

IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE: District 3
ATTENTION: Tony Lazarowicz
FROM: Kevin K. Patel
OFFICE: Design
SUBJECT: 3R Project Concept - **FINAL**

DATE: February 28, 2018
PROJECT: Dickinson County
NHSN-71-9(78)--2R-30
PIN: 17-30-071-010

DATE OF REVIEW - June 29, 2017

PARTICIPANTS

District 3 - Tony Lazarowicz, Shane Tymkowicz, Darwin Bishop, Todd Huju, Steve McElmeel and Dakin Shultz; Construction and Materials - Kevin Merryman; Design - Kevin Patel and Hollie Richey; Dickinson County - Dan Eckert; City of Okobojo - Jason Peters; Beck Engineering - Brad Beck; McClure Engineering - Terry Lutz, Rose Gillen and Troy Jerman; City of Arnolds Park - Ron Walker, Linda Nase, Jim Hussong and Matt Richter; Local Resident - Herman Richter

PROJECT DATA

ROUTE: US 71: From Okobojo Grove Road in Arnolds Park (M.P. 220.21) to East View Avenue in Okobojo (M.P. 222.76)

LENGTH: 2.55 miles

PLANNING CLASSIFICATION: Commercial and Industrial

MAINTENANCE SERVICE LEVEL: B

TRAFFIC: 2023 --- 16,200 ADT with 3 % trucks

2043 --- 18,800 ADT with 3 % trucks

Note: Traffic is based upon summer month volumes

PRESENT PAVEMENT SURFACE / THICKNESS: PCC/ 270 mm (10.6")

PRESENT PAVEMENT WIDTH: 11.2 m (36.7 ft.) – 21.2 m (69.6 ft.)

MP to MP	Type	Avg. Str. No.	80% Str. No.	PCI	IRI	K Value
220.21-221.67	PCC	7.78	6.49	63	144	131
221.67-222.76	PCC	8.2	5.23	66	139	144



PAVEMENT HISTORY

M.P. 220.21 - M.P. 222.76

PAVEMENT: 10.6 in. PCC over 15.7 in. Special Backfill

COARSE AGGREGATE SOURCE: Rohlin at Lost Pit

YEAR CONSTRUCTED: 2000

EXISTING CONDITIONS AND CAUSES OF DISTRESS

This section of U.S. 71 is within the City limits of Arnolds Park and Okoboji. The project length is approximately 2.5 miles long and transitions between 4-lane, 3-lane and 5-lane sections.

The existing pavement is a jointed plain concrete pavement built in 2000. The original pavement is 10.6" PCC over 15.7" of special backfill. The pavement was constructed with a high water / cement ratio and low air content. This has resulted in deterioration of the centerline, transverse and longitudinal joints which have been patched. These patching needs continue to increase based on the mode of deterioration in this pavement. Due to the joint deterioration and patching the ride is becoming rough.

STRUCTURES

Mainline Bridge #1

Maintenance Number 3021.8S071, FHWA 23671, Design 196 19.1 m x 13.2 m steel / concrete composite box girder bridge with a sidewalk. No updates to this bridge will be required other than new bridge approach sections.

CRASH HISTORY

The current five-year crash history period from January 2012 to December 2016 revealed that there were a total of 111 crashes within this segment of U.S. 71. Four of these crashes were major injuries, 7 were minor injuries, 15 were possible injuries and 85 were property damage only. The crash rate for this section of roadway is 166 crashes per hundred million vehicle miles traveled, which is less than the statewide average of 256 crashes per hundred million vehicle miles.

RECONSTRUCTION

This project extends from the Okoboji Grove Road (M.P. 220.21) in Arnolds Park to East View Ave. (M.P. 222.76) in Okoboji, a distance of approximately 2.55 miles.

This project involves removing and replacing the existing pavement. The existing vertical and horizontal geometry will remain the same. It should be noted that the existing project was built in metric units and therefore slight variances will be introduced in the width of pavements when converting these dimensions to english units. The preliminary pavement determination, in which the cost estimate is based upon, is 10" of PCC pavement. It is recommended that approximately 5.5" of the existing special backfill subbase be removed and replaced with 6" of modified subbase. There are existing longitudinal subdrains in place which can be used as constructed.

The project begins with a 4-lane urban typical section. This typical section provides two-12' inside lanes and two-14.5' outside lanes including the curb and gutter units. This south section begins at Okoboji Grove Road and transitions from a 4-lane to a 3-lane section between Lake Street and Dam Road. The 3-lane section consists of two outside 12.5' lanes and a center 12' lane. The 3-lane section continues to just south of Stakeout Road (178th Street) where the 5-lane section begins. The 5-lane section continues to the end of the project at East View Avenue in Okoboji. The 5-lane section provides an 18' center turn lane, two - 12' wide inside lanes and two - 14' outside lanes.

There has been some discussion on converting the existing 4-lane section to a 3-lane section. This section will be constructed as a 4-lane section; however, during project development the District Office will discuss with the City of Arnolds Park the possibility of modifying the pavement markings to convert this section of U.S. 71 to a 3-lane facility.

Many of the existing sidewalks will be replaced as the sidewalk cross slopes are in excess of 2%, thus not meeting the American Disabilities Act (ADA) requirements. This concept assumes that all sidewalks will be replaced; however, once survey information is obtained it may be possible to omit sidewalk replacement in some areas. The new sidewalk width will be increased from 4' to 5' where practical. The Great Lakes Spine Trail is part of the

sidewalk system and is currently 10' wide and will be replaced in kind. Detectable warning pads will also be installed adjacent to the roadway crossings. The increase in width will decrease the area between the back of curb to the front face of sidewalk. The existing area between the back of curb and the front face of the sidewalk has been paved using exposed aggregate concrete and decorative brick pavers through the majority of the project. Storm sewer intakes and utility accesses are also located within this area. This paved area and the tops of the storm sewer intakes and utility accesses will be removed and replaced in kind. Any existing areas that are grassed will remain grassed. Please refer to attachment B showing the limits of proposed reconstruction.

There are several retaining walls adjacent to the existing sidewalk. Some of these retaining walls are tied to the existing sidewalk while others appear to be free standing. In order to minimize disruption to the adjacent properties every effort should be made to use these retaining walls as constructed. In some cases, it will be necessary to make a longitudinal saw cut to separate the sidewalk from the retaining wall. Each retaining wall will need to be further reviewed to ensure that the stability of the wall will not be compromised during sidewalk removal.

There are several areas near the causeway and Marina that have barrier rail adjacent to the roadway. It was recommended that the barrier rail be used as constructed; therefore, longitudinal saw cuts will be made on the existing joint line (approximately 3' from the face of rail) to ensure that the barrier rail will not be impacted by construction.

The existing driveways will be replaced to the back of sidewalk.

There are existing traffic signals at the following intersections with U.S. 71: Broadway Street, Lake Shore Drive / Gordon Drive, Sanborn Avenue and Stakeout Road. Traffic signal warrants were reviewed at the following intersections: Benit Drive, Lincoln Road, Lake Street, Dam Road and Linden Drive. Based upon the Office of Traffic and Safety's review, traffic signal warrants were met at 2 intersections (Lake Street and Linden Drive). It was recommended that actual (rather than projected) intersection traffic counts be requested at Linden Drive this summer.

The existing decorative lighting throughout the project corridor will be used as constructed.

STAGING

Okoboji and Arnolds Park are popular tourist destinations during the summer; therefore, in order to minimize disruption to traffic and tourism, no construction work will be allowed from Memorial to Labor Day. U.S. 71 through traffic will be detoured on IA 86 and IA 9 during construction on this project. It is anticipated that stage 1A will begin in the Spring with the reconstruction of the several intersections shown below. Any intersections not completed during this time period will be completed the following spring. In the fall the

northbound lanes will be reconstructed. The completion of the southbound lanes will continue in the following spring. Traffic configurations for the summer period (Memorial Day to Labor Day) will be back to near normal configurations. Traffic configurations for the winter will have at least one lane open in each direction throughout the project length as well as all public road intersections being open.

Stage 1A. Reconstruction of the following U.S. 71 intersections will be accomplished prior to the mainline work.

Okoboji Grove Road
Benit Drive
Lake Street
Dam Road
Broadway Street
Linden Drive
Lake Shore Drive

These intersections will be reconstructed using staged construction. The reconstruction of Okoboji Grove Road intersection should be coordinated such that Lincoln Ave. remains open during this time period. The reconstruction of the Benit Drive and Dam Road intersections will need to be staged to ensure that traffic has access to the east at all times, as this is the residents only means of access. The construction of Lake Street and Broadway Street intersections shall also be coordinated such that they cannot be closed during the same time period.

Segment 1. Reconstruction from Okoboji Grove Road to Lake Street

During construction traffic will be reduced from two lanes in each direction to one lane in each direction. During stage 1, the northbound lanes of U.S. 71 will be reconstructed while traffic is maintained on the southbound lanes. During construction, approximately 10' wide traffic lanes will be maintained. This will provide 1' of shy distance to the face of curb, two-10' wide lanes, 2' of shy distance to the tubular markers and approximately 3' of room for the paving equipment. Temporary lane separator system will be used to prohibit left turns into driveways (all intersections shall remain open). During stage 2, traffic will be placed on the new northbound lanes while the southbound lanes are reconstructed. Please refer to attachment C showing the proposed staging plan.

Segment 2. Reconstruction from Lake Street to Stakeout Road (178th Street)

The existing typical section is a 3-lane roadway. During construction only one lane of traffic will be maintained with the other direction of traffic detoured to local roadways. During project development it will be decided which direction of traffic will be maintained. During stage 1 construction, one 12' wide traffic lane will be maintained, in addition to this approximately 1' of shy distance to the face of curb and 1' to the tubular markers will be

provided. Stage 2 construction will provide a 14' wide traffic lane with approximately 2' of shy distance to the face of curb and 2' to the tubular markers. Please refer to attachment D showing staging details. Temporary pavement may be required at driveways, intersections and/or left turn lanes to get ready for summer and winter traffic configurations.

Segment 3. Reconstruction from Stakeout Road to East View Avenue

The existing typical section is a 5-lane roadway which includes a center turn lane. During construction one lane of traffic in each direction will be maintained. During stage 1, the northbound lanes will be constructed while traffic is placed on the existing southbound lanes. Traffic lanes will be 14' wide and include a temporary lane separator system to prohibit left turns into driveways (intersections will remain open). During stage 2, traffic will be placed on the newly paved northbound lanes allowing the southbound lanes to be reconstructed. Similar dimensions will be provided for traffic lanes and paving equipment in stage 2. Please refer to attachment E showing staging details. Temporary pavement may be required at driveways, intersections and/or left turn lanes to get ready for summer and winter traffic configurations.

There may be minimal permanent ROW required. It does appear that temporary right of way will be required.

ESTIMATED COST

<u>Item</u>	<u>Estimated Cost</u>
Class 13 Waste	\$116,300
Modified Subbase	515,400
Granular Shoulders	24,000
Earth Shoulder Finishing	32,300
Bridge Approach Section	111,600
PCC Pavement 10"	3,765,600
Median Pavement	30,700
Intake Tops	247,500
Pavement Removal	478,600
Removal of Intake Tops	20,200
Removal of Sidewalk / Decorative Concrete	114,000
Sidewalk Pavement	465,600
Removal of Driveway Pavement	56,800
Driveway Pavement	283,100
Temporary Lane Separator System	45,100
Decorative Concrete	283,400
Traffic Signals	400,000
Erosion Control	<u>200,000</u>
Sub Total	7,190,200

Traffic Control (5%)	359,500
Mobilization (5%)	359,500
Staging (20%)	<u>1,438,000</u>
Sub Total	9,347,200
M & C (20%)	<u>1,869,400</u>
Total	\$11,216,600

RECOMMENDATIONS

The recommended method of rehabilitation for this project is reconstructing the mainline. The total estimated cost of this project is \$11,216,600.

SPECIAL CONSIDERATIONS

The District Office has prepared a concept (Project number NHSN-71-9(82)--2R-30) that includes full depth and partial depth patching that may be required to keep U.S. 71 serviceable until this project can be programmed.

This is not a traffic critical project; however, due to high publicity and restricted traffic flow, traffic mitigation strategies should be reviewed.

The Office of Location and Environment has not reviewed this project at this time. Once their review is completed, comments will be incorporated into the final concept statement.

FUNDS PROGRAMMED

This project is not shown in the 2018-2022 Iowa Transportation Improvement program. A schedule of events for plan development will be determined following approval of the Project Concept.

