

PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
OSCEOLA COUNTY
Bridge Replacement
Drainage Ditch 1.1 Mi S of Co Rd L36 (SB)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



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 - 2	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	IA 60
F Sheets	Detour or Temporary Pavement Sheets
* F.1	Median Crossovers
G Sheets	Survey Sheets
G.1 - 4	Reference Ties and Bench Marks
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
V Sheets	Bridge and Culvert Situation Plans
V.1	Bridge and Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 5	Mainline Cross Sections * Color Plan Sheets

DESIGN DATA RURAL			
2026	AADT	5800	V.P.D.
2046	AADT	7100	V.P.D.
2046	DHV	740	V.P.H.
TRUCKS		26	%
Total			
Design ESALs		--	

INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	Michael J. Janecek	Primary Signature Block	X
V.1	Philip M. Harpole	Hydraulic Design	X

D4 PLAN - Aug 19, 2025

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Feb 28, 2024

HIGHWAY AND TRANSPORTATION MAP
OSCEOLA COUNTY
IOWA

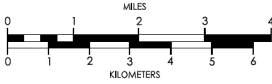


Prepared By
SYSTEMS PLANNING BUREAU
Phone: (515) 239-1664
WWW.IOWADOT.GOV/MAPS



In Cooperation With
United States
Department of Transportation

JANUARY 1, 2020

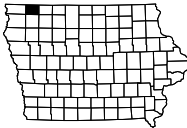
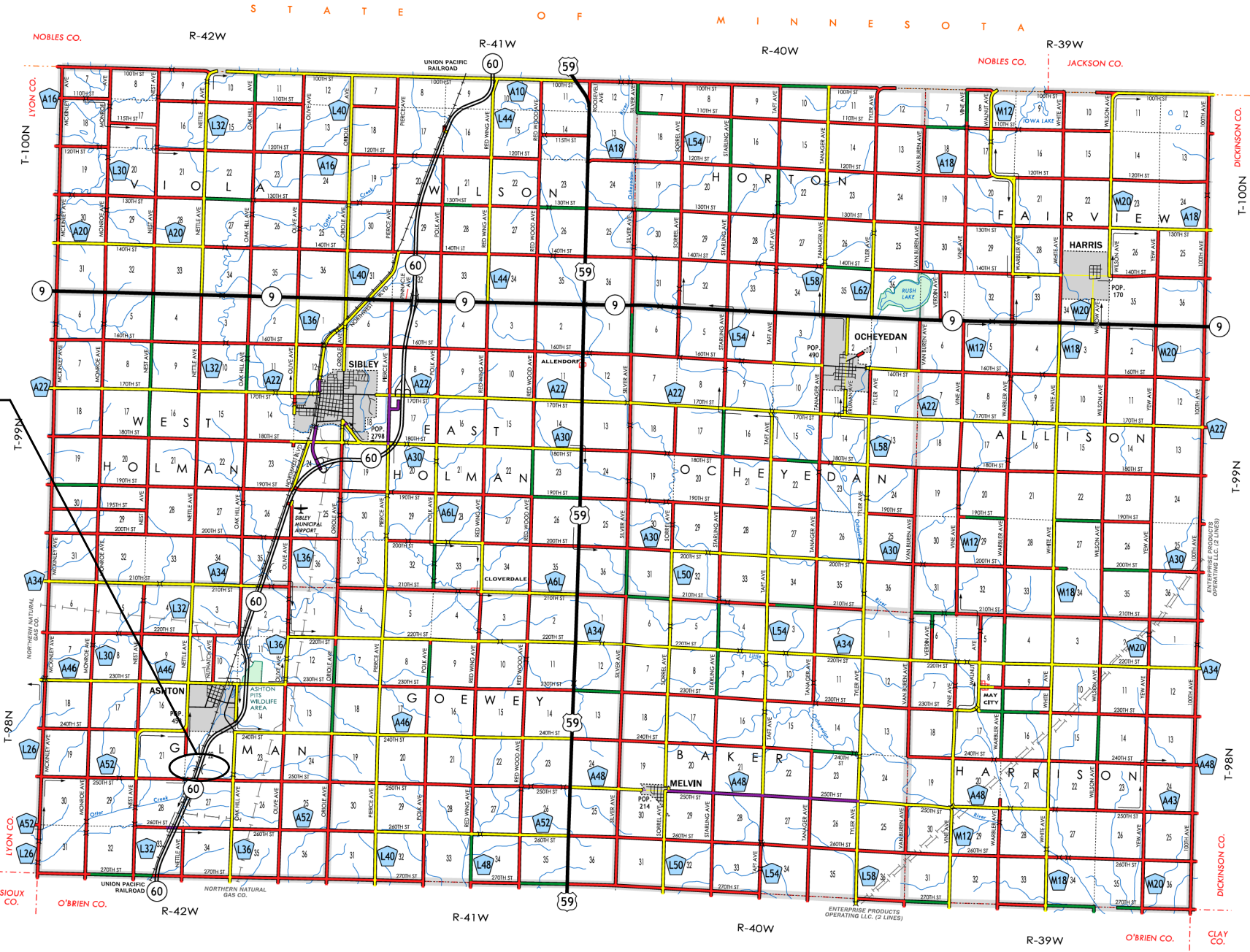


