

PROJECT: 17BP.14.R.23

CONTRACT: DN00156



GRAPHIC SCALES

PLANS

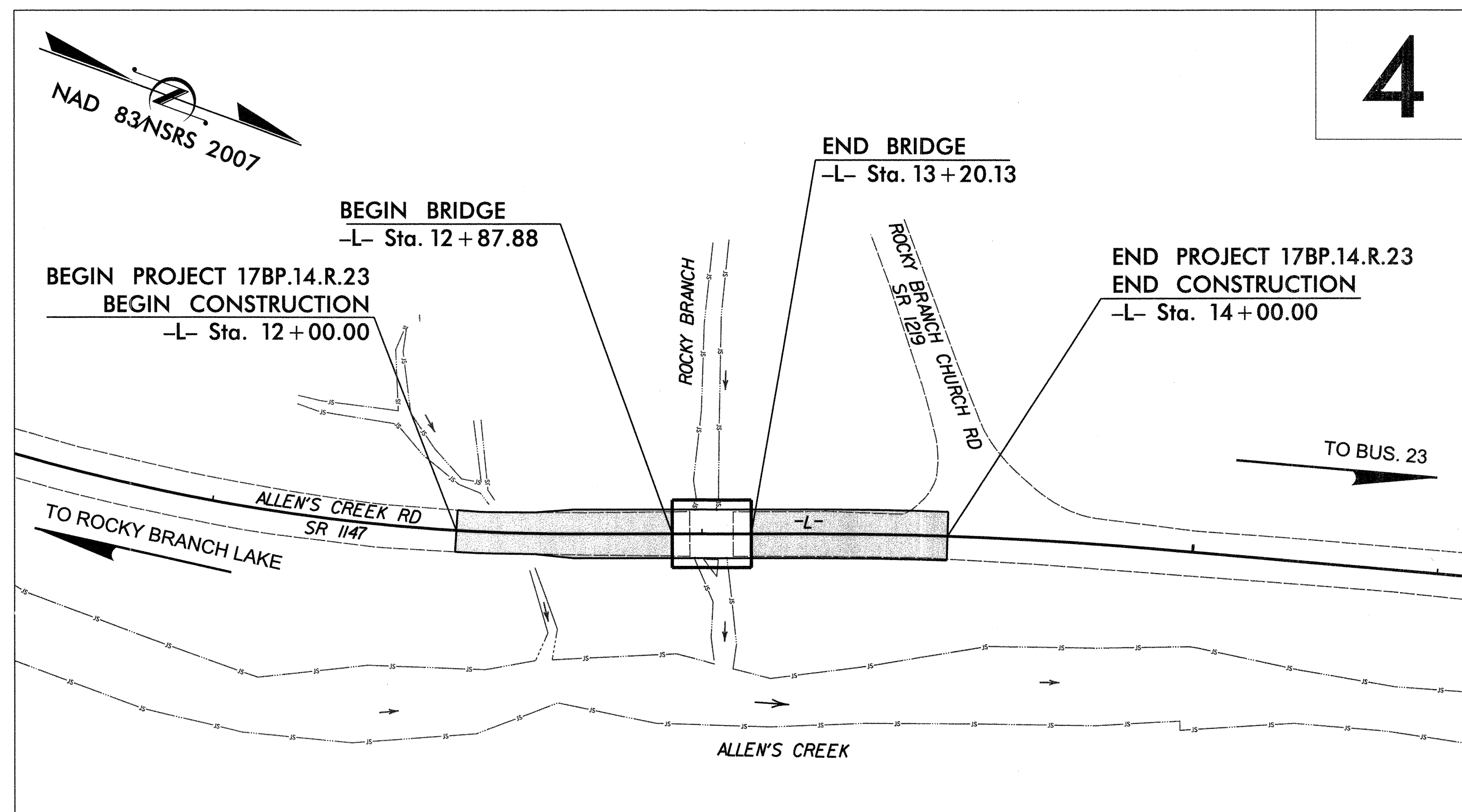
PROFILE (HORIZONTAL)

PROFILE (VERTICAL)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HAYWOOD COUNTY

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



LENGTH ROADWAY PROJECT	=	0.032 MILES
LENGTH STRUCTURES PROJECT	=	0.006 MILES
TOTAL LENGTH PROJECT	=	0.038 MILES

WILLIAM TILLITT, PE
PROJECT DESIGN ENGINEER

[Signature] 3-21-13 P.E.

**ROADWAY DESIGN
ENGINEER**

SEAL 12786

ENGINEER
STEVEN M. BONDRO

**NORTH CAROLINA
PROFESSIONAL**

SIGNATURE:

[Signature] 3/21/13 P.E.

**ROADWAY DESIGN
ENGINEER**

SEAL 16003

ENGINEER
DEAN HARTFILL

**NORTH CAROLINA
PROFESSIONAL**

SIGNATURE:



STATE HIGHWAY DESIGN ENGINEER

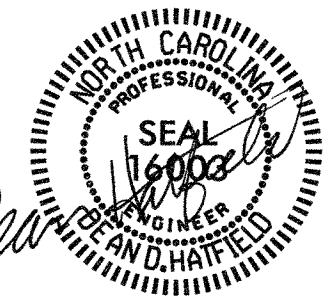
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PROJECT REFERENCE NO.
17BPJ4R.23

SHEET NO.
1A

ROADWAY DESIGN
ENGINEER



REGISTERED ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS

INDEX OF SHEETS

SHEET NUMBER	SHEET
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1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
3	SUMMARY OF QUANTITIES
3A	SUMMARIES OF EARTHWORK, GUARDRAIL, PAVEMENT REMOVAL & DRAINAGE QUANTITIES
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-2	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-3	EROSION CONTROL PLANS
X-1 THRU X-5	CROSS-SECTIONS
S-1 THRU S-12	STRUCTURE PLANS

GENERAL NOTES

GENERAL NOTES:	2012 SPECIFICATIONS EFFECTIVE: 01-17-12 REVISED: 11/01/11
GRADING AND SURFACING OR RESURFACING AND WIDENING:	THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.
CLEARING:	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 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.
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.
RIGHT-OF-WAY MARKERS:	ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

ROADWAY ENGLISH STANDARD DRAWINGS

2012 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 January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:	
STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
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
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

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	----->x
Property Monument	ECM
Parcel/Sequence Number	(23)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-WLB-
Proposed Wetland Boundary	-WLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-
Known Soil Contamination: Area or Site	☠
Potential Soil Contamination: Area or Site	☠

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

Standard Gauge	
RR Signal Milepost	○
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 Drainage / Utility Easement	-DUE-
Proposed Permanent Utility Easement	-PUE-
Proposed Temporary Utility Easement	-TUE-
Proposed Aerial Utility Easement	-AUE-

ROADS AND RELATED FEATURES:

Proposed Permanent Easement with Iron Pin and Cap Marker	◆
Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Curb Ramp	CR
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	⊕
Pavement Removal	XXXXX

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	⊗
Storm Sewer	-S-

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

TV Satellite Dish	⊗
TV Pedestal	⊗
TV Tower	⊗
U/G TV Cable Hand Hole	-----
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	-UTL-
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	UST
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊗
U/G Test Hole (S.U.E.*)	⊗
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

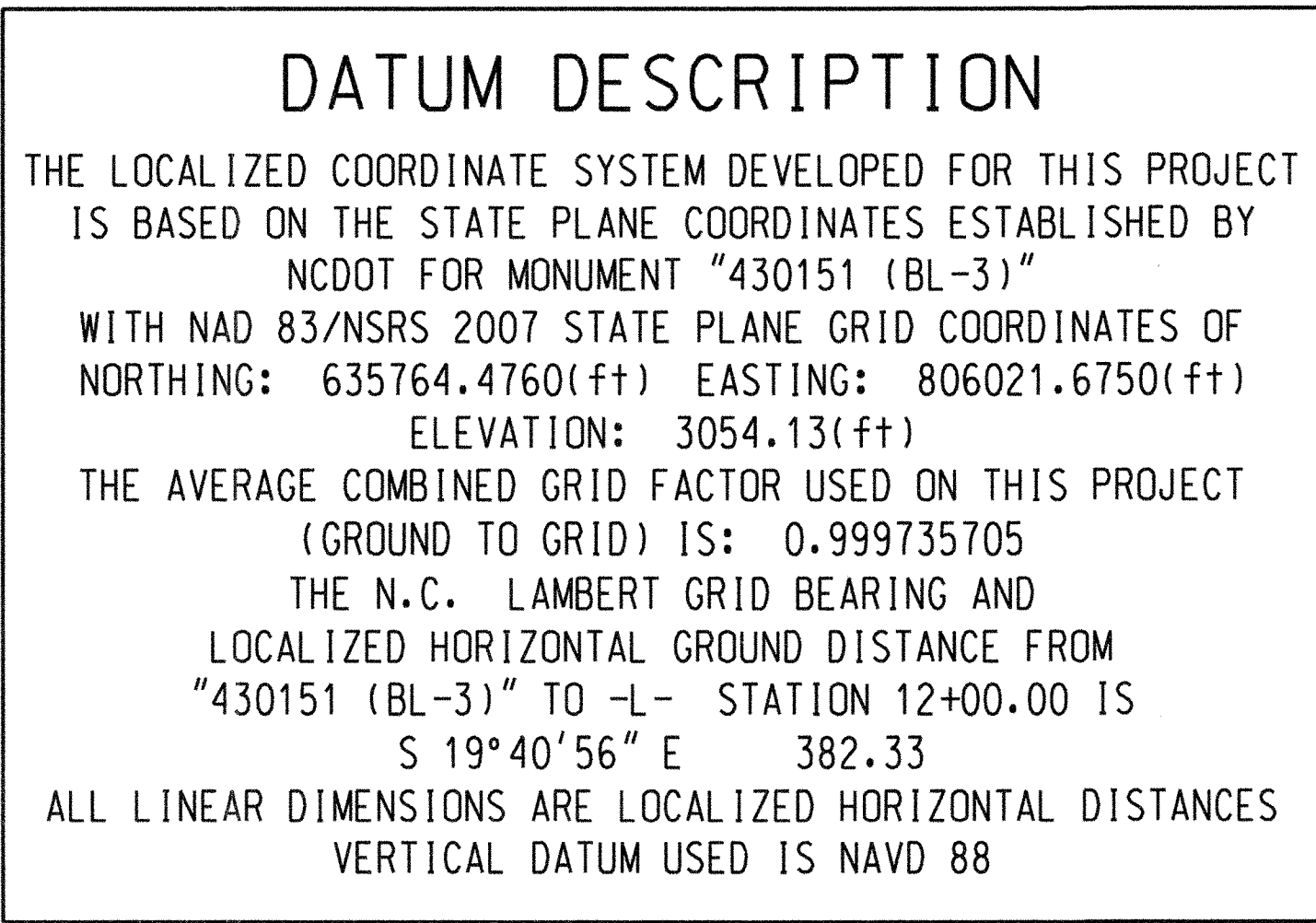
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XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
BM1          ELEVATION = 3062.79
N 635455     E 806121
BL STATION 6+62.00 3 LEFT
RR SPIKE IN BASE 16" POPLAR
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

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-FINAL- PDE MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	12+40.00	-35.00	635430.7291	806104.9752
L	13+03.24	-35.00	635489.6660	806083.2342
L	13+02.77	-25.00	635492.6913	806092.7773
L	13+90.00	20.00	635589.7909	806105.4471
L	13+90.00	50.00	635599.4140	806133.8618
L	13+75.00	50.00	635585.7037	806138.5816
L	13+75.00	20.00	635575.7969	806110.2645



1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
430151 LS CONTROL.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.

GEOID MODEL – G09NC
NOTE: DRAWING NOT TO SCALE

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

Line Item	Des	Sec No.	Description	Quantity	Unit
1	0000100000-N	800	MOBILIZATION	1	LS
2	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS
3	0001000000-E	200	CLEARING & GRUBBING (0.25 Acres)	1	LS
4	0008000000-E	200	SUPPLEMENTARY CLEARING & GRUB-BING	1	ACR
5	0022000000-E	225	UNCLASSIFIED EXCAVATION	70	CY
6	0036000000-E	225	UNDERCUT EXCAVATION	50	CY
7	0043000000-N	226	GRADING	1	LS
8	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	30	SY
9	0195000000-E	265	SELECT GRANULAR MATERIAL	50	CY
10	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	50	SY
11	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL MINOR STRUCTURES	10	TON
12	0320000000-E	300	FOUNDATION CONDITIONING GEO-TEXTILE	30	SY
13	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	56	LF
14	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	30	LF
15	1011000000-N	500	FINE GRADING (120 SY)	1	LS
16	1099700000-E	505	CLASS IV SUBGRADE STABILIZA- TION	50	TON
17	1220000000-E	545	INCIDENTAL STONE BASE	50	TON
18	1489000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0B	20	TON
19	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	80	TON
20	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	10	TON
21	1704000000-E	SP	PATCHING EXISTING PAVEMENT	10	TON
22	2000000000-N	806	RIGHT OF WAY MARKERS	11	EA
23	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	1	EA
24	2365000000-N	840	FRAME WITH TWO GRATES, STD 840.16	1	EA
25	3165000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE 350 TL-2	4	EA
26	3215000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE III	4	EA
27	3649000000-E	876	RIP RAP, CLASS B	1	TON
28	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	50	SY
29	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	161	SF
30	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	26	SF
31	4445000000-E	1145	BARRICADES (TYPE III)	32	LF
32	4450000000-N	1150	FLAGGER	32	HR
33	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	740	LF
34	5813000000-E	1530	ABANDON 24" UTILITY PIPE	10	LF
35	6000000000-E	1605	TEMPORARY SILT FENCE	340	LF
36	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	10	TON
37	6012000000-E	1610	SEDIMENT CONTROL STONE	25	TON
38	6015000000-E	1615	TEMPORARY MULCHING	0.5	ACR
39	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	50	LB
40	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	0.25	TON
41	6024000000-E	1622	TEMPORARY SLOPE DRAINS	200.00	LF
42	6029000000-E	SP	SAFETY FENCE	600.00	LF
43	6030000000-E	1630	SILT EXCAVATION	20	CY
44	6036000000-E	1631	MATTING FOR EROSION CONTROL	880	SY
45	6038000000-E	SP	PERMANENT SOIL REINFORCEMENT MAT	55	SY
46	6042000000-E	1632	1/4" HARDWARE CLOTH	40	LF
47	6070000000-N	1639	SPECIAL STILLING BASIN	1	EA
48	6071010000-E	SP	WATTLE	40	LF
49	6071020000-E	SP	POLYACRYLAMIDE (PAM)	5	LB
50	6084000000-E	1660	SEEDING & MULCHING	0.5	ACR
51	6087000000-E	1660	MOWING	0.5	ACR
52	6090000000-E	1661	SEED FOR REPAIR SEEDING	50	LB
53	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	0.25	TON
54	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	50	LB
55	6108000000-E	1665	FERTILIZER TOPDRESSING	0.25	TON
56	6111000000-E	SP	IMPERVIOUS DIKE	6	LF
57	6114500000-N	1667	SPECIALIZED HAND MOWING	10	MHR
58	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	1	EA
59	6123000000-E	1670	REFORESTATION	0.10	ACR
60	8035000000-N	402	STRUCTURES		
61	8182000000-E	420	REMOVAL OF EXISTING STRUCTURE AT STATION -L- 13+04.00	1	LS
62	8210000000-N	420	CLASS A CONCRETE (BRIDGE)	40	CY
63	8217000000-E	422	BRIDGE APPROACH SLABS, STATION -L- 13+04.00	1	LS
64	8364000000-E	425	REINFORCING STEEL (BRIDGE)	4,898	LB
65	8391000000-N	450	HP12X53 STEEL PILES	175	LF
66	8505000000-E	460	STEEL PILE POINTS	10	EA
67	8601000000-E	460	VERTICAL CONCRETE BARRIER RAIL	60.25	LF
68	8657000000-N	876	RIP RAP, CLASS II (1'-6" THICK)	39	TON
69	8762000000-E	430	ELASTOMERIC BEARINGS	1	LS
		430	3'-0" X 1'-9" PRESTRESSED CONC CORED SLABS	300	LF

REVISIONS

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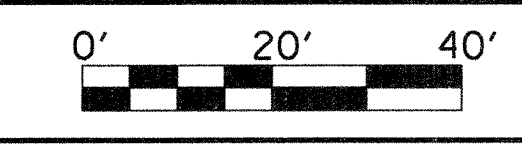
GUARDRAIL SUMMARY

SUMMARY OF EARTHWORK (IN CUBIC YARDS)

PAVEMENT REMOVAL SUMMARY

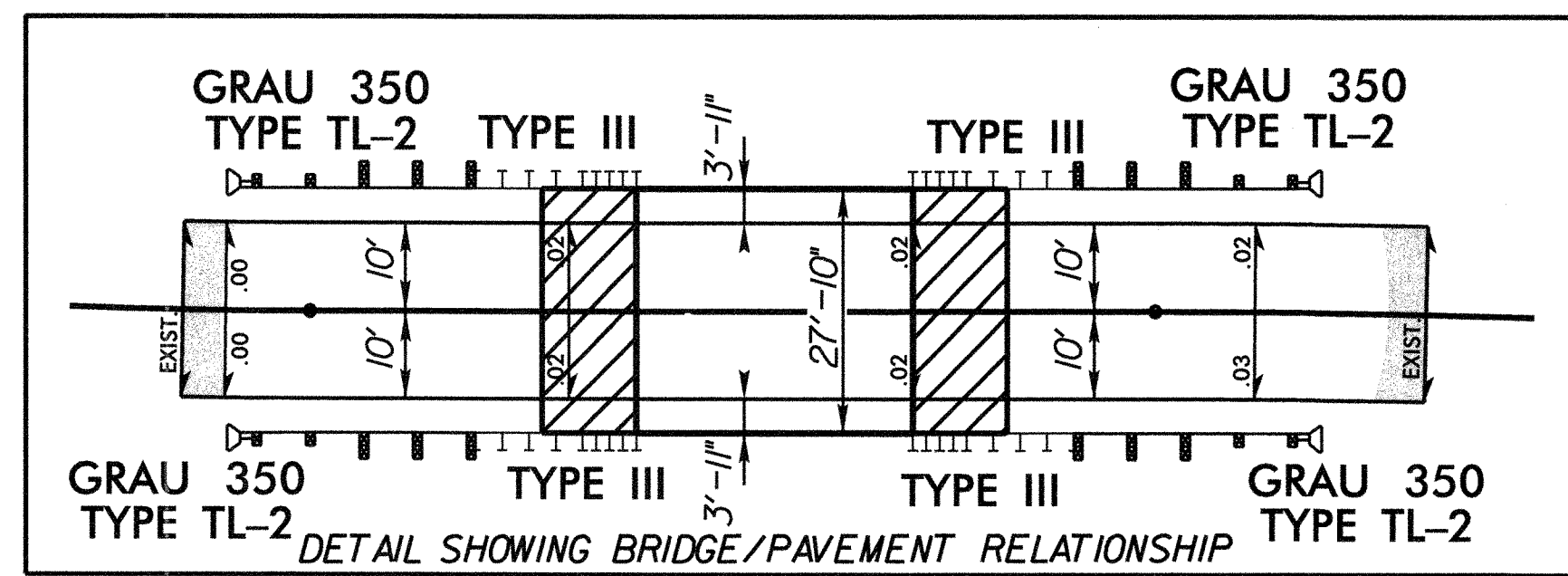
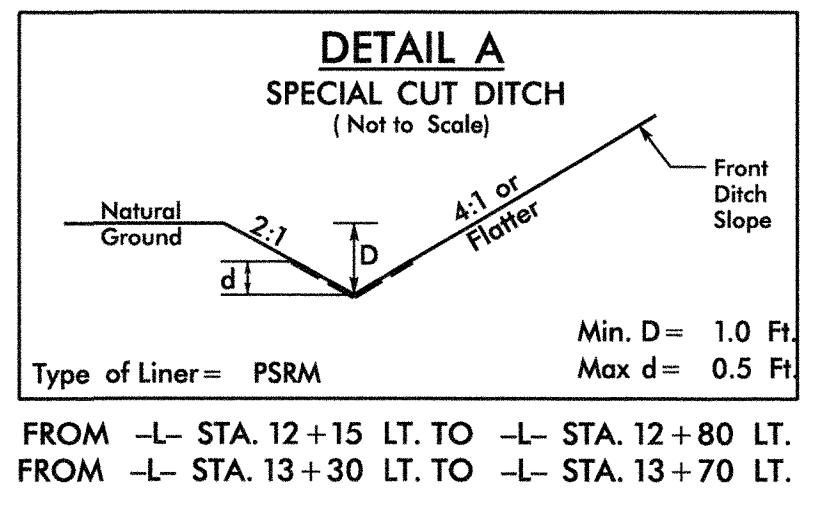
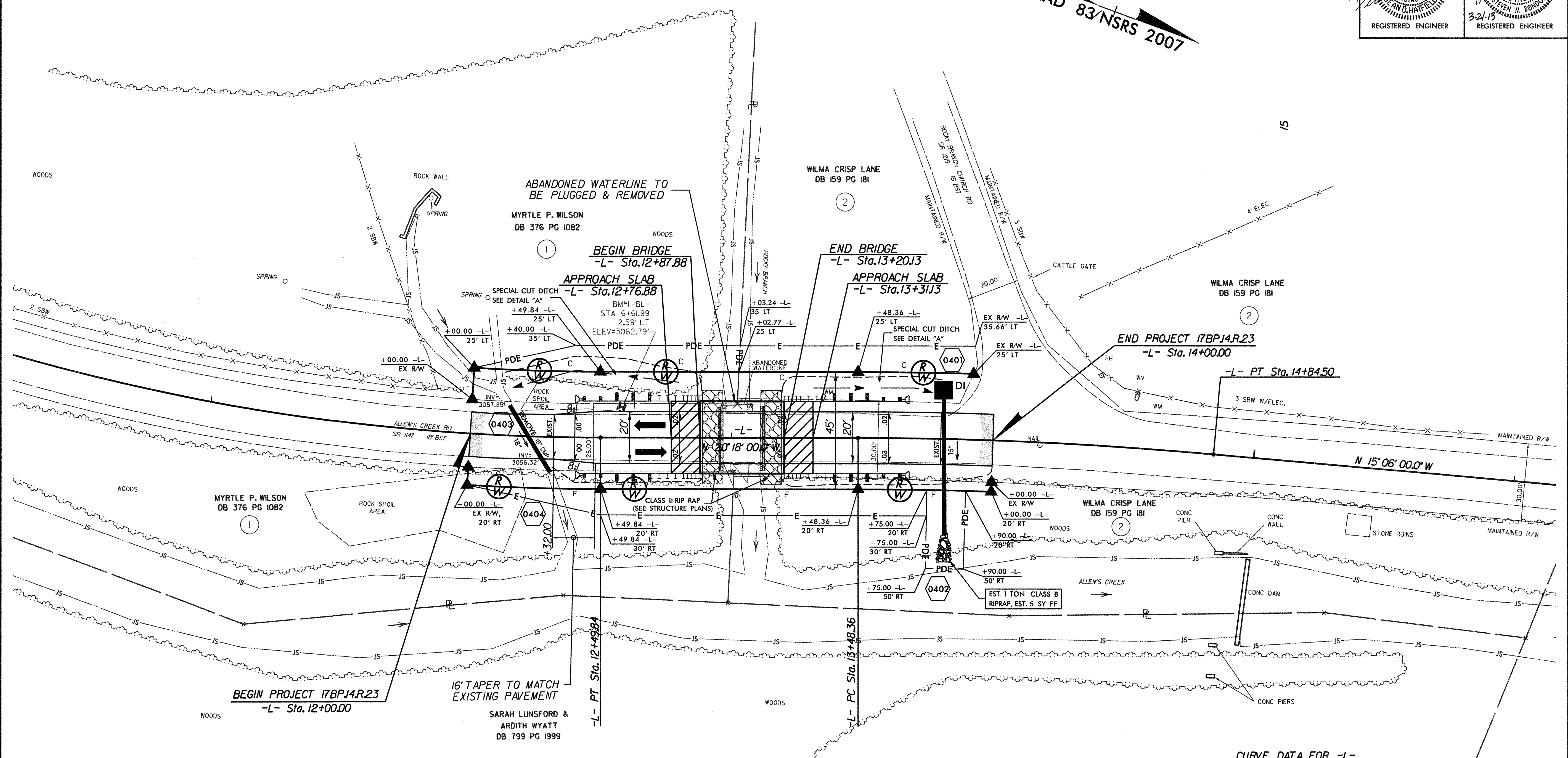
CONTINGENCY ITEMS
UNDERCUT EXCAVATION 50 CY
SELECT GRANULAR MATERIAL 50 CY
GEOTEXTILE FOR SOIL STABILIZATION 50 SY
CLASS IV SUBGRADE STABILIZATION 50 TON
INCIDENTAL STONE BASE 50 TON

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)



PROJECT REFERENCE NO. 17BPJ4.R.23		SHEET NO. 4
RW SHEET NO.		
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 	
REGISTERED ENGINEER	REGISTERED ENGINEER	

NAD 83/NSRS 2007



CURVE DATA FOR -L-

PI Sta 11+25.90 Δ = 17° 29' 19.9" (LT) D = 7° 00' 00.0" L = 249.84' T = 125.90' R = 818.51' Se = EXIST.	PI Sta 14+16.48 Δ = 5° 12' 00.0" (RT) D = 3° 49' 11.0" L = 136.14' T = 68.11' R = 1,500.00' Se = EXIST.
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SEE SHEET 5 FOR PROFILE
SEE SHEETS S-1 THRU S-12 FOR STRUCTURE PLANS

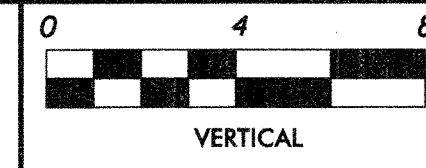
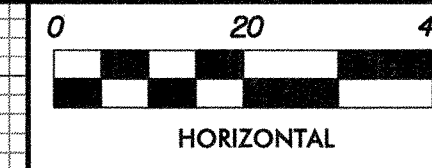
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THE LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, North Carolina 27605



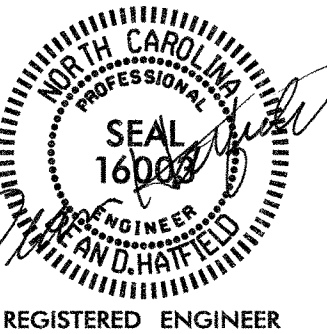
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17BP14R.23

SHEET NO.