KKP
cc:

C. Purcell
S. J. Megivern
G. A. Novey
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J. S. Nelson
M. A. Swenson
K. Brink
W. A. Sorenson
M. E. Ross
C. C. Poole

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R. A. Younie
D. L. Newell
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FHWA

T. D. Crouch
P. C. Keen
M. Carlson
D. Manley
S. Tymkowicz
K. Merryman

DICKINSON COUNTY



WEST
OKOBOJI
LAKE

EAST
OKOBOJI
LAKE

MINNE-
WASHTA
LAKE

OKOBOJI

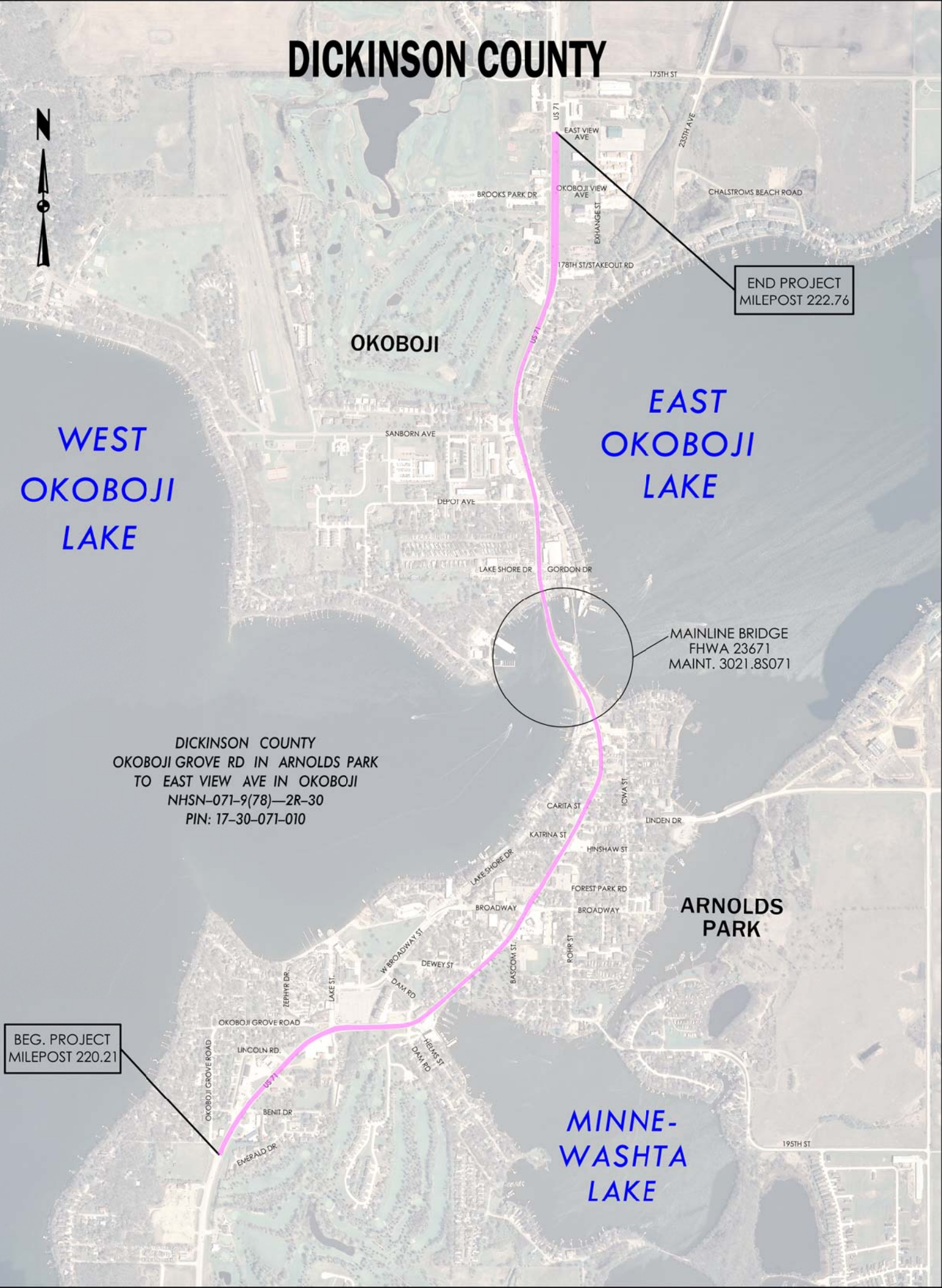
ARNOLDS
PARK

DICKINSON COUNTY
OKOBOJI GROVE RD IN ARNOLDS PARK
TO EAST VIEW AVE IN OKOBOJI
NHSN-071-9(78)—2R-30
PIN: 17-30-071-010

BEG. PROJECT
MILEPOST 220.21

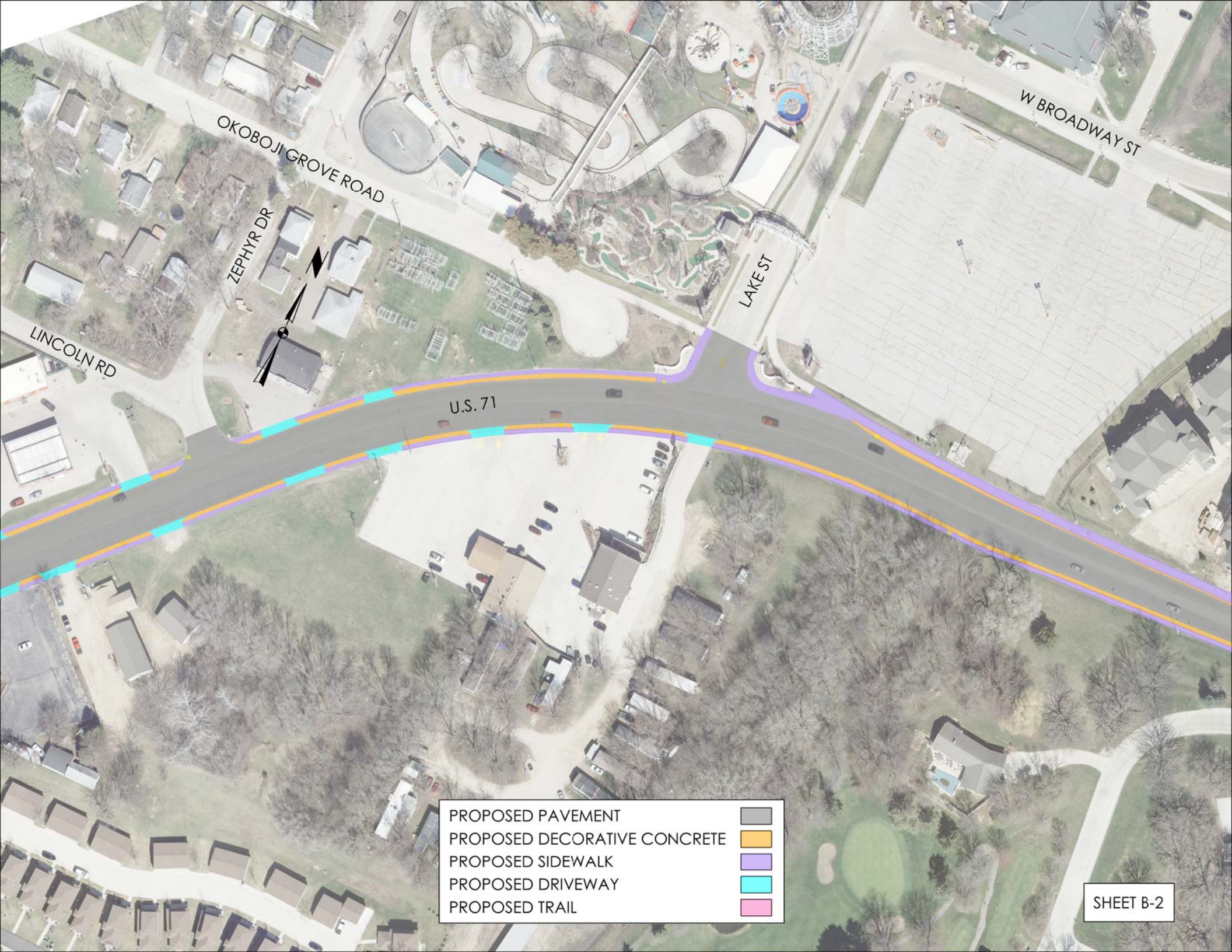
END PROJECT
MILEPOST 222.76

MAINLINE BRIDGE
FHWA 23671
MAINT. 3021.8S071



PROPOSED PAVEMENT	
PROPOSED DECORATIVE CONCRETE	
PROPOSED SIDEWALK	
PROPOSED DRIVEWAY	
PROPOSED TRAIL	





OKOBOJI GROVE ROAD

ZEPHYR DR

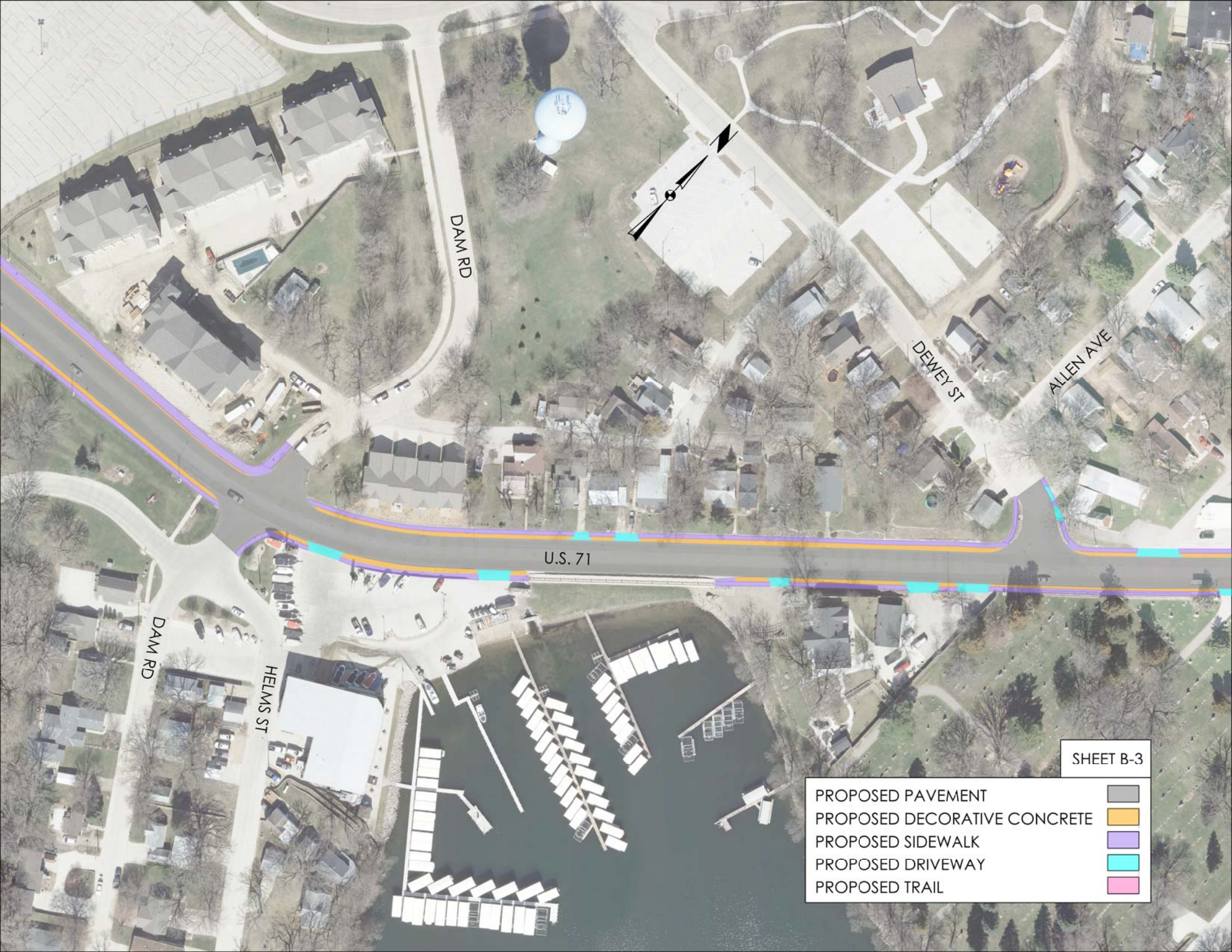
LINCOLN RD

U.S. 71

LAKE ST

W BROADWAY ST

PROPOSED PAVEMENT	Grey
PROPOSED DECORATIVE CONCRETE	Orange
PROPOSED SIDEWALK	Purple
PROPOSED DRIVEWAY	Cyan
PROPOSED TRAIL	Pink



DAM RD

DEWEY ST

ALLEN AVE

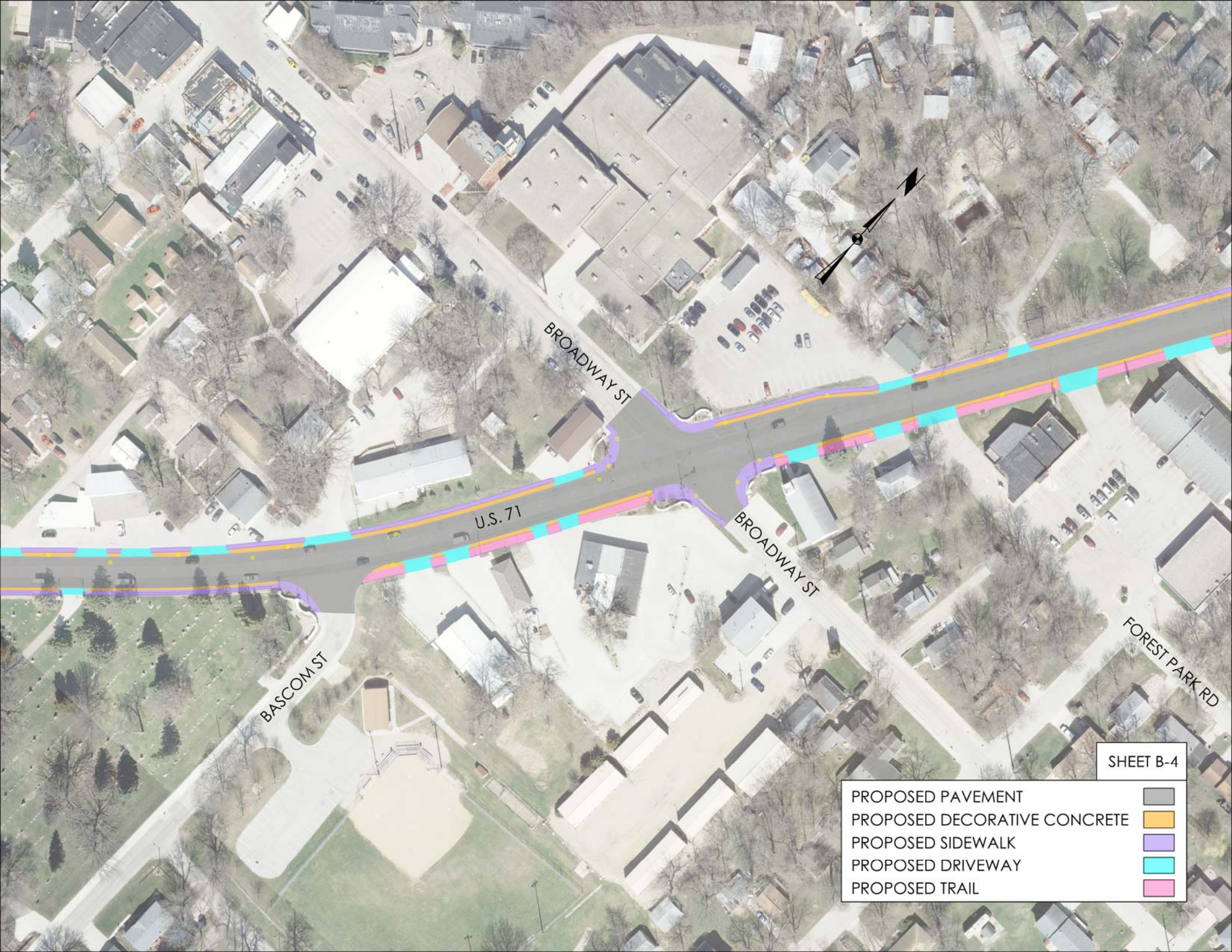
U.S. 71

DAM RD

HELMS ST

SHEET B-3

PROPOSED PAVEMENT	Grey
PROPOSED DECORATIVE CONCRETE	Yellow
PROPOSED SIDEWALK	Purple
PROPOSED DRIVEWAY	Cyan
PROPOSED TRAIL	Pink



