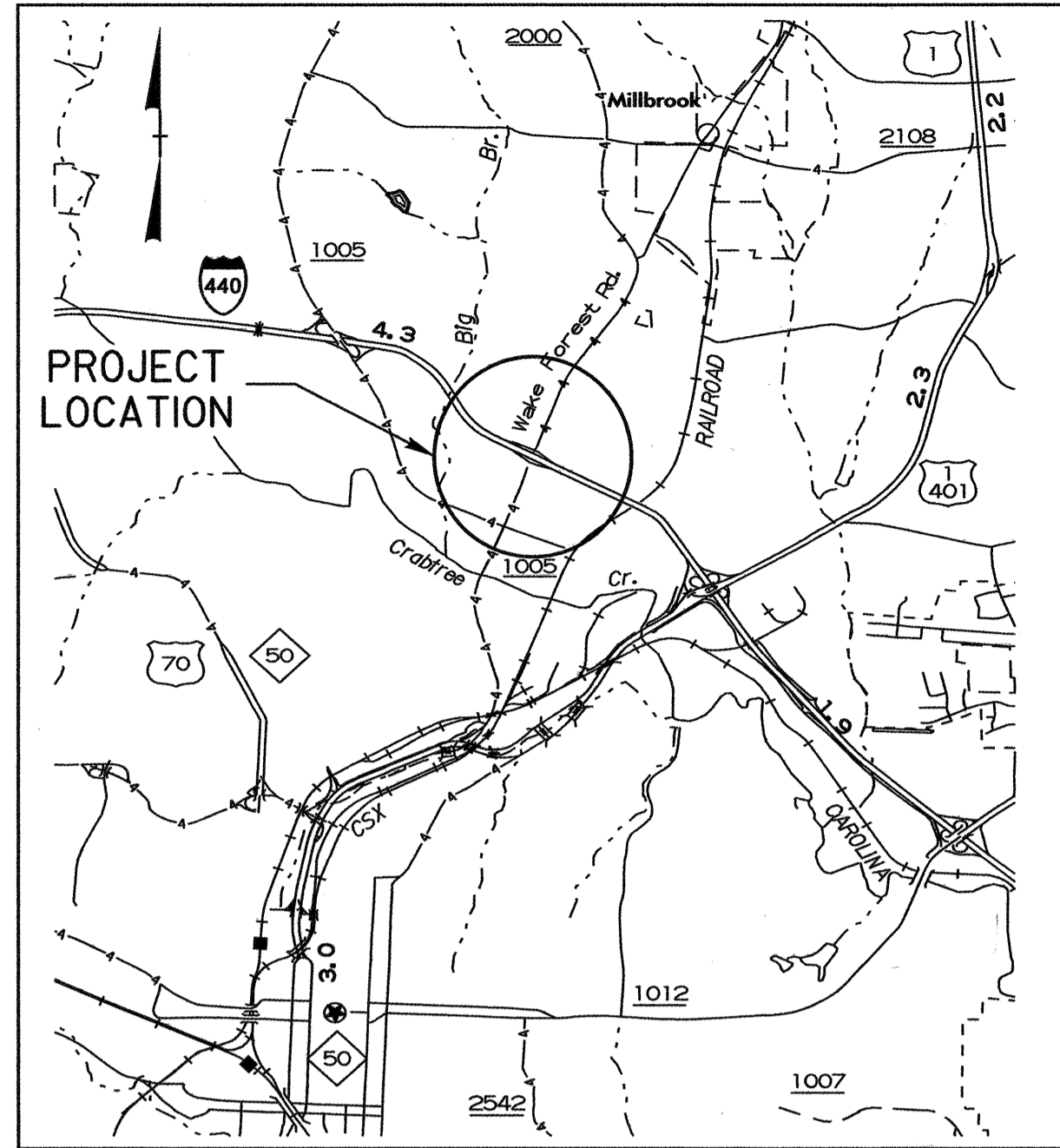


PROJECT: C201454 T.I.P. Project: W-4404

STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS  
**WAKE COUNTY**

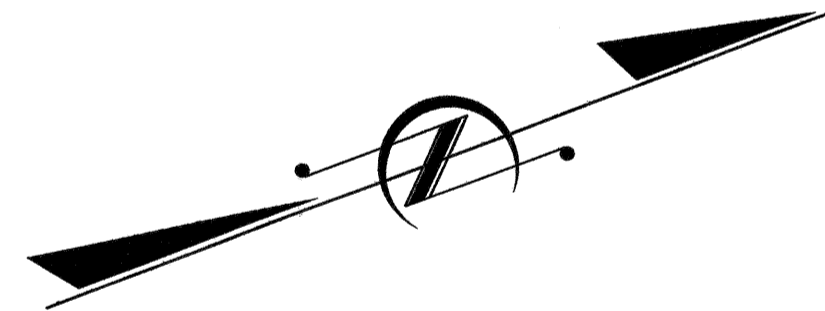
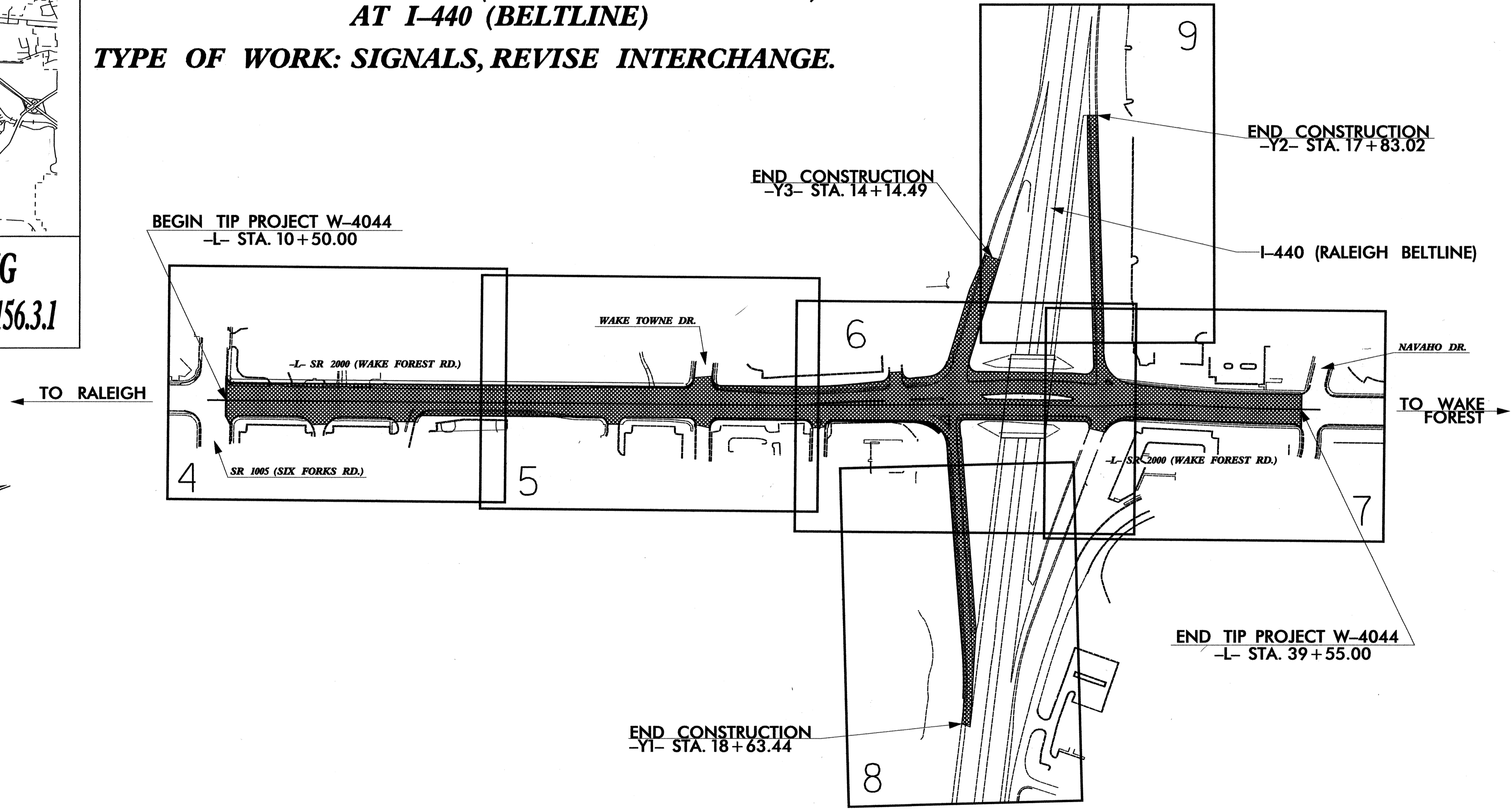
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-4404	1	116
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
35156.1.1	STP-2000 (3)	PE	
35156.2.1	STP-2000 (3)	ROW	
35156.3.1	STP-2000 (3)	CONST.	

See Sheet 1-A For Conventional Symbols

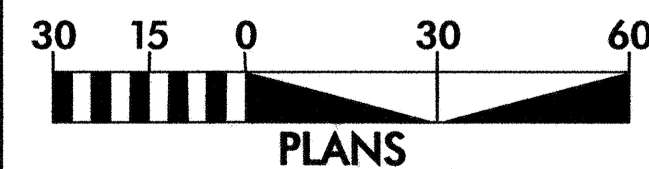


VICINITY MAP SHOWING  
 LOCATION OF PROJECT 35156.3.1

**LOCATION: SR 2000 (WAKE FOREST ROAD)  
 AT I-440 (BELTLINE)**  
**TYPE OF WORK: SIGNALS, REVISE INTERCHANGE.**



**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2003 = 31,000  
 ADT 2023 = 56,000  
 V = 45 MPH

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT W-4404 = 0.55 MILES  
 TOTAL LENGTH TIP PROJECT W-4404 = 0.55 MILES

Prepared In the Office of:  
**DIVISION OF HIGHWAYS**

2612 N. Duke St., Durham, NC 27704

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
 SEPTEMBER 28, 2001

LETTING DATE:  
 JANUARY 16, 2007

**B. UPSHAW, P.E.**  
 PROJECT ENGINEER

**M. BRANDON**  
 PROJECT DESIGN ENGINEER

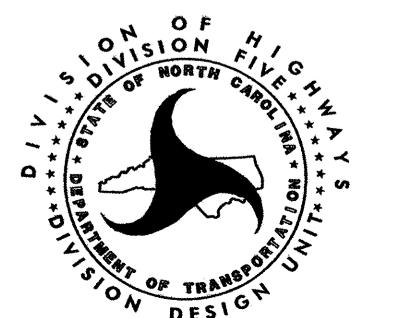
**DIVISION DESIGN ENGINEER**  
 ROADWAY DESIGN AND HYDRAULICS

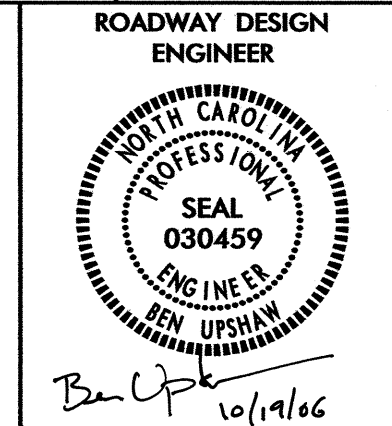


SIGNATURE: *B. Upshaw* P.E. 10/19/06

**DIVISION OF HIGHWAYS**  
 STATE OF NORTH CAROLINA

FIFTH DIVISION  
 J. G. Nance, P.E.  
 DIVISION ENGINEER





SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A - 2D	PAVEMENT SCHEDULE, AND TYPICAL SECTIONS
2E	DETAIL OF MEDIAN HAZARD PROTECTION
2F	DETAIL OF SOIL NAIL RETAINING WALL
2G	DETAILS OF CURB RADII AND MONOLITHIC ISLANDS
2H	DETAIL OF SHOULDER BERM GUTTER TO 2'6" CURB AND GUTTER TRANSITION SECTION
3	SUMMARY OF QUANTITIES
3A - 3C	SUMMARY OF DRAINAGE QUANTITIES
3D	GUARDRAIL SUMMARY / ASPHALT REMOVAL SUMMARY / EARTHWORK SUMMARY
4 THRU 9	PLAN SHEETS
10 THRU 12	EXISTING PROFILE SHEETS
TCP-1 THRU TCP-11	TRAFFIC CONTROL PLANS
PM-1 THRU PM-8	PAVEMENT MARKING PLANS
E-1 THRU E-3	LIGHTING PLANS
EC-1 THRU EC-7	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-6	SIGNING PLANS
SIG-1 THRU SIG-24	SIGNAL PLANS
UC-1 THRU UC-7	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-6	UTILITIES BY OTHERS
X-0 THRU X-17	CROSS-SECTIONS

**GENERAL NOTES:**

2006 SPECIFICATIONS  
EFFECTIVE: 07-18-06  
REVISED:

**CLEARING:**

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

**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.

**DRIVEWAYS:**

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

**STREET TURNOUT:**

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.

**SUBSURFACE PLANS:**

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

**UTILITIES:**

UTILITY OWNERS ON THE PROJECT ARE PUBLIC SERVICE COMPANY OF NC, CITY OF RALEIGH, PROGRESS ENERGY, BELLSOUTH, AND TIME WARNER CABLE.

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

**WHEELCHAIR RAMPS:**

WHEELCHAIR RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. THE CONSTRUCTION OF ALL WHEELCHAIR RAMPS SHALL BE IN ACCORDANCE WITH STD. 848.05 and STD. 848.06.

2006 ROADWAY STANDARD DRAWINGS EFF. 07-18-06

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
<b>DIVISION 2 - EARTHWORK</b>	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
240.01	Guide for Berm Ditch Construction
<b>DIVISION 3 - PIPE CULVERTS</b>	
300.01	Method of Pipe Installation - Method 'A'
300.10	Driveway Pipe Construction
<b>DIVISION 6 - ASPHALT BASES AND PAVEMENTS</b>	
654.01	Pavement Repairs
<b>DIVISION 8 - INCIDENTALS</b>	
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
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
840.29	Frames and Narrow Slot Flat Grates
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
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
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
846.02	Drop Inlet Installation in Expressway Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.05	Wheelchair Ramp - Curb Cut
848.06	Wheelchair Ramp - Retrofitting of Existing Curb
850.10	Guide for Berm Drainage Outlet - 15" and 18" Pipe
852.01	Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

8/17/99

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STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

\*S.U.E = SUBSURFACE UTILITY ENGINEER

# CONVENTIONAL SYMBOLS

## ROADS & RELATED ITEMS

Edge of Pavement	
Curb	
Prop. Slope Stakes Cut	
Prop. Slope Stakes Fill	
Prop. Woven Wire Fence	
Prop. Chain Link Fence	
Prop. Barbed Wire Fence	
Prop. Wheelchair Ramp	
Exist. Guardrail	
Prop. Guardrail	
Equality Symbol	
Pavement Removal	

## RIGHT OF WAY

Baseline Control Point	
Existing Right of Way Marker	
Exist. Right of Way Line w/Marker	
Prop. Right of Way Line with Proposed RW Marker (Iron Pin & Cap)	
Prop. Right of Way Line with Proposed (Concrete or Granite) RW Marker	
Exist. Control of Access Line	
Prop. Control of Access Line	
Exist. Easement Line	
Prop. Temp. Construction Easement Line	
Prop. Temp. Drainage Easement Line	
Prop. Perm. Drainage Easement Line	

## HYDROLOGY

Stream or Body of Water	
Flow Arrow	
Disappearing Stream	
Spring	
Swamp Marsh	
Shoreline	
Falls, Rapids	
Prop Lateral, Tail, Head Ditches	

## STRUCTURES

<b>MAJOR</b>	
Bridge, Tunnel, or Box Culvert	
Bridge Wing Wall, Head Wall and End Wall	

<b>MINOR</b>	
Head & End Wall	
Pipe Culvert	
Footbridge	
Drainage Boxes	
Paved Ditch Gutter	

## UTILITIES

Exist. Pole	
Exist. Power Pole	
Prop. Power Pole	
Exist. Telephone Pole	
Prop. Telephone Pole	
Exist. Joint Use Pole	
Prop. Joint Use Pole	
Telephone Pedestal	
Cable TV Pedestal	
Hydrant	
Satellite Dish	
Exist. Water Valve	
Sewer Clean Out	
Power Manhole	
Telephone Booth	
Water Manhole	
Light Pole	
H-Frame Pole	
Power Line Tower	
Pole with Base	
Gas Valve	
Gas Meter	
Telephone Manhole	
Power Transformer	
Sanitary Sewer Manhole	
Storm Sewer Manhole	
Tank; Water, Gas, Oil	
Water Tank With Legs	
Traffic Signal Junction Box	
Fiber Optic Splice Box	
Television or Radio Tower	
Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement	

Recorded Water Line	
Designated Water Line (S.U.E.*)	
Sanitary Sewer	
Recorded Sanitary Sewer Force Main	
Designated Sanitary Sewer Force Main(S.U.E.*)	
Recorded Gas Line	
Designated Gas Line (S.U.E.*)	
Storm Sewer	
Recorded Power Line	
Designated Power Line (S.U.E.*)	
Recorded Telephone Cable	
Designated Telephone Cable (S.U.E.*)	
Recorded U/G Telephone Conduit	
Designated U/G Telephone Conduit (S.U.E.*)	
Unknown Utility (S.U.E.*)	
Recorded Television Cable	
Designated Television Cable (S.U.E.*)	
Recorded Fiber Optics Cable	
Designated Fiber Optics Cable (S.U.E.*)	
Exist. Water Meter	
U/G Test Hole (S.U.E.*)	
Abandoned According to U/G Record	
End of Information	

## BOUNDARIES & PROPERTIES

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Property Line Symbol	
Exist. Iron Pin	
Property Corner	
Property Monument	
Property Number	
Parcel Number	
Fence Line	
Existing Wetland Boundaries	
Proposed Wetland Boundaries	
Existing Endangered Animal Boundaries	
Existing Endangered Plant Boundaries	

## BUILDINGS & OTHER CULTURE

Buildings	
Foundations	
Area Outline	
Gate	
Gas Pump Vent or U/G Tank Cap	
Church	
School	
Park	
Cemetery	
Dam	
Sign	
Well	
Small Mine	
Swimming Pool	

## TOPOGRAPHY

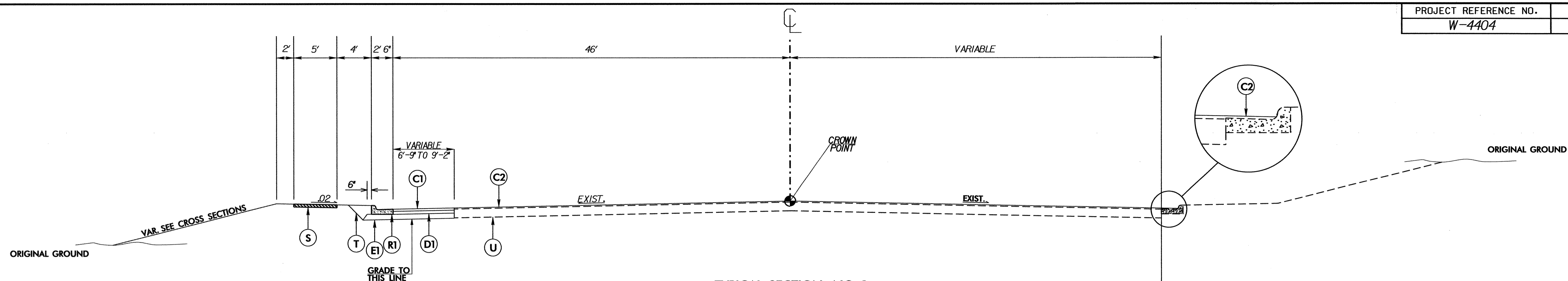
Loose Surface	
Hard Surface	
Change in Road Surface	
Curb	
Right of Way Symbol	
Guard Post	
Paved Walk	
Bridge	
Box Culvert or Tunnel	
Ferry	
Culvert	
Footbridge	
Trail, Footpath	
Light House	

