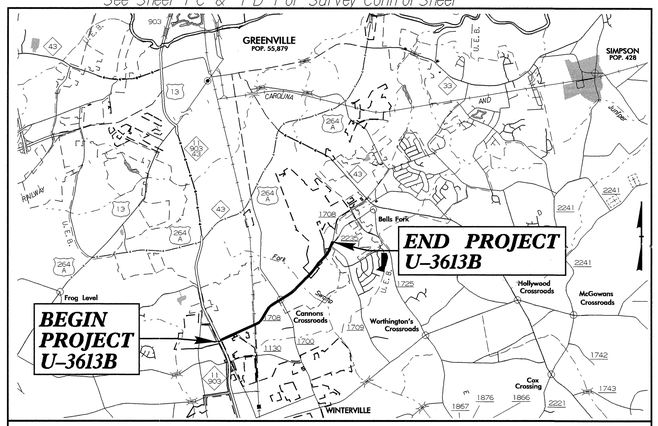
9/09/99

CONTRACT: C201654 TIP PROJECT: U-3613B

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Plan Sheet Symbols
See Sheet 1-C & 1-D For Survey Control Sheet



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PITT COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3613B	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34961.1.2	MA-STP-1708(1)	PE
34961.2.2	STP-1708(3)	R/W, UTIL.
34961.3.3	STP-1708(5)	CONST.

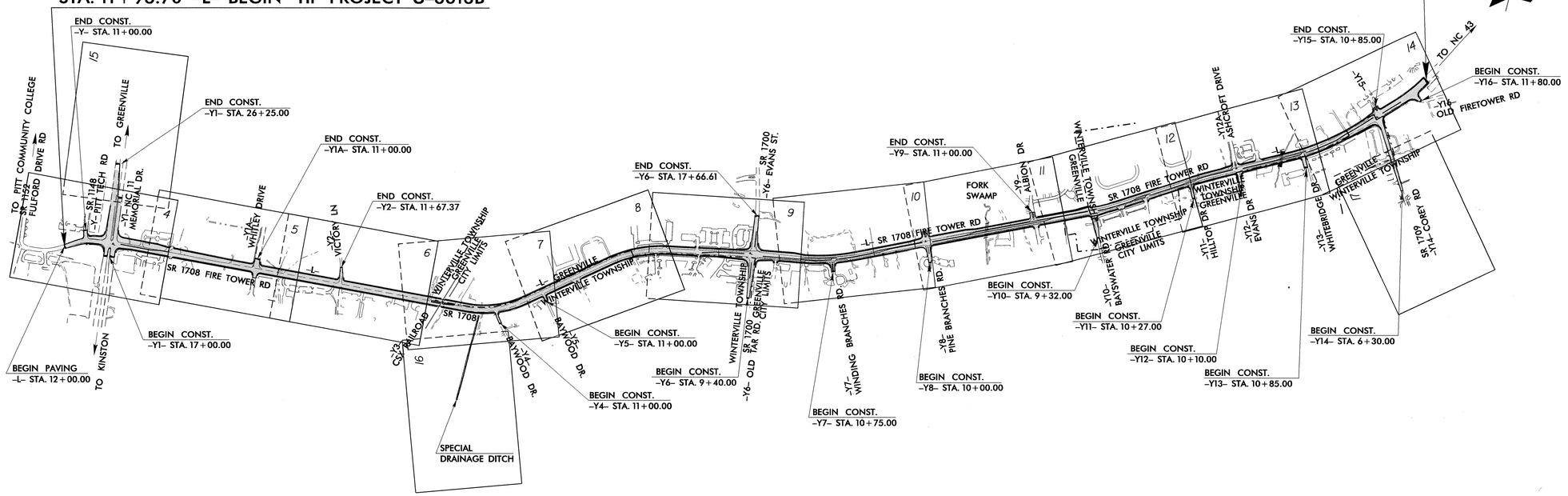
LOCATION: GREENVILLE – SR 1708 (FIRE TOWER ROAD) FROM WEST OF NC 11-903 TO EAST OF SR 1709 (COREY RD).

TYPE OF WORK: GRADING, DRAINAGE, WIDENING, PAVING, CURB & GUTTER, CULVERT, RETAINING WALLS, GUARDRAIL AND SIGNALS

NAD 83

STA. 11+98.70 –L– BEGIN TIP PROJECT U-3613B

STA. 151+70.00 –L– END TIP PROJECT U-3613B



GRAPHIC SCALES	
PLANS	50 25 0 50 100
PROFILE (HORIZONTAL)	50 25 0 50 100
PROFILE (VERTICAL)	10 5 0 10 20

DESIGN DATA	
ADT 2006 =	28,908
ADT 2030 =	42,200
DHV =	10 %
D =	60 %
T =	3 % *
V =	50 MPH

* TTST 1 % DUAL 2 %

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3613B = 2.646 mi.
TOTAL LENGTH OF TIP PROJECT U-3613B = 2.646 mi.

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

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 28, 2002

LETTING DATE:
OCTOBER 17, 2006

JAMES A. SPEER, PE
PROJECT ENGINEER

DANNY GARDNER
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER
SIGNATURE: 5-1-06 P.E.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER
SIGNATURE: 5/01/06 P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR *DATE*

20-APR-2006 08:43
C:\projects\3613\
$$$$USERNAME$$$$

D212399 4/20/2006 u3613btsh dwgardner RD-Oce34

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

5/04/06

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS
1-B	CONVENTIONAL PLAN SHEET SYMBOLS
1-C THRU 1-D	SURVEY CONTROL SHEETS
2 THRU 2-H	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2-I	EMERGENCY VEHICLE ACCESS DETAIL
2-J	18" SADDLE BRANCH CONNECTOR DETAIL
2-K THRU 2-L	TEMPORARY FABRIC WALL DETAIL
2-M THRU 2-P	GUARDRAIL INSTALLATION
2-Q THRU 2-S	GUARDRAIL ANCHOR UNITS
2-T	DRIVEWAY TURNOUT DETAIL
2-U THRU 2-W	WHEELCHAIR RAMP DETAIL
2-X	TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC
2-Y	TEMPORARY STEEL PLATE COVER DETAIL
2-Z	DETAIL OF REINFORCED CONCRETE ENDWALL FOR 137" X 85" PIPE ARCH
3	SUMMARY OF QUANTITIES
3-A THRU 3-N	DRAINAGE SUMMARY
3-O	54" PIPE AND OVER DRAINAGE SUMMARY, GUARDRAIL SUMMARY, REMOVAL OF EXISTING ASPHALT SUMMARY, BREAKUP OF EXISTING ASPHALT PAVEMENT SUMMARY, TEMPORARY PLAIN CS PIPE SUMMARY
3-P THRU 3-Q	EARTHWORK SUMMARY
3-R THRU 3-S	PARCEL INDEX SHEET
4 THRU 17	PLAN SHEETS
18 THRU 27	PROFILE SHEETS
TCP-1 THRU TCP-39	TRAFFIC CONTROL PLANS
PM-1 THRU PM-7	PAVEMENT MARKING PLANS
EC-1 THRU EC-29	EROSION CONTROL PLANS
RF-1 THRU RF-2	REFORESTATION PLANS
SIGN-1 THRU SIGN-10	SIGNING PLANS
SIG-1 THRU SIG-5	SIGNAL PLANS
UC-1 THRU UC-32	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-13	UTILITIES BY OTHERS
X-1	CROSS SECTION SUMMARY
X-2 THRU X-88	CROSS SECTIONS
C-1 THRU C-12	CULVERT PLANS
W-1 THRU W-5	RETAINING WALL PLANS

GENERAL NOTES:

2002 SPECIFICATIONS
EFFECTIVE: 01-15-02
REVISED: 05-14-03

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE AREAS IN THE PLANS DESIGNATED SAFETY CLEARING. THE LIMITS ARE AS SHOWN AND THE CLEARING AND GRUBBING IS CONSIDERED A PART OF THE LUMP SUM ITEM FOR "CLEARING AND GRUBBING".

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

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

BERM DITCHES:

BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

UNDERDRAINS:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS IN PLANS AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

GUARDRAIL:

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

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING" OR "TEMPORARY SHORING-BARRIER SUPPORTED" DEPENDING UPON THE LOCATION OF THE SHORING.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE SPRINT, AT&T, GREENVILLE UTILITY

COMMISSION (POWER, WATER, SEWER, AND GAS) & TOWN OF WINTERVILLE (WATER AND

SEWER).

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

WHEELCHAIR RAMPS:

WHEELCHAIR RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. THE CONSTRUCTION OF ALL WHEELCHAIR RAMPS SHALL BE IN ACCORDANCE WITH DETAILS IN PLANS.

EFF. 01-15-02
REV.11-23-04

2002 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January 15, 2002 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
240.01	Guide for Berm Ditch Construction
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
300.03	Method of Structural Plate Pipe and Pipe Arch Installation - Method 'A'
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
816.04	Markers for Drainage Structure and Concrete Pad
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.04	Concrete Catch Basin with Single and Multiple Pipes - 12" thru 48" Pipe
840.05	Brick Catch Basin with Single and Multiple Pipes - 12" thru 48" Pipe
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.18	Concrete Median Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.27	Brick Median Drop Inlet Type 'B' - 12" thru 36" Pipe
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.04	Street Turnout
850.01	Concrete Paved Ditches
852.01	Concrete Islands
852.05	Median Curb for Catch Basin - for Use with 1'-6" Curb and Gutter
852.06	Method for Placement of Drop Inlets in Concrete Islands
852.10	Median Construction - with Curb and Gutter
862.01	Guardrail Placement
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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RD212399 5/4/2006 u3613bs01a dwgardner RD-Oce34

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	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 High Quality Wetland Boundary — HQ WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

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
- River Basin Buffer — RBB
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- 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 Utility Easement — PUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- Curb Cut for Future Wheel Chair 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 — HH
- 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

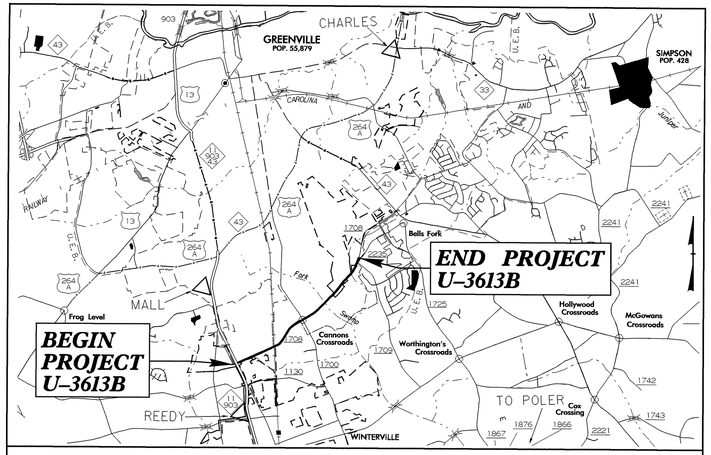
MISCELLANEOUS:

- 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
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	1-C
Location and Surveys	

SURVEY CONTROL SHEET U-3613B



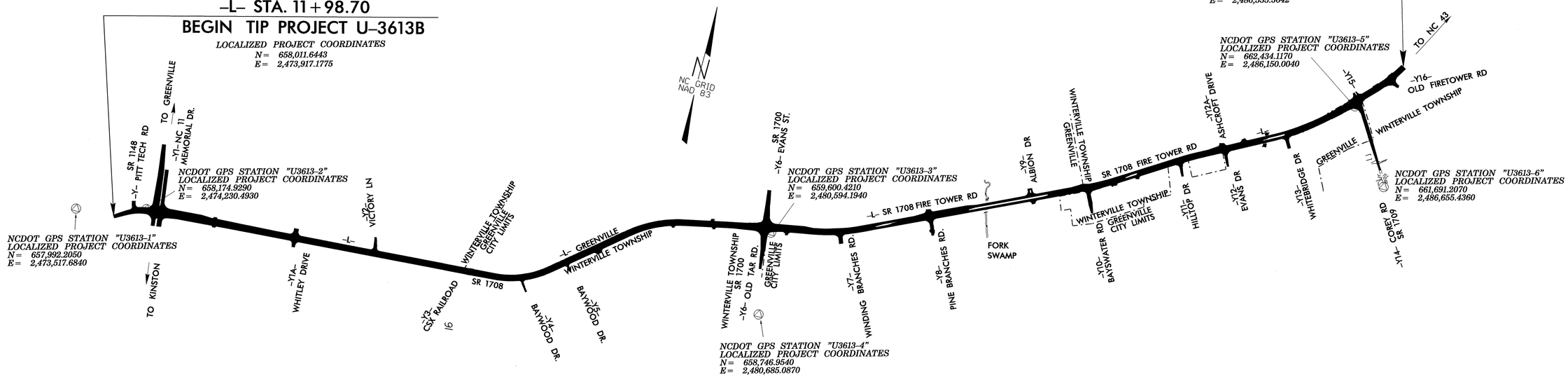
VICINITY MAP

-L- STA. 11+98.70
BEGIN TIP PROJECT U-3613B

LOCALIZED PROJECT COORDINATES
N= 658,011.6443
E= 2,473,917.1775

-L- STA. 151+70.00
END TIP PROJECT U-3613B

LOCALIZED PROJECT COORDINATES
N= 662,964.6439
E= 2,486,535.3642



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "REEDY" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 656284.853(ft) EASTING: 2474446.722(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998829 THE N.C. LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "REEDY" TO -L- STATION 11+98.70 IS N 61°04'35" E 13,811.40' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

CONTROL NETWORK STATIONS
(STATE PLANE GRID COORDINATES)

POINT	NORTH	EAST	ELEVATION
NCGS "CHARLES"	673,606.589	2,485,375.357	75.66
NCGS "MALL"	664,445.308	2,474,445.684	77.33
NCGS "REEDY"	656,284.853	2,474,446.722	70.59
NCGS "POLER"	630,235.859	2,495,333.425	54.75

NOTE: DRAWING NOT TO SCALE

NOTES:

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

FILE: U3613B_LS_CONTROL_060103.TXT

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

△ *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

RD212399 1/11/2006 survey control 1c dwgardner RD-Oce34

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	1-D
Location and Surveys	

SURVEY CONTROL SHEET U-3613B

CONTROL DATA

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL1	BL-1	658132.8290	2473498.0340	68.87	OUTSIDE PROJECT LIMITS	
U36131	GPS MON U3613B-1	657992.2050	2473517.6840	69.27	OUTSIDE PROJECT LIMITS	
BL2	BL-2	658170.9220	2474120.2110	69.18	14+48.67	35.76 LT
U36132	GPS MON U3613B-2	658174.9290	2474230.4930	69.99	15+51.96	12.42 LT
BL3	BL-3	658254.9010	2475118.4040	72.45	24+42.36	27.96 LT
BL4	BL-4	658298.2820	2476037.9230	66.24	33+62.65	6.42 LT
BL5	BL-5	658379.5260	2476692.0630	68.60	40+20.89	41.36 LT
BL6	BL-6	658415.7550	2477633.3140	72.91	49+62.35	11.15 LT
BL7	BL-7	658438.4660	2478187.5410	73.04	55+08.29	43.45 RT
BL8	BL-8	658752.3960	2478636.6260	73.81	60+46.38	28.23 RT
BL9	BL-9	659407.0320	2479416.3090	75.33	70+61.34	24.97 LT
U36133	GPS MON U3613B-3	659600.4210	2480594.1940	69.05	82+52.29	49.98 RT
BL10	BL-10	659747.5220	2481261.7200	71.06	89+31.30	36.04 RT
BL11	BL-11	660149.9690	2482140.9720	61.61	98+94.08	26.93 RT
BL12	BL-12	660422.1150	2482712.8180	58.64	105+27.38	23.84 RT
BL13	BL-13	660617.5950	2483134.3980	61.15	109+92.07	26.22 RT
BL14	BL-14	660885.7440	2483710.5570	63.78	116+27.37	28.63 RT
BL15	BL-15	661379.6870	2484500.1140	66.68	125+55.93	17.99 RT
BL16	BL-16	661614.6450	2484942.8980	62.32	130+58.84	29.69 RT
BL17	BL-17	661828.6130	2485312.1800	61.12	134+85.35	14.37 RT
BL18	BL-18	661962.2140	2485568.4350	62.97	137+72.94	22.27 RT
U36135	GPS MON U3613B-5	662434.1170	2486150.0040	66.31	145+16.65	43.29 RT
BL19	BL-19	662704.4820	2486399.1340	69.13	148+81.82	37.53 RT
BL20	BL-20	663119.1460	2486669.0530	69.43	OUTSIDE PROJECT LIMITS	

BY

POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
BY1	BY-1	658315.9850	2474091.0230	69.45	OUTSIDE PROJECT LIMITS	
EQBL2	BL-2	658170.9200	2474120.2100	69.18	10+36.72	22.45 RT

BY1

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
BY11	BY1-1	658447.6890	2474261.1250	70.83	21+32.94	63.86 LT
EQU36132	GPS MON U3613B-2	658174.9290	2474230.4930	69.99	18+65.82	126.97 LT
BY12	BY1-2	657851.8710	2474318.1350	71.17	15+34.58	78.69 LT

BY2

POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
BY21	BY2-1	658518.4930	2476631.5130	67.56	11+81.98	18.88 RT
EQBL5	BL-5	658379.5260	2476692.0630	68.60	10+39.28	49.20 RT

BY3

POINT	DESC.	NORTH	EAST	ELEVATION	Y3 STATION	OFFSET
BY31	BY3-1	658584.8400	2477691.4640	73.52	OUTSIDE PROJECT LIMITS	
EQBL6	BL-6	658415.7550	2477633.3140	72.91	12+23.34	27.33 LT
BY33	BY3-3	658194.8270	2477618.1200	72.54	10+07.72	23.11 RT

BY4

POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
EQBL7	BL-7	658438.4660	2478187.5410	73.04	12+18.38	26.34 LT
BY42	BY4-2	658283.5580	2478350.8400	71.93	10+00.34	12.06 RT

BY5

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
EQBL8	BL-8	658752.3960	2478636.6260	73.81	11+72.29	21.55 RT
BY52	BY5-2	658613.0100	2478739.3180	72.70	OUTSIDE PROJECT LIMITS	

BY6

POINT	DESC.	NORTH	EAST	ELEVATION	Y6 STATION	OFFSET
BY61	BY6-1	659939.7720	2480504.7540	69.24	16+75.15	27.52 RT
EQU36133	GPS MON U3613B-3	659600.4210	2480594.1940	69.05	13+27.60	68.19 RT
U36134	GPS MON U3613B-4	658746.9540	2480685.0870	69.58	OUTSIDE PROJECT LIMITS	

BY7

POINT	DESC.	NORTH	EAST	ELEVATION	Y7 STATION	OFFSET
EQBL10	BL-10	659747.5220	2481261.7200	71.06	11+66.10	39.26 LT
BY72	BY7-2	659614.9970	2481387.0690	69.63	OUTSIDE PROJECT LIMITS	

BY8

POINT	DESC.	NORTH	EAST	ELEVATION	Y8 STATION	OFFSET
EQBL11	BL-11	660149.9690	2482140.9720	61.61	11+76.19	30.89 LT
BY82	BY8-2	659999.8150	2482254.1000	59.50	OUTSIDE PROJECT LIMITS	

BY9

POINT	DESC.	NORTH	EAST	ELEVATION	Y9 STATION	OFFSET
BY92	BY9-2	660876.2460	2483060.4500	61.15	OUTSIDE PROJECT LIMITS	
EQBL13	BL-13	660617.5950	2483134.3980	61.13	OUTSIDE PROJECT LIMITS	

BY10

POINT	DESC.	NORTH	EAST	ELEVATION	Y10 STATION	OFFSET
EQBL14	BL-14	660885.7440	2483710.5570	63.78	11+76.78	36.91 RT
BY102	BY10-2	660717.0400	2483768.0280	60.88	09+99.86	15.40 RT

BY11

POINT	DESC.	NORTH	EAST	ELEVATION	Y11 STATION	OFFSET
EQBL15	BL-15	661379.6870	2484500.1140	66.68	11+73.92	44.03 LT
BY112	BY11-2	661231.1670	2484603.0950	66.88	OUTSIDE PROJECT LIMITS	

BY12

POINT	DESC.	NORTH	EAST	ELEVATION	Y12 STATION	OFFSET
EQBL16	BL-16	661614.6450	2484942.8980	62.32	11+65.97	22.53 LT
BY122	BY12-2	661465.8060	2485020.2640	61.45	OUTSIDE PROJECT LIMITS	

BY13

POINT	DESC.	NORTH	EAST	ELEVATION	Y13 STATION	OFFSET
EQBL18	BL-18	661962.2140	2485568.4350	62.97	12+12.31	34.62 RT
BY132	BY13-2	661780.5000	2485664.9390	64.06	10+06.60	30.59 RT

BY14

POINT	DESC.	NORTH	EAST	ELEVATION	Y14 STATION	OFFSET
EQU361314	GPS MON U3613B-5	662434.1170	2486150.0040	66.31	13+46.48	55.05 LT
BY142	BY14-2	661691.2070	2486655.4360	63.76	OUTSIDE PROJECT LIMITS	

BY15

POINT	DESC.	NORTH	EAST	ELEVATION	Y15 STATION	OFFSET
BY151	BY15-1	662724.9440	2486025.9380	66.51	OUTSIDE PROJECT LIMITS	
EQU361315	GPS MON U3613B-5	662434.1170	2486150.0040	66.31	OUTSIDE PROJECT LIMITS	

BY16

POINT	DESC.	NORTH	EAST	ELEVATION	Y16 STATION	OFFSET
EQBL19	BL-19	662704.4820	2486399.1340	69.13	12+81.89	98.32 LT
BY162	BY16-2	662812.7470	2486709.7840	68.58	OUTSIDE PROJECT LIMITS	

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****************************************
BM1       ELEVATION = 73.80
N 657685       E 2473495
BL STATION 6+42 308 RIGHT
X-CROSS IN TOP FLANGE BOLT
****************************************

****************************************
BM2       ELEVATION = 67.93
N 658046       E 2475800
BL STATION 29+43 241 RIGHT
REBAR & CAP
****************************************

****************************************
BM3       ELEVATION = 74.96
N 658820       E 2477726
BL STATION 49+03 400 LEFT
REBAR & CAP
****************************************
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****************************************
BM4       ELEVATION = 72.59
N 659532       E 2479308
BL STATION 69+12 165 LEFT
BOXCUT IN BACK OF CURB
****************************************

****************************************
BM5       ELEVATION = 70.25
N 659659       E 2481240
BL STATION 87+52 82 RIGHT
BOXCUT IN BACK OF CURB
****************************************

****************************************
BM6       ELEVATION = 59.08
N 659994       E 2482252
BL STATION 97+92 189 RIGHT
REBAR & CAP
****************************************
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****************************************
BM7       ELEVATION = 68.09
N 661118       E 2484701
BL STATION 124+78 325 RIGHT
X-CROSS IN TOP FLANGE BOLT
****************************************

****************************************
BM8       ELEVATION = 64.09
N 661633       E 2485682
BL STATION 135+89 344 RIGHT
X-CROSS IN TOP FLANGE BOLT
****************************************

