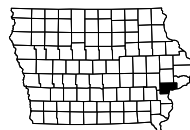


MUSCATINE COUNTY

PIPE CULVERTS
STPN-006-8(43)--2J-70

LETTING DATE
03-15-2022



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 3	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.3	General Notes
C.4 - 6	Tabulations
CD Sheets	Drainage Tabulations
CD.1	Drainage Tabulations
CS Sheets	Soils Tabulations
CS.1	Soils Tabulations
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	"US 6"
E Sheets	Side Road Plan and Profile Sheets
* E.1	"Noble Avenue"
* E.2	"Open Channel"
F Sheets	Detour or Temporary Pavement Sheets
* F.1	Detour Plan and Profile Sheet - DET005
G Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
G.4	Horizontal Control Tab. & Super for all Alignments
H Sheets	Right-of-Way Sheets
H.1	"US 6"
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan , Staging Notes Stage
J.1	511 Travel Restrictions
* J.2 - 4	Staging
R Sheets	Erosion Control Sheets
RC.1 - 4	Est. Quantities, PPP, General Notes and Tabulations
* RR.1 - 2	Erosion Control Legend and Symbol Information Sheet
T Sheets	Earthwork Quantity Sheets
T.1 - 9	Earthwork Quantity Sheets
U Sheets	500 Series, Mod.Stds. and Detail Sheets
* U.1	Final Grading Detail
Y Sheets	Return,Open channel,Side road X-Sections
* Y.1 - 5	DET006 Cross Sections
* Y.6 - 8	RETR006_Clip Cross Sections
* Y.9 - 14	OPN006 & Nobel Avenue Cross Sections
* Y.15 - 19	REL006 & DET006 Removal Cross Sections
	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE
**PRIMARY ROAD SYSTEM
MUSCATINE COUNTY**
PIPE CULVERTS

US 6
Near Noble Ave 3.4 mi E of Co Rd X46

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

62

PROJECT IDENTIFICATION NUMBER

21-70-006-010

PROJECT NUMBER

STPN-006-8(43)--2J-70

R.O.W. PROJECT NUMBER

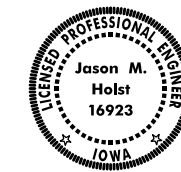
STPN-006-8(44)--2J-70

US 6	
DESIGN DATA RURAL	
2019 AADT	1870 V.P.D.
20 -- AADT	-- V.P.D.
20 -- DHV	-- V.P.H.
TRUCKS	7 %
Total Design ESALs	--

NOBLE AVE	
DESIGN DATA RURAL	
2018 AADT	1070 V.P.D.
20 -- AADT	-- V.P.D.
20 -- DHV	-- V.P.H.
TRUCKS	-- %
Total Design ESALs	--

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Jason M. Holst	Primary Signature Block
CD.1	David R. Claman	Hydraulic Design
CS.1	Stephen J. Megivern	Geotechnical Design
RC.1	Seanna K. Godbold	Landscape Design

ROADWAY DESIGN



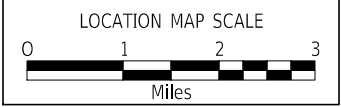
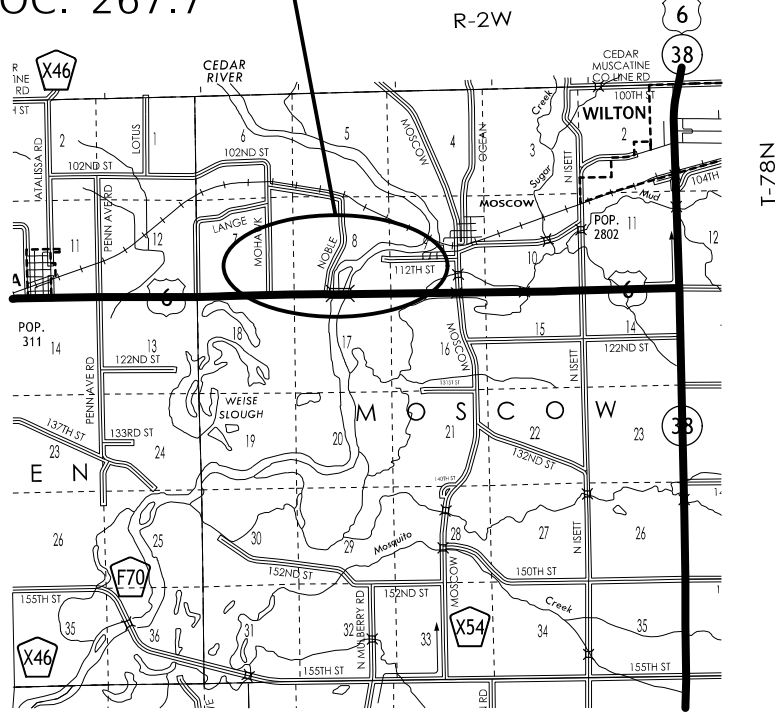
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: *Jason M. Holst* Date: 01-04-2022

Printed or Typed Name: Jason M. Holst
My license renewal date is December 31, 2023

Pages or sheets covered by this seal: A.1-A.2, B.1-B.3, C.1-C.6, D.1-D.2, E.1-E.2, F.1, G.4, H.1, J.1-J.4, T.1-T.9, U.1, Y.1-Y.19

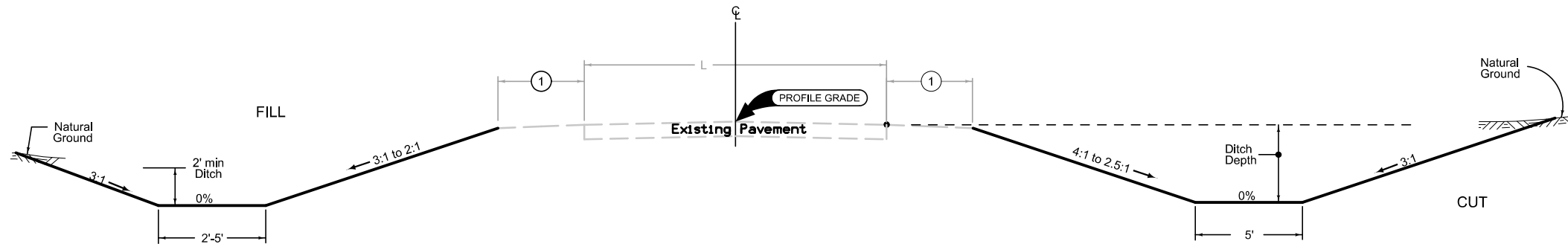
PROJECT LOCATION
REF. LOC. 267.7



Foreslope/Ditching

2_G_	
10-21-14	
STATION TO STATION	
1766+24.00	1766+78.70

① Existing Shoulder



Foreslope/Ditching

2_G_	
10-21-14	
STATION TO STATION	
1766+24.00	1766+78.70

① Existing Shoulder

2 LANE GRADING

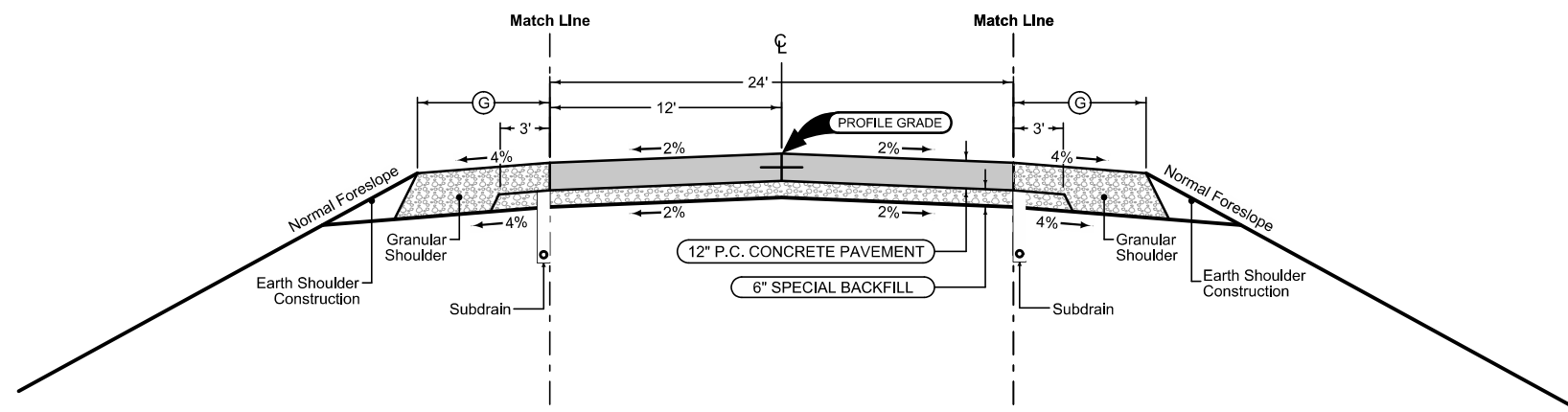
Normal section shown may be modified along intersection returns or other locations specifically designated by the Engineer.

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

Noble Avenue

Granular Shoulder

2_G_SR_		Ⓞ Feet
04-21-20		
STATION TO STATION		
1766+35.65	1766+73.50	4



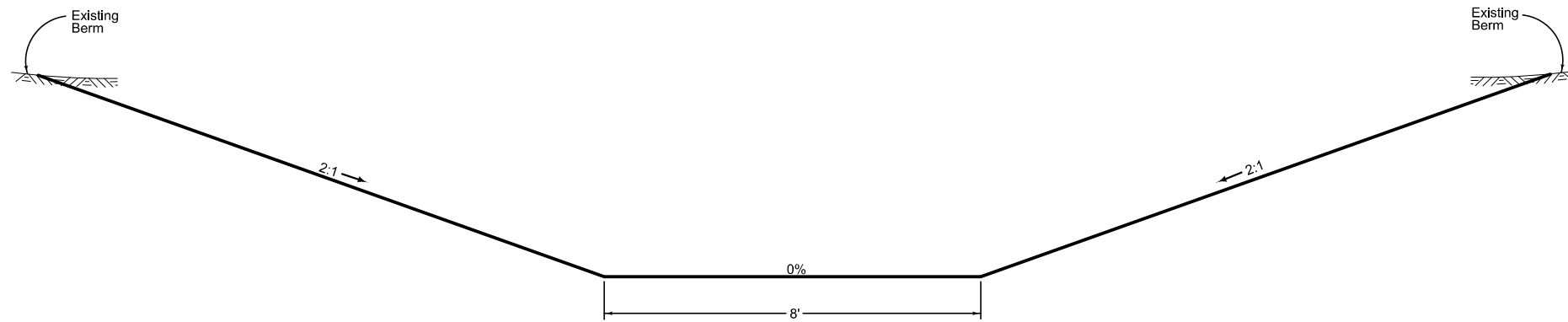
Mainline Jointing:
 Transverse joints: CD at 17' spacing
 Longitudinal joint: L-2

2P_	
04-21-20	
STATION TO STATION	
1766+35.65	1766+73.50

Granular Shoulder

2_G_SR_		Ⓞ Feet
04-21-20		
STATION TO STATION		
1766+35.65	1766+73.50	4

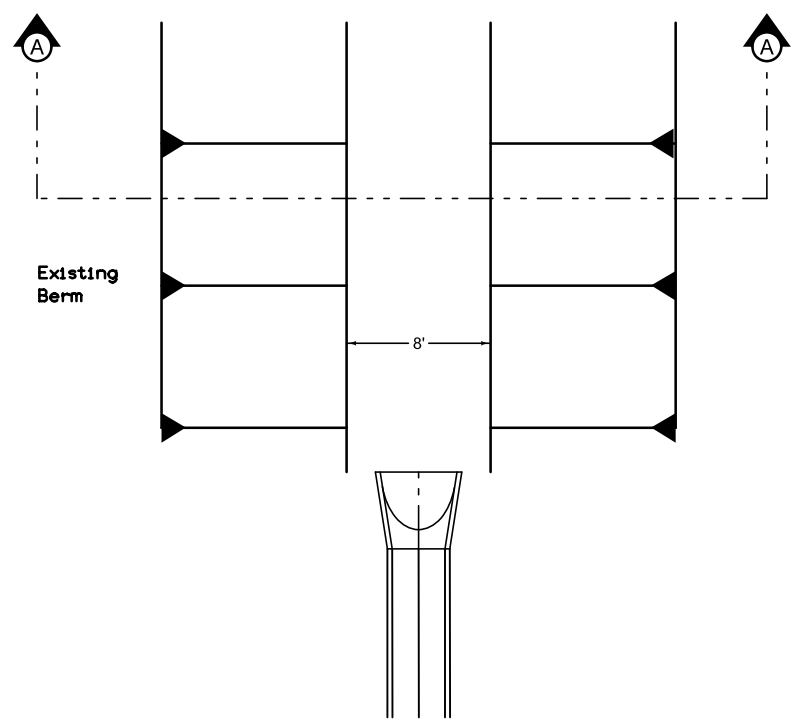
Noble Avenue



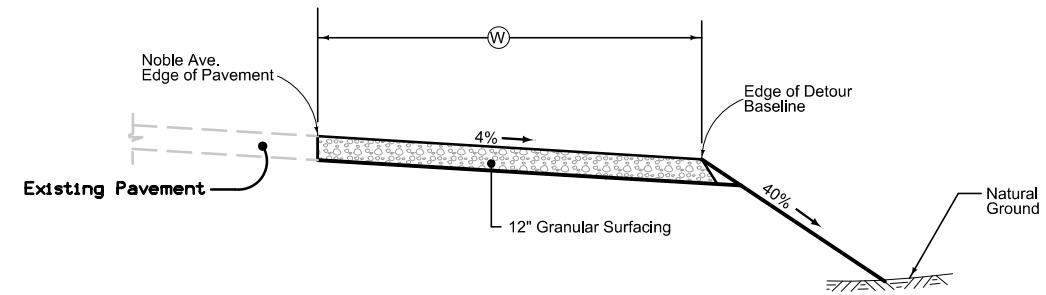
OPEN CHANNEL GRADING
Section A-A

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

STATION TO STATION	
100+92.86	102+95.00

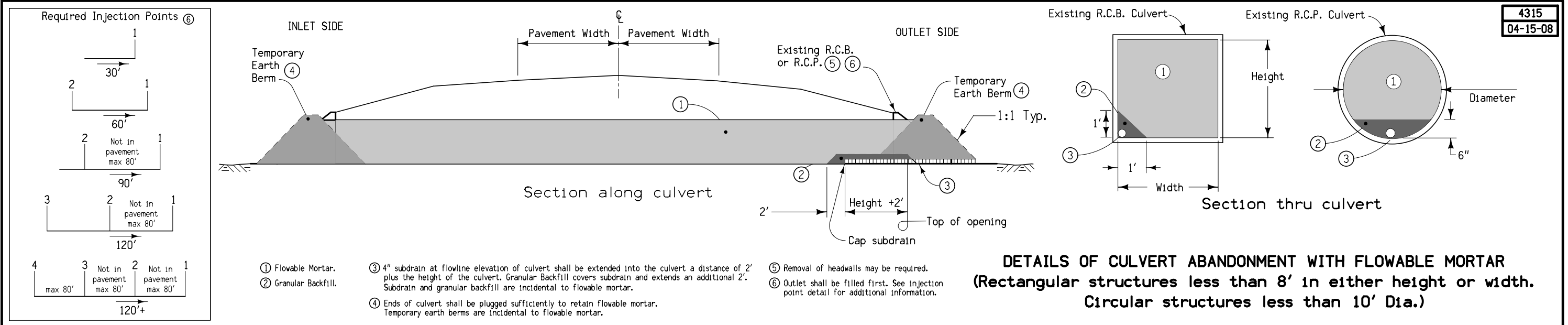


LOCATION				
ROAD IDENTIFICATION	STATION TO STATION		W	Quantity Tons
DET006	2766+76.95	2769+08.45	0' - 20.75'	178.5



GRADING AND GRANULAR SURFACING FOR DETOUR

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



4315
04-15-08

**DETAILS OF CULVERT ABANDONMENT WITH FLOWABLE MORTAR
(Rectangular structures less than 8' in either height or width.
Circular structures less than 10' Dia.)**

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Division 1:

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated		
				Division 1		
1	2101-0850001	CLEARING AND GRUBBING	ACRE	0.2		Bat habitat is not present and Spec 2101.01A nor tree clearing date restrictions are required.
2	2102-0425071	SPECIAL BACKFILL	CY	31.6		Refer to Tab. 100-24 on sheet C.4.
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	377		Refer to the T sheets for more information.
4	2102-2710090	EXCAVATION, CLASS 10, WASTE	CY	719		
5	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	5		A. Refer to Tab. 103-7 on sheet CS.1. B. Dispose of excess material according to Article 1106.07 of the current specifications.
6	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	149		Refer to the T sheets for more information.
7	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	500		Refer to Tab. 103-10 on sheet C.6 and the T Sheets.
8	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	28.48		Refer to Tab. 112-9 on sheet C.5.
9	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	0.757		Refer to Tab. 112-9 on sheet C.5 and the B sheets.
10	2301-1033120	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 12 IN.	SY	162.4		Refer to Tab. 100-24 on sheet C.4.
11	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	211.03		Refer to Sheets B.3 , F.1 and J.2. Includes 178.5 tons for Detour(DET006) construction and includes 32.53 tons for construction NB noble Ave as shown in stage 1(J.2 Sheet)
12	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1		Refer to Tab. 110-2 on sheet C.5 for additional details.
13	2402-0425040	FLOODED BACKFILL	CY	253.3		Refer to Tab. 104-3 on sheet CD.1.
14	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	378.2		Refer to Tab. 104-3 on sheet CD.1.
15	2416-0100054	APRONS, CONCRETE, 54 IN. DIA.	EACH	2		Refer to Tab. 104-3 on sheet CD.1
16	2416-1180054	CULVERT, CONCRETE ROADWAY PIPE, 54 IN. DIA.	LF	68		Refer to Tab. 104-3 on sheet CD.1.

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated		
				Division 1		
17	2501-8400172	TEMPORARY SHORING	LS	1		Temporary shoring (sheet pile or other) shall be required as necessary to prevent the earth under the traffic lane from sloughing during the staged construction of the proposed culvert. Temporary shoring shall be paid for as a lump sum including all cost for designing, furnishing, installing, and partially removing as needed for the staged construction of the proposed culvert. Any shoring left in place will be cut to a depth of 2' below finished grade. In addition to the requirements above, Article 1107.07, of the standard specification, still applies.
18	2506-4984000	FLOWABLE MORTAR	CY	62.1		Refer to Tab. 104-3 on sheet CD.1 and Tab. 110-9 on sheet C.6. Includes 26 CY from culvert backfill. Refer to Tab. 104-3 on CD-sheet Includes 36.1 CY from Culvert Abandonment. Refer to Tab. 110-9 on C-sheets
19	2510-6745850	REMOVAL OF PAVEMENT	SY	162.4		Refer to Tab. 110-1 on sheet C.5.
20	2526-8285000	CONSTRUCTION SURVEY	LS	1		
21	2527-8400065	TEMPORARY DELINEATORS	EACH	11		Refer to Tab. 190-25 on sheet C.6 and to sheet J.3. Temporary delineators shall be mounted back-to-back.
22	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	3.46		Refer to Tab. 108-22 on Sheet C.4.
23	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	2.16		Refer to Tab. 108-22 on Sheet C.4
24	2528-2518000	SAFETY CLOSURE	EACH	6		Refer to Tab. 108-13A on sheet C.6 and sheets J.2 - J.4.
25	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	287.5		Refer to Sheet J.2 - J.4 and Tab. 108-33 on sheet C.6. Item includes one tapered end section for each stage. Bid quantity includes shifting TBR for each stage.
26	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE	EACH	2		Refer to Tab. 108-27 .
27	2528-8400256	TEMPORARY TRAFFIC SIGNALS	EACH	1		Refer to Tab. 108-28 on sheet C.6 and sheets J.2 and J.3. This item includes all four signal locations as part of a single group.
28	2528-8445110	TRAFFIC CONTROL	LS	1		
29	2528-8445113	FLAGGERS	EACH	0		See Proposal.
30	2533-4980005	MOBILIZATION	LS	1		
31	2551-0000110	TEMP CRASH CUSHION	EACH	1		Refer to Tab. 108-30 on sheet C.6 and sheet J.3.

100-1D 10-18-05
PROJECT DESCRIPTION
This Project is for the removal of a 42" Pipe and the replacment with a single 54" pipe located under Noble Avenue. This will require new pavement over the area of pipe to be removed. A rock flume will be required from the end of the culvert down towards the Cedar River.

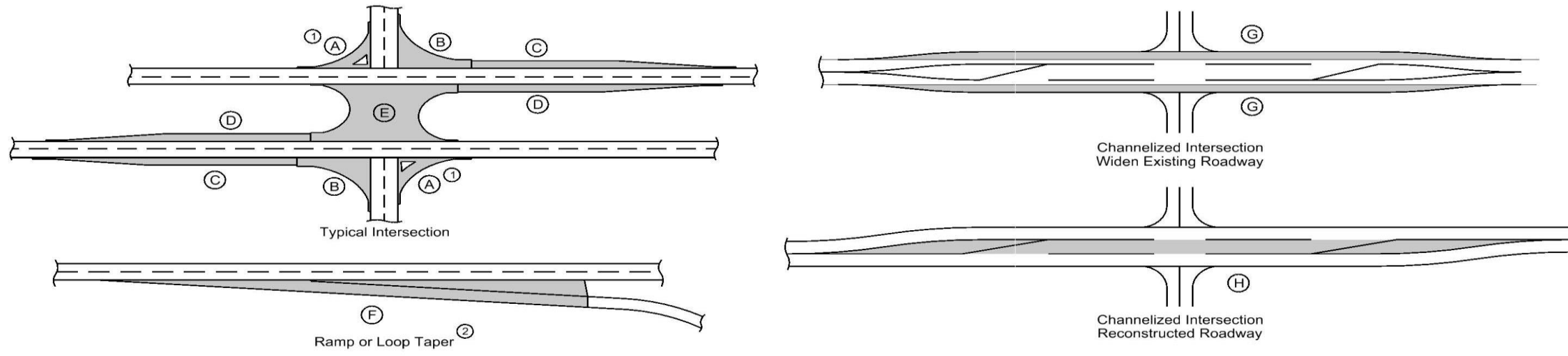
105-4 10-18-11		
STANDARD ROAD PLANS		
The following Standard Road Plans apply to construction work on this project.		
Number	Date	Title
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-201	04-21-20	Concrete Aprons
DR-213	04-21-20	Pipe Apron Guard
DR-601	04-18-17	Reinforced Concrete Pipe Culvert
EC-301	10-18-16	Rock Erosion Control (REC)
LI-130	10-17-17	Temporary Floodlighting Luminaires
PM-110	04-21-20	Line Types
PV-101	04-21-20	Joints
SI-172	04-19-16	Delineators
SI-881	04-16-19	Special Signs for Workzones
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-81	10-15-19	Restricted Width Signing (Less Than 14.5 Feet)
TC-202	10-19-21	Work Within 15 ft of Traveled Way
TC-217	10-18-16	Lane Closure with Signals and TBR
TC-283	10-15-19	Surveying Operations

111-25 10-18-11		
INDEX OF TABULATIONS		
Tabulation	Tabulation Title	Sheet No.
C Sheets		
100-1D	PROJECT DESCRIPTION	C.3
100-24	PCC PAVEMENT	C.4
103-10	TOPSOIL STRIPPING AND PLACEMENT	C.6
105-4	STANDARD ROAD PLANS	C.3
108-13A	SAFETY CLOSURES	C.6
108-22	PAVEMENT MARKING LINE TYPES	C.4
108-27	TEMPORARY FLOODLIGHTING LUMINAIRES	C.5
108-28	TEMPORARY TRAFFIC SIGNALS	C.6
108-30	CRASH CUSHIONS	C.6
108-33	TEMPORARY BARRIER RAIL	C.6
110-1	REMOVAL OF PAVEMENT	C.5
110-2	REMOVAL OF EXISTING STRUCTURES	C.5
110-9	CULVERT ABANDONMENT	C.6
111-25	INDEX OF TABULATIONS	C.3
112-9	SHOULDERS	C.5
190-25	REFERENCE LOCATION SIGNS AND DELINEATORS	C.6

See R Sheets For Additional Bid
Items And Quantities

262-6 10-18-05
UTILITIES (NOT A POINT 25 PROJECT)
This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

PCC PAVEMENT



- ① Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.
- ② Refer to PV-410, PV-411, PV-412, and PV-414.
- ③ Quantity includes Pavement Header.

