BRIDGE REPLACEMENT
IMX-029-4(112)72--02-78
POTTAWATTAMIE Co. I

LETTING DATE

INDEX OF SHEETS

105-3
10-18-05

No.	Description
A Sheets	**Title Sheets**
A.1	Title Sheet
A.2	Project Location
B Sheets	**Typical Cross Sections and Details**
B.1 - B.5	Typical Sections and Details
C Sheets	**Typical Cross Sections and Details**
C.1	Project Description
C.2-C.4	Standard Road Plans and Index of Tabulations
C.3-C.4	Tabulations
D Sheets	**Mainline Plan and Profile Sheets**
*D.1	Legend
*D.2-D.5	Plan and Profile - G12
E Sheets	**Sideroad Plan and Profile Sheets**
*E.1	Plan and Profile - 145th Street
F Sheets	**Detour Pavement**
*F.1-F.2	Detour Pavement
G Sheets	**Survey Sheets**
G.1 - G.3	Bench Mark and Reference Information Sheets
G.4 - G.5	Alignments
J Sheets	**Traffic Control and Staging Sheets**
J.1	Traffic Control Plan, Staging Notes and Tabulations
*J.2	Traffic Control Legend
*J.3 - J.5	Staging Typical Section Sheets
*J.6 - J.7	Detour Plan Sheets
*J.8 - J.13	Staging Detail Sheets
K Sheets	**Interchange Sheets**
*K.1 - K.2	Plan and Profile Sheets - Ramps
U Sheets	**Misc.**
U.1-U.2	Removal Plans
V Sheets	**Bridge Plans**
V.1-V.2	TS&L
V.3-V.5	Culvert Plat Plan Sheets
W Sheets	**Mainline Cross Sections**
W.1-W.21	Cross Section Sheets - County Road G12
X Sheets	**Side Road Cross Sections**
X.1-X.5	Cross Section Sheets - 145th St
Y Sheets	**Ramp Cross Sections**
Y.1-Y.3	Cross Section Sheets - Ramp C
Y.4-Y.6	Cross Section Sheets - Ramp B

* COLOR PLANS
** PLAN SHEETS FOR METHODS SUBMITTAL ONLY

IOWA DOT
Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM

POTTAWATTAMIE COUNTY

PCC PAVEMENT - GRADE & REPLACE

CO RD G12 INTERCHANGE 0.4 MI N OF N JCT I-680

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.

CUT = 4,158
FILL = 22,986
FILL (+30%) = 29,882
PROJECT NEED = 25,724 CY

REVISIONS

TOTAL 78
PROJECT IDENTIFICATION NUMBER
16-78-029-070
PROJECT NUMBER
IMX-029-4(112)72--02-78

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

PROJECT EVENT DATES

D02 - MARCH 16, 2018
D03 - APRIL 27, 2018
D05 - SEPTEMBER 28, 2018

MILEAGE SUMMARY

Div.	Location	Lin. Ft.	Miles
1	Rural:		
	Sta. 1867+95.00 to Sta. 1886+00.00	1805.00	
	Deduct Bridge at Sta. 1876+24.00	252.00	
	Sta. 3602+75.00 to Sta. 3604+64.22	189.22	
	Sta. 2600+50.00 to Sta. 2602+19.43	169.43	
	Total Net Length of Roadway in Project	1911.65	0.362
	Total Net Length of Bridge in Project	252.00	.048
	Total Net Length of Project	2163.65	0.410

IOWA ONE CALL
1-800-292-8989 | 811
www.iowaonecall.com

04-30-02 **G12** 101-5

DESIGN DATA URBAN

2022 AADT	800	V.P.D.
2042 AADT	800	V.P.D.
2042 DHV	90	V.P.H.
TRUCKS	8	%
Total Design ESALs	-- 200,000	

04-30-02 **I-29** 101-5

DESIGN DATA URBAN

2016 AADT	21,700	V.P.D.
2035 AADT		V.P.D.
2035 DHV		V.P.H.
TRUCKS		%
Total Design ESALs	--	

INDEX OF SEALS

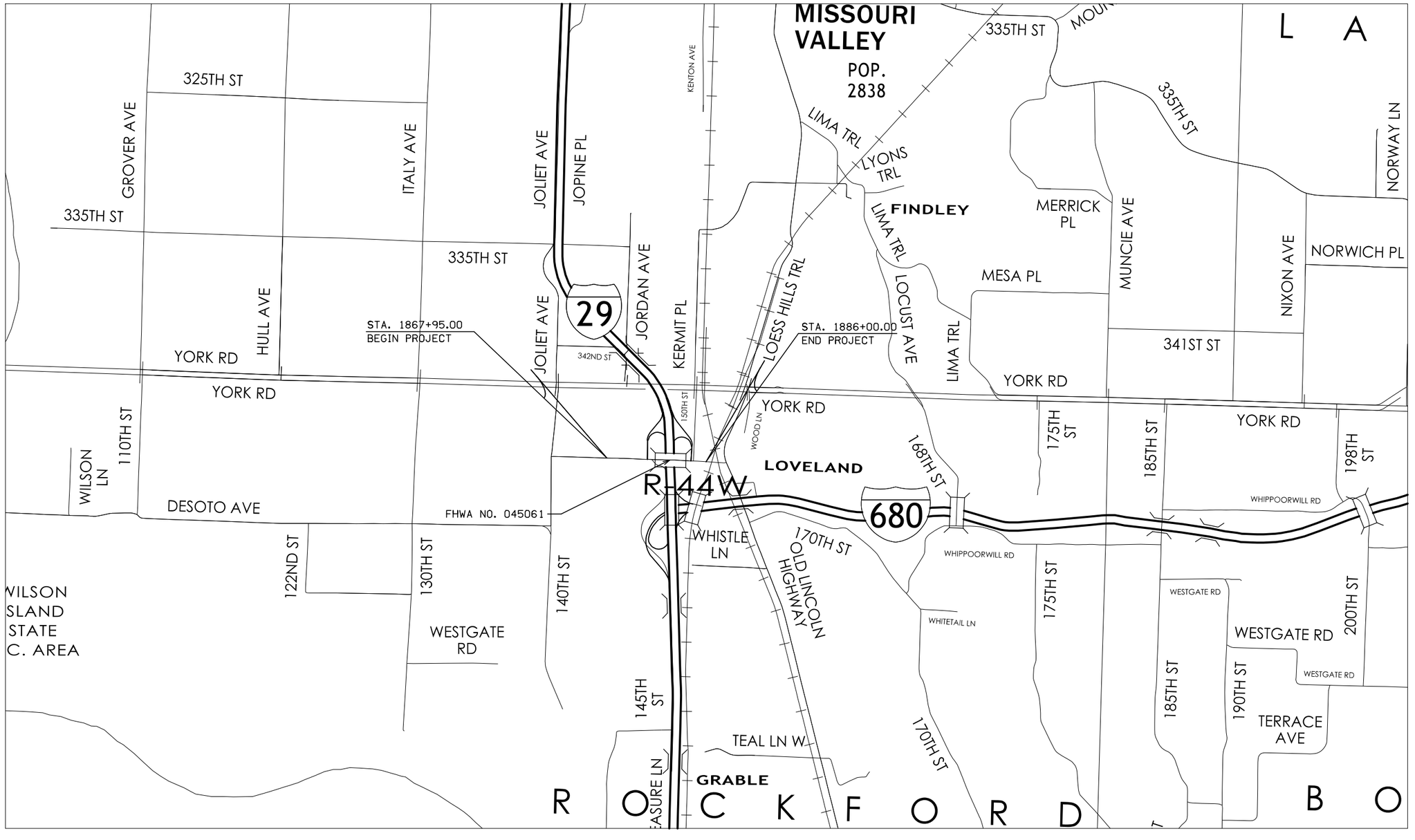
SHEET NO.	NAME	TYPE

PRELIMINARY PLANS

D-05 Date: 09-28-2018

ENGLISH	IOWA DOT	DESIGN TEAM **BENESCH**	POTTAWATTAMIE COUNTY	PROJECT NUMBER **IMX-029-4(112)72--02-78**	SHEET NUMBER **A.1**

8:50:12 AM untitled c:\pw_work\pwmain\sylvan.popovic1\d0874197\78029112-AB-A-01.sht

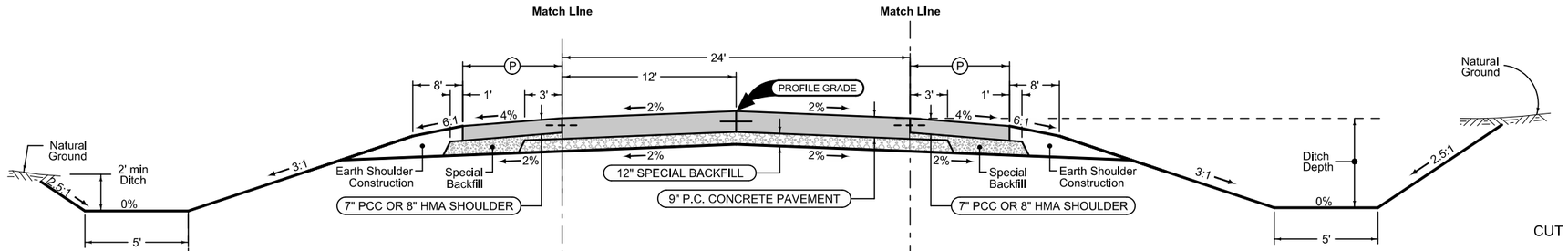


LOCATION MAP SCALE
0 0.5 1.0
Miles

PROJECT LOCATION

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER A.2

7:20:10 AM untitled c:\pw_work\pwmain\sylvan.popovic1\d0874197\78029112-AB-A-01.sht



Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

2P_ MODIFIED	
STATION TO STATION	
1867+95.00	1876+24.00
1878+76.00	1886+00.00

Paved Shoulder Alternates

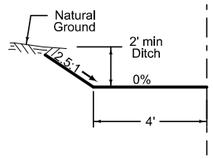
PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_P_ALT_ MODIFIED		
STATION TO STATION		(P) Feet
1867+95.00	1869+68.06	6
1871+43.00	1876+24.00	6
1878+76.00	1883+08.11	6
1884+83.70	1886+00.00	6

Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

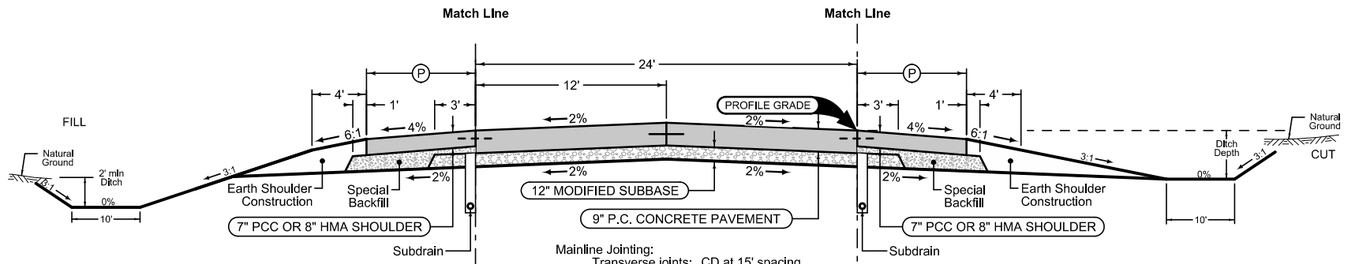
2_P_ALT_ MODIFIED		
STATION TO STATION		(P) Feet
1867+95.00	1876+24.00	6
1878+76.00	1885+60.19	6
1884+24.20	1886+00.00	6



Ditch Grading

2_P_ALT1_ MODIFIED	
STATION TO STATION	
1869+30.00	1870+15.78

TYPICAL SECTION COUNTY ROAD G12



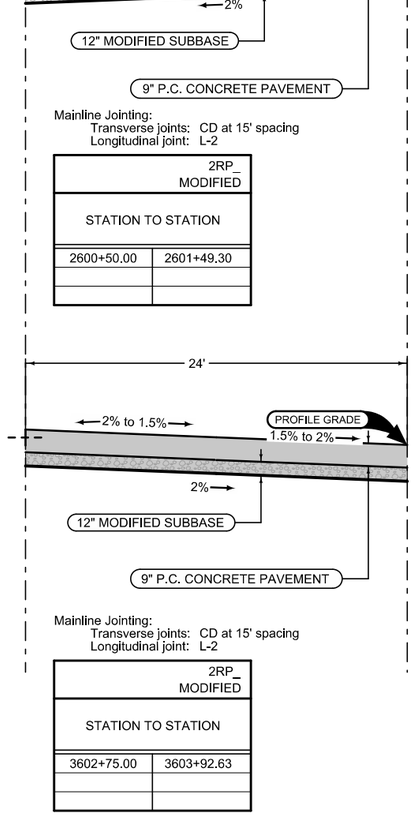
Mainline Jointing:
Transverse joints: CD at 15' spacing
Longitudinal joint: L-2

2RP_ MODIFIED	
STATION TO STATION	
2601+49.30	2602+19.43
3603+92.63	3604+64.22

Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 15' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_P_ALT_ MODIFIED		
STATION TO STATION		(P) Feet
2600+50.00	2602+19.43	6
3602+75.00	3604+64.22	6



Mainline Jointing:
Transverse joints: CD at 15' spacing
Longitudinal joint: L-2

2RP_ MODIFIED	
STATION TO STATION	
2600+50.00	2601+49.30

Mainline Jointing:
Transverse joints: CD at 15' spacing
Longitudinal joint: L-2

2RP_ MODIFIED	
STATION TO STATION	
3602+75.00	3603+92.63

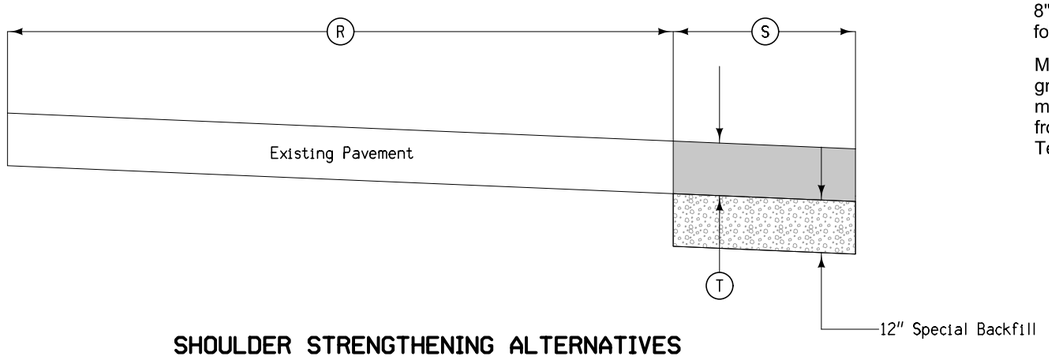
Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 15' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_P_ALT_ MODIFIED		
STATION TO STATION		(P) Feet
2600+50.00	2602+19.43	6
3602+75.00	3604+64.22	6

TYPICAL SECTION
For Ramp B and Ramp C

BENESCH-1



8" HMA Shoulder Strengthening. 7" PCC may be substituted with the following jointing layout:

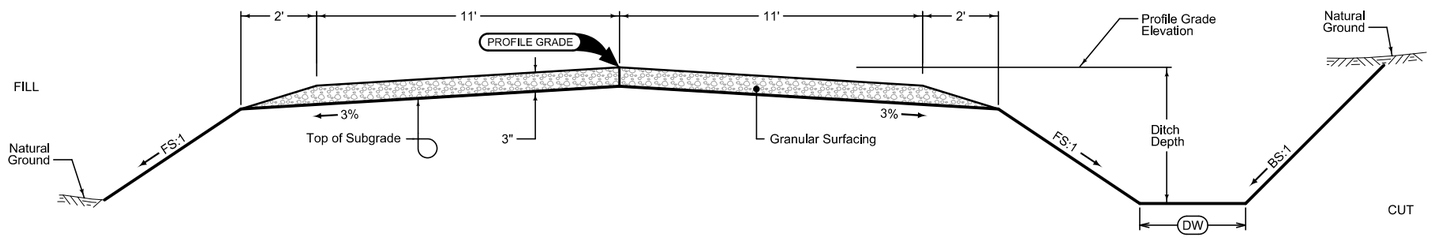
Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at S/2 from edge of mainline pavement when S is greater than 10' wide. Terminate longitudinal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

SHOULDER STRENGTHENING ALTERNATIVES

LOCATION	Location		Pavement Alternates HMA (T)	Pavement Alternates PCC (T)	Existing Pavement (R)	Shoulder Strengthening (S)	6" Special Backfill	Shoulder Strengthening	Class 13 Excavation Waste	Remarks
	Station to Station		Inches	Inches	Feet	Feet	Tons	SY	CY	
WEST	1866+91.97	3601+15.75	8	7	12	2 - 9	168.3	534.4	118.8	Stage 1
EAST	2598+91.04	1887+71.79	8	7	12	2 - 9	169.2	537.3	119.4	Stage 1
						TOTALS	337.5	1071.7	238.2	

LOCATION			DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION		FS	BS	(DW) Feet
145TH STREET	100+18.23	105+28.56	3	2.5	5

G_2_GradeGran
10-17-17

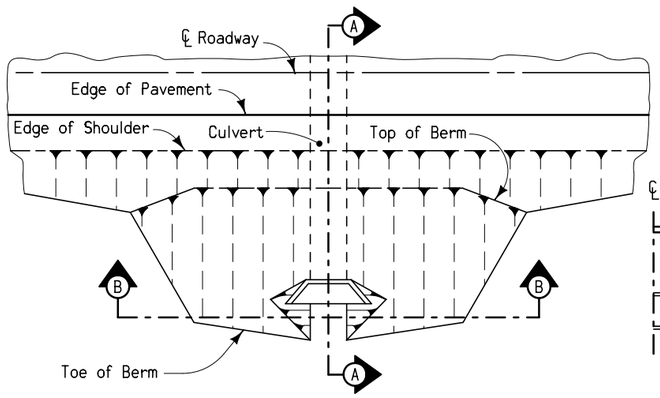


Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

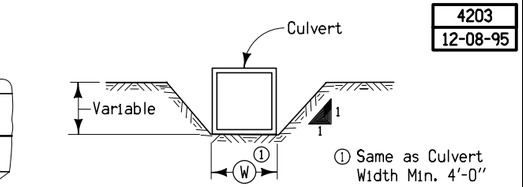
See plan & profile sheets and cross sections for additional details of ditches and backslopes.

GRADING AND GRANULAR SURFACING

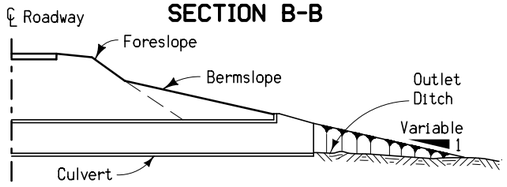
4203
12-08-95



TYPICAL PLAN



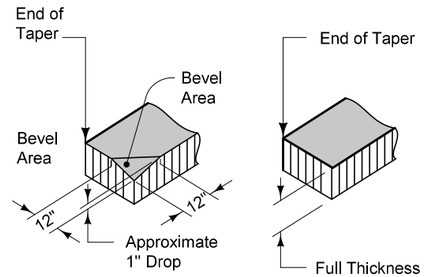
SECTION B-B



SECTION A-A

TYPICAL DETAILS FOR OUTLET DITCH THROUGH FORESLOPE BERM

7101
10-19-10



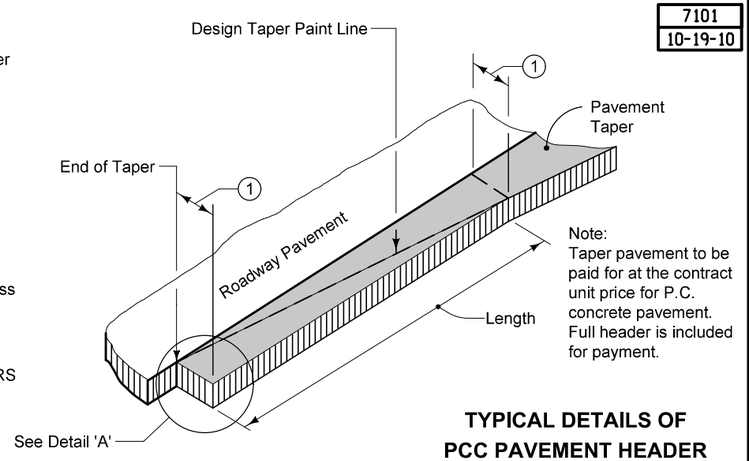
DETAIL 'A'

FOR GRANULAR SHOULDERS

DETAIL 'A'

FOR PAVED SHOULDERS

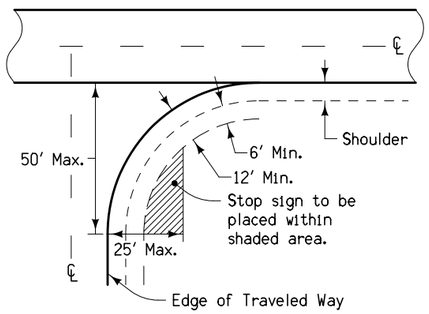
① Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).



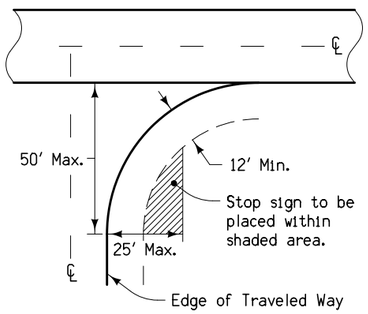
Note:
Taper pavement to be paid for at the contract unit price for P.C. concrete pavement. Full header is included for payment.

TYPICAL DETAILS OF PCC PAVEMENT HEADER

9503
07-15-97



CASE 'A'
WITH SHOULDER



CASE 'B'
WITHOUT SHOULDER

NOTES:

Stop signs should be confined to the shaded areas, but as close to the approach roadway as possible to provide the motorist with the best visual impact.

If possible, stop signs should be placed at the point where vehicles are to stop or as near as practical.

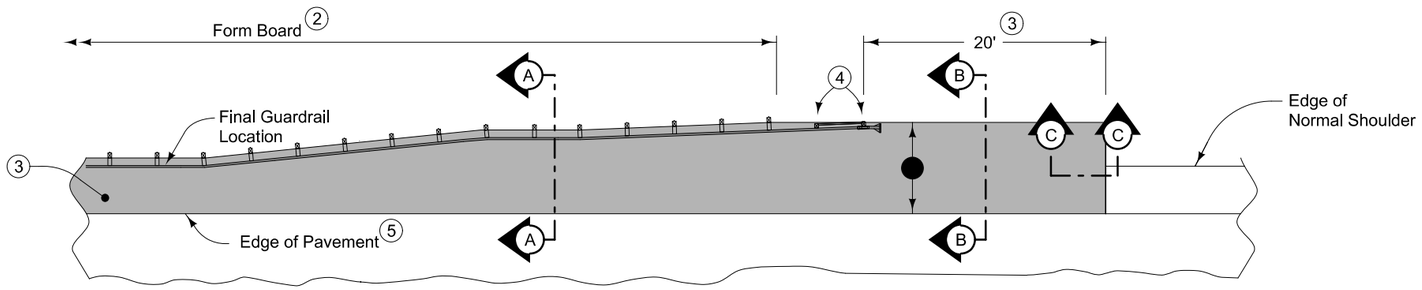
In rural areas, the lateral clearance should not be closer than 6' from the edge of a usable shoulder, or if none, 12' from edge of the traveled way.

In urban areas, stop signs should be placed a minimum of 6' from the near edge of the intersected street or a minimum of 4' in advance of the near edge of a marked crosswalk. Lateral clearance may be reduced to a minimum of 2' from the face of a curb.

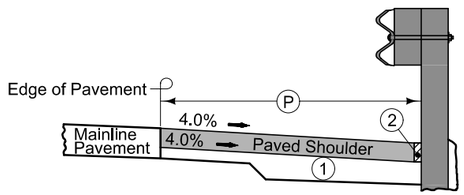
Where the approach roadway consists of two lanes of traffic, a second stop sign should be placed where it is visible to traffic in the inner lane.

At channelized intersections, the additional stop sign may be placed on a channelized island or median.

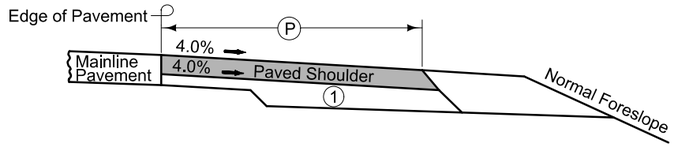
STOP SIGN PLACEMENT



PLAN VIEW

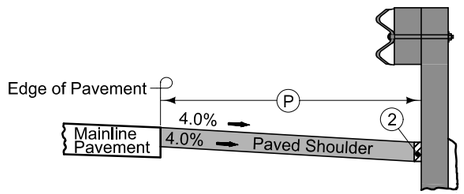


Section A-A

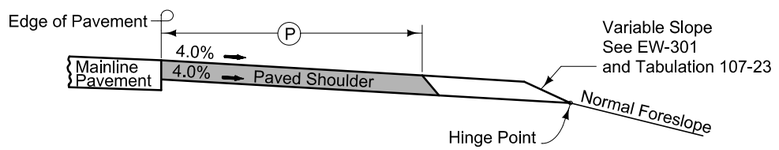


Section B-B

NEW CONSTRUCTION



Section A-A



Section B-B

EXISTING SHOULDER

DESIGNER INFO | 7156 | 04-18-17

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.

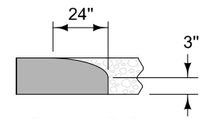
(1) For subgrade treatment, refer to other details in the plan.

(2) 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. Refer to note 4 for final 2 posts.

(3) Continue paved shoulder to existing paved shoulder or 20 feet beyond the center of the first post.

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

(5) 'KT-1 joint for PCC shoulder.
'B' joint for HMA shoulder.



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

PAVED SHOULDER AT GUARDRAIL

PROJECT DESCRIPTION

This project involves the bridge replacement at County Road G12 over I-29 in Pottawattamie County.

The work entails replacing the existing 223 ft. 9 in. x 24 ft. pre-tensioned pre-stressed concrete beam bridge on County Road G12 with a 2-span, 252 ft. – 0 in. x 36 ft. pre-tensioned, pre-stressed bulb tee concrete beam bridge on a new vertical alignment.
The new vertical alignment will require G12 to be reconstructed for approximately 1805 ft.
The access west of I-29 which accommodates the Southbound I-29 exit and entrance ramps will require approximately 190 ft. of reconstruction.
The access east of I-29 which provides access to the Northbound I-29 entrance and exit ramps will require about 170 ft. of reconstruction.

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-200	10-18-16	Steel Beam Guardrail Components
BA-201	04-18-17	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	04-19-16	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-401	04-16-13	Temporary Barrier Rail (Precast Concrete)
BR-101	04-21-15	Bridge Approach Section (General Details)
BR-103	10-17-17	Bridge Approach Section (Two-Lane for Bridge Reconstruction, PCC Pavement)
BR-203	10-17-17	Double Reinforced 12" Approach
BR-211	10-17-17	Bridge Approach (Abutting PCC or Composite Pavement)
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-201	10-16-18	Concrete Aprons
DR-205	10-16-18	Concrete Apron with End Wall
DR-305	04-17-18	Subdrain Outlets (Standard Subdrain, Pressure Release and Special)
EC-201	10-16-18	Silt Fence
EC-204	04-18-17	Perimeter and Slope Sediment Control Devices
EW-203	10-17-17	Bridge Berm Grading with Recoverable Slope (Non-Barnroof Section)
EW-301	10-20-15	Guardrail Grading
EW-403	04-18-17	Temporary Erosion Control Measures
EW-501	10-20-15	Rural Entrance
LI-130	10-17-17	Temporary Floodlighting Luminaires
LI-201	04-18-17	Light Pole Foundation
MI-210	10-20-15	PCC Driveways and Alleys
PM-111	04-21-15	Symbols and Legends
PM-310	04-19-16	Entrance and Exit Ramps
PM-420	04-19-11	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-213	04-17-12	Lane Closure with Flaggers
TC-216	10-18-16	Lane Closure with Signals
TC-252	04-19-16	Routes Closed to Traffic
TC-402	04-21-15	Work Within 15 ft of Traveled Way
TC-418	04-17-18	Lane Closure on Divided Highway
TC-420	10-16-18	Lane Closure at Ramps
TC-421	04-17-18	Lane Closure with TBR
TC-451	04-21-15	Temporary Road Closure on Divided Highway

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Tabulation	Tabulation Title	Sheet No.
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100-18	SILT FENCES FOR DITCH CHECKS	C.4
102-3	ACCESS POINTS AND SAFETY RAMPS	C.3
104-3	DRAINAGE STRUCTURE BY ROAD CONTRACTOR	C.4
105-4	STANDARD ROAD PLANS	C.2
107-23	GRADING FOR GUARDRAIL INSTALLATIONS	C.3
108-8A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	C.3
111-25	INDEX OF TABULATIONS	C.2
112-6	BRIDGE APPROACH SECTION	C.4
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101-17	SPIRAL OR CICULAR CUVE DATA	G.5
J Sheets		
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108-25	511 TRAVEL RESTRICTIONS	J.1
108-26A	STAGING NOTES	J.1

108-8A
10-16-18

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

(1) Lane(s) to which the obstacle is adjacent.
(2) Not a bid item. Incidental to guardrail installation.

