



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 - 3	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 3	IA 10
E Sheets	Side Road Plan and Profile Sheets
* E.1 - 2	Jay Ave
* E.3	Roundabout
G Sheets	Survey Sheets
G.1	Reference Ties and Bench Marks
G.2	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
* J.2	Staging Notes Stage
* J.3	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.4	Staging and Traffic Control Sheets Stage ??
L Sheets	Geometric, Staking and Jointing Sheets
L.1	Geometric & Staking Roundabout
L.3	Jointing Roundabout
V Sheets	Bridge and Culvert Situation Plans
V.1	Retaining Wall
W Sheets	Mainline Cross Sections
W.1 - 8	Mainline Cross Sections
X Sheets	Side Road Cross Sections
X.1 - 5	Jay Ave
X.6 - 10	Roundabout
	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
SIoux COUNTY
PCC Pavement - Grade and New
Jay Ave Intersection in Orange City

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



IA 10	
DESIGN DATA RURAL	
2020	AADT 6,780 V.P.D.
2023	AADT 9,500 V.P.D.
20 --	DHV -- V.P.H.
TRUCKS	6 %
Total	
Design	ESALs --

Jay Ave	
DESIGN DATA RURAL	
2019	AADT 1,570 V.P.D.
20 --	AADT -- V.P.D.
20 --	DHV -- V.P.H.
TRUCKS	3 %
Total	
Design	ESALs --

REVISIONS

TOTAL
--
PROJECT IDENTIFICATION NUMBER
21-84-010-010
PROJECT NUMBER
HSIPX-010-1(87)--3L-84
R.O.W. PROJECT NUMBER
STPN-010-1(88)--2J-84

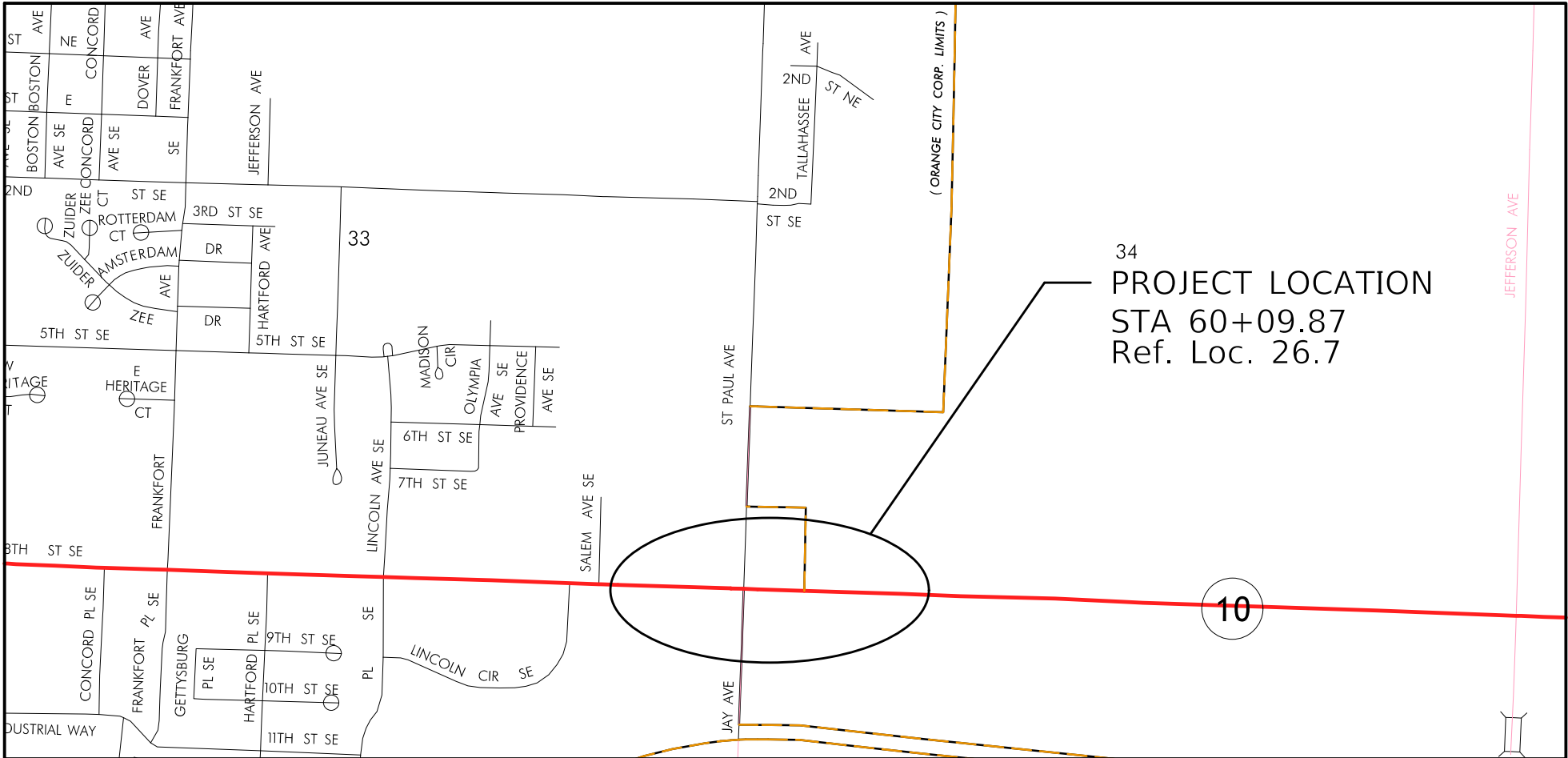
INDEX OF SHEETS	
No.	DESCRIPTION

PRELIMINARY PLANS

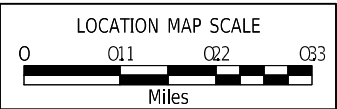
Subject to change by final design.

D5 PLAN – Date: 11–9–2021

R-44W



T-95N
T-94N



Curbed Shoulder

Shoulder Jointing:
Longitudinal joint not required when distance from back of
curb to nearest joint is less than 15':

Single pour: L-2
Staged : KT-2
Transverse: C at 17' spacing

2_Curb_04-21-20			
STATION TO STATION		(P) Feet	Curb Type See PV-102
158+50.00	159+67.46	2.5	6" Sloped
160+96.69	162+17.00	2.5	6" Sloped

Curbed Shoulder

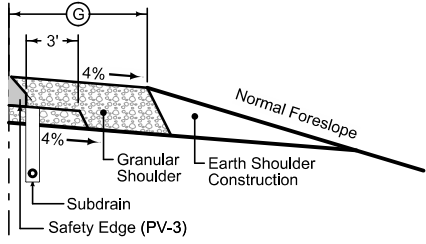
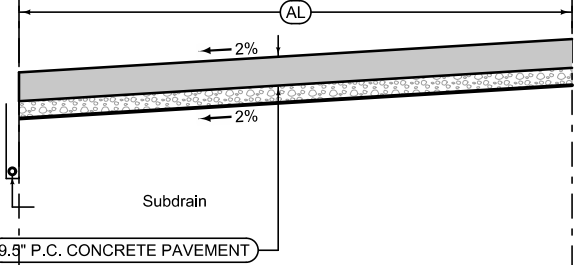
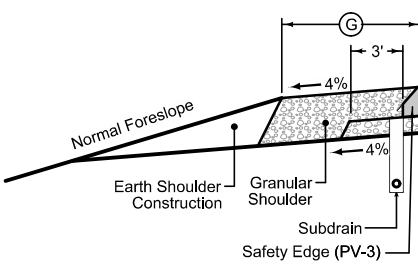
Shoulder Jointing:
Longitudinal joint not required when distance from back of
curb to nearest joint is less than 15':

Single pour: L-2
Staged : KT-2
Transverse: C at 17' spacing

2_Curb_04-21-20			
STATION TO STATION		(P) Feet	Curb Type See PV-102
160+96.69	161+50.00	2.5	6" Sloped

Granular Shoulder with Safety Edge

2_G_04-21-20		
STATION TO STATION		(G) Feet
162+17.00	163+00.00	10



Granular Shoulder with Safety Edge

2_G_04-21-20		
STATION TO STATION		(G) Feet
161+50.00	163+00.00	10

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

2P_04-21-20		
STATION TO STATION		(AL) Feet
158+50.00	158+55.00	14
163+98.00	163+00.00	14

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

Curbed Shoulder

Shoulder Jointing:
Longitudinal joint not required when distance from back of
curb to nearest joint is less than 15':

Single pour: L-2
Staged : KT-2
Transverse: C at 17' spacing

2_Curb_ 04-21-20			
STATION TO STATION		(P) Feet	Curb Type See PV-102
2057+34.00	2059+32.46	2.5	6" Standard
2060+61.13	2061+38.00	2.5	6" Standard

Curbed Shoulder

Shoulder Jointing:
Longitudinal joint not required when distance from back of
curb to nearest joint is less than 15':

Single pour: L-2
Staged : KT-2
Transverse: C at 17' spacing

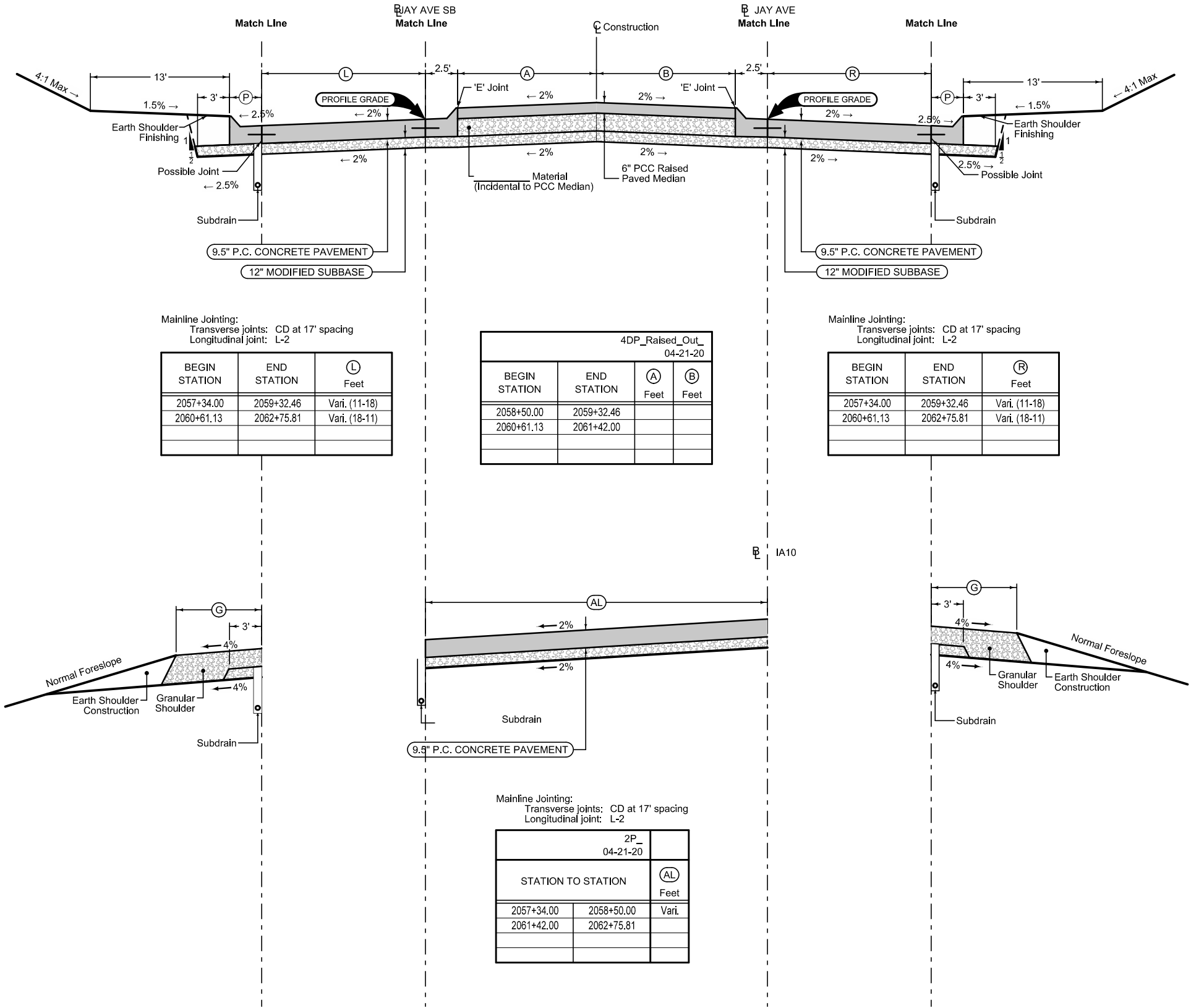
2_Curb_ 04-21-20			
STATION TO STATION		(P) Feet	Curb Type See PV-102
2057+34.00	2059+32.46	2.5	6" Standard
2060+61.13	2061+15.00	2.5	6" Standard

Granular Shoulder

2_G_SR_ 04-21-20		
STATION TO STATION		(G) Feet
2061+38.00	2062+75.81	3

Granular Shoulder

2_G_SR_ 04-21-20		
STATION TO STATION		(G) Feet
2061+15.00	2062+75.81	3



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

BEGIN STATION	END STATION	(L) Feet
2057+34.00	2059+32.46	Var. (11-18)
2060+61.13	2062+75.81	Var. (18-11)

4DP_Raised_Out_ 04-21-20			
BEGIN STATION	END STATION	(A) Feet	(B) Feet
2058+50.00	2059+32.46		
2060+61.13	2061+42.00		

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

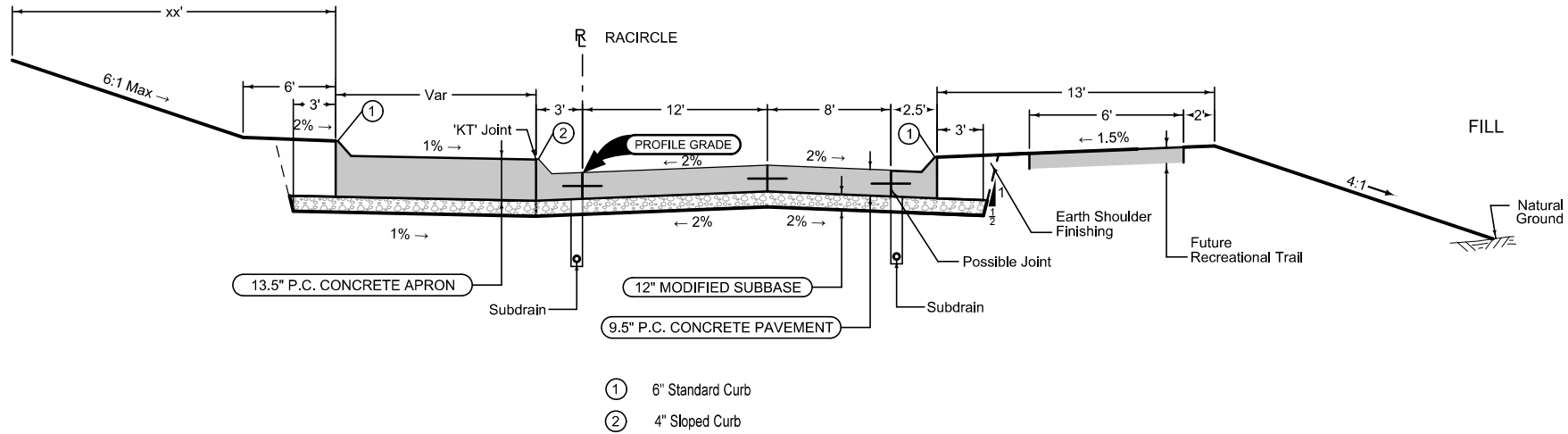
BEGIN STATION	END STATION	(R) Feet
2057+34.00	2059+32.46	Var. (11-18)
2060+61.13	2062+75.81	Var. (18-11)

