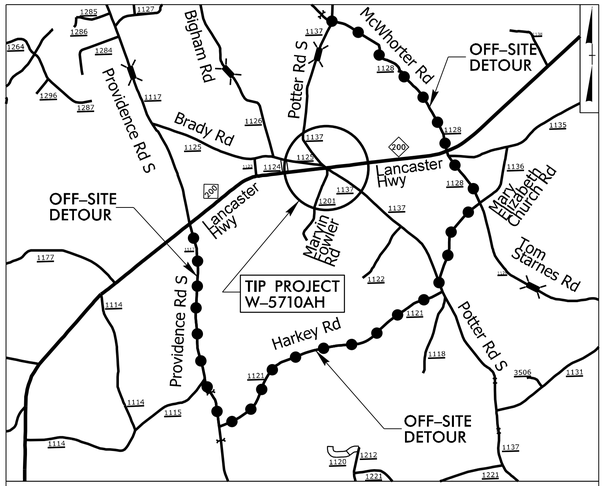
09/08/99

TIP PROJECT: W-5710AH

CONTRACT: DJ00517

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional symbols
See Sheet 4A For RW Sheet



VICINITY MAP
(NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

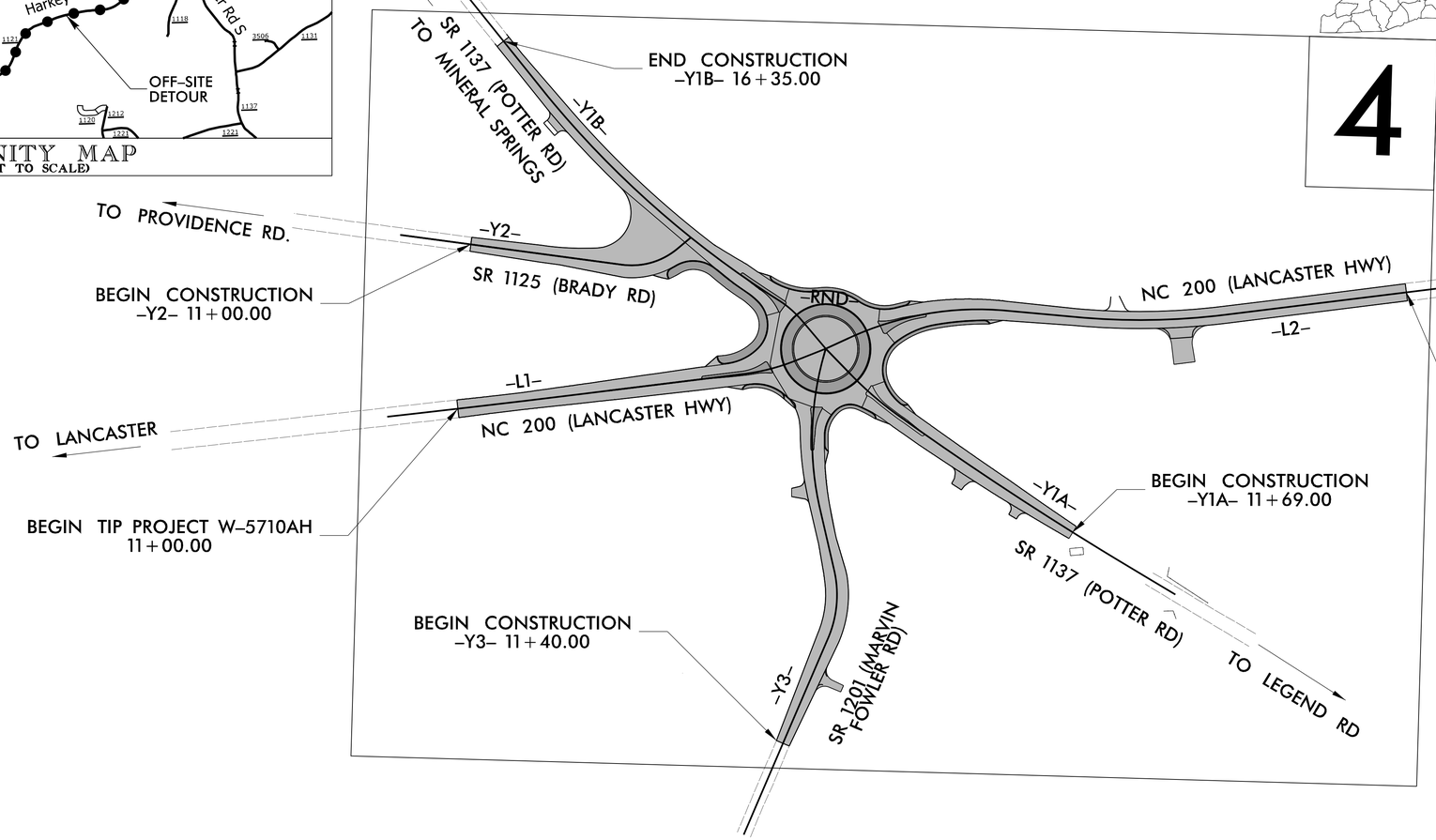
UNION COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5710AH	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
44856.1.36	HSIP-0200(014)	PE
44856.2.36	HSIP-0200(014)	R/W & UTIL
44856.3.36	HSIP-0200(014)	CONST.

LOCATION: INTERSECTION IMPROVEMENTS AT SR 1137 (POTTER RD), NC 200 (LANCASTER HWY) AND SR 1201 (MARVIN FOWLER RD)

TYPE OF WORK: GRADING, DRAINAGE, PAVEMENT REMOVAL, PAVING, CONCRETE ISLANDS, AND THERMOPLASTIC PAVEMENT MARKINGS



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2019 = 5,200
ADT 2040 =
K = *
D = *
T = *
V = 60 MPH
RND V = 25 MPH
TTST = * DUAL = 2%
FUNC CLASS = MINOR ARTERIAL

* = DESIGN DATA UNAVAILABLE

PROJECT LENGTH

LENGTH -L- LINES ROADWAY TIP PROJECT W-5710AH = 0.26 MILES

LENGTH -Y- LINES ROADWAY TIP PROJECT W-5710AH = 0.38 MILES

TOTAL LENGTH TIP PROJECT W-5710AH = 0.64 MILES

Plans Prepared For NCDOT By:

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: FEBRUARY 6, 2023

LETTING DATE: JUNE 19, 2024

STEVE MILLER, PE
PROJECT ENGINEER

WILLIAM POPE, PE
PROJECT DESIGN ENGINEER

DUSTIN SIMPSON
NCDOT CONTACT

HYDRAULICS ENGINEER

5/29/2024

DocuSigned by:
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 043890 ENGINEER WILLIAM M. STEPHENS

P.E.

ROADWAY DESIGN ENGINEER

5/28/2024

DocuSigned by:
William A. Pope
AB14B3E663E0486...
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM A. POPE

P.E.

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

5/28/2024
...\Proj\W-5710AH_Rdy_tsh.dgn
USER:WDope

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	1A

ROADWAY DESIGN ENGINEER

6/5/2024

NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM A. POPE

DocuSigned by: William A. Pope

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL PLAN SHEET SYMBOLS
2A-1 THRU 2A-4	PAVEMENT SCHEDULE, WEDGING DETAIL, AND TYPICAL SECTIONS
RW2C-1 THRU RW2C-3	RIGHT OF WAY SHEET AND SURVEY CONTROL SHEETS
2B-1	PAVEMENT REMOVAL DETAIL SHEET
2B-2	ROUNDABOUT DETAIL SHEET
3B-1	PAVEMENT REMOVAL SUMMARY & SUMMARY OF EARTHWORK
3B-2	RIGHT OF WAY DATA AND PARCEL INDEX SHEET
3D-1	DRAINAGE SUMMARY SHEET
4	PLAN SHEET
4A	RIGHT OF WAY SHEET
5 THRU 6	PROFILE SHEETS
TMP-1 THRU TMP-8	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-4	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-5	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION INDEX SHEET
X-1A	CROSS-SECTION SUMMARY
X-2 THRU X-25	CROSS-SECTIONS

GENERAL NOTES:

2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SIDE ROADS:

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

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7

SUBSURFACE PLANS

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE: Duke Energy, Spectrum & Windstream

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

RIGHT-OF-WAY MARKERS:

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

EFF. 01-16-2024
REV.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.45	Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
848.04	Street Turnout
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

8/17/99

6/5/2024 ...\Proj\W-5710AH_psh_1A.dgn

9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	1B

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9981
License: F-0453

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed Property Corner
- Existing Concrete Monument (ECM)
- Parcel/Sequence Number
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary
- Existing Historic Property Boundary
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign
- Well
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream
- Buffer Zone 1
- Buffer Zone 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch
- False Sump

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line
- Existing Control of Access Line
- Proposed Control of Access Line
- Proposed ROW and CA Line
- Existing Easement Line
- Proposed Temporary Construction Easement
- Proposed Temporary Drainage Easement
- Proposed Permanent Drainage Easement
- Proposed Permanent Drainage/Utility Easement
- Proposed Permanent Utility Easement
- Proposed Temporary Utility Easement
- Proposed Aerial Utility Easement

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut
- Proposed Slope Stakes Fill
- Proposed Curb Ramp
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — 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:

** SUE – Subsurface Utility Engineering*
LOS – Level of Service – A,B,C or D (Accuracy)

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
- U/G Power Line Test Hole (SUE – LOS A)*
- U/G Power Line (SUE – LOS B)* — P
- U/G Power Line (SUE – LOS C)* — P
- U/G Power Line (SUE – LOS D)* — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole
- Telephone Pedestal
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Test Hole (SUE – LOS A)*
- U/G Telephone Cable (SUE – LOS B)* — T
- U/G Telephone Cable (SUE – LOS C)* — T
- U/G Telephone Cable (SUE – LOS D)* — T
- U/G Telephone Conduit (SUE – LOS B)* — TC
- U/G Telephone Conduit (SUE – LOS C)* — TC
- U/G Telephone Conduit (SUE – LOS D)* — TC
- U/G Fiber Optics Cable (SUE – LOS B)* — T FO
- U/G Fiber Optics Cable (SUE – LOS C)* — T FO
- U/G Fiber Optics Cable (SUE – LOS D)* — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line Test Hole (SUE – LOS A)*
- U/G Water Line (SUE – LOS B)* — W
- U/G Water Line (SUE – LOS C)* — W
- U/G Water Line (SUE – LOS D)* — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Test Hole (SUE – LOS A)*
- U/G TV Cable (SUE – LOS B)* — TV
- U/G TV Cable (SUE – LOS C)* — TV
- U/G TV Cable (SUE – LOS D)* — TV
- U/G Fiber Optic Cable (SUE – LOS B)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS C)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS D)* — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE – LOS A)*
- U/G Gas Line (SUE – LOS B)* — G
- U/G Gas Line (SUE – LOS C)* — G
- U/G Gas Line (SUE – LOS D)* — 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
- SS Force Main Line Test Hole (SUE – LOS A)*
- SS Force Main Line (SUE – LOS B)* — FSS
- SS Force Main Line (SUE – LOS C)* — FSS
- SS Force Main Line (SUE – LOS D)* — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line (SUE – LOS B)* — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

6/2/99

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.		SHEET NO.
W-5710AH	WBS# 44856.3.36	RW2C-1

Location and Surveys

GEL SOLUTIONS

I, Parks H Icenhour Jr, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: ***AA***
Type of GPS field procedure: RTN
Dates of survey: 06/2019
Datum/Epoch:NAD83/NA2011
Published/Fixed-control use: N/A
Localized around: WH5710AH-AZ2

Northing: 410578.8316
Easting: 1493319.4361
Combined grid factor: 0.99986943
Geoid model:12NC
Units:FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 06/12/2019 to 06/27/2019 , and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

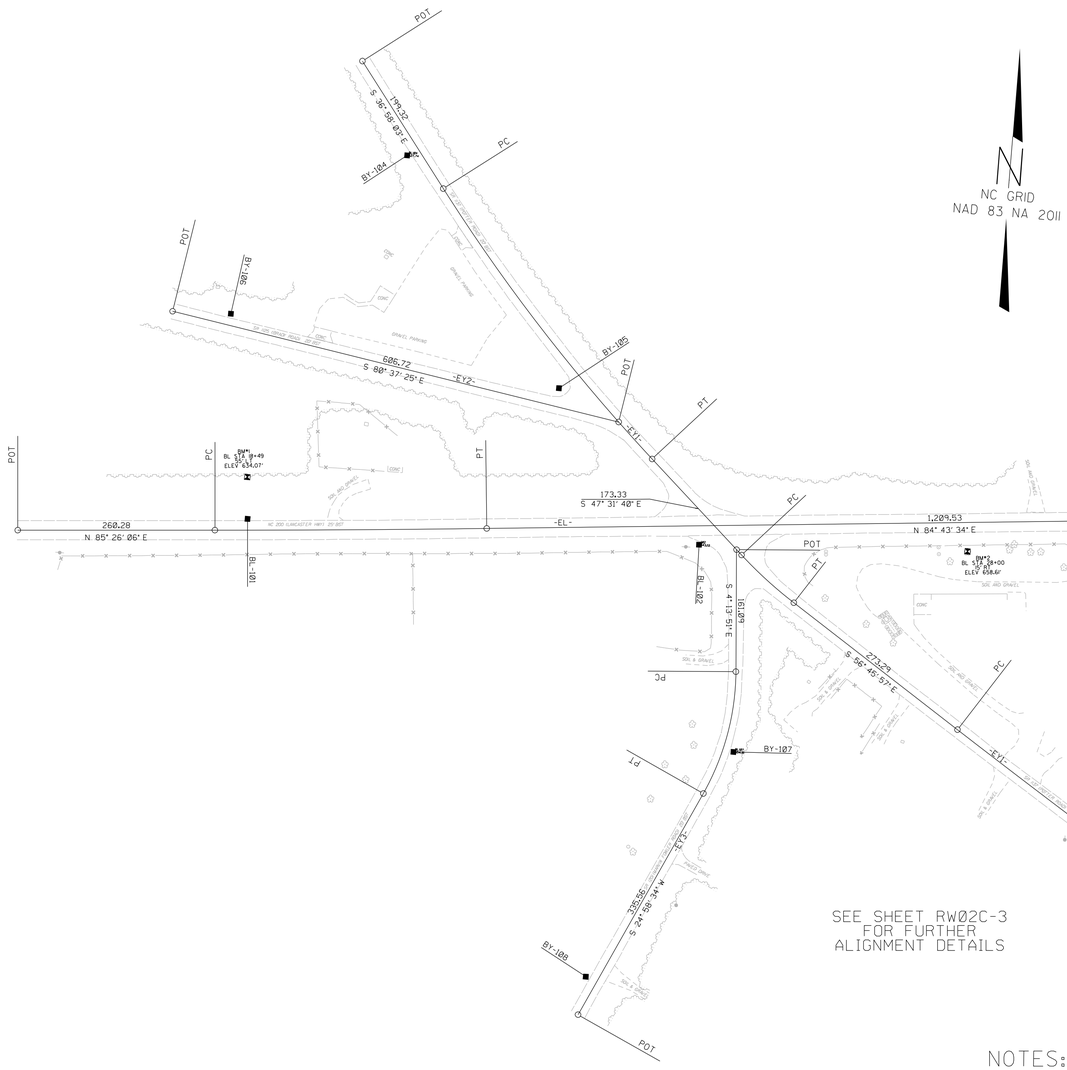
This 21st day of May, 2024.

Digitally signed by Parks H. Icenhour, Jr.
Date: 2024.05.21 19:10:15 -04'00'

Professional Land Surveyor L-3996

NORTH CAROLINA PROFESSIONAL SEAL L-3996 PARKS H. ICENHOUR LAND SURVEYOR

GEL ENGINEERING OF NC, INC. NO. C-1938 CERTIFICATE OF AUTHORIZATION



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.

21-MAY-2024 10:05
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Andy.Smith AT ANDYSMITH

6/2/99

REVISIONS

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH WBS# 44856.3.36	RW02C-2

Location and Surveys

GEL SOLUTIONS

I, Parks H Icenhour Jr, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: ***AA***
Type of GPS field procedure: RTN
Dates of survey: 06/2019
Datum/Epoch:NAD83/NA2011
Published/Fixed-control use: N/A
Localized around: WH5710AH-AZ2

NORTH CAROLINA PROFESSIONAL SEAL L-3996 PARKS H. ICENHOUR JR. LAND SURVEYOR

GEL ENGINEERING OF NC, INC. NO. C-1938 CERTIFICATE OF AUTHORIZATION

Northing: 410578.8316
Easting: 1493319.4361
Combined grid factor: 0.99986943
Geoid model:12NC
Units:FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 06/12/2019 to 06/27/2019 , and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 21st day of May, 2024

Digitally signed by Parks H. Icenhour, Jr.
Date: 2024.05.21 19:10:39 -04'00'

Professional Land Surveyor L-3996

BL

POINT	DESC.	NORTH	EAST	ELEVATION
AZ1	W5710AH-1	410578.8316	1493319.4361	643.28
AZ2	W5710AH-2	410668.6260	1494045.2830	635.39
BL101	BL-101	410717.3280	1494661.6110	634.23
BL102	BL-102	410730.8300	1495258.4140	643.63
BL103	BL-103	410783.3900	1495805.2660	660.49
AZ3	W5710AH-3	410867.6180	1496744.6530	670.85
AZ4	W5710AH-4	410993.8260	1497640.7700	663.67

BY1

POINT	DESC.	NORTH	EAST	ELEVATION
BY104	BY1-104	411212.5000	1494833.4170	628.25
BY105	BY1-105	410922.1140	1495057.6750	635.21
A102	BL-102	410730.8300	1495258.4140	643.63
BY109	BY1-109	410402.5990	1495817.1560	633.28

BY2

POINT	DESC.	NORTH	EAST	ELEVATION
BY106	BY2-106	410985.5930	1494618.1050	627.25
A105	BY1-105	410922.1140	1495057.6750	635.21

BY3

POINT	DESC.	NORTH	EAST	ELEVATION
B102	BL-102	410730.8300	1495258.4140	643.63
BY107	BY3-107	410461.7801	1495325.4747	654.82
BY108	BY3-108	410150.6370	1495154.8110	663.85

```
****************************************
BM1       ELEVATION = 634.07
N 410772      E 1494657
BENCH TIE NAIL IN 15" PINE
****************************************
```

```
****************************************
BM2       ELEVATION = 658.61
N 410750      E 1495612
BENCH TIE NAIL IN TWIN 18" OAK
****************************************
```

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.

21-MAY-2024 10:02
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Andy.Smith AT ANDYSMITH

6/2/99

REVISIONS

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH WBS# 44856.3.36	RW02C-3

Location and Surveys

GEL SOLUTIONS

I, Parks H Icenhour Jr, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**
Type of GPS field procedure: RTN
Dates of survey: 06/2019
Datum/Epoch:NAD83/NA2011
Published/Fixed-control use: N/A
Localized around: WH5710AH-AZ2

NORTH CAROLINA PROFESSIONAL SEAL L-3996 LAND SURVEYOR PARKS H. ICENHOUR, JR.

GEL ENGINEERING OF NC, INC. NO. C-1938 CERTIFICATE OF AUTHORIZATION

Northing: 410578.8316
Easting: 1493319.4361
Combined grid factor: 0.99986943
Geoid model:12NC
Units:FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 06/12/2019 to 06/27/2019 , and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 21st day of May, 2024.

Digitally signed by Parks H. Icenhour, Jr.
Date: 2024.05.21 19:11:02 -04'00'

Professional Land Surveyor L-3996

EL

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	410678.418	1494360.407							
LINE			N 85°26'06.5" E	260.28					
PC	410699.133	1494619.858							
CURVE			N 85°04'50.2" E	358.88	00°42'32.6"(LT)	00°11'51.3"	358.88	179.44	29000.00
PT	410729.908	1494977.414							
LINE			N 84°43'33.9" E	1209.53					
POT	410841.085	1496181.823							

EY1

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	411331.828	1494764.676							
LINE			S 36°58'03.2" E	199.32					
PC	411172.573	1494884.541							
CURVE			S 42°14'51.7" E	450.93	10°33'37.1"(LT)	02°20'19.0"	451.56	226.42	2450.00
PT	410838.778	1495187.715							
LINE			S 47°31'40.3" E	173.33					
PC	410721.740	1495315.564							
CURVE			S 52°08'48.5" E	93.41	09°14'16.4"(LT)	09°52'42.9"	93.51	46.86	580.00
PT	410664.418	1495389.322							
LINE			S 56°45'56.6" E	273.29					
PC	410514.636	1495617.915							
CURVE			S 57°14'16.2" E	247.19	00°56'39.2"(LT)	00°22'55.1"	247.19	123.60	15000.00
PT	410380.867	1495825.784							
LINE			S 57°42'35.8" E	54.15					
POT	410351.941	1495871.559							

EY2

POINT	N	E	BEARING	DIST
POT	410982.665	1494541.211		
LINE			S 80°37'24.7" E	606.72
POT	410883.818	1495139.821		

EY3

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	410728.315	1495308.382							
LINE			S 04°13'51.3" E	161.09					
PC	410567.667	1495320.266							
CURVE			S 10°22'21.4" W	166.40	29°12'25.3"(RT)	17°21'44.5"	168.22	85.98	330.00
PT	410403.981	1495290.305							
LINE			S 24°58'34.0" W	335.56					
POT	410099.802	1495148.619							

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.

21-MAY-2024 10:01
C:\w5710AHP-rocessing\CseriesRWsheets\W5710AH-LS_rw02c-3.dgn
Andy.Smith AT ANDYSMITH

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	2A-1

ROADWAY DESIGN ENGINEER

5/28/2024
NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM A. POPE
DocuSigned by: William A. Pope

PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

FINAL PAVEMENT SCHEDULE

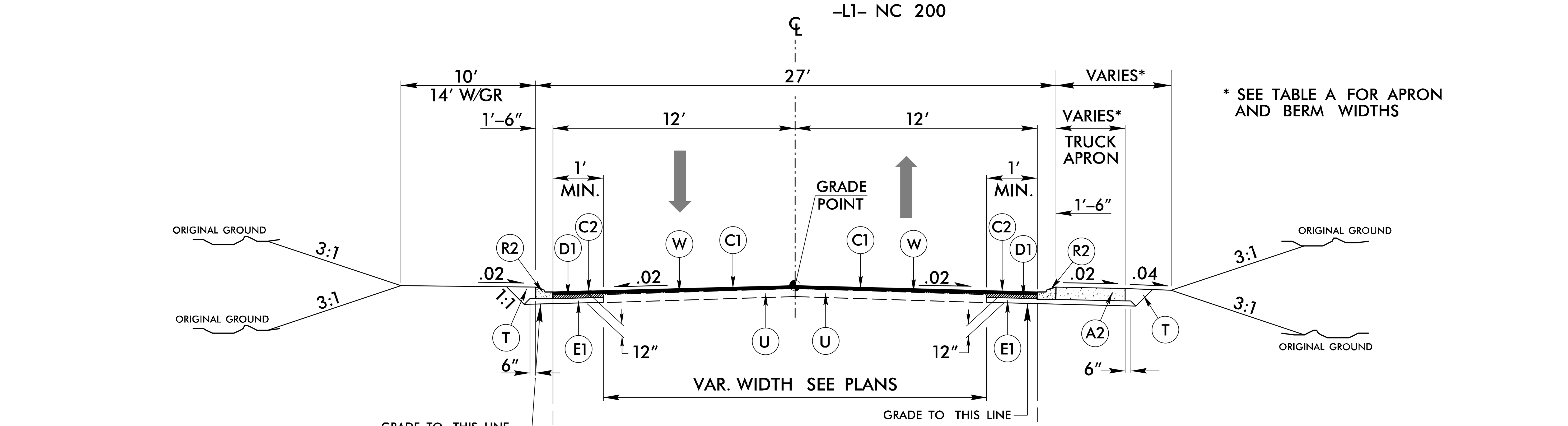
A1	12" TRUCK MOUNTABLE CONCRETE APRON, CLASS AA	R1	8"x18" CONCRETE CURB AND GUTTER
A2	12" TRUCK MOUNTABLE CONCRETE APRON W/ BLACK TINT, CLASS AA	R2	1'-6" CONCRETE CURB AND GUTTER, CLASS AA
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	R3	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R4	1'-6" CONCRETE CURB & GUTTER W/ BLACK TINT, CLASS AA
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	T	EARTH MATERIAL
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" OR GREATER THAN 4" IN DEPTH.	V	1.5" MILLING EXISTING PAVEMENT
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	W	WEDGING
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.		

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

TABLE A

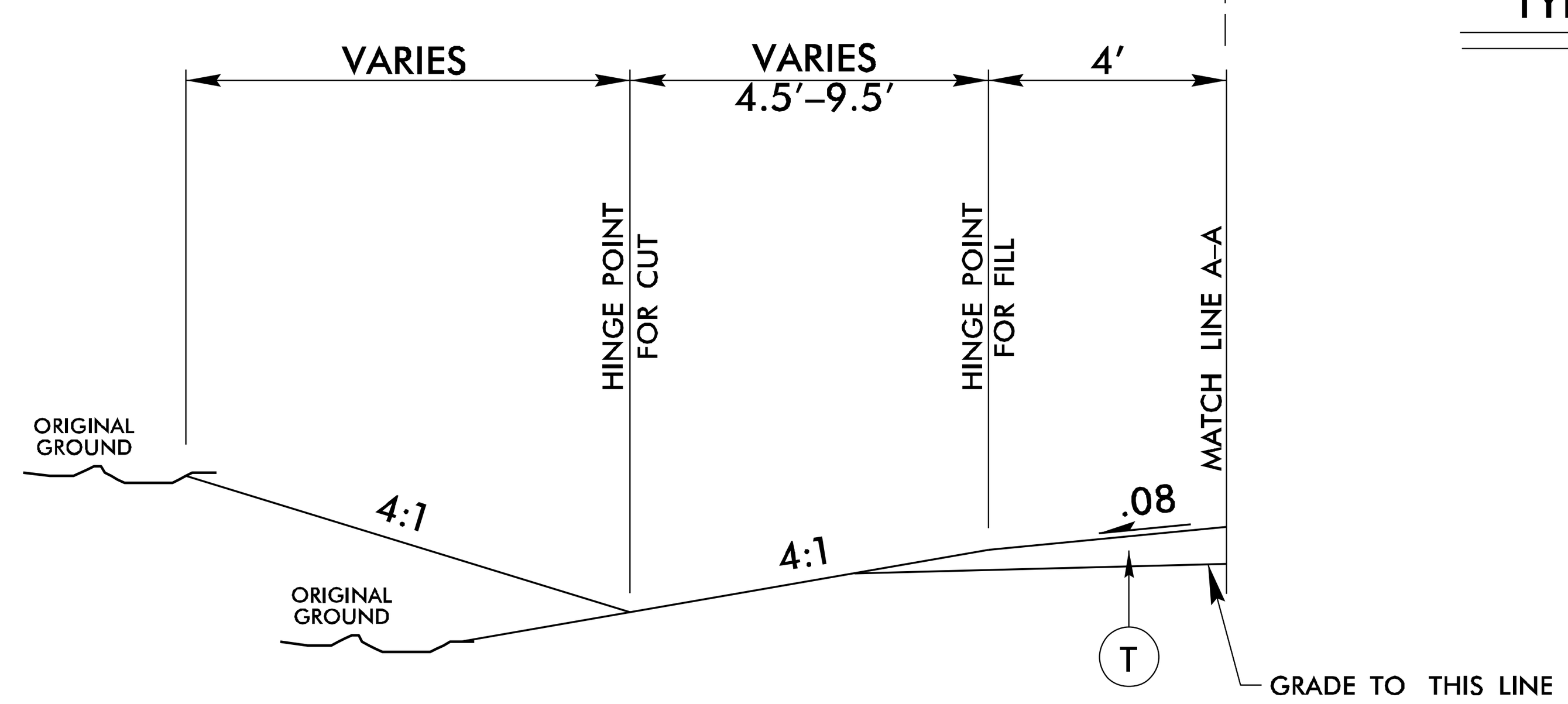
CHAIN	POSITION	APRON WIDTH	BERM WIDTH
-L1-	LT	11.0'	13.5'
	RT	4.0'	6.5'
-L2-	LT	4.0'	6.5'
	RT	4.0'	6.5'
-Y1A-	LT	4.0'	6.5'
	RT	4.0'	6.5'
-Y1B-	LT	11.0'	13.5'
	RT	4.0'	6.5'
-Y2-	LT	N/A	10'
	RT	11.0'	13.5'
-Y3-	LT	4.0'	6.5'
	RT	4.0'	6.5'

