

WAPELLO CO.
PCC PAVEMENT - GRADE AND NEW
HSIPX-034-7(141)--3L-90
JAN. 22, 2020

LETTING DATE



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
WAPELLO COUNTY
 PCC PAVEMENT - GRADE AND NEW

IA 149 Intersection in Ottumwa

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

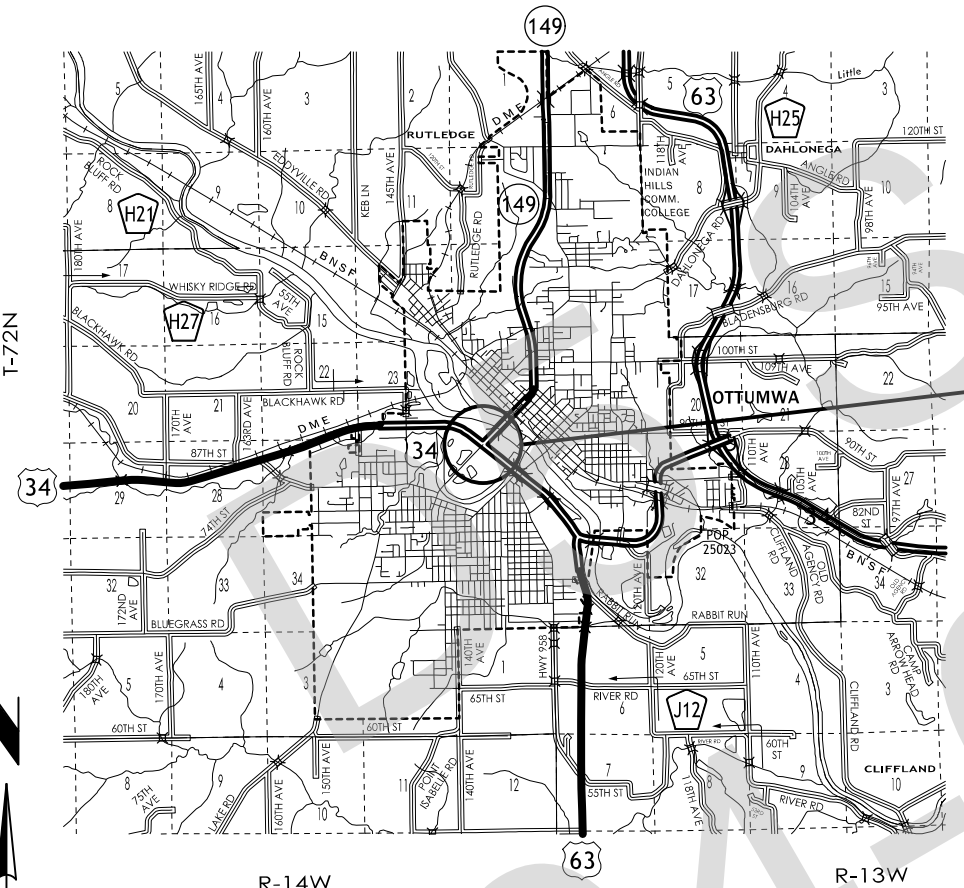


REVISIONS

TOTAL

PROJECT IDENTIFICATION NUMBER	25
PROJECT NUMBER	14-90-034-020
R.O.W. PROJECT NUMBER	HSIPX-034-7(141)--3L-90

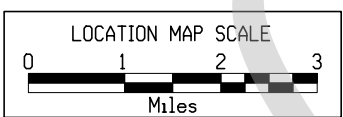
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet and Location Map
B Sheets	Typical Cross Sections and Details
B.1 - 3	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US 34
* D.3	IA 149
G Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
L Sheets	Geometric, Staking and Jointing Sheets
* L.1 - 2	Geometric & Staking US 34
* L.3	Edge Profile Intersection US 34 / IA 149
W Sheets	Mainline Cross Sections
W.1 - 10	US 34
X Sheets	Side Road Cross Sections
X.1	IA 149
	* Color Plan Sheets



Project Location
 Intersection of US 34 and IA 149

R-14W

R-13W



US 34			
DESIGN DATA RURAL			
2020 AADT	19,200	V.P.D.	
2040 AADT	22,700	V.P.D.	
20-- DHV	--	V.P.H.	
TRUCKS	4-5%	%	
Total Design ESALs	--		

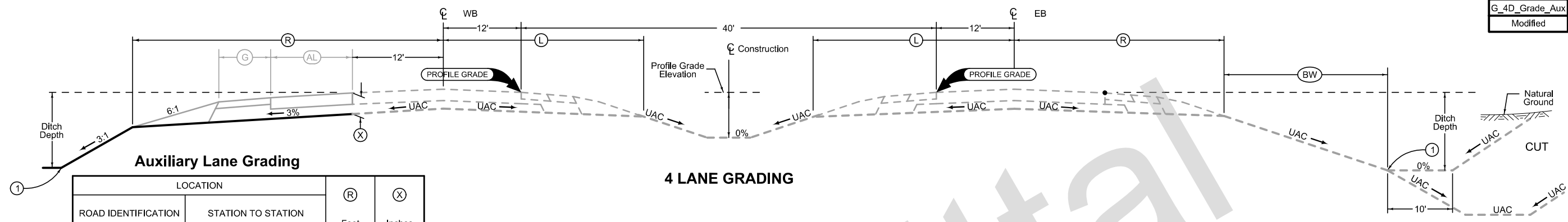
IA 149			
DESIGN DATA RURAL			
2020 AADT	16,900	V.P.D.	
2040 AADT	20,000	V.P.D.	
20-- DHV	--	V.P.H.	
TRUCKS	--	%	
Total Design ESALs	--		

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Paul W. Flattery	Primary Signature Block

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN DATE: April 05, 2018



LOCATION		(R)	(X)
ROAD IDENTIFICATION	STATION TO STATION	Feet	Inches
US 34	624+08.88 - 629+45.10	31-43	22
US 34	629+45.10 - 633+45.10	43	22

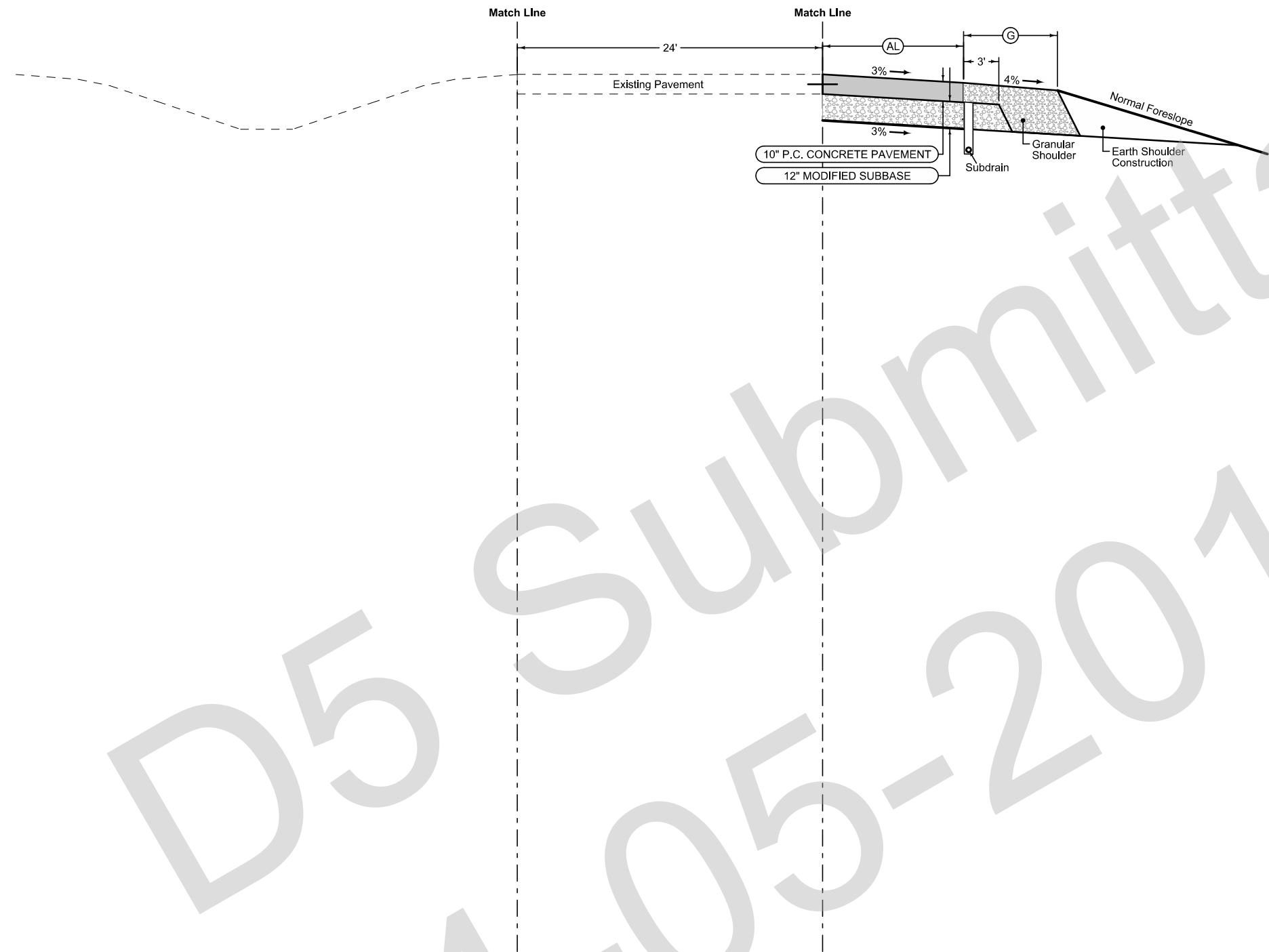
D55 Submittal
04-05-2018

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.