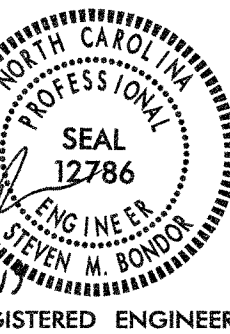
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ROADWAY DESIGN
ENGINEER



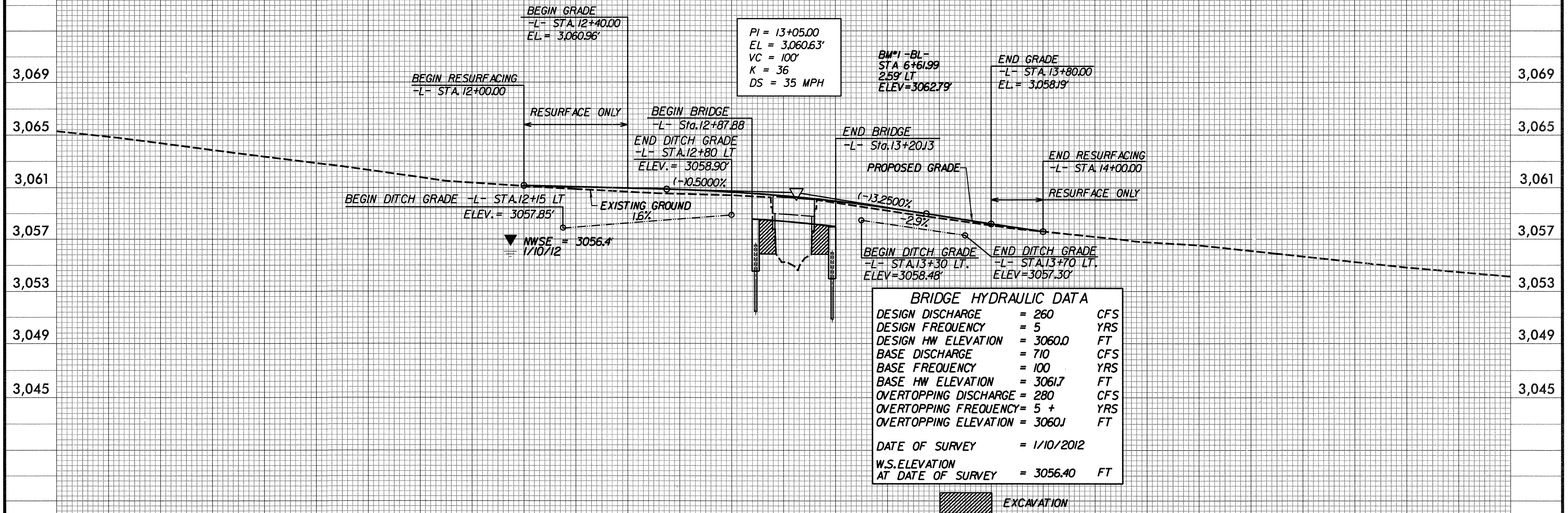
REGISTERED ENGINEER

HYDRAULICS
ENGINEER



REGISTERED ENGINEER

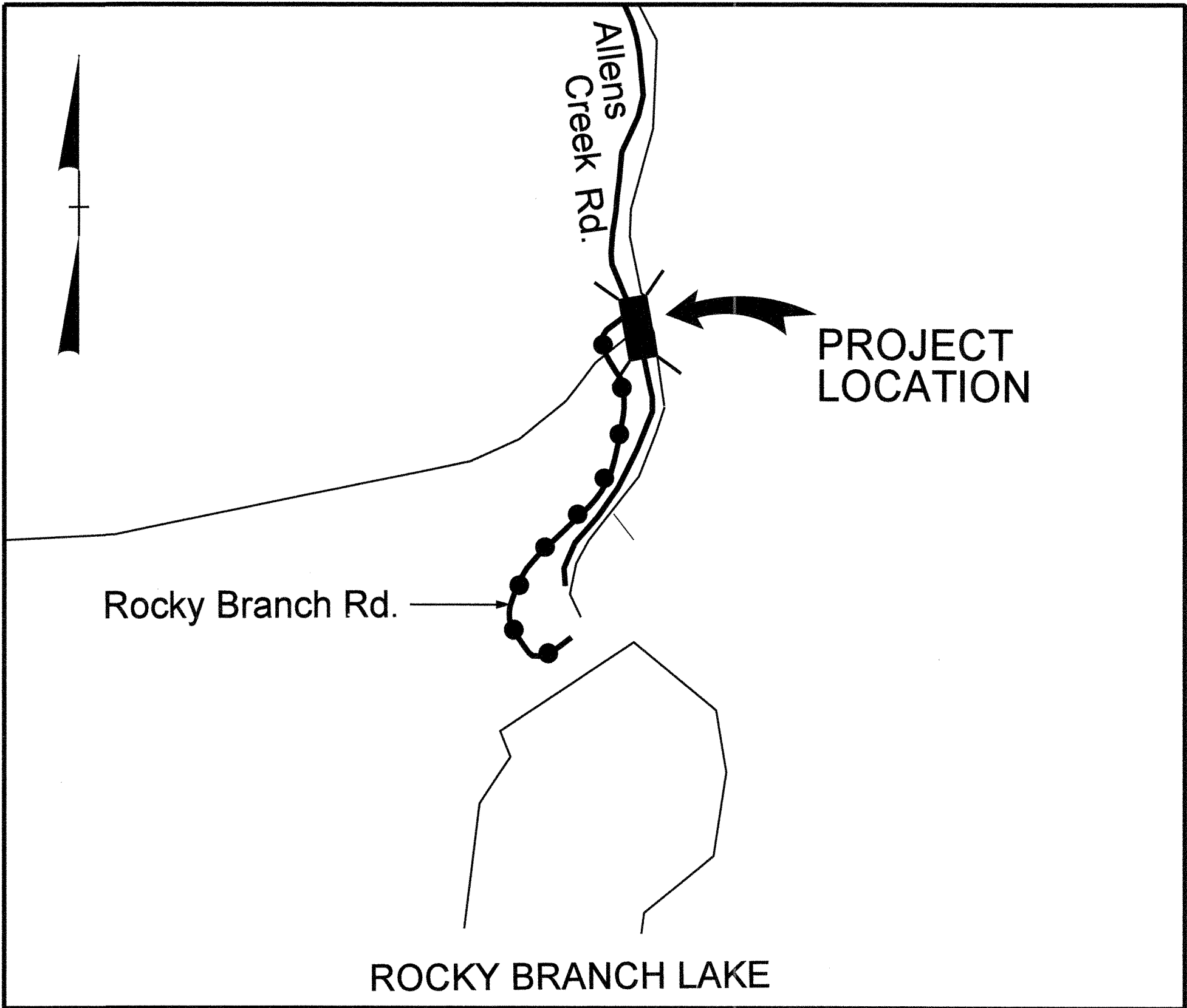
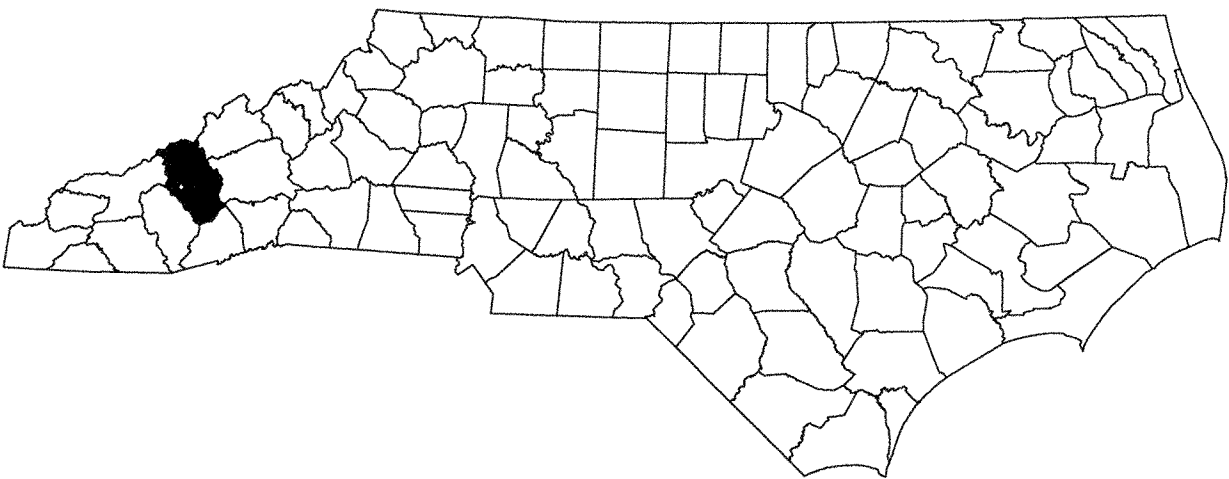
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SEE SHEET 4 FOR PLAN

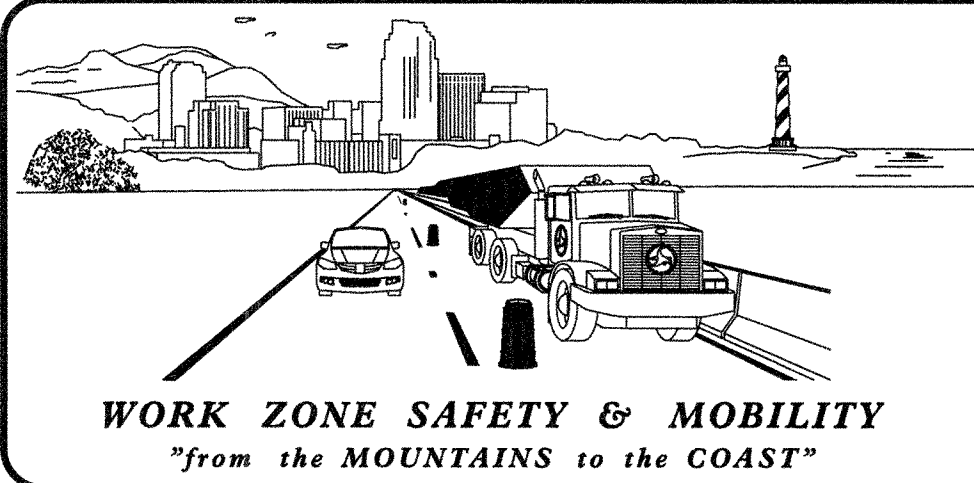
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN
HAYWOOD COUNTY



VICINITY MAP NTS
OFF-SITE DETOUR

LOCATION: BRIDGE NO. 151 ON SR 1147 OVER ROCKY BRANCH



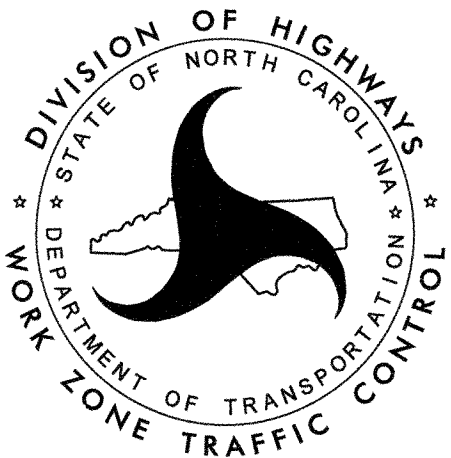
N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER

TRAFFIC CONTROL PROJECT ENGINEER

TRAFFIC CONTROL PROJECT DESIGN ENGINEER

TRAFFIC CONTROL DESIGN ENGINEER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND TEMPORARY PAVEMENT MARKING
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES) AND SPECIAL SIGN DESIGN
TMP-2	OFF SITE DETOUR ROUTE AND SIGNING

SHEET NO.
TMP-1

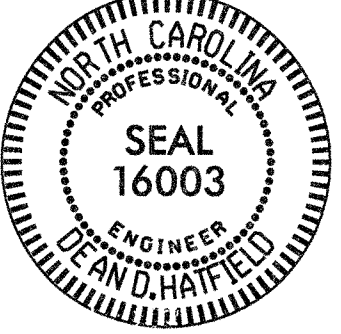
PROJECT: 17BP.14.R.23



THE LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, North Carolina 27605

APPROVED: *Day Hatfield*
DATE: 3/21/13

SEAL



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1100_PDF_full.pltcf9

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" -
PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C.,
DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE
CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES

LEGEND

GENERAL

⇐ DIRECTION OF TRAFFIC FLOW
↗ NORTH ARROW

TEMPORARY SIGNING

└ STATIONARY SIGN

PAVEMENT MARKINGS

— EXISTING LINES
— TEMPORARY LINES

TRAFFIC CONTROL DEVICES

▨ BARRICADE (TYPE III)

APPROVED: *Dan Hefner* DATE: 3/21/13

SEAL

NORTH CAROLINA

PROFESSIONAL

SEAL

16003

ENGINEER

DEAN D. HARTFELD

DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA

SEAL

DEPARTMENT OF TRANSPORTATION

WORK ZONE TRAFFIC CONTROL

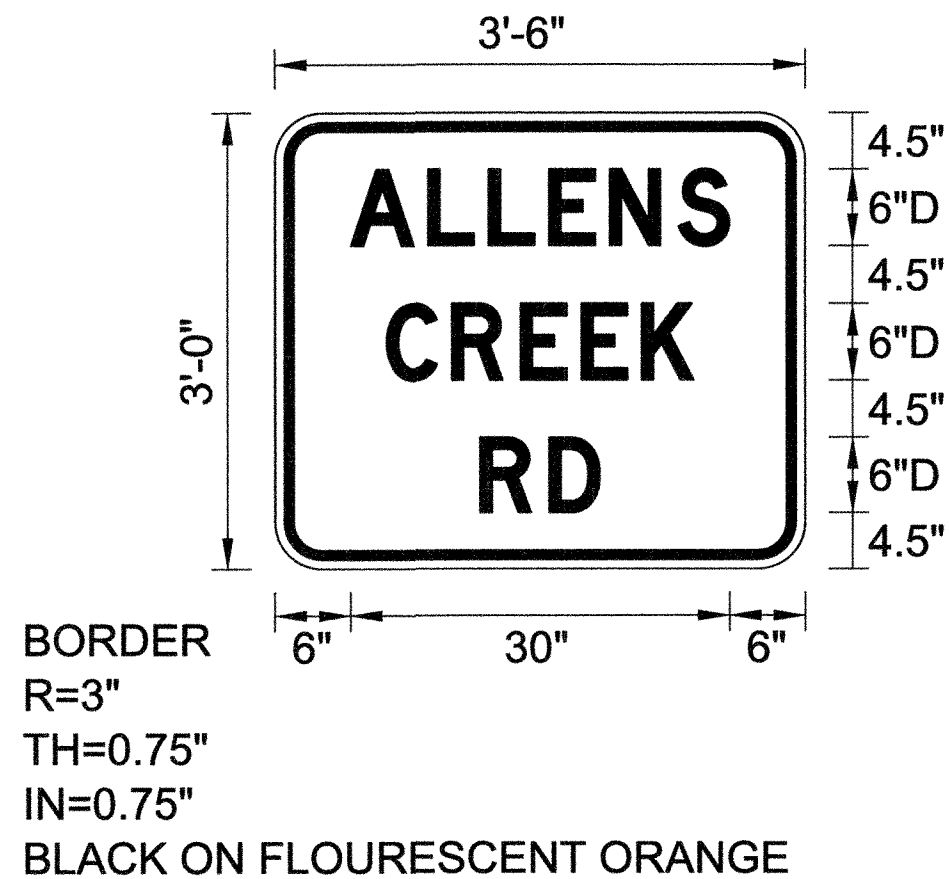
ROADWAY STANDARD
DRAWINGS & LEGEND

PROJECT PHASING

PHASE I

- STEP 1) INSTALL OFF SITE DETOUR AND ROAD CLOSURE SIGNING AS SHOWN ON SHEET TMP-2 AND INSTALL DETOUR SIGNING ON NORTH END OF PROJECT AS SHOWN ON RSD 1101.03, SHEET 2 OF 9.
- STEP 2) CLOSE ALLENS CREEK RD. FROM -L- STA. 11+90 +/- TO -L- STA. 13+80 +/- AND PLACE TRAFFIC ONTO OFF SITE DETOUR AS SHOWN ON SHEET TMP-2. AT THE END OF THE WORK PERIOD, TRAFFIC WILL BE OPERATING ON OFFSITE DETOUR IN A TWO WAY TWO LANE TRAFFIC PATTERN.
- STEP 3) REMOVE EXISTING BRIDGE #151 AND APPROACHES AND CONSTRUCT THE PROPOSED BRIDGE AND APPROACHES UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA. 12+00 +/- TO -L- STA. 13+80 +/- . USE FLAGGER TO COMPLETE CONSTRUCTION BETWEEN STA 13+80 +/- TO 14+00 +/- . PLACE BARRICADES AS SHOWN ON NORTH END OF PROJECT AT THE END OF EACH WORK PERIOD. PLACE ALL MATERIALS AND EQUIPMENT SOUTH OF BARRICADES AT STA. 13+80 +/- .
- STEP 4) INSTALL FINAL PAINT PAVEMENT MARKINGS AS PER FINAL PAVEMENT MARKING PLANS.
- STEP 5) REMOVE ALL TYPE III BARRICADES AND ALL SIGNING AND REOPEN ALLENS CREEK RD. TO A TWO-LANE, TWO-WAY PATTERN.

SPECIAL SIGN DETAIL



LETTER POSITIONS

6	A	L	L	E	N	S	6
	6.1	4.8	4.8	4.8	5.5	4	

8.8	C	R	E	E	K	8.8
	5.2	5.5	4.8	4.7	4.2	

16.2	R	D	16.2
	5.5	4	

NOTE:

1. LETTER SPACINGS ARE TO START OF NEXT LETTER.
2. LEGEND AND BORDER SHALL BE DIRECT APPLIED BLACK NON-REFLECTIVE SHEETING.
3. BACKGROUND SHALL BE TYPE VII, VIII, OR IX (PRISMATIC) FLOURESCENT ORANGE RETRORREFLECTIVE SHEETING.

GENERAL NOTES /
LOCAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- B) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

- C) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

- D) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- E) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

- F) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

APPROVED: *[Signature]* DATE: 3/21/13

SEAL

NORTH CAROLINA

PROFESSIONAL

ENGINEER

16003

DEAN D. HARTFIELD

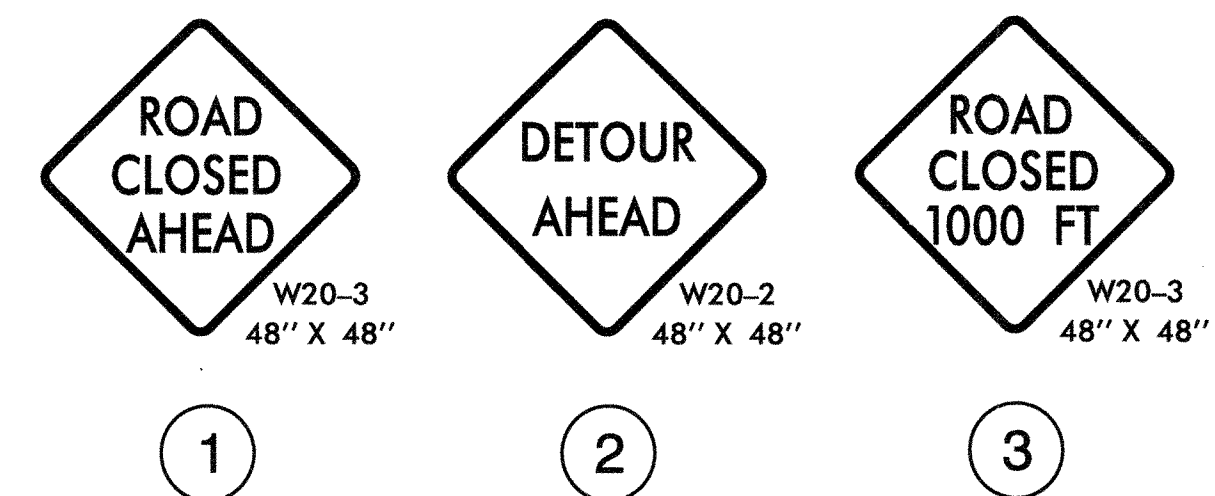
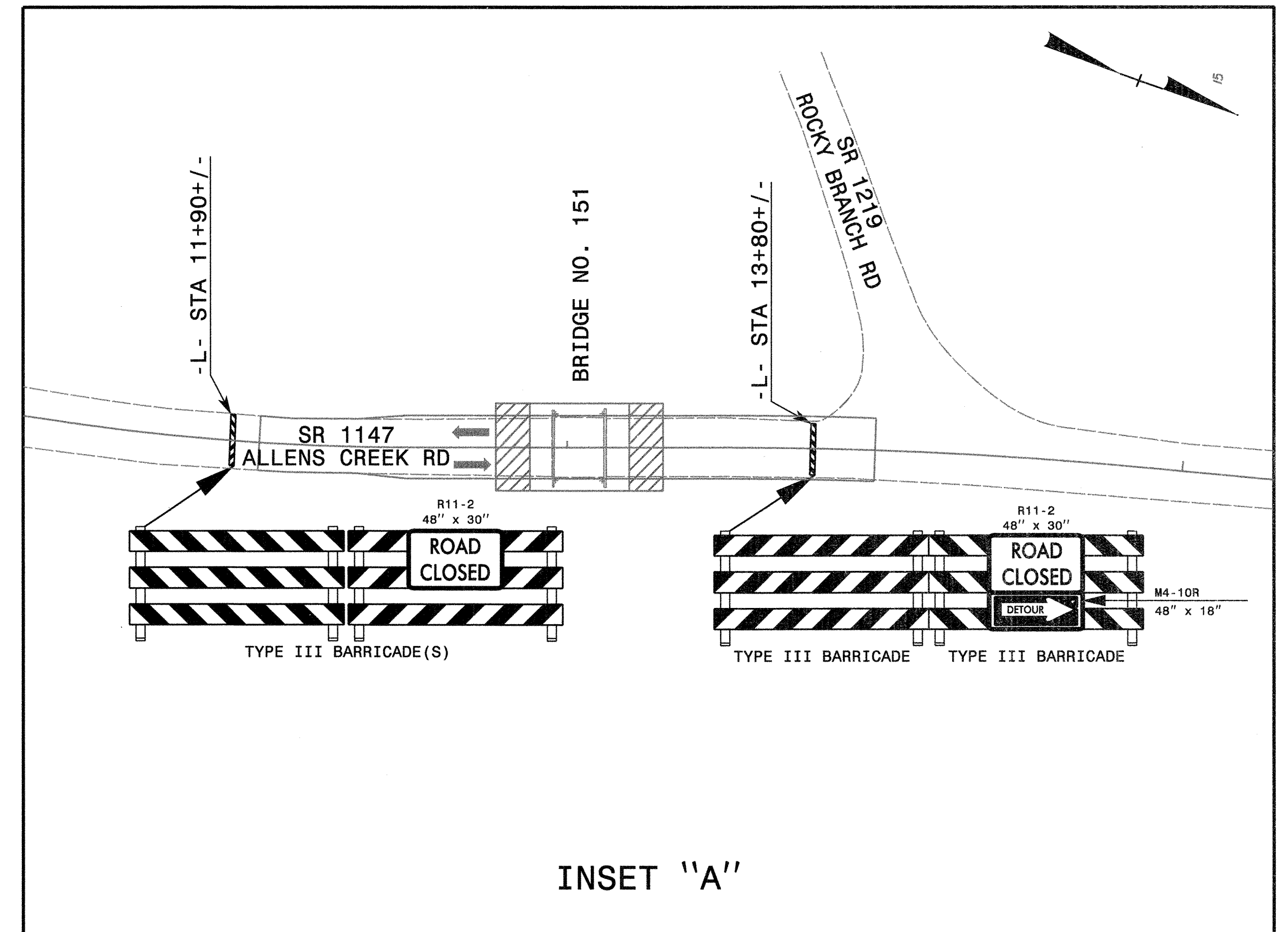
DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

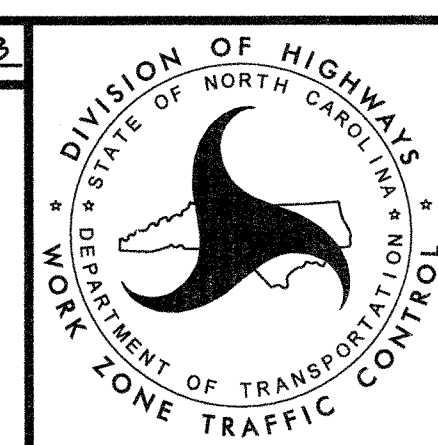
WORK ZONE TRAFFIC CONTROL

TRANSPORTATION
OPERATIONS
PLAN



- FOR CONSTRUCTION PHASING NOTES, SEE SHEET TMP-1B.
- ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE. FOR SIGNS 1 & 2, SEE ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9 FOR SIGN PLACEMENT AND APPLICABLE NOTES.
- ALL DETOUR SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE NOTED.