BROADWAY ST

U.S. 71

BROADWAY ST

BASCOM ST

FOREST PARK RD

SHEET B-4

PROPOSED PAVEMENT	Grey
PROPOSED DECORATIVE CONCRETE	Yellow
PROPOSED SIDEWALK	Purple
PROPOSED DRIVEWAY	Cyan
PROPOSED TRAIL	Pink



LAKE SHORE DR

KATRINA ST

CARIA ST

U.S. 71

HINSHAW ST

LINDEN DR

SHEET B-5

PROPOSED PAVEMENT	
PROPOSED DECORATIVE CONCRETE	
PROPOSED SIDEWALK	
PROPOSED DRIVEWAY	
PROPOSED TRAIL	



U.S. 71

ACKLEY ST

SHEET B-6

PROPOSED PAVEMENT	
PROPOSED DECORATIVE CONCRETE	
PROPOSED SIDEWALK	
PROPOSED DRIVEWAY	
PROPOSED TRAIL	



LAKE SHORE DR

U.S. 71

GORDON DR

SHEET B-7

PROPOSED PAVEMENT	
PROPOSED DECORATIVE CONCRETE	
PROPOSED SIDEWALK	
PROPOSED DRIVEWAY	
PROPOSED TRAIL	



DEPOT AVE

SANBORN AVE

U.S. 71

SHEET B-8

PROPOSED PAVEMENT	
PROPOSED DECORATIVE CONCRETE	
PROPOSED SIDEWALK	
PROPOSED DRIVEWAY	
PROPOSED TRAIL	

- PROPOSED PAVEMENT 
- PROPOSED DECORATIVE CONCRETE 
- PROPOSED SIDEWALK 
- PROPOSED DRIVEWAY 
- PROPOSED TRAIL 



SANBORN AVE

US 71

MORNINGSIDE DR

MORNINGSIDE DR



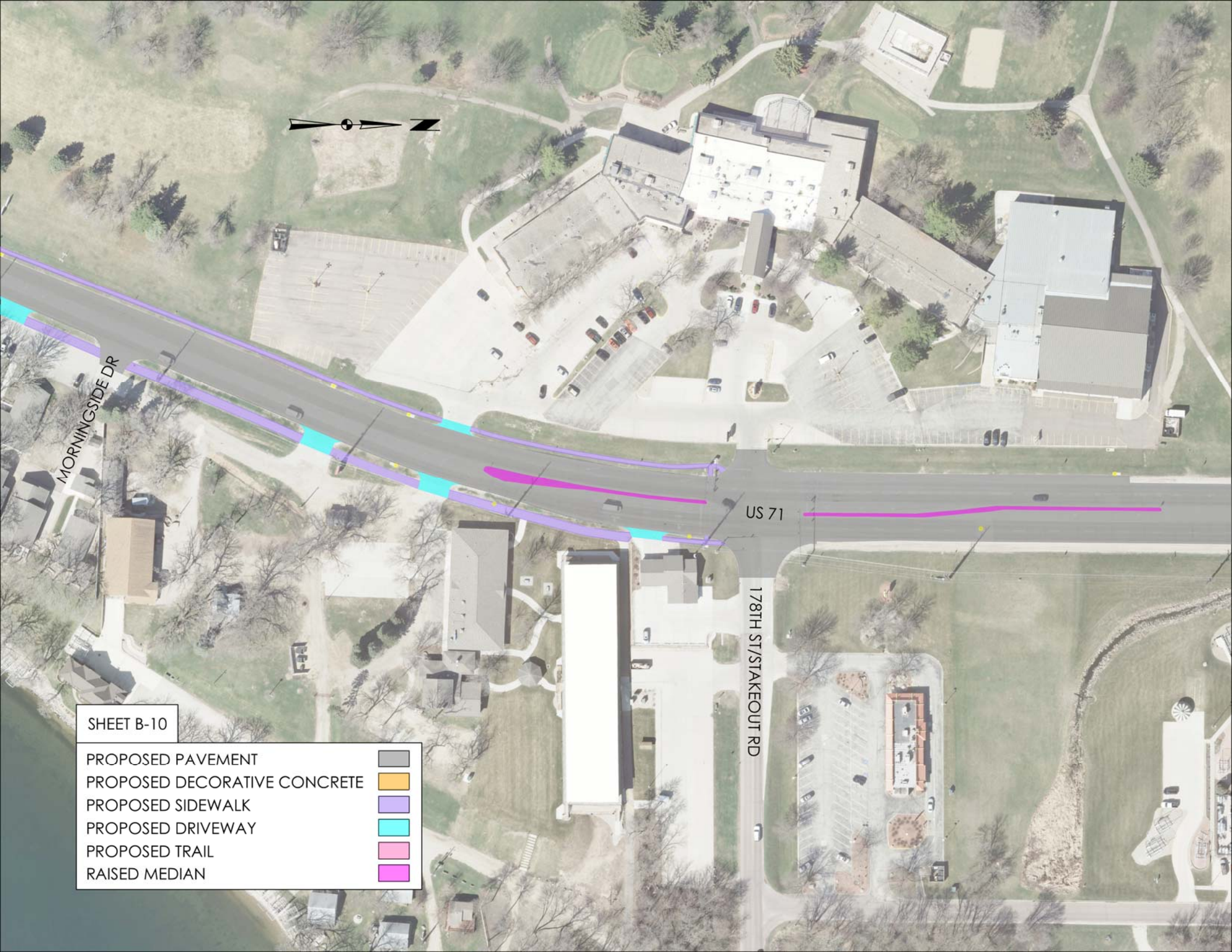
MORNINGSIDE DR

US 71

178TH ST/STAKEOUT RD

SHEET B-10

PROPOSED PAVEMENT	
PROPOSED DECORATIVE CONCRETE	
PROPOSED SIDEWALK	
PROPOSED DRIVEWAY	
PROPOSED TRAIL	
RAISED MEDIAN	





BROOKS PARK DR

US 71

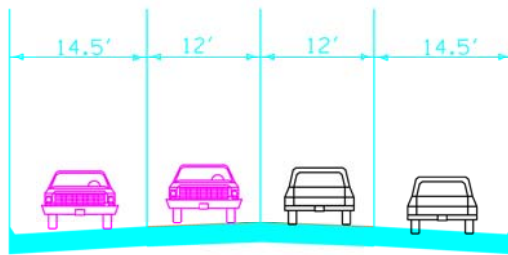
EAST VIEW AVE

OKOBOJI VIEW AVE

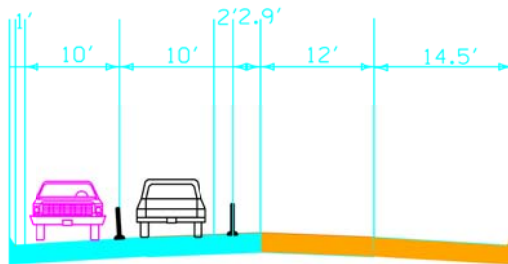
SHEET B-11

- PROPOSED PAVEMENT
- PROPOSED DECORATIVE CONCRETE
- PROPOSED SIDEWALK
- PROPOSED DRIVEWAY
- PROPOSED TRAIL
- RAISED MEDIAN

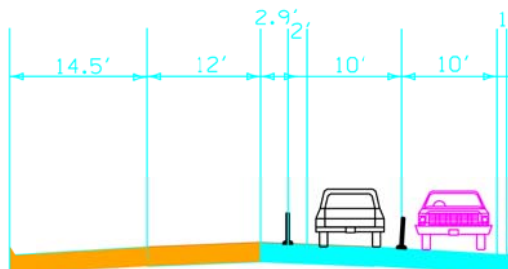
Staging Typical Section Okoboji Grove Road to Lake Street



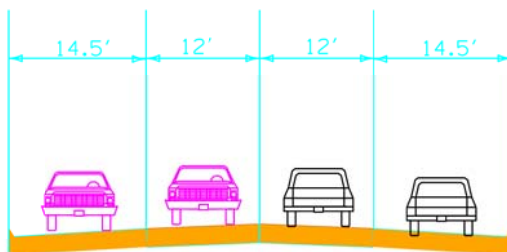
Existing Typical Section



STAGE 1



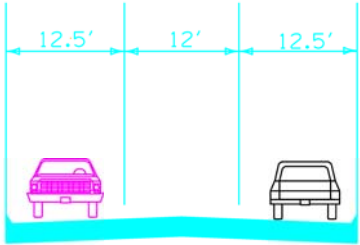
STAGE 2



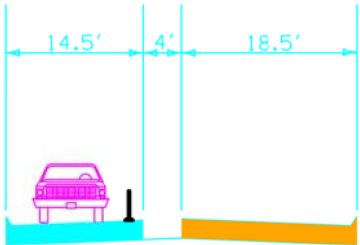
Final Typical Section

Note: Cross section may differ slightly from what is shown above

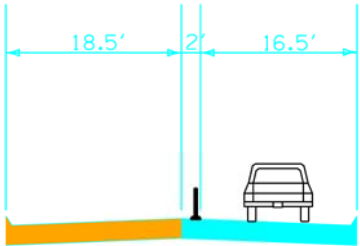
Staging Typical Section Lake Street to Stakeout Road



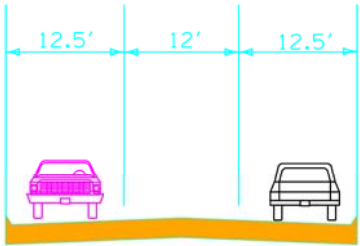
Existing Typical Section



STAGE 1



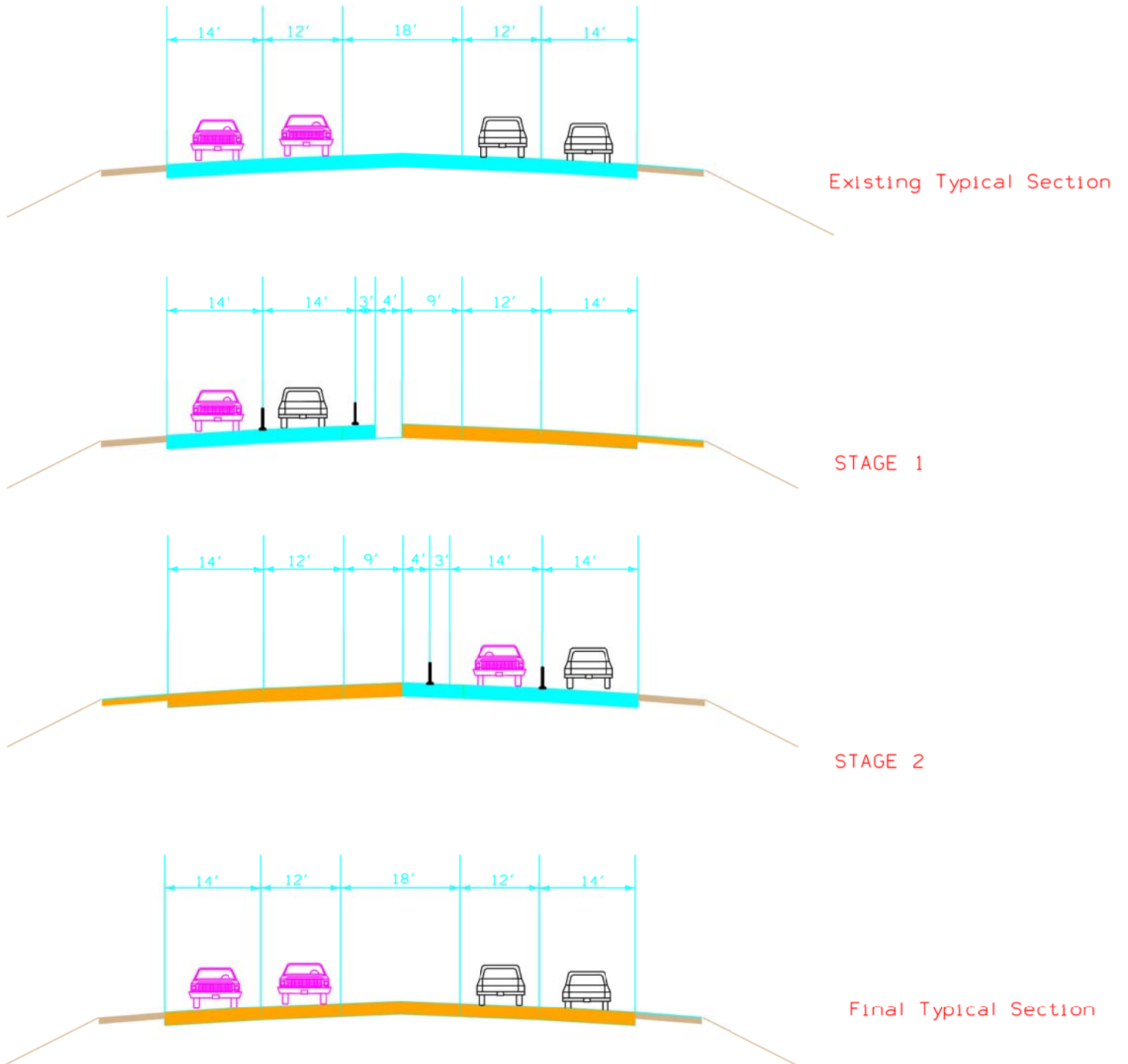
STAGE 2



Final Typical Section

Note: Cross section may differ slightly from what is shown above

Staging Typical Section Stakeout Road to East View Avenue



Note: Cross section may differ slightly from what is shown above

Utilities

Alliant Energy
ATTN: Marc Rush
1301 20th Street
Box: AJ
Spirit Lake, IA 51360

Arnolds Park, City of
ATTN: Ron Walker
156 North Hwy 71
Box 437
Arnolds Park, IA 51331-0437

Black Hills Energy
ATTN: Nick Gardner
1815 Capitol Avenue
Omaha, NE 68102

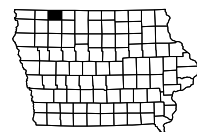
CenturyLink
ATTN: Carroll Wheaton
390 Commerce Drive
Woodbury, MN 55125-0000

MediaCom
ATTN: Jeff Anfinson
1721 N Hwy Blvd.
Spencer, IA 51301

Milford Cable
ATTN: Matt Plagman
806 Okoboji Avenue
Box: 163
Milford, IA 51351-1641