① Refer to project plan and cross sections for specific location of foreslope change.

4E_ 10-19-10



Auxiliary Lane
Section shown in the direction of traffic.
Longitudinal joint: L or KT
Transverse joint: Match Mainline

Auxiliary Lane Granular Shoulder

Road ID	Direction of Travel	4_AuxLane_PCC_ 10-18-16		4_AL_Shldr_G_ 10-19-10	
		BEGIN STATION	END STATION	ⒶL Feet	Ⓒ Feet
US 34	WB	624+08.88	629+45.10	0-12	6
US 34	WB	629+45.10	635+32.43	12	6
IA 149	SB	21+97.21	23+21.00	12	6

D55 Submitted 04-05-2018

See Tab 100-24 or 100-25 for pavement quantities.
See Tab 112-9 for shoulder quantities.

IA 149 to US 34 SB to WB Turn Lane

4E
10-19-10

Full Depth Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 20' spacing



4_P_FullPCC_10-19-10				
Road ID	Direction of Travel	BEGIN STATION	END STATION	(P) Feet
US 34	EB	636+07.29	637+73.97	10

D55 Submittal
04-05-2018

See Tab 100-24 or 100-25 for pavement quantities.
See Tab 112-9 for shoulder quantities.

IA 149 to US 34 NB to EB Shoulder

SURVEY SYMBOLS

- SIGN SI Sign
- ← DU Centerline Draw or Stream (Up)
- ⊕ FHD Fire Hydrants
- ⊕ MH Utility Access (Manhole)
- UE Utility Elevation
- TPD Telephone Pedestal
- ⊕ INB Storm Sewer Beehive Intake
- EB Electrical Box
- WV Water Valve

UTILITY LEGEND

- PR Electric Riser Pole
- E1 — EL1D City of Ottumwa - Quality D
- E2 — EL2D Alliant Energy - Quality D
- F02 — FO1D ICN - Quality D
- F0 — FO2D City of Ottumwa - Quality D
- T1 — TL1D Century Link - Quality D
- W — WL1D Ottumwa Water & Hydro - Quality D
- San. — SA1D City of Ottumwa - 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.	
Yellow	(4)	Highlight for Critical Notes or Features	
Red	(3)	Delineates Restricted Areas	
Lavender	(9)	Temporary Pavement Shading	
Gray, Light	(48)	Proposed Pavement Shading	
Gray, Med	(80)	Proposed Granular Shading	
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"	
Brown, Light	(236)	Grading Shading	
Tan	(8)	Proposed Sidewalk Shading	
Blue, Light	(230)	Proposed Sidewalk Landing Shading	
Pink	(11)	Proposed Sidewalk Ramp Shading	

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)	Existing Ground Line Profile	
Blue	(1)	Proposed Profile and Annotation	
Magenta	(5)	Existing Utilities	
Blue, Light	(230)	Proposed Ditch Grades, Left	
Black	(0)	Proposed Ditch Grades, Median	
Rust	(14)	Proposed Ditch Grades, Right	

Reference Point

Station

Survey Line

Section Corner

Ground Line Intercept

Saw Cut

Guardrail

Trench Drain

HighTension Cable Guardrail

Sheet Pile

Pavement Removal

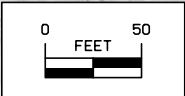
Clearing & Grubbing Area

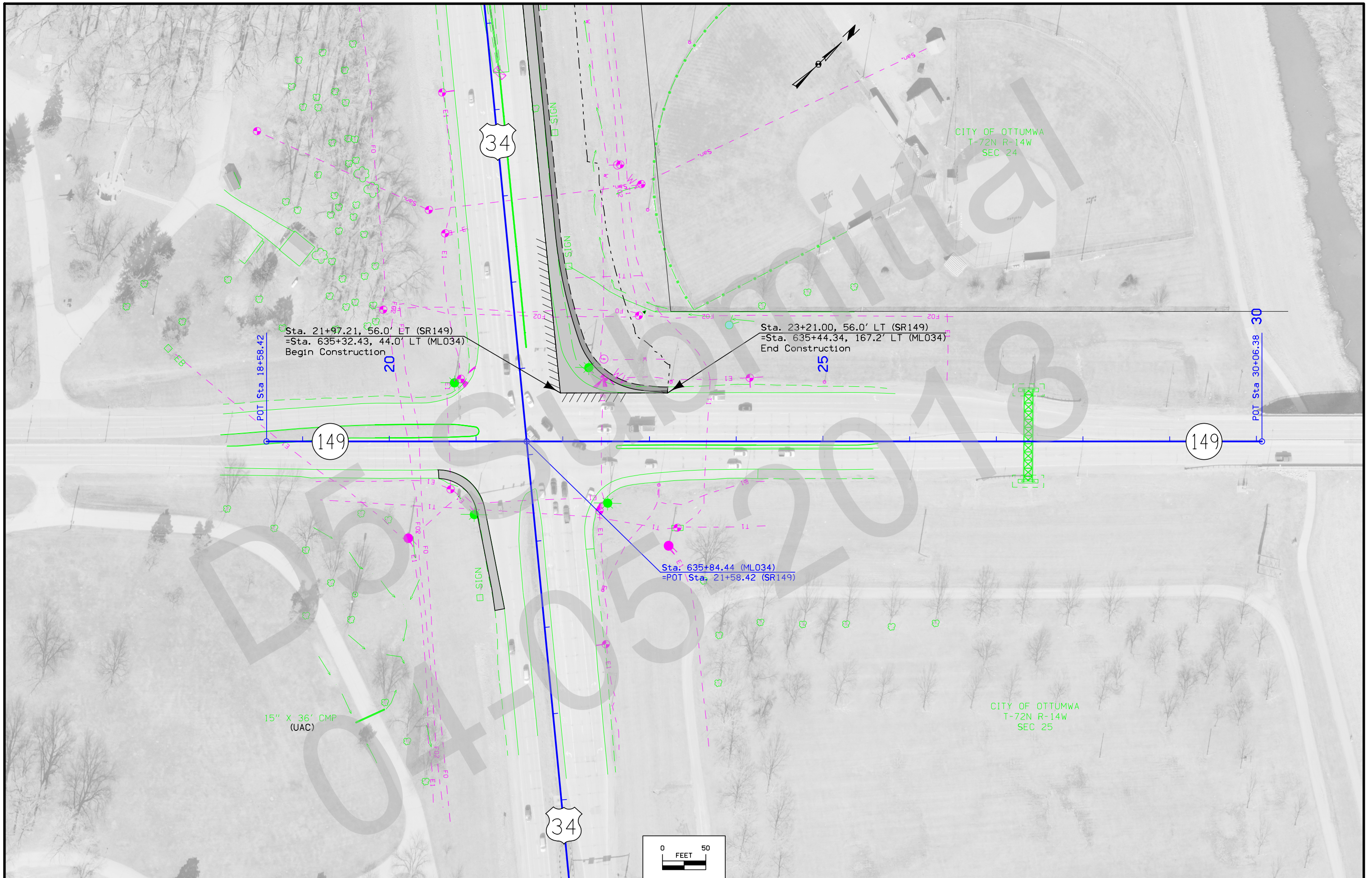
RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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





Survey Information

County: Wapello
PIN: 14-90-034-020
Project Number: HSIPX-034-7(141)--3L-90
Location: IA 149 Intersection in Ottumwa
Type of Work: PCC Pavement - Grade and New
Sap-0907

Party Personnel

Charles Hughes- Assistant Survey Party Chief

Date(s) of Survey

Begin Date 12/21/2016
End Date 04/28/2017

General Information

Measurement units for this survey are US survey feet. This survey is for proposed new grading and pavement in Hwy 34/ IA 149 Intersection in Ottumwa. This project is a Partial DTM with Photo control. Terrestrial Lidar point cloud was captured on this project.