****************************************
BM9       ELEVATION = 70.79
N 663254       E 2486759
BL STATION 6+42 14248 LEFT
X-CROSS IN TOP FLANGE BOLT
****************************************
```

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "REEDY" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 656284.853(ft) EASTING: 2474446.722(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998829 THE N.C. LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "REEDY" TO -L- STATION 11+98.70 IS N 61°04'35" E 13,811.40' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2

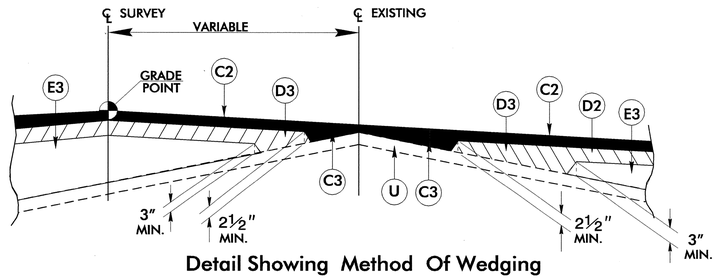
ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER — 5/01/06

PAVEMENT DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON — 5/1/06

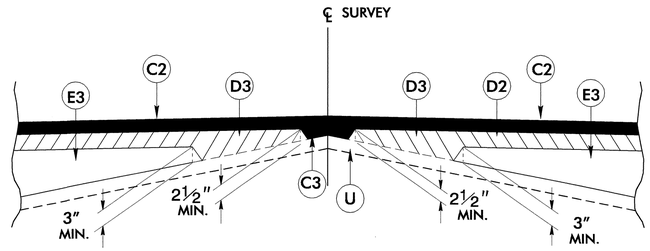
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R4	5" CONCRETE MONOLITHIC ISLAND (KEYED-IN)
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E2	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R5	3" CONCRETE ISLAND COVER
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.	E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.	S	4" CONCRETE SIDEWALK.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	R1	1'-6" CONCRETE CURB AND GUTTER.	T	EARTH MATERIAL.
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R2	2'-6" CONCRETE CURB AND GUTTER.	U	EXISTING PAVEMENT.
D3	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 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	R3	2'-0" VALLEY GUTTER	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAILS)

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

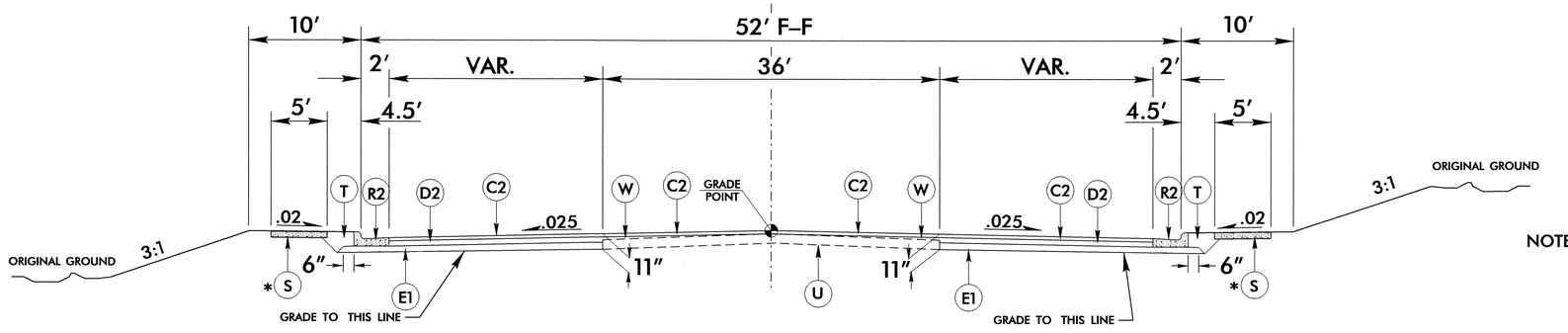


Detail Showing Method Of Wedging



Detail Showing Method of Wedging

℄ –L– SR 1708 (FIRETOWER RD.)



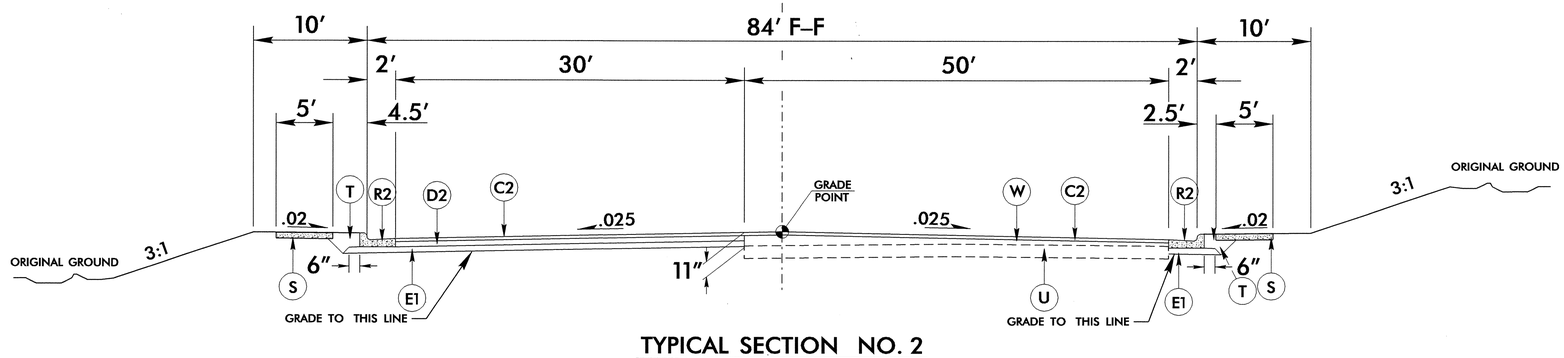
TYPICAL SECTION NO. 1

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1
–L– STA. 12+00.00 TO STA. 13+10.00

USE TYPICAL SECTION NO. 1

–L– STA. 13+10.00 TO STA. 14+50.00
*–L– STA. 14+50.00 TO STA. 16+20.70

℄ –L– SR 1708 (FIRETOWER RD.)



TYPICAL SECTION NO. 2

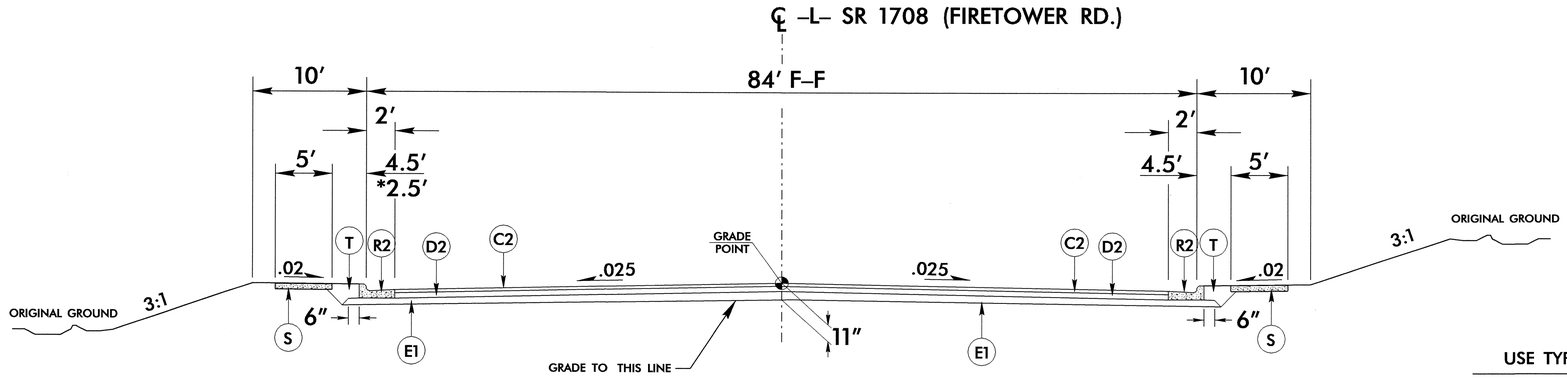
USE TYPICAL SECTION NO. 2

–L– STA. 17+25.00 TO STA. 19+00.00

20-APR-2006 08:43
$$$$USERNAME$$$$ u3613btyp

RD212399 4/20/2006 u3613btyp2 dwgardner RD-Oce34

6/2/99

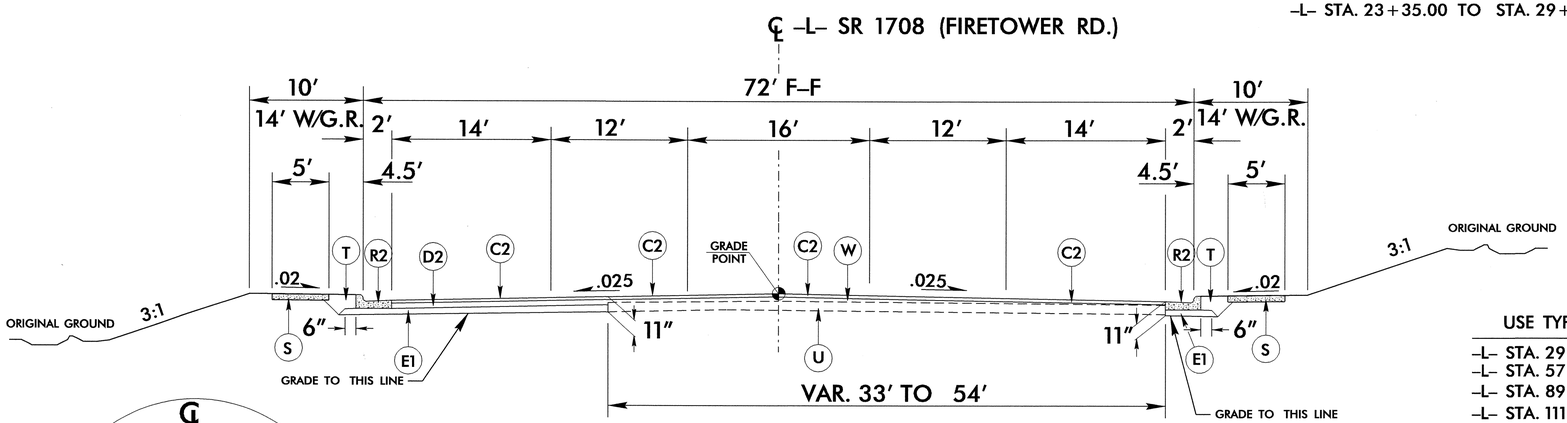


TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

–L– STA. 19+00.00 TO STA. 23+35.00
*–L– STA. 19+00.00 TO STA. 21+30.00 LT.

NOTE: TRANSITION FROM TYPICAL SECTION NO. 3 TO TYPICAL SECTION NO. 4
–L– STA. 23+35.00 TO STA. 29+35.00



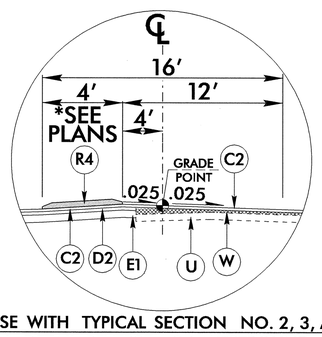
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4

–L– STA. 29+35.00 TO STA. 45+50.00
–L– STA. 57+00.00 TO STA. 86+65.00
–L– STA. 89+66.92 TO STA. 103+55.00
–L– STA. 111+60.00 TO STA. 120+20.00
–L– STA. 121+33.50 TO STA. 135+12.50
–L– STA. 137+29.75 TO STA. 147+82.55

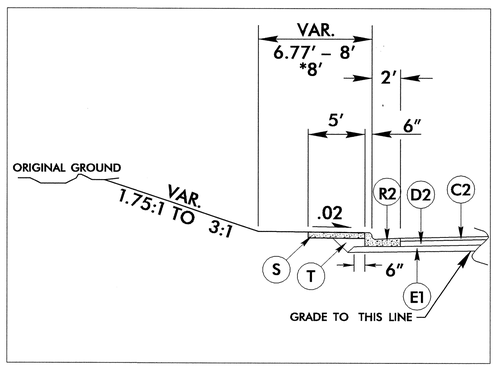
NOTE: TRANSITION FROM TYPICAL SECTION NO. 4 TO EXISTING
–L– STA. 147+82.55 TO STA. 151+70.00

NOTE: SEE PLAN SHEET 10, 12, AND 13 FOR LEFT–OVER DESIGN



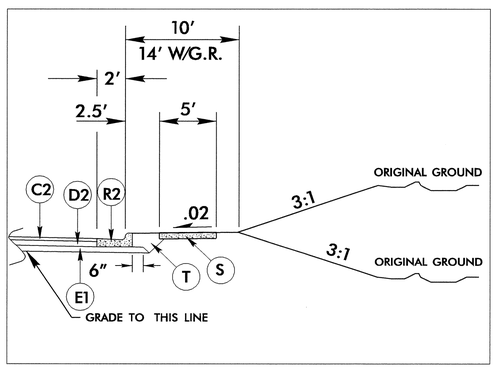
USE WITH TYPICAL SECTION NO. 2, 3, AND 4
MEDIAN DETAIL REVERSE FOR WESTBOUND TURN LANE

–L– STA. 17+70.00 TO STA. 22+50.00
–L– STA. 77+27.33 TO STA. 81+00.00
*–L– STA. 82+85.00 TO STA. 86+65.00
*–L– STA. 89+66.92 TO STA. 90+19.00
–L– STA. 90+09.00 TO STA. 93+39.00
*–L– STA. 93+39.00 TO STA. 95+45.00
–L– STA. 95+45.00 TO STA. 98+75.00
*–L– STA. 99+75.00 TO STA. 103+55.00
*–L– STA. 111+60.00 TO STA. 115+40.00
*–L– STA. 116+40.00 TO STA. 120+20.00
*–L– STA. 121+33.50 TO STA. 121+82.50
–L– STA. 121+72.50 TO STA. 125+02.50
*–L– STA. 125+02.50 TO STA. 127+02.50
–L– STA. 127+02.50 TO STA. 130+32.50
*–L– STA. 131+32.50 TO STA. 135+12.50
*–L– STA. 137+29.75 TO STA. 137+80.00
*–L– STA. 137+70.00 TO STA. 145+25.00
–L– STA. 146+25.00 TO STA. 148+35.00



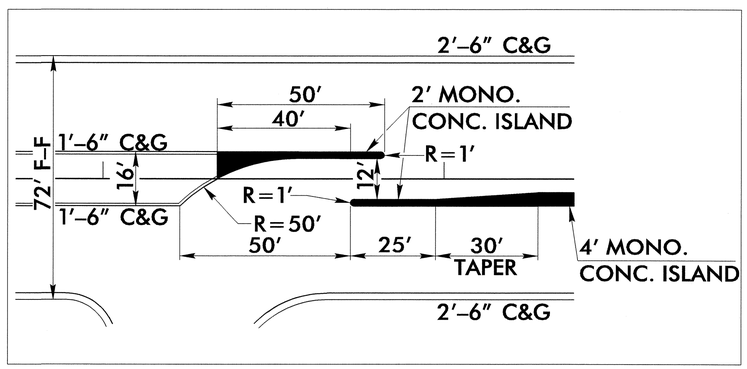
USE WITH TYPICAL SECTION NO. 4

*–L– STA. 97+50.00 TO STA. 98+50.00 RT
*–L– STA. 115+50.00 TO STA. 117+50.00 LT
–L– STA. 123+00.00 TO STA. 126+00.00 LT



USE WITH TYPICAL SECTION NO. 4

–L– STA. 122+45.00 TO STA. 124+60.00 RT



USE WITH TYPICAL SECTION NO. 4

–L– STA. 90+00.00 MEDIAN
–L– STA. 121+65.00 MEDIAN
–L– STA. 137+50.00 MEDIAN

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-A

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. GRADER
5/01/06

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON
5/1/06

C1	1½" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	2½" I19.0B
D2	4" I19.0B
D3	VAR. DEPTH I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	VAR. DEPTH B25.0B
R1	1′-6" CONC. CURB & GUTTER
R2	2′-6" CONC. CURB & GUTTER
R3	2′-0" VALLEY GUTTER
R4	5" CONC. MONOLITHIC ISLAND (KEYED-IN)
R5	3" CONC. ISLAND COVER
S	CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPH. PAVM'T (SEE WEDGING DETAIL)

06-MAR-2006 12:02
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PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-B

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A SPEER

5/01/06

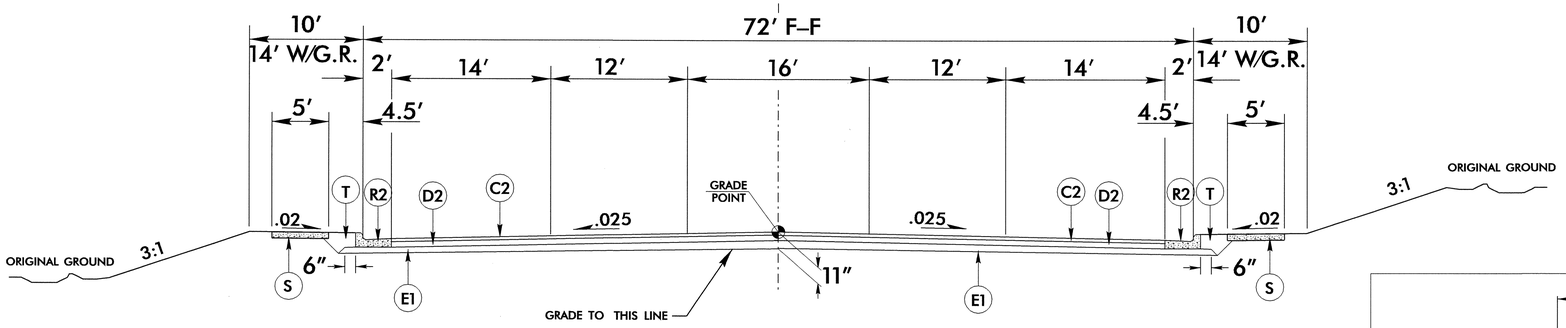
PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON

5/1/06

C1	1½" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	2½" I19.0B
D2	4" I19.0B
D3	VAR. DEPTH I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	VAR. DEPTH B25.0B
R1	1'-6" CONC. CURB & GUTTER
R2	2'-6" CONC. CURB & GUTTER
R3	2'-0" VALLEY GUTTER
R4	5" CONC. MONOLITHIC ISLAND (KEYED-IN)
R5	3" CONC. ISLAND COVER
S	CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPH. PAVM'T (SEE WEDGING DETAIL)

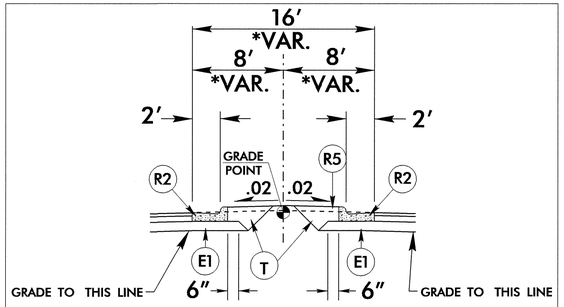
℄ –L– SR 1708 (FIRETOWER RD.)



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

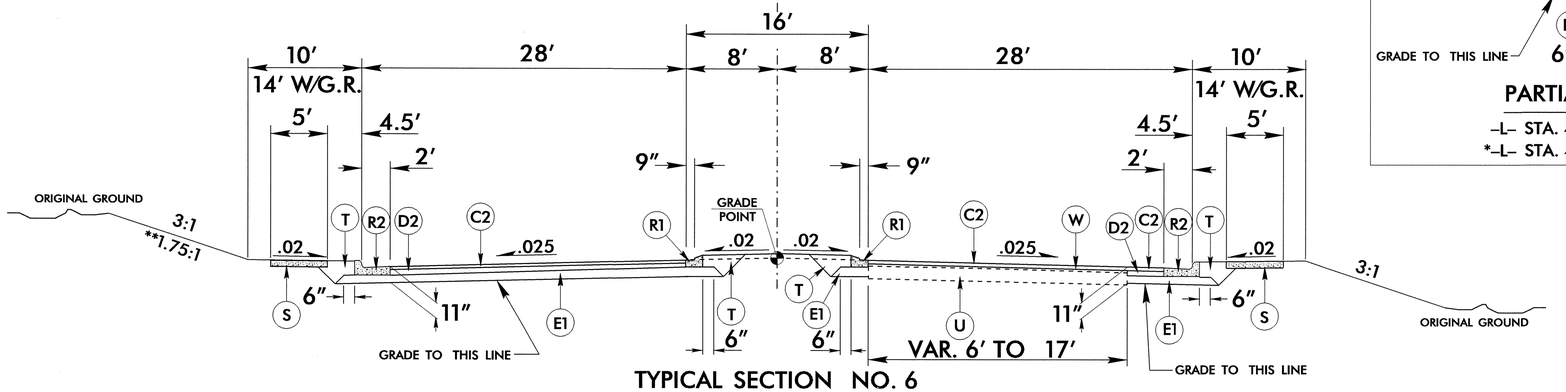
–L– STA. 45+50.00 TO STA. 49+82.00
–L– STA. 49+92.00 TO STA. 57+00.00



PARTIAL TYPICAL SECTION

–L– STA. 48+90.91 TO STA. 49+75.49
*–L– STA. 49+99.20 TO STA. 51+19.13

℄ –L– SR 1708 (FIRETOWER ROAD)

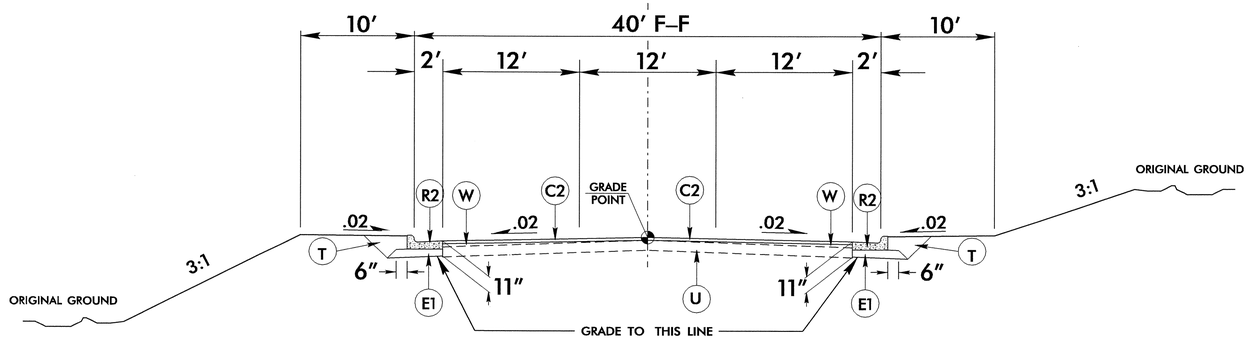


TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6

–L– STA. 86+65.00 TO STA. 89+66.92
–L– STA. 103+55.00 TO STA. 111+60.00
–L– STA. 120+20.00 TO STA. 121+33.50
–L– STA. 135+12.50 TO STA. 137+29.75
**–L– STA. 109+00.00 LT

℄ –Y– (SR 1148)

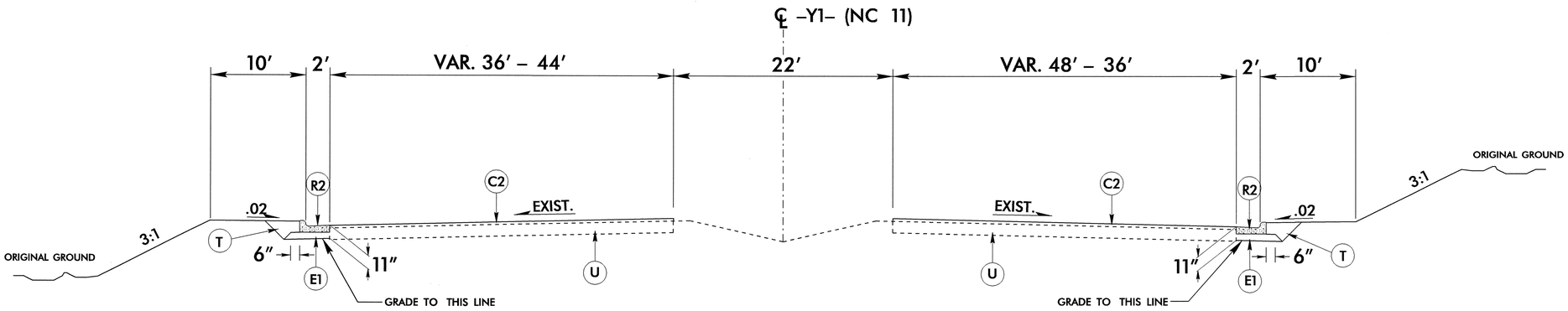


TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7

–Y– STA. 10+61.79 TO STA. 11+00.00

06-MAR-2006 12:02
$$$$USERNAME$$$$ u3613b.typ

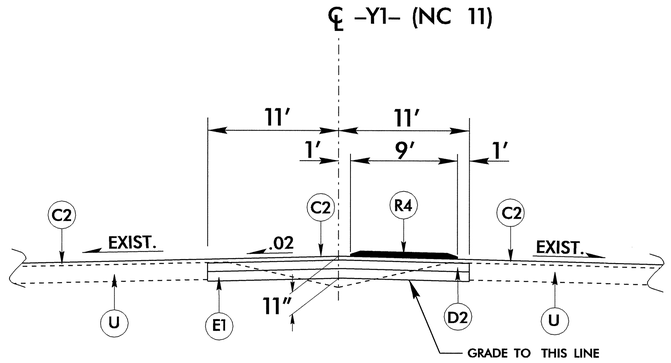


TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8

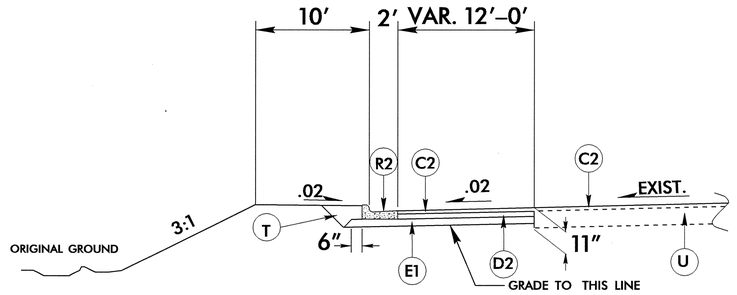
–Y1– STA. 17+00.00 TO STA. 17+41.29 LT.
–Y1– STA. 17+00.00 TO STA. 17+49.83 RT.
*–Y1– STA. 19+71.10 TO STA. 20+00.00 RT.

*NOTE: SEE PLANS FOR LOCATION OF CONCRETE ISLAND



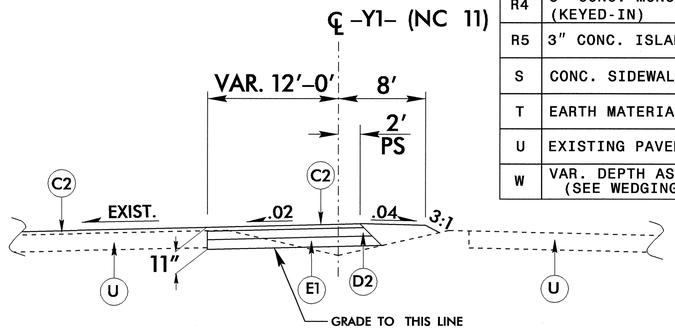
USE WITH TYPICAL SECTION NO. 8

–Y1– STA. 19+10.00 TO STA. 23+00.00 MEDIAN



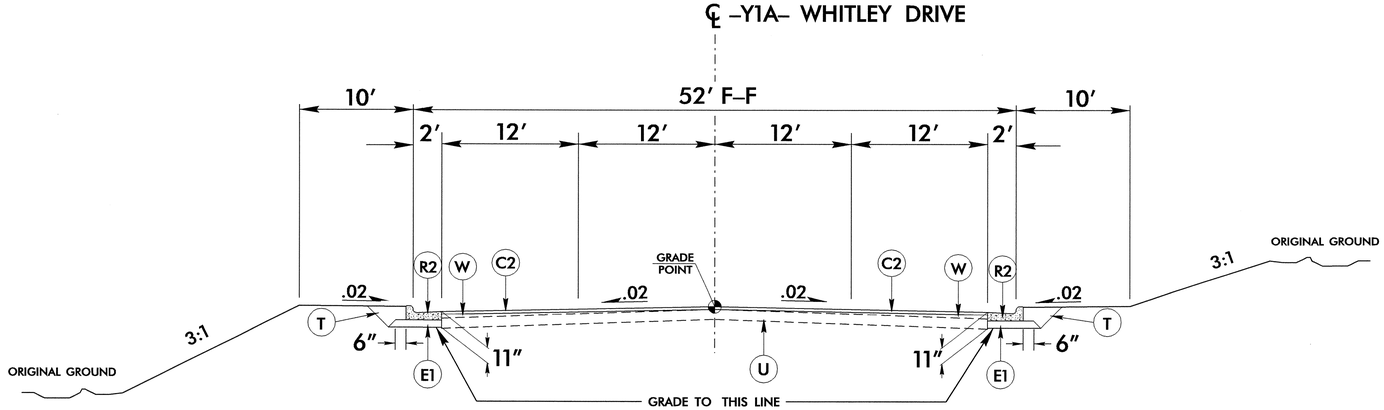
USE WITH TYPICAL SECTION NO. 8

–Y1– STA. 19+43.35 TO STA. 22+08.35 LT.



USE WITH TYPICAL SECTION NO. 8

–Y1– STA. 23+00.00 TO STA. 26+25.00 MEDIAN



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9

–Y1A– STA. 10+73.99 TO STA. 11+00.00

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-C

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER
5/01/06

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON
5/1/06

C1	1½" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	2½" I19.0B
D2	4" I19.0B
D3	VAR. DEPTH I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	VAR. DEPTH B25.0B
R1	1′-6" CONC. CURB & GUTTER
R2	2′-6" CONC. CURB & GUTTER
R3	2′-0" VALLEY GUTTER
R4	5" CONC. MONOLITHIC ISLAND (KEYED-IN)
R5	3" CONC. ISLAND COVER
S	CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPH. PAVM'T (SEE WEDGING DETAIL)

06-MAR-2006 12:02
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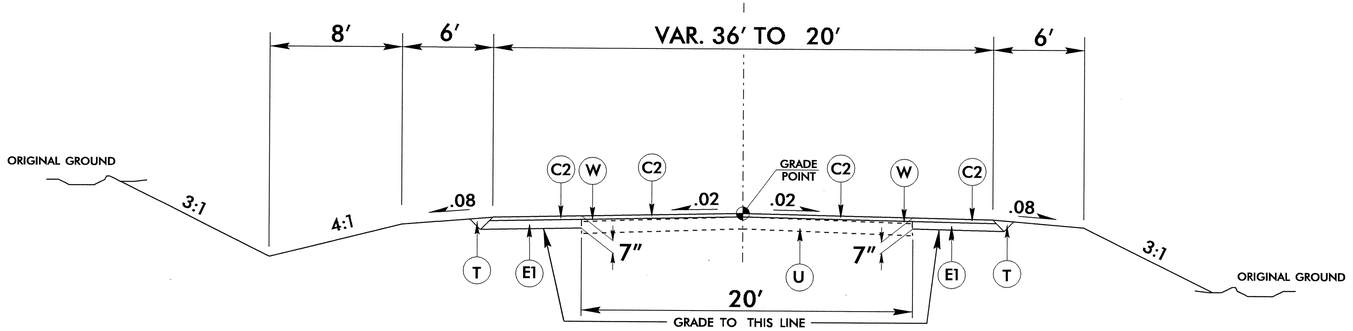
PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-D

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER
6/22/06

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON
6/22/06

C1	1½" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	2½" I19.0B
D2	4" I19.0B
D3	VAR. DEPTH I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	VAR. DEPTH B25.0B
R1	1'-6" CONC. CURB & GUTTER
R2	2'-6" CONC. CURB & GUTTER
R3	2'-0" VALLEY GUTTER
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S	CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPH. PAVM'T (SEE WEDGING DETAIL)

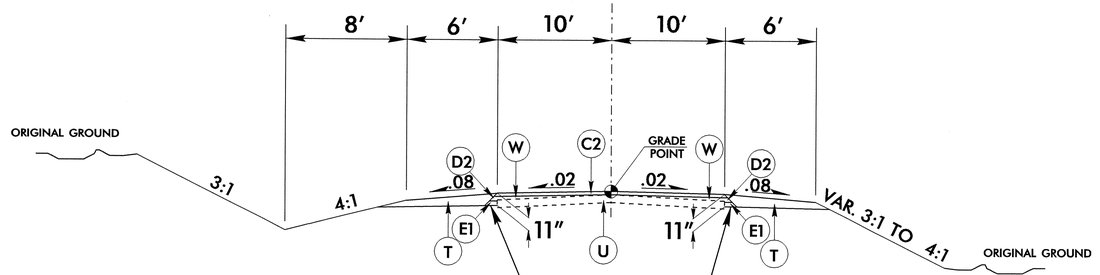
℄ –Y2– VICTORY LANE



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10
–Y2– STA. 10+67.37 TO STA. 11+67.37

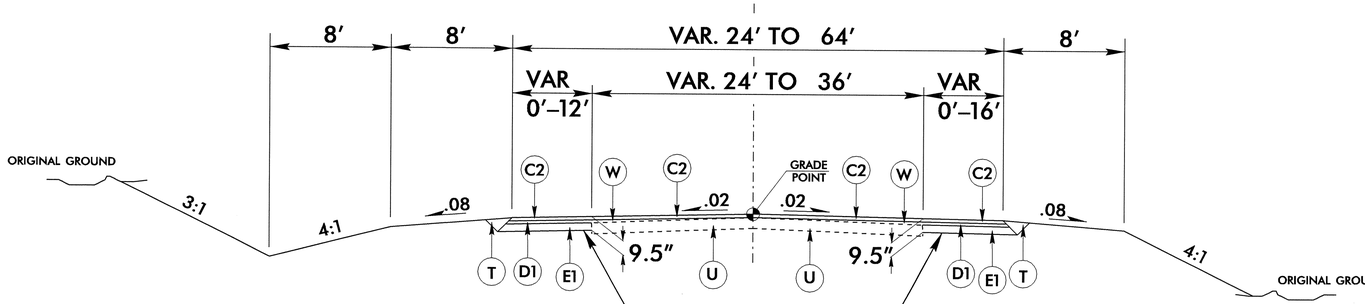
℄ –Y4– BAYWOOD DRIVE
–Y5– BAYWOOD DRIVE



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11
–Y4– STA. 11+00.00 TO STA. 11+94.04
–Y5– STA. 11+00.00 TO STA. 11+41.53

℄ –Y6– SR 1700 (OLD TAR ROAD)



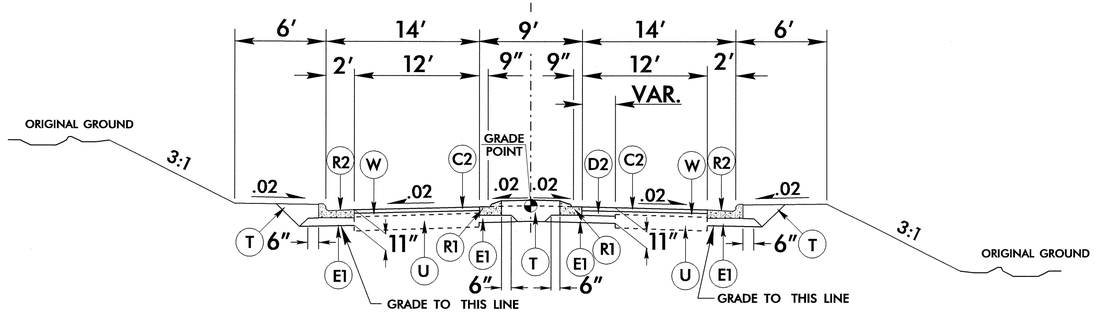
TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12
–Y6– STA. 9+40.00 TO STA. 12+54.26
–Y6– STA. 14+95.08 TO STA. 17+66.61

NOTE: SEE PLANS FOR LOCATION OF CONCRETE ISLAND

21-JUN-2006 15:36
$$$$USERNAME$$$$ u3613btyp

℄ –Y7– WINDING BRANCHES ROAD

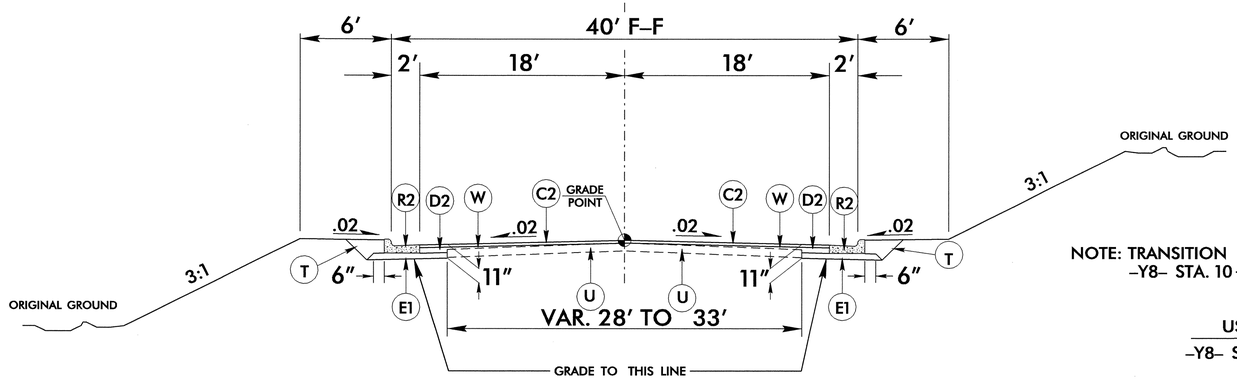


TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13

–Y7– STA. 10+75.00 TO STA. 11+17.51

℄ –Y8– PINE BRANCHES CIRCLE



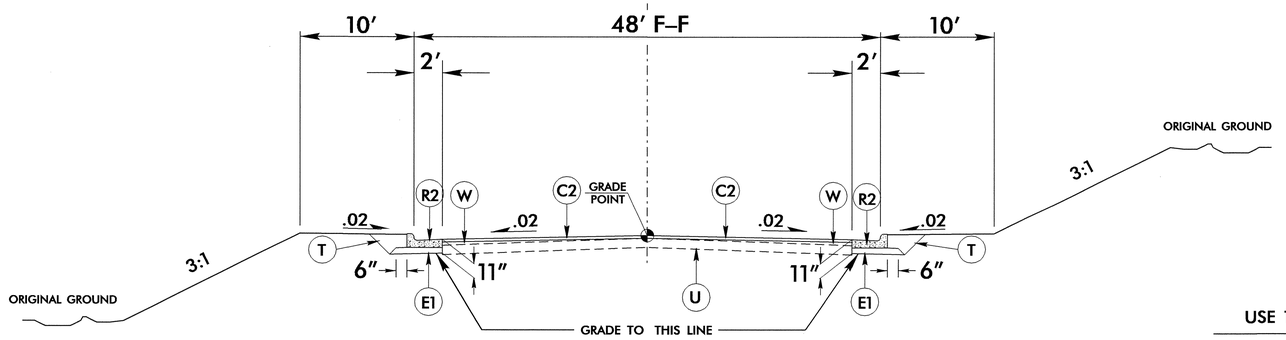
TYPICAL SECTION NO. 14

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 14
–Y8– STA. 10+00.00 TO STA. 10+75.00

USE TYPICAL SECTION NO. 14

–Y8– STA. 10+75.00 TO STA. 11+11.44

℄ –Y9– ALBION DRIVE



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15

–Y9– STA. 10+65.00 TO STA. 11+00.00

NOTE: SEE PLANS FOR LOCATION OF 1′–6″ CONCRETE C&G WITH GRASS ISLAND

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-E

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER — 5/01/06

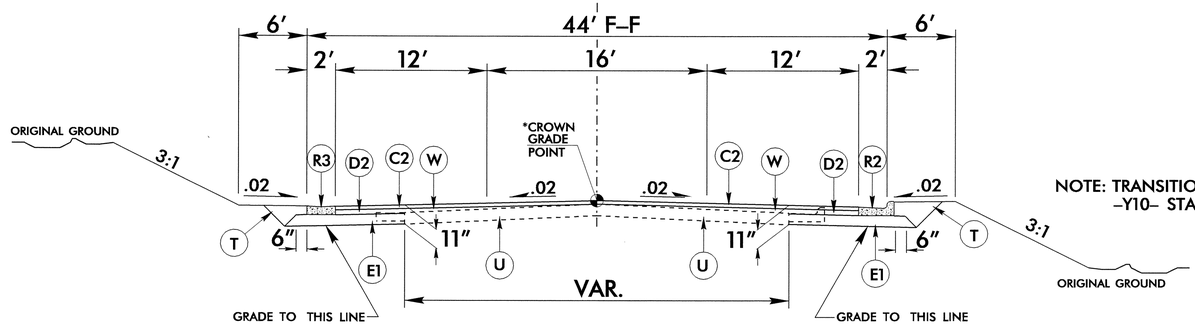
PAVEMENT DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON — 5/1/06

C1	1½" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	2½" I19.0B
D2	4" I19.0B
D3	VAR. DEPTH I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	VAR. DEPTH B25.0B
R1	1′-6" CONC. CURB & GUTTER
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R3	2′-0" VALLEY GUTTER
R4	5" CONC. MONOLITHIC ISLAND (KEYED-IN)
R5	3" CONC. ISLAND COVER
S	CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPH. PAVM'T (SEE WEDGING DETAIL)

6/2/99
06-MAR-2006 12:02
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u3613btyp.typ

6/2/99

℄ –Y10– BAYSWATER ROAD



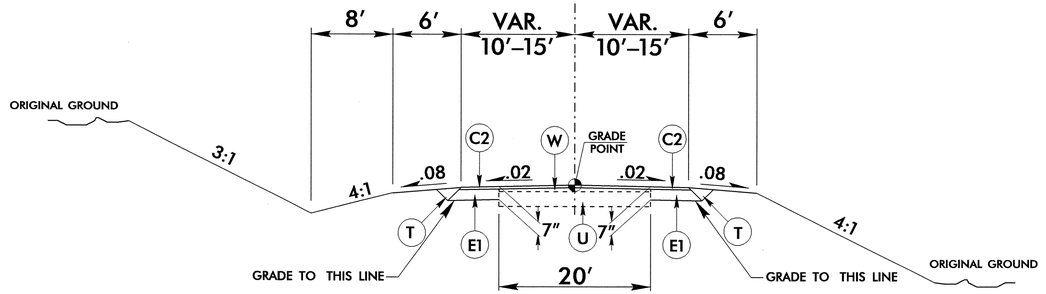
TYPICAL SECTION NO. 16

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 16 –Y10– STA. 9+32.00 TO STA. 10+32.00

USE TYPICAL SECTION NO. 16

*–Y10– STA. 10+32.00.00 TO STA. 10+78.00
–Y10– STA. 10+78.00.00 TO STA. 11+21.45

℄ –Y11– HILLTOP DRIVE
–Y12– EVANS DRIVE

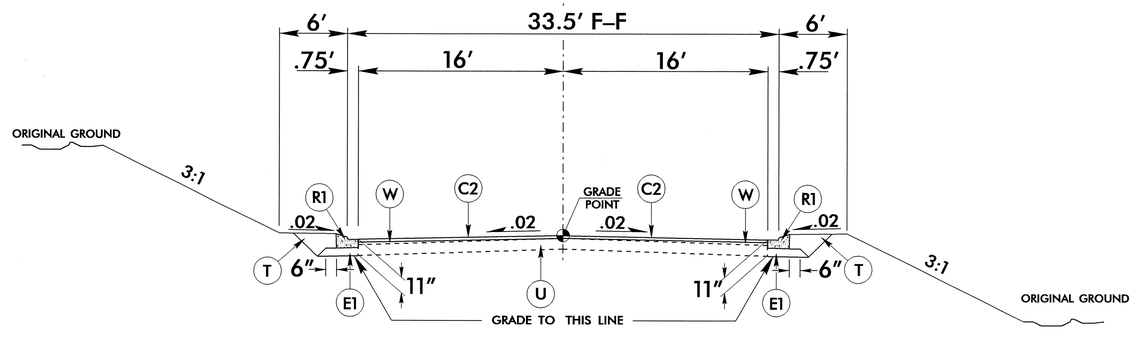


TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17

–Y11– STA. 10+27.00 TO STA. 11+27.07
–Y12– STA. 10+10.00 TO STA. 11+10.33

℄ –Y13– WHITEBRIDGE DRIVE



TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18

–Y13– STA. 10+85.00 TO STA. 11+67.95

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-F

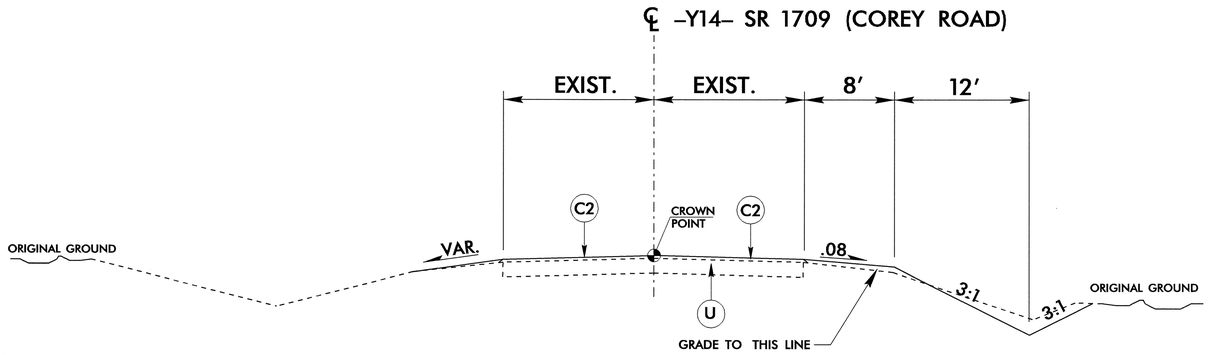
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER
5/01/06

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON
5/1/06

C1	1½" S9.5B
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C3	VAR. DEPTH S9.5B
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R5	3" CONC. ISLAND COVER
S	CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPH. PAVM'T (SEE WEDGING DETAIL)

06-MAR-2006 12:02
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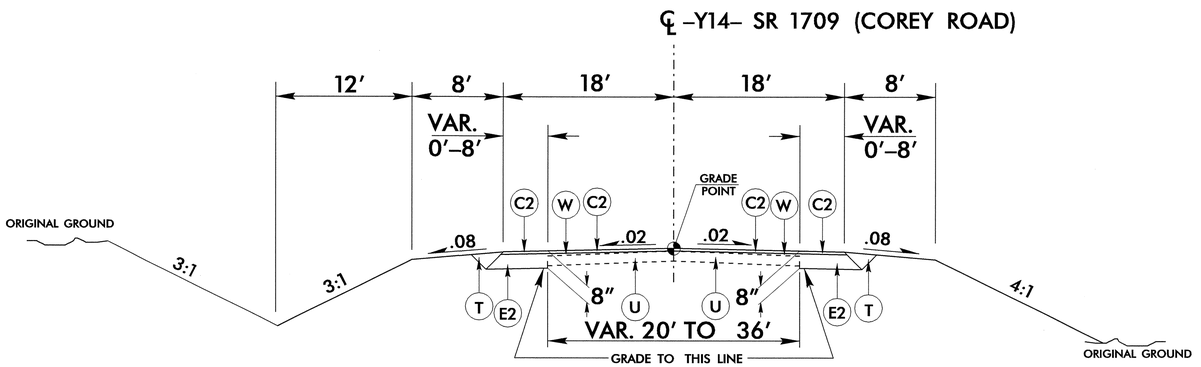
RD212399 3/6/2006 u3613btyp2f dwgardner RD-Oce34



TYPICAL SECTION NO. 19

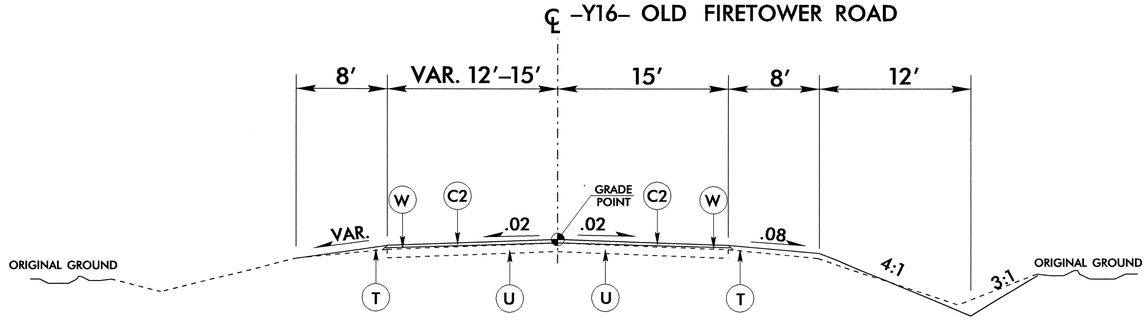
USE TYPICAL SECTION NO. 19
–Y14– STA. 6+30.00 TO STA. 6+50.00

NOTE: TRANSITION FROM TYPICAL SECTION NO. 19
TO TYPICAL SECTION NO. 20 –Y14– STA. 6+50.00 TO STA. 9+50.00



TYPICAL SECTION NO. 20

USE TYPICAL SECTION NO. 20
–Y14– STA. 9+50.00 TO STA. 12+63.06



TYPICAL SECTION NO. 21

USE TYPICAL SECTION NO. 21
–Y16– STA. 11+80.00 TO STA. 12+04.87

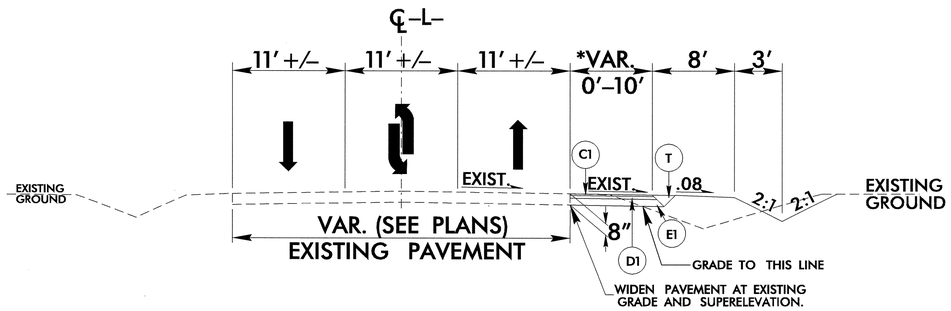
PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-G

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER
5/01/06

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON
5/1/06

C1	1½" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
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R5	3" CONC. ISLAND COVER
S	CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPH. PAVM'T (SEE WEDGING DETAIL)

02-MAY-2006 08:14
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TYPICAL SECTION NO. 22

*SEE TCP PLANS FOR PHASE 1 EASTBOUND WIDENING

USE TYPICAL SECTION NO. 22

–L– STA. 12+00.00 TO –Y1– STA. 17+44.00
–L– STA. 27+04.00 TO STA. 30+90.00
–L– STA. 31+68.00 TO STA. 33+95.00
–L– STA. 38+00.00 TO STA. 38+90.00
–L– STA. 39+33.00 TO STA. 39+66.00
–L– STA. 46+00.00 TO STA. 46+58.00
–L– STA. 47+20.00 TO STA. 49+68.00
–L– STA. 51+50.00 TO STA. 81+19.00
–L– STA. 82+66.00 TO STA. 88+44.00
–L– STA. 89+97.00 TO STA. 94+29.00
–L– STA. 97+26.00 TO STA. 98+91.00
–L– STA. 116+46.00 TO STA. 138+37.00
–L– STA. 140+90.00 TO STA. 143+25.00

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-H

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

5/01/06

PAVEMENT DESIGN ENGINEER

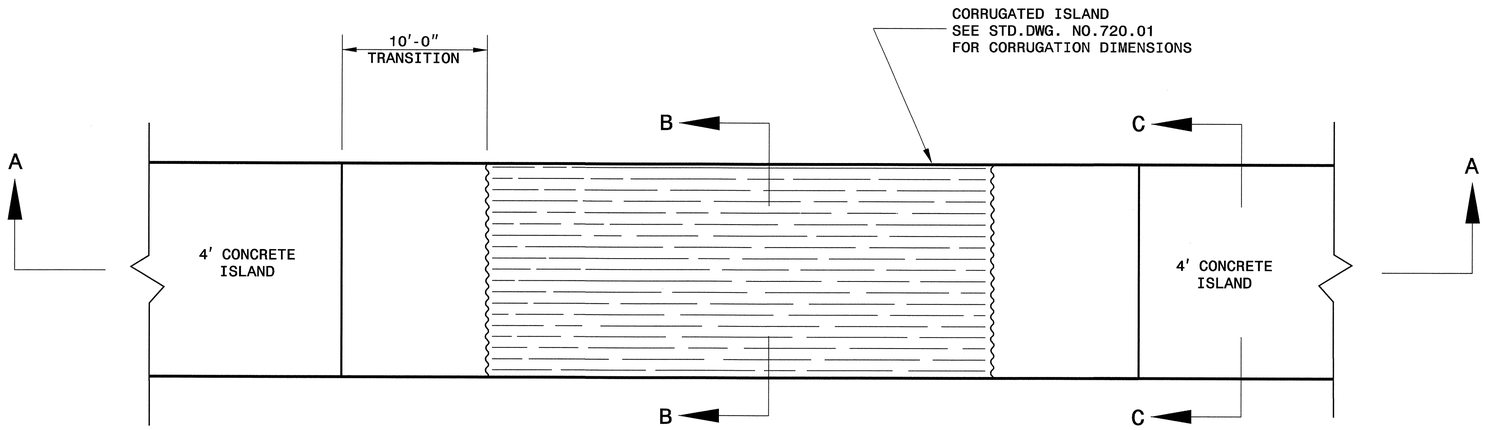
NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON

5/1/06

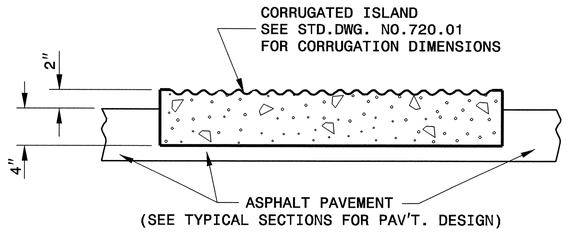
C1	1½″ S9.5B
C2	3″ S9.5B
C3	VAR. DEPTH S9.5B
D1	2½″ I19.0B
D2	4″ I19.0B
D3	VAR. DEPTH I19.0B
E1	4″ B25.0B
E2	5″ B25.0B
E3	VAR. DEPTH B25.0B
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R2	2′-6″ CONC. CURB & GUTTER
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R4	5″ CONC. MONOLITHIC ISLAND (KEYED-IN)
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S	CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPH. PAVM'T (SEE WEDGING DETAIL)

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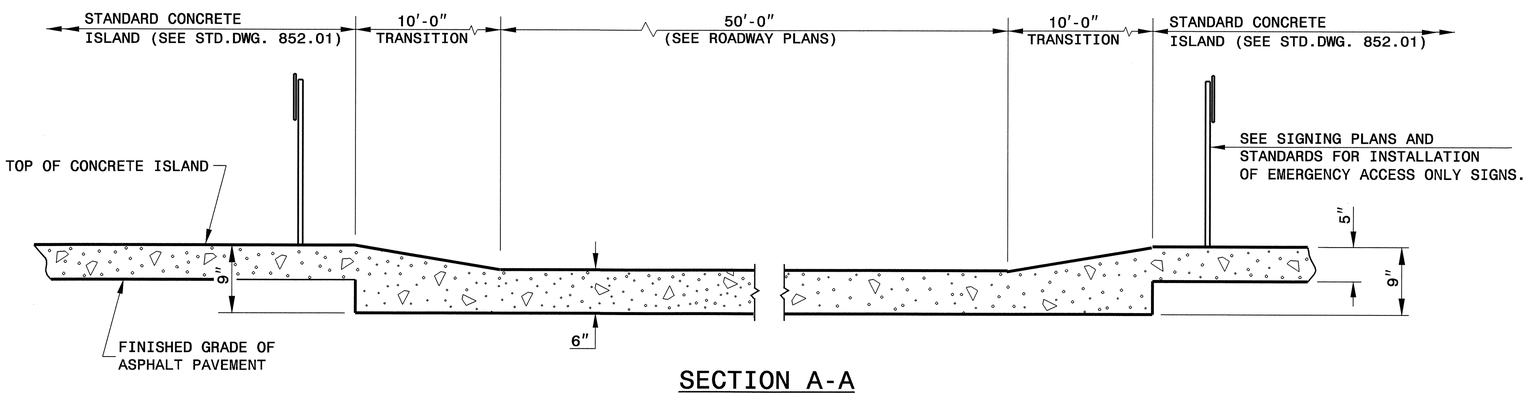
PROJECT REFERENCE NO.	SHEET NO.
U-3613 B	2-I



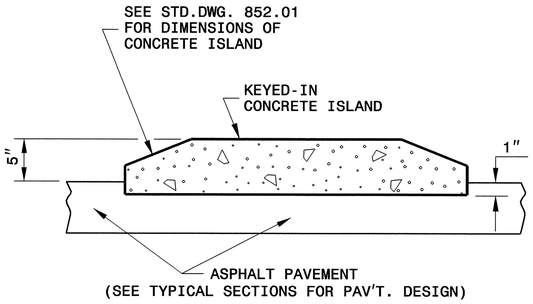
TOP VIEW



SECTION B-B



SECTION A-A



SECTION C-C

DETAIL OF EMERGENCY VEHICLE ACCESS

NOTES:

REFER TO SECTION 852 OF STANDARD SPECIFICATIONS FOR CONCRETE ISLANDS.

REFER TO STANDARD DRAWING 852.01 FOR CONTRACTION/EXPANSION JOINTS.

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL T. HOWARD
5/4/06

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

EMERGENCY VEHICLE ACCESS FOR CONCRETE ISLAND

ORIGINAL BY: E.E. WARD DATE: 12-99
MODIFIED BY: T.S. SPELL DATE: 12-05
CHECKED BY: DATE: 5/4/06
FILE SPEC.: dgn72:/usr/details/stand/u3613bemergency_access.dgn

04-MAY-2006 13:48
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tspell AT 5228532

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-J

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

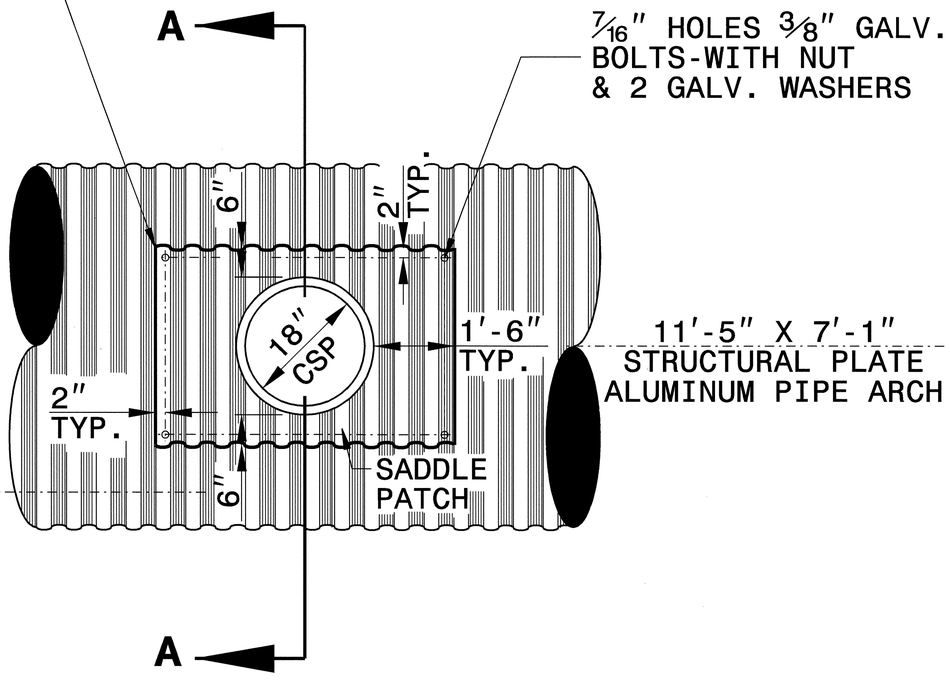
ENGLISH DETAIL DRAWING FOR

18" SADDLE BRANCH CONNECTOR

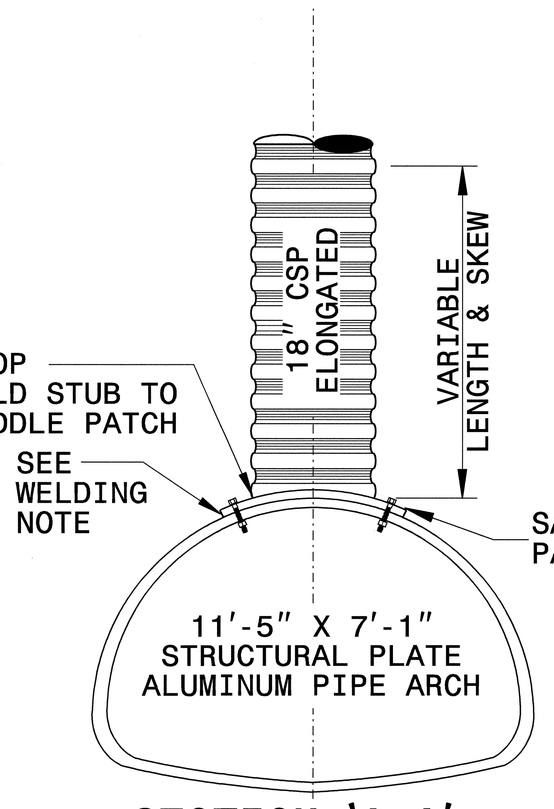
SHEET 1 OF 1

SADDLE

NOTE: (WELDING)
CONTINUOUS WELD FOR SADDLE PATCH SHALL COMPLY WITH CURRENT AWS STRUCTURAL WELDING CODE.



TOP VIEW



SECTION 'A-A'

OTHER CONNECTION METHODS MAY BE USED AS APPROVED BY THE ENGINEER.

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

ENGLISH DETAIL DRAWING FOR

18" SADDLE BRANCH CONNECTOR

SHEET 1 OF 1

SADDLE

09-DEC-2005 10:16
s:\contracts\contracts\special details\tspell\details\stand\terry\saddle2.dgn
tspell AT PS203655

NORTH CAROLINA PROFESSIONAL SEAL 022866 ENGINEER JOEL R. HONEYCUTT
5/2/06

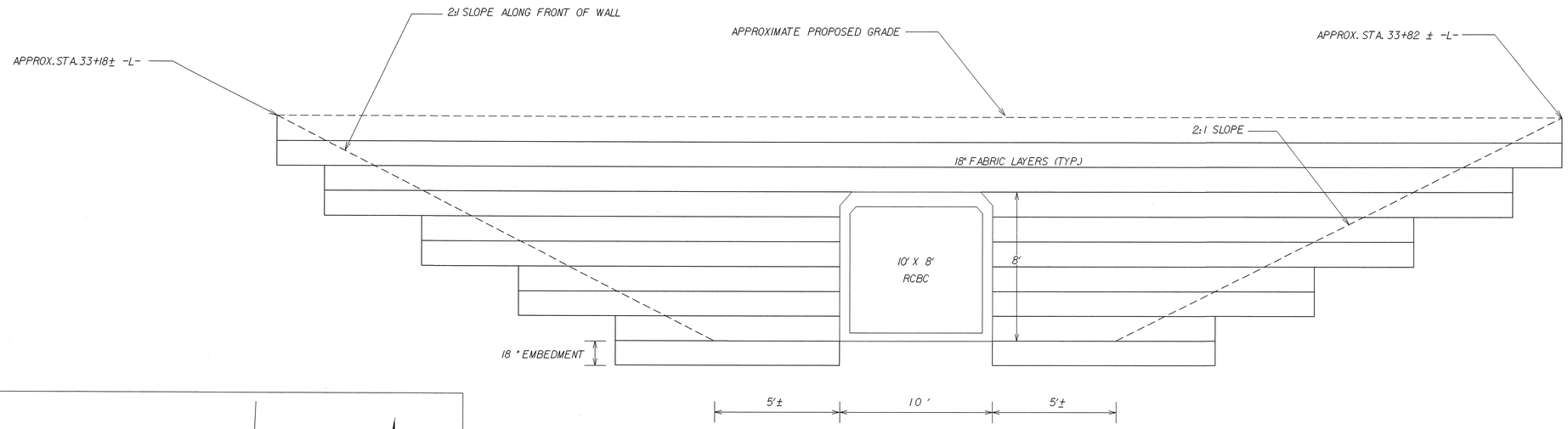
PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: T.S.SPELL DATE: DEC.1,2005
CHECKED BY: _____ DATE: 12/9/05
FILE SPEC.: details/stand/tspell/terry/saddle2.dgn

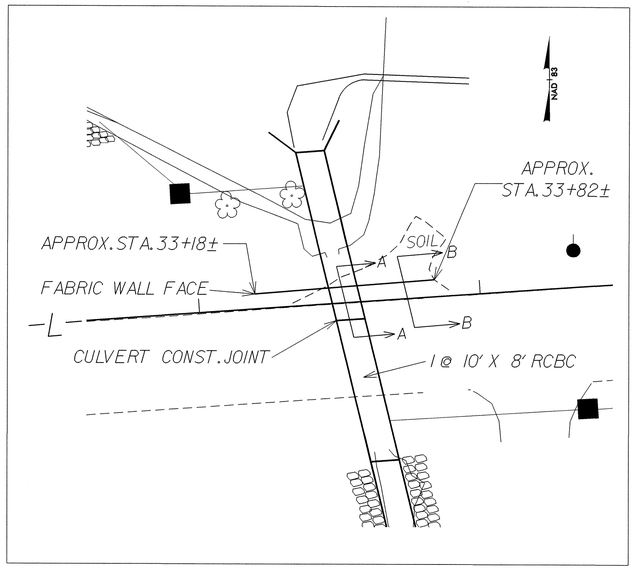
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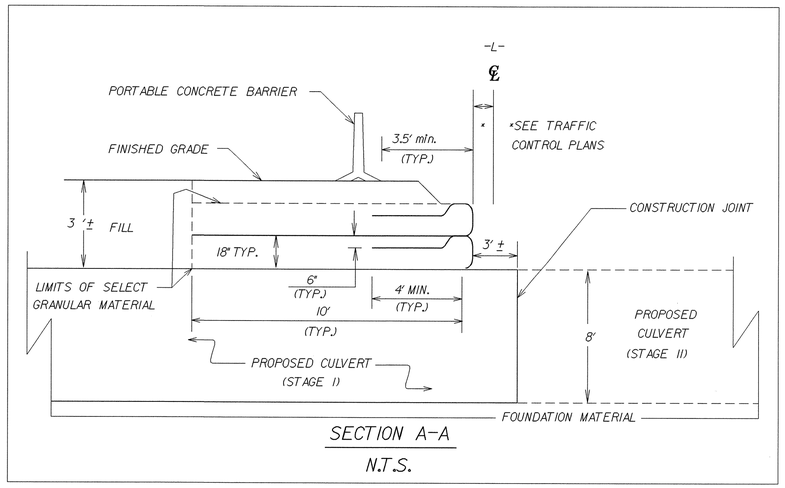
PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2- K



PROFILE ALONG CONSTRUCTION JOINT OF CULVERT AT -L- STA. 33+50±

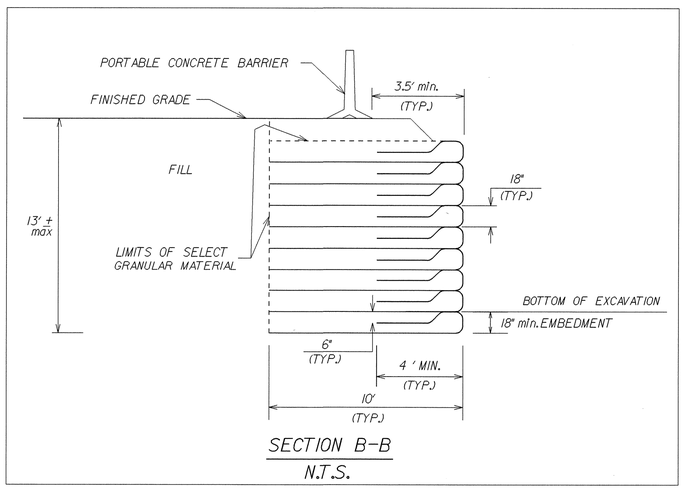
N.T.S.





SECTION A-A

N.T.S.



SECTION B-B

N.T.S.

Sheet 1 of 2

NORTH CAROLINA PROFESSIONAL SEAL 18899 ENGINEER JAMES R. BATTS, JR.

James R. Batts Jr. 5/2/06

PROJECT U-3613B

PITT COUNTY

STATION SEE TRAFFIC CONTROL PLANS

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TEMPORARY FABRIC WALL

DESIGNED BY JRB	DATE 9/05
DRAWN BY NDM	DATE 9/05
CHECKED BY ENW	DATE 9/05

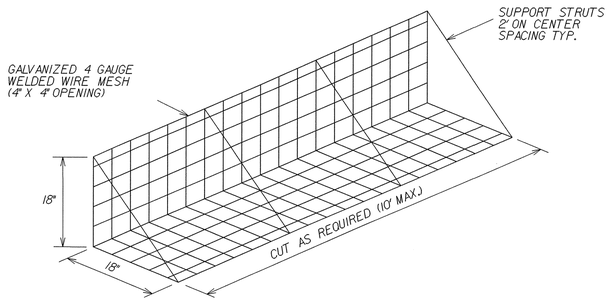
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RD212399 12/14/2005 u3613b_geo_shrg_tempfabric1 dwgardner RD-Oce34

6/2/99

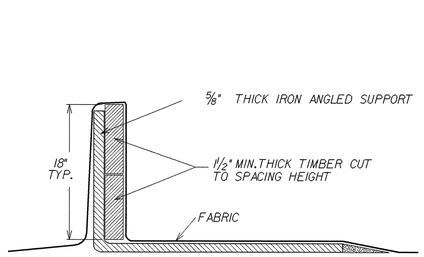
PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-L

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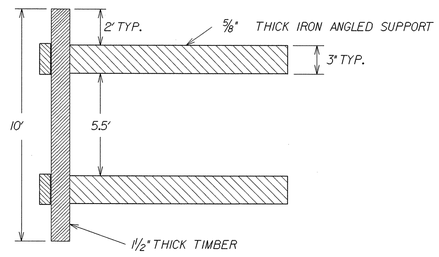


WELDED WIRE MESH FORM
N.T.S.

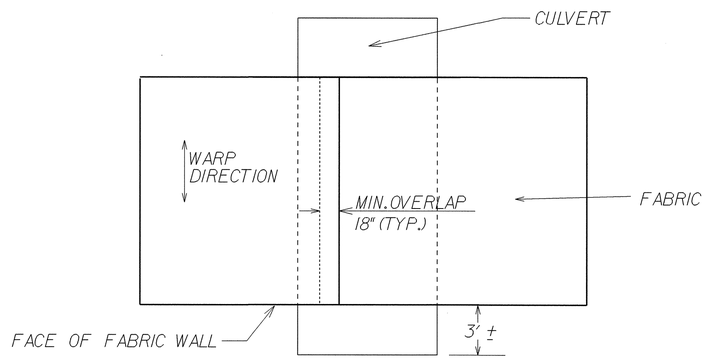
FORM OPTION #2



ELEVATION VIEW OF WALL FACE FALSEWORK
N.T.S.



PLAN VIEW OF WALL FACE FALSEWORK
N.T.S.



PLAN VIEW OF FABRIC OVERLAP
N.T.S.

NOTES:

1. FABRIC FOR THE TEMPORARY FABRIC WALL MUST HAVE A MINIMUM WIDE WIDTH TENSILE STRENGTH OF 100 lb/in IN THE WARP DIRECTION (BASED ON AST.M-D4595) AT 5% ELONGATION AND A MINIMUM ULTIMATE WIDE WIDTH TENSILE STRENGTH OF 350 lb/in IN THE WARP DIRECTION.
2. FOR TEMPORARY FABRIC WALL, SEE SPECIAL PROVISIONS.
3. LOCATIONS AND QUANTITIES PROVIDED ARE ONLY APPROXIMATE. EXACT LOCATIONS AND QUANTITIES MUST BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. BENCH THE FABRIC WALL INTO THE SIDE OF THE EXCAVATION WHERE APPLICABLE AND AS DIRECTED BY THE ENGINEER.
5. PROVIDE PROPER DRAINAGE AT THE TOP OF THE WALL AS DIRECTED BY THE ENGINEER.
6. USE SELECT GRANULAR MATERIAL IN ACCORDANCE WITH PROJECT SPECIAL PROVISIONS.
7. FABRIC WALL SHOULD BE LEFT IN PLACE PERMANENTLY.
8. WHEN THE FINAL FILL IS PLACED IN FRONT OF THE WALL, UNFOLD THE TOP LAYER OF FABRIC AND INCORPORATE IT INTO THE FILL AS DIRECTED BY THE ENGINEER.
9. THE REQUIRED BEARING PRESSURE FOR THE FABRIC WALLS IS 1 tsf. VERIFY THE REQUIRED BEARING PRESSURE IN THE FIELD.
10. THE CONTRACTOR MAY ELECT TO USE A FORMING SYSTEM TO CONSTRUCT THE TEMPORARY FABRIC WALL OTHER THAN THE FALSEWORK OR WIRE MESH FORM OPTIONS SHOWN IN THESE PLANS, HOWEVER; THE ALTERNATE METHOD MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
11. THE CONTRACTOR MAY ELECT TO USE A SHORING SYSTEM OTHER THAN FABRIC WALLS. THE ALTERNATE METHOD MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

ESTIMATED QUANTITY	
TEMPORARY FABRIC WALL	382 SQ. FT.

NORTH CAROLINA PROFESSIONAL SEAL 18899 ENGINEER JAMES R. BATTS, JR.
5/2/06

PROJECT U-3613B
PITT COUNTY
STATION SEE TRAFFIC CONTROL PLANS

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TEMPORARY FABRIC WALL

DESIGNED BY JRB DATE 9/05
DRAWN BY NDM DATE 9/05
CHECKED BY ENW DATE 9/05

14-DEC-2005 09:56
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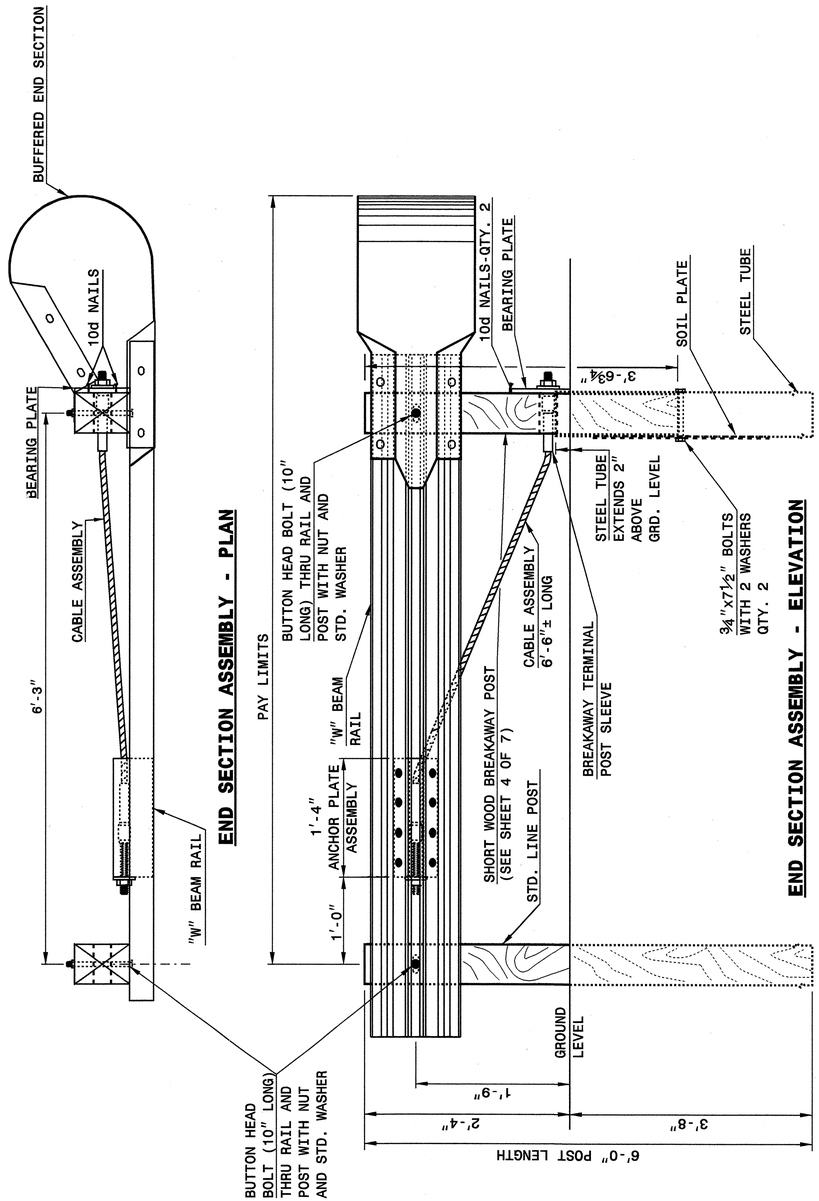
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PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-M

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

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

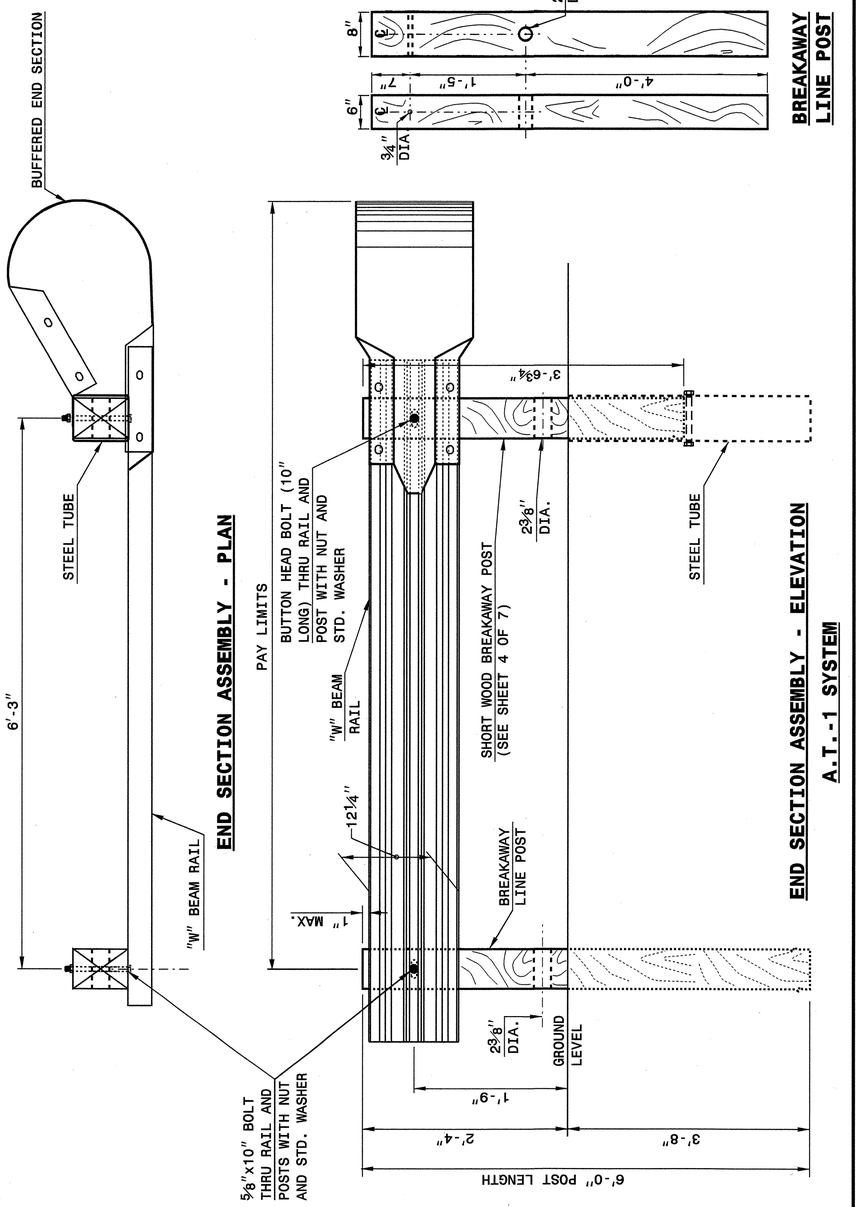
SHEET 1 OF 7
862D02



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

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 2 OF 7
862D02



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

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 2 OF 7
862D02



PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STD.862.02 DATE:
MODIFIED BY: E.E. WARD DATE: 02-09-03
CHECKED BY: DATE: 10/5/04
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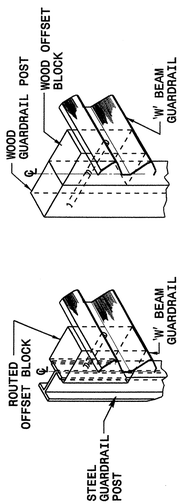
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U-3613B	2-N

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

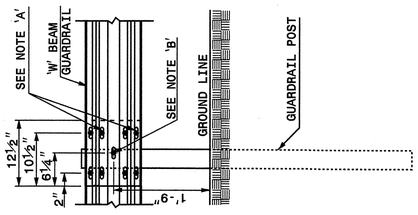
ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 3 OF 7 — 862D02

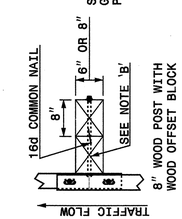
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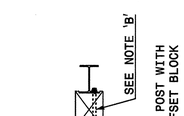


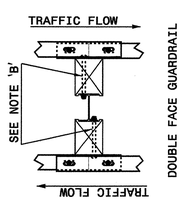
FRONT



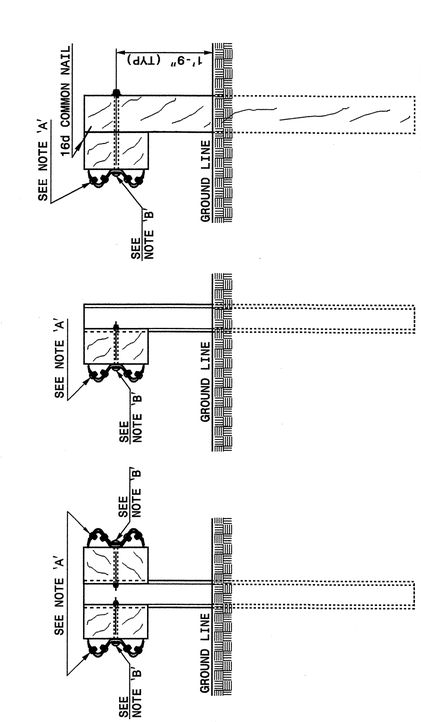
PLAN







SIDE



TYPICAL GUARDRAIL AND GUARDRAIL POST ALTERNATIVES

NOTES:
A - 5/8" DIA. BUTTON HEAD SPLICE BOLT 11¼" LONG (8 REQ. PER SPLICE JOINT).
B - 5/8" DIA. BUTTON HEAD BOLT 7½"/9" LONG WITH NUT FOR BOLTING 6"/8" ROUTED OFFSET BLOCK TO STEEL POSTS OR 18" LONG WITH STD. WASHER UNDER NUT FOR BOLTING TO WOOD POSTS (1 REQ. PER LOCATION)
C - FIELD PUNCHING OF HOLES INTO GUARDRAIL SHALL BE AS DIRECTED BY THE ENGINEER.

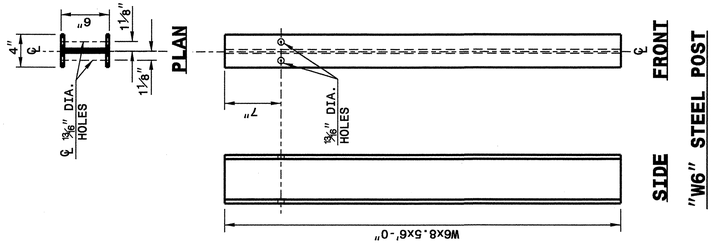
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

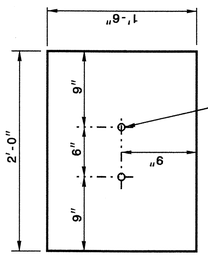
SHEET 4 OF 7 — 862D02

SYSTEM PARTS

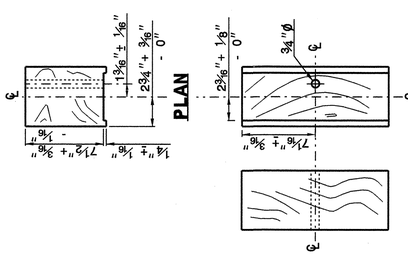
PLAN — **SIDE** — **FRONT** — **"W6" STEEL POST**



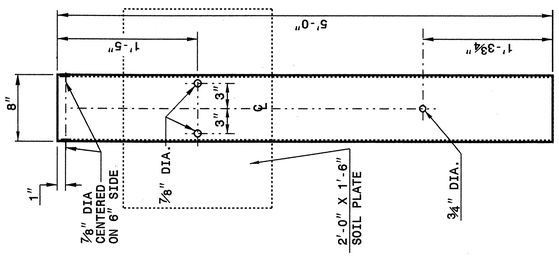
SOIL PLATE ¼" THICK PLATE



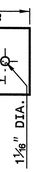
PLAN — **SIDE** — **FRONT** — **ROUTED WOOD OFFSET BLOCK**



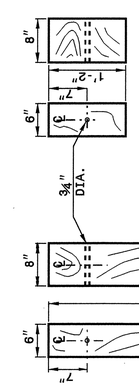
STEEL TUBE TS 6"x8"x0.1875"



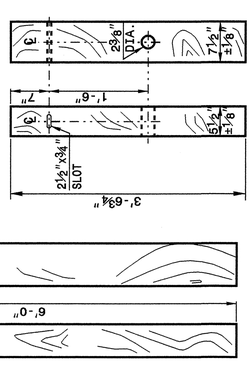
BEARING PLATE ⅝" THICK PLATE



WOOD OFFSET BLOCK (FOR WOOD POSTS)



SHORT WOOD BREAKAWAY POST



STANDARD LINE POST



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

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 3 OF 7 — 862D02

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

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 4 OF 7 — 862D02

NORTH CAROLINA PROFESSIONAL SEAL 022968 ENGINEER JOEL L. THOMPSON
5/2/04

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

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MODIFIED BY: E.E. WARD DATE: 02-09-03
CHECKED BY: DATE: 10/21/04
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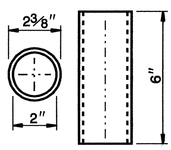
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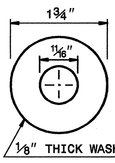
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 5 OF 7
862D02

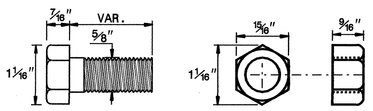


BREAKAWAY TERMINAL POST SLEEVE

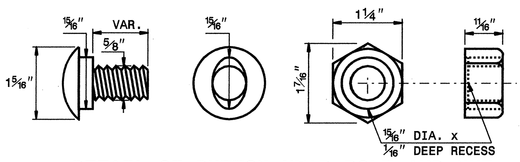


DETAIL OF STANDARD WASHER

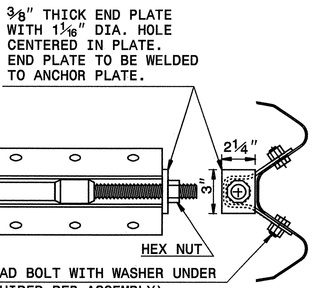
STANDARD WASHER: TYPICAL USE UNDER NUT WITH WOOD POST



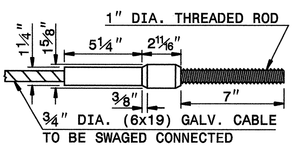
DETAIL OF STANDARD HEX BOLT AND NUT



