

CERRO GORDO COUNTY

Bridge Replacement - PPCB
BRF-065-8(79)--38-17

LETTING DATE
11-19-2024



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
CERRO GORDO COUNTY
Bridge Replacement - PPCB

West Fork Cedar River 2.6 mi N of Co Rd C13

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

TOTAL

PROJECT IDENTIFICATION NUMBER

20-17-065-010

PROJECT NUMBER

BRF-065-8(79)--38-17

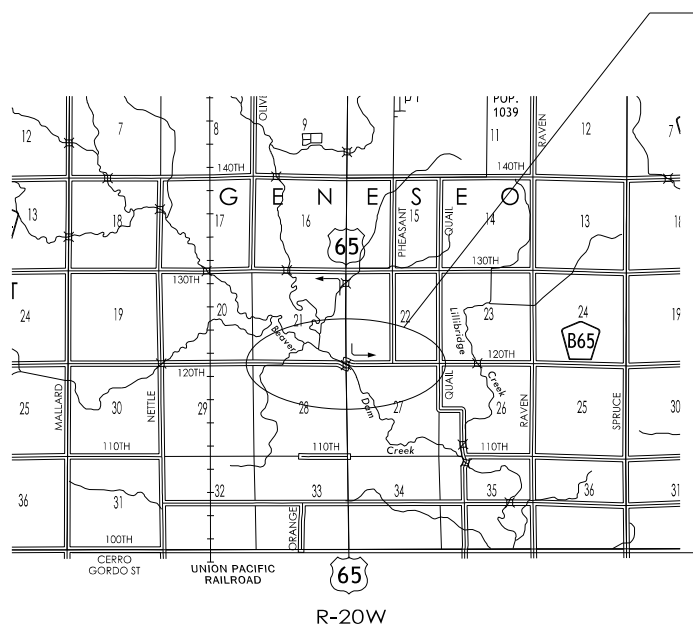
R.O.W. PROJECT NUMBER

NHSN-065-8(80)--2R-17

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* D.2	US 65
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	* Color Plan Sheets

PROJECT LOCATION
Sta. 1383+35.00
Ref. Loc. 181.60
FHWA # 18860



DESIGN DATA RURAL

2025	AADT	3200	V.P.D.
2045	AADT	3500	V.P.D.
20	-- DHV	--	V.P.H.
	TRUCKS	11	%
	Total		
	Design ESALs	--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	X	Primary Signature Block	X
X	X	X	X

PRELIMINARY PLANS

Subject to change by final design.

D2 PLAN - Date: 11-08-2022

FINAL PROJECT CONCEPT STATEMENT

US 65 Bridge over West Fork Cedar River, 2.6 mi N of Co Rd C13.

Cerro Gordo County
BRF-065-8(79)--38-17
PIN: 20-17-065-010
Maint. No. 1781.6S065
FHWA No. 18860

Highway Division
Design Bureau

John Bartholomew, P.E.
515-239-1540

October 20, 2021

Cerro Gordo County
BRF-065-8(79)--38-17
PIN: 20-17-065-010
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B. Need for Project

The bridge is structurally deficient. The bottom of the deck and the abutments are severely spalled with exposed reinforcing steel. The overlay is now reaching the end of its service life. There are areas of section loss at the ends of the steel girders and the bridge was designed for live loads below current standards. This type of superstructure is vulnerable to fatigue cracking in the vicinity of the welded cover plates. Due to the extent of these deficiencies, the bridge should be replaced.



Facing South



Facing North

I. STUDY AREA

A. Project Description

This project involves the replacement of the US 65 bridge (Maint. No 1781.6S065) over West Fork Cedar River, 2.6 mi N of Co Rd C13.

The two alternatives considered were:

1. Replace the existing 210 ft x 28 ft continuous steel beam bridge with a 244 ft x 44 ft pretensioned prestressed concrete beam bridge with traffic maintained via an off-site detour. The cost of this alternative will be \$3,165,400.
2. Replace the existing 210 ft x 28 ft continuous steel beam bridge with a 244 ft x 44 ft pretensioned prestressed concrete beam bridge with traffic maintained via staged construction

Alternative 1 is the preferred alternative due to the short out of distance travel detour route being available and because staged construction would require a grade raise making that option unfavorable.

C. Present Facility

The existing structure is a 214 ft. x 28 ft. steel beam bridge constructed in 1930 and overlaid in 1992.

US 65 in the project area is 28 ft. wide HMA pavement with 10 ft. wide effective shoulders (2 ft. paved and 8 ft. granular) and 3:1 foreslopes. The roadway, first constructed in 1920, was reconstructed with PCC in 1958 and resurfaced with HMA in 1978. HMA resurfacing and widening to 14 ft pavement was accomplished in 2000.

D. Traffic Estimates

The 2025 construction year and 2045 design year average daily traffic estimates are 3200 ADT with 12% trucks and 3500 ADT with 11% trucks, respectively.

E. Sufficiency Ratings

US 65 is classified as an "Area Development" route and is a maintenance service level "C" roadway. The federal bridge sufficiency rating is 51.8

F. Access Control

Access rights will not be acquired for this project.

G. Crash History

During the five-year study period from January 1, 2016 through December 31, 2020, there were 4 personal property crashes. Three of the crashes were animal crashes and one was a runoff the road crash. There is no indication that these crashes were directly associated with the bridge or the intersections of county road B65 and US 65, and 120th St. and US 65.

Apply erosion control and rural seeding and fertilizing to all disturbed areas.

It appears that some right of way will be required for this project.

Traffic will be maintained by an off-site detour.

II. PROJECT CONCEPT

A. Feasible Alternatives

Alternative #1 - Replace with a bridge

The existing 210 ft x 28 ft, continuous steel beam bridge will be replaced with 244 ft x 44 ft pretensioned prestressed concrete beam bridge.

The typical cross section adjacent to the bridge will consist of a 24 ft roadway (28 ft wide pavement) with 10 ft effective shoulders (2 ft outside pavement and 8 ft granular) and 3:1 foreslopes. The bridge approach section will consist of a 24 ft roadway with 10 ft paved shoulder panels.

This bridge will be constructed on the existing vertical and horizontal alignment, to better align with the river, the new bridge will be shifted 30 ft to the south of the current structure. New bridge approaches will be constructed. The existing guardrail will be replaced with new guardrail and the shoulders will be paved 20' beyond the ends of the guardrail. To avoid obstructing side roads, the north east and south west bridge rail ends will have permanent crash cushions installed instead of a standard guard rail system. Class 10 will be necessary to flatten the existing foreslopes and to construct the new guardrail blisters. Class E revetment will be placed under the bridge for slope protection. New bridge end drains will be constructed on the north and south ends of the bridge.

Due to the new bridge being centered 30 ft to the south of the current installation, 120th St to the south of the new bridge will need to be realigned to the south to allow for the installation of a permanent crash cushion and to meet necessary sight distances. This should be done with as minimal impacts to the surrounding wetlands as possible. During the concept review it was discussed to keep the proposed new bridge centered with the existing bridge, rather than shifting the new bridge to the south. Ultimately it was decided that shifting the bridge south, though it will require a relocation of 120th St. south of the bridge, will allow the bridge to be better aligned with the channels current location and avoid conflicts with the existing foundations.

Bridge Items	<u>Estimated Costs</u>
New Bridge	\$ 1,342,000
Bridge Removal	74,000
Cofferdam	50,000
Revetment	120,000
Mobilization - 10%	159,000
M & C - 15%	<u>349,000</u>
Bridge Costs	\$ 2,094,000
Roadway Items	
Bridge Approaches	\$131,800
Removal of Pavement	10,700
Full depth PCC shoulder	30,000
Embankment in place, contractor furnished	67,500
Class A Crushed Stone Surface	6,000
Excavation Class 13 Waste	23,600
Excavation Class 10 Waste	63,300
Guardrail (Includes Removal)	15,400
Permanent Crash Cushions	46,700
Paved Shoulders for Guardrail	17,300
Class 10 for Guardrail Blisters	43,700
Bridge End Drains	8,200
Clearing and Grubbing	900
Seeding and Fertilizing	3,300
Erosion Control	50,000
Right of Way	33,000
Wetland Mitigation	100,000
Traffic Control - 5%	52,500
Mobilization - 5%	52,500
M & C - 30%	<u>315,000</u>
Roadway costs	\$ 1,071,400
Project Total	\$3,165,400

Alternative #2 - Replace with a bridge using staged construction

Replacing the existing 244 ft x 44 ft pretensioned prestressed concrete beam bridge using staged construction. This option was reviewed but was dismissed because the existing frame pier removal cannot be staged making a 1 ft grade raise necessary to place new beams above the existing pier caps.

B. Detour Analysis

U.S. 65 will be closed, and an offsite detour will be utilized. It is anticipated the detour will be in place for approximately 180 days. The detour would follow County Road B-60 east at the junction of U.S. 65 and County Road B-60 to County Road S-56, then south on County Road S-56 to County Road C-13 then west to the junction of U.S. 65. Out of distance travel is 8 miles. The total distance user cost is anticipated to be \$1,040,900. The cost for county road maintenance will be \$58,800 as calculated by the Gas Tax Method. Detour signing costs will be \$10,000.

C. Recommendations

It is recommended that the present structure be replaced, as described in Alternative No. 1.

D. Construction Sequence

It is anticipated that all work on this project will be awarded to one prime contractor. The Bridges and Structures Bureau will coordinate the plan preparation with assistance from the Design Bureau.

E. ADA Accommodations

There are no bike paths or sidewalks adjacent to US 65; therefore, no ADA accommodations are planned in conjunction with this project.

F. Special Considerations

This will not be a traffic critical project.

The ABC Rating Score of 33 is less than the first stage filter threshold of 50, therefore an accelerated bridge option for this bridge will not be created unless issues with the off-site detour or upon the District's request require it.

Standard survey coverage will be required. In addition, low roadway/overtop location, and elevations north of the bridge as well as survey for the impacted wetland area in the south west quadrant.

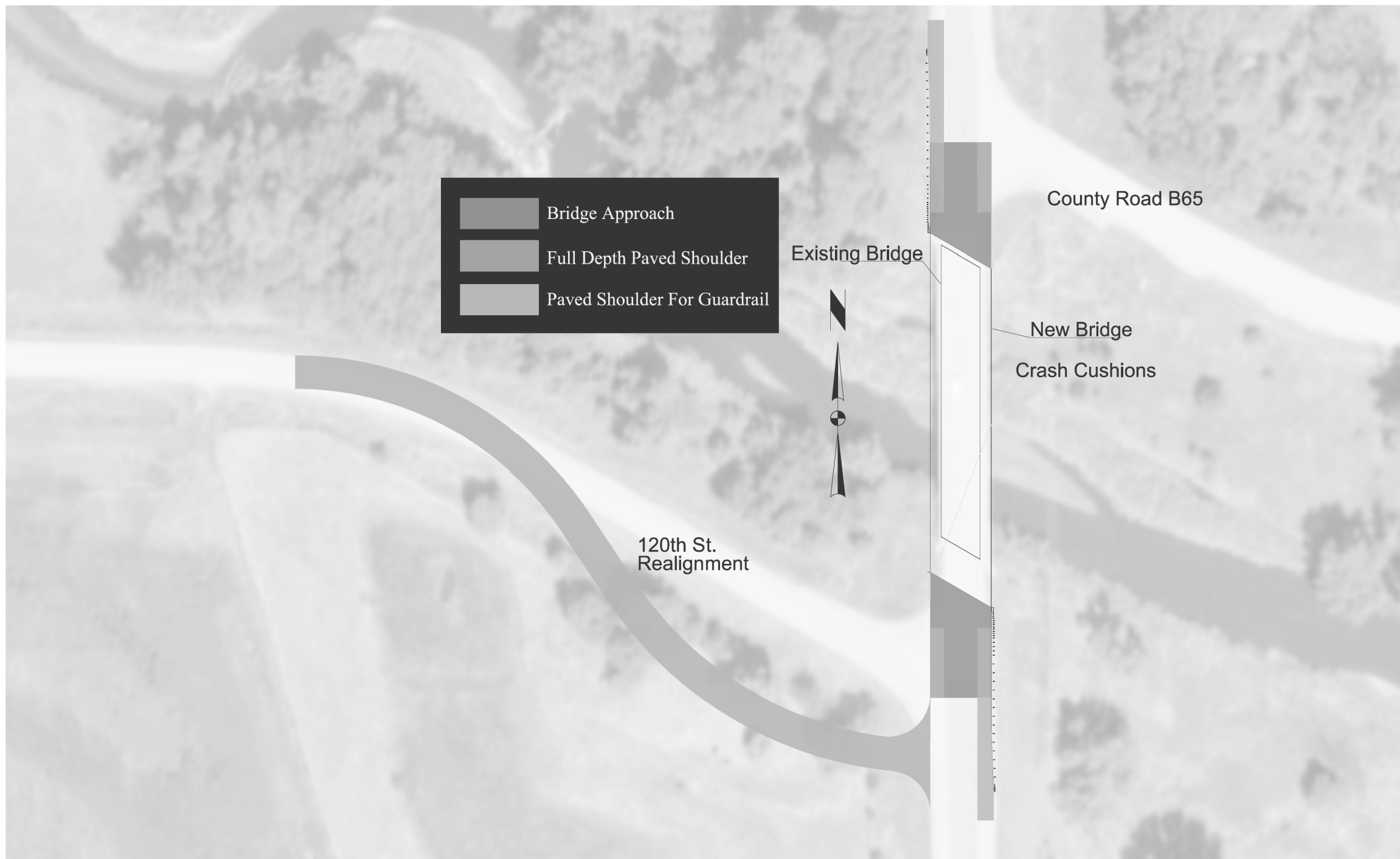
Right of Way will be required for this project.

Based on the Concept Review meeting held on September 17, LEB has determined that this project will require a 404 Permit. In addition to the replacement of the U.S. 65 bridge, the proposed relocation of 120th street south of the existing bridge will result in significant emergent wetland impact to a historic oxbow of the West Fork Cedar River. At this time, we expect this project to be authorized by a Nationwide Permit. It is anticipated that wetland impacts will be greater than 0.1-acre and thus wetland mitigation will be required. This project falls within the service area of Black Hawk, Heineman, and Smoketown Wetland mitigation banks. To minimize wetland impacts to the furthest extent, we recommend choosing the least environmentally damaging practicable alternative (LEDPA) that exists and acquiring the minimal amount of ROW necessary to construct the project.

G. Program Status

Site data has been developed by the Design Bureau. This project is listed in the 2022-2026 Iowa Transportation Improvement Program, with \$5,000 programmed for right of way in FY 2025, and \$2,750,000 for replacement in FY 2025. Costs for this project may be eligible for bridge replacement funds. A schedule of events will be developed following approval of the Project Concept.

JEB: mhm



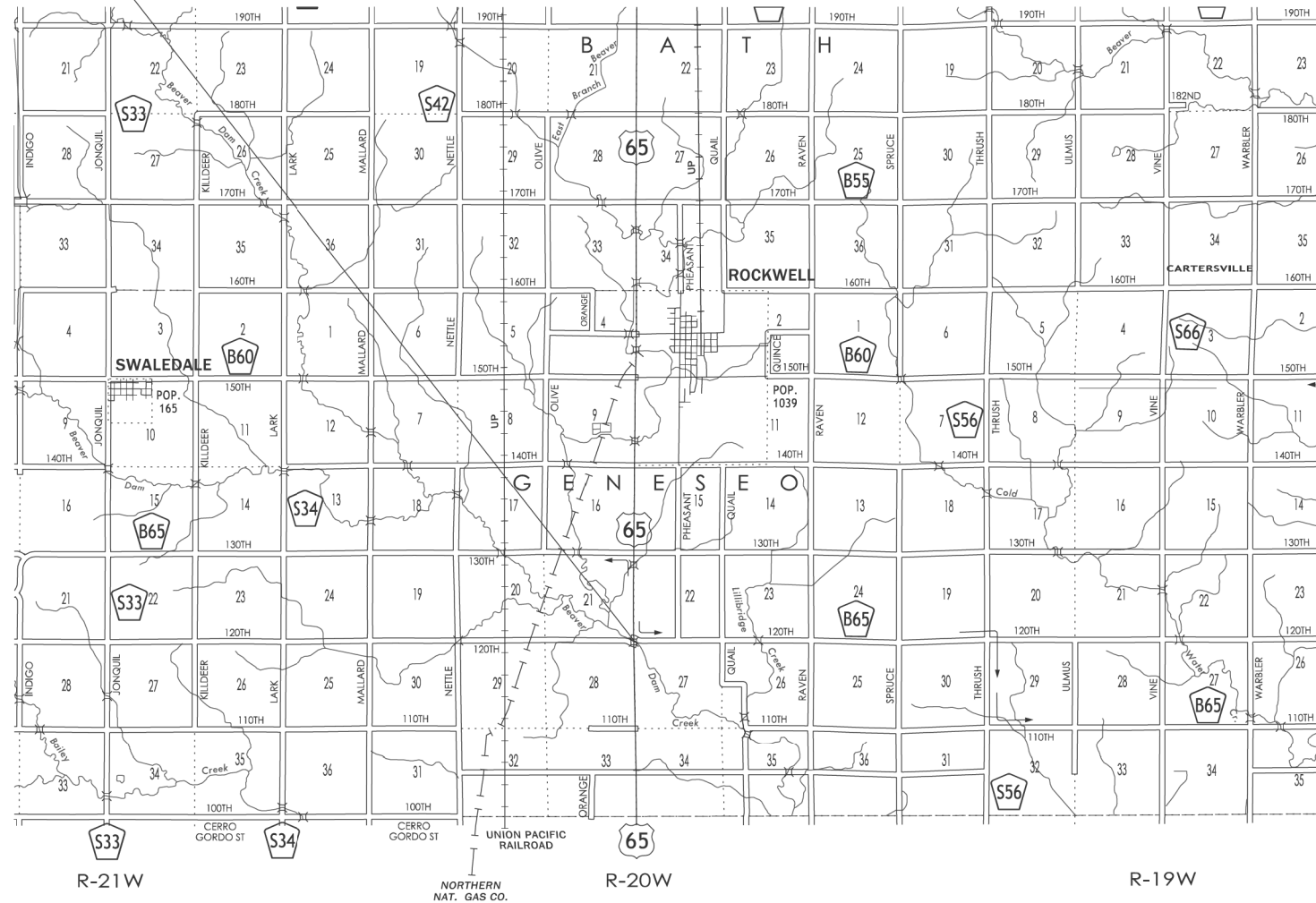
Cerro Gordo County
US 65, West Fork Cedar River
2.6 mi N of Co Rd
BRF-065-8(79)--38-17
Pin: 20-17-065-010



STA 1383+35
FHWA 18860
Maint. No.: 1781.6S065
Design 555

STA 1383+35.00
 FHWA 18860
 MAINT. 1781.6S065
 DESIGN 555

CERRO GORDO COUNTY



US 65, Beaver Dam Creek
 2.6 mi N of Co Rd C13
 BRF-065-8(79)--38-17
 PIN: 20-17065-010

Proposed Detour Route

Cerro Gordo County

PIN: 20-17-065-010

Project Number: BRF-065-8(79)--38-17

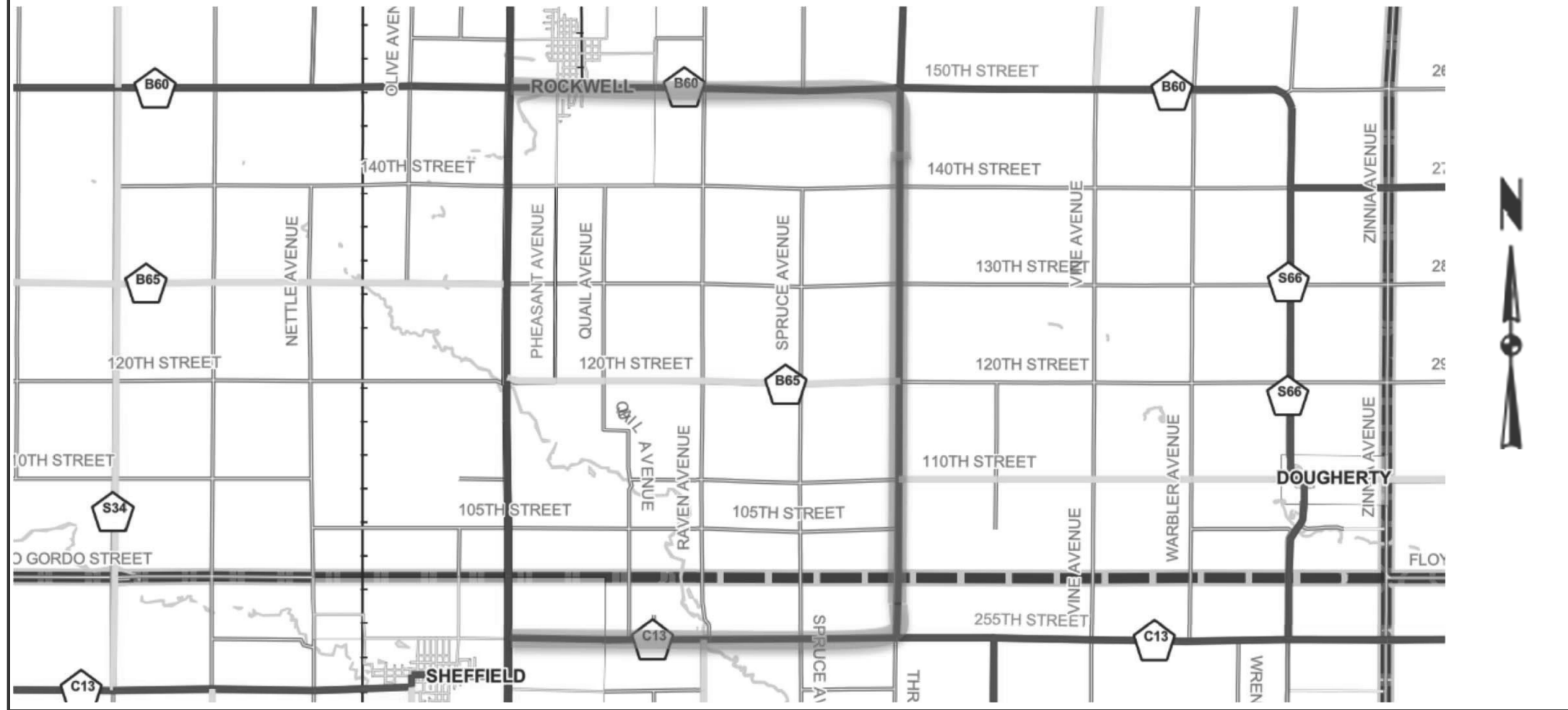
Location: West Fork Cedar River 2.6 mi N of Co Rd

Type of Work: Bridge Replacement

Project Directory: 1706501020

FHWA No.: 18860

Maint. No.: 1781.6S065



Bridge Bureau Attachment for Concept Statement

Date: August 9, 2021
By: Patricia Schwarz
Location: US65 over West Fork Cedar River (formerly known as Beaverdam Ck)

County: Cerro Gordo
 Project No.: BRF-065-8(79)--38-17
 Pin No.: 20-17-065-010

1. Regulatory/Coordination
 - a. Iowa DNR Flood Plain permit = Yes (DA=126sqmi > 100sqmi/Rural Area)
 - b. Iowa DNR Sovereign Lands permit = No (Per BDM C3.10.1)
 - c. Local Record of Coordination = No
 - d. Flood Insurance Study = Yes (Zone A, Panel 19033C0375D, 6-5-2020)
 - e. Drainage District = No based on statewide GIS shape file dated 121217
 - f. Location and Environment Bureau = To Be Determined.
 - g. State Water Trail or Paddling Route = No (DNR Interactive Paddling Map)
2. Hydrologic/Hydraulic Analysis/RIDB Dataset
 - a. Design discharges determined = Complete (2013-5086, See AEPD Spreadsheet)
 - b. Hydraulic analysis done = PreSurvey GeoHECRAS model available (W drive Sites Folder)
 - c. Riverine Infrastructure Database = Required (CedarR_WF_67.31)
3. Structure/Roadway Layout Considerations
 - a. A roadway profile grade raise is not anticipated.
 - b. It is recommended that the center of proposed bridge be shifted 30 feet to the south as compared to the existing bridge. The intent of the shifted bridge is to better align with the channel's current location, and secondly to minimize potential impacts to the intersection/paved side road 120th St north of the bridge. The south side gravel road and intersection for 120th St appears to likely be impacted.
 - c. To mitigate the potential for further channel migration toward the south, a substantial key-in (possibly within existing ROW) may be considered on the south side/upstream channel bank.
 - d. The proposed layout should avoid conflicts with existing foundations.
4. Special construction issues
 - a. Shallow bedrock. The depth to competent rock may impact the design or type selection for of pier and abutment.
5. Special survey = Yes. Low roadway/overtop location and elevation north of the bridge.
6. Aesthetic enhancements = Not anticipated
7. Other
 - a. Wing dikes are not proposed.