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12A). GRS80 Ellipsoidal Height was computed at project Pt. 300 by doing 6 hour static observations. The project control is relative to nearby Iowa RTN Base Stations.

This survey observed 2 NGS Control Monuments with published NAVD88 heights to compare to local ground control:

NGS 1st. order class II mark designated D 6 has a published Elev. Of 802.02
Survey Elev. = 802.07

NGS 2nd. order class 0 mark designated E 124 has a published Elev. Of 778.19
Survey Elev. = 778.12

Horizontal Control

The project coordinate system for this survey is Iowa RCS Zone 12 (U.S. Survey Feet). This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by conducting a six hour static observation. Additional control points were placed throughout the project using a GNSS Base-Rover setup relative to point 300.

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. U1027(13).

SUR034MLA:

Survey stationing was equated to the plan PI at STA 635+84.44 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

TS Sta. 609+34.87 As-built Plans Project No. U1027(13) =
Survey TS Sta. 609+34.54

POT Sta. 627+06.89 As-built Plans Project No. U1027(13) =
Survey POT Sta. 627+07.17

PI Sta 635+84.44 Project No. U1027(13) =

Survey PI STA 635+84.44

POT STA 660+07.94 Project No. U1027(13) =

Survey POT STA 660+07.94

NOTE: Survey developed spiral curve establishing main PI at intersecting lines on forward and back tangents through centerline control monuments found. SURMLA149:

Survey stationing was equated to the plan PI at STA 21+58.42 and run ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PI STA 21+58.42 Project No. U1027(13).

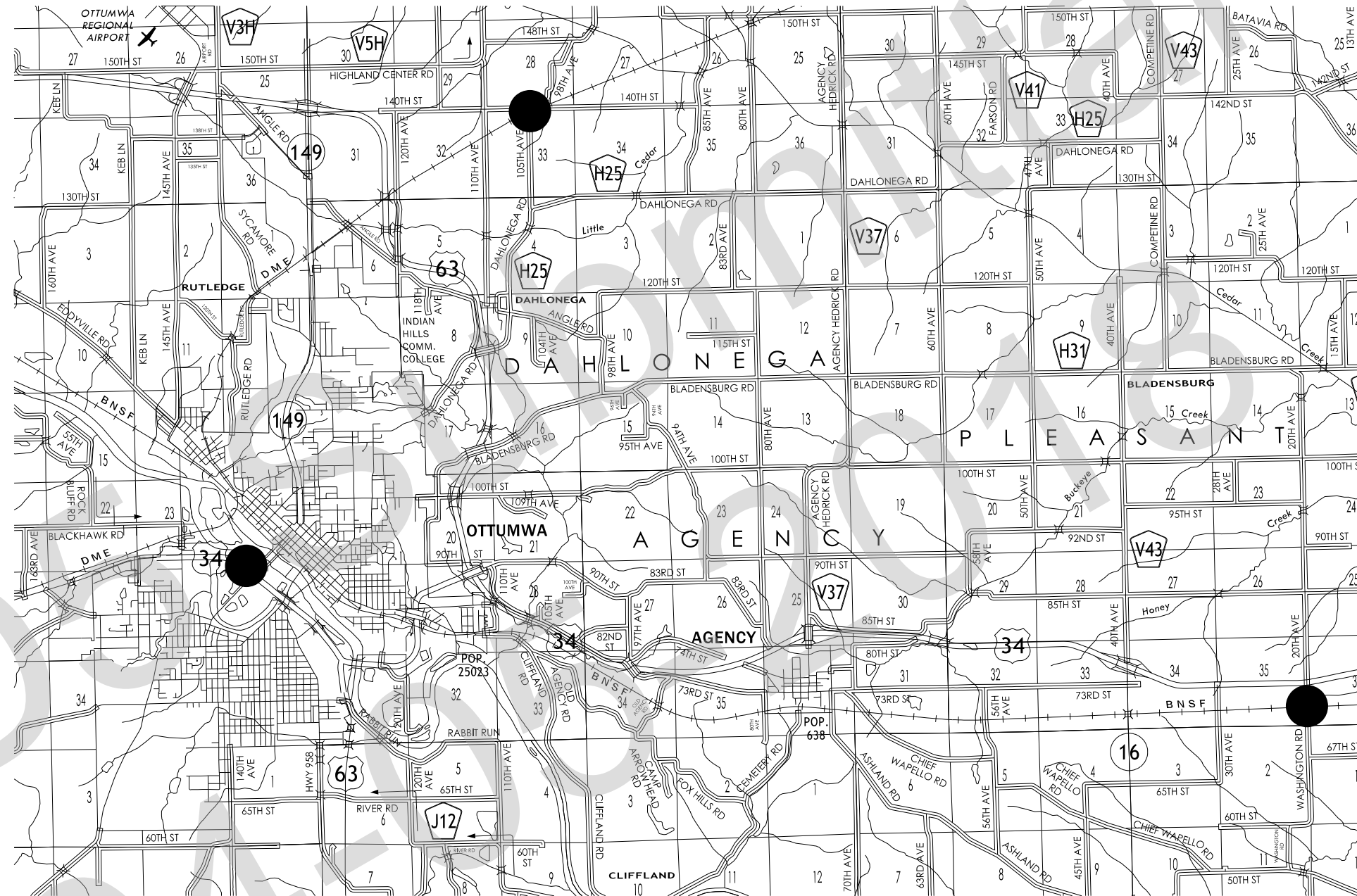
Survey PI STA 21+58.42

PI STA 30+06.38 Project No. U1027(13).

Survey PI STA 30+06.38

CONTROL POINT VICINITY MAP

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



HORIZ. DATUM: NAD83(2011) EPOCH 2013.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 12

Coordinate listing from next sheet will be used with 1aRTN for monument
 recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2013.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 12

Point	North	East	Elevation	Feature	Description
300	6239256.336	22865711.060	644.403	CP	CP 300 SET 5/8 RE-ROD
500	6237059.892	22868301.737	662.171	BM500	FND IHC BUTTON NE WING WEST BOUND BRG OVER BASHAW ST
501	6236347.935	22869182.538	677.285	BM501	FND DOT BUTTON NE WING WEST BOUND BRG OVER BIKE TRAIL
502	6235765.809	22869788.640	662.308	BM502	FND IHC BUTTON NE WING EAST BOUND BRG VINE ST
D6	6266099.203	22882452.610	802.066	CP	CP D6 FOUND NGS MONUMENT PID MH0054 PUBLISHED ELEV. 802.02
E124	6230974.796	22928301.580	778.123	CP	CP E124 FOUND NGS MONUMENT PID LE0032 PUBLISHED ELEV. 778.19

D55 Submittal
04-05-2018

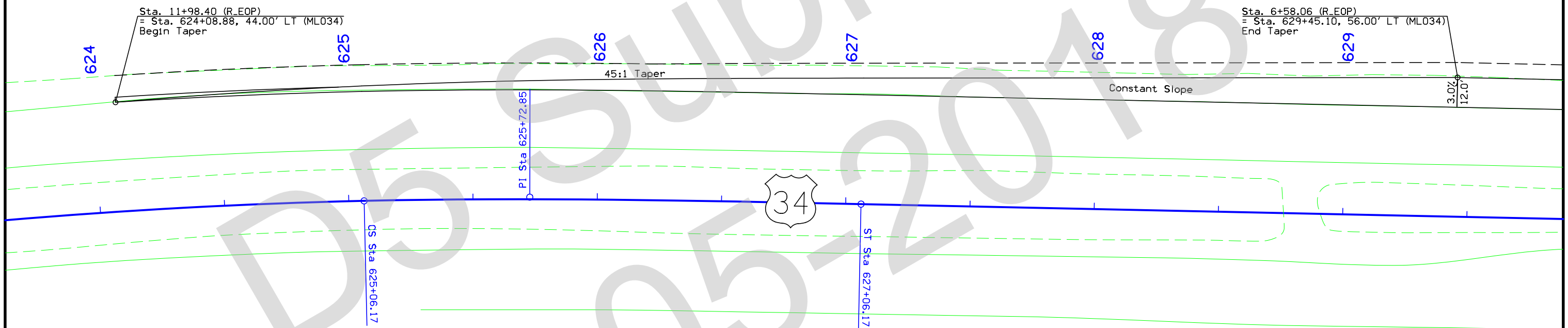
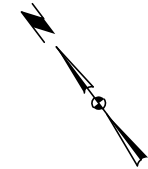
108-23A 08-01-08
TRAFFIC CONTROL PLAN
Through traffic on US 34 and IA 149 shall be maintained at all times.

