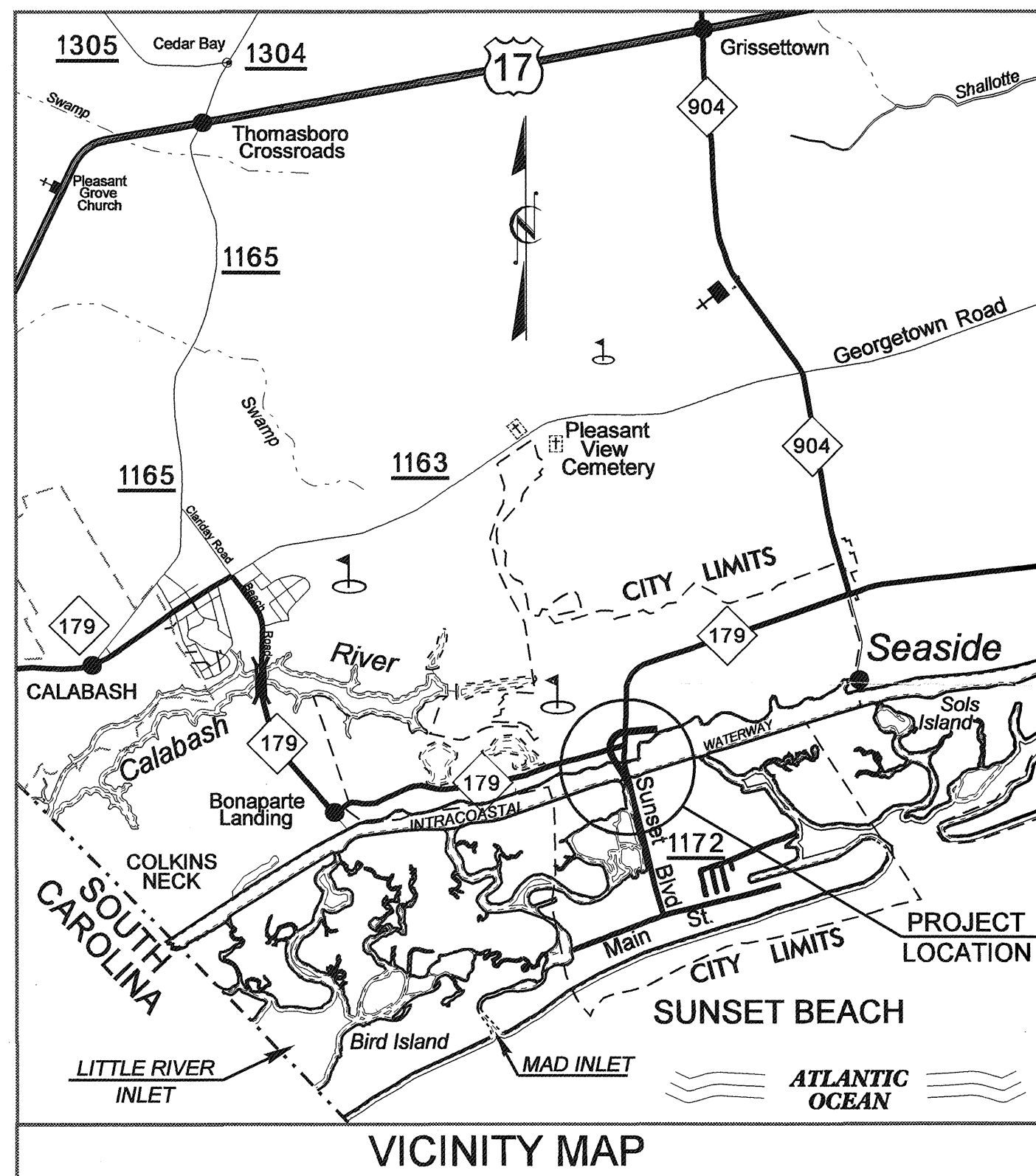


09/08/99

See Sheet 1-A For Index of Sheets



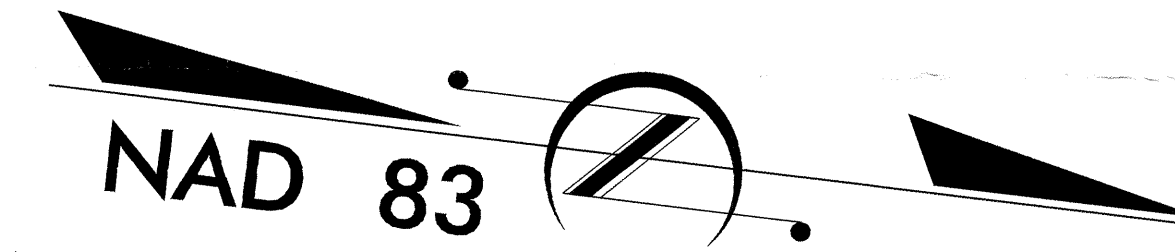
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

**LOCATION: BRIDGE No. 198 OVER THE INTERCOASTAL WATERWAY
AND APPROACHES ON SR 1172 AT SUNSET BEACH**

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

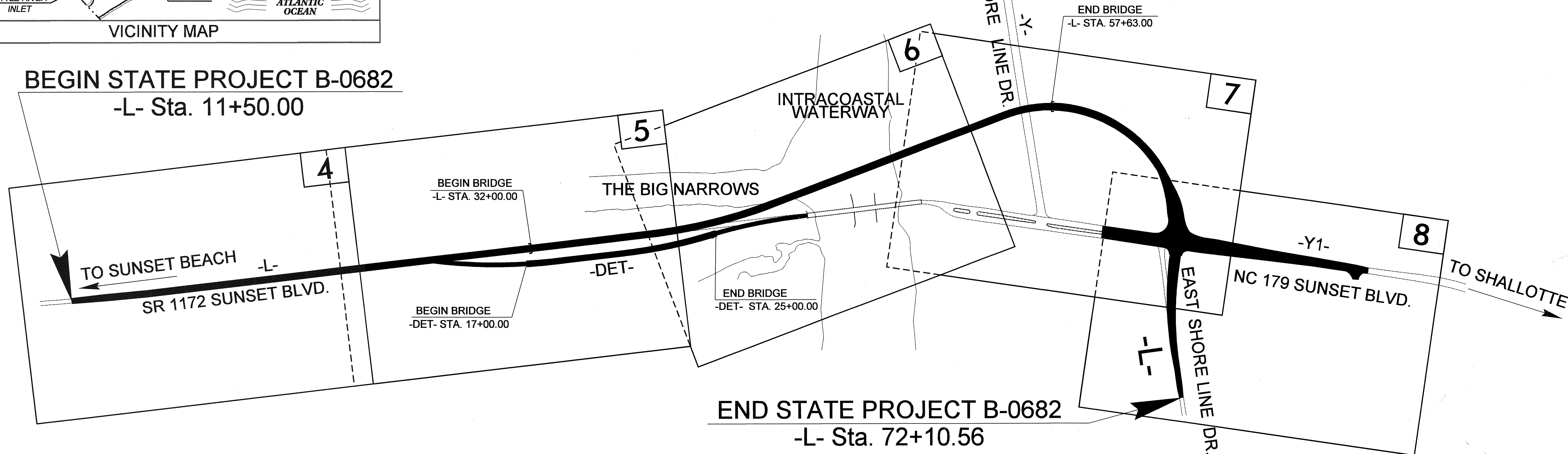
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-0682	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
32575.1.2	BRS-1813(1)	P.E.	
32575.2.1	BRS-1813(1)	R/W & UTILITIES	
32575.3.2	BRZ-1813(3)	CONST.	



TIP PROJECT: B-0682

CONTRACT: C201616

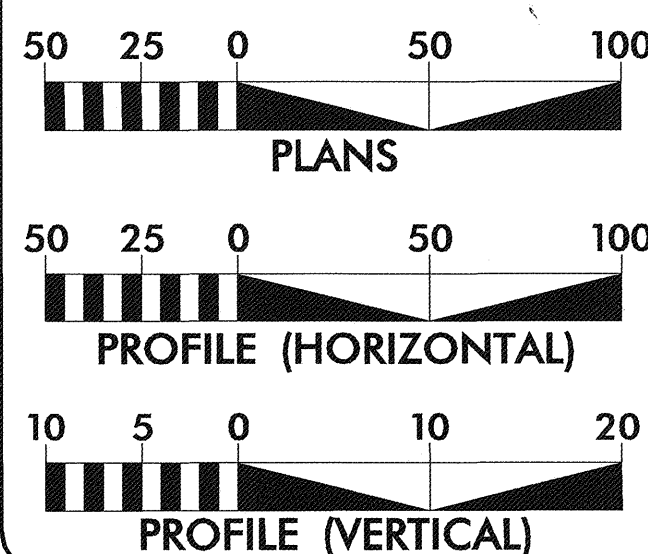
BEGIN STATE PROJECT B-0682
-L- Sta. 11+50.00



END STATE PROJECT B-0682
-L- Sta. 72+10.56

THIS IS A PARTIAL CONTROLLED - ACCESS PROJECT WITH
ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS

GRAPHIC SCALES



DESIGN DATA

ADT 2005 = 4,300
ADT 2025 = 6,800
DHV = 12 %
D = 60 %
T = 3 % *
V = 40 MPH
* TTST 1% DUAL 2%

PROJECT LENGTH

LENGTH ROADWAY F.A. PROJECT No. BRZ-1813(3) = 0.663 Miles
LENGTH STRUCTURE F.A. PROJECT No. BRZ-1813(3) = 0.485 Miles
TOTAL LENGTH STATE TIP PROJECT No. B-0682 = 1.148 Miles

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 18, 2005

LETTING DATE:
JULY 17, 2007

J. S. GOODNIGHT
PROJECT ENGINEER

S. D. KENDALL
PROJECT DESIGN ENGINEER

HYDRAULIC ENGINEER

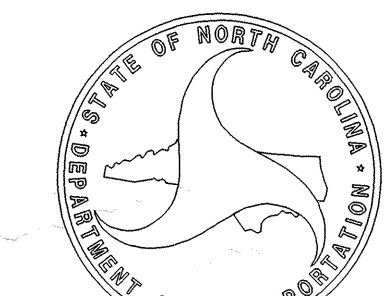
(Signature)
2/7/07
P.E.

SIGNATURE:

ROADWAY DESIGN ENGINEER

(Signature)
1-23-07
P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**



(Signature)
P.E.
STATE HIGHWAY DESIGN ENGINEER

19-JAN-2007 06:59
F:\Roadway\proj\b0682_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

GENERAL NOTES: 2006 SPECIFICATIONS

EFFECTIVE: 07-18-06
REVISED: 07-18-06

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 MAYBE 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

SIDE ROADS:

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

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.

END BENTS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

- TOWN OF SUNSET BEACH (WATER)
- BRUNSWICK ELECTRIC MEMBERSHIP CORP. - ELECTRIC DISTRIBUTION
- ATLANTIC TELEPHONE MEMBERSHIP CORP. - TELEPHONE
- BRUNSWICK COUNTY - WASTEWATER FORCE MAIN

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

RIGHT-OF-WAY MARKERS:

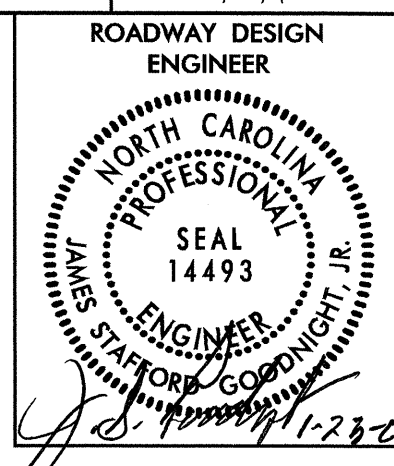
ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

2006 ROADWAY STANDARD DRAWINGS

EFFECTIVE: 07-18-06

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

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
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 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
816.04	Markers for Drainage Structure and Concrete Pad
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.52	Precast Manhole - 4', 5' and 6' Diameter
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plugs
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
866.01	Chain Link Fence - 4', 5' and 6' High Fence
876.02	Guide for Rip Rap at Pipe Outlets



INDEX OF SHEETS

SHEET No.	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL DATA
1-D	CENTERLINE COORDINATION LIST
2, 2-A	TYPICAL SECTIONS, PAVEMENT SCHEDULE, AND WEDGING DETAIL
2-B THRU 2-E	SPLITTER BOX DETAIL, SETTLEMENT GAUGE DETAIL, DRAINAGE DETAILS, ANCHORAGE FOR FRAME DETAILS
3 THRU 3-C	DRAINAGE SUMMARY, EARTHWORK SUMMARY, GUARDRAIL SUMMARY, FABRIC FOR SOIL STABILIZATION, SUMMARY OF CHAIN LINK FENCE, REMOVAL OF EXISTING ASPHALT PAVEMENT, BREAKING OF EXISTING ASPHALT PAVEMENT, PARCEL INDEX
4 THRU 8	PLAN SHEETS
9 THRU 13	PROFILE SHEETS
TCP-1 THRU TCP-15	TRAFFIC CONTROL PLANS
PM-1 THRU PM-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-14	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-9	SIGNING PLANS
UC-1 THRU UC-9	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-7	UTILITIES BY OTHERS PLANS
D-1 THRU D-10	DAM CONSTRUCTION PLANS
X-1	CROSS-SECTION SUMMARY SHEETS
X-2 THRU X-60	CROSS-SECTIONS
W-1 THRU W-2	RETAINING WALL STRUCTURE PLANS
S-1 THRU S-207	STRUCTURE PLANS

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	□ EDM
Parcel/Sequence Number	① 123
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	○
Swamp Marsh	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▭

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	CSX TRANSPORTATION MILEPOST 35
Switch	SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
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	----- E
Proposed Temporary Construction Easement	----- E
Proposed Temporary Drainage Easement	----- TDE
Proposed Permanent Drainage Easement	----- PDE
Proposed Permanent Utility Easement	----- PUE

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- C
Proposed Slope Stakes Fill	----- F
Proposed Wheel Chair Ramp	○ WCR
Proposed Wheel Chair Ramp Curb Cut	○ WCC
Curb Cut for Future Wheel Chair Ramp	○ CCFR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	▭

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	----- Vineyard

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	⊕
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:

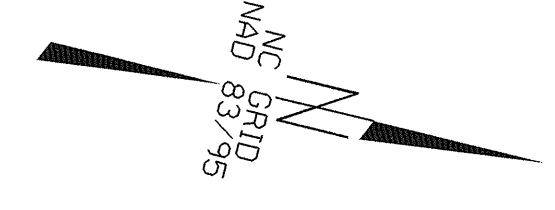
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
Recorded SS Forced Main Line	----- FSS
Designated SS Forced Main Line (S.U.E.*)	----- FSS

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	⊕
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	----- UTIL
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-0682

PROJECT REFERENCE NO.	SHEET NO.
WBS # 32575.1.1	1C
Location and Surveys	



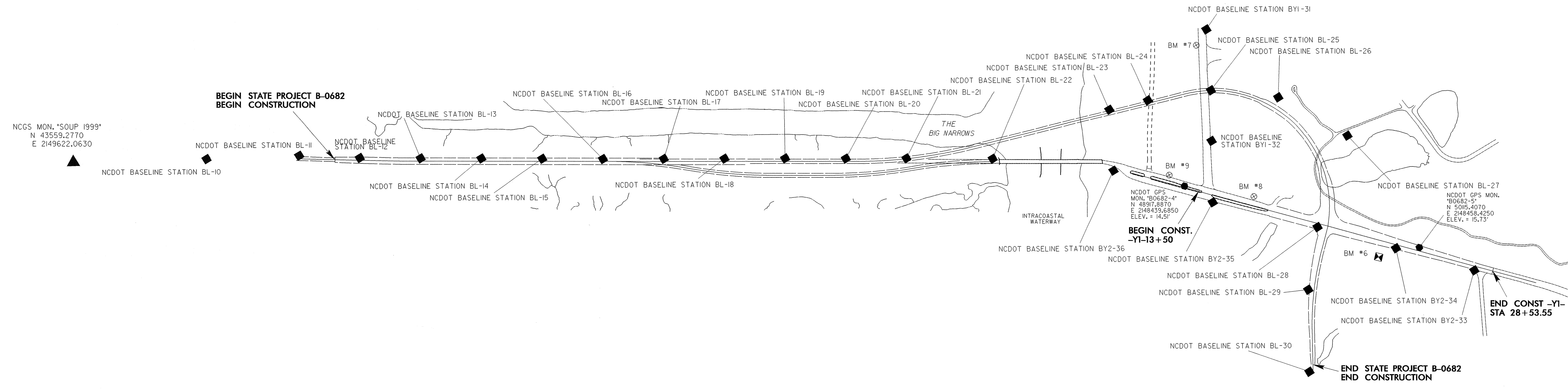
NCGS MON. 'TOMATO 1999'
N 43046.6590
E 2148271.2960

NCGS MON. 'SOUP 1999'
N 43559.2770
E 2149622.0630

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
10	BL-10	44194.6820	2149451.7010	17.14	68+45.43	5506.34 RT
11	BL-11	44634.9240	2149327.8460	9.57	68+30.04	5054.72 RT
12	BL-12	44928.6960	2149267.3580	4.55	12+72.18	11.61 LT
13	BL-13	45221.0450	2149198.8450	4.37	15+72.80	13.99 LT
14	BL-14	45512.5530	2149127.8240	4.13	18+72.78	13.97 LT
15	BL-15	45805.0000	2149057.7180	3.37	21+73.51	13.02 LT
16	BL-16	46096.3170	2148987.9420	4.00	24+73.07	12.03 LT
17	BL-17	46388.2680	2148915.9980	3.80	27+73.75	13.00 LT
18	BL-18	46679.4510	2148844.5550	4.13	30+73.57	13.68 LT
19	BL-19	46969.6220	2148772.6700	4.37	33+72.51	15.02 LT
20	BL-20	47261.4130	2148702.8090	3.83	36+72.55	14.02 LT
21	BL-21	47551.5030	2148630.9380	4.63	39+72.12	2.49 LT
22	BL-22	47966.1900	2148552.0790	6.78	43+86.66	80.62 RT
23	BL-23	48468.6110	2148160.2340	9.24	50+04.29	15.44 LT
24	BL-24	48642.6210	2148070.2640	13.44	52+00.18	14.34 LT
25	BL-25	48933.5340	2147949.8960	19.68	55+14.96	0.94 LT
26	BL-26	49264.2290	2147903.2530	26.25	58+33.39	56.20 LT
27	BL-27	49640.3890	2148006.6490	16.58	61+47.17	175.97 LT
28	BL-28	49603.9420	2148480.4200	9.21	65+40.70	48.42 RT
29	BL-29	49632.0350	2148788.8070	11.52	68+45.12	28.73 RT
30	BL-30	49732.5880	2149179.6250	7.36	72+45.32	17.91 RT

BY1 POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
31	BY1-31	48840.4890	2147662.5510	20.15	OUTSIDE PROJECT LIMITS	
A25	BL-25	48933.5340	2147949.8960	19.68	12+30.07	33.06 LT
32	BY1-32	48995.1310	2148190.6530	17.18	14+79.27	26.27 LT
35	BY2-35	49072.0450	2148484.0540	11.45	OUTSIDE PROJECT LIMITS	

BY2 POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
33	BY2-33	50405.4290	2148502.4980	20.29	27+64.89	20.15 RT
34	BY2-34	50004.3360	2148489.0250	14.70	23+63.59	16.30 RT
A28	BL-28	49603.9420	2148480.4200	9.20	19+63.10	17.31 RT
A35	BY2-35	49072.0450	2148484.0540	11.42	14+31.44	33.70 RT
36	BY2-36	48559.5360	2148448.8950	13.49	OUTSIDE PROJECT LIMITS	



NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)
THE FILES TO BE FOUND ARE AS FOLLOWS:
B0682_LS_CONTROL_061204.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 EXISTING HARN MONUMENTATION
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

DATUM DESCRIPTION
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "SOUP" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 43559.276(41) EASTING: 2149622.062(31) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9993542 THE NAD LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "SOUP" TO L- STATION (supplied by roadway) IS
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

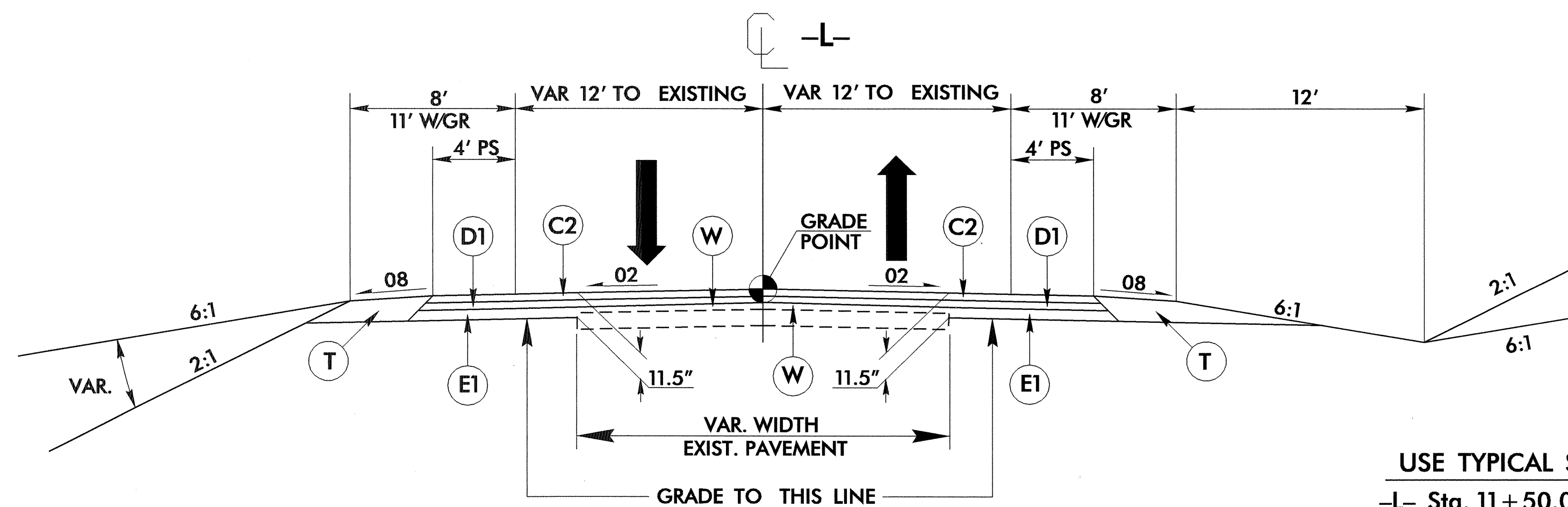
.....	BM *6	ELEVATION + 16.15'	.....	BM *8	ELEVATION + 9.73'
.....	N 49931	E 2148551	.....	N 49263	E 2148408
.....	Y1 STATION 16+20 47' RIGHT		.....	Y1 STATION 16+20 47' LEFT	
.....	RR SPIKE IN 12" OAK		.....	NGS *SB NO. 5"	
.....				
.....	BM *7	ELEVATION + 20.02'	.....	BM *9	ELEVATION + 13.85'
.....	N 48811	E 2147750	.....	N 48832	E 2148405
.....	Y1 STATION 10+05 31' RIGHT		.....	Y1 STATION 11+90 39' LEFT	
.....	NGS *SB NO. 4"		.....	NGS *SB NO. 1"	
.....				