7 - 1 - 20

LEGEND

- INTERSTATE HIGHWAY
- PRIMARY HIGHWAY-DIVIDED
- PRIMARY HIGHWAY
- PORTLAND CEMENT CONCRETE ROAD
- ASPHALT ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTHEN ROAD
- INTERSTATE HIGHWAY
- UNITED STATES HIGHWAY
- STATE HIGHWAY
- COUNTY HIGHWAY
- RAILROAD
- PIPELINE
- AIRPORT
- HYDROLOGY
- BRIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- ROAD NAMES
- UNINCORPORATED PLACE
- STATE PARKS
- STATE INSTITUTIONS
- FEDERAL LAND

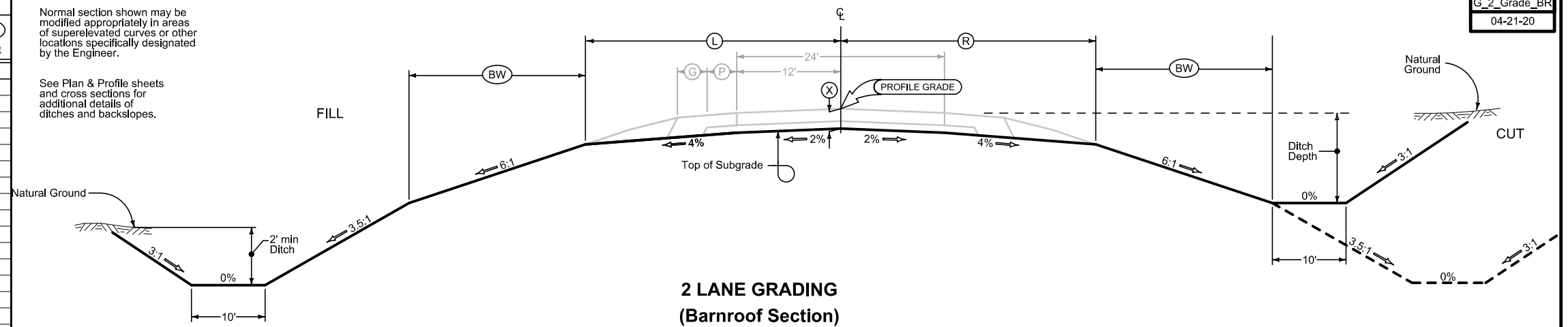
PROJECT LOCATION



[illegible]

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.



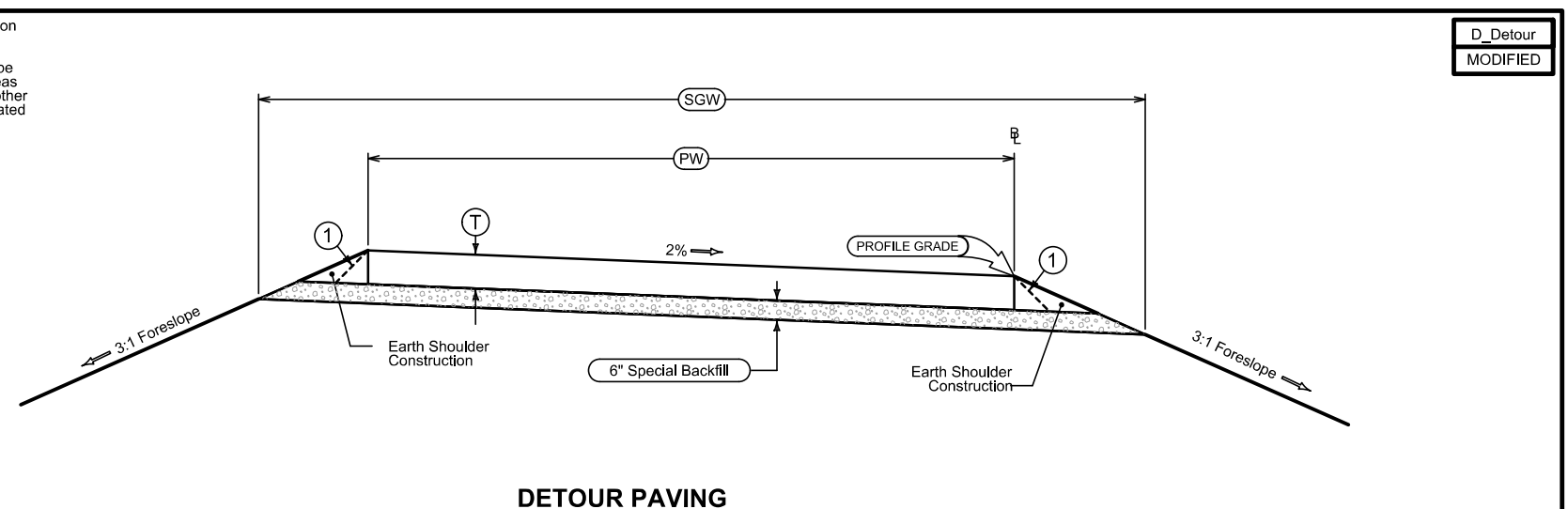
Included for median crossovers (Refer to Iowa DOT Standard Road Plan PV-513)

[illegible]

Quantity calculations based on vertical pavement edges.

