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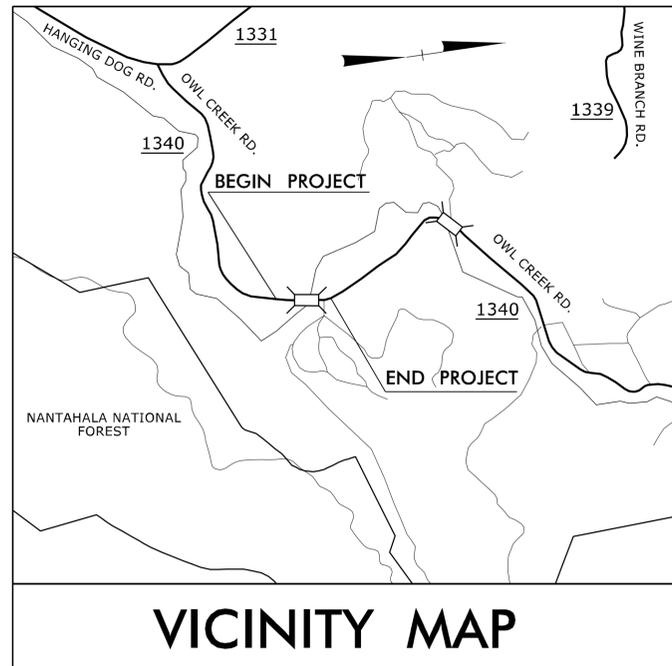
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09.08/99

WBS ELEMENT: 17BP.14.R.57

CONTRACT: DN00182

See Sheet 1-A For Index of Sheets



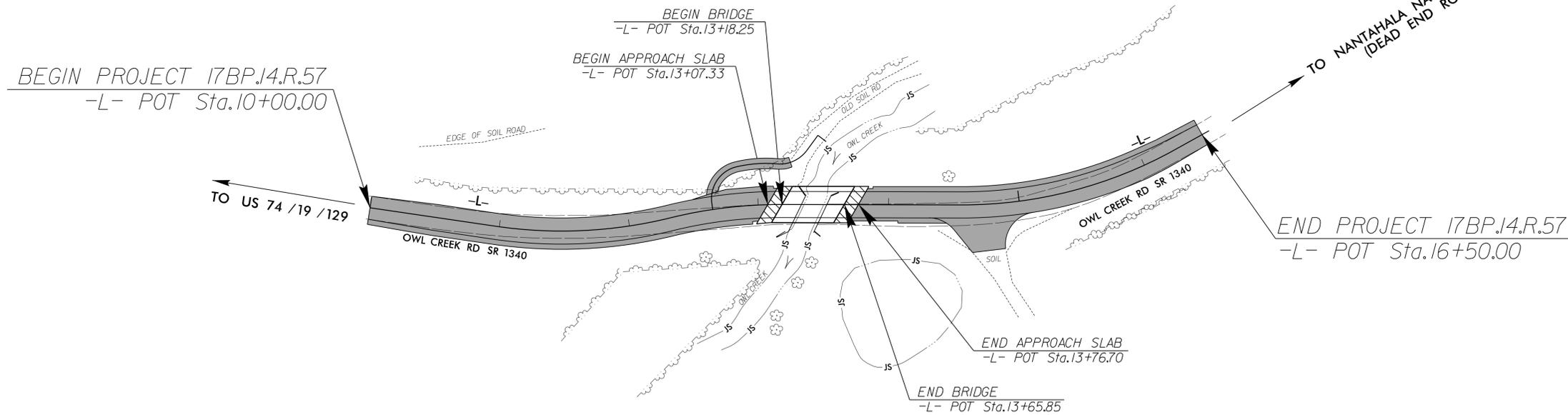
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CHEROKEE COUNTY

LOCATION: REPLACE BRIDGE No.17 ON SR 1340 OVER
OWL CREEK

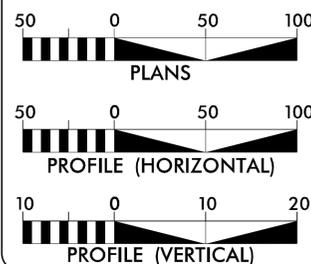
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.57	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
17BP.14.R.57	N/A	PE	
17BP.14.R.57	N/A	ROW, UTL	
17BP.14.R.57	N/A	CONST.	



THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 445
ADT 2035 = 675

T = 6 %
V = 30 MPH

FUNC CLASS =
RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT 17BP.14.R.57 = 0.114 MILES
LENGTH STRUCTURE TIP PROJECT 17BP.14.R.57 = 0.009 MILES
TOTAL LENGTH TIP PROJECT 17BP.14.R.57 = 0.123 MILES

Prepared in the Office of:

RS&H

ARCHITECTS-ENGINEERS-PLANNERS, INC.
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203

2012 STANDARD SPECIFICATIONS

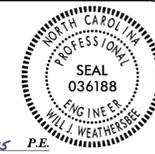
RIGHT OF WAY DATE:
AUGUST 1, 2012

LETTING DATE:

KENNETH HERRING, PE
PROJECT ENGINEER

JASON TALLEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS
ENGINEER

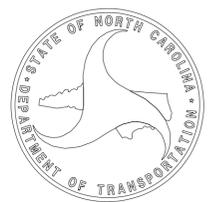


Signature: Will J. Weatherse 1-23-15 P.E.

ROADWAY DESIGN
ENGINEER



Signature: Jason M. Talley 2-6-15 P.E.



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SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-B	STRUCTURE ANCHOR UNIT DETAIL
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK REMOVAL SUMMARY, AND SHOULDER BERM GUTTER SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-6	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UO-1	UTILITIES BY OTHERS
X-0	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-9	CROSS-SECTIONS
S-1 THRU S-22	STRUCTURE PLANS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

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	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Super-elevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
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
840.24	Frames and Narrow Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.41	Spring Box - Concrete or Brick
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets

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 II.

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.

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.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE:
BLUE RIDGE EMC
FRONTIER COMMUNICATIONS, INC.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT IN ACCORDANCE WITH SECTION 801 OF THE 2012 NORTH CAROLINA STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

ROCK

ROCK IS ANTICIPATED BETWEEN -DRIVE- STA 10+35 TO 10+84. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

*S.U.E. = *Subsurface Utility Engineering*

04/16/11

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	(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-
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	○
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	□
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 RW Marker	▲
Proposed Control of Access Line with Concrete C/A Marker	○
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	○

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Curb Ramp	○
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----
VEGETATION:	
Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

UTILITIES:

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

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	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

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

TV:

TV Satellite Dish	☼
TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	□
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.

SURVEY CONTROL SHEET 17BP.14.R.57 -FINAL-

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.57	1-C
LOCATION AND SURVEYS	

5/28/99



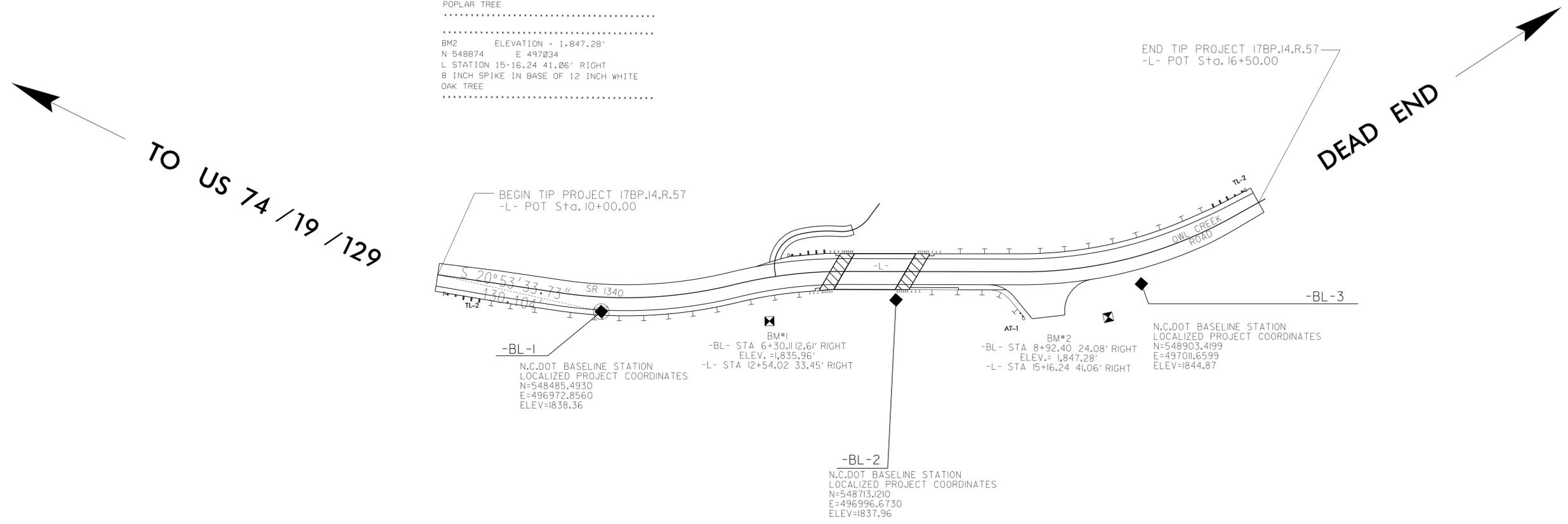
L				
TYPE	STATION	NORTH	EAST	
POT	10+00.00	548363.94	496926.46	
PC	10+96.60	548456.52	496954.04	
PI	11+65.20	548522.26	496973.63	
PT	12+32.07	548590.53	496966.96	
PC	12+32.07	548590.53	496966.96	
PI	12+74.86	548633.11	496962.79	
PT	13+17.22	548675.44	496969.01	
PC	14+55.73	548812.48	496989.13	
PI	15+42.86	548898.68	497001.79	
PT	16+26.21	548980.13	496970.85	
POT	16+56.07	549008.05	496960.24	

ROW MARKER AND PERMANENT EASEMENT				
ALIGN	STATION	OFFSET	NORTH	EAST
-L-	10+00.00	30.00	548355.3767	496955.2093
-L-	11+50.00	53.00	548501.4205	497017.8413
-L-	14+60.00	65.00	548808.0873	497054.1529
-L-	14+95.00	35.65	548850.5615	497028.1920
-L-	12+32.07	-27.36	548587.8672	496939.7262
-L-	12+75.00	-40.00	548634.4084	496925.4200
-L-	14+55.73	-22.72	548815.7835	496966.6514
-L-	14+55.73	-35.00	548817.5671	496954.5054
-EL-	15+20.00	-25.51	548875.3995	496966.8518
-EL-	17+70.00	-30.00	549099.8551	496888.1156
-EL-	17+70.00	-75.00	549081.067	496847.2072

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1		548485.4930	496972.8560	1838.36	11+28.75	11.28 RT
2	BL-2		548713.1210	496996.6730	1837.96	13+58.52	21.89 RT
3	BL-3		548903.4199	497011.6599	1844.87	15+44.39	21.49 RT

.....
 BM1 ELEVATION = 1,835.96'
 N 548614 E 496999
 L STATION 12+54.02 33.45' RIGHT
 8 INCH SPIKE IN BASE OF 24 INCH TWIN
 POPLAR TREE

.....
 BM2 ELEVATION = 1,847.28'
 N 548874 E 497034
 L STATION 15+16.24 41.06' RIGHT
 8 INCH SPIKE IN BASE OF 12 INCH WHITE
 OAK TREE



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "190017-BL1"

WITH NAD 83/2007 STATE PLANE GRID COORDINATES OF
 NORTHING: 548485.493(ft) EASTING: 496972.856(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
 (GROUND TO GRID) IS: 0.997906695

THE N.C. LAMBERT GRID BEARING AND
 LOCALIZED HORIZONTAL GROUND DISTANCE FROM
 "190017-BL1" TO -L- STATION 10+00.00 IS
 S 20°53'33.73" W 130.104'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS BASED ON NCDOT MONUMENT 190017BL-1
 (ELEV. = 1838.36 FT.) (NAVD 1988) GEOTIDAL MODEL: G09NC

NOTES:

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:
 190017_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.

NOTE: DRAWING NOT TO SCALE

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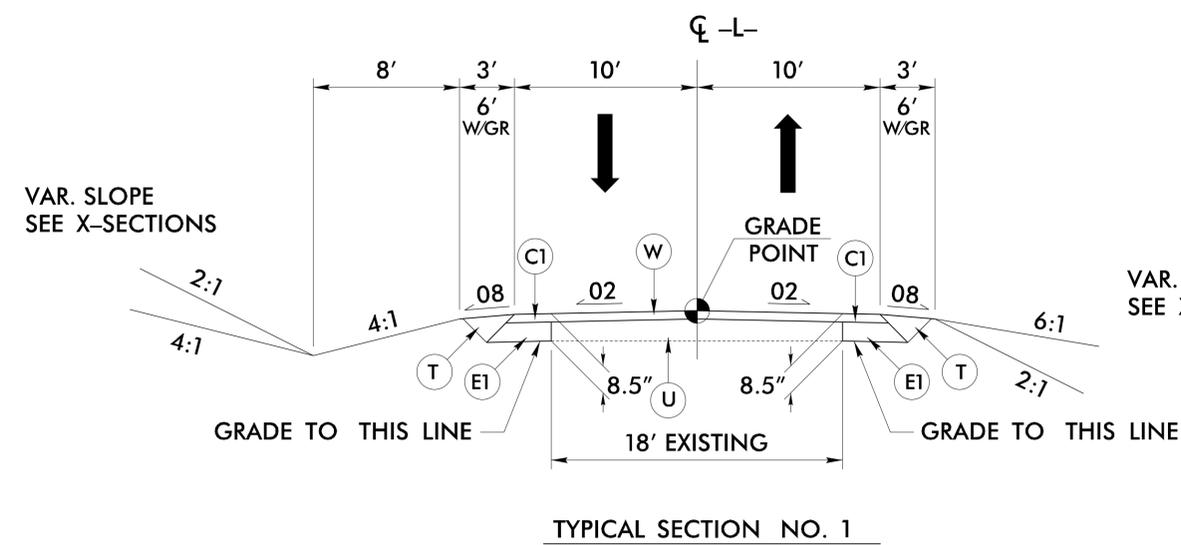
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PAVEMENT SCHEDULE