Road Identification	Location		Mainline			Area ③								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks	
	Direction of Travel	Station to Station	Width	Length	Area	①		②		③		SY								
						A	B	C	D	E	F	G	H	12 IN	10% IN					
Stage 1 Noble Ave	NB	1766+35.65 - 1766+73.50	VARI	37.9	51.6															
Stage 2 Noble Ave	SB	1766+35.65 - 1766+73.50	VARI	37.9	110.8															
Totals															162.4	31.6				

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.
 ***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.
 BCY4: Broken Centerline (Yellow) @ 0.25 DCY4: Double Centerline (Yellow) @ 2.00 NPY4: No Passing Zone Line (Yellow) @ 1.25 BLW4: Broken Lane Line (White) @ 0.25 ELW4: Edge Line Right (White) @ 1.00
 ELY4: Edge Line Left (Yellow) @ 1.00 SLW2: Stop Line (White) @ 6.00

Road ID	Location		Dir. of Travel	Marking Type	Side		Length by Line Type (Unfactored)												Remarks								
	Station to Station	Station to Station			L	C	R	BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW2													
Noble Ave.	1766+35.65	1766+73.50		Waterborne/Solvent Paint	x																						
Noble Ave.	1766+35.65	1766+73.50		Waterborne/Solvent Paint		x																					
US 6	765+21.82	765+21.82		Waterborne/Solvent Paint																							
US 6	767+64.06	767+64.06		Waterborne/Solvent Paint																							
Noble Ave.	1768+56.00	1768+56.00		Waterborne/Solvent Paint																							
US 6	764+91.82	764+91.82		Removal of Paint																							
US 6	767+82.53	767+82.53		Removal of Paint																							
Noble Ave.	1768+55.82	1768+55.82		Removal of Paint																							
Factored Total: Waterborne/Solvent Paint								0.54					0.76														
Factored Total: Removal of Paint																											
Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based																											
Bid Quantity: Pavement Markings Removed																											

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 0, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location				Quantities																				Remarks																										
Road Identification	Direction Of Traffic	Station to Station	Side	P Width FT	P _{SG} Width FT ②	G Width FT	L Length FT	Class 13 Excavation CY ③	Hot Mix Asphalt		Binder TONS	Paved Shoulder SY ③	" Paved Shoulder at Guardrail SY ⑤	Reinforced Paved Shoulder SY ③	Special Backfill				Subbase CY ③	Granular Shoulder		Earth Shoulder Construction Alternates																												
									TON	TON/STA					HMA Alternate		PCC Alternate			TON ③	TON/STA	CY ③	TON ③		TON/STA	CY ③	HMA CY ⑥	PCC CY ⑥																						
															TON ③	TON/STA	TON ③	TON/STA																																
Stage 2 Noble Ave	SB	1766+35.65	1766+73.50	LT		4.0	37.9																																											
Stage 3 Noble Ave	NB	1766+35.65	1766+73.50	RT		4.0	37.9																																											
																				Totals		28.482																		0.8										

110-1
04-16-13

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		
Stage 1							
1766+35.65	1766+73.50	NB	HMA	51.6	69.3		
Stage 2							
1766+35.65	1766+73.50	SB	HMA	110.8	92.6		
TOTALS=				162.4	161.8		

110-2
04-16-13

REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks
1745+00 Noble	100+10 - 100+63 and 101+65 - 101+99 OPN006	For Removal of Portion of Existing Culvert and Inlet Extensions
Exist Culvert's outlet	Concrete Retaining Wall, 30' x Vari Depth	Remove to minimum 2' below proposed ground

108-27
10-17-17

TEMPORARY FLOODLIGHTING LUMINAIRES
Possible Standard: LI-130

No.	Location Station	Offset	Number Lumin.	Remarks
1	1766+40.00	47.5	1	Refer J.3 Sheet and LI-130
2	1768+45.00	15.7	1	Refer J.3 Sheet and LI-130

TOPSOIL STRIPPING AND PLACEMENT							103-10 04-18-17
Location				Topsoil Stripping Thickness	Topsoil Placement Thickness	Remarks	
Road Identification	Dir. of Traffic	Begin Station	End Station				
				IN	IN		
Stage 1							
DET006		2766+60.72	2769+08.45	12.0	6.0		
RETR006		+00.00	1+33.72	12.0	6.0		
OPN006		100+92.86	102+95.00	12.0	6.0		
Stage 2							
SR006		1766+35.65	1766+73.50	0.0	0.0		
RETL006		+25.00	1+16.78	12.0	6.0		
Stage 3							
DET006 Removal		1766+42.53	1768+05.00	12.0	6.0		

CULVERT ABANDONMENT						110-9 10-18-11
Refer to Details 4315 and 4316						* Not a bid item
Location Station	Description	Fill Material		4" Perforated Subdrain*	Remarks	
		Flowable Mortar	Granular Backfill*			
		CY	TON	LF		
+59.60	42" x 102' section of CMP	36.1	0.4	6.0	From 100+63 - 101+65 (OPN006)	

REFERENCE LOCATION SIGNS AND DELINEATORS																											190-25 10-21-14										
Refer to SI-171, SI-172 and SI-173.																																					
Begin Station	End Station	Location	Reference Location Signs															Enhanced Reference Location Signs						Intermediate Reference Location Signs			Delineators						Object Markers			Installation	
			D10-1	D10-2	D10-3	D10-5	D10-6	D10-7	D10-8	D10-9	D10-1A	D10-2A	D10-3A	D10-5A	D10-6A	D10-7A	D10-8A	D10-9A	D10-1D	D10-2D	D10-3D	White	Yellow	White	Yellow	White	Yellow	White	Yellow	Type 1	Type 2	Type 3	Type	Offset			
1766+25.0	1768+60.0	Refer to J-3 for location																						11													

TEMPORARY BARRIER RAIL								108-33 10-15-19
Possible Standard: BA-401 Possible Detail: 560-7								
* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.								
No.	Station to Station	Length LF	(Select One)		Anchored* (Y/N)	Modular Glare Screen System (Y/N)	Remarks	
			Concrete BA-401	Steel 560-7				
Stage 1								
	1766+32.46	1767+11.92	75.0	X	Yes		Include use of 1 tapered end section on south end of TBR.	
Stage 2								
	1766+32.46	1767+71.56	137.5	X	Yes		Include use of 1 tapered end section on south end of TBR.	
Stage 3								
	1766+32.46	1767+11.92	75.0	X	Yes		Include use of 1 tapered end section on south end of TBR.	

SAFETY CLOSURES					108-13A 08-01-08
Refer to Section 2518 of the Standard Specifications					
Station	Closure Type		Remarks		
	Road Qty.	Hazard Qty.			
Stage 1					
1766+30.00	2		NB Lane of Noble Ave		
Stage 2					
1766+30.00	2		SB Lane of Noble Ave		
Stage 3					
1766+30.00	2		NB Lane of Noble Ave		
Total	6				

CRASH CUSHIONS															108-30 04-16-13					
* Bid Item																				
① Lane(s) to which the installation is adjacent.																				
② Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500																				
No.	Direction of Traffic	Location Station	Side	Obstacle Width FT	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks
					Temporary	Temporary Redirective	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10	Embankment in Place	Permanent	Permanent Severe Use		
					Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	CY	CY	EACH	EACH		
1	SB	1767+68.50	LT	1.88	X														End of TBR	

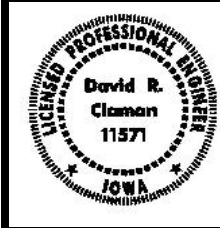
TEMPORARY TRAFFIC SIGNALS						108-28 08-01-08
No.	Location Station	Type			Remarks	
		One Lane Traffic	Haul Road	Intersection		
1	765+61.82			X	US 6	
	766+82.53			X	US 6	
	766+22.50			X	For Gravel Rd	
	1767+85.82	X		X	Noble Ave	
1	= Total					

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.
* Not a bid item
① Diameter or equivalent diameter
② UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe
③ Backfill according to DR-101

Drainage Area	Location	Type	Size ① IN	Kind Of Pipe ②	Length New Const. LF	Bedding Class	Design Cover (H) FT	Apron No.		Apron Guard* (DR-213) No.	Elbow* (DR-141) No.	Diaphragm* (DR-501) No.	Tee Section* (DR-142) No.	"D" Section* (DR-141) No.	Reducer*	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121) Type	4" Perforated Subdrain* FT	Flow Line Elevations				Dimensions Lin. Ft.				Skew Ahead Degrees		Dike				Class 20 CY	Flowable Mortar CY	Floodable Backfill CY	Porous Backfill CY	Flooded Backfill CY	Remarks							
								IN	OUT							Type	No.			Lt.	Rt.	Other	Other	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.							Rt.	Location Station	Top Elevation	Type	(A)	(B)	(A+B)
								ACRE																																						
	1766+59.29	DR-601	54	RCP	68	B	2.5	0.08	1	1	2									646.75	646.00			24.0	44.0				14						378.2	26.0	235.0	18.3	253.3							

HYDRAULIC 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.

David R. Claman 12/22/2021
Signature Date

David R. Claman
Printed or Typed Name

My license renewal date is December 31, 20 22

Pages or sheets covered by this seal: CD.1

103-7
08-01-08

SHRINKAGE DATA

Material	%	Remarks
Class 10	30%	
Topsoil	40%	
Boulders 5 CY		

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.

Stephen J. Megivern 12/25/2021
Signature Date

Stephen J. Megivern
Printed or Typed Name

My license renewal date is December 31, 2022

Pages or sheets covered by this seal: CS.1

SURVEY SYMBOLS

- BCL, Bridge Centerline
- BCL, Bridge Centerline
- BD, Bridge Deck
- BD, Bridge Deck
- BL, Topo Breakline
- BL, Topo Breakline
- BM, Bench Mark
- BRG, Bridge
- BRG, Bridge
- C, Centerline BL of Road -ML or SR
- C, Centerline BL of Road -ML or SR
- CON, Concrete or A/C Slab
- CON, Concrete or A/C Slab
- CP, Control Point
- D, Centerline Draw or Stream -Down
- D, Centerline Draw or Stream -Down
- ENT, Centerline BL of Entrance
- ENT, Centerline BL of Entrance
- ENU, Edge Unpaved Entrance and Parking
- ENU, Edge Unpaved Entrance and Parking
- EP, Edge of Paved Roads -ML or SR
- EP, Edge of Paved Roads -ML or SR
- Existing Terrain Boundary
- FENO, FENO Monument
- FW, Wire Fence
- FW, Wire Fence
- GDL, Guard Rail Steel
- GDL, Guard Rail Steel
- GR, Ground Shot
- LIN, Miscellaneous Line
- LIN, Miscellaneous Line
- PIP, Pipe Culvert
- PIP, Pipe Culvert
- POT, Tangent Point
- POT, Tangent Point
- RIP, Rip-Rap
- RIP, Rip-Rap
- SH, Paved Shoulder
- SH, Paved Shoulder
- SI, Sign
- SNP, Unpaved Shoulder
- SNP, Unpaved Shoulder
- SOP, Size of Pipe or Culvert
- TLNL, Tree Line Left
- TLNL, Tree Line Left

- GLID, MidAmerican Gas - Quality D
- PPA, Alliant Energy
- TLID, Windstream Communications - 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
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
 - Access Control
 - Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

Moscow TWP.
T-78N R-2W
SEC. 8



Noble Avenue (SR006)

Abandon
Entrance
(Remove)

Remove Retaining wall

764+00

765+00

766+00

767+00

768+00

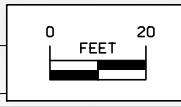
769+00

770+00

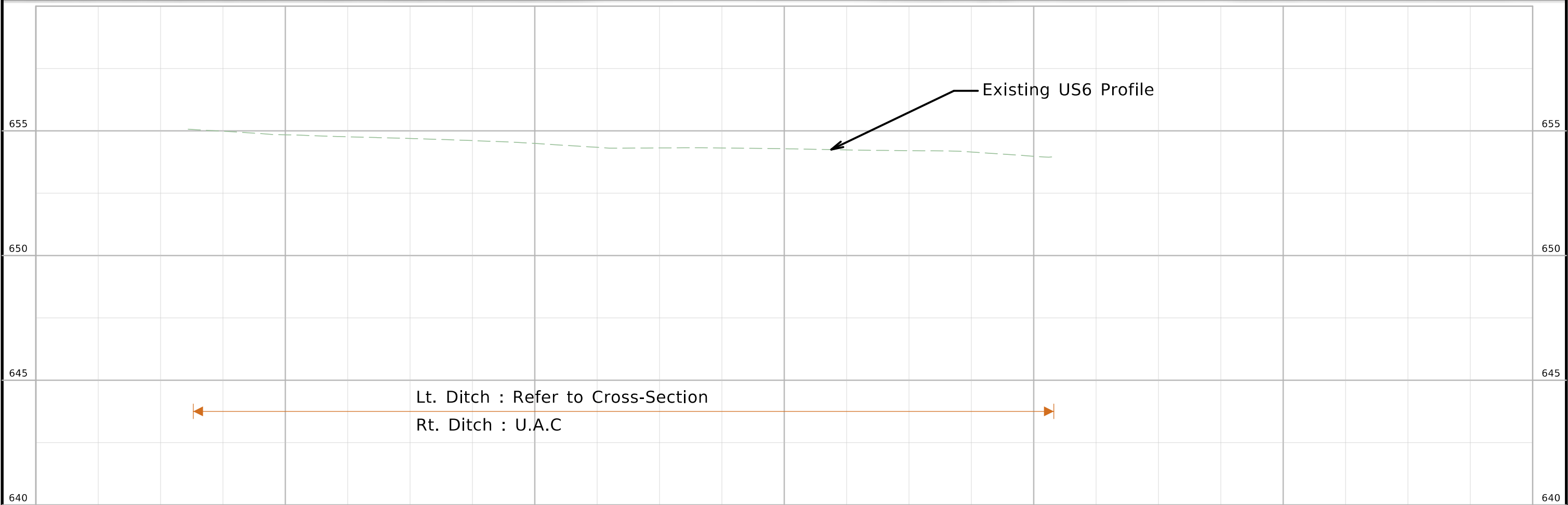
US 6 (ML006)

US 6 (ML006)

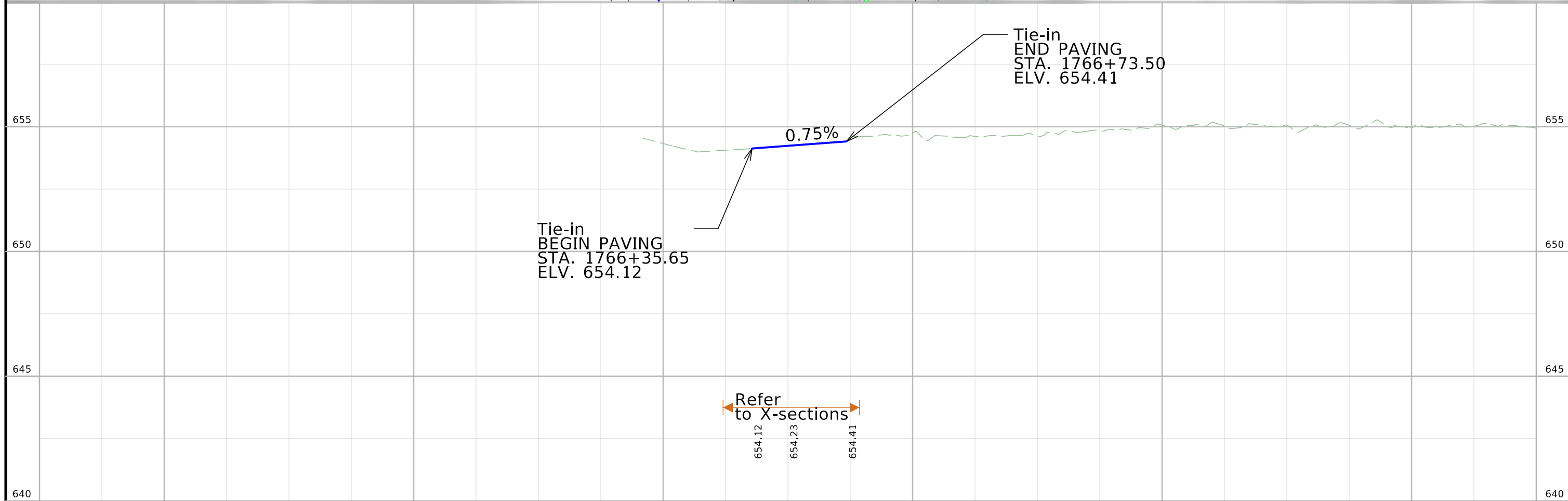
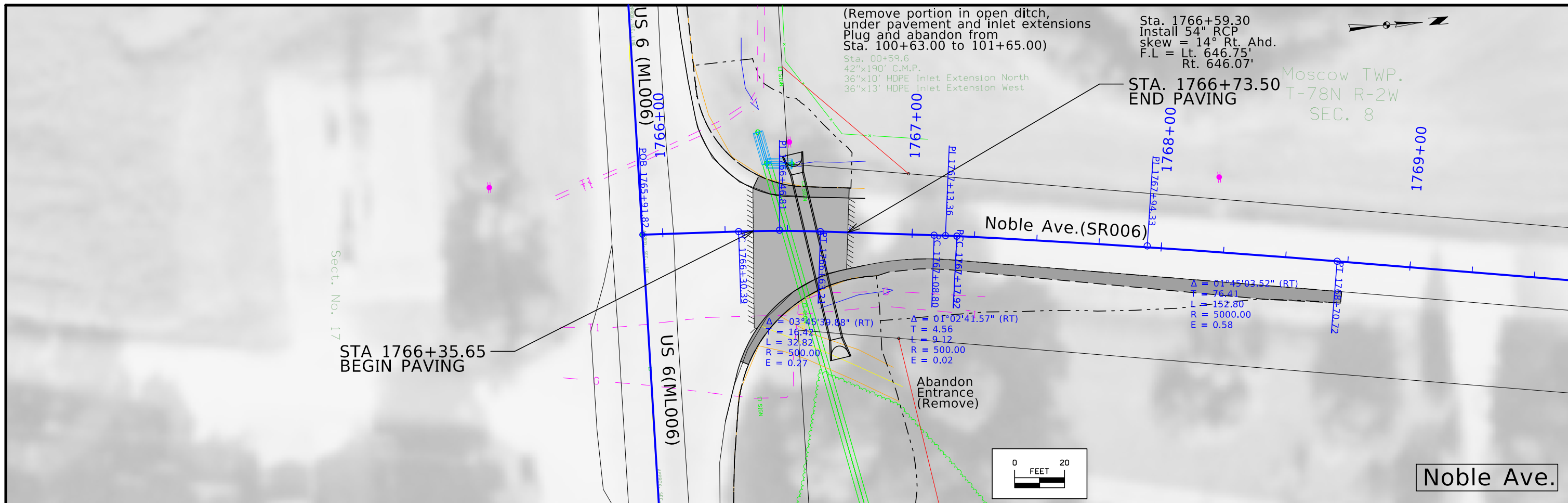
Sect. No. 17



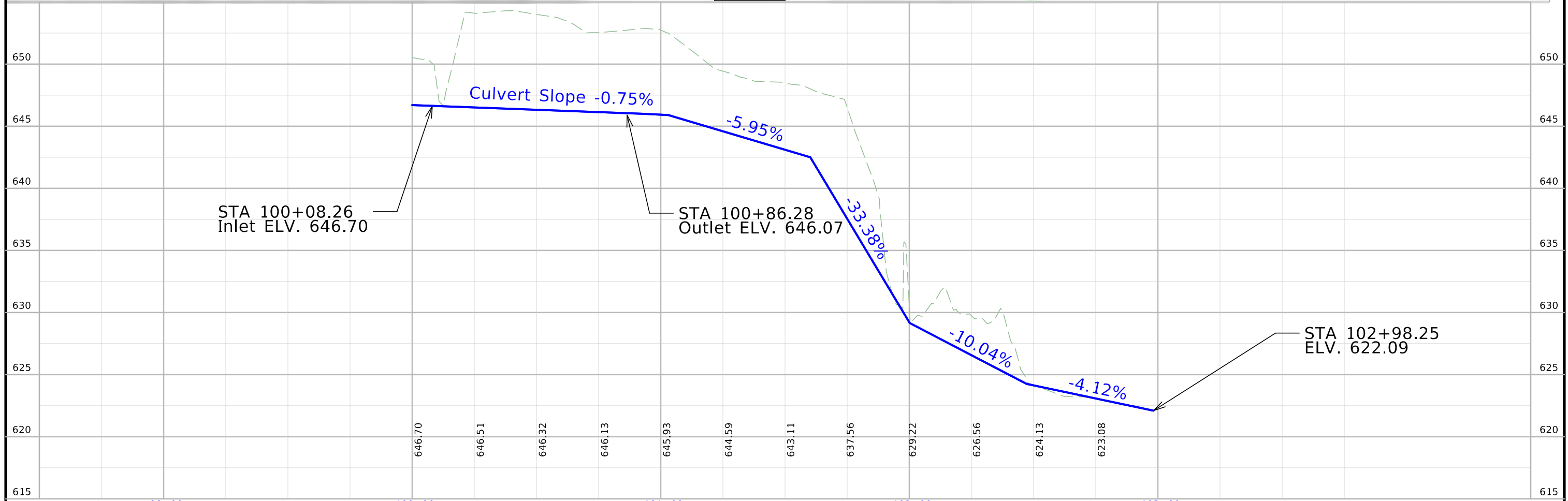
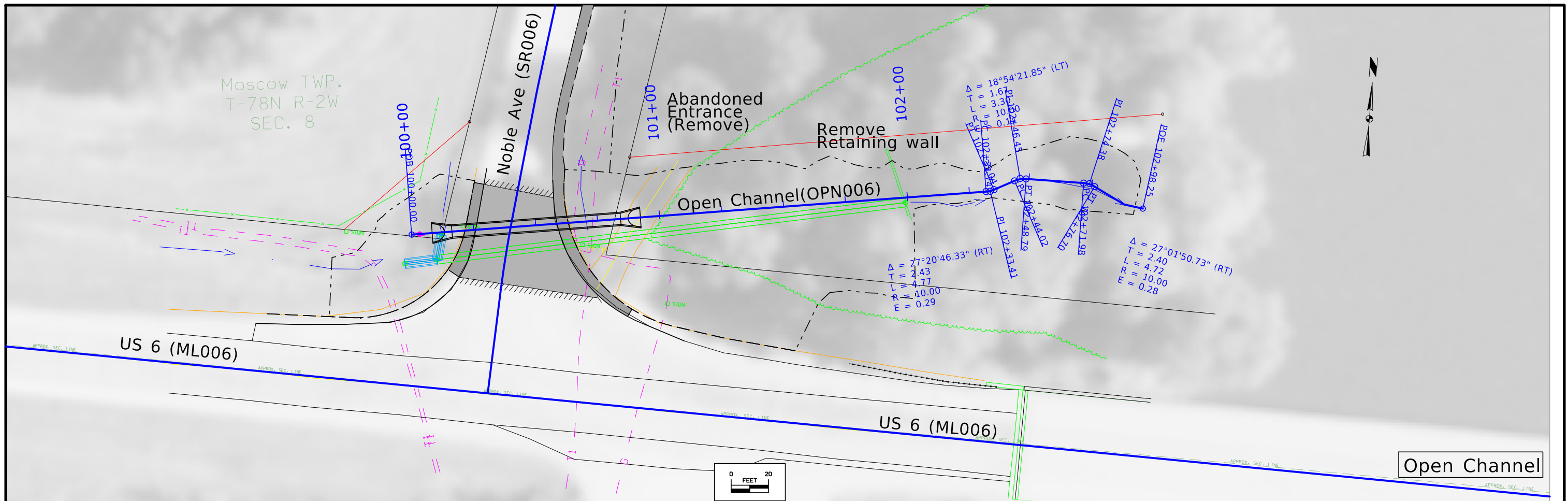
US 6