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									

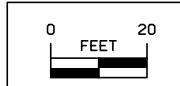
111-01 04-17-12	
COORDINATED OPERATIONS	
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.	
Project	Type of Work
None Provided	

04-05-2018
 05-Submittal

City of Ottumwa
 T-72N R-14W
 SEC. 24

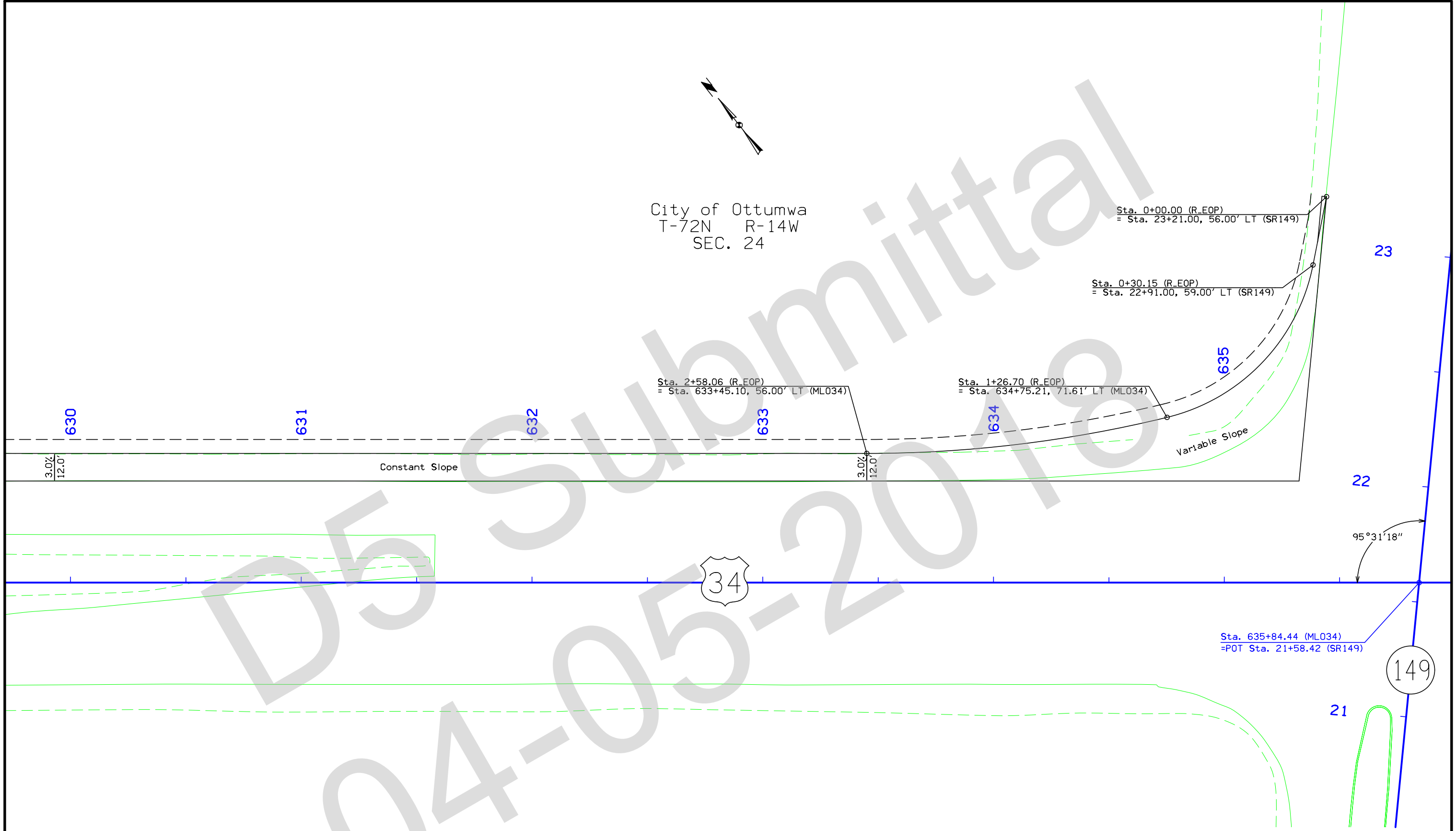
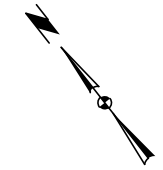


Notes:
 Refer to Appropriate Standard Road Plans for Additional Information.
 Refer to G Sheets for Horizontal Alignment Information.

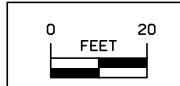


GEOMETRICS AND STAKING DETAIL
 Acceleration Lane at
 US 34 and IA 149
 Sheet 1 of 2

City of Ottumwa
T-72N R-14W
SEC. 24

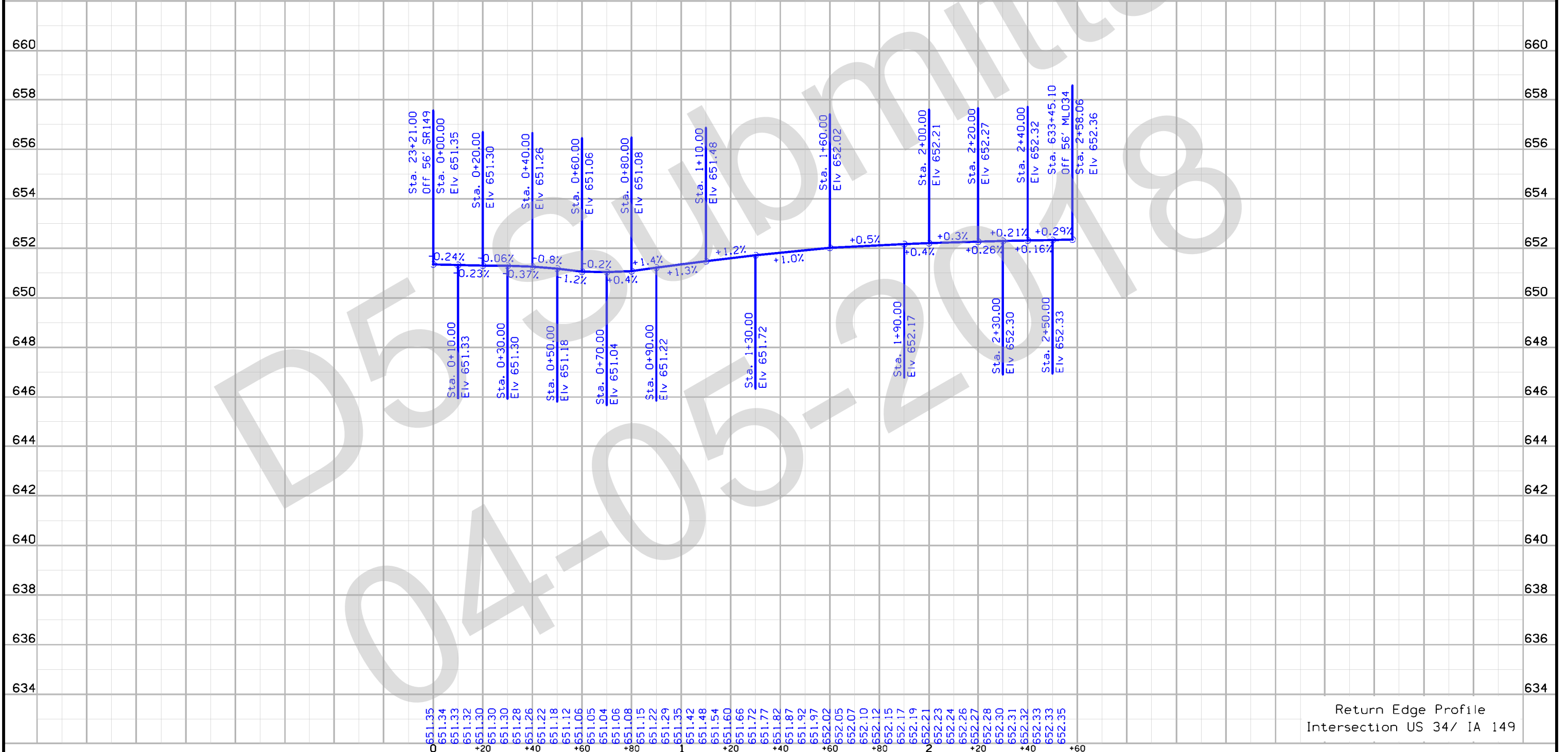


Notes:
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Refer to G Sheets for Horizontal Alignment Information.