-L1- NC 200

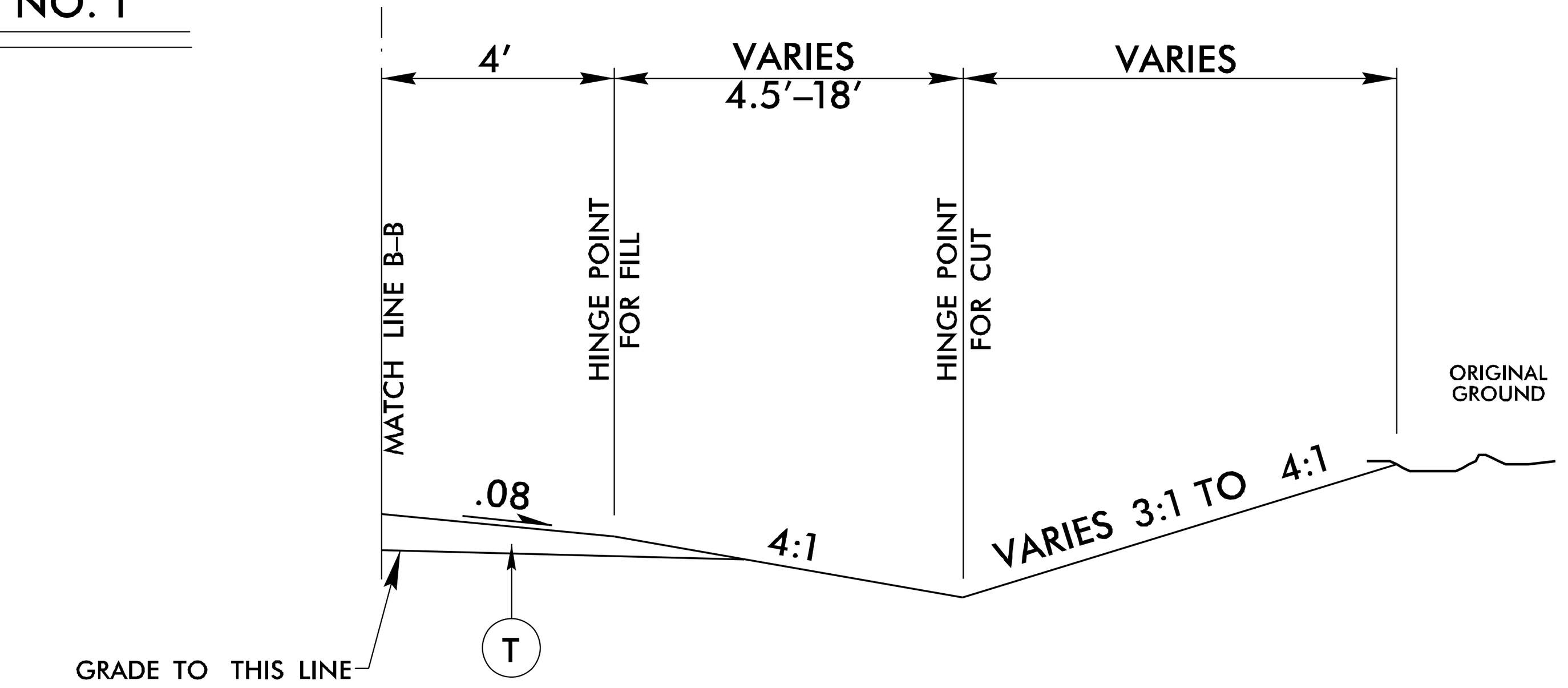


* SEE TABLE A FOR APRON AND BERM WIDTHS

TYPICAL SECTION NO. 1



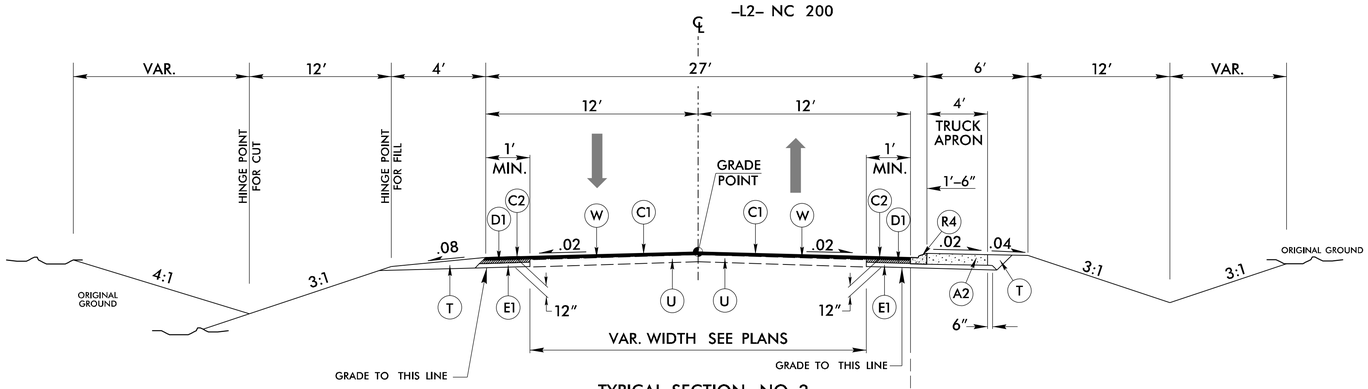
TYPICAL SECTION NO. 1A



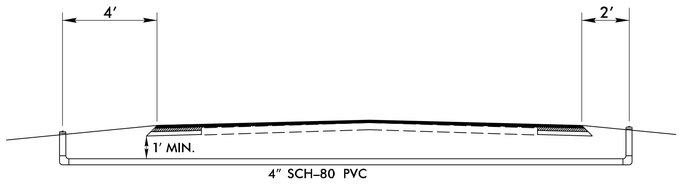
TYPICAL SECTION NO. 1B

USE TYPICAL SECTION NO. 1 AS FOLLOWS

-L1- STA. 11+00.00 TO -L1- STA. 14+45.88

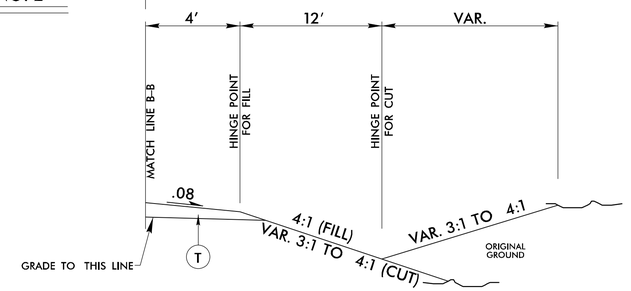


TYPICAL SECTION NO. 2



PVC PIPE DETAIL

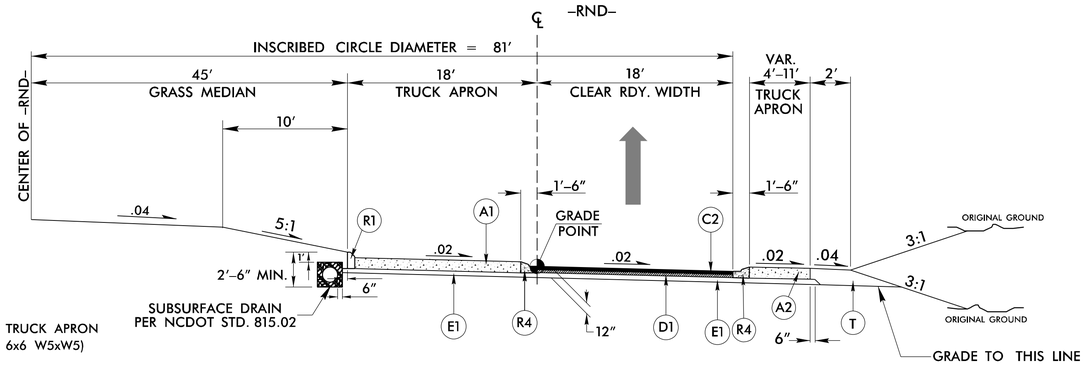
–L1– STA. 14+29.25
–Y2– STA. 12+29.76



TYPICAL SECTION NO. 2B

USE TYPICAL SECTION NO. 2 AS FOLLOWS

–L2– STA. 11+50.00 TO –L2– STA. 18+28.98



UTILIZE 15′ RADIAL JOINT SPACING FOR THE ROUNDABOUT TRUCK APRON
UTILIZE WELDED WIRE MESH (EITHER 4x4 W3.5xW3.5 OR 6x6 W5xW5)

TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AS FOLLOWS

–RND– STA. 10+00.00 TO –RND– STA. 13+95.83

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	2A-2

ROADWAY DESIGN ENGINEER

5/28/2024
NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM A POPE
DocuSigned by: William A. Pope
AB14B3E663E0486...

PAVEMENT DESIGN ENGINEER

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TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
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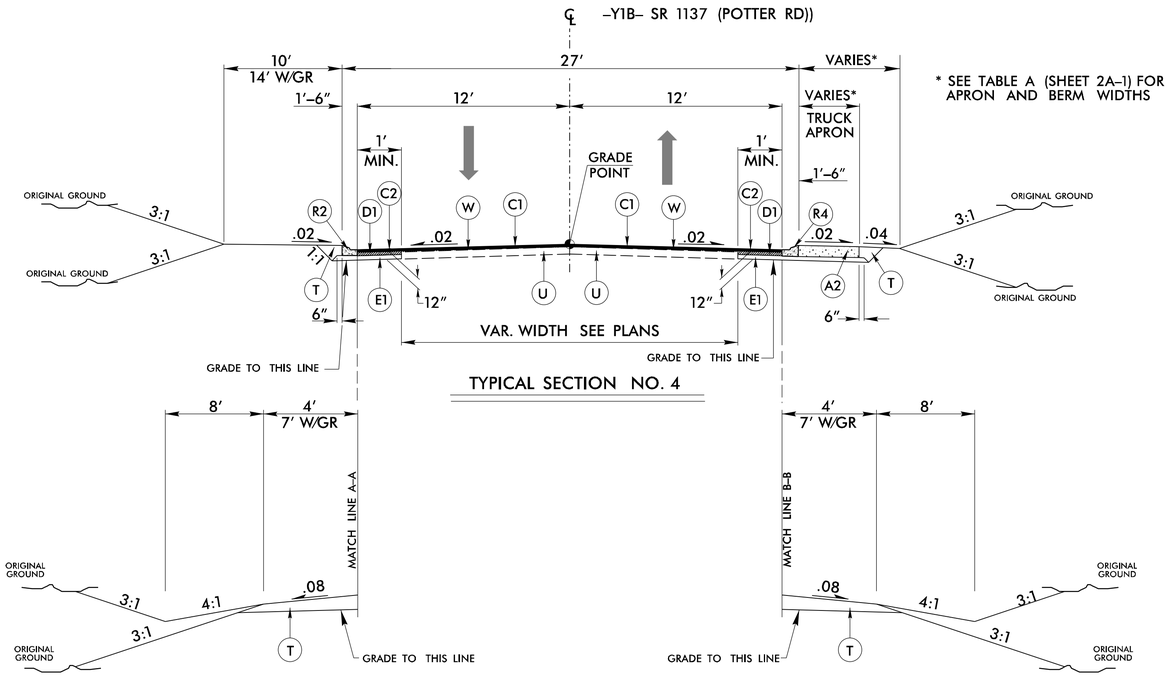
License: F-0453

FINAL PAVEMENT SCHEDULE

A1	12″ CONCRETE TRUCK APRON, CLASS AA
A2	12″ CONCRETE TRUCK MOUNTABLE APRON W/ BLACK TINT, CLASS AA
C1	1.5″ S9.5B
C2	3.0″ S9.5B
C3	VAR. DEPTH S9.5B
D1	4.0″ I19.0C
D2	VAR. DEPTH I19.0C
E1	5.0″ B25.0C
E2	VAR. DEPTH B25.0C
R1	8″x18″ CONCRETE CURB & GUTTER
R2	1′-6″ CONCRETE CURB & GUTTER, CLASS AA
R3	5″ MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R4	1′-6″ CONCRETE CURB & GUTTER W/ BLACK TINT, CLASS AA
S	4″ CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	1.5″ MILLING EXISTING PAVEMENT
W	WEDGING

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED



TYPICAL SECTION NO. 4

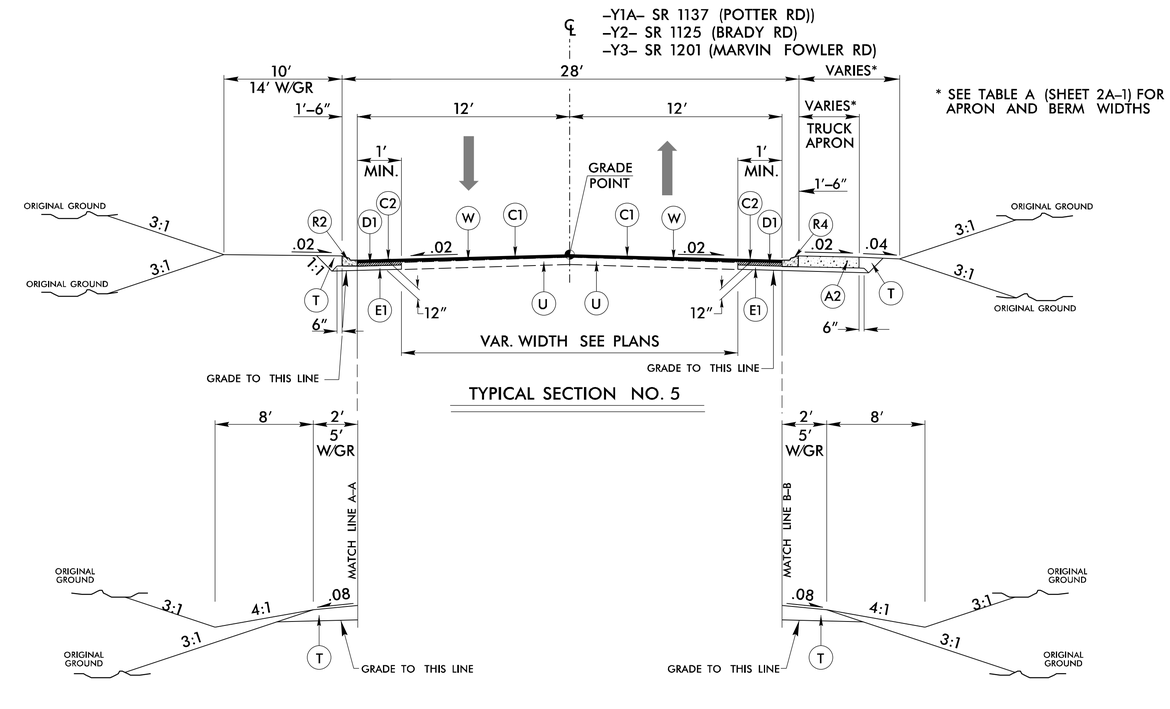
TYPICAL SECTION NO. 4A

TYPICAL SECTION NO. 4B

* SEE TABLE A (SHEET 2A–1) FOR APRON AND BERM WIDTHS

USE TYPICAL SECTION NO. 4 AS FOLLOWS

–Y1B– STA. 11+60.00 TO –Y1B– STA. 16+00.00



TYPICAL SECTION NO. 5

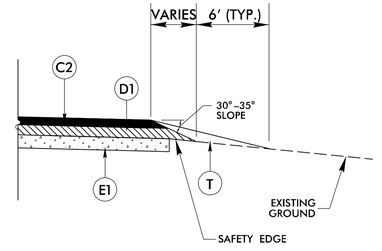
TYPICAL SECTION NO. 5A

TYPICAL SECTION NO. 5B

* SEE TABLE A (SHEET 2A–1) FOR APRON AND BERM WIDTHS

USE TYPICAL SECTION NO. 5 AS FOLLOWS

–Y1A– STA. 11+69.00 TO –Y1A– STA. 14+19.00
–Y2– STA. 11+00.00 TO –Y2– STA. 13+99.52
–Y3– STA. 11+40.00 TO –Y3– STA. 15+70.00



SAFETY EDGE DETAIL

USE IN CONJUNCTION WITH TYPICAL SECTIONS 1, 2, 4, AND 5

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	2A-3

ROADWAY DESIGN ENGINEER

5/28/2024
NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM A. POPE
DocuSigned by: William A. Pope
AB14B3E663E0486...

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C1	1.5" S9.5B
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C3	VAR. DEPTH S9.5B
D1	4.0" I19.0C
D2	VAR. DEPTH I19.0C
E1	5.0" B25.0C
E2	VAR. DEPTH B25.0C
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R2	1'-6" CONCRETE CURB & GUTTER, CLASS AA
R3	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R4	1'-6" CONCRETE CURB & GUTTER W/ BLACK TINT, CLASS AA
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	1.5" MILLING EXISTING PAVEMENT
W	WEDGING

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	2A-4

ROADWAY DESIGN ENGINEER

5/28/2024 NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM A. POPE

DocuSigned by: William A. Pope AB14B3E663E0486...

PAVEMENT DESIGN ENGINEER

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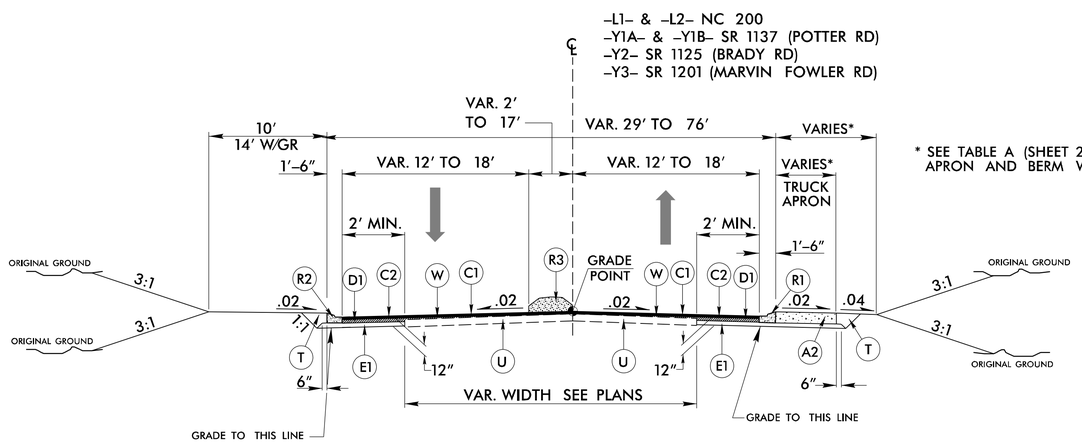


TYPICAL SECTION NO. 6

* SEE TABLE A (SHEET 2A–1) FOR APRON AND BERM WIDTHS

USE TYPICAL SECTION NO. 6 AS FOLLOWS

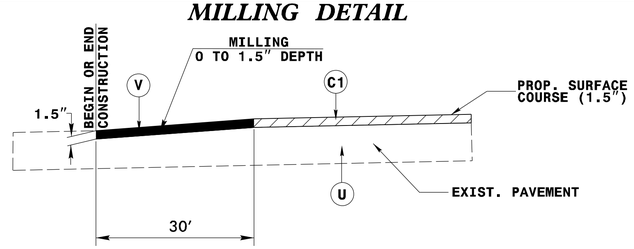
–L1– STA. 14+45.88 TO	–L1– STA. 15+44.60
–L2– STA. 10+81.96 TO	–L2– STA. 11+50.00
–Y1A– STA. 14+19.00 TO	–Y1A– STA. 15+20.81
–Y1B– STA. 10+83.71 TO	–Y1B– STA. 11+60.00
–Y3– STA. 15+70.00 TO	–Y3– STA. 16+32.05

FINAL PAVEMENT SCHEDULE

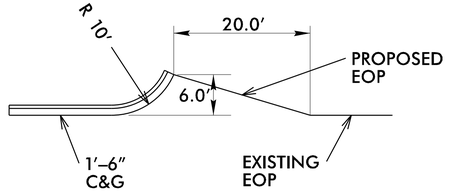
A1	12″ CONCRETE TRUCK APRON, CLASS AA
A2	12″ CONCRETE TRUCK MOUNTABLE APRON W/ BLACK TINT, CLASS AA
C1	1.5″ S9.5B
C2	3.0″ S9.5B
C3	VAR. DEPTH S9.5B
D1	4.0″ I19.0C
D2	VAR. DEPTH I19.0C
E1	5.0″ B25.0C
E2	VAR. DEPTH B25.0C
R1	8″x18″ CONCRETE CURB & GUTTER
R2	1′-6″ CONCRETE CURB & GUTTER, CLASS AA
R3	5″ MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R4	1′-6″ CONCRETE CURB & GUTTER W/ BLACK TINT, CLASS AA
S	4″ CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	1.5″ MILLING EXISTING PAVEMENT
W	WEDGING

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED

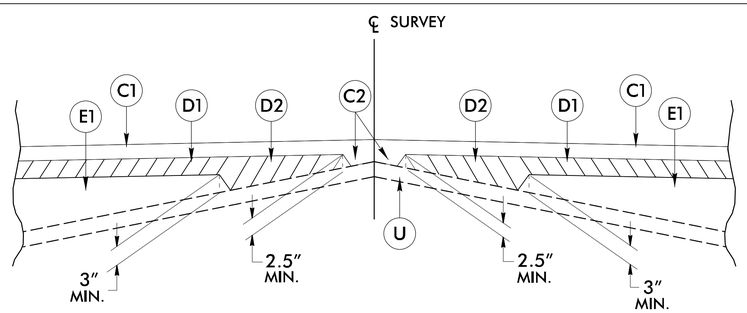
MILLING DETAIL



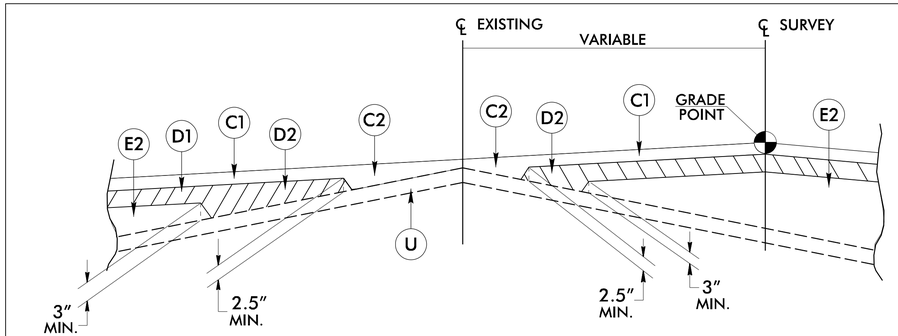
NOTE: MIRROR FOR END OF CONSTRUCTION



CURB RETURN DETAIL



Detail Showing Method of Wedging No. 1



Detail Showing Method Of Wedging No. 2

8/17/99

PAVEMENT REMOVAL DETAIL SHEET

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	2B-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
5/28/2024
NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM ALEXANDER POPE
DocuSigned by: William A. Pope
AB14B3E663E0486...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

POTTER ROAD (SR 1137)

–Y1B– STA. 16+35 END PAVEMENT REMOVAL

BRADY ROAD (SR 1125)

–Y2– STA. 11+00 MILL TO TIE TO EXISTING

–Y1B– STA. 10+82.36 BEGIN PAVEMENT REMOVAL

NC 200 (LANCASTER HWY)

–L2– STA. 18+28.98 MILL TO TIE TO EXISTING

–L2– STA. 18+28.98 END PAVEMENT REMOVAL

–L2– STA. 10+64.29 BEGIN PAVEMENT REMOVAL

–Y1A– STA. 14+86.05 END PAVEMENT REMOVAL

–RND– STA. 10+00 & 13+95.83 BEGIN AND END PAVEMENT REMOVAL

–Y3– STA. 16+32.90 END PAVEMENT REMOVAL

–L1– STA. 11+00 MILL TO TIE TO EXISTING

POTTER ROAD (SR 1137)

–Y1A– STA. 13+44.99 BEGIN PAVEMENT REMOVAL

–Y1A– STA. 11+69 MILL TO TIE TO EXISTING

MARVIN FOWLER ROAD (SR 1201)

–Y3– STA. 13+45.99 BEGIN PAVEMENT REMOVAL

–Y3– STA. 11+40 MILL TO TIE TO EXISTING

PAVEMENT REMOVAL

5/28/2024
W-5710AH_Rdy_psh_2B-1.dgn
USER:wpope

ROUNDABOUT DETAIL

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	2B-2
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
5/28/2024
NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM A POPE
DocuSigned by: William A. Pope
AB14B3E663E0486...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

-Y1B-
-Y2-
-L1-
-L2-
-Y1A-
-Y3-

55.00 UNIFORM TRANSITION
250.00 UNIFORM TRANSITION
300.00 UNIFORM TRANSITION
105.00 UNIFORM TRANSITION

+58.00 2.00' R=2'
+87.07 0.85' R=3'
+84.80 12.63' R=1'
+82.92 5.71' R=1'
+87.44 10.02' R=3'
+48.00 2.00' R=2'
+38.45 8.41' R=3'
+43.64 5.34' R=1'
+27.97 1.49' R=3'
+31.02 11.23' R=1'
+19.82 8.51' R=1'
+16.47 2.60' R=3'
+47.88 2.00' R=2'
+72.00 0.00' R=2'
+21.00 2.00' R=2'

1'6" C&G
2'6" C&G
162' DIA.
81' RAD.
45'
18'

SEE SHEET 4 FOR PLAN VIEW

SCALE 20 10 0 20 40

5/28/2024
C:\Projects\W-5710AH_Rdy_psh_2B-2.dgn
USER:WDope

8/17/99

COMPUTED BY: TYLER NEAL, EI DATE: 5/18/2021
CHECKED BY: WILLIAM POPE, PE DATE: 5/28/2024

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	3B-1

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
-L2-	10+64.29	18+28.98	RT	959.51
-Y1A-	13+57.78	15+31.91	LT	88.94
-Y1B-	10+27.12	12+42.58	LT	515.79
-Y1B-	13+50.97	14+32.19	LT	13.54
-Y3-	13+45.99	16+32.90	RT	5561.57
-RND-	10+00.00	13+95.83	LT/RT/CL	1054.17
TOTAL				3193.52
SAY				3,200

SUMMARY OF EARTHWORK

IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-L1- STA. 11+00.00	-L1- STA. 15+50.00	856	1070	214	
-L2- STA. 10+81.05	-L2- STA. 18+.98	6350	274		6076
-RND- STA. 10+00.00	-RND- STA. 13+75.00	1062	3328	2266	
-Y1A- STA. 11+69.00	-Y1A- STA. 15+22.33	318	152		166
-Y1B- STA. 11+81.14	-Y1B- STA. 16+35.00	1856	121		1735
-Y2- STA. 11+00.00	-Y2- STA. 14+00.00	666	65		601
-Y3- STA. 11+40.00	-Y3- STA. 16+35.00	454	1285	831	
SUMMARY TOTALS		11,562	6295	3311	8578
BORROW EXCAVATION OF PIPE INSTALLATION			300	300	
WASTE IN LIEU OF BORROW			-3311	-3611	-3611
PROJECT TOTALS		11,562	6295	0	4967
SAY		12,000			

GEOTEXTILE FOR SOIL STABILIZATION = 100 SY
UNDERCUT = 100 CY

Earthwork quantities are calculated by the Roadway Design Unit.

5/29/2024
W-5710AH_Rdy_sum_3B-1.dgn

8/17/99

COMPUTED BY: TYLER NEAL, EI DATE: 6/9/2023
CHECKED BY: WILLIAM POPE, PE DATE: 5/27/2024

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	3B-2

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
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RIGHT OF WAY DATA SHEET

PARCEL NO.	PROPERTY OWNERS NAMES	TOTAL AREA (AC)	AREA TAKEN (AC)	AREA REMAINING RT. (AC)	AREA REMAINING LT. (AC)	CONSTR. EASEMENT (AC)	PERM. DRAINAGE EASEMENT (AC)	ROW (AC)	PERM. UTILITY EASEMENT (AC)	PERM. DRAINAGE UTILITY EASEMENT (AC)
1	MARLENE BROWN	41.385	—	41.385	—	0.030	—	—	—	—
2	JEFFERY JONES	3.650	0.183	—	3.467	0.047	—	0.095	0.088	—
3	PLEASANT T. ROPER	5.340	0.464	4.876	—	0.184	—	0.424	0.040	—
4	MARK SCRUDATO	7.090	0.833	—	6.257	0.360	—	0.815	0.018	—
5	PAUL WARNER	1.963	0.189	1.774	—	0.050	—	0.033	0.156	—
6	DESH OF WAXHAW LLC	4.000	0.001	3.999	—	—	—	—	0.001	—
7/7z	MASSEY PROPERTIES AND PRINCE BOOTH INVESTMENTS	291.593	0.101	—	291.492	—	—	—	0.101	—
8	MIGHTY FORTRESS CHURCH INC	4.280	0.078	—	4.202	0.118	—	0.073	0.005	—
9	DERON SIEBERT	1.280	—	1.280	—	0.007	—	—	—	—
10	MICHAEL HURST	1.637	0.041	1.596	—	0.015	—	0.037	0.004	—
11	GREGORY LITTLE	1.270	—	—	1.270	0.022	—	—	—	—

PARCEL INDEX SHEET

PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAMES
1	4, 4A	MARLENE BROWN
2	4, 4A	JEFFERY JONES
3	4, 4A	PLEASANT T. ROPER
4	4, 4A	MARK SCRUDATO
5	4, 4A	PAUL WARNER
6	4, 4A	DESH OF WAXHAW LLC
7	4, 4A	MASSEY PROPERTIES AND PRINCE BOOTH INVESTMENTS
8	4, 4A	MIGHTY FORTRESS CHURCH INC
9	4, 4A	DERON SIEBERT
10	4, 4A	MICHAEL HURST
11	4, 4A	GREGORY LITTLE

5/29/2024
W-5710AH_Rdy_sum_3B-2.dgn
USER:wpope

RA66W5D1

COMPUTED BY: BMS DATE: 5/21/2024

CHECKED BY: DATE:

PROJECT NO.	SHEET NO.
W-5710AH	3D-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

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

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	SIDE DRAIN PIPE (RCP, CSP, CAAP, SI SIDE DRAIN D PIPE 6"	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS V 12"	15"	18"	24"	30"	36"	42"	48"		ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.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. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	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 (EACH) DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I TYPE "B" STD. 840.19 OR STD. 840.27	G.D.I TYPE "D" STD. 840.19 OR 840.28	G.D.I (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	J.B. STD. 840.31 OR STD. 840.32	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GREATES STD. 840.36	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	MH FRAME AND COVER STD. 804.54	MODIFIED CONCRETE FLUME	ADJUST D.I.		FLOWABLE FILL C.Y.	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	SIDE DRAIN PIPE ELBOWS NO. & SIZE	PIPE REMOVAL LIN. FT.	REMARKS
Y1B 11+01	RT	405		642.7																																												1							1		1	1																		
		405	406		639.5	637.7																								52'																																														
Y1B 11+53	RT	406		640.9																																												1							1		1	1																		
		406	407		637.7	637.6																								28'																																														
Y3 16+00	RT	412	413		642.0	641.2																									36'																																												
Y3 16+10	RT	413		645.7																																												1							1		1	1																		
		413	414		641.2	638.8																									60'																																												
Y1A 15+08	RT	420		647.0																																												1							1		1	1																		
		420	421		643.2	642.9																								52'																																														
Y1B 14+94	LT	401								28'							X	X																																																										
Y1A 15+00	LT	411																																																																			1							
L1 14+94	CL	403			637.5	636.4																										100'																																													
L2 11+00	CL	408			644.5	641.0																									84'																																												
L2 11+31	RT	409																																																																			1							
L2 14+18	LT	410								24'							X	X																																																									
Y2 11+93	LT	402									44'						X	X																																																									
Y3 15+15	LT	415								28'							X	X																																																										
Y3 12+44	RT	417								24'							X	X																																																									
RND 12+30	RT	418																																																																			1							
RND 12+80	RT	419																																																																			1							
RND 13+55	RT	404																																																																			1							
L1 15+31	CL																																																																										45'	18" RCP
Y3 12+45	RT																																																																										21'	12" RCP
Y3 15+31	RT																																																																										41'	15" RCP
L2 14+22	LT																																																																										29'	12" RCP
Y1B 14+94	LT																																																																										25'	15" RCP
PROJECT TOTALS										104'	44'																			132'	180'	100'																4							4		4	4											5						161'	

<u>ABBREVIATIONS</u>

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
	DROP INLET
D.I.	GRATED DROP INLET
G.D.I.	(NARROW SLOT)
G.D.I.(N.S.)	JUNCTION BOX
J.B.	MANHOLE
M.H.	TRAFFIC BEARING
T.B.D.I.	DROP INLET
	TRAFFIC BEARING
T.B.J.B.	JUNCTION BOX

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	4
R/W SHEET NO. 4A	

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

ROADWAY DESIGN ENGINEER
5/28/2024
NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM A. POPE
DocuSigned by: William A. Pope
AB14B3E663E0486...

HYDRAULICS ENGINEER
5/29/2024
NORTH CAROLINA PROFESSIONAL SEAL 043890 ENGINEER BRIAN M. STEFFEN
DocuSigned by:
09B7F114D23048D...