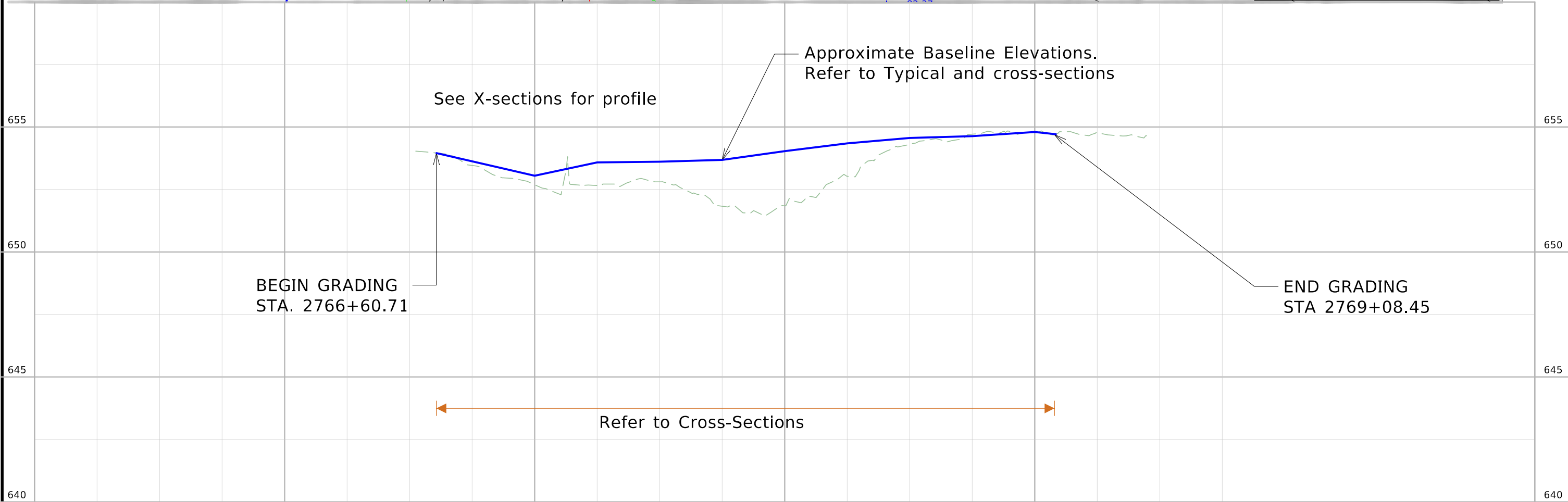
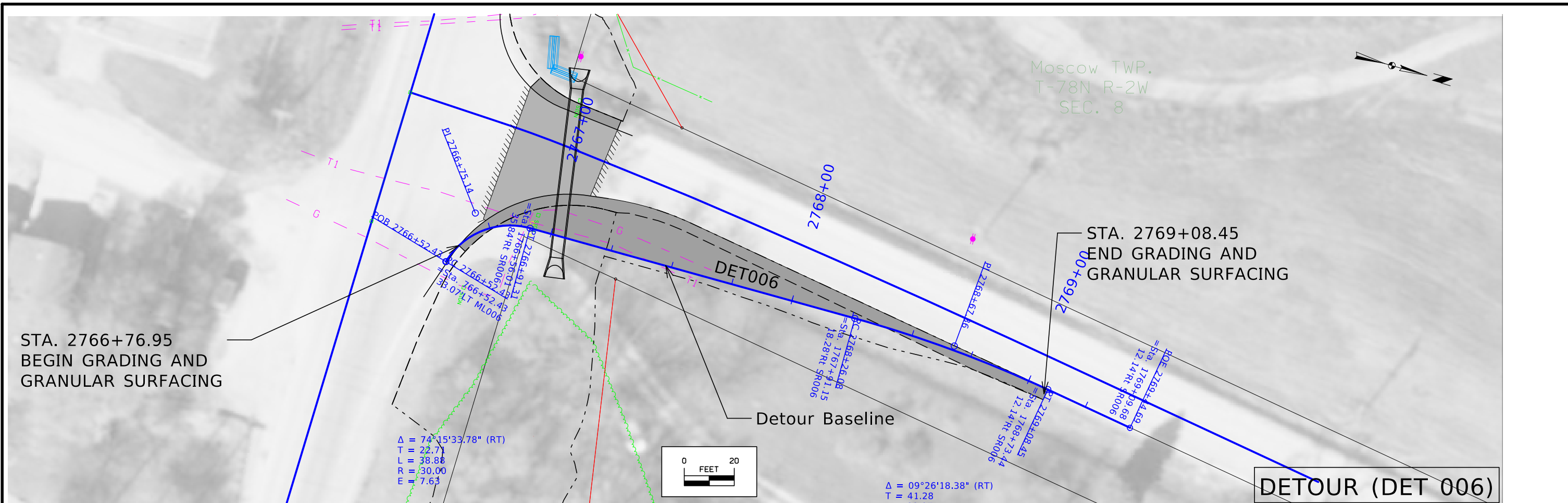
764+00	765+00	766+00	767+00	768+00	769+00
FILE NO.	ENGLISH	DESIGN TEAM HOLST/TAMRAKAR/ACKERMAN	MUSCATINE COUNTY	PROJECT NUMBER STPN-006-8(43)--21-70	SHEET NUMBER D.2



FILE NO.	ENGLISH	DESIGN TEAM HOLST/TAMRAKAR/ACKERMAN	MUSCATINE COUNTY	PROJECT NUMBER STPN-006-8(43)--2J-70	SHEET NUMBER E.1
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FILE NO.	ENGLISH	DESIGN TEAM HOLST/TAMRAKAR/ACKERMAN	MUSCATINE COUNTY	PROJECT NUMBER STPN-006-8(43)--2J-70	SHEET NUMBER E.2
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FILE NO.	ENGLISH	DESIGN TEAM HOLST/TAMRAKAR/ACKERMAN	MUSCATINE COUNTY	PROJECT NUMBER STPN-006-8(43)--21-70	SHEET NUMBER F1
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Survey Information

County: Muscatine

SAP 624.2

PIN: 21-70-006-010

Project Number: STPN-006-8(43)--2J-70

Location: Near Noble Ave 3.4 mi E of Co Rd X46

Type of Work: Pipe Culverts

Project Directory: 7000601021

Survey Personnel

Nels Sutherland- Survey Party Chief

Myron Fox- Assistant Survey Party Chief

Date(s) of Survey

Begin Date 02/15/2021

End Date 03/15/2021

General Information

Measurement units for this survey are US survey feet. This survey is for a proposed removal and replacement of a 42" CMP & Headwall in the ROW of US 6. Project datum and control information is provided by Design Survey Office. This project is a Full Field Survey.

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: NAD86(2011) EPOCH 2010.00

VERTICAL DATUM: NAVD88

COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 14

Alignments Information

Alignment for this project will be provided by the District 5 Land Survey Office.

Utility Information

For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

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 14

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

1a. Regional Coordinate System Zone 14
Project Control Marks are Bench Marks

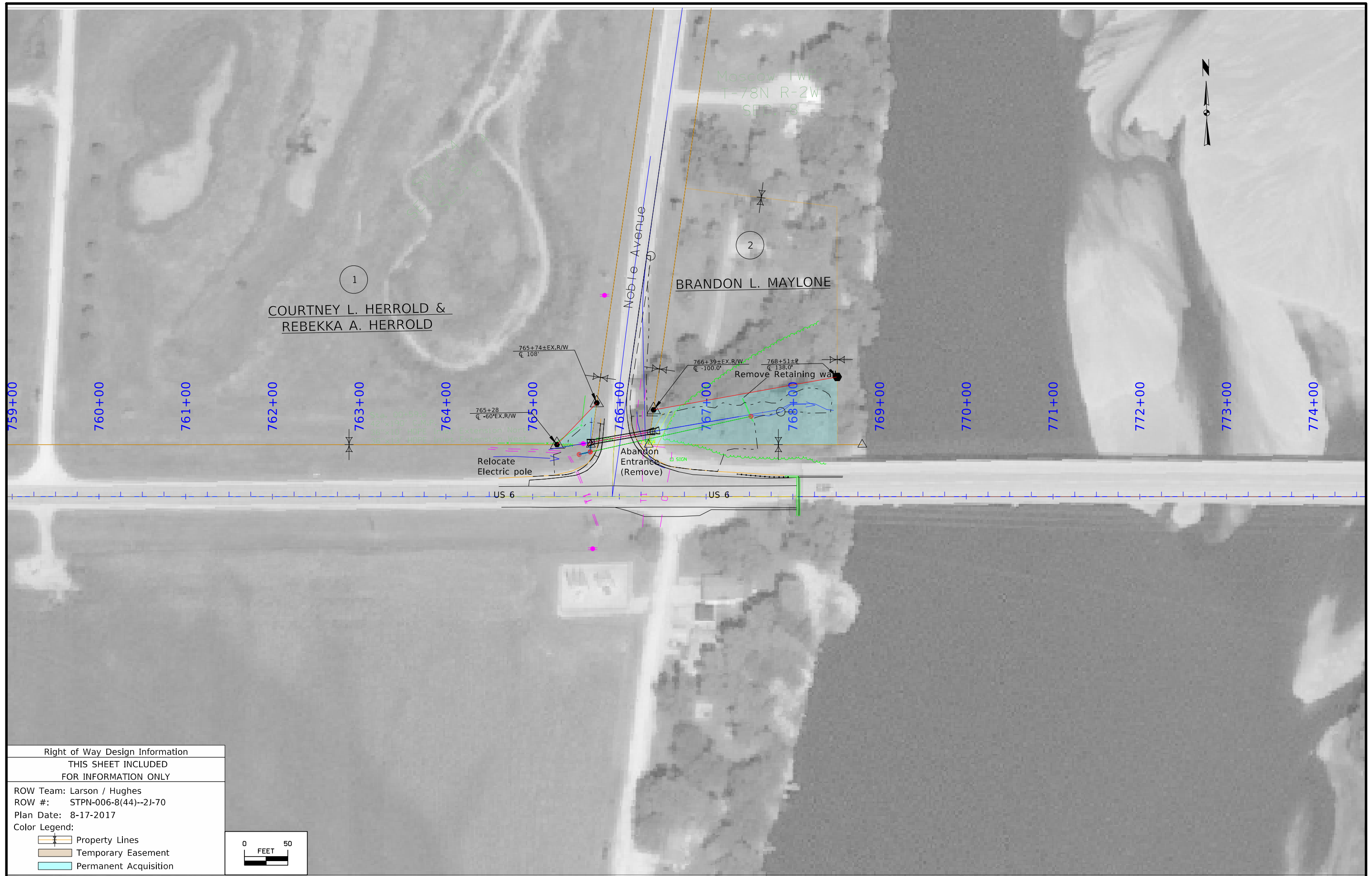
Point Name	North	East	Height	Code Description
1659	6679817.339	24549995.912	663.940	CP 5/8TH REBAR FROM THE INTERSECTION OF HWY6 AND N ISETT AVE PROCEED W 0.5 MILES ALONG HWY6 POINT IS 18FT N OF CL HWY6 4IN BELOW SURFACE
6242001	6680015.344	24538484.822	651.204	FENO IDOT BRASS DISC FROM THE INTERSECTION OF HWY6 AND NOBEL AVE PROCEED W 110FT ALONG HWY6 POINT IS 58FT N OF CL HWY6 4IN BELOW SURFACE
735	6680040.901	24535406.392	697.867	CP CUT X IN ROW RAIL FROM THE INTERSECTION OF HWY6 AND MOHAWK AVE PROCEED W 40FT ALONG HWY6 POINT IS 46FT N OF CL HWY6 4IN BELOW SURFACE

ALIGNMENT COORDINATES

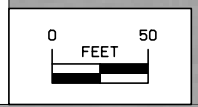
Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
1	ML006	748+13.80	6679988.65	24536815.43															
1	ML006	801+51.74	6679887.69	24542152.42															
1	SR006	176591.820 R1	6679955.02	24538593.14															
2	SR006							176630.390 R1	6679993.54	24538594.94	176646.806 R1	6680009.94	24538595.71	176663.211 R1	6680026.26	24538597.55			
4	SR006	176678.706 R1	6680041.65	24538599.29															
5	SR006							176708.805 R1	6680071.56	24538602.66	176713.364 R1	6680076.09	24538603.18	176717.923 R1	6680080.61	24538603.77			
6	SR006							176717.923 R1	6680080.61	24538603.77	176794.330 R1	6680156.37	24538613.72	176870.725 R1	6680231.78	24538625.99			
7	SR006	176987.072 R1	6680346.62	24538644.66															
1	DET006							276652.430 R1	6679986.93	24538654.37	276675.143 R1	6679993.02	24538632.48	276691.312 R1	6680015.73	24538632.40			
3	DET006							276826.084 R1	6680150.50	24538631.93	276867.360 R1	6680191.78	24538631.78	276908.450 R1	6680232.52	24538638.41			
4	DET006	276944.685 R1	6680268.28	24538644.23															
1	RETR006	+00.00	6679981.70	24538715.14															
2	RETR006	+28.80	6679984.54	24538686.48															
3	RETR006	+38.25	6679985.95	24538677.14															
4	RETR006							+49.68	6679987.65	24538665.84	+97.32	6679994.76	24538618.73	1+29.18	6680042.37	24538617.09			
5	RETR006	1+34.46	6680047.65	24538616.98															
1	OPN006	10000.000 R1	6680016.29	24538557.63															
2	OPN006	10202.229 R1	6680047.03	24538757.51															
3	OPN006							10231.744 R1	6680051.51	24538786.69	10233.409 R1	6680051.76	24538788.33	10235.044 R1	6680052.53	24538789.81			
5	OPN006							10244.019 R1	6680056.69	24538797.76	10246.451 R1	6680057.82	24538799.92	10248.791 R1	6680057.83	24538802.35			
7	OPN006							10271.981 R1	6680057.94	24538825.54	10274.384 R1	6680057.95	24538827.94	10276.699 R1	6680056.87	24538830.09			
9	OPN006	10290.566 R1	6680050.63	24538842.47															
9	OPN006	10298.254 R1	6680049.57	24538850.08															
1	RETL006	+00.00	6679980.03	24538502.19															
2	RETL006	+33.59	6679981.07	24538535.78															
3	RETL006	+33.59	6679981.07	24538535.76															
4	RETL006	+33.59	6679981.07	24538535.78															
5	RETL006	+33.59	6679981.07	24538535.76															
6	RETL006	+33.59	6679981.07	24538535.78															
7	RETL006	+33.59	6679981.07	24538535.76															
8	RETL006	+33.59	6679981.07	24538535.78															
9	RETL006	+33.59	6679981.07	24538535.76															
10	RETL006							+33.59	6679981.07	24538535.78	+72.63	6679982.28	24538574.80	+97.91	6680021.08	24538579.11			
11	RETL006	1+16.78	6680039.84	24538581.19															

SPIRAL OR CIRCULAR CURVE DATA

Name	Location	ΔSCS	Horizontal Alignment Data												Remarks				
			Spiral Data						Curve Data										
			θS	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	ΔC	T	L	R		E			
C1	SR006																		
C2	SR006																		
C3	SR006																		
C1	DET006																		
C2	DET006																		
C1	RETR006																		
C1	OPN006																		
C2	OPN006																		
C3	OPN006																		
C1	RETL006																		



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Larson / Hughes	
ROW #: STPN-006-8(44)--2J-70	
Plan Date: 8-17-2017	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

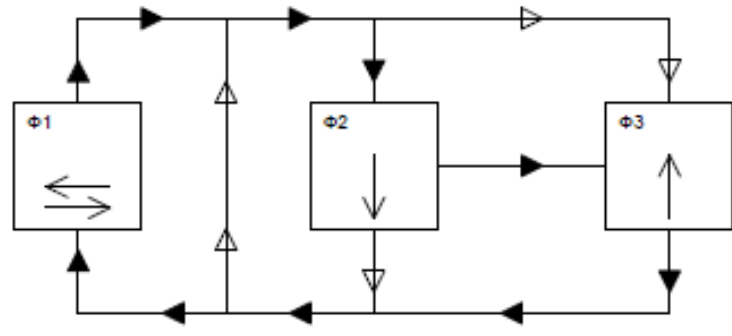


108-23A 08-01-08
TRAFFIC CONTROL PLAN
US 6 and Noble Ave. traffic will be maintained using temporary traffic signal during stage 1, 2 and 3.

108-26A 08-01-08
STAGING NOTES
<p>Stage 1: Traffic: US 6 and Noble Ave. traffic will be maintained using temporary traffic signals. Refer to Noble Ave. Staged Traffic Control details on J-sheets utilizing a single lane on Noble Ave.</p> <p>Construct: Grade new outlet channel and rock flume. Install temporary shoring and outlet end of culvert. Granular surfacing for NB return and granular surfacing for detour.</p> <p>Stage 2: Traffic: US 6 and Noble Ave. traffic will be maintained using temporary traffic signals. Shift traffic on Noble Ave. to detour. Refer to Noble Ave. Staged Traffic Control details on J-sheets utilizing a single lane on Noble Ave.</p> <p>Construct: Install inlet end of culvert. Grade and pave Noble Ave. and SB return pavement.</p> <p>Stage 3: Traffic: US 6 and Noble Ave. traffic will be maintained using temporary traffic signals. Refer to Noble Ave. Staged Traffic Control details on J-sheets utilizing a single lane on Noble Ave.</p> <p>Construct: Grade and pave Noble Ave. and NB return pavement.</p> <p>Stage 4: Traffic: Return US 6 to normal traffic to normal two-lane, two-way operation utilizing temporary lane. Use temporary lane closure with flaggers for Noble Ave.</p> <p>Construct: Remove temporary detour.</p> <p>Stage 5: Traffic: Return Noble Ave. traffic to normal two-lane, two-way operation utilizing temporary lane.</p>

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.									

Flow Diagram

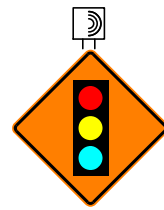


- Indicates flow path when all phases are demanded.
- ⇨ Indicates optional flow path when some phases are not demanded at the time of right-of-way transfer.

Recommended Timing (sec)

Signal Phase	1	2	3
Initial Green	15.0	15.0	12.0
Extension	2.5	2.5	2.5
Maximum Green	45.0	45.0	45.0
Yellow	5.0	5.0	5.0
All Red*	15.0	15.0	12.0

*All Red values based on operating speed of 20 mph.



W3-3
48" x 48"



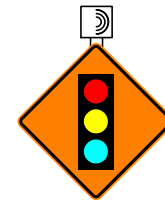
R10-6
24" x 36"

Noble Ave.



Temporary Shoring

Install 34' culvert on east side



W3-3
48" x 48"

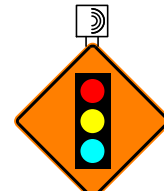
R10-6
24" x 36"

100'

US 6 WB
US 6 EB

LEGEND

- Vehicle Detection Area
- Temporary Crash Cushion
- Direction of Traffic
- Traffic Sign
- Drum
- Type 'B' High-Intensity Flashing Warning Light
- Work Area
- Temporary Traffic Signal

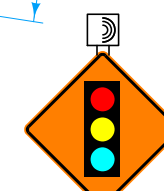


W3-3
48" x 48"



R10-6
24" x 36"

70'



W3-3
48" x 48"

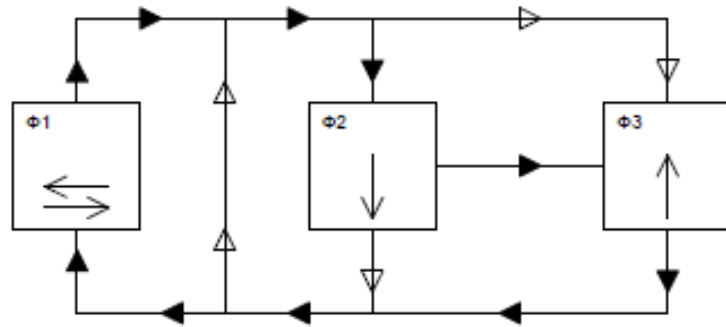
R10-6
24" x 36"

① Locate signal heads 70 to 100 feet beyond stop bar. Adjust location of signal heads as field conditions warrant.

SPEED LIMIT (mph)	A
35 or less	250'
40 - 45	350'
50 or greater	500'

**STAGE 1
NB LANE CLOSURE WITH
SIGNALS AND TBR AT NOBLE AVE**

Flow Diagram



- ➔ Indicates flow path when all phases are demanded.
- Indicates optional flow path when some phases are not demanded at the time of right-of-way transfer.