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Utilities

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Utility Company Contacts

Estimate Items Report

Version D00-Concept
Project PRJ-24483 PHASE-1

Item Number	Item Description	Units	Quantity	Cost Used	Suggested Cost	Line Total	Estimator Notes
						SubTotal:	\$1,071,369.74
2101-0850002	CLEAR+GRUBB	UNIT	12.000	\$72.82	\$72.82	\$873.84	
2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISH	CY	4,500.000	\$15.00	\$22.85	\$67,500.00	
2102-2710090	EXCAVATION, CL 10, WASTE	CY	4,200.000	\$15.08	\$15.08	\$63,336.00	
2102-2713090	EXCAVATION, CL 13, WASTE	CY	634.500	\$37.15	\$37.15	\$23,571.68	
2122-5190012	PAVED SHLD, PCC, 12"	SY	222.200	\$135.21	\$135.21	\$30,043.66	
2122-5500090	PAVED SHLD, HMA, 9"	SY	212.400	\$81.55	\$81.55	\$17,321.22	
2301-0690203	BRIDGE APPROACH, BR-203	SY	537.300	\$245.21	\$245.21	\$131,751.33	
2312-8260051	GRANULAR SURF ON RD, CL A CR STONE	TON	184.800	\$32.38	\$32.38	\$5,983.82	
2503-0500401	BRIDGE END DRAIN, DR-401	EA	4.000	\$2,053.43	\$2,053.43	\$8,213.72	
2505-4008120	RMVL OF STEEL BEAM G'RAIL	LF	403.500	\$7.84	\$7.84	\$3,163.44	
2505-4008300	STEEL BEAM G'RAIL	LF	100.000	\$25.07	\$25.07	\$2,507.00	
2505-4008410	STEEL BEAM G'RAIL BAR TRANS SECT, BA-201	EA	2.000	\$2,080.28	\$2,080.28	\$4,160.56	
2505-4021010	STEEL BEAM G'RAIL END ANCHOR, BOLTED	EA	2.000	\$304.60	\$304.60	\$609.20	
2505-4021720	STEEL BEAM G'RAIL TGNT END TERM, BA-205	EA	2.000	\$2,487.70	\$2,487.70	\$4,975.40	
2510-6745850	RMVL OF PAV'T	SY	541.300	\$19.70	\$19.70	\$10,663.61	
2551-0000210	PERMANENT CRASH CUSHION	EA	2.000	\$23,348.91	\$23,348.91	\$46,697.82	
2599-9999010	Wet Land Mitigation ('LUMP SUM' ITEM)	LS	1.000	\$100,000.00	\$0.00	\$100,000.00	
2599-9999010	Right of Way ('LUMP SUM' ITEM)	LS	3.000	\$11,000.00		\$33,000.00	
2601-2636043	SEED+FERTILIZE (RURAL)	ACRE	2.500	\$1,303.08	\$1,303.08	\$3,257.70	
2602-0010010	MOBILIZATION, EROSION CONTROL	EA	1.000	\$50,000.00	\$0.00	\$50,000.00	
COMP-1656	Composite - Class 10 Blister Two Lane (5857.66)	EA	2.000	\$21,855.92	\$21,855.92	\$43,711.84	
PCT-000-000	MOBILIZATION (000-000)	% of Project	1,050,069.730	5.00 %	0.00 %	\$52,503.49	
PCT-000-030-020	TEMPORARY TRAFFIC CONTROL (000-030-020)	% of Project	1,050,069.730	5.00 %	0.00 %	\$52,503.49	
PCT-999	M & C	% of Project	1,050,069.730	30.00 %	0.00 %	\$315,020.92	
Total:						\$1,071,369.74	

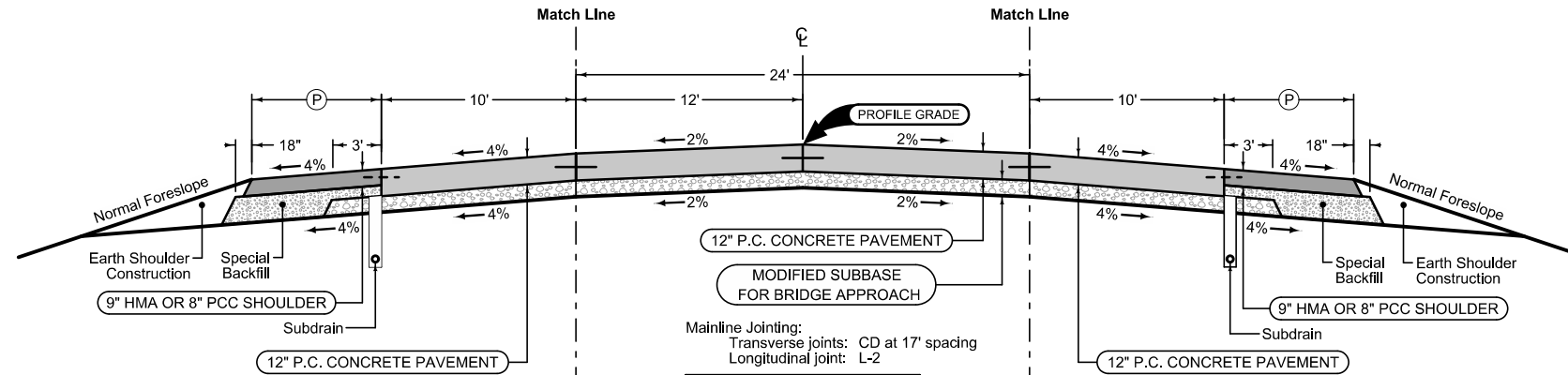
Report Date: 10/5/2021 6:57:10 AM

Page 1 of 1

Paved Shoulder at Guardrail

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_04-21-20		
STATION TO STATION		(P) Feet
1381+16.85	1381+84.55	1.6 - 1.6
1384+32.02	1384+99.72	1.6 - 1.6



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

2P_04-21-20		
STATION TO STATION		(P) Feet
1381+16.85	1381+84.55	
1384+32.02	1384+99.72	

2E_10-19-10

Paved Shoulder at Guardrail

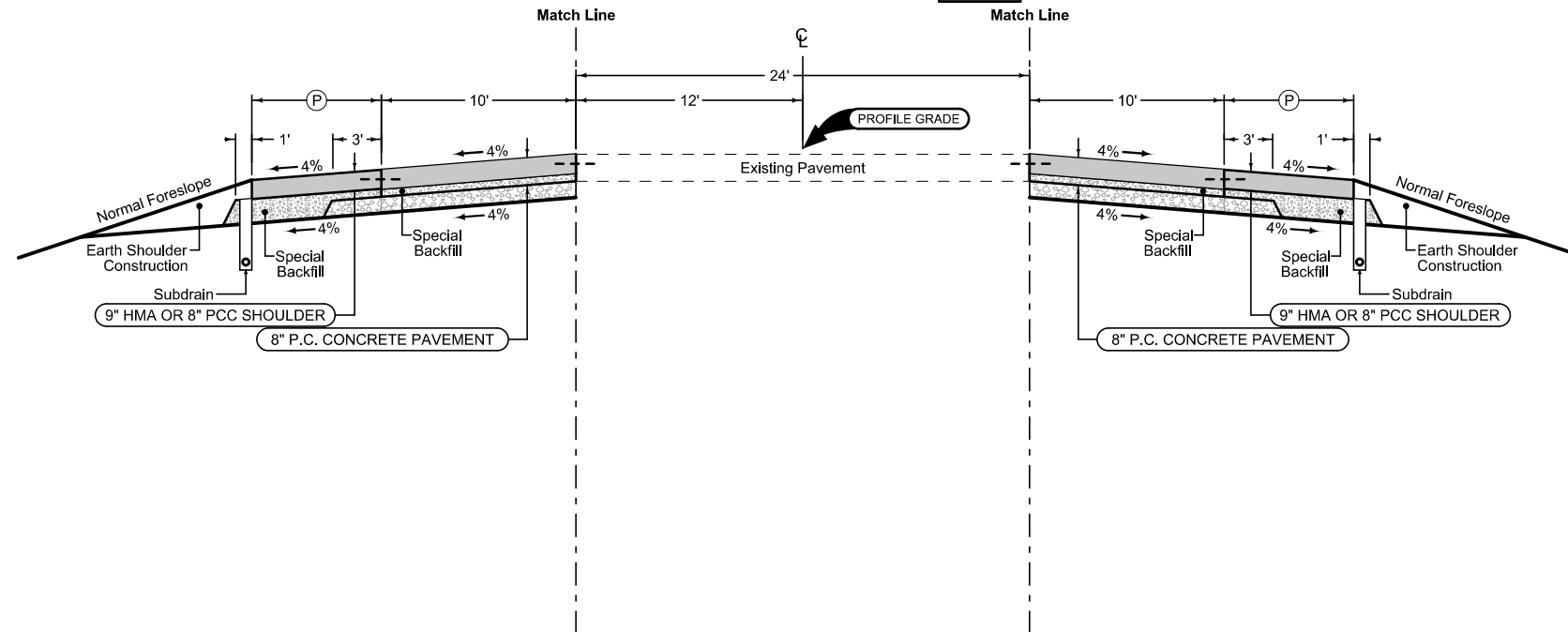
PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_04-21-20		
STATION TO STATION		(P) Feet
1381+16.65	1381+84.55	1.6 - 1.6
1384+32.02	1384+99.72	1.6 - 1.6

Paved Shoulder at Guardrail

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

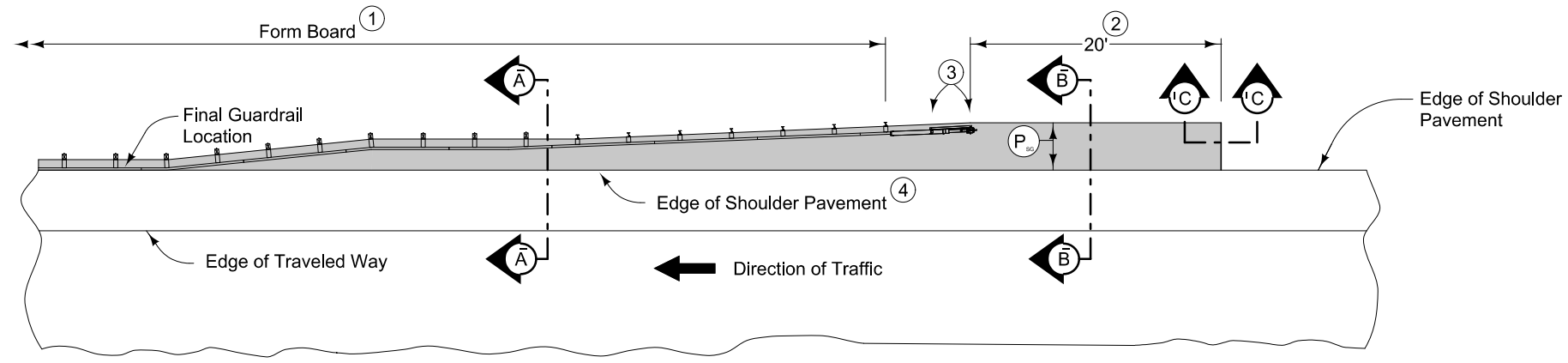
2_P_Guard_04-21-20		
STATION TO STATION		(P) Feet
1381+50.26	1381+90.27	3.7 - 3.7
1381+90.27	1381+97.25	1.6 - 1.6
1384+44.72	1385+54.27	1.6 - 1.6
1385+54.27	1386+01.99	1.6 - 3.3
1386+01.99	1386+21.99	3.3 - 3.3



Paved Shoulder at Guardrail

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_04-21-20		
STATION TO STATION		(P) Feet
1379+94.57	1380+14.57	3.3 - 3.3
1380+14.57	1380+62.30	3.3 - 1.6
1380+62.30	1381+71.85	1.6 - 1.6
1384+19.31	1384+26.31	1.6 - 1.6
1384+26.31	1384+66.32	3.7 - 3.7



PLAN VIEW

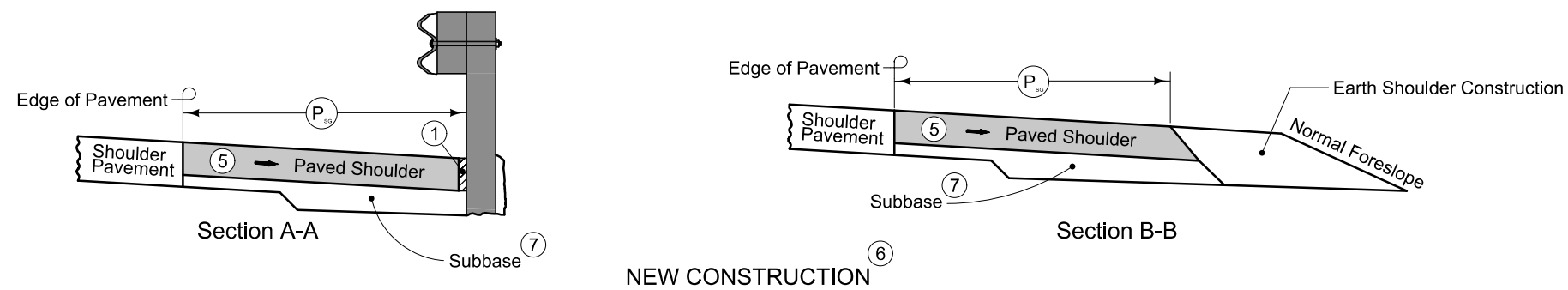
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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

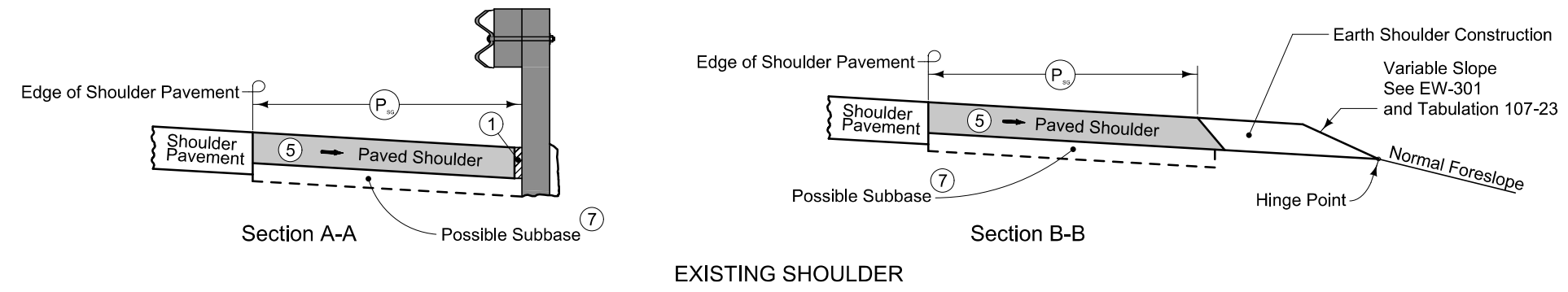
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

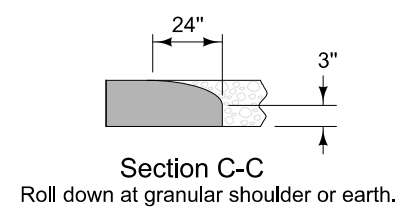
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'KT' (per PV-102) joint for PCC shoulder. 'B' (per PV-102) joint for HMA shoulder.
- ⑤ Match shoulder slope.
- ⑥ The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.
- ⑦ Refer to other details in the plan.



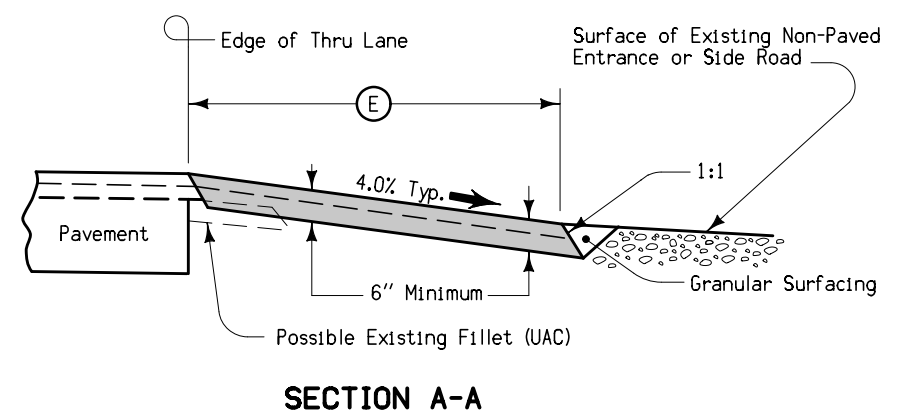
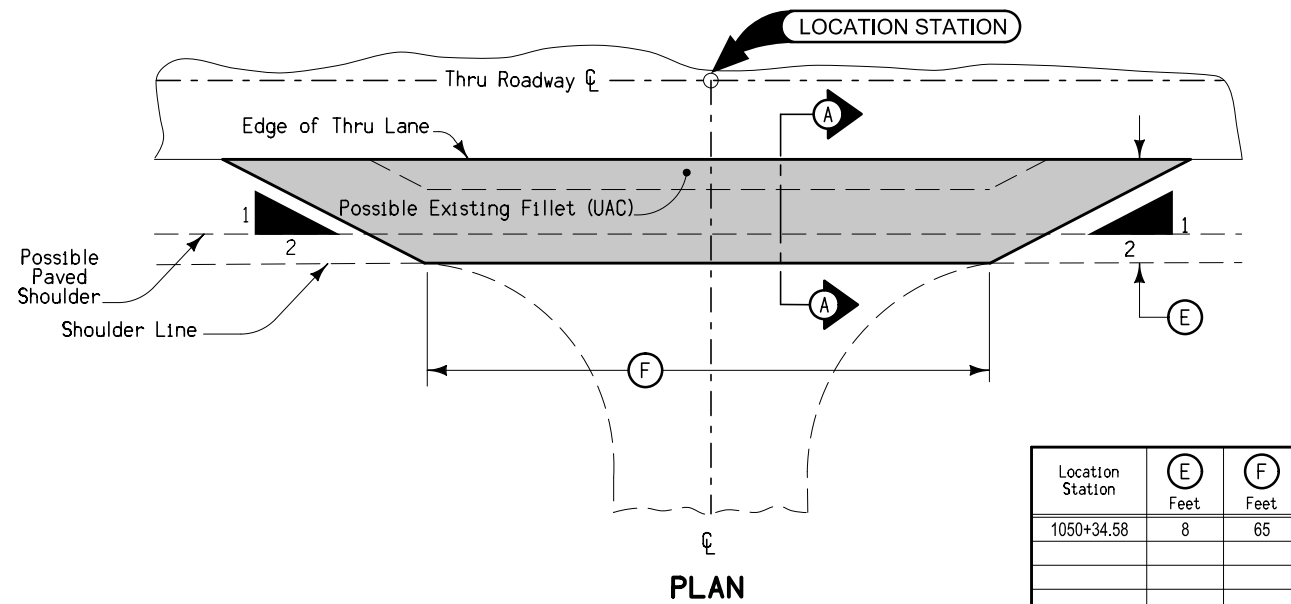
NEW CONSTRUCTION



EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL (ADJACENT TO FULL WIDTH PAVED SHOULDER)



Special shaping of existing surface prior to placement of fillet may be required by the Engineer and is incidental to other work on the project.
Quantities included with mainline quantities.