## VEGETATION

Single Tree	
Single Shrub	
Hedge	
Woods Line	
Orchard	
Vineyard	

## RAILROADS

Standard Gauge	
RR Signal Milepost	
Switch	

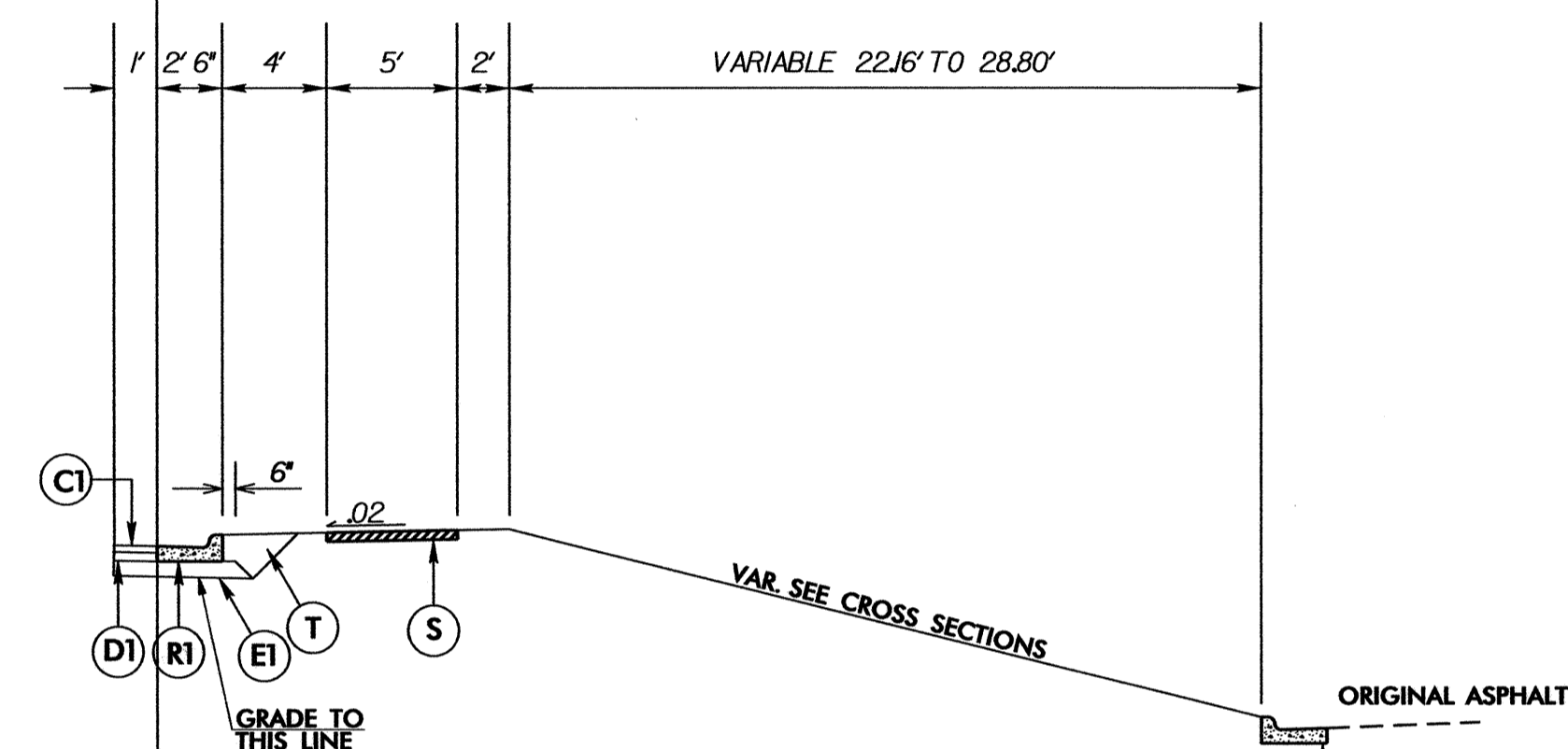


**TYPICAL SECTION NO. 1**  
-L- STA. 10+86.63 TO 15+81.49

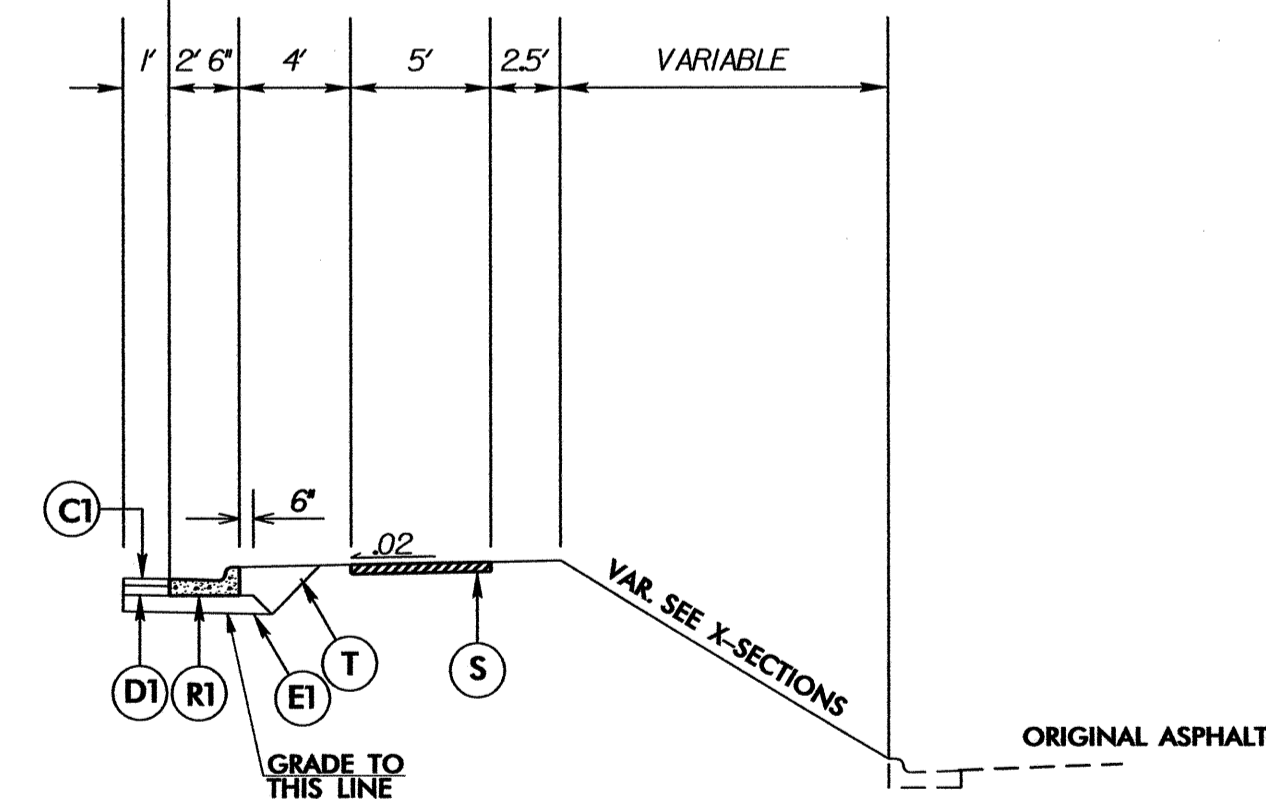
**NOTE : NOT ALL PROPOSED CONCRETE ISLANDS SHOWN. LOCATION OF ISLANDS VARIES. SEE SHEET 3 FOR DETAILS.**

**NOTE : ALL CONCRETE ISLANDS SHALL BE KEYED IN.**

**TYPICAL SECTION NO. 2**  
-L- STA. 15+81.49 TO 18+09.89

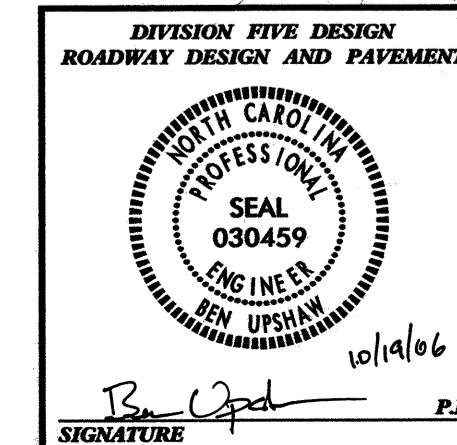


**TYPICAL SECTION NO. 3**  
-L- STA. 18+09.90 TO 20+58.18



PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3 " BIT. CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C2	PROP. APPROX. 1 1/2" BIT. CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4 " BIT. CONC. BINDER COURSE. TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 7 " BIT. CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
R1	2'- 6" CONCRETE CURB AND GUTTER.
R2	4' EXPRESSWAY GUTTER
R3	5" MONOLITHIC CONCRETE ISLAND. (KEYED IN)
R4	3' SHOULDER BERM GUTTER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W2	SOIL NAIL RETAINING WALL SEE PLAN SHEET 2F.

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



**WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.**

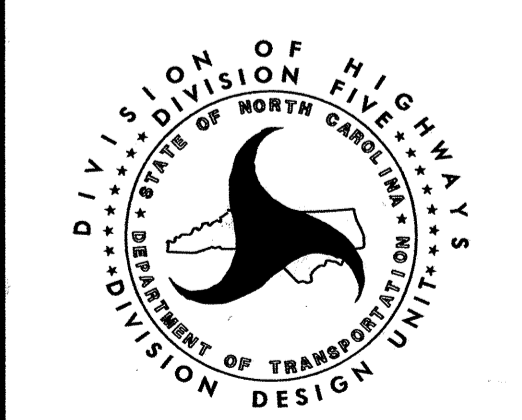
DIVISION 05 WAKE COUNTY RALEIGH

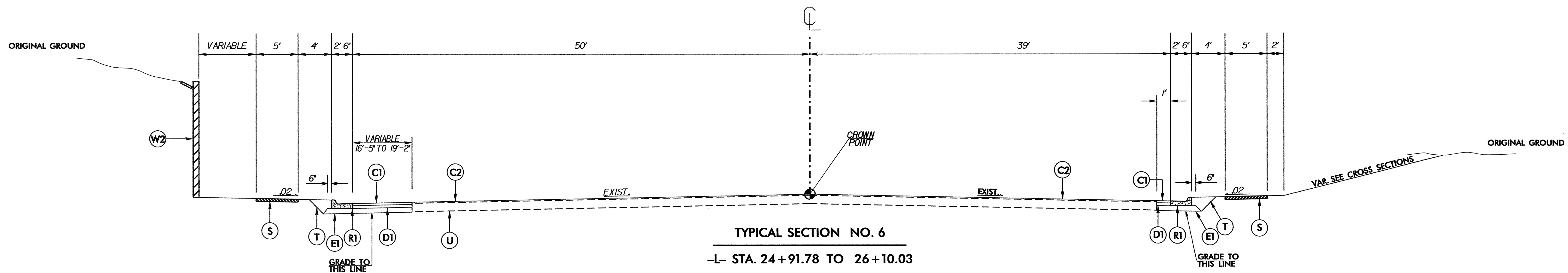
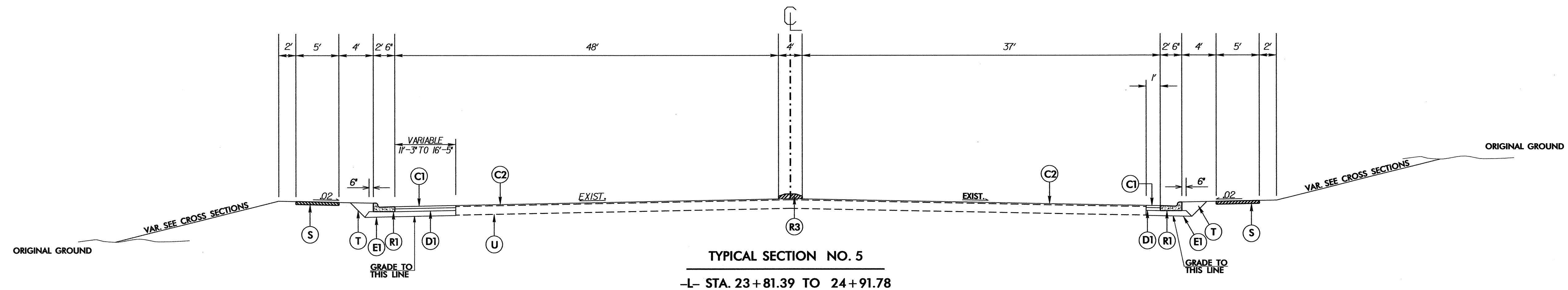
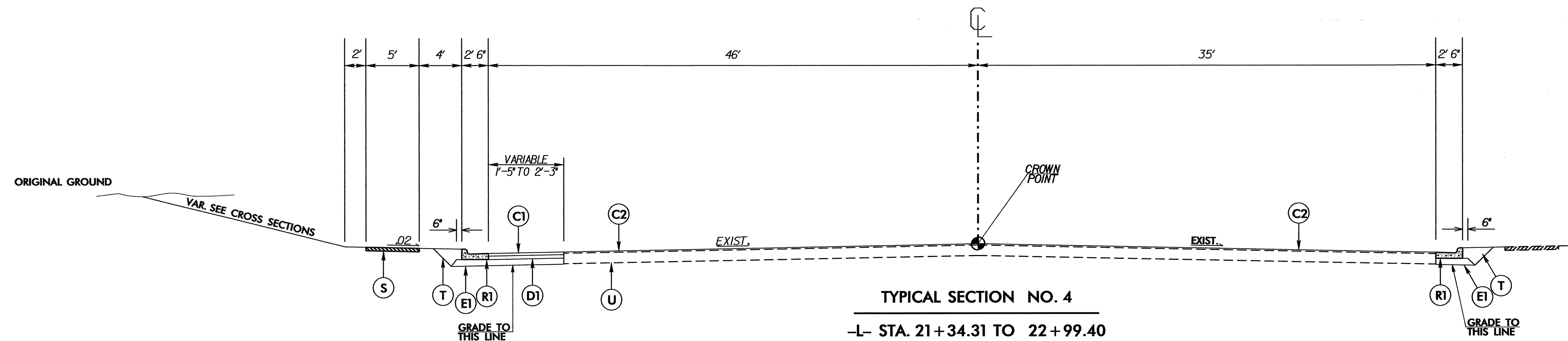
REVISIONS	INIT.	DATE

SCALE: N/A DATE: 12/2004

PREPARED BY: M. BRANDON  
REVIEWED BY: B. UPSHAW  
REVIEWED BY: B. JONES

**N.C. DEPARTMENT of TRANSPORTATION**  
**DIVISION of HIGHWAYS**  
**DIVISION FIVE DESIGN UNIT**



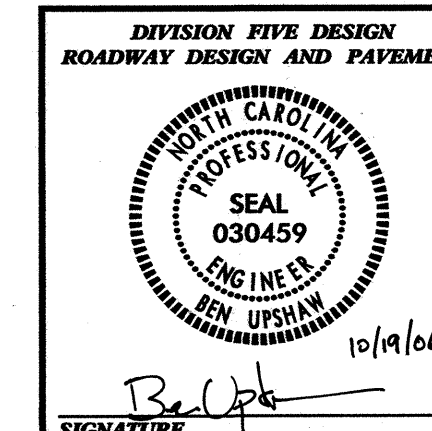


NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

### PAVEMENT SCHEDULE

C1	PROP. APPROX. 3" BIT. CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R3	5" MONOLITHIC CONCRETE ISLAND. (KEYED IN)
C2	PROP. APPROX. 1 1/2" BIT. CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R4	3' SHOULDER BERM GUTTER
D1	PROP. APPROX. 4" BIT. CONC. BINDER COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S	4" CONCRETE SIDEWALK
E1	PROP. APPROX. 7" BIT. CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	T	EARTH MATERIAL.
R1	2'- 6" CONCRETE CURB AND GUTTER.	U	EXISTING PAVEMENT.
R2	4' EXPRESSWAY GUTTER	W2	SOIL NAIL RETAINING WALL SEE PLAN SHEET 2F.

NOTE : NOT ALL PROPOSED CONCRETE ISLANDS SHOWN. LOCATION OF ISLANDS VARIES. SEE SHEET 2G FOR DETAILS.



**WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.**

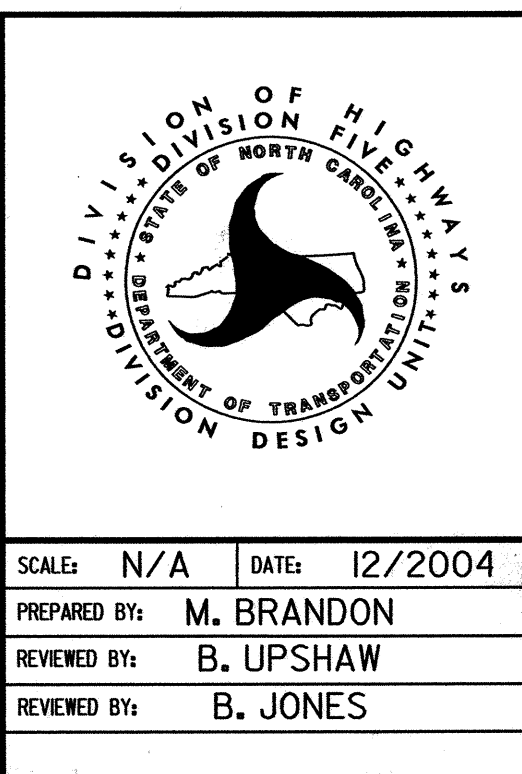
DIVISION 05 WAKE COUNTY RALEIGH

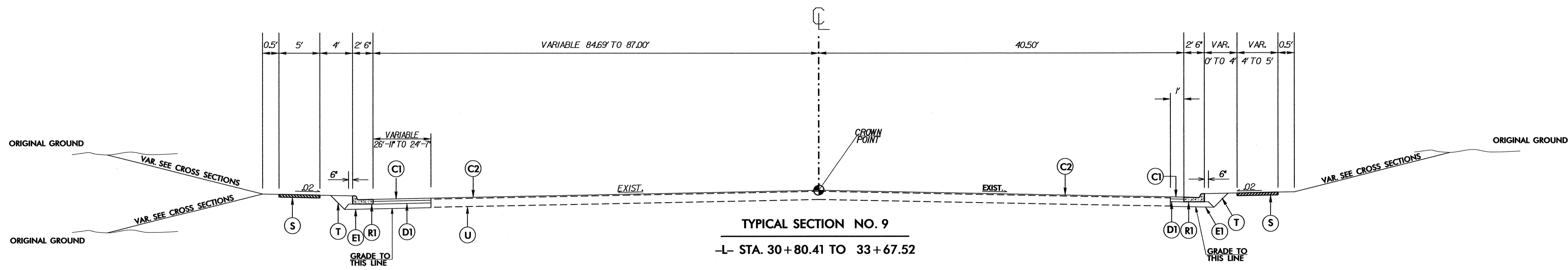
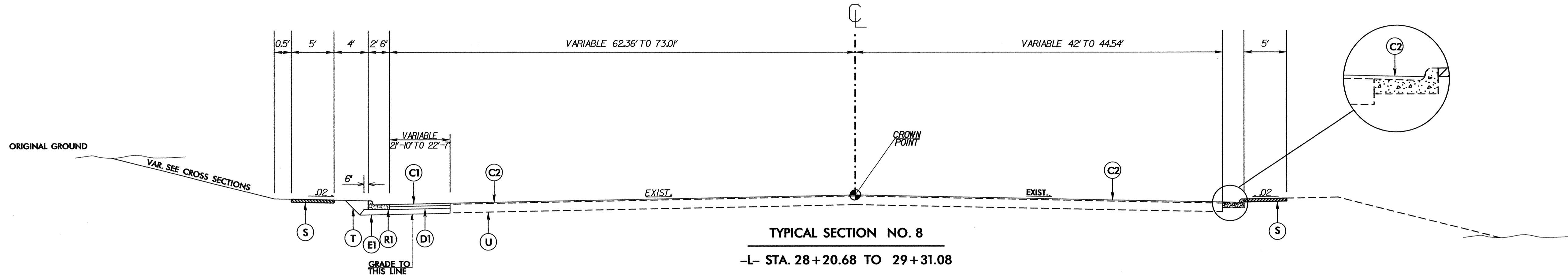
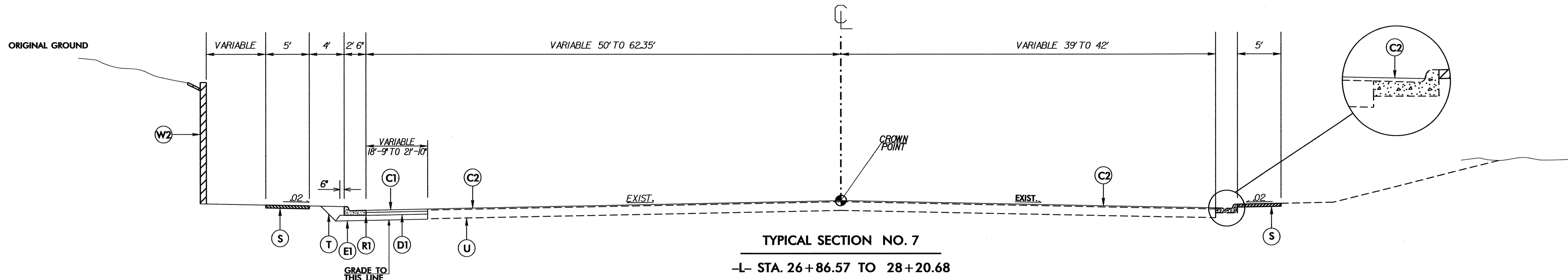
REVISIONS	INIT.	DATE

SCALE: N/A DATE: 12/2004

PREPARED BY: M. BRANDON  
REVIEWED BY: B. UPSHAW  
REVIEWED BY: B. JONES

**N.C. DEPARTMENT of TRANSPORTATION**  
**DIVISION of HIGHWAYS**  
**DIVISION FIVE DESIGN UNIT**

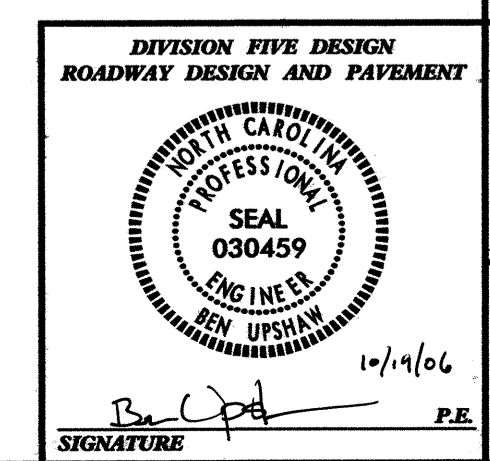




NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

NOTE : NOT ALL PROPOSED CONCRETE ISLANDS SHOWN. LOCATION OF ISLANDS VARIES. SEE SHEET 2G FOR DETAILS.

