LETTING DATE
Jan 27 2027

BRIDGE REPLACEMENT - PPCB
IMX-029-3(270)57--02-78

POTTAWATTAMIE COUNTY

INDEX OF SHEETS

* Color Plan Sheets

For Project Location Map
Refer to Sheet No. A.2

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM
POTTAWATTAMIE COUNTY

BRIDGE REPLACEMENT - PPCB

I-29 NB BRIDGE OVER N 16TH ST (SB)
At the N 16th St Interchange In Council Bluffs (NB)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.

REVISIONS

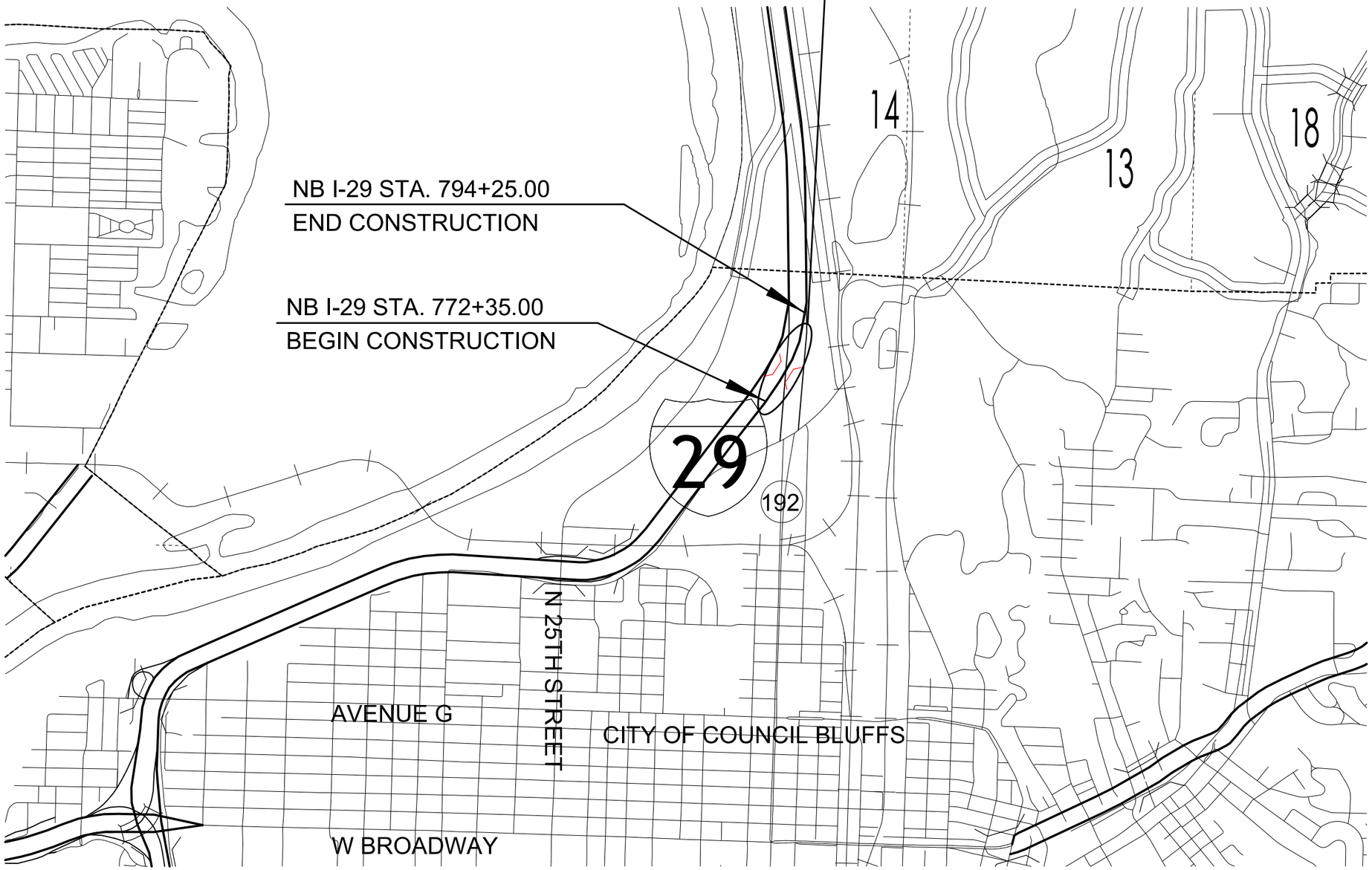
	TOTAL
	67
PROJECT IDENTIFICATION NUMBER	
22-78-029-020	
PROJECT NUMBER	
IMX-029-3(270)57--02-78	
R.O.W. PROJECT NUMBER	
IMN-029-3(275)57--0E-78	

I-29 DESIGN DATA URBAN			
2027	AADT	13,000	V.P.D.
2047	AADT	17,400	V.P.D.
2047	DHV	1800	V.P.H.
TRUCKS		23	%
Total Design ESALs		--	

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 12/06/2024



LOCATION MAP SCALE
0.0 0.2 0.4
Miles

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER A.2

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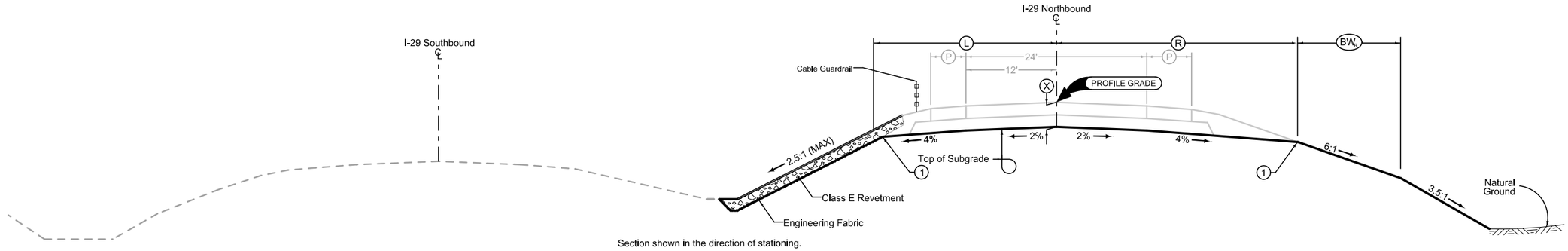
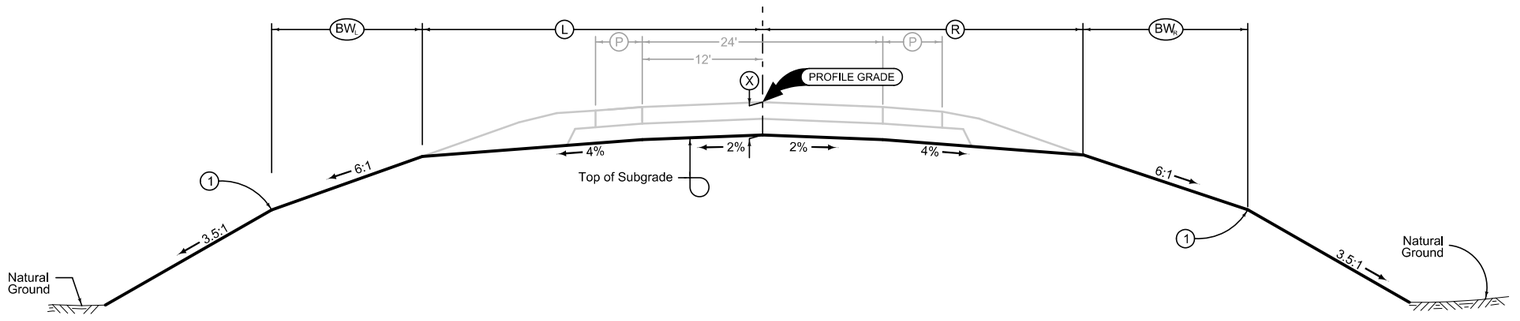


Section shown in the direction of stationing.

LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW$_L$) Feet	(BW$_R$) Feet
NB I-29	773+00.00	776+40.39	28	32	22	7.5	
NB I-29	776+40.39	777+28.00	28	38	22	14.5-7.5	
NB I-29	777+28.00	784+00.00	28	38	22	7.5	
NB I-29	786+91.23	789+00.00	28	38	22	10	



Section shown in the direction of stationing.

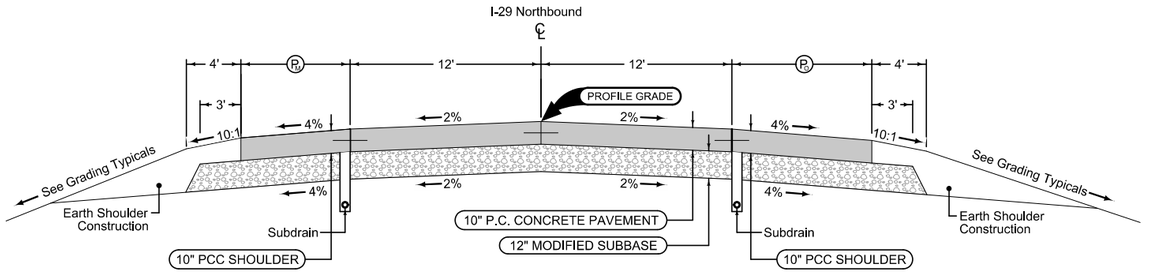
LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW$_L$) Feet	(BW$_R$) Feet
NB I-29	789+00.00	794+25.00	38	36	22	8	10

(1) Refer to project plan and cross sections for specific location of foreslope change.

Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

NORTHBOUND I-29 GRADING



Section shown in the direction of stationing.

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2 or L-2
Transverse joints: CD at 17' spacing

Direction of Travel	STATION TO STATION		P_M Feet
NB	773+00.00	781+48.86	6
NB	781+48.86	781+68.86	12
NB	781+68.86	782+06.26	12-8
NB	782+06.26	782+77.67	8
NB	782+77.67	783+10.22	8-10
NB	787+87.68	794+25.00	6

Mainline Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: CD at 17' spacing

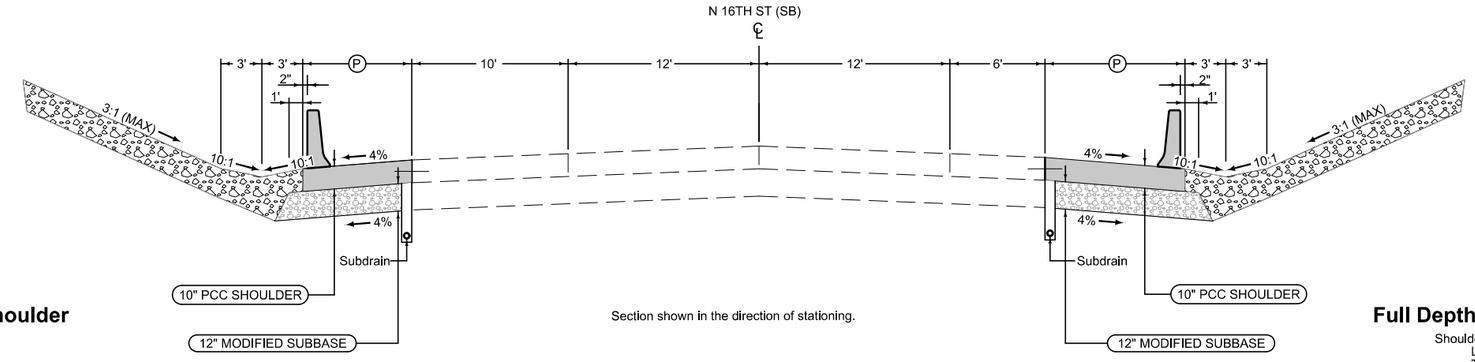
Direction of Travel	BEGIN STATION	END STATION
NB	773+00.00	783+12.58
NB	787+86.08	794+25.00

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2 or L-2
Transverse joints: CD at 17' spacing

Direction of Travel	STATION TO STATION		P_R Feet
NB	773+00.00	781+17.25	10
NB	781+17.25	781+37.25	13
NB	781+37.25	781+79.84	13-11.6
NB	781+79.84	783+10.22	11.6
NB	787+87.68	794+25.00	10

NORTHBOUND I-29 PAVING



Section shown in the direction of stationing.

Full Depth Reinforced PCC Shoulder

Shoulder Jointing:
Longitudinal joint: BT-3
Transverse joints: CD at 17' spacing

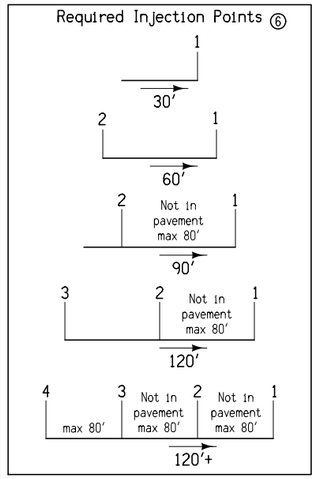
Direction of Travel	STATION TO STATION		P Feet
SB	83+80.00	86+40.00	6.1

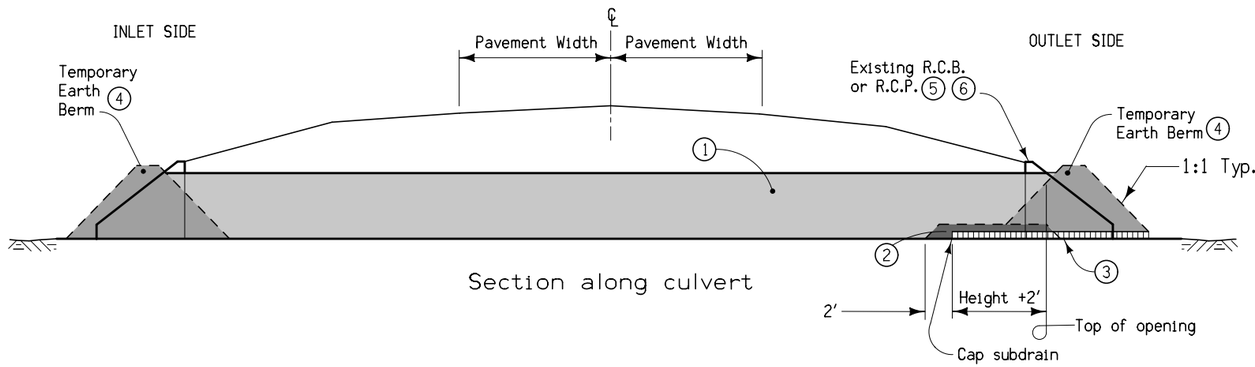
Full Depth Reinforced PCC Shoulder

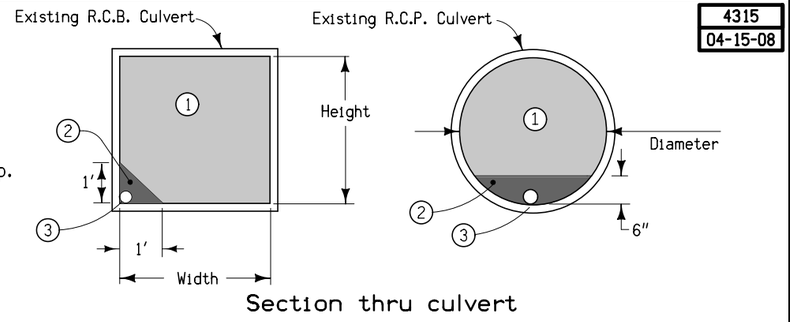
Shoulder Jointing:
Longitudinal joint: BT-3
Transverse joints: CD at 17' spacing

Direction of Travel	STATION TO STATION		P Feet
SB	86+00.00	87+50.00	9.1

N 16TH ST (SB) PAVING

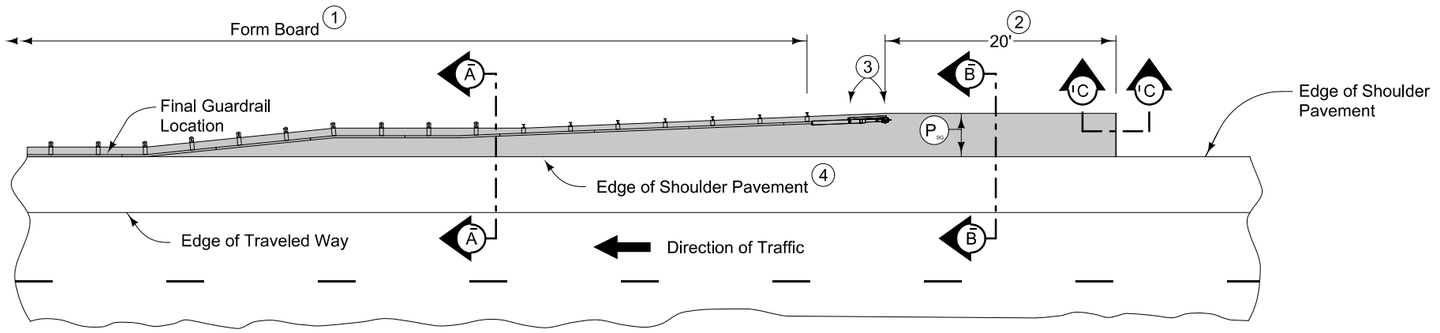




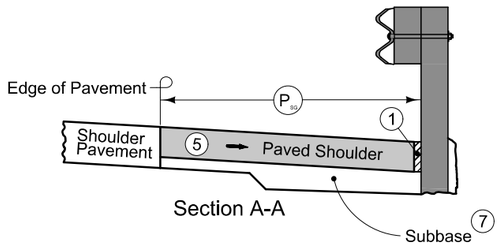


① Flowable Mortar.
② Granular Backfill.
③ 4″ subdrain at flowline elevation of culvert shall be extended into the culvert a distance of 2′ plus the height of the culvert. Granular Backfill covers subdrain and extends an additional 2′. Subdrain and granular backfill are incidental to flowable mortar.
④ Ends of culvert shall be plugged sufficiently to retain flowable mortar. Temporary earth berms are incidental to flowable mortar.
⑤ Removal of headwalls may be required.
⑥ Outlet shall be filled first. See injection point detail for additional information.

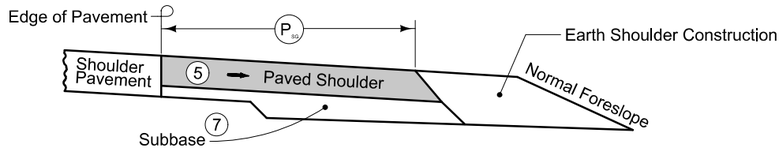
DETAILS OF CULVERT ABANDONMENT WITH FLOWABLE MORTAR
(Rectangular structures less than 8′ in either height or width. Circular structures less than 10′ Dia.)



PLAN VIEW

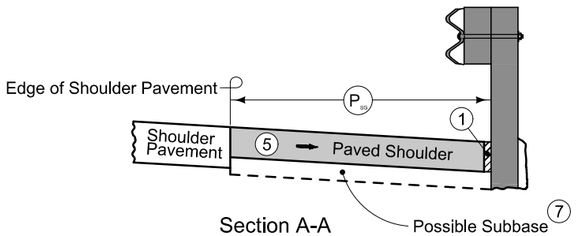


Section A-A

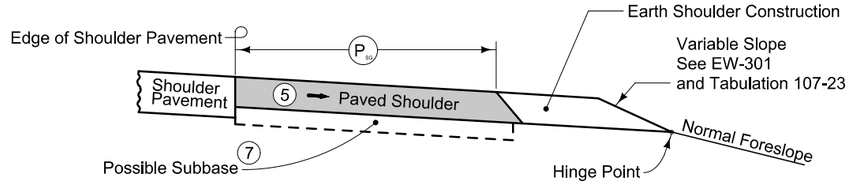


Section B-B

NEW CONSTRUCTION 6



Section A-A



Section B-B

EXISTING SHOULDER

DESIGNER INFO

7158
04-19-22

9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

(1) PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.

(2) Continue paved shoulder 20 feet beyond the center of the first post.

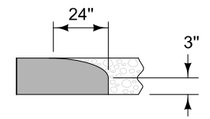
(3) Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.

(4) 'KT' (per PV-101) joint for PCC shoulder.
'B' (per PV-101) joint for HMA shoulder.

(5) Match shoulder slope.

(6) The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.

(7) Refer to other details in the plan.