THE LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, North Carolina 27605



OFF SITE DETOUR ROUTE AND SIGNING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

STATE	PROJECT NO.	SHEET NO.	TOTAL SHTS.
N.C.	17BP.14.R.23	PMP-1	2
APPROVED: <i>[Signature]</i>			
DATE: 3/21/13			
SEAL			
			

PAVEMENT MARKING PLANS

LOCATION: BRIDGE NO.151 ON SR 1147 OVER ROCKY BRANCH, HAYWOOD COUNTY

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINATION TYPES
1262.02	GUARDRAIL END DELINATION

PAVEMENT MARKING SCHEDULE

ASPHALT PAVEMENT DESIGN
(AS SHOWN)

PAVEMENT MARKING LINES
PA - PAINT - WHITE EDGELINE (4")
PI - PAINT - YELLOW DOUBLE CENTER LINE (4")

GENERAL NOTES

THE FOLLOWING NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ASPHALT PAVEMENT DESIGN:

ROAD NAME	MARKING	MARKER
ALL	PAINT	NONE
BRIDGE	PAINT	NONE

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/ REPLACE ANY CONFLICTING/ DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

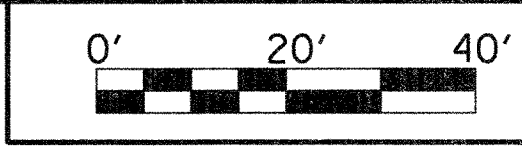
INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN COVER SHEET
PMP-2	PAVEMENT MARKING DETAIL



THE LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, NC 27605-3322

ROADWAY
PLANS

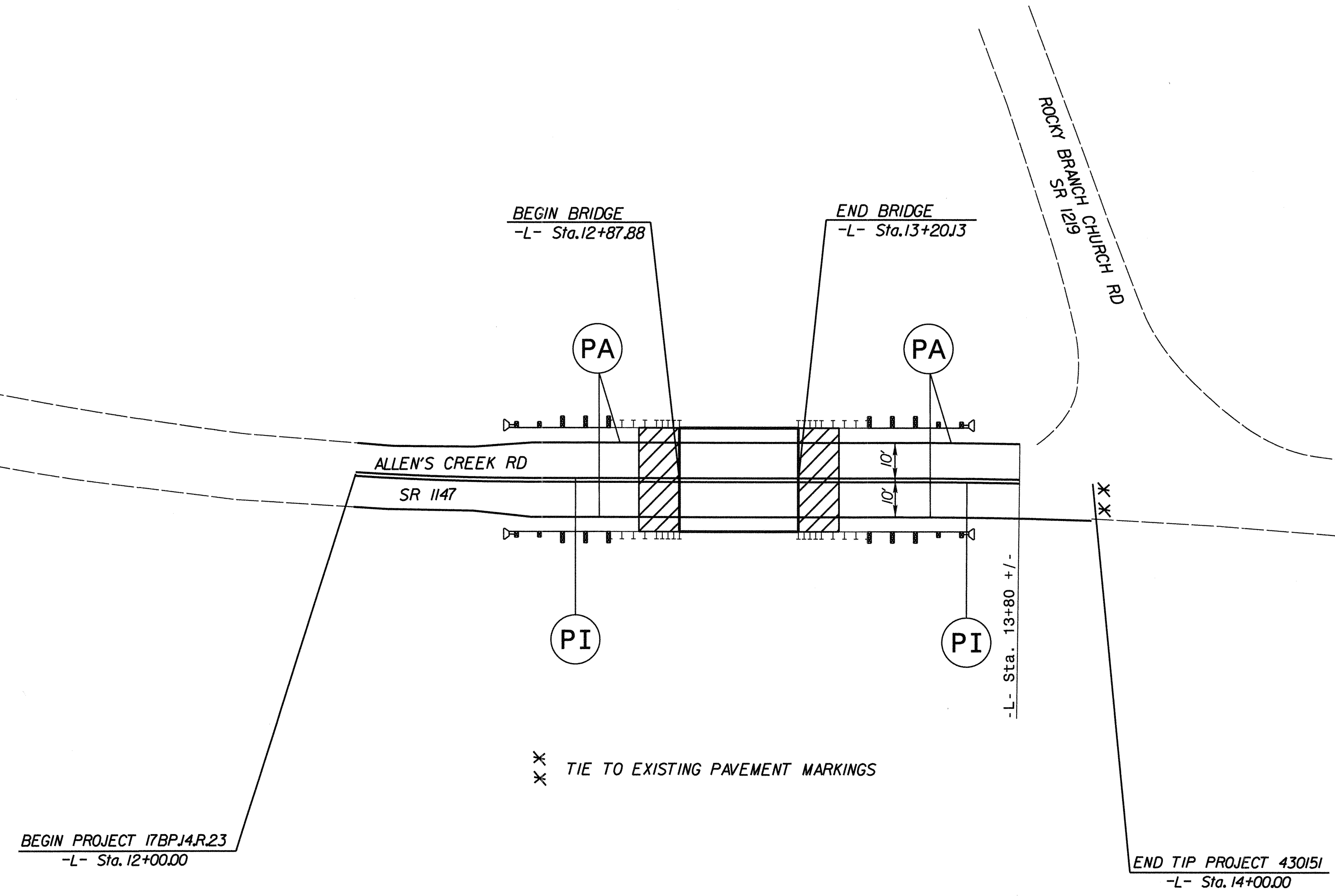


STATE	PROJECT NO.	SHEET NO.	TOTAL SHTS.
N.C.	17BP.14.R.23	PMP-2	2

APPROVED: *Dean Hatfield*
DATE: *3/21/13*



NAD 83/NSRS 2007



LEGEND

- PAINT - WHITE EDGELINE (4")
- PAINT - YELLOW DOUBLE CENTER LINE (4")

PAVEMENT MARKING DETAIL
ALLEN'S CREEK RD

Environmentally Sensitive Areas:

This project is located in an "Environmentally Sensitive Area." This designation requires special procedures to be used for clearing and grubbing, temporary stream crossings, and grading operations within the area identified on the plans. This also requires special procedures to be used for seeding and mulching and staged seeding within the project.

Clearing and Grubbing:

In areas identified on the erosion control plans as "Environmentally Sensitive Areas", the Contractor may perform clearing operations, but not grubbing operations until immediately prior to beginning grading operations as described in Section 200, Article 200-1, in the Standard Specifications. The "Environmentally Sensitive Area" shall be defined as a 50 foot buffer zone on both sides of the stream (or depression), measured from top of streambank (or center of depression). Only clearing operations (not grubbing) shall be allowed in this buffer zone until immediately prior to beginning grading operations. Erosion control devices shall be installed immediately following the clearing operation.

Grading:

Once grading operations begin in identified "Environmentally Sensitive Areas", work will progress in a continuous manner until complete. All construction within these areas must progress in a continuous manner such that each phase is complete and areas permanently stabilized prior to beginning of next phase. Failure on the part of the Contractor to complete any phase of construction in a continuous manner in "Environmentally Sensitive Areas" as specified will be just cause for the Engineer to direct the suspension of work in accordance with Section 108-7 of the Standard Specifications.

Temporary Stream Crossings:

Any crossing of streams within the limits of this project must be accomplished in accordance with Section 107-13(b) of the Standard Specifications.

Seeding and Mulching:

Seeding and mulching shall be performed in accordance with Section 1660 of the Standard Specifications and vegetative cover sufficient to restrain erosion shall be installed immediately following grade establishment.

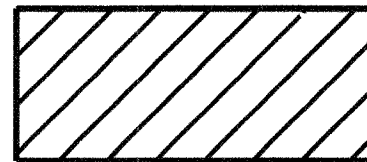
Seeding and mulching shall be performed on the areas disturbed by construction immediately following final grade establishment. No appreciable time shall lapse into the contract time without stabilization of slopes, ditches and other areas within the "Environmentally Sensitive Areas" as indicated on the erosion control plans.

Stage Seeding:

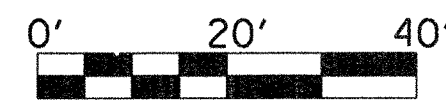
The work covered by this section shall consist of the establishment of a vegetative cover on cut and fill slopes as grading progresses. Seeding and mulching shall be done in stages on cut and fill slopes which are greater than 20 feet in height measured along the slope, or greater than 2 acres in area. Each stage shall not exceed the limits stated above.

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.



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS



PROJECT REFERENCE NO.

17BP14R23

R/W SHEET NO.

SHEET NO.

EC-01/CONST.04

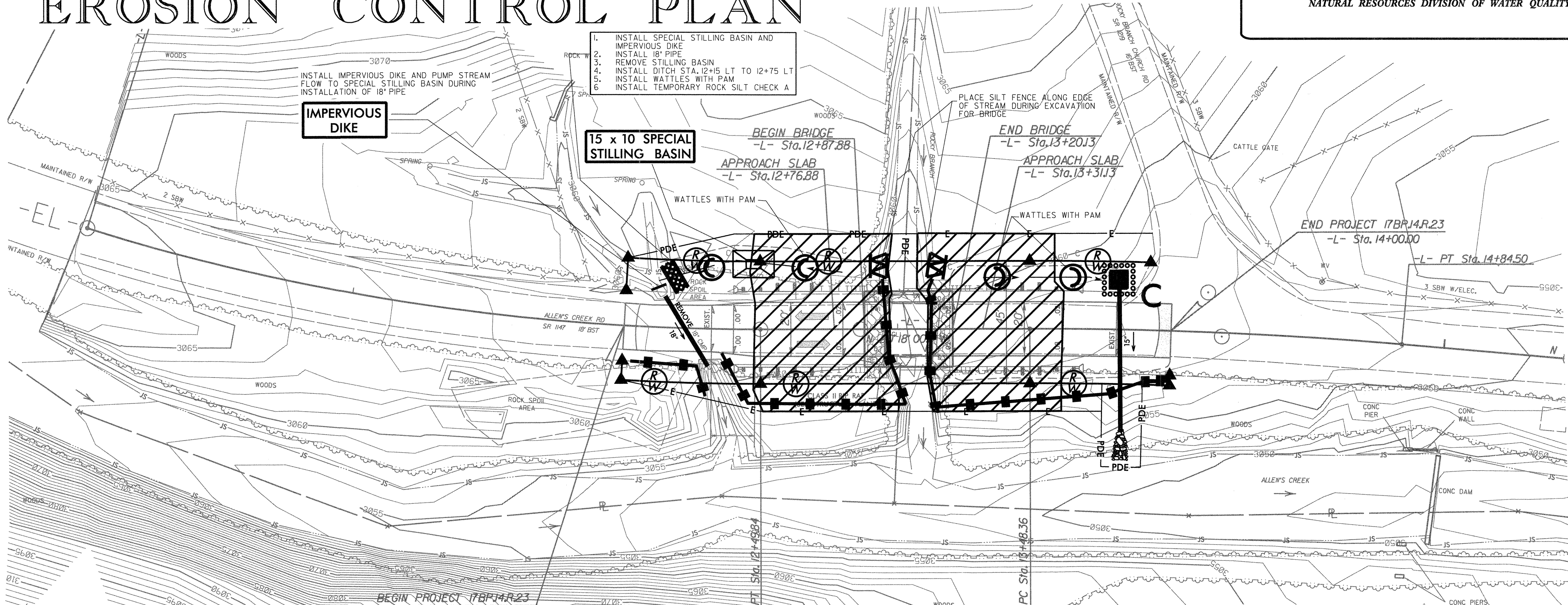
ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

RALEIGH, N.C.

2012 STANDARD SPECIFICATIONS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

EROSION CONTROL PLAN



2012 STANDARD DRAWINGS

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

Sed. #	Description	Symbol
1605.01	Temporary Silt Fence	HH HH HH
1606.01	Special Sediment Control Fence	HH HH HH
1622.01	Temporary Berms and Slope Drains	HH HH HH
1630.02	Silt Basin Type B	HH HH HH
1630.03	Temporary Silt Ditch	HH HH HH
1630.05	Temporary Diversion	HH HH HH
1630.06	Special Stilling Basin	HH HH HH
1632.03	Rock Inlet Sediment Trap Type C	HH HH HH
1633.01	Temporary Rock Silt Check Type-A	HH HH HH
1633.02	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	HH HH HH
1633.02	Temporary Rock Silt Check Type-B	HH HH HH
1633.02	Wattle	HH HH HH
1633.02	Wattle with Polyacrylamide (PAM)	HH HH HH
1634.02	Temporary Rock Sediment Dam Type-B	HH HH HH
1635.01	Rock Pipe Inlet Sediment Trap Type-A	HH HH HH

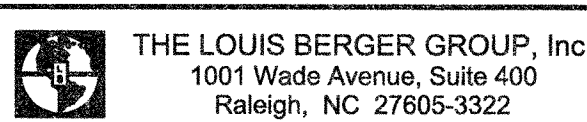
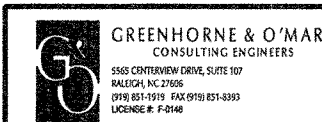
INSTALL MATTING FOR
EROSION CONTROL IN THE
PROPOSED DITCH LINE.

Crystal Moore

LEVEL III NAME

3124

LEVEL III CERTIFICATION NO.



ROADWAY
PLANS

REVISIONS

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STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

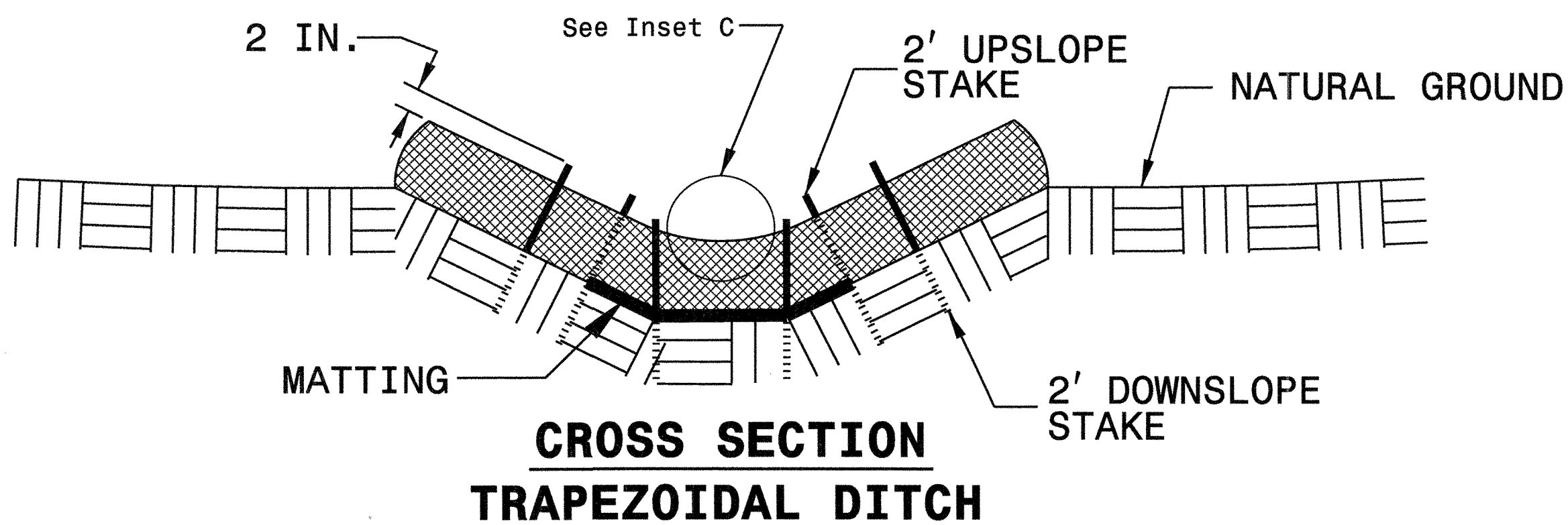
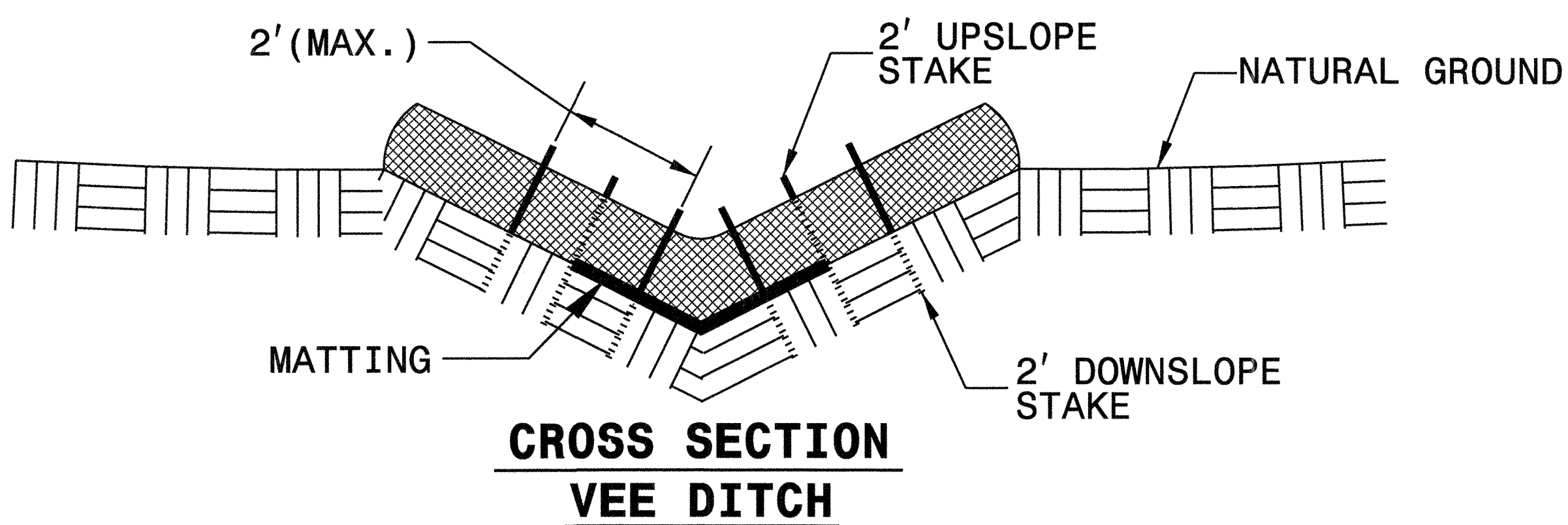
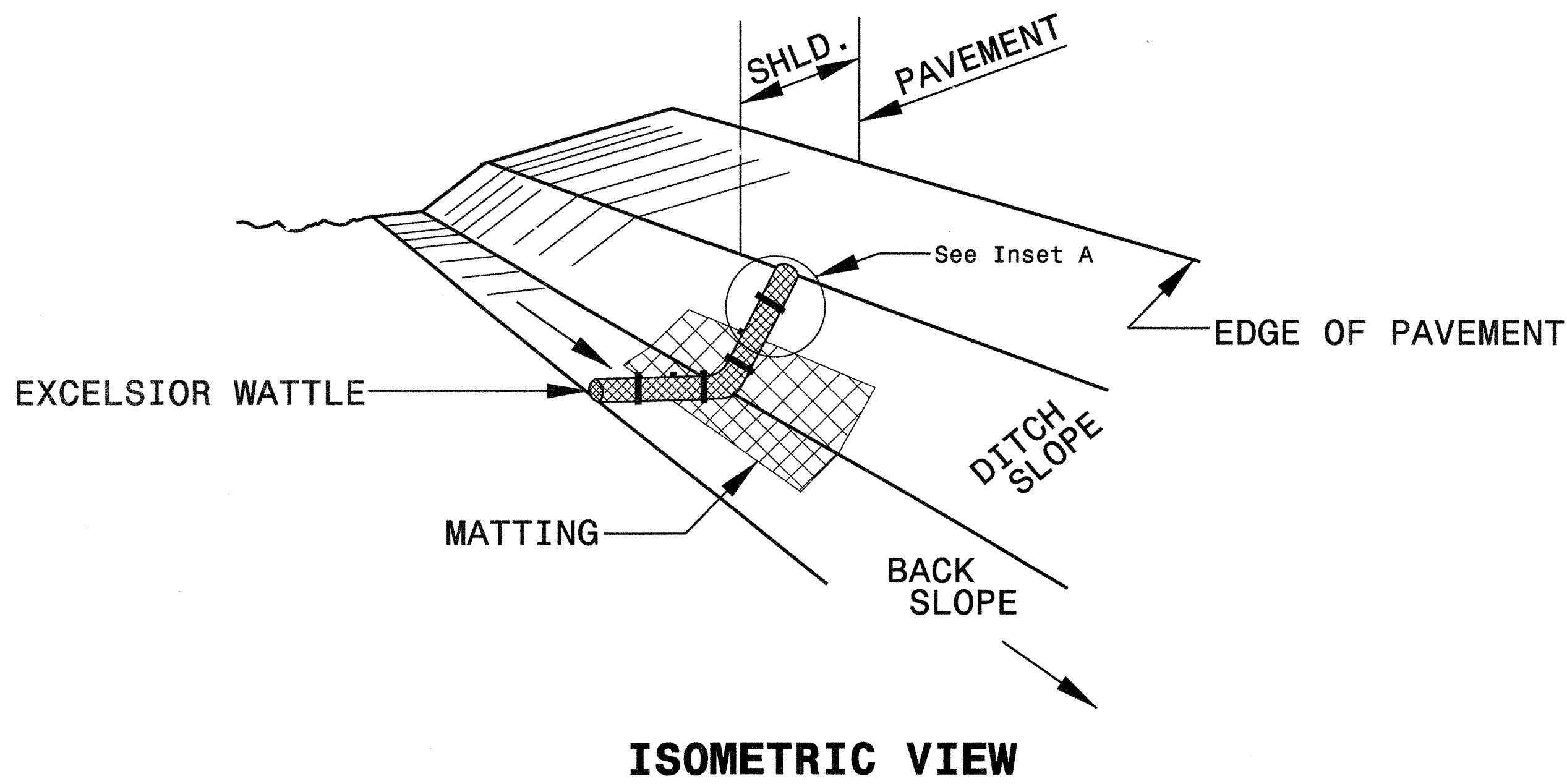
SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.

REVISIONS



WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR 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.

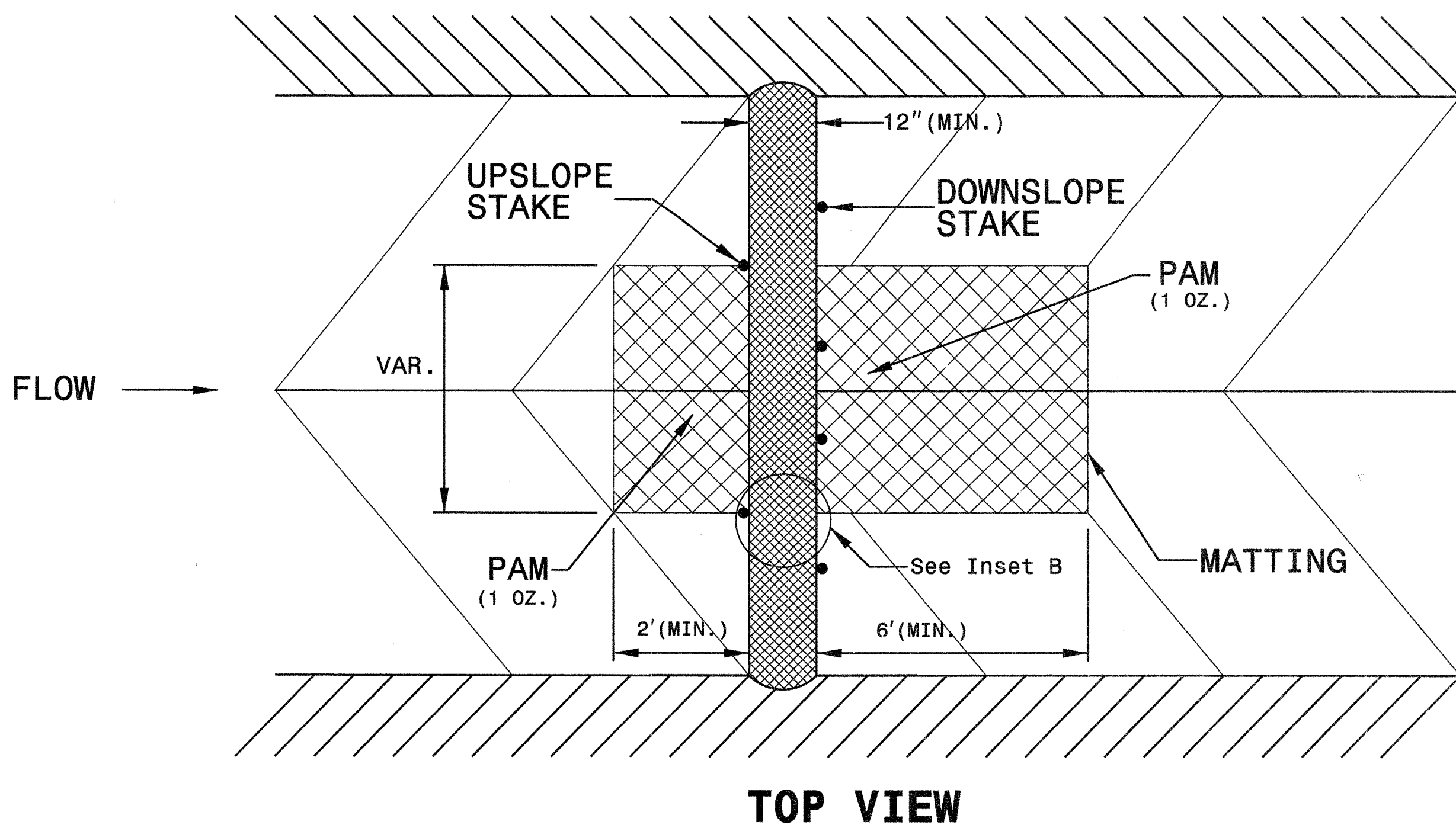
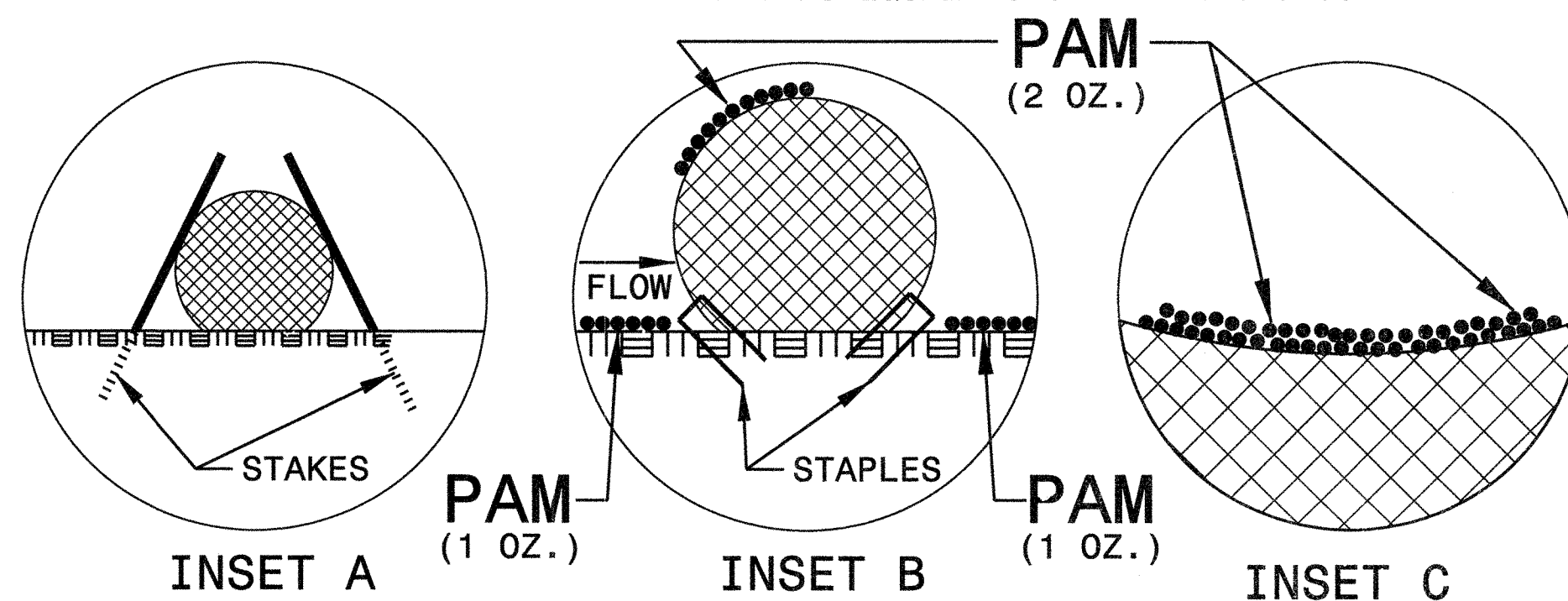
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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 0.50 IN.



