TIP PROJECT: U-2905A

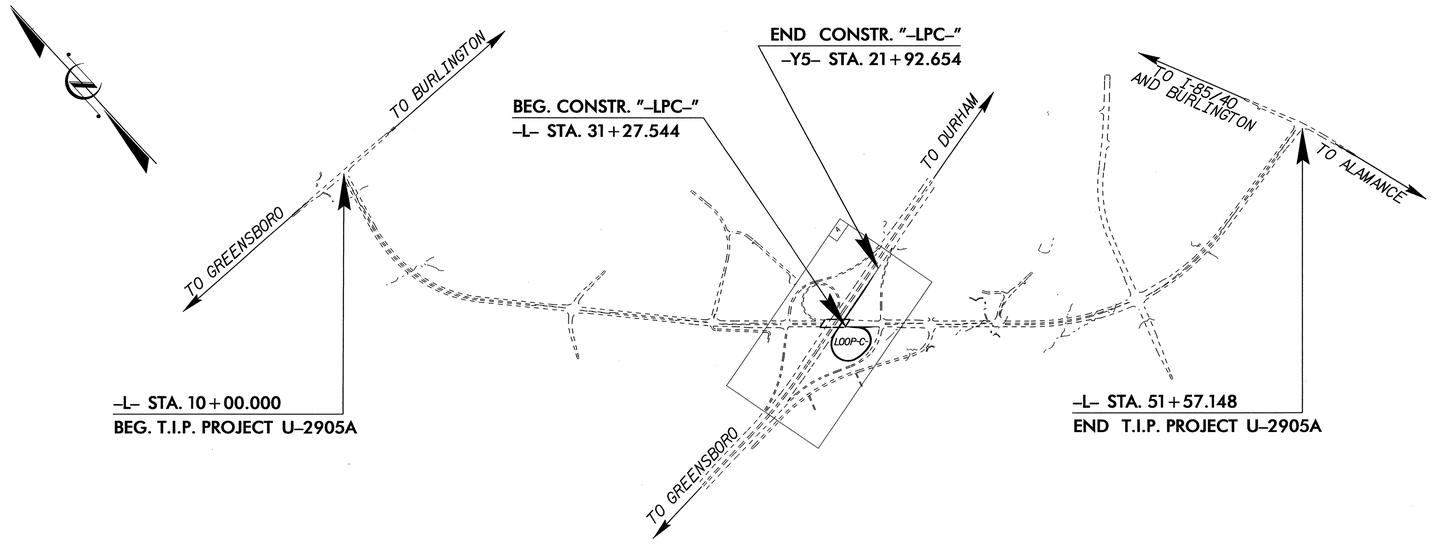
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

ALAMANCE COUNTY

LOCATION: ***BURLINGTON – WESTERN ALAMANCE LOOP FROM US 70 TO SR 1146 (KIRKPATRICK RD.)***

TYPE OF WORK: ***GRADING, DRAINAGE, PAVING, CURB AND GUTTER (LOOP C ADDITION ONLY)***



METRIC

ALL DIMENSIONS IN THESE PLANS ARE IN METERS UNLESS OTHERWISE SHOWN

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2905A	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
	Streambank Reforestation	
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.01	Riser Basin	
1630.02	Silt Basin Type B	
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	
1630.04	Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A OR A
1632.02	Type B	B OR B
1632.03	Type C	C OR C