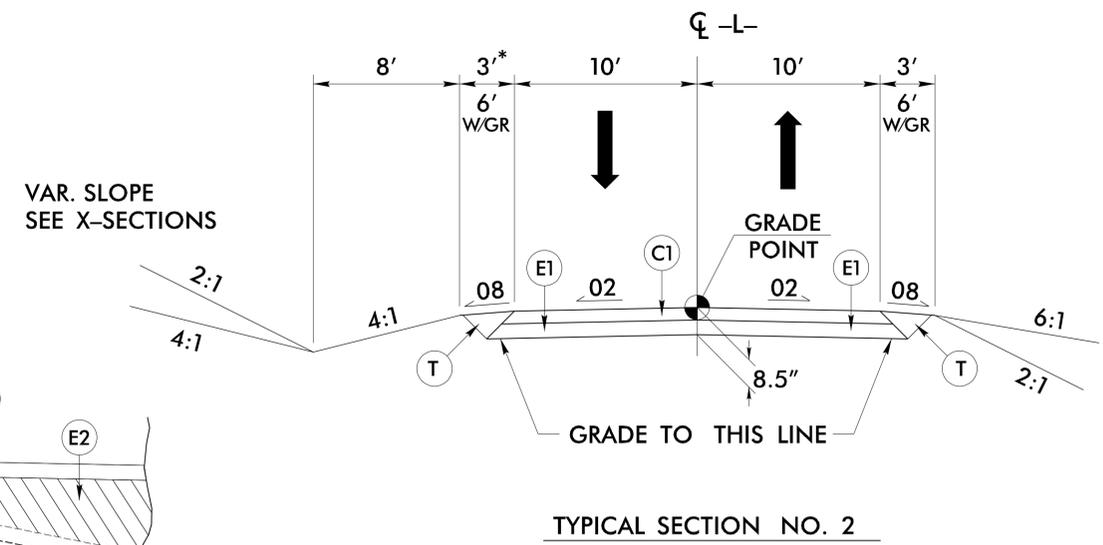
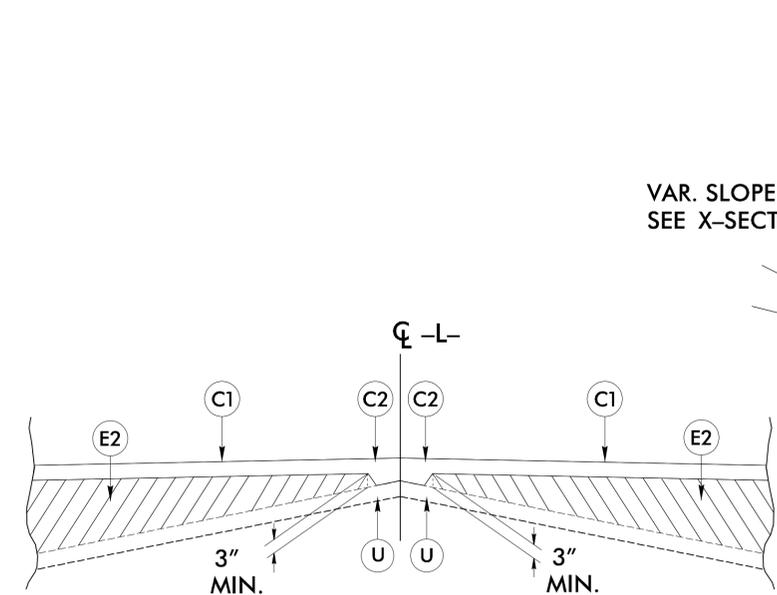
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

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

PROJECT REFERENCE NO. 17BP.14.R.57	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER



USE TYPICAL SECTION NO. 1
 -L- STA. 10+00.00 TO -L- STA. 12+50.00
 -L- STA. 15+75.00 TO -L- STA. 16+50.00



USE TYPICAL SECTION NO. 2
 -L- STA. 12+50.00 TO -L- STA. 13+18.25 (BEGIN BRIDGE)
 -L- STA. 13+65.85 (END BRIDGE) TO -L- STA. 15+75.00

* NOTE:
 PAVE TO THE FACE OF GUARDRAIL FROM
 -L- STA. 13+88.00 (END SBG) TO
 -L- STA. 14+75.00 LT. FOR TRAFFIC CONTROL PURPOSES.

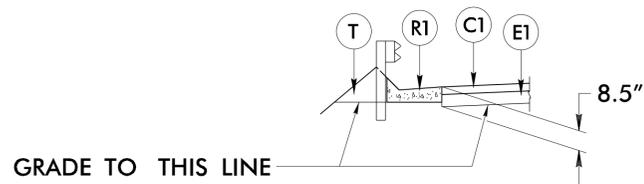
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6/2/09

PAVEMENT SCHEDULE

	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.
C2	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 1½" IN DEPTH.
E1	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

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

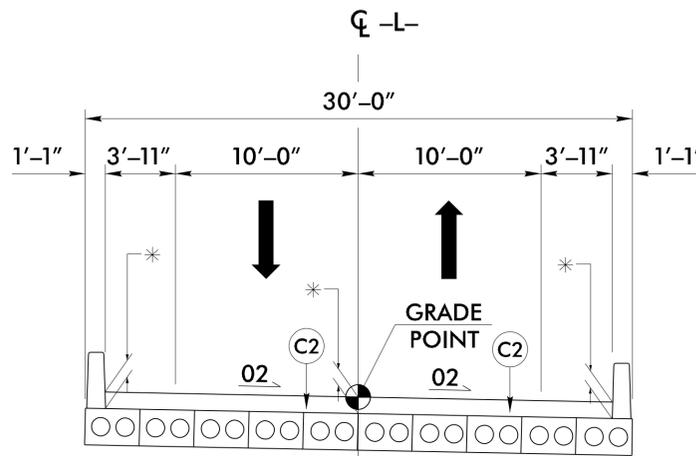


Detail Showing Shoulder Berm Gutter on Top of Subgrade

USE THIS DETAIL:

- L- STA. 13+12.00 TO BEG. APPROACH SLAB LT.
- L- STA. 12+95.00 TO BEG. APPROACH SLAB RT.
- L- STA. END APPROACH SLAB TO 13+88.00 LT.
- L- STA. END APPROACH SLAB TO 13+72.00 RT.

PROJECT REFERENCE NO. 17BP14.R.57	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

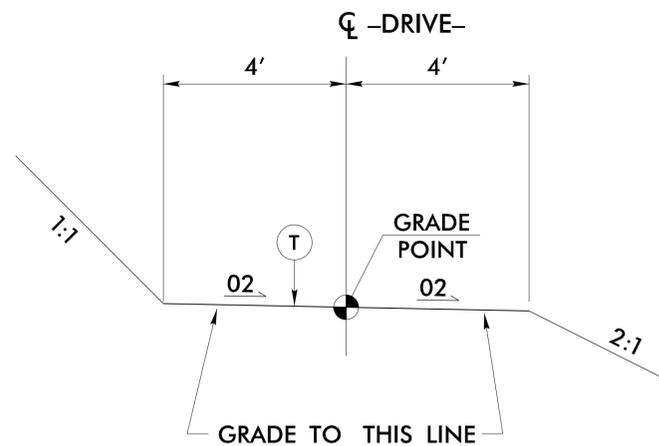


TYPICAL SECTION ON STRUCTURE

* - SEE STRUCTURE PLANS FOR PAVEMENT DEPTHS

USE TYPICAL SECTION ON STRUCTURE

-L- STA. 13+18.25 (BEGIN BRIDGE) TO -L- STA. 13+65.85 (END BRIDGE)



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-DRIVE- STA. 10+30.00 TO -DRIVE- STA. 11+03.36

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

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

Item Number	Sec #	Quantity	Unit	Description	Item Number	Sec #	Quantity	Unit	Description
0000100000-N	800	1	LS	MOBILIZATION	4430000000-N	1130	70	EA	DRUMS
0000400000-N	801	1	LS	CONSTRUCTION SURVEYING	4445000000-E	1145	24	LF	BARRICADES (TYPE III)
0030000000-N	SP	1	LS	BRG APP SUB REG TEIR -L- STA 13+42.05	4455000000-N	1150	6	DAY	FLAGGER
0043000000-N	226	1	LS	GRADING	4810000000-E	1205	7250	LF	PAINT PVMT MARKINGS 4"
0050000000-E	226	1	ACR	SUPP CLEARING & GRUBBING	4835000000-E	1205	20	LF	PAINT PVMT MARKINGS 24"
0057000000-E	226	50	CY	UNDERCUT EXCAVATION	6000000000-E	1605	1040	LF	TEMPORARY SILT FENCE
0134000000-E	240	8	CY	DRAINAGE DITCH EXCAVATION	6006000000-E	1610	40	TON	EROS CONTRL STONE CL A
0195000000-E	265	50	CY	SELECT GRANULAR MATERIAL	6009000000-E	1610	60	TON	EROS CONTRL STONE CL B
0196000000-E	270	50	SY	GEOTEXTILE SOIL STABILIZATION	6012000000-E	1610	70	TON	SEDIMENT CONTROL STONE
0318000000-E	300	20	TON	FND CONDIR MATL MINOR STRS	6015000000-E	1615	0.50	ACR	TEMPORARY MULCHING
0320000000-E	300	60	SY	FND CONDIR GEOTEXTILE	6018000000-E	1620	50	LB	SEED FOR TEMP SEEDING
0343000000-E	310	32	LF	15" SIDE DRAIN PIPE	6021000000-E	1620	0.25	TON	FERT FOR TEMP SEEDING
0366000000-E	310	32	LF	15" RC PIPE CULV III	6024000000-E	1622	100	LF	TEMPORARY SLOPE DRAINS
0378000000-E	310	44	LF	24" RC PIPE CULV III	6029000000-E	SP	100	LF	SAFETY FENCE
0448200000-E	310	68	LF	15" RC PIPE CULV IV	6030000000-E	1630	100	CY	SILT EXCAVATION
0536000000-E	310	16	LF	6" HDPE PIPE CULVTS	6036000000-E	1631	3000	SY	MATTING FOR EROS CONTROL
0995000000-E	340	50	LF	PIPE REMOVAL	6042000000-E	1632	130	LF	1/4" HARDWARE CLOTH
1220000000-E	545	50	TON	INCIDENTAL STONE BASE	6071010000-E	SP	55	LF	WATTLE
1489000000-E	610	370	TON	ASP CONC BASE CRS B25.0B	6071020000-E	SP	5	LB	POLYACRYLAMIDE (PAM)
1519000000-E	610	325	TON	ASP CONC SURF CRS S9.5B	6084000000-E	1660	0.50	ACR	SEEDING AND MULCHING
1575000000-E	620	40	TON	ASP FOR PLANT MIX	6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
1693000000-E	654	11	TON	ASPH PLT MIX PVMT REPAIR	6093000000-E	1661	0.25	TON	FERT FOR REPAIR SEEDING
2286000000-N	840	4	EA	MASNRY DRAINAGE STRUCT	6096000000-E	1662	50	LB	SEED FOR SUPP SEEDING
2352000000-N	840	1	EA	FRAME W/GRATE 840.16 STD	6108000000-E	1665	0.50	TON	FERTILIZER TOPDRESSING
2366000000-N	840	1	EA	FRAME W/GRATES 840.24 STD	6117000000-N	SP	7	EA	RESPONSE FOR EROS CONTROL
2367000000-N	840	1	EA	FRAME W/GRTS 840.29 STD	7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM (EA) (PORTABLE TRAFFIC SIGNAL SYSTEM) (ACTUATED)
2556000000-E	846	52	LF	SHOULDER BERM GUTTER					
3030000000-E	862	587.5	LF	STL BM GUARDRAIL	8035000000-N	402	1	LS	REMV EXIST STR (13+42)
3045000000-E	862	25	LF	SBGR SHOP CURVED	8121000000-N	412	1	LS	UNCL STR EXCAV (13+42)
3150000000-N	862	5	EA	ADDIT GUARDRAIL POSTS	8182000000-E	420	44.8	CY	CLASS A CONCRETE (BRIDGE)
3165000000-N	SP	3	EA	GR ANCHOR TYPE TL-2	8210000000-N	422	1	LS	BRG APPR SLAB (13+42.05)
3195000000-N	862	1	EA	GR ANCHOR TYPE AT-1	8217000000-E	425	5432	LB	REINF STEEL (BRIDGE)
3215000000-N	862	4	EA	GR ANCHOR TYPE III	8364000000-E	450	275	LF	HPI2X53 PILES
3380000000-E	862	37.5	LF	TEMP STL BM GUARDRAIL	8391000000-N	450	10	EA	STEEL PILE POINTS
3387000000-N	862	2	EA	TEMP GDRL ANCH TYPE TL-2	8392500000-E	450	140	LF	PREDRILLING FOR PILES
3649000000-E	876	5	TON	RIP RAP, CLASS B	8505000000-E	460	90.3	LF	VERT CONC BARRIER RAIL
3656000000-E	876	31	SY	GEOTEXTILE FOR DRAINAGE	8608000000-E	876	113	TON	RIP RAP II (2'-0)
4400000000-E	1110	162	SF	WORK ZONE SIGNS (STAT)	8622000000-E	876	92	SY	GEOTEXTILE FOR DRAINAGE
4410000000-E	1110	30	SF	WORK ZONE SIGNS (BARR)	8657000000-N	430	1	LS	ELASTOMERIC BEARINGS
					8762000000-E	430	450	LF	3'-0"x1'-9" PRESTR SLABS

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CHECKED BY: RJD DATE: 10/2012

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. 17BP14R57
SHEET NO. 3-A

SUMMARY OF EARTHWORK

Table with columns: PHASE, STATION, UNCL. EXCAV., EMBANK. +%, BORROW, WASTE. Includes subtotals for Phase 1, Phase 2, Phase 3, and Grand Totals.

EST. DDE = 8
EST UNDERCUT = 50 CY CONTINGENCY
EST SELECT GRANULAR MATERIAL = 50 CY CONTINGENCY
EST FABRIC FOR SOIL STABILIZATION = 50 SY CONTINGENCY

PAVEMENT REMOVAL SUMMARY

Table with columns: PHASE, SURVEY LINE, STATION, LOCATION L/R/T/CL, YD'. Includes subtotals and SAY: 550.

NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."

SHOULDER BERM GUTTER SUMMARY

Table with columns: SURVEY LINE, STATION, LENGTH. Includes subtotals and SAY: 52.

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

Large table listing pipe details: STATION, LOCATION, STRUCTURE NO., DRAINAGE PIPE, CLASS III R.C. PIPE, CLASS IV R.C. PIPE, ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME GRATES AND HOOD STANDARD, TYPE OF GRATE, PIPE REMOVAL LIN.FT., and REMARKS.

"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.

TEMPORARY GUARDRAIL SUMMARY

Table with columns: SURVEY LINE, BEG. STA., END STA., LOCATION, LENGTH, WARRANT POINT, "N" DIST. FROM E.O.L., TOTAL SHOUL. WIDTH, FLARE LENGTH, W, ANCHORS, IMPACT ATTENUATOR, SINGLE FACED GUARDRAIL, REMOVE EXISTING GUARDRAIL, REMOVE AND STOCKPILE EXISTING GUARDRAIL, REMARKS.

