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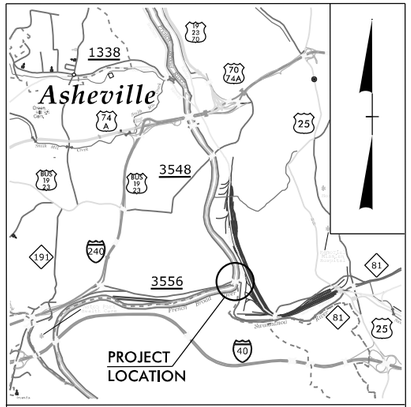
11/20/25

PROJECT: 18313.1011047.PR

CONTRACT: DM00535

See Sheet 1B For Conventional Symbols



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

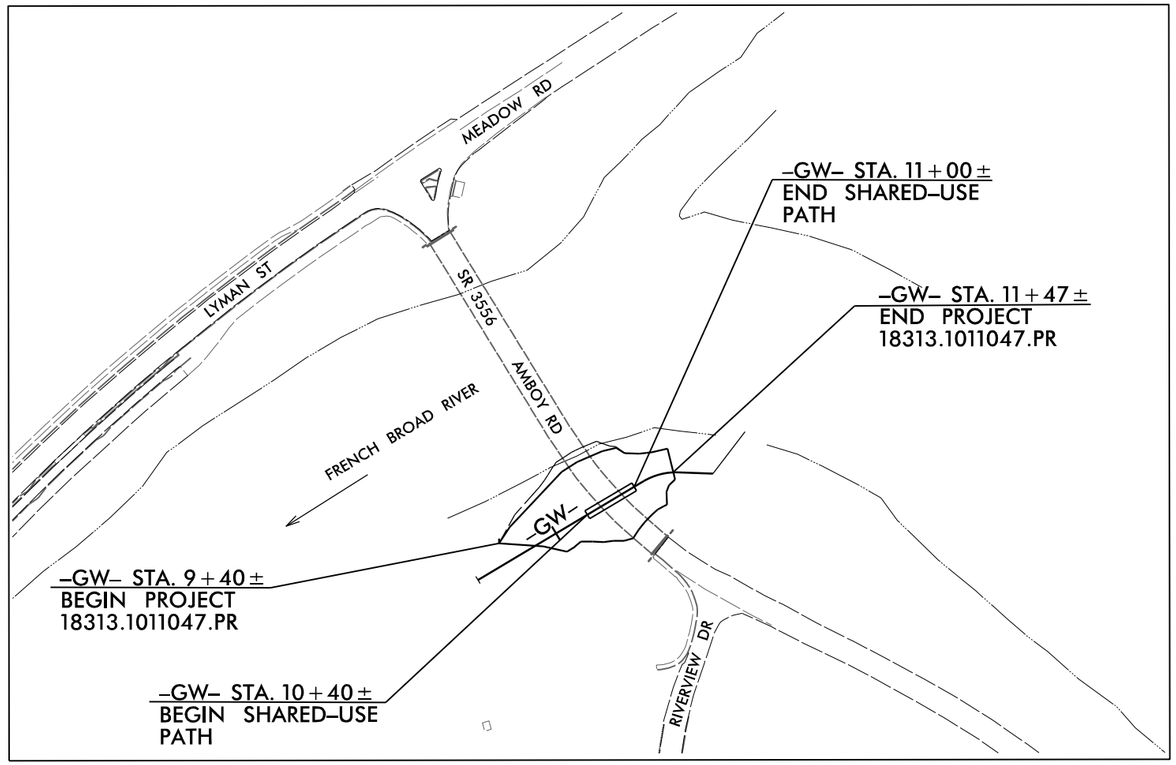
BUNCOMBE COUNTY

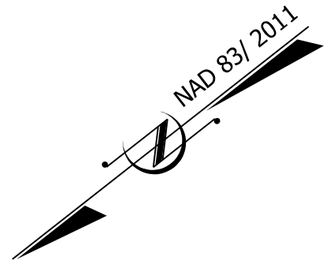
LOCATION: *BRIDGE NO. 100521 ON SR 3556 (AMBOY RD) OVER FRENCH BROAD RIVER*

TYPE OF WORK: *GRADING, PAVING, AND STRUCTURE REPAIRS*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	18313.1011047.PR	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
18313.1011047.PR	N/A	PE
18313.1011047.PR	N/A	R/W
18313.1011047.PR	N/A	CONST.



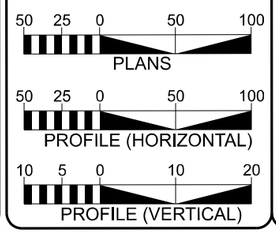


INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET INDEX OF SHEETS
1B	CONVENTIONAL SYMBOLS
2	PLAN AND PROFILE SHEET PAVEMENT SCHEDULE AND TYPICAL SECTION
RW01 THRU RW04	SURVEY CONTROL SHEETS
TMP-1 THRU TMP-2D	TRAFFIC MANAGEMENT PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
X-1	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-13	CROSS-SECTIONS
S-1 THRU S-3	STRUCTURE PLANS
STRUCTURE STANDARD NOTES	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



NCDOT CONTACT: MARK E. HILL, PE

PLANS PREPARED BY:

TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PLANS PREPARED FOR:

NORTH CAROLINA DEPARTMENT OF TRANSPORATION
DIVISION 13
20 Old 74
Asheville, NC 28803

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 9, 2026

LETTING DATE: DECEMBER 16, 2026

JIMMY TERRY, PE
PROJECT ENGINEER

HYDRAULICS ENGINEER

11/16/2026

Signed by: John W. Twisdale, Jr.
08E4FD4C8E304CE... *P.E.*
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 024897 ENGINEER John W. Twisdale, Jr.

ROADWAY DESIGN ENGINEER

11/16/2026

DocuSigned by: Jimmy Terry
FD39F38882E94D0... *P.E.*
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

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05/29/25

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

18313.1011047.PR	
4RD1	001B

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
- Permanent 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

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)*
- U/G Power Line (SUE - LOS C)*
- U/G Power Line (SUE - LOS D)*

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)*
- U/G Telephone Cable (SUE - LOS C)*
- U/G Telephone Cable (SUE - LOS D)*
- U/G Telephone Conduit (SUE - LOS B)*
- U/G Telephone Conduit (SUE - LOS C)*
- U/G Telephone Conduit (SUE - LOS D)*
- U/G Fiber Optics Cable (SUE - LOS B)*
- U/G Fiber Optics Cable (SUE - LOS C)*
- U/G Fiber Optics Cable (SUE - LOS D)*

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

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

GAS:
- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE - LOS A)*
- U/G Gas Line (SUE - LOS B)*
- U/G Gas Line (SUE - LOS C)*
- U/G Gas Line (SUE - LOS D)*
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Force Main Line Test Hole (SUE - LOS A)*
- SS Force Main Line (SUE - LOS B)*
- SS Force Main Line (SUE - LOS C)*
- SS Force Main Line (SUE - LOS D)*

MISCELLANEOUS:
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box
- Utility Unknown U/G Line (SUE - LOS B)*
- 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.

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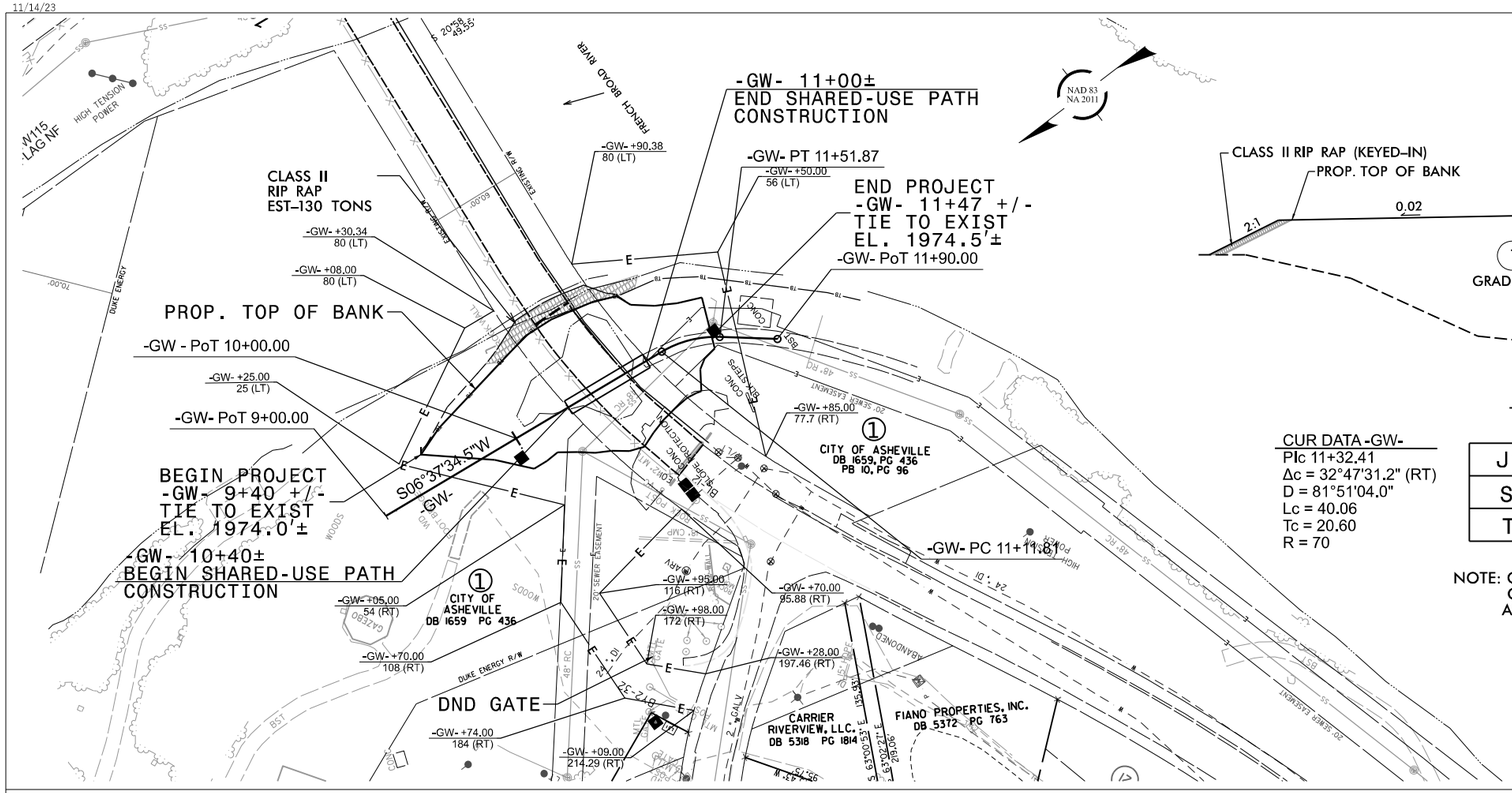
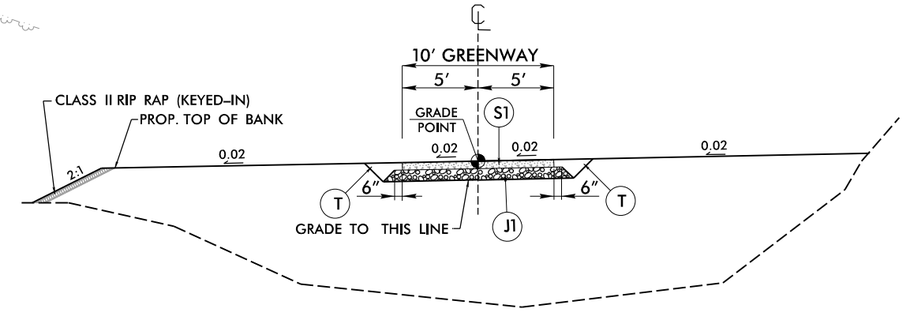
11/14/23



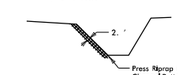


TYPICAL SECTION NO. 1

CUR DATA -GW-
PIc 11+32.41
Δc = 32°47'31.2" (RT)
D = 81°51'04.0"
Lc = 40.06
Tc = 20.60
R = 70

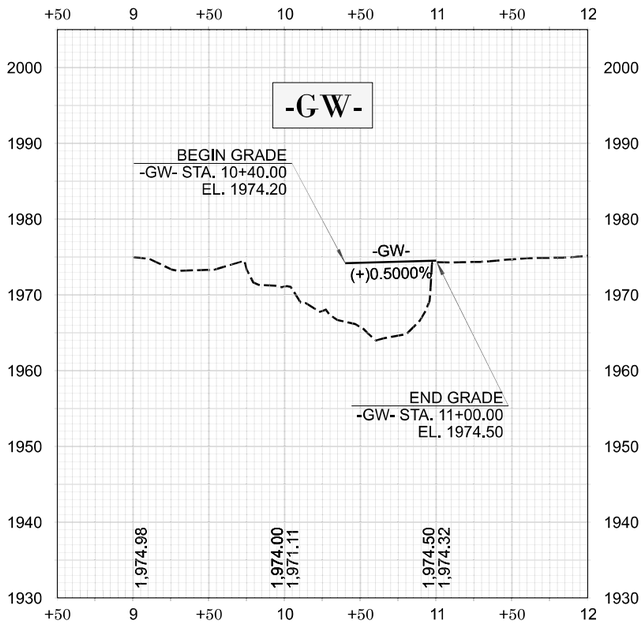
J1	PROP. 6" AGGREGATE BASE COURSE.
S1	4" CONCRETE SHARED USE PATH
T	EARTH MATERIAL

DETAIL 2-1
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= CL II Rip-Rap, Keyed-In

NOTE: CONTRACTOR SHALL COORDINATE WITH CITY OF ASHEVILLE AND NCDOT FOR ACCESS TO PARK AREA VIA EXISTING GATE AS SHOWN ON THE PLANS.



18313.1011047.PR
4RD1 | 02

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BUNCOMBE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY
11/16/2026
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 024897 ENGINEER John W. Twisdale, Jr.
11/16/2026
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PREPARED BY
TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH: (704) 476-0003
CORP. LICENSE NO.: C-0275

REVISIONS

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09/08/99

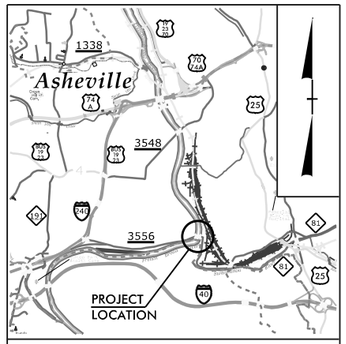
TIP PROJECT: 18313.1011047.PR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	18313.1011047.PR	RW01	8

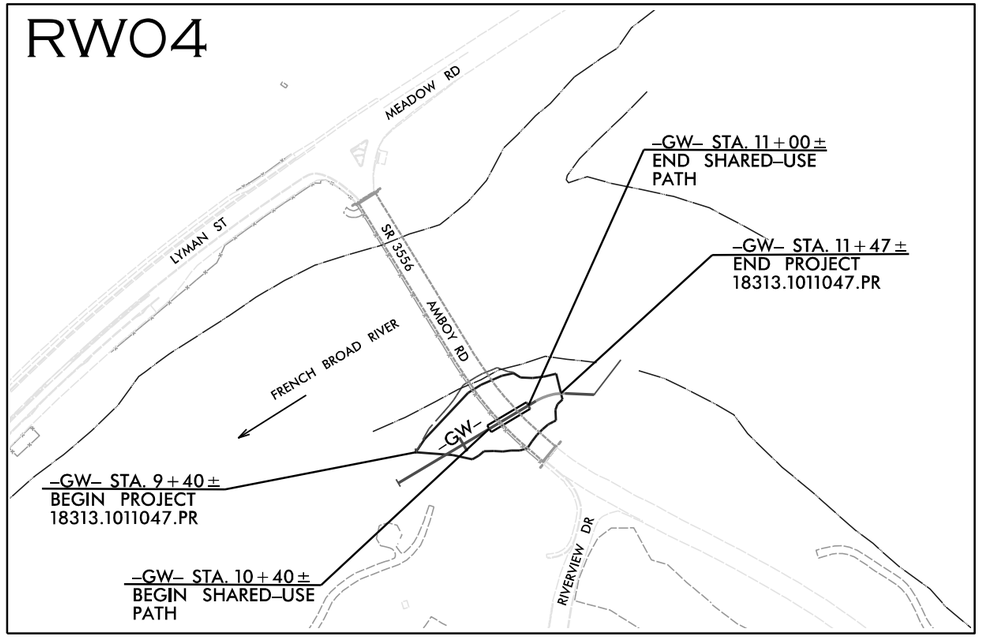
SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

BUNCOMBE COUNTY



VICINITY MAP (NTS)

NAD 83/ 2011



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

100' 50' 0' 100' 200'

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT U5832-2
WITH NAD83/2011 STATE PLANE GRID COORDINATES OF
NORTHING: 680794.0300 EASTING: 946260.6700
ELEVATION: 1991.08
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99979752
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

TGS ENGINEERS
201 WEST MARION STREET
SUITE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROFESSIONAL LAND SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T. CORNWELL

Signed by: Matthew Cornwell
EBD36F11473E475...
10/12/2026

SIGNATURE: *DATE:*

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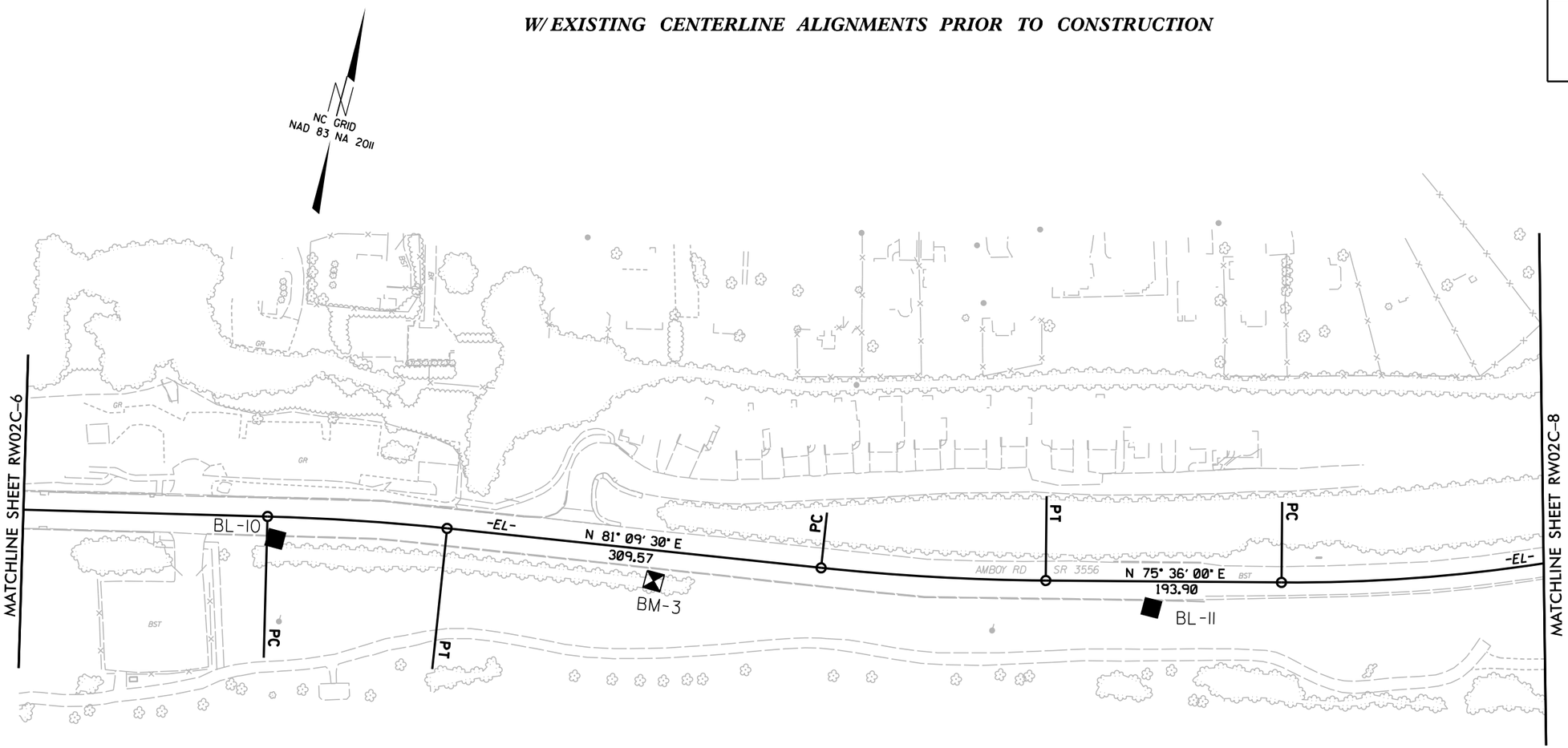
PROJECT REFERENCE NO.	SHEET NO.
18313.1011047.PR	RW02C-7