REVISIONS

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17BP.14.R.23
CROSS SECTIONS

INDEX OF SHEETS

<u>TITLE</u>	<u>STATION</u>	<u>SHEET NO.</u>
CROSS-SECTION INDEX.....		X-1
CROSS-SECTION SUMMARY.....		X-1A
-L- CROSS-SECTIONS	12+40 - 13+80.....	X-2 THROUGH X-5

NOTE: Approximate quantities only. Unclassified Excavation, Fine Grading,
and Clearing and Grubbing will be paid for at the contract lump sum price for "Grading".

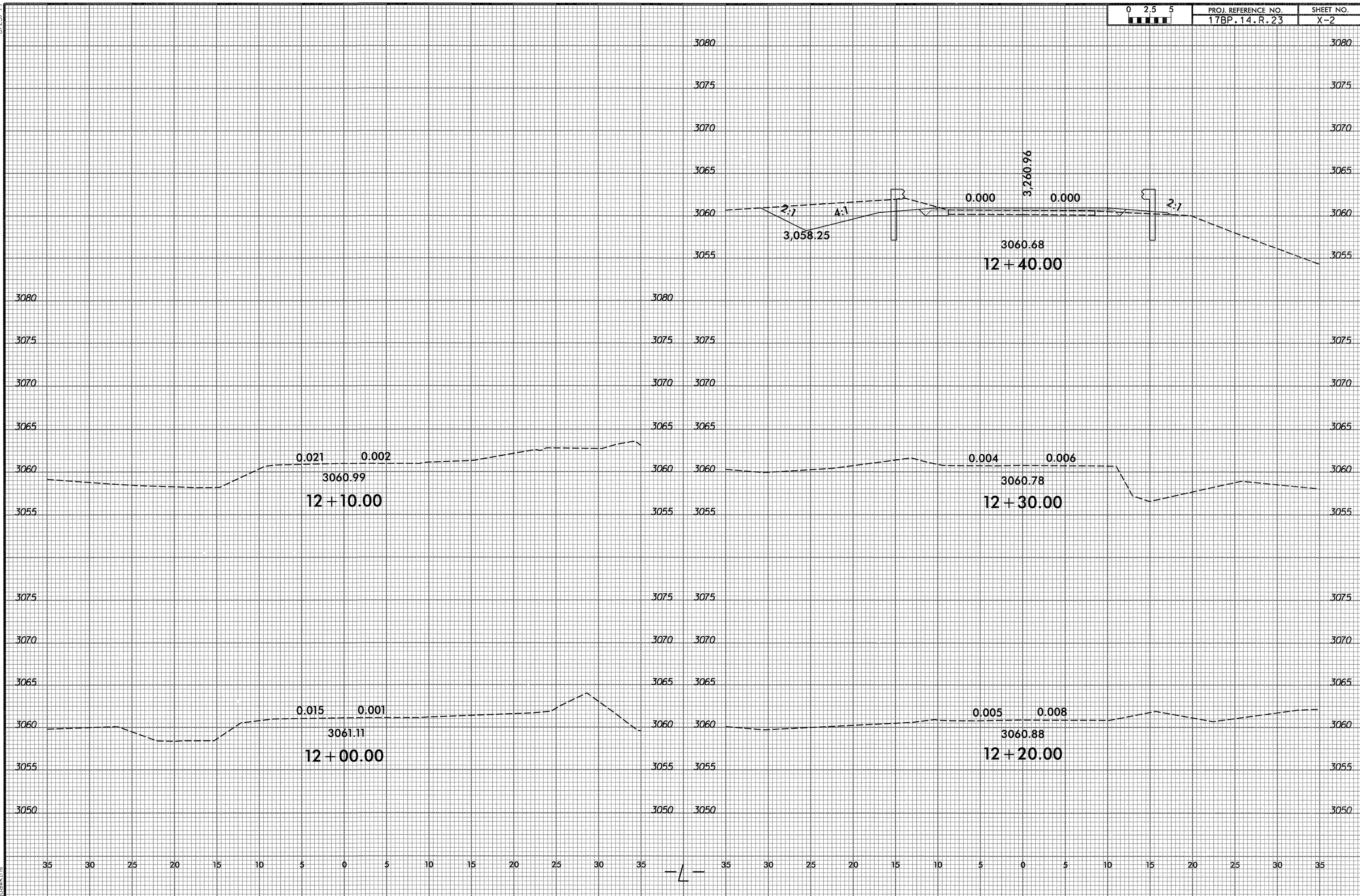
PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.23	X-1A

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

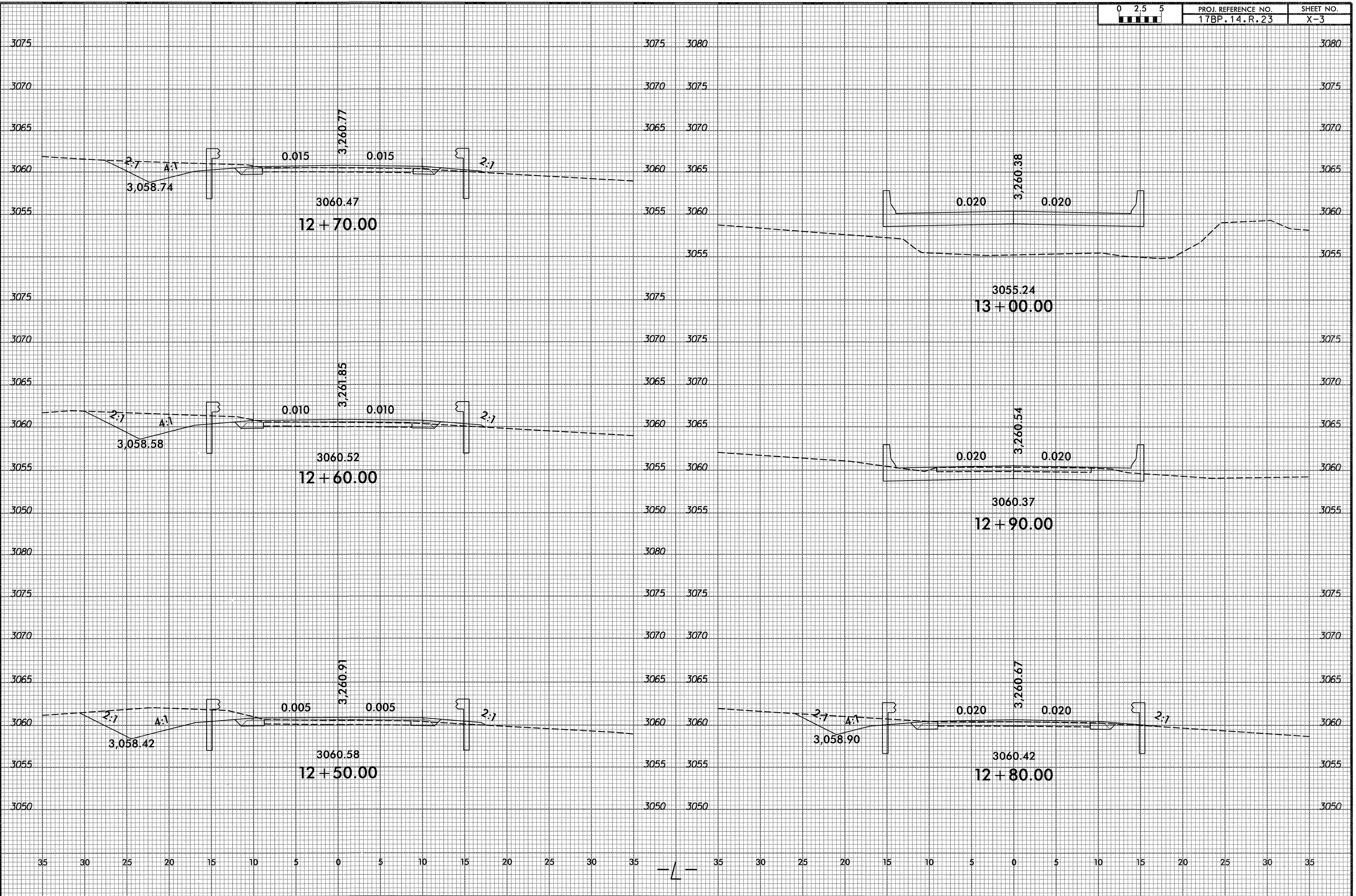
CROSS-SECTION SUMMARY

Station	Uncl. Exc.	Embt
L	(cu. yd.)	(cu. yd.)
12+00.00	0	0
12+10.00	0	0
12+20.00	0	0
12+30.00	0	0
12+40.00	0	0
12+50.00	15	1
12+60.00	14	1
12+70.00	11	1
12+80.00	8	1
13+30.00	5	1
13+40.00	5	1
13+50.00	5	1
13+60.00	5	1
13+70.00	6	1
13+80.00	0	0



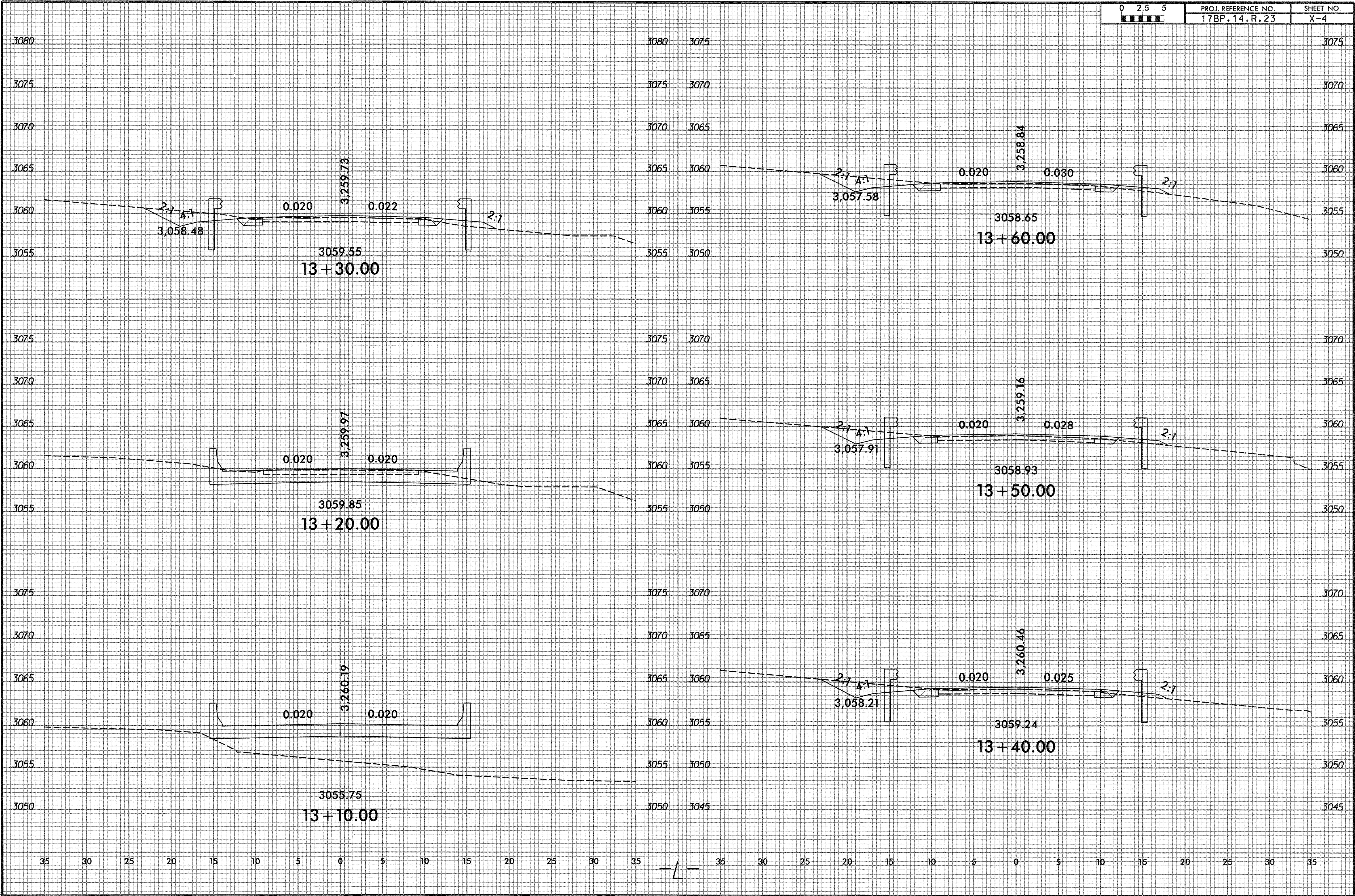
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jgawkins

8/23/99



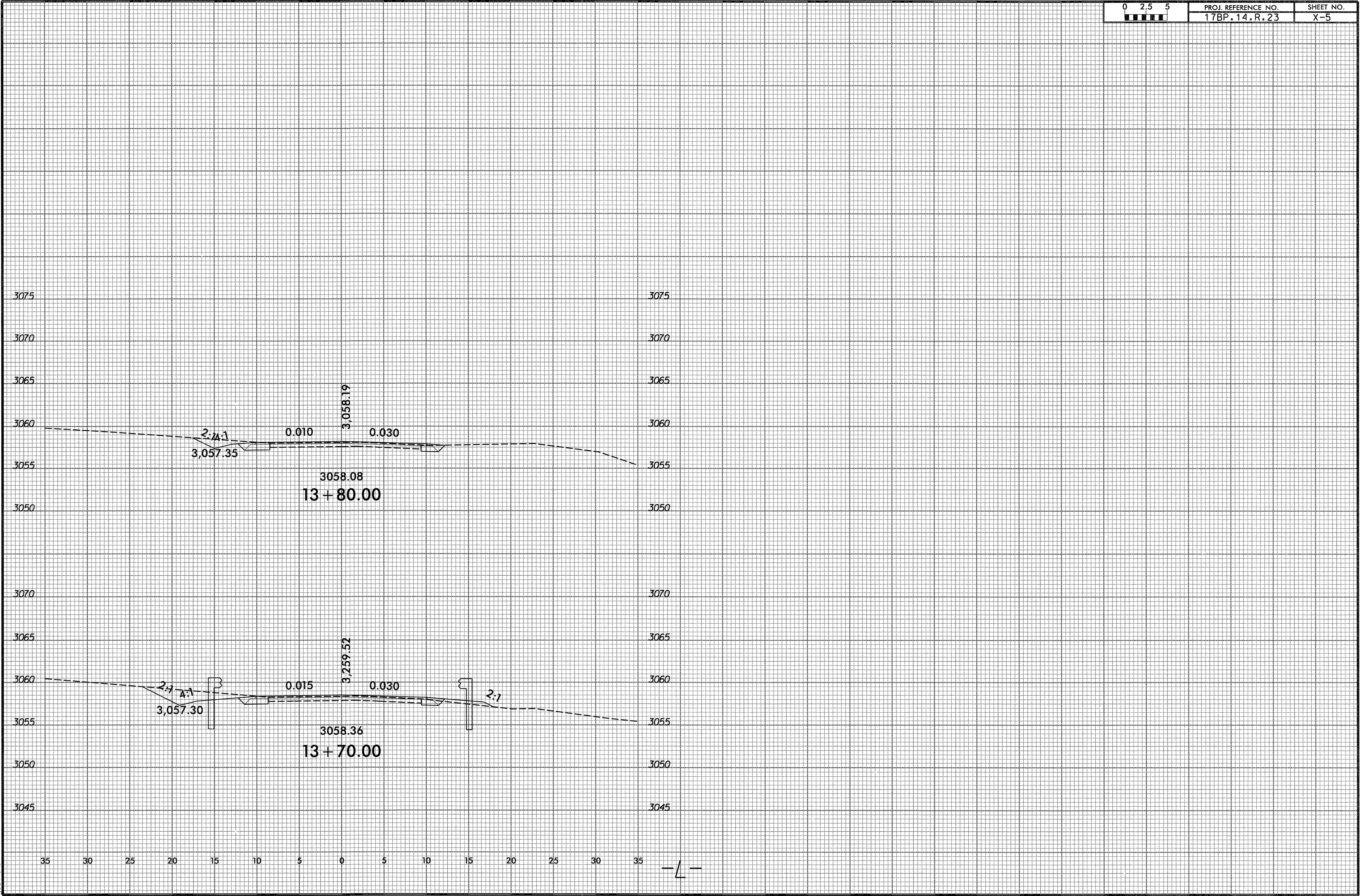
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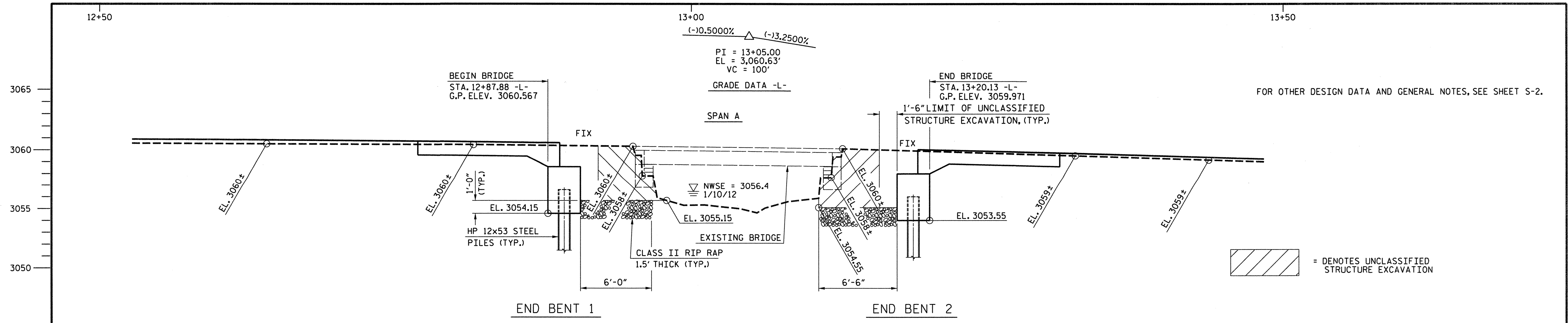
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jdwkins



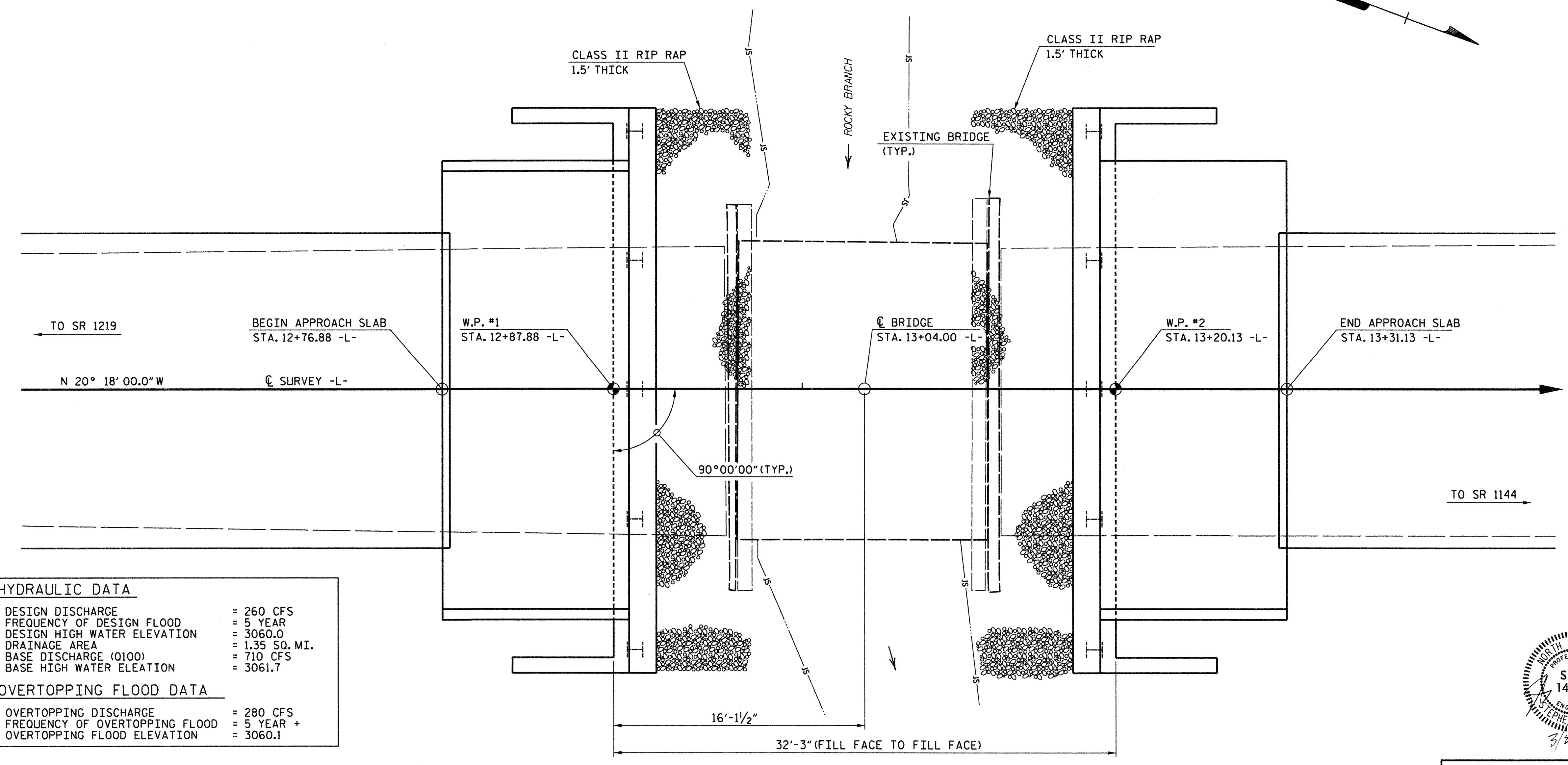
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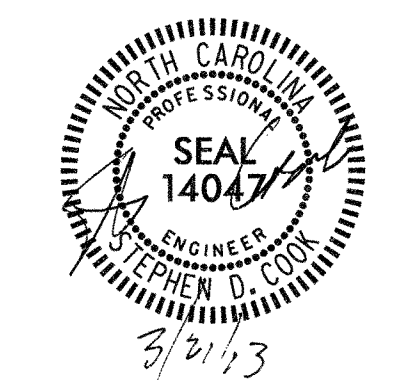


SECTION ALONG C SURVEY -L-



HYDRAULIC DATA	
DESIGN DISCHARGE	= 260 CFS
FREQUENCY OF DESIGN FLOOD	= 5 YEAR
DESIGN HIGH WATER ELEVATION	= 3060.0
DRAINAGE AREA	= 1.35 SQ. MI.
BASE DISCHARGE (Q100)	= 710 CFS
BASE HIGH WATER ELEVATION	= 3061.7
OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= 280 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 5 YEAR +
OVERTOPPING FLOOD ELEVATION	= 3060.1

DRAWN BY : R. KNIGHT DATE : MAR. 2012
 CHECKED BY : S. COOK DATE : MAY 2012



PROJECT NO. 17BP.14.R.23
 HAYWOOD COUNTY
 STATION: 13+04.00 -L-

SHEET 1 OF 2 REPLACES BRIDGE #430151

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON
 SR 1147 BETWEEN
 SR 1144 AND SR 1219

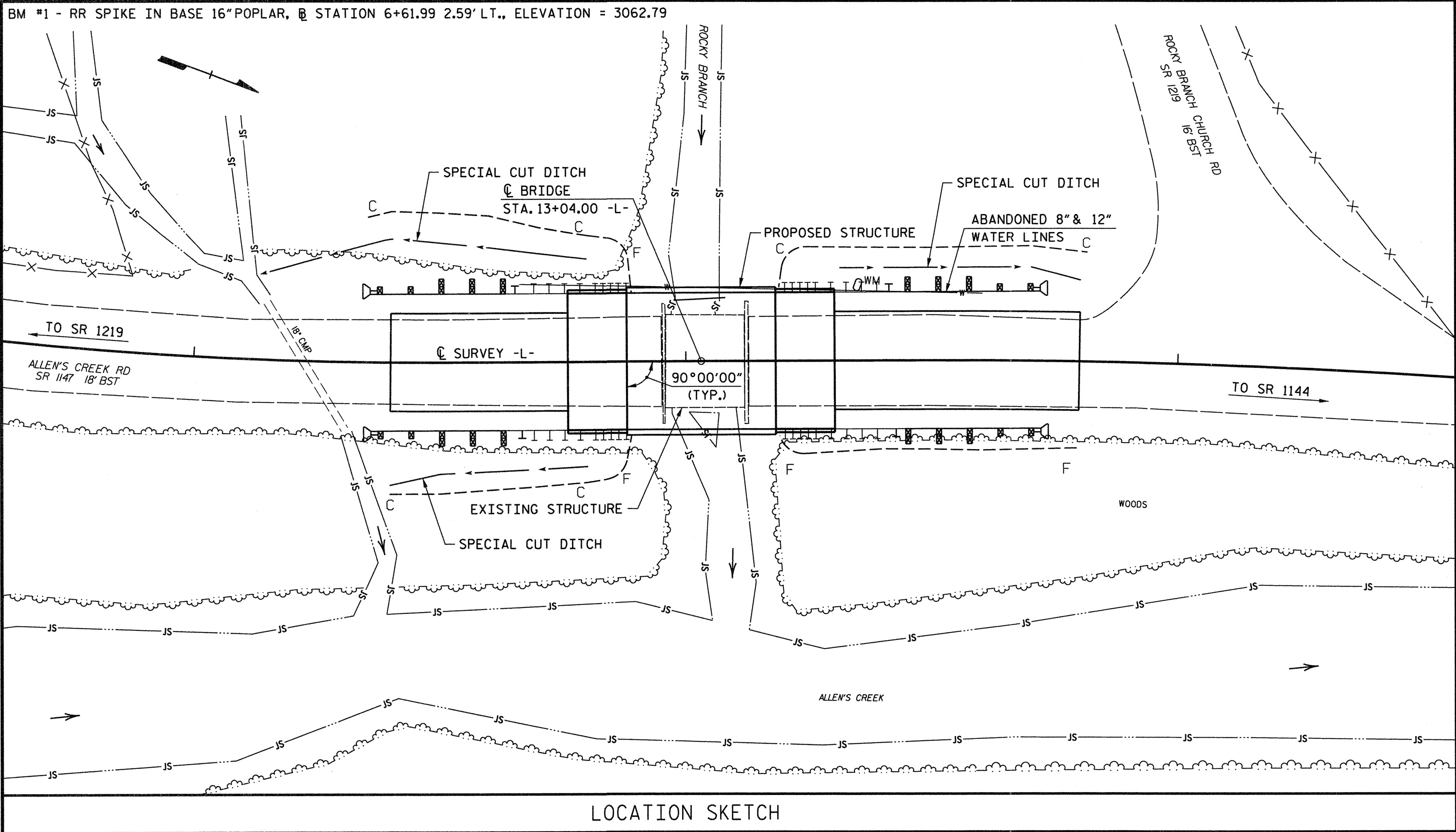
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SHEET NO. S-1
 TOTAL SHEETS 12

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 1001 Wade Avenue, Suite 400
 Raleigh, NC 27605-3322

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3/21/2013 1100_PDF_fulplot.qg 1100-str.tbl



TOTAL BILL OF MATERIAL														
	REMOVAL OF EXISTING STRUCTURE @ STA. 13+04.00	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES		STEEL PILE POINTS	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (1'-6'' THICK)	ELASTOMERIC BEARINGS	3'-0'' X 1'-9'' PRESTRESSED CONCRETE CORED SLABS		PILE EXCAVATION	
	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN.FT.	NO.	LIN.FT.	TON	LUMP SUM	NO.	LIN.FT.	IN SOIL	NOT IN SOIL
SUPERSTRUCTURE			LUMP SUM					60.25		LUMP SUM	10	300		
END BENT NO. 1		20.0		2449	5	75	5		18				25	30
END BENT NO. 2		20.0		2449	5	100	5		21				10	60
TOTAL	LUMP SUM	40.0	LUMP SUM	4898	10	175	10	60.25	39	LUMP SUM	10	300	35	90

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THE EXISTING STRUCTURE CONSISTING OF ONE 18'-0" SPAN CONSISTING OF TIMBER FLOOR ON TIMBER JOISTS ON MASONRY AND TIMBER ABUTMENTS SHALL BE REMOVED. THE ABANDONED 24" DIAMETER WATER LINE ON THE IMMEDIATE UPSTREAM SIDE OF THE BRIDGE SHALL ALSO BE REMOVED AND CAPPED OFF SO AS NOT TO CONFLICT WITH THE CONSTRUCTION OF THE NEW STRUCTURE. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE A LOAD LIMIT MAY BE POSTED AND MAY BE PRODUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 19 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", MAY, 2001.

