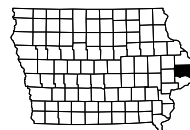


INDEX OF SHEETS	
NO.	DESCRIPTION
A. Sheets	Title Sheets
* A.3	Title Sheet
B. Sheets	Typical Cross Sections and Details
B.1 - 2	Typical Cross Sections and Details
C. Sheets	Quantities and General Information
C.1 - 2	Estimated Project Quantities
C.1 - 2	Estimate Reference Information
C.3	Project Description
C.3	Standard Road Plans
C.3	Index of Tabulations
C.4 - 6	Tabulations
CS. Sheets	Soils Tabulations
CS.1 - 3	Soils Tabulations
D. Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	IA 136
G. Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
G.4	Horizontal Control Tabulation
H. Sheets	Right-of-Way Sheets
* H.1	IA 136
J. Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
* J.2 - 3	Detour Route and Signing Plan
Q. Sheets	Soils Sheets
* Q.1	Soils Legend & Symbol Information Sheet
* Q.2	Soils Sheets IA 136
RR. Sheets	Erosion Control Sheets
RC.1 - 6	Est. Quantities, PPP, General Notes and Tabulations
* RR.1	Erosion Control Legend and Symbol Information
* RR.2	Drainage Basin and Erosion Control Device Map
W. Sheets	Mainline Cross Sections
* W.1	Cross Sections Legend & Symbol Information Sheet
* W.2 -10	Mainline Cross Sections
	* Color Plan Sheets



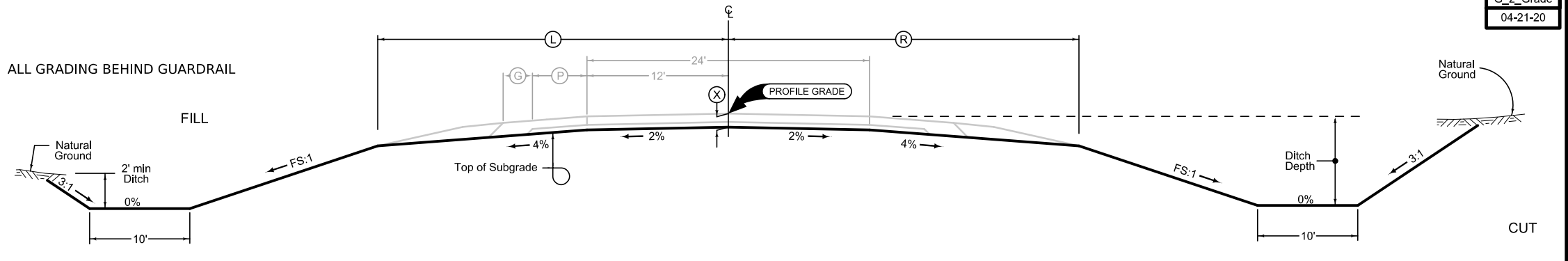
DESIGN DATA RURAL			
2025	AADT	800	V.P.D.
2045	AADT	900	V.P.D.
2045	DHV	100	V.P.H.
	TRUCKS	11	%
	Total		
	Design ESALs	--	

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Michael J. Janecek	Primary Signature Block
CS.1	Ujwala Manchikanti	Geotechnical Design

Roadway Design	
	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 <u>Michael J. Janecek</u> Date <u>06-18-2024</u>
	Printed or Typed Name _____
	My license renewal date is December 31, 2024
Pages or sheets covered by this seal: <u>A.3, B.1-3, C.1-6, D.1-2, G.1-4, H.1, J.1-3, RC1-6, RR.1-2, W.1-10</u>	

LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	Ⓛ Feet	Ⓜ Feet	Ⓧ Inches	FS
IA 136	736+00.75 738+94.75	33.94	33.94	16	3.5:1

G_2_Grade
04-21-20



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

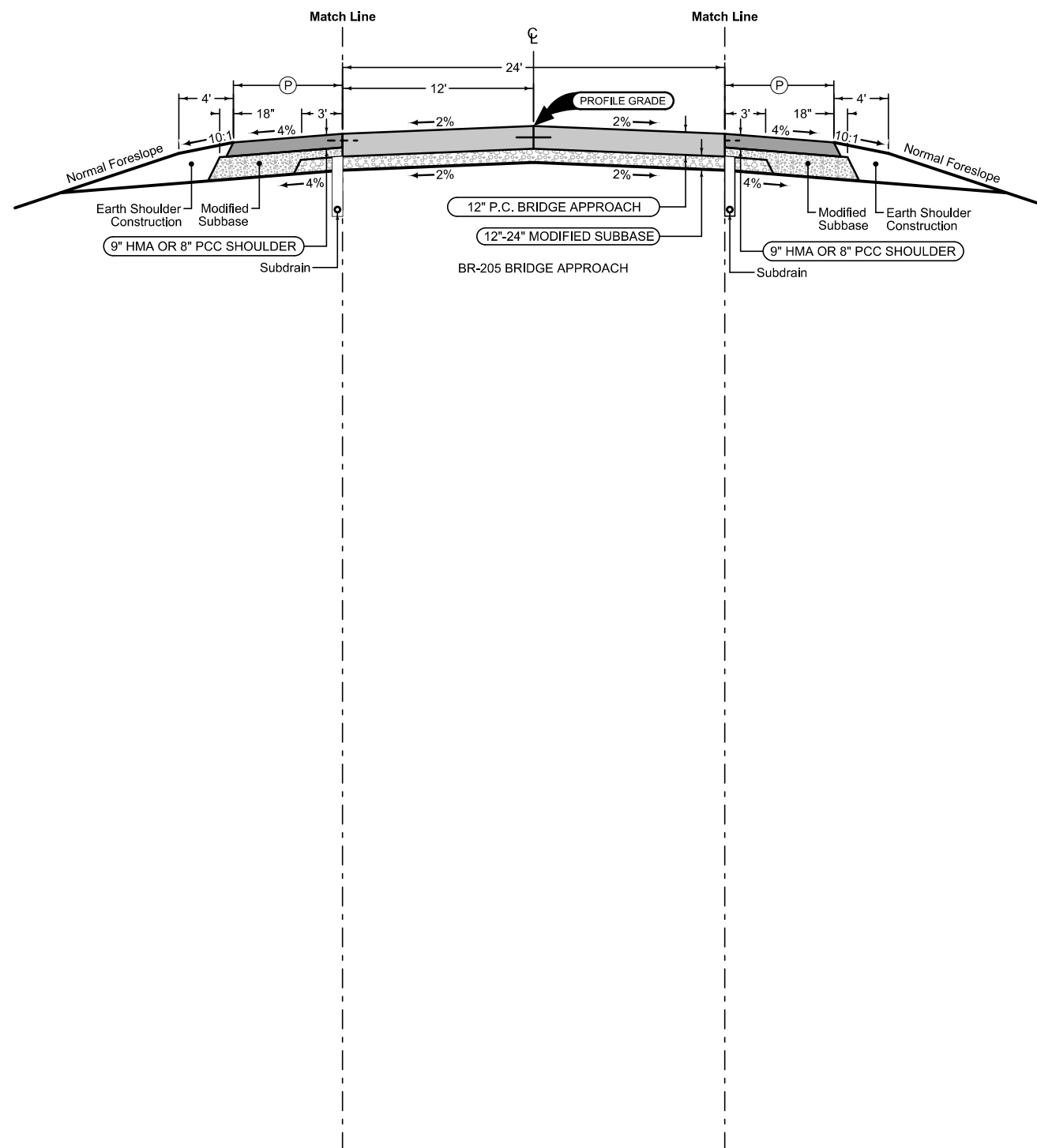
See plan & profile sheets and cross sections for additional details of ditches and backslopes.

2 LANE GRADING

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

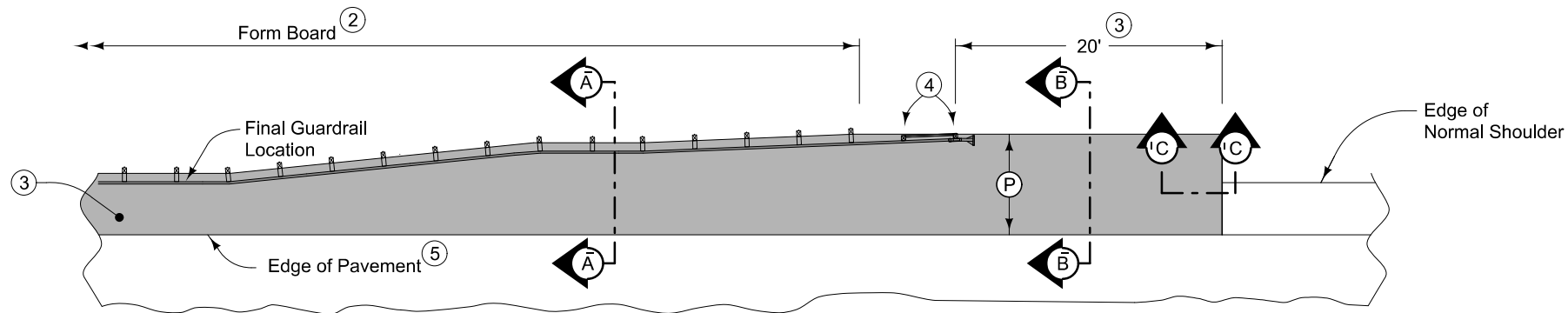
2_P_Guard_04-21-20		
STATION TO STATION		(P) Feet
735+47.07	736+20.66	VAR.
738+92.75	739+74.75	VAR.



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_04-21-20		
STATION TO STATION		(P) Feet
735+21.75	736+02.75	VAR.
738+76.28	739+48.75	VAR.