Location				Layout Lengths				Long-Span System		Delineators and Object Markers (2)					Bid Items										
				BA-250, BA-260, LS-630, or LS-635														BA-250 or LS-630					BA-260 or LS-635		
No.	Direction of Traffic (1)	Side O = Outside M = Median	Station	Offset	VT1	VF	VT2	ET	BA-211		SI-211	Delineator SI-172	Object Marker SI-173			Bolted End Anchor		Post Adapter	Steel Beam Guardrail	Barrier Transition Section	End Terminal				Barrier Transition Section	End Terminal	Remarks
												Type 1	Type 2	Type 3							Tangent	Flared	Tangent	Flared		Tangent	
				FT	LF	LF	LF	LF	STATION	TYPE	TYPE	White	OM2-2	OM3-L	OM3-R	TYPE	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
1	EB	O	1876+11.79	18.8	40.625	0.00	0.00	47.7			3				1	A	1		0.0	1	1						
2	EB	O	1878+90.79	18.8	40.625	0.00	0.00	47.7			3			1		A	1		0.0	1	1						
3	WB	O	1878+88.21	18.8	40.625	0.00	0.00	47.7			3				1	A	1		0.0	1	1						
4	WB	O	1876+09.21	18.8	40.625	0.00	0.00	47.7			3			1		A	1		0.0	1	1						

107-23
10-18-11

GRADING FOR GUARDRAIL INSTALLATIONS

(1) Lane(s) to which the installation is adjacent. Refer to EW-301

Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork		Remarks
No.	Direction of Traffic (1)	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10	Embankment In Place	
														CY	CY	
1	EB	1875+19.38	Rt	10	40.0	5.0					90.0	7.1	50.0	TBD	TBD	
			Rt													
2	EB	1878+90.58	Rt	10	40.0	5.0					90.0	7.6	50.0	TBD	TBD	
			Rt													
3	WB	1879+80.62	Lt	10	40.0	5.0					90.0	7.1	50.0	TBD	TBD	
			Lt													
4	WB	1876+09.42	Lt	10	40.0	5.0					90.0	7.6	50.0	TBD	TBD	
			Lt													

102-3
10-16-18

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of Unclassified Pipe calculated is based on using Corrugated Metal Pipe.
(1) Refer to MI-210
(2) Refer to EW-501.
(3) Refer to EW-501 or EW-502.
*Predetermined for access point not constructed with this project.

Location		Type	Length of Opening (1)			W	(1) (2) PR	(2) SR	Pipe Culvert (3)					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		HMA	PCC		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	SY	SY	TON	
1883+92.67	Rt	B				24.0	25.0	21.0	4.5	18.0	93.0	46.0	47.0	2		138.4		

BRIDGE APPROACH SECTION

Refer to the BR Series.

* Not a bid item

Location				Approach Pavement					Standard Road Plans BR Series			Subdrain					* Modified Subbase	* Polymer Grid	* Special Backfill	Remarks
Bridge Station	End	Skew Ahead Degrees LEFT	Skew Ahead Degrees RIGHT	(T) Thickness	Pay Length	Non-Reinf. Pavement Area	Single-Reinf. Pavement Area	Double-Reinf. Pavement Area	Approach	Fixed or Movable Abutment	Abutting Pavement	* Perforated Subdrain 4"	* Subdrain Outlet STA	* Subdrain Outlet Side	* Porous Backfill	* Class 'A' Crushed Stone Backfill				
				Inches	FT	SY	SY	SY				LF			CY	CY	TON	SY	TON	
1876+24.00	West		3°42'30"	12.0	70.0	80.0	53.3	80.0	BR-203	Movable	BR-211	50.0	1875+62.45	Rt	1.4	0.2	228.785	242.1		
1878+76.00	East		3°42'30"	12.0	70.0	80.0	53.3	80.0	BR-203	Movable	BR-211	50.0	1879+37.54	Rt	1.4	0.2	228.785	242.1		

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

* Not a bid item

(1) Diameter or equivalent diameter

(2) UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe

(3) Backfill according to DR-101

Drainage Area	Location	Type	Size (1)	Kind Of Pipe (2)	Length New Const.	Bedding Class	Design Cover (H)	Camber* (DR-102)	Apron No.		Apron Guard* (DR-213)	Elbow* (DR-141)	Diaphragm* (DR-501)	Tee Section* (DR-142)	"D" Section* (DR-141)	Reducer*	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121)	4" Perforated Subdrain*	Flow Line Elevations				Dimensions Lin. Ft. Total		Dimensions Lin. Ft. Extensions		Skew Ahead Degrees		Dike Rt.	Dike Location Station	Dike Top Elevation	Dike Type	Class 20	Flowable Mortar	Floodable* Backfill (A)	Porous* Backfill (B)	Flooded Backfill (3) (A+B)	Remarks
ACRE			IN		LF		FT	FT	IN	OUT	No.	No.	No.	No.	No.	No.	Type	No.	Type	FT	Lt.	Rt.	Other	Other	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.				CY	CY	CY	CY	CY	
72.1	1868+29.00	CMP	30	CMP	67	B	3.2	0.08			2										992.52	991.39			32.0	35.0														
18.4	1883+17.00	RCP	30	RCP	99	B	7.1	0.17	1	1	2										995.76	995.00			52.0	47.0														
16.9	3604+00.00	RCP	24	RCP	71	B	2.0	0.08	1	1	2										995.16	994.70			23.0	48.0														

SILT DIKES

Refer to EW-403

Location Station to Station		Side	Length LF	Remarks
100+50.00	106+50.00	Rt	600.0	

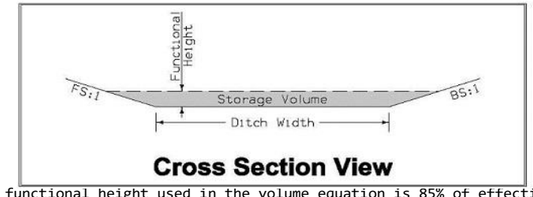
TABULATION OF SILT FENCES

Refer to EC-201

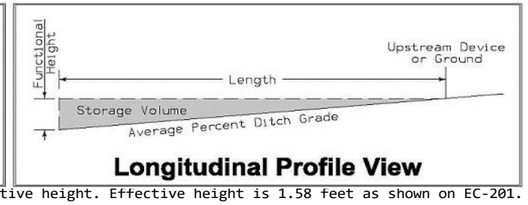
Location Begin Station	End Station	Side	Length LF	Remarks
1868+40.00	1870+14.00	Lt	175.0	Borders ROW
1868+60.00	1870+17.00	Rt	158.0	Borders ROW
1871+18.00	1875+90.00	Lt	474.0	
1871+55.00	1876+25.00	Rt	472.0	Border ROW
1878+78.00	1886+15.19	Lt	438.0	
1879+06.00	1883+75.00	Rt	472.0	
1884+75.00	1886+00.00	Rt	126.0	
1884+11.00	1886+00.00	Rt	181.0	
3602+75.00	3604+03.00	Rt	128.0	
3602+65.00	3604+16.00	Lt	153.0	
2600+75.00	2601+72.00	Rt	100.0	
2600+75.00	2601+83.00	Lt	112.0	
100+50.00	107+83.00	Rt	753.0	
100+51.00	107+83.00	Lt	645.0	

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



Longitudinal Profile View

* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.

* Volume equation: $[0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]$

Basin No.	Type	Location Station	Location Side	Bid Items Installation LF	Bid Items Maintenance LF	Bid Items Removal LF	Stormwater Storage Volume Summary Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg.% Slope Ditch Grade	Volume* CF	Remarks
1	4	1868+40.00	Lt	36.0	4.0	36.0	3.0	2.5	5.0	1.0%	904.8	
2	4	1868+40.00	Rt	36.0	4.0	36.0	3.0	2.5	5.0	1.8%	437.8	
3	4	1869+90.00	Lt	36.0	4.0	36.0	3.0	2.5	5.0	1.0%	904.8	
4	4	1869+15.00	Rt	36.0	4.0	36.0	3.0	2.5	5.0	1.8%	437.8	
5	4	1871+15.15	Lt	36.0	4.0	10.0	3.0	2.5	5.0	0.5%	1838.8	
6	4	1871+60.00	Rt	36.0	4.0	36.0	3.0	2.5	5.0	0.5%	1838.8	
7	4	1880+80.00	Lt	36.0	4.0	36.0	3.0	2.5	5.0	0.4%	1838.8	
8	4	1883+00.00	Lt	36.0	4.0	36.0	3.0	2.5	5.0	0.2%	1838.8	
9	4	1880+70.00	Rt	36.0	4.0	36.0	3.0	2.5	5.0	0.2%	1838.8	
10	4	1883+00.00	Rt	36.0	4.0	36.0	3.0	2.5	5.0	0.2%	1838.8	
11	4	1884+80.00	Lt	36.0	4.0	36.0	3.0	2.5	5.0	1.0%	904.8	
12	4	1886+00.00	Lt	36.0	4.0	36.0	3.0	2.5	5.0	1.0%	904.8	
13	4	1886+00.00	Rt	36.0	4.0	36.0	3.0	2.5	5.0	0.2%	1838.8	
14	4	3603+88.08	Rt	41.0	4.0	41.0	3.0	3.0	10.0	1.3%	942.0	
15	4	3603+88.08	Lt	41.0	4.0	41.0	3.0	3.0	10.0	1.0%	1460.2	
16	4	2601+80.00	Rt	41.0	4.0	41.0	3.0	3.0	10.0	0.5%	2967.4	

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)
- Earth Dam or Dike (Proposed)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Proposed Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Proposed Intake
- Existing Utility Access (Manhole)
- Proposed Utility Access (Manhole)
- Fire Hydrant
- WH Water Hydrant (Rural)

- ST Septic Tank
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST Underground Storage Tank
- Latrine
- Luminaire
- Traffic Signal
- Traffic Signal with Luminaire
- TP Telephone Pedestal
- TVP Television Pedestal
- Telephone Pole
- Telephone Pole (Second Company)
- Telephone Pole (Third Company)
- Telephone Pole (Fourth Company)
- Telephone Pole (Fifth Company)
- Power Pole
- Power Pole (Second Company)
- Power Pole (Third Company)
- Power Pole (Fourth Company)
- Power Pole (Fifth Company)
- Electrical Highline Tower (Metal or Concrete)
- Telephone Riser Pole
- Power Riser Pole
- Telegraph Pole
- Satellite TV Dish
- 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
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- EB Electric Box
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box

- FO Existing Fiber Optics (Central Scott)
- FO2 Existing Fiber Optics (Mcleod USA)
- FO3 Existing Fiber Optics (Qwest)
- FO4 Existing Fiber Optics (ATT)
- FO6 Existing Fiber Optics (MediaCom)
- FO8 Existing Fiber Optics (Bettendorf)
- FO9 Existing Fiber Optics (IowaDOT)
- E Existing Power Line (MidAmerican)
- E2 Existing Power Line (MidAmerican)
- E2(B) Existing Power for Street Light or Traffic Light (Bettendorf)
- E3 Existing Power Line (MidAmerican)
- E4 Existing Power Line (MidAmerican)
- E5 Existing Power Line (IowaDOT)
- G Existing Gas Line (MidAmerican)
- G-HP Existing High Pressure Gas Line (MidAmerican)
- San. Existing Sanitary Sewer Line (Bettendorf)
- San.2 Existing Sanitary Sewer Line (Davenport)
- T Existing Telephone Line (Qwest)
- TV Existing Cable Television Line (MediaCom)
- TV2 Existing Cable Television Line (MediaCom)
- W Existing Water Line (IA American)

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS (ROAD)

LINE WORK	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.	
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Detour Pavement Shading
Gray, Light	(48)	Proposed Pavement and Bridge Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Approach Pavement
Brown, Light	(236)	Grading Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS (ROAD)

LINE WORK	Design Color No.	
Green	(2)	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

CONVENTIONAL SIGNS

- Station / Reference Point — Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail

RIGHT OF WAY LEGEND

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

Legend And Symbol Information Sheet

D, F, AND K SHEETS

(Symbols are Typical Only)

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER D.1

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ROCKFORD TWP.
T-77 N R-44 W
SEC. 4

PI Sta 3599+82.19

3600

I-29 RAMP C

STA. 1867+95.00
BEGIN PROPOSED PAVEMENT CONSTRUCTION

POT STA. 1870+54.61 G12 =
POT STA. 100+00.00 145TH ST

1865

1870

1875

R-75'

100' taper 10:1

12'

24' X 74' CULVERT

24' X 67' CULVERT

COUNTY ROAD G12

POT Sta 3604+82.39

90°

POT STA. 1870+66.61 G12 =
POT STA. 3604+82.39 RAMP C

(CLOSE)

145TH ST

29

0 FEET 50

COUNTY ROAD G12

PLAN

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER D.2

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VPI +00.000
Elv 996.00
Len 400.00 ft
K = 70

STA. 1867+95.00
BEGIN PROPOSED PAVEMENT CONSTRUCTION

997.69

G12 Sta 1870+66.61 = I-29 Ramp C Sta 3604+82.39

G12 PGL

-0.83%

+4.91%

24" x 67' CULVERT

-2.34%
+0.63%
+2.33%
+1.82%
-0.80%
+0.21%
+2.57%

Lt. Ditch
Rt. Ditch
+0.32%
Rt. Ditch
+0.48%
+0.37%
Lt. Ditch

COUNTY ROAD G12
PROFILE

	Varies	4' Ditch	Ramp	SR	5' Ditch
Lt	Varies				5' Ditch
Rt					

997.65 997.49 997.42 997.43 997.54 997.74 998.02 998.40 998.87 999.42 1,000.07 1,000.80 1,001.62 1,002.54 1,003.54 1,004.63 1,005.81 1,007.04 1,008.27 1,009.49 1,010.72 1,011.95 1,013.17 1,014.40 1,015.63 1,016.85 1,018.08 1,019.26 1,020.33 1,021.30 1,022.17

1055 1050 1045 1040 1035 1030 1025 1020 1015 1010 1005 1000 995 990 985 980

1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER D.3

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N

ROCKFORD TWP.
T-77 N R-44 W
SEC. 4

REMOVE EXISTING FOUR-SPAN 223'-9 X 24' PPC BEAM BRIDGE
BUILD NEW TWO SPAN 252'-0 X 36'-0 PPC BEAM BRIDGE

29

29

1880

30"X99' CULVERT

R=75'

100' taper 10:1

100' taper 10:1

24'

COUNTY ROAD G12

100' taper 10:1

90°14'24"

POT Sta 2602+37.67

POT STA. 1883+84.50 G12 =
POT STA. 2602+37.67 RAMP B

℄ I-29 RAMP B

PI Sta 2599+04.15

2'12'

2600

R=75'

1885

150TH ST

STA. 1886+00.00
END PROPOSED PAVEMENT
CONSTRUCTION

1890

+92.67 PROP. TYPE "B" ENT 18" RCP PIPE

(CLOSE) +56.93 Commercial Ent.

(D.A.C.) +41.60' Commercial Ent. 18" x 60' CMP

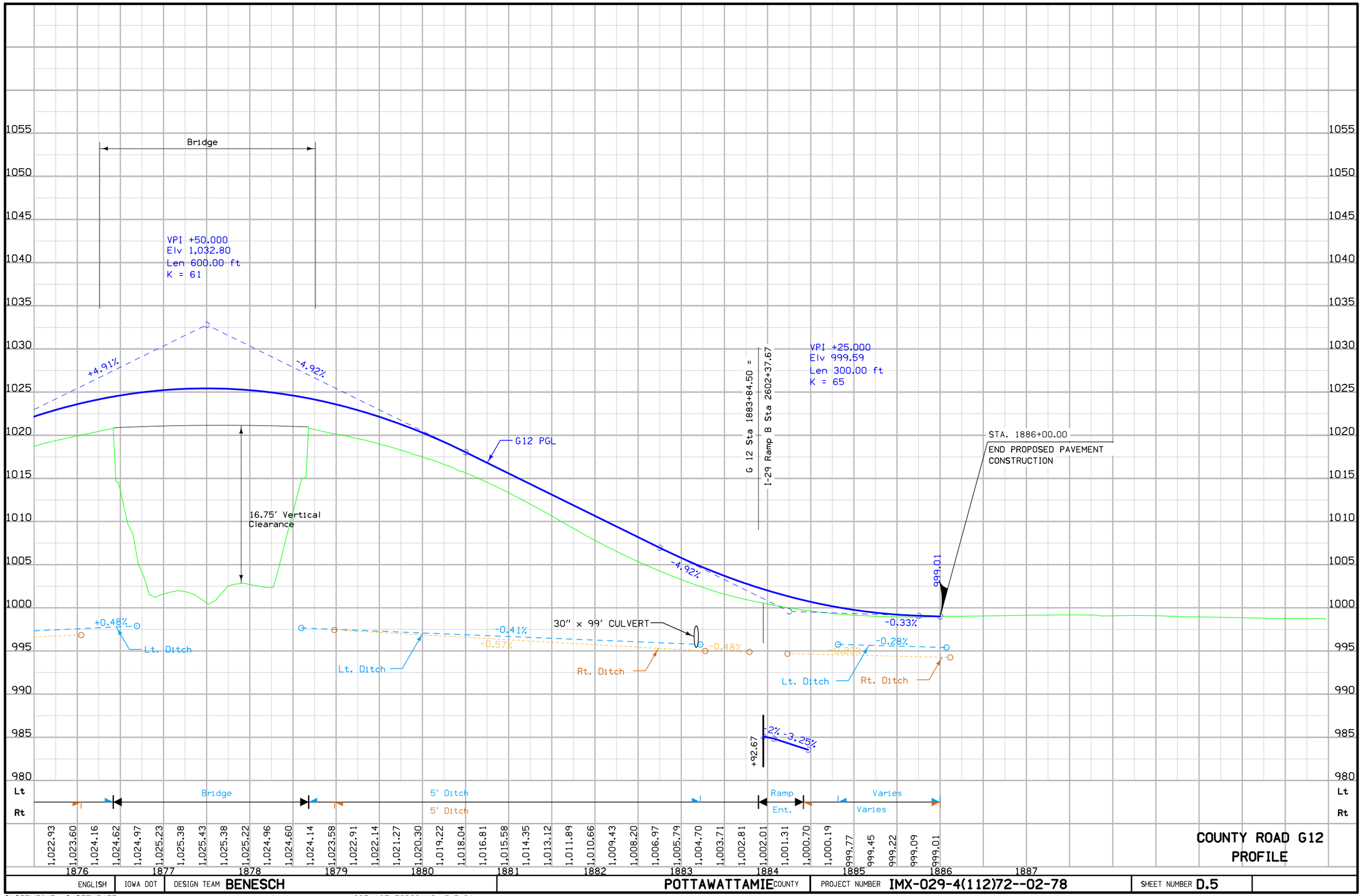
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FEET

COUNTY ROAD G12

PLAN

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER D.4

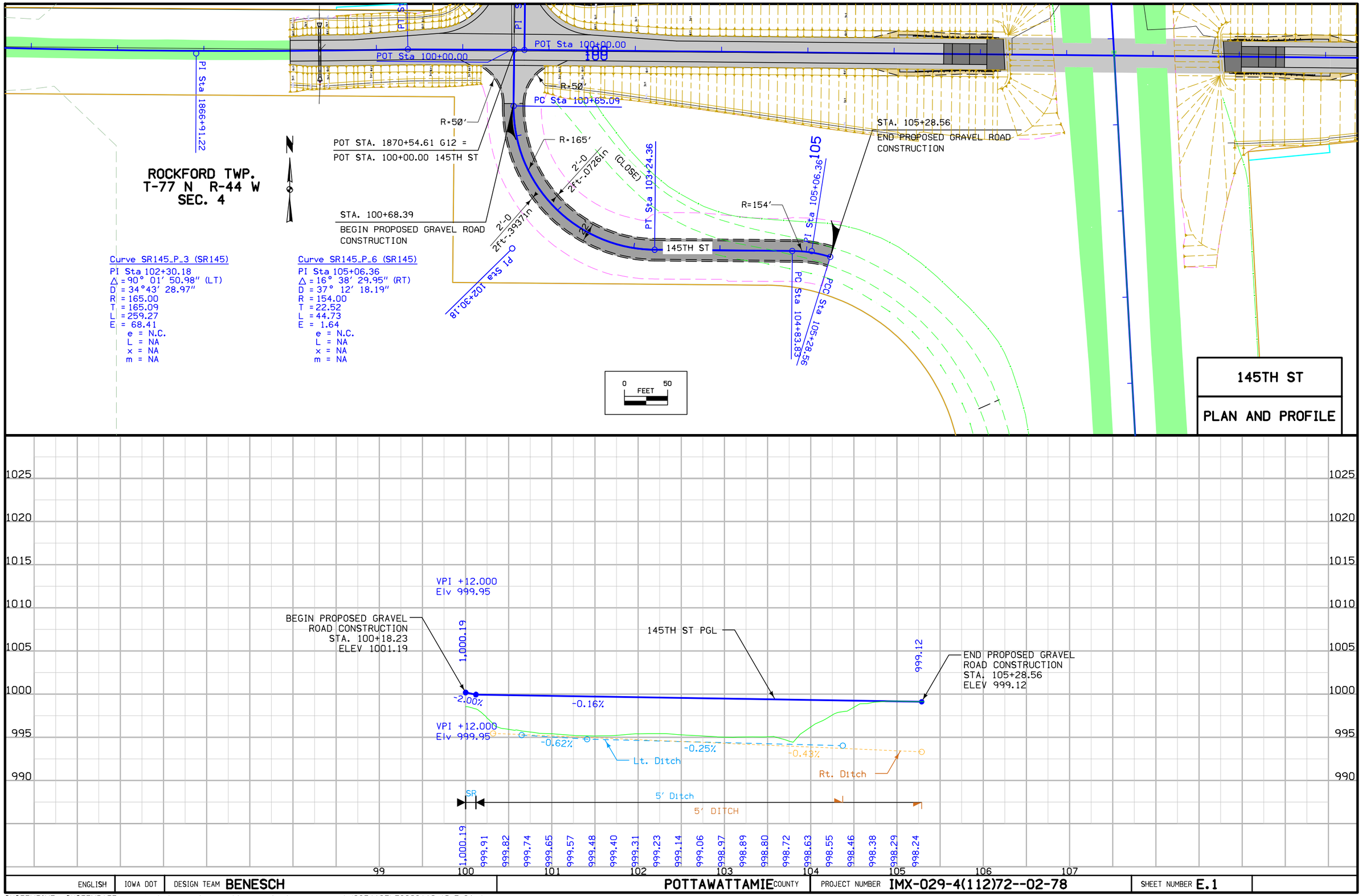
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COUNTY ROAD G12 PROFILE

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER D.5

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ENGLISH	IOWA DOT	DESIGN TEAM **BENESCH**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **IMX-029-4(112)72--02-78**	SHEET NUMBER **E.1**

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ROCKFORD TWP.
T-77 N R-44 W
SEC. 4

3600

Q68

STA 3601+15.75
34.45' RT

I-29 RAMP C

STA 3603+75.84
36.67' RT

Shoulder Strengthening
to be built along existing
edge of pavement

R=90'

STA 1866+91.97
11.86' LT

STA 1868+52.07
16.90' LT

1865

1870

1875

COUNTY ROAD G12

145TH ST

0 50
FEET

G12 AND RAMPS

DETOUR PAVEMENT

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER F.1

SYSTEMTIME SYSTEMDATE untitled c:\pw_work\pwmain\sylvan.popovici\d0874197\78029112-AB-F-01.sht

ROCKFORD TWP.
T-77 N R-44 W
SEC. 4

PC Sta 3590+61.6

2590

890

PC Sta 2589+24.31

PT Sta 2597+97.07

STA 2598+91.04
30.92' LT

PI Sta 2599+04.15

2600

STA 2601+15.74
32.90' LT

R=90'

I-29 RAMP B

PI Sta 1883+89.48

1880

1885

PI Sta 1885+49.33

STA 2602+21.54
142.16' LT

150TH ST

PI Sta 1887+76.81

STA 1887+71.79
12.62' LT

1890

POT Sta 1890+46.22

G88

POT Sta 884+80.30

COUNTY ROAD G12

POT Sta 2602+37.67

Shoulder Strengthening
to be built along existing
edge of pavement

0 50
FEET

G12 AND RAMPS

DETOUR PAVEMENT

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER F.2

SYSTEMTIME SYSTEMDATE untitled c:\pw_work\pwmain\sylvan.popovici\d0874197\78029112-AB-F-01.sht

Survey Information

County: Pottawattamie
PIN: 16-78-029-070
Project Number: IMX-029-4(112)72- -02-78
Location: CO Rd G12 Interchange 0.4 mi N of N Jct I-680
Type of Work: PCC Pavement Grade and Replace
Project Directory: 7802907016
SAP 803.2

General Information

Measurement units for this survey are US survey feet. This survey is for preliminary
engineering of County road G12 interchange I-29. This project is a combination of field
survey and aerial survey. The existing drainage structures and changes made after lidar and aerial were the only features field surveyed for this project. The rest was surveyed using aerial photography and lidar mapping.

Vertical Control

Vertical Control was established on 5 monuments on the project designated as points
B 140, H 180, N 180, E 138 and R 138. These monuments are stable and are expected to hold vertical reasonably well. The vertical datum is NAVD88. Datum was transferred from the Iowa RTN reference station at Le Mars to the projects monuments mentioned above by using concurrent 6 hour static measurements and post processing connecting vectors. Geoid 12 A was used in processing. The Council Bluffs reference station orthometric height used is 1001.974 US Survey Ft.

This survey observed 5 NGS Control Monuments with published NAVD88 heights
to validate the reference station height used in computation of project heights. The
county control has a stated vertical accuracy of + or 0.10 ft. The survey heights
determined at the NGS monuments validate the NAVD 88 height used at the
Council Bluffs reference station and the positions of the project control monuments within acceptable tolerance.

This survey observed 5 NGS Control Monuments with published NAVD88 heights to compare to local ground control:

NGS 1st. order class II mark designated B 140 has a published Elev. Of 1008.83
Survey Elev. = 1008.894

NGS 1st. order class II mark designated H 180 has a published Elev. Of 987.35
Survey Elev. = 987.401

NGS 1st. order class II mark designated N 180 has a published Elev. Of 988.05
Survey Elev. = 988.07

NGS 1st. order class II mark designated E 138 has a published Elev. Of 997.29
Survey Elev. = 997.214

NGS 1st. order class II mark designated R 138 has a published Elev. Of 991.20
Survey Elev. = 991.189

Horizontal Control

Horizontal Control was established on 5 monuments on the project designated as points
B 140, H 180, N 180, E 138 and R 138. These monuments are stable and are expected to hold vertical reasonably well. The horizontal datum is NAD83(2011) (EPOCH 2010.00). Datum was transferred from the Iowa RTN reference station at Council Bluffs to the projects monuments mentioned above by using concurrent 6 hour static measurements and post processing connecting vectors. Iowa Regional Coordinate System Zone 6 is used. The Zone 6 coordinates used at the Council Bluffs reference station are: N= 6954894.981, E= 16467018.172.

Survey Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans Project No. I-29-4(22)73- -01-78. Survey stationing was equated to the plan at PI Sta. 793+25.5. and run ahead without equation throughout the survey. Alignment based off of station offsets splits of bridges.