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

2P_ 04-21-20		
STATION TO STATION		(AL) Feet
2057+34.00	2058+50.00	Var.
2061+42.00	2062+75.81	

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

Jay Ave

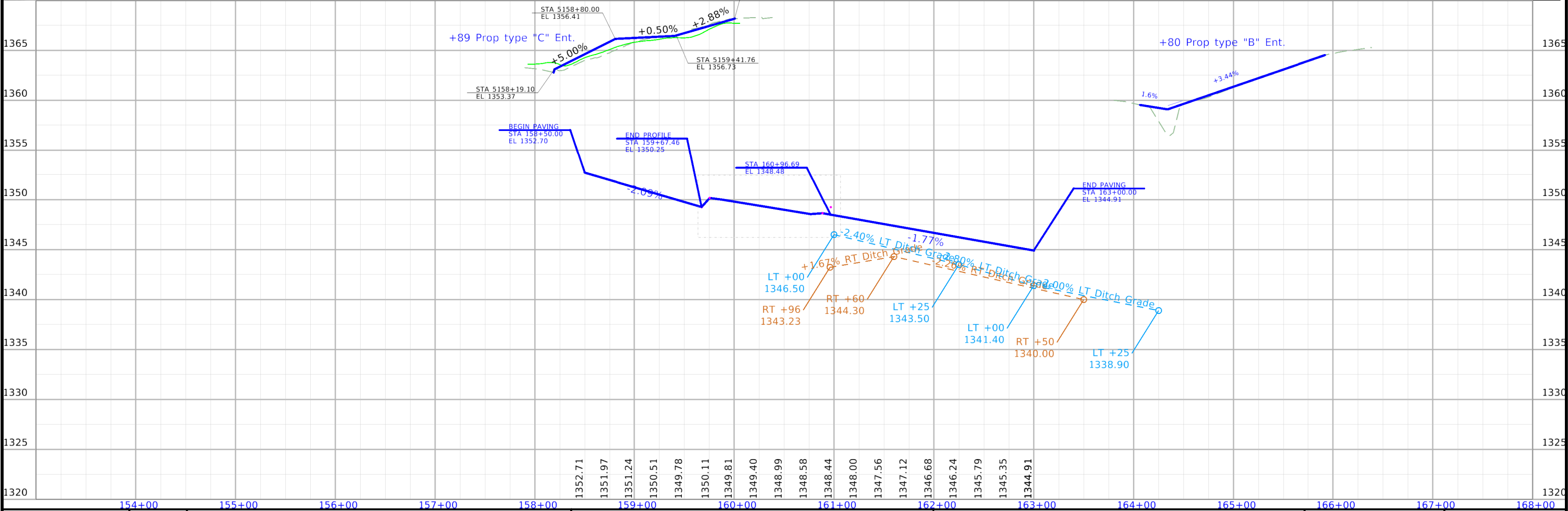
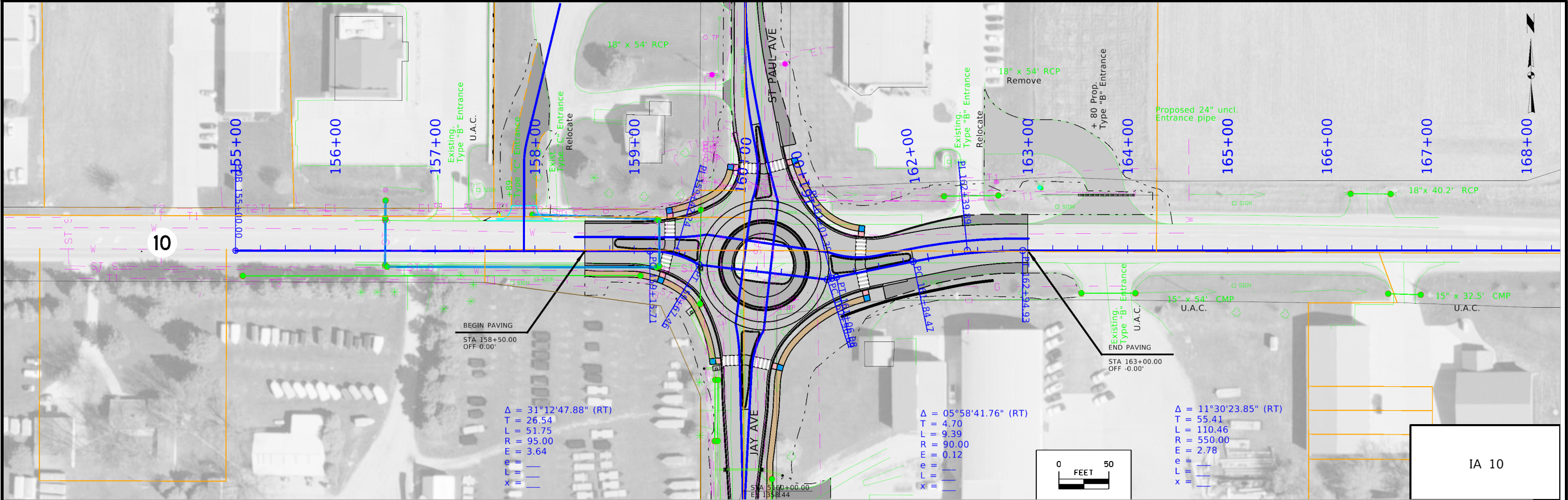


LOCATION		
ROAD IDENTIFICATION	STATION TO STATION	
RACIRCLE	xx	xx

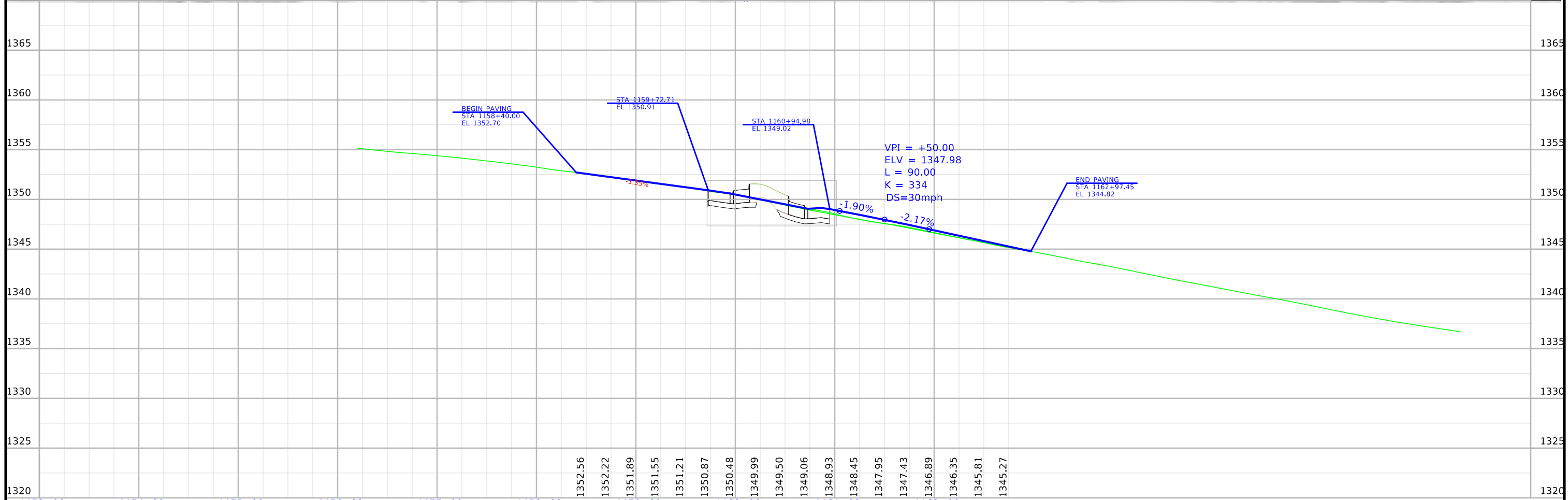
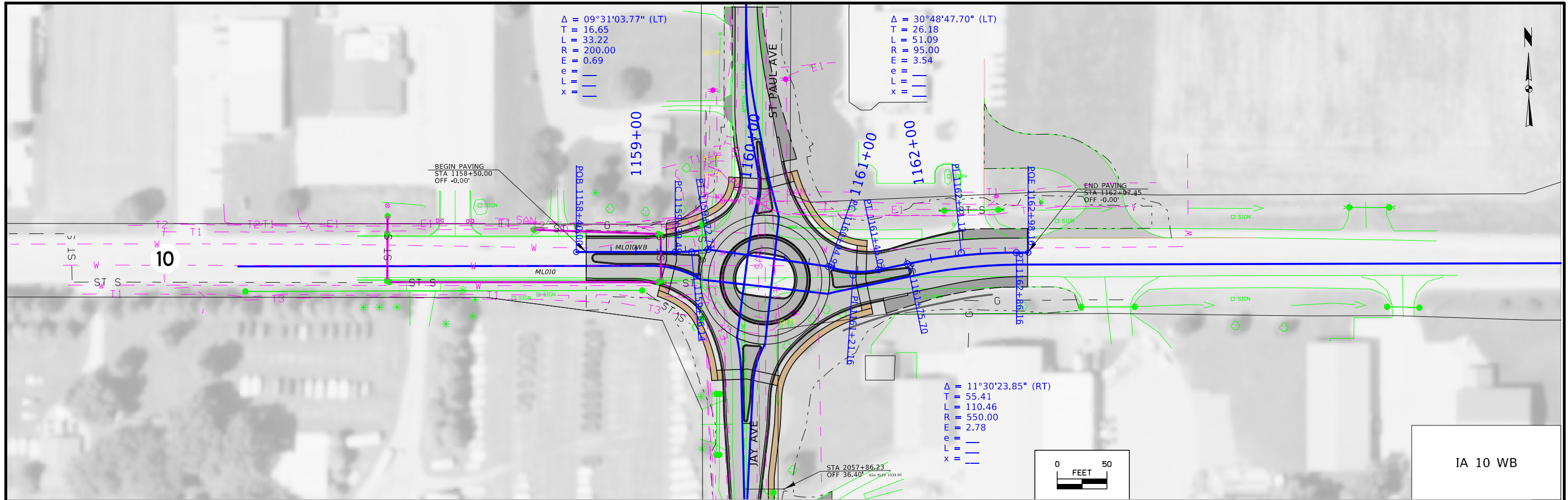
Note: See 'L' Sheets for Jointing Layout

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

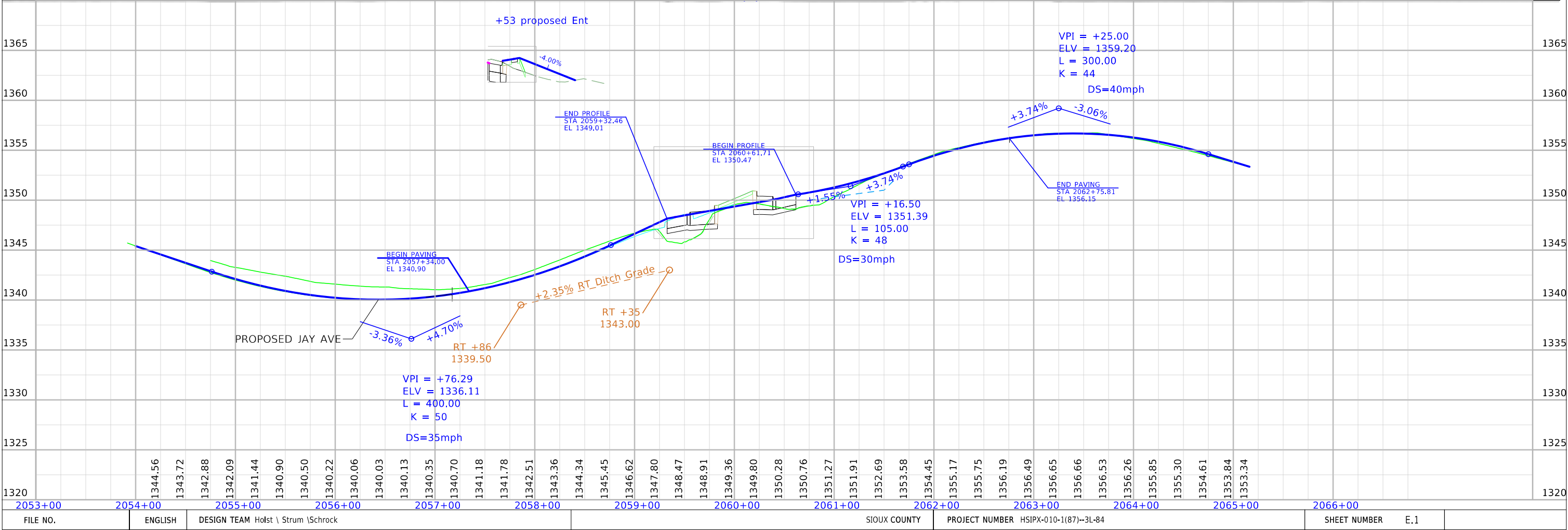
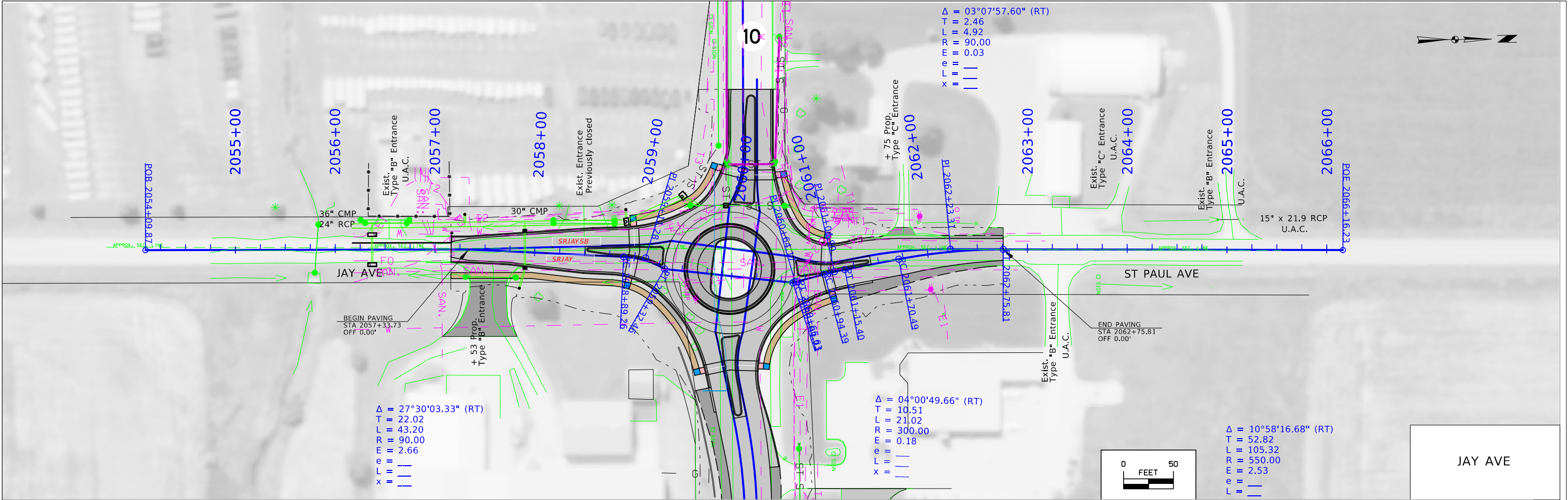
Roundabout

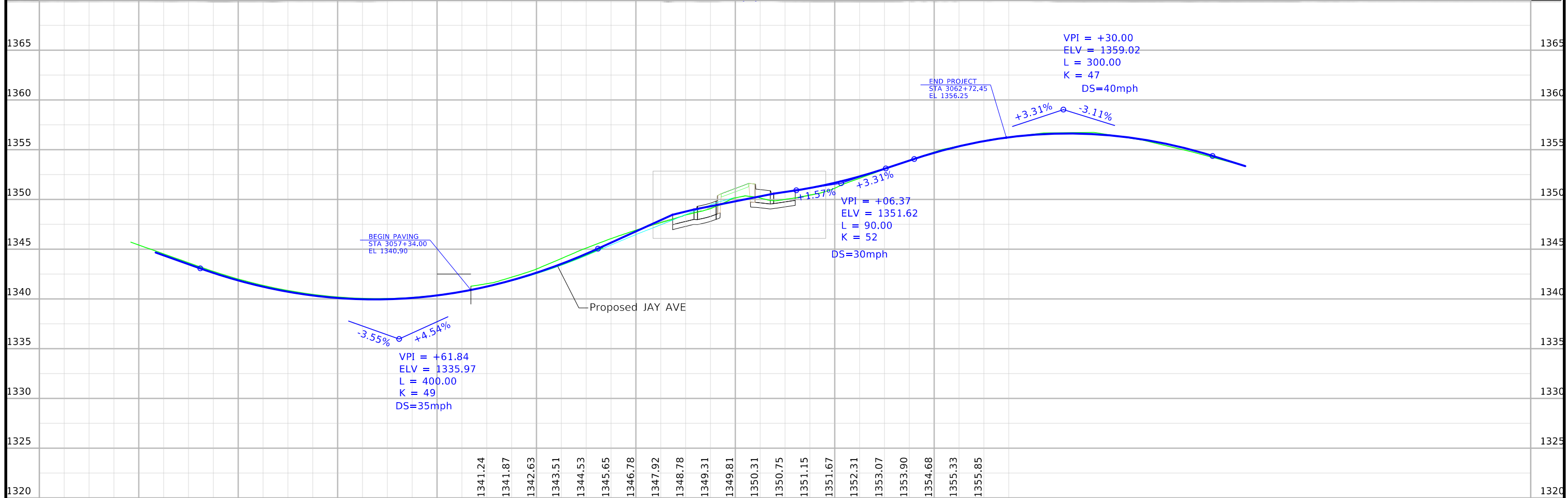
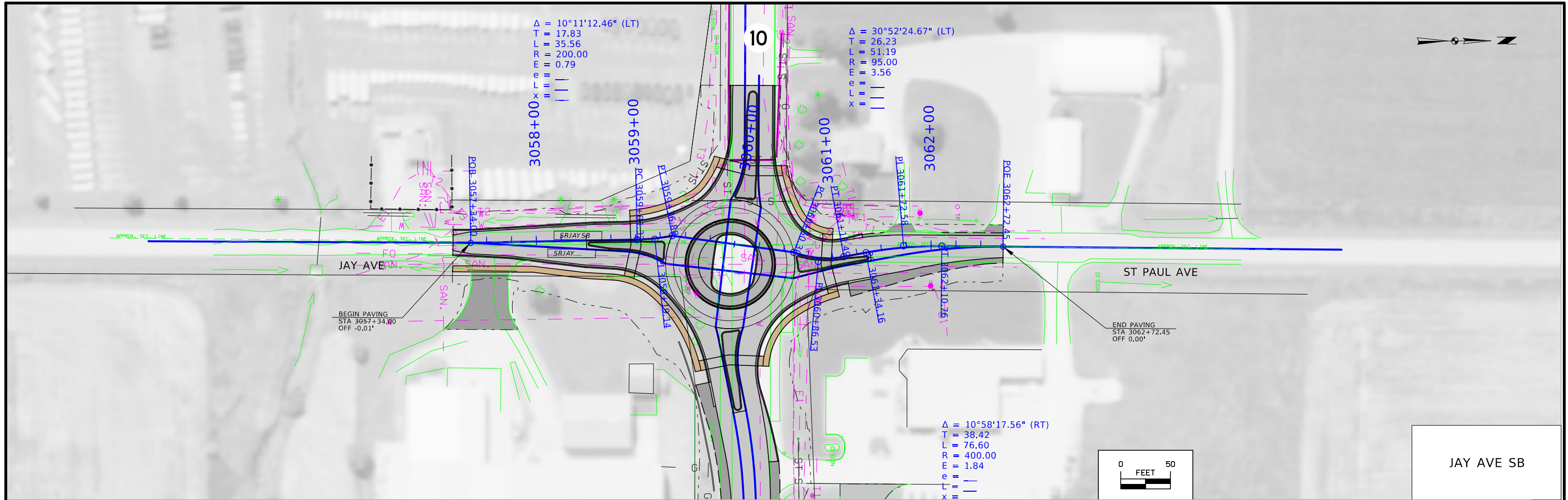