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

GRAPHIC SCALE

0
PLANS
0
PROFILE (HORIZONTAL)
0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Prepared In the Office of:

ROADSIDE ENVIRONMENTAL UNIT

1 South Wilmington St.
Raleigh, NC 27611

2002 STANDARD SPECIFICATIONS

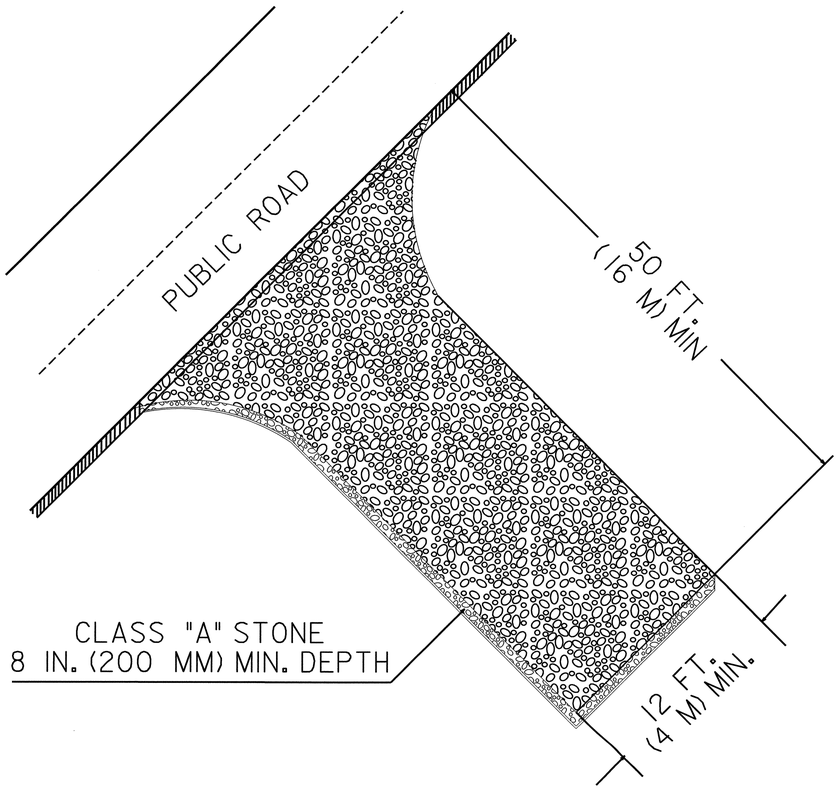
Roadway Standard Drawings

The following roadway metric standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January, 2002 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1632.01 Rock Inlet Sediment Trap Type A
1630.02 Silt Basin Type B	1632.02 Rock Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1632.03 Rock Inlet Sediment Trap Type C
	1633.01 Temporary Rock Silt Check Type A
	1633.02 Temporary Rock Silt Check Type B
	1634.02 Temporary Rock Sediment Dam Type B
	1635.02 Rock Pipe Inlet Sediment Trap Type B

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2905A	EC-2	
STATE PROJECT NO.	F.A. PROJ. NO.	DESCRIPTION

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE



NOTES:

1. TURNING RADIUS SUFFICIENT TO ACCOMODATE LARGE TRUCKS SHALL BE PROVIDED.
2. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. GRAVEL CONSTRUCTION ENTRANCE SHALL BE LOCATED AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER

NOTE: FILTER FABRIC TO BE PLACED BENEATH STONE

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE- B AND TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS.

DETAIL 1
(NATURAL GROUND)
Top Width = 12.4m
d=.3m
Base= .610m
Type of Liner = Class B
Sta. 13+11-RPC- to Sta. 13+51-RPC-(left)

DETAIL 1
(FALSE CUT)
2.4m | 1.2m | 2.4m | 1.2m | .6m | .6m
2H | 2H | 2H | 2H
450mmRCP | 450mmRCP
S= Ditch Slope
Sta. 13+11-RPC- to Sta. 13+51-RPC-(left)
DDE = 550m³ F.F.= 80 SQ M RIP RAP = 40 mTON

DETAIL 3
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground | 4H | D | M | Front Ditch Slope
Min. D = .5 M
Sta. 12+35-LPC- to Sta. 12+60-LPC-(left)

DETAIL 2
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground | 2H | d | 1H | Front Ditch Slope
Filter Fabric
Min. D = .4 M
Max. d = .31 M
Type of Liner = Class B
Sta. 20+80-Y5- to Sta. 21+40-Y5-(right)
F.F.= 90 SQ M RIP RAP = 45 mTON

METRIC	PROJECT REFERENCE NO.	SHEET NO.
5 0 10	U-2905A	EC-SCONST.4
	U-2905 R/W SHEET NO.	10
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST.REV.		
R/W REV.		

1.45 | 892 / 1612
A | D
120 / 686 -L- | 40 / 256 | 14 / 76 | 84 / 316
38 / 252 | 28 / 122
B | C
1.45 | 904 / 1654
WESTERN ALAMANCE LOOP
AVERAGE DAILY TRAFFIC IN HUNDREDS 2005 2030