PAVEMENT SCHEDULE			
C1	PROP. APPROX. 3" BIT. CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R3	5" MONOLITHIC CONCRETE ISLAND. (KEYED IN)
C2	PROP. APPROX. 1 1/2" BIT. CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R4	3' SHOULDER BERM GUTTER
D1	PROP. APPROX. 4" BIT. CONC. BINDER COURSE. TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S	4" CONCRETE SIDEWALK
E1	PROP. APPROX. 7" BIT. CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	T	EARTH MATERIAL.
R1	2'- 6" CONCRETE CURB AND GUTTER.	U	EXISTING PAVEMENT.
R2	4' EXPRESSWAY GUTTER	W2	SOIL NAIL RETAINING WALL SEE PLAN SHEET 2F.



**WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.**

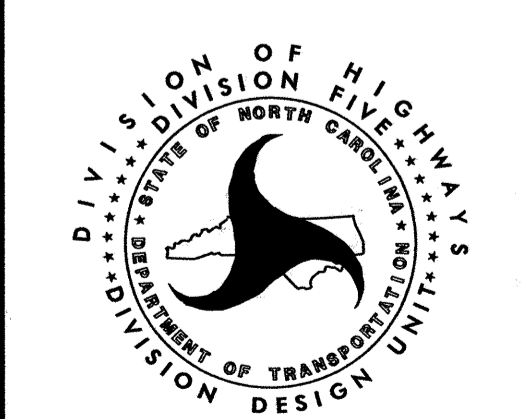
DIVISION 05 WAKE COUNTY RALEIGH

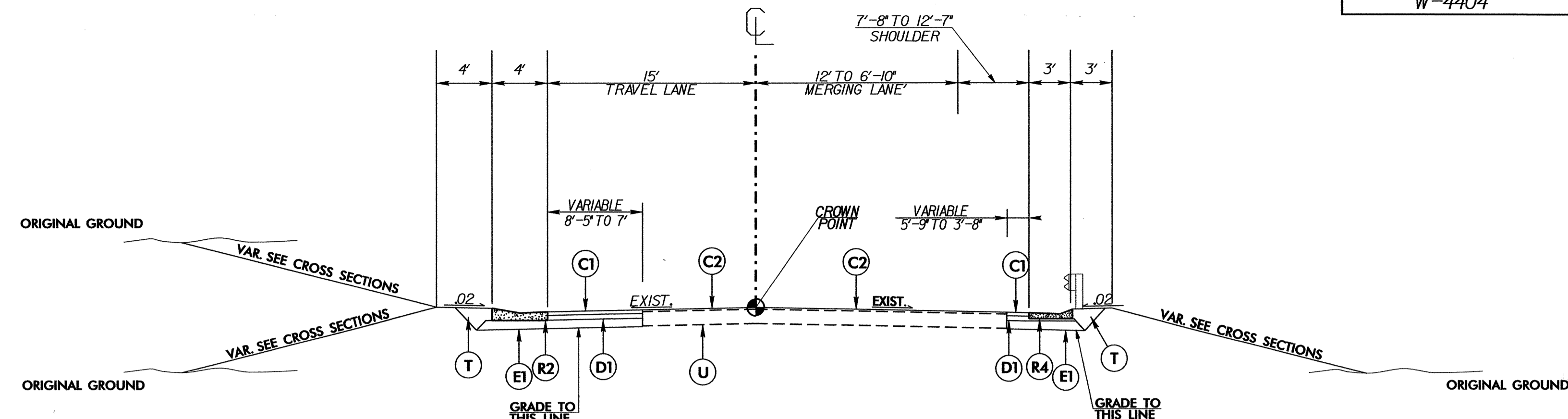
REVISIONS	INIT.	DATE

SCALE: N/A DATE: 12/2004

PREPARED BY: M. BRANDON  
 REVIEWED BY: B. UPSHAW  
 REVIEWED BY: B. JONES

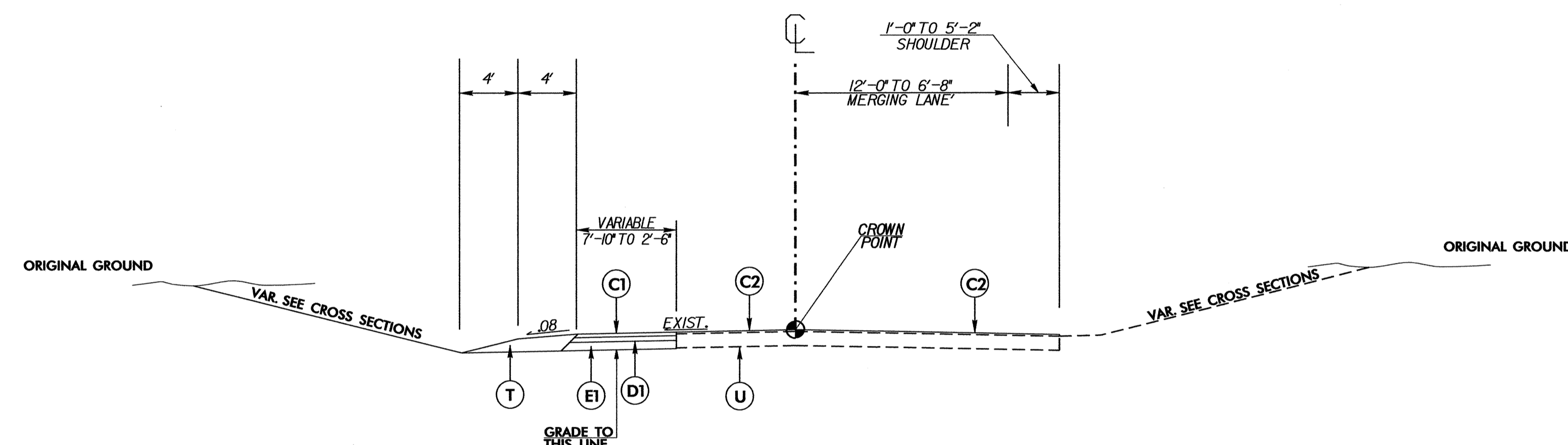
**N.C. DEPARTMENT of TRANSPORTATION**  
**DIVISION of HIGHWAYS**  
**DIVISION FIVE DESIGN UNIT**





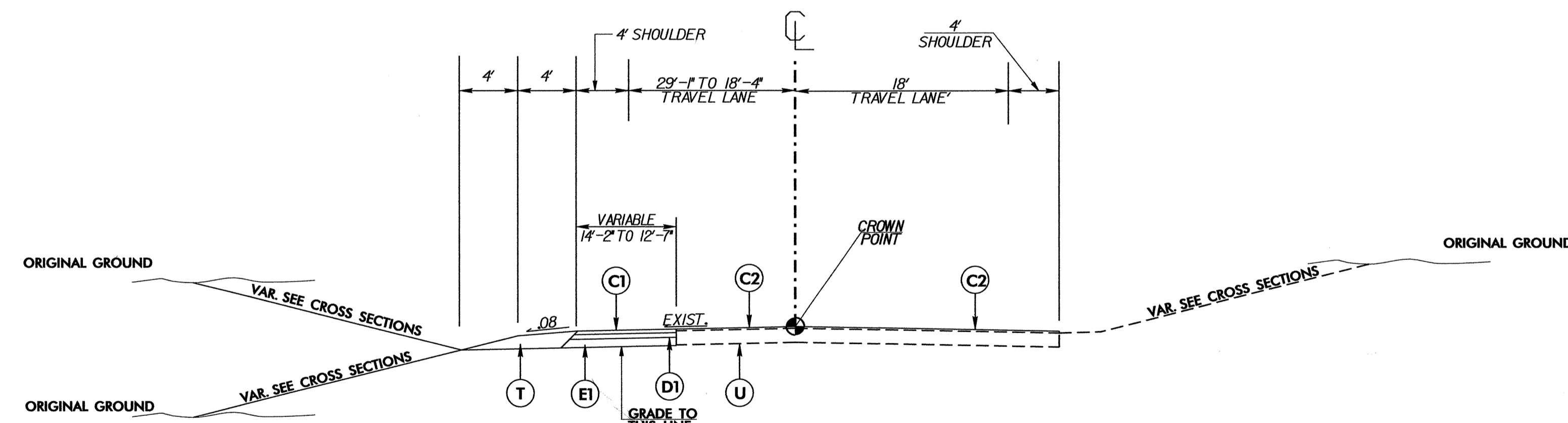
TYPICAL SECTION NO. 10  
-Y1- STA. 11+45.44 TO 16+16.65

\*\*NOTE: VAR. WIDTH WIDENING STA. 10+57.60 TO 11+45.43 SEE SHEET 6 SEE SHEET 6. EXIST. SHOULDERS ALONG BOTH SIDE TO BE REMOVED AND REPAVED TO FULL DEPTH.



TYPICAL SECTION NO. 11  
-Y2- STA. 11+37.03 TO 17+83.02

\*\*NOTE: VAR. WIDTH WIDENING STA. 11+10.54 TO 11+37.03 SEE SHEET 6. EXIST. SHOULDERS ALONG LEFT SIDE TO BE REMOVED AND REPAVED TO FULL DEPTH.



TYPICAL SECTION NO. 12  
-Y3- STA. 11+11.47 TO 14+14.49

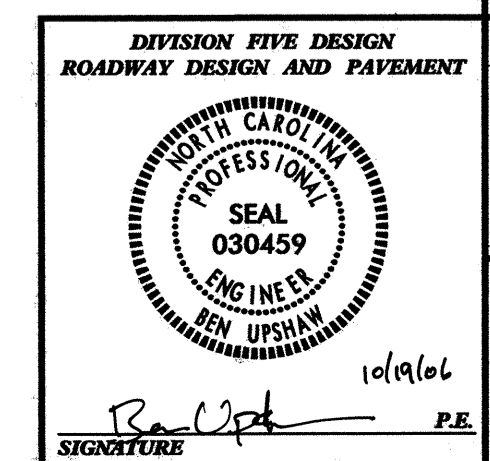
\*\*NOTE: EXIST. SHOULDERS ALONG LEFT SIDE TO BE REMOVED AND REPAVED TO FULL DEPTH.

NOTE : NOT ALL PROPOSED CONCRETE ISLANDS SHOWN. LOCATION OF ISLANDS VARIES. SEE SHEET 3 FOR DETAILS.

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

**PAVEMENT SCHEDULE**

C1	PROP. APPROX. 3" BIT. CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R3	5" MONOLITHIC CONCRETE ISLAND. (KEYED IN)
C2	PROP. APPROX. 1 1/2" BIT. CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R4	3' SHOULDER BERM GUTTER
D1	PROP. APPROX. 4" BIT. CONC. BINDER COURSE. TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S	4" CONCRETE SIDEWALK
E1	PROP. APPROX. 7" BIT. CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	T	EARTH MATERIAL.
R1	2'- 6" CONCRETE CURB AND GUTTER.	U	EXISTING PAVEMENT.
R2	4' EXPRESSWAY GUTTER	W2	SOIL NAIL RETAINING WALL SEE PLAN SHEET 2F.



**WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.**

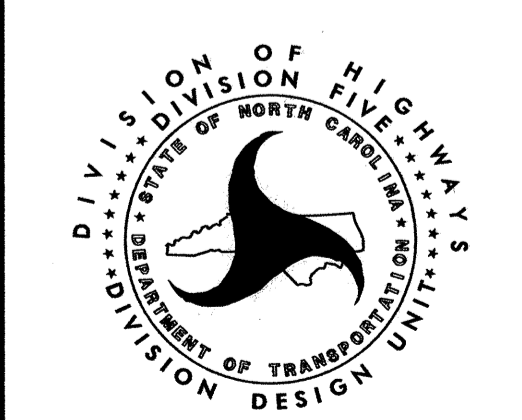
DIVISION 05 WAKE COUNTY RALEIGH

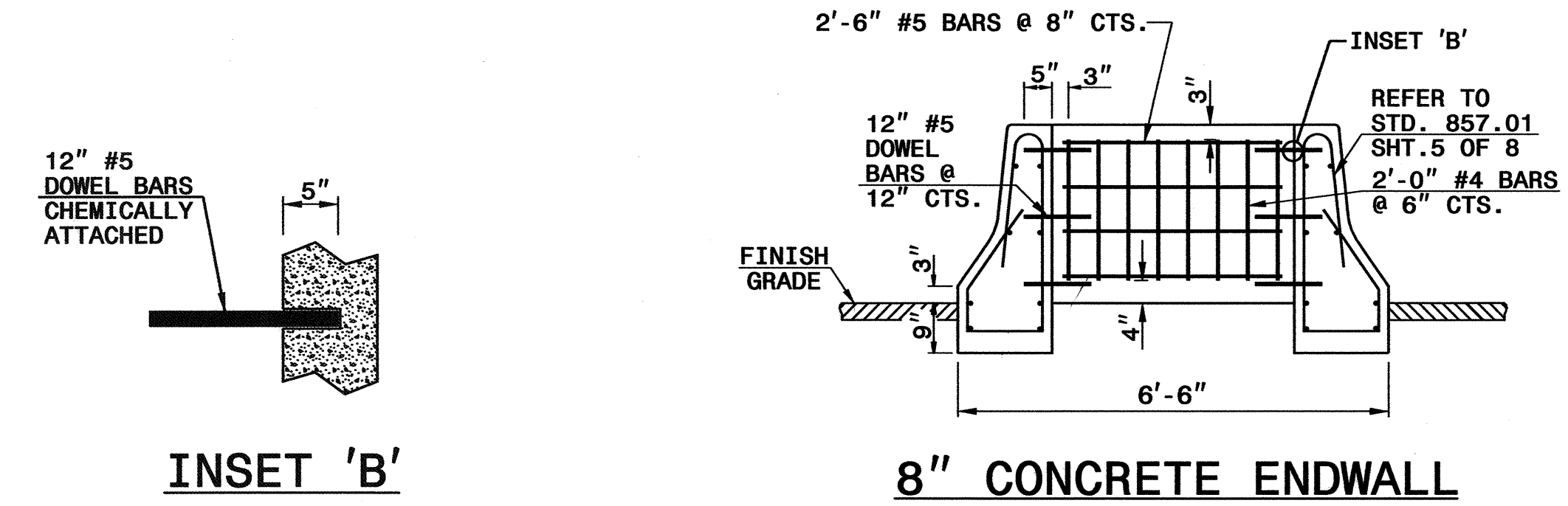
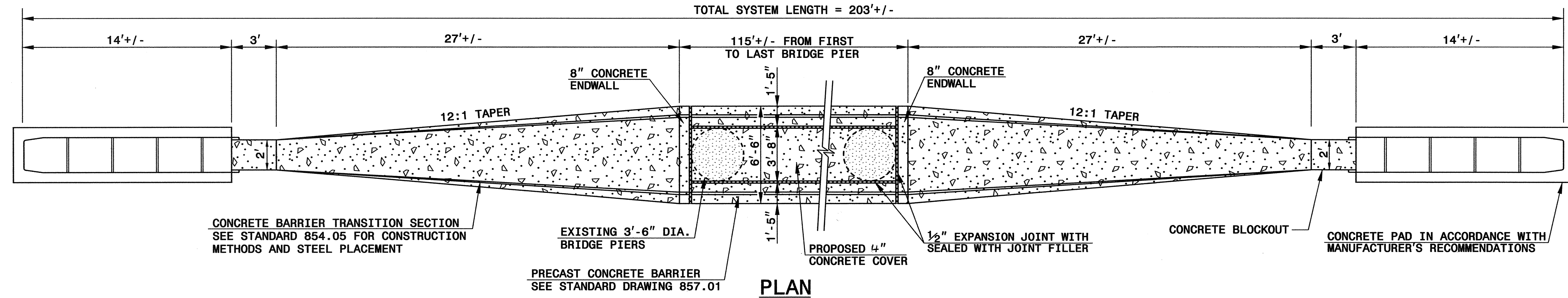
REVISIONS	INIT.	DATE

SCALE: N/A DATE: 12/2004

PREPARED BY: M. BRANDON  
REVIEWED BY: B. UPSHAW  
REVIEWED BY: B. JONES

**N.C. DEPARTMENT of TRANSPORTATION**  
**DIVISION of HIGHWAYS**  
**DIVISION FIVE DESIGN UNIT**





**GENERAL NOTES:**

CONCRETE BARRIER TO BE CONSTRUCTED OF CLASS 'AA' CONCRETE. (SEE SPECIFICATIONS SECTION 854).

EXPANSION AND CONTRACTION JOINTS SHALL BE CONSTRUCTED AS SHOWN IN STANDARD DRAWING 854.01 SHEET 2.

EXPANSION JOINTS SHALL BE SEALED WITH JOINT FILLER. (SEE SECTION 1028 OF THE SPECIFICATIONS).

ALTERNATIVE METHODS FOR STEEL FABRICATION PLACEMENT SHALL BE SUBMITTED FOR REVIEW.