FILLET FOR NON-PAVED ENTRANCES OR SIDE ROADS

SURVEY SYMBOLS

- | | | | |
|--|-----------------------------------|--|------------------------------|
| | Interstate Highway Symbol | | Septic Tank |
| | U.S. Highway Symbol | | Cistern |
| | Iowa Highway Symbol | | L.P. Gas Tank (No Footing) |
| | County Road Highway Symbol | | Underground Storage Tank |
| | Evergreen Tree | | Latrine |
| | Deciduous Tree | | Satellite TV Dish |
| | Fruit Tree | | Water Hook Up |
| | Shrub (Bushes) | | Radio Tower |
| | Timber | | Tower Anchor |
| | Hedge | | Guardrail (Beam or Cable) |
| | Stump | | Guard Post (one or two) |
| | Swamp | | Guard Post (over two) |
| | Rock Outcrop | | Filler Pipe |
| | Broken Concrete | | Gas Valve |
| | Revetment (Rip Rap) | | Water Valve |
| | Cemetery | | Speed Limit Sign |
| | Grave | | Mile Marker Post |
| | Cave | | Sign |
| | Sink Hole | | Traffic Signal Control Box |
| | Board Fence | | Rail Road Signal Control Box |
| | Chain Link or Security Fence | | Telephone Switch Box |
| | Wire Fence | | Electric Box |
| | Terrace | | |
| | Earth Dam or Dike (Existing) | | |
| | Tile Outlet | | |
| | Edge of Water | | |
| | Existing Drainage | | |
| | Right of Way Rail or Lot Corner | | |
| | Concrete Monument | | |
| | Well | | |
| | Windmill | | |
| | Beehive Intake | | |
| | Existing Intake | | |
| | Existing Utility Access (Manhole) | | |
| | Fire Hydrant | | |
| | Water Hydrant (Rural) | | |

UTILITY LEGEND

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kstuder@mediacomcc.com

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design	Color No.	
Green	(10)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

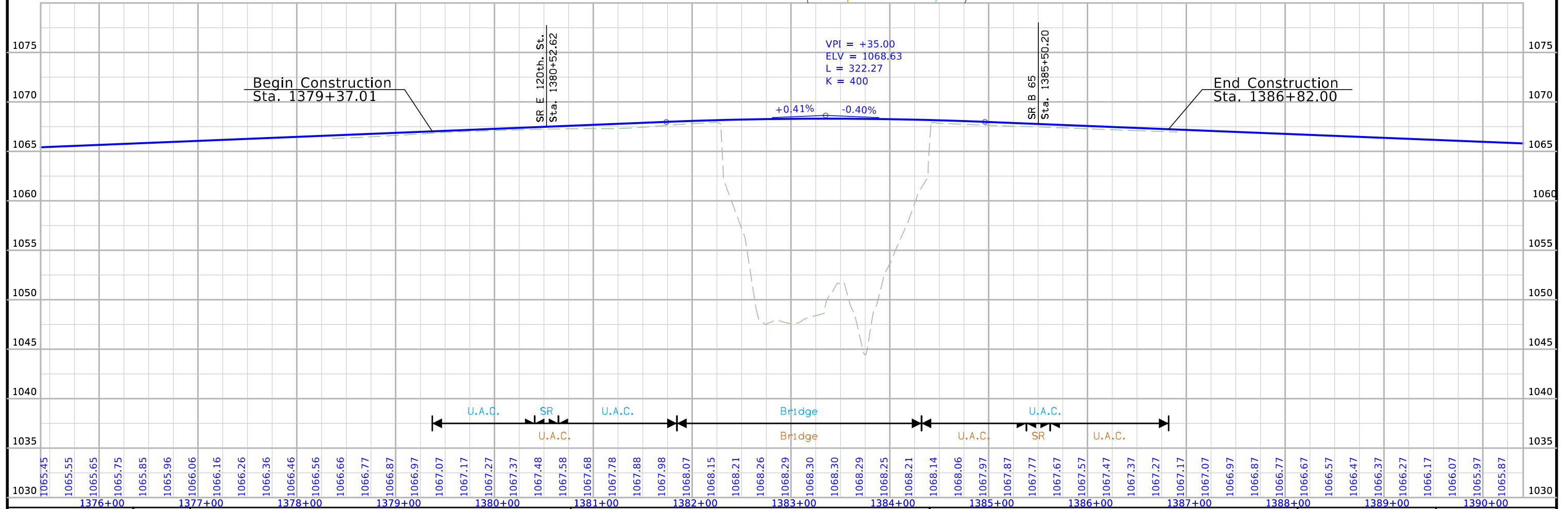
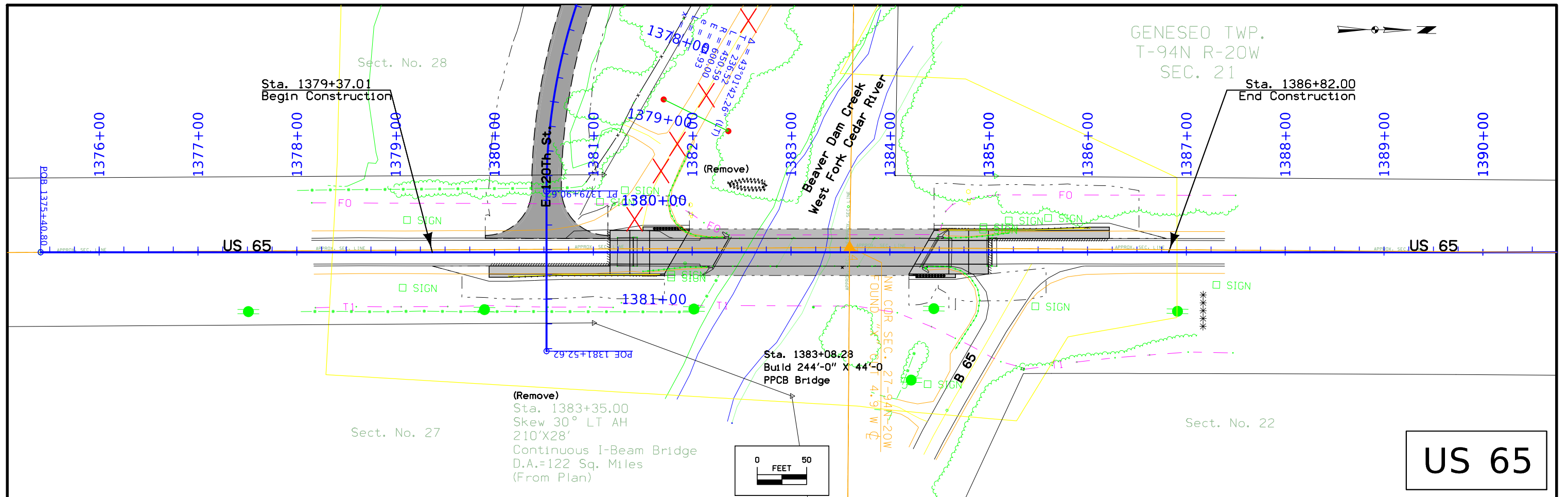
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- High Tension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

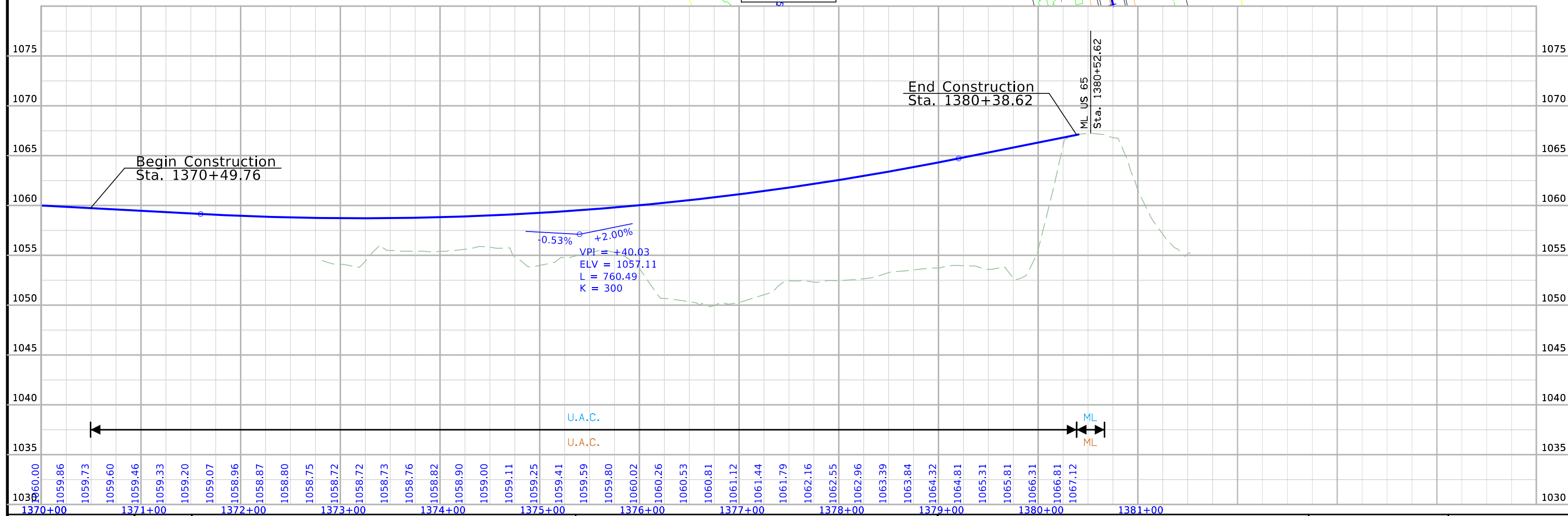
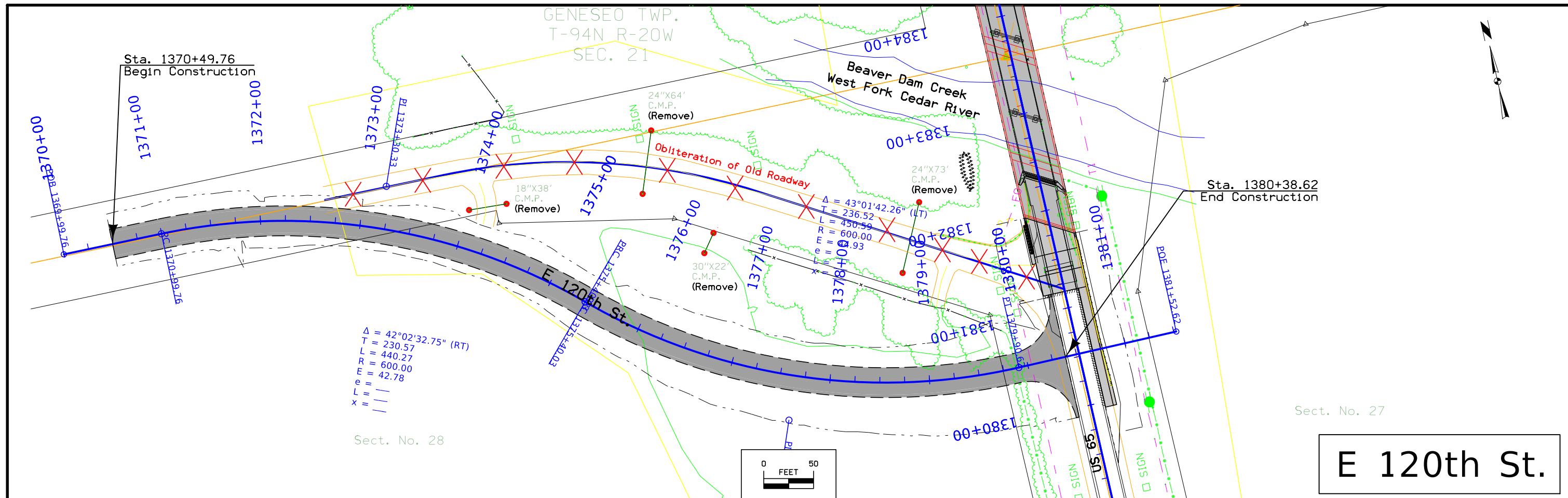
- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- Access Control
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



FILE NO. 98765	ENGLISH	DESIGN TEAM Strum\Prindle	CERRO GORDO COUNTY	PROJECT NUMBER BRF-065-8(79)--38-17	SHEET NUMBER D.2
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1370+00	1371+00	1372+00	1373+00	1374+00	1375+00	1376+00	1377+00	1378+00	1379+00	1380+00	1381+00
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Survey Information

SURVEY INDEX

County: Cerro Gordo
PIN: 20-17-065-010
Project Number: BRF-065-8(79)--38-17
Location: West Fork Cedar River 2.6 mi N of Co Rd C13
Type of Work: Bridge Replacement
Project Directory: 1706501020

Survey Personnel

John Hahn – Survey Party Chief
Robert Fredrickson – Assistant Survey Party Chief

Date(s) of Survey

Begin Date 11/8//2021
End Date 3/8/2022

General Information

Measurement units for this survey are US survey feet. This survey is for a US Hwy 65 Bridge Replacement over the West Fork of the Cedar River 2.6 mi N of Co Rd C13.

Project Control

Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on primary project control points. Two five-minute observations were taken with appropriate time spans between and used in a weighted average to obtain final coordinate values. For additional details of the control survey, contact the Preliminary Survey department.

PROJECT DATUM: NAD83(2011) EPOCH 2010.00
VERTICAL DATUM: NAVD88
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 2

Alignments Information

The horizontal alignment for U.S. Hwy. 65 this survey is a retrace of As-built Plans No. FN-115. Survey stationing was equated to Bridge Sta. 1383+35 and run back and ahead without equation throughout the survey.

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

PI Sta. 1375+40.8 As-built Plans No. FN-115
=Survey PI Sta. 1375+40.8

PI Sta. 1391+77.5 As-built Plans No. FN-115
= Survey PI Sta. 1391+77.5

The horizontal alignment for Cerro Gordo County route B-65 this survey is a retrace of As-built Plans No. FN-115. Survey stationing was equated to the plan PI at Sta. 2383+17.4 and run ahead without equation throughout the survey.

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

PI Sta. 1385+50.2 As-built Plans No. FN-115
=PI Sta. 2383+17.4 side road survey As-built plans No. FN-115

PC Sta. 2385+02.2 As-built Plans No. FN-115
=Survey PC Sta. 2385+02.0

PI Sta. 2386+97.4 As-built Plans No. FN-115
= Survey PI Sta. 2387+03.7

PT Sta. 2388+97.0 As-built Plans No. FN-115
= Survey PT Sta. 2388+96.4

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 - Ia. RCS Zone 02

VERT. DATUM: NAVD88 - Geoid Model g2012bu3

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00
 1a. Regional Coordinate System Zone 02

VERT. DATUM: NAVD88
 Geoid Model g2012bu3
 Project Control Marks are Bench Marks

Point Name	Northing	Easting	Elevation	Code/Description
G113	9721800.216	12378559.458	1075.230	CP Fd Cerro Gordo Co GPS Control Mon w/Cap Stamped G113 Inside NGS Style Access Cover 275' W Of Intersection US Hwy 65 & 130th St & 48' N Of Center 130th St W Of Old RR Bed
170651806	9711199.519	12378894.772	1088.726	CP FND ROW Rail With Dimple in Ball 17' North of Field Entrance on East Side of Intersection of US Hwy 65 and 110th Street-63' East of Center of Intersection of US Hwy 65 and 110th Street-206' South of Nearest Power Pole to the North
G104	9707347.337	12378911.105	1090.269	CP Fd Cerro Gordo Co GPS Contol Mon w/Cap Stamped G104 Inside NGS Style Access Cover 40' S of CL of Field Entrance On East Side of US Hwy65- 60' East of CL of US Hwy 65-1211' South of Center of Intersection of US Hwy 65 and 105th Street
500	9716513.943	12375183.241	1070.316	CP Fd County BM Headwall Box Culvert 333' East of CL of Private Drive at Intersection with North Side of 120th Street-970' West of Field Entrance at Intersection with South Side of 120th Street-703' East of Residential Driveway at Intersection of South Side of 120th Street
11 CDL RESET 1979	9716548.823	12378798.486	1068.487	CP on NE Bridge Wing Wall- 18' East of CL of US Hwy 65-117' South of Center of Intersection of US Hwy 65 and County Road B65-310' North of Center of Intersection of US Hwy 65 and 120th Street W

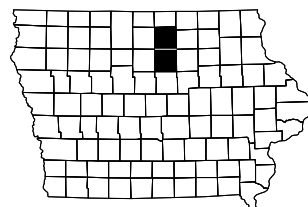
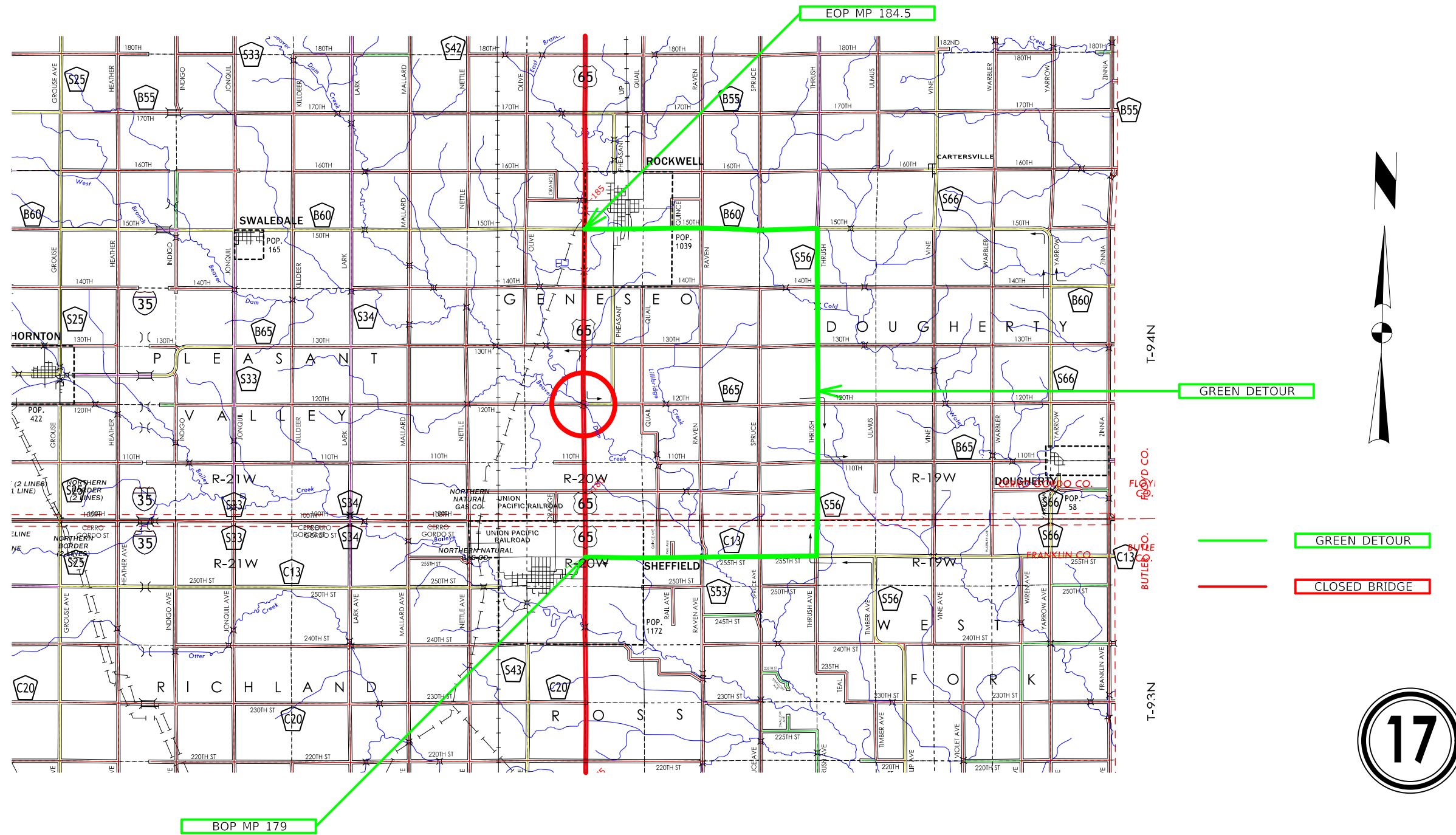
NOTE:

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

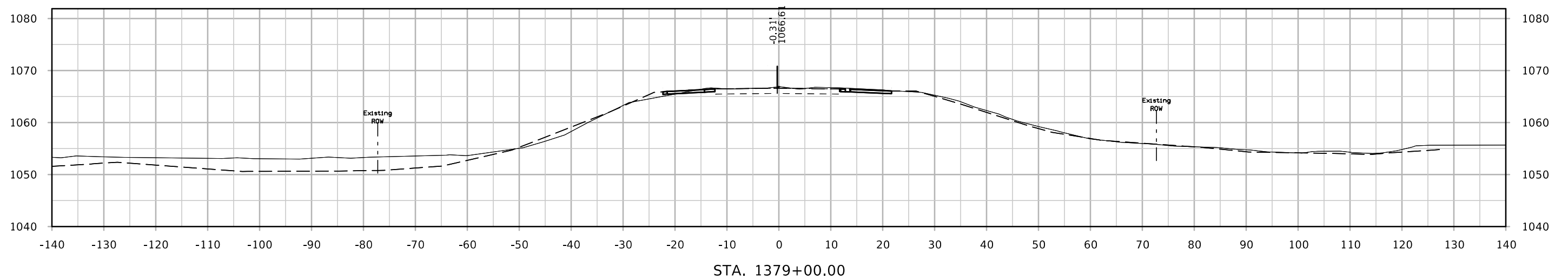
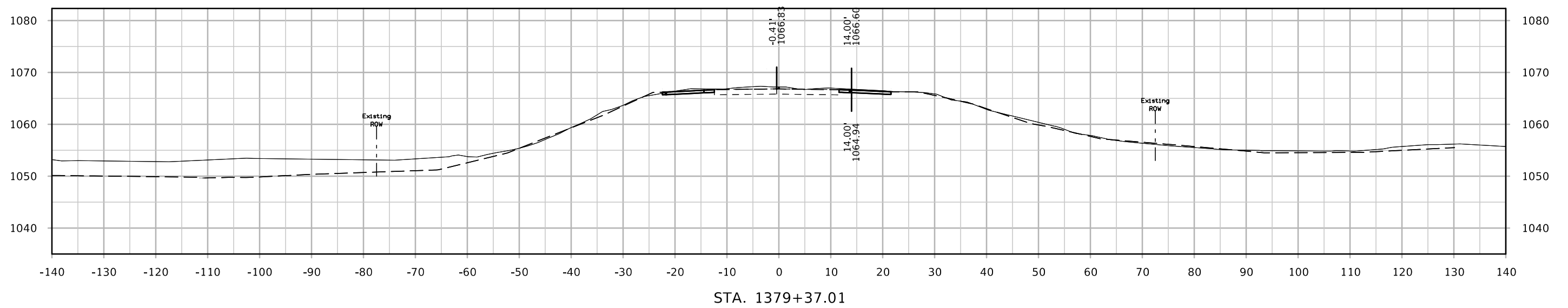
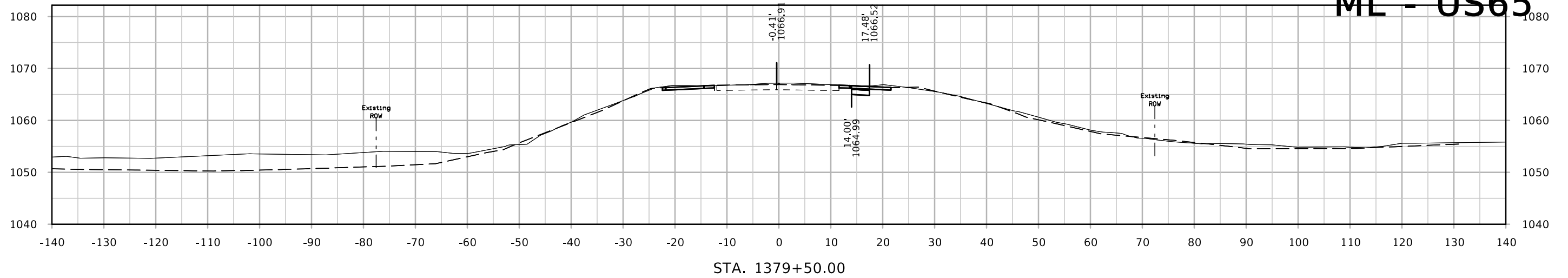
CERRO GORDO COUNTY

FRANKLIN COUNTY

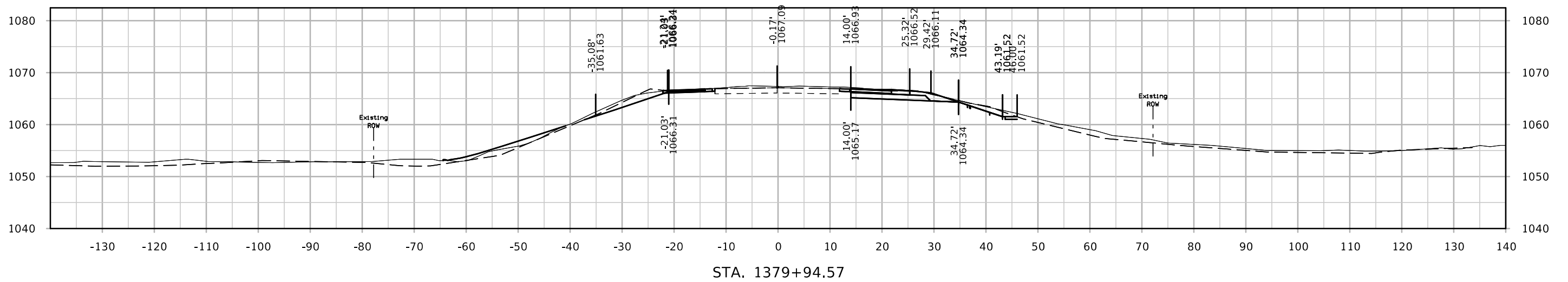
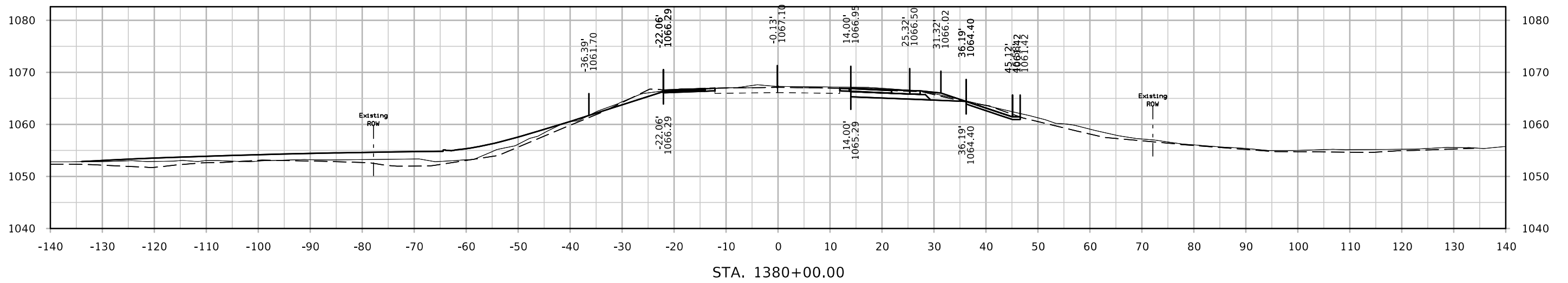
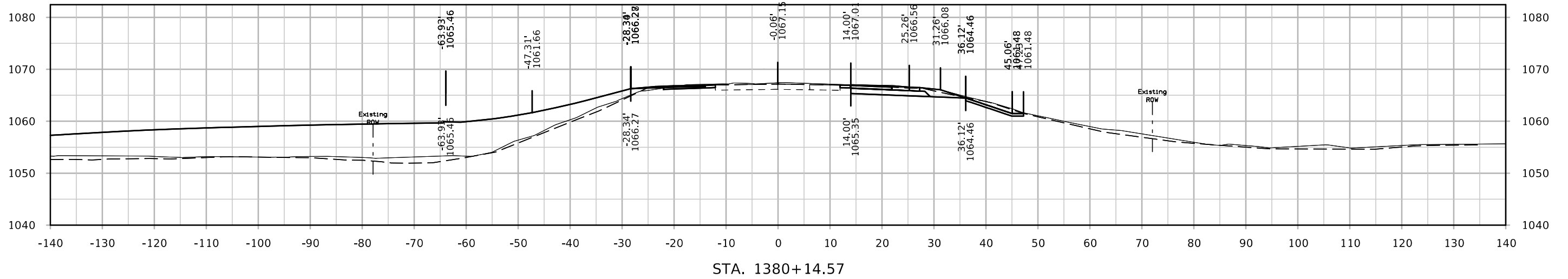
Proposed Detour Route