NOTE: DRAWING NOT TO SCALE

PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

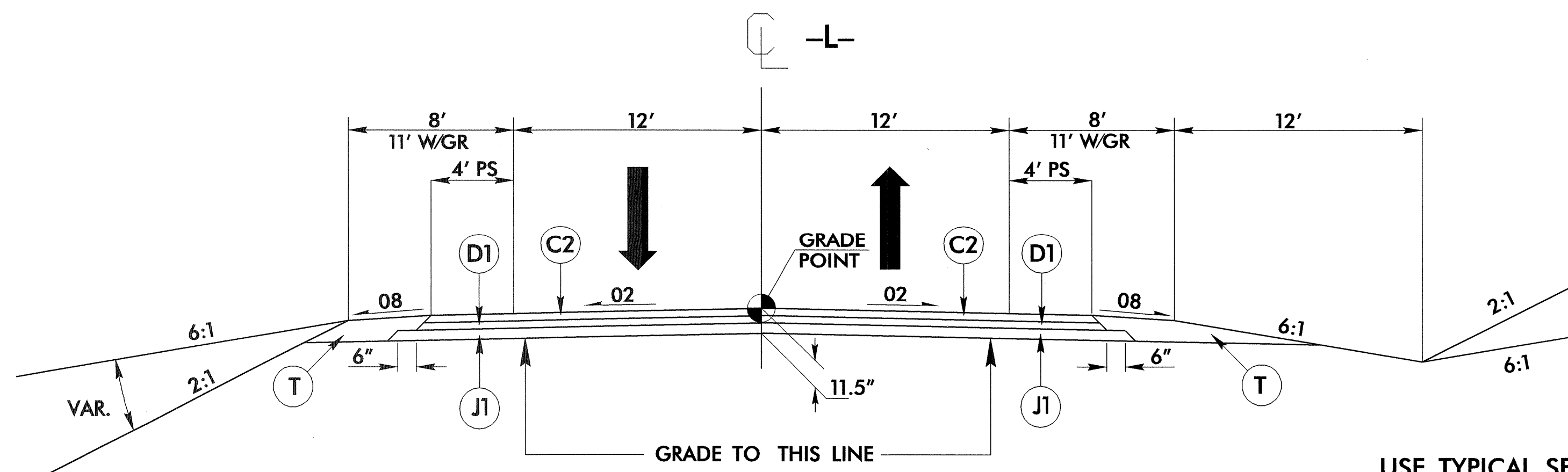
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 220 LBS. PER SQ. YD.	J1	PROP. 6" AGGREGATE BASE COURSE.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	J2	PROP. 8" AGGREGATE BASE COURSE.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	T	EARTH MATERIAL.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2¼" IN DEPTH OR GREATER THAN 4" IN DEPTH.	U	EXISTING PAVEMENT.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2-A)
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 5½" IN DEPTH.	NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.	



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-L- Sta. 11+50.00 to Sta. 28+50+/-
-L- Sta. 70+25.00 to Sta. 72+10.56

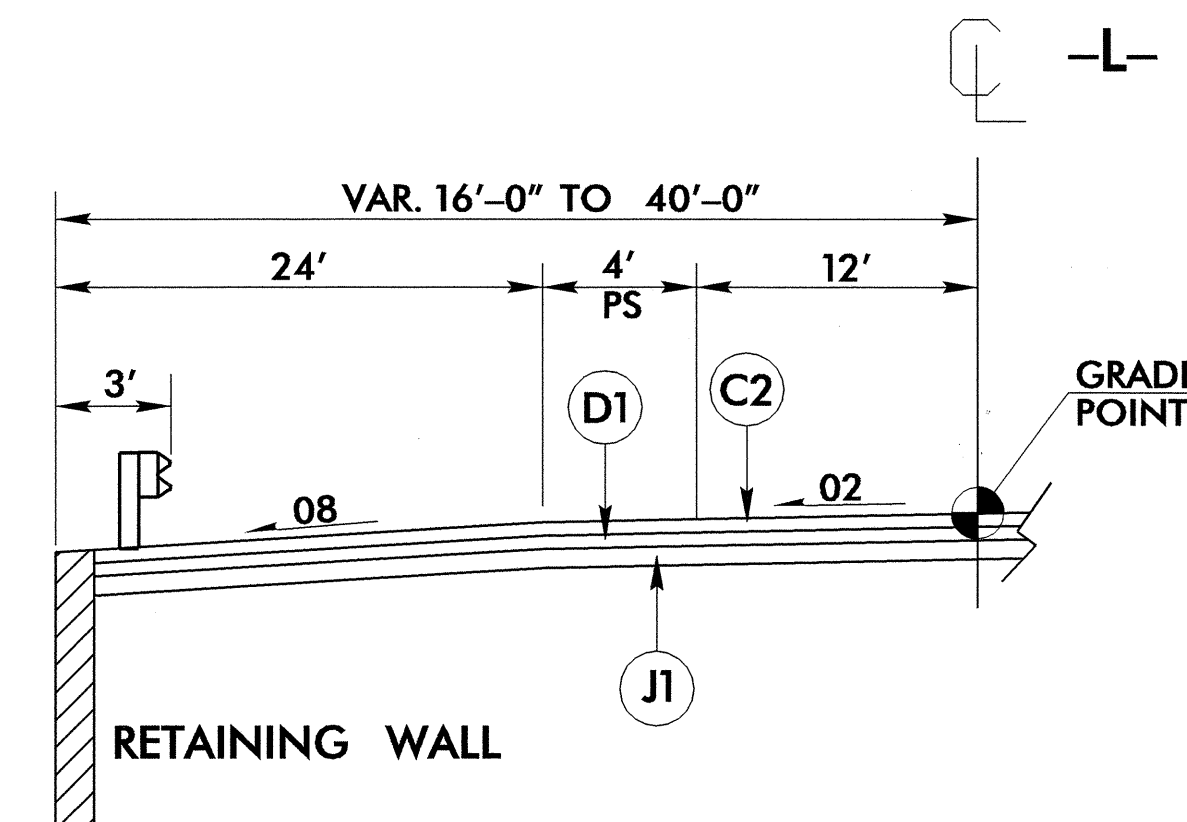


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-L- Sta. 28+50+/- to Sta. 32+00.00 BEGIN BRIDGE
-L- Sta. 57+63.00 END BRIDGE to Sta. 65+00.00
-L- Sta. 65+47.66 to Sta. 70+25.00

DETAIL OF RETAINING WALL LOCATION



RETAINING WALL

USE WITH TYPICAL SECTION NO. 2

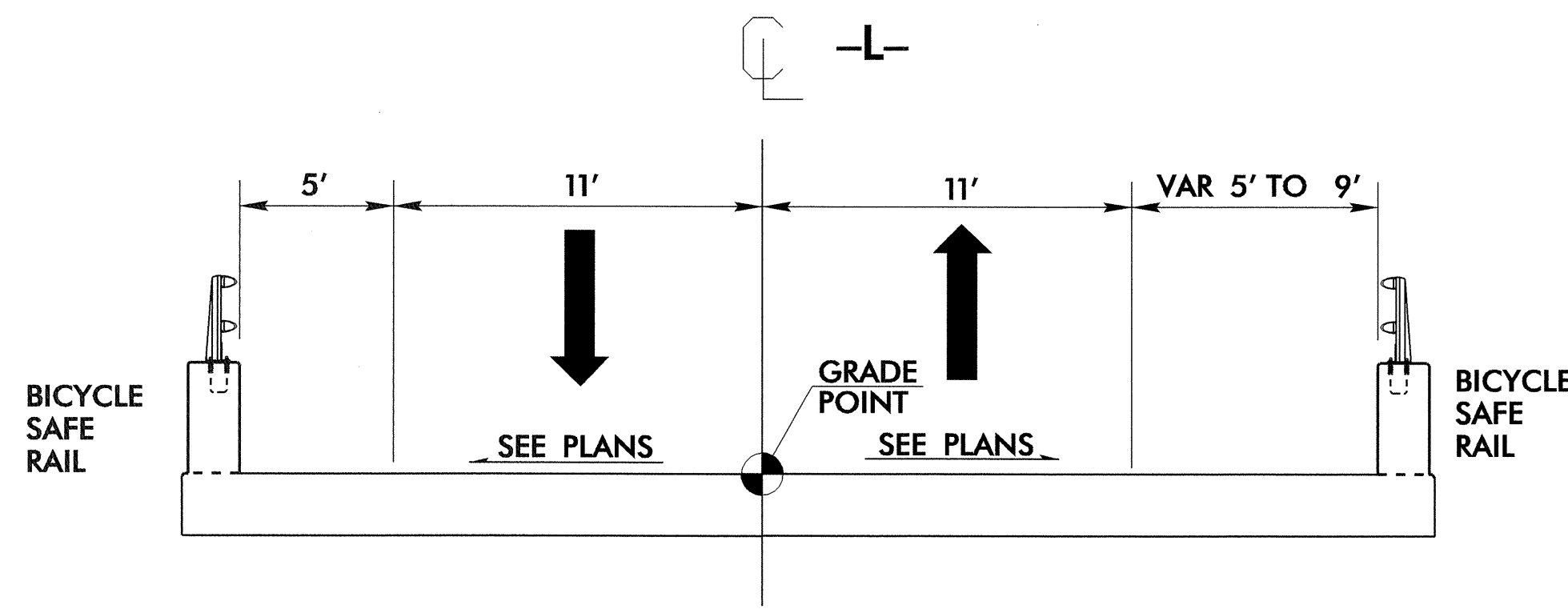
-L- Sta. 30+00 to Sta. 32+23 LT.

NOTE:
SEE X-SECTION SHEET'S X-11 thru X-12
SEE STRUCTURE SHEET'S W-1 thru W-2
FOR RETAINING WALL DESIGN

6/2/99

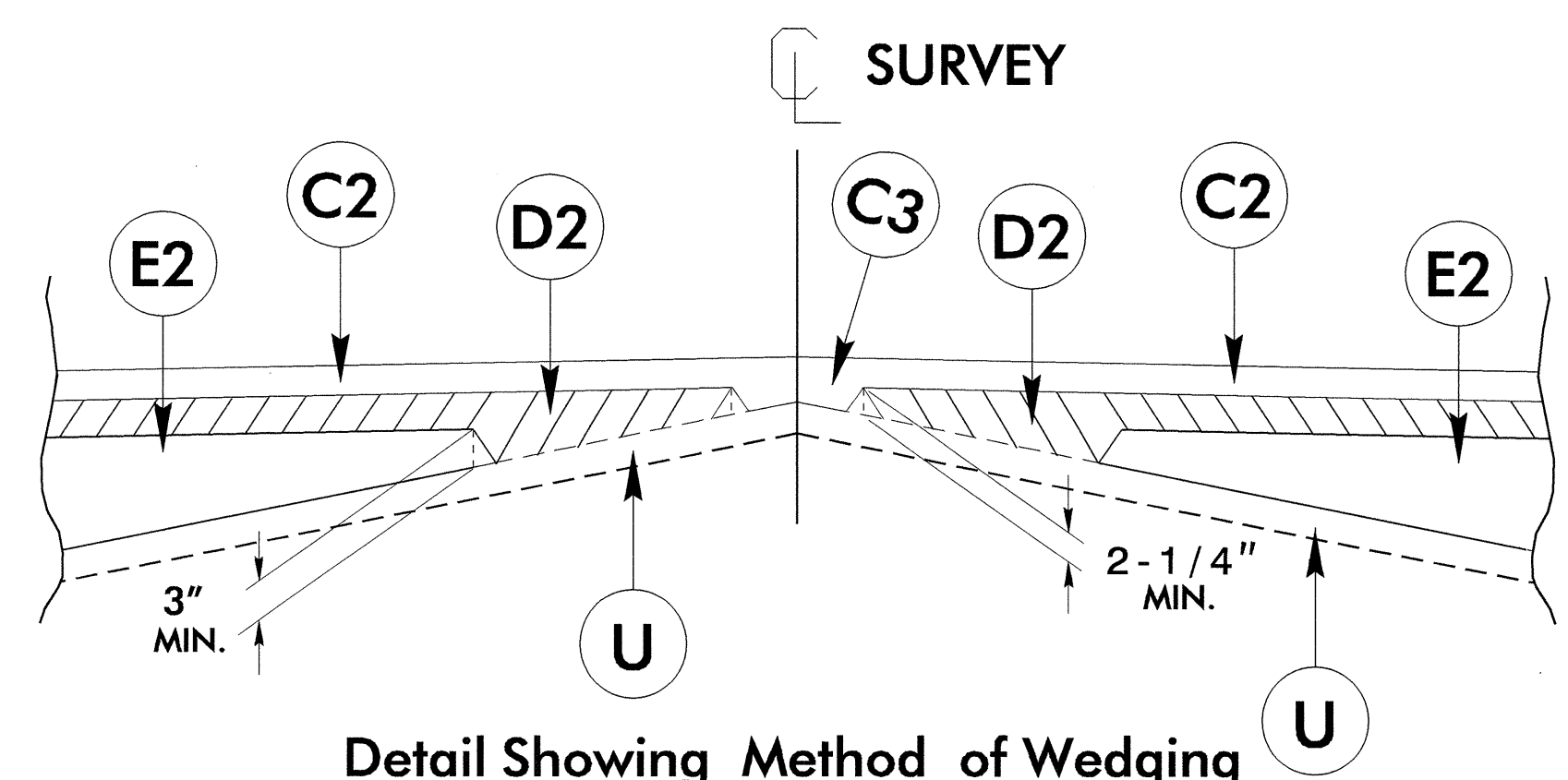
ROADWAY DESIGN ENGINEER
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 14493
 JAMES W. MORRISON
 2-27-07

PAVEMENT DESIGN ENGINEER
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 22896
 CLARK S. MORRISON
 1/31/07



TYPICAL SECTION NO. 3

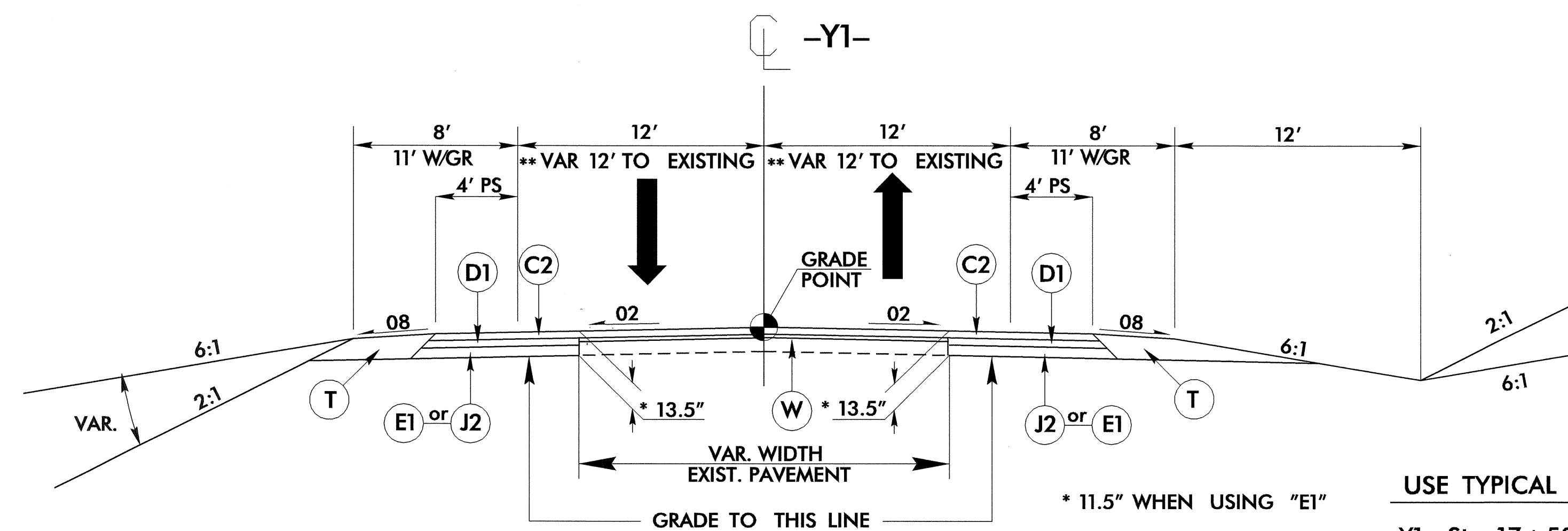
BEGIN BRIDGE -L- Sta. 32+00.00 TO END BRIDGE Sta. 57+63+00



Detail Showing Method of Wedging

PAVEMENT SCHEDULE

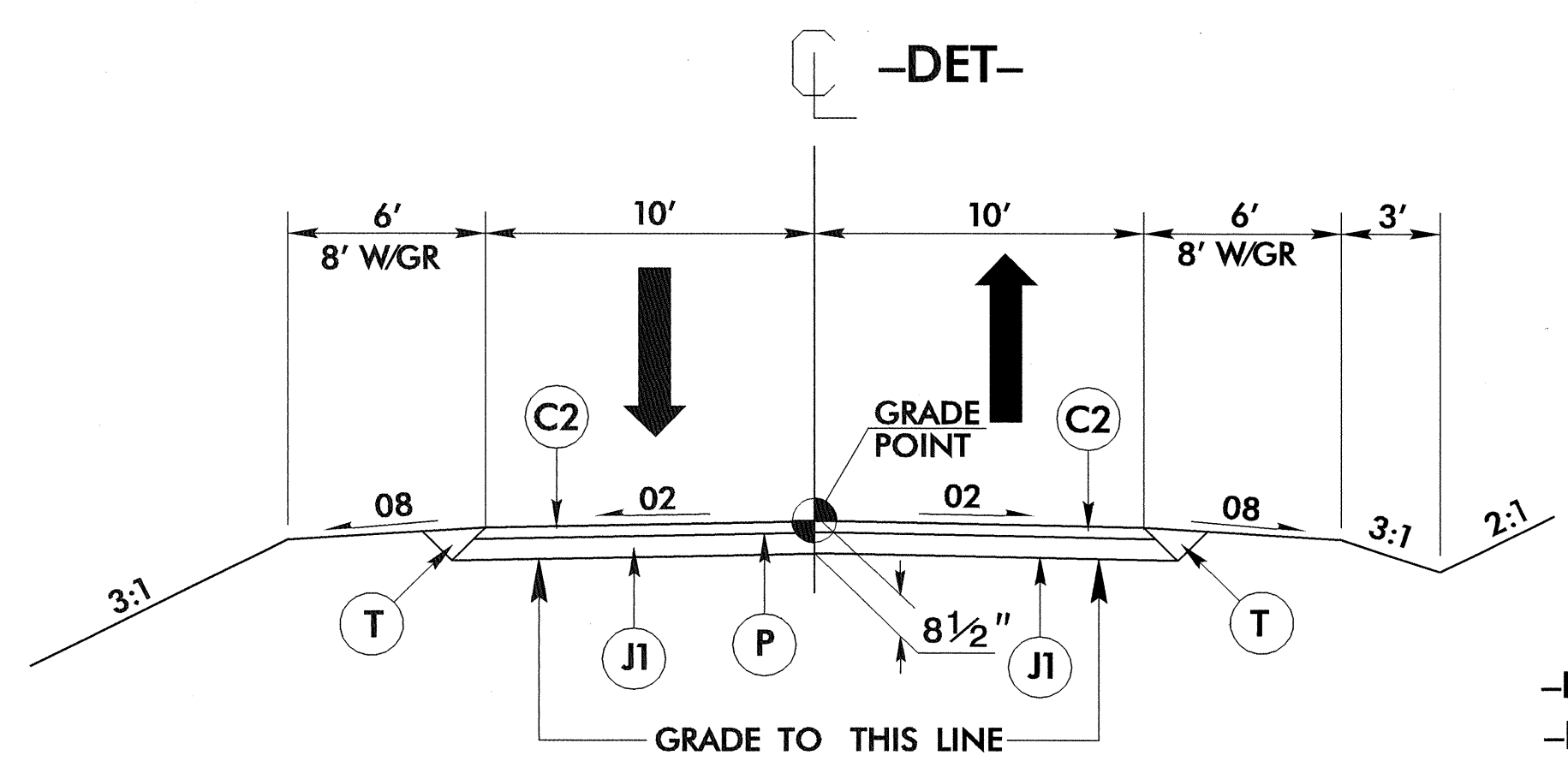
C1	2"	SF9.5A
C2	3"	S9.5B
C3	VAR. TYPE	S9.5B
D1	2 1/2"	I19.0B
D2	VAR. TYPE	I19.0B
E1	4"	TYPE B25.0B
E2	VAR. TYPE	B25.0B
J1	6"	ABC
J2	8"	ABC
P	PRIME COAT	
T	EARTH MATERIAL	
U	EXISTING PAVEMENT	
W	WEDGING	



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
 -Y1- Sta. 17+50.00 to Sta. 23+03.55