Survey stationing relates to as built plan stationing as follows:

PI Sta. 793+25.5 As-built Plans Project No. I-29-4(22)73- -01-78.
Survey PI Sta. 793+25.5

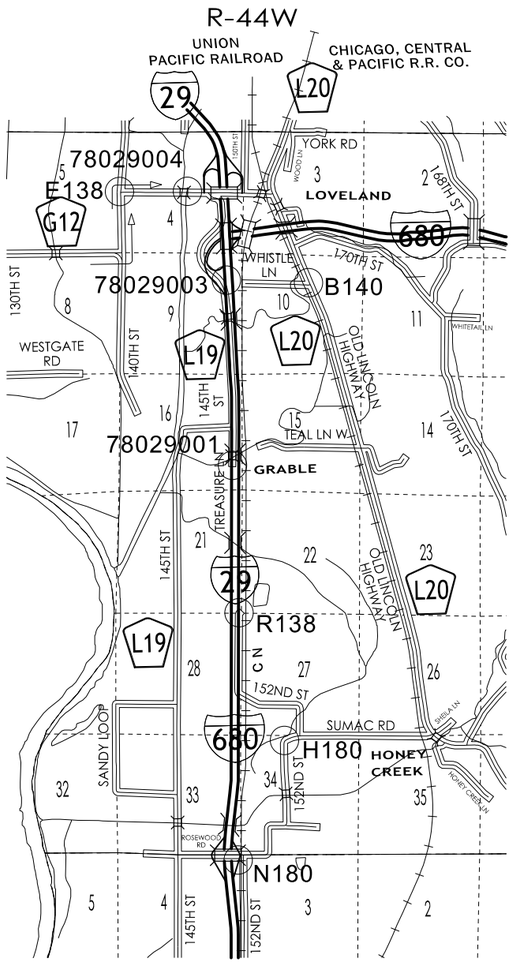
POT Sta. 884+80.30 As-built Plans Project No. I-29-4(22)73- -01-78.
Survey POT Sta. 884+76.74

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) EPOCH 2013.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 6

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) EPOCH 2013.00

VERT. DATUM: NAVD88

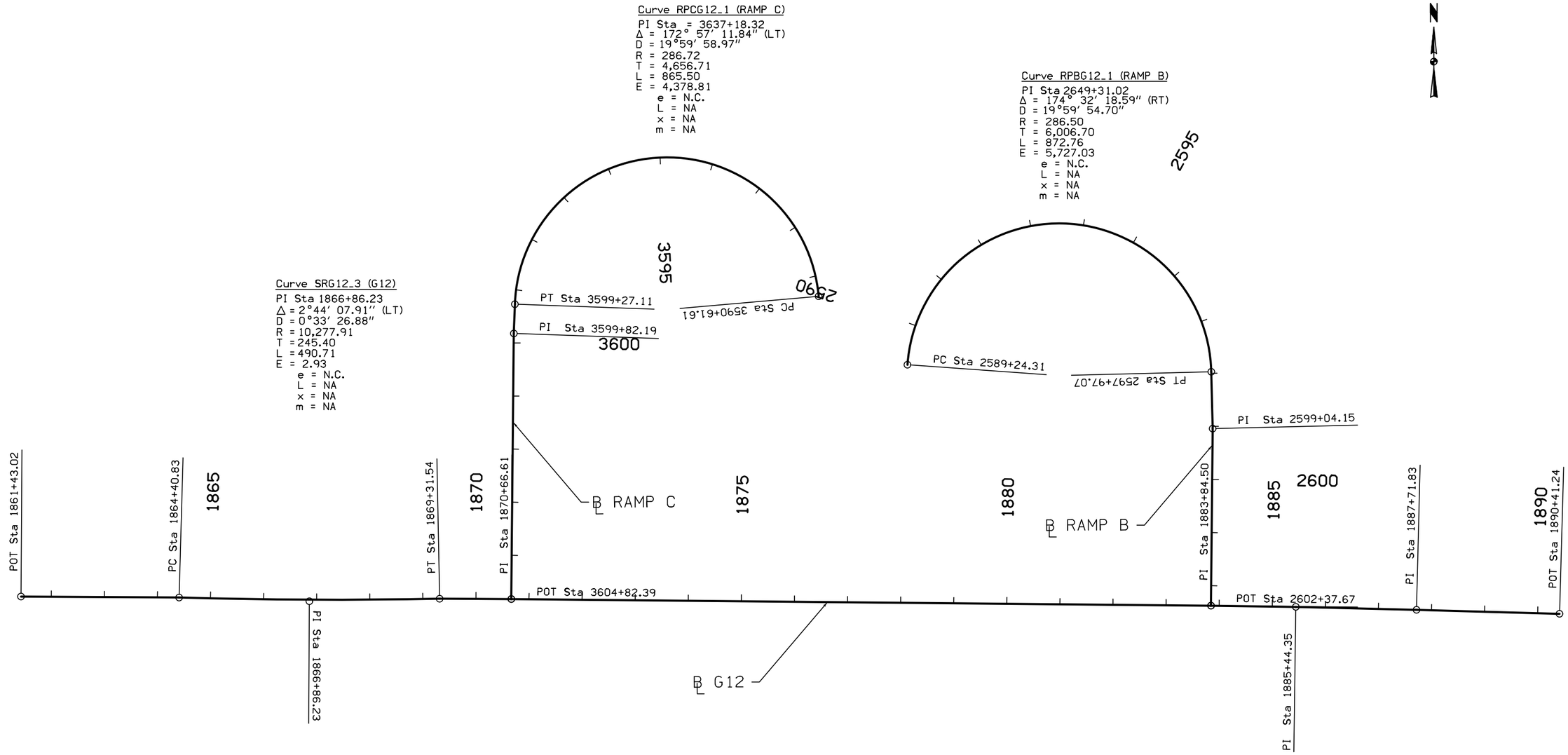
Ia. Regional Coordinate System Zone 6

Point Name	Northing	Easting	Elevation	Feature Definition	Description
H180	7031139.63	16456582.35	987.4	CP	STAINLESS STEEL ROD 1.1 MI WEST OF CO. RD. L20 ON SUMAC RD 25' NE OF FIELD ENT 3' SW OF POWER POLE
N180	7025873.099	16454543.58	988.07	CP	STAINLESS STEEL ROD ALONG HONEY CREEK OFF RAMP FROM I29 NB EXIT 66 230' SOUTH CL CO. RD. L19 140' WEST OF CL RR TRACKS 51' EAST OF RAMP NEAR ROW FENCE
R138	7036755.905	16454583.77	991.19	CP	NGS DISK 1 MI WEST OF CO. RD. L20 ON SUMAC RD THEN 1.4 MI NORTH ON 152ND AVE IN RD DITCH 117' WEST OF CL RR TRACKS 12' WEST OF ELECTRIC METER PEDESTAL
B140	7051278.887	16457643.4	1008.89	CP	NGS DISK 4.8 MI SOUTH OF MISSOURI VALLEY ON CO. RD. L20 IN ROAD DITCH 93' SW MILE MARKER 17 45' EAST OF CL RR TRACKS 96' NORTH OF CL FIELD ENT
78029001	7043243.11	16454292.95	996.08	CP	FENO TYPE MONUMENT ALONG I29 SB IN BACKSLOPE 23' SOUTH OF ROW FENCE AND 36' EAST OF ROW FENCE 74' NW OF MILEPOST 69.65
78029003	7051391.748	16454031.43	997.65	CP	FENO TYPE MONUMENT ALONG I29 SB 41' NW OF MILEPOST 71.15
78029004	7055297.605	16452312.12	1005.57	CP	FENO TYPE MONUMENT FROM LOVELAND EXIT 72 I29 SB GO WEST 0.1 MI ON CO. RD. G12 38' NORTH OF NE CORNER OF BRIDGE OVER BOYER RIVER
E138	7055290.856	16449322.32	997.21	CP	NGS DISK FROM LOVELAND EXIT 72 I29 SB GO WEST 0.7 MI ON CO. RD. G12 AT INTERSECTION DISK IS LOCATED IN FIELD 71' NW OF DESOTO AVE. & 140TH ST. SIGN

Curve RPCG12_1 (RAMP C)
PI Sta = 3637+18.32
Δ = 172° 57′ 11.84″ (LT)
D = 19°59′ 58.97″
R = 286.72
T = 4,656.71
L = 865.50
E = 4,378.81
e = N.C.
L = NA
x = NA
m = NA

Curve RPBG12_1 (RAMP B)
PI Sta 2649+31.02
Δ = 174° 32′ 18.59″ (RT)
D = 19°59′ 54.70″
R = 286.50
T = 6,006.70
L = 872.76
E = 5,727.03
e = N.C.
L = NA
x = NA
m = NA

Curve SRG12_3 (G12)
PI Sta 1866+86.23
Δ = 2°44′ 07.91″ (LT)
D = 0°33′ 26.88″
R = 10,277.91
T = 245.40
L = 490.71
E = 2.93
e = N.C.
L = NA
x = NA
m = NA



ALIGNMENTS G12, RAMP B AND C

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER G.4

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ALIGNMENT COORDINATES

101-16
10-20-09

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)
SRG12	COUNTY ROAD G12																		
SRG121		1861+43.02	7055245.56	16452314.71															
SRG12_3								1864+40.83	7055243.79	16452612.51	1866+86.23	7055236.78	16452857.81	1869+31.54	7055241.48	16453103.17			
SRG126		1870+66.61	7055240.86	16453238.24															
SRG128		1883+84.50	7055228.29	16454556.07															
SRG1210		1885+44.35	7055226.10	16454715.90															
SRG1212		1887+71.83	7055220.54	16454943.31															
SRG1213		1890+41.24	7055213.07	16455212.62															
RAMP B																			
RPBG12_1								2589+24.31	7055682.07	16453984.42	2649+31.02	7061673.74	16454409.11	2597+97.07	7055668.85	16454556.62			
RPBG124		2599+04.15	7055561.80	16454559.25															
RPBG125		2602+37.67	7055228.29	16454556.07															
RAMP C																			
RPCG12_1								3590+61.61	7055810.98	16453817.12	3637+18.32	7060449.87	16453410.03	3599+27.11	7055796.08	16453244.96			
RPCG124		3599+82.19	7055741.04	16453243.01															
RPCG125		3604+82.39	7055240.86	16453238.24															
145TH STREET																			
6		100+00.00	7055240.92	16453226.24															
SR145_P_3								100+65.09	7055175.83	16453225.62	102+30.18	7055010.75	16453224.05	103+24.36	7055009.26	16453389.13			
SR145_P_6								104+83.83	7055007.83	1645348.59	105+06.36	7055007.63	16453571.12	105+28.56	7054853.83	16453574.21			

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data													Remarks
			Spiral Data								Curve Data					
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
SRG12	COUNTY ROAD G12															
SRG12_3											2°44'07.91" LT	245.40'	490.71'	10277.91'	2.93'	
RPBG12	RAMP B															
RPBG12_1											174°32'18.59" RT	6006.70'	872.76'	286.50'	5727.03'	
RPCG12	RAMP C															
RPCG12_1											172°57'11.84" LT	4656.71'	865.50'	286.72'	4378.81'	
SR145	145TH STREET															
SR145_P_3											90°01'50.98" LT	165.09'	259.27'	165.00'	68.41'	
SR145_P_6											16°38'29.95" RT	22.52'	44.73'	154'	1.64'	

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

1

LARRY E. & KAREN E. BOSTWICK

TEMPORARY EASEMENT
TO SHAPE

1869+60± RT
℄ 55'

1868+49
℄ 51'

N

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Hughes / Larson
ROW #: IMN-029-4(114)72--0E-78
Plan Date: 10-17-2018
Color Legend:

- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

0 FEET 20

FILE NO.	ENGLISH	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER H.1

N

1879+07±PL

℄120'

1881+31

℄97'

TEMPORARY EASEMENT
TO SHAPE

②

DONALD D. & BRENDA K.
RIEF

0 FEET 20

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Hughes / Larson
ROW #: IMN-029-4(114)72--0E-78
Plan Date: 10-17-2018
Color Legend:

- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

FILE NO.	ENGLISH	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER H.2

12

150TH

N

1883+70
℄90'

1884+11
℄90'

1884+98
℄90'

1884+44
℄90'

+92.67 PROP.
TYPE "B" ENT
18" RCP PIPE

+56.93 PROP.
ENTRANCE AND PIPE
CULVERT TO BE
DETERMINED DURING
FINAL DESIGN

(U.A.C.)
+41.60
Commercial Ent.
18" x 60' CMP

2

DONALD D. & BRENDA K.
RIEF

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

0 FEET 20

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Hughes / Larson
ROW #: IMN-029-4(114)72--0E-78
Plan Date: 4-25-2019
Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER H.3

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1. Traffic on I-29 Ramps will be open at all times.

2. Traffic on I-29 will be open at all times with Lane Closures for bridge demolition and bridge construction using TC-1, TC-418 and TC-421, except for beam removal and beam placement. Intermittent closure of I-29 for demolition and beam placement shall use TC-451. Closures shall be allowed Sunday thru Saturday from 8 PM to 6 AM.

3. Traffic on County Road G12 over I-29 will be detoured. See Detour Plans on Sheets J.6 and J.7.

4. Construction will be performed under 3 stages on G12 using strengthened shoulders and a lane closure with signals per Standard Road Plan TC-216.

108-26A
08-01-08

STAGING NOTES

I-29 Staging
Stage 1
Demolition of County Road G12 bridge over I-29 using Standard Road Plans TC-1, TC-420 and TC-451.

Stage 2
Construct median bridge pier for G12 bridge over I-29 using Standard Road Plans TC-1, TC-420 and TC-421.
Remove and reinstall cable guardrail.

Stage 3
Construct outside bridge abutments and macadam wall using TC-1 and TC-420. Erect beams with intermittent closures using Standard Road Plan TC-451.

County Road G12 Staging
Stage 1
Strengthen the shoulder in the northwest quadrant of the Ramp C intersection with County Road G12 and strengthen the shoulder of the northeast quadrant of the Ramp B intersection with County Road G12. Use Standard Road Plan TC-402.
Begin construction of County Road G12 bridge and roadway between interchanges. The G-12 traffic over I-29 will be detoured.

Stage 2
Build the south lanes of County Road G12 through the ramp intersections, the east lanes of Ramp C, and the west lanes of Ramp B along with all roadway construction between the interchange ramps. The traffic will use single lane signalized traffic control Standard Road Plan TC-216 as shown in plans. The traffic will ride on the existing pavement and strengthened shoulders.
The G-12 traffic over I-29 will be detoured.

Stage 3
Build the remaining sections of County Road G12, Ramps C and B, along with all roadway construction between the interchange ramps. The traffic will use single lane signalized traffic control Standard Road Plan TC-216 as shown in plans. The one lane of traffic will ride on the newly constructed pavement.

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
G12	East	Pottawattamie	Bridge Reconstruction	County Road G12 over I-29	Bridge	7871.90029	Vertical					
G12	West	Pottawattamie	Bridge Reconstruction	County Road G12 over I-29	Bridge	7871.90029	Vertical					
I-29 Ramp C	South	Pottawattamie	Intersection Construction	County Road G12	Temporary Signal		Vertical					
I-29 Ramp B	North	Pottawattamie	Intersection Construction	County Road G12	Temporary Signal		Vertical					

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

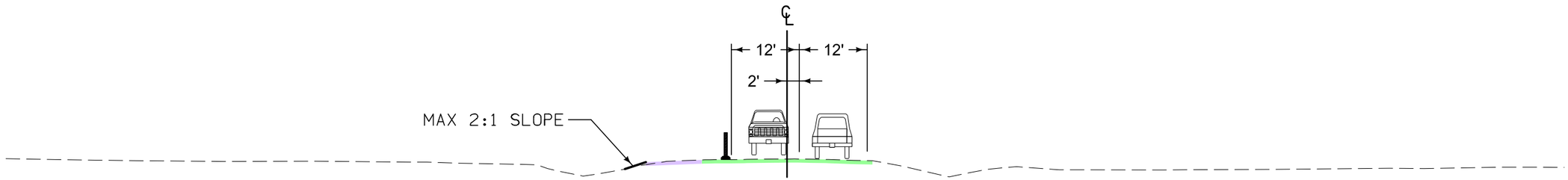
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

●	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		Lane Identification

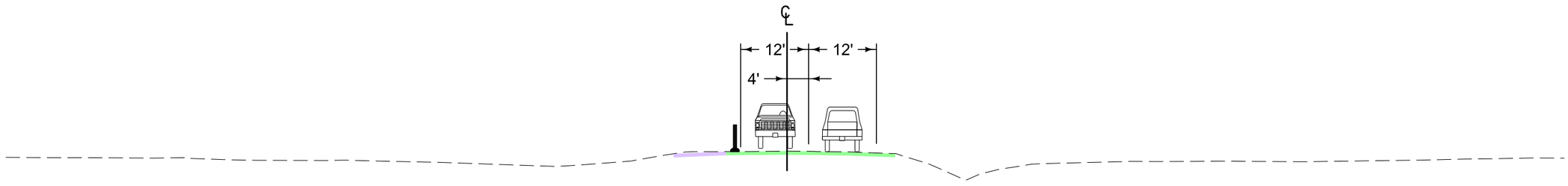
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

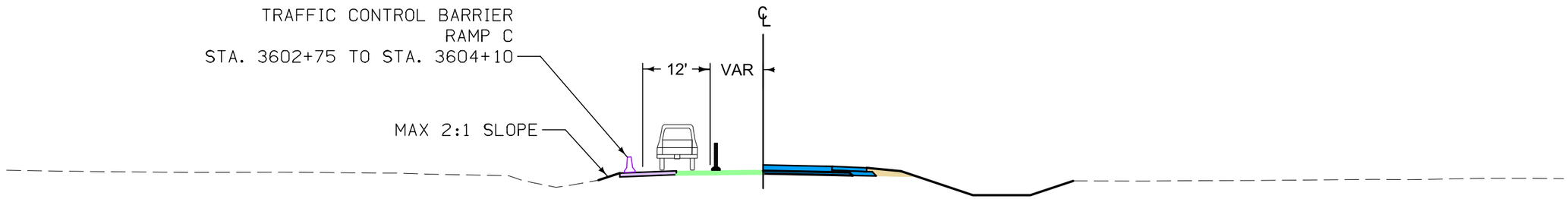
(COVERS SHEET SERIES J)



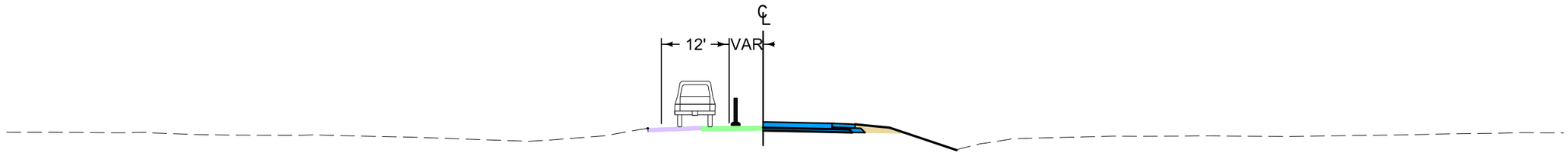
COUNTY ROAD G12
STAGE 1
WEST OF BRIDGE



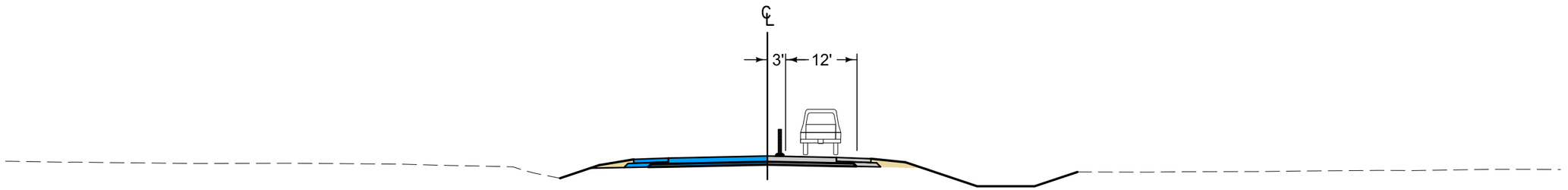
COUNTY ROAD G12
STAGE 1
EAST OF BRIDGE



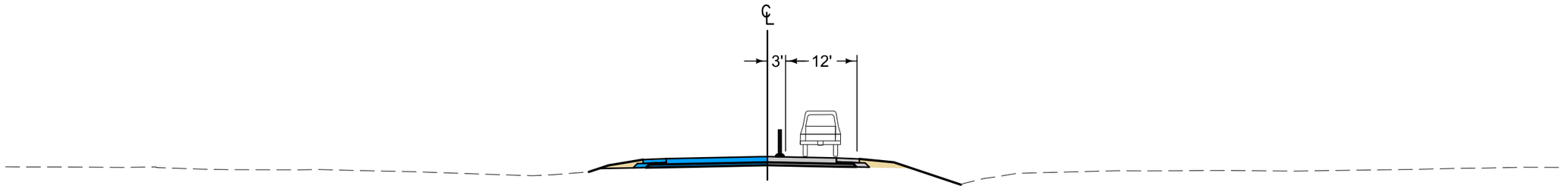
COUNTY ROAD G12
STAGE 2
WEST OF BRIDGE



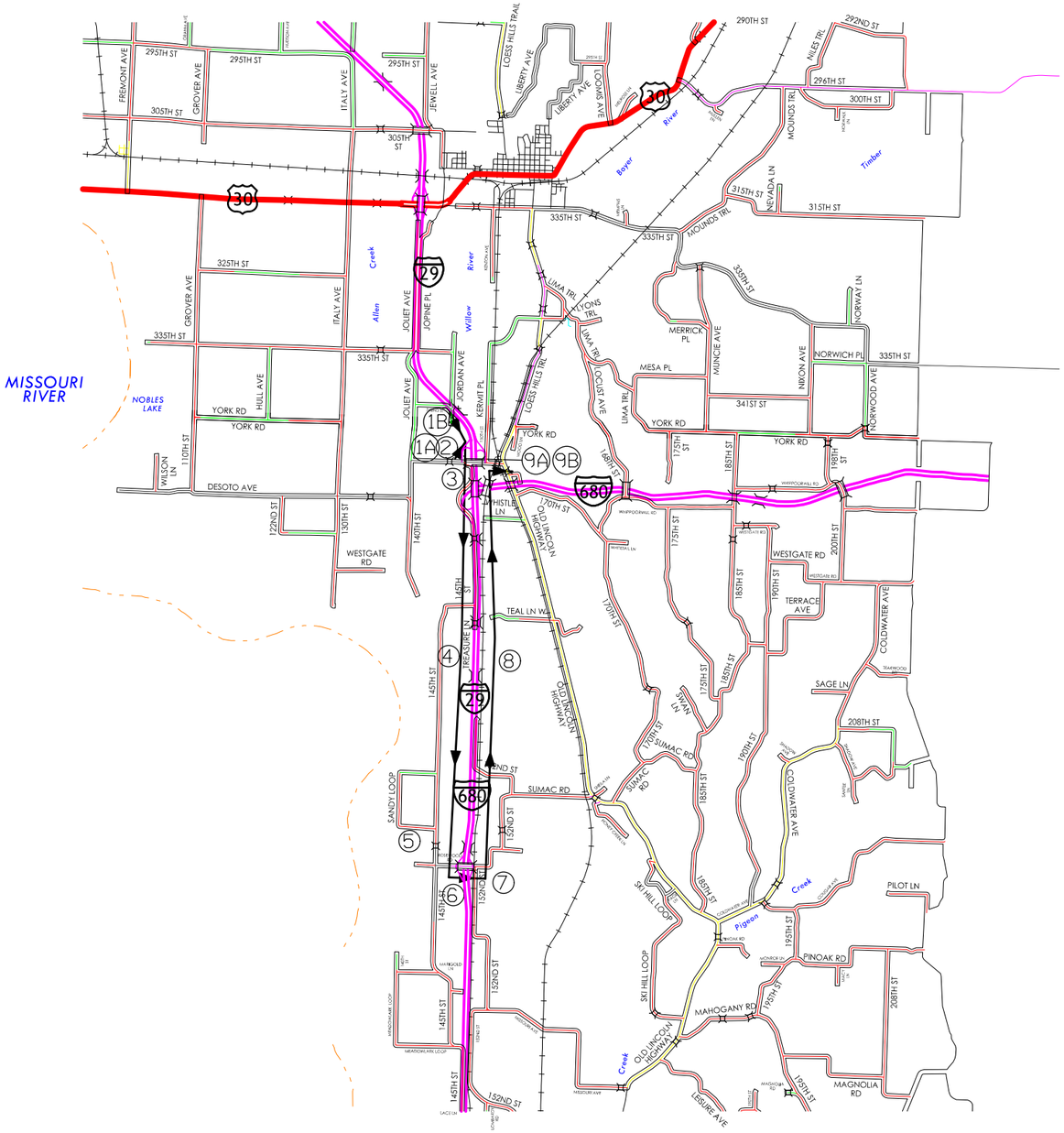
COUNTY ROAD G12
STAGE 2
EAST OF BRIDGE

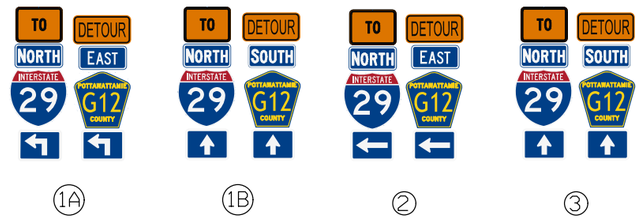


COUNTY ROAD G12
STAGE 3
WEST OF BRIDGE



COUNTY ROAD G12
STAGE 3
EAST OF BRIDGE





EB G12 DETOUR ROUTE

Note: All detour signs are to be provided, placed, maintained, and removed by the contractor.

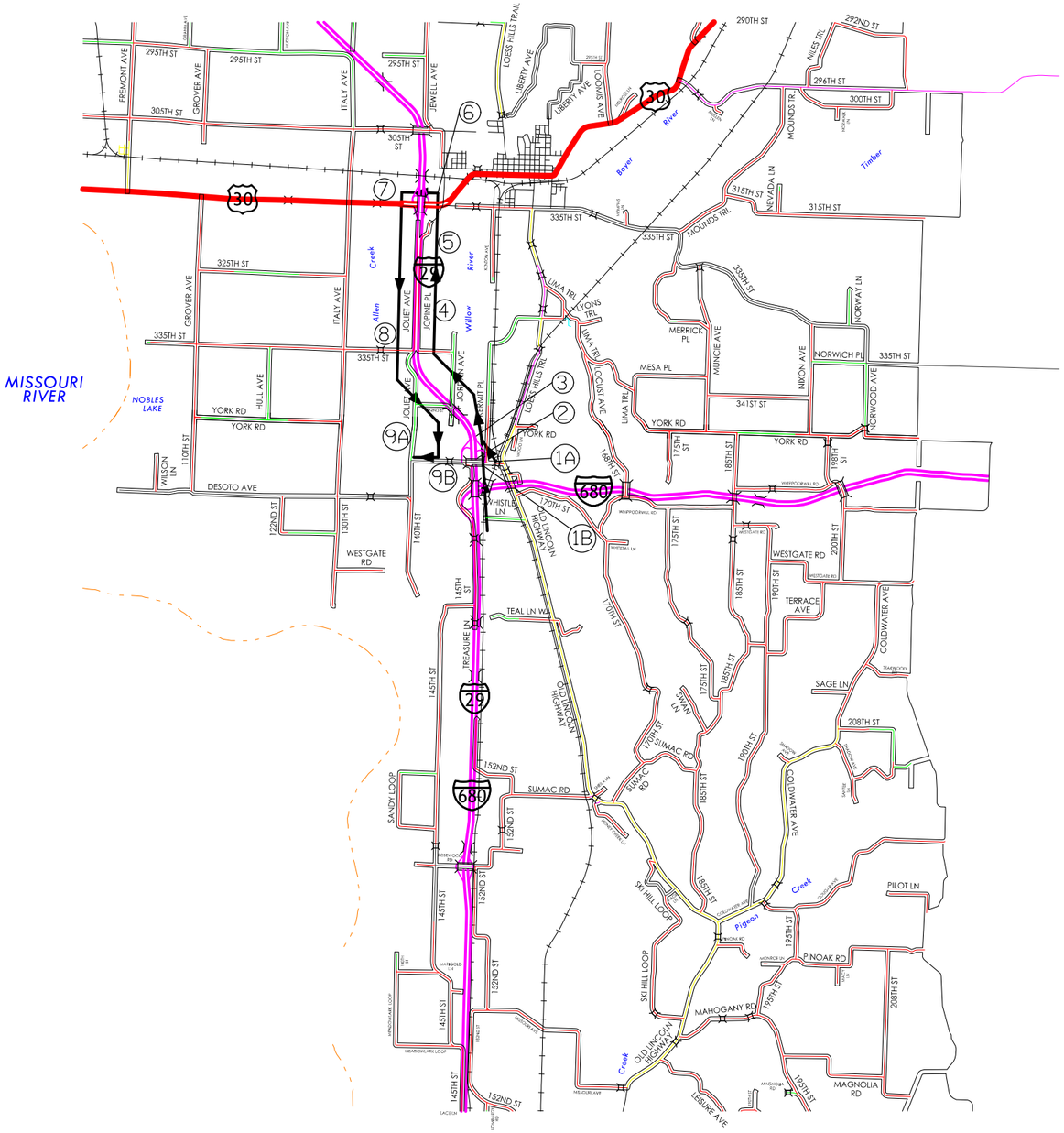
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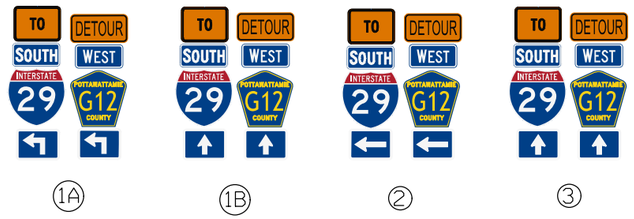
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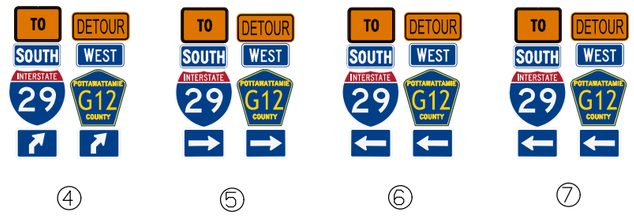
STAGE 1
DETOUR ROUTE OF G12 EASTBOUND

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER J.6

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WB G12 ACCESS

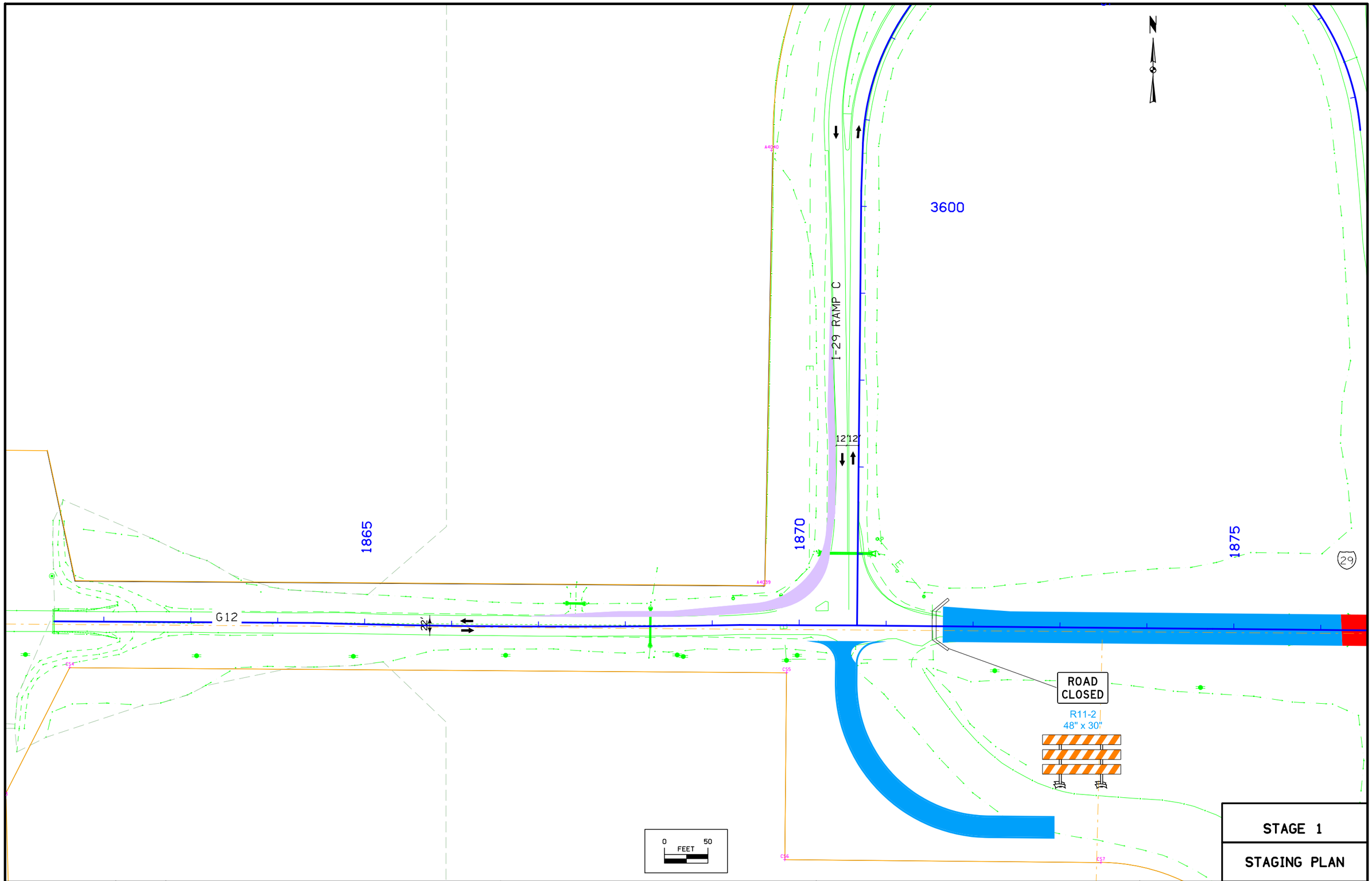
Note: All detour signs are to be provided, placed, maintained, and removed by the contractor.