Recommended Timing (sec)

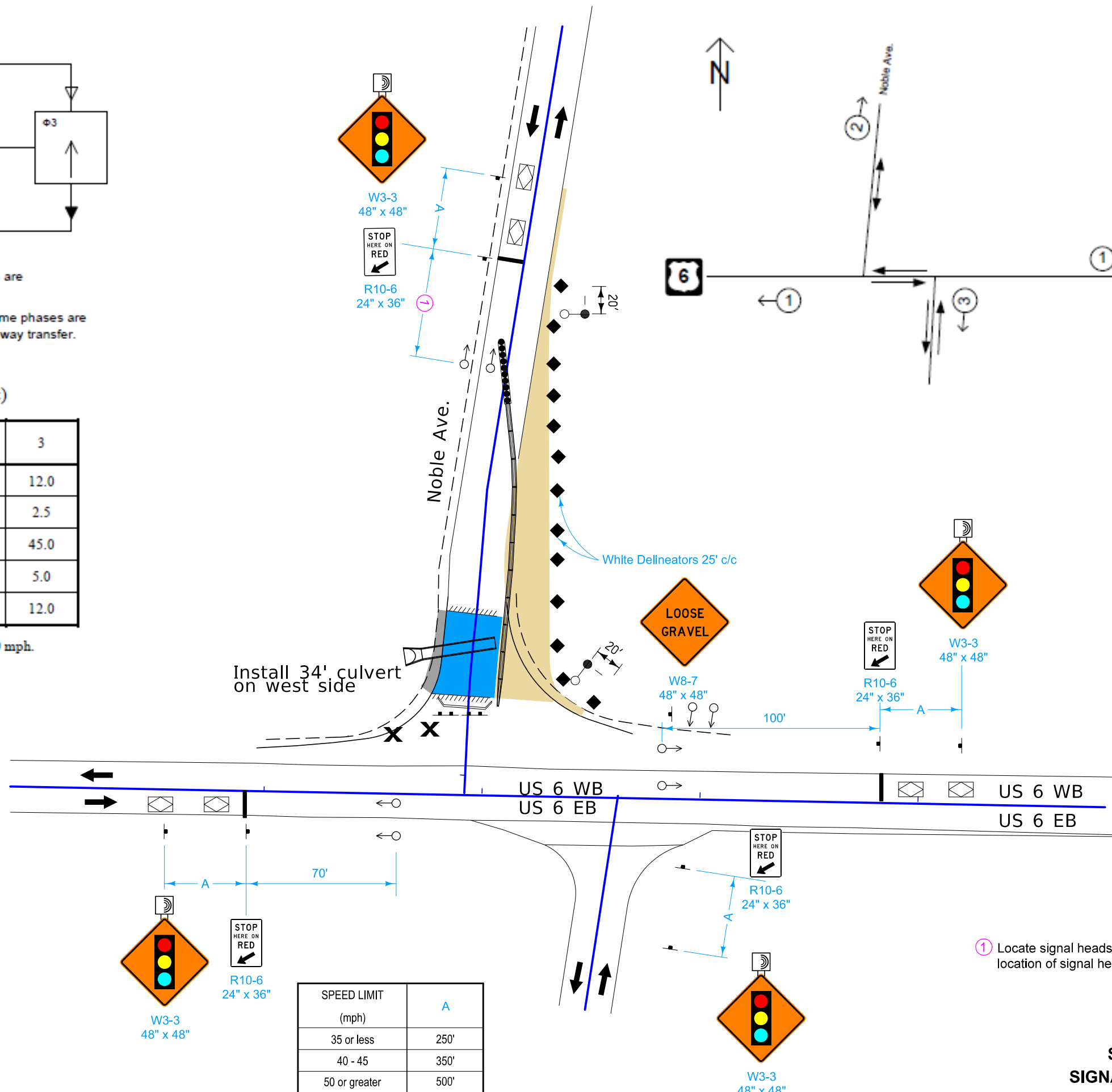
Signal Phase	1	2	3
Initial Green	15.0	15.0	12.0
Extension	2.5	2.5	2.5
Maximum Green	45.0	45.0	45.0
Yellow	5.0	5.0	5.0
All Red*	15.0	15.0	12.0

*All Red values based on operating speed of 20 mph.

LEGEND

- ⊠ Vehicle Detection Area
- Temporary Crash Cushion
- ➔ Direction of Traffic
- ⌚ Traffic Sign
- ⊗ Drum
- ⊠ Type 'B' High-Intensity Flashing Warning Light
- ▨ Work Area
- ⊖ Temporary Traffic Signal
- ◆ Single White Delineators(mount back to back)
- ⊙ Temporary Floodlighting

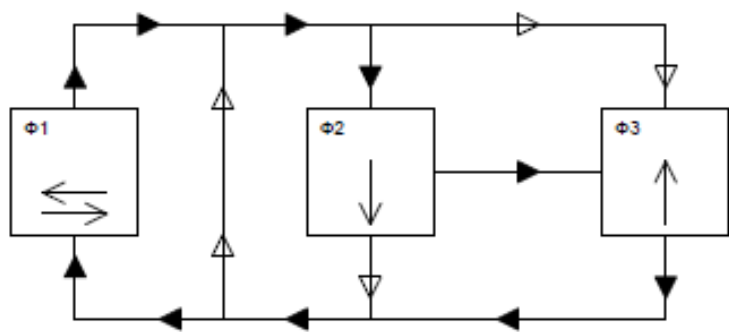
SPEED LIMIT (mph)	A
35 or less	250'
40 - 45	350'
50 or greater	500'



① Locate signal heads 70 to 100 feet beyond stop bar. Adjust location of signal heads as field conditions warrant.

**STAGE 2
SB LANE CLOSURE WITH
SIGNALS AND TBR AT NOBLE AVE**

Flow Diagram

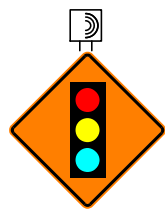


- ➔ Indicates flow path when all phases are demanded.
- Indicates optional flow path when some phases are not demanded at the time of right-of-way transfer.

Recommended Timing (sec)

Signal Phase	1	2	3
Initial Green	15.0	15.0	12.0
Extension	2.5	2.5	2.5
Maximum Green	45.0	45.0	45.0
Yellow	5.0	5.0	5.0
All Red*	15.0	15.0	12.0

*All Red values based on operating speed of 20 mph.

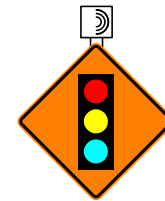
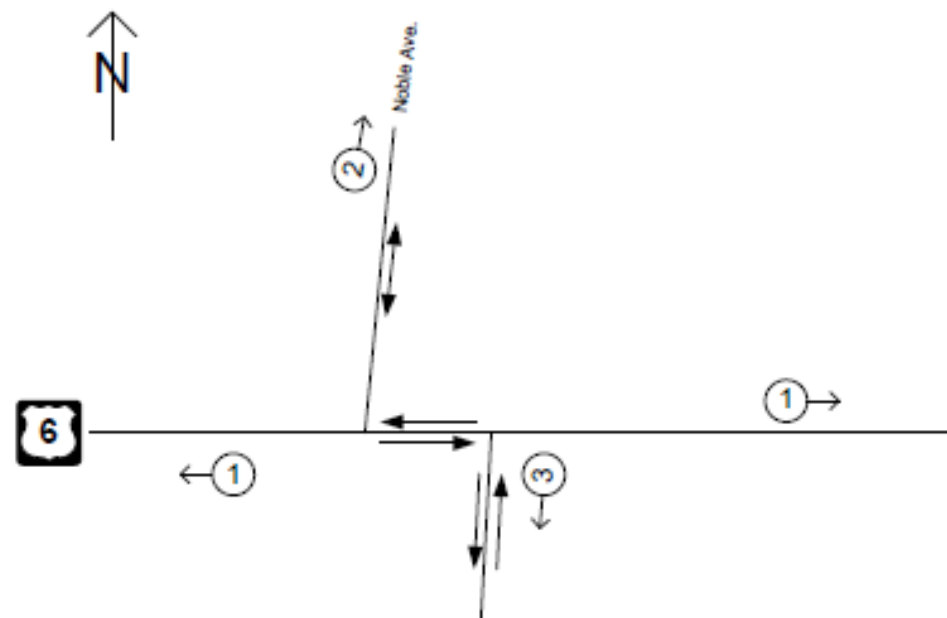


W3-3
48" x 48"



R10-6
24" x 36"

Noble Ave.



W3-3
48" x 48"

R10-6
24" x 36"

A

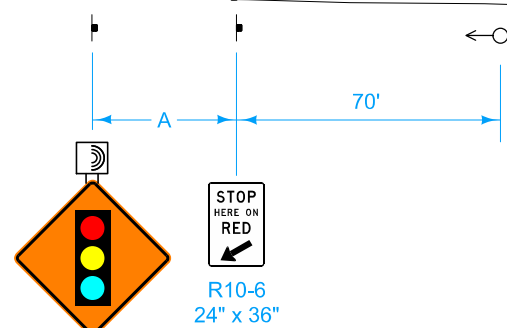
100'



US 6 WB
US 6 EB

LEGEND

- Vehicle Detection Area
- Temporary Crash Cushion
- Direction of Traffic
- Traffic Sign
- Drum
- Type 'B' High-Intensity Flashing Warning Light
- Work Area
- Temporary Traffic Signal

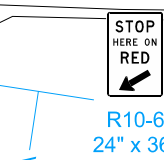


W3-3
48" x 48"

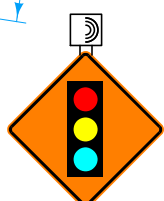
R10-6
24" x 36"

70'

SPEED LIMIT (mph)	A
35 or less	250'
40 - 45	350'
50 or greater	500'



R10-6
24" x 36"



W3-3
48" x 48"

① Locate signal heads 70 to 100 feet beyond stop bar. Adjust location of signal heads as field conditions warrant.

**STAGE 3
NB LANE CLOSURE WITH
SIGNALS AND TBR AT NOBLE AVE**

LANDSCAPE DESIGN	
	I hereby certify that the portion of this technical submission described below was prepared by me or under my direct supervision and responsible charge. I am a duly licensed professional landscape architect under the laws of the state of Iowa.
	<div style="display: flex; justify-content: space-between;"> <div>  Signature </div> <div> 1/3/2022 Date </div> </div>
	Printed or Typed Name Seana K. Godbold
	My license renewal date is June 30, 2023
Pages or sheets covered by this seal: RC.1 -4; RR.1 - 2	

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadside :

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated	Roadside	
1	2507-3250005	ENGINEERING FABRIC	SY	455		<p>Refer to Tab. 100-23.</p> <p>The tabulation includes estimated locations for placement of "Engineering Fabric" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 30% additional quantity for other locations of erosion.</p> <p>Engineering fabric shall be material as specified for embankment erosion control in accordance with Article 4196.01,B,3, of the Standard Specifications. Engineering fabric shall be material as specified for embankment erosion control, Article 4196.01C. Material shall be measured in sq. yard of actual area covered.</p>
2	2507-6800061	REVTMENT, CLASS E	TON	430		<p>Refer to Tab. 100-23.</p> <p>The tabulation includes estimated locations for placement of "Revetment, Class E" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 30% additional quantity for other locations of erosion. Estimated at 1.6 ton/cu yd. Class E revetment shall meet requirements of Article 4130.</p>
3	2602-0000020	SILT FENCE	LF	443.8		<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>
4	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	471		<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 50% additional quantity for field adjustments and replacements.</p>
5	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	914.8		<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>
6	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	91.5		<p>This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during the project.</p>
7	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	LF	100		<p>Refer to EC-303</p>

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated	Roadside	
				8	2602-0000320	
9	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	75		

INDEX OF TABULATIONS			111-25 10-18-11
Tabulation	Tabulation Title	Sheet No.	
RC Sheets	SIGNATURE SHEET	RC.1	
	ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES	RC.2 - RC.3	
100-17	TABULATION OF SILT FENCES	RC.4	
100-18	SILT FENCES FOR DITCH CHECKS	RC.4	
100-19	PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES	RC.4	
100-23	ROCK EROSION CONTROL	RC.4	
105-4	STANDARD ROAD PLANS	RC.4	
111-25	INDEX OF TABULATIONS	RC.4	
232-3A	EROSION CONTROL (RURAL SEEDING)	RC.4	
281-1	SECTION 404 PERMIT AND CONDITIONS	RC.4	
281-3	STORM WATER BEST MANAGEMENT PRACTICES	RC.4	

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	04-20-21	Perimeter, Slope and Ditch Check Sediment Control Devices	
EC-301	10-18-16	Rock Erosion Control (REC)	
EC-303	10-20-20	Stabilized Construction Entrance	
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 No. 3. 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: Silt Fence, Silt Fence for Ditch Checks PSSCD, Seeding		

TABULATION OF SILT FENCES					100-17 04-20-10
Refer to EC-201					
Location		Side	Length LF	Remarks	
Begin Station	End Station				
1767+00.00	1768+25.00	Rt	120.0	Noble	
100+90.00	101+60.00	Rt	70.0	US 6 (Ditch)	
100+95.00	101+70.00	Lt	75.0	US 6 (Ditch)	
102+00.00	102+90.00	Lt	90.0	US 6 (Ditch)	
SF Tab Totals:			355.0		
SF Bid Totals:			443.8	125% of Tab Total	
SF maintenance Totals:			44.4	10% of Bid Total	
SF Removal Totals:			443.8	100% of Bid Total	







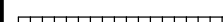
EROSION CONTROL (RURAL SEEDING)		232-3A 04-16-19
Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the disturbed area lying 8 feet adjacent to shoulder and median as follows:		
Place seed and fertilize according to the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications.		
Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.		
Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are all incidental to mobilization and will not be paid for separately.		

SILT FENCES FOR DITCH CHECKS		100-18 10-16-18											
Possible Standard: EC-201													
<p>Cross Section View</p>	<p>Longitudinal Profile View</p>												
* 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: $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$													
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		
0	1	765+25.00	Lt	17.0	1.7	17.0	3.0	3.0	5.0	0.8%			
0	1	1766+75.00	Lt	17.0	1.7	17.0	3.0	3.0	5.0	0.8%			
0	5	101+55.00	Rt	40.0	4.0	40.0	2.0	2.0	8.0	6.0%	179.4		
0	5	101+75.00	Rt	40.0	4.0	40.0	2.0	2.0	8.0	6.0%	179.4		
0	5	101+70.00	Lt	40.0	4.0	40.0	2.0	2.0	8.0	6.0%	179.4		
0	5	101+95.00	Lt	40.0	4.0	40.0	2.0	2.0	8.0	6.0%	179.4		
0	5	102+25.00	Lt	40.0	4.0	40.0	2.0	2.0	8.0	33.4%	179.4		
0	5	102+55.00	Lt	40.0	4.0	40.0	2.0	2.0	8.0	10.0%	179.4		
0	5	102+70.00	Lt	40.0	4.0	40.0	2.0	2.0	8.0	4.1%	251.1		
SFDC Tab Totals:				314.0	31.4	314.0							
SFDC Bid Totals:				471.0			150% of Tab Total						
SFDC Main. Totals:					47.1		10% of Bid Total						
SFDC Rem. Totals:						471.0	100% of Bid Total						






PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES								100-19 Modified
Possible Standards: EC-204								
Location		Perimeter and Slope			Ditch Check			
Begin Station	End Station	Side	Length of Installation			Length of Installation		
			9 inch Dia LF	12 inch Dia LF	20 inch Dia LF	12 inch Dia LF	20 inch Dia LF	
100+10.00		Lt				60.0		Inlet protection
PSSCD Tab Totals:						60.0		
20 inch PSSCD Bid Totals:						75.0		125% of Bid Total
PSSCD Removal Totals:						75.0		100% of Bid Total



ROCK EROSION CONTROL												100-23 04-17-18		
Refer to EC-301 and Detail 570-8														
Location				Rock Erosion Control (REC)					Material Bid Quantities					
Road Identification	Begin Station	End Station	Side	L FT	W FT	Type 1	Type 2	Type 3	Type 4	Type 5	Eng. Fabric SY	Class E Revetment TON	Erosion Stone TON	Remarks
						Rock Ditch Check	Rock Ditch	Rock Flume	Rock Splash Basin	Rock Slope Protection				
US 6 (Ditch)	100+86.00	102+90.00	Lt	210	15				X		350.0	330.8		
Rock Erosion Control Tab Totals:											350.0	330.8		
Engineering Fabric Bid Totals:											455.0		130% of Tab Total	
Class E Revetment Bid Totals:												430.0	130% of Tab Total	

LINE STYLE LEGEND OF EROSION CONTROL SHEETS








-  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
-  Sheet Flow

PLAN VIEW COLOR LEGEND OF EROSION CONTROL 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
Black	(0)		Permanent Erosion Control Features
Blaze Orange	(222)		Temporary Erosion Control Features

SHADING		Design Color No.		Transparency
Citron	(234)		Mulching, All Types	50%
Light Brown	(238)		Special Ditch Control, Wood Excelsior Mat	0%

CELL LEGEND OF EROSION CONTROL SHEETS

-  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

PATTERN LEGEND OF EROSION CONTROL SHEETS

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

EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

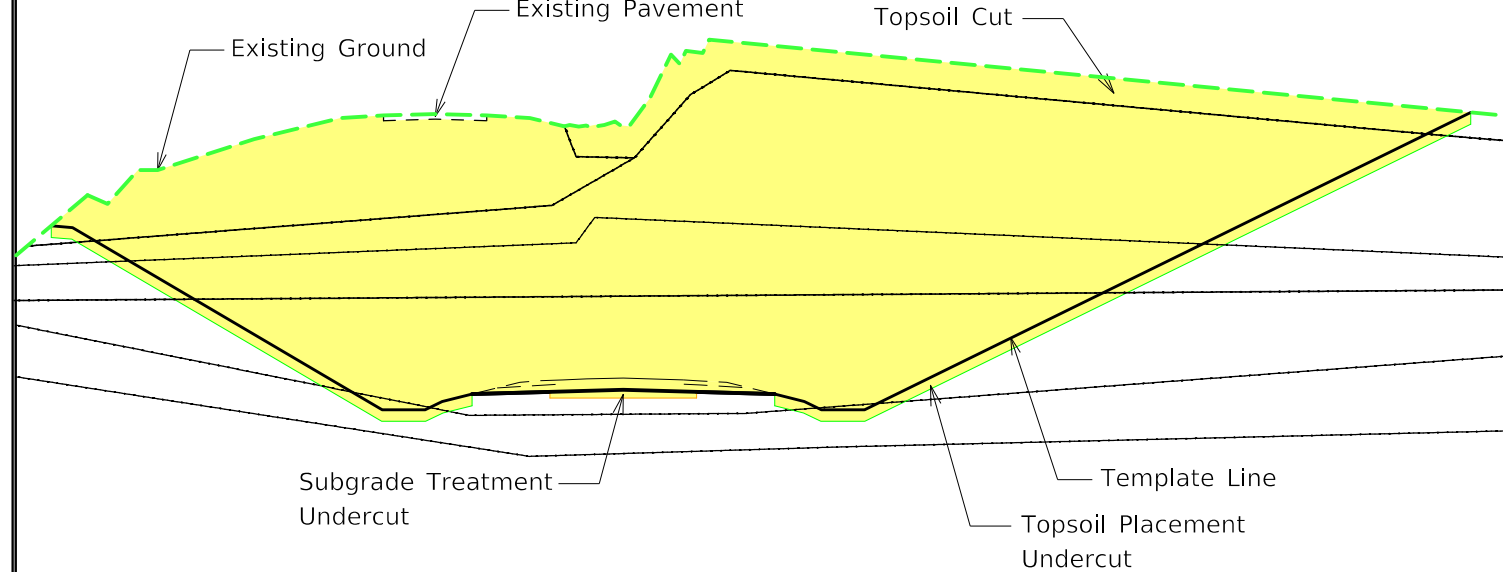
(COVERS SHEET SERIES R)



FILE NO.	ENGLISH	DESIGN TEAM GODBOLD/POHLEN/MCDONALD	MUSCATINE COUNTY	PROJECT NUMBER STPN-006-8(43)--2J-70	SHEET NUMBER RR.2
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8:01:38 AM 1/3/2022 bmc dona pw:\NTPwint1.dot.int.lan:PWMain\Documents\Projects\7000601021\Roadside\70006043_PPP.dgn

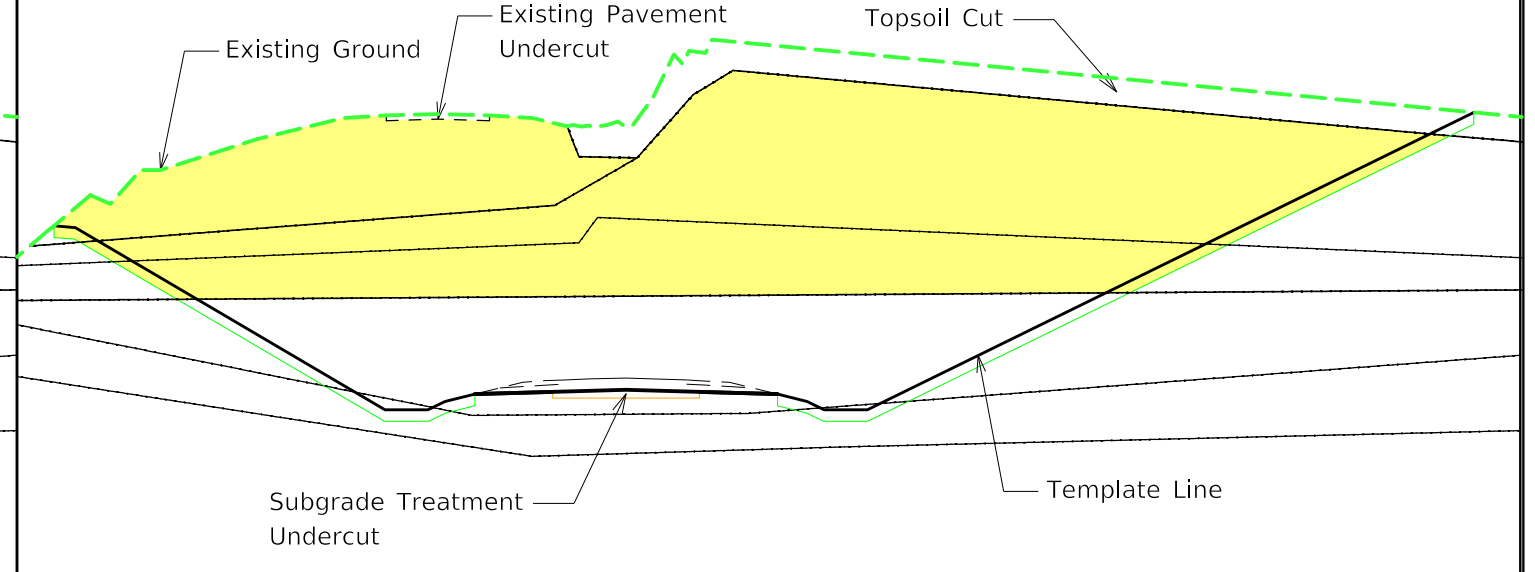
CUT SIDE Total Cut Unadjusted RURAL



Notes:

1. "Total Cut Unadjusted" Column includes all cut values in the Station Range based on Typical, Topsoil and Subgrade Treatment needs.
2. "Total Cut Unadjusted" does not include and Existing Pavement values inside or outside the cut template as shown on cross sections.
3. Tabulated Plowing and Shaping operations are included in the "Total Cut Unadjusted" values.

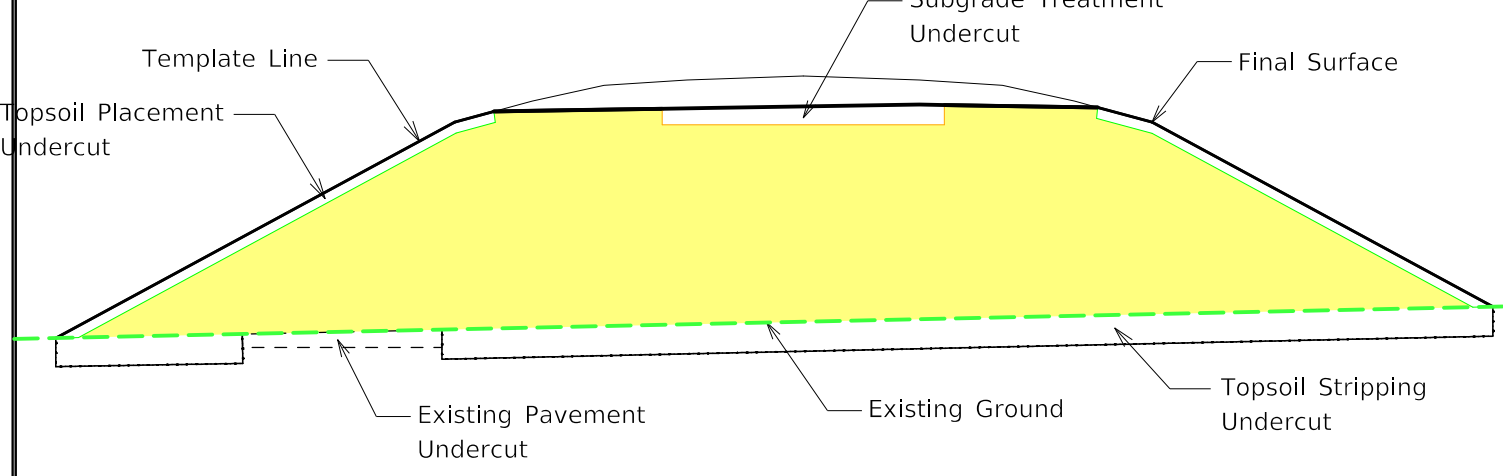
CUT SIDE Total Cut Adjusted



Notes:

1. "Total Cut Adjusted" Column includes all cut values usable as Class 10 material.
2. "Total Cut Adjusted" does not include and Existing Pavement , Existing Topsoil, or material to be wasted.