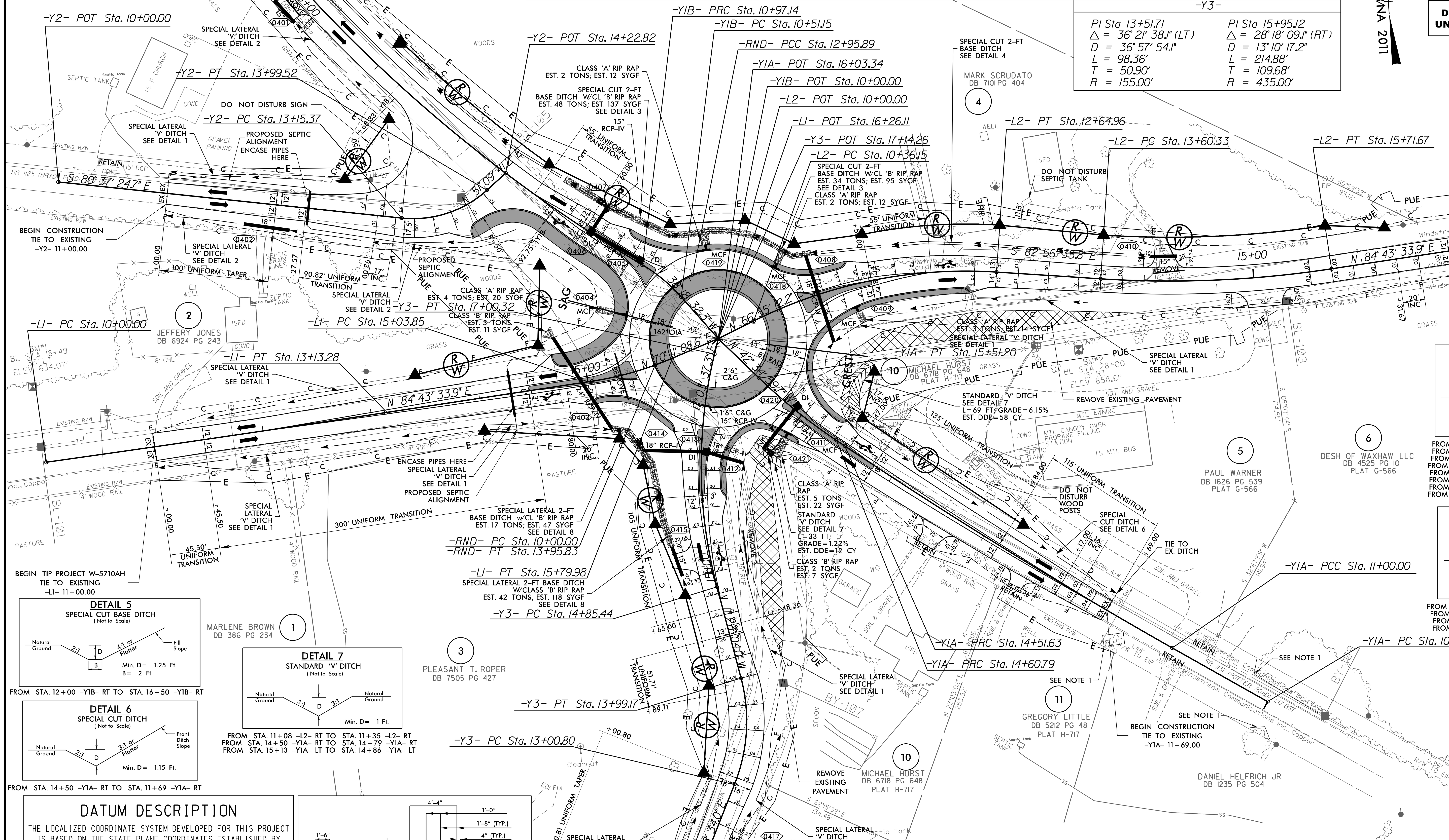
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

-L1-		-L2-		-Y2-
PI Sta 11+56.64	PI Sta 15+42.12	PI Sta 11+53.27	PI Sta 14+66.41	PI Sta 13+60.12
△ = 0° 37′ 08.3″ (LT)	△ = 14° 32′ 25.3″ (LT)	△ = 30° 08′ 12.0″ (RT)	△ = 12° 19′ 50.3″ (LT)	△ = 48° 12′ 54.1″ (LT)
D = 0° 11′ 51.3″	D = 19° 05′ 54.9″	D = 13° 10′ 17.2″	D = 5° 50′ 04.6″	D = 57° 17′ 44.8″
L = 313.28′	L = 76.13′	L = 228.80′	L = 211.34′	L = 84.15′
T = 156.64′	T = 38.27′	T = 117.11′	T = 106.08′	T = 44.75′
R = 29,000.00′	R = 300.00′	R = 435.00′	R = 982.00′	R = 100.00′

-Y1A-				-Y1B-	
PI Sta 12+75.90	PI Sta 10+50.00	PI Sta 15+06.12	PI Sta 14+56.21	PI Sta 10+74.33	PI Sta 13+15.87
△ = 4° 13′ 25.4″ (RT)	△ = 0° 22′ 55.1″ (RT)	△ = 10° 21′ 36.1″ (RT)	△ = 0° 06′ 35.9″ (LT)	△ = 17° 34′ 00.0″ (LT)	△ = 18° 08′ 31.2″ (RT)
D = 1° 12′ 04.2″	D = 0° 22′ 55.1″	D = 11° 27′ 33.0″	D = 1° 12′ 04.2″	D = 38° 11′ 49.9″	D = 4° 10′ 55.8″
L = 351.63′	L = 100.00′	L = 90.41′	L = 9.15′	L = 45.99′	L = 433.79′
T = 175.90′	T = 50.00′	T = 45.33′	T = 4.58′	T = 23.18′	T = 218.73′
R = 4,770.00′	R = 15,000.00′	R = 500.00′	R = 4,770.00′	R = 150.00′	R = 1,370.00′

-Y3-	
PI Sta 13+51.71	PI Sta 15+95.12
△ = 36° 21′ 38.1″ (LT)	△ = 28° 18′ 09.1″ (RT)
D = 36° 57′ 54.1″	D = 13° 10′ 17.2″
L = 98.36′	L = 214.88′
T = 50.90′	T = 109.68′
R = 155.00′	R = 435.00′



NOTE 1: PLACE ORANGE SAFETY FENCE AROUND ENVIRONMENTAL SENSITIVE AREA. DO NOT DISTURB.

NOTE 2: INCIDENTAL MILL APPROXIMATELY 30′ AT EACH TIE-IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; D; 4:1 or Flatter; Fill Slope
Min. D= 1 Ft.

FROM STA. 11+00 -L1- RT TO STA. 13+90 -L1- RT
FROM STA. 14+00 -L1- RT TO STA. 15+13 -L1- RT
FROM STA. 10+83 -L2- RT TO STA. 11+00 -L2- RT
FROM STA. 11+00 -L2- RT TO STA. 13+50 -L2- RT
FROM STA. 12+00 -Y3- LT TO STA. 15+00 -Y3- LT
FROM STA. 12+55 -Y3- RT TO STA. 13+50 -Y3- RT
FROM STA. 14+00 -Y3- RT TO STA. 16+00 -Y3- RT
FROM STA. 11+00 -Y2- LT TO STA. 13+00 -Y2- LT

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; D; 4:1 or Flatter; Fill Slope
Min. D= 1.25 Ft.

FROM STA. 13+60 -Y1B- LT TO STA. 14+78 -Y1B- LT
FROM STA. 15+10 -Y1B- LT TO STA. 16+50 -Y1B- LT
FROM STA. 11+00 -Y2- RT TO STA. 11+75 -Y2- RT
FROM STA. 12+15 -Y2- RT TO STA. 14+00 -Y2- RT

DETAIL 5
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground; 2:1; D; B; 4:1 or Flatter; Fill Slope
Min. D= 1.25 Ft.
B= 2 Ft.

FROM STA. 12+00 -Y1B- RT TO STA. 16+50 -Y1B- RT

DETAIL 6
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground; 2:1; D; 3:1 or Flatter; Front Ditch Slope
Min. D= 1.15 Ft.

FROM STA. 14+50 -Y1A- RT TO STA. 11+69 -Y1A- RT

DETAIL 7
STANDARD 'V' DITCH
(Not to Scale)

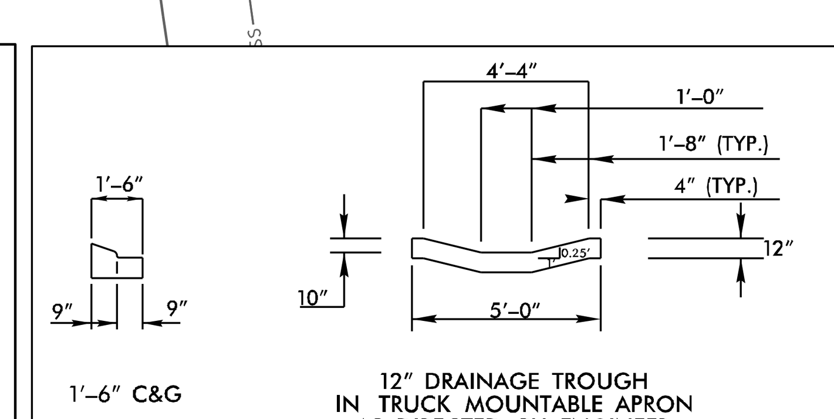
Natural Ground; 3:1; D; 3:1; Natural Ground
Min. D= 1 Ft.

FROM STA. 11+08 -L2- RT TO STA. 11+35 -L2- RT
FROM STA. 14+50 -Y1A- RT TO STA. 14+79 -Y1A- RT
FROM STA. 15+13 -Y1A- LT TO STA. 14+86 -Y1A- LT

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W5710AH-AZ2"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 410578.8316(ft) EASTING: 1493319.4361(ft)
ELEVATION: 635.39(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99986943
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W5710AH-AZ2" TO -L- STATION IS

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



DETAIL 8
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 2:1; d; D; B; Geotextile; 4:1 or Flatter; Fill Slope
Min. D= 1 Ft.
Max. d= 1 Ft.
B= 2 Ft.
Type of Liner= Class 'B' Rip-Rap

FROM STA. 15+30 -Y3- LT TO STA. 16+25 -Y3- LT
FROM STA. 15+13 -L1- RT TO STA. 15+25 -L1- RT

DETAIL 4
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground; 2:1; D; B; 4:1 or Flatter; Fill Slope
Min. D= 1 Ft.
B= 2 Ft.

FROM STA. 10+91 -L2- LT TO STA. 14+05 -L2- LT

DETAIL 3
SPECIAL CUT BASE DITCH
(Not to Scale)

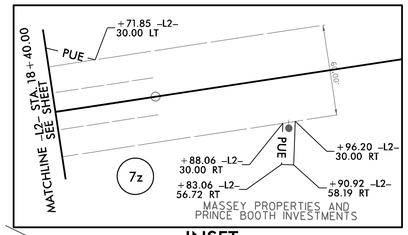
Natural Ground; 2:1; d; D; B; Geotextile; 3:1 or Flatter; Fill Slope
Min. D= 1.25 Ft.
Max. d= 1 Ft.
B= 2 Ft.
Type of Liner= Class 'B' Rip-Rap

FROM STA. 12+25 -RND- RT TO STA. 13+00 -RND- RT
FROM STA. 10+91 -Y1B- RT TO STA. 12+00 -Y1B- RT

SEE SHEET 5 FOR -RND- PROFILE
SEE SHEET 5 FOR -L1- PROFILE
SEE SHEET 5 FOR -L2- PROFILE
SEE SHEET 6 FOR -Y1A- PROFILE
SEE SHEET 6 FOR -Y1B- PROFILE
SEE SHEET 6 FOR -Y2- PROFILE
SEE SHEET 6 FOR -Y3- PROFILE

8/17/99

RIGHT OF WAY DATA SHEET



INSET

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	4A

CONSTRUCTION SHEET NO. 4

ROADWAY DESIGN ENGINEER
5/28/2024
NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM A. POPE
DocuSigned by: William A. Pope AB14B3E663E0486...

HYDRAULICS ENGINEER
5/29/2024
NORTH CAROLINA PROFESSIONAL SEAL 043890 ENGINEER BRIAN M. STEFFEN
DocuSigned by: 09B7F114D2304B0...

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NAD 83/NA 2011

-Y1B- POTTER ROAD (SR 1137)
-Y2- BRADY ROAD (SR 1125)
-L1- NC 200 (LANCASTER HWY)
-L2- NC 200 (LANCASTER HWY)
-Y1A- POTTER ROAD (SR 1137)
-Y3- MARVIN FOWLER ROAD (SR 1201)

8 MIGHTY FORTRESS CHURCH INC. DB 1312 PG 646
4 MARK SCRUDATO DB 7101PG 404
2 JEFFERY JONES DB 6924 PG 243
1 MARLENE BROWN DB 386 PG 234
3 PLEASANT T. ROPER DB 7505 PG 427
10 MICHAEL HURST DB 6718 PG 648 PLAT H-717
9 DERON SIEBERT DB 6790 PG 164 PLAT H-717
11 GREGORY LITTLE DB 5212 PG 48 PLAT H-717
5 PAUL WARNER DB 1626 PG 539 PLAT G-566
6 DESH OF WAXHAW LLC DB 4525 PG 10 PLAT G-566
7 MASSEY PROPERTIES AND PRINCE BOOTH INVESTMENTS
7z

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W5710AH-AZ2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 410578.8316(ft) EASTING: 1493319.4361(ft) ELEVATION: 635.39(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99986943 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W5710AH-AZ2" TO -L- STATION IS

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

5/28/2024
W-5710AH_Rdy_psh5-row.dgn
USER:wpope

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	5

ROADWAY DESIGN ENGINEER — William A. Pope, SEAL 52550, 5/28/2024

HYDRAULICS ENGINEER — SEAL 043890, 5/29/2024

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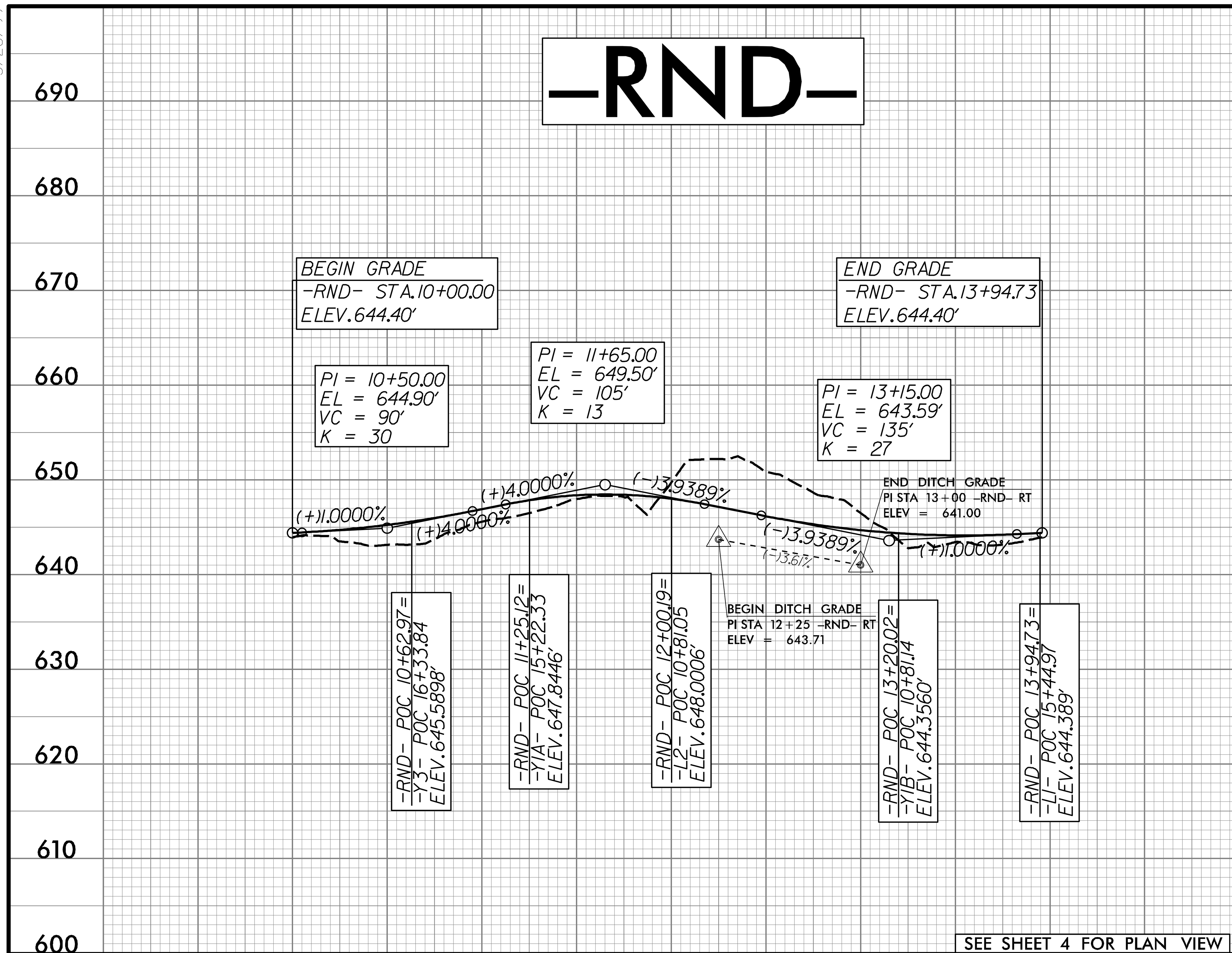
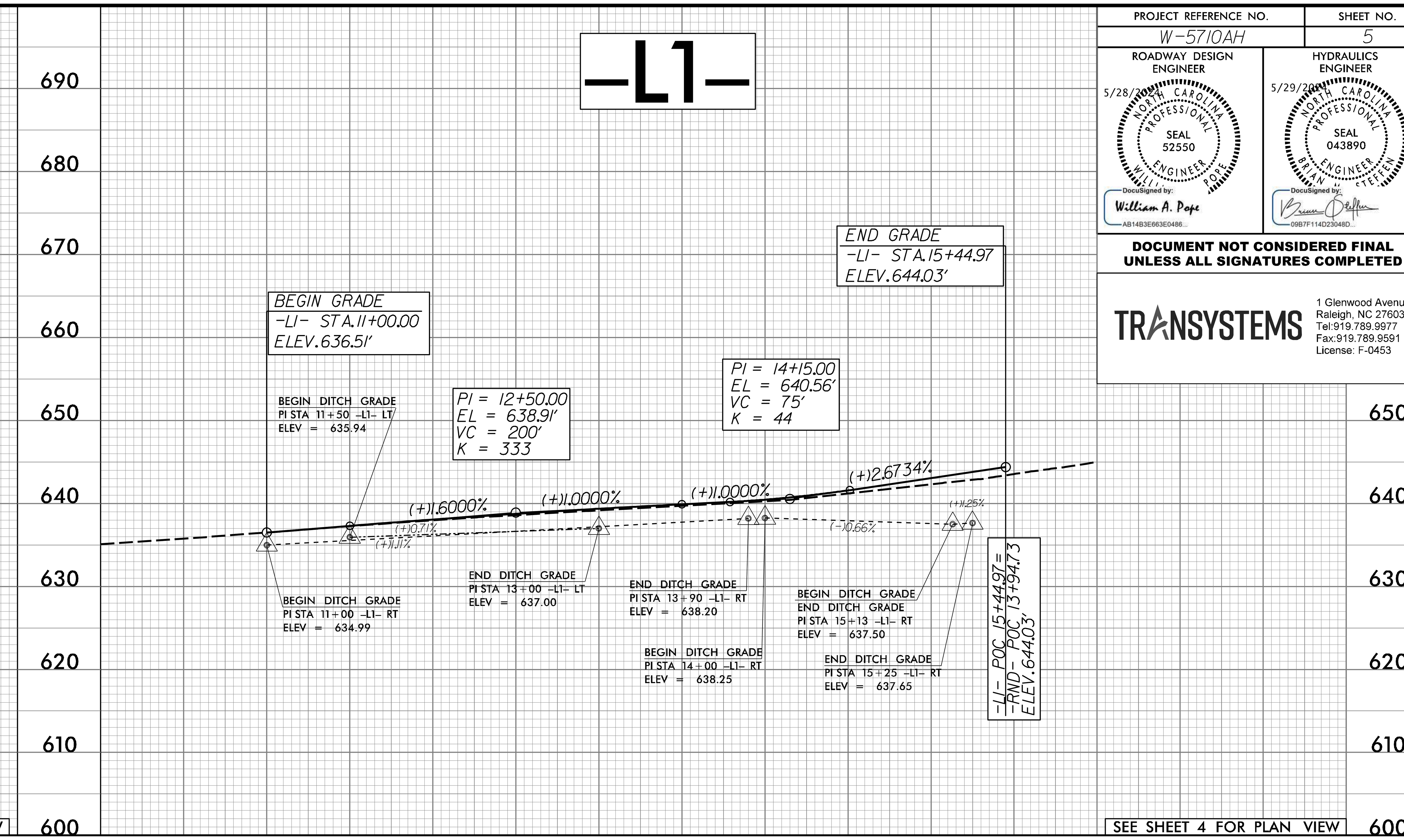
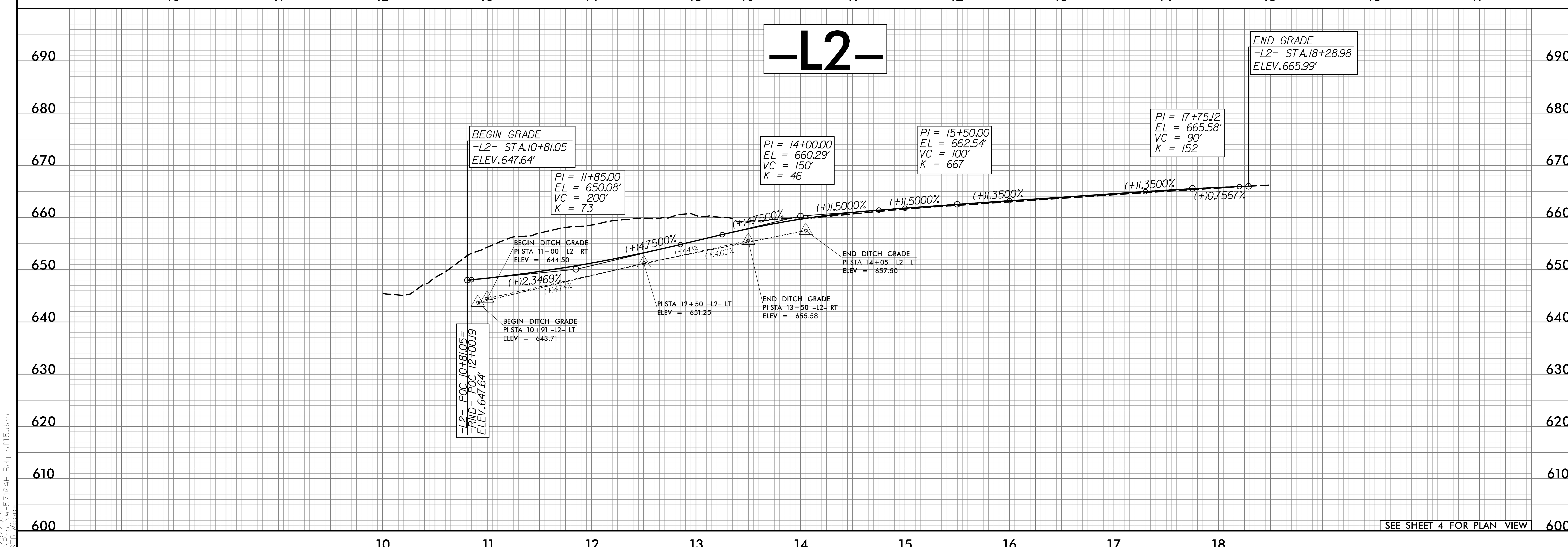






5/28/99

–Y1A–

BEGIN GRADE
–Y1A– STA.11+69.00
ELEV.637.89'

PI = 12+25.00
EL = 639.71'
VC = 45'
K = 161

PI = 13+00.00
EL = 642.35'
VC = 105'
K = 86

END GRADE
–Y1A– STA.15+22.33
ELEV.647.48'

637.89

647.48

(+)3.2500%

(+)3.5297%

(+)2.3059%

(+)1.61%

(+)2.70%

END DITCH GRADE
PI STA 14+50 –Y1A– RT
ELEV = 644.25

PI STA 12+00 –Y1A– RT
ELEV = 637.50

BEGIN DITCH GRADE
PI STA 11+69 –Y1A– RT
ELEV = 637.00

–Y1A– POC 15+22.32=
–RND– POC 11+25.12
ELEV.647.48'

SEE SHEET 4 FOR PLAN VIEW

–Y1B–

BEGIN GRADE
–Y1B– STA.10+81.14
ELEV.644.00'

PI = 12+75.00
EL = 635.44'
VC = 100'
K = 52

PI = 14+00.00
EL = 632.31'
VC = 100'
K = 100

END GRADE
–Y1B– STA.16+35.00
ELEV.628.66'

PI = 15+85.00
EL = 629.54'
VC = 100'
K = 383

(–)14.4176%

(–)6.50%

(–)12.5000%

(–)12.78%

(–)2.5000%

(–)11.61%

(–)11.5000%

(–)10.61%

(–)11.7610%

PI STA 12+00 –Y1B– RT
ELEV = 635.00

BEGIN DITCH GRADE
PI STA 10+91 –Y1B– RT
ELEV = 641.00

–Y1B– POC 10+81.14=
–RND– POC 13+20.02
ELEV.644.00'

–Y1B– POC 12+47.55=
–Y2– POC 14+22.82
ELEV.636.75'

PI STA 13+00 –Y1B– RT
ELEV = 632.54

BEGIN DITCH GRADE
PI STA 13+60 –Y1B– LT
ELEV = 630.00

END DITCH GRADE
PI STA 14+78 –Y1B– LT
ELEV = 628.75

BEGIN DITCH GRADE
PI STA 15+10 –Y1B– LT
ELEV = 628.25

END DITCH GRADE
PI STA 16+50 –Y1B– RT
ELEV = 626.90

SEE SHEET 4 FOR PLAN VIEW

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	6

ROADWAY DESIGN ENGINEER

5/28/20

NORTH CAROLINA PROFESSIONAL SEAL 52550 ENGINEER WILLIAM A POPE

Docusigned by:
William A. Pope
AB14B3E6E3E04B6...

HYDRAULICS ENGINEER

5/29/20

NORTH CAROLINA PROFESSIONAL SEAL 043890 ENGINEER BRIAN M STEFFEN

Docusigned by:
Brian Steffen
09B7F114D230480...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

–Y2–

BEGIN GRADE
–Y2– STA.11+00.00
ELEV.630.96'

PI = 11+75.00
EL = 632.65'
VC = 100'
K = 168

END GRADE
–Y2– STA.14+00.00
ELEV.636.36'

(+)2.2456%

(+)1.6500%

(+)2.24%

(+)0.77%

(+)0.61%

(+)1.50%

BEGIN DITCH GRADE
PI STA 11+00 –Y2– RT
ELEV = 629.68

BEGIN DITCH GRADE
PI STA 12+15 –Y2– RT
ELEV = 630.75

BEGIN DITCH GRADE
PI STA 11+00 –Y2– LT
ELEV = 629.33

END DITCH GRADE
PI STA 11+75 –Y2– RT
ELEV = 630.15

PI STA 12+00 –Y2– LT
ELEV = 630.00

END DITCH GRADE
PI STA 14+00 –Y2– RT
ELEV = 634.90

END DITCH GRADE
PI STA 13+00 –Y2– LT
ELEV = 631.50

–Y2– POC 14+00.00=
–Y1B– POC 12+47.55
ELEV.636.36'

SEE SHEET 4 FOR PLAN VIEW

–Y3–

BEGIN GRADE
–Y3– STA.11+40.00
ELEV.663.14'

PI = 13+00.00
EL = 660.88'
VC = 150'
K = 38

END GRADE
–Y3– STA.16+35.00
ELEV.645.23'

PI = 15+75.00
EL = 646.44'
VC = 115'
K = 36

645.59

(–)11.4125%

(–)12.71%

(–)15.2500%

(–)15.56%

(–)14.83%

(–)14.22%

(–)5.2500%

(–)12.0175%

BEGIN DITCH GRADE
PI STA 12+55 –Y3– RT
ELEV = 660.58

BEGIN DITCH GRADE
PI STA 12+00 –Y3– LT
ELEV = 660.79

PI STA 13+00 –Y3– LT
ELEV = 658.62

END DITCH GRADE
PI STA 13+50 –Y3– RT
ELEV = 655.99

END DITCH GRADE
PI STA 15+00 –Y3– LT
ELEV = 647.50

BEGIN DITCH GRADE
PI STA 14+00 –Y3– RT
ELEV = 651.67

BEGIN DITCH GRADE
PI STA 15+30 –Y3– LT
ELEV = 644.98

END DITCH GRADE
PI STA 16+00 –Y3– RT
ELEV = 642.00

END DITCH GRA
PI STA 16+25 –Y
ELEV = 637.65

SEE SHEET 4 FOR PLAN VIEW

5/28/2024
W-5710AH_Rdy_pf16.dgn
USER:Owner

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

UNION COUNTY

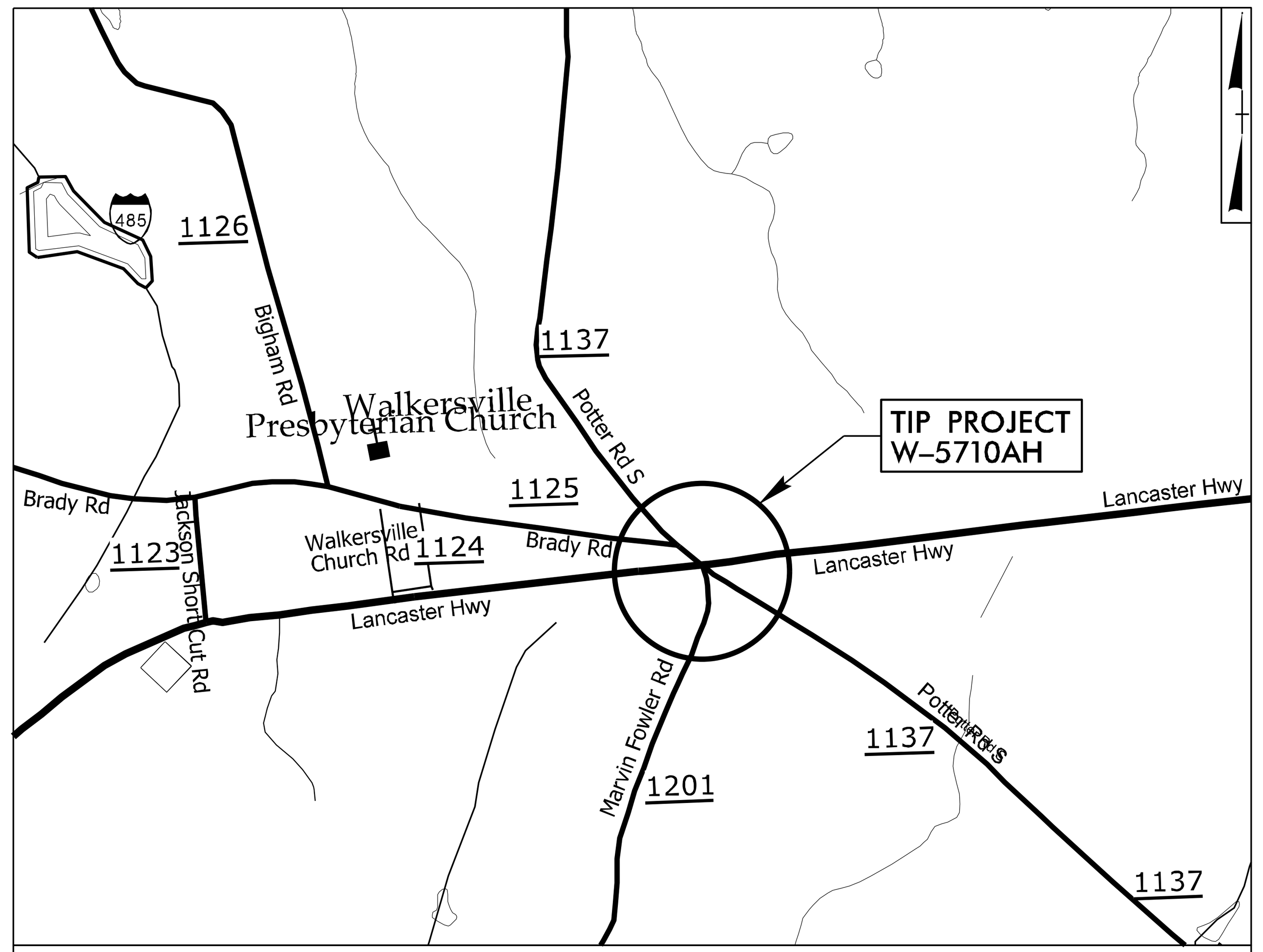
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5710AH	1	7

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
44856.1.36	HSIP-0200(014)	PE
44856.2.36	HSIP-0200(014)	R/W & UTIL
44856.3.36	HSIP-0200(014)	CONST.