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTES SHEET.

FOUNDATION NOTES:

PILES AT END BENT 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 61 TONS PER PILE.

DRIVE PILES AT END BENT 1 TO A REQUIRED DRIVING RESISTANCE OF 102 TONS PER PILE.

PILES AT END BENT 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 61 TONS PER PILE.

DRIVE PILES AT END BENT 2 TO A REQUIRED DRIVING RESISTANCE OF 102 TONS PER PILE.

STEEL H PILE POINTS ARE REQUIRED FOR H PILES AT END BENTS 1 & 2. FOR STEEL PILE POINTS, SEE SECTION 450 OF THE STANDARD SPECIFICATION.

INSTALL PILES AT END BENT 1 TO A TIP ELEVATION NO HIGHER THAN 3046 FEET.

INSTALL PILES AT END BENT 2 TO A TIP ELEVATION NO HIGHER THAN 3045 FEET.

PILE EXCAVATION MAY BE REQUIRED TO INSTALL PILES AT END BENT 1. IF REQUIRED, EXCAVATION HOLES AT PILE LOCATIONS TO ELEVATION 3045 FEET. FOR PILE EXCAVATION, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

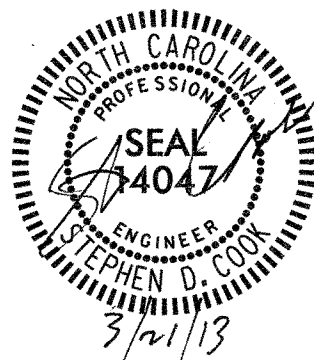
PILE EXCAVATION MAY BE REQUIRED TO INSTALL PILES AT END BENT 2. IF REQUIRED, EXCAVATION HOLES AT PILE LOCATIONS TO ELEVATION 3042 FEET. FOR PILE EXCAVATION, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

CONCRETE OR GROUT IS REQUIRED TO FILL HOLES FOR PILE EXCAVATION AT END BENT 1 AND END BENT 2.

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATION.

PROJECT NO. 17BP.14.R.23
HAYWOOD COUNTY
STATION: 13+04.00 -L-

SHEET 2 OF 2



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE ON
SR 1147 BETWEEN
SR 1144 AND SR 1219

DRAWN BY : R. KNIGHT DATE : MAR. 2012
CHECKED BY : S. COOK DATE : MAY 2012

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1001 Wade Avenue, Suite 400
Raleigh, NC 27605-3322

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TOTAL SHEETS						12

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LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
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		
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.037	--	1.75	0.283	1.83	30'	EL	14.5	0.574	1.04	30'	EL	1.45	0.80	0.283	1.58	30'	EL	14.5		
	HL-93(Opr)	N/A	--	1.344	--	1.35	0.283	2.38	30'	EL	14.5	0.574	1.34	30'	EL	1.45	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.183	42.587	1.75	0.283	2.53	30'	EL	11.6	0.574	1.18	30'	EL	1.45	0.80	0.283	2.20	30'	EL	11.6		
	HS-20(Opr)	36.000	--	1.533	55.205	1.35	0.283	3.28	30'	EL	11.6	0.574	1.53	30'	EL	1.45	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.895	39.081	1.4	0.283	5.18	30'	EL	14.5	0.574	2.89	30'	EL	1.45	0.80	0.283	3.56	30'	EL	14.5	
		SNGARBS2	20.000	--	2.240	44.792	1.4	0.283	4.53	30'	EL	11.6	0.574	2.24	30'	EL	1.45	0.80	0.283	3.15	30'	EL	11.6	
		SNAGRIS2	22.000	--	2.157	47.463	1.4	0.283	4.6	30'	EL	11.6	0.574	2.16	30'	EL	1.45	0.80	0.283	3.20	30'	EL	11.6	
		SNCOTTS3	27.250	--	1.462	39.849	1.4	0.283	2.6	30'	EL	14.5	0.574	1.46	30'	EL	1.45	0.80	0.283	1.79	30'	EL	14.5	
		SNAGGRS4	34.925	--	1.346	46.999	1.4	0.283	2.5	30'	EL	14.5	0.574	1.35	30'	EL	1.45	0.80	0.283	1.72	30'	EL	14.5	
		SNS5A	35.550	--	1.427	50.733	1.4	0.283	2.42	30'	EL	14.5	0.574	1.43	30'	EL	1.45	0.80	0.283	1.67	30'	EL	14.5	
		SNS6A	39.950	--	1.341	53.59	1.4	0.283	2.29	30'	EL	14.5	0.574	1.34	30'	EL	1.45	0.80	0.283	1.58	30'	EL	14.5	
		SNS7B	42.000	--	1.369	57.505	1.4	0.283	2.23	30'	EL	14.5	0.574	1.37	30'	EL	1.45	0.80	0.283	1.53	30'	EL	14.5	
	TTST	TNAGRIT3	33.000	--	1.593	52.58	1.4	0.283	2.97	30'	EL	14.5	0.574	1.59	30'	EL	1.45	0.80	0.283	2.04	30'	EL	14.5	
		TNT4A	33.075	--	1.483	49.043	1.4	0.283	2.82	30'	EL	14.5	0.574	1.48	30'	EL	1.45	0.80	0.283	1.94	30'	EL	14.5	
		TNT6A	41.600	--	1.433	59.622	1.4	0.283	2.56	30'	EL	14.5	0.574	1.43	30'	EL	1.45	0.80	0.283	1.76	30'	EL	14.5	
		TNT7A	42.000	--	1.363	57.264	1.4	0.283	2.64	30'	EL	14.5	0.574	1.36	30'	EL	1.45	0.80	0.283	1.82	30'	EL	14.5	
		TNT7B	42.000	--	1.331	55.915	1.4	0.283	2.49	30'	EL	14.5	0.574	1.33	30'	EL	1.45	0.80	0.283	1.72	30'	EL	14.5	
		TNAGRIT4	43.000	--	1.287	55.356	1.4	0.283	2.58	30'	EL	14.5	0.574	1.29	30'	EL	1.45	0.80	0.283	1.78	30'	EL	14.5	
TNAGT5A	45.000	--	1.381	62.151	1.4	0.283	2.5	30'	EL	14.5	0.574	1.38	30'	EL	1.45	0.80	0.283	1.72	30'	EL	14.5			
TNAGT5B	45.000	3	1.212	54.54	1.4	0.283	2.41	30'	EL	11.6	0.574	1.21	30'	EL	1.45	0.80	0.283	1.66	30'	EL	11.6			

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{DC}	γ_{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

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.

CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

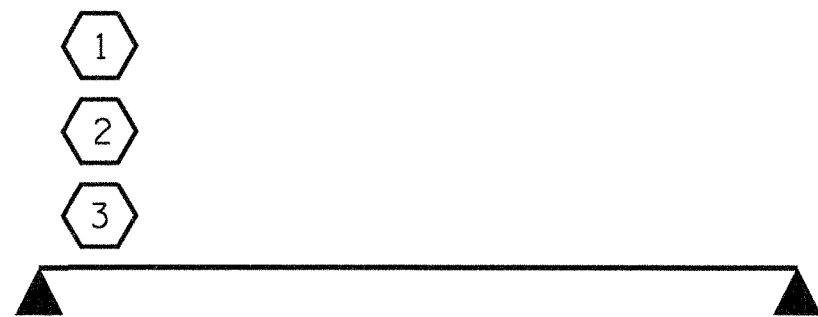
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



LRFR SUMMARY

FOR SPAN 'A'

PROJECT NO. 17BP.14.R.23
HAYWOOD COUNTY
STATION: 13+04.00 -L-

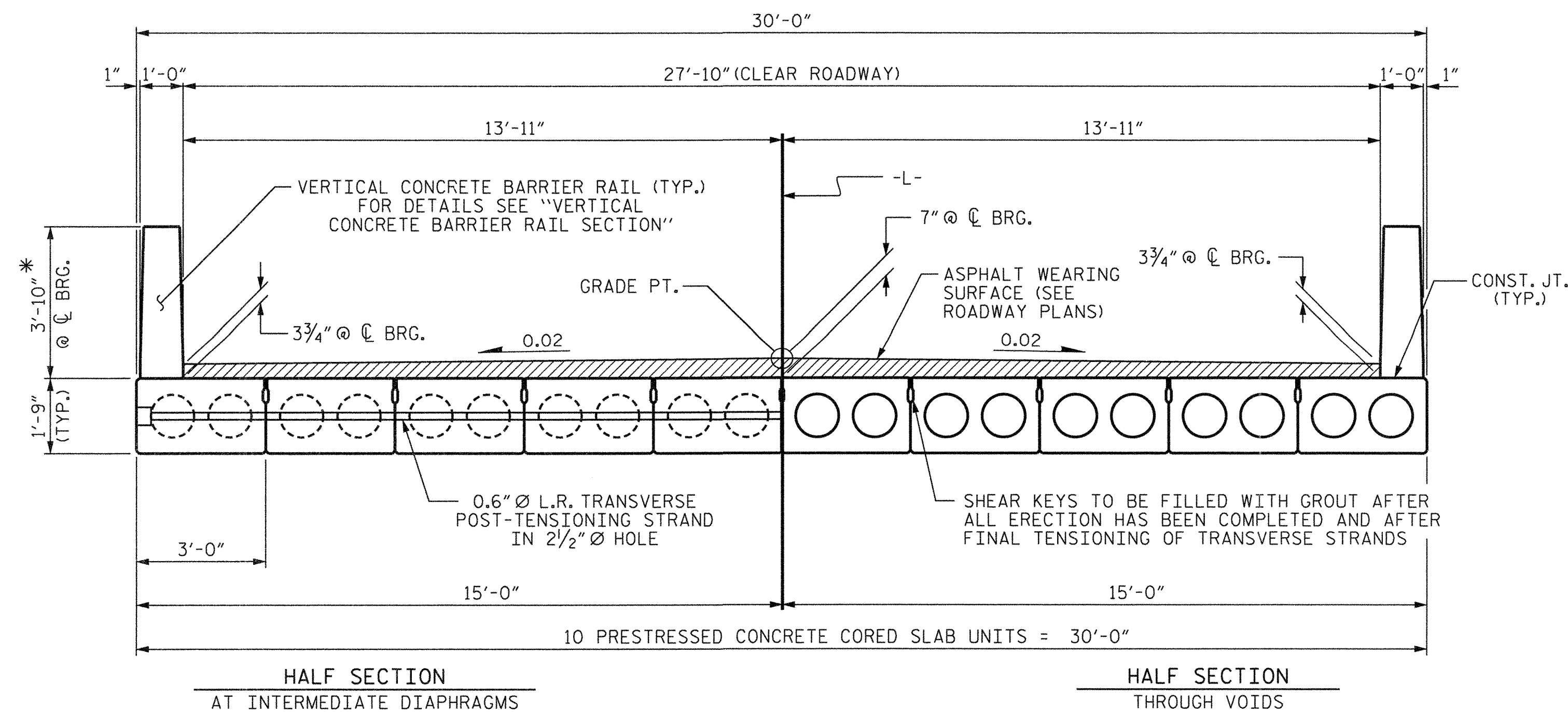


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
30' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

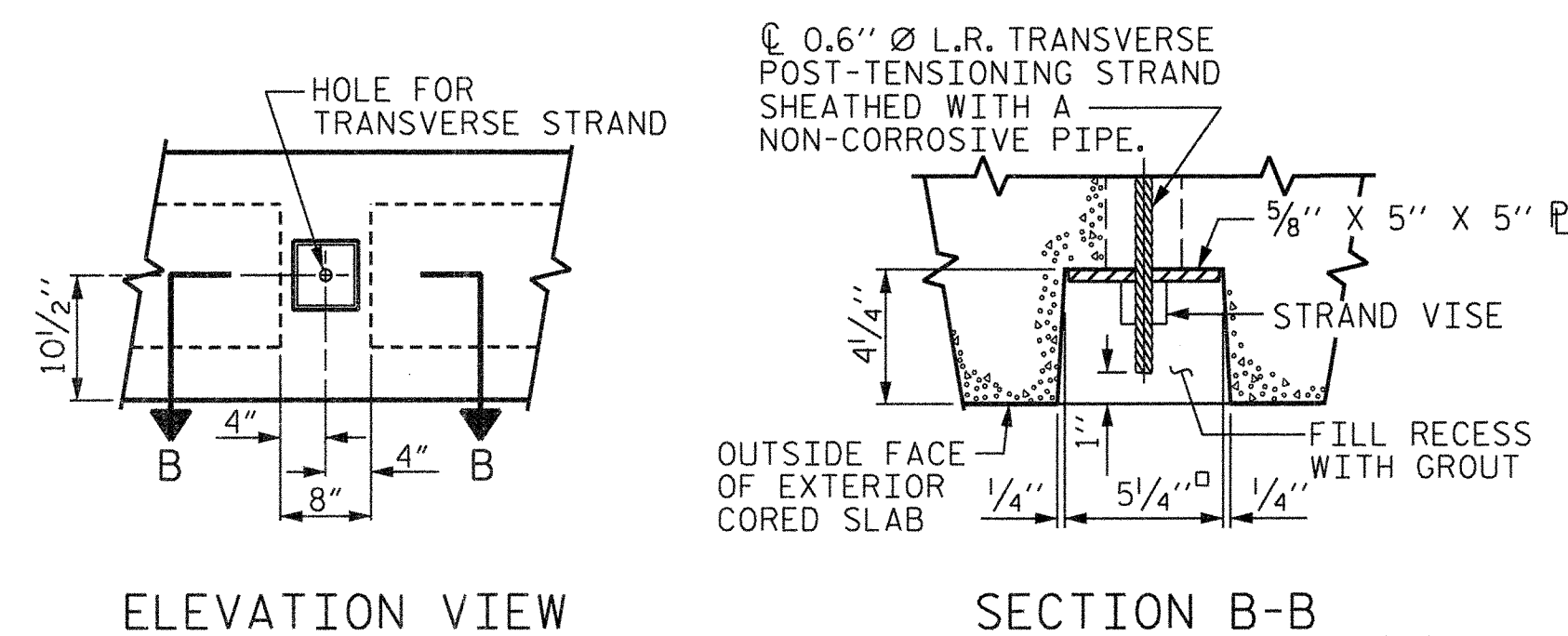
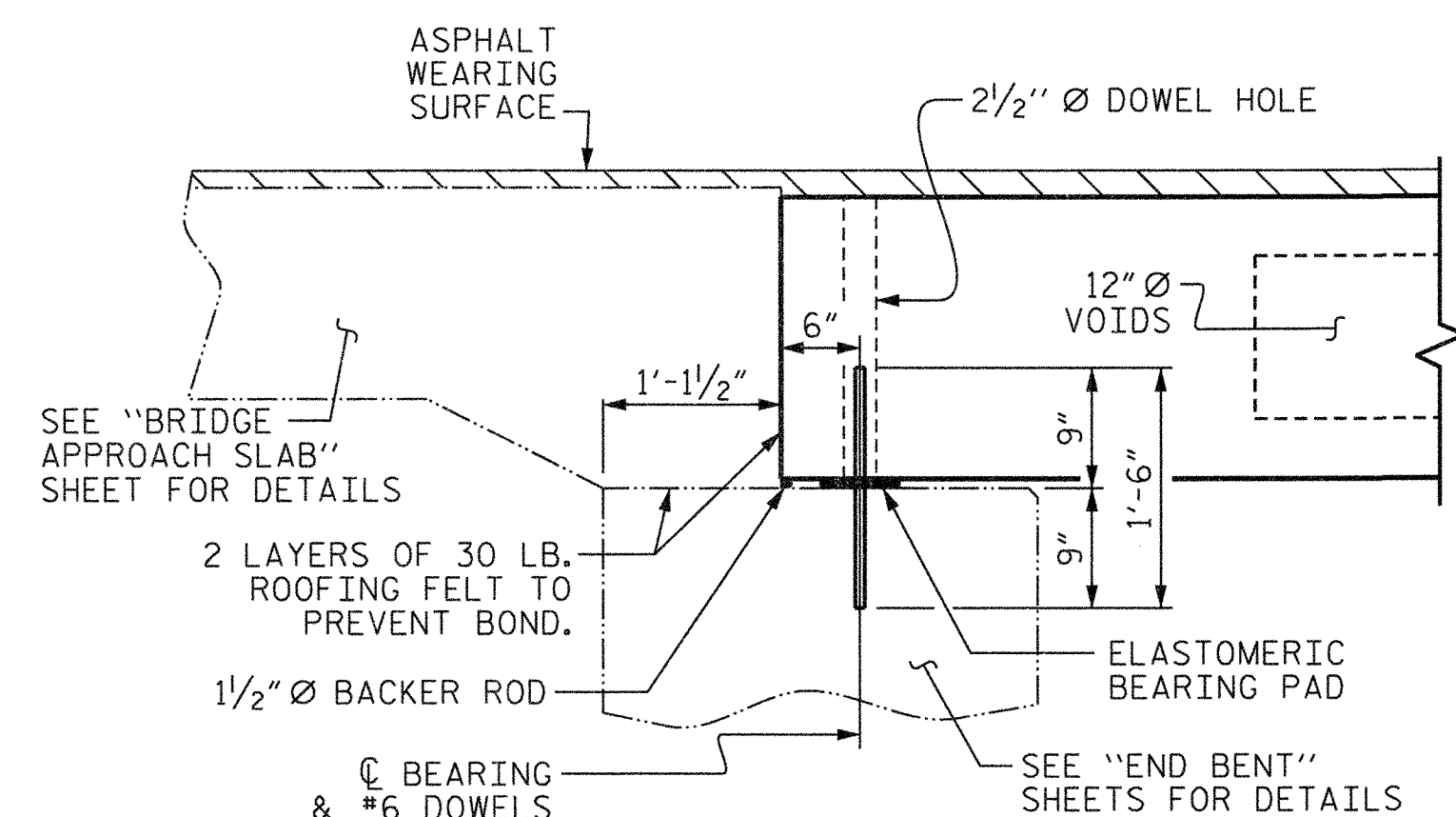
ASSEMBLED BY : R. KNIGHT	DATE : APR. 2012
CHECKED BY : S. COOK	DATE : APR. 2012
DRAWN BY : CVC 6/10	
CHECKED BY : DNS 6/10	

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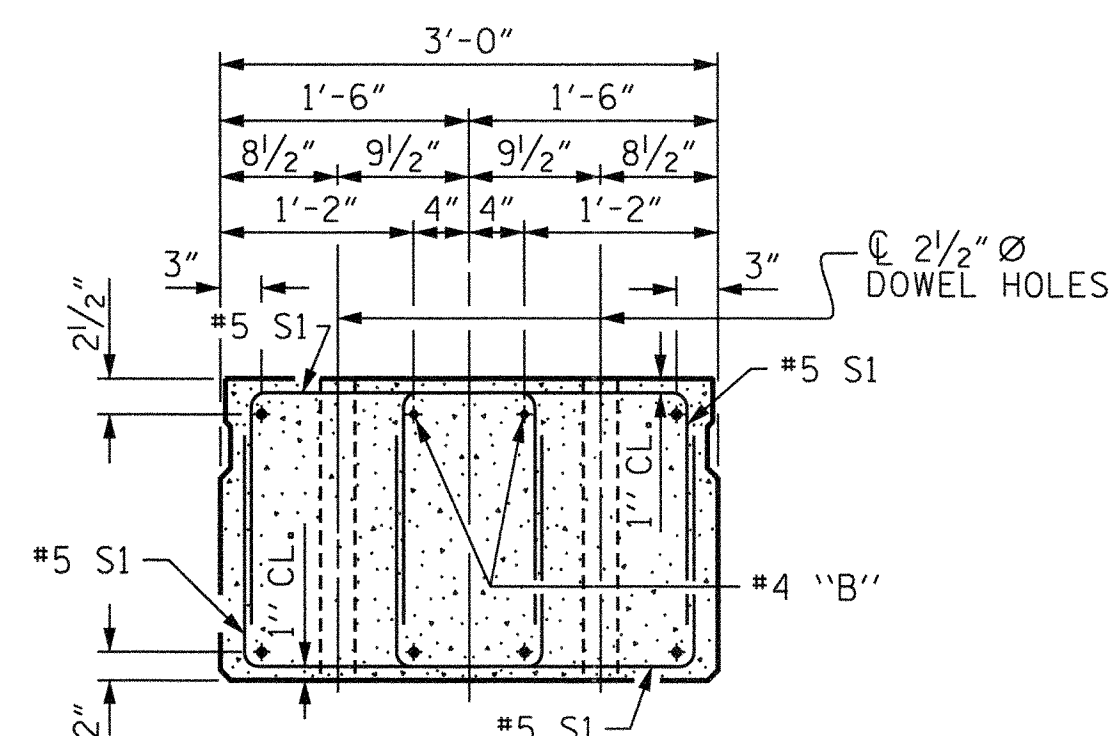
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2			4			
TOTAL SHEETS 12						



* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.

