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PROJECT: 80047

CONTRACT: DN00682

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	80047	1	

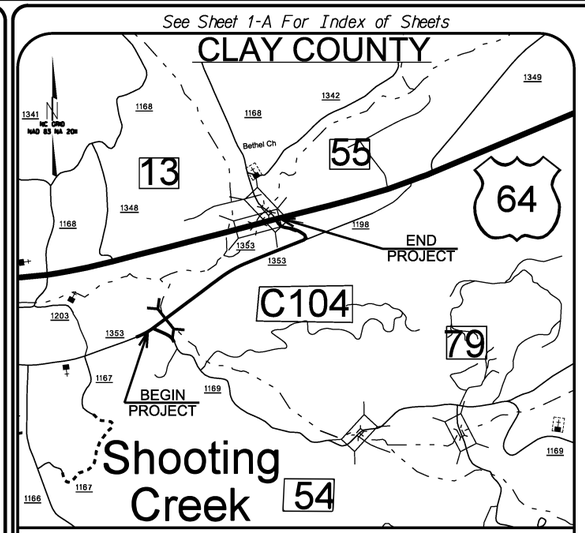
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
80047		CONSTRUCTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

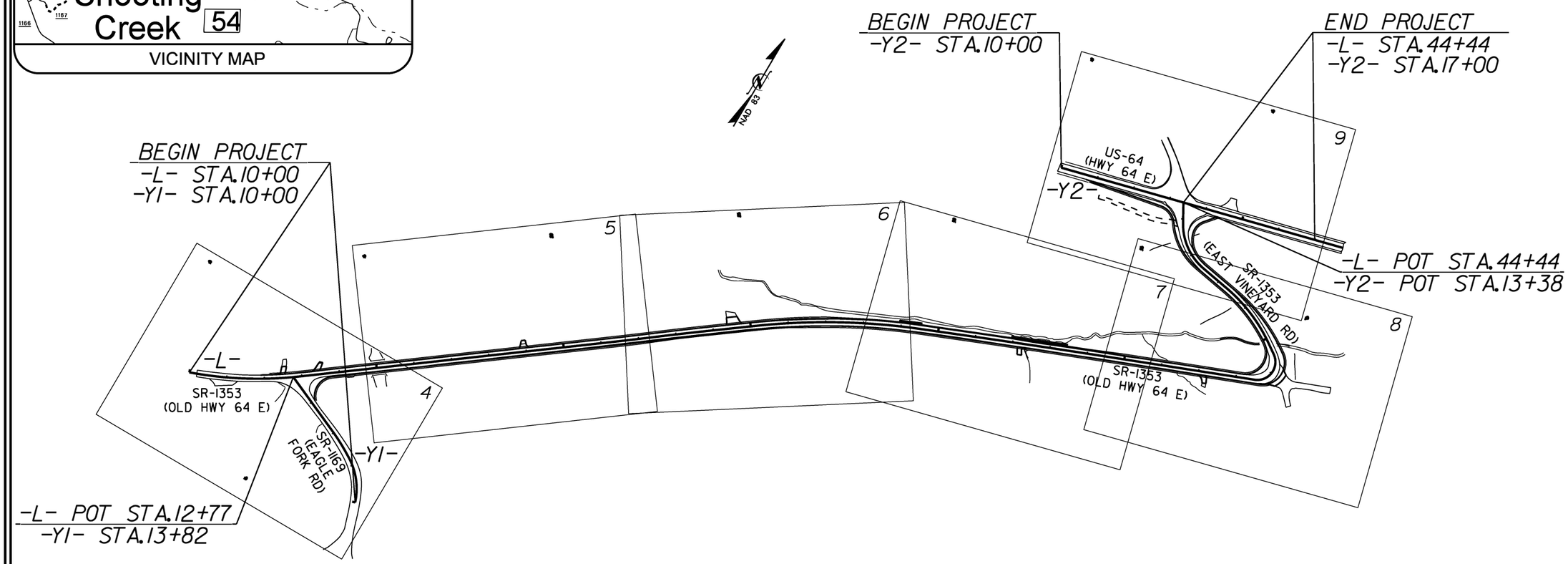
CLAY COUNTY

LOCATION: BEGINNING AT INTERSECTION OF SR-1353 AND SR-1169 AND ENDING AT INTERSECTION OF SR-1353 AND US-64

TYPE OF WORK: GRADING, DRAINAGE, PAVING, GABION BASKET WALL, GUARDRAIL



VICINITY MAP



GRAPHIC SCALES

25 12.5 0 25 50
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

5 2.5 0 5 10
PROFILE (VERTICAL)

PROJECT LENGTH

0.83 MILES

Prepared In the Office of:

DIVISION OF HIGHWAYS

191 Robbinsville Rd., Andrews NC, 28901

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: 07/2020

LETTING DATE: 05/11/2021

ANDY RUSSELL P.E.
PROJECT ENGINEER

ANDY RUSSELL P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037962 ENGINEER JESSE A. RUSSELL

P.E.

SIGNATURE:

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037962 ENGINEER JESSE A. RUSSELL

P.E.

SIGNATURE:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
80047	1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS

1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS
1B	CONVENTIONAL SYMBOLS
RW01-RW04	ROW CONTROL SHEETS
2A	TYPICAL SECTIONS
2C	DETAIL OF GUARDRAIL ANCHOR UNIT
3B	ROADWAY SUMMARY SHEET
3D	DRAINAGE SUMMARY SHEET
4-13	PLAN SHEETS
PMP1-PMP7	PAVEMENT MARKING PLAN
EC1-EC9	EROSION CONTROL SHEETS
X1-X23	CROSS SECTIONS

GENERAL NOTES

GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018

1 CARE SHALL BE TAKEN TO PREVENT DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION. ANY DAMAGE TO THESE UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

2 THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY.

3 DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

4 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.

5 NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITY OWNERS:
- BLUE RIDGE MOUNTAIN EMC
DAN FRIZZELL 706-835-5265
- FRONTIER COMMUNICATIONS
JERRY FISHER 828-507-1681

LIST OF ROADWAY STANDARDS

2018 ROADWAY 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 16, 2018 and the latest revision thereto 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
DIVISION 8 - INCIDENTALS	
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.36	Traffic Bearing Grated Drop Inlet
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
866.04	Barbed Wire Fence - with Wood Posts (2 - 7 Strands)
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
DIVISION 11 - WORK ZONE TRAFFIC CONTROL	
1101.01	Work Zone Advance Warning Signs
1110.01	Stationary Work Zone Signs
1101.11	Traffic Control Design Tables

PROJECT REFERENCE NO.	SHEET NO.
80047	1B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- 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 — 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 — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — 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 C/A 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 — S
- Storm Sewer — S

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- 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

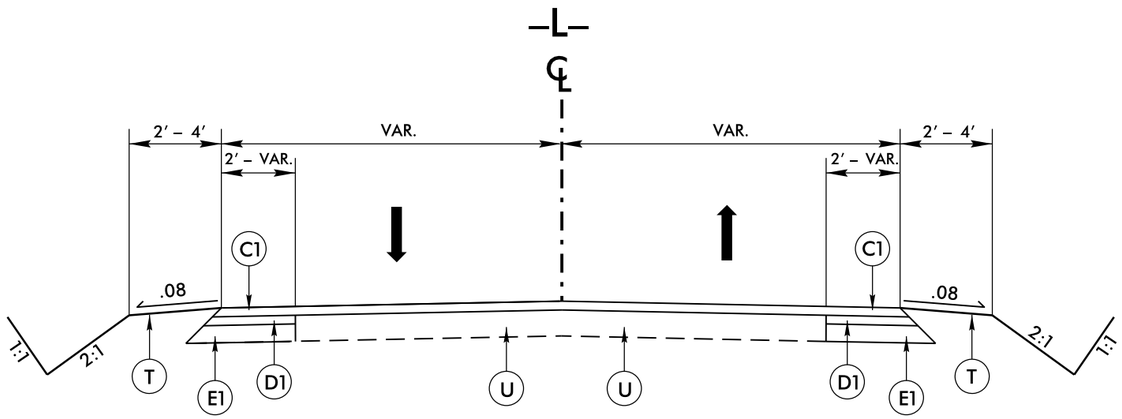
SANITARY SEWER:

- 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 — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
80047	2A



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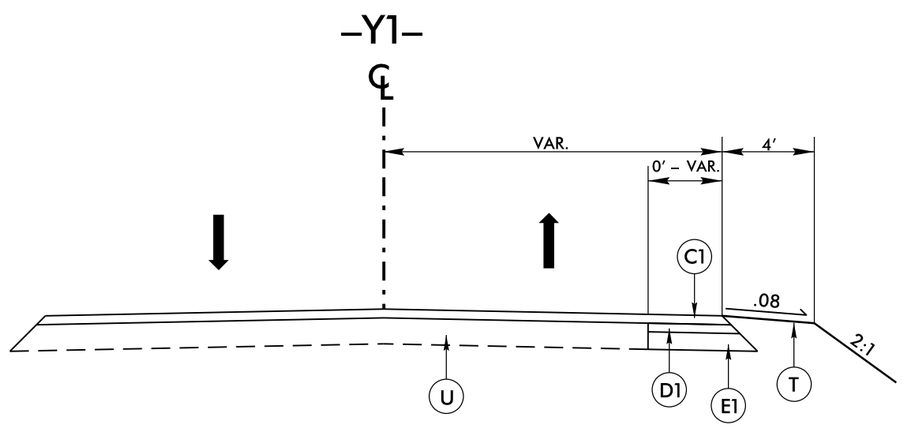

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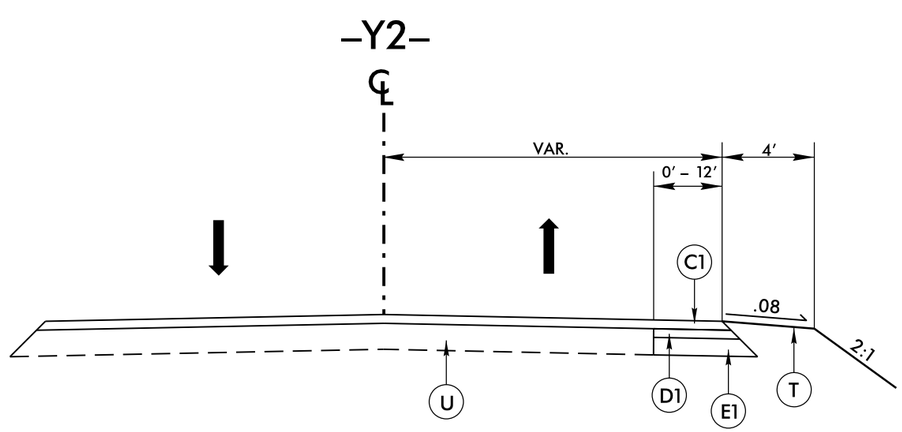


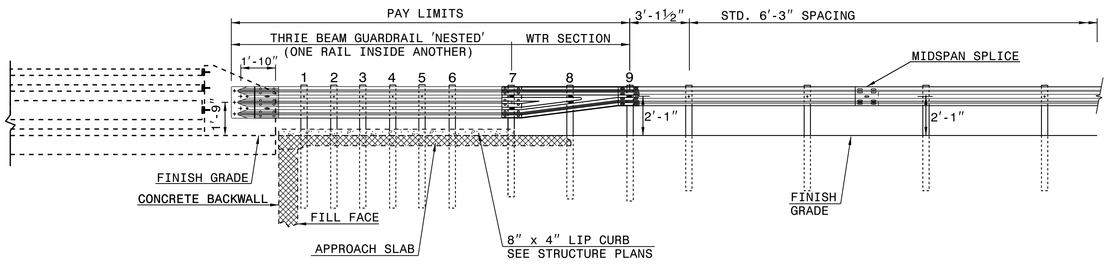
TYPICAL SECTION NO. 3

SURFACING SCHEDULE

ITEM NO.	DESCRIPTION
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.OC, AT AN AVERAGE RATE OF 342 LBS. PER SQ YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.OC, AT AN AVERAGE RATE OF 456 LBS. PER SQ YD.
T	SHOULDER RECONSTRUCTION
U	EXISTING ASPHALT

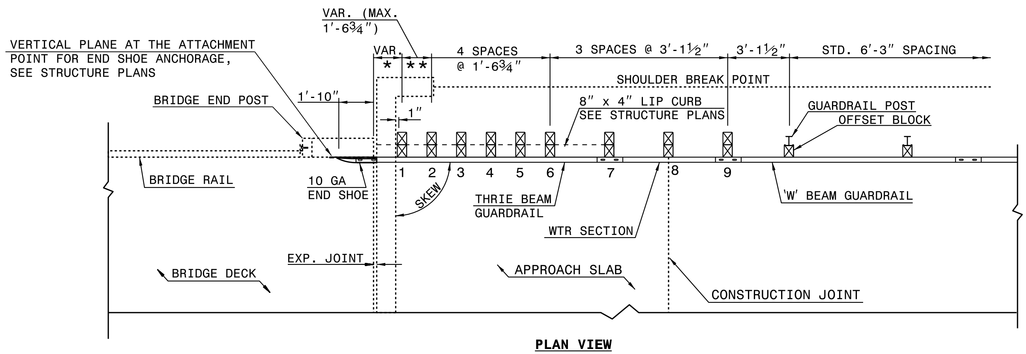
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III
FOR ATTACHMENT TO RAIL ON BRIDGE



ELEVATION

NOTE:
**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
-SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
-SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE

SHEET 1 OF 7
862D03

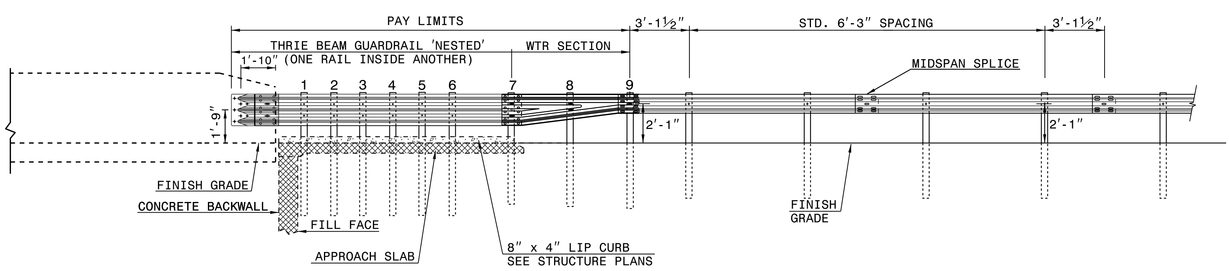
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III
FOR ATTACHMENT TO RAIL ON BRIDGE

SHEET 1 OF 7
862D03

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

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER



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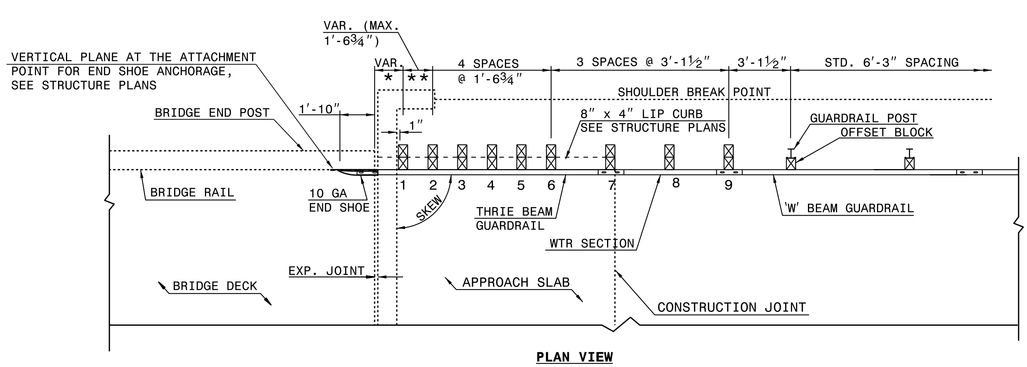

PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862D03

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

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862D03

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022966 JAMES S. HOWERTON

PROJECT REFERENCE NO. 80047
SHEET NO. 2C

PROJECT REFERENCE NO.	SHEET NO.
80047	3B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +15%	BORROW	WASTE
–L– 10+00	–L– 44+00	1000	920	0	80
–Y1– 10+00	–Y1– 44+00	5	12	12	5
–Y2– 10+00	–Y2– 44+00	20	60	55	5
SUBTOTALS:		1025	992	67	90
PROJECT TOTALS:		1025	992	67	90
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				4	
GRAND TOTALS:		1025	992	71	90
SAY:		1030	995	75	95

NOTE:
Approximate quantities only. Unclassified Excavation, Borrow Excavation, Clearing & Grubbing, and Removal & Breakup of existing pavement will be paid at the lump sum price for "Grading."