NAD 83/NA 2011

TIP PROJECT: W-5710AH

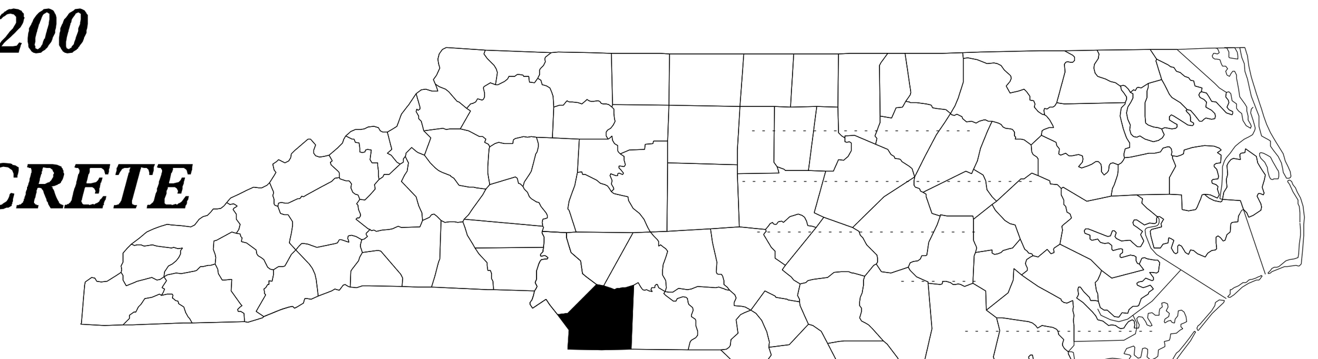
CONTRACT: DJ00517

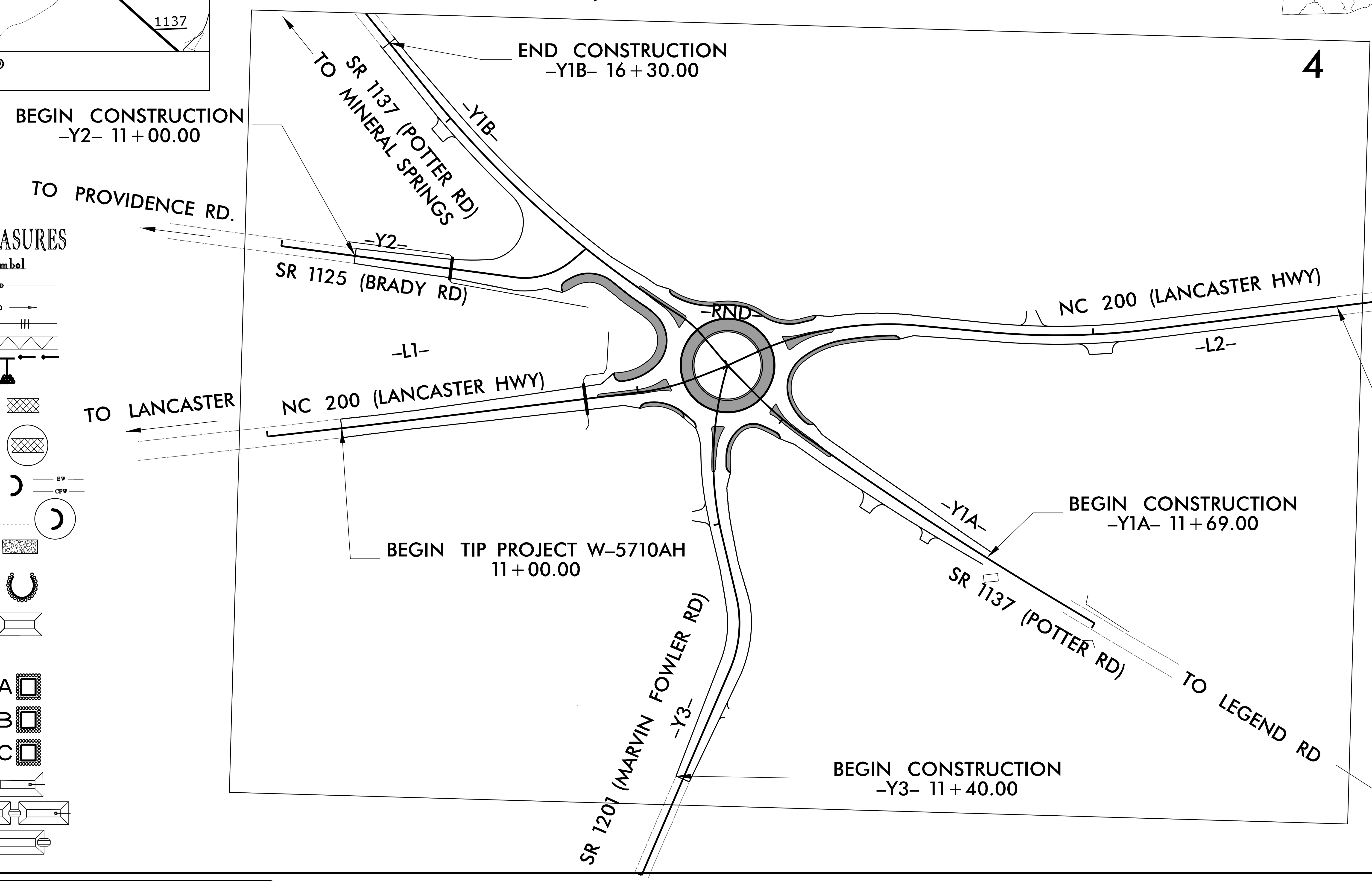


VICINITY MAP
(NOT TO SCALE)

LOCATION: INTERSECTION IMPROVEMENTS AT SR 1137 (POTTER RD), NC 200 (LANCASTER HWY) AND SR 1201 (MARVIN FOWLER RD)

TYPE OF WORK: GRADING, DRAINAGE, PAVEMENT REMOVAL, PAVING, CONCRETE ISLANDS, AND THERMOPLASTIC PAVEMENT MARKINGS





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

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
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	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	W / CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

GRAPHIC SCALES

50 25 0 50 100

PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

TRANSYSTEMS
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel.919.789.9977
Fax.919.789.9591
License: F-0453

Prepared in the Office of:

TranSystems
1 Glenwood Avenue
Raleigh, NC 27603

Designed by:

Brian Steffen — *3843*
NAME — LEVEL III CERTIFICATION NO.

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.

1605.01	Temporary Silt Fence
1606.01	Special Sediment Control Fence
1607.01	Gravel Construction Entrance
1622.01	Temporary Berms and Slope Drains
1631.01	Matting Installation
1632.03	Rock Inlet Sediment Trap Type C
1633.01	Temporary Rock Silt Check Type A
1635.02	Rock Pipe Inlet Sediment Trap Type B
1640.01	Coir Fiber Baffle

09/08/99
5/19/2024
...W-5710AH_rew_ec_tsh.dgn
USER:brian_s

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	EC-2

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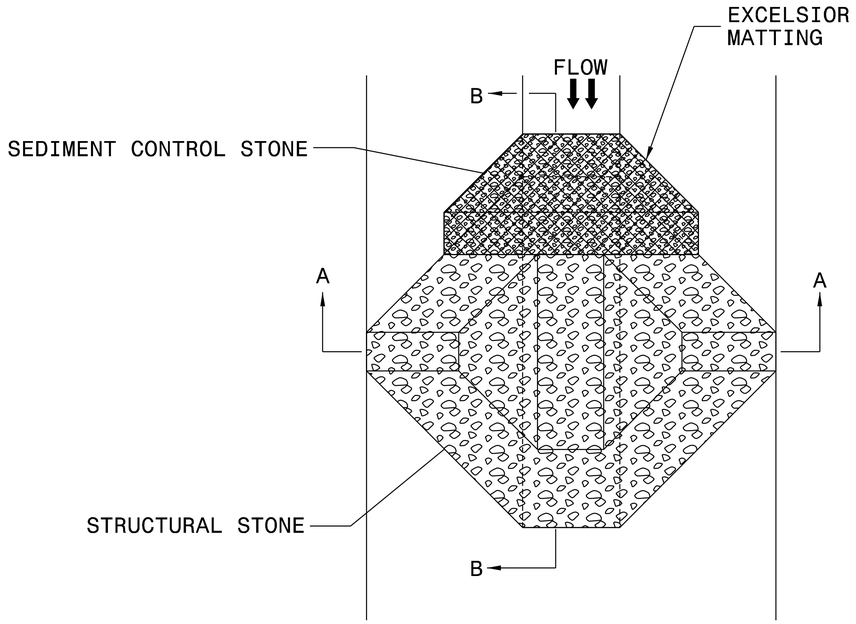
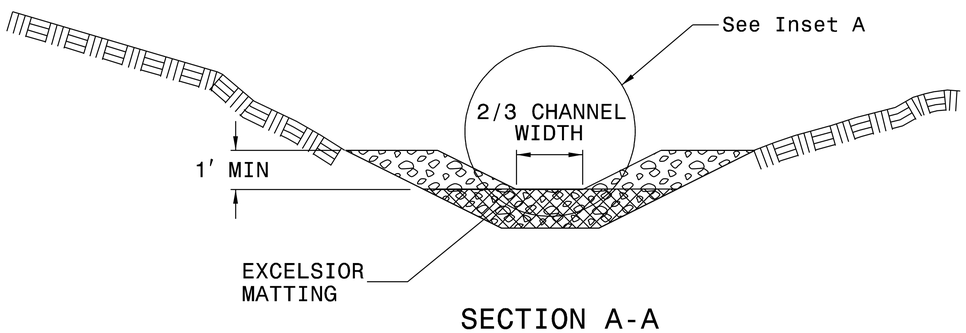
TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN



SECTION A-A

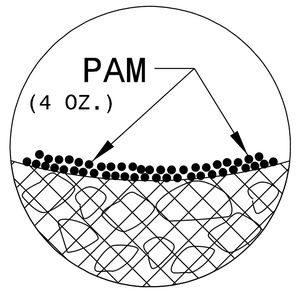
NOTES:

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

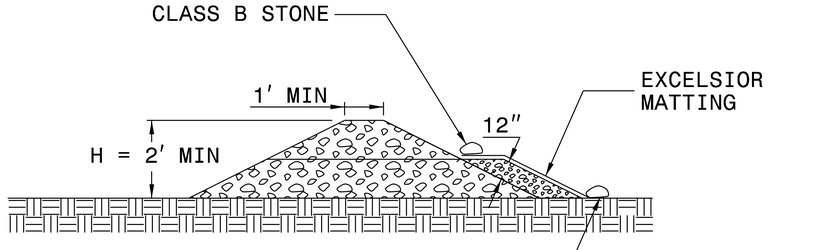
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

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



INSET A



SECTION B-B

NOT TO SCALE

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	EC-2A

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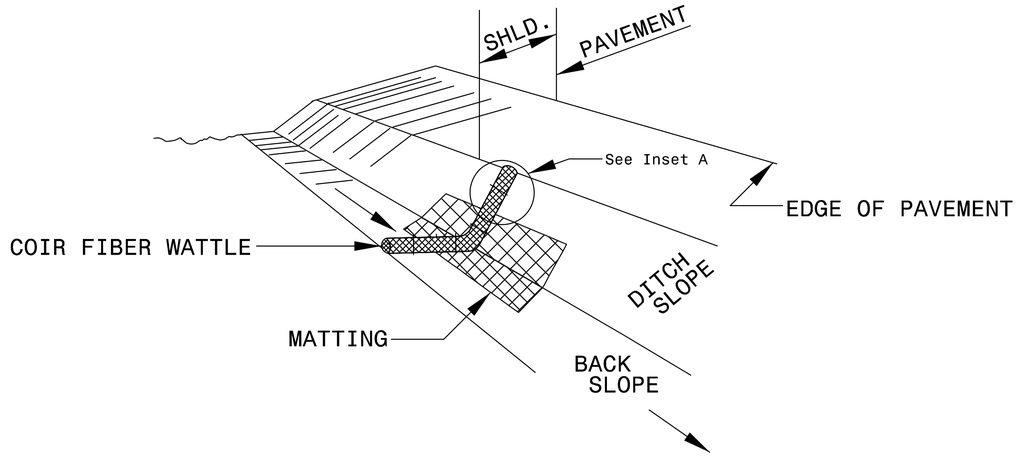
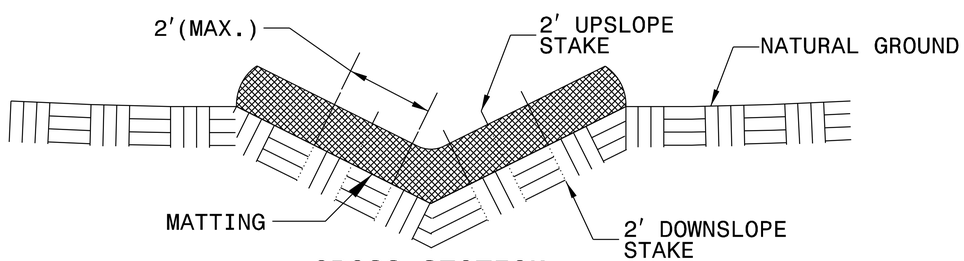
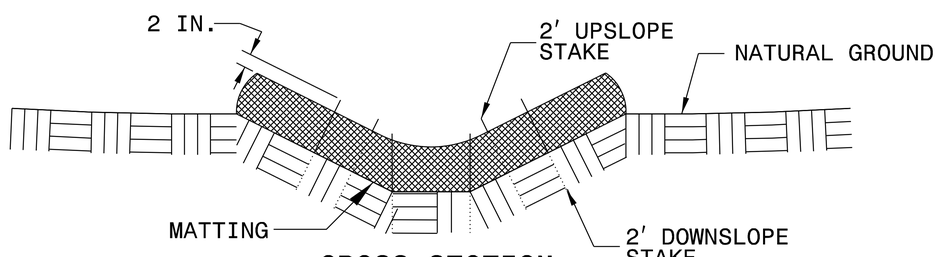
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

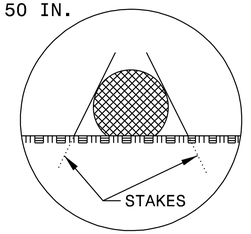
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

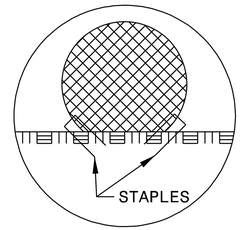
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

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

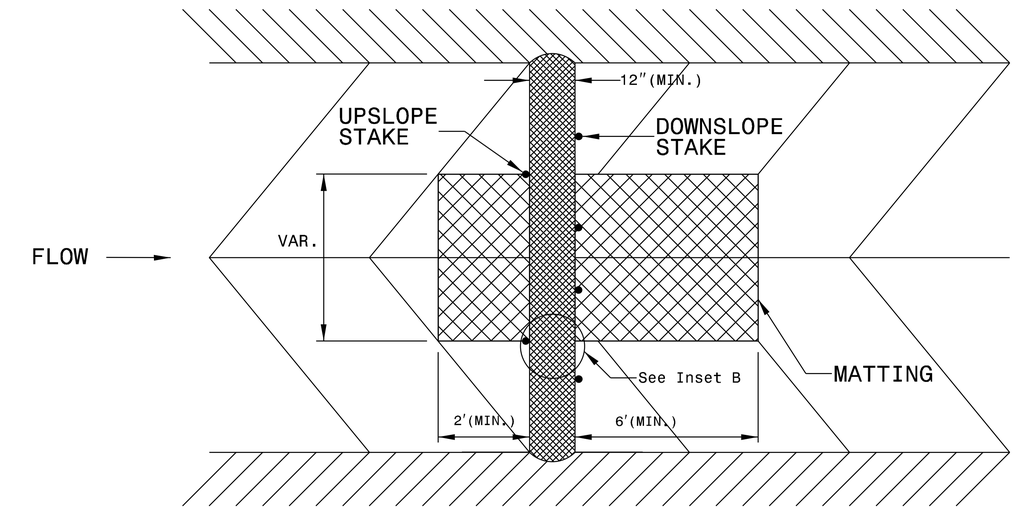
INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF THE WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



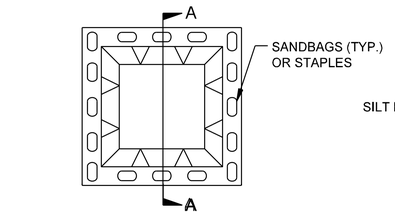
INSET A

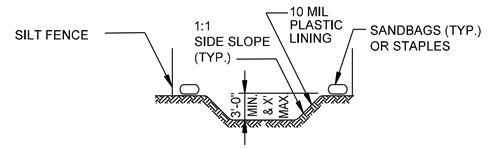


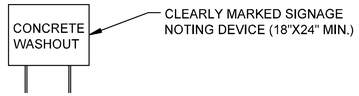
INSET B

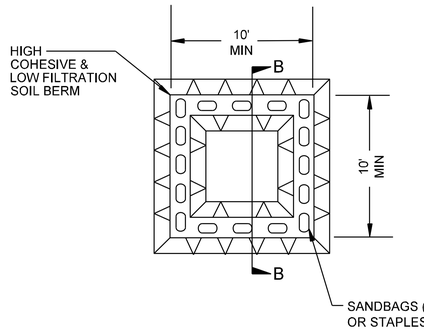


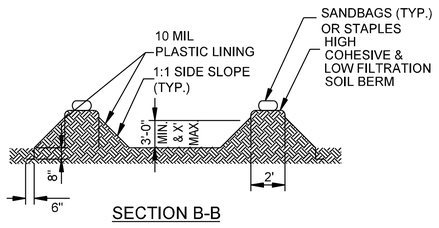
TOP VIEW

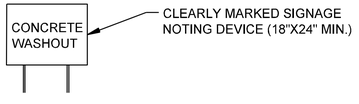












ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

SECTION A-A

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN

BELOW GRADE WASHOUT STRUCTURE

NOT TO SCALE

SECTION B-B

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	EC-3

TRANSYSTEMS
1 Glenwood Avenue
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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.

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

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	EC-3A

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L1-	11+00	13+90	RT	235
4	-L1-	14+00	15+13	RT	105
4	-Y3-	11+50	13+00	LT	140
4	-Y1A-	14+86	15+13	LT	20
4	-Y1A-	11+06	12+41	LT	140
4	-Y1A-	10+00	10+75	LT	90
4	-Y1A-	11+08	14+50	RT	255
4	-Y2-	14+32	18+00	LT	275
4	-RND-	12+25	13+00	RT	65
4	-Y1B-	12+00	16+50	RT	495
4	-Y1B-	13+60	14+78	LT	120
4	-Y2-	11+00	11+75	RT	95
4	-Y2-	12+15	14+00	RT	225
4	-Y2-	11+00	13+00	LT	165
				SUBTOTAL	2425
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					7795
				TOTAL	10220
				SAY	10220

PERMANENT SOILD REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-Y3-	13+00	15+00	LT	185
4	-Y3-	12+55	13+50	RT	90
4	-Y3-	14+00	16+00	RT	190
4	-Y1A-	14+50	14+79	RT	40
4	-Y2-	11+08	11+35	RT	20
4	-Y2-	10+83	11+00	RT	20
4	-Y2-	11+00	13+50	RT	205
4	-Y1B-	10+91	12+00	RT	120
4	-Y3-	14+50	16+00	RT	140
				SUBTOTAL	1130
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					0
				TOTAL	1130
				SAY	1130

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

6/2/99

PROJECT REFERENCE	SHEET NO.
W-5710AH	EC-4/CONST-4

TRANSYSTEMS

1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

Sta.=11+00 to
13+00 -Y2- LT
DA= 0.17 ac
C=0.58
Tc=10 min
I10=6.14 in/hr
Q= 0.61 cfs
V= 1.11 ft/s
d= 0.39 ft
s= 1.50%
n= 0.035
Liner=GRASS
Shear Stress=0.31 psf

Sta.=13+60 to
16+50 -Y1B- LT
DA= 0.36 ac
C=0.45
Tc=10 min
I10=6.14 in/hr
Q= 0.99 cfs
V= 1.54 ft/s
d= 0.48 ft
s= 1.06%
n= 0.035
Liner=GRASS
Shear Stress=0.29 psf

Sta.=12+00 to
16+50 -Y1B- RT
DA= 6.34 ac
C=0.35
Tc=15 min
I10=5.18 in/hr
Q= 9.39 cfs
V= 2.97 ft/s
d= 0.92 ft
s= 2.23%
n= 0.035
Liner=GRASS
Shear Stress=0.92 psf

Sta.=10+91 to
12+00 -Y1B- RT
DA= 3.06 ac
C=0.45
Tc=15 min
I10=5.18 in/hr
Q= 7.13 cfs
V= 2.95 ft/s
d= 0.62 ft
s= 5.50%
n= 0.065
Liner=RIP RAP
Shear Stress=2.14 psf

Sta.=12+25 to
13+00 -RND- RT
DA= 2.19 ac
C=0.37
Tc=10 min
I10=6.14 in/hr
Q= 4.98 cfs
V= 2.37 ft/s
d= 0.60 ft
s= 3.60%
n= 0.065
Liner=RIP RAP
Shear Stress=1.35 psf

Sta.=10+91 to
14+05 -L2- LT
DA= 1.98 ac
C=0.37
Tc=10 min
I10=6.14 in/hr
Q= 4.5 cfs
V= 3.96 ft/s
d= 0.40 ft
s= 4.74%
n= 0.035
Liner=GRASS
Shear Stress=1.14 psf

Sta.=11+00 to
14+00 -Y2- RT
DA= 3.92 ac
C=0.58
Tc=15 min
I10=5.18 in/hr
Q= 11.78 cfs
V= 3.89 ft/s
d= 1.15 ft
s= 2.25%
n= 0.035
Liner=GRASS
Shear Stress=1.41 psf

Sta.=11+00 to
13+50 -L2- RT
DA= 0.26 ac
C=0.52
Tc=10 min
I10=6.14 in/hr
Q= 0.83 cfs
V= 2.59 ft/s
d= 0.33 ft
s= 4.43%
n= 0.035
Liner=GRASS
Shear Stress=0.91 psf

Sta.=11+08 to
11+35 -L2- RT
DA= 0.26 ac
C=0.45
Tc=10 min
I10=6.14 in/hr
Q= 0.72 cfs
V= 2.82 ft/s
d= 0.29 ft
s= 6.15%
n= 0.035
Liner=GRASS
Shear Stress=1.12 psf

Sta.=14+50 to
11+69 -Y1A- RT
DA= 1.01 ac
C=0.55
Tc=10 min
I10=6.14 in/hr
Q= 3.41 cfs
V= 3.16 ft/s
d= 0.72 ft
s= 2.70%
n= 0.035
Liner=GRASS
Shear Stress=1.11 psf

Sta.=14+50 to
14+79 -Y1A- RT
DA= 0.26 ac
C=0.45
Tc=10 min
I10=6.14 in/hr
Q= 0.72 cfs
V= 2.81 ft/s
d= 0.29 ft
s= 6.15%
n= 0.035
Liner=GRASS
Shear Stress=1.12 psf

Sta.=15+13 to
15+25 -L1- RT
DA=1.62 ac
C=0.50
Tc=10 min
I10=6.14 in/hr
Q= 4.97 cfs
V= 1.47 ft/s
d= 0.52 ft
s= 1.25%
n= 0.065
Liner=RIP-RAP
Shear Stress=0.55 psf

Sta.=14+00 to
15+13 -L1- RT
DA=0.78 ac
C=0.38
Tc=10 min
I10=6.14 in/hr
Q= 1.82 cfs
V= 1.45 ft/s
d= 0.56 ft
s= 0.66%
n= 0.035
Liner=GRASS
Shear Stress=0.23 psf

Sta.=15+30 to
16+25 -Y3- LT
DA=1.02 ac
C=0.50
Tc=10 min
I10=6.14 in/hr
Q= 4.97 cfs
V= 2.87 ft/s
d= 0.45 ft
s= 7.7%
n= 0.065
Liner=RIP-RAP
Shear Stress=2.19 psf

Sta.=11+00 to
15+00 -Y3- LT
DA=0.89 ac
C=0.40
Tc=10 min
I10=6.14 in/hr
Q= 2.2 cfs
V= 3.47 ft/s
d= 0.5 ft
s= 5.6%
n= 0.035
Liner=GRASS
Shear Stress=1.47 psf

Sta.=11+69 to
12+41 -Y1A- RT
DA= 2.07 ac
C=0.42
Tc=15 min
I10=5.18 in/hr
Q= 4.50 cfs
V= 3.22 ft/s
d= 0.57 ft
s= 3.13%
n= 0.035
Liner=GRASS
Shear Stress=1.12 psf

Sta.=14+00 to
16+00 -Y3- RT
DA= 0.31 ac
C=0.45
Tc=10 min
I10=6.14 in/hr
Q= 0.86 cfs
V= 2.54 ft/s
d= 0.29 ft
s= 4.83%
n= 0.035
Liner=GRASS
Shear Stress=0.88 psf

Sta.=12+55 to
13+50 -Y3- RT
DA=0.42 ac
C=0.42
Tc=10 min
I10=6.14 in/hr
Q= 1.29 cfs
V= 2.78 ft/s
d= 0.36 ft
s= 6.02%
n= 0.035
Liner=GRASS
Shear Stress=1.05 psf

Sta.=11+00 to
13+90 -L1- RT
DA=0.99 ac
C=0.42
Tc=10 min
I10=6.14 in/hr
Q= 2.55 cfs
V= 1.97 ft/s
d= 0.61 ft
s= 1.10%
n= 0.035
Liner=GRASS
Shear Stress=0.42 psf

Sta.=11+50 to
13+00 -L1- LT
DA=0.16 ac
C=0.50
Tc=10 min
I10=6.14 in/hr
Q= 0.48 cfs
V= 1.07 ft/s
d= 0.33 ft
s= 0.71%
n= 0.035
Liner=GRASS
Shear Stress=0.15 psf

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Min. D= 1 Ft.

FROM STA. 11+00 -L1- RT TO STA. 13+90 -L1- RT
FROM STA. 14+00 -L1- RT TO STA. 15+13 -L1- RT
FROM STA. 10+83 -L2- RT TO STA. 11+00 -L2- RT
FROM STA. 11+00 -L2- RT TO STA. 13+50 -L2- RT
FROM STA. 12+00 -Y3- LT TO STA. 15+00 -Y3- LT
FROM STA. 12+55 -Y3- RT TO STA. 13+50 -Y3- RT
FROM STA. 14+00 -Y3- RT TO STA. 16+00 -Y3- RT
FROM STA. 11+00 -Y2- LT TO STA. 13+00 -Y2- LT

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Min. D= 1.25 Ft.

FROM STA. 13+60 -Y1B- LT TO STA. 14+78 -Y1B- LT
FROM STA. 15+10 -Y1B- LT TO STA. 16+50 -Y1B- LT
FROM STA. 11+00 -Y2- RT TO STA. 11+75 -Y2- RT
FROM STA. 12+15 -Y2- RT TO STA. 14+00 -Y2- RT

DETAIL 5
SPECIAL CUT BASE DITCH
(Not to Scale)

Min. D= 1.25 Ft.
B= 2 Ft.

FROM STA. 12+00 -Y1B- RT TO STA. 16+50 -Y1B- RT

DETAIL 6
SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1.15 Ft.

FROM STA. 14+50 -Y1A- RT TO STA. 11+69 -Y1A- RT

DETAIL 7
STANDARD 'V' DITCH
(Not to Scale)

Min. D= 1 Ft.

FROM STA. 11+08 -L2- RT TO STA. 11+35 -L2- RT
FROM STA. 14+50 -Y1A- RT TO STA. 14+79 -Y1A- RT
FROM STA. 15+13 -Y1A- LT TO STA. 14+86 -Y1A- LT

1'-6" C&G

24" MODIFIED CURB FLUME IN TRUCK MOUNTABLE APRON AS DIRECTED BY ENGINEER

MODIFIED CURB FLUME DETAIL

DETAIL 8
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Min. D= 1 Ft.
Max. d= 1 Ft.
B= 2 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA. 15+30 -Y3- LT TO STA. 16+25 -Y3- LT
FROM STA. 15+13 -L1- RT TO STA. 15+25 -L1- RT

DETAIL 4
SPECIAL CUT BASE DITCH
(Not to Scale)

Min. D= 1 Ft.
B= 2 Ft.