NOT TO SCALE

STAGE 1
DETOUR ROUTE
OF G12 WESTBOUND

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER J.7

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STAGE 1

STAGING PLAN

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER J.8

SYSTEMTIME SYSTEMDATE untitled c:\pw_work\pwmain\sylvan.popovici\d0874197\78029112-AB-J-01.sht

2590

2600

1880

1885

1890

I-29 RAMP B

2'12'

22'

G12

29

29

ROAD CLOSED

R11-2
48" x 30"

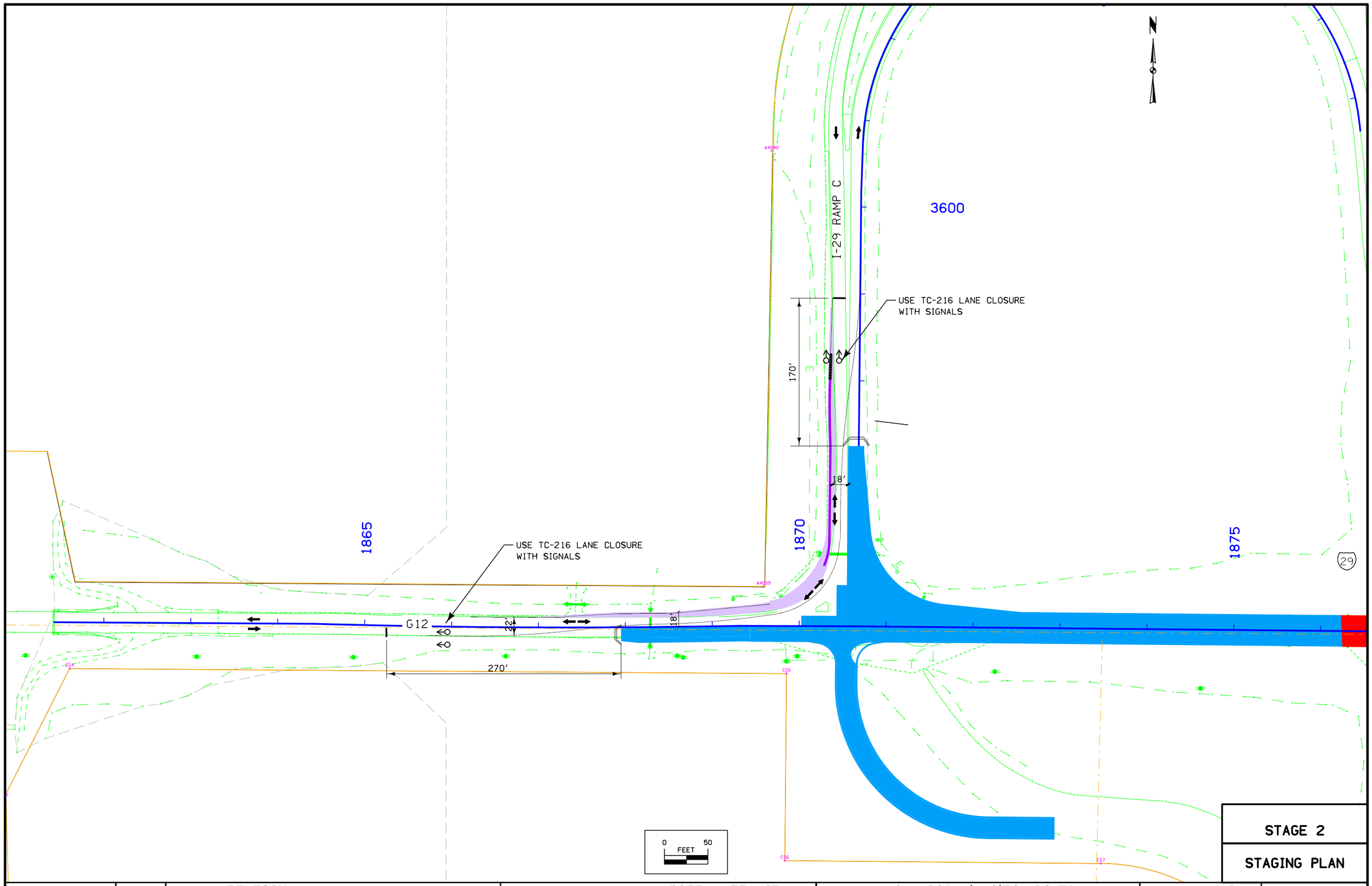
0 50
FEET

STAGE 1

STAGING PLAN

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER J.9

SYSTEMTIME SYSTEMDATE untitled c:\pw_work\pwmain\sylvan.popovici\d0874197\78029112-AB-J-01.sht



ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER J.10

SYSTEMTIME SYSTEMDATE untitled c:\pw_work\pwmain\sylvan.popovici\d0874197\78029112-AB-J-01.sht

USE TC-216 LANE CLOSURE
WITH SIGNALS

I-29 RAMP B

270'

18'

2600

1880

1885

1890

USE TC-216 LANE CLOSURE
WITH SIGNALS

18'

G12

G12

170'

29

29

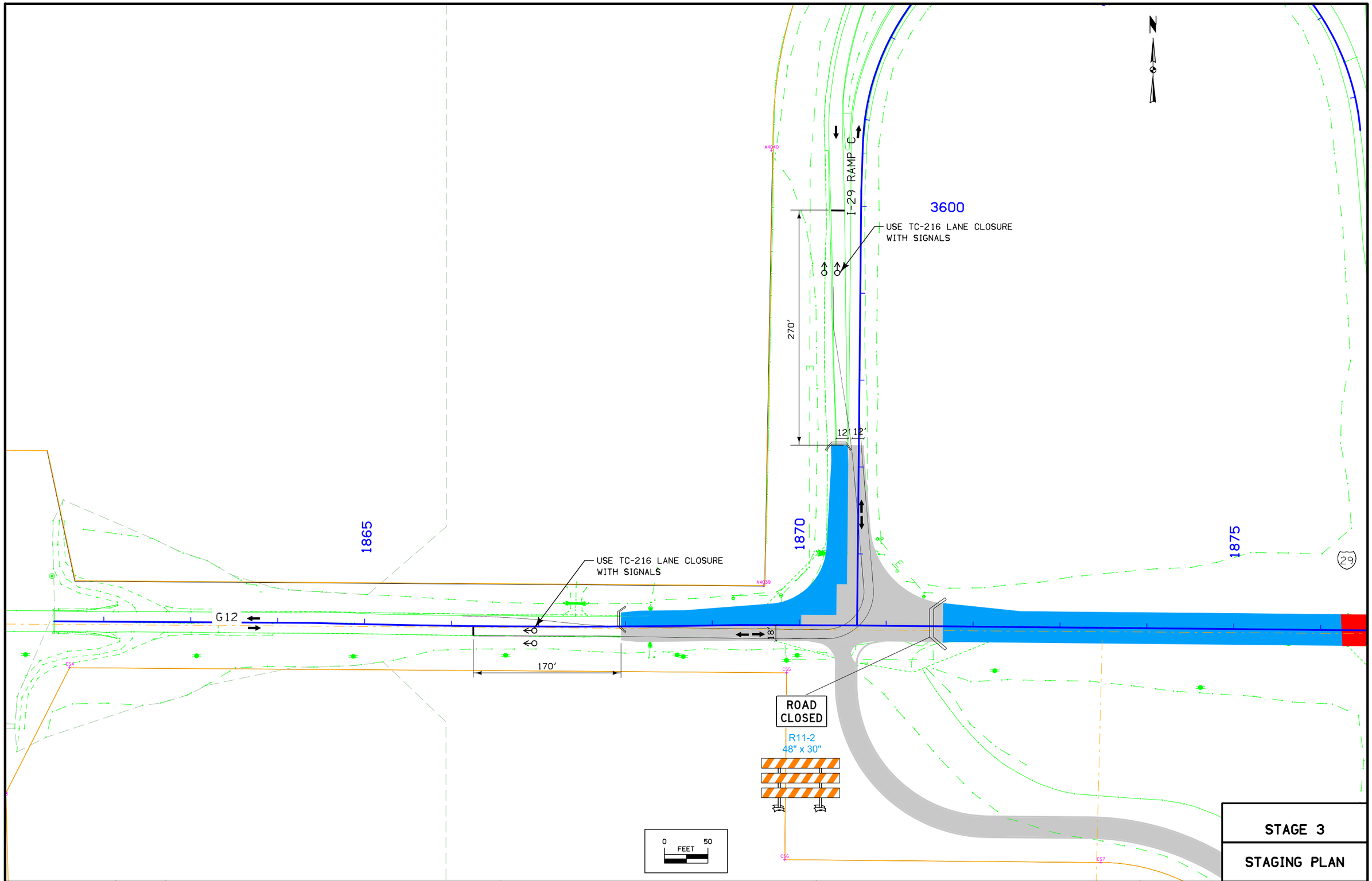
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FEET

STAGE 2

STAGING PLAN

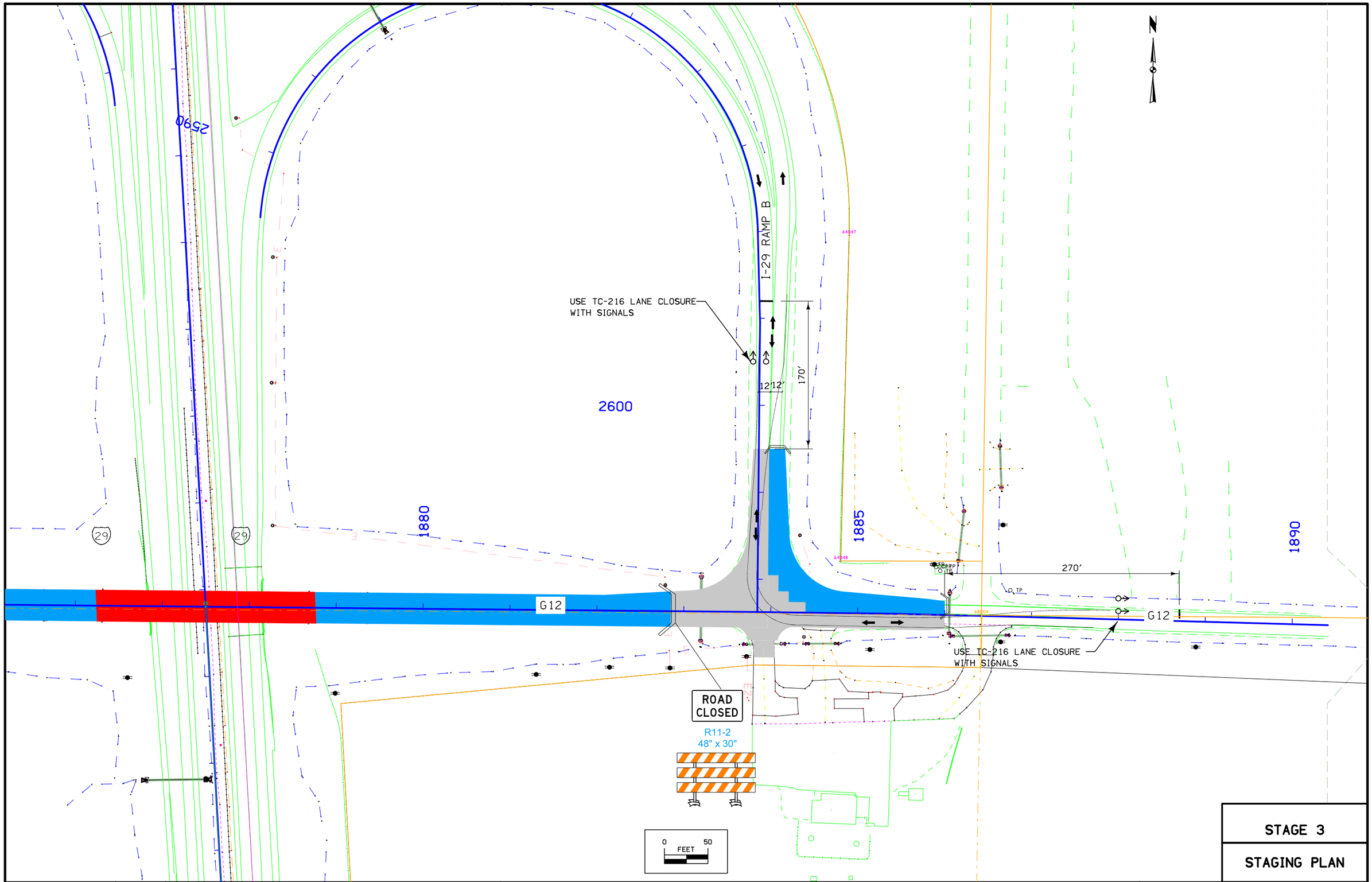
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ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER J.12

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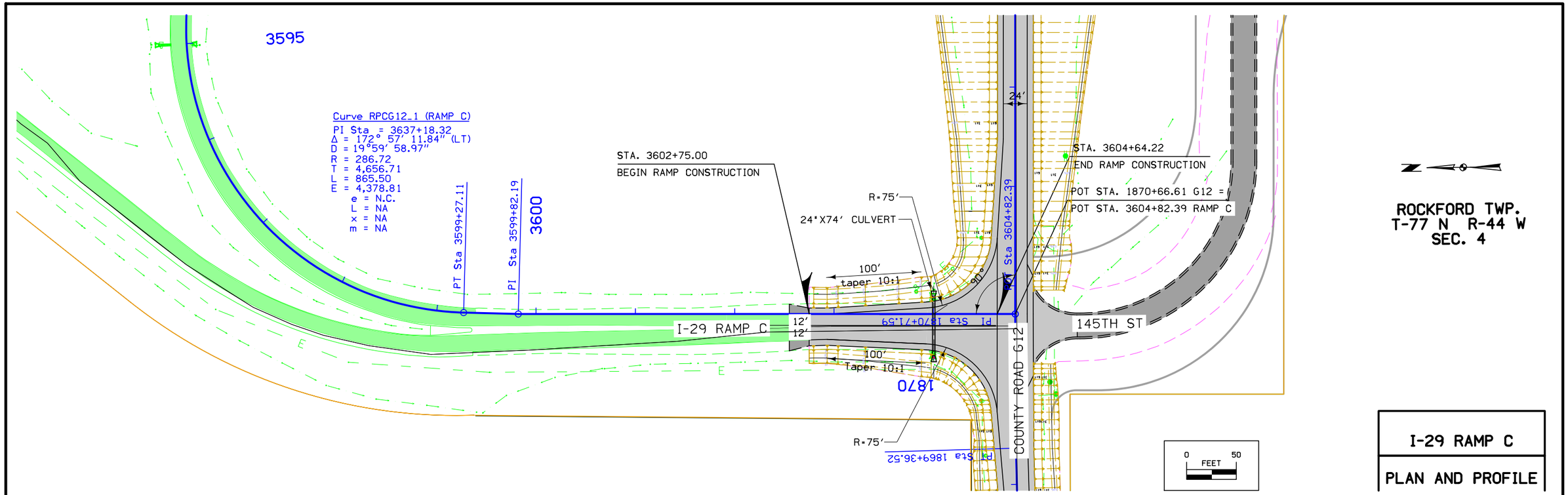


STAGE 3

STAGING PLAN

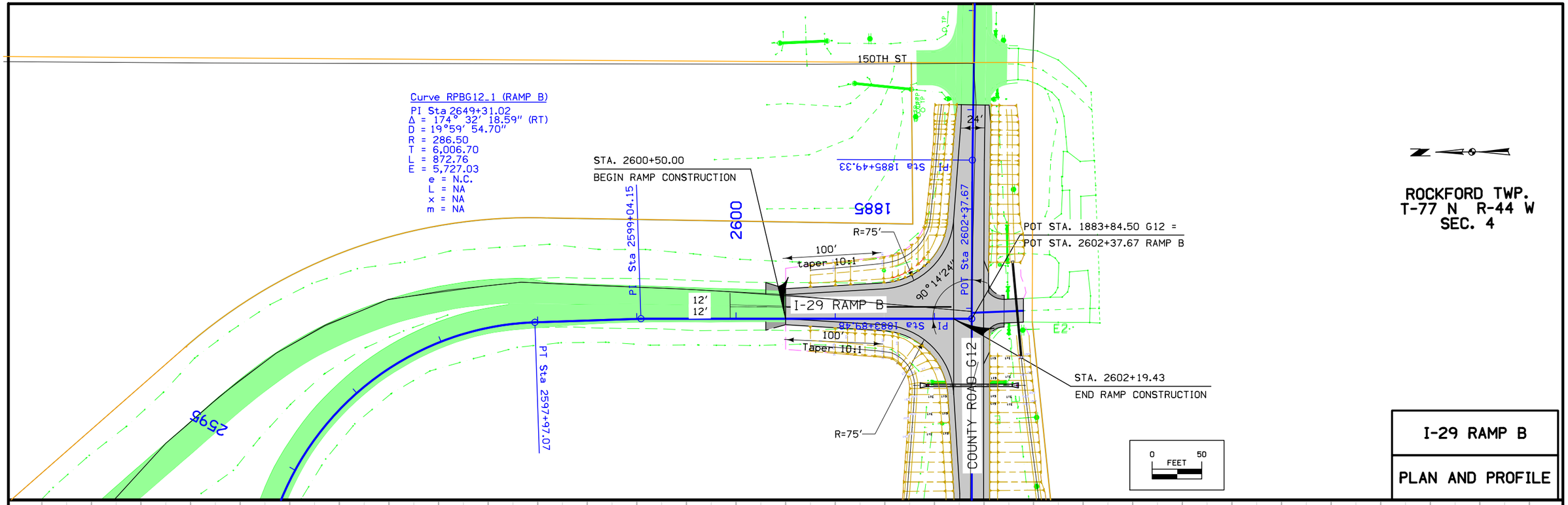
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SYSTEMTIME SYSTEMDATE untitled c:\pw_work\pwmain\sylvan.popovici\d0874197\78029112-AB-J-01.sht



ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER K.1

SYSTEMTIME SYSTEMDATE untitled c:\pw_work\pwmain\sylvan.popovici\d0874197\78029112-AB-K-01.sht



ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER K.2

SYSTEMTIME SYSTEMDATE untitled c:\pw_work\pwmain\sylvan.popovici\d0874197\78029112-AB-K-01.sht

PT Sta 3599+27.11

PI Sta 3599+82.19

3600

PC Sta 3590+61.61

Q68

I-29 RAMP C

PAVEMENT REMOVAL

12|12'

30" X 52' CULVERT REMOVAL

POT Sta 1861+48.00

PC Sta 1864+45.81

1865

PAVEMENT REMOVAL

PT Sta 1869+36.52

1870

PI Sta 1870+71.54

1875

DESOTO AVE

POT Sta 3604+82.39

COUNTY ROAD G12

PI Sta 1866+91.22

24" X 43' CULVERT REMOVAL

PAVEMENT REMOVAL

GUARDRAIL REMOVAL

GRANULAR ROAD REMOVAL

145TH ST

0 FEET 50

For Profile Details
Refer to Next Sheet

COUNTY ROAD G12 RAMP C

REMOVAL PLANS

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER U.1

SYSTEMTIME SYSTEMDATE untitled c:\pw_work\pwmain\sylvan.popovici\d0874197\78029112-AB-U-01.sht

REMOVE AND REINSTALL CABLE GUARDRAIL

GUARDRAIL REMOVAL

GUARDRAIL REMOVAL

GUARDRAIL REMOVAL

PAVEMENT REMOVAL

30" X 74' CULVERT REMOVAL

PAVEMENT REMOVAL

DRIVEWAY REMOVAL

18" X 41' CULVERT REMOVAL

18" X 30' CULVERT REMOVAL

DRIVEWAY REMOVAL

PAVEMENT REMOVAL

PAVEMENT REMOVAL

PI Sta 2599+04.15

I-29 RAMP B

12'

12'

2600

1880

1885

1890

PI Sta 1885+49.33

150TH ST

PI Sta 1887+76.81

POT Sta 1890+46.22

PI Sta 1882+89.48

COUNTY ROAD G12

POT Sta 2602+37.67

DESOTO AVE

S88

S 10d

29

29

0 FEET 50

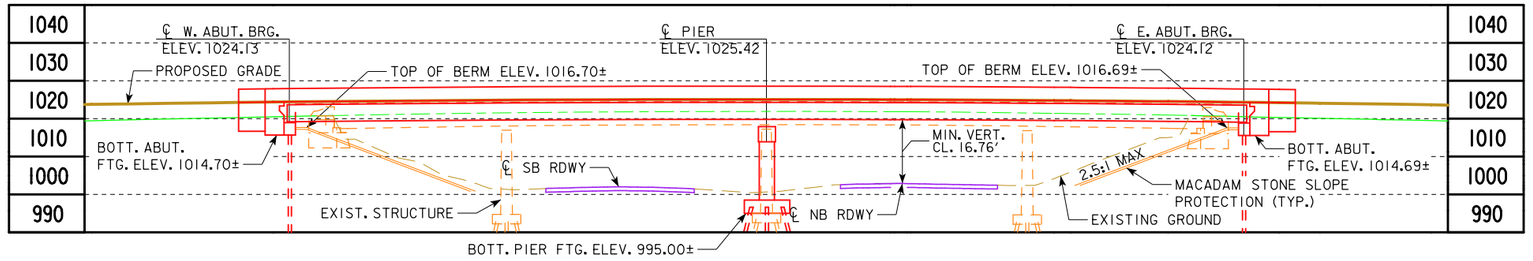
For Profile Details
Refer to Next Sheet

COUNTY ROAD G12 RAMP B

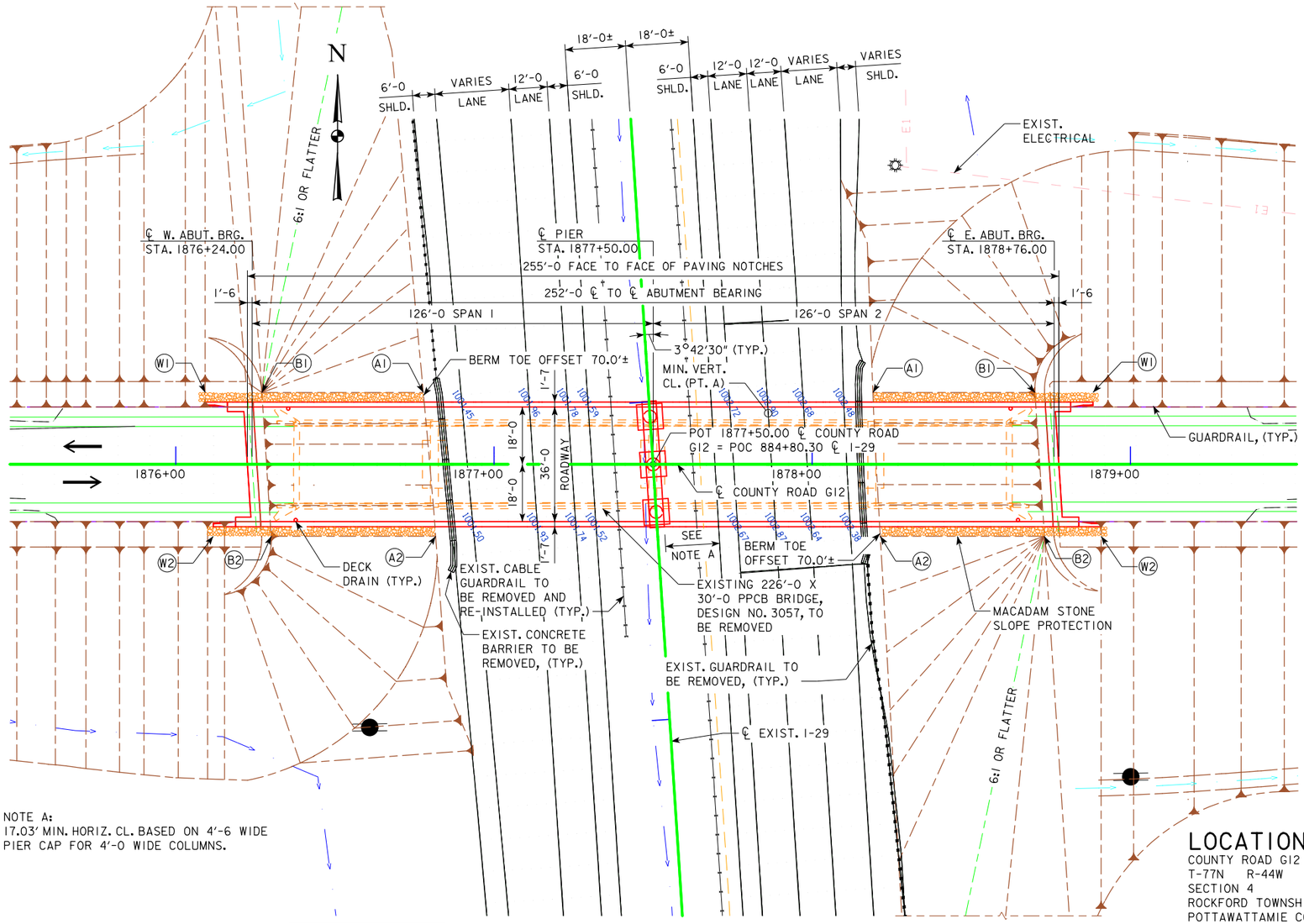
REMOVAL PLANS

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER U.2

SYSTEMTIME SYSTEMDATE untitled c:\pw_work\pwmain\sylvan.popovici\d0874197\78029112-AB-U-01.sht

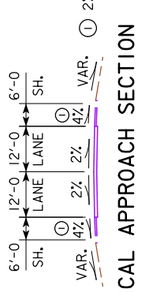


LONGITUDINAL SECTION ALONG ℄ COUNTY ROAD G12



NOTE A:
17.03' MIN. HORIZ. CL. BASED ON 4'-6 WIDE PIER CAP FOR 4'-0 WIDE COLUMNS.

TYPICAL APPROACH SECTION

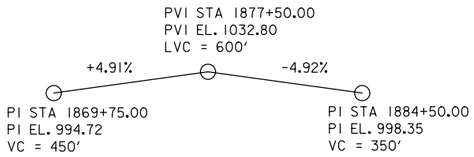


SITUATION PLAN

0 ENGLISH 40
SCALE IN FEET

benesch
Alfred Benesch & Company
35 West Wacker Drive, Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 10527.07

BENCH MARK NO. 78029004: NORTHING - 7055297.605, EASTING - 16452312.12, ELEV. 1005.57. FENO TYPE MONUMENT ON CO. RD. G12, 38' NORTH OF NE CORNER OF BRIDGE OVER BOYER RIVER, 0.1 MI. WEST OF I-29.



PROPOSED PROFILE ON ℄ COUNTY ROAD G12

MIN. VERT. CLEARANCE (PT. A)

COUNTY ROAD G12 STATION = 1877+86.17
COUNTY ROAD G12 ELEVATION = 1024.99
DEPTH OF SUPERSTRUCTURE = 5.33'
I-29 STATION = 884+94.03
I-29 ELEVATION = 1002.90
REQUIRED MIN. VERT. CLEARANCE = 16.50'
PROVIDED MIN. VERT. CLEARANCE = 16.76'

NOTES:

TOP OF BRIDGE DECK CROWN IS 0.03' BELOW PROFILE GRADE.
PIER TYPE SHALL BE A FRAME, WALL OR TEE PIER.
PIER SHALL BE DESIGNED FOR COLLISION FORCE.
BEAM TYPE SHALL BE BULB TEE D BEAM (BTD).
2-SPAN GRADING SHOWN (EW-204).
TL-4 BRIDGE RAILING PROPOSED.
ABUTMENT SLOPES TO BE CONFIRMED DURING FINAL DESIGN.
SPOT ELEVATIONS FROM SURVEY SHOWN AT LANE LINES OF EXISTING I-29 USED FOR VERTICAL CLEARANCE.
THE 3.71 DEGREE SKEW IS PREFERRED IN LIEU OF A WHOLE DEGREE IN ORDER TO BETTER MATCH WITH THE I-29 ALIGNMENT.