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

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350	M–350	XIII	CAT–1	VI MOD	BIC	AT–1	EA	G	NG				
–L–	28+88	33+61	LT	575													2													
–Y2–	10+82	11+87	RT	155													1												152.5'	REMOVE, REPLACE 152.5 LF OF EXISTING GUARDRAIL
			SUB–TOTAL	730													ANCHOR DEDUCTIONS													
		ANCHOR DEDUCTIONS		150													3 GRAU 350 @ 50' = 150'													
			TOTAL	580																										

PROJECT REFERENCE NO.	SHEET NO.
80047	3D

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUB–REGIONAL & REGIONAL
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

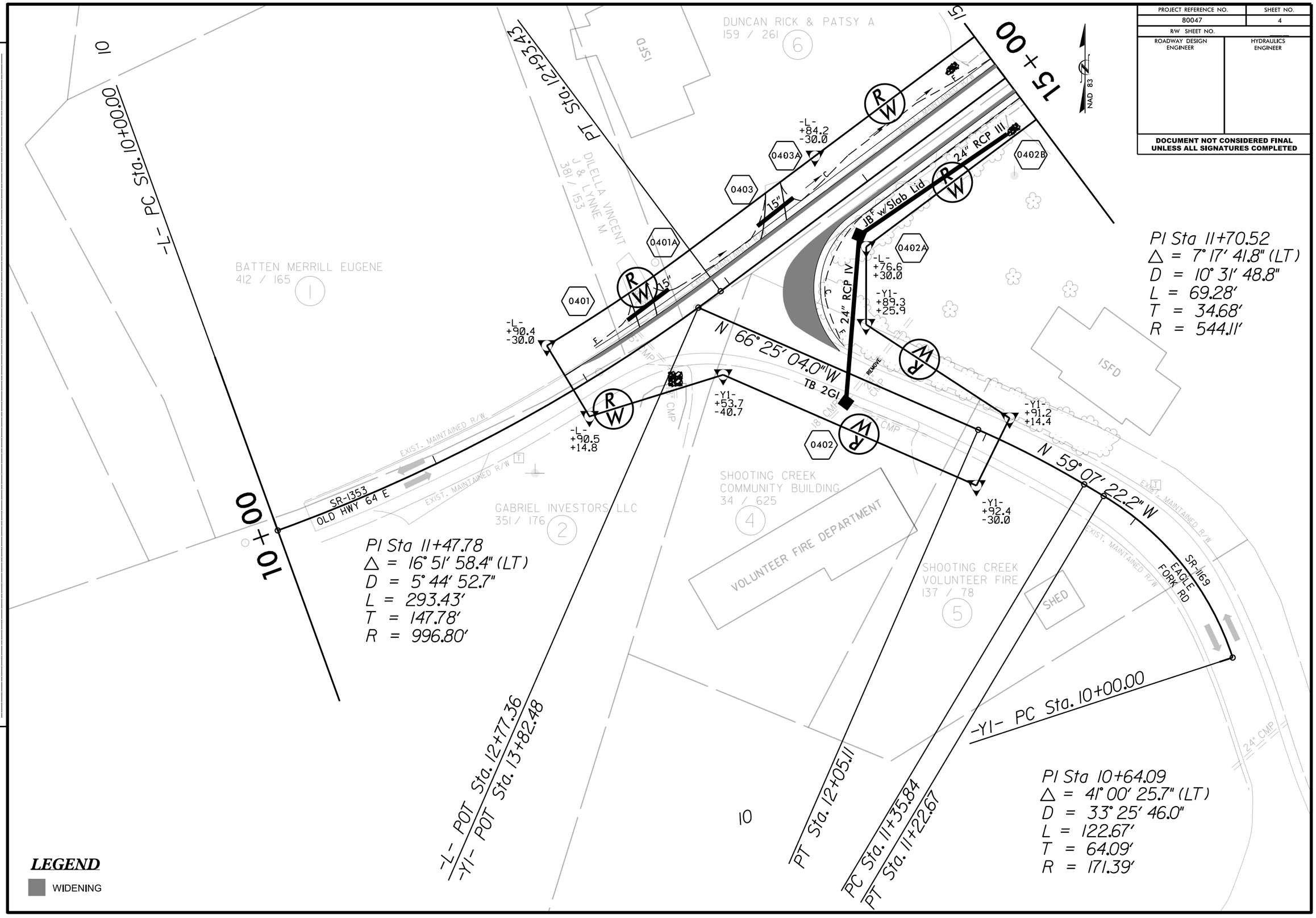
NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300–5".

| STATION | LOCATION (LT, RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE | C.S. PIPE SIZE 12" | 15" | 18" | 24" | 36" | 42" | 48" | R.C. PIPE (CLASS III) SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE (CLASS IV) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | *** R. C. PIPE (CLASS V) | *** R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE | *** R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P. | W.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0') | * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. "A" + (1.3 X COL. "B") LIN. FT. 5.0' THRU 10.0' A | 10.0' AND ABOVE B | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION CATCH BASIN | DROP INLET | D.I. STD. 840.15 OR STD. 840.14 | T.B.D.I FRAME WITH GRATE STD. 840.36 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | CORR. STEEL ELBOWS NO. & SIZE | CONC. COLLARS CL. "B" C.Y. STD 840.72 | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN.FT. | REMARKS |
|---|---|---

PROJECT REFERENCE NO.	SHEET NO.
80047	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
80047	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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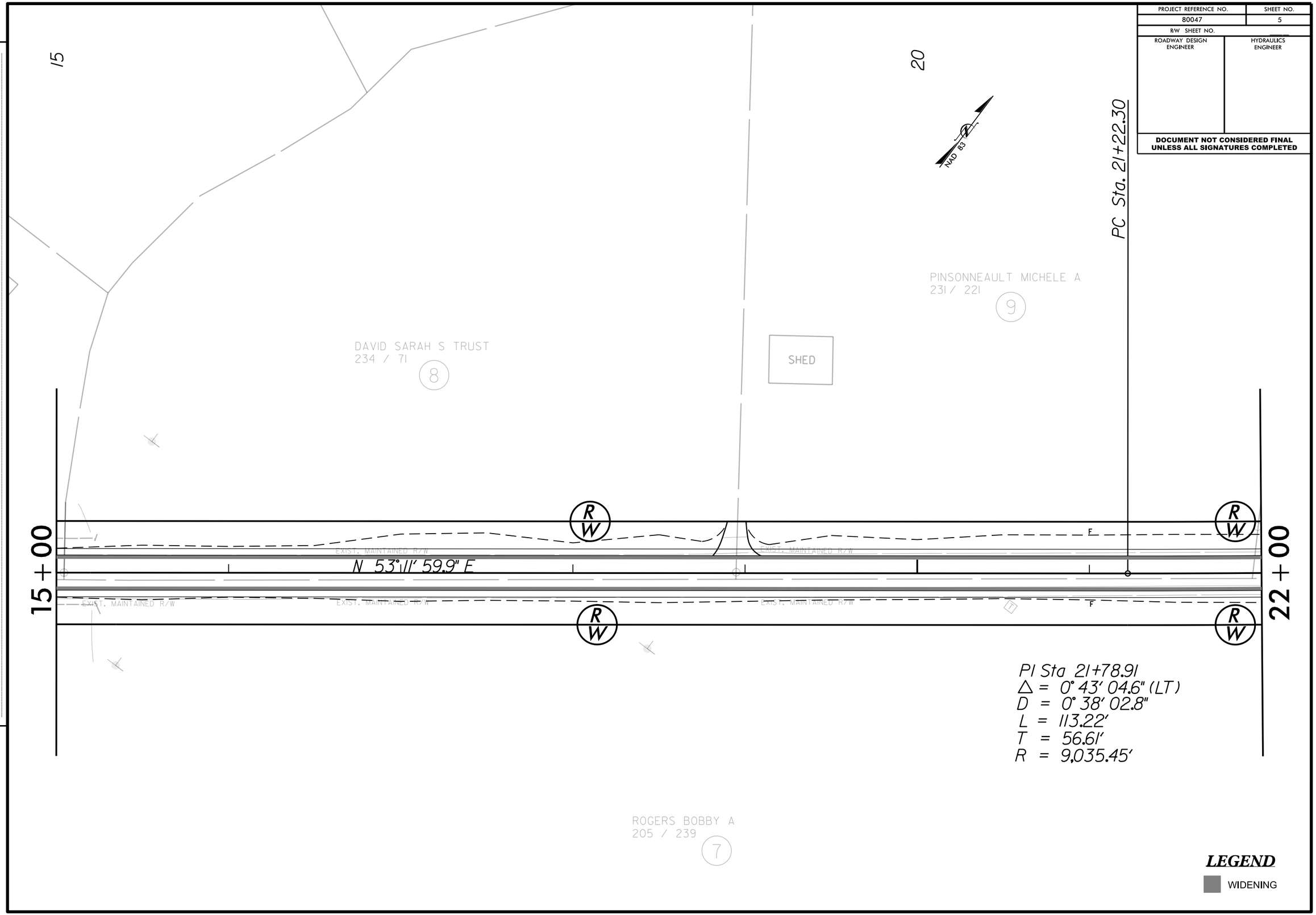
REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
80047	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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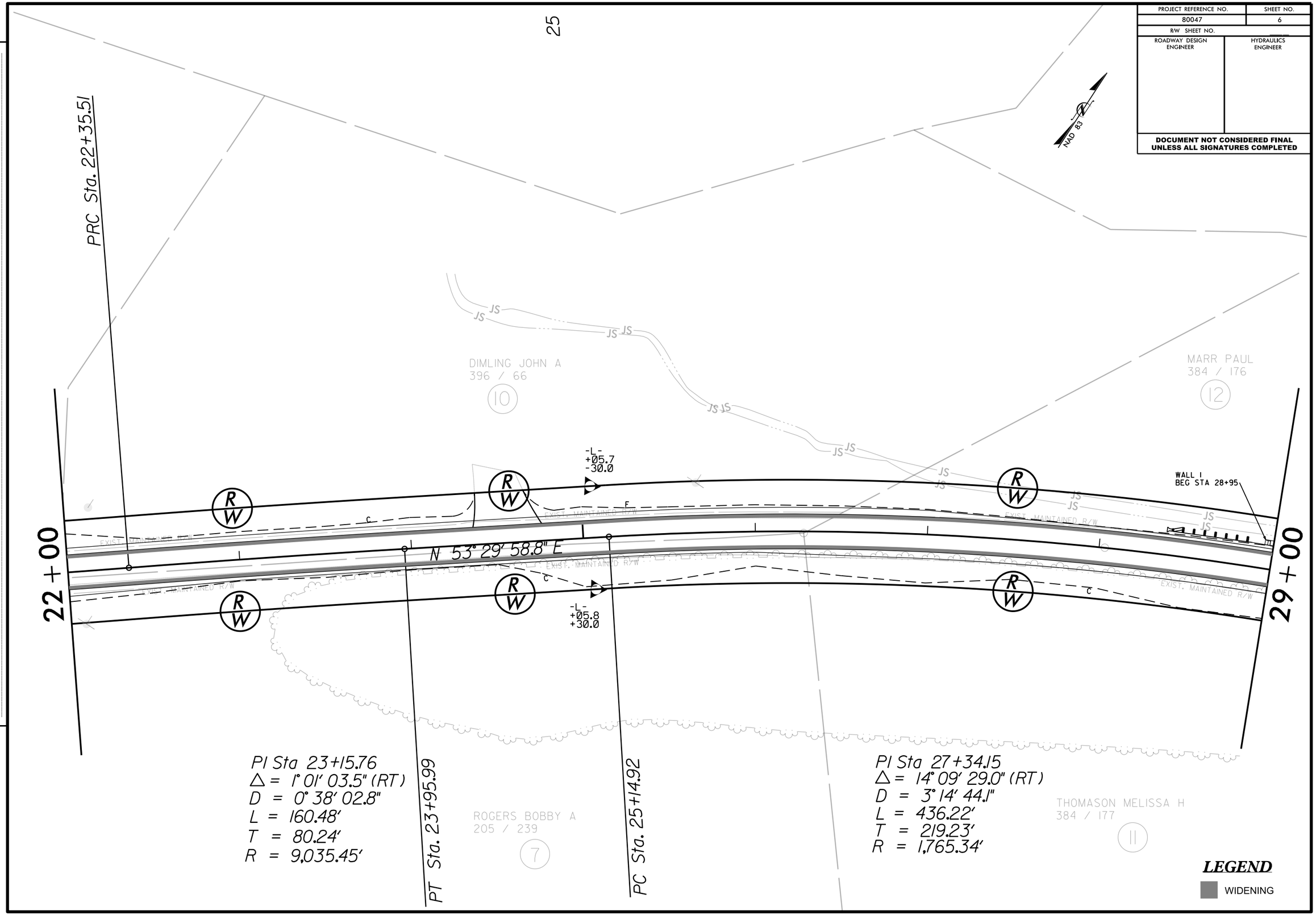
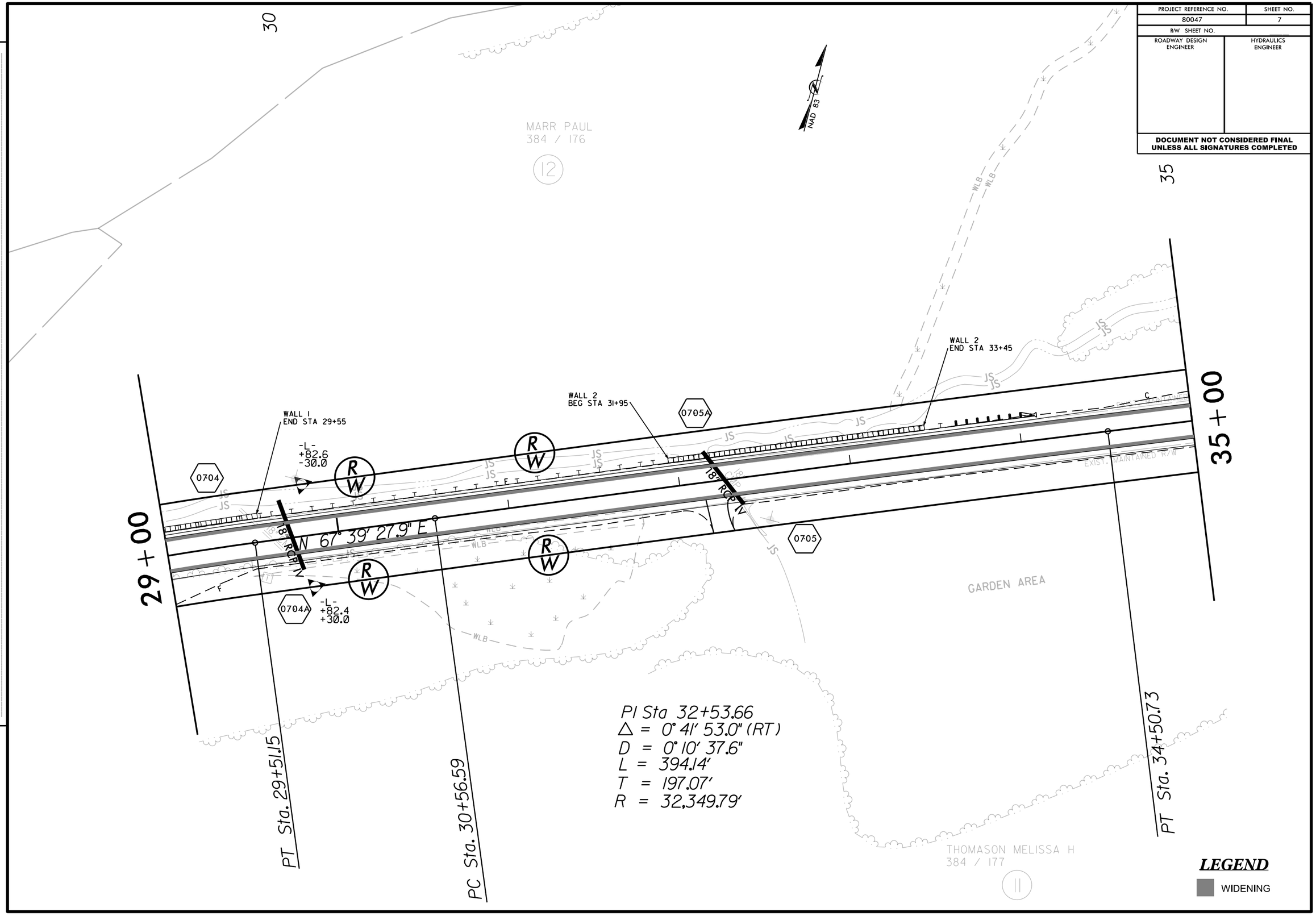
REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
80047	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