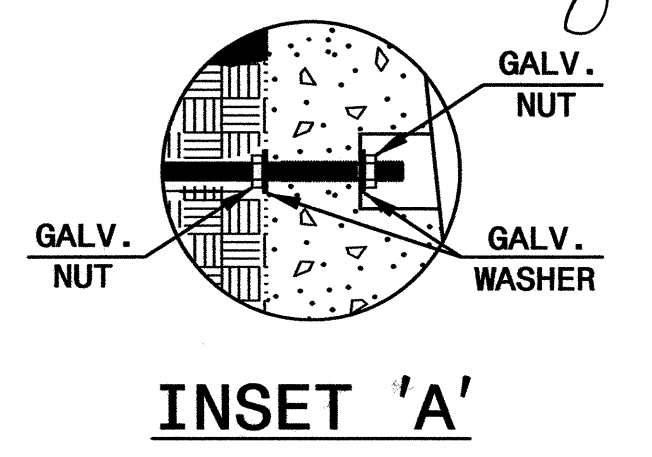
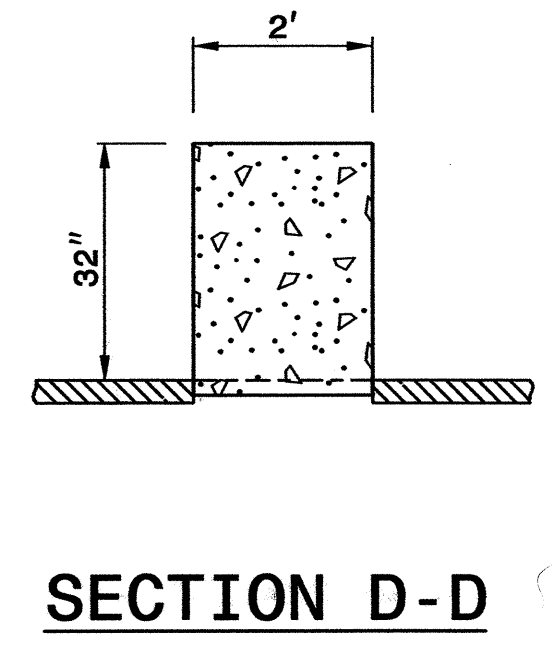
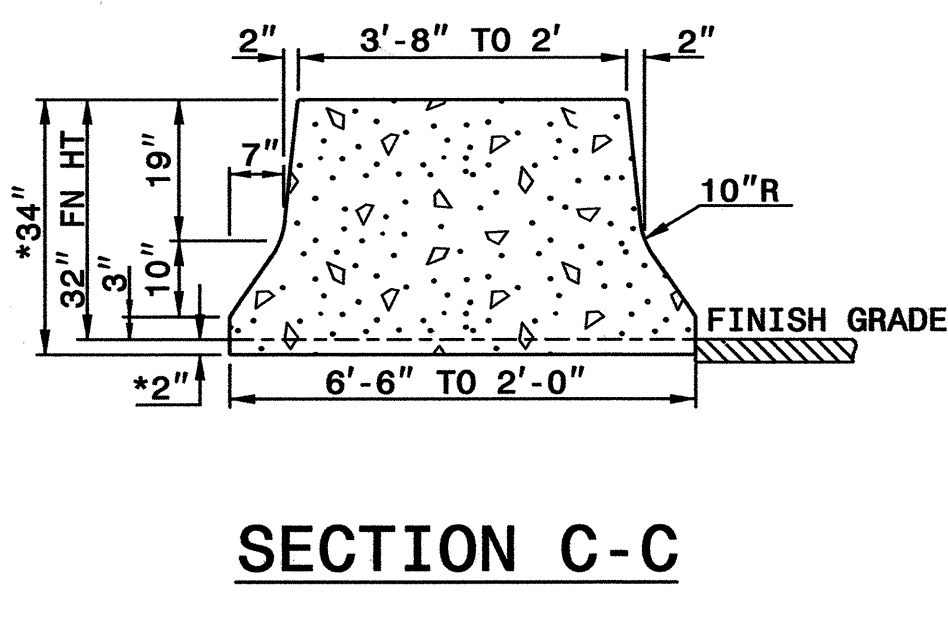
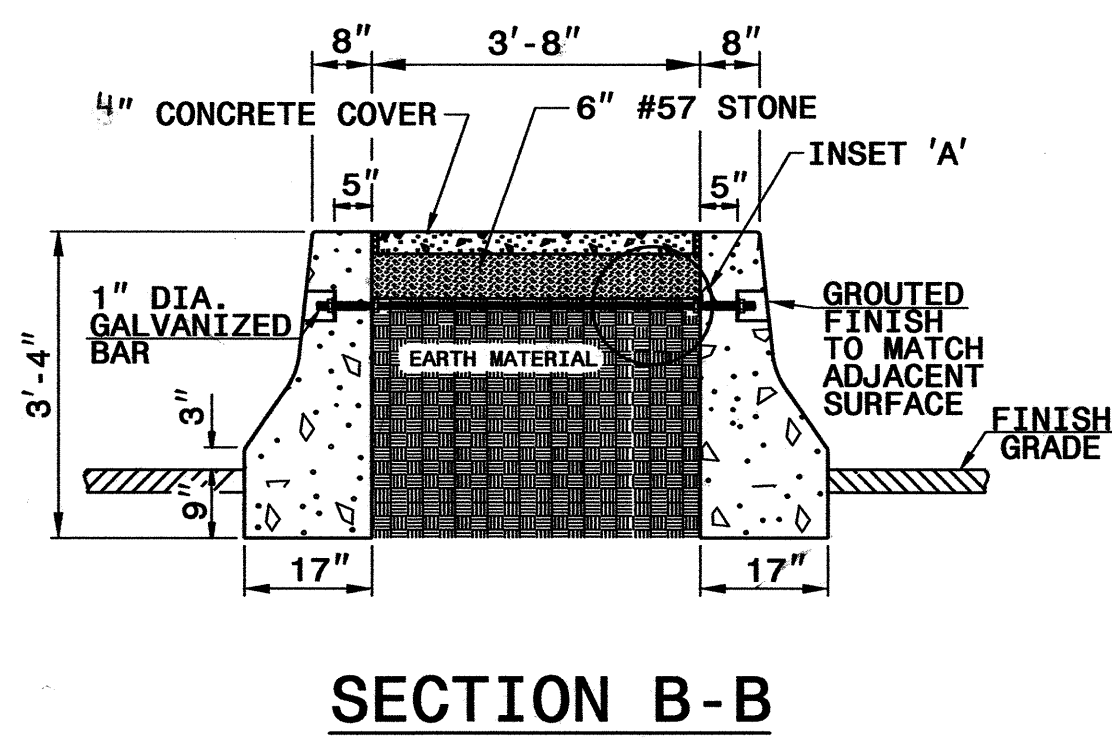
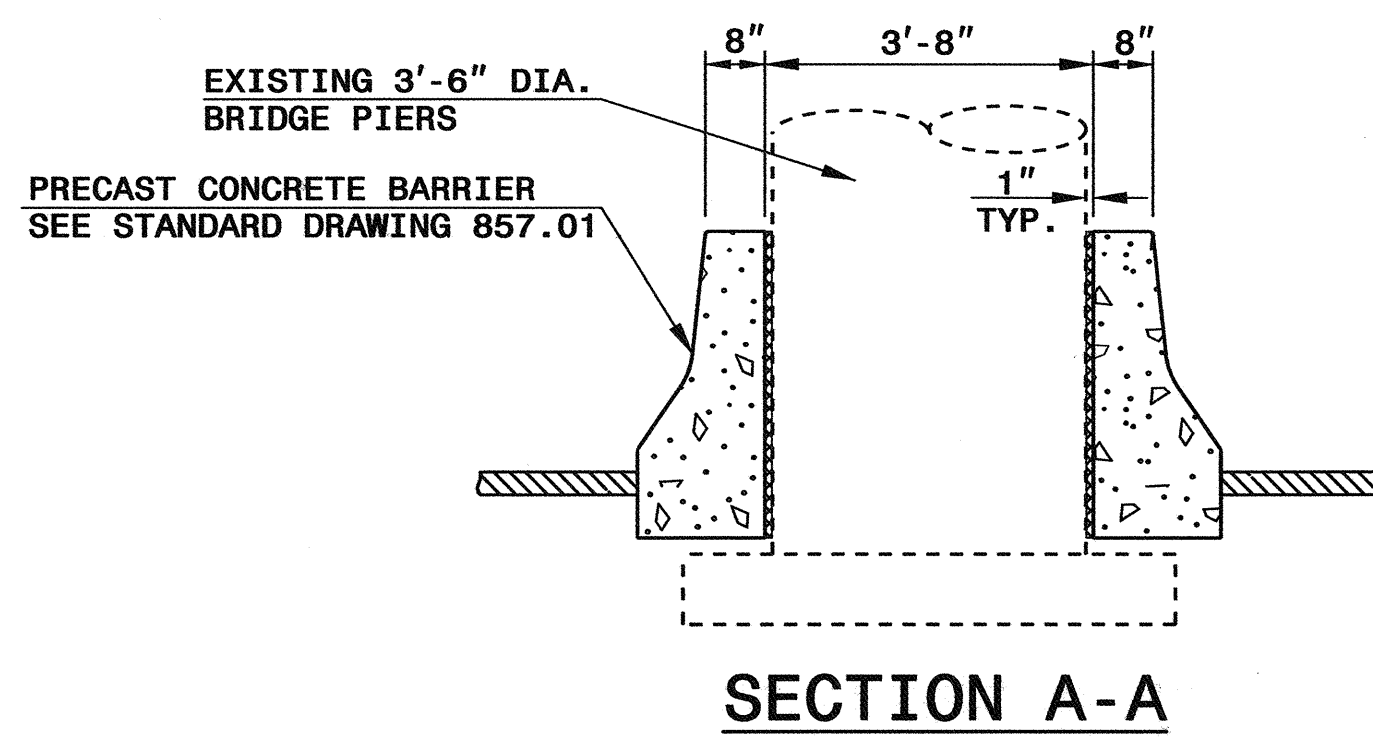
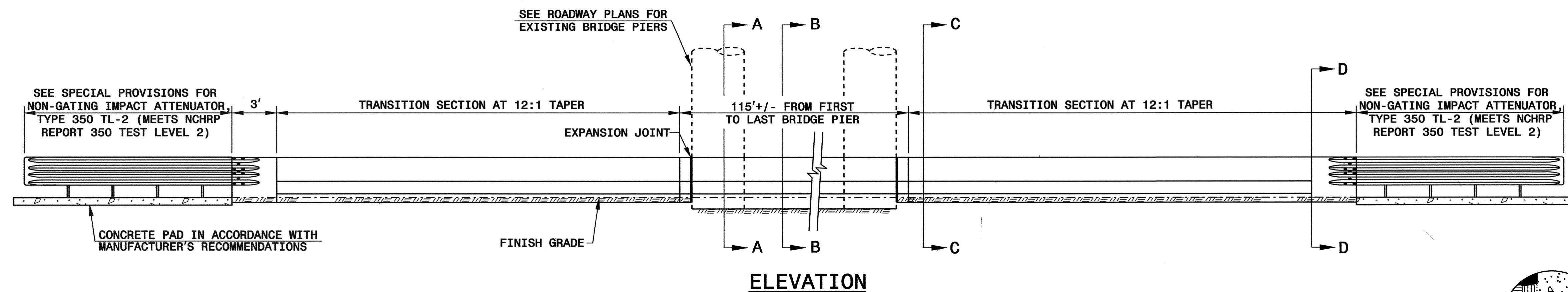
SEE STANDARD DRAWING 854.01 SHEET 3 FOR STEEL LAYOUT OF BARRIERS.

\*THE 2" DIMENSION FROM FINISH GRADE TO THE BASE IS A MINIMUM DIMENSION.

INSET FIRST 1" DIA. GALVANIZED BAR 12'-6" AND SPACE THE REMAINING 1' BARS AT 25'-0".

USE AN APPROVED BONDING SYSTEM IN ACCORDANCE WITH SECTION 1081-1, TYPE 3A OF THE STANDARD SPECIFICATIONS.

SEAL ALL EXPANSION JOINTS WITH JOINT FILLER (SEE SECTION 1028 OF THE SPECIFICATIONS).



NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL 022966  
JOEL H. HUNTER  
11/2/06

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

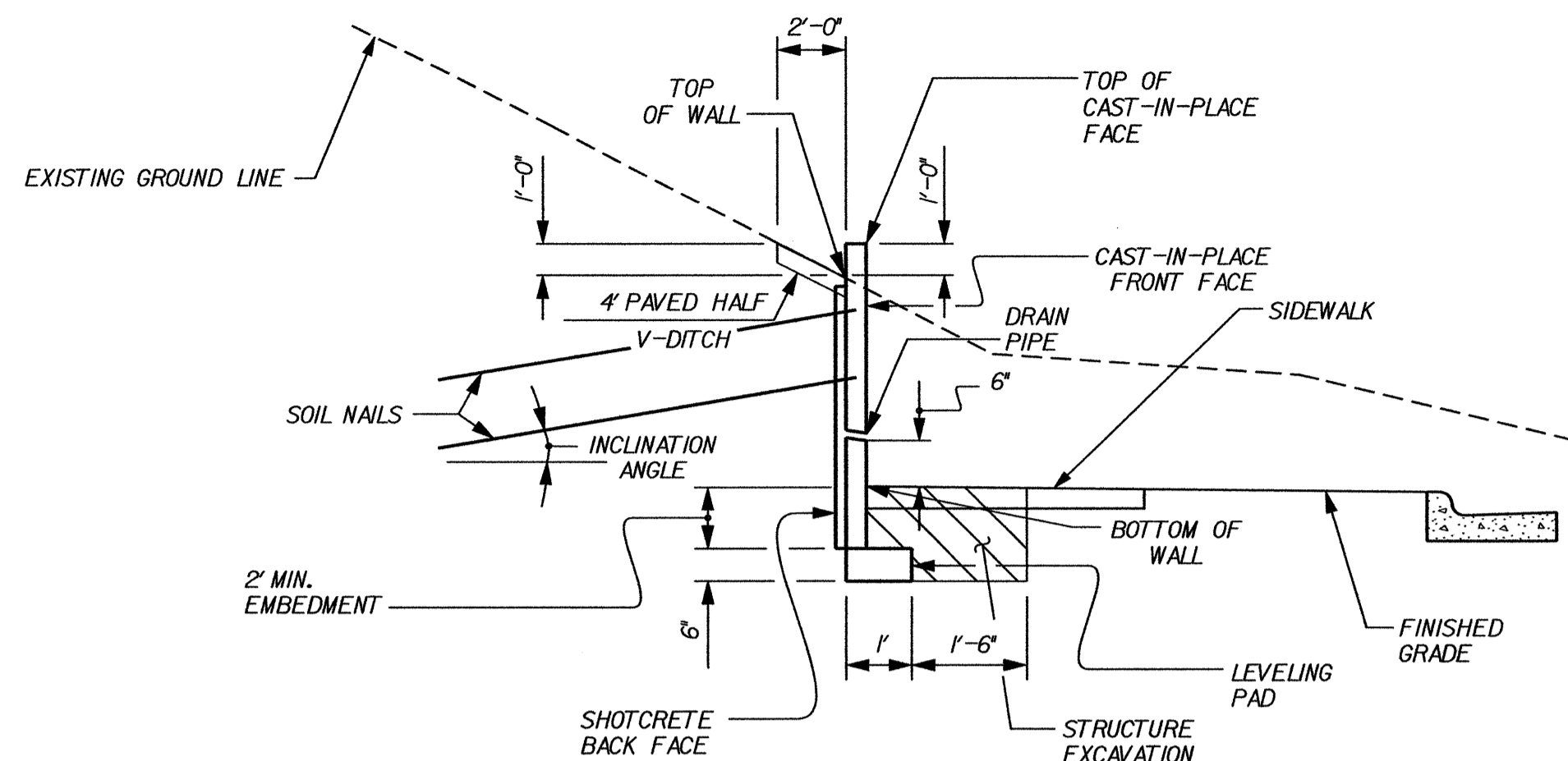
**DETAIL OF MEDIAN HAZARD PROTECTION**

ORIGINAL BY: E.E. WARD    DATE: 7-28-03  
MODIFIED BY: E.E. WARD    DATE: 4-26-06  
CHECKED BY:    DATE:     
FILE SPEC.: \usr\details\stand\transbarrier.dgn

5/14/99  
28-SEP-2006 17:20  
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mbrandon AT DSCAD206403



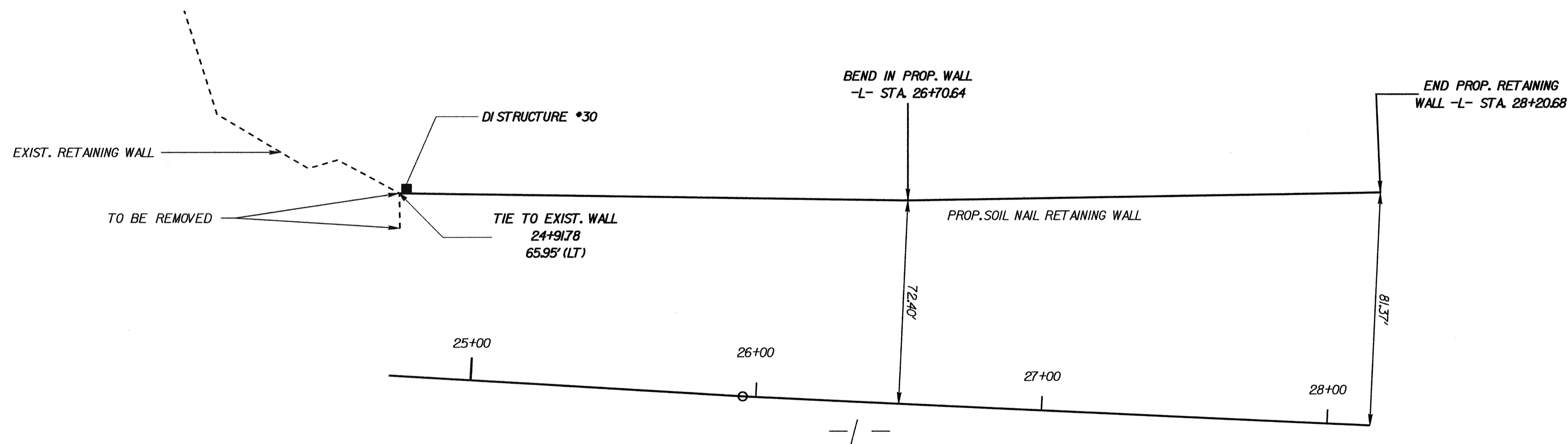
RETAINING WALL ELEVATIONS				
-L- STA.	OFFSET FROM CL	ELEV. @ TOP OF WALL	ELEV. @ BOTTOM OF WALL	WALL HEIGHT
24+91.78	65.95' LT	246.62'	238.92'	7.70'
25+00.00	66.32' LT	250.71'	237.73'	12.98'
25+50.00	68.52' LT	251.90'	238.96'	12.94'
26+00.00	70.27' LT	252.49'	240.17'	12.32'
26+50.00	71.77' LT	252.52'	241.67'	10.85'
27+00.00	74.14' LT	252.68'	243.00'	9.68'
27+50.00	77.11' LT	252.87'	244.18'	8.69'
28+00.00	80.12' LT	252.95'	245.52'	7.43'
28+20.68	81.37' LT	248.00'	247.09'	0.91'



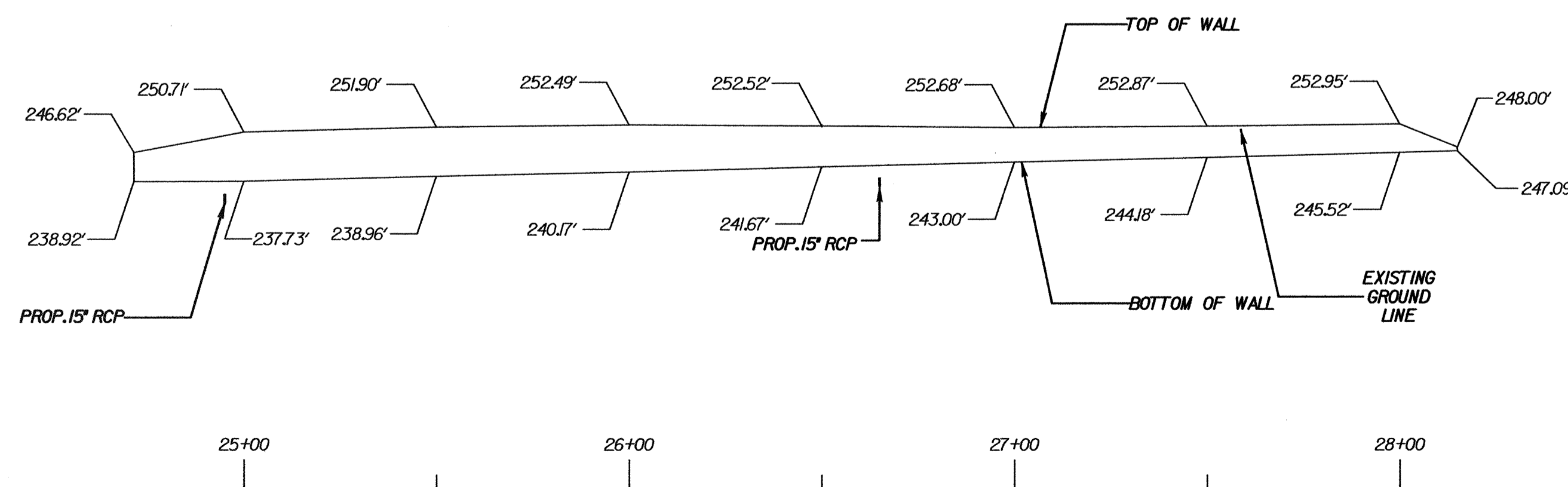
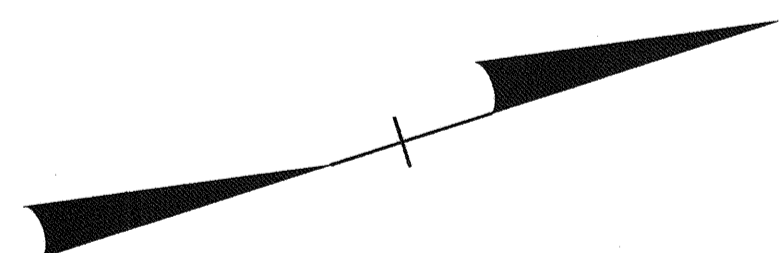
TYPICAL SECTION THROUGH WALL