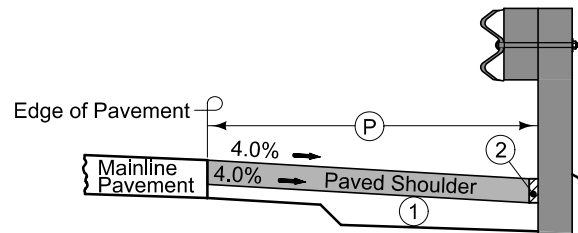
PLAN VIEW

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

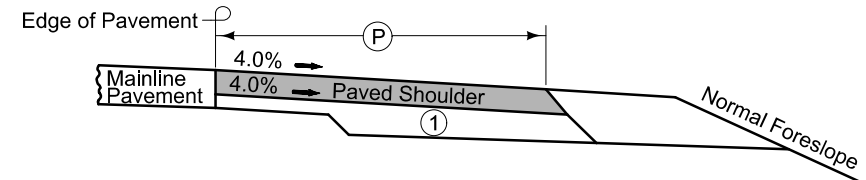
Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal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



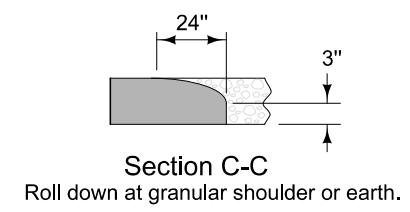
Section A-A



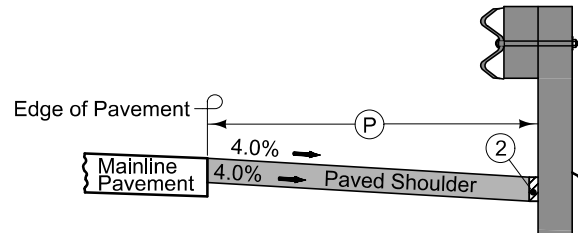
Section B-B

NEW CONSTRUCTION

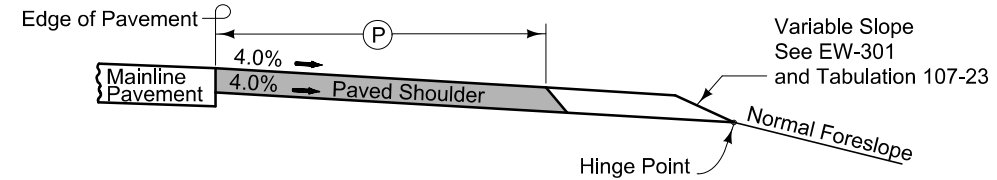
- ① For subgrade treatment, refer to other details in the plan.
- ② PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown. Refer to note 4 for final 2 posts.
- ③ Continue paved shoulder to 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.



Section A-A



Section B-B

EXISTING SHOULDER

PAVED SHOULDER AT GUARDRAIL

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated		
				Roadway Items		
1	2101-0850001	CLEARING AND GRUBBING	ACRE	1		<p>All material generated as a result of Clearing and Grubbing shall become the property of the contractor and must be disposed off site. Quantity Included for area within ROW.</p> <p>All wood material must be disposed of according to Iowa Department of Agriculture and Land Stewardship Emerald Ash Borer Quarantine Order. For more information see www.iowatreepests.com.</p>
2	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	2,665		<p>Includes 4,032 CY of fill material. Adding 30% shrink = 5,242 CY</p> <p>Subtracting 1,777 CY of Cut material = 3,465 CY. Factoring out shrink to establish bid item = 2,665 CY</p> <p>Provide borrow material according to Section 2102 of the Standard Specifications.</p> <p>Overhaul shall be incidental to this item.</p> <p>By location (No shrink applied)</p> <p>West Abutment: 400 CY Fill, 686 CY Cut</p> <p>East Abutment: 263 CY Fill, 387 CY Cut</p>
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	1,777		Includes cut material for removals to reach subgrade.
4	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	25		<p>A. Refer to Tab. 103-7.</p> <p>B. Dispose of excess material according to Article 1106.07 of the current specifications.</p>
5	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	1,623		Strip topsoil within the limits of grading. After excavating to the sub grade elevations, spread the stockpiled topsoil to a 4 inch depth across the grading area. Excess topsoil to be used for earth shoulder. Remaining topsoil to be spread evenly over project area. Seed the disturbed topsoil stockpile area as per section 2601.05 of the standard specifications. Seeding of the stockpile areas shall be considered to this bid item.
6	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	4,032		<p>Refer to CS Sheets.</p> <p>Cubic yards shown on the contract documents as determined by the template fill volume.</p> <p>Shrinkage will not be included in the moisture control quantity.</p>
7	2115-0100000	MODIFIED SUBBASE	CY	118		Refer to Typical on B sheets. Modified subbase below approach pavement is incidental to Bridge Approach item.
8	2122-5190008	PAVED SHOULDER, P.C. CONCRETE, 8 IN.	SY	337		Refer to B-Sheets and C-Sheet Tab 112.9.
9	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	3.3		<p>No payment for overhaul allowed for this material.</p> <p>Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03, B of the Standard Specifications</p> <p>Refer to C sheets.</p>
10	2123-7450020	SHOULDER FINISHING, EARTH	STA	1.8		Quantity includes finishing behind approach curbing. Curbing ends at beginning of bridge end drain flume.
11	2301-0690205	BRIDGE APPROACH, BR-205	SY	671		Refer to Tab 112-6 for locations and details. End bridge approach curb at beginning of bridge end drain flume.

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated	Roadway Items	
12	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LS	1		
13	2303-1033500	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, NO SPECIAL FRICTION REQUIREMENT	TON	190		Refer to Tab 112-9.
14	2303-1258283	ASPHALT BINDER, PG 58-28S, STANDARD TRAFFIC	TON	12		
15	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	94		Refer to Tab 102-3.
16	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK	SY	1,460		Refer to Tab 100-28 for location and details. Includes grooving for bridge and approaches.
17	2422-0360036	APRONS, UNCLASSIFIED, 36 IN. DIA.	EACH	4		Refer to D-sheets and Tab 102-3 for locations and details.
18	2422-1722036	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 36 IN. DIA.	LF	94		Refer to D-Sheets and Tab 102-3 for information and details.
19	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	799		Refer to CS sheets for information.
20	2502-8221306	SUBDRAIN OUTLET, DR-306	EACH	8		Refer to CS Sheets
21	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	LF	43		Item included for removal of 15" entrance pipe as shown on D-sheets.
22	2503-0500402	BRIDGE END DRAIN, DR-402	EACH	4		Refer to Tab 104-8A locations and details.
23	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	255		Refer to Tab 110-7A for locations and details.
24	2505-4008300	STEEL BEAM GUARDRAIL	LF	50		Refer to Tab 108-8A for locations and details.
25	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	4		Refer to Tab. 108-8A for locations and details.
26	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4		
27	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	4		
28	2510-6745850	REMOVAL OF PAVEMENT	SY	447		Refer to Tab. 110-1 for locations and details.
29	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	1,432.14		Refer to Tab. 108-22 for details.
30	2527-9270112	GROOVES CUT FOR PAVEMENT MARKINGS	STA	909.13		Refer to Tab 108-22 for details.
31	2528-2518000	SAFETY CLOSURE	EACH	4		Refer to Tab 108-13A for approximate locations. Includes 2 road closures and 2 hazard closures.
32	2528-8445110	TRAFFIC CONTROL	LS	1		Refer to traffic control plan in J-sheets.

PROJECT DESCRIPTION

100-1D
10-18-05

This project involves the replacement of the IA 136 bridge at Elwood Creek located 3.1 miles north of US 61 with a 150' x 40' continuous concrete slab bridge using an off-site detour.

**UTILITIES
(POINT 25 PROJECT)**

262-5
10-18-05

This is a POINT 25 project and is subject to the provisions of IAC 761-115.25.

INDEX OF TABULATIONS

111-25
10-18-11

Tabulation	Tabulation Title	Sheet No.
C Sheets		
100-0A	ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)	C.1-2
100-1D	PROJECT DESCRIPTION	C.3
100-4A	ESTIMATE REFERENCE INFORMATION	C.1-2
100-24	P.C.C. PAVEMENT	C.7
100-28	LONGITUDINAL GROOVING	C.6
102-3	ACCESS POINTS AND SAFETY RAMPS	C.4
102-5	EXISTING PAVEMENT	C.4
104-8A	SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN	C.5
105-4	STANDARD ROAD PLANS	C.3
107-23	GRADING FOR GUARDRAIL INSTALLATIONS	C.6
108-8A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	C.6
108-13A	SAFETY CLOSURES	C.4
108-22	PAVEMENT MARKING LINE TYPES	C.5
110-1	REMOVAL OF PAVEMENT	C.4
110-7A	REMOVAL OF STEEL BEAM GUARDRAIL	C.4
111-25	INDEX OF TABULATIONS	C.3
112-6	BRIDGE APPROACH SECTION	C.4
112-9	SHOULDERS	C.5
262-5	UTILITIES (POINT 25 PROJECT)	C.3

STANDARD ROAD PLANS

105-4
10-18-11

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

Number	Date	Title
BA-201	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-24-24	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	04-20-21	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BR-101	10-15-24	Bride Approach Section (General Details)
BR-205	10-15-24	Double Reinforced 12" Approach (Slab Bridge)
BR-211	10-18-22	Bridge Approach (Abutting PCC or Composite Pavement)
DR-303	10-17-17	Subdrains (Longitudinal)
DR-306	10-17-23	Precast Concrete Headwall for Subdrain Outlets
DR-402	04-16-24	Rock Flume for Bridge End Drain
EW-102	10-20-15	Allowable Placement of Unsuitable Soil in Embankments
EW-202	04-19-16	Bridge Berm Grading without Recoverable Slope (Non-Barnroof Section)
EW-301	04-16-24	Guardrail Grading
EW-501	10-17-23	Rural Entrance
PM-110	10-15-24	Line Types
PV-101	04-19-22	Joints
SI-172	04-19-16	Delineators
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-252	04-21-20	Routes Closed to Traffic

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth	Type	Depth	Type	Depth	Type	Depth	Source	Type	Durability Class		
1	23	IA 136	1	29.95	38.92	1995		STPN-136-1(42)--2J-23	AAC	1.5	BAC	2				BEHR QRY.		C. LST.			
						1983		MP-136-6(30)--76-2	BSC												
						1971		FN-136-2(3)--21-23	BAC	1.5	TBB	1.5				BLOORE/ELWOOD		C. LST.			
						1954		F-872 (3)	AAC	2	RSB	6				WEAVER		C. LST.			
<p>LEGEND</p> <p>AAC TYPE A ASPHALT CEMENT CON</p> <p>C. LST. CRUSHED LIMESTONE</p> <p>BAC TYPE B ASPHALT CEMENT CON</p> <p>BSC BITUMINOUS SEAL COAT</p>																					

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area		Saw Cut*	Remarks
				SY	LF		
736+02.75	736+86.50	BOTH	HMA	223.3		24.0	
738+09.00	738+92.75	BOTH	HMA	223.3		24.0	
TOTAL:				446.7		48.0	

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
735+00.00	1		
740+00.00	1		
733+00.00		1	
742+00.00		1	
TOTALS=	2	2	

DELIVERY AND STOCKPILING

Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Existing steel beam guardrail Uncut and unbolted	255	FT	Maintenance Garage 2983 IA-62 Maquoketa, IA 52060	Kerry Burzlauff 563-590-2948	

BRIDGE APPROACH SECTION

Refer to the BR Series.