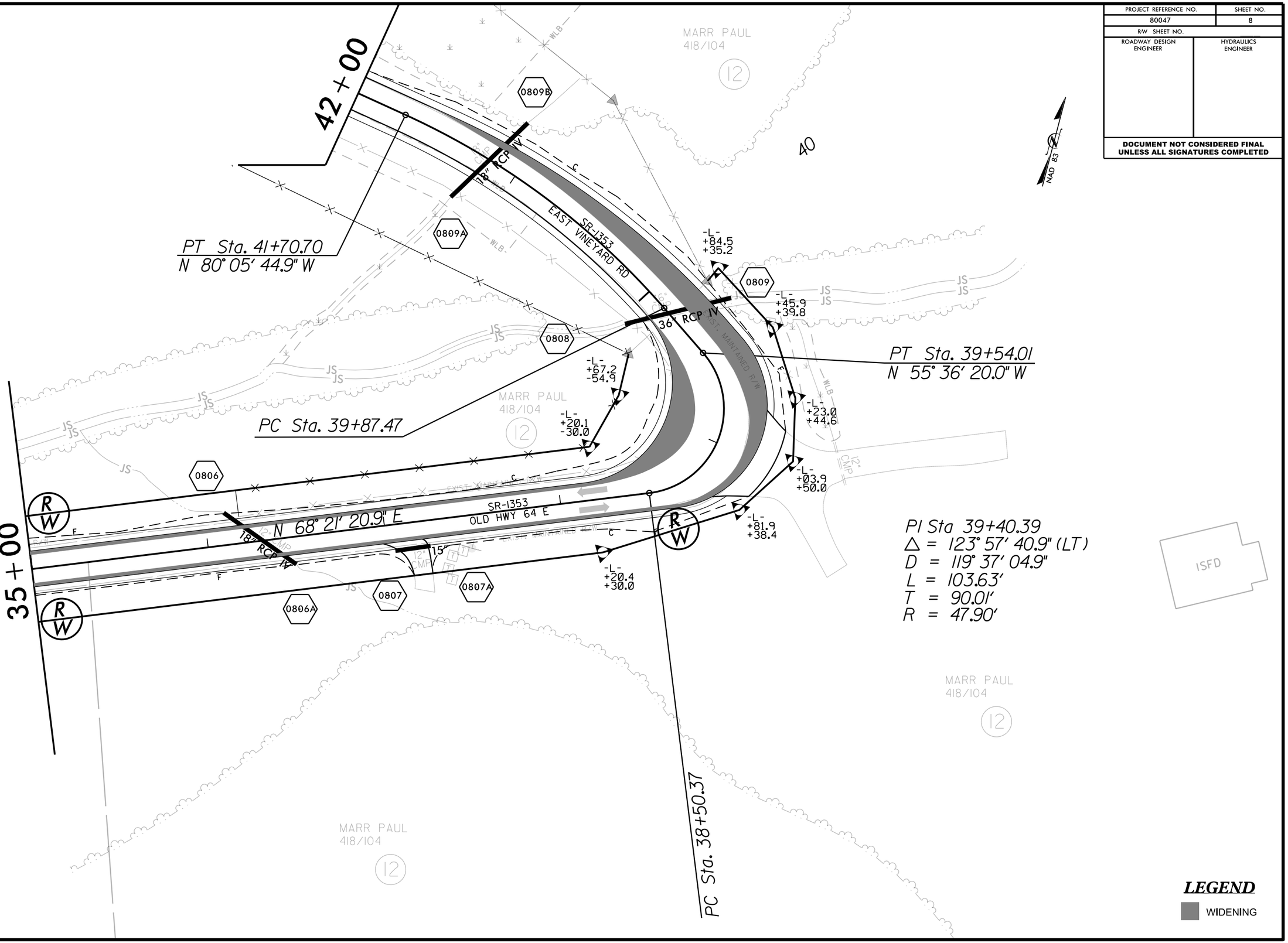
REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
80047	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

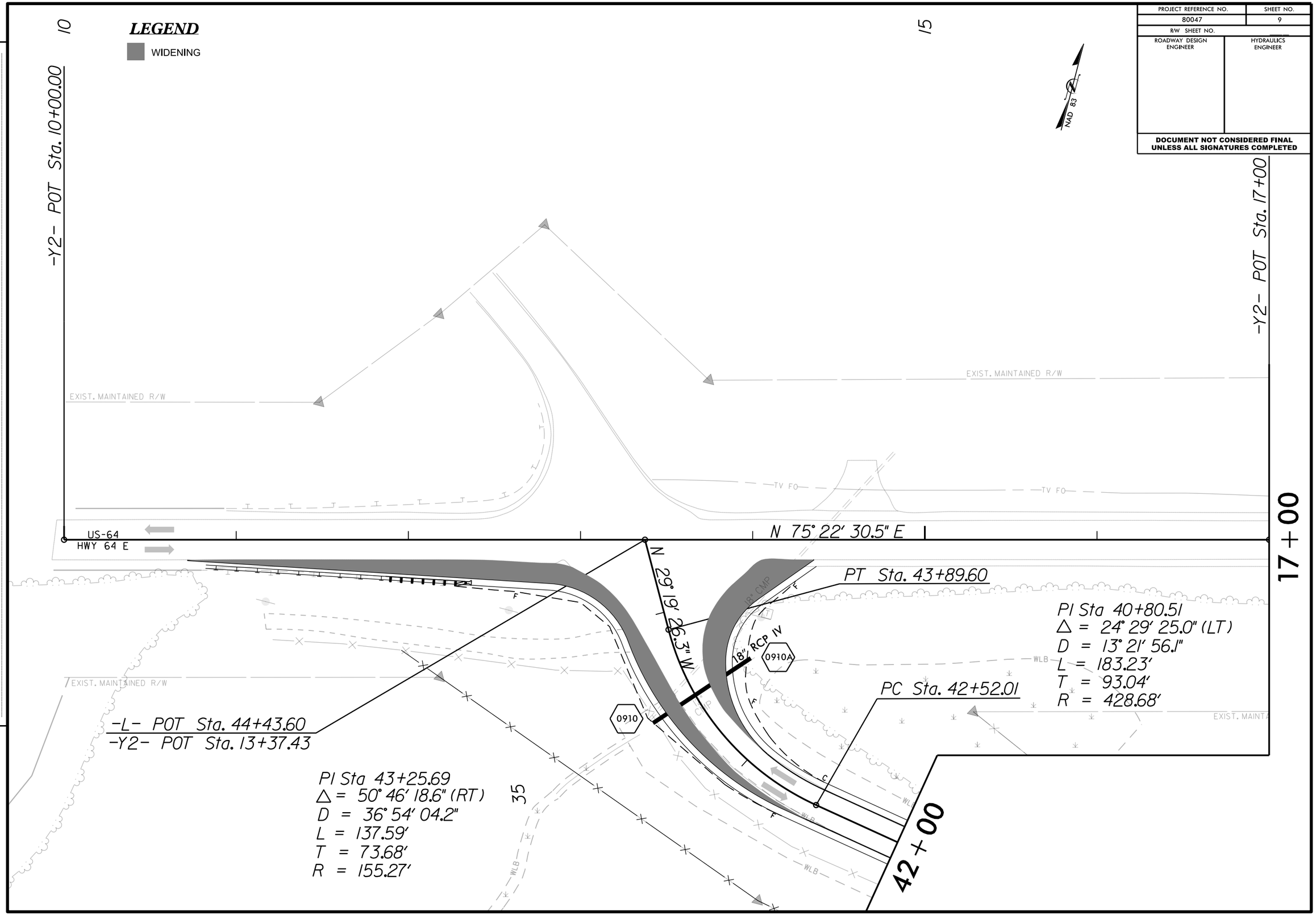
REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
80047	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

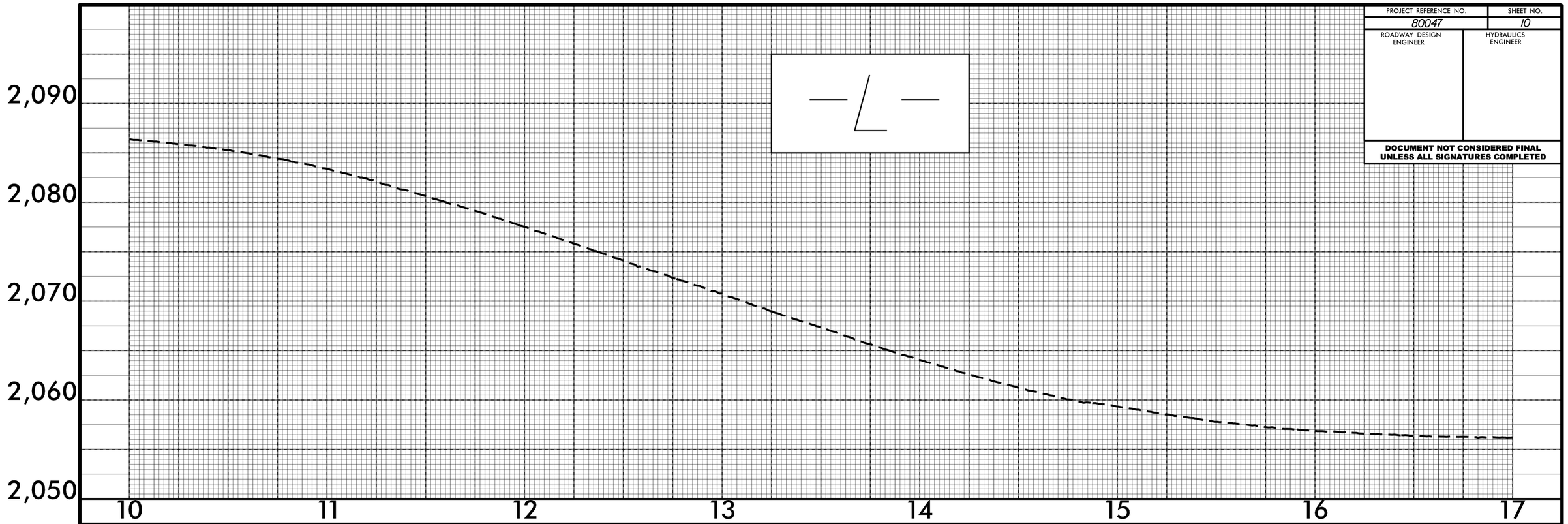
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

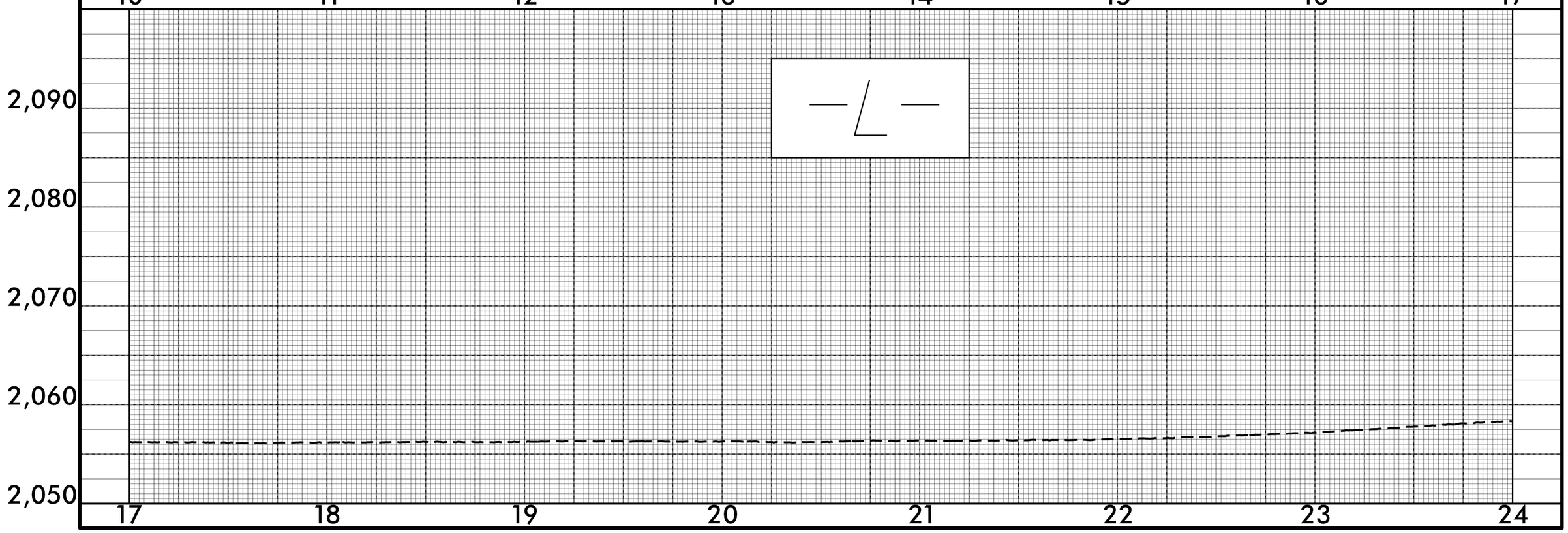
REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
80047	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

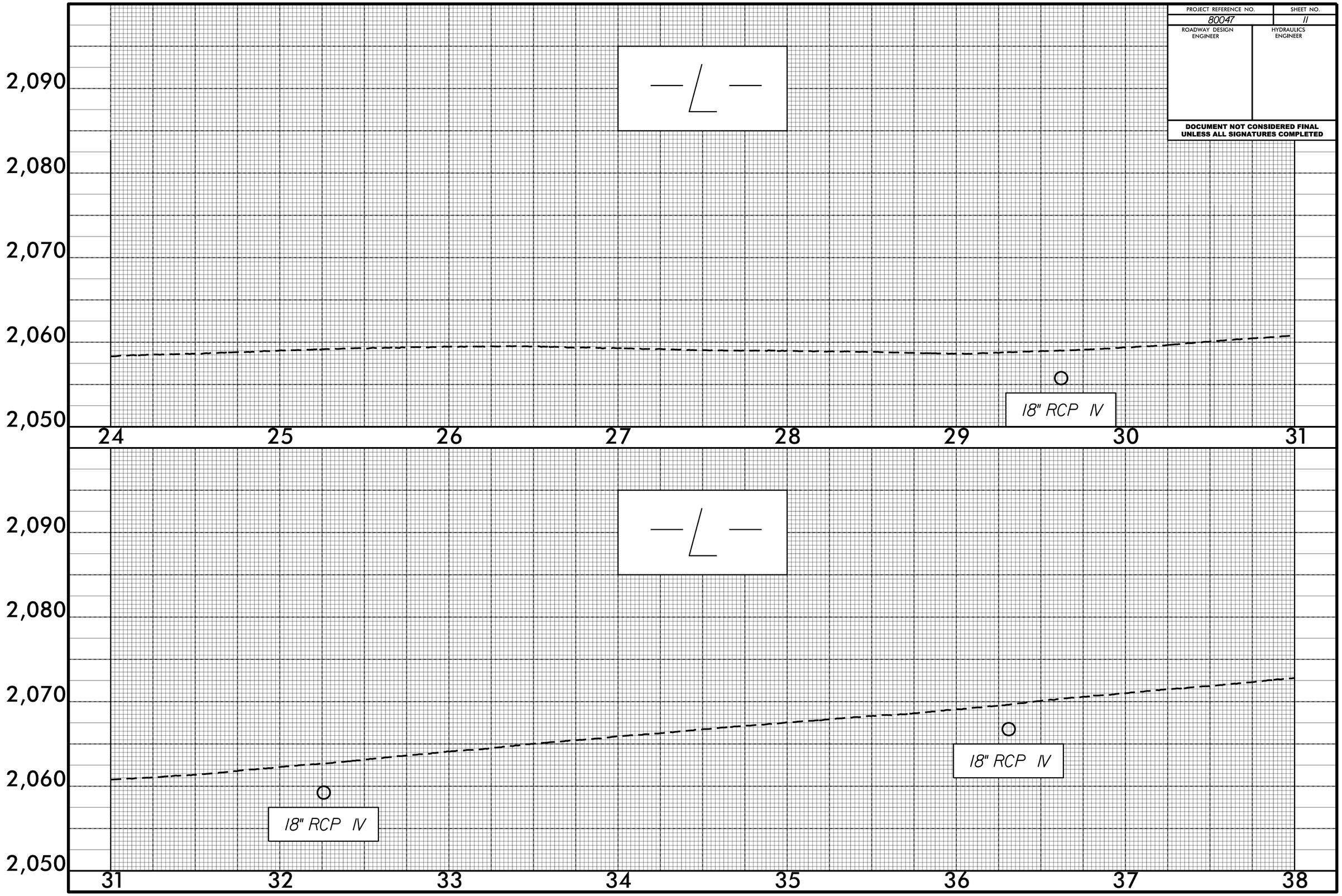
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





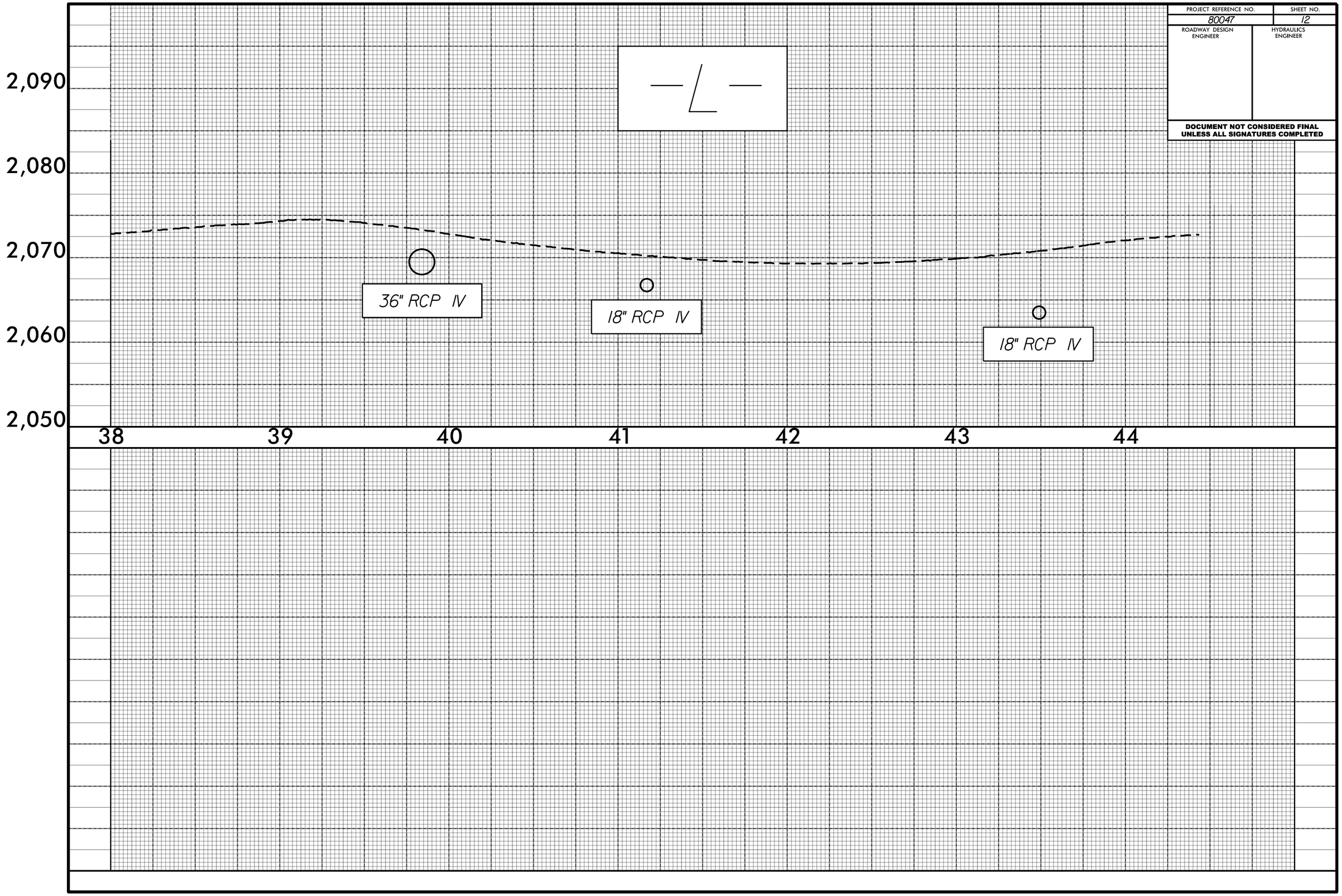
PROJECT REFERENCE NO.	SHEET NO.
80047	11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