NOTES

- SUBMIT COMPLETE WORKING DRAWINGS/SHOP PLANS, ERECTION PLANS AND DESIGN CALCULATIONS FOR REVIEW AND APPROVAL PRIOR TO BEGINNING THE SOIL NAIL RETAINING WALL. SEE SOIL NAIL RETAINING WALLS SPECIAL PROVISION.
- THE SERVICE LIFE FOR DESIGN IS 75 YEARS.
- USE THE FOLLOWING VALUES FOR WALL DESIGN:  
A. ALL SOIL AND ROCK:  
 $\delta = 120 \text{ lbs/cu.ft.}, \text{pH} = 30', c = 0 \text{ psf.}$
- THE MINIMUM WALL EMBEDMENT IS 2.0 FEET. THIS EMBEDMENT IS NOT SHOWN ON THE WALL ELEVATION. THE BOTTOM OF WALL ON THE WALL ELEVATION IS WHERE THE FINISHED GRADE INTERSECTS THE FRONT OF THE CAST-IN-PLACE FACE.
- THE TOP OF THE WALL ELEVATION IS WHERE THE DITCH SLOPE BEHIND THE WALL EXTENDS TO THE BACK OF THE CAST-IN-PLACE FACE. THE TOP OF CAST-IN-PLACE FACE IS 1 FOOT ABOVE THE TOP OF WALL.
- FOR THE SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS SPECIAL PROVISION.
- INCLUDE THE FOLLOWING ON PLANS SUBMITTED FOR REVIEW: PLAN VIEW, ELEVATION VIEWS, TYPICAL SECTIONS AND OBSTRUCTION AVOIDANCE DETAILS.
- DESIGN THE SOIL NAIL RETAINING WALL TO MEET ALL THE CRITERIA OF THE LATEST VERSION OF AASHTO ALLOWABLE STRENGTH DESIGN STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES AND ITS INTERIMS. THE FHWA MANUAL FOR DESIGN & CONSTRUCTION MONITORING OF SOIL NAIL WALLS, REPORT NO. FHWA-SA-96-069. THE SPECIAL PROVISIONS AND THE PLANS.
- ALL STRUCTURE EXCAVATION AND BACKFILL NECESSARY FOR THE CONSTRUCTION OF THE SOIL NAIL RETAINING WALL WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE WALL.
- PAYMENT FOR HALF V-DITCH ABOVE AND BEHIND THE WALL WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE WALL.
- THE MINIMUM CENTER TO CENTER SPACING OF THE SOIL NAILS IS 3.0 FEET.
- CONSTRUCT A CAST-IN-PLACE CONCRETE FACE WITH THE SAME APPEARANCE ON THE SURFACE AS THE EXISTING RETAINING WALL AT THE SOUTH END OF THE PROPOSED RETAINING WALL.
- THE COST OF THE AESTHETIC TREATMENT OF PROPOSED WALL WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE WALL.
- INSTALL THE DRAINAGE STRUCTURE 30 AND BACKFILL WITH FLOWABLE FILL PRIOR TO CONSTRUCTION OF THE RETAINING WALL. USE NON-EXCAVATABLE FLOWABLE FILL IN ACCORDANCE WITH SECTION 340-2 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR FLOWABLE FILL WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE DRAINAGE STRUCTURE.
- DESIGN ALL SOIL NAILS TO MISS THE DRAINAGE STRUCTURES 30, 31 AND 34.
- NO SEPARATE PAYMENT WILL BE MADE FOR TEMPORARY WORK BENCHES TO INSTALL THE NAILS. THIS INCLUDES BUT IS NOT LIMITED TO TEMPORARY SHORING AND PLACEMENT AND REMOVAL OF FILL MATERIAL. ANY MEASURES REQUIRED TO PROVIDE ACCESS FOR NAIL INSTALLATION WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE WALL.
- BEFORE BEGINNING RETAINING WALL DESIGN, SURVEY ALL EXISTING GROUND ELEVATIONS SHOWN ON THE PLANS AND SUBMIT A REVISED WALL ENVELOPE FOR REVIEW. DO NOT BEGIN WALL DESIGN OR CONSTRUCTION UNTIL THIS ENVELOPE HAS BEEN APPROVED.



PLAN



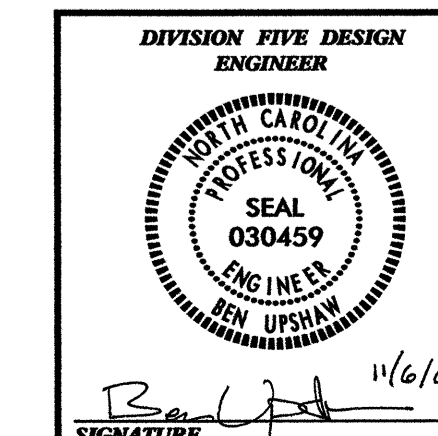
WALL ELEVATION

PROJECT NO. W-4404  
WAKE COUNTY  
STATION: 24+91.78 -L-

SHEET 1 OF 1

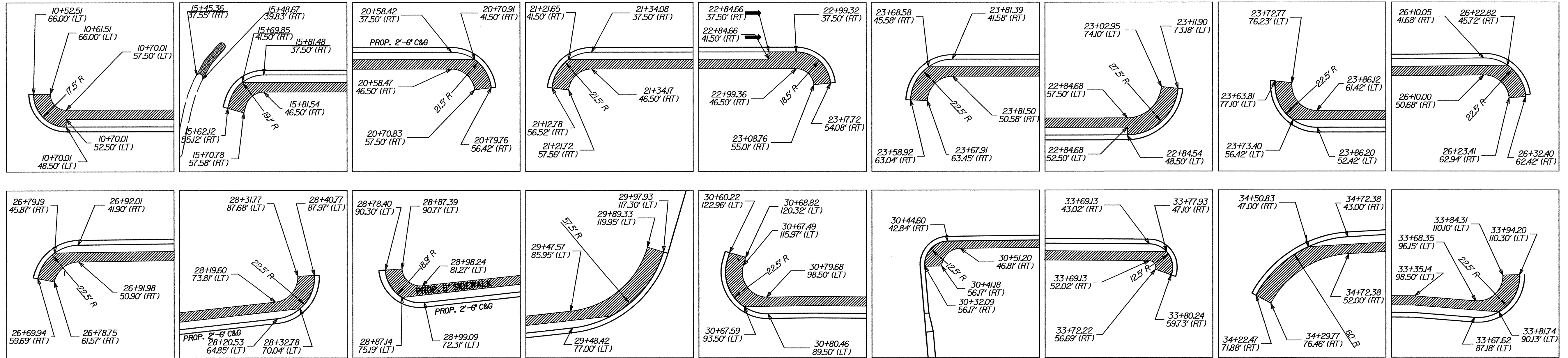
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SOIL NAIL  
RETAINING WALL

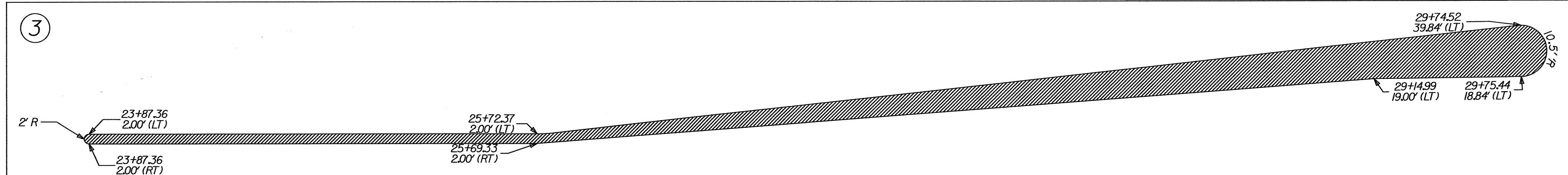
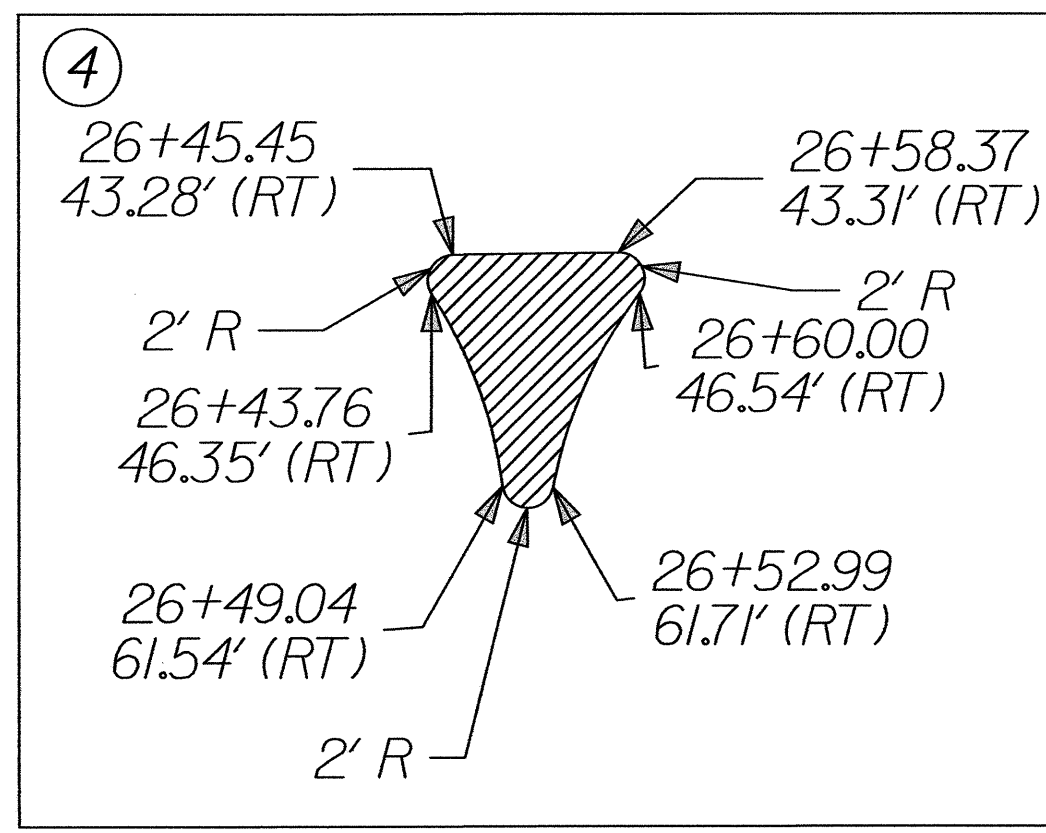
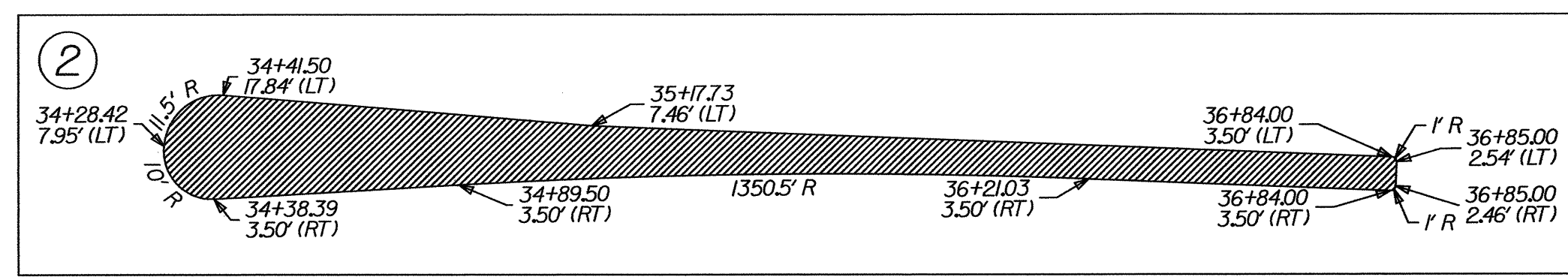
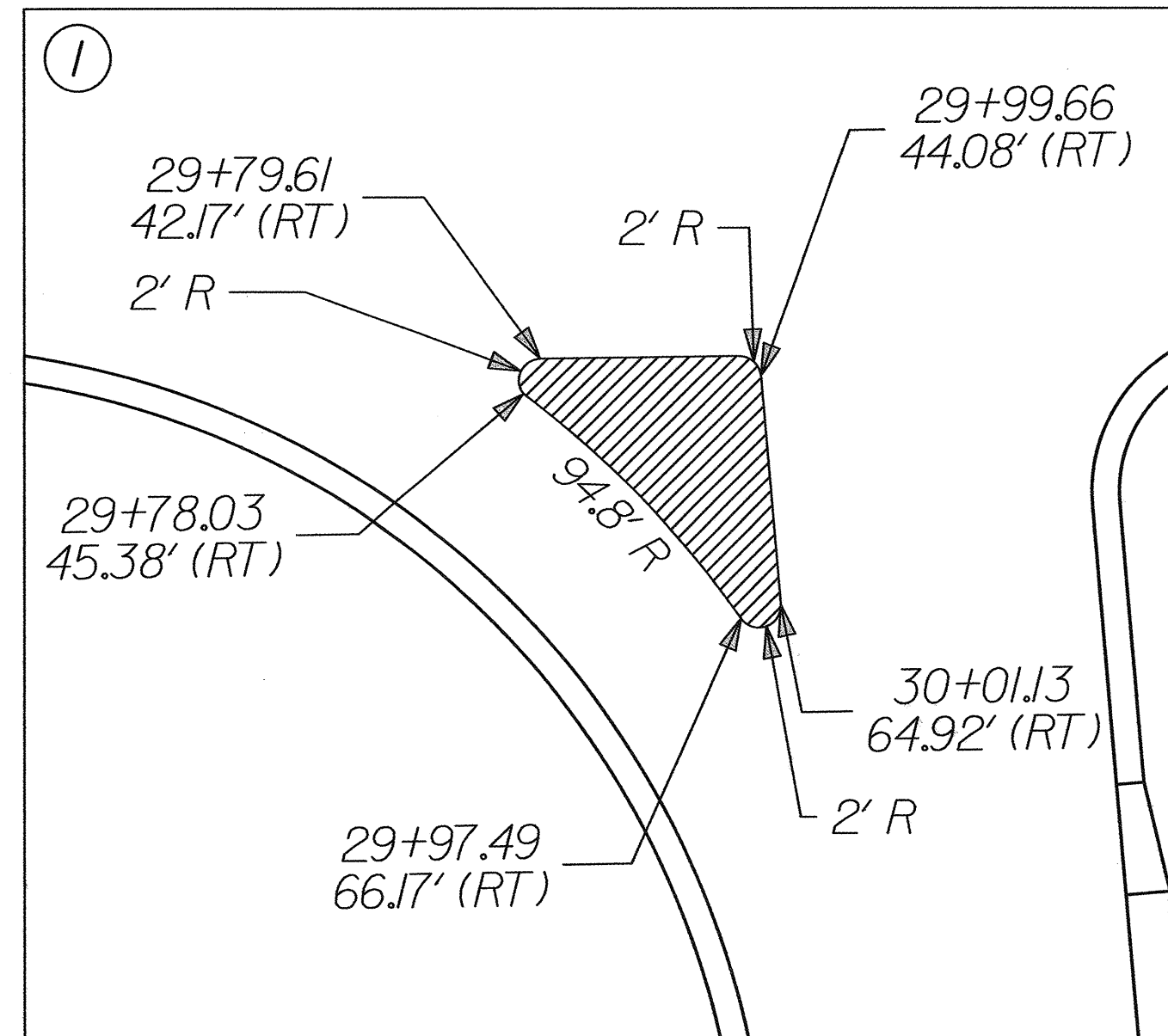


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			1 OF 1
2			4			

**DETAILS OF RADII**



**DETAILS OF MONOLITHIC ISLANDS**



**CONTROL POINT DATA**

CONTROL POINT NO.	NORTHING	EASTING
GPS W-4404-2	753,408.7458	2,111,476.2300
BL-100	753,834.8301	2,111,651.9050
GPS W-4404-1	754,293.4913	2,111,804.5390
BL-101	754,763.6951	2,112,005.3960
BL-102	755,356.6940	2,112,230.2710
BL-103	755,732.4830	2,112,382.0151
BL-104	756,268.8670	2,112,594.6780
BL-105	756,669.0820	2,112,752.5212
RPA-204	755,197.7150	2,112,753.1530
RPA-205	754,955.9751	2,113,192.4740
RPA-207	755,886.1650	2,111,934.0629
RPA-208	756,024.3102	2,111,507.5430
RPA-209	756,202.0350	2,111,146.5580
BY-200	756,477.1760	2,112,264.6770
BY-202	756,076.8965	2,112,733.6798
10+00 -L-	753,491.4575	2,111,469.5283
10+00 -Y1-	755,350.8915	2,112,178.8253
10+00 -Y2-	755,724.8497	2,112,323.7930

**RIGHT OF WAY AREA DATA**

PARCEL NO.	PROPERTY OWNERS NAMES	TOTAL AREA	AREA TAKEN	AREA REMAINING RT.	AREA REMAINING LT.	CONST. EASE.	PERM. DRAIN. EASE.	PERM. UNDERGRD. EASE.
2	MARGARET B. WEEKS, ET AL	0.77 AC (33,541.33 S.F.)	1,458.89 S.F.	-	32,082.44 S.F.	1,059.06 S.F.	333.60 S.F.	0.00 S.F.
3	CROOKED CREEK JOINT VENTURE	0.88 AC (38,332.95 S.F.)	1,387.12 S.F.	-	36,945.83 S.F.	1,112.22 S.F.	187.40 S.F.	0.00 S.F.
4	CHARLES W. GADDY	14.47 AC (630,315.72 S.F.)	15,507.79 S.F.	-	614,807.93 S.F.	32,647.42 S.F.	2,049.88 S.F.	0.00 S.F.
5	I.T.B. HOLDINGS, LLC	25.00 AC (1,089,004.36 S.F.)	6,510.55 S.F.	1,082,493.81 S.F.	-	13230.95 S.F.	0.00 S.F.	0.00 S.F.
6	COURTYARD BY MARRIOTT LIMITED PARTNERSHIP	4.67 AC (203,556.00 S.F.)	9,430.52 S.F.	-	194,125.48 S.F.	798.54 S.F.	364.89 S.F.	9,604.67 S.F.
7	HOWARD E. MANNING TRUSTEE	14.26 AC (621,168.09 S.F.)	5,820.07 S.F.	615,348.02 S.F.	-	4,180.70 S.F.	0.00 S.F.	0.00 S.F.
8	STATE EMPLOYEES CREDIT UNION	8.29 AC (361,113.85 S.F.)	797.30 S.F.	-	360,316.55 S.F.	474.33 S.F.	413.66 S.F.	0.00 S.F.
9	HODGE & KITTRELL ASSOCIATES	1.04 AC (45,302.58 S.F.)	296.67 S.F.	45,005.91 S.F.	-	618.53 S.F.	0.00 S.F.	0.00 S.F.
10	SEBY B. JONES CHARITABLE LEAD TRUST	9.60 AC (418,090.55 S.F.)	508.90 S.F.	417,581.65 S.F.	-	0.00 S.F.	0.00 S.F.	0.00 S.F.

WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.

