

See Sheet 1-A For Index of Sheets

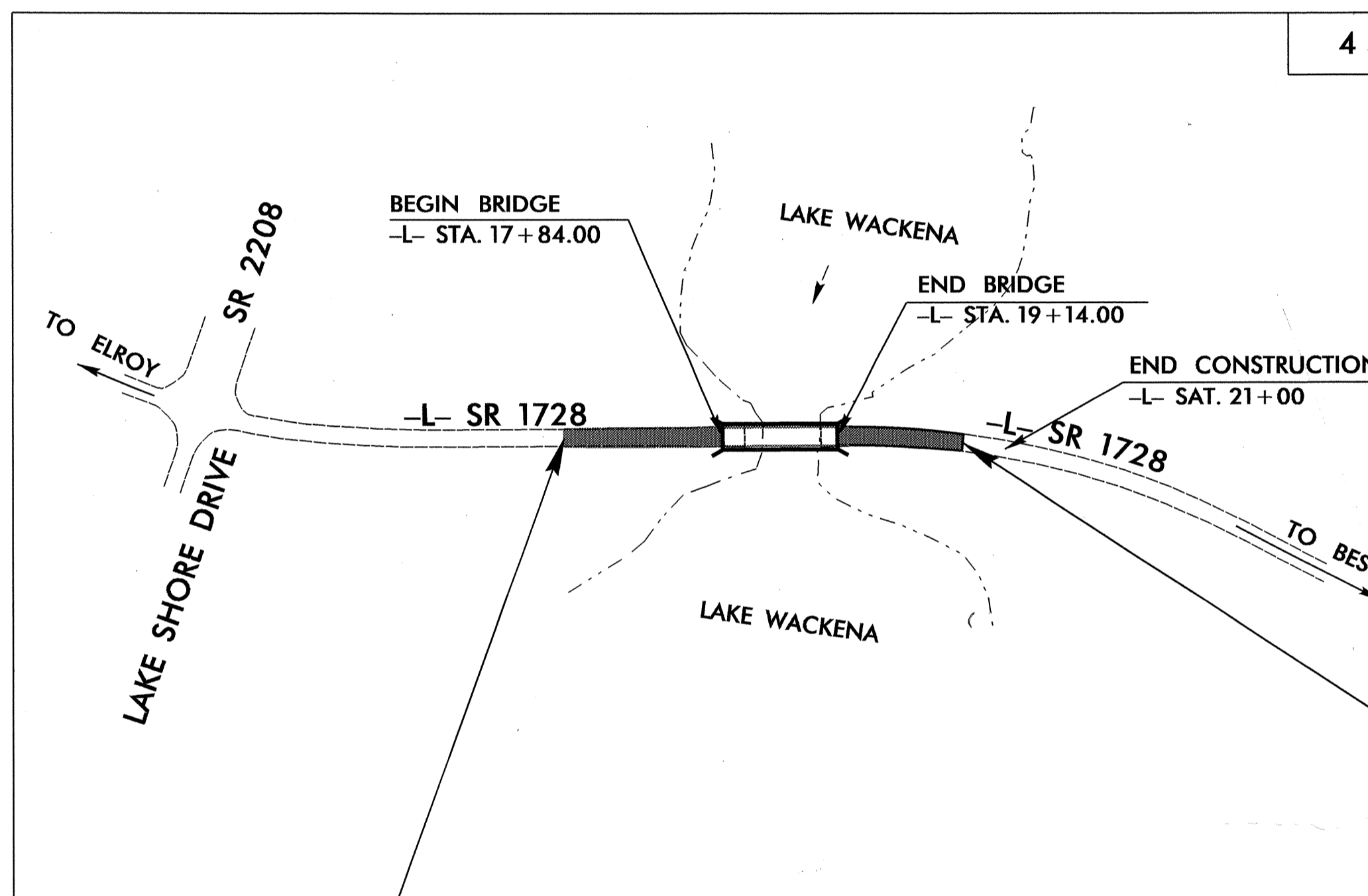
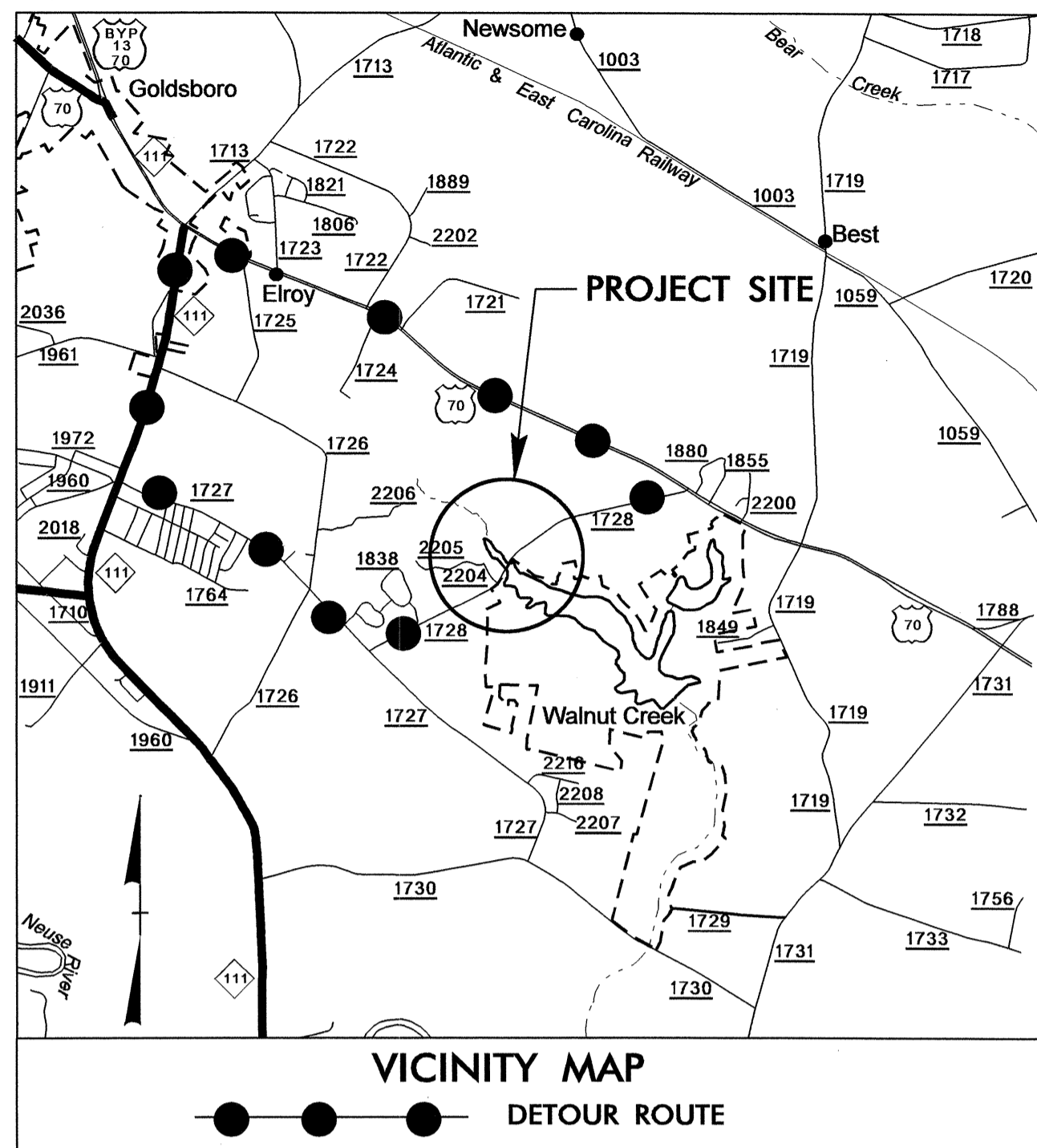
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAYNE COUNTY

LOCATION: BRIDGE NO. 120 OVER WALNUT CREEK ON SR 1728

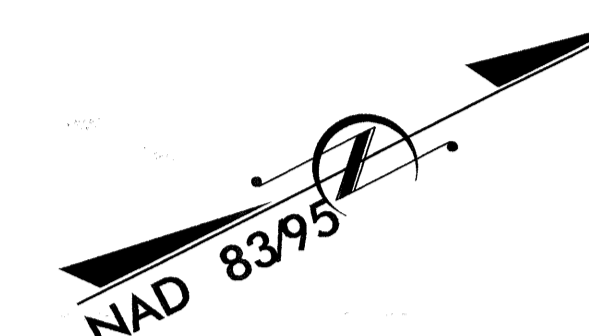
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4673	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33828.1.1	BRZ-1728(2)	PE	
33828.2.1	BRZ-1728(2)	RW, UTIL	
33828.3.1	BRZ-1728(2)	CONST	



