LETTING DATE 10/17/2028

Bridge - Unspecified

BRF-024-2(021)--38-96

WINNESHIEK COUNTY

INDEX OF SHEETS

IOWA DOT

REVISIONS

TOTAL
..
PROJECT IDENTIFICATION NUMBER
24-96-024-010
PROJECT NUMBER
BRF-024-2(021)--38-96
R.O.W. PROJECT NUMBER
STPN-024-2(022)--2J-96

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

WINNESHIEK COUNTY

Bridge - Unspecified

IA 24 over Drainage Ditch
(1.8 mi W of Co Rd W14)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

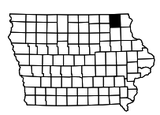
MILEAGE SUMMARY

105-1
09-27-94

Div.	Location	Lin. Ft.	Miles
1	IA 24 ML Sta. 355+21.88 to 359+92.80	470.92	0.089

DESIGN DATA RURAL

2022	AADT	2,250	V.P.D.
2048	AADT	2,300	V.P.D.
20 –	DHV	--	V.P.H.
TRUCKS		17	%
Total Design ESALs		--	



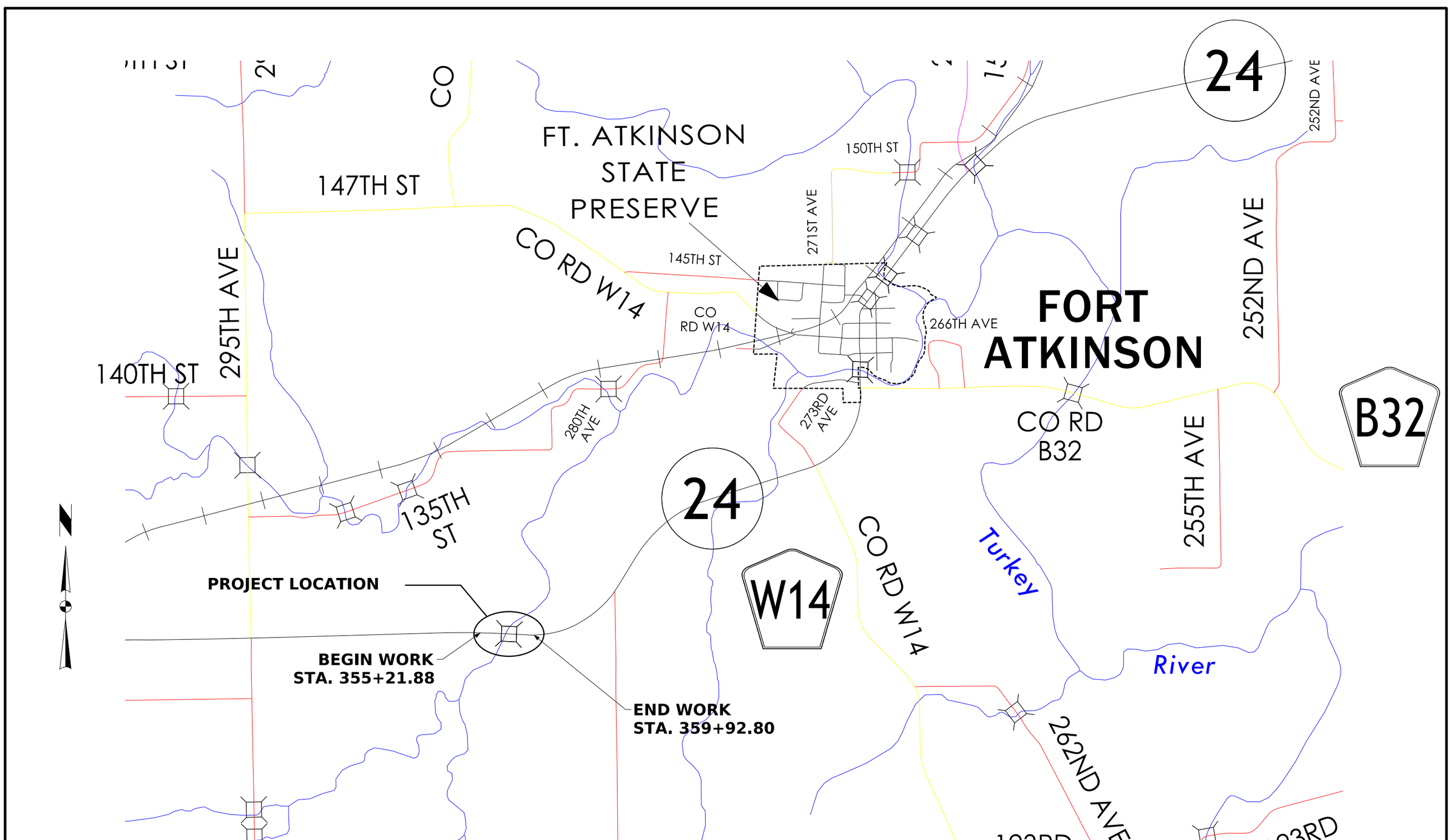
PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 12/18/2025

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER A.1

9:59:54 AM 12/18/2025 tclevenger pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9602401024\Design\CADD_Files\Sheet_Files\SHT_a01_WHKS_96024021Z02.dgn



FILE NO. 98765	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER A.2

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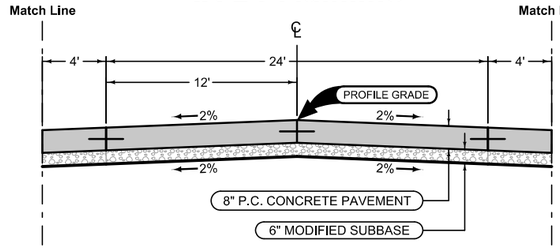
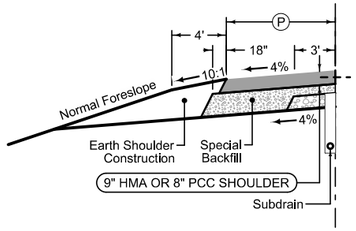
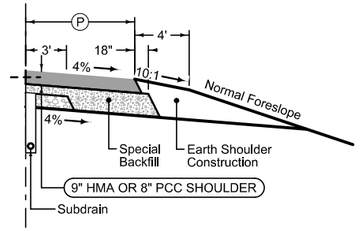
IA 24 Mainline





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

2P_ 04-21-20	
STATION TO STATION	
355+70.50	356+10.90



Paved Shoulder at Guardrail

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

2_P_Guard_ L 04-21-20		
STATION TO STATION		Ⓟ Feet
355+46.95	356+10.90	Var.
359+03.97	359+92.80	Var.

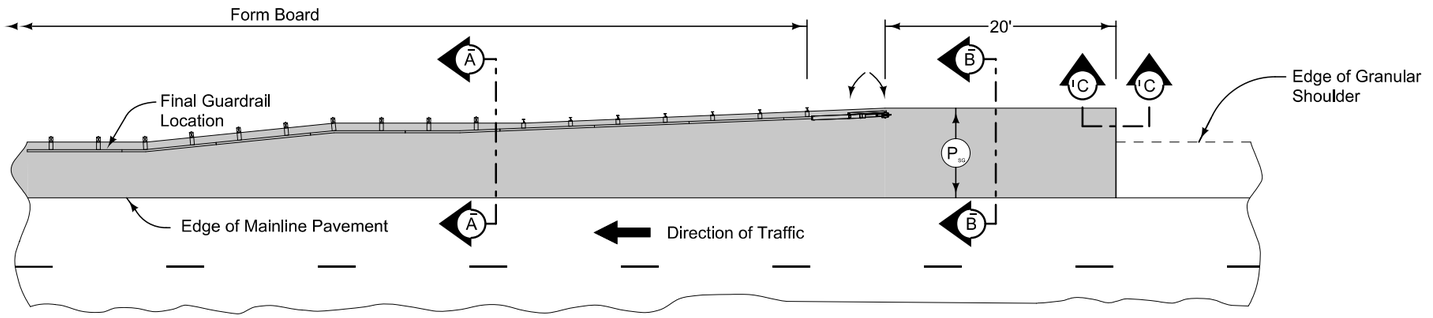
**Note: Paved Shoulder at Guardrail is not included in this typical section

Paved Shoulder at Guardrail

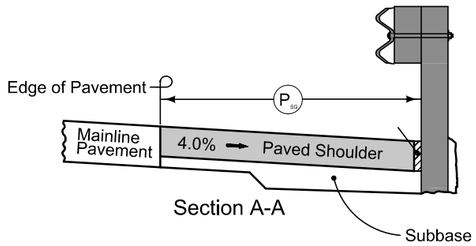
PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at mainline spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_P_Guard_ R 04-21-20		
STATION TO STATION		Ⓟ Feet
355+21.88	356+10.90	Var.

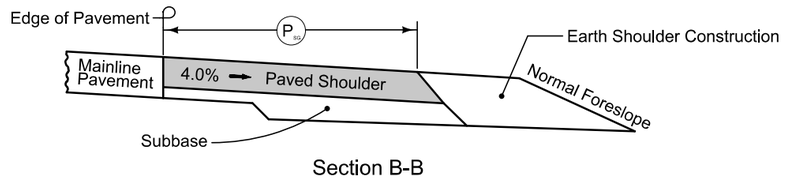
**Note: Paved Shoulder at Guardrail is not included in this typical section



PLAN VIEW

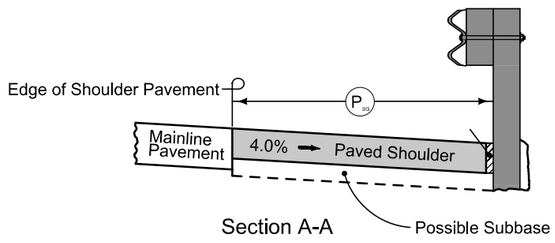


Section A-A

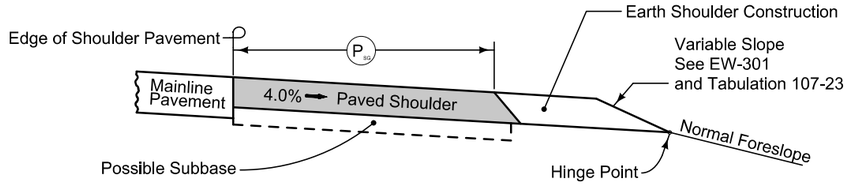


Section B-B

NEW CONSTRUCTION



Section A-A



Section B-B

EXISTING SHOULDER

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.

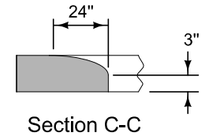
PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.

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

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

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

Refer to other details in the plan.

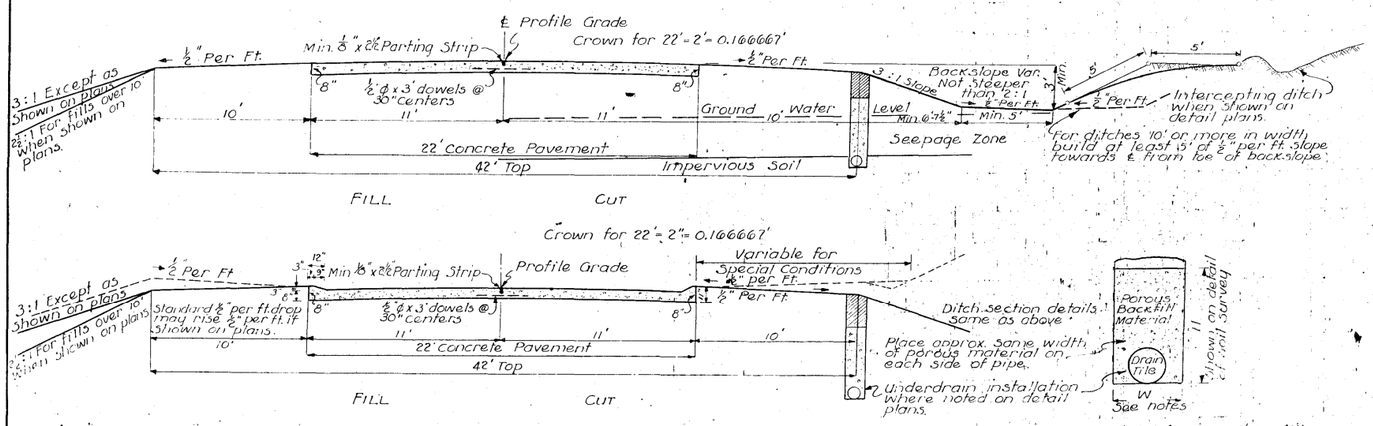


Section C-C
Roll down at granular shoulder or earth.