* Not a bid item

Bridge Station	End	Location		Approach Pavement					Standard Road Plans BR Series			Subdrain							Remarks
		Skew Ahead	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		Porous Backfill	Class 'A' Crushed Stone Backfill	Modified Subbase	Polymer Grid	Special Backfill	
												LEFT	RIGHT						
737+47.75	S		12	72	143.9	96	95.7	BR-205	Fixed	BR-211	60	738+82.75	LT	1.7	0.2	297	367	0	Sleeper Slab top included Double Reinf. Pavement Area
737+47.75	N		12	72	143.9	96	95.7	BR-205	Fixed	BR-211	60	736+12.75	LT	1.7	0.2	297	367	0	Sleeper Slab top included Double Reinf. Pavement Area
TOTALS:				0	287.8	192	191.4												
TOTAL APPROACH PAVEMENT=				671.2															

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)			Pipe Culvert (3)				Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks	
		Case	1 1/2" Dropped Curb	3" Dropped Curb	W	PR	SR	H		Size	Pipe Length			Lt.
735+24.00	LT	C			20.0									
735+24.00	LT	C			36.0	47.0	19.0	28.0	2					
													94.000	(1)(2)
<p>(1) Driveway Surfacing Material Provided for Entrance Repair For Pipe Removal and Replacement (2) Pipe Culvert to be installed as one dual 36 IN culvert</p>														

REMOVAL OF STEEL BEAM GUARDRAIL

(1) Lane(s) to which the installation is adjacent.
 (2) Includes length of End Terminals and End Anchors.

No.	Direction of Traffic	Location		Side	Removal of Guardrail (2) LF
		Station to Station			
1	BOTH	736+21.00	736+85.00	RT	64.0
2	BOTH	736+22.00	736+85.00	LT	63.0
3	BOTH	738+10.00	738+74.00	LT	64.0
4	BOTH	738+10.00	738+74.00	RT	64.0
TOTAL:					255.0

SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN

Refer to Standard Road Plan DR-401 and DR-402

Location		Bid Items			PCC Paved Shoulder			Scour Protection (DR-401)		Rock Flume (DR-402)			Remarks
Bridge Station	Bridge Corner	Distance DI-1 or DI-2	PCC Paved Shoulder	Bridge End Drain	Panels Required	Polymer Grid	Modified Subbase	Outlet or Channel Scour Protection	Turf Reinforced Mat (TRM), Type 2	Macadam Stone Base	Engineering Fabric	Erosion Stone	
		FT	SY	TYPE	A B C or D	SY	TONS	SF	SQ	TONS	SY	TONS	
737+47.75	SW	45.5		DR-402						1.4625	78.3	51.4	End curb at flume
737+47.75	SE	45.5		DR-402						1.4625	63.7	41.8	End curb at flume
737+47.75	NW	45.5		DR-402						1.4625	73.1	48	End curb at flume
737+47.75	NE	45.5		DR-402						1.4625	62.6	41	End curb at flume
		TOTALS=		4						5.85	277.7	182.2	

SHOULDERS

- ① Lane(s) to which the shoulder is adjacent.
- ② See Typ. 7156, 7157, or 7158.
- ③ Bid Item.
- ④ Applies only for Paved Shoulders constructed on project with existing granular shoulders.
- ⑤ Bid Item. Typ. 7156, 7157, or 7158.
- ⑥ Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Road Identification	Direction Of Traffic	Location		Side	P Width FT	P _{SG} Width FT ②	G Width FT	L Length FT	Class 13 ^④ Excavation CY ③	Hot Mix Asphalt		Binder TONS	Paved Shoulder SY ③	8" Paved Shoulder at Guardrail SY ⑤	Reinforced Paved Shoulder SY ③	Quantities				Modified Subbase CY ③	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks			
		Station to Station	Station to Station							TON	TON/STA					Special Backfill		TON ③	TON/STA		CY ③	TON ③	TON/STA	STA ③	HMA Alternates		CY ⑥	CY ⑥	
																HMA Alternate	PCC Alternate								TON ③				TON/STA
IA 136	NB	735+47.07	735+75.15	RT		11.7		28.1		20.2	71.8	1.2		36.5					12.7				0.3	11.3	11.3				
		735+75.15	736+02.75	RT		11.7 to 10.6		27.6		19.0	68.8	1.1		34.2					11.9				0.3	11.1	11.1				
		736+02.75	736+20.66	RT		1 to 0		17.9		1.9	10.9	0.1		1.0					0.7				0.2	7.2	7.2				
	SB	735+21.75	735+54.2	RT		11.2		32.4		22.4	69.1	1.3		40.4					14.1				0.3	13.1	13.1				
		735+54.2	735+95.69	RT		11.2 to 9.7		41.5		27.0	65.0	1.6		48.2					16.8				0.4	16.7	16.7				
		735+95.69	736+02.75	RT		9.7		7.1		4.3	60.9	0.3		7.6					2.7				0.1	2.8	2.8				
	SB	738+76.28	738+92.75	RT		0 to 1		16.5		1.8	10.9	0.1		0.9					0.6				0.2	6.6	6.6				
		738+92.75	739+17.68	RT		10.3 to 11.2		24.9		16.6	66.6	1.0		29.8					10.4				0.2	10.0	10.0				
		739+17.68	739+48.75	RT		11.2		31.1		21.5	69.1	1.3		38.7					13.5				0.3	12.5	12.5				
	NB	738+92.75	738+99.7	RT		9.7		6.9		4.2	60.9	0.3		7.5					2.6				0.1	2.8	2.8				
		738+99.7	739+40.7	RT		9.7 to 11.6		41.0		27.1	66.1	1.6		48.5					16.9				0.4	16.5	16.5				
		739+40.7	739+74.75	RT		11.6		34.1		24.3	71.2	1.5		43.9					15.3				0.3	13.7	13.7				
TOTALS:									190.2	691.1	11.4		337.1					118.1				3.1							

PAVEMENT MARKING LINE TYPES

See PM-110

- *BCY4 - Place on the same side of the roadway to match existing markings near the project.
- **NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.
- BCY6: Broken Centerline (Yellow) @ 0.25
- ELW6: Edge Line Right (White) @ 1.00
- ELW6: Edge Line Right (White) @ 1.00
- DCY6: Double Centerline (Yellow) @ 2.00
- NPY6: No Passing Zone Line (Yellow) @ 1.25
- DLW6: Dotted Line (White) @ 0.33

Road ID	Location		Dir. of Travel	Marking Type	Side		Length by Line Type (Unfactored)														Remarks					
	Station to Station	Station to Station			L	R	STA	BCY6	DCY6	NPY6**	ELW6	DLW6	STA	STA	STA	STA	STA	STA	STA	STA		STA				
IA 136	736+02.75	738+92.75	NB	Waterborne/Solvent Paint	X									2.90												
	736+02.75	738+92.75	BOTH	Waterborne/Solvent Paint		X								2.90												
	736+02.75	738+92.75	SB	Waterborne/Solvent Paint			X							2.90												
IA 136	428+00.00	893+19.00	BOTH	Waterborne/Solvent Paint	X	X	X		130.90	88.20	245.90	907.00	6.40													See sheet J.2 for locations
	428+00.00	893+19.00	BOTH	Grooves Cut for Pavement Markings	X		X						6.40													
Factored Total: Waterborne/Solvent Paint																										
Bid Quantity: Grooves Cut for Pavement Markings																										
Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based																										
Bid Quantity: Grooves Cut for Pavement Markings																										

GRADING FOR GUARDRAIL INSTALLATIONS

① Lane(s) to which the installation is adjacent.

Refer to EW-301

Location				Dimensions (Feet)									Earthwork		Remarks	
No.	① Direction of Traffic	Station	Side	Foreslope at Guardrail	X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10		Embankment In Place
														CY		CY
1	SB	736+74.00	RT	3	69.0	5.0					100.0	8.0	50.0		Refer to estimate reference notes for earthwork	
2	NB	736+74.00	LT	3	44.0	5.0					125.0	8.0	50.0		Refer to estimate reference notes for earthwork	
3	SB	738+25.00	RT	3	44.0	5.0					125.0	8.0	50.0		Refer to estimate reference notes for earthwork	
4	NB	738+25.00	LT	3	69.0	5.0					100.0	8.0	50.0		Refer to estimate reference notes for earthwork	

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

① Lane(s) to which the obstacle is adjacent.

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

Location			Layout Lengths BA-250 or LS-630				Long-Span System		Delineators and Object Markers				Bid Items					Remarks				
No.	① Direction of Traffic	Side O = Outside M = Median	Station	Offset	VT1	VF	VT2	ET	STATION	TYPE	SI-211	Delineator SI-172 Type 1	Object Marker SI-173		Bolted End Anchor	Barrier Transition Section	Steel Beam Guardrail		End Terminal		Post Adapter	
													OM3-L	OM3-R					Standard	Count		BA-210
													White	OM2-2								
1	NB	O	736+67.25		45.120			47.7			3			1	A	1	1	0.0	BA-205	1		
2	SB	O	736+67.25		70.120			47.7			3			1	A	1	1	25.0	BA-205	1		
3	NB	O	738+28.25		70.120			47.7			3			1	A	1	1	25.0	BA-205	1		
4	SB	O	738+28.25		45.120			47.7			3			1	A	1	1	0.0	BA-205	1		
TOTALS=														2	2	4	4	50.0		4		

LONGITUDINAL GROOVING

Location	Total SY	Remarks
South Approach	388.3	
Bridge	683.4	
North Approach	388.3	
TOTAL:	1460.1	

103_06
8/15/22

EMBANKMENT WITH MOISTURE CONTROL

Moisture Control is required for all Class 10 fill placed in all locations and depths. Topsoil will not require Moisture Control.

GEOTECHNICAL DESIGN



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 _____ Date _____

UJWALA MANCHIKANTI

Printed or Typed Name

License Number P27413

My license renewal date is December 31, 2025

Pages or Sheets covered by this seal: CS.1 - CS.3 & Q.1 - Q.2

103_07
8/15/22

SHRINKAGE DATA

Material	%	Remarks
Class 10	30.0	
Topsoil	40.0	
Estimated Boulder Quantity	0.0	25 CY

LONGITUDINAL SUBDRAIN SHOULDER

* Not a bid item.

