

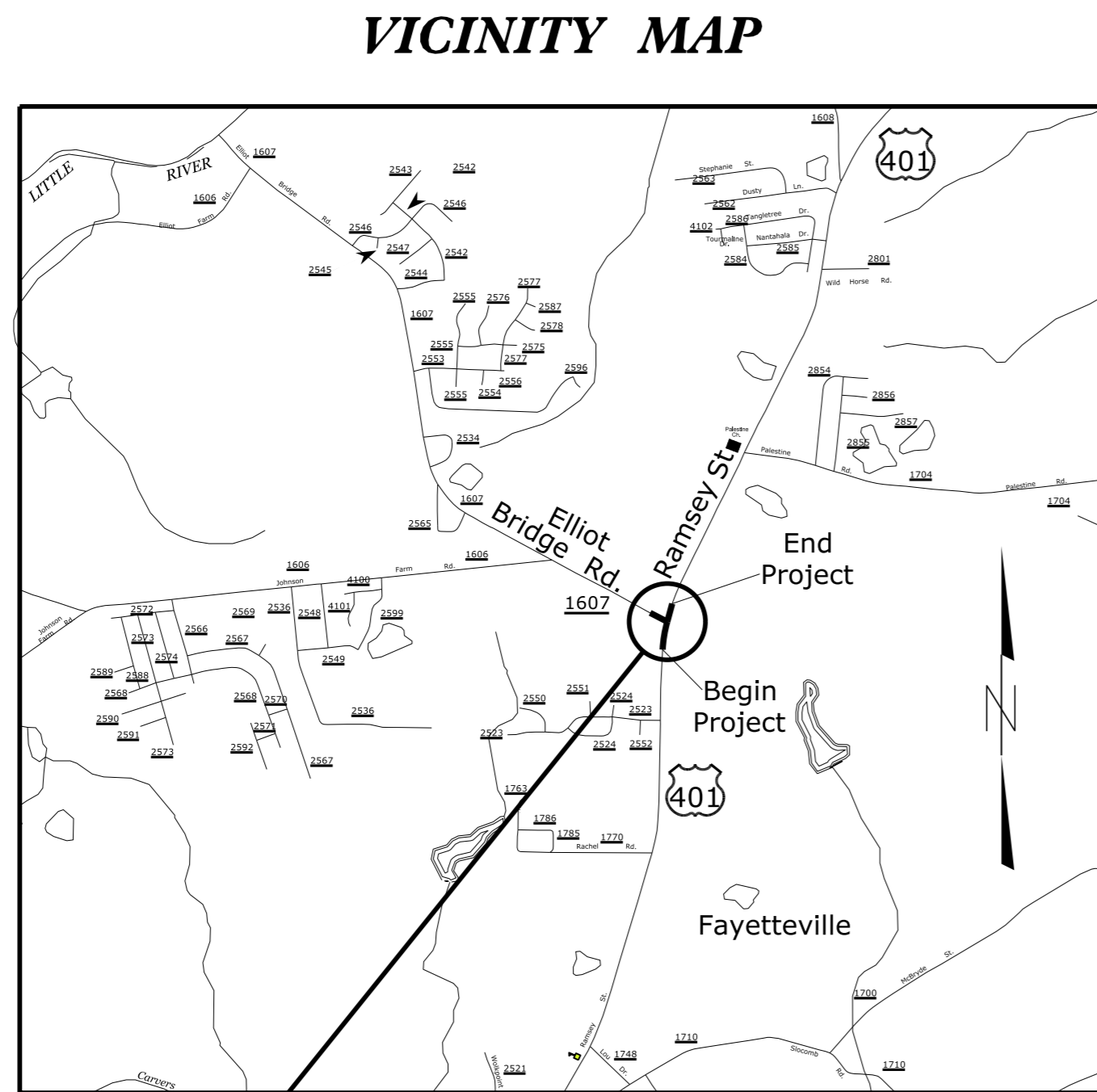
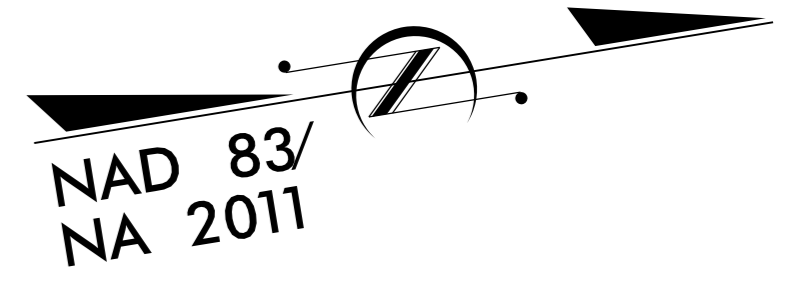
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5206AC	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45336.1.29	HSIP-0401 (251)	PE	
45336.2.FS29	HSIP-0401 (251)	ROWUTIL	
45336.3.FS29	HSIP-0401 (251)	CONST.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

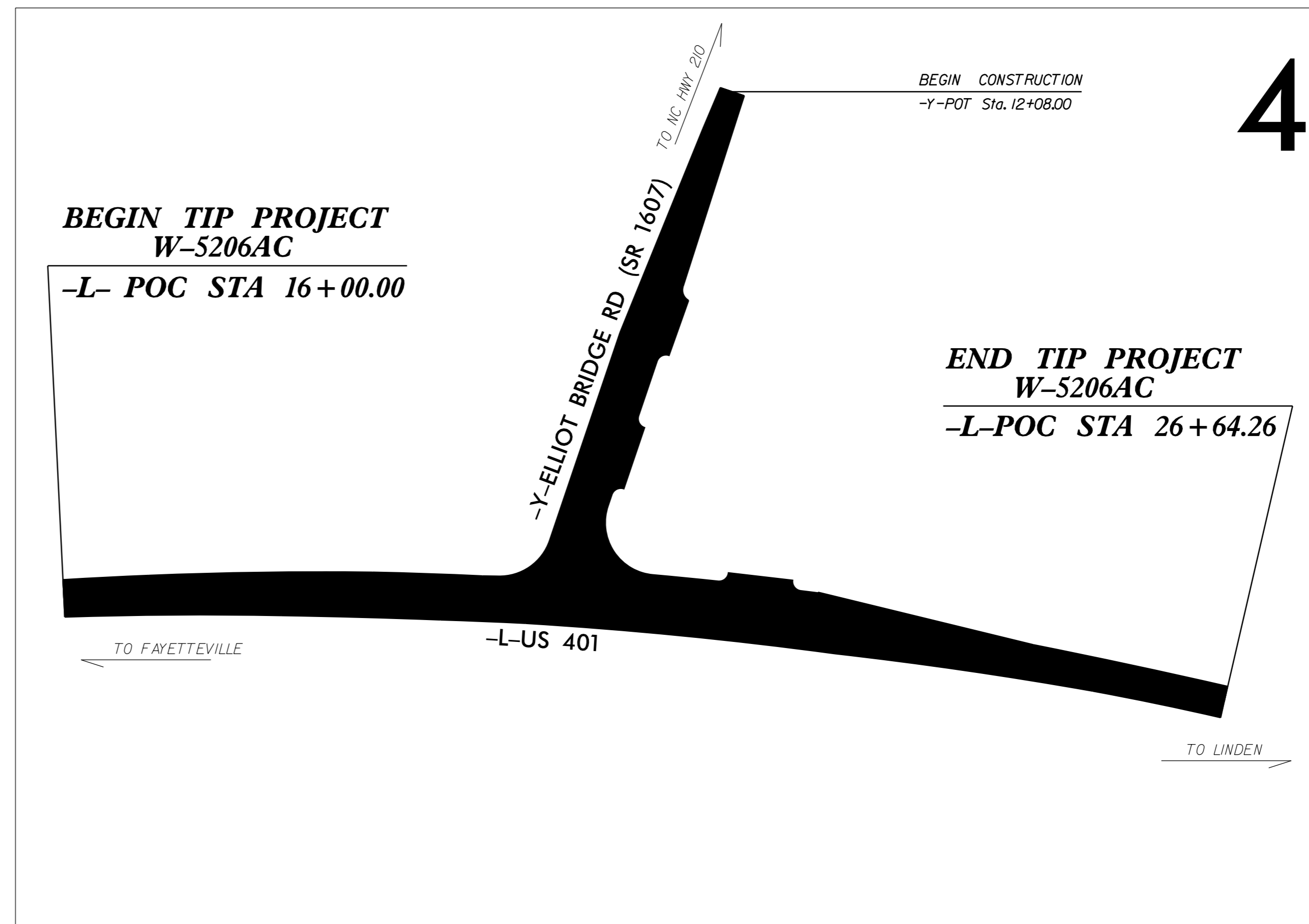
CUMBERLAND COUNTY

**LOCATION: U.S. 401/RAMSEY STREET AT SR 1607
(ELLIOT BRIDGE ROAD)**

TYPE OF WORK: WIDENING, GRADING, PAVING, DRAINAGE, SIGNAL & PAVEMENT MARKINGS

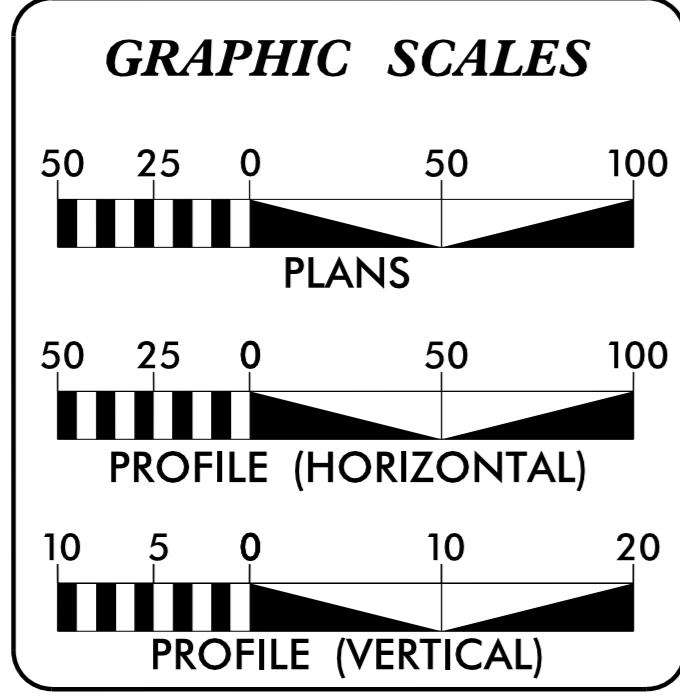


PROJECT LIMITS



CONTRACT: TIP PROJECT: W-5206AC

CONTRACT:

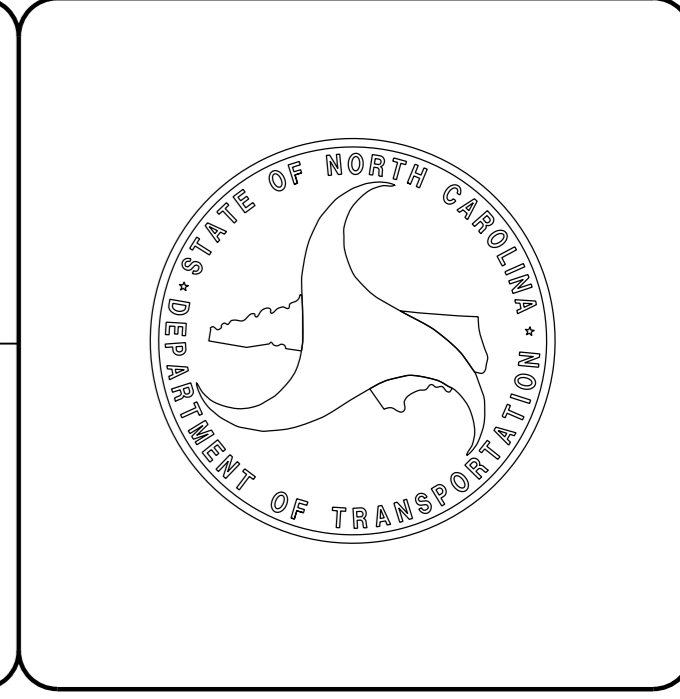


DESIGN DATA
ADT 8000 = 2012
ADT 8487 = 2014
V = 60 MPH

PROJECT LENGTH
LENGTH ROADWAY PROJECT W-5206AC = 0.202 mi

Prepared in the Office of:
DIVISION OF HIGHWAYS
431 TRANSPORTATION DRIVE, FAYETTEVILLE, NC 28301
2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: APRIL 16, 2014	SEAN MATUSZEWSKI PROJECT ENGINEER
LETTING DATE: APRIL 15, 2015	GLENDA SNIVELY PROJECT DESIGN ENGINEER



09/08/99
24-MAR-2015 08:45
H:\DDC\Projects\W-5206AC_Ramsey&Elliot+BridgeRD_Cumb\Roadway\PROJECT\W5206AC_Rdy_tsh_1.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

12/05/11

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	○ EP
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	----- MLB
Proposed Wetland Boundary	----- MLB
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	○ S
Well	○ W
Small Mine	✕
Foundation	▭
Area Outline	▭
Cemetery	▭ †
Building	▭
School	▭
Church	▭
Dam	▭

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	----- JS
Buffer Zone 1	----- BZ 1
Buffer Zone 2	----- BZ 2
Flow Arrow	←
Disappearing Stream	----->
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	----- RW
Proposed Right of Way Line with Iron Pin and Cap Marker	----- RW
Proposed Right of Way Line with Concrete or Granite R/W Marker	----- RW
Proposed Control of Access Line with Concrete CA Marker	----- CA
Existing Control of Access	----- CA
Proposed Control of Access	----- CA
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
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	----- CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	▨

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	☼☼☼☼
Vineyard	▭ Vineyard

EXISTING STRUCTURES:

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

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
R1	8" x 18" CHANNEL
R2	4"x 3' Wide Concrete Side Ditch
T	EARTH MATERIAL
U	EXISTING PAVEMENT

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

PROJECT NOTES

- The Contractor shall not work on both sides of the road simultaneously within the same area.
- Ingress and egress shall be maintained to all businesses and dwellings on the project.
- At the end of each workday, the Contractor shall be required to backfill any area adjacent to existing travelway that has been graded leaving no more than a 2" drop-off.
- A minimum of two-way, two-lane traffic (plus all existing left and right turn lanes) shall be maintained during periods of construction inactivity.
- The Contractor shall not be allowed to stop traffic for more than 5 minutes at a time in any one direction.
- During periods of construction inactivity, the difference in elevation between lanes shall not exceed 1½ inch.
- During periods of construction inactivity, place cones/drums 3' from existing edge of pavement (travelway) as directed by the Engineer.
- Contractor to install Erosion Control devices as directed by the Engineer.
- Contractor shall coordinate with the Division Six Traffic Services Unit for placement of all pavement markings and signs.
- Removal of existing road signs is incidental to the project.
- Access to police and fire station, fire hydrants, and hospitals shall be maintained at all times.
- Channelizing devices in work areas shall be spaced not greater than 45' on center in tangent areas, 45' on center in tapers, and 10' on center in radii, and shall be set 3' off the edge of travelway, unless otherwise indicated on plans.

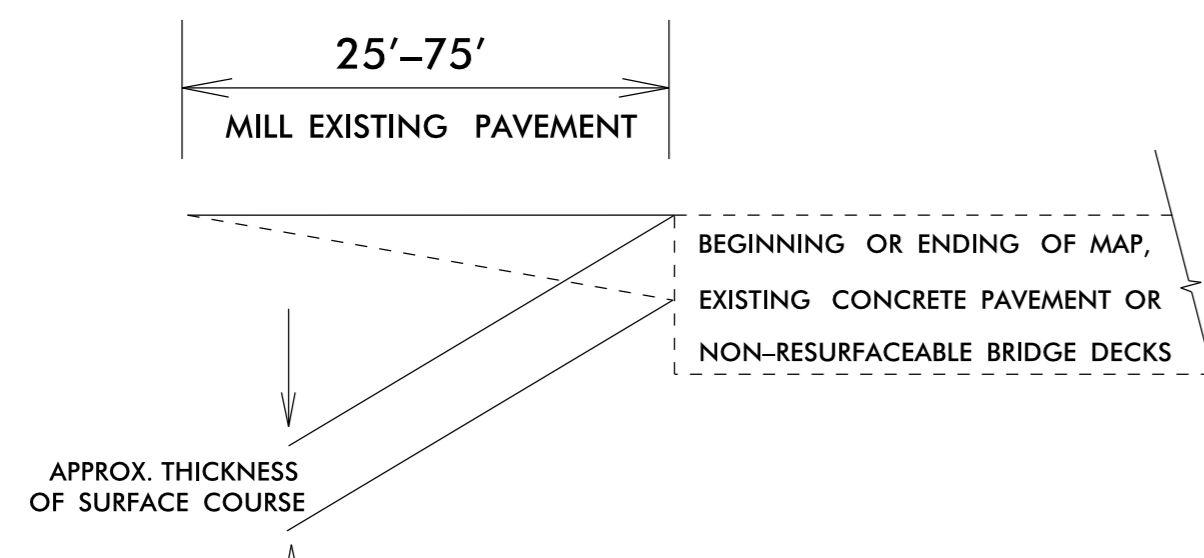
MILLING AT PAVEMENT TIE-INS

NOTES TO CONTRACTOR

For surface mixes over 1" in thickness, mill the existing pavement in accordance with the following sketch as directed by the Engineer.

Locations shall include ties into existing concrete pavement at bridge approaches where the bridge will not be resurfaced, and at the beginning and ending point of each resurfacing map.

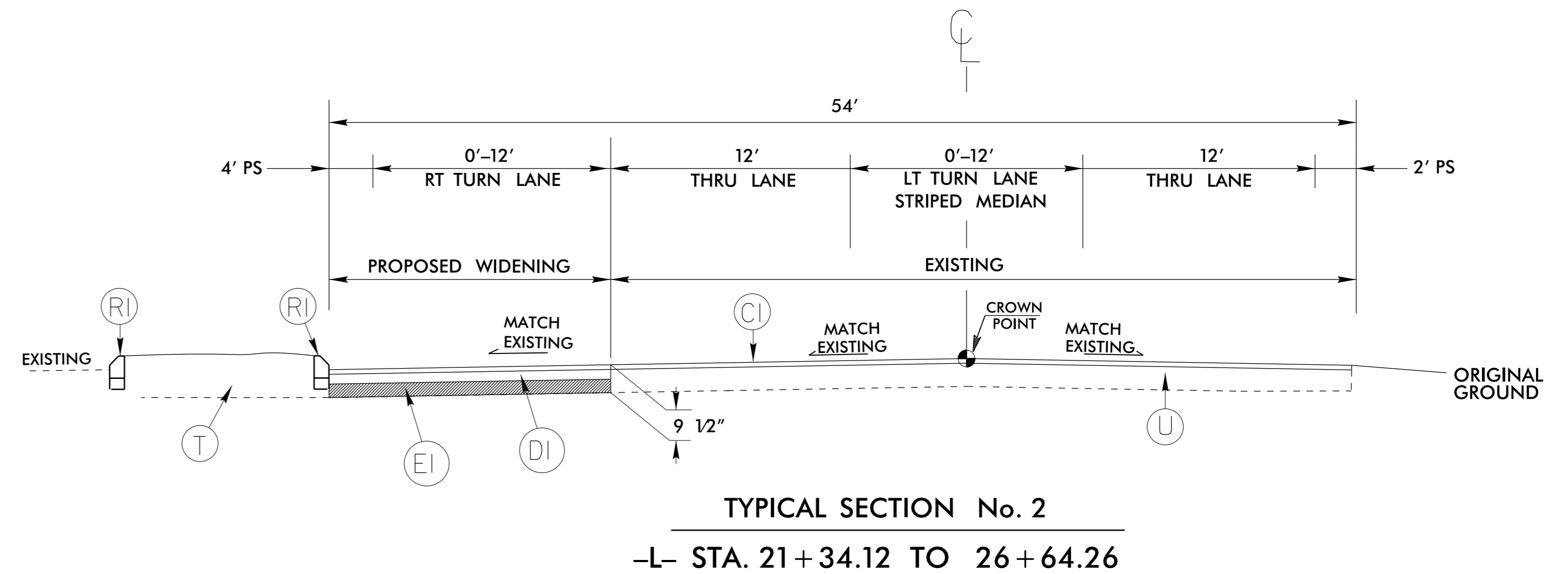
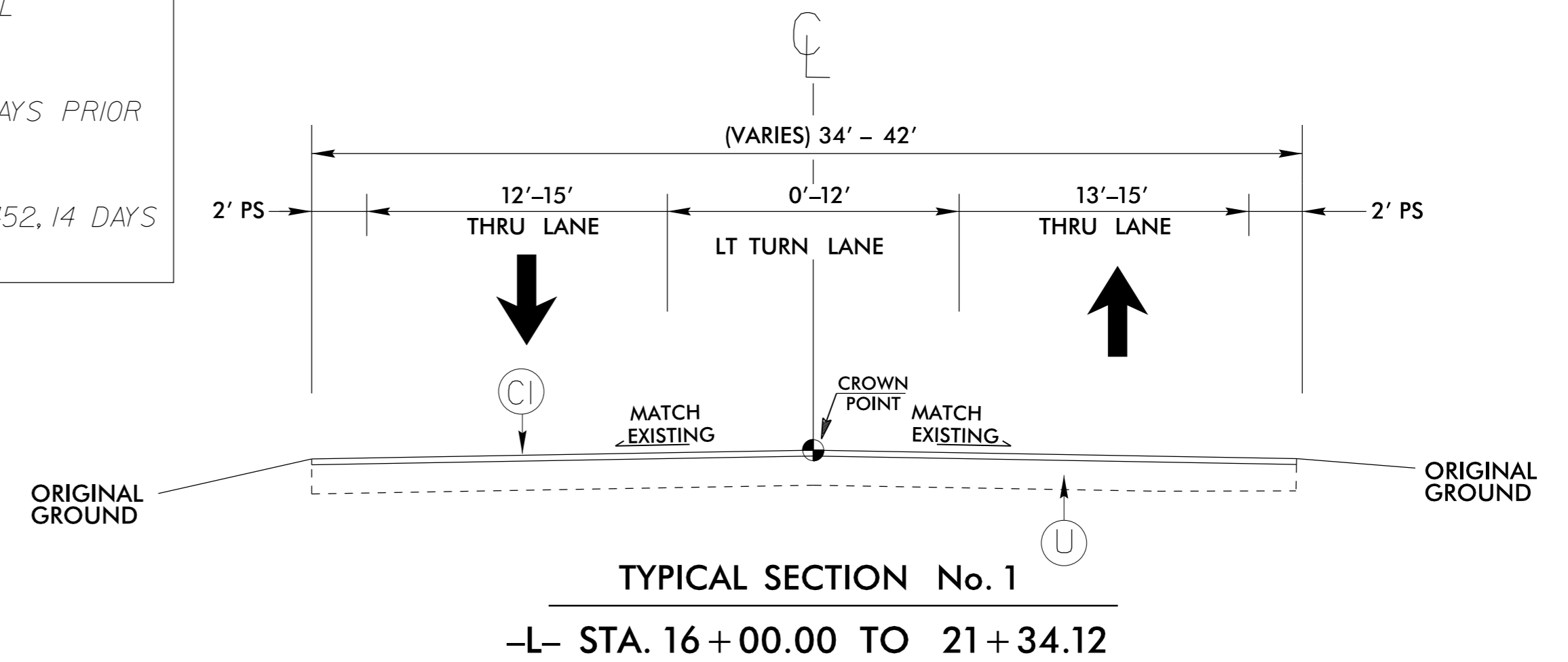
Perform the work in accordance with Section 607 of the January 2012 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.