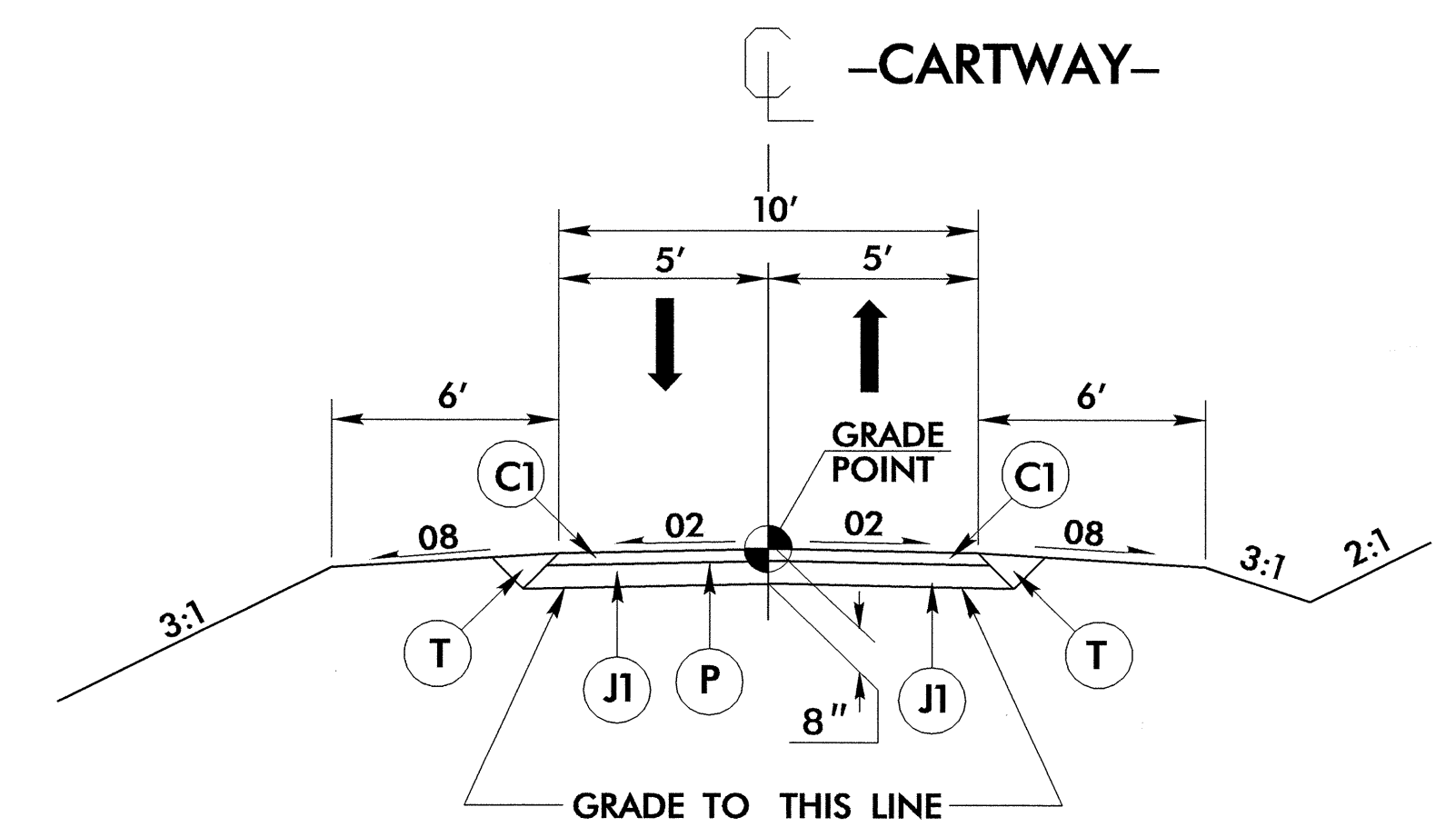
** TRANSITION TO EXISTING
 -Y1- Sta. 16+65.00 to Sta. 17+50.00
 -Y1- Sta. 23+03.55 to Sta. 28+53.55



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
 -DET- Sta. 13+50.50 to Sta. 17+00.00 (BEGIN DETOUR BRIDGE)
 -DET- Sta. 25+00.00 (END DETOUR BRIDGE) to Sta. 27+11.27

* TRANSITION FROM EXISTING
 TYPICAL SECTION No. 1 TO TYPICAL SECTION No. 5
 -L- Sta. 25+00.00 to -DET- Sta. 13+50.50
 TRANSITION -DET- Sta. 27+11.27 to EXIST. BRIDGE

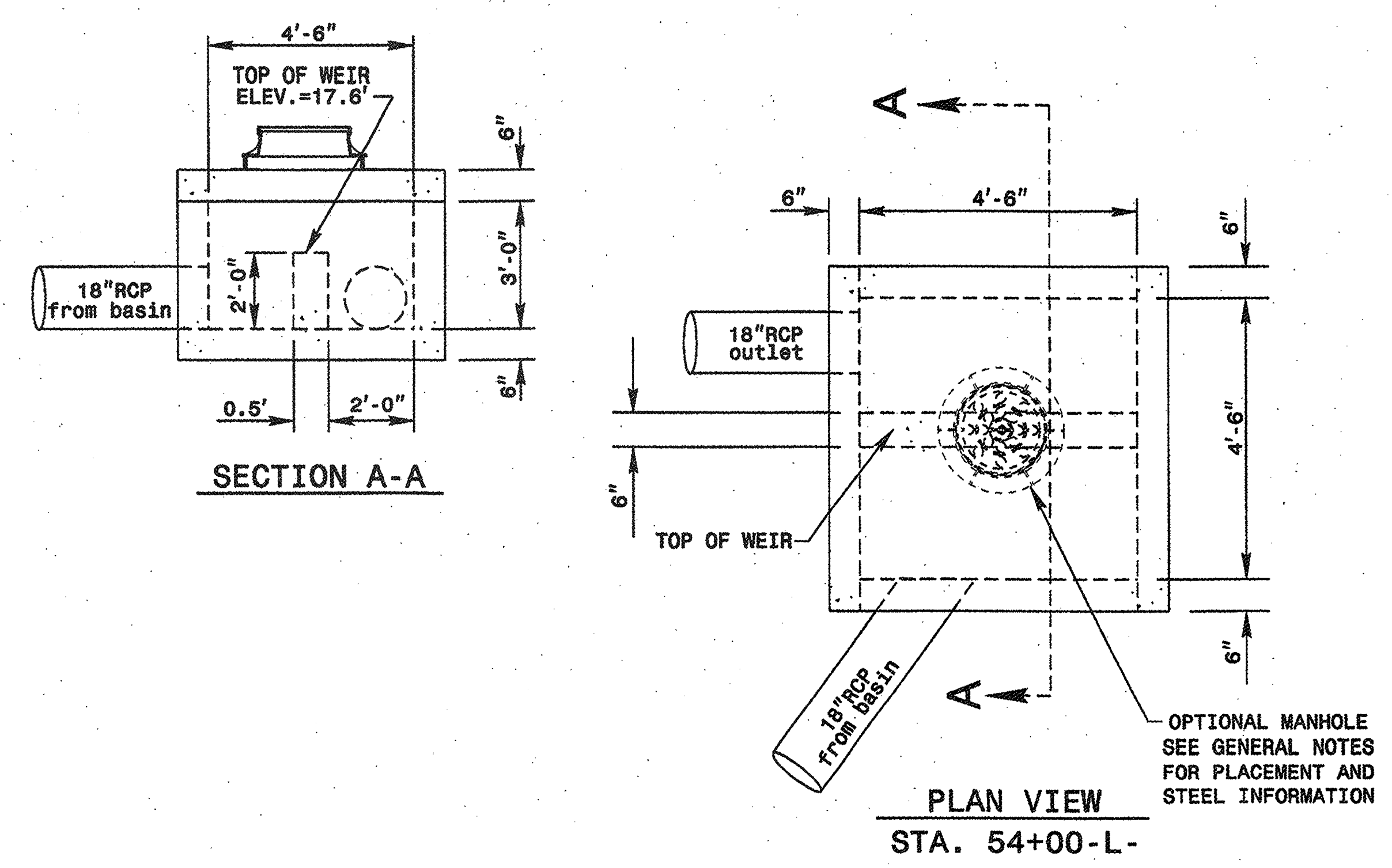


TYPICAL SECTION NO. 6

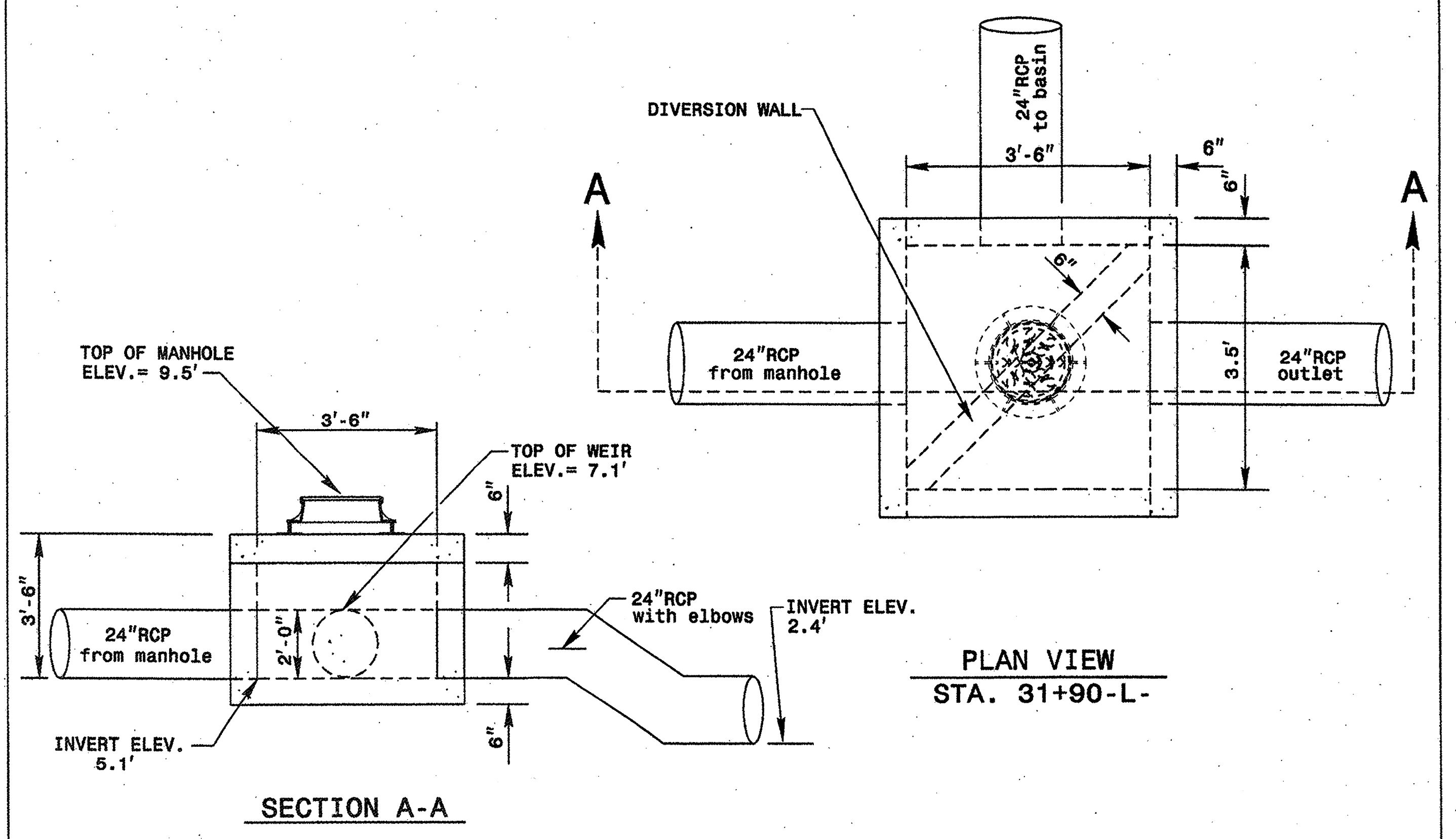
-CARTWAY- Sta. 10+00.00 to Sta. 14+51.95

31-JAN-2007 14:11 L:\0682-r.dj-typ.dgn

SPLITTER BOX DETAIL F



SPLITTER BOX DETAIL I

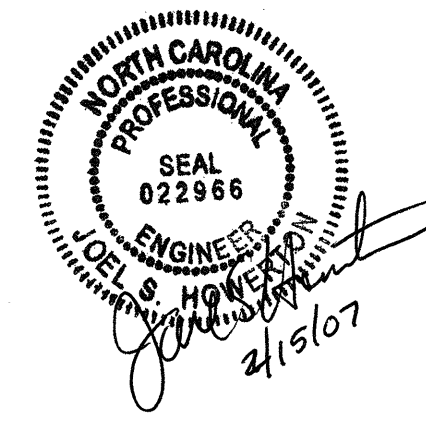


NOTES:

1. REFER TO ROADWAY STD.No.840.31 FOR PLACEMENT OF REINFORCING STEEL BARS IN WALLS, TOP AND BOTTOM SLABS.
2. REFER TO ROADWAY STD.No.840.54 FOR PLACEMENT OF MANHOLE FRAME AND COVER.
3. PRECAST CONCRETE BOXES MAY BE USED IN LIEU OF CAST IN PLACE CONCRETE.
4. USE CLASS "B" CONCRETE

QUANTITIES

STATION	BOX NUMBER	CONCRETE (cu. yds)	STEEL (lbs)	WEIR HEIGHT	WEIR LENGTH
54+00-L-	F	2.5	74	2'	2'-6"
31+90-L-	I	2.0	55	2'	5'-0"



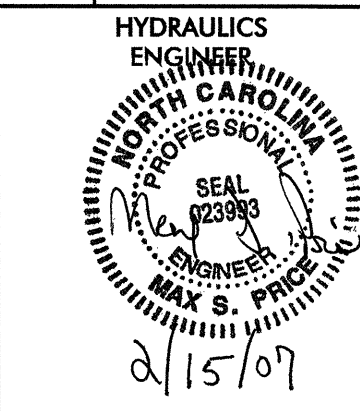
**PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN**
Office 919-250-4128 FAX 919-250-4119

SPLITTER BOX DETAILS

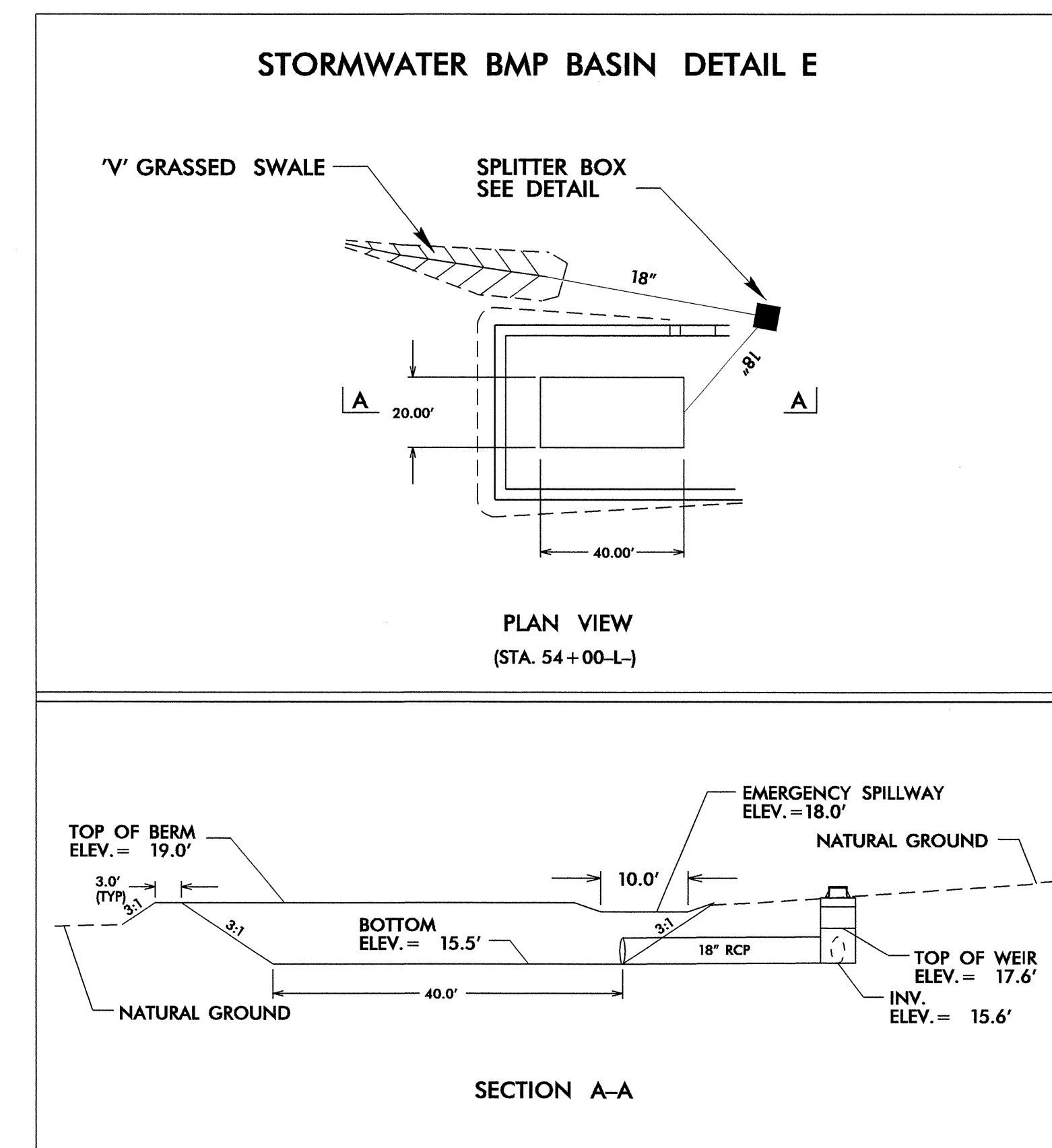
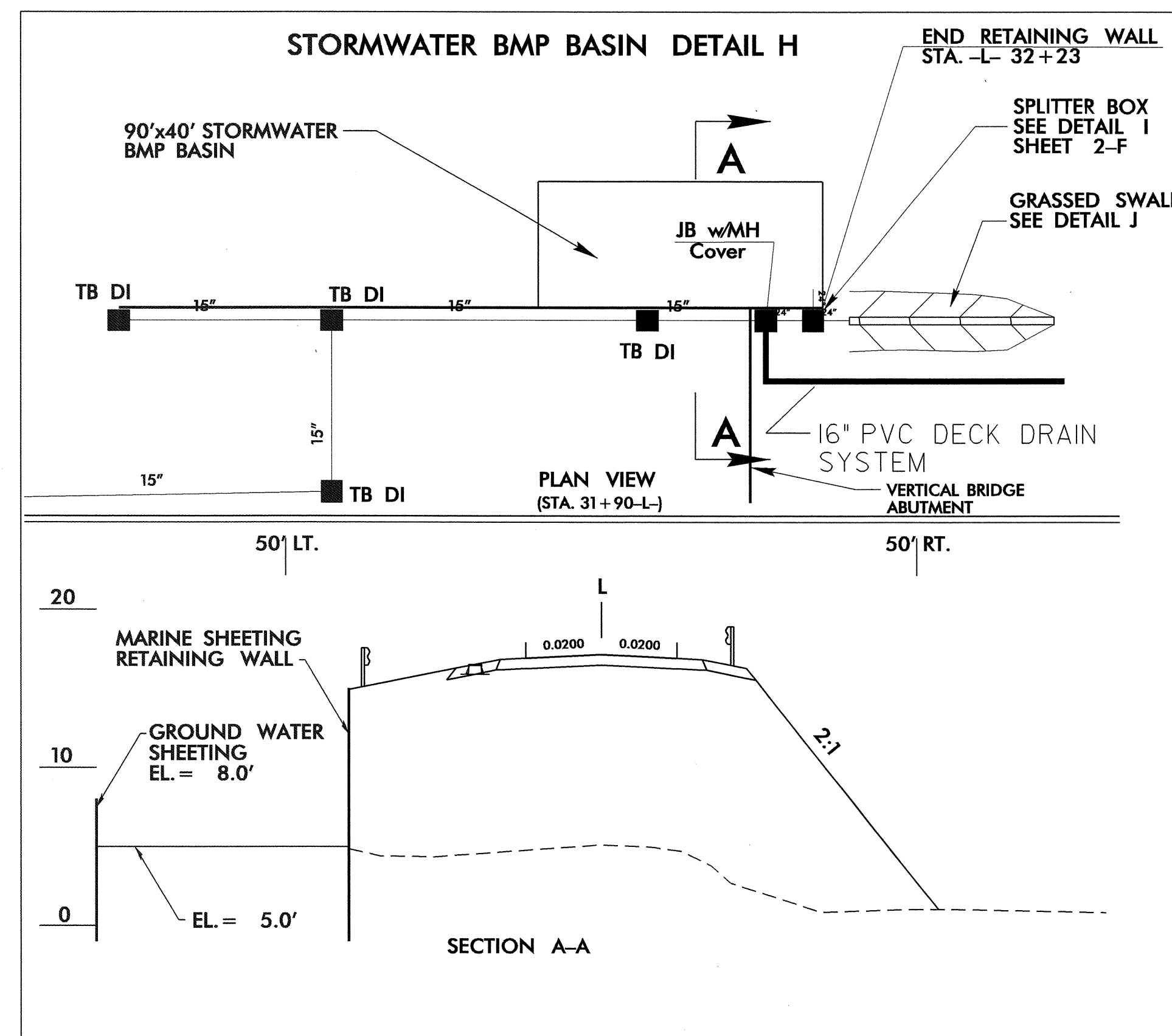
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 MODIFIED BY: nbritt DATE: 10/10/06
 CHECKED BY: Joe S. Howerton DATE: 10/10/06
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5/14/99
18-OCT-2006 11:18
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rnbrit 01/05/06