GUARDRAIL SUMMARY

Table with columns: SURVEY LINE, BEG. STA., END STA., LOCATION, LENGTH, WARRANT POINT, "N" DIST. FROM E.O.L., TOTAL SHOUL. WIDTH, FLARE LENGTH, W, ANCHORS, IMPACT ATTENUATOR, SINGLE FACED GUARDRAIL, REMOVE EXISTING GUARDRAIL, REMOVE AND STOCKPILE EXISTING GUARDRAIL, REMARKS.

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NOTE: PAVE TO THE FACE OF GUARDRAIL FROM -L- STA.13+88.00 TO 14+75.00 FOR TRAFFIC CONTROL PURPOSES.

EST 1 TONS CL B RIP RAP AND 5 SY FILT FAB FOR 15" RCP-III (0402).
EST 1 TONS CL B RIP RAP AND 5 SY FILT FAB FOR 15" RCP-III (0406).
EST 3 TONS CL B RIP RAP AND 11 SY FILT FAB FOR 24" RCP-III (0408).

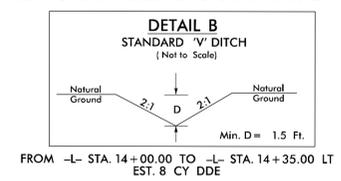
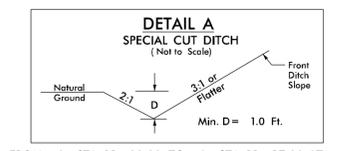
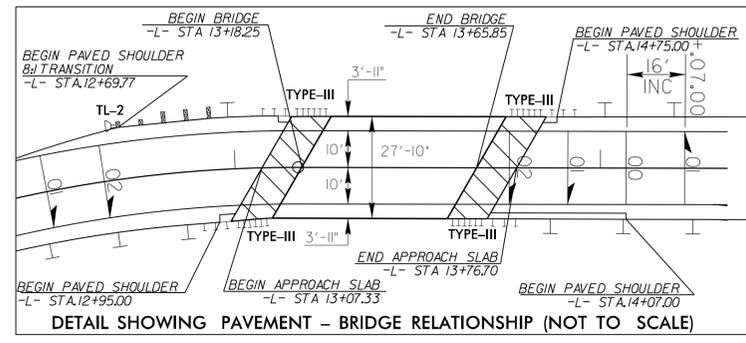
BEGIN SBG LT -L- STA. 13+12.00 TO BEGIN APPROACH SLAB
BEGIN SBG RT -L- STA. 12+95.00 TO BEGIN APPROACH SLAB
BEGIN SBG LT END APPROACH SLAB TO -L- STA. 13+88.00
BEGIN SBG RT END APPROACH SLAB TO -L- STA. 13+72.00

RS&H

BEGIN PROJECT 17BP.14.R.57
-L- POT Sta.10+00.00

END PROJECT 17BP.14.R.57
-L- POT Sta.16+50.00

-L- CURVE DATA		
PI Sta 11+65.20 Δ = 22° 10' 38.4" (LT) D = 16' 22' 12.8" L = 135.47' T = 68.60' R = 350.00' RO = SEE PLANS	PI Sta 12+74.86 Δ = 13° 56' 18.5" (RT) D = 16' 22' 12.8" L = 85.15' T = 42.78' R = 350.00' RO = SEE PLANS	PI Sta 15+42.86 Δ = 29° 09' 24.9" (LT) D = 17' 06' 11.6" L = 170.48' T = 87.13' R = 335.00' RO = SEE PLANS
-DRIVE- CURVE DATA		
PI Sta 10+28.70 Δ = 58° 00' 27.5" (RT) D = 229' 10' 59.2" L = 25.31' T = 13.86' R = 25.00'	PI Sta 10+94.56 Δ = 85° 25' 07.3" (LT) D = 229' 10' 59.2" L = 37.27' T = 23.08' R = 25.00'	PI Sta 10+55.94 Δ = 17° 57' 01.1" (LT) D = 57' 17' 44.8" L = 31.33' T = 15.79' R = 100.00'



NOTE: 25' RADII USED AT ENTRANCE

DO NOT DISTURB STONE POST AND WOODEN RAIL FENCE

DO NOT DISTURB ROCK SIGN AND ROCK WALLS

FOR -L- PROFILE, SEE SHEET 5
FOR -DRIVE- PROFILE, SEE SHEET 5
BRIDGE APPROACH SLAB
FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-22

REVISIONS

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PROJECT REFERENCE NO. 17BPJ4.R.57	SHEET NO. 5
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER

-L-

BM *2
8" SPIKE SET IN BASE OF 12 INCH WHITE OAK TREE
-BL- STA 8+92.40 24.08' RIGHT
-L- STA 15+16.24 41.06' RIGHT
ELEV. = 1,847.28'

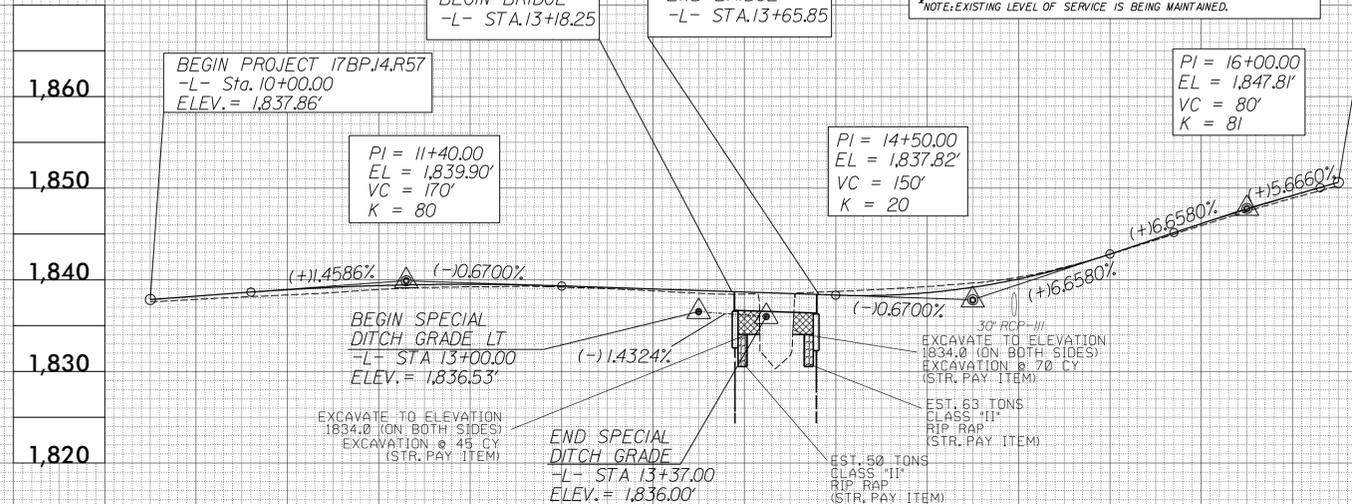
BM *1
8" SPIKE SET IN BASE OF 24 INCH TWIN POPLAR TREE
-BL- STA 6+30.11 12.61' RIGHT
-L- STA 12+54.02 33.45' RIGHT
ELEV. = 1,835.96'

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	=	800	CFS
DESIGN FREQUENCY	=	5*	YRS
DESIGN HW ELEVATION	=	1837.3	FT
BASE DISCHARGE	=	2450	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1841.21	FT
OVERTOPPING DISCHARGE	=	1060	CFS
OVERTOPPING FREQUENCY	=	10 +/-	YRS
OVERTOPPING ELEVATION	=	1838.3	FT

*NOTE: EXISTING LEVEL OF SERVICE IS BEING MAINTAINED.

END PROJECT 17BPJ4.R.57
-L- Sta. 16+50.00
ELEV. = 1,850.64'



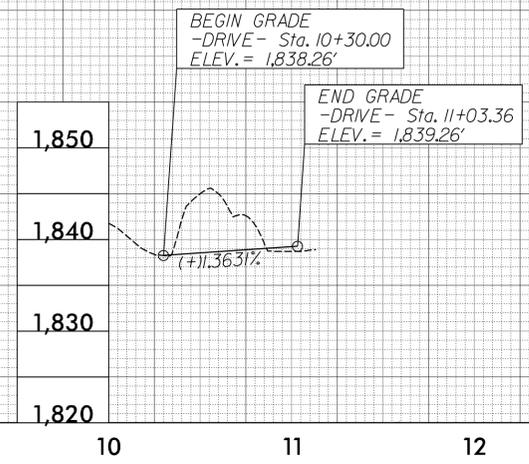
PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE No. 0405 (30" RCP-III)

DRAINAGE AREA	=	13.0	AC
DESIGN FREQUENCY	=	25	YRS
DESIGN DISCHARGE	=	35.2	CFS
DESIGN HW ELEVATION	=	1841.00	FT
100 YEAR DISCHARGE	=	46.0	CFS
100 YEAR HW ELEVATION	=	1842.00	FT
OVERTOPPING FREQUENCY	=	100+	YRS
OVERTOPPING DISCHARGE	=	50.0	CFS
OVERTOPPING ELEVATION	=	1842.60	FT

LEFT DITCH

FOR -L- ALIGNMENT, SEE SHEET 4

-DRIVE-

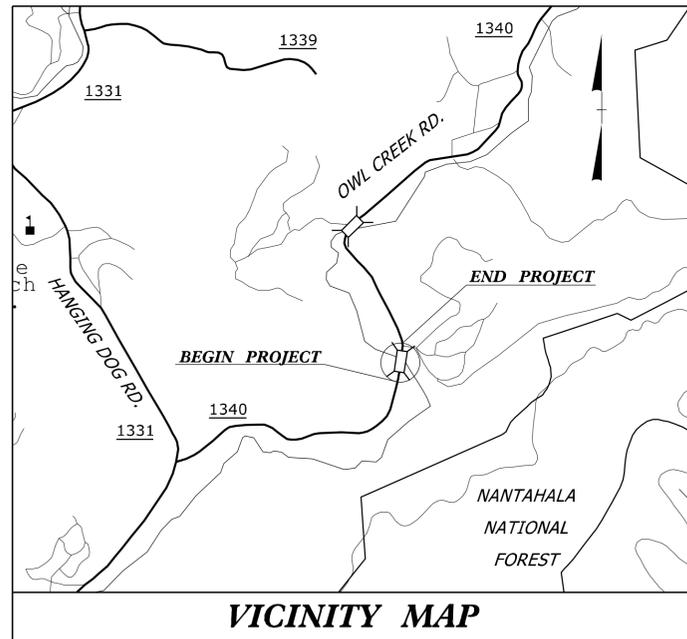


FOR -DRIVE- ALIGNMENT, SEE SHEET 4

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CHEROKEE COUNTY



LOCATION: BRIDGE NO. 17 ON SR 1340 OVER OWL CREEK

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND MANAGEMENT STRATEGIES
TMP-1B	TRANSPORTATION OPERATIONS PLAN: GENERAL NOTES
TMP-2	TEMPORARY TRAFFIC CONTROL PHASING
TMP-3	TEMPORARY TRAFFIC CONTROL PHASE I
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE II
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE III
TMP-6	DETAIL FOR WORK ZONE SIGNING

SHEET NO.

TMP-1

17BP.14.R.57

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<p>RS&H ARCHITECTS-ENGINEERS-PLANNERS, INC. 1520 SOUTH BOULEVARD, SUITE 200 CHARLOTTE, NC 28203</p>	
<p><u>KENNETH HERRING, PE</u> PROJECT ENGINEER</p>	
<p><u>JASON TALLEY, PE</u> PROJECT DESIGN ENGINEER</p>	

	<p>APPROVED: _____ DATE: _____</p> <p>SEAL</p>
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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:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

MANAGEMENT STRATEGIES

- DURING CONSTRUCTION, SR 1340 TRAFFIC WILL BE PLACED IN A ONE-LANE, TWO-WAY PATTERN ON THE TEMPORARY ONSITE DETOUR.
- TEMPORARY PORTABLE TRAFFIC SIGNALS PLACED AT THE BEGINNING AND END OF AN ONSITE DETOUR WILL MANAGE SR 1340 TRAFFIC.
- THE TIE IN CONSTRUCTION, TRAFFIC SHIFTS, PLACEMENT OF FINAL SURFACE COURSE AND PAVEMENT MARKINGS WILL BE PERFORMED USING FLAGGER OPERATIONS.

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- PROPOSED CONSTRUCTION
- PAVEMENT REMOVAL

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY PAVEMENT MARKING

NONE

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

- TEMPORARY PORTABLE TRAFFIC SIGNAL SYSTEM

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

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APPROVED: _____ DATE: _____ 		ROADWAY STANDARD DRAWINGS, LEGEND, AND MANAGEMENT STRATEGIES
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GENERAL 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 UNDESIRABLE 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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- F) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- G) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- H) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 200' IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- J) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- K) 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.
- L) 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.
- M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- N) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 100' IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

- O) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.
- P) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- Q) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

- R) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
-L- (SR 1340, OWL CREEK ROAD)	PAINT	N/A
- S) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- T) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- U) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

- V) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 200' AND 200' RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

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APPROVED: _____ DATE: _____ <div style="text-align: center;">  </div>		TRANSPORTATION OPERATIONS PLAN
---	---	---

PHASING

NOTE: MAINTAIN ACCESS TO ALL RESIDENCES WITHIN THE PROJECT LIMITS.

PHASE I

NOTE: PRIOR TO CONSTRUCTION, INSTALL ADVANCE WORK ZONE WARNING SIGNS AS SHOWN ON TMP-6. USING FLAGGERS (RDS 1101.02, SHEET 1 OF 15) INSTALL AND COVER TEMPORARY PORTABLE TRAFFIC SIGNALS. INSTALL TEMPORARY PAVEMENT MARKINGS AND DRUMS FROM -L- STA. 10+00.00 TO -L- STA. 16+50.00 AS SHOWN ON TMP-3.

THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK IN PHASE I, STEP 1 IN ONE WORK PERIOD.

STEP 1: USING RSD 1101.02, SHEET 1 OF 15, SIGNALS, AND DRUMS COMPLETE THE FOLLOWING AS SHOWN ON TMP-3 AND CONSTRUCTION PLANS:

- ACTIVATE TEMPORARY PORTABLE TRAFFIC SIGNAL SYSTEM.
- SHIFT TRAFFIC TO A ONE-LANE, TWO-WAY PATTERN ON EXISTING SR 1340 -L- RT. FROM 250' IN ADVANCE OF -L- STA. 10+00.00 +/- TO 250' PAST -L- STA. 16+50.00 +/-.
- NOTE: THE CONTRACTOR SHALL UTILIZE SIGNALS, AS DIRECTED BY THE ENGINEER, FOR LANE/ROAD CLOSURES. HOWEVER, DRUMS SHALL BE USED TO DELINEATE THE TRAVEL WAY.
- UNDER INTERMITTENT ROAD CLOSURE AS NEEDED, REMOVE EXISTING LEFT SIDE BRIDGE RAIL. CUT APPROXIMATELY 7' OFF LEFT SIDE OF EXISTING STRUCTURE AND REMOVE. REINSTALL BRIDGE RAIL TO BRIDGE DECK, APPROXIMATELY 11' FROM EXISTING RIGHT SIDE BRIDGE RAIL.

