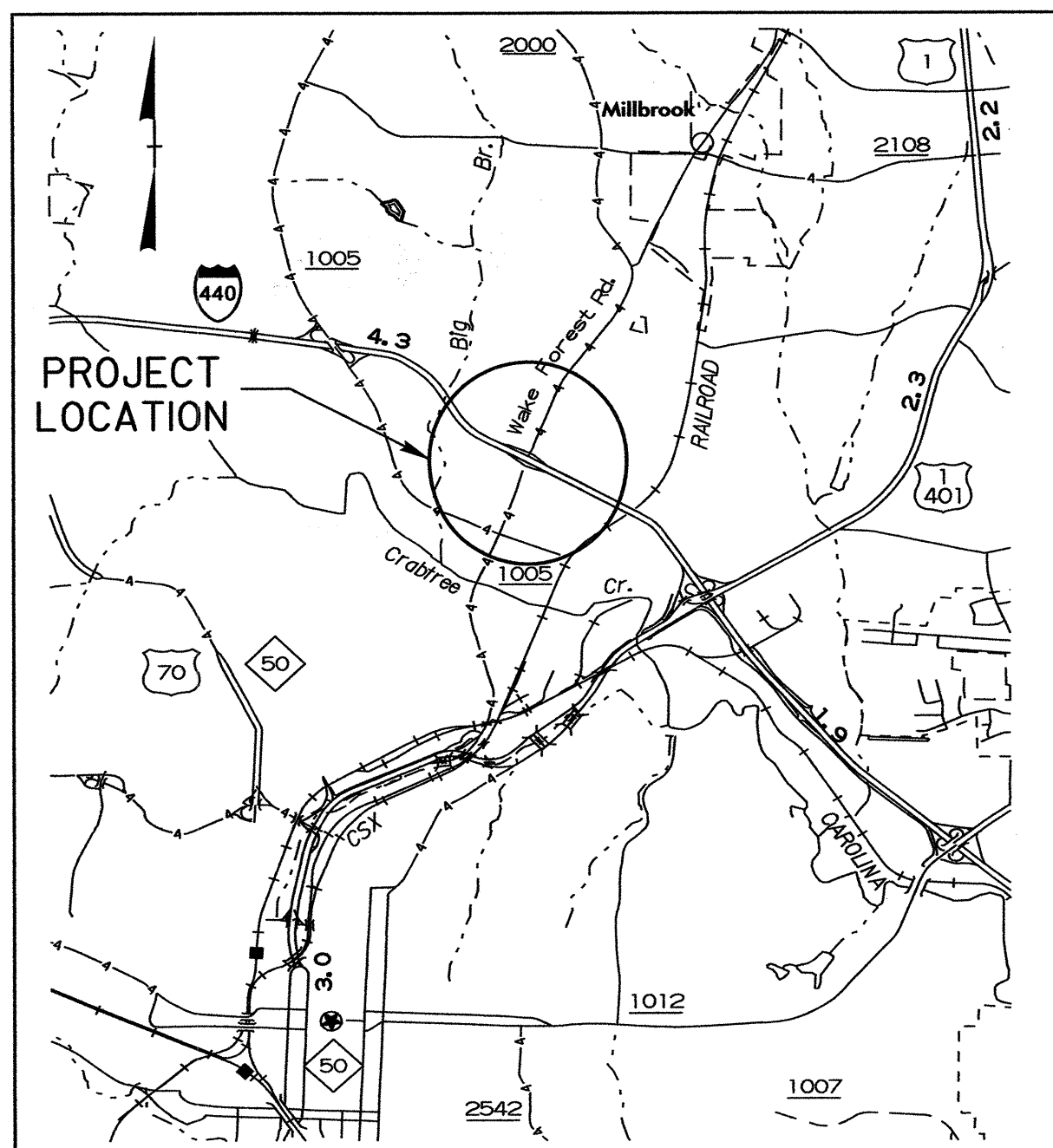


PROJECT: C201886 T.I.P. Project: W-4404

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See Sheet 1-A For Conventional Symbols



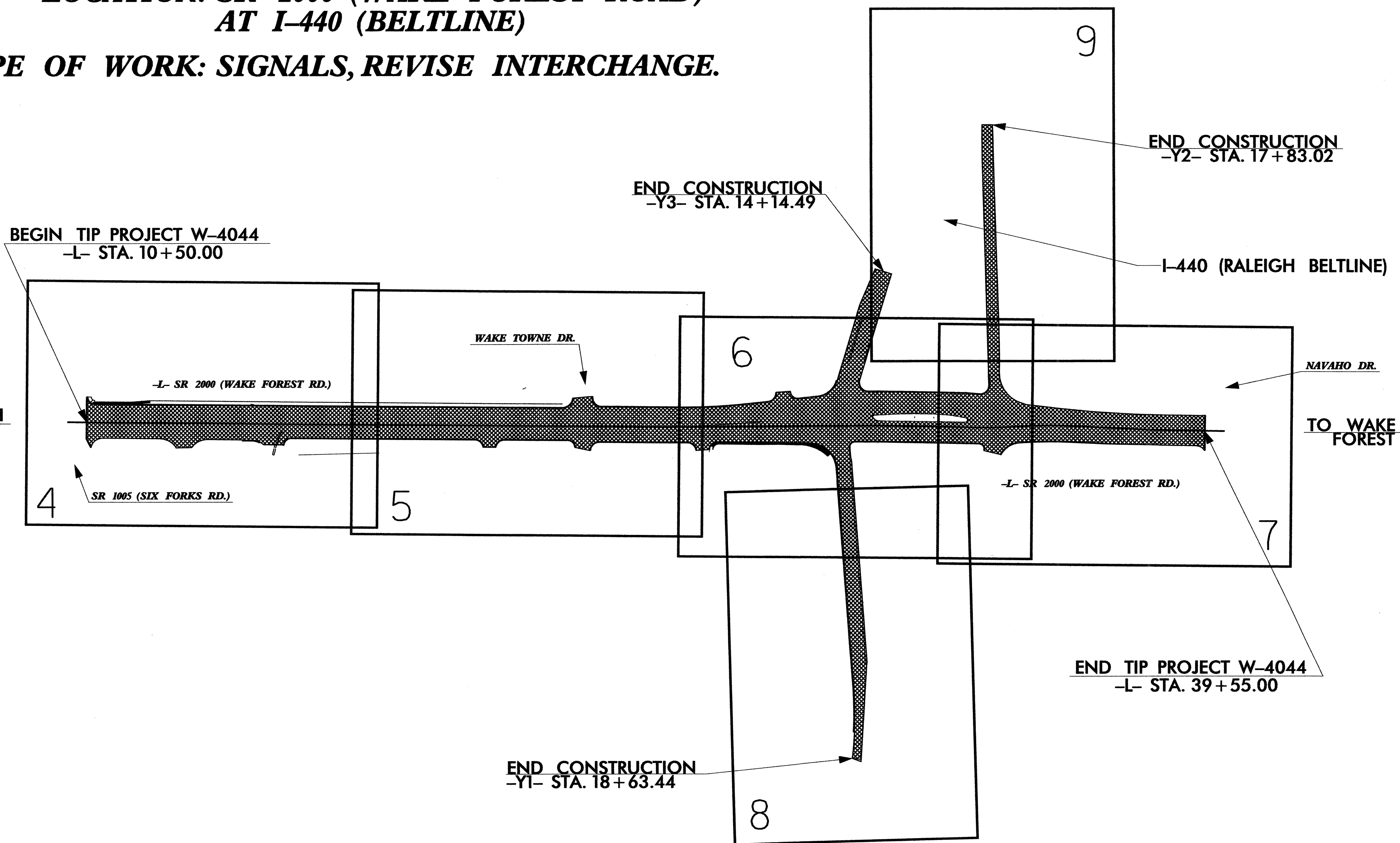
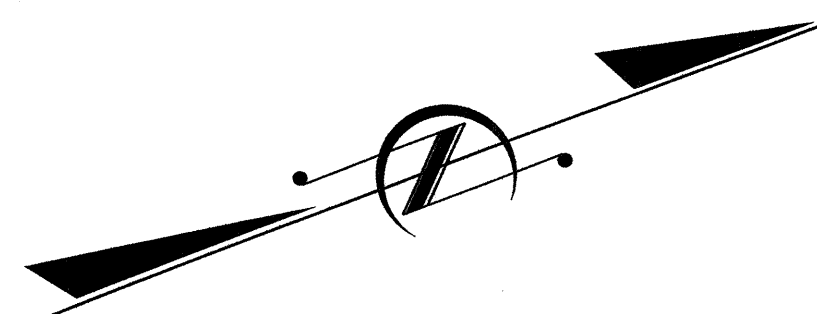
**VICINITY MAP SHOWING
LOCATION OF PROJECT 35156.3.1**

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
WAKE COUNTY

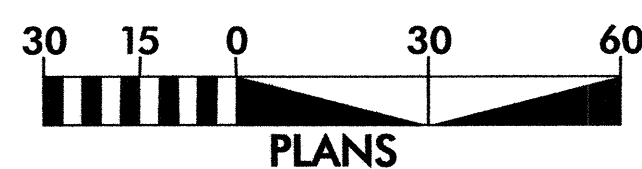
**LOCATION: SR 2000 (WAKE FOREST ROAD)
AT I-440 (BELTLINE)**

TYPE OF WORK: SIGNALS, REVISE INTERCHANGE.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-4404	1	116
STATE PROJ. NO.	P.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.	



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:
NOVEMBER 20, 2007

B. UPSHAW, P.E.
 PROJECT ENGINEER

M. BRANDON
 PROJECT DESIGN ENGINEER

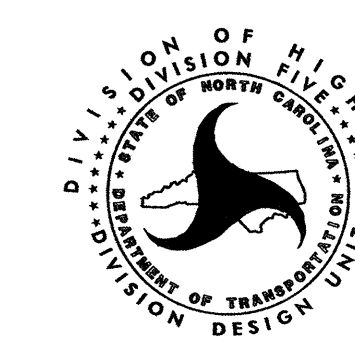
DIVISION DESIGN ENGINEER
 ROADWAY DESIGN AND HYDRAULICS



SIGNATURE: *[Signature]* 8/16/07 P.E.

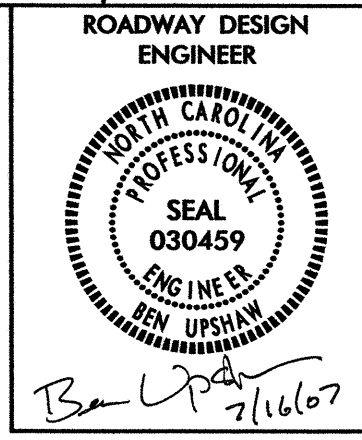
DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

FIFTH DIVISION
J. WALLY BOWMAN, P.E.
 DIVISION ENGINEER



8/17/99

13-JUL-2007 14:04
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mbradford



SHEET NUMBER	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
2I	DETAIL OF ANCHORAGE FOR FRAMES
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-9	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
UD-1 THRU UD-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
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.04	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
240.01	Guide for Berm Ditch Construction
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
300.10	Driveway Pipe Construction
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
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

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 R/W Marker (Iron Pin & Cap)	
Prop. Right of Way Line with Proposed (Concrete or Granite) R/W 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

MAJOR	
Bridge, Tunnel, or Box Culvert	
Bridge Wing Wall, Head Wall and End Wall	

MINOR	
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	

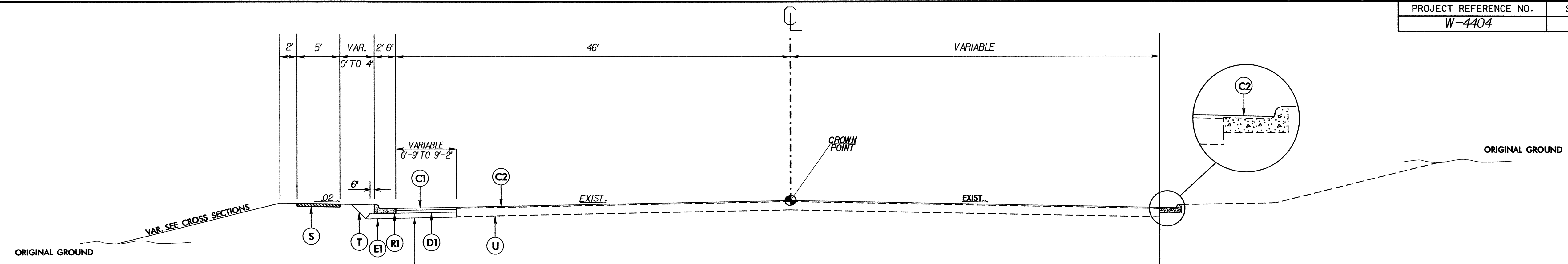
VEGETATION

Single Tree	
Single Shrub	
Hedge	
Woods Line	
Orchard	
Vineyard	

RAILROADS

Standard Gauge	
RR Signal Milepost	
Switch	

10/26/98
28-SEP-2006 17:21:56 I:\division\w4404\d5_tsh_030115.dgn

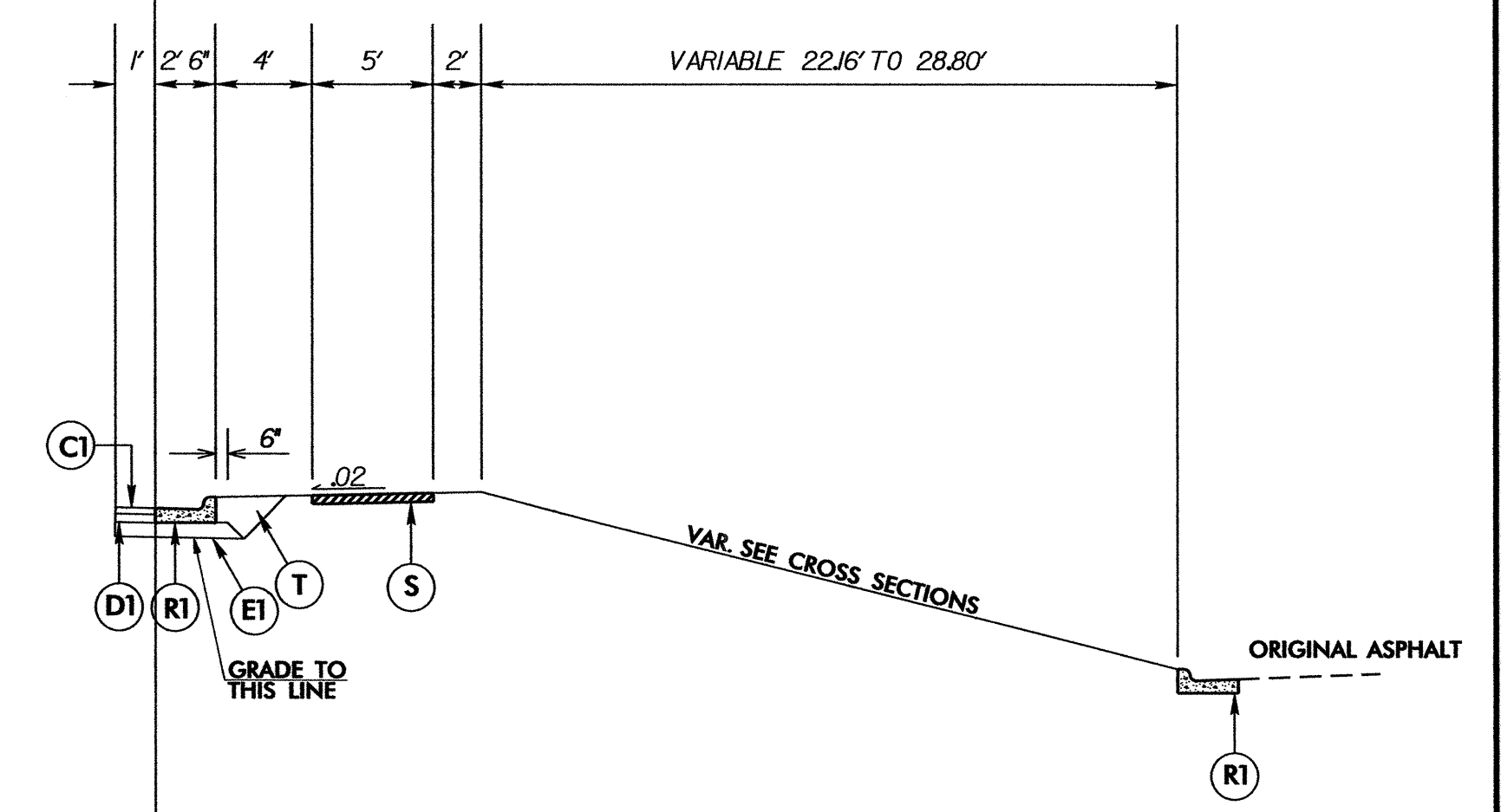


TYPICAL SECTION NO. 1
-L- STA. 10+86.63 TO 15+81.49

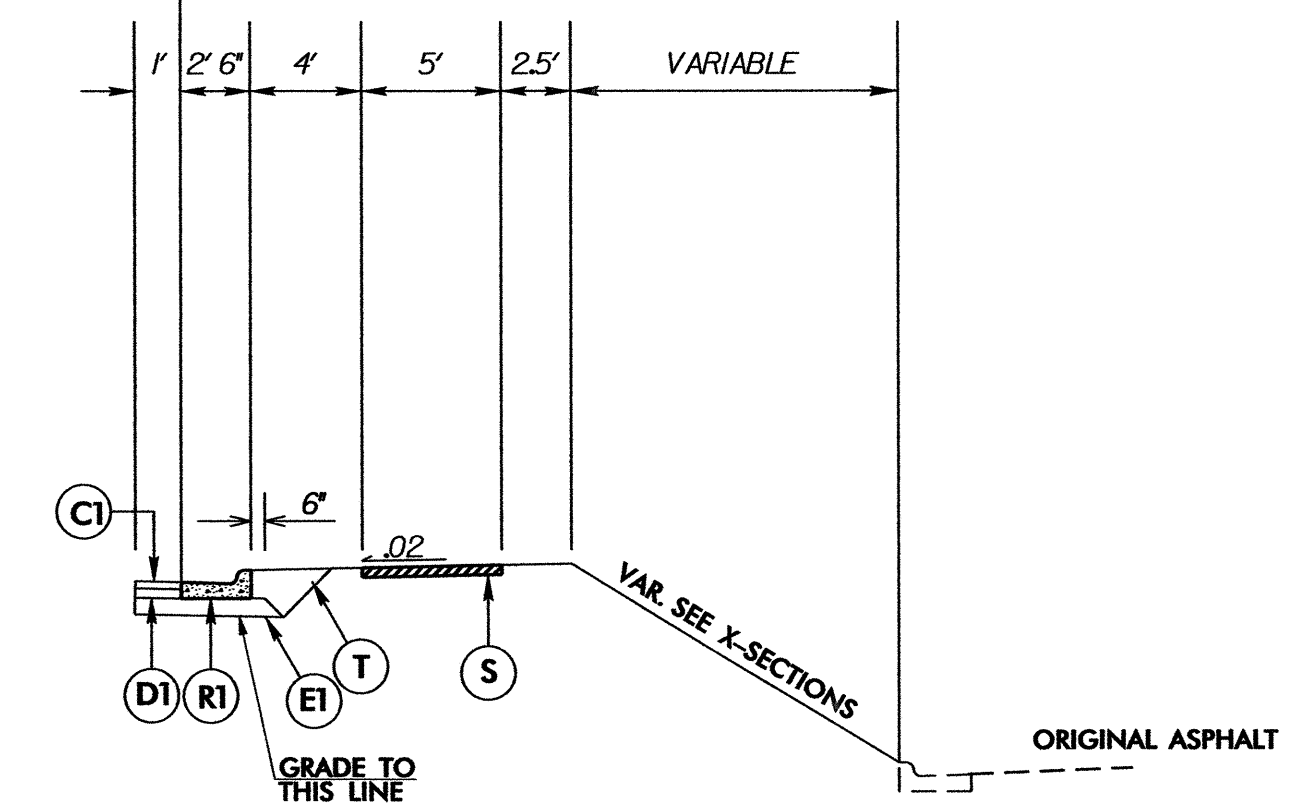
NOTE : NOT ALL PROPOSED CONCRETE ISLANDS SHOWN. LOCATION OF ISLANDS VARIES. SEE SHEET 3 FOR DETAILS.