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

① Possible HMA 1:1 slope

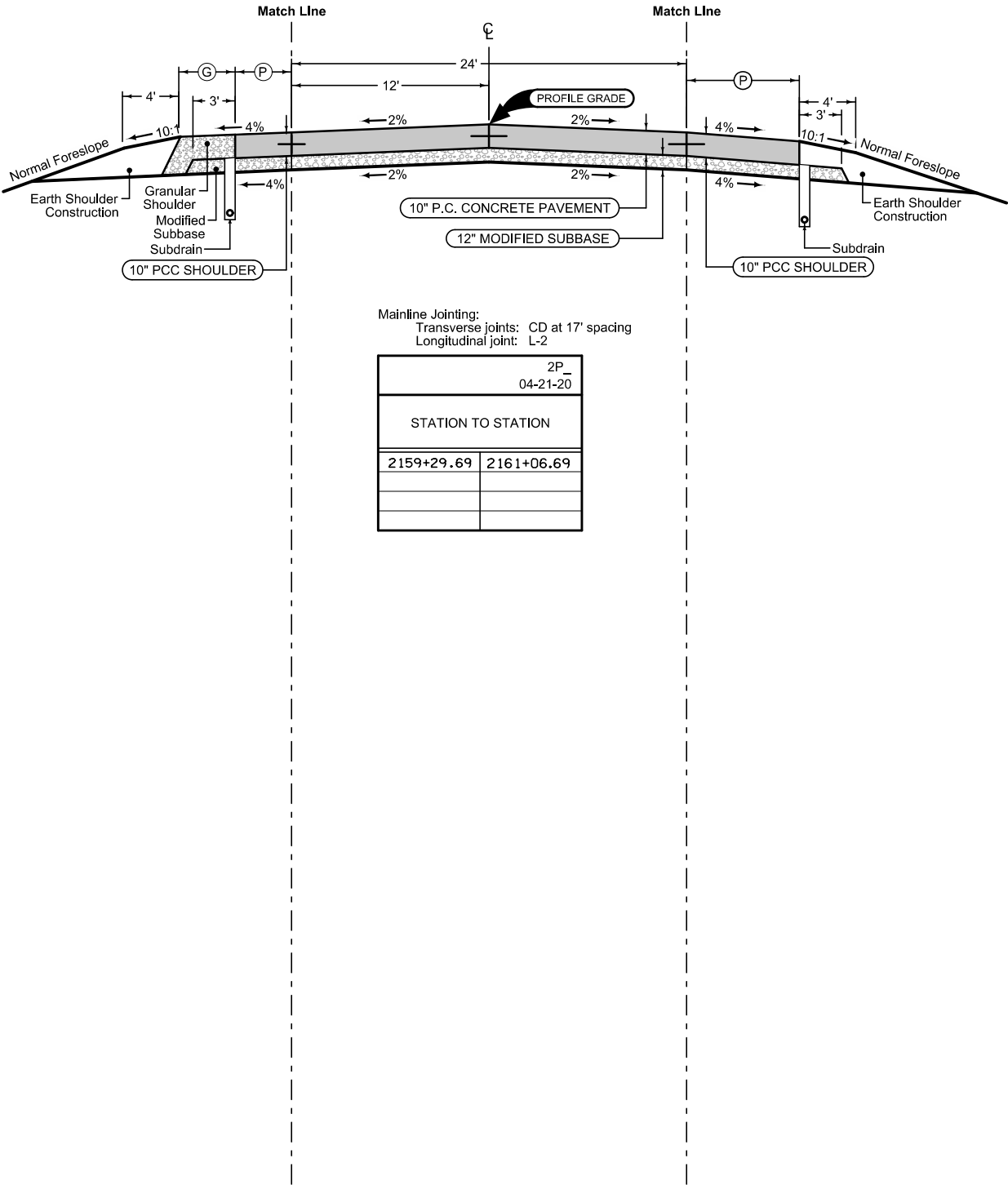


DETOUR PAVING

Full Depth PCC Combination Shoulder

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

4_C_FullPCC_04-20-21				
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G) Feet
SB	2159+29.69	2162+56.70	6	4