LETTING DATE
 XX-XX-XXXX
 PCC PAVEMENT /SIDEWALK/TRAIL
 NHSN-71-9(78)--2R-30

DICKINSON COUNTY



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
A.3 - 20	Concept Statement
B Sheets	Typical Cross Sections and Details
B.1 - 4	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 11	"U.S. HWY 71"
E Sheets	Side Road Plan and Profile Sheets
* E.1	"OKOBOJI GROVE ROAD"
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
* J.1 - 2	Staging Notes Stage
* J.3	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.4 - 6	Detour Plan and Traffic Control Sheets
* J.7 - 31	Staging and Traffic Control Sheets Stages 1A - 4
N Sheets	Traffic Signal Sheets
N.1	Traffic Signal General Notes
N.2 - 7	Traffic Signal Sheets "U.S. HWY 71"
S Sheets	Sidewalk Sheets
* S .1	Sidewalk Legend & Symbol Information Sheet
* S .2 - 18	Sidewalk Plan Sheets
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 128	Mainline Cross Sections
	* Color Plan Sheets



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

DICKINSON COUNTY

PCC PAVEMENT /SIDEWALK/TRAIL

IN THE CITY OF OKOBOJI, FROM OKOBOJI GROVE ROAD
IN ARNOLDS PARK TO EAST VIEW AVENUE

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

MILEAGE SUMMARY			
Div.	Location	Lin. Ft.	Miles
1	Urban:		
	Sta. 207+64.00 to Sta. 344+75.00	13,711.00	
	Deduct Causeway Bridge Sta. 290+61.24	66.00	
	Total Net Project Length	13,645.00	2.584

DESIGN DATA URBAN

2023	AADT	16,200	V.P.D.
2043	AADT	18,800	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	3	%
	Total Design ESALs	--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block
X	X	X

REVISIONS

TOTAL
--
PROJECT IDENTIFICATION NUMBER
17-30-071-010
PROJECT NUMBER
NHSN-71-9(78)--2R-30
R.O.W. PROJECT NUMBER
NHSN-71-9(79)--2R-30



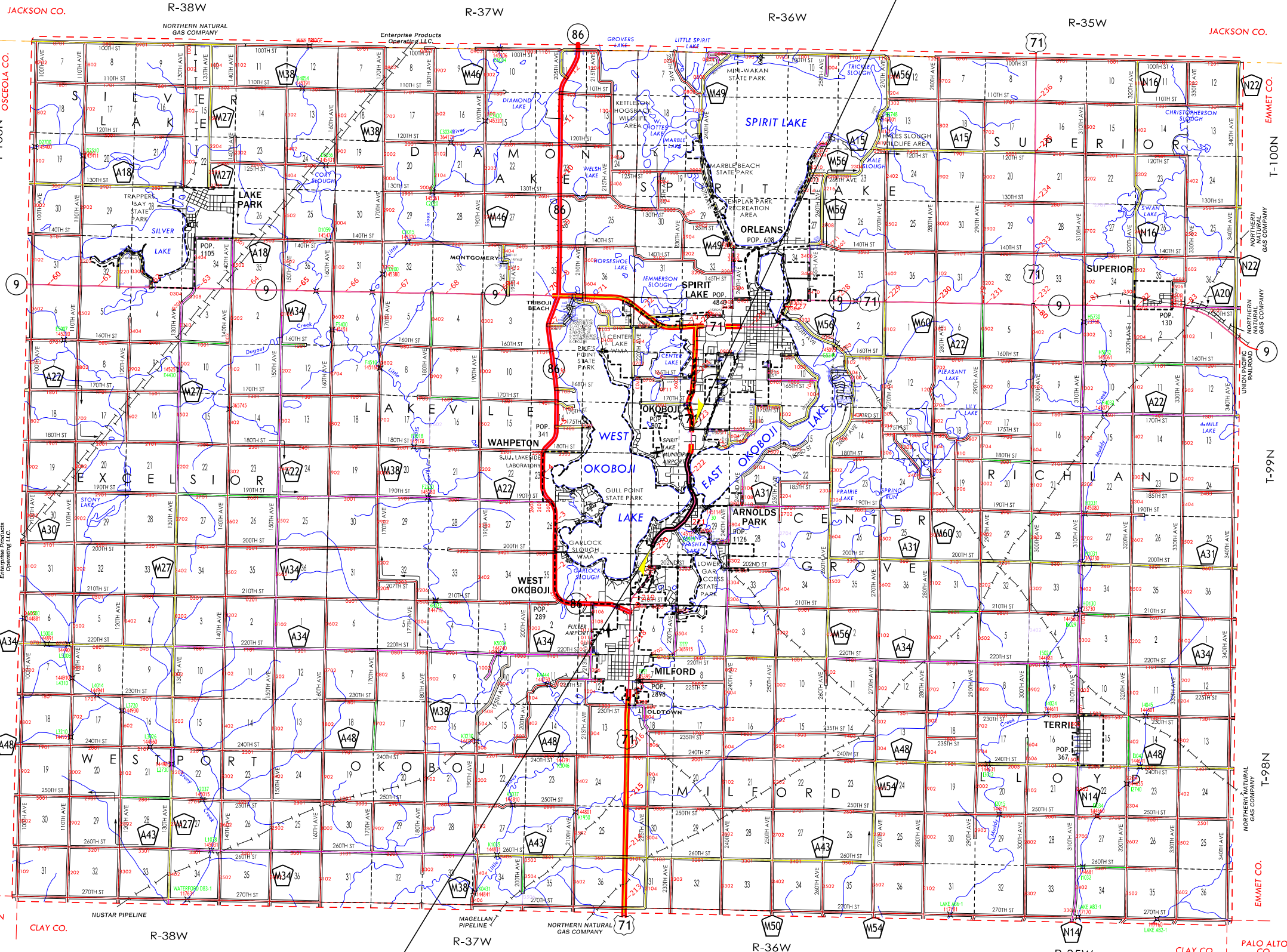
PRELIMINARY PLANS

Subject to change by final design.

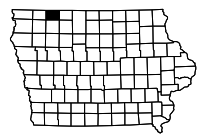
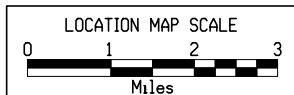
D2 PLAN - Date: 3/20/2020

STA. 344+75.00
 END PROJECT
 END PAVING
 M.P. 222.76

S T A T E O F M I N N E S O T A



STA. 207+64.00
 BEGIN PROJECT
 BEGIN PAVING
 M.P. 220.21



CRASH HISTORY

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There has been some discussion on converting the existing 4-lane section to a 3-lane section. This section will be constructed as a 4-lane section; however, during project development the District Office will discuss with the City of Arnolds Park the possibility of modifying the pavement markings to convert this section of U.S. 71 to a 3-lane facility.

Many of the existing sidewalks will be replaced as the sidewalk cross slopes are in excess of 2%, thus not meeting the American Disabilities Act (ADA) requirements. This concept assumes that all sidewalks will be replaced; however, once survey information is obtained it may be possible to omit sidewalk replacement in some areas. The new sidewalk width will be increased from 4' to 5' where practical. The Great Lakes Spine Trail is part of the

sidewalk system and is currently 10' wide and will be replaced in kind. Detectable warning pads will also be installed adjacent to the roadway crossings. The increase in width will decrease the area between the back of curb to the front face of sidewalk. The existing area between the back of curb and the front face of the sidewalk has been paved using exposed aggregate concrete and decorative brick pavers through the majority of the project. Storm sewer intakes and utility accesses are also located within this area. This paved area and the tops of the storm sewer intakes and utility accesses will be removed and replaced in kind. Any existing areas that are grassed will remain grassed. Please refer to attachment B showing the limits of proposed reconstruction.

There are several retaining walls adjacent to the existing sidewalk. Some of these retaining walls are tied to the existing sidewalk while others appear to be free standing. In order to minimize disruption to the adjacent properties every effort should be made to use these retaining walls as constructed. In some cases, it will be necessary to make a longitudinal saw cut to separate the sidewalk from the retaining wall. Each retaining wall will need to be further reviewed to ensure that the stability of the wall will not be compromised during sidewalk removal.

There are several areas near the causeway and Marina that have barrier rail adjacent to the roadway. It was recommended that the barrier rail be used as constructed; therefore, longitudinal saw cuts will be made on the existing joint line (approximately 3' from the face of rail) to ensure that the barrier rail will not be impacted by construction.

The existing driveways will be replaced to the back of sidewalk.

There are existing traffic signals at the following intersections with U.S. 71: Broadway Street, Lake Shore Drive / Gordon Drive, Sanborn Avenue and Stakeout Road. Traffic signal warrants were reviewed at the following intersections: Benit Drive, Lincoln Road, Lake Street, Dam Road and Linden Drive. Based upon the Office of Traffic and Safety's review, traffic signal warrants were met at 2 intersections (Lake Street and Linden Drive). It was recommended that actual (rather than projected) intersection traffic counts be requested at Linden Drive this summer.

The existing decorative lighting throughout the project corridor will be used as constructed.

STAGING

Okoboji and Arnolds Park are popular tourist destinations during the summer; therefore, in order to minimize disruption to traffic and tourism, no construction work will be allowed from Memorial to Labor Day. U.S. 71 through traffic will be detoured on IA 86 and IA 9 during construction on this project. It is anticipated that stage 1A will begin in the Spring with the reconstruction of the several intersections shown below. Any intersections not completed during this time period will be completed the following spring. In the fall the

northbound lanes will be reconstructed. The completion of the southbound lanes will continue in the following spring. Traffic configurations for the summer period (Memorial Day to Labor Day) will be back to near normal configurations. Traffic configurations for the winter will have at least one lane open in each direction throughout the project length as well as all public road intersections being open.

Stage 1A. Reconstruction of the following U.S. 71 intersections will be accomplished prior to the mainline work.

- Okoboji Grove Road
- Benit Drive
- Lake Street
- Dam Road
- Broadway Street
- Linden Drive
- Lake Shore Drive

These intersections will be reconstructed using staged construction. The reconstruction of Okoboji Grove Road intersection should be coordinated such that Lincoln Ave. remains open during this time period. The reconstruction of the Benit Drive and Dam Road intersections will need to be staged to ensure that traffic has access to the east at all times, as this is the residents only means of access. The construction of Lake Street and Broadway Street intersections shall also be coordinated such that they cannot be closed during the same time period.

Segment 1. Reconstruction from Okoboji Grove Road to Lake Street

During construction traffic will be reduced from two lanes in each direction to one lane in each direction. During stage 1, the northbound lanes of U.S. 71 will be reconstructed while traffic is maintained on the southbound lanes. During construction, approximately 10' wide traffic lanes will be maintained. This will provide 1' of shy distance to the face of curb, two-10' wide lanes, 2' of shy distance to the tubular markers and approximately 3' of room for the paving equipment. Temporary lane separator system will be used to prohibit left turns into driveways (all intersections shall remain open). During stage 2, traffic will be placed on the new northbound lanes while the southbound lanes are reconstructed. Please refer to attachment C showing the proposed staging plan.

Segment 2. Reconstruction from Lake Street to Stakeout Road (178th Street)

The existing typical section is a 3-lane roadway. During construction only one lane of traffic will be maintained with the other direction of traffic detoured to local roadways. During project development it will be decided which direction of traffic will be maintained. During stage 1 construction, one 12' wide traffic lane will be maintained, in addition to this approximately 1' of shy distance to the face of curb and 1' to the tubular markers will be

provided. Stage 2 construction will provide a 14' wide traffic lane with approximately 2' of shy distance to the face of curb and 2' to the tubular markers. Please refer to attachment D showing staging details. Temporary pavement may be required at driveways, intersections and/or left turn lanes to get ready for summer and winter traffic configurations.

Segment 3. Reconstruction from Stakeout Road to East View Avenue

The existing typical section is a 5-lane roadway which includes a center turn lane. During construction one lane of traffic in each direction will be maintained. During stage 1, the northbound lanes will be constructed while traffic is placed on the existing southbound lanes. Traffic lanes will be 14' wide and include a temporary lane separator system to prohibit left turns into driveways (intersections will remain open). During stage 2, traffic will be placed on the newly paved northbound lanes allowing the southbound lanes to be reconstructed. Similar dimensions will be provided for traffic lanes and paving equipment in stage 2. Please refer to attachment E showing staging details. Temporary pavement may be required at driveways, intersections and/or left turn lanes to get ready for summer and winter traffic configurations.

There may be minimal permanent ROW required. It does appear that temporary right of way will be required.

ESTIMATED COST

<u>Item</u>	<u>Estimated Cost</u>
Class 13 Waste	\$116,300
Modified Subbase	515,400
Granular Shoulders	24,000
Earth Shoulder Finishing	32,300
Bridge Approach Section	111,600
PCC Pavement 10"	3,765,600
Median Pavement	30,700
Intake Tops	247,500
Pavement Removal	478,600
Removal of Intake Tops	20,200
Removal of Sidewalk / Decorative Concrete	114,000
Sidewalk Pavement	465,600
Removal of Driveway Pavement	56,800
Driveway Pavement	283,100
Temporary Lane Separator System	45,100
Decorative Concrete	283,400
Traffic Signals	400,000
Erosion Control	<u>200,000</u>
Sub Total	7,190,200

Traffic Control (5%)	359,500
Mobilization (5%)	359,500
Staging (20%)	<u>1,438,000</u>
Sub Total	9,347,200
M & C (20%)	<u>1,869,400</u>
Total	\$11,216,600

RECOMMENDATIONS

The recommended method of rehabilitation for this project is reconstructing the mainline. The total estimated cost of this project is \$11,216,600.

SPECIAL CONSIDERATIONS

The District Office has prepared a concept (Project number NHSN-71-9(82)--2R-30) that includes full depth and partial depth patching that may be required to keep U.S. 71 serviceable until this project can be programmed.

This is not a traffic critical project; however, due to high publicity and restricted traffic flow, traffic mitigation strategies should be reviewed.

The Office of Location and Environment has not reviewed this project at this time. Once their review is completed, comments will be incorporated into the final concept statement.