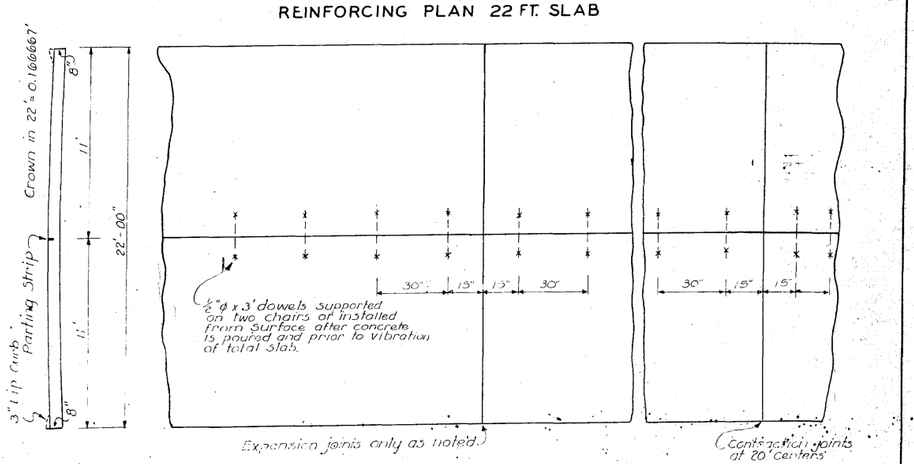
PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

FED. ROAD DIST. NO.	STATE	F PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA	3570(0)		3	28

TYPICAL CROSS SECTION



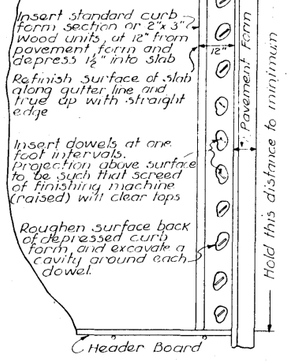
REINFORCING PLAN 22 FT. SLAB

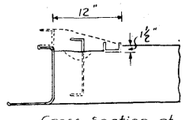


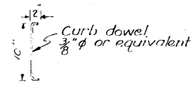
General Requirements:
1. See details for special bridge approach slab and intersection areas
2. See plans for location of expansion joints.
3. Contraction joints to be placed 20 feet center to center.

STANDARD METHOD OF DOWELLING CURB TO PAVEMENT

To be used in all cases where curb can not be built integral with slab.

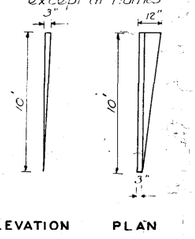




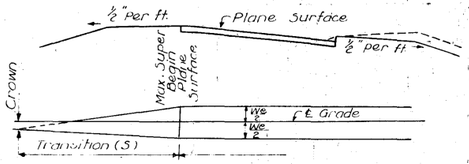


DETAILS FOR ENDING CURBS

Use in all cases except at flumes



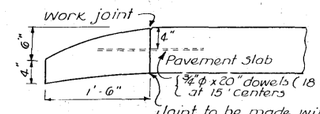
DETAILS FOR SUPERELEVATION OF CURVES



Superelevation begins at 0°30' curve with 0.0146' per ft. of width, and increases uniformly to 0.0833' per ft. width at 6°40' curve with no change in rate for curves sharper than 6°. Superelevated curves to be built to plans section for their entire length with transition from standard crown section to fully superelevated plane section worked out uniformly over the transition length. Superelevated section to be rotated about ℄ grade.
Length of transition S = 120 We. Where: W = Width of pavt. in Ft.
e = Rate of Supv. in Ft per Ft. of width

Use S = Min. of 80 ft and Max. of 220 ft. See notes on plans when curves are spiraled.

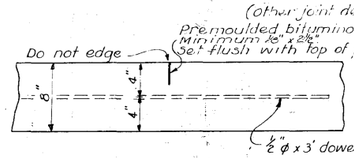
DETAILS OF CONCRETE HEADER



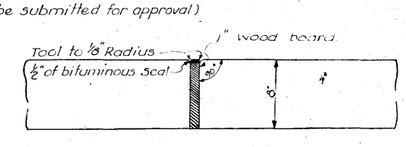
Joint to be made with wood header like day work joint.

JOINT DETAILS

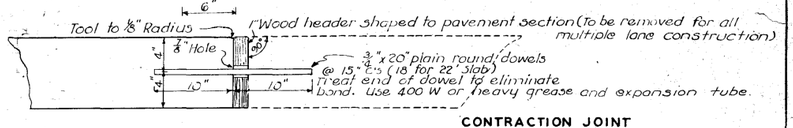
(Other joint details may be submitted for approval)



PARTING STRIP

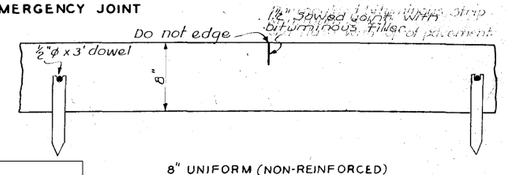


EXPANSION JOINT



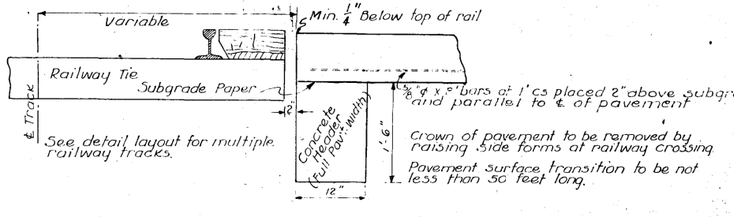
DAYS WORK OR EMERGENCY JOINT

CONTRACTION JOINT



DETAILS OF RAILWAY GRADE CROSSING

One standard expansion joint shall be placed each side of and 300' to 500' away from each grade railway crossing.

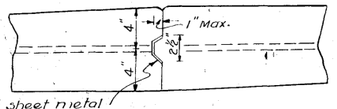


See detail layout for multiple railway tracks.

Crown of pavement to be removed by raising side forms at railway crossing.

Pavement surface transition to be not less than 50 feet long.

K D JOINT DETAILS



Pressed sheet metal key way for bent tie dowels to be held in place by clamps and Stakes.

8" UNIFORM (NON-REINFORCED)

22 FT. PAVEMENT (JANUARY 1952)

Winneshiek Co. F 351(10) Sheet No. 3

Revised Oct. 13, 1953 - Eliminated welded dowel assembly at expansion joints, and changed to wood board joint.
Revised July 2, 1952 Added reinforcing at railroad header.

For Information Only

FILE NO.	ENGLISH	DESIGN TEAM **WHKS & CO.**	**WINNESHIEK** COUNTY	PROJECT NUMBER **BRF-024-2(021)--38-96**	SHEET NUMBER **B.3**

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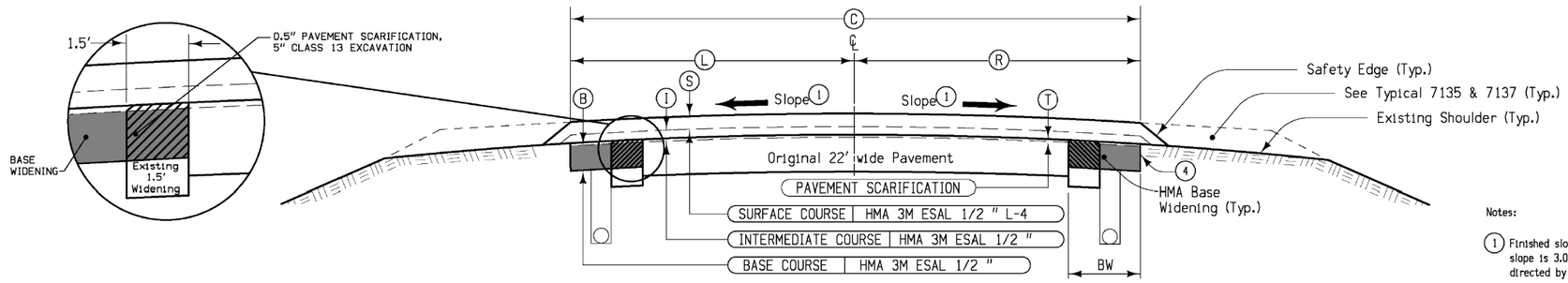
MC-1



Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0% Binder

Location			Mainline Design Quantities Per Station										Design Quantities Per Side Per Station				
Road Identification	Station To Station		(S) Inches	(I) Inches	(C) Feet	(L) Feet	(R) Feet	(T) Inches	Pavement Scarification Sq. Yds.	Tack Coat Gallons (2)	Asphalt Binder Tons	Hot Mix Asphalt (Tons) Surface	Hot Mix Asphalt (Tons) Intermediate	(B) Inches	(BW) Feet	Base Widening Tons	Class 13 Excavation Cu. Yds.	Remarks
IA 24	158+00	159+25	1.5	VAR.	28	14	14	0.5	266.7	38.5	3.5	25.8	13.3	8-5	3	11.8	6.0	BOP RUNOUT SEE TYPICAL MC-4
	159+25	354+99.1	1.5	1.5	28	14	14	0.5	266.7	38.5	4.2	25.8	25.8	5	3	9.1	4.6	
	354+99.1	356+24.1	1.5	VAR.	28	14	14	0.5	266.7	38.5	3.5	25.8	13.3	5-8	3	11.8	6.0	RUNOUT SEE TYPICAL MC-4
	358+90.7	360+15.7	1.5	VAR.	28	14	14	0.5	266.7	38.5	4.2	25.8	25.8	8-5	3	11.8	6.0	RUNOUT SEE TYPICAL MC-4
	360+15.7	385+05.5	1.5	1.5	28	14	14	0.5	266.7	38.5	4.2	25.8	25.8	5	3	9.1	4.6	
	385+13.3	460+58.3	1.5	1.5	28	14	14	0.5	266.7	38.5	4.2	25.8	25.8	5	3	9.1	4.6	EQUATION
	460+58.3	461+83.3	1.5	VAR.	28	14	14	0.5	266.7	38.5	3.5	25.8	13.3	5-8	3	11.8	6.0	RUNOUT SEE TYPICAL MC-4

Notes:

(1) Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of special shaping.

Refer to tabulation listing of superelevated curves and Standard Road Plans for additional requirements through superelevated curves.

(2) Tack Coat estimated for 2 applications.

(3) Class 13 Excavation based on shoulder being at pavement level.

(4) Provide a vertical edge. Incidental to Class 13 Excavation.

(5) Base widening to be extended through mainline runout sections listed in Typical MC-4

(6) Scarification based on 24' wide pavement.

(7) Base widening to be extended through mainline runout sections.
Depth of base widening shall be increased to maintain a total pavement thickness of 8".

(8) Eliminate base widening through previously paved sideroads.