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

2P_04-21-20	
STATION TO STATION	
2159+29.69	2161+06.69

Full Depth PCC Shoulder

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

2_P_FullPCC_04-20-21		
STATION TO STATION		(P) Feet
2159+29.69	2162+56.70	6

	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

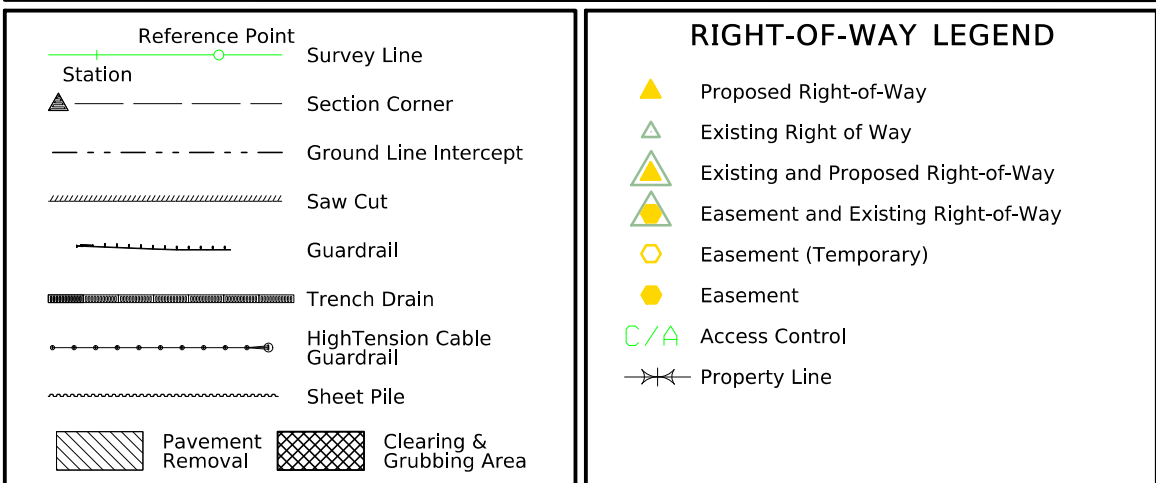
Sub-Surface Utility Mapping Quality Level is in accordance with
CI/ASCE 38-02 Standard Guidelines for the Collection and
Depiction of Existing Subsurface Utility Data.

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

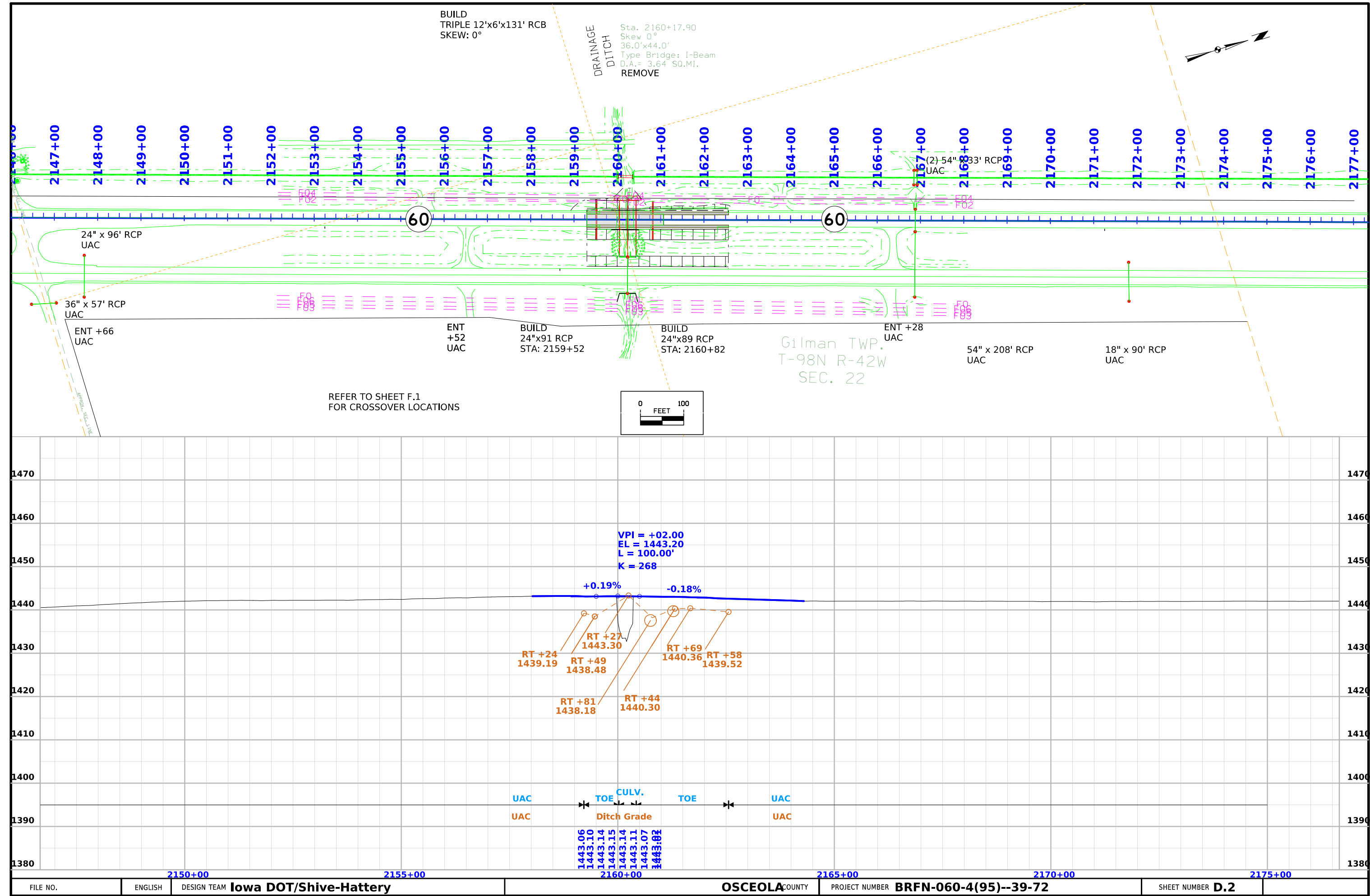
— F0 — **FO1D1, Premier Communications - Quality D**
 — F02 — **FO2D2, CenturyLink - Quality D**
 — F03 — **FO3D3, Zayo Group - Quality D**
 — F04 — **FO4D4, Long Lines - Quality D**