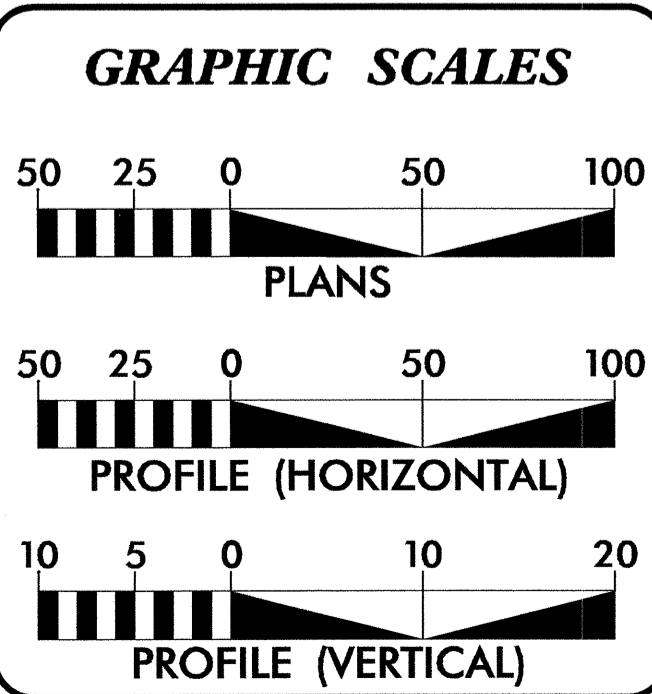
STA. 15 + 80.00 -L- BEGIN TIP PROJECT B-4673

STA. 20 + 50.00 -L- END TIP PROJECT B-4673



TIP PROJECT: B-4673

CONTRACT: C202734



DESIGN DATA

ADT 2011 =	3349
ADT 2031 =	5719
DHV =	10 %
D =	60 %
T =	3 % *
V =	50 MPH
* TTST 1% DUAL 2%	
FUNC. CLASS. =	LOCAL RURAL SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4673	=	0.064 MILE
LENGTH STRUCTURE TIP PROJECT B-4673	=	0.025 MILE
TOTAL LENGTH TIP PROJECT B-4673	=	0.089 MILE

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 20, 2010

LETTING DATE:
NOVEMBER 15, 2011

BRENDA MOORE, PE
PROJECT ENGINEER

KATRINA N. WASHINGTON, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

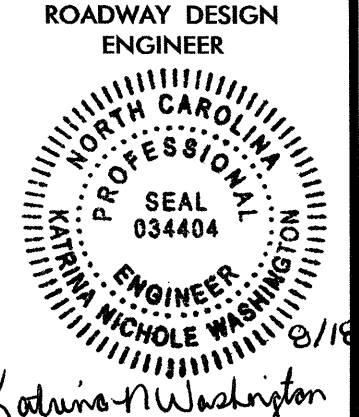
W. Malm Cail
SIGNATURE:

ROADWAY DESIGN ENGINEER

Katrina N. Washington
SIGNATURE: P.E. 8/18/11

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Art M. Miller
STATE HIGHWAY DESIGN ENGINEER



SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-A THRU 2-B	METHOD OF PIPE INSTALLATION
2-C	ANCHORAGE FOR FRAMES
3	SUMMARY OF QUANTITIES
3-A	LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)
3-B	SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-2	TRANSPORTATION MANAGEMENT PLANS
SD-1	SPECIAL SIGN DESIGN PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
UD-1 THRU UD-2	UTILITIES BY OTHER PLANS
X-1A	CROSS-SECTION SUMMARY
X-1 THRU X-4	CROSS-SECTIONS
S-1 THRU S-24	STRUCTURE PLANS

GENERAL NOTES:

2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-30-08

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

CLEARING:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 111.

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

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

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

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

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

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

END BENTS:
THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE PROGRESS ENERGY.
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

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

2006 ROADWAY ENGLISH STANDARD DRAWINGS
The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated 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	
200.03	Method of Clearing - Method III
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units

EFF. 07-18-06
REV. 01-02-07

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	(23)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-WLB-
Proposed Wetland Boundary	-WLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	~
Proposed Lateral, Tail, Head Ditch	← FLOW
False Sump	◇

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Wheel Chair Ramp	WCR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	~
Woods Line	~
Orchard	⊕
Vineyard	□

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	S

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	PH
H-Frame Pole	●
Recorded U/G Power Line	P
Designated U/G Power Line (S.U.E.*)	P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	□
Telephone Pedestal	⊕
Telephone Cell Tower	⊗
U/G Telephone Cable Hand Hole	PH
Recorded U/G Telephone Cable	T
Designated U/G Telephone Cable (S.U.E.*)	T
Recorded U/G Telephone Conduit	TC
Designated U/G Telephone Conduit (S.U.E.*)	TC
Recorded U/G Fiber Optics Cable	T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	T FO

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	W
Designated U/G Water Line (S.U.E.*)	W
Above Ground Water Line	A/G Water

TV:

TV Satellite Dish	⊗
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	PH
Recorded U/G TV Cable	TV
Designated U/G TV Cable (S.U.E.*)	TV
Recorded U/G Fiber Optic Cable	TV FO
Designated U/G Fiber Optic Cable (S.U.E.*)	TV FO

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	G
Designated U/G Gas Line (S.U.E.*)	G
Above Ground Gas Line	A/G Gas

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	SS
Above Ground Sanitary Sewer	A/G Sanitary Sewer
Recorded SS Forced Main Line	FSS
Designated SS Forced Main Line (S.U.E.*)	FSS

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	U/L
U/G Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET B-4673

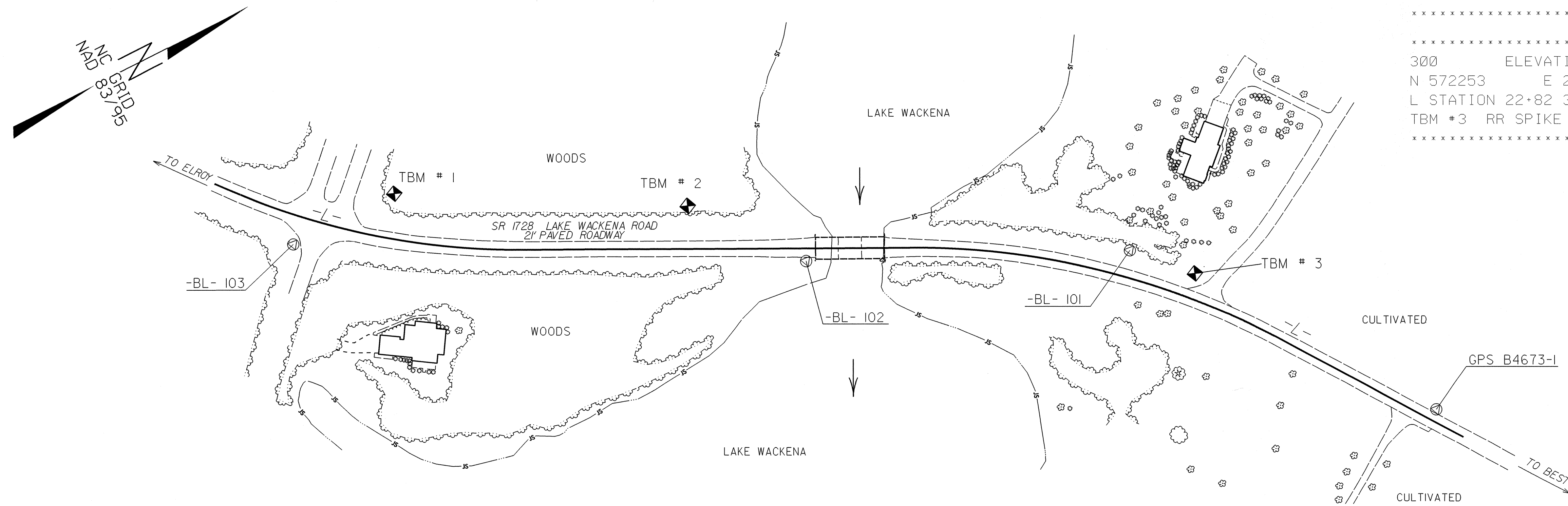
BASELINE DATA

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
103	BL-103	571224.7230	2332776.8620	94.29	11+21.10	37.11 RT
102	BL-102	571809.6580	2333096.9240	86.03	17+80.71	16.46 RT
101	BL-101	572190.9050	2333275.2470	89.39	21+95.49	34.75 LT
1	GPS B4673-1	572451.5890	2333640.7010	99.76	26+38.56	15.16 LT