NOTE : ALL CONCRETE ISLANDS SHALL BE KEYED IN.

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

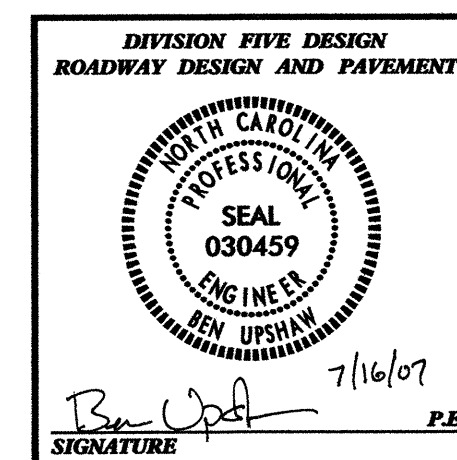


TYPICAL SECTION NO. 3
-L- STA. 18+09.90 TO 20+58.18



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.

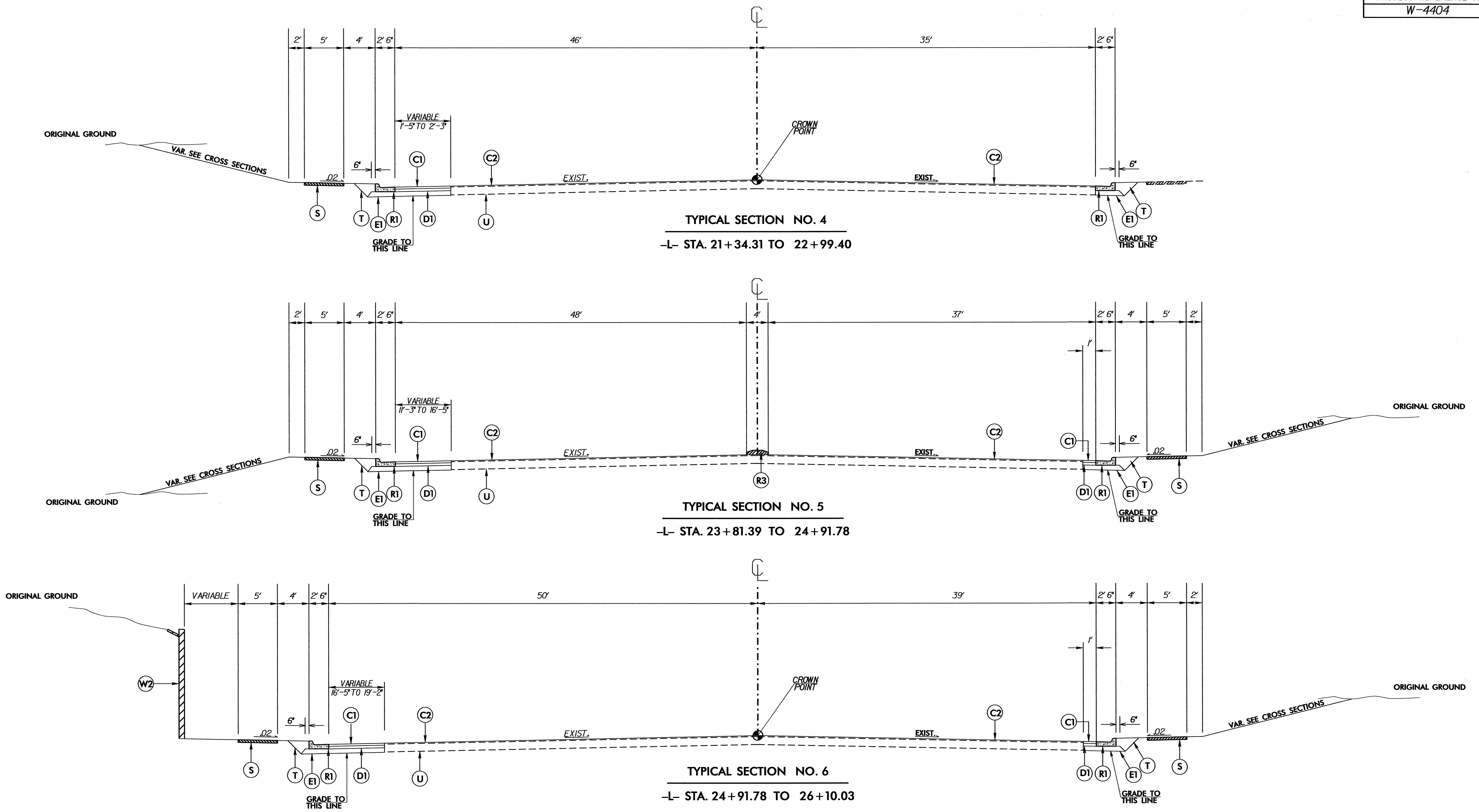
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.		
DIVISION 05	WAKE COUNTY	RALEIGH
REVISIONS	INIT.	DATE
N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION FIVE DESIGN UNIT		

SCALE: N/A DATE: 12/2004

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

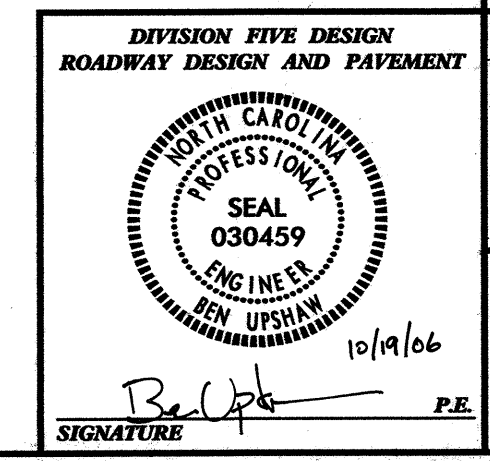


NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

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.

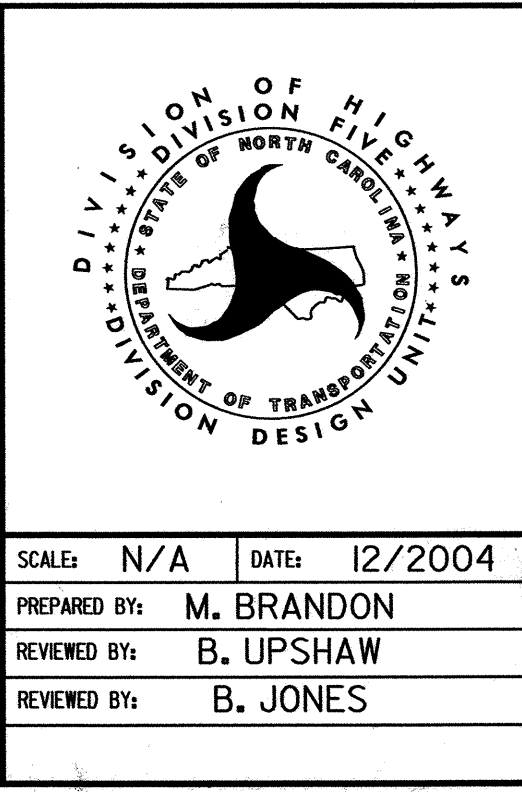
DIVISION 05 WAKE COUNTY RALEIGH

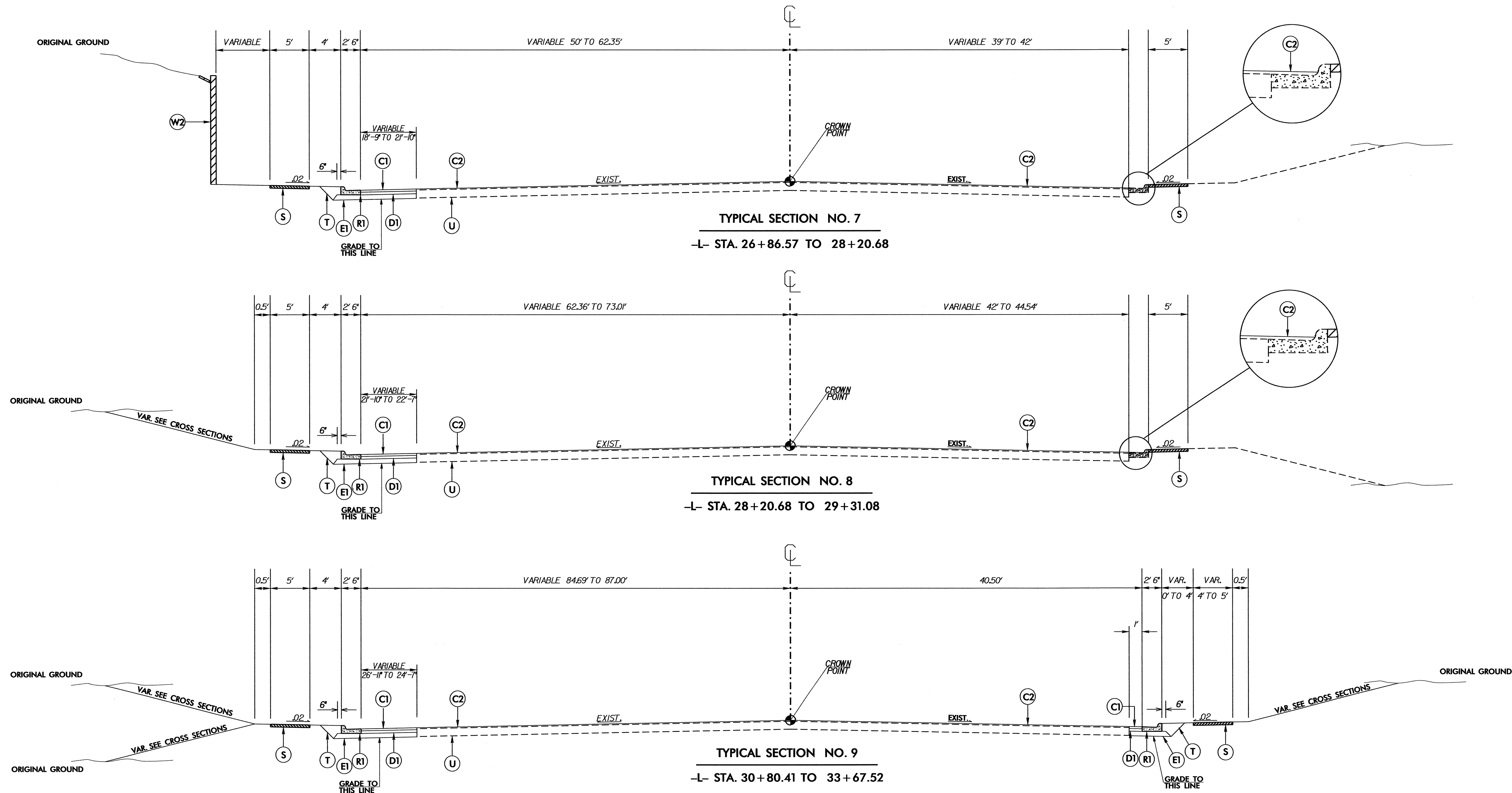
REVISIONS	INIT.	DATE

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

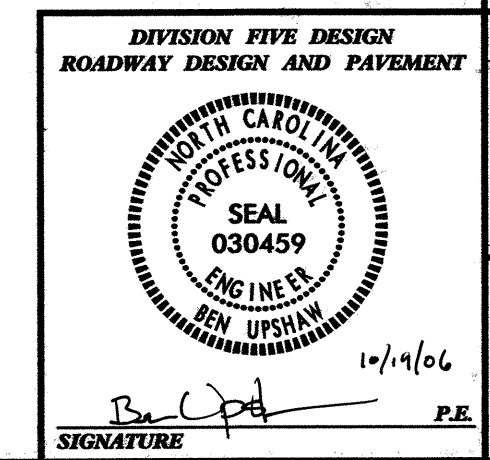




NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

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

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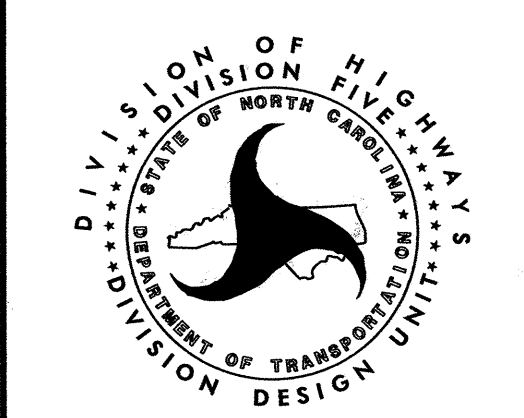
DIVISION 05 WAKE COUNTY RALEIGH

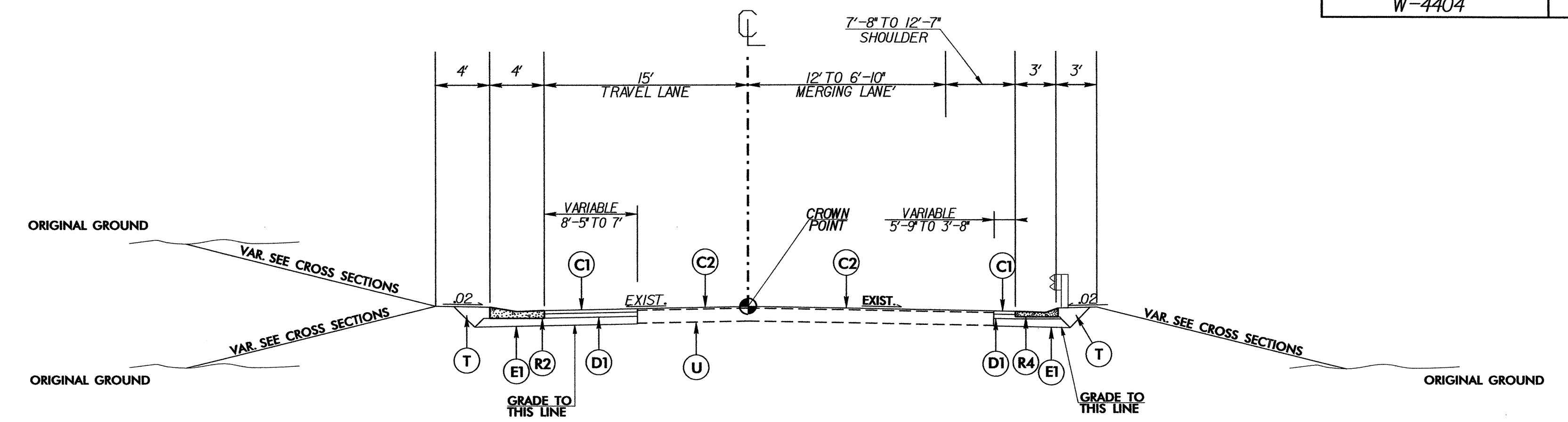
REVISIONS	INT.	DATE

SCALE: N/A DATE: 12/2004

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

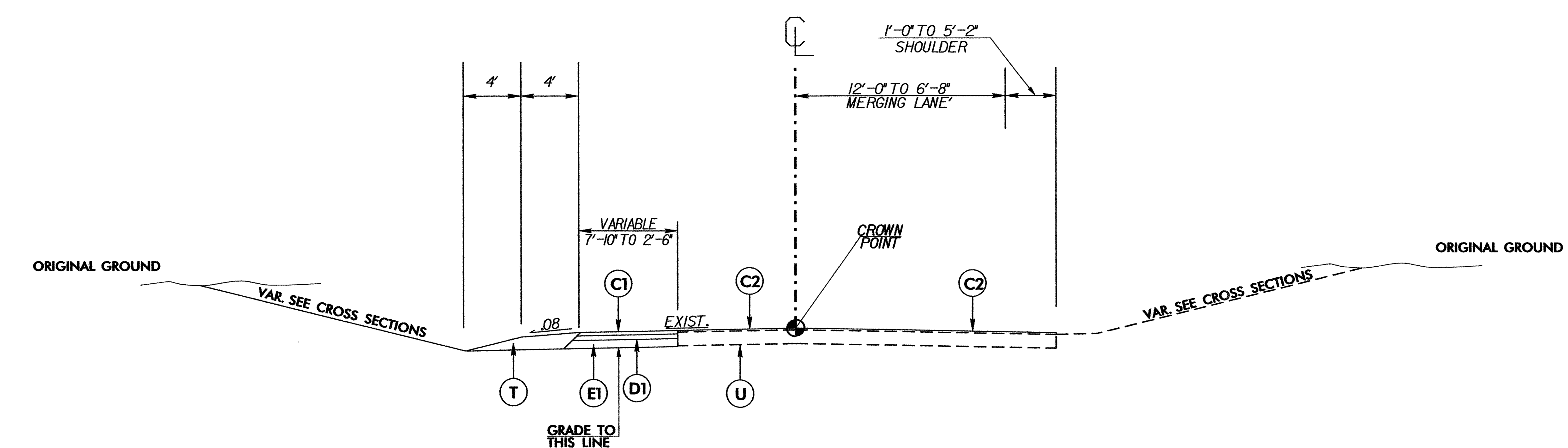
N.C. DEPARTMENT of TRANSPORTATION
 DIVISION of HIGHWAYS
 DIVISION FIVE DESIGN UNIT