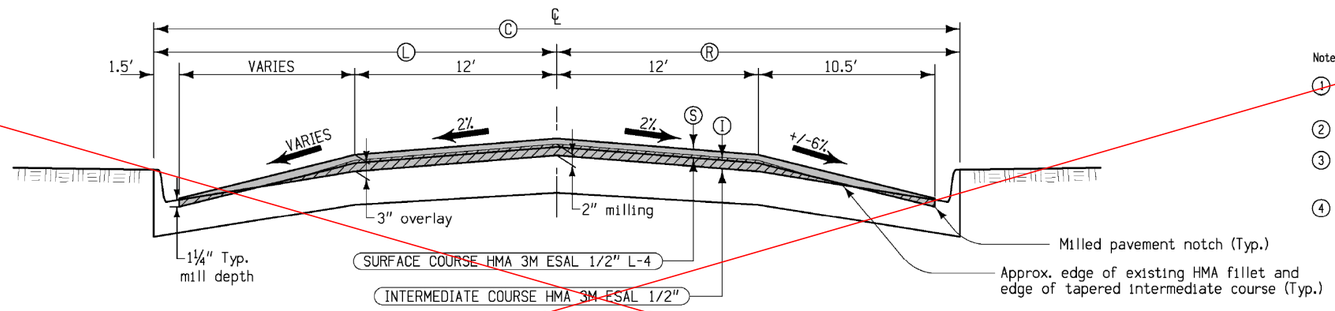
(9) Quantity shown includes Binder for Base Widening.

TYPICAL PAVEMENT SCARIFICATION HMA RESURFACING W/ BASE WIDENING

MC-2

HMA Paving

Pavement Scarification



Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0% Binder

Notes:

(1) Section may be modified as directed by the Engineer through areas of special shaping.

(2) Tack Coat estimated for 2 applications.

(3) Pavement scarification shall continue through intersections. All Existing HMA surface overlay to be removed to original PCC surface.

(4) Pavement and scarification depths and widths will vary from station 474+00 to station 476+00. Adjustments shall be made to create an uniform transition to MC-3.

Design Quantities Per Station													
Location			(S)	(I)	(C)	(L)	(R)	Pav't (3) Scarif.	Tack Coat (2)	Asphalt Binder	Hot Mix Asphalt (Tons)		Remarks
Road Identification	Station To Station		Inches	Inches	Feet	Feet	Feet	S.Y.	Gallons	Tons	Surface	Intermediate	
IA 24 BOTH SIDES*	464+58.5	465+08.5	1.5	VAR.	48	24	24	466.7	50.2	3.4	41.9	14.0	RUNOUT SEE TYPICAL 7309
IA 24 BOTH SIDES	465+08.5	472+92.4	1.5	1.5	48	24	24	466.7	50.3	4.2	41.9	27.2	
IA 24 LEFT SIDE OF CL*	472+92.4	474+00	1.5	1.5	VAR.	VAR.		320.2	32.3	2.5	26.5	14.0	
IA 24 LEFT SIDE OF CL*	474+00	474+81.3	1.5-2	1.5-2	VAR.	VAR.		227.6	27.9	2.7	16.9	17.2	TRANSITION SECTION SEE TYPICAL 7311B
IA 24 RIGHT SIDE OF CL*	472+92.4	475+20	1.5	1.5	VAR.		24	233.4	15.8	1.7	13.3	14.0	
IA 24 RIGHT SIDE OF CL*	475+20	475+95.5	1.5-2	1.5-2	VAR.		VAR.	173.7	22.5	2.8	18.1	18.6	TRANSITION SECTION SEE TYPICAL 7311B
													* QUANTITIES BASED ON AVERAGE AREAS

TYPICAL PAVEMENT SCARIFICATION & HMA RESURFACING TWO LANE W/SIDE PARKING

For Information Only

ENGLISH	IOWA DOT	DESIGN TEAM Callahan\Coggins\Suntken	WINNESHIEK COUNTY	PROJECT NUMBER STP-024-2(13)--2C-96	SHEET NUMBER B.1	X

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FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER B.4	

12:57:11 PM 11/25/2025 tclevenger pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9602401024\Design\CADD_Files\Sheet_Files\SHT_b01_WHKS_96024021Z02.dgn

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)
- ST 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

- FO FO1D, Iowa Communication Network - Quality D
- FO2 FO2D, AcenTek - Quality D
- FO3 FO3D, AcenTek - Quality D

Iowa Communication Network
Contact: Dave Augspurger
Phone: (515)-725-4604
Email: icnoutsideplantiowaonecall@iowa.gov

Acentek (Formerly Ace Comm)
Contact: Matt Minor
Phone: (507)-896-6215
Email: mminor@acentek.net

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.**		**Transparency**
Pink, Dark	(13)	Temporary Pavement Shading	50%
Yellow	(4)	Proposed Pavement Shading	50%
Orange	(6)	Proposed Granular Shading	50%
Orange	(70)	Proposed Shoulder Granular Shading	50%
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading	50%
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading	50%
Brown, Light	(236)	Grading Shading	50%
Orange, Light	(134)	Proposed Granular Entrance Shading	50%
Yellow	(220)	Proposed Paved Entrance Shading	50%
Tan	(8)	Proposed Sidewalk Shading	50%
Blue, Light	(230)	Proposed Sidewalk Landing Shading	50%
Pink	(11)	Proposed Sidewalk Ramp Shading	50%
Red	(3)	Proposed Structure Shading	50%
Red	(3)	Delineates Restricted Areas	0%

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER D.1

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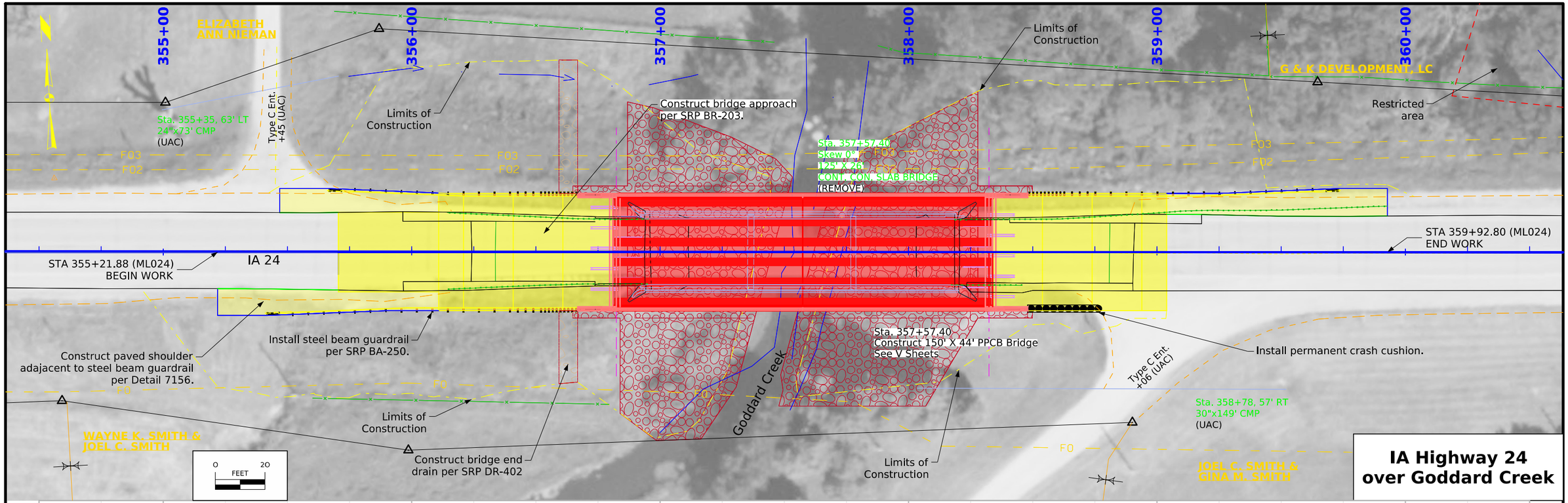
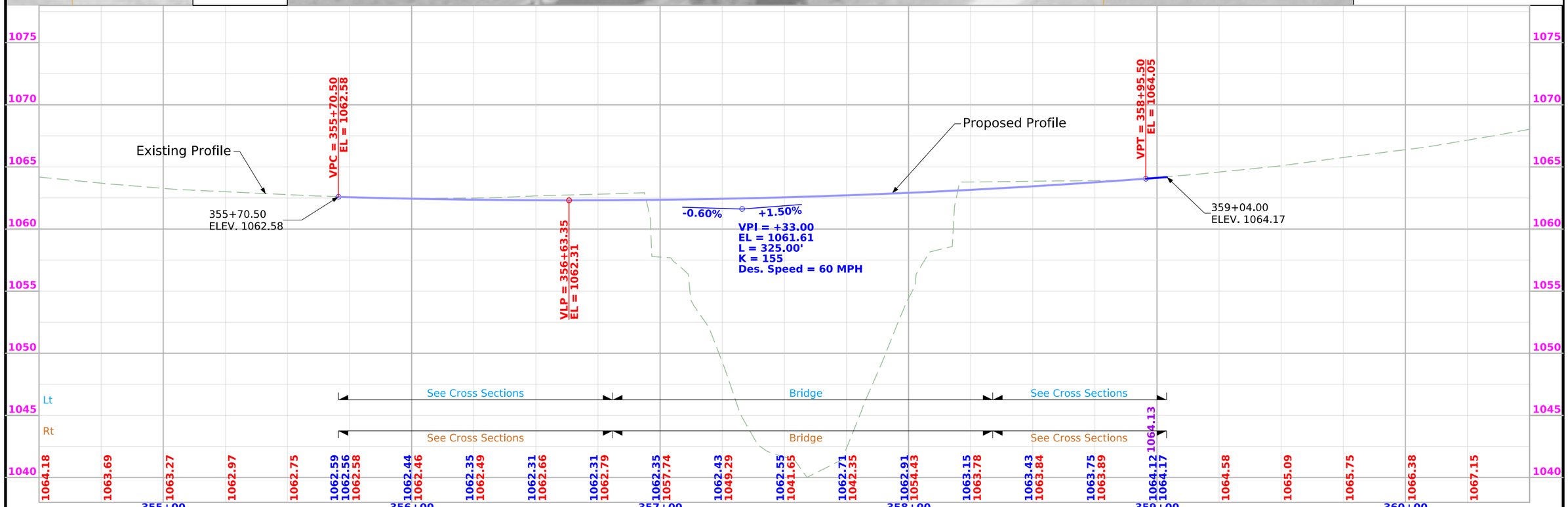




FILE NO. 98765	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER D.2

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

SURVEY INDEX

County: Winneshiek
PIN: 24-96-024-010
Project Number: BRF-024-2(021)--38-96
Location: Goddard Creek 1.8 mi W of Co Rd W14
Type of Work: Bridge Unspecified
Project Directory: 9602401024

Survey Personnel

Jeremy Leemon – Survey Party Chief
Jacob Powers – Assistant Survey Party Chief

Date(s) of Survey

Begin Date	12/09/2024
End Date	12/12/2024

General Information

This survey is for a bridge replacement on IA 24 over Goddard Creek. This project is a Limited Topographic 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 five-minute observations were taken followed by a site calibration with a base setup near the site. 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 2 (U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u3

Alignment Information

The horizontal alignment for IA Hwy 24 this survey is a retrace of As-built Plans No. F-357(9). Survey stationing was equated to the plan PC at Sta. 361+44.5 and carried back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PC Sta. 344+31.3 As-built Plans Project No. F-357(9).
Survey PC Sta. 344+31.30

PT Sta. 352+51.3 As-built Plans Project No. F-357(9).
Survey PT Sta. 352+51.30

PC Sta. 361+44.5 As-built Plans Project No. F-357(9).
Survey PC Sta. 361+44.50

PT Sta. 385+05.5 As-built Plans Project No. F-357(9).
Survey PT Sta. 385+05.50

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 2 (U.S. Survey Foot)