CONTRACTOR SHALL COORDINATE WITH LOCAL TRAFFIC SERVICES UNIT FOR PROPOSED SIGNAL DESIGN AND PLACEMENT OF ALL PAVEMENT MARKINGS.

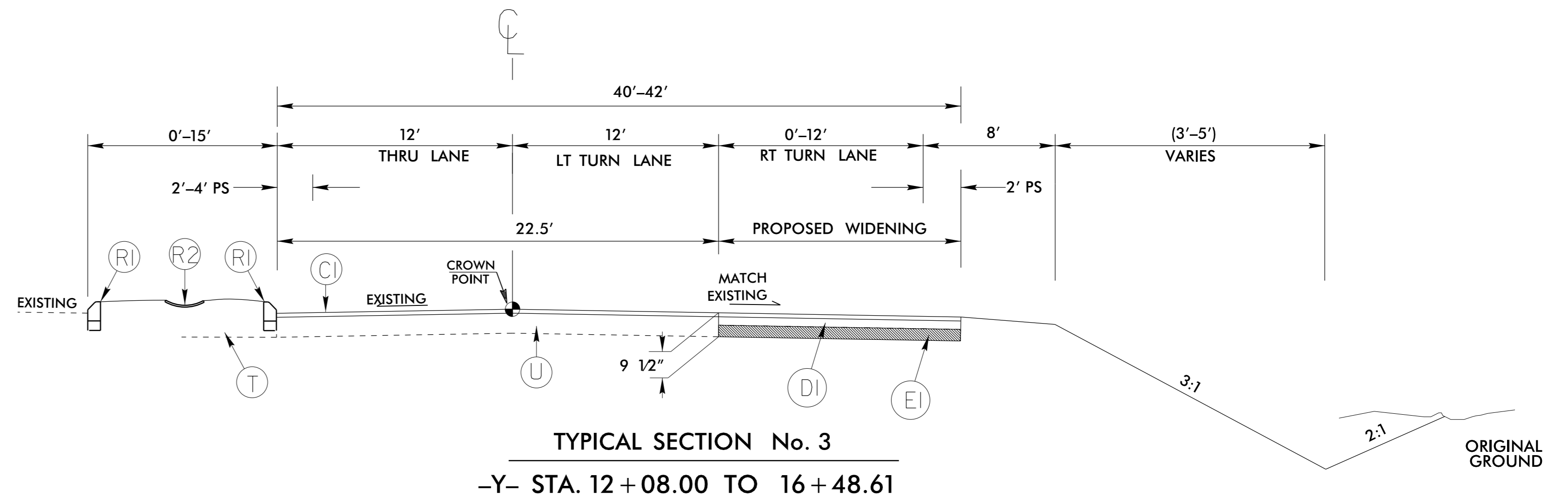
FOR SIGNAL WORK, CONTACT FRANK WEST 910-486-1452, 28 DAYS PRIOR TO PLACEMENT.

FOR PAVEMENT MARKING, CONTACT KENT LANGDON 910-486-1452, 14 DAYS PRIOR TO FINAL PLACEMENT.

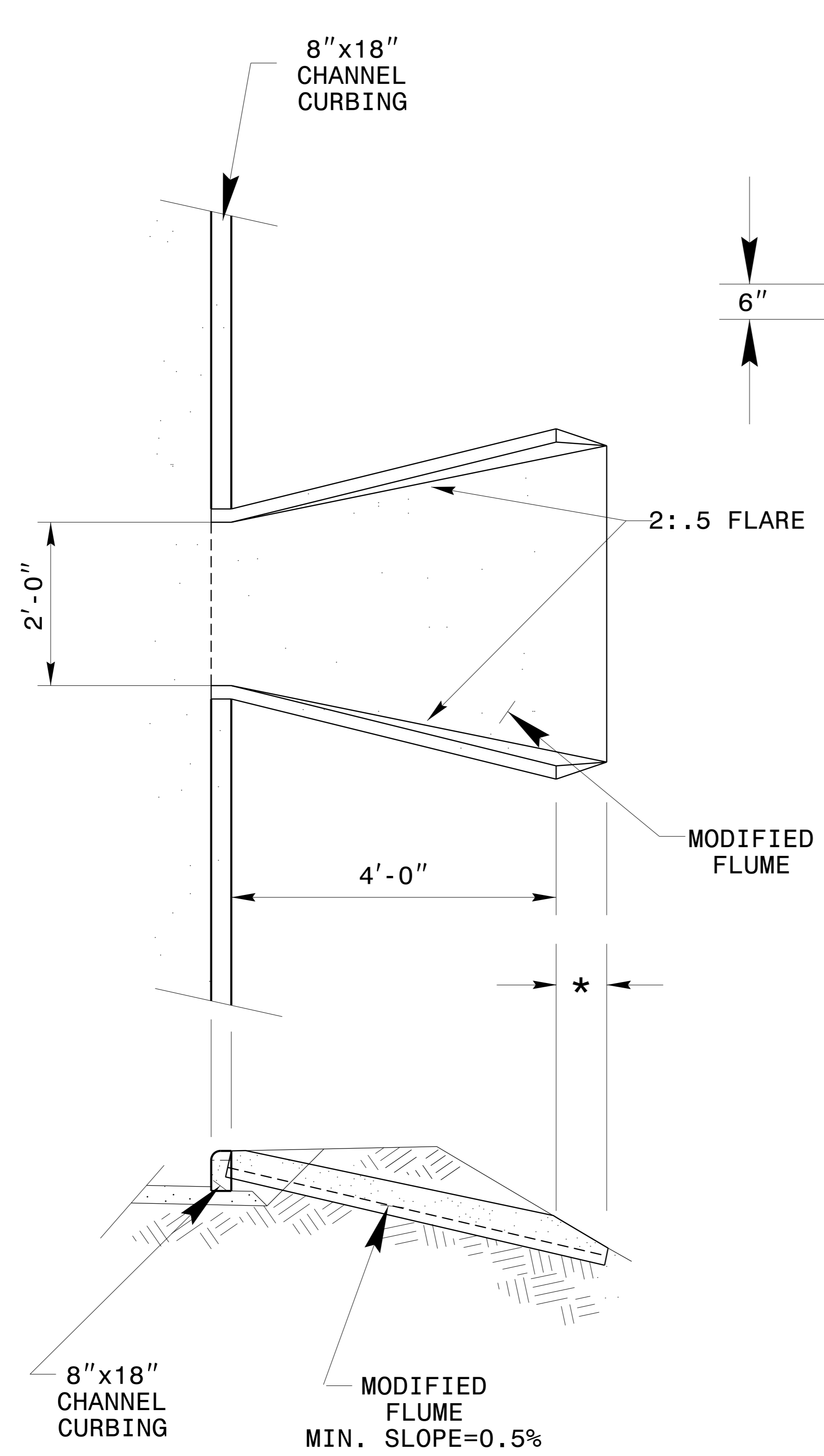


TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 3

-Y- STA. 10+00.00 TO 12+08.00

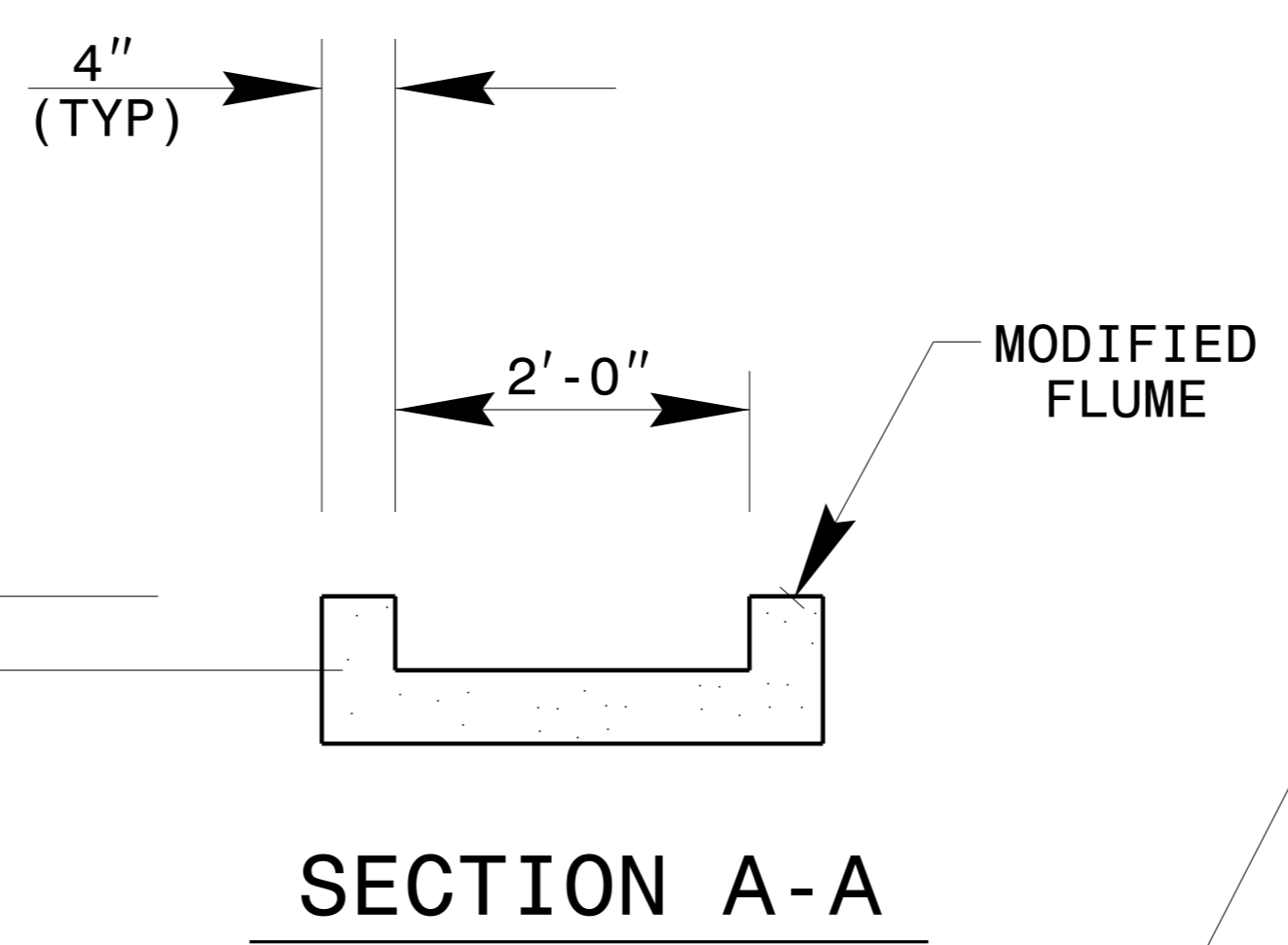


6/2/99
07 JAN 2015 11:29
C:\Users\jgibson\Documents\Projects\W5206AC\Roadway\PROJECT\W5206AC.Rdy...tjy...2.dgn



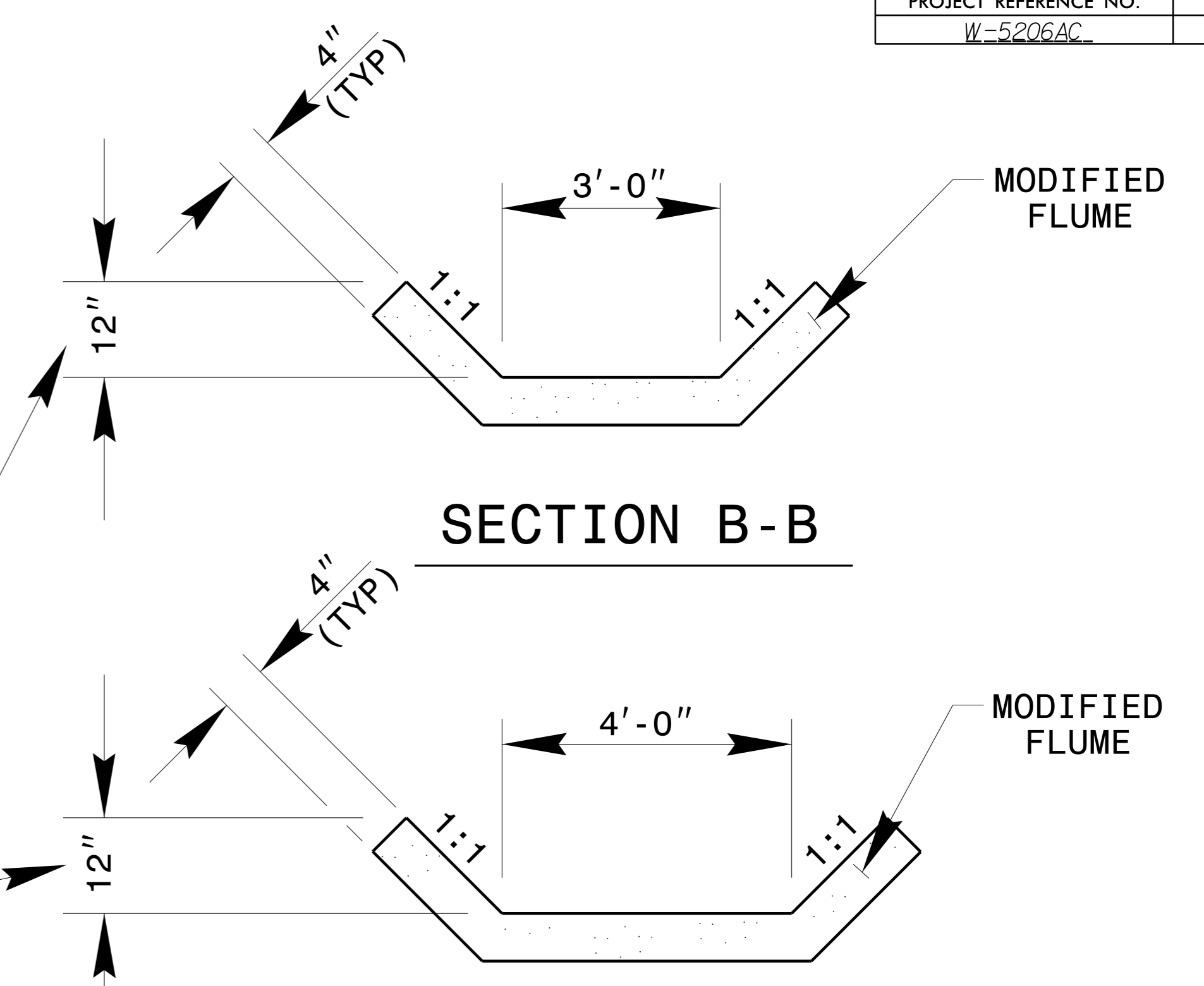
ELEVATION

* LENGTH VARIABLE WITH DITCH SLOPE



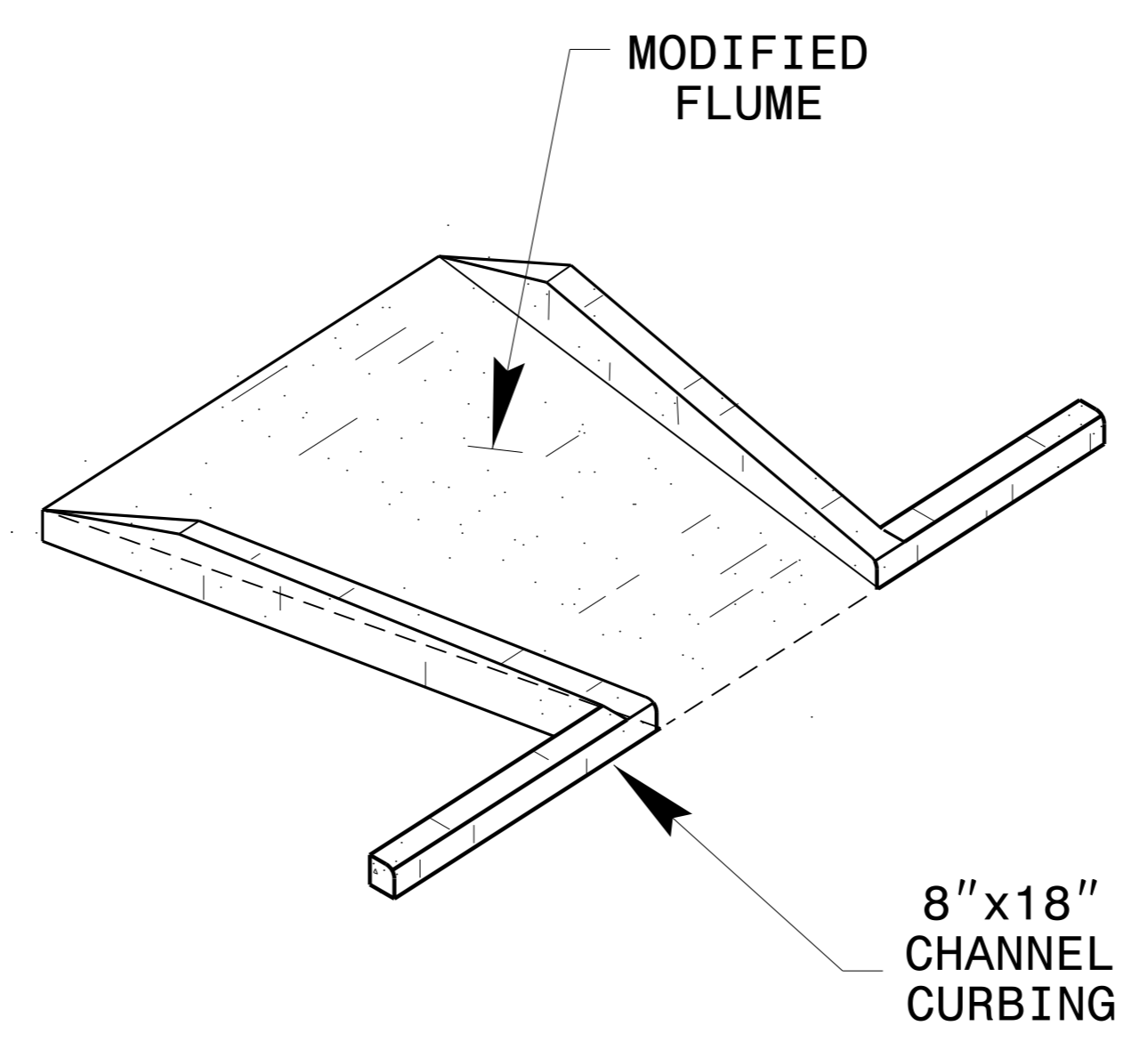
SECTION A-A

FLUME SIDES SHOULD BE FLUSH WITH ADJACENT GROUND LINE TO A MAX. HEIGHT OF 12"