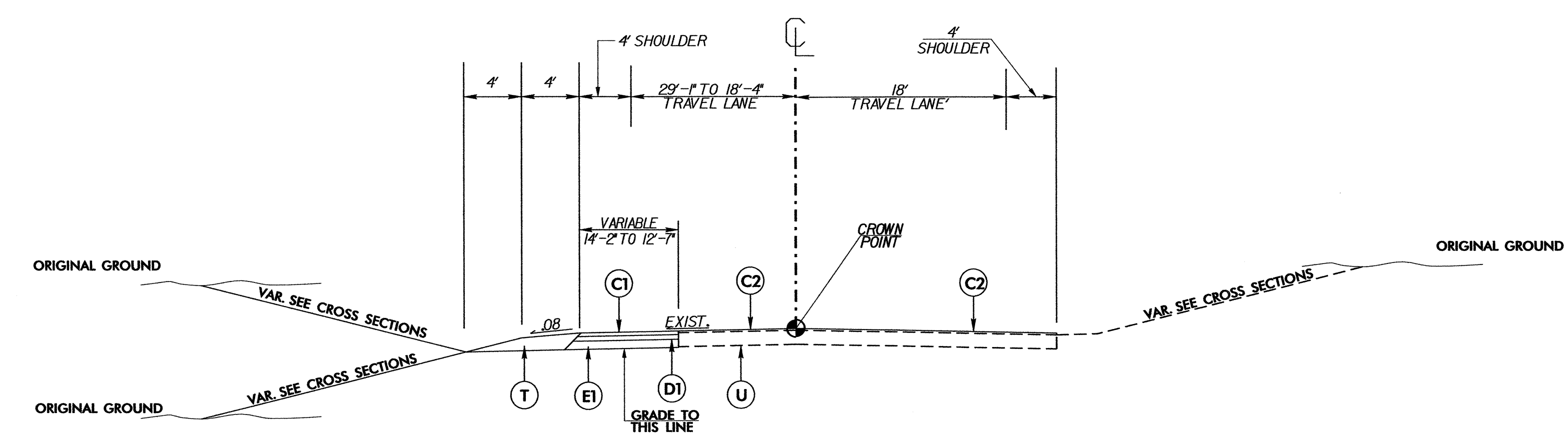
TYPICAL SECTION NO. 10
-Y1- STA. 11+45.44 TO 16+16.65

**NOTE: VAR. WIDTH WIDENING STA. 10+57.60 TO 11+45.43 SEE SHEET 6. 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.



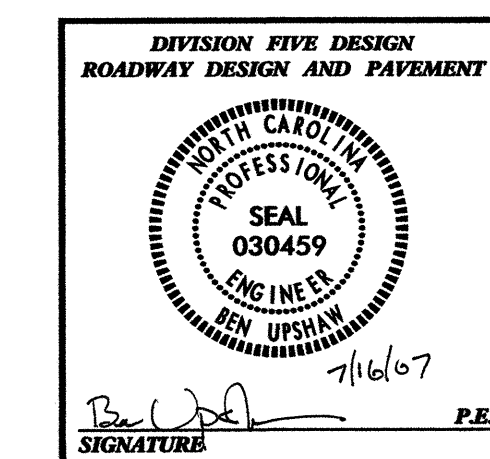
TYPICAL SECTION NO. 12
-Y3- STA. 11+11.47 TO 14+14.49

**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 2G 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.

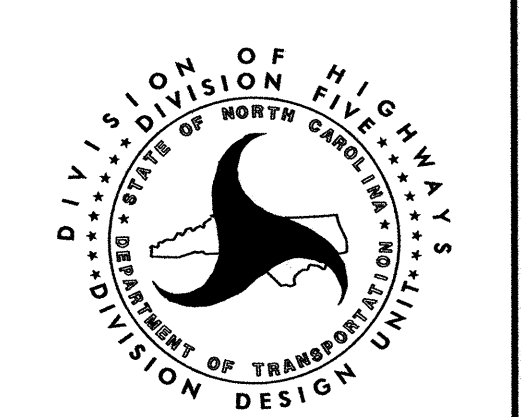
DIVISION 05 WAKE COUNTY RALEIGH

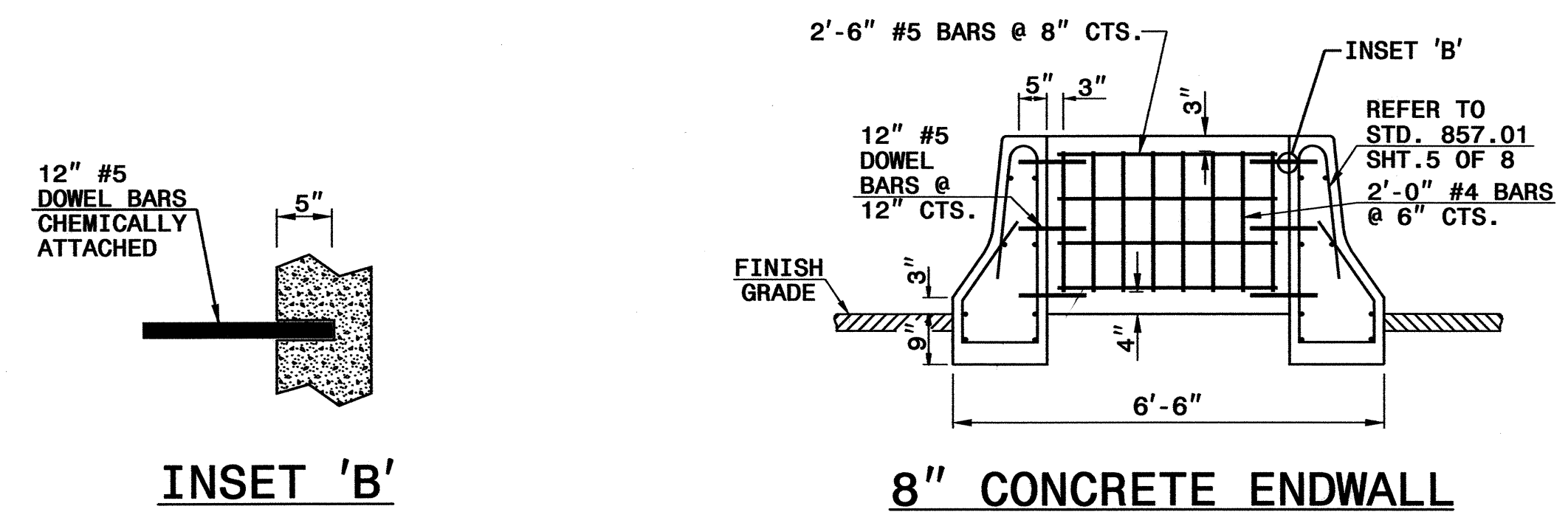
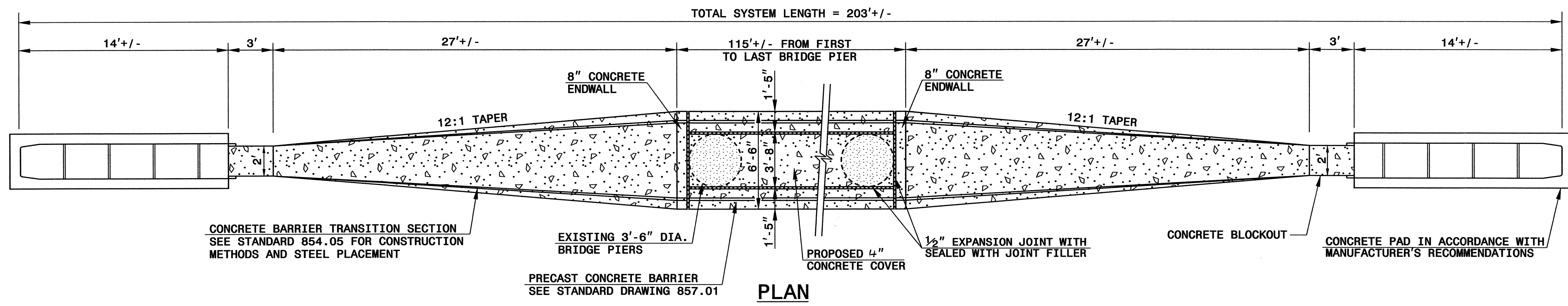
REVISIONS	INT.	DATE

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





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.

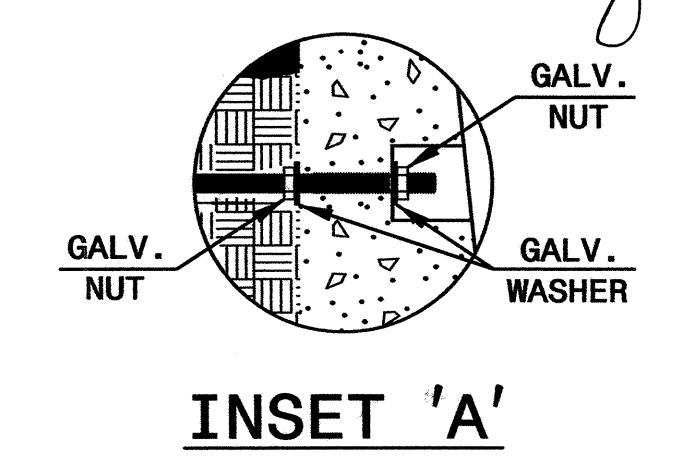
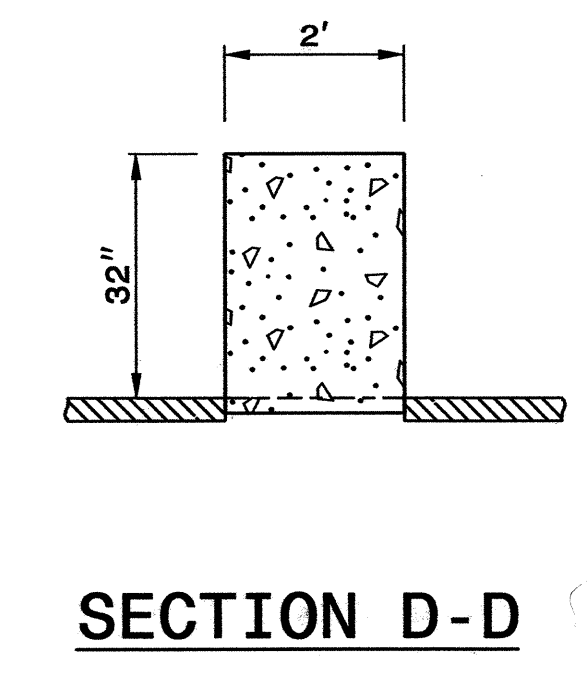
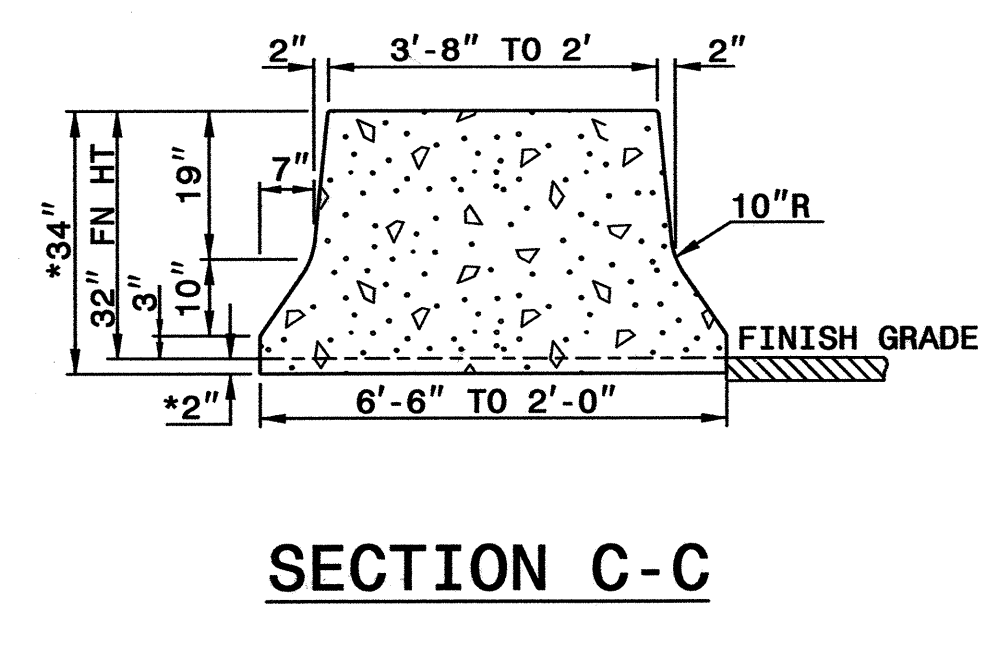
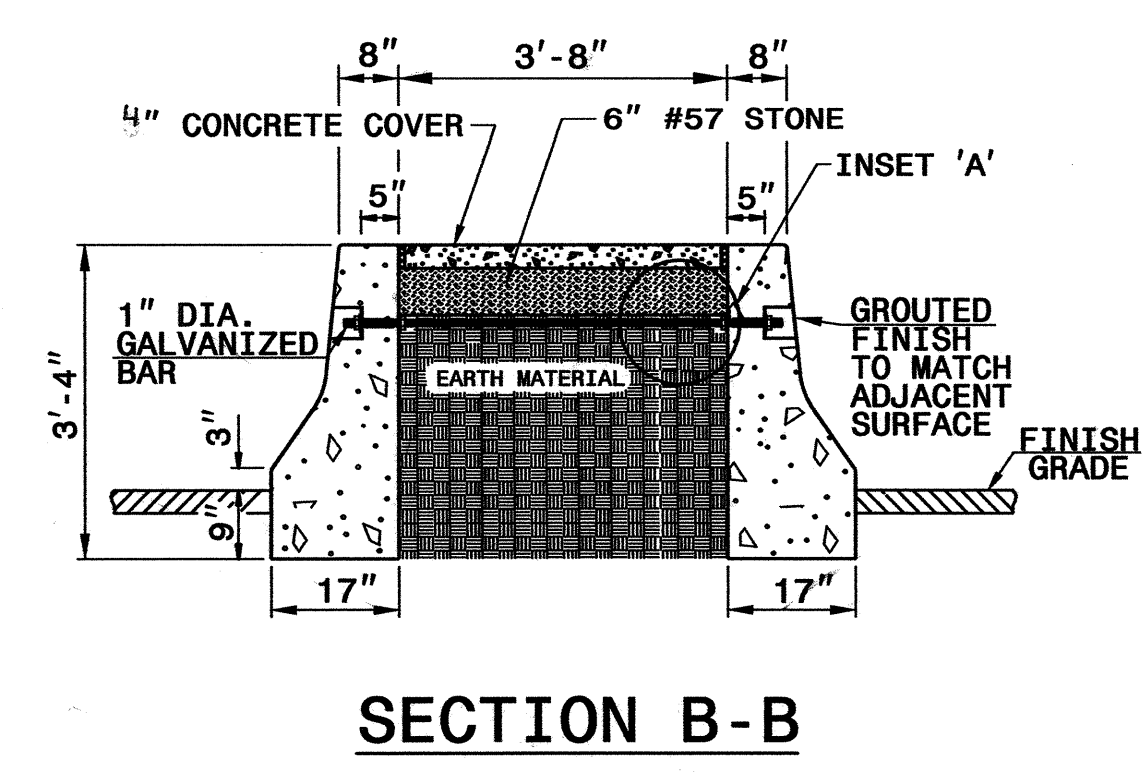
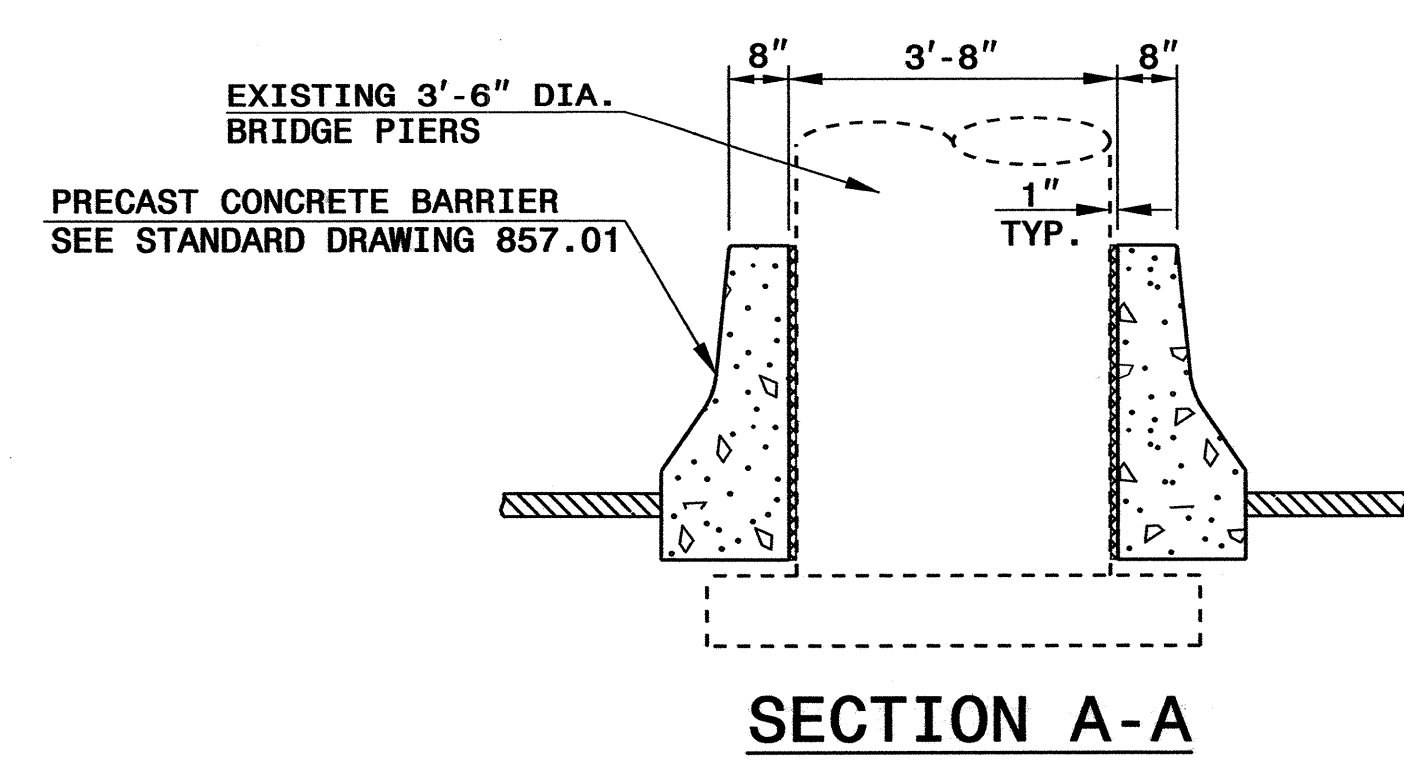
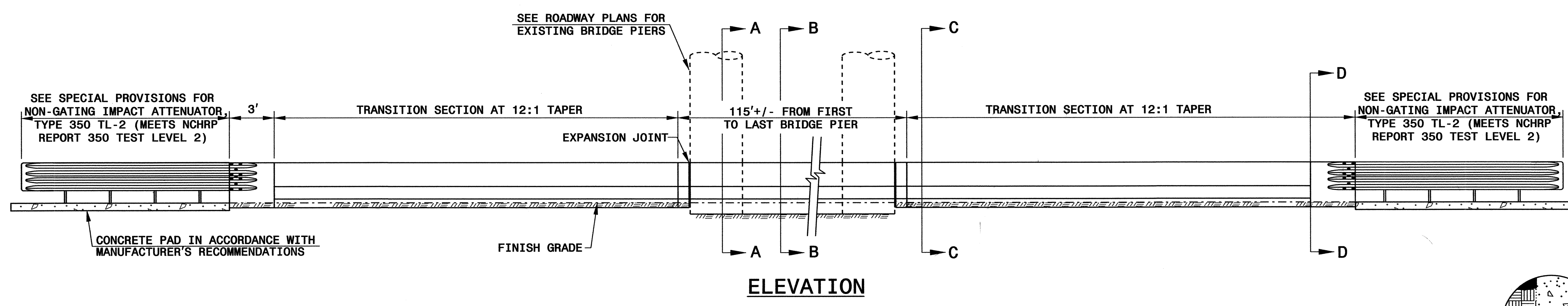
SEE STANDARD DRAWING 854.01 SHEET 3 FOR STEEL LAYOUT OF BARRIERS.