Line No.	Road or Lane Identification	Station From	Station To	Side	Depth (IN) (D)	Subdrain Size (IN)	Length (FT)	Outlet Station	Outlet Type	Porous Backfill* (CY)	Remarks
1.0	IA 136	735+44.14	736+71.25	Left	42.0	4.0	157.1	735+44.14	DR-306	14.5	Use Type 7A installation
2.0							30.0	736+71.25	DR-306		
3.0	IA 136	738+24.25	739+76.19	Left	42.0	4.0	181.9	738+24.25	DR-306	16.8	Use Type 7A installation
4.0							30.0	739+76.19	DR-306		
5.0	IA 136	735+18.89	736+71.25	Right	42.0	4.0	182.4	735+18.89	DR-306	16.9	Use Type 7A installation
6.0							30.0	736+71.25	DR-306		
7.0	IA 136	738+24.25	739+51.59	Right	42.0	4.0	157.3	738+24.25	DR-306	14.6	Use Type 7A installation
8.0							30.0	739+51.59	DR-306		

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
- 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

- E1** *EL1B Alliant Energy - Quality D*
- F0** *FO1B, Lost Nation-Elwood Telephone - Quality D*

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

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

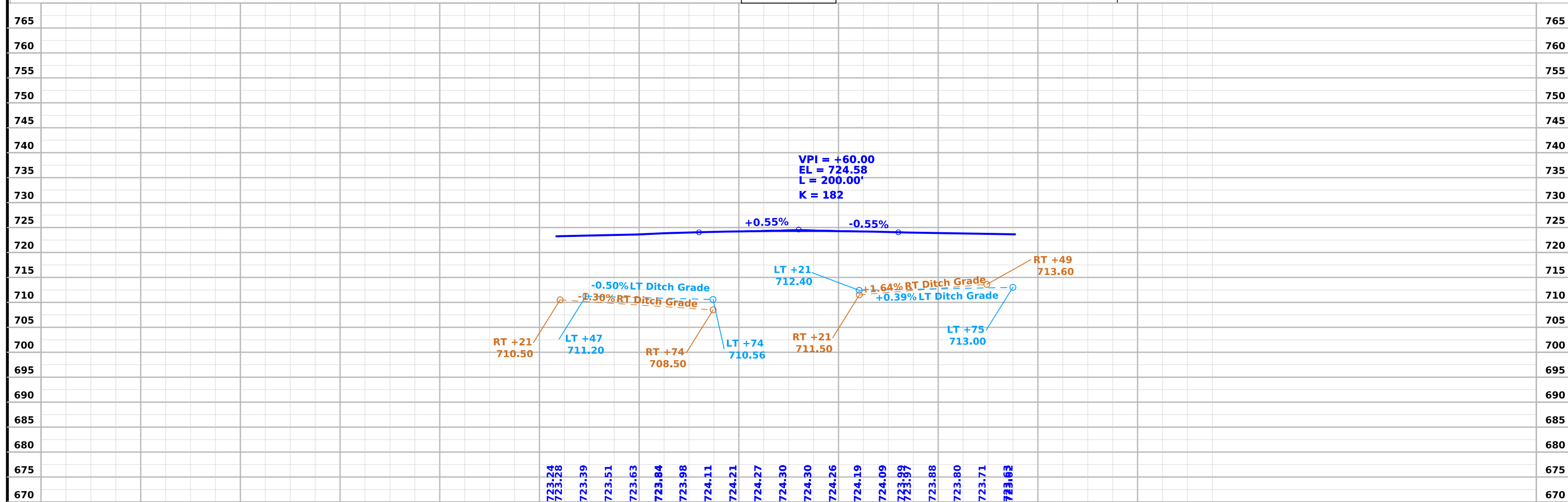
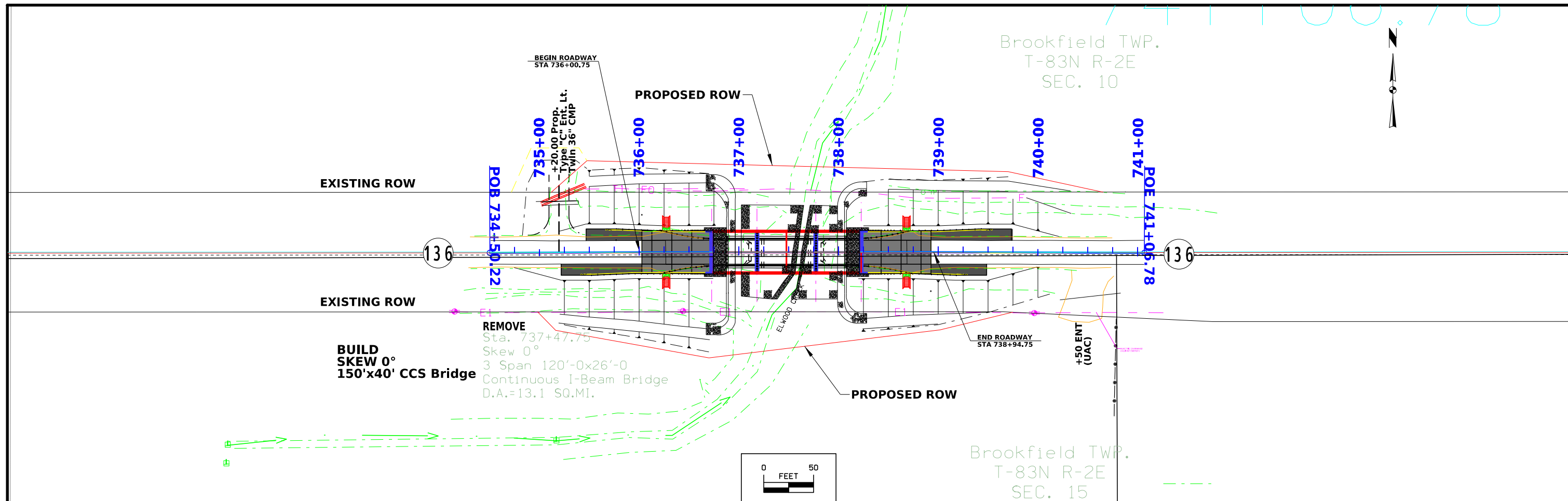
- Reference Point
- Station
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



FILE NO. 32348	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(97)--38-23	SHEET NUMBER D.2
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Survey Information

Clinton County
BRF-136-1(97)—38-23
State Highway 136 over Elwood Creek
PIN 20-23-136-030
Sap-766.2

observations with appropriate occupation times. Additional control points were placed throughout the project using a Total Station setup relative to Point 1 and Point 2.

Utility Information

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

A One-call utility locate request (Ticket# 552104697) was made August 02, 2021. The following Companies were listed:

<u>Company (Quality)</u>	<u>Symbol</u>	<u>Remark</u>
Iowa D.O.T	---	Not Affected
Alliant Energy (ASE)	PPA	Power Poles North of IA 136
Lost Nation-Elwood Telephone (LN1)	FOA	Buried Telephone Fiber Optic Line

Following are the list of contacts made in the order they were received:

(ASE) ALLIANT ENERGY
Contact Name : Alliant Energy Field Engineer
Contact Phone: 8002554268
Contact Email: locate_IPL@alliantenergy.com

(LN1) LOST NATION-ELWOOD TELEPHONE
Contact Name : Jody Holtz
Contact Phone: 5636782470
Contact Email: jody@lencomm.com

Party Personnel

Murray Berting – Survey Party Chief
Gavin Gear – Assistant Survey Party Chief

Date(s) of Survey

Begin Date 08/23/2021
End Date 10/22/2021

General Information

Measurement units for this survey are US survey feet. This survey is for proposed Bridge reconstruction and reconstruction of State Highway 136, over Elwood Creek. Project datum and control information is provided by Shive-Hattery Inc. This project is a Preliminary DTM Field Survey. This survey request was for the Bridge over Elwood Creek, State Highway 136 Corridor and Elwood Creek.

Vertical Control

IARTN
Vertical datum for this survey is NAVD88 (Computed using Geoid12B). Additional benchmarks were placed throughout the project using a Total Station setup relative to Point 1 and Point 2. Vertical control was verified between control points with check shots by Total Station through multiple setup from various occupation points with a vertical error of less than 0.05 feet.

This survey found a local control benchmark monument (benchmark disc on bridge abutment in NW corner bridge). No vertical information was available at the time field work was completed.

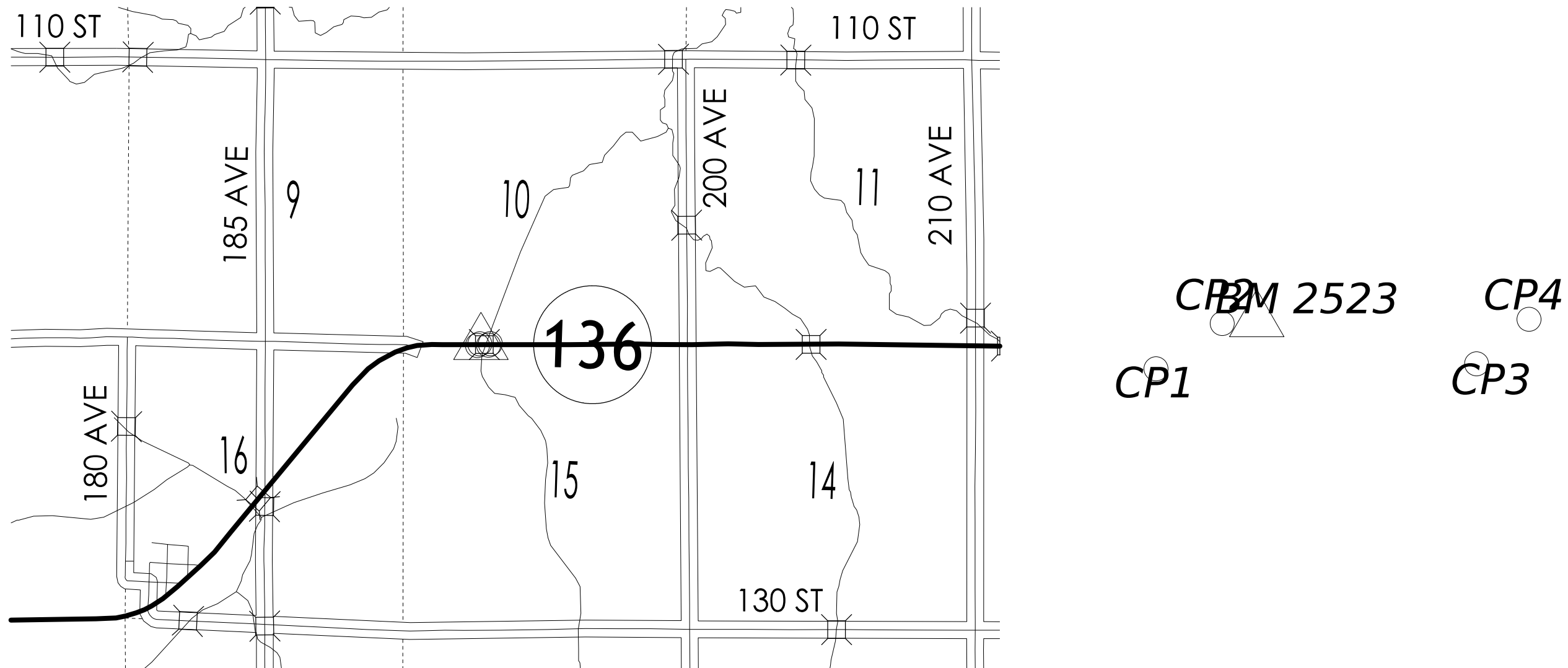
Horizontal Control

(Project Coordinates from Redundant IARTN Observations)

The project coordinate system is modified Iowa Regional Coordinate System Zone 11 (U.S. Survey Feet This survey control is relative to the IARTN reference stations. IARTN Reference Station coordinates are relative to the National Reference Station

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 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 11

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 11
Project Control Marks are Bench Marks

POINT NAME	Y	X	Z	FEATURE DEFINITION - DESCRIPTION
1	8239046.714	21449631.27	723.470	CP1 IR (IRON ROD)
2	8239075.722	21449673.96	723.722	CP2 CX (CUT 'X' IN PAVEMENT
3	8239049.989	21449837.67	723.830	CP3 CX (CUT 'X' IN PAVEMENT
4	8239078.666	21449871.26	723.684	CP4 IR (IRON ROD)
2523	8239078.083	21449695.11	727.018	BM DISC

NOTE:

The first two digits in the control point name refer to the county number.
The next 3 digits refer to the highway number.
The next 3 digits refer to the highway milepost.
The last digit refers to the distance from the referenced milepost to the nearest tenth of a mile.