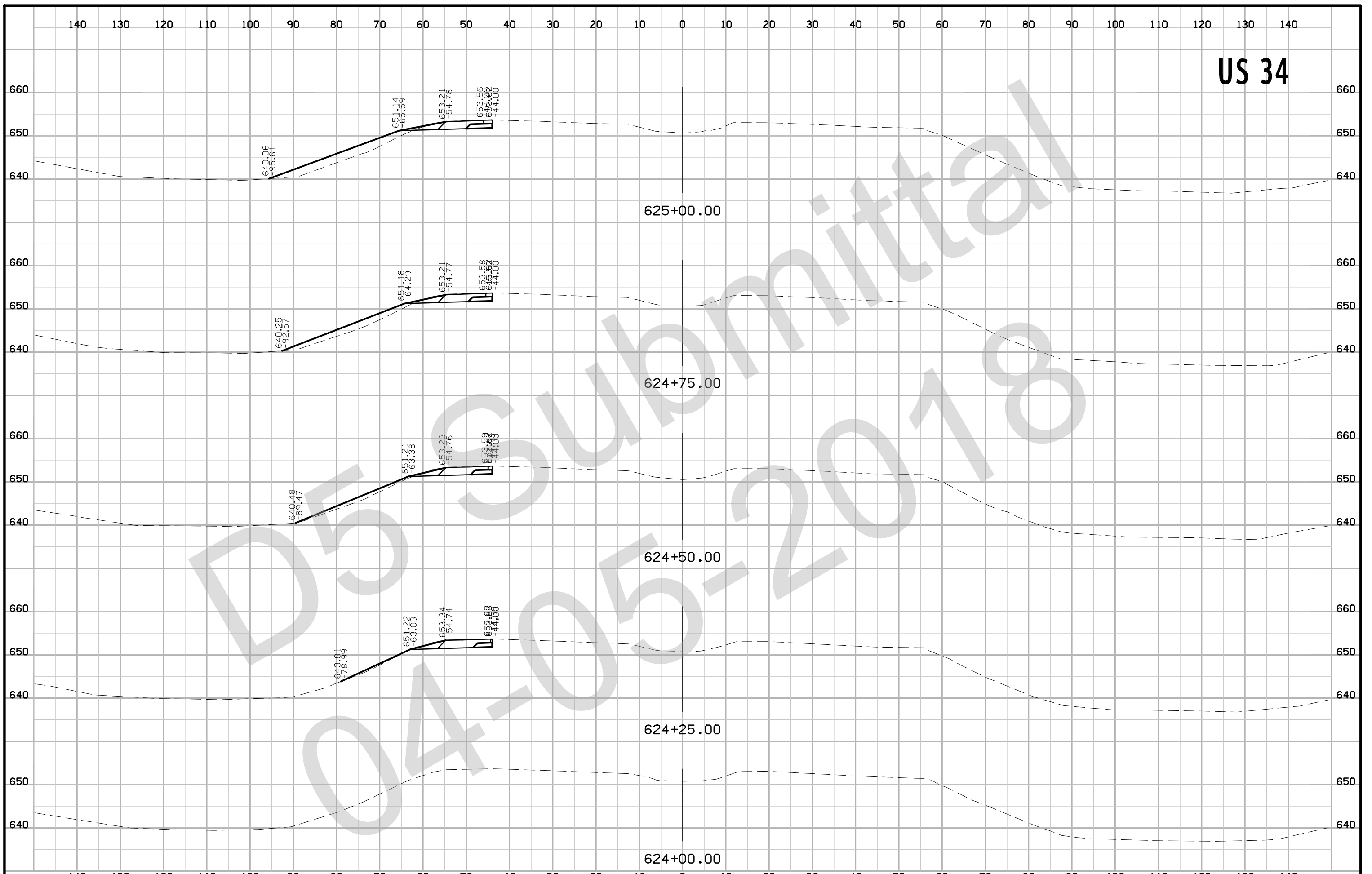
GEOMETRICS AND STAKING DETAIL
Acceleration Lane at
US 34 and IA 149
Sheet 2 of 2