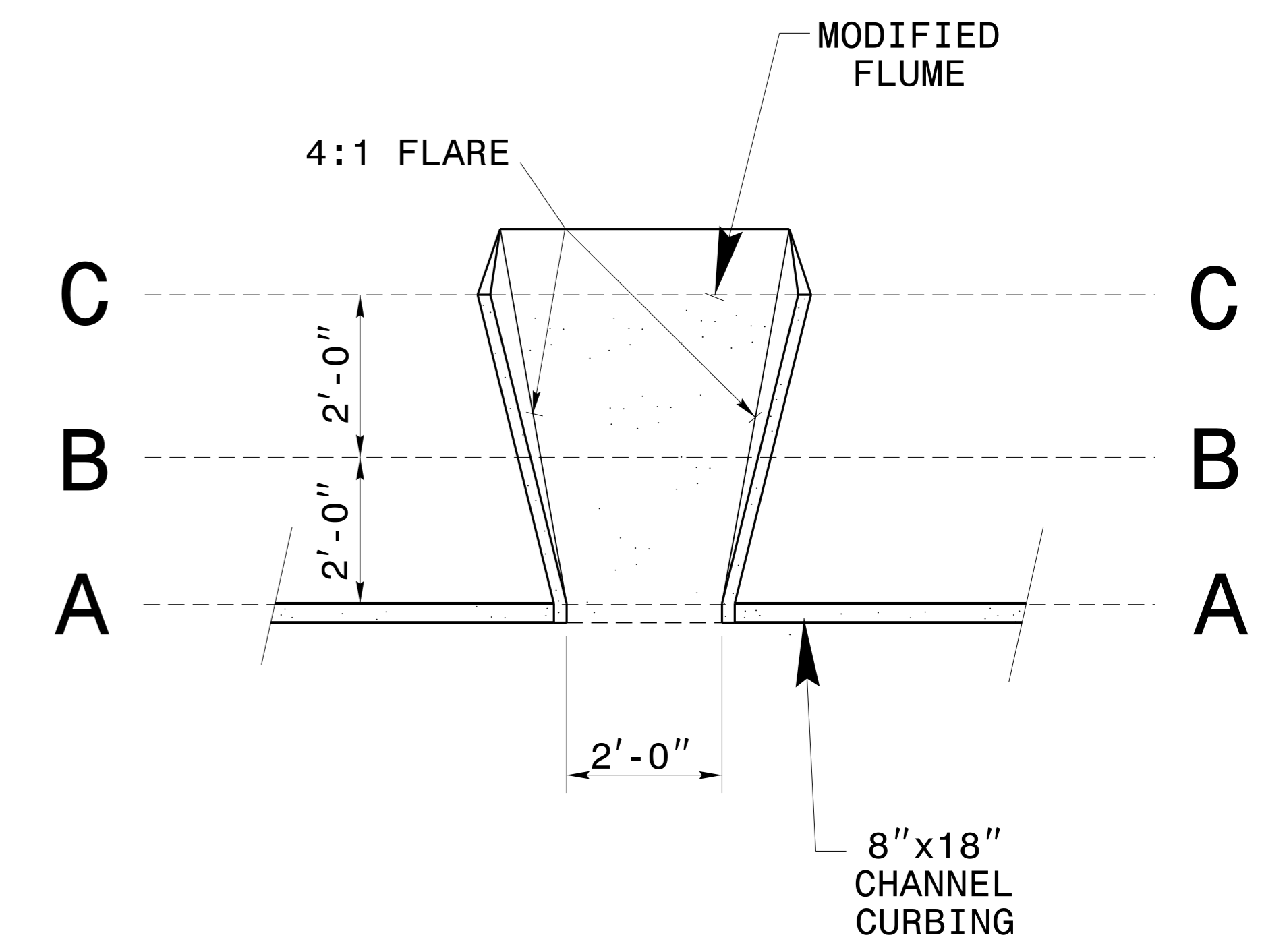


SECTION B-B

SECTION C-C



PERSPECTIVE



PLAN

- NOTES:
- CONSTRUCT MODIFIED CONCRETE FLUME IN ACCORDANCE WITH THIS DETAIL.
 - RIP RAP LINED DITCH SHALL BE THE TYPE AND LENGTH SPECIFIED BY THE ROADWAY PLANS. PLACE RIP-RAP AT THE END OF THE DITCH AS INDICATED BY STD. DWG. 876.02 FOR AN 18" PIPE.
 - MODIFICATIONS SHALL BE AS DICTATED BY SITE CONDITIONS AND DIRECTED BY THE ENGINEER.

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

MODIFIED CONCRETE FLUME

ORIGINAL BY:	DATE:
MODIFIED BY: gsnively	DATE: 01-17-14
CHECKED BY:	DATE:
FILE SPEC.: details\britt\metric\2201modifiedflume.dgn	

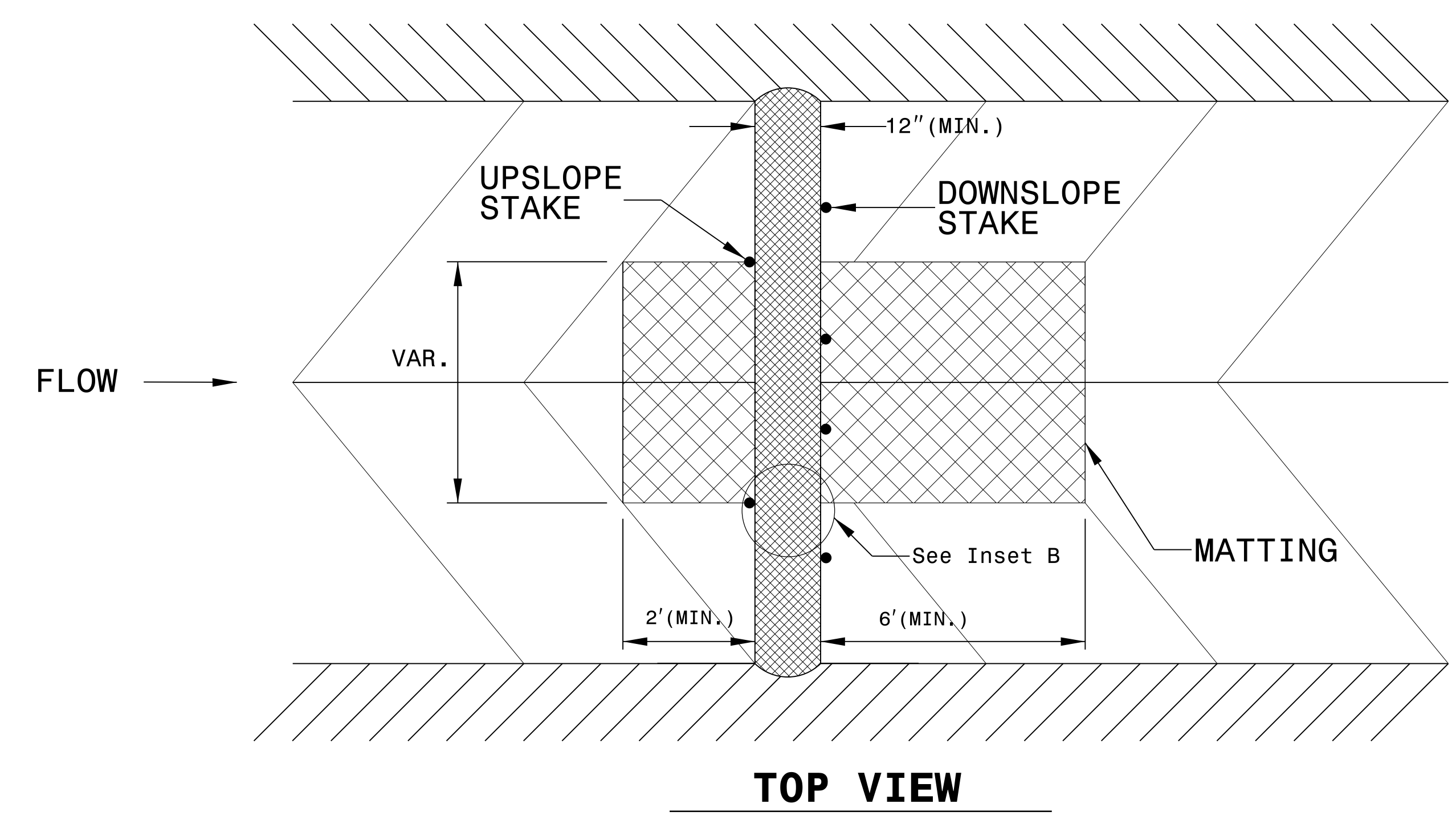
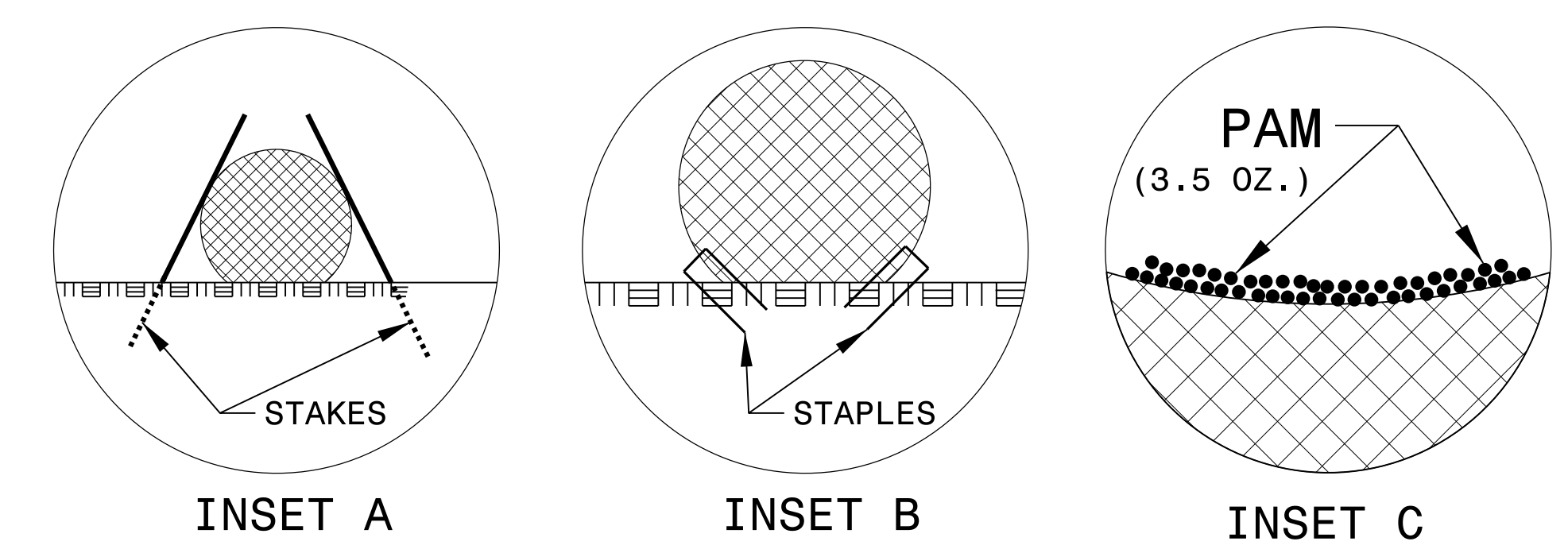
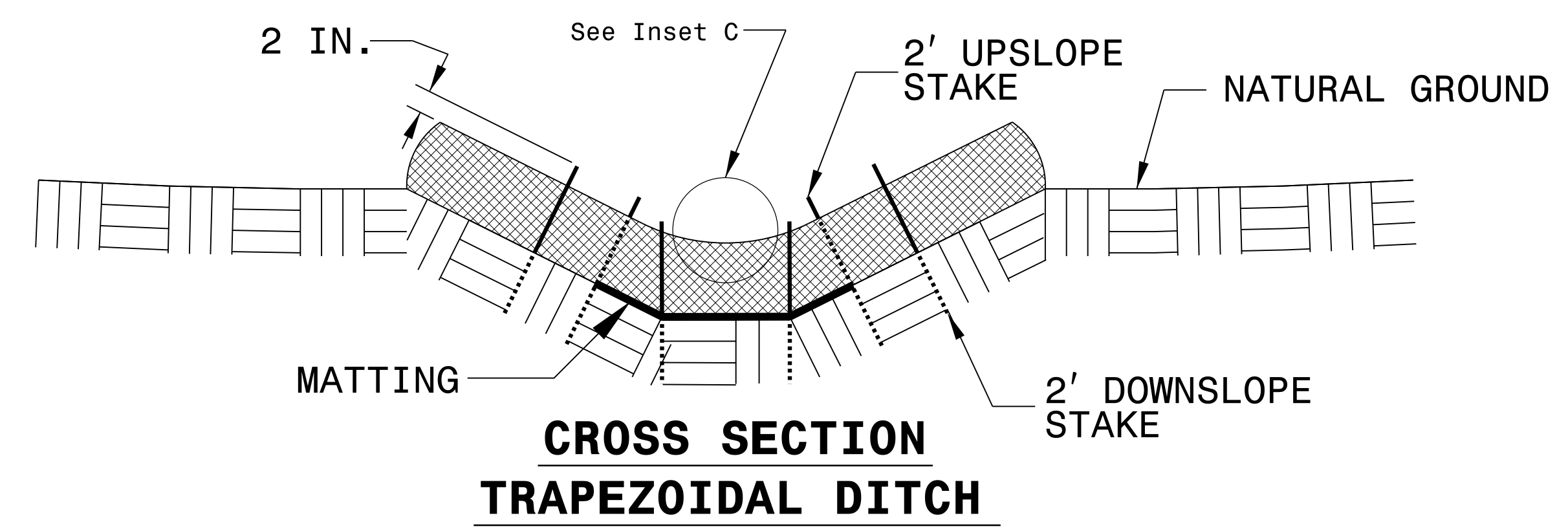
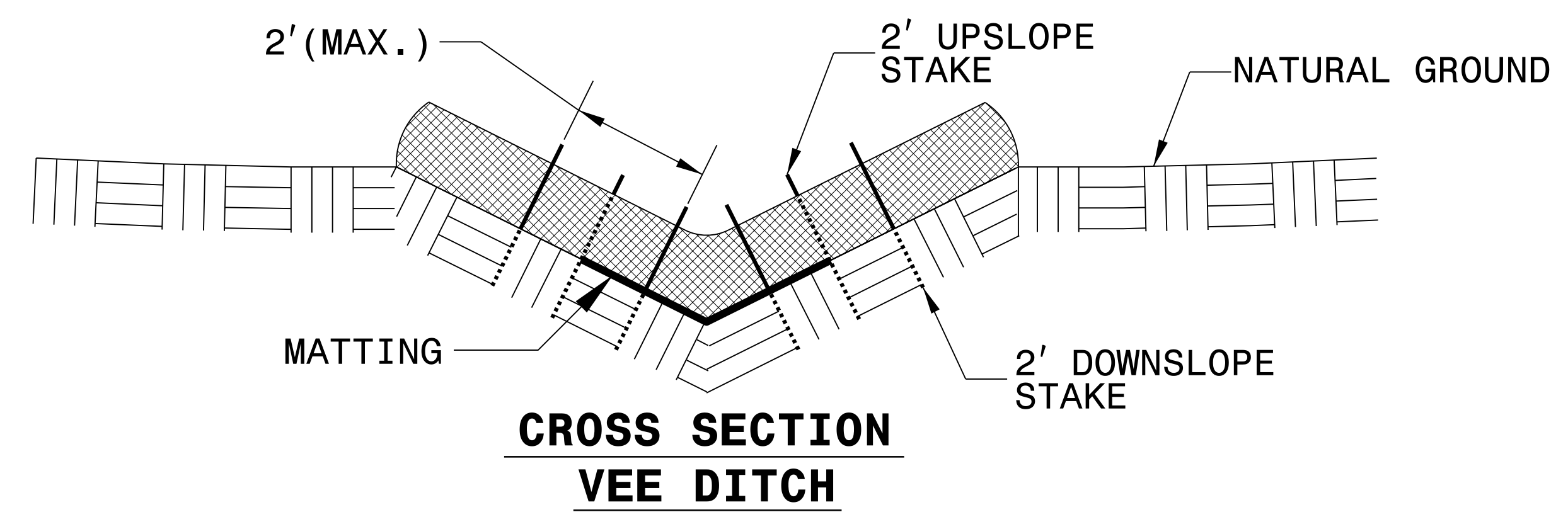
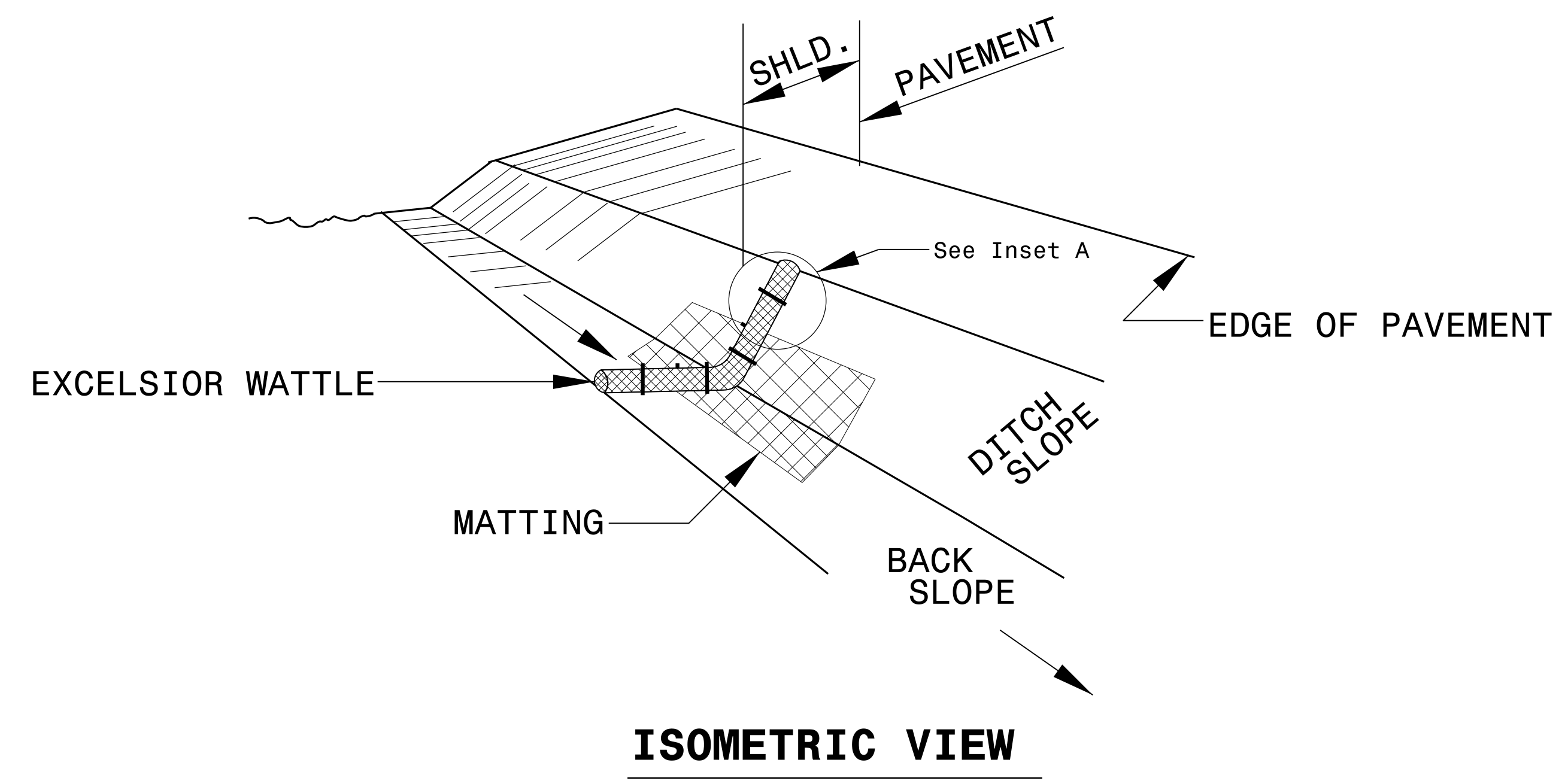
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 07-MAN-2015-1129
 \$\$\$USERSERIAL\$\$\$