NOTE: CONSTRUCT ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE.

STEP 2: USING RSD 1101.02, SHEET 1 OF 15, AND SIGNALS, COMPLETE THE FOLLOWING AS SHOWN ON TMP-3 AND CONSTRUCTION PLANS:

- REMOVE EXISTING ROADWAY BED AS SHOWN FROM -L- STA. 12+50 +/- LT. TO -L- STA. 15+00 +/- LT. OR AS DIRECTED BY ENGINEER.
- CONSTRUCT -L- LT. PROPOSED CORED SLAB BRIDGE AND ROADWAY APPROACHES UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM -L- STA. 11+90 +/- LT. TO -L- STA. 16+50 +/- LT.
- INSTALL DRUMS AND TYPE III BARRICADES TO KEEP PROPOSED STRUCTURE AND APPROACHES CLOSED TO TRAFFIC FROM -L- STA. 11+90 +/- LT TO -L- STA. 16+50 +/- LT.
- INSTALL PERMANENT GUARDRAIL ON THE LEFT SIDE OF -L- LT FROM STA. 12+70 +/- TO STA.13+26 +/- AND FROM STA. 13+74 +/- TO STA. 16+42 +/-.
- INSTALL TEMPORARY ANCHORED GUARDRAIL ON THE RIGHT SIDE OF -L- LT. PROPOSED CORED SLAB BRIDGE.
- PLACE TEMPORARY PAVEMENT MARKINGS ON -L- ϕ . APPROACHES.
- PLACE DRUMS SPACED 10' C-C IN LOCATION OF TEMPORARY GUARDRAIL ON THE RIGHT SIDE OF -L- LT. AT EACH END OF THE NEW BRIDGE UNTIL REMAINDER OF TEMPORARY GUARDRAIL CAN BE INSTALLED.

PHASE II

NOTE: THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK IN PHASE II, STEP 1 IN ONE WORK PERIOD.

STEP 1: USING RSD 1101.02, SHEET 1 OF 15, SIGNALS, AND DRUMS TO DELINEATE THE TRAVEL WAY AND MAINTAIN ONE-LANE, TWO-WAY PATTERN, COMPLETE THE FOLLOWING AS SHOWN ON TMP-4 AND CONSTRUCTION PLANS:

- REMOVE TYPE III BARRICADES FROM -L- LT. APPROACHES.
- INSTALL REMAINDER OF TEMPORARY GUARDRAIL ON THE RIGHT SIDE OF -L- LT.
- INSTALL DRUMS AND TYPE III BARRICADES TO CLOSE EXISTING SR 1340 -L- RT. TO TRAFFIC FROM -L- STA. 10+00 +/- TO -L- 16+50 +/- AND SHIFT TRAFFIC TO -L- LT.

NOTE: CONSTRUCT ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE.

STEP 2: USING RSD 1101.02, SHEET 1 OF 15, AND SIGNALS, COMPLETE THE FOLLOWING AS SHOWN ON TMP-4 AND CONSTRUCTION PLANS:

- REMOVE REMAINING PORTION OF EXISTING STRUCTURE (RIGHT SIDE).
- REMOVE EXISTING ROADWAY BED AS SHOWN FROM -L- STA. 12+40 +/- RT. TO -L- STA. 15+79 +/- RT. OR AS DIRECTED BY ENGINEER. PROVIDE ACCESS TO KUDZO CREEK TRAIL. USE INCIDENTAL STONE BASE AS DIRECTED BY THE ENGINEER.
- CONSTRUCT KUDZO CREEK TRAIL TIE IN, UP TO BUT NOT INCLUDING FINAL SURFACE LAYER OF SURFACE COURSE AS SHOWN ON TMP-4.
- CONSTRUCT -L- RT. PROPOSED CORED SLAB BRIDGE AND ROADWAY APPROACHES UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM -L- STA. 10+00 +/- RT. TO -L- STA 16+50 +/- RT.
- INSTALL PERMANENT GUARDRAIL ON THE RIGHT SIDE OF -L- RT FROM STA. 10+78 +/- TO STA. 13+19 +/- AND FROM STA. 13+58 +/- TO STA. 14+17 +/-.

PHASE III

NOTE: CONSTRUCT ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE.

STEP 1: USING RSD 1101.02, SHEET 1 OF 15, SIGNALS, AND DRUMS TO DELINEATE THE TRAVEL WAY AND MAINTAIN ONE-LANE, TWO-WAY PATTERN, COMPLETE THE FOLLOWING AS SHOWN ON TMP-5 AND CONSTRUCTION PLANS:

- REMOVE TEMPORARY GUARDRAIL ON THE RIGHT SIDE OF -L- LT.
- COMPLETE CONSTRUCTION ON -L- LT. AND PLACE THE FINAL SURFACE LAYER AND PAVEMENT MARKINGS ON -L- STA. 10+00 LT. TO -L- STA 16+50.00 LT. (SEE PMP-2).

STEP 2: USING RSD 1101.02, SHEET 1 OF 15, SIGNALS, AND DRUMS TO DELINEATE THE TRAVEL WAY AND MAINTAIN ONE-LANE, TWO-WAY PATTERN, COMPLETE THE FOLLOWING AS SHOWN ON CONSTRUCTION PLANS:

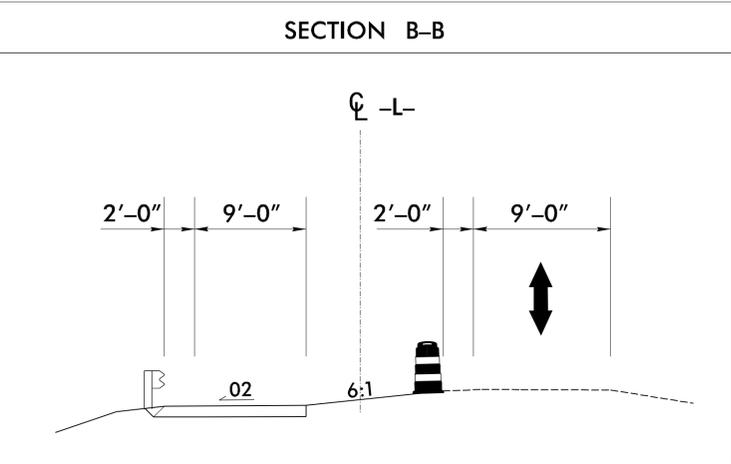
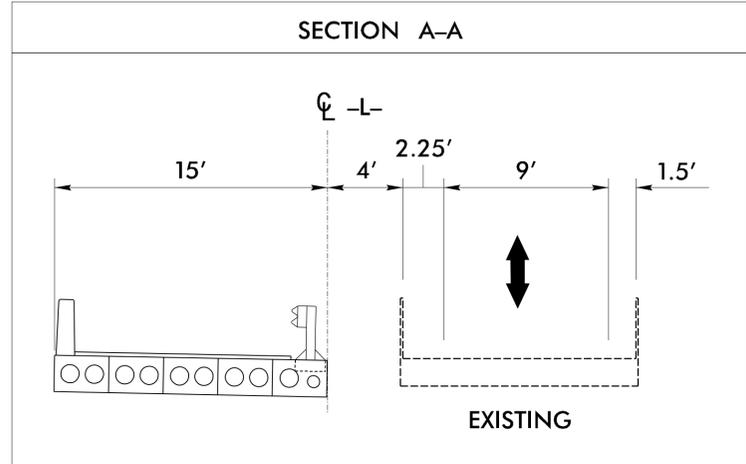
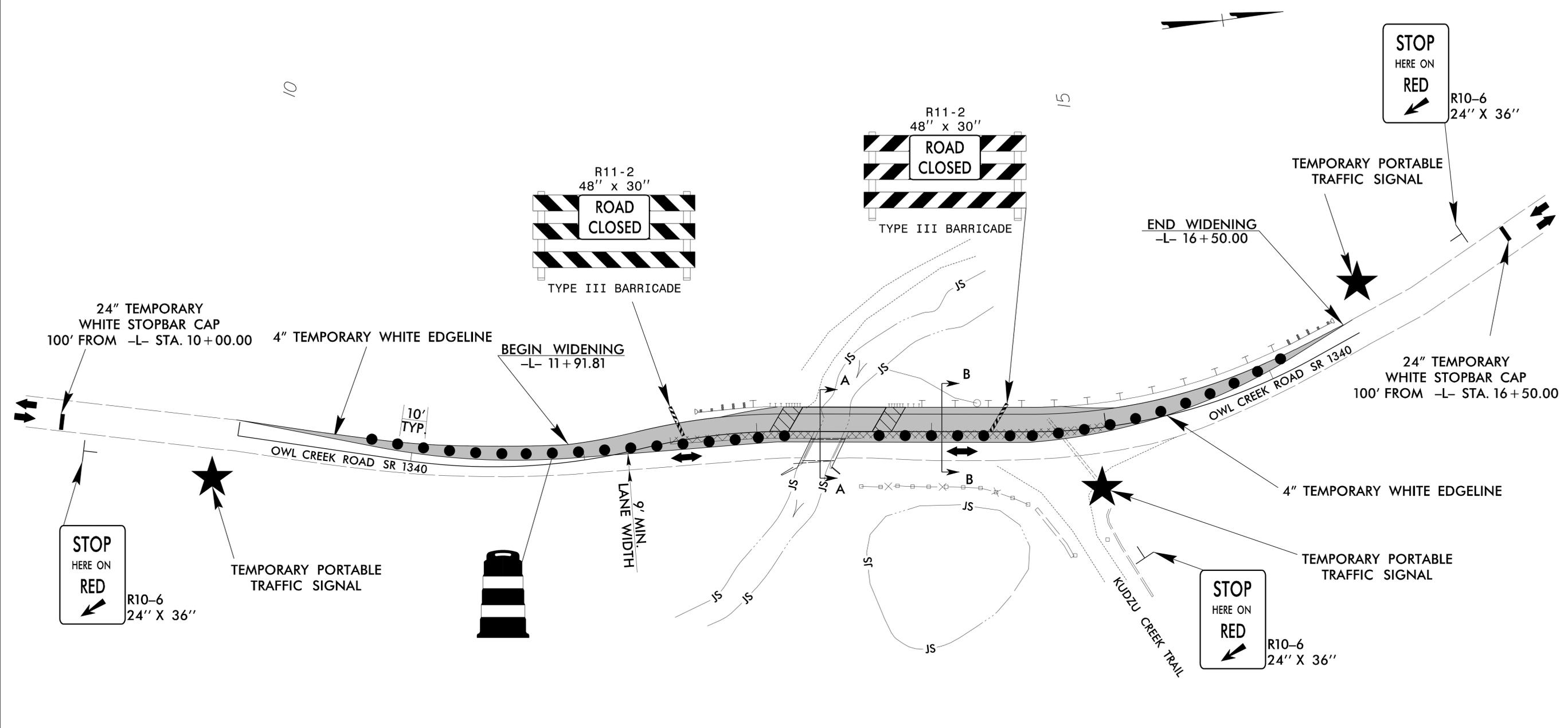
- PLACE THE FINAL SURFACE LAYER AND PAVEMENT MARKINGS ON -L- STA. 10+00 RT. TO -L- STA 16+50.00 RT. (SEE PMP-2).

STEP 3: - DEACTIVATE AND REMOVE TEMPORARY PORTABLE TRAFFIC SIGNAL SYSTEM, REMOVE SIGNING, AND REMOVE TEMPORARY DEVICES ASSOCIATED WITH ONE-LANE, TWO-WAY TRAFFIC PATTERN.

- OPEN TRAFFIC TO FINAL PATTERN.