Alignment Coordinates

101-16

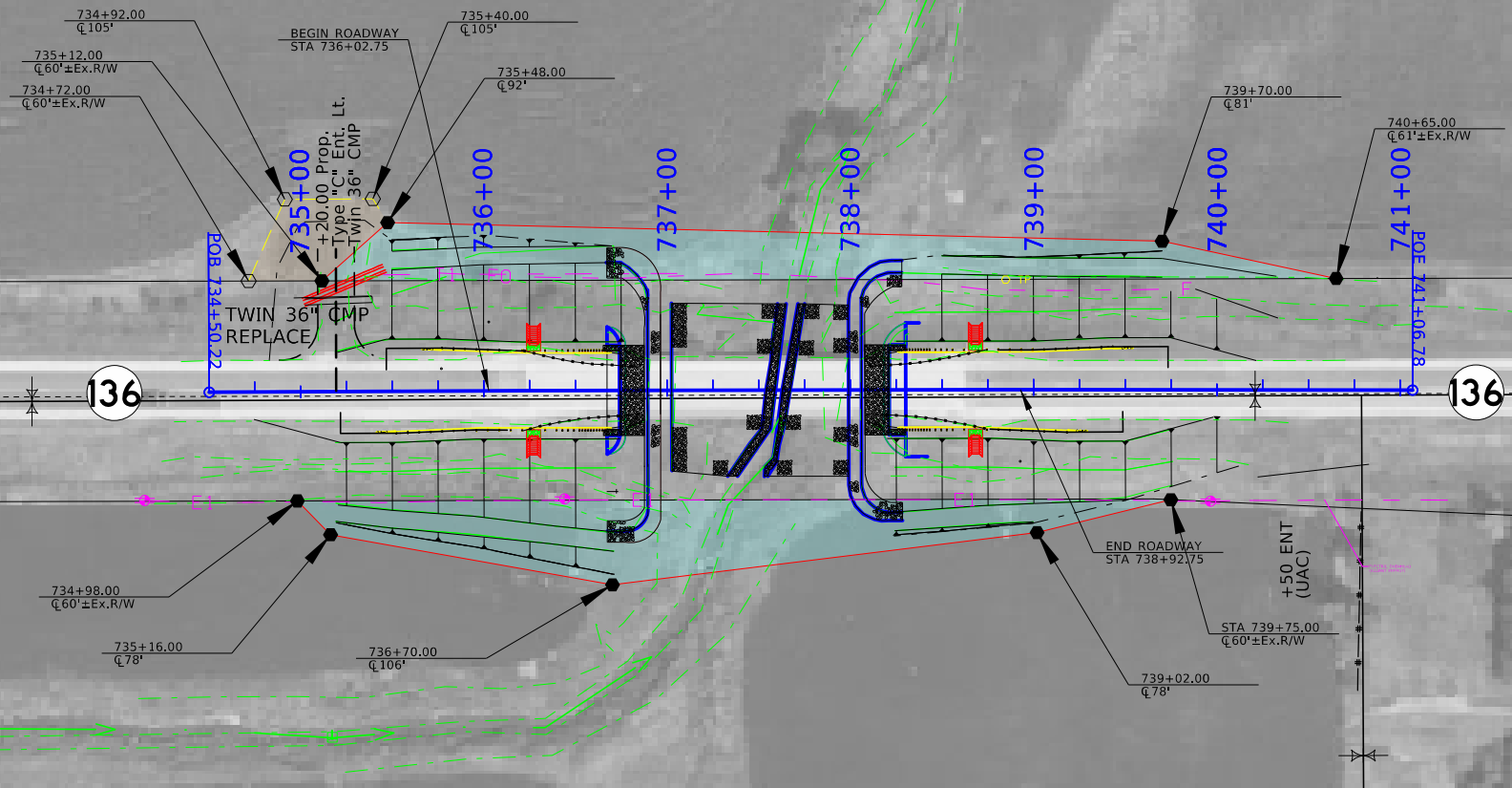
04-19-11

Element Number	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)
1	ML136	44634.576 R1	8226857.768	21424664.640															
2	ML136	44833.057 R1	8226960.642	21424834.380															
3	ML136	44981.103 R1	8227037.668	21424960.810															
3	ML136	45170.815 R1	8227136.459	21425122.771															

1

CMB ACRES LLC

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE



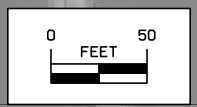
2

BECKER FAMILY FARMS LLC

Brookfield TWP.
T-83N R-2E
SEC. 10

Brookfield TWP.
T-83N R-2E
SEC. 15

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team:	CUVA / FREDRICKSON
ROW #:	STPN-136-1(98)--2J-23
Plan Date:	06/01/2023
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



108-26A
08-01-08

STAGING NOTES

Stage 1:
With IA 136 traffic using detour, remove and replace bridge over the stream with a culvert.

Stage 2:
Reopen IA 136 to normal traffic pattern.

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1) While bridge and approaches are being removed and replaced with RCB culvert, IA 136 traffic shall be maintained via an off-site detour. Detours are furnished, maintained and removed by the Contractor. Refer to TC-252 for road closure and advanced signage details.

2) Contractor will furnish, install, maintain, and remove detour signs. All existing signs that conflict with detour shall be covered. These functions shall be included in the Traffic Control Bid Item.

108-25
10-21-14

511 TRAVEL RESTRICTIONS

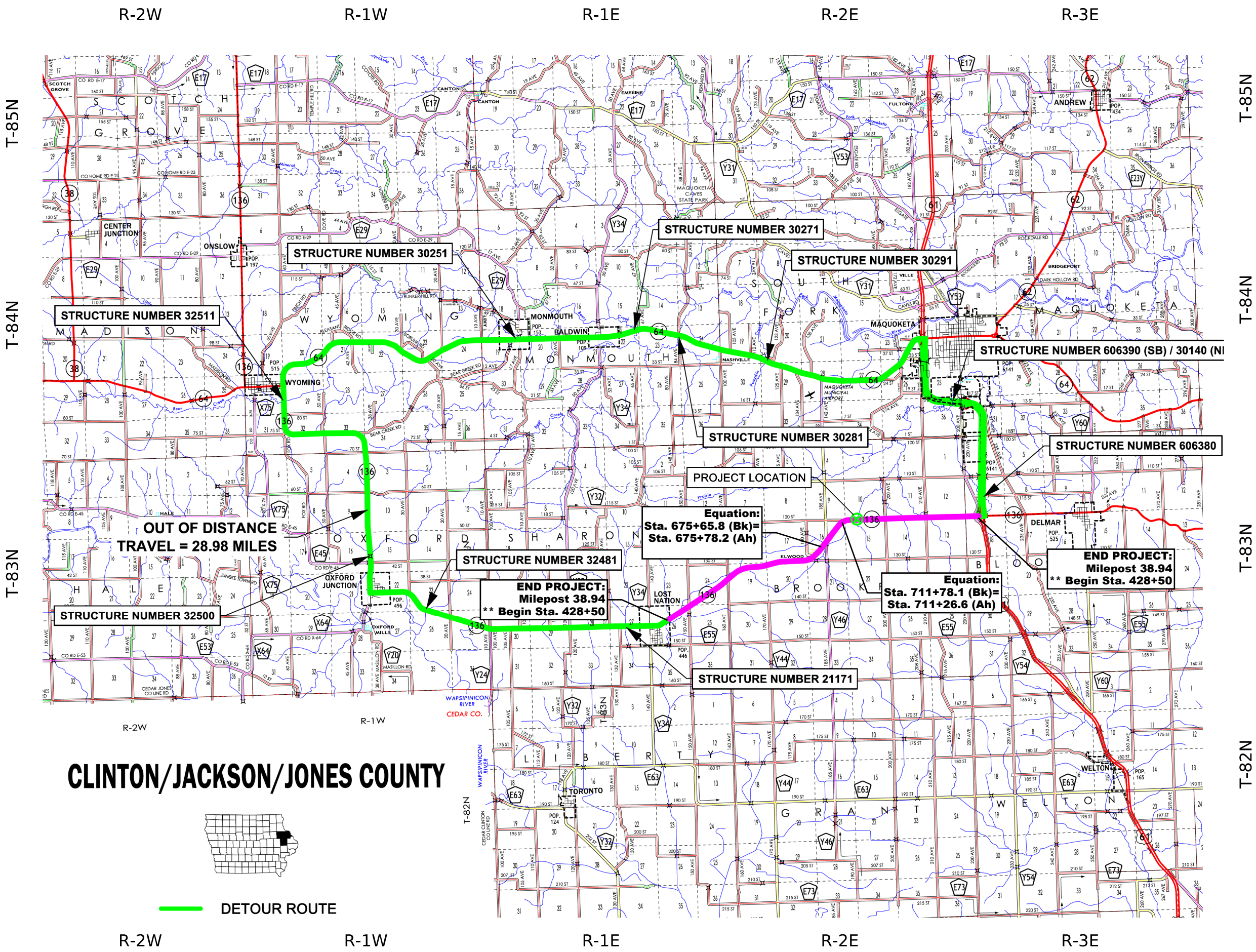
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			No Travel Restrictions Expected									