Location and Surveys

Vaughn & Melton

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



SEE SHEET RW02C-17 THRU RW02C-20 FOR FURTHER ALIGNMENT DETAILS

NOTES:

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

REVISIONS

6/2/99

06-FEB-2019 11:18
V:\Asheville\surveys\2018\31812-24-U-4739 Amboy Rd.-Meadow Rd CON\Control Sheets\U4739_ls_RW02C-7.dgn
agordon AT VDT-WKUEM-16

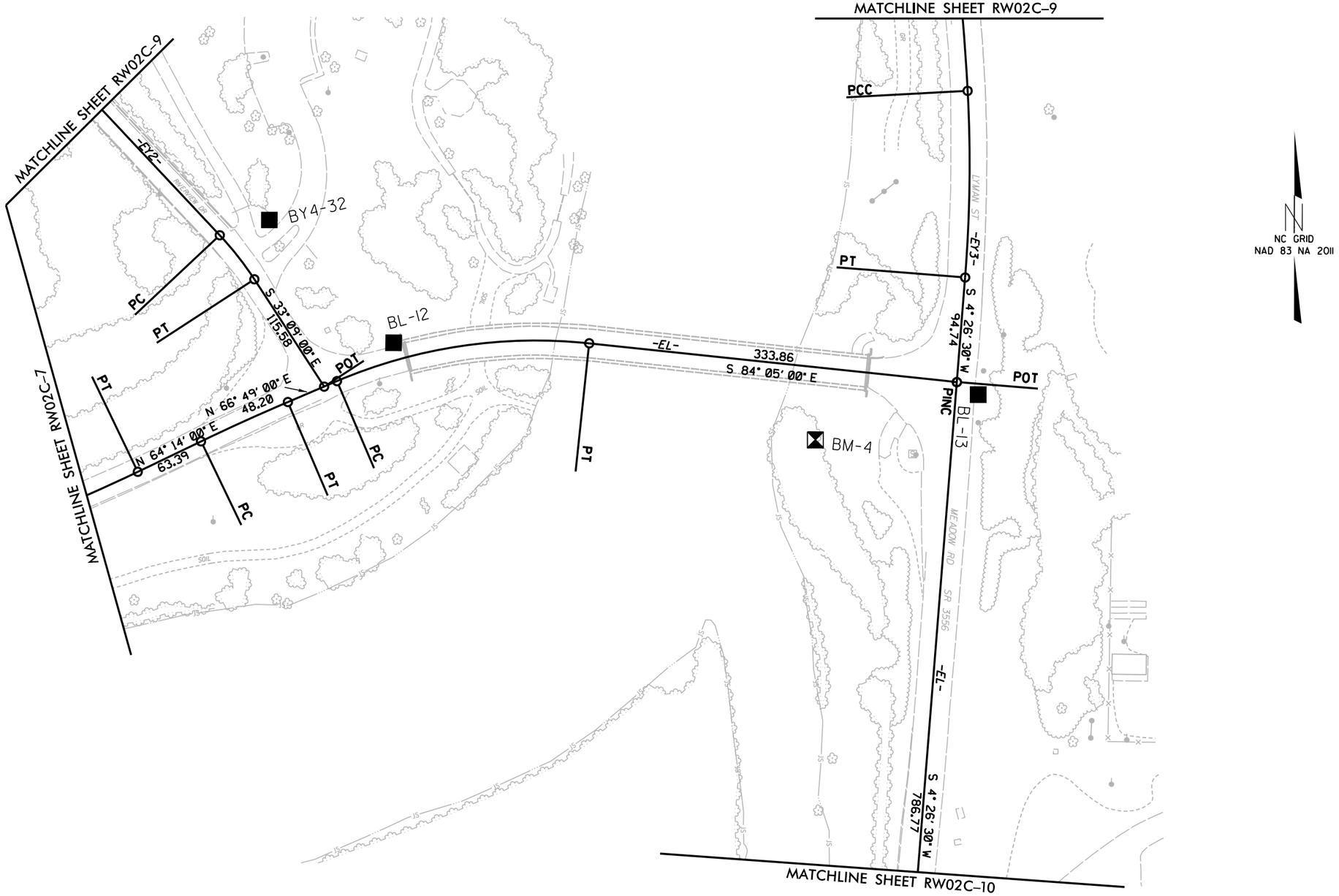
Docusign Envelope ID: 9B2259C3-E5CB-8BD6-80E5-754EE78B29D7

PROJECT REFERENCE NO.	SHEET NO.
18313.1011047.PR	RW02C-8
Location and Surveys	

Vaughn & Melton

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



SEE SHEET RW02C-17 THRU RW02C-20 FOR FURTHER ALIGNMENT DETAILS

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.

06-FEB-2019 11:44
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jcgordon AT VDT-WKUEM-16

Docusign Envelope ID: 9B2259C3-E5CB-8BD6-80E5-754EE78B29D7

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18313.1011047.PR	RW02C-17

Location and Surveys

Vaughn & Melton

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BL

POINT	DESC.	NORTH	EAST	ELEVATION
1	BL-1	680770.3731	933906.4331	2054.11
2	BL-2	680645.8667	934466.1813	2010.15
3	BL-3	680446.9730	935062.7560	1980.24
4	BL-4	680321.0393	935571.7591	1980.72
5	BL-5	680248.1857	936016.7878	1983.19
6	BL-6	680209.6823	936499.0356	1982.87
7	BL-7	680205.0964	936923.5877	1983.85
8	BL-8	680270.3210	937462.6840	1980.68
9	BL-9	680392.9052	938156.5583	1981.22
10	BL-10	680571.5406	938895.2094	1980.14
11	BL-11	680701.5492	939606.7150	1983.98
12	BL-12	680957.8340	940186.2974	1994.91
13	BL-13	680912.2539	940714.1964	1995.03
14	BL-14	680407.1651	940687.1583	1980.19
15	BL-15	679885.8619	940616.3650	1979.38
16	BL-16	679456.9627	940347.4819	1980.79
17	BL-17	679156.8471	940530.3047	1980.75
GPS3	U4739-3	679087.1840	941155.7580	1981.12
GPS4	U4739-4	679069.6010	941989.8790	1998.11
18	BL-18	679413.0619	942369.7026	2021.77
19	BL-19	679621.2250	942466.3511	2016.07
20	BL-20	679853.0339	942874.2763	1991.23
21	BL-21	679889.2751	943216.2938	1990.80
22	BL-22	680087.0343	943754.4927	1994.60
23	BL-23	680214.3927	944229.0246	1997.79
24	BL-24	680444.4771	944533.9809	1998.17
25	BL-25	680631.8900	944799.5030	1997.80
26	BL-26	680787.8460	945129.7200	2003.94
27	BL-27	680974.5544	945393.9152	2006.24
BL1	U5832 BL-1	681204.9829	945676.5560	2001.14
BL2	U5832 BL-2	681283.6459	946131.7186	1998.71
BL3	U5832 BL-3	680946.7974	946639.2441	1993.62

BY1

POINT	DESC.	NORTH	EAST	ELEVATION
28	BY1-28	680608.9975	935999.7238	2020.47
EQ1	BL-5	680248.1857	936016.7878	1983.19

BY2

POINT	DESC.	NORTH	EAST	ELEVATION
EQ2	BL-5	680248.1857	936016.7878	1983.19
29	BY2-29	680043.9372	935946.7327	1977.81

BY3

POINT	DESC.	NORTH	EAST	ELEVATION
30	BY3-30	680513.5090	937393.1830	1983.73
EQ3	BL-8	680270.3210	937462.6840	1980.68

BY4

POINT	DESC.	NORTH	EAST	ELEVATION
31	BY4-31	681443.8474	939651.2710	2046.05
32	BY4-32	681068.6155	940073.8983	1993.06
EQ4	BL-12	680957.8340	940186.2974	1994.91

BY5

POINT	DESC.	NORTH	EAST	ELEVATION
33	BY5-33	682137.9090	940515.3322	1980.48
34	BY5-34	681762.3690	940637.3701	1979.56
EQ5	BL-13	680912.2539	940714.1964	1995.03

BY6

POINT	DESC.	NORTH	EAST	ELEVATION
EQ6	BL-19	679621.2250	942466.3511	2016.07
35	BY6-35	679824.7676	942488.8698	2030.28
36	BY6-36	679917.9173	942578.3098	2037.48
37	BY6-37	679962.1872	942743.2952	2042.49
38	BY6-38	680099.4652	942970.1114	2051.93

BY7

POINT	DESC.	NORTH	EAST	ELEVATION
39	BY7-39	681090.9711	944518.5334	2027.46
40	BY7-40	680935.9790	944666.5915	2015.71
EQ7	BL-25	680631.8900	944799.5030	1997.80

BY8

POINT	DESC.	NORTH	EAST	ELEVATION
EQ8	BY7-39	681090.9711	944518.5334	2027.46
41	BY8-41	680998.8997	944876.0458	2033.53

BY9

POINT	DESC.	NORTH	EAST	ELEVATION
BY36	U5832 BY-36	682161.4844	945969.4627	2038.18
BY35	U5832 BY-35	681857.6147	946058.6905	2022.09
EQ9	U5832 BL-2	681283.6459	946131.7186	1998.71
BY34	U5832 BY-34	680457.5795	946345.5864	1993.09

BM1 ELEVATION - 1982.96
N 680498 E 934917
SPIKE SET IN SEAM ON CONC ISLAND

BM2 ELEVATION - 1979.75
N 680193 E 937027
SPIKE IN BASE OF 10" POPLAR

BM3 ELEVATION - 1982.75
N 680618 E 939205
SPIKE IN BASE OF DBL. POPLAR

BM4 ELEVATION - 1993.28
N 680871 E 940567
SPIKE IN BASE OF 18" LOCUST

BM5 ELEVATION - 1983.06
N 679204 E 940430
SPIKE IN BASE OF 18" LOCUST

BM6 ELEVATION - 2020.26
N 679225 E 942326
R/R SPIKE SET IN CURB SEAM

BM7 ELEVATION - 1994.74
N 680081 E 943733
PAINTED BOLT ON BASE OF FH

BM8 ELEVATION - 2007.93
N 680827 E 945257
SPIKE SET IN BASE OF 8" MAPLE

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.

06-FEB-2019 15:51
V:\Asheville\surveys\2018\31812-24-U-4739 Amboy Rd.-Meadow Rd CON\Control Sheets\U4739_ls_RW02C-17.dgn
jcgordon
AT WDF-WKUEM-16

Docusign Envelope ID: 9B2259C3-E5CB-8BD6-80E5-754EE78B29D7

PROJECT REFERENCE NO.	SHEET NO.
18313.1011047.PR	RW02C-18
Location and Surveys	

Vaughn & Melton

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R	DELTA S	Ls	LT	ST
TS	0.000	0.000											
SPIRAL			N 57°10'59.7" E	149.96						04°30'00.0"(RT)	150.00	100.03	50.03
SC	680632.044	933393.618											
CURVE			N 80°15'44.9" E	655.69	40°09'30.0"(RT)	06°00'00.0"	669.31	349.06	954.93				
CS	680742.944	934039.861											
SPIRAL			S 76°39'29.8" E	149.96						04°30'00.0"(RT)	150.00	100.03	50.03
ST	680708.339	934185.772											
LINE			S 75°09'30.1" E	1011.12									
PC	680449.344	935163.154											
CURVE			S 72°56'43.6" E	126.42	04°25'32.9"(RT)	03°30'00.0"	126.45	63.26	1637.02				
PT	680412.267	935284.015											
LINE			S 70°43'57.2" E	43.38									
PC	680397.954	935324.962											
CURVE			S 76°05'43.4" E	214.20	10°43'32.4"(LT)	05°00'00.0"	214.51	107.57	1145.92				
PT	680346.480	935532.886											
LINE			S 81°27'29.7" E	446.11									
PC	680280.219	935974.049											
CURVE			S 82°54'29.3" E	57.99	02°53'59.3"(LT)	05°00'00.0"	58.00	29.00	1145.92				
PT	680273.059	936031.595											
LINE			S 84°21'28.9" E	467.63									
PC	680227.086	936496.961											
CURVE			S 87°25'29.5" E	222.93	06°08'01.1"(LT)	02°45'00.0"	223.04	111.63	2083.48				
PT	680217.069	936719.671											
LINE			N 89°30'30.0" E	75.34									
PC	680217.716	936795.009											
CURVE			N 85°16'45.0" E	338.03	08°27'30.0"(LT)	02°30'00.0"	338.33	169.47	2291.83				
PT	680245.536	937131.889											
LINE			N 81°03'00.0" E	287.88									
PC	680290.322	937416.265											
CURVE			N 82°01'30.0" E	97.50	01°57'00.0"(RT)	02°00'00.0"	97.50	48.75	2864.79				
PT	680303.849	937512.817											
LINE			N 83°00'00.0" E	291.35									
PC	680339.355	937801.992											
CURVE			N 79°51'30.0" E	125.60	06°17'00.0"(LT)	05°00'00.0"	125.67	62.90	1145.92				
PT	680361.472	937925.633											
LINE			N 76°43'00.0" E	985.07									
PC	680587.808	938884.350											
CURVE			N 78°56'15.0" E	148.02	04°26'30.0"(RT)	03°00'00.0"	148.06	74.06	1909.86				
PT	680616.210	939029.618											
LINE			N 81°09'30.0" E	309.57									
PC	680663.792	939335.506											
CURVE			N 78°22'45.0" E	185.21	05°33'30.0"(LT)	03°00'00.0"	185.28	92.71	1909.86				
PT	680701.098	939516.915											
LINE			N 75°36'00.0" E	193.90									
PC	680749.319	939704.724											
CURVE			N 69°55'00.0" E	267.01	11°22'00.0"(LT)	04°15'00.0"	267.45	134.17	1348.14				
PT	680841.008	939955.501											
LINE			N 64°14'00.0" E	63.39									
PC	680868.564	940012.589											
CURVE			N 65°31'30.0" E	86.10	02°35'00.0"(RT)	03°00'00.0"	86.11	43.06	1909.86				
PT	680904.237	940090.956											
LINE			N 66°49'00.0" E	48.20									
PC	680923.214	940135.267											
CURVE			N 81°22'00.0" E	230.31	29°06'00.0"(RT)	12°30'00.0"	232.80	118.97	458.37				
PT	680957.785	940362.964											
LINE			S 84°05'00.0" E	333.86									
POT	680923.370	940695.042											
LINE			S 04°26'30.0" W	786.77									
PC	680138.962	940634.112											
CURVE			S 19°18'45.0" W	470.54	29°44'30.0"(RT)	06°15'00.0"	475.87	243.42	916.73				
PT	679694.898	940478.494											
LINE			S 34°11'00.0" W	103.55									
PC	679609.235	940420.314											
CURVE			S 13°59'57.5" E	432.42	96°21'55.1"(LT)	19°45'00.0"	487.93	324.27	290.11				
PCC	679189.662	940524.920											
CURVE			S 67°44'57.5" E	111.17	11°08'04.9"(LT)	10°00'00.0"	111.35	55.85	572.96				
PT	679147.566	940627.813											
LINE			S 73°19'00.0" E	122.04									
PC	679112.529	940744.720											
CURVE			S 80°57'43.0" E	320.95	15°17'26.0"(LT)	04°45'00.0"	321.91	161.92	1206.23				
PCC	679062.111	941061.687											
CURVE			N 89°32'47.1" E	184.61	03°41'34.0"(LT)	02°00'00.0"	184.64	92.35	2864.79				
PT	679063.572	941246.288											
LINE			N 87°42'00.0" E	794.45									
PC	679095.455	942040.100											
CURVE			N 56°12'00.0" E	368.45	63°00'00.0"(LT)	16°15'00.0"	387.69	216.07	352.59				
PT	679300.425	942346.280											
LINE			N 24°42'00.0" E	348.66									
PC	679617.185	942491.973											
CURVE			N 54°42'00.0" E	352.59	60°00'00.0"(RT)	16°15'00.0"	369.23	203.57	352.59				
PT	679820.932	942779.735											
LINE			N 84°42'00.0" E	131.15									
PC	679833.046	942910.325											
CURVE			N 77°22'23.5" E	224.83	14°39'13.0"(LT)	06°30'00.0"	225.44	113.34	881.47				
PT	679882.193	943129.713											
LINE			N 70°02'47.0" E	607.49									
PC	680089.506	943700.739											
CURVE			N 76°17'23.5" E	178.03	12°29'13.0"(RT)	07°00'00.0"	178.38	89.55	818.51				
PT	680131.701	943873.698											
LINE			N 82°32'00.0" E	54.89									
PC	680138.834	943928.124											
CURVE			N 66°42'00.0" E	463.19	31°40'00.0"(LT)	06°45'00.0"	469.14	240.73	848.83				
PT	680322.046	944353.537											
LINE			N 50°52'00.0" E	415.76									
PC	680584.446	944676.036											
CURVE			N 58°18'00.0" E	185.31	14°52'00.0"(RT)	08°00'00.0"	185.83	93.44	716.20				
PT	680681.822	944833.702											
LINE			N 65°44'00.0" E	184.74									
PC	680757.747	945002.118											
CURVE			N 68°17'00.0" E	101.97	05°06'00.0"(RT)	05°00'00.0"	102.00	51.03	1145.92				
PT	680795.476	945096.847											
LINE			N 70°50'00.0" E	74.50									
PC	680819.936	945167.218											
CURVE			N 60°34'00.0" E	255.30	20°32'00.0"(LT)	08°00'00.0"	256.67	129.72	716.20				
PT	680945.391	945389.562											
LINE			N 50°18'00.0" E	331.84									
PC	681157.361	945644.881											
CURVE			N 56°09'58.1" E	75.56	11°43'56.1"(RT)	15°30'00.0"	75.69	37.98	369.65				
PCC	681199.431	945707.645											
CURVE			N 74°45'58.1" E	129.53	25°28'03.9"(RT)	19°30'00.0"	130.60	66.40	293.82				
PT	681233.467	945832.624											
LINE			N 87°30'00.0" E	245.77									
PC	681244.187	946078.164											
CURVE			S 77°39'00.0" E	146.84	29°42'00.0"(RT)	20°00'00.0"	148.50	75.96	286.48				
PT	681212.780	946221.609											
LINE			S 62°48'00.0" E	483.30									
PC	680991.864	946651.466											
CURVE			S 86°10'00.0" E	181.79	46°44'00.0"(LT)	25°00'00.0"	186.93	99.02	229.18				
PT	680979.710	946832.853											

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
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6/2/99

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6/2/99

REVISIONS

06-FEB-2018 09:35
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jcgordon
AT VDT-WKGEM-16

PROJECT REFERENCE NO.	SHEET NO.
18313.1011047.PR	RW02C-19

Location and Surveys

Vaughn & Melton

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

ELA

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	680139.265	932884.242							
CURVE			N 75°52'00.0" E	1345.63	27°09'58.7"(RT)	02°00'00.0"	1358.31	692.17	2864.79
PT	680467.839	934189.137							
LINE			N 89°26'59.9" E	872.65					
POT	680476.216	935061.745							