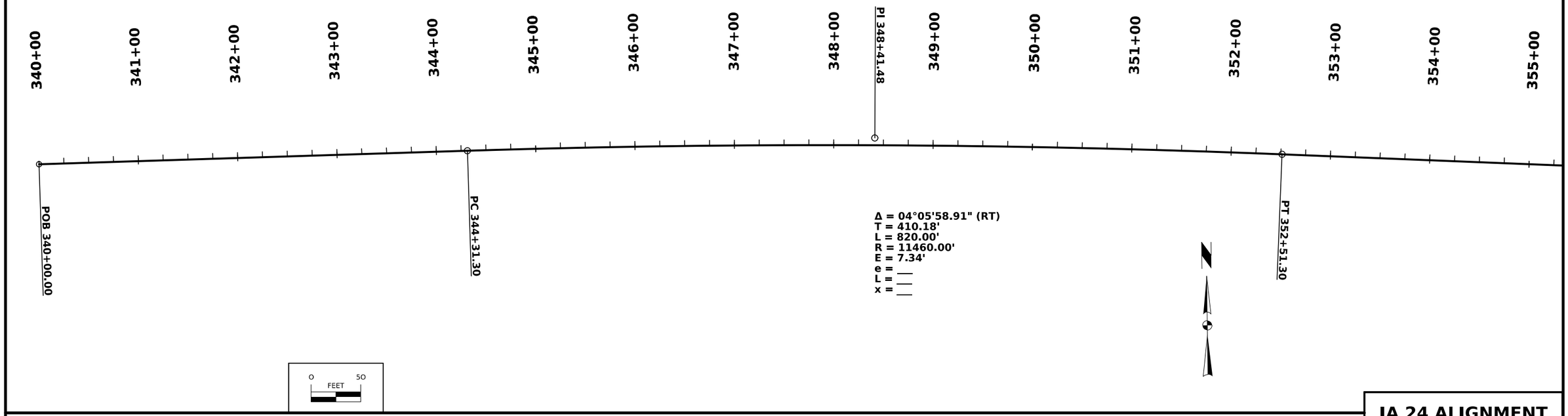
VERT. DATUM: NAVD88 - Geoid Model: 2018u3

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

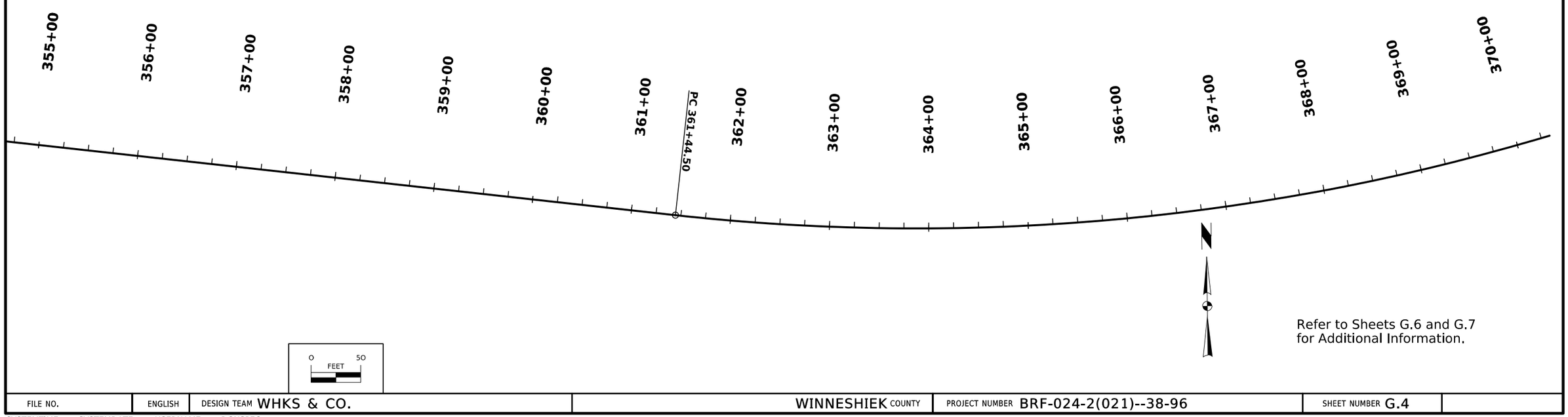
HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
Ia. Regional Coordinate System Zone 2 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u3

Point Name	Northing	Easting	Elevation	Code-Description
100	9786195.89	12709661.79	1074.78	CP SET 5/8" REBAR 56' S OF IA 24 CL, W SIDE OF FIEND ENT
104	9787168.83	12712735.85	1110.08	CP SET 5/8" REBAR 25' N OF IA 24 CL, SW SIDE OF COMM ENT
500	9786235.92	12710359.65	1065.06	BM CUT "X" NW WING OF BR
502	9786122.03	12710551.86	1058.90	BM SET 60D SPK NW SIDE PP SE SIDE OF FARM LANE



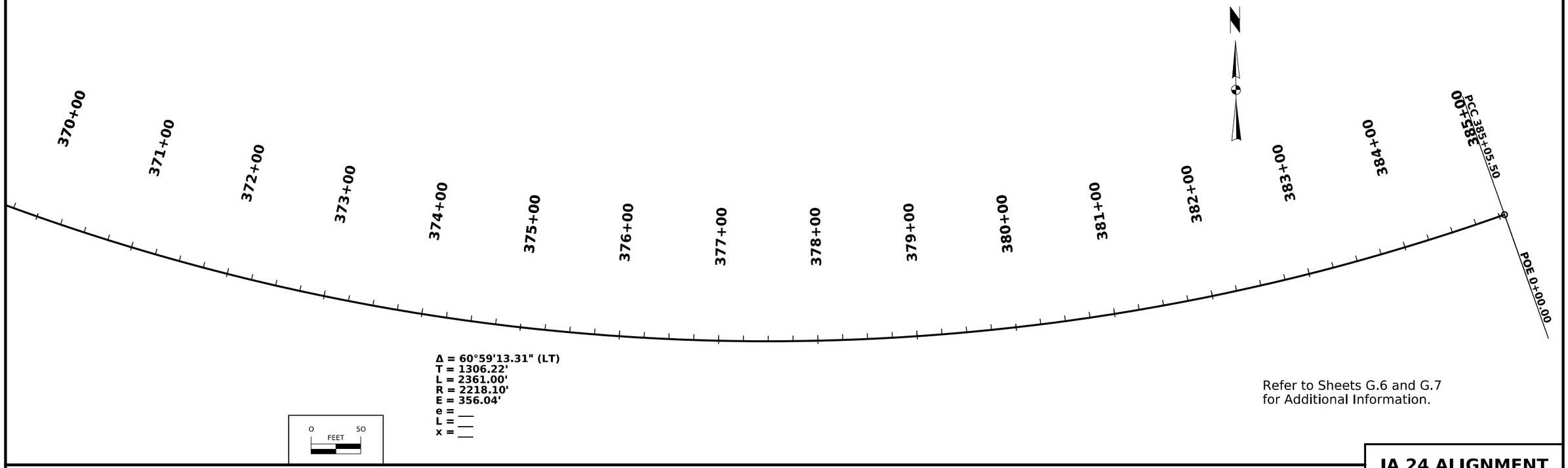
IA 24 ALIGNMENT



Refer to Sheets G.6 and G.7
for Additional Information.

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER G.4	

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC



IA 24 ALIGNMENT

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER G.5	

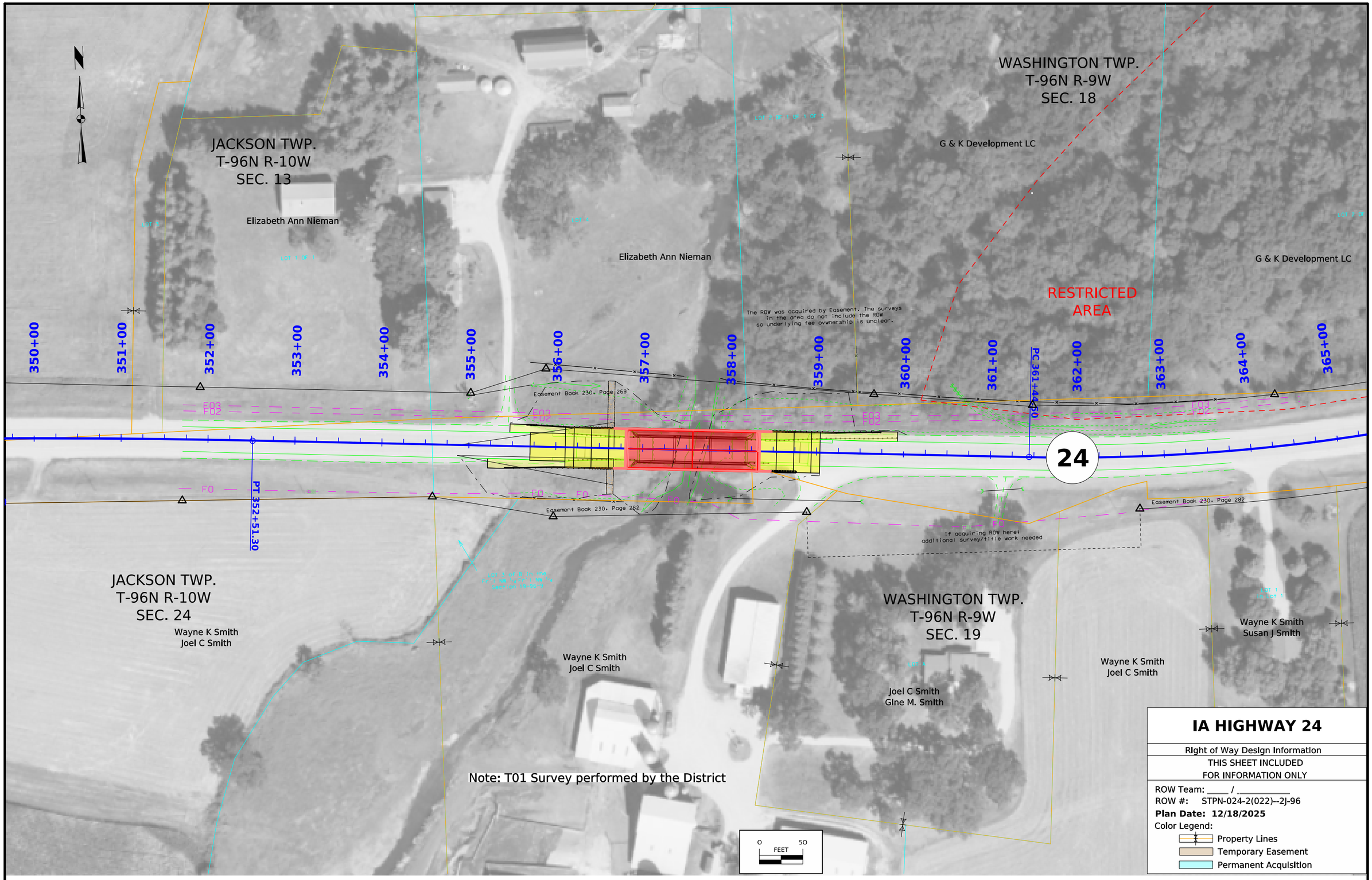
SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

ALIGNMENT COORDINATES

Line No.	Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Spiral Station	Begin Spiral Y Northing	Begin Spiral X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting	End Spiral Station	End Spiral Y Northing	End Spiral X Easting
1.0	ML024		340+00.07	9786265.211	12708696.048															
2.0	ML024								344+31.37	9786273.615	12709127.267	348+41.54	9786281.606	12709537.365	352+51.37	9786260.258	12709946.985			
3.0	ML024								361+44.57	9786213.772	12710838.976	374+50.80	9786145.789	12712143.431	385+05.58	9787253.575	12712835.553			

SPIRAL OR CIRCULAR CURVE DATA

Line No.	Name	Location	SCS	S	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	C	T	L	R	E	Remarks
1.0	C1											4.100	410.176	820.002	11460.023	7.338	
2.0	C2											60.987	1306.225	2361.005	2218.104	356.038	