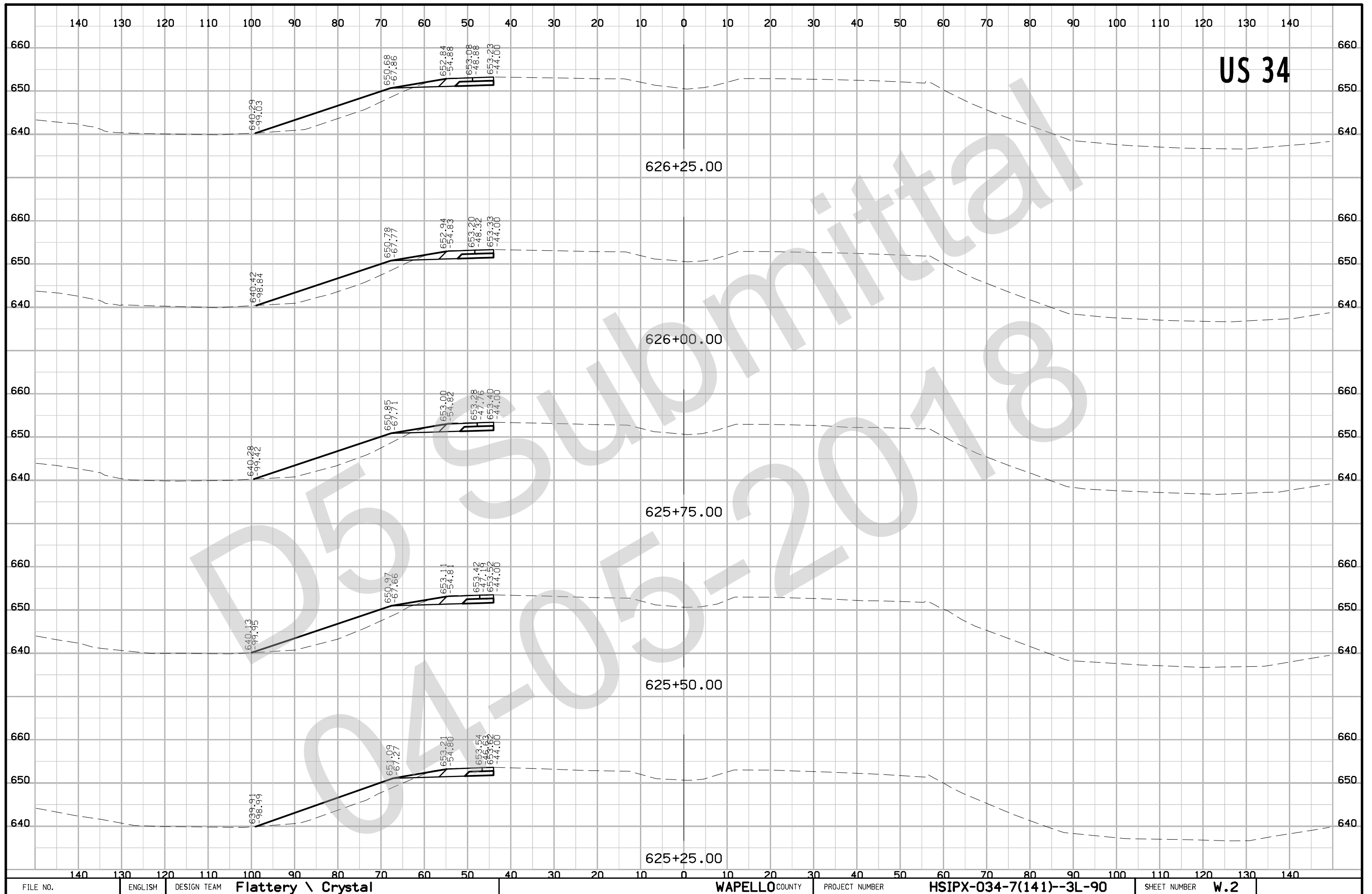
R_EOP

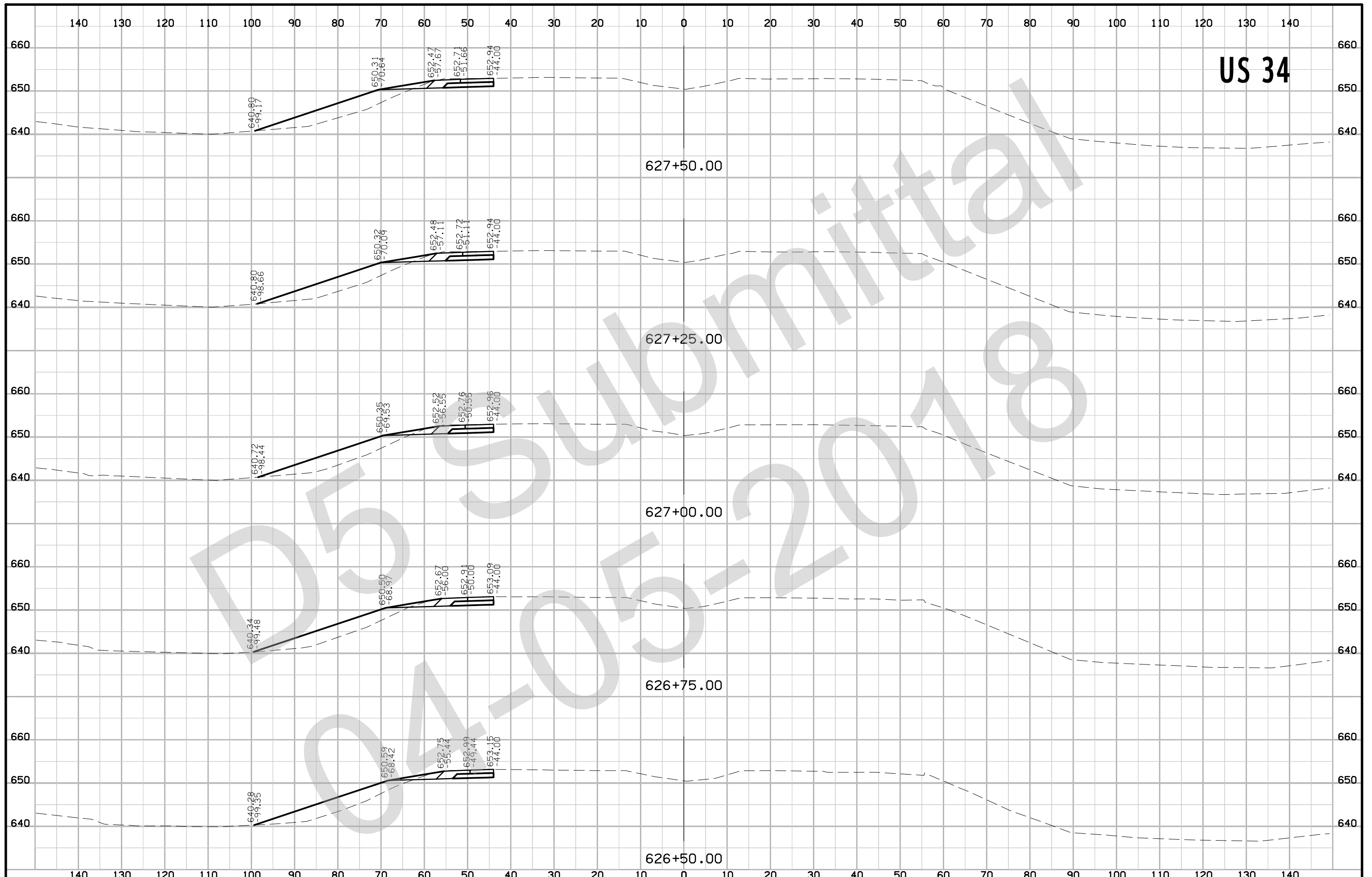


Return Edge Profile
Intersection US 34/ IA 149

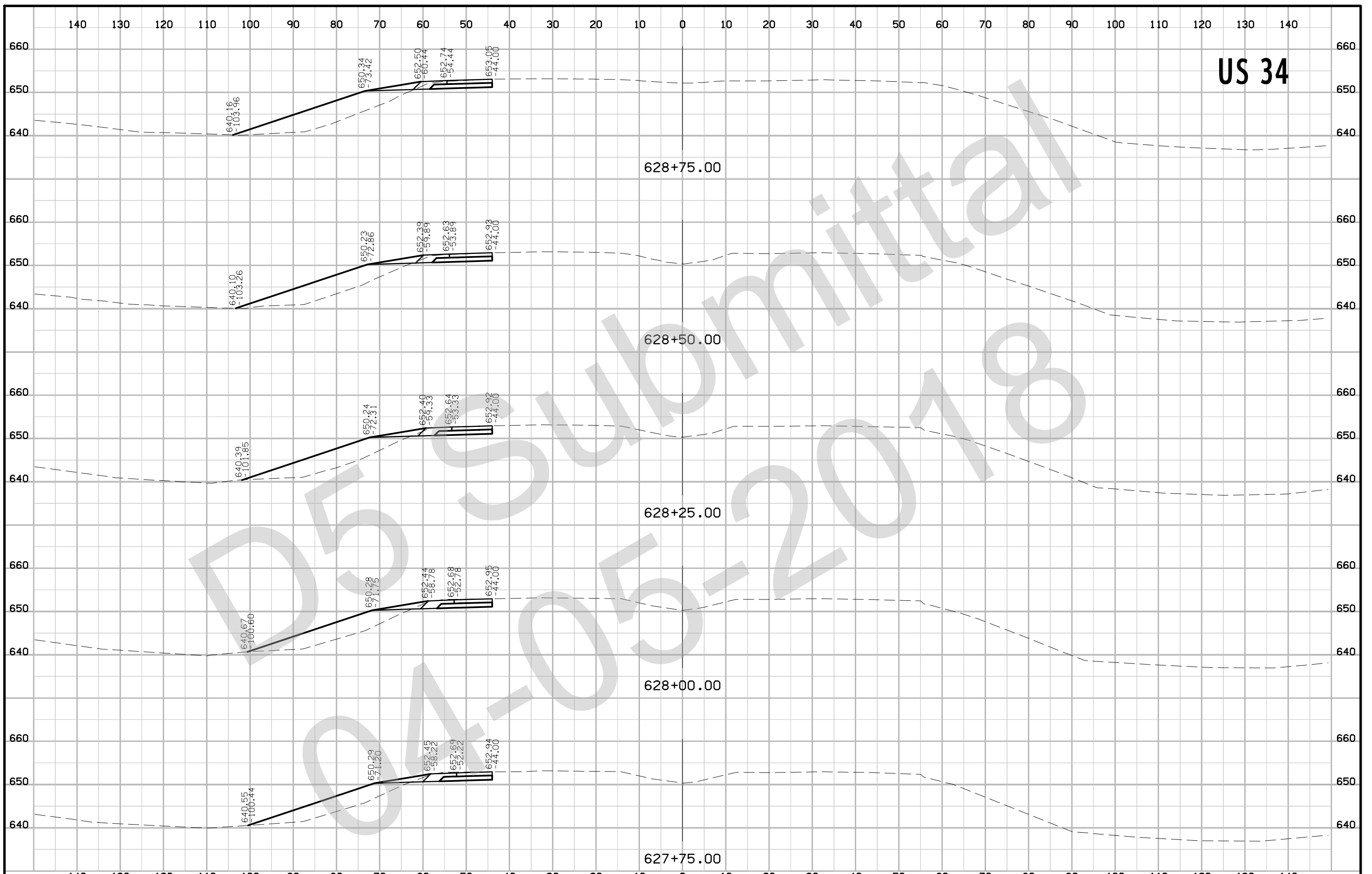
US 34