Section C-C
Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL
(ADJACENT TO FULL WIDTH PAVED SHOULDER)

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- WH Water Hydrant (Rural)
- Septic Tank
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST Underground Storage Tank
- Latrine
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

Black Hills Energy Gas Transmission
Chris Dewey
(712) 325-3022
chris.dewey@blackhillscorp.com

City of Council Bluffs Water Works
Bryan Cady
(712) 328-1006
custserv@cbwaterworks.com

City of Council Bluffs Sanitary Sewer
Greg Reeder
(712) 328-4636
greeder@councilbluffs.ia.gov

- FO - Iowa DOT Fiber Transmission
Jason Dale
(515) 239-1995
Jason.Dale@iowadot.us

- FO2 - Iowa Communications Network
Fiber Distribution
Michael Dalen
(515) 725-4707
mike.dalen@iowa.gov

MidAmerican Energy Electric Distribution
Scott Behrens
(712) 366-5636
scott.behrens@midamerican.com

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING	**Design Color No.**	
Lavender	(9)	Temporary Pavement Shading
Yellow	(4)	Proposed Pavement Shading
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Orange, Light	(134)	Proposed Granular Entrance Shading
Yellow	(220)	Proposed Paved Entrance Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading
Red	(3)	Proposed Structure Shading
Red	(3)	Delineates Restricted Areas
Gray	(64)	Revetment

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(10)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

- Reference Point / Station — Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- C/A Access Control
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D & E)

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER D.1

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Exist. ROW

Anchor Existing Cable Guardrail

Remove Existing Cable Guardrail

Install Cable Guardrail

SIGN

I-29 SB

771+00

772+00

773+00

774+00

775+00

776+00

777+00

INTERSTATE 29

Sta. 772+35.00 (ML029_NB)
Begin Construction

I-29 NB

Sta. 773+00.00 (ML029_NB)
Begin Paving

(Remove)
Sta. 775+00.13
24"x60' RCP
D.A.=Median
Sta. 774+31.41
Install 24"x60' 3750D
Lt. 975.10
FL= Rt. 974.75

Construction Limits

Remove and Replace Existing Guardrail

Existing Overhead Power

0 20
FEET

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER D.2	

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995
990
985
980
975
970
965
960

Sta. 773+00.00
Elev. 980.16
Begin Construction

+0.08%
+3.68%
VPI = +00.00
EL = 980.40
L = 600.00'
K = 167

-0.05% LT Ditch Grade
+0.30% LT Ditch Grade

LT +00
975.16

LT +31
975.10

LT +00
975.31

Lt. U.A.C. Ditch Grade | Ditch Grade | U.A.C. Ditch Grade
Rt. U.A.C. Ditch Grade

980.16 980.20 980.28 980.39 980.54 980.73 980.96 981.22 981.52 981.86 982.23 982.65 983.10 983.59 984.11 984.68

771+00 772+00 773+00 774+00 775+00 776+00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER D.3

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Exist. ROW

Install Cable Guardrail

Construction Limits

I-29 SB

Install Cable Guardrail

777+00

778+00

779+00

780+00

781+00

782+00

783+00

I-29 NB

Construction Limits

N 16TH ST (SB)

0 20
FEET

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER D.4	

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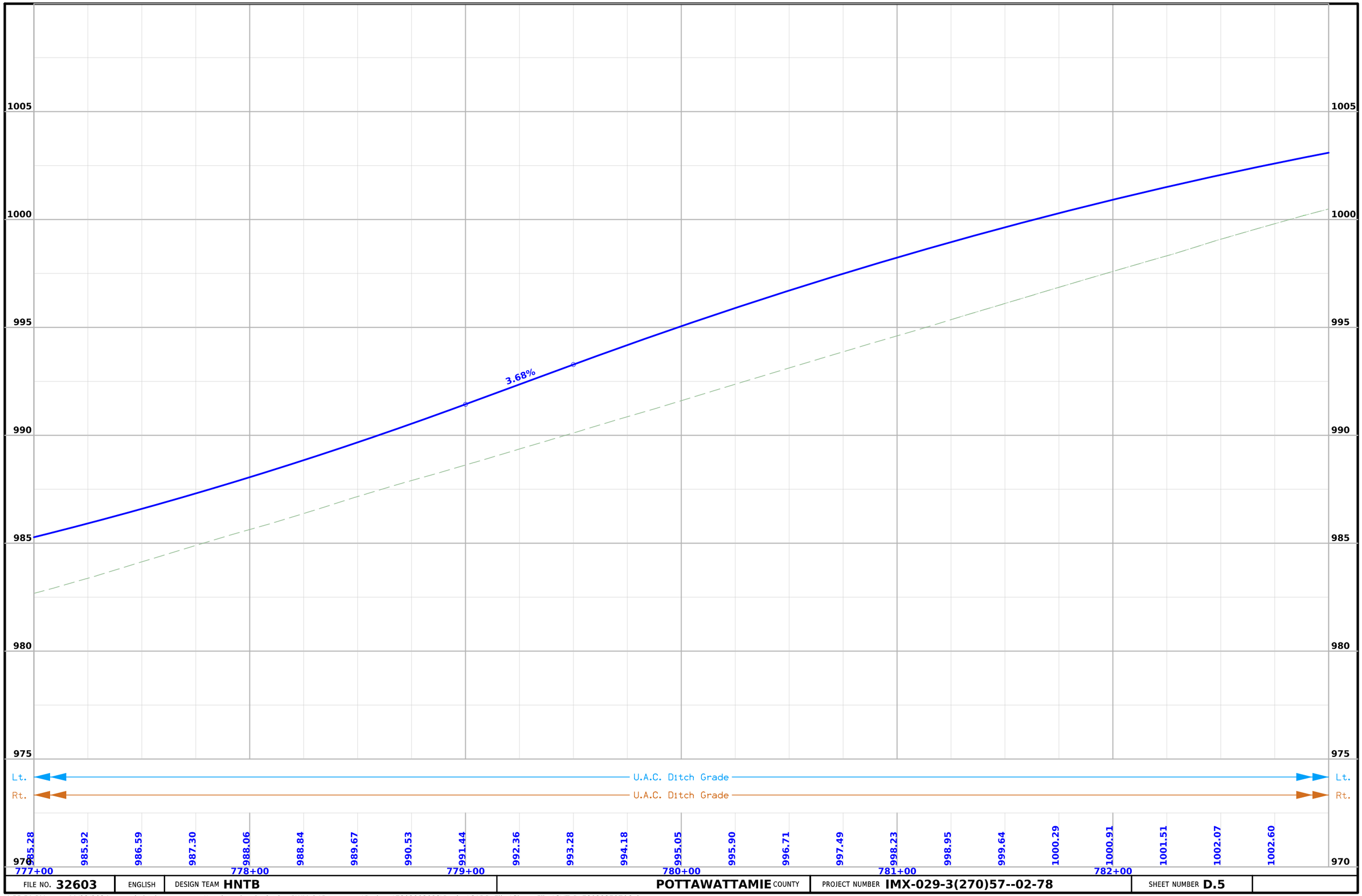

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I-29 SB

Do not disturb
Exist. 24" RCP Culvert

Construction Limits

Abandon Exist. Storm Pipe
with Flowable Fill

Remove Exist. Guardrails

Construction Limits

Abandon Exist. Storm Pipe
with Flowable Fill

Install Cable Guardrail

783+00
784+00
785+00
786+00
787+00
788+00
789+00

PC 784+92.86
PC 785+71.92
PC 786+41.73
PC 786+91.73

PI 785+32.14
PI 786+06.59
PI 786+66.24

I-29 NB

Remove Exist. Concrete Barriers

Remove and Reinstall Existing
Camera Pole and Cabinet

Remove and Replace Sign

N 16TH ST (SB)

Remove Exist. Fence

Spiral Superelevation
e = 6.0%
L = 168
x = 56

Δ = 00°24'46.80" (LT)
T = 39.78'
L = 79.56'
R = 11037.85'
E = 0.07'

Δ = 01°20'21.42" (LT)
T = 34.67'
L = 69.33'
R = 2966.00'
E = 0.20'

Δ = 01°29'57.44" (LT)
T = 24.99'
L = 49.98'
R = 1910.00'
E = 0.16'

0 20
FEET

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER D.6

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VPI = +50.00
EL = 1015.36
L = 1200.00'

K = 200

+3.68%

-2.32%

1015
1010
1005
1000
995
990
985
980

Lt. U.A.C. Ditch Grade | N 16TH ST (SB) | U.A.C. Ditch Grade

Rt. U.A.C. Ditch Grade | N 16TH ST (SB) | U.A.C. Ditch Grade

1003.09 1003.56 1004.00 1004.40 1004.77 1005.12 1005.43 1005.71 1005.95 1006.17 1006.36 1006.51 1006.63 1006.73 1006.79 1006.82 1006.81 1006.78 1006.72 1006.62 1006.49 1006.34 1006.15 1005.93

783+00 784+00 785+00 786+00 787+00 788+00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER D.7

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N 16TH ST (SB)

Δ = 34°59'48.71" (LT)
T = 555.85'
L = 1076.92'
R = 1763.10'
E = 85.55'

Construction Limits

Exist. Levee ROW

Sta. 794+25.00
End Construction

789+00

790+00

791+00

792+00

793+00

794+00

795+00

I-29 NB

Remove and Reinstall Sign

Remove and Reinstall Sign

PI 792+47.08

N 16TH ST (NB)

Exist. ROW

0 20
FEET

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER D.8	

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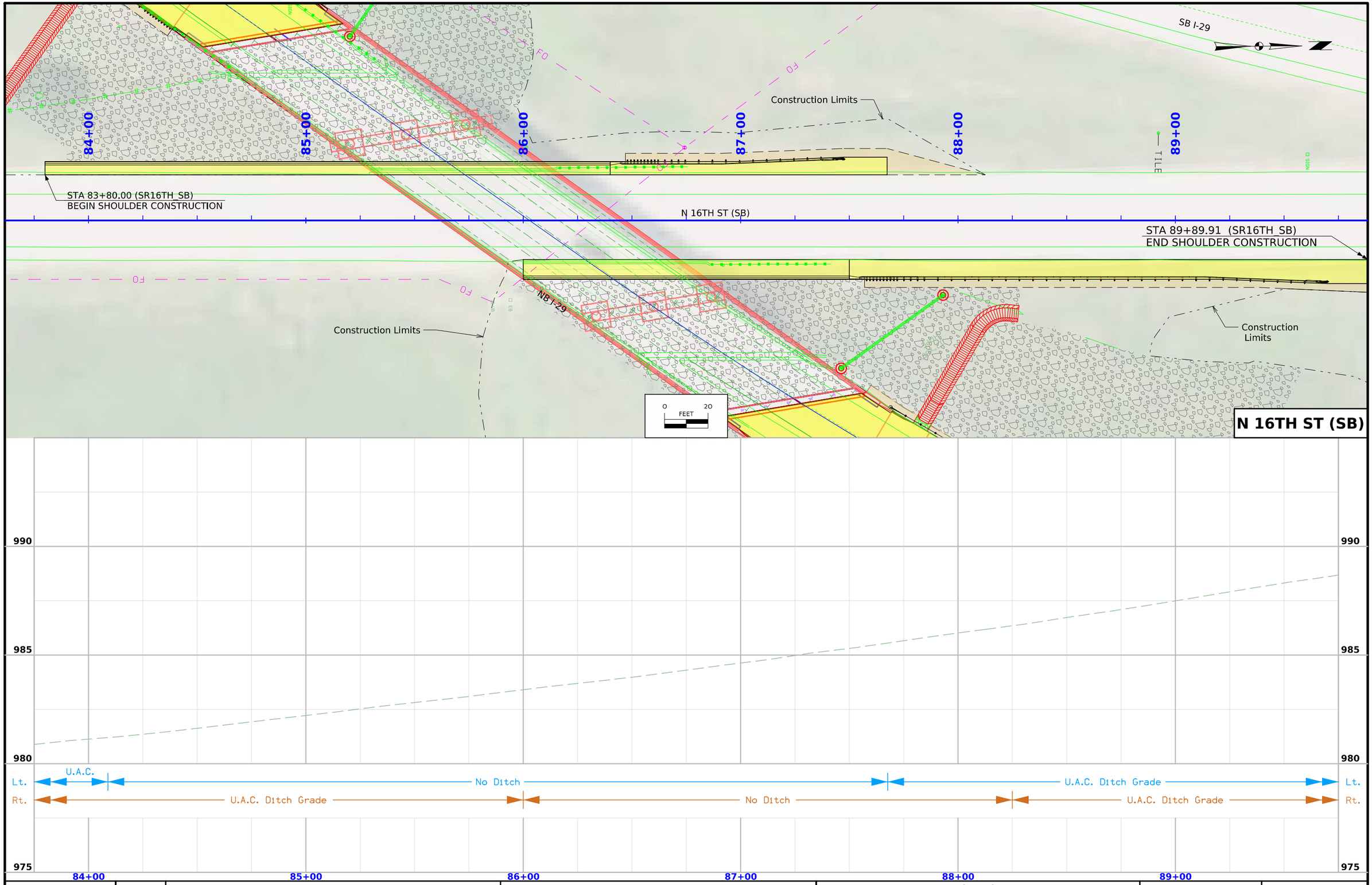

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER E.1

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SURVEY INDEX

County: Pottawattamie
PIN: 22-78-029-020
Project Number: IMX-029-3(270)--02-78
Location: At the IA 192 Interchange in Council Bluffs (NB)
Type of Work: 2001-Bridge-Unspecified
Project Directory: 7802902022

Survey Personnel

Wes Shimp – PLS
Matt Svec – Survey Party Chief
Katerina Wyatt – Geospatial Technician
Nate Theis-Barnett – Survey Party Chief
Alexis Avila – Assistant Survey Party Chief
Lee Budde– Geospatial Specialist

Date(s) of Survey

Begin Date 2/07/2024
End Date 6/30/2024

General Information

This survey is for Interstate 29 at the IA 192 Interchange in Council Bluffs. This survey request was for the Interstate 29 corridor only between mile markers 57.8 and 56.2. This project is a Full Field DTM survey.

Utility Information

For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

Project Control

Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on primary project control points. Three FENO monuments were set using the following method. Three five-minute observations were taken with a minimum two-hour time span between and used in a weighted average to obtain final coordinate values. For additional details of the control survey, contact the Preliminary Survey department.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 6 (U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u2

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans I-IG-29-3(9)57—04-78 and I-29-920(5). Survey stationing was equated to the plan POT at Sta. 777+27.66 and carried back and ahead with/without equation throughout the survey.

Mainline A (I29), alignment splits NB/SB lanes, Survey stationing relates to as built plan stationing as follows:

ST Sta. 748+09.13 As-built Plans Project No. I-IG-29-3(9)57—04-78
Survey ST Sta. 748+09.13

POT Sta. 777+27.66 As-built Plans Project No. I-IG-29-3(9)57—04-78
Survey POT Sta. 777+27.66

POT Sta. 777+64.67 As-built Plans Project No. I-IG-29-3(9)57—04-78
Survey POT Sta. 777+64.67

Mainline B (I29), alignment at CL of NB lane, Survey stationing relates to as built plan stationing as follows:

POT Sta. 775+82.00 As-built Plans Project No. I-IG-29-3(9)57—04-78
Survey POT Sta. 775+82.00

Station Equation
As-built Plans POT Sta 777+64.19 (Back) = POT Sta 776+95.47 (Ahead)
Survey POT Sta 777+64.19 (Back) = POT Sta 776+95.47 (Ahead)

TS Sta. 784+91.23 As-built Plans Project No. I-IG-29-3(9)57—04-78
Survey TS Sta. 784+92.36

ST Sta. 799+68.15 As-built Plans Project No. I-IG-29-3(9)57—04-78
Survey ST Sta. 799+67.02
**Stationing equation to As-built Plans Project No. I-29-920(5)

POT Sta. 99+81.47 As-built Plans Project No. I-29-920(5)
Survey POT Sta. 99+81.47

PI Sta. 127+45.9 (East Lane) As-built Plans Project No. I-29-920(5)
Survey POT Sta. 127+47.02

Survey Information

PC Sta. 161+00.69 (East Lane) As-built Plans Project No. I-29-920(5)
Survey POT Sta. 161+00.72

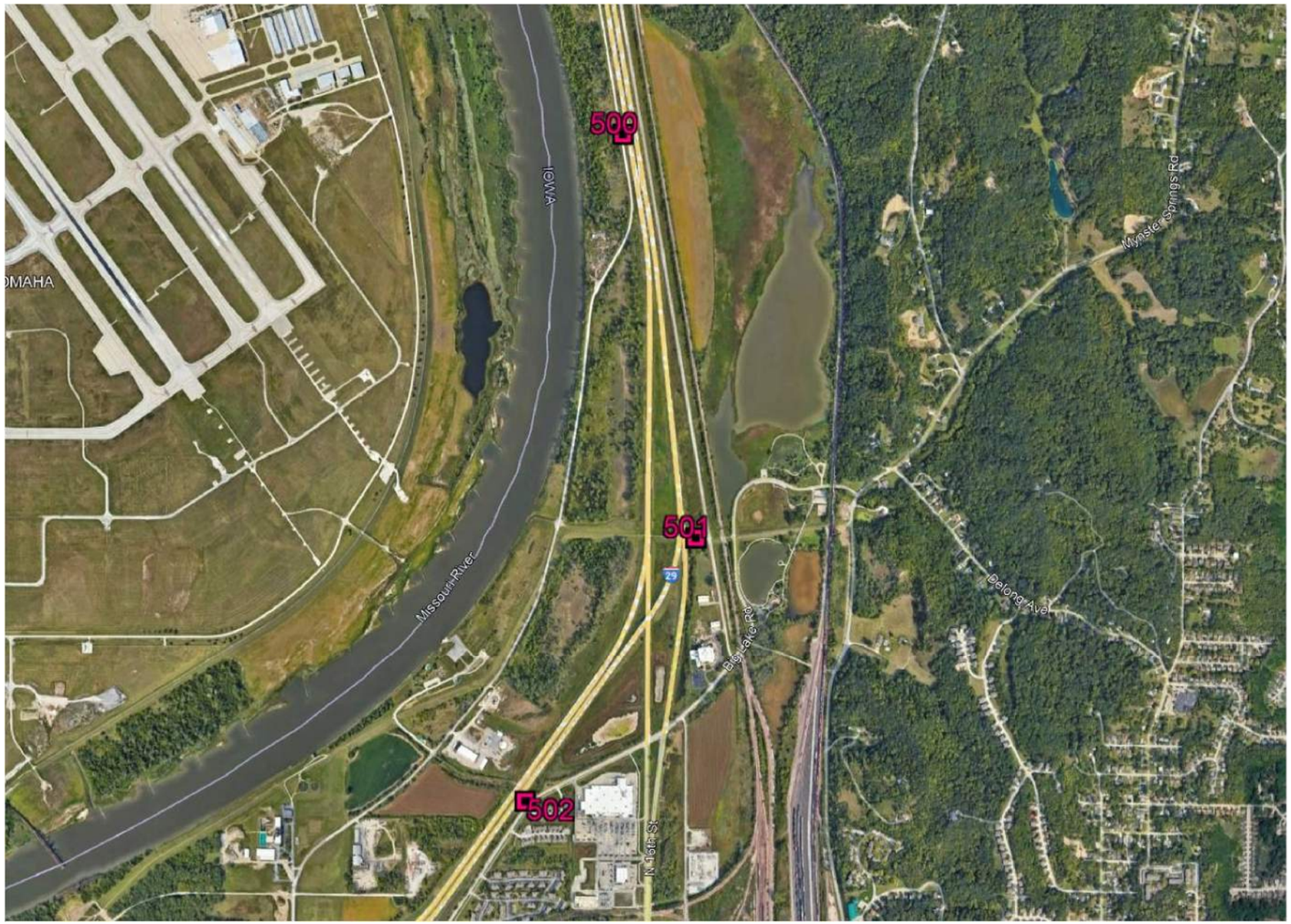
Sideroad (Highway 192) Survey stationing relates to as built plan stationing as follows:

POT Sta. 72+61.00 As-built Plans Project No. I-IG-29-3(9)57—04-78
Survey POT Sta. 72+61.00

POT Sta. 97+22.14 As-built Plans Project No. I-IG-29-3(9)57—04-78
Survey POT Sta. 97+22.14

CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points. Primary control is for use with RTK base stations and for RTN validation. Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 06 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u2

Coordinate listing from next sheet will be used with IaRTN for monument recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
Ia. Regional Coordinate System Zone 06 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u2

POINT NAME	NORTHING	EASTING	ELEVATION	DESCRIPTION
500	6982663.14	16462895.50	979.97	SET FENO MONUMENT WEST SIDE OF HIGHWAY APPROX. 600 FT NORTH OF TURN AROUND
501	6978207.53	16463697.36	993.32	SET FENO MONUMENT EAST OF HIGHWAY NEAR NORTHBOUND ON RAMP
502	6975298.21	16461801.21	978.23	SET FENO MONUMENT EAST SIDE OF HIGHWAY NORTH OF MILE MARKER 56.2

ALIGNMENT COORDINATES

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
1	ML029_NB	725+53.66	6973455.25	16458995.85															
C2	ML029_NB							729+40.29	6973447.87	16459382.41	730+40.31	6973445.96	16459482.41	731+40.29	6973449.54	16459582.38			
C3	ML029_NB							731+40.29	6973449.54	16459582.38	738+86.39	6973476.18	16460328.00	745+40.41	6974056.41	16460797.05			
C4	ML029_NB							745+40.41	6974056.41	16460797.05	746+40.43	6974134.19	16460859.93	747+40.41	6974215.16	16460918.65			
5	ML029_NB	776+95.47	6976607.32	16462653.57															
C6	ML029_NB							784+92.36	6977252.42	16463121.43	785+32.14	6977284.62	16463144.78	785+71.92	6977316.99	16463167.91			
C7	ML029_NB							785+71.92	6977316.99	16463167.91	786+06.59	6977345.20	16463188.05	786+41.25	6977373.87	16463207.54			
C8	ML029_NB							786+41.25	6977373.87	16463207.54	786+66.24	6977394.54	16463221.59	786+91.23	6977415.57	16463235.09			
C9	ML029_NB							786+91.23	6977415.57	16463235.09	792+47.08	6977883.33	16463535.38	797+68.15	6978438.73	16463513.10			
C10	ML029_NB							797+68.15	6978438.73	16463513.10	797+93.14	6978463.70	16463512.10	798+18.13	6978488.64	16463510.45			
C11	ML029_NB							798+18.13	6978488.64	16463510.45	798+52.80	6978523.23	16463508.15	798+87.46	6978557.76	16463505.05			
C12	ML029_NB							798+87.46	6978557.76	16463505.05	799+27.24	6978597.38	16463501.49	799+67.02	6978636.97	16463497.64			
C13	ML029_NB							823+42.39	6981001.21	16463267.98	827+32.57	6981389.57	16463230.25	831+22.45	6981774.45	16463166.20			
14	ML029_NB	861+39.67	6984750.74	16462670.89															
1	ML029_SB	876+00.00	6976535.67	16462510.19															
C2	ML029_SB							877+42.66	6976651.16	16462593.95	878+10.17	6976705.80	16462633.58	878+77.66	6976761.80	16462671.28			
C3	ML029_SB							878+77.66	6976761.80	16462671.28	885+02.28	6977279.93	16463020.13	891+07.66	6977896.25	16463121.65			
C4	ML029_SB							891+07.66	6977896.25	16463121.65	892+12.69	6977999.89	16463138.72	893+17.51	6978104.77	16463144.32			
C5	ML029_SB							893+17.51	6978104.77	16463144.32	893+77.81	6978164.98	16463147.54	894+38.08	6978225.27	16463148.01			
6	ML029_SB	899+61.96	6978749.13	16463152.14															
7	ML029_SB	908+98.47	6979685.45	16463171.47															
C8	ML029_SB							919+45.90	6980732.85	16463179.08	924+37.82	6981224.75	16463182.66	929+27.30	6981709.99	16463101.91			
9	ML029_SB	931+00.00	6981880.35	16463073.56															
1	SURSR16TH_SB	72+61.00	6975955.38	16463143.12															
2	SURSR16TH_SB	97+22.14	6978416.44	16463162.52															

SPIRAL OR CIRCULAR CURVE DATA

Name	Location	ΔSCS	Horizontal Alignment Data												Remarks
			Spiral Data								Curve Data				
			θS	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	ΔC	T	L	R	E	
C2	ML029_NB										1.570°	100.025	200.000	3649	1.371	
C3	ML029_NB										3.500°	746.102	1400.120	1637	162.001	
C4	ML029_NB										1.500°	100.023	200.000	3820	1.309	
C6	ML029_NB										0.519°	39.782	79.563	11038	0.072	
C7	ML029_NB										1.932°	34.667	69.330	2966	0.203	
C8	ML029_NB										3.000°	24.991	49.980	1910	0.163	
C9	ML029_NB										3.250°	555.850	1076.920	1763	85.546	
C10	ML029_NB										3.000°	24.991	49.980	1910	0.163	
C11	ML029_NB										1.932°	34.667	69.330	2966	0.203	
C12	ML029_NB										0.519°	39.780	79.560	11038	0.072	
C13	ML029_NB										0.500°	390.181	780.060	11460	6.640	
C2	ML029_SB										1.481°	67.507	135.000	3867	0.589	
C3	ML029_SB										2.000°	624.624	1230.000	2865	67.299	
C4	ML029_SB										3.000°	105.031	209.850	1910	2.886	
C5	ML029_SB										2.162°	60.297	120.572	2650	0.686	
C8	ML029_SB										1.005°	491.916	981.400	5700	21.187	

SUPERELEVATION DATA

See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius	Superelevation Data			Standard Road Plan	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E	Section F-F	Case A	Case B	Case C	Case S	Case T	Case U	Remarks
			e	L	x														
		FT	%	FT	FT														
ML029_NB	C9	1763.1	6.0	168	56	PV-301	784+67.23	785+23.23	785+79.23	786+91.23			786+91.23			See Remarks	See Remarks		Shoulders transition to match lanes across bridge
							See Remarks	See Remarks	See Remarks	See Remarks			See Remarks			See Remarks	See Remarks		Construction ends at full super.

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Maintain at least one lane of traffic in each direction on I-29 at all times in accordance with the J Sheets. Traffic will be head to head on the southbound lanes during construction. Inside lane closures will be permitted to construct the north median crossover Prior to Stage 1.