FROM STA. 10+91 -L2- LT TO STA. 14+05 -L2- LT

DETAIL 3
SPECIAL CUT BASE DITCH
(Not to Scale)

Min. D= 1.25 Ft.
Max. d= 1 Ft.
B= 2 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA. 12+25 -RND- RT TO STA. 13+00 -RND- RT
FROM STA. 10+91 -Y1B- RT TO STA. 12+00 -Y1B- RT

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

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	EC-4/CONST-4

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

FINAL GRADE
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NAD 83NA 2011

END TIP PROJECT W-5710AH
TIE TO EXISTING
-L2- 18+28.98

BEGIN TIP PROJECT W-5710AH
TIE TO EXISTING
-L1- 11+00.00

BEGIN CONSTRUCTION
TIE TO EXISTING
-L1- 11+00.00

END CONSTRUCTION
TIE TO EXISTING
-Y1B- 16+35.00

BEGIN CONSTRUCTION
TIE TO EXISTING
-Y3- 11+40.00

BEGIN CONSTRUCTION
TIE TO EXISTING
-Y1A- 11+69.00

TIE TO
EX. DITCH

REMOVE
EXISTING
PAVEMENT

REMOVE EXISTING PAVEMENT

SEE NOTE 1

SEE NOTE 1

DO NOT DISTURB SIGN

DO NOT DISTURB
SEPTIC TANK

DO NOT DISTURB
WOOD POSTS

PROPOSED SEPTIC
ALIGNMENT
ENCASE PIPES
HERE

ENCASE PIPES HERE

PROPOSED SEPTIC
ALIGNMENT

-Y2- POT Sta. 10+00.00
-Y2- PT Sta. 13+99.52
-Y2- PC Sta. 13+15.37
-Y2- POT Sta. 14+22.82
-Y1B- PRC Sta. 10+97.14
-Y1B- PC Sta. 10+51.15
-RND- PCC Sta. 12+95.89
-Y1A- POT Sta. 16+03.34
-Y1B- POT Sta. 10+00.00
-L2- POT Sta. 10+00.00
-L1- POT Sta. 16+26.11
-Y3- POT Sta. 17+14.26
-L2- PC Sta. 10+36.15
-L2- PT Sta. 12+64.96
-L2- PC Sta. 13+60.33
-L2- PT Sta. 15+71.67
-L1- PC Sta. 10+00.00
-L1- PT Sta. 13+13.28
-L1- PC Sta. 15+03.85
-Y3- PT Sta. 17+09.32
-RND- PC Sta. 10+00.00
-RND- PT Sta. 13+95.83
-L1- PT Sta. 15+79.98
-Y3- PC Sta. 14+85.44
-Y3- PT Sta. 13+99.17
-Y3- PC Sta. 13+00.80
-Y1B- PT Sta. 15+30.93
-Y1A- PRC Sta. 14+60.79
-Y1A- PRC Sta. 14+51.63
-Y1A- PT Sta. 15+51.20
-Y1A- PCC Sta. 11+00.00
-Y1A- PC Sta. 10+00.00

S 80° 37' 24" E
N 37° 01' 18" W
N 51° 09' 32" W
N 84° 43' 33.9" E
S 82° 56' 55.8" E
N 66° 32' 27" W
N 24° 58' 34.2" E
S 62° 58' 32" E 134.48'
S 60° 59' 32" E 1357.71'
S 32° 17' 35" W 161.59'
S 05° 17' 44" E 174.55'
N 23° 07' 02" W 48.30'
N 84° 43' 33.9" E

SR 1125 (BRADY ROAD)
SR 1137 (POTTER ROAD)

135' UNIFORM TRANSITION
100' UNIFORM TAPER
90.82' UNIFORM TRANSITION
300' UNIFORM TRANSITION
105' UNIFORM TRANSITION
45.50' UNIFORM TRANSITION
55' UNIFORM TRANSITION
115' UNIFORM TRANSITION
51.71' UNIFORM TRANSITION
160.81' UNIFORM TAPER
148.98 UNIFORM TAPER

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1
SPECIAL LATERAL 'V' DITCH SEE DETAIL 2
SPECIAL CUT 2-FT BASE DITCH SEE DETAIL 5
SPECIAL CUT 2-FT BASE DITCH SEE DETAIL 4
SPECIAL CUT 2-FT BASE DITCH W/CL 'B' RIP RAP EST. 48 TONS; EST. 137 SYGF SEE DETAIL 3
SPECIAL CUT 2-FT BASE DITCH W/CL 'B' RIP RAP EST. 34 TONS; EST. 95 SYGF SEE DETAIL 3
CLASS 'A' RIP RAP EST. 2 TONS; EST. 12 SYGF
CLASS 'A' RIP RAP EST. 5 TONS; EST. 30 SYGF
PROPOSED SEPTIC ALIGNMENT
SPECIAL LATERAL 2-FT BASE DITCH w/CL 'B' RIP RAP EST. 17 TONS; EST. 47 SYGF SEE DETAIL 8
SPECIAL LATERAL 2-FT BASE DITCH W/CLASS 'B' RIP RAP EST. 42 TONS; EST. 118 SYGF SEE DETAIL 8
SPECIAL CUT DITCH SEE DETAIL 6
STANDARD 'V' DITCH SEE DETAIL 7 L=69 FT; GRADE=6.15% EST. DDE=58 CY
STANDARD 'V' DITCH SEE DETAIL 7 L=33 FT; GRADE=1.22% EST. DDE=12 CY
CLASS 'B' RIP RAP EST. 2 TONS EST. 7 SYGF

MARK SCRUDATO DB 7101PG 404
MIGHTY FORTRESS CHURCH INC. DB 1312 PG 646
JEFFERY JONES DB 6924 PG 243
MARLENE BROWN DB 386 PG 234
PLEASANT T. ROPER DB 7505 PG 427
MICHAEL HURST DB 6718 PG 648 PLAT H-717
DERON SIEBERT DB 6790 PG 164 PLAT H-717
MICHAEL HURST DB 6718PG 648
PAUL WARNER DB 1626 PG 539 PLAT G-566
DESH OF WAXHAW LLC DB 4525 PG 10 PLAT G-566
GREGORY LITTLE DB 5212 PG 48 PLAT H-717
DANIEL HELFRICH JR DB 1235 PG 504
MASSEY PROPERTIES AND PRINCE BOOTH INVESTMENTS

Sta. =11+00 to 13+00 -Y2- LT
DA= 0.17 ac
C=0.58
Tc=10 min
I10=6.14 in/hr
Q= 0.64 cfs
V= 1.11 fps
d= 0.39 ft
s= 1.50%
n= 0.035
Liner=GRASS
Shear Stress=0.31 psf

Sta. =13+60 to 16+50 -Y1B- LT
DA= 0.36 ac
C=0.45
Tc=10 min
I10=6.14 in/hr
Q= 0.99 cfs
V= 1.54 fps
d= 0.48 ft
s= 1.00%
n= 0.035
Liner=GRASS
Shear Stress=0.29 psf

Sta. =12+00 to 16+50 -Y1B- RT
DA= 6.34 ac
C=0.25
Tc=15 min
I10=5.18 in/hr
Q= 9.39 cfs
V= 2.97 fps
d= 0.92 ft
s= 2.23%
n= 0.035
Liner=RIP RAP
Shear Stress=0.92 psf

Sta. =10+91 to 12+00 -Y1B- RT
DA= 3.06 ac
C=0.45
Tc=15 min
I10=5.18 in/hr
Q= 7.13 cfs
V= 2.93 fps
d= 0.67 ft
s= 5.50%
n= 0.065
Liner=RIP RAP
Shear Stress=2.14 psf

Sta. =12+25 to 13+00 -RND- RT
DA= 2.19 ac
C=0.37
Tc=10 min
I10=6.14 in/hr
Q= 4.79 cfs
V= 3.78 fps
d= 0.40 ft
s= 3.60%
n= 0.065
Liner=RIP RAP
Shear Stress=1.35 psf

Sta. =10+91 to 14+05 -L2- LT
DA= 1.98 ac
C=0.37
Tc=10 min
I10=6.14 in/hr
Q= 4.5 cfs
V= 3.96 fps
d= 0.40 ft
s= 4.74%
n= 0.035
Liner=GRASS
Shear Stress=1.14 psf

Sta. =11+00 to 14+00 -L1- RT
DA= 1.92 ac
C=0.5
Tc=15 min
I10=5.18 in/hr
Q= 3.97 cfs
V= 2.25 fps
d= 0.62 ft
s= 2.25%
n= 0.033
Liner=GRASS
Shear Stress=1.41 psf

Sta. =11+00 to 13+90 -L1- RT
DA=0.99 ac
C=0.42
Tc=10 min
I10=6.14 in/hr
Q= 2.55 cfs
V= 1.97 fps
d= 0.61 ft
s= 1.10%
n= 0.035
Liner=GRASS
Shear Stress=0.42 psf

Sta. =11+50 to 13+00 -L1- LT
DA=0.16 ac
C=0.50
Tc=10 min
I10=6.14 in/hr
Q= 0.48 cfs
V= 1.07 fps
d= 0.33 ft
s= 0.71%
n= 0.035
Liner=GRASS
Shear Stress=0.15 psf

Sta. =15+13 to 17+25 -L1- RT
DA=1.62 ac
C=0.50
Tc=10 min
I10=6.14 in/hr
Q= 4.97 cfs
V= 1.67 fps
d= 0.52 ft
s= 1.25%
n= 0.065
Liner=RIP-RAP
Shear Stress=0.55 psf

Sta. =14+00 to 15+13 -L1- RT
DA=0.78 ac
C=0.38
Tc=10 min
I10=6.14 in/hr
Q= 1.82 cfs
V= 1.45 fps
d= 0.56 ft
s= 0.66%
n= 0.035
Liner=GRASS
Shear Stress=0.23 psf

Sta. =15+30 to 16+25 -Y3- LT
DA=1.02 ac
C=0.50
Tc=10 min
I10=6.14 in/hr
Q= 4.97 cfs
V= 2.87 fps
d= 0.45 ft
s= 7.7%
n= 0.065
Liner=RIP-RAP
Shear Stress=2.19 psf

Sta. =11+00 to 15+00 -Y3- LT
DA=0.89 ac
C=0.40
Tc=10 min
I10=6.14 in/hr
Q= 2.2 cfs
V= 3.47 fps
d= 0.3 ft
s= 5.6%
n= 0.035
Liner=GRASS
Shear Stress=1.47 psf

Sta. =11+69 to 12+41 -Y1A- RT
DA= 2.07 ac
C=0.42
Tc=15 min
I10=5.18 in/hr
Q= 4.50 cfs
V= 2.72 fps
d= 0.57 ft
s= 3.13%
n= 0.035
Liner=GRASS
Shear Stress=1.12 psf

Sta. =14+00 to 16+00 -Y3- RT
DA= 0.31 ac
C=0.45
Tc=10 min
I10=6.14 in/hr
Q= 0.86 cfs
V= 2.54 fps
d= 0.29 ft
s= 4.83%
n= 0.035
Liner=GRASS
Shear Stress=0.88 psf

Sta. =12+55 to 13+50 -Y3- RT
DA=0.42 ac
C=0.42
Tc=10 min
I10=6.14 in/hr
Q= 1.29 cfs
V= 2.78 fps
d= 0.36 ft
s= 6.02%
n= 0.035
Liner=GRASS
Shear Stress=1.05 psf

Sta. =14+50 to 15+40 -Y1A- RT
DA= 1.01 ac
C=0.55
Tc=10 min
I10=6.14 in/hr
Q= 3.41 cfs
V= 3.16 fps
d= 0.72 ft
s= 5.00%
n= 0.035
Liner=GRASS
Shear Stress=1.11 psf

Sta. =11+00 to 13+50 -L2- RT
DA= 0.26 ac
C=0.52
Tc=10 min
I10=6.14 in/hr
Q= 0.83 cfs
V= 2.99 fps
d= 0.33 ft
s= 4.43%
n= 0.035
Liner=GRASS
Shear Stress=0.91 psf

Sta. =11+08 to 11+35 -L2- RT
DA= 0.26 ac
C=0.45
Tc=10 min
I10=6.14 in/hr
Q= 0.72 cfs
V= 2.92 fps
d= 0.29 ft
s= 6.15%
n= 0.035
Liner=GRASS
Shear Stress=1.12 psf

Sta. =14+50 to 14+79 -Y1A- RT
DA= 0.26 ac
C=0.45
Tc=10 min
I10=6.14 in/hr
Q= 0.72 cfs
V= 2.81 fps
d= 0.29 ft
s= 6.15%
n= 0.035
Liner=GRASS
Shear Stress=1.12 psf

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 2:1, D, 3:1 or Flatter, Fill Slope
Min. D= 1 Ft.
FROM STA. 11+00 -L1- RT TO STA. 13+90 -L1- RT
FROM STA. 14+00 -L1- RT TO STA. 15+13 -L1- RT
FROM STA. 10+83 -L2- RT TO STA. 11+00 -L2- RT
FROM STA. 11+00 -L2- RT TO STA. 13+50 -L2- RT
FROM STA. 12+00 -Y3- LT TO STA. 15+00 -Y3- LT
FROM STA. 12+55 -Y3- RT TO STA. 13+50 -Y3- RT
FROM STA. 14+00 -Y3- RT TO STA. 16+00 -Y3- RT
FROM STA. 11+00 -Y2- LT TO STA. 13+00 -Y2- LT

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 3:1 or Flatter, D, 4:1 or Flatter, Fill Slope
Min. D= 1.25 Ft.
FROM STA. 13+60 -Y1B- LT TO STA. 14+78 -Y1B- LT
FROM STA. 15+10 -Y1B- LT TO STA. 16+50 -Y1B- LT
FROM STA. 11+00 -Y2- RT TO STA. 11+75 -Y2- RT
FROM STA. 12+15 -Y2- RT TO STA. 14+00 -Y2- RT

DETAIL 3
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, d, D, 3:1 or Flatter, Fill Slope, Geotextile, B
Min. D= 1.25 Ft.
Max. d= 1 Ft.
B= 2 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA. 12+25 -RND- RT TO STA. 13+00 -RND- RT
FROM STA. 10+91 -Y1B- RT TO STA. 12+00 -Y1B- RT

DETAIL 4
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, 4:1 or Flatter, Fill Slope, B
Min. D= 1 Ft.
B= 2 Ft.
FROM STA. 10+91 -L2- LT TO STA. 14+05 -L2- LT

DETAIL 5
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, 4:1 or Flatter, Fill Slope, B
Min. D= 1.25 Ft.
B= 2 Ft.
FROM STA. 12+00 -Y1B- RT TO STA. 16+50 -Y1B- RT

DETAIL 6
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 2:1, D, 3:1 or Flatter, Front Ditch Slope
Min. D= 1.15 Ft.
FROM STA. 14+50 -Y1A- RT TO STA. 11+69 -Y1A- RT

DETAIL 7
STANDARD 'V' DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, Natural Ground
Min. D= 1 Ft.
FROM STA. 11+08 -L2- RT TO STA. 11+35 -L2- RT
FROM STA. 15+13 -Y1A- LT TO STA. 14+86 -Y1A- LT

DETAIL 8
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 2:1, d, D, 4:1 or Flatter, Fill Slope, Geotextile, B
Min. D= 1 Ft.
Max. d= 1 Ft.
B= 2 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA. 15+30 -Y3- LT TO STA. 16+25 -Y3- LT
FROM STA. 15+13 -L1- RT TO STA. 15+25 -L1- RT

1'-6" C&G
24" MODIFIED CURB FLUME IN TRUCK MOUNTABLE APRON AS DIRECTED BY ENGINEER
MODIFIED CURB FLUME DETAIL

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

TIP PROJECT: W-5710AH

CONTRACT: DJ00517

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
UNION COUNTY

LOCATION: INTERSECTION IMPROVEMENTS AT SR 1137 (POTTER RD), NC 200 (LANCASTER HWY) AND SR 1201 (MARVIN FOWLER RD)

PROJECT NO.	SHEET NO.
W-5710AH	PMP-1

APPROVED: Steve Miller (DocuSigned by: 5FBC6C15CEEB486...)

DATE: 6/4/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
	THERMOPLASTIC (24″, 90 MILS)
T61	WHITE STOPBAR
	THERMOPLASTIC (4″, 90 MILS)
T1	WHITE EDGE LINE
T2	WHITE SOLID LANE LINE
T4	3 FT. - 9 FT./SP WHITE MINISKIP
T5	2 FT. - 6 FT./SP WHITE MINISKIP
T10	YELLOW EDGE LINE
T13	YELLOW DOUBLE CENTER
	THERMOPLASTIC (8″, 90 MILS)
T40	WHITE GORELINE
T42	YELLOW DIAGONAL
T45	3 FT. - 3 FT./SP WHITE MINISKIP
	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)
T100	ALPHANUMERIC CHARACTER
	THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)
T70	LEFT TURN ARROW
T71	RIGHT TURN ARROW
T103	24″ YIELD LINE TRIANGLE
	NON CAST IRON SNOWPLOWABLE PAVEMENT MARKERS
ME	YELLOW & YELLOW
MF	CRYSTAL & RED

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
SR 1137 POTTER RD.	THERMOPLASTIC	SNOWPLOWABLE
NC 200	THERMOPLASTIC	SNOWPLOWABLE
SR 1201 MARVIN FOWLER RD.	THERMOPLASTIC	SNOWPLOWABLE

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

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

D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

E) 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.

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING

PLAN PREPARED BY: SEPI INC.

John Bauman, P.E. TRAFFIC DESIGNER

Steve Miller, P.E. TRAFFIC PROJECT MANAGER

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

6/4/2024
K:\2019\SEI9.066.01_W-5710AH_PotterRoad\TP\Traffic\PMP\W-5710AH_PMP-1.dgn
jbauman

TIP NO.	SHEET NO.
W-5710AH	PMP-2

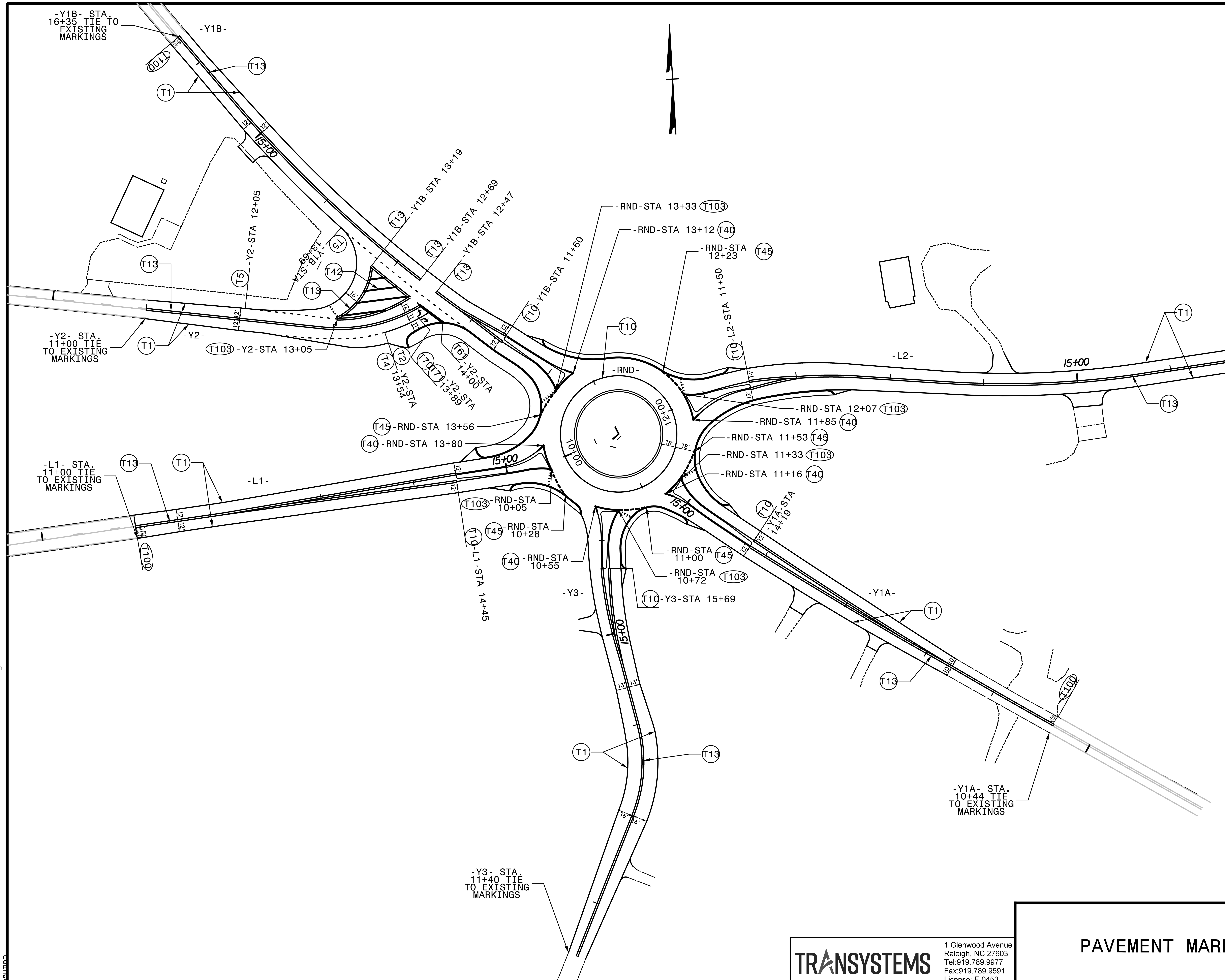
APPROVED: DocuSigned by: Steve Miller 9FBC6C15CEEB486...

DATE: 6/4/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-Y1B- STA. 16+35 TIE TO EXISTING MARKINGS
-Y1B-
T100
T13
T1
15+00
-Y1B-STA 13+19
-Y1B-STA 12+69
-Y1B-STA 12+47
-Y2-STA 12+05
-Y1B-STA 13+69
T5
T42
T13
-Y2-
-Y2- STA. 11+00 TIE TO EXISTING MARKINGS
T103 -Y2-STA 13+05
T2 -Y2-STA 13+54
T4
T7 T7 -Y2-STA 13+89
T6 -Y2-STA 14+00
T10-Y1B-STA 11+60
-RND-STA 13+33 T103
-RND-STA 13+12 T40
-RND-STA 12+23 T45
T10-L2-STA 11+50
T10
-RND-
12+00
10+00
-L2-
-L2- STA. 18+29 TIE TO EXISTING MARKINGS
-RND-STA 12+07 T103
-RND-STA 11+85 T40
-RND-STA 11+53 T45
-RND-STA 11+33 T103
-RND-STA 11+16 T40
T45-RND-STA 13+56
T40-RND-STA 13+80
-L1- STA. 11+00 TIE TO EXISTING MARKINGS
-L1-
T103 -RND-STA 10+05
T45 -RND-STA 10+28
T40 -RND-STA 10+55
T10-L1-STA 14+45
T10-Y1A-STA 14+19
-RND-STA 11+00 T45
-RND-STA 10+72 T103
T10-Y3-STA 15+69
-Y3-
-Y1A-
-Y1A- STA. 10+44 TIE TO EXISTING MARKINGS
-Y3- STA. 11+40 TIE TO EXISTING MARKINGS

TRANSYSTEMS

1 Glenwood Avenue
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License: F-0453

PAVEMENT MARKING DETAIL

6/4/2024
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bauman

TIP NO.	SHEET NO.
W-5710AH	SIGN-1

APPROVED: Steve Miller
DATE: 6/4/2024

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 037026 STEVEN D. MILLER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TIP PROJECT: W-5710AH

CONTRACT: DJ00517

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SIGNING PLAN

UNION COUNTY

LOCATION: INTERSECTION IMPROVEMENTS AT SR 1137 (POTTER RD), NC 200 (LANCASTER HWY) AND SR 1201 (MARVIN FOWLER RD)

PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2. SIGN ERECTION, RELOCATE SIGN TYPE E
3. DISPOSAL OF SUPPORT, U-CHANNEL

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.20	SECONDARY SIGN MOUNTING
904.30	SUPPLEMENTAL SIGN MOUNTING
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
910.40	SINGLE LANE ROUNDABOUT

GENERAL NOTES

- SIGNS FURNISHED BY STATE
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE GRADE C REFLECTIVE SHEETING.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	525	LF
4102000000	904	SIGN ERECTION, TYPE E	37	EA
4108000000	904	SIGN ERECTION, TYPE F	2	EA
4116100000	904	SIGN ERECTION, RELOCATE SIGN TYPE E	5	EA
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	13	EA

INDEX

PLAN PREPARED BY:
SEPI ENGINEERING & CONSTRUCTION

Steve Miller, PE — PROJECT MANAGER
John Bauman, PE — DESIGN ENGINEER

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jbauman

TIP NO.	SHEET NO.
W-5710AH	SIGN-2

APPROVED: DocuSigned by: Steve Miller 9FBC6C15CEEB486...

DATE: 6/4/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

(401) QUANTITY REQ'D 5

W3-2
36" X 36"

ONE "U" POST PER SIGN

(402) QUANTITY REQ'D 4

R2-1
24" X 30"

ONE "U" POST PER SIGN

(403) QUANTITY REQ'D 1

R1-1
36" X 36"

ONE "U" POST PER SIGN

(404) QUANTITY REQ'D 11

R1-2
36" X 36" X 36"

ONE "U" POST PER SIGN

(405) QUANTITY REQ'D 5

R6-1
36" X 18"

ONE "U" POST PER SIGN

(406) QUANTITY REQ'D 1

W14-1
36" X 36"

ONE "U" POST PER SIGN

(407) QUANTITY REQ'D 5

R4-7
24" X 30"

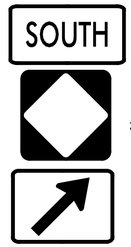
ONE "U" POST PER SIGN

(408) QUANTITY REQ'D 5

OM1-3
18" X 18"

MOUNT BELOW SIGN 407
IN 5 INSTALLATIONS

(501)



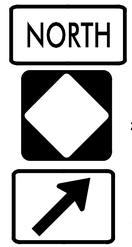
M3-1
24" X 12"

M1-5
24" X 24"

M6-2
21" X 15"

ONE "U" POST PER SIGN

(502)



M3-3
24" X 12"

M1-5
24" X 24"

M6-2
21" X 15"

ONE "U" POST PER SIGN

TRANSYSTEMS
1 Glenwood Avenue
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License: F-0453

TYPE "E" & "F" SIGNS

TIP NO.	SHEET NO.
W-5710AH	SIGN-3

APPROVED: Steve Miller

DATE: 6/4/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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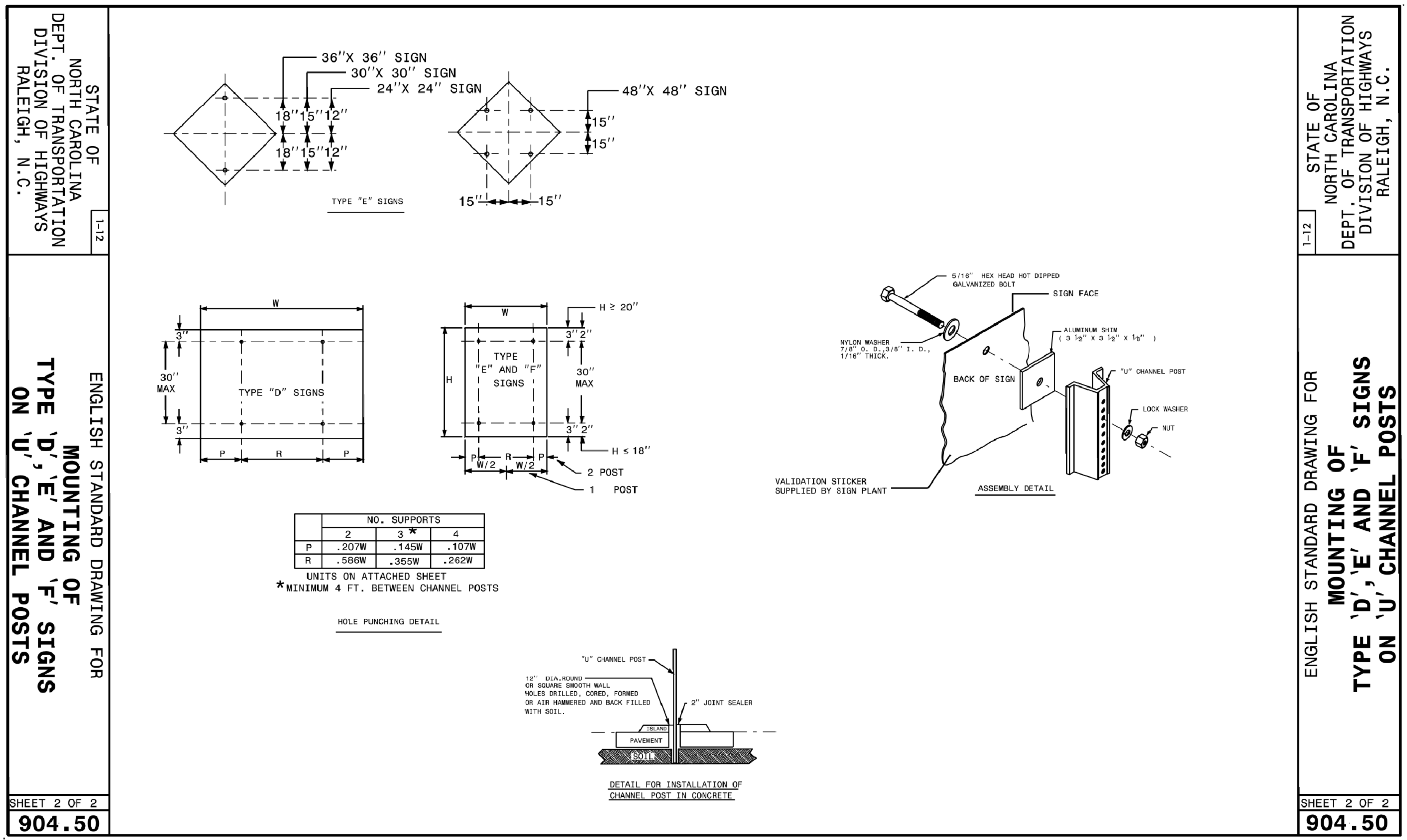


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-12
ENGLISH STANDARD DRAWING FOR
MOUNTING OF TYPE 'D','E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
SHEET 2 OF 2
904.50
36"X 36" SIGN
30"X 30" SIGN
24"X 24" SIGN
48"X 48" SIGN
TYPE "E" SIGNS
TYPE "D" SIGNS
TYPE "E" AND "F" SIGNS
30" MAX
H ≥ 20"
H ≤ 18"
2 POST
1 POST
NO. SUPPORTS
UNITS ON ATTACHED SHEET
*MINIMUM 4 FT. BETWEEN CHANNEL POSTS
HOLE PUNCHING DETAIL
5/16" HEX HEAD HOT DIPPED GALVANIZED BOLT
SIGN FACE
NYLON WASHER
BACK OF SIGN
ALUMINUM SHIM
"U" CHANNEL POST
LOCK WASHER
NUT
VALIDATION STICKER SUPPLIED BY SIGN PLANT
ASSEMBLY DETAIL
2" JOINT SEALER
PAVEMENT
SOIL
DETAIL FOR INSTALLATION OF CHANNEL POST IN CONCRETE