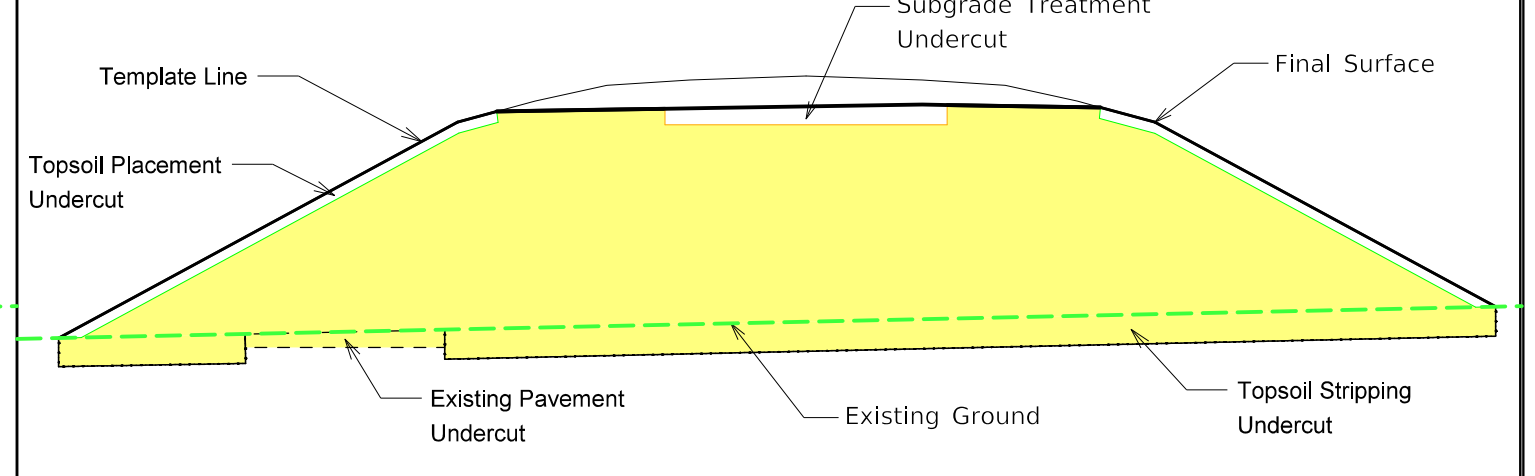
FILL SIDE Total Fill Unadjusted RURAL



Notes:

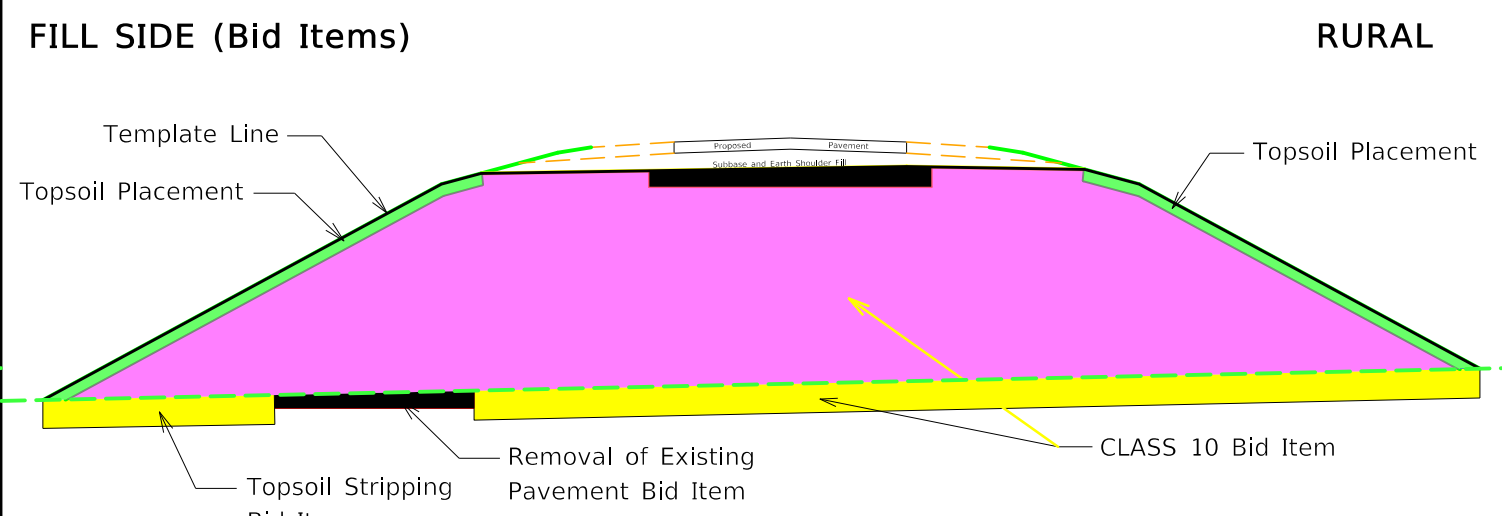
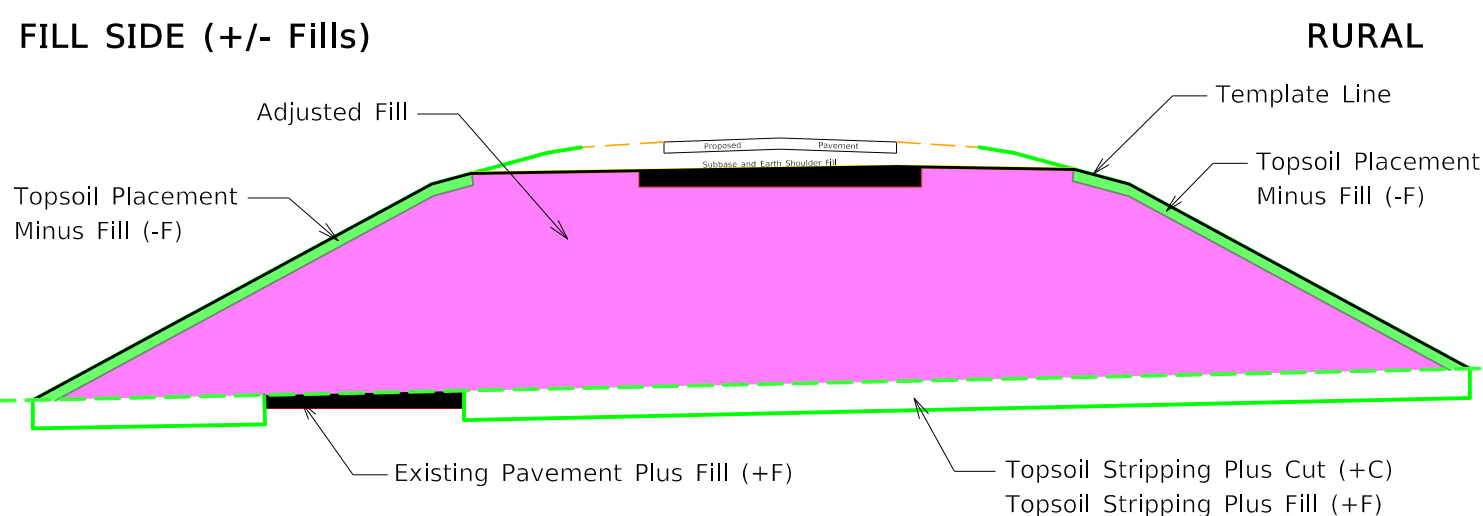
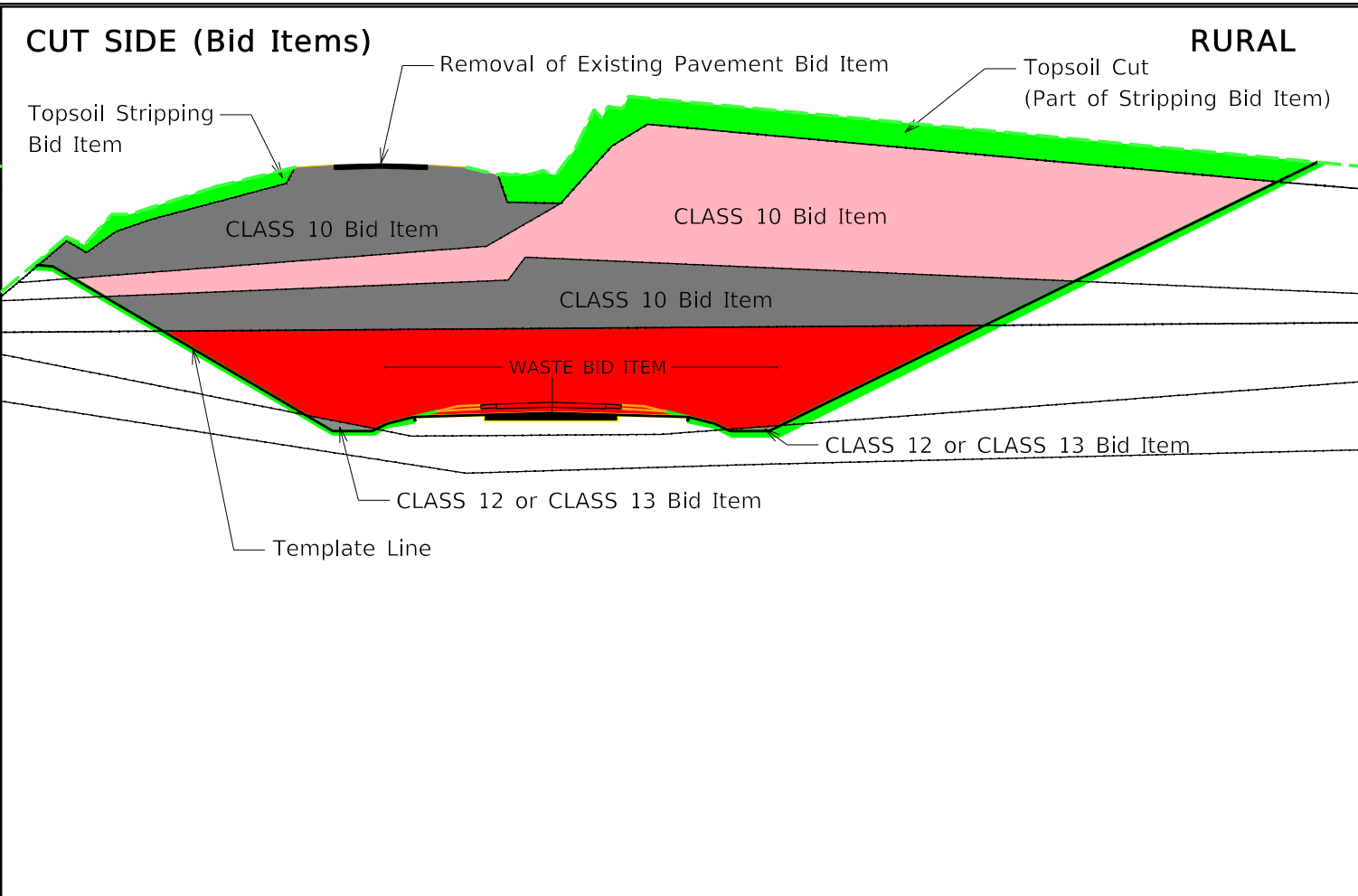
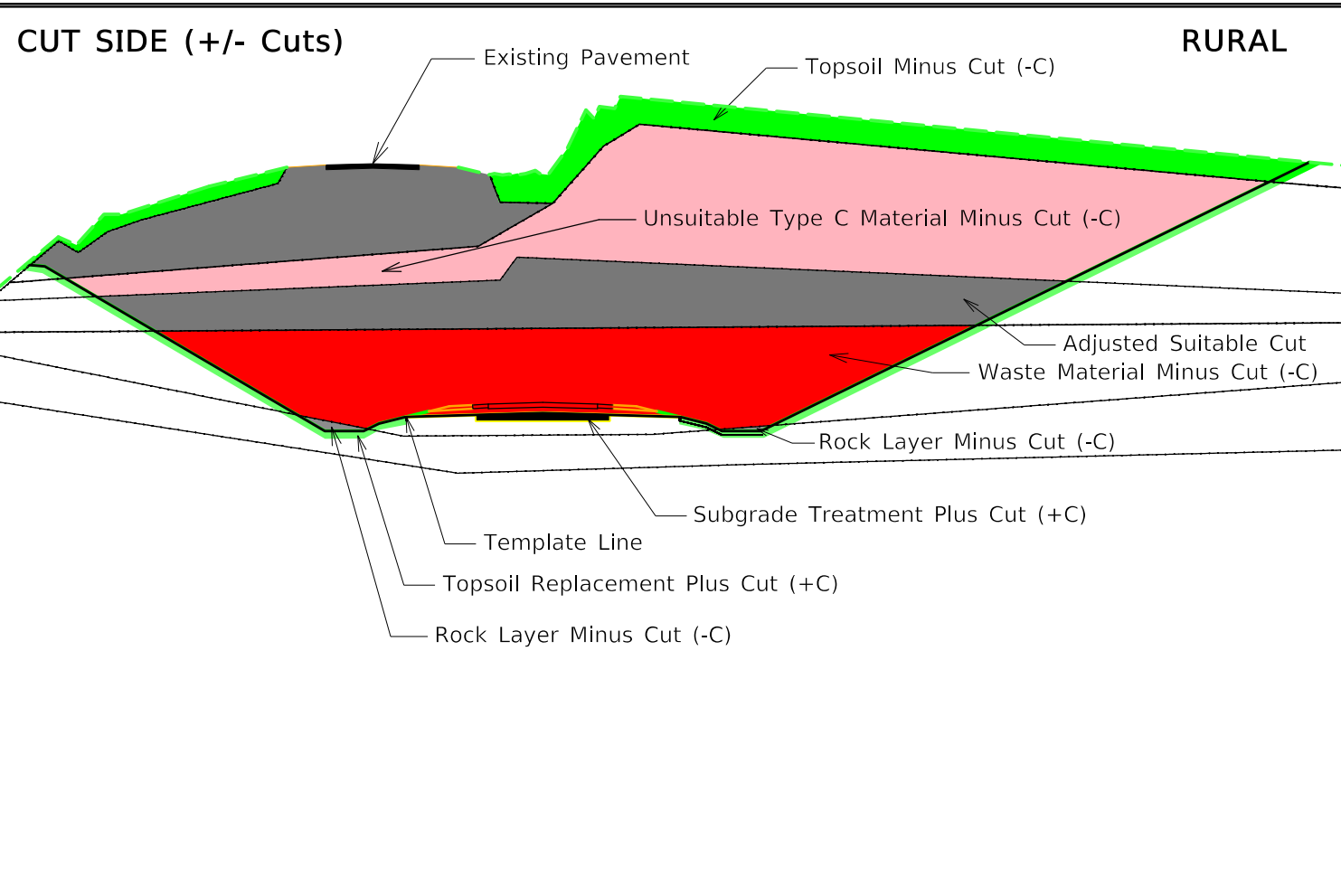
1. "Total Fill Unadjusted" Column includes all Class 10, 12, and 13 fill. This excludes the topsoil, subgrade treatment, subbase, new pavement, and shoulder fill needs in that station range.
2. "Total Fill Unadjusted" Column does not include adjustments for additional fill from cuts such as existing pavement removed, plowing and shaping operations, entrances, dikes, or topsoil stripping.

FILL SIDE Total Fill Adjusted



Notes:

1. "Total Fill Adjusted" Column includes all Class 10, 12, and 13 fill and adjustments for additional fill from cuts such as existing pavement, plowing and shaping operations, entrances, dikes, and topsoil stripping.
2. The available area to place unsuitable materials in the T Sheet tabulation does not include the undercut values from the topsoil stripping, existing pavement, or plowing and shaping



Notes:

1. "Add Quantity +C" columns are additional cut encountered that is not Typical, Topsoil, or Subgrade Treatment Based. (Entrance, Dike, Etc.)
2. "-C" columns are either soil types or Class 10, 12, or 13 designated material that is encountered in the cut station range that is paid for by other bid items.
3. The "(SoilType) Cut" columns are soil types encountered in the cut that are paid by either Class 10, 12, or 13.
4. The "Adjusted Clas (10,12 or 13)" columns are the sum of all various soil types encountered in that station range, that are paid by Class 10, 12, or 13 bid items.
5. Refer to Standard Road Plan EW-102 for placement of unsuitable soil types.

Notes:

1. Refer to Standard Road Plan EW-102 for placement of unsuitable soil types.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut				Fill				Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink							
Stage 1																						
DET006																						
2766+60.72	0	0	0	0	0		0	0	0	0	0	0	0	0								
2766+75.00	2	2	0	2	0		0	0	0	0	0	0	0	0								
2767+00.00	13	10	11	10	3	3	6	8	3	0	0	11	2	3								
2767+25.00	21	10	19	10	13	11	24	31	-21	0	0	19	2	3								
2767+50.00	18	3	17	3	20	15	35	46	-42	0	0	17	0	0								
2767+75.00	17	4	15	4	19	13	32	42	-38	0	0	15	0	0								
2768+00.00	15	4	12	4	18	11	29	38	-34	0	0	12	1	1								
2768+25.00	13	4	10	4	14	9	23	30	-26	0	0	10	2	3								
2768+50.00	9	3	7	3	8	6	14	18	-15	0	0	7	2	3								
2768+75.00	5	3	3	3	2	2	4	5	-2	0	0	3	1	1								
2769+00.00	3	3	0	3	0		0	0	3	0	0	0	0	0								
2769+08.45																						
DET006																						
Totals:	117	47	94	47	97	70	167	217	-170	0	0	94	10	14	80							

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink							
RETR006_clip																						
+00.00	0	0	0	0	0		0	0	0	0	0	0	0	0	0							
+25.00	29	15	33	15	15	14	29	38	-23	0	0	33	15	21	12							
+50.00	31	20	37	20	11	11	22	29	-9	0	0	37	15	21	16							
+75.00	56	51	34	51	5	5	10	13	38	0	0	34	14	20	14							
1+00.00	83	82	22	82	2	1	3	4	78	0	0	22	12	17	5							
1+25.00	57	57	9	57	7		7	9	48	0	0	9	8	11	-2							
RETR006_clip																						
Totals:	256	225	135	225	40	31	71	93	133	0	0	135	64	90	46							

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink							
OPN006																						
100+92.86	0	0	0	0	0		0	0	0	0	0	0	0	0								
101+00.00	30	30	4	30	0		0	0	30	0	0	4	1	1								
101+25.00	100	100	23	100	0		0	0	100	0	0	23	6	8								
101+50.00	100	100	28	100	0		0	0	100	0	0	28	8	11								
101+75.00	156	156	33	156	0		0	0	156	0	0	33	10	14								
102+00.00	189	189	43	189	0		0	0	189	0	0	43	15	21								
102+25.00	102	102	30	102	0		0	0	102	0	0	30	10	14								
102+50.00	22	21	12	21	1	1	2	3	19	0	0	12	2	3								
102+75.00	22	18	20	18	5	4	9	12	6	0	0	20	6	8								
102+95.00																						
OPN006																						
Totals:	721	716	193	716	6	5	11	15	702	0	0	193	58	82	112							

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]								
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
Stage 2																							
SR006																							
176635.650 R1	0	0	0	0	0		0	0	0	0	0	0	0	0									
176650.000 R1	46	46	0	46	0		0	0	46			0	0	0	0								
176673.500 R1																							
SR006																							
Totals:	46	46	0	46	0	0	0	0	46	0	0	0	0	0	0								

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

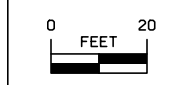
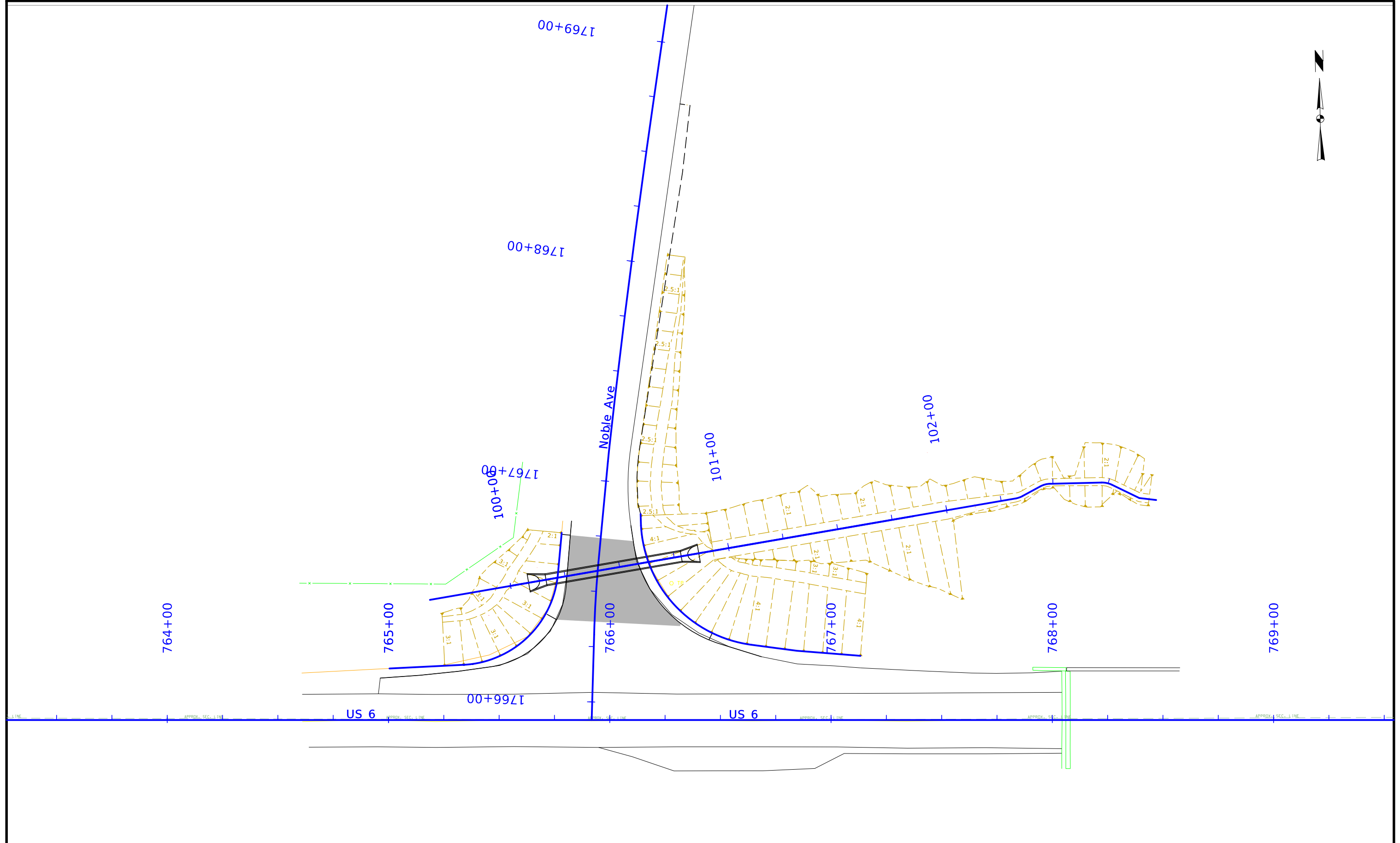
Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]								
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
RETL006																							
+25.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
+50.00	13	8	13	8	6	5	11	14	-6	0	0	13	10	14	-1								
+75.00	24	18	27	18	6	6	12	16	2	0	0	27	13	18	9								
1+00.00	37	32	27	32	10	5	15	20	12	0	0	27	13	18	9								
1+16.78																							
RETL006																							
Totals:	74	58	67	58	22	16	38	50	9	0	0	67	36	51	17								