The southbound I-29 to southbound N 16th Street exit (Exit 56) shall be closed when I-29 traffic is head to head on the southbound I-29 lanes. Vehicles shall follow a detour to W Broadway (Exit 54). Refer to Sheet J.12 for detour route.

Northbound N 16th Street to northbound I-29 shall remain open during construction.

Refer to Tab. 108-26A for Staging Notes.

For additional information, refer to Part 6 of the Manual on Uniform Traffic Control Devices and the current Standard Specifications.

111-01
04-17-12

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
None Provided.	

108-26A
08-01-08

STAGING NOTES

Prior to Stage 1:

Traffic:
Close inside lanes on northbound and southbound I-29 in accordance with Standard Road Plan TC-418.

Construction:
Construct north median crossover on I-29 in accordance with Standard Road Plan PV-500.
Construct southbound I-29 high tension cable guardrail.

Stage 1:

Traffic:
Shift northbound I-29 traffic to southbound I-29 inside lane using the existing south median crossover.
Maintain head to head traffic on southbound I-29 lanes in accordance with the J Sheets.
Shift northbound I-29 traffic back to the northbound I-29 lanes using the north median crossover.
Close southbound I-29 exit ramp to southbound N 16th Street.
See Sheet J.12 for detour.

Construction:
Remove existing northbound I-29 bridge and bridge approaches.
Construct new northbound I-29 bridge, bridge approaches and bridge end drains.
Construct new northbound I-29 pavement and shoulders.
Remove and replace existing culvert under northbound I-29 near the south project tie-in.
Remove and replace the existing guardrail on the south side of the northbound bridge.
Construct new northbound I-29 high tension cable guardrail.
Construct revetment at both abutments and on the inside foreslope of northbound I-29 south of the bridge.
Construct southbound N 16th Street shoulders, concrete barriers and steel beam guardrails.
Complete pavement markings and mill rumble strips.

Final:

Traffic:
Open all lanes to traffic.

108-25
10-21-14

511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

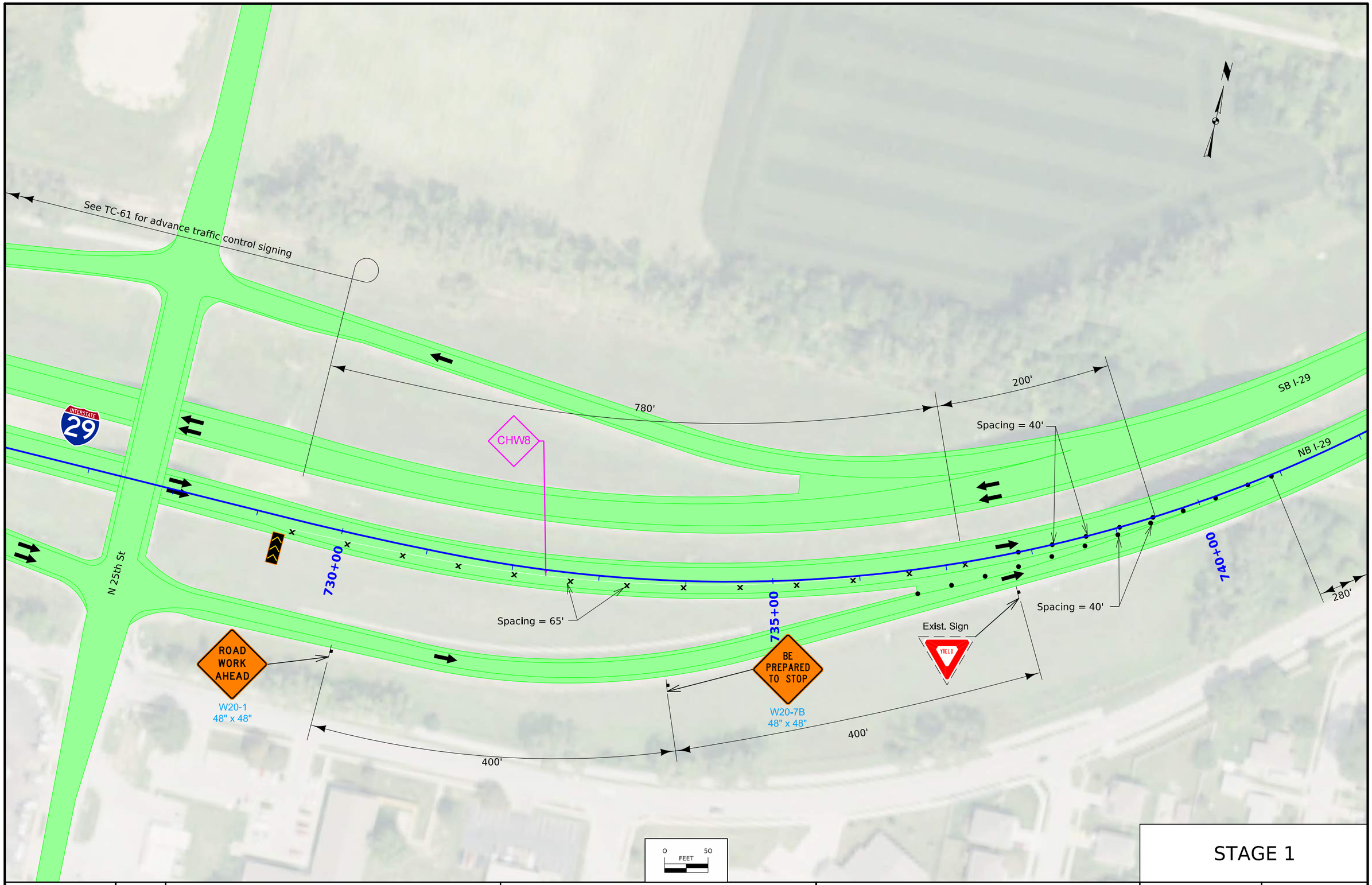
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

●	Channelizing Device		Crash Cushion (Temp or Perm)
✕	Drum		Traffic Signal
◘	Temporary Lane Separator		Flagger
◆	Tubular Marker		Temporary Floodlighting
♦	Channelizer Marker		Traffic Sign
△	Concrete Barrier Marker		Type III Barricade
☇	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout	1	Lane Identification

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)



STAGE 1

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER J.3	

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SB I-29

NB I-29

INTERSTATE 29

745+00

750+00

755+00

Spacing = 40'

Spacing = 40'

SPEED LIMIT 55

R2-1
48" x 48"

Speed Feedback Sign

W1-4L
48" x 48"

280'

Nash Blvd

500'

500'

500'

0 50
FEET

STAGE 1

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER J.4	

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END ROAD WORK
G20-2A
48" x 24"

CHY8

85'

W6-3
48" x 48"

DO NOT PASS
R4-1
36" x 48"

1000'

150'

ELW6

DCY6

SB I-29

INTERSTATE 29

NB I-29

760+00

765+00

770+00

Spacing = 40'

Spacing = 40'

85'

CHW8

W1-6
48" x 24"

Existing Median Crossover (U.A.C.)

500'

Nash Blvd

0 50
FEET

STAGE 1

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER J.5	

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1000'

800'

SPEED LIMIT 55

R2-1
48" x 60"

Install cable guardrail prior to Stage 1

TWO WAY TRAFFIC NEXT 1 MILE

G20-21
144" x 42"

ELW6

DCY6

880+00

885+00

Spacing = 80'

SB I-29

INTERSTATE 29

NB I-29 (Closed)

775+00

780+00

785+00

N 16TH ST (SB)

0 50
FEET

STAGE 1

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER J.6	

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SPEED LIMIT 55

R2-1
48" x 60"

EXIT CLOSED

E5-2A
36" x 48"

LEFT EXIT 56

Business District
Council Bluffs
EXIT ONLY

Cover Overhead Exit Sign

890+00

895+00

900+00

W6-3
48" x 48"

SB I-29

DO NOT PASS

R4-1
36" x 48"

Spacing = 80'

Spacing = 65'

N 16TH ST (SB) (Closed)

790+00

NB I-29

800+00

Spacing = 65'

LANE ENDS
MERGE RIGHT

Exist. Sign

Spacing = 40'

N 16TH ST (NB)

795+00

Joslin Ave

Spacing = 55'

770'

See TC-418 for advance signing and traffic control layout.

Exist. Sign

0 50
FEET

STAGE 1

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER J.7	

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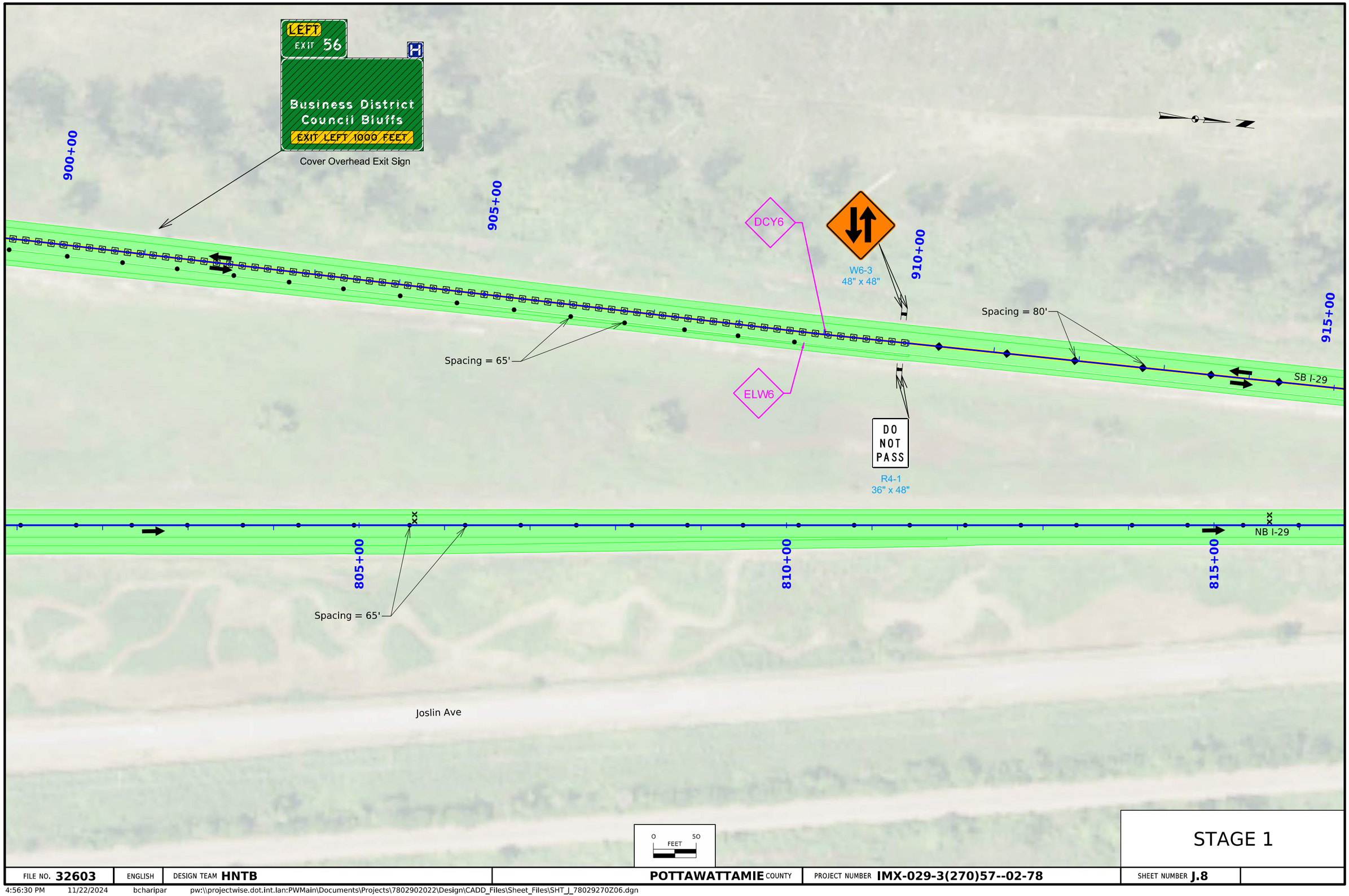

STAGE 1

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER J.8

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River Rd N

DCY6

SPEED LIMIT 55

R2-1
48" x 60"

915+00

920+00

DO NOT PASS

R4-1
36" x 48"

500'

150'

925+00

930+00

Spacing = 80'

SB I-29

ELW6

INTERSTATE 29

NB I-29

820+00

825+00

830+00

Spacing = 65'

W1-4R
48" x 48"

Joslin Ave

W6-3
48" x 48"

0 50
FEET

STAGE 1

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER J.9	

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115'
500'
500'
780'
DO NOT ENTER
R5-1
30" x 30"
W6-3
48" x 48"
60'
Spacing = 40'
Spacing = 40'
CHY8
TWO WAY TRAFFIC
NEXT 1 MILE
G20-21
144" x 42"
ELY6
River Rd N
SPEED
LIMIT
55
R2-1
48" x 60"
CHY8
Spacing = 65'
SB I-29
Speed Feedback Sign
INTERSTATE
29
NB I-29
R4-7B
36" x 48"
DO
NOT
PASS
Mount on back of barricade; back-to-back with R4-7B sign
R4-1
36" x 48"
85'
CHW8
Spacing = 40'
840+00
W4-3L
48" x 48"
Joslin Ave
845+00
835+00
Use a 4 foot wide
Type III Barricade.
0 FEET 50
STAGE 1

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER J.10	

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See TC-61 for advance traffic control and signing

780'

CHY8

Spacing = 65'

River Rd N

SB I-29

NB I-29

INTERSTATE 29

850+00

855+00

860+00

Joslin Ave

END ROAD WORK

G20-2A
48" x 24"

0 50
FEET

STAGE 1

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER J.11	

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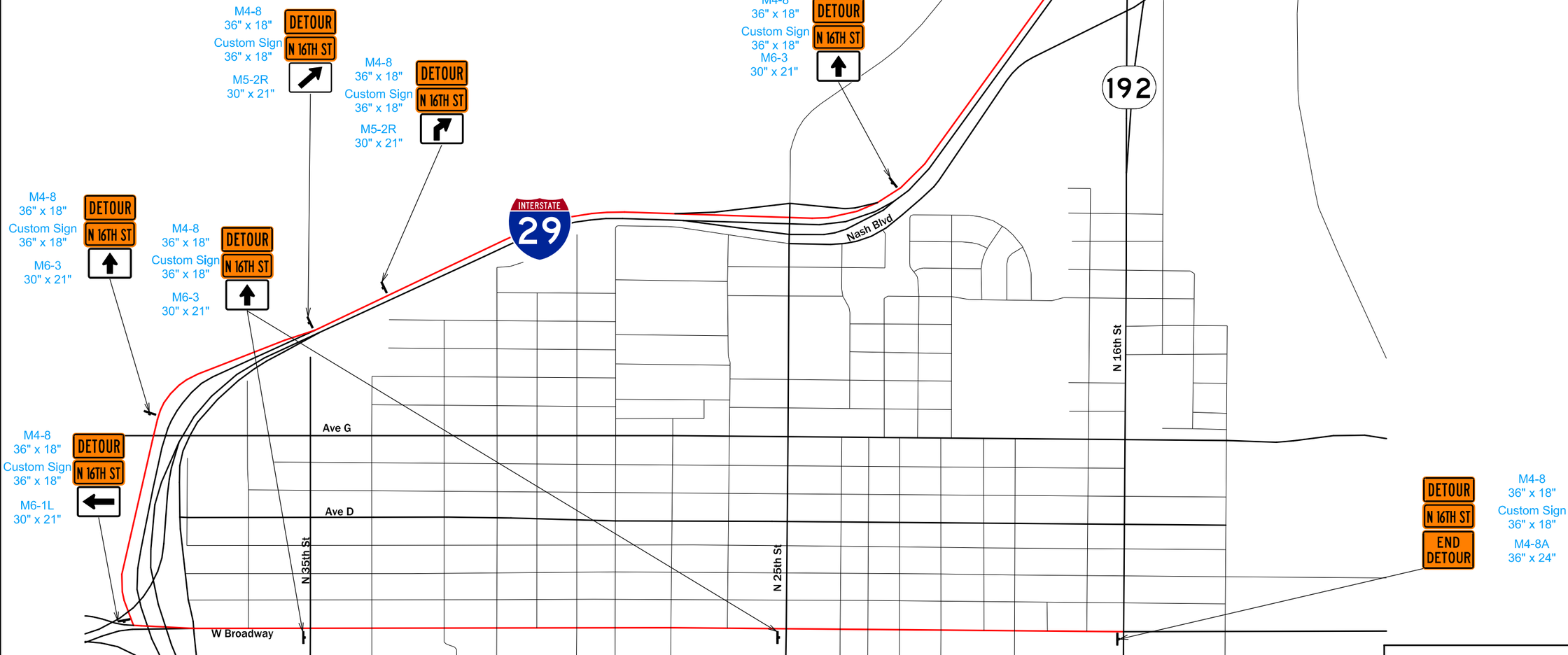
1.00" Inner border Black, 3.00" Radius, 1.00" Outer border, Orange on Orange;
"N" Black, B 2K;
"16TH" Black, B 2K 35% spacing;
"ST" Black, B 2K;



N 16TH ST (SB)
Detour

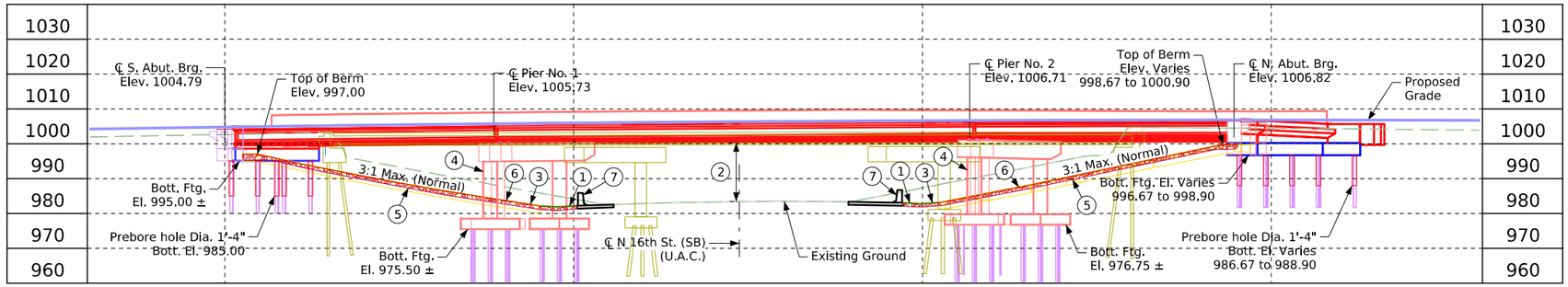
FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER J.12

4:56:34 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Sheet_Files\SHT_J_78029270Z06.dgn

Control Point: N 9678207.53, E 16463697.36; Set FENO Monument East of Highway Near Northbound On-Ramp. Elev. 993.32.

Traffic Estimate

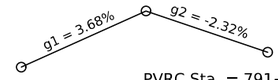
I-29	
2027 AADT	13,000 V.P.D.
2047 AADT	17,400 V.P.D.
2047 DHV	1800 V.P.H.
TRUCKS	23 %
Total Design ESALs	--



Longitudinal Section Along ℄ I-29 NB

1. EW-211 Grading
2. Minimum vertical clearance = 16.85'
3. Grading Surface
4. Frame Pier
5. Class E Revetment Slope Protection (embedded) to be included with bridge
6. EW-201 Grading
7. TSS TL-5 Concrete Barrier Rail
8. Potential FO Conflict during existing bridge removal

VPI Sta. = 785+50.00
VPI Elev. = 1015.364
VC = 1200'



PVC Sta. = 779+50.00
PVC Elev. = 993.284
PVRC Sta. = 791+50.00
PVRC Elev. = 1001.437

Note:
In locations of normal crown, top of bridge deck at centerline roadway is 0.03' below the profile grade to account for parabolic crown. Profile grade line (PGL) is at ℄.
This design is for the replacement of existing 222'-0" x 39'-0" continuous steel I-beam bridge, Pottawattamie Design No. 766, FHWA No. 044870, Maint. No. 7856.7R029.

Design Notes
1. TSS TL-5 Bridge Railing Proposed
2. Frame Type Pier Proposed assumed 4'-0" column width, pier type may change in final design. Final designer to determine final footing size and locations to avoid conflicts with existing foundations.
3. The pier is exempt from collision force requirements due to redirection or absorption of the collision load (verify during final design).
4. Horizontal clearance to pier capbeam to be updated by final designer based on pier design.
5. Wing/footing extension length is 10'-0".
6. Shoulder cross slope shall match the adjacent lane cross slope.
7. BTD beams proposed.
8. Conduit shall be placed in the rails for future utilities.
9. 28' clear zone for N 16th St. (SB)

Minimum Vertical Clearance

Overhead Station = 785+78.49, 21.74' LT.
Overhead Elevation = 1006.10
Depth of Superstructure = 5.375'
Deck Thickness = 8.5 in.
Estimated Haunch = 2 in.
Beam Depth = 54 in.
Underpass Station = 86+40.61, ℄
Underpass Elevation = 983.87
Minimum Vertical Clearance = 16.85'

Utilities Note:

Utilities shown on this sheet are for information only.
See Road Design sheets for utility information.

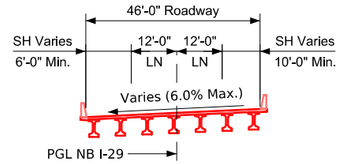
General Utility Symbols:

FO - Fiber Optic Line

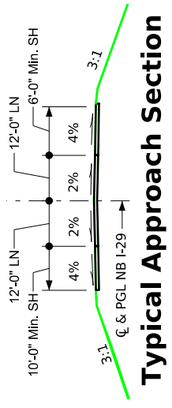
Superelevation Table

Left Lane		Right Lane	
Station	Slope	Station	Slope
785+79.23	-2.00%	784+67.23	-2.00%
786+35.23	-4.00%	785+23.23	0.00%
786+91.23	-6.00%	786+91.23	6.00%

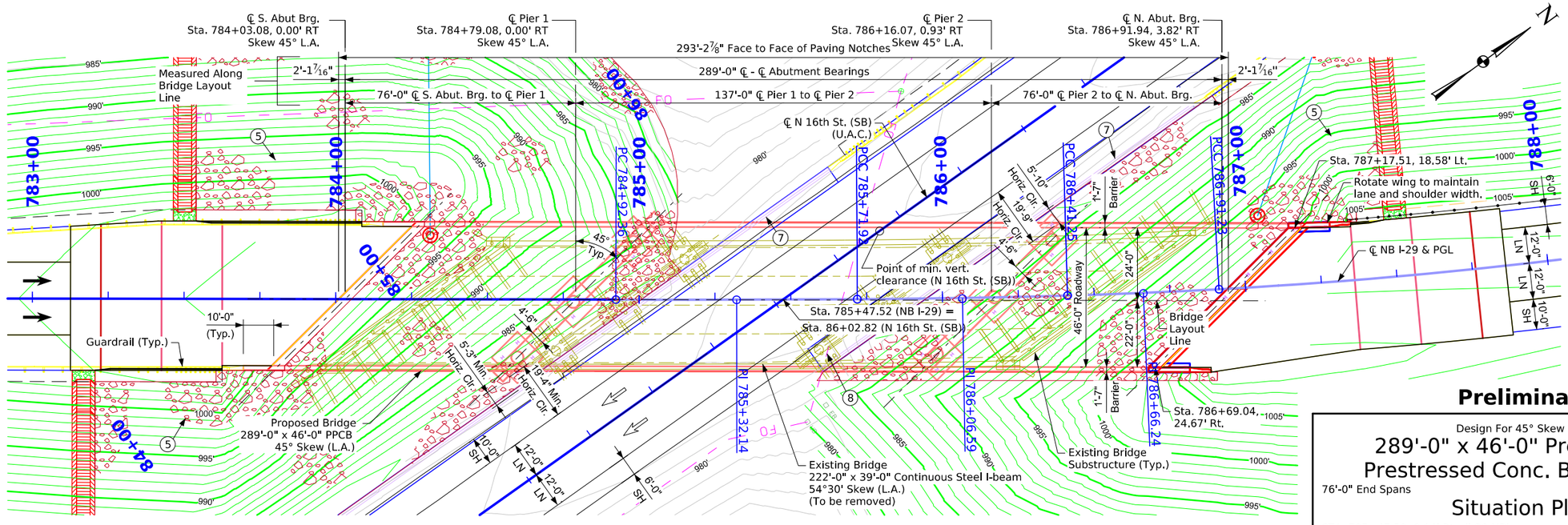
Proposed Profile Grade I-29 NB



Typical Bridge Section



Typical Approach Section



Situation Plan

0 20 Scale In Feet

Location

NB I-29 over
N 16th St. (SB)
T-75N R-44W
Section 23
Lake Township
Pottawattamie County
FHWA No. 044871
Latitude 41.285218°
Longitude -95.867662°

Preliminary

Design For 45° Skew (L.A.)