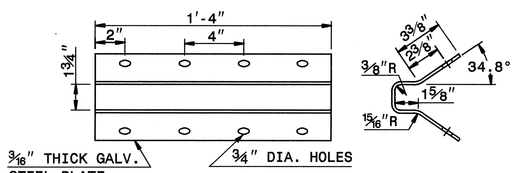
DETAIL OF BUTTON HEAD BOLT AND NUT



ANCHOR PLATE ASSEMBLY



SWAGED CABLE



ANCHOR PLATE

CABLE ASSEMBLY

SYSTEM PARTS

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

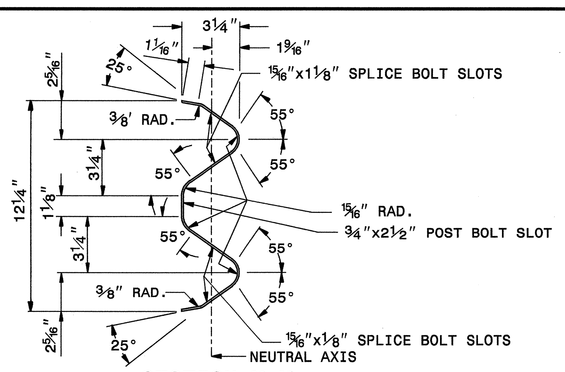
ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 5 OF 7
862D02

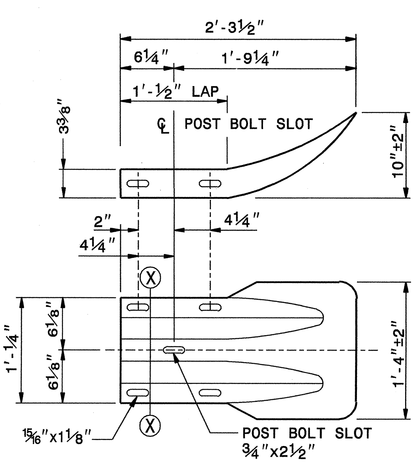
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

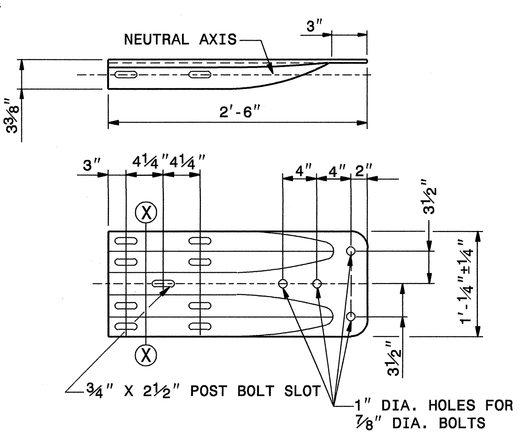
SHEET 6 OF 7
862D02



SECTION X-X



TERMINAL END SECTION



TYPICAL END SHOE

SYSTEM PARTS - GENERAL USE

SHEET 6 OF 7
862D02

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STD. 862.02 DATE: 02-08-03
MODIFIED BY: E.E. WARD DATE: 10/14/04
CHECKED BY: Kirk S. Hatcher DATE: 10/14/04
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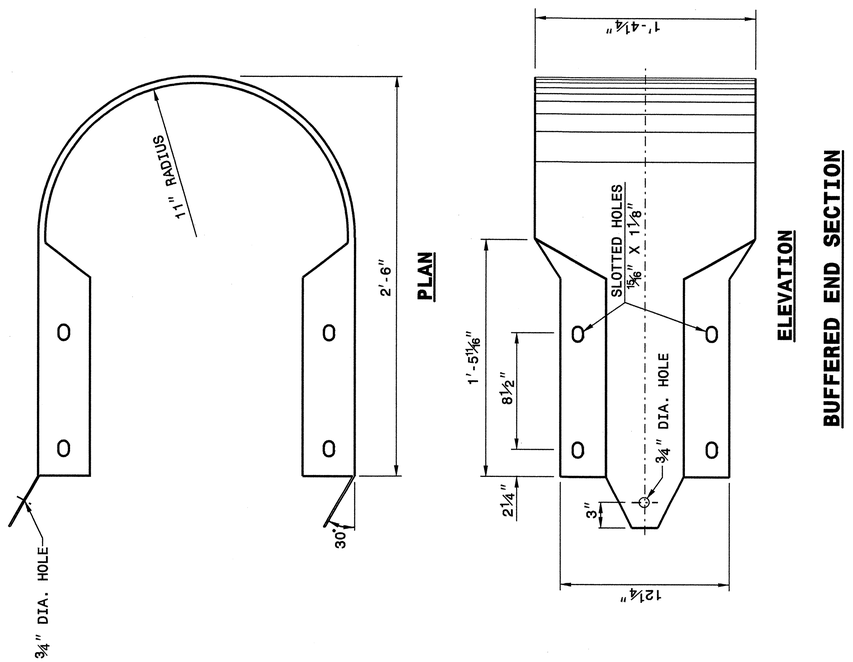
PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022206 JOSEPH E. WARD

PROJECT REFERENCE NO. U-3613B
SHEET NO. 2-D

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-P

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **GUARDRAIL INSTALLATION**	SHEET 7 OF 7 **862D02**



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **GUARDRAIL INSTALLATION**	SHEET 7 OF 7 **862D02**

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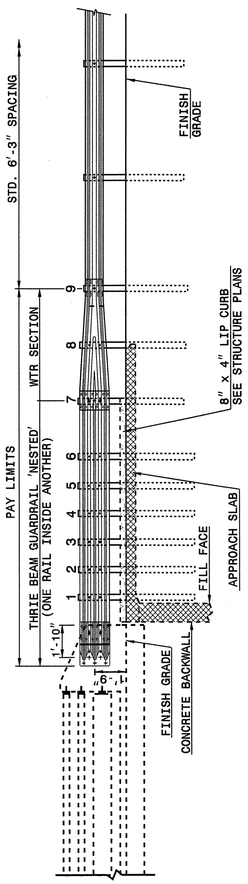


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SEE PLATE FOR TITLE

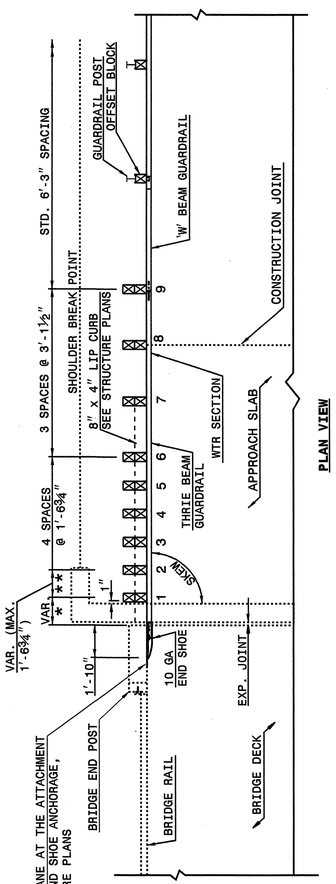
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PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-Q



ELEVATION

NOTE:
- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
- -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
- -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
- -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

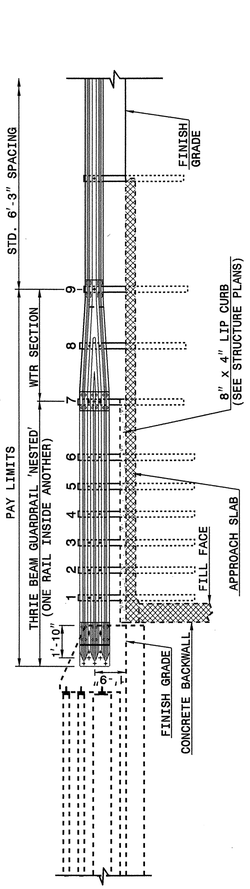
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE (15′ MINIMUM LENGTH APPROACH SLAB)

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **STRUCTURE ANCHOR UNITS** GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE (15′ MINIMUM LENGTH APPROACH SLAB)	SHEET 1 OF 6 **862D03**

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

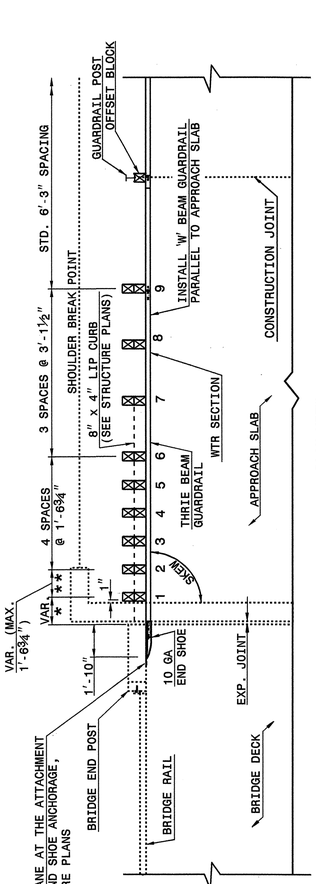
ENGLISH DETAIL DRAWING FOR **STRUCTURE ANCHOR UNITS** GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE (15′ MINIMUM LENGTH APPROACH SLAB)

SHEET 1 OF 6 862D03



ELEVATION

NOTE:
- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
- -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
- -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
- -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE (25′ MINIMUM LENGTH APPROACH SLAB)

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **STRUCTURE ANCHOR UNITS** GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE (25′ MINIMUM LENGTH APPROACH SLAB)	SHEET 2 OF 6 **862D03**

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

ENGLISH DETAIL DRAWING FOR **STRUCTURE ANCHOR UNITS** GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE (25′ MINIMUM LENGTH APPROACH SLAB)

SHEET 2 OF 6 862D03



PROJECT SERVICES UNIT STANDARDS AND SPECIAL DESIGN Office 919-250-4128 FAX 919-250-4119	
SEE PLATE FOR TITLE	
ORIGINAL BY: 2002 STANDARDS	DATE: 01-15-02
MODIFIED BY: C.E. WARD	DATE: 09-14-05
CHECKED BY: [signature]	DATE: 9/21/05
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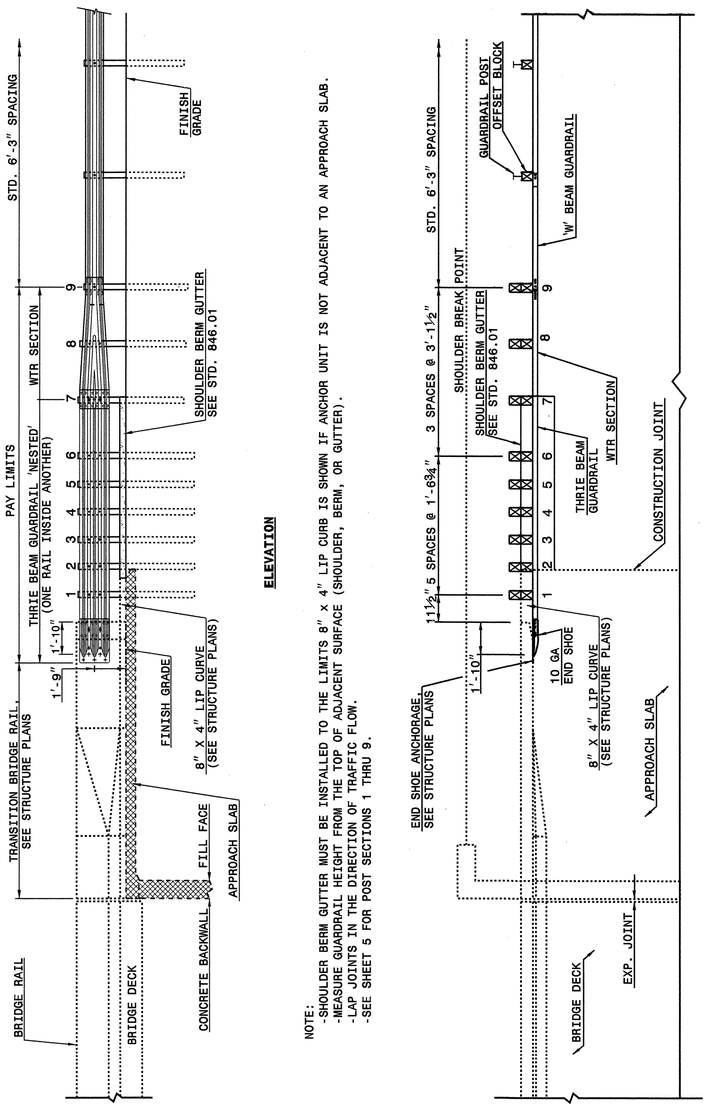
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PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-R

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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (15' MINIMUM LENGTH APPROACH SLAB)

SHEET 3 OF 6
862D03

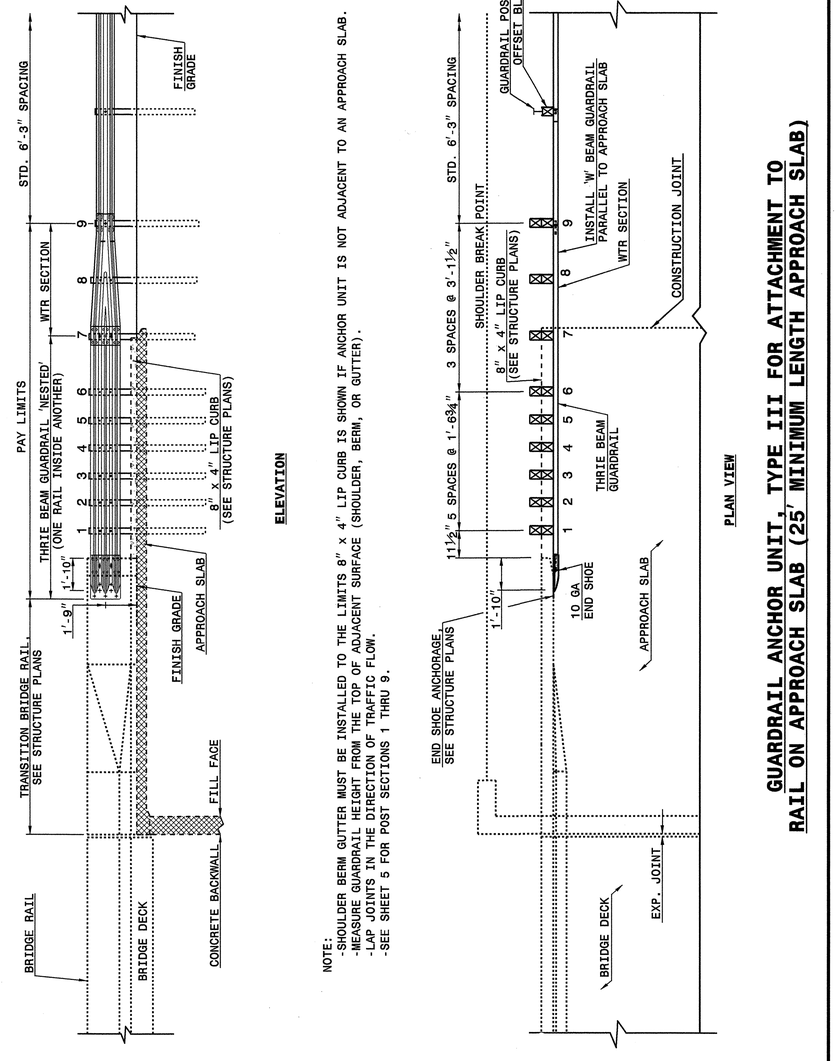


GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON APPROACH SLAB (15' MINIMUM LENGTH APPROACH SLAB)

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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (25' MINIMUM LENGTH APPROACH SLAB)

SHEET 4 OF 6
862D03



GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON APPROACH SLAB (25' MINIMUM LENGTH APPROACH SLAB)

STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (15' MINIMUM LENGTH APPROACH SLAB)

SHEET 3 OF 6
862D03

STATE OF
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (25' MINIMUM LENGTH APPROACH SLAB)

SHEET 4 OF 6
862D03



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ORIGINAL BY: 2002 STANDARDS DATE: 01-15-02
MODIFIED BY: E. E. WARD DATE: 09-14-05
CHECKED BY: J. S. HUNT DATE: 9/21/05
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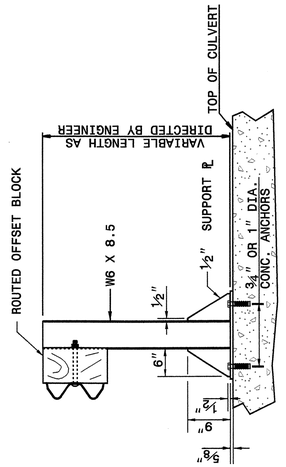
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PROJECT REFERENCE NO.	SHEET NO.
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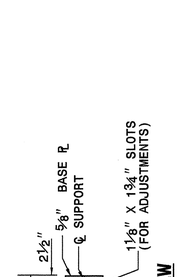
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
ANCHORAGE FOR GUARDRAIL POST ON BOX CULVERT

SHEET 6 OF 6 **862D03**



ELEVATION VIEW



PLAN VIEW

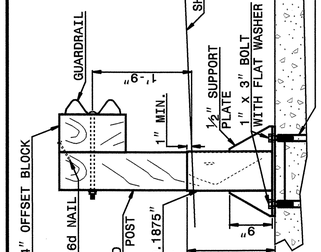
NOTES FOR:
GUARDRAIL POST ANCHORED TO STRUCTURE:
-USE FULL LENGTH ¼" BUTT WELDS AT ALL LOCATIONS OF CONTACT BETWEEN THE BASE PLATE, SUPPORT PLATES AND STEEL POST OR STEEL TUBE.
-USE POST AND POST BASE PLATES CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-36 AND GALVANIZED AFTER FABRICATION TO CONFORM TO A.S.T.M. A-123.
-USE WOOD POSTS WHICH FIT SNUGLY IN THE STEEL TUBE WITH A MAXIMUM OF ⅛" CLEARANCE BETWEEN TUBE WALL AND POST.

NEW STRUCTURES:
-ATTACH POST TO INSERT ASSEMBLY UNITS (USING ANCHOR BOLTS SUPPLIED WITH INSERTS) WHICH HAVE BEEN CAST INTO THE STRUCTURE DURING CONSTRUCTION.

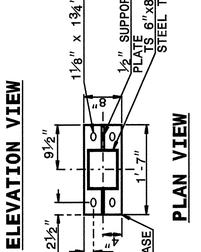
EXISTING STRUCTURES:
-USE CONCRETE ANCHORS CONSISTING OF A STUD BOLT WITH NUT AND WASHER. USE STUDS THREADED ON ONE END AND HAVING AN EXPANDED WEDGE ASSEMBLY POSITIONED AROUND A TAPERED AREA AT THE OTHER END. USE ANCHORS WHICH PROVIDE A MINIMUM SAFE HOLDING POWER OF 2875 LBS. FOR A ¾" DIAMETER BOLT. CALCULATE HOLDING POWER BASED ON ¼ THE ACTUAL HOLDING POWER OF THE ANCHOR IN 3500 PSI CONCRETE AS DETERMINED BY AN APPROVED COMMERCIAL TESTING LABORATORY.

-USE ANCHORS GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153. SIZE HOLES FOR ANCHORS IN ACCORDANCE WITH THE ANCHOR MANUFACTURER'S RECOMMENDATIONS. DRILL HOLES WITH A CARBIDE OR DIAMOND TIPPED MASONRY BIT POWERED BY A ROTARY OR ROTARY IMPACT DRILL. NO OTHER IMPACT TOOLS WILL BE PERMITTED. DRILL HOLES VERTICALLY. FURNISH DOCUMENTATION OF HOLE SIZE RECOMMENDED FOR THE SPECIFIED ANCHOR TO THE ENGINEER BEFORE DRILLING HOLES. THOROUGHLY CLEAN HOLES FOR ANCHORS OF ALL CONCRETE CHIPS, DUST, GREASE, OIL, ETC. BEFORE ANCHORS ARE INSTALLED. REPAIR ALL DAMAGE CAUSED BY THIS WORK TO THE SATISFACTION OF THE ENGINEER.

ANCHORAGE FOR GUARDRAIL POST ON BOX CULVERT



ELEVATION VIEW



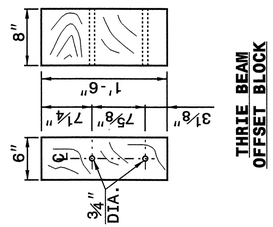
PLAN VIEW



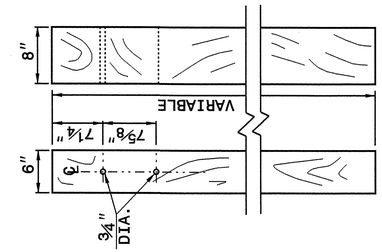
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 5 OF 6 **862D03**

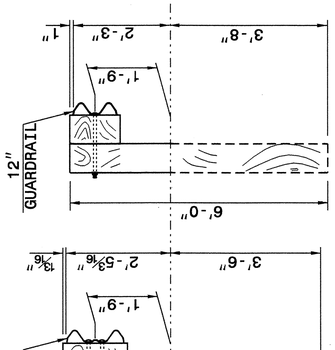


THRIE BEAM OFFSET BLOCK

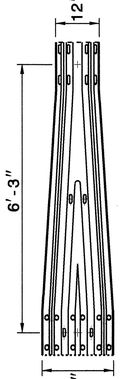


THRIE BEAM LINE POST

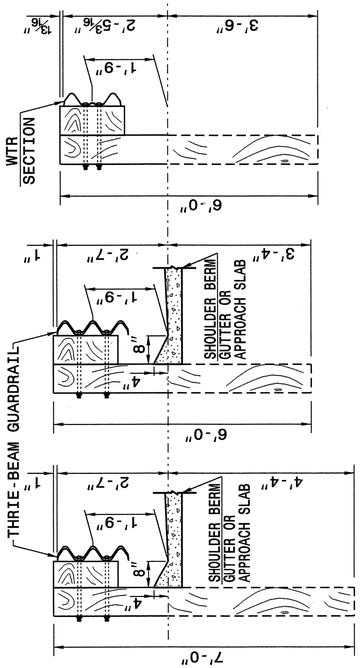
NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.



SECTION OF 'W' BEAM POST 9



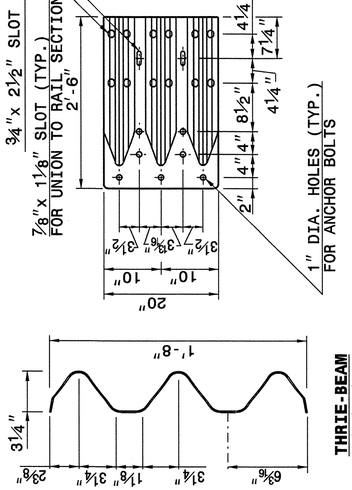
WTR SECTION
ELEVATION VIEW



SECTION OF WTR BEAM POST 8

SECTION OF THRIE BEAM POST 7

SECTION OF THRIE BEAM POSTS 1 THRU 6



END SHOE

THRIE-BEAM SECTION

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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 5 OF 6 **862D03**

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ORIGINAL BY: 2002 STANDARDS DATE: 01-15-02
MODIFIED BY: E.E. WARD DATE: 09-14-05
CHECKED BY: Karl S. Hunt DATE: 9/15/05
FILE SPEC.: stds/02stdstodetails/english/862d03.dgn

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
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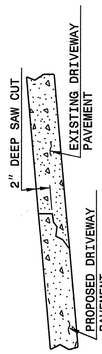
STATE OF
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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

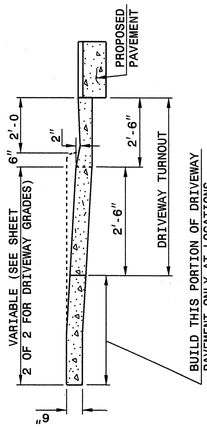
ENGLISH DETAIL DRAWING FOR
DRIVEWAY TURNOUT
DROP CURB TYPE

SHEET 1 OF 2 — 848D03

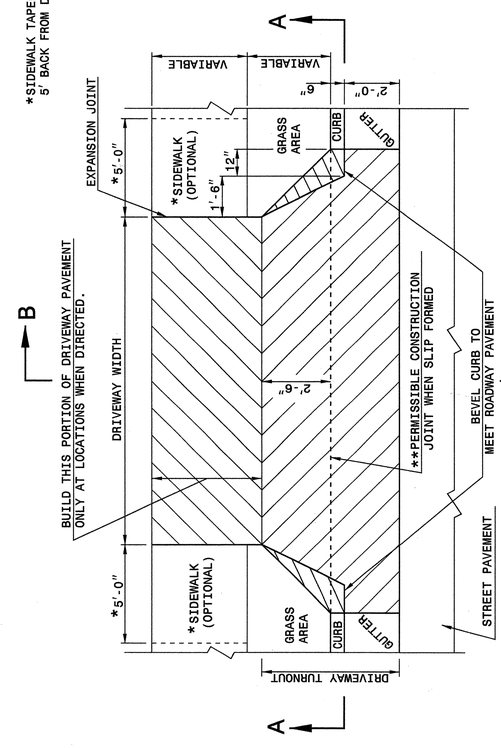
METHOD OF TIE IN

WHEN EXISTING DRIVEWAY PAVEMENT IS CONCRETE, SAW CUT 2" DEEP JOINT AT THE POINT OF TIE-IN. SAW JOINT PERPENDICULAR TO EDGE OF EXISTING DRIVEWAY PAVEMENT.

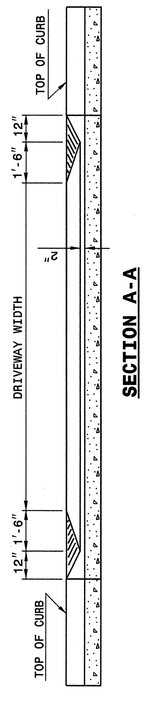




SECTION B-B



PLAN
DETAIL OF DRIVEWAY



SECTION A-A

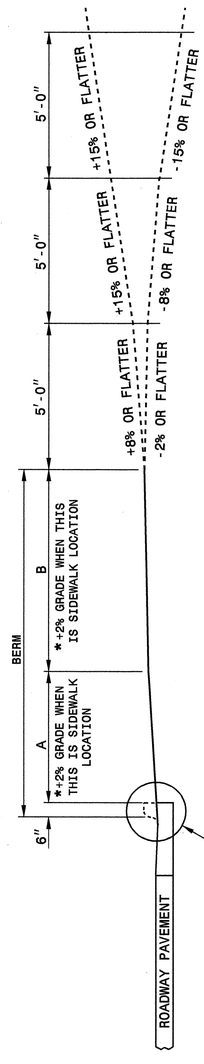
GENERAL NOTES:
*NO CONSTRUCTION JOINT WILL BE PERMITTED IF FORMS ARE USED TO CAST DRIVEWAY. SLIP FORMING OF CURB AND GUTTER PERMITS THE USE OF CONSTRUCTION JOINT.
**NO CONSTRUCTION JOINT WILL BE PERMITTED IF FORMS ARE USED TO CAST DRIVEWAY. SLIP FORMING OF CURB AND GUTTER PERMITS THE USE OF CONSTRUCTION JOINT.

STATE OF
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
DRIVEWAY TURNOUT
DRIVEWAY GRADES

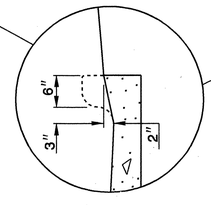
SHEET 2 OF 2 — 848D03

DESIRABLE DRIVEWAY GRADES

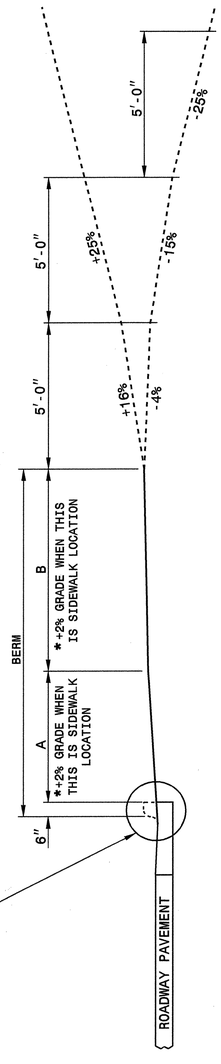


DESIRABLE OR MAXIMUM DRIVEWAY GRADES				
BERM WIDTH	A		B	
	DIST.	GRADE	DIST.	GRADE
8' OR LESS	5'-0"	+2%*	2'-6"	+5%
8' OR LESS	2'-0"	+6%	5'-6"	+2%*
10'	4'-0"	+4%	5'-6"	+2%*
12' & OVER	4'-6"	+4%	7'-0"	+2%*

*SIDEWALK LOCATION
(DO NOT PLACE SIDEWALK ON BERMS LESS THAN 6' WIDE.)



MAXIMUM DRIVEWAY GRADES





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MODIFIED BY: E.E. WARD DATE: 03-27-03
CHECKED BY: DATE: 4-4-03
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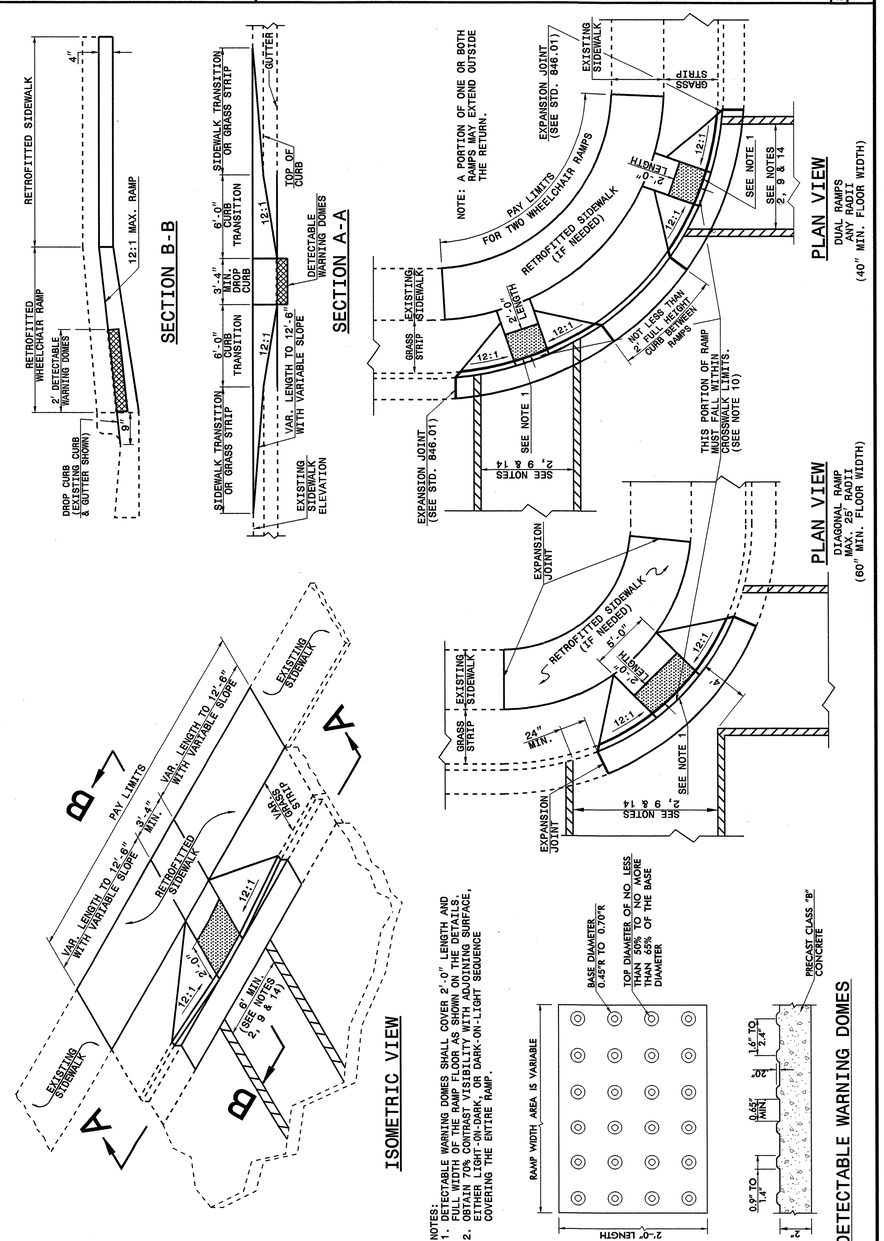
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PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-0

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

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP AND EXISTING SIDEWALK WITH GRASS STRIP
CURB CUT

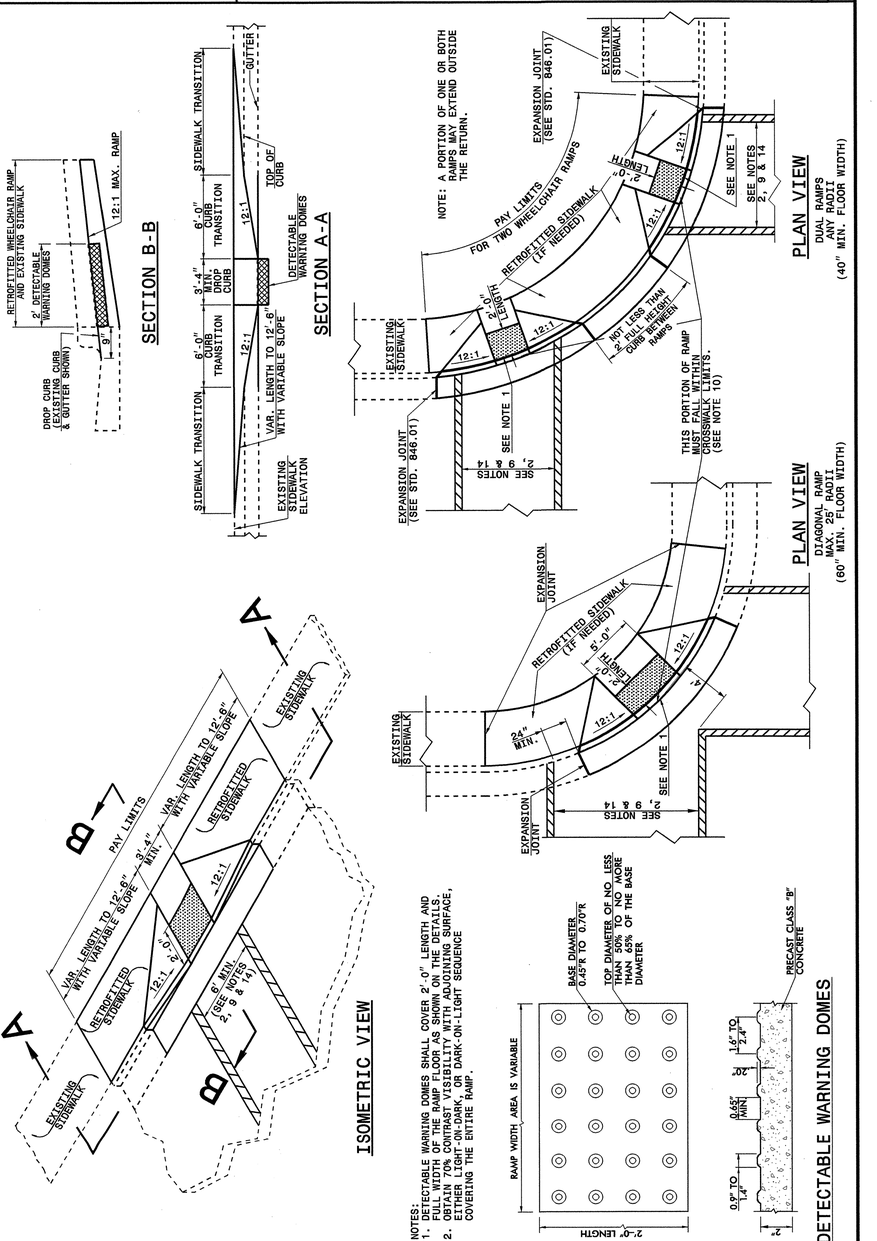
SHEET 1 OF 5 **848D06**



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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP AND EXISTING SIDEWALK ADJACENT TO CURB
CURB CUT

SHEET 2 OF 5 **848D06**



NORTH CAROLINA PROFESSIONAL SEAL 022566 ENGINEER JOHN C. HUNT
5/2/06

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ORIGINAL BY: DETAIL 848D05 DATE:
MODIFIED BY: E.E. WARD DATE: 09-06-05
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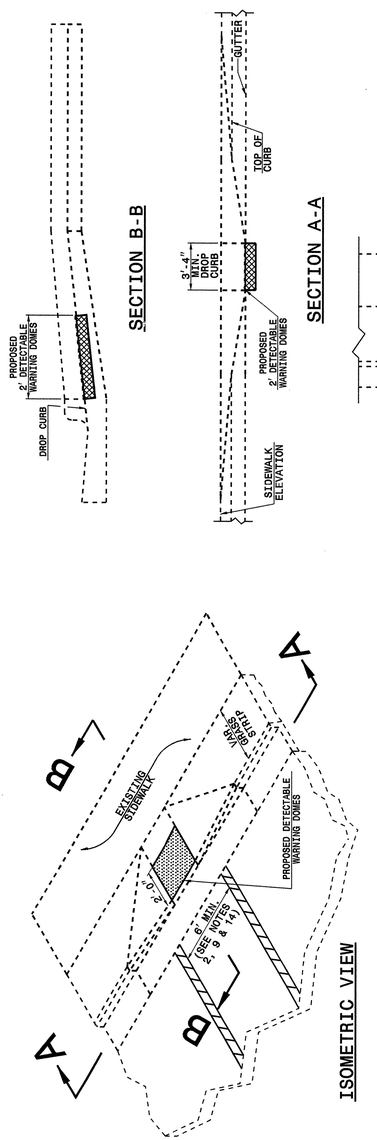
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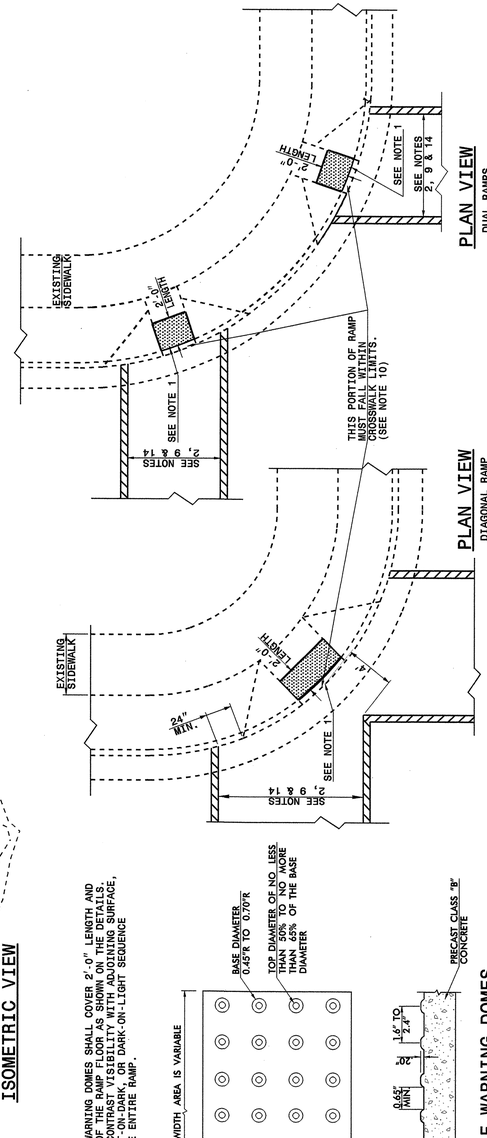
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U-3613B	2-V

STATE OF
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING WHEELCHAIR RAMP
CURB CUT

SHEET 3 OF 5 **848D06**



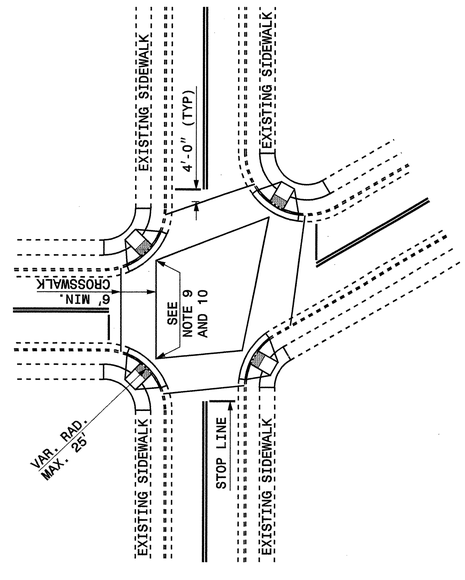


NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF RAMP OR LANDING AS SHOWN ON THIS DETAIL.
2. OBTAIN 70% CONTRAST-VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

STATE OF
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RALEIGH, N.C.

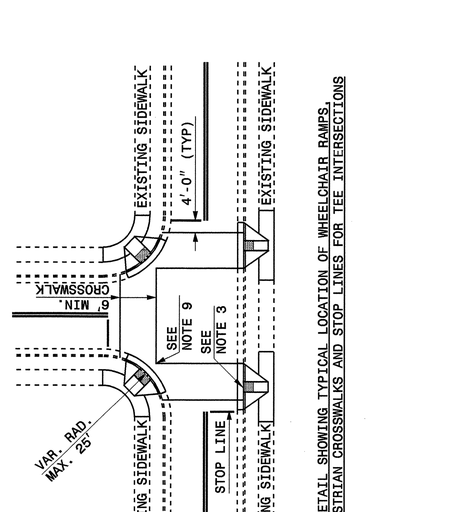
ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
CURB CUT

SHEET 4 OF 5 **848D06**



DETAIL SHOWING TYPICAL LOCATION OF WHEELCHAIR RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS

ALLOWABLE LOCATIONS
DIAGONAL RAMP RADII...MAX. 25'



DETAIL SHOWING TYPICAL LOCATION OF WHEELCHAIR RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS

RESURFACING PROJECTS

PROPOSED WHEELCHAIR RAMP FOR RESURFACING PROJECTS

EXISTING SIDEWALK

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

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
CURB CUT

SHEET 4 OF 5 **848D06**

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MODIFIED BY: E.E. WARD DATE: 09-06-05
CHECKED BY: [signature] DATE: 9/9/15
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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

WHEELCHAIR RAMP AND EXISTING SIDEWALK

CURB CUT

SHEET 5 OF 5

848D06

NOTES:

1. CONSTRUCT THE WALKING SURFACE WITH SLIP RESISTANCE AND A 70% CONTRASTING COLOR TO THE SIDEWALK.
2. CROSSWALK WIDTHS AND CONFIGURATION VARY, BUT MUST CONFORM TO TRAFFIC DESIGN STANDARDS.
3. NORTH CAROLINA GENERAL STATUTE 136-44.14 REQUIRES THAT ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILITIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1, 1973 SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY DISABLED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTER AND SIDEWALKS ARE PROVIDED AND AT OTHER POINTS OF PEDESTRIAN FLOW.

   IN ADDITION, SECTION 228 OF THE 1973 FEDERAL AID HIGHWAY SAFETY ACT REQUIRES PROVISION OF CURB RAMPS ON ANY CURB CONSTRUCTION AFTER JULY 1,1976 WHETHER A SIDEWALK IS PROPOSED INITIALLY OR IS PLANNED FOR A FUTURE DATE.

   THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990 EXTENDS TO INDIVIDUALS WITH DISABILITIES, COMPREHENSIVE CIVIL RIGHTS PROTECTIONS SIMILIAR TO THOSE PROVIDED TO PERSONS ON THE BASIS OF RACE, SEX, NATIONAL ORIGIN AND RELIGION UNDER THE CIVIL RIGHTS ACT OF 1964. THESE CURB RAMPS HAVE BEEN DESIGNED TO COMPLY WITH THE CURRENT ADA STANDARDS.
4. PROVIDE WHEELCHAIR RAMPS AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. LOCATE WHEELCHAIR RAMPS AS DIRECTED BY THE ENGINEER WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT. WHERE TWO RAMPS ARE INSTALLED PLACE NOT LESS THAN 2 FEET OF FULL HEIGHT CURB BETWEEN THE RAMPS. PLACE DUAL RAMPS AS NEAR PERPENDICULAR TO THE TRAVEL LANE BEING CROSSED AS POSSIBLE.
5. DO NOT EXCEED 0.08 (12:1) SLOPE ON THE WHEELCHAIR RAMP IN RELATIONSHIP TO THE GRADE OF THE STREET.
6. CONSTRUCT WHEELCHAIR RAMPS 40″ (3′-4″) OR GREATER FOR DUAL RAMPS AND 60″ (5′-0″) OR GREATER FOR DIAGONAL RAMPS.
7. USE CLASS "B" CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NON-SKID TYPE SURFACE.
8. PLACE A ½″ EXPANSION JOINT WHERE THE CONCRETE WHEELCHAIR RAMP JOINS THE CURB AND AS SHOWN ON STD. DWG. 848.01.
9. PLACE THE INSIDE PEDESTRIAN CROSSWALK LINES NO CLOSER IN THE INTERSECTION BY BISECTING THE INTERSECTION RADII, WITH ALLOWANCE OF A 4′ CLEAR ZONE IN THE VEHICULAR TRAVELWAY WHEN ONE RAMP IS INSTALLED. (SEE NOTE 14)
10. COORDINATE THE CURB CUT AND THE PEDESTRIAN CROSSWALK LINES SO THE FLOOR OF THE WHEELCHAIR RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES. PLACE DIAGONAL RAMPS WITH FLARED SIDES SO 24″ OF FULL HEIGHT CURB FALLS WITHIN THE CROSSWALK MARKINGS ON EACH SIDE OF THE FLARES.
11. CONSTRUCT THE PEDESTRIAN CROSSWALK A MINIMUM OF 6 FEET. A CROSSWALK WIDTH OF 10 FEET OR GREATER IS DESIRABLE.
12. USE STOP LINES, NORMALLY PERPENDICULAR TO THE LANE LINES, WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN OR OTHER LEGAL REQUIREMENT. AN UNUSUAL APPROACH SKEW MAY REQUIRE THE PLACEMENT OF THE STOP LINE TO BE PARALLEL TO THE INTERSECTING ROADWAY.
13. TERMINATE PARKING A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK.
14. PLACE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION AND THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD.

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

ENGLISH DETAIL DRAWING FOR

WHEELCHAIR RAMP AND EXISTING SIDEWALK

CURB CUT

SHEET 5 OF 5

848D06

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042946

5/6/06

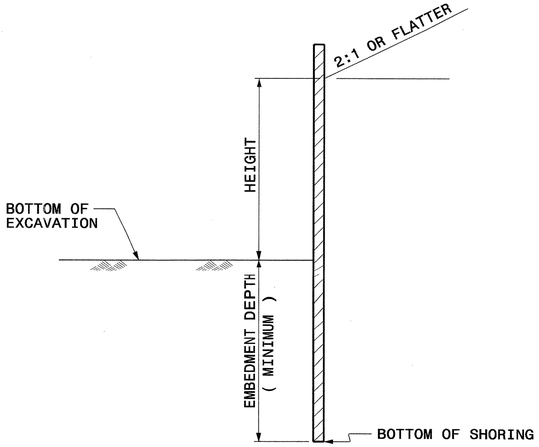
SEE PLATE FOR TITLE

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CHECKED BY: [signature] DATE: 4/6/06
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PROJECT REFERENCE NO. U-3613B

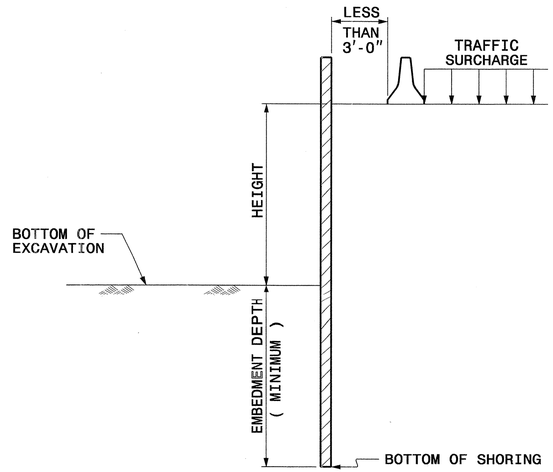
SHEET NO. 2-N

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	2-X



TEMPORARY SHORING

(SLOPING OR LEVEL WITH TRAFFIC SURCHARGE, NO BARRIER IMPACT)



TEMPORARY SHORING - BARRIER SUPPORTED

(LEVEL WITH TRAFFIC SURCHARGE, WITH BARRIER IMPACT)

NOTES

FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE SPECIAL PROVISIONS.

SELECT THE APPROPRIATE STANDARD SHORING DESIGN FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC IN LIEU OF SUBMITTING CONTRACTOR SHORING DESIGN. USE STANDARD SHORING DESIGN ONLY WHEN ALL OF THE FOLLOWING CRITERIA ARE MET:

- MAXIMUM HEIGHT OF SHORING EXCAVATION IS 11 FEET
- GROUNDWATER TABLE IS NOT ABOVE BOTTOM OF THE EXCAVATION
- BACKFILL SLOPE IS 2:1 OR FLATTER
- TRAFFIC SURCHARGE EQUAL TO 240 PSF
- SOLDIER PILE SPACING OF 6 FEET
- TIMBER LAGGING SHALL HAVE A MINIMUM THICKNESS OF 3 INCHES

SUBMIT "STANDARD SHORING SELECTION" FORM TO ENGINEER PRIOR TO CONSTRUCTION OF SHORING.

DO NOT USE THE STANDARD SHORING DESIGNS WHEN VERY SOFT SOIL OR MUCK IS PRESENT WITHIN THE SHORING EMBEDMENT ZONE.

CONTRACTOR MUST VERIFY LOCATION OF GROUNDWATER TABLE PRIOR TO CONSTRUCTION OF SHORING.

THE CONTRACTOR HAS THE OPTION OF USING SOLDIER PILES SET IN DRILLED HOLES WITH A SHORTENED LENGTH EQUAL TO 75% OF THE EMBEDMENT DEPTHS SHOWN IN THE TABLE. FOR DRILLING REQUIREMENTS, SEE TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC SPECIAL PROVISION.

IF DESIGN EMBEDMENT DEPTH IS NOT ACHIEVED, THEN NOTIFY THE ENGINEER IMMEDIATELY.

GROUNDWATER TABLE CONDITIONS

1) WHEN WATER TABLE IS ABOVE THE BOTTOM OF EXCAVATION, SUBMIT CONTRACTOR SHORING DESIGN TO THE ENGINEER FOR APPROVAL.

2) WHEN WATER TABLE IS BELOW THE BOTTOM OF EXCAVATION AND ABOVE THE BOTTOM OF SHORING, USE "WATER TABLE" CASE.

3) WHEN WATER TABLE IS BELOW BOTTOM OF SHORING, USE "NO WATER TABLE" CASE.

		TEMPORARY SHORING					TEMPORARY SHORING - BARRIER SUPPORTED				
		CANTILEVER SHEETING		DRIVEN SOLDIER PILE			CANTILEVER SHEETING		DRIVEN SOLDIER PILE		
CASE	HEIGHT (FT)	MINIMUM EMBEDMENT DEPTH (FT)	MINIMUM SECTION MODULUS (IN^3 / FT OF WALL)	MINIMUM EMBEDMENT DEPTH (FT)			MINIMUM EMBEDMENT DEPTH (FT)	MINIMUM SECTION MODULUS (IN^3 / FT OF WALL)	MINIMUM EMBEDMENT DEPTH (FT)		
				HP 10x42	HP 12x53	HP 14x73			HP 10x42	HP 12x53	HP 14x73
"NO WATER TABLE"	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5
	9	11.0	9.5	--	12.0	12.0	13.5	16.5	--	12.5	12.5
	10	12.5	13.0	--	--	13.5	14.0	19.5	--	13.5	13.5
	11	13.5	17.0	--	--	14.5	15.0	22.5	--	--	14.5
"WATER TABLE"	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5
	8	15.0	10.0	--	15.0	15.0	18.0	17.0	--	15.5	15.5
	9	17.0	14.0	--	17.0	17.0	19.0	20.0	--	17.0	17.0
	10	18.5	19.5	--	--	18.5	20.0	23.5	--	--	18.5
	11	20.5	26.0	--	--	--	21.0	28.0	--	--	20.0

NORTH CAROLINA PROFESSIONAL SEAL 022566 ENGINEER JOHN S. HOUGHTALEN 5/2/06

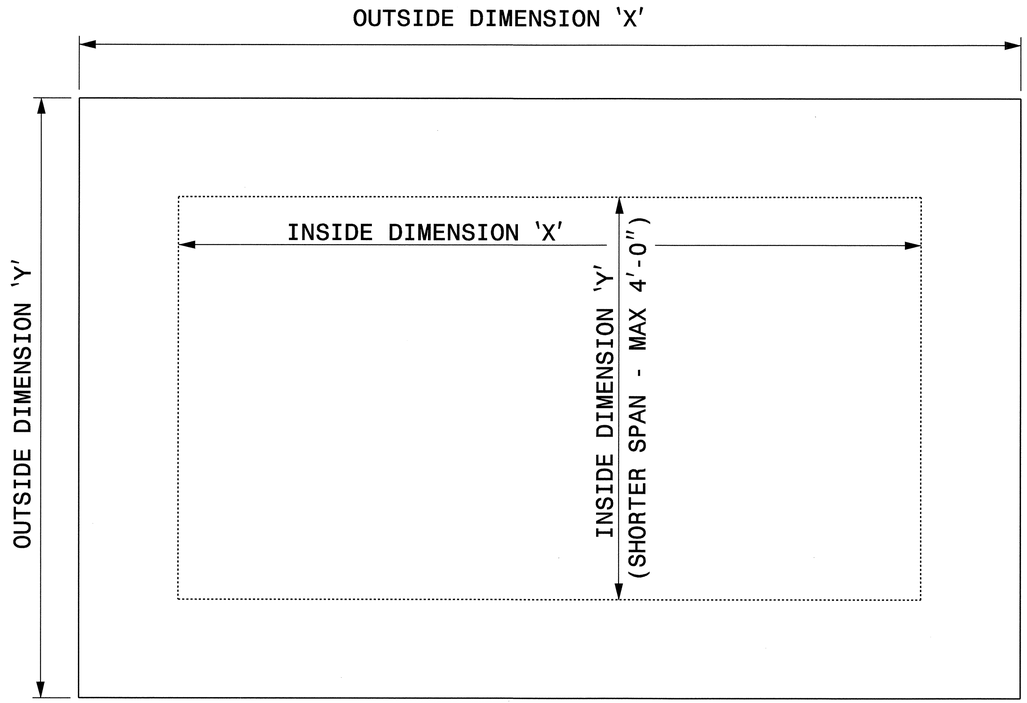
PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

STANDARD TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC

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MODIFIED BY: DATE:
CHECKED BY: DATE: 10/25/04
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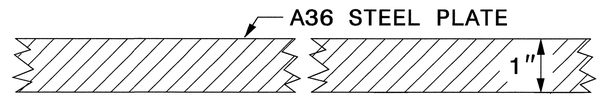
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U-3613B	2-Y



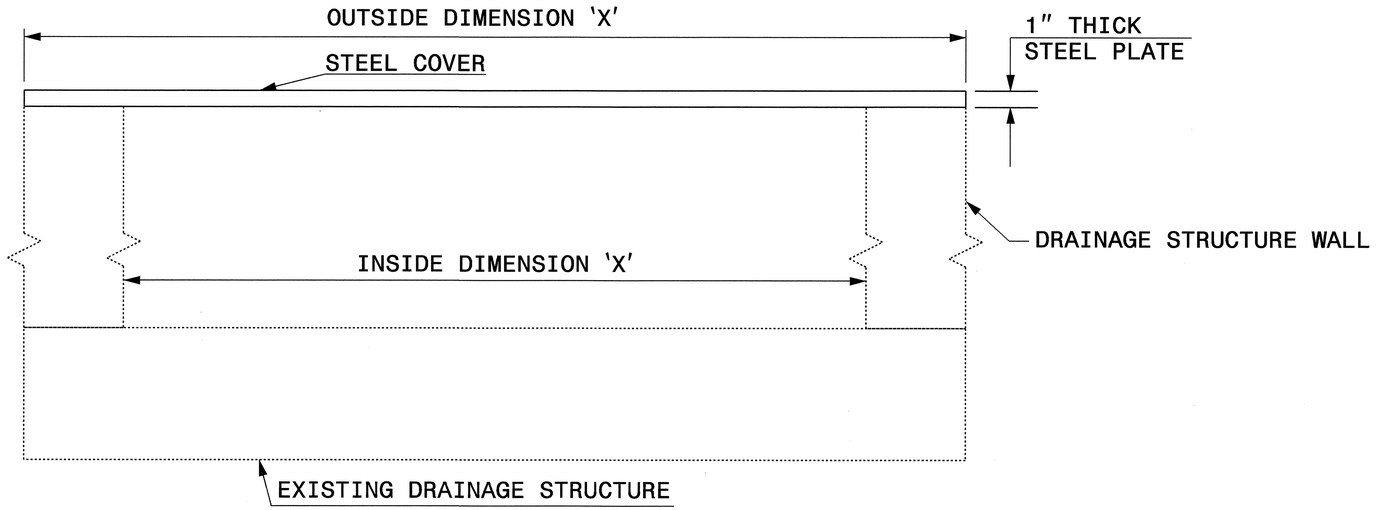
PLAN VIEWS

GENERAL NOTES:

-USE GRADE A36 STEEL
-STEEL COVERS ARE FOR TEMPORARY USE FOR DURING PHASE CONSTRUCTION.
-FILL SHALL BE PLACED DIRECTLY OVER THE STEEL PLATES.
-SEE ROADWAY PLANS AND PROVISIONS FOR LOCATIONS
-QUANTITES TO BE PAID FOR AT THE UNIT PRICE BID PER EACH.



SECTION VIEW OF STEEL TOP PLATE



ELEVATION VIEWS

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL E. HUNTINGTON
5/2/06

DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

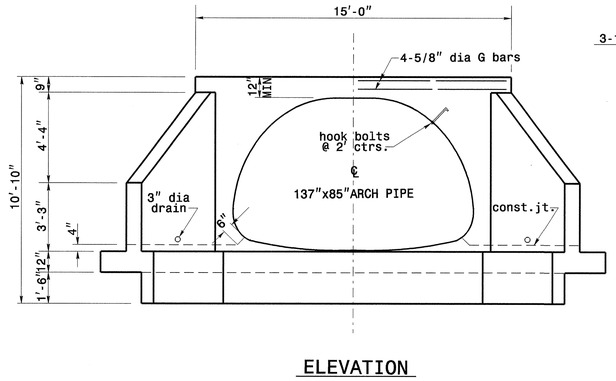
DETAIL OF TEMPORARY 1" STEEL COVER OVER DRAINAGE STRUCTURE

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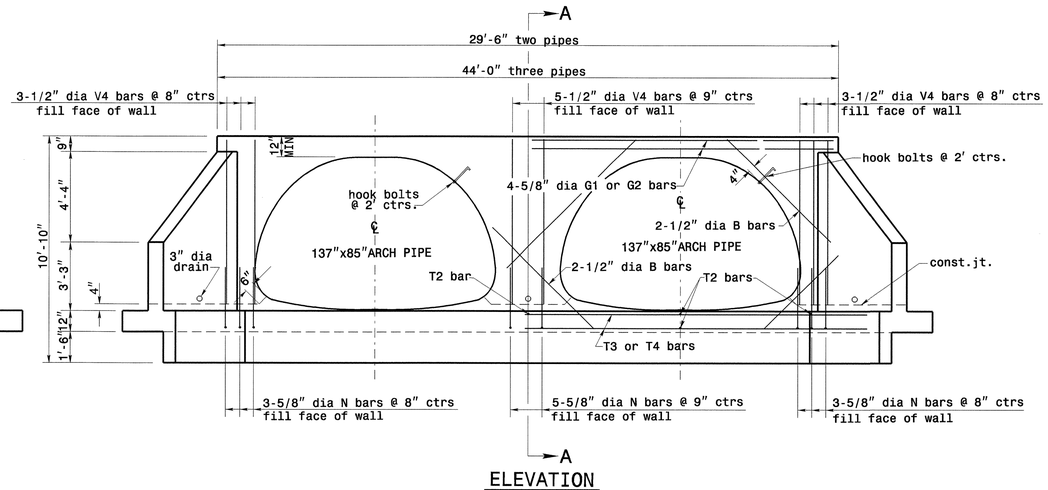
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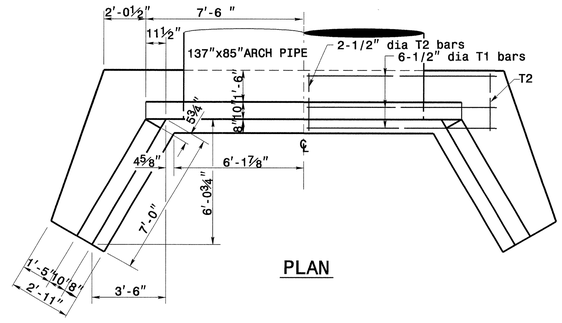
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U-3613B	2-Z



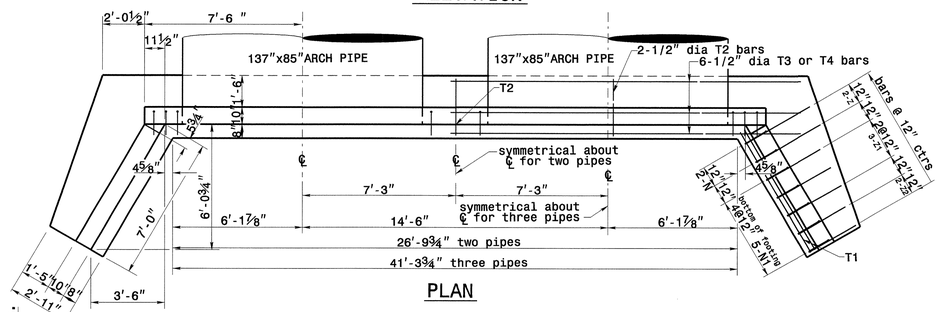
ELEVATION



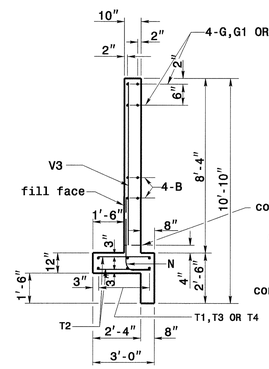
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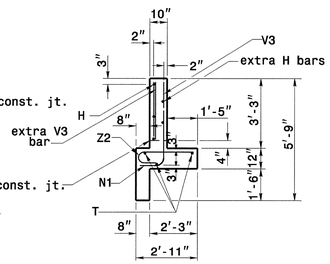
PLAN



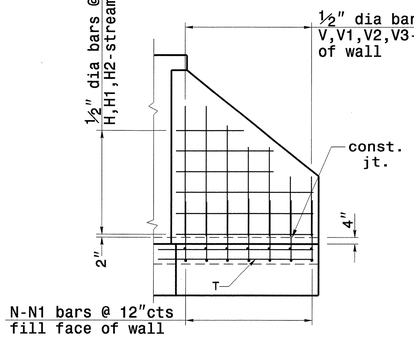
PLAN



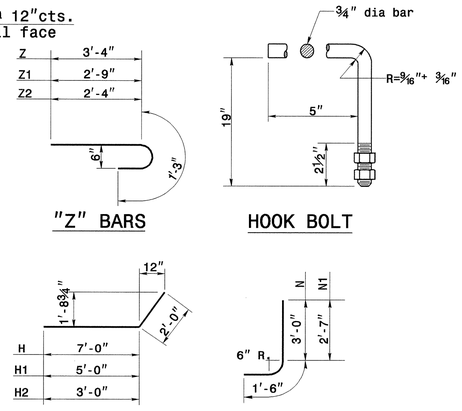
SECTION - AA



END OF WING



WING ELEVATION



"H", "N", & "Z" BAR DIMENSIONS ARE OUT TO OUT.

DESIGN DATA

Specifications	A.A.S.H.T.O. (1977)
Steel in tension	20,000 LBS. PER SQ.IN.
Concrete in compression	1,200 LBS. PER SQ.IN.
Shear Class "A" Concrete	SEE A.A.S.H.T.O.
Equiv. fluid pressure of earth	30 LBS.PER CU. FT.

NOTES:

ALL CONCRETE TO BE CLASS "A".

ALL REINFORCING STEEL SHALL BE ASTMA615-GRADE 60.

ALL REINFORCING STEEL SHALL BE DEFORMED BARS. WHERE SPLICING OF REINFORCMENT IS NECESSARY, BARS ARE TO BE LAPPED 45 DIAMETERS. ALL DIMENSIONS RELATIVE TO REINFORCEMENT ARE TO CENTERS OF BARS.

THE FOOTING, CURTAIN WALL AND 4" OF WALL ARE TO BE POURED IN ONE OPERATION ALLOWING NO TIME FOR INITIAL SET TO TAKE PLACE BETWEEN THEM. THE REMAINING WALL SHALL THEN BE POURED IN ONE OPERATION.

ALL EXPOSED CORNERS ARE TO BE CHAMFERED 1".

3" DIAMETER DRAINS SHALL BE PLACED IN WALL AS SHOWN AND BE 6" ABOVE NORMAL FLOW LINE.

ALL MATERIAL AND WORKMANSHIP AS PER N.C.DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

THE EXTRA BARS ARE PROVIDED FOR HOLDING REINFORCING STEEL IN CORRECT POSITION IN WING.
4H, 2H2, 6T, 2V, 2V2, 2V3

BILL OF MATERIAL FOR ENDWALL

REINF. STEEL			1 PIPES		2 PIPES		3 PIPES	
BAR	SIZE	LENGTH	NO.	WEIGHT	NO.	WEIGHT	NO.	WEIGHT
B	#4	7'-0"	8	37	16	75	24	112
G	#5	14'-9"	4	62	-	-	-	-
G1	#5	15'-9"	-	-	8	132	-	-
G2	#5	23'-3 1/2"	-	-	-	-	8	194
H	#4	9'-0"	10	60	10	60	10	60
H1	#4	7'-0"	4	19	4	19	4	19
H2	#4	5'-0"	4	13	4	13	4	13
N	#6	4'-6"	10	46	15	70	20	94
N1	#5	4'-1"	10	27	10	27	10	27
T	#4	7'-0"	6	28	6	28	6	28
T1	#4	18'-9"	6	75	-	-	-	-
T2	#4	2'-9"	4	7	7	13	10	18
T3	#4	16'-9"	-	-	12	134	-	-
T4	#4	23'-9"	-	-	-	-	12	190
V	#5	5'-9"	6	23	6	23	6	23
V1	#4	5'-3"	2	7	2	7	2	7
V2	#4	4'-0"	6	16	6	16	6	16
V3	#4	2'-9"	6	11	6	11	6	11
V4	#4	7'-6"	6	30	11	55	16	80
Z	#6	4'-7"	4	19	4	19	4	19
Z1	#5	4'-0"	6	16	6	16	6	16
Z2	#4	3'-7"	4	10	4	10	4	10
REINF. STEEL LBS.				506		728		937
CON./R.C. CU. YDS.			9		13		17.5	

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL H. HUNT
5/4/06

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

DETAIL OF REINFORCED CONCRETE ENDWALL FOR 137"X 85" (Pipe Arch)-90°

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: rnbritt DATE: 5-04-06
CHECKED BY: Joel S. Hunt DATE: 5/4/06
FILE SPEC.: details/nbritt/english/rural/u3613b endwall 137x85 90sk.dgn

04-MAY-2006 12:5
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rnbritt AT PS228331

PROJECT REFERENCE No.	SHEET No.
U-3613B	10F2 (3)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201654

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0036000000-E	225	18,350	CY	UNDERCUT EXCAVATION