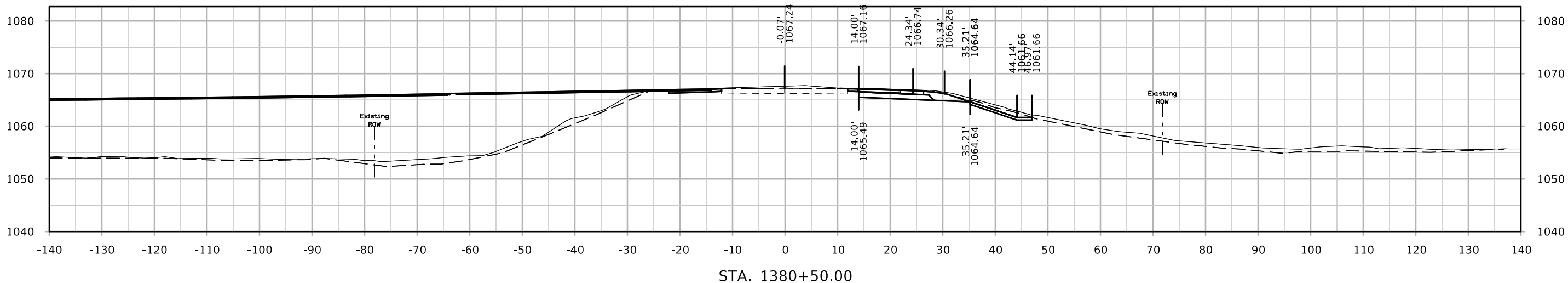
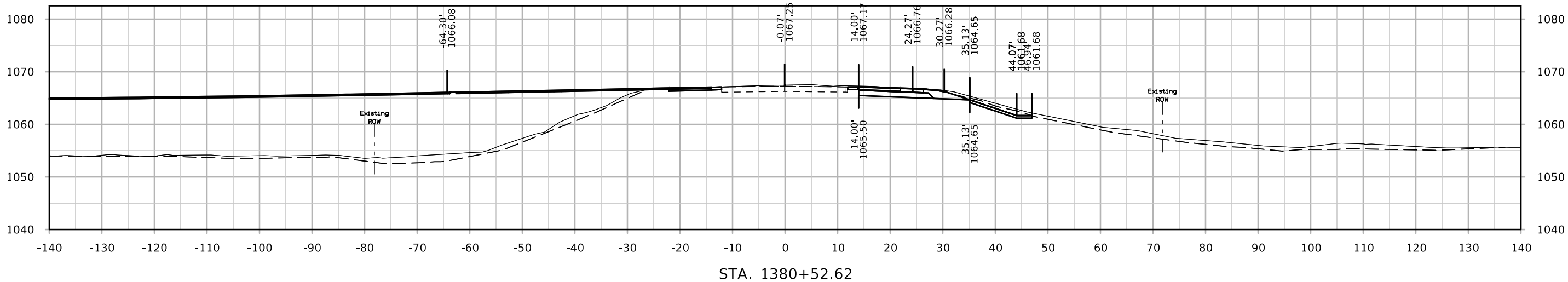
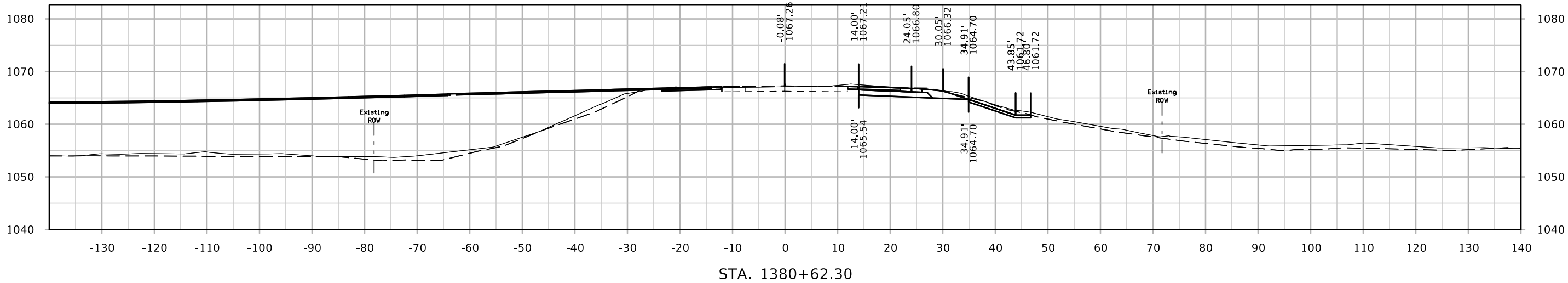
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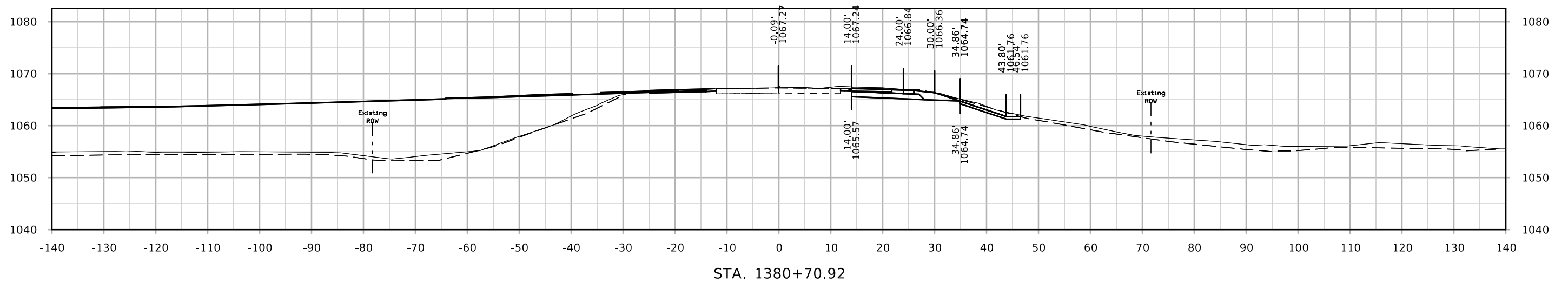
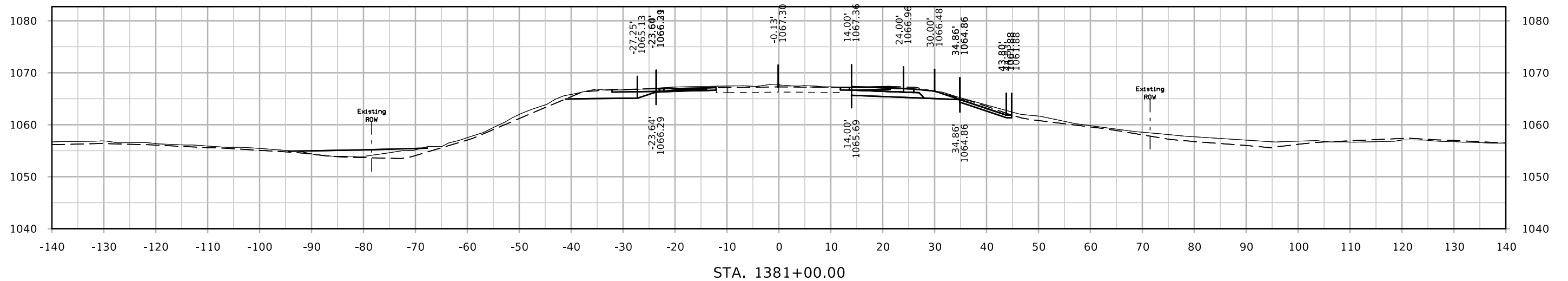
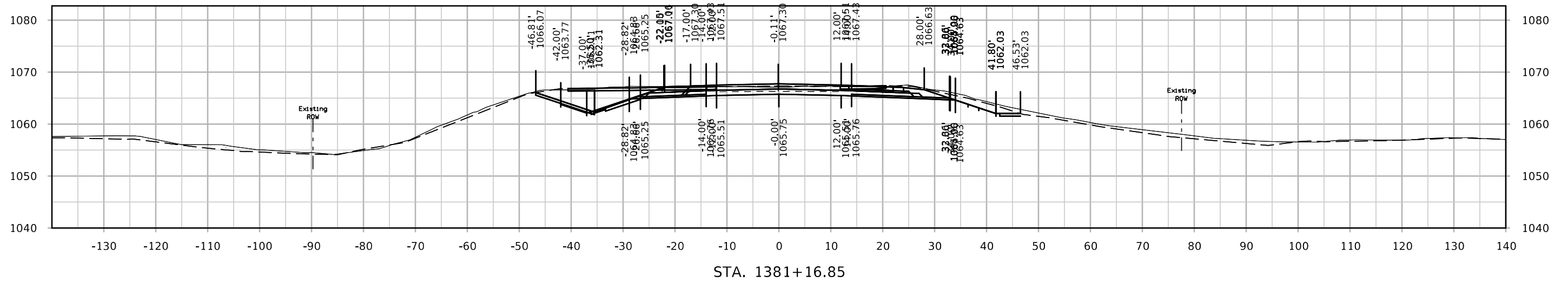
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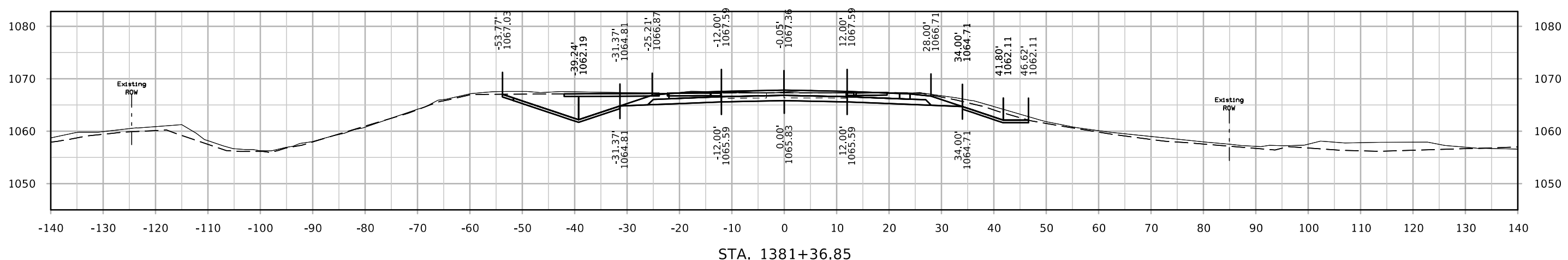
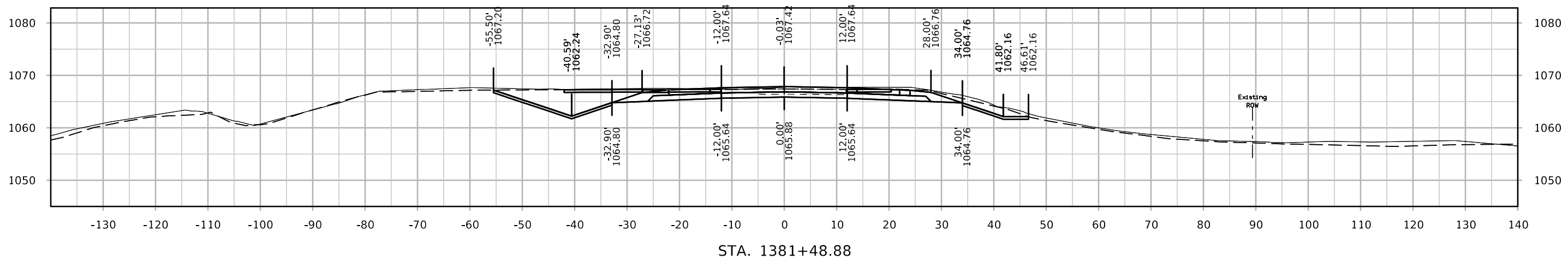
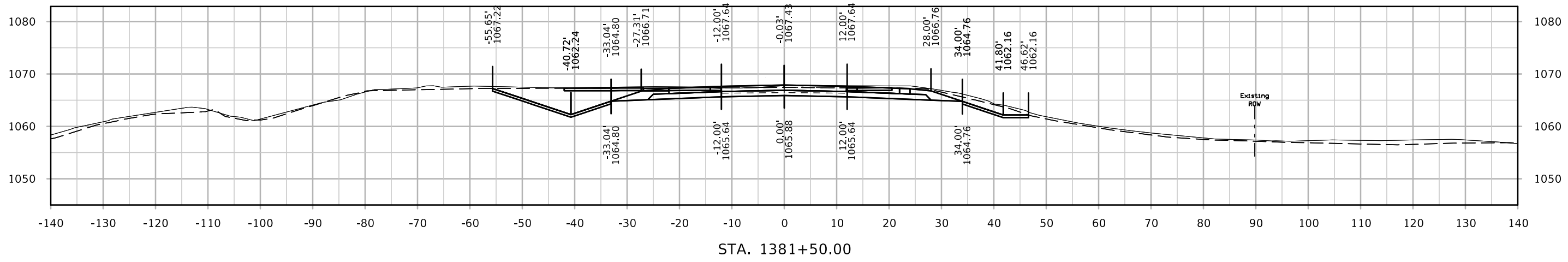
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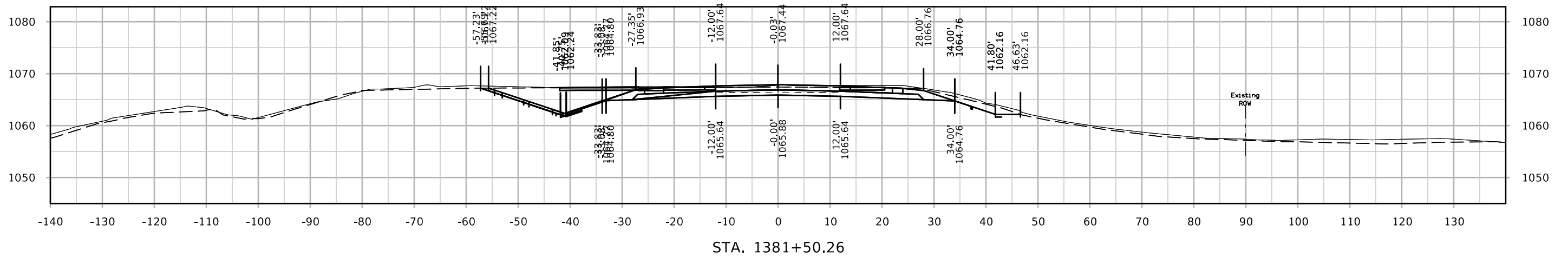
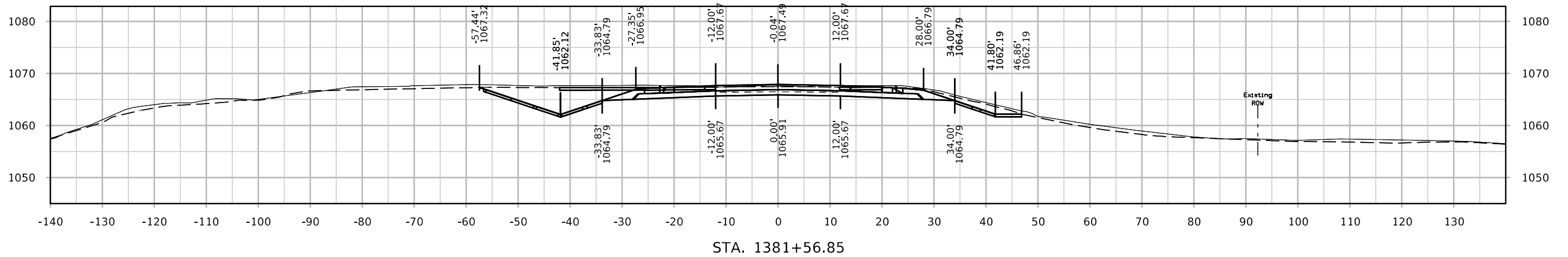
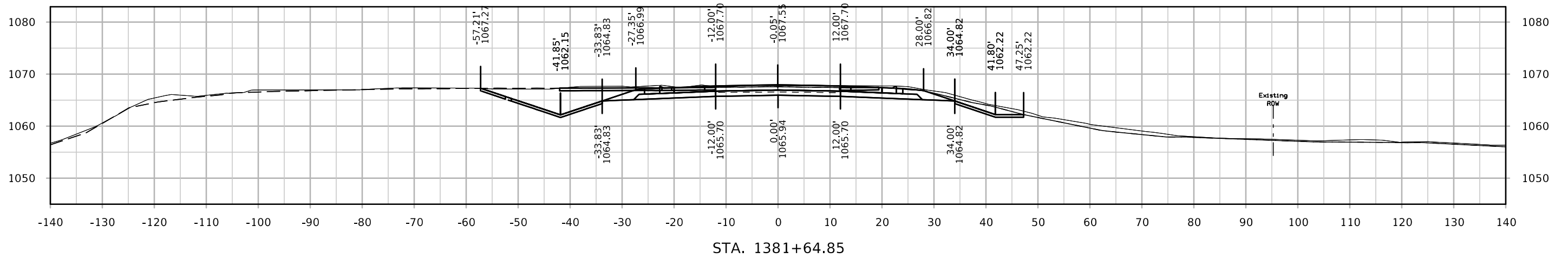
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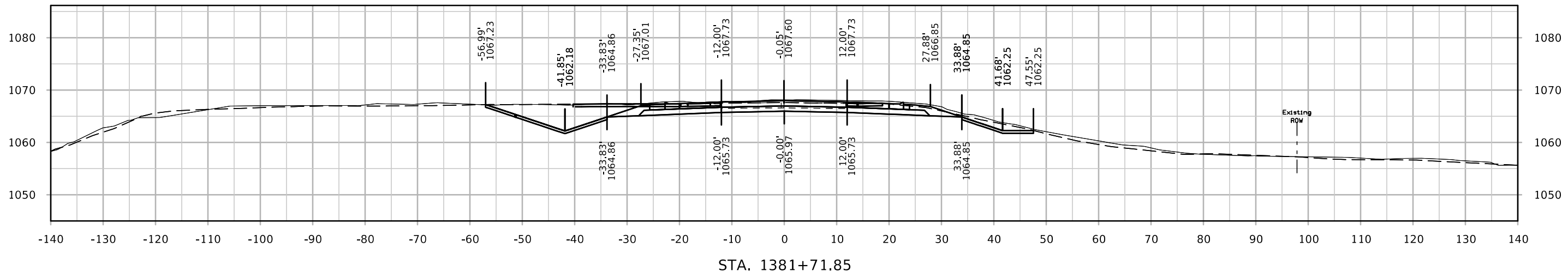
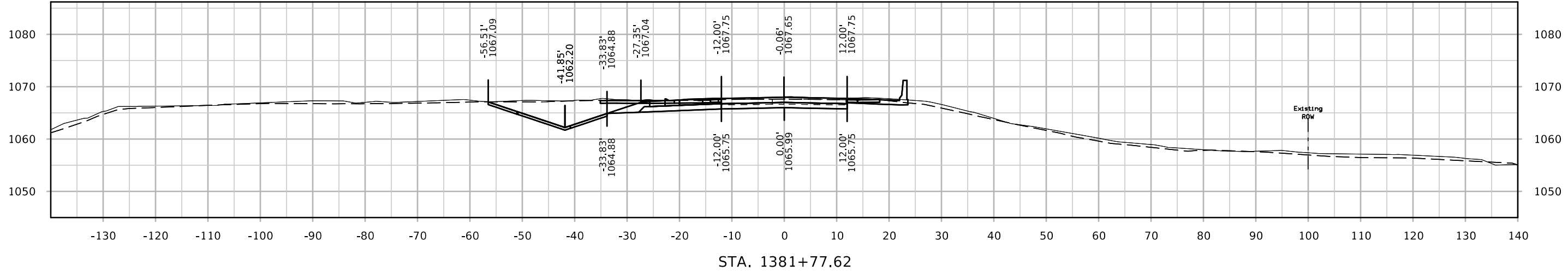
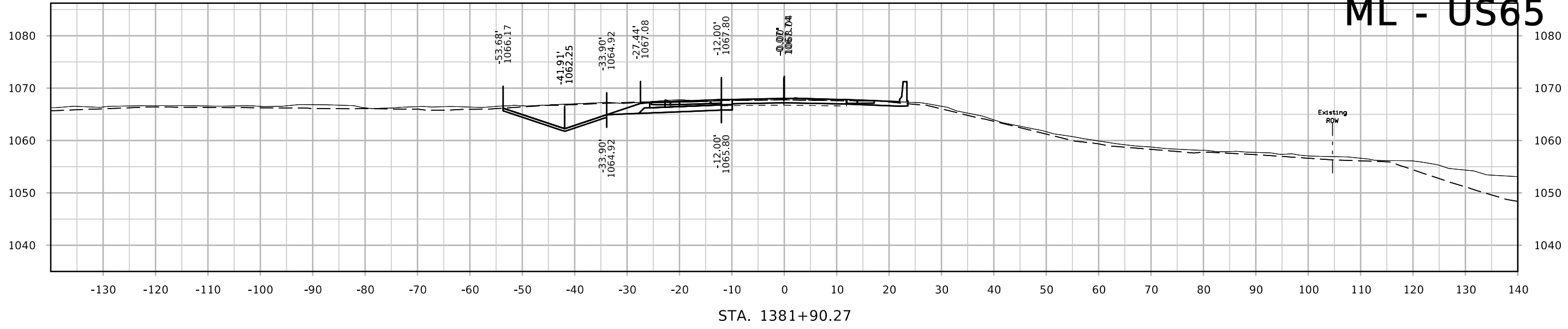
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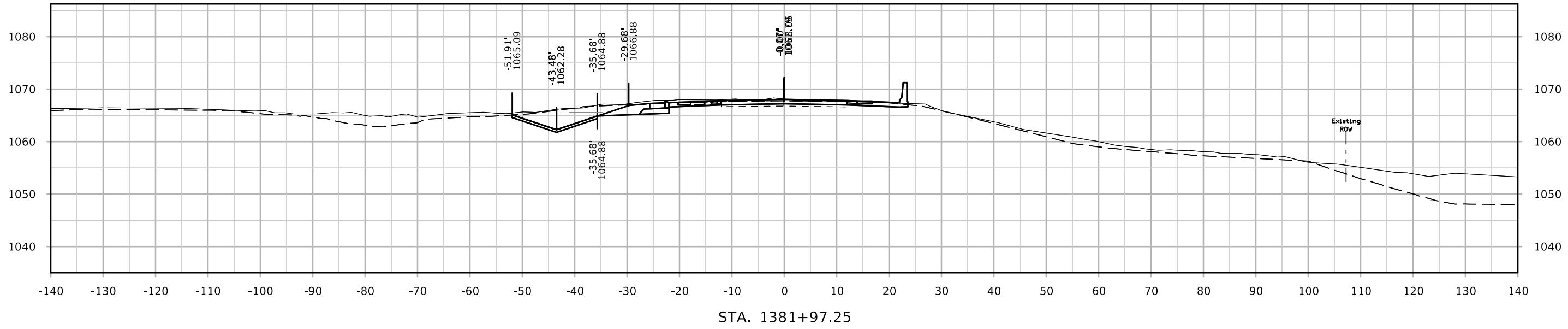
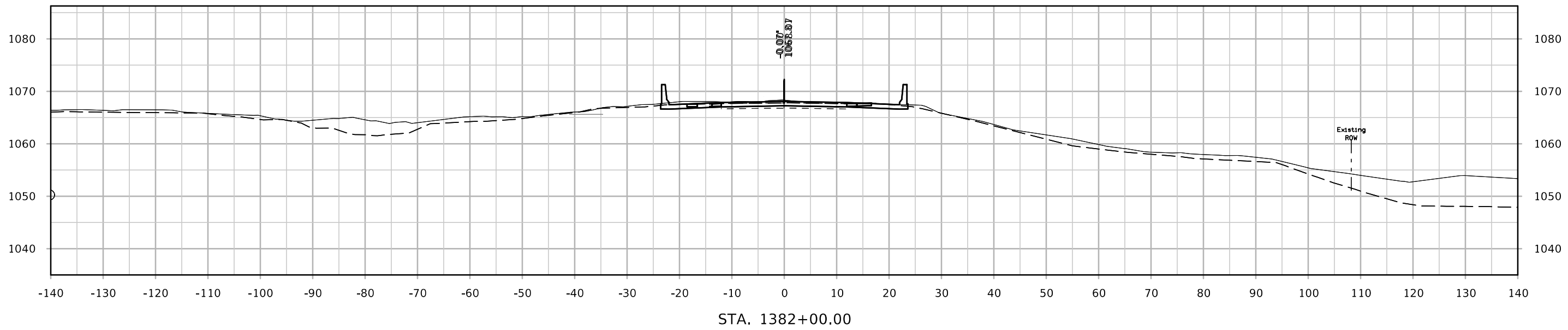
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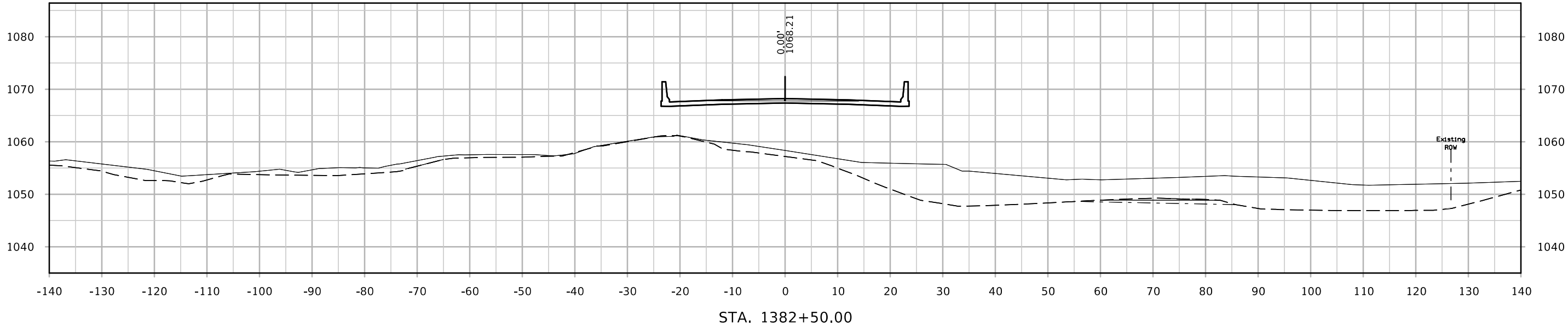
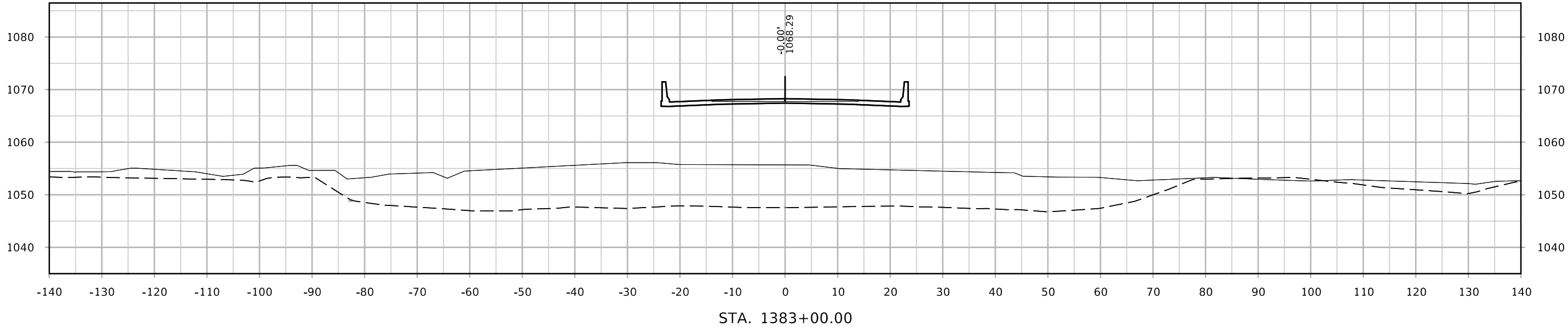
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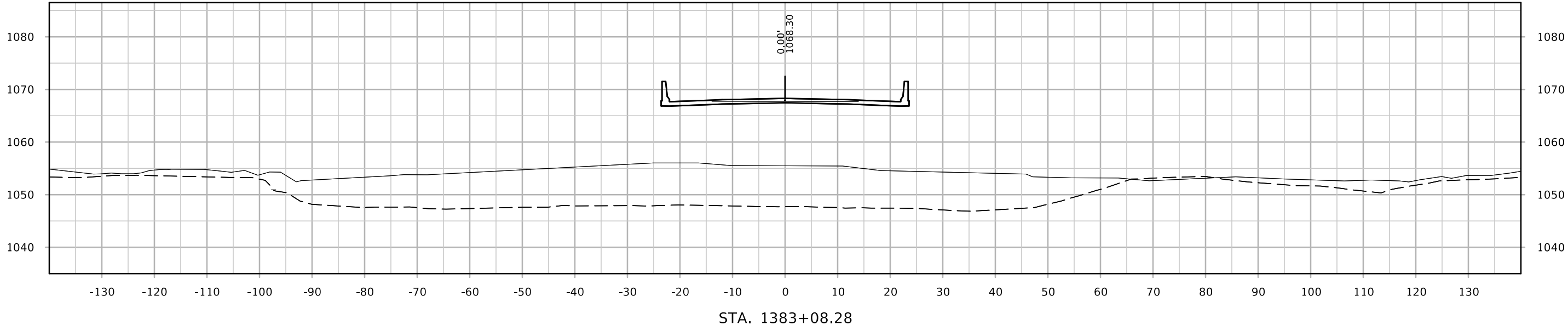
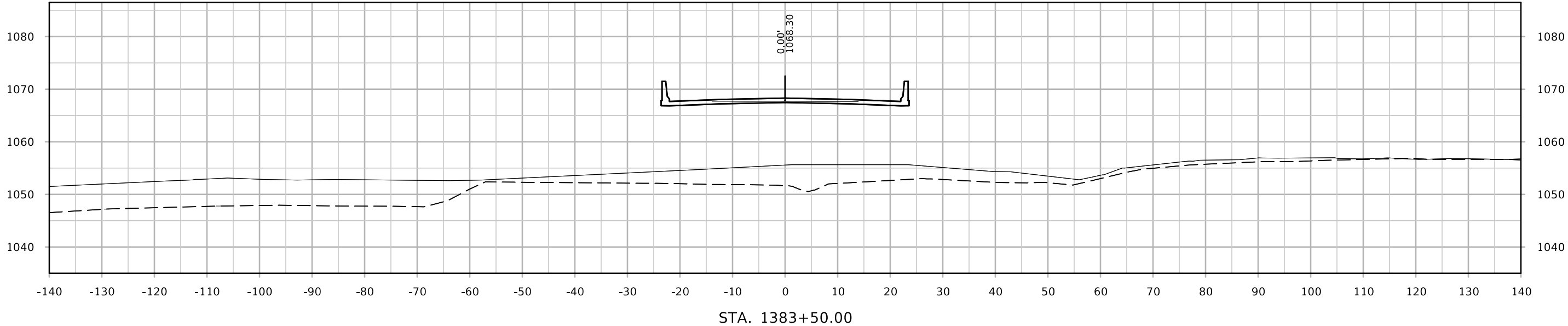
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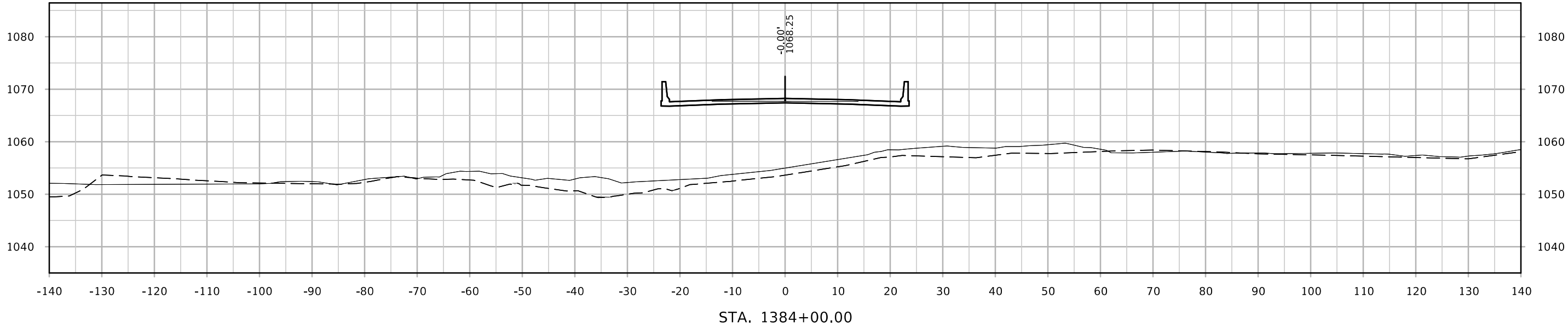
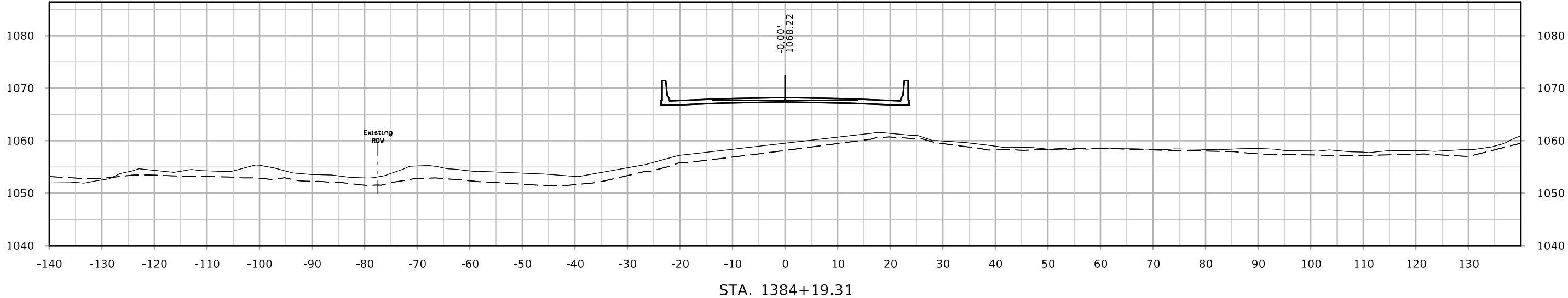
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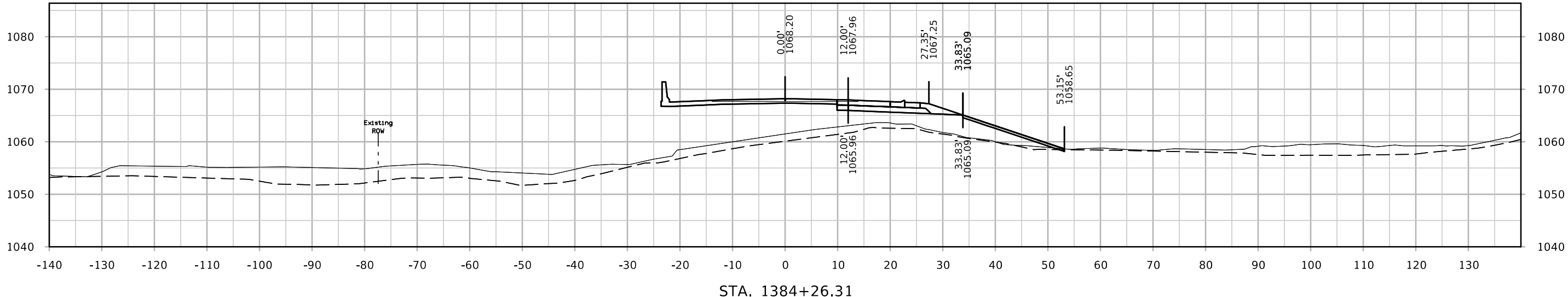
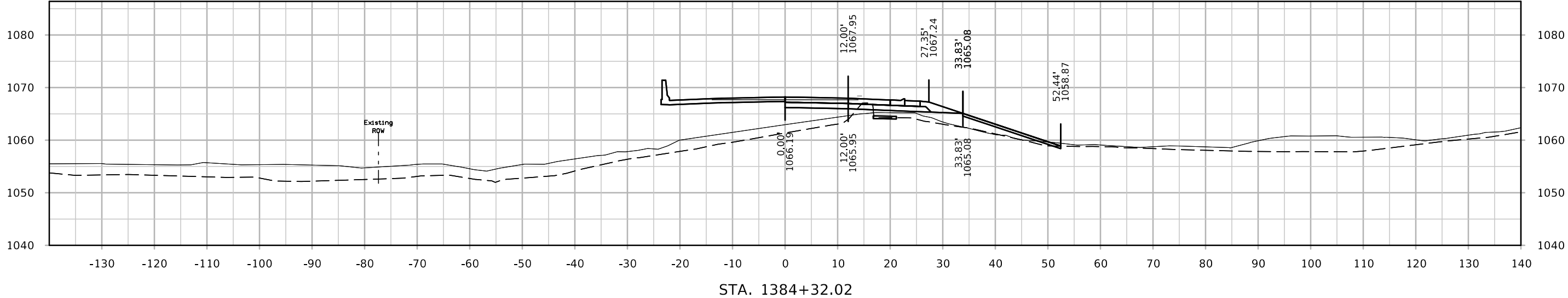
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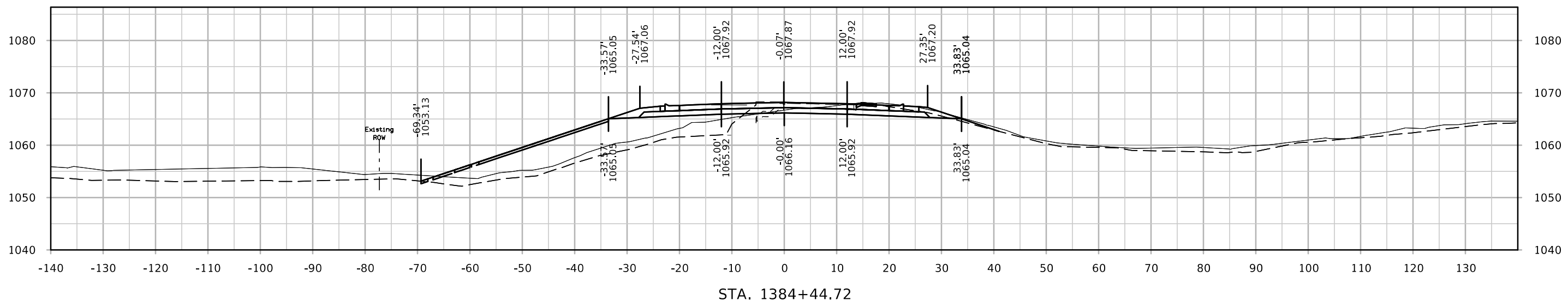
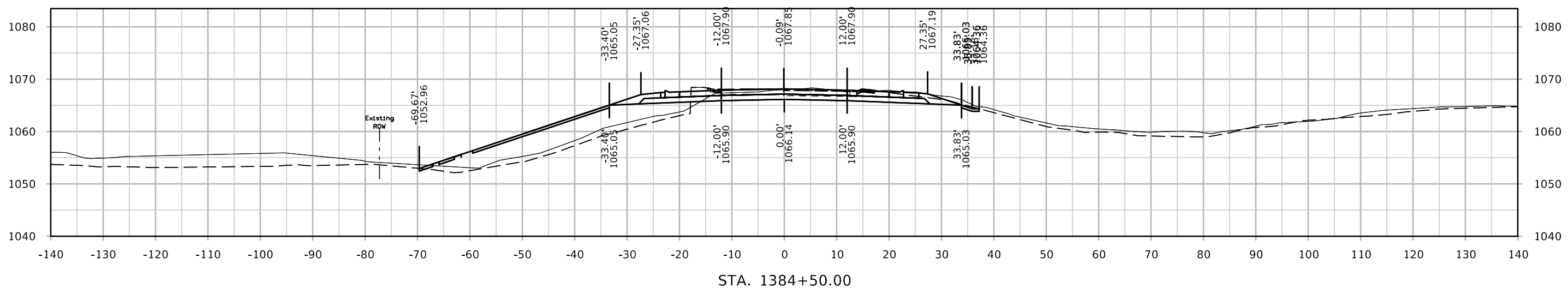
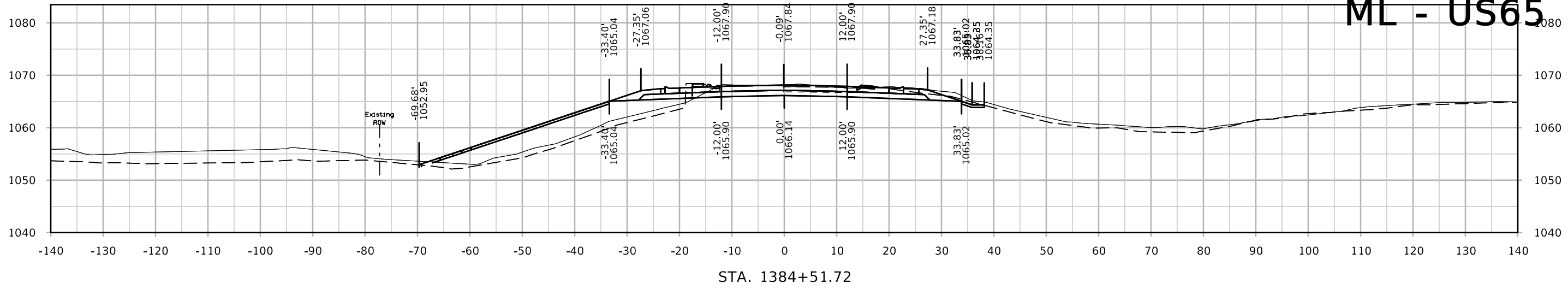
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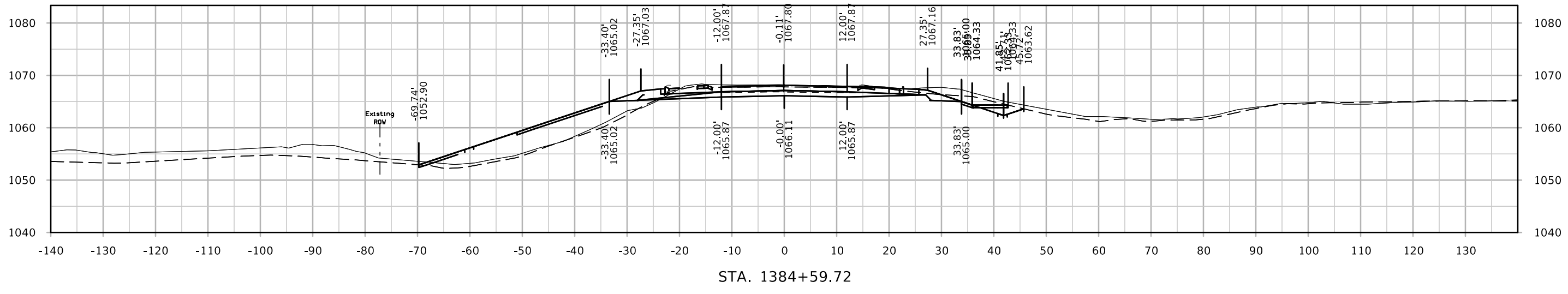
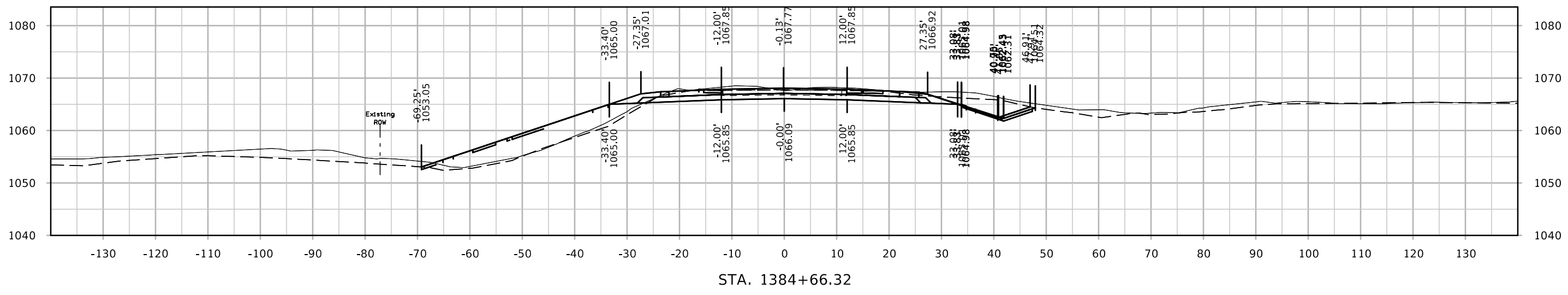
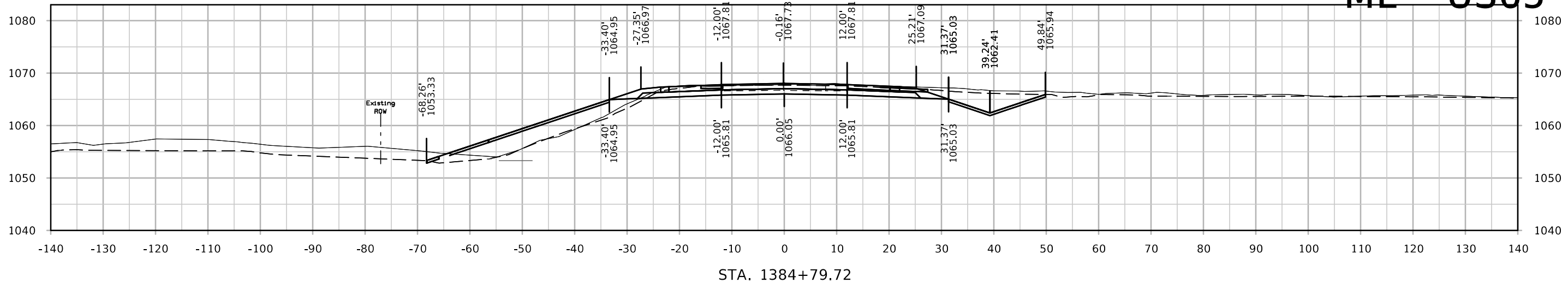
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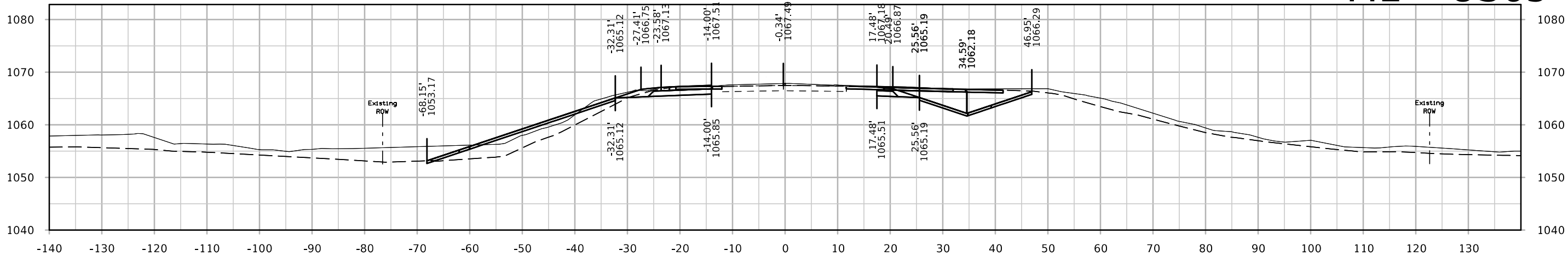
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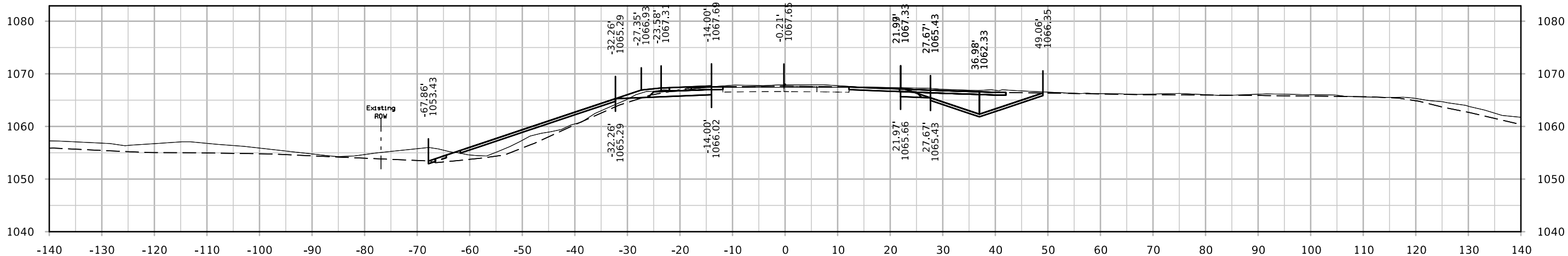
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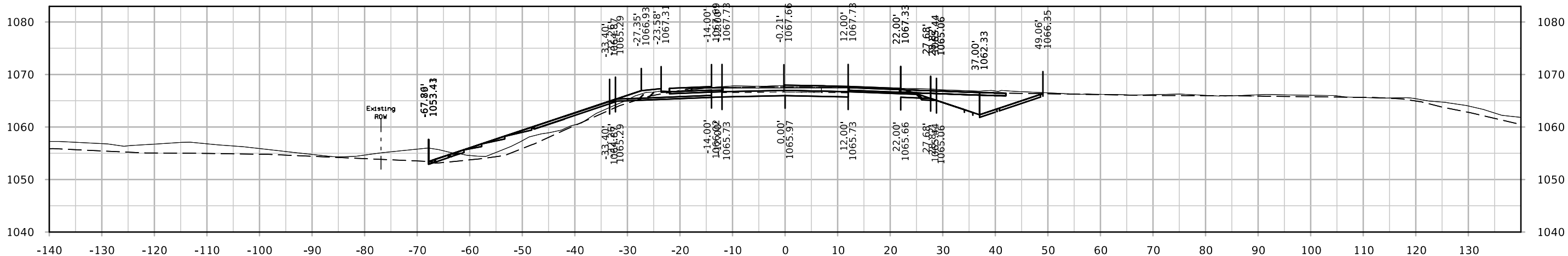
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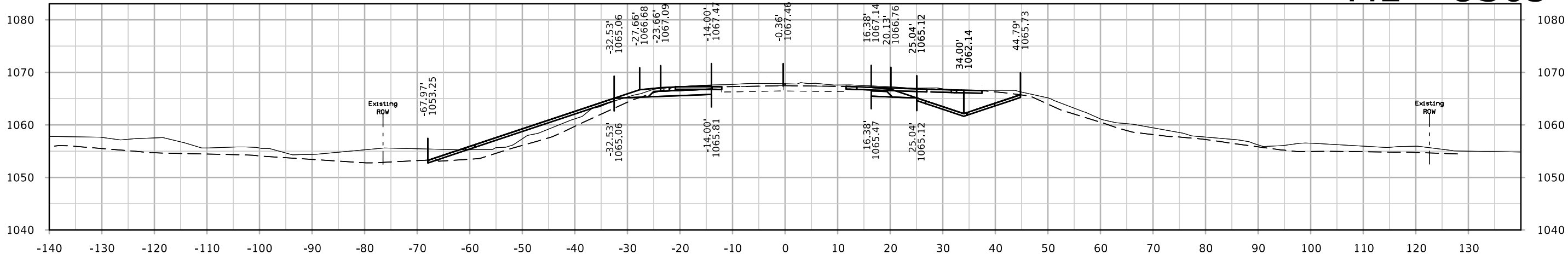