ALAMANCE PROPERTIES OF HICKORY DB 868 PG 193
CONCRETE MONUMENT
-Y5- POT STA.21+92.654
END PROJECT U-2905A
END CONST.
TO DURHAM
NOTE: SCALAR AND EXTEND CONCRETE CAP
SPECIAL CUT DITCH SEE DETAIL 2
FLOW
6 x 3 x 1
A
D
REINFORCED MONOLITHIC CONCRETE ISLAND ON BRIDGE AND APPROACH SLAB. SEE DETAIL SHT.2-G
NAOMI M. SCHMIDT, ET AL TM 3-23-39
JAMES C. WHITESELL DB 689 PG 621 PB 41 PG 16
RAY A. WHITESELL DB 377, PG 859 DB 377 PG 848 PB 41 PG 16
TIE TO EXIST.C&G -L- STA.30+35.000 NOTE:REMOVE EXIST.450mm C&G
END 450MM C&G -L- STA.30+35.000
CONCRETE TO BE MONOLITHIC CONC. ISLAND
END TYPE T5 BARRIER -Y5- STA.19+70.000
TIE TO EXIST.C&G -L- STA.33+13.89 NOTE:REMOVE EXIST.450mm C&G
TO US 70
28
29
30 450mm C&G
S 47°19'46.8" E
31
32
33
34
-L- STA.33+43.000
END CONST.
TO KIRKPATRICK ROAD
-Y5- POT STA.19+22.654
-LPC- ST STA.13+86.494
(17.870m RT.)
165m TRANSITION
BEGIN PROJECT U-2905A
-L- POT STA.29+15.837
BEGIN CONST.
8 x 3 x 1
1.5 m weir
B
N 76°53'57.4" E
-L- POT STA.31+48.030
-LPC- ST STA.9+94.144
(6.825m RT.)
-LPC- SCSTa.10+39.144
-LPC- CSSta.13+26.494
C
-LPC- PCCSta.11+31.661
-LPC- PCCSta.11+84.761
SPECIAL CUT DITCH SEE DETAIL 3
NOTE: F.W.DE. CUT DITCH SEE DETAIL 1 NOTE: CLASS B RIP RAP
TO GREENSBORO
S 68°14'05.4" E
-RPC- ST STA.13+10.541
-RPC- PC STA.13+64.838
-RPC- PT STA.15+52.450
END SBR -RPC- STA.14+90.000
BEGIN SBR -RPC- STA.13+90.000
BEGIN CONST. -RPC- STA.13+60.000
END CONST. -RPC- STA.15+09.200
TIE TO EXISTING C&G -L- STA.32+35.33
TIE TO EXISTING C&G -L- STA.13+60.030 NOTE:REMOVE EXIST.750mm C&G
750mm C&G
375mm CONC
450mm CONC
165m TRANSITION
35m Taper
OPEN THROAT
RETAIN
SR 1226 UNKNOWN DIA. DAY SIGT
12in CONC-SIL
TIE TO EXIST.C&G -L- STA.33+13.89
NOTE:REMOVE EXIST.450mm C&G
TIE TO EXIST.C&G -L- STA.10+24.444
NOTE:REMOVE EXIST.450mm C&G
CAT-1
GRAS VEG
RIP RAP
R/W MONUMENT
FENCE
CB
DI
SBR

-RPC-

Pls Sta. 11+09.017	Pl Sta 11+87.666	Pls Sta 12+66.555	Pl Sta 14+68.797
Ds = 4°43'36.8"	Δ = 15°34'23.82" (RT)	Ds = 4°43'36.8"	Δ = 57°26'30.37" (LT)
Ls = 65.0	L = 145.594	Ls = 65.0	L = 181.699
LT = 140.057	T = 73.654	LT = 210.057	T = 99.528g
ST = 222.043	R = 400.0000	ST = 222.043	R = 175.0000
	SE = 0.08		SE = 0.06

-LPC-

Pls Sta. 10+24.444	Pl Sta 11+03.289	Pl Sta 11+58.458	Pl Sta 13+16.547	Pls Sta. 13+46.936
Ds = 24°48'29.2"	Δ = 10°56'20.7" (RT)	Δ = 19°07'54.8" (RT)	Δ = 108°53'58.8" (RT)	Ds = 27°17'01.3"
Ls = 45.000	L = 92.517	L = 53.100	L = 147.33	Ls = 60.000
LT = 90.300	T = 46.415	T = 25.757	T = 93.785	LT = 40.496
ST = 15.273	R = 52.000	R = 160.000	R = 63.000	ST = 20.442

EXISTING SIGNAL
125mm MONO. CONC. ISLAND
125mm KEYED-IN MONO. CONC. ISLAND
FOR -LPC- PROFILE, SEE SHEET NO. 5
FOR -Y5- PROFILE, SEE SHEET NO. 6

PROJECT REFERENCE NO.	SHEET NO.
U-2905A	EC-4CONST.4
U-2905 R/W SHEET NO.	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST.REV.	
R/W REV.	

DETAIL 1
(NATURAL GROUND)
Top Width = 12.4m
d=.3m
Base= .60m
Type of Liner = Class B
Sta. 13+11-RPC- to Sta. 13+51-RPC-(left)

DETAIL 1
(FALSE CUT)
L2m 2.4m 2% 2% 2.4m L2m
.6m .6m
450mmRCP 450mmRCP
S= Ditch Slope
Sta. 13+11-RPC- to Sta. 13+51-RPC-(left)
DDE = 550m³ F.F.= 80 SQ M RIP RAP = 40 mTON

DETAIL 3
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
Front Ditch Slope
Min. D = .5 M
Sta. 12+35-LPC- to Sta. 12+60-LPC-(left)