PROJECT REFERENCE NO. W-5206AC	SHEET NO. 2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE DETAIL

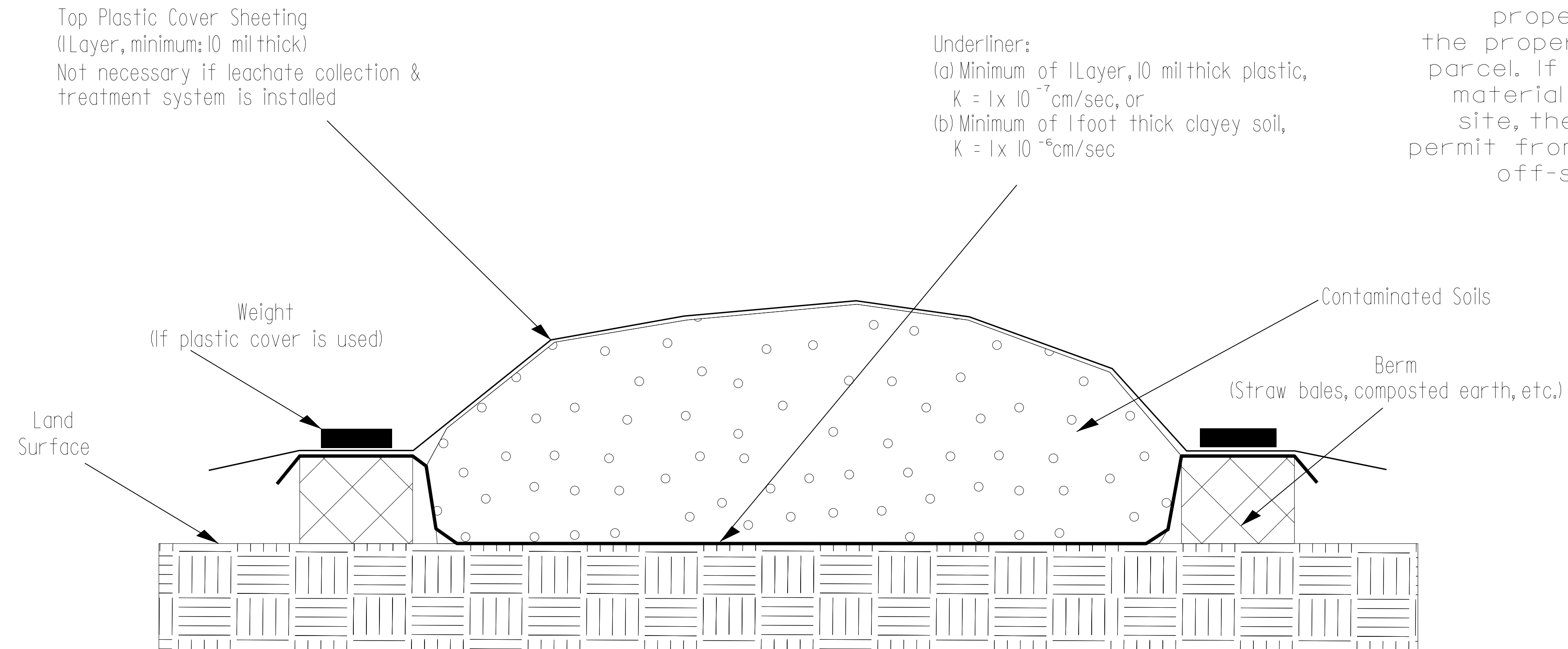
NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.
- 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 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



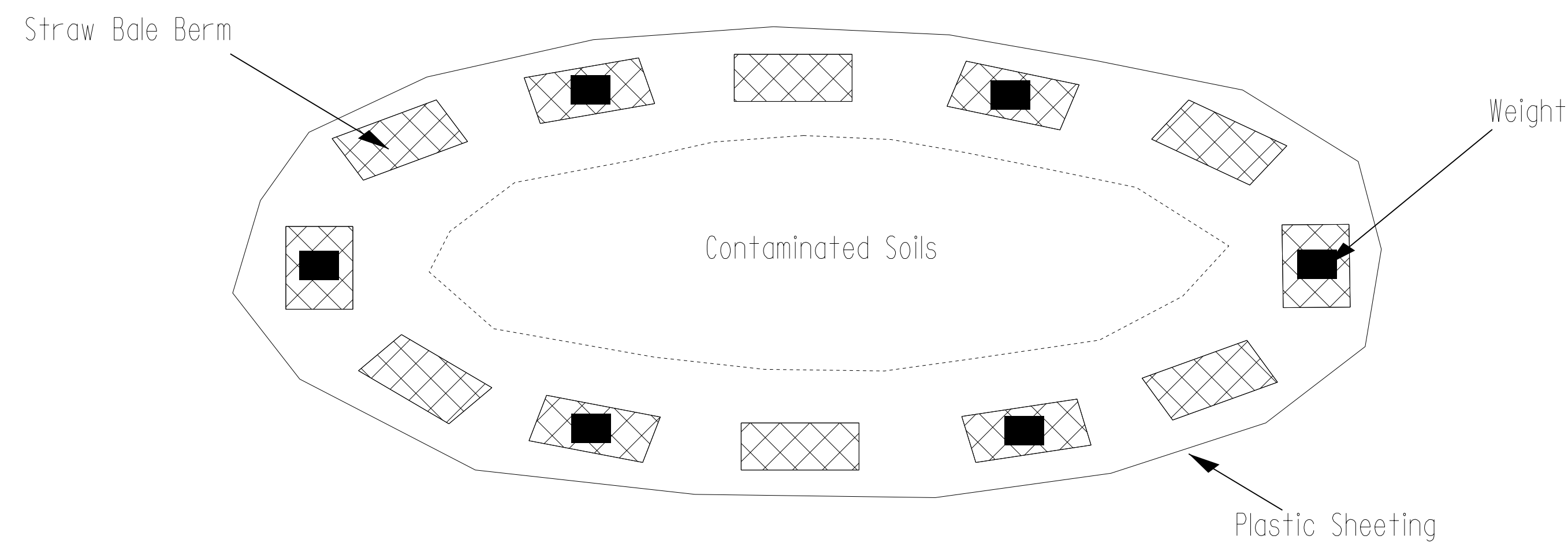
Detail for Temporary Containment of Contaminated Soil

Cross-Section View



NOTE:
The Contractor shall stockpile all contaminated soil excavated from a property in a location within the property boundaries of the source parcel. If the volume of contaminated material exceeds available space on site, the Contractor shall obtain a permit from the NCDENR UST Section for off-site temporary storage.

Map View



GEOTECHNICAL ENGINEERING UNIT

EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE
 CONTRACT OFFICE

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STOCKPILE CONTAINMENT DETAIL

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

PREPARED BY:	DATE:
REVIEWED BY:	DATE:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

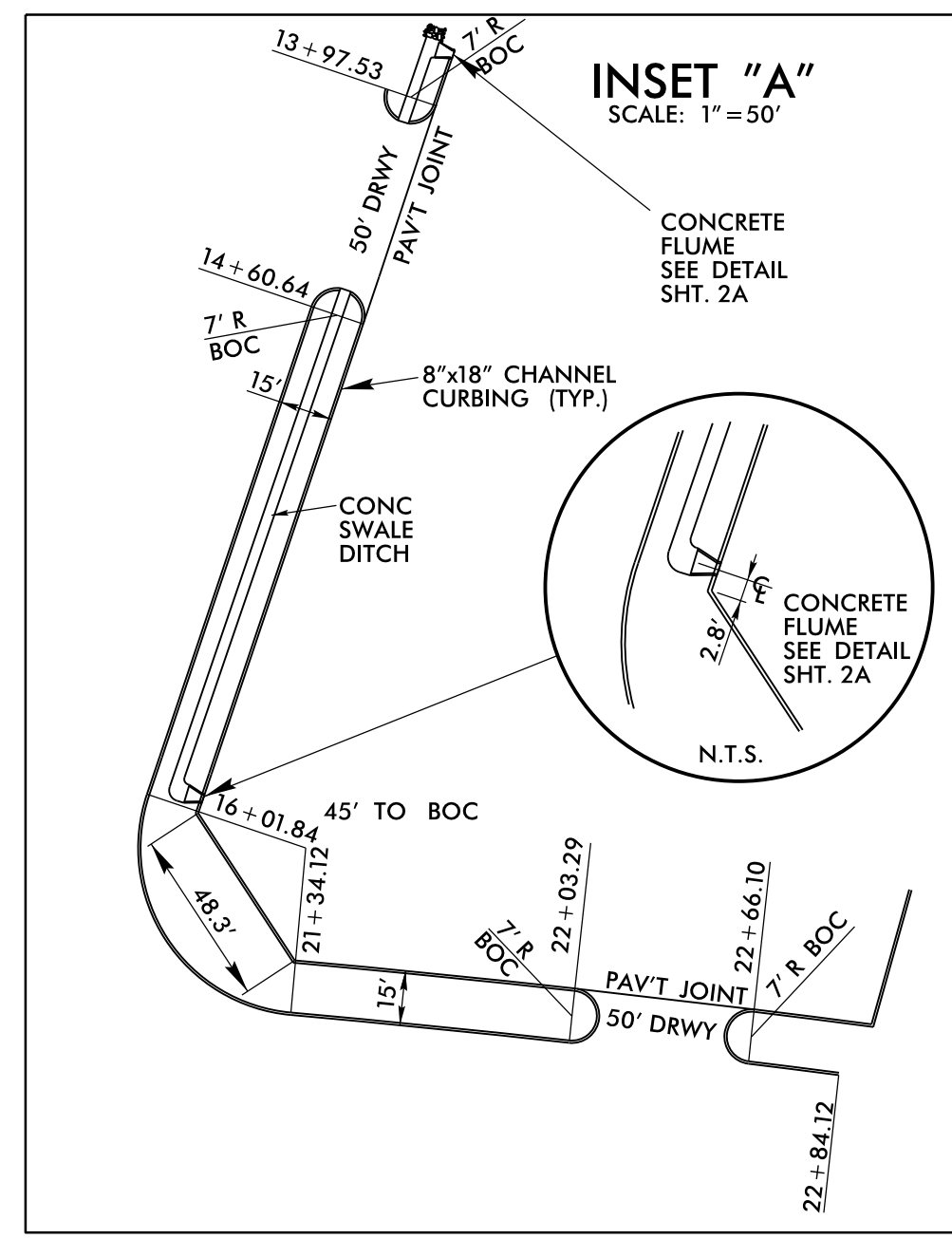
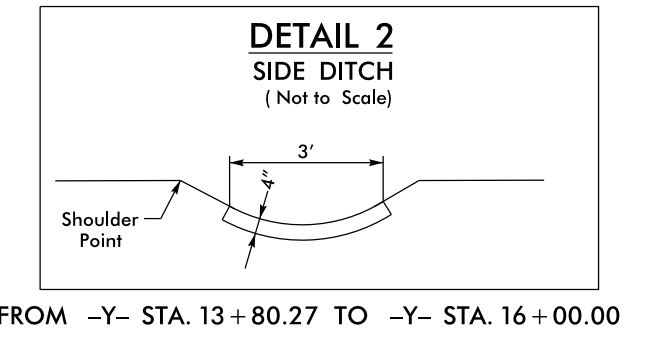
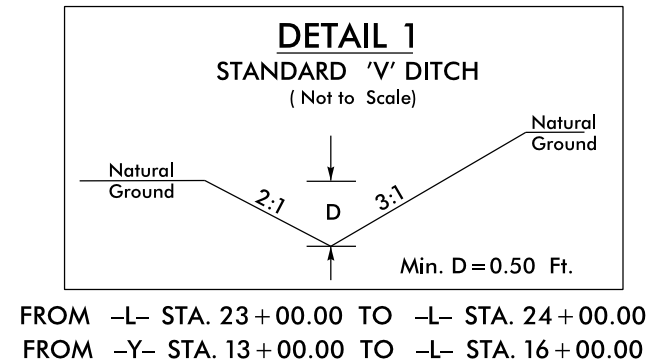
SUMMARY OF EARTHWORK
IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
21+50 (-L-)	25+00 (-L-)	3	144	141	0
12+00 (-Y-)	16+00 (-Y-)	96	248	152	0
TOTALS		99	392	293	0
SAY		100	400	300	

Note: Approximate quantities only. Unclassified Excavation, and Borrow Excavation will be paid for at the contract lump sum price for "Grading."

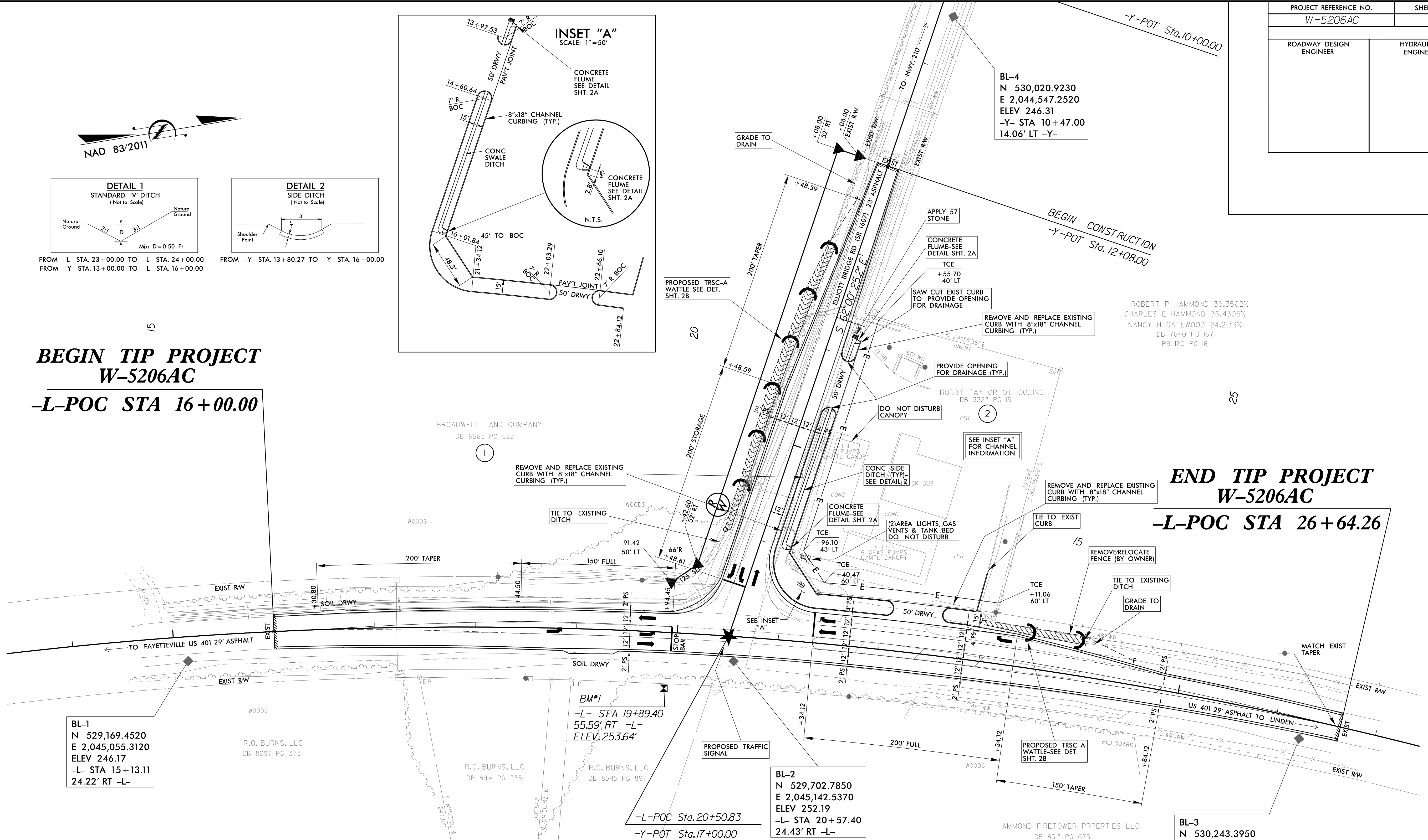
Earthwork quantities are calculated by the Roadway Design Unit.
No subsurface data provided by the Geotechnical Engineering Unit.

PROJECT REFERENCE NO.	SHEET NO.
W-5206AC	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



BEGIN TIP PROJECT
W-5206AC
-L-POC STA 16+00.00

END TIP PROJECT
W-5206AC
-L-POC STA 26+64.26



BL-1
N 529,169.4520
E 2,045,055.3120
ELEV 246.17
-L- STA 15+13.11
24.22' RT -L-

BM#1
-L- STA 19+89.40
55.59' RT -L-
ELEV. 253.64'

BL-2
N 529,702.7850
E 2,045,142.5370
ELEV 252.19
-L- STA 20+57.40
24.43' RT -L-

BL-3
N 530,243.3950
E 2,045,308.8080
ELEV 250.40
-L- STA 26+26.79
20.18' RT -L-

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W-5206AC-1" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 531091.775(FT) EASTING: 2045715.664(FT) ELEVATION: 246.87(FT)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99986625

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W-5206AC-1" TO -L- STATION 16+00.00 IS N 9°44'47" W 89.94 (FT)

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

-L-

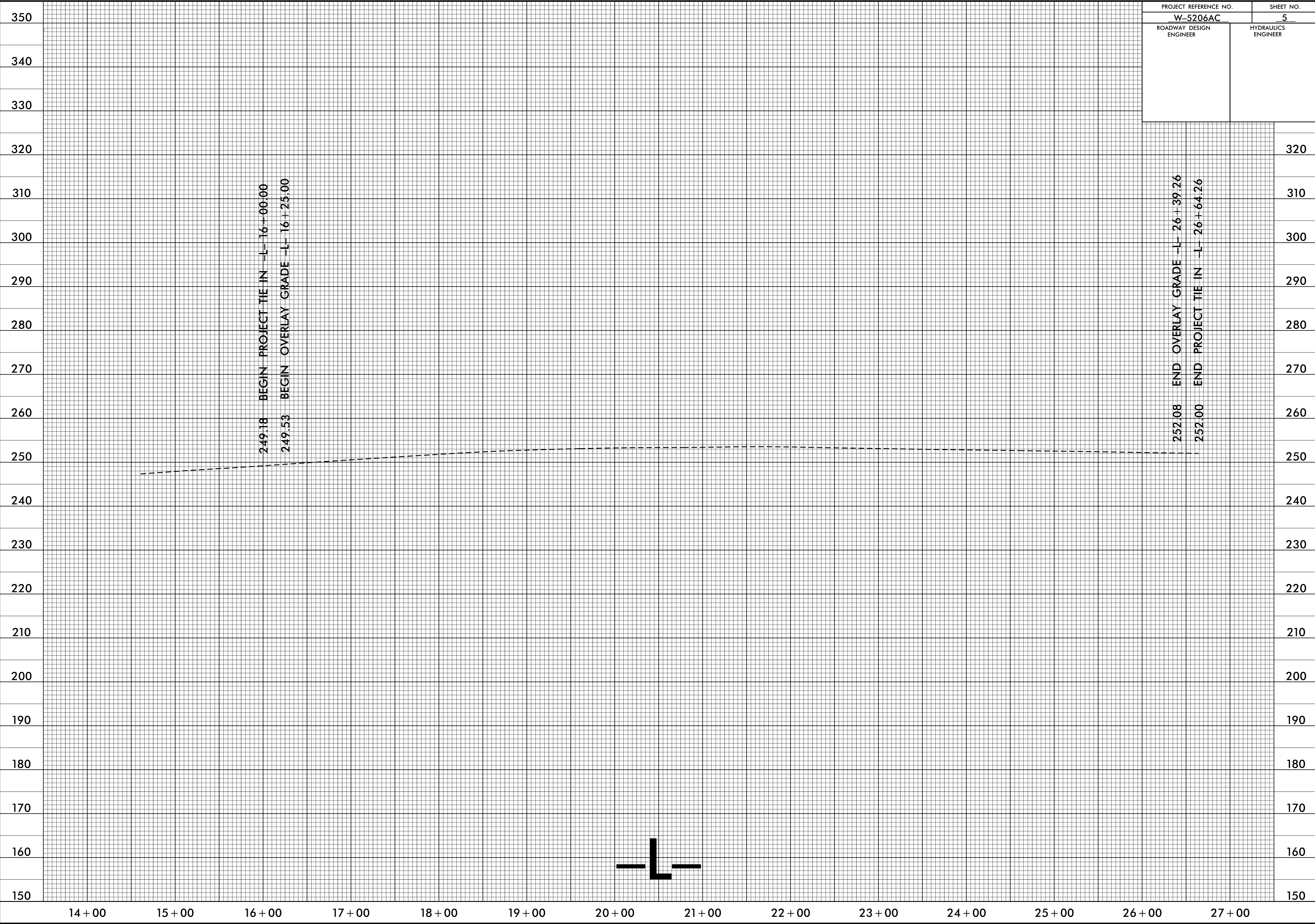
$\Delta = 25'18"08.9" (RT)$
 $D = 1'29"00.0"$
 $L = 1,705.78'$
 $T = 867.03'$
 $R = 3,862.64'$