EY

POINT	N	E	BEARING	DIST
POT	680676.008	936028.629		
LINE			S 05°19'30.0" W	400.00
POT	680277.734	935991.507		

EY1

POINT	N	E	BEARING	DIST
POT	680693.000	937365.838		
LINE			S 14°09'30.0" E	407.74
POT	680297.648	937465.571		

EY2

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	681598.704	939676.451							
LINE			S 06°39'00.0" W	86.28					
PC	681513.001	939666.459							
CURVE			S 18°19'00.0" E	118.69	49°56'00.0"(LT)	40°45'00.0"	122.54	65.46	140.60
PT	681400.320	939703.761							
LINE			S 43°17'00.0" E	474.66					
PC	681054.784	940029.188							
CURVE			S 38°13'00.0" E	50.60	10°08'00.0"(RT)	20°00'00.0"	50.67	25.40	286.48
PT	681015.028	940060.492							
LINE			S 33°09'00.0" E	115.58					
POT	680918.258	940123.696							

EY3

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	681926.474	940575.711							
CURVE			S 13°22'30.0" E	223.53	06°09'00.0"(RT)	02°45'00.0"	223.64	111.93	2083.48
PT	681709.008	940627.419							
LINE			S 10°18'00.0" E	242.67					
PC	681470.248	940670.809							
CURVE			S 06°43'29.1" E	285.84	07°09'01.9"(RT)	02°30'00.0"	286.02	143.20	2291.83
PCC	681186.379	940704.280							
CURVE			S 00°38'45.9" W	168.57	07°35'28.1"(RT)	04°30'00.0"	168.69	84.47	1273.24
PT	681017.821	940702.379							
LINE			S 04°26'30.0" W	94.74					
POT	680923.370	940695.042							

EY4

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	679663.467	942517.632							
LINE			N 56°25'44.6" W	43.14					
PC	679687.322	942481.688							
CURVE			N 17°59'17.2" W	47.25	76°52'54.8"(RT)	150°46'42.1"	50.99	30.16	38.00
PT	679732.262	942467.096							
LINE			N 20°27'10.2" E	41.29					
PC	679770.951	942481.525							
CURVE			N 43°34'41.0" E	214.31	46°15'01.5"(RT)	21°00'00.0"	220.24	116.52	272.84
PT	679926.204	942629.257							
LINE			N 66°42'11.7" E	193.26					
PC	680002.636	942806.759							
CURVE			N 67°59'35.9" E	51.60	02°34'48.3"(RT)	05°00'00.0"	51.60	25.81	1145.92
PT	680021.971	942854.596							
LINE			N 69°17'00.0" E	145.68					
PC	680073.505	942990.859							
CURVE			N 57°43'54.0" E	71.71	23°06'12.0"(LT)	32°00'00.0"	72.20	36.60	179.05
PT	680111.790	943051.493							

EY5

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	681122.070	944604.617							
LINE			S 31°14'47.8" W	50.12					
PC	681079.223	944578.621							
CURVE			S 04°30'21.1" E	81.51	71°30'17.8"(LT)	82°08'34.0"	87.05	50.22	69.75
PT	680997.966	944585.024							
LINE			S 40°15'30.0" E	211.14					
PC	680836.836	944721.471							
CURVE			S 32°42'00.0" E	50.24	15°07'00.0"(RT)	30°00'00.0"	50.39	25.34	190.99
PT	680794.556	944748.614							
LINE			S 25°08'30.0" E	138.35					
POT	680669.312	944807.394							

EY6

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R	DELTA S	Ls	LT	ST
TS	0.000	0.000											
SPIRAL			S 54°12'38.5" E	199.47						14°00'00.0"(LT)	200.00	133.75	67.05
ST	681112.424	944620.567											
LINE			S 58°52'30.0" E	800.00									
POT	680698.898	945305.401											

EY7

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	682058.126	945981.871							
CURVE			S 12°54'30.1" E	195.09	28°34'59.9"(RT)	14°30'00.0"	197.13	100.66	395.14
PT	681867.968	946025.452							
LINE			S 01°22'59.9" W	188.52					
PC	681679.507	946020.901							
CURVE			S 06°38'30.1" E	376.41	16°03'00.0"(LT)	04°15'00.0"	377.65	190.07	1348.14
PT	681305.620	946064.437							
LINE			S 14°40'00.1" E	811.31					
POT	680520.747	946269.858							

EY8

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	680874.954	946177.153							
LINE			N 82°20'00.0" E	42.14					
PC	680880.575	946218.914							
CURVE			S 86°50'30.0" E	53.80	21°39'00.0"(RT)	40°00'00.0"	54.13	27.39	143.24
PT	680877.611	946272.636							
LINE			S 76°01'00.0" E	60.19					
PC	680863.067	946331.040							
CURVE			S 88°28'30.0" E	70.63	24°55'00.0"(LT)	35°00'00.0"	71.19	36.17	163.70
PT	680861.188	946401.646							
LINE			N 79°04'00.0" E	119.61					
PC	680883.874	946519.085							
CURVE			N 75°47'45.0" E	130.76	06°32'30.0"(LT)	05°00'00.0"	130.83	65.49	1145.92
PT	680915.960	946645.850							
LINE			N 72°31'30.0" E	40.64					
PC	680928.165	946684.617							
CURVE			N 61°53'00.6" E	81.39	21°16'58.8"(LT)	26°00'00.0"	81.86	41.41	220.37
PT	680966.520	946756.401							

EY9

POINT	N	E	BEARING	DIST
POT	680618.101	946244.378		
LINE			N 64°22'21.0" E	114.08
POT	680667.443	946347.235		

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.

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5/26/20

PROPOSED ALIGNMENT CONTROL SHEET

PROPOSED ALIGNMENT: GW1												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	9+00.00	681127.3810	940290.0704	S06°37'34.5"W	211.81							
PC	11+11.81	680916.9876	940265.6294	S23°01'20.1"W	39.52	32°47'31.2"	81°51'04.0"	40.06	20.60	70.00		
PT	11+51.87	680880.6167	940250.1742	S39°25'05.7"W	38.13							
END	11+90.00	680851.1610	940225.9634									

I, MATTHEW T. CORNWELL, PLS, CERTIFY THAT THE DATA COMPILED CAME FROM AVAILABLE SURVEYS/MAPPING PERFORMED BY OTHERS AND PROVIDED TO ME BY NCDOT AND DO NOT CERTIFY TO THE ACCURACY OR QUALITY OF THE INDIVIDUAL DATA SOURCES.

THIS 10/12/2026

Signed by:
Matthew Cornwell
EBD36F114739E475...

PROFESSIONAL LAND SURVEYOR L-4775

NOTES:

1. THE PROPOSED ALIGNMENT 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.

18313.1011047.PR

R/W | 020-I

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

PROFESSIONAL LAND SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T CORNWELL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

TIP PROJECT: *18313.1011047.PR*

County: Buncombe

PREPARED FOR

LOCATION AND SURVEYS UNIT

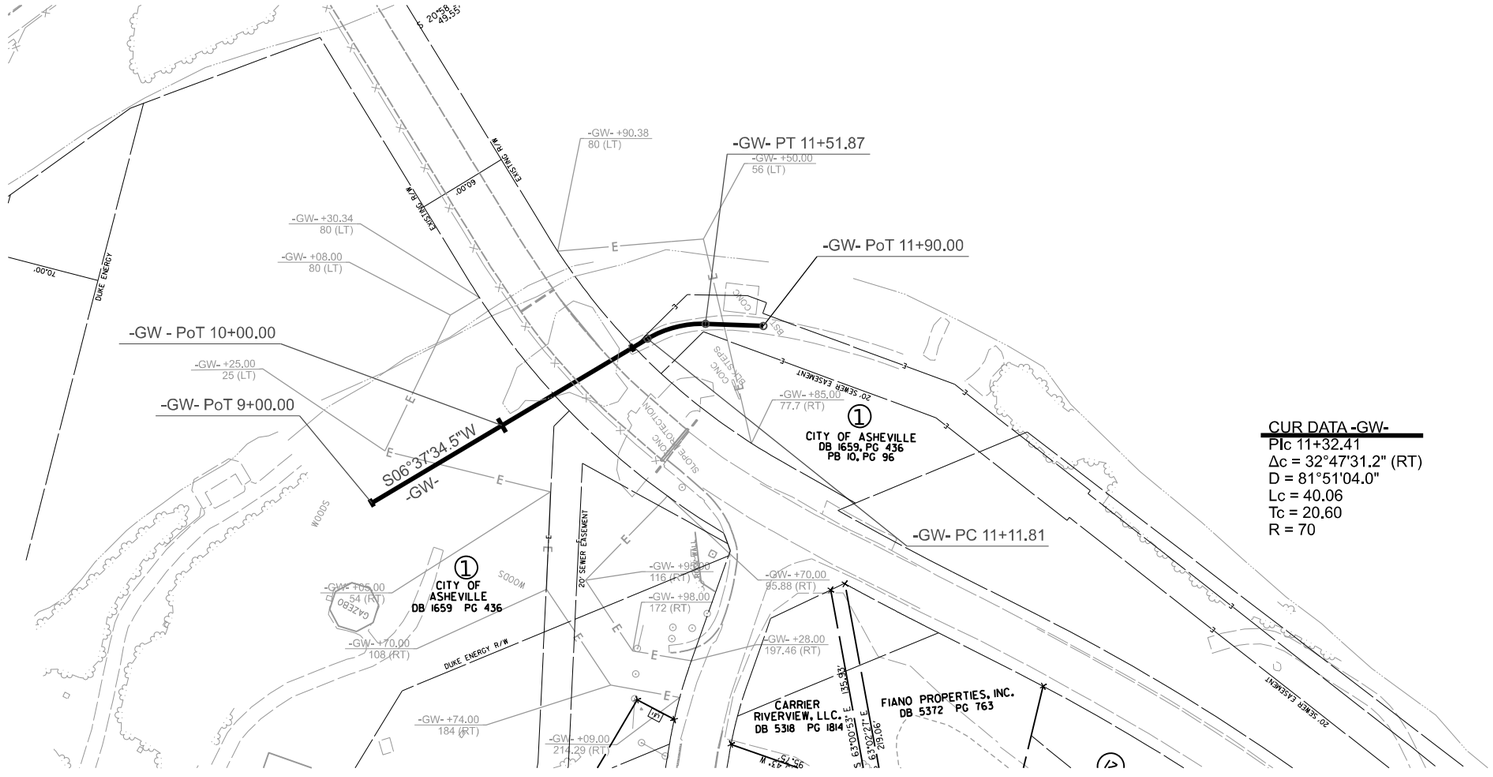
PREPARED BY

TGS ENGINEERS
201 WEST MARION ST.
SUITE 200
SHELBY, NC 28150
704-476-0003

TGS ENGINEERS

Docusign Envelope ID: 9B2259C3-E5CB-8BD6-80E5-754EE78B29D7

5/26/20



CUR DATA -GW-
PIc 11+32.41
Δc = 32°47'31.2" (RT)
D = 81°51'04.0"
Lc = 40.06
Tc = 20.60
R = 70

NAD 83
NA 2011

50' 25' 0' 50' 100'

NOTES:

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

I , MATTHEW T. CORNWELL , PLS, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN 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 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED 10/8/2026, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 10/12/2026

Signed by:
Matthew Cornwell
EBD36F114738E475...

PROFESSIONAL LAND SURVEYOR L-4775

18313.1011047.PR

R/W | 04

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROFESSIONAL LAND SURVEYOR
NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T CORNWELL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

TIP PROJECT: 18313.1011047.PR
County: Buncombe

PREPARED FOR

LOCATION AND SURVEYS UNIT

PREPARED BY

TGS ENGINEERS
201 WEST MARION ST.
SUITE 200
SHELBY, NC 28150
704-476-0003

TGS ENGINEERS

Docusign Envelope ID: 9B2259C3-E5CB-8BD6-80E5-754EE78B29D7

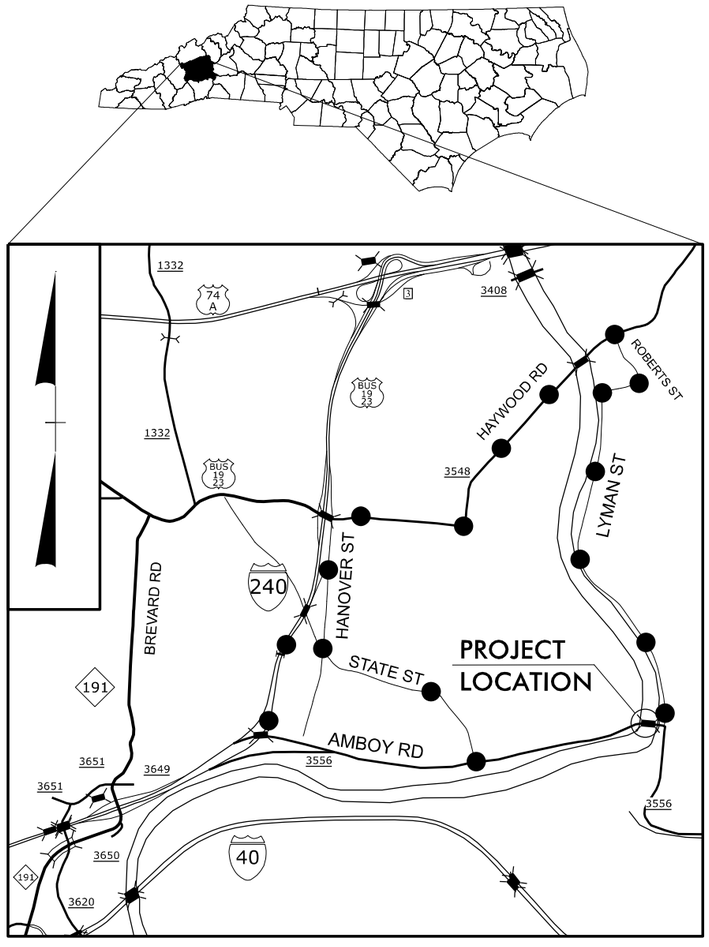
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

BUNCOMBE COUNTY

LOCATION: *REPAIR BRIDGE NO. 100521 ON SR 3556 (AMBOY RD) OVER FRENCH BROAD RIVER*

TYPE OF WORK: *BRIDGE REPAIR, GRADING, AND PAVING*



VICINITY MAP

OFFSITE DETOUR

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)
TMP-2 THRU TMP-2D	DETOUR SIGNING

SHEET NO.
TMP-1

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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

PLANS PREPARED FOR N.C.D.O.T. BY: TGS ENGINEERS

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DON A. PARKER, P.E.
PROJECT ENGINEER

NICK LAIL
DESIGN ENGINEER

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

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER
Digitally signed by Don A. Parker
Date: 2026.04.07 14:40:51 -04'00'
11/3/2026

PROJECT: 18313.1011047.PR

8/4/2026
X:\NCDOT\Div 13 Bridge Repairs - Helene\Buncombe 100521\Traffic\Sheets\Buncombe 521_TC_TMP_PLS.dgn
User:nlail

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ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - 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 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
1150.01	FLAGGERS

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
- WEDGING

SIGNALS

EXISTING PROPOSED TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM
- 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

18313.1011047.PR

TMP-1A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY



PROJECT ENGINEER



11/3/2026

PREPARED BY

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ROADWAY STANDARD
DRAWINGS & LEGEND

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GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR 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

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

ROAD NAME	DAY AND TIME RESTRICTIONS
AMBOY RD	MONDAY THRU FRIDAY 6:00AM TO 9:00AM AND 4:00PM TO 7:00PM

C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
AMBOY RD	MONDAY THRU SUNDAY 5:00AM TO 9:00PM

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 WITHIN 5 FT OF AN OPEN TRAVEL LANE ON AN UNDIVIDED FACILITY, 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 WITHIN 10 FT OF AN OPEN TRAVEL LANE ON A DIVIDED FACILITY, 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.

SIGNING

H) 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.

I) INSTALL SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

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

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

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

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

TRAFFIC CONTROL DEVICES

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

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

N) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

TEMPORARY TRAFFIC CONTROL NARRATIVE

PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, INSTALL WORK ZONE ADVANCE WARNING SIGNS IN ACCORDANCE WITH RSD 1101.01, SHEET 3.

CONTRACTOR MAY PURSUE THE FOLLOWING WORK CONCURRENTLY OR IN THE ORDER OF THEIR CHOOSING UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

BRIDGE RAIL REPAIR:

REPAIR BRIDGE RAIL ON SPAN D USING AN OVERNIGHT CLOSURE (S) AND DETOUR OF AMBOY RD. AS DETAILED ON SHEETS TMP-2 THRU TMP-2D.

SLOPE PROTECTION:

AWAY FROM TRAFFIC AND USING FLAGGERS AS NECESSARY ON AMBOY RD., COMPLETE SLOPE PROTECTION AT END BENT NO. 1 (SEE RSD 1101.02, SHEET 1).

FRENCH BROAD RIVER GREENWAY:

MAINTAIN EXISTING DEVICES USED TO CLOSE GREENWAY DURING REPAIR. KEEP GREENWAY CLOSED UNTIL REPAIRS ARE COMPLETE.

AWAY FROM TRAFFIC AND USING FLAGGERS AS NECESSARY ON AMBOY RD., COMPLETE GREENWAY REPAIR. (SEE RSD 1101.02, SHEET 1).

ROADWAY STANDARD DRAWINGS & LEGEND

18313.1011047.PR

TMP-1B

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY



PROJECT ENGINEER



11/3/2026

PREPARED BY

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CORP. LICENSE NO.: C-0275



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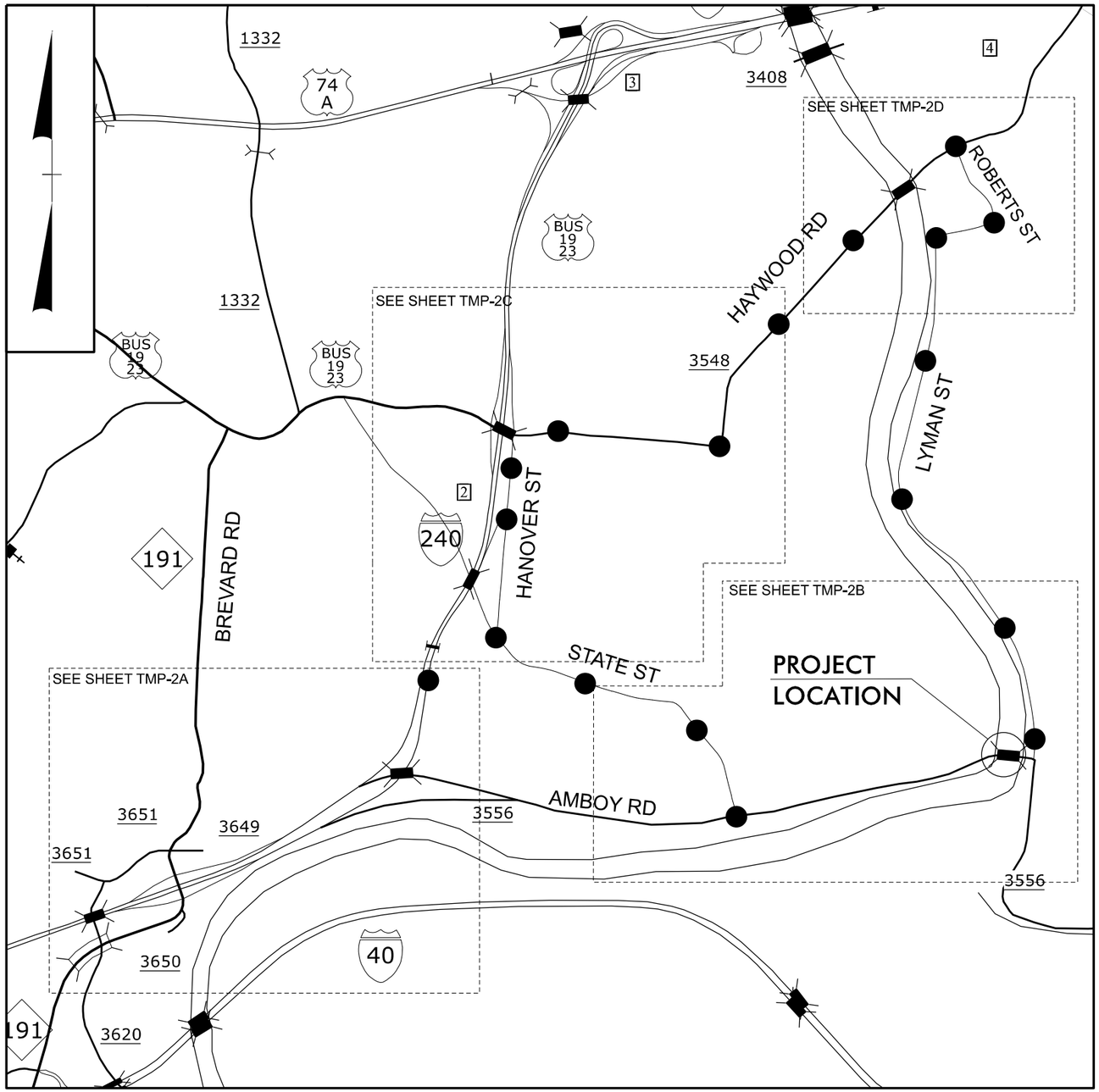
11/14/23



OFFSITE DETOUR

SEE RSD 1101.03, SHEET 1 FOR
DETOUR ADVANCE WARNING SIGNS.