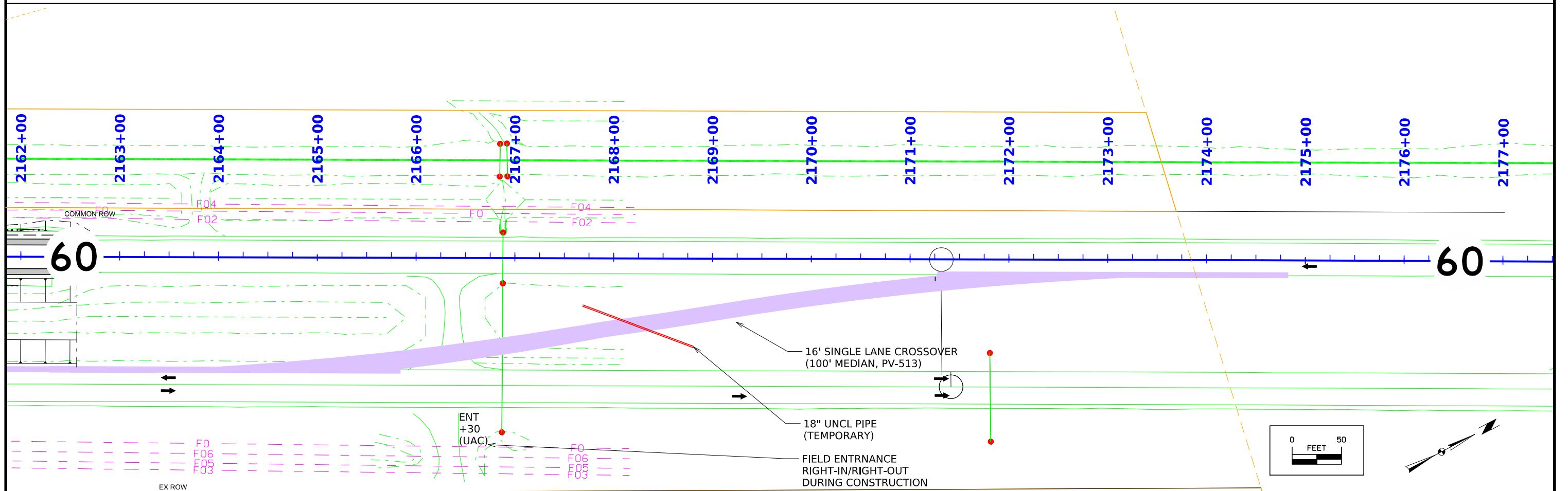
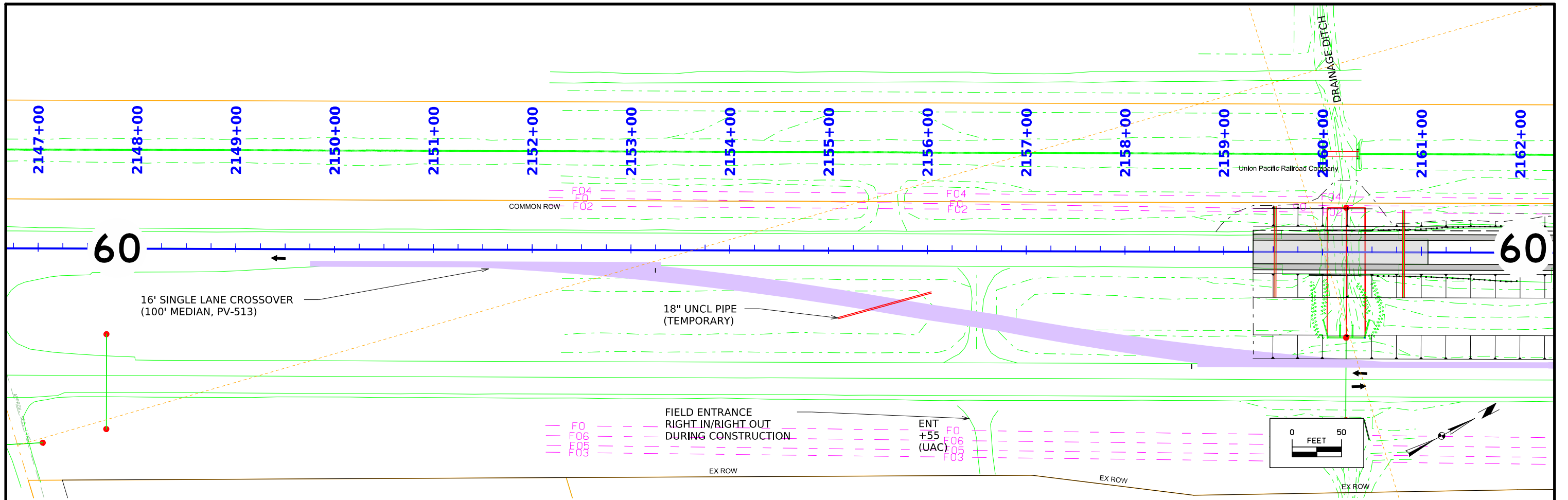
LINEWORK		Design Color No.
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING		Design Color No.
Lavender	(9)	Temporary Pavement Shading
Yellow	(4)	Proposed Pavement Shading
Orange	(6)	Proposed 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