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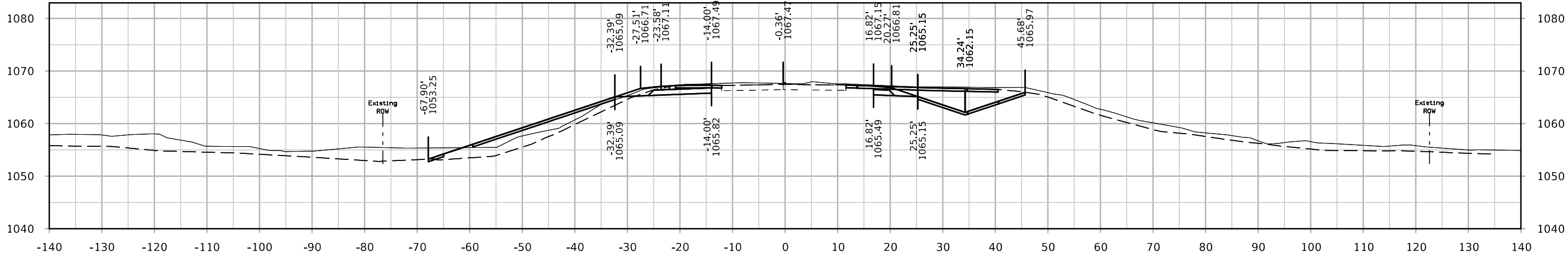