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut				Fill				Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink							
Stage 3																						
DET006 Removal																						
1766+42.53	0	0	0	0	0		0	0	0	0	0	0	0	0	0							
1766+50.00	1	1	0	1	0		0	0	1	0	0	0	0	0	0							
1766+75.00	26	26	3	26	0		0	0	26	0	0	3	6	8	-5							
1767+00.00	40	40	3	40	0		0	0	40	0	0	3	9	13	-10							
1767+25.00	29	29	0	29	0		0	0	29	0	0	0	7	10	-10							
1767+50.00	24	24	1	24	0		0	0	24	0	0	1	5	7	-6							
1767+75.00	19	19	2	19	0		0	0	19	0	0	2	5	7	-5							
1768+00.00	10	10	2	10	0		0	0	10	0	0	2	3	4	-2							
1768+05.00																						
DET006 Removal Totals:	149	149	11	149	0	0	0	0	149	0	0	11	35	49	-38							

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

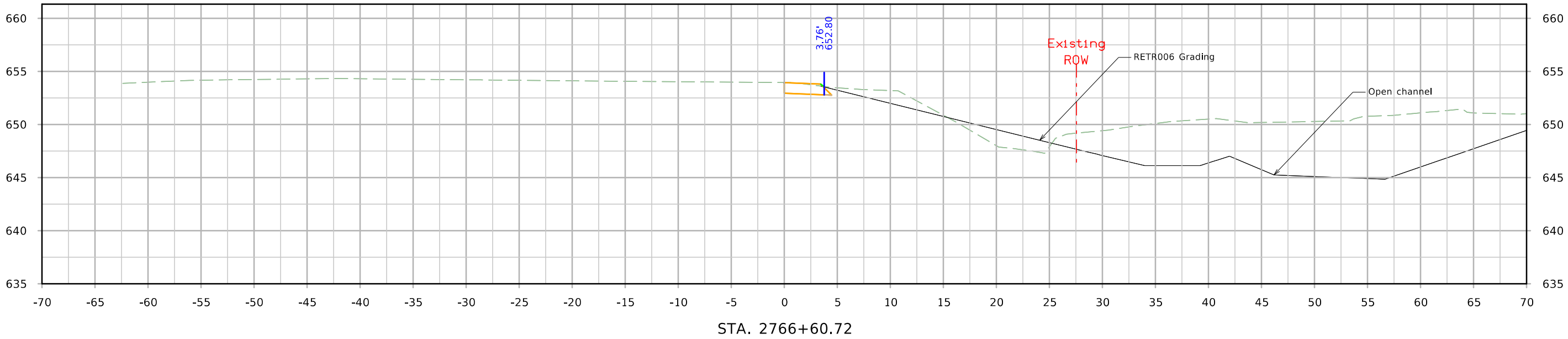
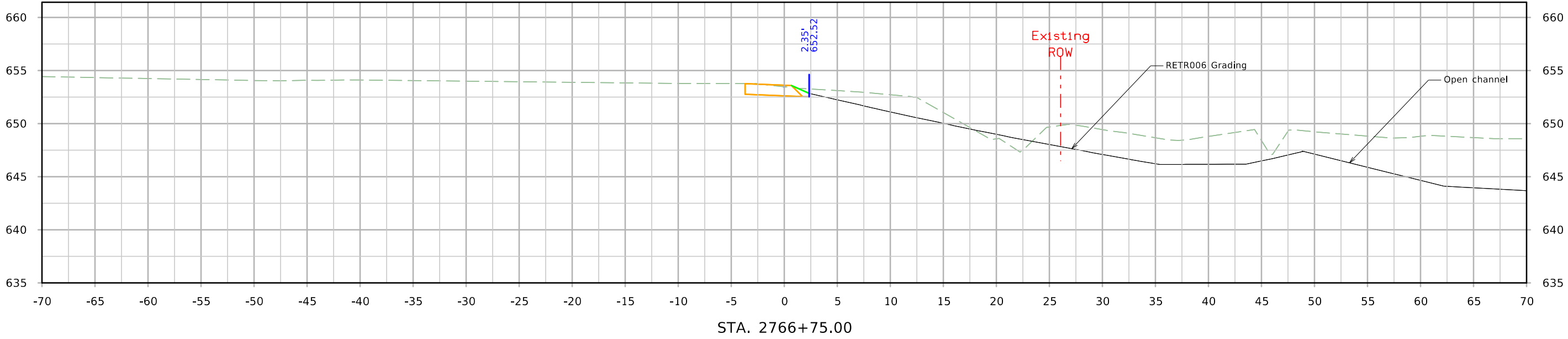
Station	Cut				Fill				Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink							
Summary:																						
Stage 1 DET006	118	48	94	48	97	70	167	218	-171	0	0	94	10	14	80							
RETR006_clip	256	225	135	225	40	31	71	93	133	0	0	135	64	90	46							
OPN006	721	716	193	716	6	5	11	15	702	0	0	193	58	82	112							
Stage 1 Subtotals:	1,095	989	422	989	143	106	249	326	664	0	0	422	132	186	238							
Stage 2 SR006	46	46	0	46	1	0	1	1	46	0	0	0	0	0	0							
RETL006	74	58	67	58	22	16	38	50	9	0	0	67	36	51	17							
Stage 2 Subtotals:	120	104	67	104	23	16	39	51	55	0	0	67	36	51	17							
Stage 3 DET006_Removal	149	149	11	149	0	0	0	0	149	0	0	11	35	49	-38							
Stage 3 Subtotals:	149	149	11	149	0	0	0	0	149	0	0	11	35	49	-38							
Project Totals:	1,364	1,242	500	1,242	166	122	288	377	868	0	0	500	203	286	217							
EXCAVATION, CLASS 10, ROADWAY AND BORROW												TOPSOIL, STRIP, SALVAGE AND SPREAD										
					Stage 1: 326											Stage 1: 422						
					Stage 2: 51											Stage 2: 67						
					Stage 3: 0											Stage 3: 11						
					TOTAL: 377											TOTAL : 500						
EXCAVATION, CLASS 10, WASTE																						
					Stage 1: 664																	
					Stage 2: 55																	
					Stage 3: 0																	
					TOTAL: 719																	
EXCAVATION, CLASS 13, WASTE																						
					Stage 1:																	
					Stage 2:																	
					Stage 3: 149																	
					TOTAL : 149																	



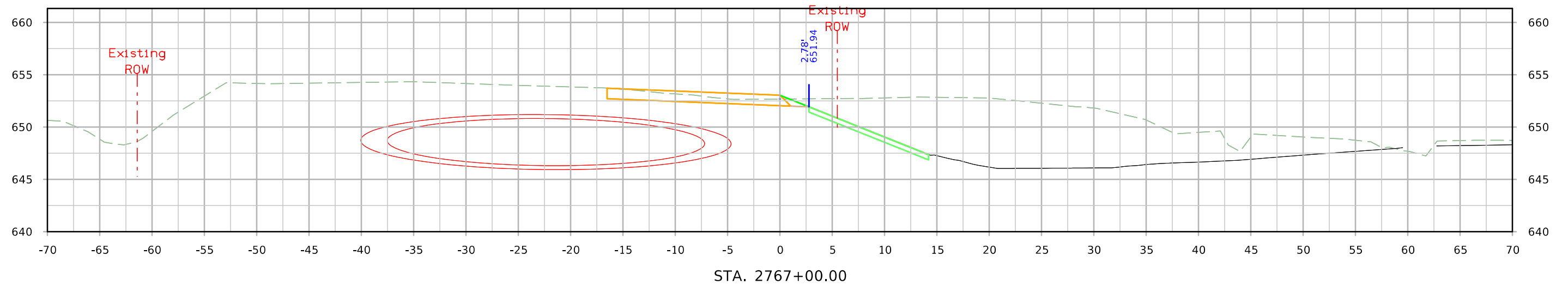
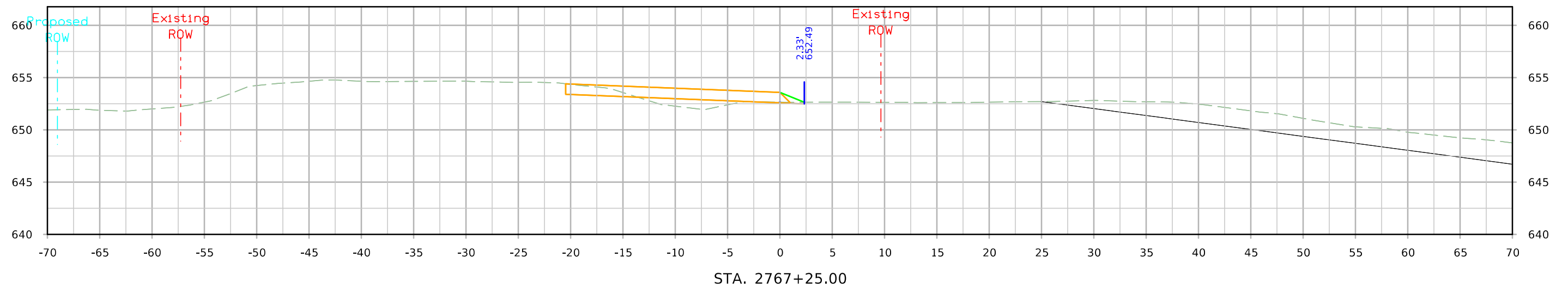
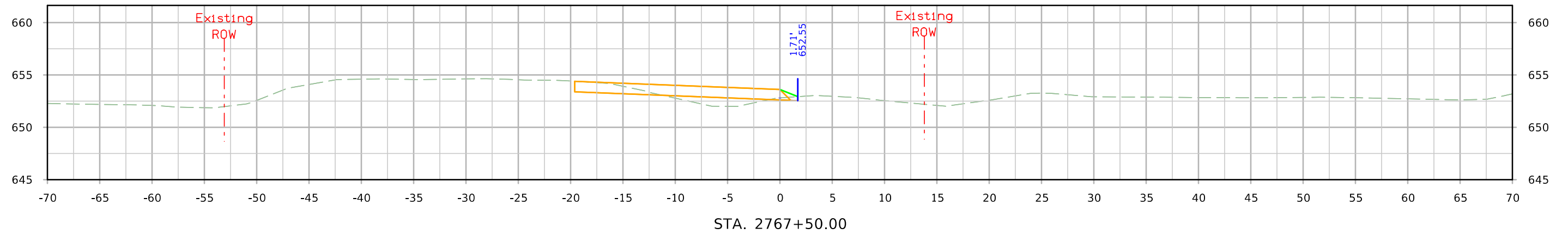
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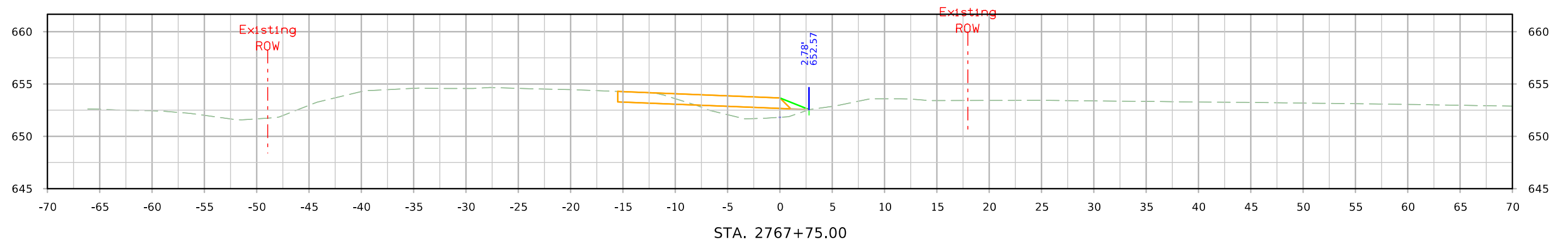
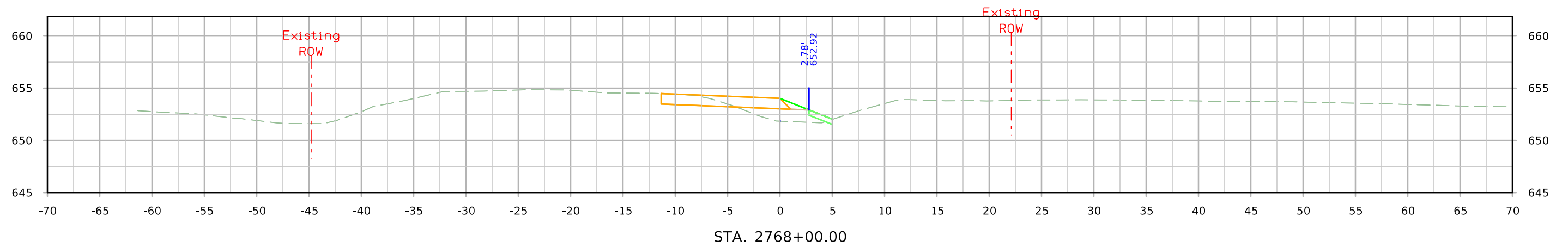
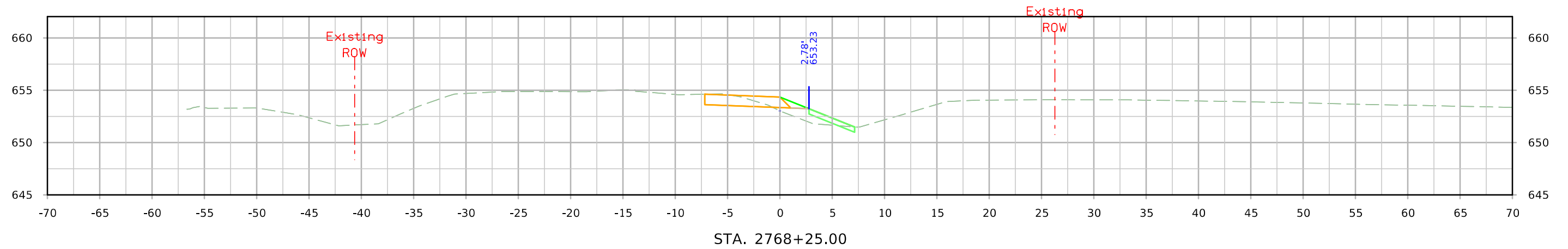
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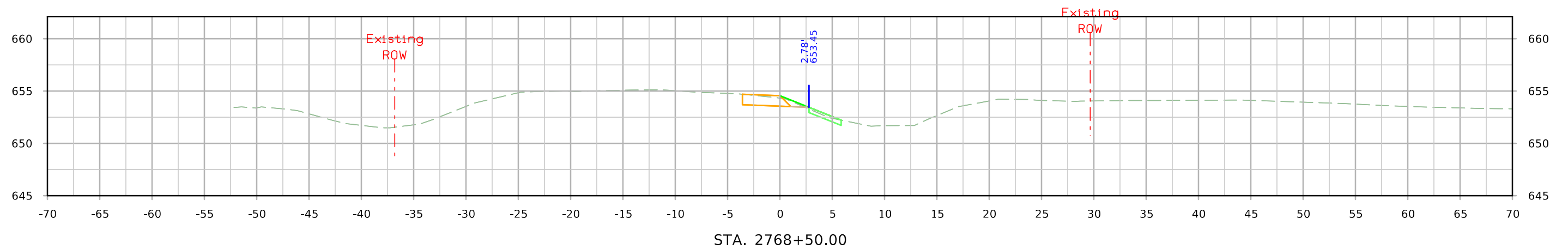
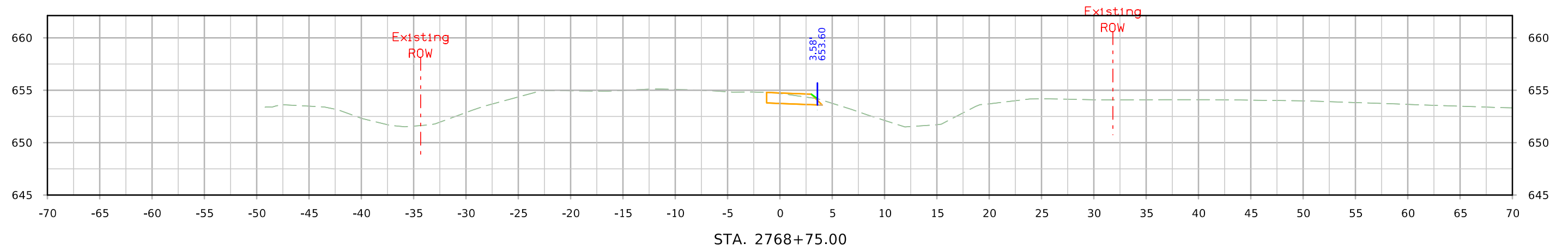
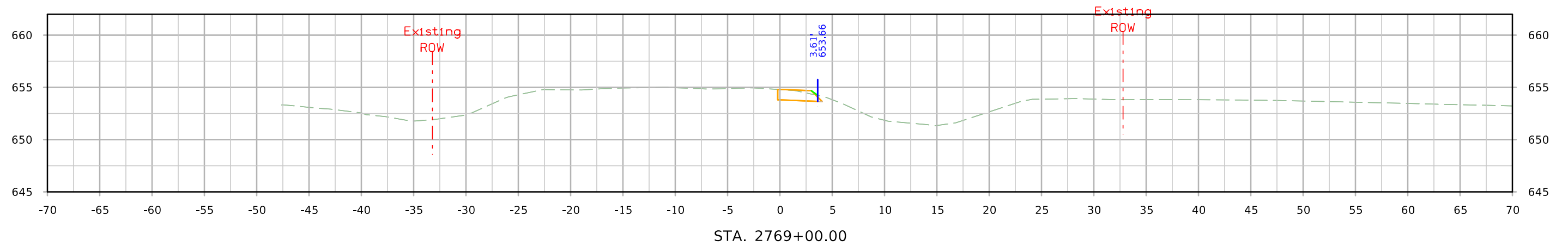
DET006

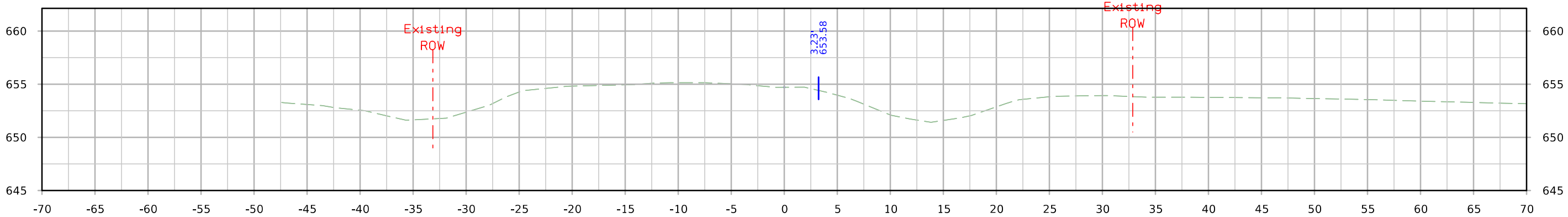


DET006



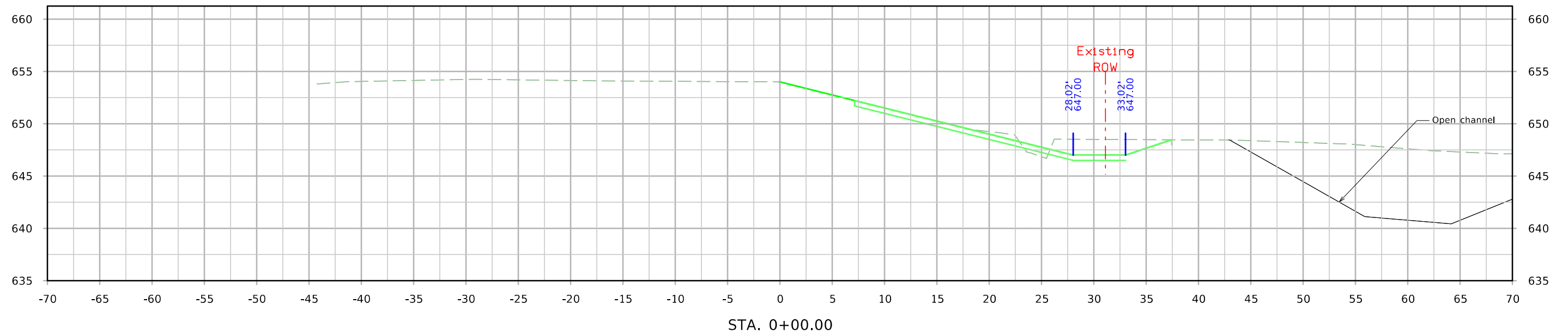
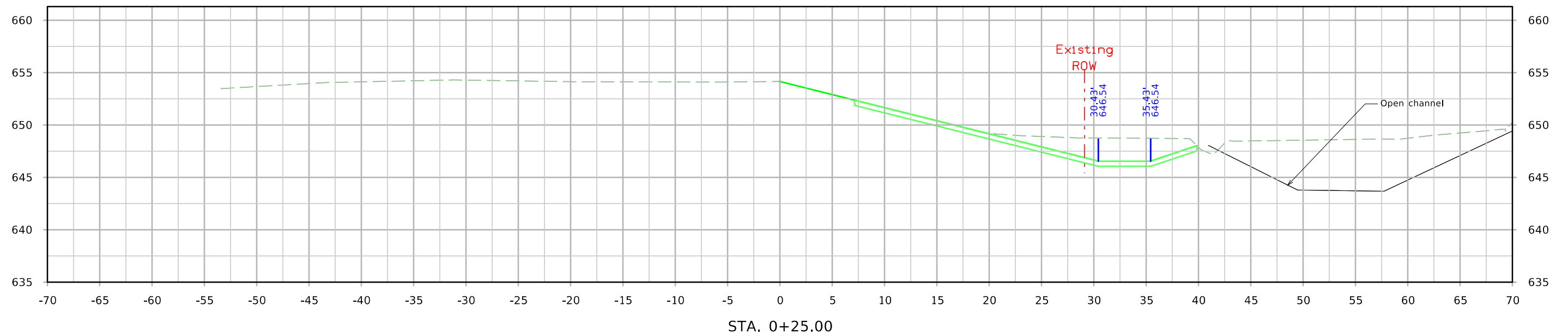