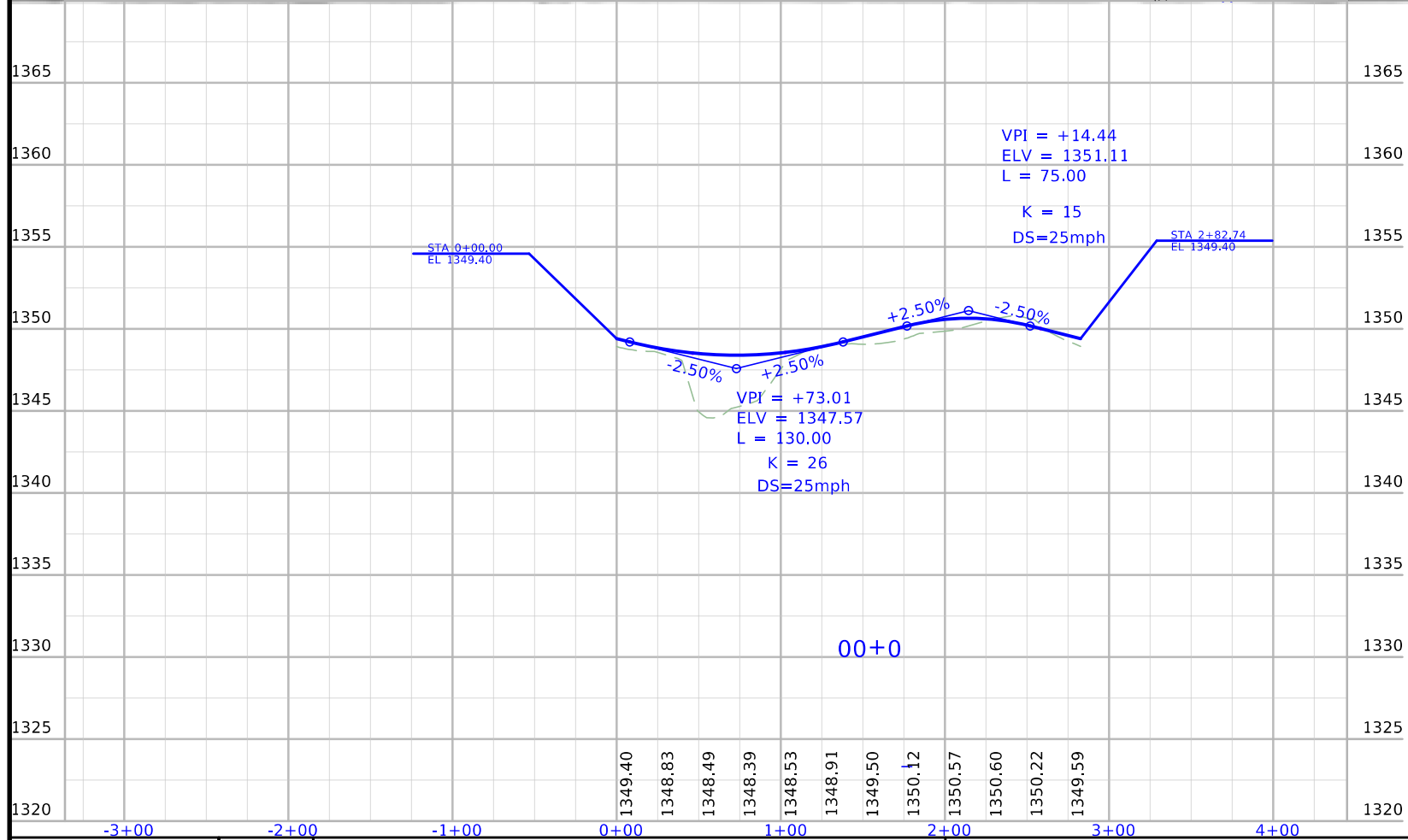
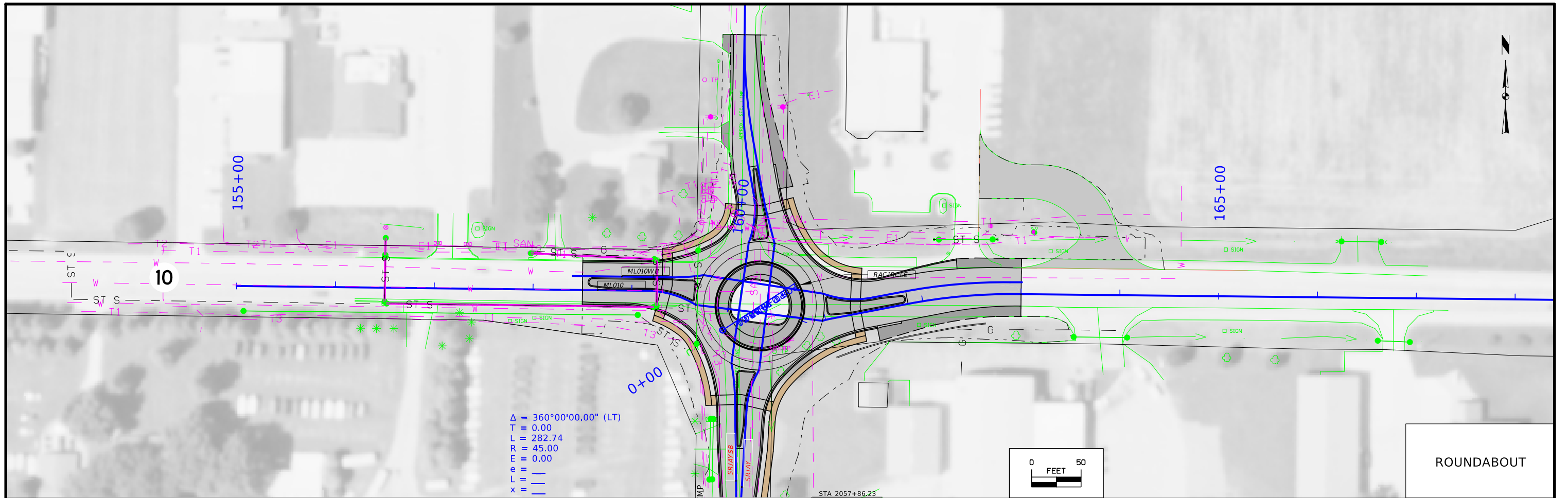
FILE NO.	ENGLISH	DESIGN TEAM	HOIST \ STRUM \ SCHROCK	SIoux COUNTY	PROJECT NUMBER	HSIPX-010-1(87)--3L-84	SHEET NUMBER	D.2
----------	---------	-------------	-------------------------	--------------	----------------	------------------------	--------------	-----



FILE NO.	ENGLISH	DESIGN TEAM	SIoux COUNTY	PROJECT NUMBER	SHEET NUMBER
10/22/2021	ajanus2	Holst \ Strum \ Schrock	HSIPX-010-1(87)--3L-84	D.3	







Survey Information

Sioux County
H SIPX-010-1(87)--3L-84
Jay Ave Intersection in Orange City
PCC Pavement - Grade and New
PIN 16-07-020-030
Sap-404.1

Party Personnel

Jim Sailor- Land Surveyor
Kris Bliven- Survey Party Chief
Jeffrey Duncan- Engineering Technician Senior

Date(s) of Survey

Begin Date 04/28/2021
End Date 05/03/2021

General Information

Measurement units for this survey are US survey feet. This survey is for proposed roundabout at Jay Ave in Orange City. Project datum and control information is provided by Design Survey Office. This project is a Full DTM without Photo control.

Project Control

Primary geodetic style three-dimensional project control monuments are found or placed at approximate ½ to 1 mile intervals throughout this project. Datum was accessed via GNSS static survey observations using Iowa Real Time Network reference stations in the area. Other legacy datum monuments in the area were surveyed comparing legacy coordinates to validate the results of the local project network adjustment. Comparisons validate results. For additional details of the control survey see the control survey report in the CONTROL file folder of the PrelimSurvey project directory.

PROJECT DATUM: NAD83(2011) EPOCH 2010.00
VERTICAL DATUM: NAVD88
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 1

Alignment Information

The horizontal alignment for this survey was provided by District 3 R.O.W. office.

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 1

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 2010.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 1
Project Control Marks are Bench Marks

Point Name	Northing	Easting	Elevation	Feature Definition-Description
CP1	9527101.573	11286449.02	1401.873	CP SET 5/8IN REBAR AT -6IN DP 105FT S OF S BACK OF CURB HWY 10 23FT W CL DRIVE ENT 20FT E OF NW COR PARKING LOT
CP2	9527054.661	11290443.25	1329.178	CP 3/4IN PIPE W/YELLOW DOT CAP 105FT S OF CL HWY 10 89FT SE TOP OF E OUTLET RCP 18FT E OF E BANK OF CREEK
CP3	9527054.469	11292054.53	1335.794	CP 3/4IN PIPE W/YELLOW DOT CAP 95FT WSW OF PP 77FT S CL HWY 10 40FT W OF EL OF ENT EXTENDED



To: Nikki Cuva/Jeff Larson
 Office of Right of Way Design

Final Draft: February 21st, 2022

District 3: Shane Tymkowicz

Project Details:

PIN: 21-84-010-010
Project #: HSIPX-010-1(87)—3L-84
ROW #: STPN-010-1(88)—2J-84

TAS: Jan Laaser-Webb
 Office of Traffic & Safety

From: Leilah Armstrong
 Office of Traffic & Safety

SIoux COUNTY
IA 10, Jay Ave Intersection in Orange City

SUBJECT: Access Review

PROJECT LOCATION AND DESCRIPTION:

This project is the proposed roundabout on IA 10 at Jay Ave in Orange City.

ACCESS PRIORITY CLASSIFICATION:

To the west of Jay Ave access locations are based off safety and need, and not actively managed. To the East of Jay Ave. IA 10 is Priority 4B with a minimum spacing requirement of 300 feet.

ACCESS CONTROL LIMITS:

In accordance with chapter 112.11(3): Access Rights at At-Grade Intersections with City Streets and Secondary Roads, when access rights to a primary highway are acquired, the department may also acquire access rights along a city street or secondary road where and at-grade intersection with the highway exists or is proposed. If access rights are acquired, they will be acquired along the city street or secondary road for a distance of **150 feet from the near edge of the primary highway traveled way**. However, the department may acquire more or less than 150 feet of access rights after considering the severity of damage to adjacent properties and traffic volumes and other safety factors.

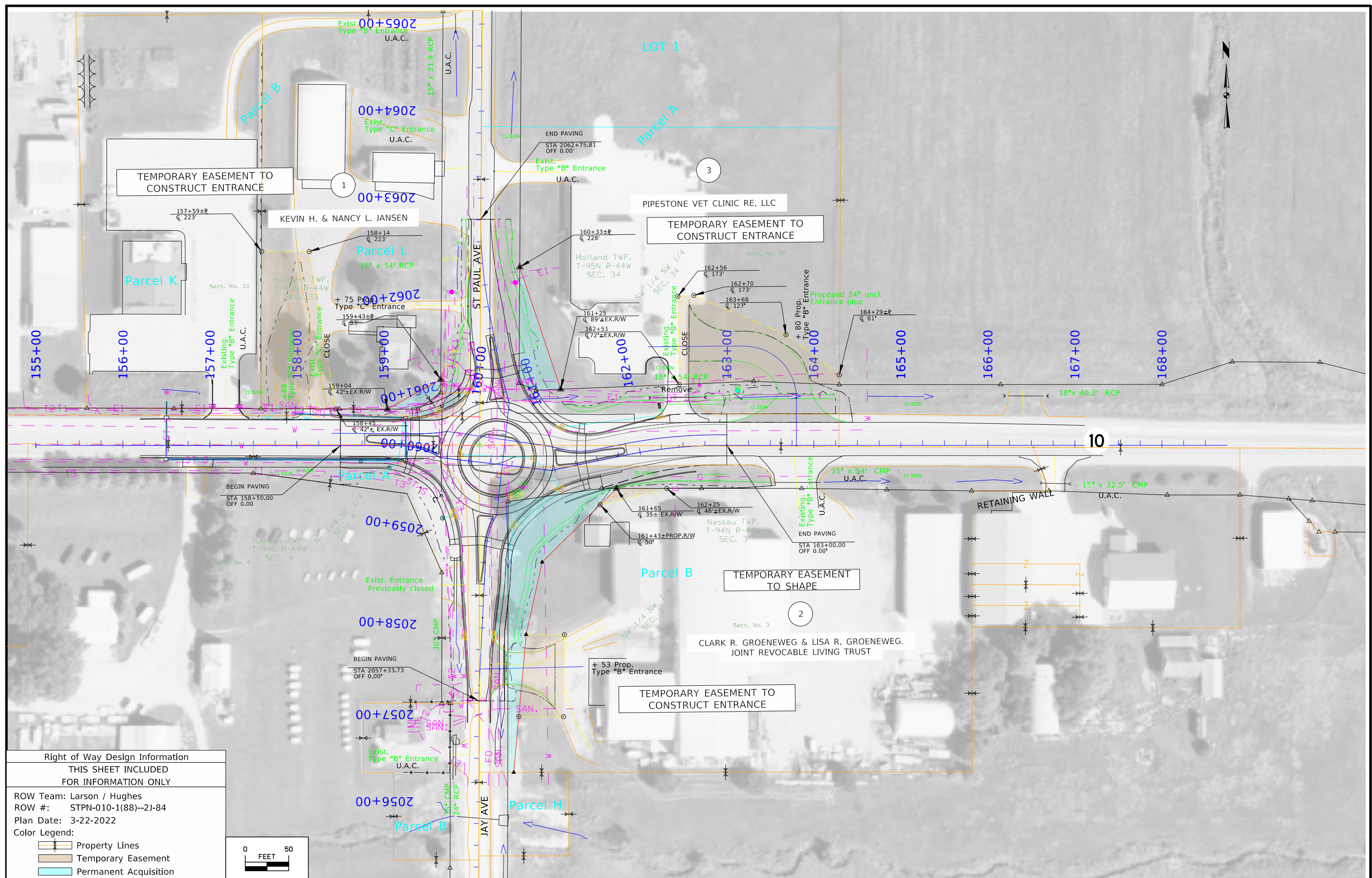
No access will be allowed on IA 10 from approximately Sta. 158+50 to the radius of the roundabout and from the radius of the roundabout to Sta. 163+80.