*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).



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

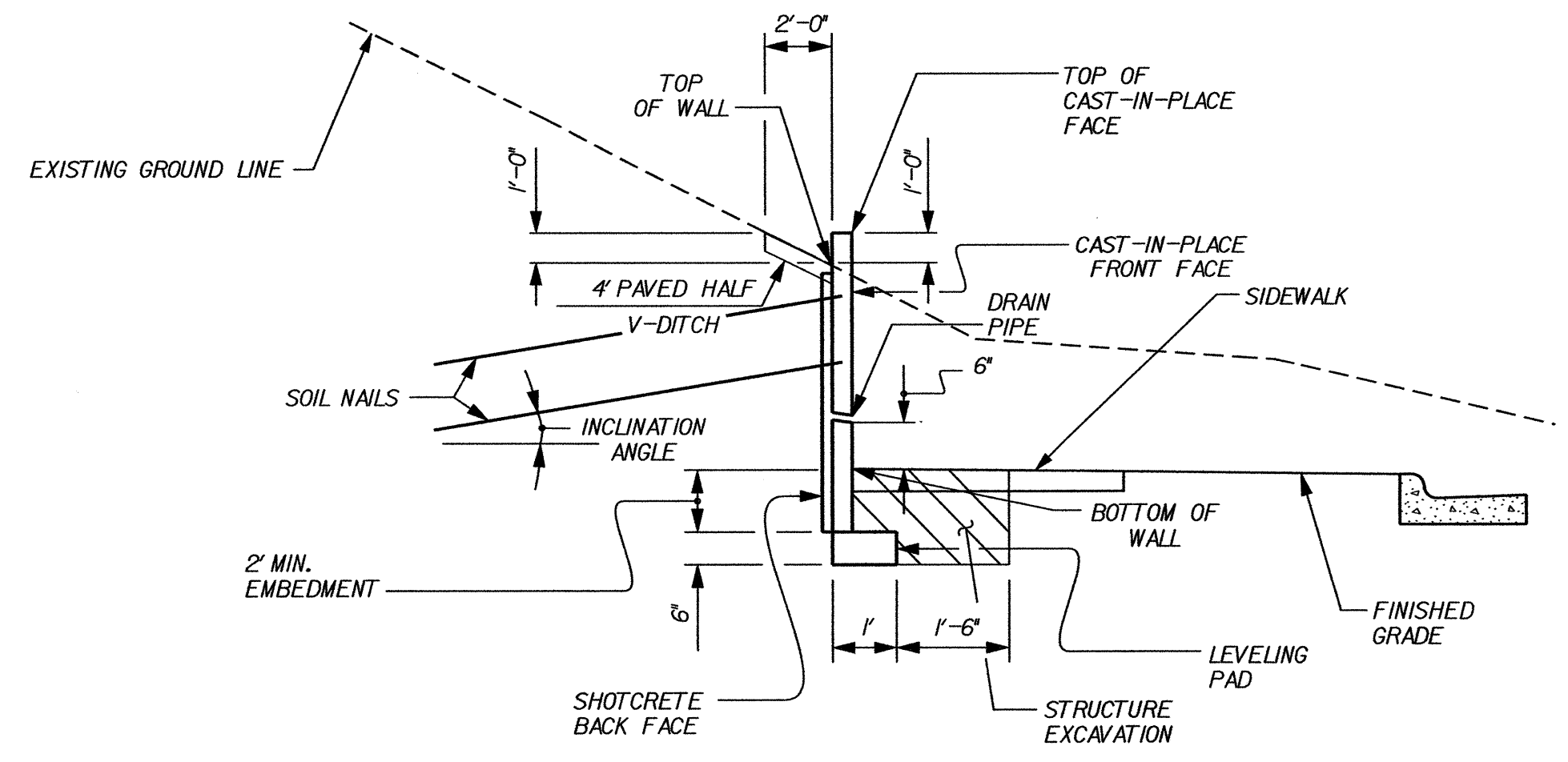
DETAIL OF MEDIAN HAZARD PROTECTION

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
 h:\cddc\polder\35156.ctb\35156.l1\division\4404\d5_sheet2e_030718.dgn
 m:\mason

RETAINING WALL ELEVATIONS

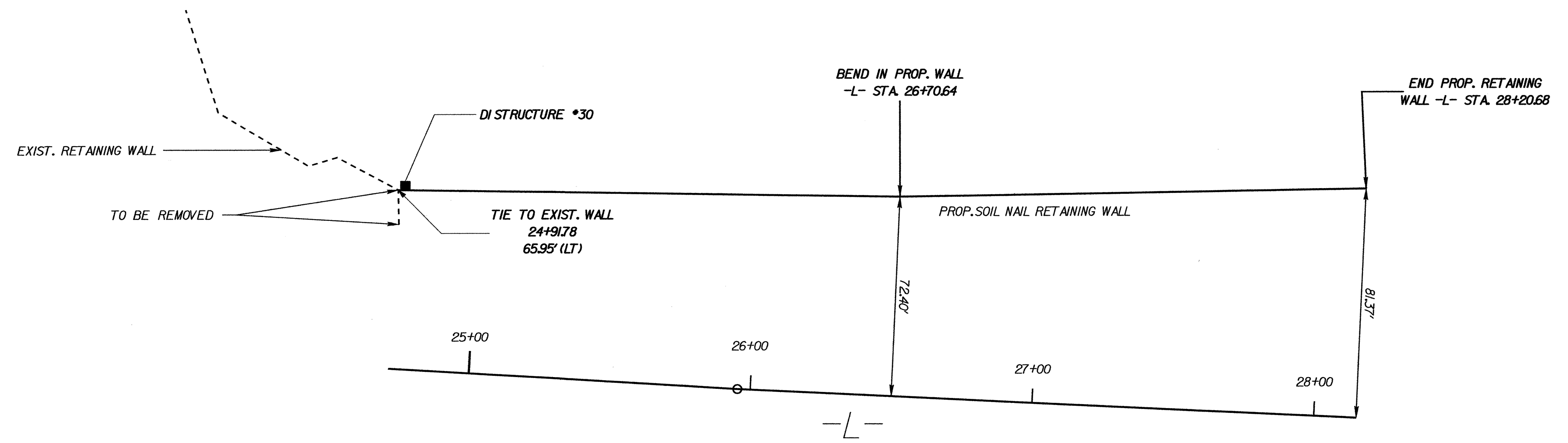
-L- STA.	OFFSET FROM CL	ELEV. @ TOP OF WALL	ELEV. @ BOTTOM OF WALL	WALL HEIGHT
24+91.78	65.95' LT	246.62'	238.92'	7.70'
25+00.00	66.32' LT	250.71'	237.73'	12.98'
25+50.00	68.52' LT	251.90'	238.96'	12.94'
26+00.00	70.27' LT	252.49'	240.17'	12.32'
26+50.00	71.77' LT	252.52'	241.67'	10.85'
27+00.00	74.14' 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'



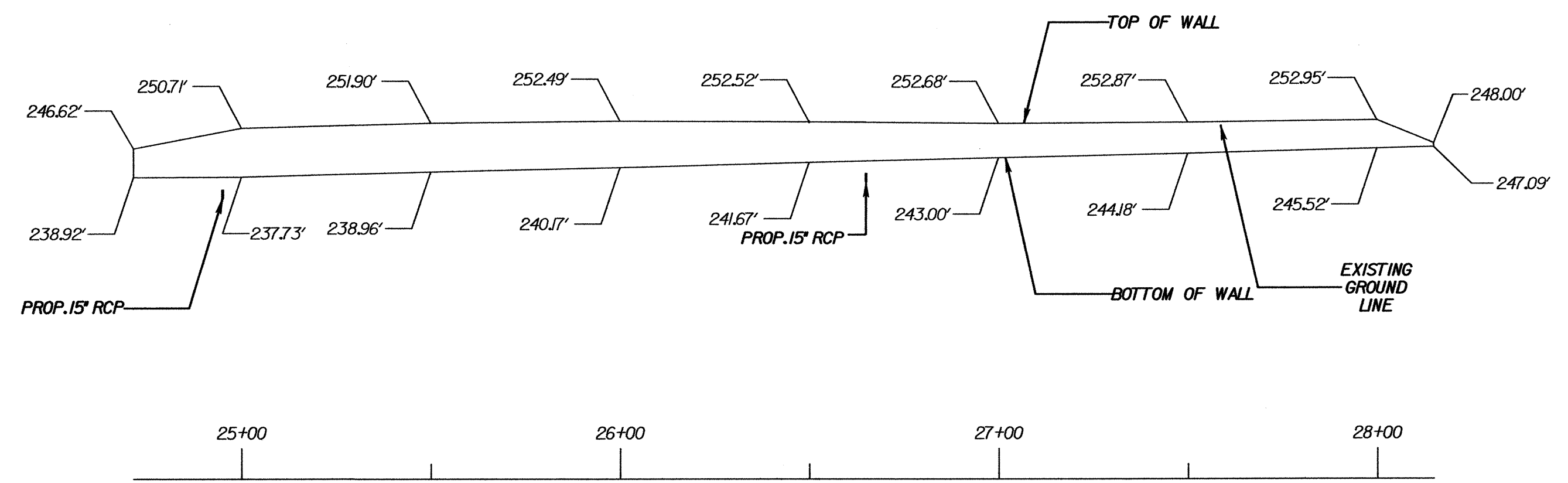
TYPICAL SECTION THROUGH WALL

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:
 $\gamma = 120 \text{ lbs/cu.ft.}, \phi = 30^\circ, c = 0 \text{ psf.}$
- 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



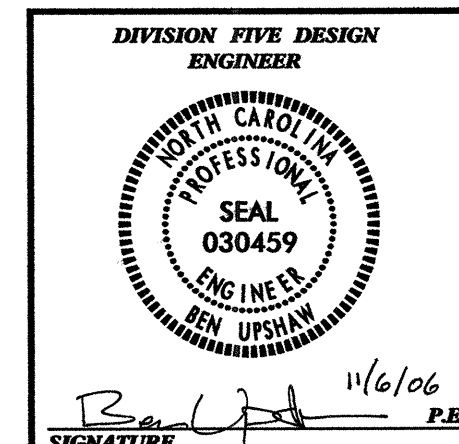
WALL ELEVATION

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

SHEET 1 OF 1

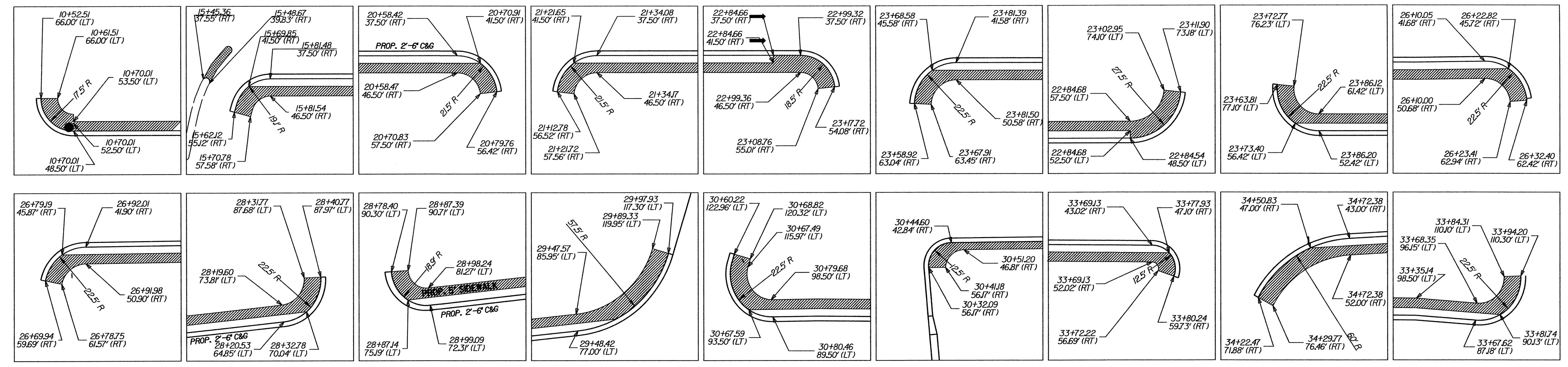
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SOIL NAIL
 RETAINING WALL