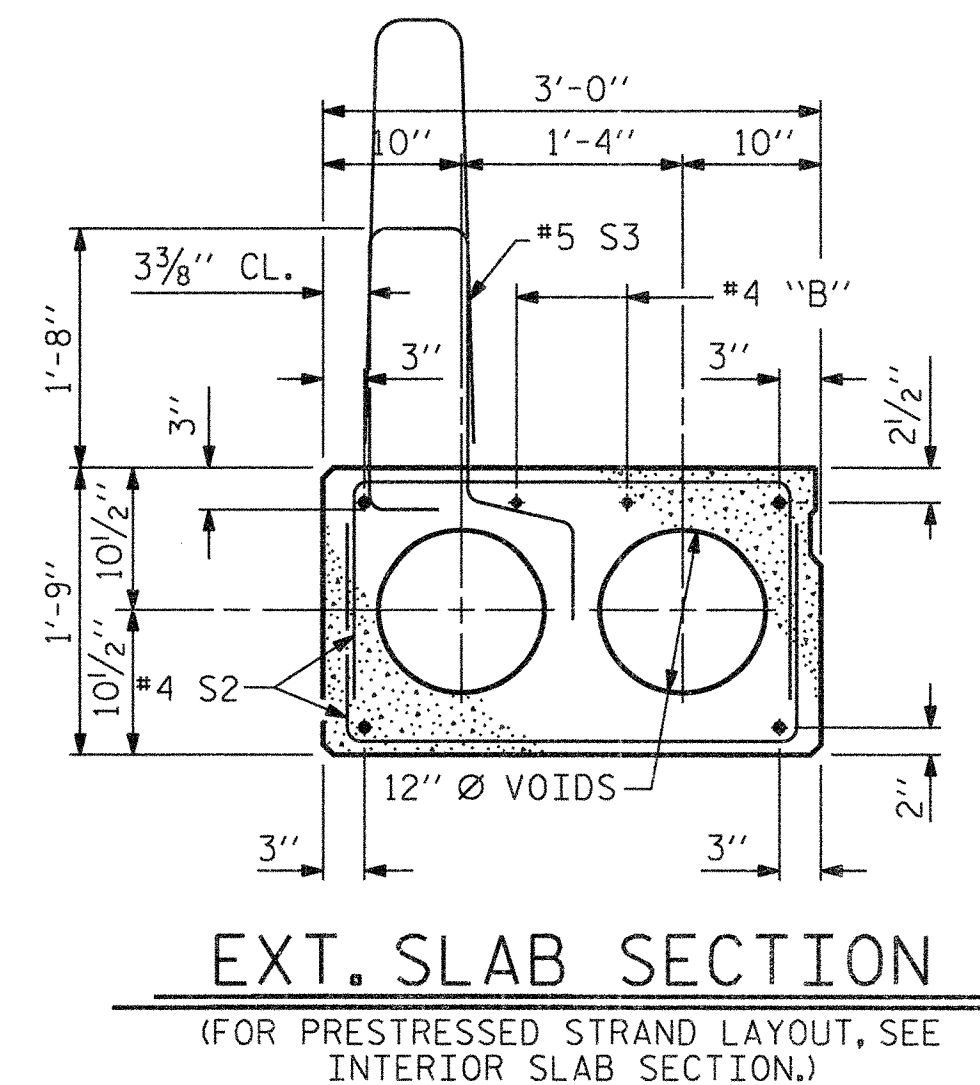
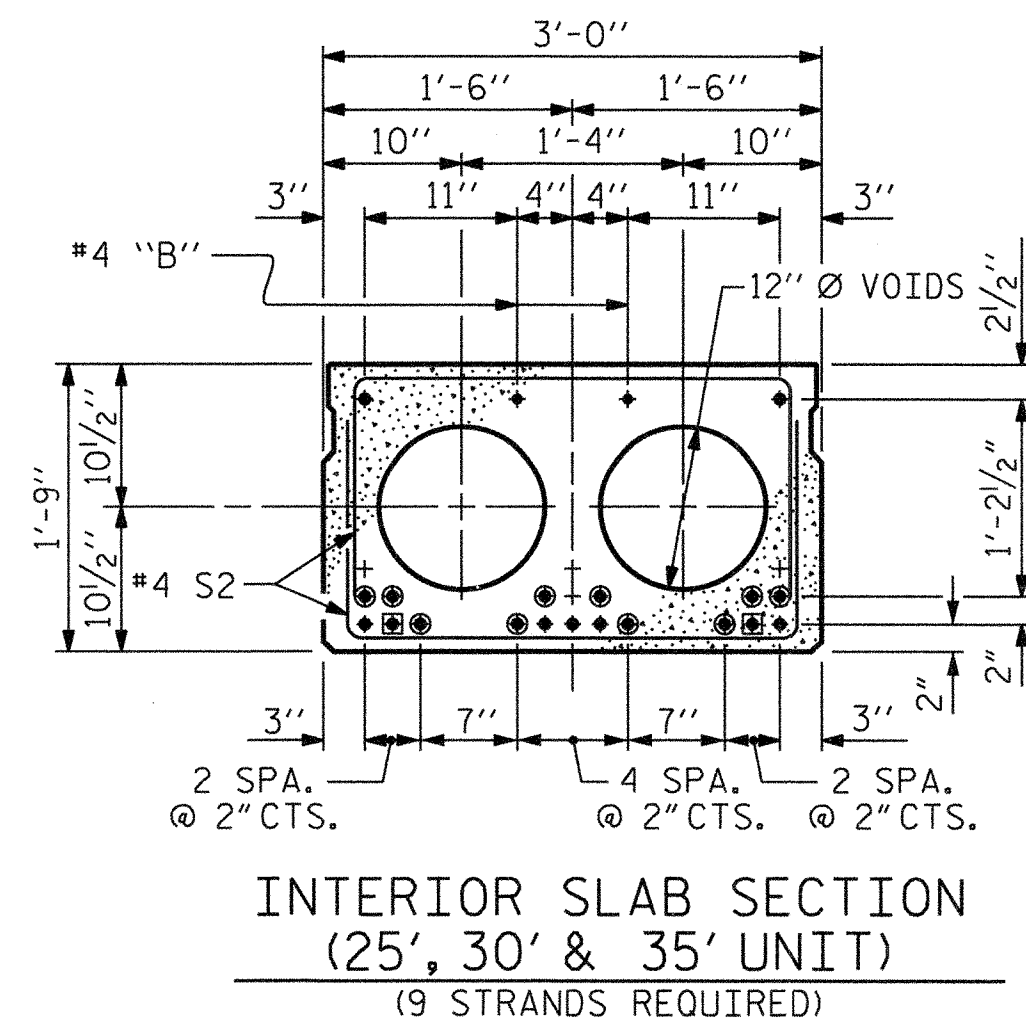


GROUTED RECESS AT END OF
POST-TENSIONED STRAND OF CORED SLABS



SHEAR KEY DETAIL

NOTE: OMIT SHEAR KEY ON OUTSIDE FACE
OF EXTERIOR CORED SLABS.



- BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 6'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.
- BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 2'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.
- OPTIONAL FULL LENGTH DEBONDED STRANDS. THESE STRANDS ARE NOT REQUIRED. IF THE FABRICATOR CHOOSES TO INCLUDE THESE STRANDS IN THE CORED SLAB UNIT, THE STRANDS SHALL BE DEBONDED FOR THE FULL LENGTH OF THE UNIT AT NO ADDITIONAL COST. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

PROJECT NO. 17BP.14.R.33
HAYWOOD COUNTY
 STATION: 13+04.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
3'-0" X 1'-9"
PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW

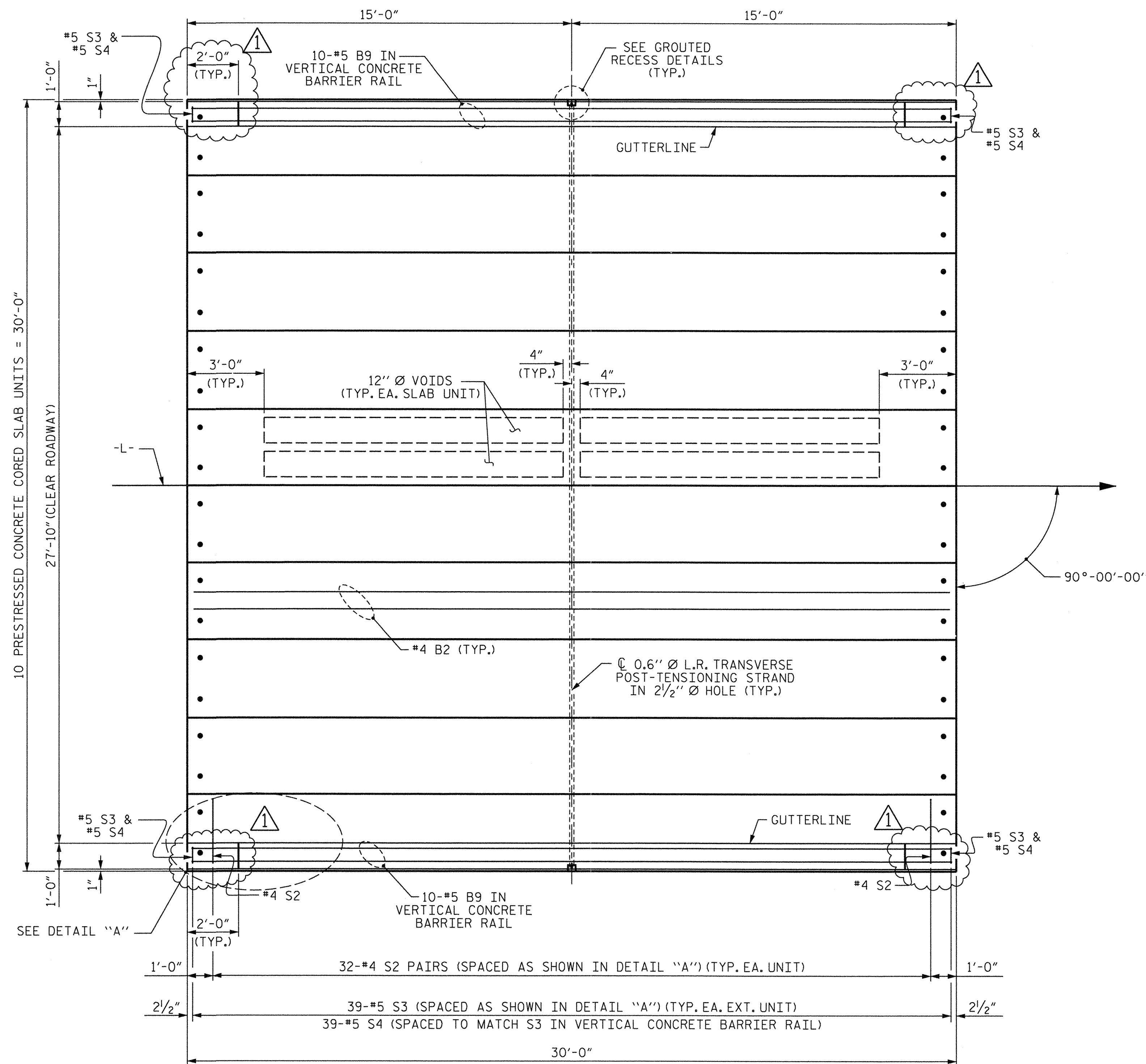
ASSEMBLED BY :	R. KNIGHT	DATE :	APR. 2012
CHECKED BY :	S. COOK	DATE :	MAY 2012
DRAWN BY :	DGE 5/09	REV. 12/11	MAA/AAC
CHECKED BY :	BCH 6/09		

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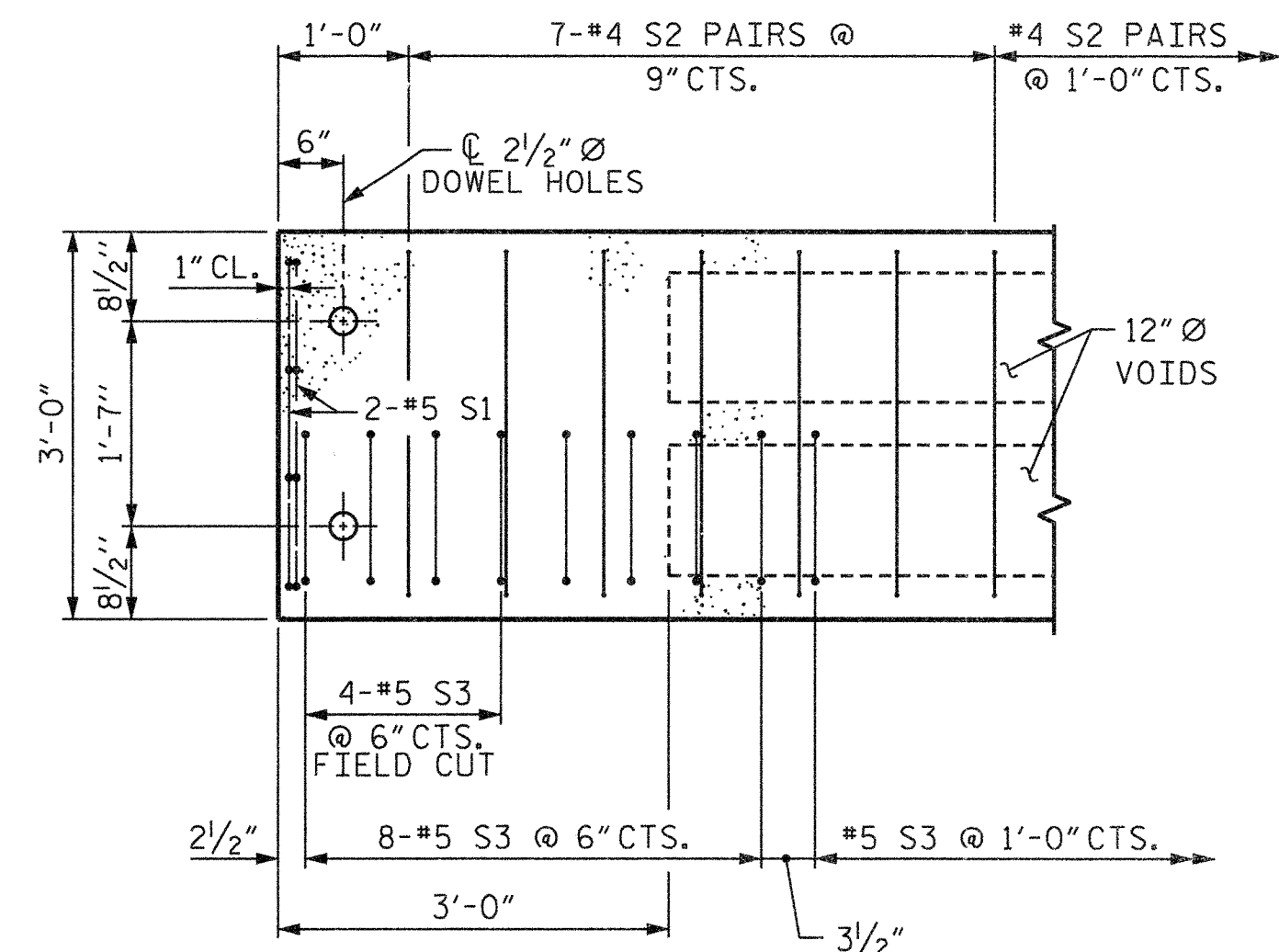
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STD. NO. 21" PCS2_30_90S

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PLAN OF UNIT



DETAIL "A"

NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS.

PROJECT NO. 17BP.14.R.33
HAYWOOD COUNTY
STATION: 13+04.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF 30' UNIT
27'-10" CLEAR ROADWAY
90° SKEW

ASSEMBLED BY : R. KNIGHT DATE : APR. 2012
CHECKED BY : S. COOK DATE : MAY 2012
DRAWN BY : DGE 3/09 REV. 12/5/11 MAA/AAC
CHECKED BY : BCH 3/09

REVISD TO ADD TOP OF RAIL TAPER AT THE ENDS OF VERTICAL BARRIER RAIL

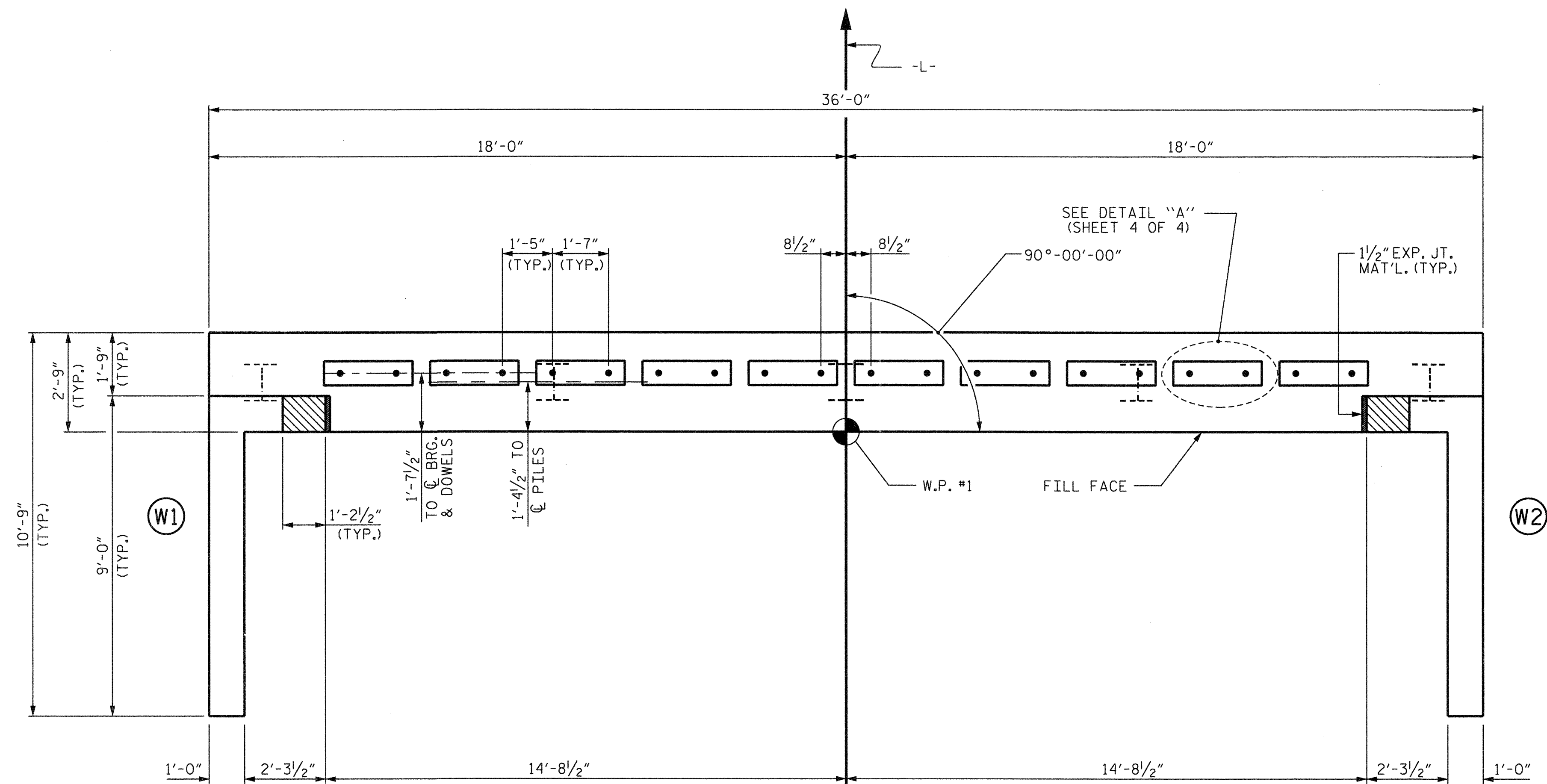
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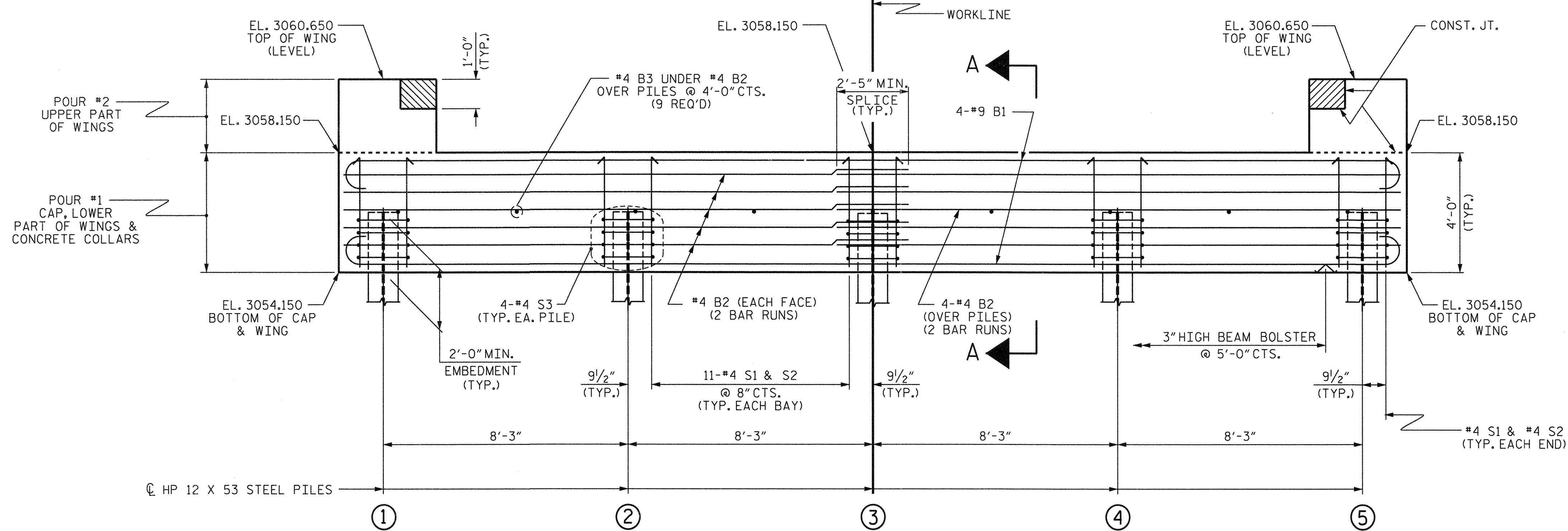
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STD. NO. 21" PCS. 30.90S.30L

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PLAN



ELEVATION

WINGS NOT SHOWN FOR CLARITY.
FOR SECTION A-A, SEE SHEET 4 OF 4.
CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.

PROJECT NO. 17BP.14.R.23
HAYWOOD COUNTY
STATION: 13+04.00 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT No. 1



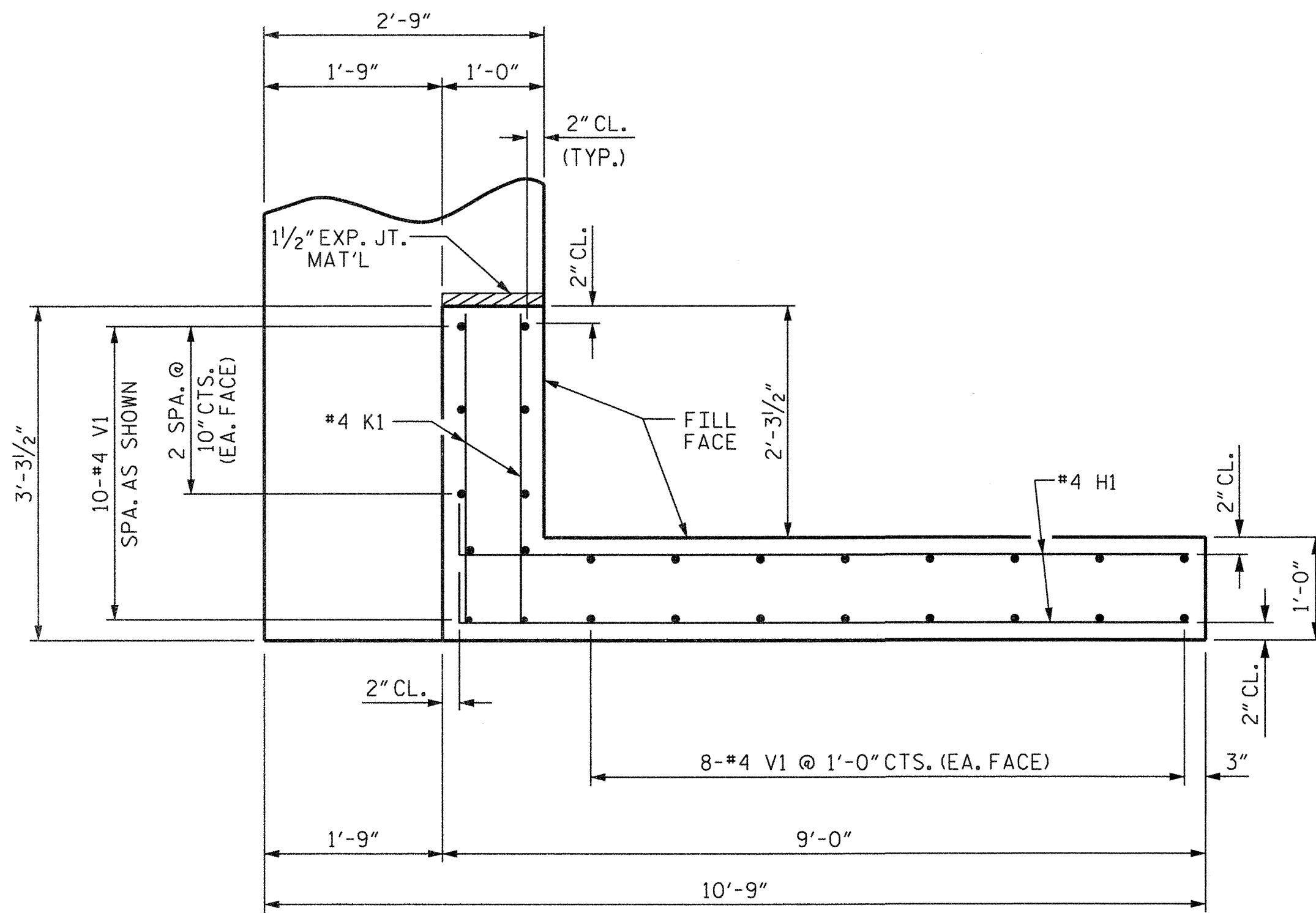
ASSEMBLED BY : R. KNIGHT
CHECKED BY : S. COOK
DATE : APR. 2012
DATE : APR. 2012
DRAWN BY : DGE 02/10
CHECKED BY : MKT 02/10

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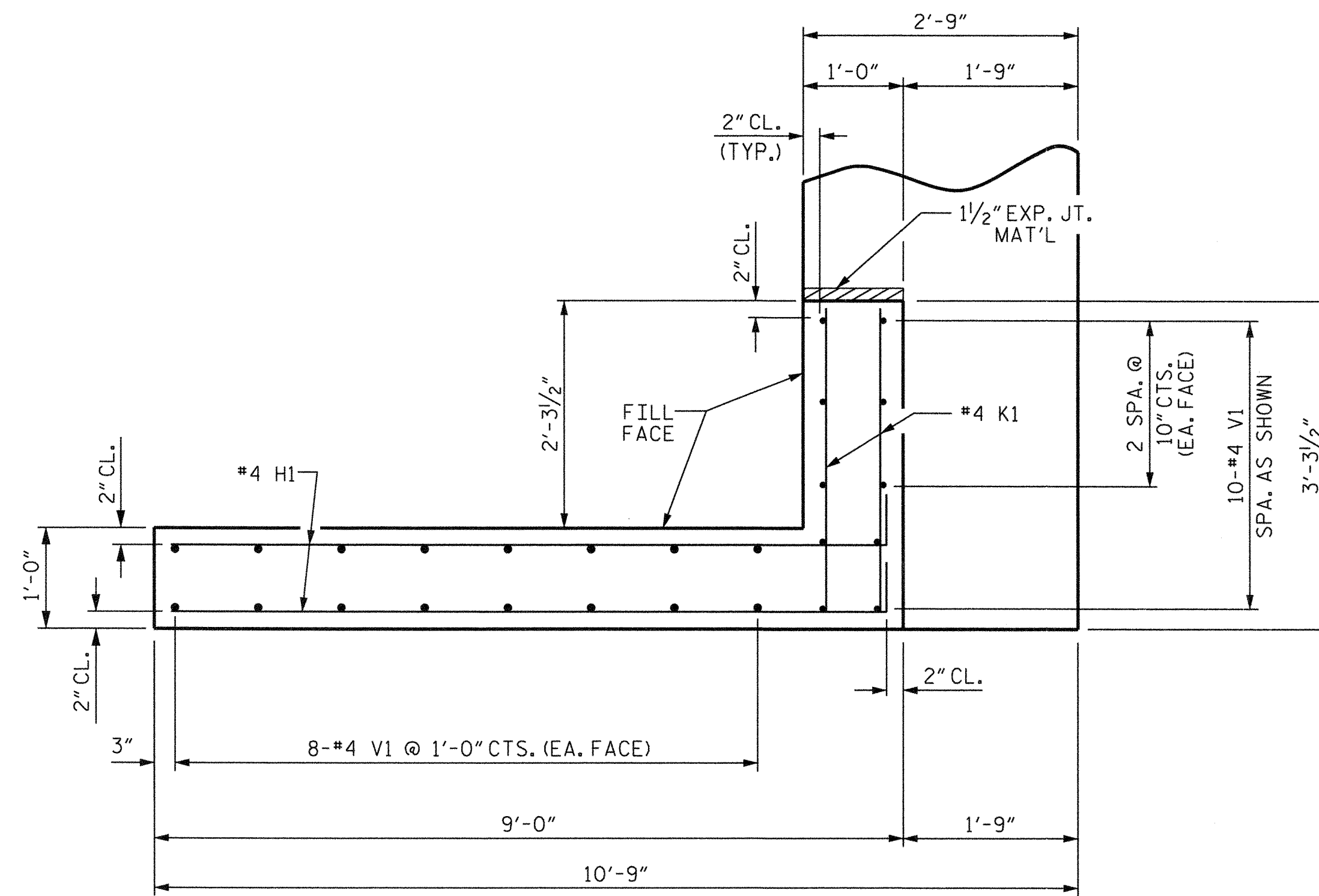
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TOTAL SHEETS						12