UTILITIES LEGEND:

- UTILITY POLE OVERHEAD ELECTRIC
- LIGHT POLE
- E1 — BURIED ELECTRIC
- FLOW OF DRAINAGE

TRAFFIC ESTIMATE

CO. RD. G12			I-29		
2022 AADT	800	V.P.D.	2014 AADT	21,000	V.P.D.
2042 AADT	800	V.P.D.	2042 AADT	-	V.P.D.
2042 DHV	90	V.P.H.	2042 DHV	-	V.P.H.
TRUCKS	8	%	TRUCKS	24	%
TOTAL DESIGN ESALs	—		TOTAL DESIGN ESALs	—	

PRELIMINARY

LOCATION

COUNTY ROAD G12 OVER I-29
T-77N R-44W
SECTION 4
ROCKFORD TOWNSHIP
POTTAWATTAMIE COUNTY
FHWA NO. 045061
BRIDGE MAINT. NO. 7871.90029
LATITUDE 41.499308°
LONGITUDE -95.900158°

DESIGN FOR 3°42'30" SKEW (RA)

252'-0 x 36'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

126'-0 END SPANS (BTD BEAM TYPE)

SITUATION PLAN

STATION 1877+50.00 ℄ COUNTY ROAD G12 JUNE 2018

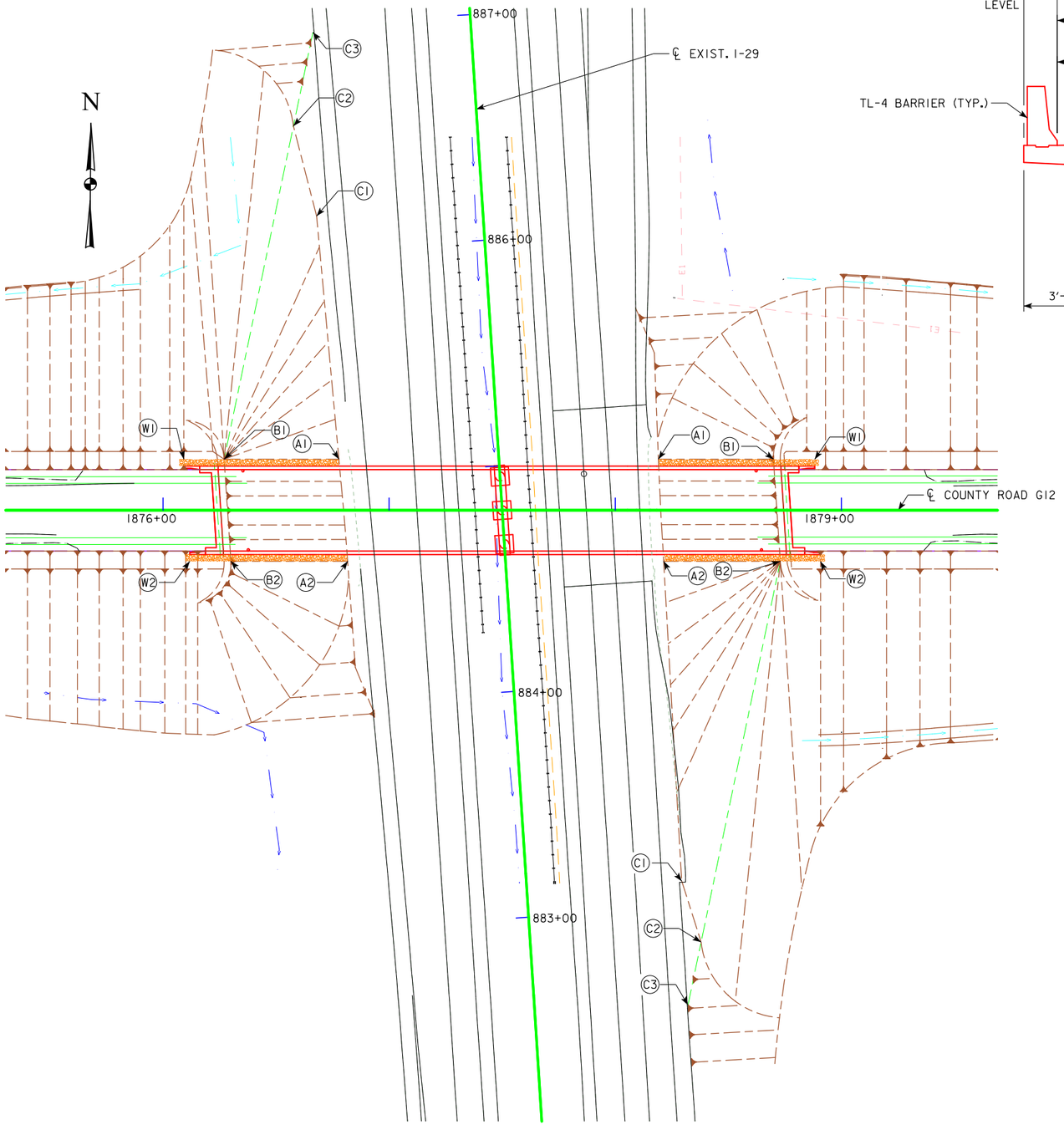
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

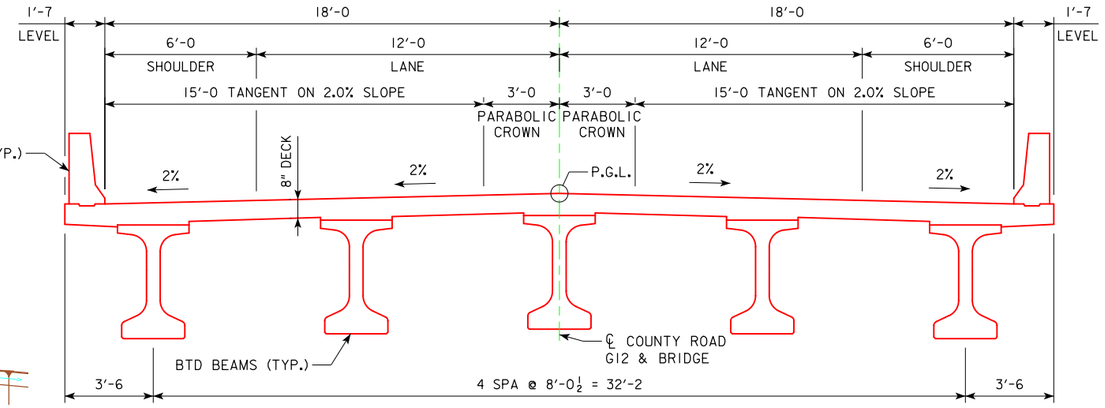
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DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRFIMX-029-4(113)72--14-78	SHEET NUMBER V.1

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SITE PLAN



TYPICAL SECTION

BERM SLOPE LOCATION TABLE

	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1876+77.77	22.58' LT.	1001.31	1878+19.09	22.58' LT.	1002.39
A2	1876+81.65	22.58' RT.	1001.25	1878+21.38	22.58' RT.	1002.28
B1	1876+27.03	22.58' LT.	1016.70	1878+70.01	22.58' LT.	1016.69
B2	1876+29.99	22.58' RT.	1016.70	1878+72.97	22.58' RT.	1016.69
W1	1876+09.21	22.58' LT.	1023.29	1878+88.21	22.58' LT.	1023.34
W2	1876+11.79	22.58' RT.	1023.35	1878+90.79	22.58' RT.	1023.28

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

RECOVERABLE BERM LOCATION TABLE

POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
C1	1876+67.88	130.13' LT.	1001.24	1878+29.57	164.51' RT.	1002.40
C2	1876+57.68	169.97' LT.	1000.66	1878+37.96	190.95' RT.	1002.07
C3	1876+66.29	211.37' LT.	1001.04	1878+32.16	218.81' RT.	1002.16
B	1876+27.03	22.58' LT.	1016.70	1878+72.97	22.58' RT.	1016.69

REFER TO EW-204 FOR TYPICAL LOCATIONS.

PRELIMINARY

DESIGN FOR 3°42'30" SKEW (RA)

252'-0 x 36'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

126'-0 END SPANS (BTD BEAM TYPE)

SITUATION PLAN - SITE

STATION 1877+50.00 ℄ COUNTY ROAD G12 JUNE 2018

POTTAWATTAMIE COUNTY

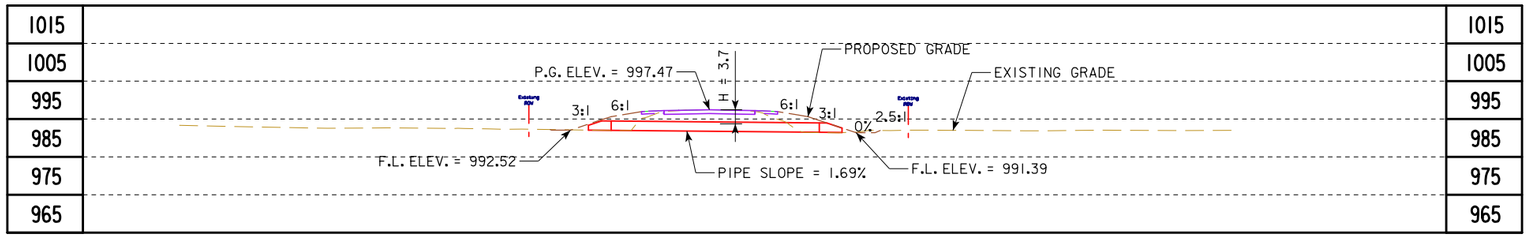
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 31459 DESIGN NO. 122

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Alfred Benesch & Company
35 West Wacker Drive, Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 10527.07

DESIGN TEAM BENESCH | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIMX-029-4(113)72--14-78 | SHEET NUMBER V.2

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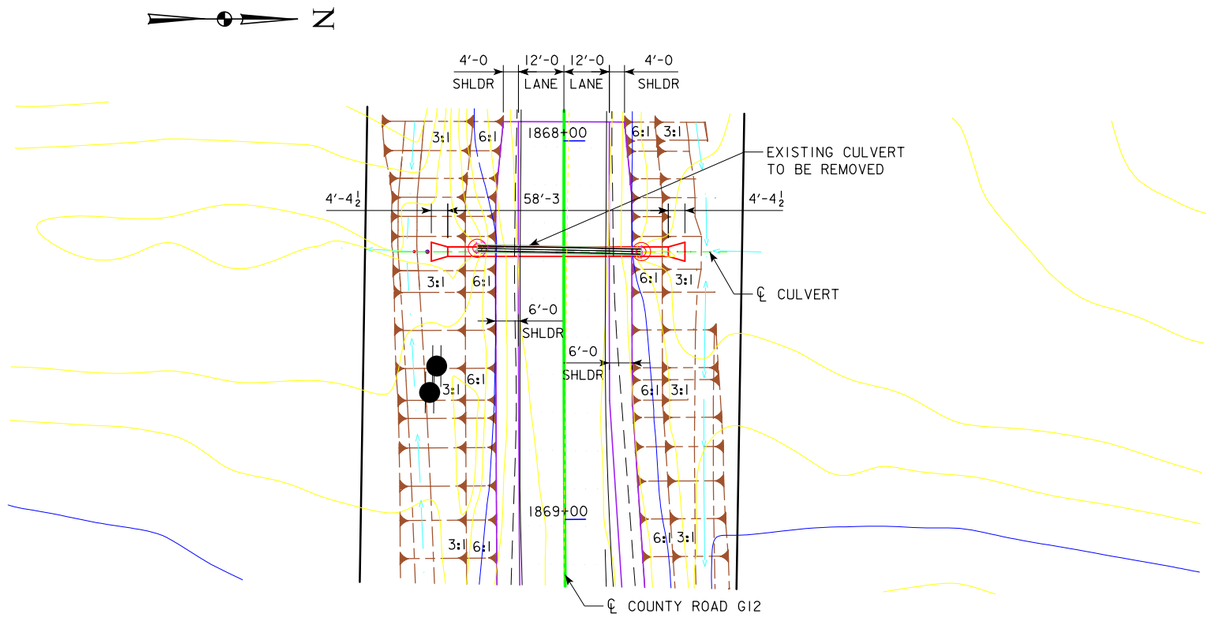


LONGITUDINAL SECTION ALONG ℄ CULVERT

BENCH MARK NO. 78029004: NORTHING - 7055297.605, EASTING - 1645312.12, ELEV. 1005.57. FENO TYPE MONUMENT ON CO. RD. G12, 38' NORTH OF NE CORNER OF BRIDGE OVER BOYER RIVER, 0.1 MI. WEST OF I-29.

NOTES:

PIPE DIMENSIONS SHOWN IN PLAN VIEW ARE BASED ON LAYING LENGTH.



PLAT PLAN

HYDRAULIC DATA

DRAINAGE AREA = 55.2 ACRES
DESIGN DISCHARGE, Q50 = 43 CFS
DESIGN HIGH WATER = 997.15

LOCATION

COUNTY ROAD G12 OVER I-29
T-77N R-44W
SECTION 4
ROCKFORD TOWNSHIP
POTTAWATTAMIE COUNTY

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR 0° SKEW
30" X 58'
CORRUGATED METAL PIPE

PLAT PLAN

STATION: 1868+29.00 JUNE 2018

POTTAWATTAMIE COUNTY

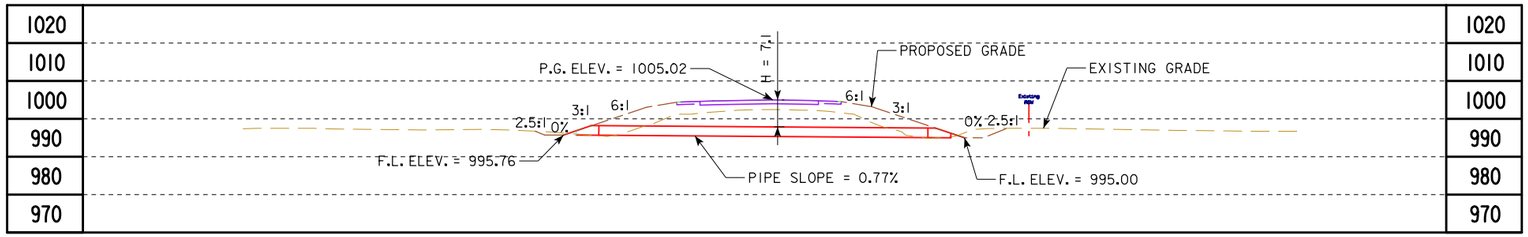
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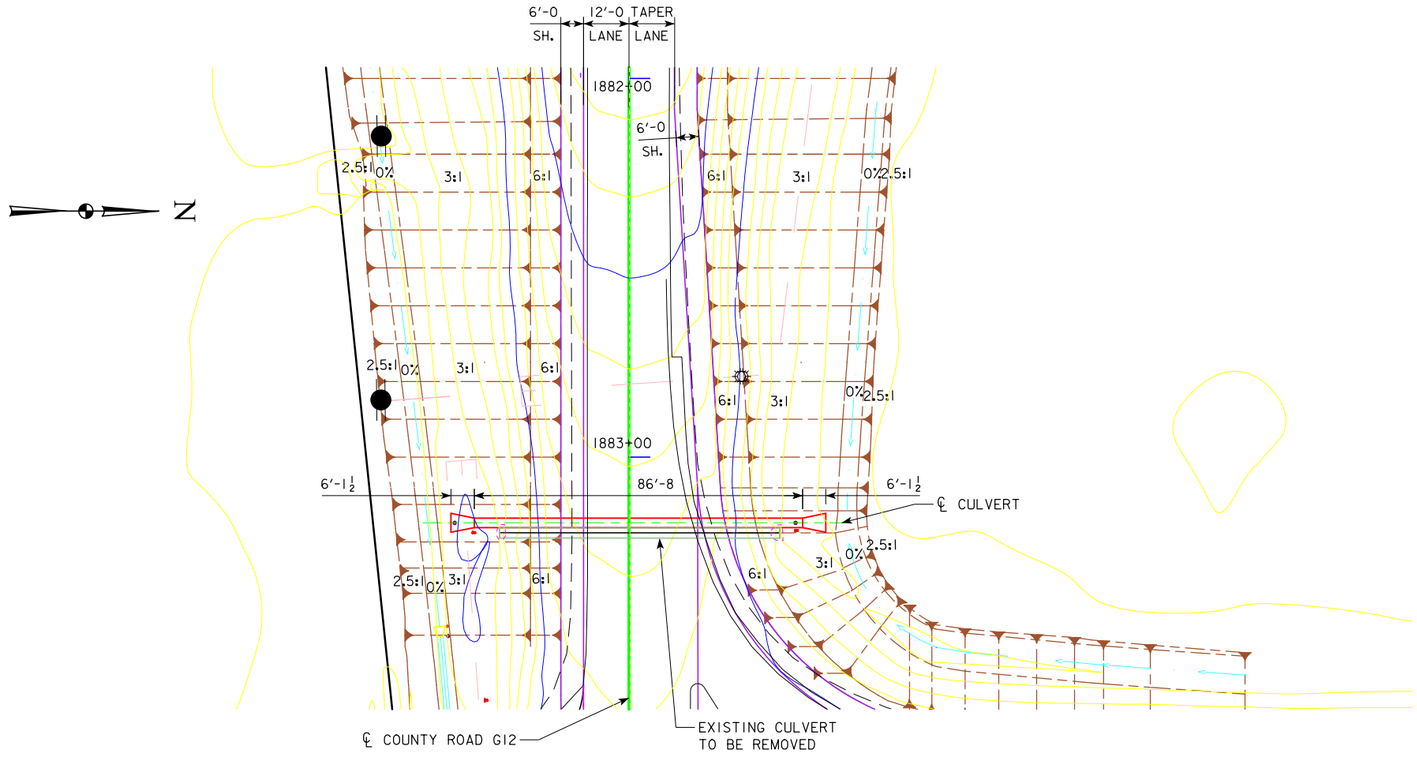
benesch
Alfred Benesch & Company
35 West Wacker Drive, Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 10527.07

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LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

BENCH MARK NO. 78029004: NORTHING - 7055297.605, EASTING - 16452312.12, ELEV. 1005.57. FENO TYPE MONUMENT ON CO. RD. G12, 38' NORTH OF NE CORNER OF BRIDGE OVER BOYER RIVER, 0.1 MI. WEST OF I-29.

NOTES:

PIPE DIMENSIONS SHOWN IN PLAN VIEW ARE BASED ON LAYING LENGTH.

HYDRAULIC DATA

DRAINAGE AREA = 18.4 ACRES
DESIGN DISCHARGE, Q50 = 27 CFS
DESIGN HIGH WATER = 999.59

LOCATION

COUNTY ROAD G12 OVER I-29
T-77N R-44W
SECTION 4
ROCKFORD TOWNSHIP
POTTAWATTAMIE COUNTY

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR 0° SKEW
30" X 87'
REINFORCED CONCRETE PIPE

PLAT PLAN

STATION: 1883+17.00 JUNE 2018

POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

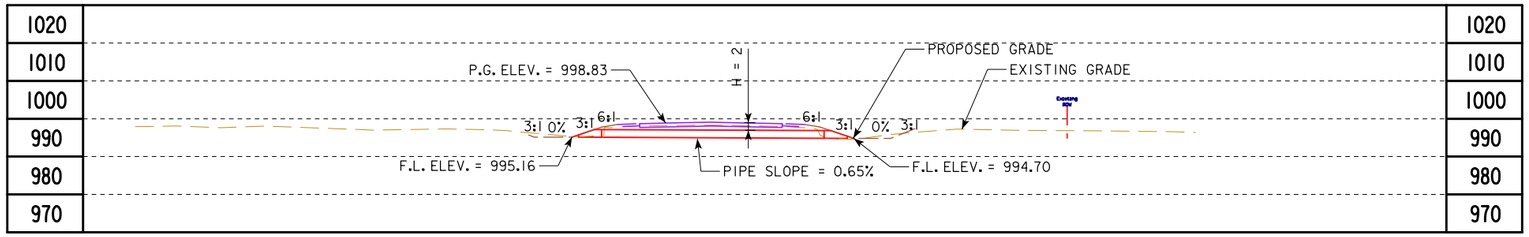
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Chicago, Illinois 60601
312-565-0450 Job No. 10527.07

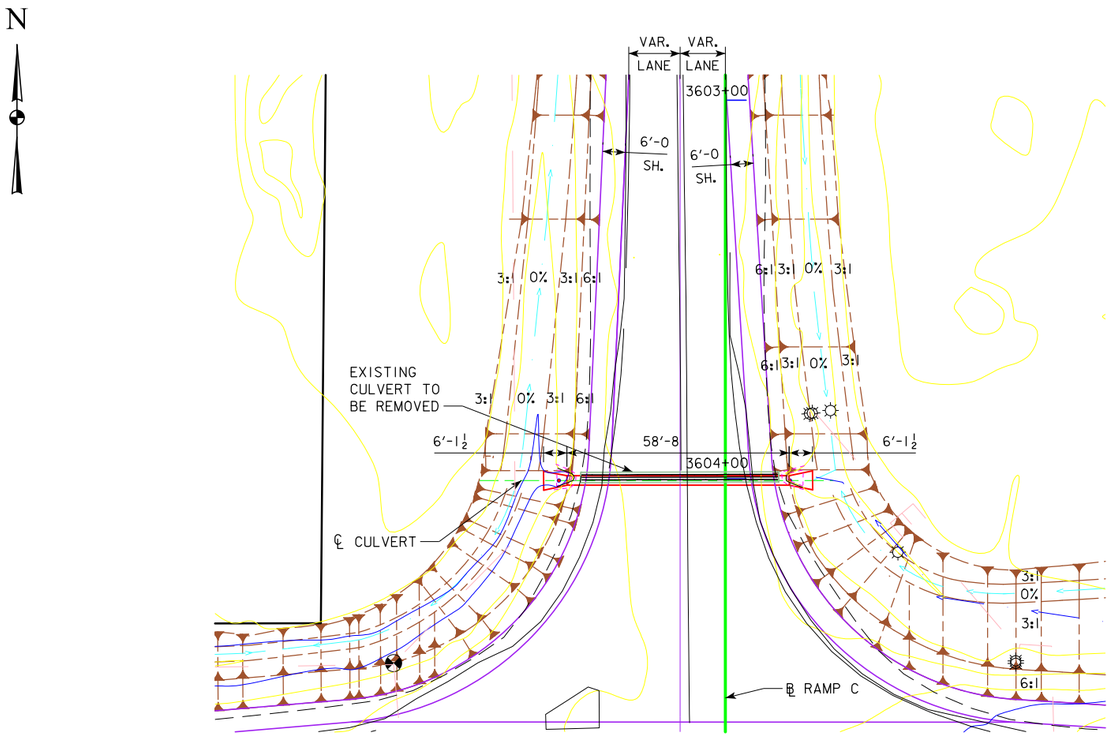
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BENCH MARK NO. 78029004: NORTHING - 7055297.605, EASTING - 16452312.12, ELEV. 1005.57. FENO TYPE MONUMENT ON CO. RD. G12, 38' NORTH OF NE CORNER OF BRIDGE OVER BOYER RIVER, 0.1 MI. WEST OF I-29.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

NOTES:

PIPE DIMENSIONS SHOWN IN PLAN VIEW ARE BASED ON LAYING LENGTH.

HYDRAULIC DATA

DRAINAGE AREA = 16.9 ACRES
DESIGN DISCHARGE, Q50 = 19 CFS
DESIGN HIGH WATER = 998.60

LOCATION

COUNTY ROAD G12 OVER I-29
T-77N R-44W
SECTION 4
ROCKFORD TOWNSHIP
POTTAWATTAMIE COUNTY

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR 0° SKEW
24" X 62'
REINFORCED CONCRETE PIPE

PLAT PLAN

STATION: 3604+00.00 JUNE 2018

POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

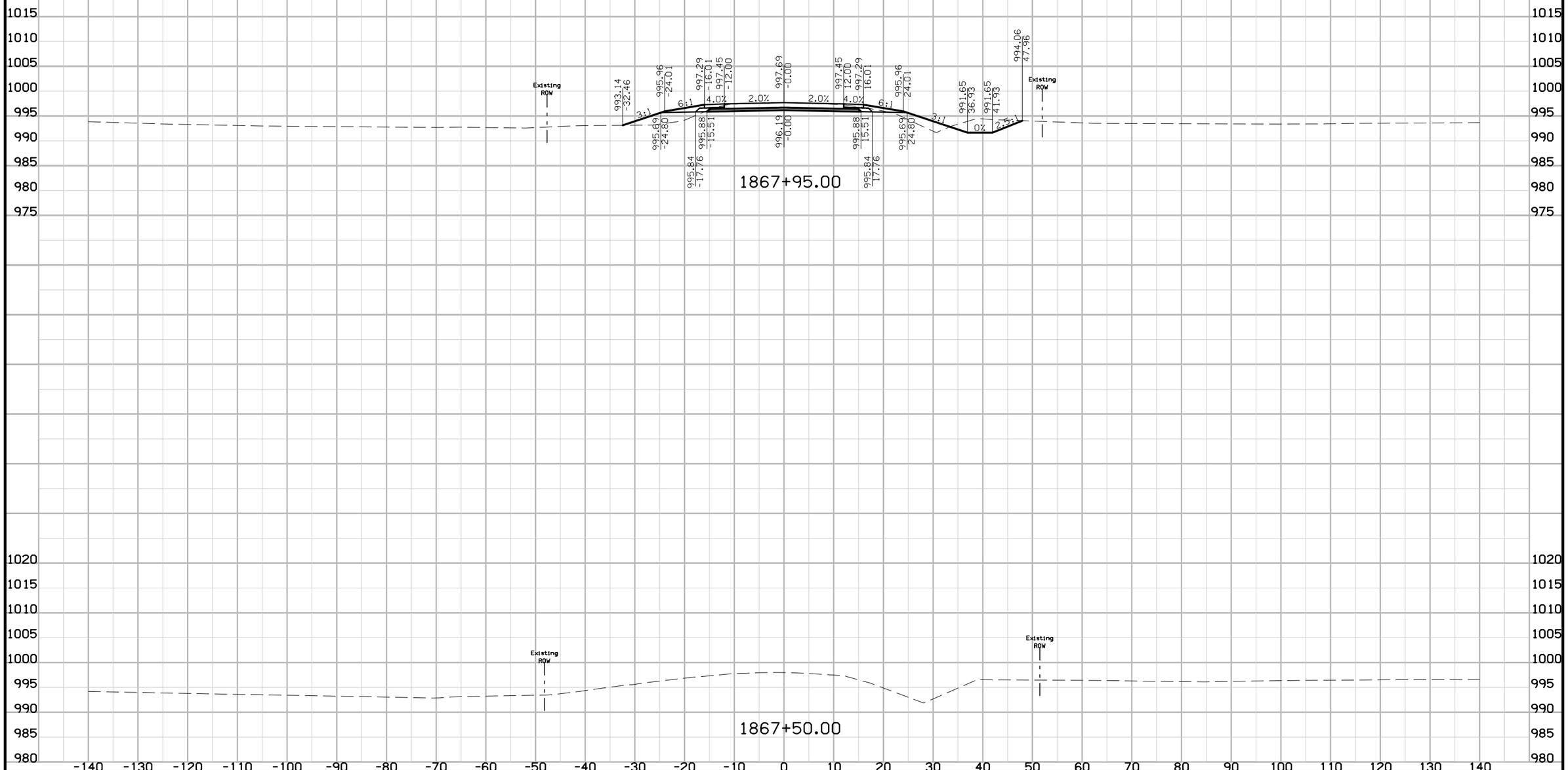
DESIGN SHEET NO. 1 OF 1 FILE NO. 31459 DESIGN NO. _____

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35 West Wacker Drive, Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 10527.07

DESIGN TEAM BENESCH | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIMX-029-4(113)72--14-78 | SHEET NUMBER V.5