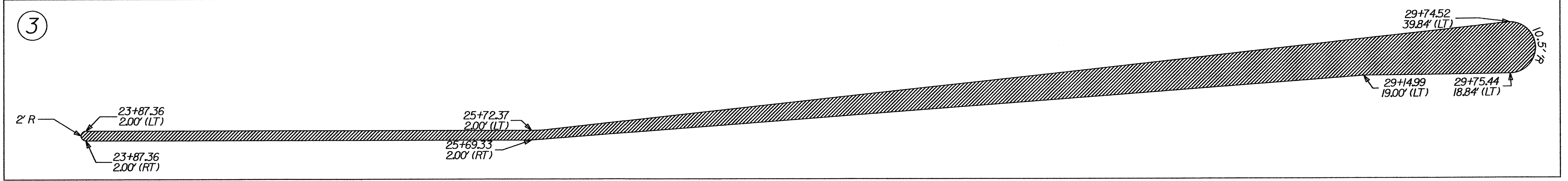
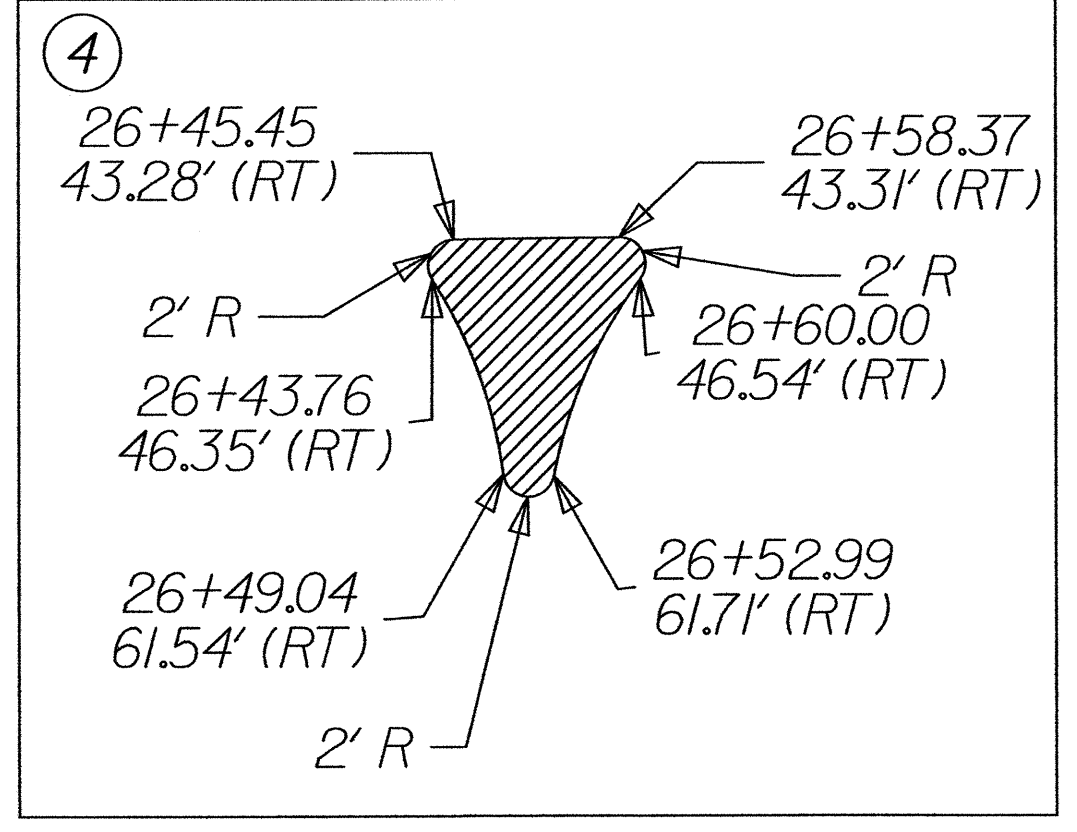
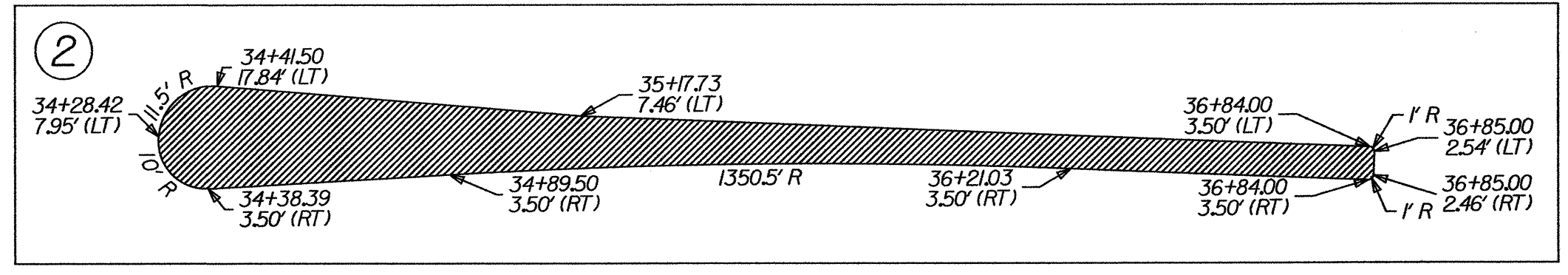
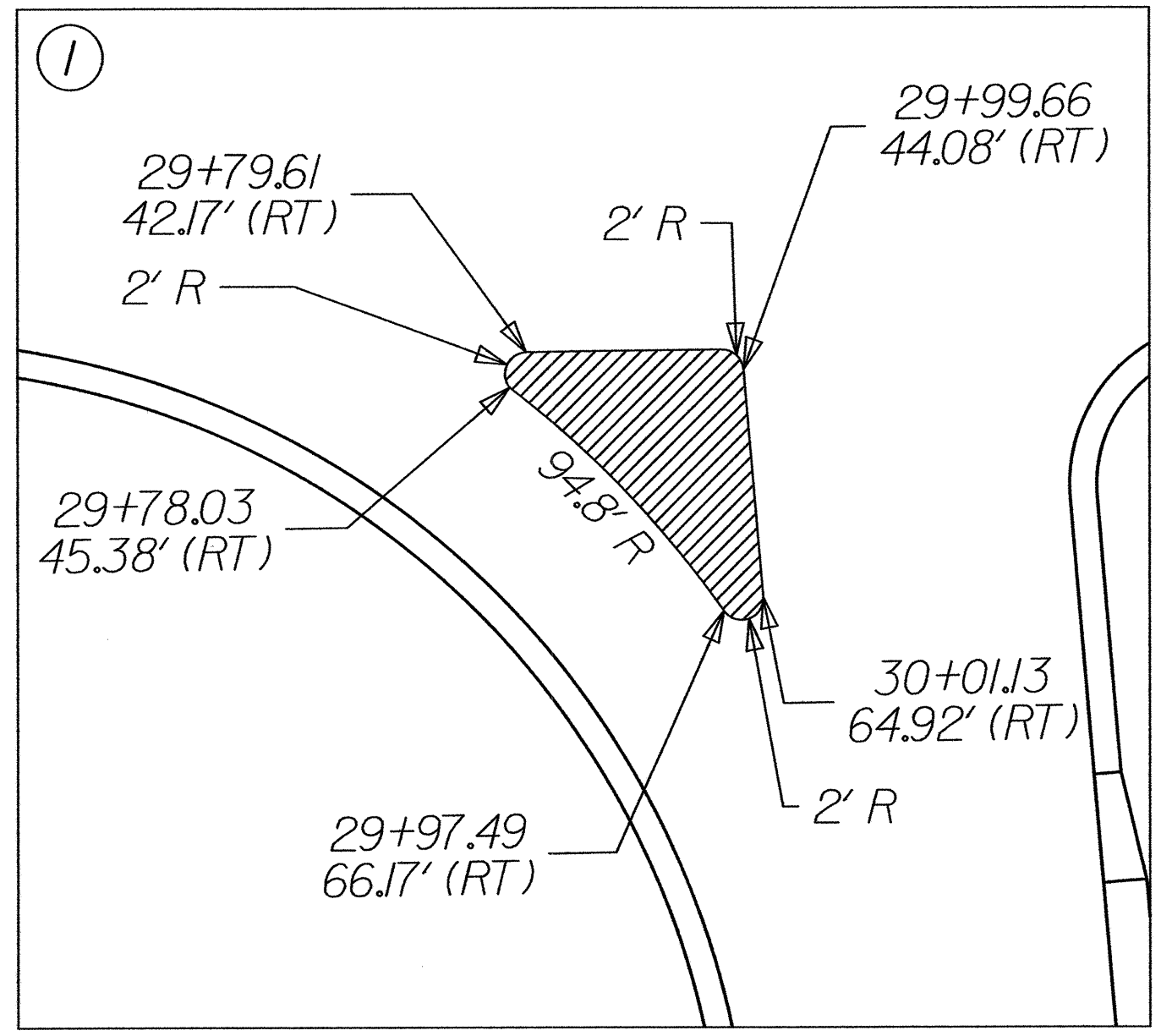


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			1 OF 1
2			4			

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

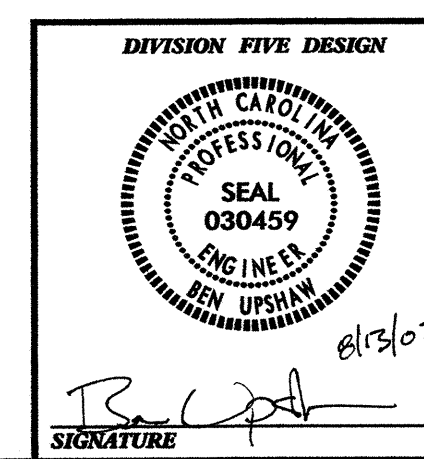
RIGHT OF WAY AREA DATA

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.)	2,931.50 S.F.	618,236.59 S.F.	-	4,149.22 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 & KITRELL 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.

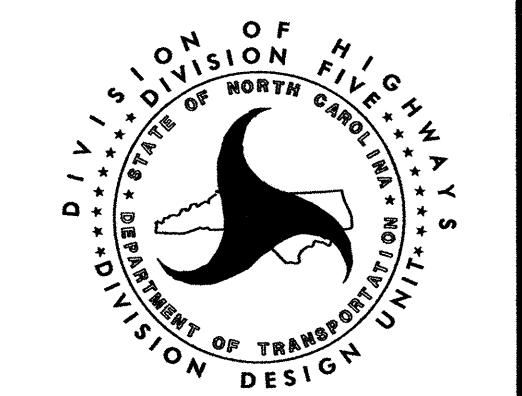
WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.