OFF-SITE DETOUR

18313.1011047.PR

TMP-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

PROJECT ENGINEER

NORTH CAROLINA
Professional
Don A. Parker
SEAL
043251
ENGINEER
DON A. PARKER
11/3/2026

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CORP. LICENSE NO.: C-0275

DIVISION OF HIGHWAYS
TRAFFIC ENGINEERING BRANCH
STATEWIDE TRAFFIC CONTROL ZONE

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MESSAGE NO. 1	MESSAGE NO. 2
AMBOY RD CLOSED AT RIVER	LOCAL TRAFFIC ONLY

CHANGEABLE MESSAGE SIGN

PCMS-SHORT TERM

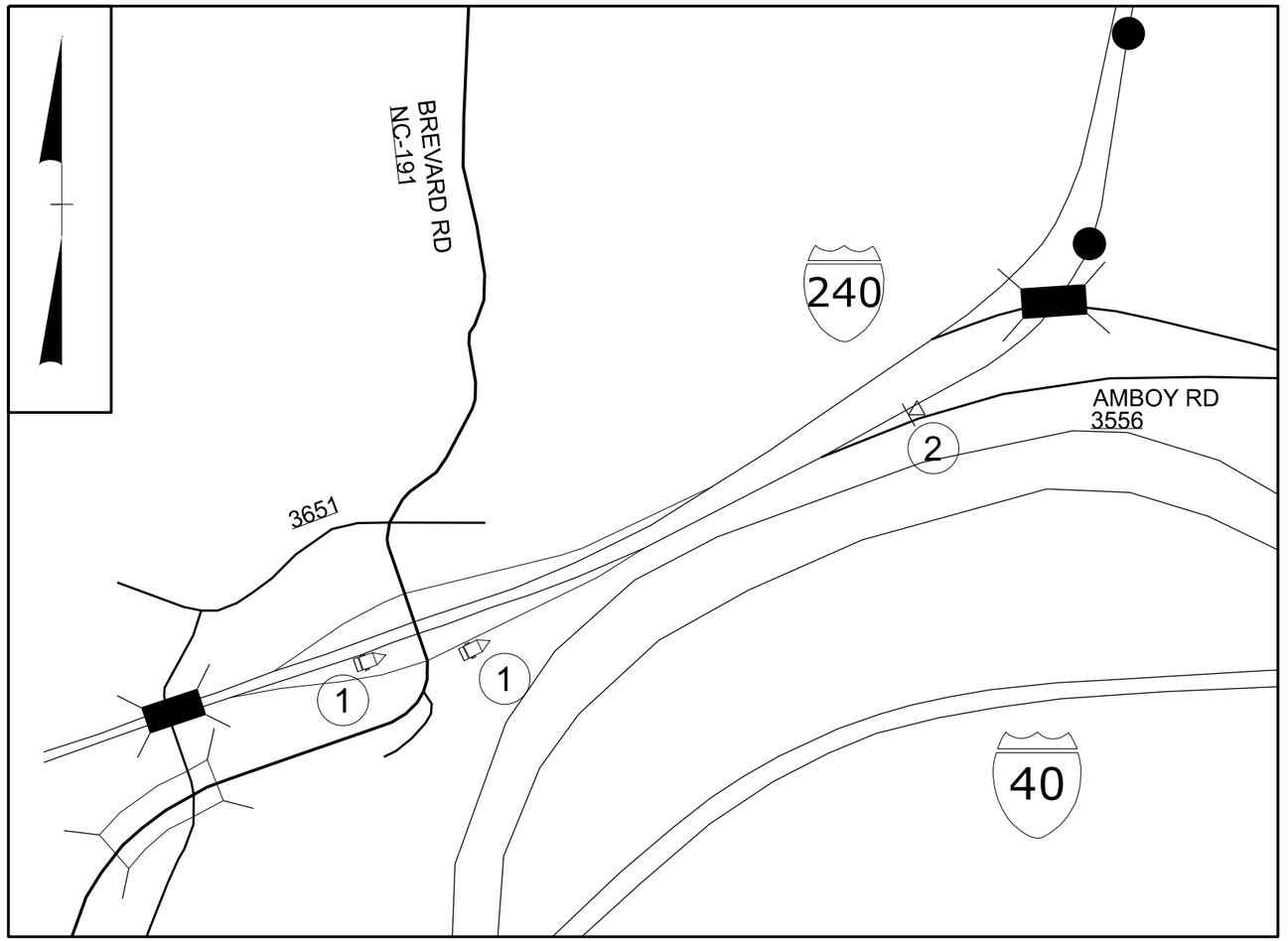
1

DETOUR M4-8 24" x 12"

M6-3 21" x 15"

2

POSITION ON OUTSIDE SHOULDER
JUST BEYOND GORE



OFFSITE DETOUR

SEE RSD 1101.03, SHEET 1 AND 2 FOR
DETOUR ADVANCE WARNING SIGNS.

OFF-SITE DETOUR

18313.1011047.PR

TMP-2A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

PROJECT ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043251 DON A. PARKER

11/3/2026

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CORP. LICENSE NO.: C-0275

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH

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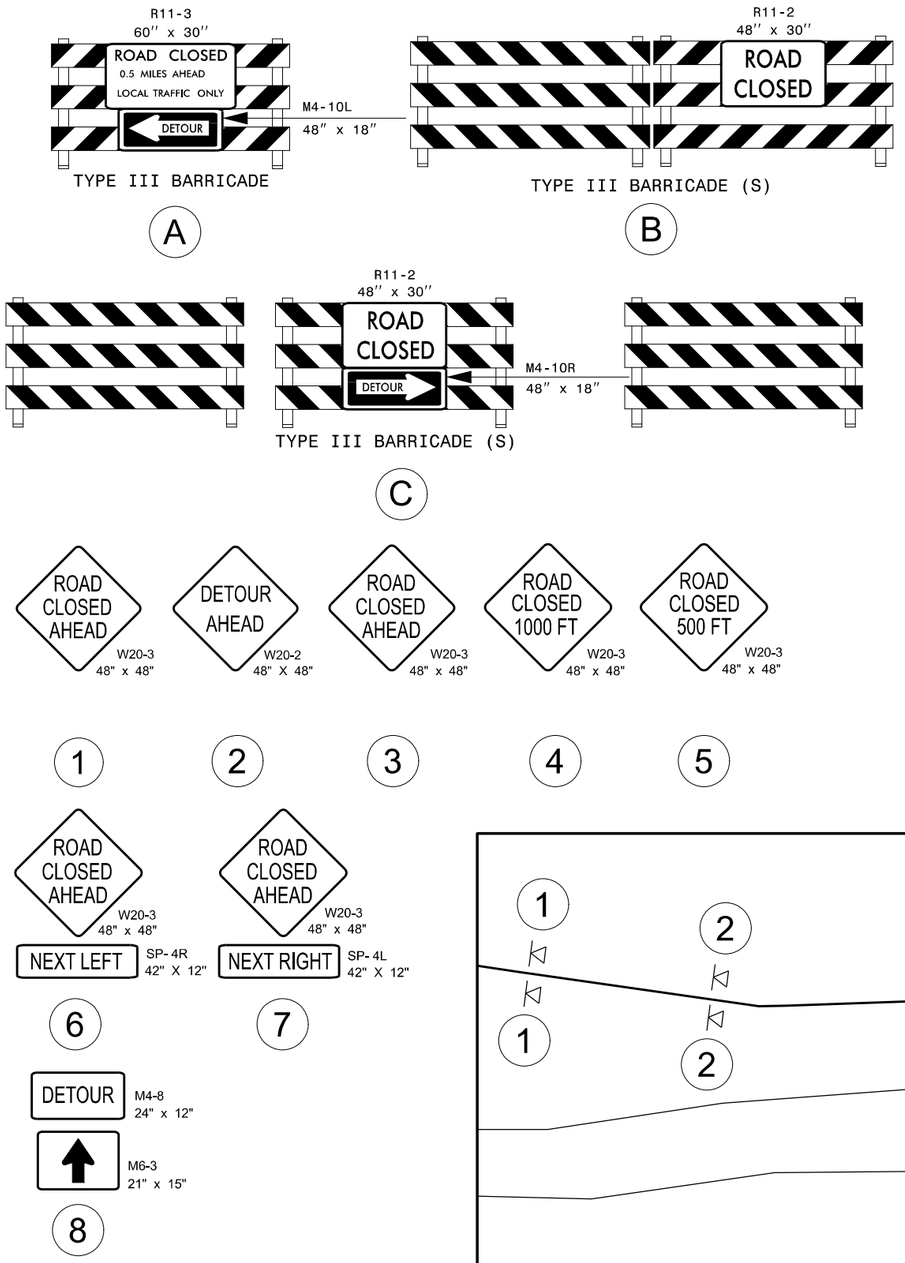
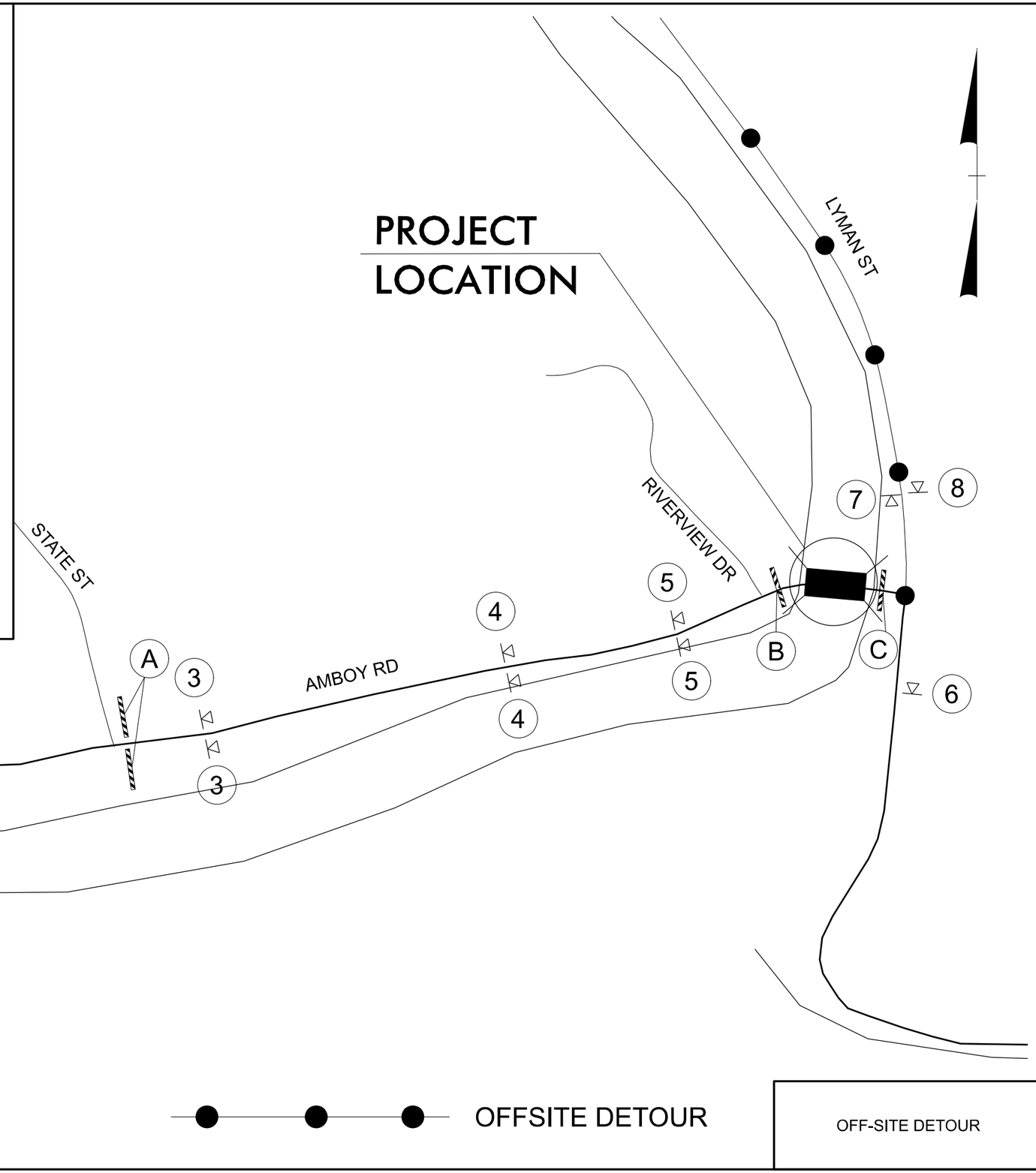


SEE RSD 1101.03, SHEET 1 FOR
DETOUR ADVANCE WARNING SIGNS.

USE DRUMS AT 20 FT CENTERS TO CLOSE
THE LEFT TURN LANE ONTO AMBOY RD
FROM NORTHBOUND LYMAN ST



OFF-SITE DETOUR

18313.1011047.PR
TMP-2B

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

PROJECT ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER
11/3/2026

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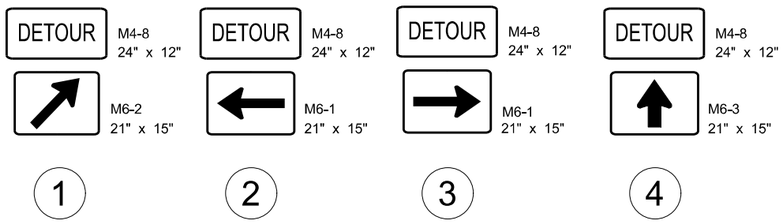
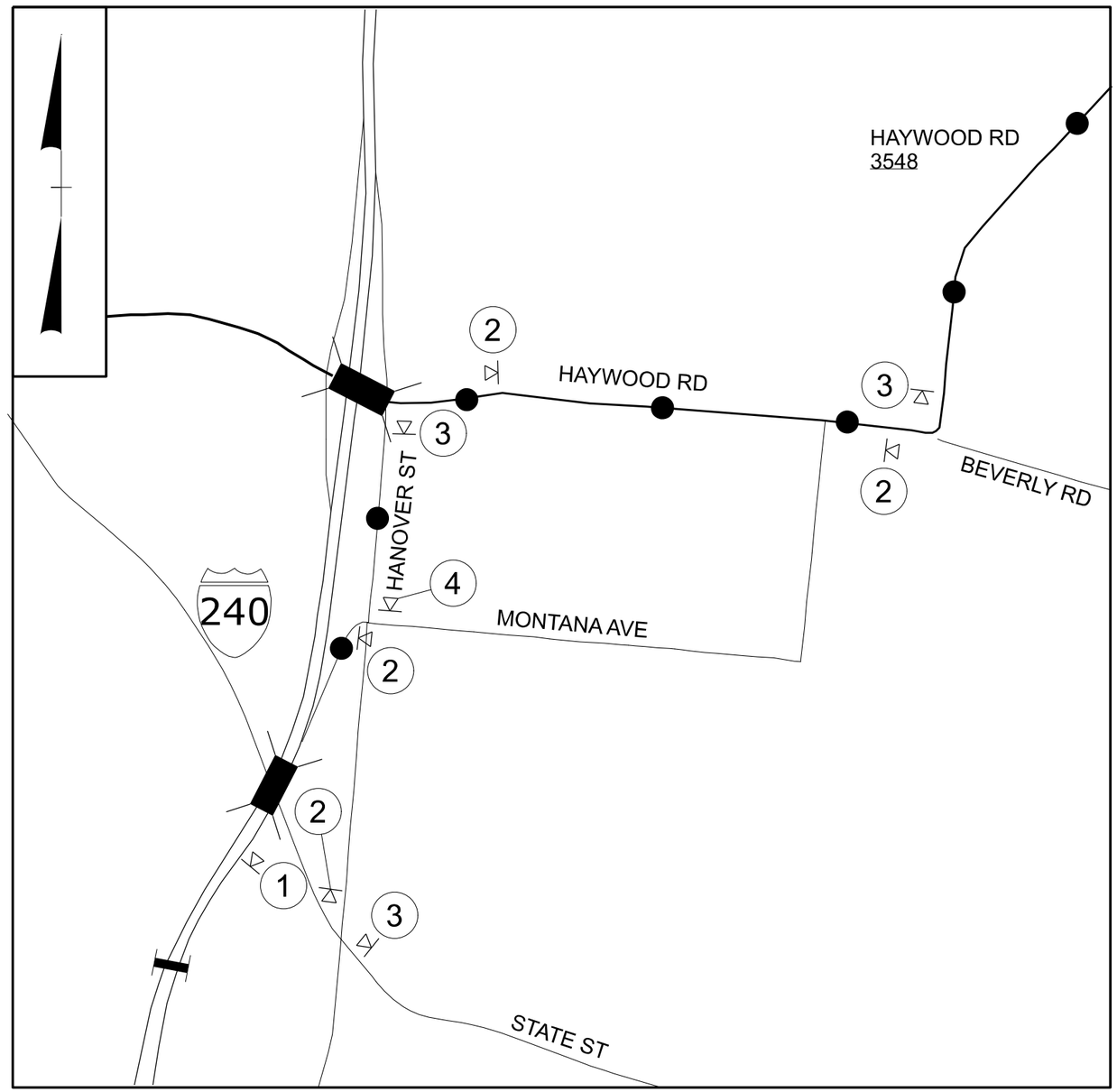
CORP. LICENSE NO.: C-0275

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

Docusign Envelope ID: 9B2259C3-E5CB-8BD6-80E5-754EE78B29D7





OFF-SITE DETOUR

18313.1011047.PR
TMP-2C

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

PROJECT ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER
Don A Parker
11/3/2026