IA HIGHWAY 24

Right of Way Design Information

THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: _____ / _____

ROW #: STPN-024-2(022)--2J-96

Plan Date: 12/18/2025

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER H.1	

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108_23A
8/15/22

TRAFFIC CONTROL PLAN

The IA 24 bridge over Goddard Creek will be constructed under a full road closure with a detour. Traffic will be detoured to the North with the following route:

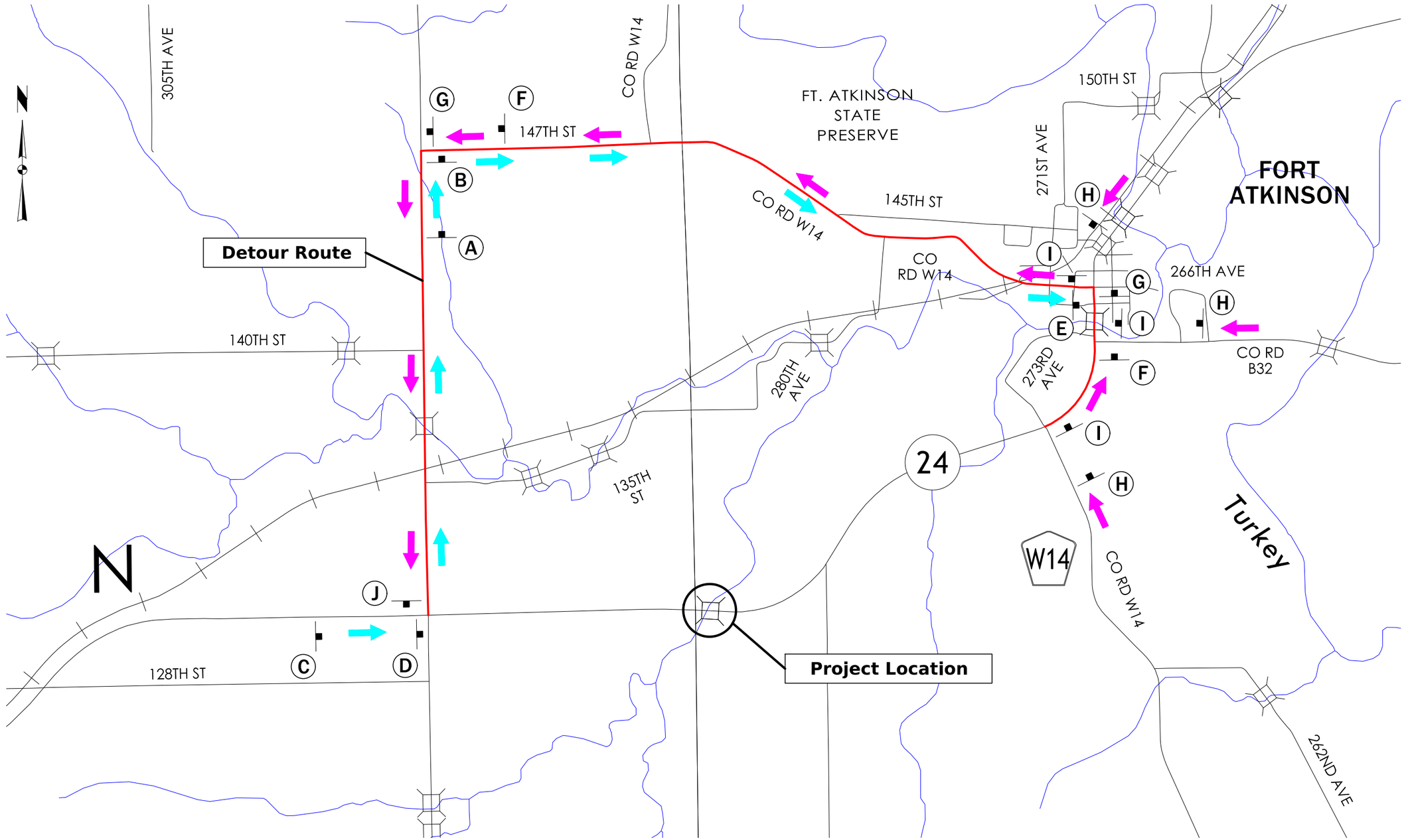
Eastbound Traffic: Traffic will travel North on 295th Ave. to 147th St. for 1.8 miles. Then East through Fort Atkinson to IA 24/1st St. SE for 2.7 miles. Total Detour length is 4.5 miles.

Westbound Traffic: Northbound Traffic from County Road W14 will travel North on IA 24 to 4th St. SW/147th St. for 0.6 miles. Westbound Traffic from County Road B32 will travel North on IA 24 to 4th St. SW/147th St. for 0.2 miles. All traffic will then travel West on 4th St. SW/147th St. to 295th St. for 2.7 miles. Then South to IA 24 for 1.8 miles. Total detour length is 4.5 miles.

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
District to provide.	



FILE NO.	ENGLISH	DESIGN TEAM **WHKS & CO.**	**WINNESHIEK** COUNTY	PROJECT NUMBER **BRF-024-2(021)--38-96**	SHEET NUMBER **J.3**

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A

M4-8, 30" X 15"
M3-2, 30" X 15"
M1-5, 24" X 24"
M5-1, 30" X 21"

B

M4-8, 30" X 15"
M3-2, 30" X 15"
M1-5, 24" X 24"
M6-1, 30" X 21"

C

M4-8, 30" X 15"
M3-2, 30" X 15"
M1-5, 24" X 24"
M5-1, 30" X 21"

D

M4-8, 30" X 15"
M3-2, 30" X 15"
M1-5, 24" X 24"
M6-1, 30" X 21"

E

M4-8b, 30" X 15"
M4-8, 30" X 15"
M3-2, 30" X 15"
M1-5, 24" X 24"

F

M4-8, 30" X 15"
M3-4, 30" X 15"
M1-5, 24" X 24"
M5-1, 30" X 21"

G

M4-8, 30" X 15"
M3-4, 30" X 15"
M1-5, 24" X 24"
M6-1, 30" X 21"

H

M4-8, 30" X 15"
M3-4, 30" X 15"
M1-5, 24" X 24"
M5-1, 30" X 21"

I

M4-8, 30" X 15"
M3-4, 30" X 15"
M1-5, 24" X 24"
M6-1, 30" X 21"

J

M4-8b, 30" X 15"
M4-8, 30" X 15"
M3-4, 30" X 15"
M1-5, 24" X 24"

Detour Route Signage

FILE NO.	ENGLISH	DESIGN TEAM **WHKS & CO.**	**WINNESHIEK** COUNTY	PROJECT NUMBER **BRF-024-2(021)--38-96**	SHEET NUMBER **J.4**

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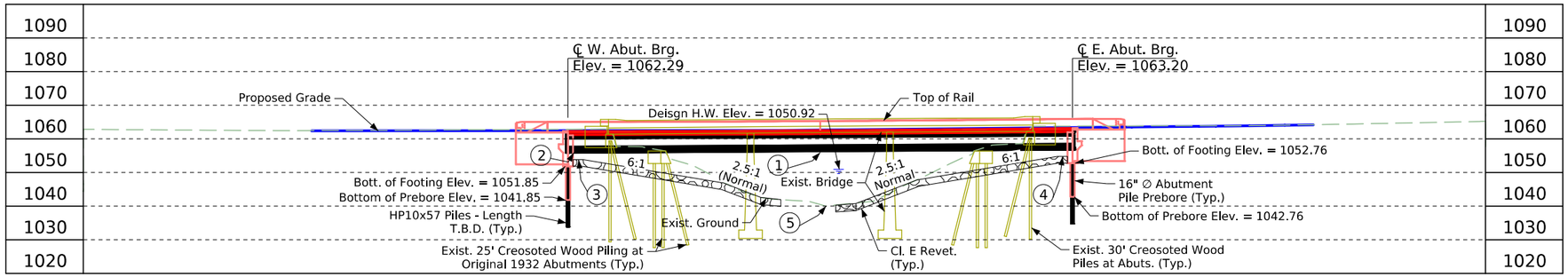
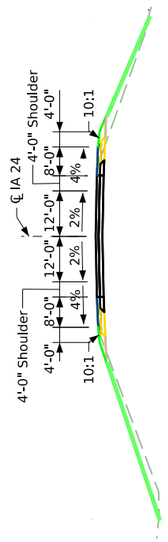
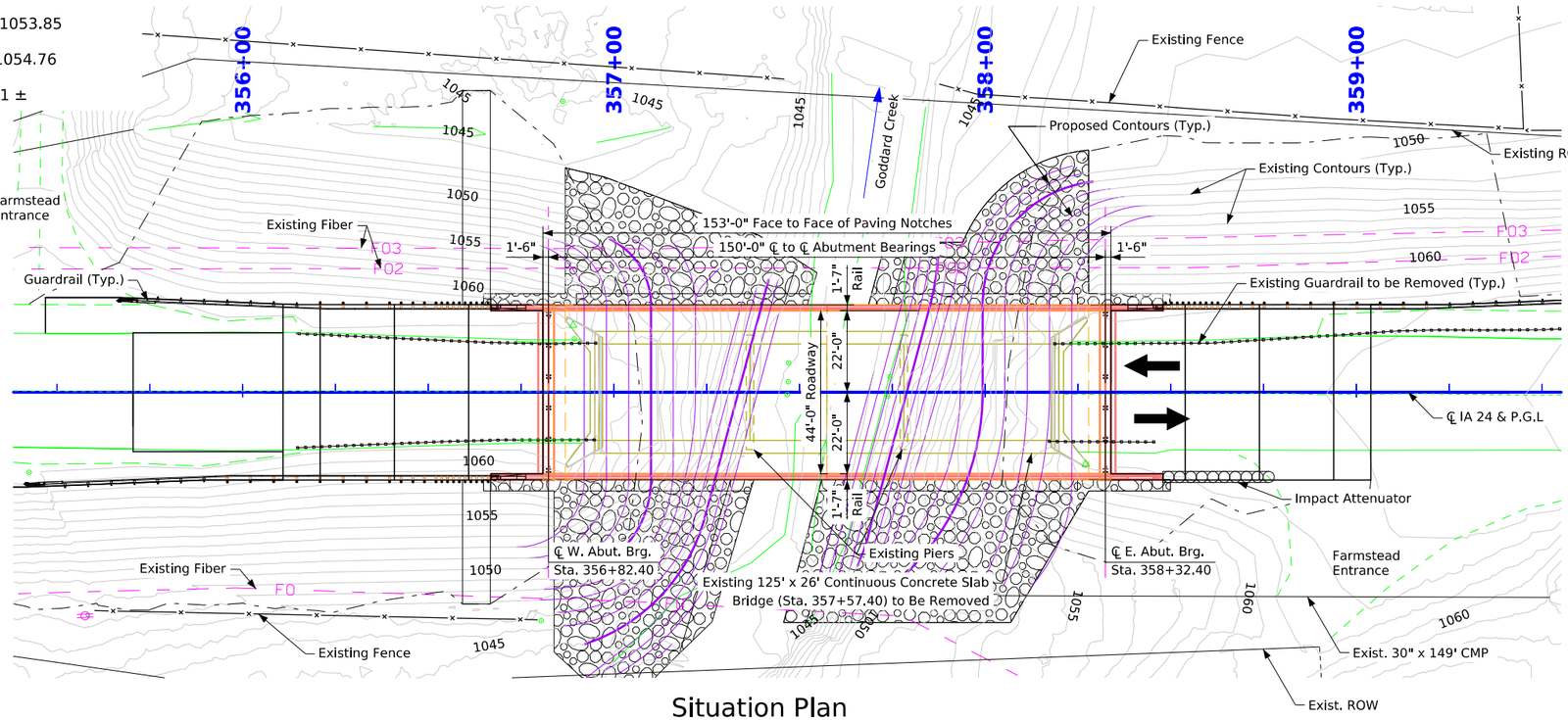
Control Point: 500 BM CUT "X" NW WING OF BR, N=9786235.92, E=12710359.65, EL.=1065.06