DIVISION 05 WAKE COUNTY RALEIGH

REVISIONS	INT.	DATE

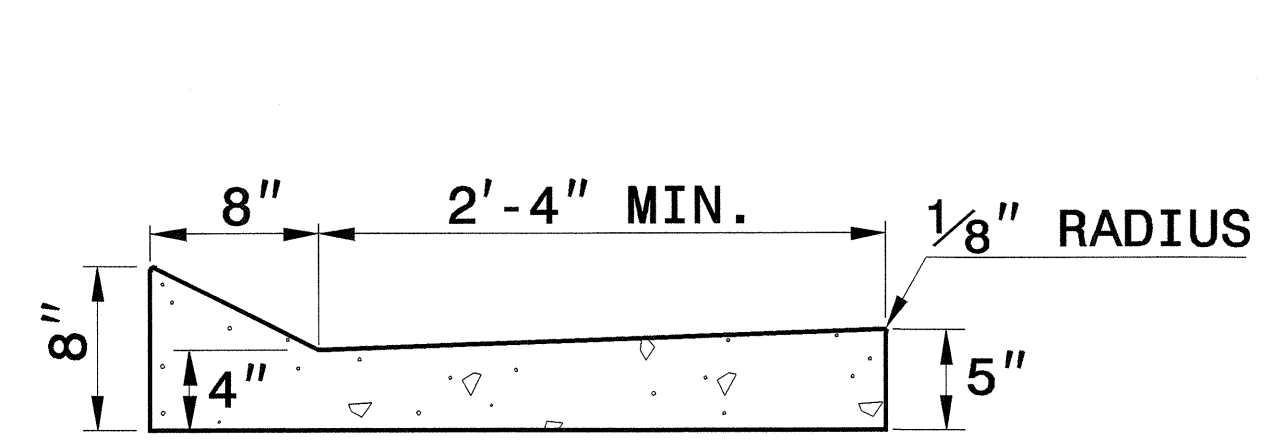


N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
DIVISION FIVE DESIGN UNIT

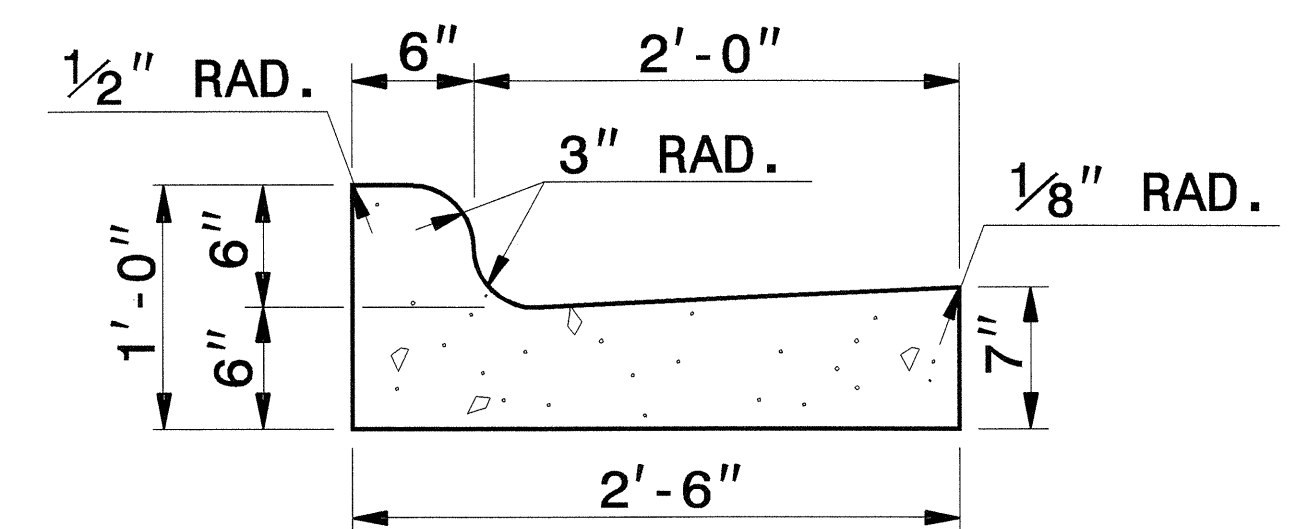


SCALE: N/A DATE: 12/2004
PREPARED BY: M. BRANDON
REVIEWED BY: B. UPSHAW
REVIEWED BY: B. JONES

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

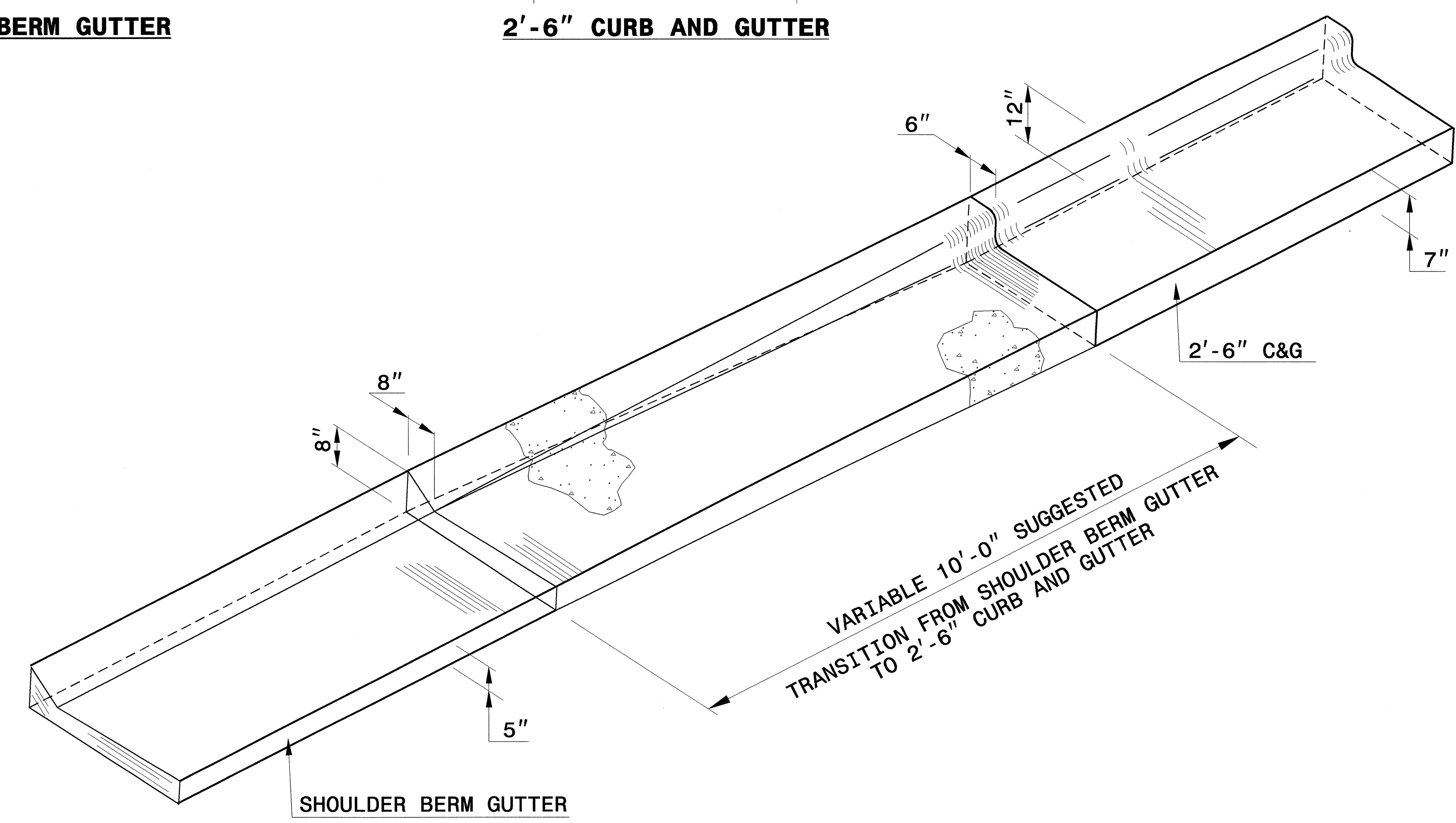


SHOULDER BERM GUTTER

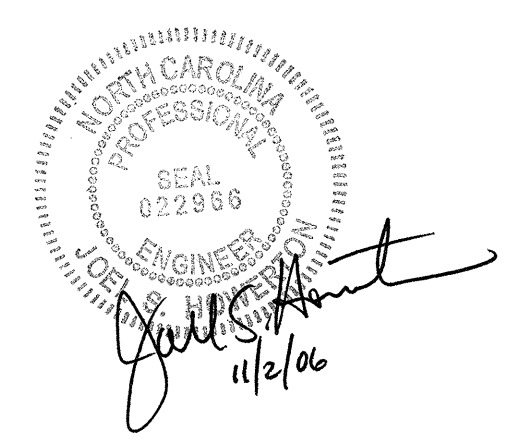


2'-6" CURB AND GUTTER

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



ISOMETRIC VIEW OF TRANSITION

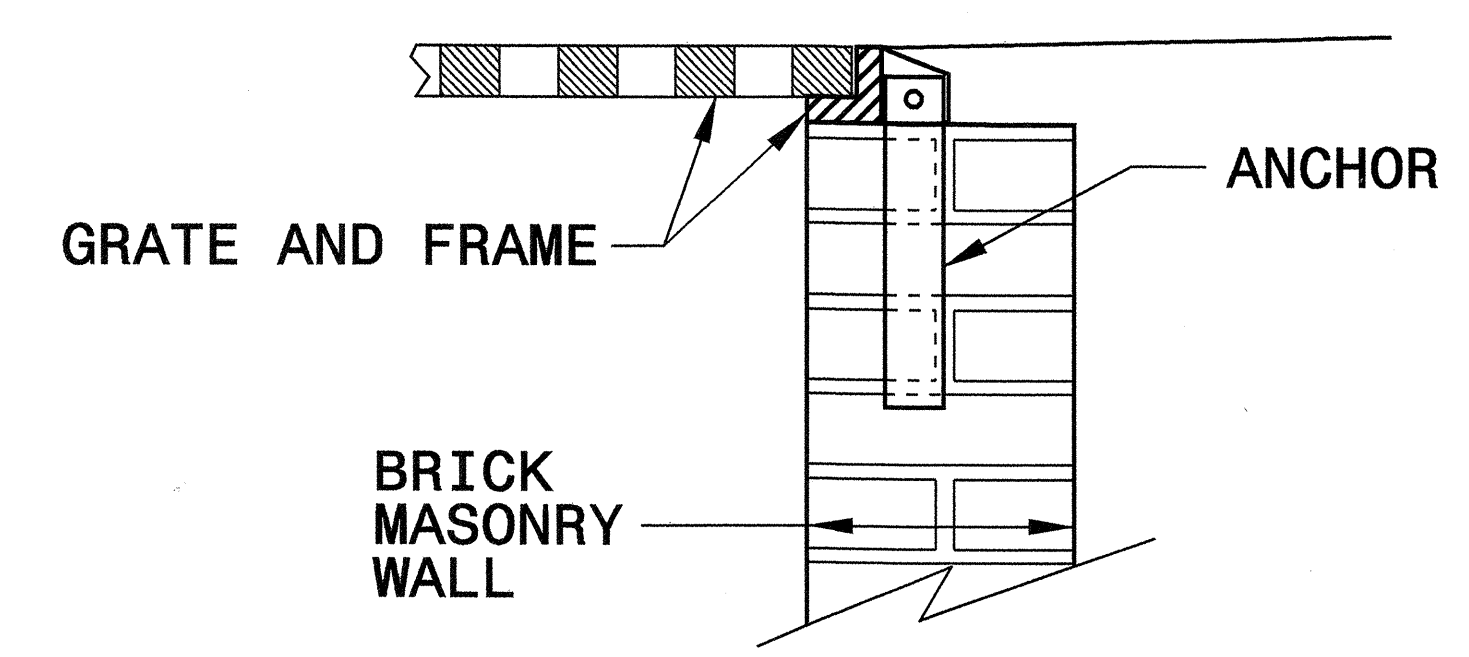


PROJECT SERVICES UNIT STANDARDS AND SPECIAL DESIGN	
Office 919-250-4128 FAX 919-250-4119	
DETAIL OF SHOULDER BERM GUTTER TO 2'-6" CURB & GUTTER TRANSITION SECTION	
ORIGINAL BY: _____	DATE: _____
MODIFIED BY: rnbritt	DATE: 05-24-04
CHECKED BY: <i>Joe L. Smith</i>	DATE: 6/27/06
FILE SPEC: details/nbritt/english/bridge/b3375curbgutter_trans.dgn	

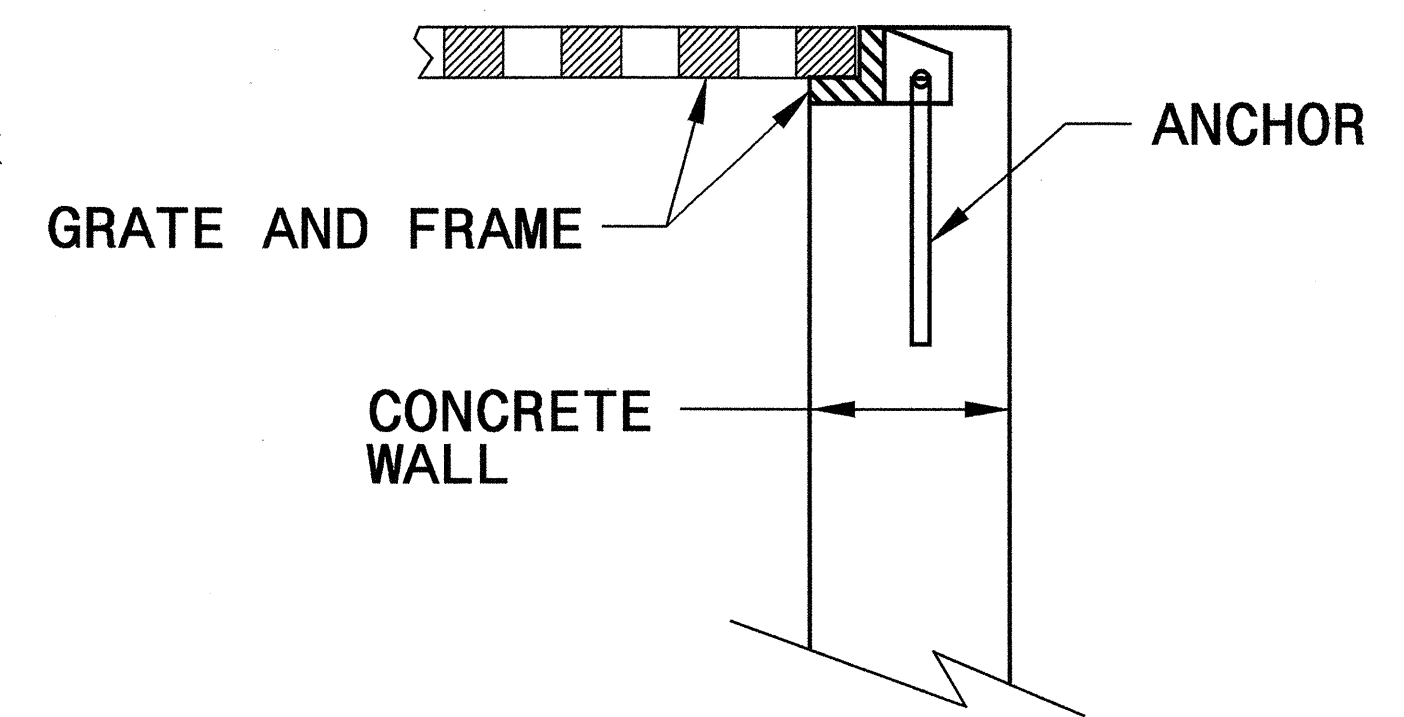
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

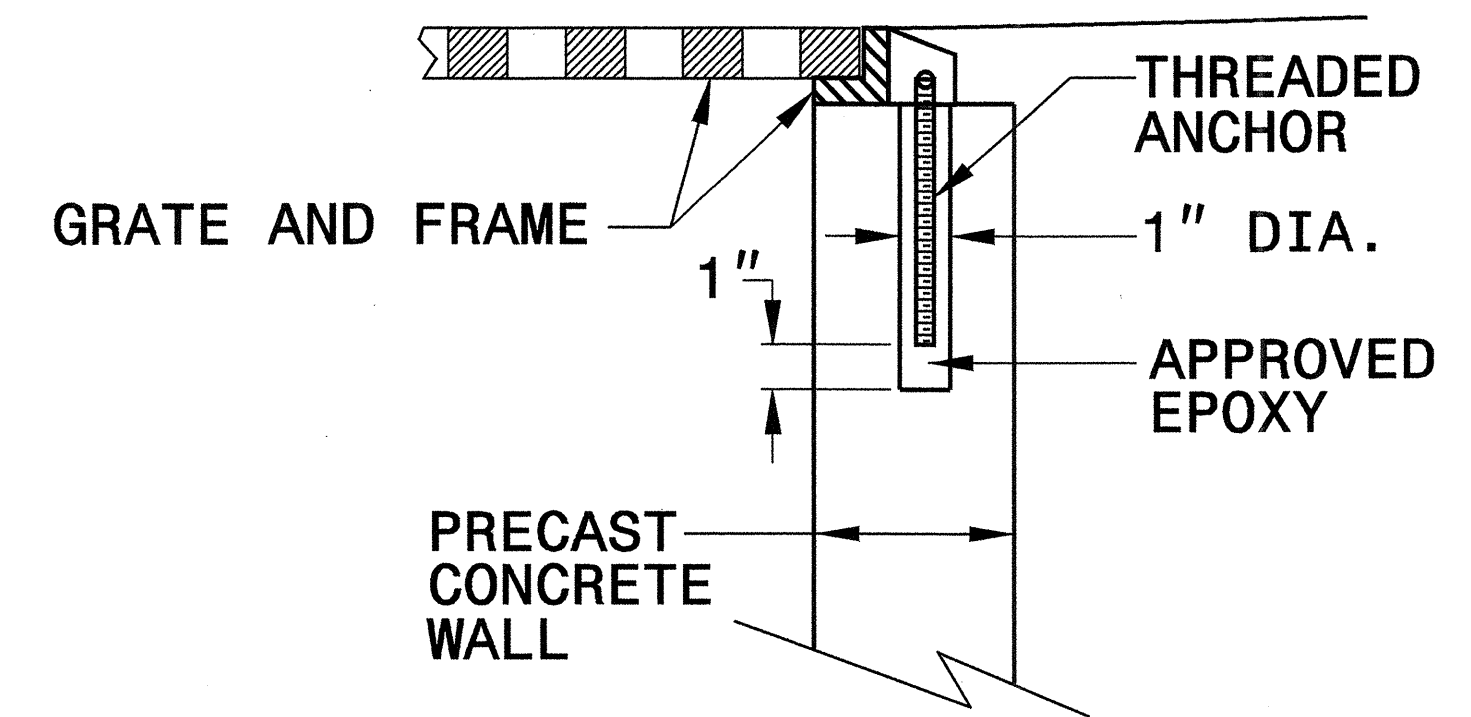
SHEET 1 OF 1
840D25



**BRICK MASONRY
CONSTRUCTION**



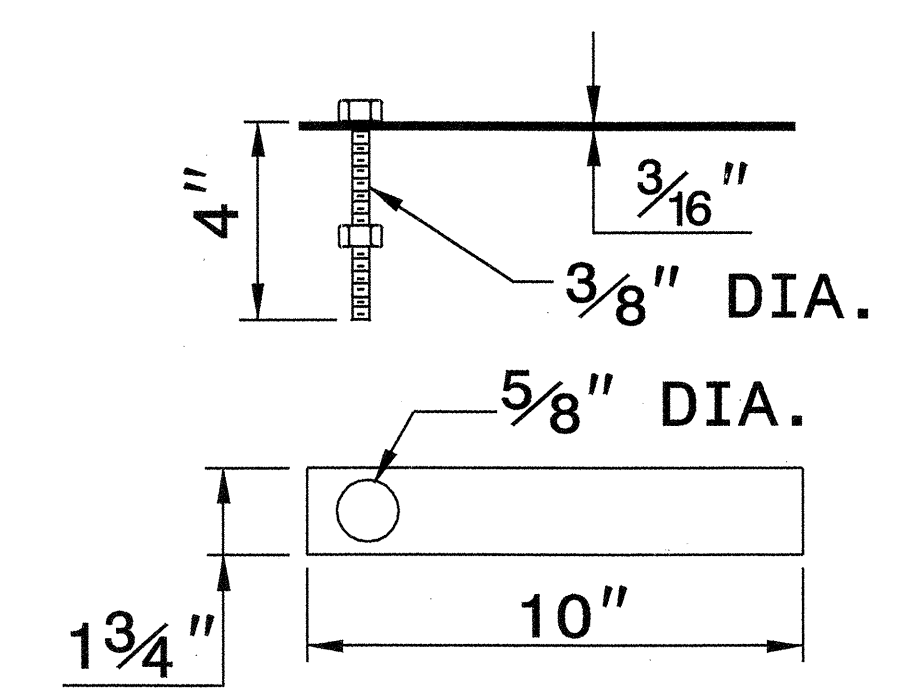
**CONCRETE
CONSTRUCTION**



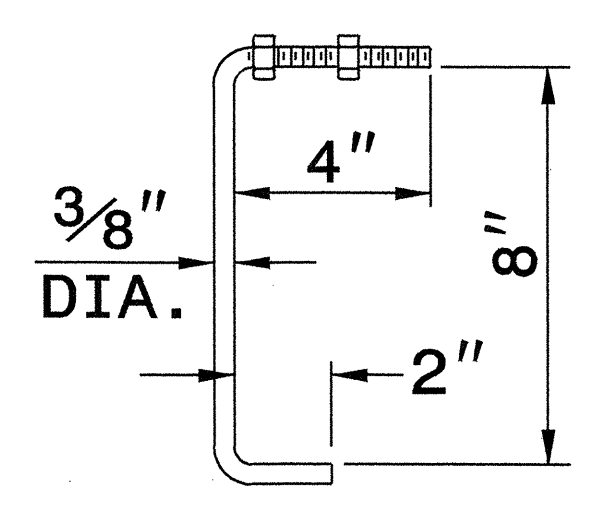
**PRECAST CONCRETE
CONSTRUCTION**

**DETAIL SHOWING ANCHORAGE OF
FRAME FOR GRATED DROP INLET**

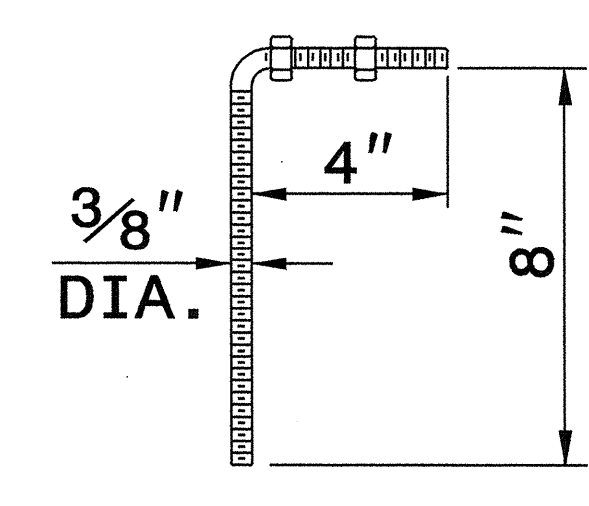
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL
OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



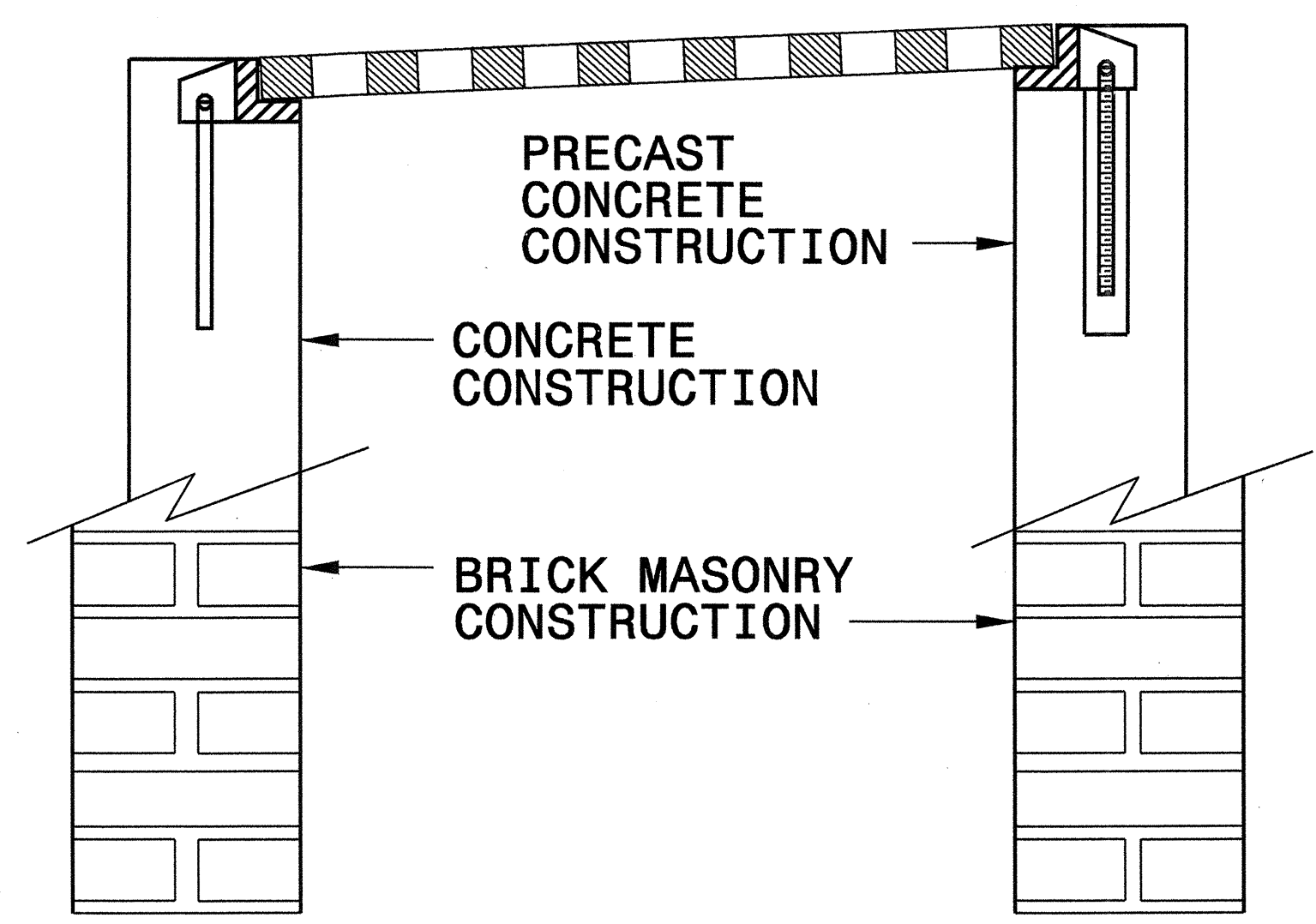
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