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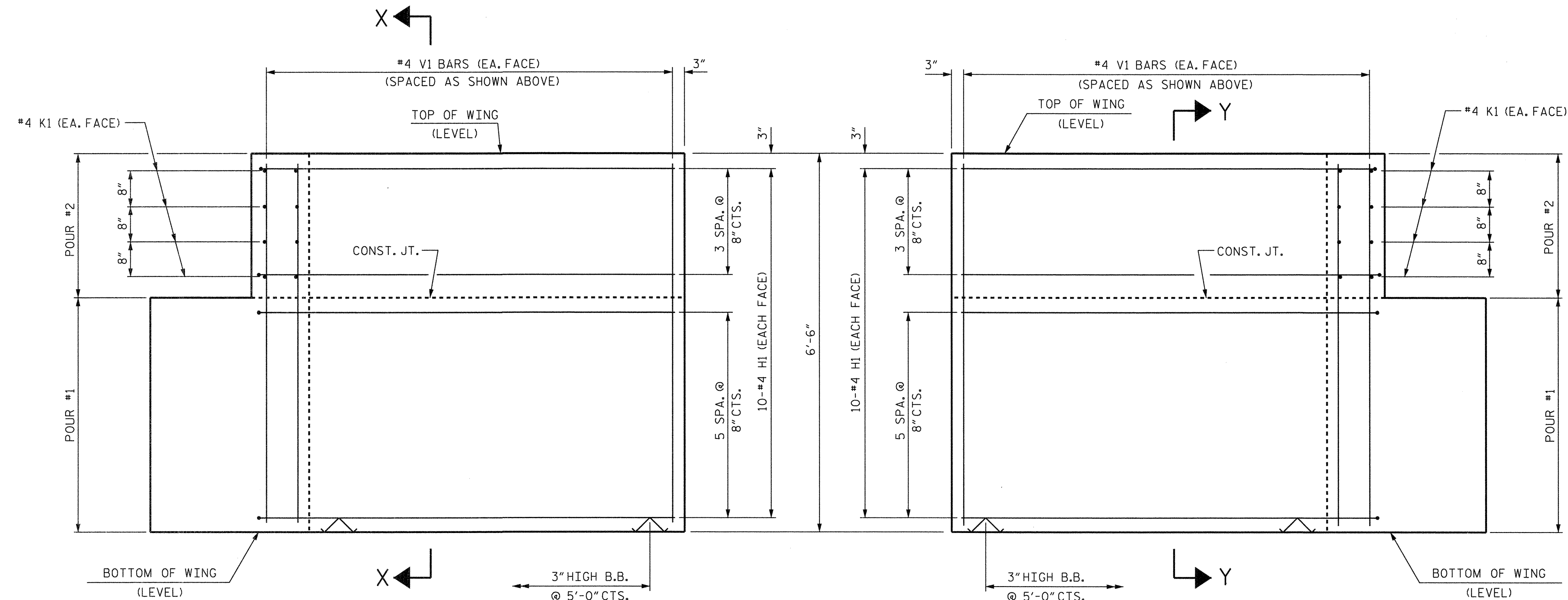
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PLAN OF WING (W1)



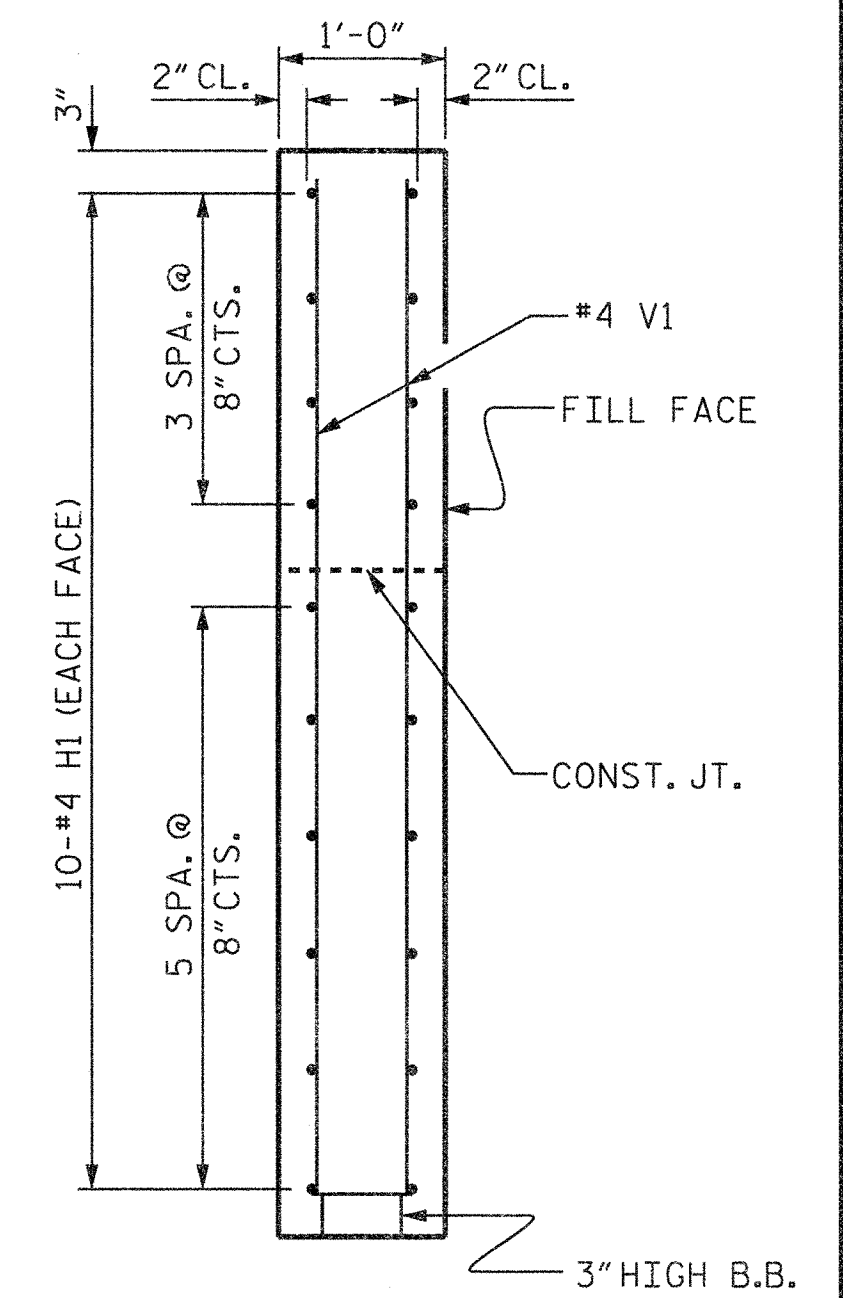
PLAN OF WING (W2)



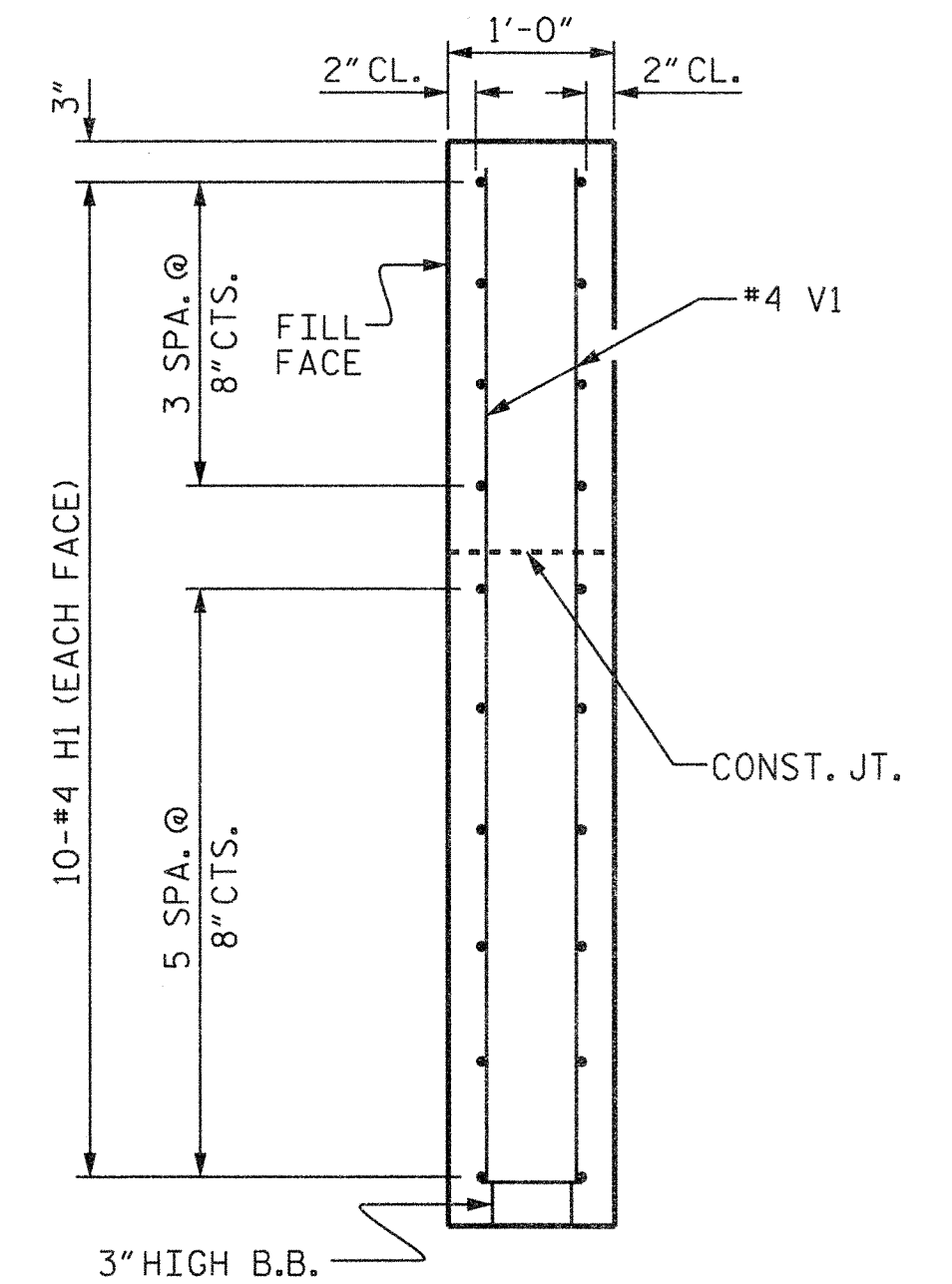
ELEVATION OF WING (W1)

ELEVATION OF WING (W2)

WING DETAILS



SECTION X-X



SECTION Y-Y

PROJECT NO. 17BP.14.R.23
HAYWOOD COUNTY
STATION: 13+04.00 -L-

SHEET 3 OF 4



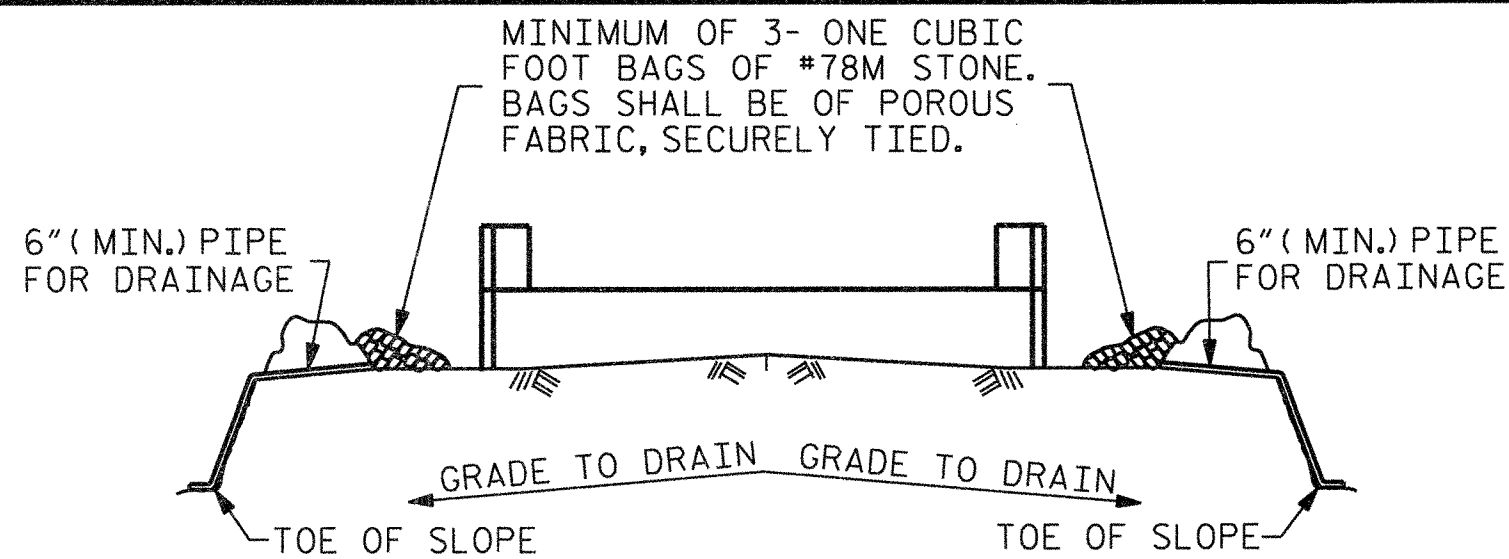
ASSEMBLED BY : R. KNIGHT
CHECKED BY : S. COOK
DATE : APR. 2012
DATE : APR. 2012
DRAWN BY : DGE 02/10
CHECKED BY : MKT 02/10

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STD. NO. EB 30.0004

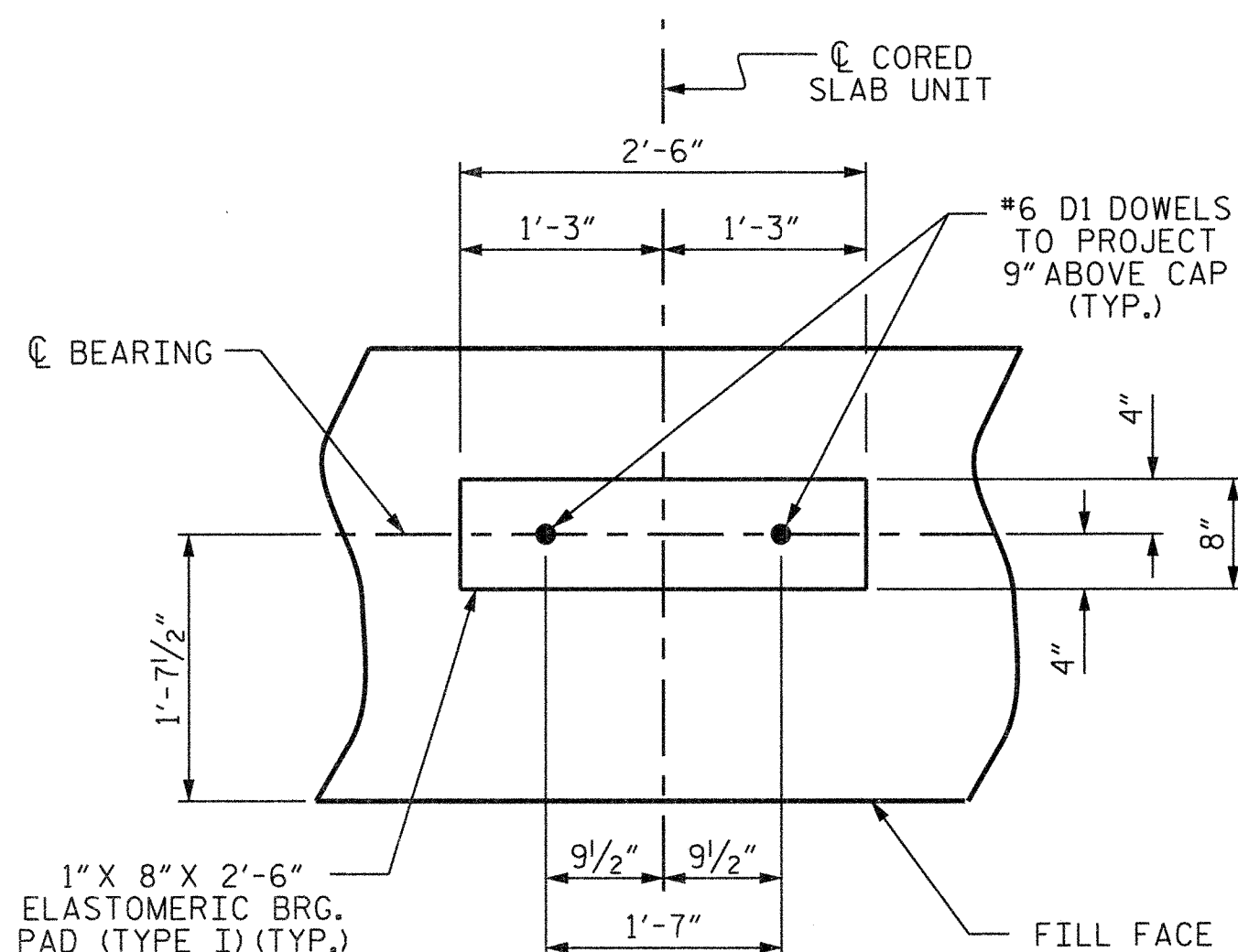


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

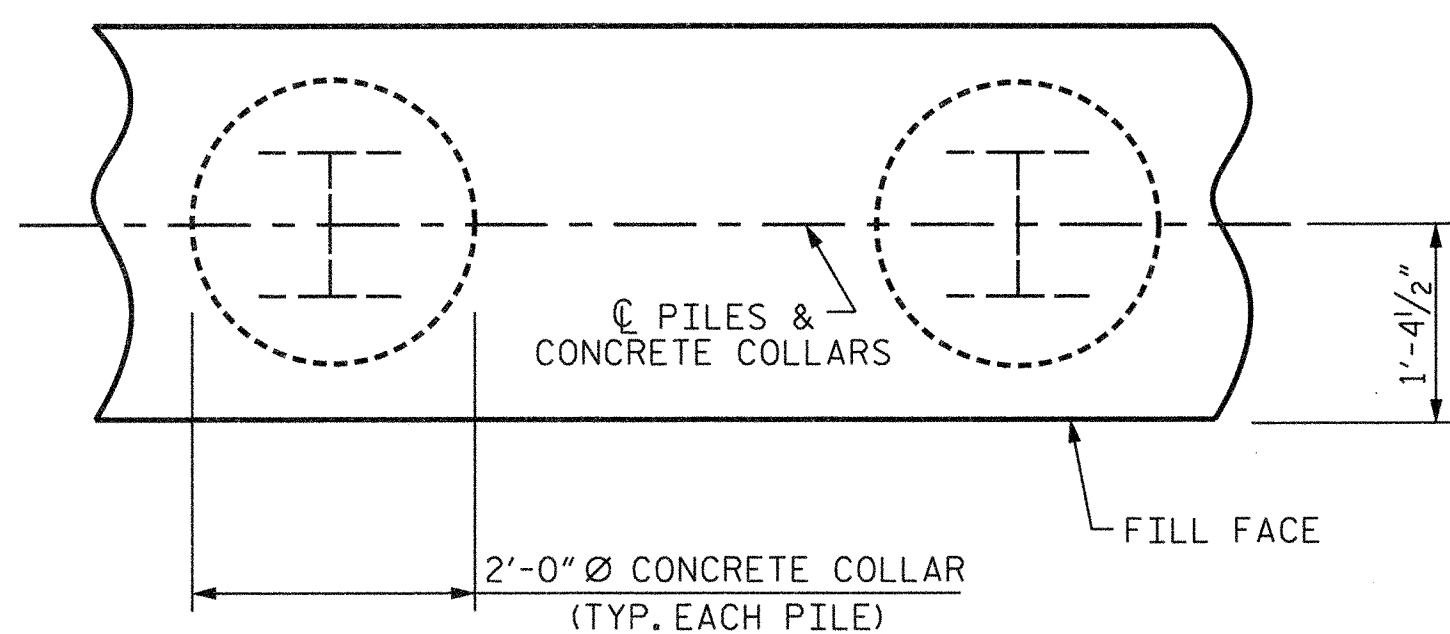
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



DETAIL "A"

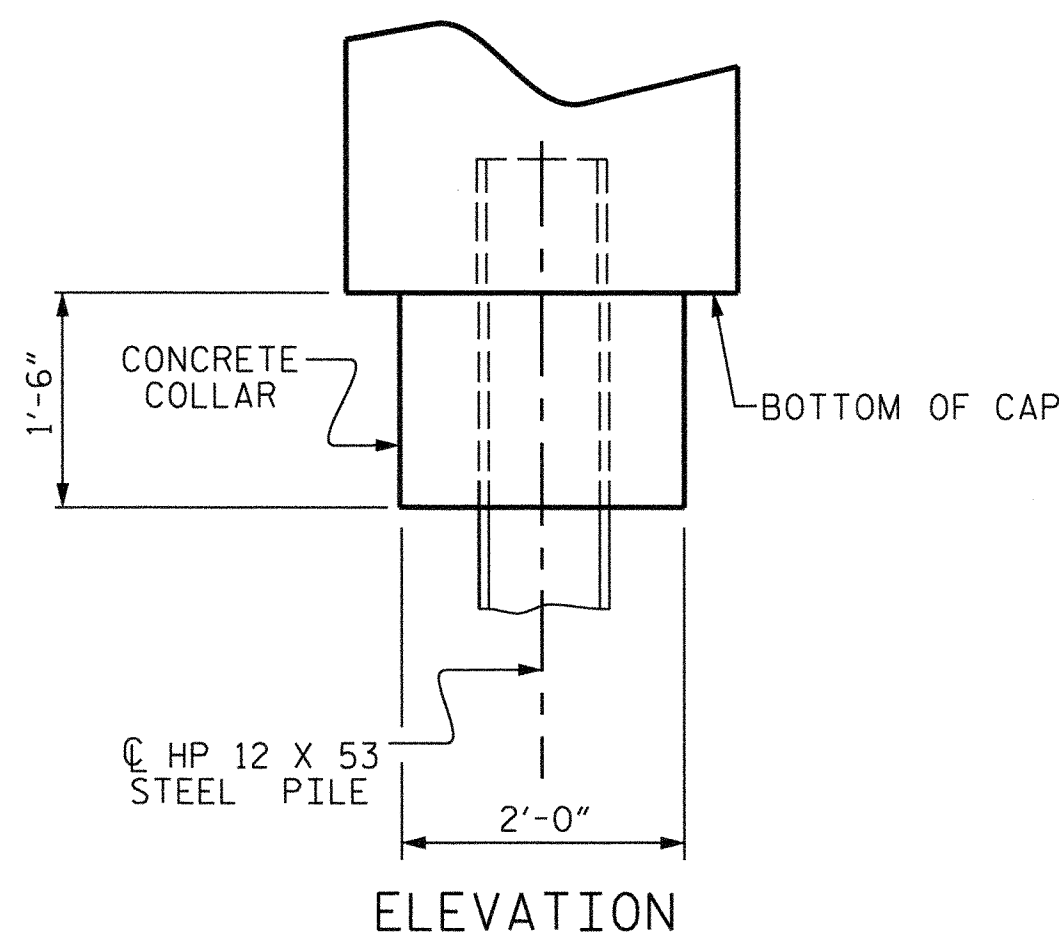
(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