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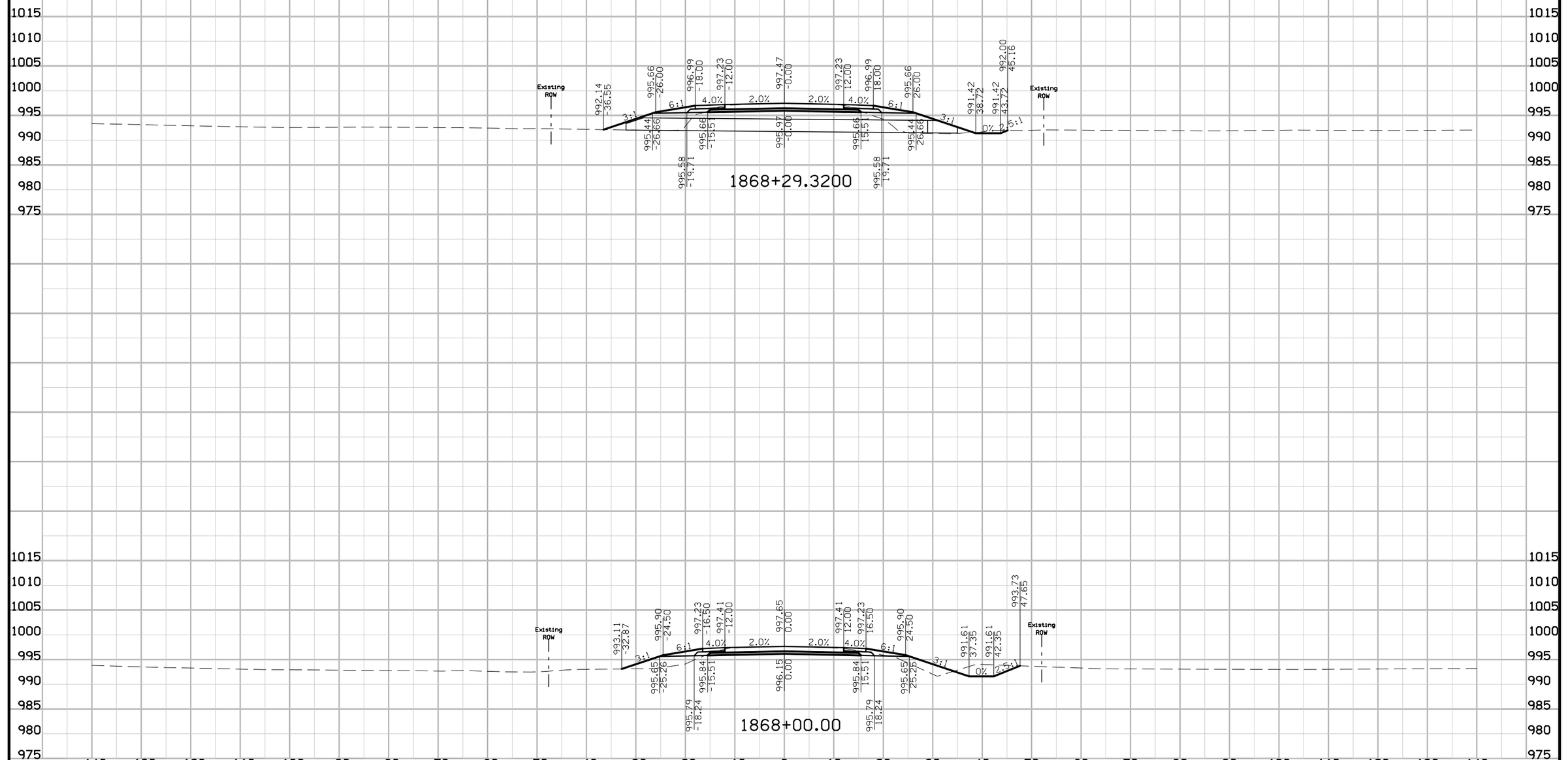
COUNTY ROAD G12



ENGLISH	IOWA DOT	DESIGN TEAM **BENESCH**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **IMX-029-4(112)72--02-78**	SHEET NUMBER	**W.1**

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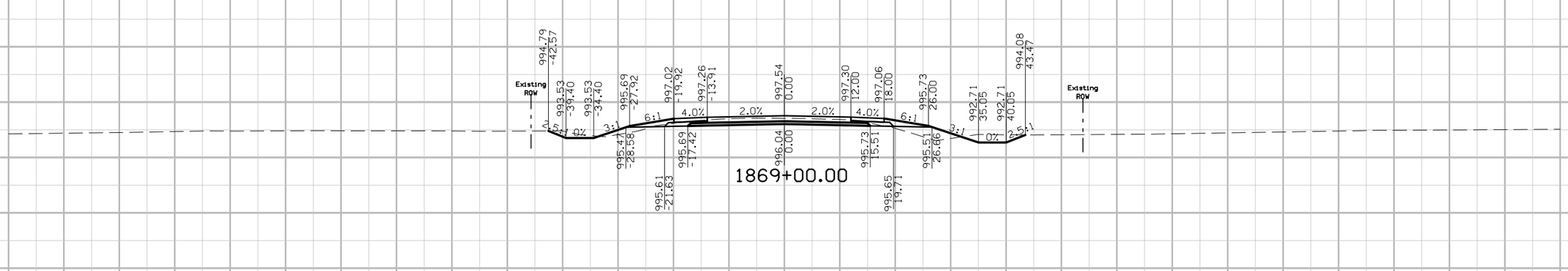
COUNTY ROAD G12

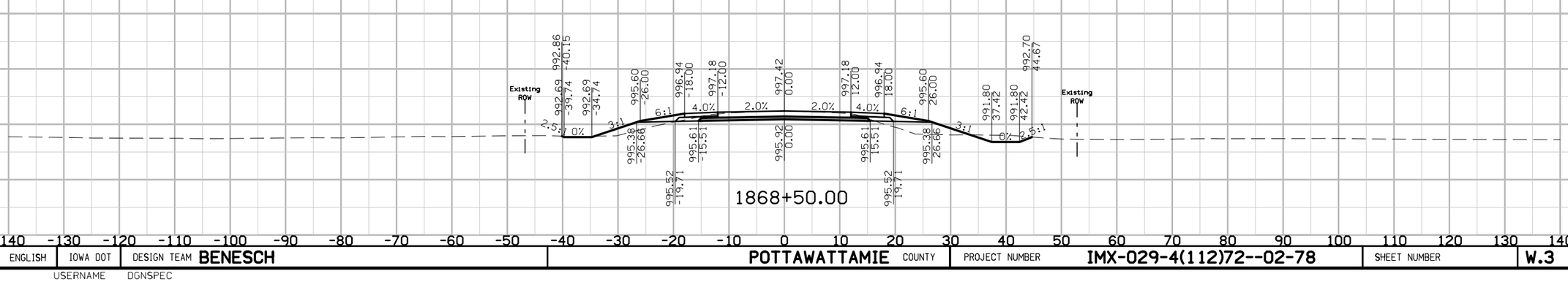


ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.2

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COUNTY ROAD G12

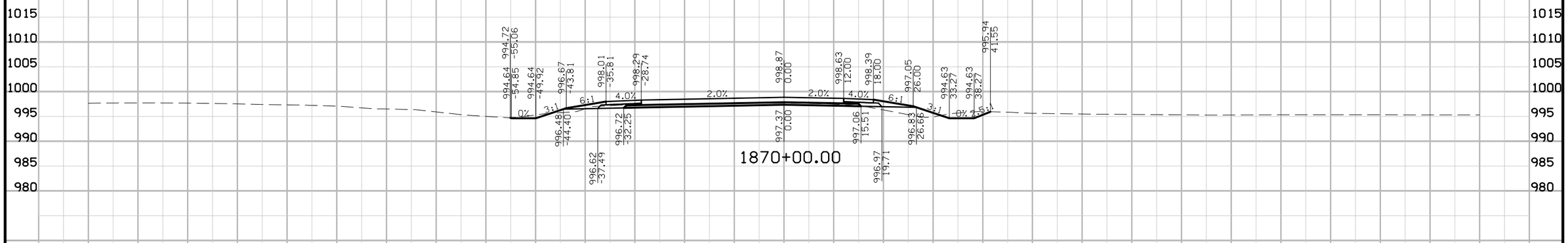


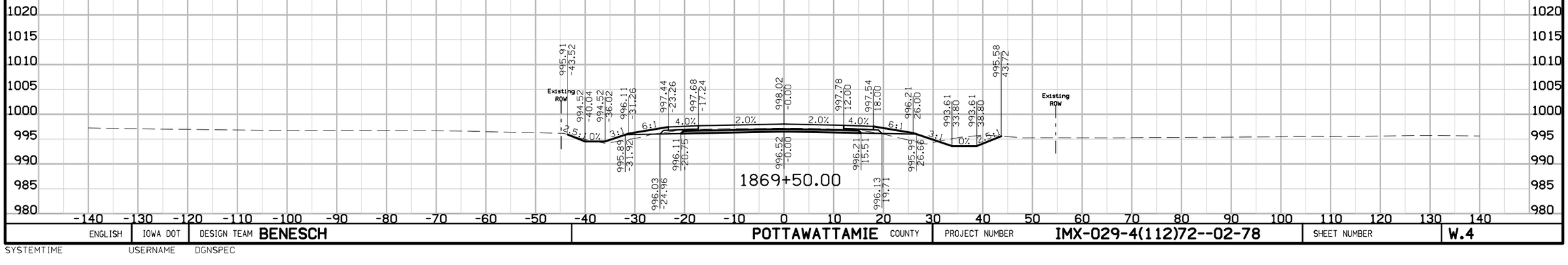


ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.3

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12

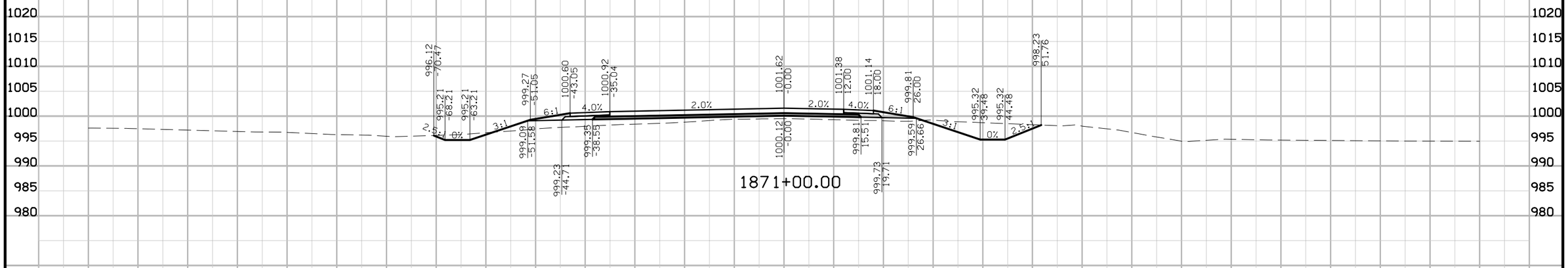


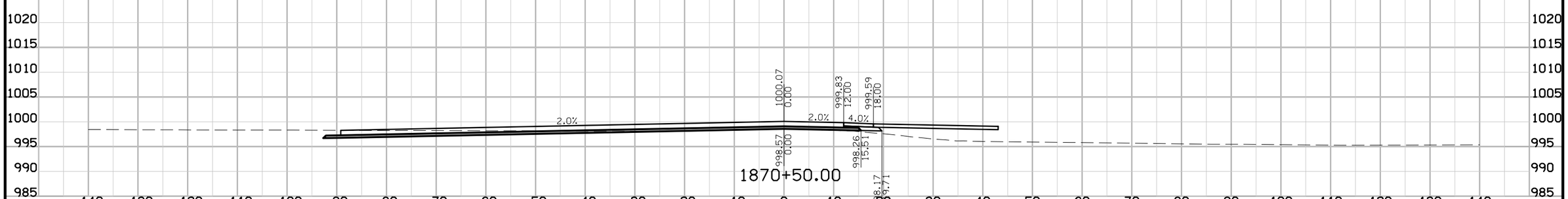


ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.4

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12

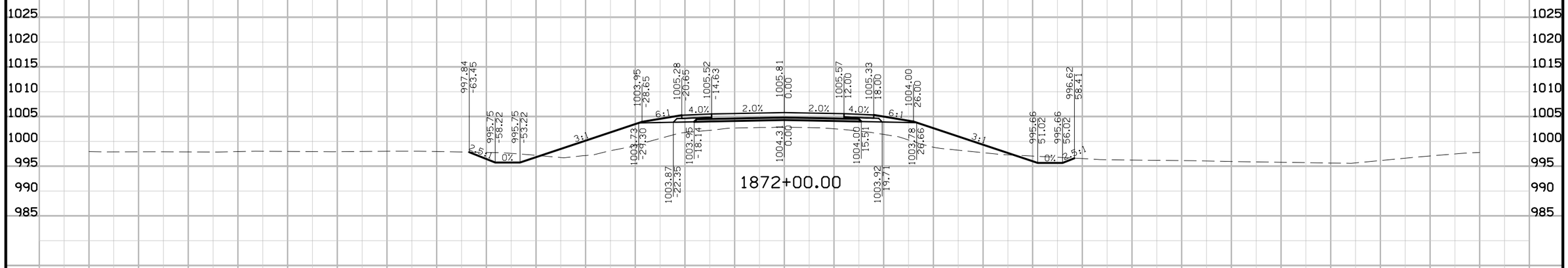


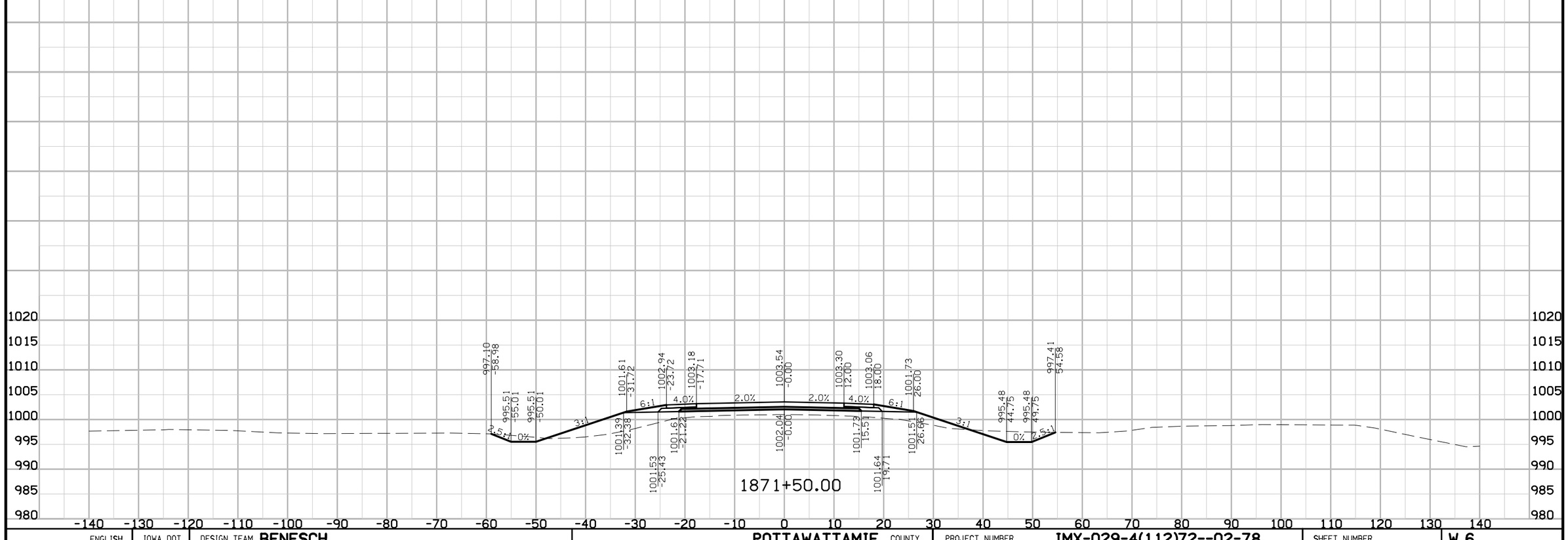


ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.5

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12

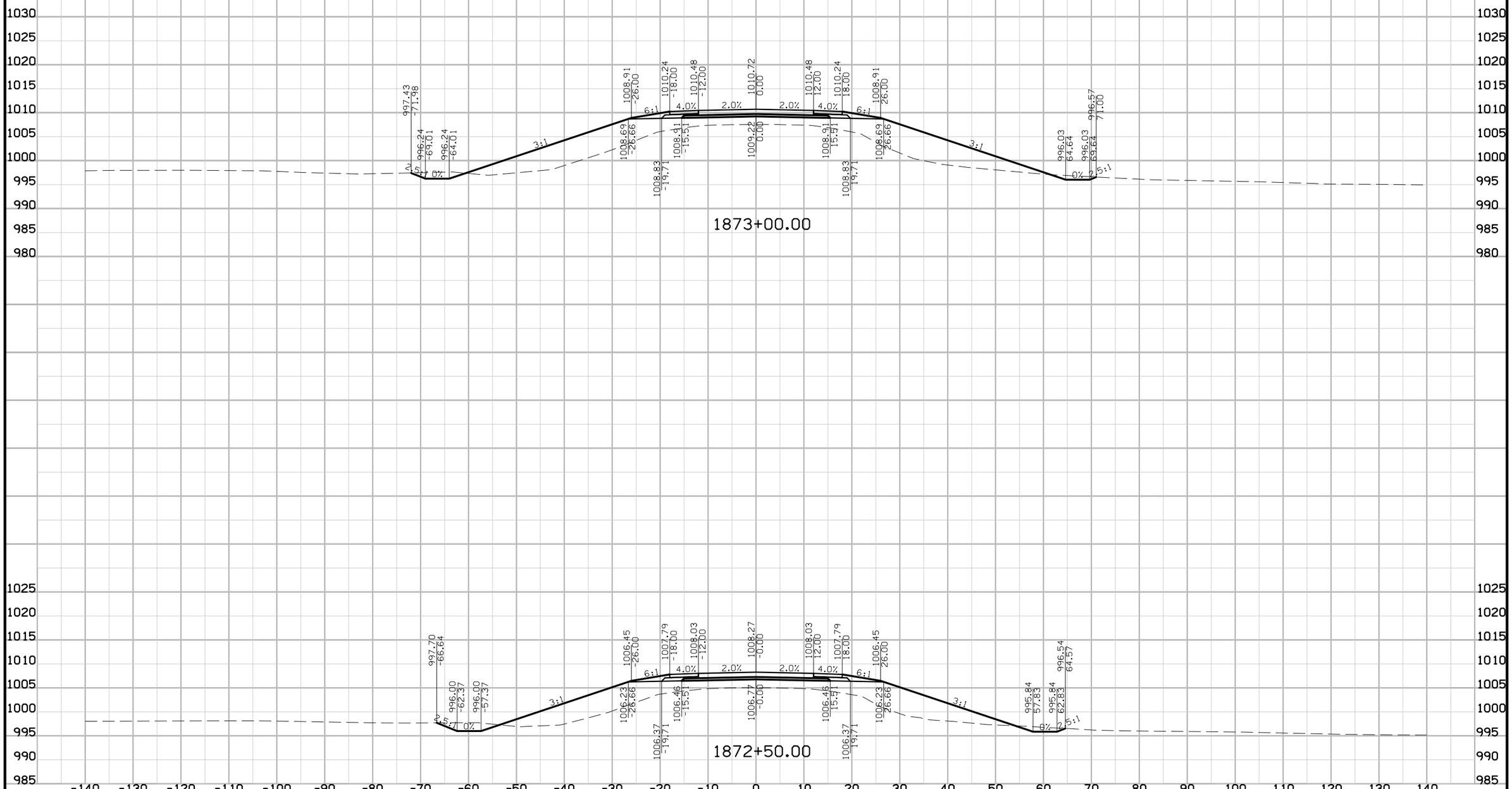




ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.6

SYSTEMTIME USERNAME DGNSPEC

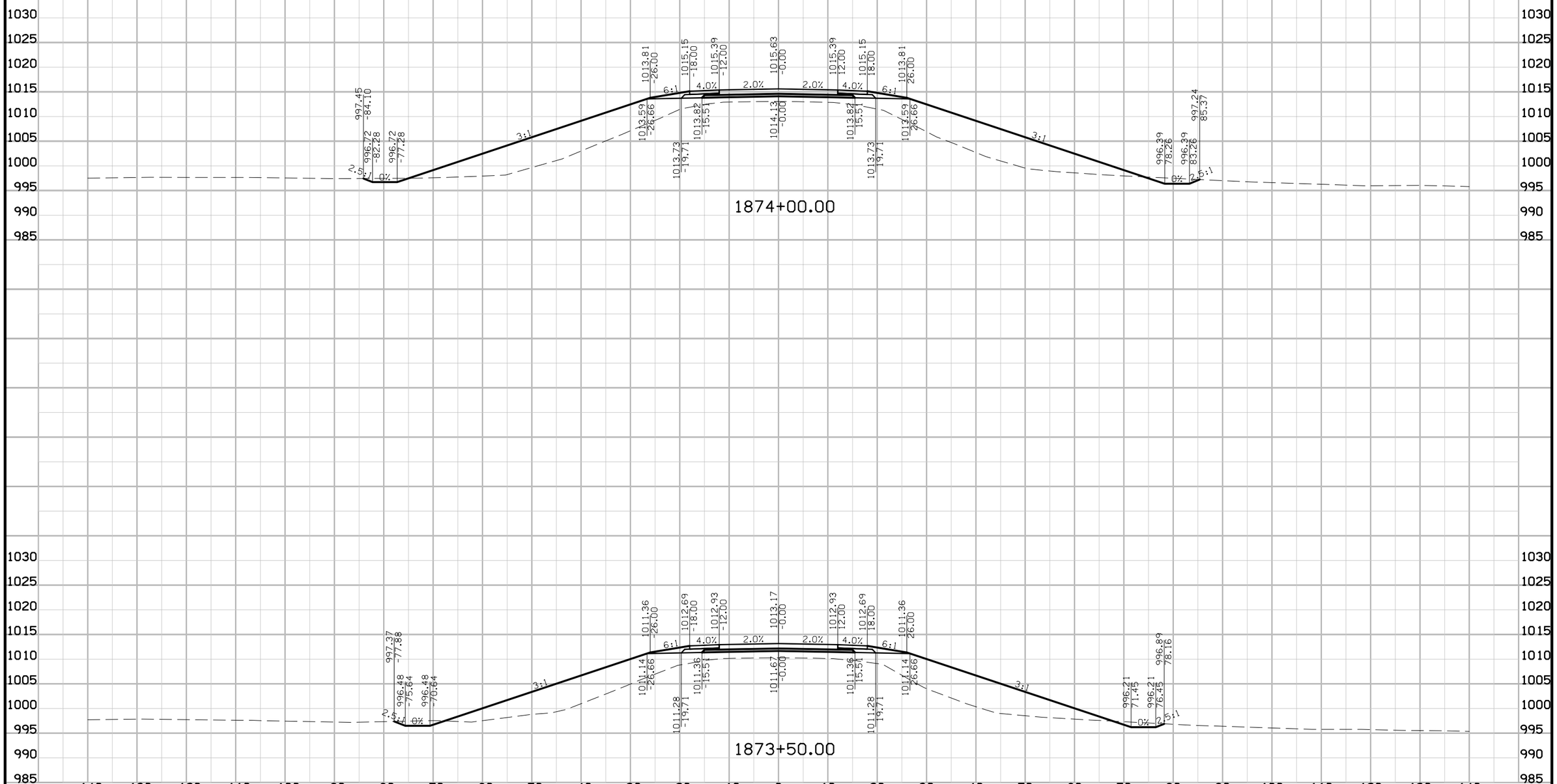
COUNTY ROAD G12



ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.7

SYSTEMTIME USERNAME DGNSPEC

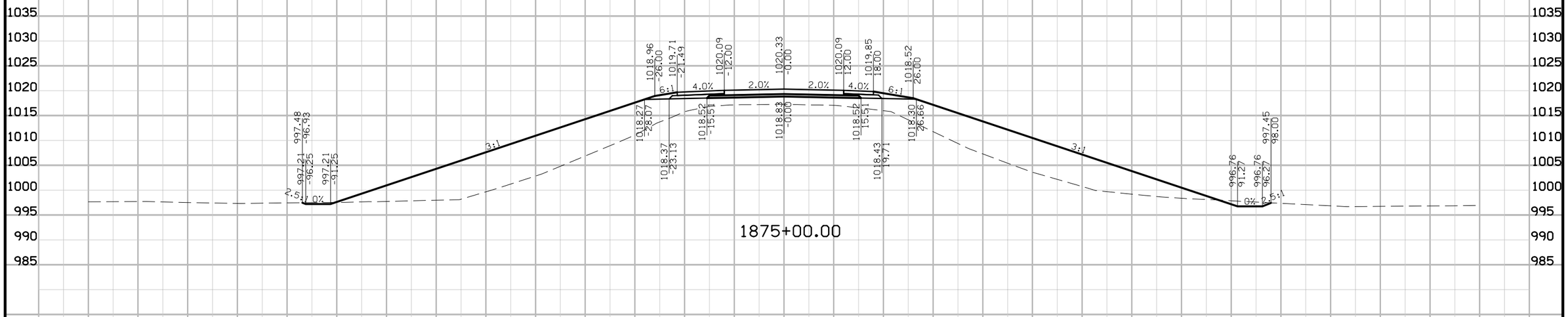
COUNTY ROAD G12

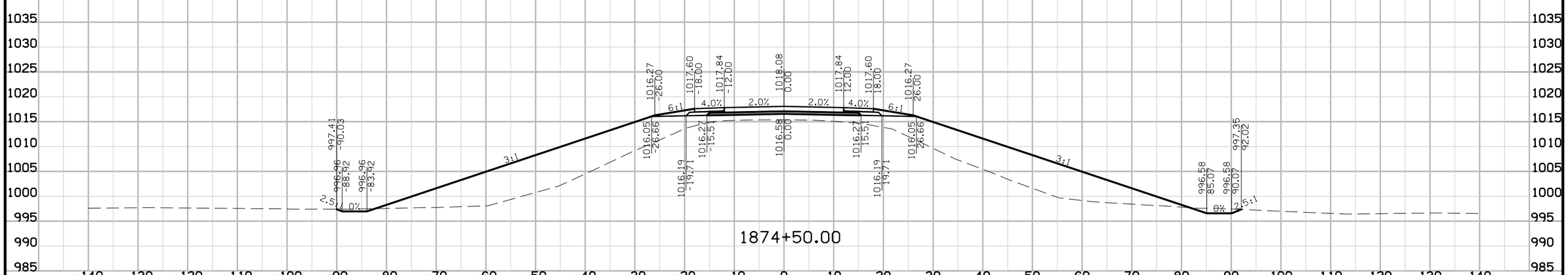


ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.8

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12

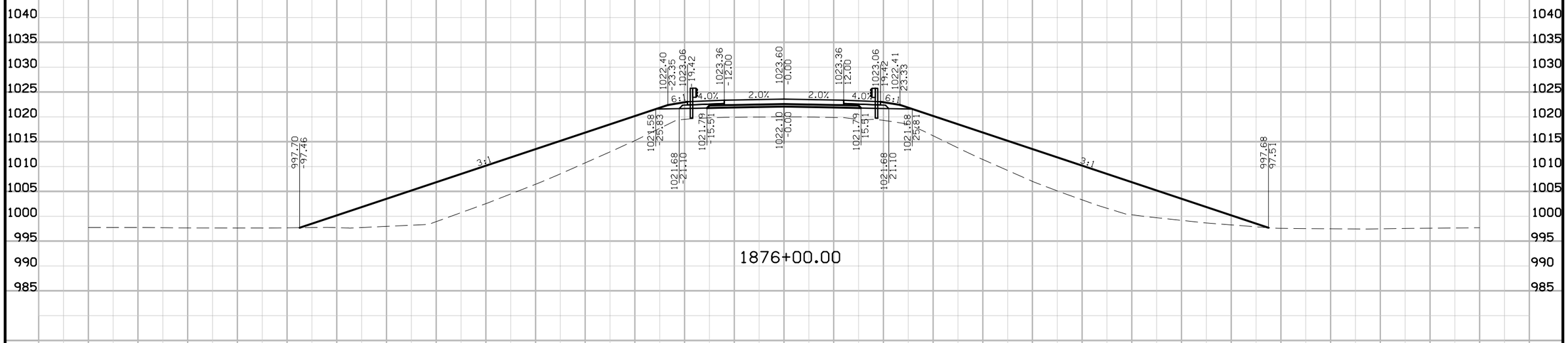


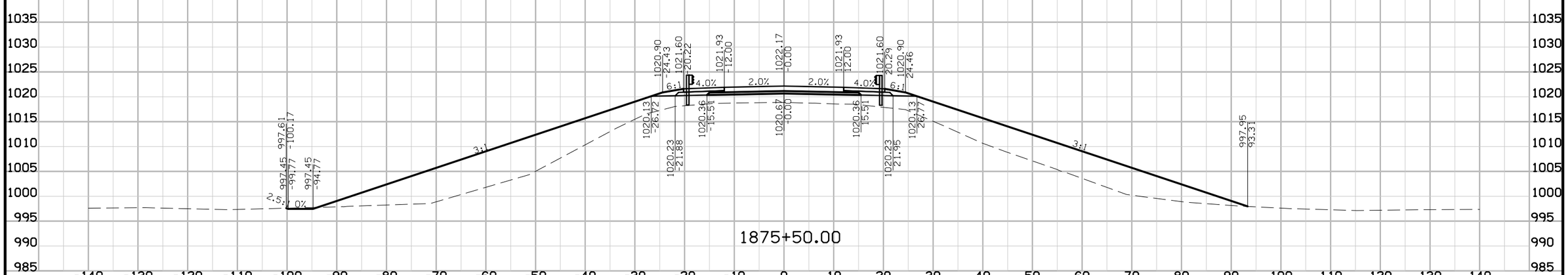


ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.9

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12

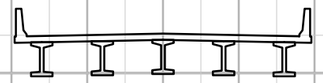




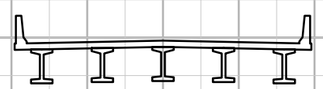
ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.10

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12



1877+00.00



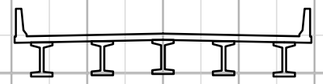
1876+50.00

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.11

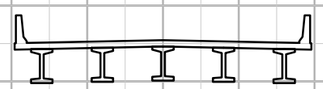
SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12