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



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





Survey Information

SURVEY INDEX

County: Osceola
PIN: 21-72-060-010
Project Number: BRFN-060-4(95)--39-72
Location: Drainage Ditch 1.1 mi S of Co Rd L36 (SB)
Type of Work: Topographic Survey
Project Directory: 7206001021

Survey Personnel

Murray Berting – PLS
Gavin Gear – Land Survey Technician

Date(s) of Survey

Begin Date 11/04/2022
End Date 04/03/2023

General Information

Measurement units for this survey are US survey feet. This survey is for proposed bridge reconstruction and reconstruction of State Highway 60 1.1 mi South of County Road L36 (SB). Project datum and control information is provided by Shive-Hattery Inc. This project is a Preliminary Survey. This survey request was for the bridge over the drainage ditch (near Otter Creek), triple box culvert under northbound US 60, downstream railroad bridge and farm crossing, State Highway 60 corridor and the drainage area.

Project Control

Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on primary project control points. (3) three-minute observations were taken with a minimum two-hour time span between and used in a weighted average to obtain final coordinate values. For additional details of the control survey, contact the Preliminary Survey department.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 01
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2012bu2

Alignment Information

The horizontal alignment for U.S. Hwy 60 for this survey is a retracement of As-built Plans No. AB-498-12 ABCF Paving – As-builts and NHSX-60-4(31)-3H-72 HMA Pavement - New. Survey stationing was equated to the plan POT at Sta. 652+50.00(m) and run back and ahead without equation throughout the survey.

Survey stationing relates to as-built plan stationing as follows:

CS Sta. 651+41.88(m) As-built Plans Project No. NHSX-60-4(31)-3H-72
Survey PT Sta. 2137+17.24(ft.)

POT Sta. 652+50(m) As-built Plans Project No. NHSX-60-4(31)-3H-72
Survey POT Sta. 2140+74.37(ft.)

Survey SBR Sta. 2160+26.27(ft.)

SC Sta. 665+95.894(m) As-built Plans Project No. NHSX-60-4(31)-3H-72
Survey PC Sta. 2184+91.29(ft.)

CONTROL POINT VICINITY MAP

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



HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 01 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2012bu2

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
Ia. Regional Coordinate System Zone 01 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2012bu2

POINT NUMBER	NORTHING	EASTING	ELEVATION	FEATURE DEFINITION
301	9631228.457	11353871.950	1431.830	CP 1"GAS PIPE CAP IDOT
302	9631565.594	11353989.760	1435.178	CP 1" GAS PIPE CAP IDOT
303	9633134.388	11354469.400	1440.879	CP 1" GAS PIPE CAP IDOT
304	9633497.407	11354436.550	1441.940	CP CUT X N COR BOX CULVERT
305	9634802.085	11354997.480	1436.798	CP 1" GAS PIPE CAP IDOT

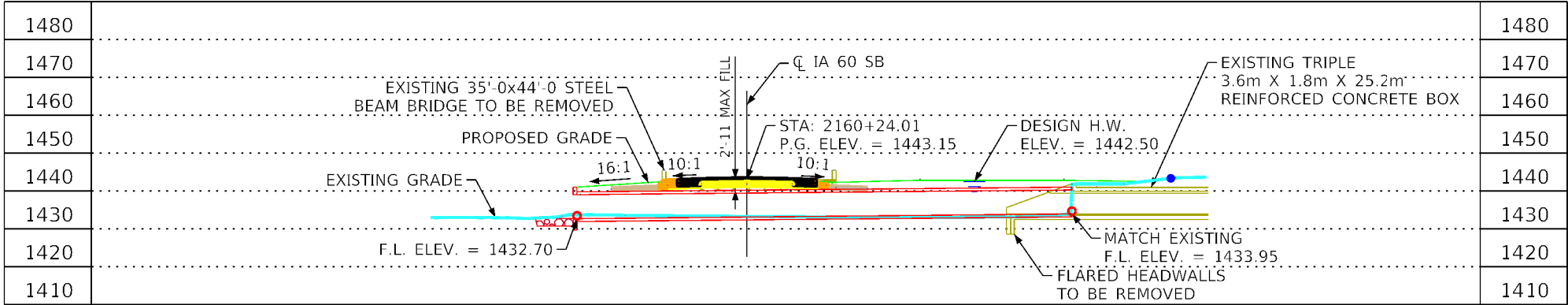
Alignment Coordinates																			101-16
																			4/19/2011
Element Number	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)
1	ML060	209368.489 R1	9627302.376	11352024.5															
2	ML060							213274.030 R1	9630908.695	11353523.74	213542.655 R1	9631156.74	11353626.86	213810.923 R1	9631413.008	11353707.4			
4	ML060	217457.156 R1	9634891.496	11354800.62															
4	ML060	218261.503 R1	9635658.379	11355043.24															