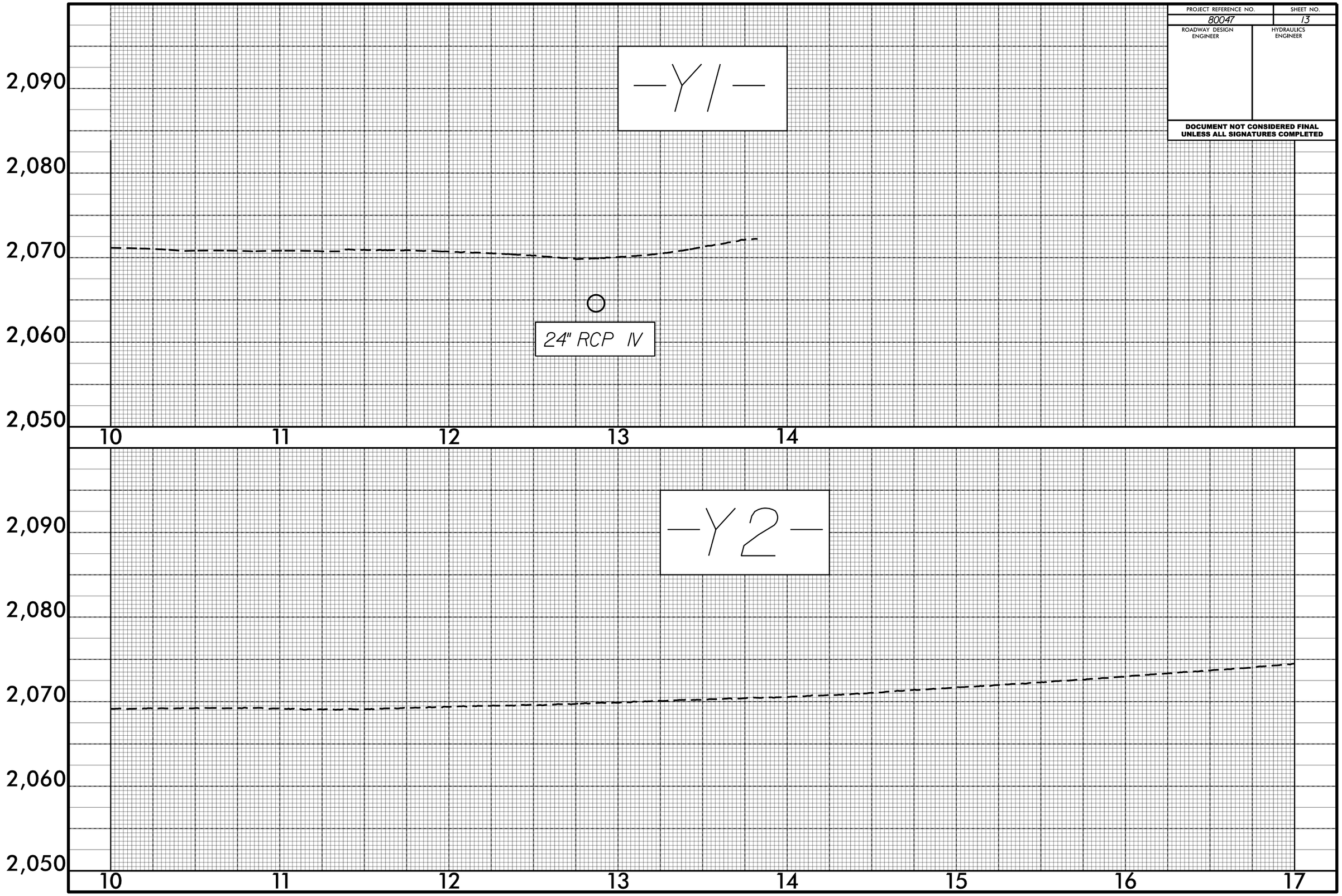
PROJECT REFERENCE NO.	SHEET NO.
80047	12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PROJECT REFERENCE NO.	SHEET NO.
80047	13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

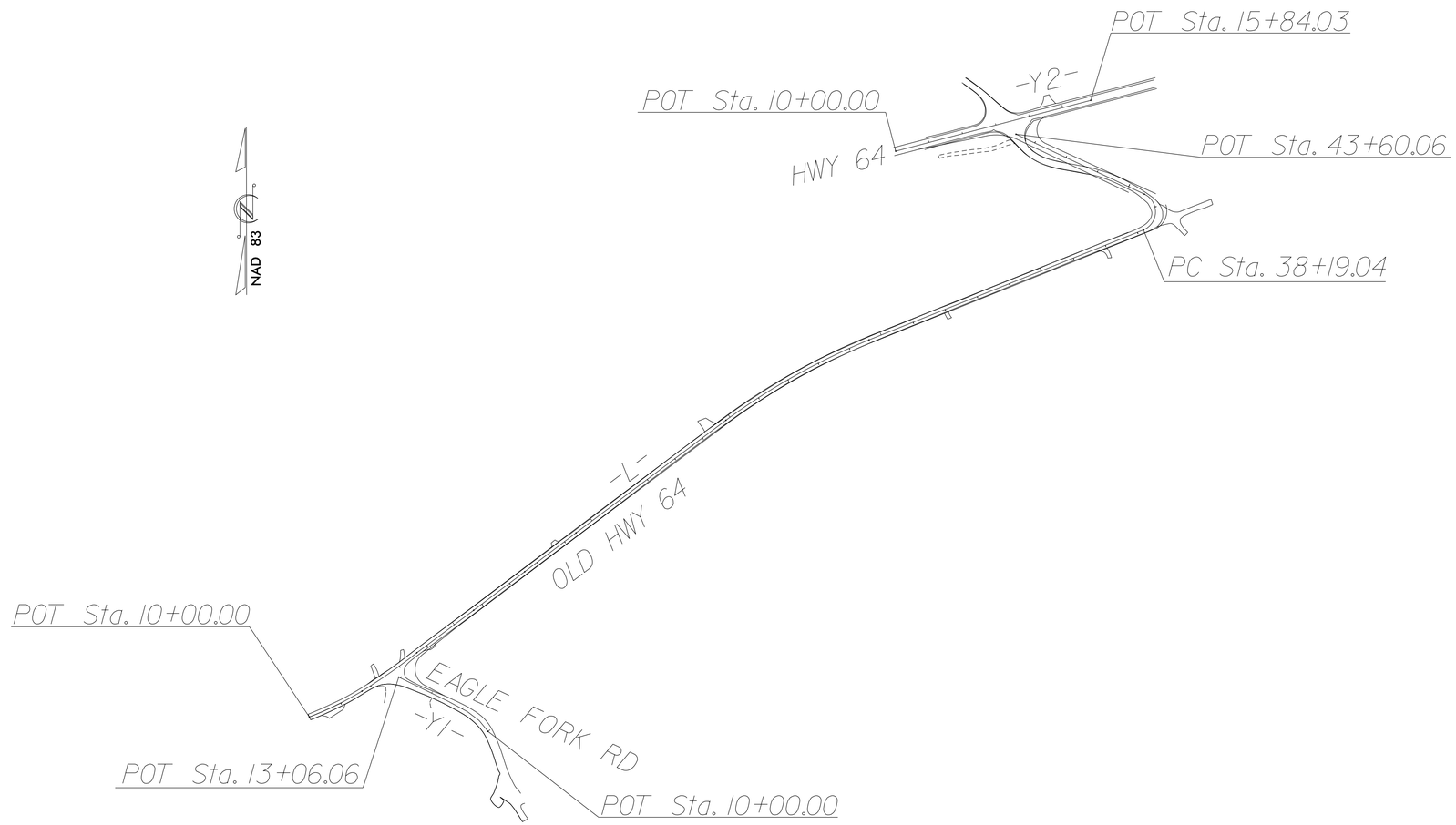


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	80047	RW01	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

CLAY COUNTY



PROJECT: 80047

09/08/99

$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$
$$$$$$$$USERNAME$$$$

GRAPHIC SCALE

50 25 0 50 100

PLANS

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "SHOOTING (BY2-2)" WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF NORTHING: 498,514.430(ft) EASTING: 608,880.660(ft) ELEVATION: 2,107.40'(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99978549 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "SHOOTING" TO -L- STATION 10+00.00 IS S 60° 41'53" W 4,639.62(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

PROFESSIONAL LAND SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4727 LAND SURVEYOR BRIAN A. BARWATT

DocuSigned by: Brian Barwatt
A8355FE84A8A4CE...
3/30/2021

SIGNATURE: ***Date:***

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
80047	RW02C-1

Location and Surveys

LOCATION AND SURVEYS, DIVISION 14
122 BONNIE LANE
SYLVA, NC 28779

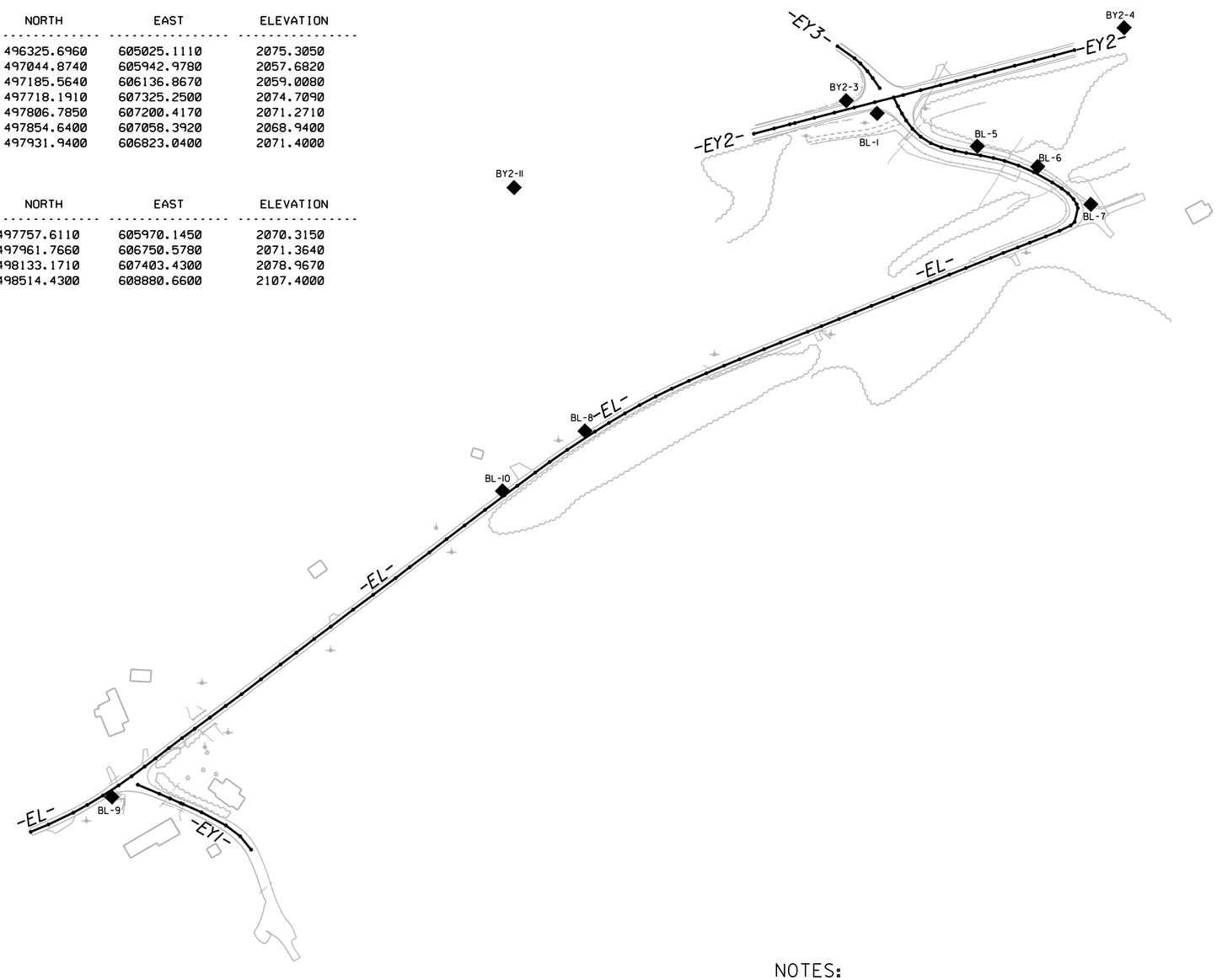
SEE SHEET RW02C-2 FOR FURTHER ALIGNMENT DETAILS

BL

POINT	DESC.	NORTH	EAST	ELEVATION
9	BL-9	496325.6960	605025.1110	2075.3050
10	BL-10	497044.8740	605942.9780	2057.6820
8	BL-8	497185.5640	606136.8670	2059.0080
7	BL-7	497718.1910	607325.2500	2074.7090
6	BL-6	497806.7850	607200.4170	2071.2710
5	BL-5	497854.6400	607058.3920	2068.9400
1	BL-1	497931.9400	606823.0400	2071.4000

BY2

POINT	DESC.	NORTH	EAST	ELEVATION
11	BY2-11	497757.6110	605970.1450	2070.3150
3	BY2-3	497961.7660	606750.5780	2071.3640
4	BY2-4	498133.1710	607403.4300	2078.9670
2(NCGS"SHOOTING")	BY2-2	498514.4300	608880.6600	2107.4000



NC GRID
NAD 83 NA 2011

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

6/2/99
REVISIONS
27-MAR-2019 07:33
c:\sylva\Miscellaneous\East Vineyard\To Send\80047_ls_rw02c-1.dgn
babarwatt AT [SD14-27991]

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
80047	RW02C-2

Location and Surveys

LOCATION AND SURVEYS, DIVISION 14
122 BONNIE LANE
SYLVA, NC 28779

EL

POINT	N	E	BEARING	DIST
POT	496243.749	604834.670		
LINE			N 67°25'34.5" E	45.10
POT	496261.063	604876.318		
LINE			N 64°31'40.6" E	64.50
POT	496288.801	604934.545		
LINE			N 61°09'33.3" E	37.37
POT	496306.827	604967.279		
LINE			N 58°53'40.4" E	43.34
POT	496329.218	605004.389		
LINE			N 57°10'46.7" E	43.67
POT	496352.888	605041.089		
LINE			N 54°49'51.9" E	37.62
POT	496374.559	605071.845		
LINE			N 53°29'45.1" E	38.16
POT	496397.260	605102.519		
LINE			N 53°08'15.7" E	31.68
POT	496416.265	605127.866		
LINE			N 52°06'34.0" E	39.39
POT	496440.455	605158.950		
LINE			N 52°43'26.3" E	39.19
POT	496464.191	605190.135		
LINE			N 53°45'26.4" E	37.55
POT	496486.388	605220.416		
LINE			N 53°42'30.0" E	43.64
POT	496512.218	605255.590		
LINE			N 53°22'03.3" E	46.56
POT	496540.002	605292.957		
LINE			N 53°36'17.7" E	46.12
POT	496567.368	605330.082		
LINE			N 52°36'57.6" E	57.17
POT	496602.081	605375.511		
LINE			N 52°46'22.8" E	57.82
POT	496637.063	605421.553		
LINE			N 53°11'37.7" E	46.41
POT	496664.870	605458.715		
LINE			N 52°27'13.3" E	53.11
POT	496697.237	605500.826		
LINE			N 53°32'17.0" E	48.06
POT	496725.799	605539.479		
LINE			N 52°39'46.5" E	66.15
POT	496765.921	605592.076		
LINE			N 53°34'31.1" E	58.71
POT	496800.783	605639.319		
LINE			N 53°17'28.5" E	65.78
POT	496840.103	605692.054		
LINE			N 52°13'17.3" E	41.94
POT	496865.793	605725.199		
LINE			N 53°10'36.7" E	57.35
POT	496900.164	605771.105		
LINE			N 52°12'28.2" E	51.22
POT	496931.550	605811.579		
LINE			N 52°45'19.6" E	53.13
POT	496963.704	605853.872		
LINE			N 52°50'26.9" E	60.76
POT	497000.407	605902.298		
LINE			N 53°05'42.5" E	56.68
POT	497034.444	605947.623		
LINE			N 53°26'41.8" E	37.82
POT	497056.967	605978.000		
LINE			N 53°29'48.3" E	52.01
POT	497087.904	606019.804		
LINE			N 53°52'07.2" E	41.94
POT	497112.633	606053.677		
LINE			N 55°19'44.8" E	50.63
POT	497141.436	606095.319		
LINE			N 56°35'43.4" E	77.88
POT	497184.313	606160.334		
LINE			N 58°07'36.2" E	38.57
POT	497204.680	606193.089		
LINE			N 59°17'49.8" E	43.61
POT	497226.946	606230.585		
LINE			N 60°26'53.7" E	39.85
POT	497246.601	606265.252		
LINE			N 62°01'31.0" E	42.81
POT	497266.683	606303.061		
LINE			N 63°56'02.7" E	42.05
POT	497285.158	606340.830		
LINE			N 65°29'24.5" E	44.11
POT	497303.456	606380.963		
LINE			N 66°22'27.7" E	44.77
POT	497321.396	606421.976		
LINE			N 66°58'33.1" E	45.20
POT	497339.074	606463.574		
LINE			N 67°30'35.6" E	39.33