1045
1040
1035
1030
1025
1020
1015
1010
1005
1000
995
990



1878+00.00



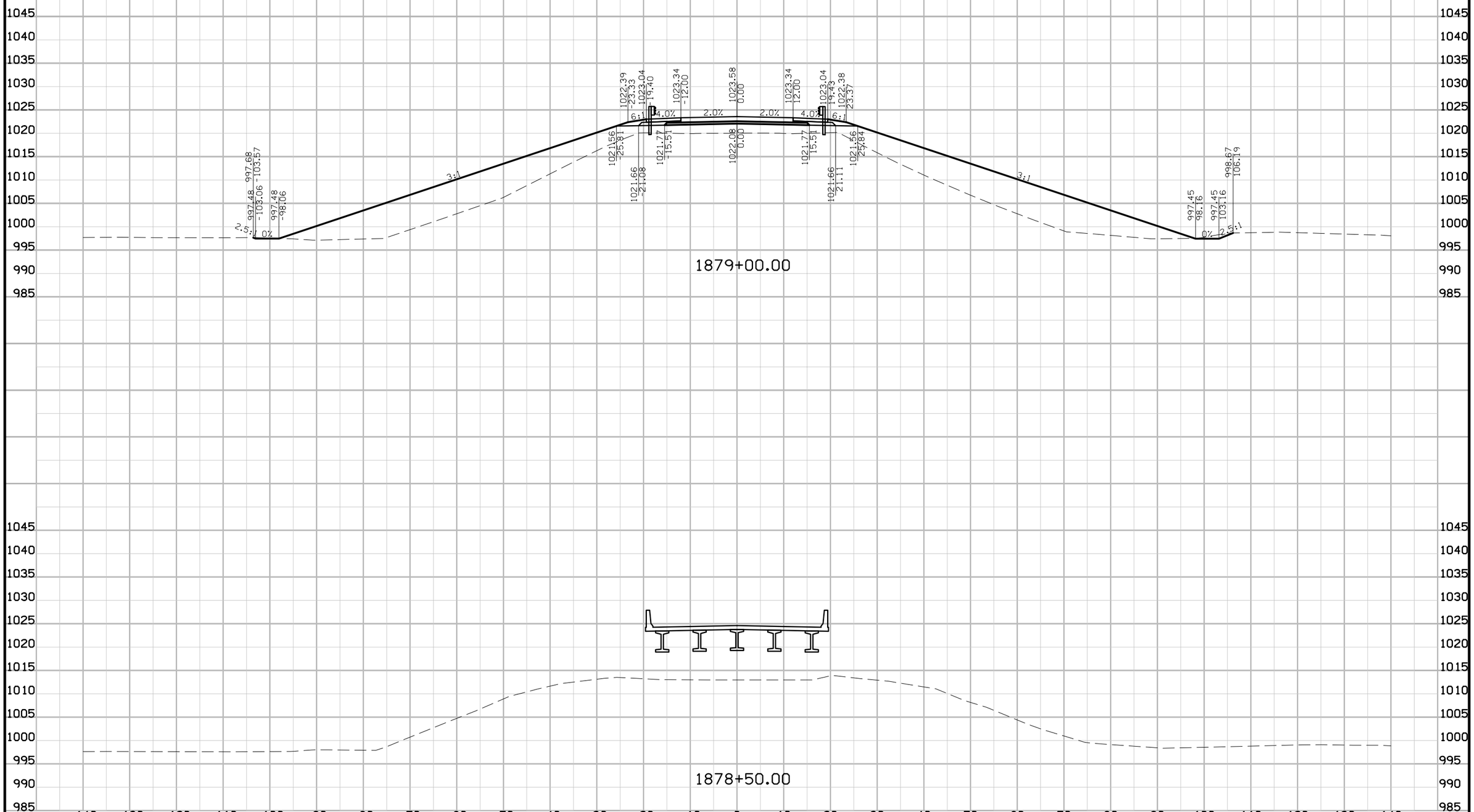
1877+50.00

-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.12

SYSTEMTIME USERNAME DGNSPEC

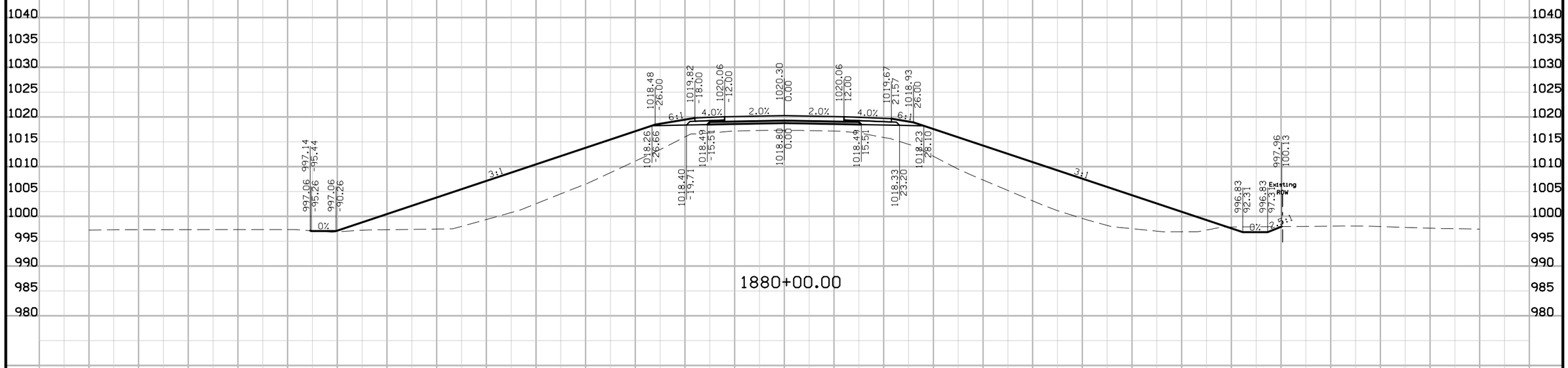
COUNTY ROAD G12

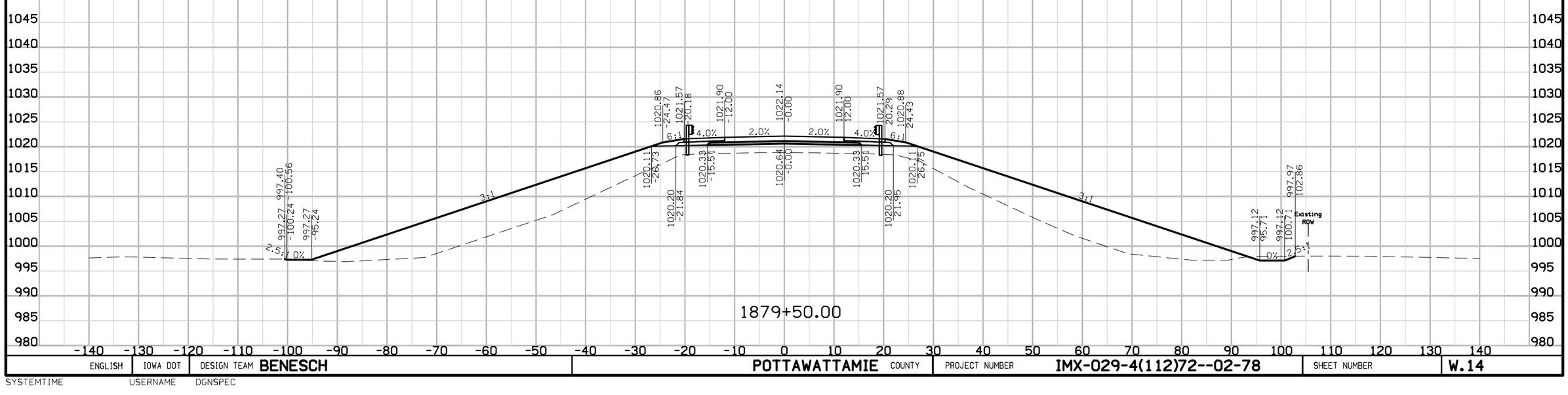


ENGLISH	IOWA DOT	DESIGN TEAM **BENESCH**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER	**IMX-029-4(112)72--02-78**	SHEET NUMBER **W.13**

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12

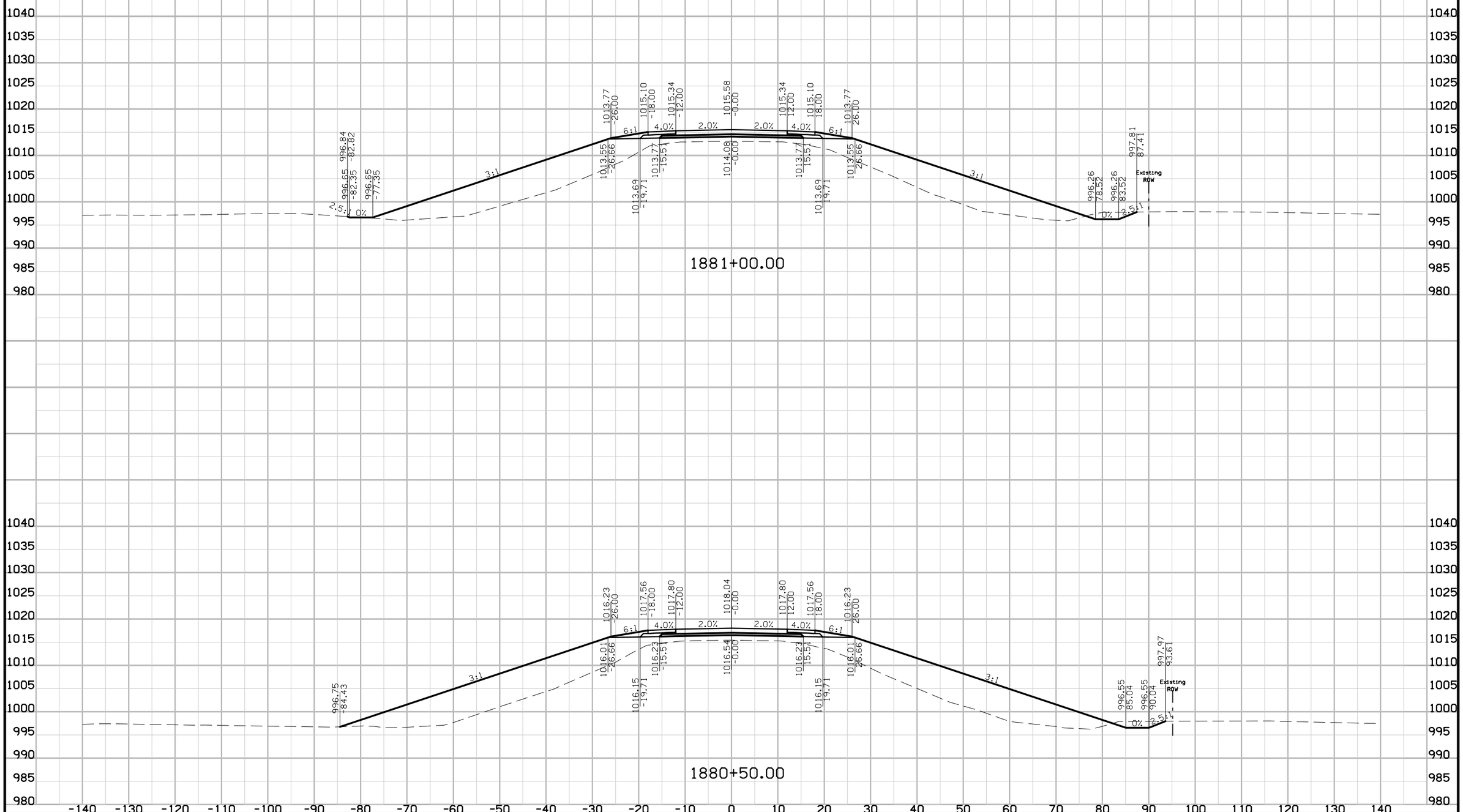




ENGLISH	IOWA DOT	DESIGN TEAM **BENESCH**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER	**IMX-029-4(112)72--02-78**	SHEET NUMBER	**W.14**

SYSTEMTIME USERNAME DGNSPEC

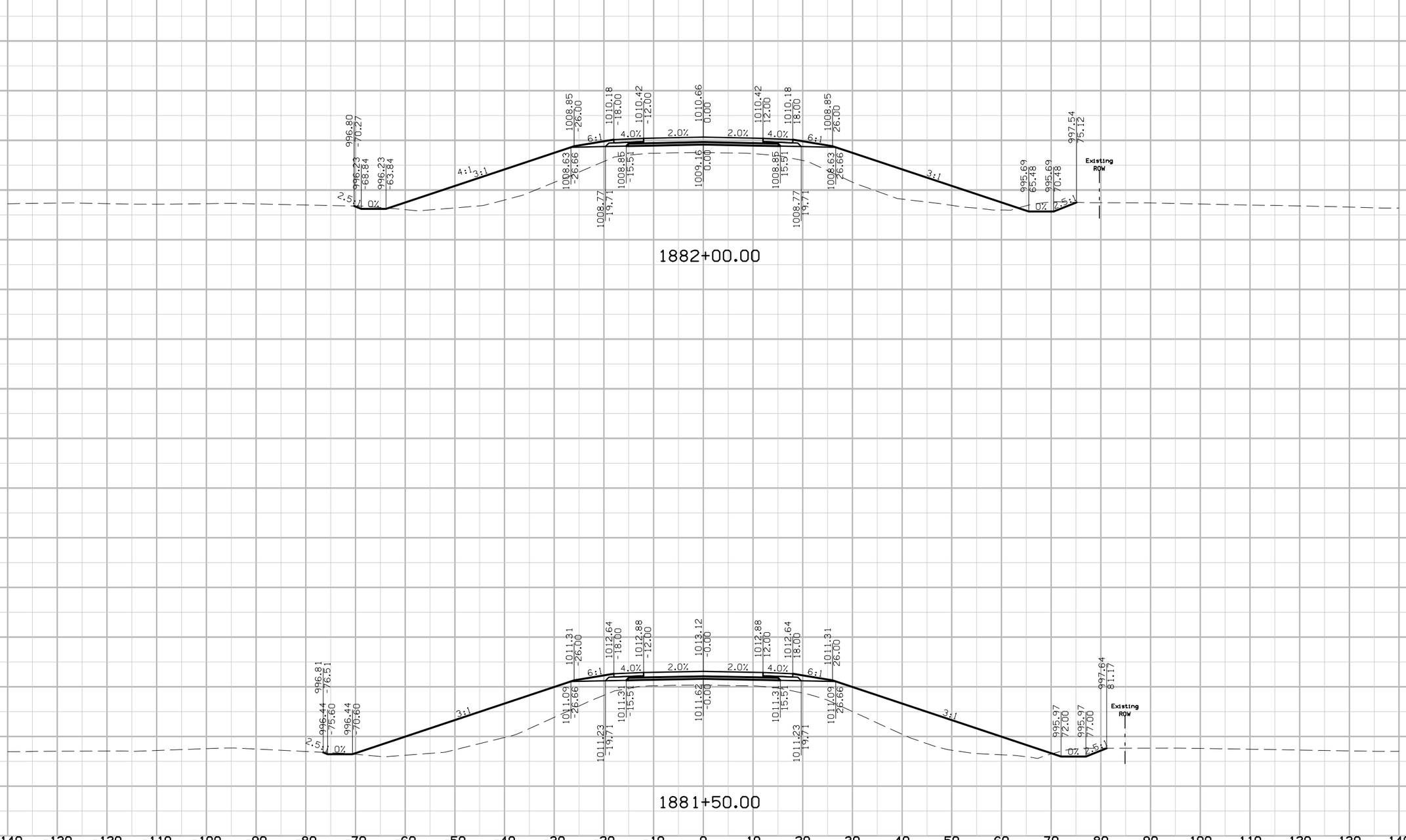
COUNTY ROAD G12



ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.15

SYSTEMTIME USERNAME DGNSPEC

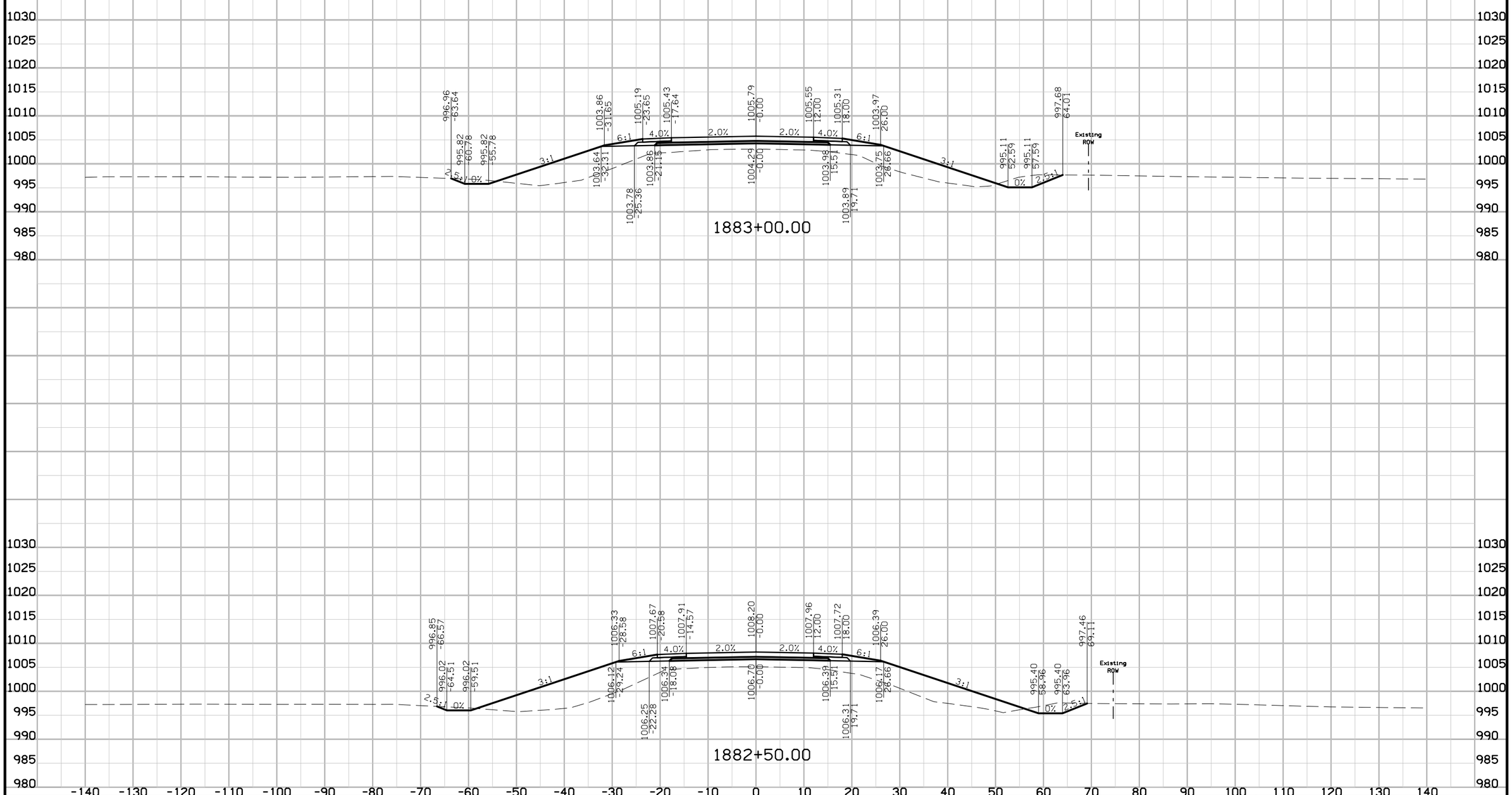
COUNTY ROAD G12



ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.16

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12

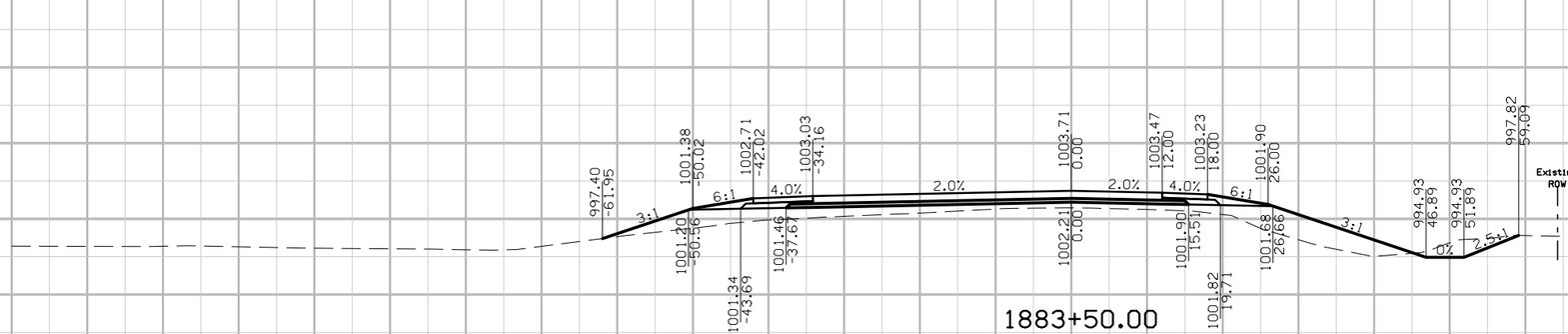


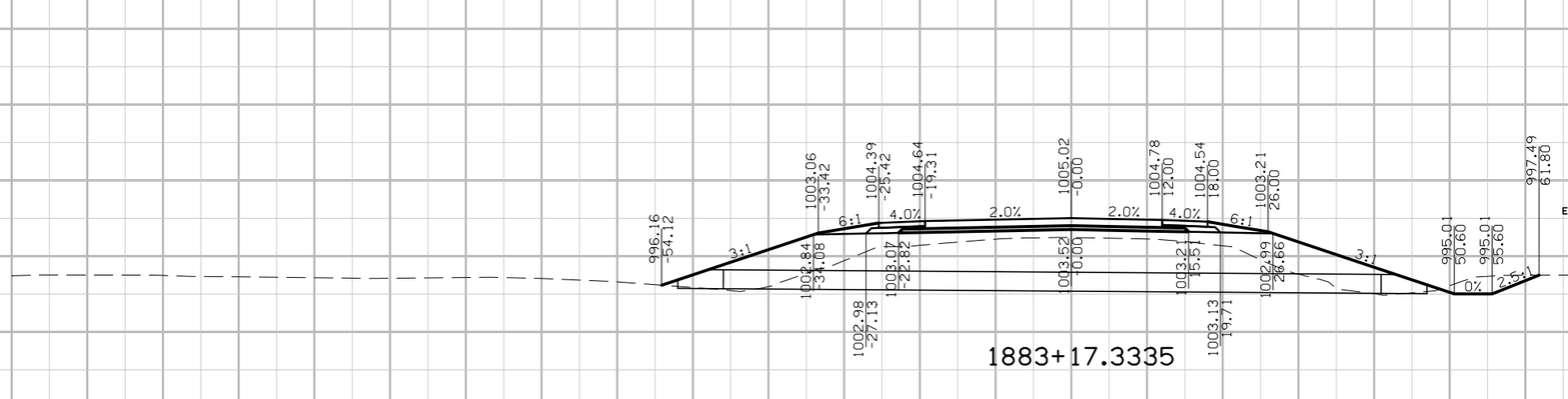
ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.17

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12



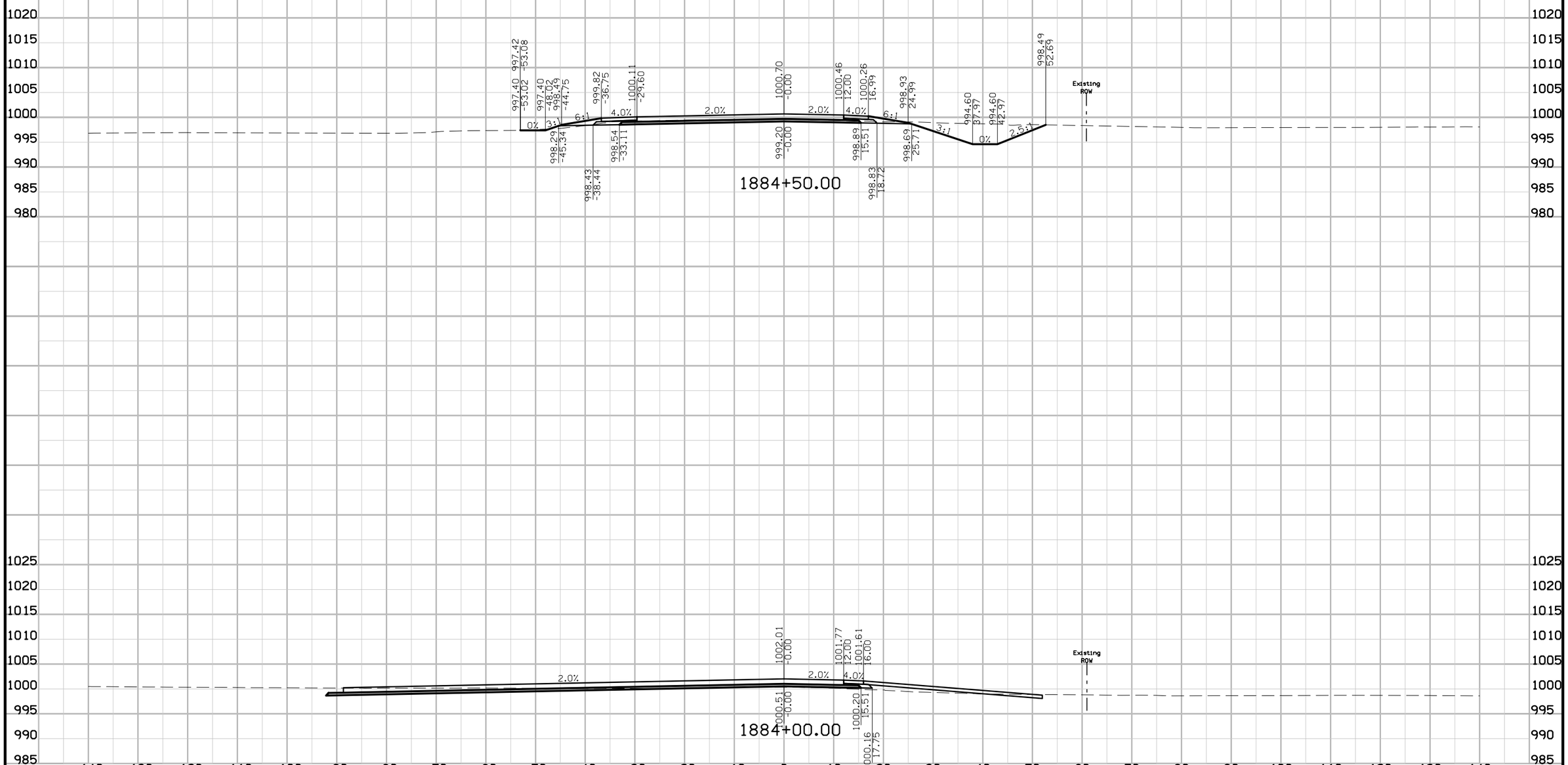




ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.18

SYSTEMTIME USERNAME DGNSPEC

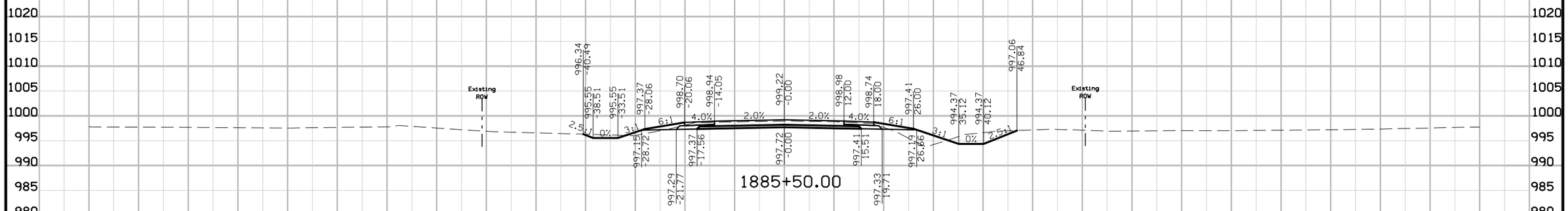
COUNTY ROAD G12

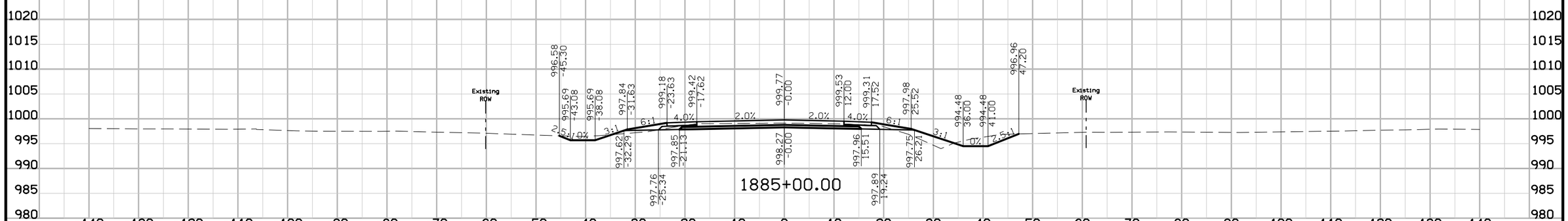


ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.19

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12





ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.20

SYSTEMTIME USERNAME DGNSPEC

COUNTY ROAD G12

1886+50.00

1886+00.00

Existing ROW

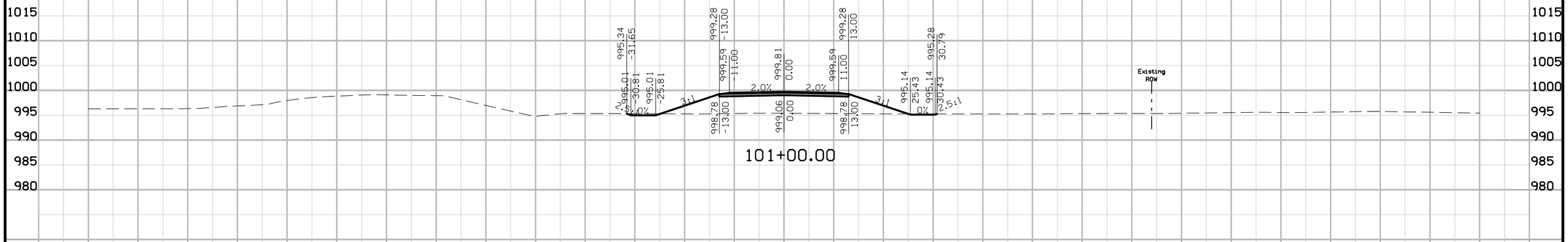
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995.41 -34.60
995.41 -29.60
997.27 -24.00
998.61 -16.00
998.77 -12.00
999.01 -0.00
998.77 12.00
998.61 16.00
997.27 24.00
994.25 33.06
994.25 38.06
996.58 43.87
997.01 -24.79
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997.15 -17.75
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997.15 17.75
997.01 24.79

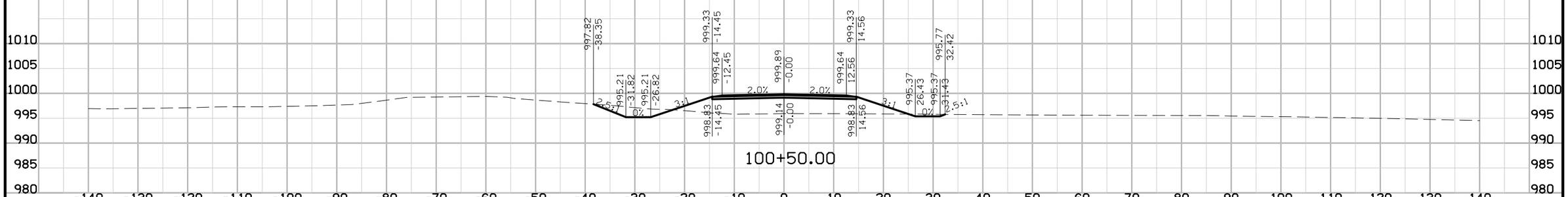
6:1 4.0% 2.0% 2.0% 4.0% 6:1 3:1 0% 3:1 0% 2.5:1

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER W.21

SYSTEMTIME USERNAME DGNSPEC

145th ST.