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APPROVED: _____ DATE: _____	RS&H	TEMPORARY TRAFFIC CONTROL PHASING
		



 PAVEMENT REMOVAL
 PROPOSED CONSTRUCTION

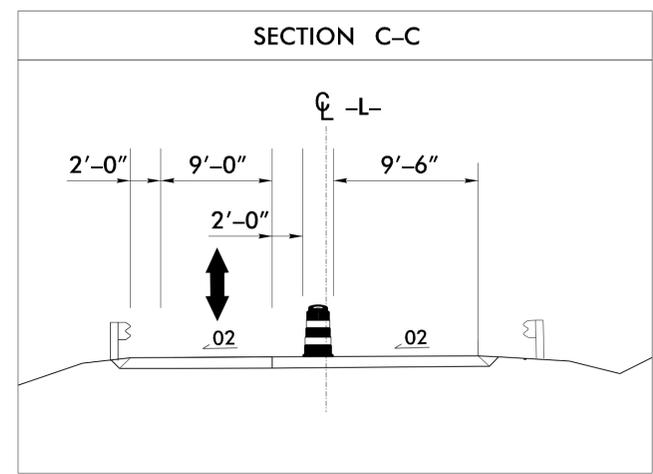
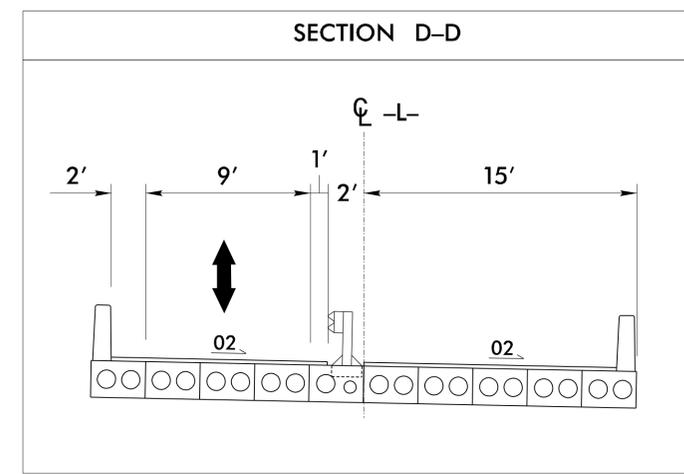
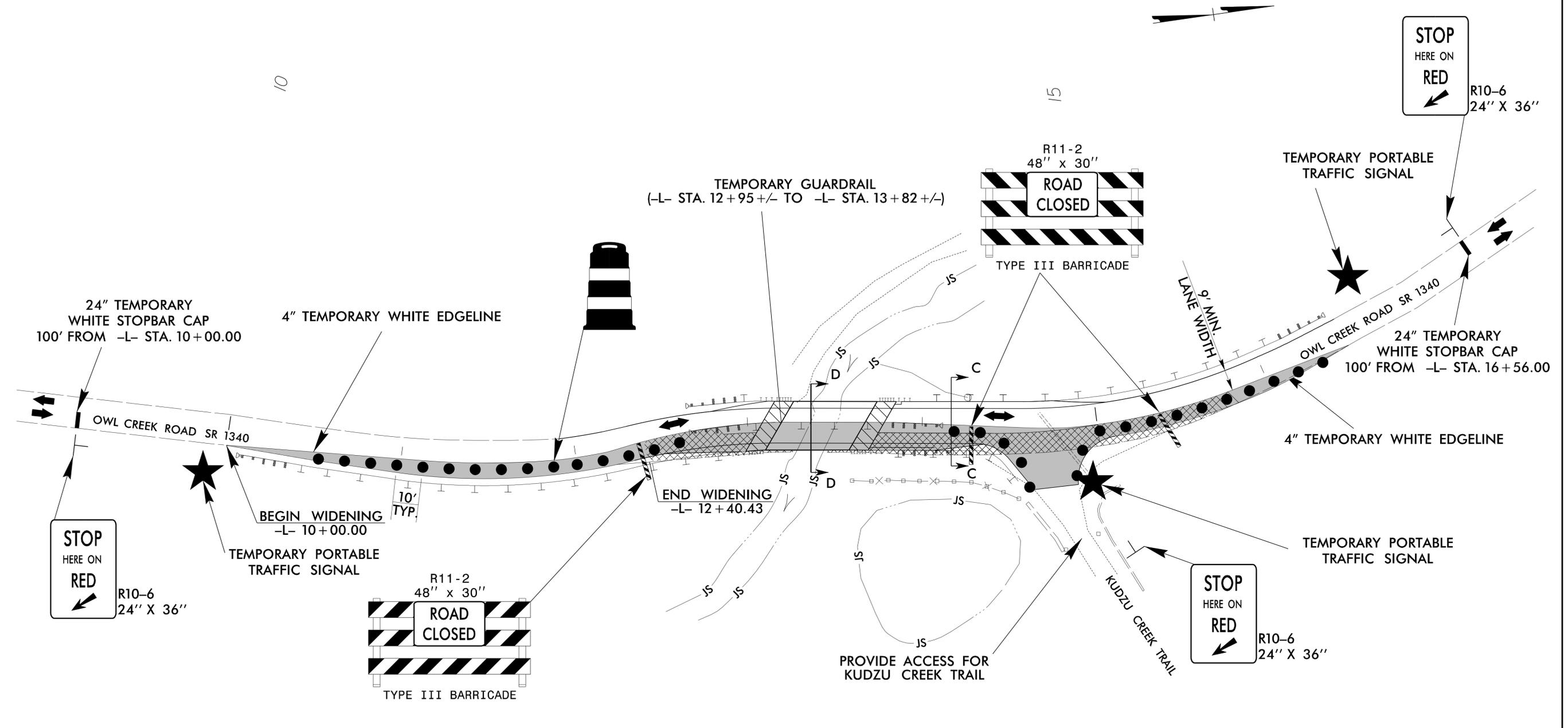
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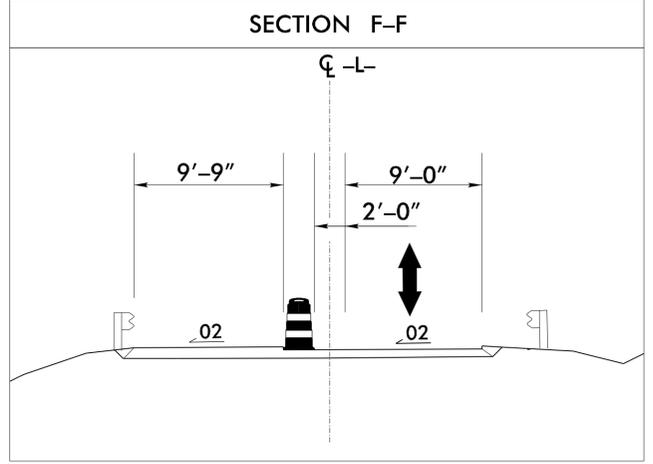
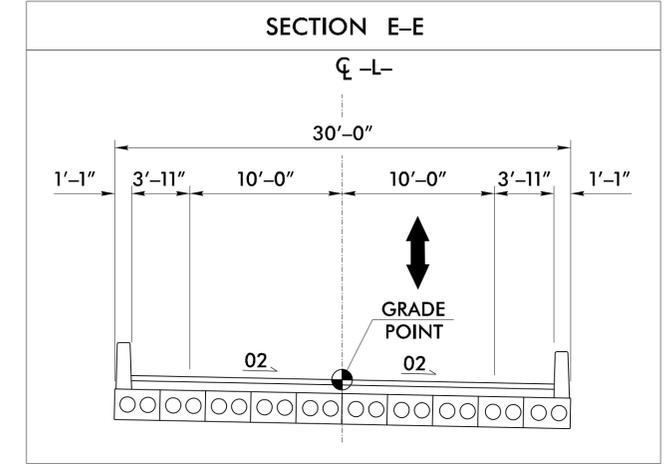
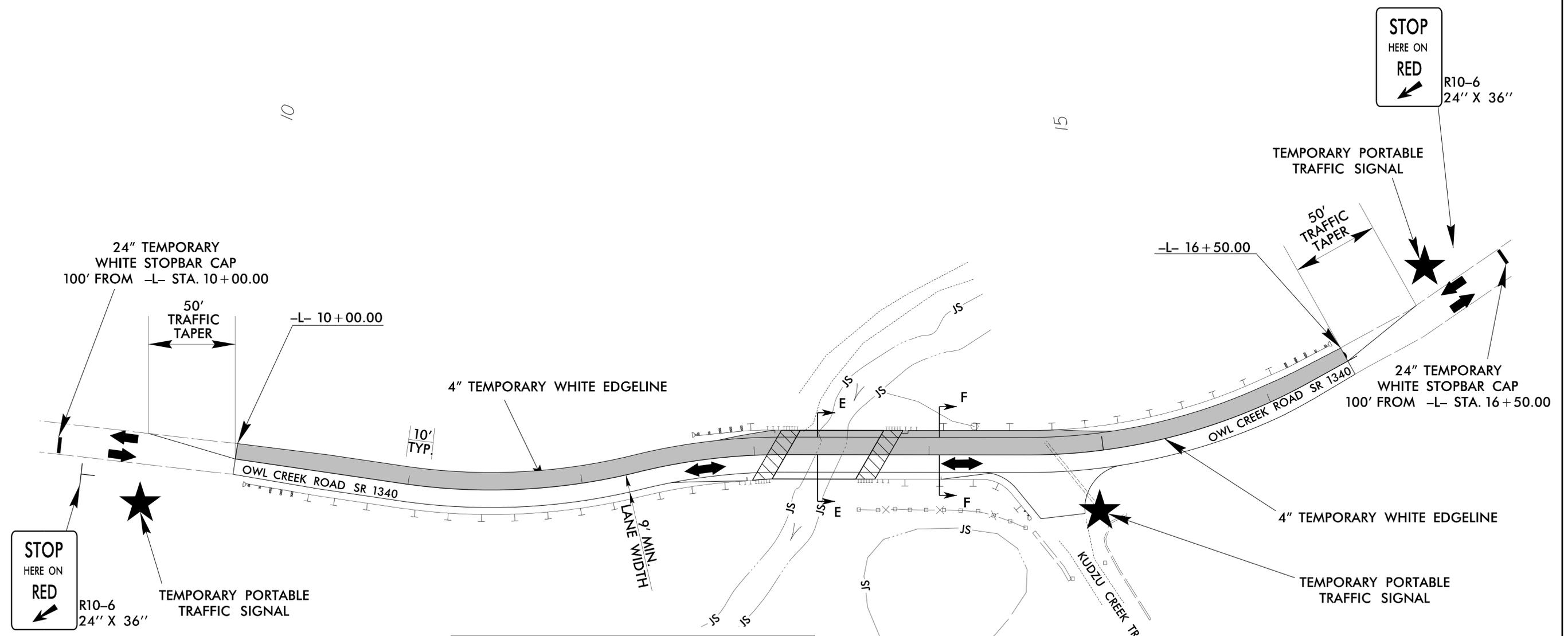
TEMPORARY TRAFFIC CONTROL PHASE I



 PAVEMENT REMOVAL
 PROPOSED CONSTRUCTION

APPROVED:	DATE:	RS&H	TEMPORARY TRAFFIC CONTROL PHASE II
			

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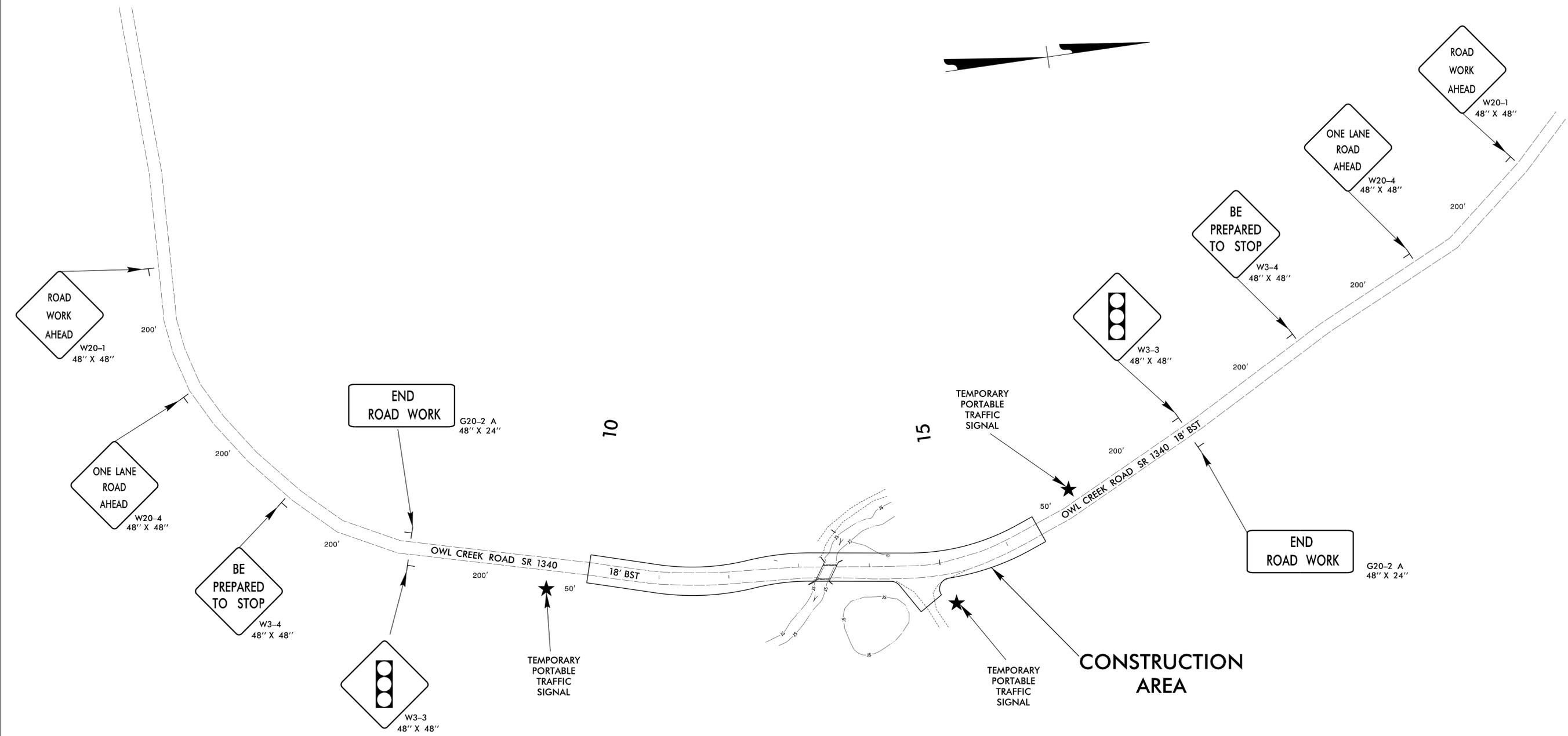
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SEAL



TEMPORARY TRAFFIC CONTROL PHASE III STEP 1

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APPROVED: _____ DATE: _____	RS&H	DETAIL FOR WORK ZONE SIGNING
SEAL 		

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PROJECT: 17BP.14.R.57

PROJECT: 17BP.14.R.57

CONTRACT: DN00182

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CHEROKEE COUNTY

**LOCATION: REPLACE BRIDGE No.17 ON SR 1340 OVER
OWL CREEK**

PROJ. REFERENCE NO. 17BP.14.R.57	SHEET NO. PMP - 1
APPROVED: _____ DATE: _____	
	



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:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS
1261.01	GUARDRAIL AND BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
SR 1340	PAINT	N/A

PLACE TWO (2) APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF FIRST.

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

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

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

E) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON THE BRIDGE DECK PRIOR TO PLACING PAINT PAVEMENT MARKING.

PAVEMENT MARKING SCHEDULE
TIP PROJECT 17BP.14.R.57

FINAL
PAVEMENT MARKINGS

PA	WHITE EDGELINE	PAINT (4")
PI	YELLOW DOUBLE CENTER	PAINT (4")

PLAN PREPARED BY: RS&H ARCHITECT-ENGINEERS-PLANNERS, INC.