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0080000000-E	SP	675	TON	CLASS IV SUBGRADE STABILIZA-TION
0134000000-E	240	2,280	CY	DRAINAGE DITCH EXCAVATION
0141000000-E	240	180	LF	BERM DITCH CONSTRUCTION
0195000000-E	265	25,250	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	24,900	SY	FABRIC FOR SOIL STABILIZATION
0199000000-E	SP	360	SF	TEMPORARY SHORING
0318000000-E	300	2,290	TON	FOUNDATION CONDITIONING MATE-RIAL, MINOR STRS
0342000000-E	310	28	LF	"" SIDE DRAIN PIPE (30")
0343000000-E	310	52	LF	15" SIDE DRAIN PIPE
0344000000-E	310	144	LF	18" SIDE DRAIN PIPE
0345000000-E	310	136	LF	24" SIDE DRAIN PIPE
0366000000-E	310	10,160	LF	15" RC PIPE CULVERTS, CLASS III
0372000000-E	310	4,164	LF	18" RC PIPE CULVERTS, CLASS III
0378000000-E	310	3,276	LF	24" RC PIPE CULVERTS, CLASS III
0384000000-E	310	1,104	LF	30" RC PIPE CULVERTS, CLASS III
0390000000-E	310	652	LF	36" RC PIPE CULVERTS, CLASS III
0396000000-E	310	72	LF	42" RC PIPE CULVERTS, CLASS III
0402000000-E	310	8	LF	48" RC PIPE CULVERTS, CLASS III
0414000000-E	310	84	LF	60" RC PIPE CULVERTS, CLASS III
0582000000-E	310	544	LF	15" CS PIPE CULVERTS, 0.064" THICK
0588000000-E	310	828	LF	18" CS PIPE CULVERTS, 0.064" THICK
0594000000-E	310	204	LF	24" CS PIPE CULVERTS, 0.064" THICK
0648000000-E	SP	2	EA	"" SADDLE BRANCH CONNECTOR (18")
0708000000-E	310	32	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0714000000-E	310	56	LF	18" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0807000000-E	310	2	EA	18" BIT COAT CS PIPE ELBOWS, T YPE B 0.064" THICK
0962000000-E	320	126	LF	"" X "" CAA STRUCTURAL PLATE PIPE ARCH, ***** THICK (137" x 85", 0.125")
0995000000-E	340	5,142	LF	PIPE REMOVAL
1121000000-E	520	500	TON	AGGREGATE BASE COURSE
1220000000-E	545	500	TON	INCIDENTAL STONE BASE
1330000000-E	607	3,500	SY	INCIDENTAL MILLING
1489000000-E	610	25,400	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	26,200	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1519000000-E	610	23,650	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1560000000-E	620	3,743	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1693000000-E	654	1,020	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2022000000-E	815	450	CY	SUBDRAIN EXCAVATION
2033000000-E	815	340	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	2,000	LF	6" PERFORATED SUBDRAIN PIPE
2055000000-E	815	60	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
2077000000-E	815	24	LF	6" OUTLET PIPE (SUBDRAINS)
2132000000-N	816	4	EA	CONCRETE PAD FOR SHOULDER DRAIN PIPE OUTLET
2190000000-N	828	16	EA	TEMPORARY STEEL PLATE COVERS FOR MASONRY DRAINAGE STRUCTURE
2209000000-E	838	5	CY	ENDWALLS
2220000000-E	838	13	CY	REINFORCED ENDWALLS
2253000000-E	840	6	CY	PIPE COLLARS
2264000000-E	840	2	CY	PIPE PLUGS
2286000000-N	840	265	EA	MASONRY DRAINAGE STRUCTURES
2297000000-E	840	6	CY	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	38	LF	MASONRY DRAINAGE STRUCTURES
2364000000-N	840	59	EA	FRAME WITH TWO GRATES, STD 840.16
2366000000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.24
2374000000-N	840	19	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)
2374000000-N	840	71	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
2374000000-N	840	78	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)
2396000000-N	840	37	EA	FRAME WITH COVER, STD 840.54
2440000000-N	840	3	EA	CONCRETE APRON FOR CATCH BASIN
2451000000-N	840	13	EA	CONCRETE APRON FOR DROP INLETS
2529000000-E	SP	382	SF	GENERIC GRADING ITEM (SF) TEMPORARY FABRIC WALL
2542000000-E	846	3,500	LF	1'-6" CONCRETE CURB & GUTTER
2549000000-E	846	27,500	LF	2'-6" CONCRETE CURB & GUTTER
2580000000-E	846	200	LF	CONCRETE VALLEY GUTTER
2591000000-E	848	14,000	SY	4" CONCRETE SIDEWALK
2598000000-E	848	730	SY	CONCRETE WHEELCHAIR RAMPS
2612000000-E	848	2,000	SY	6" CONCRETE DRIVEWAY
2619000000-E	850	10	SY	4" CONCRETE PAVED DITCH
2626000000-E	852	1,900	SY	3" CONCRETE ISLAND COVERS
2655000000-E	852	3,400	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)
2830000000-N	858	60	EA	ADJUSTMENT OF MANHOLES
2845000000-N	858	140	EA	ADJUSTMENT OF METER BOXES OR VALVE BOXES
3030000000-E	862	525	LF	STEEL BM GUARDRAIL
3150000000-N	862	10	EA	ADDITIONAL GUARDRAIL POSTS
3210000000-N	862	6	EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1
3270000000-N	SP	6	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3360000000-E	863	450	LF	REMOVE EXISTING GUARDRAIL
3628000000-E	876	30	TON	PLAIN RIP RAP, CLASS I
3649000000-E	876	91	TON	PLAIN RIP RAP, CLASS B
3656000000-E	876	2,810	SY	FILTER FABRIC FOR DRAINAGE
3659000000-N	SP	2	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4072000000-E	903	927	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4096000000-N	904	3	EA	SIGN ERECTION, TYPE D
4102000000-N	904	73	EA	SIGN ERECTION, TYPE E
4108000000-N	904	5	EA	SIGN ERECTION, TYPE F
4129000000-N	906	2	EA	RELOCATE SIGN, TYPE ***** (E)
4155000000-N	907	41	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4192000000-N	907	2	EA	DISPOSAL OF SUPPORT, U-CHANNEL
4412000000-E	SP	1,100	SF	WORK ZONE SIGNS (STATIONARY)
4412100000-E	SP	240	SF	WORK ZONE SIGNS (PORTABLE)
4412200000-E	SP	354	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	2	EA	FLASHING ARROW PANELS, TYPE C
4420000000-N	1120	4	EA	CHANGEABLE MESSAGE SIGN
4425000000-N	1125	6	EA	WARNING FLAG SETS
4430000000-N	1130	900	EA	DRUMS
4435000000-N	1135	200	EA	CONES
4446100000-E	SP	360	LF	BARRICADES (TYPE III)
4450000000-N	1150	6,720	HR	FLAGGER
4465000000-N	1160	2	EA	TEMPORARY CRASH CUSHIONS
4470000000-N	1160	2	EA	RESET TEMPORARY CRASH CUSHIONS
4480000000-N	1165	2	EA	TRUCK MOUNTED IMPACT ATTENUA-TOR (60 MPH)
4485000000-E	1170	200	LF	PORTABLE CONCRETE BARRIER
4500000000-E	1170	200	LF	RESET PORTABLE CONCRETE BAR-RIER
4507000000-E	SP	1,412	LF	WATER FILLED BARRIER
4508000000-E	SP	643	LF	RESET WATER FILLED BARRIER
4510000000-N	SP	720	HR	POLICE
4650000000-N	1251	1,489	EA	TEMPORARY RAISED PAVEMENT MARKERS
4685000000-E	1205	4,550	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	36,127	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4695000000-E	1205	671	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
4697000000-E	1205	3,122	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 120 MILS)
4705000000-E	1205	200	LF	THERMOPLASTIC PAVEMENT MARKING LINES (16", 120 MILS)
4710000000-E	1205	1,375	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
4721000000-E	1205	6	EA	THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)
4725000000-E	1205	195	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
4810000000-E	1205	224,727	LF	PAINT PAVEMENT MARKING LINES (4")
4820000000-E	1205	1,378	LF	PAINT PAVEMENT MARKING LINES (8")
4825000000-E	1205	1,600	LF	PAINT PAVEMENT MARKING LINES (12")
4830000000-E	1205	344	LF	PAINT PAVEMENT MARKING LINES (16")
4835000000-E	1205	2,836	LF	PAINT PAVEMENT MARKING LINES (24")
4840000000-N	1205	14	EA	PAINT PAVEMENT MARKING CHARAC-TER
4845000000-N	1205	232	EA	PAINT PAVEMENT MARKING SYMBOL
4850000000-E	1205	52,324	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4860000000-E	1205	827	LF	REMOVAL OF PAVEMENT MARKING LINES (8")
4870000000-E	1205	261	LF	REMOVAL OF PAVEMENT MARKING LINES (24")
4875000000-N	1205	130	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS
4905000000-N	1253	1,532	EA	SNOWPLOWABLE PAVEMENT MARKERS
5300000000-E	1505	1,300	TON	FOUNDATION CONDITIONING MATE-RIAL, UTILITIES CLASS ******** (VI)
5306000000-E	SP	1,300	TON	BEDDING MATERIAL, UTILITIES CLASS ********** (IV)
5318000000-E	1505	282	TON	PAVEMENT REPAIR FOR UTILITY WORK
5420000000-E	1510	1,534	LF	1" COPPER WATER PIPE, TYPE K
5432000000-E	1510	297	LF	2" PVC WATER PIPE, SDR ******* (21, 200# WP)
5438000000-E	1510	49	LF	4" PVC WATER PIPE, SDR ******* (21, 200# WP)
5444000000-E	1510	1,722	LF	6" PVC WATER PIPE, SDR ******* (21, 200# WP)
5462000000-E	1510	364	LF	12" PVC WATER PIPE, SDR ****** (21, 200# WP)
5468000000-E	1510	12,447	LF	"" PVC WATER PIPE, (C900), DR **, *****WP (12", 18, 150#)
5474000000-E	1510	511	LF	8" PVC WATER PIPE, (C900), DR **, *****WP (18, 150#)
5476000000-E	1510	4,847	LF	"" PVC WATER PIPE, (C-900), DR ****, ****WP (6", 14, 200#)

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PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3

SHEET 2 OF 2

ItemNumber	Sec #	Quantity	Unit	Description
5476000000-E	1510	765	LF	**" PVC WATER PIPE, (C-900), DR **** ****#WP (6", 18, 150#)
5498000000-E	SP	109	LF	**" PE WATER TUBING, SDR 9, *****WP (1", 200#)
5516000000-E	1510	52	EA	1" CORPORATION STOP
5534000000-E	1510	1	EA	**" GATE VALVE & VALVE BOX, *****WP (4", 200#)
5540000000-E	1510	42	EA	6" GATE VALVE & VALVE BOX, 200# WP
5546000000-E	1510	8	EA	8" GATE VALVE & VALVE BOX, *****WP (200#)
5558000000-E	1510	19	EA	12" GATE VALVE & VALVE BOX, *****WP (200#)
5582000000-E	1510	37	EA	**"X**" TAPPING SADDLE (12" X 1")
5582000000-E	1510	5	EA	**"X**" TAPPING SADDLE (12" X 2")
5582000000-E	1510	2	EA	**"X**" TAPPING SADDLE (2" X 1")
5582000000-E	1510	12	EA	**"X**" TAPPING SADDLE (6" X 1")
5582000000-E	1510	1	EA	**"X**" TAPPING SADDLE (8" X 1")
5636000000-E	1510	2	EA	12" TRANSITION COUPLING, ********** (PVC TO AC)
5666000000-E	1510	1	EA	FIRE HYDRANT, *****# WP (150#)
5672000000-N	1510	15	EA	RELOCATE EXISTING FIRE HYDRANT
5708000000-E	1520	50	LF	**" PVC FORCE MAIN SEWER PIPE, ********** (4", SDR 21, 200# WP)
5708000000-E	1520	2,851	LF	**" PVC FORCE MAIN SEWER PIPE, ********** (8", SDR 21, 200# WP)
5798000000-E	1530	336	LF	FILL OR REMOVE ABANDONED **" PIPE, ********** (12", AC)
5822000000-N	1530	7	EA	BREAK DOWN & REBUILD EXISTING MANHOLE
5852000000-E	SP	120	LF	**" STEEL ENCASEMENT PIPE, ***** THICK, BY BORING & JACKING (16", 0.250")
5852000000-E	SP	150	LF	**" STEEL ENCASEMENT PIPE, ***** THICK, BY BORING & JACKING (16", 0.281")
5858000000-E	SP	180	LF	12-3/4" STEEL ENCASEMENT PIPE, ***** THICK, BY BORING & JACKING (0.188")
5864000000-E	SP	150	LF	18" STEEL ENCASEMENT PIPE, ***** THICK, BY BORING & JACKING (0.312")
5870000000-E	SP	184	LF	24" STEEL ENCASEMENT PIPE, ***** THICK, BY BORING & JACKING (0.250")
5870000000-E	SP	150	LF	24" STEEL ENCASEMENT PIPE, ***** THICK, BY BORING & JACKING (0.375")
5882000000-N	SP	2	EA	GENERIC UTILITY ITEM 12" INSERTING GATE VALVE & VALVE BOX, 200# WP (WATER)
5882000000-N	SP	14	EA	GENERIC UTILITY ITEM 12" RESTRAINED RETAINER GLAND 200# WP
5882000000-N	SP	2	EA	GENERIC UTILITY ITEM 12" X 12" DI LOCKING TEE
5882000000-N	SP	25	EA	GENERIC UTILITY ITEM 12" X 6" DI LOCKING TEE
5882000000-N	SP	7	EA	GENERIC UTILITY ITEM 12" X 8" DI LOCKING TEE
5882000000-N	SP	5	EA	GENERIC UTILITY ITEM 2" BALL VALVE
5882000000-N	SP	1	EA	GENERIC UTILITY ITEM 4" INSERTING GATE VALVE & VALVE BOX, 200# WP (SEWER)
5882000000-N	SP	1	EA	GENERIC UTILITY ITEM 6" INSERTING GATE VALVE & VALVE BOX, 200# WP (WATER)
5882000000-N	SP	8	EA	GENERIC UTILITY ITEM 6" RESTRAINED RETAINER GLAND 200# WP
5882000000-N	SP	1	EA	GENERIC UTILITY ITEM 6" X 4" DI LOCKING TEE
5882000000-N	SP	11	EA	GENERIC UTILITY ITEM 6" X 6" DI LOCKING TEE
5882000000-N	SP	14	EA	GENERIC UTILITY ITEM 8" RESTRAINED RETAINER GLAND 200# WP
5882000000-N	SP	2	EA	GENERIC UTILITY ITEM 8" SEWER LINE GATE VALVE AND VALVE BOX, 200# WP
5882000000-N	SP	3	EA	GENERIC UTILITY ITEM BREAKDOWN REBUILD & ROTATE TOP FOR EXISTING MANHOLE
5882000000-N	SP	2	EA	GENERIC UTILITY ITEM BREAKDOWN REBUILD & ROTATE TOP FOR EXISTING MANHOLE (CONCENTRIC TOP)
5882000000-N	SP	15	EA	GENERIC UTILITY ITEM RELOCATE 4" SANITARY SEWER CLEANOUT
5882000000-N	SP	5	EA	GENERIC UTILITY ITEM RELOCATE 6" SANITARY SEWER CLEANOUT
5882000000-N	SP	12	EA	GENERIC UTILITY ITEM RELOCATE EXISTING RPZ BACKFLOW PREVENTION SYSTEM
5882000000-N	SP	47	EA	GENERIC UTILITY ITEM RELOCATE EXISTING WATER METER
5882000000-N	SP	1	EA	GENERIC UTILITY ITEM RELOCATE EXISTING WATER METER WITH NEW VAULT
5882000000-N	SP	4	EA	GENERIC UTILITY ITEM ROTATE TOP FOR EXISTING MANHOLE
5882000000-N	SP	3	EA	GENERIC UTILITY ITEM ROTATE TOP FOR EXISTING MANHOLE (CONCENTRIC TOP)
5888000000-E	SP	300	LF	GENERIC UTILITY ITEM 10" HDPE FORCE MAIN SEWER PIPE SDR 9, 200# WP BY DIRECTIONAL BORE
5888000000-E	SP	20	LF	GENERIC UTILITY ITEM 12" DI WATER PIPE, PC 350
5888000000-E	SP	600	LF	GENERIC UTILITY ITEM 14" HDPE WATER PIPE, SDR 9, 200# WP BY DIRECTIONAL BORE
5888000000-E	SP	1,000	LF	GENERIC UTILITY ITEM 4" PVC SEWER PIPE, SCH 40
5888000000-E	SP	400	LF	GENERIC UTILITY ITEM 6" PVC SEWER PIPE, SCH 40
5888000000-E	SP	100	LF	GENERIC UTILITY ITEM 8" DI FORCE MAIN SEWER PIPE, PC 350
5888000000-E	SP	250	LF	GENERIC UTILITY ITEM 8" HDPE WATER PIPE, SDR 9, 200# WP BY DIRECTIONAL BORE
5888000000-E	SP	140	LF	GENERIC UTILITY ITEM CEMENT GROUT FOR FILLING 4" PVC ABANDONED PIPE & ENCASEMENT
5888000000-E	SP	140	LF	GENERIC UTILITY ITEM CEMENT GROUT FOR FILLING 6" PVC ABANDONED PIPE & ENCASEMENT
5888000000-E	SP	140	LF	GENERIC UTILITY ITEM CEMENT GROUT FOR FILLING 8" PVC ABANDONED PIPE & ENCASEMENT
5906000000-E	SP	6,500	LB	GENERIC UTILITY ITEM DUCTILE IRON SEWER PIPE FITTINGS, 250# MIN WP
5906000000-E	SP	10,325	LB	GENERIC UTILITY ITEM DUCTILE IRON WATER PIPE FITTINGS, 250# MIN WP
5912000000-N	SP	Lump Sum		GENERIC UTILITY ITEM INSTALL 4" MDPE GAS MAIN
6000000000-E	1605	16,600	LF	TEMPORARY SILT FENCE
6006000000-E	1610	790	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	1,220	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	1,575	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	35	ACR	TEMPORARY MULCHING
6018000000-E	1620	1,250	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	5	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	230	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	5	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
6029000000-E	SP	750	LF	SAFETY FENCE
6030000000-E	1630	3,340	CY	SILT EXCAVATION
6036000000-E	1631	2,900	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	250	SY	COIR FIBER MAT
6038000000-E	SP	4,000	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	6,000	LF	1/4" HARDWARE CLOTH
6045000000-E	SP	455	LF	**" TEMPORARY PIPE (18")
6070000000-N	SP	4	EA	SPECIAL STILLING BASINS
6084000000-E	1660	35	ACR	SEEDING & MULCHING
6087000000-E	1660	21	ACR	MOWING
6090000000-E	1661	300	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.75	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	850	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	27	TON	FERTILIZER TOPDRESSING
6111000000-E	SP	275	LF	IMPERVIOUS DIKE
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
~~6117000000-N~~ 6138000000-N	~~1675~~ SP	36	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.2	ACR	REFORESTATION
6126000000-E	SP	0.2	ACR	STREAMBANK REFORESTATION
6132000000-N	SP	8	EA	GENERIC EROSION CONTROL ITEM FAIRCLOTH SKIMMER, 2"
6132000000-N	SP	3	EA	GENERIC EROSION CONTROL ITEM FAIRCLOTH SKIMMER, 2-1/2"
7000000000-E	1705	38	EA	PEDESTRIAN SIGNAL HEAD (**", ** SECTION) (16", 1 SECTION W/COUNTDOWN)
7060000000-E	1705	16,751	LF	SIGNAL CABLE
7120000000-E	1705	73	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
7132000000-E	1705	2	EA	VEHICLE SIGNAL HEAD (12", 4 SECTION)
7144000000-E	1705	20	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
7180000000-N	1706	12	EA	BACKPLATE
7252000000-E	1710	14,300	LF	MESSENGER CABLE (1/4")
7264000000-E	1710	1,648	LF	MESSENGER CABLE (3/8")
7276000000-E	1715	150	LF	JACK & BORE
7279000000-E	1715	825	LF	TRACER WIRE
7288000000-E	1715	460	LF	TRENCHING (PAVED)
7300000000-E	1715	9,252	LF	TRENCHING (UNPAVED)
7301000000-E	SP	495	LF	DIRECTIONAL DRILL POLYETHYLENE CONDUIT, *****" (** CONDUIT) (2", 1)
7301000000-E	SP	1,465	LF	DIRECTIONAL DRILL POLYETHYLENE CONDUIT, *****" (** CONDUIT) (2", 2)
7324000000-N	1716	58	EA	JUNCTION BOX (STANDARD SIZE)
7336000000-N	1716	11	EA	JUNCTION BOX (OVER-SIZED)
7360000000-N	1720	12	EA	WOOD POLE
7372000000-N	1721	24	EA	GUY ASSEMBLY
7408000000-E	1722	3	EA	1" RISER WITH WEATHERHEAD
7420000000-E	1722	15	EA	2" RISER WITH WEATHERHEAD
7432000000-E	1722	8	EA	2" RISER WITH HEAT SHRINK TUBING
7444000000-E	1725	12,326	LF	INDUCTIVE LOOP SAWCUT
7456000000-E	1726	24,971	LF	LEAD-IN CABLE
7516000000-E	1730	18,095	LF	COMMUNICATIONS CABLE (**FIBER) (12)
7552000000-N	1731	6	EA	INTERCONNECT CENTER
7564000000-N	1732	7	EA	FIBER-OPTIC TRANSCEIVER
7566000000-N	1733	11	EA	DELINEATOR MARKER
7568000000-N	SP	1	EA	FURNISH FIBER-OPTIC RESTORATION KIT
7574000000-N	SP	1	EA	FURNISH FIBER-OPTIC TRANSCEIVER
7613000000-N	SP	22	EA	SOIL TEST
7624000000-N	1743	5	EA	SIGNAL PEDESTAL WITH FOUNDATION
~~7638000000-N~~ 7980000000-N	~~1745~~ SP	22	EA	MAST ARM WITH METAL POLE DESIGN
7636000000-N	1745	11	EA	SIGN FOR SIGNALS
7684000000-N	1750	6	EA	SIGNAL CABINET FOUNDATION
7828000000-N	1751	6	EA	CONTROLLER WITH CABINET (NEMA TS-2, TYPE 2 CONTROLLER, TYPE 1 CABINET, BASE MOUNTED)
7852000000-N	SP	44	EA	DETECTOR CARD (NEMA TS-2)
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM CCTV CAMERA ASSEMBLY
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM FIBER OPTIC VIDEO/DATA RECEIVER
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM FIBER OPTIC VIDEO/DATA TRANSMITTER
7980000000-N	SP	23	EA	GENERIC SIGNAL ITEM LUMINAIRE MAST ARM
7980000000-N	SP	21	EA	GENERIC SIGNAL ITEM METAL POLE W/ SINGLE MAST ARM
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM METAL POLE WITH DUAL MAST ARM
7990000000-E	SP	165	LF	GENERIC SIGNAL ITEM UNDERGROUND POLETHYLENE CONDUIT, (2", 1)
7992000000-E	SP	188	CY	GENERIC SIGNAL ITEM DRILLED PIER FOUNDATION

6/20/00

COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-A

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | LOCATION (LT,RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | 24" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P. | CU. YDS. C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') PER EACH (0' THRU 5.0') | LIN. FT. A 5.0' THRU 10.0' | LIN. FT. B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME & GRATE STD. 840.16 | M.D.I. TYPE "B" STD. 840.18 OR 840.27 | M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | M.H. FRAME & COVER STD. 840.54 | T.B.J.B. STD. 840.34 | PREFORMED SCOUR HOLE | 30" SIDE DRAIN PIPE | CONCRETE APRON FOR CB | CONCRETE APRON FOR DI | CORR. STEEL ELBOWS NO. & SIZE | CONC. COLLARS CL. "B" C.Y. STD 840.72 | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN.FT. | REMARKS |
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6/28/00

COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-B

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | LOCATION (LT, RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | 24" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P. | CU. YDS. C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. PER EACH (0' THRU 5.0') | LIN. FT. A 5.0' THRU 10.0' | LIN. FT. B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME & GRATE STD. 840.16 | M.D.I. TYPE "B" STD. 840.18 OR 840.27 | M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | M.H. FRAME & COVER STD. 840.54 | T.B.J.B. STD. 840.34 | PREFORMED SCOUR HOLE | 30" SIDE DRAIN PIPE | CONCRETE APRON FOR CB | CONCRETE APRON FOR DI | CORR. STEEL ELBOWS NO. & SIZE | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN.FT. | REMARKS |
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6/20/00

COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-C

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. A	LIN. FT. B	PER EACH (0' THRU 5.0')	5.0' THRU 10.0'	10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	M.H. FRAME & COVER STD. 840.54	T.B.J.B. STD. 840.34	PREFORMED SCOUR HOLE	30" SIDE DRAIN PIPE	CONCRETE APRON FOR CB	CONCRETE APRON FOR DI	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
-L- 34+30.00	RT	47		65.4																									1			1																												65	REMOVE 15" CMP
		47	48A		62.4	62.3			20																																																			
-L- 34+35.00	RT	48A		67.9																									1	1.5																															
		48A	OUT		61.4	59.5							72																																														
		48A	53A		61.4	62.7							240																																														
-L- 36+85.00	RT	53A		68.1																									1																															
		53A	53		64.3	64.4			4																																																		
-L- 36+85.00	RT	53		67.6																									1																															
		53A	58		62.7	63.8							200																																														
-L- 38+97.00	RT	56		68.5																									1			1																															
		56	57		65.5	65.5			12																																																		
-L- 38+85.00	RT	57		68.6																									1																															
		57	58		65.5	65.4			4																																																		
-L- 38+85.00	RT	58		69.2																									1	0.4																															
		58	62		63.8	64.2							64																																														
-L- 39+50.00	RT/LT	59																																																									207	REMOVE EXISTING CB, 15", 18", & 24" CONC
-L- 39+74.00	RT	60		69.0																									1			1																															
		60	61		66.0	65.9			24																																																		
-L- 39+52.00	RT	61		68.9																									1																															
		61	62		65.9	65.7			8																																																		
-L- 39+52.00	RT	62		69.6																									1	0.4																															
		62	63A		64.2	64.4								60																																													
-L- 40+15.00	RT	63A		69.9																									1	0.5																															
-L- 40+15.00	RT	63		68.0																									1																															
		63	63A		65.7	65.6			8																																																
-L- 40+15.00	RT	64		69.1																									1			1																															
		64	65		66.1	65.9			68																																																
-L- 40+15.00		65		69.1																									1			1																															
		65	OUT		65.9	65.0			32																																																
-Y2- 10+74.00	RT/LT	66			65.6	64.4									72														4.5																															
		63A	68		64.4	65.2							120																																														
-L- 41+36.00	RT	67		68.1																									1																															
		67	68		65.8	65.7			8																																																
-L- 41+36.00	RT	68		70.5																									1	0.3																															
		68	69		65.2	65.5							64																																													50	REMOVE 24" CONC
-L- 42+02.00	RT	69		71.0																									1	0.5																															
		69	70A		65.5	65.7							36																																													44	REMOVE 24" CONC
-L- 42+42.00	RT	70		68.3																									1																															