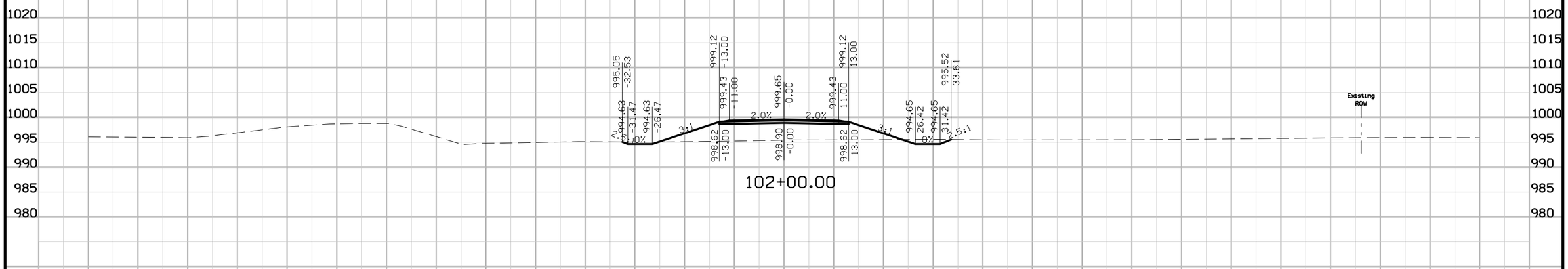




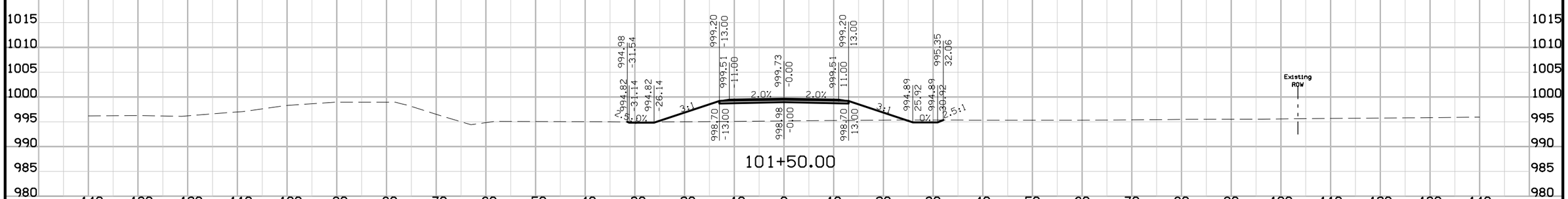
ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER X.1

SYSTEMTIME USERNAME DGNSPEC

145th ST.



102+00.00

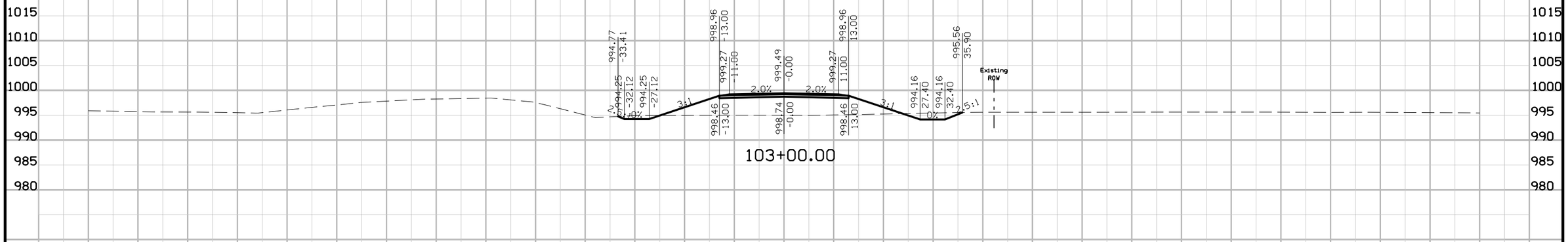


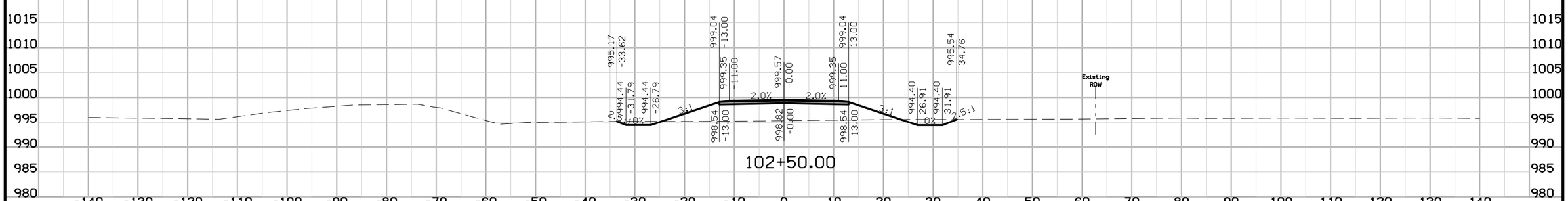
101+50.00

ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER X.2

SYSTEMTIME USERNAME DGNSPEC

145th ST.

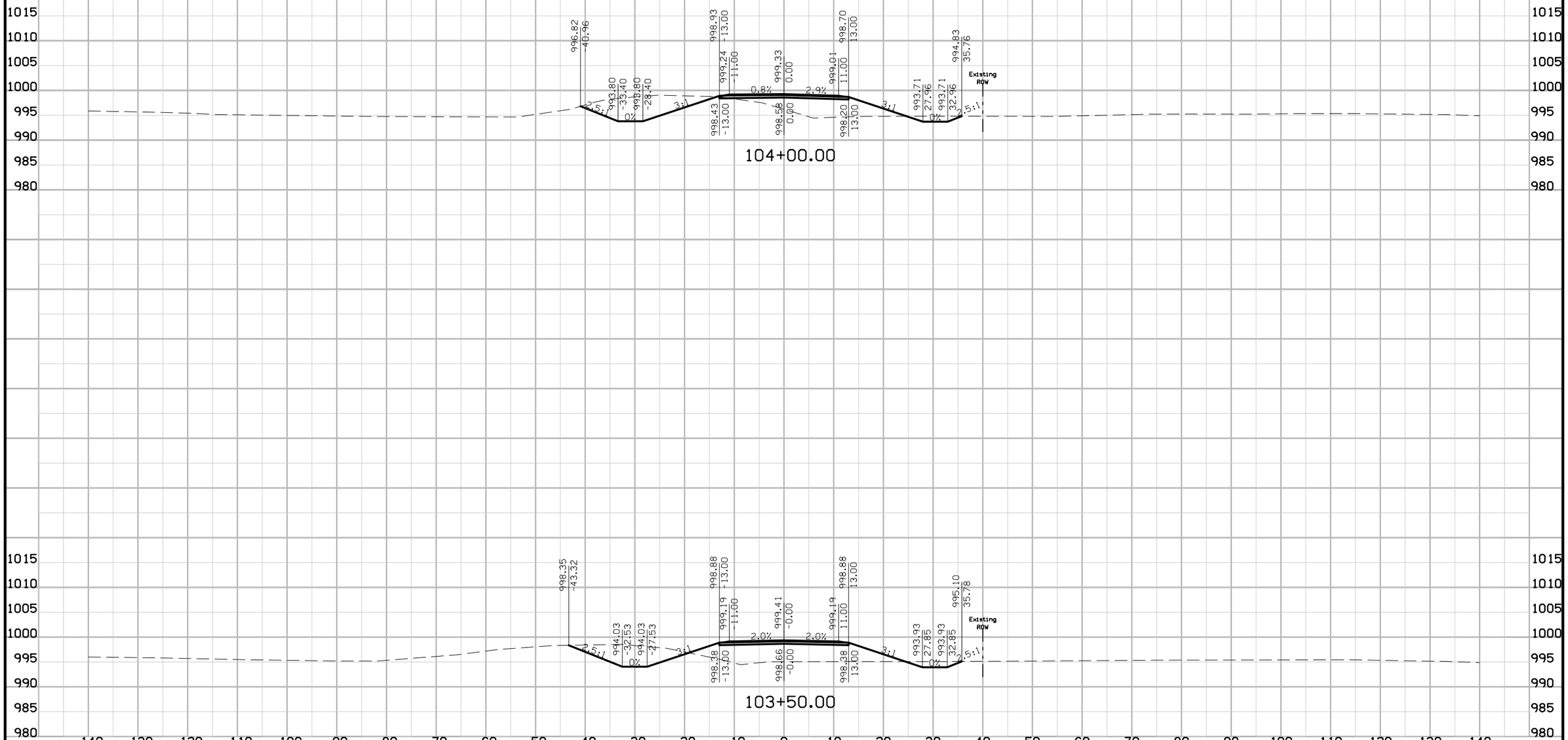




ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER X.3

SYSTEMTIME USERNAME DGNSPEC

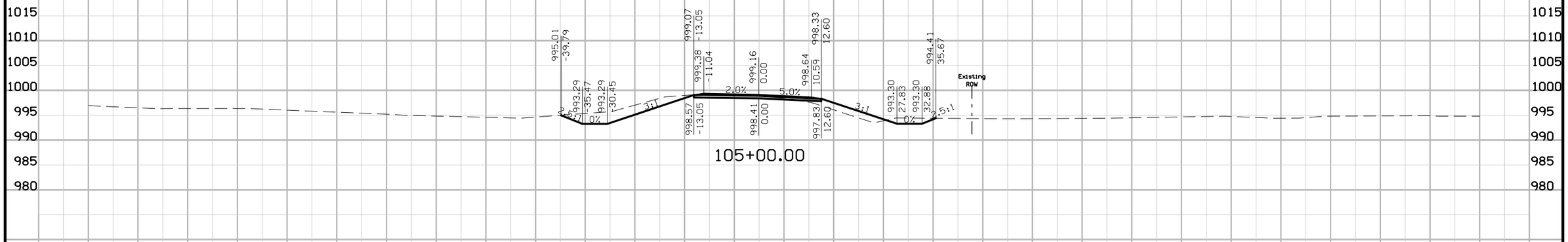
145th ST.



ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER X.4

SYSTEMTIME USERNAME DGNSPEC

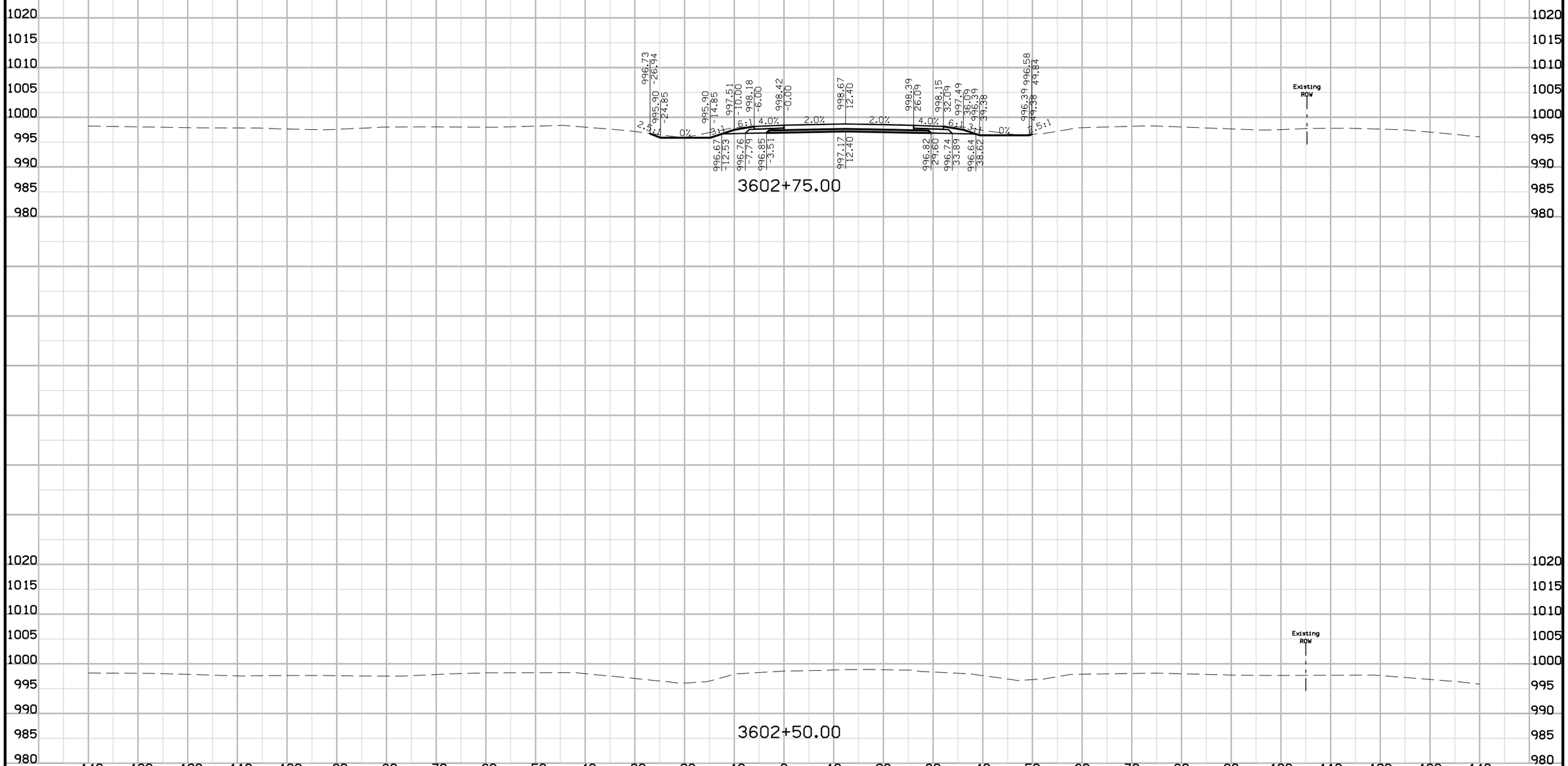
145th ST.



ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER X.5

SYSTEMTIME USERNAME DGNSPEC

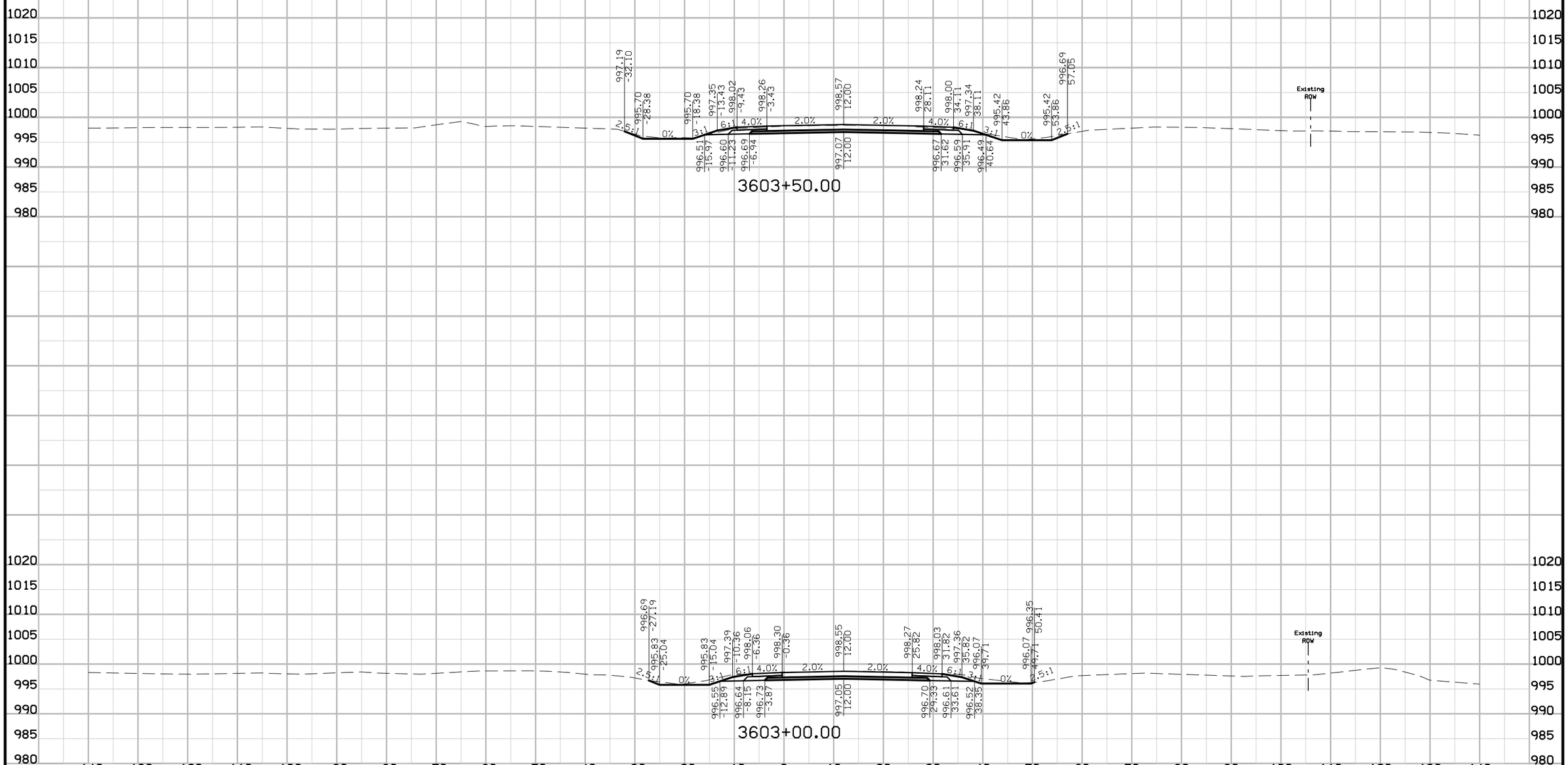
I-29 RAMP C



ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER Y.1

SYSTEMTIME USERNAME DGNSPEC

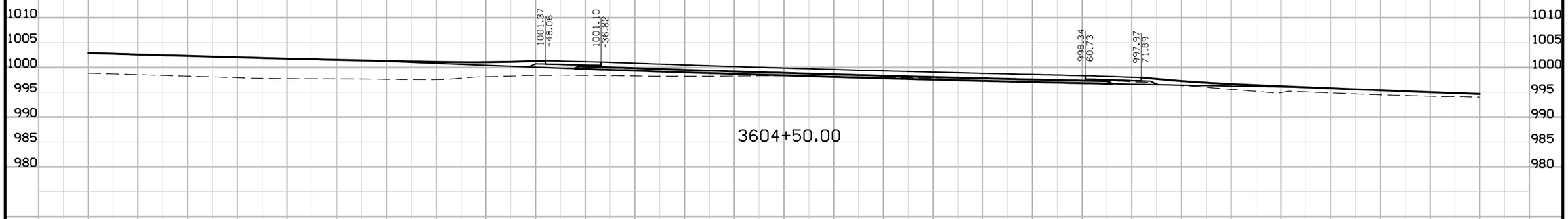
I-29 RAMP C

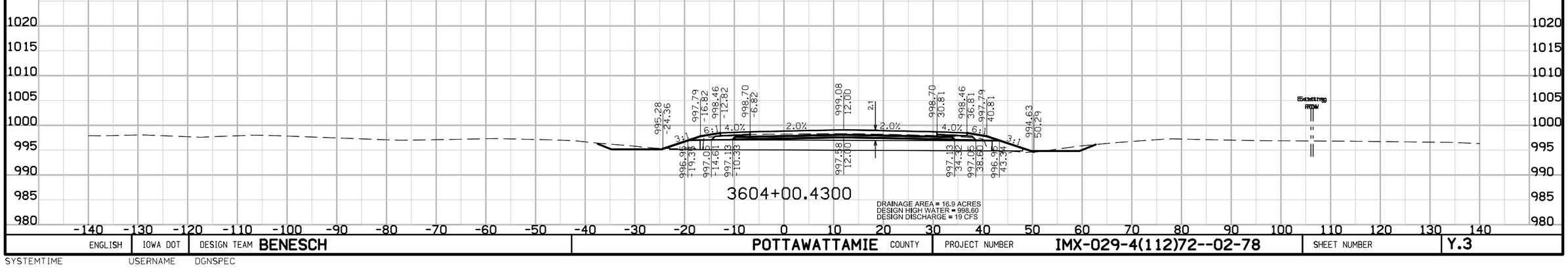


ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER Y.2

SYSTEMTIME USERNAME DGNSPEC

I-29 RAMP C

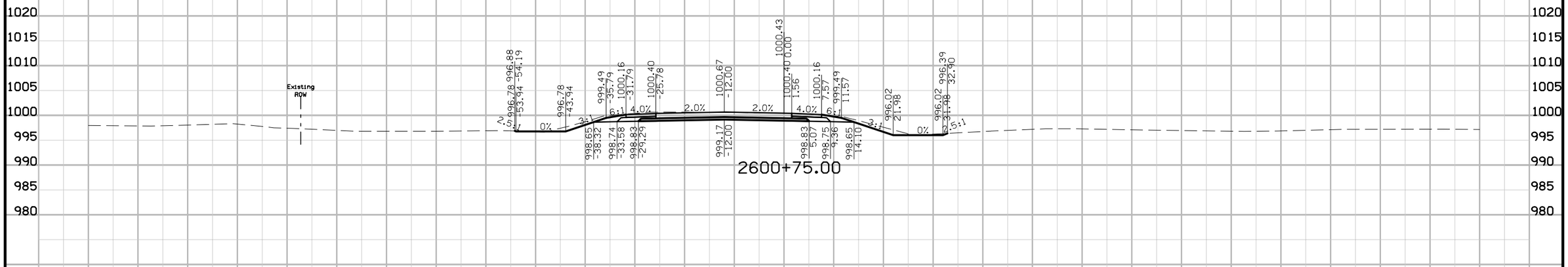




ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER Y.3

SYSTEMTIME USERNAME DGNSPEC

I-29 RAMP B

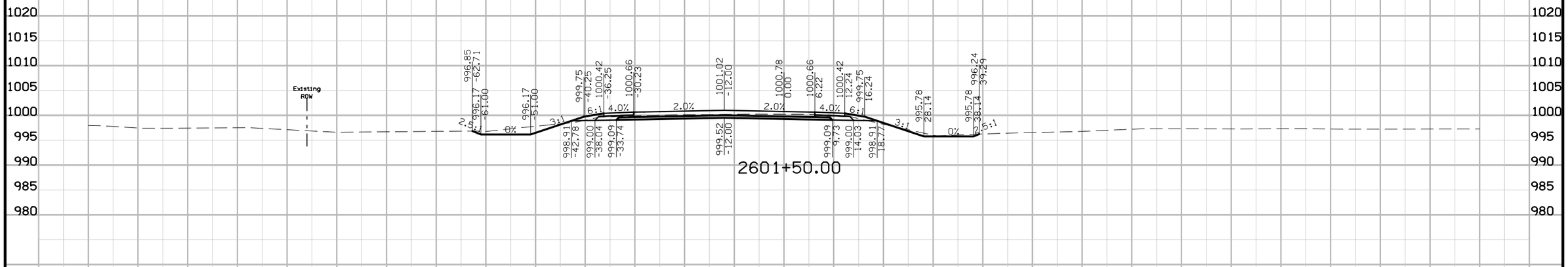


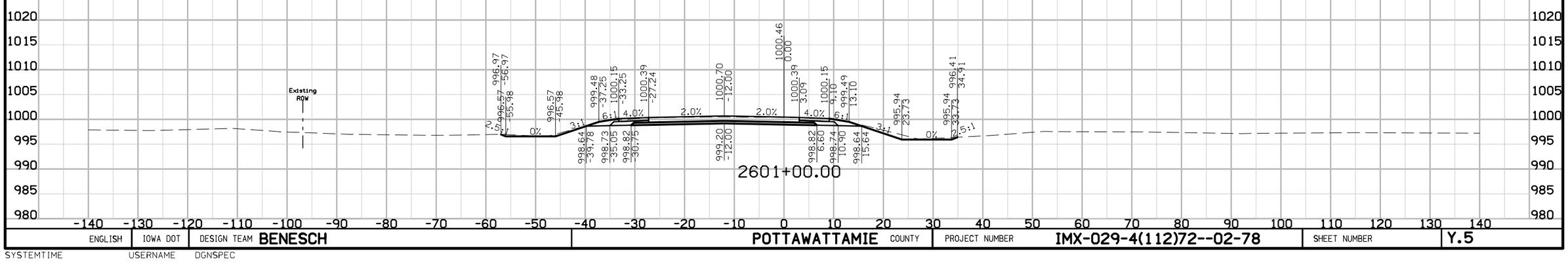


ENGLISH	IOWA DOT	DESIGN TEAM **BENESCH**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **IMX-029-4(112)72--02-78**	SHEET NUMBER	**Y.4**

SYSTEMTIME USERNAME DGNSPEC

I-29 RAMP B

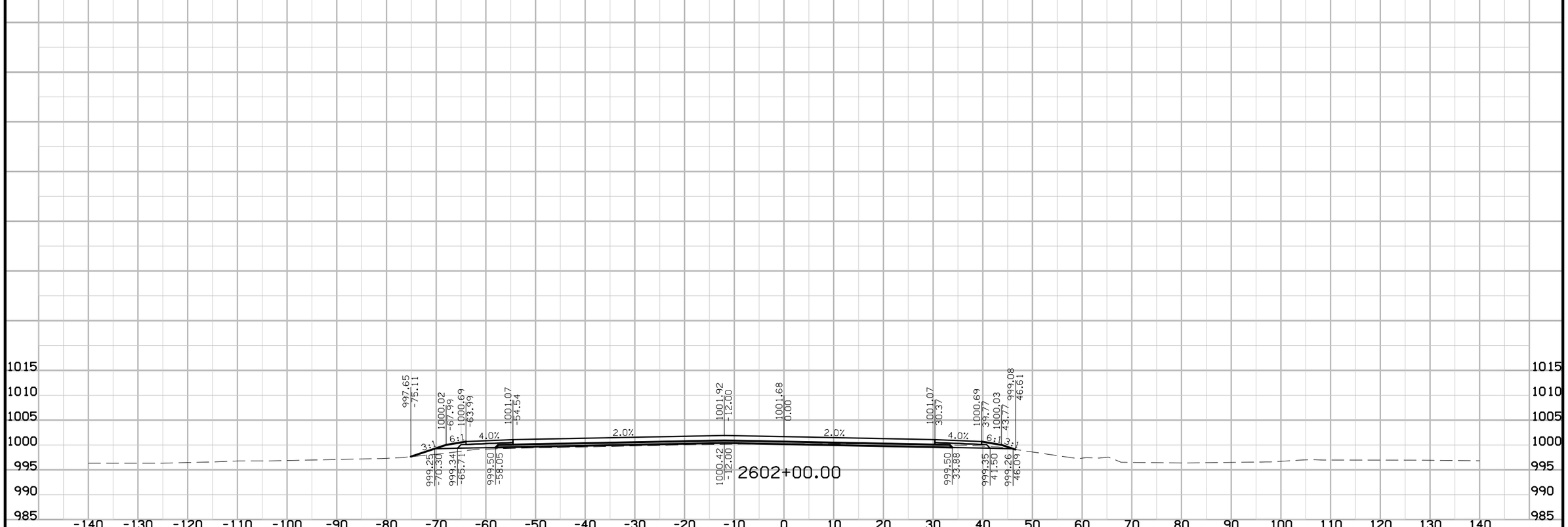




ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER Y.5

SYSTEMTIME USERNAME DGNSPEC

I-29 RAMP B



ENGLISH	IOWA DOT	DESIGN TEAM BENESCH	POTTAWATTAMIE COUNTY	PROJECT NUMBER IMX-029-4(112)72--02-78	SHEET NUMBER Y.6

SYSTEMTIME USERNAME DGNSPEC