BENCHMARK DATA

```

*****
302      ELEVATION = 95.03
N 571372      E 2332778
L STATION 12+34 58 LEFT
TBM #1  RR SPIKE IN BASE OF 12" PINE
*****
301      ELEVATION = 84.18
N 571705      E 2332964
L STATION 16+28 56 LEFT
TBM #2  RR SPIKE IN BASE OF 8" OAK
*****
300      ELEVATION = 96.43
N 572253      E 2333340
L STATION 22+82 33 LEFT
TBM #3  RR SPIKE IN BASE OF 8" OAK
*****
    
```



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4673-1"

WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 572451.589(ft) EASTING: 2333640.701(ft)
 ELEVATION: 99.76(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987402

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4673-1" TO -L- STATION 16+50.00 IS
 S 39°23'04.0" W 972.29 (ft)

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)


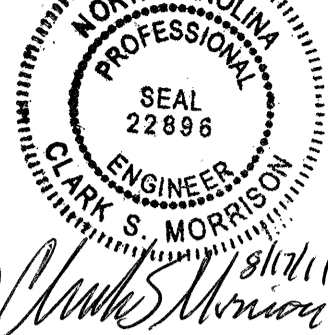
THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4673_LS_CONTROL_090316.TXT

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

⊙ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

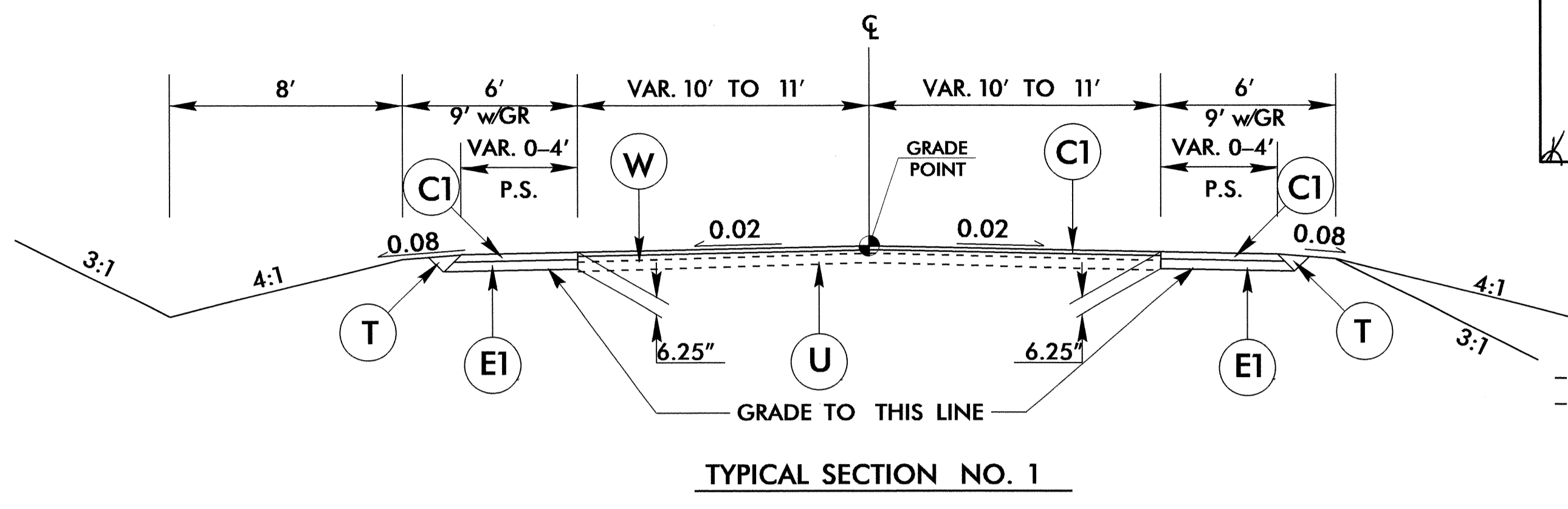
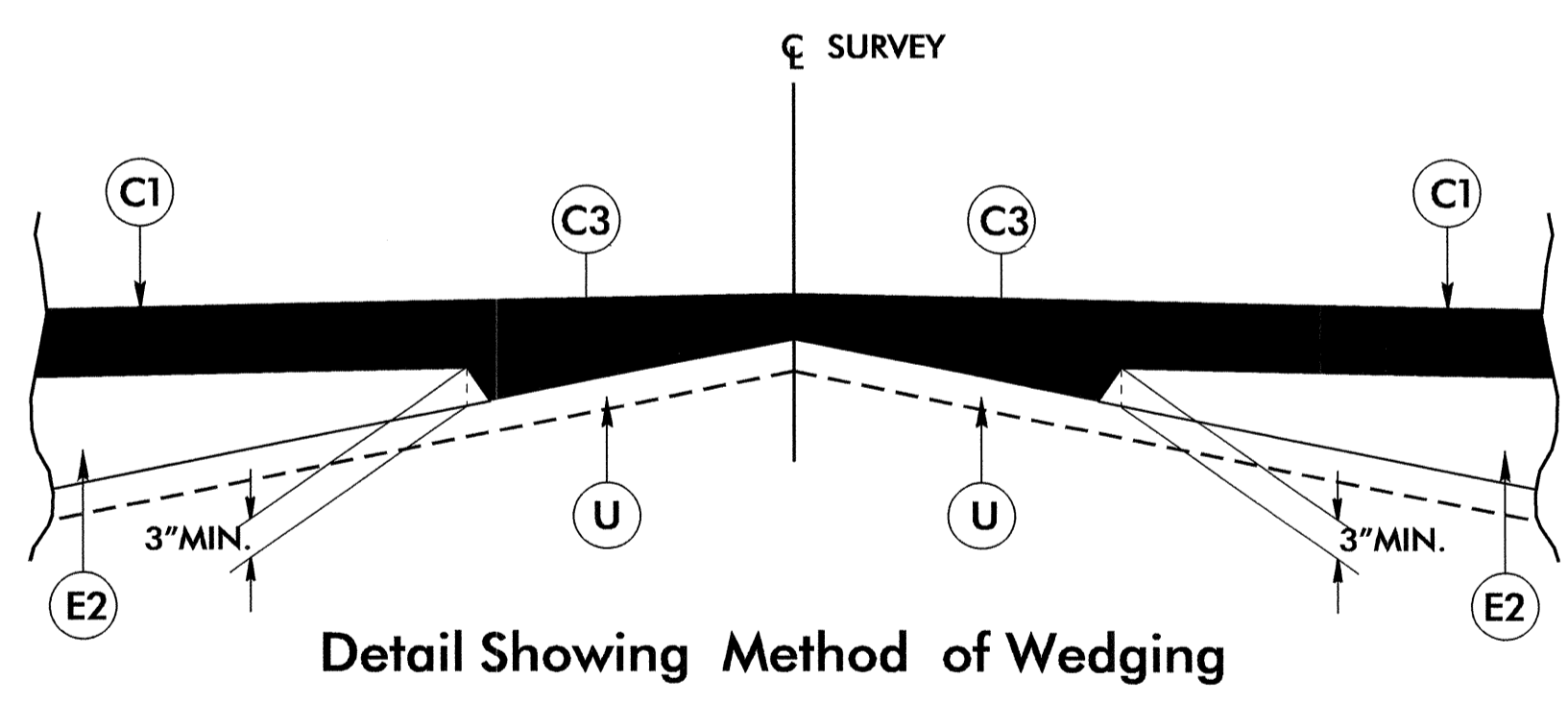
NOTE: DRAWING NOT TO SCALE