**PRECAST
CONCRETE ANCHOR**
3/8" DIA. BENT BAR



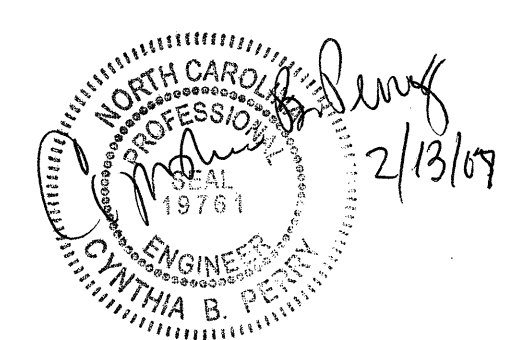
**FRAME AND GRATE INSTALLATION
FOR NORMAL CROWN AND
SUPERELEVATED SECTIONS**

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

ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

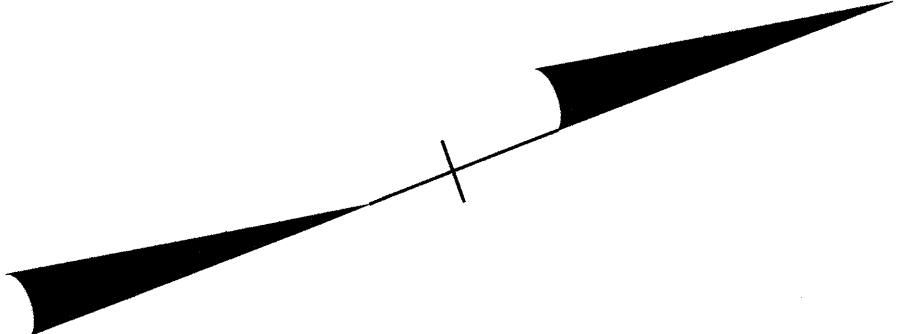
27 SEP 2006 09:01 C:\projects\Special Details\ward\stds\06\stds to Special Details\840D25 Anchorage for Frames\0840d25.dgn



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

SEE PLATE FOR TITLE

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E.E. WARD DATE: 9/25/06
CHECKED BY: *[Signature]* DATE: 9/27/06
FILE SPEC.: *[Signature]*



4

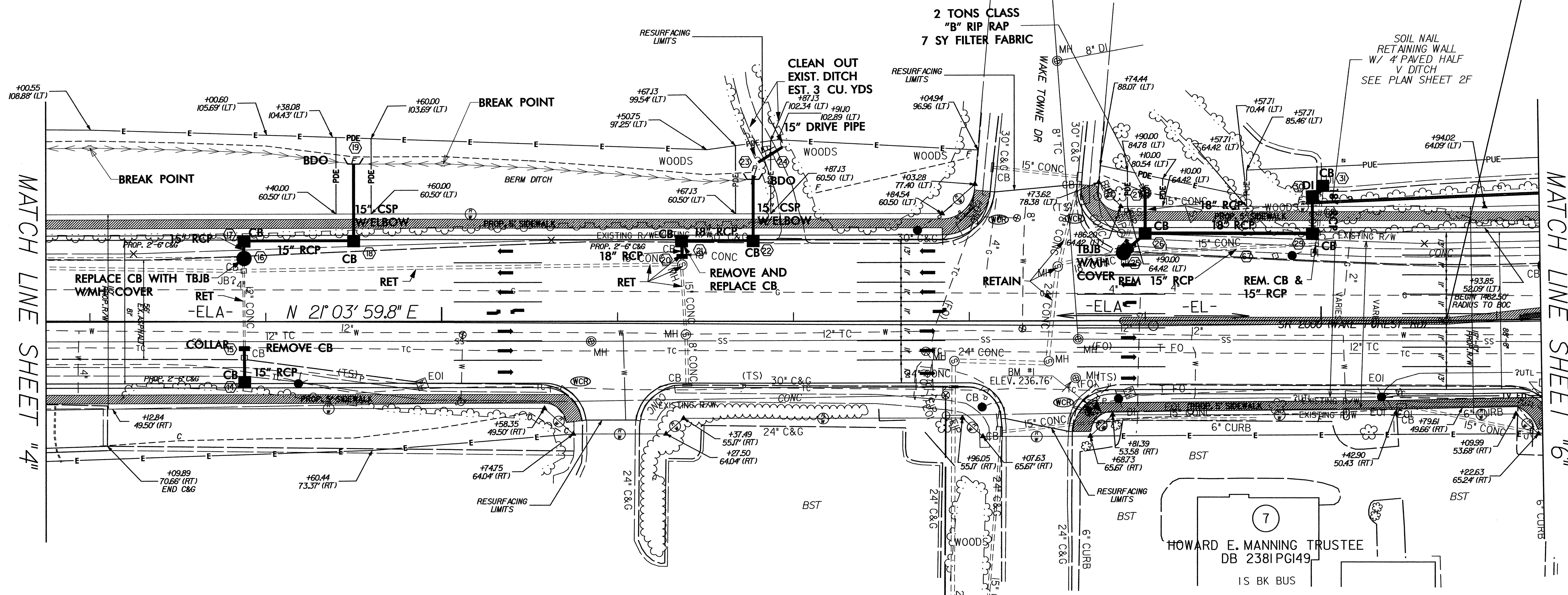
CHARLES W. GADDY
DB 2146 PG 95

**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 BUS



REVISION HISTORY

DIVISION FIVE DESIGN
ROADWAY DESIGN AND HYDRAULICS

SEAL
030459
M. BRANDON
ENGINEER
NORTH CAROLINA

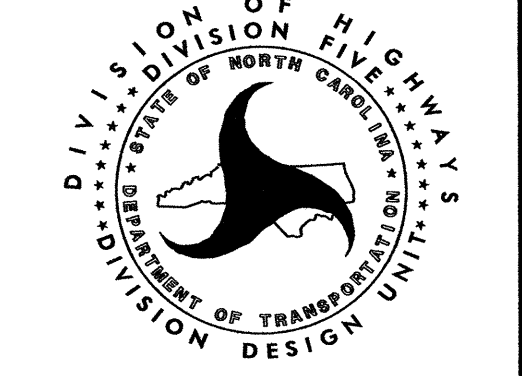
Signature: *M. Brandon* 2/12/07 P.E.

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

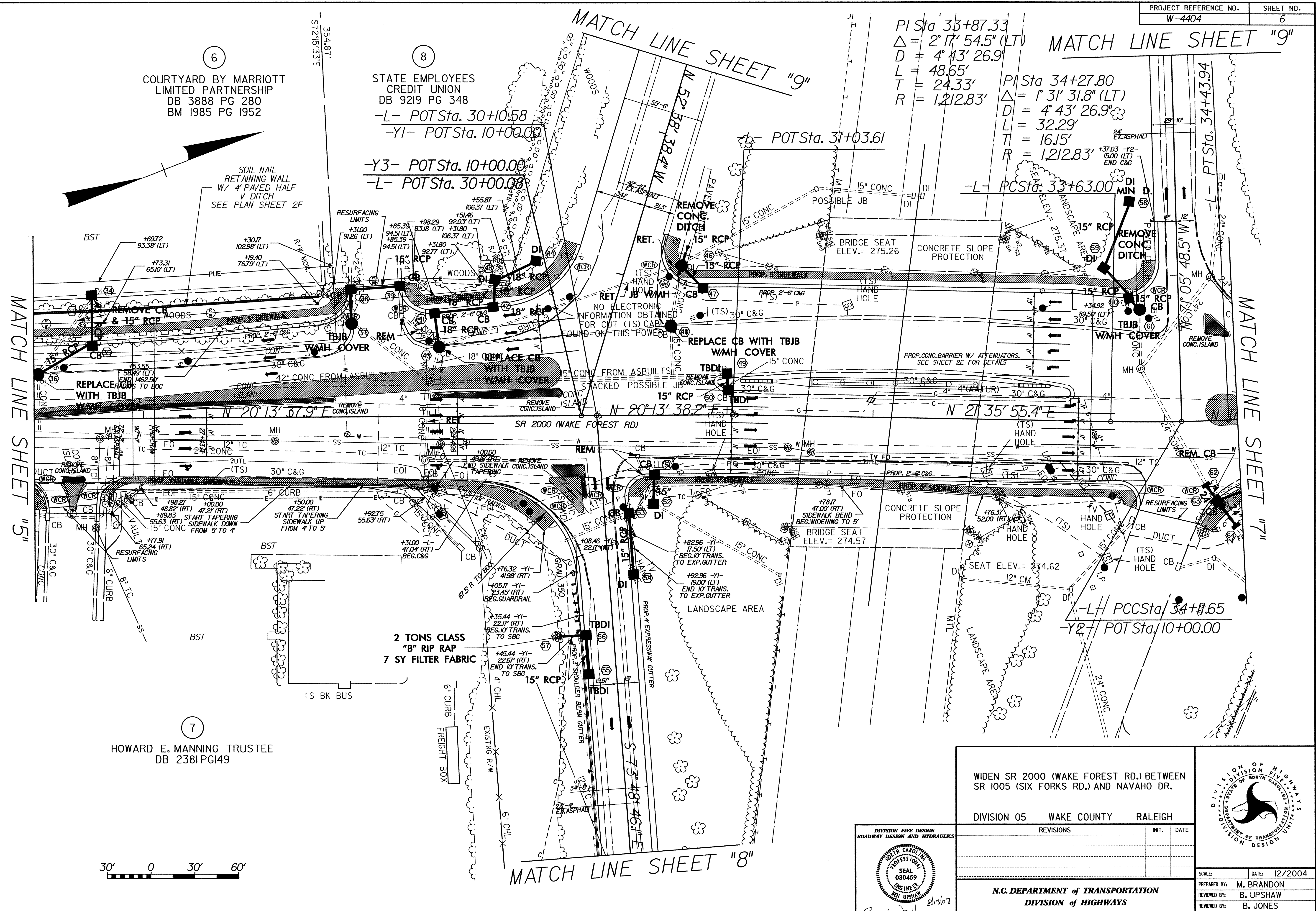


SCALE: DATE: 12/2004
PREPARED BY: M. BRANDON
REVIEWED BY: B. UPSHAW
REVIEWED BY: B. JONES

MATCH LINE SHEET "9"

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

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



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

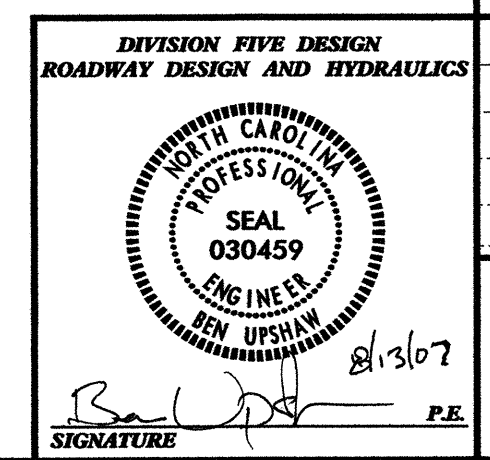
7
 HOWARD E. MANNING TRUSTEE
 DB 2381 PG 149



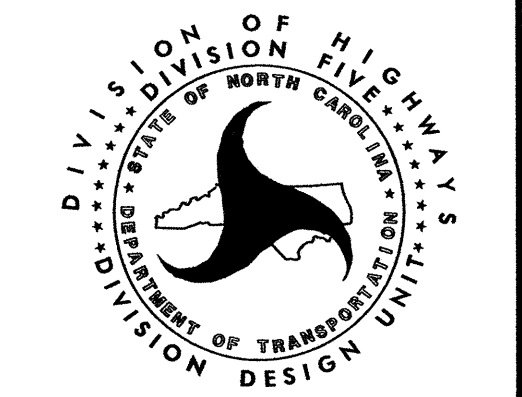
WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.

DIVISION 05 WAKE COUNTY RALEIGH

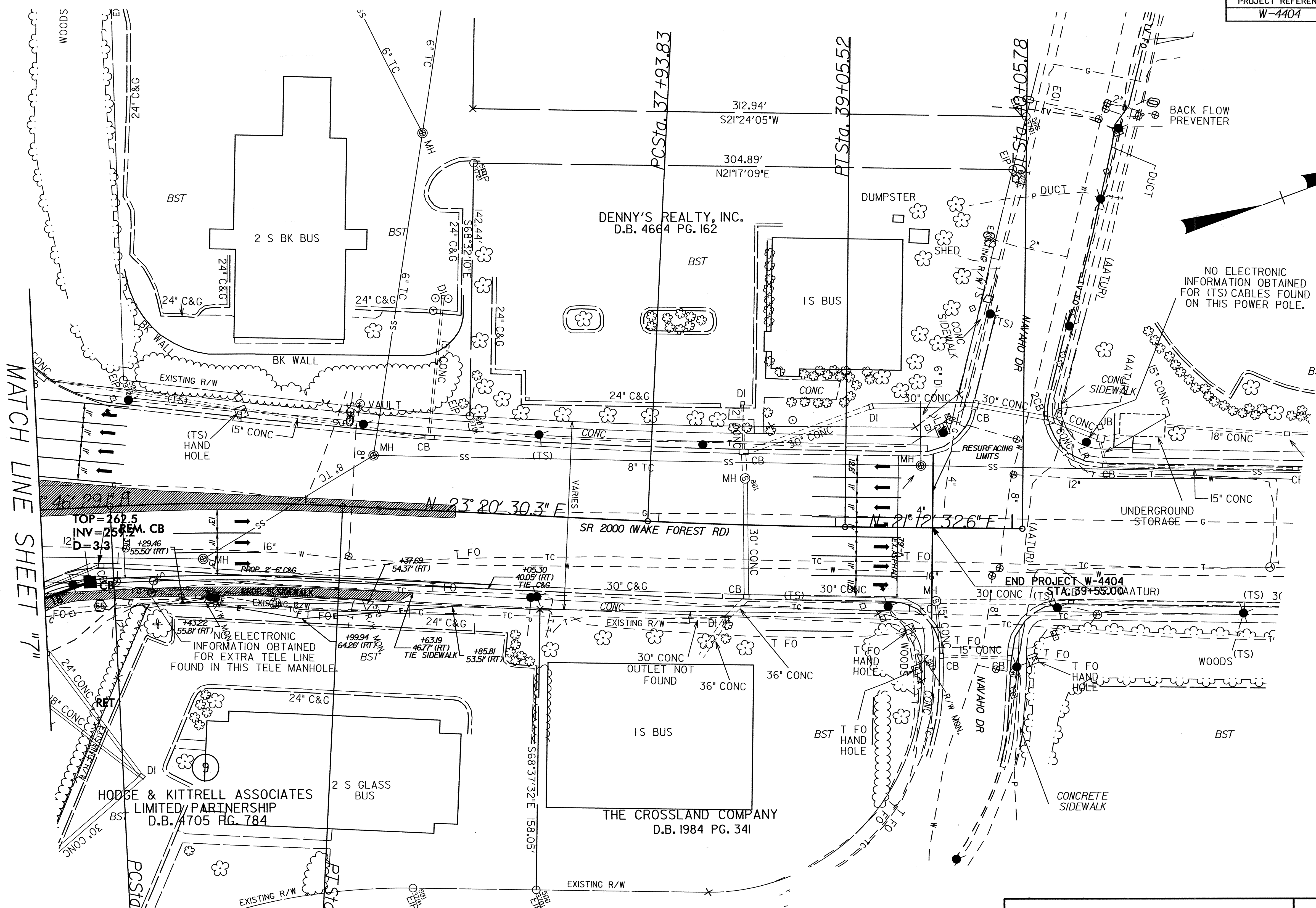
REVISIONS	INT.	DATE



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



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

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

DIVISION FIVE DESIGN
 ROADWAY DESIGN AND HYDRAULICS

 SEAL 030459
 ENGINEER
 M. BRANDON
 W. UPSTON
 SIGNATURE

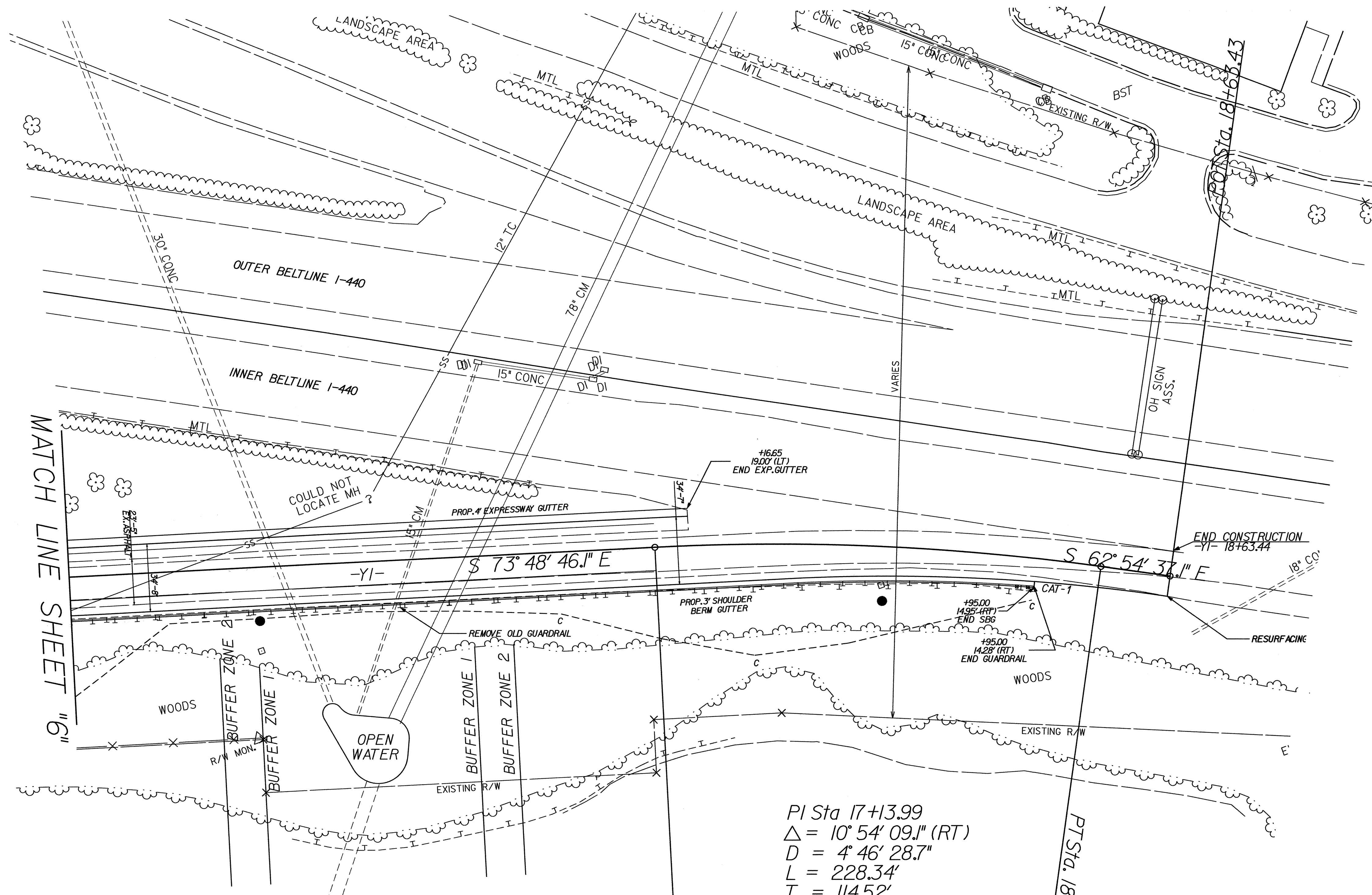
WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.