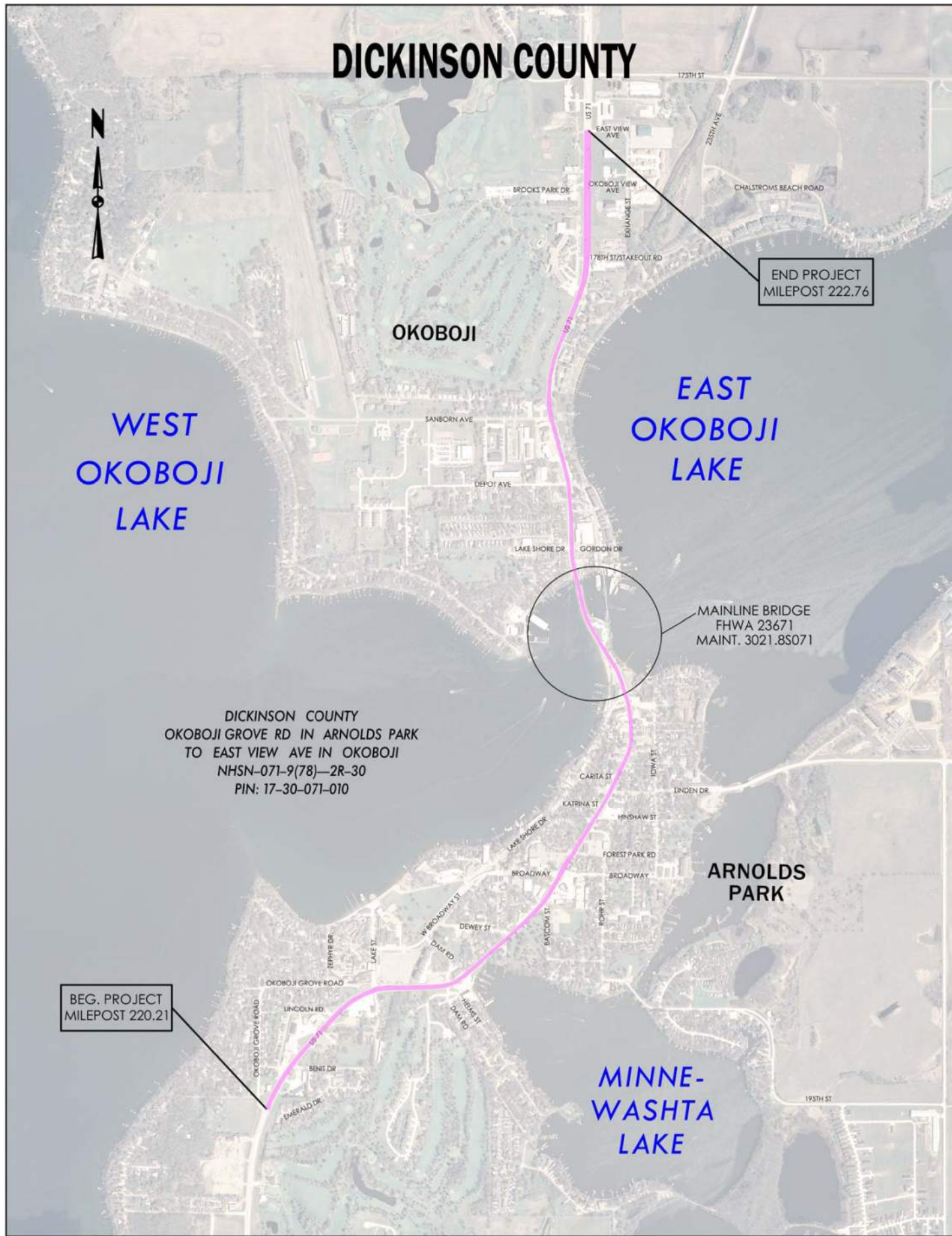
FUNDS PROGRAMMED

This project is not shown in the 2018-2022 Iowa Transportation Improvement program. A schedule of events for plan development will be determined following approval of the Project Concept.

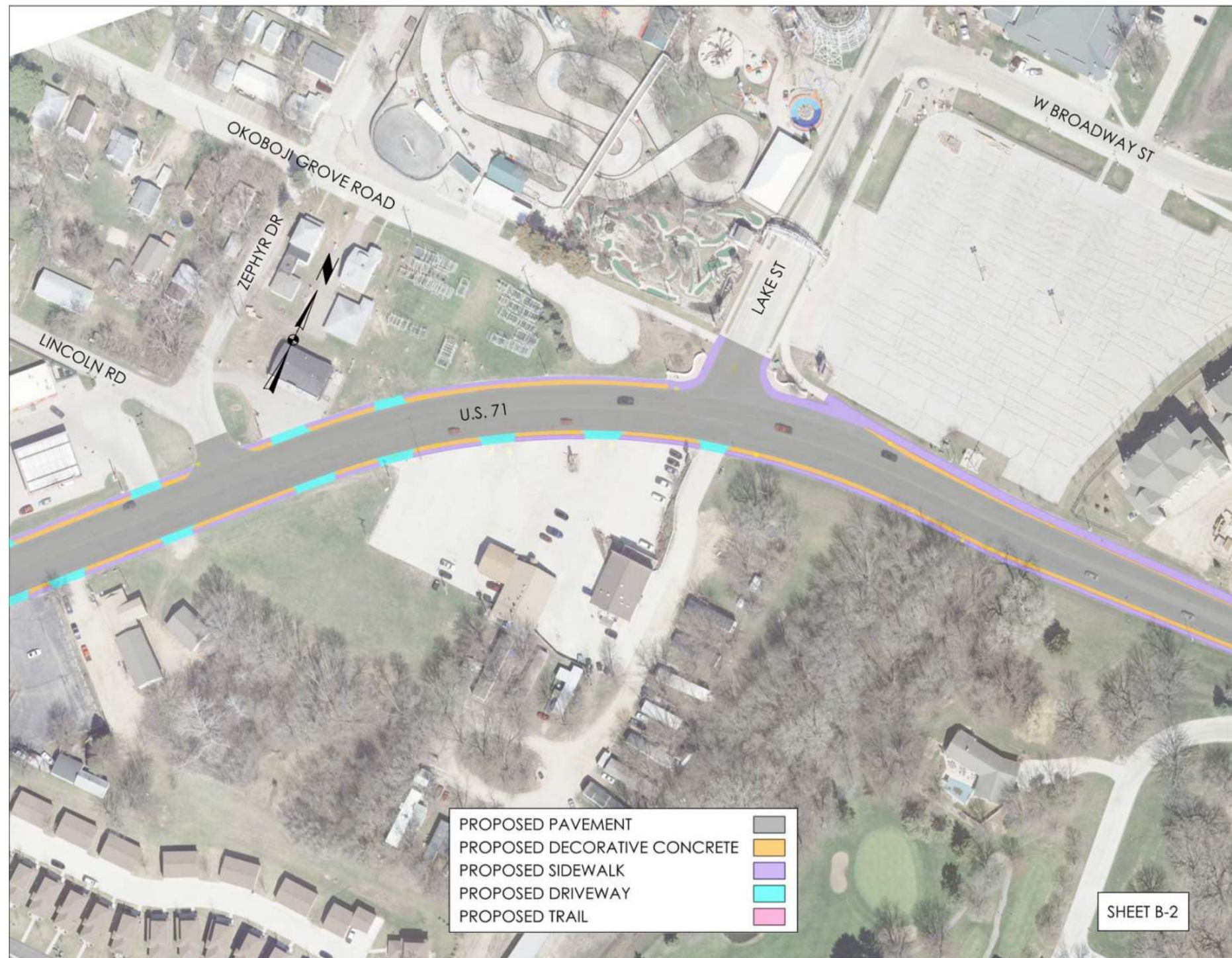
KKP
 cc:

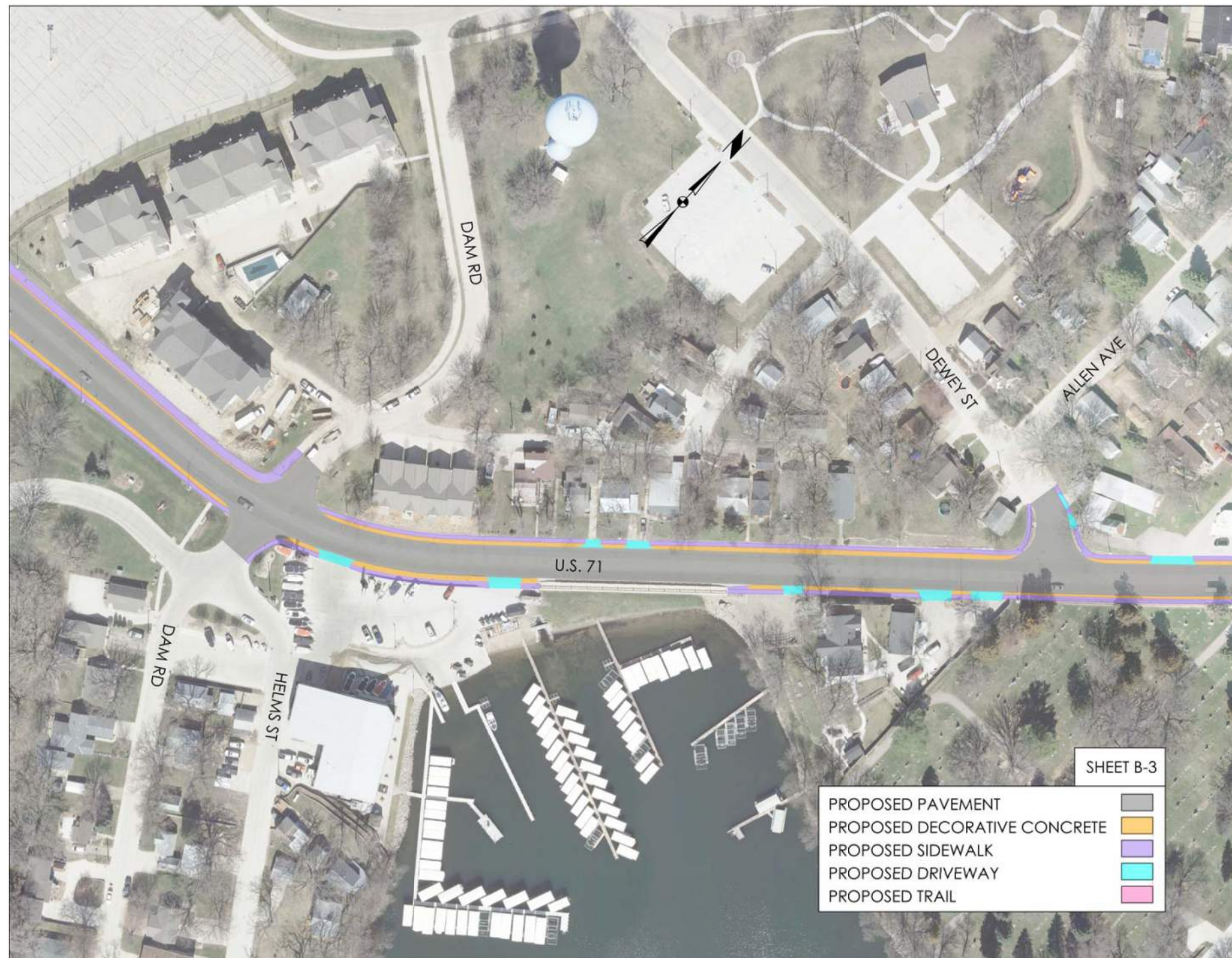
- | | | |
|-------------------|----------------|------------------|
| C. Purcell | M. J. Kennerly | K. D. Nicholson |
| S. J. Megivern | J. S. Nelson | S. McElmeel |
| G. A. Novey | M. A. Swenson | R. A. Younie |
| D. R. Tebben | K. Brink | D. L. Newell |
| J. W. Laaser-Webb | W. A. Sorenson | D. E. Sprengeler |
| E. C. Wright | M. E. Ross | A. A. Welch |
| N. M. Miller | C. C. Poole | M. J. Sankey |

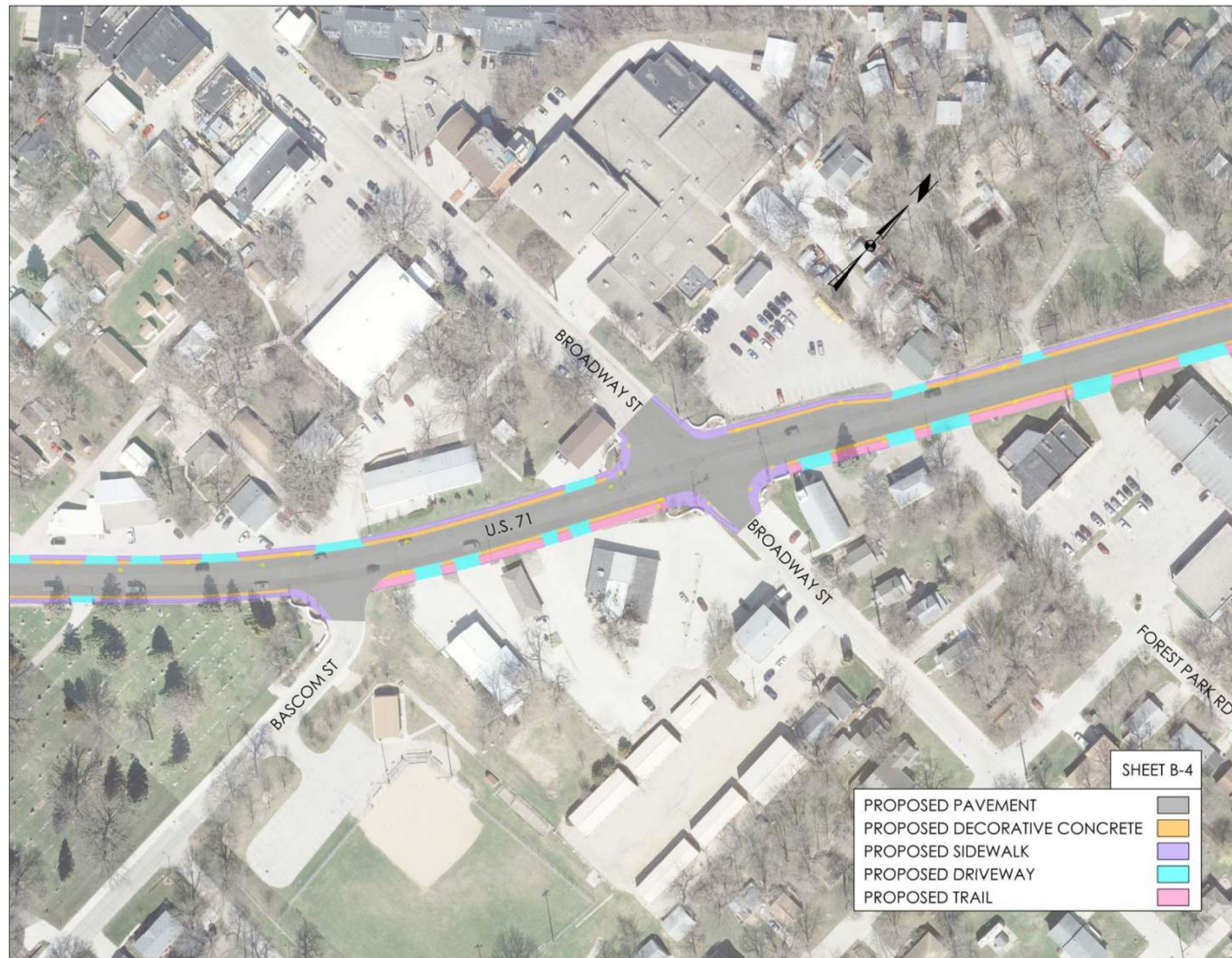
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|----------------|---------------|--------------|
| B. E. Azeltine | B. D. Hofer | T. D. Crouch |
| S. J. Gent | S. Anderson | P. C. Keen |
| D. Bishop | V. Brewer | M. Carlson |
| B. Dolan | T. Huju | D. Manley |
| D. Schultz | M. K. Solberg | S. Tymkowicz |
| M. Wright | J. Selmer | K. Merryman |
| N. Thede | FHWA | |