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CORP. LICENSE NO.: C-0275

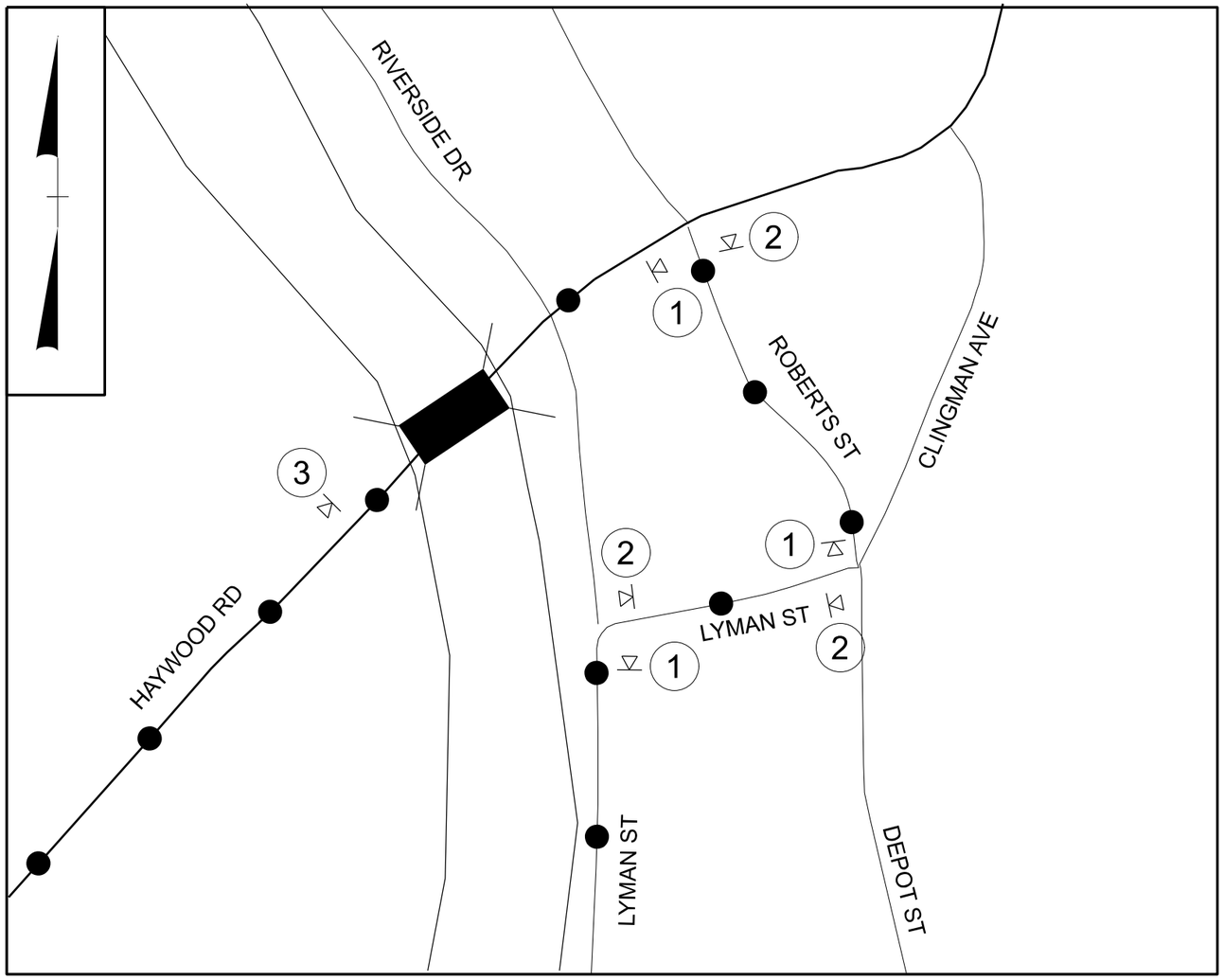
DIVISION OF HIGHWAYS
TRAFFIC ENGINEERING BRANCH
STATEWIDE TRAFFIC CONTROL UNIT

Docusign Envelope ID: 9B2259C3-E5CB-8BD6-80E5-754EE78B29D7

DETOUR M4-8 24" x 12"
M6-1 21" x 15"
1

DETOUR M4-8 24" x 12"
M6-1 21" x 15"
2

DETOUR M4-8 24" x 12"
M6-3 21" x 15"
3



OFFSITE DETOUR

OFF-SITE DETOUR

18313.1011047.PR
TMP-2D

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

PROJECT ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER
11/3/2026

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CORP. LICENSE NO.: C-0275

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH

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PROJECT: 18313.1011047.PR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

BUNCOMBE COUNTY

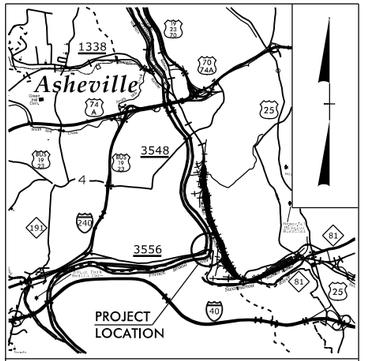
LOCATION: *REPAIR BRIDGE NO. 100521 ON SR 3556 (AMBOY RD) OVER FRENCH BROAD RIVER*

TYPE OF WORK: *BRIDGE REPAIR, GRADING, AND PAVING*

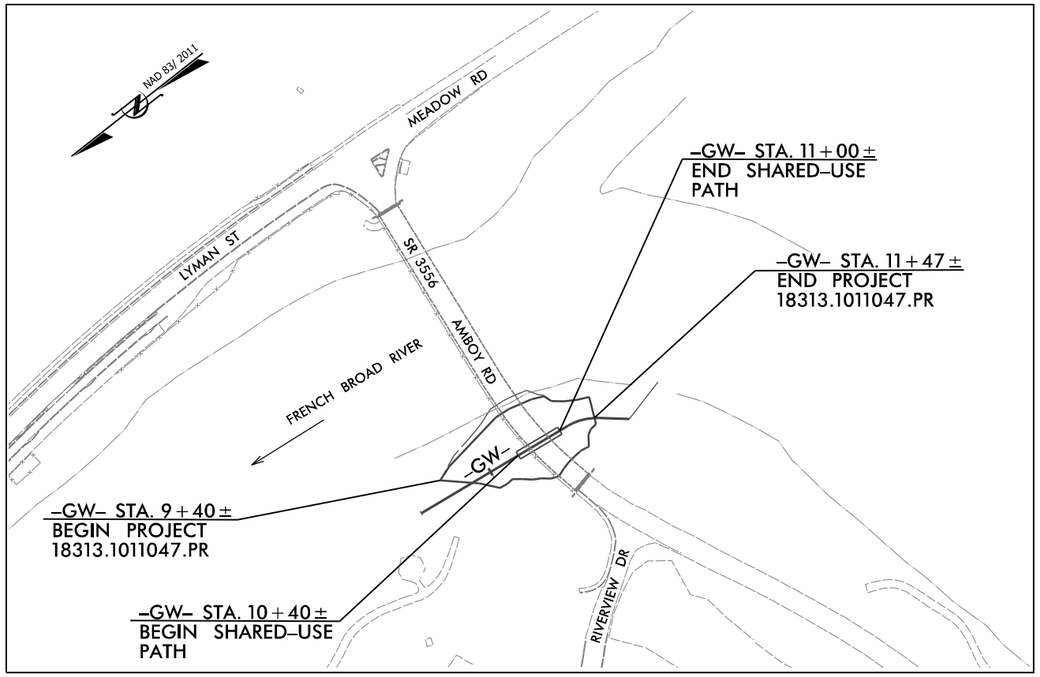
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	18313.1011047.PR	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

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



VICINITY MAP (NTS)



GRAPHIC SCALE

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 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

TGS ENGINEERS

Prepared in the Office of:

TGS ENGINEERS

706 HILLSBOROUGH ST
SUITE 200
RALEIGH, NC 27603

Designed by:

Ben Henegar, PE ***3564***
NAME *LEVEL III CERTIFICATION NO.*

Roadway Standard Drawings

The "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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PROJECT REFERENCE NO.	SHEET NO.
18313.1011047.PR	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	TSD
1630.04	Stilling Basin	
1630.05	Temporary Diversion	TD
1630.06	Special Stilling Basin	
1630.07	Skimmer Basin	
1630.08	Tiered Skimmer Basin	
1630.09	Earthen Dam with Skimmer	
	Infiltration Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C

Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
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	A
1635.02	Rock Pipe Inlet Sediment Trap Type B	B
1636.01	Excelsior Wattle Check	
1636.01	Excelsior Wattle Check with Flocculant	
1636.01	Coir Fiber Wattle Check	
1636.01	Coir Fiber Wattle Check with Flocculant	
1636.02	Silt Fence Excelsior Wattle Break	EW
	Silt Fence Coir Fiber Wattle Break	CFW
1636.03	Excelsior Wattle Barrier	EW EW EW
1636.03	Coir Fiber Wattle Barrier	CFW CFW CFW

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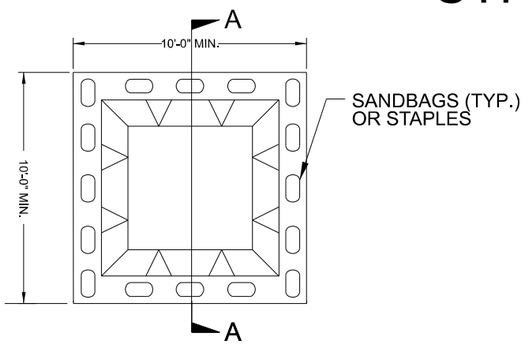
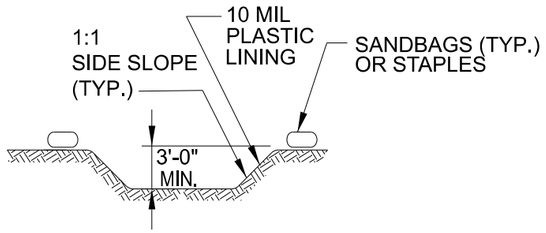
PROJECT REFERENCE NO.	SHEET NO.
18313.1011047.PR	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A



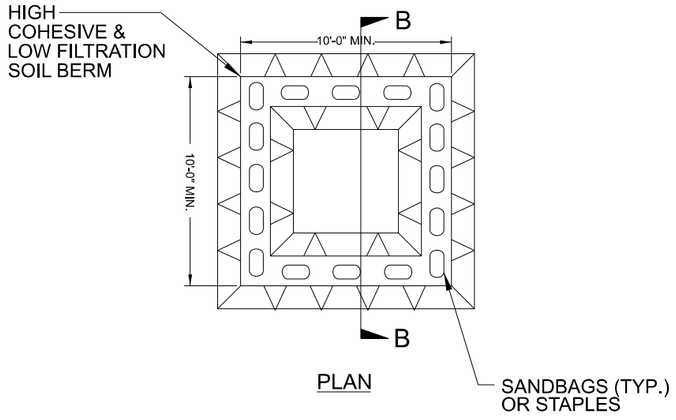
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

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

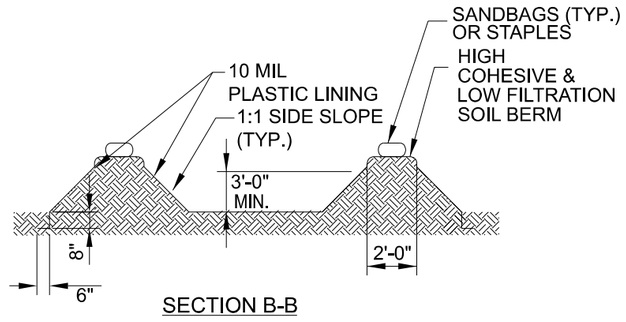
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE

NOT TO SCALE



PLAN



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.

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

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PROJECT REFERENCE NO.	SHEET NO.
18313.1011047.PR	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES

MATTING FOR EROSION CONTROL TOTALS

	ESTIMATE (SY)
DITCHLINE STRAW MATTING SUBTOTAL	N/A
DITCHLINE EXCELSIOR MATTING SUBTOTAL	N/A
SLOPE MATTING SUBTOTAL	N/A
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER	625
TOTAL	625
SAY	630

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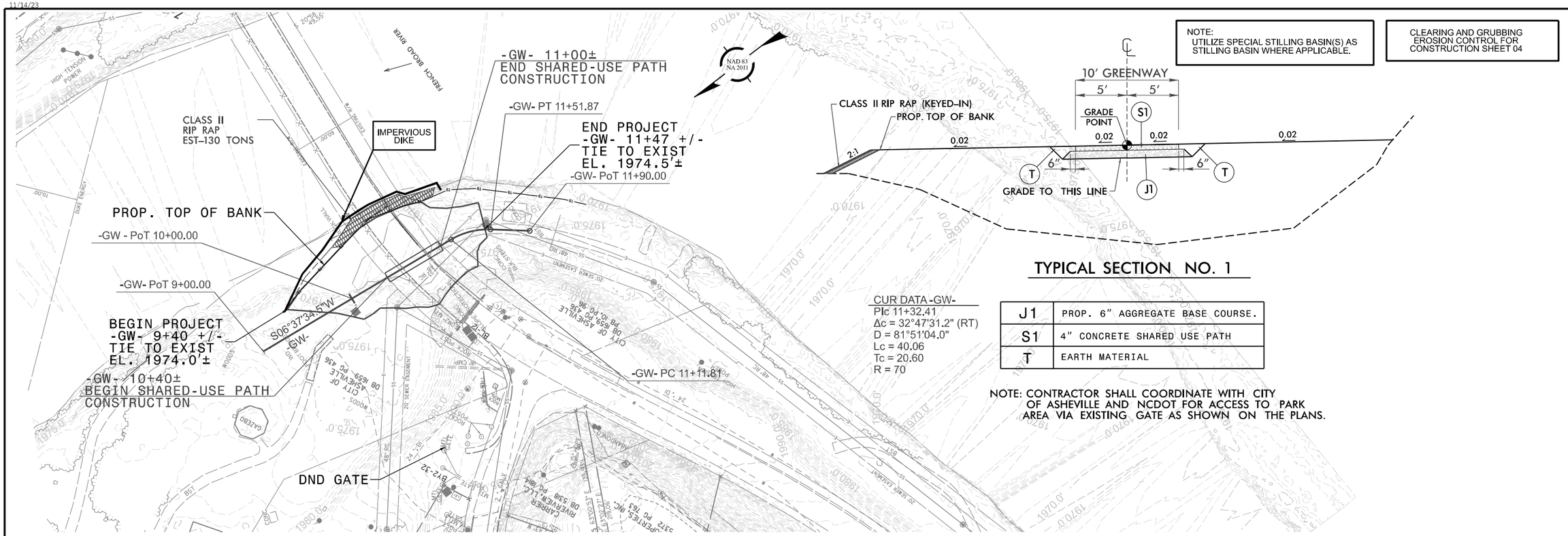
11/14/23



NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

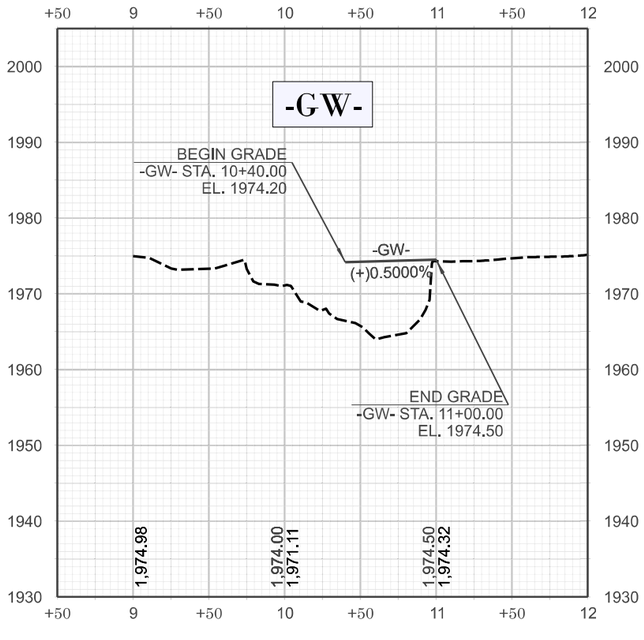
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 04

TYPICAL SECTION NO. 1

CUR DATA -GW-
PIc 11+32.41
Δc = 32°47'31.2" (RT)
D = 81°51'04.0"
Lc = 40.06
Tc = 20.60
R = 70

J1	PROP. 6" AGGREGATE BASE COURSE.
S1	4" CONCRETE SHARED USE PATH
T	EARTH MATERIAL

NOTE: CONTRACTOR SHALL COORDINATE WITH CITY OF ASHEVILLE AND NCDOT FOR ACCESS TO PARK AREA VIA EXISTING GATE AS SHOWN ON THE PLANS.



18313.1011047.PR

EC-04/CONST.04

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BUNCOMBE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PREPARED BY

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

REVISIONS

$$$-USER_NAME-$$$ - $$$-DATE-$$$

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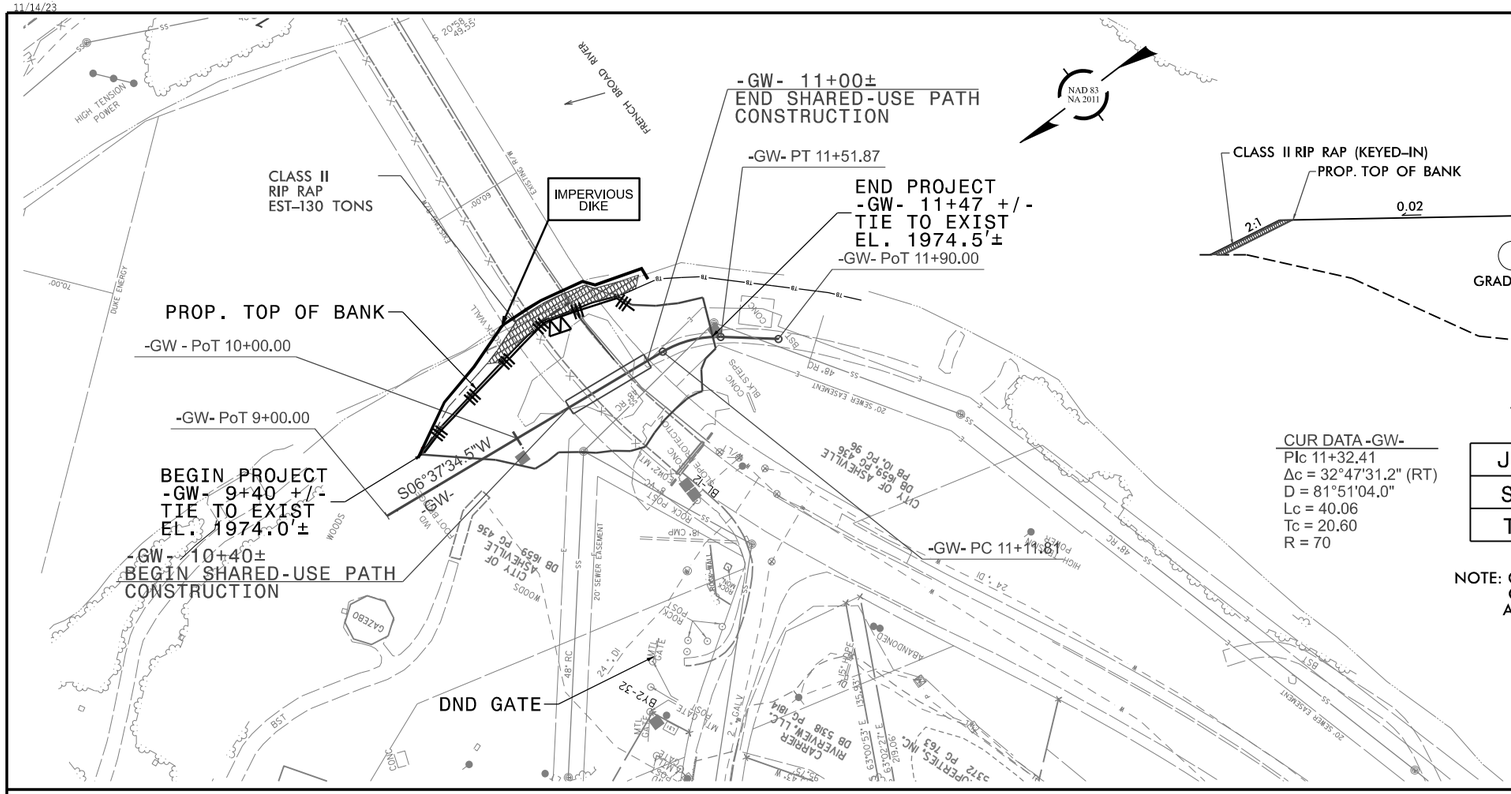
11/14/23



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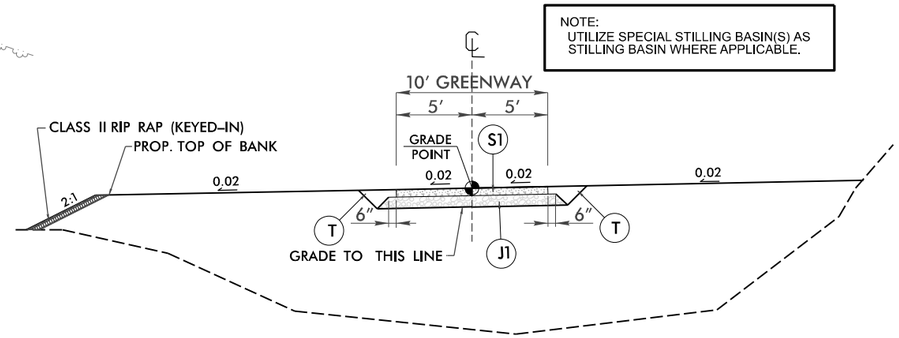