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

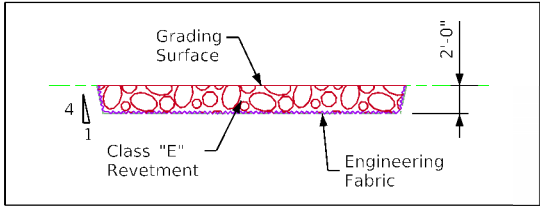


108-23A 08-01-08						108-26A 08-01-08							
TRAFFIC CONTROL PLAN						STAGING NOTES							
1) While southbound lanes are being reconstructed, southbound IA 60 traffic will be shifted to the inside northbound lanes by means of median crossover (TC-61).						Stage 1: Construct median crossovers.							
2) Northbound and Southbound IA 60 traffic through work area will be reduced to one lane in each direction (TC-61).						Stage 2: Remove southbound IA 60 lanes with traffic routed on northbound US 60 lanes. Construct culvert and replace roadway.							
3) IA 60 traffic will return to normal operation with shoulder closures as necessary to remove median crossovers.						Stage 3: With IA 60 taffic under normal operation, remove median crossovers and restore median.							
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	
IA 60	Both	OSCEOLA	Bridge over Drainage Ditch	Drainage Ditch	Bridge		None						
111-01 04-17-12													
COORDINATED OPERATIONS													
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.													
Project		Type of Work											
None Provided													
FILE NO.	ENGLISH	DESIGN TEAM IOWA DOT\SHIVE-HATTERY		OSCEOLA COUNTY		PROJECT NUMBER BRFN-060-4(95) -- 39-72		SHEET NUMBER J.1					

Control Point: Y=9633497.41, X=11354436.55, Z=1441.94, CP CUT X N COR BOX CULVERT