REVISIONS

08-15-2014 DRIVEWAYS ACCESSING BOBBY TAYLOR OIL CHANGED TO 50' DRIVEWAYS

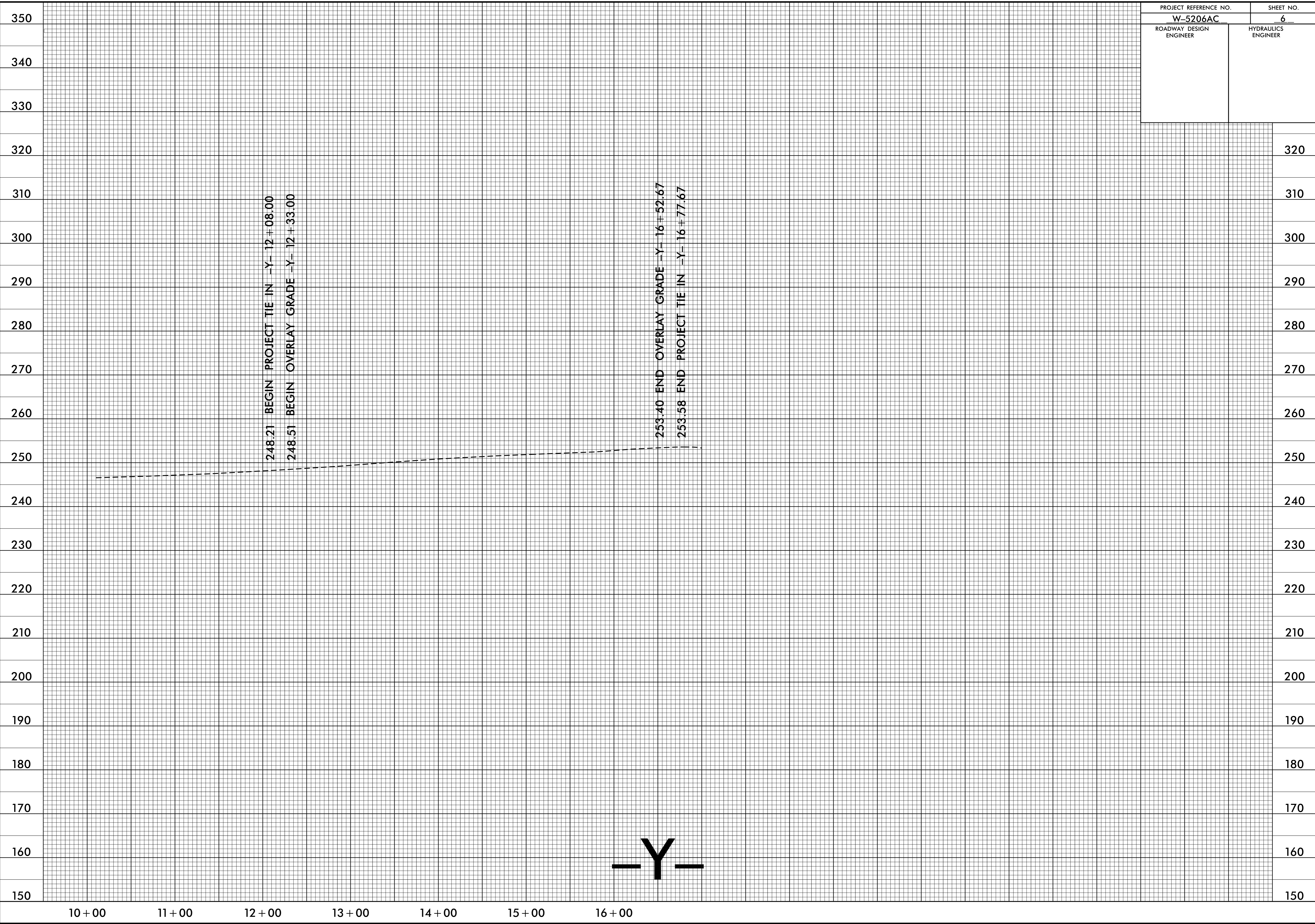
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1/2/97
1/2/98
1/2/99
1/2/100

5/14/99
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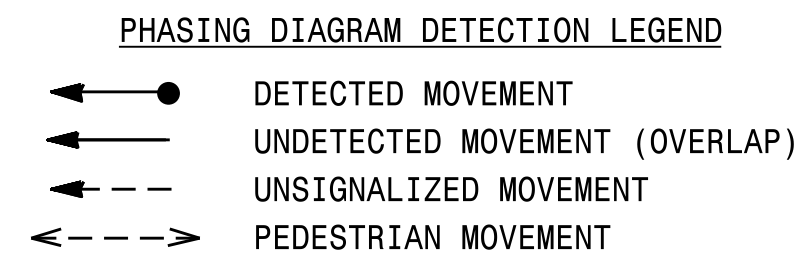
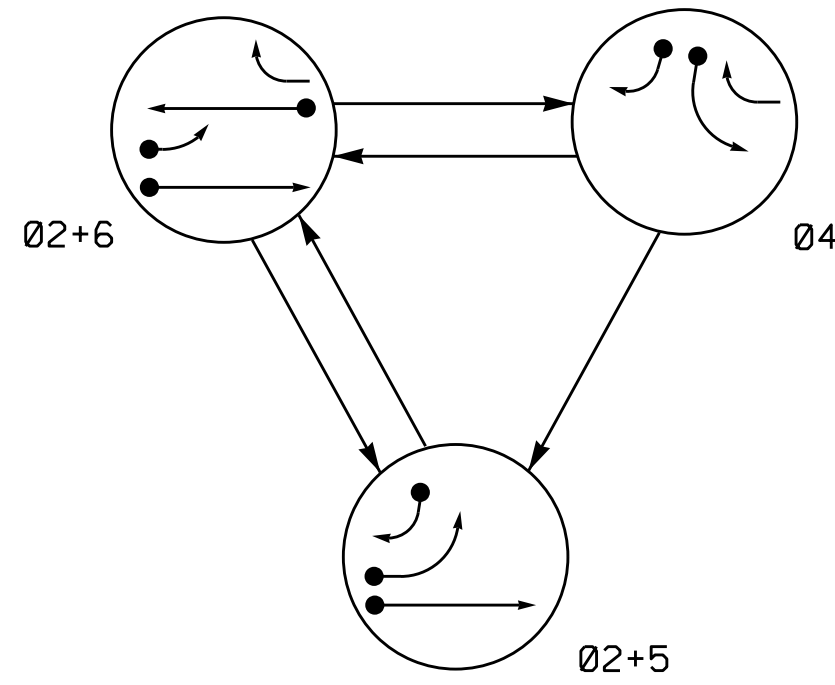
PROJECT REFERENCE NO.	SHEET NO.
W-5206AC	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PROJECT REFERENCE NO. W-5206AC	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

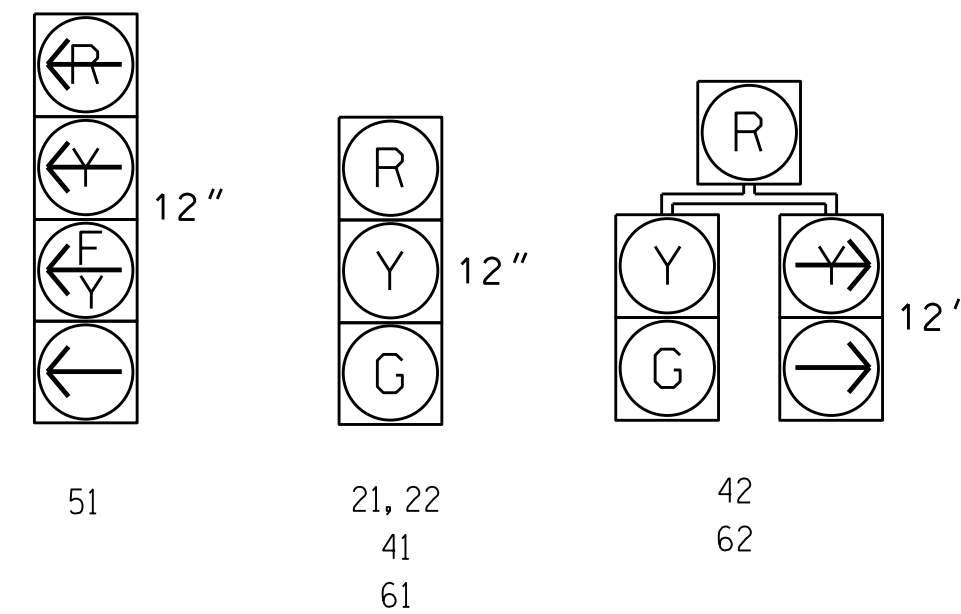
PHASING DIAGRAM



SIGNAL FACE	PHASE			
	Ø 2+5	Ø 2+6	Ø 4	FLS
21,22	G	G	R	Y
41	R	R	G	R
42	R	R	G	R
51	-	F	R	Y
61	R	G	R	Y
62	R	G	R	Y

SIGNAL FACE I.D.

All Heads L.E.D.

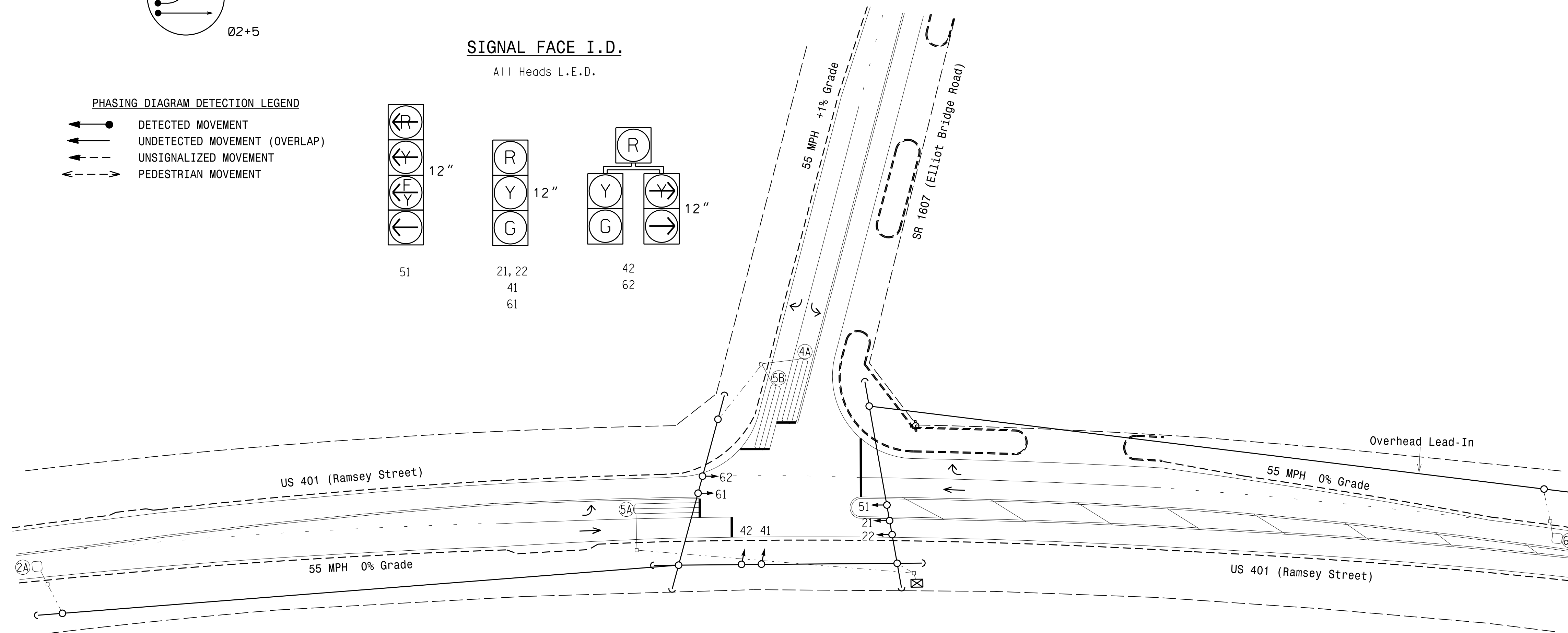


OASIS 2070 LOOP & DETECTOR INSTALLATION CHART												
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING							
					PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A	6X6	420	5	Y	2	Y	Y	-	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	Y
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	Y
5B	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	Y
6A	6X6	420	6	Y	6	Y	Y	-	-	-	-	Y

3 Phase Fully Actuated Isolated

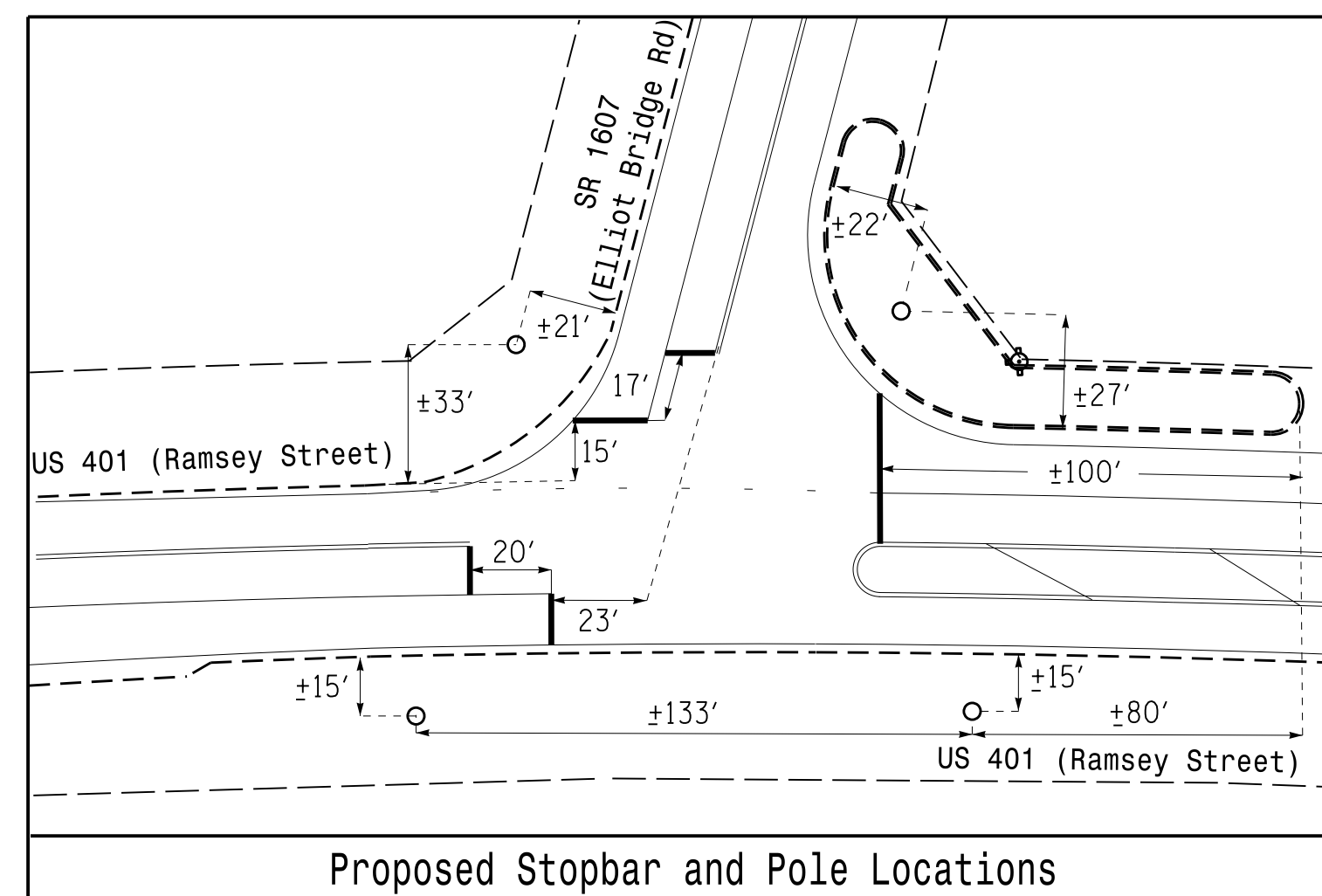
NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 5 may lag.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.



FEATURE	PHASE			
	2	4	5	6
Min Green 1 *	14	7	7	14
Extension 1 *	6.0	2.0	2.0	6.0
Max Green 1 *	90	20	20	90
Yellow Clearance	5.2	3.0	3.0	5.2
Red Clearance	1.0	2.3	2.8	1.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	2.5	-	-	2.5
Max Variable Initial *	46	-	-	46
Time Before Reduction *	15	-	-	15
Time To Reduce *	30	-	-	30
Minimum Gap	3.4	-	-	3.4
Recall Mode	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



PROPOSED	LEGEND	EXISTING
○	Traffic Signal Head	●
○→	Modified Signal Head	N/A
⊥	Sign	⊥
⊥	Pedestrian Signal Head	⊥
⊥	Signal Pole with Guy	⊥
⊥	Signal Pole with Sidewalk Guy	⊥
⊗	Inductive Loop Detector	⊗
⊗	Controller & Cabinet	⊗
⊗	Junction Box	⊗
- - -	2-in Underground Conduit	- - -
N/A	Right of Way	- - -
→	Directional Arrow	→
N/A	Fire Hydrant	⊕

New Installation

750 N. Greenfield Pkwy, Garner, NC 27529

US 401 (Ramsey Street) at SR 1607 (Elliot Bridge Road)

Division 6 Cumberland County Fayetteville

PLAN DATE: July 2014 REVIEWED BY: JPG

PREPARED BY: EM Minshew REVIEWED BY:

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER

SEAL 29904

JASON P. GALLOWAY

7/25/2014

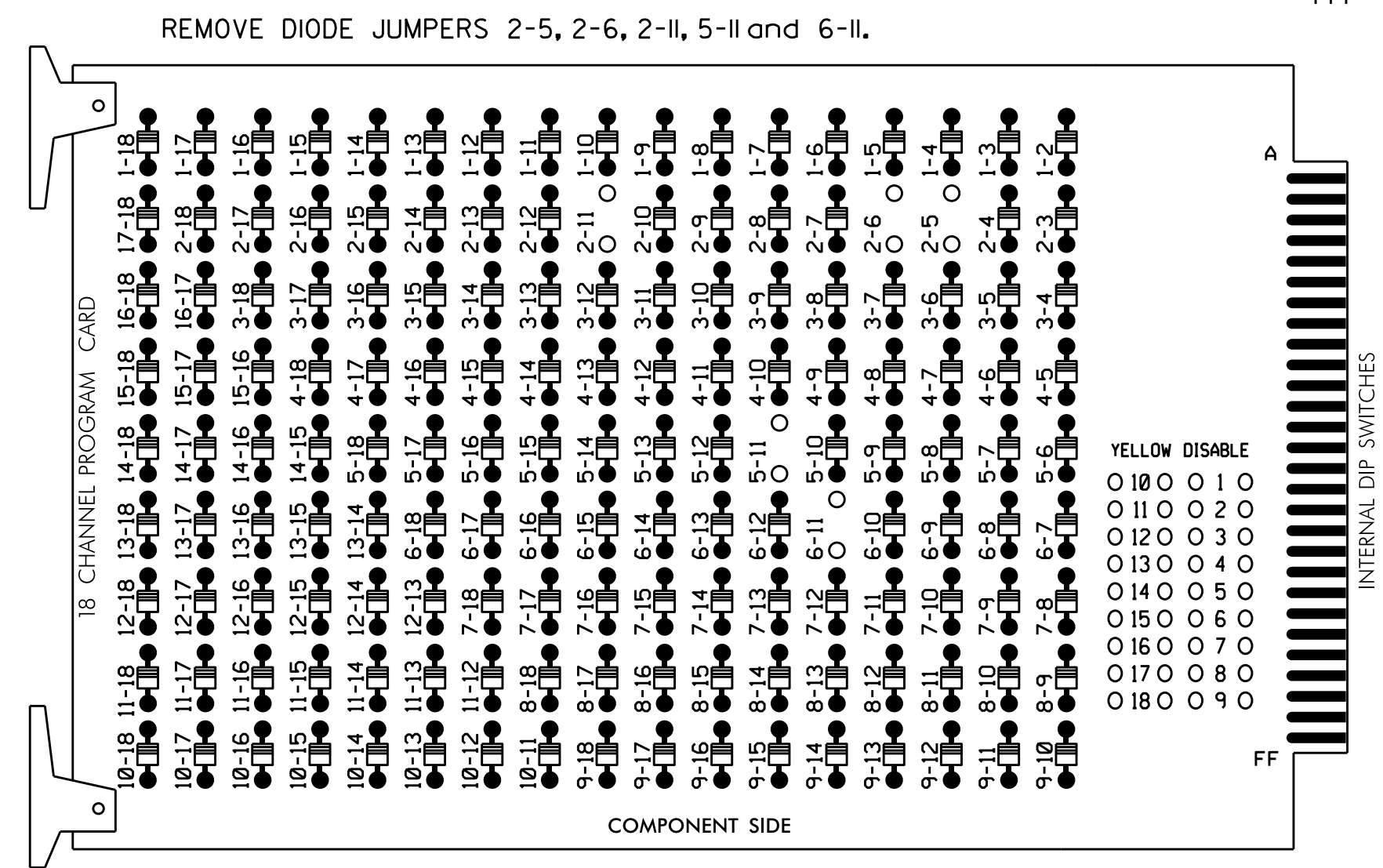
DATE

SIG. INVENTORY NO. 06-0759

SCALE 1"=40'

