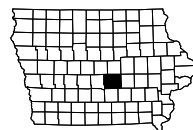


JASPER COUNTY

RCB CULVERT REPLACEMENT
NHSN-006-4(200)--2R-50

LETTING DATE
05-20-2025



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US 6 Plan and Profile
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
* J.2	Detour Route
U Sheets	Earthwork Sheets
U.1	Grading & Clearing and Grubbing Plan
V Sheets	Bridge and Culvert Situation Plans
V.1	Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 7	Mainline Cross Sections
	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE
**PRIMARY ROAD SYSTEM
JASPER COUNTY
RCB CULVERT REPLACEMENT**

U.S. 6 CULVERT OVER DRAINAGE DITCH
0.5 MILES W OF THE W JCT CO RD T38

- Refer to the Proposal Form for list of applicable specifications.
- Value Engineering Saves. Refer to Article 1105.14 of the Specifications.
- The Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, Series 2023, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions shall apply to construction work on this project.



REVISIONS	TOTAL
	..
PROJECT IDENTIFICATION NUMBER	
24-50-006-010	
PROJECT NUMBER	
NHSN-006-4(200)--2R-50	
R.O.W. PROJECT NUMBER	

DESIGN DATA RURAL	
2023 AADT	2,480 V.P.D.
TRUCKS	5.85 %

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
DANIEL D. KIMBALL
Printed or Typed Name

Date _____

My license renewal date is December 31, 2025

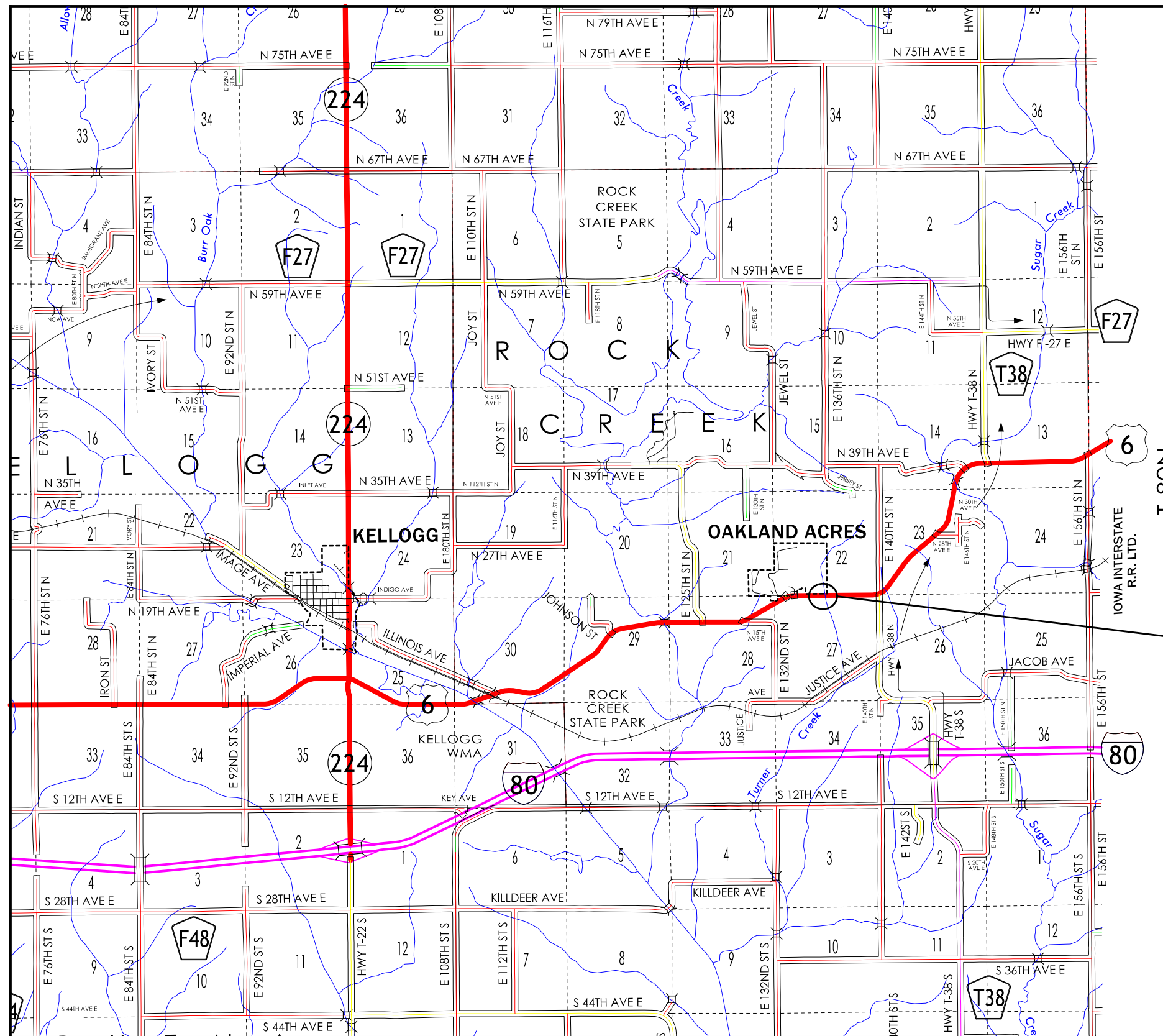
Pages or sheets covered by this seal: _____

INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	Dan Kimball	Primary Signature Block	

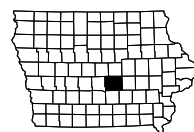
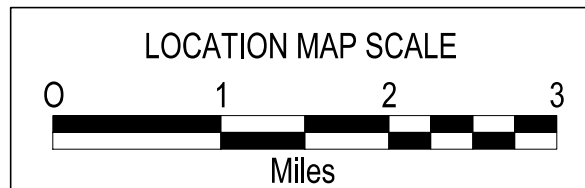
PRELIMINARY PLANS

Subject to change by final design.

