° SKEW

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

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

11/11/2012 2:44:42 PM N:\PROJ\2514545\Low Impact Bridge Div 10\17BP.10.R.33\Structures\Finals\R.33 - (03) Section and Details.dgn

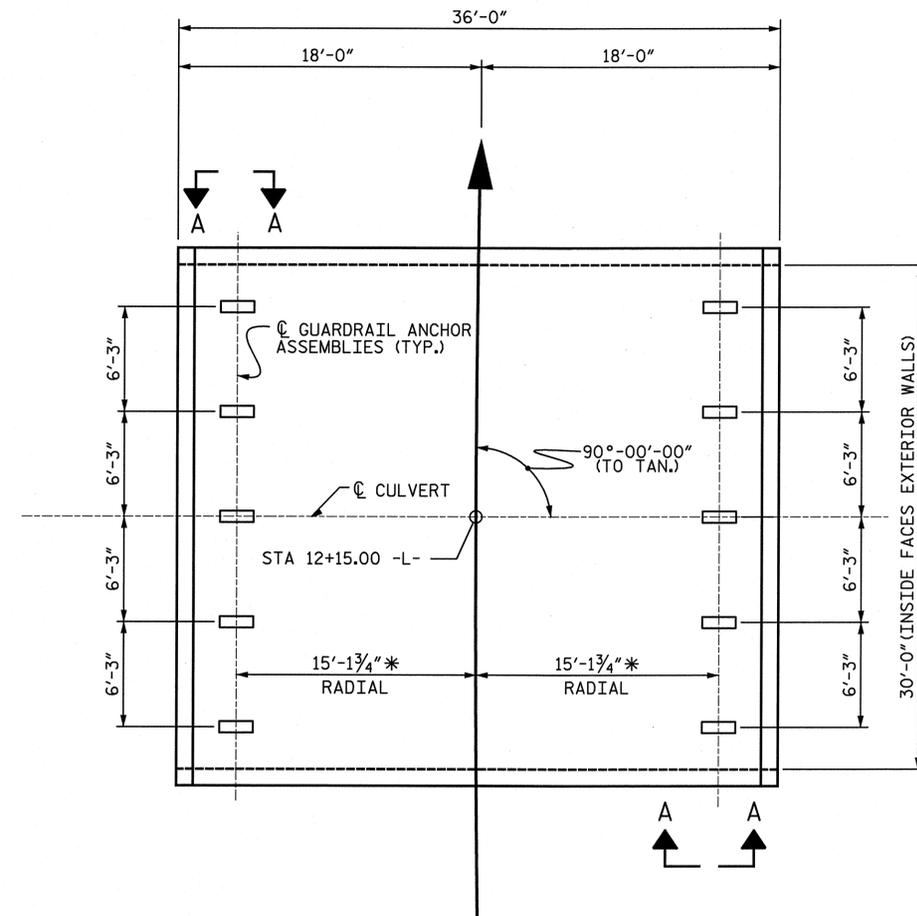
DRAWN BY : LEM DATE : 8-12
 CHECKED BY : JTG DATE : 10-12

NOTES

ALL GUARDRAIL ATTACHMENTS SHALL BE MADE USING ADHESIVELY ANCHORED ANCHOR BOLTS. 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.

ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE 1"Ø AND MEET THE REQUIREMENTS OF ASTM A325. BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

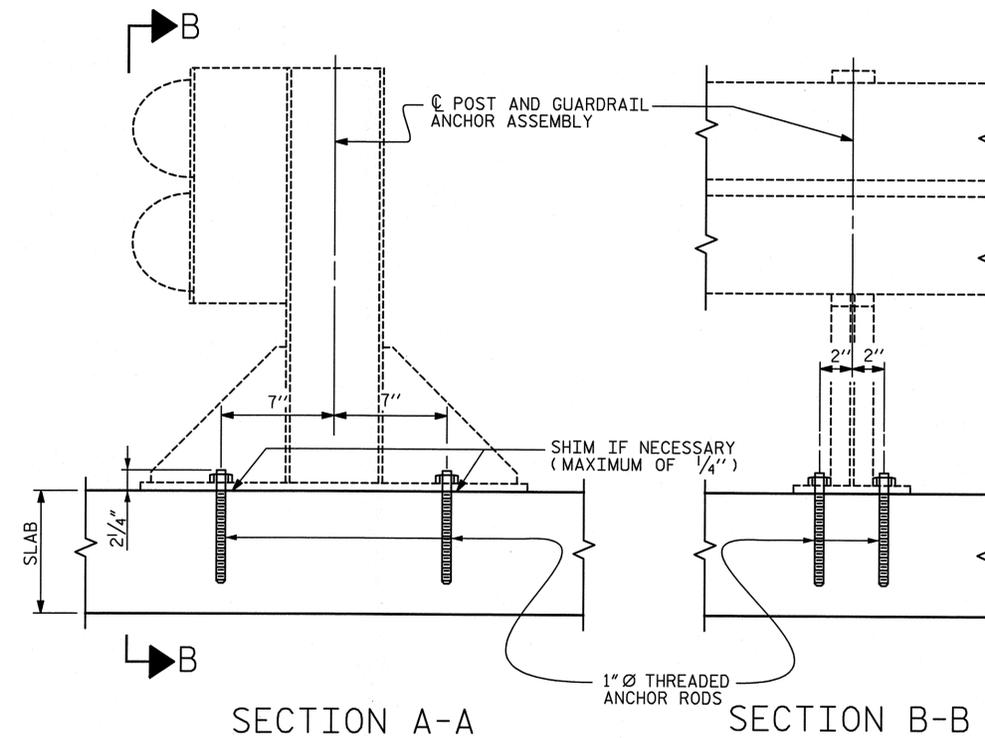
PAYMENT FOR GUARDRAIL, POSTS, AND POST BASE PLATES IS INCLUDED IN ROADWAY PAY ITEMS.



PLAN OF PRECAST CULVERT GUARDRAIL POST SPACING

*THIS DIMENSION TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

NOTE: GUARDRAIL POSTS PLACEMENT AS SHOWN. GUARDRAIL POSTS AND THREADED ANCHOR RODS MUST CLEAR ALL JOINTS OF PRECAST CULVERT UNITS.

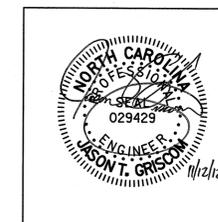


SECTION A-A

SECTION B-B

PROJECT NO. 17BP.10.R.33
 STANLY COUNTY
 STATION: 12+15.00 -L-

SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 ANCHORAGE DETAILS
 FOR GUARDRAIL
 ANCHOR ASSEMBLY FOR
 CULVERTS

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

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

STD. NO. GRA1

N:\PROJ\2514545\Low Impact Bridge Div 10\17BP.10.R.33\Structures\Finals\VR.33 - (04) Guardrail.dgn
 11/11/2012 2:48:22 PM Jgrlsc00m

DRAWN BY: LEM DATE: 8-12
 CHECKED BY: JTG DATE: 10-12

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. FINIS 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