289'-0" x 46'-0" Pretensioned Prestressed Conc. Beam Bridge

76'-0" End Spans — 137'-0" Interior Span

Situation Plan

STA. 785+47.59, 0.14' Rt. (I-29 NB) — Turn-in Date: October 2024

Pottawattamie County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0327 — Design Sheet No. 1 of 2 — FHWA No. 044871

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	Pottawattamie COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER V.1

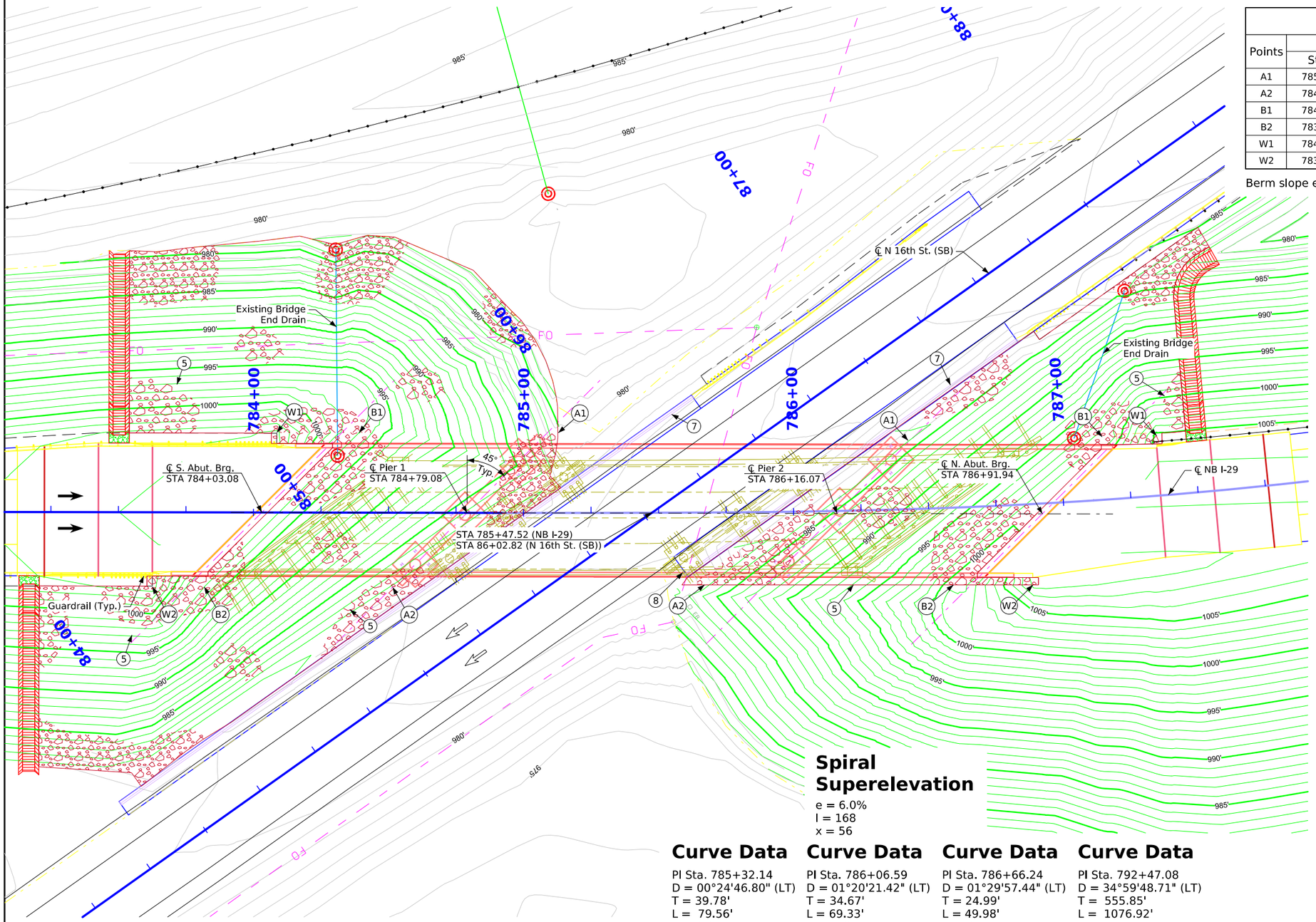
10:30:55 AM 11/19/2024 mmaresko pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Bridge\(270)_Bridge Replacement-PPCB\SHT_78029270_HNTB_327_044871_Z06.dgn

Control Point: N 9678207.53, E 16463697.36; Set FENO Monument East of Highway Near Northbound On-Ramp. Elev. 993.32.

Berm Slope Location Table

Points	South Abutment			North Abutment		
	Station	Offset	Elev.	Station	Offset	Elev.
A1	785+12.82	29.63' Lt.	980.21	786+43.13	25.47' Lt.	983.90
A2	784+51.62	27.63' Rt.	981.77	785+66.93	26.78' Rt.	982.65
B1	784+39.07	29.63' Lt.	997.00	787+15.98	23.29' Lt.	998.67
B2	783+81.82	27.63' Rt.	997.00	786+58.16	28.79' Rt.	1000.90
W1	784+08.58	29.63' Lt.	1004.27	787+36.37	22.16' Lt.	1005.53
W2	783+62.58	27.63' Rt.	1003.62	786+87.09	30.19' Rt.	1008.17

Berm slope elevations reflect the grading surface.



Site Plan

(5) Class E Revetment Slope Protection (embedded) to be included with bridge

(7) TSS TL-5 Concrete Barrier Rail

(8) Potential FO Conflict during existing bridge removal

Spiral Superelevation

e = 6.0%
l = 168
x = 56

Curve Data

PI Sta. 785+32.14
D = 00°24'46.80" (LT)
T = 39.78'
L = 79.56'
E = 0.07'
R = 11037.85'
PC Sta. 784+92.36
PCC Sta. 785+71.92

Curve Data

PI Sta. 786+06.59
D = 01°20'21.42" (LT)
T = 34.67'
L = 69.33'
E = 0.20'
R = 2966.00'
PCC Sta. 785+71.92
PCC Sta. 786+41.25

Curve Data

PI Sta. 786+66.24
D = 01°29'57.44" (LT)
T = 24.99'
L = 49.98'
E = 0.16'
R = 1910.00'
PCC Sta. 786+41.25
PCC Sta. 786+91.23

Curve Data

PI Sta. 792+47.08
D = 34°59'48.71" (LT)
T = 555.85'
L = 1076.92'
E = 85.55'
R = 1763.10'
PCC Sta. 786+91.23
PCC Sta. 797+68.15

0 20
Scale In Feet

Preliminary

Design For 45° Skew (L.A.)

289'-0" x 46'-0" Pretensioned Prestressed Conc. Beam Bridge

76'-0" End Spans — 137'-0" Interior Span

Situation Plan - Site

STA. 785+47.59, 0.14' Rt. (I-29 NB)

Turn-in Date: October 2024

Pottawattamie County

IOWA DEPARTMENT OF TRANSPORTATION

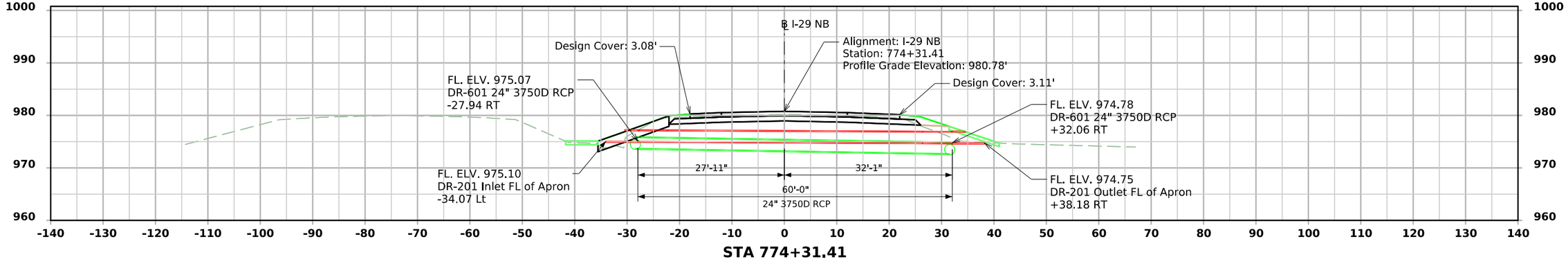
Design No. 0327 | Design Sheet No. 2 of 2 | FHWA No. 044871

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	Pottawattamie COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER V.2

10:30:57 AM 11/19/2024 mmaresko pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Bridge\(270)_Bridge Replacement-PPCB\SHT_78029270_HNTB_327_044871_Z06.dgn

I-29 NB

Lay 60ft 24" 3750D RCP with DR-201 apron on inlet and DR-201 on outlet. Install culvert and aprons during I-29 NB closure stage. Remove existing culvert and end sections during installation.



STA 774+31.41

FILE NO. **32603**	ENGLISH	DESIGN TEAM **HNTB**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **IMX-029-3(270)57--02-78**	SHEET NUMBER **VW.1**

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CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature
Aggregate	
(64)	Choke Stone
(42)	Engineering Fabric
(8)	Flooded Backfill
(92)	Macadam Stone
(20)	Modified
(12)	Plowing Shaping
(14)	Porous Backfill
(8)	Revetment Class A
(6)	Revetment Class B
(62)	Revetment Class C
(188)	Revetment Class D
(28)	Revetment Class E
(12)	Shoulder Special Backfill
(12)	Special Backfill
(20)	Subbase
(20)	Subbase Lower
(20)	Subbase Upper
(118)	Subgrade Treatment
Asphalt	
(207)	HMA Base Course
(207)	HMA Interim Course
(207)	HMA Surface Course
Concrete	
(0)	Barrier Concrete
(0)	Barrier Concrete Footing
(0)	Curb Gutter
(48)	Flowable Mortar
(0)	Median Concrete
(0)	PCC Pavement
(0)	Sidewalk
Shoulder	
(209)	Shoulder HMA
(0)	Shoulder PCC
(6)	Shoulder Granular
Existing	
(0)	Existing Pavement
Structural	
(112)	Noise Wall
(112)	Noise Wall Footing
(112)	Retaining Wall Back
(112)	Retaining Wall Back Excavate
(112)	Retaining Wall Face
(112)	Retaining Wall Front Excavate
(112)	Retaining Wall Front Footing
(112)	Retaining Wall MSE Gutter
(112)	Retaining Wall Reinforced Earth
Grading	
(8)	Behind Curb Cut
(6)	Granular
(13)	Granular Back Fill
(48)	Rock Undercut
(8)	Shoulder Earth Fill
(2)	Side Slopes
(226)	Side Slopes Dressing
Substrata	
(128)	Boulder Substrata
(48)	Broken Weathered Substrata
(3)	Core Out Substrata
(203)	Existing Pavement Substrata
(6)	Loam Substrata
(80)	Rock Substrata
(4)	Select Sand Substrata
(3)	Shale Substrata
(10)	Topsoil Substrata
Unsuitable / Waste	
(3)	Unsuitable Type A
(13)	Unsuitable Type B
(11)	Unsuitable Type C
(3)	Waste

NOTES:

Text

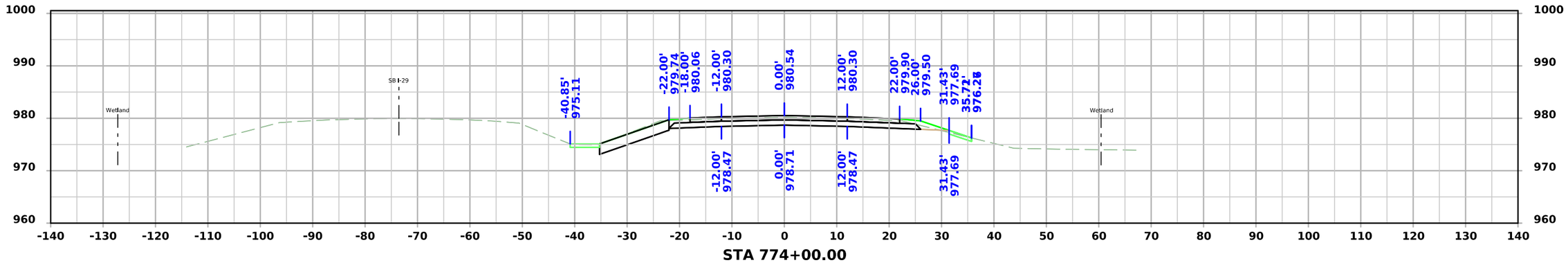
NOTES:

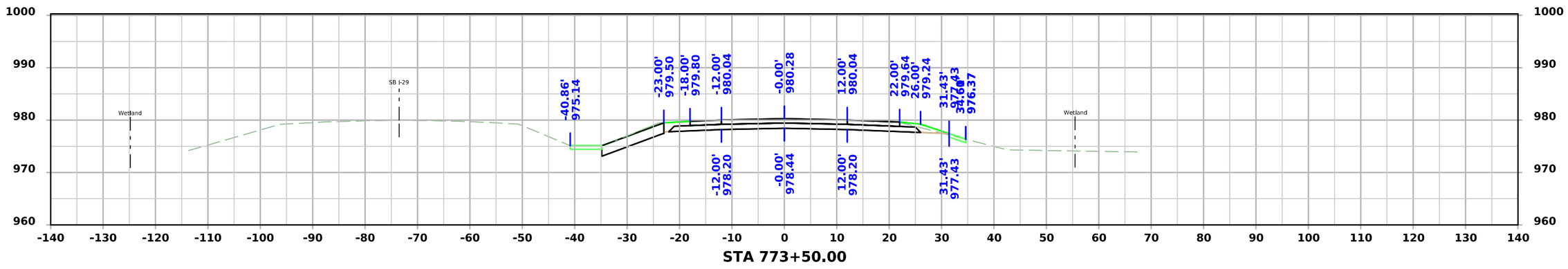
Text

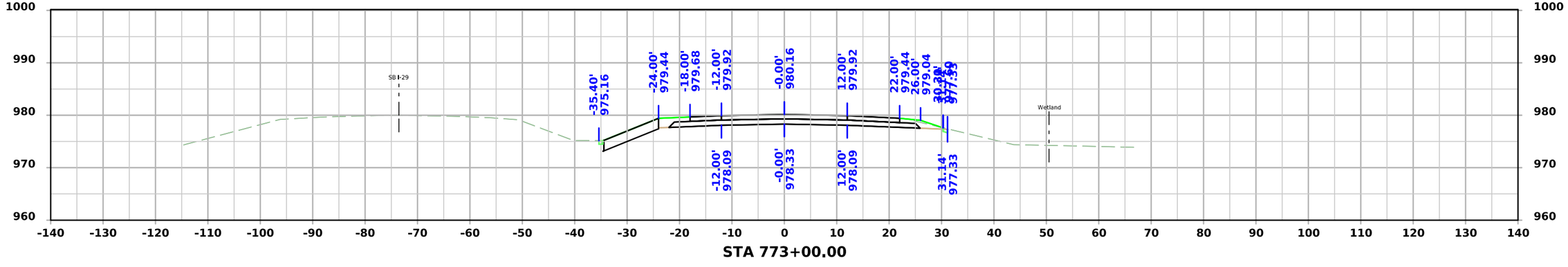
CROSS SECTIONS
LEGEND AND INFORMATION SHEET

(COVERS SHEET SERIES W & X)

I-29 NB







FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.2

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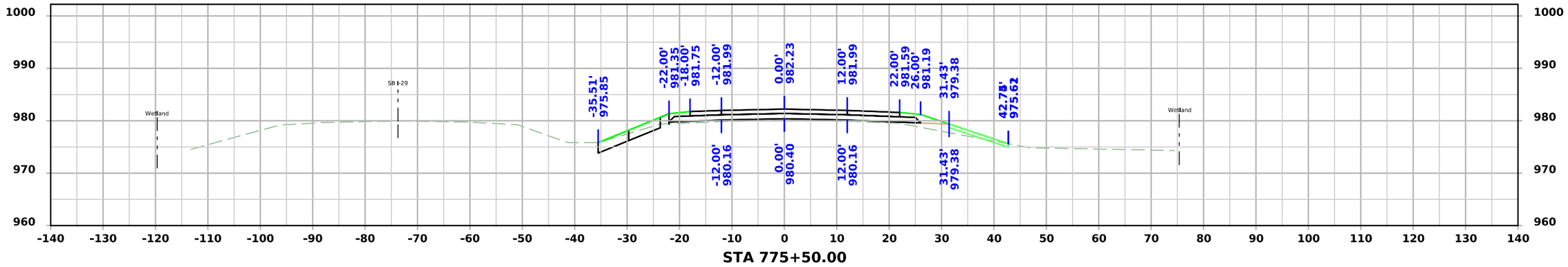
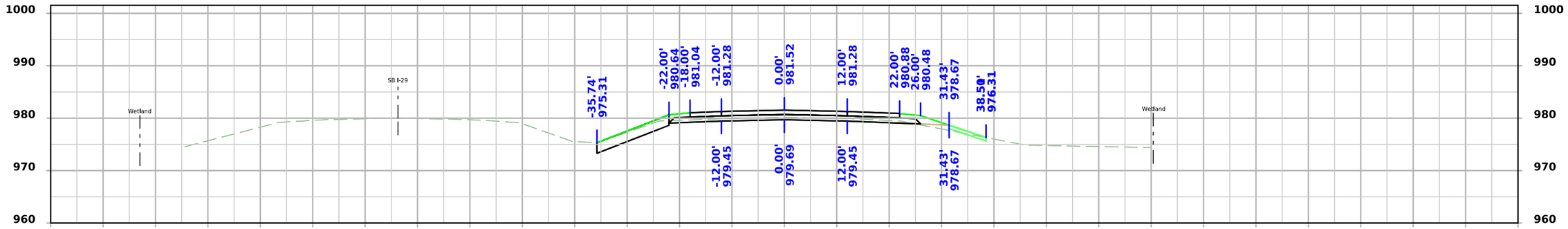
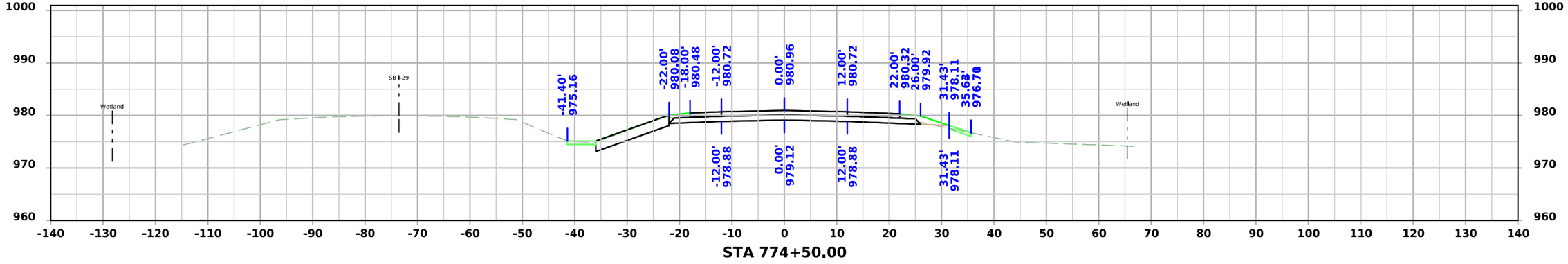
I-29 NB



STA 775+50.00



STA 775+00.00



STA 774+50.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.3

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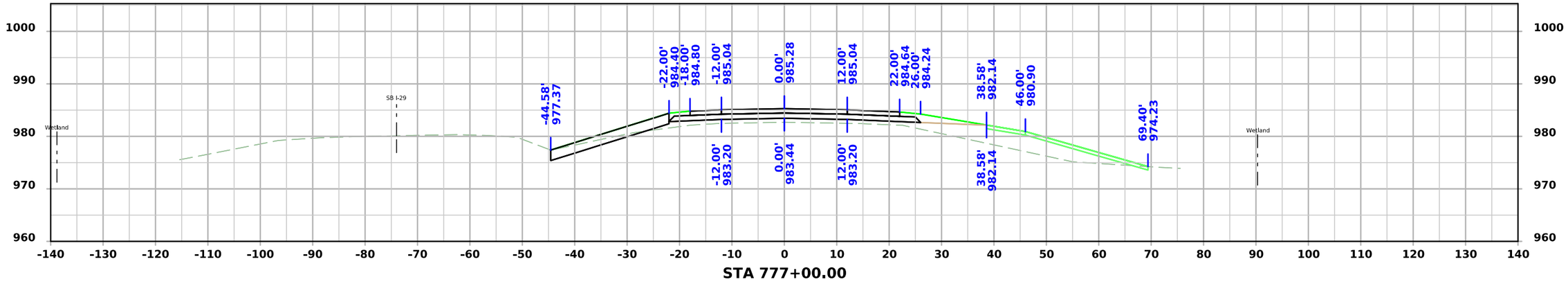
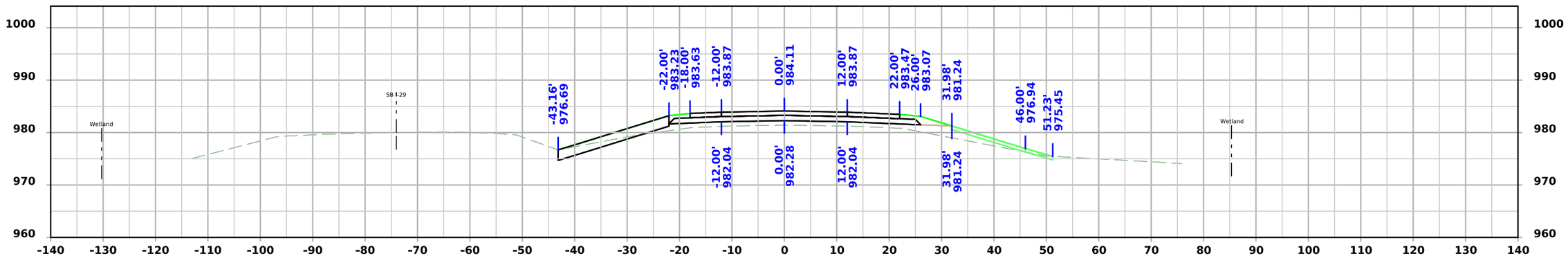
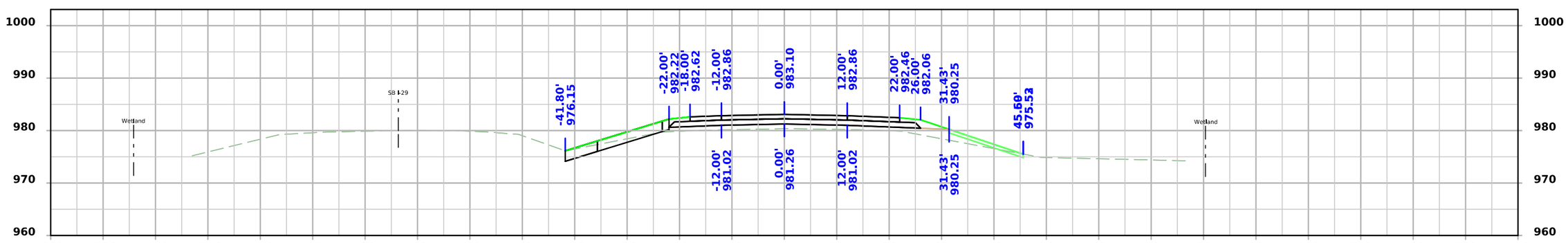
I-29 NB



