

CONTRACT NO.: DO00088 TIP: BK-5112



DESIGN DATA

ADT 2007 = 100
ADT 2027 = 200
V = 45 MPH

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT = 0.137 MILE
LENGTH STRUCTURE TIP PROJECT = 0.015 MILE
TOTAL LENGTH TIP PROJECT = 0.152 MILE

BRIDGE MANAGEMENT UNIT

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2006 STANDARD SPECIFICATIONS

LETTING DATE:

November 23, 2010

DAN HOLDERMAN, PE
STATE BRIDGE
MANAGEMENT ENGINEER

NCDOT CONTACT:

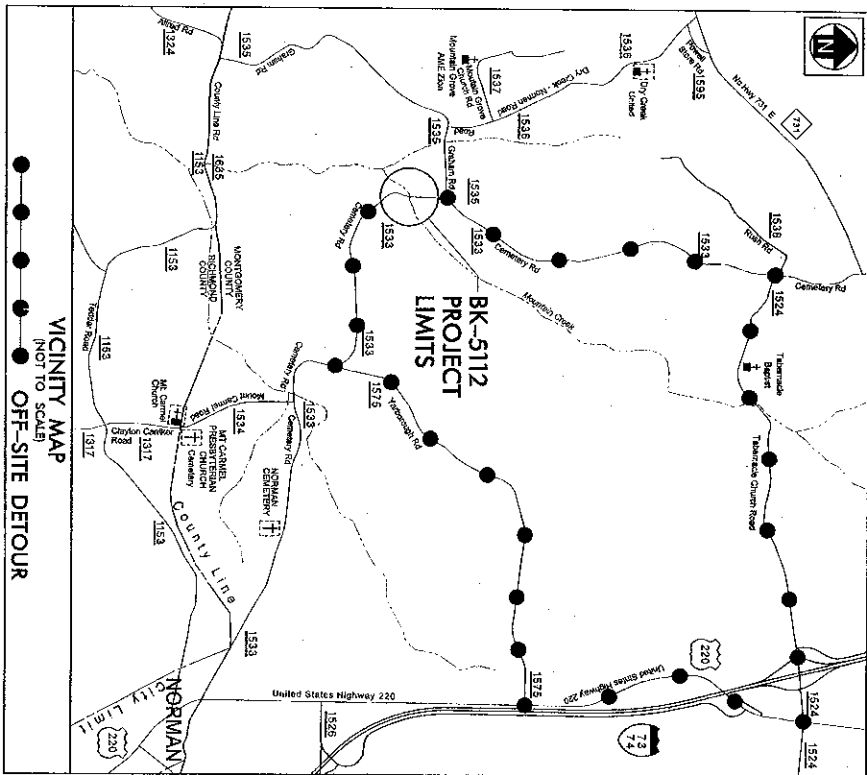
MIKE SUMMERS
BRIDGE MANAGEMENT
PROJECT MANAGER

DAVID B. SIMPSON, JR., PE
DESIGN ENGINEER
Simpson Engineers C-2521



Prepared in the Office of:

SIMPSON
& ASSOCIATES
INCORPORATED
1000 S. W. 10th St., Suite 200
Fort Lauderdale, FL 33315
(954) 582-2155
www.simpson-engineers.com



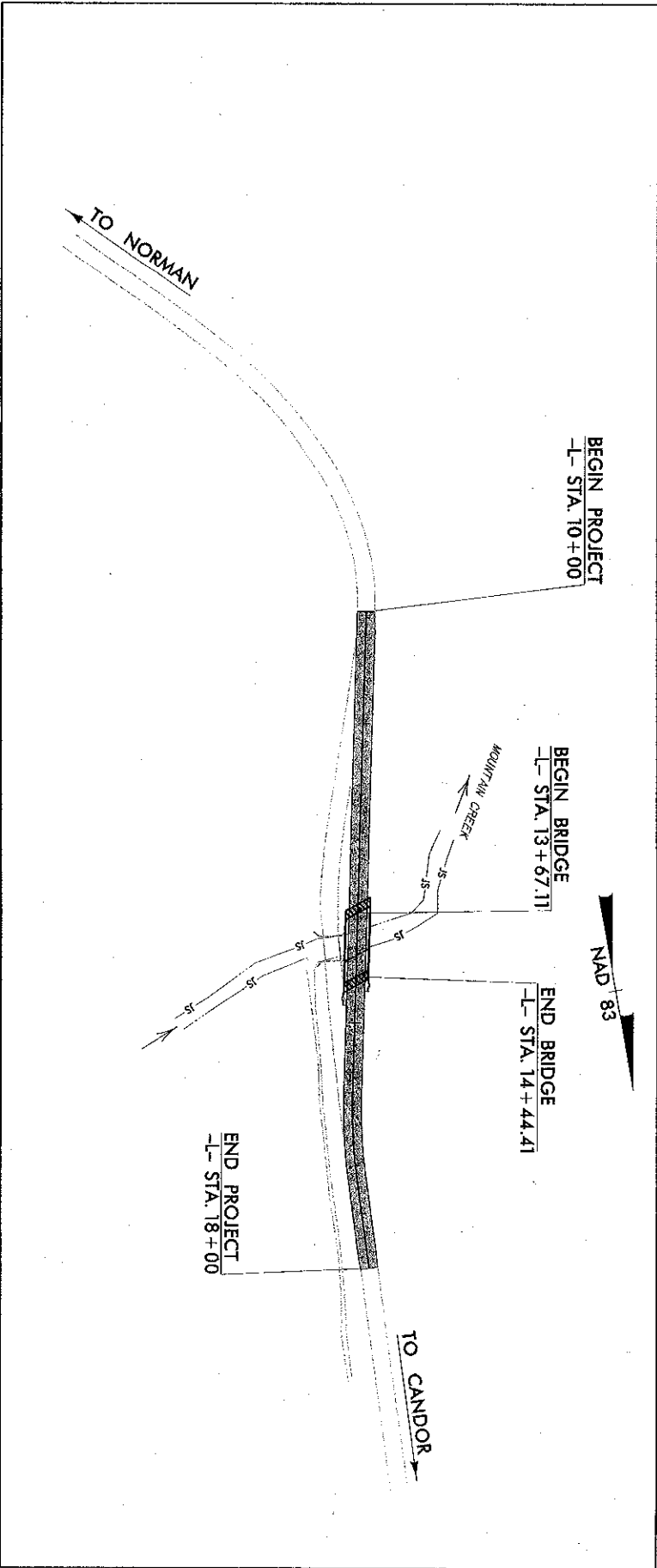
VICINITY MAP
NOT TO SCALE
OFF-SITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
MONTGOMERY COUNTY

LOCATION: SR 1533 BRIDGE NO. 90 OVER MOUNTAIN CREEK
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BK-5112	1	
STATE PROJECT NO.	F.A.R.O. NO.	DESCRIPTION	
42553.11		P.E.	
42553.31		CONST.	

LOCATION SKETCH



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 _____
Property Corner _____
Property Monument _____
Parcel/Sequence Number _____
Existing Fence Line _____
Proposed Woven Wire Fence _____
Proposed Chain Link Fence _____
Proposed Barbed Wire Fence _____
Existing Wetland Boundary _____
Proposed Wetland Boundary _____
Existing Endangered Animal Boundary _____
Existing Endangered Plant Boundary _____

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG Tank Cap _____
Sign _____
Well _____
Small Mine _____
Foundation _____
Area Outline _____
Cemetery _____
Building _____
School _____
Church _____
Dam _____

HYDROLOGY:

Stream or Body of Water _____
Hydro. Pool or Reservoir _____
Jurisdictional Stream _____
Buffer Zone 1 _____
Buffer Zone 2 _____
Flow Arrow _____
Disappearing Stream _____
Spring _____
Wetland _____
Proposed Lateral, Tail, Head Ditch _____
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 Utility Easement _____

ROADS AND RELATED FEATURES:

Existing Edge of Pavement _____
Existing Curb _____
Proposed Slope Stakes Cut _____
Proposed Slope Stakes Fill _____
Proposed Wheel Chair Ramp _____
Existing Metal Guardrail _____
Proposed Guardrail _____
Existing Cable Guidrail _____
Proposed Cable Guidrail _____
Equality Symbol _____
Pavement Removal _____

VEGETATION:

Single Tree _____
Single Shrub _____
Hedge _____
Woods Line _____
Orchard _____
Vineyard _____

EXISTING STRUCTURES:

MAJOR:
Bridge, Tunnel or Box Culvert _____
Bridge Wing Wall, Head Wall and End Wall _____
MINOR:
Head and End Wall _____
Pipe Culvert _____
Footbridge _____
Drainage Box: Catch Basin, DI or JB _____
Paved Ditch Gutter _____
Storm Sewer Manhole _____
Storm Sewer _____

UTILITIES:

POWER:
Existing Power Pole _____
Proposed Power Pole _____
Existing Joint Use Pole _____
Proposed Joint Use Pole _____
Power Manhole _____
Power Line Tower _____
Power Transformer _____
UG Power Cable Hand Hole _____
H-Frame Pole _____
Recorded UG Power Line _____
Designated UG Power Line (S.U.E.*) _____

TELEPHONE:

Existing Telephone Pole _____
Proposed Telephone Pole _____
Telephone Manhole _____
Telephone Booth _____
Telephone Pedestal _____
Telephone Call Tower _____
UG Telephone Cable Hand Hole _____
Recorded UG Telephone Cable _____
Designated UG Telephone Cable (S.U.E.*) _____
Recorded UG Telephone Conduit _____
Designated UG Telephone Conduit (S.U.E.*) _____
Recorded UG Fiber Optics Cable _____
Designated UG Fiber Optics Cable (S.U.E.*) _____

WATER:

Water Manhole _____
Water Meter _____
Water Valve _____
Water Hydrant _____
Recorded UG Water Line _____
Designated UG Water Line (S.U.E.*) _____
Above Ground Water Line _____

TV:

TV Satellite Dish _____
TV Pedestal _____
TV Tower _____
UG TV Cable Hand Hole _____
Recorded UG TV Cable _____
Designated UG TV Cable (S.U.E.*) _____
Recorded UG Fiber Optic Cable _____
Designated UG Fiber Optic Cable (S.U.E.*) _____

GAS:

Gas Valve _____
Gas Meter _____
Recorded UG Gas Line _____
Designated UG Gas Line (S.U.E.*) _____
Above Ground Gas Line _____

SANITARY SEWER:

Sanitary Sewer Manhole _____
Sanitary Sewer Cleanout _____
UG Sanitary Sewer Line _____
Above Ground Sanitary Sewer _____
Recorded SS Forced Main Line _____
Designated SS Forced Main Line (S.U.E.*) _____

MISCELLANEOUS:

Utility Pole _____
Utility Pole with Base _____
Utility Located Object _____
Utility Traffic Signal Box _____
Utility Unknown UG Line _____
UG Tank: Water, Gas, Oil _____
AG Tank: Water, Gas, Oil _____
UG Test Hole (S.U.E.*) _____
Abandoned According to Utility Records _____
End of Information _____

GENERAL NOTES:

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

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

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.

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:

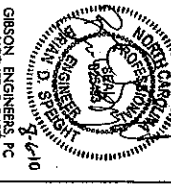
THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

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 OTHERS.

PROJECT REFERENCE	BR-3112	SHEET NO.	4
			
GIBSON ENGINEERS, PC Prepared in the Office of  GIBSON ENGINEERS, PC			

APPROXIMATE GUARDRAIL LENGTH			
STATION	LOCATION	STATION	LOCATION
-L- 12+56.97+/-	RT	-L- 13+75.72+/-	RT
-L- 12+77.25+/-	LT	-L- 13+58.50+/-	LT
-L- 14+53.02+/-	RT	-L- 15+34.27+/-	RT
-L- 14+35.80+/-	LT	-L- 15+54.55+/-	LT
SUBTOTAL		400.00'	
ANCHOR DEDUCTIONS		275'	
TOTAL		125.00'	

ANCHOR DEDUCTIONS		
GRAU-350	4 X 50'	200'
TYPE B-77	4 X 18.75'	75'
TOTAL ANCHOR DEDUCTIONS		275'

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

200.02 Method of Clearing - Method III

225.02 Guide for Grading Subgrade - Secondary and Local

225.04 Method of Obtaining Superlevation - 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

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

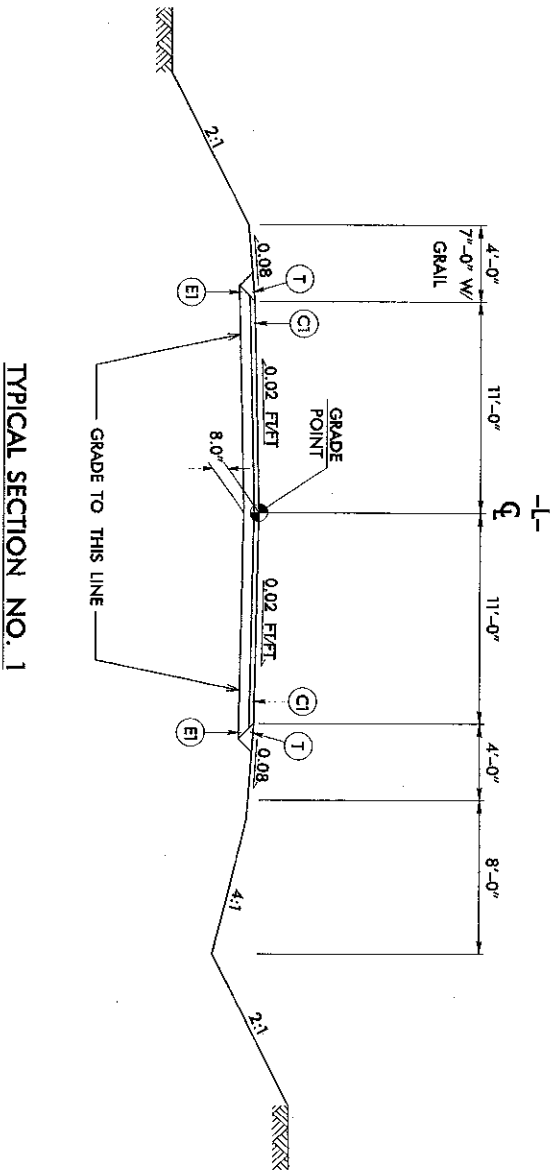
EFF. 07-18-06
REV. 01-02-07

DESIGN DATA

ADT 2007 = 100

ADT 2027 = 200

V = 45 MPH



USE TYPICAL SECTION NO. 1:

-L- STA 10+00.00 TO 13+67.11 (BEG. BRIDGE)

-L- STA 14+44.41 (END BRIDGE) TO 18+00.00

NOTE: 1) FOR VARIABLE SLOPES AND SHOULDER WIDTHS SEE CROSS SECTIONS.

2) SEE PLANS FOR TAPERS.

PAVEMENT SCHEDULE	
C1	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.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
T	EARTH MATERIAL.

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

PROJECT REFERENCE

BK-912

SHEET NO.

5

ROADWAY DESIGN

ENGINEER

BRUN D. SPED

8.6.10

GIBSON ENGINEERS, PC

Engineers, PC

Office of

GIBSON ENGINEERS, PC

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

ENGLISH DETAIL DRAWING FOR
MODIFIED CONCRETE FLUME
WITH CONCRETE OR RIP-RAP DITCH

SHEET 1 OF 1
MODFLMDTCH



The image contains two technical drawings of bridge sections, labeled SECTION A-A and SECTION B-B.

SECTION A-A is a cross-section of a bridge deck. It shows a top width of 8" and a bottom width of 2'-4" MIN. The total height is 4'-0". The section is divided into three horizontal layers: a top layer of 4" (concrete), a middle layer of 2'-0" (concrete with aggregate), and a bottom layer of 15" (concrete). A 1/8" RADIUS is indicated at the bottom right corner.

SECTION B-B is a cross-section of a bridge deck. It shows a top width of 8" and a bottom width of 2'-8". The total height is 4'-0". The section is divided into three horizontal layers: a top layer of 4" (concrete), a middle layer of 2'-0" (concrete with aggregate), and a bottom layer of 8" (concrete).

- CONSTRUCT MODIFIED CONCRETE FLUME AND SHOULDER BERM GUTTER IN ACCORDANCE WITH THIS DETAIL.
- CONSTRUCT CONCRETE DITCH IN ACCORDANCE WITH STD. DWG. NO. 850.01.
- CONSTRUCT RIP RAP LINED DITCH IN ACCORDANCE WITH THIS DETAIL, IF CALLED FOR IN PLANS.
- CONCRETE OR RIP RAP LINED DITCH SHALL BE THE TYPE AND LENGTH SPECIFIED BY THE ROADWAY PLANS. THE DITCH SHALL TERMINATE AS SHOWN ON THE PLANS. IF NO TERMINATION IS INDICATED PLACE RIP-RAP AT THE END OF THE DITCH AS INDICATED BY STD. DWG. 876.02 FOR AN 18" PIPE. TRANSITIONS FROM THE DITCH TO TERMINATION SHALL BE AS DIRECTED BY THE ENGINEER. MODIFICATIONS SHALL BE AS DICTATED BY SITE CONDITIONS AND DIRECTED BY THE ENGINEER.

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

DESIGN DATA
ADT 2007 = 100
ADT 2027 = 200
V = 45 MPH

15

NAD 83

BEGIN PROJECT BK-512
-L- POT STA 10+00.00
-BL- 101 PINC 8+46.48
-L- POT 11+31.32 OFF 0.23'
-BL- 102 PINC 11+44.09
-L- POT 14+28.68 OFF 11.91'

SEABOARD TIMBERLAND
DB 48 PG 327
PROPERTY LINE IS
GENERAL LINE OF CHECK

BEGIN APPROACH SLAB
-L- STA 13+56.11
CLASS II RIP RAP
(STRUCTURE PAY ITEM)

END BRIDGE
-L- STA 14+44.41
CLASS II RIP RAP
EST. 1.2 TONS
EST. 1.7 ST FF
END APPROACH SLAB
-L- STA 14+55.41
MOD. CONCRETE
RIP RAP OUTLASH &
FILTER FABRIC
EST. 5 SY FF

SEABOARD TIMBERLAND
DB 48 PG 327

END PROJECT BK-512
-L- POT STA 18+00.00

BL-STA 17+75.90
O/S = 17.98' LT
ELEV. = 402.29'

BK 512 GPS 1- POT 18+04.64

-BL- 103 PINC 14+93.31

BROADWAY NORTH PROPERTIES, LLC
DB 58 PG 755
OUT OF PROJECT LIMITS
N: 525189 E: 176841
ELEV. = 435.51'

ROGER DALE ALLRED
DB 399 PG 248

SHANNON GRAY LLOYD
DB 20 PG 467

GAIL MCINNIS BARGOIL
DB 20 PG 467

SEABOARD TIMBERLAND
DB 48 PG 327

-L-
PI STA 16+35.98
 $\Delta = 9' 2.37' 39.1' (1.7)$
 $D = 8' 48' 53.0'$
 $L = 106.57'$
 $T = 53.41'$
 $R = 650.00'$
 $SE = 06$

DATUM DESCRIPTION
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NAD83 FOR MONUMENT "GPS-1" WITH HARN-83/2007 STATE PLANE GRID COORDINATES OF NORTHING: 526795.9710 (++) EASTING: 1766716.3940 (++) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999988003 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-1" TO "L-10+00.00" IS S 07° 00' 52.42" W DISTANCE 1085.24' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

PI = 11+55.00
EI = 392.13'
VC = 200'
K = 149

BEGIN BRIDGE
STA 13+67.11

END BRIDGE
STA 14+44.41
PI = 15+65.00
EI = 390.90'
VC = 200'
K = 138

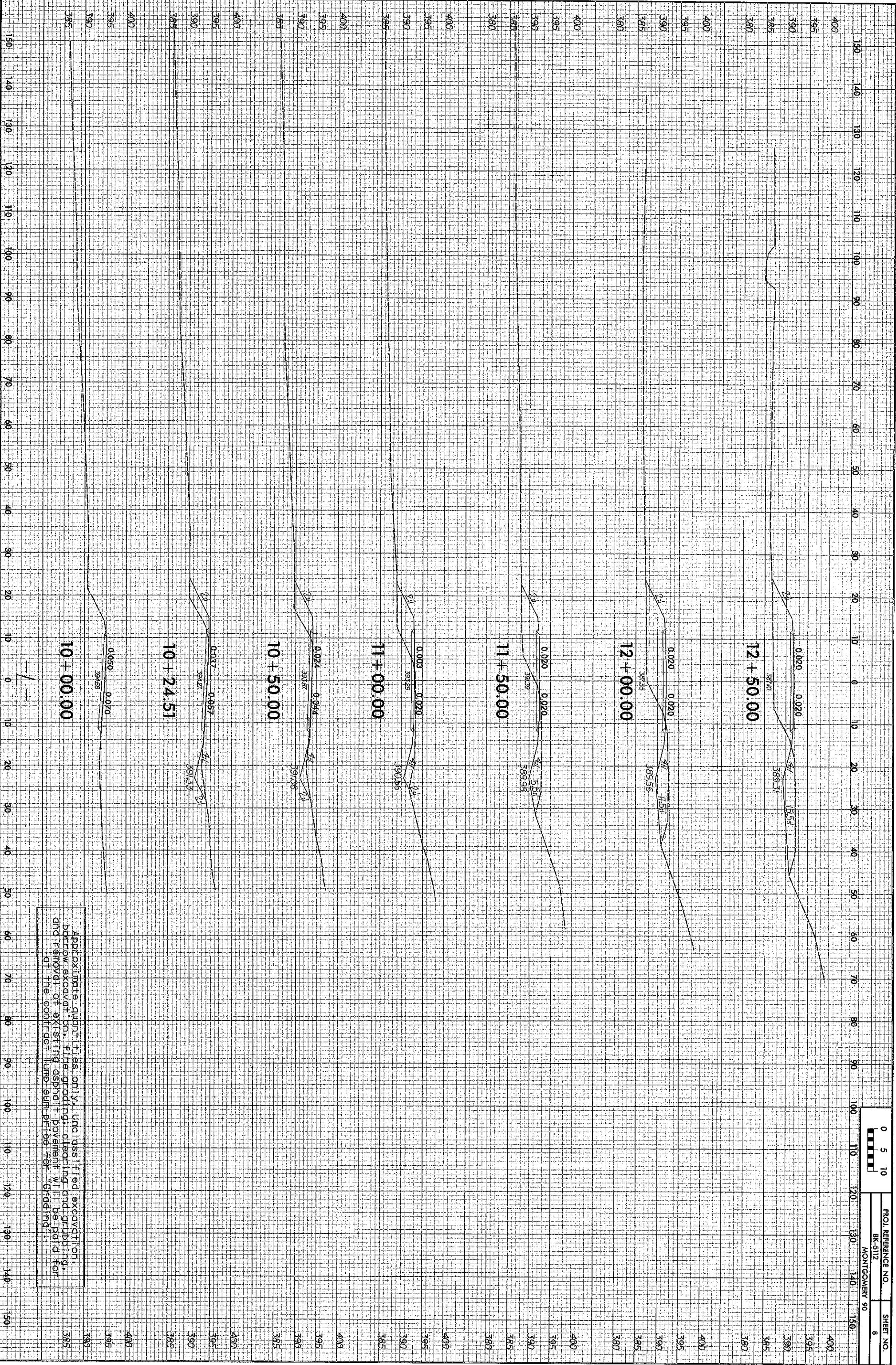
BEGIN GRADE
PI = 10+00.00
EI = 394.68'