6/2/99

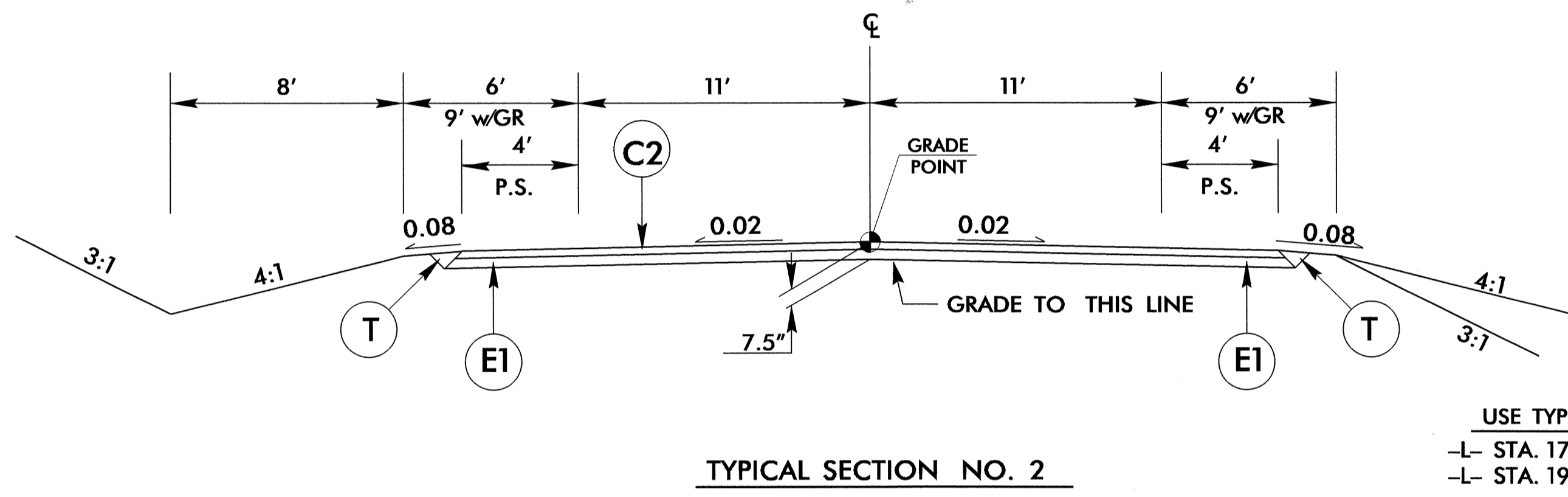
PROJECT REFERENCE NO. B-4673	SHEET NO. 2
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.
E1	PROP. APPROX. 5.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2)

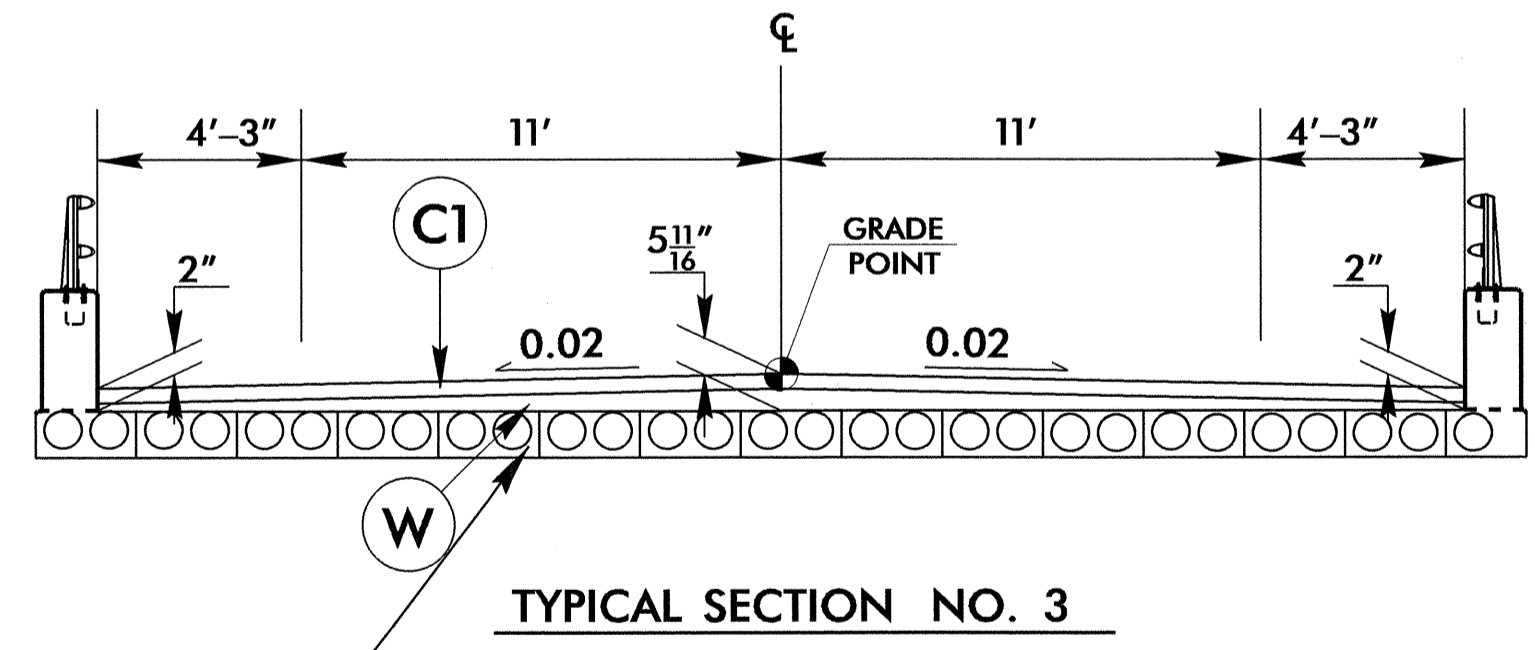
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



USE TYPICAL SECTION NO. 1
 -L- STA. 15+80.00 TO STA. 17+34.00
 -L- STA. 19+64.00 TO STA. 20+50.00



USE TYPICAL SECTION NO. 2
 -L- STA. 17+34.00 TO STA. 17+84.00 (BRIDGE)
 -L- STA. 19+14.00 (BRIDGE) TO STA. 19+64.00



PROPOSED CORED SLAB BRIDGE
 (STRUCTURE PAY ITEM)

USE TYPICAL SECTION NO. 3
 -L- STA. 17+84.00 (BRIDGE) TO STA. 19+14.00 (BRIDGE)

09-AUG-2011 09:25
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30-JUL-2009 08:48
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5/14/99

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

7-06 ENGLISH DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION

FLEXIBLE PIPE

SHEET 1 OF 3
300D01

GENERAL NOTES:

- I. D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
- O. D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
- H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.
- TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
- LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.
- SPRINGLINE OF PIPE
- SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
- APPROVED SUITABLE LOCAL MATERIAL.
- UNDISTURBED EARTH MATERIAL
- SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

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

7-06 ENGLISH DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION

RIGID PIPE

SHEET 2 OF 3
300D01

GENERAL NOTES:

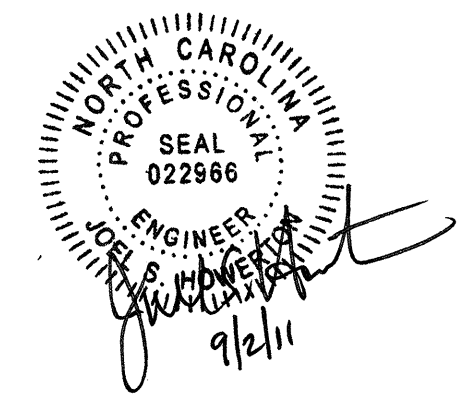
- I. D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
- O. D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
- H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.
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- LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.
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- SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 BELOW SPRINGLINE.
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- SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

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

SEE PLATE FOR TITLE

ORIGINAL BY: KKempf DATE: 5-15-09
 MODIFIED BY: *[Signature]* DATE: 7/26/09
 CHECKED BY: *[Signature]* DATE: 7/26/09
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STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

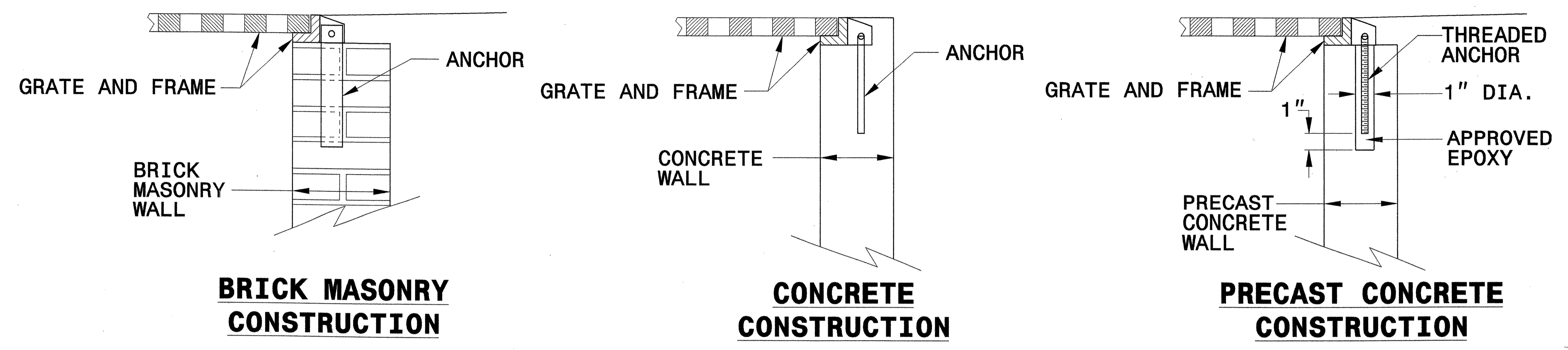
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