KENNETH HERRING, PE	PROJECT ENGINEER
JASON TALLEY, PE	PROJECT DESIGN ENGINEER

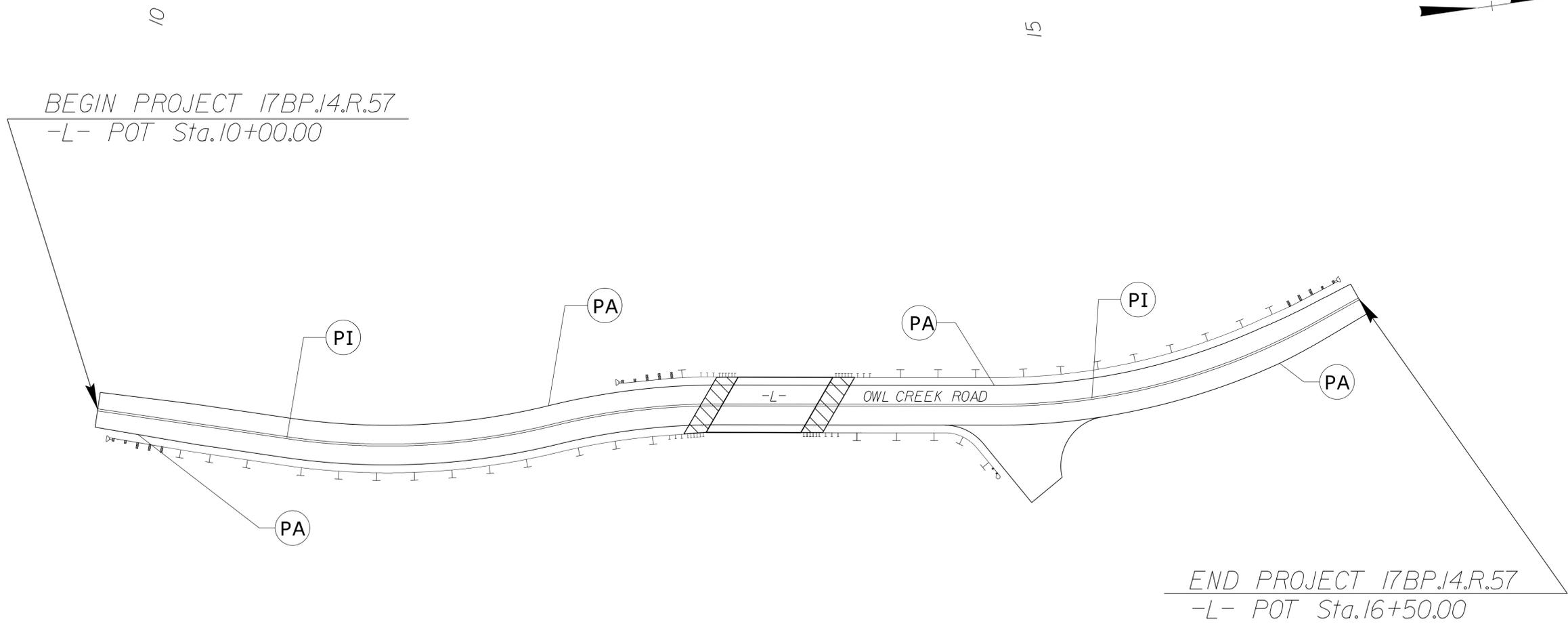
INDEX

SHEET NO.	DESCRIPTION
PMP - 1	PAVEMENT MARKING & SIGNING PLAN TITLE SHEET SIGNING & PAVEMENT MARKING SCHEDULE
PMP - 2	PAVEMENT MARKING DETAIL



SYMBOL AND PAVEMENT MARKING LEGEND

PA	WHITE EDGE LINE (4")
PI	YELLOW DOUBLE CENTER (4")



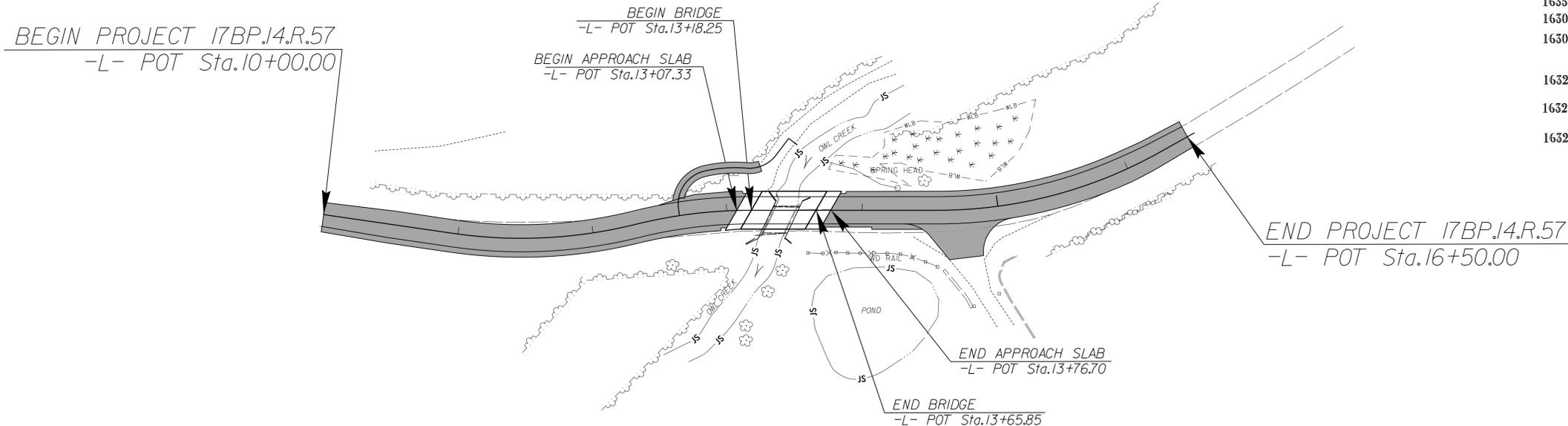
REFER TO RSD NO. 1205.01, 1205.12, 1250.01 AND 1251.01 FOR PLACEMENT OF FINAL PAVEMENT AND MARKERS UNLESS NOTED OTHERWISE.

PAVEMENT MARKING DETAIL

PROJECT: 17BP.14.R.57

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL
 CHEROKEE COUNTY

LOCATION: BRIDGE NO.17 ON SR 1340 OVER OWL CREEK
 TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.57	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.14.R.57	N/A	PE	
17BP.14.R.57	N/A	ROW, UTL	
17BP.14.R.57	N/A	CONST.	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	▲▲▲
1622.01	Temporary Berms and Slope Drains	—
1630.02	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
1633.02	Temporary Rock Silt Check Type-B	▨
	Wattle / Coir Fiber Wattle	W
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	W
1634.01	Temporary Rock Sediment Dam Type-A	▨
1634.02	Temporary Rock Sediment Dam Type-B	▨
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⊓
1635.02	Rock Pipe Inlet Sediment Trap Type-B	⊓
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

GRAPHIC SCALE



PLANS

ROADSIDE ENVIRONMENTAL UNIT
 DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

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.

Prepared in the Office of:

R&H ARCHITECTS-ENGINEERS-PLANNERS, INC.
 1520 SOUTH BOULEVARD, SUITE 200
 CHARLOTTE, NC 28203

WILL WEATHERSBEE

LEVEL IIIA NAME

3161

LEVEL IIIA CERTIFICATION NO.

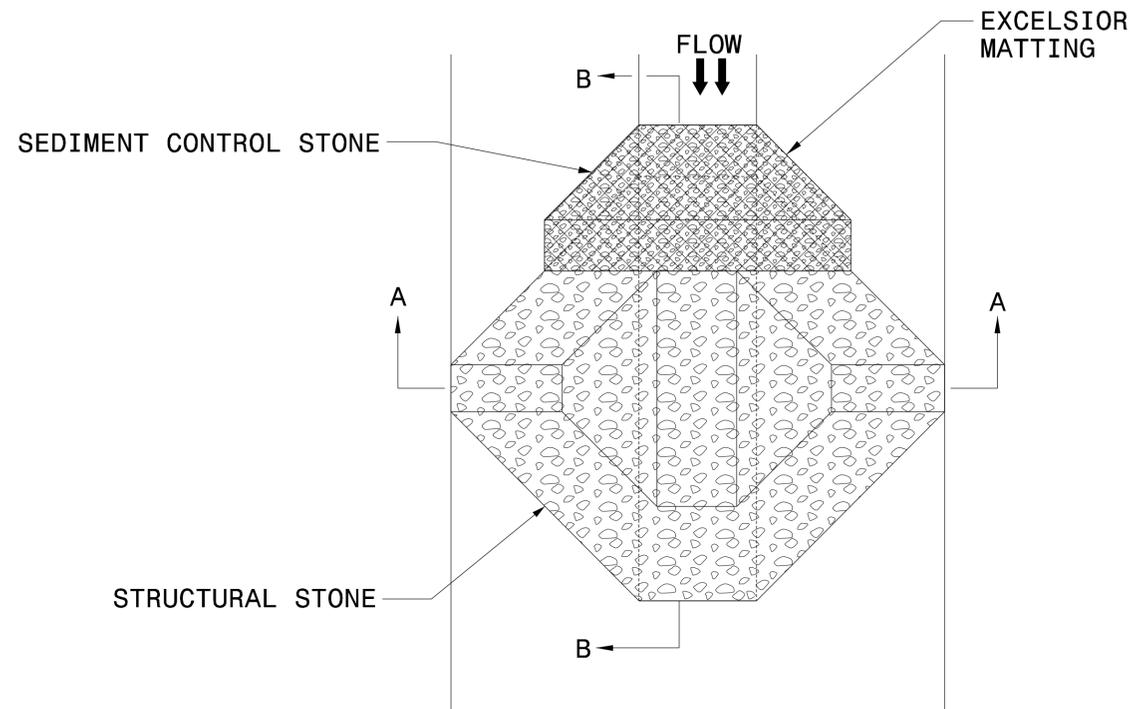
2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	

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



PLAN

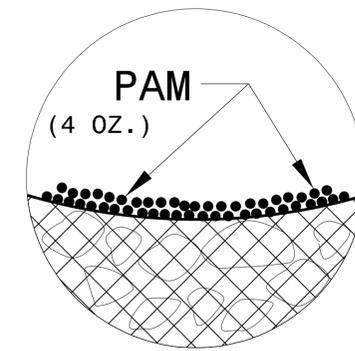
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

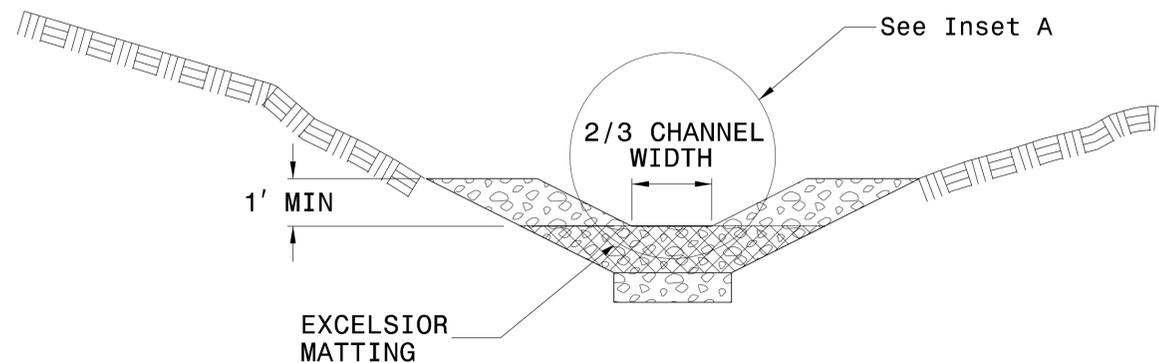
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

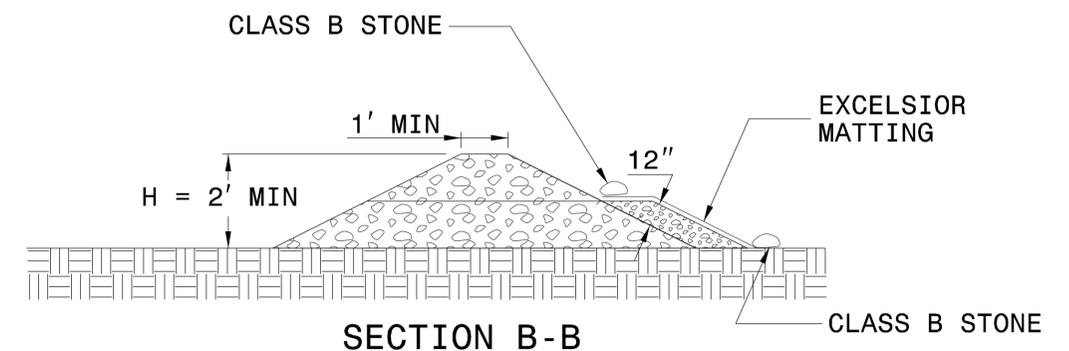
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A

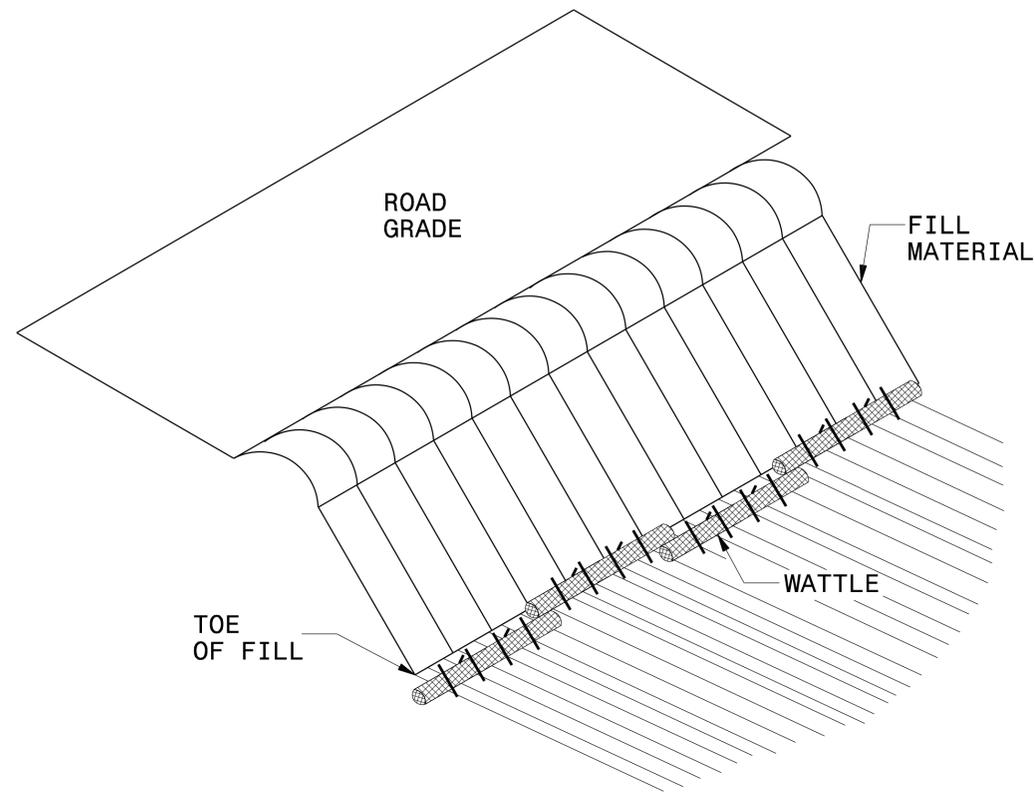


SECTION B-B

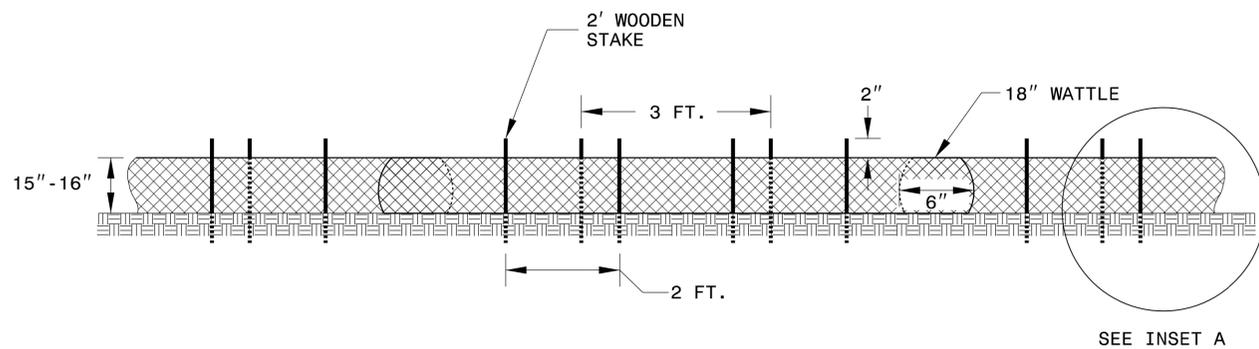
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PROJECT REFERENCE NO. 17BPJ4.R.57	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE BARRIER DETAIL