DETAIL 2
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
Front Ditch Slope
Filter Fabric
Min. D = .4 M
Max. d = .31 M
Type of Liner = Class B
Sta. 20+80-Y5- to Sta. 21+40-Y5-(right)
F.F.= 90 SQ M RIP RAP = 45 mTON

-RPC-

PIs Sta 11+06.07	PI Sta 11+87.666	PIs Sta 12+66.555	PI Sta 14+68.797
Gs = 4°33'36.8"	Δ = 15°53'23.8" (RT)	Gs = 4°33'36.8"	Δ = 30°3" (LT)
Ls = 60.0	L = 116.394	Ls = 60.0	L = 187.695
Lt = 44.057	T = 57.664.3	Lt = 44.057	T = 1103.936
St = 222.043	R = 400.0000	St = 222.043	R = 1750.000
	SE = 0.08		SE = 0.06

-LPC-

PIs Sta 10+24.444	PI Sta 11+03.289	PI Sta 11+58.458	PI Sta 13+16.547	PIs Sta 13+46.936
Gs = 24°41'29.2"	Δ = 10°56'20.7" (RT)	Δ = 13°00'54.8" (RT)	Δ = 128°53'58.8" (RT)	Gs = 27°17'01.3"
Ls = 45.000	L = 92.517	L = 53.100	L = 140.735	Ls = 60.000
Lt = 30.300	T = 64.145	T = 26.791	T = 134.786	Lt = 40.486
St = 15.273	R = 520.000	R = 150.000	R = 63.000	St = 20.442

ALAMANCE PROPERTIES OF HICKORY
DB 868 PG 193

NAOMI W. SCHMIDT, ET AL
TM 3-23-38

JAMES C. WHITESELL
DB 683 PG 62
PB 41 PG 16

RAY A. WHITESELL
DB 377 PG 59
DB 377 PG 848
PB 41 PG 16

AVERAGE DAILY TRAFFIC 2005 / 2030
A: 892/1612 D: 40/236, 14/76 B: 38/232, 28/122 C: 120/686, 84/316, 904/1654
WESTERN ALAMANCE LOOP

-Y5- POT STA.21+92.654
END PROJECT U-2905A
END CONST.

-L- POT STA.30+86.415
-Y5- POT STA.19+27.668

-Y5- POT STA.19+22.654
-LPC- ST STA.13+86.494
(17.870m RT.)

BEGIN PROJECT U-2905A
-L- POT STA.29+15.631
BEGIN CONST.

-L- POT STA.31+48.030
-LPC- ST STA.9+94.144
(6.825m RT.)

-LPC- SCSta.10+39.144
-LPC- CSSta.13+26.494
-LPC- PCCSta.11+31.661
-LPC- PCCSta.11+84.761
-RPC- ST STA.13+10.541
-RPC- PC STA.13+64.838
-RPC- PT STA.15+52.450
-RPC- STA.15+09.200
-RPC- STA.14+90.000
-RPC- STA.13+60.800

8 x 3 x 1
8 x 3 x 1
1.5 m weir

SPECIAL CUT DITCH SEE DETAIL 2
SPECIAL CUT DITCH SEE DETAIL 3
NOTE: FALSE CUT DITCH SEE DETAIL 1
NOTE: CLASS B RIP RAP

REINFORCED MONOLITHIC CONCRETE ISLAND ON BRIDGE AND APPROACH SLABS. SEE DETAIL SHT.2-G

TIE TO EXIST.C&G
-L- STA.30+35.000
NOTE: REMOVE EXIST.450mm C&G

END 450MM C&G
-L- STA.30+35.000

125mm KEYED-IN MONOLITHIC CONC. ISLAND

END TYPE T2 BARRIER
-Y5- STA.19+70.000

RETAIN SR 1836 UNIVERSITY DR. (US 70 BUS)

BEG. TYPE T2 BARRIER
-Y5- STA.19+31.000

END, 750mm C&G

750mm C&G

TIE TO EXISTING C&G
-L- STA.31+48.030
NOTE: REMOVE EXIST. 750mm C&G

TIE TO EXIST.C&G
-L- STA.32+78.736
NOTE: REMOVE EXIST. 450mm C&G

TIE TO EXIST.C&G
-L- STA.33+13.189

TIE TO EXISTING C&G
-L- STA.32+35.331

END CONST.

BEGIN SBG
-RPC- STA.13+80.000

END SBG
-RPC- STA.14+90.000

-L- STA.33+43.000
END CONST.

TO US 70
TO GREENSBORO
TO DURHAM
TO KIRKPATRICK ROAD

EXISTING SIGNAL
125mm MONO. CONC. ISLAND
125mm KEYED-IN MONO. CONC. ISLAND
FOR -LPC- PROFILE, SEE SHEET NO. 5
FOR -Y5- PROFILE, SEE SHEET NO. 6