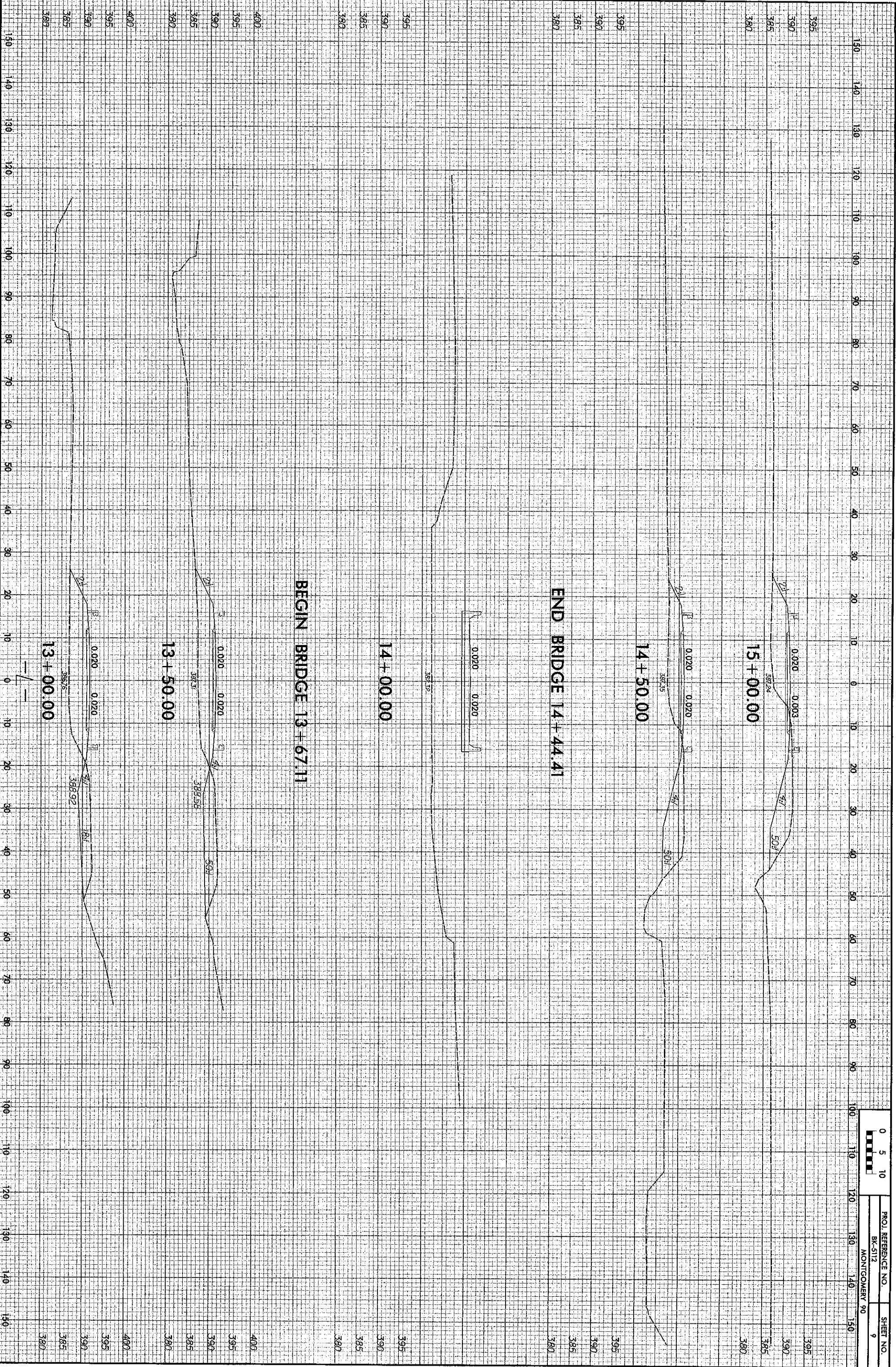
END GRADE
PI = 18+00.00
EI = 393.59'

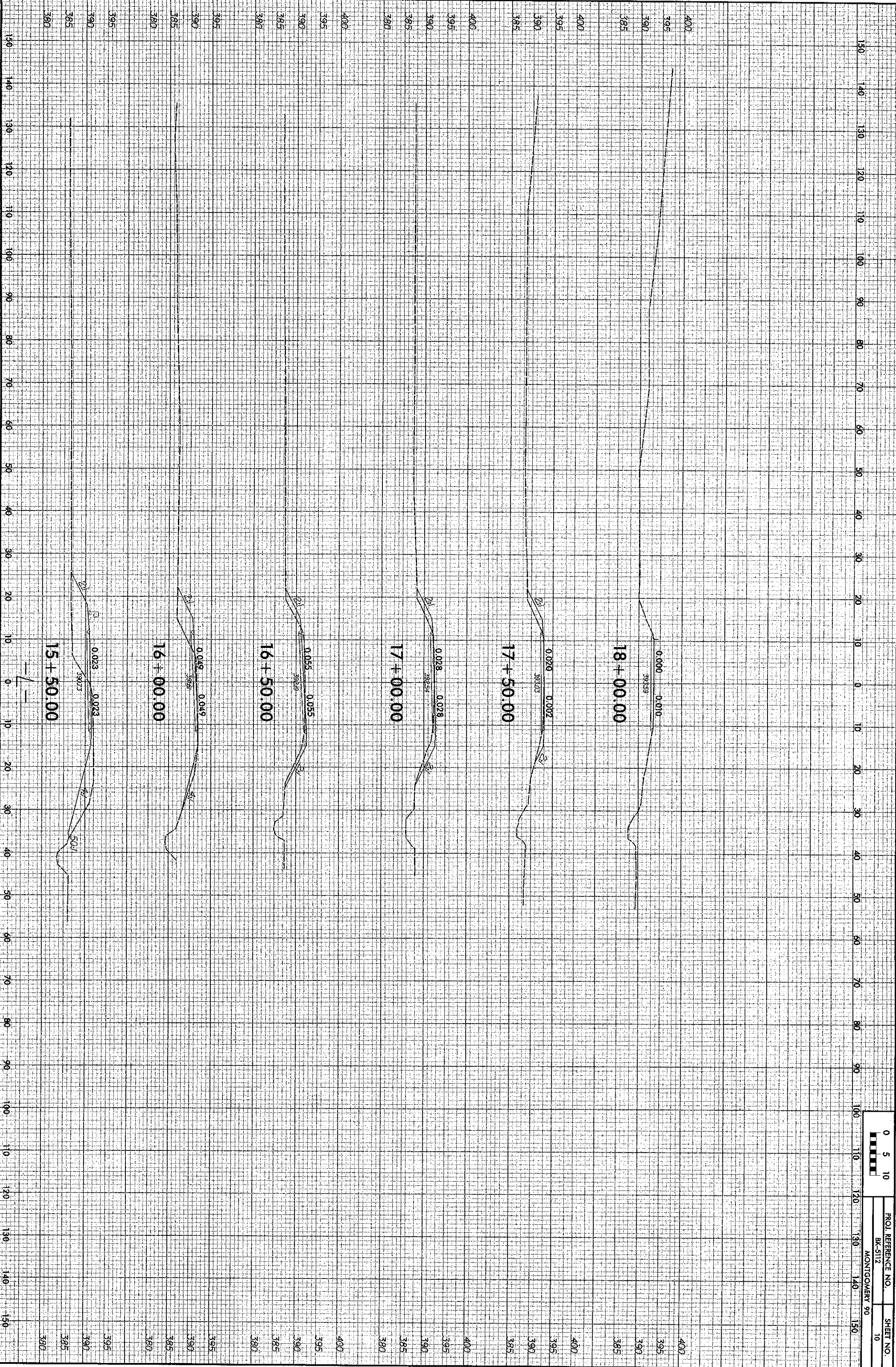
BRIDGE HYDRAULIC DATA
DESIGN DISCHARGE = 1600 CFS
DESIGN FREQUENCY = 10 YRS
DESIGN HW ELEVATION = 389.65 FT
BASE DISCHARGE = 3260 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 394.37 FT
OVERTOPPING DISCHARGE = 2555 CFS
OVERTOPPING FREQUENCY = 50 YRS
OVERTOPPING ELEVATION = 391.6 FT

DATE OF SURVEY = 2-2009
W.S. ELEVATION AT DATE OF SURVEY = 383.2 FT

9/23/2010 10:55:55 AM
R:\Roadway\Proj\Bk5112_rdy_psh04.dgn
bapwright



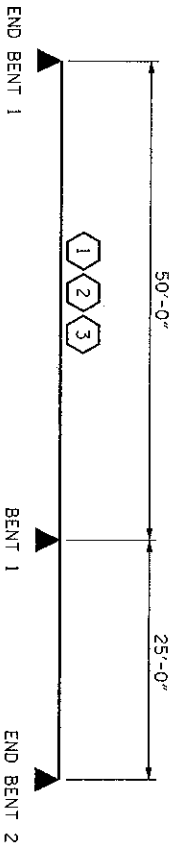




DRAWN BY : J. SIMPSON
CHECKED BY : M. AVERETTE
DATE : 6-10
DATE : 6-10

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CORED SLABS & BOX BEAMS

LEVEL		VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE						COMMENT NUMBER		
							MOMENT						SHEAR				MOMENT								
							LIVE-LOAD FACTORS (γ _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	SLAB/BEAM LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	SLAB/BEAM LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	LIVE-LOAD FACTORS (γ _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	SLAB/BEAM LOCATION		DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	SINGLE VEHICLE (SV)		HL-93 (INVENTORY)	N/A	1	1.17	-	1.75	0.255	1.17	A	I	25.0	0.655	1.57	B	I	0.5	0.8	0.285	1.56	A	EL	25	1
			HL-93 (OPERATING)	N/A		1.52	-	1.35	0.255	1.52	A	I	25.0	0.655	2.04	B	I	0.5	N/A	-	-	-	-	-	1
			HS-20 (INVENTORY)	36,000	2	1.45	52.2	1.75	0.255	1.45	A	I	25.0	0.655	1.79	B	I	0.5	0.80	0.285	1.94	A	EL	25	1
			HS-20 (OPERATING)	36,000		1.88	67.7	1.35	0.255	1.88	A	I	25.0	0.655	2.32	B	I	0.5	N/A	-	-	-	-	-	1
			SMSH	13,500		3.69	49.8	1.40	0.255	3.69	A	I	25.0	0.655	4.22	B	I	0.5	0.80	0.285	3.94	A	EL	25	1
			SMGARBS2	20,000		2.92	58.4	1.40	0.255	2.92	A	I	25.0	0.655	3.34	B	I	0.5	0.80	0.285	3.11	A	EL	25	1
			SNAGRIS2	22,000		2.84	62.5	1.40	0.255	2.84	A	I	25.0	0.655	3.26	B	I	0.5	0.80	0.285	3.03	A	EL	25	1
			SNCOITTS3	27,250		1.84	50.1	1.40	0.255	1.84	A	I	25.0	0.655	2.14	B	I	0.5	0.80	0.285	1.97	A	EL	25	1
			SNAGRS4	34,925		1.60	55.9	1.40	0.255	1.60	A	I	25.0	0.655	2.03	B	I	0.5	0.80	0.285	1.71	A	EL	25	1
			SMS5A	35,550		1.56	55.5	1.40	0.255	1.56	A	I	25.0	0.655	2.13	B	I	0.5	0.80	0.285	1.67	A	EL	25	1
			SMS6A	39,950		1.46	58.3	1.40	0.255	1.46	A	I	25.0	0.713	2.26	A	I	0.5	0.80	0.285	1.56	A	EL	25	1
			SMS7B	42,000		1.39	58.4	1.40	0.255	1.39	A	I	25.0	0.655	2.05	B	I	0.5	0.80	0.285	1.49	A	EL	25	1
			TNAGRIT3	33,000		1.79	59.1	1.40	0.255	1.79	A	I	25.0	0.655	2.46	B	I	0.5	0.80	0.285	1.91	A	EL	25	1
			TNT4A	33,075		1.80	59.5	1.40	0.255	1.80	A	I	25.0	0.655	2.25	B	I	0.5	0.80	0.285	1.93	A	EL	25	1
LEGAL LOAD RATING	SEMI-TRAILER (TTST)		TNT6A	41,600		1.50	62.4	1.40	0.255	1.50	A	I	25.0	0.655	2.14	B	I	0.5	0.80	0.285	1.60	A	EL	25	1
			TNT7A	42,000		1.53	64.3	1.40	0.255	1.53	A	I	25.0	0.655	2.10	B	I	0.5	0.80	0.285	1.63	A	EL	25	1
			TNT7B	42,000		1.59	66.8	1.40	0.255	1.59	A	I	25.0	0.655	2.04	B	I	0.5	0.80	0.285	1.70	A	EL	25	1
			TNAGRIT4	43,000		1.51	64.9	1.40	0.255	1.51	A	I	25.0	0.655	2.01	B	I	0.5	0.80	0.285	1.61	A	EL	25	1
			TNAGT5A	45,000		1.41	63.5	1.40	0.255	1.41	A	I	25.0	0.655	2.09	B	I	0.5	0.80	0.285	1.51	A	EL	25	1
			TNAGT5B	45,000	3	1.38	62.1	1.40	0.255	1.38	A	I	25.0	0.655	1.87	B	I	0.5	0.80	0.285	1.47	A	EL	25	1



LRFR SUMMARY

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE		γ _{DC}	γ _W
	STRENGTH I	1.25		1.50
SERVICE III		1.00	1.00	

YEAR	ADT
CURRENT	2007
FUTURE	2027
	200

NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.
ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

1. LEFT AND RIGHT EXTERIOR SLABS/BEAMS HAVE THE SAME RATING.

#	CONTROLLING LOAD RATING
1	DESIGN LOAD RATING (HL-93)
2	DESIGN LOAD RATING (HS-20)
3	LEGAL LOAD RATING **
** SEE CHART FOR VEHICLE TYPE	
SLAB/BEAM LOCATION	
I	INTERIOR SLAB/BEAM
EL	EXTERIOR LEFT SLAB/BEAM
ER	EXTERIOR RIGHT SLAB/BEAM

WBS NO. 42553.3.1

MONTGOMERY COUNTY

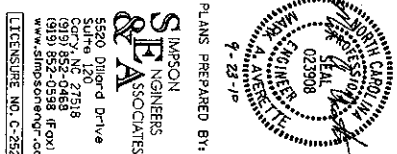
STATION: 14+05.76 -L-

REPLACES BRIDGE #90

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

LRFR SUMMARY FOR
PRESTRESSED
CORED SLABS

(NON-INTERSTATE TRAFFIC)
30' CLEAR ROADWAY - 70° SKEW

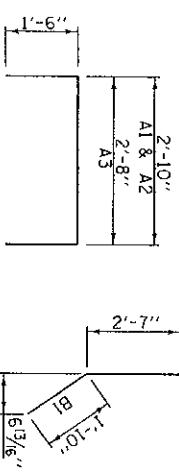


REVISIONS				SHEET NO.
NO.	BY	DATE	REVISIONS	
1				11
2				12

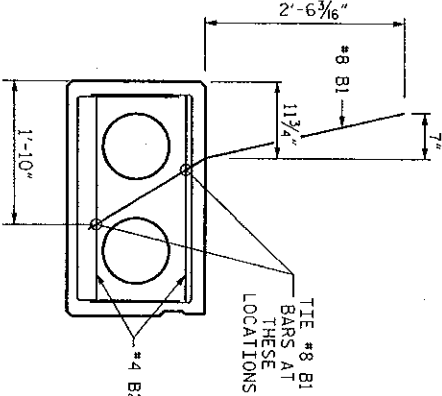
SHEATH CHART		
SPAN LENGTH	NUMBER OF SHEATHED STRANDS PER EXTERIOR SLAB SECTIONS	NUMBER OF SHEATHED STRANDS PER INTERIOR SLAB SECTIONS
25'	0	0
50'	8	8

REINFORCING BAR TYPES

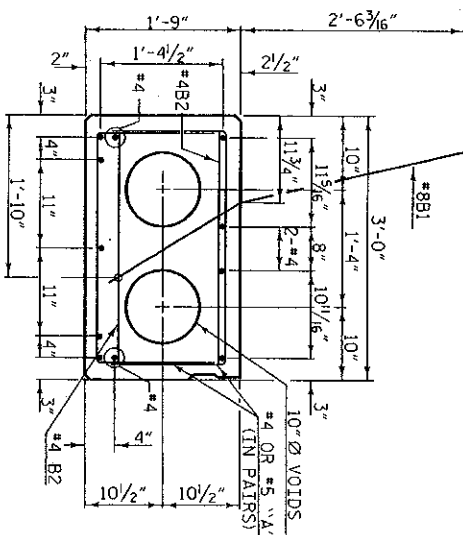
BAR DIMENSIONS ARE OUT TO OUT



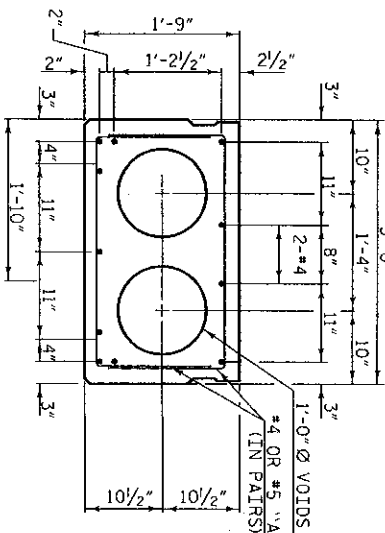
THE LOCATION FOR #8B1



25' SPAN

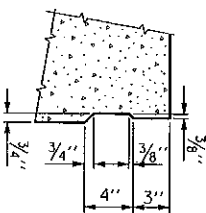


25' SPAN



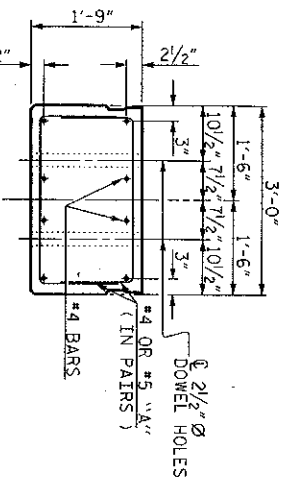
SHEAR KEY DETAIL

NOTE: OMIT SHEAR KEY ON OUTSIDE OF
EXTERIOR CORED SLAB



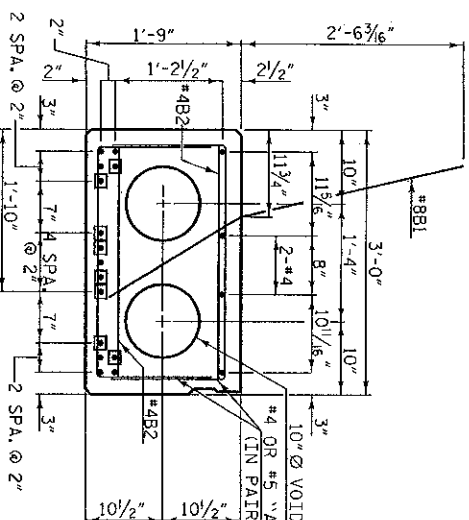
SLAB END ELEVATION

THE 2 1/2" Ø DOWEL HOLES OF SLAB SECTIONS SHALL BE FILLED WITH GROUT, SEE SPECIAL PROVISIONS.



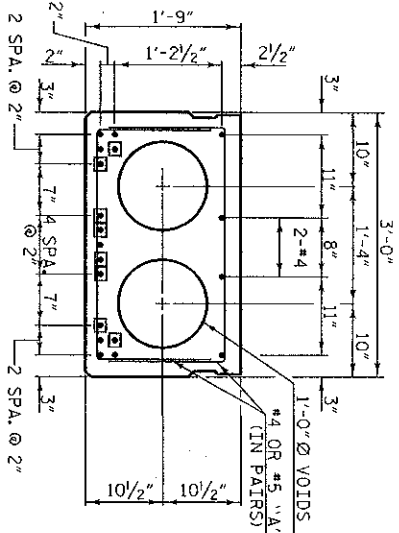
50' SPAN

17 - 0.6" Ø H.S. STRANDS
EXTERIOR SLAB SECTIONS

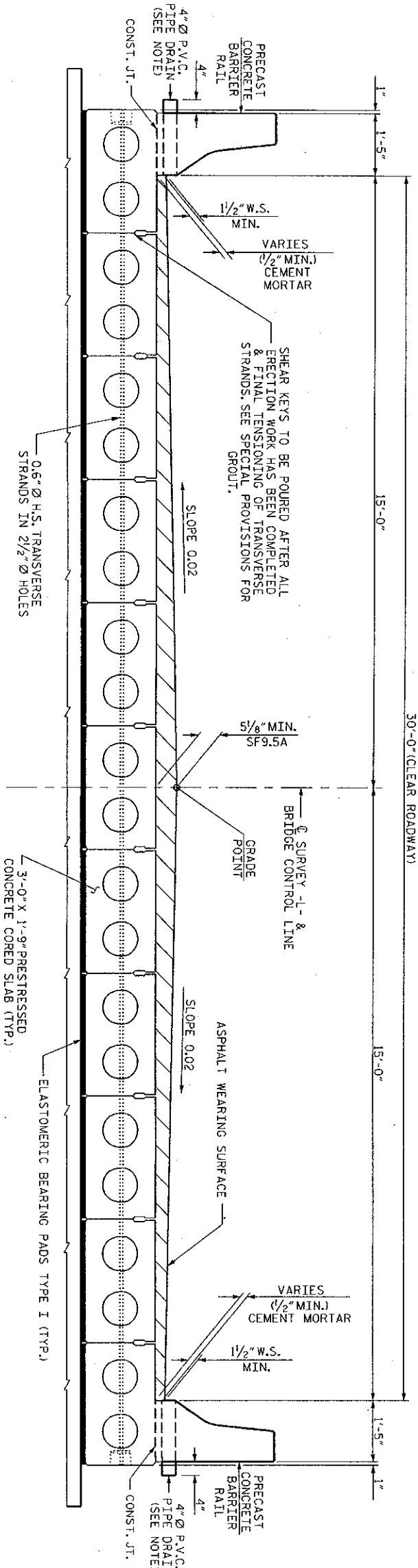


50' SPAN

17 - 0.6" Ø H.S. STRANDS
INTERIOR SLAB SECTIONS



TYPICAL SECTION



NOTE: 4" Ø PVC DRAINS THROUGH THE PRECAST BARRIER RAIL ARE REQUIRED. NO DECK DRAINS ARE ALLOWED OVER OPEN WATER.

GENERAL NOTES

ASSUMED LIVE LOAD = HL 93 OR ALTERNATE LOADING

CONCRETE = f'c - 5000psi 25' SPAN ONLY (MIN. COMP. STRENGTH @ 28 DAYS).

TRANSFER OF STRESSING FORCE ,
CONCRETE = f'_{c} - 5000psi 50' SPAN ONLY (MIN. COMP. STRENGTH @ 28 DAYS) ,

TRANSFER OF STRESSING FORCE).

ALL PRESTRESSING STRANDS SHALL MEET THE REQUIREMENTS OF ASTM A416.

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE HIGH STRENGTH CABLES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

<u>SIZE</u>	<u>TYPE</u>	<u>AREA</u>	<u>ULTIMATE STR.</u>	<u>APPLIED FORCE</u>
0.6" Ø	HIGH STR.	0.217 SQ. IN.	58,600 LBS.	43,950 LBS.
		PER CABLE		PER CABLE

EXP. JT. MAT'L. SHALL MEET THE REQUIREMENTS OF AASHTO SPECIFICATION M153 TYPE I, II, OR III.

JOINT SEALER SHALL BE LOW MODULUS SILICONE SEALANT.
SEE SECTION 1028-4 OF THE STANDARD SPECIFICATIONS.

EITHER ASTM A36 OR A373, EXCEPT HIGH STRENGTH BOLTS. HIGH STRENGTH BOLTS SHALL BE ASTM A325. ALL STRUCTURAL STEEL SHALL BE GALVANIZED AS PER THE SPECIFICATION.

ALL MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OF THE NC DEPARTMENT OF TRANSPORTATION DATED JULY 2006 AND WITH THE SPECIAL PROVISIONS.

THE CONTRACTOR, AT HIS OPTION, MAY USE STRESS RELIEF STRANDS IN LIEU OF LOW RELAXATION STRANDS. DESIGN STRAND PATTERN MUST PROVIDE AT LEAST THE SAME NET COMPRESSIVE STRESS AFTER THE LOSSES.