EL CONTINUED

POINT	N	E	BEARING	DIST
POT	497354.120	606499.916		
LINE			N 67°39'28.0" E	62.56
POT	497377.902	606557.781		
LINE			N 67°48'52.1" E	42.21
POT	497393.842	606596.869		
LINE			N 68°19'31.3" E	67.72
POT	497418.855	606659.805		
LINE			N 67°58'43.2" E	35.12
POT	497432.025	606692.367		
LINE			N 68°03'50.1" E	44.87
POT	497448.787	606733.988		
LINE			N 67°56'34.5" E	40.20
POT	497463.883	606771.245		
LINE			N 67°58'06.3" E	41.60
POT	497479.489	606809.810		
LINE			N 68°12'07.6" E	54.39
POT	497499.685	606860.309		
LINE			N 68°05'28.1" E	51.89
POT	497519.047	606908.452		
LINE			N 68°20'47.6" E	42.42
POT	497534.701	606947.882		
LINE			N 67°55'26.1" E	48.73
POT	497553.015	606993.038		
LINE			N 68°19'14.8" E	41.89
POT	497568.488	607031.961		
LINE			N 67°59'49.1" E	62.64
POT	497591.955	607090.035		
LINE			N 67°48'52.1" E	32.05
POT	497604.056	607119.709		
LINE			N 69°08'19.5" E	36.34
POT	497616.997	607153.667		
LINE			N 68°25'06.9" E	30.18
POT	497628.097	607181.729		
LINE			N 69°00'26.3" E	40.47
POT	497642.595	607219.512		
LINE			N 67°38'59.4" E	34.96
POT	497655.888	607251.843		
LINE			N 64°20'11.4" E	28.93
POT	497668.419	607277.923		
LINE			N 48°31'25.7" E	12.37
POT	497676.610	607287.189		
LINE			N 13°22'12.8" E	33.61
POT	497709.313	607294.962		
LINE			N 17°45'08.0" W	9.55
POT	497718.412	607292.049		
LINE			N 31°32'43.8" W	13.99
POT	497730.331	607284.732		
LINE			N 43°08'50.2" W	18.42
POT	497743.767	607272.138		
LINE			N 52°26'53.7" W	19.08
POT	497755.393	607257.015		
LINE			N 57°12'02.9" W	26.47
POT	497769.733	607234.763		
LINE			N 60°58'50.4" W	49.55
POT	497793.772	607191.430		
LINE			N 66°31'45.9" W	39.25
POT	497809.405	607155.426		
LINE			N 71°28'00.8" W	34.70
POT	497820.436	607122.521		
LINE			N 75°48'48.3" W	26.71
POT	497826.983	607096.622		
LINE			N 78°29'00.0" W	30.93
POT	497833.158	607066.316		
LINE			N 80°15'48.1" W	34.24
POT	497838.948	607032.573		
LINE			N 79°04'44.5" W	28.34
POT	497844.317	607004.747		
LINE			N 75°41'16.4" W	30.98
POT	497851.975	606974.730		
LINE			N 68°24'19.4" W	27.37
POT	497862.049	606949.279		
LINE			N 57°33'48.3" W	28.06
POT	497877.098	606925.599		
LINE			N 46°12'20.9" W	26.38
POT	497895.353	606906.559		
LINE			N 37°11'16.7" W	25.04
POT	497915.300	606891.425		
LINE			N 31°06'30.7" W	18.94
POT	497931.512	606881.642		
LINE			N 28°34'04.1" W	19.51
POT	497948.651	606872.310		
LINE			N 26°27'38.4" W	23.07
POT	497969.307	606862.029		

EY1

POINT	N	E	BEARING	DIST
POT	496201.984	605352.469		
LINE			N 39°14'34.2" W	40.69
POT	496233.495	605326.730		
LINE			N 52°51'47.8" W	42.05
POT	496258.879	605293.211		
LINE			N 61°38'50.4" W	64.87
POT	496289.686	605236.122		
LINE			N 66°09'52.6" W	47.51
POT	496308.884	605192.667		
LINE			N 67°37'36.4" W	6.31
POT	496311.285	605186.834		
LINE			N 66°15'20.2" W	27.15
POT	496322.219	605161.978		
LINE			N 66°16'02.8" W	27.35
POT	496333.226	605136.942		
LINE			N 67°19'13.5" W	54.91
POT	496354.398	605086.278		

EY2

POINT	N	E	BEARING	DIST
POT	497884.146	606533.848		
LINE			N 75°20'11.6" E	48.96
POT	497896.541	606581.218		
LINE			N 75°17'55.6" E	37.80
POT	497906.135	606617.785		
LINE			N 75°36'28.9" E	12.50
POT	497909.242	606629.893		
LINE			N 75°06'18.6" E	47.72
POT	497921.507	606676.005		
LINE			N 75°29'57.0" E	48.16
POT	497933.565	606722.627		
LINE			N 75°35'04.2" E	48.37
POT	497945.606	606769.471		
LINE			N 75°27'37.3" E	49.94
POT	497958.143	606817.810		
LINE			N 75°49'50.2" E	45.61
POT	497969.307	606862.029		
LINE			N 75°49'46.2" E	23.29
POT	497975.008	606884.608		
LINE			N 74°29'37.4" E	42.68
POT	497986.417	606925.730		
LINE			N 75°31'22.4" E	48.39
POT	497998.513	606972.579		
LINE			N 75°32'26.1" E	37.80
POT	498007.951	607009.180		
LINE			N 75°28'55.4" E	45.32
POT	498019.312	607053.053		
LINE			N 75°14'38.1" E	47.51
POT	498031.413	607098.996		
LINE			N 75°17'50.1" E	49.02
POT	498043.854	607146.409		
LINE			N 75°30'12.7" E	47.01
POT	498055.622	607191.924		
LINE			N 75°24'54.6" E	48.61
POT	498067.863	607238.969		
LINE			N 75°03'42.2" E	49.55
POT	498080.635	607286.841		

EY3

POINT	N	E	BEARING	DIST
POT	497991.175	606829.228		
LINE			N 34°42'21.9" W	28.87
POT	498014.912	606812.788		
LINE			N 37°16'08.8" W	20.18
POT	498030.971	606800.568		
LINE			N 41°54'08.5" W	24.64
POT	498049.310	606784.112		
LINE			N 48°59'10.0" W	18.39
POT	498061.379	606770.235		
LINE			N 54°52'36.1" W	49.12
POT	498089.641	606730.057		

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

6/2/99

25-MAR-2019 14:24
c:\sylva\Miscellaneous\East Vineyard\To Send\80047_ls-rw02c-2.dgn
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PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
80047	RW02D-1

Location and Surveys

LOCATION AND SURVEYS, DIVISION 14
122 BONNIE LANE
SYLVA, NC 28779

-L-

TYPE	STATION	NORTH	EAST
PC	11+70.32	496318.7283	604987.3485
PT	13+64.37	496429.9162	605146.2353
POT	13+64.37	496429.9162	605146.2353
POT	15+69.89	496553.0713	605310.7669
POT	17+55.33	496664.8700	605458.7150
POT	19+42.07	496777.5249	605607.6590
POT	23+63.27	497030.6983	605944.2786
POT	24+85.32	497104.0559	606041.8149
PC	24+85.32	497104.0559	606041.8149
PT	29+62.25	497337.0125	606456.6032
POT	29+62.25	497337.0125	606456.6032
PC	38+19.04	497655.8880	607251.8430
PT	39+49.58	497759.6818	607254.3559
POT	39+49.58	497759.6818	607254.3559
POT	43+60.06	497933.3093	606882.4080

-Y1-

TYPE	STATION	NORTH	EAST
POT	10+00.00	496233.4950	605326.7300
POT	10+09.31	496239.1174	605319.3058
POT	10+42.05	496258.8790	605293.2110
POT	10+59.31	496267.0790	605278.0155
POT	11+06.92	496289.6860	605236.1220
POT	11+09.31	496290.7397	605233.9681
POT	11+59.41	496312.7510	605188.9716
POT	12+09.40	496334.7175	605144.0668
POT	12+59.56	496356.7607	605099.0050
POT	12+65.38	496359.3168	605093.7798

-Y2-

TYPE	STATION	NORTH	EAST
POT	10+00.00	497884.1460	606533.8480
POT	10+50.00	497896.8037	606582.2193
POT	11+00.00	497909.4297	606630.5987
POT	11+50.00	497922.2619	606678.9240
POT	12+00.00	497934.7746	606727.3330
POT	12+50.00	497947.2359	606775.7552
POT	13+00.00	497959.7473	606824.1644
POT	13+50.00	497971.9870	606872.6432
POT	14+00.00	497985.0761	606920.8969
POT	14+50.00	497997.6628	606969.2860
POT	14+91.20	498007.9510	607009.1800
POT	15+84.03	498031.4130	607098.9960

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATINO REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

6/2/99

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bpowell

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
80047	RW03E-1

LOCATION AND SURVEYS, DIVISION 14
122 BONNIE LANE
SYLVA, NC 28779

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4727 LAND SURVEYOR BRIAN A. BARWATT

I, Brian Barwatt, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 25th day of March, 2019.

DocuSigned by: Brian Barwatt
A8095FE8A8A4CE

Professional Land Surveyor — PLS # L-4727 — Seal

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	11+70.32	-30.00	496344.3123	604971.6814
L	11+70.32	-13.03	496329.8435	604980.5420
L	11+70.32	12.97	496307.6708	604994.1203
L	11+70.32	14.76	496306.1412	604995.0571
L	12+47.06	40.71	496326.7177	605074.7107
L	13+55.66	30.00	496400.9307	605157.9444
L	13+64.37	-30.00	496453.3993	605127.5659
L	24+85.32	-30.00	497128.2094	606024.0215
L	24+85.32	30.00	497080.0810	606059.8484
L	29+62.25	30.00	497309.2484	606467.9681
L	29+62.25	-30.00	497364.7772	606445.2381
L	38+00.00	30.00	497620.9560	607245.3337
L	38+00.00	-30.00	497676.6457	607223.0032
L	38+57.76	38.37	497663.4693	607313.7135
L	38+79.92	50.03	497697.5312	607336.0469
L	38+99.31	44.60	497732.3958	607328.2763
L	38+99.99	-54.87	497708.8834	607231.6297
L	39+23.35	39.79	497767.7490	607305.9871
L	39+51.22	35.24	497792.3072	607267.7803

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	11+48.47	14.35	496302.9566	605241.6510
Y1	11+48.47	-15.92	496275.7663	605228.3501
Y1	11+48.47	-30.06	496263.0668	605222.1378
Y1	12+47.30	25.90	496356.7637	605157.9444

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

REVISIONS

6/2/99

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AT SN14-29981

PROJECT REFERENCE NO.	SHEET NO.
80047	RW04

Location and Surveys

LOCATION AND SURVEYS, DIVISION 14
122 BONNIE LANE
SYLVA, NC 28779

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4727 LAND SURVEYOR BRIAN A. BARWATT

I, Brian Barwatt, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

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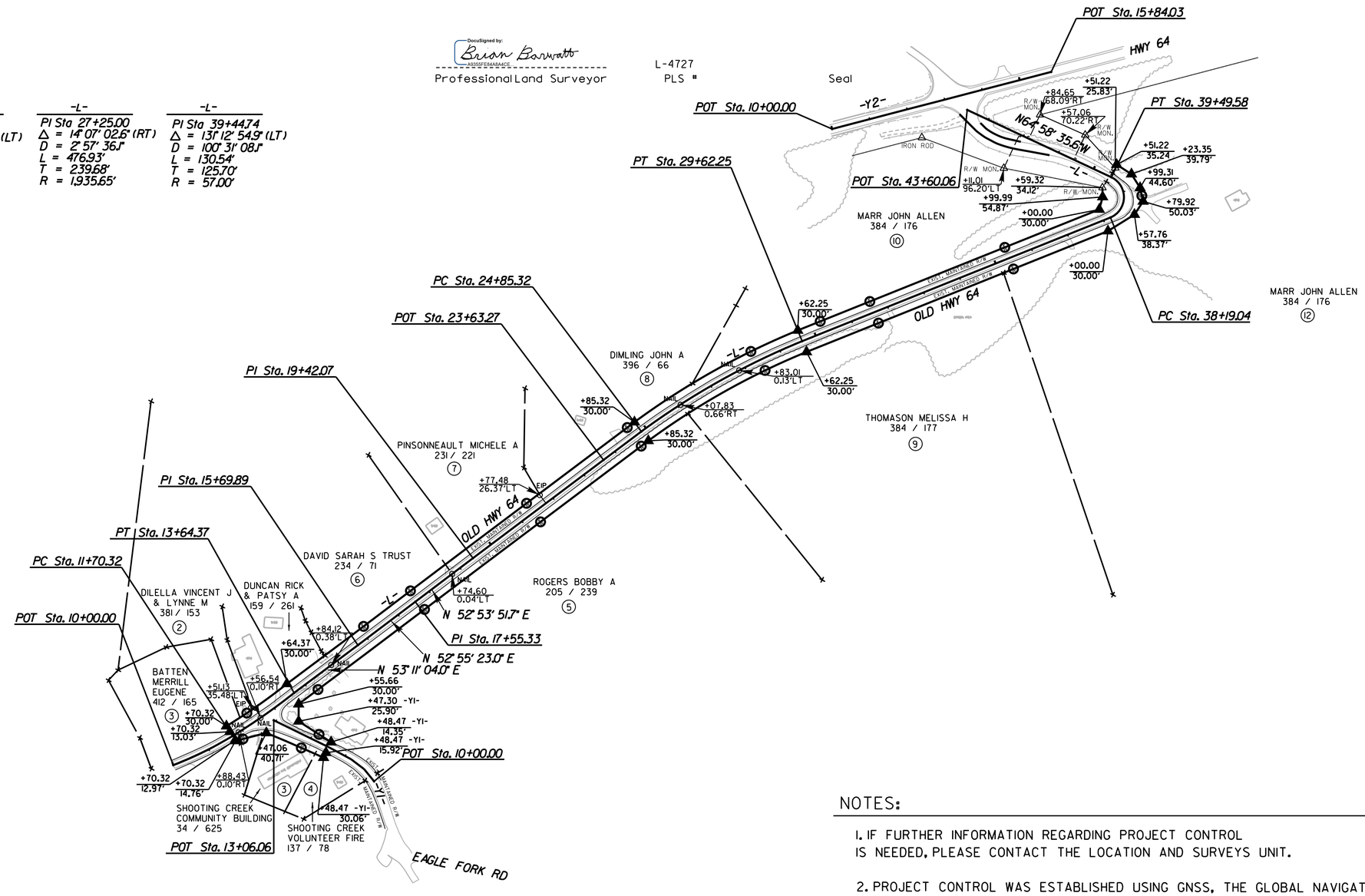
Witness my original signature, registration number and seal this 27th day of March, 2019.

DocuSigned by: Brian Barwatt
A9305FE6A8A4CE...

Professional Land Surveyor PLS # L-4727 Seal

NC GRID
NAD 83 NA 2011

-L-	-L-	-L-
PI Sta 12+67.46	PI Sta 27+25.00	PI Sta 39+44.74
Δ = 7° 00' 08.8" (LT)	Δ = 14° 07' 02.6" (RT)	Δ = 13° 12' 54.9" (LT)
D = 3° 36' 31.0"	D = 2° 57' 36.1"	D = 100° 31' 08.1"
L = 194.05'	L = 476.93'	L = 130.54'
T = 97.14'	T = 239.68'	T = 125.70'
R = 1,587.75'	R = 1,935.65'	R = 57.00'



NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

REVISIONS

6/2/99

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bbarwatt

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	80047	PMP-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
80047		CONSTRUCTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PAVEMENT MARKING PLAN
CLAY COUNTY

LOCATION: BEGINNING AT INTERSECTION OF SR-1353 AND SR-1169 AND ENDING AT INTERSECTION OF SR-1353 AND US-64

TYPE OF WORK: PAVEMENT MARKING

LIST OF ROADWAY STANDARDS

2018 ROADWAY 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 16, 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

STD. NO.	TITLE
DIVISION 12 - PAVEMENT MARKINGS, MARKERS AND DELINEATION	
1205.01	Pavement Markings - Line Types and Offsets
1205.02	Two-Lane and Multi-Lane Roadways
1205.04	Intersections
1205.05	Turn Lanes
1205.08	Symbols and Word Messages
1205.09	Painted Islands
1250.01	Installation Spacing

INDEX OF SHEETS

PMP-1	PAVEMENT MARKING PLAN TITLE, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, GENERAL NOTES, FINAL PAVEMENT MARKING SCHEDULE
PMP-2 THRU PMP-7	PAVEMENT MARKING PLAN

GENERAL NOTES

GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018

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.