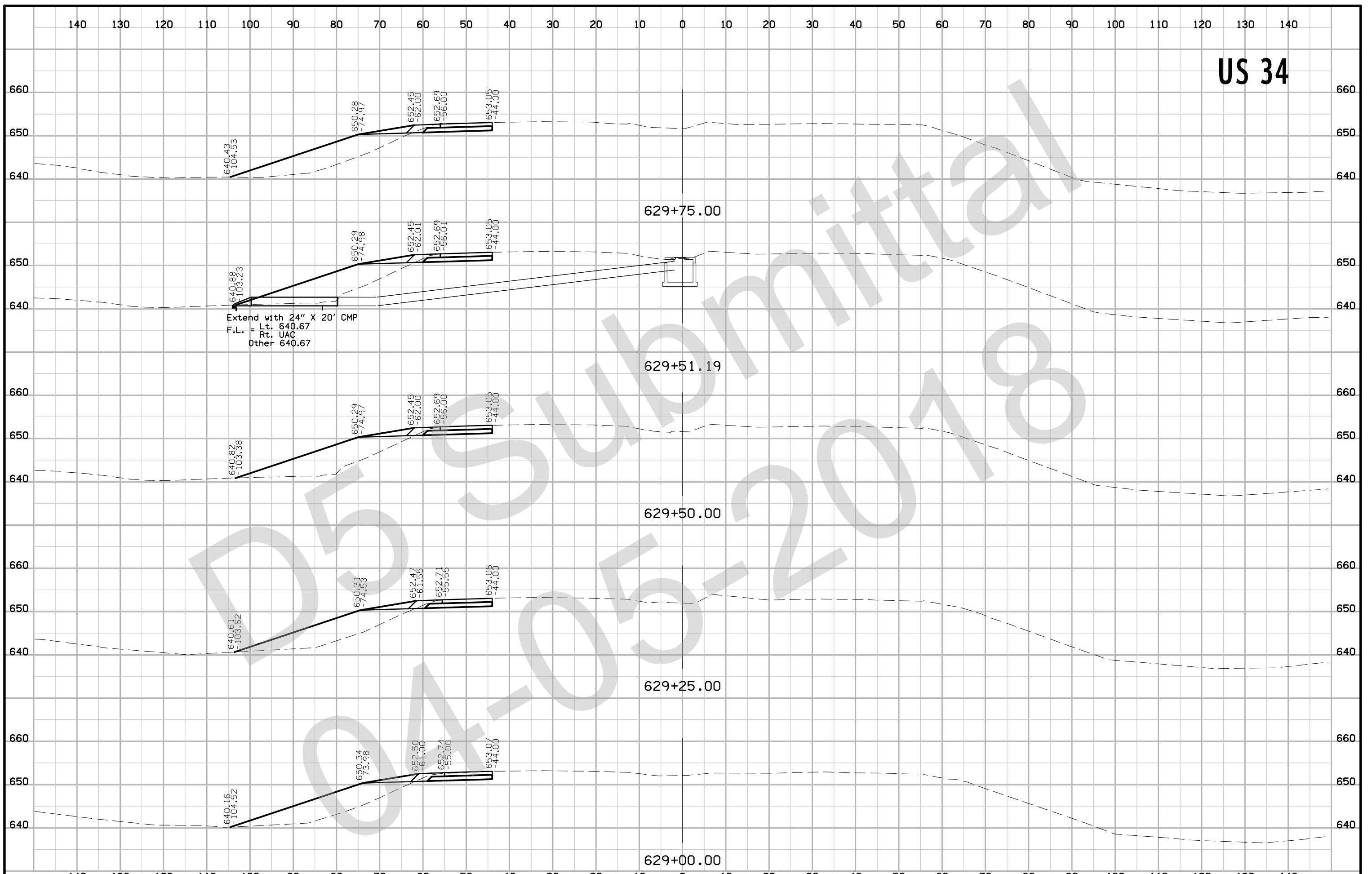




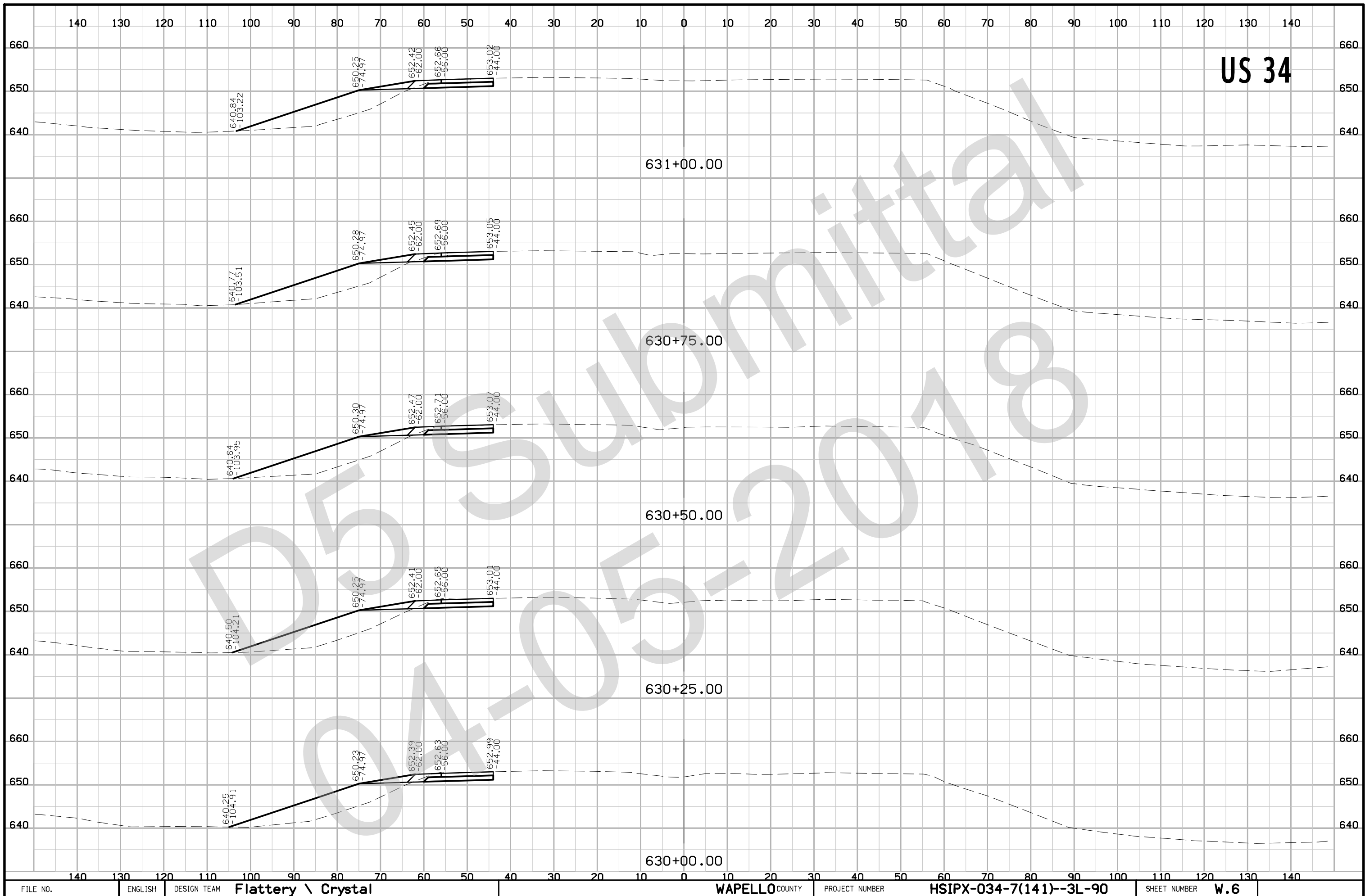
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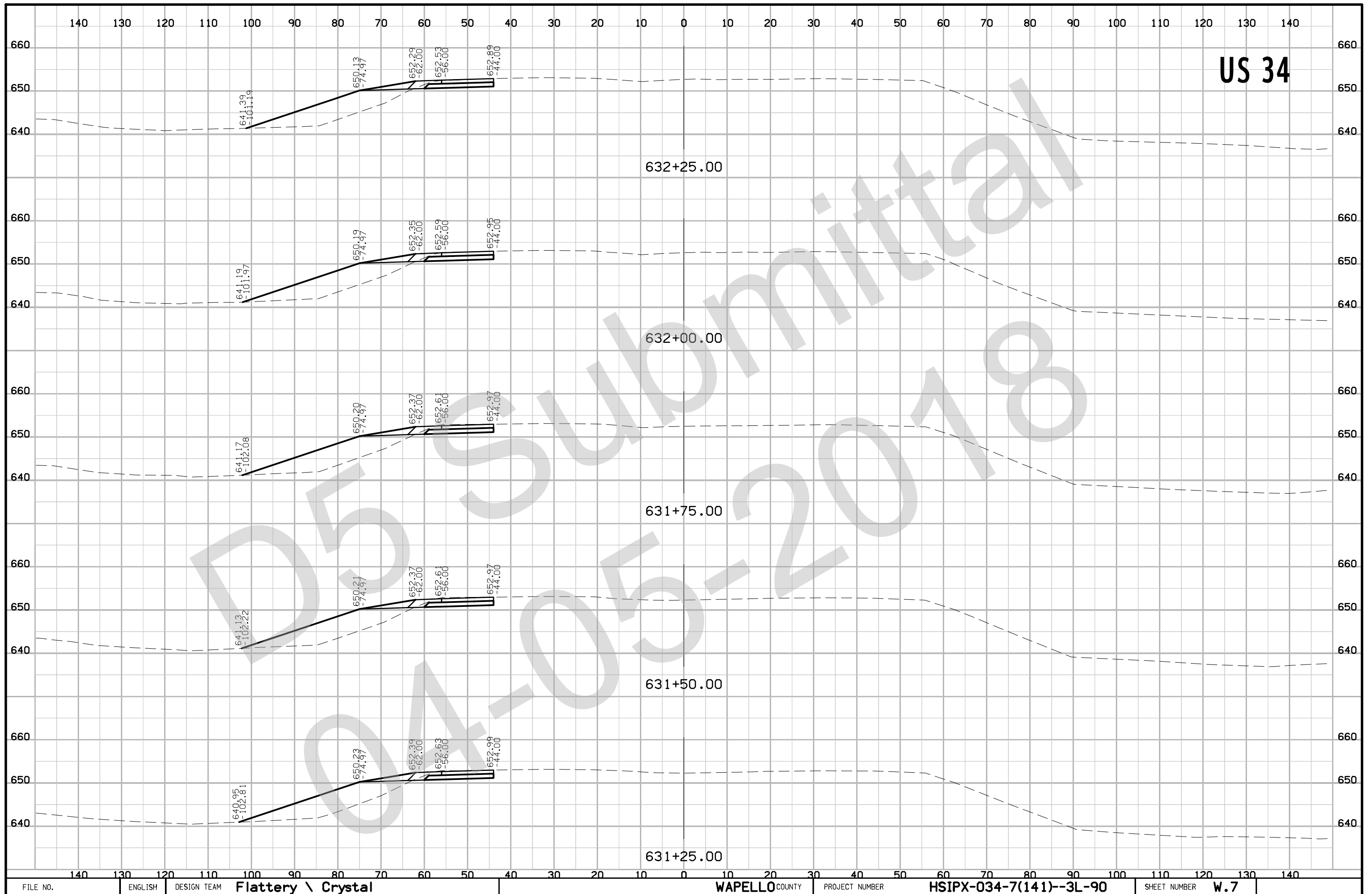