THE ULTIMATE STRENGTH OF THE CORDED SLAB UNIT MUST MEET THE REQUIREMENTS OF THE APPLICABLE AASHTO SPECIFICATION. STRESS RELIEVED STANDOS SHALL BE TENSIONED AND ANCHORED AT A LOAD EQUAL TO 70% OF ITS ULTIMATE STRENGTH. THIS APPLIED PRESTRESSED FORCE SHALL BE SHOWN ON THE PLANS. SIZE OF STRESS RELIEVED STANDOS SHALL NOT BE SMALLER THAN THOSE SHOWN FOR LOW RELAXATION STANDOS. DESIGN AND DETAIL PLANS USING STRESS RELIEVED STANDOS MUST BE SUBMITTED TO THE ENGINEER. ANY ADDITIONAL COST DUE TO THE USE OF STRESS RELIEVED STANDOS WILL BE PAID FOR BY THE CONTRACTOR. STANDOS SHALL BE CUT FLUSH WITH THE ENDS OF THE SLABS AND EPOXY COATED. SEE SPECIAL PROVISIONS.

A POSITIVE HOLD-DOWN SYSTEM MUST BE EMPLOYED TO PREVENT VOIDS FROM RISING.

SPIRAL WIRE REINFORCEMENT MAY BE USED IN LIEU OF DEFORMED BARS FOR STIRRUPS. (MIN. W3.5 X 6" PITCH)

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED $\frac{3}{4}$ ".

FOR CORED SLAB DEFLECTION TABLE, SEE "BARRIER RAIL
SECTIONS" SHEET.

PLANS PREPARED BY:



IMPSON
ENGINEERS
& ASSOCIATES

WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 -L-
REPLACES BRIDGE #90

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PRESTRESSED CORED SLAB DETAILS 50' & 25' SPANS



PLANS PREPARED BY:
IMPSON
SE & PA
ENGINEERS
ASSOCIATES

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RATION

PRESTRESSED CORED
SLAB DETAILS
50' & 25' SPANS

30' CLEAR ROADWAY - 70' SKEW

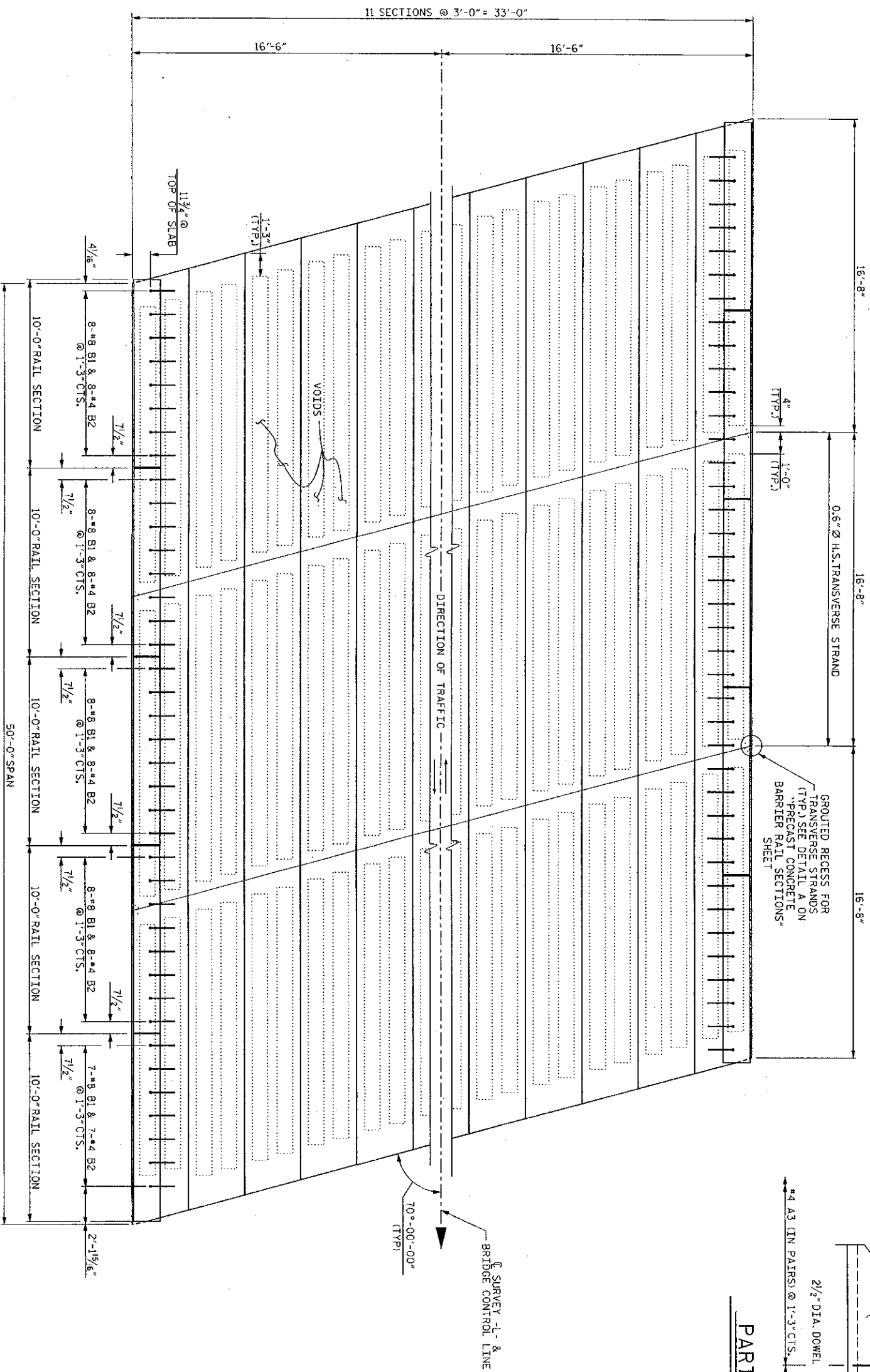
REVISIONS			
NO.	BY	DATE	
1			
2			
3			
4			

SHEET NO.	
TOTAL	12
SHEETS	32

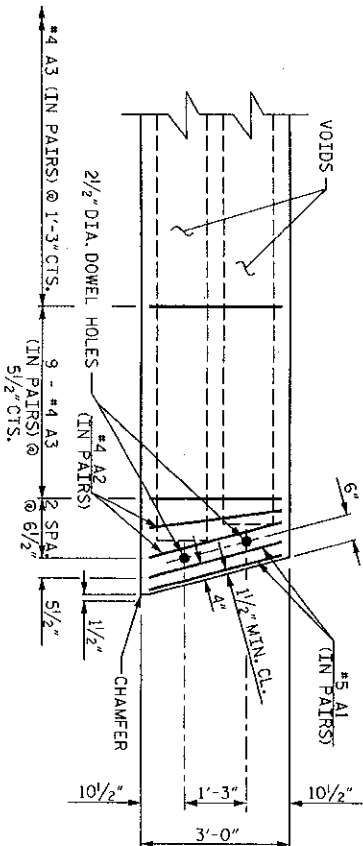
5820 Dilworth Dr-196
Garage, NC 27018
(919) 882-0598 (FAX)
www.impsonengr.com

License No. C-2821

DRAWN BY : J. STIMPSON DATE : 6-10
CHECKED BY : M. AVERETTE DATE : 6-10



PLAN OF SPAN



PART PLAN - SLAB SECTION



PLANS PREPARED BY:

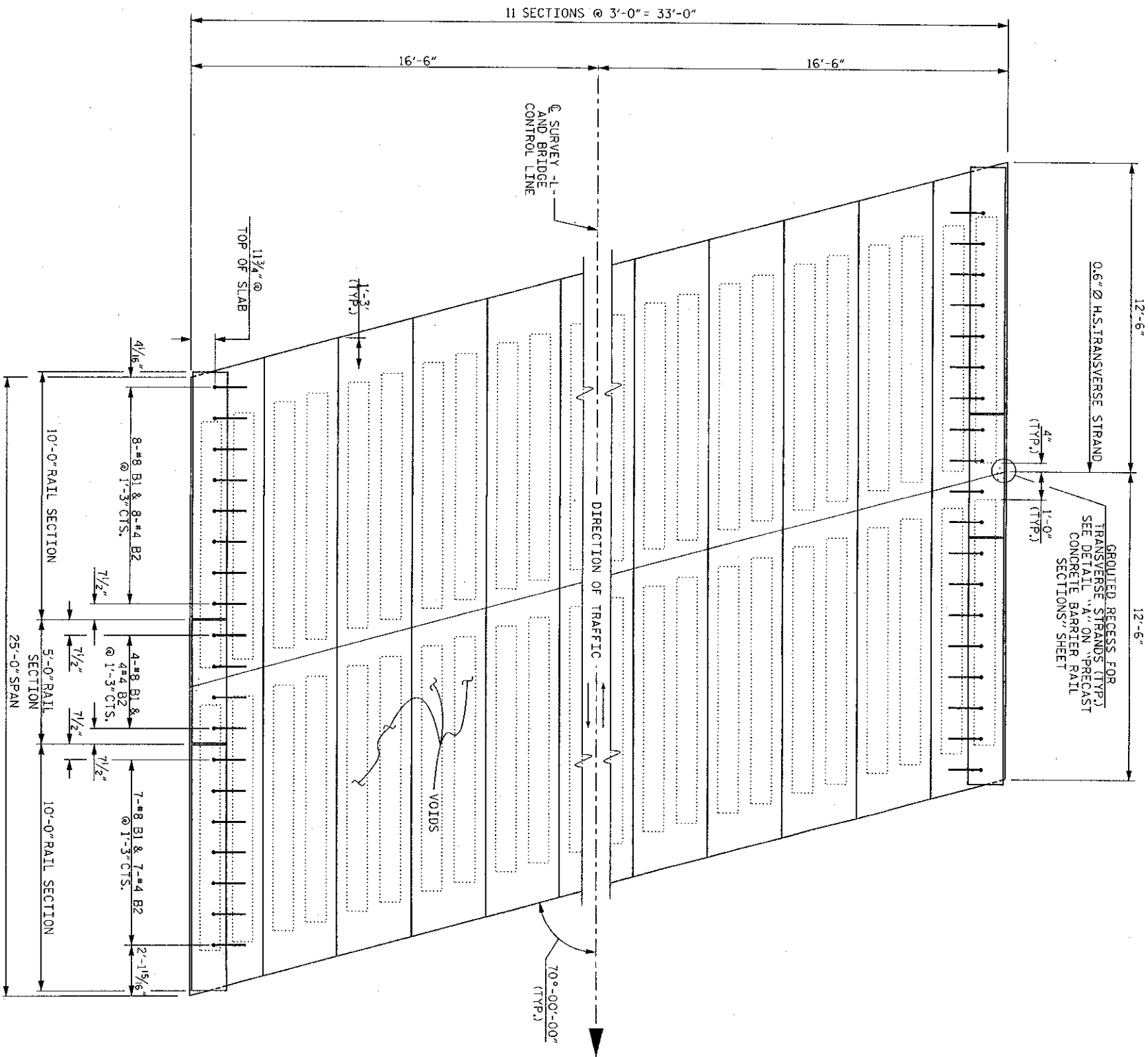
J. STIMPSON
ENGINEERS
& ASSOCIATES

5520 Dillard Drive
Suite 100
Cary, NC 27518
(919) 852-0598 (Fax)
www.stimpsonengr.com

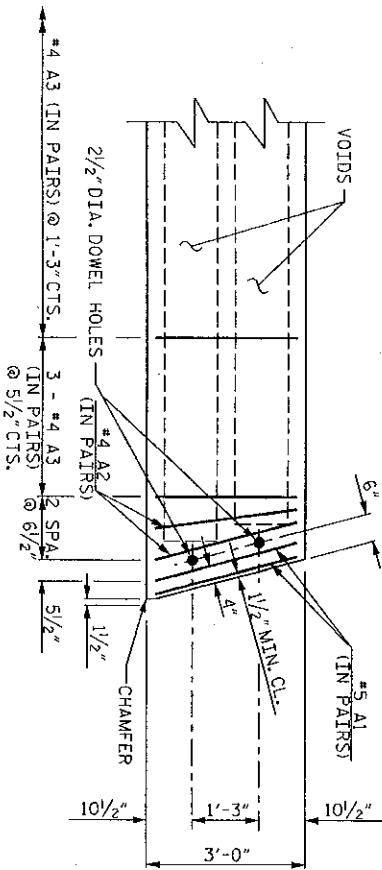
LICENSE NO. C-2821

30' CLEAR ROADWAY - 70° SKEW			
REPLACES BRIDGE #90			
DEPARTMENT OF TRANSPORTATION			
PRESTRESSED CORED SLAB 50' SPAN			
STATE OF NORTH CAROLINA			
NATECH			
WBS NO. 42553.3.1			
MONTGOMERY COUNTY			
STATION: 14+05.76 - L -			
REVISONS			
NO.	BY	DATE	SHEET NO.
1			13
2			32

DRAWN BY : J. SIMPSON
CHECKED BY : M. AVERETTE
DATE : 6-10
DATE : 6-10



PLAN OF SPAN



PART PLAN - SLAB SECTION



PLANS PREPARED BY:

J. SIMPSON
ENGINEERS
& ASSOCIATES

5520 Oldford Drive
Suite 120
Charlotte, NC 28218
(919) 552-0468
(919) 552-0598 (FAX)
www.simpsonengr.com
LICENSE NO. C-2521

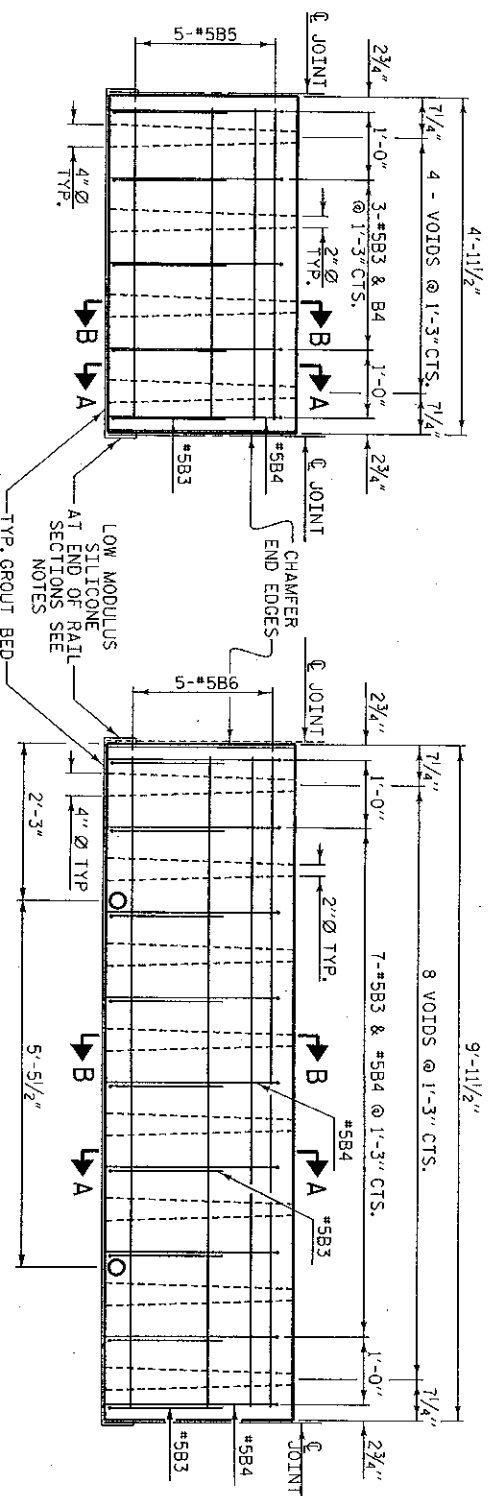
WBS NO. 42553.3.1					
MONTGOMERY COUNTY					
STATION: 14+05.76 - L -					
REPLACES BRIDGE #90					
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PRESTRESSED CORED SLAB 25' SPAN					
30' CLEAR ROADWAY - 70° SKEW					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			2		
SHEET NO. 14					
TOTAL SHEETS 32					

EXTERIOR SLAB UNIT		50'	25'
CAMBER (SLAB UNIT ALONE IN PLACE)	1 5/8" (UP)	1 5/8" (UP)	1 5/8" (UP)
DEFLECTION (SUPERIMPOSED DEAD LOAD)	3/8" (DOWN)	3/8" (DOWN)	3/8" (DOWN)
FINAL DEFLECTION	1 3/8" (UP)	1 3/8" (UP)	1 3/8" (UP)

* INCLUDES FUTURE WEARING SURFACE

INTERIOR SLAB UNIT		50'	25'
CAMBER (SLAB UNIT ALONE IN PLACE)	1 3/8" (UP)	1 3/8" (UP)	1 3/8" (UP)
DEFLECTION (SUPERIMPOSED DEAD LOAD)	3/8" (DOWN)	3/8" (DOWN)	3/8" (DOWN)
FINAL DEFLECTION	1 1/8" (UP)	1 1/8" (UP)	1 1/8" (UP)

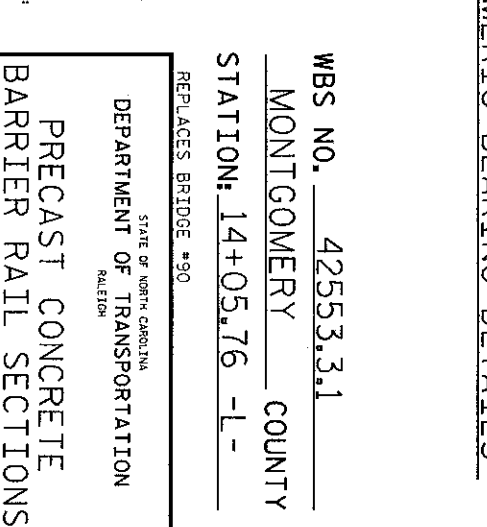
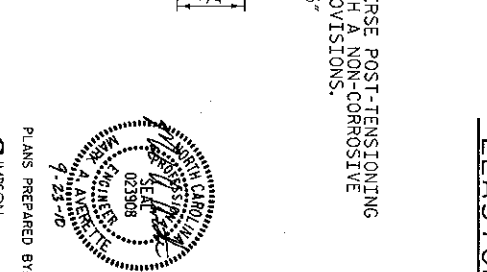
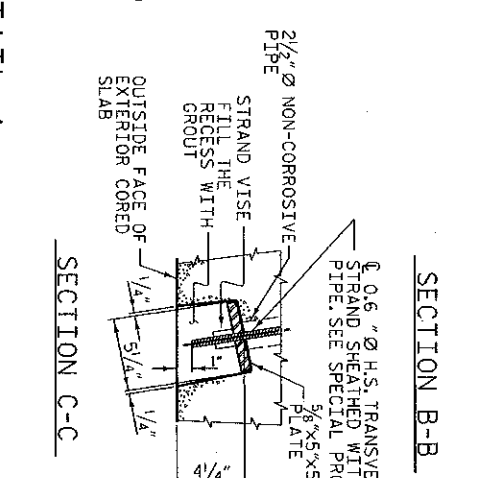
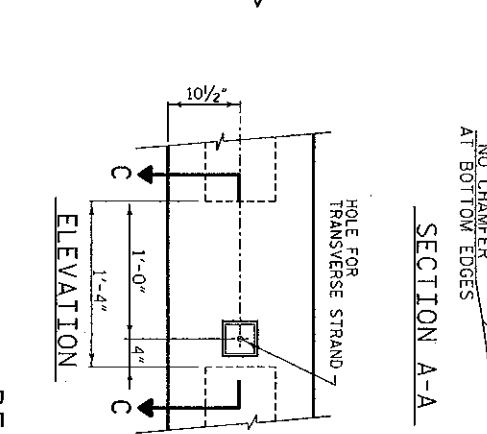
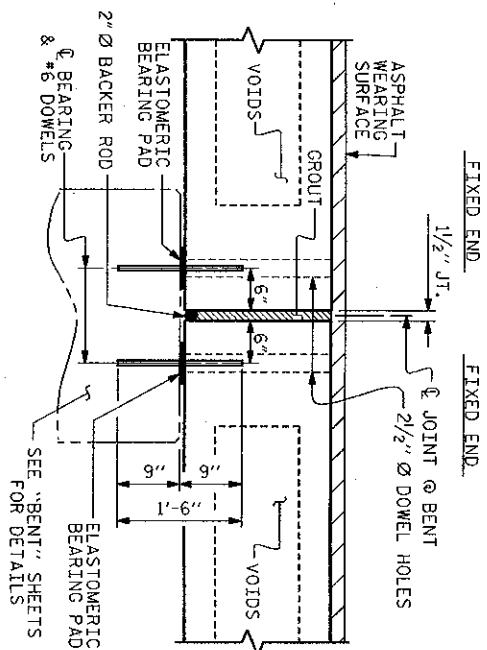
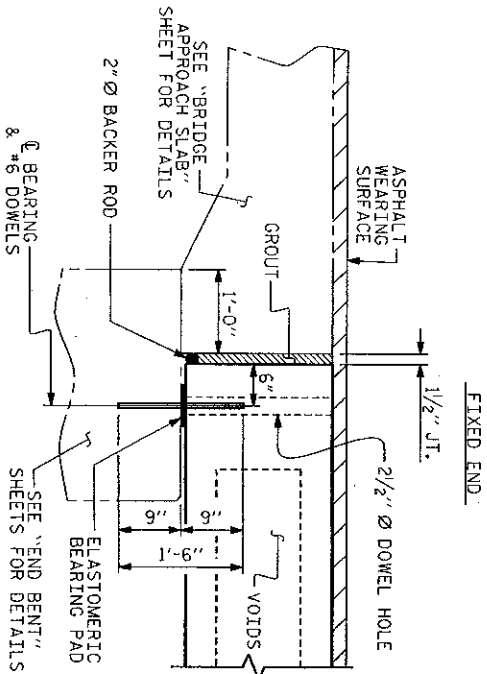
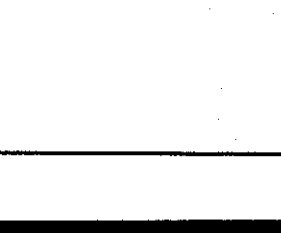
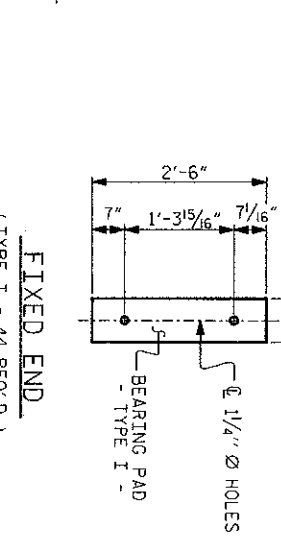
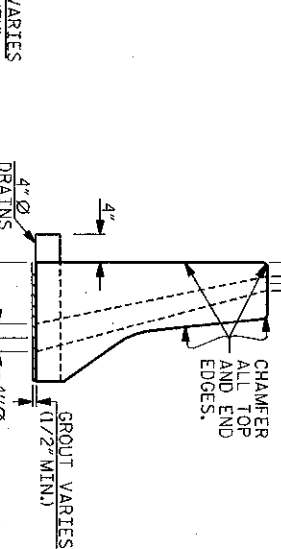
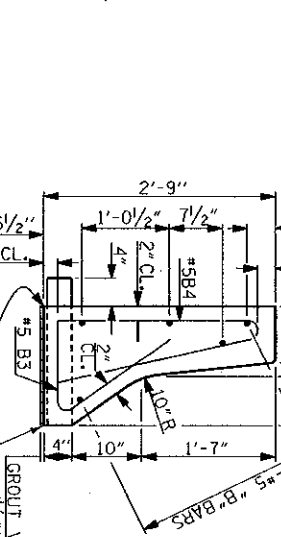
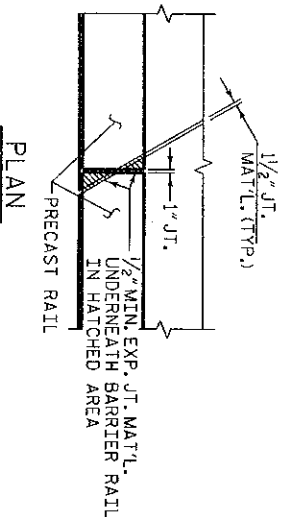
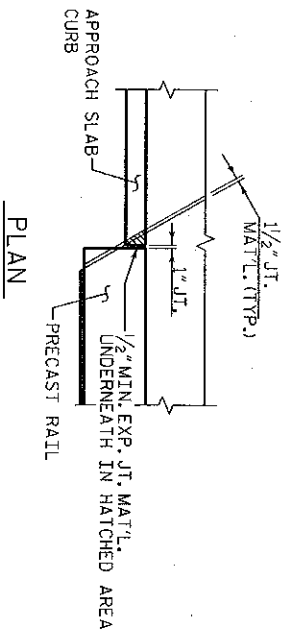
* INCLUDES FUTURE WEARING SURFACE



TYPICAL 5'-0" PRECAST UNIT

TYPICAL 10'-0" PRECAST UNIT

NOTE: 4" PVC DRAINS THROUGH THE PRECAST BARRIER RAIL ARE REQUIRED. NO DECK DRAINS ARE ALLOWED OVER OPEN WATER.