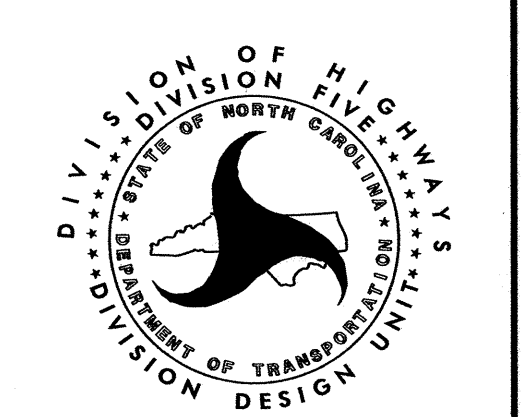
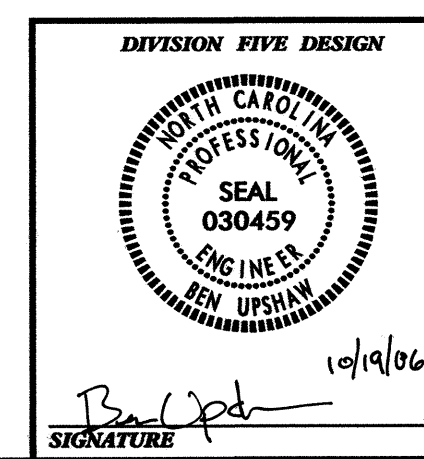
DIVISION 05 WAKE COUNTY RALEIGH

REVISIONS INT. DATE

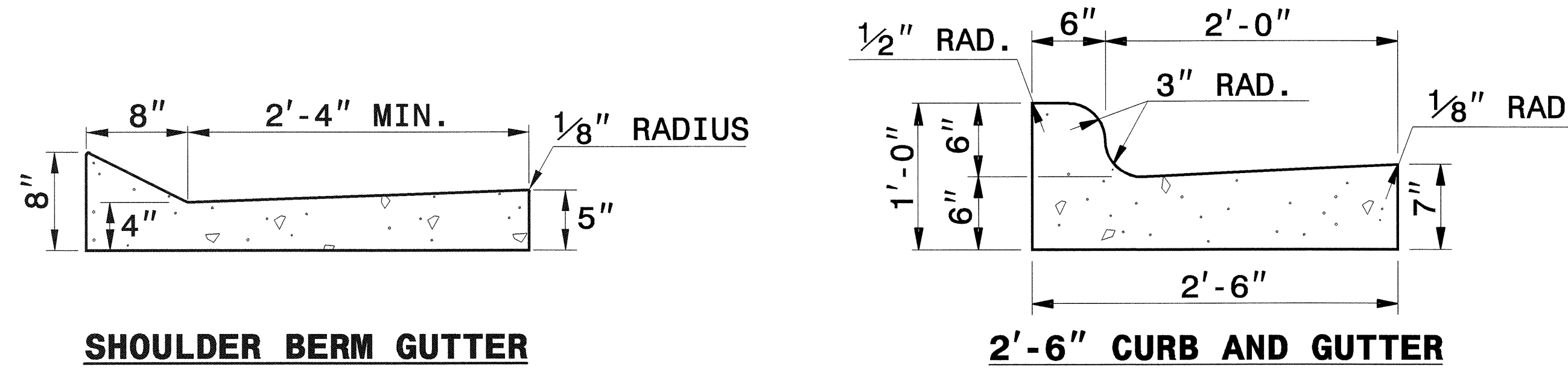
SCALE: N/A DATE: 12/2004

PREPARED BY: M. BRANDON  
REVIEWED BY: B. UPshaw  
REVIEWED BY: B. JONES

N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION FIVE DESIGN UNIT

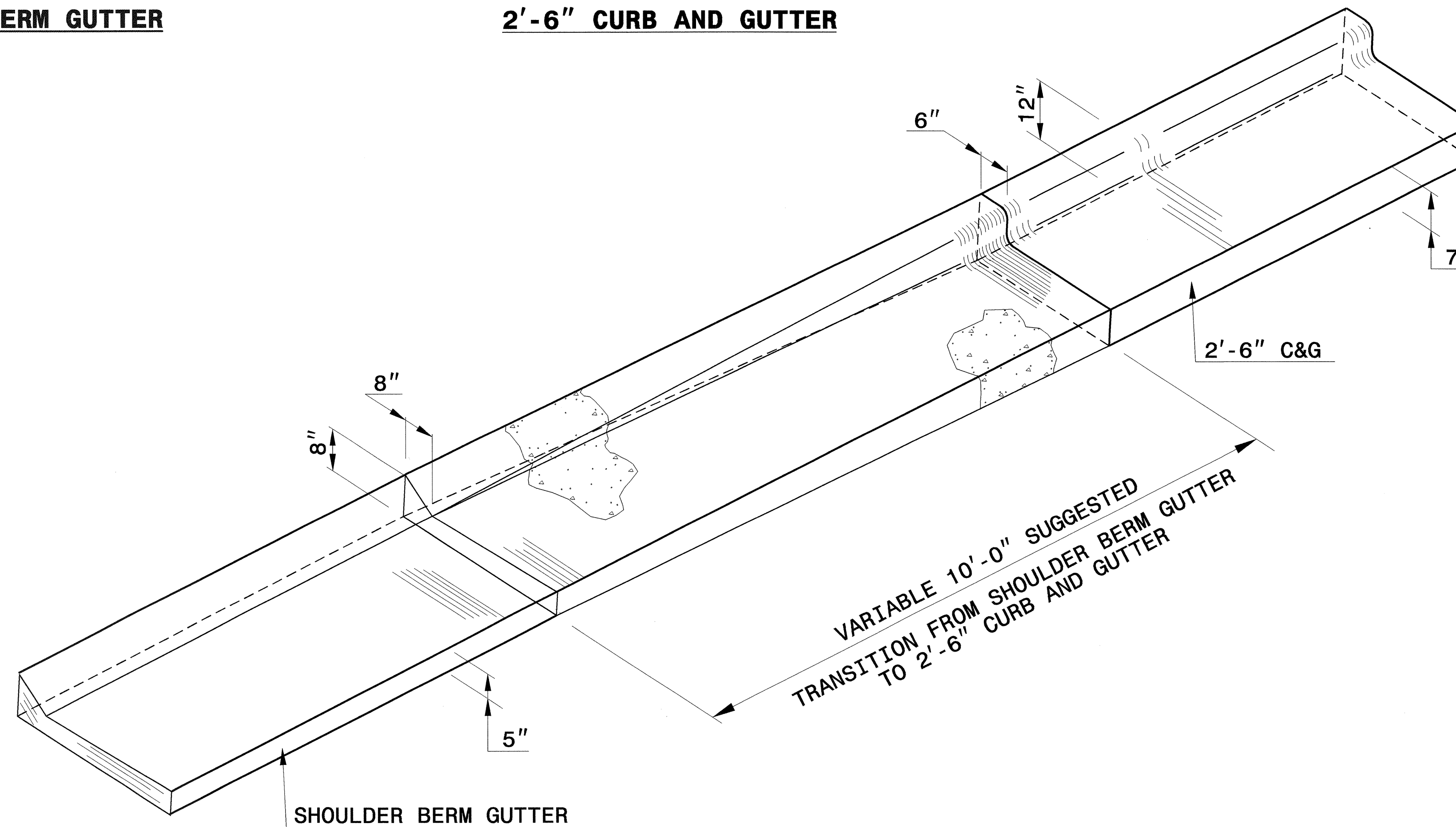


\*NOTE: SEE STD. DWG. 846.01  
FOR GENERAL NOTES



**SHOULDER BERM GUTTER**

**2'-6" CURB AND GUTTER**



**ISOMETRIC VIEW OF TRANSITION**

VARIABLE 10'-0" SUGGESTED  
TRANSITION FROM SHOULDER BERM GUTTER  
TO 2'-6" CURB AND GUTTER

NORTH CAROLINA  
 PROFESSIONAL  
 SEAL  
 022966  
 ENGINEER  
 Joe S. Hunt  
 11/2/06

**PROJECT SERVICES UNIT**  
**STANDARDS AND SPECIAL DESIGN**  
 Office 919-250-4128 FAX 919-250-4119  
**DETAIL OF SHOULDER BERM GUTTER**  
**TO 2'-6" CURB & GUTTER**  
**TRANSITION SECTION**

ORIGINAL BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 MODIFIED BY: *rnbritt* DATE: 05-24-04  
 CHECKED BY: *Joe S. Hunt* DATE: 11/2/06  
 FILE SPEC: *ps22833*

5/14/99  
 26-JUN-2006 14:20  
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 rnbritt AT PS22833

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201454

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION															
004300000-N	226	Lump Sum		GRADING															
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING	398200000-N	SP	Lump Sum		GENERIC WALL ITEM SOIL NAIL RETAINING WALLS	515500000-E	1409	30	LF	ELECTRICAL DUCT, TYPE BD, SIZE ***** (3")	745600000-E	1726	6,215	LF	LEAD-IN CABLE (***** (18-4))
005700000-E	226	20	CY	UNDERCUT EXCAVATION	402500000-E	901	22	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (D)	516000000-E	1409	126	LF	ELECTRICAL DUCT, TYPE JA, SIZE ***** (3")	750400000-E	SP	620	LF	COMMUNICATIONS CABLE (** TWISTED-PAIR) (25)
014100000-E	240	700	LF	BERM DITCH CONSTRUCTION	402500000-E	901	138	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (E)	520500000-E	1410	757	LF	** #8 W/G FEEDER CIRCUIT IN ***** CONDUIT (2, 1.5")	750400000-E	SP	620	LF	COMMUNICATIONS CABLE (** TWISTED-PAIR) (6)
031800000-E	300	181	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS	402500000-E	901	138	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (F)	524000000-N	1411	2	EA	ELECTRICAL JUNCTION BOXES ***** (PC 18)	757518000-N	1735	5	EA	CABLE TRANSFER
034300000-E	310	16	LF	15" SIDE DRAIN PIPE	402500000-E	901	138	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (F)	525200000-N	1412	6	EA	UNDERPASS LUMINAIRES ***** (WM 150W)	762400000-N	1743	1	EA	SIGNAL PEDESTAL WITH FOUNDATION
070800000-E	310	108	EA	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK	407200000-E	903	610	LF	SUPPORTS, 3-LB STEEL U-CHANNEL	525300000-N	1412	Lump Sum		763600000-N	1745	18	EA	SIGN FOR SIGNALS	
080600000-E	310	3	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK	409600000-N	904	1	EA	SIGN ERECTION, TYPE D	525500000-N	1413	Lump Sum		764800000-N	SP	9	EA	RELOCATE EXISTING SIGN	
099500000-E	340	620	LF	PIPE REMOVAL	410200000-N	904	22	EA	SIGN ERECTION, TYPE E	525500000-N	1413	Lump Sum		768400000-N	1750	2	EA	SIGNAL CABINET FOUNDATION	
107700000-E	SP	10	TON	#57 STONE	410800000-N	904	6	EA	SIGN ERECTION, TYPE F	581500000-N	1530	2	EA	REMOVE WATER METER	782800000-N	1751	2	EA	CONTROLLER WITH CABINET (NEMA TS-2, TYPE 2 CONTROLLER, TYPE 1 CABINET, BASE MOUNTED)
122000000-E	545	60	TON	INCIDENTAL STONE BASE	411610000-N	904	3	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (D)	581500000-N	1530	1	EA	REMOVE FIRE HYDRANT	785200000-N	1751	13	EA	DETECTOR CARD (NEMA TS-2)
149100000-E	610	3,560	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C	411610000-N	904	2	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (E)	582200000-N	SP	1	EA	GENERIC UTILITY ITEM ADJUST EXISTING 10" RPZ BACKFLOW PREVENTER					
150300000-E	610	1,620	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	415500000-N	907	24	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	582200000-N	SP	1	EA	GENERIC UTILITY ITEM FIRE HYDRANT, 150# WP					
152300000-E	610	3,850	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	419200000-N	907	7	EA	DISPOSAL OF SUPPORT, U-CHANNEL	582200000-N	SP	1	EA	GENERIC UTILITY ITEM RELOCATE EXISTING 4" WATER METER WITH NEW METER VAULT					
156000000-E	620	230	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22	440000000-E	1110	394	SF	WORK ZONE SIGNS (STATIONARY)	582200000-N	SP	2	EA	GENERIC UTILITY ITEM RELOCATE EXISTING WATER METER WITH NEW METER BOX					
156500000-E	620	231	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 70-22	440500000-E	1110	372	SF	WORK ZONE SIGNS (PORTABLE)	582200000-N	SP	2	EA	GENERIC UTILITY ITEM RELOCATE EXISTING WATER METER WITH NEW METER BOX					
169300000-E	654	4	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR	441000000-E	1110	70	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)	582200000-N	SP	2	EA	GENERIC UTILITY ITEM RELOCATE EXISTING WATER METER WITH NEW METER BOX					
225300000-E	840	2	CY	PIPE COLLARS	441500000-N	1115	3	EA	FLASHING ARROW PANELS, TYPE C	582200000-N	SP	1	EA	GENERIC UTILITY ITEM REMOVE EXISTING CHECK VALVE VAULT					
228600000-N	840	51	EA	MASONRY DRAINAGE STRUCTURES	442000000-N	1120	4	EA	CHANGEABLE MESSAGE SIGN	582200000-N	SP	1	EA	GENERIC UTILITY ITEM REMOVE EXISTING CHECK VALVE VAULT					
230800000-E	840	48	LF	MASONRY DRAINAGE STRUCTURES	443000000-N	1130	200	EA	DRUMS	588800000-E	SP	65	LF	GENERIC UTILITY ITEM 1" COPPER WATER PIPE, TYPE K					
235200000-N	840	9	EA	FRAME WITH GRATE, STD 840.*** (840.16)	443500000-N	1135	100	EA	CONES	588800000-E	SP	10	LF	GENERIC UTILITY ITEM 10" DI WATER PIPE, PC 350					
235500000-N	840	2	EA	FRAME WITH GRATE, STD 840.29 (840.29)	444500000-E	1145	128	LF	BARRICADES (TYPE III)	588800000-E	SP	28	LF	GENERIC UTILITY ITEM 2" COPPER WATER PIPE, TYPE K					
237400000-N	840	1	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	445000000-N	1150	3,000	HR	FLAGGER	588800000-E	SP	28	LF	GENERIC UTILITY ITEM 4" DI WATER PIPE, PC 350					
237400000-N	840	20	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	448000000-N	1165	3	EA	TMA	588800000-E	SP	10	LF	GENERIC UTILITY ITEM 6" DI WATER PIPE, PC 350					
237400000-N	840	20	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	451000000-N	SP	200	HR	POLICE	588800000-E	SP	25	LF	GENERIC UTILITY ITEM 6" DI WATER PIPE, PC 350					
237400000-N	840	7	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	451600000-N	1180	100	EA	SKINNY DRUM	588800000-E	SP	25	LF	GENERIC UTILITY ITEM 6" DI WATER PIPE, PC 350					
237400000-N	840	7	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	452000000-N	1266	80	EA	TUBULAR MARKERS (FIXED)	590600000-E	SP	600	LB	GENERIC UTILITY ITEM DUCTILE IRON WATER PIPE FITTINGS, 250PSI MIN WP					
239600000-N	840	10	EA	FRAME WITH COVER, STD 840.54	468500000-E	1205	2,582	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	600000000-E	1605	400	LF	TEMPORARY SILT FENCE					
240700000-N	840	2	EA	STEEL FRAME WITH TWO GRATES, STD 840.37	468600000-E	1205	9,747	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	600900000-E	1610	15	TON	STONE FOR EROSION CONTROL, CLASS B					
254900000-E	846	4,225	LF	2'-6" CONCRETE CURB & GUTTER	469500000-E	1205	430	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	601200000-E	1610	10	TON	SEDIMENT CONTROL STONE					
255600000-E	846	655	LF	SHOULDER BERM GUTTER	471000000-E	1205	1,500	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	603000000-E	1630	50	CY	SILT EXCAVATION					
257700000-E	846	535	LF	CONCRETE EXPRESSWAY GUTTER	472100000-E	1205	24	EA	THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	700000000-E	1705	6	EA	PEDESTRIAN SIGNAL HEAD (**, ** SECTION) (16", 1 SECTION W/COUNTDOWN)					
259100000-E	848	2,390	SY	4" CONCRETE SIDEWALK	472500000-E	1205	71	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	706000000-E	1705	8,080	LF	SIGNAL CABLE					
260500000-N	848	20	EA	CONCRETE WHEELCHAIR RAMPS	481000000-E	1205	14,894	LF	PAINT PAVEMENT MARKING LINES (4")	712000000-E	1705	37	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)					
261900000-E	850	90	SY	4" CONCRETE PAVED DITCH	482000000-E	1205	1,200	LF	PAINT PAVEMENT MARKING LINES (8")	714400000-E	1705	8	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)					
262700000-E	852	440	SY	4" CONCRETE ISLAND COVERS	483500000-E	1205	1,148	LF	PAINT PAVEMENT MARKING LINES (24")	725200000-E	1710	200	LF	MESSENGER CABLE (1/4")					
265500000-E	852	950	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	484000000-N	1205	12	EA	PAINT PAVEMENT MARKING CHARACTER	726400000-E	1710	1,900	LF	MESSENGER CABLE (3/8")					
271000000-N	854	2	EA	CONCRETE BARRIER TRANSITION SECTION	484500000-N	1205	82	EA	PAINT PAVEMENT MARKING SYMBOL	728800000-E	1715	75	LF	PAVED TRENCHING (***** (1, 2"))					
272400000-E	857	240	LF	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED	485000000-E	1205	40	LF	REMOVAL OF PAVEMENT MARKING LINES (4")	730000000-E	1715	715	LF	UNPAVED TRENCHING (***** (1, 2"))					
300000000-N	SP	2	EA	IMPACT ATTENUATOR UNIT, TYPE 350	485000000-E	1205	40	LF	REMOVAL OF PAVEMENT MARKING LINES (4")	730100000-E	1715	600	LF	DIRECTIONAL DRILL (***** (1, 2"))					
303000000-E	862	650	LF	STEEL BM GUARDRAIL	485000000-E	1205	40	LF	REMOVAL OF PAVEMENT MARKING LINES (4")	732400000-N	1716	8	EA	JUNCTION BOX (STANDARD SIZE)					
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS	487000000-E	1205	155	LF	REMOVAL OF PAVEMENT MARKING LINES (24")	734800000-N	1716	1	EA	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)					
321000000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1	490000000-N	1251	155	EA	PERMANENT RAISED PAVEMENT MARKERS	736000000-N	1720	10	EA	WOOD POLE					
327000000-N	SP	1	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	504500000-N	1404	4	EA	LIGHT STANDARD, TYPE MTLS ***** (35', SA 15')	737200000-N	1721	29	EA	GUY ASSEMBLY					
336000000-E	863	700	LF	REMOVE EXISTING GUARDRAIL	507000000-N	1405	4	EA	STANDARD FOUNDATION ***** (TYPE R1)	739600000-E	1722	3	EA	1/2" RISER WITH WEATHERHEAD					
364900000-E	876	4	TON	RIP RAP, CLASS B	512500000-E	1407	70	LF	ELECTRIC SERVICE LATERAL ***** (3 #1/0, USE)	740800000-E	1722	1	EA	1" RISER WITH WEATHERHEAD					
365600000-E	876	14	SY	FILTER FABRIC FOR DRAINAGE	514500000-N	1408	1	EA	LIGHT CONTROL EQUIPMENT, TYPE RW ***** (240/480 VOLT)	742000000-E	1722	14	EA	2" RISER WITH WEATHERHEAD					

\*\*\*\*\* BEGIN SCHEDULE AA \*\*\*\*\*  
\*\*\*\*\* (3 ALTERNATES) \*\*\*\*\*

\*\*\* OR \*\*\*

\*\*\* OR \*\*\*

\*\*\*\*\* END SCHEDULE AA \*\*\*\*\*









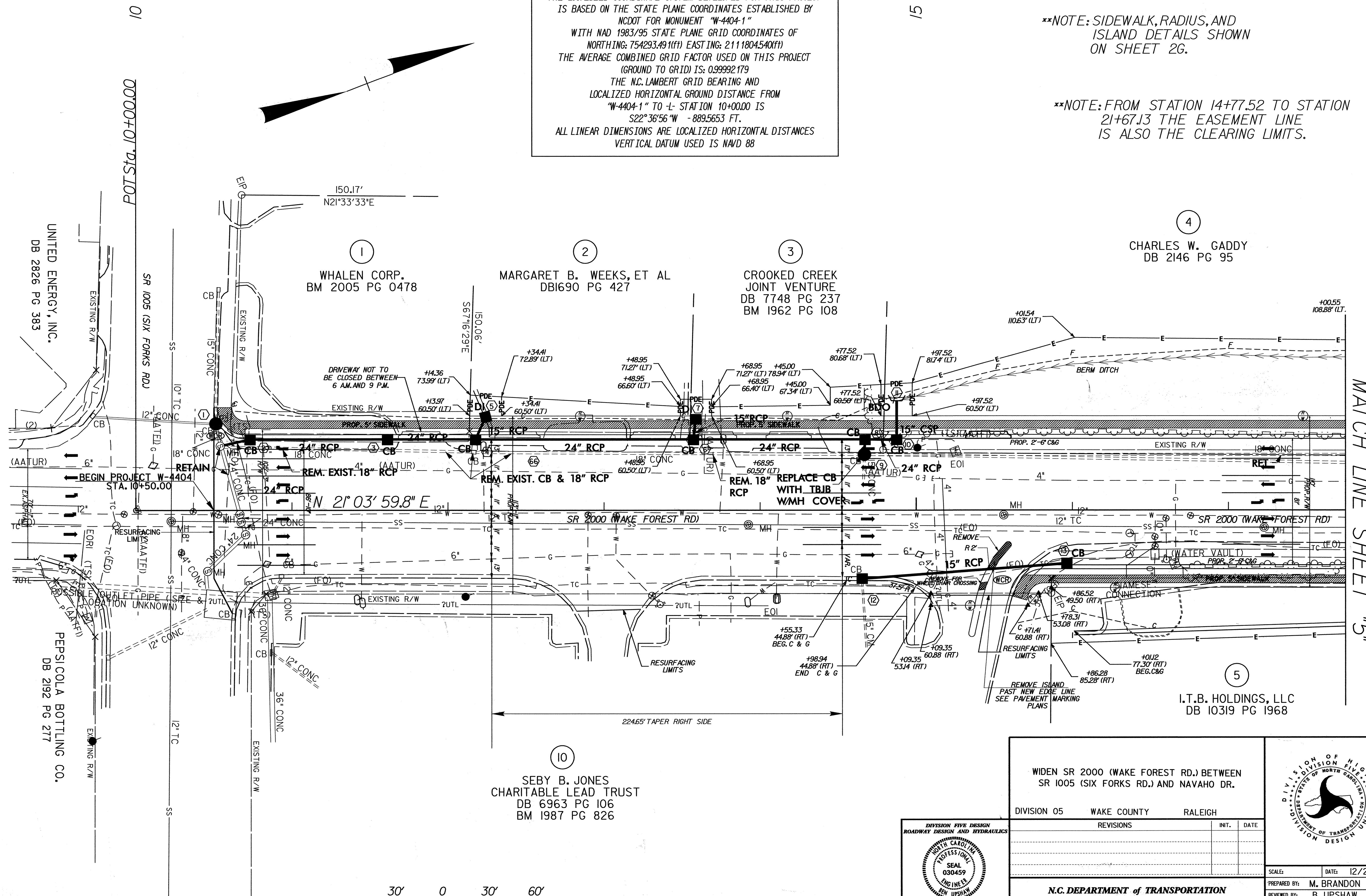


### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W-4404-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 754293.491(Ft) EASTING: 2111804.540(Ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99992179 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W-4404-1" TO -L- STATION 10+00.00 IS S22°36'56"W - 889.5653 FT. ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

\*\*NOTE: SIDEWALK, RADIUS, AND ISLAND DETAILS SHOWN ON SHEET 2G.