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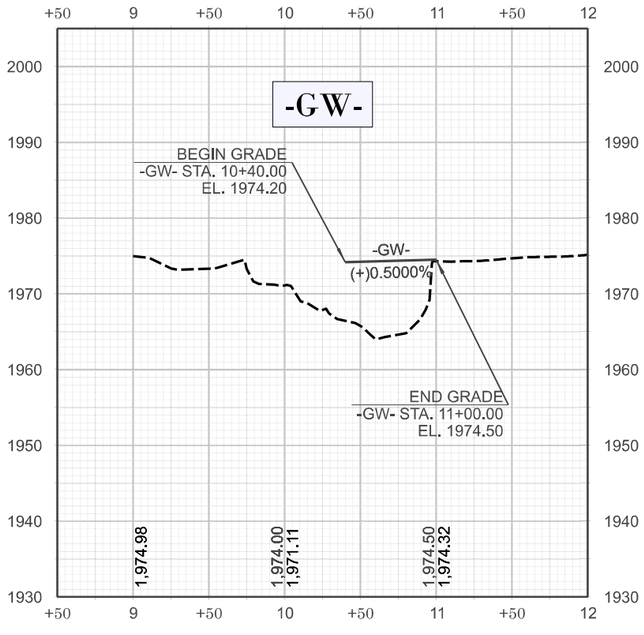

18313.1011047.PR

EC-05/CONST.04

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BUNCOMBE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

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REVISIONS

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PROJ. REFERENCE NO.	SHEET NO.
18313.1011047.PR	X-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

Station -L-	Uncl. Exc. (cu yd)	Embt (cu yd)
9+40.00	0	0
10+00.00	0	308
10+10.00	0	110
10+20.00	0	126
10+30.00	0	146
10+40.00	0	182
10+50.00	0	218
10+60.00	1	252
10+70.00	0	297
10+80.00	0	309
10+90.00	0	255
11+00.00	0	139
11+10.00	0	48
11+20.00	0	25
11+30.00	0	17
11+40.00	0	13
11+47.00	0	3

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

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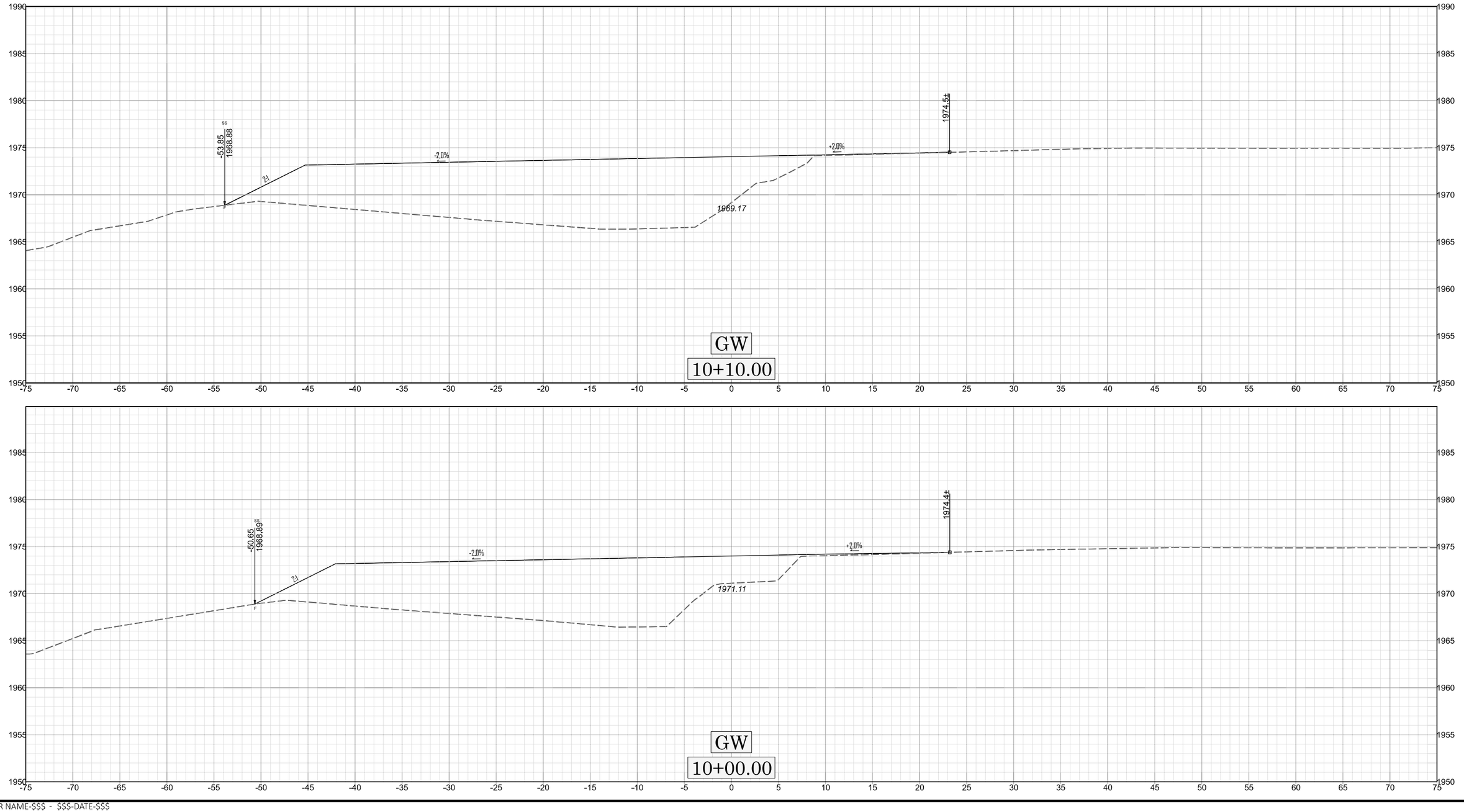

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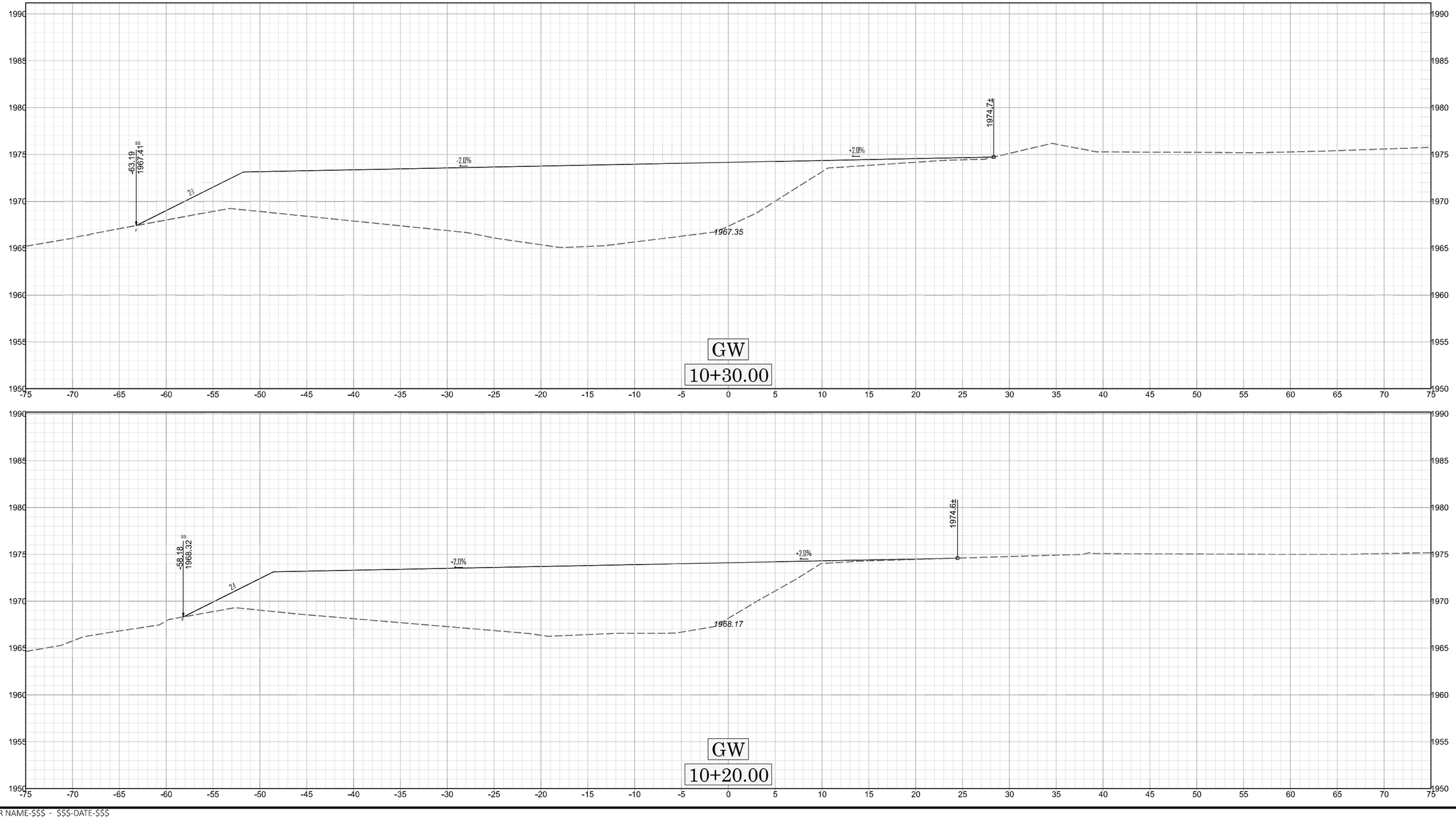

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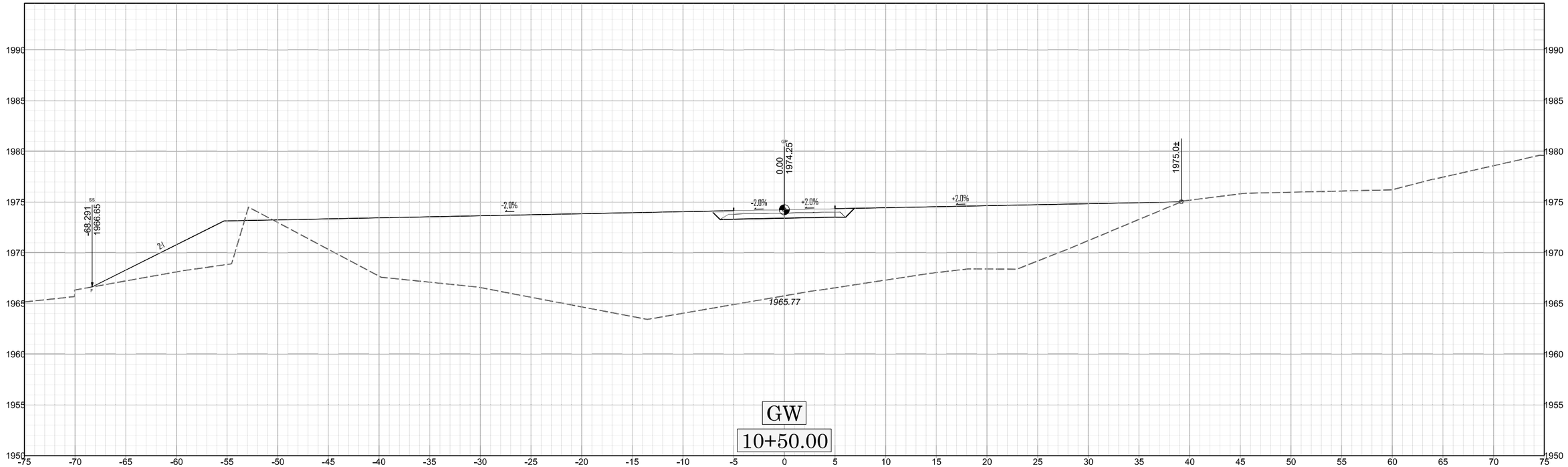
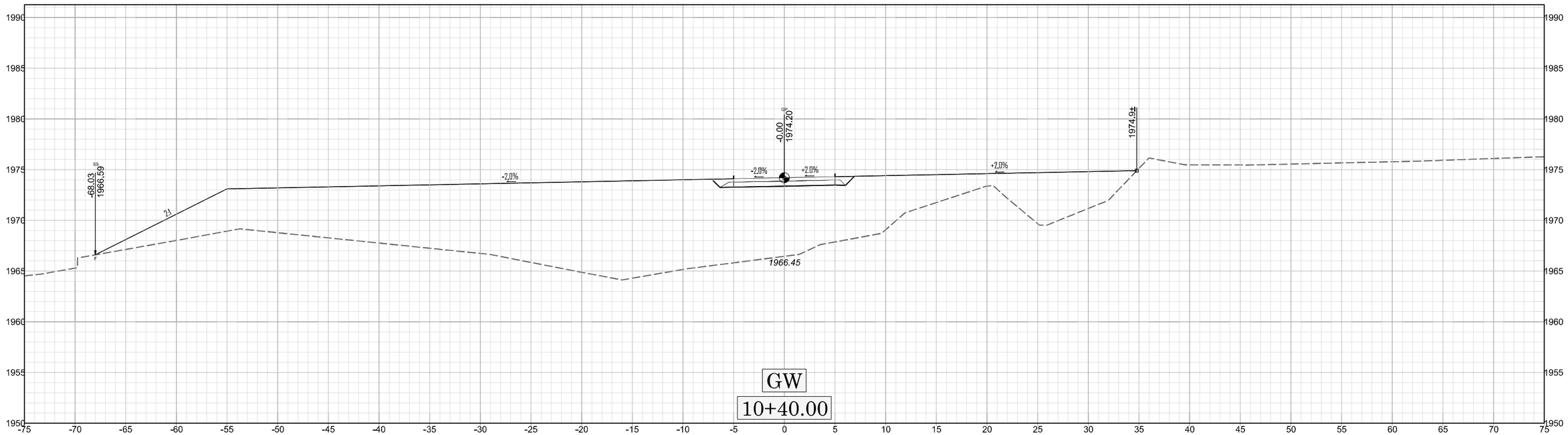
11/14/23





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18313.1011047.PR

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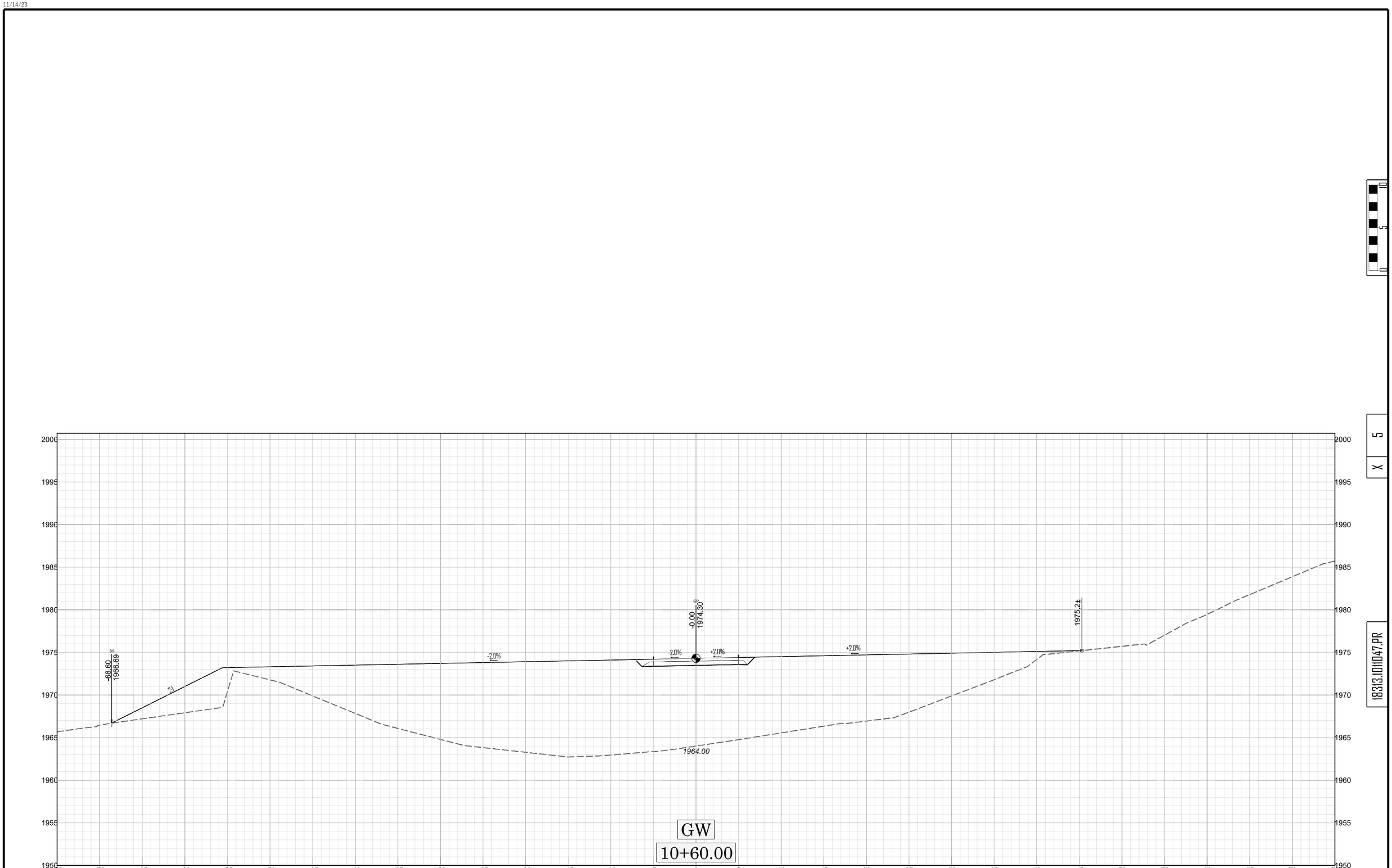