NOTES

EACH PRECAST RAIL UNIT SHALL BE CAST WITH CLASS AA CONCRETE.

RAIL TO BE FLUSH WITH CORED SLAB UNITS AT EACH END OF SPAN.

GROUT SHALL BE 1" ABOVE DRAINS BETWEEN RAIL SECTIONS EXCEPT AT BENTS WHERE LOW MODULUS SILICONE SHALL BE SUBSTITUTED IN PLACE OF GROUT.

EACH PRECAST RAIL UNIT SHALL BE SUPPLIED WITH LIFTING DEVICES. NO CABLES ARE TO BE WRAPPED AROUND THE RAIL UNITS FOR LIFTING.

THE EXPANSION JOINT SEALER SHALL BE LOW MODULUS SILICONE SEALANT. SEE SECTION 1028-4 OF THE STANDARD SPECIFICATIONS.

CONCRETE CHAMBERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 1/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE ON PLANS.

BILL OF MATERIAL FOR ONE 5'-0" RAIL SECTION			
BAR NO.	SIZE	TYPE	WEIGHT
B3	5	#5	14
B4	5	#5	26
B5	5	#5	24

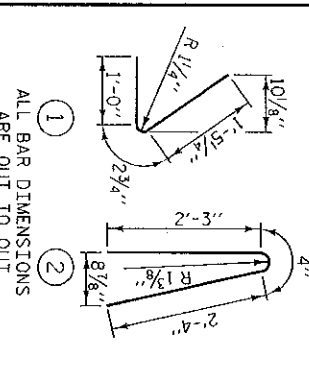
REINFORCING STEEL LBS. = 64

CLASS AA CONCRETE CU YDS. = 0.5

BILL OF MATERIAL FOR ONE 10'-0" RAIL SECTION			
BAR NO.	SIZE	TYPE	WEIGHT
B3	9	#5	25
B4	9	#5	46
B6	5	#5	50

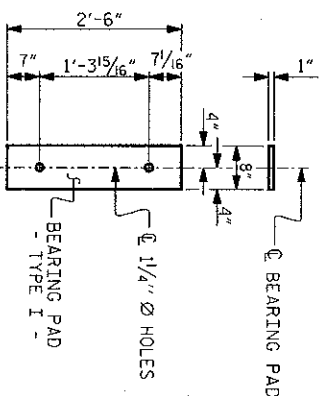
REINFORCING STEEL LBS. = 121

CLASS AA CONCRETE CU YDS. = 1.0



ELASTOMERIC BEARING DETAILS

FIXED END
(TYPE I - 44 REV'D)



WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 -L-
REPLACES BRIDGE #90

DEPARTMENT OF TRANSPORTATION

STATE OF NORTH CAROLINA

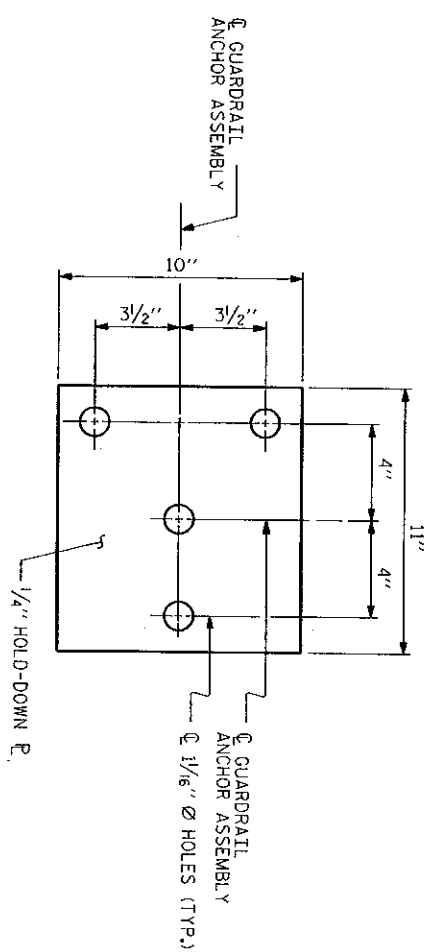
RALEIGH

PRECAST CONCRETE
BARRIER RAIL SECTIONS
& MISC. DETAILS

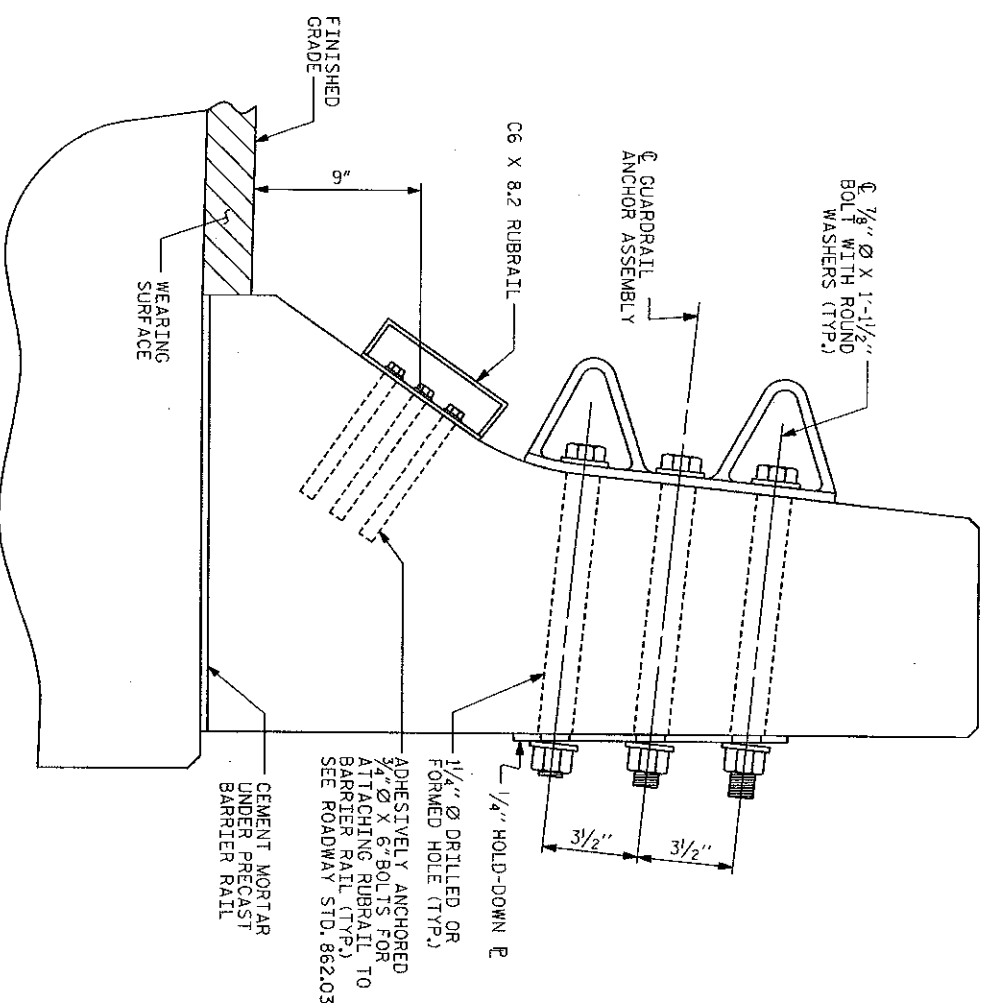
30' CLEAR ROADWAY - 70° SKEW

PLANS PREPARED BY:
J. SIMPSON
ENGINEERS
& ASSOCIATES
5520 Dillard Drive
Curtis, NC 27518
(919) 852-0468
www.simpsonengr.com
LICENSURE NO. C-25621

NO.	REV.	DATE	BY	DATE	TOTAL SHEETS
1	1	9/23/10	J.S.		15
2	2				32

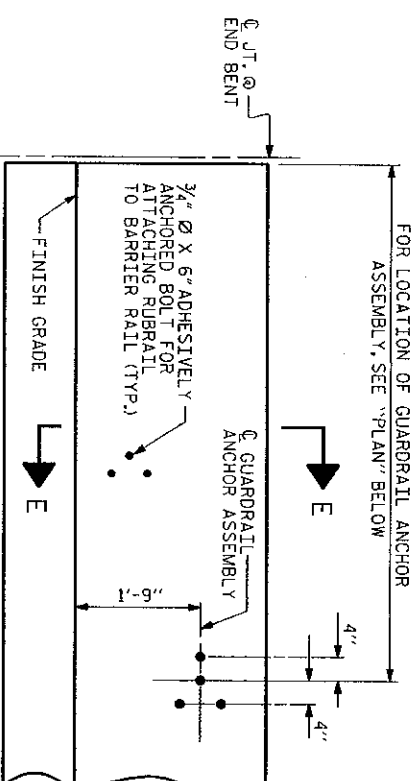


PLAN



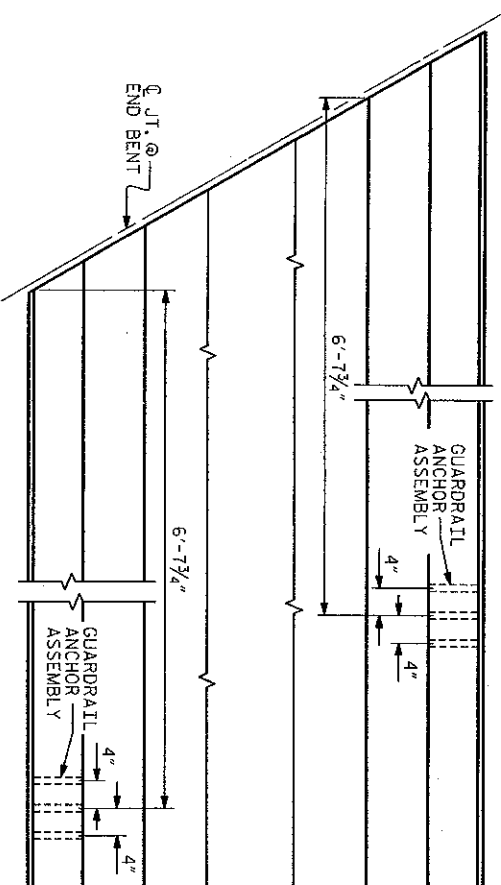
SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS



ELEVATION

FOR LOCATION OF RUBRAIL, SEE ROADWAY STD. 862.03



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

END BENT #1 SHOWN, END BENT #2 SIMILAR.

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLE DOWN PLATE AND 4 - 1/8" Ø BOLTS WITH NUTS AND WASHERS, RUBRAIL, AND ADHESIVELY ANCHORED BOLTS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1/2" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

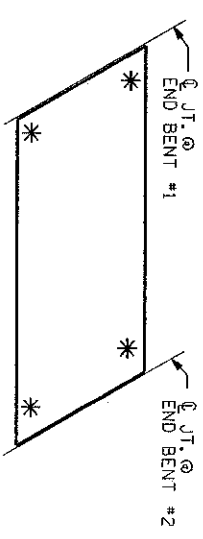
AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR GUARDRAIL ANCHOR UNIT TYPE B-77.

THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

THE C6 X 8.2 RIBBAIL IS TO BE ADHESIVELY ANCHORED TO THE RAIL USING THREE 3/4"Ø X 6" BOLTS WITH WASHERS. FIVE MIN FIELD TESTING IS REQUIRED, AND THE FIELD LOAD OF THE 3/4"Ø BOLT IS 12 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS. SEE ROADWAY STANDARD 862.03 FOR DETAILS AND LOCATION OF THE RIBBAIL.

FOR ADDITIONAL GUARDRAIL INFORMATION, SEE "GUARDRAIL ANCHOR UNIT" SHEET.



SKETCH SHOWING POINTS OF ATTACHMENTS

* DENOTES GUARDRAIL ANCHOR ASSEMBLY



PLANS PREPARED BY:

**SIMPSON
& SEASONS
& ASSOCIATES**

5520 Oxford Drive
Suite 120

Copy, NC 27518
(919) 852-0468

(919) 852-0598 (t-o-x)
www.simpsonengr.com

LICENSE NO. C-2521

WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 -L-
REPLACES BRIDGE #90

REPLACES BRIDGE #90

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

STANDARD

GUARDRAIL ANCHORAGE FOR BARRIER RAIL

30' CLEAR ROADWAY - 70° SKEW				
REVISIONS				
NO.	BY:	DATE	NO.	BY:
1			3	
2			4	
SHEET NO.				
16				
TOTAL SHEETS 32				

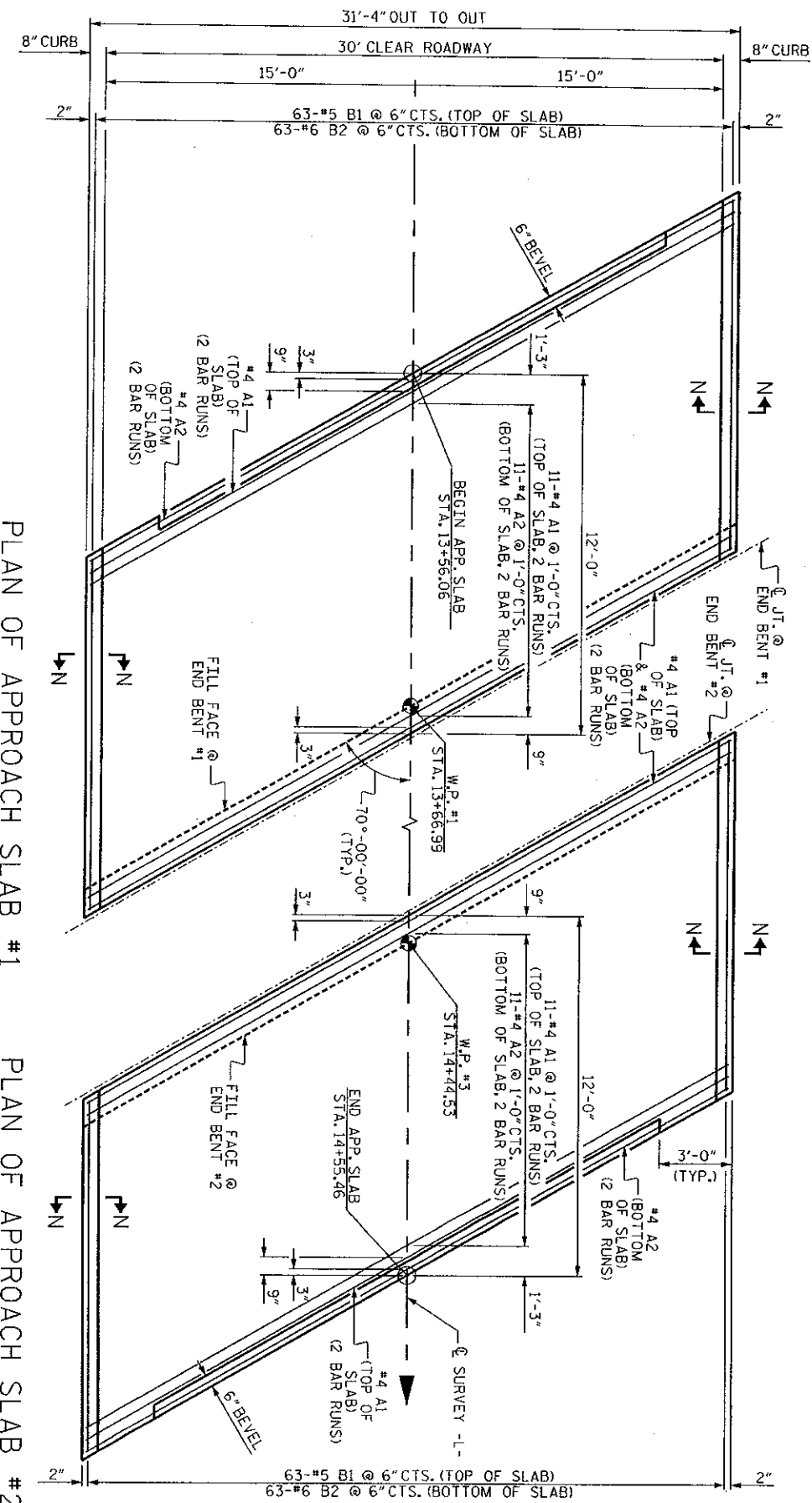
STD. NO. GRAZ

NOTES

THE COST OF THE CURB ON THE APPROACH SLAB SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR BRIDGE APPROACH SLABS. TEMPORARY DRAINAGE AND TEMPORARY BERM AND SLOPE DRAINS WILL BE PAID FOR UNDER THE LUMP SUM PRICE FOR BRIDGE APPROACH SLAB. FOR BRIDGE APPROACH FILL INCLUDING FABRIC, 4"Ø DRAINAGE PIPE, AND #78M STONE BACKFILL, SEE BRIDGE APPROACH FILLS, SHEET 18. APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK. FABRIC SHALL BE TYPE 1 ENGINEERING FABRIC IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056. #78M STONE BACKFILL (CLASS V SELECT MATERIAL) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016. #78M STONE BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKFILL FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB. FOR THE 4"Ø DRAINAGE PIPE OUTLETS, SEE BRIDGE APPROACH FILLS, SHEET 18. AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED, SEE ROADWAY PLANS. THE 6" COMP. A.B.C. SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB AND SHALL EXTEND 1'-0" OUTSIDE OF EACH EDGE OF THE APPROACH SLAB. THE CONTRACTOR MAY USE 4" TYPE 8-25 OR ASPHALT CONCRETE BASE COURSE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE BASE COURSE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER OF 30 LB ROOFING FELT SHALL BE PLACED BETWEEN THE CONCRETE BASE AND THE APPROACH SLAB TO PREVENT BOND. THE APPROACH SLAB SHALL NOT BE CAST UNTIL THE CONCRETE BASE HAS REACHED AN AGE OF THREE CURING DAYS. FOR JOINT DETAILS, SEE "PRESTRESSED CONCRETE CORED SLAB UNIT" SHEETS. THE JOINT AT THE END BENT SHALL BE GROUDED AS SOON AS PRACTICAL AFTER THE CONSTRUCTION OF THE APPROACH SLABS. APPROACH SLAB GROOVING IS NOT REQUIRED.

BILL OF MATERIAL

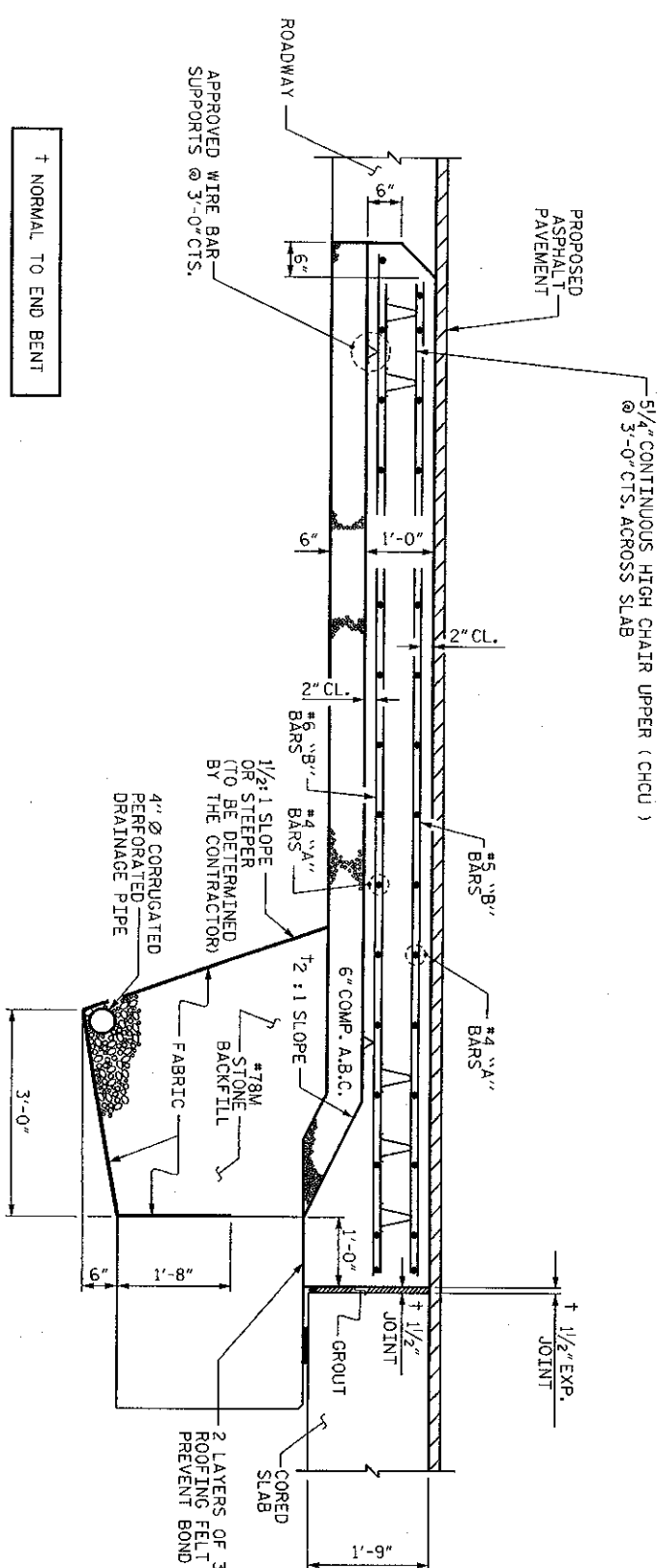
APPROACH SLAB AT EB #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	26	4	STR	17'-6"	304
A2	26	4	STR	17'-6"	304
*B1	63	5	STR	11'-2"	734
B2	63	6	STR	11'-8"	1104
REINFORCING STEEL					
*EPOXY COATED					
REINFORCING STEEL					
LBS.					
1,408					
REINFORCING STEEL					
LBS.					
1,038					
CLASS "AA" CONCRETE					
C.Y.					
15.4					
APPROACH SLAB AT EB #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	26	4	STR	17'-6"	304
A2	26	4	STR	17'-6"	304
*B1	63	5	STR	11'-2"	734
B2	63	6	STR	11'-8"	1104
REINFORCING STEEL					
LBS.					
1,408					
REINFORCING STEEL					
LBS.					
1,038					
CLASS "AA" CONCRETE					
C.Y.					
15.4					



PLAN OF APPROACH SLAB #1

PLAN OF APPROACH SLAB #2

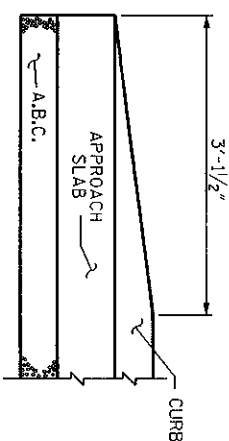
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