D3 PLAN - Date: 01/03/2025

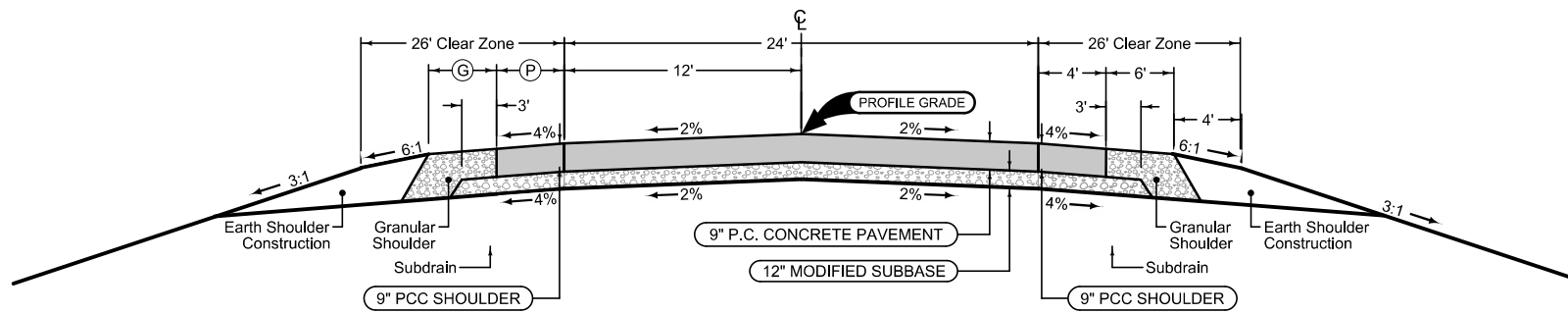


PROJECT LOCATION
STA. 2003+42.5



Full Depth PCC Combination Shoulder

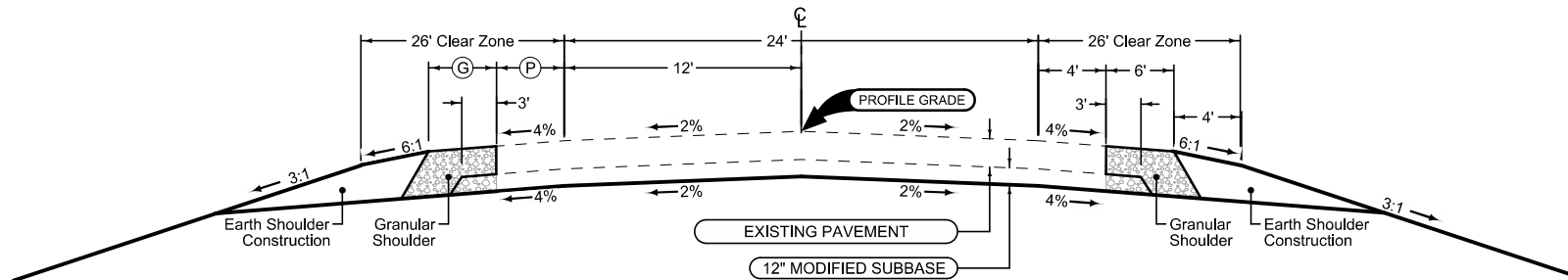
STATION TO STATION		(P) Feet	(G) Feet
2002 + 58.00	2004 + 10.00	4'	6'



TYPICAL CROSS SECTION - US 6

Full Depth PCC Combination Shoulder

STATION TO STATION		(P) Feet	(G) Feet
2002 + 15.00	2002 + 58.00	4'	6'
2004 + 10.00	2004 + 70.00	4'	6'



TYPICAL CROSS SECTION - US 6

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
- Water Hydrant (Rural)
- Septic Tank
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- Water Hook Up
- Radio Tower
- Tower Anchor
- Guardrail (Beam or Cable)
- Guard Post (one or two)
- Guard Post (over two)
- Filler Pipe
- Gas Valve
- Water Valve
- Speed Limit Sign
- Mile Marker Post
- SIGN Sign
- Traffic Signal Control Box
- Rail Road Signal Control Box
- Telephone Switch Box
- Electric Box

UTILITY LEGEND

Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 *Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data*.

Remark abbreviations
 QLA Quality Level A Highest guideline quality level
 QLD Quality Level D Lowest guideline quality level

- FO1D, Windstream Communications - Quality D
- FO2D, Aureon Network Services - Quality D
- FO3D, Unite Private Networks - Quality D
- T1, Sully Telephone Association - Quality D
- Sanitary Sewer, Iowa Regional Utility Association - Quality D
- WL1D, Iowa Regional Utility Association - Quality D
- PPA, Alliant Energy

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

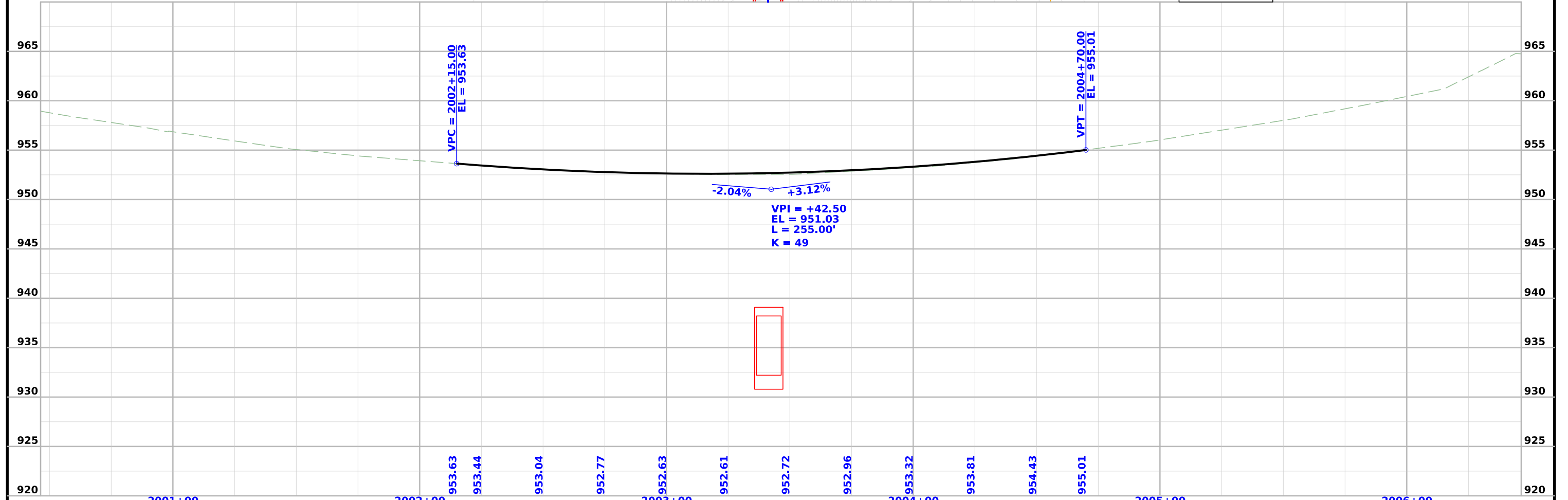
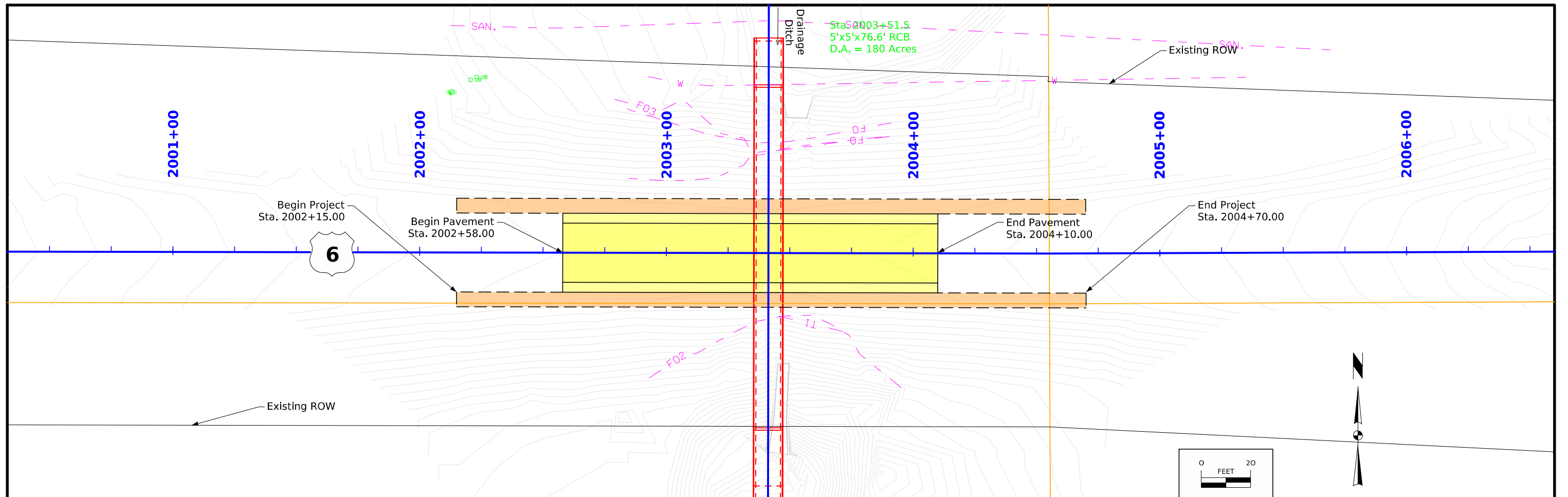
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