X 5

18313.101047.PR

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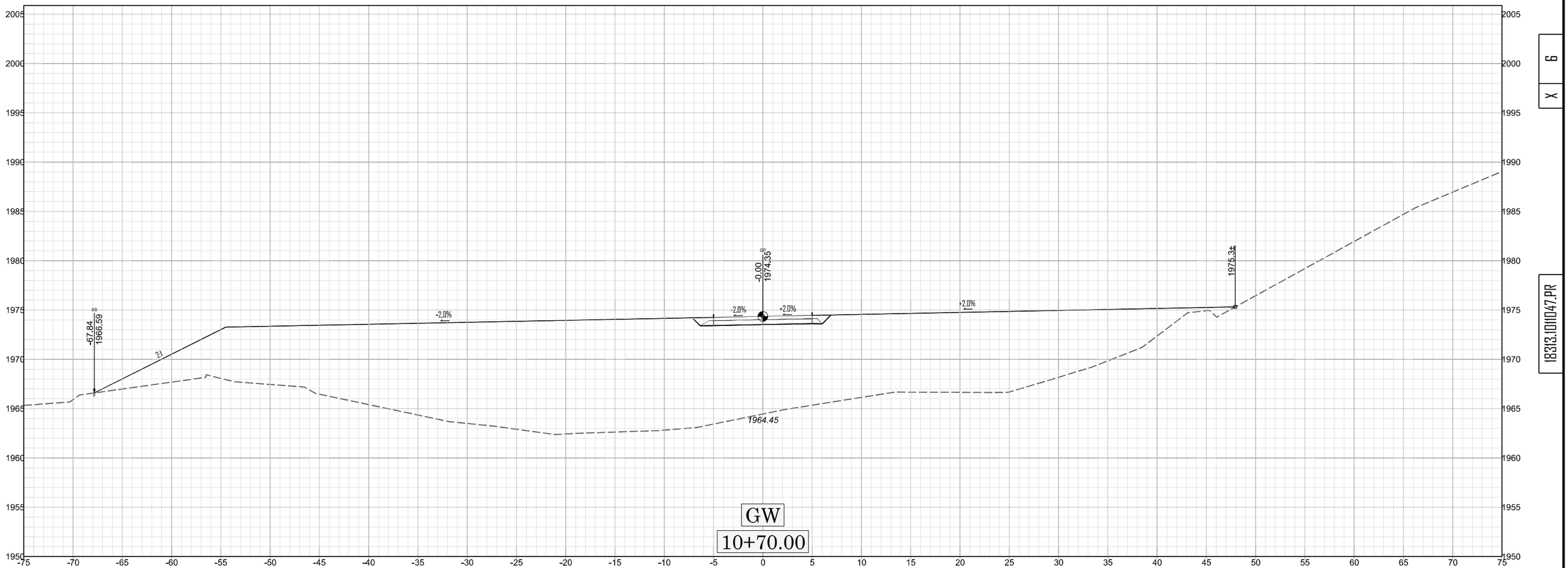

$$$-USER NAME-$$$ - $$$-DATE-$$$

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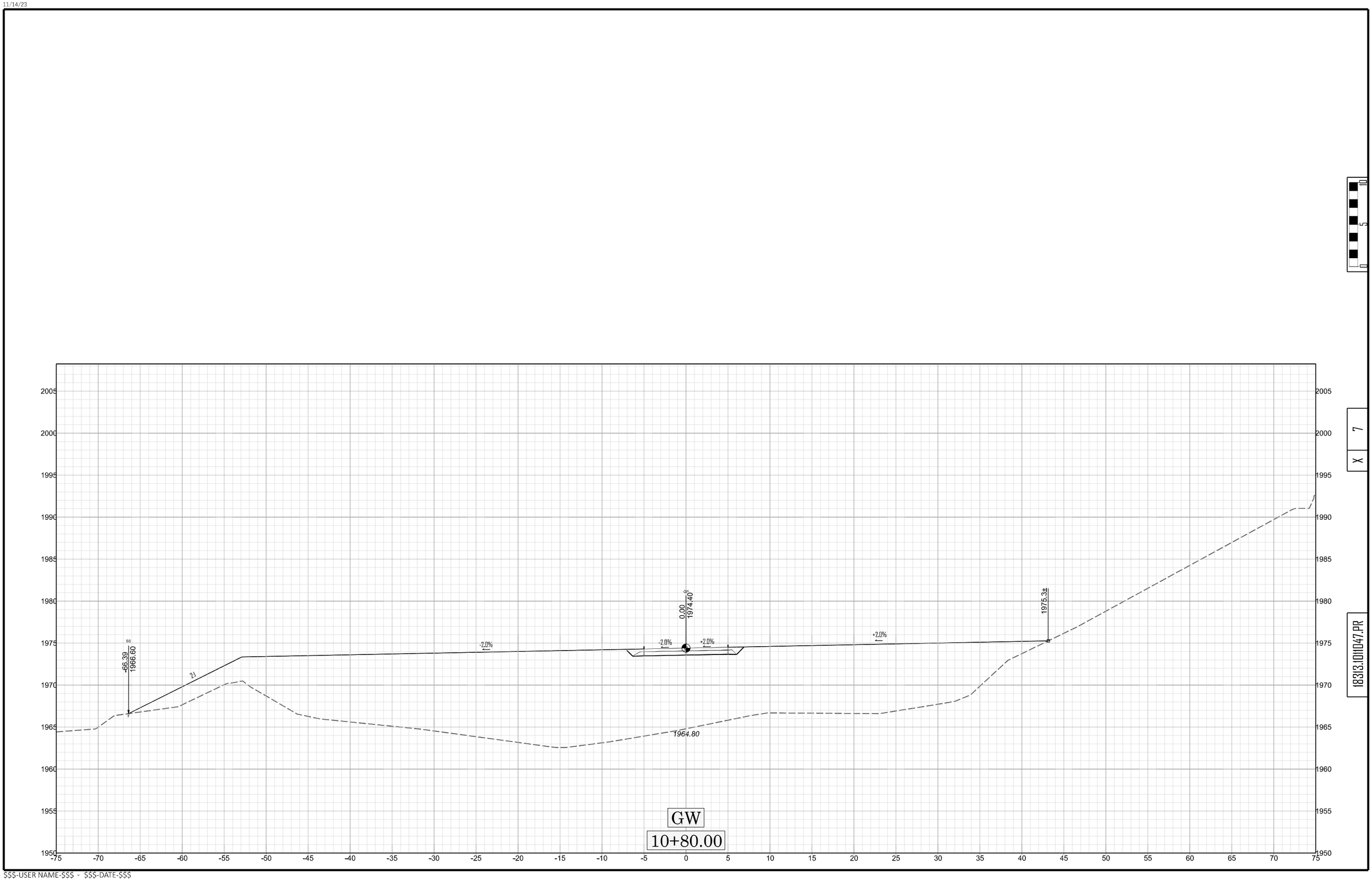

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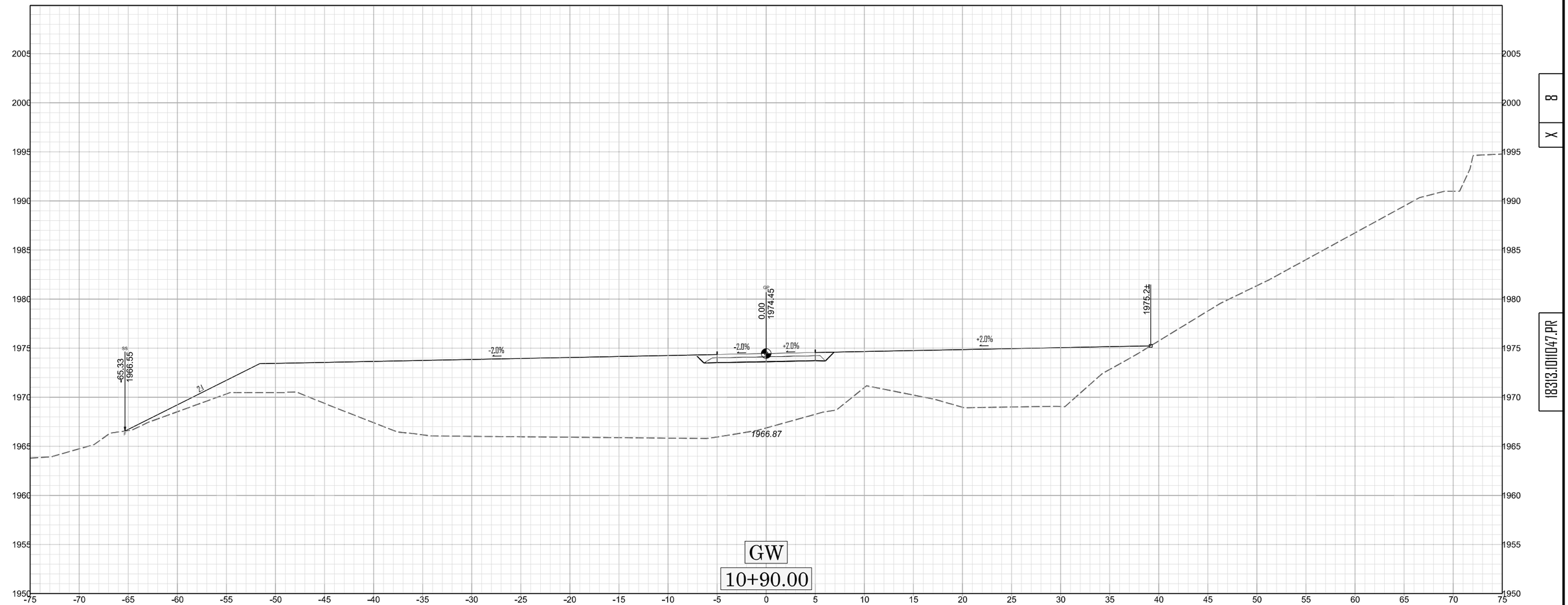

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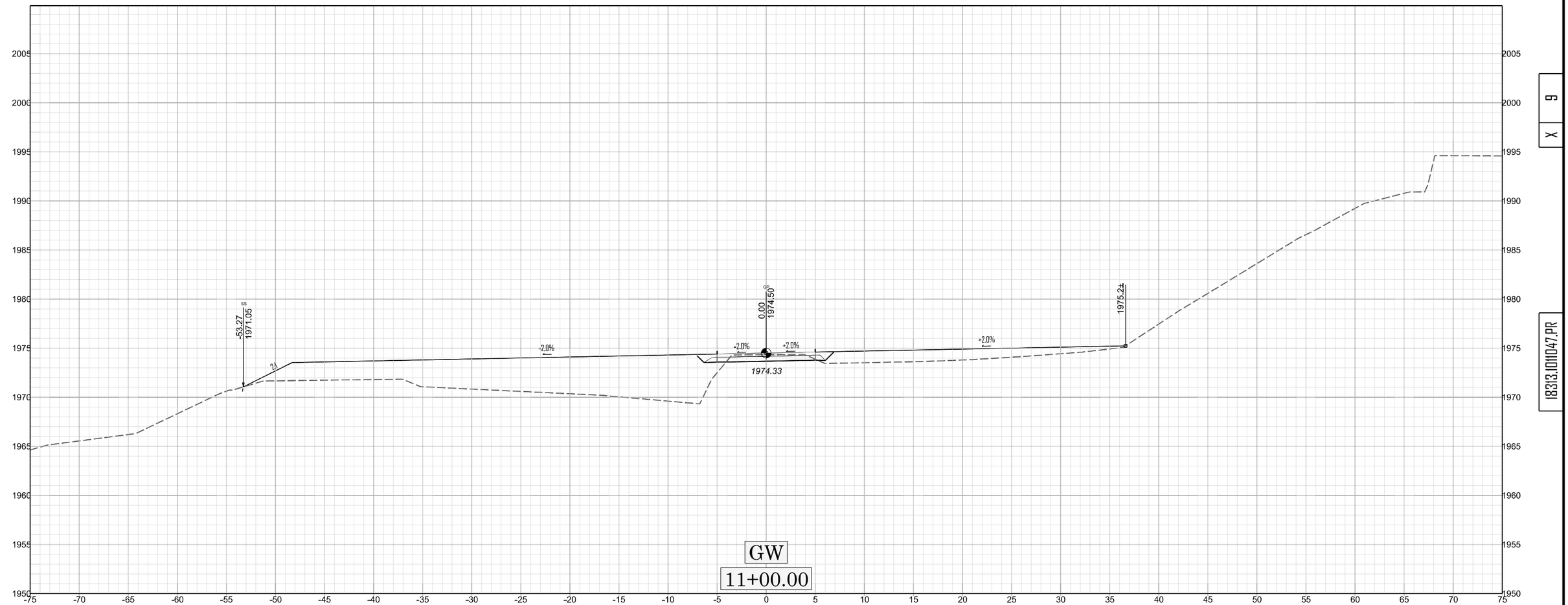

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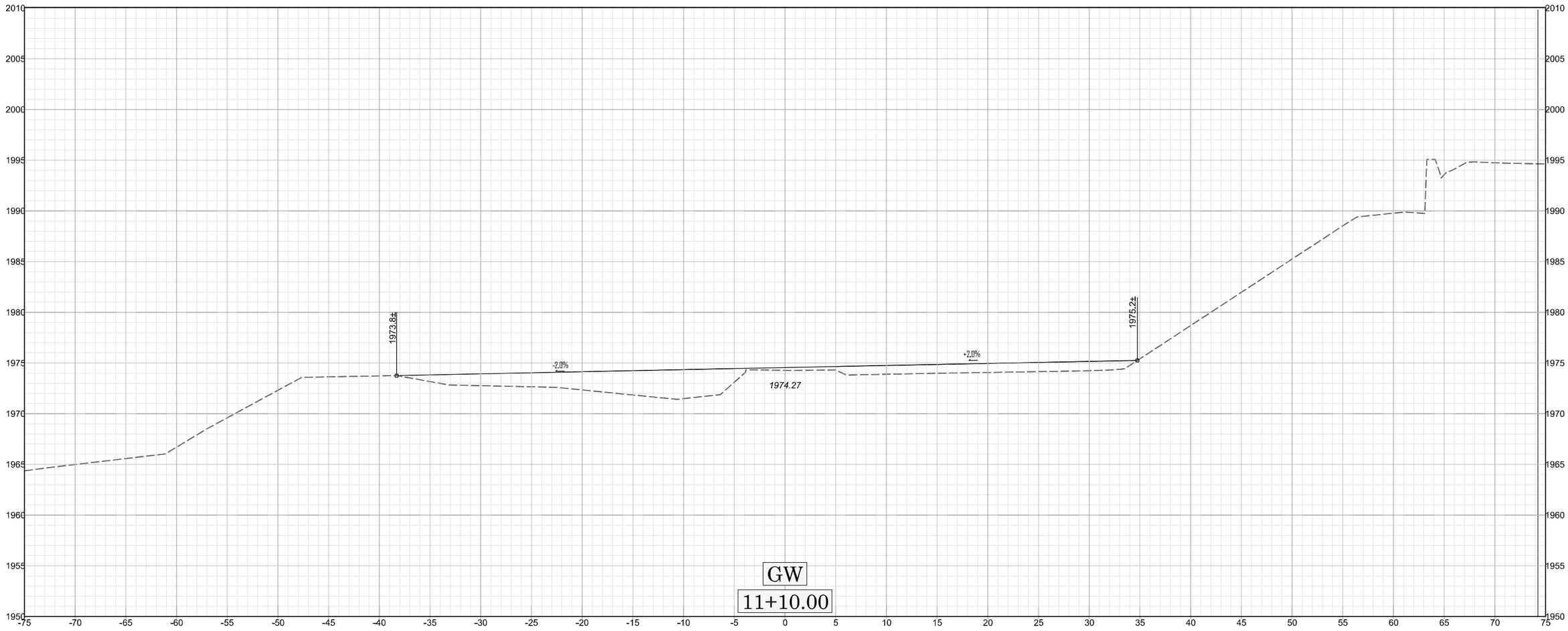

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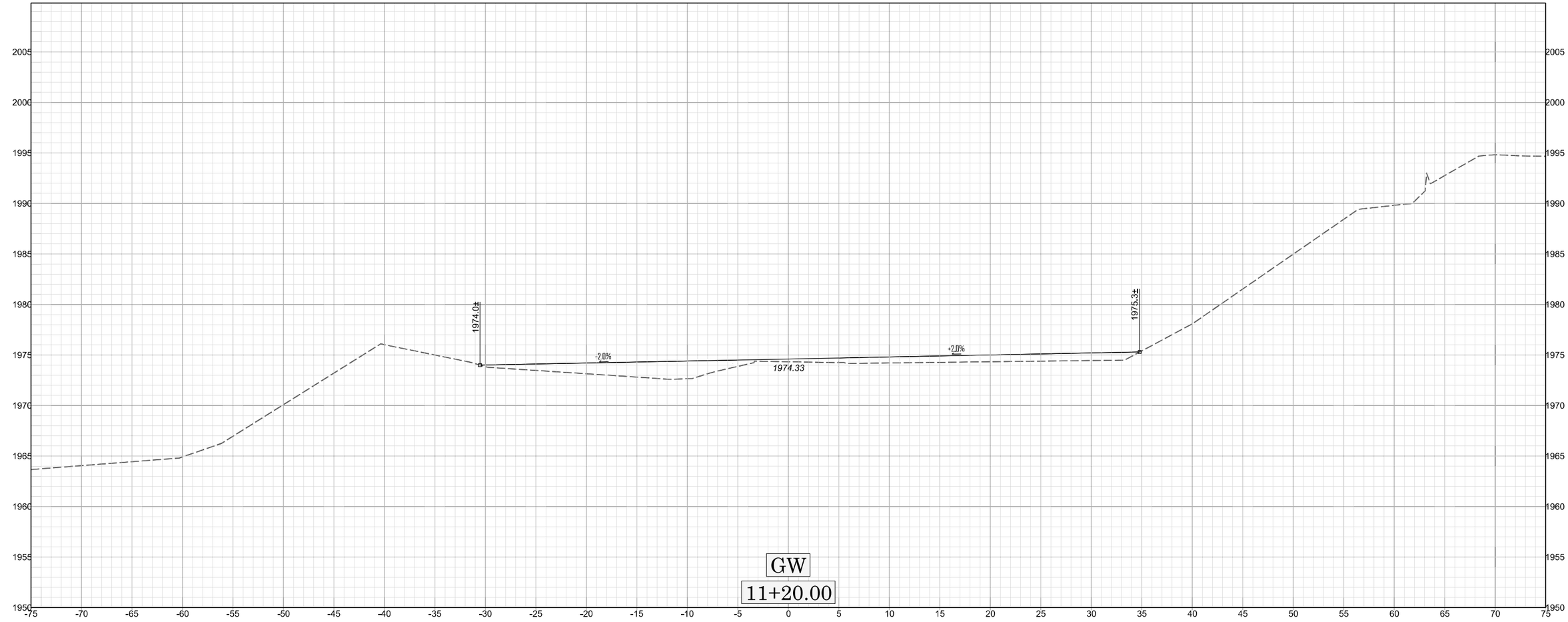

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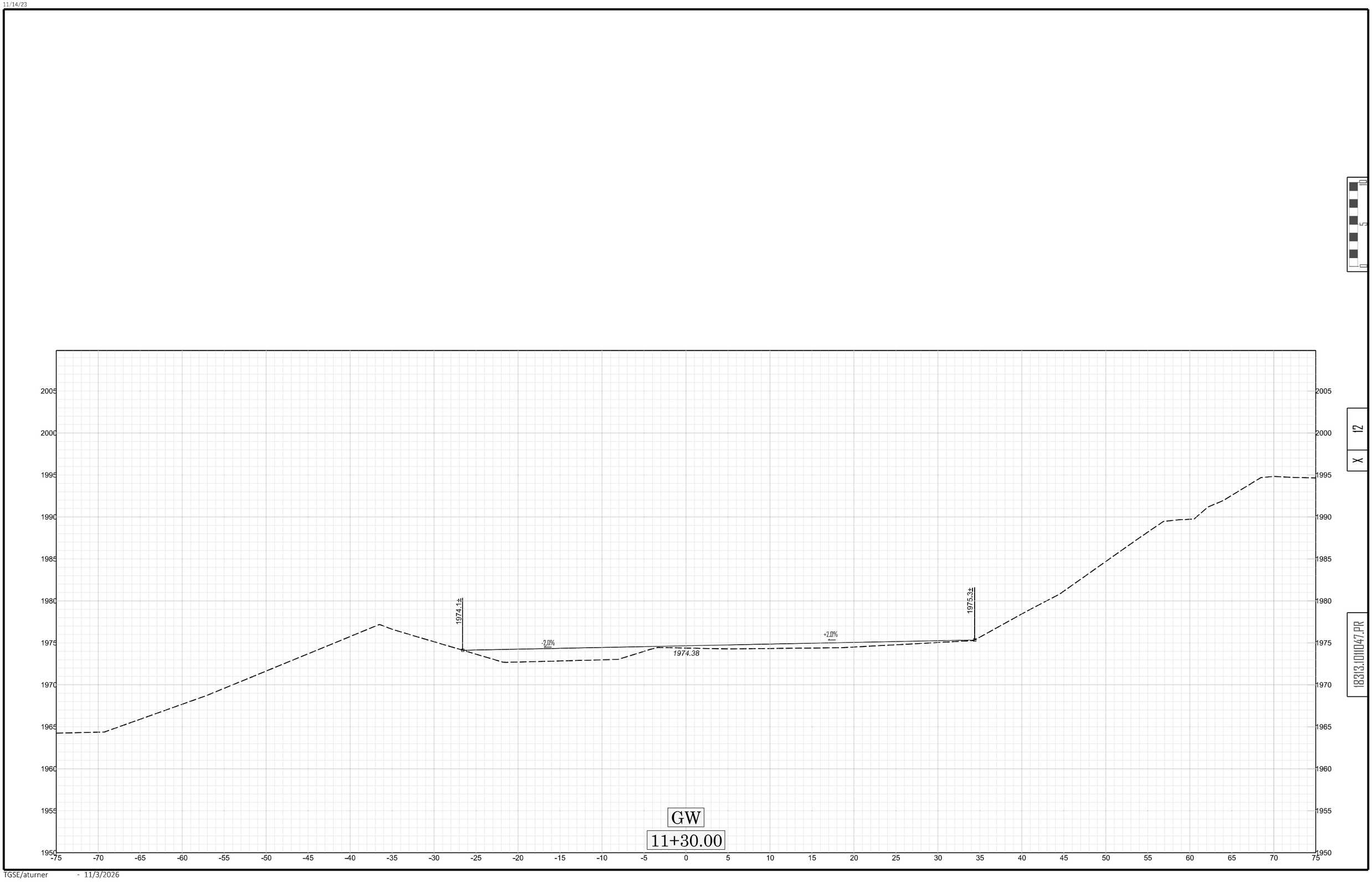