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

ROAD NAME	MARKING	MARKER
EAGLE FORK RD	PAINT	
OLD HWY 64 E	PAINT	
EAST VINEYARD RD	PAINT	
HWY 64 E	PAINT	

2 TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

3 REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

4 UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

PAVEMENT MARKING SCHEDULE

PAVEMENT MARKINGS

SYMBOL	DESCRIPTION
T1	WHITE STOP BAR
T2	WHITE 3' - 9' MINI-SKIP LINE
T3	WHITE 2' - 6' MINI-SKIP LINE
T4	WHITE EDGE LINE
T5	YELLOW CENTER LINE
T6	WHITE DIAGONAL LINE
UA	RIGHT TURN ARROW
UB	COMBO LEFT/STRAIGHT ARROW
UC	STRAIGHT ARROW
UD	MERGE ARROW
UE	24" YIELD LINE TRIANGLE

PROJECT: 80047

CONTRACT: DN00682

PROJECT REFERENCE NO.	SHEET NO.
80047	PMP-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

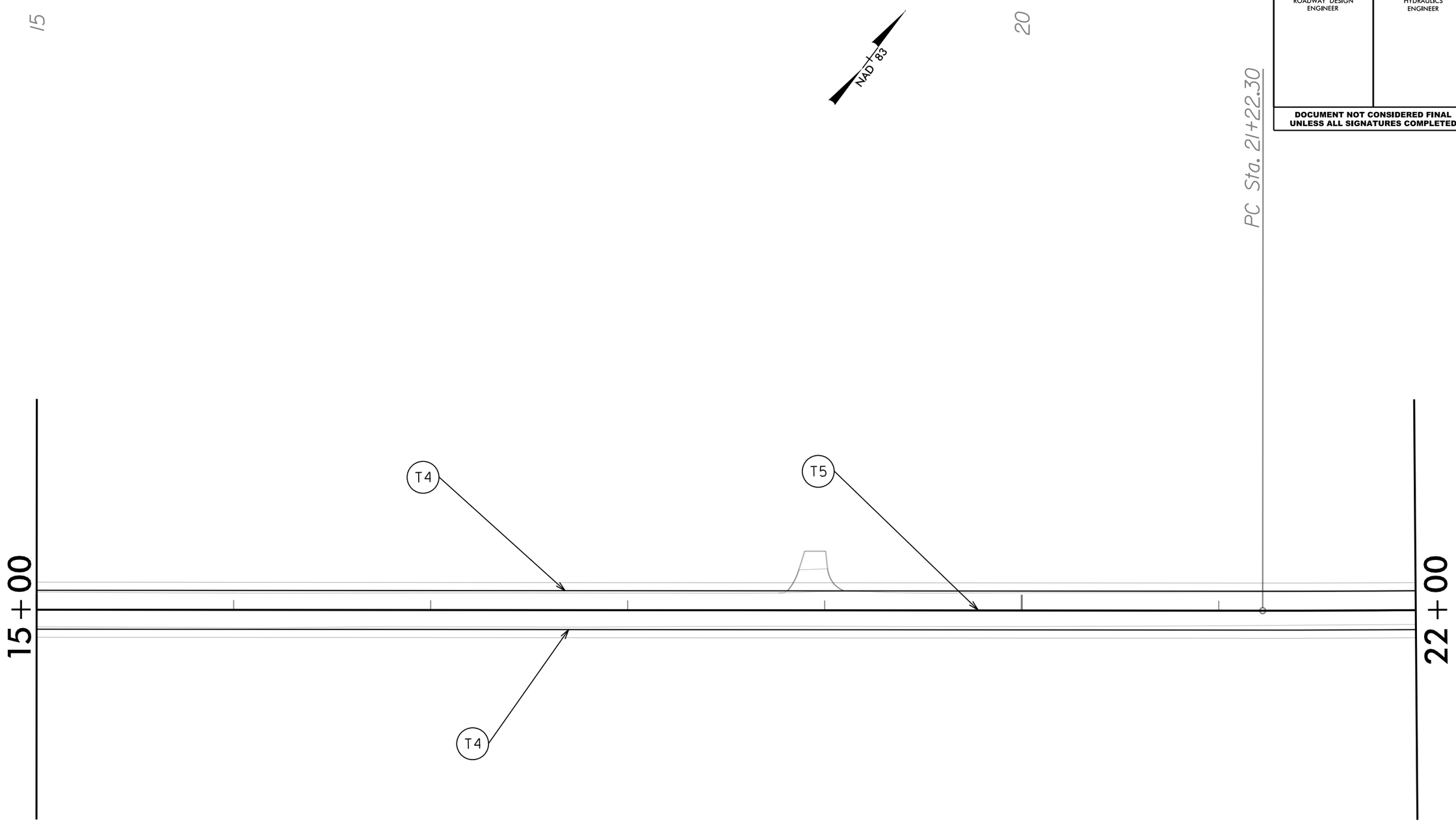
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
80047	PMP-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
80047	PMP-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
80047	PMP-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

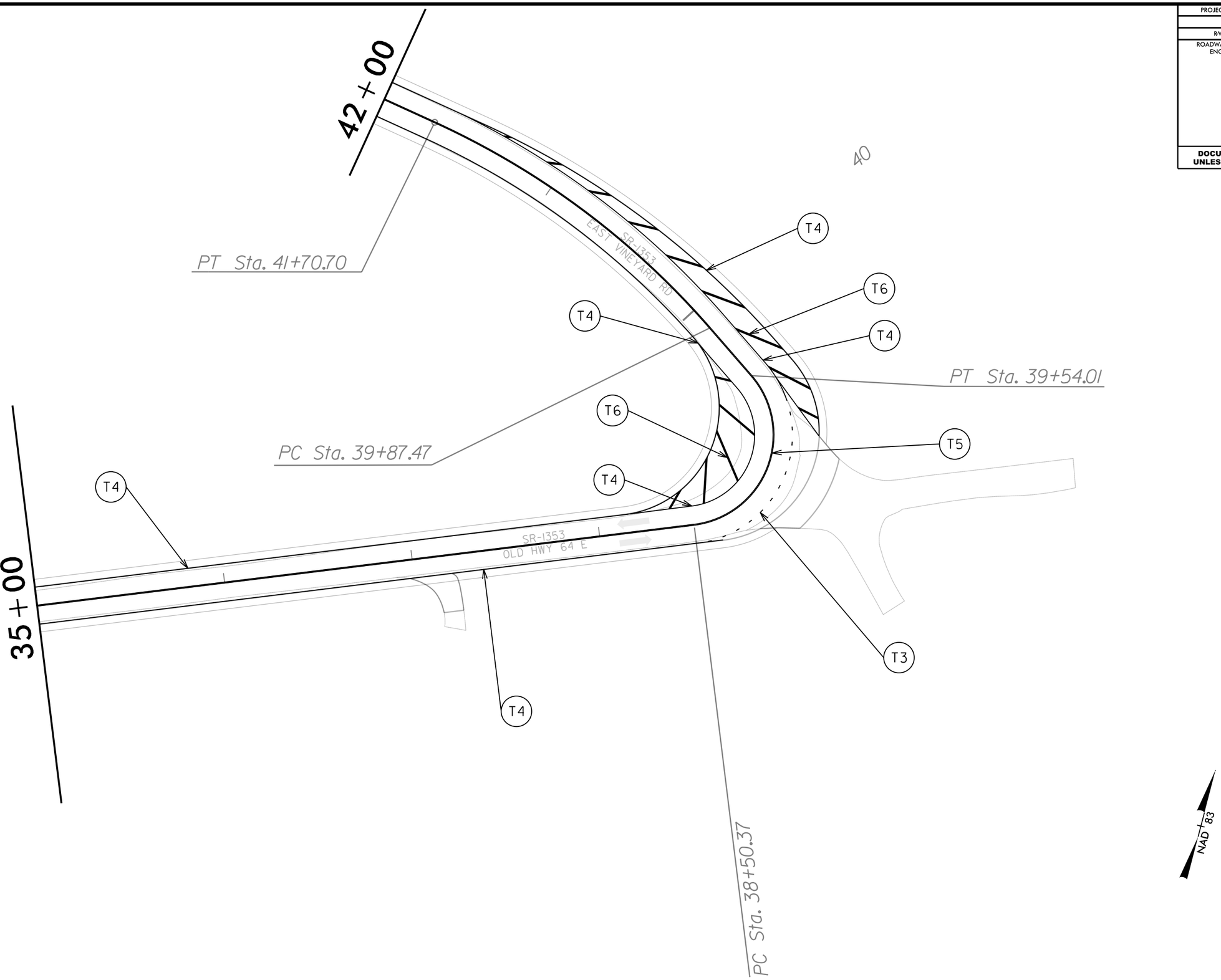
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
80047	PMP-6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

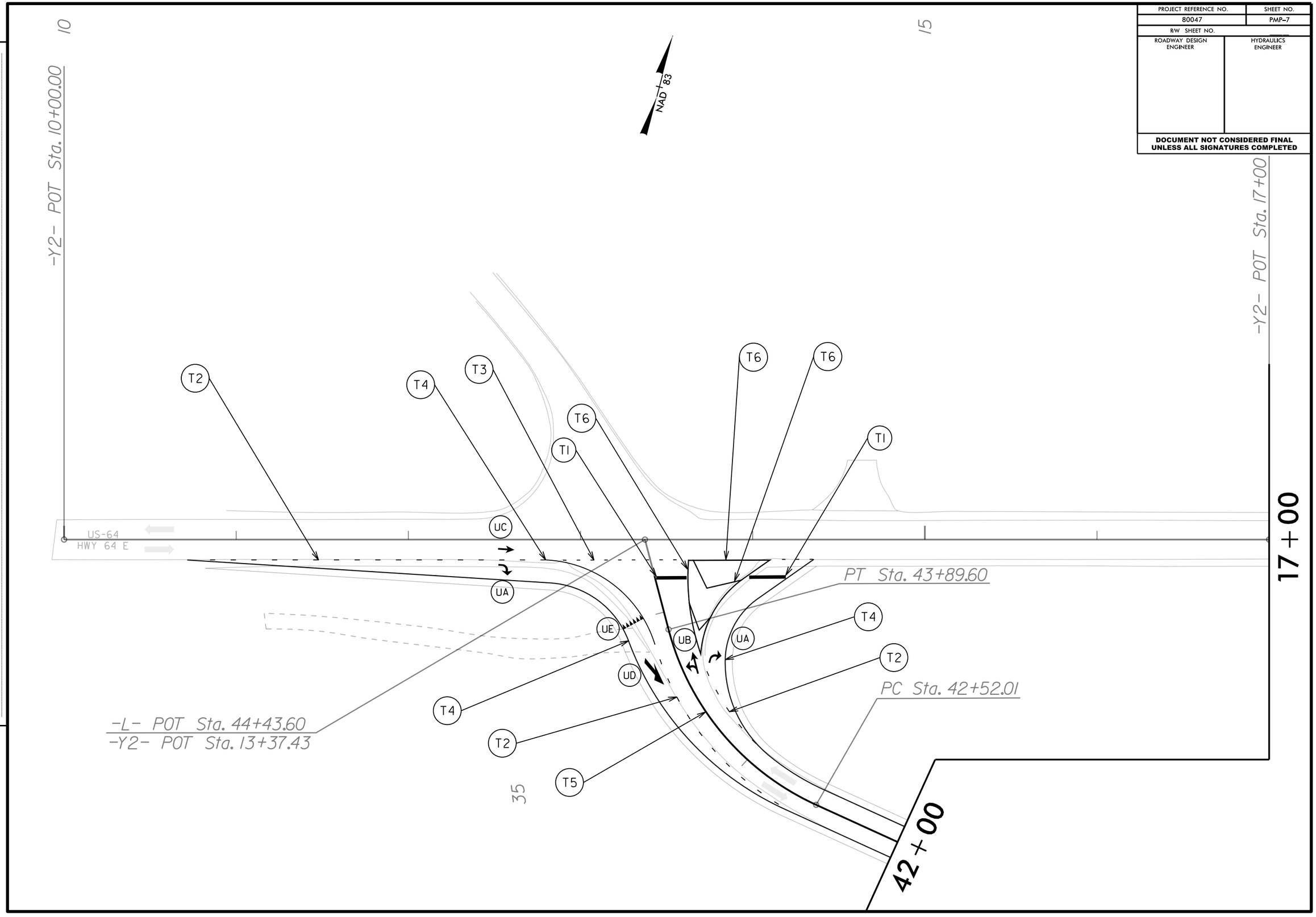
REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
80047	PMP-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

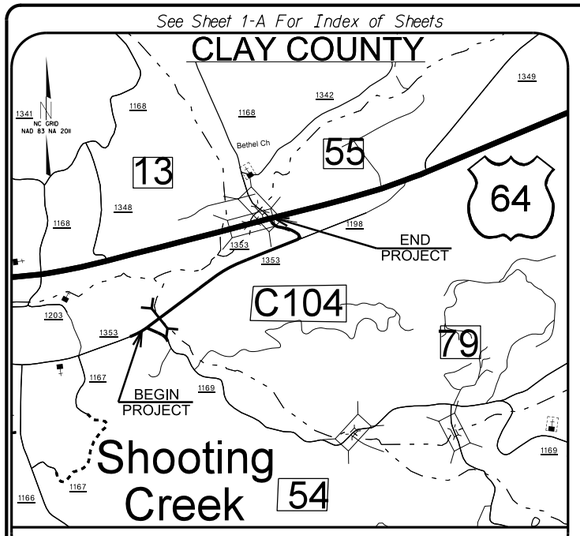
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS



PROJECT: 80047

CONTRACT: DN00682



VICINITY MAP

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

PLAN FOR PROPOSED

HIGHWAY EROSION CONTROL

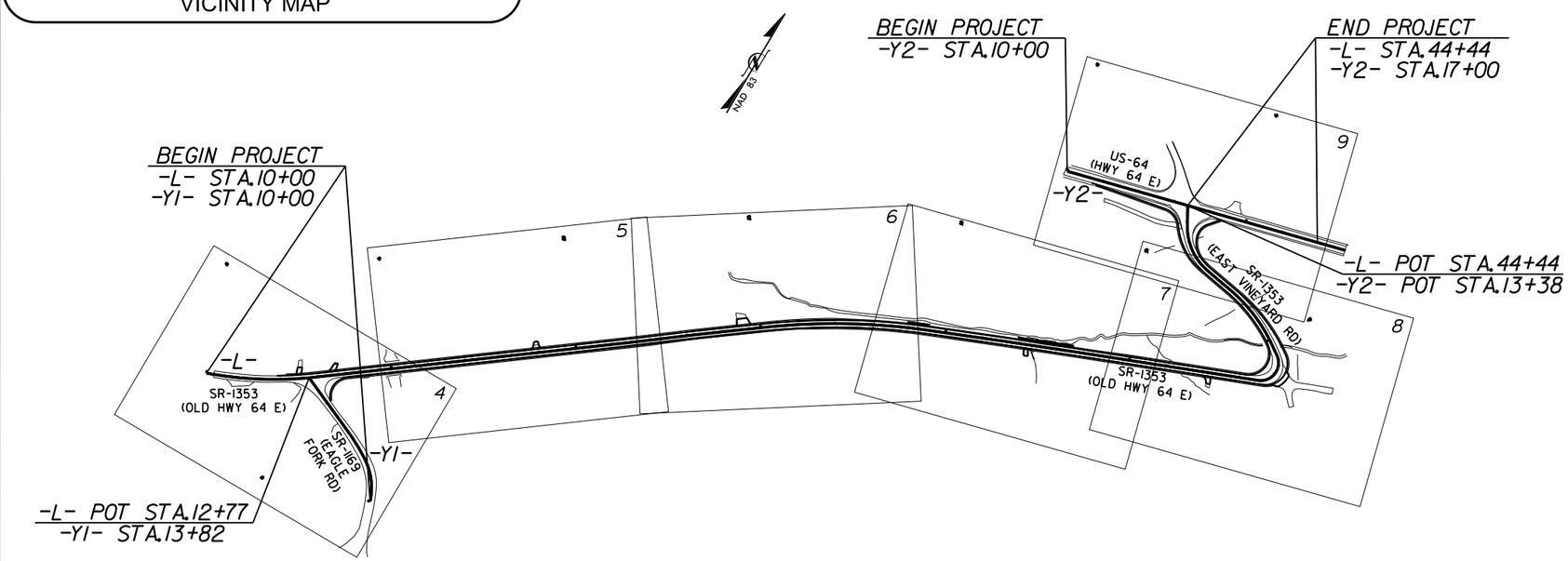
CLAY COUNTY

LOCATION: BEGINNING AT INTERSECTION OF SR-1353 (OLD HWY 64 E) AND SR-1169 (EAGLE FORK RD) AND ENDING AT INTERSECTION OF SR-1353 EAST VINEYARD RD) AND US-64 (HWY 64 E)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, GABION BASKET WALL, GUARDRAIL

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	80047	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
80047		CONSTRUCTION



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
	Streambank Reforestation	
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.01	Riser Basin	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-B	
	Wattle // Coir Fiber Wattle	
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	
	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	

ANDY RUSSELL P.E.