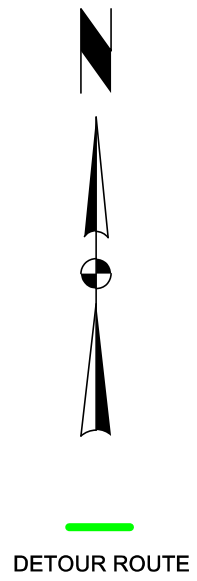
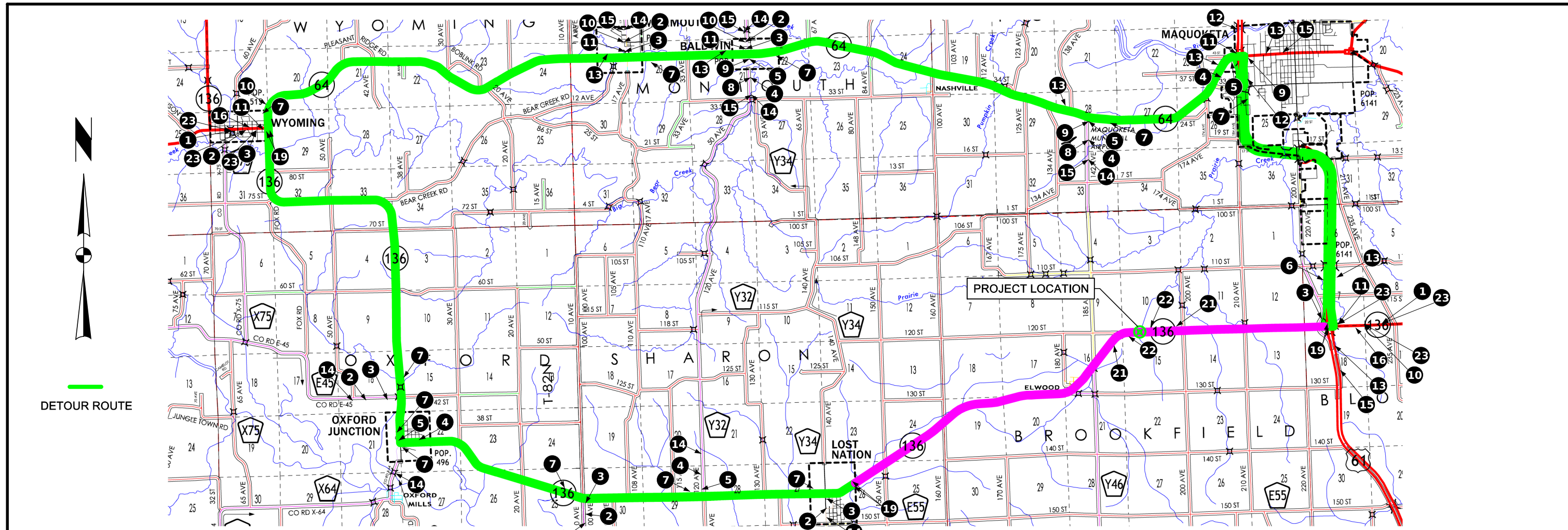
111-01
04-17-12

COORDINATED OPERATIONS

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

Project	Type of Work
BRF-136-1(99)--38-23	Bridge Replacement
BRF-136-1(101)--38-23	RCB Culvert Replacement
BRF-136-1(103)--38-23	RCB Culvert Replacement
BRF-136-1(105)--38-23	RCB Culvert Replacement





1		5		9		13		17		21	
2		6		10		14		18		22	
3		7		11		15		19		23	
4		8		12		16		20		24	

SIGN INVENTORY

I.D. NUMBER	SIZE	DESCRIPTION	I.D. NUMBER	SIZE	DESCRIPTION
M2-1	24" x 12"	JCT	DOT_stock 812 514056	60" x 36"	END DETOUR THANK YOU
M4-8	24" x 12"	DETOUR	W20-2	48" x 48"	DETOUR 1500 FT
M3-1	24" x 12"	NORTH	High Level Warning Devices (Flag Trees)	Refer to section 6F.62 in the MUTCD	
M3-3	24" x 12"	SOUTH	R11-2	48" x 48"	ROAD CLOSED AHEAD
M5-1B	24" x 24"	Left Turn Arrow	W20-3	48" x 48"	ROAD CLOSED 500 FT
M5-1	24" x 24"	Right Turn Arrow	W20-3	48" x 48"	ROAD CLOSED 1000 FT
M6-1	24" x 12"	North Arrow			
M6-3	24" x 12"	South Arrow			
M1-6C	24" x 24"	136			
M11-4	60" x 30"	ROAD CLOSED TO THRU TRAFFIC			
M4-10L	48" x 18"	Left Detour Arrow			
M4-10R	48" x 18"	Right Detour Arrow			

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
- 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

- E1** *EL1B Alliant Energy - Quality D*
- F0** *FO1B, Lost Nation-Elwood Telephone - Quality D*

PLAN VIEW COLOR LEGEND OF SOILS SHEETS

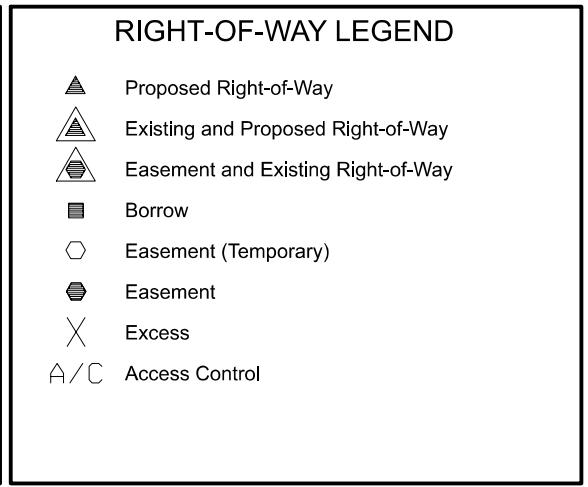
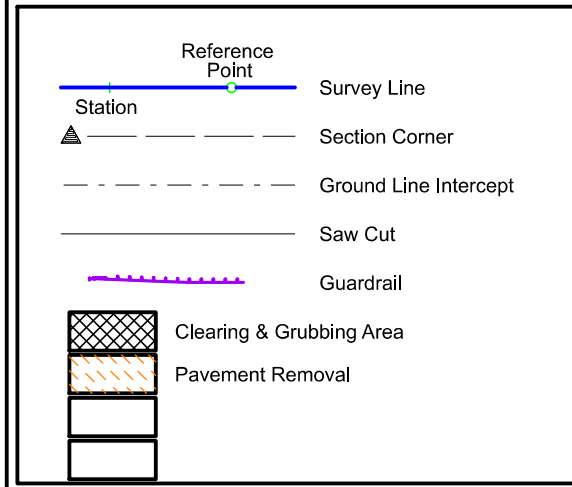
LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Purple (Halo)	(15)		Backslope Drains
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING		Design Color No.	
Brown, Light	(236)		Core Out

PROFILE VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK		Design Color No.	
Blue	(1)		Proposed Alignment, Stationing, and Alignment Annotation
Green	(2)		Existing Ground Line Profile
Green, Med	(2)		Topsoil
Green, Med	(2)		Slope Dressing Only
Orange	(6)		Loam
Aqua (Cyan)	(7)		Class 10
Brown, Med	(4)		Sand
Red	(3)		Unsuitable A
Pink, Dark	(13)		Unsuitable B
Pink	(11)		Unsuitable C
Red	(3)		Shale
Red	(3)		Waste
Gray, Light	(48)		Broken and Weathered Rock
Gray, Med	(80)		Rock
Gray, V.Dark	(128)		Boulders

PATTERN AND SYMBOL LEGEND OF SOILS SHEETS

Date(s) Drilled		Date(s) Drilled	
Drill	Dig/Core	Sandstone	
Water	Treatment	Unsuitable A	
Dry	Sand Blanket	Unsuitable B	
Sample	Soil Remediation Area	Unsuitable C	
Plugged	Select Soil	Sandy Soil	
Moisture	Select Sand	Boulders	
Shelby	Slope Dressing Only	Shale	
Blow Count	Broken and Weathered Rock		
Dens. Core	Rock		



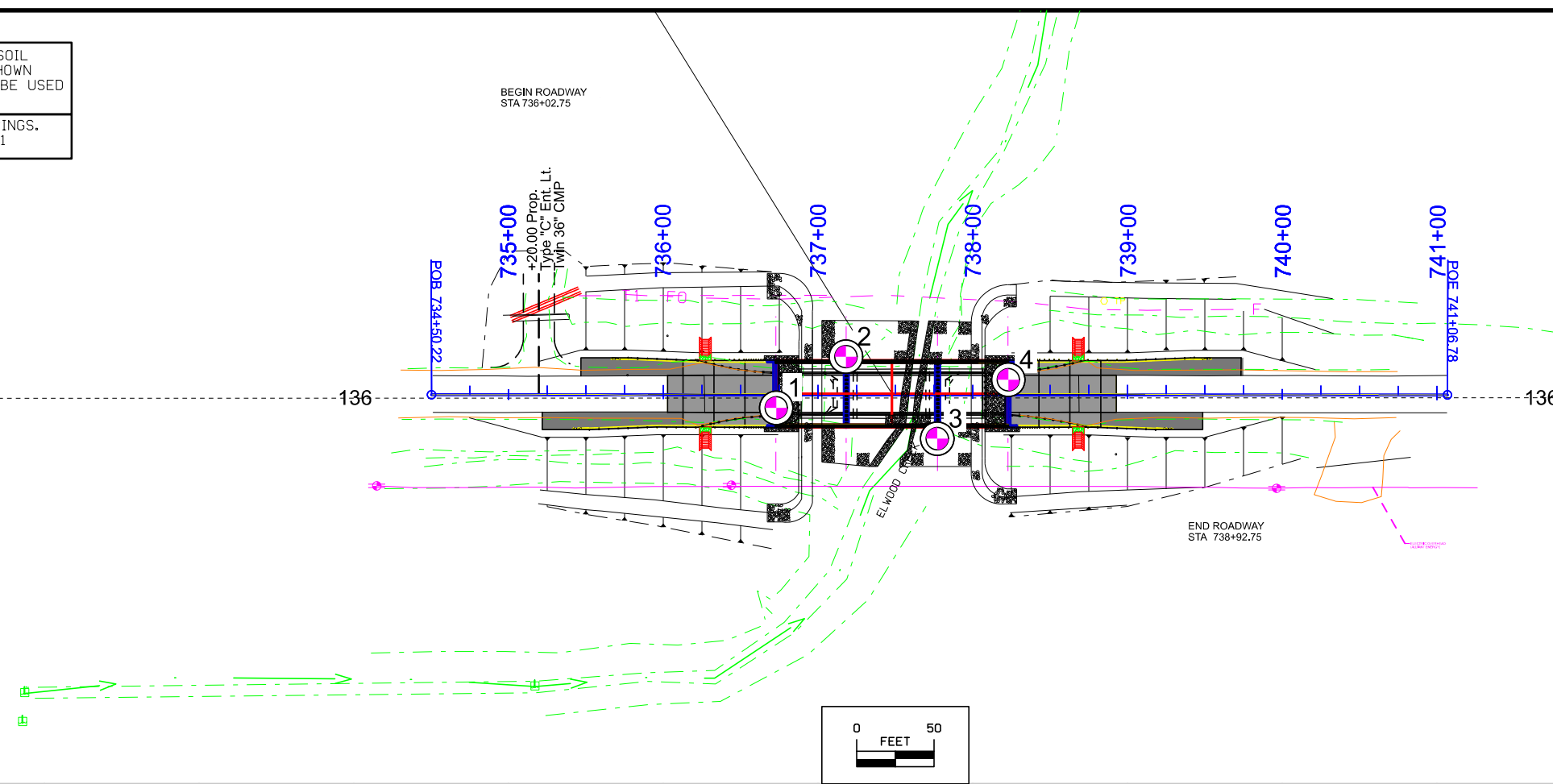
NOTE: Sounding and test boring data shown in the plans were accumulated for designing and estimating purposes. Their appearance on the plans does not constitute a guarantee that conditions other than those indicated will be encountered. Details and notes shown elsewhere shall be used for roadway and structure construction.