STA 777+00.00



STA 776+50.00



STA 776+00.00

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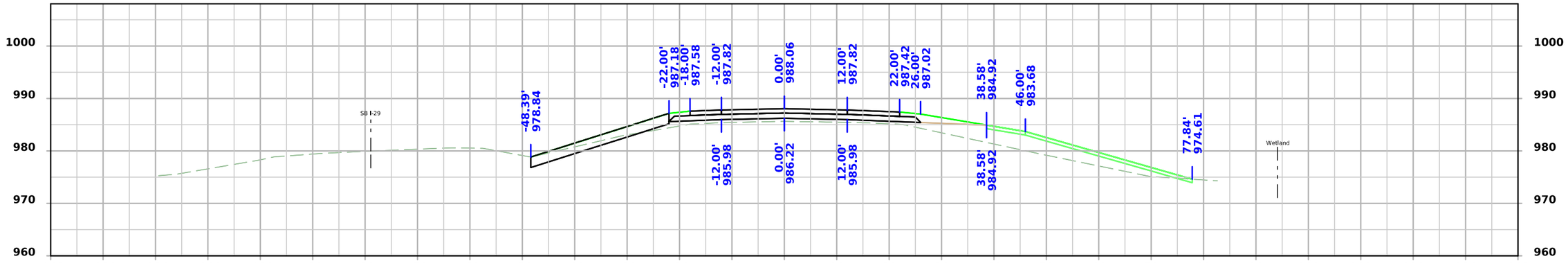
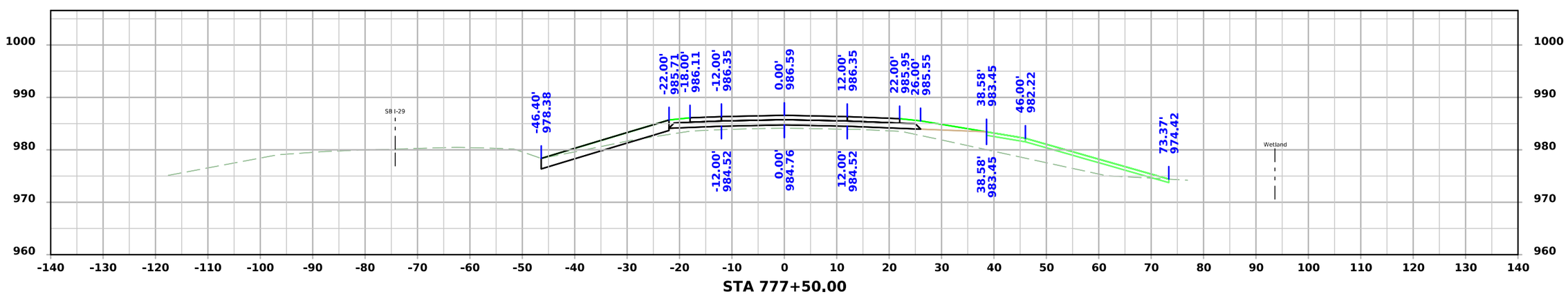
I-29 NB



STA 778+00.00



STA 777+50.00

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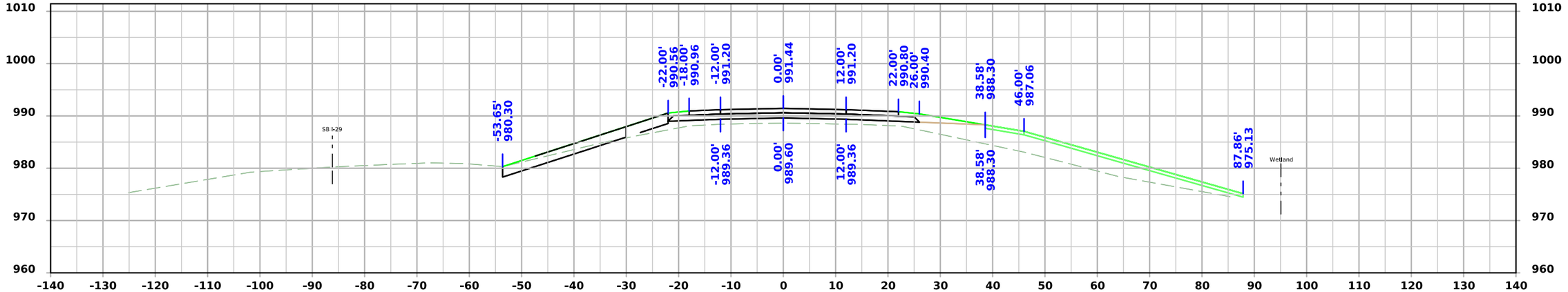
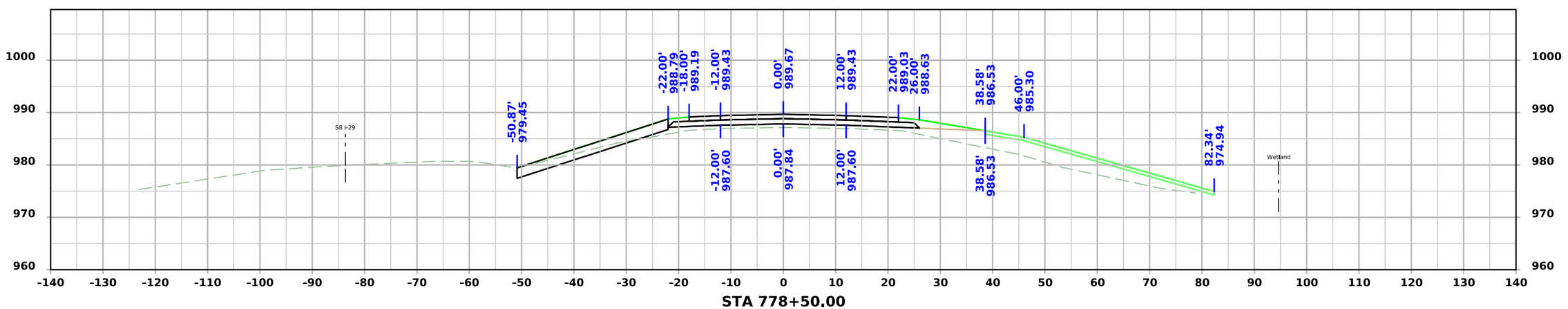
I-29 NB



STA 779+00.00



STA 778+50.00

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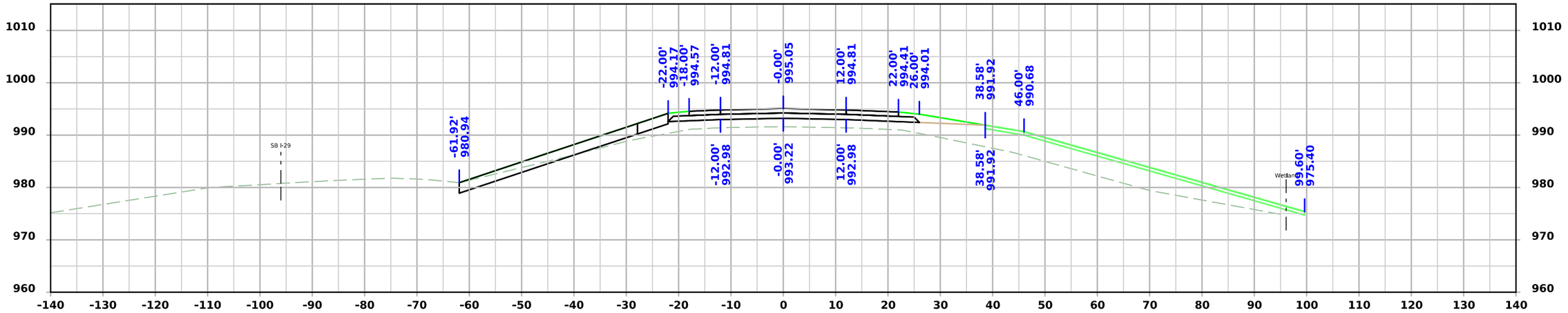
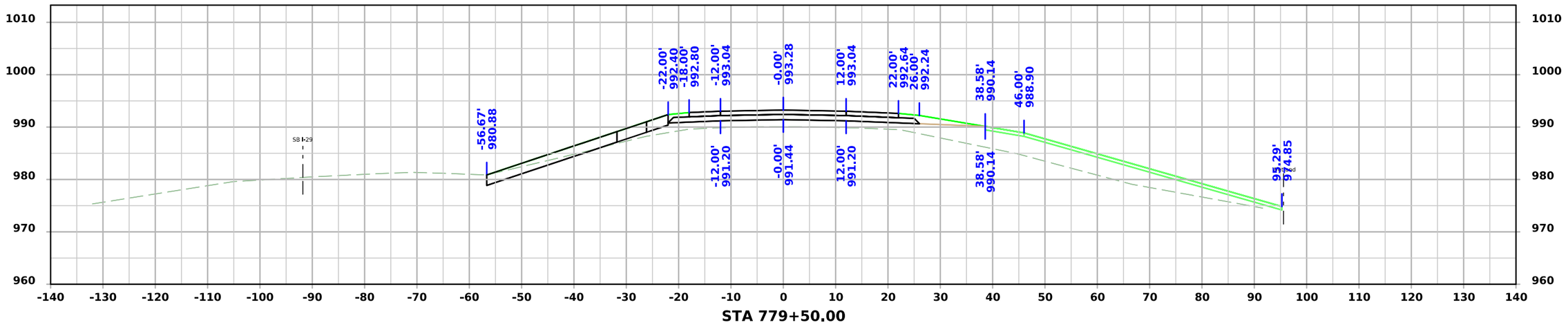
I-29 NB



STA 780+00.00



STA 779+50.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.7

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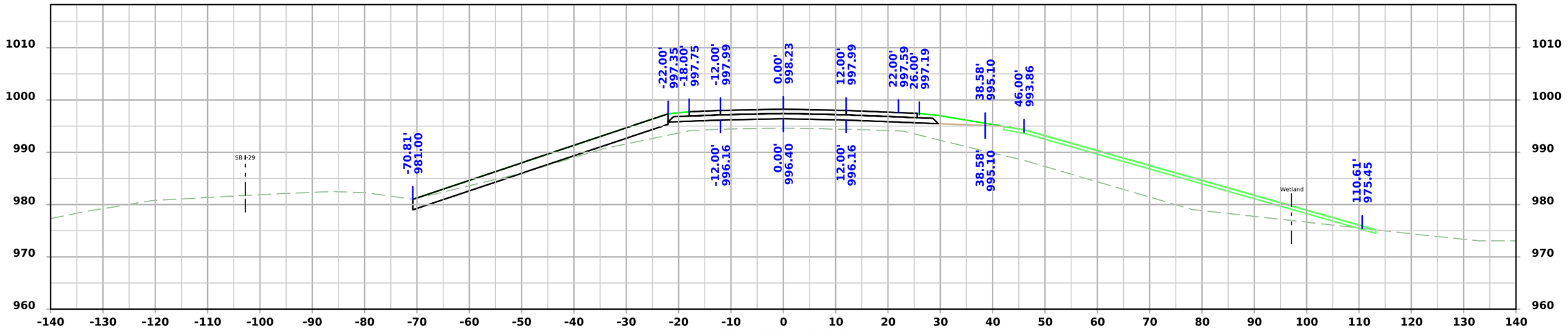
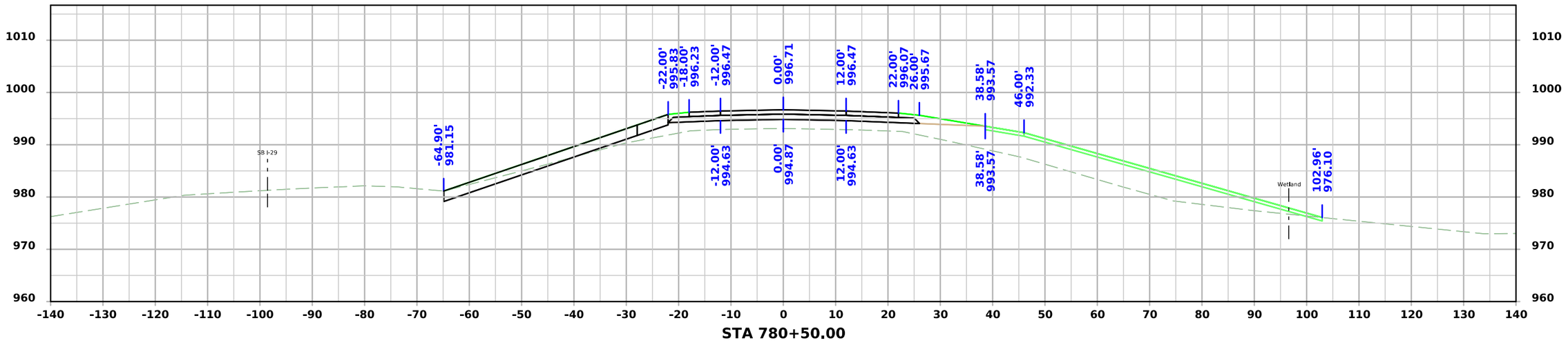
I-29 NB



STA 781+00.00



STA 780+50.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.8

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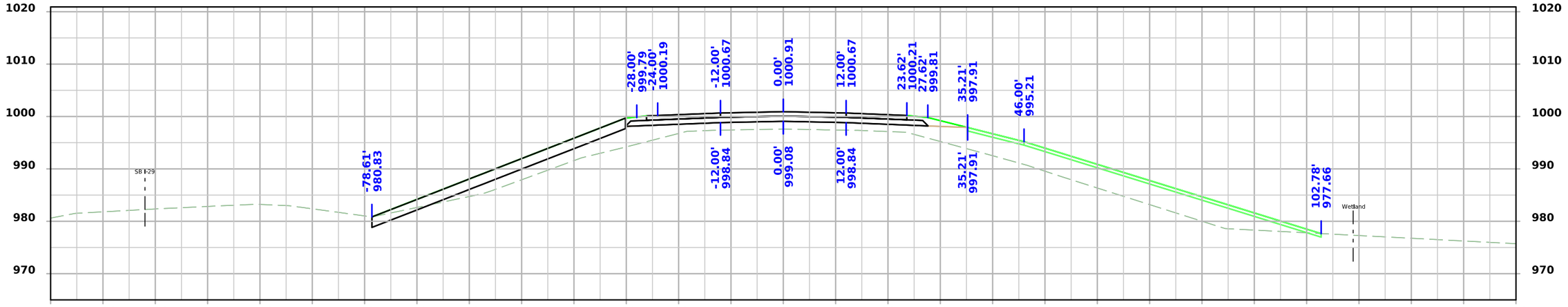
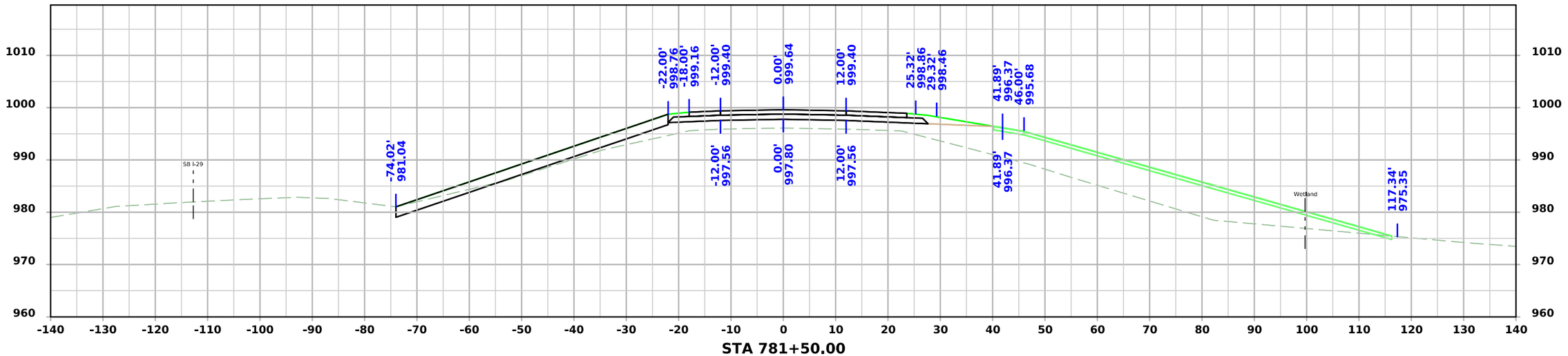
I-29 NB



STA 782+00.00

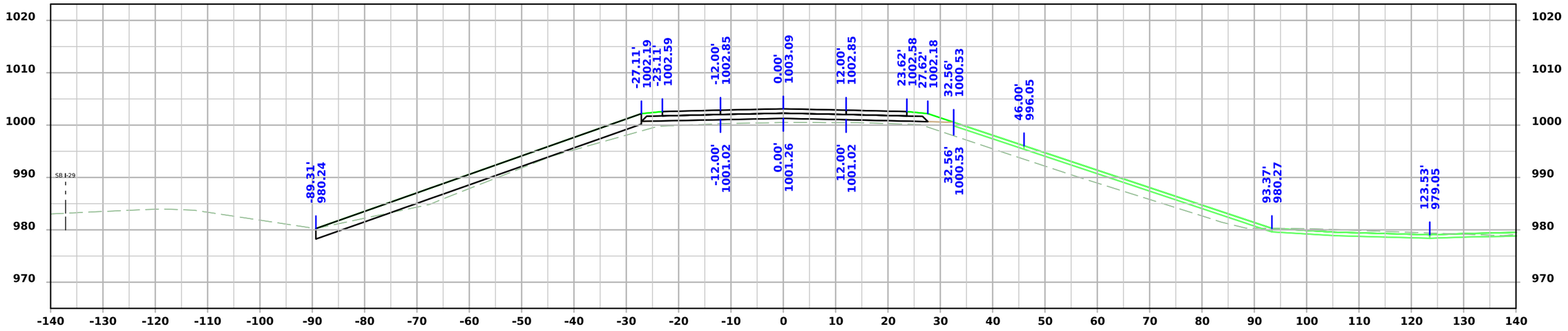


STA 781+50.00

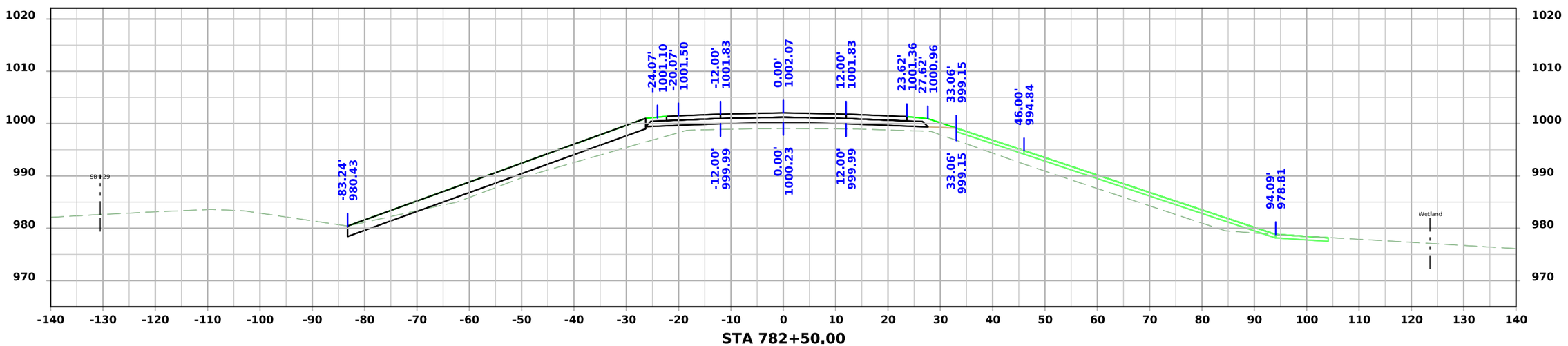
FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.9