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

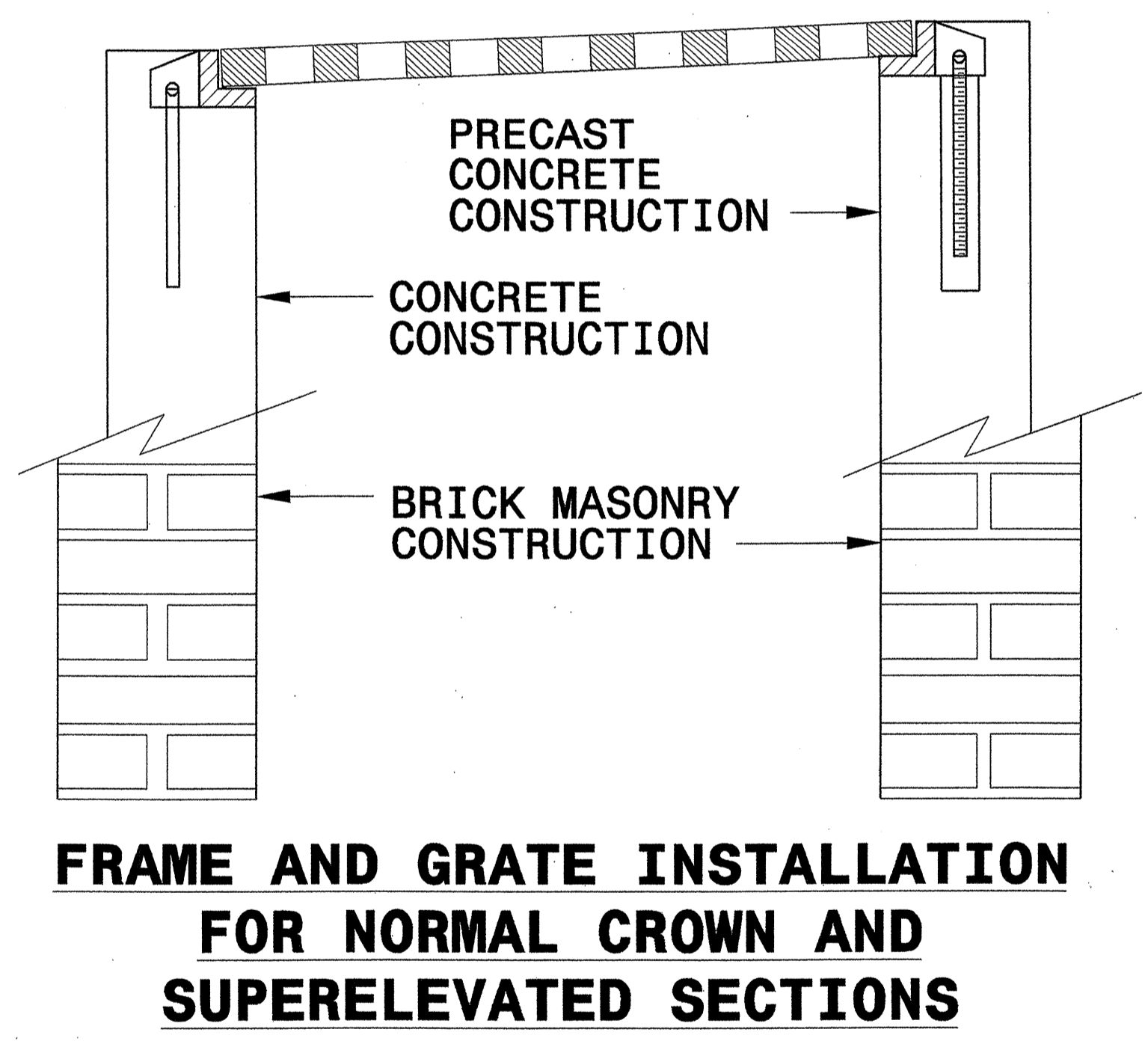
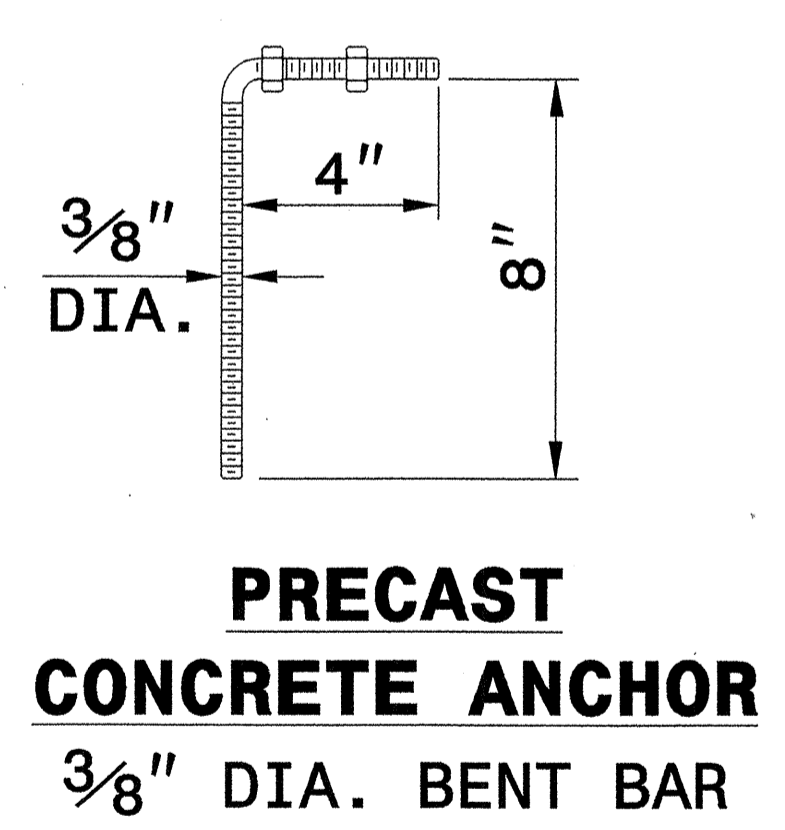
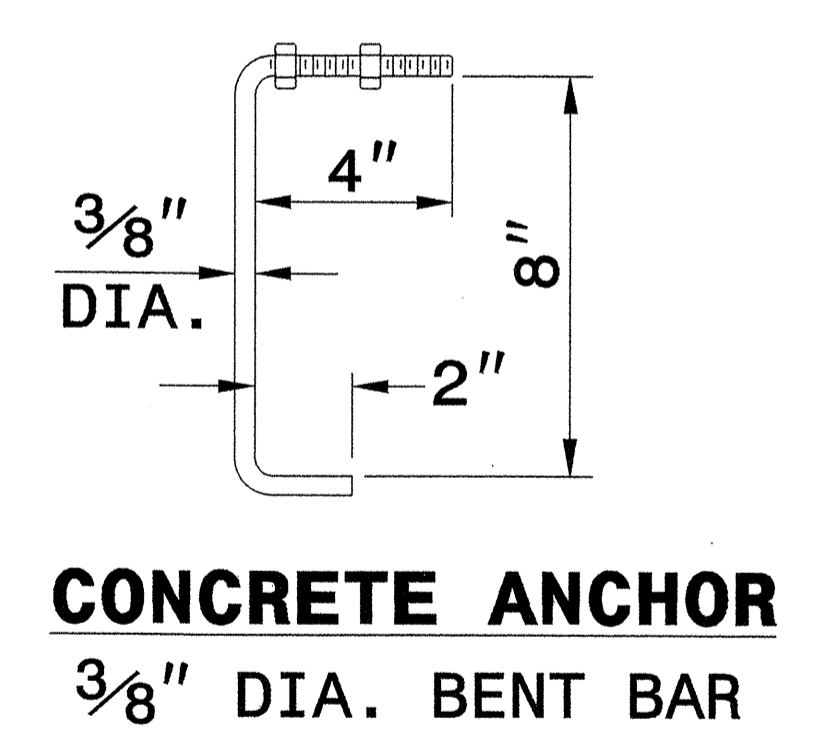
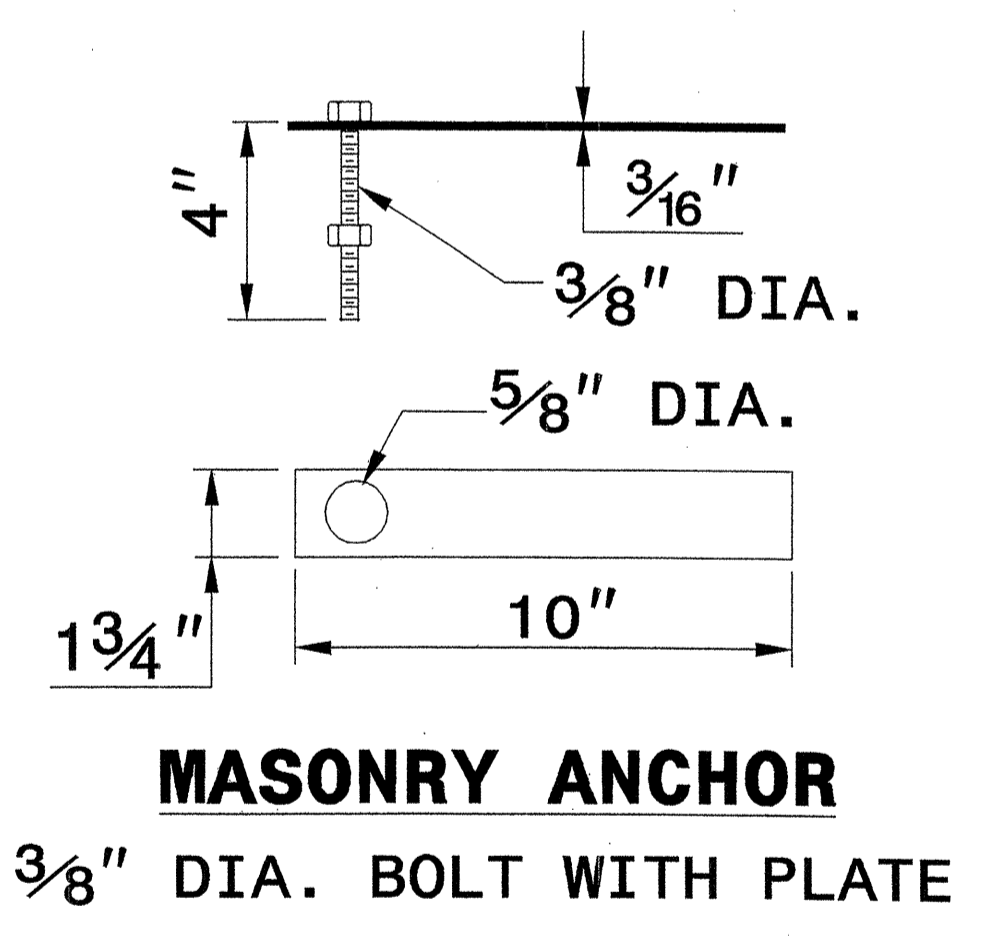
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