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	AECOM	JASPER COUNTY	PROJECT NUMBER	NHSN-006-4(200)--2R-50	SHEET NUMBER	D.2
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511 TRAVEL RESTRICTIONS

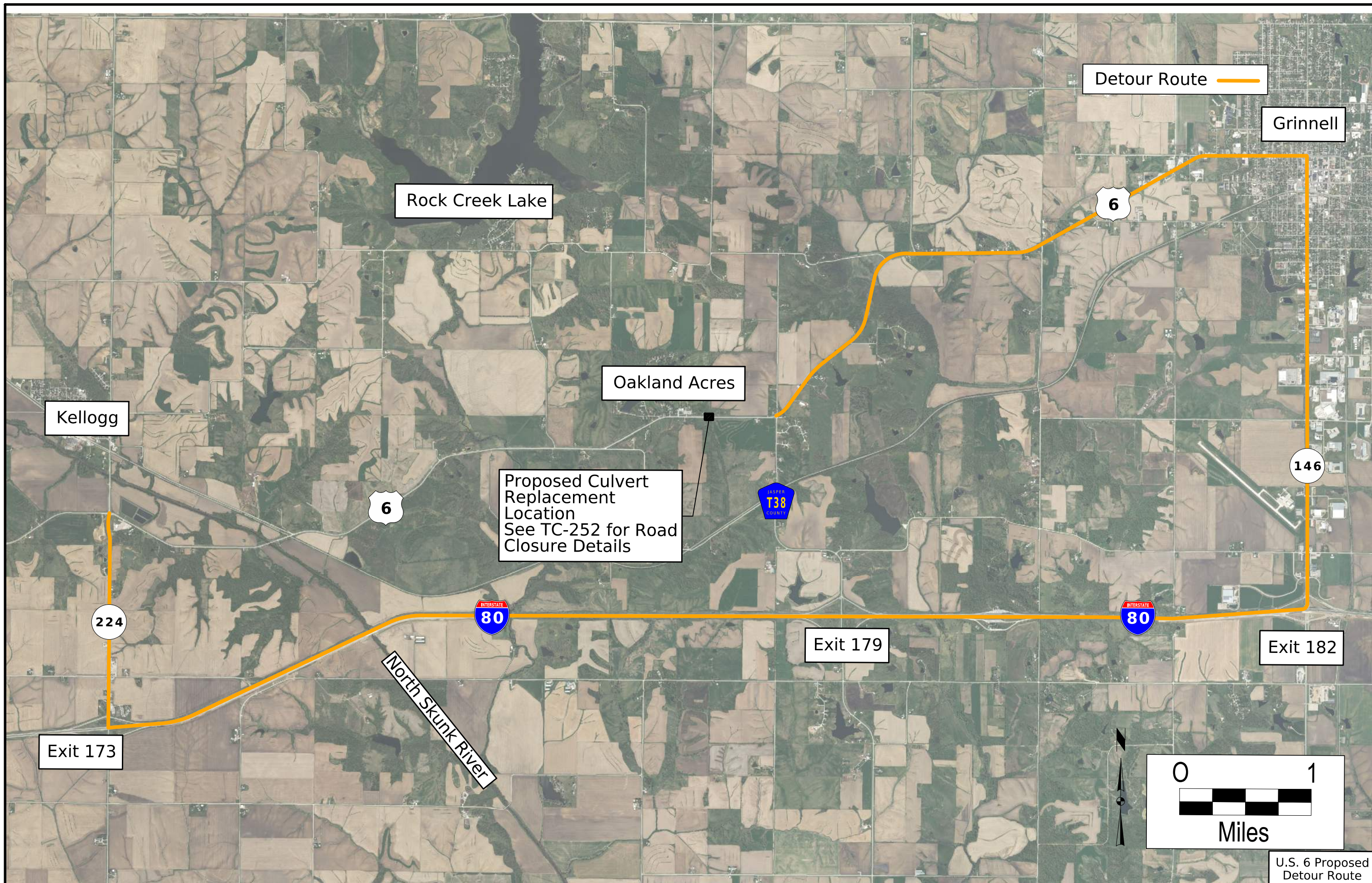
Line No.	Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
	U.S. 6	Both	Jasper	No Travel Restrictions Expected on Offsite Detour				None					

STAGING NOTES		108_26A 8/15/22
<p>Stage 1 Install off-site detour signage on detour route before traffic begins use of the detour route. With traffic using detour, perform the culvert construction work.</p> <p>Stage 2 Remove off-site signage. Reopen U.S. 6 to normal traffic pattern.</p>		

UTILITIES (POINT 25 PROJECT)		262_05 9/28/22
<p>This is a POINT 25 project and is subject to the provisions of IAC 761-115.25.</p>		