		70	70A		66.1	65.9			8																																																	
-L- 42+42.00	RT	70A		71.2																									1	0.5																															
-L- 42+42.00	RT	71		70.4																									1			1																															
		71	72		67.4	67.2			68																																																		
-L- 42+42.00	LT	72		70.4																									1			1																															
		72	OUT		67.2	65.6			24																																																		
-L- 43+40.00	LT	73																																																						20	REMOVE 15" CONC
		70A	74		66.0	67.0							168																																														
SHEET TOTAL									288				388	636	72														4.5			21	4.1		7		4	3		6	6				8	8													386	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

07-MAR-2006 11:44
$$$$USERNAME$$$$
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RD212399 3/7/2006 full3c dwgardner RD-Oce34

COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-D

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	LIN. *FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	M.H. FRAME & COVER STD. 840.54	T.B.J.B. STD. 840.34	PREFORMED SCOUR HOLE	30" SIDE DRAIN PIPE	CONCRETE APRON FOR CB	CONCRETE APRON FOR DI	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
-L- 44+12.00	RT	74		72.1																								1	0.1																				
		IN	74		68.6	68.4			20																																									
		74	75A		67.0	67.4					76																																						
-L- 44+89.00	RT	75		70.4																								1																				
		75	75A		68.1	68.0			8																																								
-L- 44+89.00	RT	75A		72.5																								1	0.1																				
		75A	79		67.4	67.6					48																																						
-L- 44+89.00	RT	76		71.7																								1			1																		
		76	77		68.7	68.5			68																																								
-L- 44+89.00	LT	77		71.7																								1			1																		
		77	OUT		68.5	67.7			24																																								
-L- 45+42.00	RT	78		70.9																								1																				
		78	79		68.6	68.5			8																																								
-L- 45+42.00	RT	79		72.6																								1																				
		79	81		67.6	68.0					104																																						
-L- 46+50.00	RT	80		70.9																								1																				
		80	81		68.7	68.6			12																																								
-L- 46+50.00	RT	81		73.0																								1																				
		81	82		68.0	68.6					136																																						
		IN	82		68.7	68.6			12																																								
-L- 47+88.50	RT	82		73.5																								1																				
-L- 47+88.50	RT	83		72.6																								1			1																		
		83	84		69.6	69.4			68																																								
-L- 47+88.50	LT	84		72.6																								1			1																		
		84	OUT		69.4	68.3			24																																								
-L- 48+65.00	RT	85																																														
-L- 48+75.00	LT	86																																														
-L- 48+75.00	LT	87																														48																
-L- 49+96.00	RT	88		73.2																								1			1																		
		88	89		70.2	70.0			56																																								
-L- 50+55.00	RT	89		73.6																								1			1																		
		89	91		70.0	69.8			68																																								
-L- 50+22.00	LT	90		73.3																								1			1																		
		90	91		70.3	70.2			32																																								
-L- 50+50.00	LT	92		72.5																								1																				
		92	91		70.3	70.2			16																																								
-L- 50+55.00	LT	91		73.4																								1			1																		
		91	94		69.8	69.4				116																																							
-L- 51+40.00	LT	93																																														
-L- 51+69.00	LT	94		73.8																								1			1																		
		94	95		70.5	70.6			16																																								
-L- 51+69.00	LT	95		72.8																								1																				
-L- 53+40.00	LT	96																																														
SHEET TOTAL									432	116	364																	48																				

ABBREVIATIONS	
C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

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6/20/00

RD212399 3/7/2006 full3d dwgardner RD-Oce34

6/20/00

COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-E

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | LOCATION (LT, RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | 24" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P. | CU. YDS. C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. PER EACH (0' THRU 5.0') | LIN. FT. A 5.0' THRU 10.0' | LIN. FT. B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME & GRATE STD. 840.16 | M.D.I. TYPE "B" STD. 840.18 OR 840.27 | M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | M.H. FRAME & COVER STD. 840.54 | T.B.J.B. STD. 840.34 | PREFORMED SCOUR HOLE | 30" SIDE DRAIN PIPE | CONCRETE APRON FOR CB | CONCRETE APRON FOR DI | CORR. STEEL ELBOWS NO. & SIZE | CONC. COLLARS CL. "B" C.Y. STD 840.72 | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN.FT. | REMARKS |
|---|---|---

6/20/00

COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-F

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	30" .064	36" .079	36" .064	42" .109	48" .109	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	LIN. *FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	M.H. FRAME & COVER STD. 840.54	T.B.J.B. STD. 840.34	PREFORMED SCOUR HOLE	30" SIDE DRAIN PIPE	CONCRETE APRON FOR CB	CONCRETE APRON FOR DI	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
-L- 68+35.50	RT	120		74.1																									1			1			1													
		120	121		71.1	71.4			72																																						
-L- 69+16.00	RT	121		74.4																									1			1			1													
		121	122		71.4	71.5			16																																						
-L- 69+16.00	RT	122		73.7																									1						1	1												
		118	125		69.4	70.0						72																																		40	REMOVE 18" CONC
-L- 64+30.00	LT	123		73.7																									1						1	1												
		123	124		71.5	70.8			16																																						
-L- 64+30.00	LT	124		73.8																									1			1			1													
		124	125		70.8	70.6			72																																					32	REMOVE 18" CONC
-L- 65+04.00	LT	125		74.2																									1			1	1														
		IN	125		71.3	70.0						16																																			
		125	126		71.2	71.5			48																																					60	REMOVE 15" CONC
-L- 65+55.00	LT	126		74.5																									1			1			1													
		126	127		71.5	72.0			16																																						
-L- 65+55.00	LT	127		74.2																									1						1	1												
-L- 70+30.00	LT / RT	128																																											84	REMOVE 18" CONC
-L- 71+25.00	RT	129		73.5																									1						1	1												
		129	130		71.3	71.2			16																																						
-L- 71+22.00	RT	130		74.5																									1			1			1													
		130	132		71.2	70.5					128																																				
-L- 72+20.00	RT	131																																											60	REMOVE 18" CONC
-L- 72+56.00	RT	132		73.8																									1			1			1													
		132	133		70.5	69.9					116																																				
-L- 73+76.00	RT	133		73.4																									1			1			1													
		133	134		69.9	69.0					124																																				
-L- 75+00.00	RT	134		72.5																									1			1			1													
		134	135		69.0	68.1					116																																				
-L- 76+20.00	RT	135		71.6																									1			1			1													
		135	136		68.6	69.0			16																																						
-L- 76+20.00	RT	136		74.7																									1	0.7					1	1												
		135	137		67.8	66.8							140																																	114	REMOVE 18" CONC
-L- 77+64.00	RT	137		70.5																									1			1			1													
		137	138		66.8	66.7							116																																		
-L- 78+84.00	RT	138		69.8											8															1	1.2		1			1												1.0126		
		138	139		63.6	64.0								108																																	
-L- 79+94.00	RT	139		69.4																									1	0.4		1			1													
		139	140		64.0	64.2								60																																	
-L- 80+55.00	RT	140		69.3																									1	0.1		1	1														
		140	140A		66.3	67.2			24																																					42	REMOVE 15" CONC
-L- 80+60.00	RT	140A		69.3																									1			1	1														
		140	141		64.2	64.9				68																																					
		140	151		65.4	65.7					84																																				
-L- 81+23.00	RT	141		70.0																									1	0.1							1	1										
SHEET TOTAL									296	552	340	256			8															21	2.5		15	3	9	3		5	5		1	1					1.0126		432	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

07-MAR-2006 11:44
$$$$USERNAME$$$$ u3613b.sum

6/20/00

COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-G

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL 'B') PER EACH (0' THRU 5.0')	LIN. FT. A 5.0' THRU 10.0'	LIN. FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	M.H. FRAME & COVER STD. 840.54	T.B.J.B. STD. 840.34	PREFORMED SCOUR HOLE	30" SIDE DRAIN PIPE	CONCRETE APRON FOR CB	CONCRETE APRON FOR DI	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
		141	142		64.9	65.3				48																																					20	REMOVE 18" CONC
-Y6- 12+57.00	LT	142		69.0																								1			1		1														
		IN	142		66.7	65.3			16																																						
		142	143		65.3	65.6				60																																					
-Y6- 12+59.00	RT	143		68.8																								1			1			1												
		IN	143		66.6	65.6				16																																					
-Y6- 11+40.00	RT	144																								56																				60	REMOVE 15" CONC
-L- 73+20.00	LT	145																																											60	REMOVE 18" CONC
		135	146		68.6	68.8			72																																					
-L- 76+15.00	LT	146		71.8																								1			1			1												
		146	147		68.8	69.9			12																																					
-L- 76+15.00	LT	147		72.1																								1							1	1											
-L- 78+95.00	LT / RT	148																																											184	REMOVE 15" CMP, 18" CMP, & 18" CONC
-L- 78+95.00	LT	149		69.8																								1			1			1												
		149	150		66.8	66.5			84																																					
-L- 79+79.00	LT	150		69.5																								1			1			1												
		150	151		66.5	66.0				72																																					48	REMOVE 18" CONC
-L- 80+55.00	LT	151		69.5																								1			1	1														
		151	152		66.0	66.2			32																																					
-L- 80+88.00	LT	152		69.5																								1			1		1												
		152	153		66.2	66.4			44																																					
-L- 81+24.00	LT	153		70.0																								1												1	1						
		153	154		66.4	66.7			60																																					14	REMOVE 18" CONC
-Y6- 14+93.00	LT	154		69.7																								1			1		1												
		IN	154		67.9	66.7			12																																					
-Y6- 16+33.00	LT	155																								52																				52	REMOVE 18" CONC
		IN	156		68.1	67.0			16																																					
-Y6- 14+92.00	RT	156		70.0																								1			1			1												
		156	157		67.0	66.2			44																																					
-Y6- 14+51.00	RT	157		69.9																								1												1	1						
		157	158		66.2	66.0			68																																					
-L- 83+13.00	LT	158		69.4																								1			1			1												
		158	159		66.4	67.0			12																																					
-L- 83+13.00	LT	159		69.2																								1																				
		158	160		66.0	65.6				128																																					
-L- 84+45.00	LT	160		69.1																								1			1			1												
		160	161		65.6	65.0				144																																					
-L- 85+90.00	LT	161		68.4																								1			1			1												
		161	162		65.2	66.1			16																																					
-L- 85+90.00	LT	162		68.3																								1												1	1						
		161	163		64.7	64.2					112																																				
-L- 87+03.00	LT	163		68.8																								1			1			1												
		163	174		64.2	64.0					72																																				52	REMOVE CB & 18" CONC
		163	164		65.4	65.6			56																																					
SHEET TOTAL									544	468	184															52	56			18			13	1	4	8		3	3		2	2						490	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

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6/20/00

COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-H

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12"	15"	18"	24"	30"		36"		42"		48"		15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. PER EACH (0' THRU 5.0')	A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	M.H. FRAME & COVER STD. 840.54	T.B.J.B. STD. 840.34	PREFORMED SCOUR HOLE	30" SIDE DRAIN PIPE	CONCRETE APRON FOR CB	CONCRETE APRON FOR DI	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
-L- 87+65.00	LT	164		68.6																										1			1														
-L- 84+25.00	RT	165		69.0																										1			1			1											
		165	166		66.3	66.1			44																																					
-L- 83+75.00	RT	166		69.3																										1							1	1										
		166	167		66.1	66.1			20																																					
-L- 83+72.00	RT	167		69.1																										1			1			1											
		167	168		66.1	65.9			68																																					58	REMOVE 18" CONC
-L- 84+45.00	RT	168		69.7																										1			1			1											
		168	169		65.9	65.4				136																																				
-L- 85+85.00	RT	169		69.8																										1			1	1													
		169	170		66.4	66.5			12																																					
-L- 85+85.00	RT	170		68.7																										1							1	1										
		169	171		65.4	65.1					32																																			
-L- 86+22.00	RT	171		70.0																										1			1	1													
		171	172		66.6	66.7			28																																					
-L- 86+22.00	RT	172		69.9																										1							1	1										
-L- 87+03.00	RT	173		69.0																										1			1			1											
		173	OUT		66.0	66.0			12																																					
-L- 87+07.00	RT	174		70.6																										1	1.6		1			1											
		174	OUT		64.0	63.6						32																																		
		171	174		65.1	64.4					84																																		60	REMOVE 15" CMP
-L- 89+51.00	RT	175		70.2																										1			1			1											
		175	176		67.2	65.7			40																																					
-L- 89+51.00	LT	176		68.7																										1			1			1											
		176	177		65.7	65.5			60																																					
-L- 90+14.00	LT	177		68.5																										1			1			1											
		IN	177		67.0	65.2				16																																				
		177	178		65.1	64.4				124																																				
-L- 91+44.00	LT	178		68.0																										1			1			1											
		178	179		65.0	66.2			40																																					
-L- 91+44.00	RT	179		69.4																										1							1	1										
		178	180		64.4	63.7				108																																				60	REMOVE 18" CONC & HW
		180	OUT		63.7	63.5				20																																				
-L- 92+54.00	LT	180		67.2																										1			1			1											
		180	181		64.2	65.3			40																																					
-L- 92+54.00	RT	181		68.3																										1							1	1										
-L- 91+45.00	RT	182		69.1																										1							1	1										
		182	183		66.9	66.6			12																																					
-L- 91+45.00	RT	183		70.8																										1									1	1							68	REMOVE DI, 15" CONC, & HW
		183	186		66.6	63.6			188																																					
SHEET TOTAL									564	404	116	32																		20	1.6		13	2	3	8	6	6		1	1			1	3			246	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

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RD212399 3/7/2006 full3h dwgardner RD-Oce34

6/20/00

COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-1

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | LOCATION (LT,RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | 24" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P. | CU. YDS. C.S.P. | QUANTITIES FOR DOUBLE STRUCTURES PER EACH (0' THRU 5.0') | * TOTAL LF. FOR PAY QUANTITY SHALL BE COL. "A" + (1.3 X COL. B") LIN. *FT. A (5.0' THRU 10.0') | LIN. *FT. B (10.0' AND ABOVE) | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME & GRATE STD. 840.16 | M.D.I. TYPE "B" STD. 840.18 OR 840.27 | M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | M.H. FRAME & COVER STD. 840.54 | T.B.J.B. STD. 840.34 | PREFORMED SCOUR HOLE | 30" SIDE DRAIN PIPE | CONCRETE APRON FOR CB | CONCRETE APRON FOR DI | CORR. STEEL ELBOWS NO. & SIZE | CONC. COLLARS CL. "B" C.Y. STD 840.72 | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN.FT. | REMARKS |
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CHECKED BY: DWG DATE: 12/13/05

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-J

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | LOCATION (LT,RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | 24" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P. | CU. YDS. C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE 'COL. 'A' + (1.3 X COL. 'B') PER EACH (0' THRU 5.0') | LIN. FT. A 5.0' THRU 10.0' | LIN. FT. B 10.0' AND ABOVE | C.B. STD. 840.02 OR STD. 840.01 | FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | D.I. STD. 840.15 OR STD. 840.14 | D.I. FRAME & GRATE STD. 840.16 | M.D.I. TYPE "B" STD. 840.18 OR 840.27 | M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | M.H. FRAME & COVER STD. 840.54 | T.B.J.B. STD. 840.34 | PREFORMED SCOUR HOLE | 30" SIDE DRAIN PIPE | CONCRETE APRON FOR CB | CONCRETE APRON FOR DI | CORR. STEEL ELBOWS NO. & SIZE | CONC. COLLARS CL "B" C.Y. STD 840.72 | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN.FT. | REMARKS |
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COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-K

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | LOCATION (LT, RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" | 15" | 18" | 24" | 30" | | 36" | | 42" | | 48" | | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | 24" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. A | B | PER EACH (0' THRU 5.0') | 5.0' THRU 10.0' | 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME & GRATE STD. 840.16 | M.D.I. TYPE "B" STD. 840.18 OR 840.27 | M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | M.H. FRAME & COVER STD. 840.54 | T.B.J.B. STD. 840.34 | PREFORMED SCOUR HOLE | 30" SIDE DRAIN PIPE | CONCRETE APRON FOR CB | CONCRETE APRON FOR DI | CORR. STEEL ELBOWS NO. & SIZE | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN.FT. | REMARKS |
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COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-L

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') PER EACH (0' THRU 5.0')	LIN. FT. A 5.0' THRU 10.0'	LIN. FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	M.H. FRAME & COVER STD. 840.54	T.B.J.B. STD. 840.34	PREFORMED SCOUR HOLE	30" SIDE DRAIN PIPE	CONCRETE APRON FOR CB	CONCRETE APRON FOR DI	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
		248	250		62.5	62.7			36																																								
-L- 129+07.00	LT	250		65.7																								1			1		1															
-L- 130+34.00	RT	251		64.4																								1			1		1															
		251	251A		61.4	61.1			80																																							
-L- 130+18.00		251A		65.1																								1			1			1														30	REMOVE 15" CONC
-L- 130+95.00	RT	252		64.0																								1																				132	REMOVE DI AND 15" CONC
		252	253		59.0	59.3			36																																							
-Y12- 11+14.00	RT	253		62.3																								1			1			1															
		253	IN		59.3	59.6			20																																							
		253	254		59.3	59.5			32																																							
-Y12- 11+14.00	LT	254		62.5																								1			1			1															
		254	IN		59.5	59.7			12																																							
		255	OUT		59.7	58.7				24																																						
		251A	255		61.1	60.8			100																																							
-L- 131+22.00	LT	255		64.1																								1			1			1														130	REMOVE DI'S AND 24" CMP
		255	256		59.7	59.9			52																																							
-L- 131+77.00	LT	256		62.9																								1			1			1															
		IN	257		61.2	60.5					20																																					
-Y12A- 10+72.00	LT	257		64.2																								1			1			1															
		257	258		60.5	60.1						48																																				
-Y12A- 10+64.00	RT	258		63.8																								1			1				1														
		258	OUT		60.1	58.7						20																																				
		252	259		59.0	58.3					116																																					
		IN	259		59.5	59.3			16																																							
-L- 132+13.00	RT	259		63.6																								1	0.3																			130	REMOVE DI'S AND 15" CONC
		259	259A		58.3	56.8					236																																				
-L- 134+51.00	RT	259A		61.8																								1																					
		259A	OUT		56.8	55.0												36																															SADDLE BRANCH CONNECTOR
-L- 134+12.00	RT	260		61.0																								1			1				1														140	REMOVE DI'S AND 15" CONC
		260	261		57.7	57.8			48																																							
-L- 134+63.00	RT	261		60.8																								1			1	1																
		261	262		57.8	58.0			20																																							
-L- 134+83.00	RT	262		61.0																								1			1	1																
		IN	263A		58.3	57.4					40																																						
-L- 133+00.00	LT	263A		63.5																								1	1.1																			80	REMOVE 24" CMP
		263A	OUT		57.4	56.5						40																																				