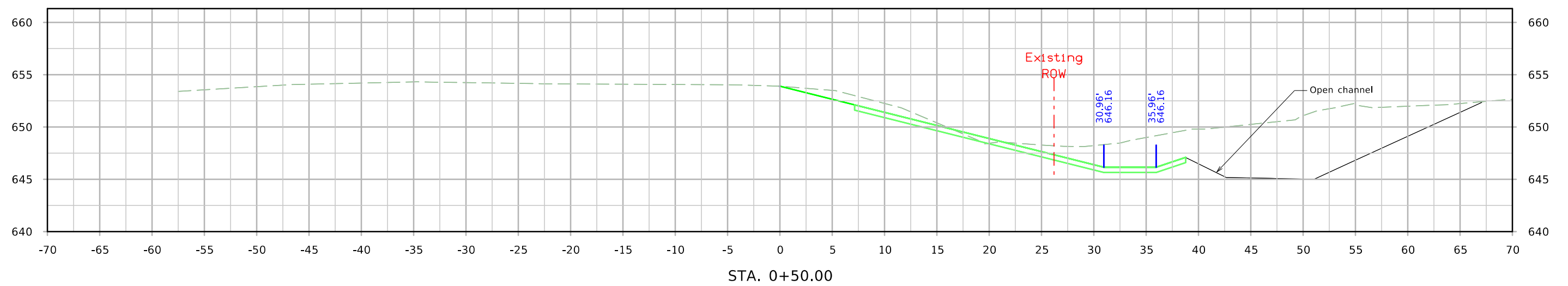
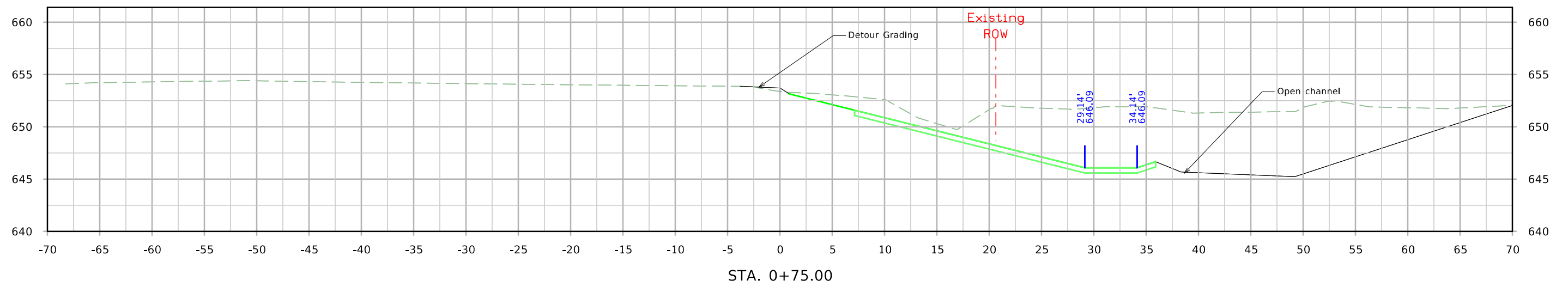
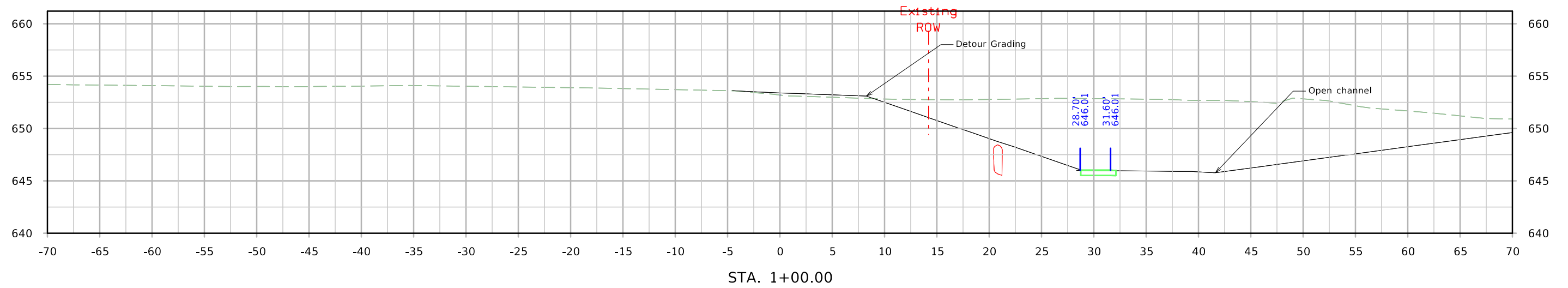


STA. 2769+08.45

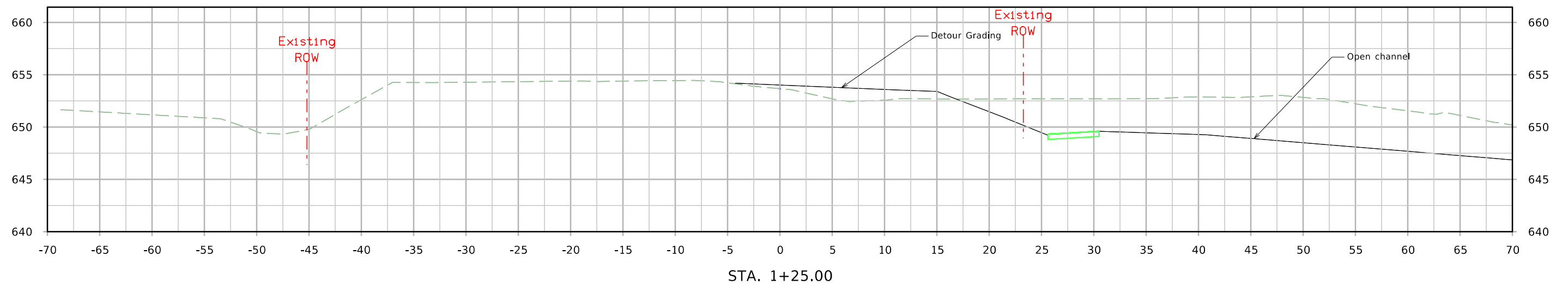
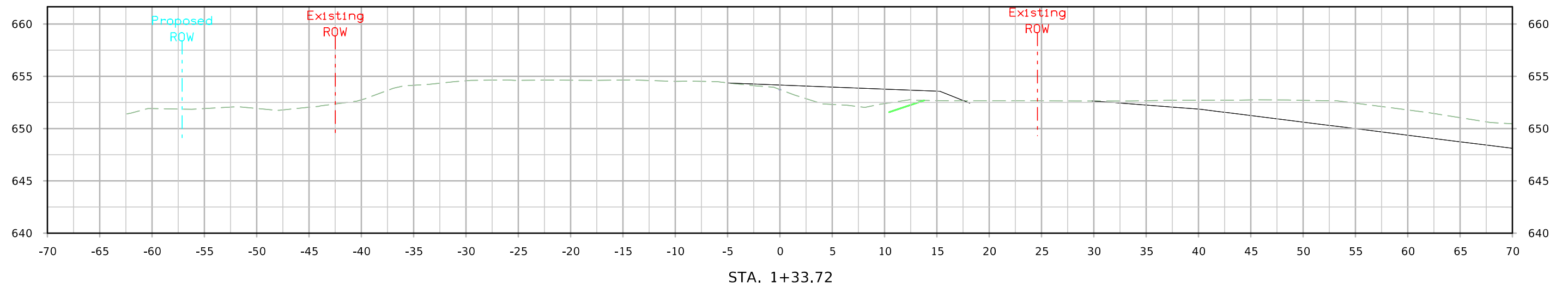
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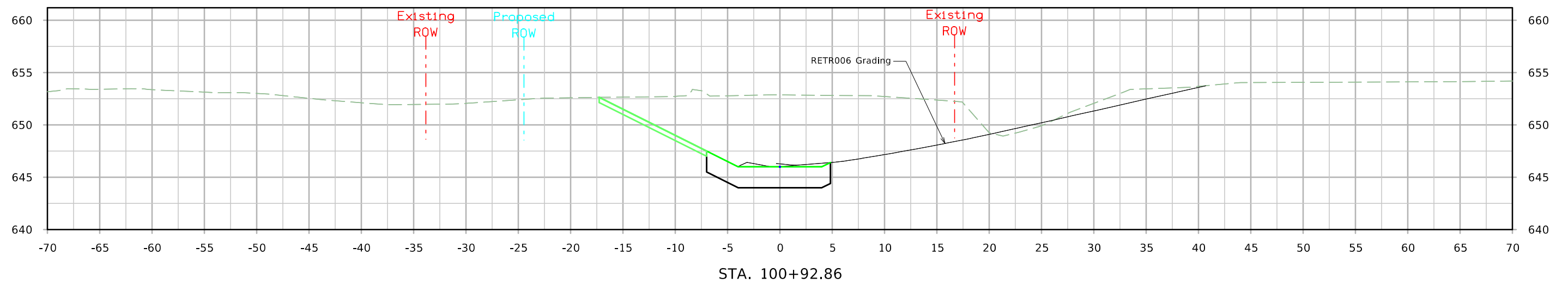
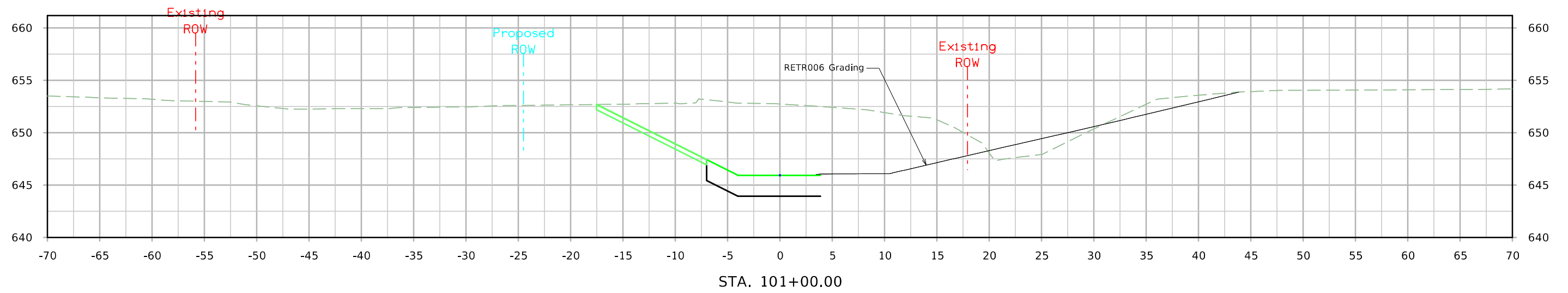
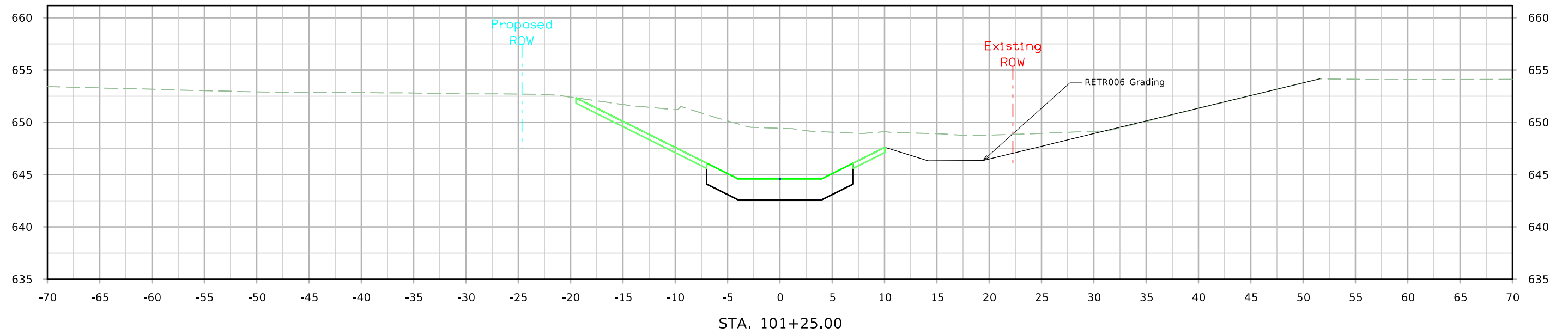
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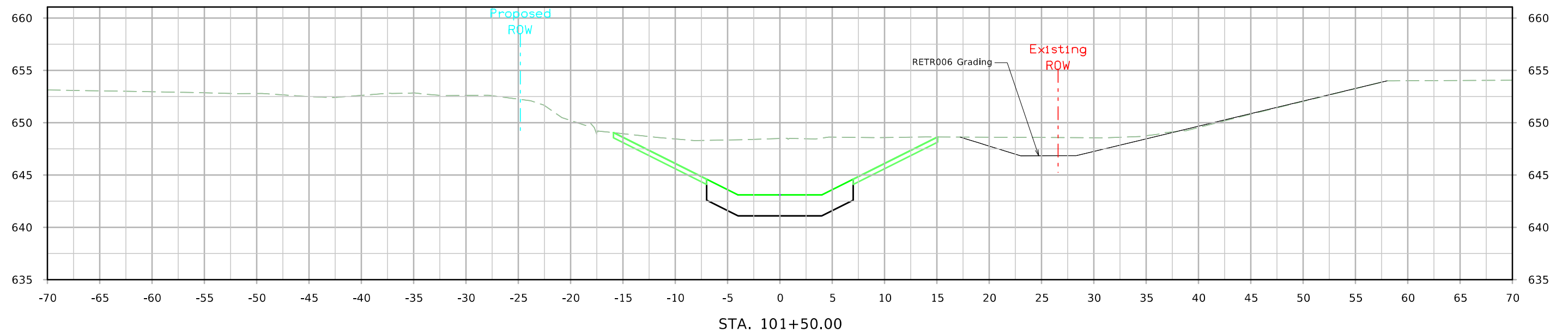
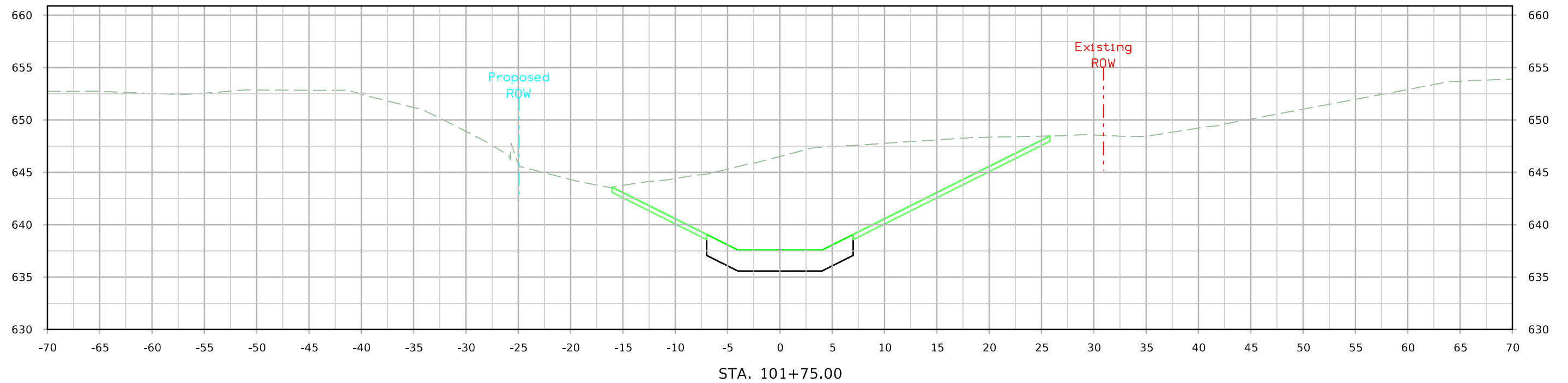
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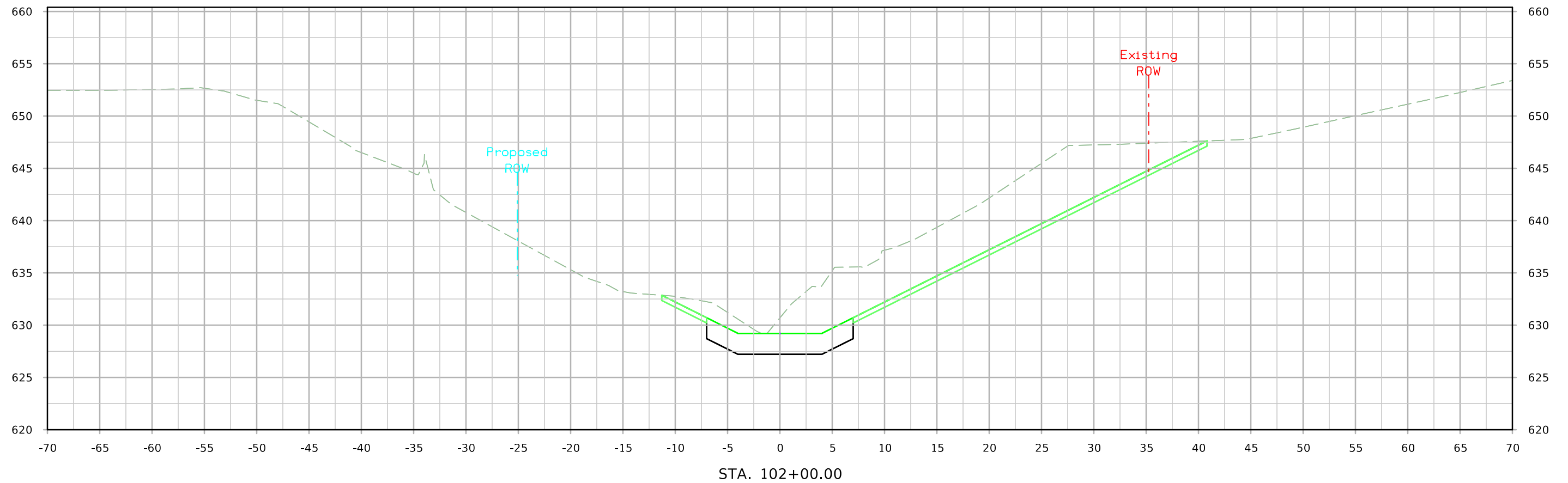
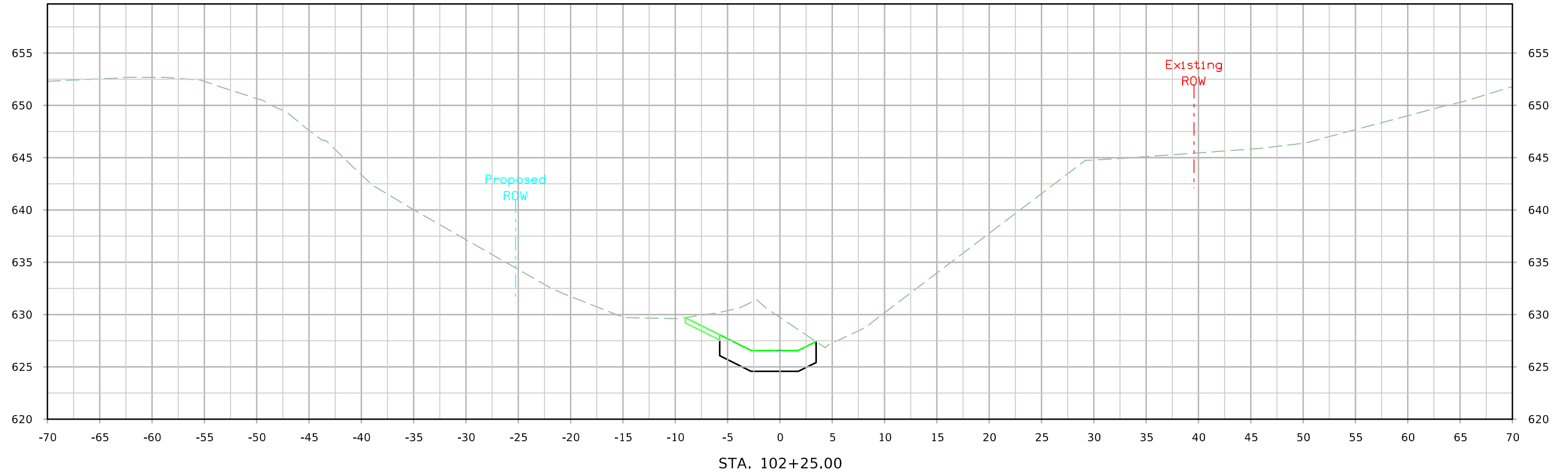
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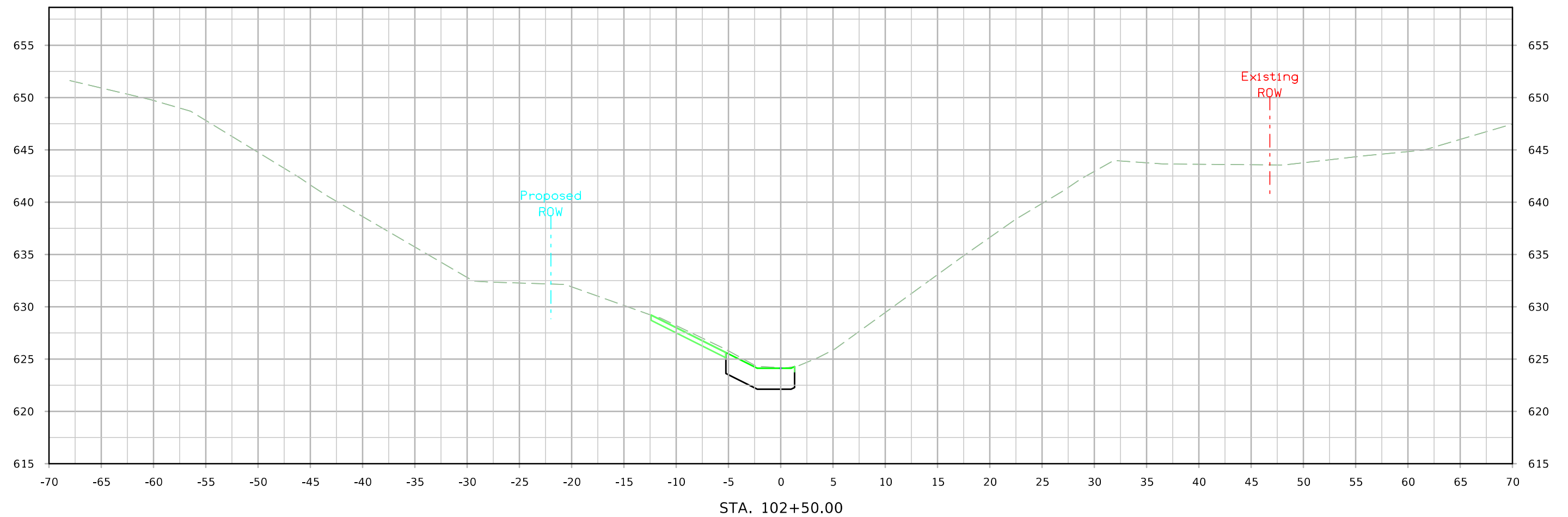