Longitudinal Section Along ℄ Bridge



Typical Approach Section



Situation Plan

0 20
Scale In Feet

N

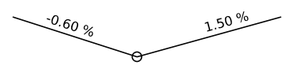
(1) Channel Low Beam = See Hydraulic Data

(2) Operational Low Beam = See Hydraulic Data

(3) Top of West Berm Elev. = 1053.85

(4) Top of East Berm Elev. = 1054.76

(5) Streambed Elev. = 1040.01 ±



VPI Sta. = 357+33.00 VC = 325'
VPI Elev. = 1061.61

Proposed Profile Grade ℄ IA 24

Hydraulic Data

RIDB: GODDARDC_WINSH_1,62
Drainage Area = 7.36 sq. mi.
Site Stream (HGL) Slope = 0.246% (13.0 ft/mi)

Discharges from USGS Regression Equations
USGS Report SIR 2013-5086, Region 2

Operational Low Beam = 1055.63
Channel Low Beam = 1056.20

Ave. Low Water Stage = 1041.1
Extreme Highwater = Unknown
Roadway Overtopping El. = 1062.31
At West Bridge Approach (>500-yr)

Q_{50} = 3480 cfs
(Downstream) Stage = 1050.38
Ave. Bridge Velocity = 7.2 ft/s
Operational Freeboard = 5.25 ft

Q_{100} (Design) = 4140 cfs
Stage = 1050.92
Backwater = 0.69 ft
Ave. Bridge Velocity = 7.8 ft/s
Operational Freeboard = 4.71 ft

Q_{200} = 5410 cfs
Stage = 1051.82
Backwater = 1.13 ft
Ave. Bridge Velocity = 8.6 ft/s
Operational Freeboard = 3.81 ft
Calculated Scour = 1037.8

Q_{500} = 5990 cfs
Stage = 1052.19
Backwater = 1.32 ft
Ave. Bridge Velocity = 9.0 ft/s
Operational Freeboard = 3.44 ft
Calculated Scour = 1037.7

Traffic Data

2024 AADT 2,310 V.P.D.
TRUCKS 17 %

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

Location

IA 24 over Goddard Creek
T-96N R-9W
Section 18 & 19
Washington Township
Winneshiek County
FHWA No. 52650 (Existing)
FHWA No. 52651 (Proposed)
Bridge Maint. No. 9619.3S024
Latitude 43.126133°
Longitude -91.962026°

Hydraulic Design

LICENSED PROFESSIONAL ENGINEER
Brian J. Birkland
17375
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Brian J. Birkland Date 12-1-2025

Printed or Typed Name Brian J. Birkland

My license renewal date is December 31, 2026

Pages or sheets covered by this seal: V.1-V.3

Preliminary

Design For 0° Skew

150'-0" x 44'-0" Pretensioned Prestressed Concrete Beam Bridge

150'-0" Span BTE Beams

Situation Plan

STA. 357+57.40 (IA 24) Turn-in Date: January 2026

Winneshiek County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. Design Sheet No. 1 of 3 FHWA No. 52651

whks
engineers + planners + land surveyors

FILE NO. XXXXX	ENGLISH	DESIGN TEAM **WHKS & Co.**	**Winneshiek** COUNTY	PROJECT NUMBER **BRF-024-2(021)--38-96**	SHEET NUMBER V.1

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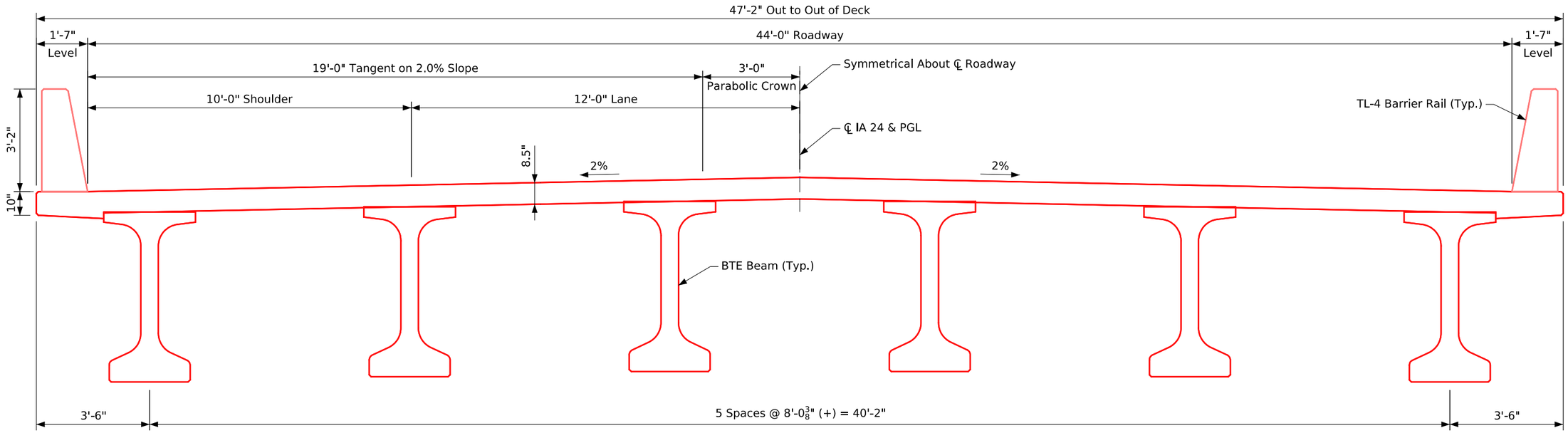

Transverse Section

General Notes:

(Final designer to include in final plans)

--This design is for the replacement of the existing 125'-0" x 26'-0" Concrete Slab Bridge, Winneshiek County. Design 1152, FHWA No. 52650, Maint. No. 9619.3S024.
--Work under this design will include the removal of remnants of original 1932 abutments (Winneshiek County, Design 1732) as needed for berm grading and revetment.

Designer Notes:

(Final designer to delete these notes from final Situation Plan)

--TL-4 Single Slope Bridge Railing Proposed
--Beam type - BTE
--Semi-integral abutments are proposed due to anticipated shallow rock.
--Estimated 4" beam haunches will require additional reinforcing and stirrup extensions.
--Density used for Class E Revetment quantity calculation is 1.6 Tons/CY.

Plan Notes:

--Top of bridge deck at centerline roadway is 0.03' below the profile grade to account for deck cross slope and parabolic crown.
--Class E revetment stone is embedded.

Preliminary

Design For 0° Skew

150'-0" x 44'-0" Pretensioned Prestressed Concrete Beam Bridge

150'-0" Span BTE Beams

Situation Plan - Misc.

STA. 357+57.40 (IA 24) Turn-in Date: January 2026

Winneshiek County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. Design Sheet No. 2 of 3 FHWA No. 52651

FILE NO. XXXXX	ENGLISH	DESIGN TEAM WHKS & Co.	Winneshiek COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER V.2	

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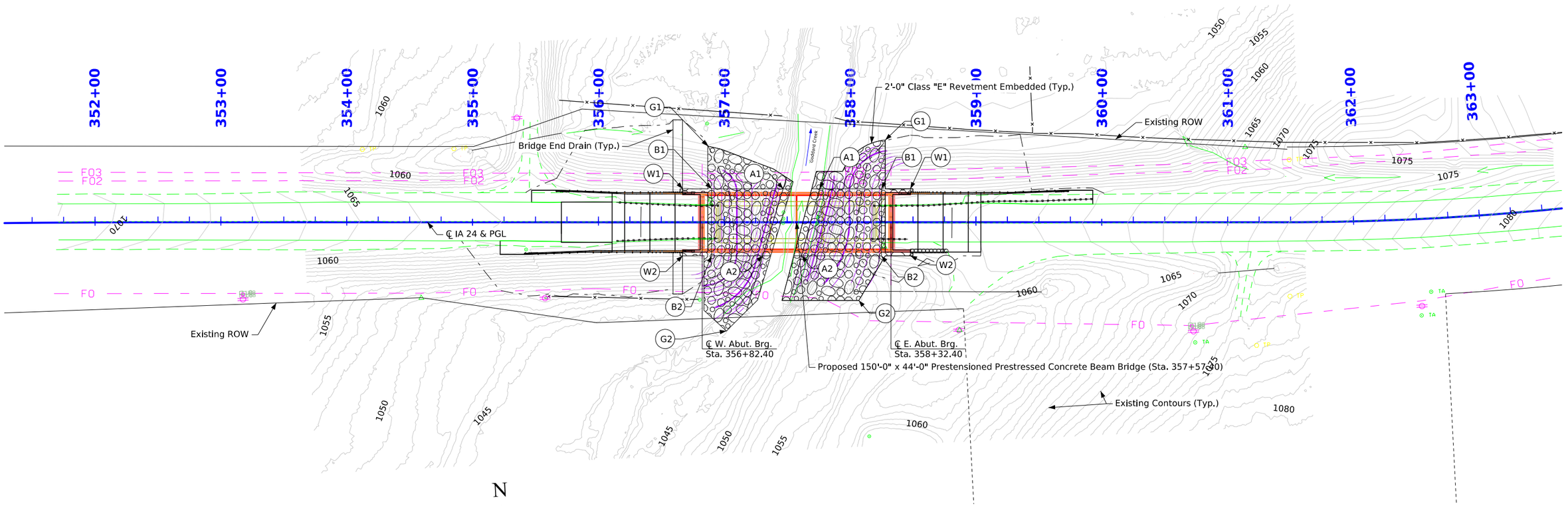
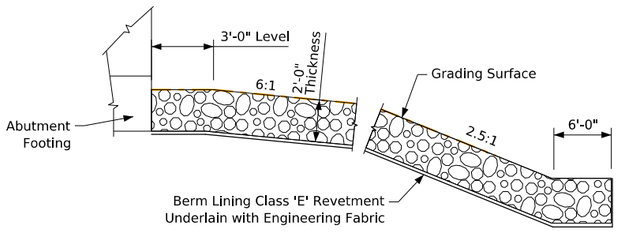
Control Point: 500 BM CUT "X" NW WING OF BR, N=9786235.92, E=12710359.65, EL.=1065.06



Site Plan

0 40
Scale In Feet



Section Thru Embedded Berm Lining

Normal to Berm Slope

Berm Slope Location Table

Points	West Abutment			East Abutment		
	Station	Offset	Elev.	Station	Offset	Elev.
A1	357+46.74	26.58' Lt.	1043.00	357+75.66	26.58' Lt.	1041.24
A2	357+30.57	26.58' Rt.	1044.00	357+61.42	26.58' Rt.	1040.77
B1	356+86.90	26.58' Lt.	1053.85	358+27.90	26.58' Lt.	1054.76
B2	356+86.90	26.58' Rt.	1053.85	358+27.90	26.58' Rt.	1054.76
G1	356+86.90	60.45' Lt.	1045.10	358+27.90	65.27' Lt.	1048.31
G2	357+01.63	86.25' Rt.	1042.03	358+06.90	62.03' Rt.	1053.85
W1	356+66.90	26.58' Lt.	1061.72	358+47.90	26.58' Lt.	1062.82
W2	356+66.90	26.58' Rt.	1061.72	358+47.90	26.58' Rt.	1062.82

Berm slope elevations reflect the grading surface.

Estimated Berm Armoring Quantities

Location	Revetment CL. E (Ton)	Engineering Fabric (SY)	CL. 10 Channel Excavation (CY)
West Abutment Berm	799.0	898.2	532.7
East Abutment Berm	843.4	944.2	532.7
Total	1642.4	1842.4	1065.4

Excavation quantity calculated from grading surface. Excavation quantity is for embedded revetment core out only, and does not include excavation to the grading surface. Excavation quantity to the grading surface is determined by Road Design and included in the Road Plans.