		IN	263		59.4	59.0				32																																							
-L- 133+00.00	LT	263		61.7																								1	1.8																				
		263	263B		54.9	54.1			208																																							
-L- 135+12.00		263B		61.8																								1	2.7																				
		263B	OUT		54.1	54.0												20																															SADDLE BRANCH CONNECTOR
-L- 133+45.50	LT	264		61.5																								1			1			1															
		264	OUT		57.0	56.5			28																																							
		264	265		57.0	57.5			64																																							
-L- 134+12.00	LT	265		61.0																								1			1			1															
		265	260		57.5	57.7			68																																							
		265	266		57.6	57.8			68																																							
-L- 134+83.00	LT	266		60.8																								1			1	1																
SHEET TOTAL									888	376	168						32	56										21	5.9		15	3	5	7				3	6	3				2@18"	0.399		642	

ABBREVIATIONS	
C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

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RD212399 3/7/2006 full3l dwgardner RD-Oce34

6/20/00

COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-M

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL 'B') LIN. FT. A (5.0' THRU 10.0')	LIN. FT. B (10.0' AND ABOVE)	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	M.H. FRAME & COVER STD. 840.54	T.B.J.B. STD. 840.34	PREFORMED SCOUR HOLE	30" SIDE DRAIN PIPE	CONCRETE APRON FOR CB	CONCRETE APRON FOR DI	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
-L- 136+43.00	RT	267A		62.6																								1			1			1									1								
		267A	267		59.6	59.3			24																																									
-L- 136+17.00	RT	267		62.3																								1			1			1									1								
		267	268		59.3	58.3			40																																									
-L- 136+17.00	LT	268		61.3																								1			1			1																
		268	269		58.3	58.0			64																																									
-L- 136+85.00	LT	269		61.7																								1			1			1																
		269	OUT		58.0	57.9				20																																								
		269	271		58.7	60.3			136																																									
-L- 138+25.00	LT	271		63.3																								1			1			1																
		271	270		60.3	61.7			40																																									
-L- 138+27.00	RT	270		64.9																								1							1	1														
		271	272		60.3	63.0			220																																									
-L- 140+52.00	LT	272		66.0																								1			1			1																
		272	273		63.0	64.2			40																																									
-L- 140+51.00	RT	273		67.4																								1							1	1														
		272	274		63.0	64.2			12																																									
-L- 140+51.00	LT	274		66.4																								1							1	1														
-L- 142+20.00	LT	275																																																
-L- 142+85.00	LT	276																																															
-L- 143+85.00	LT	277		67.2																								1							1	1														
		277	278		65.0	64.8			40																																									
-L- 144+25.00	LT	278		67.3																								1							1	1														
		278	279		64.8	64.5			16																																									
-L- 144+25.00	LT	279		67.5																								1			1			1															24	REMOVE 18" CONC
		279	280		64.5	64.2			88																																									
-L- 145+18.00	LT	280		67.2																								1			1			1														0.13		REMOVE HEADWALL
		280	282		64.2	64.2			32																																									
-L- 145+00.00	LT	281		68.5																								1							1	1														
		281	282		65.3	65.2			16																																									
-L- 145+20.00	LT	282		68.4																								1							1	1														
		282	283		64.2	63.8				132																																								
-Y14- 12+67.00	LT	283		67.7																								1			1			1																
		283	OUT		63.8	63.7				32																																								
		OUT	284		62.5	62.6					40																																							
-Y14- 12+65.00	RT	284		67.6																								1			1			1																
SHEET TOTAL									768	184	40																	17		10	7	3	7	7			1					2	4		0.13	234	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

07-MAR-2006 11:43
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COMPUTED BY: JBG DATE: 05/31/05
CHECKED BY: DWG DATE: 12/13/05

6/20/00

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-N

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | LOCATION (LT,RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" .064 | 15" .064 | 18" .064 | 24" .064 | 30" .079 | 30" .079 | 36" .079 | 36" .109 | 42" .109 | 48" .109 | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | 24" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P. | CU. YDS. C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') PER EACH (0' THRU 5.0') | LIN. FT. A 5.0' THRU 10.0' | LIN. FT. B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME & GRATE STD. 840.16 | M.D.I. TYPE "B" STD. 840.18 OR 840.27 | M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | M.H. FRAME & COVER STD. 840.54 | T.B.J.B. STD. 840.34 | PREFORMED SCOUR HOLE | 30" SIDE DRAIN PIPE | CONCRETE APRON FOR CB | CONCRETE APRON FOR DI | CORR. STEEL ELBOWS NO. & SIZE | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN.FT. | REMARKS |
|---|---|---

6/16/99

COMPUTED BY: JBG DATE: 06/27/05
CHECKED BY: DWG DATE: 12/13/05

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-0

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 54" & OVER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 54"	60"	66"	72"	78"	84"	BITUMINOUS COATED C.S. PIPE TYPE B 54" .109	54" .138	54" .168	54" SHOP ELON-GATED .138	54" SHOP ELON-GATED .168	60" .138	60" .168	66" .138	66" .168	72" .138	72" .168	STRUCTURAL PLATE PIPE 60" 12	60" 10	66" 12	66" 10	72" 12	72" 10	11'-5" X 7'-1" STRUCTURAL PLATE ALUMINUM .125	REINFORCED ENDWALLS WITH R.C. - C.Y.	REINFORCED ENDWALLS WITH STRUCTURAL PLATE ALUMINUM - C.Y.	MASONRY DRAINAGE STRUCTURES CUBIC YARDS	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	J.B. STD. 840.31 OR 840.32	M.H. FRAME & COVER STD. 840.54	REMARKS
32+96.00	LT.	IN	46A		58.7	58.5		40																													
		46A		68.5																												5.9517				1	1	
		46A	OUT		58.5	58.4		44																														
135+24.00	LT. / RT																													126		13							RETAIN AND EXTEND
SHEET TOTAL								84																						126		13	5.9517			1	1	
SAY																																	6					

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

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 SHOULDER WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS TYPE GRAU 350	ANCHORS CAT-1	IMPACT ATTENUATOR TYPE 350 EA	IMPACT ATTENUATOR TYPE 350 G	IMPACT ATTENUATOR TYPE 350 NG	REMOVE EXISTING GUARDRAIL	REMARKS
-L-	33+82.00	32+32.00	RT.	150			33+57	33+67	14	14	50		1		1	1					
-L-	33+22.00	34+72.00	LT.	150			33+54	33+29	14	14	50		1		1	1					
-L-	103+51.00	105+26.00	RT.	175			104+83	105+23	12	14	50		1		1	1					
-L-	122+93.00	124+30.5	RT.	137.5			124+08	124+29.50	10	14	50		1		1	1					
-L-	134+19.00	135+19.00	RT.	100			134+70	135+11	14	14	50		1		1	1					
-L-	135+28.00	136+28.00	LT.	100			135+74.50	135+34	14	14	50		1		1	1					
-L-	48+83.00	49+60.00	RT.																	77	
-L-	50+03.00	50+81.00	LT.																	78	
-L-	102+71.00	105+56.00	RT.																	285	
			SUBTOTALS	812.5											6	6				440	
DEDUCTIONS FOR ANCHORS			6 GRAU-350 @ 50'	-300																	
			6 CAT-1 @ 6.25'	-37.5																	
			PROJECT TOTALS	475											6	6				440	
			SAY	525																450	
ADDITIONAL GUARDRAIL POST = 10 EA.																					

"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

SUMMARY OF "ASPHALT" PAVEMENT BREAK-UP IN SQUARE YARDS

LINE	STATION TO STATION	LOCATION	LENGTH	WIDTH	SQUARE YARDS
-L-	20+00.00 TO 22+50.00	LT/RT	250	46	1278
-L-	54+00.00 TO 55+00.00	LT/RT	100	36	400
-Y4-	11+75.00 TO 12+24.90	LT/RT	49.90	28	155
-Y7-	11+50.00 TO 11+66.89	LT/RT	16.89	22	41
-Y14-	13+00.00 TO 13+70.09	LT/RT	70.09	66.75	520
				TOTAL	2394
				SAY	2400

SUMMARY OF "ASPHALT" PAVEMENT REMOVAL IN SQUARE YARDS

LINE	STATION TO STATION	LOCATION	LENGTH	WIDTH	SQUARE YARDS
-L-	19+00.00 TO 20+00.00	LT/RT	100	48'	533
-L-	22+50.00 TO 25+00.00	LT/RT	250	41'	1139
-L-	45+50.00 TO 54+00	RT	850	36'	3400
-L-	55+00.00 TO 57+00.00	RT	200	36'	800
-L-	86+65.00 TO 89+66.92	MEDIAN			514
-L-	103+55.00 TO 111+60.00	MEDIAN			1398
-L-	135+12.50 TO 137+29.75	MEDIAN			364
-L-	120+20.00 TO 121+33.50	MEDIAN			180
-Y10-	11+50.00 TO 11+71.73	LT/RT	21.73	50'	121
-Y11-	11+25.00 TO 11+65.05	LT/RT	40.05	20'	89
-Y12-	11+25.00 TO 11+62.78	LT/RT	37.78	20'	84
FINAL PVMT. DESIGN - PAVEMENT REMOVAL CONTINGENCY ITEM					3500
				TOTAL	12122
				SAY	12150

SEE SHEETS TCP-5 AND TCP-6 FOR TEMPORARY PLAIN CS PIPES

LIST OF TEMPORARY PLAIN CS PIPES

STATION	LOCATION	FROM	TO	15" CS PIPE	18" CS PIPE	24" CS PIPE	CONC. COLLARS CL. "B" C.Y. STD 840.72
-L- 14+25.00	RT	A		44			
-L- 28+20.00	RT	B			32		
-L- 38+25.00	RT	C			108		0.4465
-L- 39+50.00	RT	D				20	1.1052
-L- 46+90.00	RT	E				60	
-L- 55+30.00	RT	F		56			
-L- 58+70.00	RT	G			28		
-L- 60+25.00	RT	H				64	
-L- 63+80.00	RT	I			108		
-L- 65+35.00	RT	J			28		
-L- 70+20.00	RT	K			32		
-L- 72+25.00	RT	L			60		
-L- 76+50.00	RT	M			64		
-L- 79+20.00	RT	N			76		
-L- 84+15.00	RT	O			52		

STATION	LOCATION	FROM	TO	15" CS PIPE	18" CS PIPE	24" CS PIPE	CONC. COLLARS CL. "B" C.Y. STD 840.72
-L- 86+70.00	RT	P			64		
-L- 91+45.00	RT	Q		48			
-L- 93+10.00	RT	R			44		
-L- 93+55.00	RT	S			28		
-L- 118+70.00	RT	T			104		
-L- 121+20.00	RT	U				60	
-L-122+75.00	RT	V		32			
-L-124+45.00	RT	W		40			
-L-125+95.00	RT	X		64			
-L-128+25.00	RT	Y		36			
-L-129+60.00	RT	Z		32			
-L-130+75.00	RT	AA		68			
-L-132+95.00	RT	BB		60			
-L-137+35.00	RT	CC		64			
TOTAL				544	828	204	1.5517
SAY							2.0

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RD212399 5/5/2006 u3613b dwgardner RD-Oce34

6/4/99

COMPUTED BY: DWG DATE: 02/03/06
CHECKED BY: JBG DATE: 02/06/06

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-P

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION		UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT PLUS %	BORROW	TOTAL WASTE
STATION	STATION					
PHASE I						
WIDEN –L– RIGHT						
SUMMARY NO. 1						
–L– 12+00.00	–L– 16+20.70	473				47
TOTAL SUMMARY NO. 1		473				47
SUMMARY NO. 2						
–L– 27+04.00	–L– 30+90.00	109		49		60
–L– 31+68.00	–L– 33+95.00	20		48	30	2
–L– 38+00.00	–L– 38+90.00	10		23	14	1
–L– 39+33.00	–L– 39+66.00	2		6	4	
–L– 46+00.00	–L– 46+58.00	6		29	24	1
TOTAL SUMMARY NO. 2		147		155	72	64
SUMMARY NO. 3						
–L– 47+20.00	–L– 49+68.00	35		73	41	3
TOTAL SUMMARY NO. 3		35		73	41	3
SUMMARY NO. 4						
–L– 51+50.00	–L– 81+19.00	1556	1585	2595	1195	1741
TOTAL SUMMARY NO. 4		1556	1585	2595	1195	1741
SUMMARY NO. 5						
–L– 82+66.00	–L– 88+44.00	178	245	435	293	281
–L– 89+97.00	–L– 94+29.00	116	127	275	182	150
–L– 97+26.00	–L– 98+91.00	17	183	266	252	186
TOTAL SUMMARY NO. 5		311	555	976	727	617
SUMMARY NO. 6						
–L– 116+46.00	–L– 138+37.00	839	1020	2145	1474	1188
–L– 140+90.00	–L– 143+25.00	93		3		90
TOTAL SUMMARY NO. 6		932	1020	2148	1474	1278
PHASE II						
CONSTRUCT –L– LEFT						
SUMMARY NO. 7						
–L– 12+00.00	–L– 16+20.70	63		221	164	6
–Y– 10+18.01	–Y– 11+00.00	3		45	42	
–Y1– 18+48.72	–Y1– 26+25.00	284		276	20	28
TOTAL SUMMARY NO. 7		350		542	226	34

LOCATION		UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT PLUS %	BORROW	TOTAL WASTE
STATION	STATION					
SUMMARY NO. 8						
–L– 17+25.00	–L– 49+82.00	5210	5093	16534	11845	5614
–Y1A– 10+34.00	–Y1A– 11+00.00	12		35	24	1
–Y2– 10+34.03	–Y2– 11+67.37	73		120	54	7
TOTAL SUMMARY NO. 8		5295	5093	16689	11923	5622
SUMMARY NO. 9						
–L– 49+92.00	–L– 81+85.97	701	2493	7934	7303	2563
–Y6– 14+08.98	–Y6– 17+66.61	278		508	258	28
TOTAL SUMMARY NO. 9		979	2493	8442	7561	2591
SUMMARY NO. 10						
–L– 81+85.97	–L– 111+00.00	7511	2555	6098	89	4057
–Y9– 10+34.01	–Y9– 11+00.00	14		4		10
TOTAL SUMMARY NO. 10		7525	2555	6102	89	4067
SUMMARY NO. 11						
–L– 111+00.00	–L– 141+00.00	3432	1818	5343	2597	2504
TOTAL SUMMARY NO. 11		3432	1818	5343	2597	2504
SUMMARY NO. 12						
–L– 141+00.00	–L– 151+70.00	218		550	376	44
TOTAL SUMMARY NO. 12		218		550	376	44
PHASE III						
CONSTRUCT –L– RIGHT						
SUMMARY NO. 13						
–L– 12+00.00	–L– 16+20.70	186		320	153	19
–Y1– 17+00.00	–Y1– 18+48.72	18		15		3
TOTAL SUMMARY NO. 13		204		335	153	22
SUMMARY NO. 14						
–L– 17+25.00	–L– 49+82.00	843		5324	4565	84
TOTAL SUMMARY NO. 14		843		5324	4565	84
SUMMARY NO. 15						
–L– 49+92.00	–L– 81+85.97	770		4801	4108	77
–Y4– 11+00.00	–Y4– 12+24.90			359	359	
–Y5– 11+00.00	–Y5– 11+66.53			88	88	
–Y6– 9+40.00	–Y6– 13+40.92	405		180		225
TOTAL SUMMARY NO. 15		1175		5428	4555	302

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Exisiting Pavement will be paid for at the contract lump sum price for "Grading."

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RD212399 5/1/2006 u3613bs3p dwgardner RD-Oce34

COMPUTED BY: DWG DATE: 02/03/06
CHECKED BY: JBG DATE: 02/06/06

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-Q

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION		UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT PLUS %	BORROW	TOTAL WASTE
STATION	STATION					
SUMMARY NO. 16						
–L– 81+85.97	–L– 111+00.00	662	664	4989	4459	796
–Y7– 10+75.00	–Y7– 11+66.89	24		75	56	5
–Y8– 10+00.00	–Y8– 11+69.12	182				36
TOTAL SUMMARY NO. 16		868	664	5064	4515	837
SUMMARY NO. 17						
–L– 111+00.00	–L– 141+00.00	763	201	4366	3756	354
–Y10– 9+32.00	–Y10– 11+71.73	102		189	107	20
–Y11– 10+00.00	–Y11– 11+65.05	298		8		290
–Y12– 10+00.00	–Y12– 11+62.56	92		59		33
–Y13– 10+85.00	–Y13– 11+99.11	18		44	30	4
TOTAL SUMMARY NO. 17		1273	201	4666	3893	701
SUMMARY NO. 18						
–L– 141+00.00	–L– 151+70.00	39		2505	2474	8
–Y14– 6+30.00	–Y14– 13+70.00	1211		1579	610	242
–Y16– 11+80.00	–Y16– 12+63.53	20		3		17
TOTAL SUMMARY NO. 18		1270		4087	3084	267
SUMMARY TOTALS		26886	15984	68519	47046	20825
WASTE IN LIEU OF BORROW					–571	–571
SHOULDER MATERIAL				94	94	
LOSS DUE TO C&G (500+1300)		–1800			1800	
GRADE POINT UNDERCUT (700+300)			1000	1250	1250	1000
CONTINGENCY UNDERCUT (500+500+350)			1350	1688	1688	1350
*LESS SELECT GRANULAR MATERIAL				–25250	–25250	
GRAND TOTALS		25086	18334	46301	26057	22604
+5% TO REPLACE TOPSOIL IN BORROW PIT					1303	
PROJECT GRAND TOTALS		25086	18334		27360	
SAY		25100	18350		27375	
DRAINAGE DITCH EXCAVATION = 2280 CY						
FABRIC FOR SOIL STABILIZATION = 24900 SY						
CLASS IV SUBGRADE STABILIZATION = 675 TONS						
*UNDERCUT AREAS ARE BACKFILLED WITH EMBANKMENT WITHIN EARTHWORK SUMMARY; THEREFORE, THE SELECT						
GRANULAR MATERIAL IS DEDUCTED FROM THE BORROW QUANTITY AT THE END OF SUMMARY TOTALS						

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Exisiting Pavement will be paid for at the contract lump sum price for "Grading."

6/4/99

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RD212399 5/1/2006 u3613bs3q dwgardner RD-Oce34

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-R

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	PITT COMMUNITY COLLEGE
2	4	PITT COMMUNITY COLLEGE
4	4,5	PEACE PRESBYTERIAN CHURCH
5	4	MARIE WILLIAMS
6	4,5	R T ARNOLD
7	5	COLLICE C. MOORE & J. TILMON KEEL
8	5	SHENANDOAH INVESTMENT GROUP, LLC
9	5	LINDA E. KEEL
10	5	LINDA E. KEEL, ET AL
11	5	LINDA E. KEEL, ET AL
12	5	BLAIR DEVELOPMENT GROUP, LLC
13	5	INTERSTATE REALTY, LLC
14	5,6	SHENANDOAH INVESTMENT GROUP, LLC
14A	6	FAITH AND VICTORY CHURCH, INC
15	6	BOYS CLUB OF PITT COUNTY
16	6,7	JACK JONE, LLC
16A	7	GREENVILLE UTILITIES COMM.
17	6	COLLICE C. MOORE, ET AL
18	6	SOUTHERN PARK, INC.
19	6	JDS HOLDINGS, LLC
20	6,7	WINTERVILLE ASSOC.
21	7	TOWN OF WINTERVILLE
21A	7	SOUTHERN COAST LINE RAILROAD R/W
22	7,16	MARY VIRGINIA L. JONES
23	7	CAROLINA CLASSICS CATFISH, INC.
24	7,16	RICHARD L.& MAUREEN M. HARRINGTON
25	7	CAROLINA CLASSICS CATFISH, INC.
26	7	BOBBY E.& EDNA TAYLOR
27	7,8	TEMPLE FREE WILL BAPTIST CHURCH
28	7,8	ROBERT W. HEFFERNAN, JR.
29	7,8	TEMPLE FREE WILL BAPTIST CHURCH
30	8	JAMES & JOANNE BAILEY
31	8	CORNERSTONE OF GREENVILLE
32	8	CORNERSTONE OF GREENVILLE
33	8	JULIUS D.& BARBARA J. PARKER
34	8	STALLINGS INVESTMENTS

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
35	8	JULIUS & BARBARA PARKER
36	8	STALLINGS INVESTMENTS
37	8,9	NOVCOUX UN LLC
38	8,9	JOSEPH D.& MAXINE A. SPEIGHT
38A	8	VINCENT PEELE PROPERTIES, LLC
39	9	CHARLES C. McLAURIN
40	9	LSR ASSOC. LLC
41	9	ALBRITTON REALTY GROUP, LLC
42	9	BRANCH BANKING & TRUST COMPANY
43	9	ANGELA G. STEWART
44	9	SOUTHERN BANK & TRUST COMPANY
45	9	SOUTH HALL SUBDIVISION
46	9,10	ALMA PARAMORE
46A	9	DARWIN E. PARAMORE, ET UX
46B	10,11	CLARK LAND COMPANY, LLC
46C	11	CITY OF GREENVILLE
47	9	WALTER L. WILLIAMS
48	9	CHARLES R. HARDEE
48A	9	GARY W. HARDEE
49	9,10	JAMES F.& PHYLLIS H. BRADLEY
50	9,10	THOMAS W.& REBECCA MOYE
51	10	BYUNG LEE
52	10	TREETOPS LLC
53	10	TREETOPS LLC
54	10	SNODIE ALLEN PARAMORE JR.
55	10	FALCON CHILDREN'S HOME INC
56	10	IGNATIUS T. WATERMAN
57	10	SHIRLEY A. CARRAWAY
58	10	W.& J. SANDERS
59	10	SHANON M. CARTER
60	10,11	TREETOPS LLC
61	11	TREETOPS LLC
62	11	GREENVILLE PROPERTIES
63	11	CARTRETTE LLC
64	11	BLANCHE D. WATSON
65	11	CYNTHIA B. GROATHOUSE

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RD212458 2/7/2006 u3613bs3r jbgauthier RD-Oce34

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	3-S

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
66	11	REGINALD & BONITA SPAIN
67	11	REGINALD & BONITA SPAIN
68	11	REGINALD & BONITA SPAIN
69	11,12	RT DEVELOPMENT,INC.
70	11,12	JOYNER P.TRIPP
71	12	WILLIAM F.HOFFMAN
72	12	REGINALD & BONITA SPAIN
73	12	LINDA L.GADDIS
74	12	OCTAVIO & OGLA FLORES
75	12	GREYSTONE MOBILE HOME PARK,LLC
76	12	GREYSTONE MOBILE HOME PARL,LLC
77	12	FIRETOWER CROSSING,LLC
78	12	FIRETOWER CROSSING,LLC
79	12	FIRETOWER CROSSING,LLC
80	12	FIRETOWER CROSSING,LLC
81	12	FIRETOWER CROSSING,LLC
82	12	FIRETOWER CROSSING,LLC
83A	12	KAREN W.BRIGHT
83B	12	ANTHONY S.HART,ET UX
83C	12	JESSE C.MOORE,ET UX
83D	12	JOANNE T.CHILDS
83E	12	KERRY P.HOUSE
83F	12	MILDRED GODWIN
83G	12	ROBERT E.EARNHARDT
83H	12	MATTHEW A.ALDRIDGE,ET UX
84	12	N.C.FOREST SERVICE
85	13	JUDY WORTHINGTON McLAWHORN/GOLD WORTHINGTON WALKER
85A	12,13	REGGIE SPAIN CONSTRUCTION,LLC
85B	12	KAREN W.BRIGHT
85C	12,13	CORY LEE SCOTT
85D	13	RANDOLPH JEFFORY
85E	13	EDWARD GILBERT
85F	13	BOBBY DIXON
85G	13	FIRST SOUTH BANK
86	13	WILTON E.& LENA J.EVANS
87	13	RALPH C.TUCKER

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
88	13	HARRY H.McLEAN
89	13	LINDA LOU EVANS
90	13	FLANDERS EQUITY CORP.
91	13	W.G.POLLARD,JR.
92	14	EDGAR WALL
93	13,14	COVENANT UNITED METHODIST CHURCH OF GREENVILLE
94	14	COVENANT UNITED METHODIST CHURCH OF GREENVILLE
95	14	COVENANT UNITED METHODIST CHURCH OF GREENVILLE
95A	17	COVENANT UNITED METHODIST CHURCH
96	14	WILLARD G.POLLARD,JR.
97	14	WILLARD G.POLLARD,JR.
98	14	ROY F.COX
99	14	ALLAN C.BROWN
100	14	GEORGE & SYLVIA HOUGHENS
101	14	CARMON LORENZO,ET UX
102	14	COVENANT UNITED METHODIST CHURCH
103	14	JUDSON BLOUNT III
104	14	JOHN SHOCKEY
105	14	HUGH LINDSLEY
107	17	COVENANT UNITED METHODIST CHURCH

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7/2/99

REVISIONS

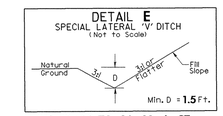
PROJECT REFERENCE NO.	SHEET NO.
U-3613B	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER — 5/01/06

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOMM — 5-1-06

NAD 83

DETAIL E
SPECIAL LATERAL 'V' DITCH
(Not To Scale)



STA 12+00 TO 14+00 -L- RT

MATCHLINE -Y1- STA 23+00.00 (SEE SHEET 15)

MATCHLINE -L- STA 21+50.00 (SEE SHEET 5)

PITT COMMUNITY COLLEGE
DBV5I/PG663
MBI4/PGI24
MB3I/PG96
2

PEACE PRESBYTERIAN CHURCH
DBX26/PGI93
TRACT #5
PB5/PGI05

PEACE PRESBYTERIAN CHURCH
DB53/PG80I
TRACT #5
PB5/PGI05
DB884/PGI4
DBE29/PG553
DBA36/PG589
4

PITT COMMUNITY COLLEGE
DBX5I/PG842
MB3I/PG96
1

PITT COMMUNITY COLLEGE
DBX5I/PG842
MB3I/PG96
-L- PC Sta. 13+22.68
+22.68 -L-
50.00 (LT)
@ EXIT. R/W

-BL-U3613-2 PINC STA. 13+80.82
-BYI- PINC STA. 7+74.48
-L- STA. 15+51.96 (12.42 RT)=
-YI- STA. 18+84.33 (128.31LT)=

-BY-1POT STA. 5+00.00

-BYI-1POT STA. 5+00.00
-YI- STA. 21+17.85 (65.62 LT)=

-Y- PT Sta. 11+83.37

-Y- POC Sta. 11+00.00
END CONSTRUCTION

-BL-2 PINC STA. 12+70.46
-BY2- POT STA. 6+47.97
-L- STA. 14+48.67 (35.76 RT)=
-Y- STA. 10+39.59 (22.63 RT)=

-Y- PC Sta. 10+11.06
-L- POC Sta. 14+26.40=
-Y- POT Sta. 10+00.00

-L- PT STA. 11+98.70
BEGIN PROJECT U-3613B
-L- PC Sta. 10+00.00

-BYI-3 POT STA. 11+09.21
-YI- STA. 15+46.05 (79.52 LT)=

-YI- POT Sta. 17+00.00
BEGIN CONSTRUCTION

TIE TO EXIST. C&G
BEG. SIDEWALK
-Y- STA. 10+61.79

TIE TO EXIST. C&G
BEG. SIDEWALK
-YI- STA. 19+71.10
-L- POT Sta. 16+78.69=
-YI- POT Sta. 18+48.72

END SIDEWALK
-YI- STA. 19+43.35

TIE TO EXIST. C&G
BEG. SIDEWALK
-L- STA. 14+50.00

END SIDEWALK
-YI- STA. 17+41.29

TIE TO EXIST. C&G
BEG. SIDEWALK
-YI- STA. 17+49.83

BEG. C&G AND PAVING
LT. & RT. -L- STA. 12+00
-L- PT STA. 11+98.70

CLASS B RIPRAP W/FILTER FABRIC EST. 1 TONS EST. 5 SY FABRIC

CLASS B RIPRAP W/FILTER FABRIC EST. 2 TONS EST. 7 SY FABRIC

SPECIAL LATERAL V DITCH SEE DETAIL 'E'

SAM'S CLUB
DB802/PG253
PB49/PGI28

MARIE WILLIAMS
DB480/PG8II
5

R T ARNOLD
DB859/PG224
PB50/PGI28
6

2SBK CHURCH

CAR WASH

IS MTL BUS

POND

OVERFLOW

20' SANITARY SEWER EASEMENT

265' RT. TURN TAPER

465' FULL LANE

330' FULL

100' TAPER

230' RT. TURN TAPER

110' TAPER LT. & RT.

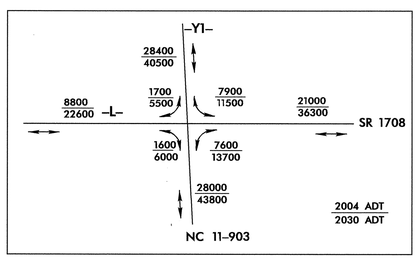
-L-

PI Sta 11+00.20
Δ = 18° 16' 20.4" (LT)
D = 9° 11' 45.1"
L = 198.70'
T = 100.20'
R = 623.06'

PI Sta 14+60.92
Δ = 29° 43' 31.9" (RT)
D = 11° 00' 00.0"
L = 270.23'
T = 138.23'
R = 520.87'
SE = 0.02-0.025
RO = 180'

-Y-

PI Sta 10+97.75
Δ = 15° 30' 27.9" (RT)
D = 9° 00' 00.0"
L = 172.31'
T = 86.68'
R = 636.62'
SE = EX.



Rev. REVISED SIGNAL

SEE SHEET 18 FOR -L- PROFILE
SEE SHEET 24 FOR -Y- PROFILE
SEE SHEET 24 FOR -Y1- PROFILE
SEE SHEET TCP-5 & TCP-6 FOR LOCATION OF OF WIDENING AND TEMP. DRAINAGE

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RD212399 3/6/2006 u3613bs04 dwgardner RD-Oce34

7/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER — 5/01/06

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN — 5.1.06

NAD 83

DETAIL A1
STANDARD GRASSED SWALE
(Not to Scale)
Natural Ground, 3:1, D, 3:1, Natural Ground, B
Min. D = 5 Ft.
B = 3 Ft.
-L- STA 23+35 LT

DETAIL A
GRASS SWALE
(Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Fill Slope, B
Min. D = 1.5 Ft.
Max. d = 1 Ft.