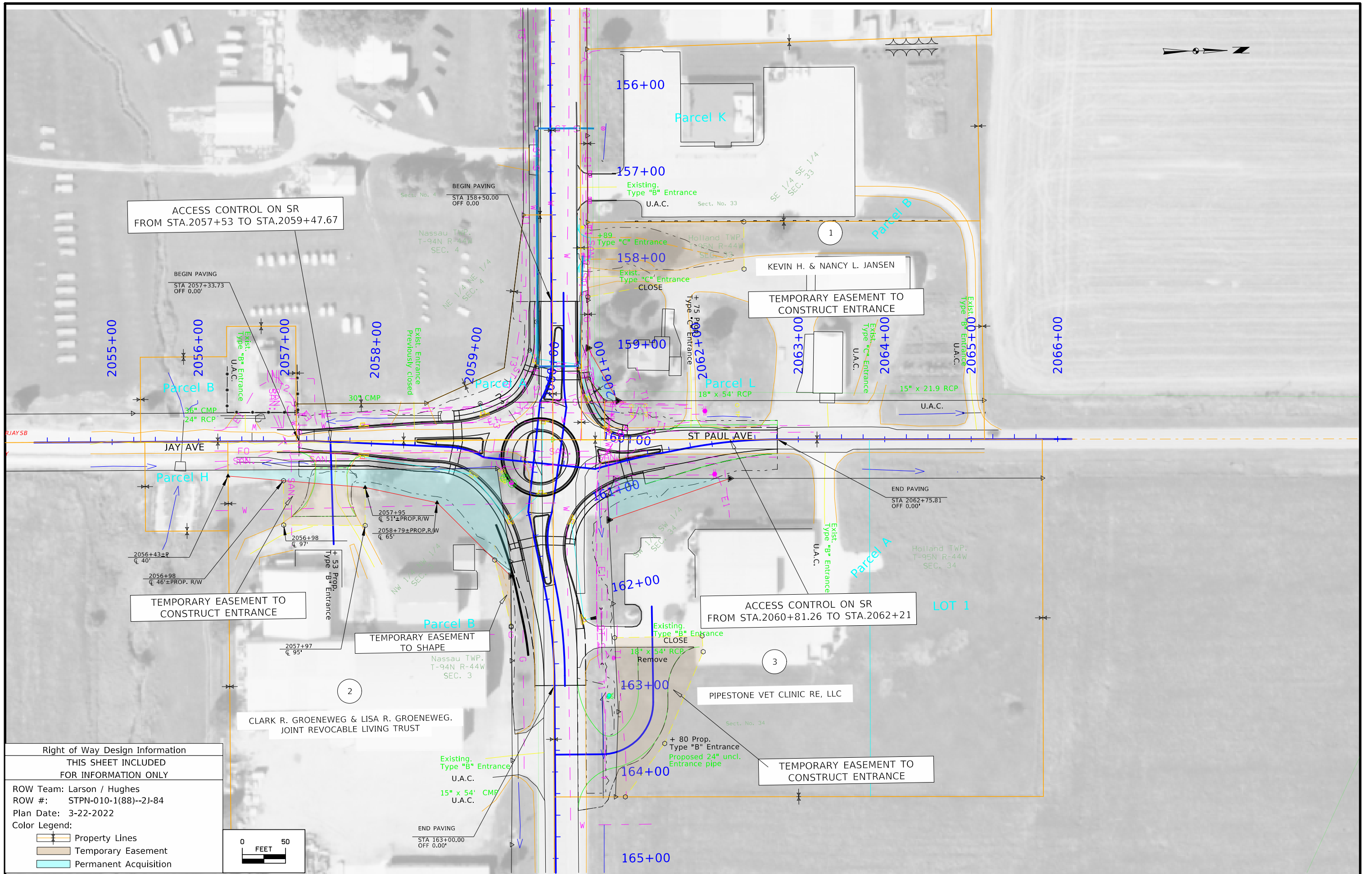
No access will be allowed on St. Paul Ave. from the radius of the roundabout to approximately Sta. 2062+21 except for Sta. 2061+75 LT.

No access will be allowed on Jay Ave. from the radius of the roundabout to approximately Sta. 2057+53.

ACCESS LOCATION DETAILS:

Location	Access	Comments
158+50	ML IA 10	Begin Construction
157+20 LT	Type B Entrance	U.A.C. (Outside Construction)
158+23 LT	Type C Entrance	U.A.C. (Outside Construction)
162+51 LT	Type B Entrance	Close – Relocated to 163+80
163+80 LT	Type B Entrance	Proposed – Relocated from 162+51
163+80 RT	Type C Entrance	U.A.C. (Outside Construction)
163+00	ML IA 10	End Construction
2057+33	SR Jay/St. Paul Ave.	Begin Construction
2056+50 LT	Type B Entrance	U.A.C. (Outside Construction)
2057+53 RT	Type B Entrance	Proposed
2061+75 LT	Type B Entrance	Proposed – Excepted out
2063+30 RT	Type B Entrance	U.A.C. (Outside Construction)
2063+35 LT	Type C Entrance	U.A.C. (Outside Construction)
2062+75	SR Jay/St. Paul Ave.	End Construction





Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Larson / Hughes	
ROW #: STPN-010-1(88)--2J-84	
Plan Date: 3-22-2022	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

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

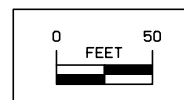
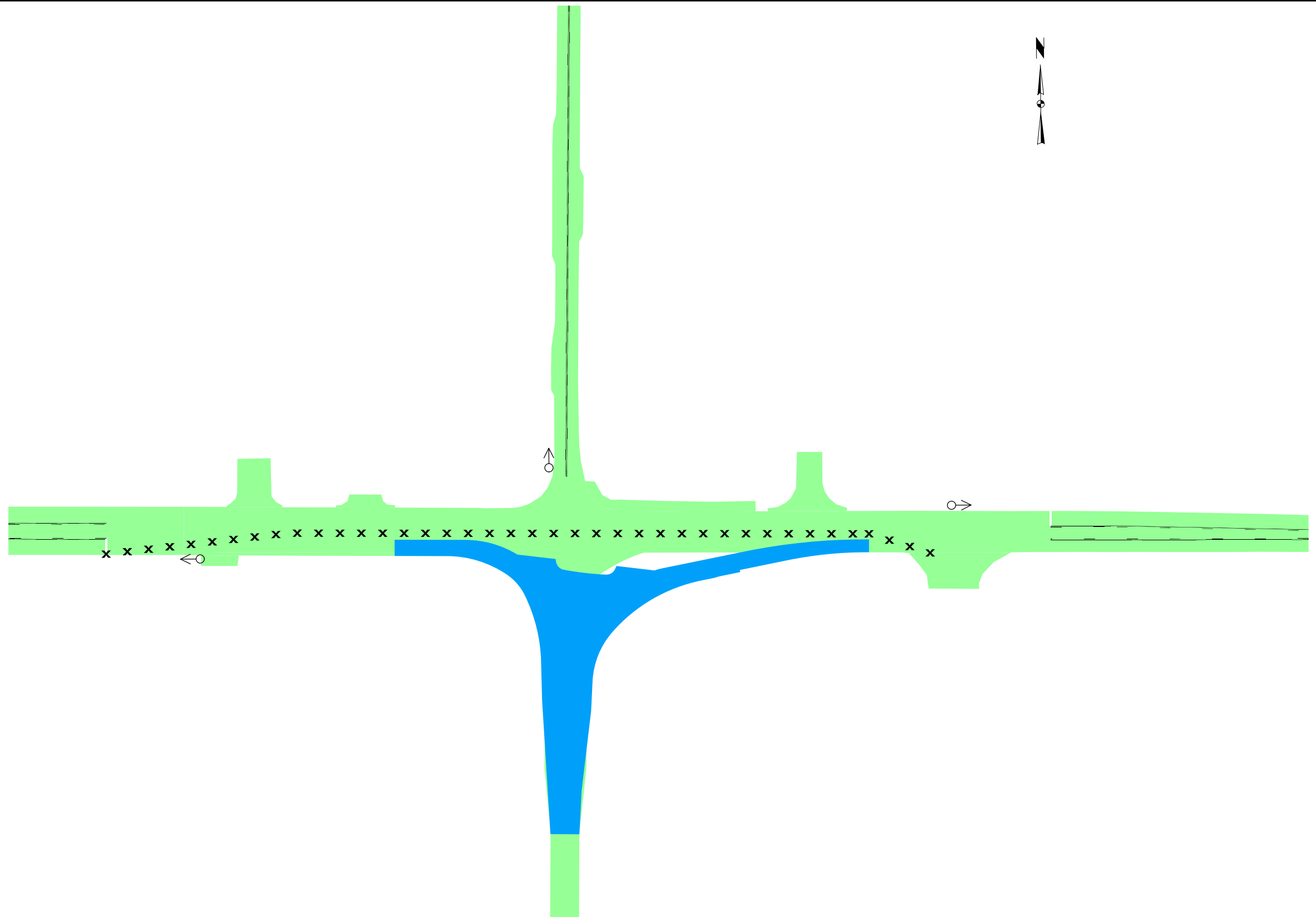
108-23A 08-01-08	TRAFFIC CONTROL PLAN
Maintain traffic along IA 10 during construction using signals.	

108-26A 08-01-08	STAGING NOTES
Stage 1 Close Jay Ave south of IA 10 Maintain Jay Ave north of IA 10 and a single lane of traffic on existing IA 10 using signals Construct southern portion of off-alignment roundabout Stage 2 Close Jay Ave north of IA 10 Reopen Jay Ave south of IA 10 Shift single lane of IA 10 to new pavement Finish construction of the roundabout	

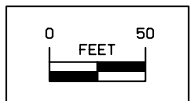
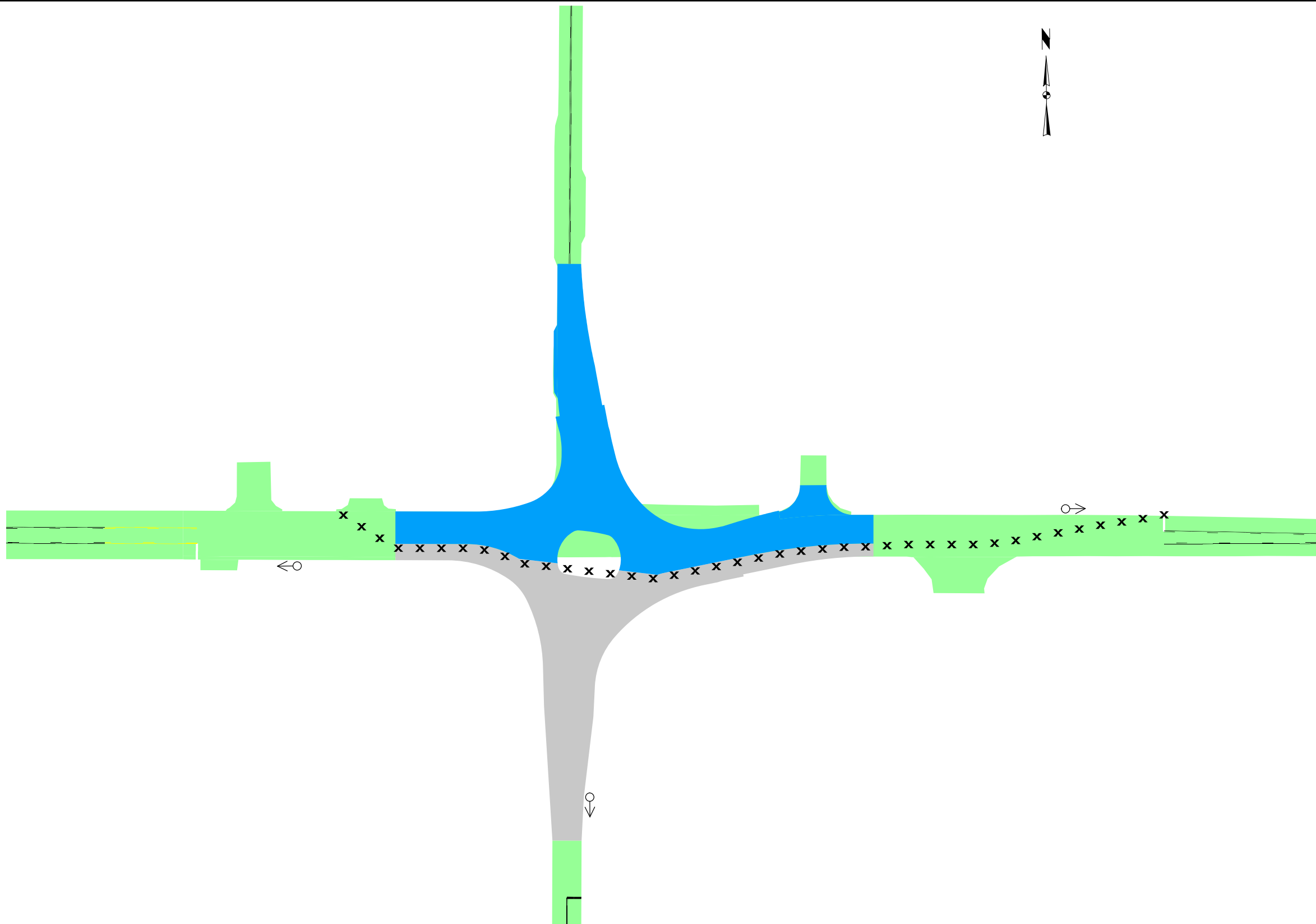
FILE NO.	ENGLISH	DESIGN TEAM	Holst\Strum\Schrock	SIoux COUNTY	PROJECT NUMBER	HSIPX-010-1(87)--3L-84	SHEET NUMBER	J.1
----------	---------	-------------	---------------------	--------------	----------------	------------------------	--------------	-----

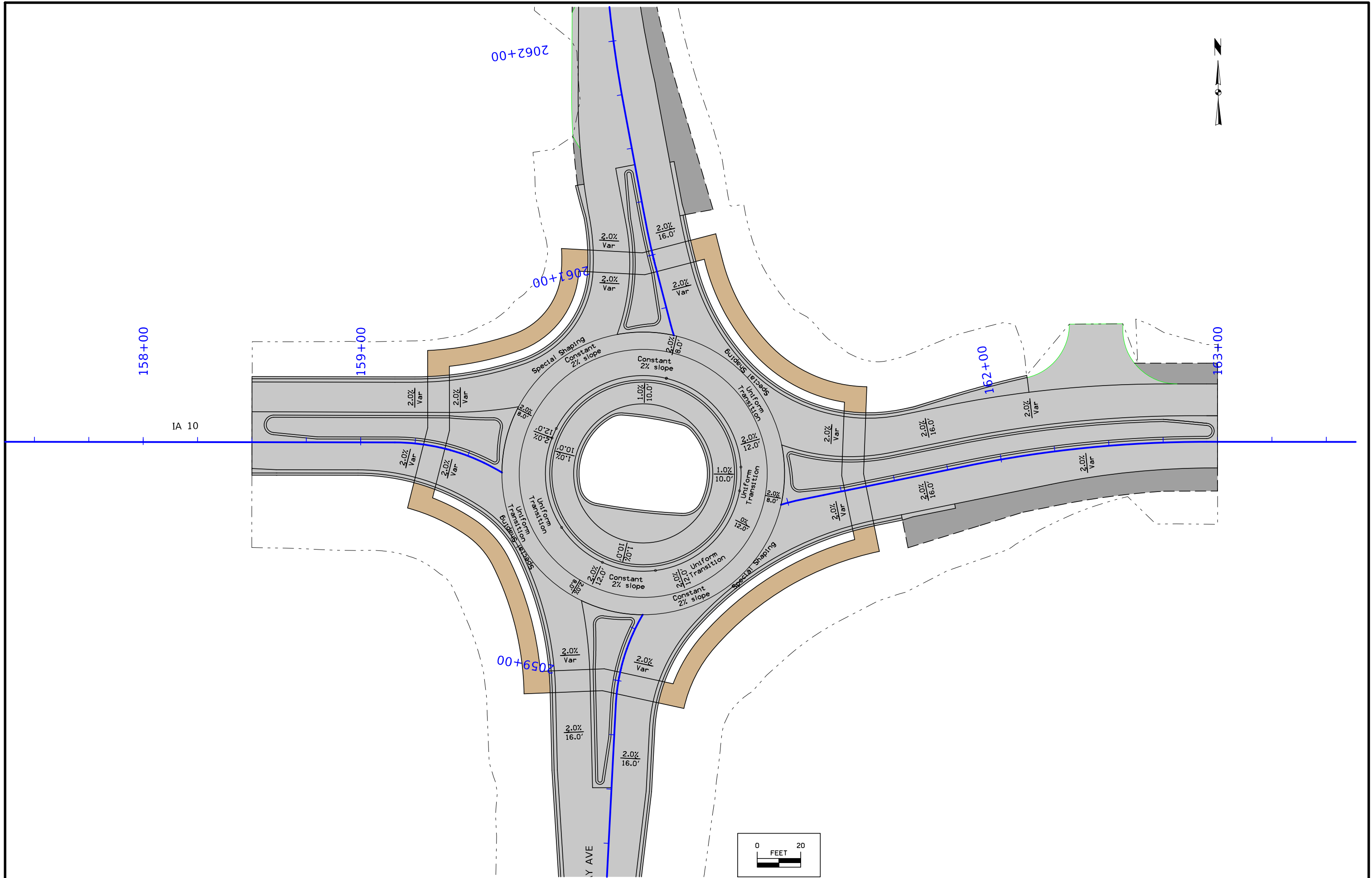
7/20/2021 3:30:19 PM kschroc c:\pw_work\pwwmain\kschroc\d1223984\SHT_84010087_J01.xlsm