DIVISION 05 WAKE COUNTY RALEIGH

REVISIONS	INT.	DATE

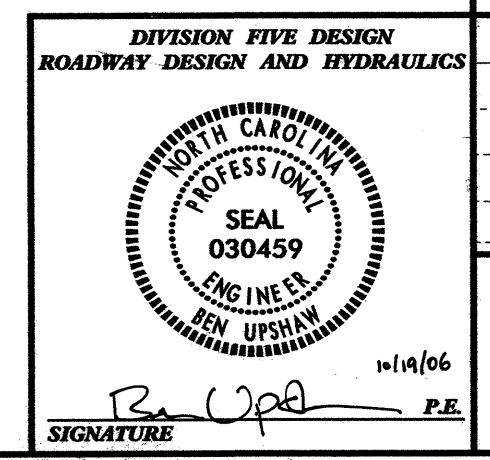
N.C. DEPARTMENT of TRANSPORTATION
 DIVISION of HIGHWAYS
 DIVISION FIVE DESIGN UNIT

SCALES: DATE: 12/2004
 PREPARED BY: M. BRANDON
 REVIEWED BY: B. UPSTON
 REVIEWED BY: B. JONES



$PI\ Sta\ 17+13.99$
 $\Delta = 10^\circ 54' 09.1'' (RT)$
 $D = 4' 46.287''$
 $L = 228.34'$
 $T = 114.52'$
 $R = 1,200.00'$

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



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

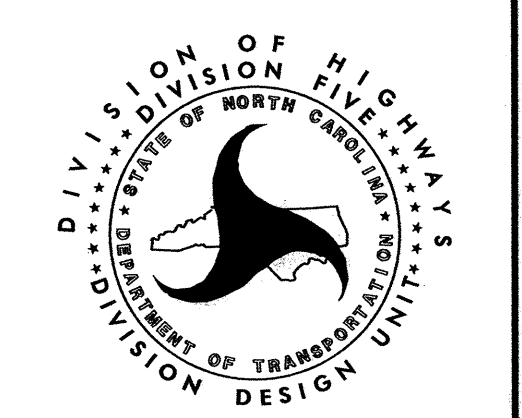
DIVISION 05 WAKE COUNTY RALEIGH

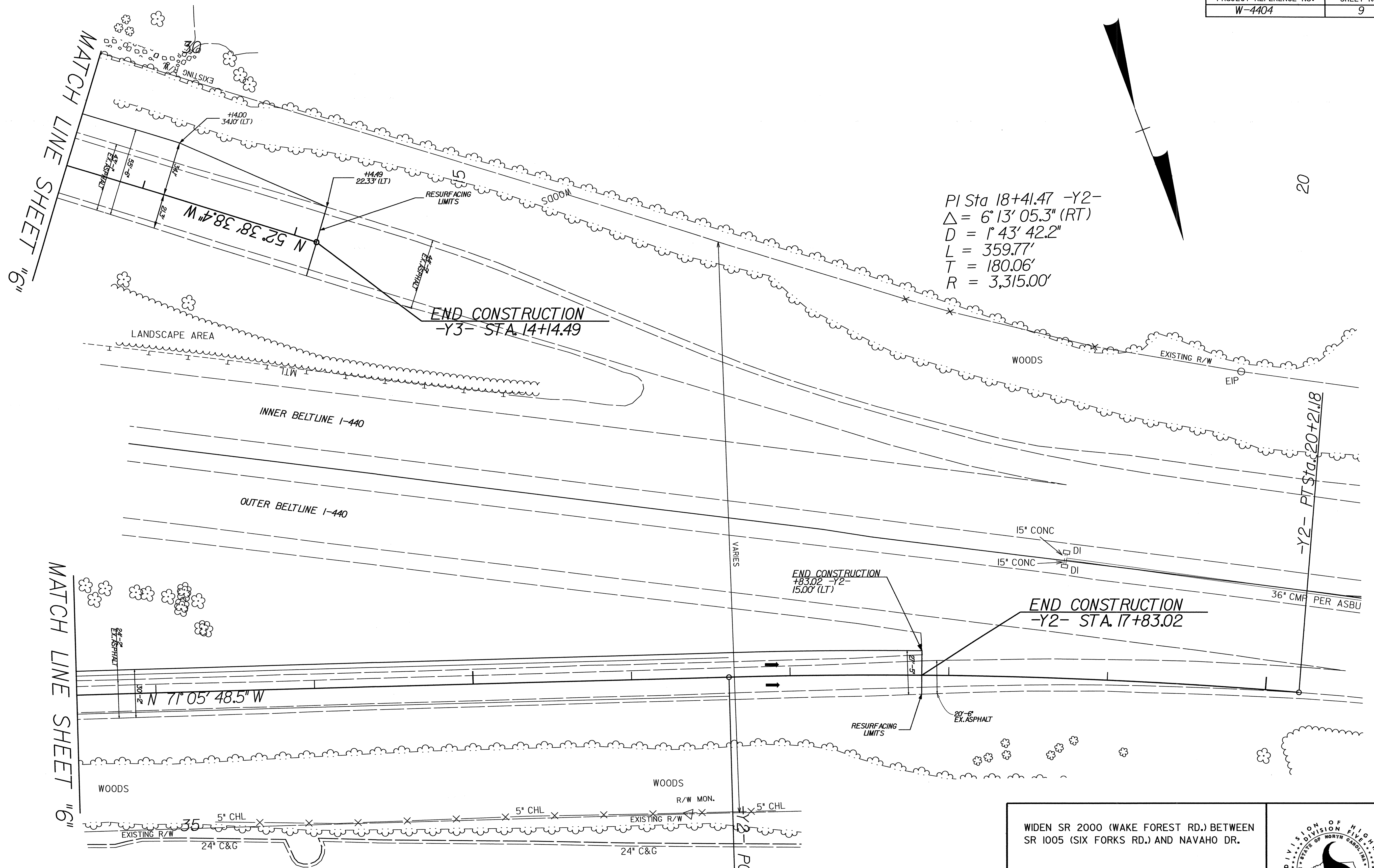
REVISIONS	INT.	DATE

SCALE: DATE: 12/2004

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

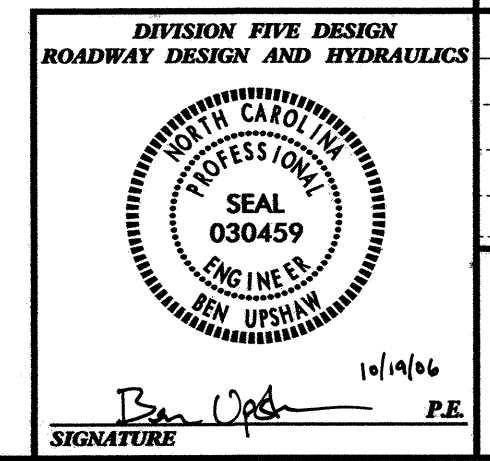
N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
DIVISION FIVE DESIGN UNIT



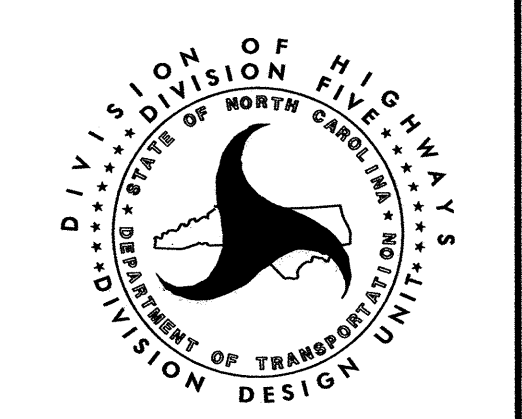


PI Sta 18+41.47 -Y2-
 $\Delta = 6^{\circ}13'05.3''$ (RT)
 $D = 1^{\circ}43'42.2''$
 $L = 359.77'$
 $T = 180.06'$
 $R = 3,315.00'$

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

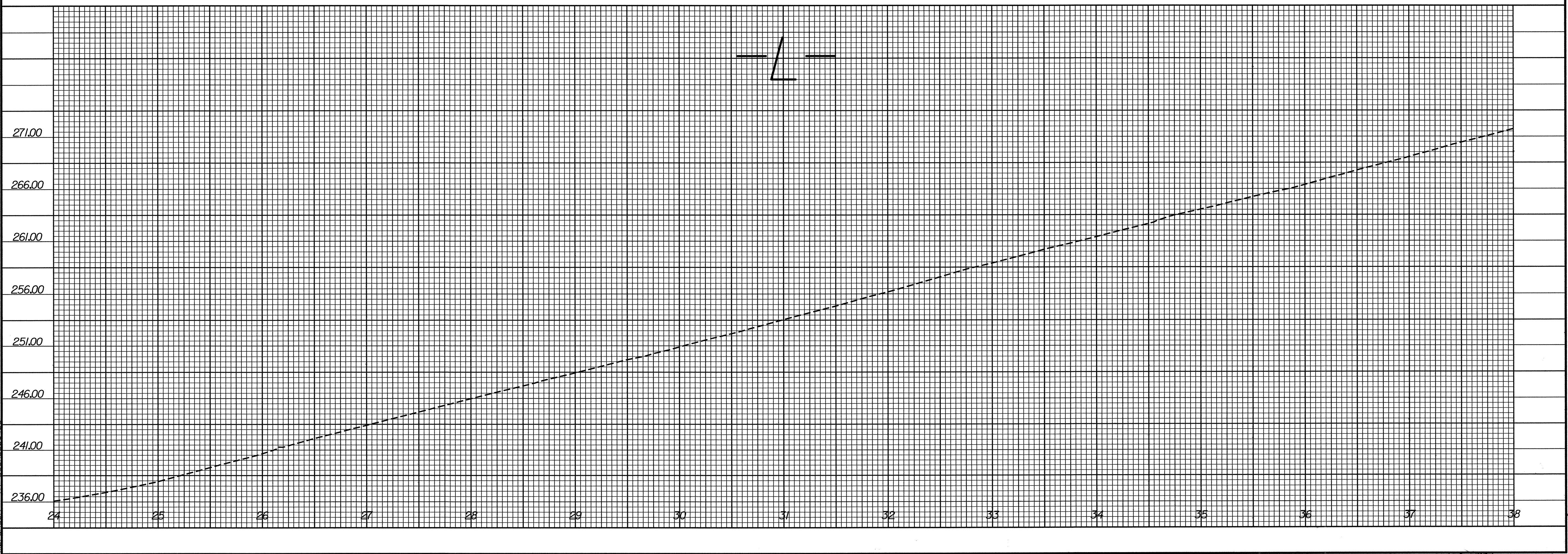
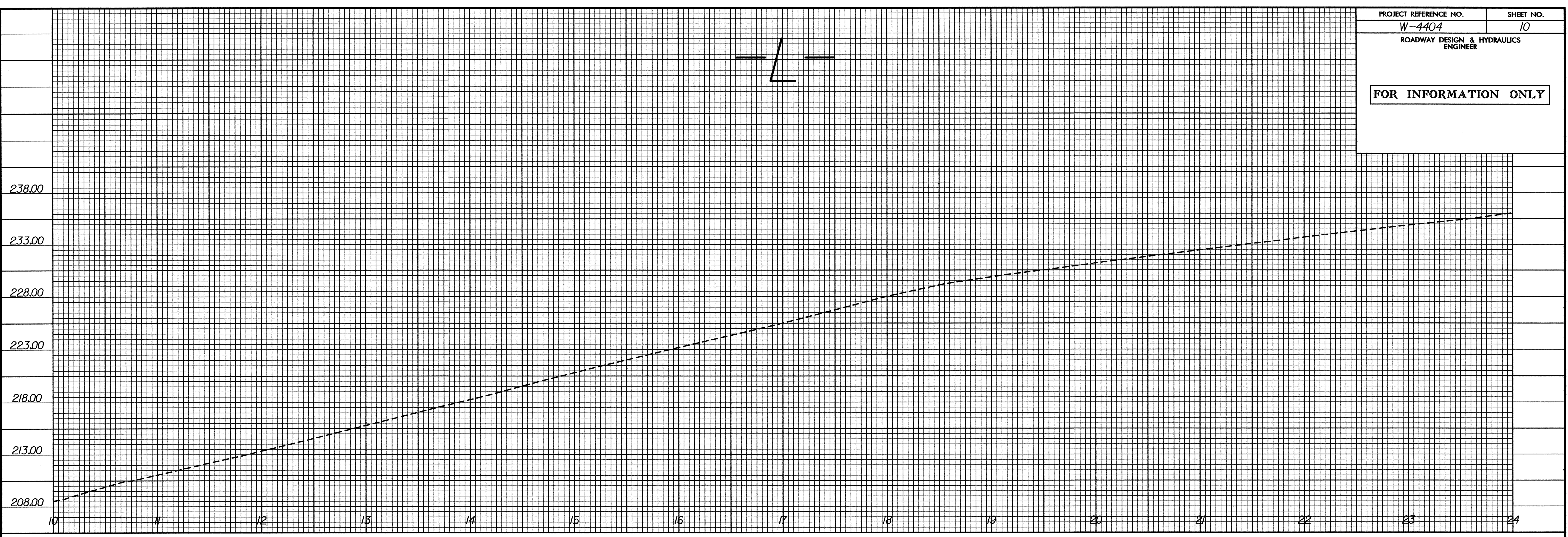


WIDEN SR 2000 (WAKE FOREST RD.) BETWEEN SR 1005 (SIX FORKS RD.) AND NAVAHO DR.		
DIVISION 05 WAKE COUNTY RALEIGH		
REVISIONS	INT.	DATE
SCALE: DATE: 12/2004		
PREPARED BY: M. BRANDON		
REVIEWED BY: B. UPSHAW		
REVIEWED BY: B. JONES		
N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION FIVE DESIGN UNIT		



FOR INFORMATION ONLY

5/28/99

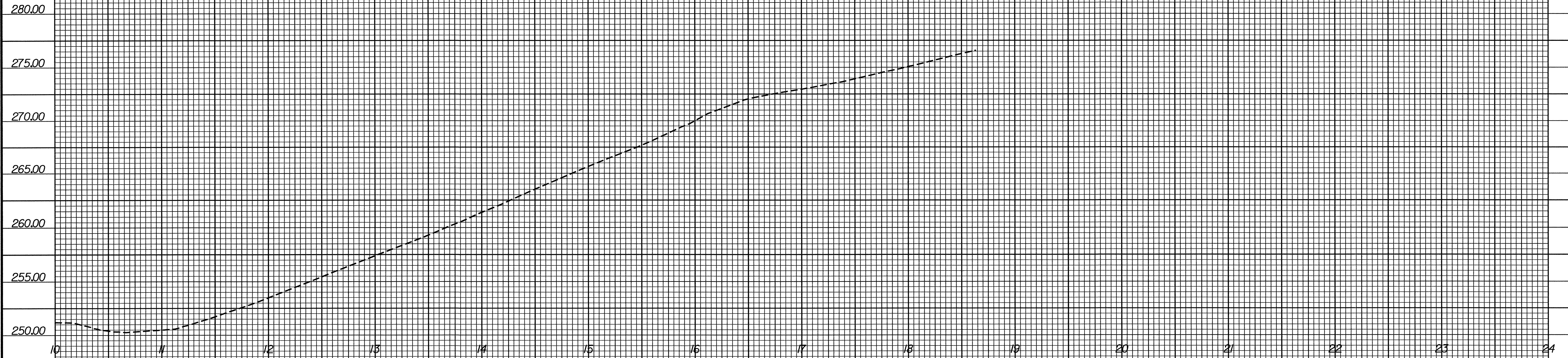


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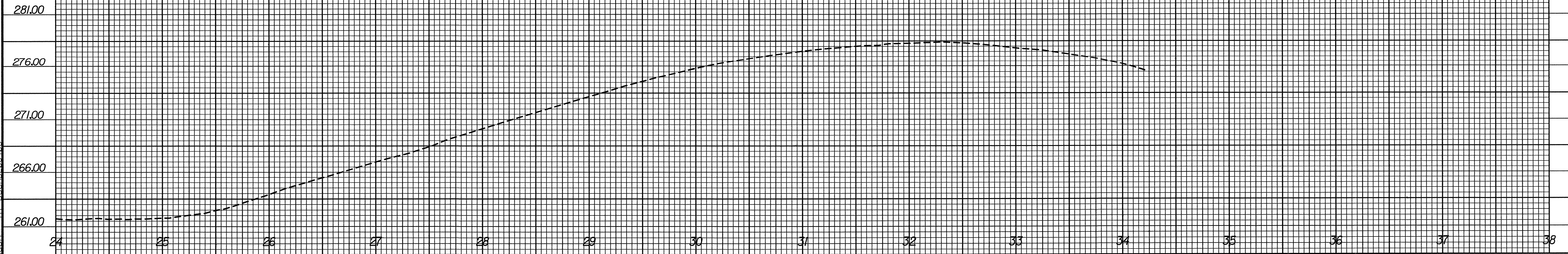
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
W-4404	11
ROADWAY DESIGN & HYDRAULICS ENGINEER	
FOR INFORMATION ONLY	

-Y1-



-Y2-



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FOR INFORMATION ONLY

-Y3-

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260.00
255.00
250.00

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24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

5/28/99

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