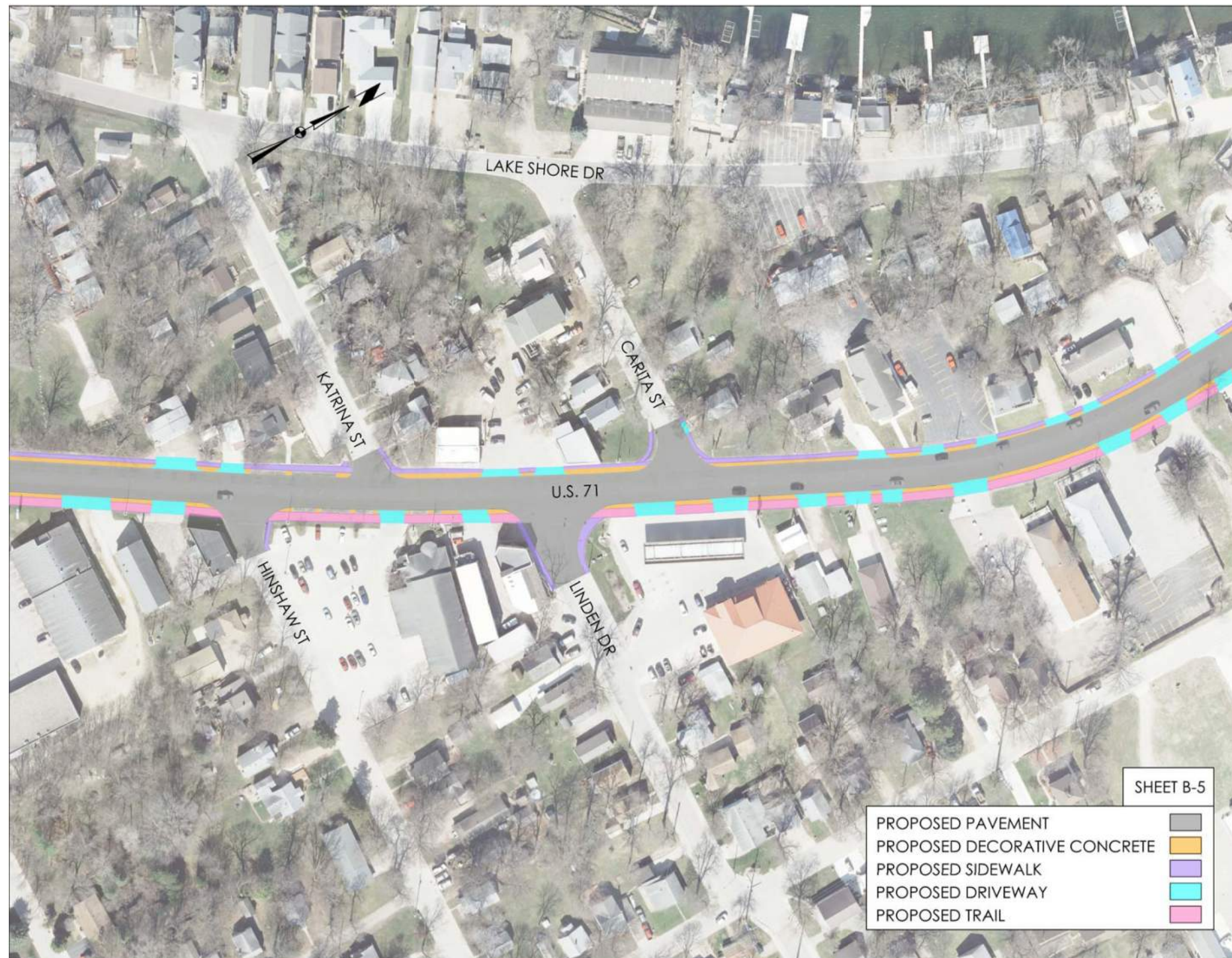












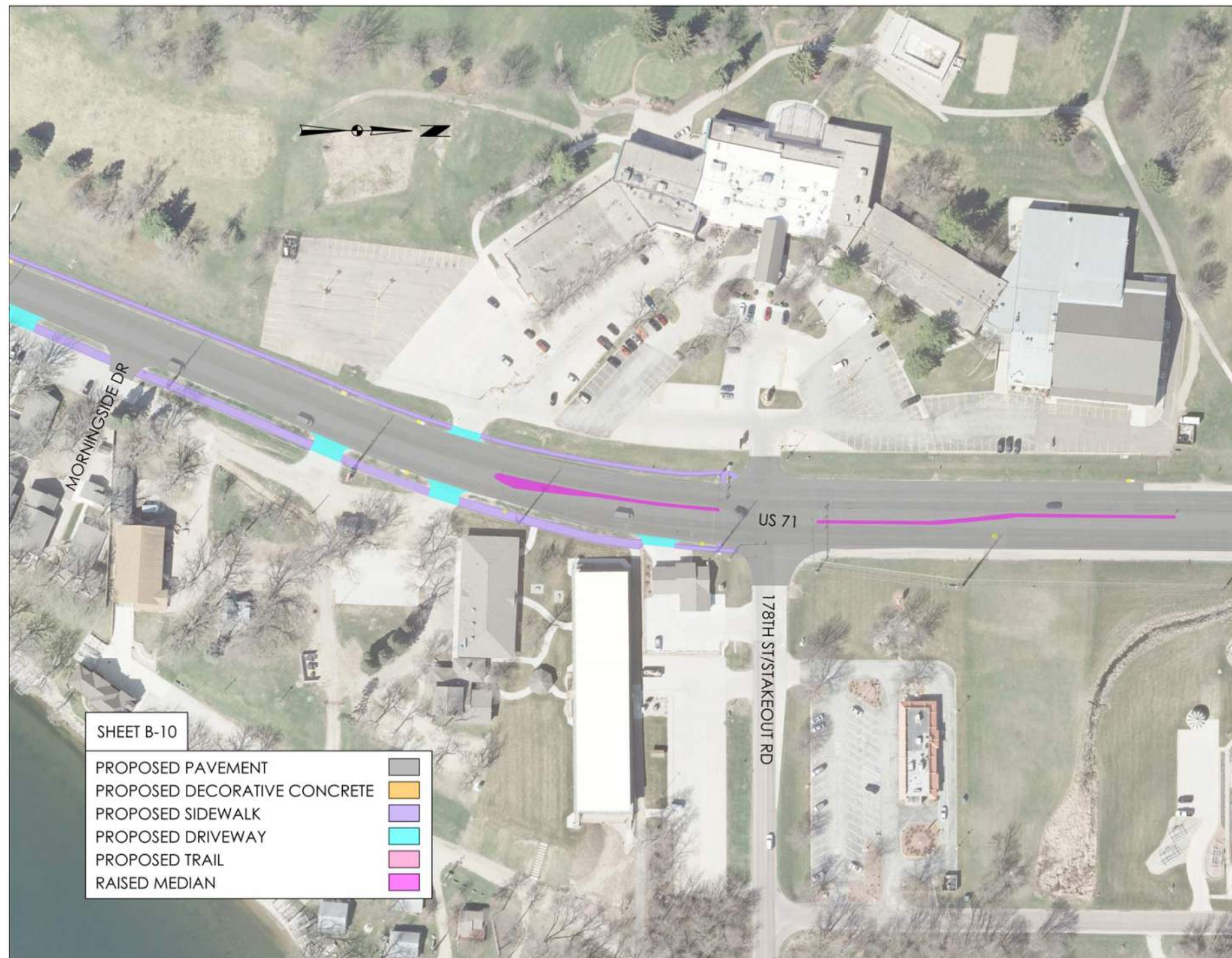






SHEET B-8	
PROPOSED PAVEMENT	Grey
PROPOSED DECORATIVE CONCRETE	Orange
PROPOSED SIDEWALK	Purple
PROPOSED DRIVEWAY	Cyan
PROPOSED TRAIL	Pink



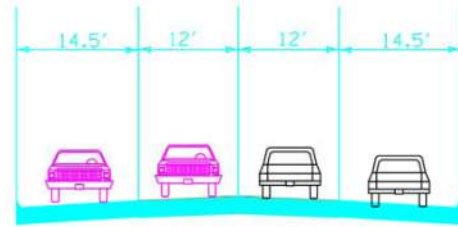


SHEET B-10

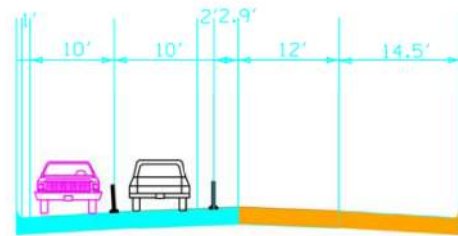
PROPOSED PAVEMENT	Grey
PROPOSED DECORATIVE CONCRETE	Yellow
PROPOSED SIDEWALK	Purple
PROPOSED DRIVEWAY	Cyan
PROPOSED TRAIL	Pink
RAISED MEDIAN	Magenta



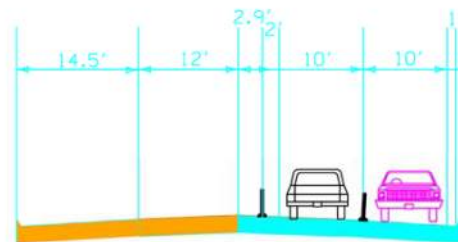
Staging Typical Section Okoboji Grove Road to Lake Street



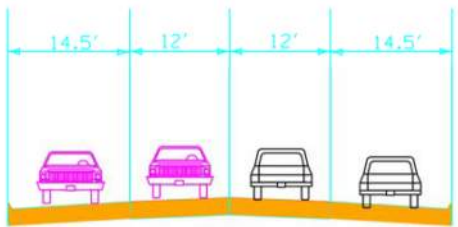
Existing Typical Section



STAGE 1



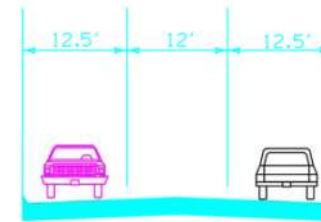
STAGE 2



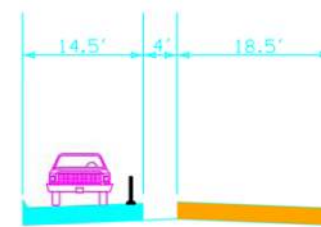
Final Typical Section

Note: Cross section may differ slightly from what is shown above

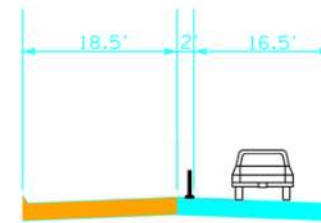
Staging Typical Section Lake Street to Stakeout Road



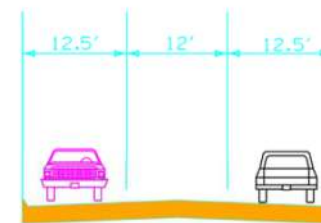
Existing Typical Section



STAGE 1



STAGE 2

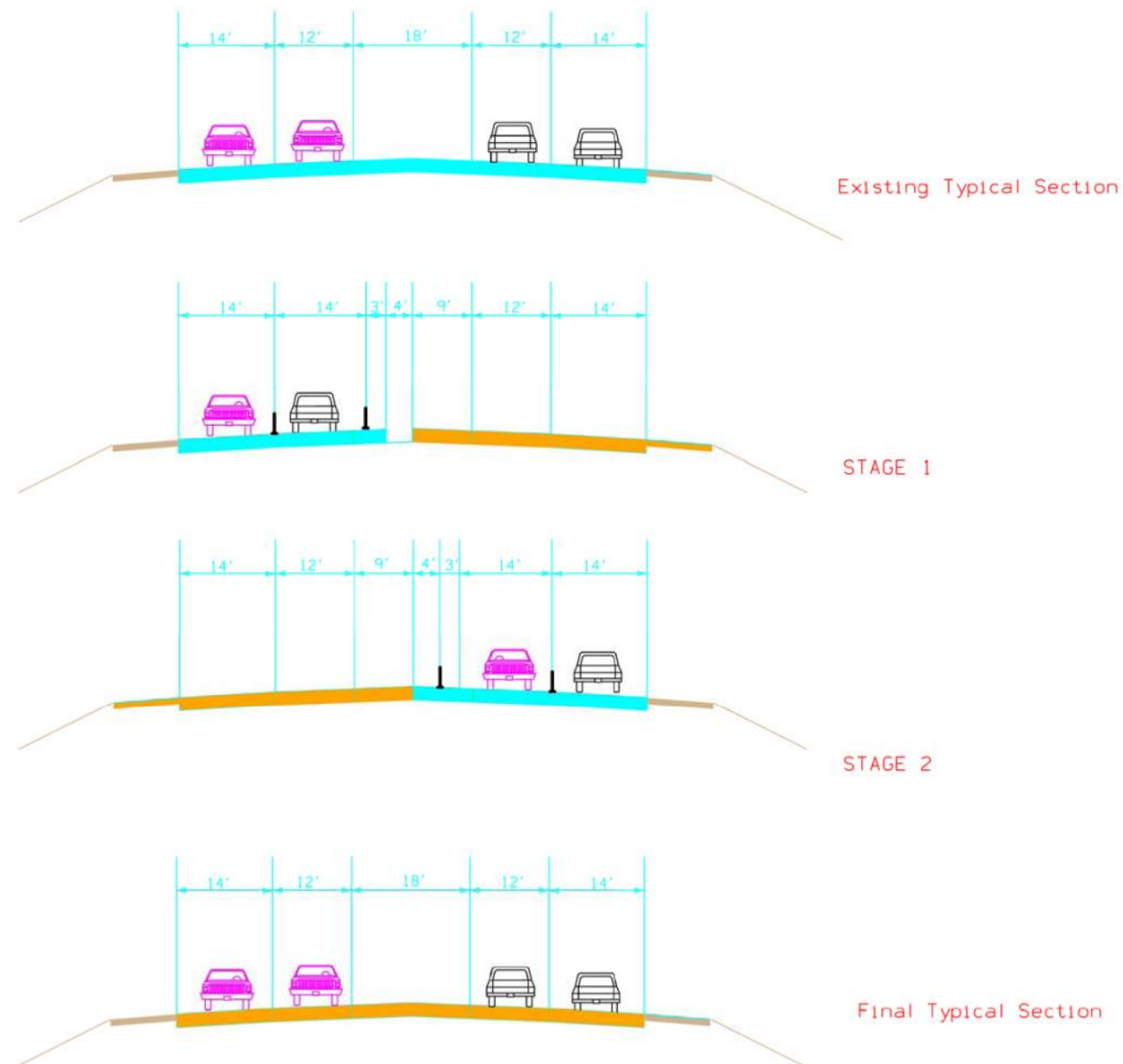


Final Typical Section

Note: Cross section may differ slightly from what is shown above

Utilities

Staging Typical Section
Stakeout Road to East View Avenue



Note: Cross section may differ slightly from what is shown above

Alliant Energy
ATTN: Marc Rush
1301 20th Street
Box: AJ
Spirit Lake, IA 51360

Arnolds Park, City of
ATTN: Ron Walker
156 North Hwy 71
Box 437
Arnolds Park, IA 51331-0437