B = 2 Ft.
Type of Liner = PSRM
-L- STA 27+70 TO -L- STA 32+50 LT

DETAIL B
STREAM RELOCATION
(Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Fill Slope, B
Min. D = 1.5 Ft.
B = 5 Ft.
-L- STA 33+35 TO -L- STA 33+80 LT

DETAIL C
STREAM RELOCATION
(Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Fill Slope, B
Min. D = 1.5 Ft.
B = 2 Ft.
-L- STA 33+80 TO -L- STA 34+50 LT

MATCHLINE -L- STA 21+50.00 (SEE SHEET 4)

MATCHLINE -L- STA 34+50.00 (SEE SHEET 6)

PEACE PRESBYTERIAN CHURCH
DB53/PG801
TRACT #5
PB5/PGI05
DB884/PGI4
DBE29/PG553
DBA36/PG589
4

SHENANDOAH INVESTMENT GROUP, LLC
DB 828 PG 142
TRACT #6
PB 5 PG 103
8

SHENANDOAH INVESTMENT GROUP, LLC
DBE53/PGI9
DB707/PGI37
TRACT #7
PB2I/PG6
PB5/PGI03
PB22/PGI78
14

FRUIT STAND OWNED BY
(BUT NOT LAND)
DON KING & DAN KING
1504 CROOM BLAND RD
KINSTON, NC 28501
252-523-7116
252-321-6222 (BUS)

R T ARNOLD
DB859/PG224 PB50/PGI28
3
6

INTERSTATE REALTY, LLC
DB790/PG516
PB49/PGI05
13

LINDA E. KEEL,ET AL
DB597/PGI0
MB45/PG58
10

LINDA E. KEEL,ET AL
DB597/PGI0
MB45/PG58
11

COLLICE C MOORE &
J. TILMON KEEL
DB463/PG582
TRACT #10
PB5/PGI05
7

LINDA E. KEEL
DB480/PG558
9

BLAIR DEVELOPMENT GROUP, LLC
DB 1244 PG 516
TRACT #10
PB 45 PG 58
PB 49 PG 105
12

-YIA- POT Sta. 12+50.00

END CONSTRUCTION
-YIA- POT Sta. 11+00.00

-BL-4 PINC STA. 31+92.86
-L- STA. 33+62.65 (6.42 RT)=

-L- POT Sta. 31+28.00=
-YIA- POT Sta. 10+00.00

-BL-3 PINC STA. 22+72.32
-L- STA. 24+42.36 (27.96 RT)=

END C&G -L- STA. 31+11.38

BEG. C&G -L- STA. 31+43.13

600' TRANSITION

100' TAPER

3' BASE GRASSED SWALE SEE DETAIL A1 EST. 1280 CY EXC.

CLASS B RIPRAP W/FILTER FABRIC EST. 3 TONS EST. 10 SY FABRIC

CLASS B RIPRAP W/FILTER FABRIC EST. 2 TONS EST. 7 SY FABRIC

GRASS SWALE SEE DETAIL 'A'

CLASS 'I' RIP RAP EST. 20 TONS
1 @ 10' X 8' RCBC

STREAM RELOCATION SEE DETAIL 'B'

STREAM RELOCATION SEE DETAIL 'C'

DRIVE TO BE DELETED
PAVEMENT REMOVED TO EASEMENT LINE

PAVEMENT REMOVAL

SEE SHEET 18 FOR -L- PROFILE
SEE SHEET 24 FOR -Y1A- PROFILE
SEE SHEET C-1 THRU C-12 FOR CULVERT PLANS
SEE SHEET TCP-5 & TCP-6 FOR LOCATION OF WIDENING AND TEMP. DRAINAGE

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RD212399 4/20/2006 u3613bs05 dwgardner RD-Oce34

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REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

5/01/06

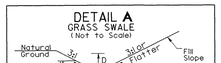
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

NAD 83

DETAIL A
GRASS SWALE
(Not to Scale)



Min. D = **1.5** Ft.
Max. d = **1** Ft.
B = **2** Ft.

Type of Liner = PSRM

-L- STA 35+00 TO -L- STA 39+40 LT
-L- STA 40+00 TO -L- STA 47+50 LT

DETAIL C
STREAM RELOCATION
(Not to Scale)



Min. D = **1.5** Ft.
B = **2** Ft.

-L- STA 34+50 TO -L- STA 35+00 LT

-Y2-

PI Sta 11+00.07
Δ = 9° 42' 15.0" (LT)
D = 10° 20' 13.8"
L = 93.88'
T = 47.05'
R = 554.27'
SE = EX.

SHENANDOAH INVESTMENT GROUP, LLC
DBE53/PG19
DB707/PG137
TRACT #7
PB21/PG6
PB5/PG103
PB22/PG178
14

FAITH AND VICTORY CHURCH, INC
DB E-55 PG 21
MB 21 PG 6 & 6A
DB 1170 PG 704
14A

JACK JONE LLC
DB 1034 PG 823
MB 21PG 6 & 6A
16

-Y2- PC Sta. 11+82.32
-Y2- POC Sta.11+67.37
END CONSTRUCTION
-Y2- PT Sta. 11+46.89
-Y2- PC Sta. 10+53.01
-BY2-1 POT STA. 5+00.00
-L- POT Sta.39+73.42=
-Y2- POT Sta. 10+00.00
-BL-5 PINC STA. 38+52.03
-BY2-2 POT STA. 6+51.59
-L- STA. 40+20.89 (41.36 LT)=
-Y2- STA. 10+24.20 (51.46 RT)=
END SIDEWALK AND C&G
-Y2- STA. 10+67.37 LT. & RT.

MATCHLINE -L- STA. 34+50.00 (SEE SHEET 5)

MATCHLINE -L- STA. 47+50.00 (SEE SHEET 7)

SR 1708 FIRETOWER RD 33' BST

BOYS CLUB OF PITT COUNTY
DBWDI98/PG35
DB463/PG584
15

COLLICE C. MOORE ETAL
NO DEED ON RECORD
PB47/PG33
17

SOUTERN PARK, INC.
DB745/PG41
18

JDS HOLDINGS, LLC
DB 966 PG 344
PB 47 PG 195
19

WINTERVILLE ASSOC.
DB487/PG16
20

SEE SHEET 19 FOR -L- PROFILE
SEE SHEET 24 FOR -Y2- PROFILE
SEE SHEET TCP-5 & TCP-6 FOR LOCATION OF WIDENING AND TEMP. DRAINAGE

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RD212399 3/6/2006 u3613bs06 dwgardner RD-Oce34

7/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	7
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

James A. Speer

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

NAD 83

-L- 21000 / 36300 — 20900 / 36200 — SR 1708

200 / 200 — 100 / 100 — 300 / 300

-Y4- BAYWOOD DRIVE (WEST) 2004 ADT / 2030 ADT

DETAIL A
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground — 3:1 — D — B — 3:1 or Flatter — Fill Slope

Min. D = 1.5 Ft.
B = 2 Ft.

-L- STA 47+50 TO -L- STA 48+50 LT

DETAIL F
STANDARD BASE DITCH
(Not to Scale)

Natural Ground — 3:1 — D — B — 3:1 — Natural Ground

Min. D = 1.5 Ft.
B = 4 Ft.

STA. 53+81 -L- RT.

JACK JONE LLC
DB 1034 PG 823
MB 21PG 6 & 6A
16

16A

GREENVILLE UTILITIES COMM.
DB J-48 PG 748
MB 28 PG 85
TRACT 2

TOWN OF WINTERVILLE
DB 0-50 PG 677
MB 28 PG 85
21

SOUTHERN COAST LINE RAILROAD R/W
21A

CAROLINA CLASSICS CATFISH, INC.
DB 930 PG 35
23

-Y3- POT Sta. 14+01.34

-BY3-1POT STA. 5+00.00

-L- POT Sta. 49+87.34

-Y3- POT Sta. 12+21.96

END SIDEWALK AND C&G -L- STA. 49+80

-BL-6 PINC STA. 47+93.99

-BY3-2 PINC STA. 6+78.81

-TI- POT STA. 5+00.00

-L- STA. 49+62.35 (11.15 RT)=

-Y3- STA. 12+22.45 (27.38 LT)=

CLASS B RIPRAP @ PL
W/FILTER FABRIC 84.00 (LT)
EST. 2 TONS 50.00 (LT) @ EXIST. R/W
EST. 7 SY FABRIC 60.00 (LT)

SPECIAL LATERAL BASE DITCH
SEE DETAIL 'A'
@ PL
72.00 (LT)

MATCHLINE -L- STA. 47+50.00 (SEE SHEET 6)

PDE

SR 1708 FIRETOWER RD
S.R. 1708

N 85° 57' 29.0" E

2'-6" C&G W/3" CONC. COVER

+79.00 -L- 66.00 (RT) @ EXIST. R/W

+99.00 -L- 66.00 (RT) @ EXIST. R/W

+50.00 -L- 57.00 (RT)

WINTERVILLE ASSOC.
DB487/PG16
20

END SIDEWALK AND C&G -L- STA. 49+54

BEG. SIDEWALK AND C&G -L- STA. 49+94

+50.00 -L- 65.00 (RT)

+32.00 -L- @ EXIST. R/W

+43.31 -L- 50.00 (RT)

+50.00 -L- 70.00 (RT)

+50.00 -L- 70.00 (RT)

+62.00 -L- 70.00 (RT) 50.00 (RT)

CLASS B RIPRAP W/FILTER FABRIC EST. 8 TONS EST. 21 SY FABRIC

-BY3-3 POT STA. 9+00.26

-Y3- STA. 10+08.47 (23.13 RT)=

SOUTHERN COAST LINE RAILROAD R/W

-Y3- POT Sta. 10+00.00

2IA

-L-

PI Sta 55+46.09
Δ = 35° 11' 05.1" (LT)
D = 6° 00' 00.0"
L = 586.41'
T = 302.78'
R = 954.93'
SE = 0.04
RO = 240'

MARY VIRGINIA L. JONES
DBG45/PG746
22

-Y4-

PI Sta 12+04.84
Δ = 16° 55' 47.7" (RT)
D = 19° 15' 00.0"
L = 87.95'
T = 44.30'
R = 297.64'
SE = EX.

4' BASE DITCH GRASS LINED SEE DETAIL F EXCAVATION @ 1000 CY

+15.00 -L- 307.00 (RT)

MATCHLINE (SEE SHEET 16)

BEG. SIDEWALK AND C&G -L- STA. 50+20

+38.00 -L- 62.00 (LT) 50.00 (LT)

+58.00 -L- 62.00 (LT) 50.00 (LT)

2'-6" C&G W/3" CONC. COVER

+58.00 -L- 62.00 (LT) 50.00 (LT)

+78.00 -L- 62.00 (LT) 50.00 (LT)

+43.31 -L- 50.00 (LT)

-L- PC Sta. 52+43.31

+99.00 -L- 64.00 (LT) 50.00 (LT)

+83.00 -L- 56.00 (LT)

+19.00 -L- 64.00 (LT) 50.00 (LT)

+90.00 -L- 62.00 (LT) 50.00 (LT)

+10.00 -L- 62.00 (LT) 50.00 (LT)

-L- POC Sta. 55+31.92=

-Y4- POT Sta. 12+58.92

-L- 55+00

-BL-7 PINC STA. 53+48.67

-BY4-1POT STA. 5+00.00

-L- STA. 55+08.29 (43.45 RT)=

-Y4- STA. 12+27.69 (28.08 LT)=

TEMPLE FREE WILL BAPTIST CHURCH
DBD43/PG445
DBW44/PGB569
29

TEMPLE FREE WILL BAPTIST CHURCH
DBP43/PG593
27

CAROLINA CLASSICS CATFISH, INC
DB 930 PG 35
25

-L- PT Sta. 58+29.72

+39.00 -L- 64.00 (LT) 50.00 (LT)

+19.00 -L- 64.00 (LT) 50.00 (LT)

+29.72 -L- 50.00 (LT)

+50.00 -L- 60.00 (LT)

N 50° 46' 24.0" E

MATCHLINE -L- STA. 59+50.00 (SEE SHEET 8)

+29.72 -L- 50.00 (RT)

+00.00 -L- 69.00 (RT)

-Y4- PT Sta. 12+48.49

+25.00 -L- 76.00 (RT) 50.00 (RT)

+90.00 -L- 50.00 (RT)

+60.55 -Y4- @ EXIST. R/W

BEG. SIDEWALK -Y4- STA. 11+94.04

BOBBY E. & EDNA TAYLOR
DBG54/PG235
26

ROBERT W HEFFERNAN, JR
DB 1249 PG 297
MB 24 PG 39
28

RICHARD L. & MAUREEN M. HARRINGTON
DB778/PG482
24

+87.00 -L- 70.00 (RT) 50.00 (RT)

+70.00 -L- 50.00 (RT)

+88.00 -Y4- @ EXIST. R/W

END SIDEWALK AND C&G -Y4- STA. 12+05.31

-Y4- PC Sta. 11+60.55

+00.00 -L- @ PL 81.00 (RT)

BEG. C&G -Y4- STA. 11+84

-Y4- POT Sta. 11+00.00

BEGIN CONSTRUCTION

-BY4-2 POT STA. 7+25.09

RODNEY RAY JOHNSON
VIRGINIA A. WILSON
DB61/PG435

-Y4- POT Sta. 10+00.00

PUE — PUE
PERMANENT UTILITY EASEMENT

EDWARD J. FUDALIK
DB 1138 PG 356

SEE SHEET 19 FOR -L- PROFILE
SEE SHEET 24 FOR -Y3- PROFILE
SEE SHEET 25 FOR -Y4- PROFILE
SEE SHEET TCP-5 & TCP-6 FOR LOCATION OF WIDENING AND TEMP. DRAINAGE

06-MAR-2006 12:01
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RD212399 3/6/2006 u3613bs07 dwgardner RD-Oce34

7/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

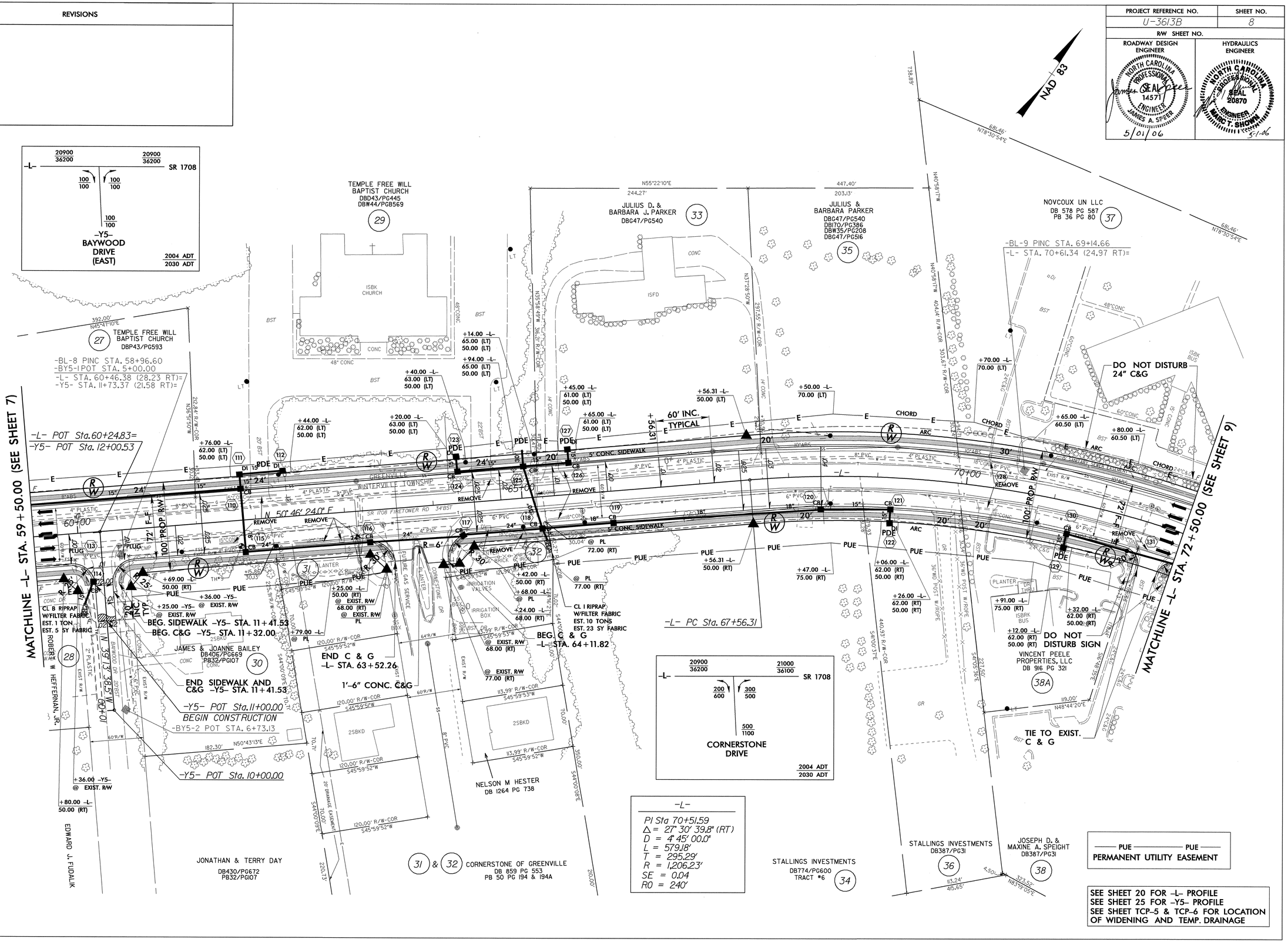
James A. Speer

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06



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RD212399 3/6/2006 u3613bs08 dwgardner RD-Oce34

7/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER — 5/01/06

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN — 5-1-06

-L-
PI Sta 80+38.76
Δ = 1° 45' 21.6" (RT)
D = 0° 30' 00.0"
L = 351.20'
T = 175.61'
R = 11,459.16'
SE = N.C.

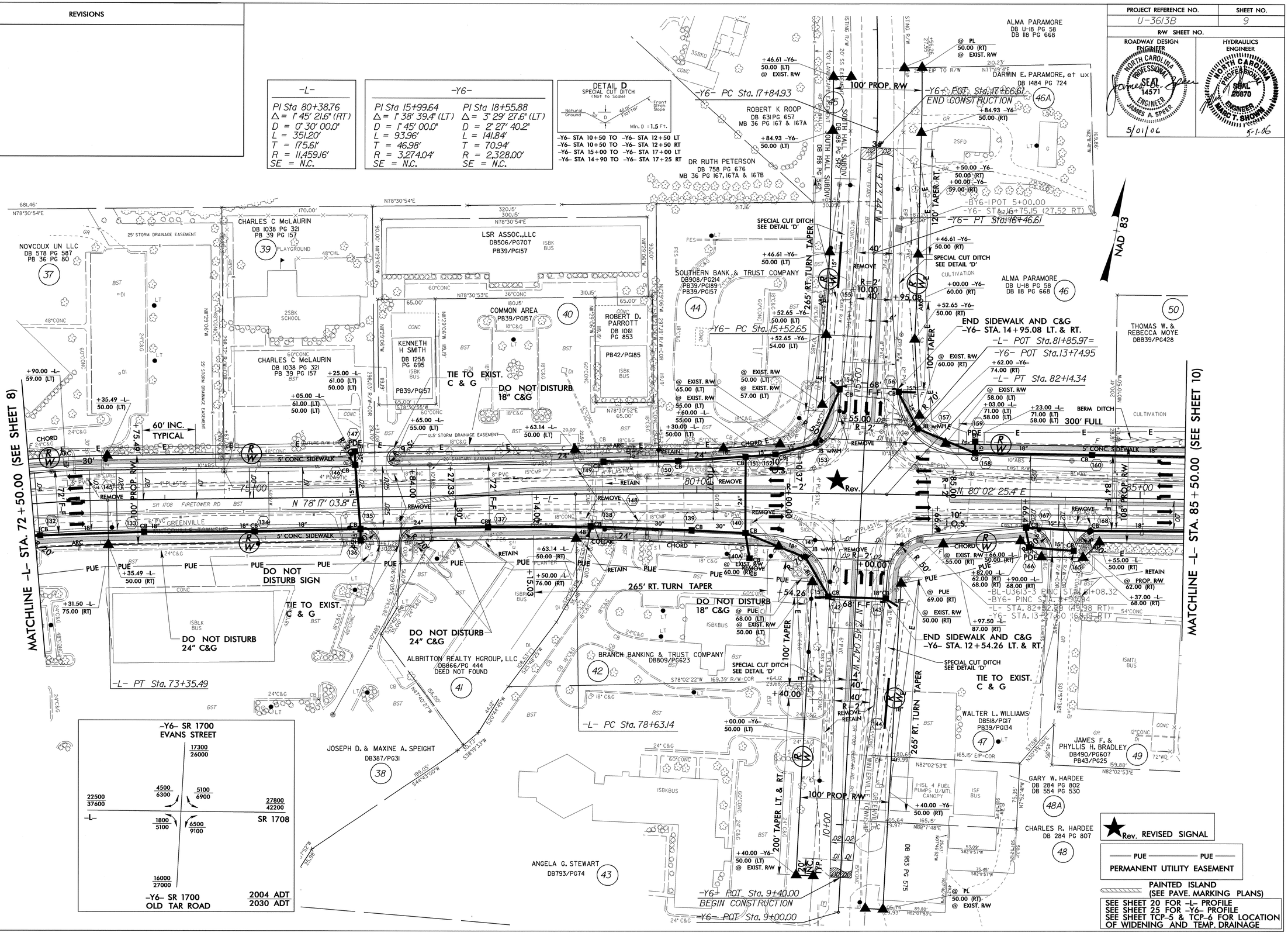
-Y6-	
PI Sta 15+99.64	PI Sta 18+55.88
Δ = 1° 38' 39.4" (LT)	Δ = 3° 29' 27.6" (LT)
D = 1° 45' 00.0"	D = 2° 27' 40.2"
L = 93.96'	L = 141.84'
T = 46.98'	T = 70.94'
R = 3,274.04'	R = 2,328.00'
SE = N.C.	SE = N.C.

DETAIL D
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground — 3:1 — D — 4:1 or Flatter — Front Ditch Slope

Min. D = 1.5 Ft.

-Y6- STA 10+50 TO -Y6- STA 12+50 LT
-Y6- STA 10+50 TO -Y6- STA 12+50 RT
-Y6- STA 15+00 TO -Y6- STA 17+00 LT
-Y6- STA 14+90 TO -Y6- STA 17+25 RT



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RD212399 4/20/2006 u3613bs09 dwgardner RD-Oce34

7/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

5/01/06

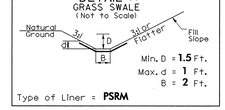
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

-L- STA 92+50 TO -L- STA 100+50 LT

DETAIL A
GRASS SWALE
(Not to Scale)



Type of Liner = PSRM

-L-
PI Sta 89+45.15
Δ = 15° 12' 37.6" (LT)
D = 3° 00' 00.0"
L = 507.01'
T = 255.01'
R = 1,909.86'
SE = 0.035

-Y7-
PI Sta 11+00.58
Δ = 7° 16' 31.7" (RT)
D = 3° 37' 17.8"
L = 200.89'
T = 100.58'
R = 1,582.05'
SE = N.C.

-L-	SR 1708	-Y7-
27400 / 41700		27000 / 41300
	1000 / 1000	600 / 600
		1600 / 1600
	WINDING BRANCHES ROAD	
	2004 ADT / 2030 ADT	

NAD 83

-BL-10 PINC STA. 87+91.86
-BY7-1POT STA. 5+00.00
-L- STA. 89+31.30 (36.04 RT)=
-Y7- STA. 11+66.10 (39.26 LT)

-L- PC Sta. 86+90.14

200.00'
N79°49'09"E

THOMAS W. & REBECCA MOYE
DB839/PG428
50

50Z

ALMA PARAMORE
DB U-18 PG 58
DB 118 PG 668
46

SNODIE ALLEN PARAMORE JR.
DB631/PG246
54

390.00'
S67°36'59"W

178.57'
N3°43'57"W

-L- POC Sta.89+69.45=
-Y7- PT Sta. 12+00.89

-L- PT Sta. 91+97.16

SEE TYPICAL SHEET 2-A FOR LEFTOVER DETAIL

DO NOT DISTURB EXIST. SIDEWALK

309.54' R/W-COR
N23°48'41"W

ALMA PARAMORE
DB U-18 PG 58
DB 118 PG 668
46

CLARK LAND COMPANY, LLC
DB 1723 PG 001
MB 61 PG 99
46B

N 25°09'04" W
300.00'
R/W-COR

MATCHLINE -L- STA. 85+50.00 (SEE SHEET 9)

MATCHLINE -L- STA. 98+50.00 (SEE SHEET 11)

100' TAPER

65' INC. TYPICAL

END SIDEWALK
-Y7- STA. 11+17.51

DO NOT DISTURB 24" C&G

BEG. SIDEWALK
-Y7- STA. 11+26.18

1'-6" CONC. C&G

BEGIN CONSTRUCTION
-Y7- POC Sta.10+75.00

-BY7-2 POT 6+82.42

-Y7- PC Sta. 10+00.00

CLASS B RIPRAP W/FILTER FABRIC EST. 2 TONS EST. 7 SY FABRIC

CLASS B RIPRAP W/FILTER FABRIC EST. 3 TONS EST. 10 SY FABRIC

CLASS B RIPRAP W/FILTER FABRIC EST. 2 TONS EST. 7 SY FABRIC

GRASS SWALE SEE DETAIL A

TREETOPS LLC
DB535/PG323
PB32/PG261
52

TREETOPS LLC
DB 152 PG 135
53

BYUNG LEE
DB577/PG172
PB43/PGI13
51

JAMES F. & PHYLLIS H. BRADLEY
DB490/PG607
PB43/PG25
49

KATHLEEN J. SINAR
DB896/PG578
PB32/PG261

FALCON CHILDREN'S HOME INC
DB 915 PG 135
55

IGNATIUS T WATERMAN
DB 1102 PG 241
PB 28 PG 164
56

SHIRLEY A CARRAWAY
DB 941 PG 110
PB 28 PG 164
57

APPARENT DEED GAP

W. & J. SANDERS
DBR50/PG320
PB28/PGI64
58

TREETOPS LLC
60

A=PHILLIP L. HERRINGTON
DB801/PG441
PB34/PGI44
B=SHANON M. CARTER
DB778/PGI43
PB34/PGI44
C=JUANITA M. WEBB
DB188/PC787
PB34/PGI44
D=MARY A. LEE
DB190/PG220
PB34/PGI44
59

TREETOPS LLC
59

DO NOT DISTURB FENCE

SEE SHEET 21 FOR -L- PROFILE
SEE SHEET 26 FOR -Y7- PROFILE
SEE SHEET TCP-5 & TCP-6 FOR LOCATION OF WIDENING AND TEMP. DRAINAGE

06-MAR-2006 12:00
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RD212399 3/6/2006 u3613bs10 dwgardner RD-Oce34

7/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	11
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

3-1-06

-Y8-	-Y9-
PI Sta 10+82.04	PI Sta 11+89.53
Δ = 6° 33' 20.5" (LT)	Δ = 12° 23' 53.4" (RT)
D = 4° 00' 00.0"	D = 11° 15' 00.0"
L = 163.89'	L = 110.21'
T = 82.04'	T = 55.32'
R = 1,432.39'	R = 509.30'
SE = 0.025	SE = 0.035

-Y8- PINE BRANCHES CIRCLE — 2004 ADT / 2030 ADT

-Y9- ALBION DRIVE

DUDLEY'S GRANT — 2004 ADT / 2030 ADT

SR 1708

DETAIL 'G'

PREFORMED SCOUR HOLE WITH LEVEL SPREADER APRON

PLAN VIEW

SECTION A-A

B 4.5 Ft
D 2.0 Ft
W 4.0 Ft
d 1.0 Ft

DETAIL A
GRASS SWALE
(Not to Scale)

Min. D = 1.5 Ft.
Max. d = 1 Ft.
B = 2 Ft.

Type of Liner = PSRM

FROM -L-100+50 TO -L-105+26 LT
FROM -L-105+58 TO -L-106+85 LT
FROM -L-107+60 TO -L-108+20 LT
FROM -L-105+18 TO -L-107+15 RT

NAD 83

MATCHLINE -L- STA. 98+50.00 (SEE SHEET 10)

MATCHLINE -L- STA. 112+50.00 (SEE SHEET 12)

CLARK LAND COMPANY, LLC
DB 1723 PG 001
MB 61PG 99

CITY OF GREENVILLE
DB 1754 PG 30

REGINALD & BONITA SPAIN
DB896/PG507
PB46/PG143

WILLIAM E. & BETTY C. STEWART, SR.
DB888/PG787
PB46/PG143

CYNTHIA B. GROATHOUSE
DB868/PG522
PB46/PG143

TREETOPS LLC
DB1301-424/PG585
PB41/PG144

I=TIMOTHY R. MORRIS DBL130-424/PG585 PB41/PG144
J=MARYJANE C. DAUGHTRY DBL132-581/PG226 PB41/PG144
K=GALAXY PARTNERS DBL131-713/PG675 PB41/PG144
L=BETH H. IPOCK DBL130-430/PG506 PB41/PG144
E=LYNN M. ROEDER DB442/PG438 PB41/PG182
F=HAROLD D. & LISA S. HUDSON DB619/PG58 PB41/PG182
G=MARGERET W. & SAMUEL W. MCCORMICK DBL120-426/PG763 PB41/PG182
H=CURTIS & BARBARA WAGONER DB866/PG313 PB41/PG182

ELAINE W. TILGHMAN, et al
DB107/PG328

ELAINE W. TILGHMAN, et al
DB 1219 PG 443

BLANCHE D WATSON
DB245/PG429

RT DEVELOPMENT, INC
DB 1457 PG 517
MB 59 PG 48

-BL-11 PINC STA. 97+58.84
-BY8-1 POT STA. 5+00.00
-L- STA. 98+94.08 (26.93 RT)=
-Y8- STA. 11+76.19 (30.89 LT)

-L- POT Sta.99+24.98=

-Y8- POT Sta. 12+03.12

-Y8- PT Sta. 11+63.89

-BL-12 PINC STA. 103+92.14
-L- STA. 105+27.38 (23.84 RT)

-Y9- PT Sta. 12+44.41

-Y9- PC Sta. 11+34.21

-BY9-1 POT 5+00.00

END CONSTRUCTION
-Y9- POT Sta.11+00.00
TIE TO EXIST. C&G LT. & RT.

BEGIN CONSTRUCTION
-Y8- PC Sta. 10+00.00

BEGIN RETAINING WALL
-L- STA. 110+43.50 (-WALL1-)
DO NOT DISTURB TREES

-BY8-2 POT 6+88.00

-L- POT Sta.109+96.95
-Y9- POT Sta. 10+00.00

-BL-13 PINC STA. 108+56.84
-BY9-2 POT STA. 7+69.01
-L- STA. 109+92.07 (26.22 RT)

DO NOT DISTURB FENCE
DO NOT DISTURB EARTH BERM

DETAIL H
STANDARD GRASSED SWALE
(Not to Scale)

Min. D = 1.5 Ft.
Max. d = 1 Ft.
B = 2 Ft.

Type of Liner = PSRM

★ NEW SIGNAL

SEE SHEET 21 FOR -L- PROFILE
SEE SHEET 26 FOR -Y8- PROFILE
SEE SHEET 26 FOR -Y9- PROFILE

06-MAR-2006 12:00
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RD212399 3/6/2006 u3613bs11 dwgardner RD-Oce34

7/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	12
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20820 ENGINEER MARC T. SHOWN

5-1-06

-L-	SR 1708
26400 / 40500	26300 / 40300
700 / 700	600 / 600
1300 / 1300	

-Y10- BAYSWATER ROAD

2004 ADT
2030 ADT

-L-
PI Sta 117+56.33
Δ = 7°13' 04.2" (LT)
D = 2° 30' 00.0"
L = 288.71'
T = 144.55'
R = 2,291.83'
SE = 0.03

NAD 83

CARTRETTE, L.L.C.
DB 839, PG. 804
MB 52, PG. 110
(LOTS 56-63)

-BL-14 PINC STA. 114+92.34
-Y10-1POT STA. 5+00.00
-L- STA. 116+27.37 (28.63 RT)=
-Y10- STA. 11+76.78 (36.91RT)

83A KAREN W. BRIGHT DB 1636 PG 406
83B ANTHONY S. HART, et ux DB 1740 PG 643
83C JESSE C. MOORE, et ux DB 1787 PG 160
83D JOANNE T. CHILDS DB 1799 PG 65
83E KERRY P. HOUSE DB 1709 PG 655
83F MILDRED GODWIN DB 1789 PG 797
83G ROBERT E. EARNHARDT DB 1807 PG 512
83H MATTHEW A. ALDRIDGE, et ux DB 1600 PG 814

REGGIE SPAIN CONSTRUCTION LLC
DB 1177, PG. 668
MB 55, PG. 183
TRACT 2
'SHEFFIELD-SECTION 3' SUBDIVISION UNDER CONST.
85A

END RETAINING WALL
-L- STA. 115+50.00 (-WALL1-)
SEE WALL PLANS FOR GRADING DETAILS

DO NOT DISTURB TREES

-L- PC Sta. 116+11.78

-L- PT Sta. 119+00.50

BROOKSTONE DRIVE (PUBLIC)
24' BST W/ 2' CURBS & GUTTERS

WINTERVILLE TOWNSHIP
GREENVILLE

ROCKY RUSSELL BUILDERS, INC.
DB 975, PG. 199
MB 52, PG. 110
(LOT 65)

REGINALD & BONITA SPAIN
DB896/PG507
PB46/PG143

JOYNER P. TRIPP
DB 1001 PG 544
PB 46 PG 143
70

WILLIAM F HOFFMAN
DB 1205 PG456
PB46/PG143
71

REGINALD & BONITA SPAIN
DB896/PG507
PB46/PG143
72

LINDA L GADDIS
DB 927 PG 97
PB 46 PG 143
73

OCTAVIO & OGLA FLORES
DB849/PG862
74

RT DEVELOPMENT, INC
DB 1457 PG 517
MB 59 PG 48
69

GREYSTON MOBILE HOME PARK LLC
DB 910 PG 674
MB 32 PG 260
75

GREYSTON MOBILE HOME PARK LLC
DB 910 PG 674
MB 32 PG 260
76

FIRETOWER CROSSING LLC
DB 1126 PG 669
MB 32 PG 260
77

FIRETOWER CROSSING LLC
DB 1126 PG 669
MB 32 PG 260
78

FIRETOWER CROSSING LLC
DB 1126 PG 669
MB 32 PG 260
79

FIRETOWER CROSSING LLC
DB 1126 PG 669
MB 32 PG 260
80

FIRETOWER CROSSING LLC
DB 1126 PG 669
MB 32 PG 260
81

FIRETOWER CROSSING LLC
DB 1126 PG 669
MB 32 PG 260
82

ROCKY RUSSELL BUILDERS, INC.
DB 975, PG. 199
MB 52, PG. 110
(LOT 54)

JUDY W. McLAWHORN
DB 1275, PG. 328
MB 52, PG. 110
(LOT 55)

KAREN W. BRIGHT
DB 1636 PG 406
85B

CONT. LEE SCOTT
DB 1789 PG 479
85C

N.C. FOREST SERVICE
NO DEED ON RECORD
PB23/PG69
84

MATCHLINE -L- STA. 112+50.00 (SEE SHEET 11)

MATCHLINE -L- STA. 124+50.00 (SEE SHEET 13)

END SIDEWALK & 2'-6" C&G
BEGIN VALLEY GUTTER
-Y10- STA. 11+21.45 LT

BEGIN CONSTRUCTION
-Y10- Sta. 9+32.00

-L- POT Sta. 115+90.37 =
-Y10- POT Sta. 12+05.73

END SIDEWALK
@ PROP. R/W
-L- STA. 118+40.95
END C & G
-L- STA. 118+43.98

BEGIN SIDEWALK
-Y10- STA. 11+21.45 RT

-Y10-2 POT 6+78.23

-Y10- POT Sta. 9+00.00

BEG. SIDEWALK
-L- STA. 119+01.36
BEG. C & G
-L- STA. 118+98.91
1'-6" CONC. C&G

SEE TYPICAL SHEET 2-A FOR LEFTOVER DETAIL

SEE DETAIL SHEET 2-I FOR ISLAND CUT FOR FOREST SERVICE EMERGENCY ACCESS

DO NOT DISTURB TOWER

NEW SIGNAL

SEE SHEET 22 FOR -L- PROFILE
SEE SHEET 26 FOR -Y10- PROFILE
SEE SHEET TCP-5 & TCP-6 FOR LOCATION OF WIDENING AND TEMP. DRAINAGE

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RD212399 4/20/2006 u3613bs12 dwgardner RD-Oce34

REVISIONS

7/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	13
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER — 5/01/06

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN — 5-1-06

-Y11-
PI Sta 10+46.00
Δ = 7° 34' 44.2" (RT)
D = 8° 15' 00.0"
L = 91.87'
T = 46.00'
R = 694.49'
SE = 0.033

-L-
PI Sta 127+01.53
Δ = 4° 21' 23.0" (RT)
D = 1° 30' 00.0"
L = 290.43'
T = 145.28'
R = 3,819.72'
SE = 0.025

PI Sta 139+77.26
Δ = 17° 53' 45.4" (LT)
D = 2° 30' 00.0"
L = 715.84'
T = 360.86'
R = 2,291.83'
SE = 0.03

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope
Min. D = 1.5 Ft.

-Y11- STA 10+00 TO 11+50 RT & LT
-Y12- STA 10+00 TO 11+00 RT & LT

DETAIL A
GRASS SWALE
(Not to Scale)
Natural Ground, 3:1, d, 3:1 or Flatter, Fill Slope, B
Min. D = 1.5 Ft.
Max. d = 1 Ft.
B = 2 Ft.
Type of Liner = PSRM

FROM -L-129+00 TO -L-135+50

NAD 83

ASHCROFT DRIVE
300/1600 | 200/900 | 100/700 | 25800/39800 | 25500/39500 | -L- | SR 1708 | 400/400 | 300/300 | 700/700 | -Y12- EVANS DRIVE | 2004 ADT / 2030 ADT

25500/39500 | 25100/39100 | -L- | SR 1708 | 800/800 | 400/400 | 1200/1200 | -Y13- WHITEBRIDGE DRIVE | 2004 ADT / 2030 ADT

-BL-15 PINC STA. 124+23.67
-BYII-1 POT STA. 5+00.00
-L- STA. 125+55.93 (17.99 RT)=
-YII- STA. 11+73.93 (44.03 LT)

REGGIE SPAIN CONSTRUCTION LLC
DB 1177, PG. 668
MB 55, PG. 183
TRACT 2
'SHEFFIELD-SECTION 3' SUBDIVISION UNDER CONST.
85A

ABBEYDALE CIRCLE (PUBLIC)
24' BST W/ 2' CURBS & GUTTERS

-L- POC Sta.126+03.67=
-YII- POT Sta. 11+99.49

-L- PC Sta. 125+56.25

85C LEORY LEE SCOTT DB 1789 PG 479
85D RANDOLPH JEFFRIES DB 1584 PG 191
EDWARD GILBERT DB 1591 PG 286
85E
BOBBY DIXON DB 1578 PG 133
85F

25' TAPER
+56.25 -L- 50.00 (LT)
+00.00 -L- 62.00 (LT)
+29.74 29.83'

MATCHLINE -L- STA. 124+50.00 (SEE SHEET 12)

+80.49 29.97'
+54.03 29.67'
+25.00 -L- 50.00 (RT)
+40.00 -L- 50.00 (RT)
+48.00 -L- @ PROP. R/W
+24.00 -Y11- 30.00 (LT)
+91.87 -Y11- 30.00 (LT)
+25.00 -Y11- 30.00 (LT)
+00.00 -Y11- 30.00 (LT) @ EXIST. R/W
END SIDEWALK AND C&G -Y11- STA. 11+27.07
SPECIAL CUT DITCH SEE DETAIL 'C'
100' TAPER LT. & RT.
10.00' TYP.
34' F-F
2'-6" CONC. C&G
+56.00 -L- 50.00 (RT)
+42.00 -L- @ PROP. R/W
+37.00 -Y11- 30.00 (RT)
+91.87 -Y11- 30.00 (RT)
+25.00 -Y11- 36.00 (RT)
SPECIAL CUT DITCH SEE DETAIL 'C'
87 RALPH C. TUCKER DBW43/PG330
+00.00 -Y11- 30.00 (RT) @ EXIST. R/W
-BYII-2 POT 6+80.73
WILTON E. & LENA J. EVANS DB44/PG333 PB23/PG69
86
-YII- PC Sta. 10+00.00
BEGIN CONSTRUCTION -YII- PC Sta. 10+27.00

-YII- PT Sta. 10+91.87
139.95'
N62°04'31"E
364.85'
WINTERVILLE TOWNSHIP
GREENVILLE

-YIA- POT Sta. 11+50.00
-L- POT Sta.130+75.00=
-Y12A- POT Sta. 10+00.00

R=275.00' ARC=187.88' LC=184.28' LC=N8°27'39"W
R=225.00' ARC=153.72' LC=150.75' LC=N8°27'39"W
REGGIE SPAIN CONSTRUCTION LLC DB 1177, PG. 668 MB 55, PG. 183
85A
ASHCROFT DRIVE

JUDY WORTHINGTON McLAWHORN GOLD WORTHINGTON WALKER
85 WILL BK. E-89-353 MB 55, PG. 183

-L- PT Sta. 128+46.68

R=284.72' ARC=62.50' LC=62.37' LC=N2°44'39"W
R=298.72' ARC=65.57' LC=65.44' LC=N2°44'39"W
2'-6" CONC. C&G

CLASS B RIPRAP W/FILTER FABRIC EST. 2 TONS EST. 7 SY FABRIC
+46.68 -L- 60.00 (LT)
+46.68 -L- 50.00 (LT)
+00.00 -L- 56.39 (LT)
+90.00 -L- 96.00 (LT) 50.00 (LT)
+46.68 -L- 50.00 (RT)
+46.68 -L- 57.00 (RT) @ PL
+46.68 -L- 50.00 (RT)
88 HARRY H. MCLEAN DBU52/PG574 GREENVILLE
+55.00 -L- 65.00 (RT) 50.00 (RT)
+33.00 -L- 67.00 (RT)
+26.00 -Y12- 30.00 (LT)
SPECIAL CUT DITCH SEE DETAIL 'C' +50.00 -Y12- 42.00 (LT)
89 LINDA LOU EVANS DBF41/PG283
110.54' R/W-COR
+00.00 -Y12- 30.00 (LT) @ EXIST. R/W
WILTON E. & LENA J. EVANS DB44/PG333 PB23/PG69
86
-BYI2-2 POT 6+67.75
BEGIN CONSTRUCTION -Y12- POT Sta. 10+10.00
-Y12- POT Sta. 10+00.00

R=25.00' ARC=39.28' LC=35.36' LC=N16°58'29"E
N28°02'01"W 35.18'
PDE 90' INC. TYPICAL
10' O.S.
30+00
N 61° 58' 06.6" E
SR 1708 FIRETOWER RD 36' BST
NOTE: 15"CSP IS PIPED THROUGH STRUCTURE WITH 24" DRIVE PIPE
REMOVE 15"CONC. SIDEWALK
REMOVE 4' PLASTIC
REMOVE 24"
TBJB W/MH COLLAR
TBJB W/MH
JB W/ MH CAT-1
18" BCCS
15" CONC
15" CB
18" CB
24" CB
8" PVC
GRAU
JB W/ MH259A
RETAIN & EXTEND
1'-6" CONC. C&G
10'X10' SIGHT TRIANGLE
100' PROP. R/W
80' PROP. R/W
30' PROP. R/W
135+00
125+00
+46.03 -L- 54.90'
+42.00 -L- 54.90'
+06.43 -L- 54.90'
+15.00 -L- 50.00 (LT)
+60.00 -L- 50.00 (RT)
+03.00 -L- 75.00 (RT) 50.00 (RT)
+15.00 -Y12- 30.00 (RT)
+50.00 -L- 50.00 (RT) 50.00 (RT)
+27.50 -L- @ PUE
+23.00 -L- 75.00 (RT) 50.00 (RT)
+50.00 -L- 87.00 (LT)
+50.00 -L- 87.00 (LT)