SECTION THRU SLAB

SECTION N-N

END OF CURB WITHOUT SHOULDER BERM GUTTER



PLANS PREPARED BY:

SEASON ENGINEERS ASSOCIATES

\$DATE\$ \$TIME\$ \$FILE\$

DRAWN BY: J. SIMPSON DATE: 6-10
CHECKED BY: M. AVERETTE DATE: 6-10

30' CLEAR ROADWAY - 70° SKEW				
NO.	REV.	DATE	BY	DATE
1	1	6-10	J.S.	6-10
2	1	6-10	J.S.	6-10
3	1	6-10	J.S.	6-10
4	1	6-10	J.S.	6-10
5	1	6-10	J.S.	6-10
6	1	6-10	J.S.	6-10
7	1	6-10	J.S.	6-10
8	1	6-10	J.S.	6-10
9	1	6-10	J.S.	6-10
10	1	6-10	J.S.	6-10
11	1	6-10	J.S.	6-10
12	1	6-10	J.S.	6-10
13	1	6-10	J.S.	6-10
14	1	6-10	J.S.	6-10
15	1	6-10	J.S.	6-10
16	1	6-10	J.S.	6-10
17	1	6-10	J.S.	6-10
18	1	6-10	J.S.	6-10
19	1	6-10	J.S.	6-10
20	1	6-10	J.S.	6-10
21	1	6-10	J.S.	6-10
22	1	6-10	J.S.	6-10
23	1	6-10	J.S.	6-10
24	1	6-10	J.S.	6-10
25	1	6-10	J.S.	6-10
26	1	6-10	J.S.	6-10
27	1	6-10	J.S.	6-10
28	1	6-10	J.S.	6-10
29	1	6-10	J.S.	6-10
30	1	6-10	J.S.	6-10
31	1	6-10	J.S.	6-10
32	1	6-10	J.S.	6-10

APPROACH SLABS

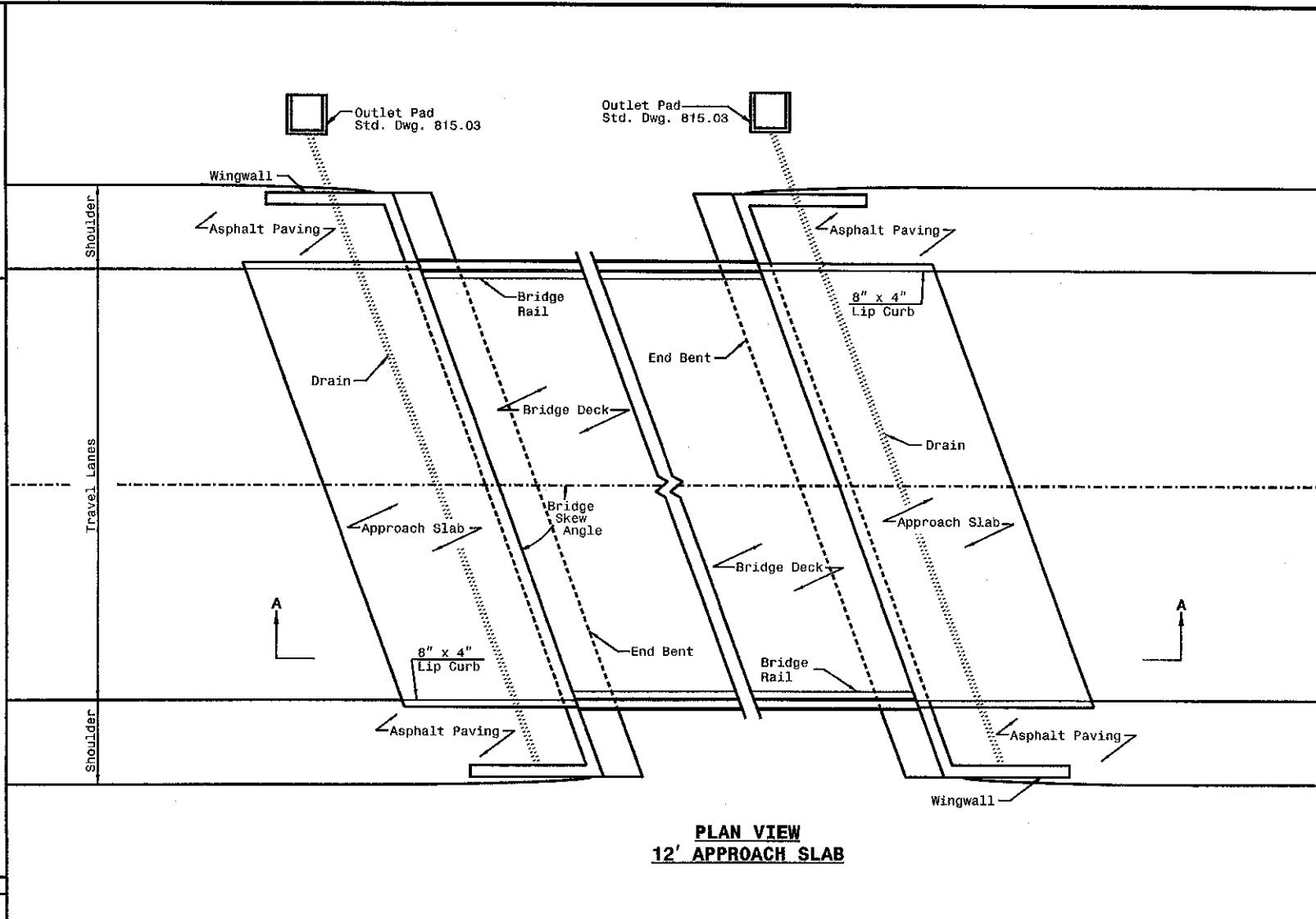
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
STANDARD

WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 -1-
REPLACES BRIDGE #90

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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 1 OF 2
422D11



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

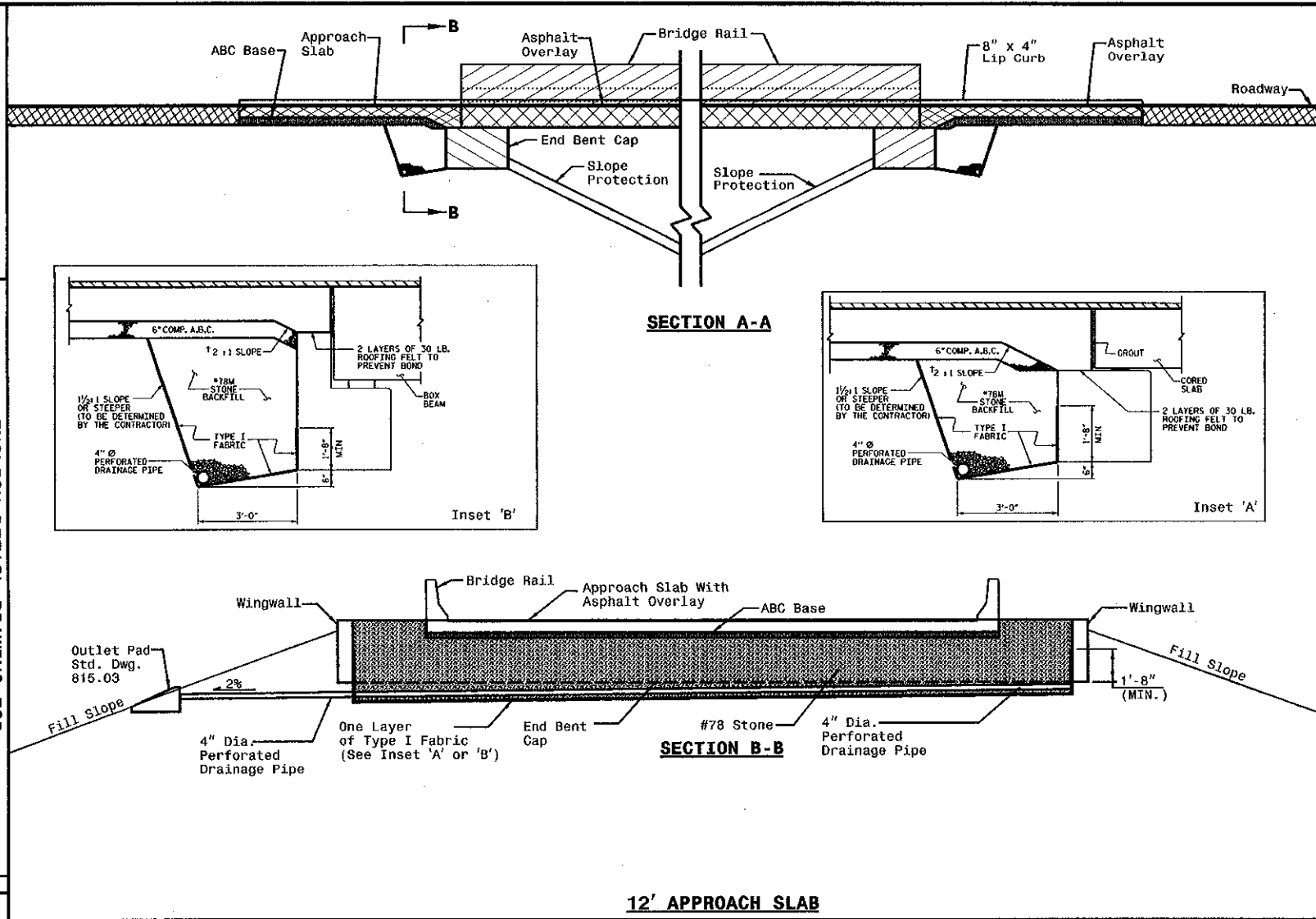
ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 1 OF 2
422D11

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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 2 OF 2
422D11



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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 2 OF 2
422D11

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

BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

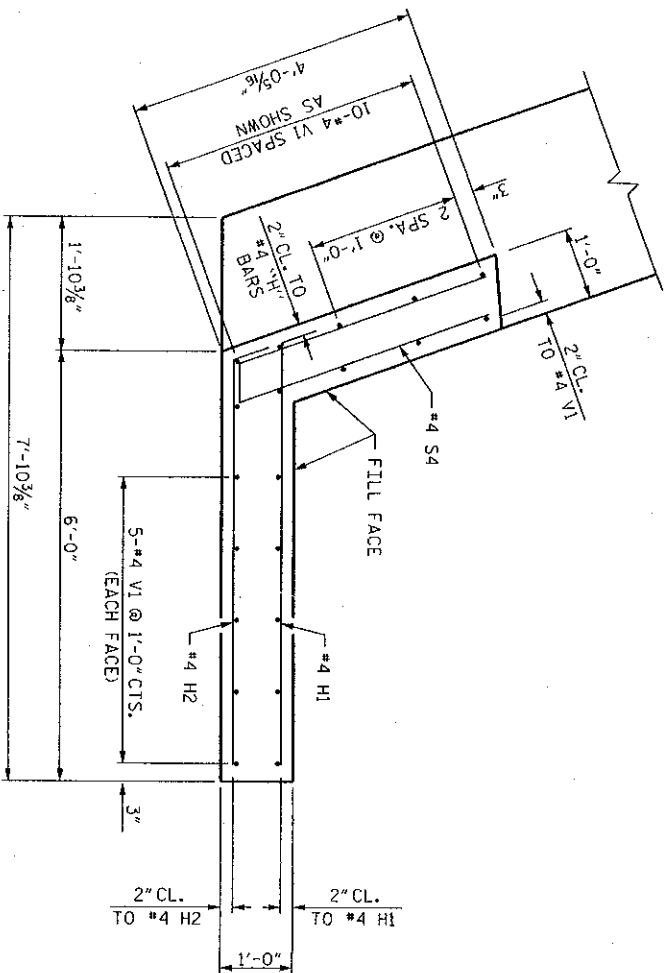
ORIGINAL BY: K. A. Kempf DATE: 6-10-08
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC: K:\enr\bridge\approach fills.dwg

PLAN

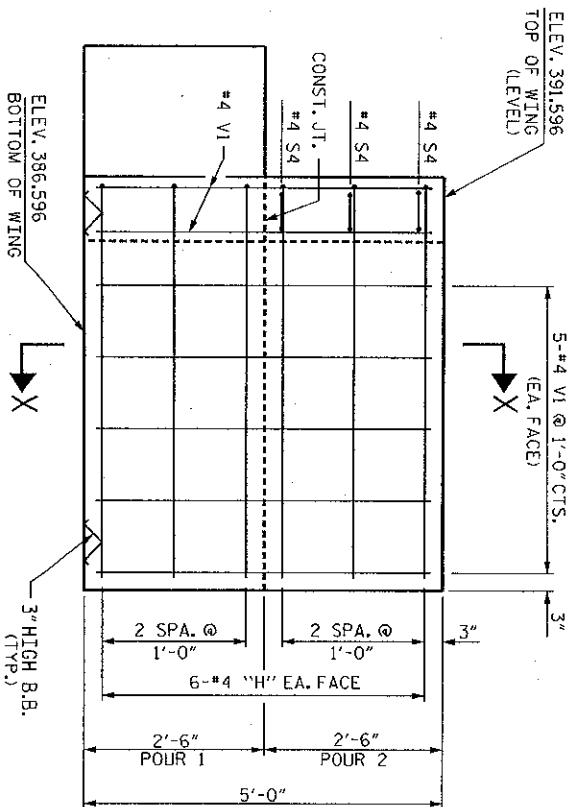
ELEVATION

WBS NO. 42553.3.1																					
MONTGOMERY COUNTY																					
STATION: 14+05.76 -L-																					
REPLACES BRIDGE #90	SHEET 1 OF 3																				
STATE OF NORTH CAROLINA																					
DEPARTMENT OF TRANSPORTATION																					
SUBSTRUCTURE																					
RAILROAD																					
END BENT #1																					
30' CLEAR ROADWAY - 70° SKEW																					
<table border="1"> <tr> <th colspan="4">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>BY</th> <th>DATE</th> <th>NO.</th> </tr> <tr> <td>1</td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>2</td> <td></td> <td></td> <td>3</td> </tr> <tr> <td>3</td> <td></td> <td></td> <td>4</td> </tr> </table>		REVISIONS				NO.	BY	DATE	NO.	1			2	2			3	3			4
REVISIONS																					
NO.	BY	DATE	NO.																		
1			2																		
2			3																		
3			4																		
SHEET NO. 19																					
TOTALS 32																					

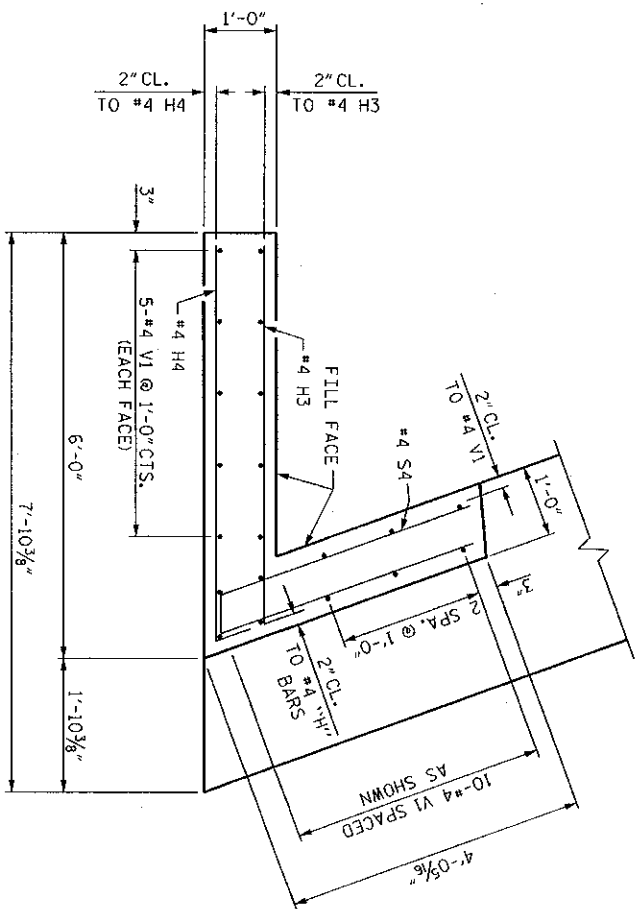
DRAWN BY : J. STIMPSON DATE : 6-10
CHECKED BY : M. AVERETTE DATE : 6-10



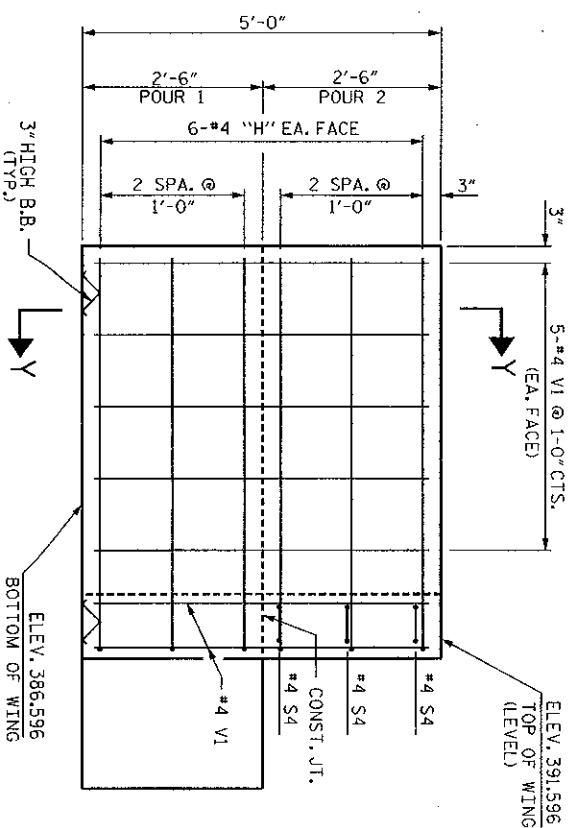
W1 PLAN OF LEFT WING



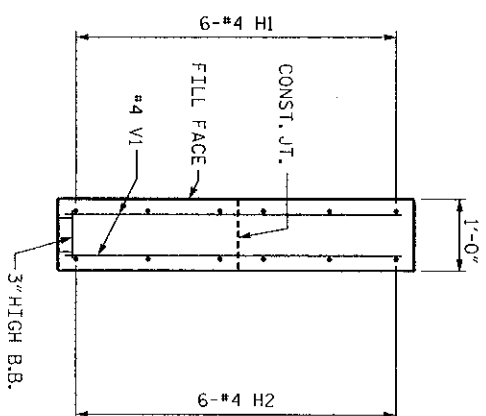
W1 ELEVATION OF LEFT WING



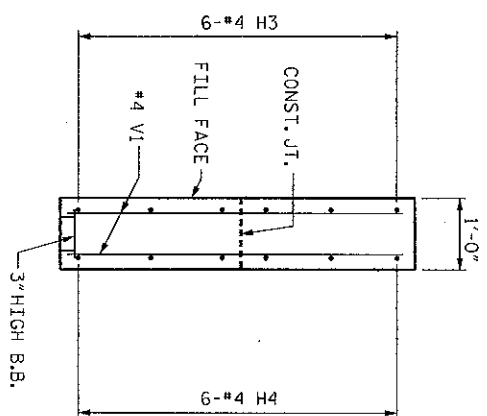
W2 PLAN OF RIGHT WING



W2 ELEVATION OF RIGHT WING



SECTION X-X

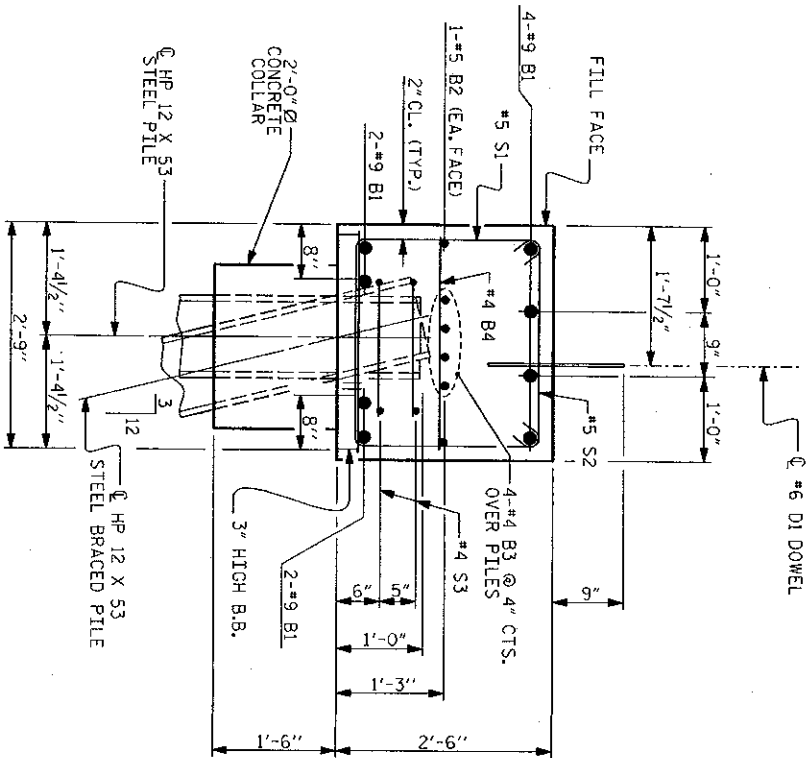


SECTION Y-Y

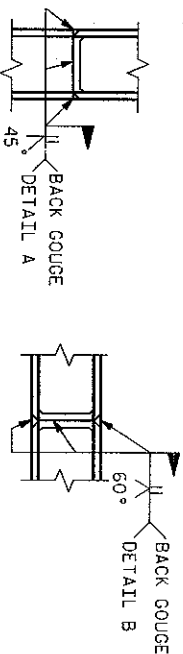


WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 -L-
REPLACES BRIDGE #90 SHEET 2 OF 3
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SUBSTRUCTURE
END BENT #1
30' CLEAR ROADWAY - 70° SKEW
NO. BY DATE NO. BY DATE
1 J. STIMPSON 6-10 2 M. AVERETTE 6-10
SHEET NO. 20
DATE 6/10/10

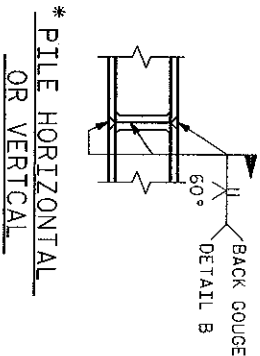
DRAWN BY : J. SIMPSON
CHECKED BY : M. AVERETTE
DATE : 6-10
DATE : 6-10



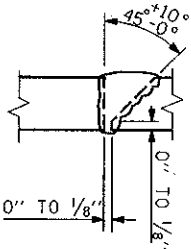
SECTION A-A



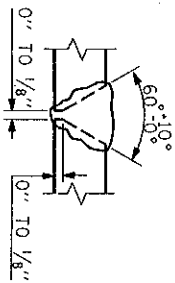
* PILE VERTICAL



* PILE HORIZONTAL OR VERTICAL



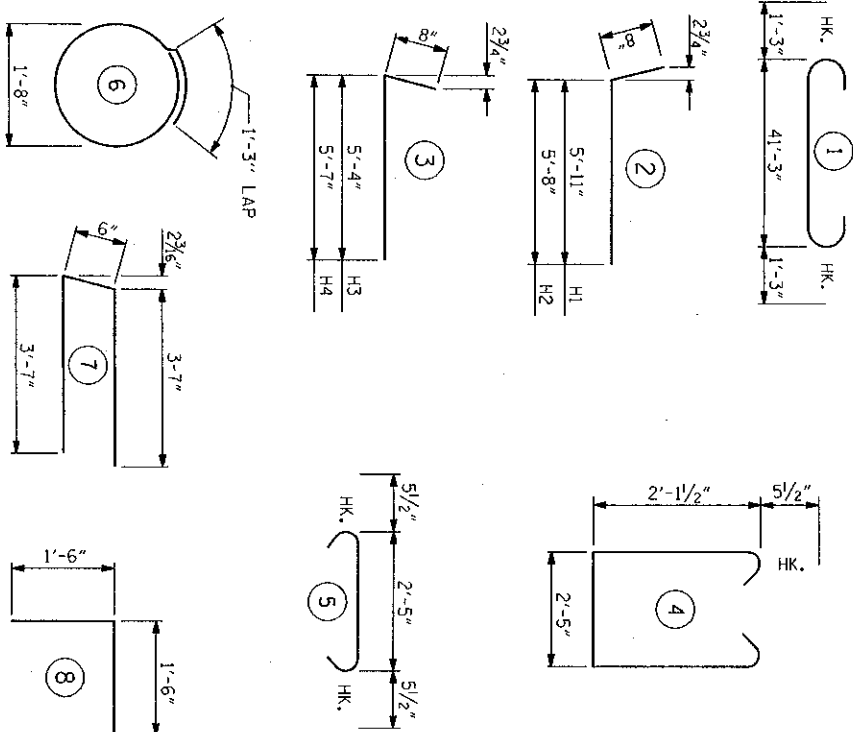
DETAIL A



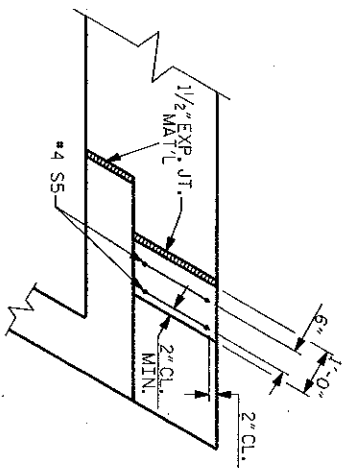
DETAIL B

PILE SPlice DETAILS

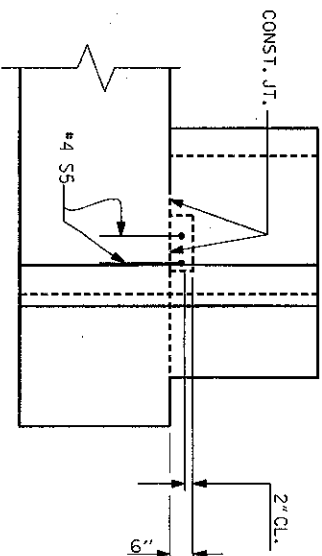
* POSITION OF PILE DURING WELDING.