Black Hills Energy
ATTN: Nick Gardner
1815 Capitol Avenue
Omaha, NE 68102

CenturyLink
ATTN: Carroll Wheaton
390 Commerce Drive
Woodbury, MN 55125-0000

MediaCom
ATTN: Jeff Anfinson
1721 N Hwy Blvd.
Spencer, IA 51301

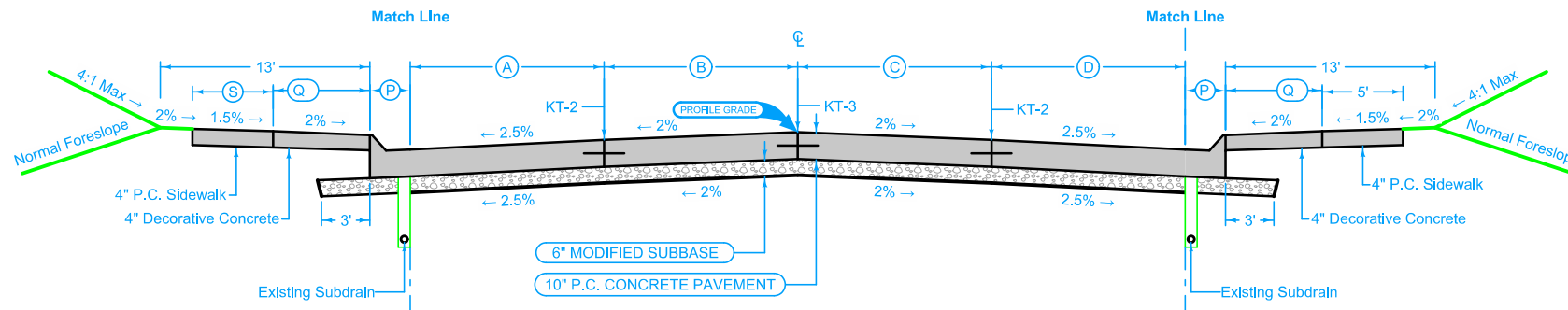
Milford Cable
ATTN: Matt Plagman
806 Okoboji Avenue
Box: 163
Milford, IA 51351-1641

Curbed Shoulder

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

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

2_Curb_ Modified 04-21-20					
STATION TO STATION	(S) Feet	(Q) Feet	(P) Feet	Curb Type See PV-102	
208+66.00	226+59.06	5	Varies	2.5	6" Standard
229+30.75	234+21.70	10	Varies	2.5	6" Standard



Mainline Jointing:
Transverse joints: CD at 17' spacing

4UP_ Modified 04-21-20					
STATION TO STATION	(A) Feet	(B) Feet	(C) Feet	(D) Feet	
207+64.00	208+59.00	12.0	12.0	12.0	21.5-12.0
208+59.00	229+30.75	12.0	12.0	12.0	12.0
229+30.75	230+62.17	10.0	12.0	12.0	12.0
230+62.17	232+61.80	10.0 - 0.0	12.0 - 18.67	12.0 - 15.33	12.0 - 4.25
232+61.80	233+70.51	0.0	18.67 - 16.0	15.33 - 16.0	4.25 - 0.0
233+70.51	234+21.70	0.0	16.0	16.0	0.0

Curbed Shoulder

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

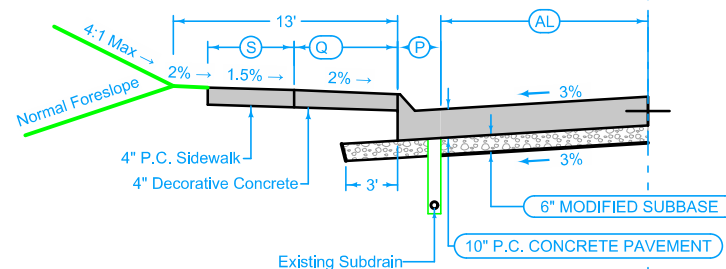
Single pour: L-2
Staged : KT-2
Transverse: C at 17' spacing

2_Curb_ Modified 04-21-20					
STATION TO STATION	(Q) Feet	(P) Feet	Curb Type See PV-102		
207+64.00	234+21.70	Varies	2.5	6" Standard	

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

4_AuxLane_PCC_ Modified 10-18-16			
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
SB	227+72.26	228+70.75	10.0
SB	228+70.75	229+30.75	10.0 - 0.0



Curbed Shoulder

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

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

2_Curb_ Modified 04-21-20					
STATION TO STATION	(S) Feet	(Q) Feet	(P) Feet	Curb Type See PV-102	
227+72.26	229+30.75	10	Varies	2.5	6" Standard

See Tab 100-24 or 100-25 for pavement quantities.

US-71

Curbed Shoulder

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

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

2_Curb_ Modified 04-21-20					
STATION TO STATION	(S) Feet	(Q*) Feet	(P) Feet	Curb Type	See PV-102
234+21.70	235+15.42	10	Varies	2.5	6" Standard
236+20.94	236+69.88	5	Varies	2.5	6" Standard
238+02.8.3	239+99.51	5	Varies	2.5	6" Standard
244+04.21	253+11.25	5	Varies	2.5	6" Standard
256+40.16	261+89.84	5	Varies	2.5	6" Standard
261+89.84	264+57.68	Varies	Varies	2.5	6" Standard
264+57.68	280+17.50	5	Varies	2.5	6" Standard
292+18.74	292+76.06	5	Varies*	2.5	6" Standard
299+93.98	309+78.93	5	Varies*	2.5	6" Standard
313+32.82	319+33.00	5	Varies*	2.5	6" Standard

* Decorative Concrete Surface Ends at Sta. 279+25

Curbed Shoulder, Sidewalk and Retaining Wall

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

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

2_Curb_ Modified 04-21-20						
STATION TO STATION	(X) Feet	(S) Feet	(Q) Feet	(P) Feet	Curb Type	See PV-102
292+76.06	294+53.22	2	6	Varies	2.5	6" Standard
295+45.08	299+93.98	2	6	Varies	2.5	6" Standard

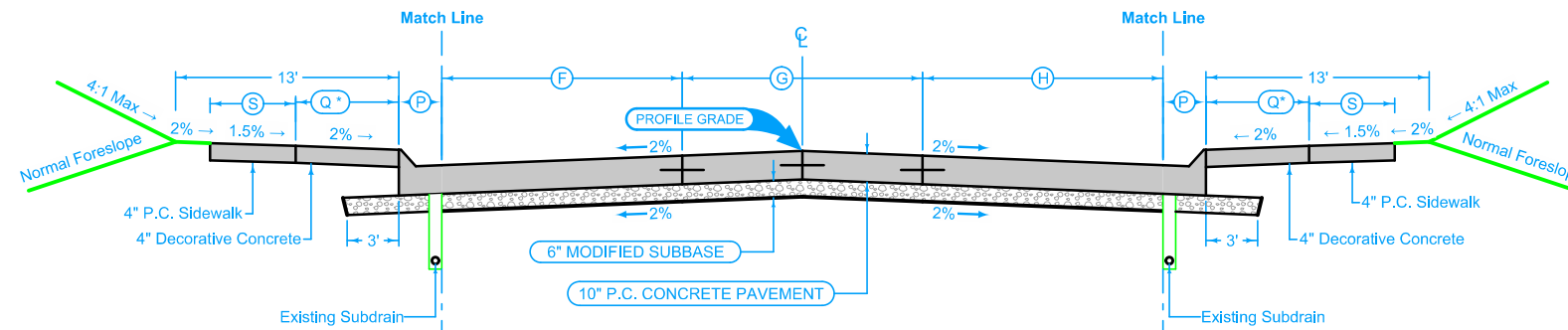
Sidewalk and Retaining Wall

STATION TO STATION	(S) Feet	
236+69.88	238+02.83	5
239+99.51	244+04.21	5

Existing Concrete Barrier

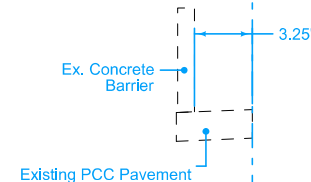
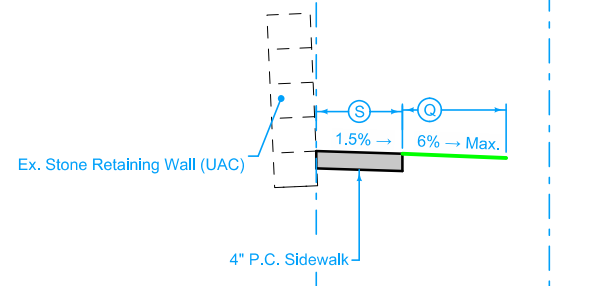
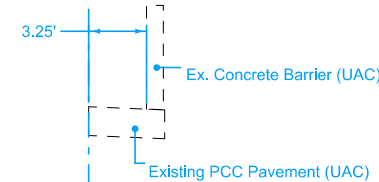
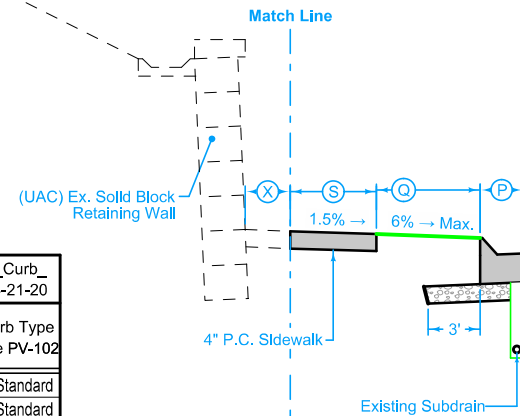
Longitudinal joint: L or KT
Transverse joint: Match Mainline

2_AuxLane_PCC_ Modified 10-18-16		
STATION TO STATION	(TL) Feet	
280+17.50	290+61.24	
BRIDGE		
291+26.91	292+18.74	



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

2P_TWLTL_ Modified 04-21-20					
STATION TO STATION	(F) Feet	(G) Feet	(H) Feet		
234+21.70	238+75.65	10.0	12.0	10.0	
238+75.65	240+91.61	10.0	12.0	12.5	
240+91.61	241+30.74	10.0	12.0	14.0 - 10.0	
241+30.74	277+61.03	10.0	12.0	10.0	
277+61.03	277+99.33	10.0	12.0	10.0 - 14.0	
277+99.33	279+83.40	10.0	12.0	12.5	
279+83.40	280+17.50	10.0 - 14.0	12.0	12.5	
280+17.50	282+17.50	12.5	12.0	12.5	
282+17.27	282+58.75	12.5	12.0	14.0 - 10.0	
282+58.75	287+07.75	12.5	12.0	10.0	
287+07.75	287+56.25	12.5	12.0	10.0 - 13.75	
287+56.25	290+61.24	12.5	12.0	12.5	
BRIDGE					
291+26.91	292+18.74	12.5	12.0	12.5	
292+18.74	292+46.62	14.0 - 12.0	12.0	14.5 - 12.0	
292+46.62	319+33.00	12.0	12.0	12.0	



Curbed Shoulder

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

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

2_Curb_ Modified 04-21-20					
STATION TO STATION	(S) Feet	(Q*) Feet	(P) Feet	Curb Type	See PV-102
234+21.70	238+75.65	5	Varies	2.5	6" Standard
240+91.61	249+22.00	5	Varies	2.5	6" Standard
250+36.31	277+99.33	10	Varies	2.5	6" Standard
282+17.27	287+56.25	0	Varies*	2.5	6" Standard
292+18.74	292+70.94	0	Varies*	2.5	6" Standard
292+70.94	319+33.00	5	Varies*	2.5	6" Standard

* Decorative Concrete Surface Ends at Sta. 276+80

Existing Concrete Barrier

Longitudinal joint: L or KT
Transverse joint: Match Mainline

2_AuxLane_PCC_ Modified 10-18-16		
STATION TO STATION	(TL) Feet	
238+75.65	240+91.61	
277+99.33	282+17.27	
287+56.25	290+61.24	
BRIDGE		
291+26.91	292+18.74	

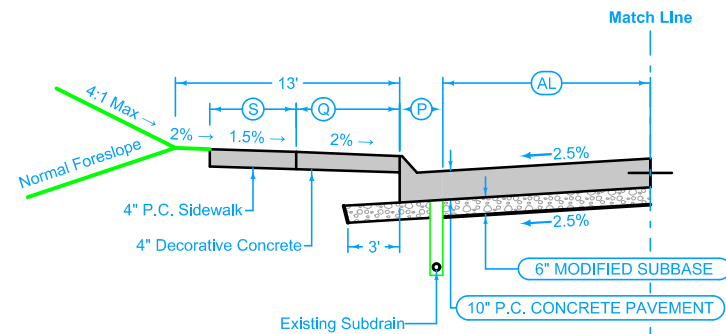
See Tab 100-24 or 100-25 for pavement quantities.