+61.00 -L- 50.00 (RT)
+55.00 -L- 72.00 (RT)
SADDLE BRANCH CONNECTOR
+64.00 -L- 95.00 (RT) 75.00 (RT)
+94.00 -L- 102.00 (RT) 84.00 (RT)
+19.00 -L- 91.00 (RT)
BEG. SIDEWALK AND C&G -Y12- STA. 11+10.33 LT. AND RT.
SPECIAL CUT DITCH SEE DETAIL 'C'
100' TAPER LT. & RT.
ISF BUS
WILTON E. & LENA J. EVANS DB44/PG333 PB23/PG69
86

-L- STA. 134+85.35 (14.37 RT)
CLASS B RIPRAP W/FILTER FABRIC EST. 7 TONS EST. 21 SY FABRIC
2 @ 11'5" X 7'1" STRUCTURAL PLATE ALUMINUM
+50.00 -L- 87.00 (LT)
+05.00 -L- 108.00 (LT) 71.00 (LT) 50.00 (LT)
+16.40 -L- 50.00 (LT)
+60.50 -L- 81.00 (LT) 64.00 (LT) 50.00 (LT)
+01.50 -L- 81.00 (LT) 63.00 (LT) 50.00 (LT)
DO NOT DISTURB PARKING LOT
PSH 4.5' X 4.5' SEE DETAIL @ 8 CY EXCAVATION @ 26 SY FF @ 10 TONS
W. G. POLLARD, JR. DB. 458, PG. 613 DB. 1009, PG. 252 MB 53, PG. 48
91 CONC. WALK
1S BK BUS
RETAIN & EXTEND
+76.50 -L- @ EXIST. R/W
+75.00 -L- 60.00 (LT)
18" C&G
+64.00 -Y13- @ EXIST. R/W
+85.00 -Y13- 39.00 (RT) @ EXIST. R/W
END SIDEWALK -Y13- STA. 11+67.95 LT. AND R.T.
SEE TYPICAL SHEET 2-A FOR LEFTOVER DETAIL
+85.00 -Y13- 35.00 (LT) @ EXIST. R/W
BEGIN CONSTRUCTION -Y13- Sta. 10+85.00
2SBKAPT
FLANDERS EQUITY CORP. DB446/PG325 PB42/PG101
90
-Y13- POT Sta. 10+00.00
-BYI3-2 POT 7+05.75
-YI3- STA. 10+06.60 (30.59 RT)

-BL-18 PINC STA. 136+40.72
-BYI3-1 POT STA. 5+00.00
-L- STA. 137+72.94 (22.27 RT)=
-YI3- STA. 12+12.31 (34.62 RT)
-L- POC Sta.137+39.39=
-YI3- POT Sta. 12+33.13
-L- PC Sta. 136+16.40
S60°36'12"W 18.16'
EIP
N 29° 05' 44" W
97.13'
MATCHLINE -L- STA. 138+50.00 (SEE SHEET 14)

-L- 26300/40300 | 25800/39800 | SR 1708 | 600/600 | 100/100 | 700/700 | -Y11- HILLTOP DRIVE | 2004 ADT / 2030 ADT

★ NEW SIGNAL

PUE PUE
PERMANENT UTILITY EASEMENT

SEE SHEET 22 FOR -L- PROFILE
SEE SHEET 26 FOR -Y11- PROFILE
SEE SHEET 26 FOR -Y12- PROFILE
SEE SHEET 27 FOR -Y13- PROFILE
SEE SHEET TCP-5 & TCP-6 FOR LOCATION OF WIDENING AND TEMP. DRAINAGE

20-APR-2006 10:33
c:\projects\u3613bs13\plan\u3613bs13_sh13.dgn
$$$$USERNAME$$$$

RD212399 4/20/2006 u3613bs13 dwgardner RD-Oce34

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	14
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER — James A. Speer — 5/01/06

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN — 5-1-06

7/2/99

BELL MEADE APARTMENTS

900/900		
300/300	600/600	
25100/39100		27400/41800
-L-		SR 1708
1700/5000	3700/7400	
5400/12400		
-Y14- COREY ROAD		2004 ADT 2030 ADT

-L-

PI Sta 139+77.26
Δ = 17° 53' 45.4" (LT)
D = 2° 30' 00.0"
L = 715.84'
T = 360.86'
R = 2,291.83'
SE = 0.03

PI Sta 149+75.62
Δ = 14° 24' 15.9" (LT)
D = 3° 45' 00.0"
L = 384.12'
T = 193.08'
R = 1,527.89'
SE = 0.04

-Y16-

PI Sta 11+81.08
Δ = 55° 57' 13.4" (RT)
D = 85° 00' 00.0"
L = 65.83'
T = 35.81'
R = 67.41'
SE = 0.04

NAD 83

MATCHLINE -L- STA. 138+50.00 (SEE SHEET 13)

MATCHLINE -Y14- STA. 9+75.00 (SEE SHEET 17)

END CONSTRUCTION -Y15- POT Sta.10+85.00 -BY15-1POT 5+00.00

-L- POT Sta.145+96.38= -Y15- POT Sta.10+00.00

-L- PT Sta.143+32.24

-Y15- POT Sta.11+81.15 END SIDEWALK AND TIE TO EXIST. C&G -Y15- STA. 10+84.53 LT. AND RT.

-L- PC Sta.147+82.55

-L- POC Sta.149+73.58= -Y16- POT Sta.13+01.00

-L- STA.151+70.00 END PROJECT U-3613B END SIDEWALK AND TIE TO EXIST. C&G LT. & RT.

-L- PT Sta.151+66.66

WILLARD G. POLLARD, JR. DBT48/PG692 — 97

ROY F. COX DBF480/PG459 NO DEED ON RECORD — 98

EDGAR WALL DB 1282, PG. 864 MB 53, PG. 48 — 92

WILLARD G. POLLARD, JR. DBB52/PGI74 — 96

ALLAN C. BROWN DB530/PG485 PB43/PG99 PB43/PG99A — 99

99Z

GEORGE & SYLVIA HOUGHENS DB890/PGI98 PB43/PG99 PB43/PG99A — 100

JUDSON BLOUNT DB683/PG684 PB43/PG99 PB43/PG99A — 103

JOHN SHOCKEY DB901/PG600 PB42/PG88 — 104

ARELLE STUART DB584/PG1125 PB42/PG88 — 105

HELEN R. GRAFT & JENNIFER & DAVID HOWELL DB572/PG823 PB43/PGI72

HELEN R. GRAFT & JENNIFER & DAVID HOWELL DBB67/PGII2 PB43/PGI72

HUGH LINDSLEY DB662/PG269 PB42/PG88

COVENANT UNITED METHODIST CHURCH OF GREENVILLE DB421/PG100 TRACT #3 — 93

COVENANT UNITED METHODIST CHURCH OF GREENVILLE DB421/PG100 TRACT #2 — 94

COVENANT UNITED METHODIST CHURCH OF GREENVILLE DB421/PG100 TRACT #1 — 95

COVENANT UNITED METHODIST CHURCH DB 948 PG 615 — 102

CARMON LORENZO, ET UX DB 1305 PG 01 — 101

LILLIE B. WILLIAMS DBI67/PG276

WILLIAM & JUANITA CARMON DBI67/PG276

WILLIAM & JUANITA CARMON DB460/PG69

JR & LF FLEMING DBF48/PG459

GREENVILLE WINTERVILLE TOWNSHIP

OLD FIRETOWER RD SR 1708

COREY ROAD SR 1708

DO NOT DISTURB TREES

DO NOT DISTURB SIGN

RETAINING WALL WITH HANDRAIL -L- STA. 143+00.00 TO -L- STA. 144+85.00

-BL-U3613-5 PINC STA.143+89.66
-BY14- POT STA. 5+00.00
-BY15- POT STA. 8+16.18
-L- STA.145+16.66 (43.29 RT)=
-Y14- STA. 13+46.48 (55.05 LT)

END SIDEWALK AND C&G -Y14- STA. 12+63.06 LT. AND RT.

-BL-19 PINC STA. 147+57.31
-BY16-1POT STA. 5+00.00
-L- STA. 148+81.82 (37.53 RT)=
-Y16- STA. 12+81.89 (98.32 LT)

-Y14- PINC Sta. 10+00.00

-Y14- POT Sta.14+05.18

-Y16- PT Sta. 12+11.10

-Y16- PC Sta. 11+45.27

BEGIN CONSTRUCTION -Y16- Sta.11+80.00

-Y16- POT Sta. 10+00.00

-BY16-2POT 8+28.98

END SIDEWALK AND C&G -Y16- STA. 12+04.87 LT. AND RT.

TRANSITION TO EXISTING III

2'-6" CONC. C&G

1'-6" CONC. C&G

265' RT. TURN TAPER

4' CONCRETE PAVED DITCH STD. 850.01

CLASS B RIPRAP W/FILTER FABRIC EST. 3 TONS EST. 10 SY FABRIC

CLASS B RIPRAP W/FILTER FABRIC EST. 5 TONS EST. 14 SY FABRIC

SPECIAL CUT DITCH GRASS LINED SEE DETAIL C

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground — 3H or Flatter — Front Ditch Slope — D — Min. D = 1.5 Ft.

STA. 9+50 TO 12+50 -Y14- LT.
STA. 6+30 TO 12+50 -Y14- RT.

RETAIN EXIST. R/W

RETAIN +00.00 -Y14- 50.00 (LT)

RETAIN +00.00 -Y14- 50.00 (RT)

REMOVE

PLUG

100' PROP. R/W

60' INC.

30' INC. TYP.

Rev. REVISED SIGNAL

SEE SHEET 23 FOR -L- PROFILE
SEE SHEET 27 FOR -Y14- PROFILE
SEE SHEET 27 FOR -Y15- PROFILE
SEE SHEET 27 FOR -Y16- PROFILE

25-APR-2006 lt4l
r:\proj\U3613bs14.psh
$$$$USERNAME$$$$

RD212399 4/25/2006 u3613bs14 dwgardner RD-Oce34

7/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	15
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

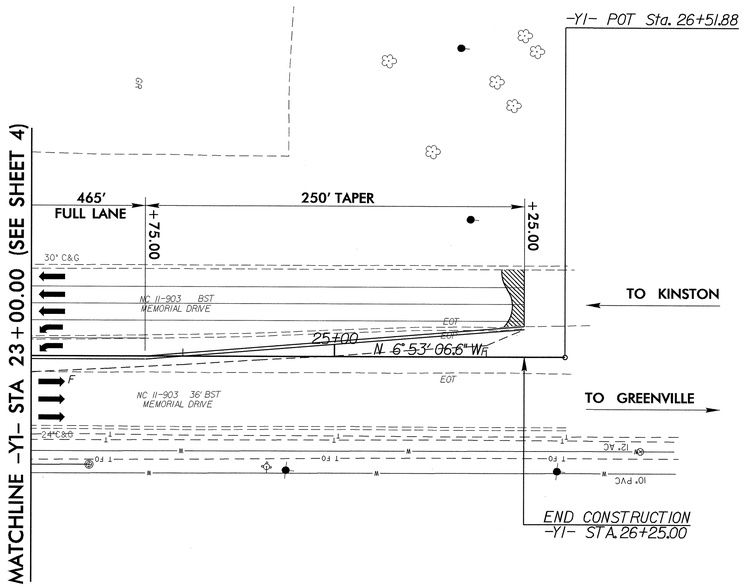
5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

NAD 83



SEE SHEET 24 FOR -Y1- PROFILE

06-MAR-2006 12:00
c:\pw_work\dwgardner\d0013613\sh
$$$$USERNAME$$$$

RD212399 3/6/2006 u3613bs15 dwgardner RD-Oce34

7/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	16
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

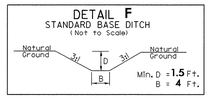
5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

NAD 83

DETAIL F
STANDARD BASE DITCH
(Not to Scale)



STA. 53+81 -L- RT.

MARY VIRGINA L. JONES
DB G45 PG 746
22
CULTIVATION

STEFANO P. MARCUARD et ux
DB 382 PG 640

MITCHELL T. HAMLETT, et ux
DB 1078 PG 444

FREDERICK K. BISHTON, et ux
DB 67 PG 336
DB 149 PG 524

LYNDA S. CERUTTI
DB 1033 PG 783

CHISTOPHER WOELKERS
DB 1147 PG 690

LEONARD L. LITTLE, et ux
DB 180 PG 786

CHARLES L. COREY, et ux
DB 330 PG 752

JOSEF JACOBSON, et ux
DB 1179 PG 88

RICHARD L. &
MAUREEN M. HARRINGTON
DB778/PG482
24

MARY VIRGINA L. JONES
DB G45 PG 746
22
CULTIVATION

@ PL
927.00 (RT)

+68.00 -L-
924.00 (RT)

+87.00 -L-
601.00 (RT)

TDE

4' BASE DITCH
GRASS LINED
SEE DETAIL F

36" SPLIT RAIL

48" WW

MATCHLINE (SEE SHEET 7)

06-MAR-2006 12:00
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RD212399 3/6/2006 u3613bs16 dwgardner RD-Oce34

7/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	17
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

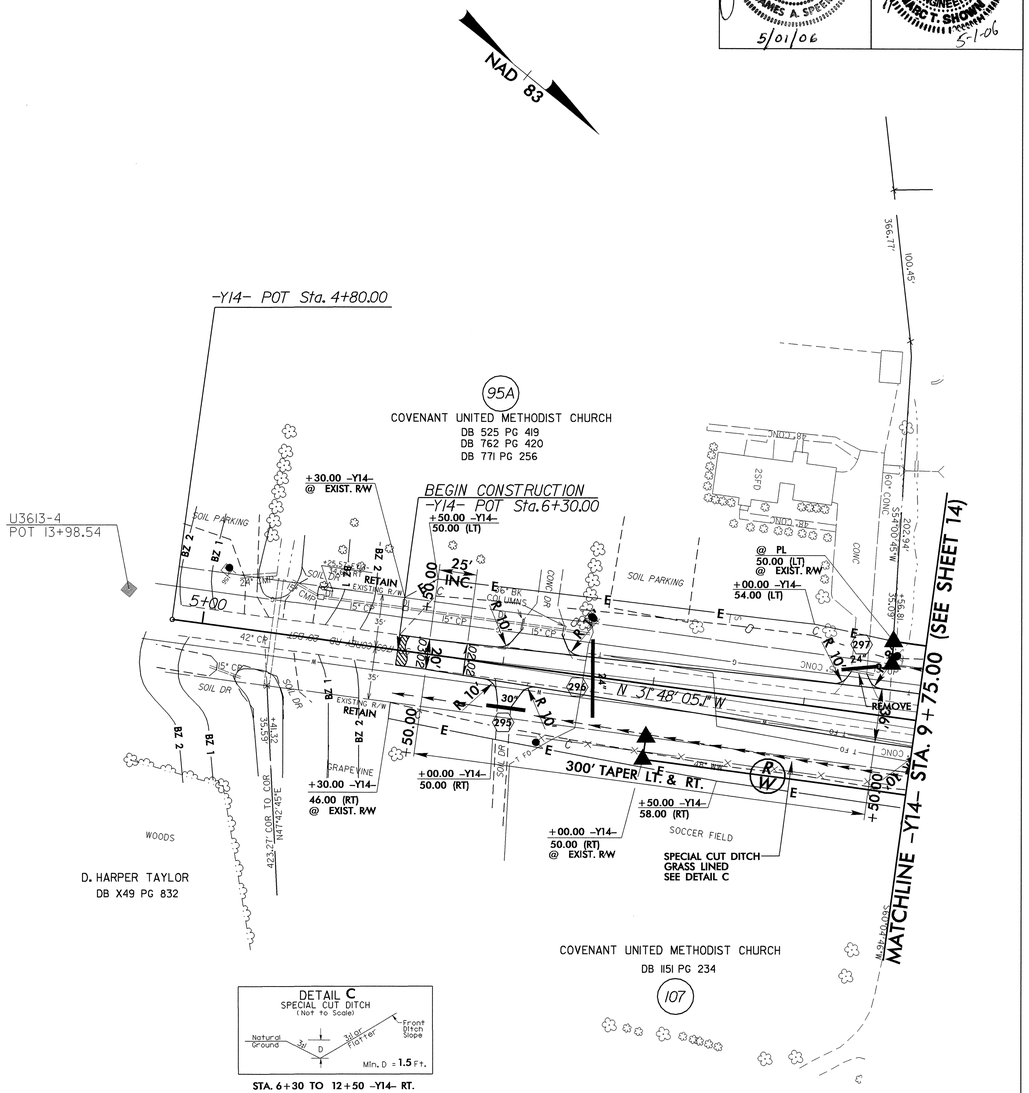
NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06



DETAIL C
SPECIAL CUT DITCH
(Not to Scale)

STA. 6+30 TO 12+50 -Y14- RT.

SEE SHEET 27 FOR -Y14- PROFILE

20-APR-2006 10:25
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$$$$USERNAME$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	18

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. OSTER

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

-L- SR 1708 (FIRETOWER ROAD)

-L-

BEGIN RESURFACING
-L- STA.12+00.00

BEGIN GRADE
-L- STA.12+50.00
ELEV.69.52

PI = 13+30.00
EL = 69.76'
VC = 100'
K = 531 (DS > 80 mph)

END GRADE
-L- STA.16+20.76
ELEV.71.18'

BEGIN GRADE
-L- STA.17+25.00
ELEV.71.27

PI = 18+00.00
EL = 71.04'
VC = 150'
K = 96 (DS > 50 mph)

PI = 20+50.00
EL = 74.18'
VC = 150'
K = 159 (DS > 60 mph)

74.50

(+)0.3000%
(+)0.4485%
(+)1.0000%
0.01%
0.01%
(-)0.3067%
(+)1.2560%
(+)1.2560%
(+)0.3151%

END RT DITCH GRADE
-L- STA.14+00 EL = 68.45

BEGIN RT DITCH GRADE
-L- STA.12+00 EL = 66.45

SEE SHEET 4 FOR PLAN VIEW

-L-

-L- SR 1708 (FIRETOWER ROAD)

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 630 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 66.53 FT
BASE DISCHARGE	= 730 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 67.27 FT
OVERTOPPING DISCHARGE	= 810 CFS
OVERTOPPING FREQUENCY	= 100+ YRS
OVERTOPPING ELEVATION	= 67.66 FT

BM-2: ELEVATION = 67.93'
N 658,046 E 2,475,800
-BL- STA. 29+43.56 - 241.03' RIGHT=
-L- STA. 31+07.54 - 228.46' RIGHT
REBAR & CAP

PI = 25+80.00
EL = 75.85'
VC = 540'
K = 413 (DS > 80 mph)

74.50

(+)0.3151%
(-)0.9909%
(-)0.5455%
(-)1.0370%
(-)1.2000%
(-)3.3333%
(-)3.3333%
(+)1.5455%

-L- STA.33+52
16'0" X 8'0" RCBC

68.10

60.28

PI =29+35.00
EL = 67.70'

PI =30+70.00
EL = 66.30'

PI =32+20.00
EL = 64.50'

BEGIN LT DITCH GRADE
-L- STA.27+70.00
EL = 68.60'

END LT DITCH GRADE
-L- STA.32+50.00
EL = 63.50'

BEGIN LT DITCH GRADE
-L- STA.33+35.00
EL = 58.50'

DITCH LEGEND

LEFT DITCH

RIGHT DITCH

SEE SHEETS 5 FOR PLAN VIEW

06-MAR-2006 11:59
$$$$USERNAME$$$$
u3613bs18.pfl

RD212399 3/6/2006 u3613bs18 dwgardner RD-Oce34

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	19

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPENCER — James Spencer — 5/01/06

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN — 5-1-06

–L– SR 1708 (FIRETOWER ROAD)

–L–

PI = 34+60.00
EL = 67.13'
VC = 490'
K = 317 (DS > 80 mph)

PI = 44+79.00
EL = 72.79'
VC = 100'
K = 392 (DS > 80 mph)

68.10 | 60.28 | 73.60 | 69.08

(–)0.9909% | (+)0.5554% | (+) 1.5455% | (+) 0.3000% | (+) 0.3286% | (+) 0.8600% | (+)0.5554% | (+)0.3002%

PI = 35+00.00
EL = 61.05'

PI = 36+00.00
EL = 61.35'

END LT. DITCH GRADE
–L– STA. 39+50.00
EL = 62.50'

BEGIN DLT. DITCH GRADE
–L– STA. 40+00.00
EL = 62.63'

SEE SHEETS 6 FOR PLAN VIEW

–L– SR 1708 (FIRETOWER ROAD)

BM–3: ELEVATION = 74.96'
N 658,820 E 2,477,726
–BL– STA. 49+03.20 – 400.47' LEFT=
–L– STA. 50+83.30 – 407.86' LEFT
REBAR & CAP

END GRADE
–L– STA. 49+82.00
ELEV. 74.30'

BEGIN GRADE
–L– STA. 49+92.00
ELEV. 74.30'

PI = 57+40.00
EL = 76.55'
VC = 400'
K = 666 (DS > 80 mph)

73.60 | 69.08 | 76.92

(+)0.3002% | (+)0.3008% | (+)0.3008% | (–)0.3000%

END LT. DITCH GRADE
–L– STA. 46+15.00
EL = 69.94'

DITCH LEGEND
LEFT DITCH
RIGHT DITCH

SEE SHEETS 7 FOR PLAN VIEW

01-MAY-2006 16:00
$$$$$USERNAME$$$$ $$$$u3613bs19.pfl

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	20

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

James A. Speer

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

-L- SR 1708 (FIRETOWER ROAD)

-L-

BM-4: ELEVATION = 72.59'
N 659,532 E 2,479,308
-BL- STA.69+111.89 - 164.89' LEFT =
-L- STA.70+21.37 - 184.56' LEFT
BOXCUT IN BACK OF CURB

PI = 65+00.00
EL = 74.27'
VC = 770'
K = 1053 (DS > 80 mph)

PI = 70+70.00
EL = 76.73'
VC = 370'
K = 321 (DS > 75 mph)

75.59

(-)0.3000%

(+)0.4316%

(+)0.4316%

(-)0.7222%

76.43

80 70 60 50 40 30

59 60 61 62 63 64 65 66 67 68 69 70 71 72 73

SEE SHEETS 8 FOR PLAN VIEW

-L-

-L- SR 1708 (FIRETOWER ROAD)

PI = 79+70.00
EL = 70.23'
VC = 420'
K = 407 (DS > 80 mph)

PI = 83+40.00
EL = 71.38'
VC = 290'
K = 279 (DS > 75 mph)

76.43

(-)0.7222%

(+)0.3108%

(+)0.3108%

(-)0.7280%

69.96

80 70 60 50 40 30

72 73 74 75 76 77 78 79 80 81 82 83 84 85 86

SEE SHEET 9 FOR PLAN VIEW

06-MAR-2006 11:59
$$$$USERNAME$$$$
u3613bs20.pf1

RD212399 3/6/2006 u3613bs20 dwgardner RD-Oce34

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	21

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SHEER

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

-L- SR 1708 (FIRETOWER RD.)

-L-

PI = 85+90.00
EL = 69.56'
VC = 210'
K = 189 (DS >70 mph)

69.96

(-)0.72380%

(+)0.38067%

(+)0.38067%

(-)0.84144%

PI = 89+50.00
EL = 70.93'
VC = 450'
K = 368 (DS > 75 mph)

BM-5: ELEVATION = 70.25'
N 659,659 E 2,481,240
-BL- 87+51.77 - 81.46' RIGHT =
-L- STA. 88+87.04 - 114.73' RIGHT
BOXCUT IN BACK OF CURB

BEGIN LT DITCH GRADE
-L- STA. 92+50.00
EL = 63.50'

(-)1.00000%

63.36

57.50

SEE SHEET 10 FOR PLAN VIEW

-L- SR 1708 (FIRETOWER RD.)

-L-

PI = 104+00.00
EL = 58.73'
VC = 970'
K = 673 (DS > 80 mph)

-L- STA. 103+21
EXISTING RCBC
3 @ 8' X 7'

63.36

57.50

(-)1.00000%

(-)0.84144%

(+)0.60000%

BM-6: ELEVATION = 59.08'
N 659,994 E 2,482,252
-BL- 97+91.83 - 188.25' RIGHT =
-L- STA. 99+28.24 - 215.31' RIGHT
REBAR & CAP

END LT DITCH GRADE
-L- STA. 105+00.00
EL = 51.00'

BEGIN RT DITCH GRADE
-L- STA. 105+50.00
EL = 54.05'

BEGIN LT DITCH GRADE
-L- STA. 106+00.00
EL = 54.50'

(+) 1.00000%

(+) 0.30293%

END RT DITCH GRADE
-L- STA. 107+25.00
EL = 54.58'

END LT DITCH GRADE
-L- STA. 108+20.00
EL = 56.10'

PI = 111+00.00
EL = 62.93'
VC = 350'
K = 2298 (DS > 80 mph)

(+)0.60000%

(+)0.44177%

63.50

DITCH LEGEND

LEFT DITCH

RIGHT DITCH

SEE SHEET 11 FOR PLAN VIEW

06-MAR-2006 11:59
$$$$USERNAME$$$$
u3613bs21.pf1

RD212399 3/6/2006 u3613bs21 dwgardner RD-Oce34

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	22

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SAGER

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

-L- SR 1708 (FIRETOWER RD.)

-L-

PI = 117+50.00
EL = 65.84'
VC = 300'
K = 384 (DS = 80 mph)

PI = 121+00.00
EL = 64.67'
VC = 350'
K = 335 (DS >80 mph)

63.60

67.16

(+)0.4477%

(-)0.3343%

(-)0.3343%

(+)0.7100%

80 70 60 50 40 30

113 114 115 116 117 118 119 120 121 122 123 124

SEE SHEET 12 FOR PLAN VIEW

-L- SR 1708 (FIRETOWER RD.)

-L-

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 960	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 60.98	FT
BASE DISCHARGE	= 1120	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 62.00	FT
OVERTOPPING DISCHARGE	= 1095	CFS
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING ELEVATION	= 61.90	FT

PI = 127+00.00
EL = 68.93'
VC = 370'
K = 215 (DS > 65 mph)

PI = 135+00.00
EL = 60.83'
VC = 450'
K = 205 (DS > 70 mph)

BM-8: ELEVATION = 64.09'
N 661,633 E 2,485,682
-BL- STA. 121+24.20 - 344.37' RIGHT =
-L- STA. 137+05.74 - 362.85' RIGHT
X-CROSS IN TOP FLANGE BOLT

67.16

64.96

(+)0.7100%

(-)1.0125%

(-)0.3000%

(-)0.3034%

(-)1.0125%

(-)0.2313%

(+)1.1808%

-L- STA.135+24
2 @ 11.5'X 7.7'
STRUCTURAL PLATE
ALUMINUM PIPE ARCHES

BEGIN LT DITCH GRADE
-L- STA.129+00.00
EL = 61.55'

END LT DITCH GRADE
-L- STA.130+20.00
EL = 61.19'

BEGIN LT DITCH GRADE
-L- STA.131+15.00
EL = 58.74'

END LT DITCH GRADE
-L- STA.132+60.00
EL = 58.30'

BEGIN LT DITCH GRADE
-L- STA.133+40.00
EL = 56.52'

END LT DITCH GRADE
-L- STA.135+00.00
EL = 56.16'

BM-7: ELEVATION = 68.09'
N 661,118 E 2,484,701
-BL- 124+78.20 - 325.23' RIGHT =
-L- STA.125+88.30 - 346.45' RIGHT
X-CROSS IN TOP FLANGE BOLT

DITCH LEGEND

LEFT DITCH -·-·-·-·-

RIGHT DITCH ----------

80 70 60 50 40 30

125 126 127 128 129 130 131 132 133 134 135 136 137 138

SEE SHEET 13 FOR PLAN VIEW

06-MAR-2006 11:59
$$$$USERNAME$$$$
u3613bs22.pfl

RD212399 3/6/2006 u3613bs22 dwgardner RD-Oce34

5/28/99

–L– SR 1708 (FIRETOWER RD.)

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	23

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. STEEL

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

3-1-06

–L–

PI = 147+10.00
EL = 68.01'
VC = 760'
K = 1249 (DS > 80 mph)

PI = 142+30.00
EL = 69.45'
VC = 200'
K = 135 (DS > 55 mph)

64.96

(+)1.1808%

(–)0.3000%

(–)0.3000%

(+)0.3087%

END GRADE
–L– STA 151+70.00
ELEV. 69.43'

80 70 60 50 40 30

139 140 141 142 143 144 145 146 147 148 149 150 151 152

SEE SHEET 14 FOR PLAN VIEW

06-MAR-2006 11:59
$$$$USERNAME$$$$
$$$$FILENAME$$$$ u3613b.pf1

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	24

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

James A. Speer 5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

Marc T. Shown 5.1.06

–Y– LINES

–Y– SR 1148

PI = 10+40.00
EL = 70.34'
VC = 30'
K = 22(DS > 30 mph)

BEGIN GRADE
-Y- STA.10+18.01
ELEV.70.77'

END GRADE
-Y- STA.11+00.00
ELEV.69.13'

0.03 (-)1.9554% (-)0.3250% (+)0.6000%

PI = 10+80.00
EL = 69.01'
VC = 40'
K = 10 (DS = 15 mph)

SEE SHEET 4 FOR –Y– PLAN VIEW

–Y1– NC 11-903

SEE SHEET 4 AND 15 FOR –Y1– PLAN VIEWS

–Y1A– WHITLEY DRIVE

BEGIN GRADE
-Y1A- STA.10+34.00
EL = 69.57'

PI = 10+85.00
EL = 68.19'
VC = 30'
K = 12 (DS > 15 mph)

0.025 (-)2.7059% (-)0.1333%

END GRADE
-Y1A- STA.11+00.00
EL=68.17'

SEE SHEET 5 FOR PLAN VIEW

–Y2– VICTORY LANE

BEGIN GRADE
-Y2- STA.10+34.03
ELEV.68.12'

END GRADE
-Y2- STA.11+67.37
ELEV.68.85'

0.025 (-)0.5839% (+)0.1267%

42"

PI = 11+20.00
EL = 68.79'
VC = 40'
K = 78 (DS > 40 mph)

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.66

DRAINAGE AREA	= 14.6	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 65	CFS
DESIGN HW ELEVATION	= 66.61	FT
100 YEAR DISCHARGE	= 70	CFS
100 YEAR HW ELEVATION	= 66.83	FT
OVERTOPPING FREQUENCY	= 200	YRS
OVERTOPPING DISCHARGE	= 105	CFS
OVERTOPPING ELEVATION	= 68.84	FT

SEE SHEET 6 FOR PLAN VIEW

–Y3– CSX RAILROAD

SEE SHEET 7 FOR PLAN VIEW

01-MAY-2006 16:00
$$$$USERNAME$$$$ u3613bs24.pfl

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	25

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. OGDEN

5/01/06

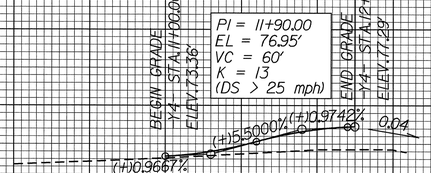
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

–Y– LINES

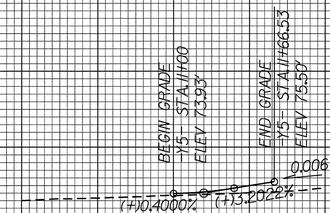
–Y4– BAYWOOD DRIVE



PI = 11+30.00
EL = 73.65'
VC = 60'
K = 13 (DS > 15 mph)

SEE SHEET 7 FOR PLAN VIEW

–Y5– BAYWOOD DRIVE

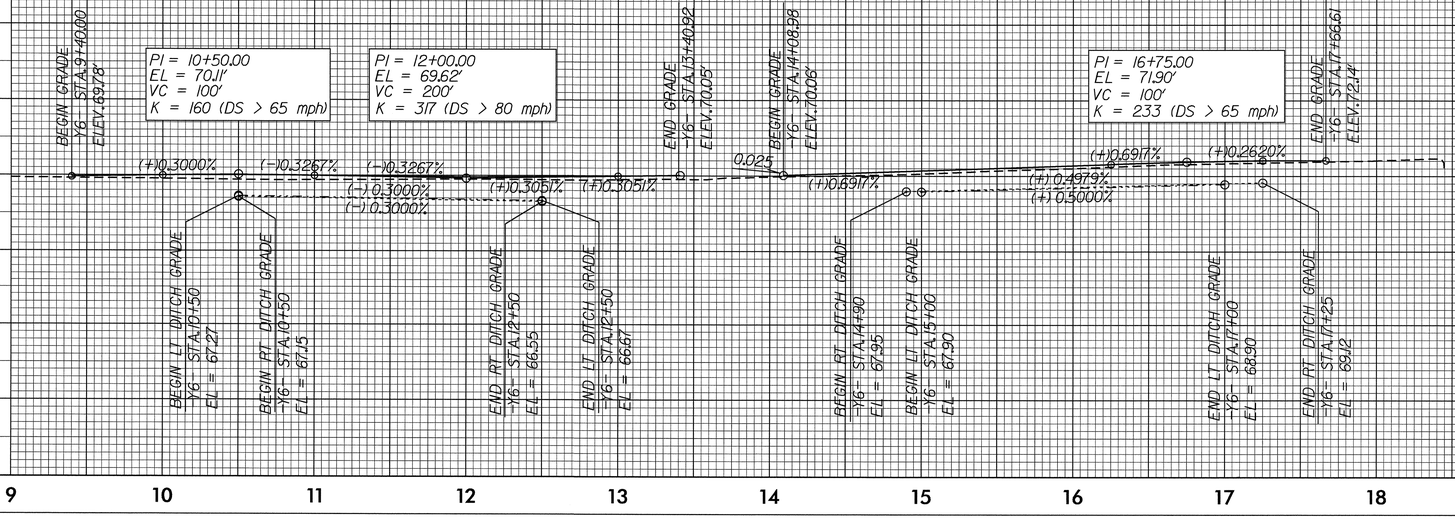


PI = 11+20.00
EL = 74.01'
VC = 40'
K = 14 (DS > 15 mph)

SEE SHEET 8 FOR PLAN VIEW

–Y– LINES

–Y6– SR 1700 EVANS ST/OLD TAR ROAD



DITCH LEGEND	
LEFT DITCH	–·–·–·–
RIGHT DITCH	----------

SEE SHEET 9 FOR PLAN VIEW

06-MAR-2006 11:59
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	26

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPICER

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

–Y– LINES

–Y7– WINDING BRANCHES ROAD

BEGIN GRADE –Y7– STA.10+75.00 ELEV.69.14'

END GRADE –Y7– STA.11+66.89 ELEV.71.38'

PI = 11+40.00
EL = 70.98'
VC = 30'
K = 9
(DS > 20 mph)

(+)1.4875% 0.035 (+)4.8000% (−)0.3200%

PI = 11+00.00
EL = 69.06'
VC = 50'
K = 10 (DS = 15 mph)

SEE SHEET 10 FOR PLAN VIEW

–Y8– PINE BRANCHES ROAD

BEGIN RESURFACING –Y8– STA.10+00.00

BEGIN GRADE –Y8– STA.10+50.00 ELEV.59.05'

END GRADE –Y8– STA.11+69.12 ELEV.61.88'

0.025 (+)1.3500% (+)2.5827%

PI = 10+70.00
EL = 59.32'
VC = 40'
K = 32 (DS > 25 mph)

SEE SHEET 11 FOR PLAN VIEW

–Y9– ALBION DRIVE

BEGIN GRADE –Y9– STA.10+34.01 ELEV.61.46'

END GRADE –Y9– STA.11+00.00 ELEV.60.57'

0.025 (−)1.8047% (−)0.3000%

PI = 10+80.00
EL = 60.63'
K = 27
VC = 40' (DS > 25 mph)

SEE SHEET 11 FOR PLAN VIEW

–Y– LINES

–Y10– BAYSWATER ROAD

BEGIN GRADE –Y10– STA.10+78.00 ELEV.62.01'

END GRADE –Y10– STA.11+77.73 ELEV.65.21'

PI = 11+60.00
EL = 65.33'
VC = 20'
K = 14
(DS > 25 mph)

(+)1.2777% (+)3.2396% 0.017 (+)4.6127% (+)2.5556%

PI = 11+05.00
EL = 62.76'
VC = 40'
K = 19 (DS > 20 mph)

SEE SHEET 12 FOR PLAN VIEW

–Y11– HILLTOP DRIVE

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO.242

DRAINAGE AREA	= 1.05	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 1.2	CFS
DESIGN HW ELEVATION	= 65.91	FT
100 YEAR DISCHARGE	= 1.4	CFS
100 YEAR HW ELEVATION	= 65.93	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 9.0	CFS
OVERTOPPING ELEVATION	= 67.00	FT

BEGIN GRADE –Y11– STA.10+27.00 ELEV.67.39'

END GRADE –Y11– STA.11+65.05 ELEV.67.20'

PI = 11+00.00
EL = 67.84'
VC = 40'
K = 25
(DS > 30 mph)

(+)0.6164% (−)0.9839% 0.025 (−)0.3000% (−)0.3000%

BEGIN RT DITCH GRADE –Y11– STA.10+00.000 EL = 65.36

BEGIN LT DITCH GRADE –Y11– STA.10+00.000 EL = 65.50

END RT DITCH GRADE –Y11– STA.11+50.000 EL = 64.85

END LT DITCH GRADE –Y11– STA.11+50.000 EL = 65.05

SEE SHEET 13 FOR PLAN VIEW

–Y12– EVANS DRIVE

BEGIN GRADE –Y12– STA.10+10.00 ELEV.61.65'

END GRADE –Y12– STA.11+62.56 ELEV.= 64.22'

PI = 11+15.00
EL = 61.97'
VC = 60'
K = 14 (DS > 15 mph)

(+)0.3048% 0.025 (+)4.7309% (−)0.3000% (−)0.3000%

BEGIN RT DITCH GRADE –Y12– STA.10+00.000 EL = 59.85

BEGIN LT DITCH GRADE –Y12– STA.10+00.000 EL = 60.00

END RT DITCH GRADE –Y12– STA.11+60.000 EL = 59.55

END LT DITCH GRADE –Y12– STA.11+00.000 EL = 59.70

DITCH LEGEND

LEFT DITCH

RIGHT DITCH

SEE SHEET 13 FOR PLAN VIEW

01-MAY-2006 16:00
$$$$$USERNAME$$$$ u3613bs.pf1

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3613B	27

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14571 ENGINEER JAMES A. SPEER

5/01/06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

5-1-06

–Y– LINES

–Y13–
WHITEBRIDGE DRIVE

BEGIN GRADE –Y13– STA.10+85.00 ELEV.62.28'

END GRADE –Y13– STA.11+99.11 ELEV.64.66'

PI = 11+70.00
EL = 64.08'
VC = 40'
K = 81
(DS > 45 mph)

(+)0.4000% (+)2.2485% (+)3.3924% 0.03

PI = 11+00.00
EL = 62.34'
VC = 30'
K = 14 (DS > 15 mph)

SEE SHEET 13 FOR PLAN VIEW

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO.296

DRAINAGE AREA	= N/A	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 11.0	CFS
DESIGN HW ELEVATION	= 63.18	FT
100 YEAR DISCHARGE	= 11.5	CFS
100 YEAR HW ELEVATION	= 63.21	FT
OVERTOPPING FREQUENCY	= N/A	YRS
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING ELEVATION	= N/A	FT

–Y14–
SR 1709 COREY ROAD

BEGIN RESURFACING –Y14– STA.6+75.00

BEGIN GRADE –Y14– STA.6+50.00 ELEV.65.47'

END GRADE –Y14– STA.13+70.09 ELEV.69.67'

PI = 13+30.00
EL = 69.48'
VC = 60'
K = 40 (DS > 35 mph)

PI = 12+40.00
EL = 67.72'
VC = 80'
K = 51 (DS > 35 mph)

(+)0.3814% (+)0.2833% (+)0.3000% (+)1.9556% (+)0.4139% 0.03

BEGIN RT. DITCH GRADE –Y14– STA.6+50.000 EL = 61.00

BEGIN LT. DITCH GRADE –Y14– STA.9+50.000 EL = 62.88

PI =10+00.000 El = 61.75

END RT. DITCH GRADE –Y14– STA.12+50.000 EL = 62.50

END LT. DITCH GRADE –Y14– STA.12+50.000 EL = 63.73

SEE SHEET 14 AND 17 FOR PLAN VIEW

–Y– LINES

–Y15–

SEE SHEET 14 FOR PLAN VIEW

–Y16–
OLD FIRE TOWER ROAD

BEGIN GRADE –Y16– STA.11+80.00 ELEV.69.05'

END GRADE –Y16– STA.12+68.53 ELEV.70.17'

PI = 12+40.00
EL = 70.08'
VC = 40'
K = 19
(DS = 30 mph)

(+)0.3000% (+)2.4250% (+)0.3155% 0.04

PI = 12+00.00
EL = 69.11'
VC = 40'
K = 19 (DS > 20 mph)

DITCH LEGEND	
LEFT DITCH	– · – · – · –
RIGHT DITCH	----------

SEE SHEET 14 FOR PLAN VIEW

01-MAY-2006 16:00
$$$$$USERNAME$$$$$ u3613b.pf1