LEVEL IIIA NAME

3234

LEVEL IIIA CERTIFICATION NO.

GRAPHIC SCALE

25 12.5 0 25 50

PLANS

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:

DIVISION OF HIGHWAYS

191 Robbinsville Rd., Andrews NC, 28901

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: 07/2020

LETTING DATE: 05/11/2021

ANDY RUSSELL P.E.
PROJECT ENGINEER

ANDY RUSSELL P.E.
PROJECT DESIGN ENGINEER

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 2018 and the latest revison 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		

PROJECT REFERENCE NO.	SHEET NO.
80047	EC-2

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

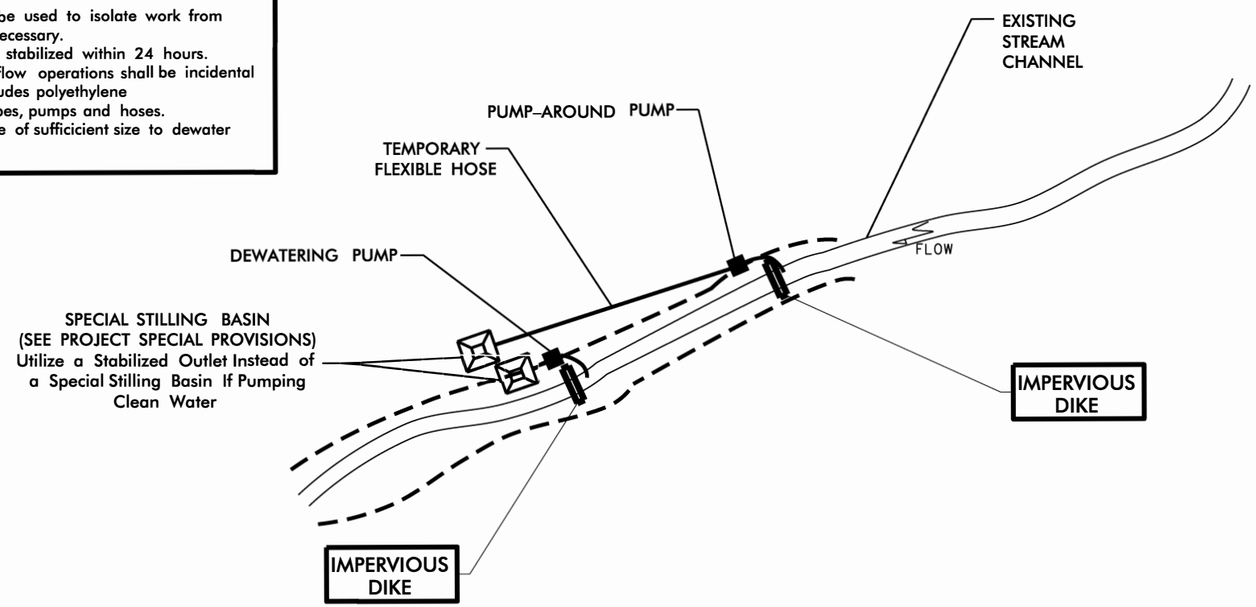
SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	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.

PROJECT REFERENCE NO.	SHEET NO.
80047	EC-3

EXAMPLE OF PUMP–AROUND OPERATION

NC GRID
NAD 83 NA 2011

NOTES:
1) All excavation shall be performed in only dry or isolated sections of channel.
2) Impervious dikes are to be used to isolate work from stream flow when necessary.
3) All graded areas shall be stabilized within 24 hours.
4) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
5) Pumps and hoses shall be of sufficicient size to dewater the work area.



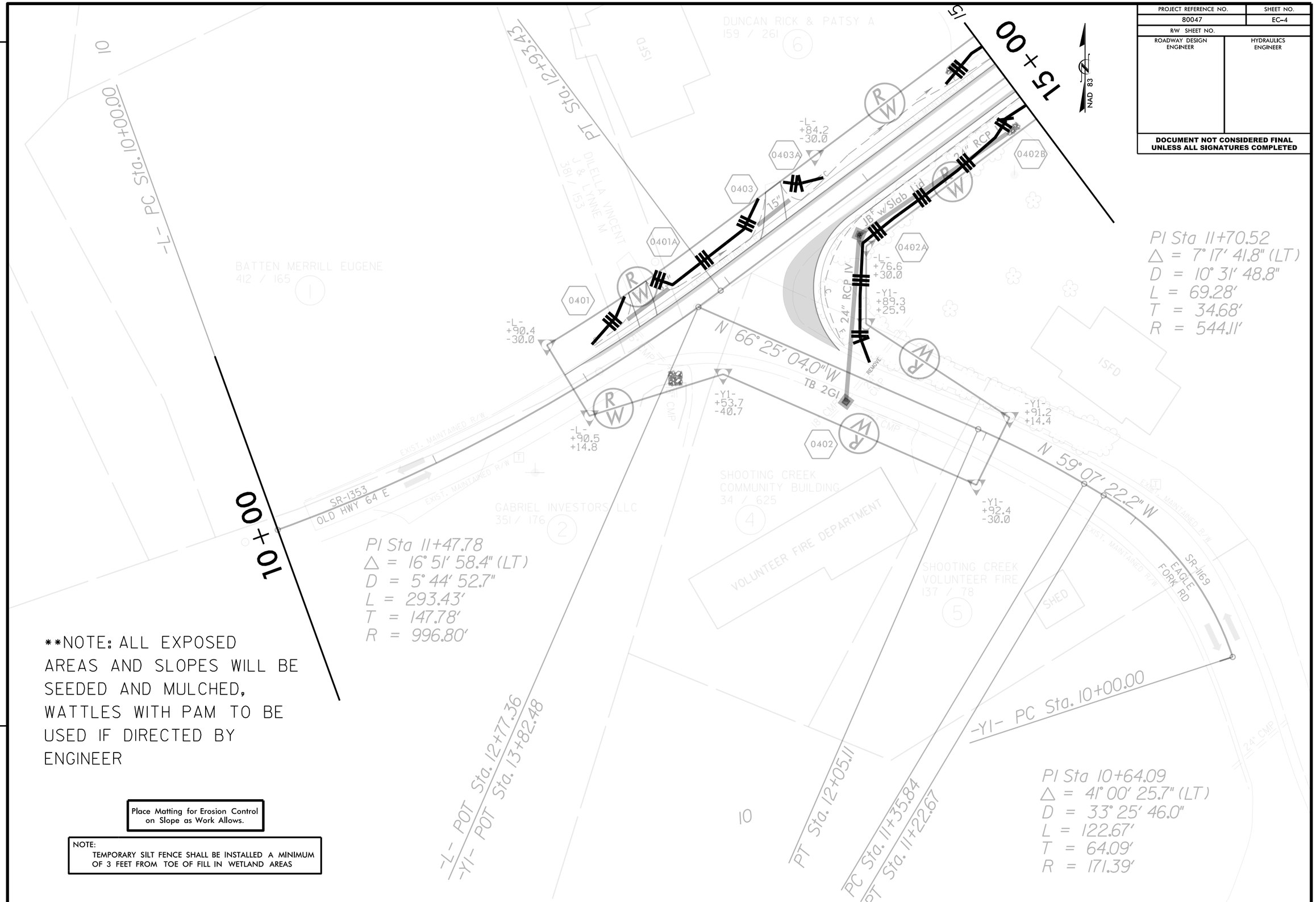
SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
6. ALL GRADING AND STABILIZATION MUST BE COMPLETED IN ONE DAY WITHIN THE PUMP AROUND AREAS BETWEEN THE IMPERVIOUS DIKES. THE IMPERVIOUS DIKE LOCATIONS AS SHOWN ON THIS SHEET ONLY SHOW THE UPPER AND LOWER EXTENT OF WORK FOR EACH STREAM SEGMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF THE IMPERVIOUS DIKE(S) FOR EACH DAY'S WORK.
7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

PROJECT REFERENCE NO.	SHEET NO.
80047	EC-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS



**NOTE: ALL EXPOSED AREAS AND SLOPES WILL BE SEEDED AND MULCHED, WATTLES WITH PAM TO BE USED IF DIRECTED BY ENGINEER

Place Matting for Erosion Control on Slope as Work Allows.

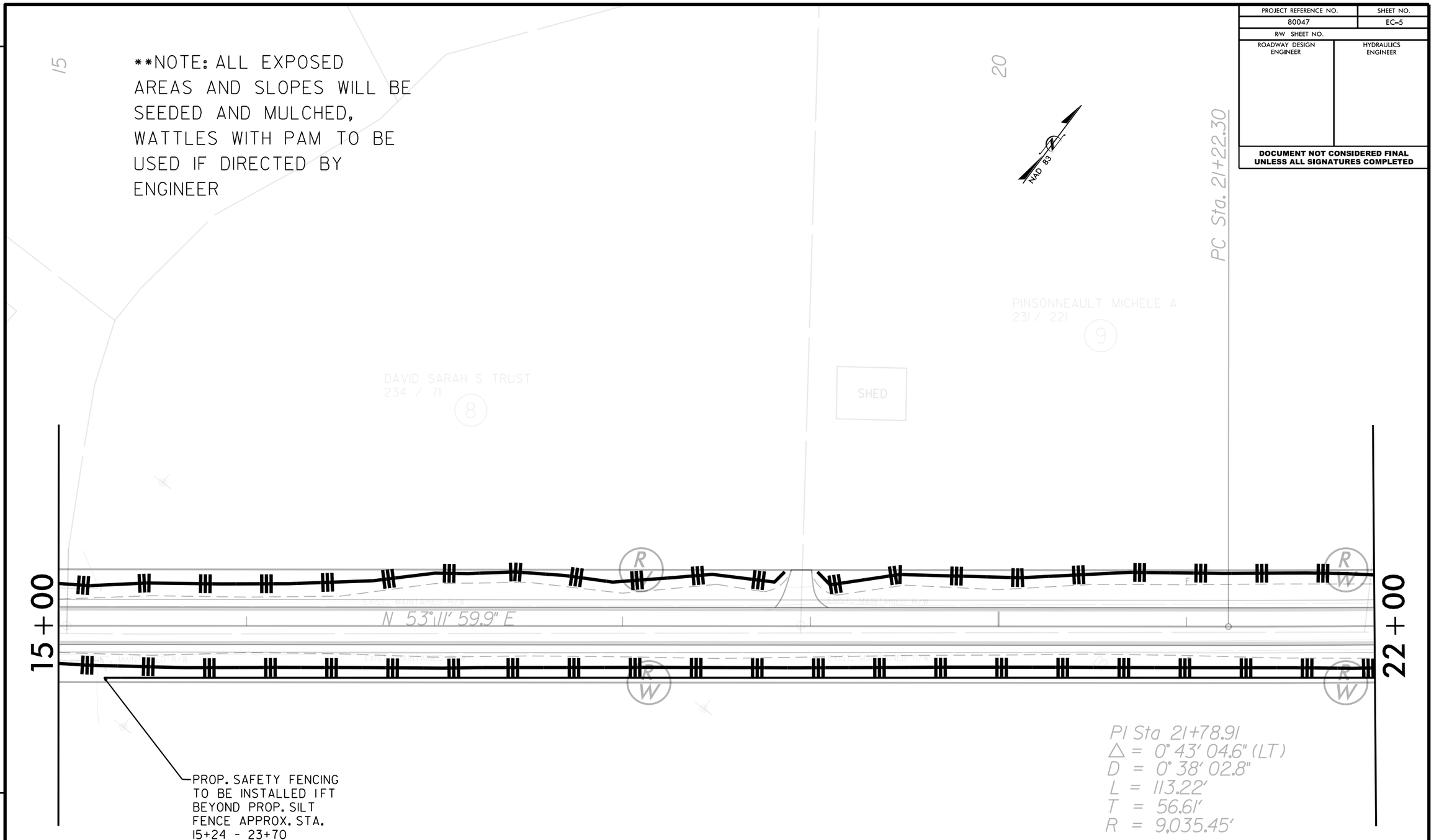
NOTE:
TEMPORARY SILT FENCE SHALL BE INSTALLED A MINIMUM OF 3 FEET FROM TOE OF FILL IN WETLAND AREAS

PROJECT REFERENCE NO.	SHEET NO.
80047	EC-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

**NOTE: ALL EXPOSED AREAS AND SLOPES WILL BE SEEDED AND MULCHED, WATTLES WITH PAM TO BE USED IF DIRECTED BY ENGINEER



Place Matting for Erosion Control on Slope as Work Allows.

NOTE:
TEMPORARY SILT FENCE SHALL BE INSTALLED A MINIMUM OF 3 FEET FROM TOE OF FILL IN WETLAND AREAS

PROJECT REFERENCE NO.	SHEET NO.
80047	EC-6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

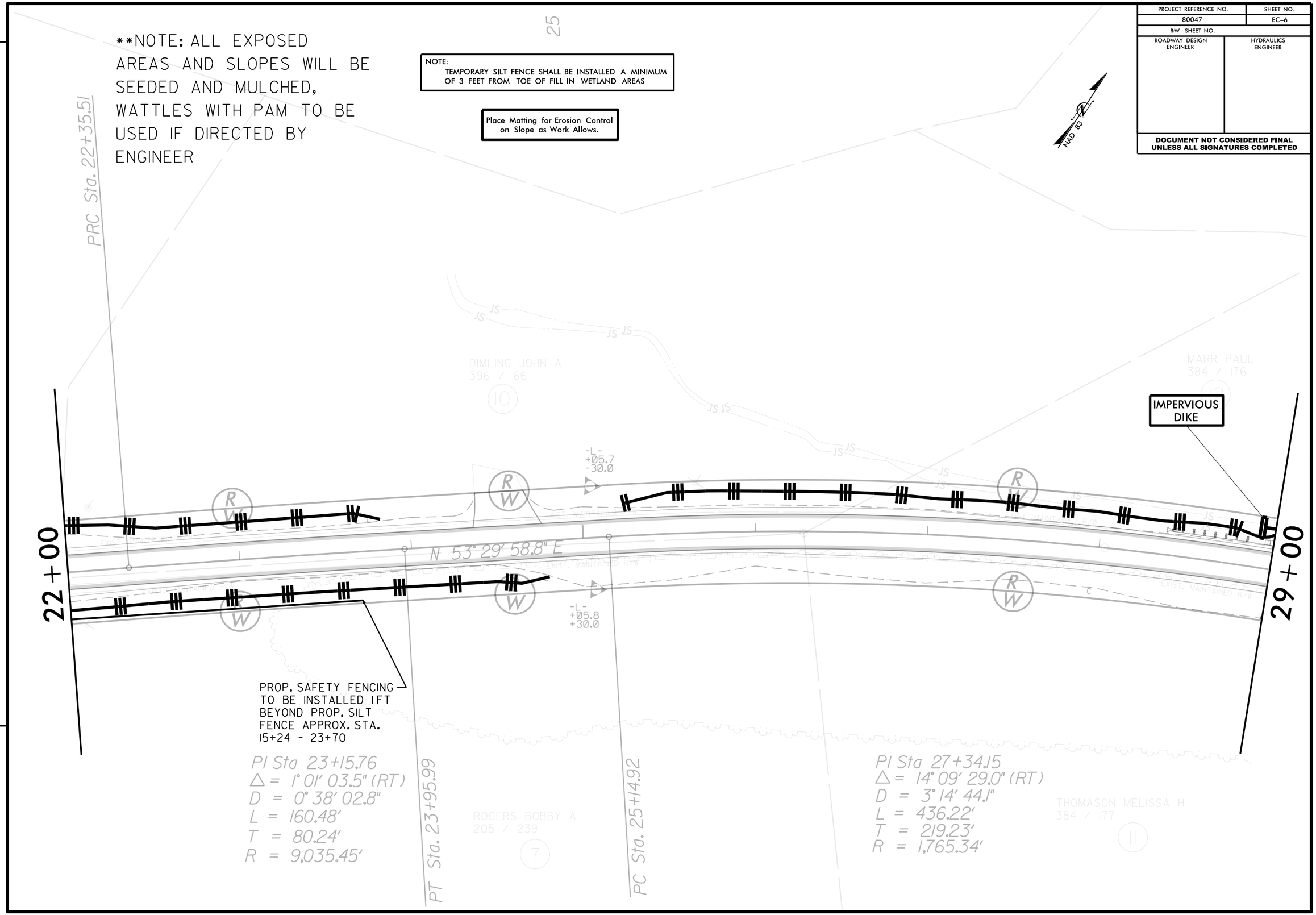
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

**NOTE: ALL EXPOSED AREAS AND SLOPES WILL BE SEEDED AND MULCHED, WATTLES WITH PAM TO BE USED IF DIRECTED BY ENGINEER

NOTE:
TEMPORARY SILT FENCE SHALL BE INSTALLED A MINIMUM OF 3 FEET FROM TOE OF FILL IN WETLAND AREAS

Place Matting for Erosion Control on Slope as Work Allows.