10



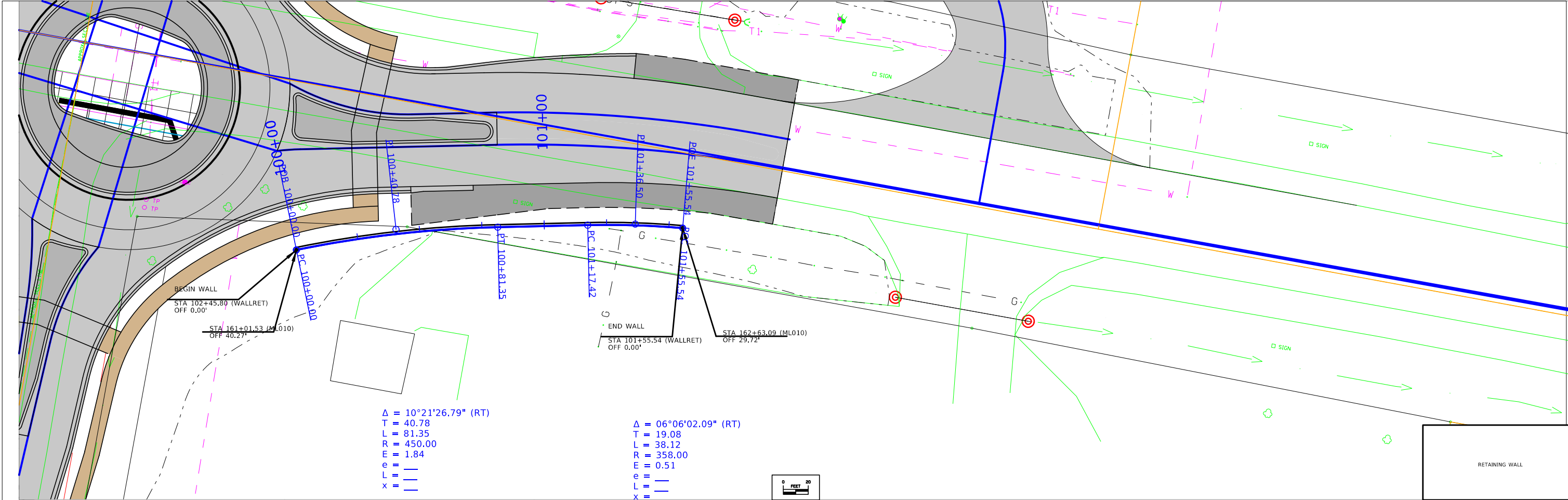
10

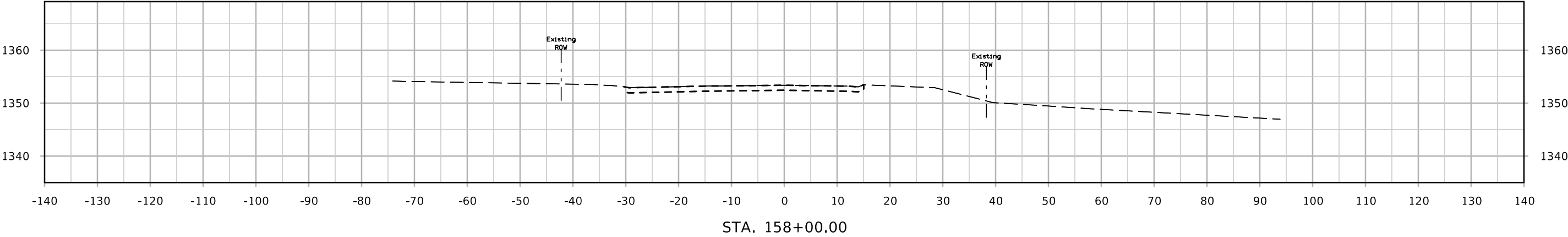
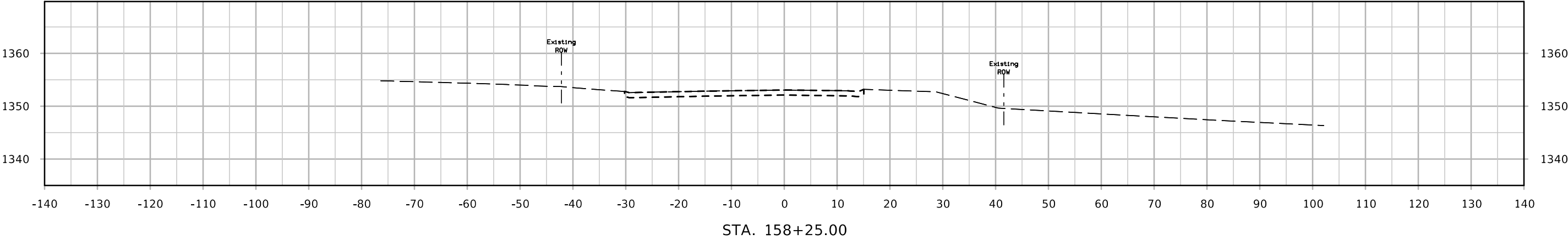
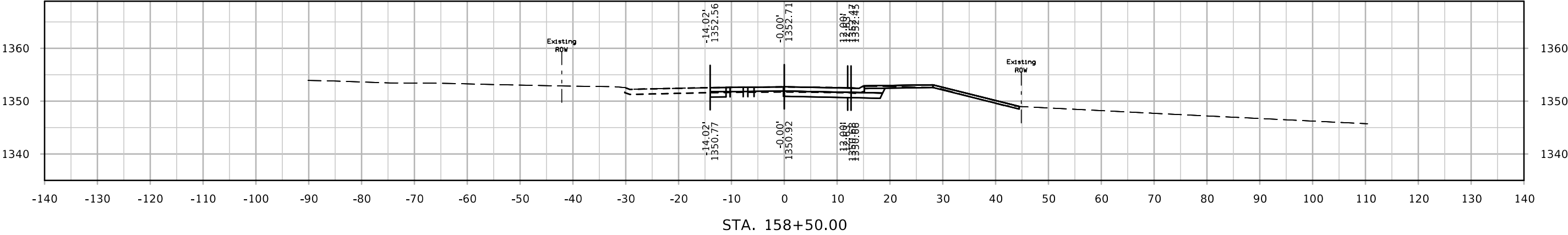


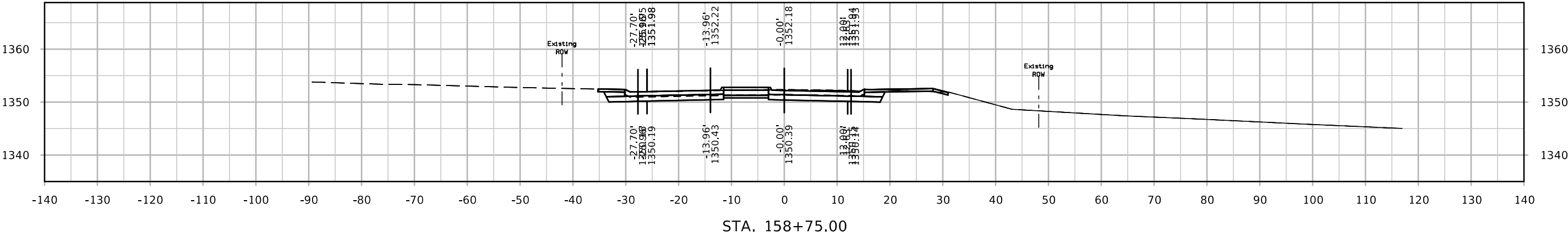
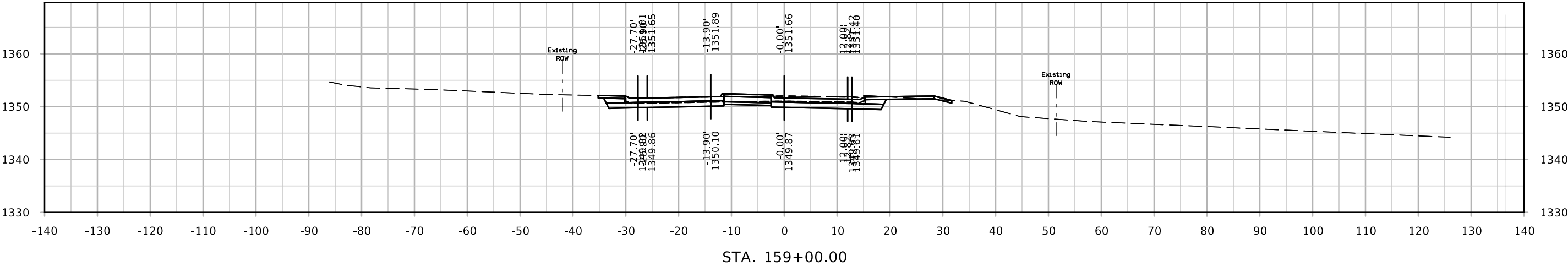
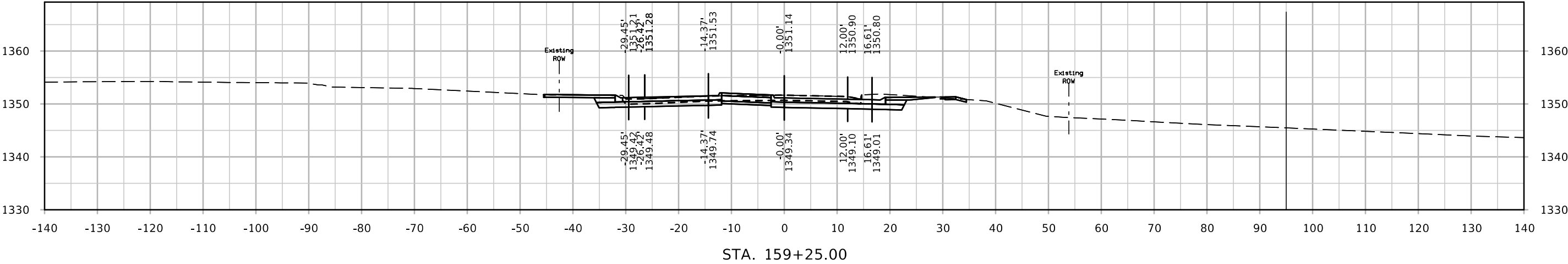


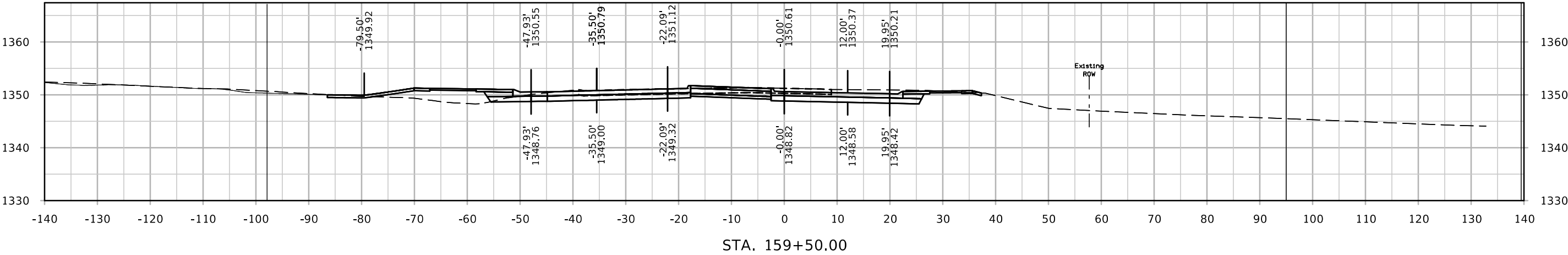
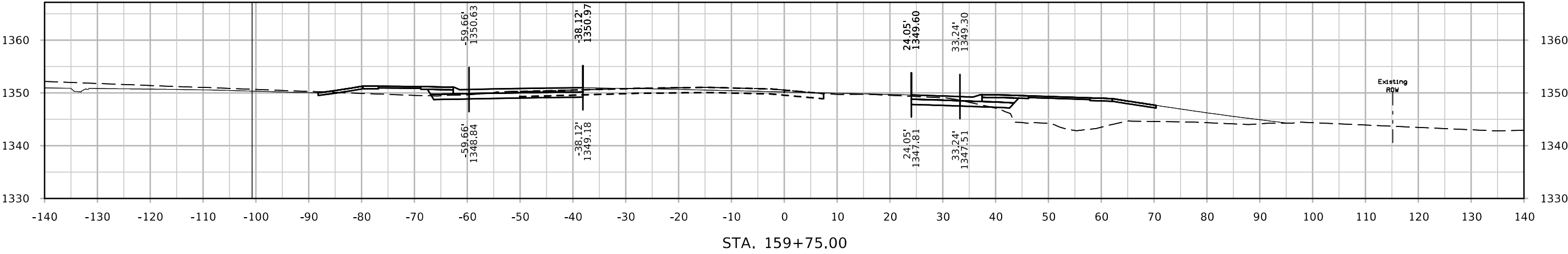
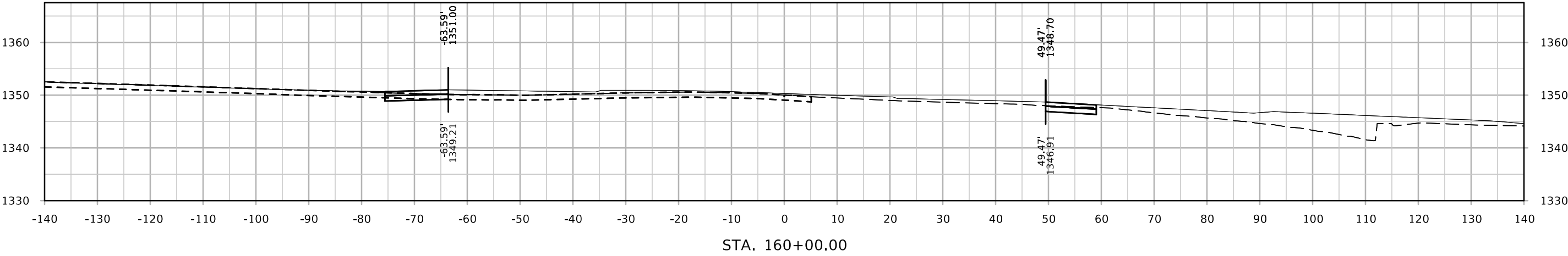
FILE NO.	ENGLISH	DESIGN TEAM Holst \ Strum \ Schrock	SIOUX COUNTY	PROJECT NUMBER HSIPX-010-1(87)--3L-84	SHEET NUMBER L.1
----------	---------	-------------------------------------	--------------	---------------------------------------	------------------

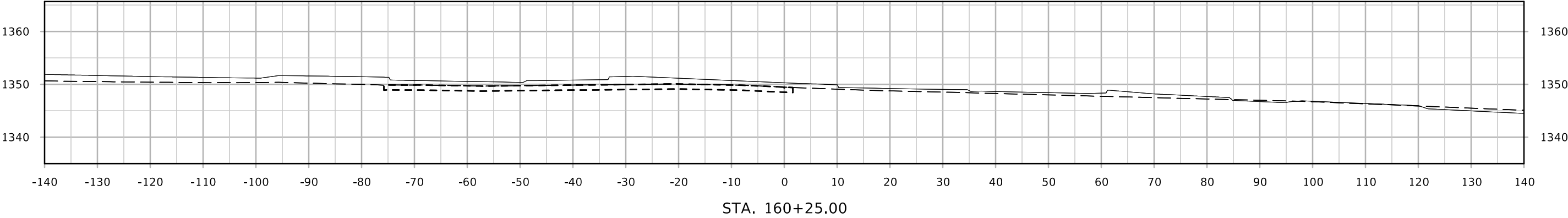
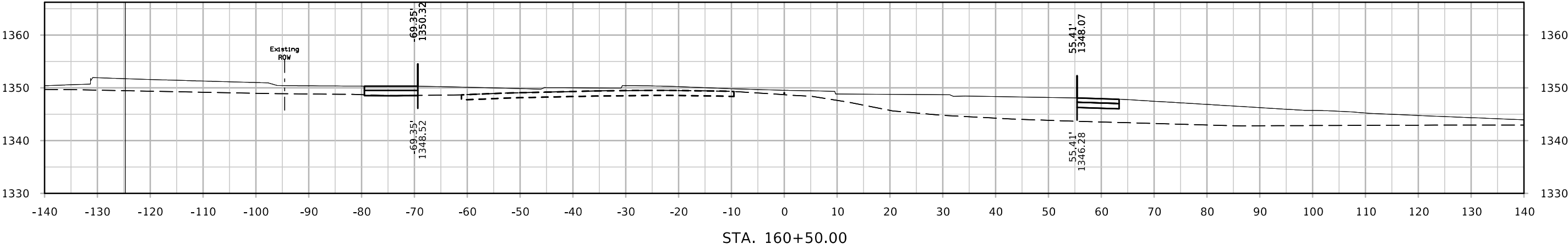
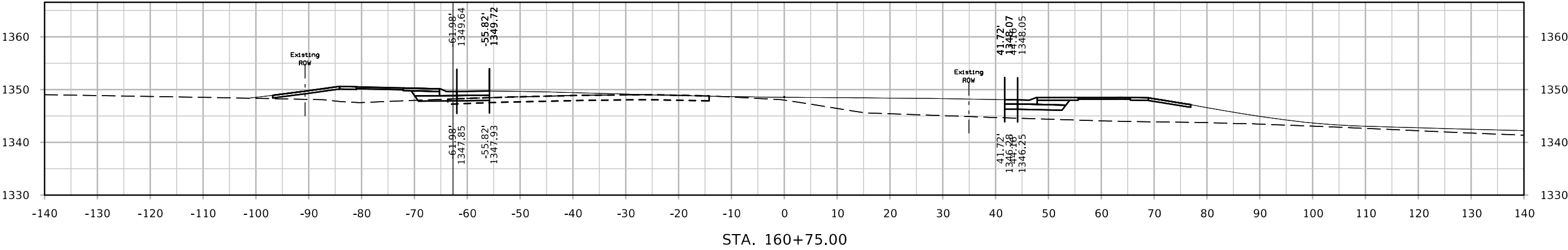
10:02:35 AM7/28/2021ajanus2pw:\ntPw\Int1.dot.int.lan:PWMMain\Documents\Projects\8401001021\Design\CADD_Files\Sheet_Files\SHT_84010087_L01.dgn