4:57:36 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB



STA 783+00.00

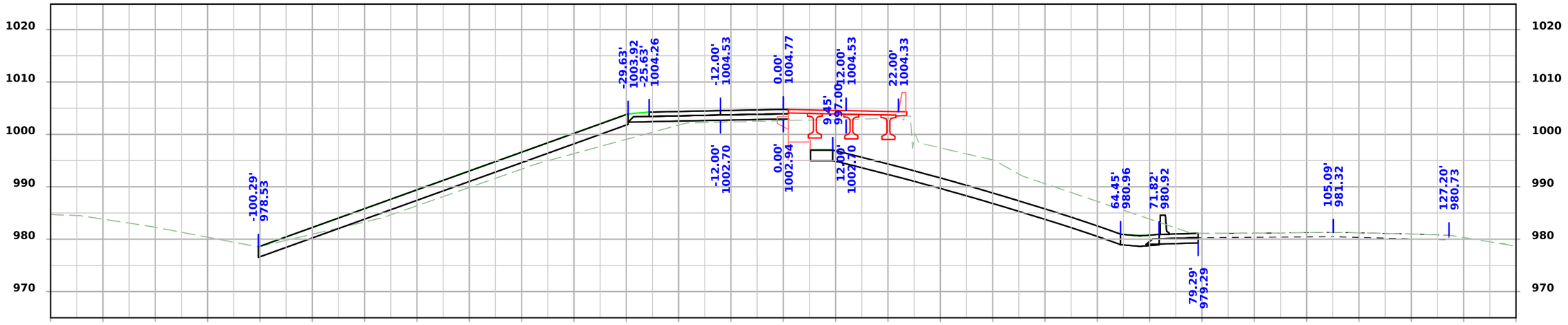


STA 782+50.00

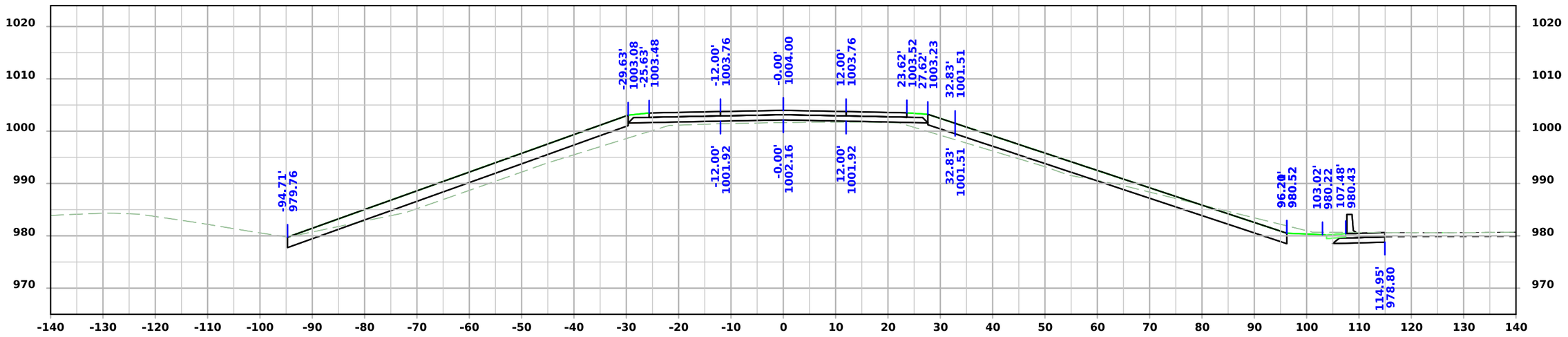
FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.10

4:57:37 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB



STA 784+00.00

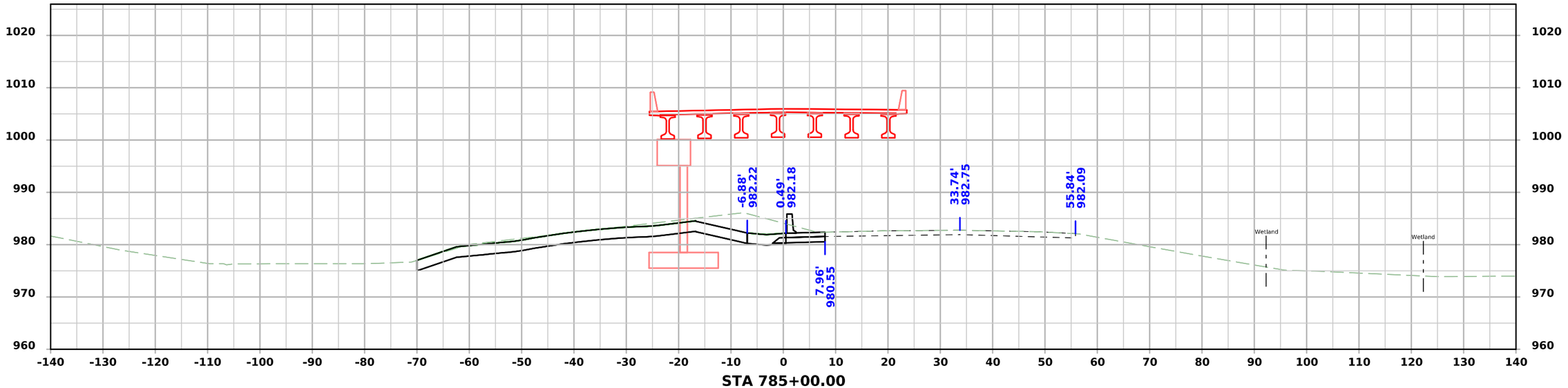


STA 783+50.00

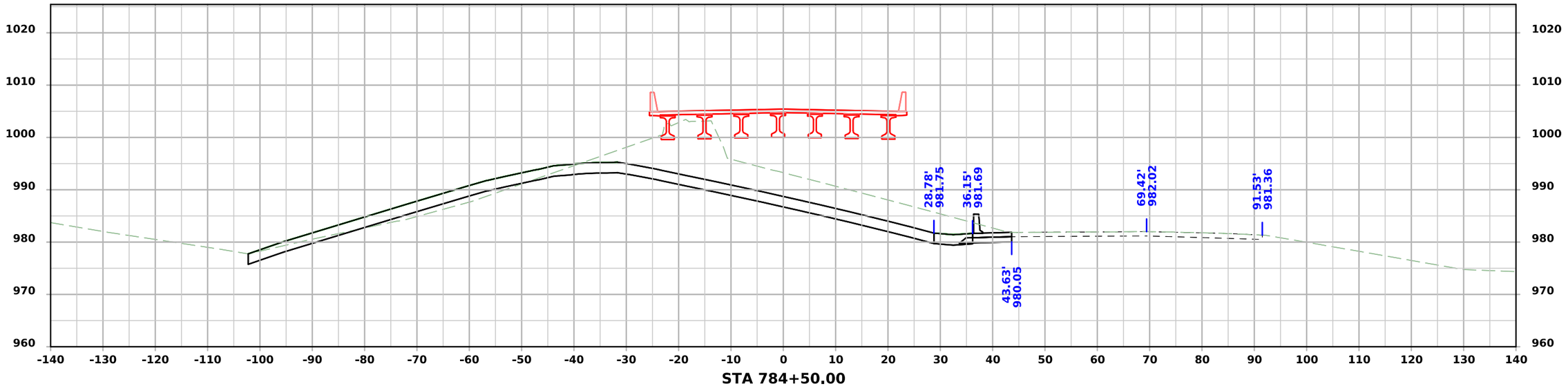
FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.11

4:57:38 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB



STA 785+00.00

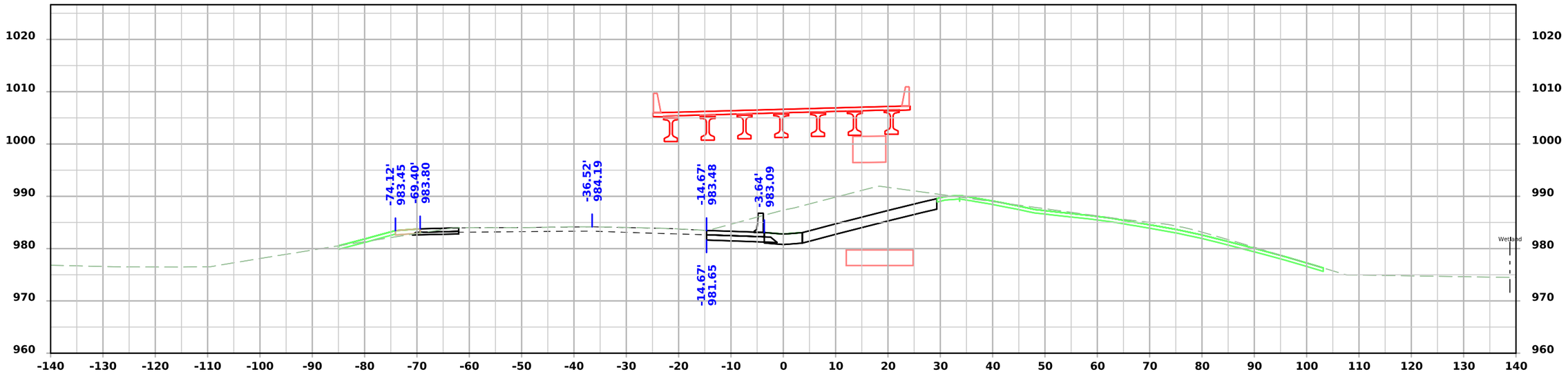


STA 784+50.00

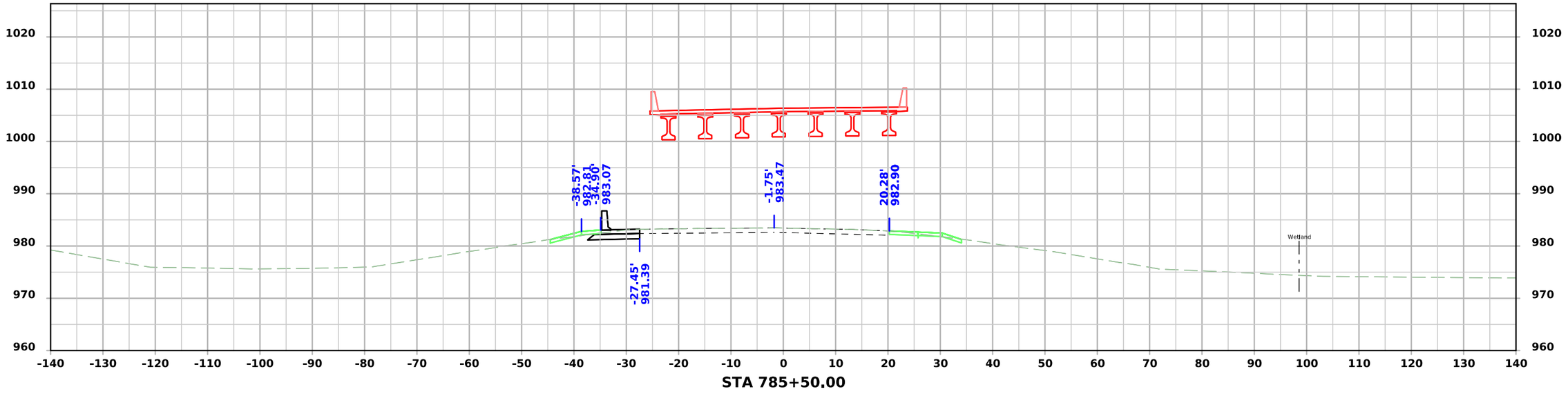
FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.12

4:57:40 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB



STA 786+00.00

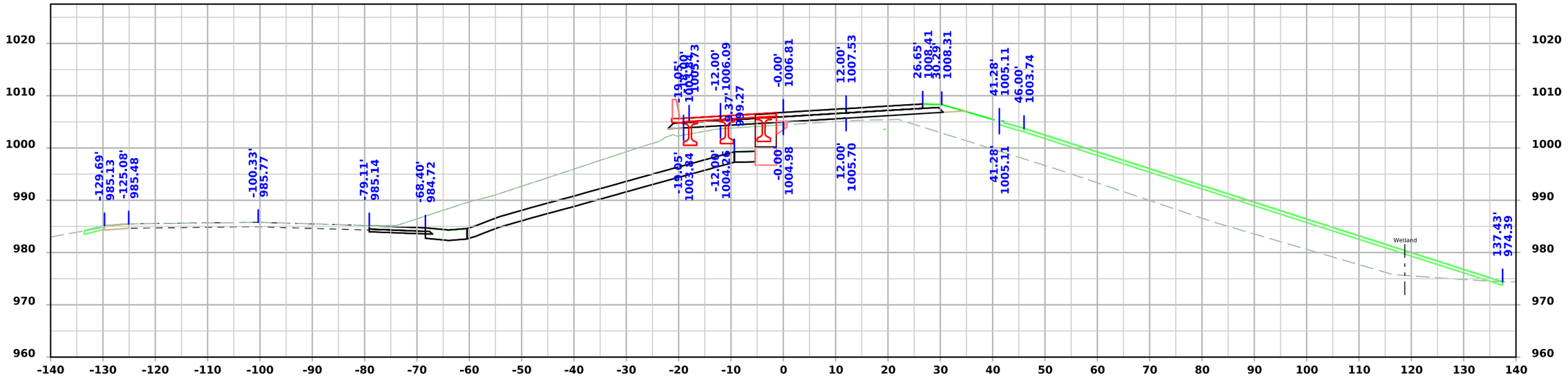


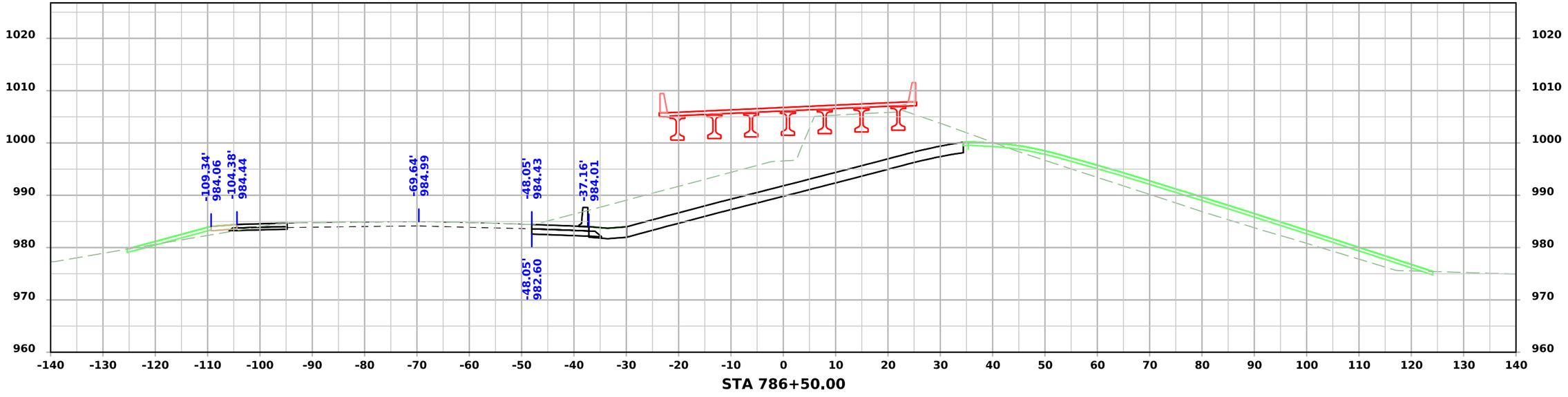
STA 785+50.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.13

4:57:42 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB

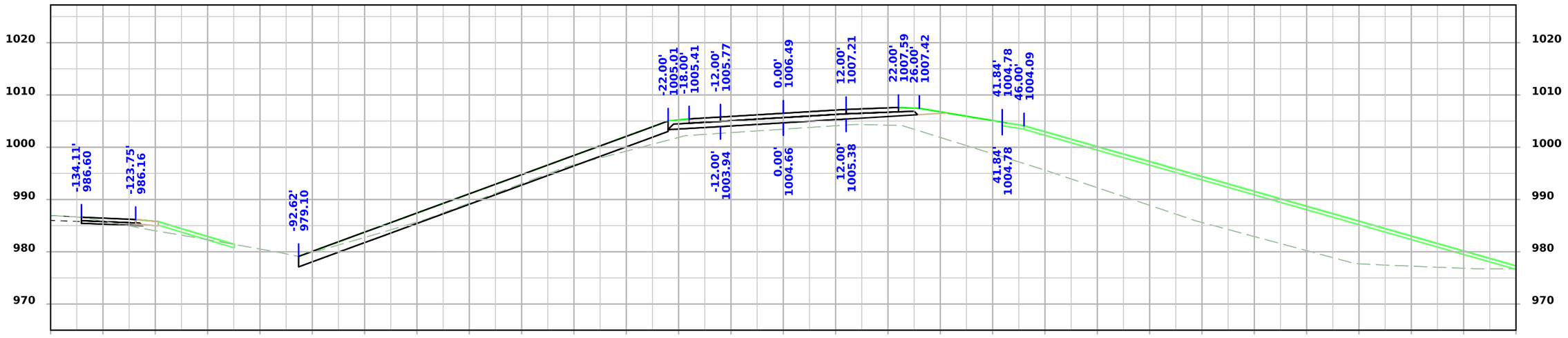




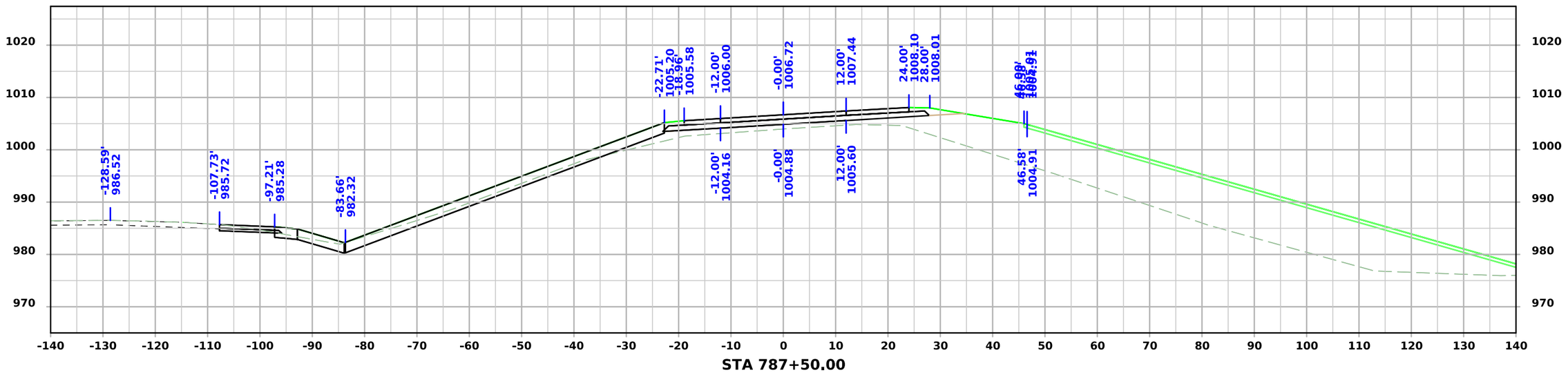
FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.14

4:57:44 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB



STA 788+00.00

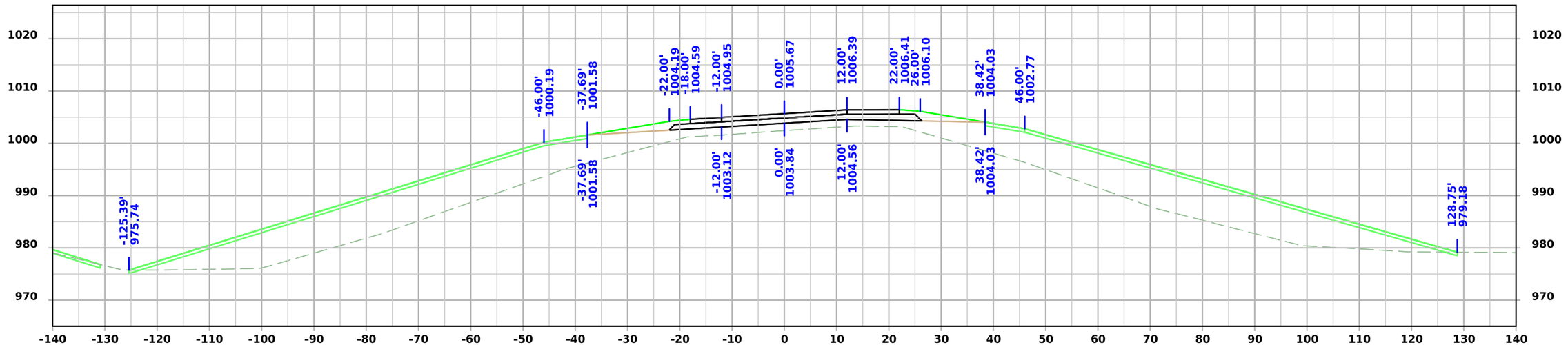


STA 787+50.00

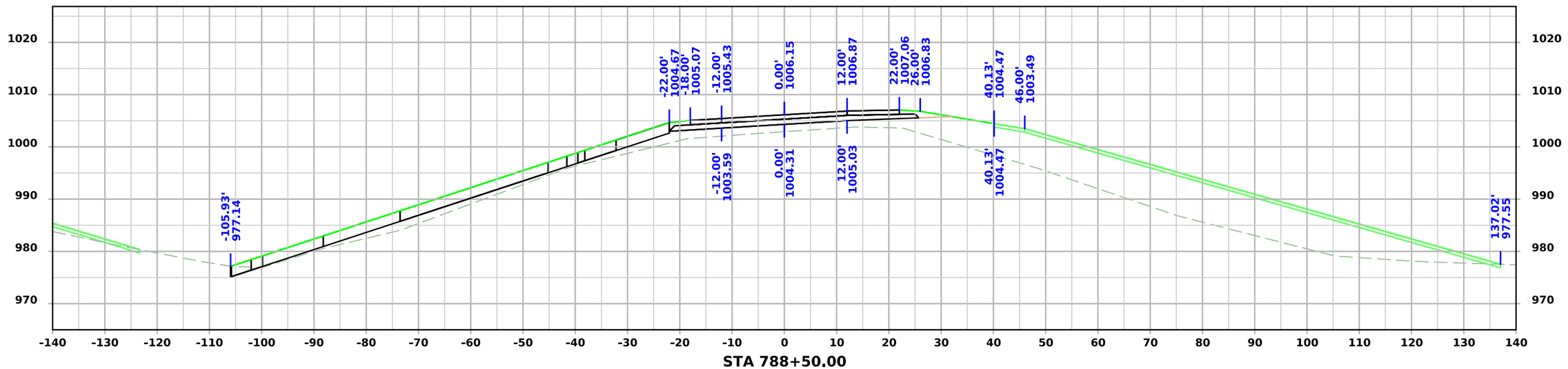
FILE NO. **32603**	ENGLISH	DESIGN TEAM **HNTB**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **IMX-029-3(270)57--02-78**	SHEET NUMBER **W.15**