\*\*NOTE: FROM STATION 14+77.52 TO STATION 21+67.13 THE EASEMENT LINE IS ALSO THE CLEARING LIMITS.



4  
CHARLES W. GADDY  
DB 2146 PG 95

5  
I.T.B. HOLDINGS, LLC  
DB 10319 PG 1968

10  
SEBY B. JONES  
CHARITABLE LEAD TRUST  
DB 6963 PG 106  
BM 1987 PG 826

WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.

DIVISION 05 WAKE COUNTY RALEIGH

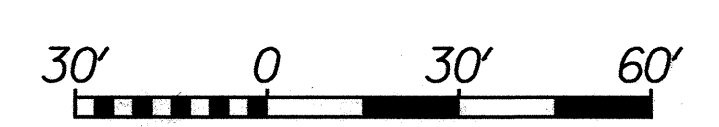
REVISIONS	INIT.	DATE

DIVISION FIVE DESIGN  
ROADWAY DESIGN AND HYDRAULICS  
NORTH CAROLINA PROFESSIONAL SEAL 030459  
ENGINEER  
B. UPSHAW  
10/19/06  
P.E.



N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION FIVE DESIGN UNIT

SCALE: DATE: 12/2004  
PREPARED BY: M. BRANDON  
REVIEWED BY: B. UPSHAW  
REVIEWED BY: B. JONES



20

25

4

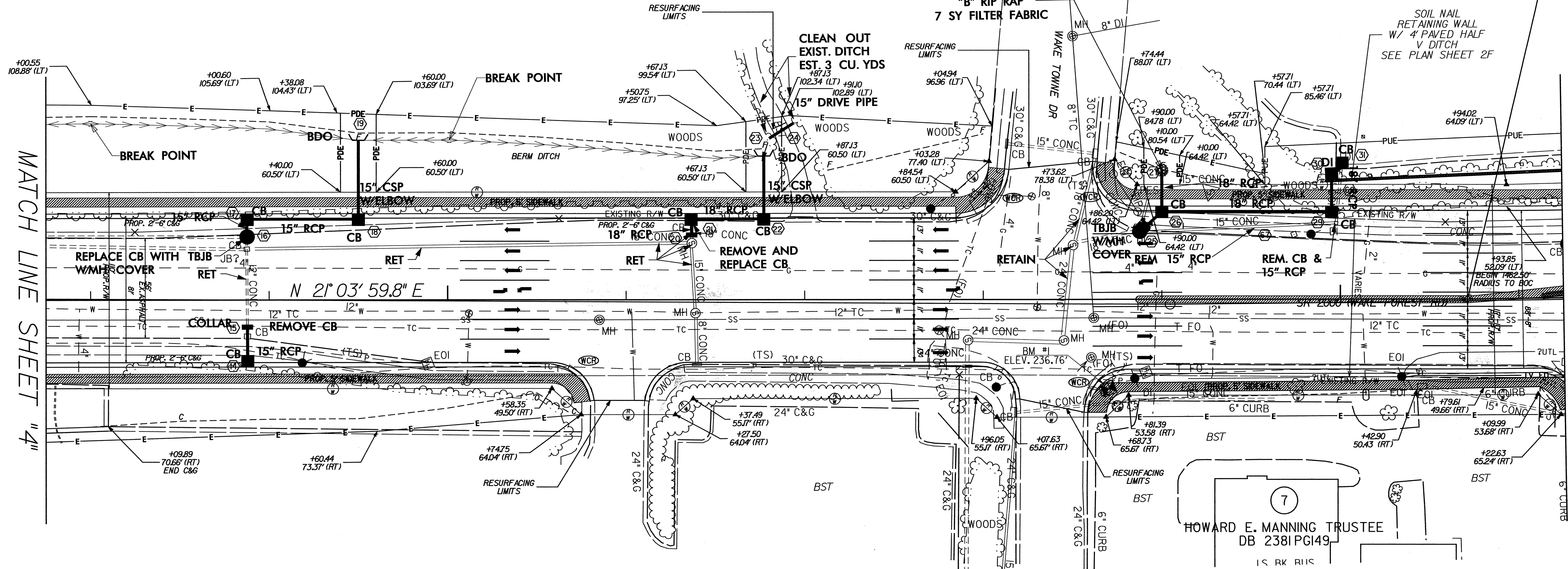
CHARLES W. GADDY  
DB 2146 PG 95

**\*\*NOTE: FROM STATION 14+77.52 TO STATION 21+67.13 THE EASEMENT LINE IS ALSO THE CLEARING LIMITS.**

6

COURTYARD BY MARRIOTT  
LIMITED PARTNERSHIP  
DB 3888 PG 280  
BM 1985 PG 1952

POT Sta. 25+71.23



MATCH LINE SHEET "4"

MATCH LINE SHEET "6"

5

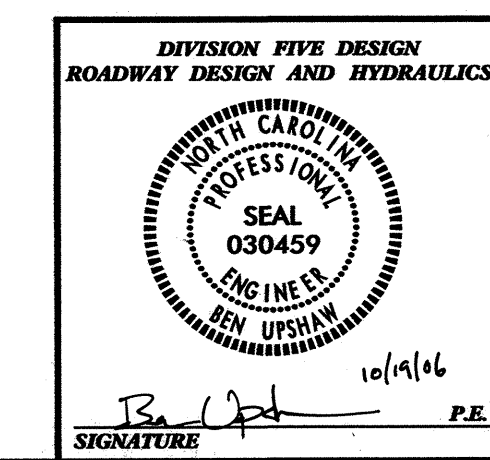
I.T.B. HOLDINGS, LLC  
DB 10319 PG 1968

7  
HOWARD E. MANNING TRUSTEE  
DB 2381 PG 149  
15 BK R115



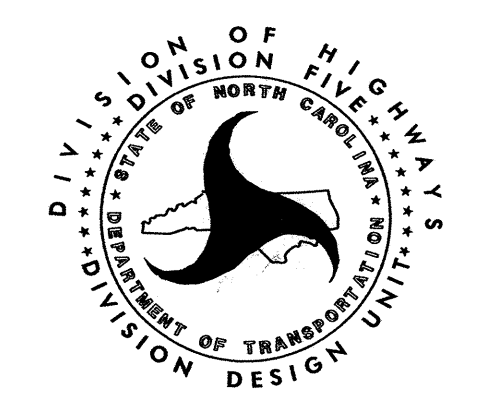
WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN  
SR 1005 (SIX FORKS RD.) AND NAVAHO DR.

DIVISION 05 WAKE COUNTY RALEIGH



REVISIONS	INIT.	DATE

N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION FIVE DESIGN UNIT

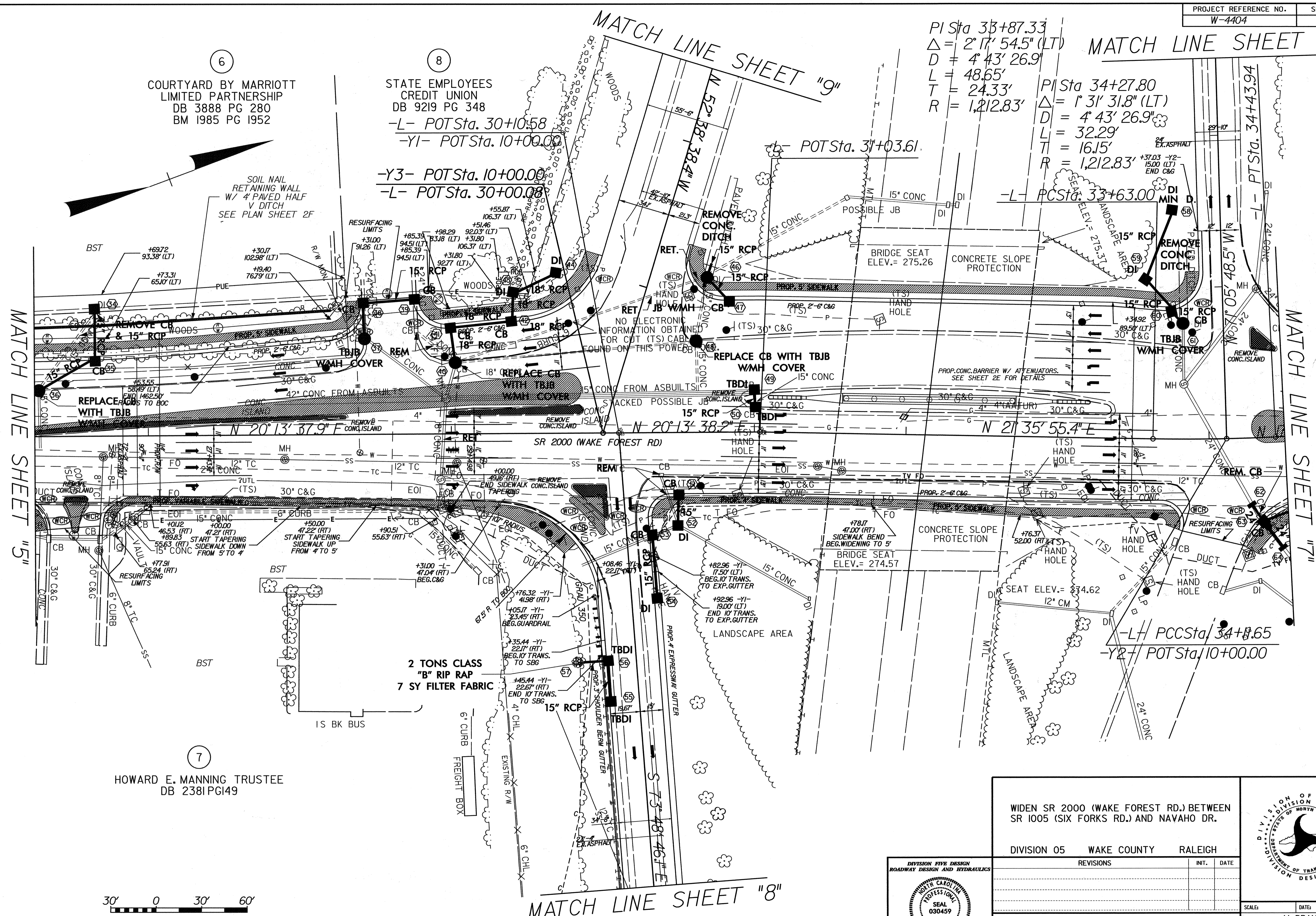


SCALE: DATE: 12/2004  
PREPARED BY: M. BRANDON  
REVIEWED BY: B. UPSHAW  
REVIEWED BY: B. JONES

MATCH LINE SHEET "9"

PI Sta 33+87.33  
 $\Delta = 2^\circ 17' 54.5" (LT)$   
 $D = 4^\circ 43' 26.9"$   
 $L = 48.65'$   
 $T = 24.33'$   
 $R = 1,212.83'$

PI Sta 34+27.80  
 $\Delta = 1^\circ 31' 31.8" (LT)$   
 $D = 4^\circ 43' 26.9"$   
 $L = 32.29'$   
 $T = 16.15'$   
 $R = 1,212.83'$



6  
 COURTYARD BY MARRIOTT LIMITED PARTNERSHIP  
 DB 3888 PG 280  
 BM 1985 PG 1952

8  
 STATE EMPLOYEES CREDIT UNION  
 DB 9219 PG 348  
 -L- POT Sta. 30+10.58  
 -Y1- POT Sta. 10+00.00

-Y3- POT Sta. 10+00.00  
 -L- POT Sta. 30+00.00

MATCH LINE SHEET "5"

MATCH LINE SHEET "7"

MATCH LINE SHEET "8"

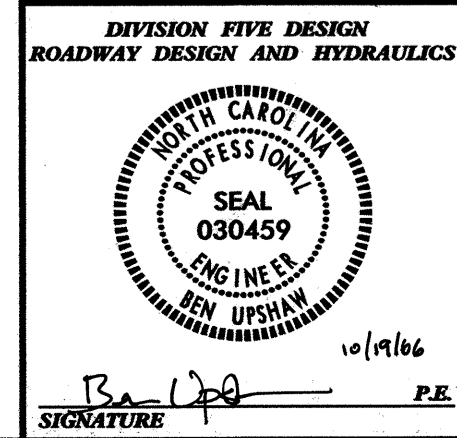


7  
 HOWARD E. MANNING TRUSTEE  
 DB 2381 PG 149

WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.

DIVISION 05 WAKE COUNTY RALEIGH

REVISIONS	INT.	DATE

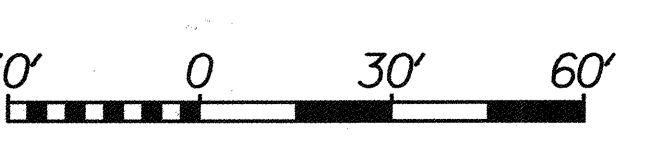
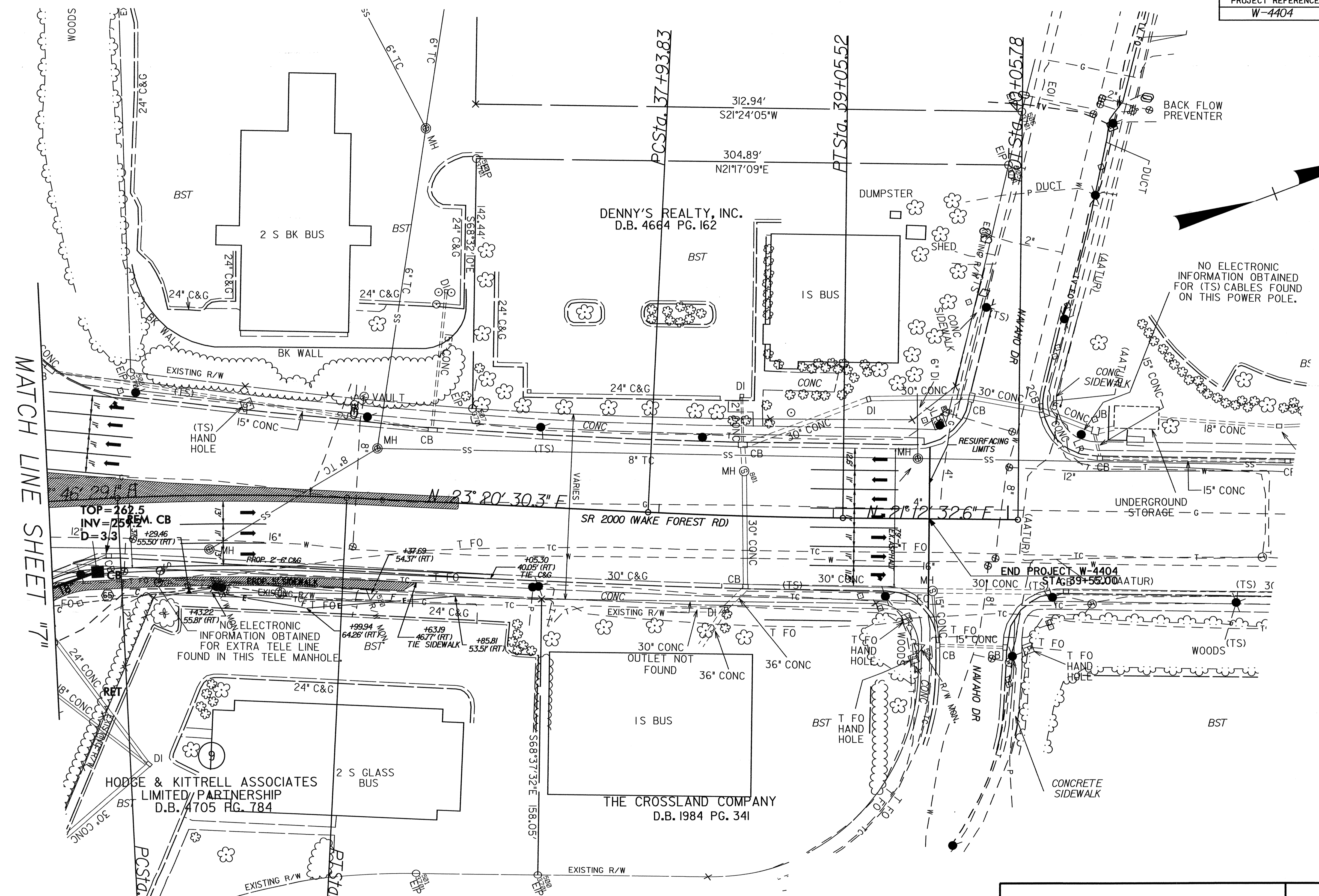


Signature: B. Upshaw  
 Date: 12/16/06

N.C. DEPARTMENT of TRANSPORTATION  
 DIVISION of HIGHWAYS  
 DIVISION FIVE DESIGN UNIT

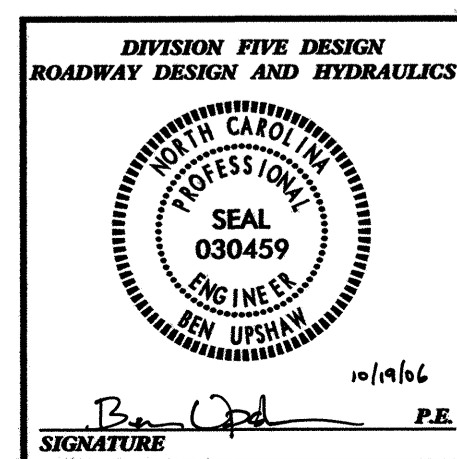


SCALE: DATE: 12/2006  
 PREPARED BY: M. BRANDON  
 REVIEWED BY: B. UPSHAW  
 REVIEWED BY: B. JONES



*PI Sta 35+55.33*  
 $\Delta = 5^{\circ}34'01.2''$  (RT)  
 $D = 4^{\circ}13'53.6''$   
 $L = 131.56'$   
 $T = 65.83'$   
 $R = 1,354.01'$

*PI Sta 38+49.68*  
 $\Delta = 2^{\circ}07'57.6''$  (LT)  
 $D = 1^{\circ}54'34.3''$   
 $L = 111.69'$   
 $T = 55.85'$   
 $R = 3,000.50'$



WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.