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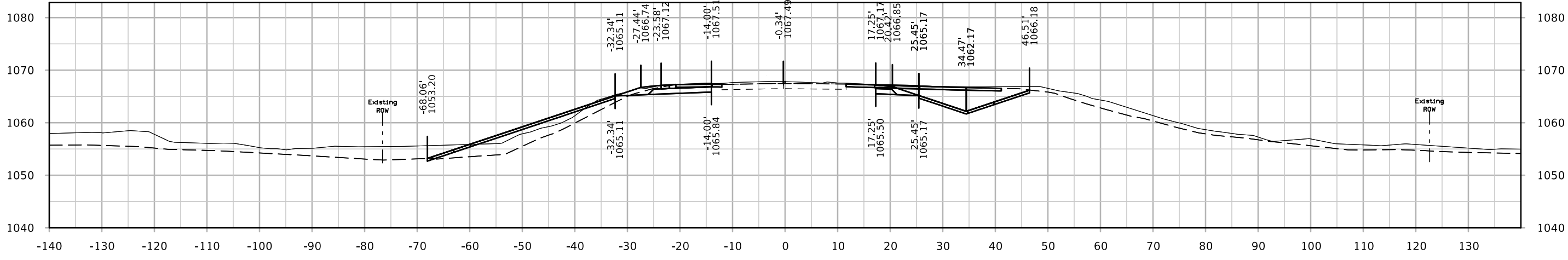
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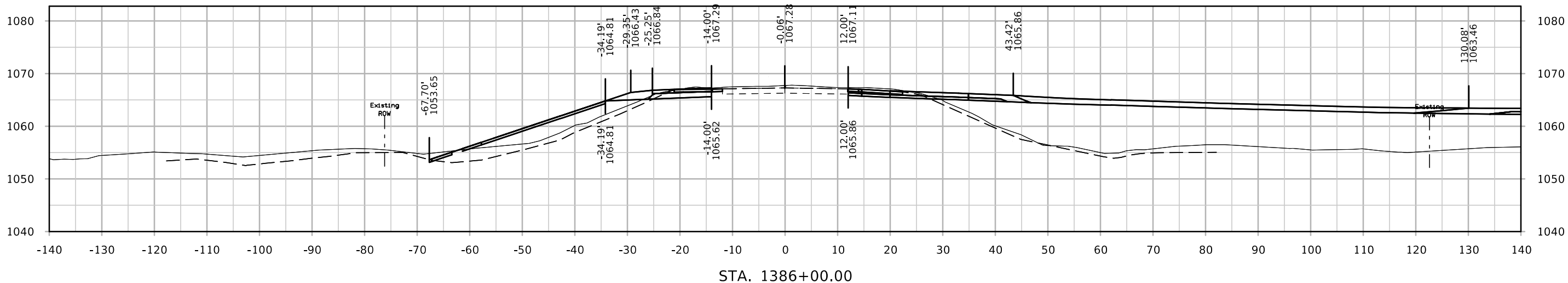
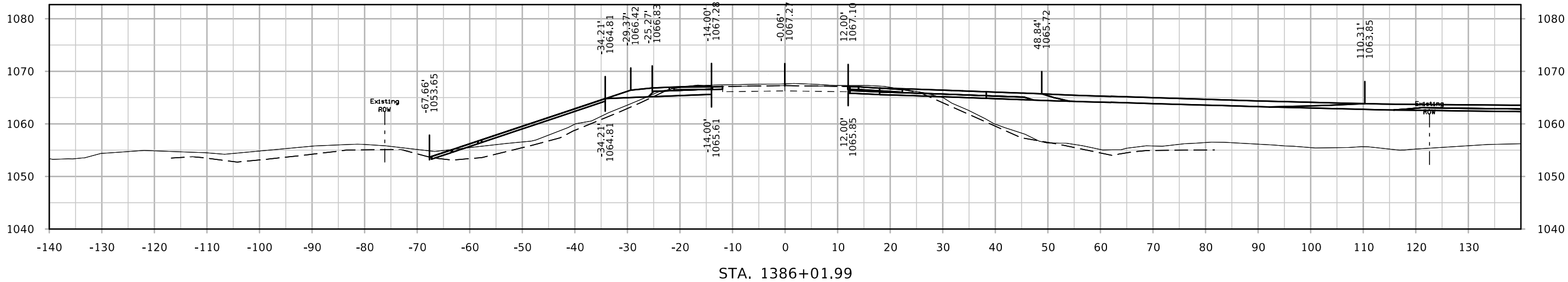
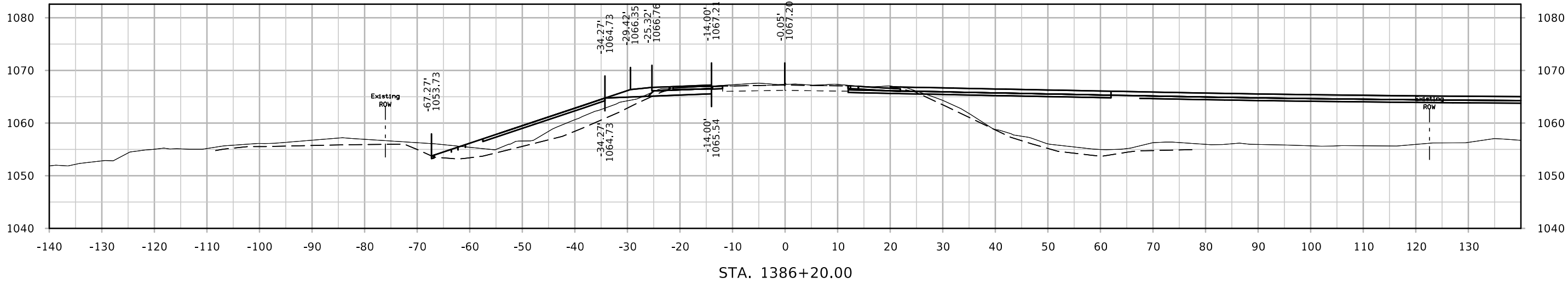


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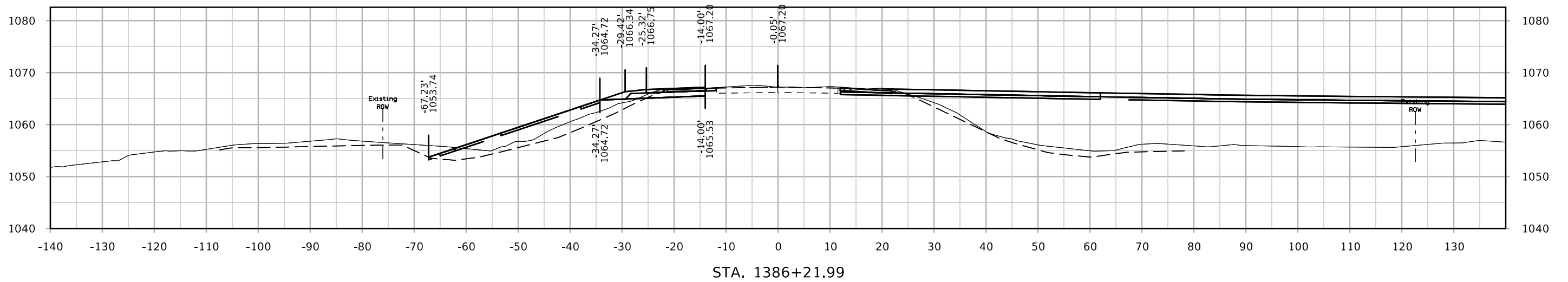
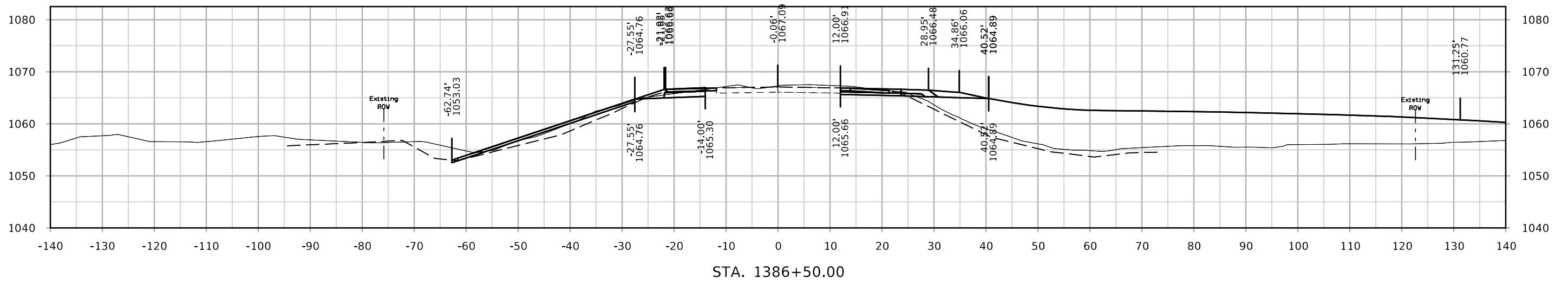
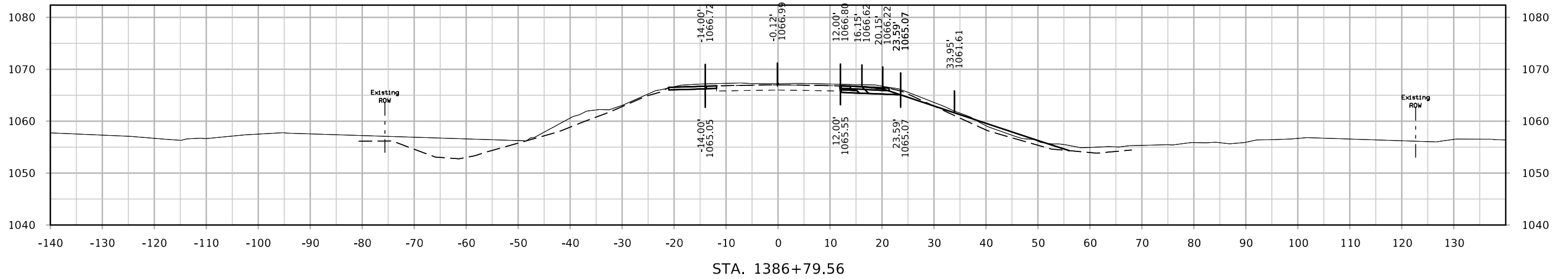