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS



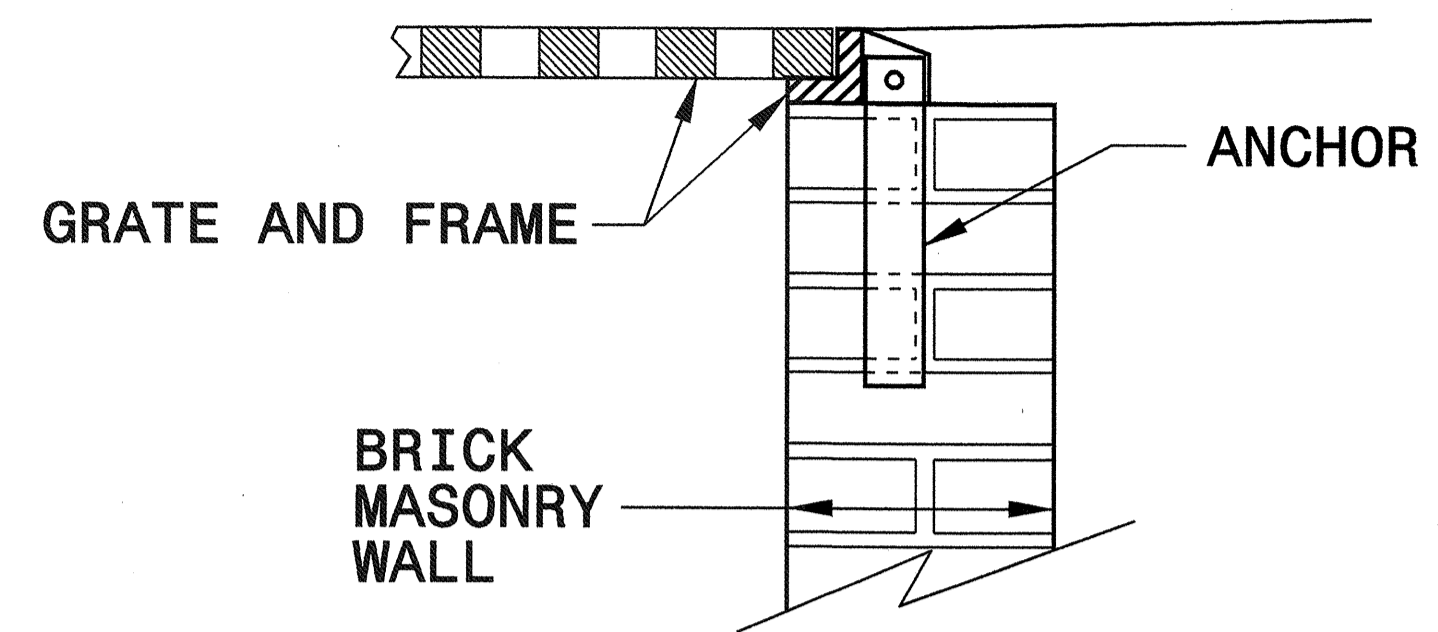
DRAINAGE DETAILS



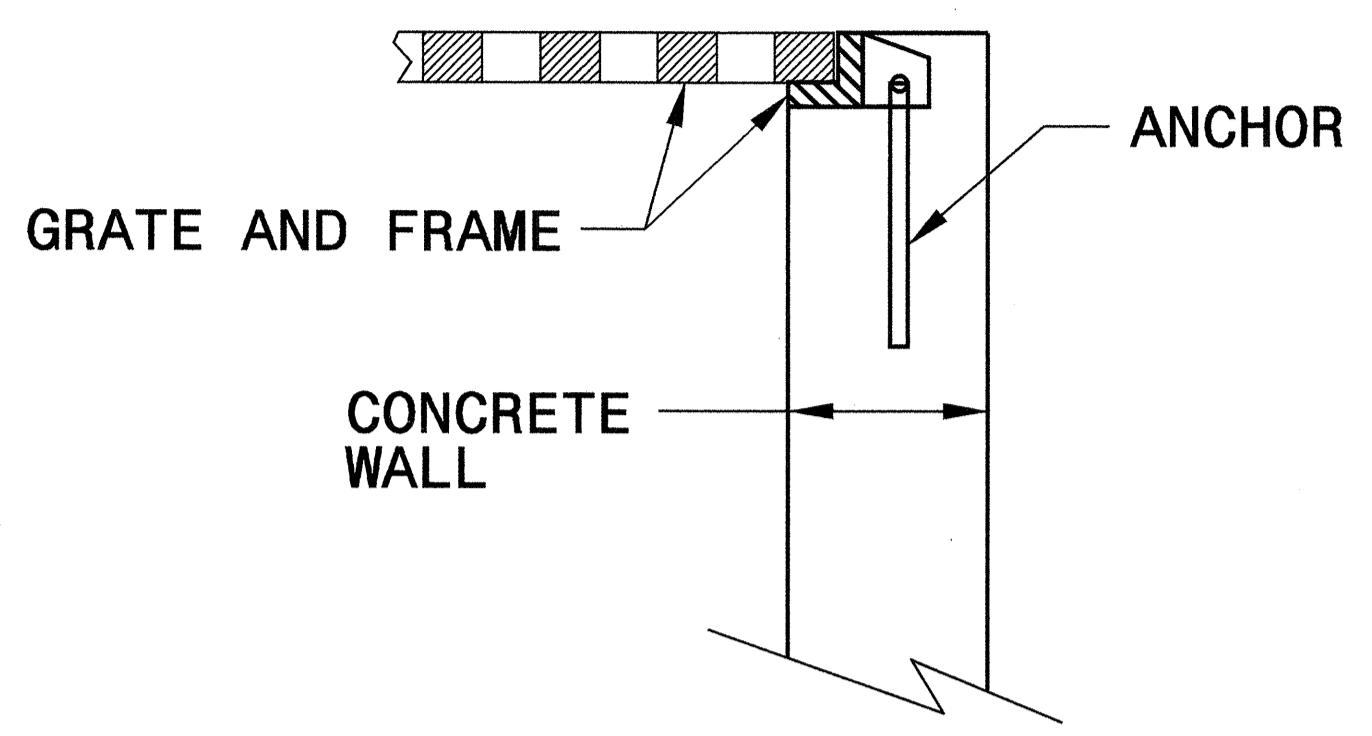
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

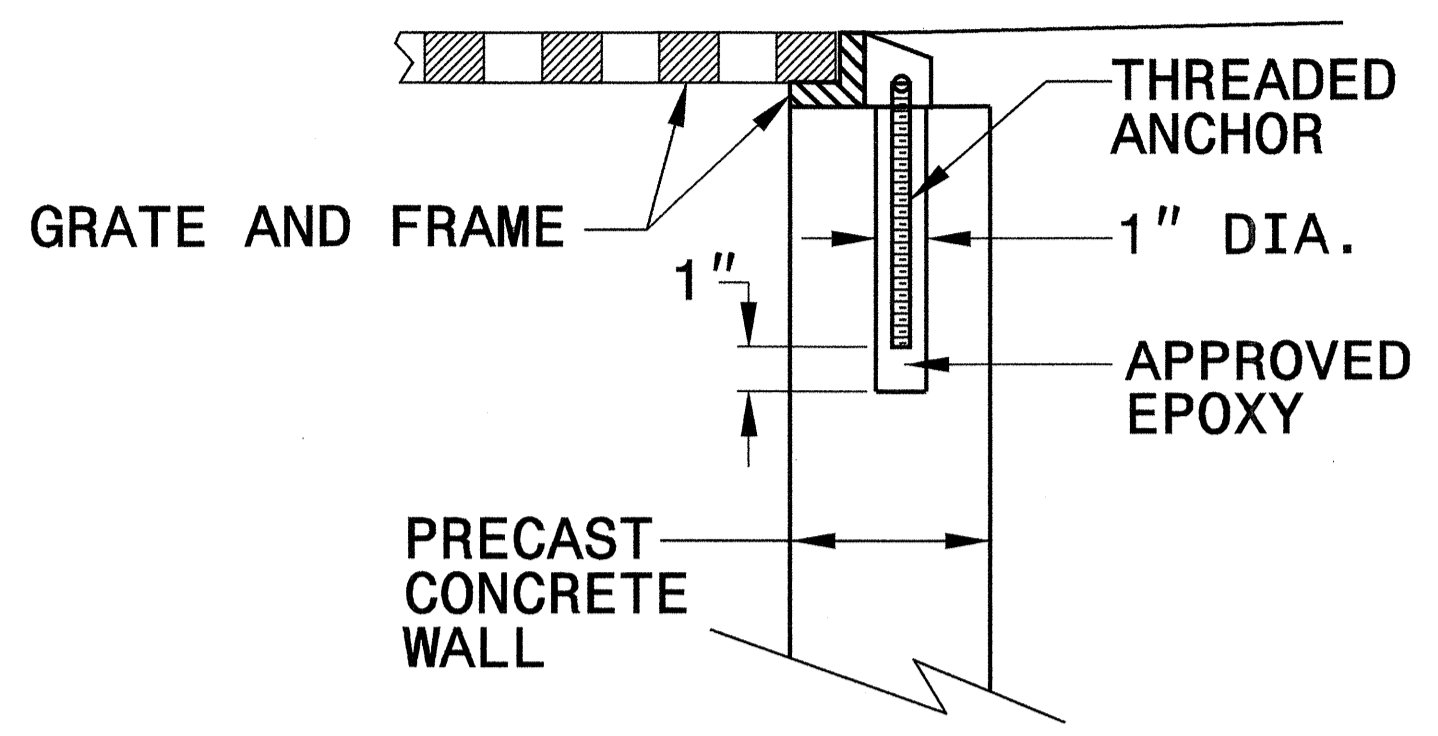
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



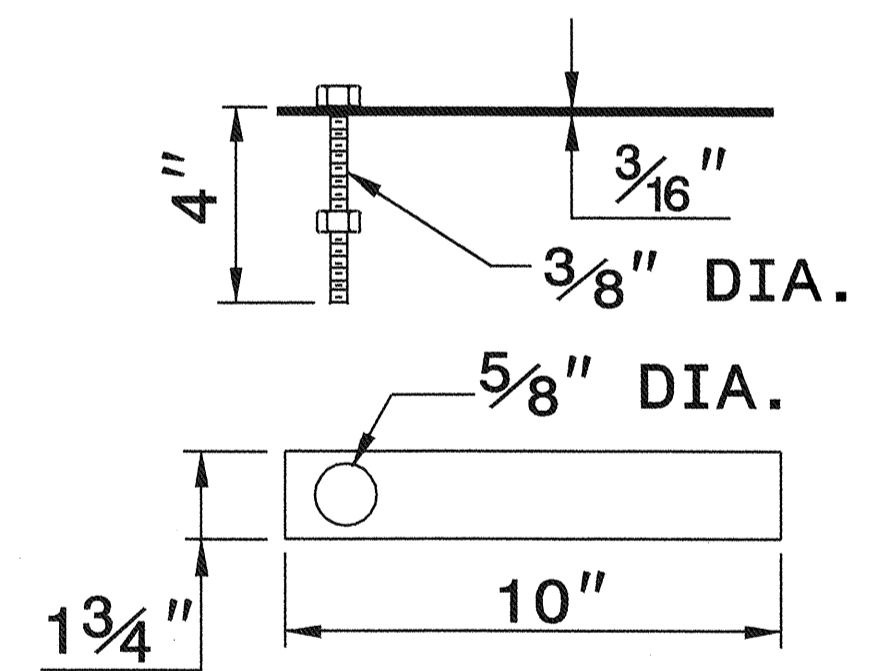
CONCRETE CONSTRUCTION



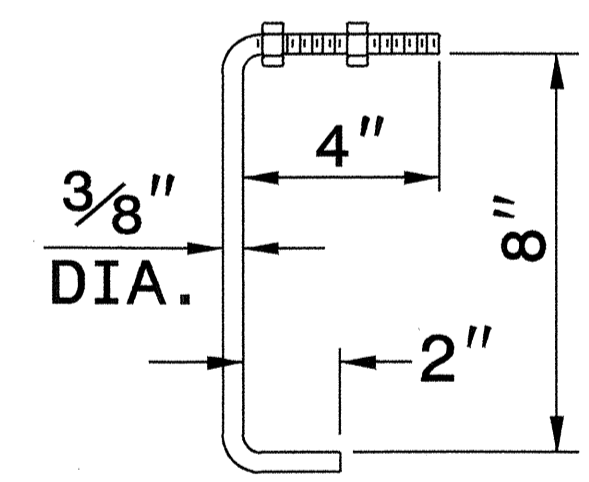
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

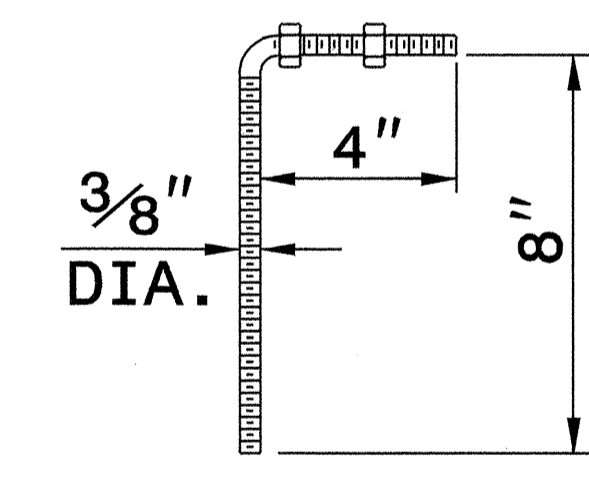
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



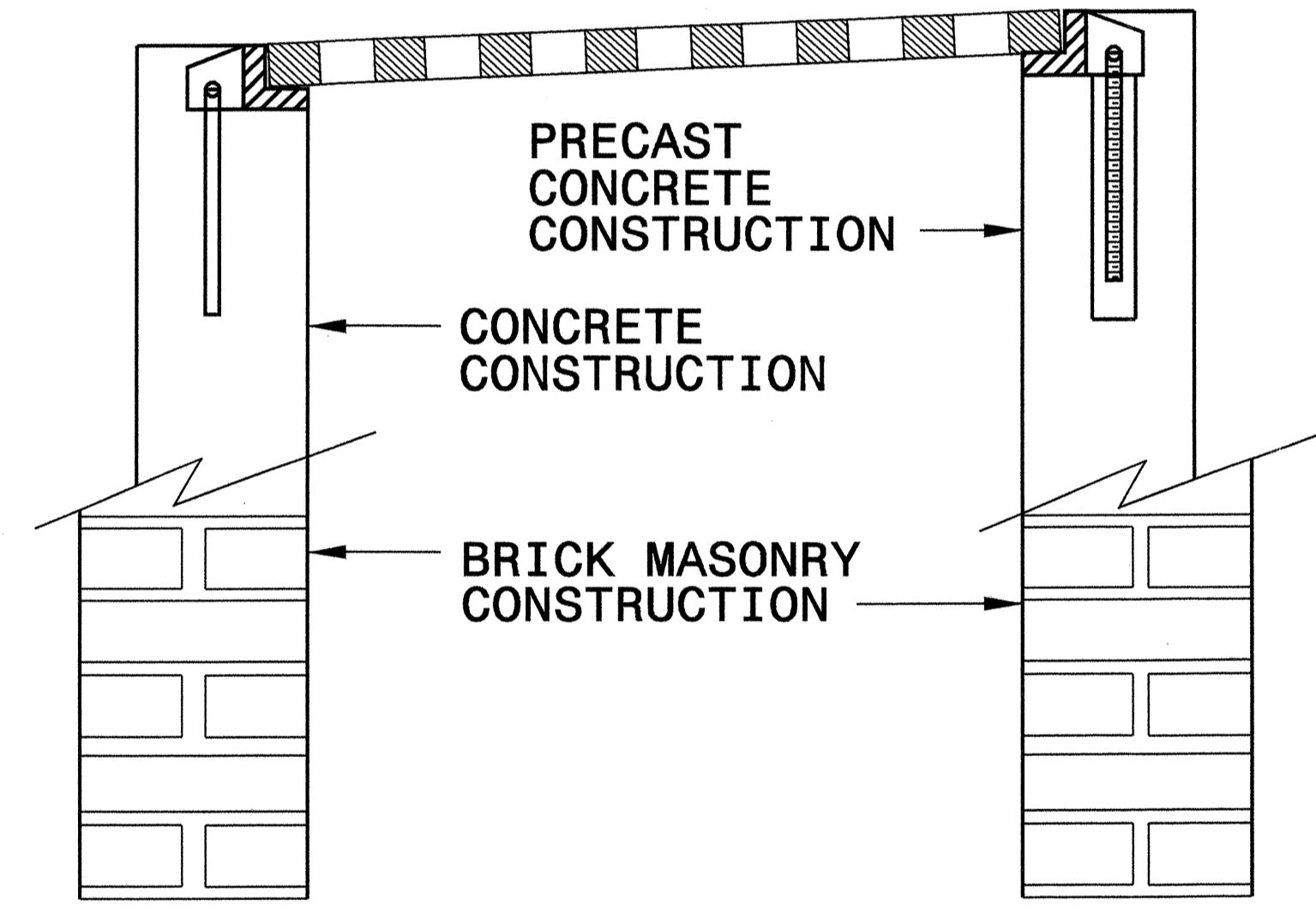
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR

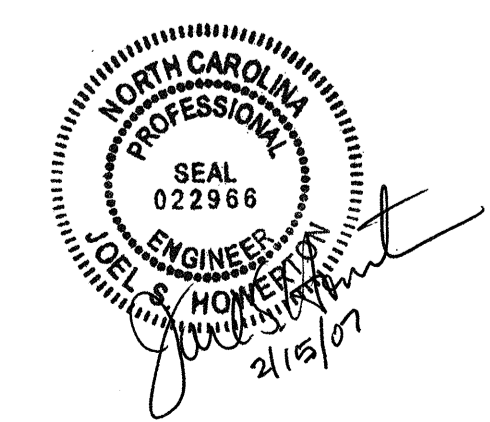


FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

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

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

SHEET 1 OF 1
840D25



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: J.S. Hower DATE: 1/27/06
FILE SPEC: 1

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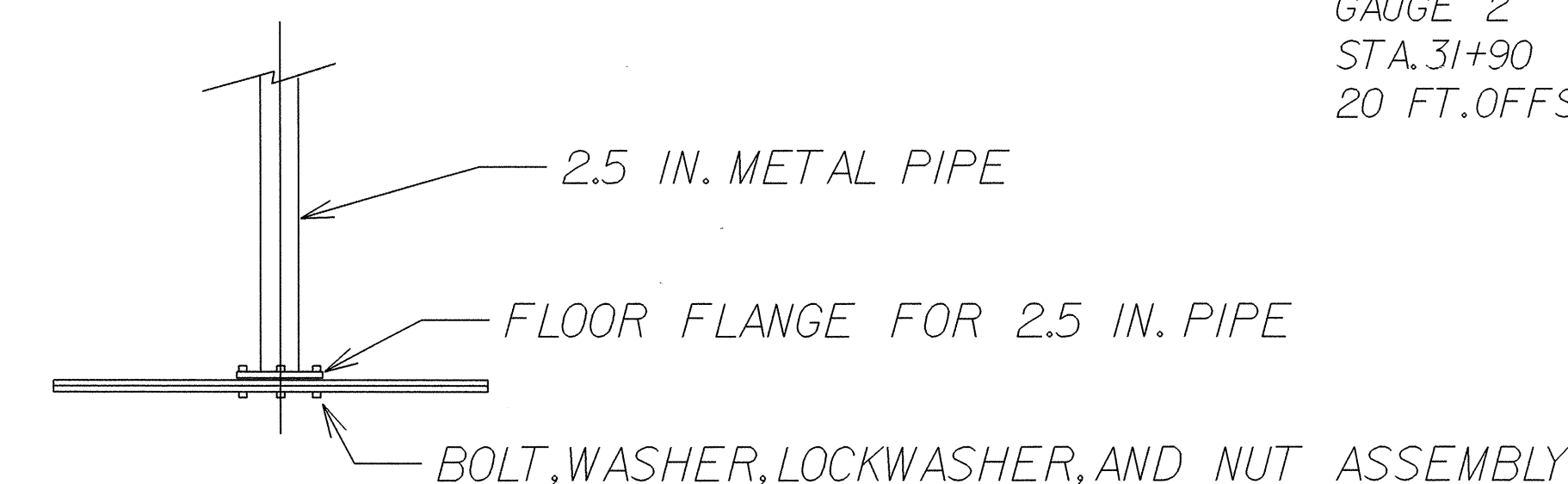
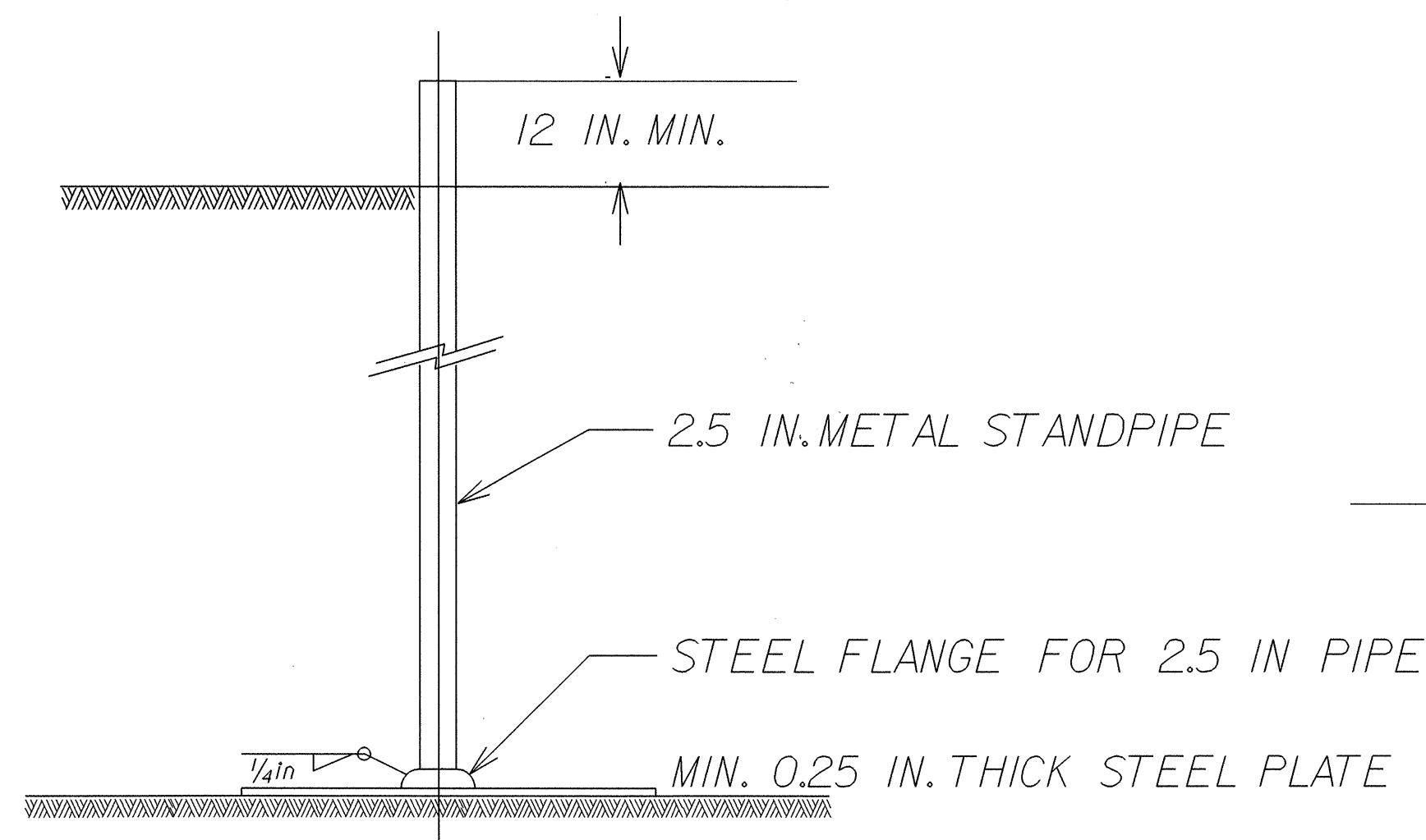
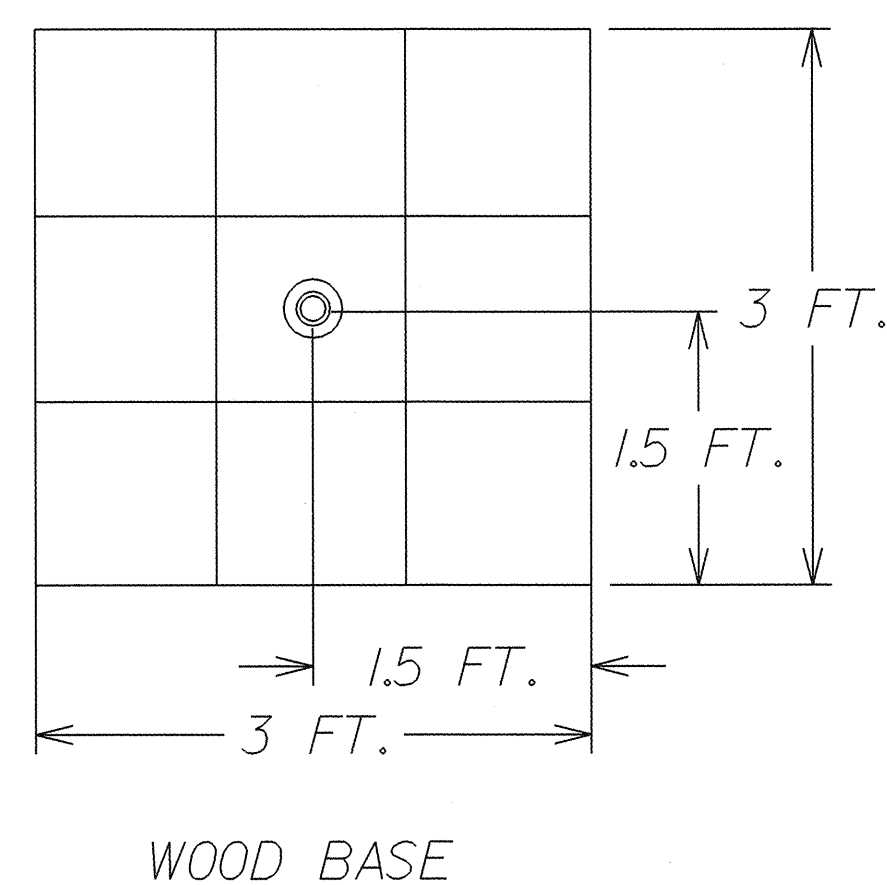
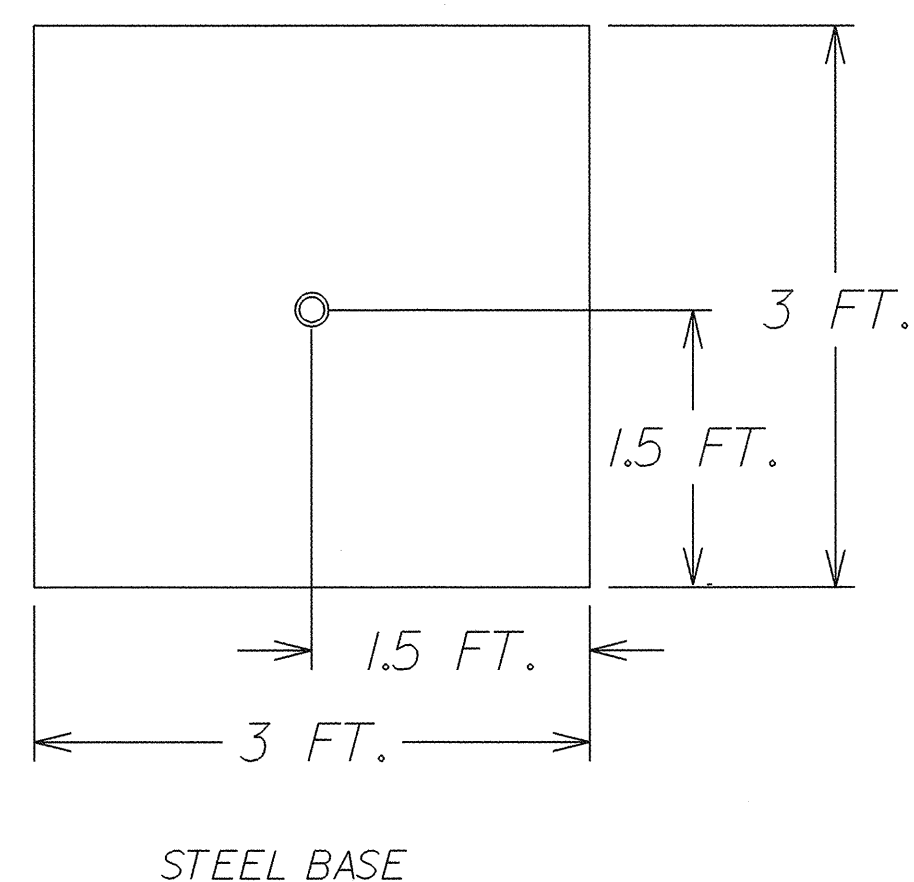
GEOTECHNICAL ENGINEER