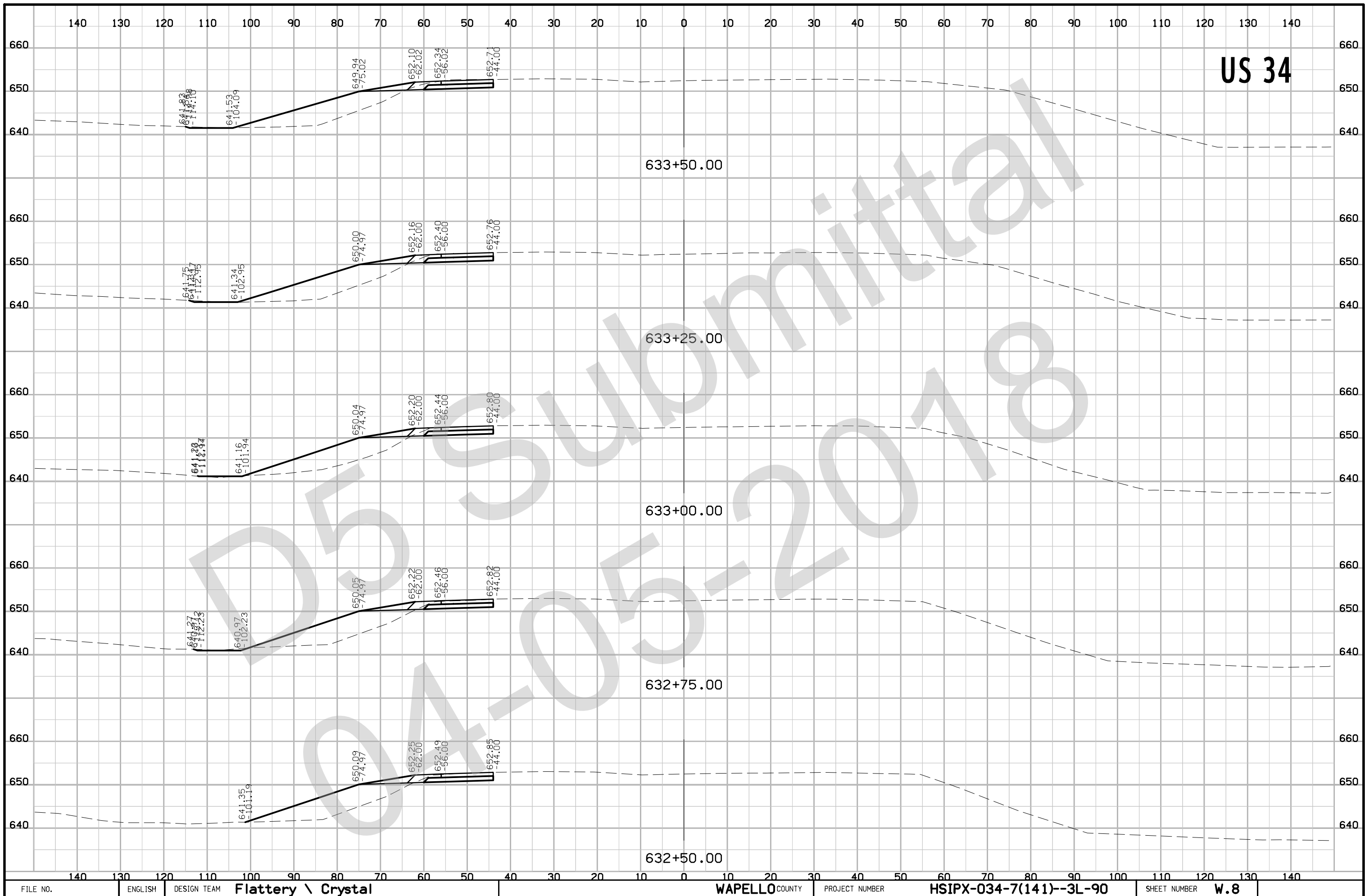
US 34

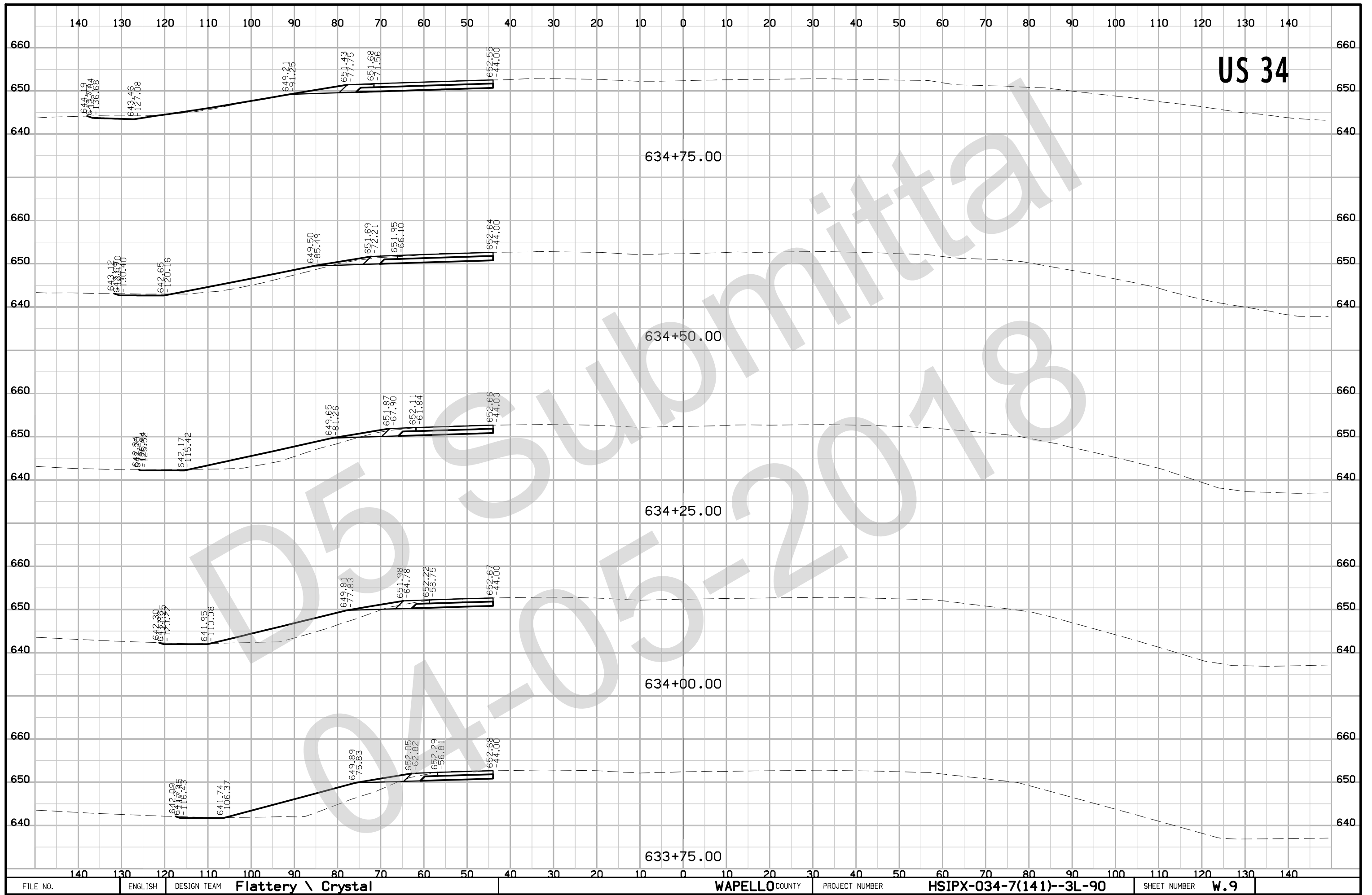


Extend with 24" X 20' CMP
 T.L. = Lt. 640.67
 Rt. UAC
 Other 640.67









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

US 34



D5 Submittal 04-05-2018