TRAFFIC CONTROL PLAN		108_23A 8/15/22
<p>This project is not considered a Traffic Critical Project. No travel restrictions are expected on the offsite detour shown in these plans.</p> <p>While the culvert construction is being completed, U.S. 6 traffic shall be maintained via an off-site detour detailed in these plans. Detours are to be furnished, maintained and removed by the Contractor. Refer to TC-252 for road closure and advanced signage details.</p> <p>Contractor will furnish, install, maintain and remove detour signs. Detour sign layout and quantities shown in these plans are for reference only and exact location shall be determined in the field. All existing signs that conflict with the detour shall be covered. All material, equipment and labor shall be included in the Traffic Control bid item.</p>		

COORDINATED OPERATIONS		111_01 10/14/22
<p>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.</p>		
Project	Type of Work	
NHSN-006-4(200)--2R-50	RCB Culvert Replacement	



Detour Route

Grinnell

Rock Creek Lake

Oakland Acres

Kellogg

Proposed Culvert Replacement Location
See TC-252 for Road Closure Details

224

6

T38
JASPER COUNTY

146

INTERSTATE 80

INTERSTATE 80

Exit 179

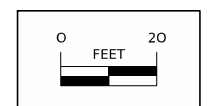
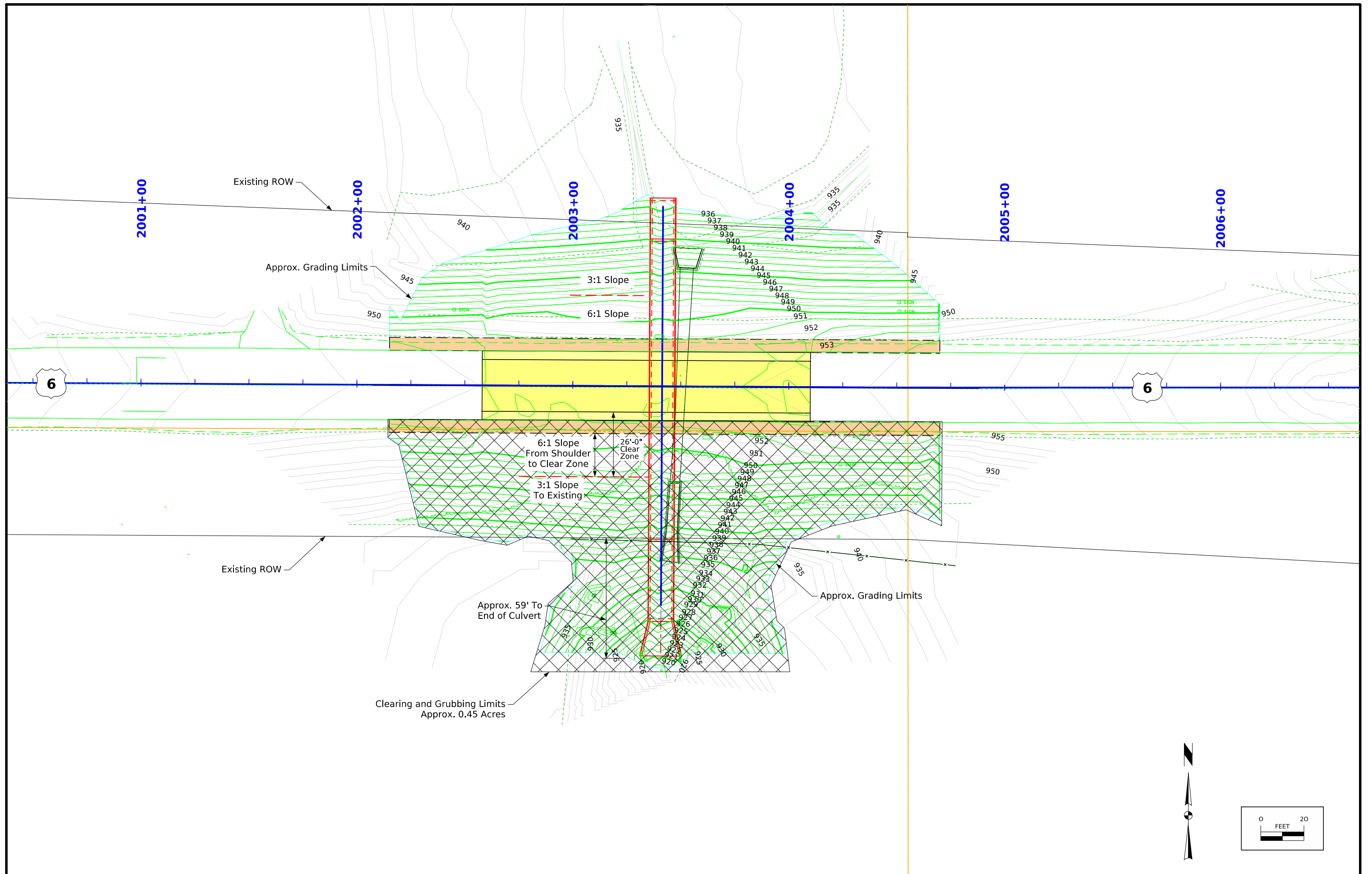
Exit 182

Exit 173

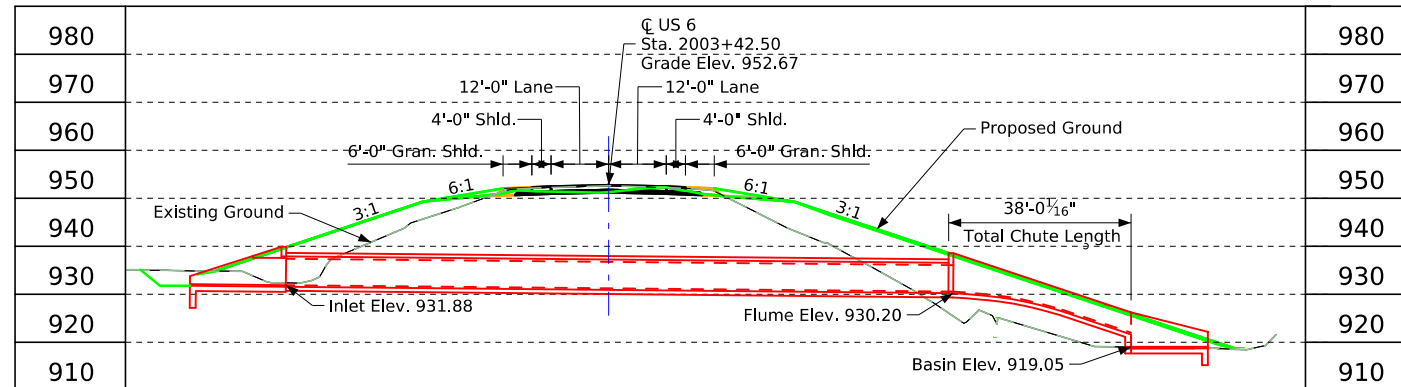
North Skunk River



U.S. 6 Proposed Detour Route



Control Point: No control yet



Longitudinal Section Along Centerline of Culvert

General Notes:

This design is for the replacement of the existing 8' x 6' x 76' Reinforced Concrete Box Culvert with a 5' x 5' Extension, Design No. 144

Design Notes:

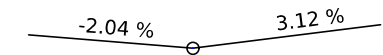
Plan Notes

Utilities Note:

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

General Utility Symbols:

- E - Electric Line
- G - Gas Line
- SAN. - Sanitary Sewer
- T - Telephone Line
- W - Water Line
- FO - Fiber Optic Line
- GHP - Gas High Pressure
- ST S - Storm Sewer
- TV - TV
- - Power Poles



VPI Sta. = +42.50 VC = 255.00'
VPI Elev. = 951.03

Proposed Profile Grade 952.67

Hydraulic Data

RIDB: Not Applicable
Drainage Area = 253 Acres
Stream Slope = 80.9 Ft./Mi.
Q₅₀ = 438.36 cfs
HW Elev. = 939.65
Exit Velocity = 14.52 fps

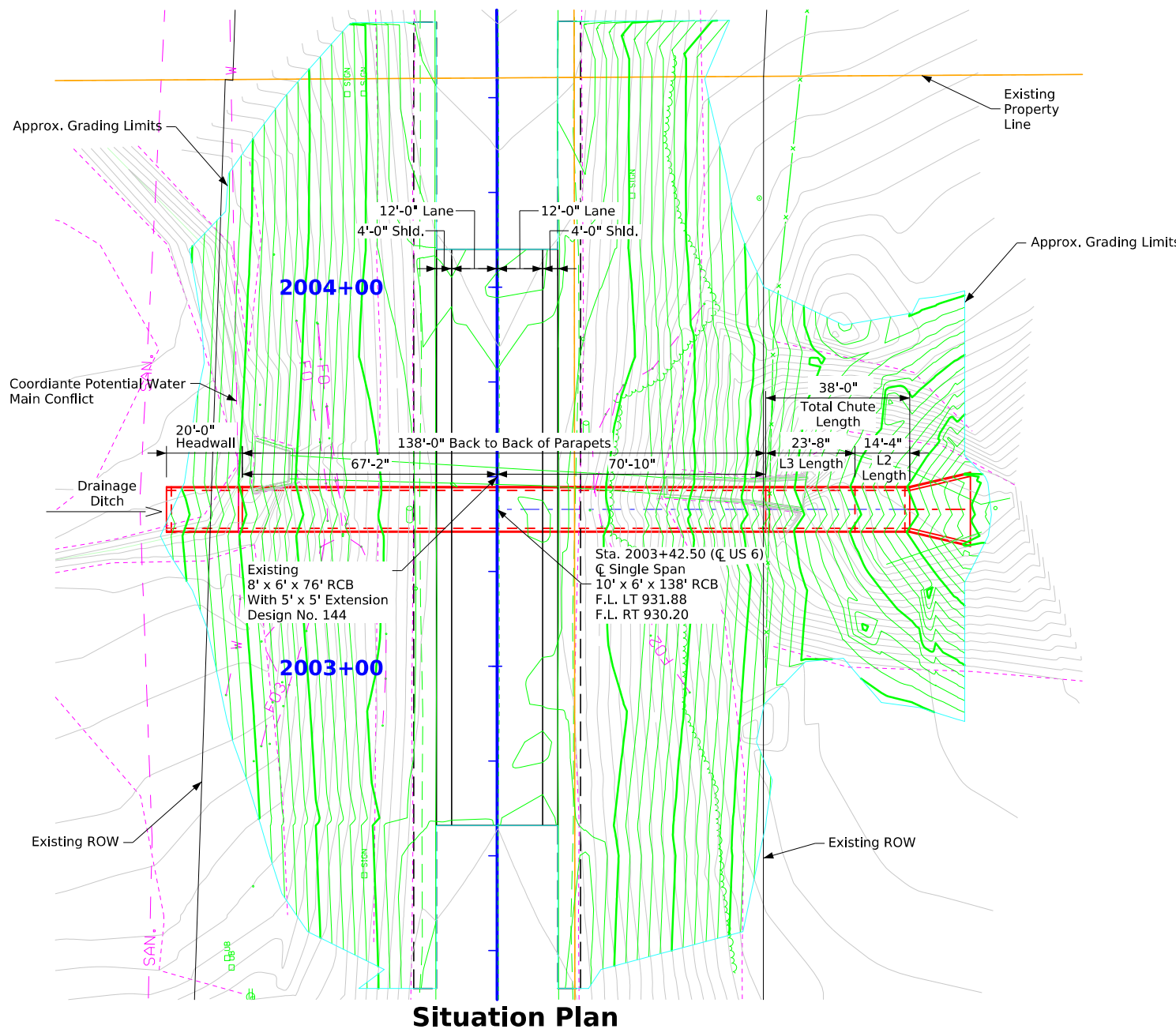
Q₁₀₀ = 531.77 cfs
HW Elev. = 940.56
Exit Velocity = 15.26 fps

Location

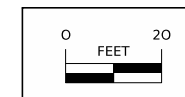
U.S. 6 Over Drainage Ditch
T-80N R-17W
Section 22 & 27
Rock Creek Township
Jasper County
Latitude 41.717132°
Longitude -92.815080°

Traffic Estimate

2023 AADT 2,480 V.P.D.
TRUCKS 5.85 %



Situation Plan



Design For 0 Degree
**10'-0 x 6'-0 x 138'-0 Cast
In Place RCB**
Situation Plan
STA. 2003+42.50 (US 6) Turn-in Date: Dec 2025
Jasper County
IOWA DEPARTMENT OF TRANSPORTATION
Design Sheet No. 1 of 1

CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
Aggregate			
(64)	Choke Stone	(8)	Behind Curb Cut
(42)	Engineering Fabric	(6)	Granular
(8)	Flooded Backfill	(13)	Granular Back Fill
(92)	Macadam Stone	(48)	Rock Undercut
(20)	Modified	(8)	Shoulder Earth Fill
(12)	Plowing Shaping	(2)	Side Slopes
(14)	Porous Backfill	(226)	Side Slopes Dressing
Grading			
(8)	Revetment Class A	(128)	Boulder
(6)	Revetment Class B	(209)	Boulder Removed
(62)	Revetment Class C	(48)	Broken Weathered
(188)	Revetment Class D	(210)	Broken Weathered Removed
(28)	Revetment Class E	(3)	Core Out
(12)	Shoulder Special Backfill	(115)	Core Out Remove Only
(12)	Special Backfill	(195)	Core Out Remove and Replace
(20)	Subbase	(203)	Existing Pavement
(20)	Subbase Lower	(184)	Existing Pavement Remove Only
(20)	Subbase Upper	(200)	Existing Pavement Remove and Replace
(118)	Subgrade Treatment	(6)	Loam
Substrata			
(207)	HMA Base Course	(211)	Loam Removed
(207)	HMA Interim Course	(80)	Rock
(207)	HMA Surface Course	(212)	Rock Removed
Asphalt			
(0)	Bridge	(4)	Select Sand
Concrete			
(0)	Barrier Concrete	(214)	Select Sand Removed
(0)	Barrier Concrete Footing	(3)	Shale
(0)	Curb Gutter	(215)	Shale Removed
(48)	Flowable Mortar	(10)	Topsoil
(0)	Median Concrete	(2)	Topsoil Remove Only
(0)	PCC Pavement	(4)	Topsoil Remove and Replace
(0)	Sidewalk	Unsuitable / Waste	
Existing			
(0)	Existing Pavement	(3)	Unsuitable Type A
Shoulder			
(209)	Shoulder HMA	(216)	Unsuitable Type A Removed
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(217)	Unsuitable Type B Removed
Structural			
(112)	Noise Wall	(11)	Unsuitable Type C
(112)	Noise Wall Footing	(218)	Unsuitable Type C Removed
(112)	Retaining Wall Back	(3)	Waste
(112)	Retaining Wall Back Excavate	(219)	Waste Removed
(112)	Retaining Wall Face		
(112)	Retaining Wall Front Excavate		
(112)	Retaining Wall Front Footing		
(112)	Retaining Wall MSE Gutter		
(112)	Retaining Wall Reinforced Earth		

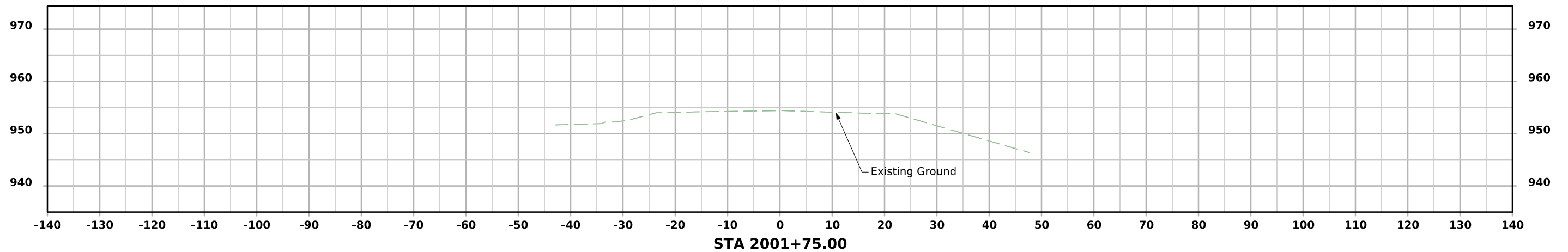
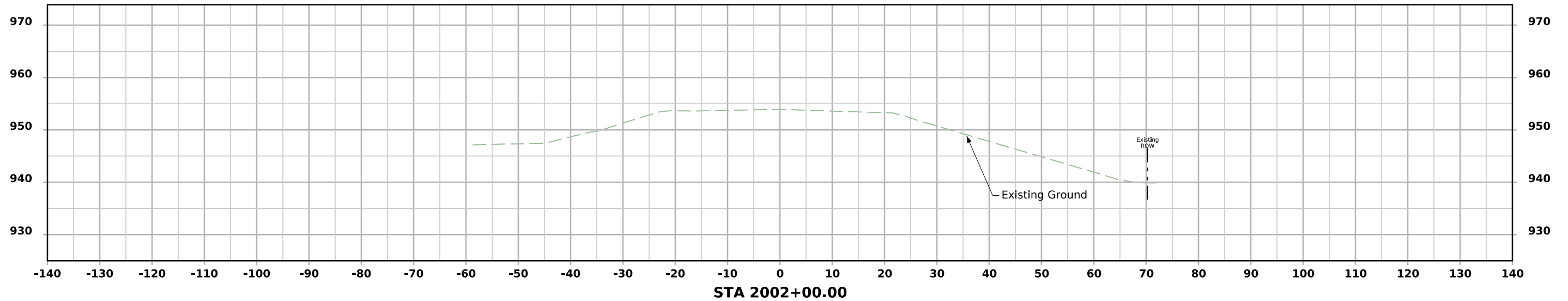
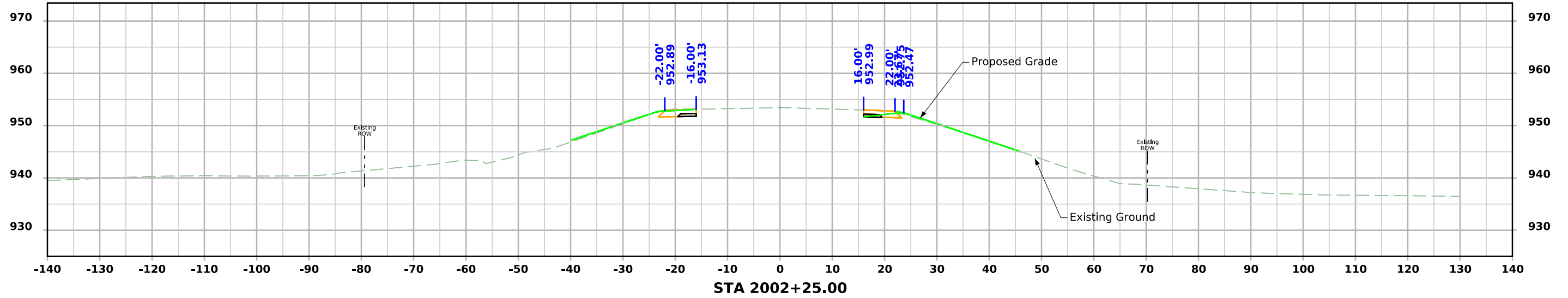
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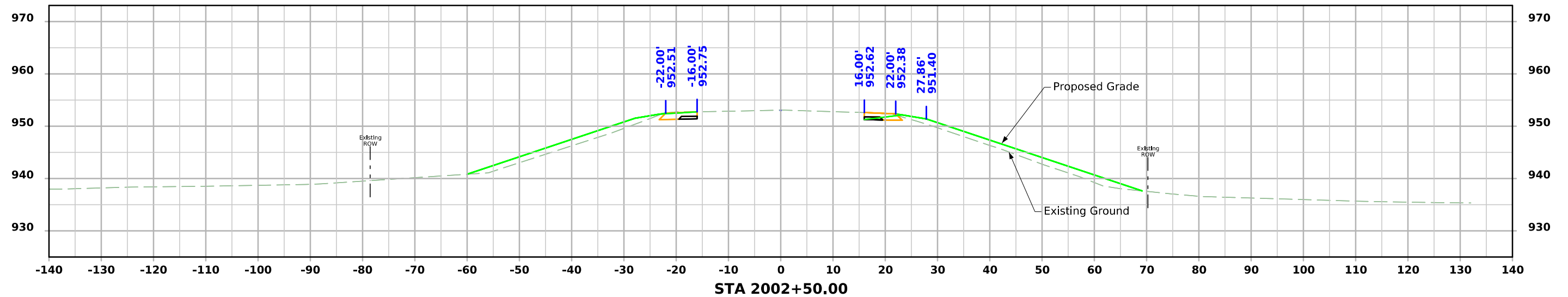
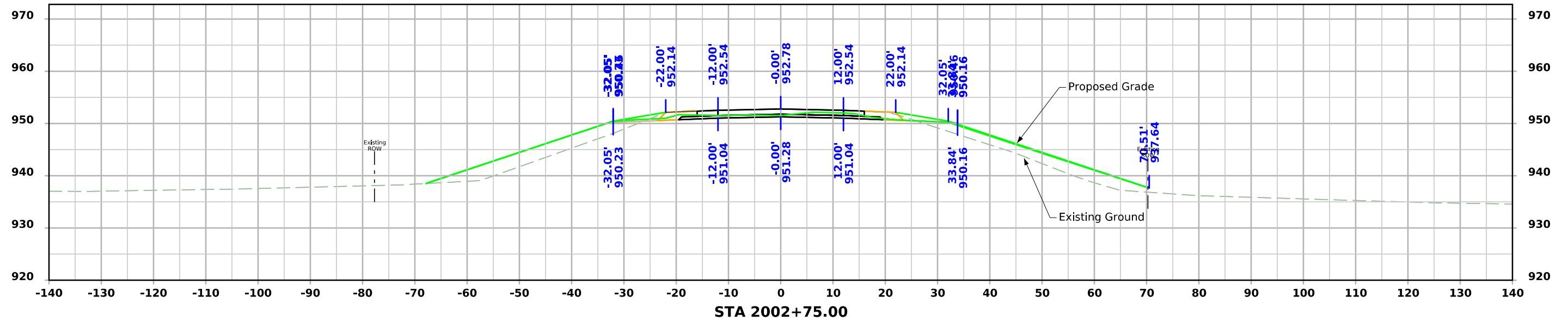
NOTES:

CROSS SECTIONS LEGEND AND INFORMATION SHEET

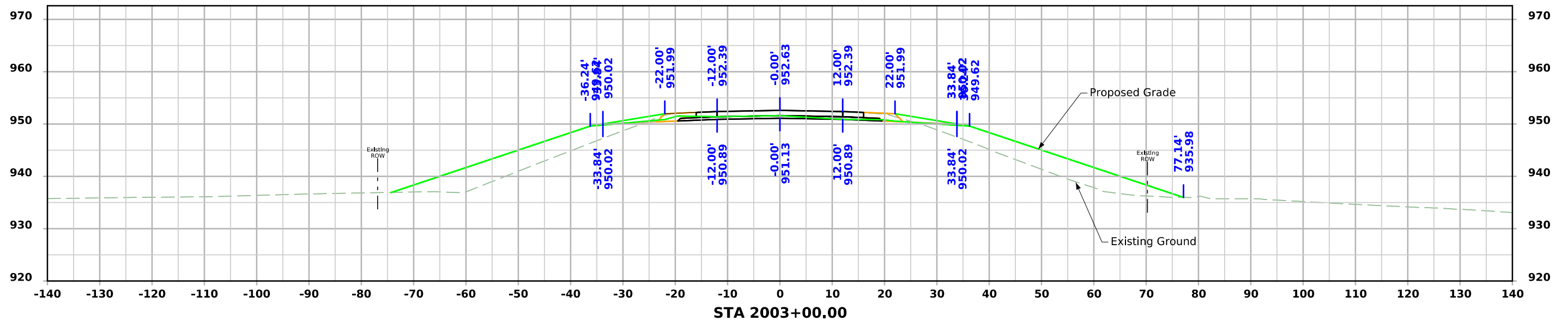
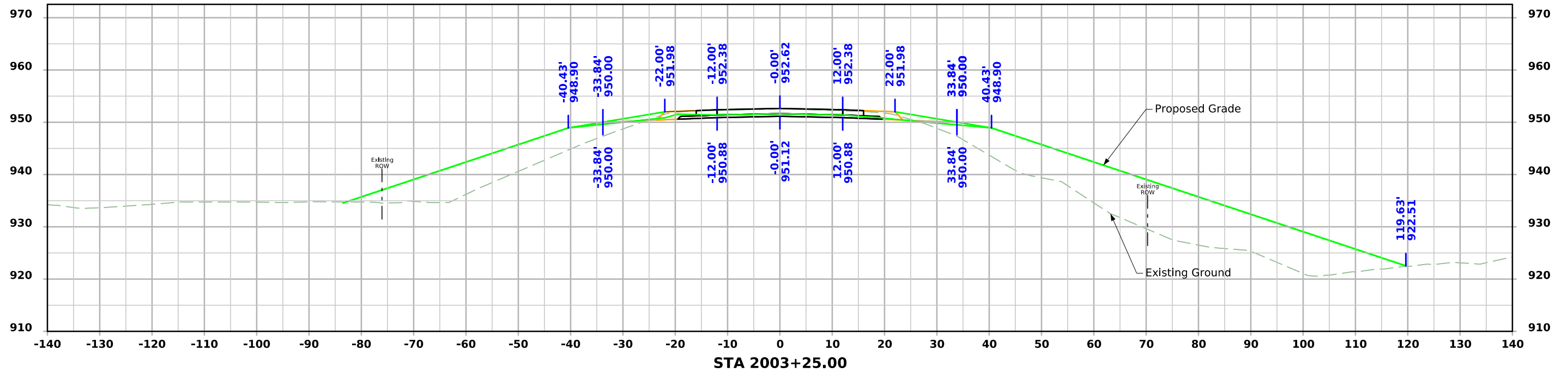
(COVERS SHEET SERIES W, X, Y, & Z)