ENGINEER



Eric N. Williams 4/3/07
SIGNATURE DATE

SETTLEMENT GAUGE DETAIL

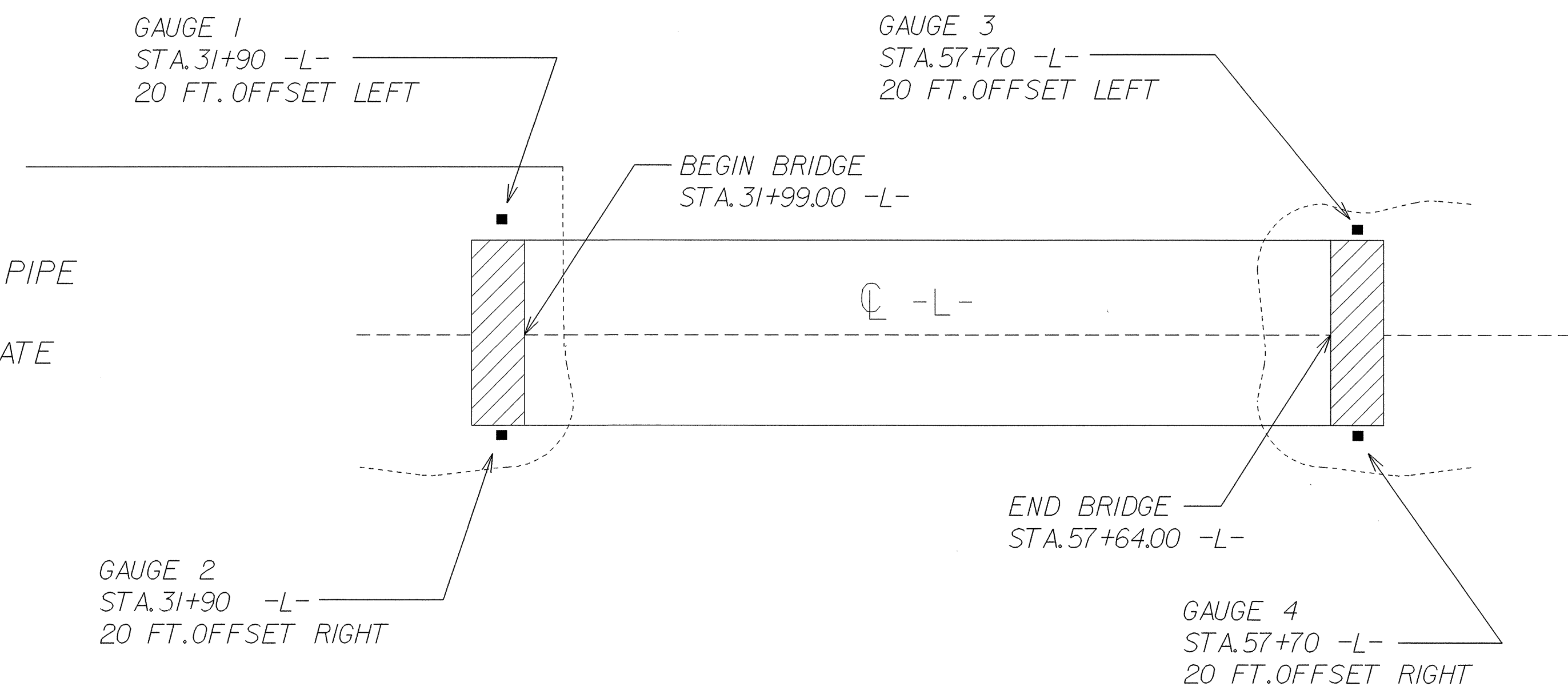


QUANTITIES

SETTLEMENT GAUGES..... 4 EACH

PLAN VIEW

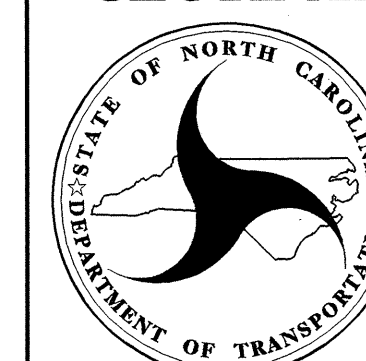
N.T.S.



NOTES

1. THE USE OF EITHER THE WOOD BASE OR THE STEEL BASE SETTLEMENT GAUGE SHALL BE THE CONTRACTOR'S OPTION.
2. SETTLEMENT GAUGES SHALL BE INSTALLED BEFORE ANY FILL IS PLACED.
3. SETTLEMENT GAUGE ELEVATIONS ARE TO BE DETERMINED AND RECORDED WEEKLY BY THE RESIDENT ENGINEER. THE INITIAL ELEVATION OF THE SETTLEMENT GAUGE PLATE (AT TOP OF PLATE) SHALL BE DETERMINED AT THE TIME OF INSTALLATION ALONG WITH THE EMBANKMENT ELEVATION. WHEN NEW SECTIONS OF THE PIPE ARE ADDED, ELEVATIONS SHALL BE RECORDED AT THE TOP OF EXISTING PIPE AND AT THE TOP OF THE NEW PIPE. THIS IS TO TAKE INTO ACCOUNT INTERIM SETTLEMENT, VARIABLE PIPE LENGTHS, AND THREAD LENGTHS IN COUPLING. RESULTS OF SETTLEMENT GAUGE READINGS SHALL BE FORWARDED TO MR. K.J. KIM, EASTERN REGIONAL GEOTECHNICAL MANAGER, WITHIN THREE DAYS.

GEOTECHNICAL ENGINEERING UNIT



EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EMBANKMENT MONITORING DETAIL

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

PREPARED BY: E. WILLIAMS DATE: 3/07
REVIEWED BY: J. BATTS DATE: 3/07

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201616

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION	2367000000-N	840	9	EA	FRAME WITH TWO GRATES, STD 840.29
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING	2396000000-N	840	2	EA	FRAME WITH COVER, STD 840.54
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (41+81.50)	2473000000-N	SP	1	EA	GENERIC DRAINAGE ITEM 16" NONPERFORATED PVC ELBOWS
0043000000-N	226	Lump Sum		GRADING	2473000000-N	SP	1	EA	GENERIC DRAINAGE ITEM 48" PRECAST MANHOLE
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING	2473000000-N	SP	1	EA	GENERIC DRAINAGE ITEM CAST IRON GATE (12")
0057000000-E	226	500	CY	UNDERCUT EXCAVATION	2473000000-N	SP	1	EA	GENERIC DRAINAGE ITEM TRASH GUARD W/ANTI-VORTEX COVER
0080000000-E	SP	100	TON	CLASS IV SUBGRADE STABILIZATION	2473000000-N	SP	1	EA	GENERIC DRAINAGE ITEM TRASH RACK (30" X 30")
0127000000-N	SP	4	EA	EMBANKMENT SETTLEMENT GAUGES	2484000000-E	SP	20	LF	GENERIC DRAINAGE ITEM 16" NONPERFORATED PVC PIPE
0134000000-E	240	20	CY	DRAINAGE DITCH EXCAVATION	2484000000-E	SP	500	LF	GENERIC DRAINAGE ITEM 6" NONPERFORATED PVC PIPE
0195000000-E	265	9,000	CY	SELECT GRANULAR MATERIAL	2495000000-E	SP	14	CY	GENERIC DRAINAGE ITEM CONCRETE CLASS AA
0196000000-E	270	5,700	SY	FABRIC FOR SOIL STABILIZATION	2495000000-E	SP	31	CY	GENERIC DRAINAGE ITEM FINE AGGREGATE FILTER DIAPHRAGM
0234000000-E	SP	8,150	CY	GENERIC GRADING ITEM DAM EMBANKMENT EARTH FILL	2647000000-E	852	90	SY	5" MONOLITHIC CONCRETE ISLANDS (SURFACE MOUNTED)
0318000000-E	300	252	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS	3030000000-E	862	500	LF	STEEL BM GUARDRAIL
0366000000-E	310	596	LF	15" RC PIPE CULVERTS, CLASS III	3105000000-N	862	2	EA	STEEL BM GUARDRAIL TERMINAL SECTIONS
0372000000-E	310	100	LF	18" RC PIPE CULVERTS, CLASS III	3150000000-N	862	10	EA	ADDITIONAL GUARDRAIL POSTS
0378000000-E	310	76	LF	24" RC PIPE CULVERTS, CLASS III	3210000000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1
0384000000-E	310	332	LF	30" RC PIPE CULVERTS, CLASS III	3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
0396000000-E	310	200	LF	42" RC PIPE CULVERTS, CLASS III	3270000000-N	SP	5	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
0528000000-E	310	2	EA	*** RC PIPE ELBOWS, CLASS III (24")	3380000000-E	862	250	LF	TEMPORARY STEEL BM GUARDRAIL
0576000000-E	310	2.5	LF	*** CS PIPE CULVERTS, ***** THICK (36", 0.079")	3387000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** TEMPORARY (TYPE III)
0594000000-E	310	216	LF	24" CS PIPE CULVERTS, 0.064" THICK	3389100000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350 TEMPORARY
0660000000-E	310	36	LF	****BIT COAT CS PIPE CULVERTS, TYPE A ***** THICK (18", 0.064")	3536000000-E	866	3,200	LF	CHAIN LINK FENCE, 48" FABRIC
0680000000-E	310	2	EA	*** BIT COAT CS PIPE ELBOWS, TYPE A ***** THICK (18", 0.064")	3542000000-E	866	280	EA	METAL LINE POSTS FOR 48" CHAIN LINK FENCE
0973100000-E	330	96	LF	*** WELDED STEEL PIPE IN SOIL (42")	3548000000-E	866	40	EA	METAL TERMINAL POSTS FOR 48" CHAIN LINK FENCE
0995000000-E	340	475	LF	PIPE REMOVAL	3554000000-E	866	2	EA	METAL GATE POSTS FOR *** CHAIN LINK FENCE, DOUBLE GATE (48")
1110000000-E	510	1,000	TON	STABILIZER AGGREGATE	3557000000-E	866	320	LF	ADDITIONAL BARBED WIRE
1121000000-E	520	9,200	TON	AGGREGATE BASE COURSE	3565000000-E	866	2	EA	DOUBLE GATES, *** HIGH, *** WIDE, ** OPENING (48", 10', 20')
1220000000-E	545	100	TON	INCIDENTAL STONE BASE	3628000000-E	876	71	TON	RIP RAP, CLASS I
1275000000-E	600	850	GAL	PRIME COAT	3635000000-E	876	190	TON	RIP RAP, CLASS II
1489000000-E	610	3,900	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B	3649000000-E	876	850	TON	RIP RAP, CLASS B
1498000000-E	610	2,800	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE 119.0B	3656000000-E	876	5,875	SY	FILTER FABRIC FOR DRAINAGE
1519000000-E	610	4,175	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	4025000000-E	901	44	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (D)
1525000000-E	610	71	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A	4025000000-E	901	281.06	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (E)
1560000000-E	620	555	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22	4025000000-E	901	38.75	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (F)
1693000000-E	654	20	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR	4072000000-E	903	980	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
2022000000-E	815	520	CY	SUBDRAIN EXCAVATION	4096000000-N	904	3	EA	SIGN ERECTION, TYPE D
2033000000-E	815	390	CY	SUBDRAIN FINE AGGREGATE	4102000000-N	904	59	EA	SIGN ERECTION, TYPE E
2044000000-E	815	2,300	LF	6" PERFORATED SUBDRAIN PIPE	4108000000-N	904	5	EA	SIGN ERECTION, TYPE F
2055000000-E	815	69	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS	4116100000-N	904	2	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (D)
2066000000-N	815	5	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET	4116100000-N	904	2	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (E)
2077000000-E	815	30	LF	6" OUTLET PIPE (SUBDRAINS)	4141000000-N	907	1	EA	DISPOSAL OF SUPPORT, WOOD
2209000000-E	838	9	CY	ENDWALLS	4155000000-N	907	41	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2264000000-E	840	1	CY	PIPE PLUGS	4158000000-N	907	10	EA	DISPOSAL OF SIGN SYSTEM, WOOD
2286000000-N	840	16	EA	MASONRY DRAINAGE STRUCTURES					
2308000000-E	840	7	LF	MASONRY DRAINAGE STRUCTURES					
2364000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.16					

5/28/99

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STATE OF NORTH CAROLINA
SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
4192000000-N	907	1	EA	DISPOSAL OF SUPPORT, U-CHANNEL	5546000000-E	1515	2	EA	8" VALVE	6071050000-E	SP	2	EA	*** SKIMMER (2")
4400000000-E	1110	351	SF	WORK ZONE SIGNS (STATIONARY)	5558000000-E	1515	2	EA	12" VALVE	6071050000-E	SP	2	EA	*** SKIMMER (2-1/2")
4405000000-E	1110	106	SF	WORK ZONE SIGNS (PORTABLE)	5606000000-E	1515	1	EA	2" BLOW OFF	6084000000-E	1660	10	ACR	SEEDING & MULCHING
4410000000-E	1110	126	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)	5649000000-N	1515	1	EA	RECONNECT WATER METER	6087000000-E	1660	4.5	ACR	MOWING
4420000000-N	1120	2	EA	CHANGEABLE MESSAGE SIGN	5672000000-N	1515	1	EA	RELOCATE FIRE HYDRANT	6090000000-E	1661	100	LB	SEED FOR REPAIR SEEDING
4430000000-N	1130	62	EA	DRUMS	5800000000-E	1530	754	LF	ABANDON 6" UTILITY PIPE	6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
4445000000-E	1145	320	LF	BARRICADES (TYPE III)	5801000000-E	1530	3,301	LF	ABANDON 8" UTILITY PIPE	6096000000-E	1662	200	LB	SEED FOR SUPPLEMENTAL SEEDING
4450000000-N	1150	1,600	HR	FLAGGER	5804000000-E	1530	856	LF	ABANDON 12" UTILITY PIPE	6108000000-E	1665	7.5	TON	FERTILIZER TOPDRESSING
4480000000-N	1165	1	EA	TMIA	6000000000-E	1605	9,700	LF	TEMPORARY SILT FENCE	6111000000-E	SP	175	LF	IMPERVIOUS DIKE
4510000000-N	SP	32	HR	POLICE	6006000000-E	1610	200	TON	STONE FOR EROSION CONTROL, CLASS A	6114000000-N	SP	3.5	HR	SPECIALIZED HAND MOWING
4650000000-N	1251	59	EA	TEMPORARY RAISED PAVEMENT MARKERS	6009000000-E	1610	405	TON	STONE FOR EROSION CONTROL, CLASS B	6117000000-N	SP	8	EA	RESPONSE FOR EROSION CONTROL
4810000000-E	1205	63,035	LF	PAINT PAVEMENT MARKING LINES (4")	6012000000-E	1610	1,215	TON	SEDIMENT CONTROL STONE	6133000000-N	SP	Lump Sum		GENERIC EROSION CONTROL ITEM DAM CONSTRUCTION DEWATERING
4820000000-E	1205	2,046	LF	PAINT PAVEMENT MARKING LINES (8")	6015000000-E	1615	10	ACR	TEMPORARY MULCHING	6135000000-E	SP	2.9	ACR	GENERIC EROSION CONTROL ITEM WETLAND GRASS PLANTING
4835000000-E	1205	144	LF	PAINT PAVEMENT MARKING LINES (24")	6018000000-E	1620	450	LB	SEED FOR TEMPORARY SEEDING	6138000000-E	SP	650	CY	GENERIC EROSION CONTROL ITEM DIVERSION CHANNEL
4845000000-N	1205	22	EA	PAINT PAVEMENT MARKING SYMBOL	6021000000-E	1620	1.75	TON	FERTILIZER FOR TEMPORARY SEEDING					
4847000000-E	1205	30,896	LF	POLYUREA PAVEMENT MARKING LINES (4", *****) (HIGHLY REFLECTIVE ELEMENTS)	6024000000-E	1622	125	LF	TEMPORARY SLOPE DRAINS					
4847110000-E	1205	2,349	LF	POLYUREA PAVEMENT MARKING LINES (8", *****) (HIGHLY REFLECTIVE ELEMENTS)	6027000000-N	1622	8	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS					
4847140000-E	1205	71	LF	POLYUREA PAVEMENT MARKING LINES (24", *****) (HIGHLY REFLECTIVE ELEMENTS)	6029000000-E	SP	8,400	LF	SAFETY FENCE					
4847220000-N	1205	28	EA	POLYUREA PAVEMENT MARKING SYMBOL (***** (HIGHLY REFLECTIVE ELEMENTS)	6030000000-E	1630	13,220	CY	SILT EXCAVATION					
4905000000-N	1253	211	EA	SNOWPLOWABLE PAVEMENT MARKERS	6036000000-E	1631	5,800	SY	MATTING FOR EROSION CONTROL					
5325600000-E	1510	739	LF	6" WATER LINE	6037000000-E	SP	25	SY	COIR FIBER MAT					
5325800000-E	1510	44	LF	8" WATER LINE	6038000000-E	SP	275	SY	PERMANENT SOIL REINFORCEMENT MAT					
5326200000-E	1510	873	LF	12" WATER LINE	6042000000-E	1632	1,000	LF	1/4" HARDWARE CLOTH					
5540000000-E	1515	4	EA	6" VALVE	6048000000-E	SP	90	SY	FLOATING TURBIDITY CURTAIN					
					6070000000-N	SP	60	EA	SPECIAL STILLING BASINS					
					6071030000-E	SP	575	LF	COIR FIBER BAFFLES					

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK
 IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE	LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY No. 1						SUMMARY No. 4					
-L- Sta. 11+50.00 to Sta. 32+00.00	0		13,083	13,083		CARTWAY CONSTRUCTION	1,250		*SEE NOTE BELOW		1,250
-DET- Sta. 27+00.25 to Sta. 17+00.00	0		3,236	3,236		SUMMARY No. 4 TOTAL	1,250				1,250
BRIDGE						SUMMARY TOTALS					
-DET- Sta. 25+11.54 to Sta. 29+05.02	40		1,130	1,090			17,719		34,037	31,280	14,962
SUMMARY No. 1 TOTAL	45		13,449	17,409		USE WASTE IN LIEU OF BORROW					
SUMMARY No. 2						SHOULDER MATERIAL					
-L- STA. 57+63.00 TO 65+00.00	1,369		11,315	9,946		+5 % TO REPLACE SOIL AT BORROW PITS					
-L- STA. 65+47.00 TO 72+10.56	1,732		480		1,129	DEDUCTION FOR "DAM EMBANKMENT EARTHFILL"					
-Y-1 STA. 16+65.00 TO 28+53.55	2,499		868		1,631	GRAND TOTAL					
SUMMARY No. 2 TOTAL	5,600		12,663	9946	2,883	17,719				25,722	10,829
SUMMARY No. 3						SAY					
CAUSEWAY REMOVAL	8,016				8,016						
DETOUR REMOVAL	2,813				2,813	"DAM EMBANKMENT EARTHFILL"					
SUMMARY No. 3 TOTAL	10,829				10,829	UNDERCUT					
						500					
*NOTE: EMB. REQ'D. FOR DAM IS SPECIAL MATERIAL AND IS NOT INCLUDED IN BORROW TOTAL (SEE SPECIAL PROVISIONS)											

NOTE: Approximate Quantities Only.
 Unclassified Excavation, Borrow Excavation, Shoulder Borrow, Fine Grading,
 Clearing and Grubbing, Breaking of Existing Pavement, and Removal of
 Existing Pavement will be paid for at the contract lump sum price for "Grading."