SOILS LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES Q)

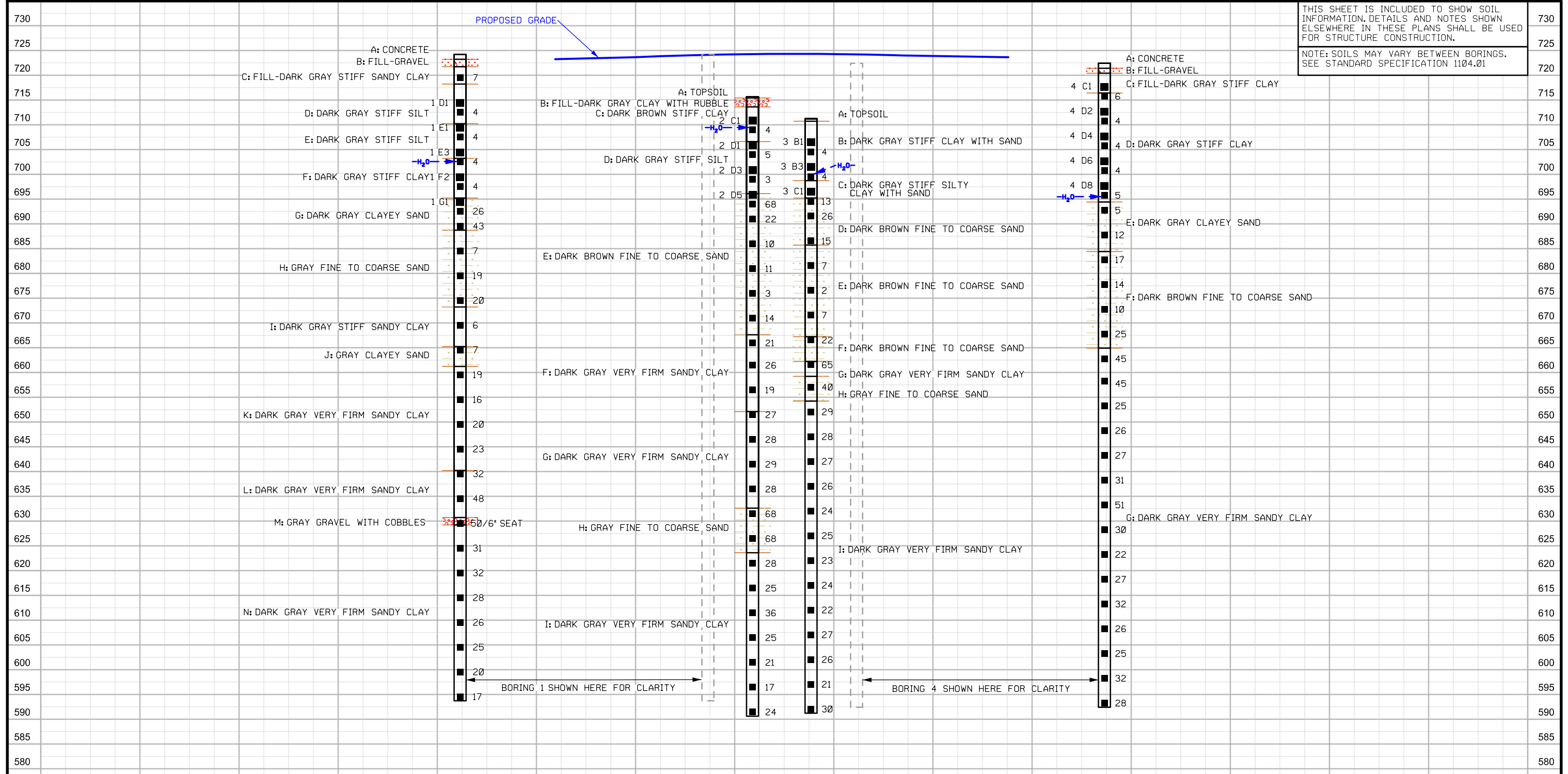
THIS SHEET IS INCLUDED TO SHOW SOIL INFORMATION. DETAILS AND NOTES SHOWN ELSEWHERE IN THESE PLANS SHALL BE USED FOR STRUCTURE CONSTRUCTION.

NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

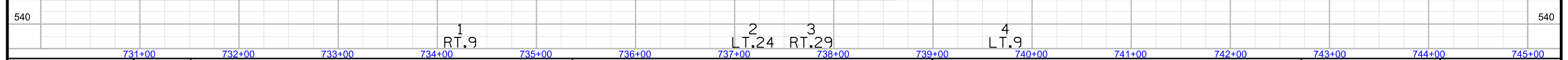


SEE NEXT SHEET FOR PROFILE VIEW

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SHELBY TUBE CORE DATA																	
CORE NO.	1 D1	1 E1	1 E3	1 F2	1 G1	2 C1	2 D1	2 D3	2 D5	3 B1	3 B3	3 C1	4 C1	4 D2	4 D4	4 D6	4 D8
570	9-11	14-16	19-21	24-26	29-31	4-6	9-11	14-16	19-20	4-6	9-11	14-16	4-6	9-11	14-16	19-21	24-26
565	A-6(12)	A-7-5(22)	-	-	-	-	-	A-7-6(17)	-	-	A-6(8)	A-4(2)	-	-	A-7-6(24)	-	-
560	CU	-	UC	UC	UC	UC	UC	UC	UC	UC	UC	-	UC	UC	UC	UC	UC
555	705	-	750	645	785	910	495	415	370	780	550	-	1240	905	900	1085	785
550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
545	28.3	43	34.8	39.6	26.4	27.4	31.6	37	14.9	31.3	33	27.6	11.6	34.9	31.9	34.2	26.1
540	95	72	89	74	93	89	83	79	104	81	90	99	103	80	88	79	96



ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Erosion Control Items : Erosion Control Items

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated	Erosion Control Items	
1	2601-2634100	MULCHING	ACRE	1.5		<p>Perform mulching according to Article 2601.03, E, 2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes.</p> <p>Item is included for areas requiring reshaping and seedbed preparation. Use mulch that is Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.</p>
2	2601-2636015	NATIVE GRASS SEEDING	ACRE	1.3		<p>Seed all areas outside eight feet adjacent to outside shoulder along mainline, side roads, and infield areas at interchanges with "Native Grass Seeding".</p> <p>Supply all seed for "Native Grass Seeding".</p> <p>Apply all forb seed through the native grass drill wildflower or small seed box.</p> <p>Do not mix and apply Forb seed with the native grass seed.</p> <p>Apply cover crop through the cool season or through cover crop seed box.</p> <p>Do not mix and apply cover crop seed with the native grass seed.</p> <p>Remove seed remaining in the drill at the end of each day. At the completion of all seeding, remove remaining seed from the drill by vacuum or other means. Hand broadcast remaining seed on the project.</p> <p>The Owner's Representative will review the limits with the Contractor prior to seeding. Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.</p>
3	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	0.2		<p>Seed and fertilize all areas 8 foot adjacent to the shoulder mainline, medians, and side according to Article 2601.03, C, 3, of the Standard Specifications. Use ground driven equipment.</p> <p>Supply all seed for "Rural Grass Seeding"</p> <p>Do not mix and apply cover crop seed with the rural grass seed.</p> <p>Remove seed remaining in the drill at the end of the day. At the completion of all seeding, remove remaining seed from the drill by vacuum or other means. Hand broadcast remaining seed on the project.</p> <p>The Owner's Representative will review the limits with the Contractor prior to seeding.</p>

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated		
				Erosion Control Items		
4	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	1.5		<p>Item is included for disturbed areas.</p> <p>Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications. If permanent seeding cannot be placed due to the restrictive planting dates, stabilizing crop will need to be placed on all disturbed areas as temporary erosion control. Preparation and seeding shall be performed in accordance with Section 2601. Stabilizing crop will not be used when the application dates in Section 2601 allows permanent seeding.</p> <p>If stabilizing crop must be used, place immediately following completions of finished grading. Reseeding of these areas will be required at contractors expense if damage occurs due to contractors negligence during the contract period.</p> <p>It is not necessary to place stabilizing crop in locations that have be covered by Wood Excelsior Mat.</p>
5	2602-0000020	SILT FENCE	LF	914		<p>Refer to Tab. 100-17.</p> <p>The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.</p>
6	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	231		<p>Refer to Tab 100-18.</p> <p>The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes tab quantities for the paving project for new locations and 10% of the original tab quantity for the grading project (insert original tab quantity from the grading project) for field adjustments and replacements. See Standard Note 232-10 and Standard Road Plan EC-201. See Sheet RR.2 for locations. The engineer may adjust silt fence locations to fit field conditions.</p>
7	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	1,145		<p>This item is included for silt fence and silt fence for ditch check removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth. This item is included for silt fence and silt fence for ditch check removal. Remove silt fence and posts after mulching or vegetation is established and approved by the engineer.</p>
8	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	114		<p>This item is included for maintaining the new silt fence and silt fence ditch checks installed for the paving project and existing silt fence and silt fence ditch checks installed as part of the grading project.</p>
9	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	LF	200		
10	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	620		<p>Refer to Tab. 100-19.</p> <p>The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.</p>

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated		
				Erosion Control Items		
11	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	250		Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 20 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements. Use Perimeter and Slope Sediment Control Devices fabricated using wood excelsior.
12	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	870		
13	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1		
14	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1		

STANDARD ROAD PLANS		
105-4 10-18-11		
The following Standard Road Plans apply to construction work on this project.		
Number	Date	Title
EC-201	04-20-21	Silt Fence
EC-204	04-19-16	Perimeter and Slope Sediment Control Devices
EC-502	04-21-15	Seeding in Rural Areas

SECTION 404 PERMIT AND CONDITIONS
281-1 10-18-16
Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide, Permit 14, Permit No. 2023-0228 A copy of this permit is available from the Iowa DOT website (http://www.envpermits.iowadot.gov/). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

STORM WATER BEST MANAGEMENT PRACTICES
281-3 10-17-17
When the following best management practices are used, they are intended to account for disturbed areas where storage volume cannot be provided: Wood Excelsior Mat for Ditch Protection, Silt Fence, Silt Fence for Ditch Protection, Perimeter and Slope Sediment Control Devices

INDEX OF TABULATIONS		
111-25 10-18-11		
Tabulation	Tabulation Title	Sheet No.
RC Sheets		
100-1A	ESTIMATED PROJECT QUANTITIES (1 DIVISION PROJECT)	RC.1-3
100-4A	ESTIMATE REFERENCE INFORMATION	RC.1-3
100-17	TABULATION OF SILT FENCES	RC.4
100-18	SILT FENCE FOR DITCH CHECKS	RC.4
100-19	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	RC.4
105-4	STANDARD ROAD PLANS	RC.3
110-12	POLLUTION PREVENTION PLAN	RC.5-RC.6
111-25	INDEX OF TABULATIONS	RC.3