BAR TYPES



PLAN



ELEVATION

LATERAL GUIDE DETAILS



PLANS PREPARED BY:

J. SIMPSON
S.E.A. ASSOCIATES

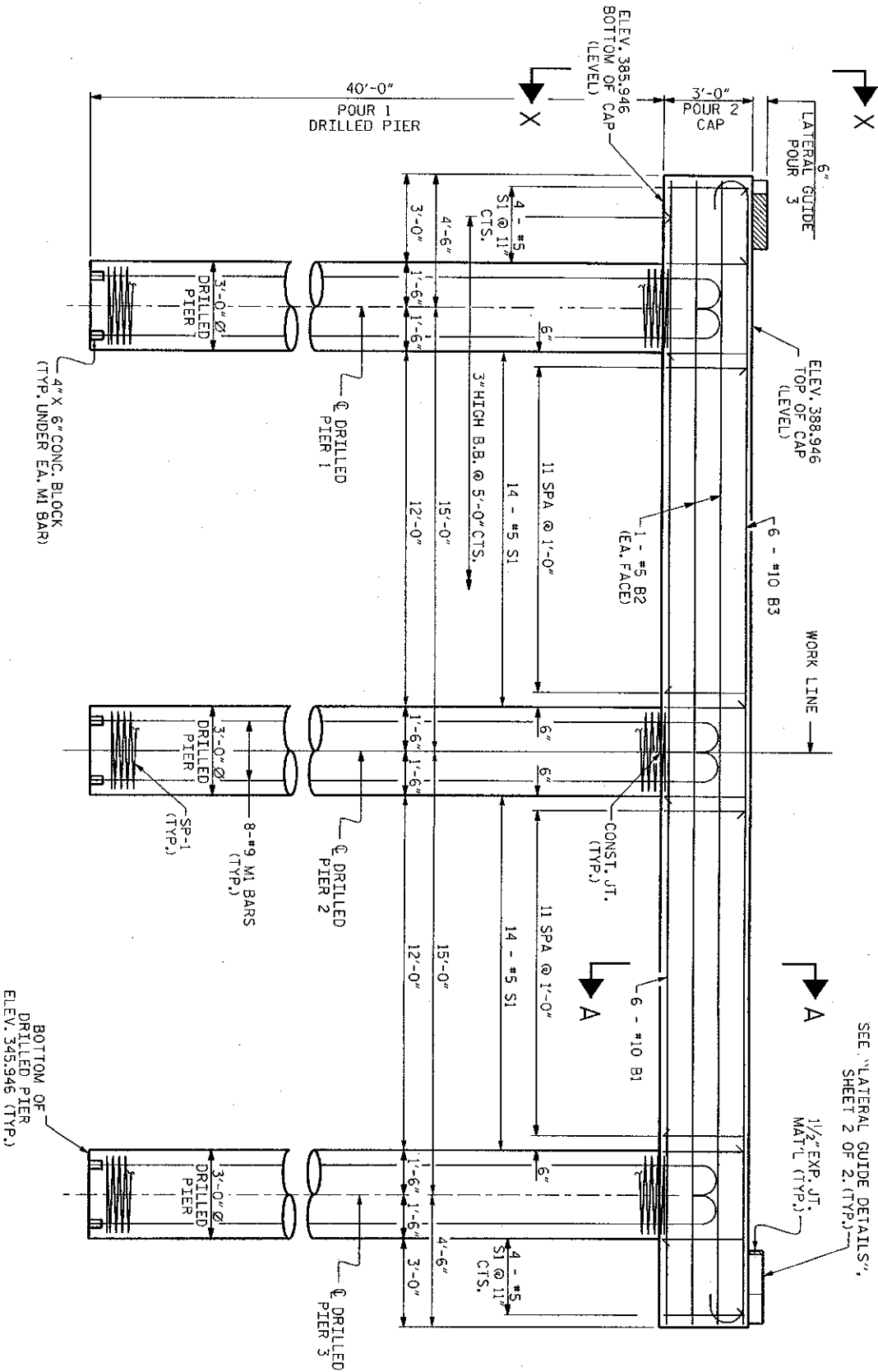
5550 Dillard Drive
Cory, NC 27518
(813) 855-0468 (Fax)
www.simpsonse.com
[LICENSE NO. C-2521]

WBS NO. 42553.3.1				MONTGOMERY COUNTY			
STATION: 14+05.76 -L-				REPLACES BRIDGE #90			
30' CLEAR ROADWAY - 70° SKEW				SHEET 3 OF 3			
DEPARTMENT OF TRANSPORTATION				END BENT #1			
SUBSTRUCTURE				REVISED			
NO. 1				DATE: 6-10			
NO. 2				DATE: 6-10			
NO. 3				DATE: 6-10			
NO. 4				DATE: 6-10			

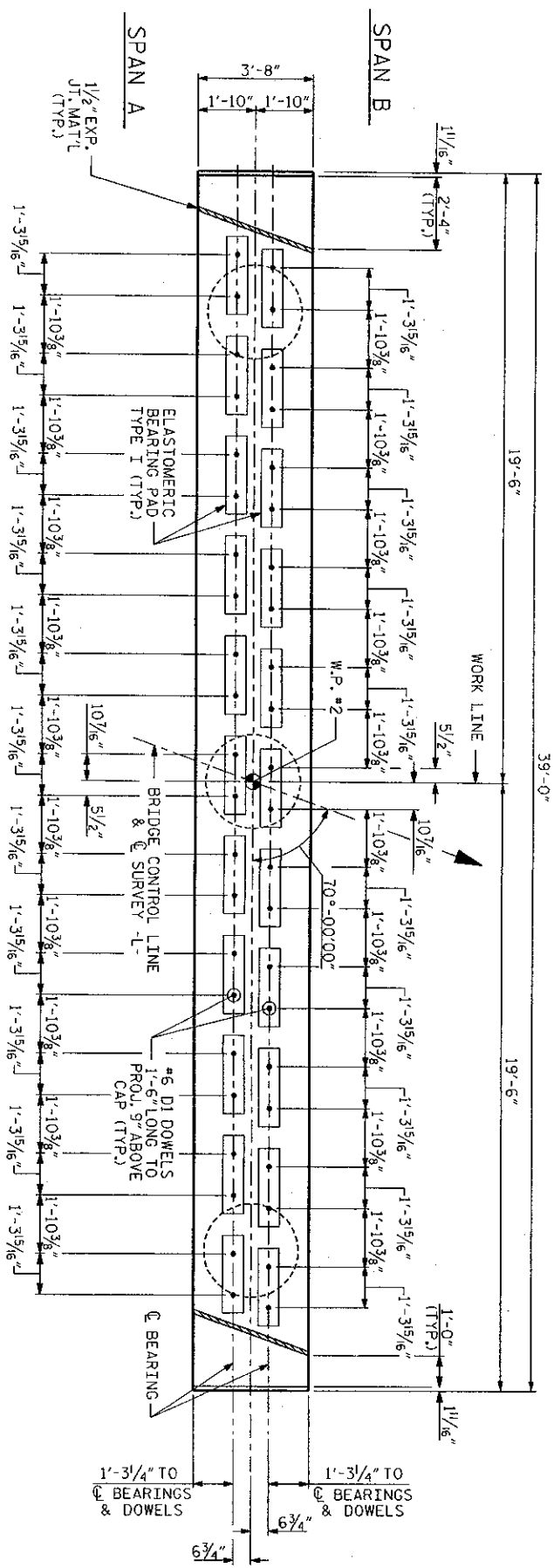
BILL OF MATERIAL					END BENT #1				
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE
B1	8	9	1	43'-9"	1190	B1	8	9	1
B2	2	5	SIR	41'-3"	86	B2	2	5	SIR
B3	8	4	STR	21'-10"	117	B3	8	4	STR
B4	11	4	STR	2'-5"	18	B4	11	4	STR
D1	22	6	STR	1'-6"	50	D1	22	6	STR
H1	6	4	2	6'-7"	26	H1	6	4	2
H2	6	4	2	6'-4"	25	H2	6	4	2
H3	6	4	3	6'-0"	24	H3	6	4	3
H4	6	4	3	6'-3"	25	H4	6	4	3
S1	74	5	4	7'-7"	585	S1	74	5	4
S2	74	5	5	3'-4"	257	S2	74	5	5
S3	10	4	6	6'-6"	43	S3	10	4	6
S4	6	4	7	7'-8"	31	S4	6	4	7
S5	4	4	8	4'-6"	12	S5	4	4	8
V1	40	4	STR	4'-8"	125	V1	40	4	STR
TOTAL REINFORCING STEEL					2614 LBS.				
CLASS "A" CONCRETE BREAKDOWN									
POUR 1					12.7 CU. YDS.				
POUR 2					2.1 CU. YDS.				
TOTAL					14.8 CU. YDS.				
HP 12 X 53 STEEL PILES					LIN. FEET 125				
5 PILES REQUIRED									

DRAWN BY: J. SIMPSON
CHECKED BY: M. AVERETTE
DATE: 6-10
DATE: 6-10

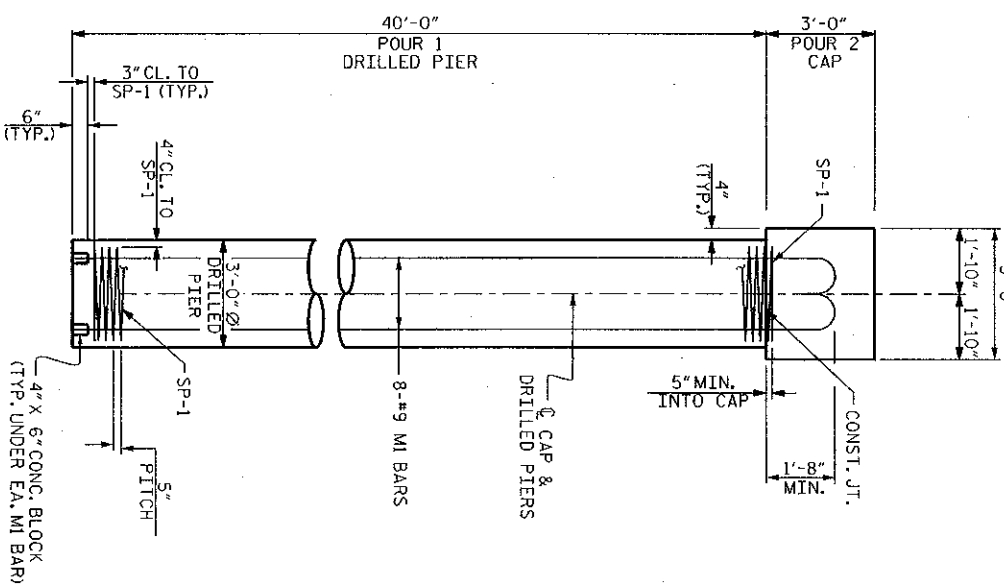
ELEVATION



PLAN

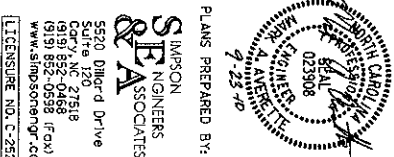


END ELEVATION

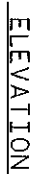
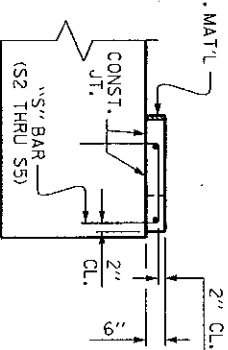
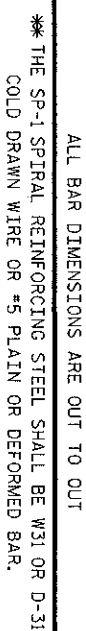
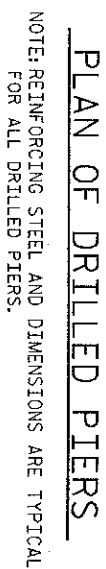


NOTES

- STIRRUPS IN THE CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #6 DI DOWELS.
- HOOKS ON "W" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEM FOR "REINFORCING STEEL" AND "SPIRAL COLUMN REINFORCING STEEL".
- FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
- FOR PERMANENT STEEL CASING, SEE SPECIAL PROVISIONS FOR DRILLED PIERS.
- INVERT ALTERNATE STIRRUPS.
- NO SEPARATE PAYMENT SHALL BE MADE FOR ANY ADDITIONAL STEEL REQUIRED IN CONSTRUCTION OF THE DRILLED PIER AS THIS IS CONSIDERED INCIDENTAL TO THE LINEAR FOOT PRICE FOR DRILLED PIER.
- THE CONTRACTORS ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR THE DRILLED PIER IS DETAILED WITH THREE FEET OF EXTRA LENGTH.



WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 - L-
REPLACES BRIDGE #90
SHEET 1 OF 2
DEPARTMENT OF TRANSPORTATION
SUBSTRUCTURE
BENT #1
30' CLEAR ROADWAY - 70° SKEW
NO. 1
DATE: 6-10
NO. 2
DATE: 6-10
NO. 3
DATE: 6-10
NO. 4
DATE: 6-10
NO. 5
DATE: 6-10
NO. 6
DATE: 6-10
NO. 7
DATE: 6-10
NO. 8
DATE: 6-10
NO. 9
DATE: 6-10
NO. 10
DATE: 6-10
NO. 11
DATE: 6-10
NO. 12
DATE: 6-10
NO. 13
DATE: 6-10
NO. 14
DATE: 6-10
NO. 15
DATE: 6-10
NO. 16
DATE: 6-10
NO. 17
DATE: 6-10
NO. 18
DATE: 6-10
NO. 19
DATE: 6-10
NO. 20
DATE: 6-10
NO. 21
DATE: 6-10
NO. 22
DATE: 6-10
NO. 23
DATE: 6-10
NO. 24
DATE: 6-10
NO. 25
DATE: 6-10
NO. 26
DATE: 6-10
NO. 27
DATE: 6-10
NO. 28
DATE: 6-10
NO. 29
DATE: 6-10
NO. 30
DATE: 6-10
NO. 31
DATE: 6-10
NO. 32
DATE: 6-10

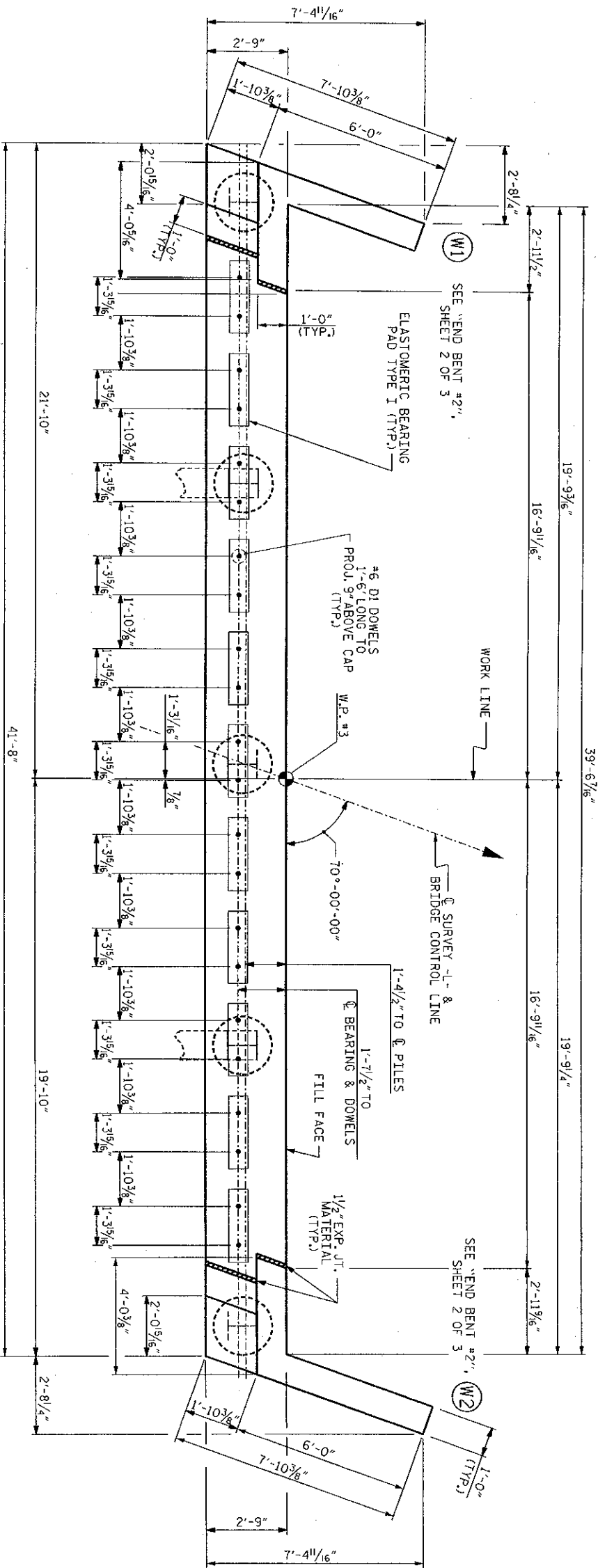


DRILLED PIER QUANTITIES	
DRILLED PIER CONCRETE POUR #1 (DRILLED PIER)	31.4 CU.YDS.
3'-0"Ø DRILLED PIERS IN SOIL	37.0 LIN.FT.
3'-0"Ø DRILLED PIERS NOT IN SOIL	83.0 LIN.FT.
3'-0"Ø PERMANENT STEEL CASING	37.3 LIN.FT.

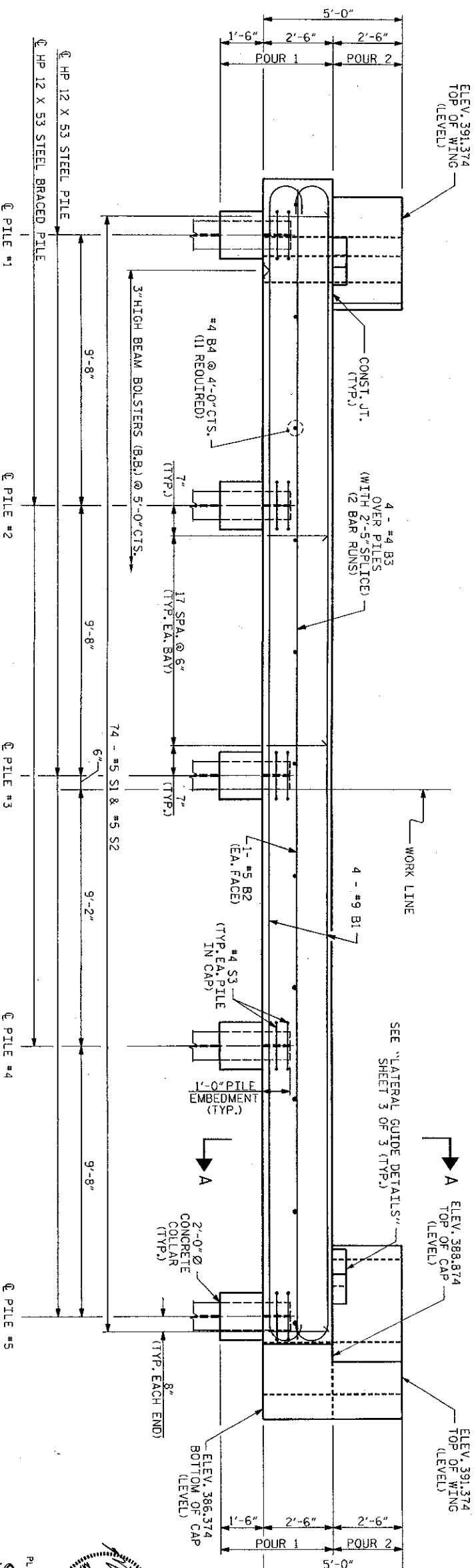
30' CLEAR ROADWAY - 70° SKEW

REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
			TOTAL SHEETS		
			32		

DRAWN BY : J. STIMPSON DATE : 6-10
CHECKED BY : M. AVERETTE DATE : 6-10



NOTES
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #6 D1 DOWELS.