NOTE: Earthwork quantities are calculated by the Roadway Design Unit.
 These earthwork quantities are based in part on subsurface data
 provided by the Geotechnical Engineering Unit.

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS				TEMPORARY ANCHORS		REMARKS	
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	TYPE 350	CAT-1	TYPE III	TERMINAL SECTION	TYPE 350	TYPE III		
-L-	29+48	32+23	LT.	275'			30+00	32+23	8	11					1	1					@ PROPOSED RETAINING WALL	
-L-	30+25	32+00	RT.	175'			31+00		8	11					1		1					
-L-	31+25	32+00	LT.	75'				32+00	8	11					1		1					
-L-	57+63	58+38	RT.	75'				57+63	8	11					1		1				GRAU-350 5 @ 50' = 250'	
-L-	57+63	59+38	LT.	175'			57+63		8	11				1		1					TYPE III 4 @ 18.75' = 75'	
-L-	49+20		RT.	25'														2			CAT-1 1 @ 6.25' = 6.25'	
				SUB-TOTAL	800.00'																TOTAL	
				LESS ANCHORS	331.25																	ANCHOR DEDUCTION - 331.25'
				TOTAL	478.75'									TOTAL	5	1	4	2			ADDITIONAL GUARDRAIL POSTS 10	
				SAY	500'																	
DETOUR (TEMPORARY)																						
-DET-	15+25	17+00	RT.	175'			17+00		6	8								1	1		TEMP. GRAU-350 4 @ 50' = 200'	
-DET-	16+25	17+00	LT.	75'				17+00	6	8								1	1		TEMP. TYPE III 4 @ 18.75' = 75'	
-DET-	25+00	25+75	RT.	75'				25+00	6	8								1	1		TOTAL TEMPORARY	
-DET-	25+00	26+75	LT.	175'			25+00		6	8								1	1		ANCHOR DEDUCTION - 275'	
				SUB-TOTAL	500'																	
				LESS ANCHORS	275'																	
				TOTAL	225'																TOTAL	
				SAY	250'																4	
																					4	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**FABRIC FOR
SOIL STABILIZATION**

STATION TO STATION	LOCATION	SQ. YDS.
-L- Sta. 12+50 to Sta. 31+10	RT.	2,480
-L- Sta. 12+50 to Sta. 32+40	LT.	2,432.2
-DET- Sta. 12+00 to Sta. 17+10		368.3
-DET- Sta. 24+80 to Sta. 27+30		377.8
GRAND TOTAL		5,658.3
SAY		5,700

**REMOVAL OF EXISTING
ASPHALT PAVEMENT**

STATION TO STATION	LOCATION	SQ. YDS.
-L- Sta. 32+00 to Sta. 41+00	LT. & RT.	1,892.22
-L- Sta. 41+00 to Sta. 43+84 +/-	RT.	225.11
-L- Sta. 65+66 to Sta. 67+00 +/-	RT.	239.16
-DET- Sta. 11+00 to Sta. 17+00	LT. & RT.	1,048.17
-DET- Sta. 25+00 to Sta. 29+39	LT. & RT.	967.69
GRAND TOTAL		4,372.35
SAY		4,385

**BREAKING OF EXISTING
ASPHALT PAVEMENT**

STATION TO STATION	LOCATION	SQ. YDS.
-L- Sta. 28+50 to Sta. 32+00	LT. & RT.	736.16
GRAND TOTAL		736.16
SAY		750

SUMMARY OF CHAIN LINK FENCE

STATION TO STATION	LOCATION	LENGTH (feet)	LINE POST	TERMINAL POST
-L- Sta. 52+18 to Sta. 54+46	RT.	228	20	3
-L- Sta. 52+45 to Sta. 54+56	LT.	211	19	3
-L- Sta. 52+26 ALONG CANAL DR.	LT./RT.	84	8	1
-L- Sta. 55+11 to Sta. 64+43	LT.	1,100	95	16
-L- Sta. 55+11 to Sta. 64+09.58	RT.	898.58	76	5
-Y- Sta. 11+91 to Sta. 12+56	RT.	84	8	1
-Y- Sta. 11+63 to Sta. 12+73	LT.	110	10	1
-Y1- Sta. 17+53 to Sta. 19+15	LT.	157	14	4
-Y1- Sta. 20+70 to Sta. 23+69	LT.	299	26	4
GRAND TOTAL		3,171.58	276	38
SAY		3,200	280	40
20' GATES				
-Y- Sta. 12+56 to Sta. 12+76	RT.			
-Y- Sta. 12+53 to Sta. 12+73	LT.			

PARCEL INDEX

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
2 AZ	4, 5, 6,	EDWARD M. GORE
11 Z	6, 7	SUNSET BRIDGE PARTNERS, LLC
5 Z	7	RONALD C. HOLDEN
6 Z	7, 8	SEA TRAIL CORPORATION
8 Z	7	THE POUGE MAHONE CORPORATION
9 Z	7	JOE L. PEED
2 Z	6	SUNSET BEACH AND TWIN LAKES, INC.

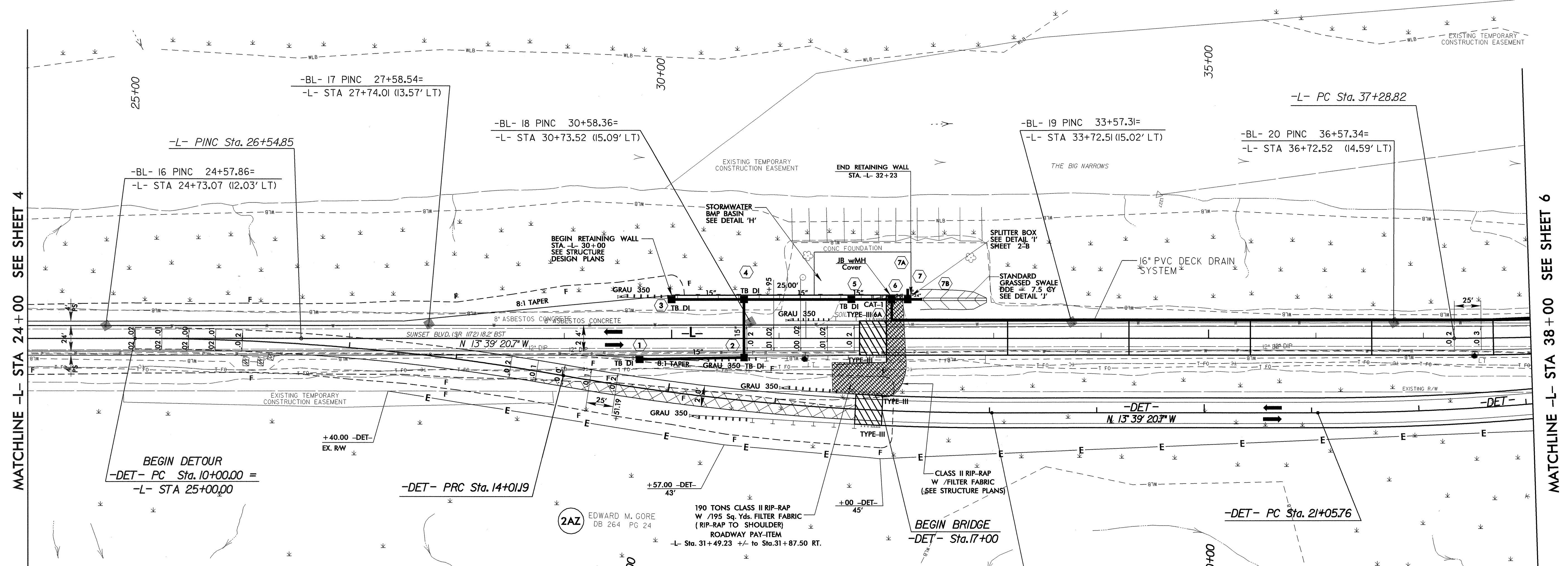
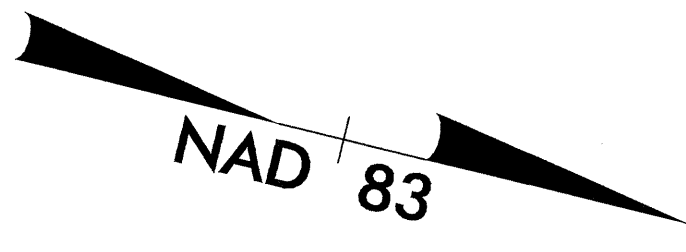
8/17/99

SEE SHEET W-1 THRU W-2 FOR RETAINING WALL PLANS
SEE SHEET S-1 THRU S-206 FOR STRUCTURE PLANS

PROJECT REFERENCE NO. B-0682	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

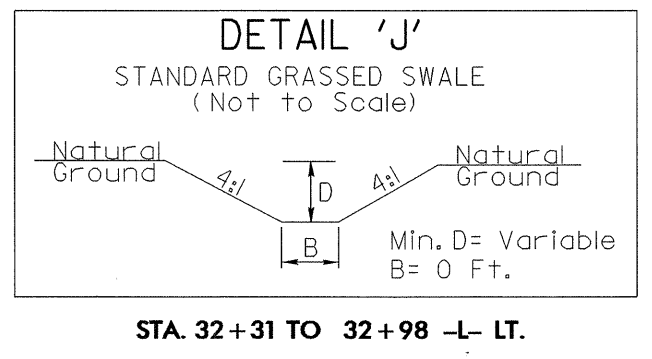
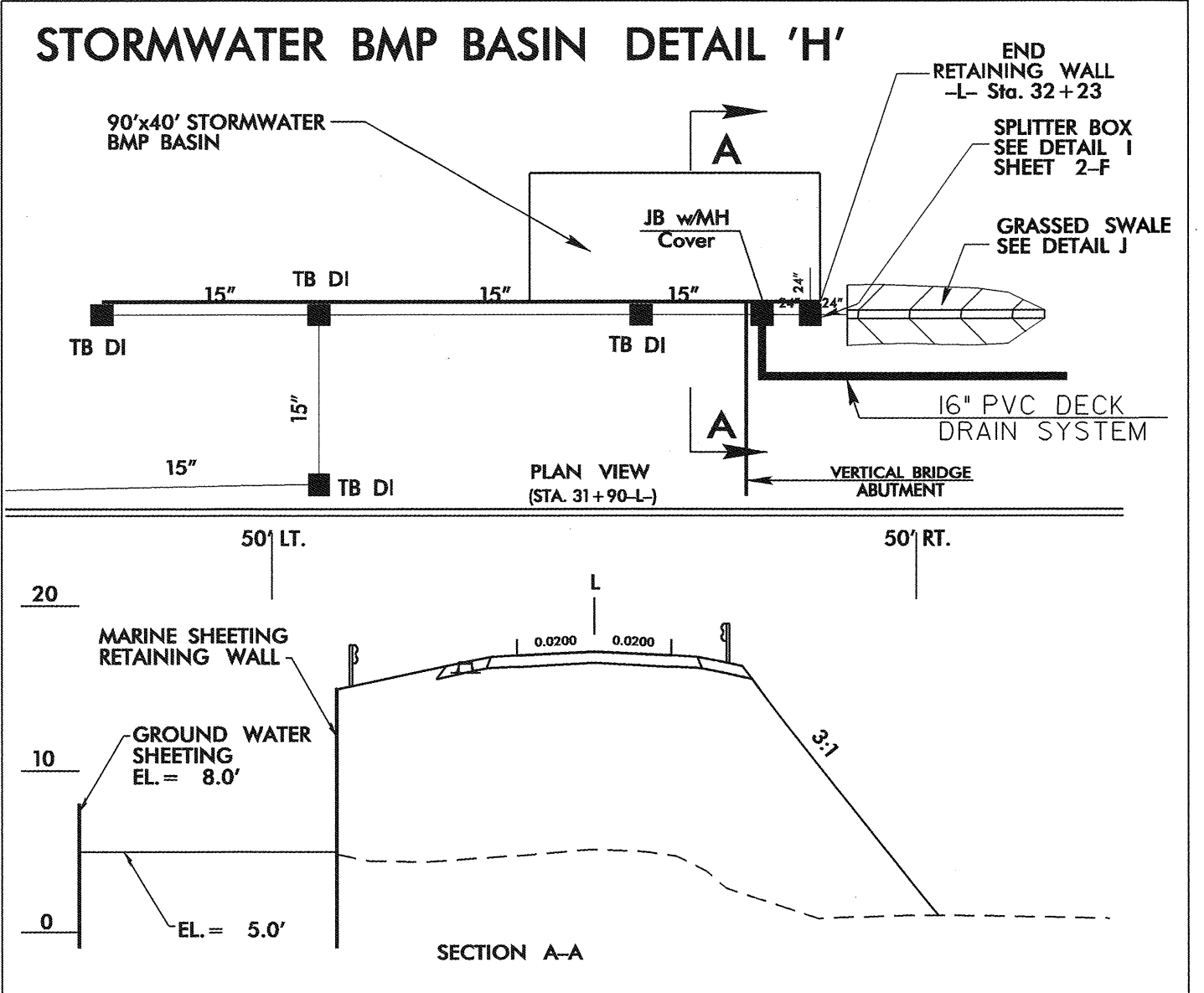
SEE SHEET 9 FOR -L- PROFILE
SEE SHEET 13 FOR -DET- PROFILE

-L-
 PI Sta 40+10.40
 $\Delta = 14^{\circ} 00' 31.7''$ (LT)
 $D = 2^{\circ} 30' 00.0''$
 $L = 560.35'$
 $T = 281.58'$
 $R = 2,291.83'$
 $SE = 03$



MATCHLINE -L- STA 24+00 SEE SHEET 4

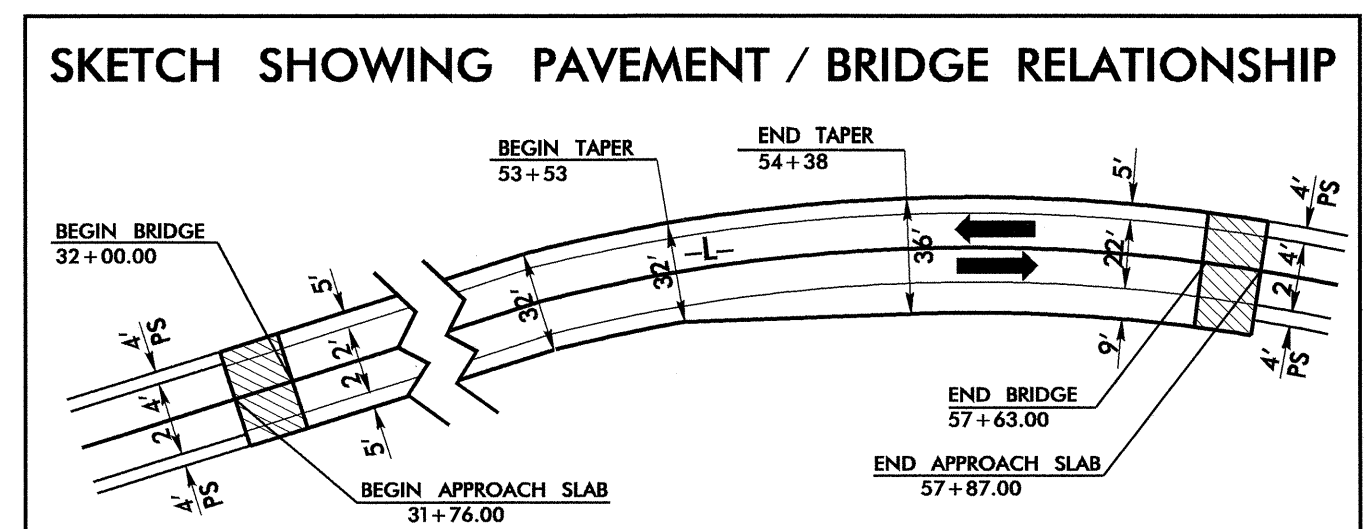
MATCHLINE -L- STA 38+00 SEE SHEET 6



-DET-
 PI Sta 12+01.11
 $\Delta = 10^{\circ} 01' 46.9''$ (RT)
 $D = 2^{\circ} 30' 00.0''$
 $L = 401.19'$
 $T = 201.11'$
 $R = 2,291.83'$
 $SE = 0.02$

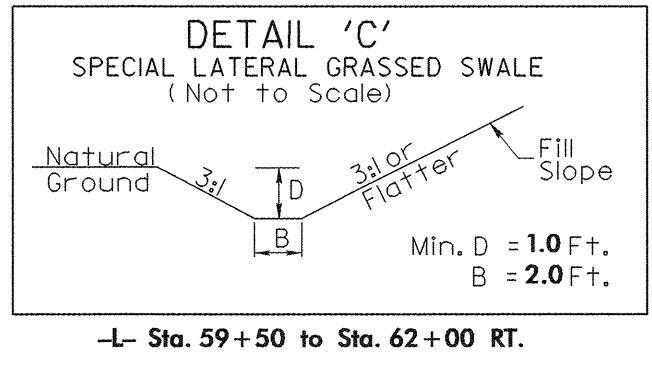
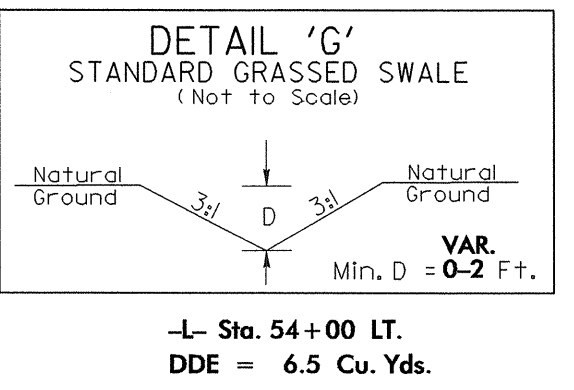
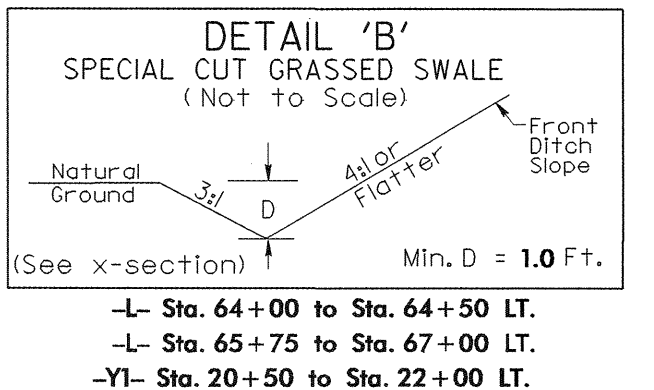
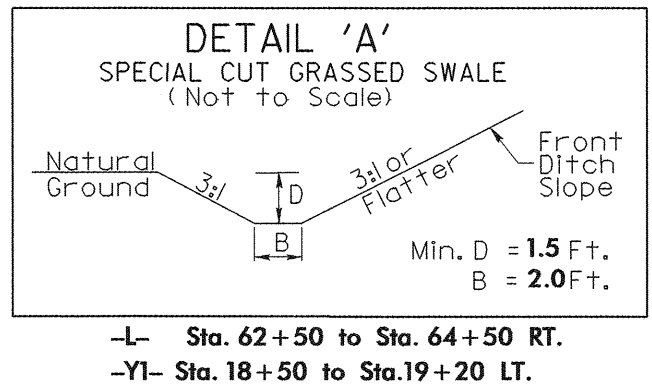
-DET-
 PI Sta 16+02.21
 $\Delta = 10^{\circ} 01' 31.1''$ (LT)
 $D = 2^{\circ} 30' 00.0''$
 $L = 401.01'$
 $T = 201.02'$
 $R = 2,291.83'$
 $SE = 0.02$

-DET-
 PI Sta 23+05.19
 $\Delta = 9^{\circ} 56' 46.1''$ (LT)
 $D = 2^{\circ} 30' 00.0''$
 $L = 397.85'$
 $T = 199.42'$
 $R = 2,291.83'$
 $SE = 0.02$