Design For 0° Skew

150'-0" x 44'-0" Pretensioned Prestressed Concrete Beam Bridge

150'-0" End Spans — Interior Span

Situation Plan - Site

STA. 357+57.40 (IA 24)

Turn-in Date: January 2026

Winneshiek County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. — Design Sheet No. 3 of 3 — FHWA No. 52651

FILE NO. XXXXX	ENGLISH	DESIGN TEAM **WHKS & Co.**	**Winneshiek** COUNTY	PROJECT NUMBER **BRF-024-2(021)--38-96**	SHEET NUMBER V.3

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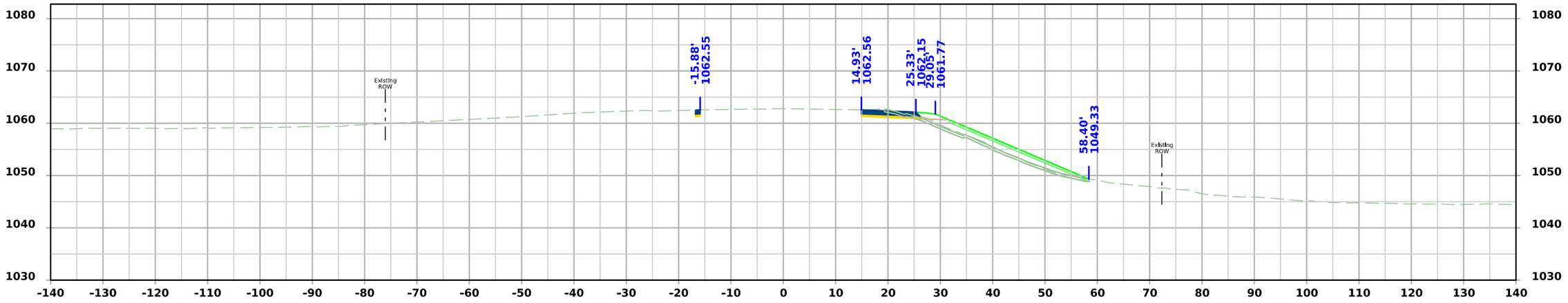
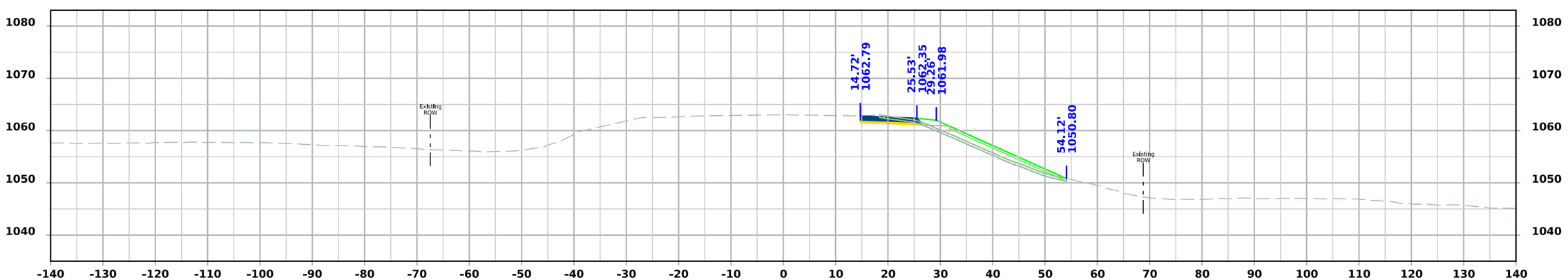
IA 24



STA 355+46.88



STA 355+21.89

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER W.1

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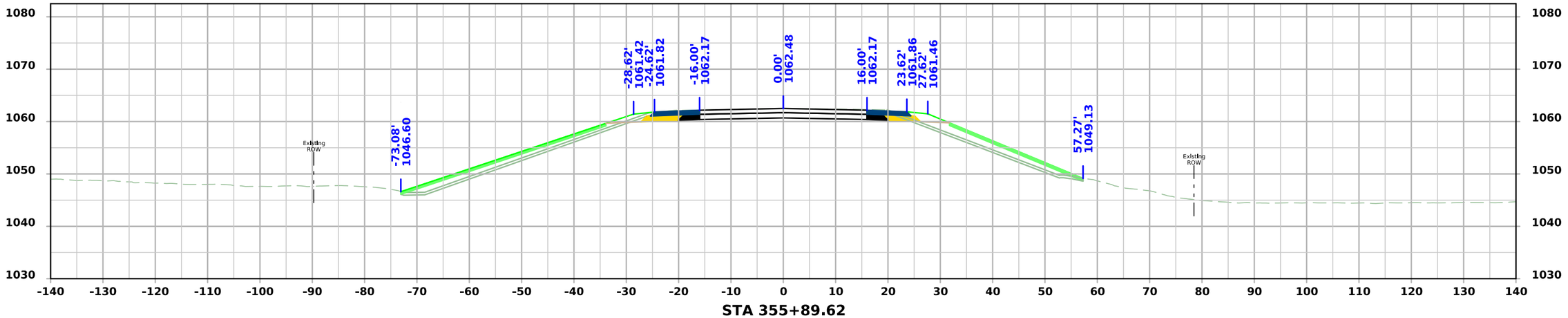
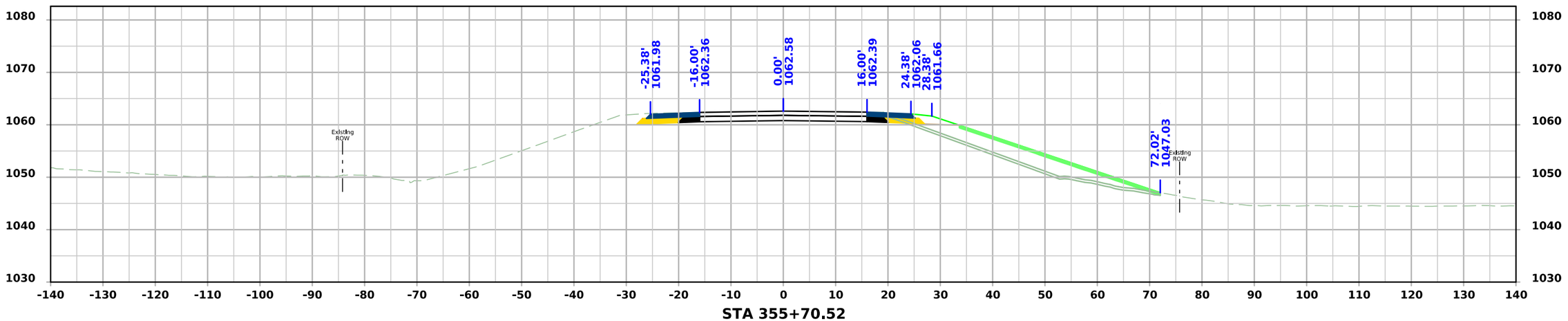
IA 24



STA 355+89.62



STA 355+70.52

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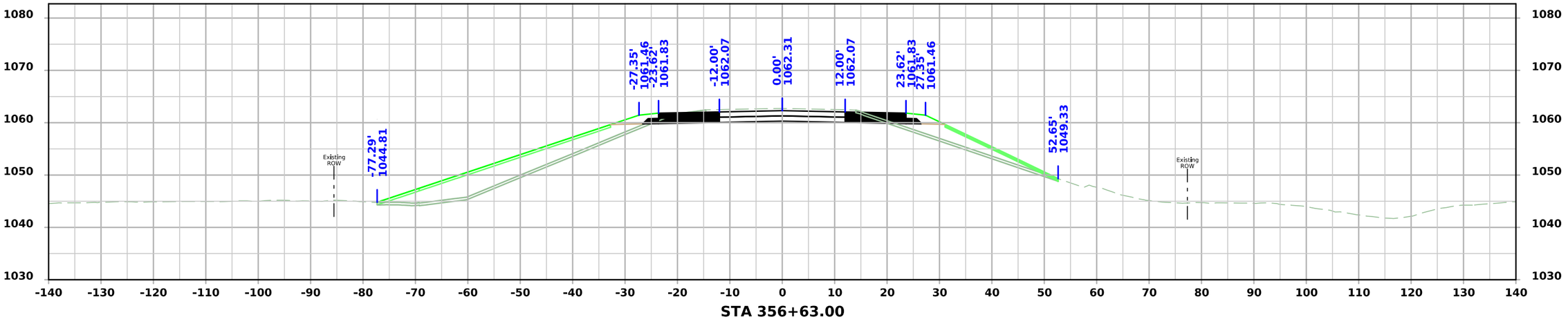
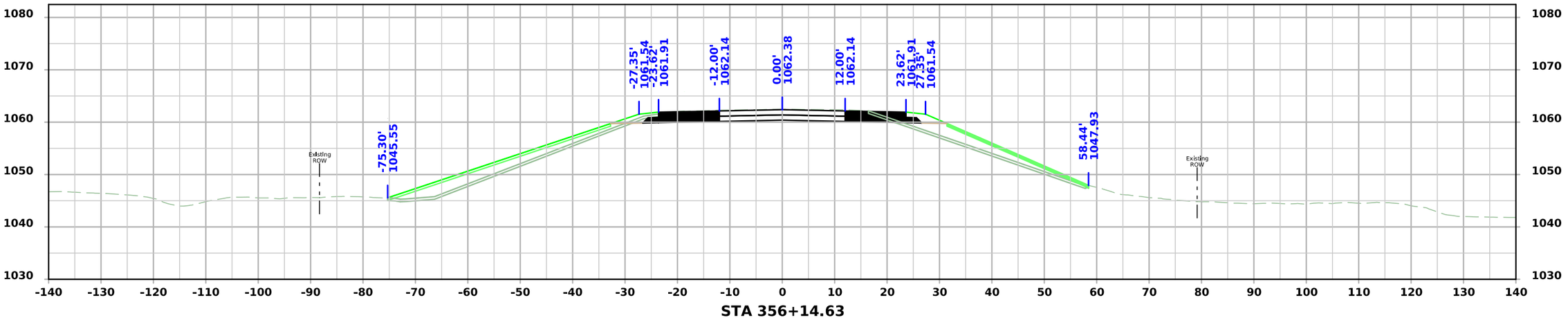
IA 24



STA 356+63.00



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FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER W.3

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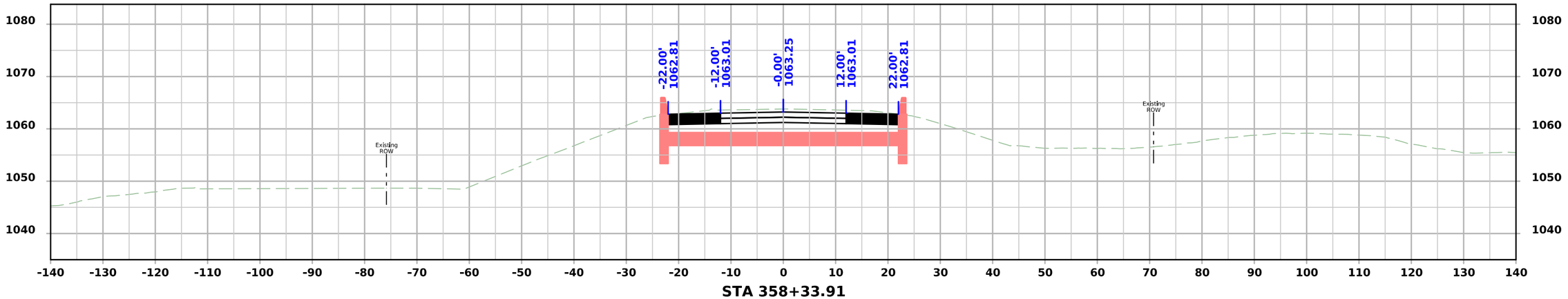
IA 24