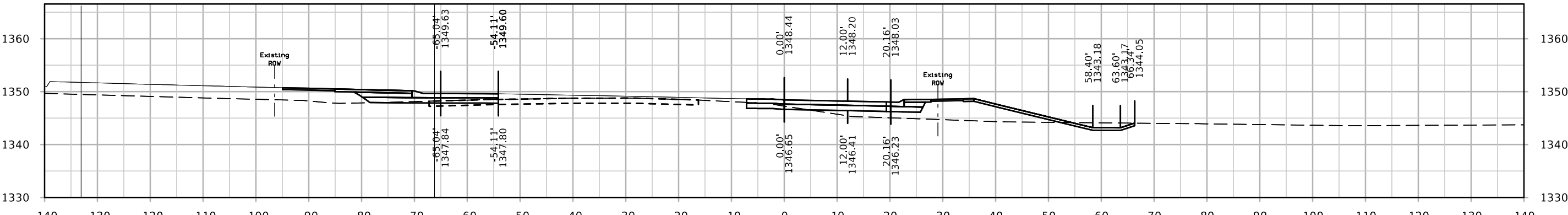
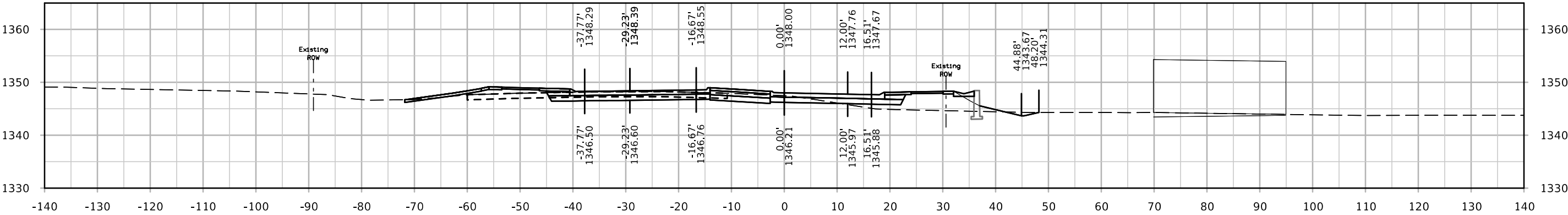
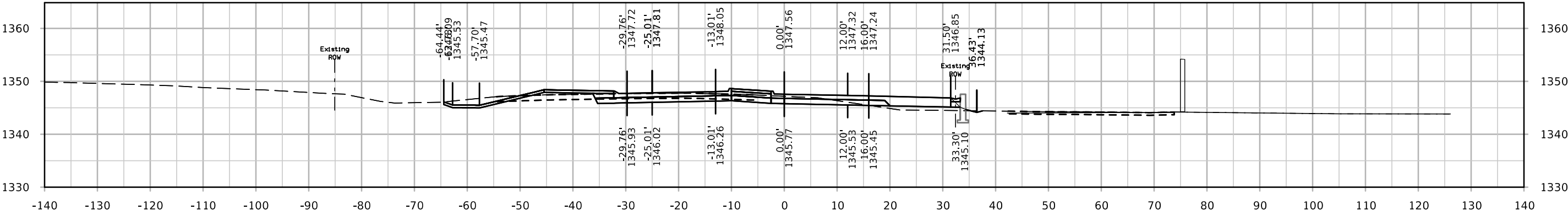


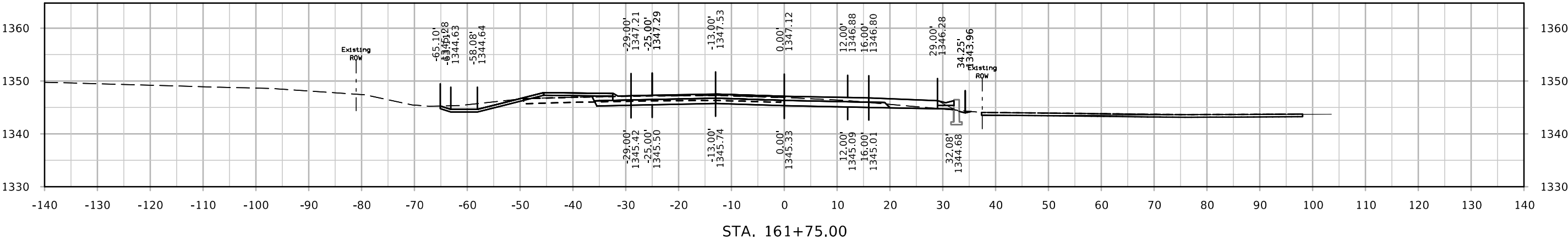
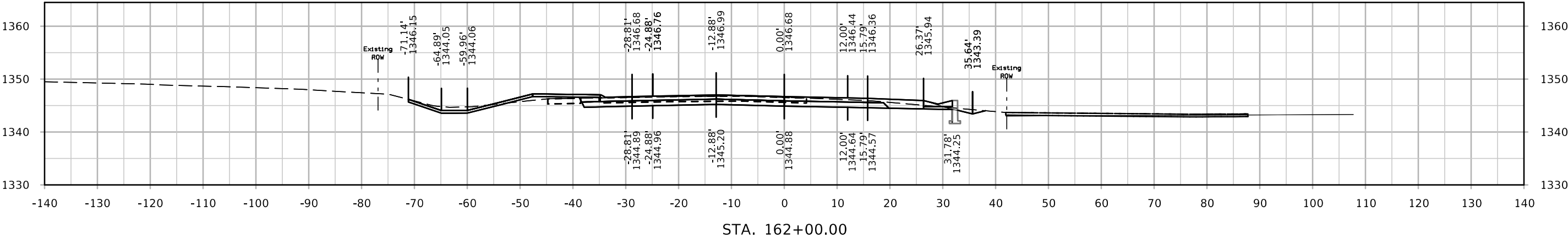
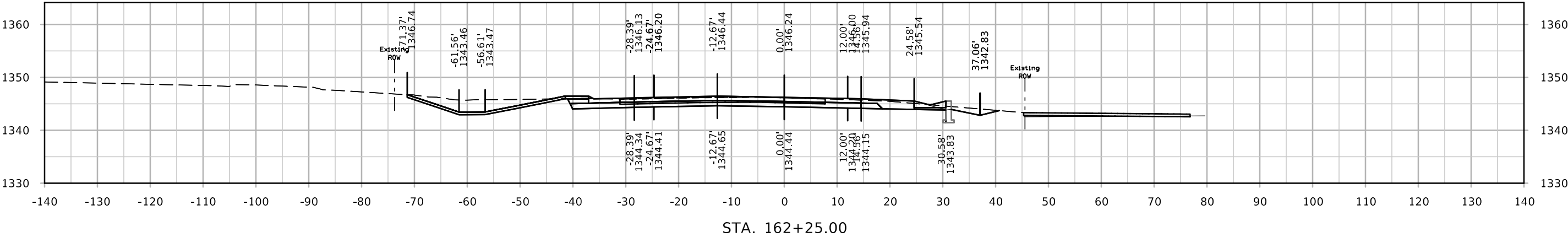


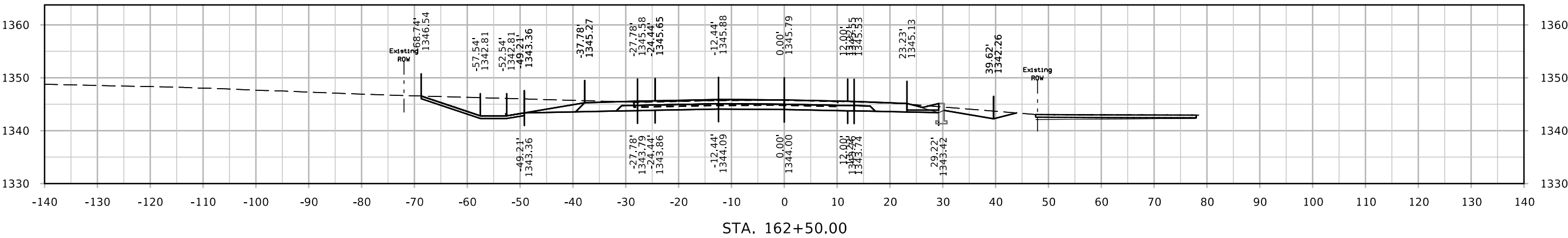
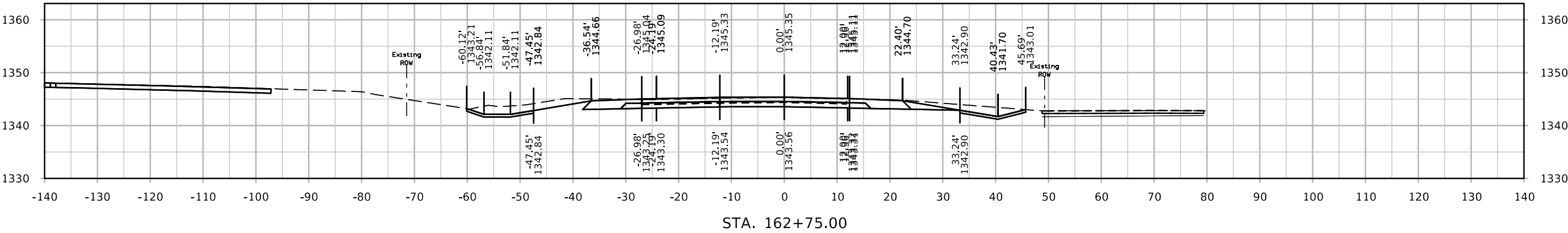
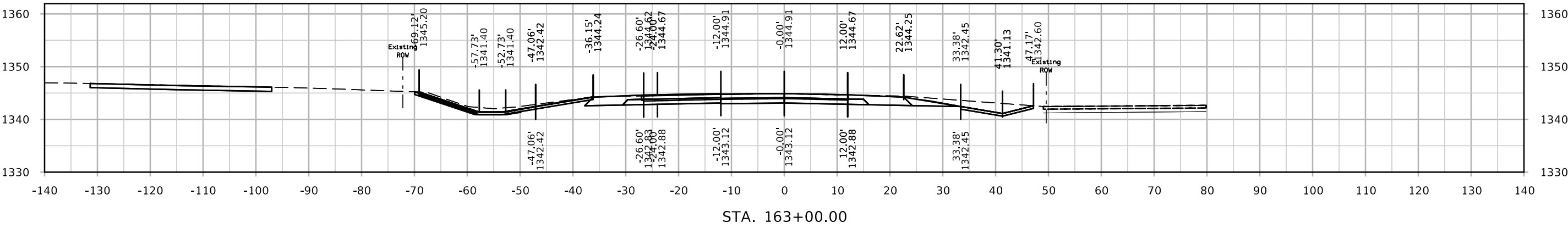


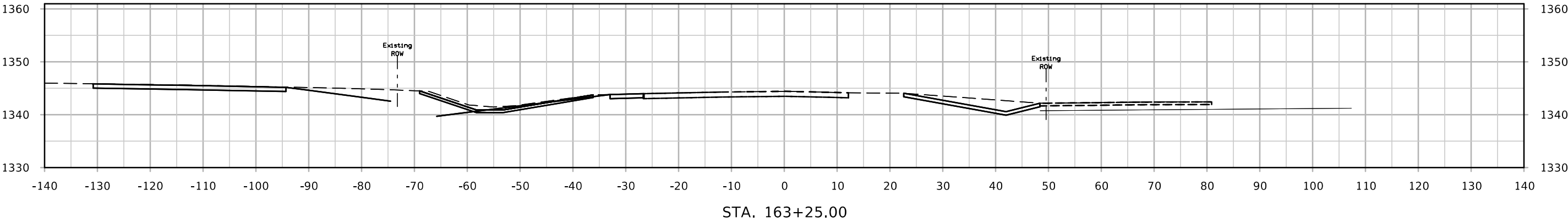
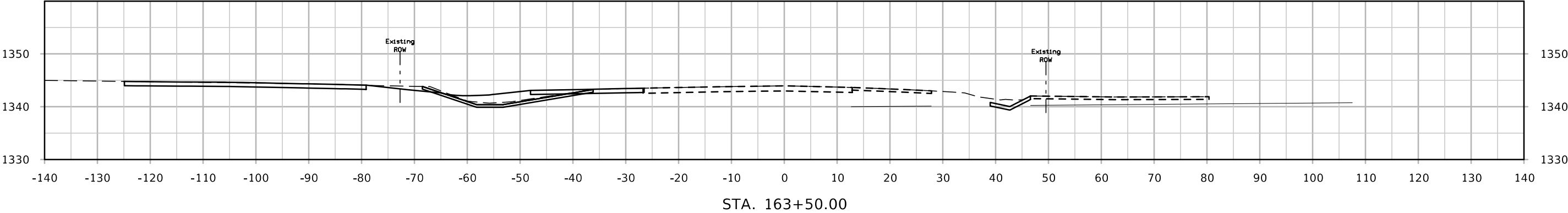




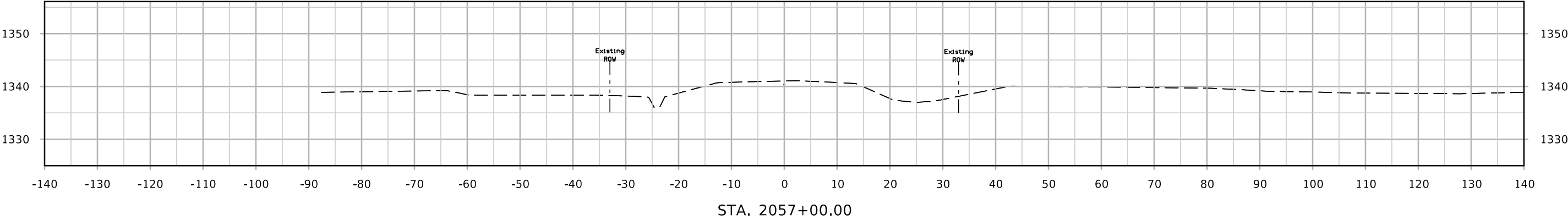
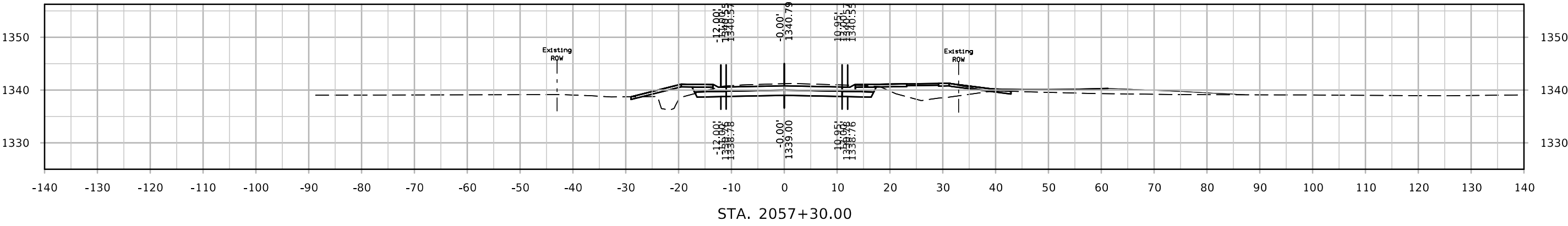
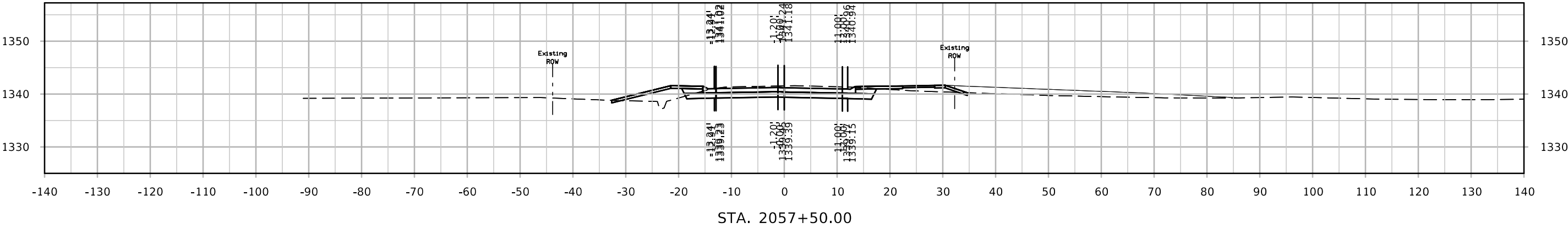