4:57:45 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB



STA 789+00.00

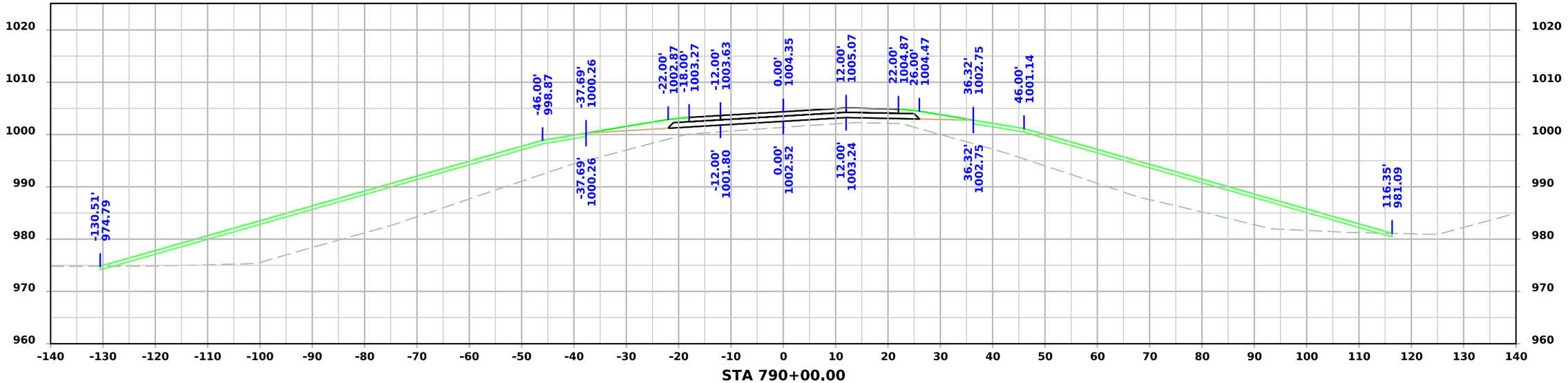


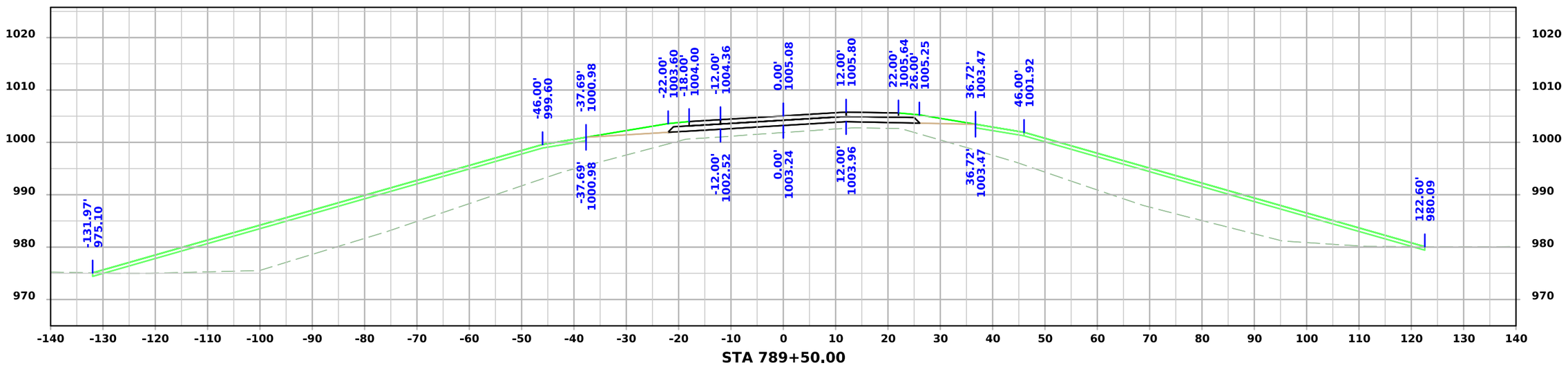
STA 788+50.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.16

4:57:46 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB

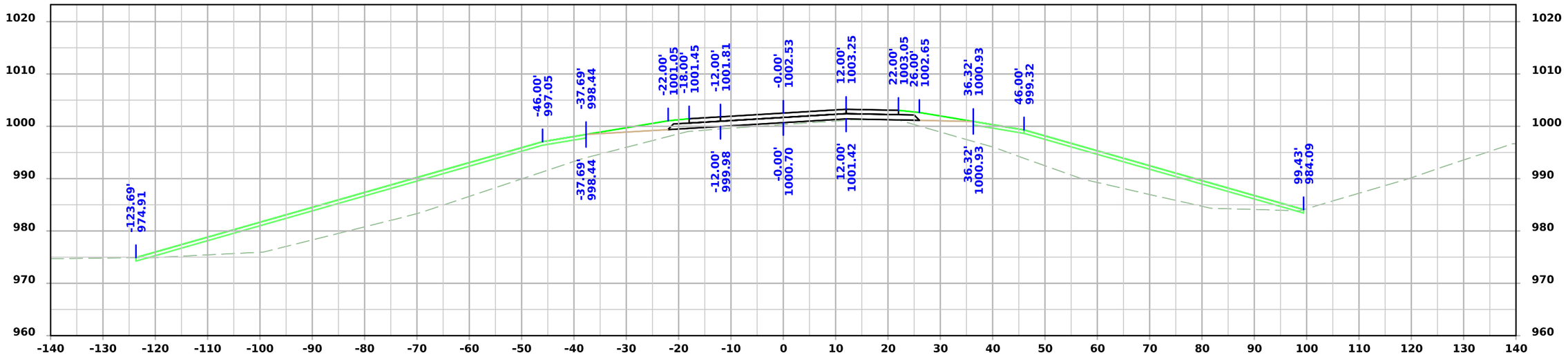


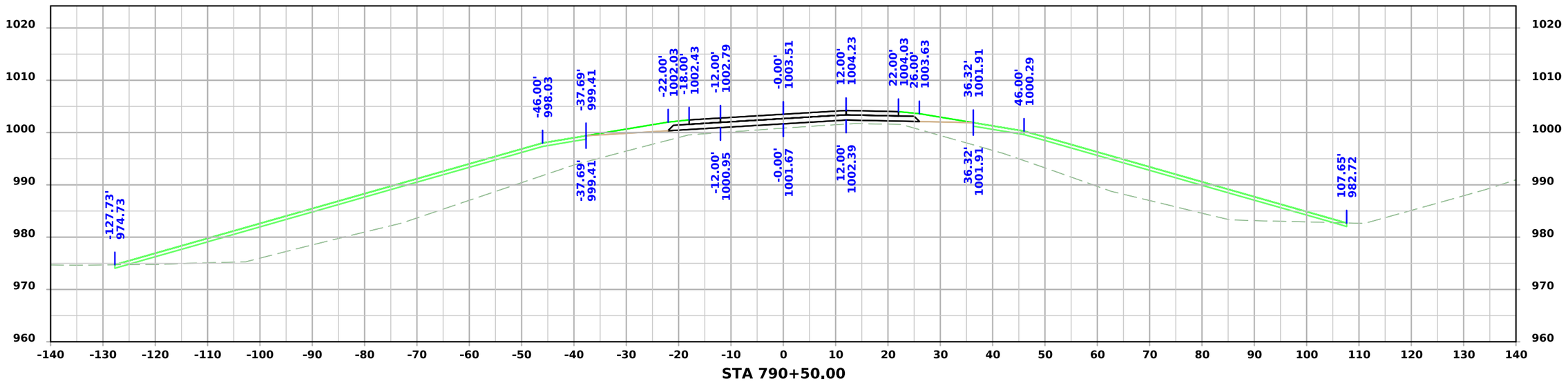


FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.17

4:57:47 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB

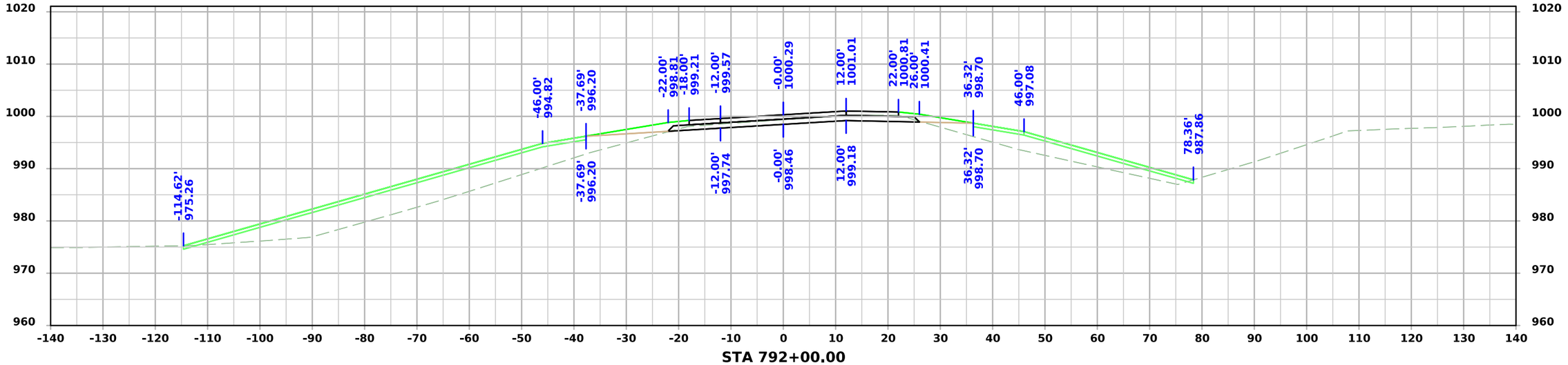


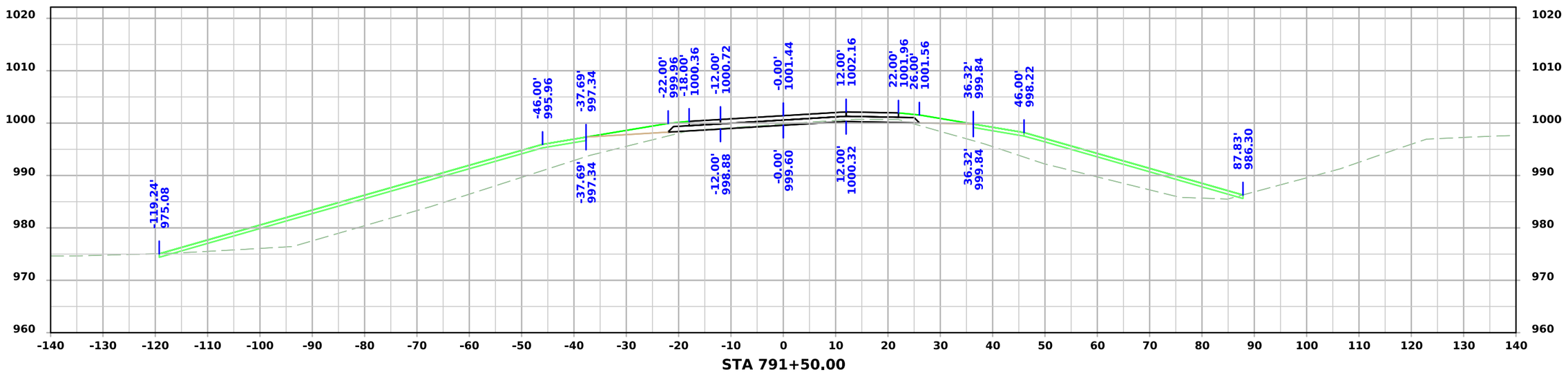


FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.18

4:57:48 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB

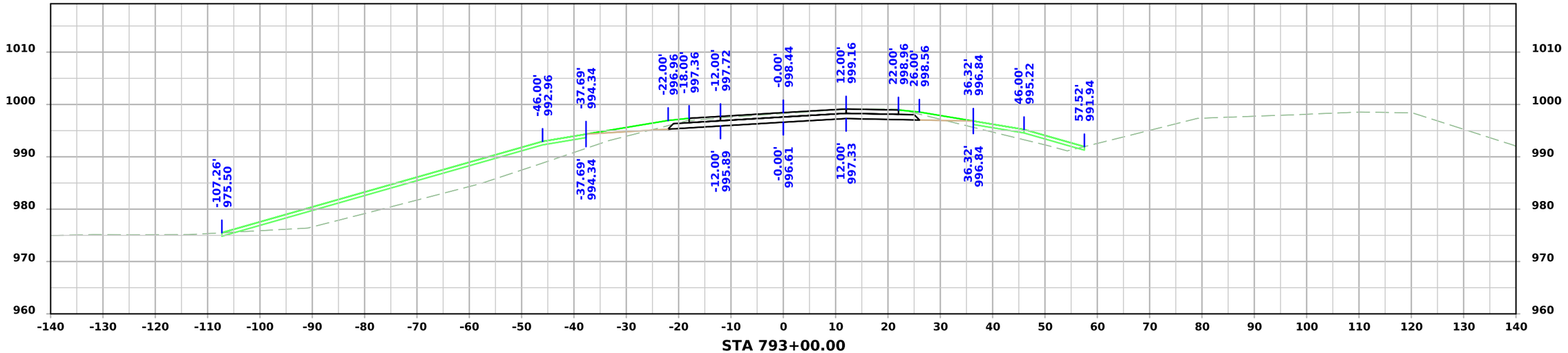




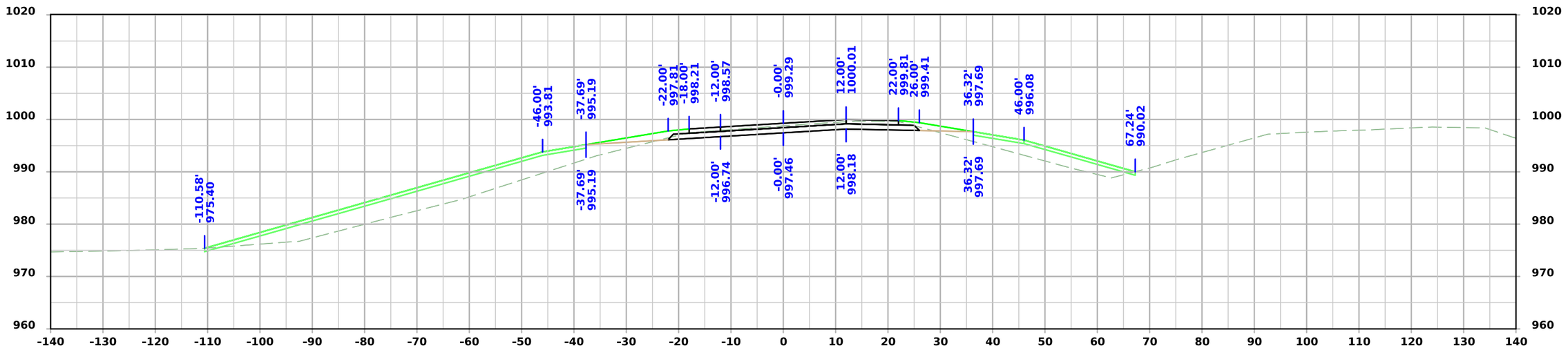
FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.19

4:57:49 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB



STA 793+00.00

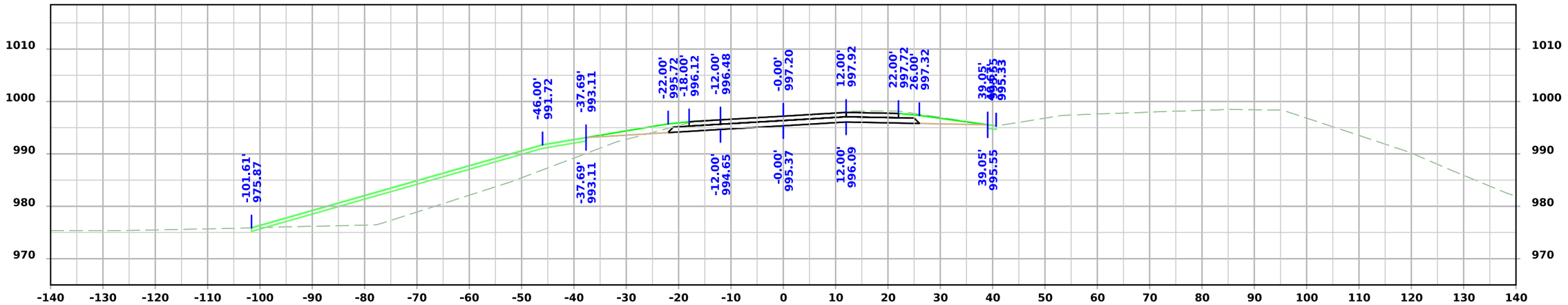


STA 792+50.00

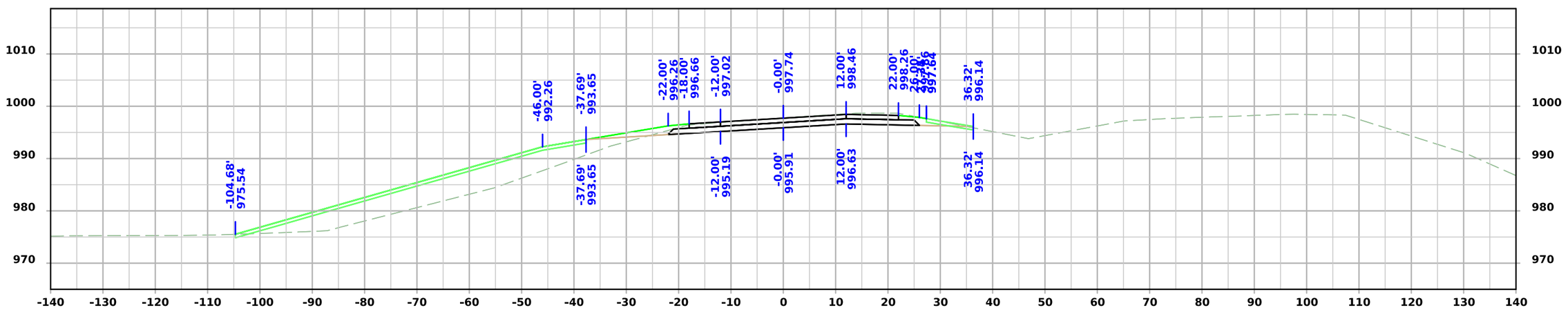
FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.20

4:57:49 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB



STA 794+00.00

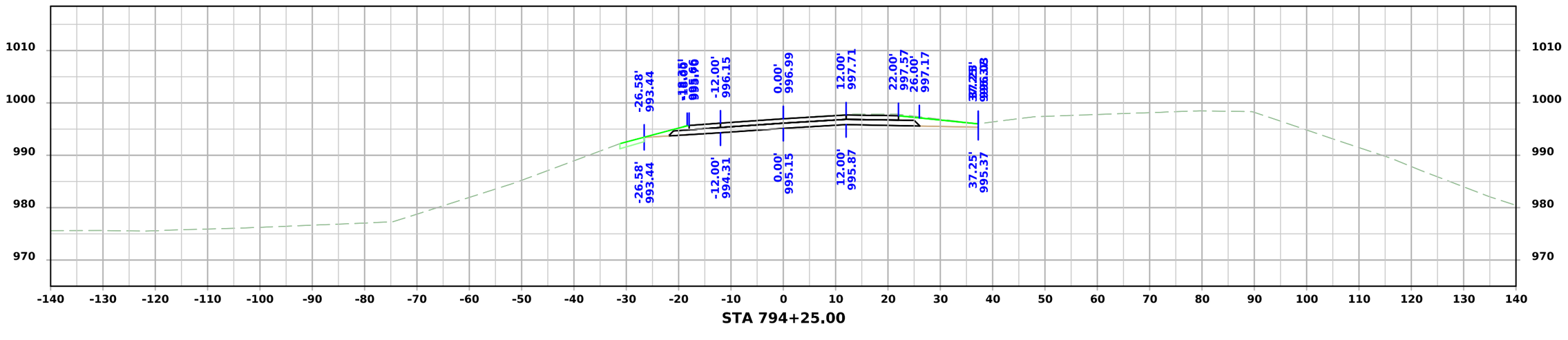


STA 793+50.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.21

4:57:50 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Cross_Sections\XS_ML029_NB_78029270Z06.dgn

I-29 NB



FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER W.22

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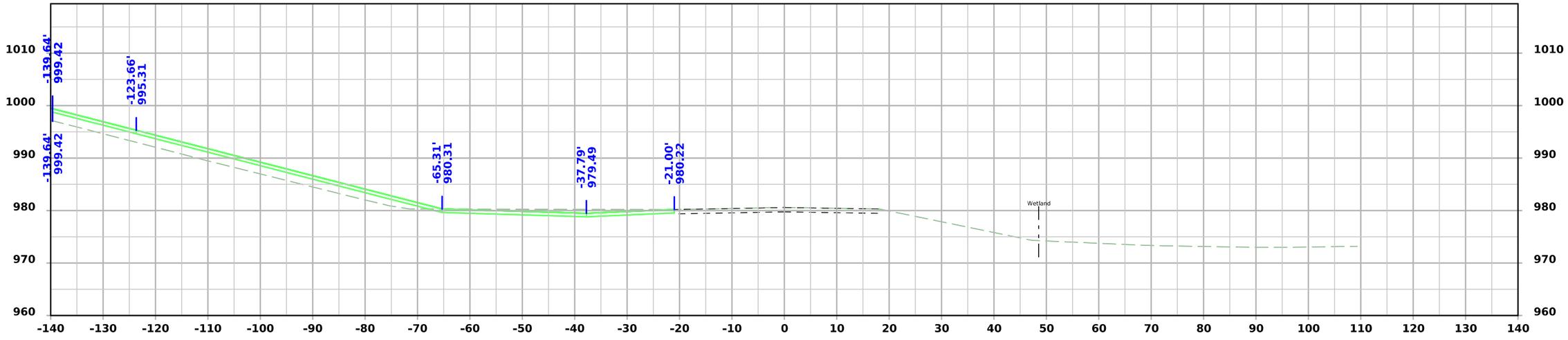
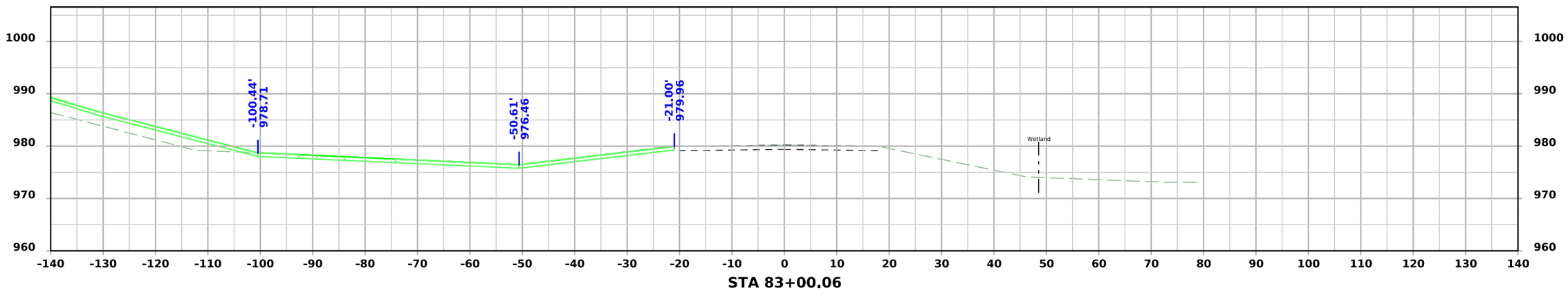
N 16TH ST (SB)