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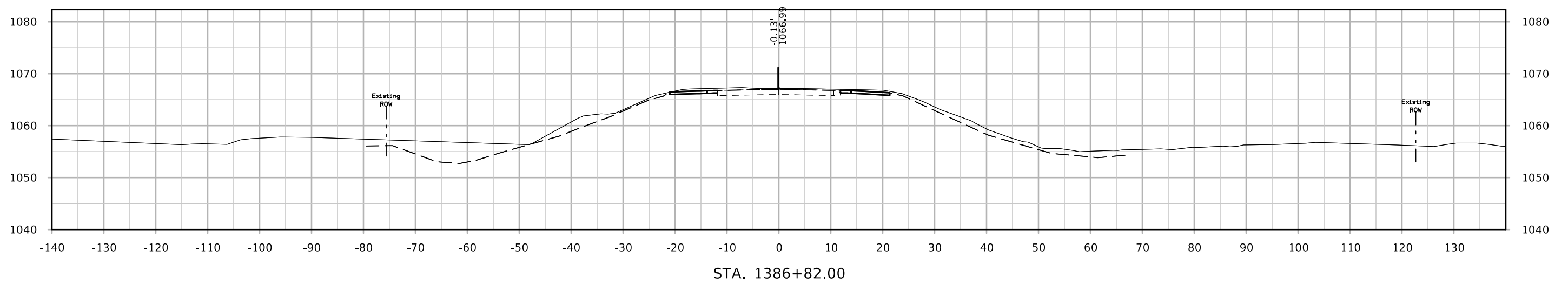
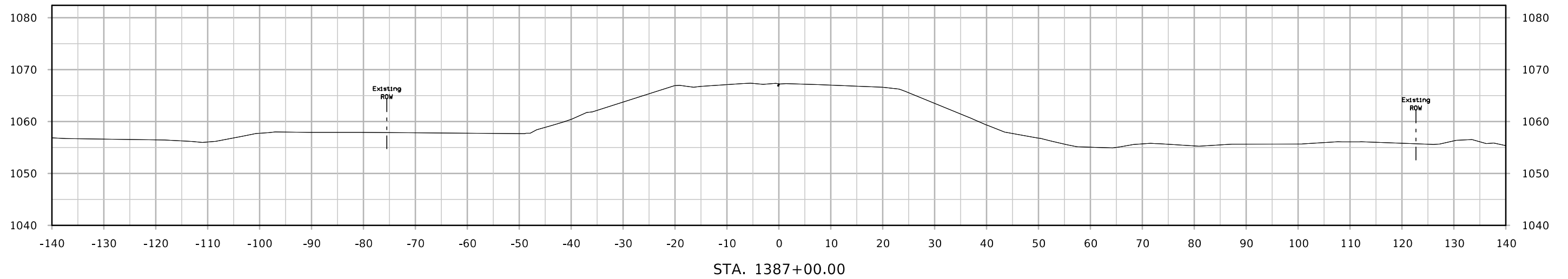
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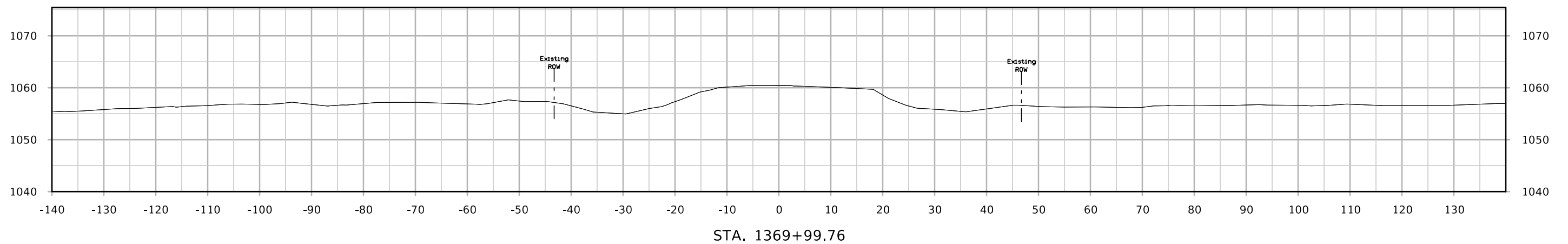
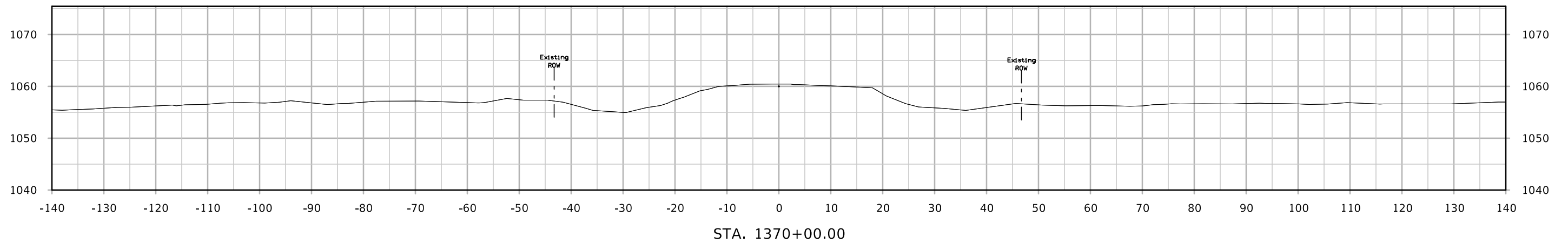
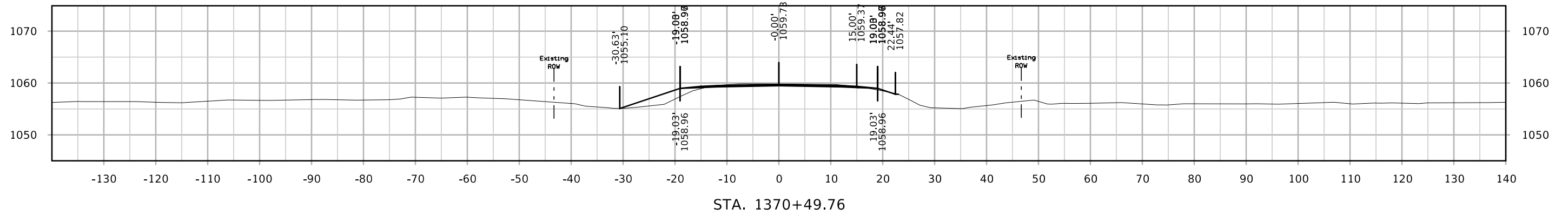
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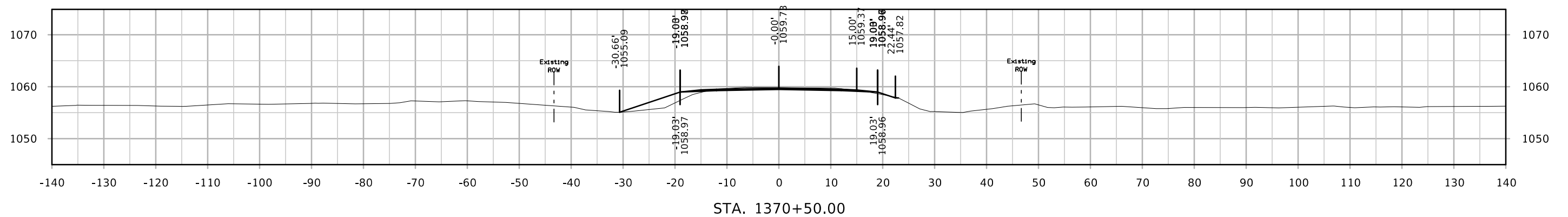
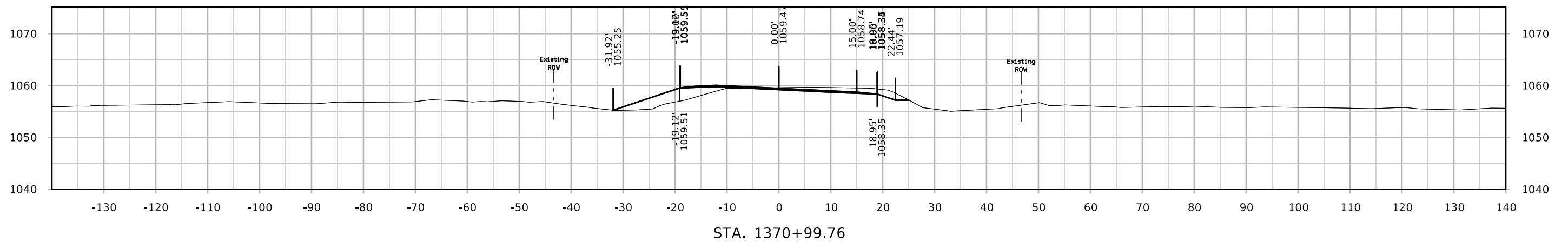
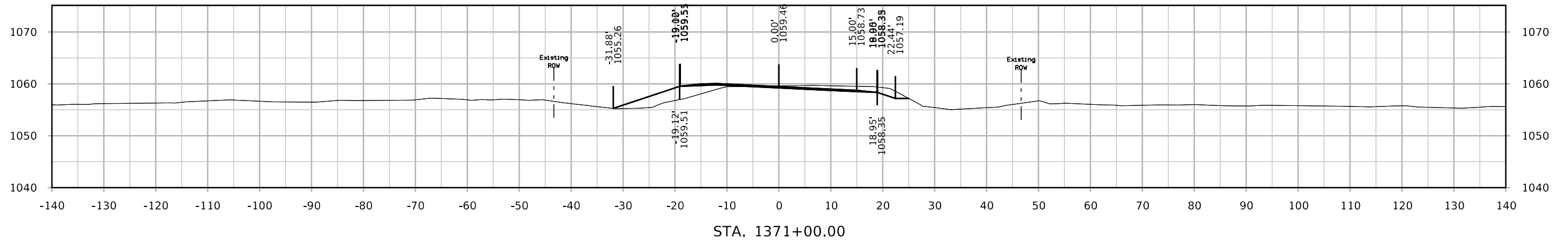
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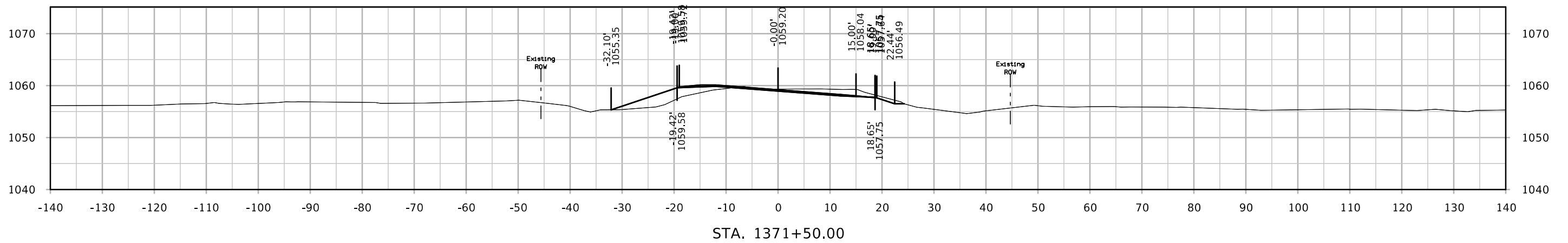
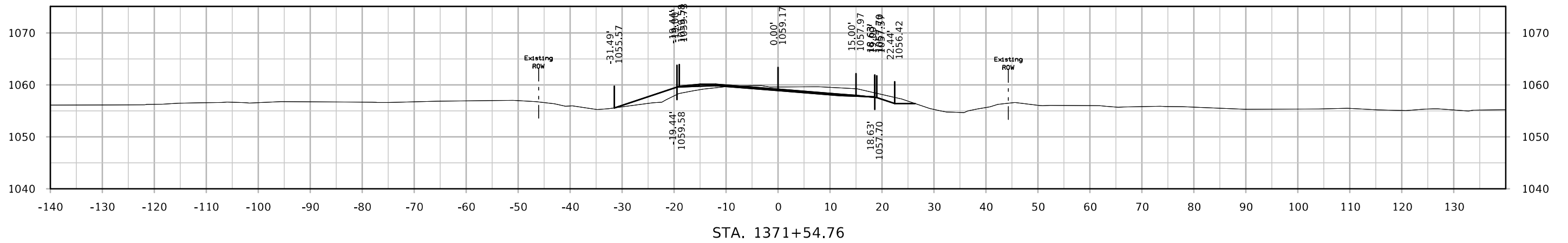
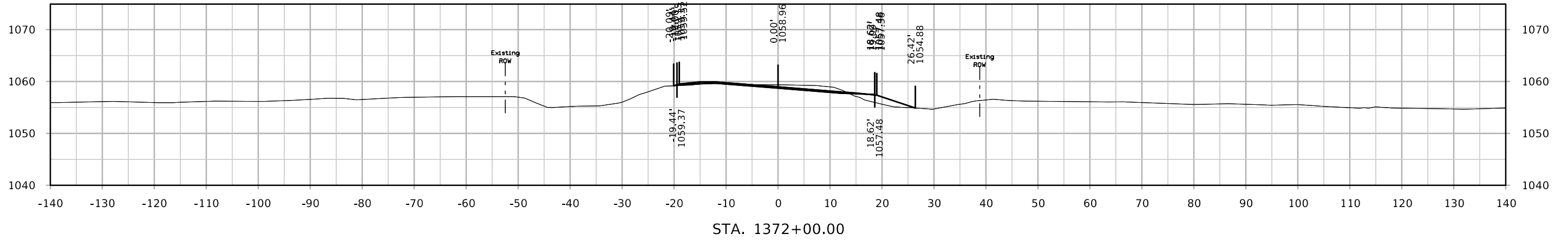
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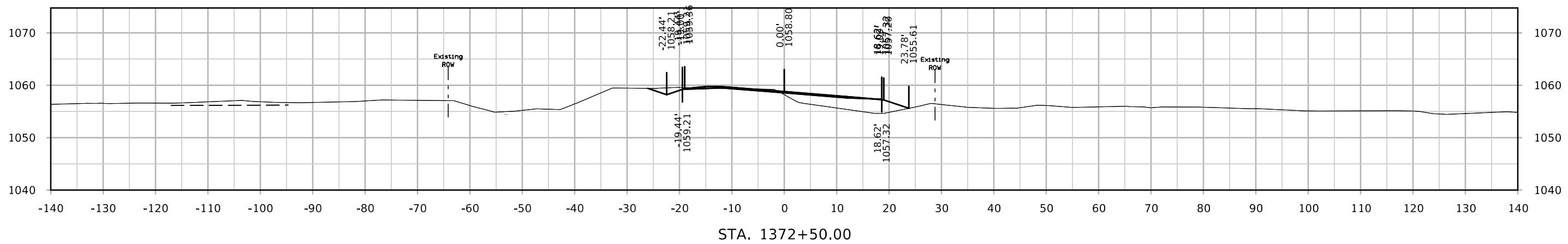
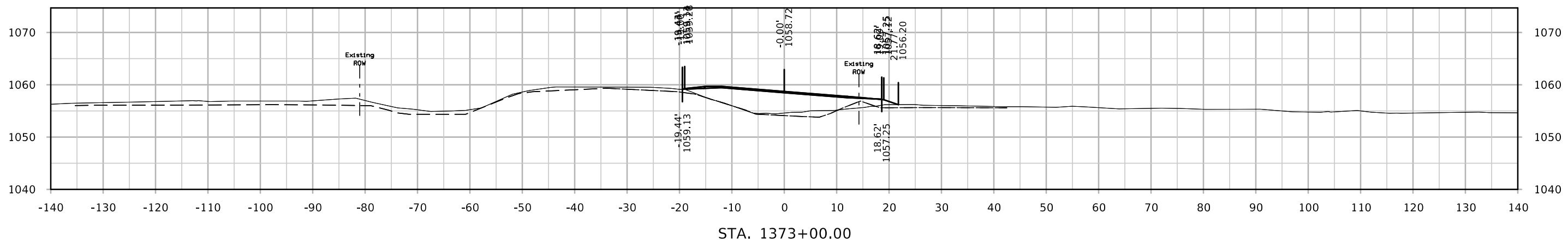
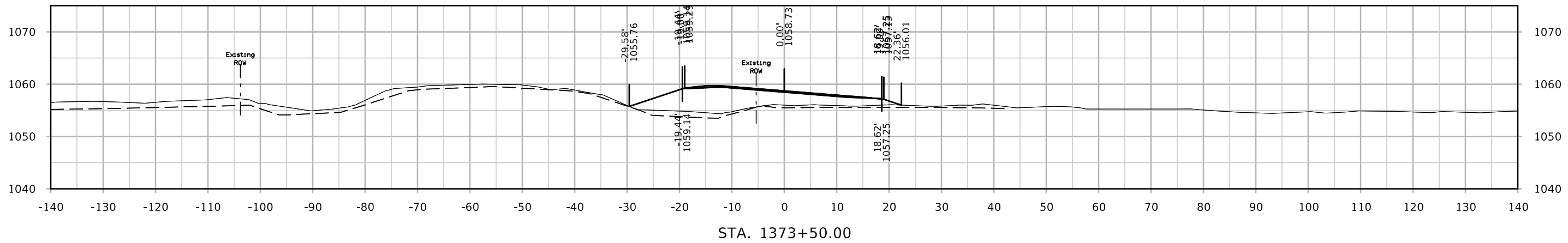
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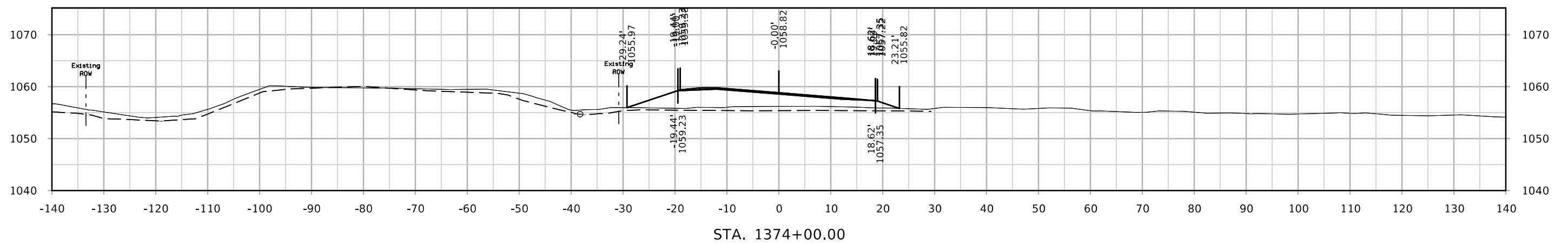
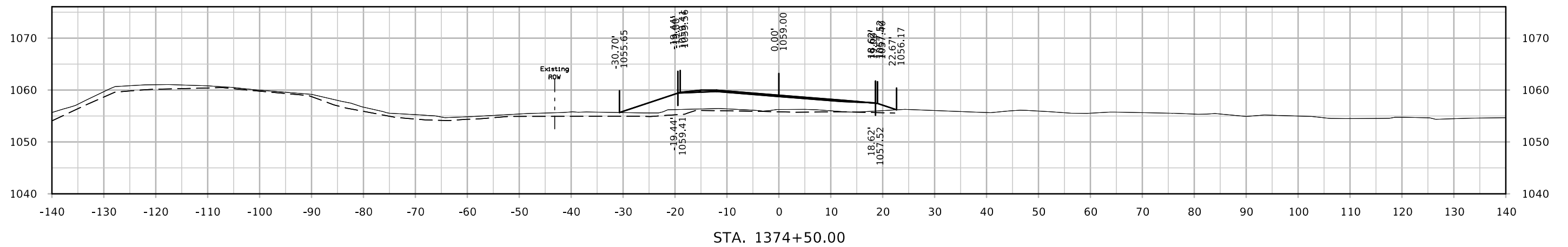
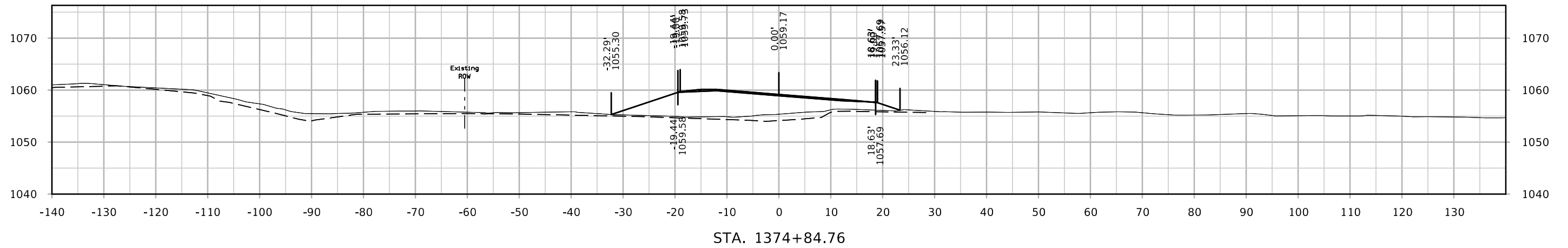
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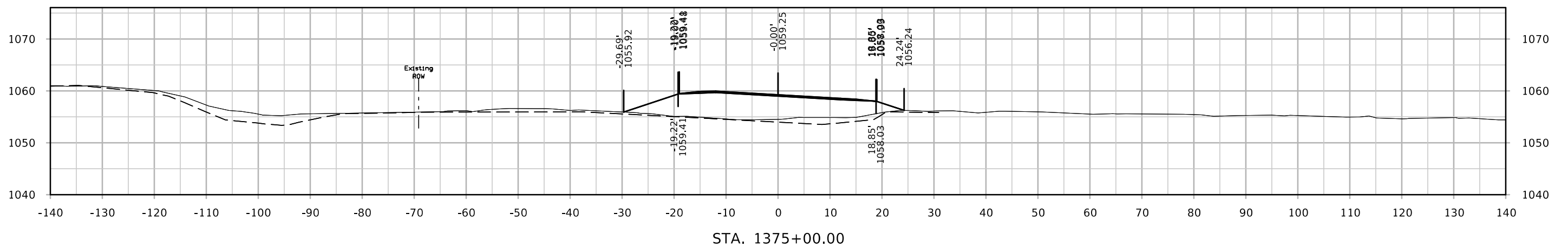
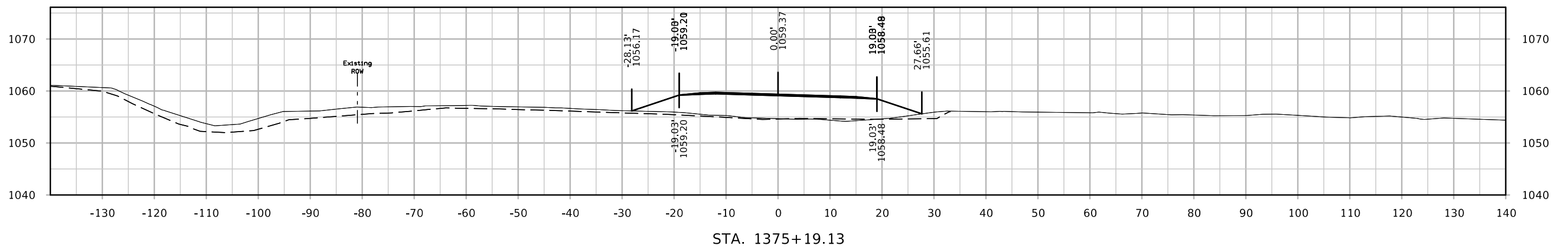
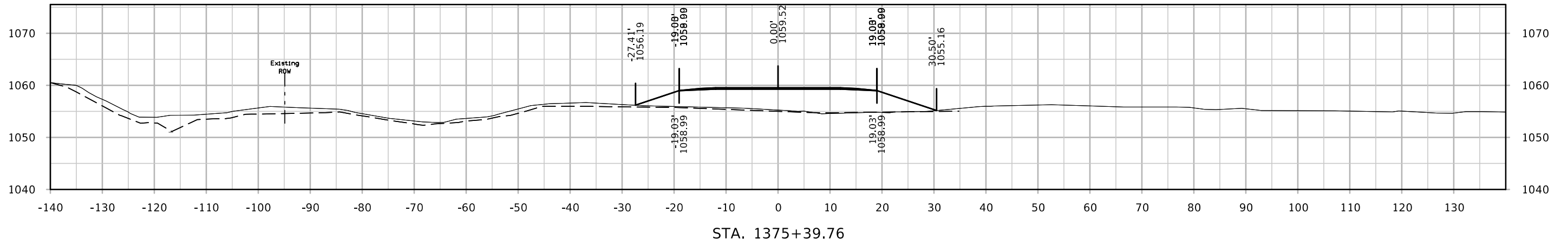
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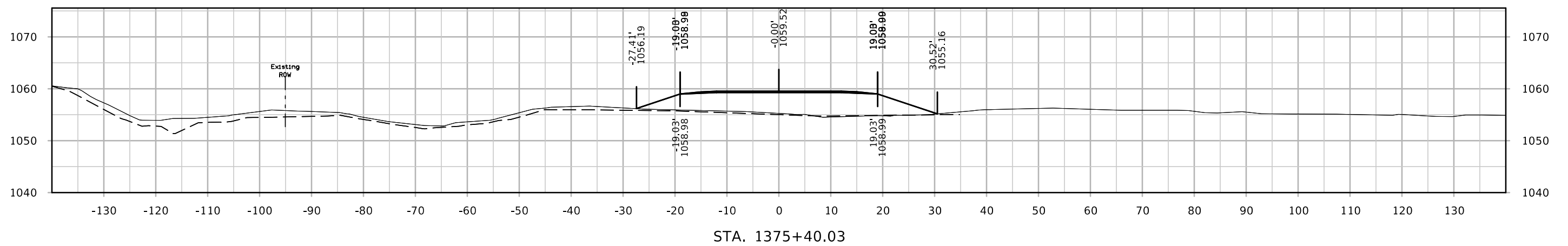
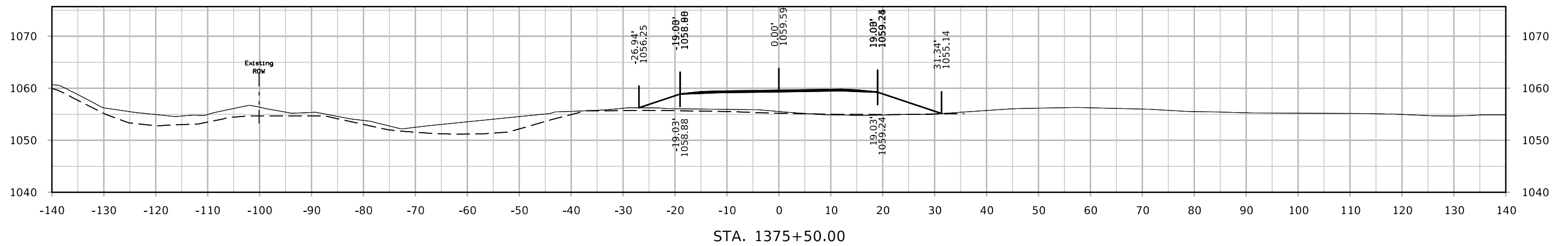