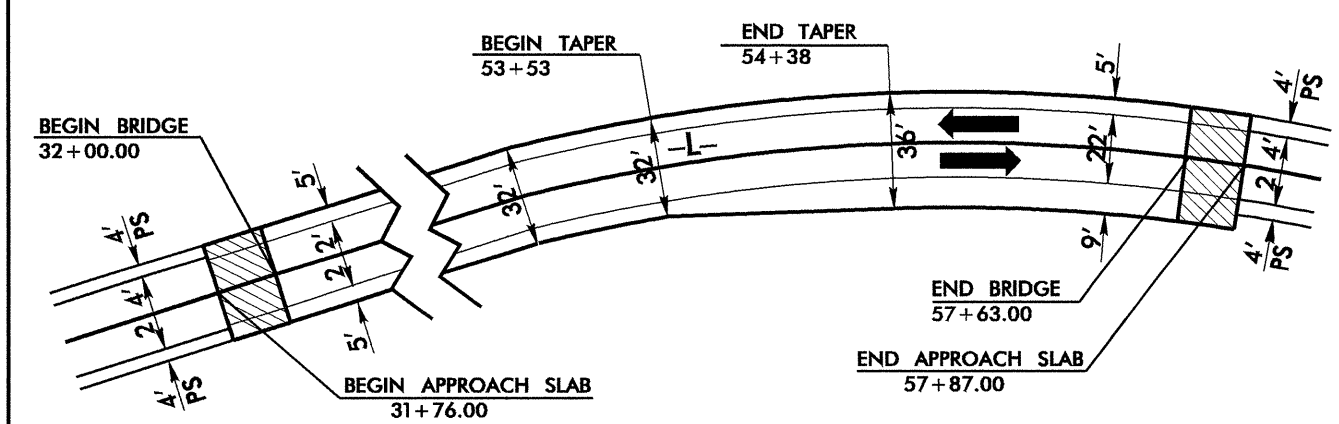


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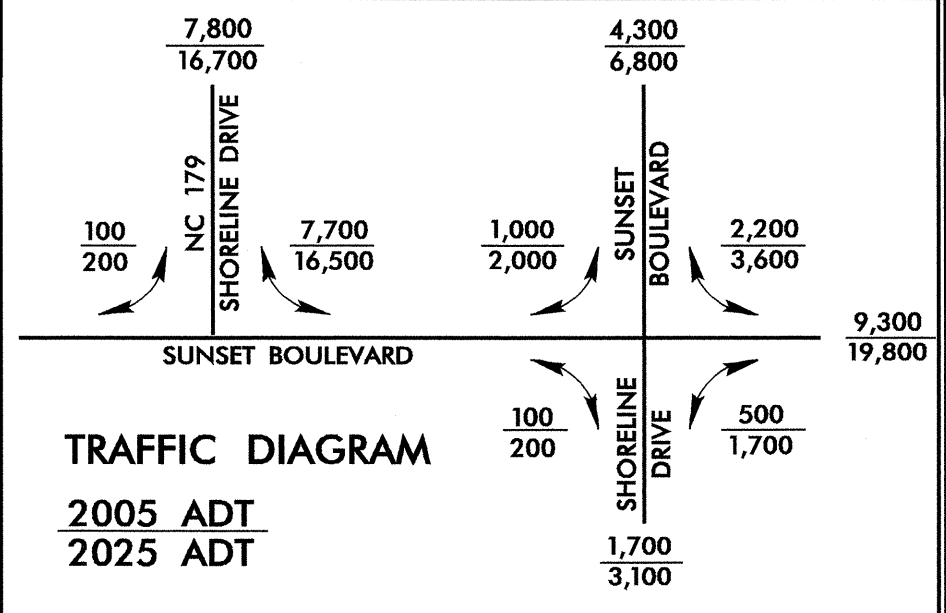
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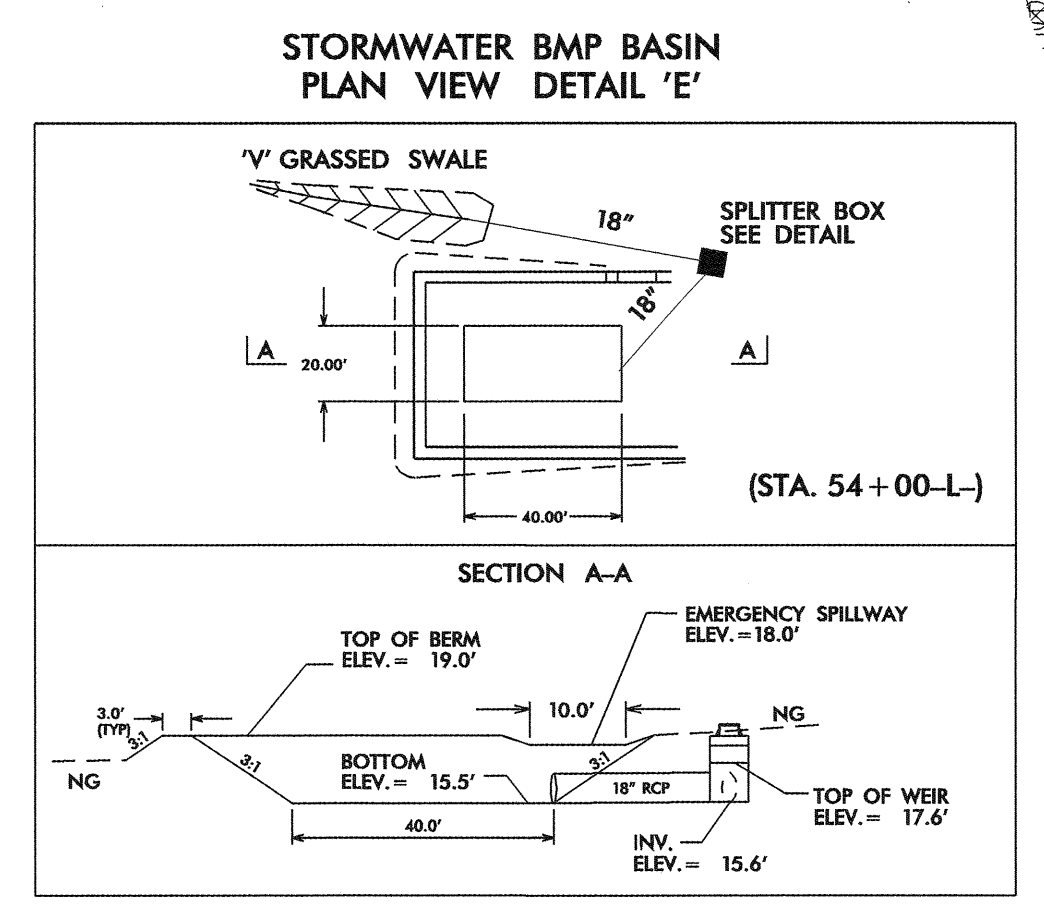
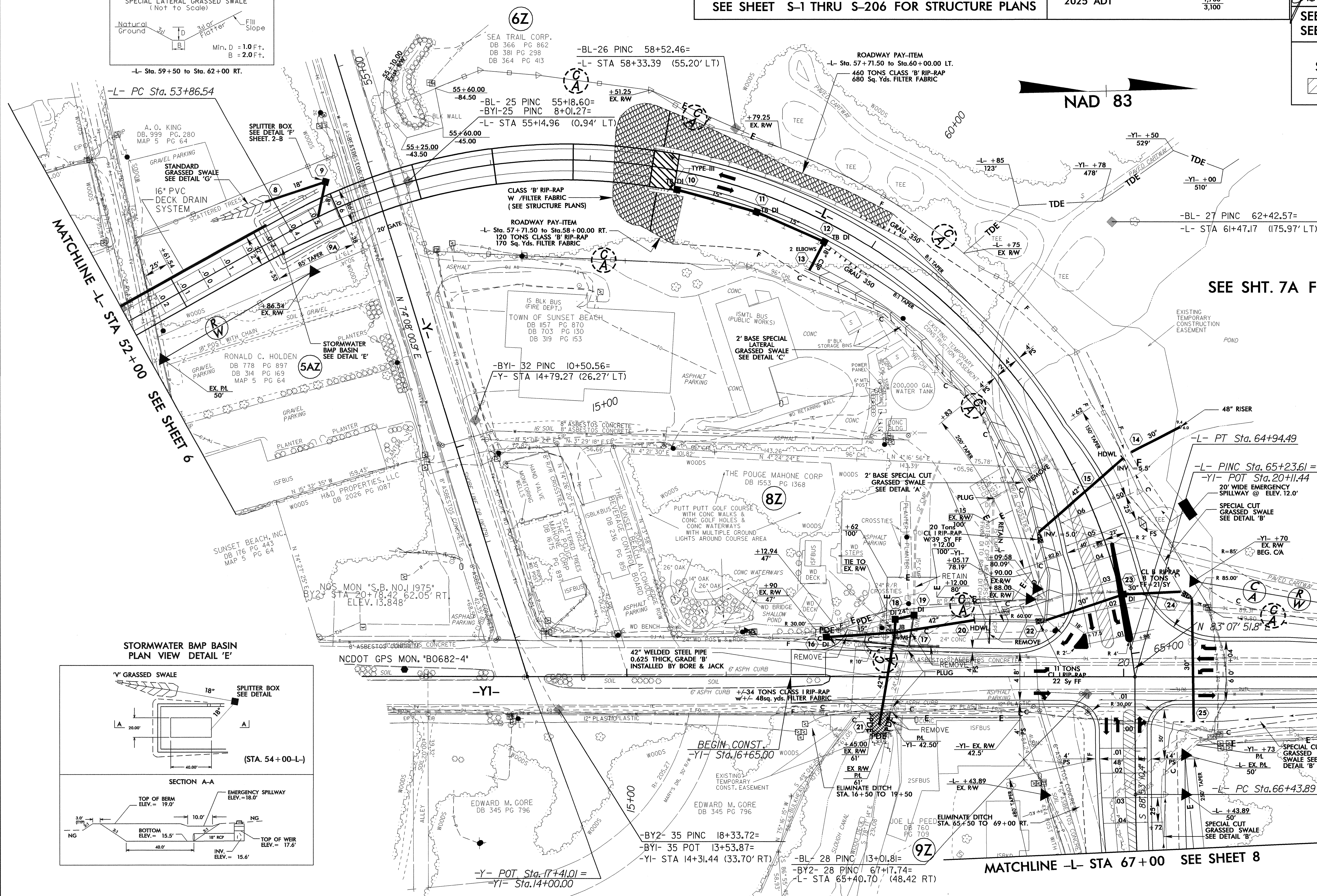
SKETCH SHOWING PAVEMENT / BRIDGE RELATIONSHIP



SEE SHEET S-1 THRU S-206 FOR STRUCTURE PLANS



PROJECT REFERENCE NO. B-0682	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHT. 11 FOR -L- PROFILE SEE SHT. 12 FOR -YI- PROFILE	
PAINT STRIPING	MONO. ISLANDS



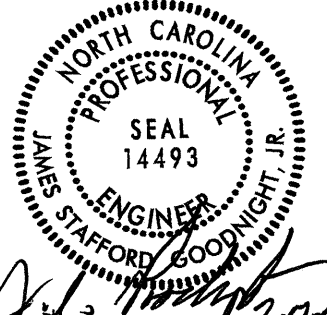

-L-
PI Sta 62+17.02
Δ = 110° 47' 44.3" (RT)
D = 10' 00' 00.0"
L = 1,107.96'
T = 830.48'
R = 572.96'
SE = 06

PI Sta 68+45.20
Δ = 16° 00' 00.0" (LT)
D = 4' 00' 00.0"
L = 400.00'
T = 201.31'
R = 1,432.39'
SE = 0.04

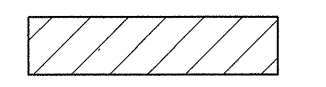
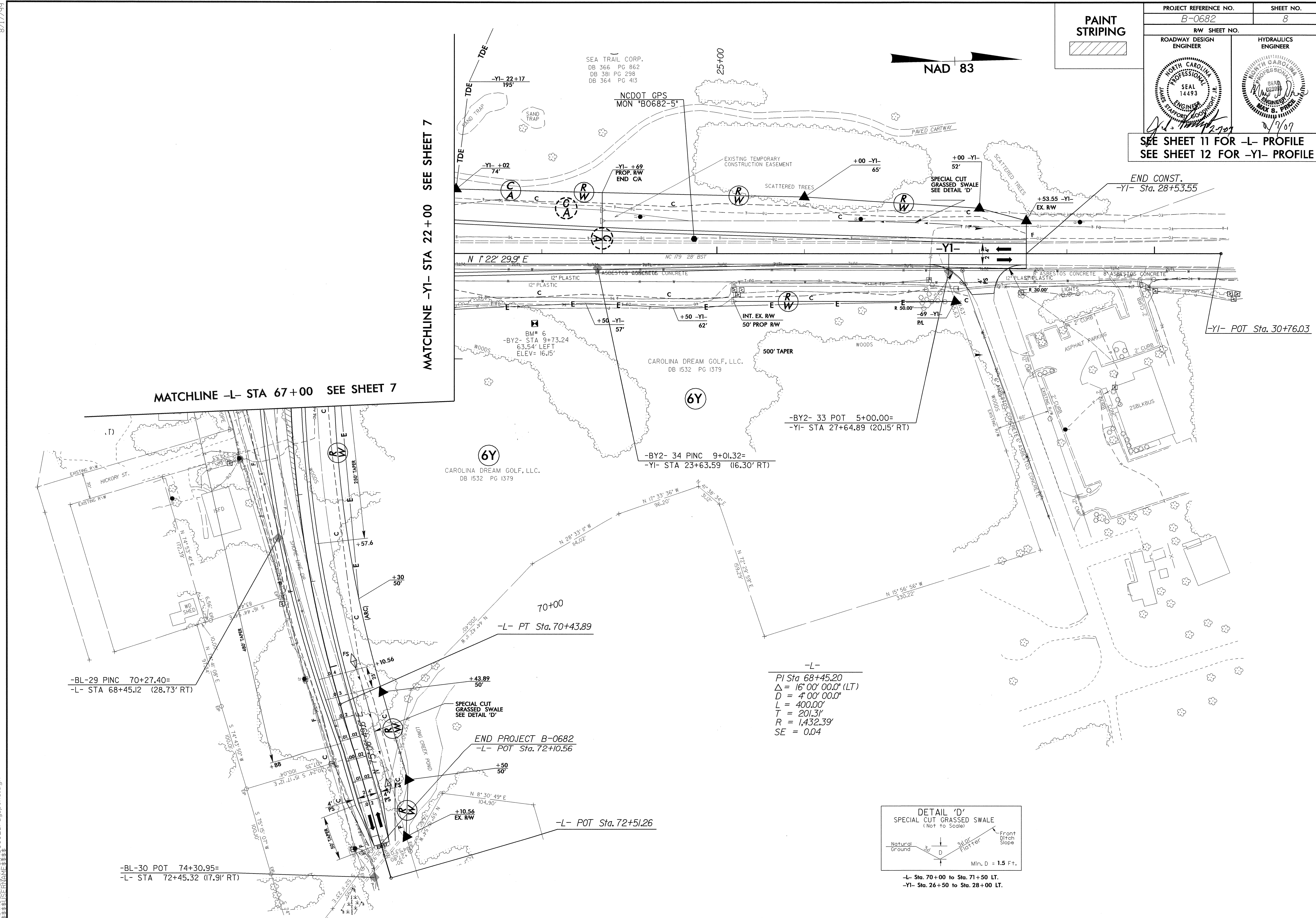
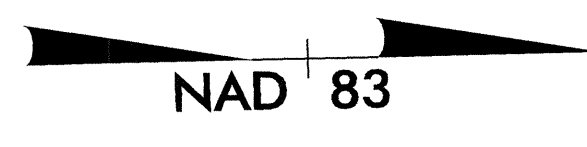
MATCHLINE -YI- STA 22+00 SEE SHEET 8

MATCHLINE -L- STA 67+00 SEE SHEET 8

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PROJECT REFERENCE NO. B-0682		SHEET NO. 8	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
			
SEE SHEET 11 FOR -L- PROFILE SEE SHEET 12 FOR -Y1- PROFILE			

PAINT STRIPING

MATCHLINE -L- STA 67+00 SEE SHEET 7

MATCHLINE -Y1- STA 22+00 SEE SHEET 7

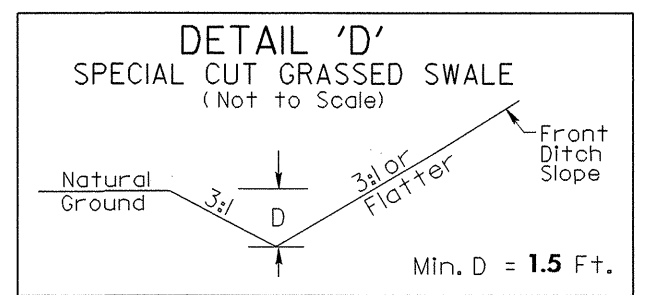
-BL-29 PINC 70+27.40=
-L- STA 68+45.12 (28.73' RT)

END PROJECT B-0682
-L- POT Sta. 72+10.56

-BL-30 POT 74+30.95=
-L- STA 72+45.32 (17.91' RT)

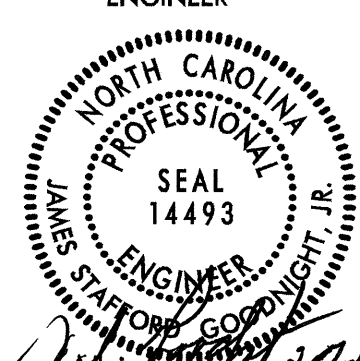
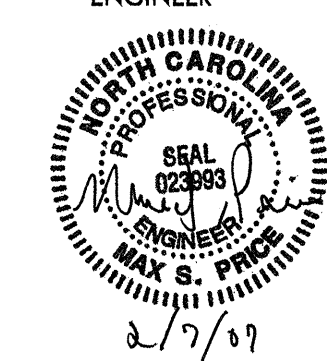
-L- POT Sta. 72+51.26

-L-
 PI Sta 68+45.20
 $\Delta = 16^{\circ} 00' 00.0''$ (LT)
 $D = 4^{\circ} 00' 00.0''$
 $L = 400.00'$
 $T = 201.31'$
 $R = 1,432.39'$
 $SE = 0.04$

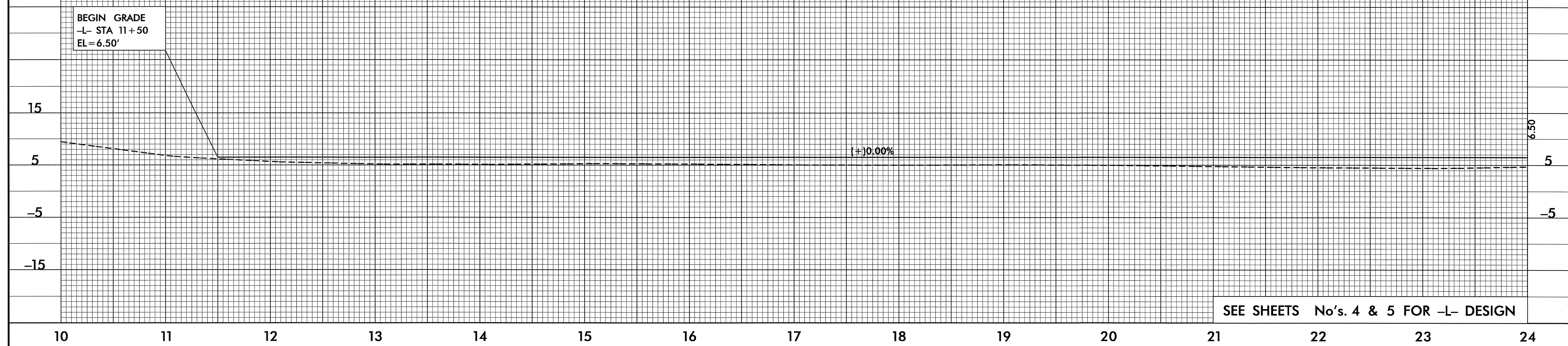


-L- Sta. 70+00 to Sta. 71+50 LT.
 -Y1- Sta. 26+50 to Sta. 28+00 LT.

5/28/99

PROJECT REFERENCE NO. B-0682	SHEET NO. 9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	

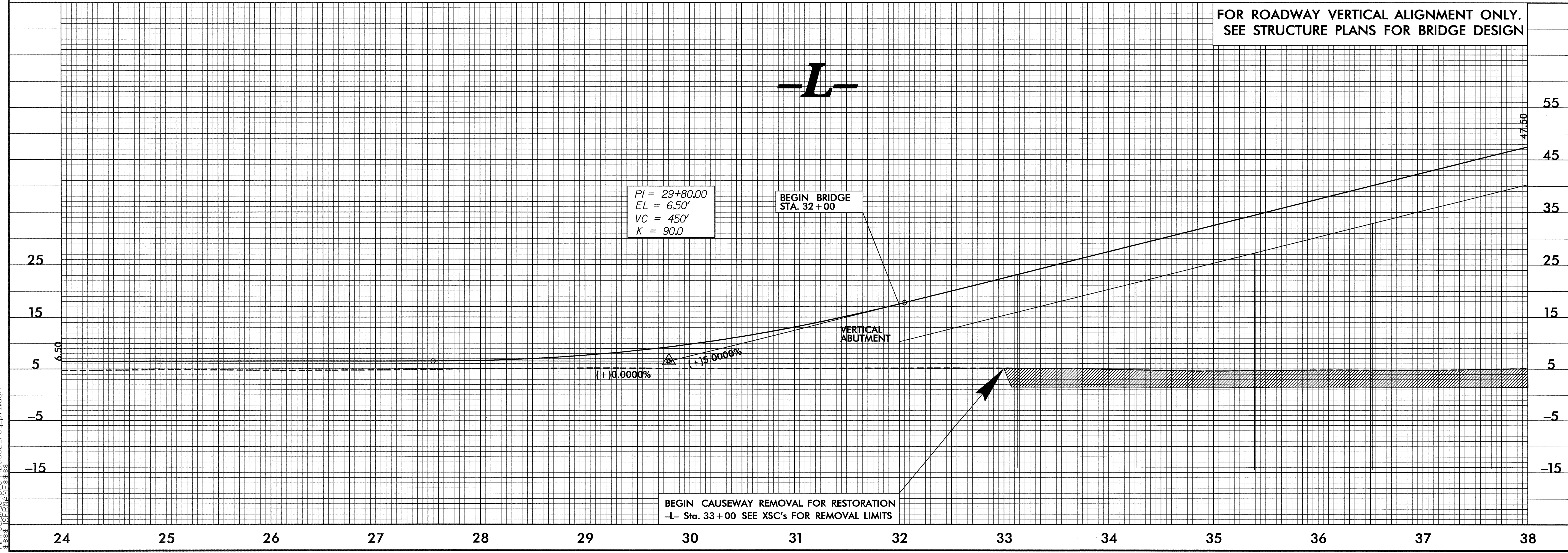
-L-



SEE SHEETS No's. 4 & 5 FOR -L- DESIGN

FOR ROADWAY VERTICAL ALIGNMENT ONLY.
SEE STRUCTURE PLANS FOR BRIDGE DESIGN

-L-



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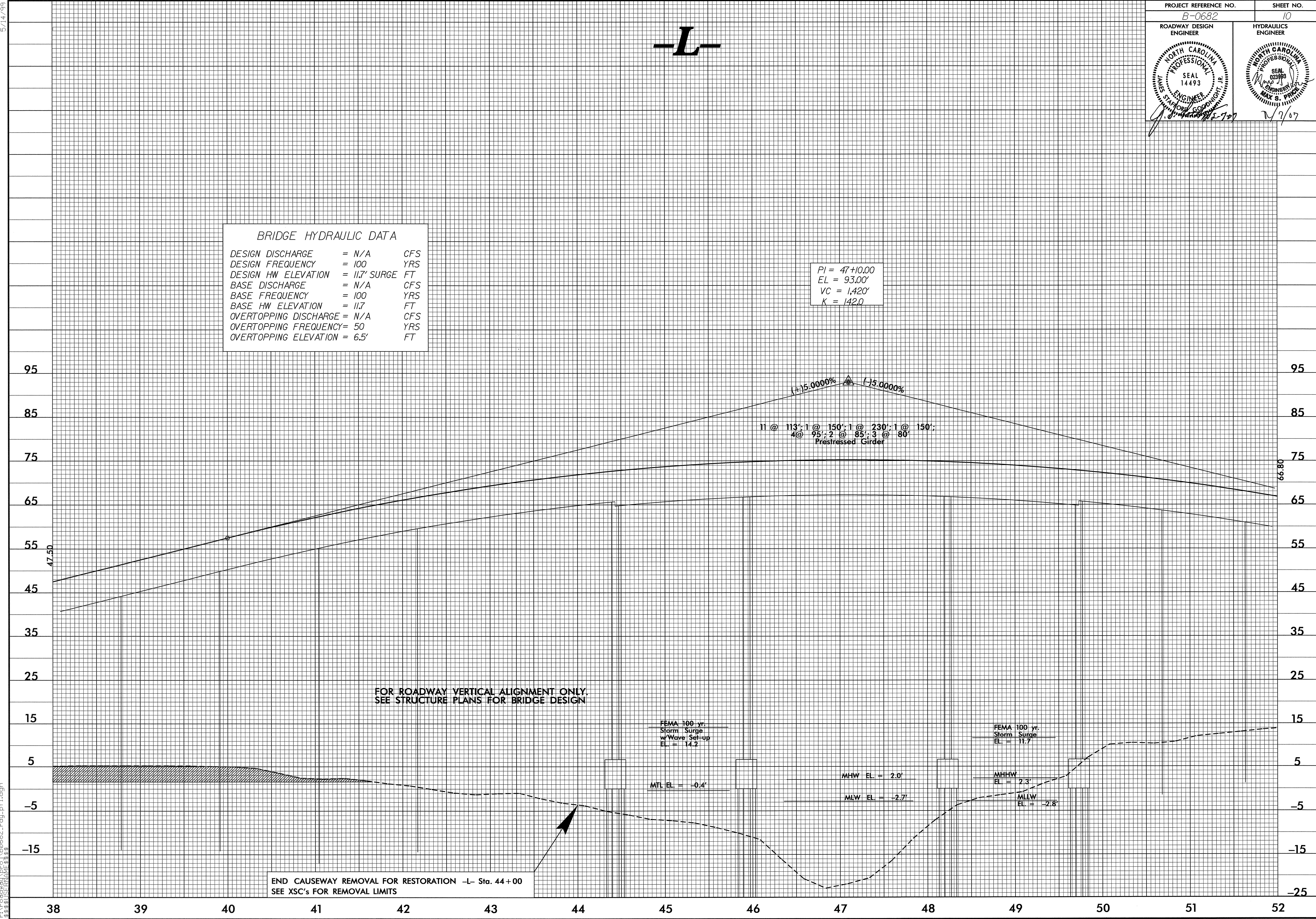
5/14/99