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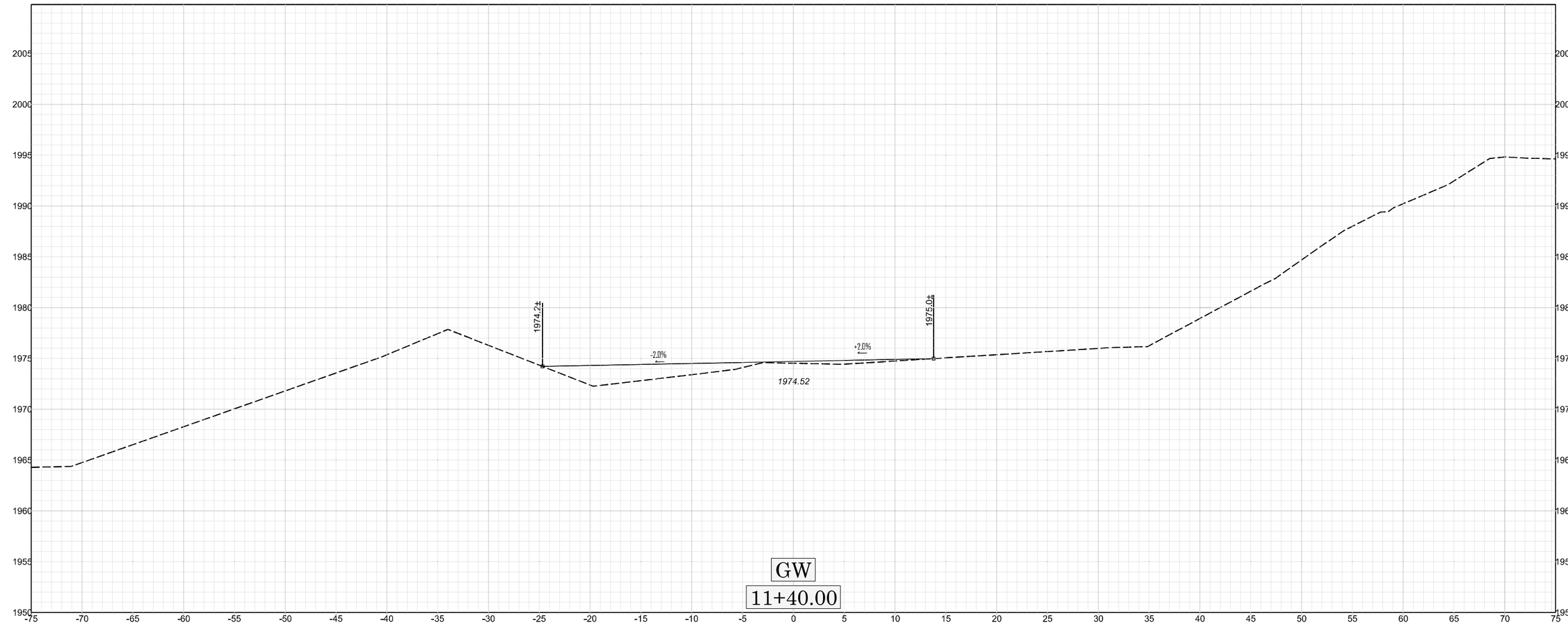

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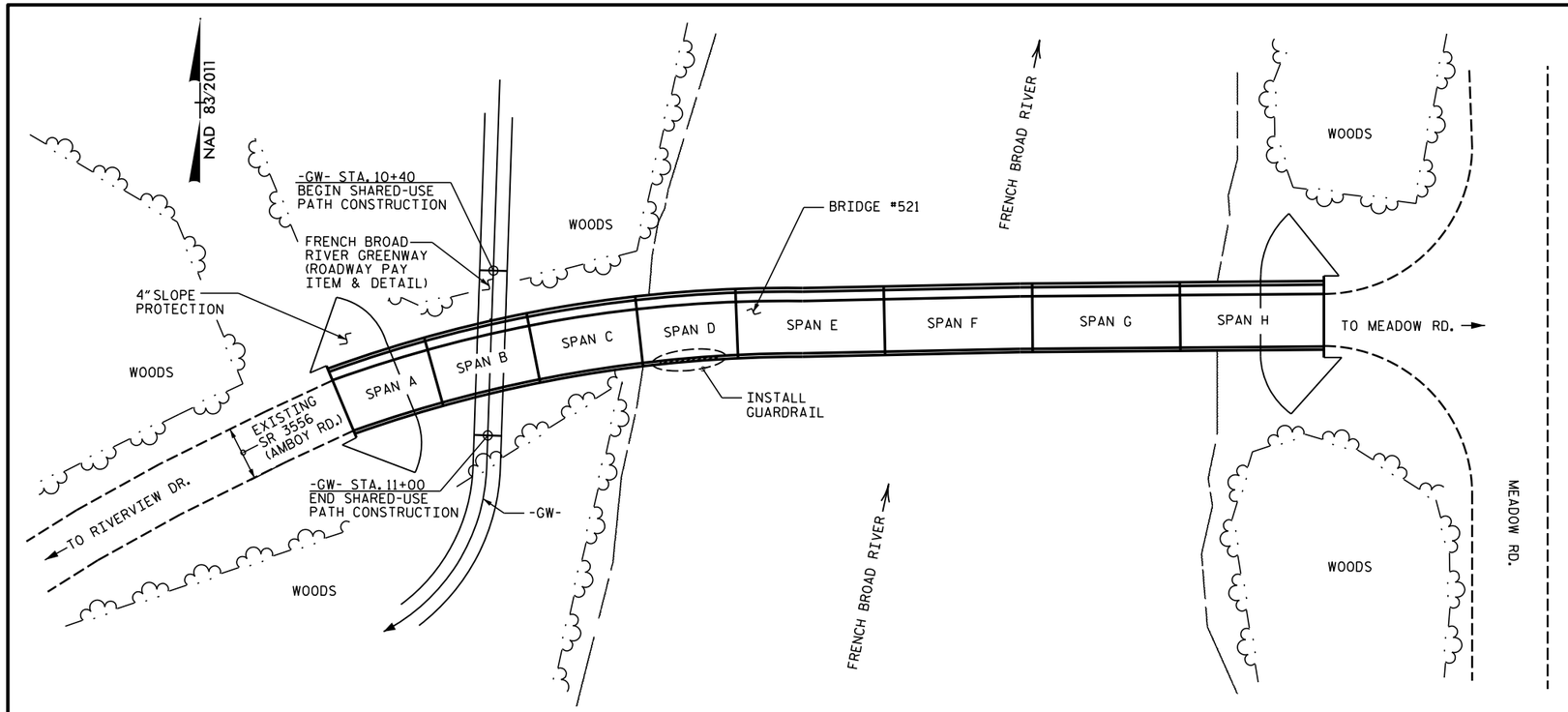

LOCATION SKETCH

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

TOTAL BILL OF MATERIAL	
ITEM	4" SLOPE PROTECTION
	SQ. YDS.
TOTALS	700

SCOPE OF WORK

- REMOVE AND REPLACE 4" SLOPE PROTECTION AT END BENT 1.
- INSTALL GUARDRAIL.

NOTES

EXISTING DIMENSIONS AND BRIDGE CONDITIONS ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER. THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THAT SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

UNLESS OTHERWISE NOTED, ALL WORK SHOWN SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, JANUARY 2024.

FOR OTHER DESIGN DATA, SEE STANDARD NOTES SHEET.

FOR TRAFFIC PHASING, SEE TRAFFIC CONTROL PLANS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR 4" SLOPE PROTECTION, SEE SPECIAL PROVISIONS.

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.

SEAL

PROJECT NO. 18313.1011047.PR

BUNCOMBE COUNTY

BRIDGE NO. 521

SHEET 1 OF 3

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20125 Marshall G. Chern, Jr. SFBC8E8E413... MARSHALL G. CHERN, JR.

11/3/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE #521
ON SR 3556 (AMBOY RD.)
OVER FRENCH BROAD RIVER
BETWEEN RIVERVIEW DR. AND
MEADOW RD.

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

DRAWN BY :	NMW	DATE : 3/26
CHECKED BY :	MGC	DATE : 6/26

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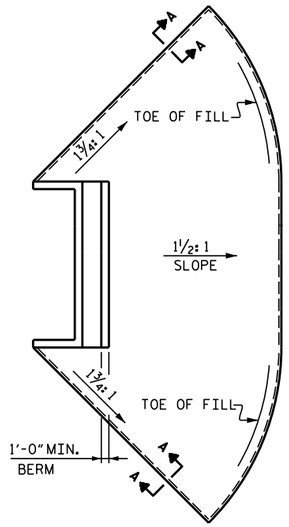
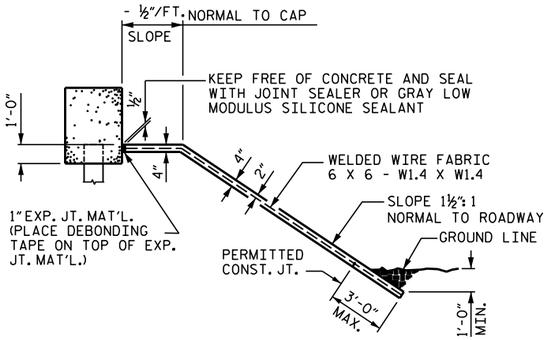
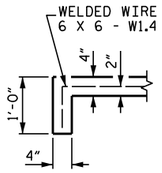


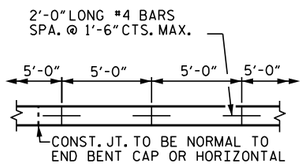
PLAN - END BENT 1





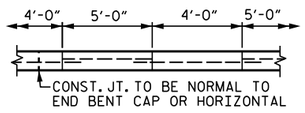
SECTION A-A

SECTION ALONG ℄ SURVEY WHEN DITCH IS NOT PROVIDED



STRIP WIDTHS MAY VARY IN CURVED PORTION.

POURING DETAIL



POUR A 4'-0" STRIP FIRST. STRIP WIDTHS MAY VARY IN CURVED PORTION.

OPTIONAL POURING DETAIL

GENERAL NOTES

THE CONTRACTOR SHALL REMOVE THE SLOPE PROTECTION AT END BENT 1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER. ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS REQUIRED FOR THE REMOVAL AND DISPOSAL OF THE EXISTING SLOPE PROTECTION AT END BENT 1 SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR 4" SLOPE PROTECTION. FOR 4" SLOPE PROTECTION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL BACKFILL THE EXISTING SLOPE AT END BENT 1 AS REQUIRED TO MEET REQUIRED LINES AND GRADES. ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS REQUIRED FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR 4" SLOPE PROTECTION.

STRAIGHT EDGING WILL NOT BE REQUIRED UNLESS, IN THE OPINION OF THE ENGINEER, VISUAL INSPECTION INDICATES A NEED FOR IT. MEASUREMENT AND PAYMENT SHALL BE AS PRESCRIBED IN SECTION 462 OF THE STANDARD SPECIFICATIONS.

SLOPE PROTECTION SHALL CONSIST OF 4" POURED-IN-PLACE CONCRETE SLOPE PROTECTION AS SHOWN IN THE DETAILS ON THIS SHEET. CONCRETE SHALL BE CLASS "B". THE CONCRETE SURFACE SHALL BE FLOATED WITH A WOODEN FLOAT AND FINISHED. WELDED WIRE FABRIC REINFORCING SHALL BE 6 X 6 - W1.4 X W1.4, 60" WIDE. SLOPE PROTECTION SHALL BE POURED IN 5' STRIPS AS SHOWN IN THE "POURING DETAIL" WITH 2'-0" LONG #4 BARS PLACED ALONG THE SLOPE BETWEEN STRIPS AT 1'-6" MAXIMUM SPACING. SLOPE PROTECTION MAY BE POURED IN ALTERNATE 4' AND 5' STRIPS AS SHOWN IN THE "OPTIONAL POURING DETAIL" WITH ADJACENT RUNS OF WELDED WIRE FABRIC LAPPING AT LEAST 6". THE COST OF THE WELDED WIRE FABRIC AND #4 BARS, IF USED, SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER SQUARE YARD FOR SLOPE PROTECTION.

BRIDGE 521	4" INCH SLOPE PROTECTION	* WELDED WIRE FABRIC 60 INCHES WIDE
	SQUARE YARDS	APPROX. L.F.
END BENT 1	700	1400

* QUANTITY SHOWN IS BASED ON 5' POURS.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT NO. 18313.1011047.PR

BUNCOMBE COUNTY

BRIDGE NO. 521

SHEET 2 OF 3

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20125 Marshall G. Cheek, Jr. ENGINEER MARSHALL G. CHEEK, JR.

11/3/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH. (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SLOPE PROTECTION DETAILS

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

DRAWN BY :	NMW	DATE :	3/26
CHECKED BY :	MGC	DATE :	6/26

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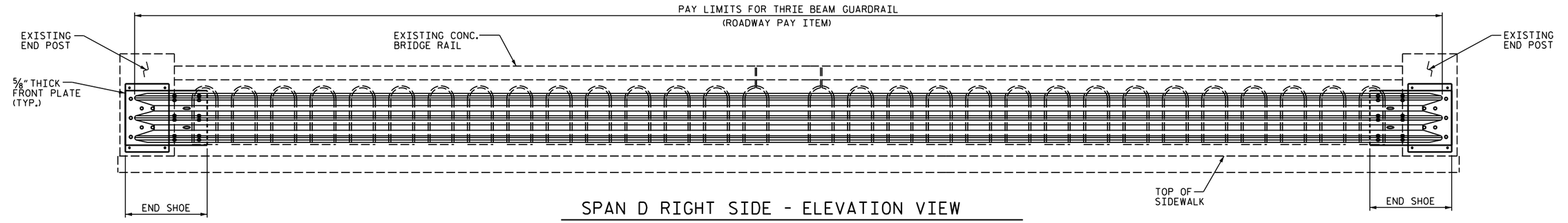
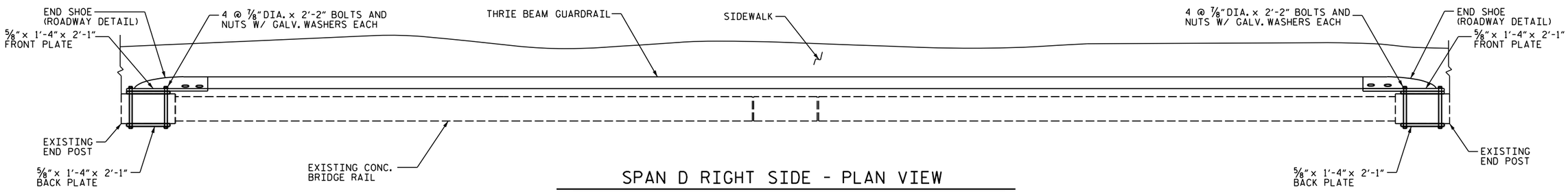
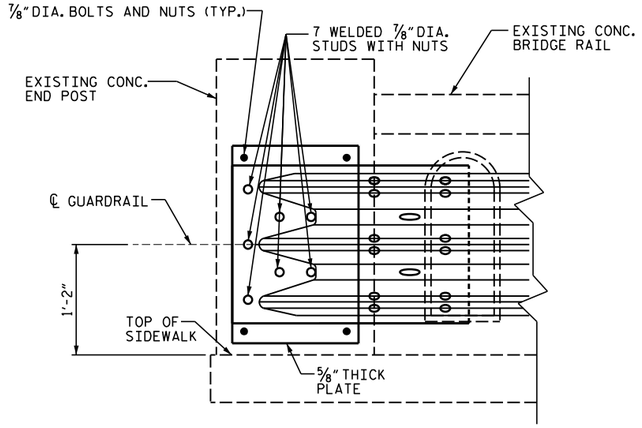


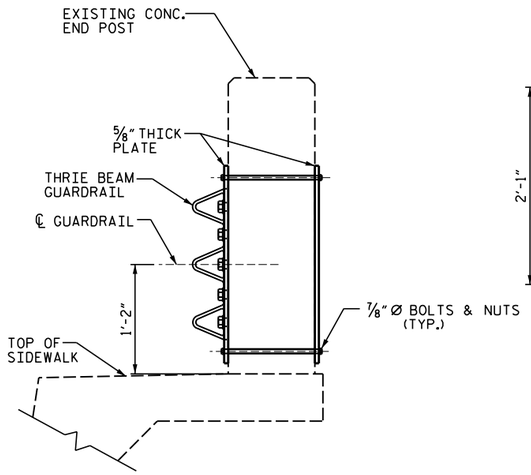
SPAN D RIGHT SIDE - ELEVATION VIEW



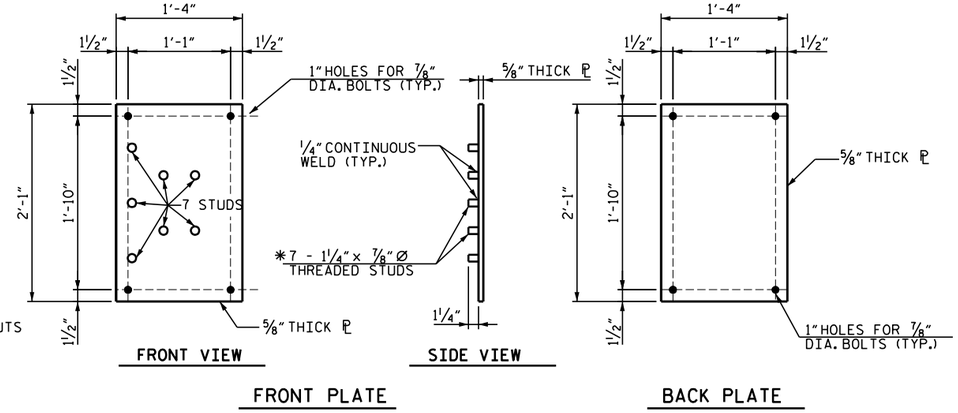
SPAN D RIGHT SIDE - PLAN VIEW



ELEVATION VIEW



SECTION VIEW



FRONT PLATE

BRIDGE PLATES

* 7/8" Ø STUD BOLTS TO BE FURNISHED W/NUT AND STD. WASHER

NOTES

THE PLATES SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE PLATES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE 7/8" BOLTS SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE PLATES WITH THREADED STUD BOLTS, NUTS AND WASHERS, COMPLETE IN PLACE, SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

THE 1 1/4" Ø HOLES SHALL BE DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

DRAWN BY :	NMW	DATE :	3/26
CHECKED BY :	MGC	DATE :	6/26

PROJECT NO. 18313.1011047.PR

BUNCOMBE COUNTY

BRIDGE NO. 521

SHEET 3 OF 3

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 20125 ENGINEER MARSHALL G. CHEEK, JR.
Marshall G. Cheek, Jr.
11/3/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
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SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

ANCHOR UNIT FOR EXISTING CONCRETE RAIL

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

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8/26/21

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	AASHTO (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE AASHTO
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	SEE AASHTO
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2024 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO ½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A ¼" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞"Ø STUDS FOR 4 - ¾" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST $\frac{5}{16}$" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY $\frac{1}{16}$" OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.