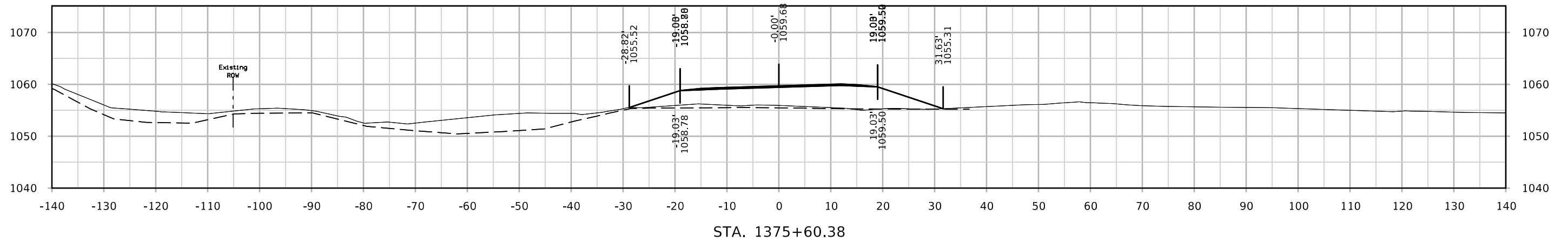
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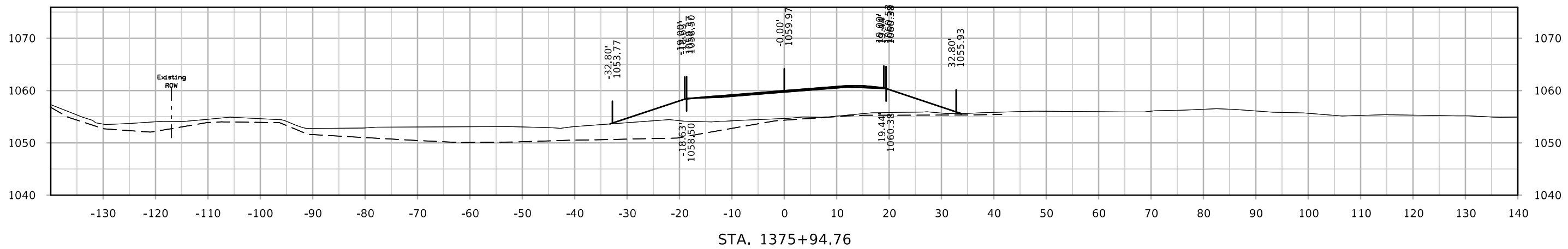
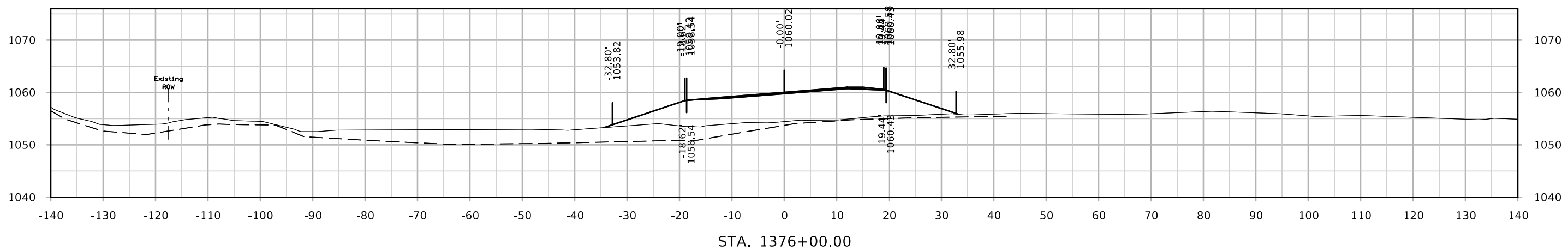
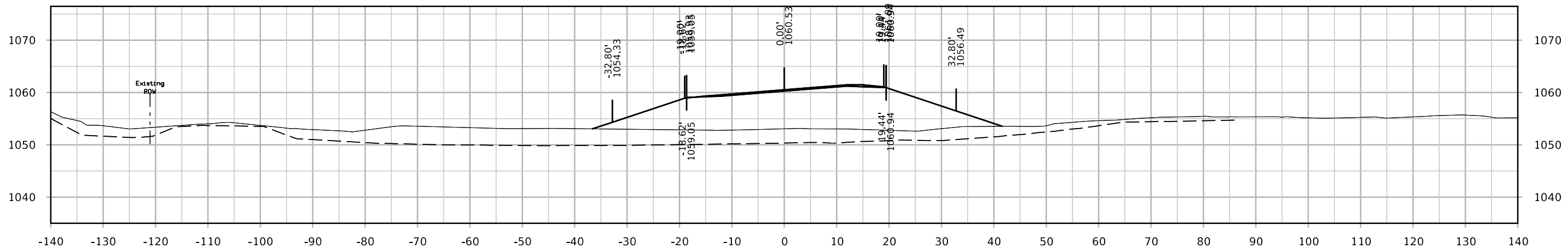
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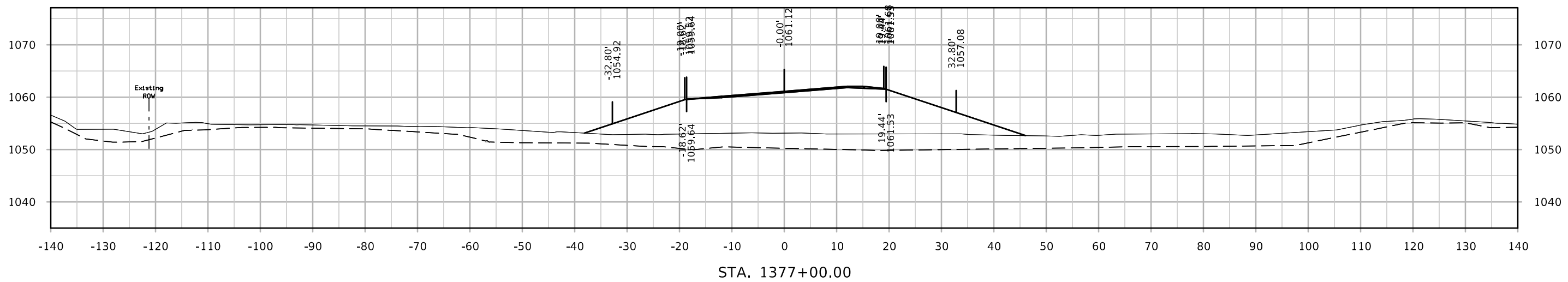
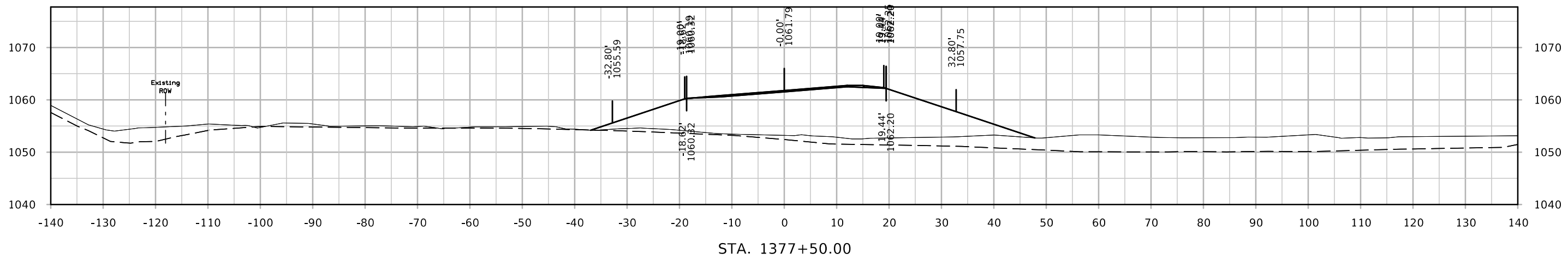
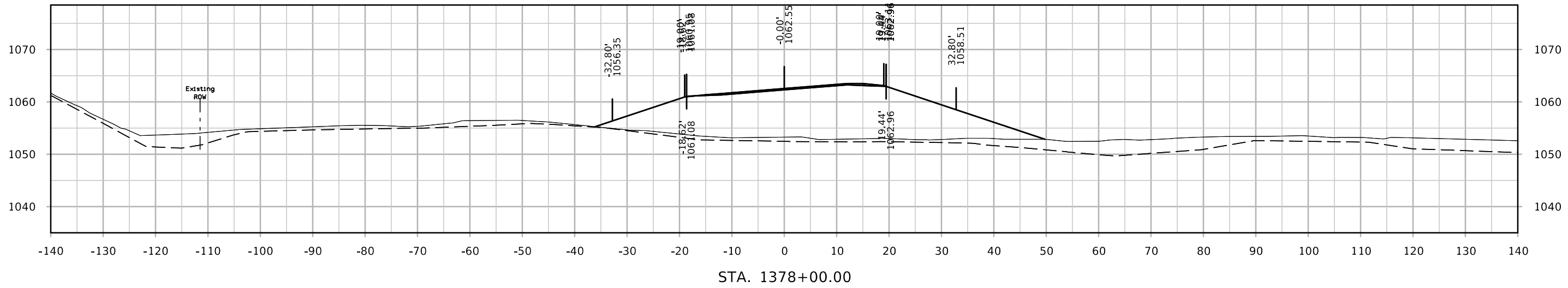
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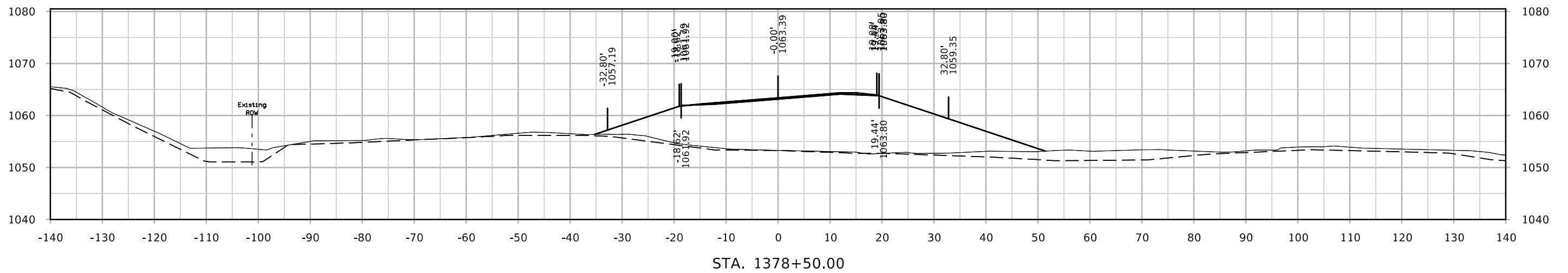
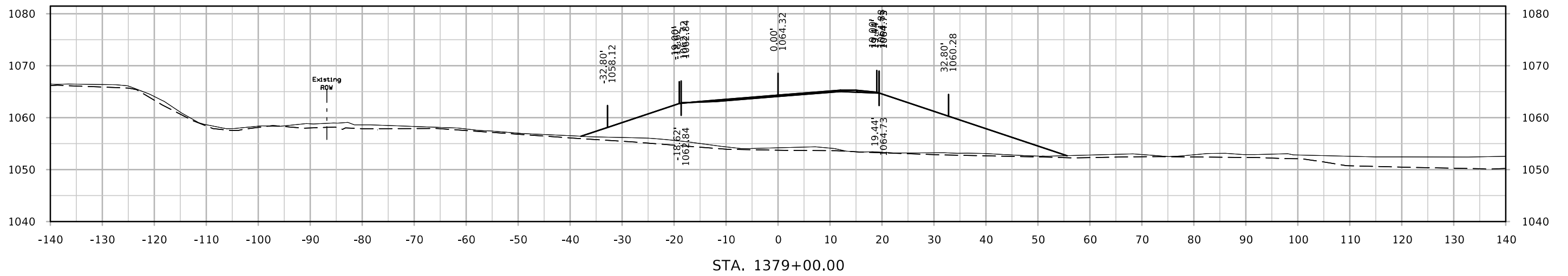
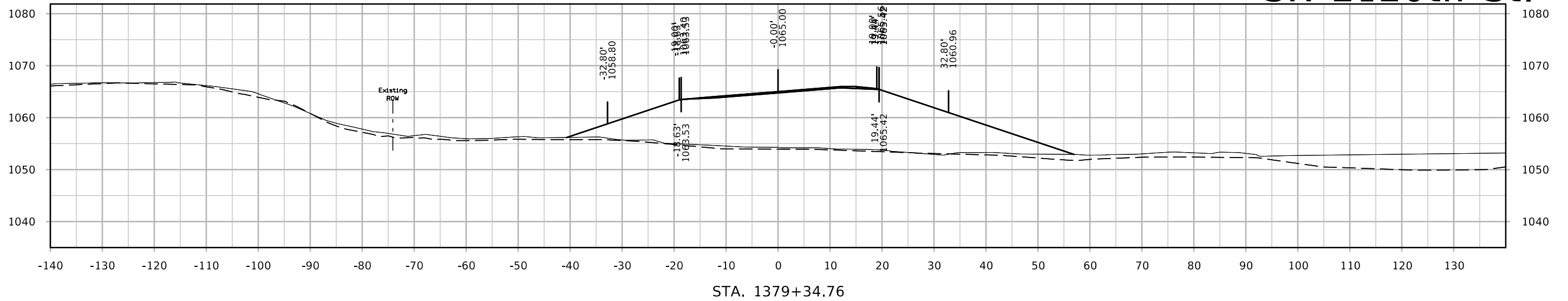
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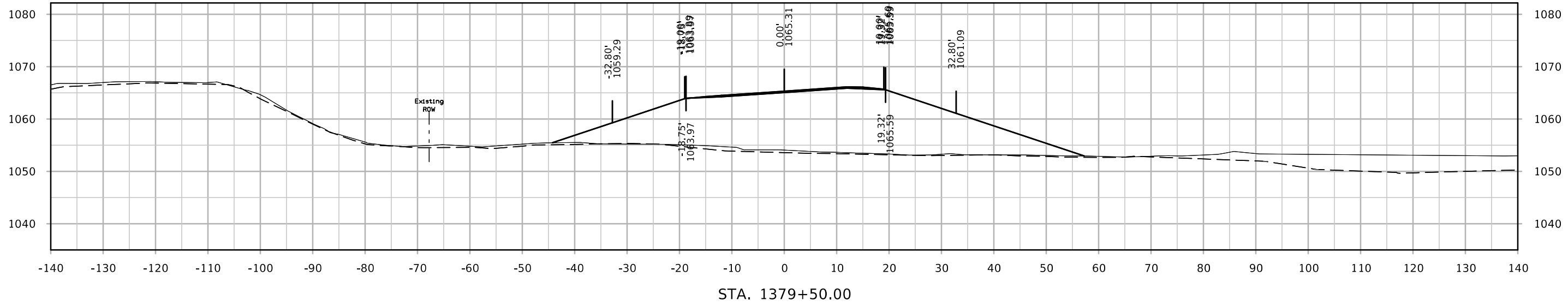
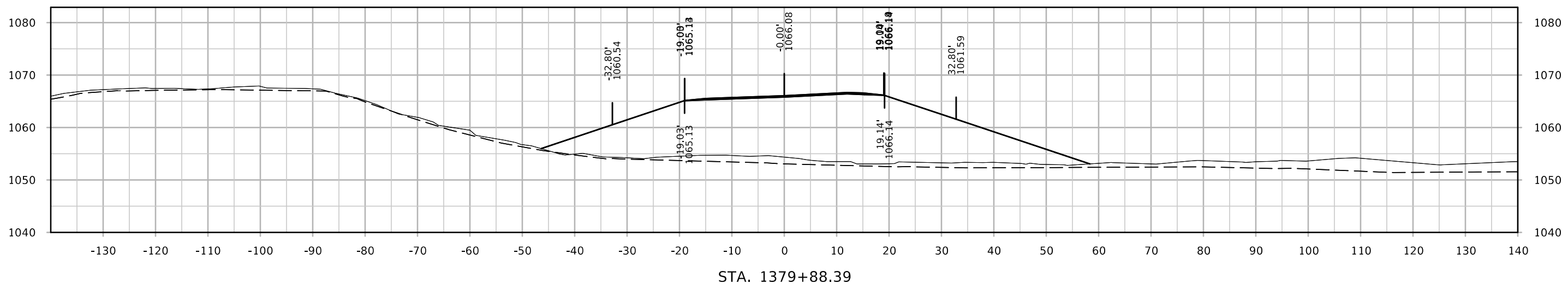
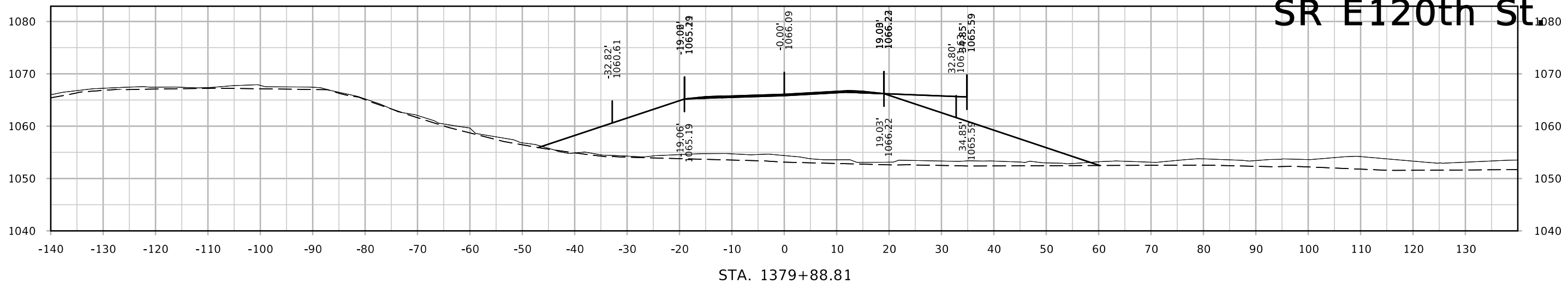
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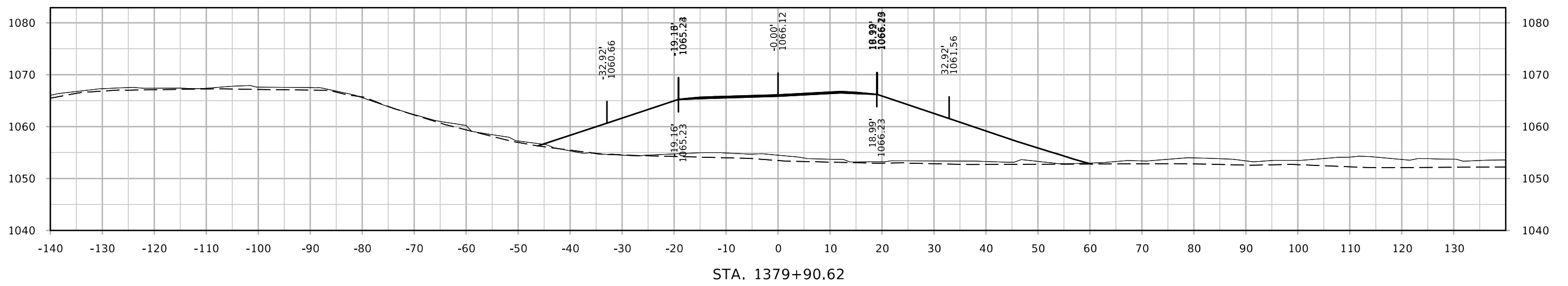
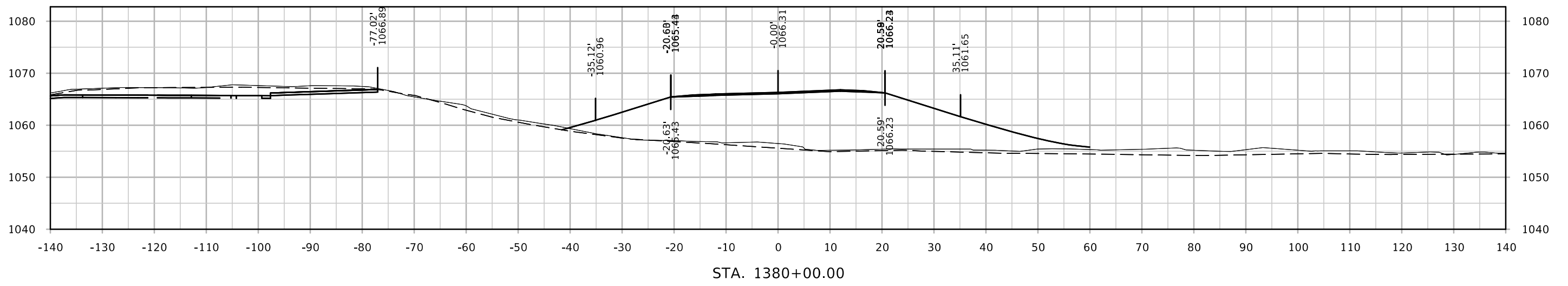
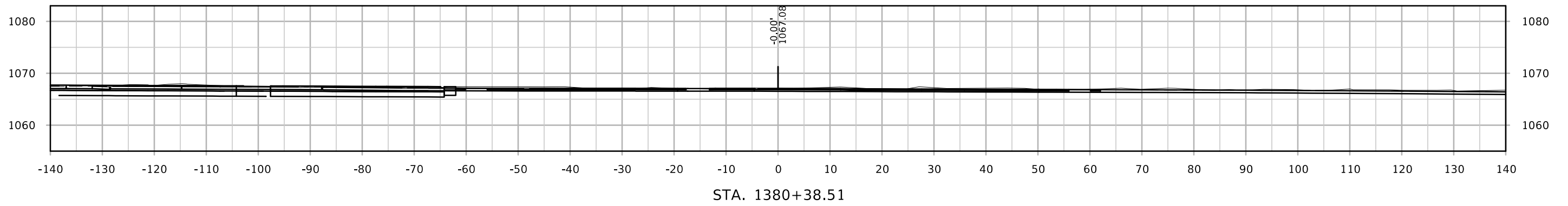
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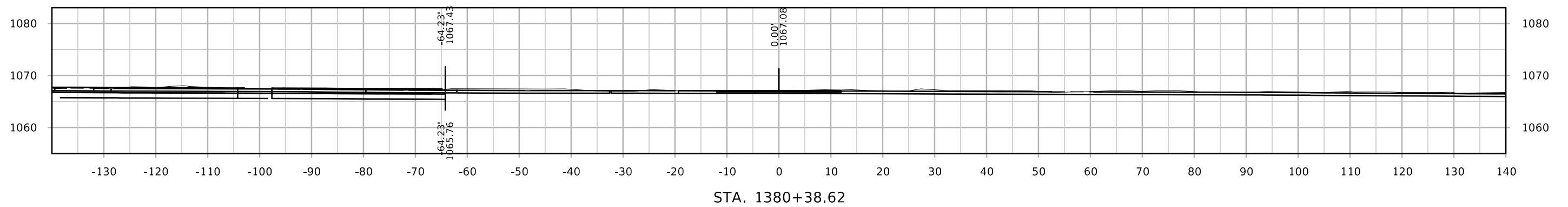
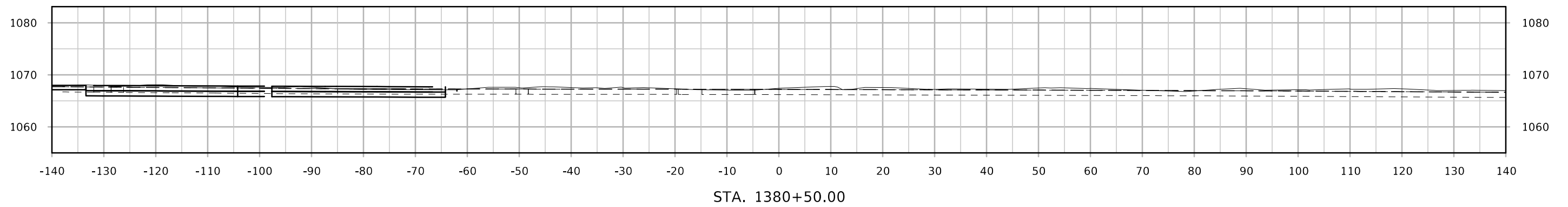
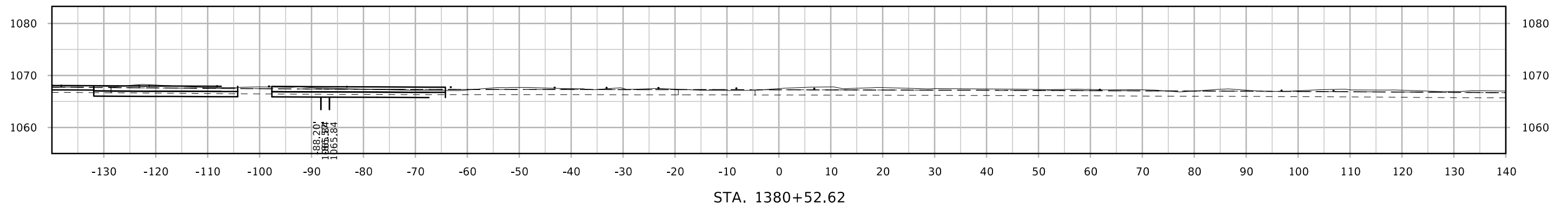
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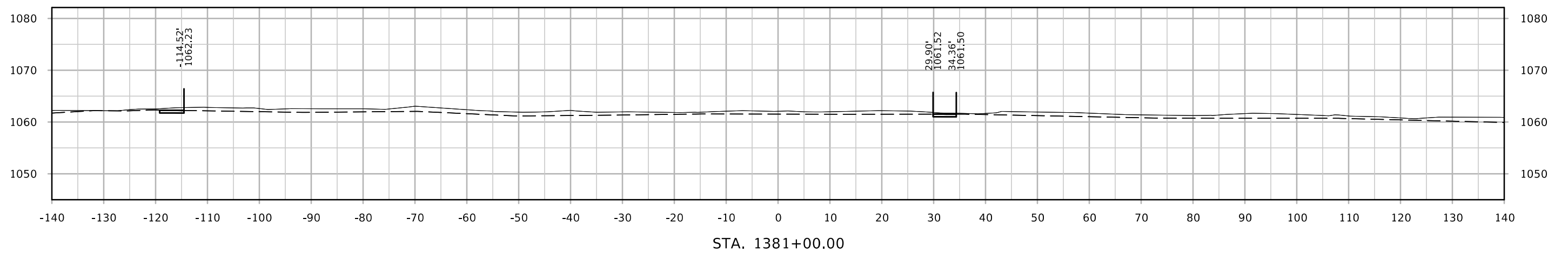
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SR E120th St.



SR E120th St.



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