PLANS PREPARED BY:
J. STIMPSON
ENGINEERS
& ASSOCIATES
5520 Dillard Drive
Cary, NC 27518
(919) 852-0588 (FAX)
www.stimpsonengr.com
LICENSE NO. C-2921

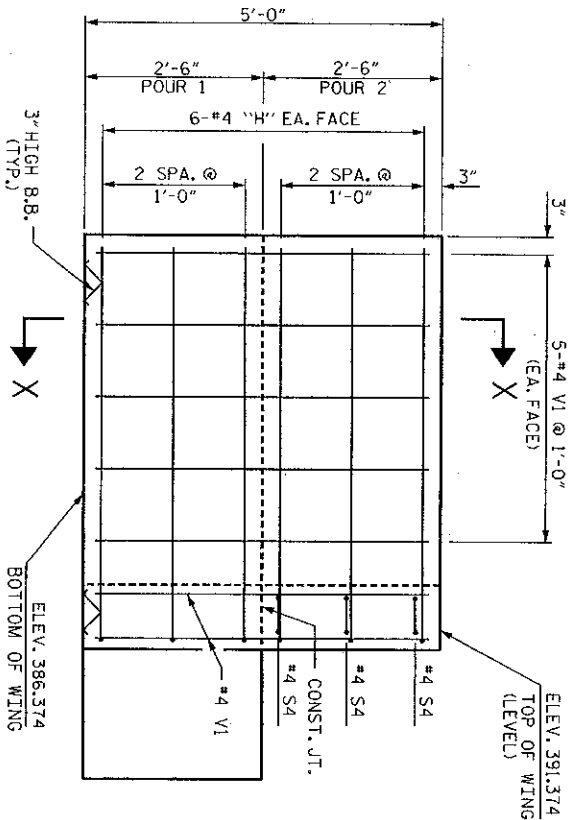
WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 -L-
REPLACES BRIDGE #90 SHEET 1 OF 3

DEPARTMENT OF TRANSPORTATION
SUBSTRUCTURE
END BENT #2
30' CLEAR ROADWAY - 70° SKEW

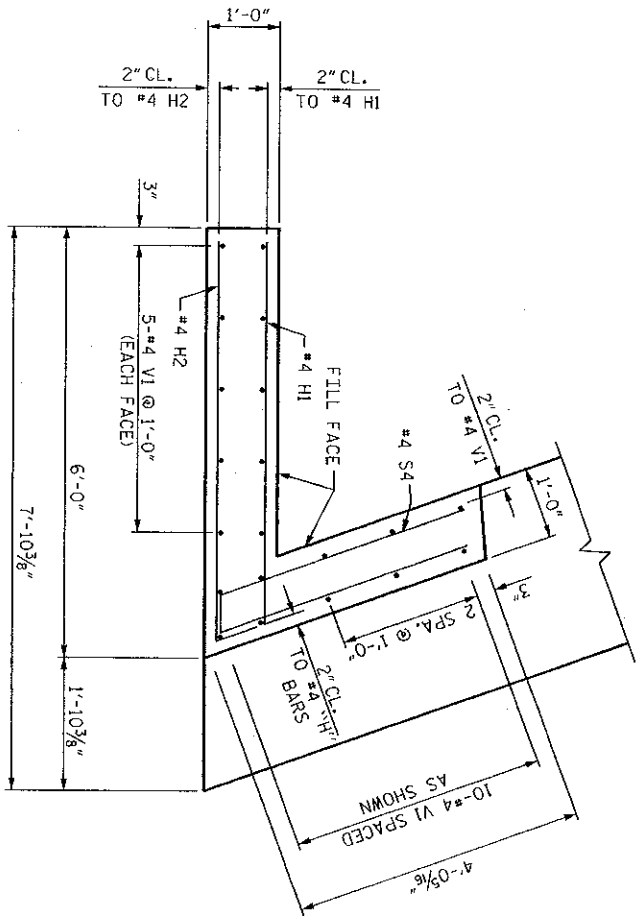
NO.	BY	DATE	NO.	BY	DATE	SHEET NO.
1			3			24
2			4			32

DRAWN BY: J. STIMPSON DATE: 6-10
CHECKED BY: M. AVERETTE DATE: 6-10

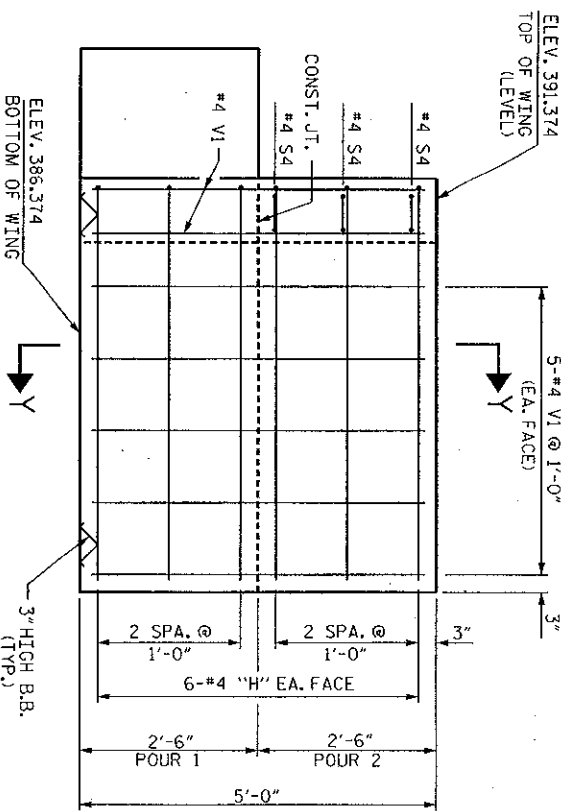
W1 ELEVATION OF LEFT WING



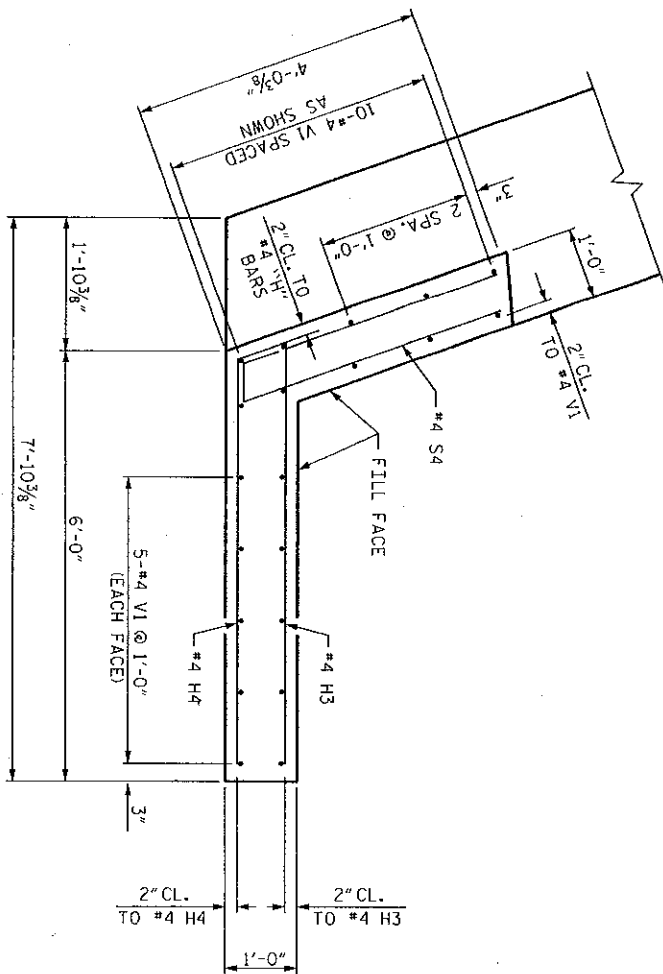
W1 PLAN OF LEFT WING



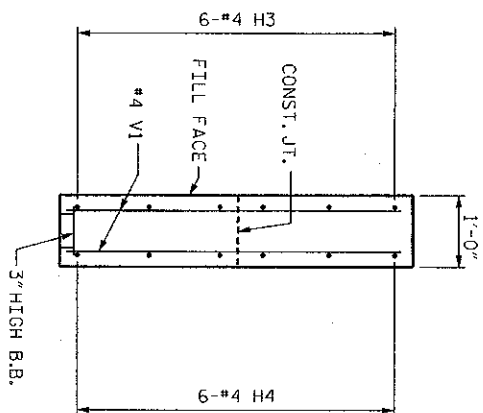
W2 ELEVATION OF RIGHT WING



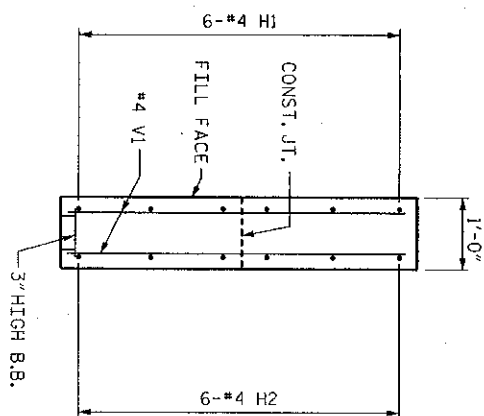
W2 PLAN OF RIGHT WING



SECTION Y-Y



SECTION X-X



PLANS PREPARED BY:

STIMPSON
ENGINEERS
& ASSOCIATES

5520 Dillard Drive
Cary, NC 27518
(919) 852-0568
(919) 852-0588 (Fax)
www.stimpsoneng.com
LICENSE NO. C-25821

WBS NO. 42553.3.1

MONTGOMERY COUNTY

STATION: 14+05.76 -L-

REPLACES BRIDGE #90 SHEET 2 OF 3

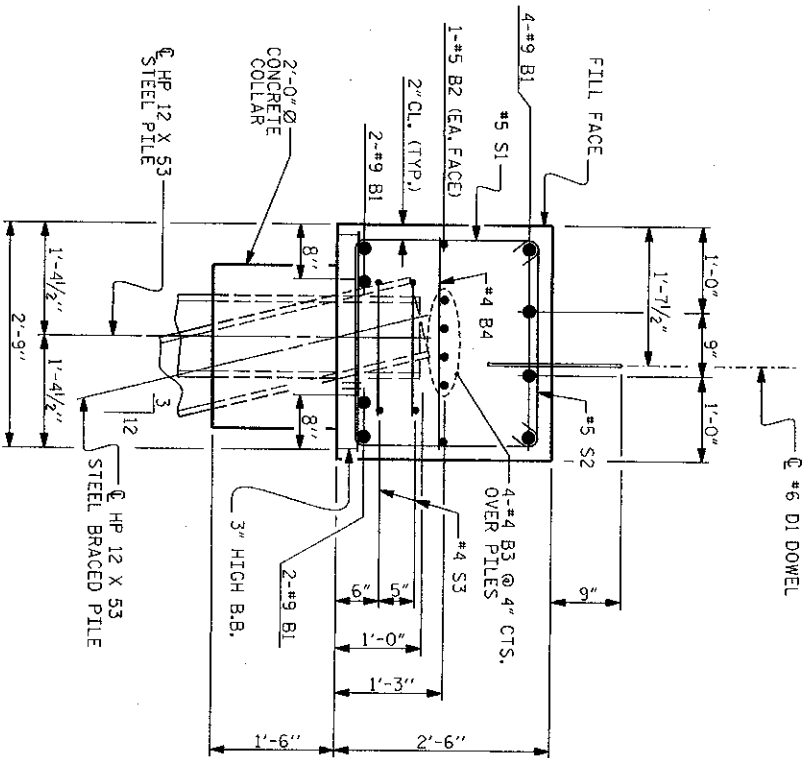
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RAILROAD
SUBSTRUCTURE

END BENT #2

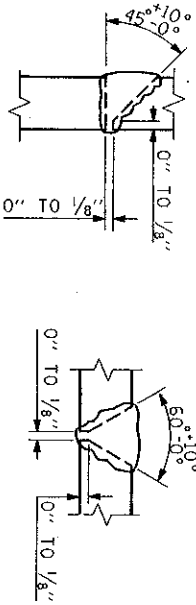
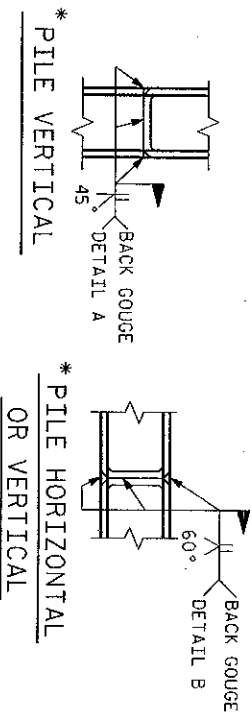
30' CLEAR ROADWAY - 70° SKEW

NO.	BY	DATE	NO.	BY	DATE	SHEET NO.
1			3			25
2			4			32

DRAWN BY : J. SIMPSON DATE : 6-10
CHECKED BY : M. AVERETTE DATE : 6-10



SECTION A-A

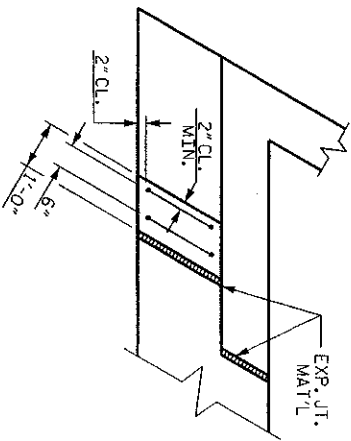


DETAIL A

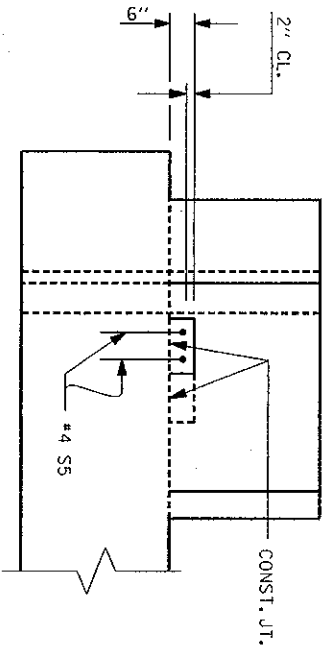
DETAIL B

PILE SPLICE DETAILS

* POSITION OF PILE DURING WELDING.



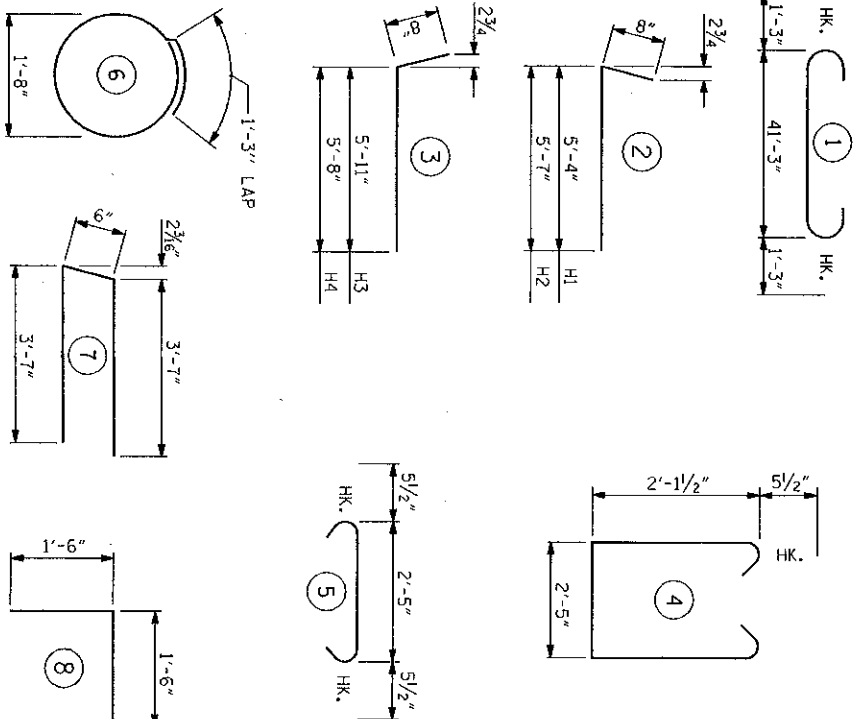
PLAN



ELEVATION

LATERAL GUIDE DETAILS

BAR TYPES



BILL OF MATERIAL

END BENT #2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	43'-9"	1190
B2	2	5	STR	41'-3"	86
B3	8	4	STR	21'-10"	117
B4	11	4	STR	2'-5"	18
D1	22	6	STR	1'-6"	50
H1	6	4	2	6'-0"	24
H2	6	4	2	6'-3"	25
H3	6	4	3	6'-7"	26
H4	6	4	3	6'-4"	25
S1	74	5	4	7'-7"	585
S2	74	5	5	3'-4"	257
S3	10	4	6	6'-6"	43
S4	6	4	7	7'-8"	31
S5	4	4	8	4'-6"	12
V1	40	4	STR	4'-8"	125

TOTAL REINFORCING STEEL 2614 LBS.

CLASS "A" CONCRETE BREAKDOWN

POUR 1 12.7 CU YDS.
POUR 2 2.1 CU YDS.
TOTAL 14.8 CU YDS.

HP 12 X 53 STEEL PILES 5 PILES REQUIRED LIN. FEET 125

WBS NO. 42553.3.1

MONTGOMERY COUNTY

STATION: 14+05.76 -L-

REPLACES BRIDGE #90 SHEET 3 OF 3

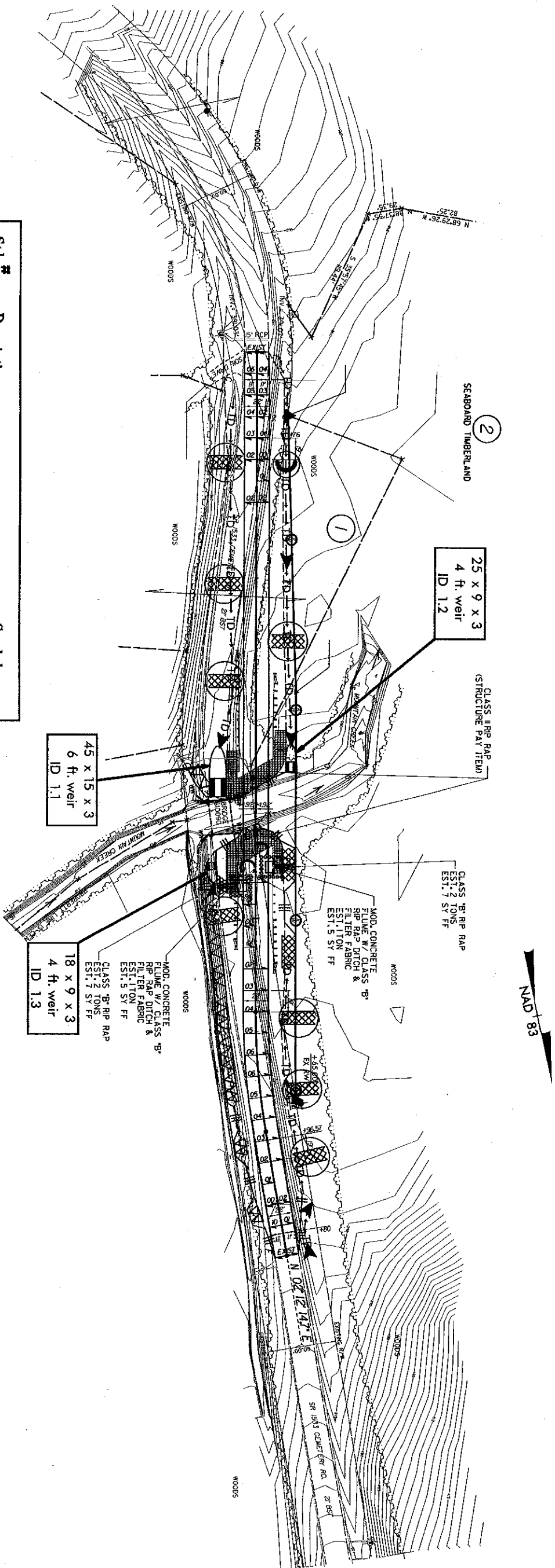
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

END BENT #2

30' CLEAR ROADWAY - 70° SKEW

NO.	BY	DATE	NO.	BY	DATE	SHEET NO.
1			3			26
2			4			32

EROSION CONTROL PLAN



Sed. #	Description	Symbol
1605.01	Temporary Silt Fence	— — — — —
1606.01	Special Sediment Control Fence	— — — — —
1607.01	Gravel Construction Entrance	— — — — —
1622.01	Temporary Berms and Slope Drains	— — — — —
1630.05	Temporary Diversion	— — — — —
1630.06	Special Sillling Basin	— — — — —
1632.03	Rock Inlet Sediment Trap Type C	— — — — —
1633.01	Temporary Rock Silt Check Type-A	— — — — —
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	— — — — —
	Temporary Rock Silt Check Type-B	— — — — —
	Wattle with Polyacrylamide (PAM)	— — — — —
1634.02	Temporary Rock Sediment Dam Type-B	— — — — —

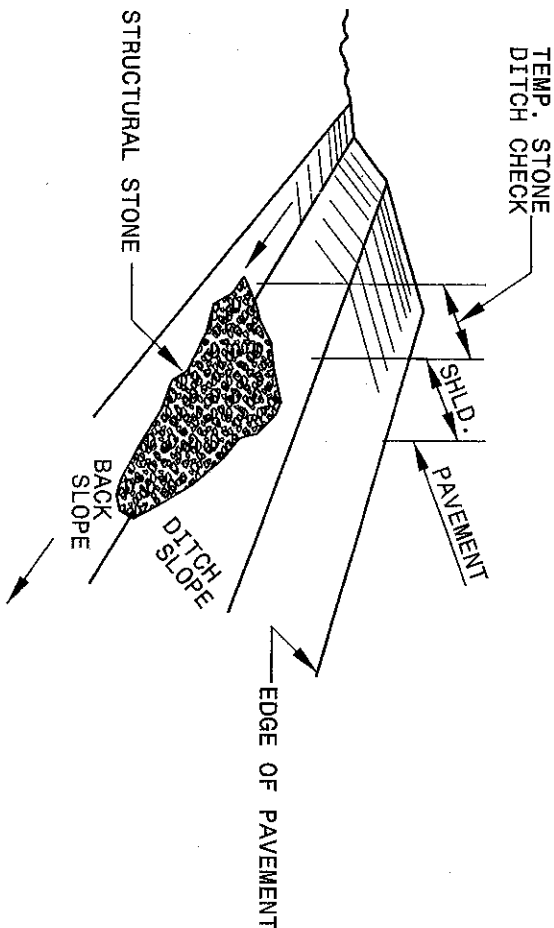
ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, NC
2006 STANDARD SPECIFICATIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.
ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PLANS PREPARED BY:
JIMSON
ENGINEERS
& ASSOCIATES
5520 Dillard Drive
Cary, NC 27518
(919) 555-0668
www.jimsoneng.com
LICENSE NO. C-2521

WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 - L -
REPLACES BRIDGE #90 SHEET 1 OF 6
DEPARTMENT OF TRANSPORTATION
RALEIGH
EROSION CONTROL
30' CLEAR ROADWAY - 70° SKEW
NO. BY DATE NO. BY DATE
1 1 1 1 1 1
2 2 2 2 2 2
SHEET NO. 27
32

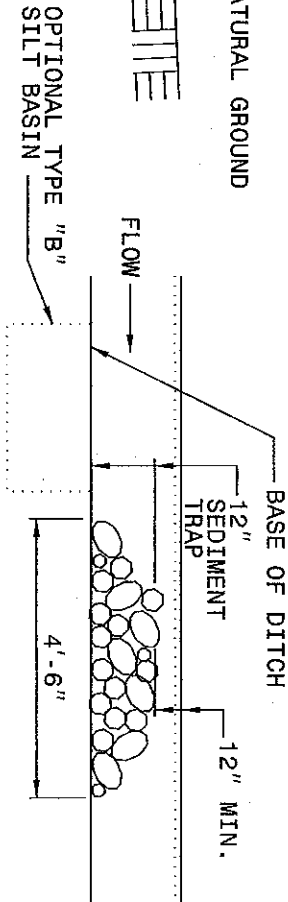
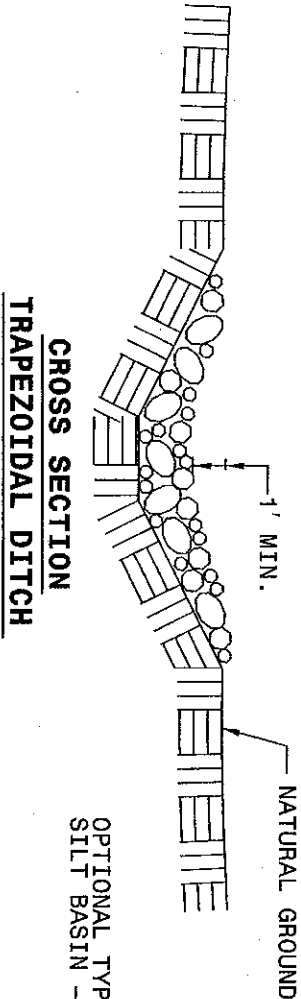
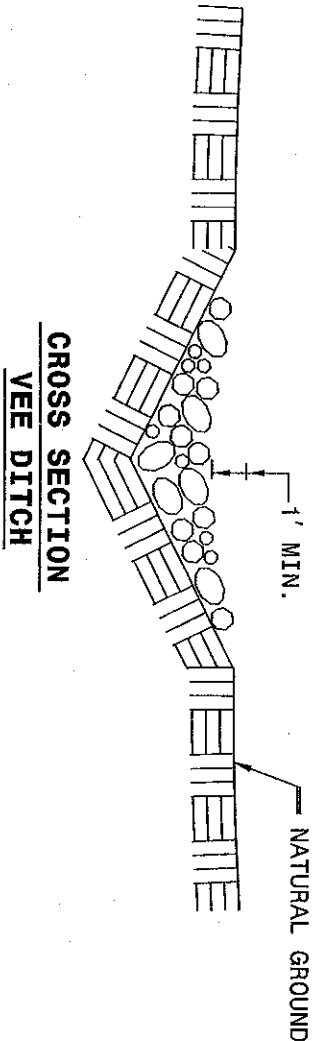
TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL



ISOMETRIC VIEW

NOTES:
USE CLASS 'B' EROSION CONTROL STONE FOR
STRUCTURAL STONE.