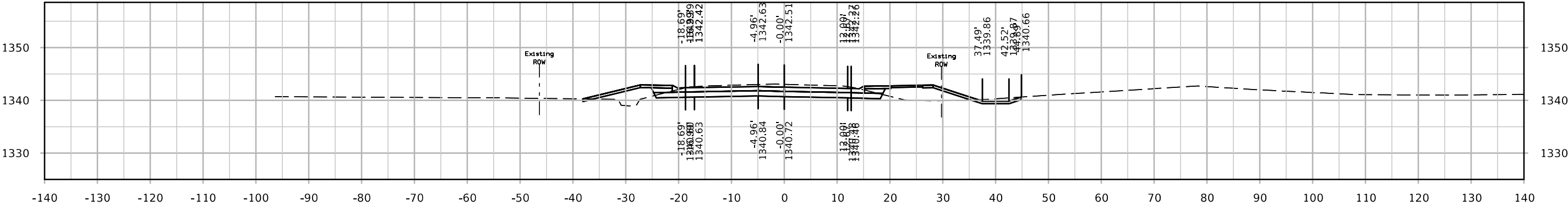




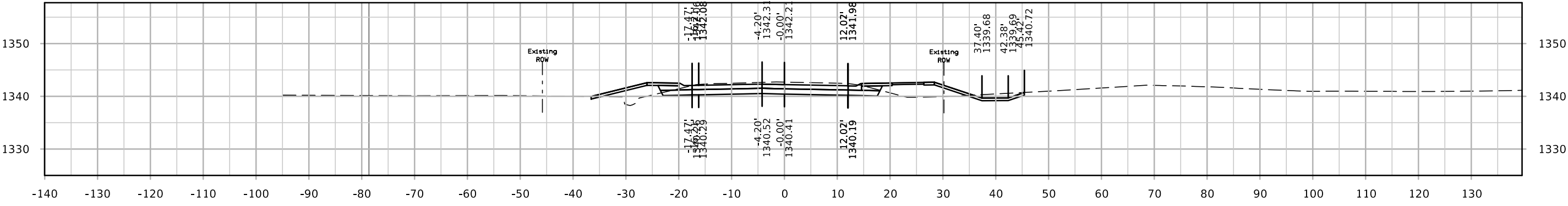
Jay Ave



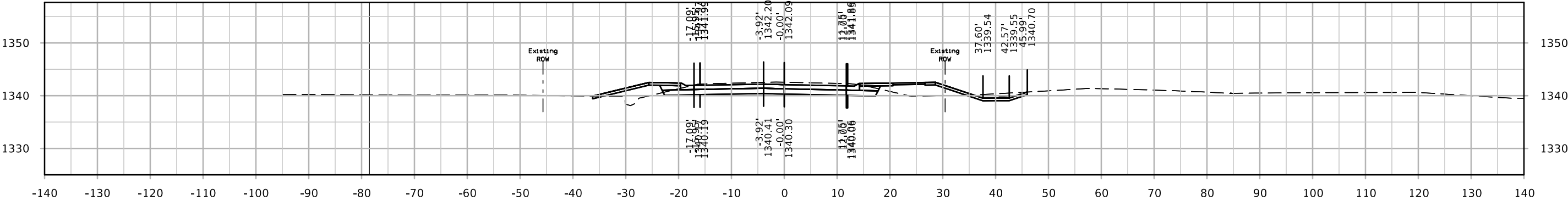
Jay Ave



STA. 2058+00.00

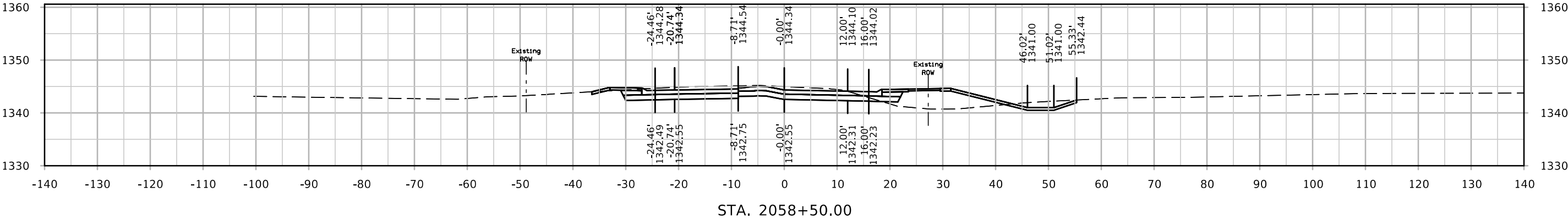
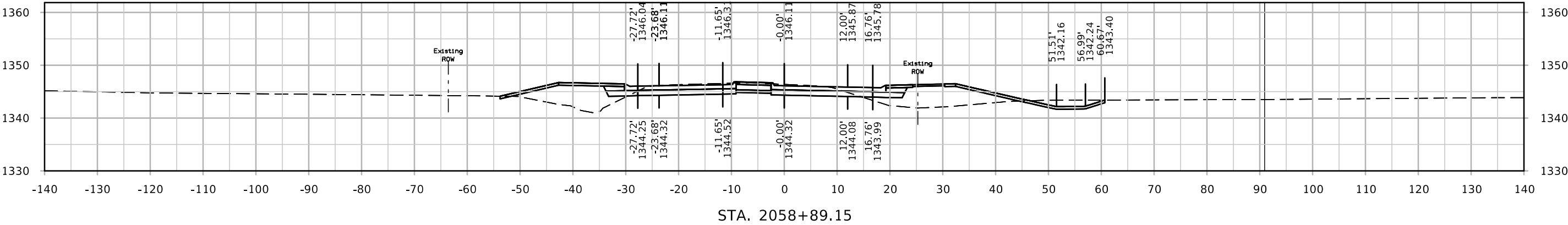
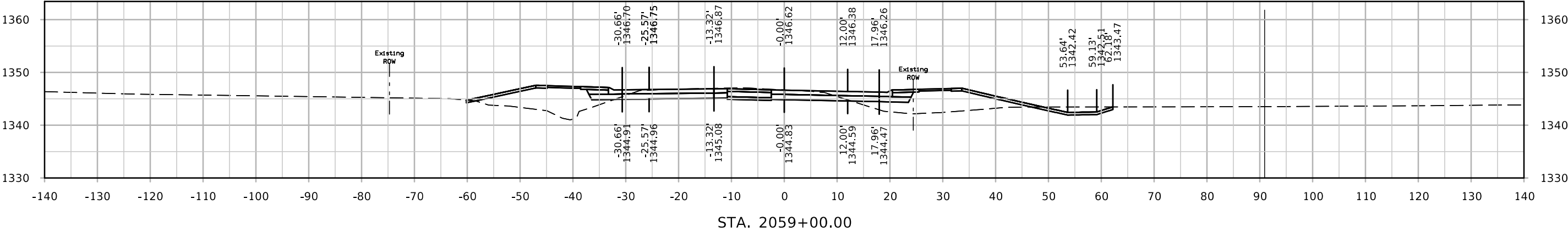


STA. 2057+90.12

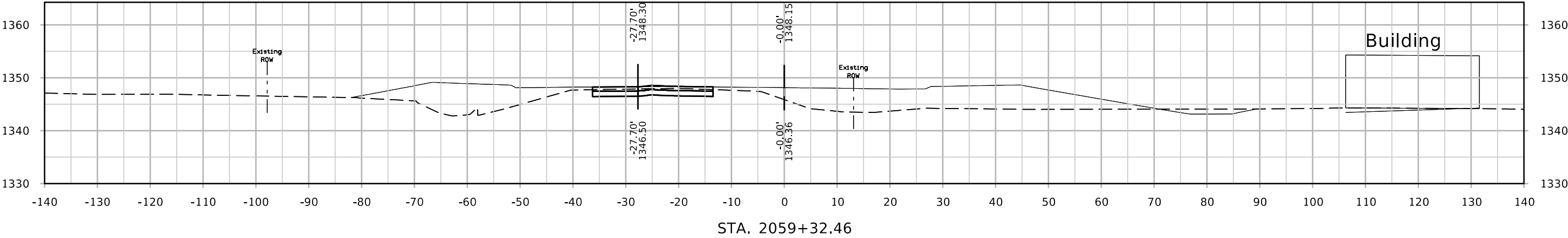
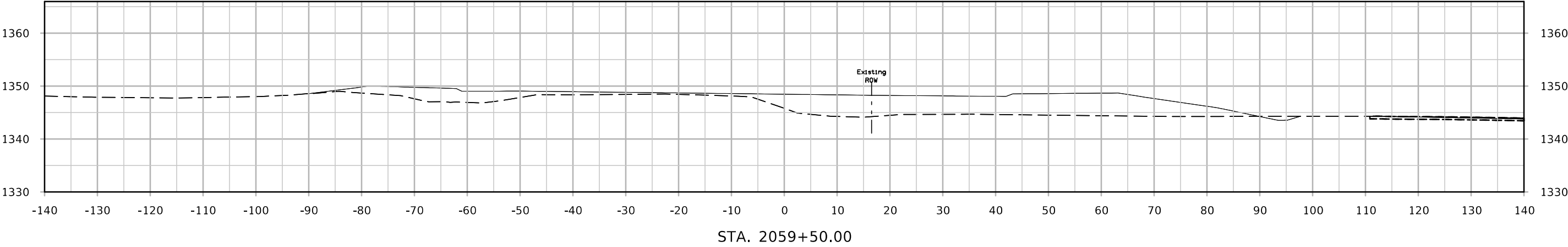
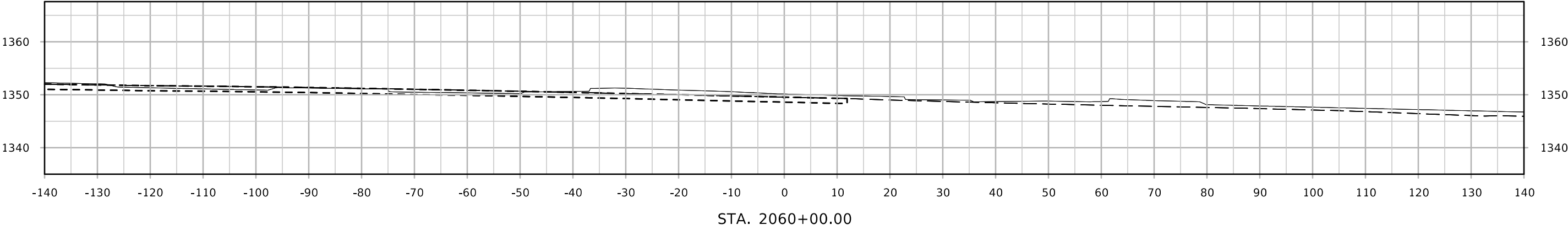


STA. 2057+86.19

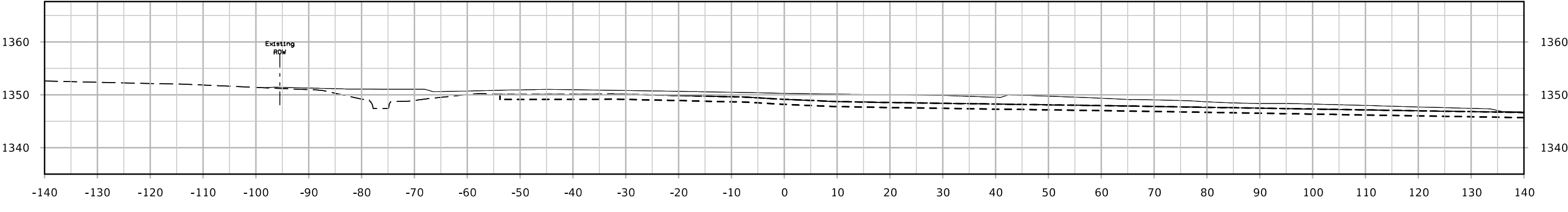
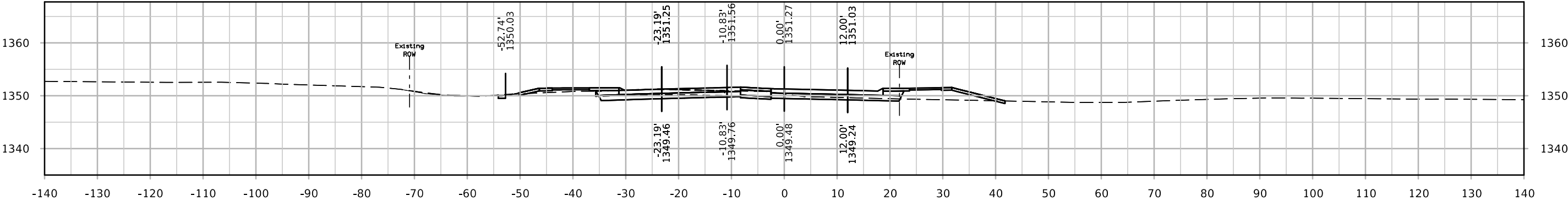
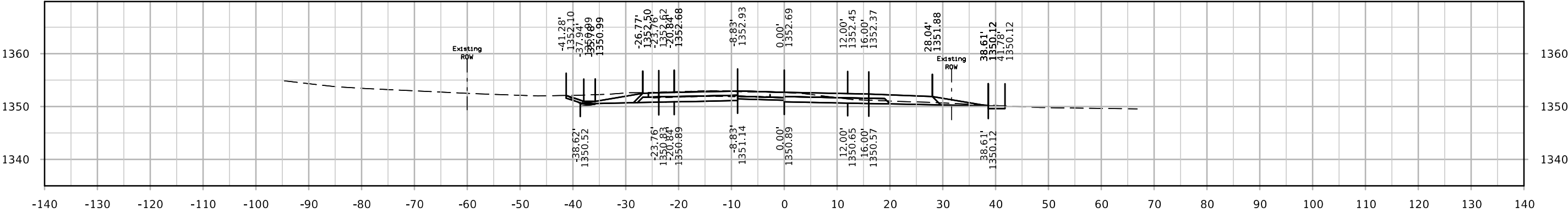
Jay Ave



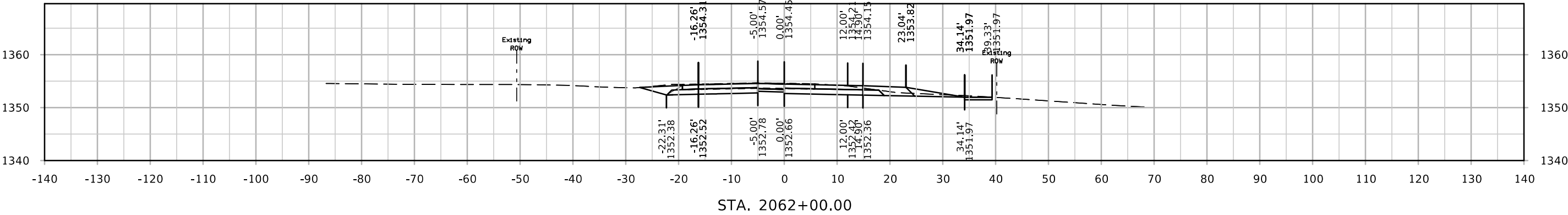
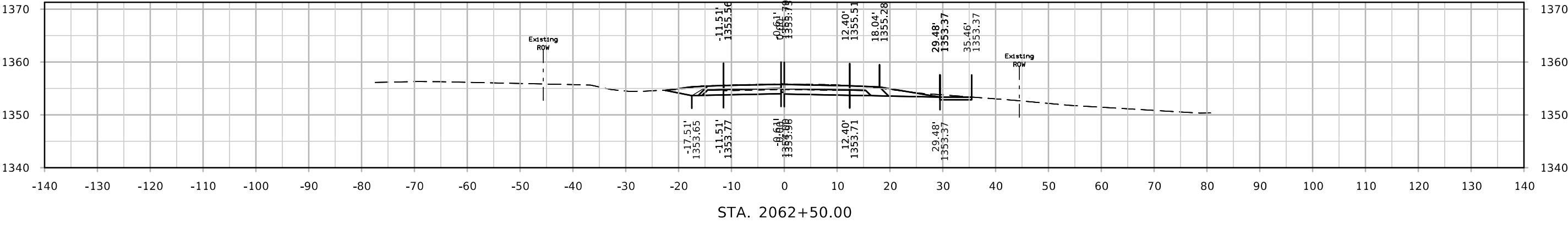
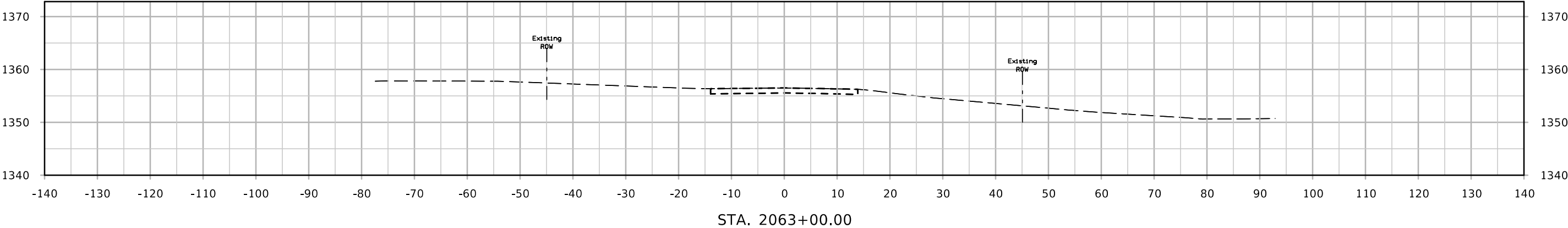
Jay Ave