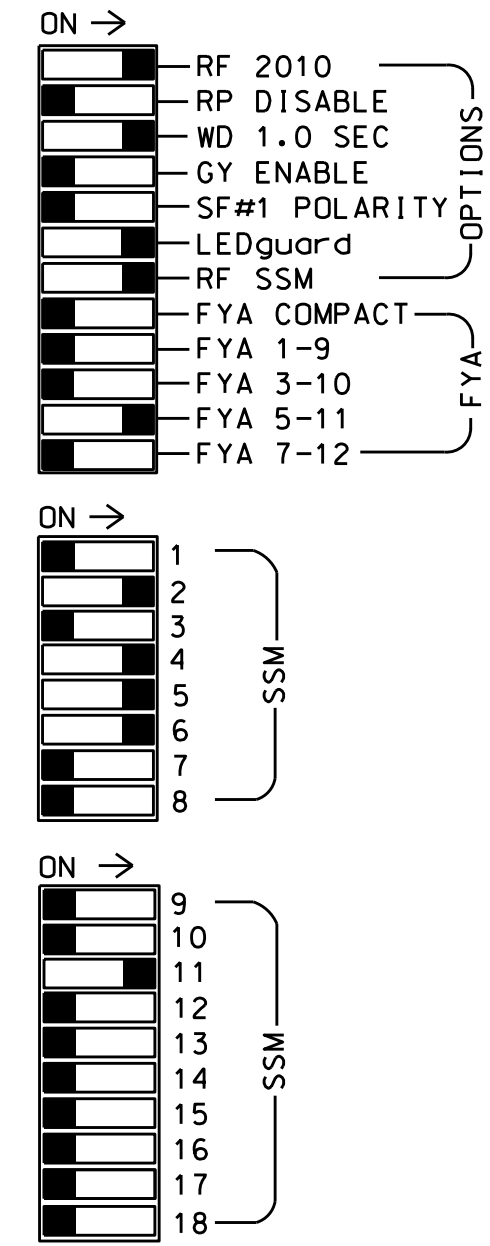
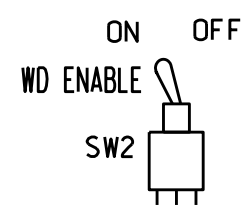
**EDI MODEL 2018ECL-NC CONFLICT MONITOR
PROGRAMMING DETAIL**

(remove jumpers and set switches as shown)



NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that Red Enable is active at all times during normal operation.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.



NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Variable Initial and Gap Reduction.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 6 for Yellow Flash.

EQUIPMENT INFORMATION

CONTROLLER.....2070
 CABINET.....332 /W/ AUX
 SOFTWARE.....ECONOLITE DASI
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S2,S5,S7,S8,AUX S4
 PHASES USED.....2,4,5,6
 OVERLAP "A".....NOT USED
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6	
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18	
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE	
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42	62	NU	51	42	61,62	NU	NU	NU	NU	NU	51	NU	NU	
RED		128			101			*	134										
YELLOW		129			102				135										
GREEN		130			103				136										
RED ARROW																		A114	
YELLOW ARROW					102				132										A115
FLASHING YELLOW ARROW																			A116
GREEN ARROW					103		133	133											

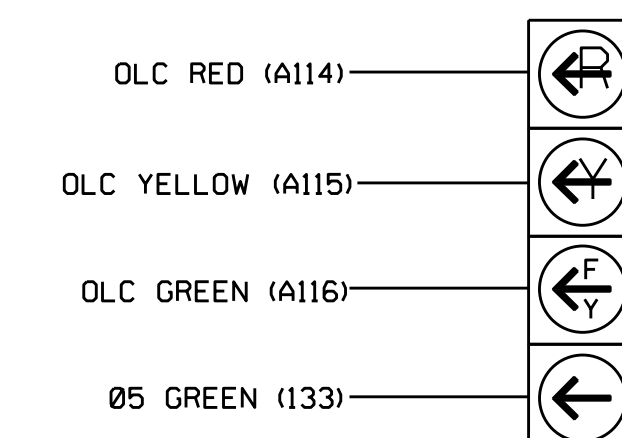
NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.

* See pictorial of head wiring in detail below.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



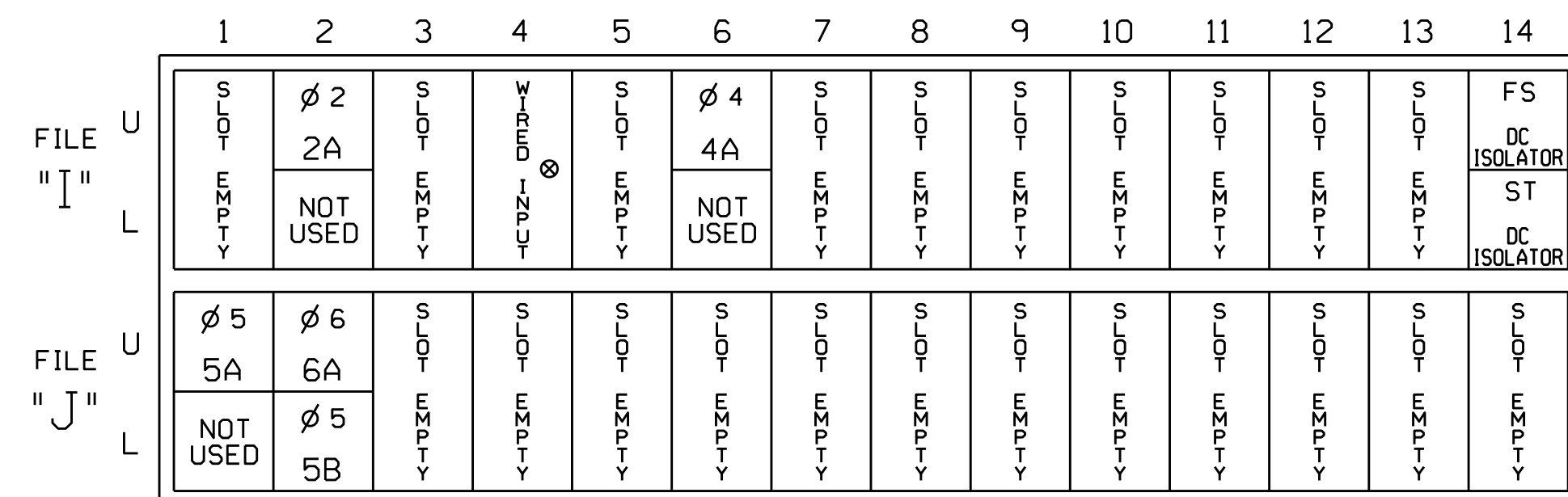
51

NOTE

- The sequence display for this signal requires special logic programming. See sheet 2 of 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)



EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
 ST = STOP TIME

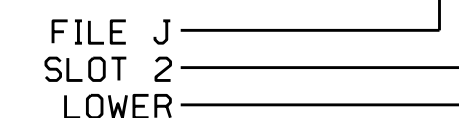
⊗ Wired Input - Do not populate slot with detector card

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			
5A ¹	TB3-1,2	J1U	55	17	5	5	Y	Y			15
		I4U	47	9	22	2	Y	Y	Y		3
5B	TB3-7,8	J2L	44	6	16	5	Y	Y			15
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			

¹Add jumper from J1-W to I4-W, on rear of input file.

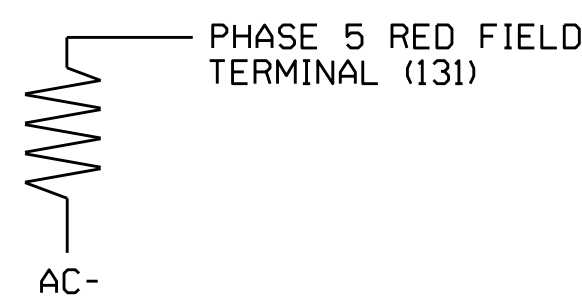
INPUT FILE POSITION LEGEND: J2L



LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



Electrical Detail - Sheet 1 of 2

Electrical and Programming Details For: US 401 (Ramsey Street) at SR 1607 (Elliot Bridge Road)

Division 6 Cumberland County Fayetteville

PLAN DATE: July 2014 REVIEWED BY: T. Joyce

PREPARED BY: B. SIMMONS REVIEWED BY:

750 N. Greenfield Pkwy, Garner, NC 27529

SEAL: GEORGE C. BROWN, PROFESSIONAL ENGINEER, STATE OF NORTH CAROLINA, SEAL 022013

DocuSigned by: George C. Brown 7/29/2014

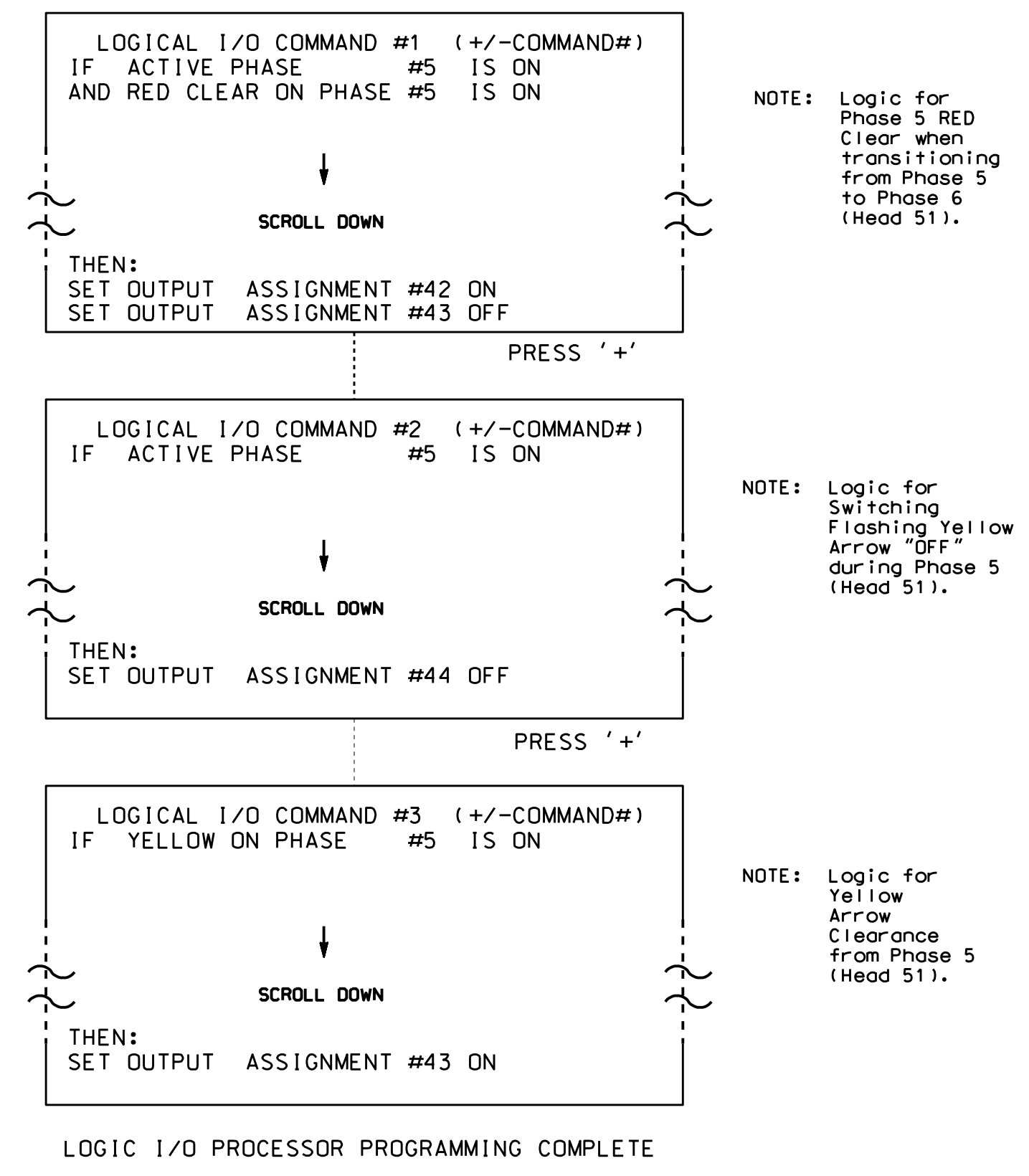
SIG. INVENTORY NO. 06-0759

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**LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE**

(program controller as shown below)

- From Main Menu press '2' (PHASE CONTROL), then '1' (PHASE CONTROL FUNCTIONS). Scroll to the bottom of the menu and Enable ACT Logic Commands 1, 2 and 3.
- From Main Menu press '6' (OUTPUTS), then '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE	
OUTPUT 42	= Overlap C Red
OUTPUT 43	= Overlap C Yellow
OUTPUT 44	= Overlap C Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).
PRESS '+' TWICE

```

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE: |12345678910111213141516
VEH OVL PARENTS: | XX
VEH OVL NOT VEH: |
VEH OVL NOT PED: |
VEH OVL GRN EXT: |
STARTUP COLOR: _ RED _ YELLOW _ GREEN
FLASH COLORS: _ RED _ YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0=255 SEC)...0.0
YELLOW CLEAR (0=PARENT.3-25.5 SEC)...0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
  
```

← NOTICE GREEN FLASH

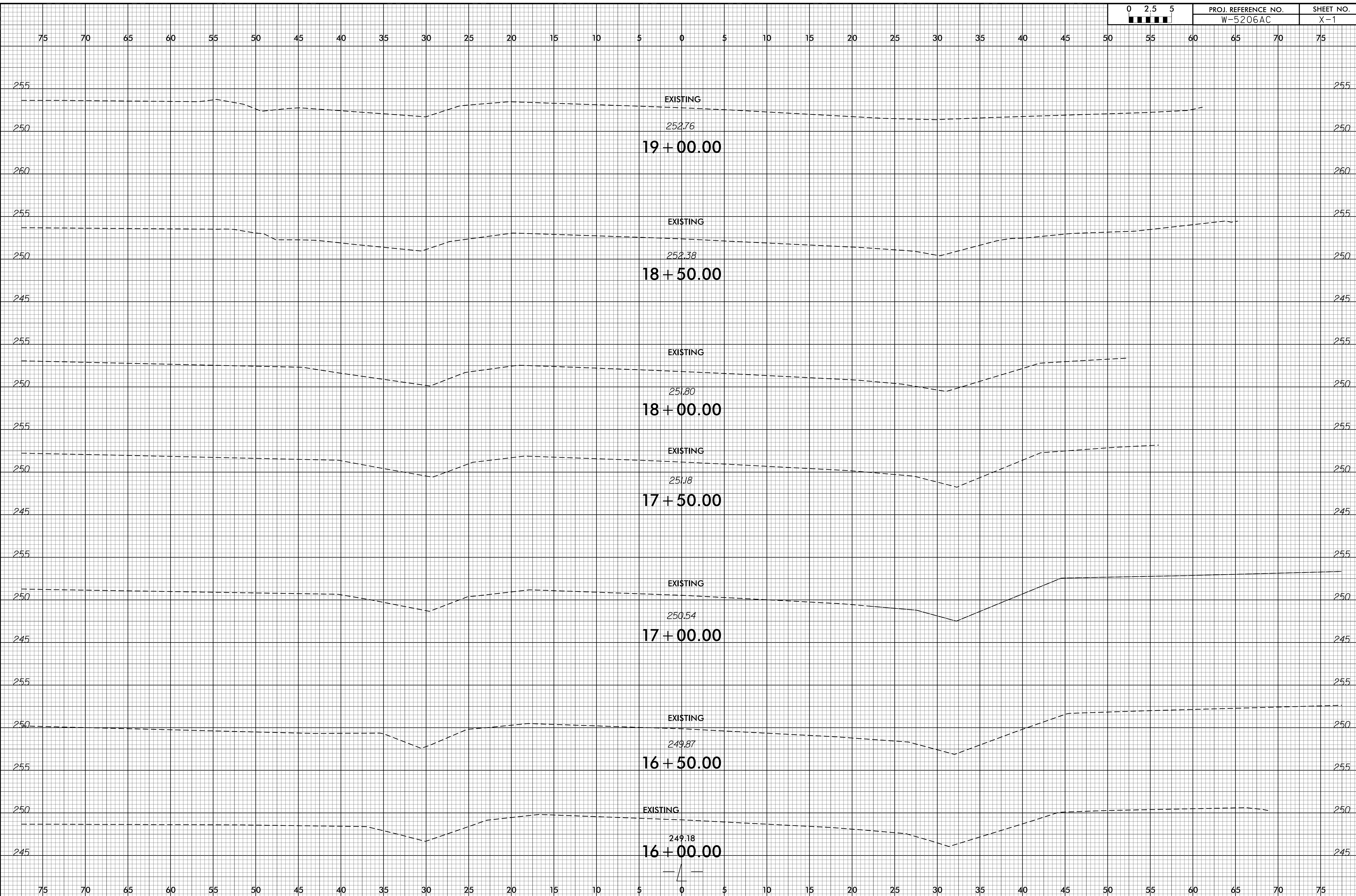
OVERLAP PROGRAMMING COMPLETE

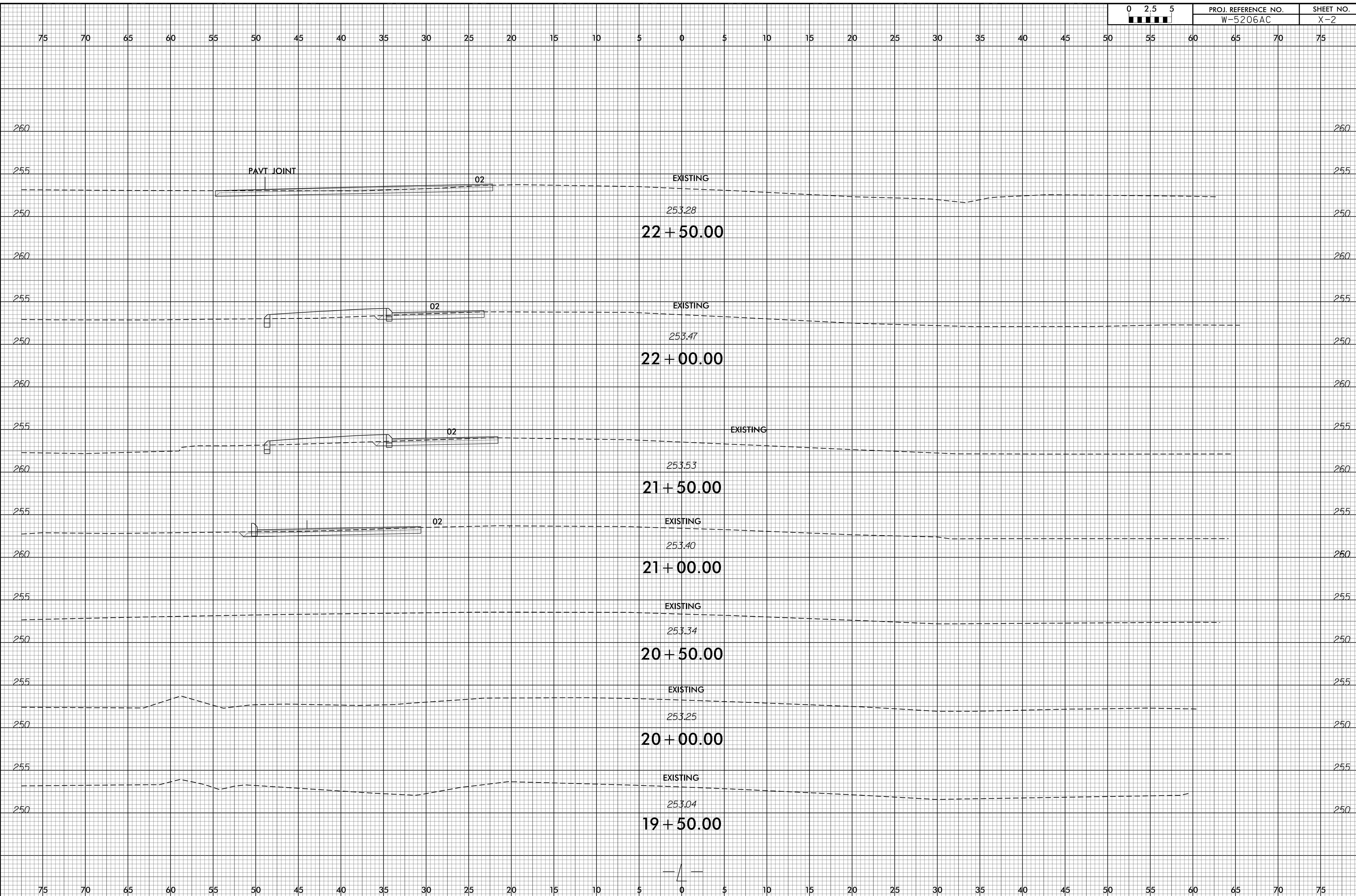
THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0759
DESIGNED: July 2014
SEALED: 7/25/14
REVISED: N/A