DIVISION 05 WAKE COUNTY RALEIGH

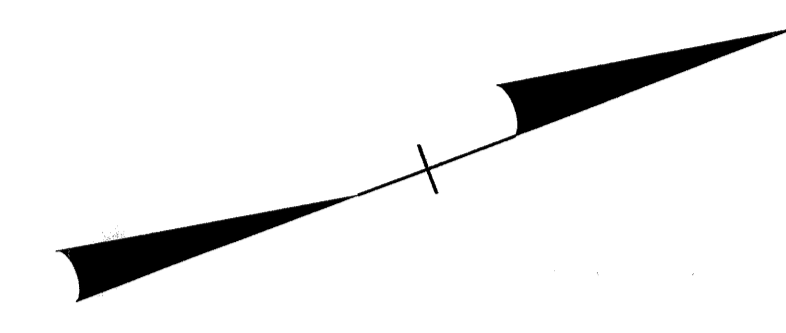
REVISIONS	INT.	DATE

N.C. DEPARTMENT of TRANSPORTATION  
 DIVISION of HIGHWAYS  
 DIVISION FIVE DESIGN UNIT



SCALE: DATE: 12/2004

PREPARED BY: M. BRANDON  
 REVIEWED BY: B. UPSHAW  
 REVIEWED BY: B. JONES



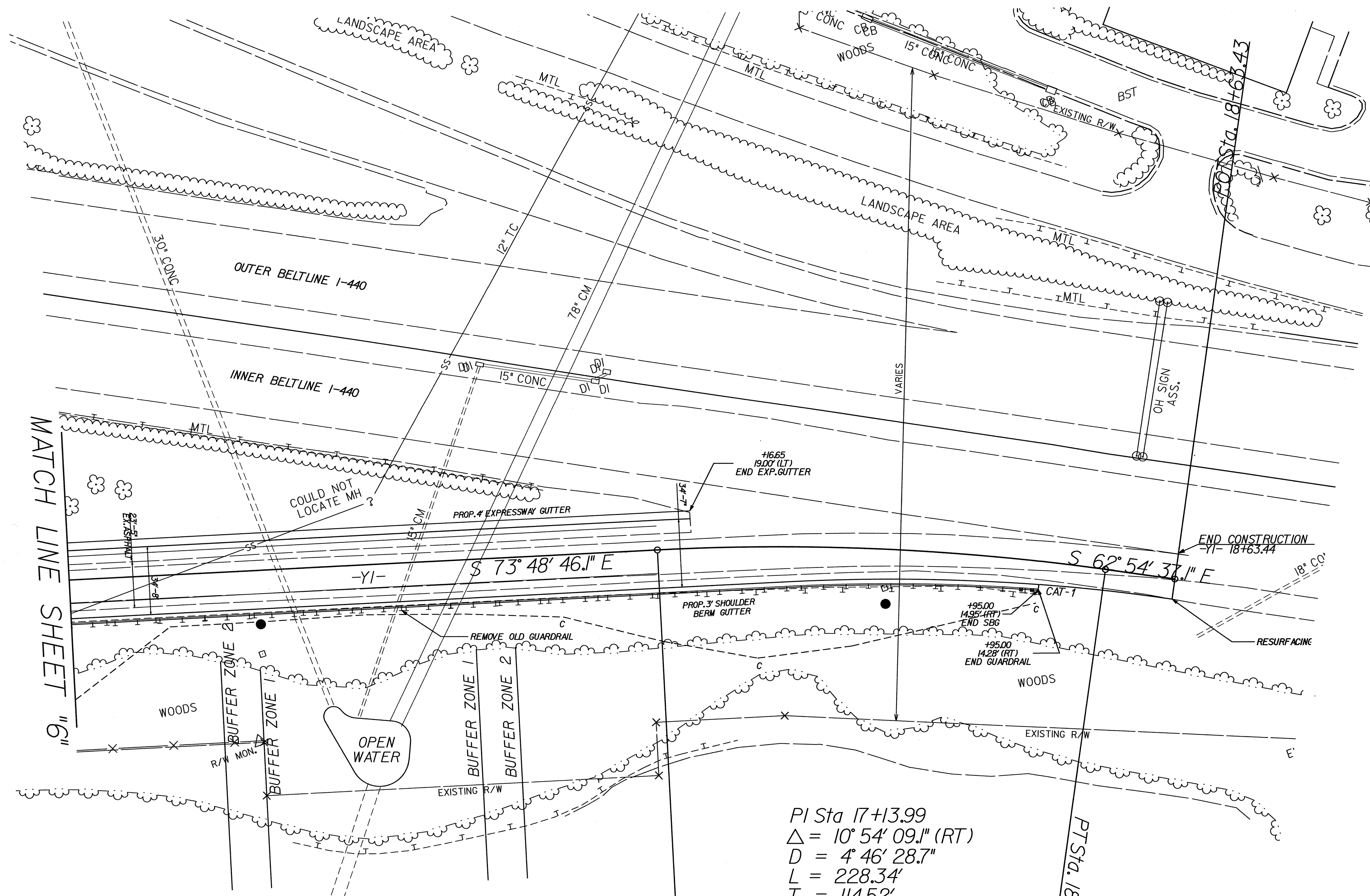
NO ELECTRONIC INFORMATION OBTAINED FOR (TS) CABLES FOUND ON THIS POWER POLE.

NO ELECTRONIC INFORMATION OBTAINED FOR EXTRA TELE LINE FOUND IN THIS TELE MANHOLE.

BACK FLOW PREVENTER

END PROJECT W-4404 STAGE 9+55.00

MATCH LINE SHEET 711



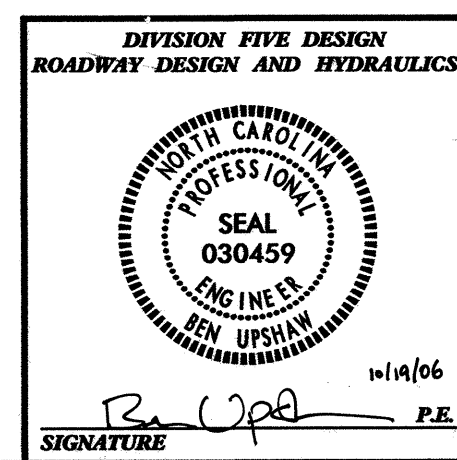
PI Sta 17+13.99  
 $\Delta = 10^\circ 54' 09.1''$  (RT)  
 $D = 4' 46' 28.7''$   
 $L = 228.34'$   
 $T = 114.52'$   
 $R = 1,200.00'$

HOWARD E. MANNING  
 D.B. 2381 PG. 149



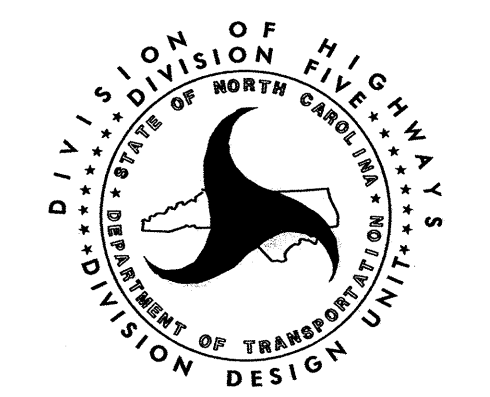
WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN  
 SR 1005 (SIX FORKS RD.) AND NAVAHO DR.

DIVISION 05 WAKE COUNTY RALEIGH



REVISIONS	INIT.	DATE

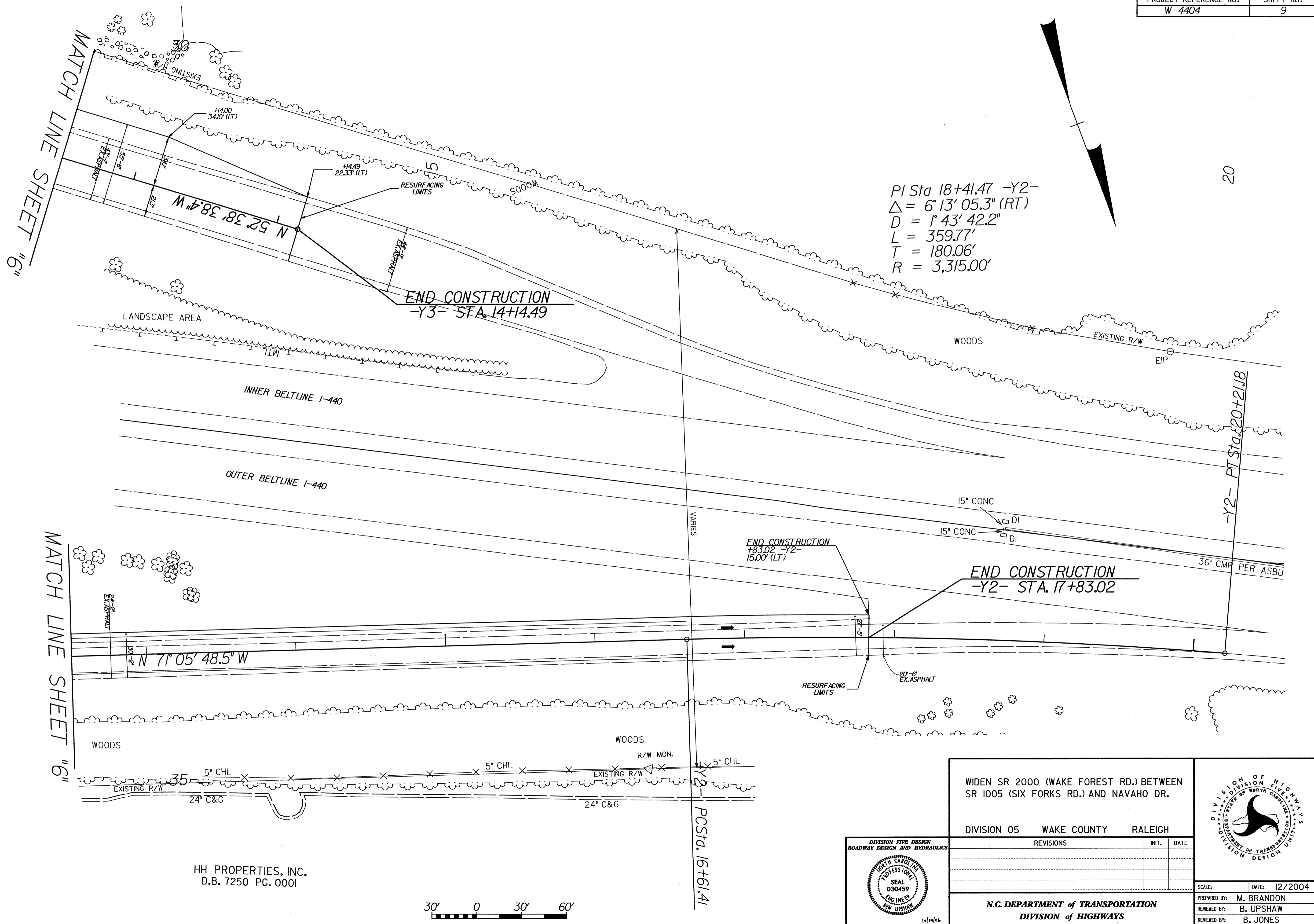
N.C. DEPARTMENT of TRANSPORTATION  
 DIVISION of HIGHWAYS  
 DIVISION FIVE DESIGN UNIT



SCALE: DATE: 12/2004  
 PREPARED BY: M. BRANDON  
 REVIEWED BY: B. UPSHAW  
 REVIEWED BY: B. JONES

MATCH LINE SHEET "6"

MATCH LINE SHEET "6"



PI Sta 18+41.47 -Y2-  
 $\Delta = 6^{\circ} 13' 05.3''$  (RT)  
 $D = 1^{\circ} 43' 42.2''$   
 $L = 359.77'$   
 $T = 180.06'$   
 $R = 3,315.00'$

20

-Y2- PI Sta. 20+21.18

HH PROPERTIES, INC.  
D.B. 7250 PG. 0001

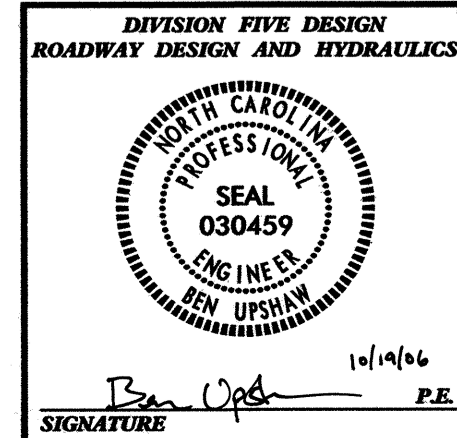


END CONSTRUCTION  
+83.02 -Y2-  
15.00' (LT)

END CONSTRUCTION  
-Y2- STA. 17+83.02

WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN  
SR 1005 (SIX FORKS RD.) AND NAVAHO DR.

DIVISION 05 WAKE COUNTY RALEIGH



REVISIONS	INIT.	DATE

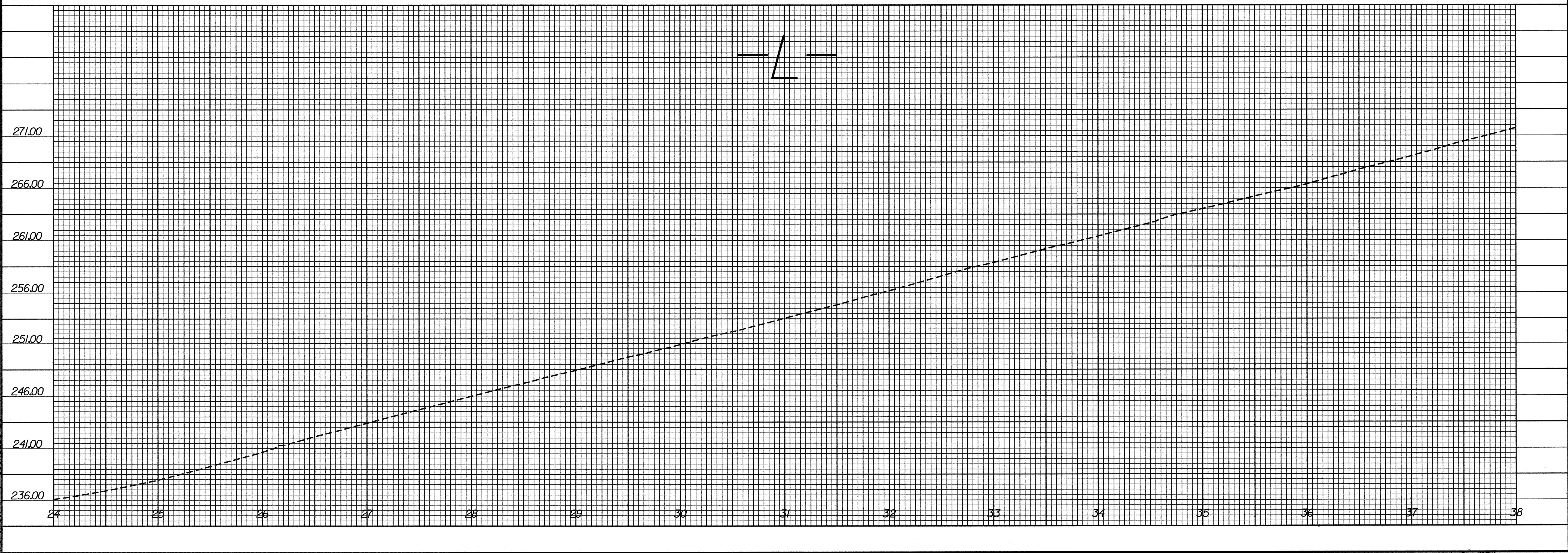
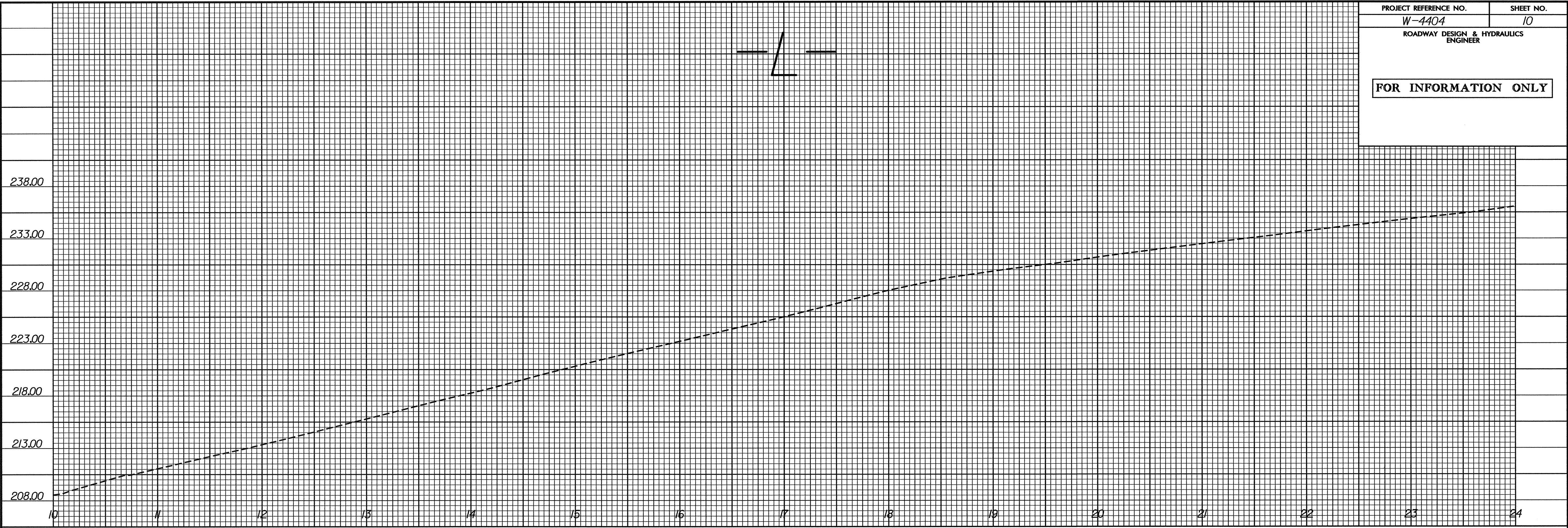
N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION FIVE DESIGN UNIT



SCALE: DATE: 12/2004  
 PREPARED BY: M. BRANDON  
 REVIEWED BY: B. UPSHAW  
 REVIEWED BY: B. JONES

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
W-4404	10
ROADWAY DESIGN & HYDRAULICS ENGINEER	
<b>FOR INFORMATION ONLY</b>	



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5/28/99

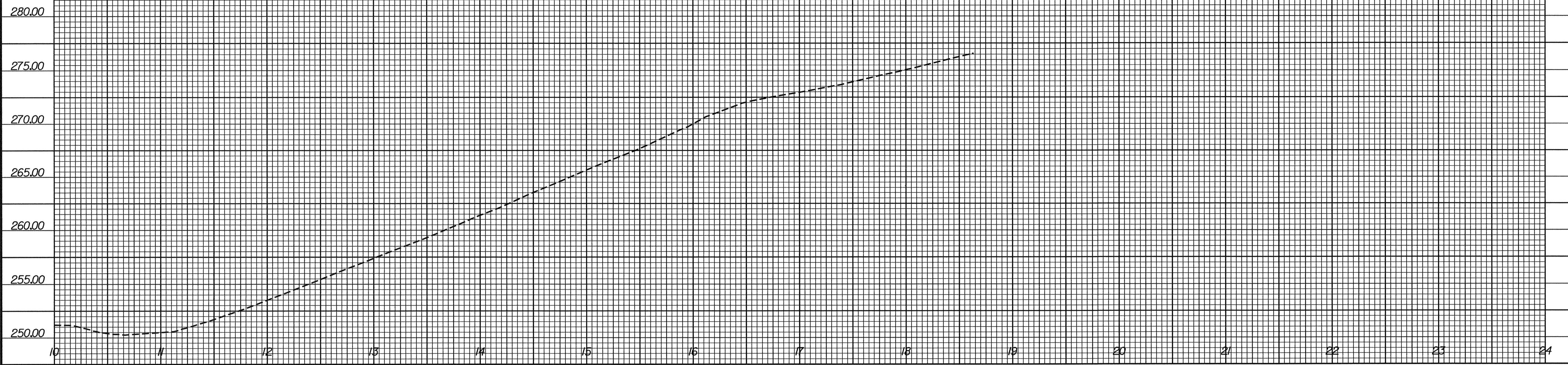
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W-4404 11

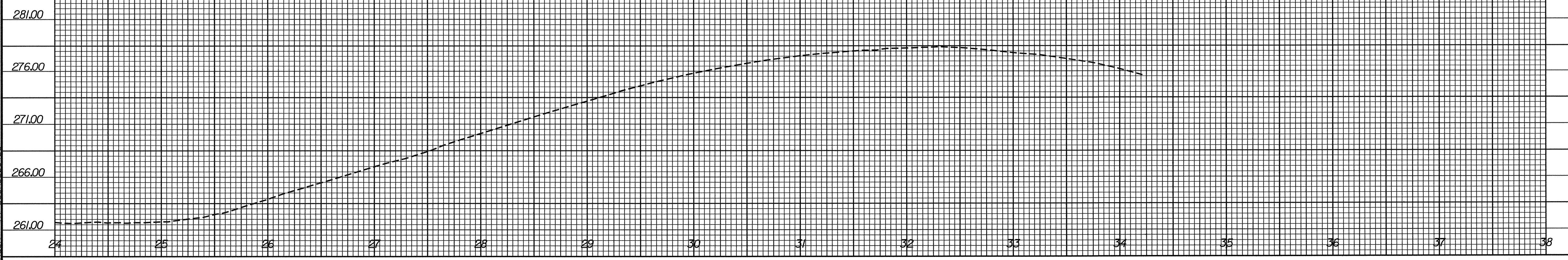
ROADWAY DESIGN & HYDRAULICS  
ENGINEER

FOR INFORMATION ONLY

-Y1-



-Y2-



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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
W-4404	12

ROADWAY DESIGN & HYDRAULICS  
ENGINEER

FOR INFORMATION ONLY

-Y3-

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