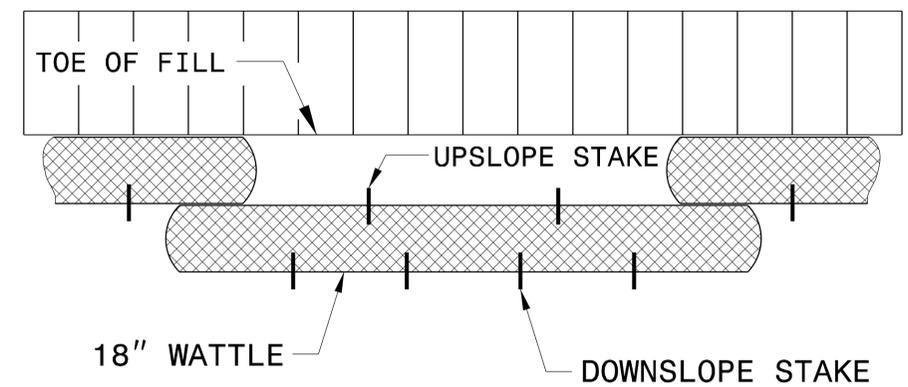
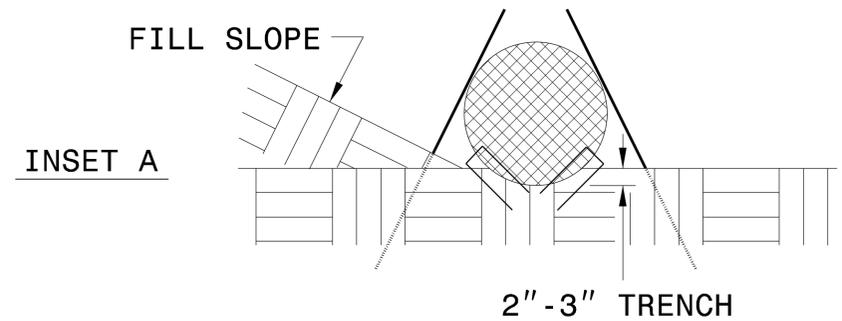
ISOMETRIC VIEW



FRONT VIEW

NOTES:

- USE MINIMUM 18 IN. NOMINAL DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 2 TO 3 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLES ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- 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.
- FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 20 FT.



TOP VIEW

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) 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 HQW ZONES.

EROSION CONTROL PLAN

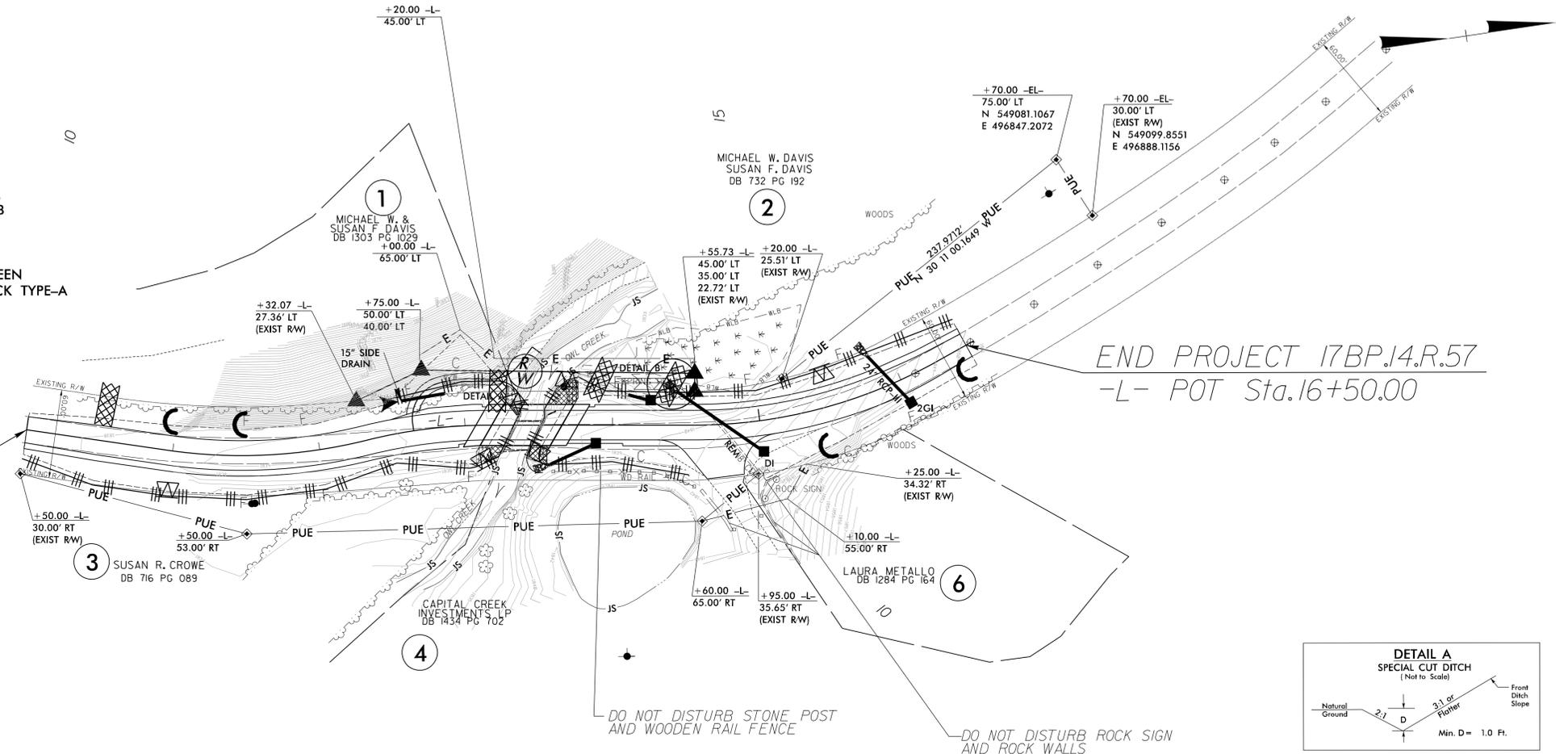
NOTE: PAVE TO THE FACE OF GUARDRAIL FROM -L- STA.13+88.00 TO 14+75.00 FOR TRAFFIC CONTROL PURPOSES.

BEGIN SBG LT -L- STA. 13+12.00 TO BEGIN APPROACH SLAB
 BEGIN SBG RT -L- STA. 12+95.00 TO BEGIN APPROACH SLAB
 BEGIN SBG LT END APPROACH SLAB TO -L- STA. 13+88.00
 BEGIN SBG RT END APPROACH SLAB TO -L- STA. 13+72.00

NOTE:
 PROVIDE 50' SPACING BETWEEN
 TEMPORARY ROCK SILT CHECK TYPE-A
 AND WATTLES

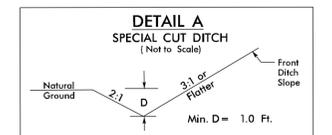
BEGIN PROJECT 17BP.14.R.57
 -L- POT Sta.10+00.00

END PROJECT 17BP.14.R.57
 -L- POT Sta.16+50.00

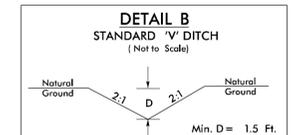


DO NOT DISTURB STONE POST
 AND WOODEN RAIL FENCE

DO NOT DISTURB ROCK SIGN
 AND ROCK WALLS



FROM -L- STA. 13+00.00 TO -L- STA. 13+37.00 LT.



FROM -L- STA. 14+00.00 TO -L- STA. 14+35.00 LT.
 EST. 8 CY DDE

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 4

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.

EROSION CONTROL PLAN

NOTE: PAVE TO THE FACE OF GUARDRAIL FROM -L- STA. 13+88.00 TO 14+75.00 FOR TRAFFIC CONTROL PURPOSES.

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

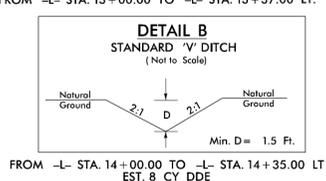
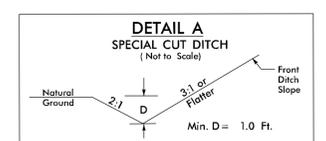
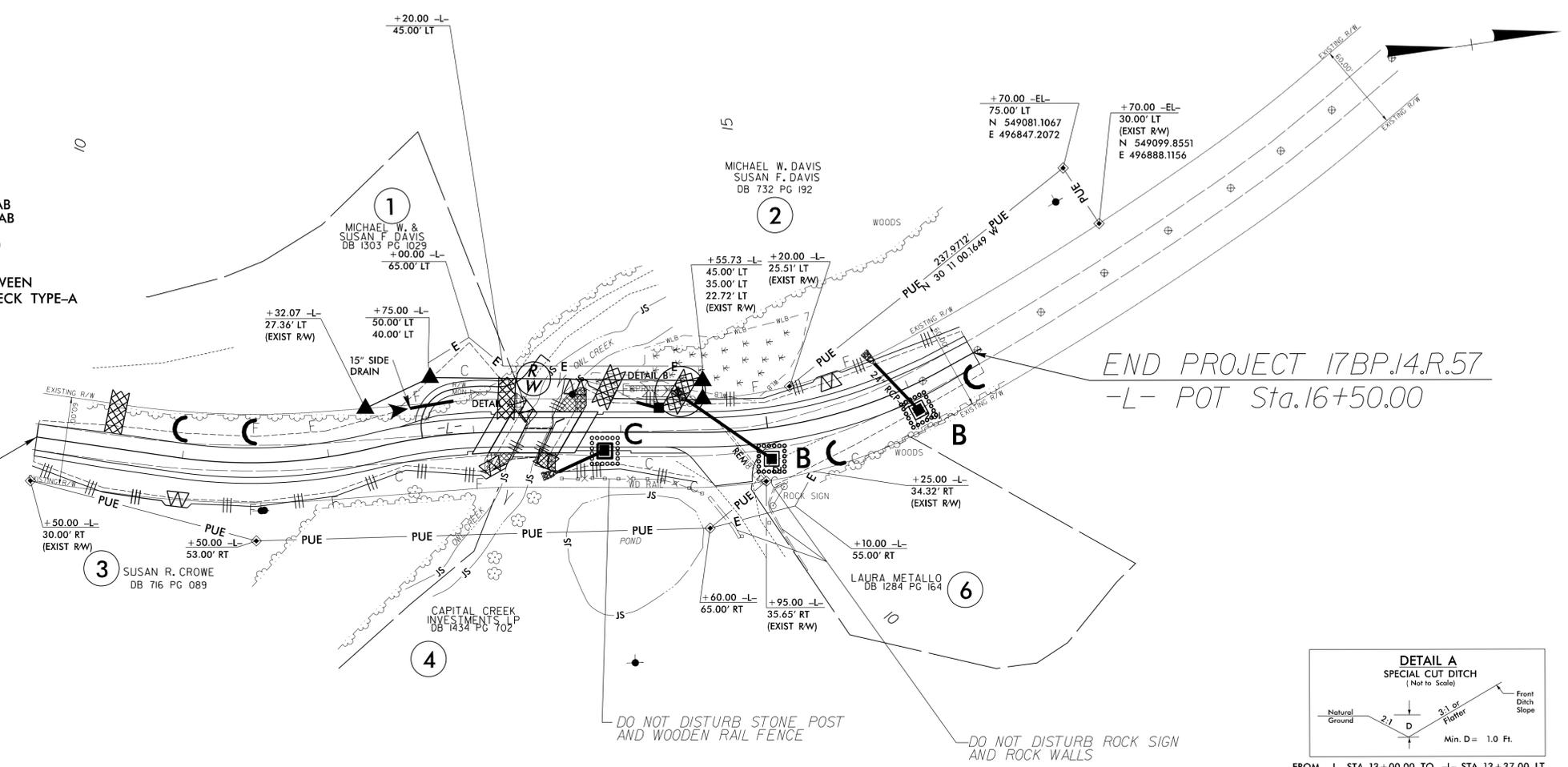
- L- STA. 13+00 TO 13+37 LT. 40 SY
- L- STA. 14+00 TO 14+44 RT. 30 SY
- L- STA. 15+00 TO 15+50 RT. 90 SY

BEGIN SBG LT -L- STA. 13+12.00 TO BEGIN APPROACH SLAB
 BEGIN SBG RT -L- STA. 12+95.00 TO BEGIN APPROACH SLAB
 BEGIN SBG LT END APPROACH SLAB TO -L- STA. 13+88.00
 BEGIN SBG RT END APPROACH SLAB TO -L- STA. 13+72.00

NOTE:
 PROVIDE 50' SPACING BETWEEN
 TEMPORARY ROCK SILT CHECK TYPE-A
 AND WATTLES

BEGIN PROJECT 17BP.14.R.57
 -L- POT Sta. 10+00.00

END PROJECT 17BP.14.R.57
 -L- POT Sta. 16+50.00



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.

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.57	X-0

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading".