THE ENGINEER MAY DIRECT THE OPTION OF
CLASS "A" STONE FOR SITES HAVING LESS THAN
ONE (1) ACRE DRAINAGE AREA AND A DITCH
GRADE LESS THAN 3%.



ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
FALSBOROUGH, N.C.
2006 STANDARD SPECIFICATIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.
ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 -L-

REPLACES BRIDGE #90 SHEET 2 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EROSION CONTROL

30' CLEAR ROADWAY - 70° SKEW

PLANS PREPARED BY:
J. STIMPSON
ENGINEERS
& ASSOCIATES
5520 Oldfield Drive
Charlotte, NC 27518
(919) 882-0468 (FAX)
(919) 882-0598 (CELL)
www.stimpsonengr.com
LICENSE # NO. C-2821

REVISIONS				SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
TOTAL SHEETS				28	
				32	

BAFFLE MATERIAL SHALL BE SECURED
TO THE BOTTOM AND SIDES OF BASIN
USING 12" LANDSCAPE STAPLES

1. INSTALL THREE(3) COIR FIBER BAFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF $\frac{1}{4}$ THE BASIN LENGTH.

2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.

SECURE BOTTOM OF BAFFLE
TO GROUND WITH 12" STAPLES
AT 12" MAXIMUM SPACING

11 GAUGE LANDSCAPE STAPLE

STEEL POST - 2'-0" DEPTH

2006 STANDARD SPECIFICATIONS

ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

RALEIGH, N.C.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

WBS NO. 42553.3.1

MONTGOMERY
COUNTY

STATION: 14+05.76 - L -

REPLACES BRIDGE #90

SHEET 3 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

RALEIGH

EROSION CONTROL

PLANS PREPARED BY:



SIMPSON
ENGINEERS
& ASSOCIATES

5520 Dillard Drive
Suite 120

CARF, NC 27518
(919) 852-0468

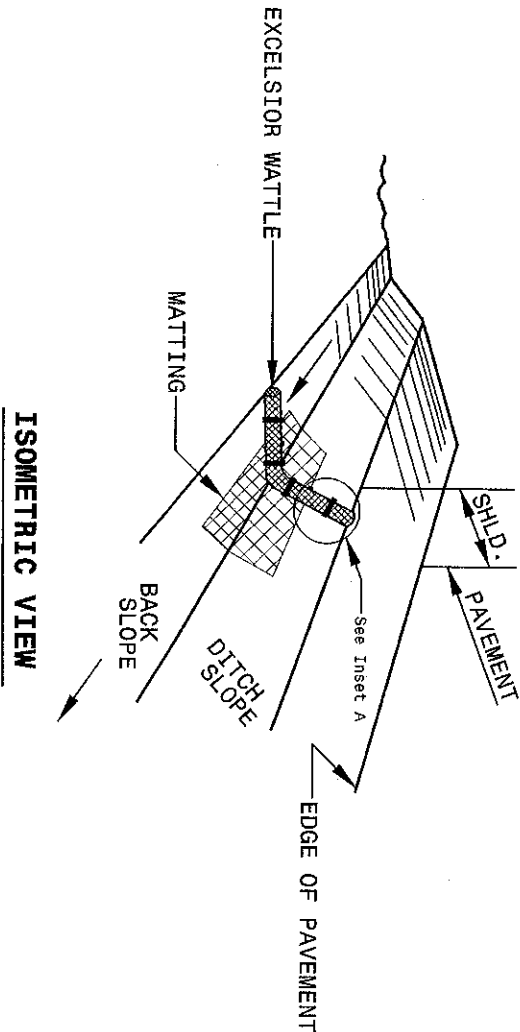
(919) 852-0598 (FOX)

www.simpsonengr.com

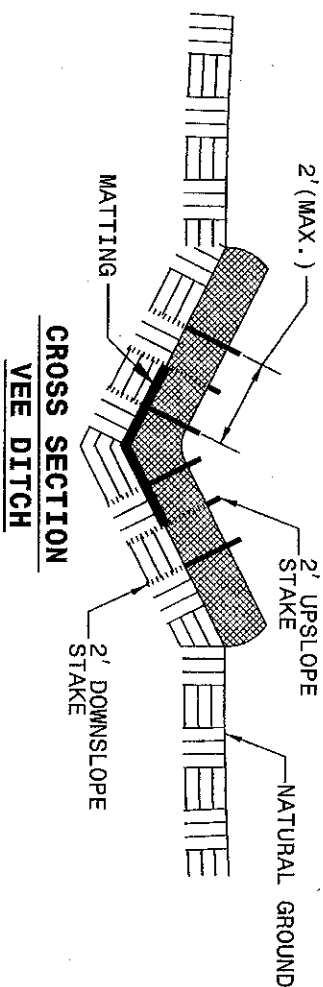
LICENSURE NO. C-25

30' CLEAR ROADWAY - 70° SKEW			
REVISONS			
NO.	BY:	DATE:	SHEET NO.
1			29
2			TOTALS
			SHEETS
			32

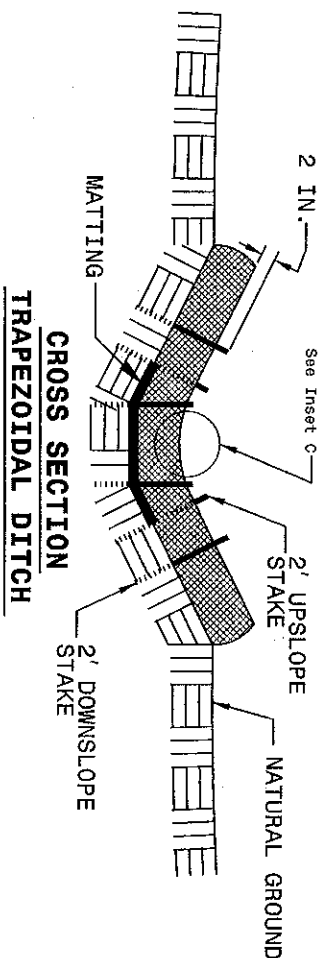
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



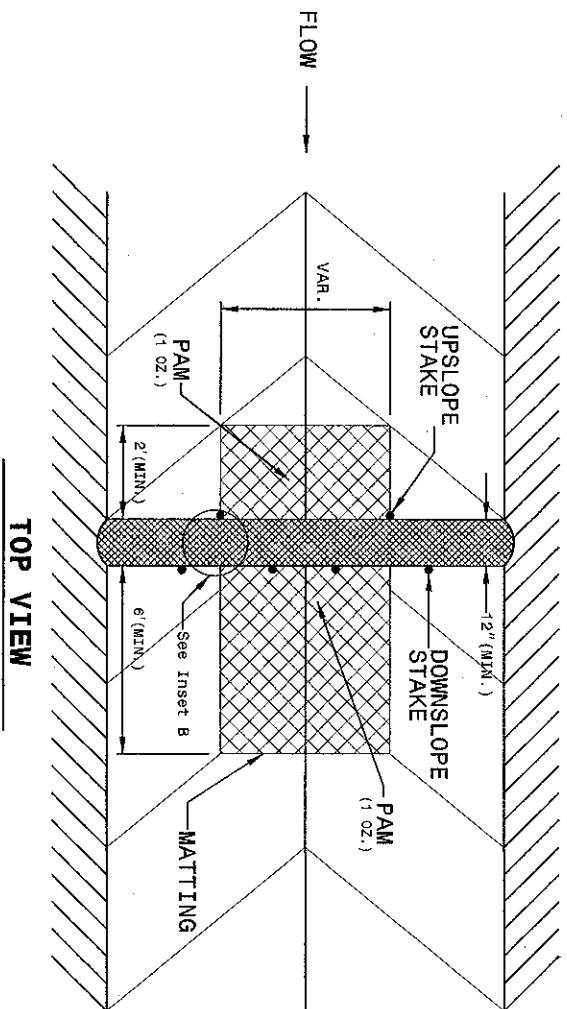
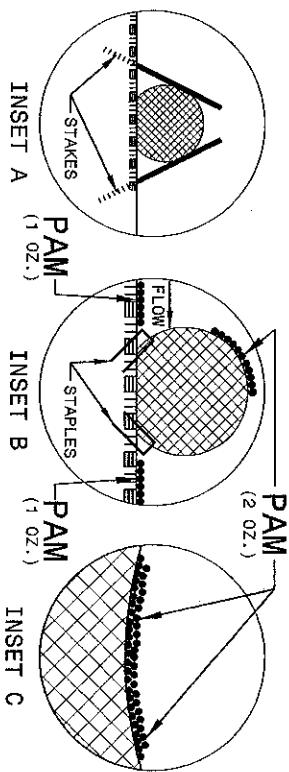
CROSS SECTION
VEE DITCH



CROSS SECTION
TRAPEZOIDAL DITCH

NOTES:

- USE MINIMUM 1/2 IN. DIAMETER EXCELSTOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
- INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.60 IN.



TOP VIEW

ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

2006 STANDARD SPECIFICATIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.
ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 -L-

REPLACES BRIDGE #90 SHEET 4 OF 6

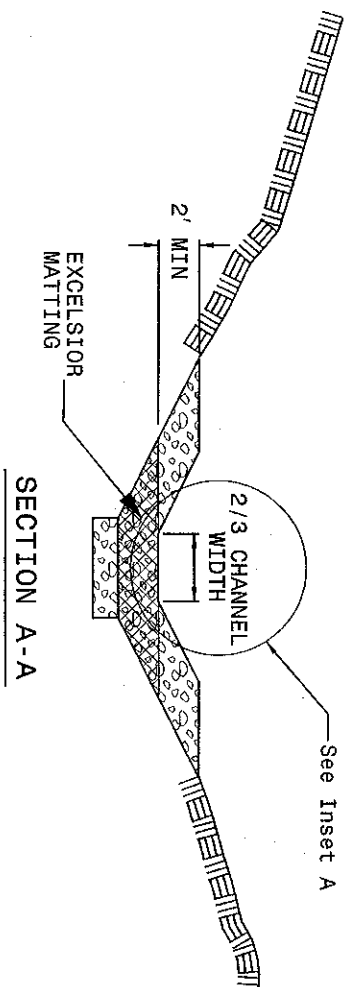
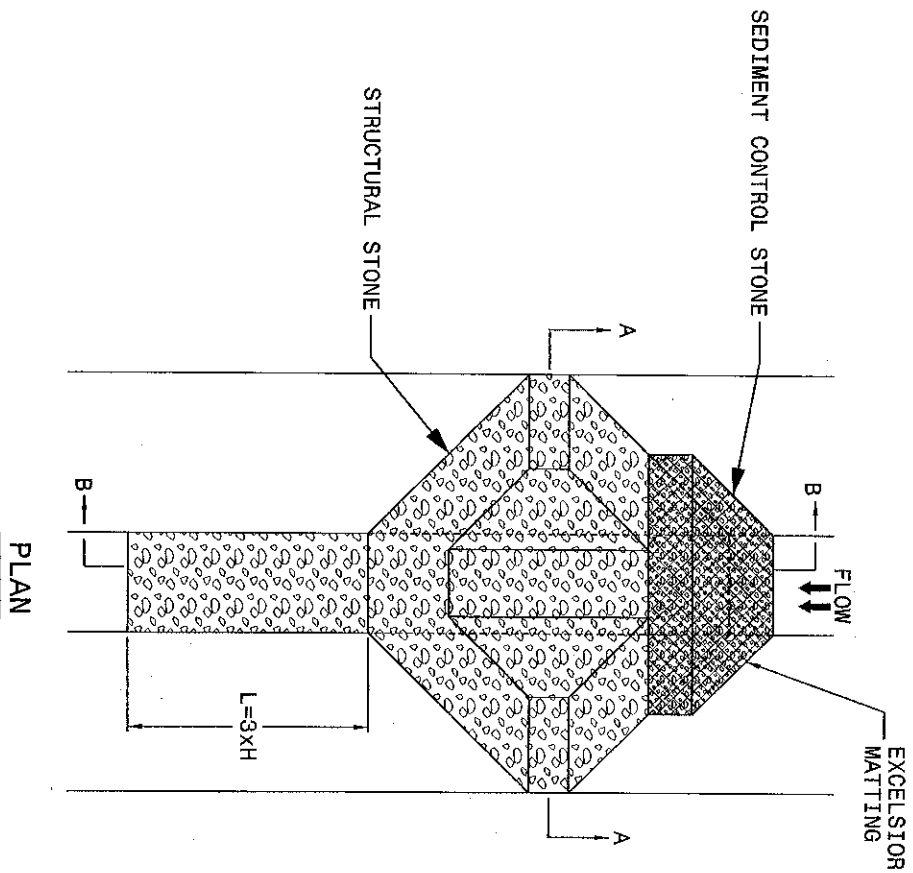
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EROSION CONTROL

PLANS PREPARED BY:
J. SIMPSON
ENGINEERS
& ASSOCIATES
5520 Dillard Drive
Suite 100
Charlotte, NC 28218
(919) 852-0558 (Fax)
www.simpsoneng.com
LICENSE NO. C-2521

30' CLEAR ROADWAY - 70° SKEW					SHEET NO.	
REVISIONS					TOTAL SHEETS	
NO.	BY	DATE	NO.	BY	DATE	30
1			3			32
2			4			

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH
EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

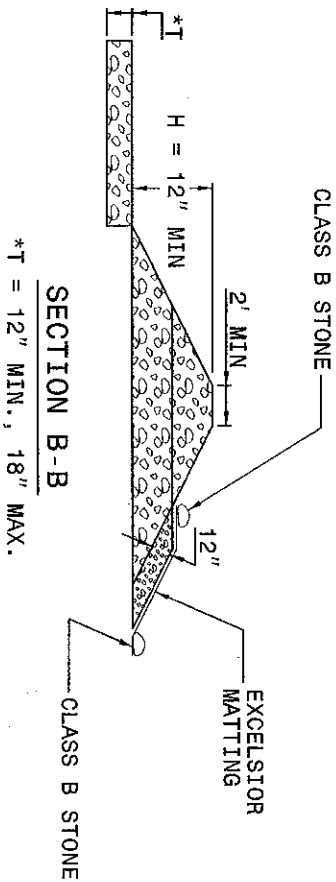
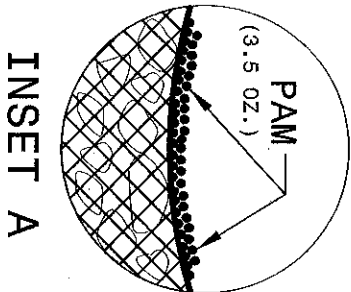


NOTES

USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A

SECTION B-B

*T = 12" MIN., 18" MAX.

SECTION A-A

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EROSION CONTROL

30' CLEAR ROADWAY - 70° SKEW

REVISIONS				SHEET NO.
NO.	BY:	DATE:	BY:	
1				31
2				32

ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, NC
2006 STANDARD SPECIFICATIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.
ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 -L-

REPLACES BRIDGE #90 SHEET 5 OF 6

PLANS PREPARED BY:

J. SIMPSON
ENGINEERS
ASSOCIATES

5520 Oxford Drive
Cary, NC 27518
(919) 552-0468
(919) 552-0598 (fax)
www.simpsoneng.com
LICENSE NO. C-2521

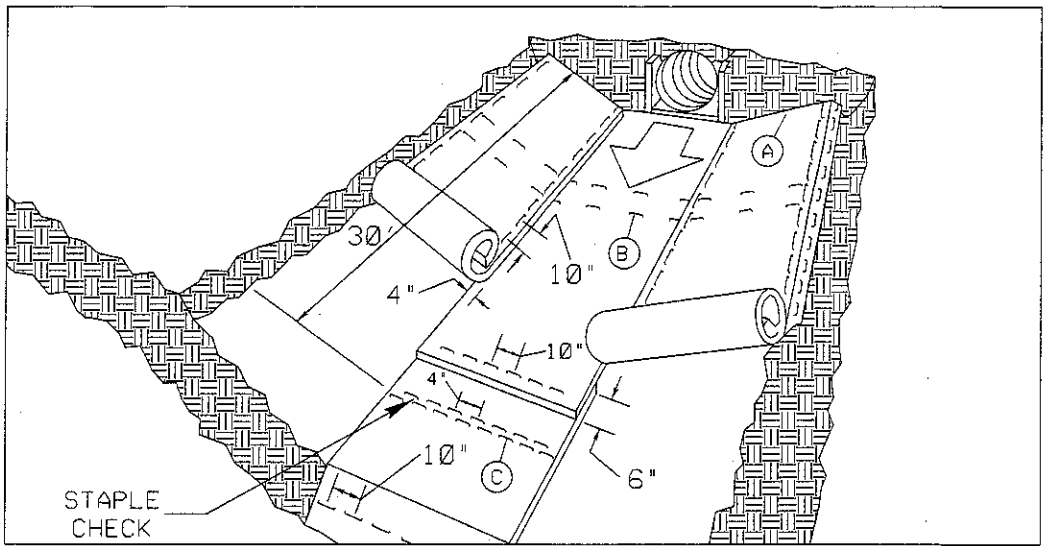
NOT TO SCALE

MATting INSTALLATION DETAIL

ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
2006 STANDARD SPECIFICATIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.



MATting IN DITCHES

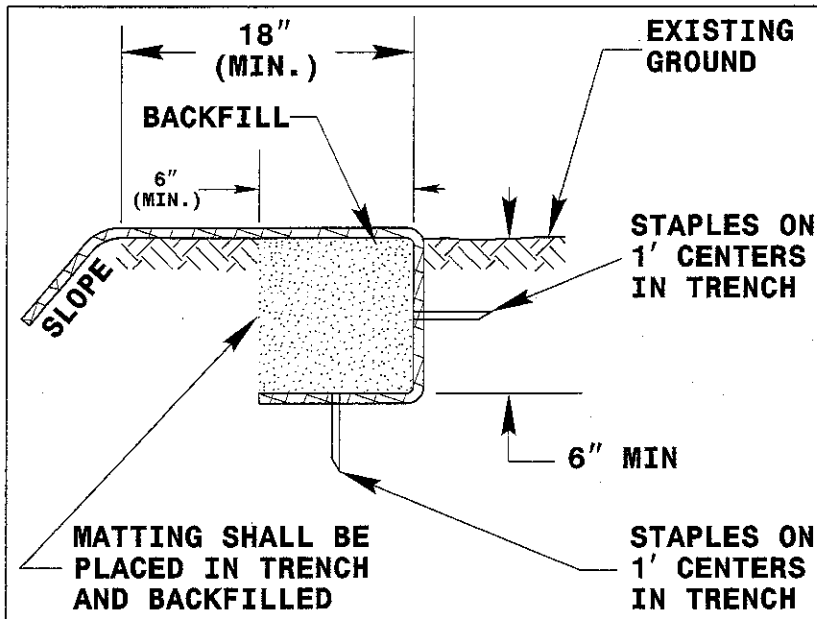
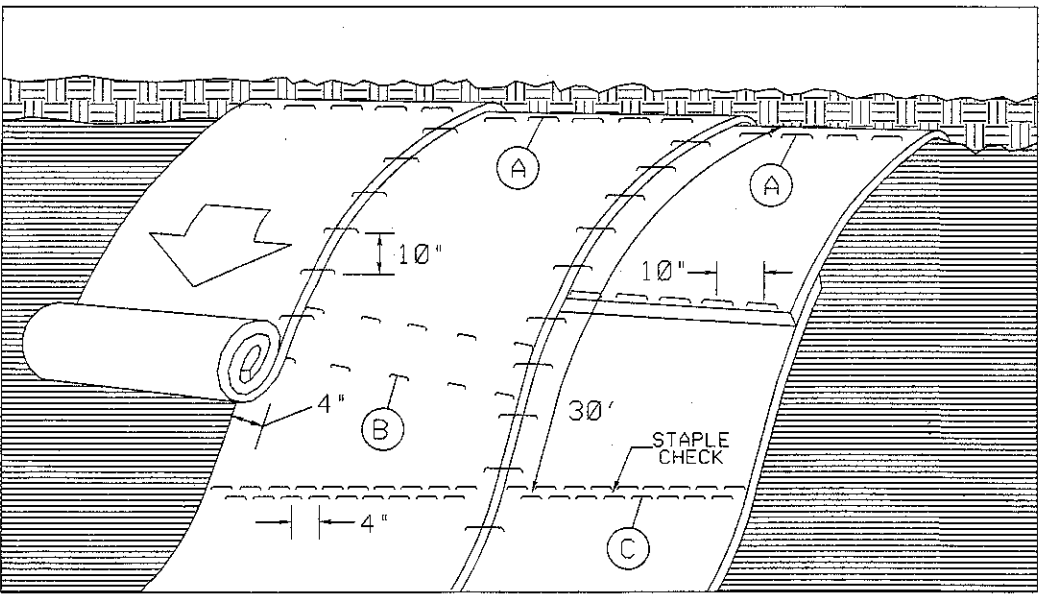


DIAGRAM (A)



MATting ON SLOPES

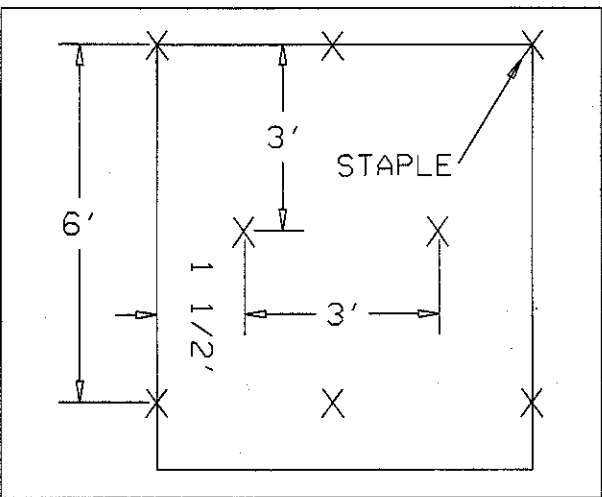


DIAGRAM (B)

STAPLE CHECK PATTERN

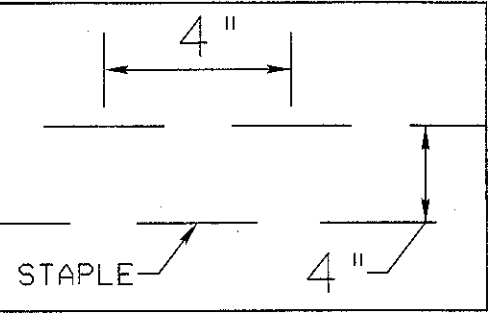


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

WBS NO. 42553.3.1
MONTGOMERY COUNTY
STATION: 14+05.76 -L-

REPLACES BRIDGE #90 SHEET 6 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EROSION CONTROL

30' CLEAR ROADWAY - 70° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			32
2			4			32

PLANS PREPARED BY:
SIMPSON
ENGINEERS
& ASSOCIATES
5520 Dillard Drive
Suite 120
Cary, NC 27518
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com
LICENSURE NO. C-2521

NOT TO SCALE

9/23/2010 11:29:07 AM g:\projects\bmumontgomery_90\drawings\bk5112_sd_ec6.dgn

DRAWN BY: J. SIMPSON DATE: 6-10
CHECKED BY: M. AVERETTE DATE: 6-10