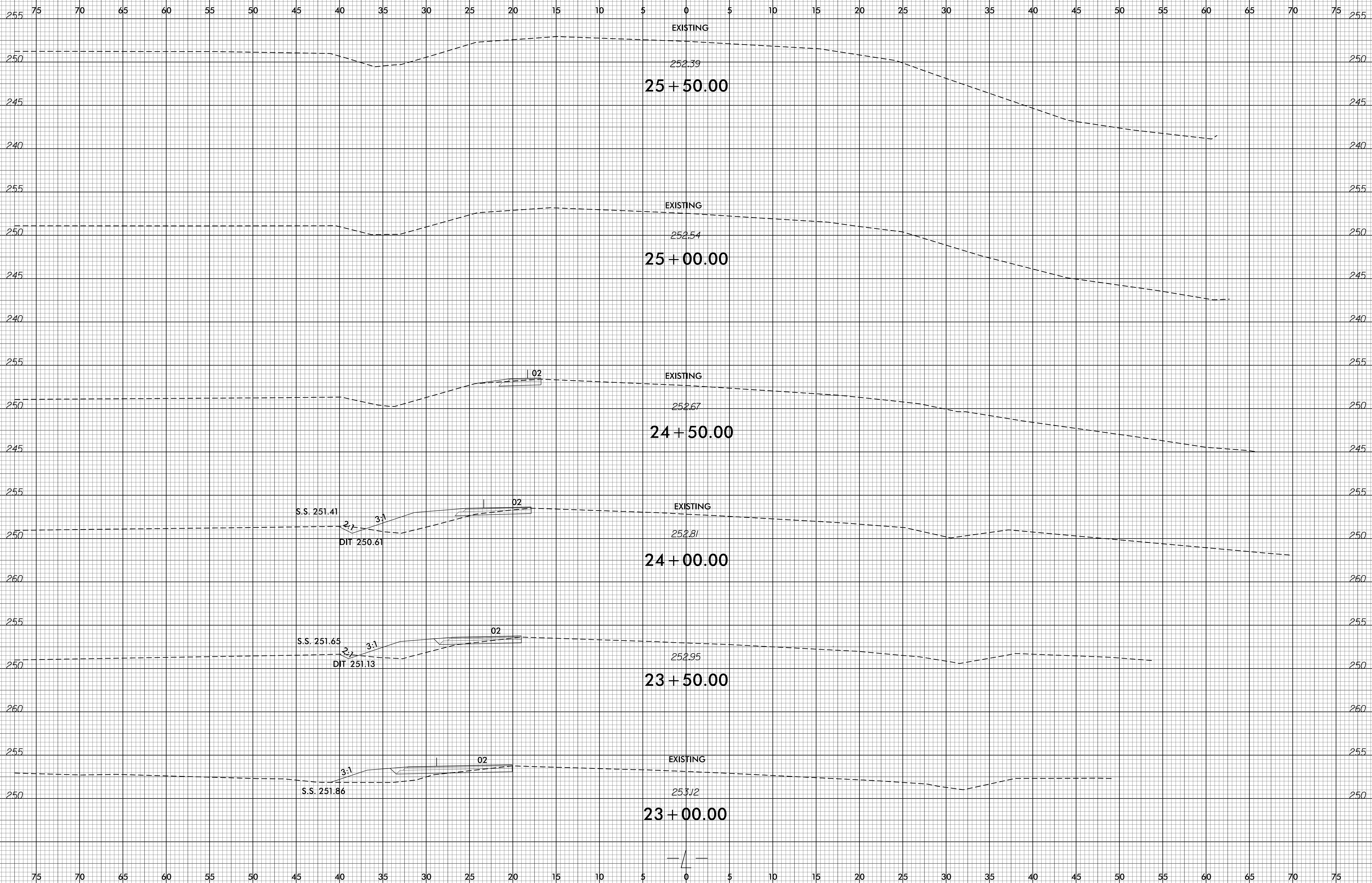
Electrical Detail - Sheet 2 of 2

	ELECTRICAL AND PROGRAMMING DETAILS FOR:		US 401 (Ramsey Street) at SR 1607 (Elliot Bridge Road)		
	Prepared in the Offices of:		Division 6 Cumberland County Fayetteville	PLAN DATE: July 2014 REVIEWED BY: T. Joyce	
PREPARED BY: B. SIMMONS		REVIEWED BY:		SEAL 022013 ENGINEER GEORGE C. BROWN	
REVISIONS		INIT.	DATE	DocuSigned by: George C. Brown 7/29/2014	
SIG. INVENTORY NO. 06-0759		DATE			

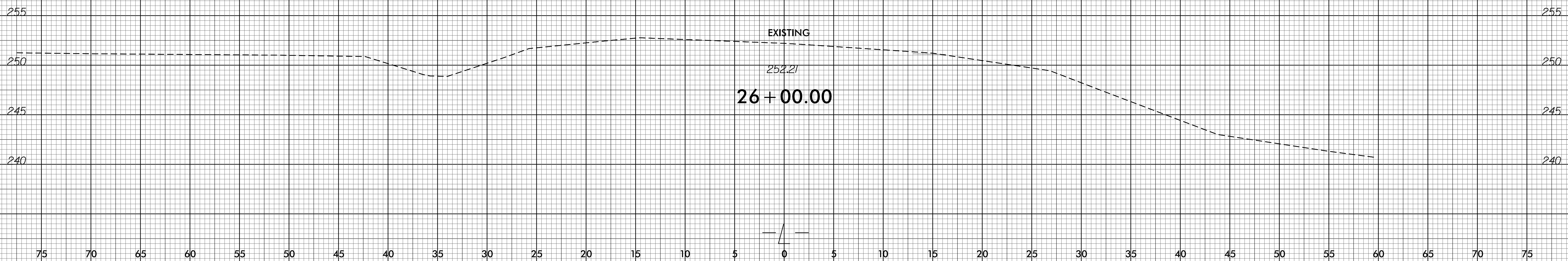
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 B.S. Simmons

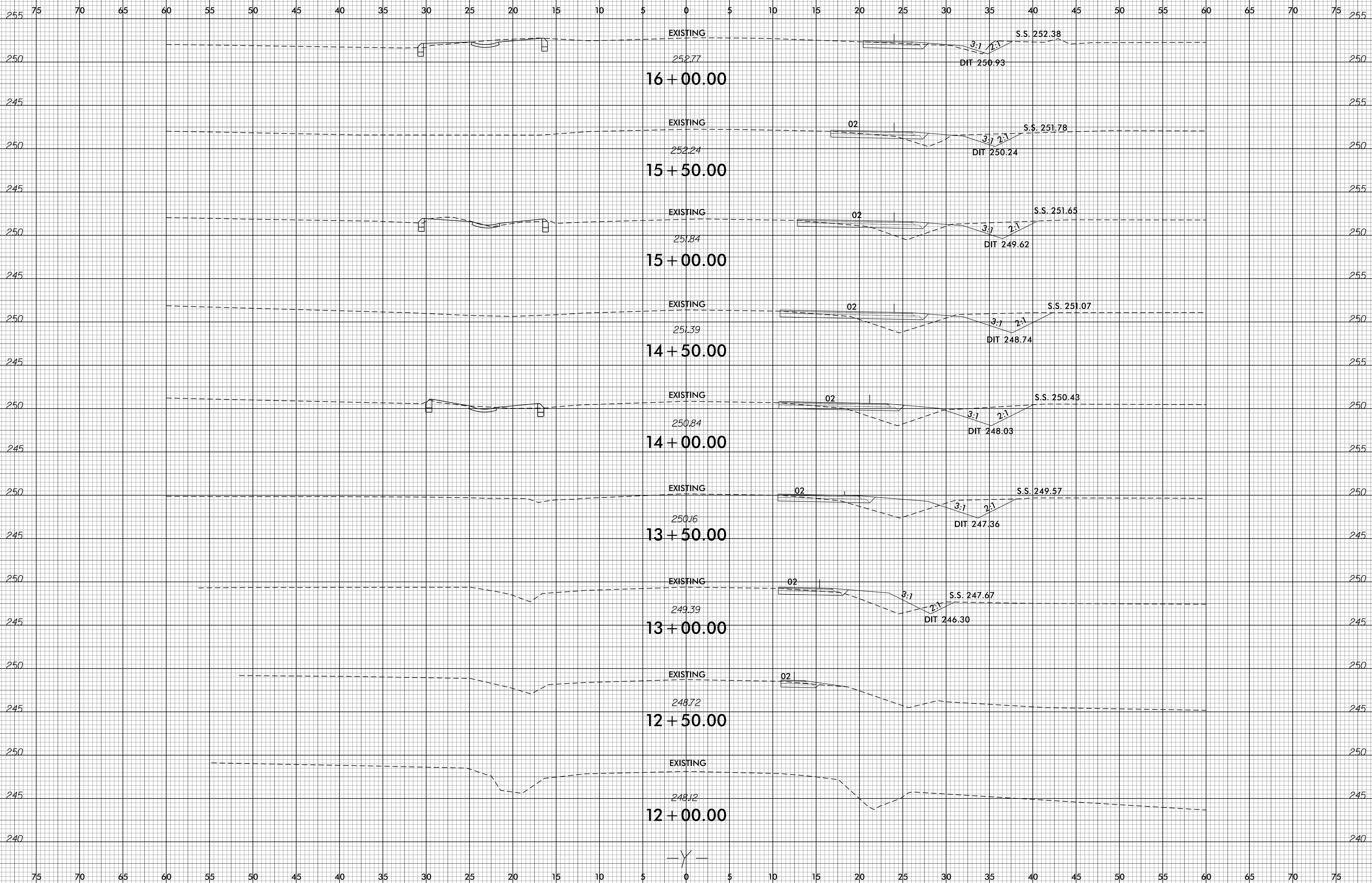




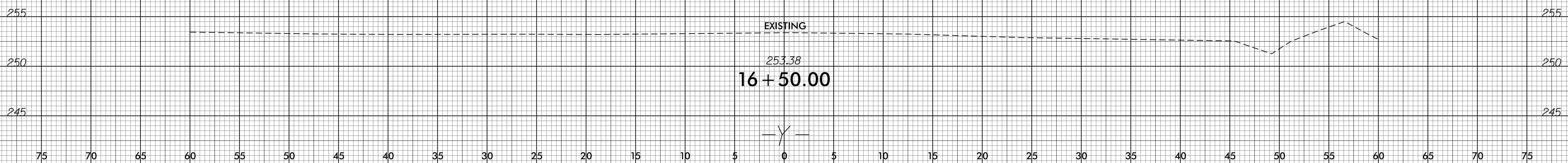


75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75





75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

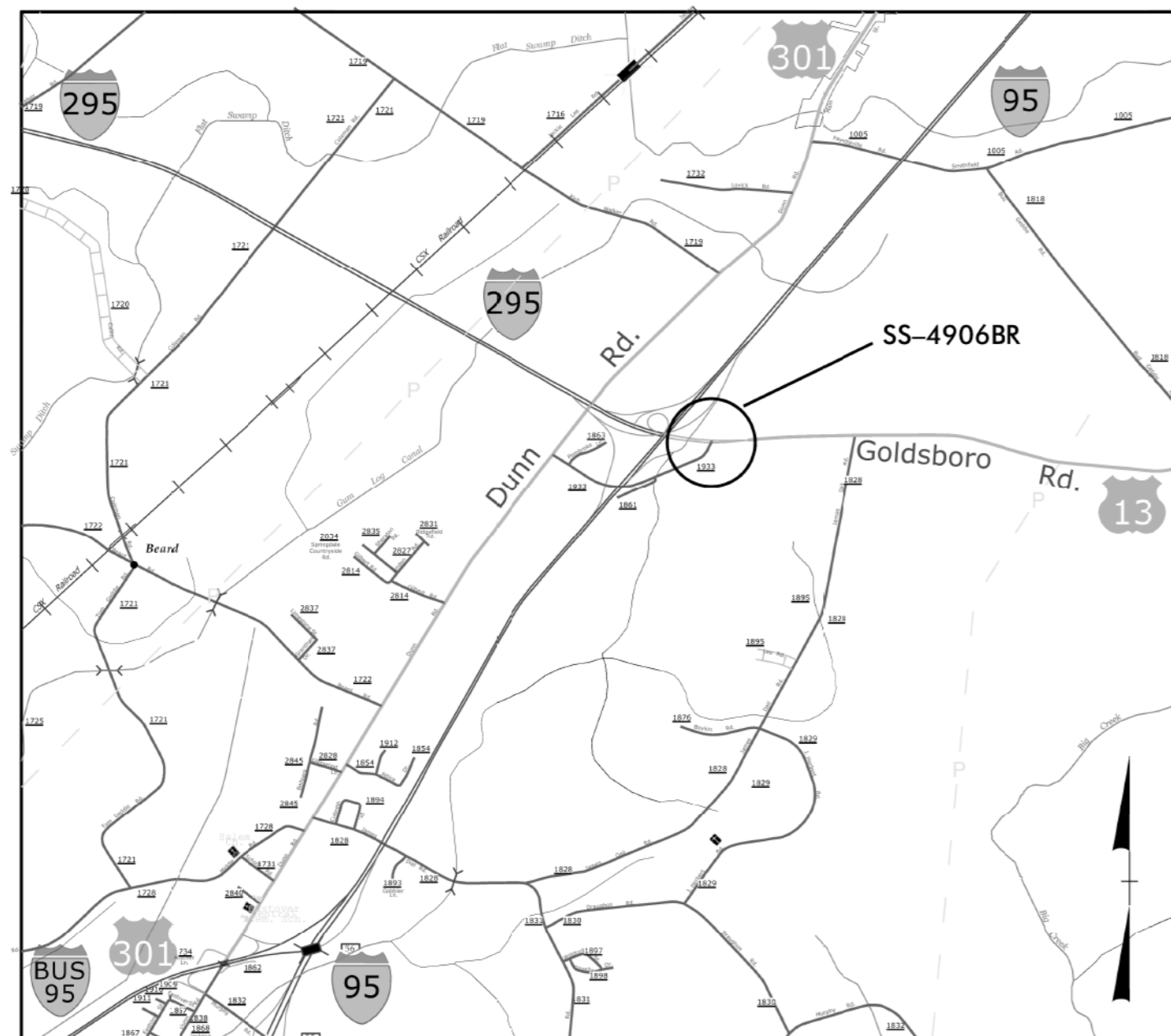


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TIP PROJECT: SS-4906BR

43699.3.1

WBS:



VICINITY MAP

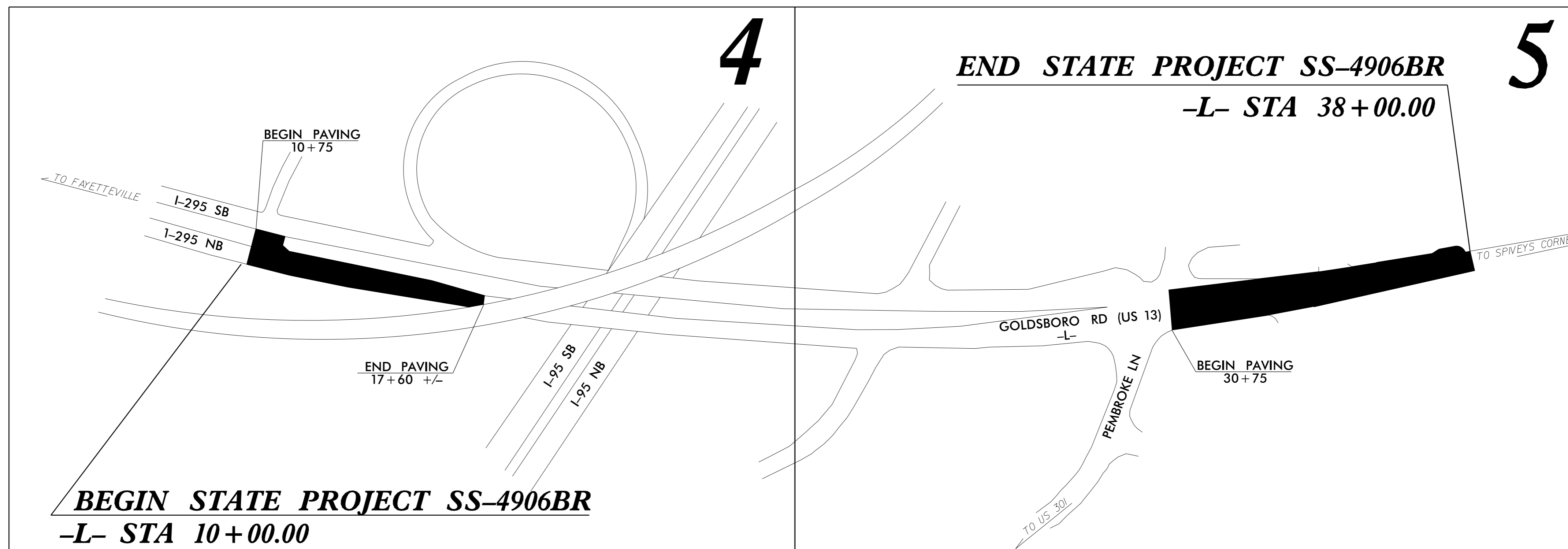
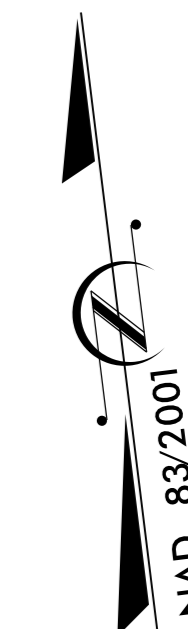
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

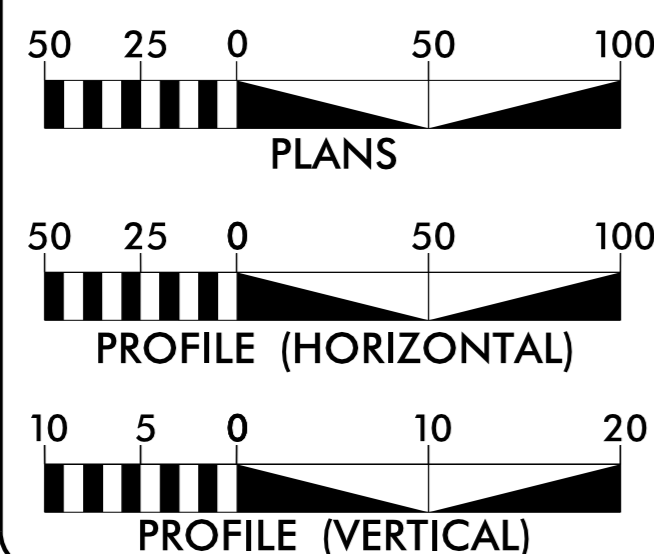
LOCATION: US 13 (GOLDSBORO ROAD) AT I-95 NORTHBOUND RAMPS, SOUTHBOUND RAMPS, AND US 13 MERGE

TYPE OF WORK: GRADING, PAVING, CONCRETE ISLAND, AND PAVEMENT MARKINGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	SS-4906BR	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
43699.1.1	HSIP-0295(2)	P.E.	
43699.2.1		ROW	
43699.3.1		CONSTR	



GRAPHIC SCALES



DESIGN DATA

ADT 8000 = 2012
ADT 14500 = 2032
V = 60 MPH

PROJECT LENGTH

TOTAL PROJECT LENGTH 0.530mi

Prepared in the Office of:
DIVISION OF HIGHWAYS
431 Transportation Dr., Fayetteville NC, 28301