TABULATION OF SILT FENCES

Refer to EC-201

Location		Side	Length	Remarks
Begin Station	End Station		LF	
735+48.00	736+67.00	LT	139.0	
735+16.00	736+70.00	RT	174.0	
738+25.00	740+32.00	LT	227.0	
738+29.00	739+20.00	RT	111.0	
			20.0	
			20.0	
			20.0	
			20.0	
SF Tab Totals:			731.0	
SF Bid Totals:			914	125% of Tab Total
SF Maintenance Totals:			91	10% of Bid Total
SF Removal Totals:			914	100% of Bid Total

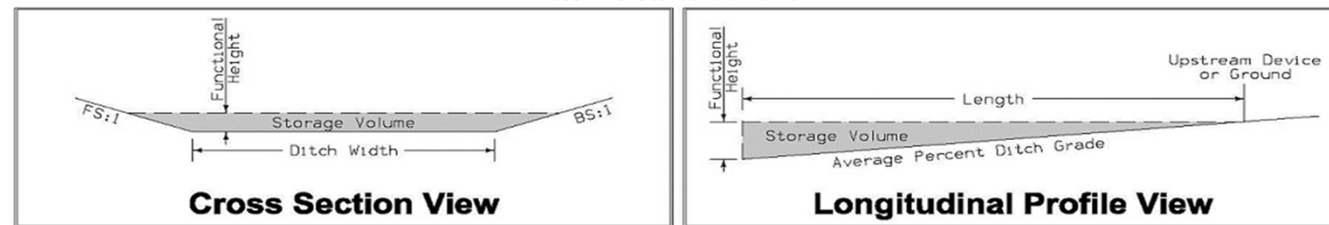
PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
735+47.00	736+22.00	LT		75		
736+32.00	736+65.00	LT		33		
735+15.00	736+22.00	RT		107		
736+32.00	736+65.00	RT		33		
738+30.00	738+64.00	LT		34		
738+73.00	739+75.00	LT		102		
738+30.00	738+64.00	RT		34		
738+73.00	739+50.00	RT		77		
737+52.00		LT			40	Entrance
737+95.00		LT			38	Entrance
737+03.00		RT			60	Entrance
737+66.00		RT			54	Entrance
PSSCD Tab Totals:				495	192	
12 inch PSSCD Bid Totals:				620		125% of Tab Total
20 inch PSSCD Bid Totals:					250	125% of Tab Total
PSSCD Removal Totals:					870	100% of Bid Total

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



* 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: $[0.5 * \text{Spacing} * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary				Remarks	
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope Ditch Grade		Volume* CF
1	4	735+79.00	LT	22.0	2.2	22.0	3.5	3.0	10.0	1.0%	723.4	
1	4	736+50.00	LT	22.0	2.2	22.0	3.5	3.0	10.0	1.0%	723.4	
1	4	735+59.00	RT	22.0	2.2	22.0	3.5	3.0	10.0	3.0%	723.4	
1	4	736+36.00	RT	22.0	2.2	22.0	3.5	3.0	10.0	3.0%	723.4	
1	4	738+47.00	LT	22.0	2.2	22.0	3.5	3.0	10.0	1.0%	723.4	
1	4	739+23.00	LT	22.0	2.2	22.0	3.5	3.0	10.0	1.0%	723.4	
1	4	738+62.00	RT	22.0	2.2	22.0	3.5	3.0	10.0	1.5%	723.4	
SFDC Tab Totals:				154.0	15.4	154.0						
SFDC Bid Totals:				231.0								
SFDC Main. Totals:					23.1							
SFDC Rem. Totals:						231.0						

POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITIES**A. Designer:**

1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

B. Contractor:

1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

C. Subcontractors:

1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or performing work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Implement good housekeeping practices according to Paragraph III, C, 2.

D. RCE/Project Engineer:

1. Is Project Storm Water Manager.
2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
7. Is familiar with the Project PPP and storm water site map.
8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
10. Is signature authority on Notice of Discontinuation.
11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
12. Makes information to determine permit compliance available to the DNR upon their request.

E. Inspector:

1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

- A. This Pollution Prevention Plan (PPP) is for the construction of a bridge replacement.
- B. This PPP covers approximately 1.43 acres with an estimated 1.38 acres being disturbed. The portion of the PPP covered by this contract has 1.38 acres disturbed.
- C. The PPP is located in an area of Tama-Muscatine-Downs soil association. The estimated weighted average runoff coefficient number for this PPP after completion will be 0.44.
- D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.
- E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been

POLLUTION PREVENTION PLAN

installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.

F. Runoff from this work will flow into Elwood Creek.

III. CONTROLS

A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.

B. Preserve vegetation in areas not needed for construction.

C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures.

Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.

1. EROSION AND SEDIMENT CONTROLS**a. Stabilization Practices**

- 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
- 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
 - a) Permanently ceased on any portion of the site, or
 - b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
- 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
- 4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
- 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
- 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.

b. Structural Practices

- 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
- 2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.

c. Storm Water Management

Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS

Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.

b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.

c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.

d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.

e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.

f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.

g. Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.

h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.

j. Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

POLLUTION PREVENTION PLAN

IV. MAINTENANCE PROCEDURES

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
 1. Date of the inspection.
 2. Summary of the scope of the inspection.
 3. Name and qualifications of the personnel making the inspection.
 5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
 6. Major observations related to the implementation of the PPP.
 7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
- C. Fieldbook Entries - This contains the inspector's daily diary and bid item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Printed or Typed Name

Signature

LINE STYLE LEGEND OF LANDSCAPE SHEETS

LINETYPE	Design Element
-----	Living Snow Fence Single Row
-----	Living Snow Fence Double Row
-----	Mechanical Edge

CELL LEGEND OF LANDSCAPE SHEETS

CELL	Design Element	Plant Diameter
	Clearing	
	Proposed Shrub	
	Proposed Understory Tree	
	Proposed Conifer Tree	
	Proposed Overstory Tree	

PATTERN LEGEND OF LANDSCAPE SHEETS

	Brush Clearing		Spray Area
	Clearing & Grubbing		

LINE STYLE LEGEND OF EROSION CONTROL SHEETS

LINETYPE	Design Element
	Silt Fence
	Perimeter and Slope Sediment Control Device (9")
	Perimeter and Slope Sediment Control Device (12")
	Perimeter and Slope Sediment Control Device (20")
	Open-Throat Curb Intake Sediment Filter
	Concentrated Flow
	Rock Check and Rock Check Dam
	Sheet Flow

CELL LEGEND OF EROSION CONTROL SHEETS

CELL	Design Element
	Temporary Sediment Control basin
	Erosion Control for Circular Intake or Manhole Well
	Erosion Control for Rectangular Intake or Manhole Well
	Grate Intake Sediment Filter Bag
	Silt Basin
	Silt Fence Tail
	Stormwater Drainage Basin Discharge Point

PLAN VIEW COLOR LEGEND OF EROSION CONTROL SHEETS

LINWORK	Design Color No.	Color	Description
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
Black	(0)		Permanent Erosion Control Features
Blaze Orange	(222)		Temporary Erosion Control Features

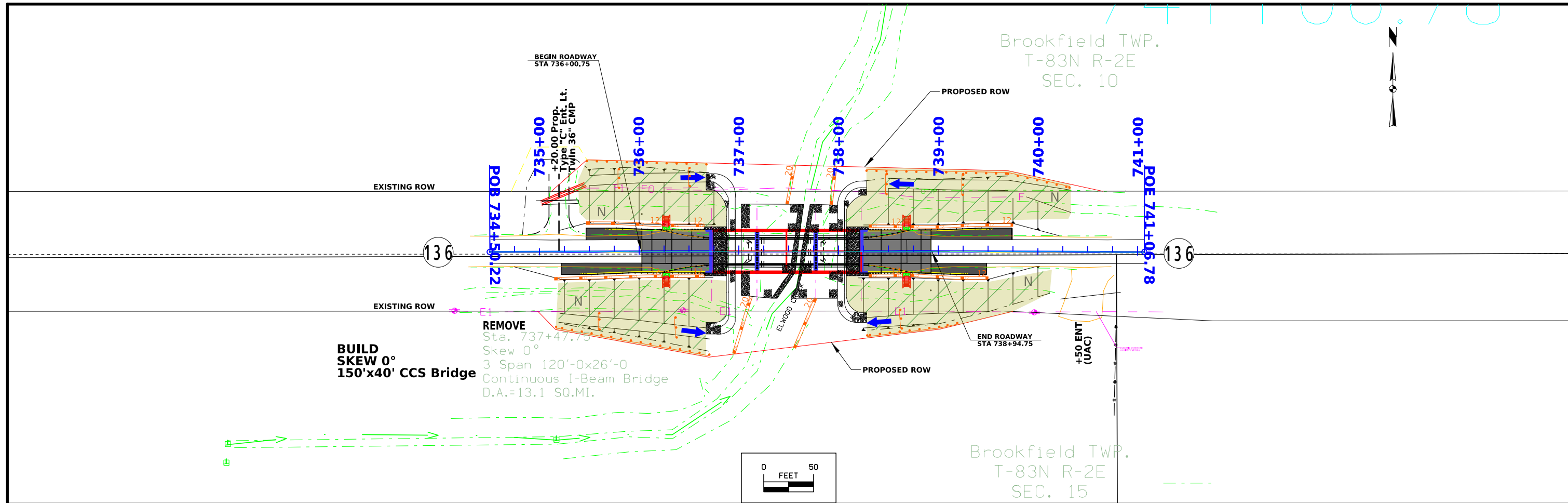
SHADING	Design Color No.	Color	Description	Transparency
Citron	(234)		Mulching, All Types	50%
Light Brown	(238)		Special Ditch Control, Wood Excelsior Mat	0%
Grass Green	(233)		8FT Mow Strip	50%
Red	(3)		Delineates Restricted Areas	0%

PATTERN LEGEND OF EROSION CONTROL SHEETS

	Seeding and Fertilizing		Turf Reinforcement Mat Type 1
	Seeding and Fertilizing (Rural)		Turf Reinforcement Mat Type 2
	Seeding and Fertilizing (Urban)		Turf Reinforcement Mat Type 3
	Native Grass Seeding		Turf Reinforcement Mat Type 4
	Salt Tolerant Seeding		Slope Protection, Wood Excelsior Mat
	Wetland Grass Seeding		Transition Mat
	Wildflower Seeding		Rock Features, Permanent
	Sodding		Rock Features, Temporary

EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)



CROSS SECTION VIEW COLOR LEGEND

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

NOTES:

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CROSS SECTIONS LEGEND AND INFORMATION SHEET

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