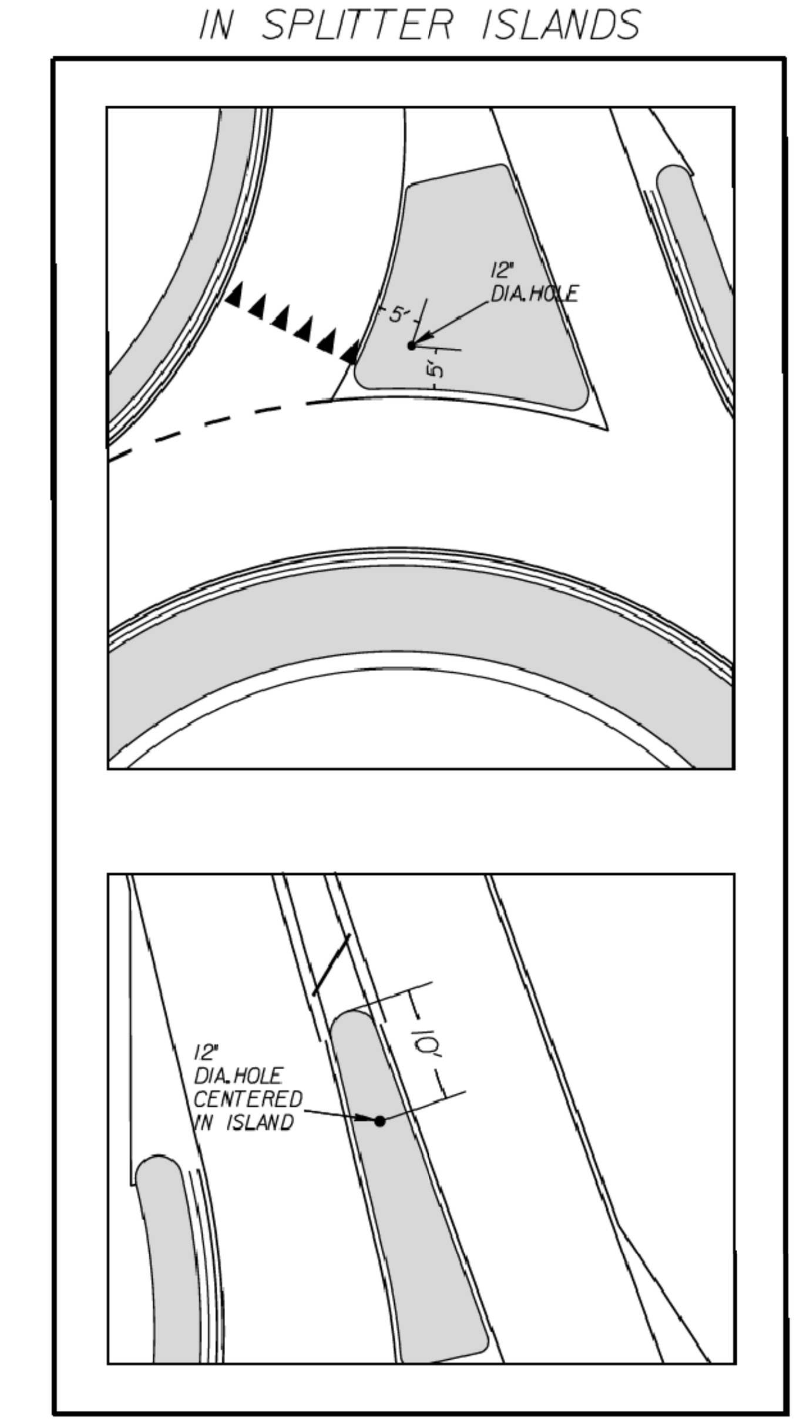
	2	3*	4
P	.207W	.145W	.107W
R	.586W	.355W	.262W

PROJECT NO.	SHEET NO.
W-5710AS	2C-1

F.A. PROJECT NO. 1514009

ROADWAY DESIGN ENGINEER

12" DIA. HOLE LOCATION FOR SIGN U-CHANNEL POST IN SPLITTER ISLANDS



SCALE	N/A
DATE	
DWG. BY	
DESIGN BY	
APPROVED	

REVISIONS

TRANSYSTEMS
1 Glenwood Avenue
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License: F-0453

SIGNING DETAILS

6/4/2024
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TIP NO.	SHEET NO.
W-5710AH	SIGN-4

APPROVED: Steve Miller

DATE: 6/4/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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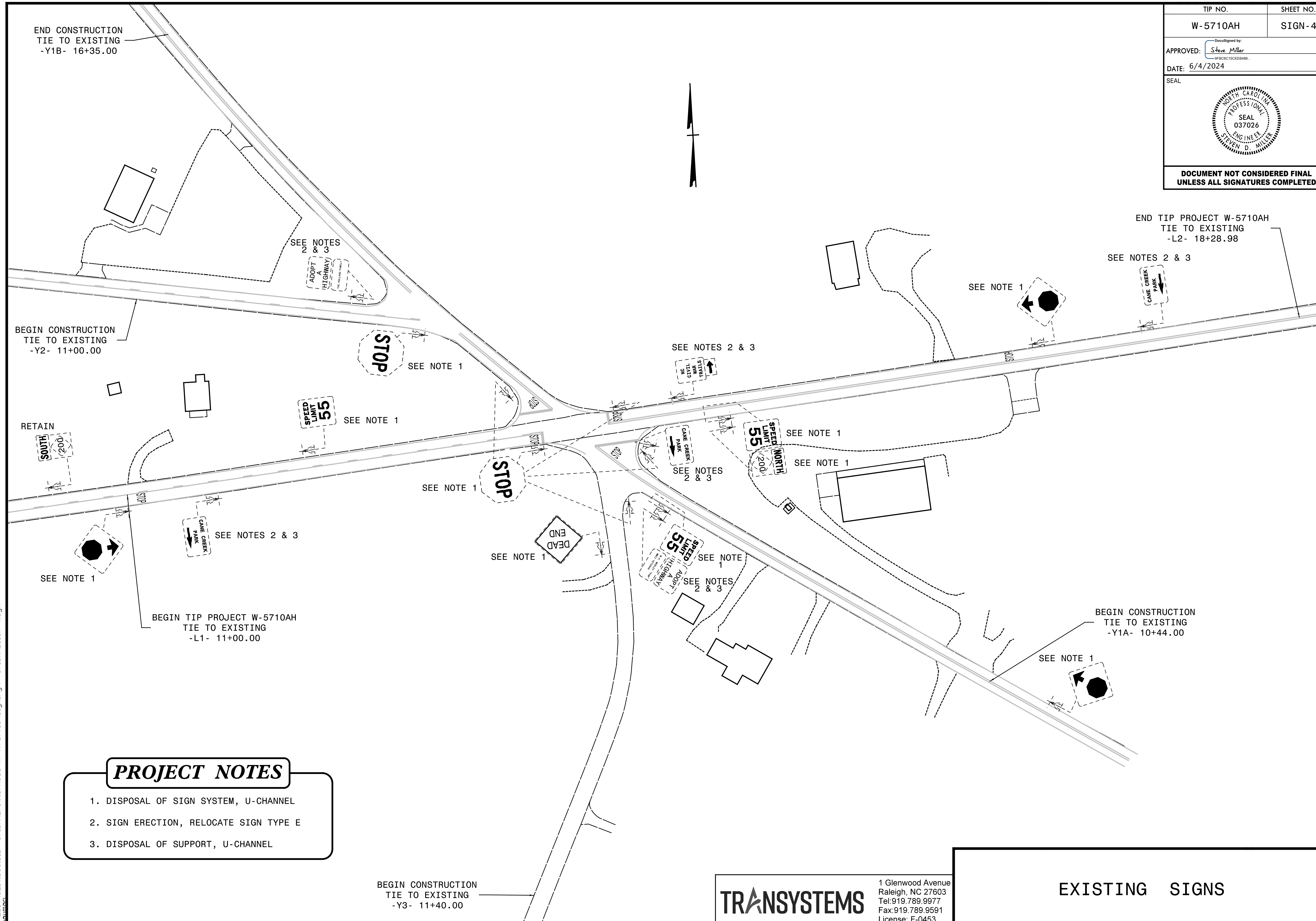

END CONSTRUCTION
TIE TO EXISTING
-Y1B- 16+35.00
END TIP PROJECT W-5710AH
TIE TO EXISTING
-L2- 18+28.98
SEE NOTES 2 & 3
ADOPT A HIGHWAY
SEE NOTE 1
CANE CREEK PARK
BEGIN CONSTRUCTION
TIE TO EXISTING
-Y2- 11+00.00
STOP
SEE NOTES 2 & 3
NC CIVIL WAR TRAILS
SPEED LIMIT 55
RETAIN
SOUTH
200
NORTH
DEAD END
BEGIN TIP PROJECT W-5710AH
TIE TO EXISTING
-L1- 11+00.00
BEGIN CONSTRUCTION
TIE TO EXISTING
-Y1A- 10+44.00
BEGIN CONSTRUCTION
TIE TO EXISTING
-Y3- 11+40.00

PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2. SIGN ERECTION, RELOCATE SIGN TYPE E
3. DISPOSAL OF SUPPORT, U-CHANNEL

TRANSYSTEMS

1 Glenwood Avenue
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EXISTING SIGNS

6/4/2024
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bnunan

TIP NO.	SHEET NO.
W-5710AH	SIGN-5

APPROVED: DocuSigned by: Steve Miller 9FBC6C15CEEB486...

DATE: 6/4/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

END CONSTRUCTION TIE TO EXISTING -Y1B- 16+35.00

-Y1B-STA 16+35

-Y1B-STA 16+35

-Y1B-

-Y2-STA 11+92

-Y2-STA 11+00 SEE NOTES 2 & 3

ADOPT A HIGHWAY

BEGIN CONSTRUCTION TIE TO EXISTING -Y2- 11+00.00

-Y2-

-Y2-STA 13+83

STOP

-Y1B-STA 11+58

-Y1B-STA 10+89

-L2-STA 10+84

-L2-STA 11+48

-L2-STA 13+00 SEE NOTES 2 & 3

NC CIVIL WAR TRAILS

-L2-STA 15+00

END TIP PROJECT W-5710AH TIE TO EXISTING -L2- 18+28.98

-L2-STA 17+00 SEE NOTES 2 & 3

GAME CREEK PARK

-L2-

-L1-STA 13+00

SPEED LIMIT 55

RETAIN SOUTH 200

-L1-STA 15+34

SOUTH 100

-RND-

ONE WAY 405

-RND-STA 13+33

-RND-STA 12+29

-RND-STA 11+32

RND STA 10+28

RND STA 10+85

-L2-STA 16+87

NORTH 502

NORTH 200

-RND-STA 11+61

SEE NOTES 2 & 3 GAME CREEK PARK

-L2-STA 13+00

-Y1A-STA 15+18

-Y1A-STA 14+21

-L1-

-L1-STA 14+48

-L1-STA 15+43

DEAD END

-Y3-STA 15+54

-Y3-STA 16+31

-Y3-STA 15+72

-Y1A-

-Y1A-STA 14+19

-Y1A-STA 10+44

SEE NOTES 2 & 3

-Y1A-STA 12+00

ADOPT A HIGHWAY

-L1-STA 11+00

SEE NOTES 2 & 3

BEGIN TIP PROJECT W-5710AH TIE TO EXISTING -L1- 11+00.00

BEGIN CONSTRUCTION TIE TO EXISTING -Y1A- 10+44.00

-Y3-

-Y3-STA 13+00

BEGIN CONSTRUCTION TIE TO EXISTING -Y3- 11+40.00

PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2. SIGN ERECTION, RELOCATE SIGN TYPE E
3. DISPOSAL OF SUPPORT, U-CHANNEL

TRANSYSTEMS
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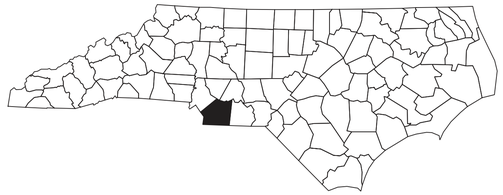
PROPOSED SIGNS

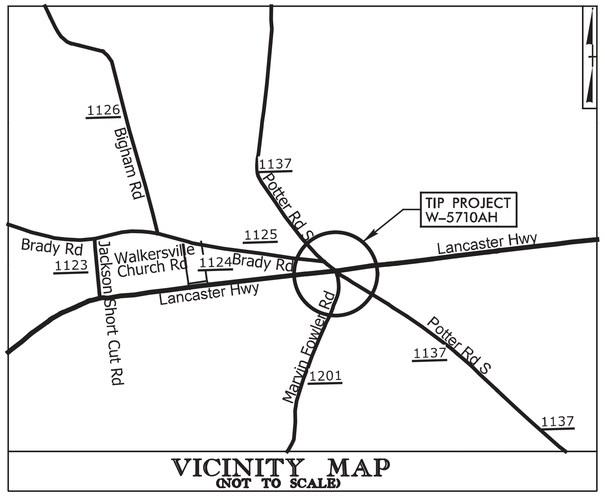
6/4/2024
C:\Users\SEI9.068.01_W-5710AH_PotterRoad\TP\Traffic\Signing\W-5710AH_SIGN-5.dgn
jbowden

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

UNION COUNTY





VICINITY MAP
(NOT TO SCALE)

LOCATION: ***INTERSECTION IMPROVEMENTS AT SR 1137 (POTTER RD), NC 200 (LANCASTER HWY) AND SR 1201 (MARVIN FOWLER RD)***

TYPE OF WORK: ***GRADING, DRAINAGE, PAVEMENT REMOVAL, PAVING, CONCRETE ISLANDS, AND THERMOPLASTIC PAVEMENT MARKINGS***

INDEX OF SHEETS

SHEET NO.
TMP-1

CONTRACT: DJ00517 TIP PROJECT: W-5710AH

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLANS PREPARED BY:

JOHN BAUMAN, P.E.

STEVE MILLER, P.E.

NCDOT CONTACTS:

DUSTIN SIMPSON
PROJECT ENGINEER

PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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License: F-0453

APPROVED: DocuSigned by: Steve Miller 9FB0B0165CEEB480...

DATE: 5/28/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D MILLER

5/28/2024
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lbauman

PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	TMP-1A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGERS
1180.01	SKINNY DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL
- WORK UNDER TRAFFIC

SIGNALS

EXISTING PROPOSED TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

APPROVED: DocuSigned by: Steve Miller 9FBC6C15CEEB486...

DATE: 5/28/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
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Fax:919.789.9591
License: F-0453

ROADWAY STANDARD DRAWINGS & LEGEND

5/28/2024
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jbauman

PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	TMP-2

MANAGEMENT STRATEGIES

- LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES WILL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION

- PROVIDE ONE MONTH NOTICE TO THE ENGINEER, UNION COUNTY EMERGENCY SERVICES, UNION COUNTY PUBLIC TRANSIT, AND UNION COUNTY SCHOOL OFFICIALS PRIOR TO ROAD CLOSURE

GENERAL NOTES

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

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

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME:	DAY AND TIME RESTRICTIONS
NC 200,	MONDAY-FRIDAY 7:00 A.M.-9:00 A.M.
SR 1137(POTTER RD.),	AND 4:00 P.M.-7:00 P.M.
BRADY RD.	

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:
ROAD NAME:
NC 200, SR 1137(POTTER RD.), BRADY RD.

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 A.M. DECEMBER 31ST TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.

3. FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.

4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

C) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

   WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

G) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

   BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

I) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 200 FEET IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

K) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

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

M) NCDOT WILL PROVIDE, INSTALL, AND MAINTAIN ALL DETOUR STATIONARY SIGNS, BARRICADES, AND BARRICADE MOUNTED SIGNS. EXCEPT THE (M) TYPE III BARRICADE(S) AND BARRICADE MOUNTED R11-2 SIGNS. WHICH THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING, INSTALLING, AND MAINTAINING.

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

O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200 FEET IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

P) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (35 MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES), AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

PAVEMENT MARKINGS AND MARKERS

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

S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

T) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS.

MISCELLANEOUS

U) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/ OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

V) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 200 FEET AND 400 FEET RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

W) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

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Fax:919.789.9591
License: F-0453

APPROVED: DocuSigned by: Steve Miller 9FBC6C15CEEB486...

DATE: 5/28/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

5/28/2024
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tbauman

PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	TMP-3

PHASING

PHASE I

STEP 1: USING RSD 1101.01 SHEET 3 OF 3, INSTALL ADVANCE WARNING SIGNS ON NC 200, SR 1137(POTTER RD.), BRADY RD., AND MARVIN FOWLER RD.

STEP 2: USING RSD 1101.02 SHEET 1 OF 19, FLAGGERS, AND 1101.04 SHEET 1 OF 2, PLACE TRAFFIC CONTROL DEVICES AS SHOWN ON TMP-4 AND BEGIN CONSTRUCTION, INCLUDING THE FOLLOWING:
- GRADING
- DRAINAGE(EXCEPT PORTIONS EXCLUDED IN PHASE I)
- PAVING(BASE AND WEDGING)

NOTE: CONTRACTOR SHALL COMPLETE THE WORK OF PHASE 1, STEP 2 IN SEVEN (7) WEEKS, SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

PHASE II

STEP 1: USING RSD 1101.03 SHEET 1 OF 9, PLACE DEVICES AS SHOWN ON TMP-6 THROUGH TMP-8, TO CLOSE THE ROAD, DETOUR TRAFFIC OFF-SITE, AND COMPLETE CONSTRUCTION, INCLUDING THE FOLLOWING:
- DRAINAGE MENTIONED ON DETAIL SHEET TMP-4.
- COMPLETE REMOVAL OF ASPHALT
- PLACE THE WEDGING, INTERMEDIATE COURSE, AND SURFACE COURSE WITHIN THE PROJECT LIMITS.
- COMPLETE CONSTRUCTION OF MONOLITHIC ISLANDS
- PLACE THE FINAL PAVEMENT MARKINGS AS SHOW ON THE PAVEMENT MARKING PLAN WITHIN THE PROJECT LIMITS.
- PLACE THE STATIONARY SIGNAGE AS SHOW ON THE SIGNING PLANS.

STEP 2: USING RSD 1101.02 SHEETS 1 AND 18 OF 19, FLAGGERS, AND 1101.04 SHEET 1 OF 2, PLACE TRAFFIC CONTROL DEVICES AS SHOWN ON TMP-5 AND PERFORM THE FOLLOWING IN A CONTINUOUS MANNER:
- OPEN THE ROADWAY TO TRAFFIC
- REMOVE ALL WORK ZONE TRAFFIC DEVICES.

NOTE: CONTRACTOR SHALL COMPLETE THE WORK OF PHASE II, STEP 1 & 2 IN NINE (9) WEEKS, SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

APPROVED: DocuSigned by: Steve Miller 9FBC6C15CEEB486...

DATE: 5/28/2024

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DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

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PHASING

5/28/2024
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PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	TMP-4

-Y1B-

END CONSTRUCTION TIE TO EXISTING -Y1B- 16+35.00

SR 1137 (POTTER ROAD) 20' BST

20'

15+00

20'

SR 1125 (BRADY ROAD) 20' BST

-Y2-

BEGIN CONSTRUCTION TIE TO EXISTING -Y2- 11+00.00

10'

-RND-

10'

-L2-

10'

15+00

20'

END TIP PROJECT W-5710AH TIE TO EXISTING -L2- 18+28.98

STOP

STOP

NC 200 (LANCASTER HWY) 25' BST

CONTRACTOR SHALL FINISH CONSTRUCTING THIS PIPE DURING NC 200 ROAD CLOSURE

-L1-

NC 200 (LANCASTER HWY) 25' BST

20'

15+00

STOP

STOP

15" RCP-IV

18" RCP-IV

10'

15+00

20'

10'

CONTRACTOR SHALL CONSTRUCT THIS PIPE DURING SR1137 ROAD CLOSURE

-Y3-

-Y1A-

10'

BEGIN TIP PROJECT W-5710AH TIE TO EXISTING -L1- 11+00.00

CONTRACTOR SHALL MAINTAIN ACCESS TO MARVIN FOWLER RD. DURING ROAD CLOSURES USING WEDGING AS NEEDED.

SR 1137 (POTTER ROAD) 20' BST

BEGIN CONSTRUCTION TIE TO EXISTING -Y1A- 11+69.00

20'

SR 1201 (MARVIN FOWLER ROAD) 20' BST

BEGIN CONSTRUCTION TIE TO EXISTING -Y3- 11+40.00

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DATE: 5/28/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

PHASE I

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PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	TMP-5

-Y1B-

END CONSTRUCTION
TIE TO EXISTING
-Y1B- 16+35.00

SR 1132 (POTTER ROAD) SR 20' BST

15+00

W2-6
30" X 30"

SR 1125 (BRADY ROAD) 20' BST

BEGIN CONSTRUCTION
TIE TO EXISTING
-Y2- 11+00.00

-Y2-

ONE WAY
R6-1 R
36" X 12"

10'
-RND-

-L2-

15+00

END TIP PROJECT W-5710AH
TIE TO EXISTING
-L2- 18+28.98

NC 200 (LANCASTER HWY) 25' BST

10'

R11-2
48" x 30"

ROAD
CLOSED

W1-6R
48" x 24"

TYPE III BARRICADE

-L1-

15+00

YIELD
R1-2
36" x 36" x 36"

15" RCP-IV

18" RCP

15+00

W2-6
30" X 30"

NC 200 (LANCASTER HWY) 25' BST

BEGIN TIP PROJECT W-5710AH
TIE TO EXISTING
-L1- 11+00.00

NEW
TRAFFIC
PATTERN
AHEAD
W23-2
36" X 36"

YIELD
R1-2
36" x 36" x 36"

-Y3-

SR 1201 (MARVIN FOWLER ROAD) 20' BST

W2-6
30" X 30"

-Y1A-

R11-2
48" x 30"

ROAD
CLOSED

W1-6L
48" x 24"

TYPE III BARRICADE

10'

SR 1137 (POTTER ROAD) 20' BST

BEGIN CONSTRUCTION
TIE TO EXISTING
-Y1A- 11+69.00

NEW
TRAFFIC
PATTERN
AHEAD
W23-2
36" X 36"

BEGIN CONSTRUCTION
TIE TO EXISTING
-Y3- 11+40.00

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

PHASE II

5/28/2024
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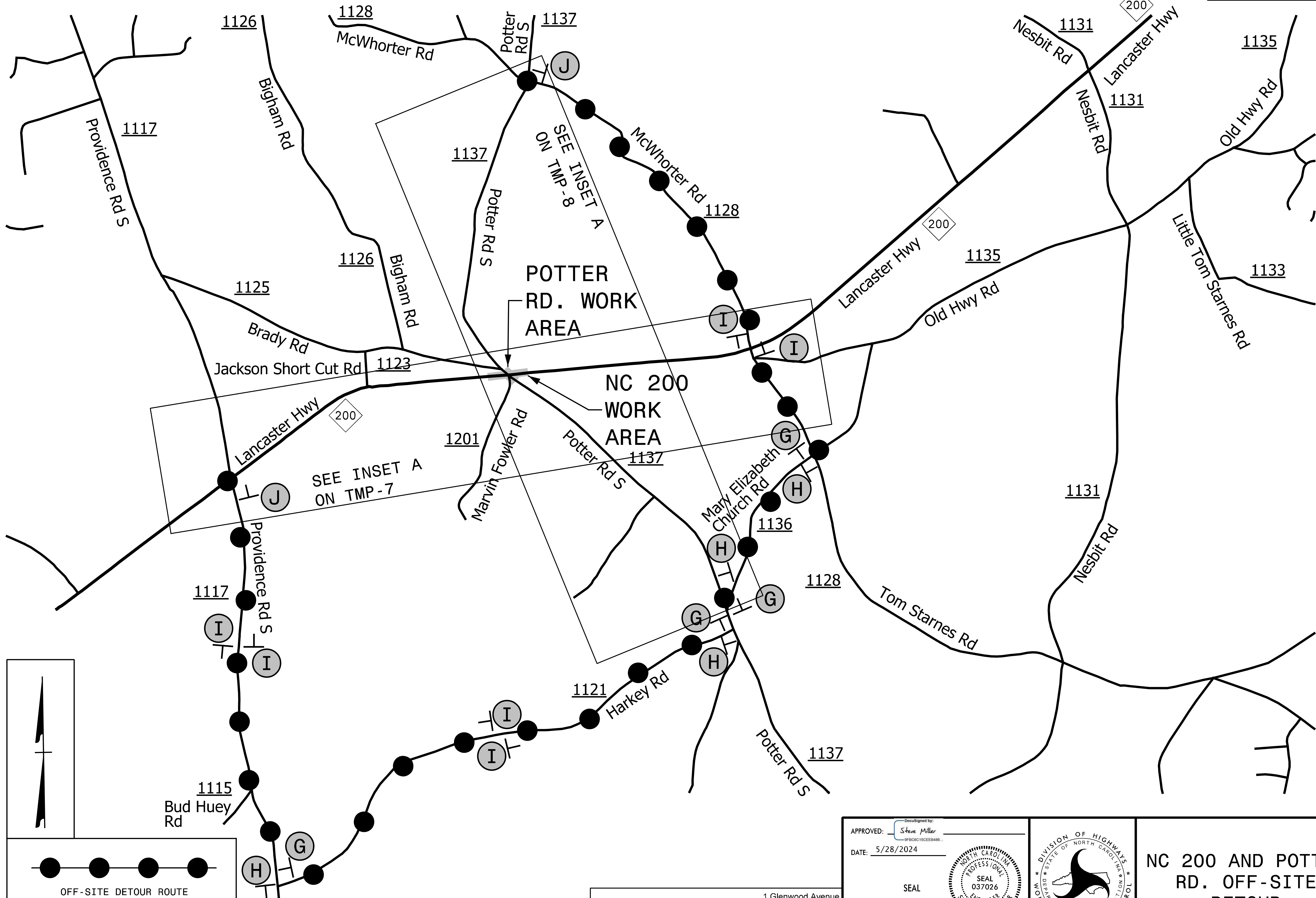
PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	TMP-6



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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

NC 200 AND POTTER RD. OFF-SITE DETOUR

5/28/2024
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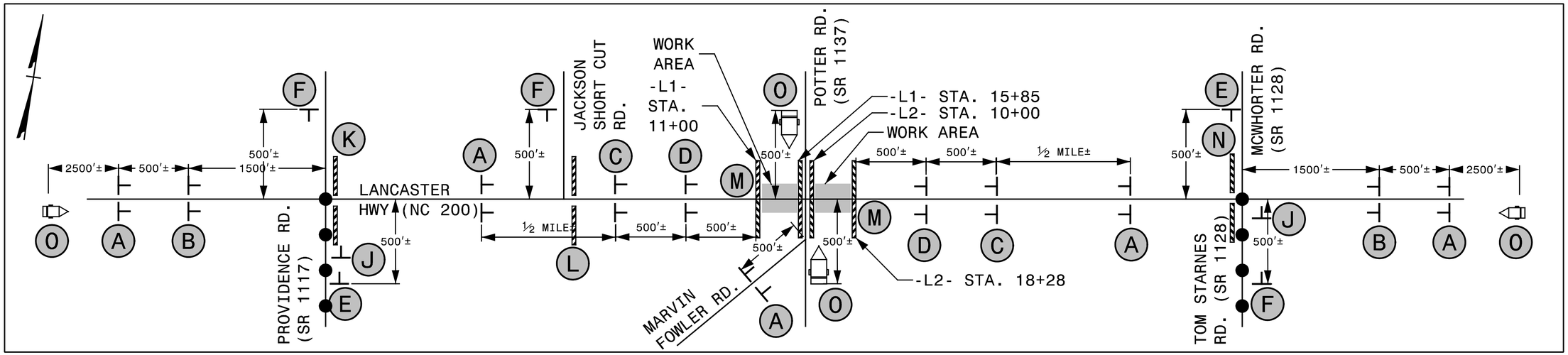
PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	TMP-7

INSET A



A

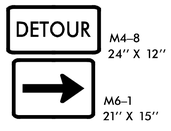
B

C

D

E

F



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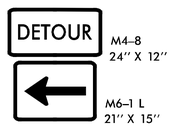

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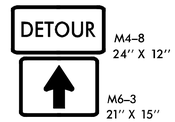

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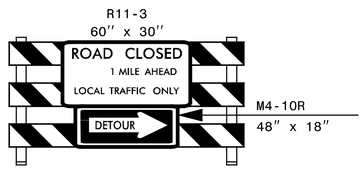
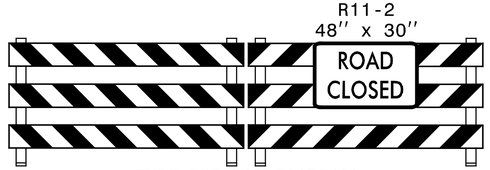


TYPE III BARRICADE

K

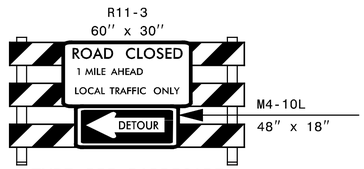
TYPE III BARRICADE

L



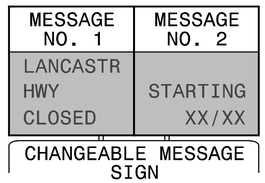
TYPE III BARRICADE(S)

M



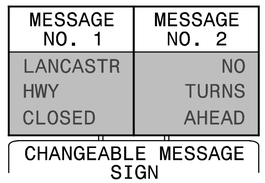
TYPE III BARRICADE

N



CHANGEABLE MESSAGE SIGN

✱ O



CHANGEABLE MESSAGE SIGN

▲ O

✱ DISPLAY MESSAGE TWO WEEKS PRIOR TO ROAD CLOSURE

▲ DISPLAY MESSAGE DURING ROAD CLOSURE

NOTES:

THE CHANGEABLE MESSAGE SIGNS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

NCDOT WILL PROVIDE, INSTALL, AND MAINTAIN ALL DETOUR STATIONARY SIGNS, BARRICADES, AND BARRICADE MOUNTED SIGNS. EXCEPT THE (M) TYPE III BARRICADE(S) AND BARRICADE MOUNTED R11-2 SIGNS. WHICH THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING, INSTALLING, AND MAINTAINING.