LONGITUDINAL SECTION ALONG CL CULVERT

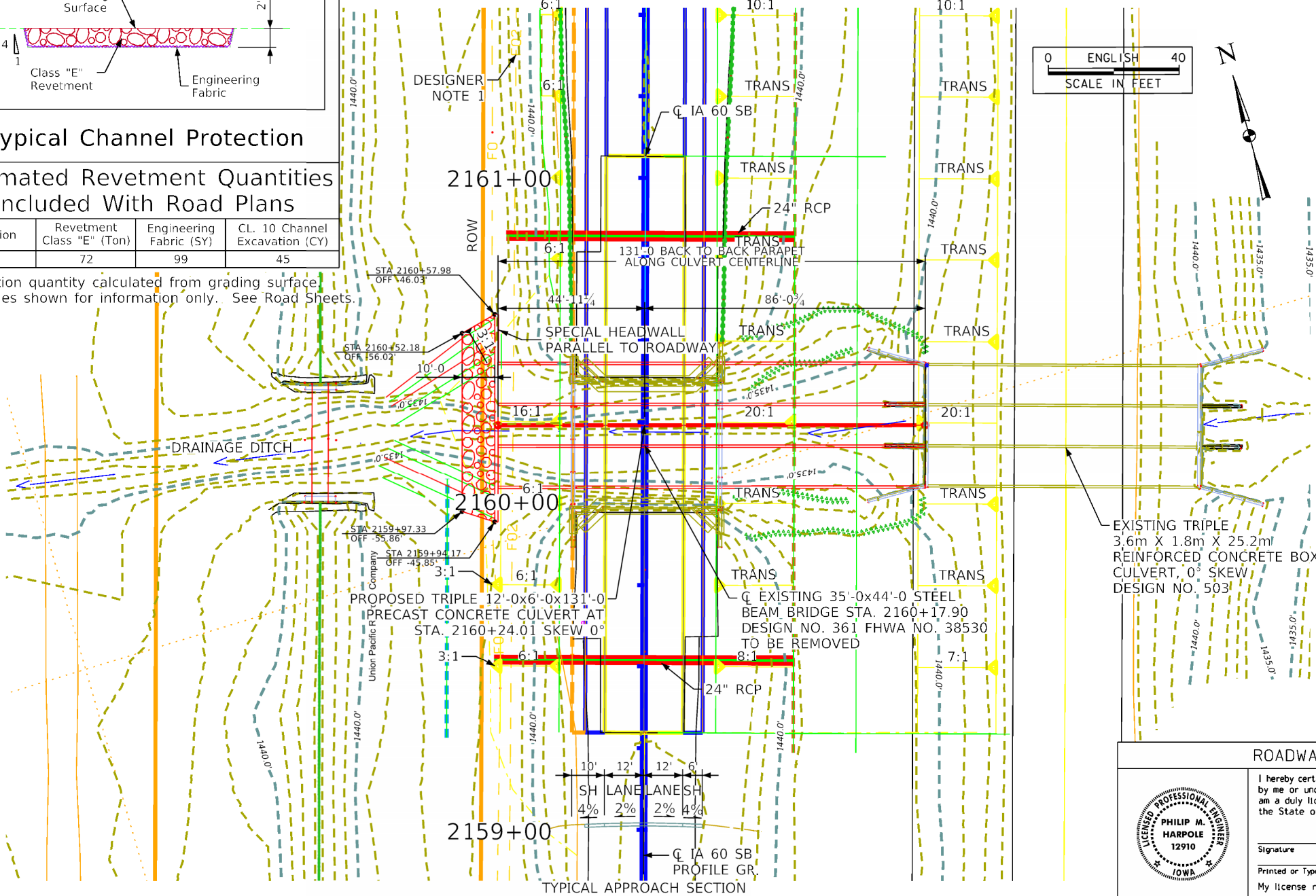


Typical Channel Protection

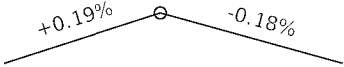
Estimated Revetment Quantities Included With Road Plans

Location	Revetment Class "E" (Ton)	Engineering Fabric (SY)	CL 10 Channel Excavation (CY)
Outlet	72	99	45

Excavation quantity calculated from grading surface. Quantities shown for information only. See Road Sheets.



SITUATION PLAN



VPI Sta. = 2160+02.00
VPI Elev. = 1443.20

LVC = 100'

Proposed Profile
Grade IA 60

Notes:

GENERAL NOTES:

- THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 35'-0" x 44'-0" STEEL BEAM BRIDGE DESIGN NO. 361, CLINTON FHWA NO. 38530, MAINT. NO. 7241.8L060

DESIGNER NOTES:

- BURIED AND OVERHEAD UTILITIES TO BE RELOCATED TEMPORARILY OR PERMANENTLY AS REQUIRED FOR CONSTRUCTION.
- A SPECIAL HEADWALL PARALLEL TO ROADWAY WILL BE DESIGNED IN FINAL DESIGN.
- REVTMENT SHOWN AT OUTLET TO CONTROL EROSION AFTER GRADING WORK.
- EXISTING REVTMENT IN MEDIAN TO BE REMOVED.

PLAN NOTES:

- DRAINAGE THROUGH EXISTING CULVERT/CHANNEL MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.

Hydraulic Data

Drainage Area = 3.64 Sq. Mi.
Stream Slope = 23.4 Ft./Mi.

Q₅₀ = 1,400 CFS
HW Elev. = 1442.5

Q₁₀₀ = 1,690 CFS
HW Elev. = 1443.8

Q₅₀₀ = 2,290 CFS
HW Elev. = 1443.8

Roadway Overtop
Sta. 2164+80.0
Elev. 1443.21

Utilities Legend

Symbol	Type
F0	Fiber Optic
F02	Fiber Optic

Utilities shown on this sheet are for information only, see road design sheets for final utility information.

Location

IA 60 SB over Drainage Ditch
T-98N R-42W
Section 22
Gilman Township
Osceola County
FHWA No.
Bridge Maint. No. 7241.8L060
Latitude 43.290594°
Longitude -95.797022°

Traffic Estimate

2026 AADT	5,800 V.P.D.
2046 AADT	7,100 V.P.D.
2046 DHV	740 V.P.H.
Trucks	26 %
Total	
Design ESALs	22,222

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 _____ Date _____

Printed or Typed Name _____

My license renewal date is December 31, 2023

Pages or sheets covered by this seal: 1

Design For 0° Skew

TRIPLE 12'-0" x 6'-0"
CAST IN PLACE CONCRETE CULVERT

SITUATION PLAN

STA. 2160+24.01 (IA 60 SB)

SEPTEMBER 2023

Osceola County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. #### Design Sheet No. 001 of 001 FHWA/Asset ####

OSCEOLA COUNTY

PROJECT NUMBER BRFN-060-4(95)--39-72

SHEET NUMBER

V.1

REVISED

Changed by Addenda

CROSS SECTION VIEW COLOR LEGEND			
Design Color No.	Feature	Design Color No.	Feature
Aggregate		Structural	
(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		(128)	Boulder Substrata
(207)	HMA Base Course	(48)	Broken Weathered Substrata
(207)	HMA Interim Course	(3)	Core Out Substrata
(207)	HMA Surface Course	(203)	Existing Pavement Substrata
Concrete		(6)	Loam Substrata
(0)	Barrier Concrete	(80)	Rock Substrata
(0)	Barrier Concrete Footing	(4)	Select Sand Substrata
(0)	Curb Gutter	(3)	Shale Substrata
(48)	Flowable Mortar	(10)	Topsoil Substrata
(0)	Median Concrete	Unsuitable / Waste	
(0)	PCC Pavement	(3)	Unsuitable Type A
(0)	Sidewalk	(13)	Unsuitable Type B
Shoulder		(11)	Unsuitable Type C
(209)	Shoulder HMA	(3)	Waste
(0)	Shoulder PCC		
(6)	Shoulder Granular		
Existing			
(0)	Existing Pavement		

NOTES:

Text

NOTES:

Text

CROSS SECTIONS
LEGEND AND INFORMATION SHEET

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