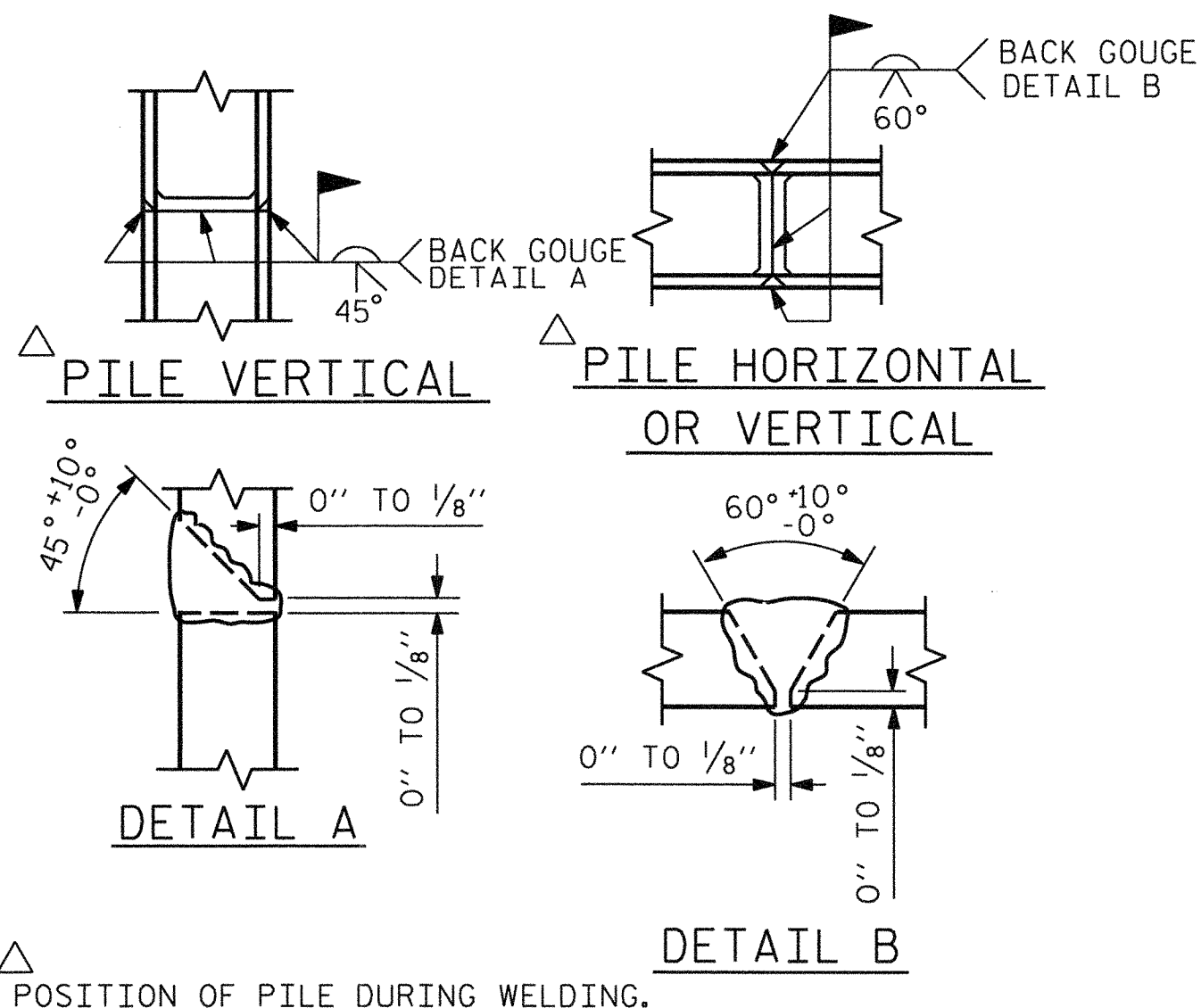
PLAN

CORROSION PROTECTION FOR STEEL PILES DETAIL

(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



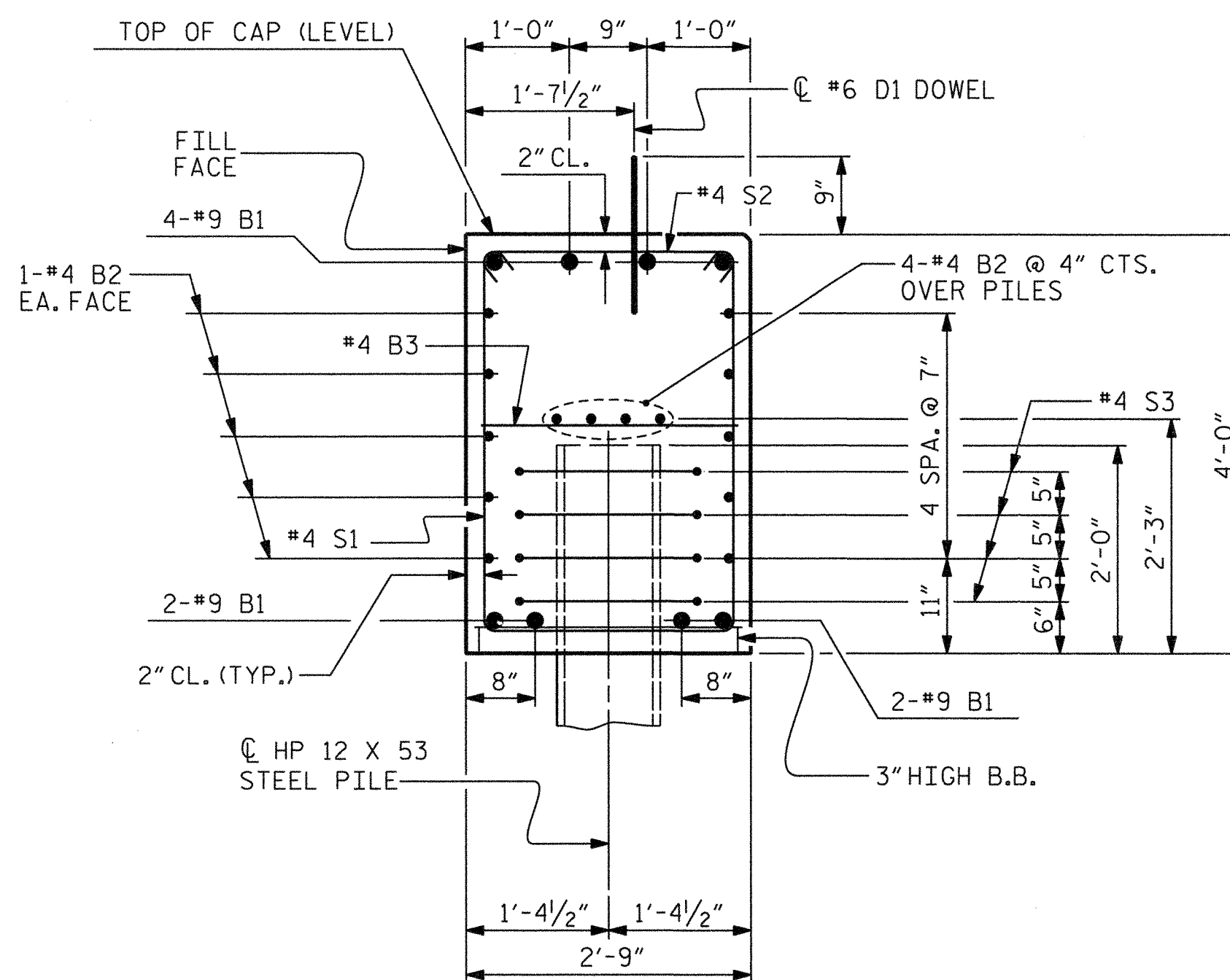
ELEVATION



PILE SPLICE DETAILS

BAR TYPES					
BILL OF MATERIAL FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	38'-0"	1034
B2	28	#4	STR	19'-1"	357
B3	9	#4	STR	2'-5"	15
D1	20	#6	STR	1'-6"	45
H1	40	#4	2	9'-4"	249
K1	16	#4	STR	2'-11"	31
S1	46	#4	3	10'-5"	320
S2	46	#4	4	3'-2"	97
S3	20	#4	5	6'-6"	87
V1	52	#4	STR	6'-2"	214
REINFORCING STEEL (FOR ONE END BENT)					2449 LBS.
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)					
POUR #1 CAP, LOWER PART OF WINGS & COLLARS					17.9 C.Y.
POUR #2 UPPER PART OF WINGS					2.1 C.Y.
TOTAL CLASS A CONCRETE					20.0 C.Y.

END BENT No. 1	END BENT No. 2
HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES
NO: 5	NO: 5
LIN. FT.= 75	LIN. FT.= 100
STEEL PILE POINTS = 5	STEEL PILE POINTS = 5



SECTION A-A

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")

PROJECT NO. 17BP.14.R.23
HAYWOOD COUNTY
STATION: 13+04.00 -L-

SHEET 4 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT No. 1 & 2
DETAILS

REVISIONS

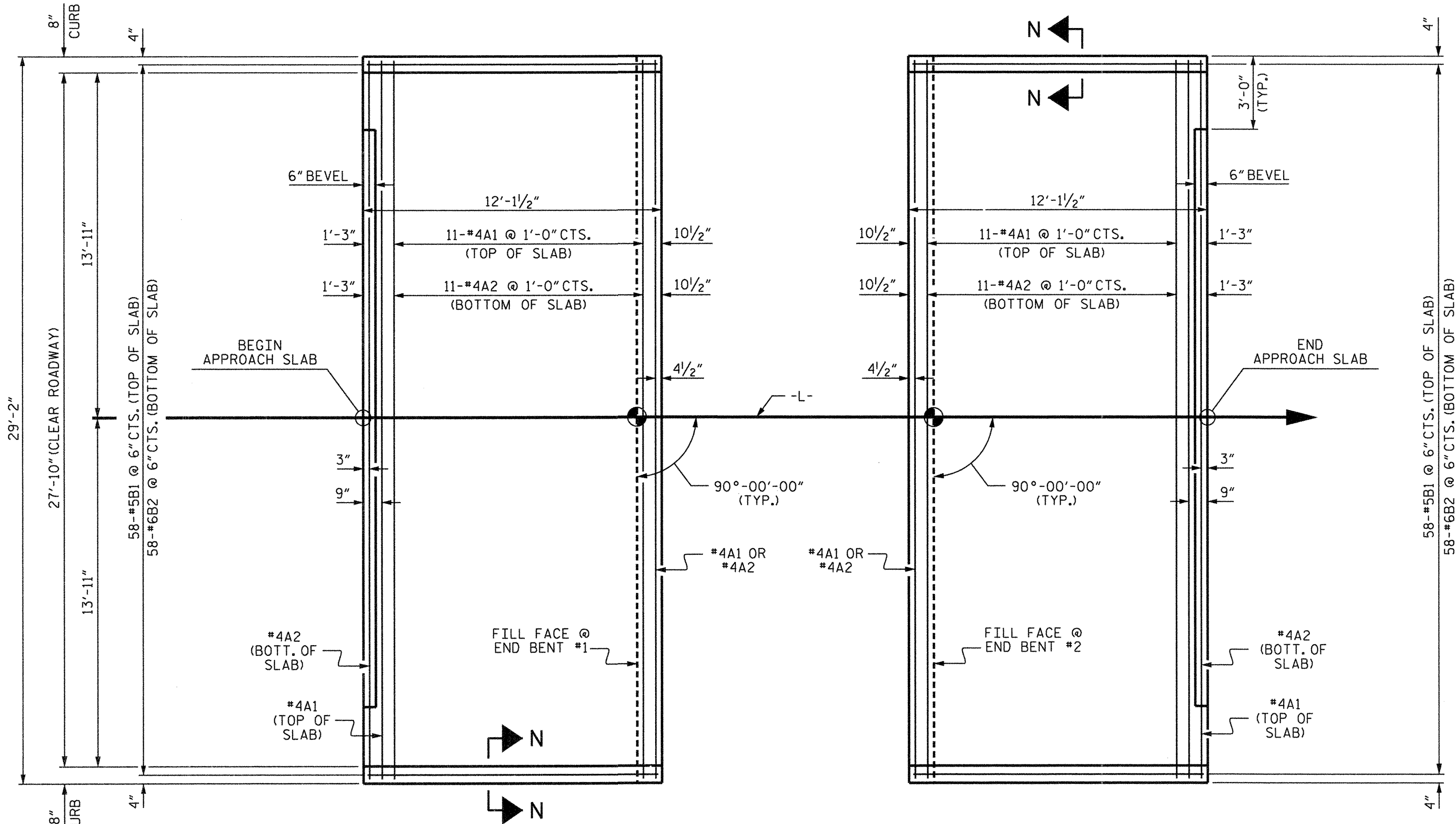
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S-11
2			4			TOTAL SHEETS 12

THE LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, NC 27605-3322

STD NO. ER 30 90S4

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3/21/2013 1100_PDF_Full.plt:cfq 1100_str.tbl

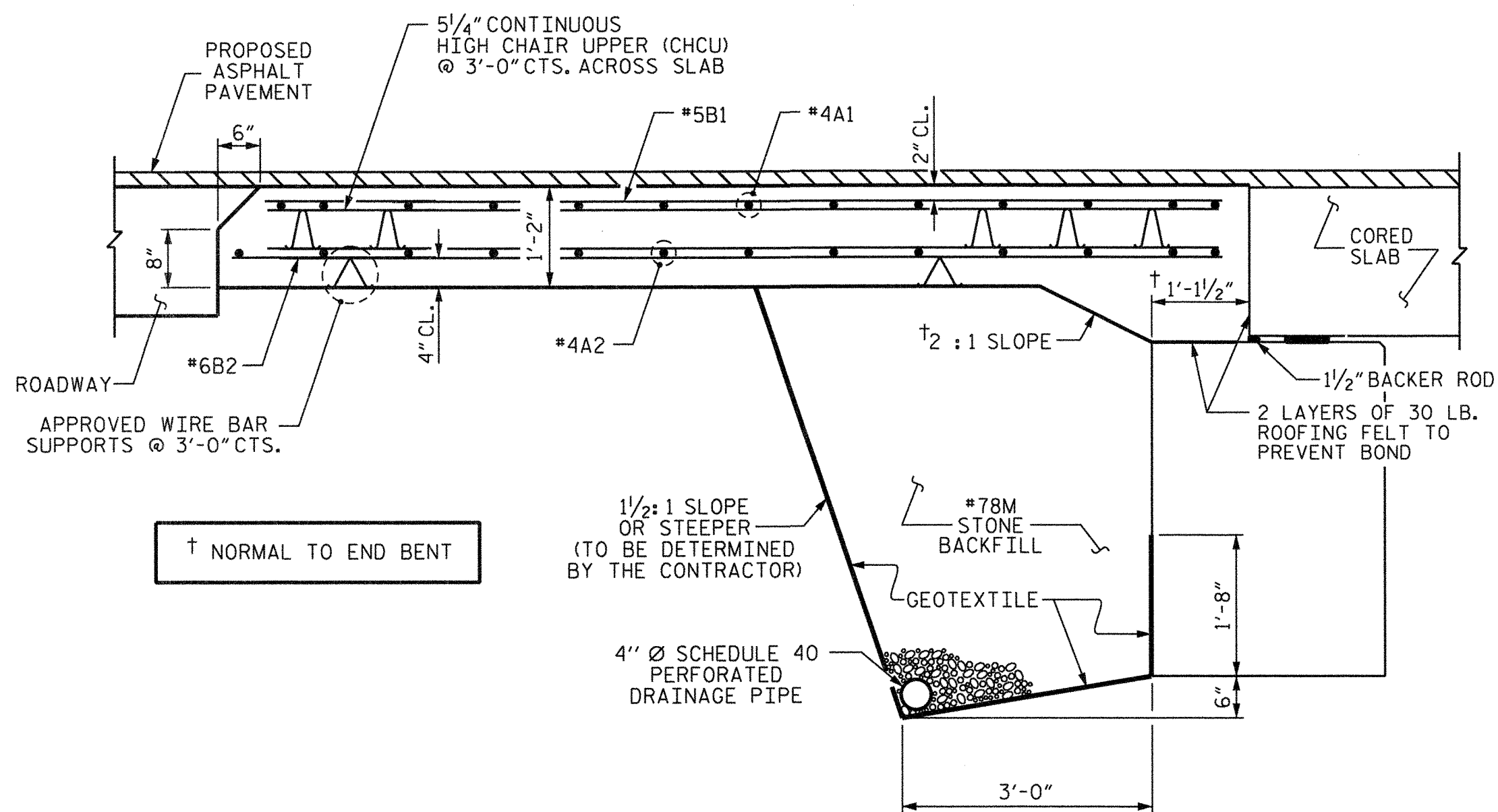
ASSEMBLED BY : R. KNIGHT DATE : APR. 2012
CHECKED BY : S. COOK DATE : APR. 2012
DRAWN BY : SHS/MAA 5-09 REV. 12-11 MAA/AAC
CHECKED BY : BCH 5-09



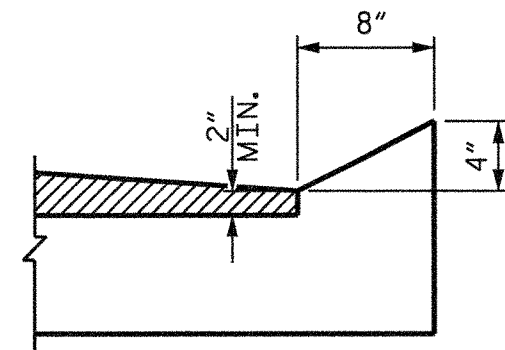
PLAN @ END BENT #1

PLAN @ END BENT #2

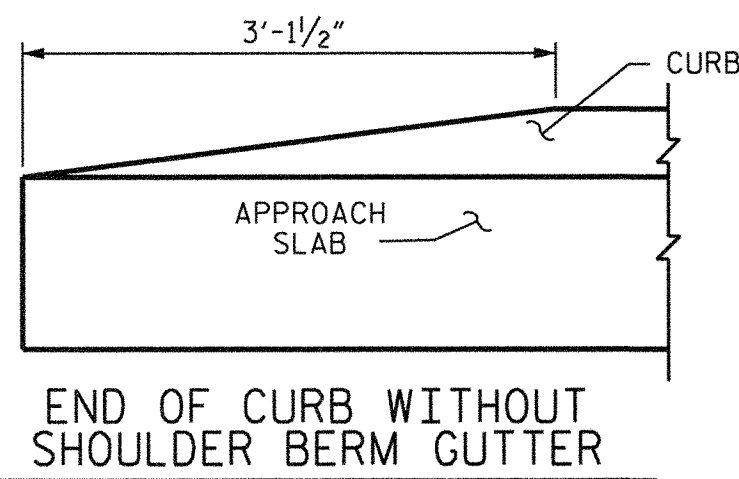
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



SECTION THRU SLAB



SECTION N-N



END OF CURB WITHOUT SHOULDER BERM GUTTER

CURB DETAILS

NOTES

FOR BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, 4"Ø DRAINAGE PIPE, AND #78M STONE BACKFILL, SEE ROADWAY PLANS.

GEOTEXTILE SHALL BE TYPE 1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.

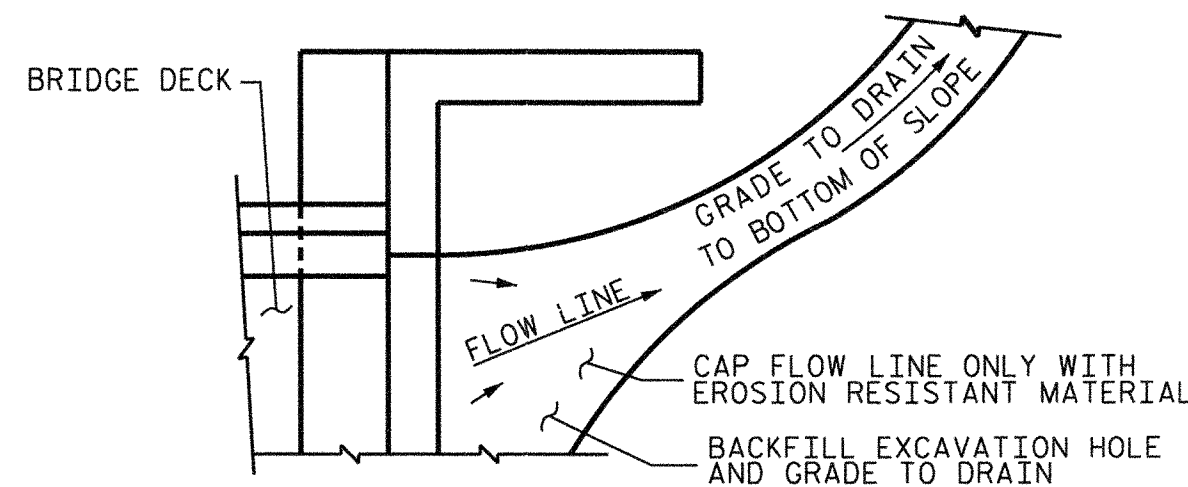
#78M STONE BACKFILL (CLASS V SELECT MATERIAL) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

#78M STONE BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB.

FOR THE 4"Ø DRAINAGE PIPE OUTLET(S), SEE ROADWAY STANDARD DRAWINGS.

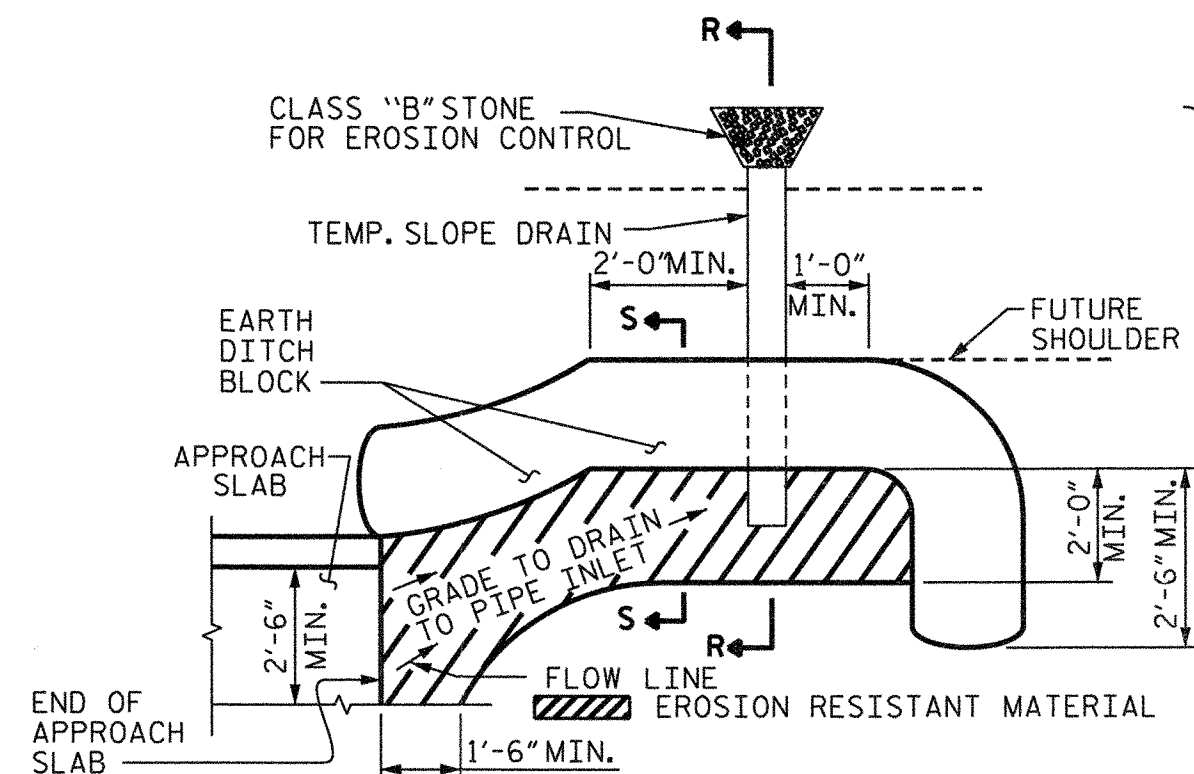
AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

APPROACH SLAB GROOVING IS NOT REQUIRED.



NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT TO THE STRUCTURE. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THESE MATERIALS PRIOR TO CONSTRUCTION OF THE APPROACH SLAB.

TEMPORARY DRAINAGE DETAIL

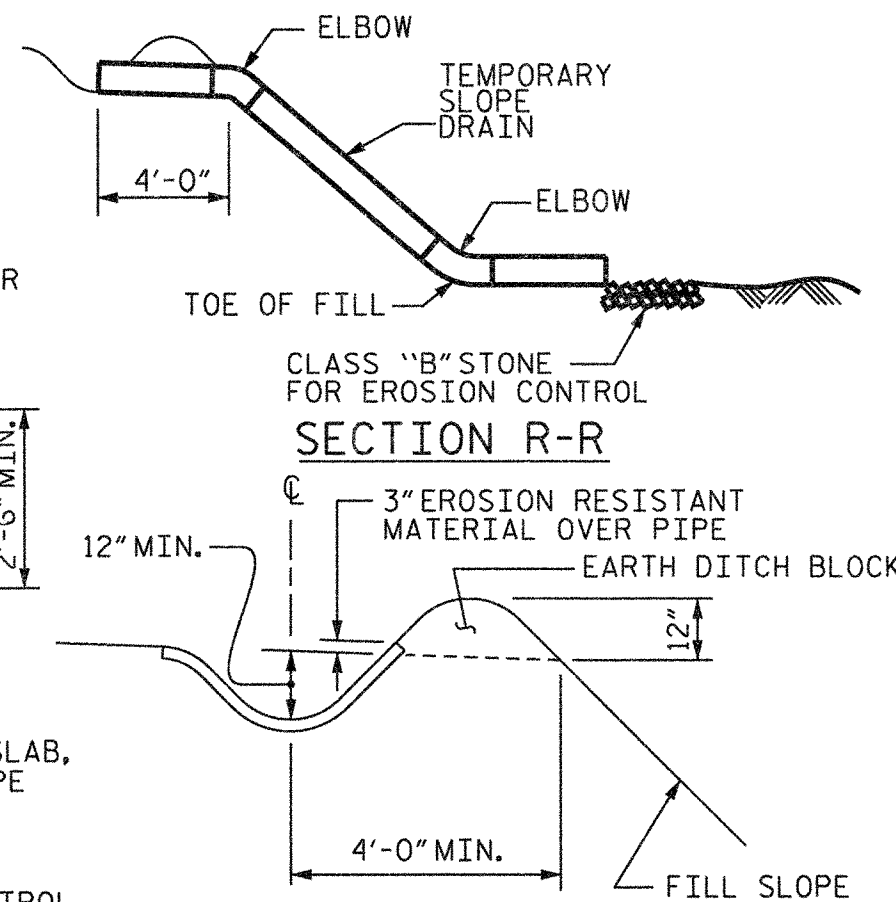


NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.

PLAN VIEW

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



SECTION S-S

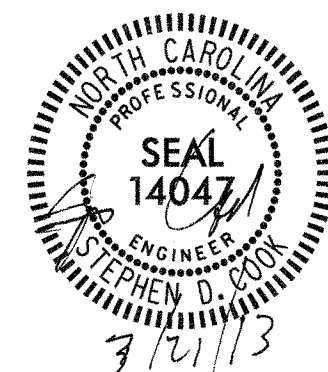
PROJECT NO. 17BP.14.R.23
HAYWOOD COUNTY
STATION: 13+04.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
BRIDGE APPROACH SLAB
FOR PRESTRESSED CONCRETE
CORED SLAB UNIT
(SUB-REGIONAL TIER)
90° SKEW

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

SHEET NO.
S-12
TOTAL
SHEETS
12



THE LOUIS BERGER GROUP, Inc.
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