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DATE: 5/28/2024

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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ROAD CLOSURE AND DETOUR SIGNING

5/28/2024
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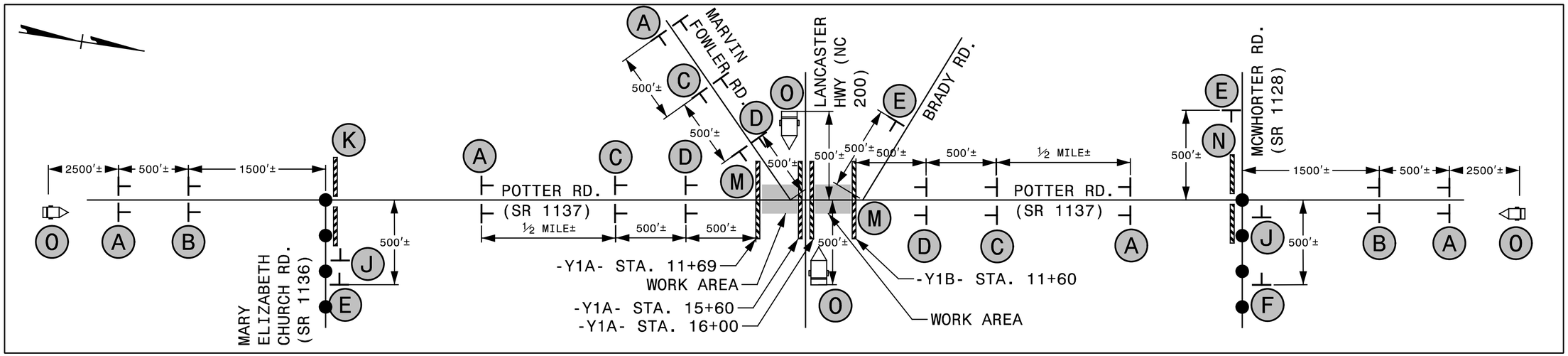
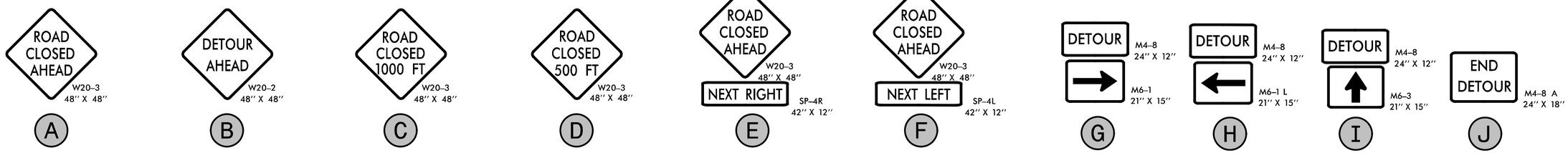
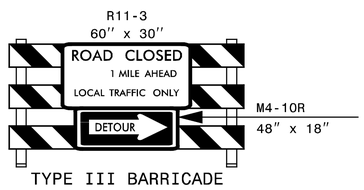
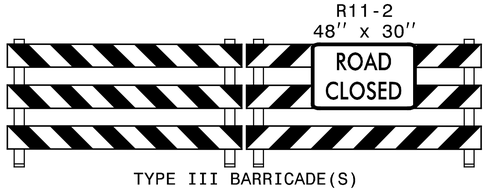
PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	TMP-8

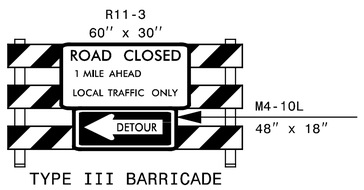
INSET A











MESSAGE NO. 1	MESSAGE NO. 2
POTTER ROAD CLOSED	STARTING XX/XX

CHANGEABLE MESSAGE SIGN

✱ O

MESSAGE NO. 1	MESSAGE NO. 2
POTTER ROAD CLOSED	NO TURNS AHEAD

CHANGEABLE MESSAGE SIGN

▲ O

✱ DISPLAY MESSAGE TWO WEEKS PRIOR TO ROAD CLOSURE

▲ DISPLAY MESSAGE DURING ROAD CLOSURE

NOTES:

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ROAD CLOSURE AND DETOUR SIGNING

5/28/2024
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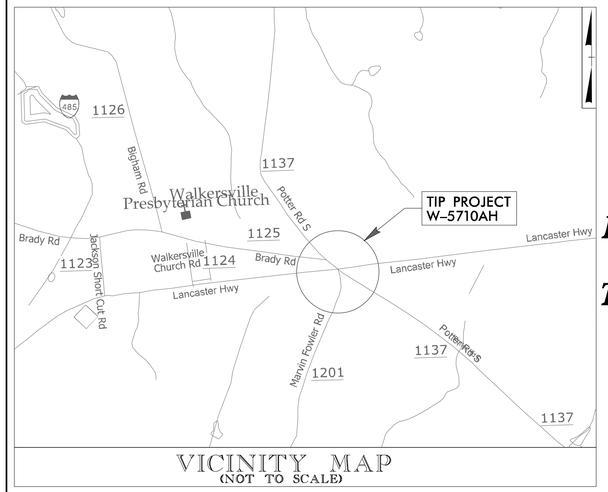
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
UNION COUNTY

T.I.P. NO.	SHEET NO.
W–5710AH	UO–1

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET IS DONE BY OTHERS.
NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

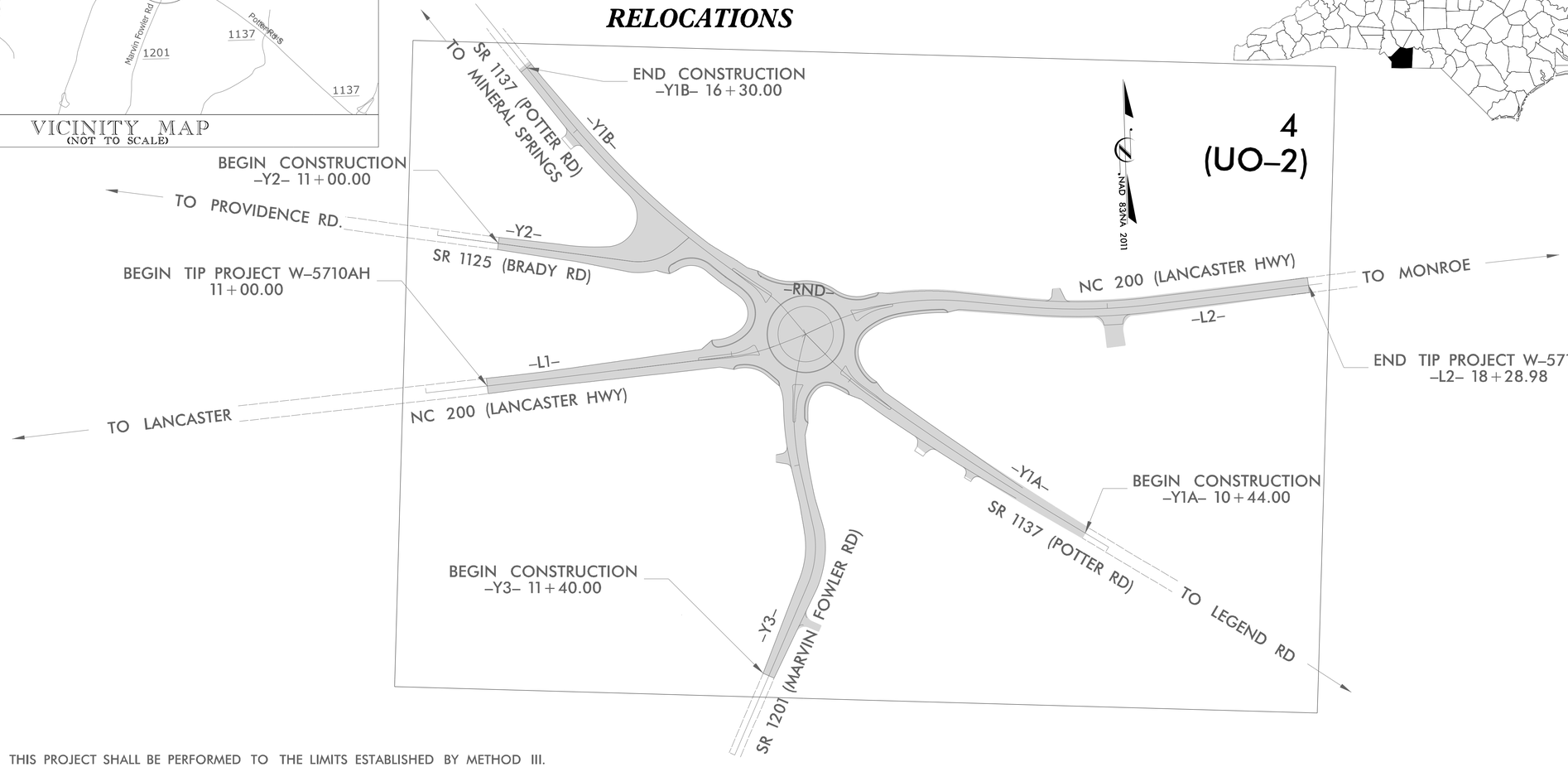
TIP PROJECT: W–5710AH



VICINITY MAP
(NOT TO SCALE)

LOCATION: INTERSECTION IMPROVEMENTS AT SR 1137 (POTTER RD), NC 200 (LANCASTER HWY) AND SR 1201 (MARVIN FOWLER RD)

TYPE OF WORK: POWER DISTRIBUTION & TELECOM RELOCATIONS



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

UTILITY OWNERS WITH CONFLICTS

(A) POWER DISTRIBUTION – DUKE ENERGY
(B) TELECOM – CHARTER/SPECTRUM
(C) TELECOM – WINDSTREAM

PREPARED IN THE OFFICE OF:
HINDE ENGINEERING
License No. C-2639
10815 Sikes Place, Suite 210 Charlotte, NC 28277
(704) 814-4407

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Harris Winters — PROJECT UTILITY COORDINATOR
James N. Arnold — PROJECT UTILITY DESIGNER

DIVISION OF HIGHWAYS
DIVISION 10
716 WEST MAIN STREET
ALBEMARLE, NC 28001
PHONE (704) 983-4400
FAX (704) 982-3146

Brett D. Canipe, PE — DIVISION ENGINEER
Lynn Basinger — DIVISION UTILITY ENGINEER
Adam Preslar — DIVISION UTILITY COORDINATOR

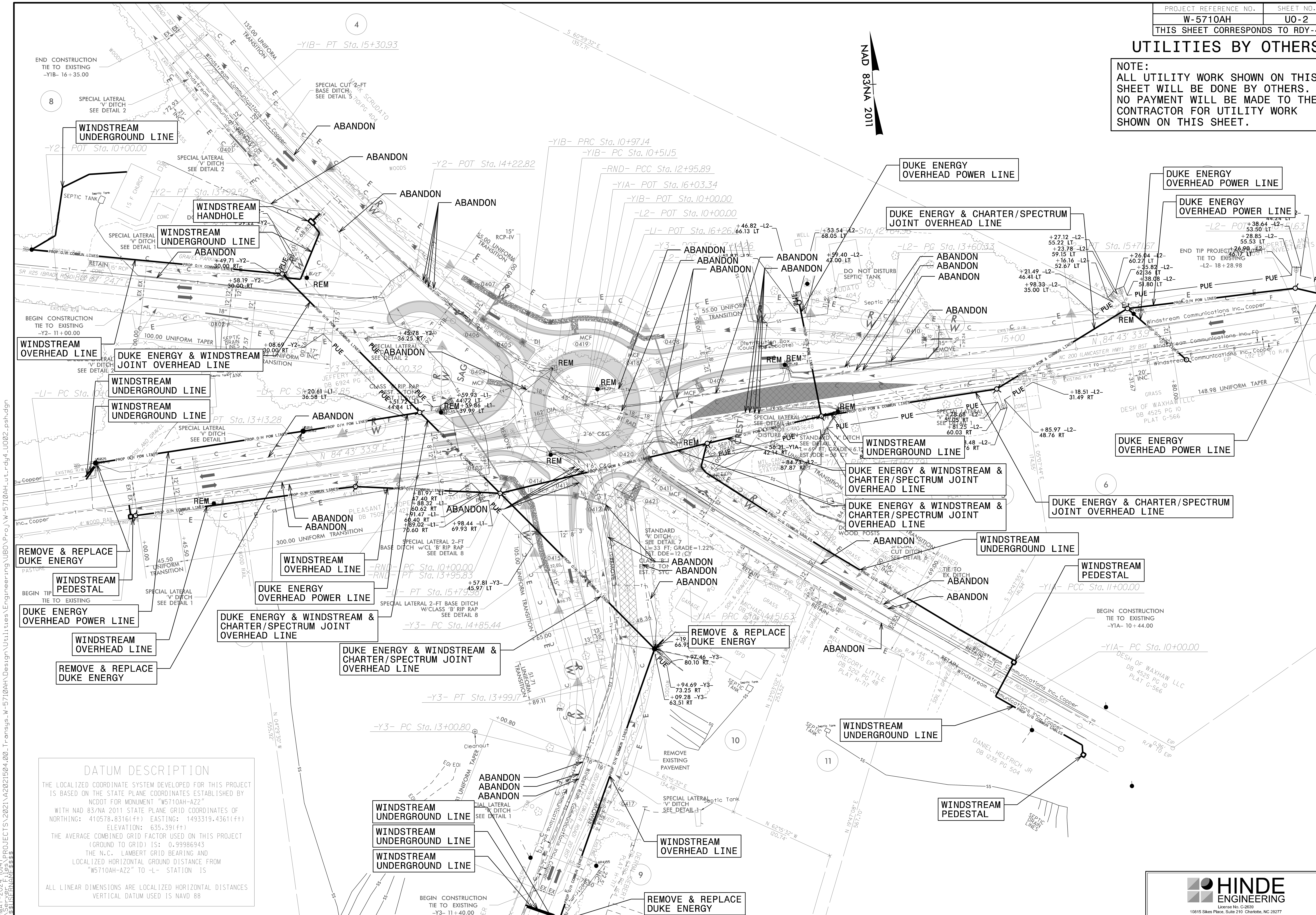
UBO PLANS ARE FOR INFORMATION ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. ALL PROPOSED RELOCATION INFORMATION SHOWN ON THE UBO PLANS WAS PROVIDED BY 3RD PARTIES. HINDE ENGINEERING, INC. ASSUMES NO RESPONSIBILITY OR LIABILITY FOR THE ACCURACY OR VALIDITY OF 3RD PARTY INFORMATION PROVIDED.

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	UO-2

THIS SHEET CORRESPONDS TO RDY-4

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W5710AH-AZ2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 410578.8316(ft) EASTING: 1493319.4361(ft) ELEVATION: 635.39(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99986943
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W5710AH-AZ2" TO -L- STATION IS

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

HINDE ENGINEERING
License No. C-2639
10815 Sikes Place, Suite 210 Charlotte, NC 28277

PROJECT REFERENCE NO.	SHEET NO.
W-5710AH	X-1

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

W-5710AH
CROSS SECTION INDEX OF SHEETS

ALIGNMENT AND STATIONING	SHEET NUMBERS
CROSS SECTION VOLUMES	X-1A
-L1- STA. 10+50.00 TO STA. 15+00.00	X-2 - X-4
-L2- STA. 10+50.00 TO STA. 18+50.00	X-5 - X-9
-Y1A- STA. 12+00.00 TO STA. 15+50.00	X-10 - X-12
-Y1B- STA. 10+50.00 TO STA. 16+50.00	X-13 - X-15
-Y2- STA. 10+50.00 TO STA. 14+00.00	X-16 - X-17
-Y3- STA. 10+00.00 TO STA. 16+50.00	X-18 - X-21
-RND1- STA. 10+25.00 TO STA. 13+75.00	X-22 - X-25

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-2

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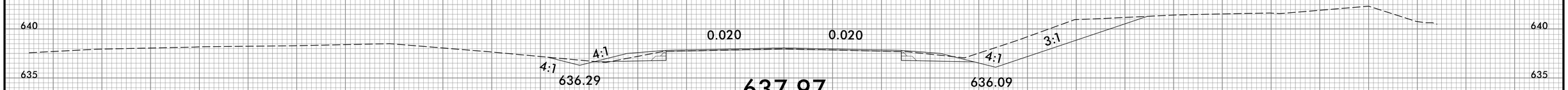
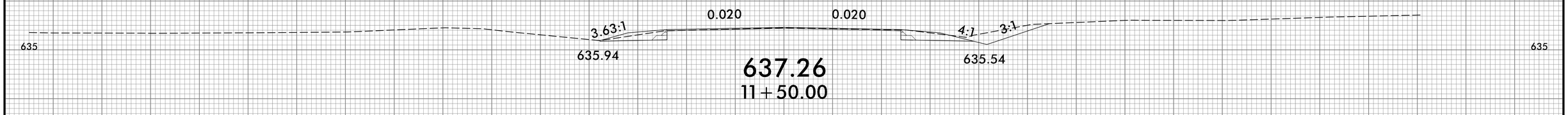
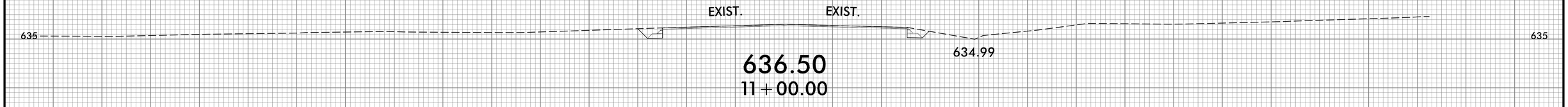


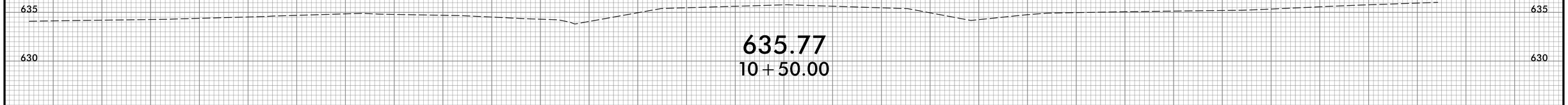
637.97
12+00.00



637.26
11+50.00



636.50
11+00.00



635.77
10+50.00

–L1–

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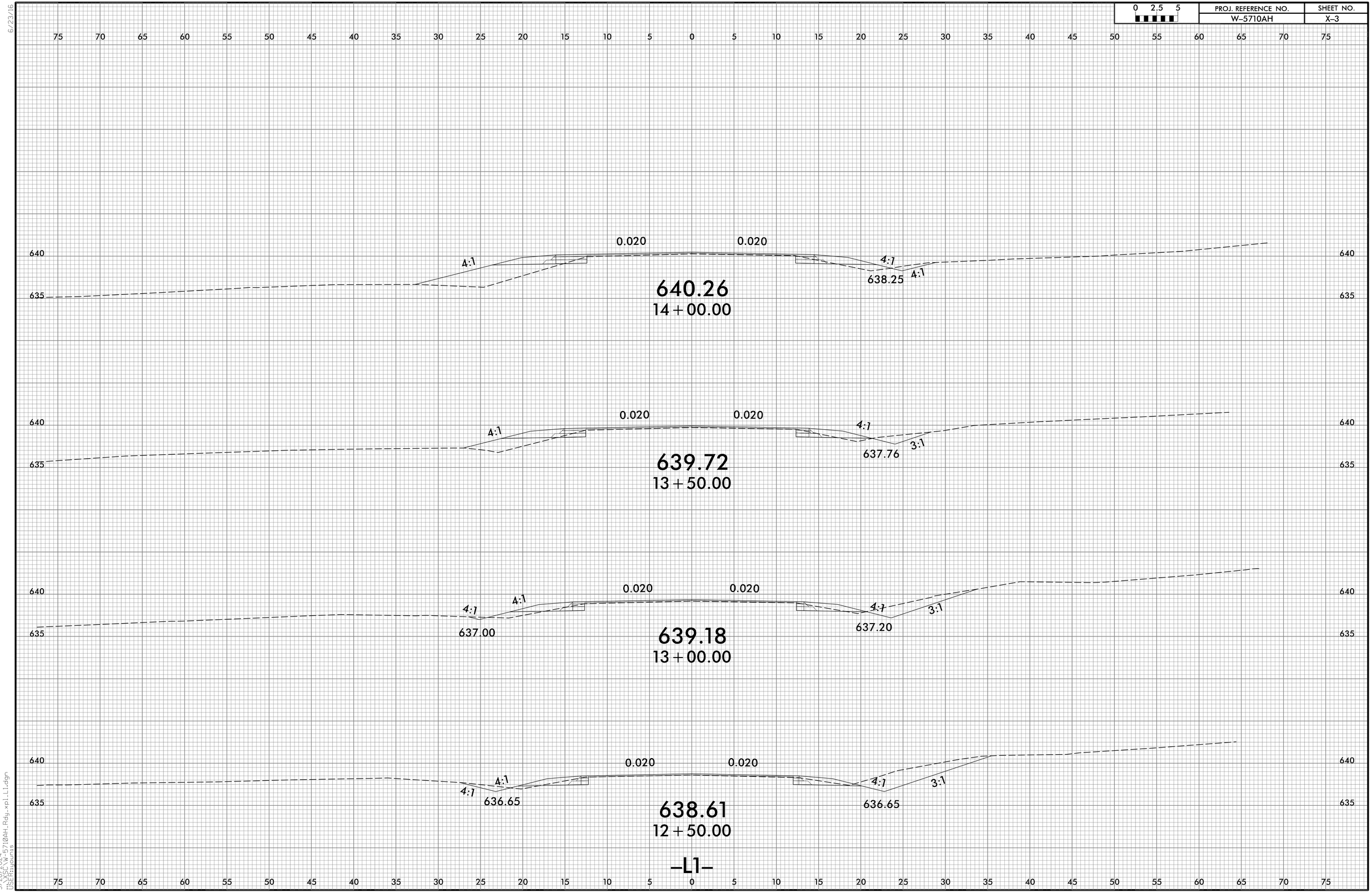
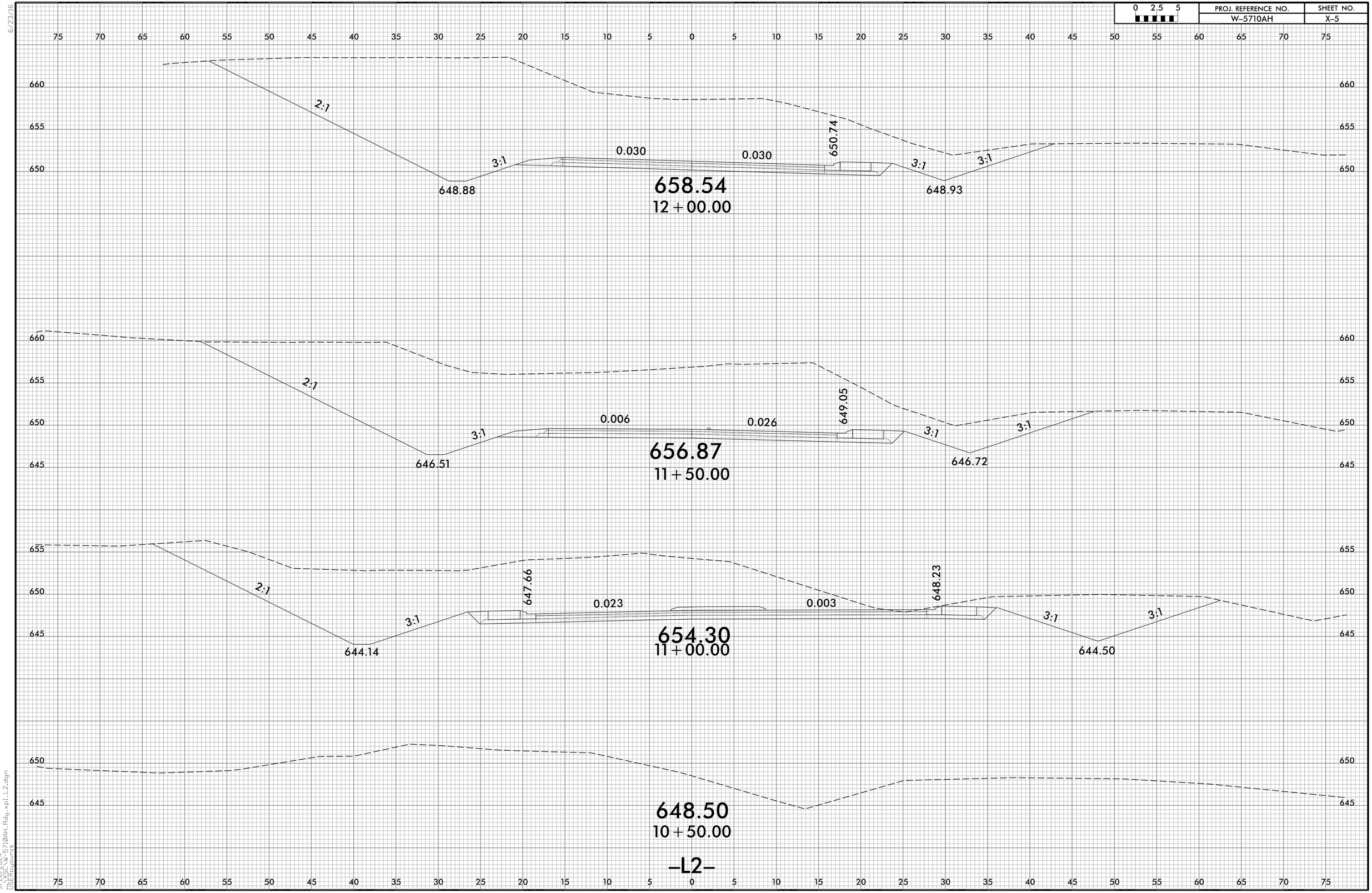
5/28/2024
...\SSC\W-5710AH_Rdy_xpl_L1.dgn
USER:tjounts

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-3



PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	X-4

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-5

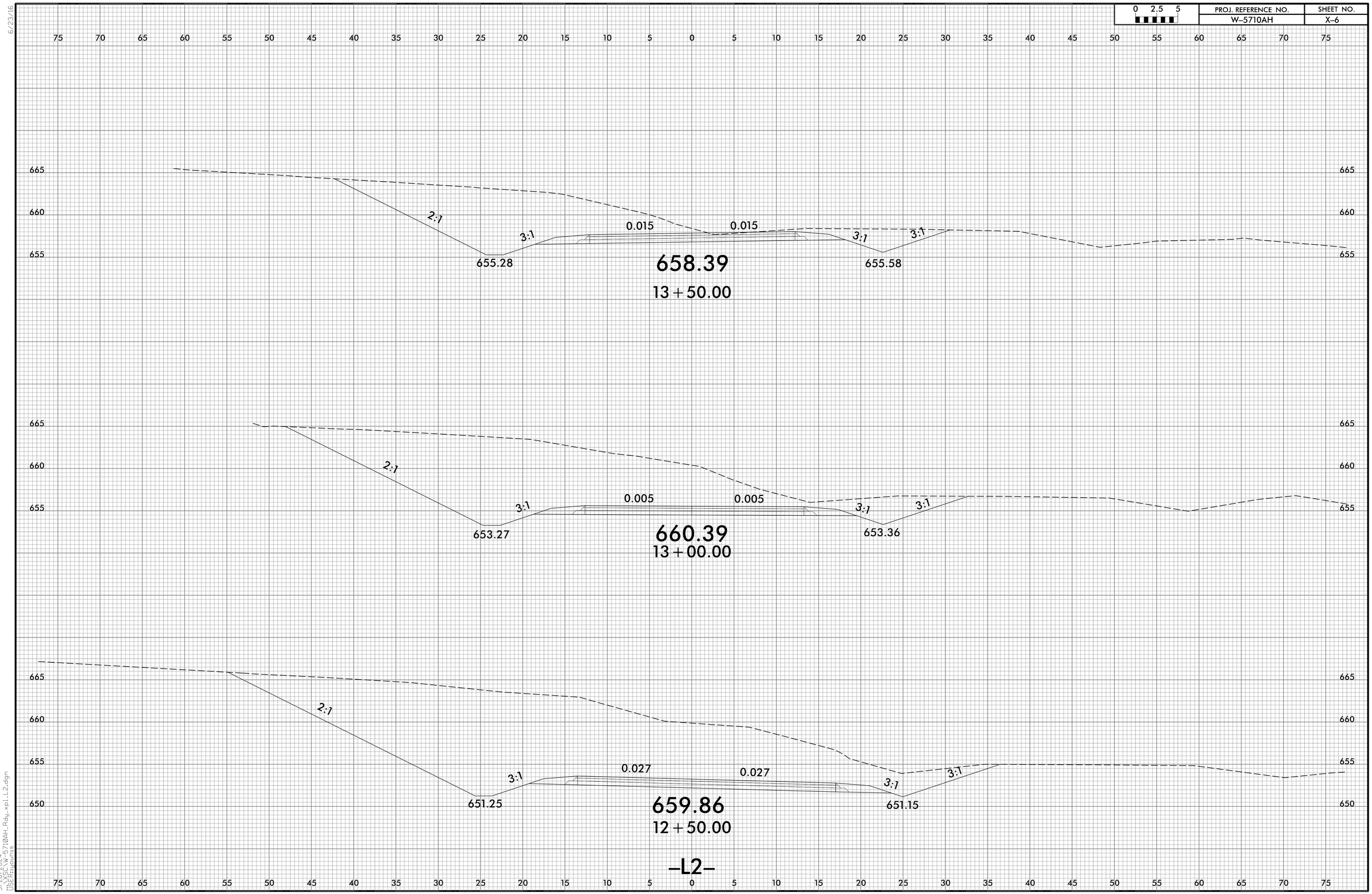


6/23/16

5/28/2024
:\XSC\W-5710AH_Rdy_xpl_L2.dgn
USER:jjounts

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-6



5/28/2024
I:\X5C\W-5710AH_Rdy_xpl_L2.dgn
USER:tjounis

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-7

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

665 / 660

2:1 3:1 0.030 0.030 2.00% 15.00% 25.00%

659.01

661.63

15 + 00.00

665 / 660 / 655

2:1 3:1 0.030 0.030 4:1 4:1

658.07 658.91

660.62

14 + 50.00

665 / 660 / 655

15.00% 4.00% 0.030 0.030 4:1 4:1

658.12

660.04

14 + 17.00

665 / 660 / 655

2:1 3:1 0.030 0.030 4:1 4:1

657.29 657.62

659.41

14 + 00.00

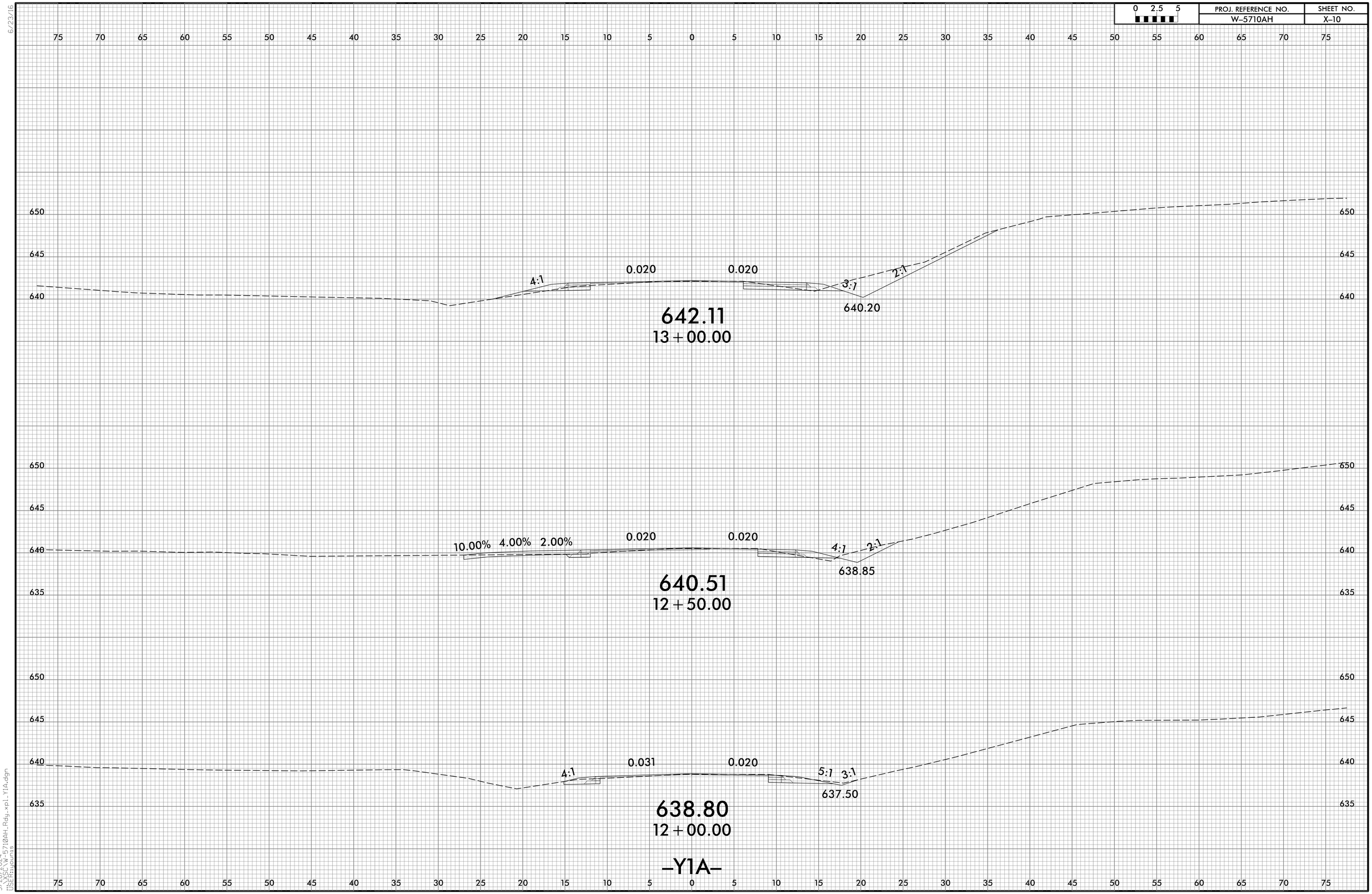
–L2–

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

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-8

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-9

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-10




PROJ. REFERENCE NO.
W-5710AH
SHEET NO.
X-11
0 2.5 5
0.020
0.020
4:1
3:1
2:1
642.90
644.35
14 + 00.00
4.00% 2.00%
0.020
0.020
4:1
3:1
2:1
641.55
643.34
13 + 50.00
10.00%
4.00% 2.00%
0.020
0.020
3:1
2:1
640.51
643.10
13 + 40.00
-Y1A-
650
645
640
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