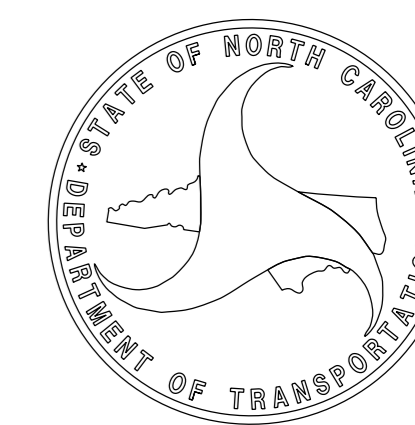
2012 STANDARD SPECIFICATIONS

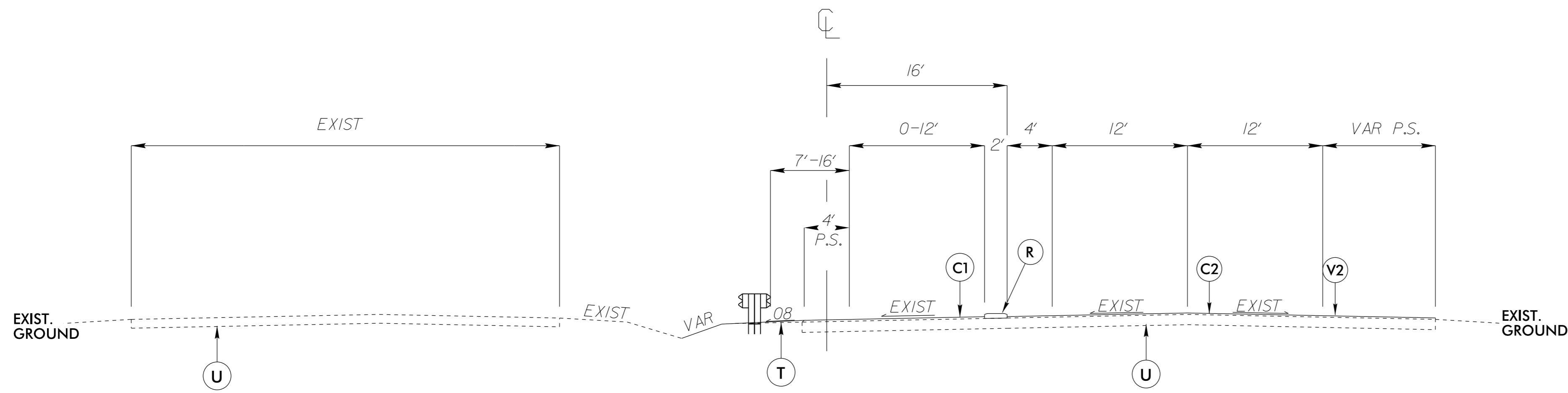
RIGHT OF WAY DATE:
NA

LETTING DATE:
APRIL 15, 2015

SEAN MATUSZEWSKI
PROJECT ENGINEER

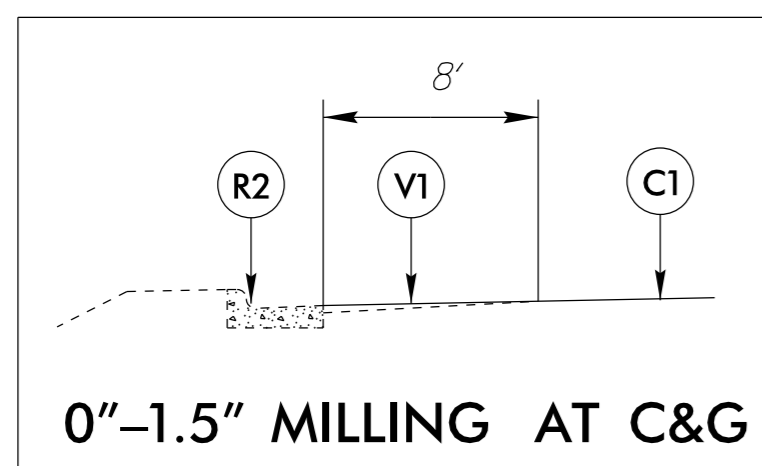
NEIL BUTLER
PROJECT DESIGN ENGINEER



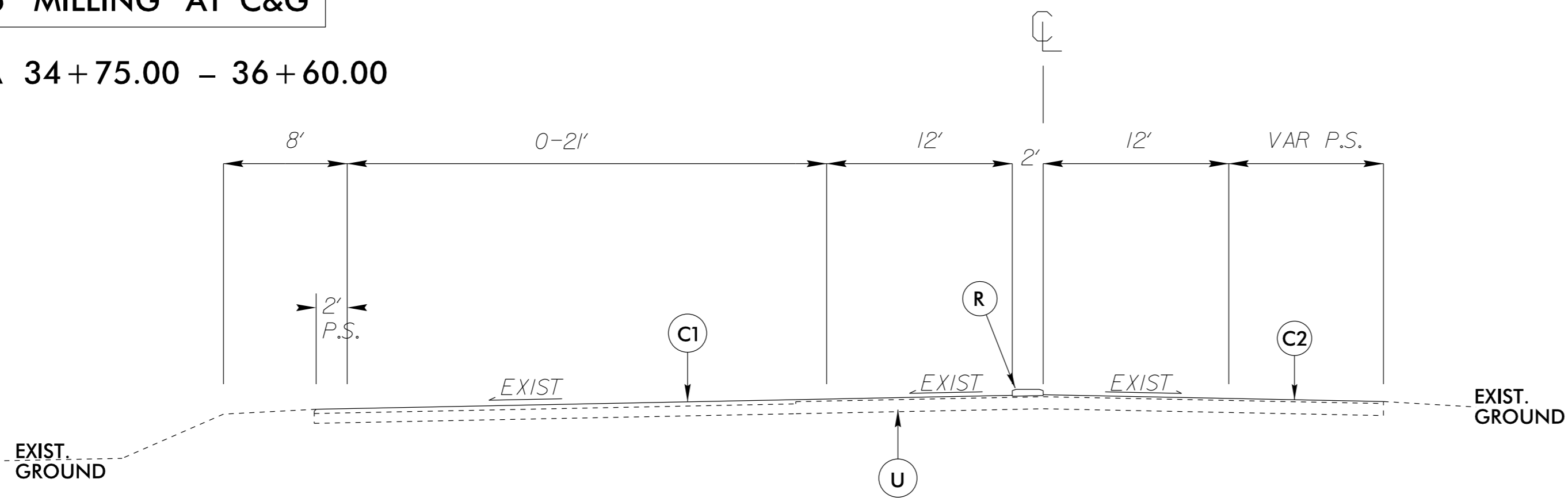


TYPICAL SECTION NO. 1

-L- STA 10+75.00 - 17+60.00



-L- STA 34+75.00 - 36+60.00



TYPICAL SECTION NO. 2

-L- STA 30+75.00 - 38+00.00

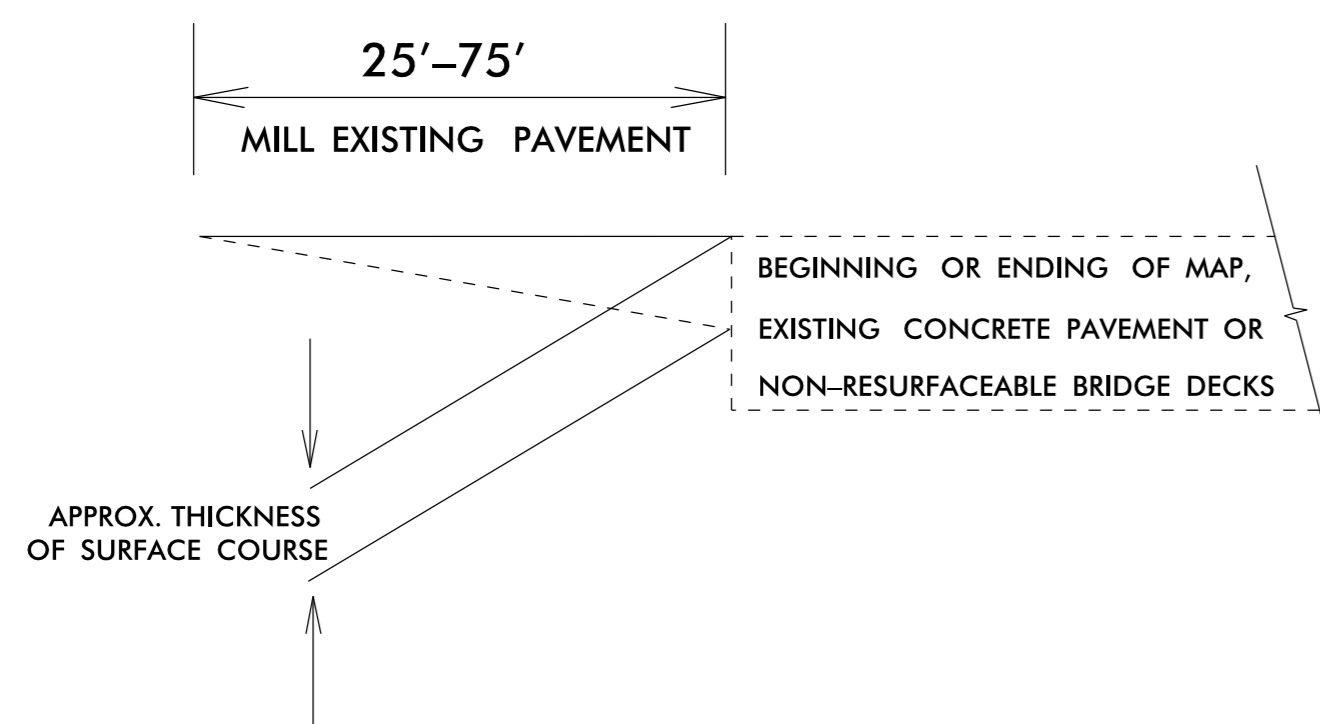
MILLING AT PAVEMENT TIE-INS

NOTES TO CONTRACTOR

For surface mixes over 1" in thickness, mill the existing pavement in accordance with the following sketch as directed by the Engineer.

Locations shall include ties into existing concrete pavement, at bridge approaches where the bridge will not be resurfaced, and at the beginning and ending point of each resurfacing map.

Perform the work in accordance with Section 607 of the January 2012 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.



C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
R1	5" KEYED IN MONOLITHIC CONCRETE ISLAND. (STD 852.01)
R2	EXISTING CURB AND GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	0" - 1½" MILLING (AT EXISTING CURB & GUTTER SECTION)
V2	MILLED RUMBLE STRIPS (STD 665.01)

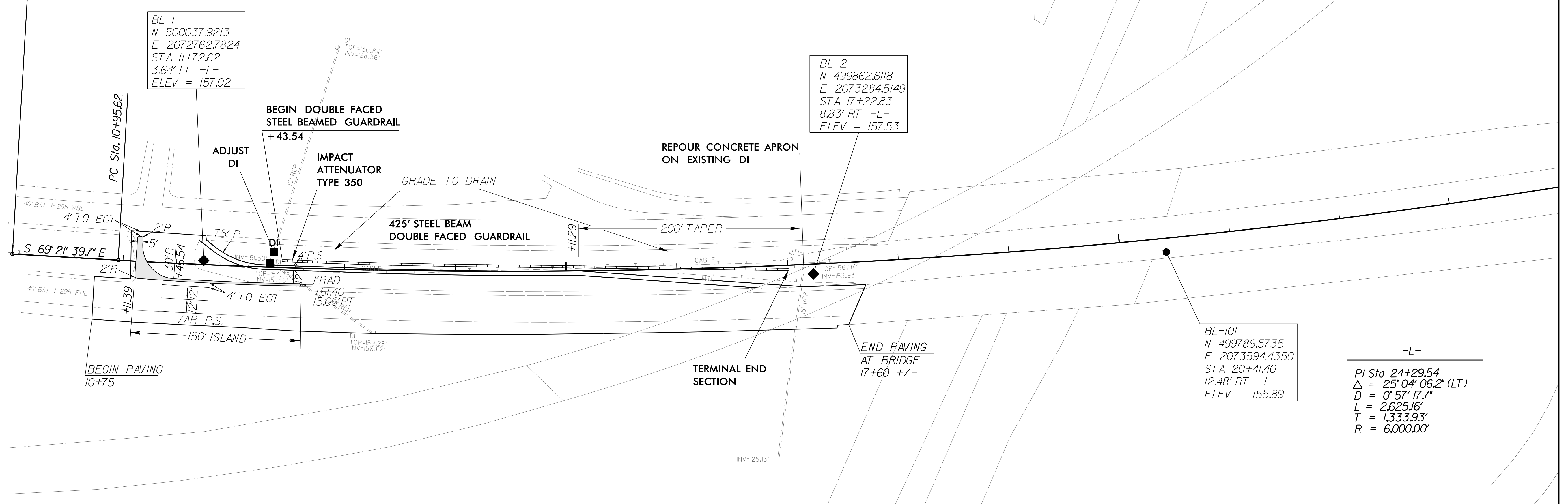
PROJECT NOTES

1. The Contractor shall not work on both sides of the road simultaneously within the same area.
2. Ingress and egress shall be maintained to all businesses and dwellings on the project.
3. At the end of each workday, the Contractor shall be required to backfill any area adjacent to existing travelway that has been graded leaving no more than a 1½" drop-off.
4. A minimum of two-way, two-lane traffic (plus all existing left and right turn lanes) shall be maintained during periods of construction inactivity.
5. The Contractor shall not be allowed to stop traffic for more than 5 minutes at a time in any one direction.
6. During periods of construction inactivity, the difference in elevation between lanes shall not exceed 1-1/2 inch.
7. Access to police and fire station, fire hydrants, and hospitals shall be maintained at all times.
8. During periods of construction inactivity, place cones/drums 3' from existing edge of pavement (travelway) as directed by the Engineer.
9. Channelizing devices in work areas shall be spaced not greater than 50' on center in tangent areas, 45' on center in tapers, and 10' on center in radii, and shall be set 3' off the edge of travelway, unless otherwise indicated on plans.
10. Contractor to install Erosion Control devices as directed by the Engineer.
11. Contractor shall coordinate with the Division Six Traffic Services Unit (910-486-1452) for placement of all pavement markings and signs.

18-MAR-2015 08:40 Files\Projects\Let\Cumber-land County\SS-4906BR I-295 at I-95 and US 13-Cumber-land Co\Rel\Roadway\proJ\SS4906BR_Rdy_typ.dgn 6/2/99

100' SASS 2007
NAD 83

BEGIN STATE PROJECT SS-4906BR
-L- STA 10+00.00



DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "SS4906BR GPS-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 499695.5450(±) EASTING: 2074383.5500(±) ELEVATION: 135.821(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998734260 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "SS4906BR GPS-2" TO -L- STATION 10+00.00 IS N 77°22'51.10" E 1827.88 ft ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

-L-
 PI Sta 24+29.54
 $\Delta = 25^{\circ} 04' 06.2" (LT)$
 $D = 0^{\circ} 57' 17.7"$
 $L = 2,625.16'$
 $T = 1,333.93'$
 $R = 6,000.00'$

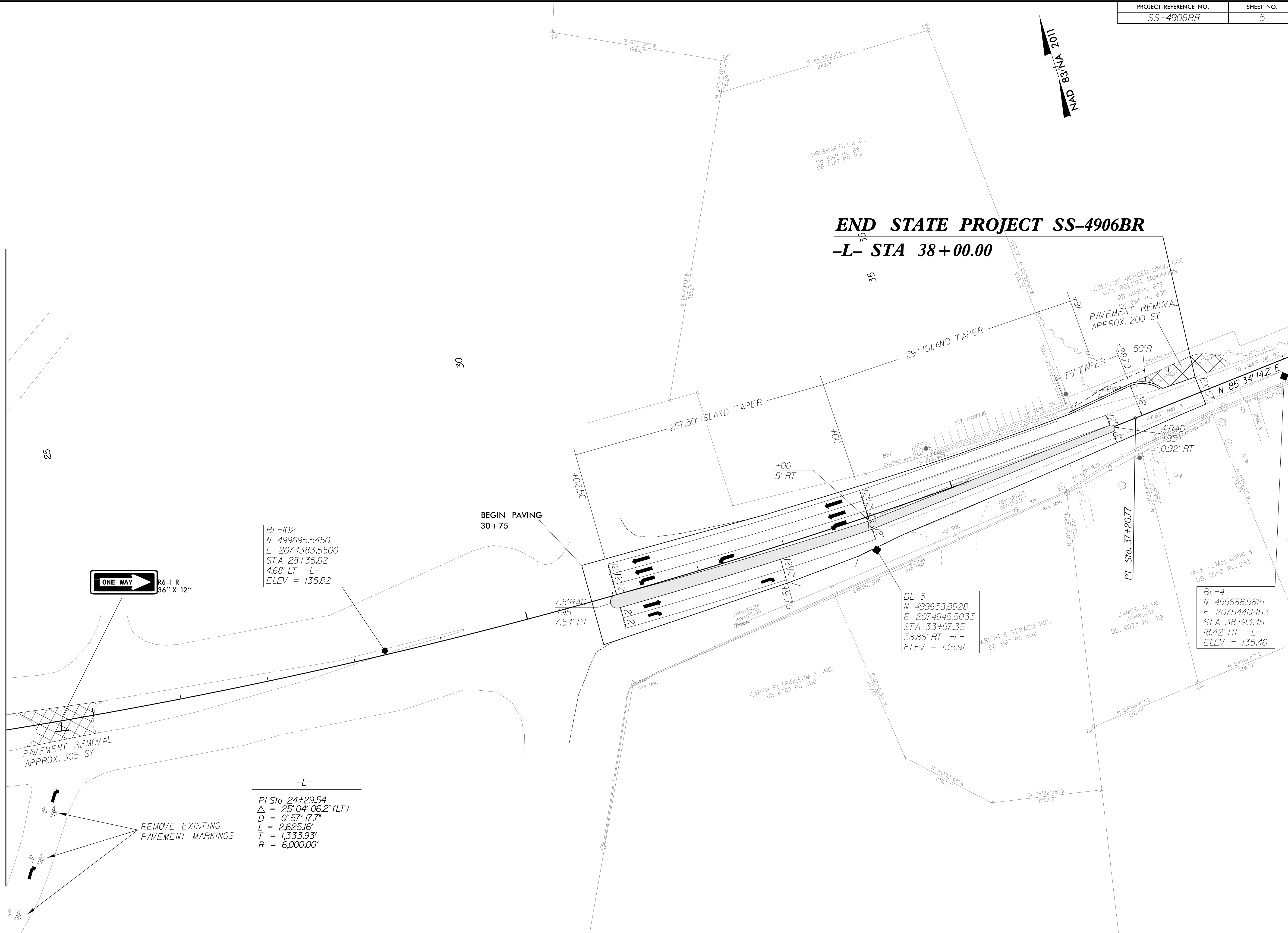
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 REVISIONS
 8/17/19

MATCHLINE -L- STATION 24+00 SHEET 5

END STATE PROJECT SS-4906BR
-L- STA 38+00.00

MATCHLINE -L- STATION 24+00 SHEET 4

18-MAR-2015 10:51 AM C:\Users\p_jones\Documents\Projects\SS-4906BR\County\SS-4906BR\Roadway\proj\SS4906BR_Rdy_psh_5.dgn
 REVISIONS



ONE WAY → R6-1 R 36" X 12"

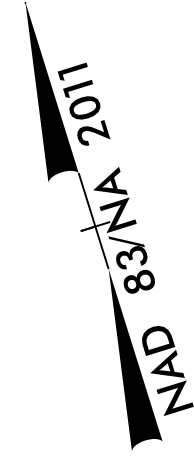
BL-102
 N 499695.5450
 E 2074383.5500
 STA 28+35.62
 4.68' LT -L-
 ELEV = 135.82

BL-3
 N 499638.8928
 E 2074945.5033
 STA 33+97.35
 38.86' RT -L-
 ELEV = 135.91

BL-4
 N 499688.9821
 E 2075441.1453
 STA 38+93.45
 18.42' RT -L-
 ELEV = 135.46

-L-
 PI Sta 24+29.54
 $\Delta = 25^{\circ}04'06.2"$ (LT)
 D = 0'57'17.7"
 L = 2,625.16'
 T = 1,333.93'
 R = 6,000.00'

REMOVE EXISTING PAVEMENT MARKINGS



30

25

35

BEGIN PAVING 30+75

PT Sta. 37+20.77

EARTH PETROLEUM V. INC.
 DB 8788 PG 200

JAMES ALAN JOHNSON
 DB. 4074 PG. 519

JACK G. McLAURIN &
 CO. DB. 3680 PG. 233

WRIGHT'S TEXACO INC.
 DB 5167 PG 502

SHRI SHAKTI, L.L.C.
 DB 5149 PG 88
 DB 6017 PG 291

CORP. OF MERCER UNIV. GOD
 C/O ROBERT MCKINNON
 DB 6051 PG 672
 DB 2915 PG 600
 PAVEMENT REMOVAL
 APPROX. 200 SY

PAVEMENT REMOVAL
 APPROX. 305 SY