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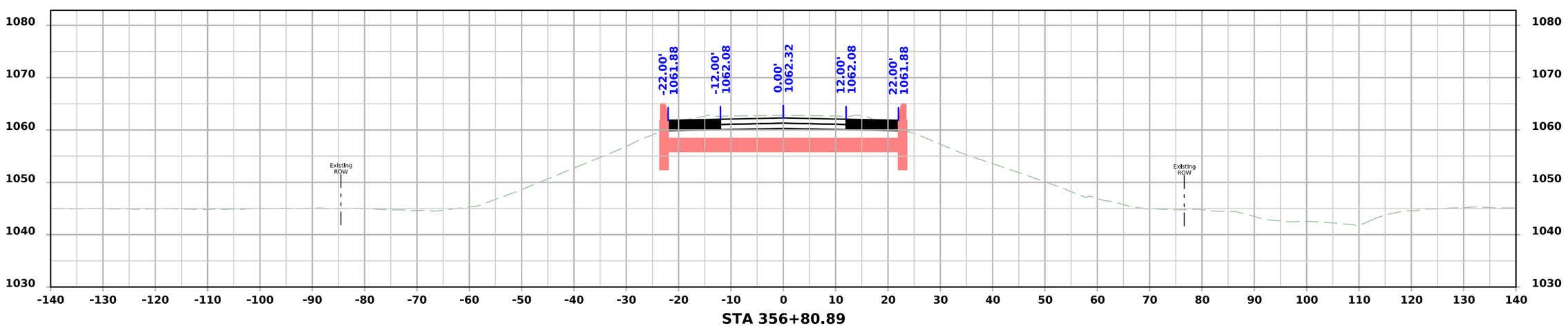

STA 356+80.89

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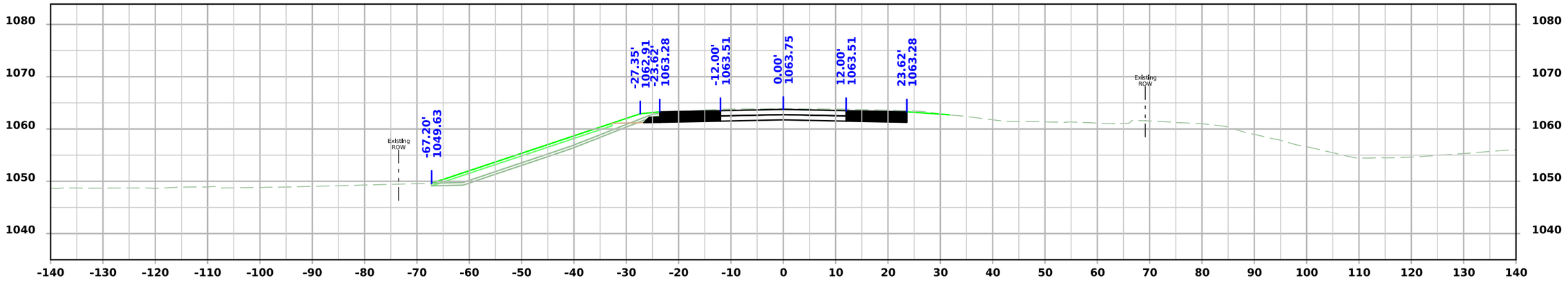
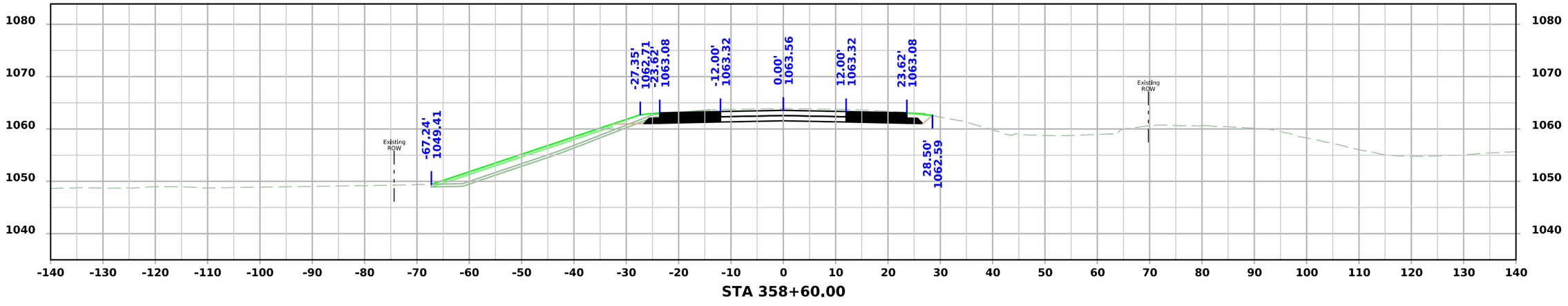
IA 24



STA 358+75.00



STA 358+60.00

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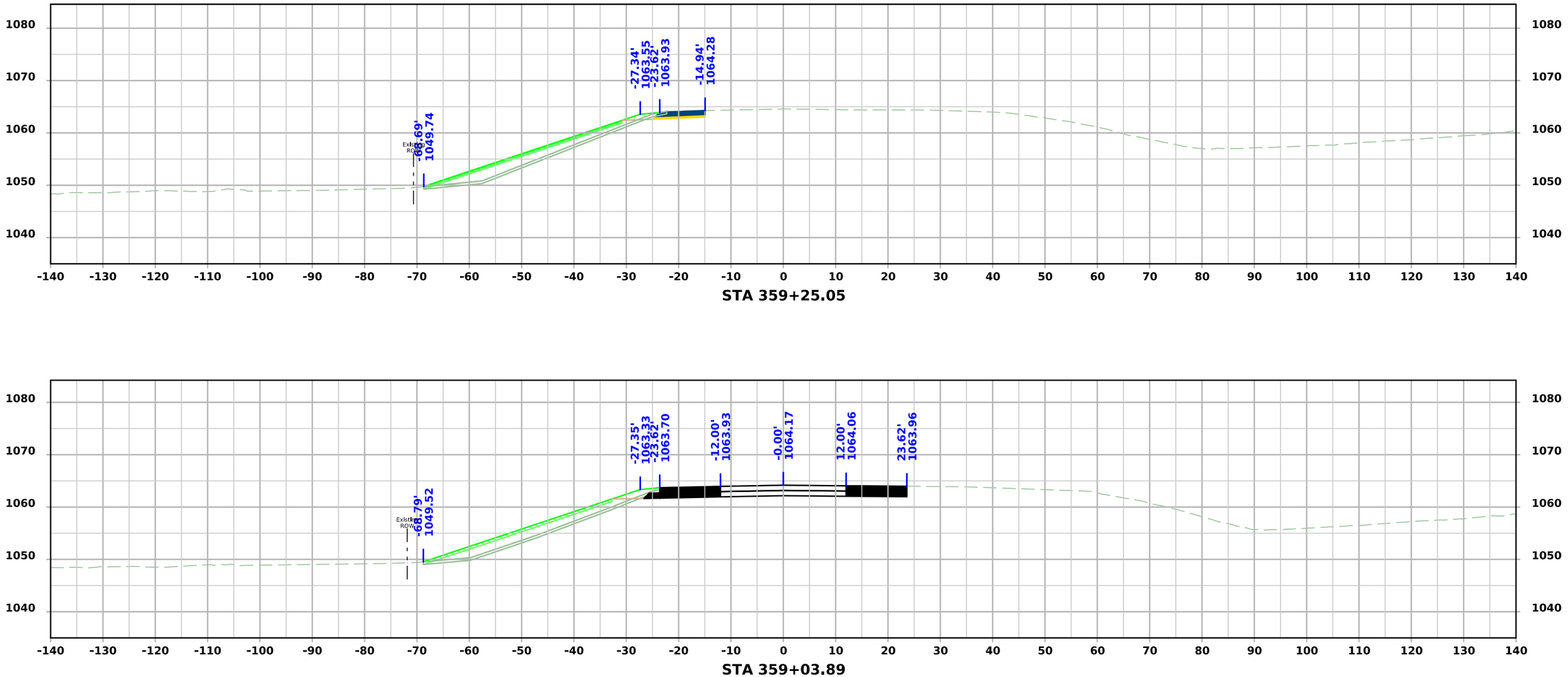
IA 24



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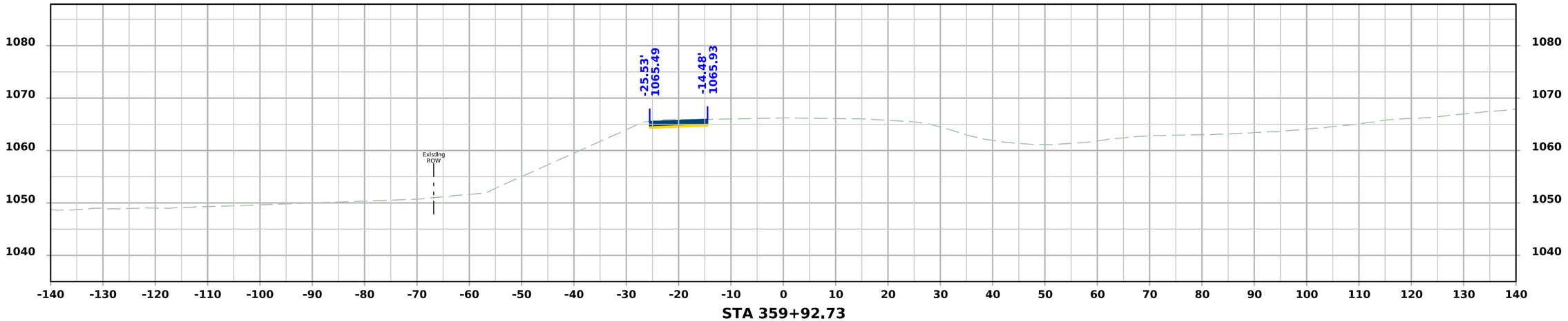
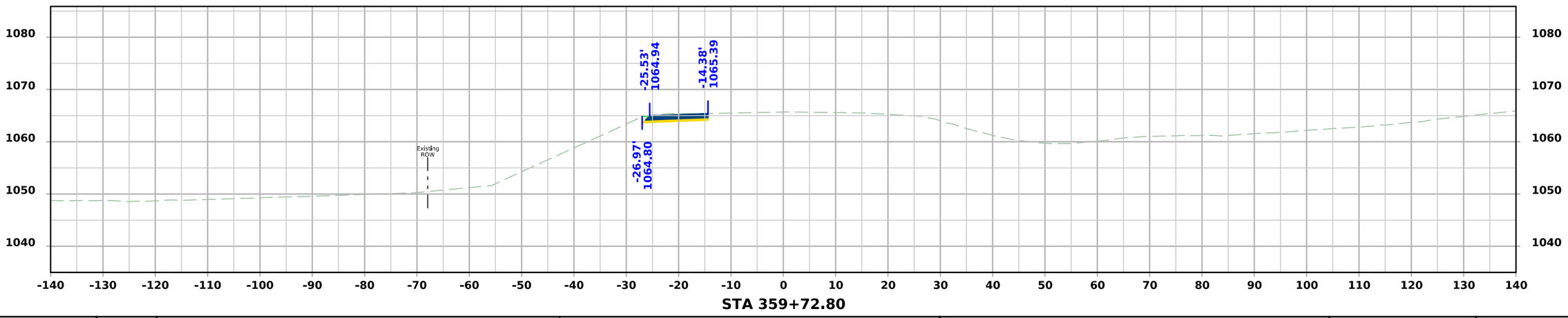
IA 24



STA 359+92.73



STA 359+72.80

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	WINNESHIEK COUNTY	PROJECT NUMBER BRF-024-2(021)--38-96	SHEET NUMBER W.7

4:33:07 PM 12/11/2025 tclevenger pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9602401024\Design\CADD_Files\Cross_Sections\SHT_w02_WHKS_96024021Z02.dgn