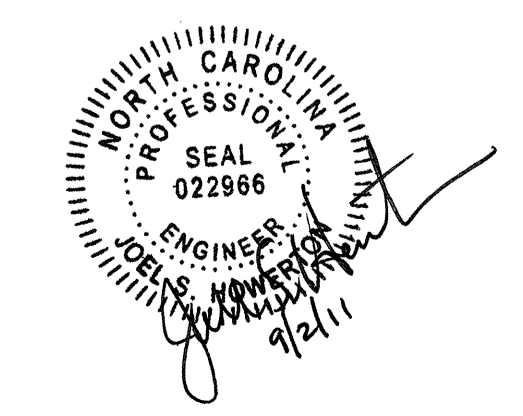


**DETAIL SHOWING ANCHORAGE OF
FRAME FOR GRATED DROP INLET**

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



SYSTEM: \$\$\$\$\$\$
DRAWN: \$\$\$\$\$\$
USER: \$\$\$\$\$\$



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: 11/13/06
FILE SPEC.: *[Signature]*

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202734

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION	2556000000-E	846	160	LF	SHOULDER BERM GUTTER	6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (18+49)	3030000000-E	862	175	LF	STEEL BM GUARDRAIL	6027000000-N	1622	4	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
0043000000-N	226	Lump Sum		GRADING	3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS	6029000000-E	SP	800	LF	SAFETY FENCE
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB- BING	3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III	6030000000-E	1630	300	CY	SILT EXCAVATION
0057000000-E	226	300	CY	UNDERCUT EXCAVATION	3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	6036000000-E	1631	1,800	SY	MATTING FOR EROSION CONTROL
0134000000-E	240	75	CY	DRAINAGE DITCH EXCAVATION	3574000000-E	867	260	LF	GENERIC FENCING ITEM REMOVE & RESET 48" WOOD FENCE	6042000000-E	1632	600	LF	1/4" HARDWARE CLOTH
0195000000-E	SP	300	CY	SELECT GRANULAR MATERIAL	3656000000-E	876	500	SY	FILTER FABRIC FOR DRAINAGE	6071020000-E	SP	20	LB	POLYACRYLAMIDE (PAM)
0196000000-E	270	300	SY	FABRIC FOR SOIL STABILIZATION	3659000000-N	SP	1	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON	6084000000-E	1660	2	ACR	SEEDING & MULCHING
0318000000-E	SP	12	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRS	4072000000-E	903	26	LF	SUPPORTS, 3-LB STEEL U-CHANNEL	6087000000-E	1660	2	ACR	MOWING
0320000000-E	SP	38	SY	FOUNDATION CONDITIONING FABRIC	4102000000-N	904	2	EA	SIGN ERECTION, TYPE E	6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
0335200000-E	SP	16	LF	15" DRAINAGE PIPE	4155000000-N	907	5	EA	DISPOSAL OF SIGN SYSTEM, U- CHANNEL	6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
0448200000-E	SP	88	LF	15" RC PIPE CULVERTS, CLASS IV	4158000000-N	907	1	EA	DISPOSAL OF SIGN SYSTEM, WOOD	6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
1220000000-E	545	200	TON	INCIDENTAL STONE BASE	4400000000-E	1110	565	SF	WORK ZONE SIGNS (STATIONARY)	6108000000-E	1665	1.25	TON	FERTILIZER TOPDRESSING
1308000000-E	607	250	SY	MILLING ASPHALT PAVEMENT, **** TO ***** DEPTH (0" TO 3")	4410000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)	6114500000-N	SP	10	MHR	SPECIALIZED HAND MOWING
1489000000-E	610	200	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B	4445000000-E	1145	96	LF	BARRICADES (TYPE III)	6117000000-N	SP	16	EA	RESPONSE FOR EROSION CONTROL
1525000000-E	610	185	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A	4770000000-E	1205	1,884	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (I)	6123000000-E	1670	0.25	ACR	REFORESTATION
1575000000-E	SP	25	TON	ASPHALT BINDER FOR PLANT MIX	4900000000-N	1251	6	EA	PERMANENT RAISED PAVEMENT MARKERS					
2000000000-N	806	10	EA	RIGHT OF WAY MARKERS	6000000000-E	1605	1,050	LF	TEMPORARY SILT FENCE					
2022000000-E	SP	23	CY	SUBDRAIN EXCAVATION	6006000000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A					
2033000000-E	SP	17	CY	SUBDRAIN FINE AGGREGATE	6009000000-E	1610	245	TON	STONE FOR EROSION CONTROL, CLASS B					
2044000000-E	SP	100	LF	6" PERFORATED SUBDRAIN PIPE	6012000000-E	1610	175	TON	SEDIMENT CONTROL STONE					
2070000000-N	SP	1	EA	SUBDRAIN PIPE OUTLETS	6015000000-E	1615	2	ACR	TEMPORARY MULCHING					
2077000000-E	SP	6	LF	6" OUTLET PIPE (SUBDRAINS)	6018000000-E	1620	100	LB	SEED FOR TEMPORARY SEEDING					
2286000000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES	6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEED- ING					
2367000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29										