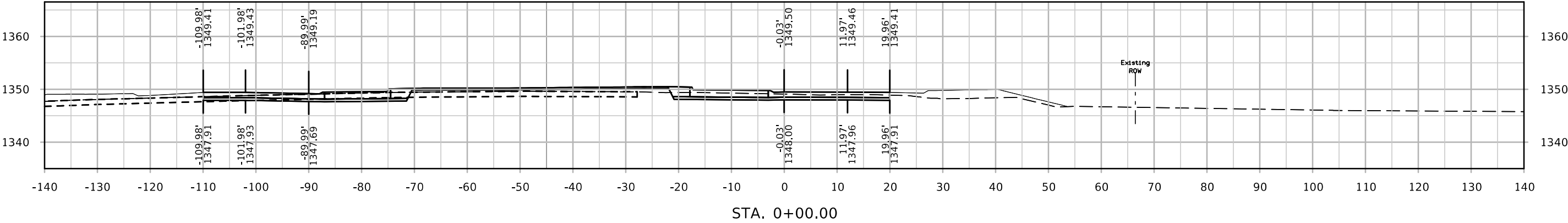
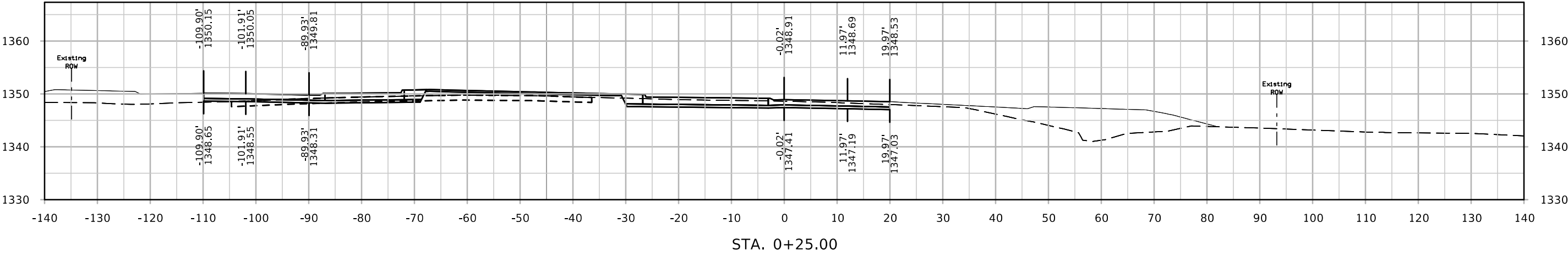
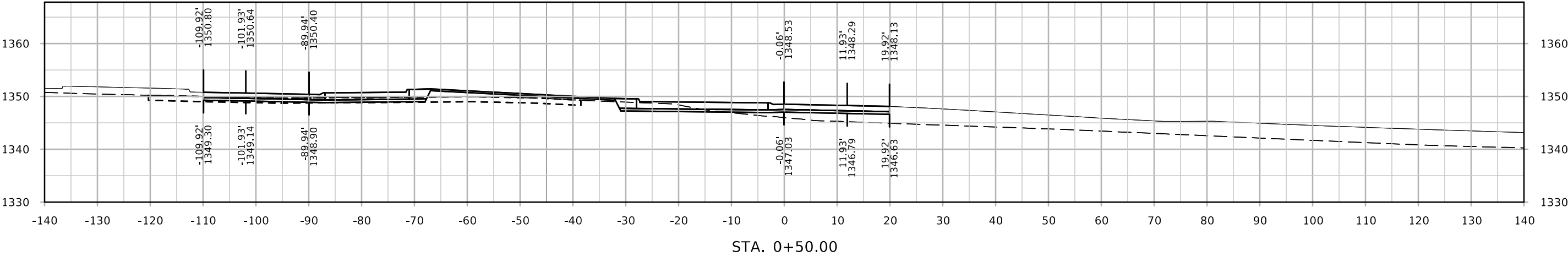
Jay Ave



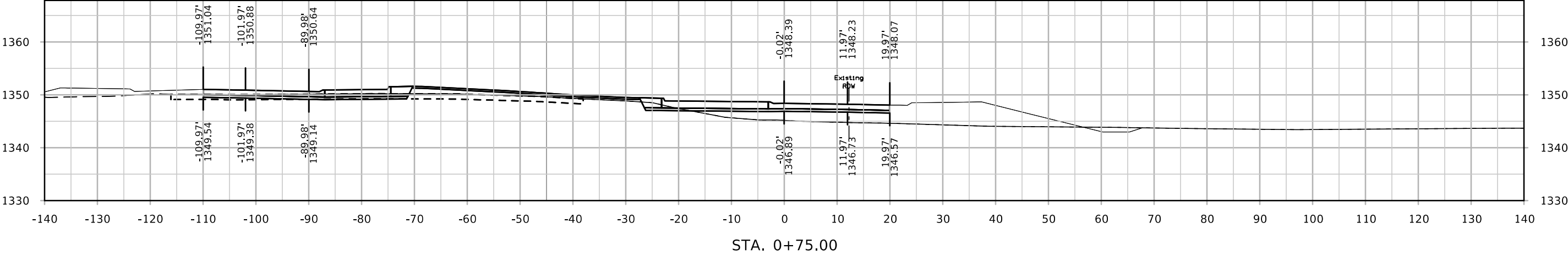
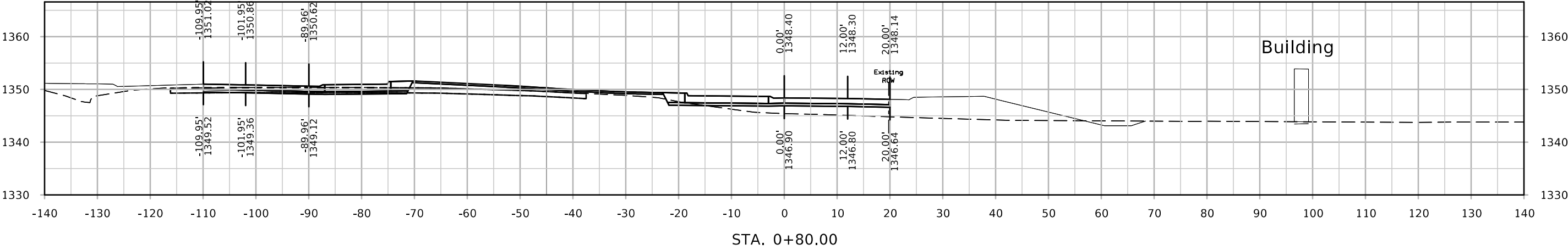
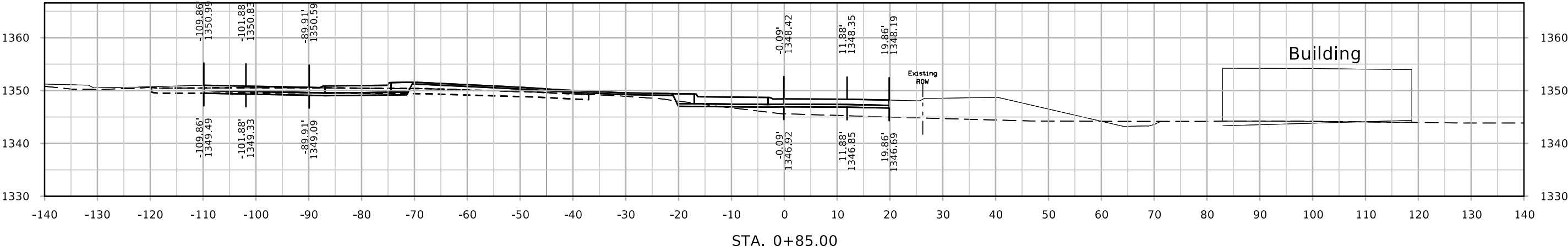
Jay Ave



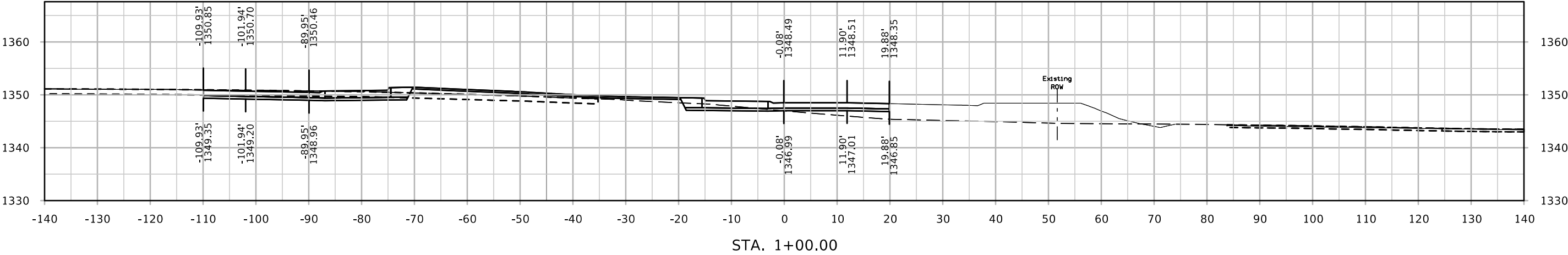
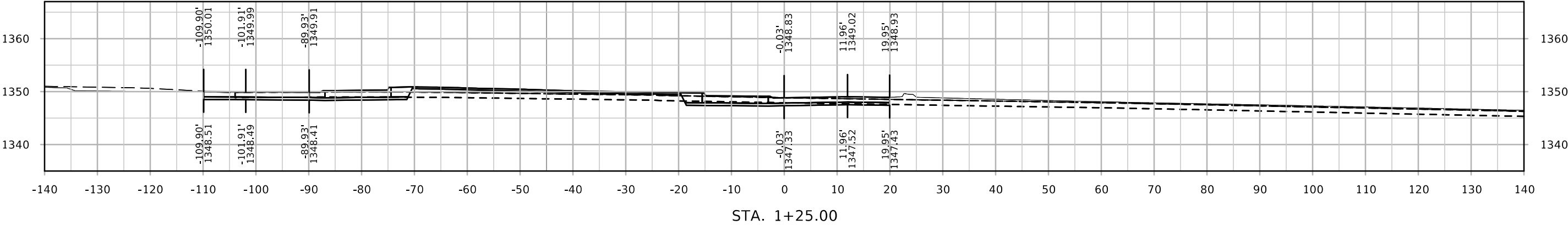
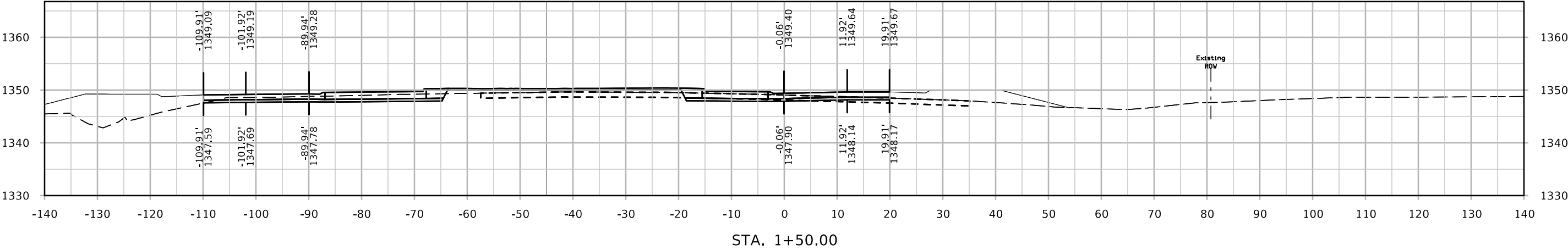
Roundabout



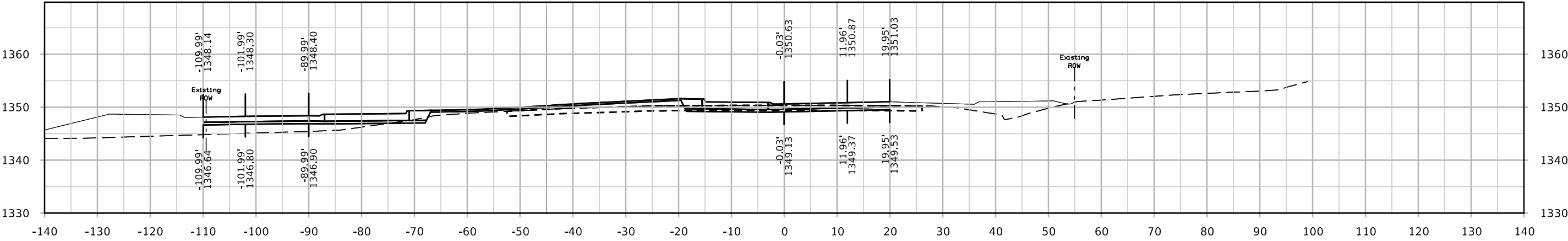
Roundabout



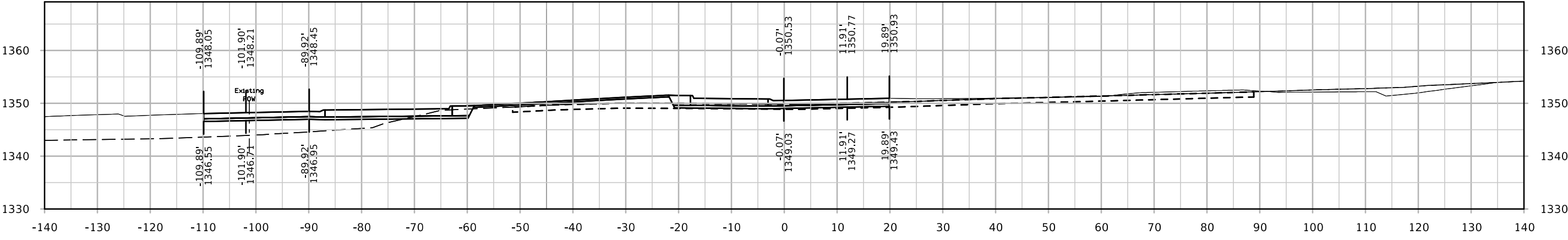
Roundabout



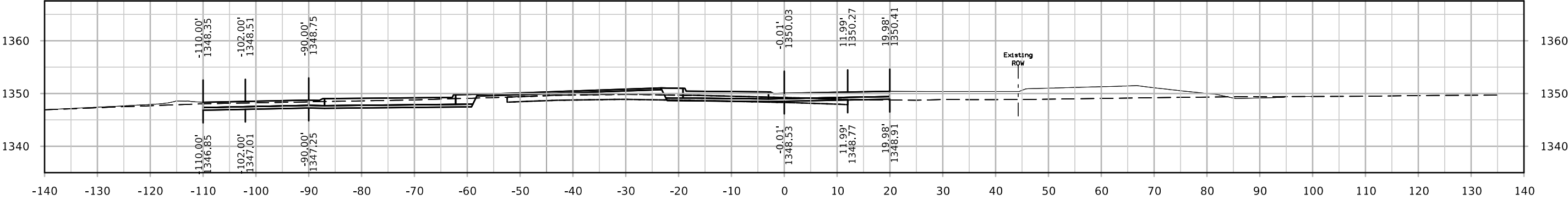
Roundabout



STA. 2+25.00



STA. 2+00.00



STA. 1+75.00

Roundabout