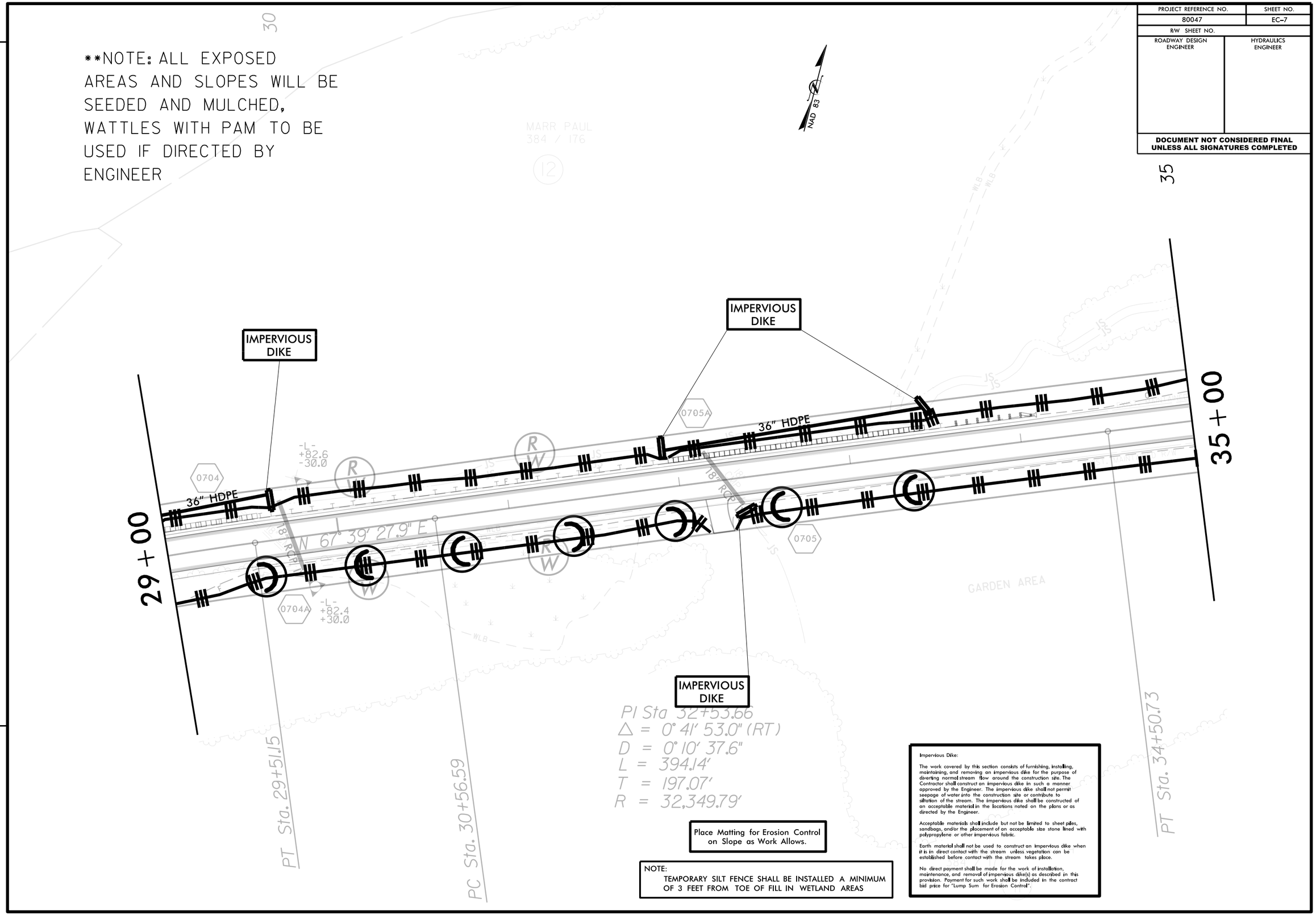


PROJECT REFERENCE NO.	SHEET NO.
80047	EC-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

**NOTE: ALL EXPOSED AREAS AND SLOPES WILL BE SEEDED AND MULCHED, WATTLES WITH PAM TO BE USED IF DIRECTED BY ENGINEER



Place Matting for Erosion Control on Slope as Work Allows.

NOTE:
TEMPORARY SILT FENCE SHALL BE INSTALLED A MINIMUM OF 3 FEET FROM TOE OF FILL IN WETLAND AREAS

Impervious Dike:

The work covered by this section consists of furnishing, installing, maintaining, and removing an impervious dike for the purpose of diverting normal stream flow around the construction site. The Contractor shall construct an impervious dike in such a manner approved by the Engineer. The impervious dike shall not permit seepage of water into the construction site or contribute to siltation of the stream. The impervious dike shall be constructed of an acceptable material in the locations noted on the plans or as directed by the Engineer.

Acceptable materials shall include but not be limited to sheet piles, sandbags, and/or the placement of an acceptable size stone lined with polypropylene or other impervious fabric.

Earth material shall not be used to construct an impervious dike when it is in direct contact with the stream unless vegetation can be established before contact with the stream takes place.

No direct payment shall be made for the work of installation, maintenance, and removal of impervious dike(s) as described in this provision. Payment for such work shall be included in the contract bid price for "Lump Sum for Erosion Control".

PROJECT REFERENCE NO.	SHEET NO.
80047	EC-8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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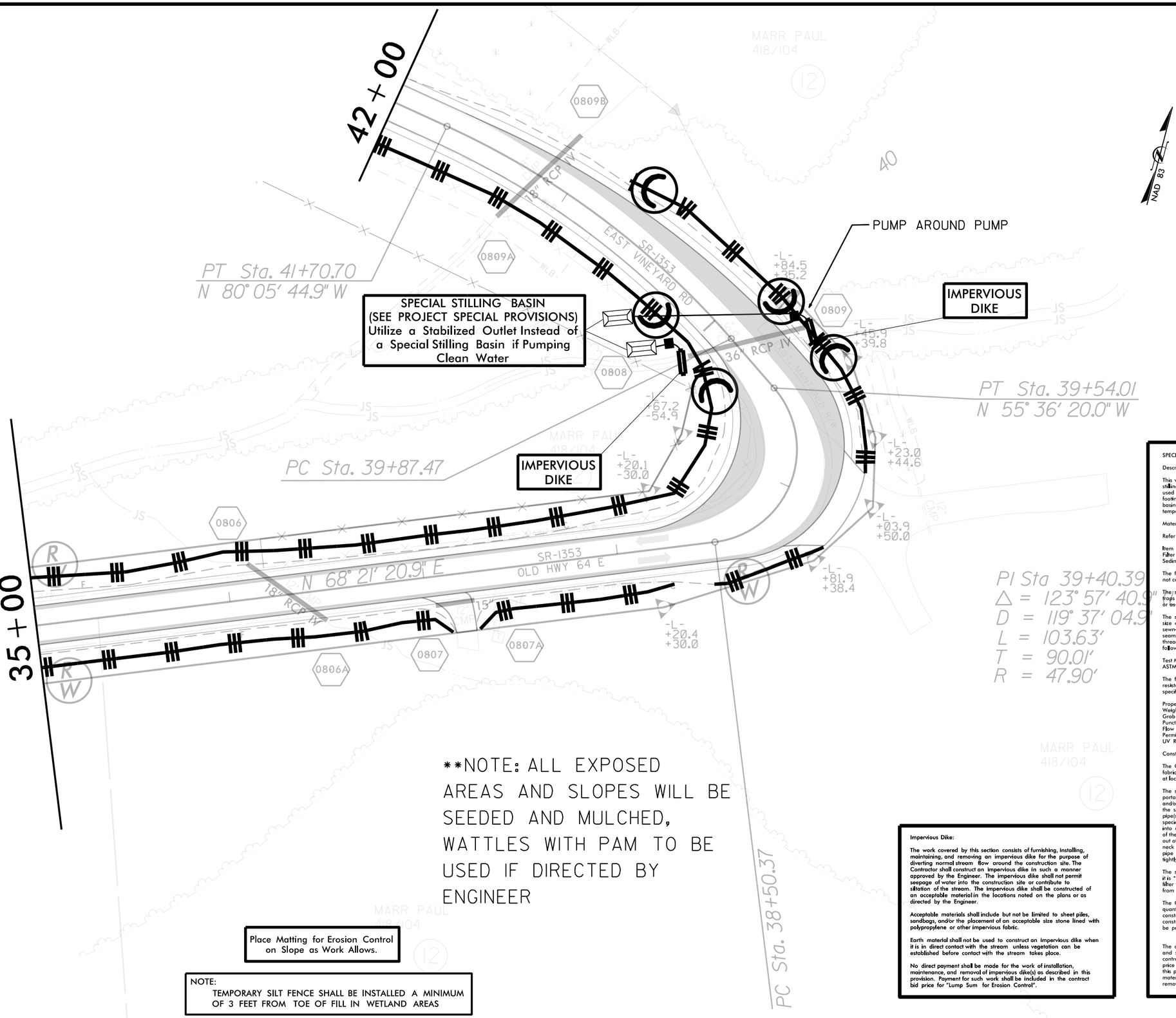
REVISIONS



**NOTE: ALL EXPOSED AREAS AND SLOPES WILL BE SEEDED AND MULCHED, WATTLES WITH PAM TO BE USED IF DIRECTED BY ENGINEER

Place Matting for Erosion Control on Slope as Work Allows.

NOTE:
TEMPORARY SILT FENCE SHALL BE INSTALLED A MINIMUM OF 3 FEET FROM TOE OF FILL IN WETLAND AREAS

Impervious Dike:

The work covered by this section consists of furnishing, installing, maintaining, and removing an impervious dike for the purpose of diverting normal stream flow around the construction site. The Contractor shall construct an impervious dike in such a manner approved by the Engineer. The impervious dike shall not permit seepage of water into the construction site or contribute to siltation of the stream. The impervious dike shall be constructed of an acceptable material in the locations noted on the plans or as directed by the Engineer.

Acceptable materials shall include but not be limited to sheet piles, sandbags, and/or the placement of an acceptable size stone lined with polypropylene or other impervious fabric.

Earth material shall not be used to construct an impervious dike when it is in direct contact with the stream unless vegetation can be established before contact with the stream takes place.

No direct payment shall be made for the work of installation, maintenance, and removal of impervious dike(s) as described in this provision. Payment for such work shall be included in the contract bid price for "Lump Sum for Erosion Control".

SPECIAL STILLING BASIN:

Description

This work consists of furnishing, placing, and removing special stilling basin(s) as directed. The special stilling basin shall be used to filter pumped water during construction of drilled piers, footing excavation, and/or culvert construction. The special stilling basin shall also be used for sediment storage at the outlet of temporary slope drain pipe(s).

Materials

Refer to Division 10

Item	Section
Filter Fabric for Drainage, Type 2	1056
Sediment Control Stone	1005

The filter fabric and sediment control stone shall be clean and shall not contain debris.

The special stilling basin shall be a water permeable fabric bag that traps sand, silt, and fines as sediment-laden water is pumped into it, or as runoff flows into it through the temporary slope drain pipe(s).

The special stilling basin shall be a bag constructed to a minimum size of 10" x 15" made from a nonwoven fabric. It shall have a sewn-in 8" (maximum) spout for receiving pump discharge. The bag seams shall be sewn with a double needle machine using a high strength thread. The seams shall have a minimum wide width strength as follows:

Test Method	Minimum Specifications
ASTM D-4884	60 lb/in

The fabric used to construct the bag shall be stabilized to provide resistance to ultra-violet degradation and meet the following specifications for flow rates, strength, and permeability:

Property	Test Method	Minimum Specifications
Weight	ASTM D-3776	8.0 oz/yd
Grab tensile	ASTM D-4632	200.0 lb
Puncture	ASTM D-4833	130.0 lb
Flow rate	ASTM D-4491	80.0 gal/min/sf
Permittivity	ASTM D-4491	1.2 1/sec
UV Resistance	ASTM D-4355	70.0%

Construction Methods

The Contractor shall install the special stilling basin(s), filter fabric, and stone in accordance with Standard Drawing No. 1630.06 and at locations on the plans and as directed.

The special stilling basin(s) shall be constructed such that it is portable and can be used adjacent to each drilled pier, footing, and/or culvert. Temporary slope drain pipe(s) shall be attached to the special stilling basin(s) so that the runoff in the slope drain pipe(s) flows directly into the special stilling basin(s). The special stilling basin(s) shall be placed so the incoming water flows into and through the bag without causing erosion. The neck or spout of the bag shall be tied off tightly to stop the water from flowing out of the bag without going through the walls. If applicable, the neck or spout of the silt bag shall be cut to allow for a slope drain pipe to be inserted into the special stilling basin, and tied off tightly to stop the water from flowing out of the bag.

The special stilling basin(s) shall be replaced and disposed of when it is " full of sediment or when it is impractical for the bag to filter the sediment out at a reasonable flow rate. Prior approval from the Engineer shall be received before removal and replacement.

The Contractor shall be responsible for providing a sufficient quantity of bags to contain silt from pumped effluent during construction of drilled piers, footing excavation, and/or culvert construction. A sufficient quantity of special stilling basins shall be provided to contain sediment from temporary slope drain runoff.

The quantity of sediment control stone, filter fabric for drainage, and special stilling basin(s) as measured above will be paid for at contract price for "Lump Sum for Erosion Control". Such price and payment will be full compensation for all work covered by this provision, including but not limited to, furnishing all materials, placing and maintaining the special stilling basin(s), and removal and disposal of silt accumulations and bag.

PROJECT REFERENCE NO.	SHEET NO.
80047	EC-9
R/W SHEET NO.	
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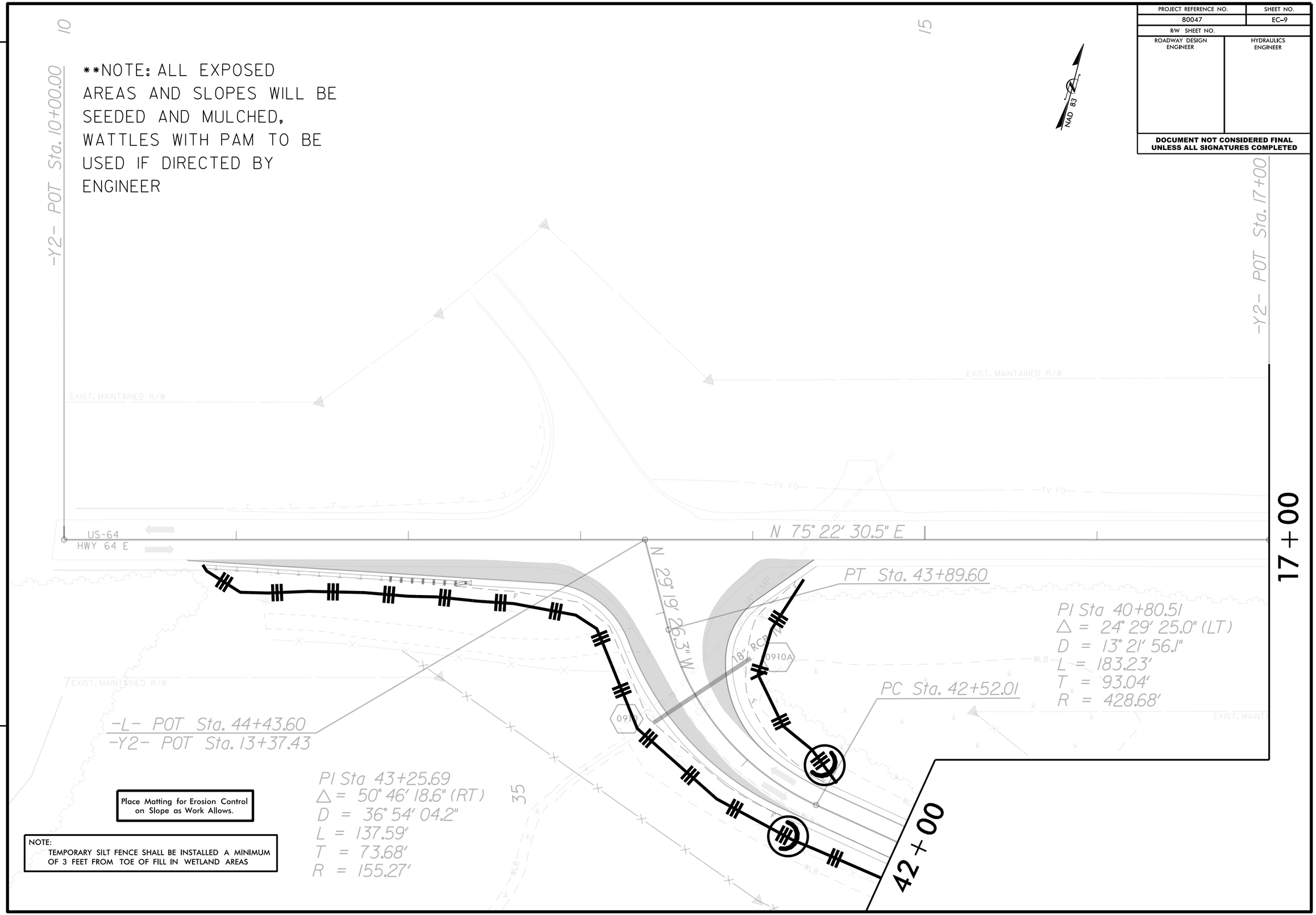

Place Matting for Erosion Control on Slope as Work Allows.

NOTE:
TEMPORARY SILT FENCE SHALL BE INSTALLED A MINIMUM OF 3 FEET FROM TOE OF FILL IN WETLAND AREAS