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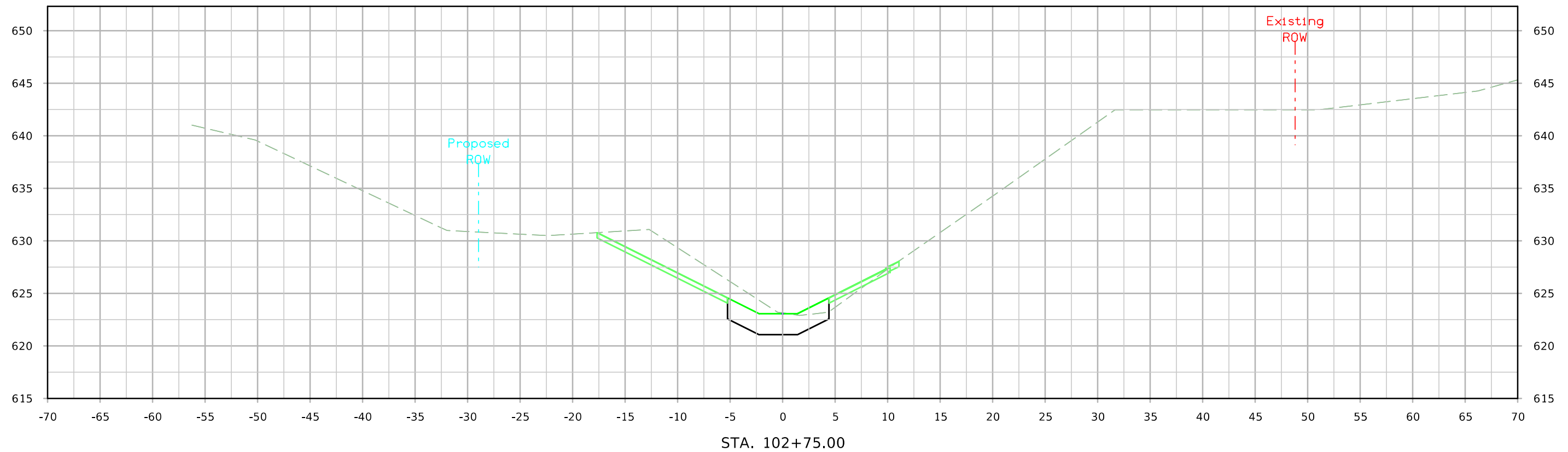
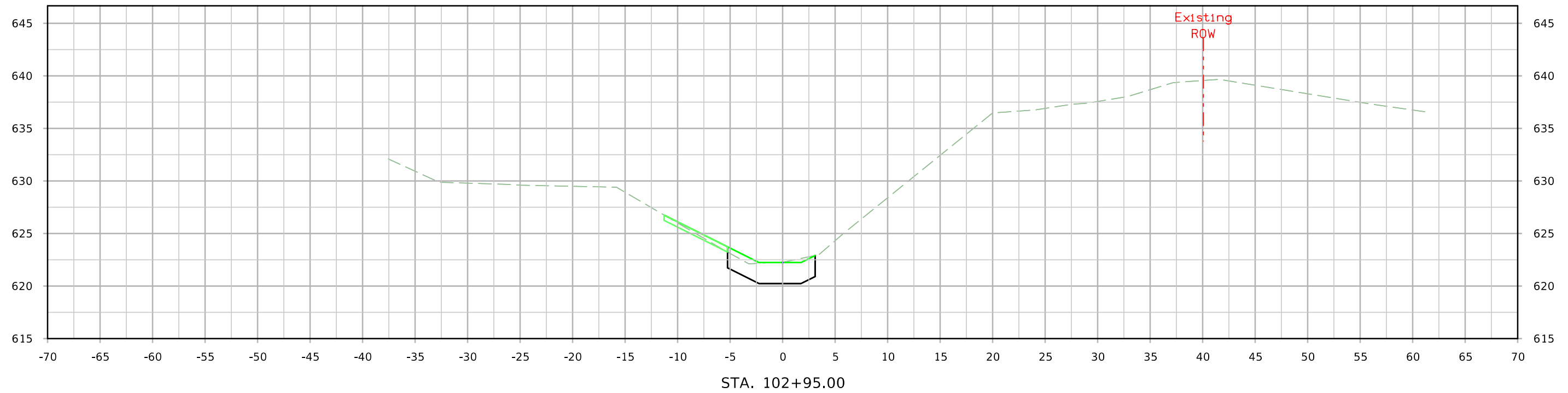


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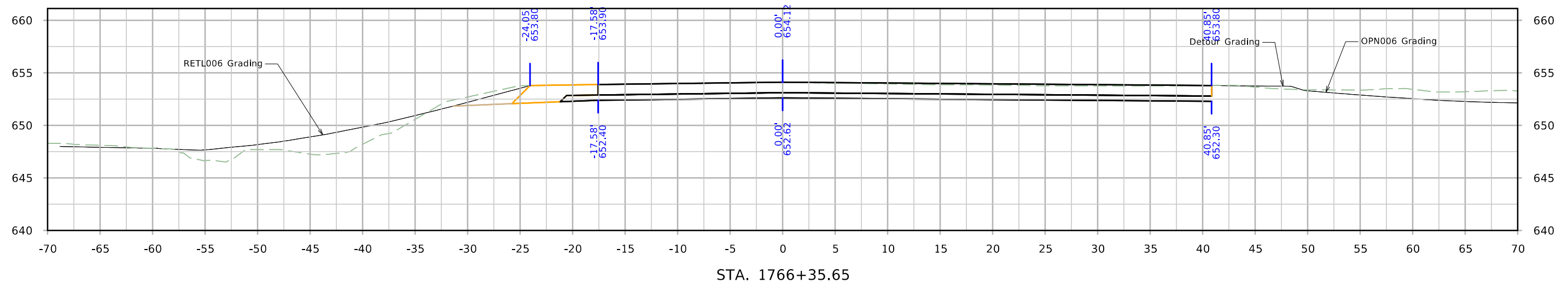
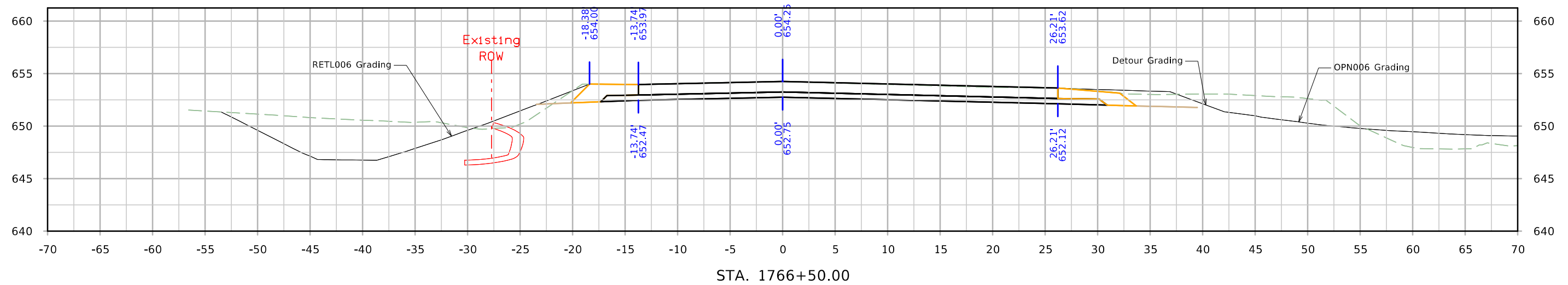
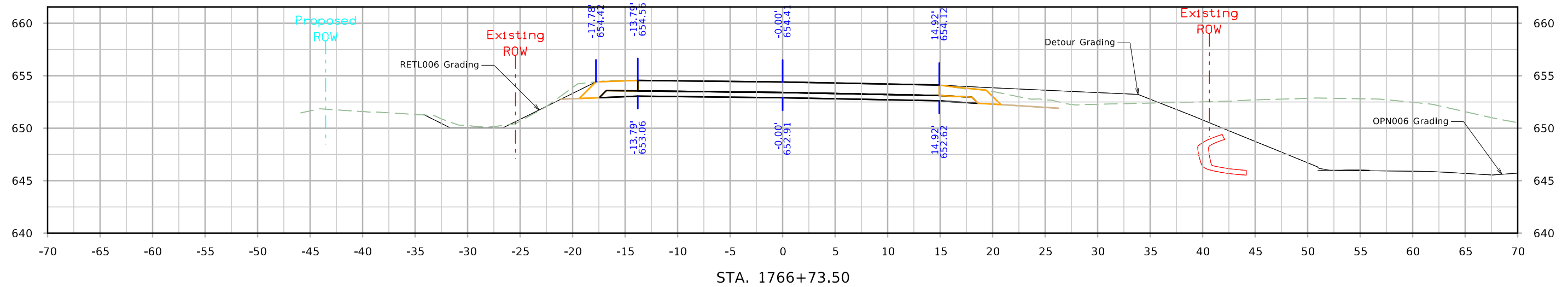




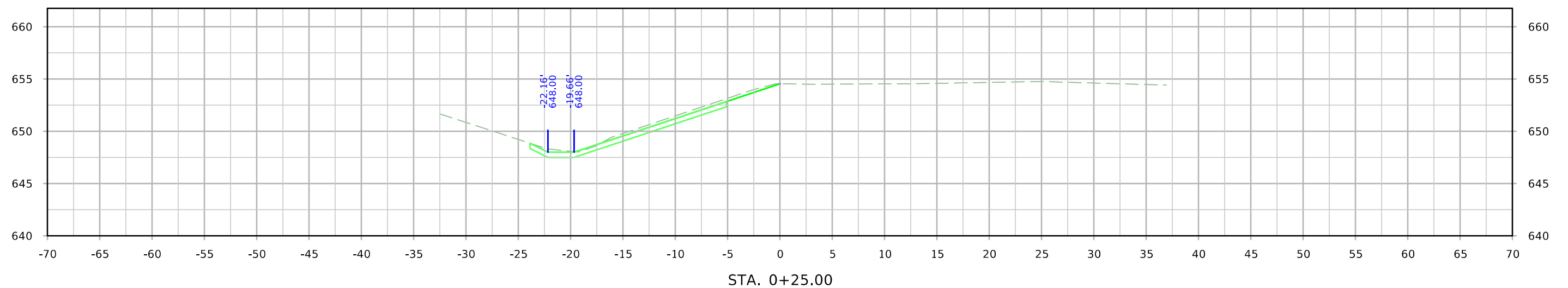
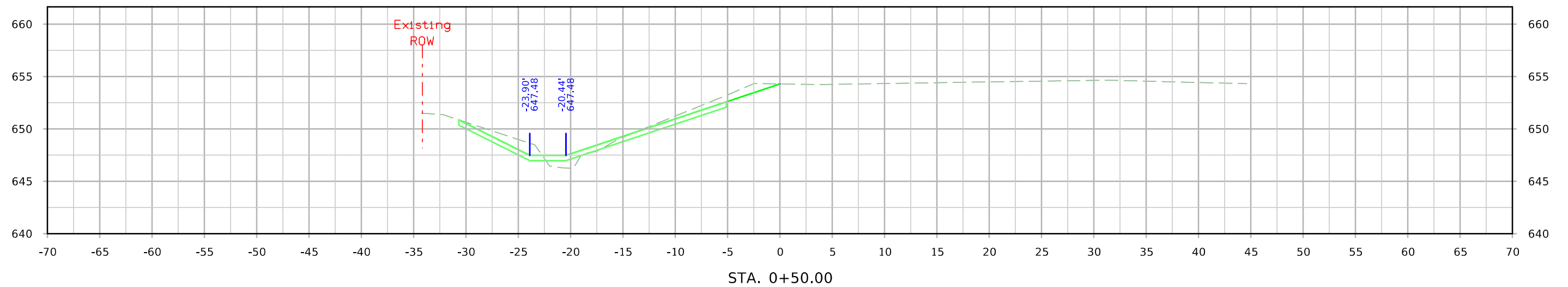
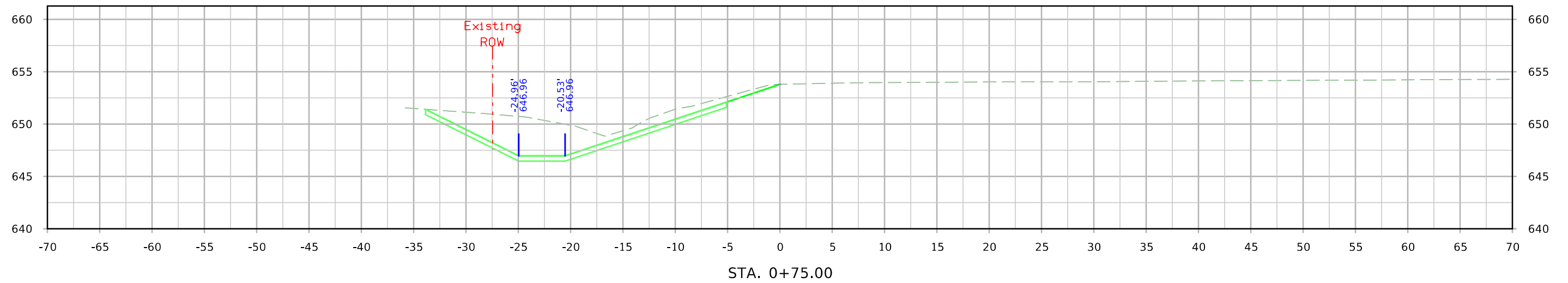
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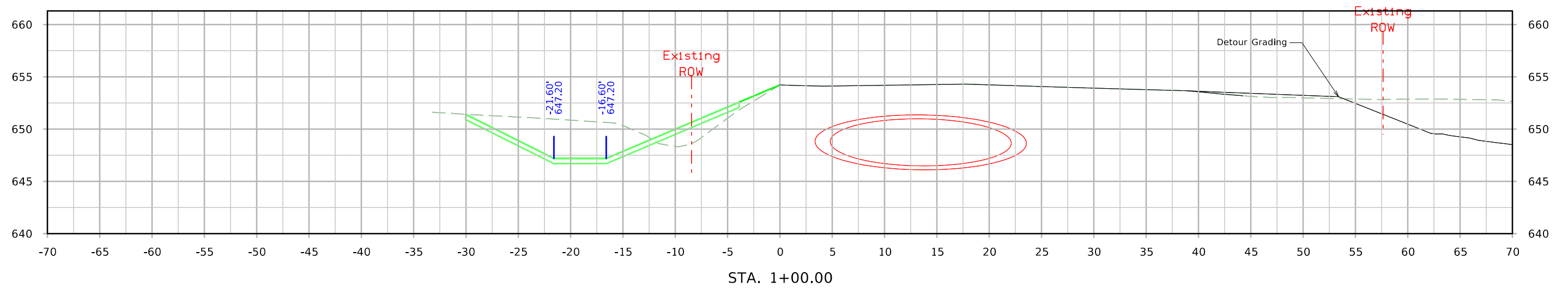
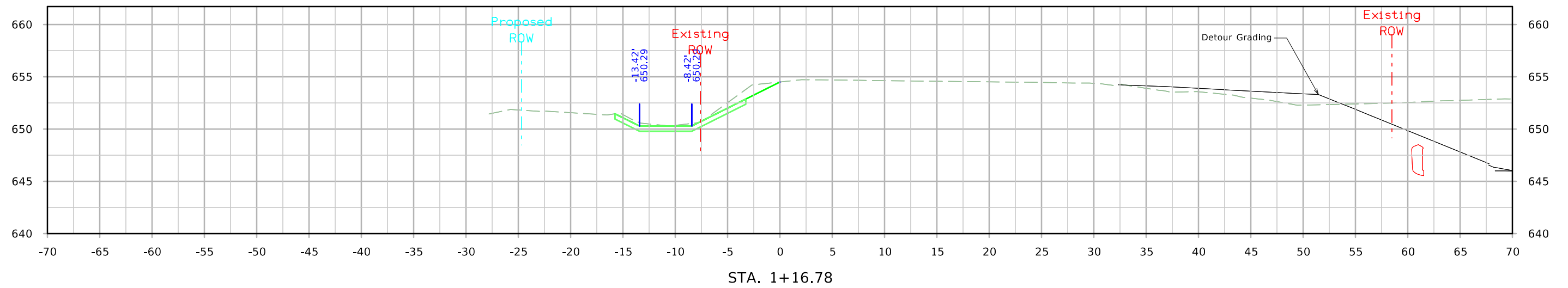
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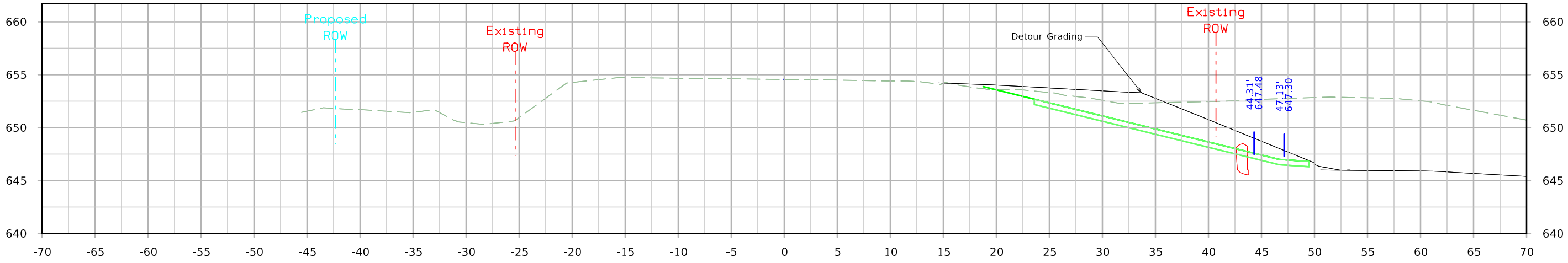
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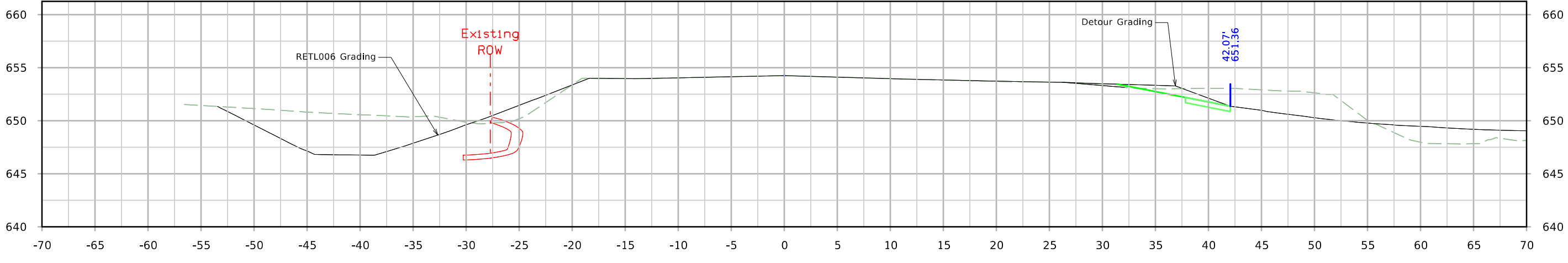
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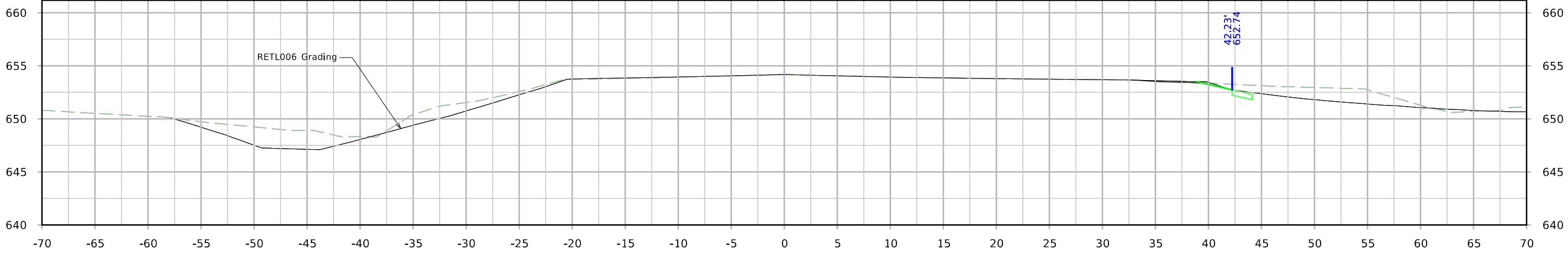
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STA. 1766+75.00

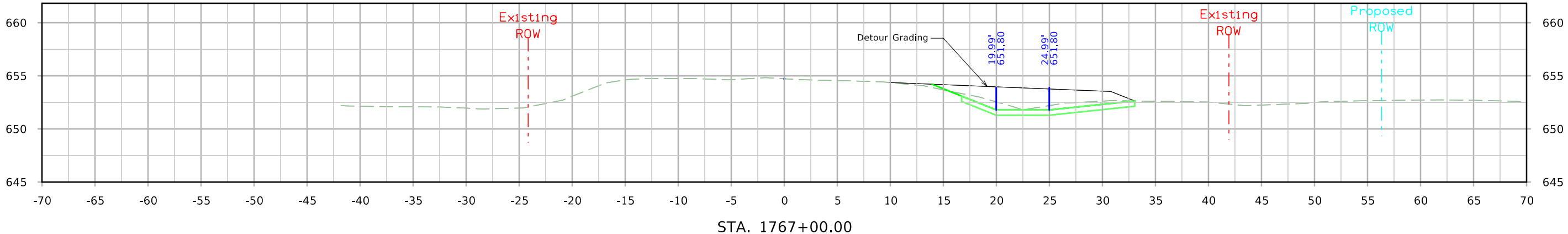
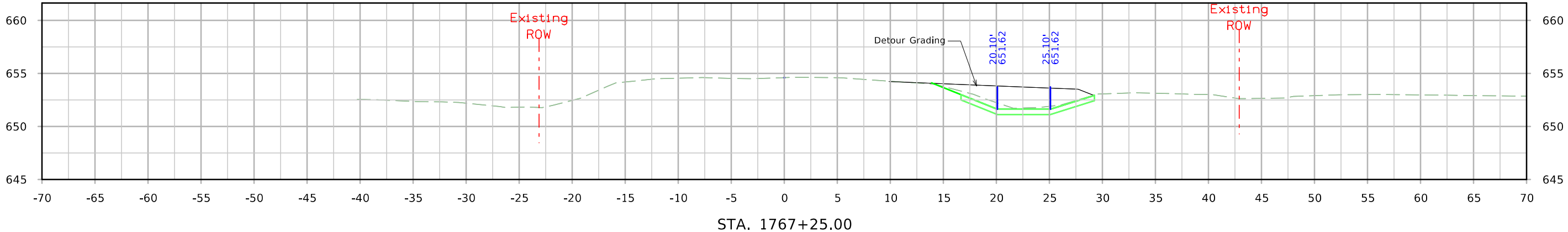
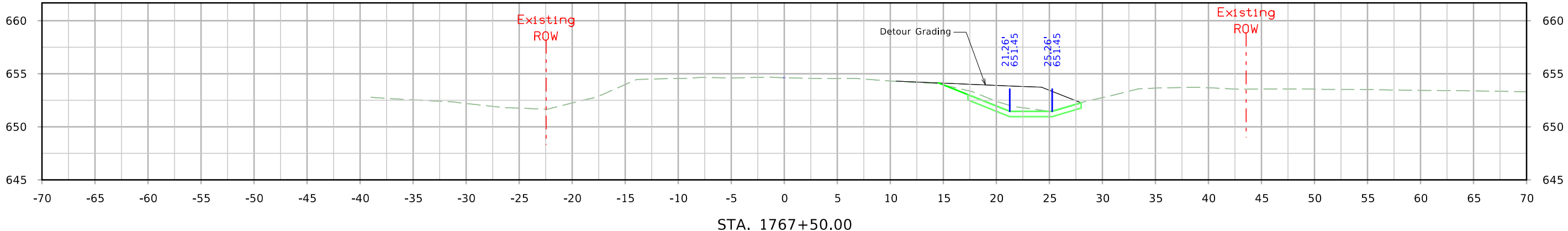


STA. 1766+50.00



STA. 1766+42.53

DET006 Remove



DET006 Remove