STA 83+50.00

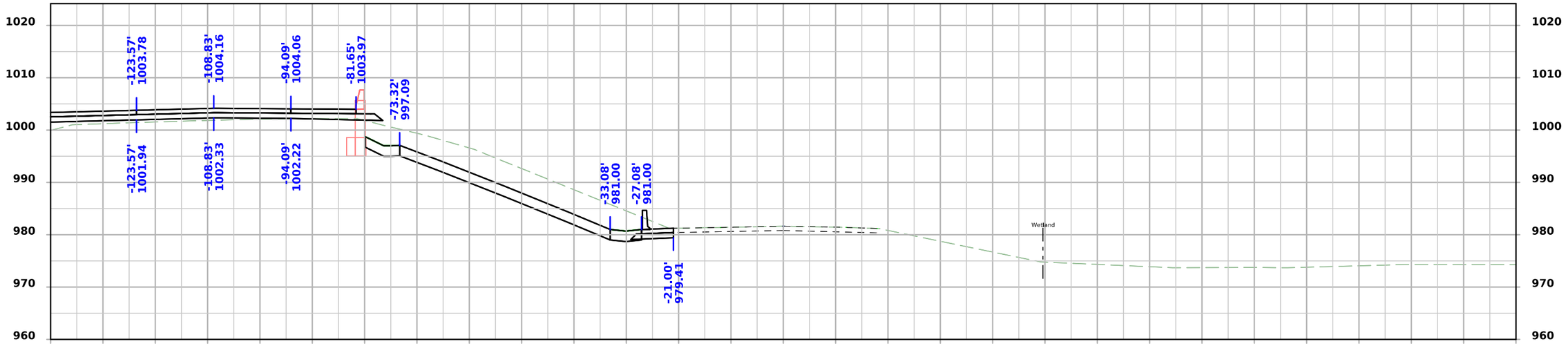


STA 83+00.06

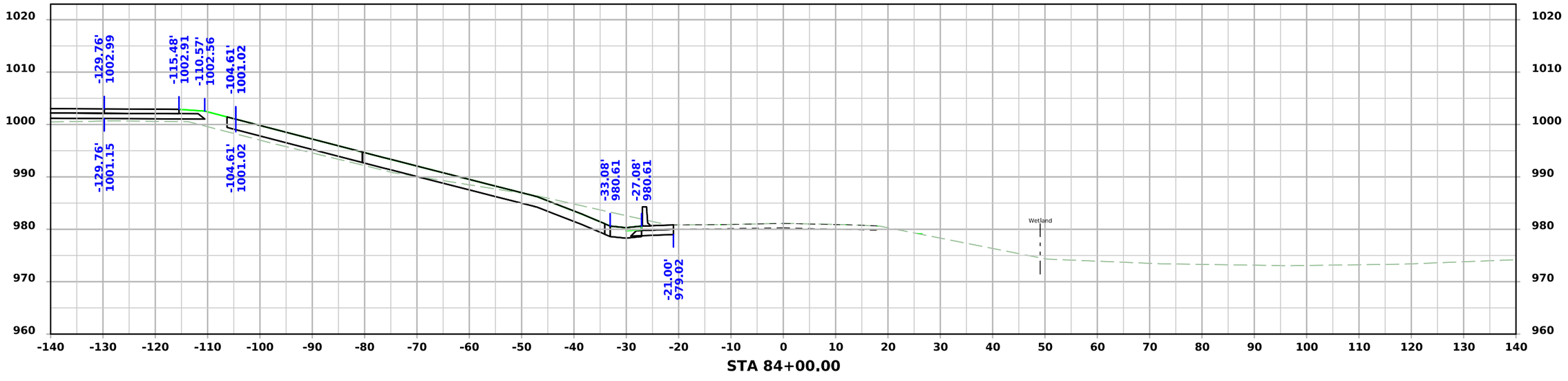
FILE NO. **32603**	ENGLISH	DESIGN TEAM **HNTB**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **IMX-029-3(270)57--02-78**	SHEET NUMBER **X.1**

4:58:35 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Sheet_Files\SHT_X_78029270Z06.dgn

N 16TH ST (SB)



STA 84+50.00



STA 84+00.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER X.2

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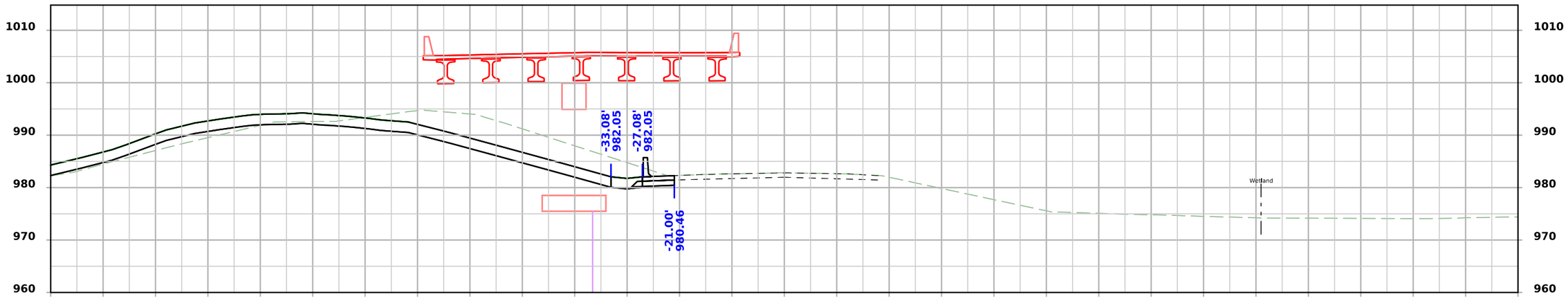
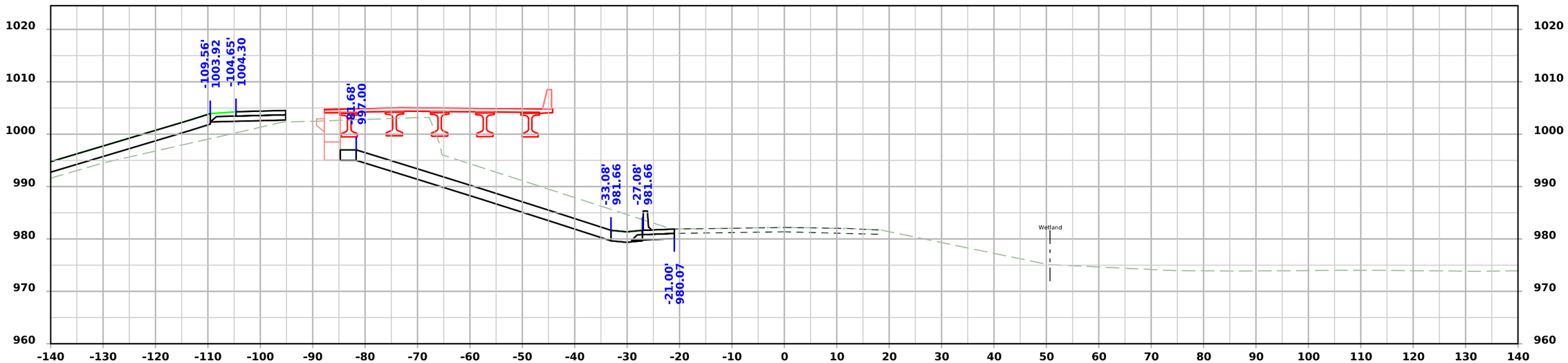
N 16TH ST (SB)



STA 85+50.00



STA 85+00.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER X.3

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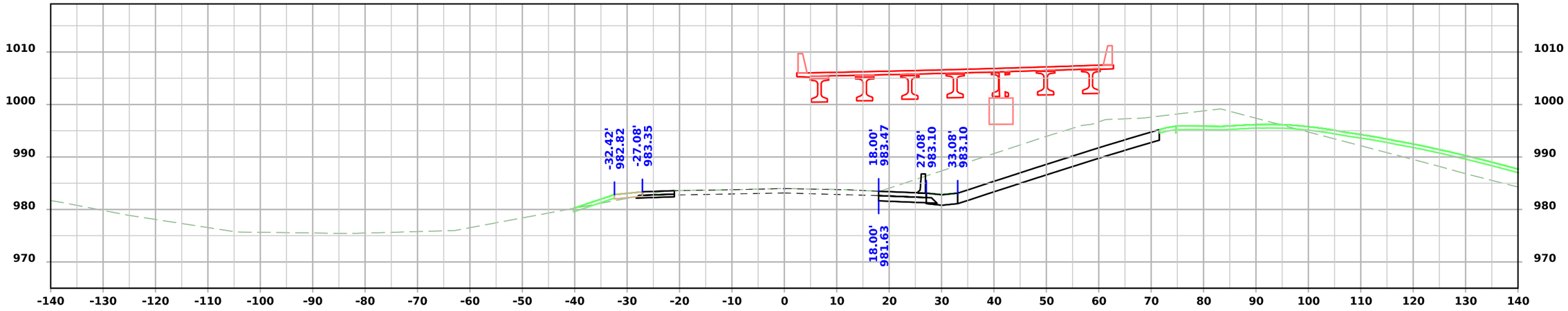
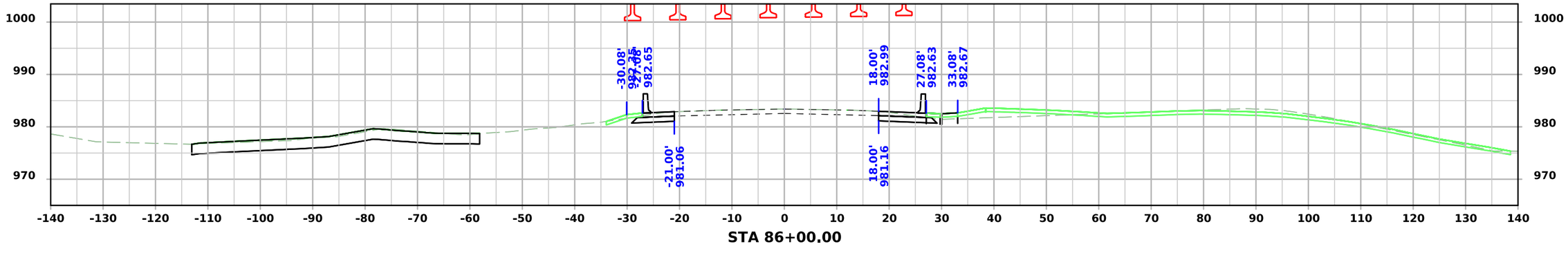
N 16TH ST (SB)



STA 86+50.00

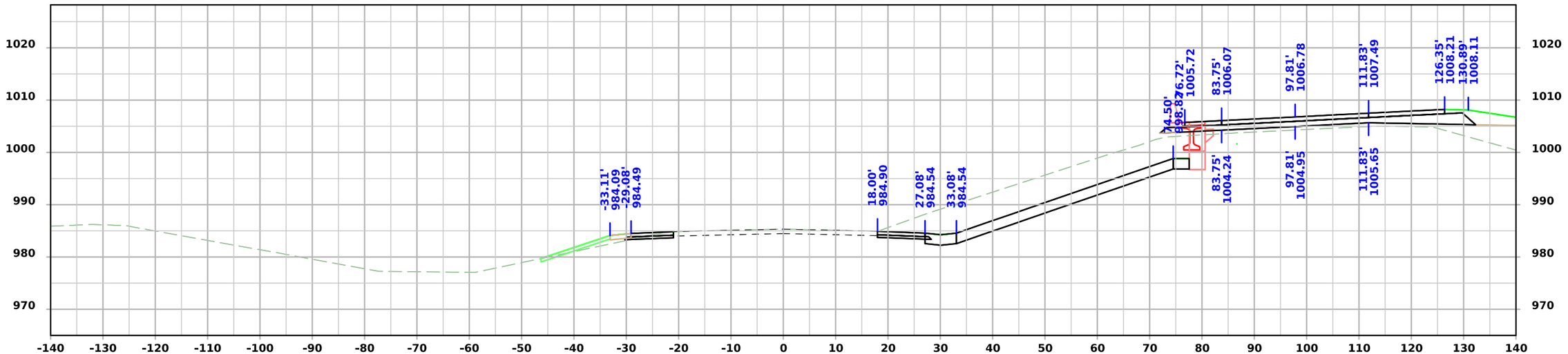


STA 86+00.00

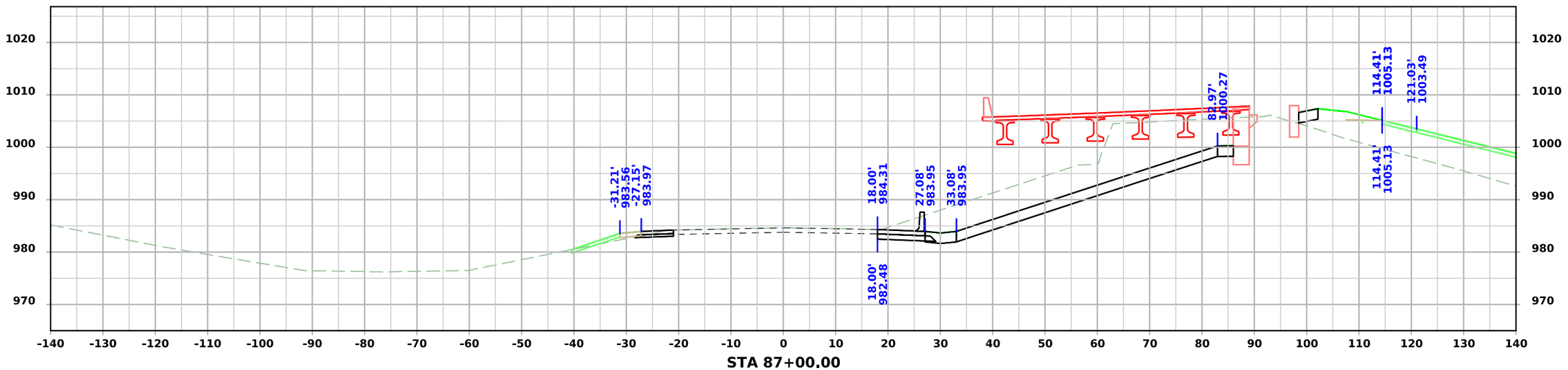
FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER X.4

4:58:39 PM 11/22/2024 bcharipar pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7802902022\Design\CADD_Files\Sheet_Files\SHT_X_78029270Z06.dgn

N 16TH ST (SB)



STA 87+50.00



STA 87+00.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER X.5

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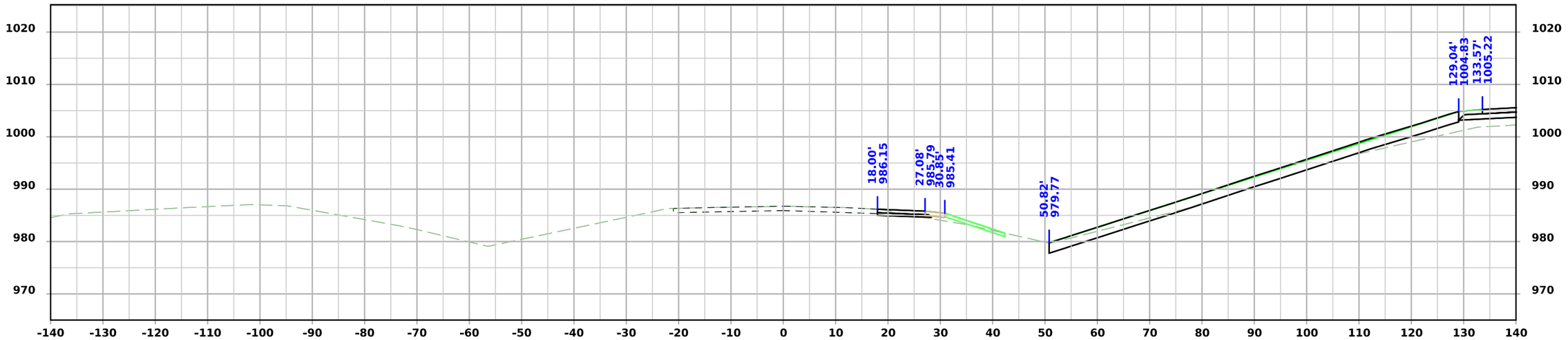
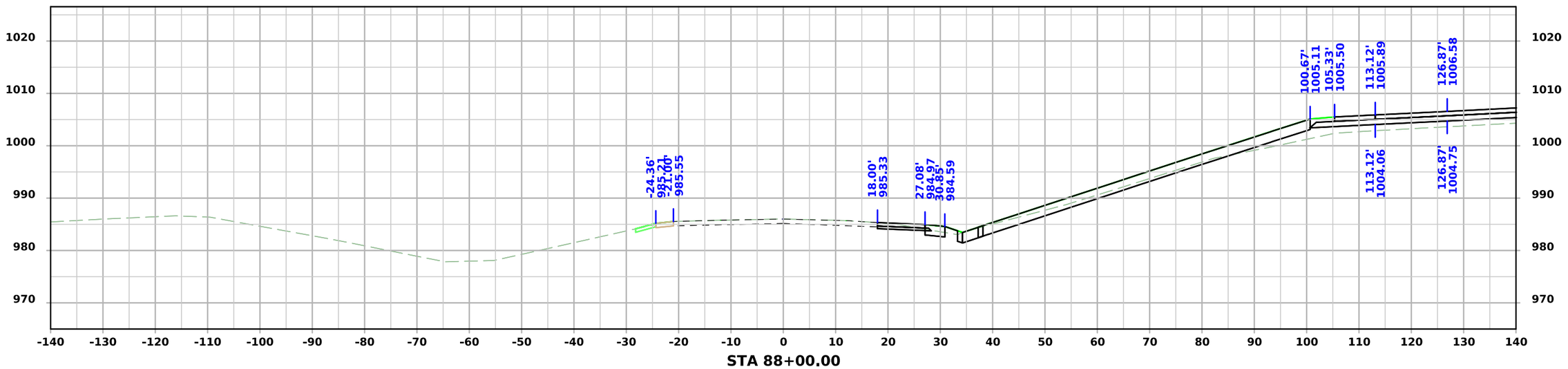
N 16TH ST (SB)



STA 88+50.00



STA 88+00.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER X.6

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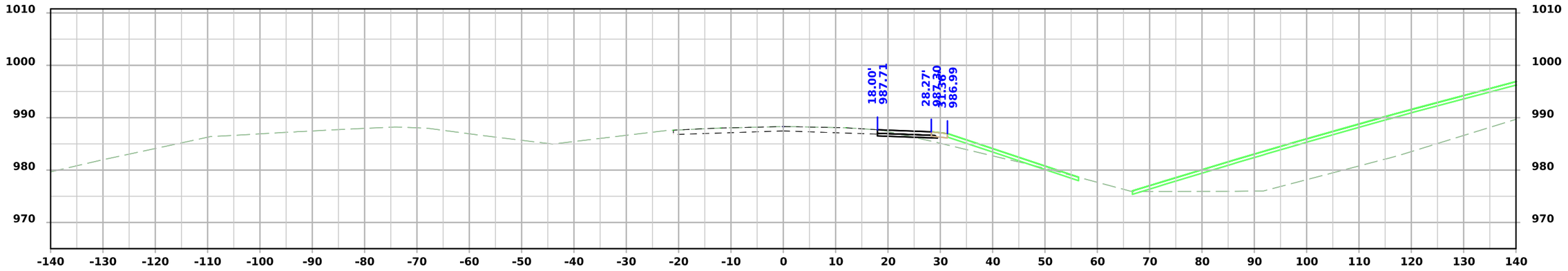
N 16TH ST (SB)



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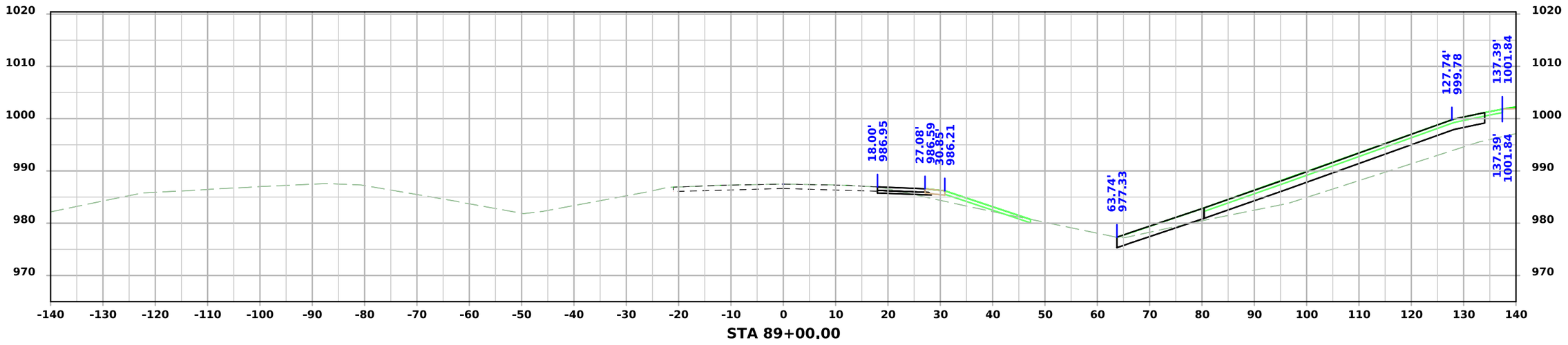

STA 89+00.00

FILE NO. 32603	ENGLISH	DESIGN TEAM HNTB	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-3(270)57--02-78	SHEET NUMBER X.7

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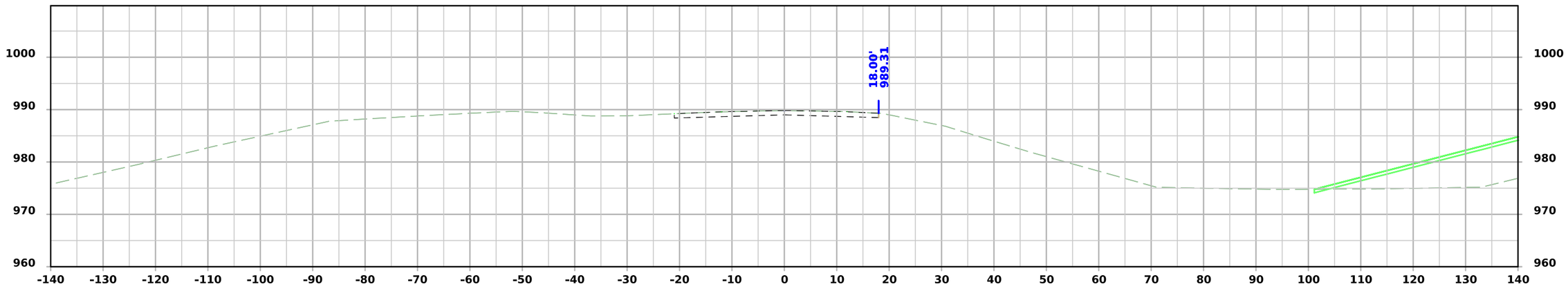

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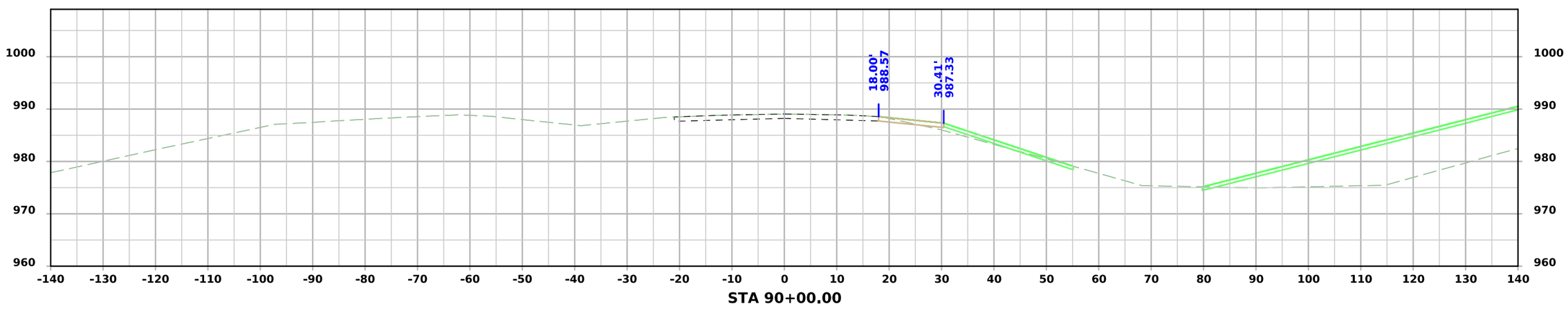

STA 90+00.00

FILE NO. **32603**	ENGLISH	DESIGN TEAM **HNTB**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **IMX-029-3(270)57--02-78**	SHEET NUMBER **X.8**

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