PROJECT REFERENCE NO. B-0682	SHEET NO. 10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-

BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	= N/A	CFS
DESIGN FREQUENCY	= 100	YRS
DESIGN HW ELEVATION	= 11.7' SURGE	FT
BASE DISCHARGE	= N/A	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 11.7	FT
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING FREQUENCY	= 50	YRS
OVERTOPPING ELEVATION	= 6.5'	FT

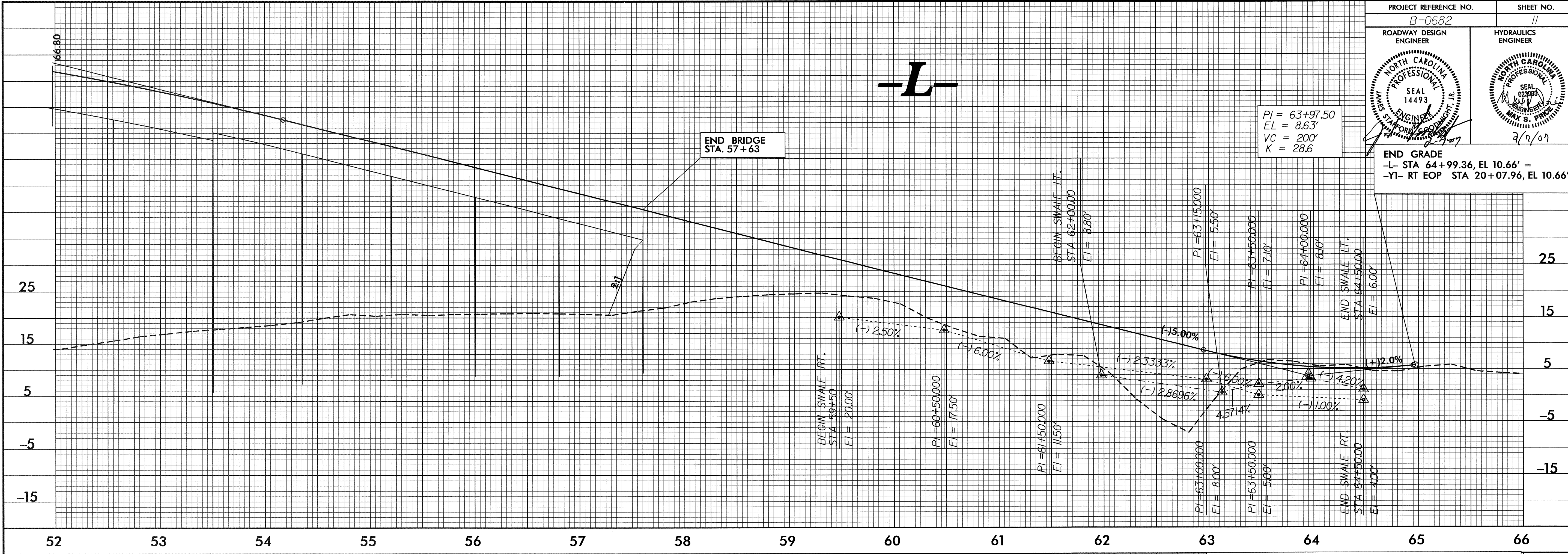
PI = 47+10.00
 EL = 93.00'
 VC = 1,420'
 K = 142.0



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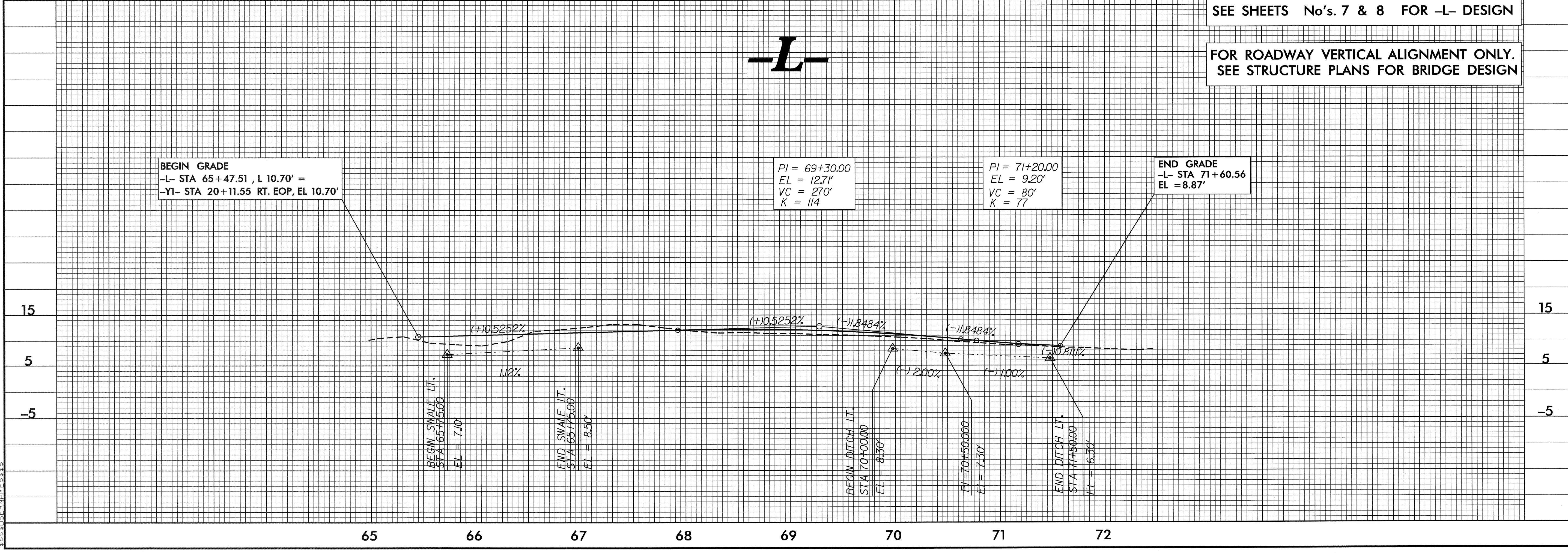
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PROJECT REFERENCE NO. B-0682	SHEET NO. 11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
END GRADE -L- STA 64+99.36, EL 10.66' = -Y1- RT EOP STA 20+07.96, EL 10.66'	



SEE SHEETS No's. 7 & 8 FOR -L- DESIGN

FOR ROADWAY VERTICAL ALIGNMENT ONLY.
SEE STRUCTURE PLANS FOR BRIDGE DESIGN



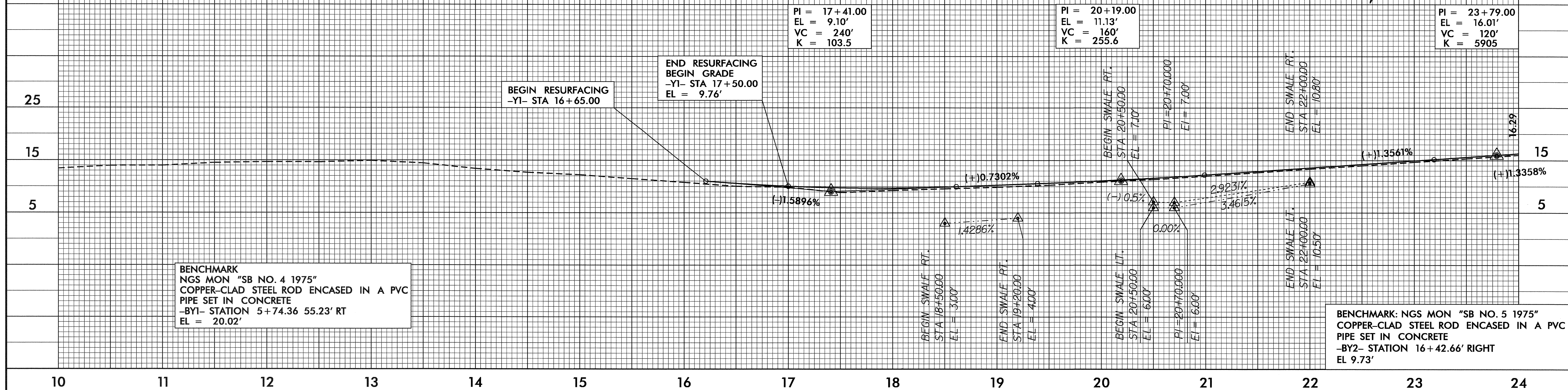
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5/28/99

PROJECT REFERENCE NO. B-0682	SHEET NO. 12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BENCHMARK: NGS MON "SB NO. 1 1975"
COPPER-CLAD STEEL ROD ENCASED IN A PVC
PIPE SET IN CONCRETE
-BY2- STATION 20+78.42 62.05' RIGHT
EL 13.848'

-Y1-

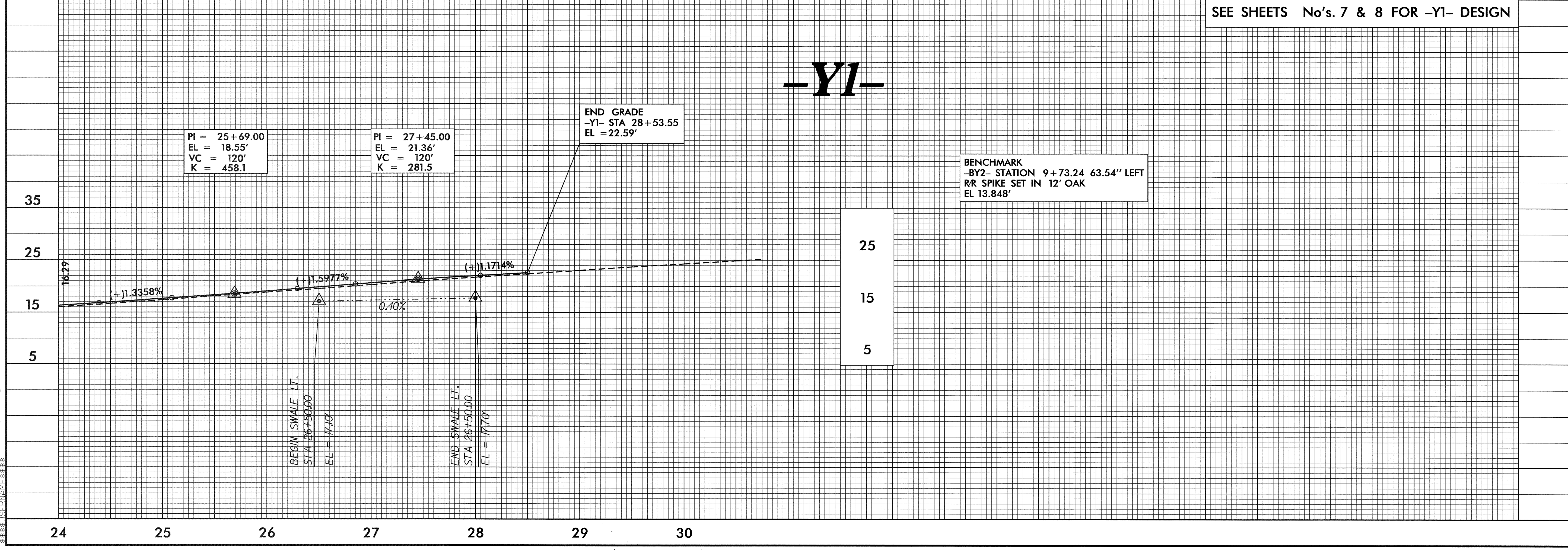


BENCHMARK
NGS MON "SB NO. 4 1975"
COPPER-CLAD STEEL ROD ENCASED IN A PVC
PIPE SET IN CONCRETE
-BY1- STATION 5+74.36 55.23' RT
EL = 20.02'

BENCHMARK: NGS MON "SB NO. 5 1975"
COPPER-CLAD STEEL ROD ENCASED IN A PVC
PIPE SET IN CONCRETE
-BY2- STATION 16+42.66' RIGHT
EL 9.73'

SEE SHEETS No's. 7 & 8 FOR -Y1- DESIGN

-Y1-



PI = 25+69.00
EL = 18.55'
VC = 120'
K = 458.1

PI = 27+45.00
EL = 21.36'
VC = 120'
K = 281.5

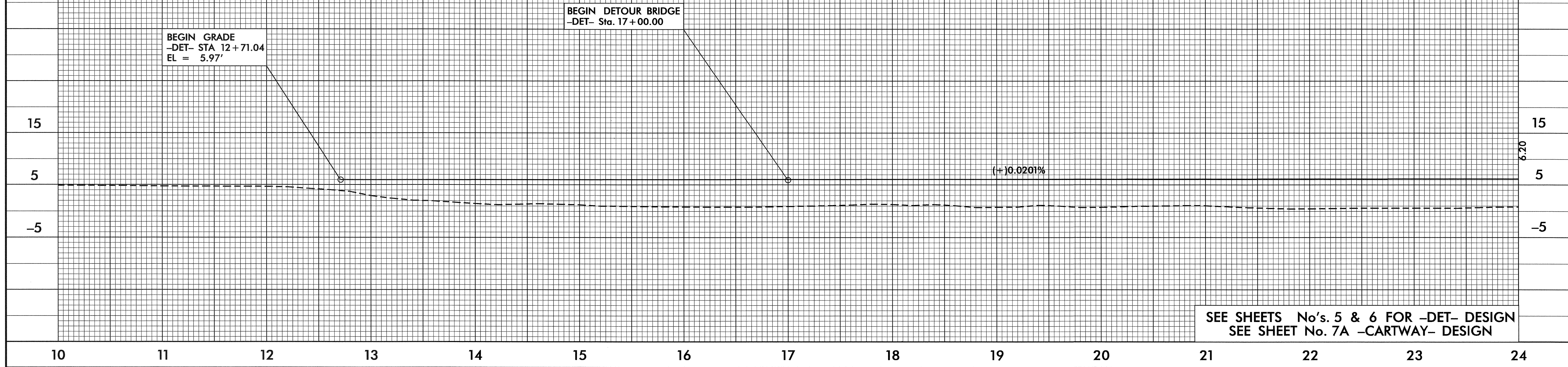
BENCHMARK
-BY2- STATION 9+73.24 63.54' LEFT
RR SPIKE SET IN 12' OAK
EL 13.848'

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6:0682_r.dwg pfl.dgn

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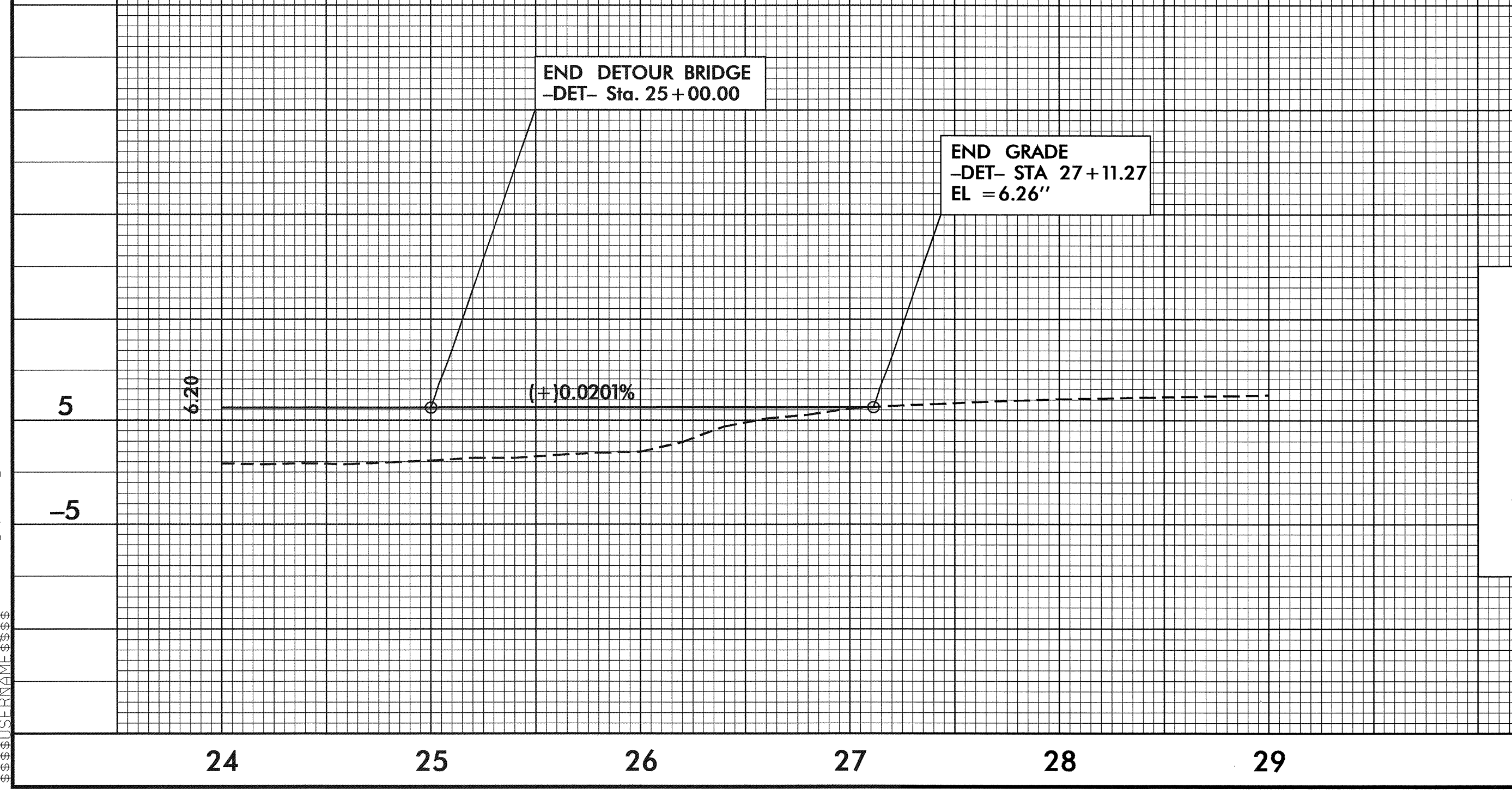
PROJECT REFERENCE NO. B-0682	SHEET NO. 13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-DET-

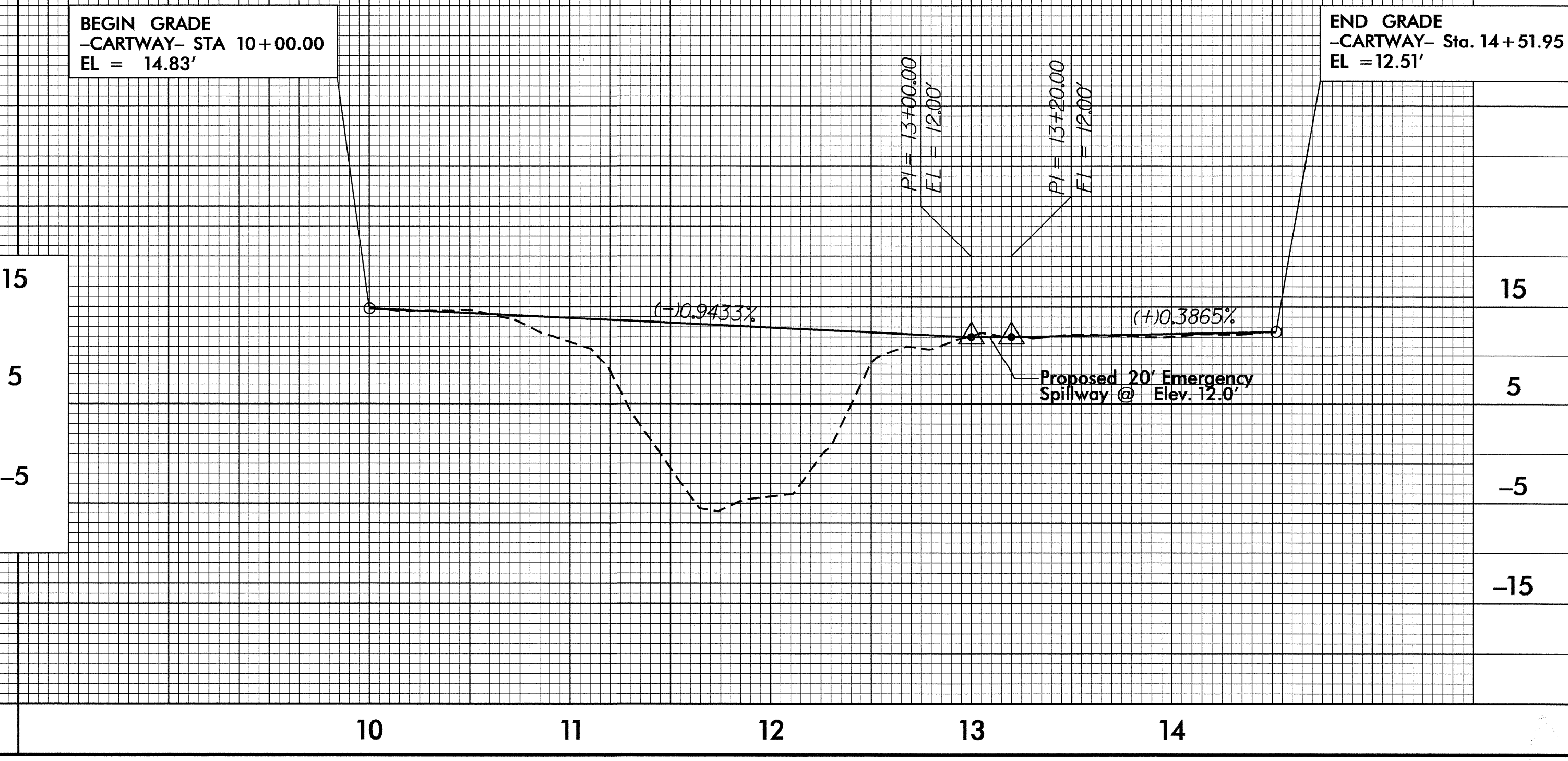


SEE SHEETS D-1 THUR D-10 FOR PROPOSED DAM PLANS

-DET-



-CARTWAY-



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