US 6

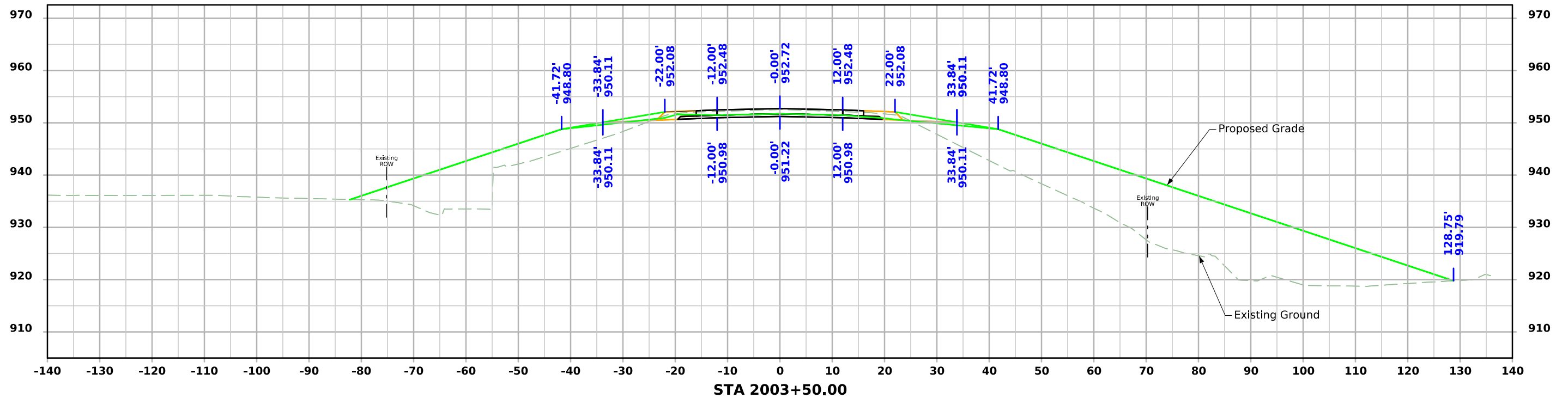
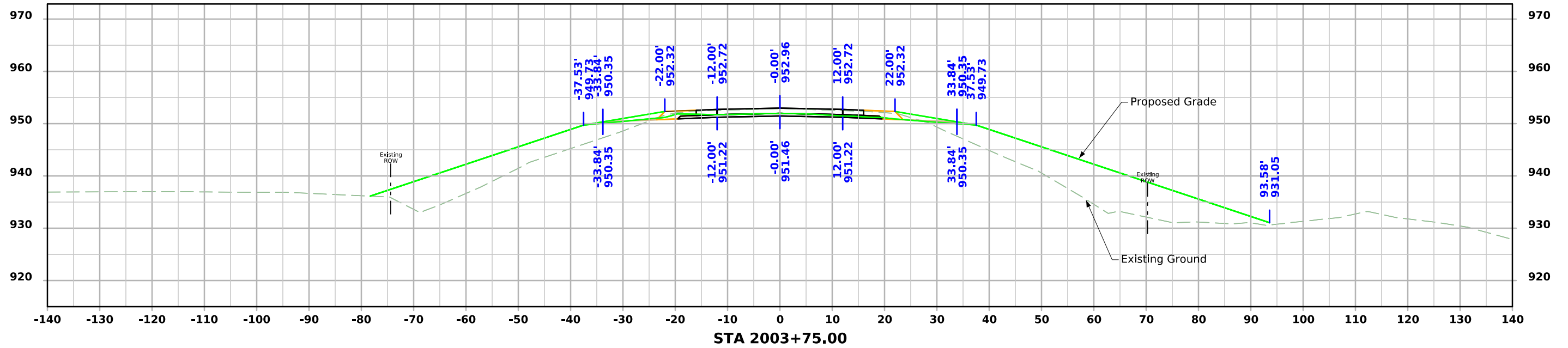


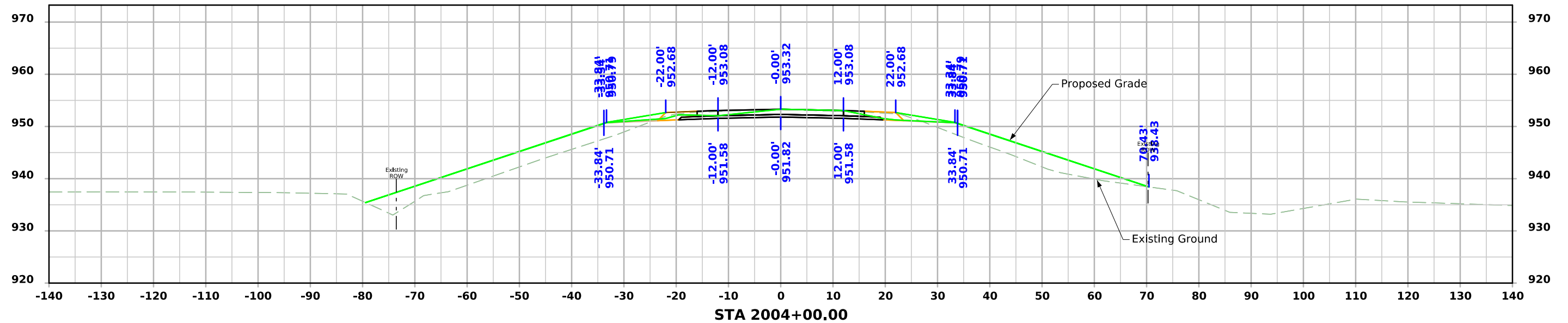
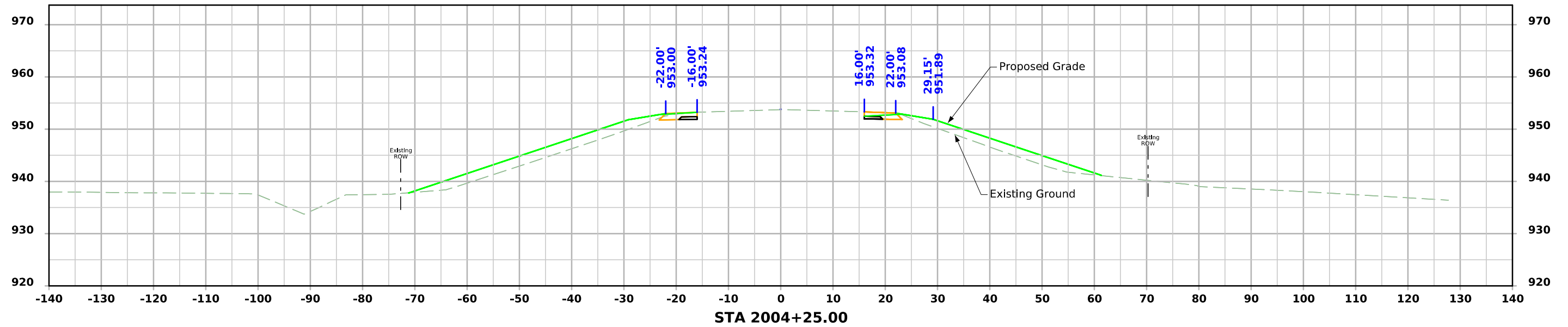


US 6



US 6





US 6