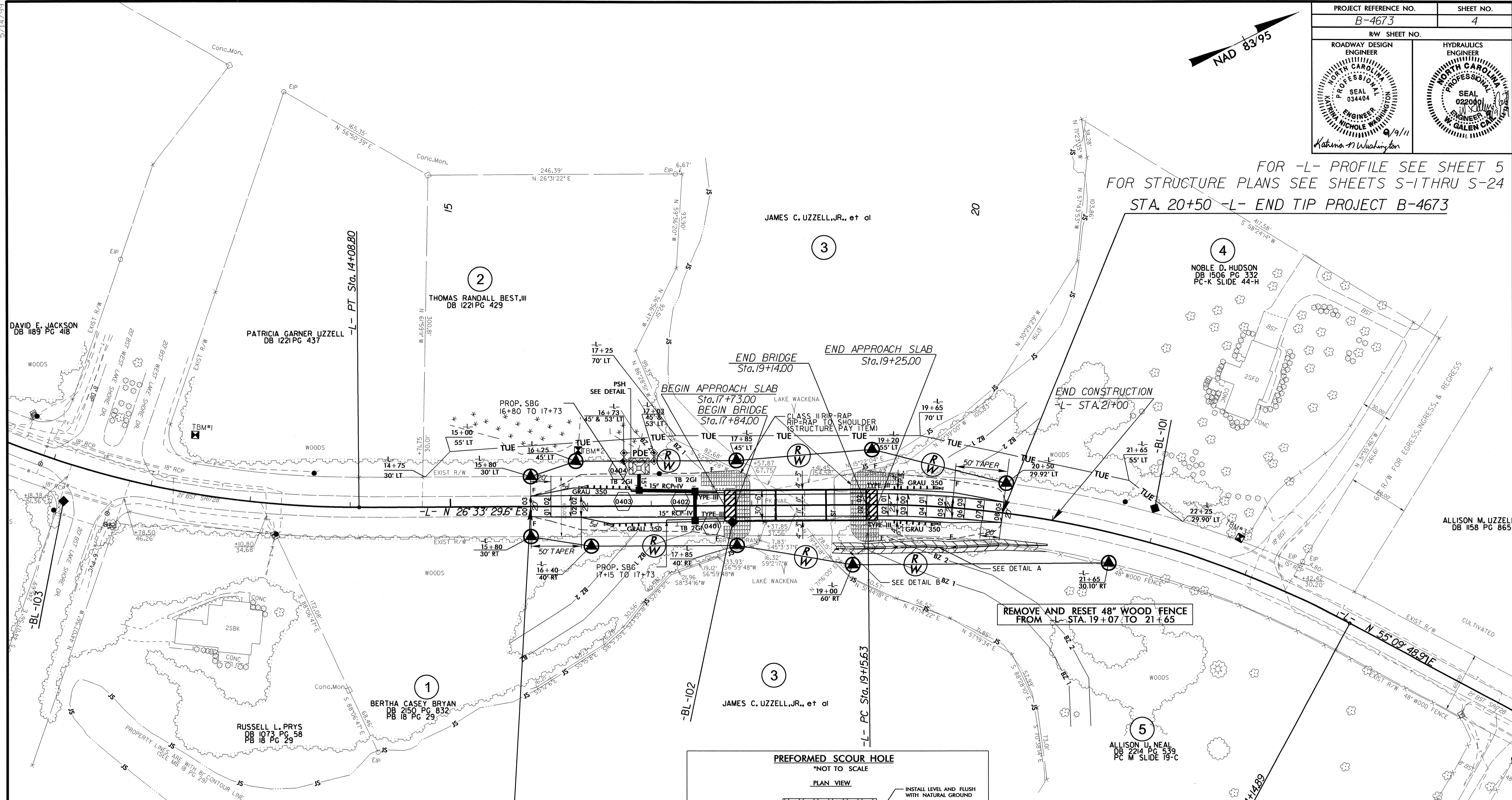
8/17/99

03-AUG-2011 09:58
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09-SEP-2010 09:17 R:\PROJECTS\B-4673\RDJ-ps-h_s04.dgn

PROJECT REFERENCE NO. B-4673	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 034404 KATHLEEN M. WASHINGTON 9/9/11	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 022000 W. GALEN CALDWELL

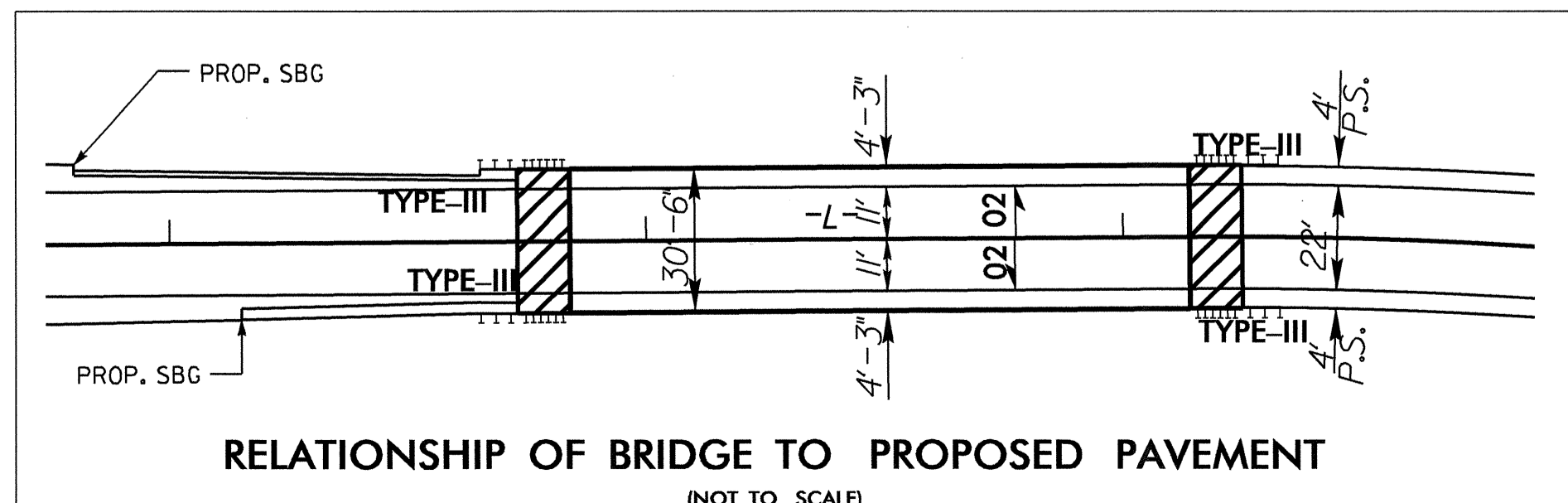
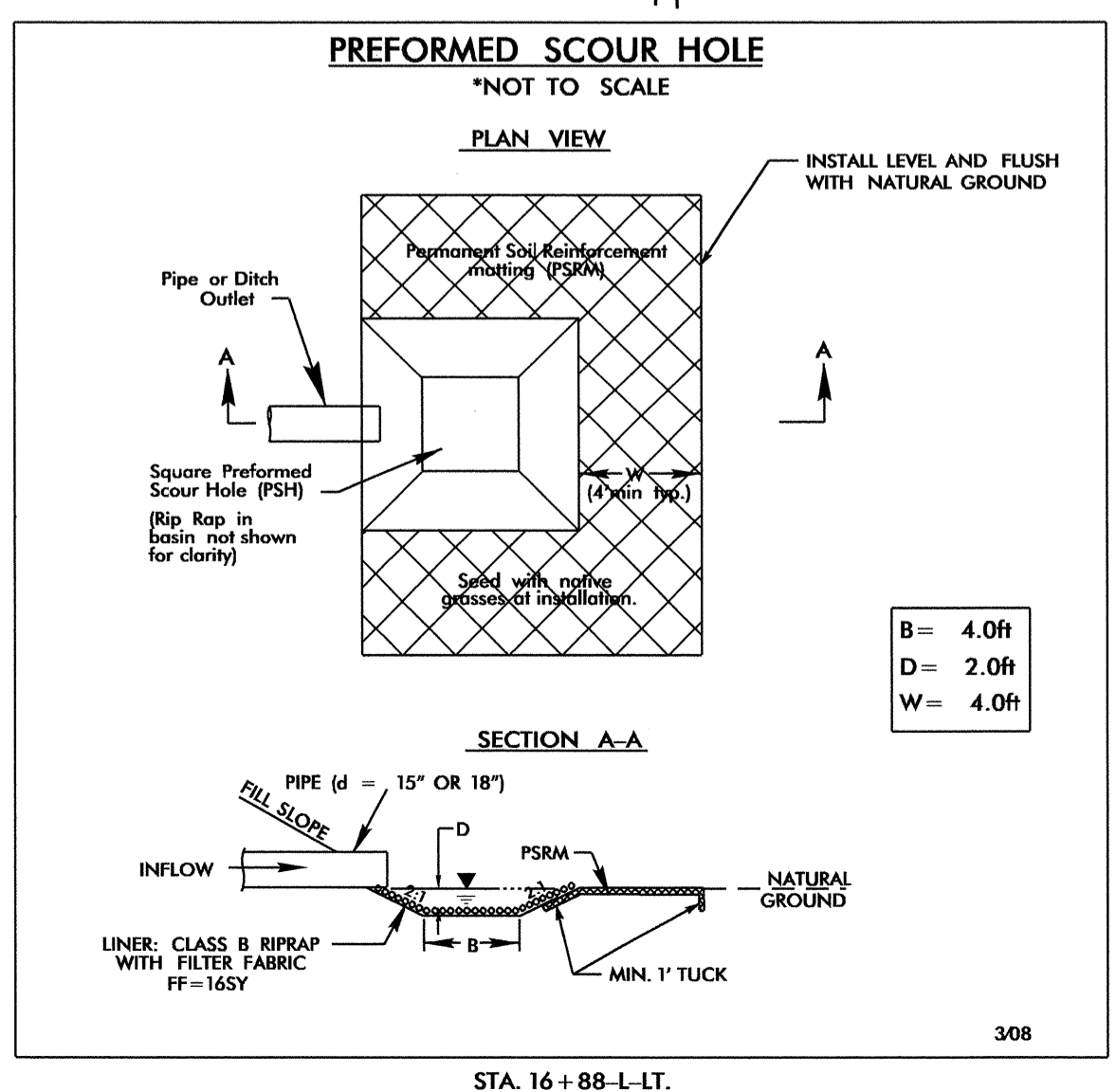
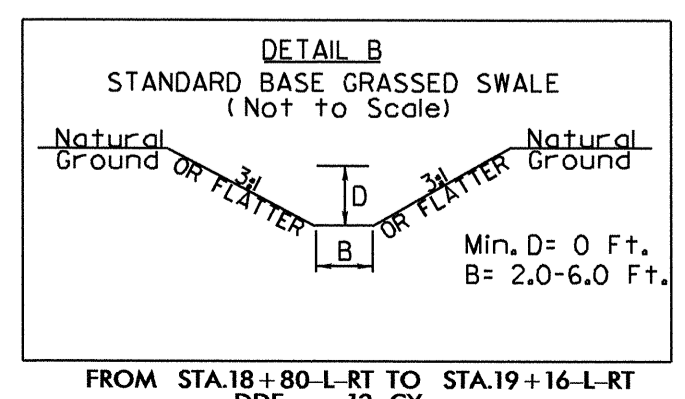
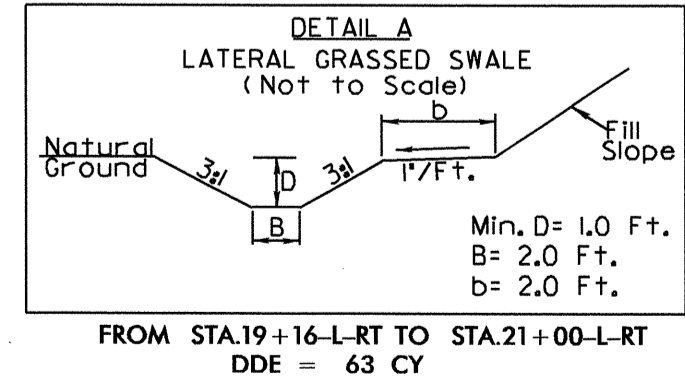
FOR -L- PROFILE SEE SHEET 5
FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-24
STA. 20+50 -L- END TIP PROJECT B-4673