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDES BACKFILL FOR UNDERCUT

Station	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)																
L																		
PHASE I			<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center; font-size: x-small;">INDEX OF SHEETS</td> </tr> <tr> <td style="text-align: center; width: 50%;">-L-</td> <td style="text-align: center; width: 50%;">X-1 THRU X-9</td> </tr> </table>												INDEX OF SHEETS		-L-	X-1 THRU X-9
INDEX OF SHEETS																		
-L-	X-1 THRU X-9																	
11+91.81	0	0																
12+00.00	0	0																
12+50.00	5	3																
13+00.00	177	4																
13+26.28	97	1																
13+74.11	0	0																
14+00.00	9	5																
14+50.00	12	17																
15+00.00	8	16																
15+50.00	6	24																
16+00.00	3	26																
16+50.00	0	5																
PHASE II																		
10+00.00	0	0																
10+50.00	0	28																
11+00.00	0	62																
11+50.00	1	59																
12+00.00	1	37																
12+50.00	13	14																
13+00.00	35	4																
13+09.93	9	1																
13+58.04	0	0																
14+00.00	61	8																
14+50.00	58	17																
15+00.00	64	16																
15+50.00	66	24																
16+00.00	25	26																
16+50.00	1	6																
PHASE III																		
10+00.00	0	0																
10+50.00	0	2																
11+00.00	0	4																
11+50.00	1	3																
11+91.81	1	1																

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	17BP.14.R.57	X-2

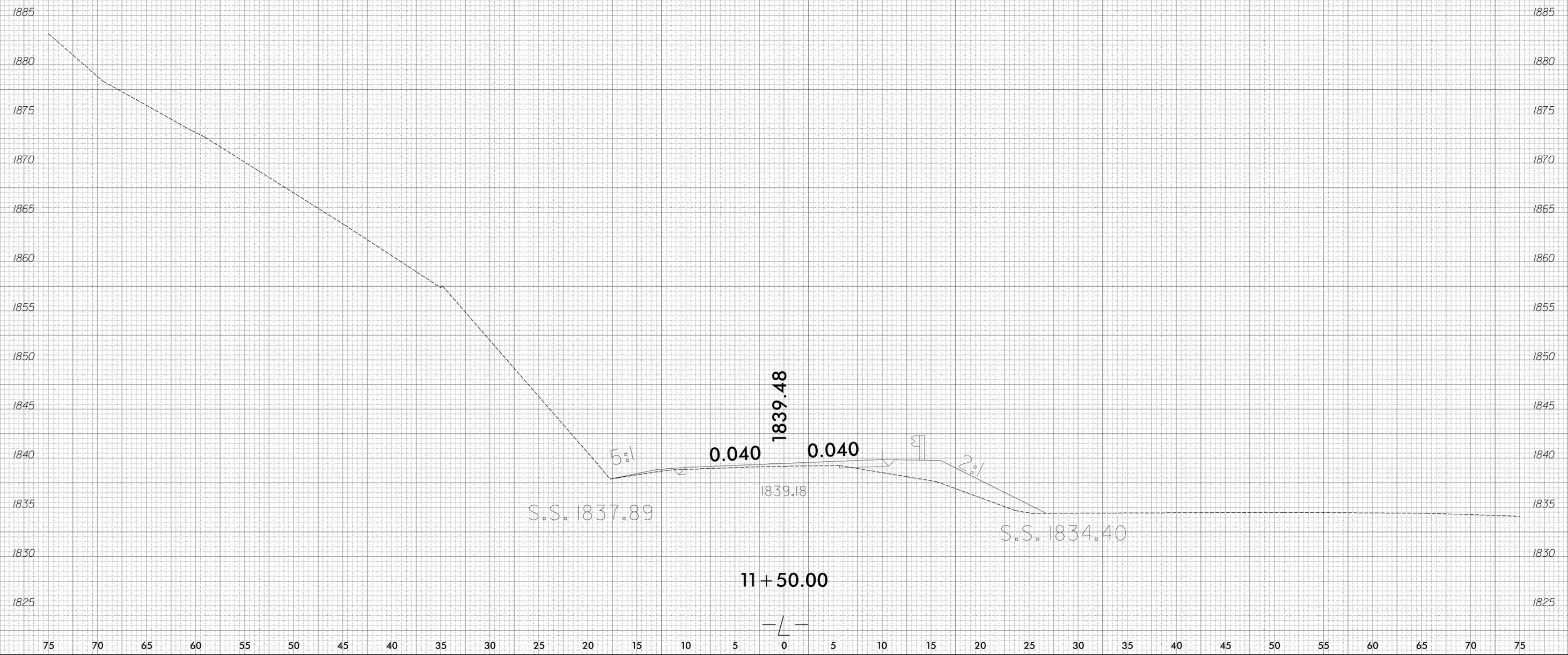
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6/3/2014
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 18:23:46

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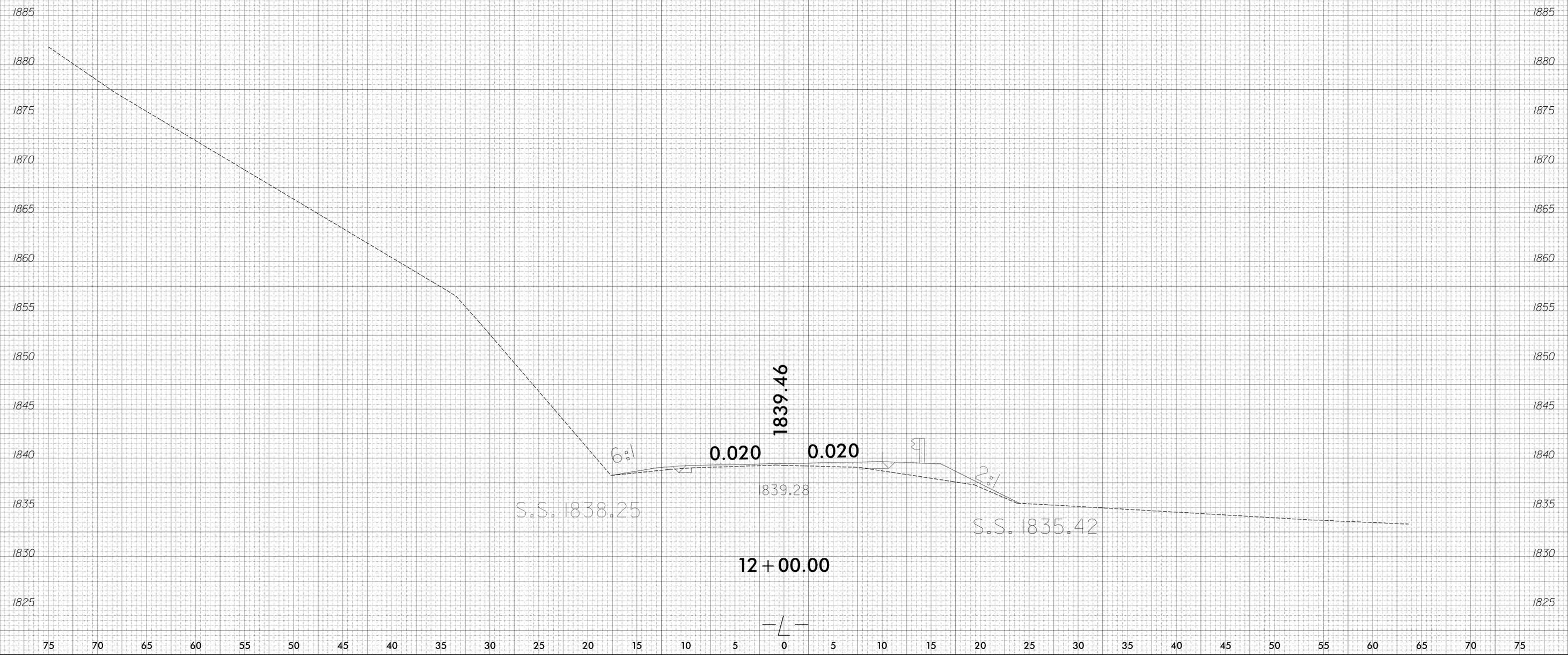
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	17BP.14.R.57	X-4

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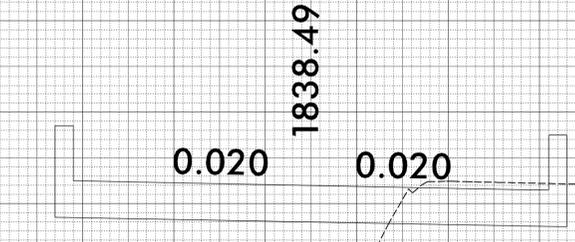
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END BRIDGE -L- STA. 13+65.85

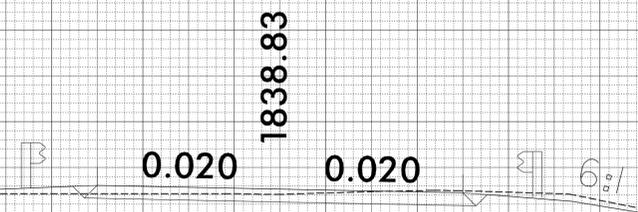


0.020 0.020

1838.49

1831.72
13+50.00

BEGIN BRIDGE -L- STA. 13+18.25



0.020 0.020 6:1

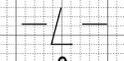
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1836.53

838.54

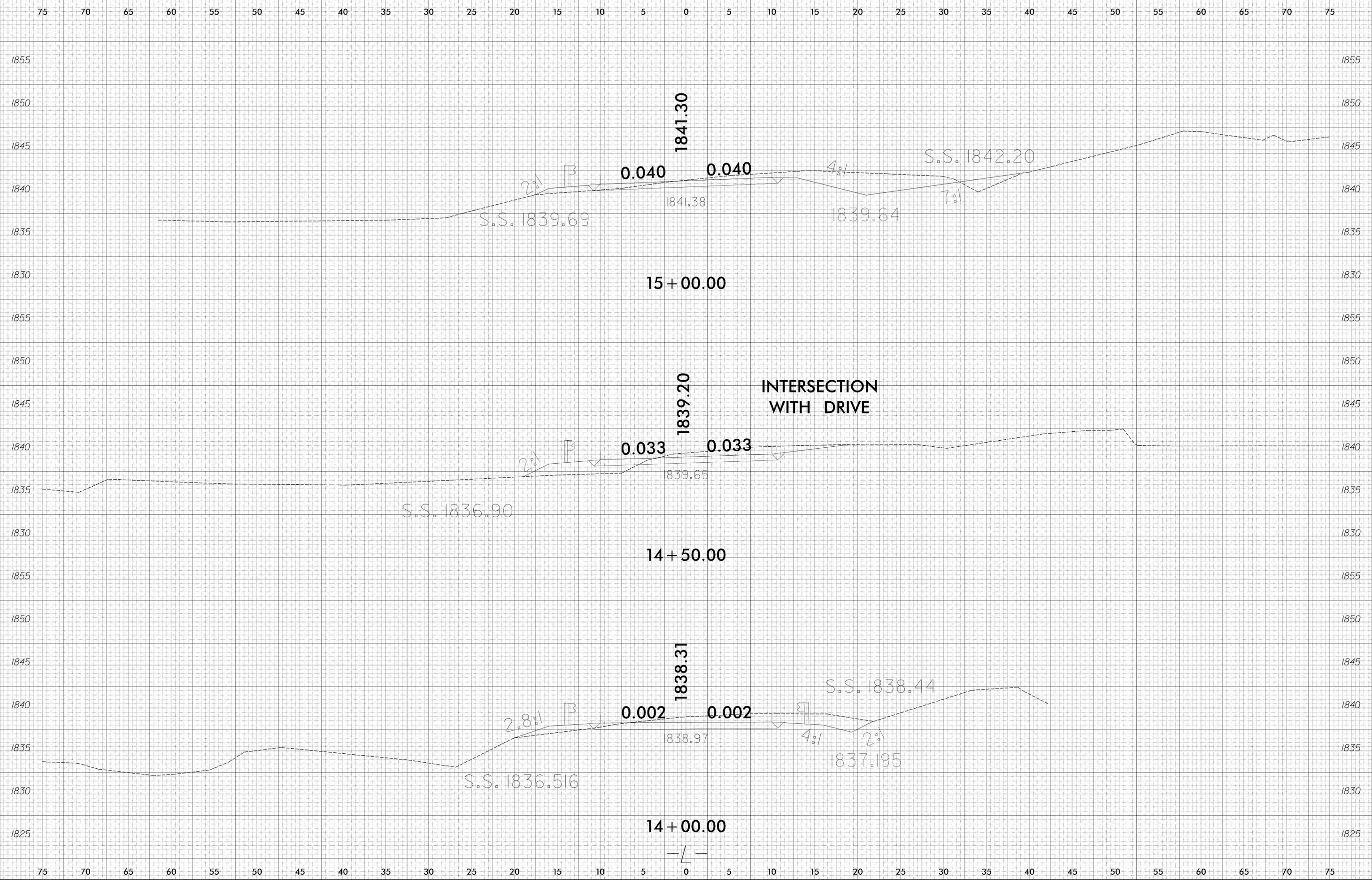
S.S. 1836.56

13+00.00



8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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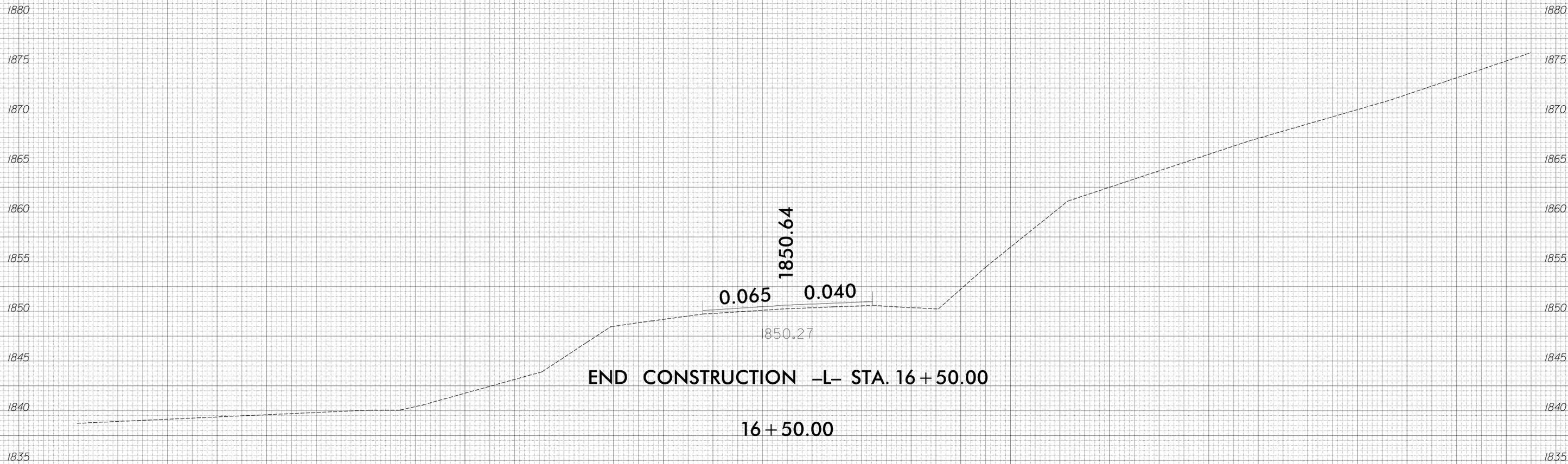
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8/23/99



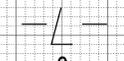
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17BP.14.R.57	X-9

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END CONSTRUCTION -L- STA. 16+50.00

16+50.00



6/3/2014
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