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W–5710AH	X–12

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

655
650
645

646.76
15+50.00

655
650
645
640

2:1
646.33
0.031
0.011
647.18
2:1
2:1
645.65

645.63
15+00.00

650
645
640

4:1
0.020
0.018
3:1
2:1
644.25

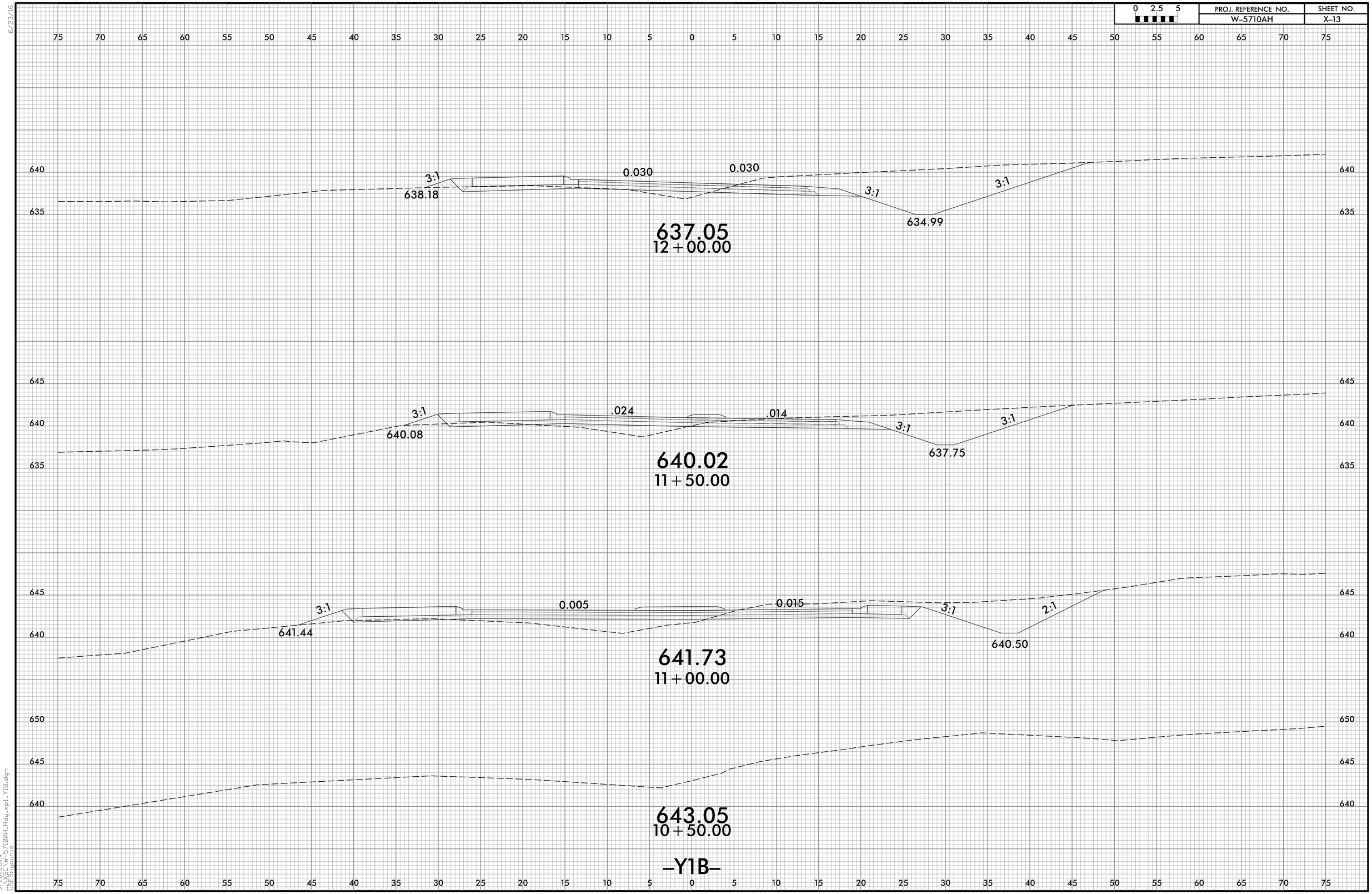
645.01
14+50.00

–Y1A–

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

5/28/2024
I:\ASC\W-5710AH_Rdy_xpl_Y1A.dgn
USER:tjounis

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-13



0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-14

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

635
630

0.030 0.030
4:1
3:1
3:1
2:1
629.93
630.50

632.25
14+00.00

–Y2–

635
630

0.030 0.030
3:1
2:1
631.63

633.29
13+50.00

–Y2–

635

0.030 0.030
3:1
2:1
632.75

634.54
13+00.00

–Y2–

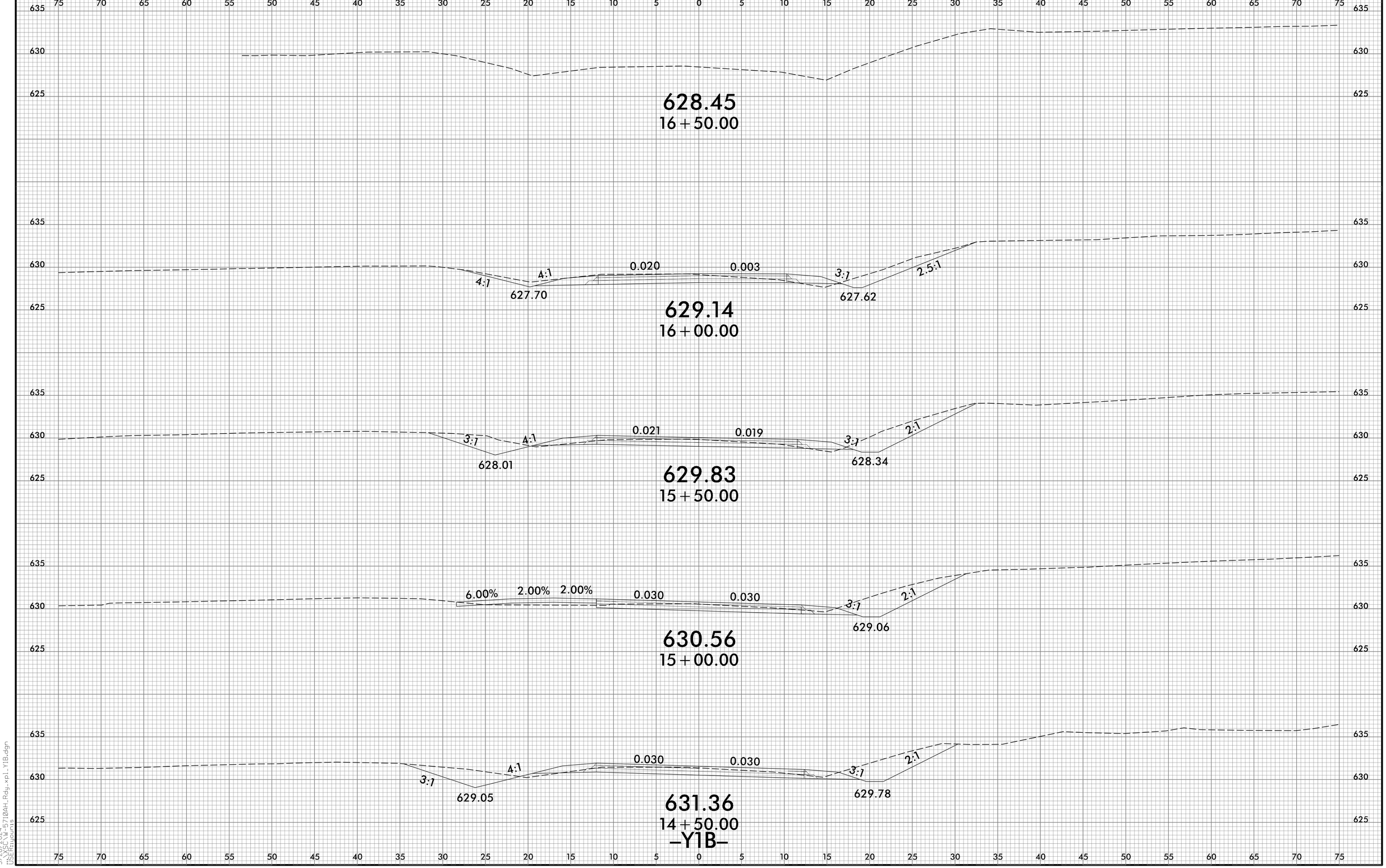
635

0.030 0.030
3:1
2:1
633.88

635.59
12+50.00
–Y1B–

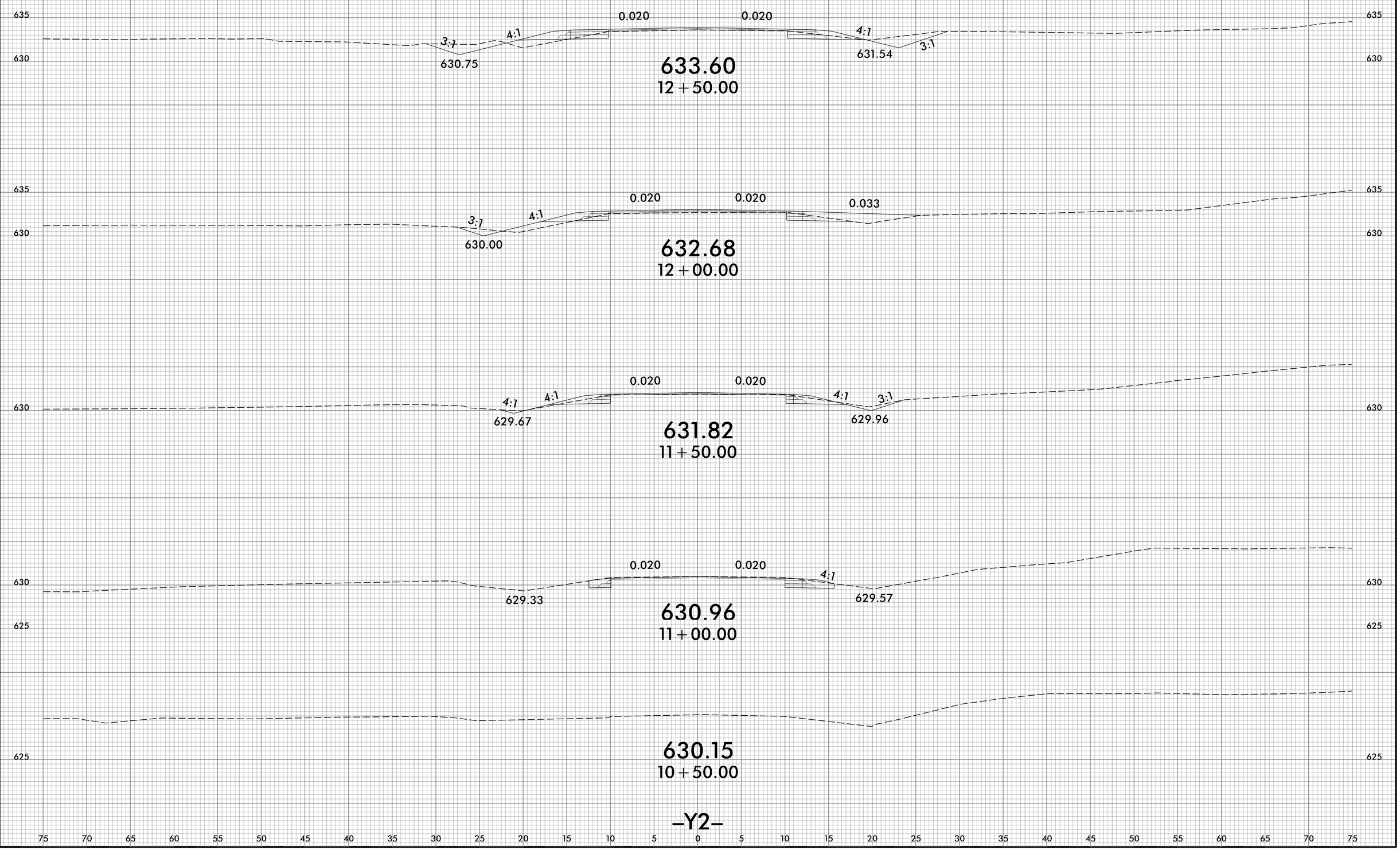
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W–5710AH	X–15



6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-16



5/28/2024
:\XSC\W-5710AH_Rdy_xpl_Y2.dgn
USER:tjounis

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W–5710AH	X–17

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

640
635

637.
0.040
3:1
3:1
634.90

636.25
14+00.00

–Y1B–

635
630

0.040
0.014
3:1
4:1
633.78

635.47
13+50.00

635
630

0.031
0.016
3:1
4:1
631.50
4:1
632.66

634.55
13+00.00

–Y2–

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

5/28/2024
...\ASC\W-5710AH_Rdy_xpl_Y2.dgn
USER:bjoumis

6/23/16

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	X-18

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

665
660

4:1
0.020
0.020

662.98
11+50.00

665
660

663.79
11+00.00

665
660

664.75
10+50.00

665
660

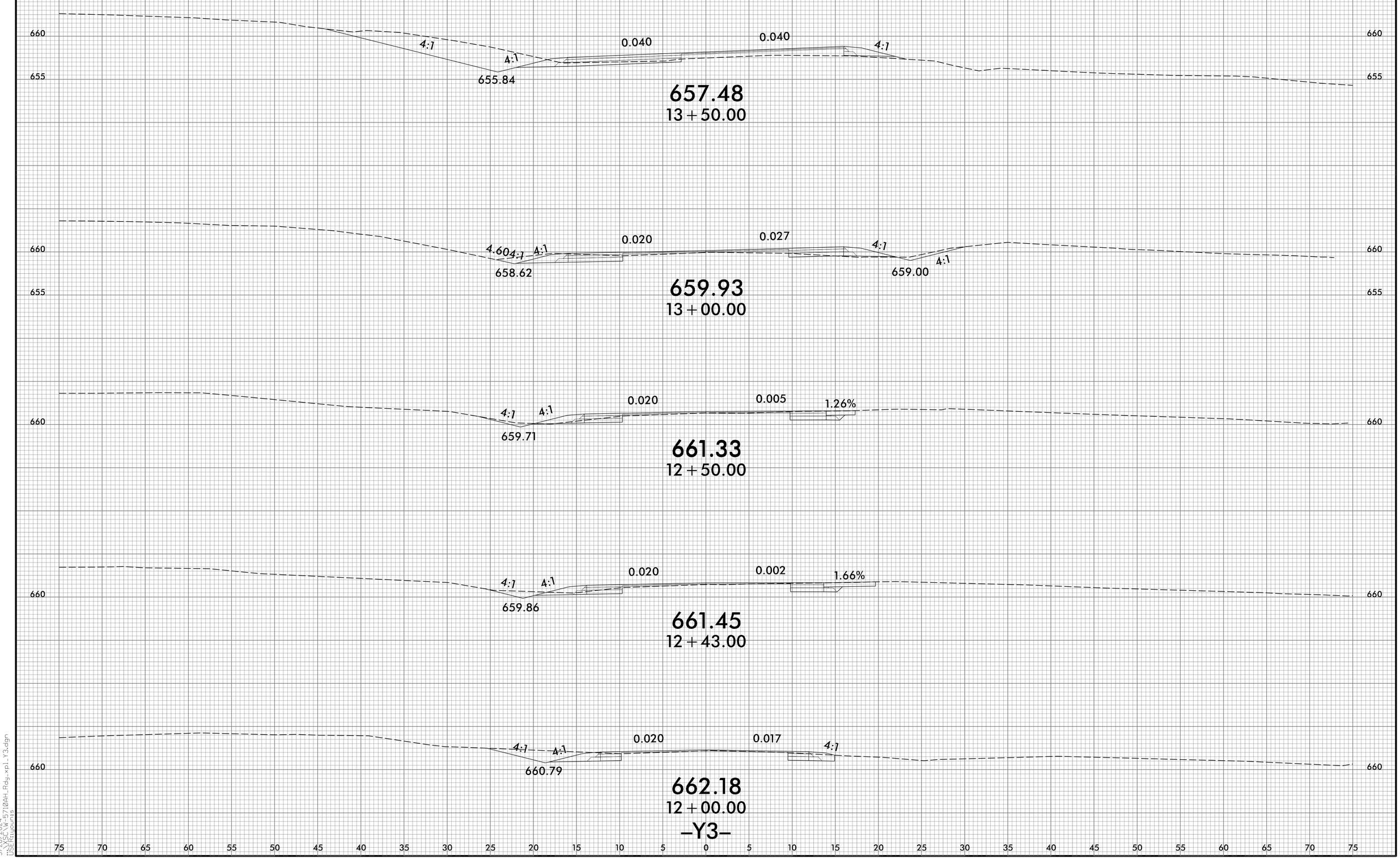
665.29
10+00.00

–Y3–

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

5/28/2024
::\XSEC\W-5710AH_Rdy_xpl_Y3.dgn
USER:jhouns

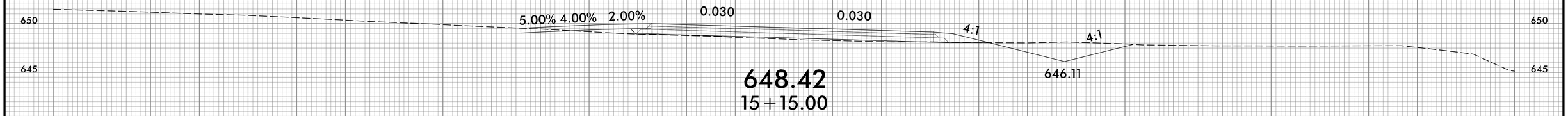
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-19



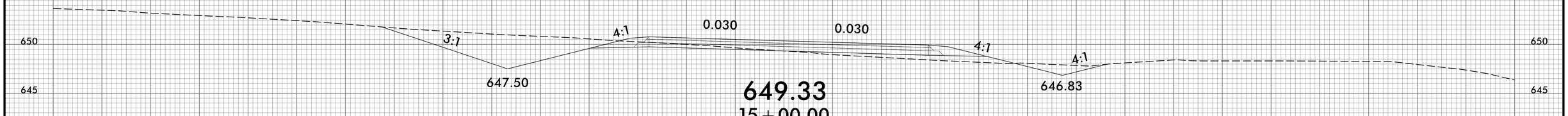
6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5710AH	X-20

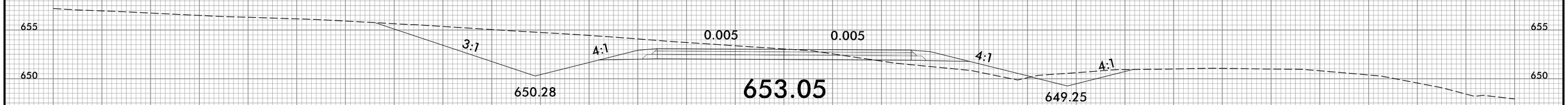
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75



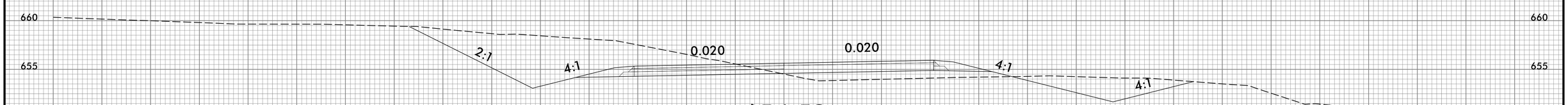
648.42
15+15.00



649.33
15+00.00



653.05
14+50.00



654.52
14+00.00

–Y3–

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

5/28/2024
...\ASC\W-5710AH_Rdy_xpl_Y3.dgn
USER:bwoms

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W–5710AH	X–21

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

645
640

642.63
16+50.00

650
645
640

0.004
0.014
646.32
4:1
4:1
3:1
4:1
639.58
642.00

642.37
16+00.00

650
645
640

0.025
0.015
4:1
4:1
4:1
5.329:1
643.44
644.42

645.39
15+50.00

–Y3–

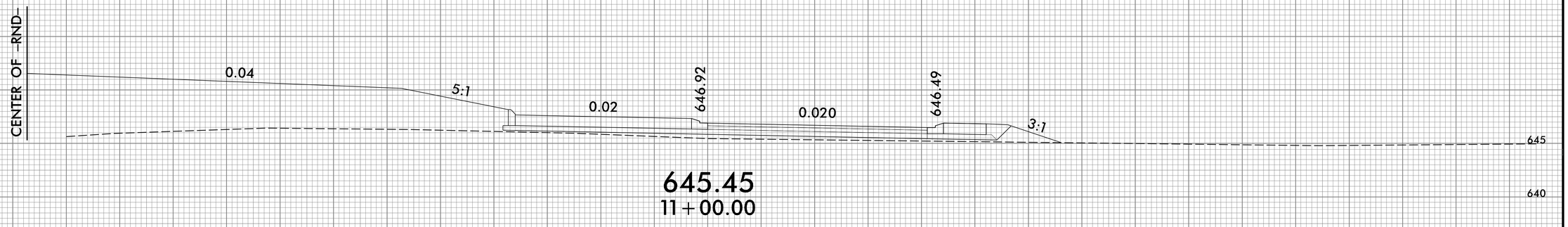
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

5/28/2024
:\X5C\W-5710AH_Rdy_xpl_Y3.dgn
USER:tjounis

6/23/16

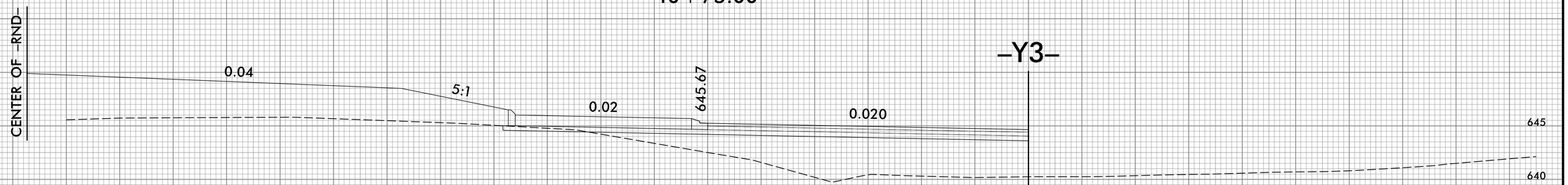
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W–5710AH	X–22

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

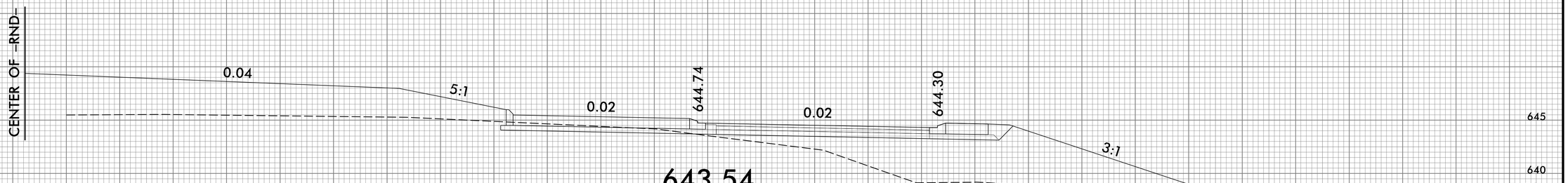


645.45
11+00.00

643.71
10+75.00



642.51
10+50.00



643.54
10+25.00

–RND–

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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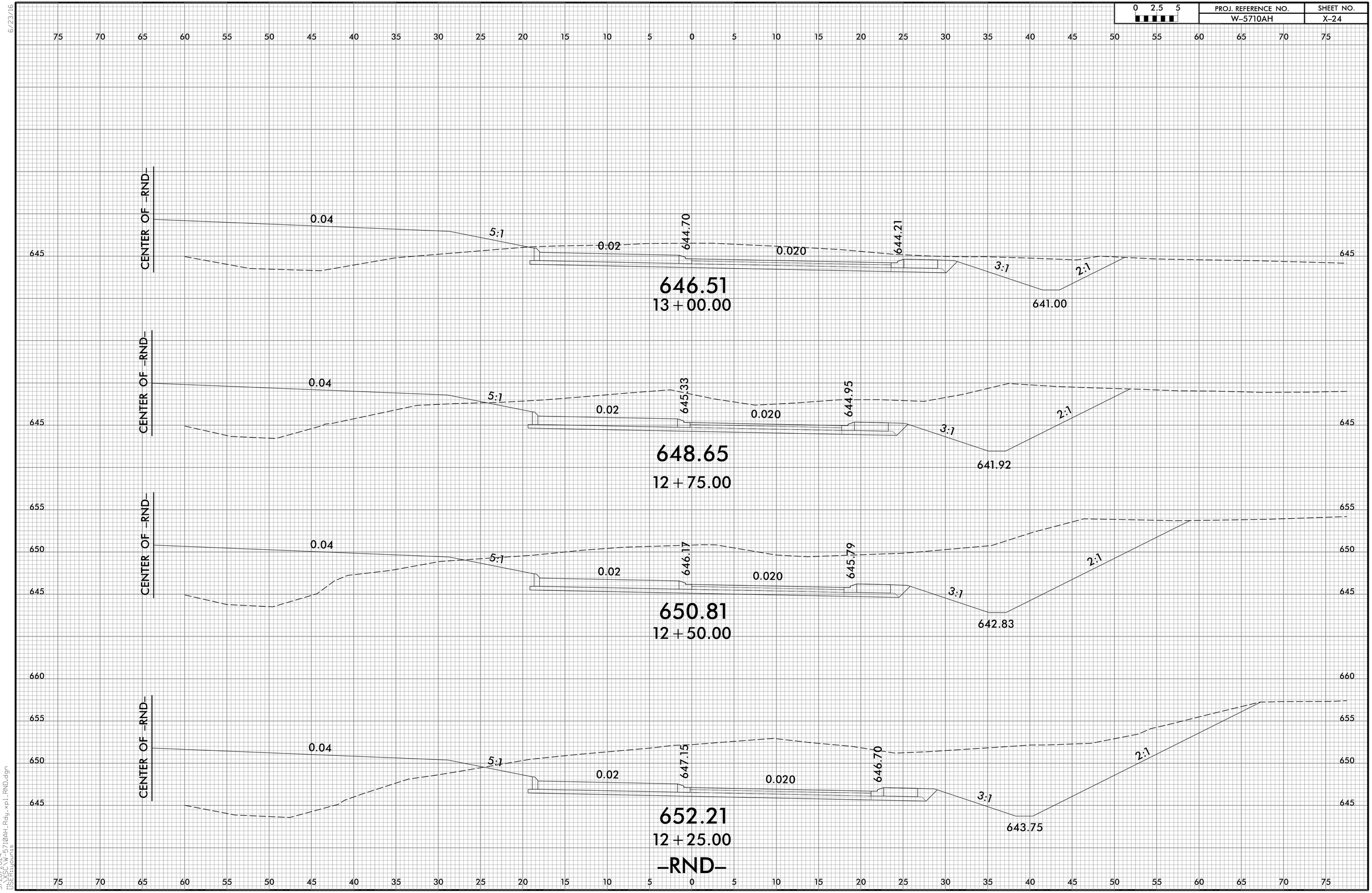
\\XSCVW-5710AH_Rdy_xpl_RND.dgn
USER:hugounis

PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	X-23

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W–5710AH	X–24



PROJ. REFERENCE NO.	SHEET NO.
W-5710AH	X-25