STA. 15+80 -L- BEGIN TIP PROJECT B-4673

PI Sta 12+07.69
 $\Delta = 24^{\circ} 55' 03.9''$ (LT)
 $D = 6^{\circ} 05' 43.1''$
 $L = 408.80'$
 $T = 207.69'$
 $R = 940.00'$

PI Sta 21+70.58
 $\Delta = 28^{\circ} 36' 19.2''$ (RT)
 $D = 5^{\circ} 43' 46.5''$
 $L = 499.26'$
 $T = 254.95'$
 $R = 1,000.00'$
 SE = SEE PLANS
 RUNOFF = SEE PLANS

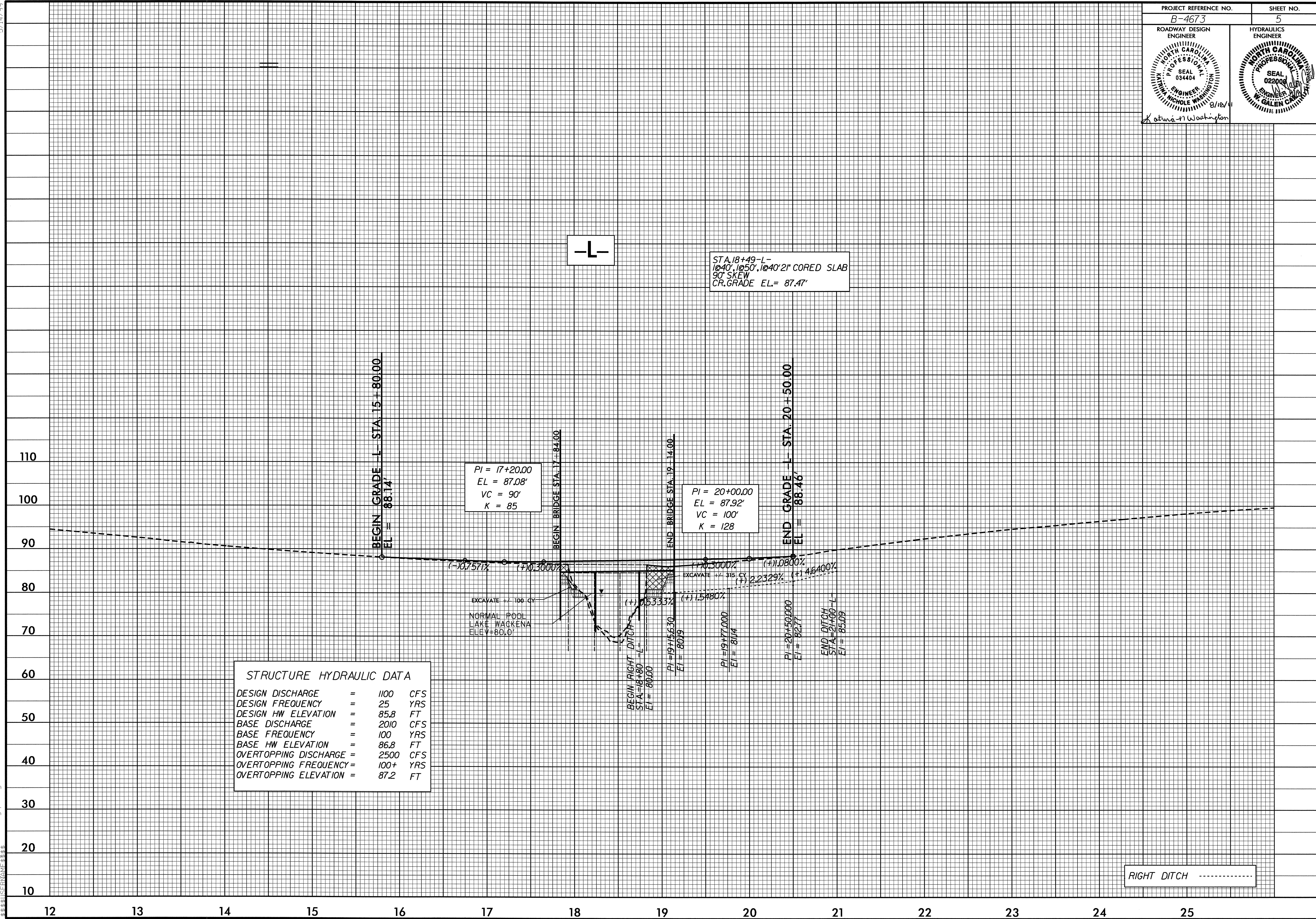


REMOVE AND RESET 48" WOOD FENCE FROM STA. 19+07 TO 21+65

5/14/99

18-AUG-2011 11:33
P:\Roadway\18-AUG-2011\18-AUG-2011.dgn

PROJECT REFERENCE NO. B-4673	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Nicholas Washington	



STA. 18+49-L-
10'40" x 10'50" x 10'40" 2" CORED SLAB
90° SKEW
CR. GRADE EL = 87.47'

PI = 17+20.00
EL = 87.08'
VC = 90'
K = 85

PI = 20+00.00
EL = 87.92'
VC = 100'
K = 128

STRUCTURE HYDRAULIC DATA		
DESIGN DISCHARGE	=	1100 CFS
DESIGN FREQUENCY	=	25 YRS
DESIGN HW ELEVATION	=	85.8 FT
BASE DISCHARGE	=	2010 CFS
BASE FREQUENCY	=	100 YRS
BASE HW ELEVATION	=	86.8 FT
OVERTOPPING DISCHARGE	=	2500 CFS
OVERTOPPING FREQUENCY	=	100+ YRS
OVERTOPPING ELEVATION	=	87.2 FT

RIGHT DITCH -----