US-71

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

4_AuxLane_PCC_ Modified 10-18-16			
Direction Travel	BEGIN STATION	END STATION	AL Feet
SB	254+35.16	255+80.16	10.0
SB	255+80.16	256+40.16	10.0 - 0.0
SB	310+79.75	312+32.82	10.0
SB	312+32.82	313+32.82	10.0 - 0.0



Curbed Shoulder

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

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

2_Curb_ Modified 04-21-20					
STATION TO STATION		S Feet	Q Feet	P Feet	Curb Type See PV-102
254+35.16	256+40.16	5	Varies	2.5	6" Standard
310+79.75	313+32.82	5	Varies	2.5	6" Standard

Curbed Shoulder

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

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

2_Curb_ 04-21-20			
STATION TO STATION		P Feet	Curb Type See PV-102
319+33.00	326+15.00	2.5	6" Standard

Curbed Shoulder

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

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

2_Curb_ 04-21-20			
STATION TO STATION		P Feet	Curb Type See PV-102
319+33.00	326+15.00	2.5	6" Standard

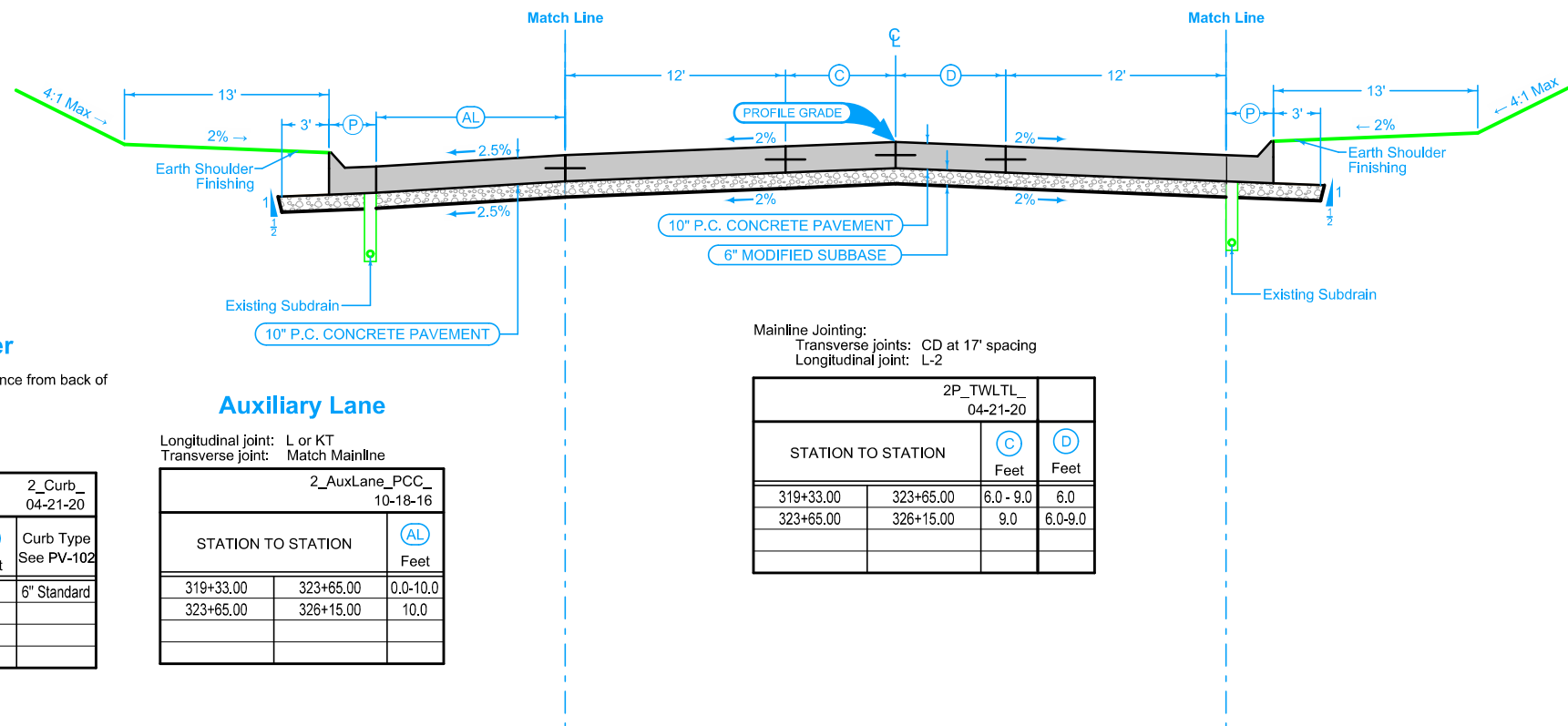
Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

2_AuxLane_PCC_ 10-18-16			
STATION TO STATION		AL Feet	
319+33.00	323+65.00	0.0-10.0	
323+65.00	326+15.00	10.0	

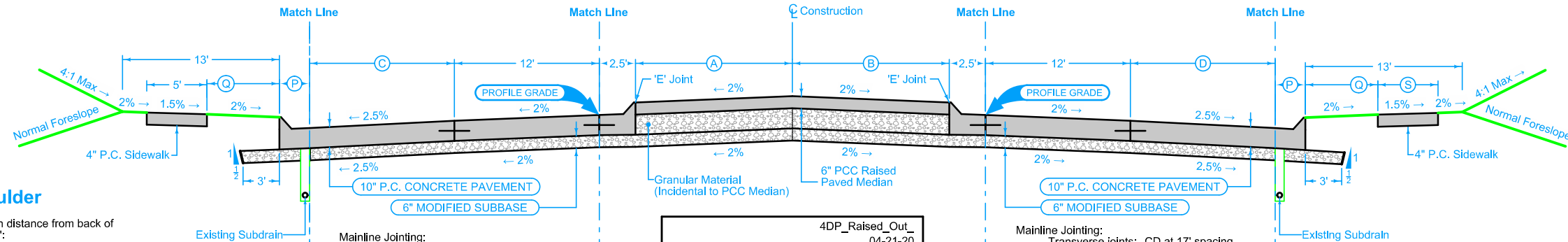
Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

2P_TWLTL_ 04-21-20			
STATION TO STATION		C Feet	D Feet
319+33.00	323+65.00	6.0 - 9.0	6.0
323+65.00	326+15.00	9.0	6.0-9.0



See Tab 100-24 or 100-25 for pavement quantities.

US-71

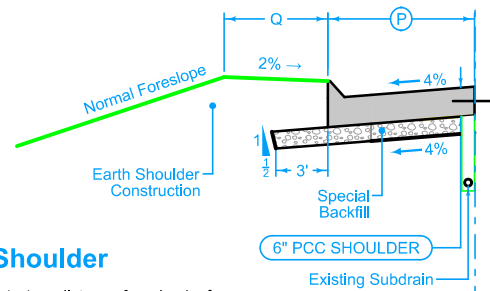


Curbed Shoulder

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

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

2_Curb_ Modified 04-21-20				
STATION TO STATION	Q Feet	P Feet	Curb Type See PV-102	
326+15.00	Varies	2.5	6" Standard	

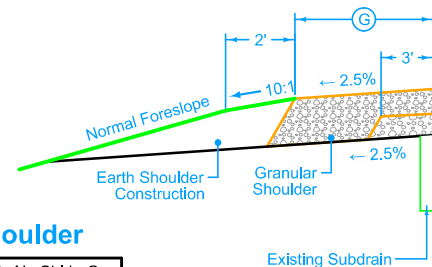


Curbed Shoulder

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

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

2_Curb_ Modified 04-21-20				
STATION TO STATION	Q Feet	P Feet	Curb Type See PV-102	
329+81.46	12	9	6" Sloped	



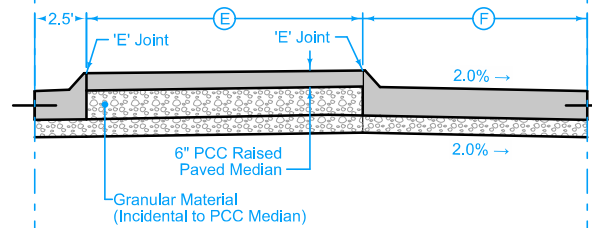
Granular Shoulder

4_AL_Shldr_G_ Modified 04-21-20	
STATION TO STATION	G Feet
333+75.15	8

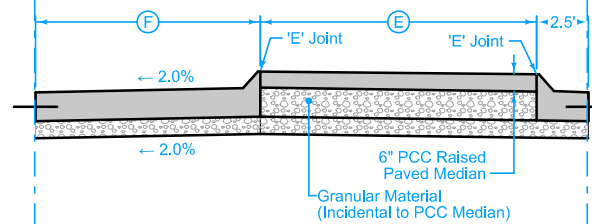
Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

BEGIN STATION	END STATION	C Feet
326+15.00	329+81.46	10.0
329+81.46	342+50.00	14.0

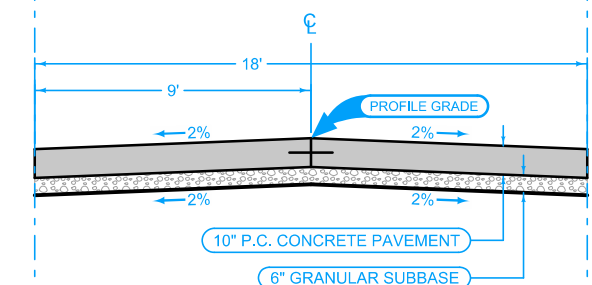
4DP_Raised_Out_ 04-21-20				
BEGIN STATION	END STATION	A Feet	B Feet	
326+15.00	326+46.04	6.5	0.0 - 6.5	



BEGIN STATION	END STATION	E Feet	F Feet
326+46.04	327+55.00	13.0 - 2.5	2.5 - 13.0
327+55.00	328+83.15	2.5	13.00
332+53.15	334+38.15	3.00	12.50



BEGIN STATION	END STATION	E Feet	F Feet
330+03.15	331+53.15	3.0	12.5
331+53.15	332+53.15	3.0	12.5 - 2.5



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

2P_ 04-21-20	
STATION TO STATION	
334+38.15	342+50.00

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

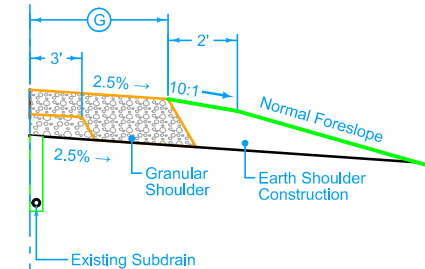
BEGIN STATION	END STATION	D Feet
326+15.00	326+34.28	0.0
326+34.28	327+39.28	0.0 - 10.5
327+39.28	330+15.22	10.5
330+15.22	342+50.00	14.0

Curbed Shoulder

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

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

2_Curb_ Modified 04-21-20				
STATION TO STATION	S Feet	Q Feet	P Feet	Curb Type See PV-102
326+15.00	327+87.41	10	Varies	6" Standard
327+87.41	327+99.80	10 - 5	Varies	2.5 6" Standard
327+99.80	329+91.98	5	Varies	2.5 6" Standard



Granular Shoulder

4_AL_Shldr_G_ Modified 04-21-20		
STATION TO STATION	G Feet	
329+91.98	342+50.00	8

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

SURVEY SYMBOLS

UTILITY LEGEND

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING	Design Color No.	
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Blue	(1)	Proposed Entrance Shading
Rust	(14)	Proposed Decorative Concrete Shading
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

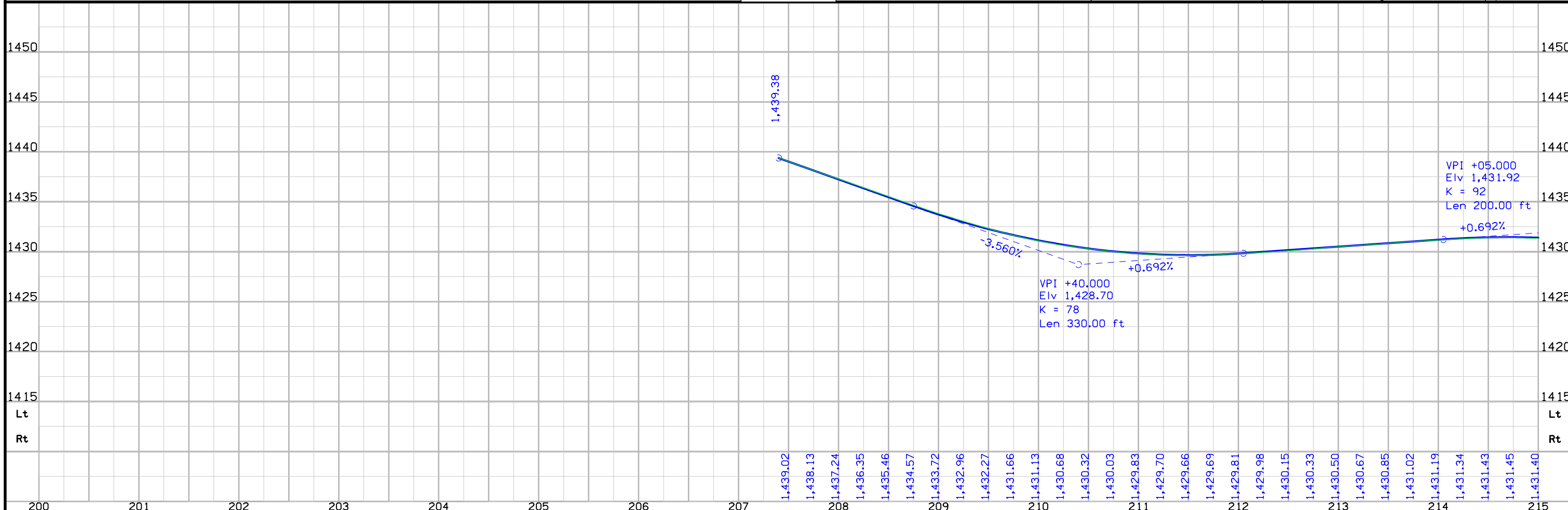
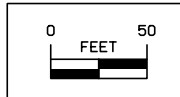
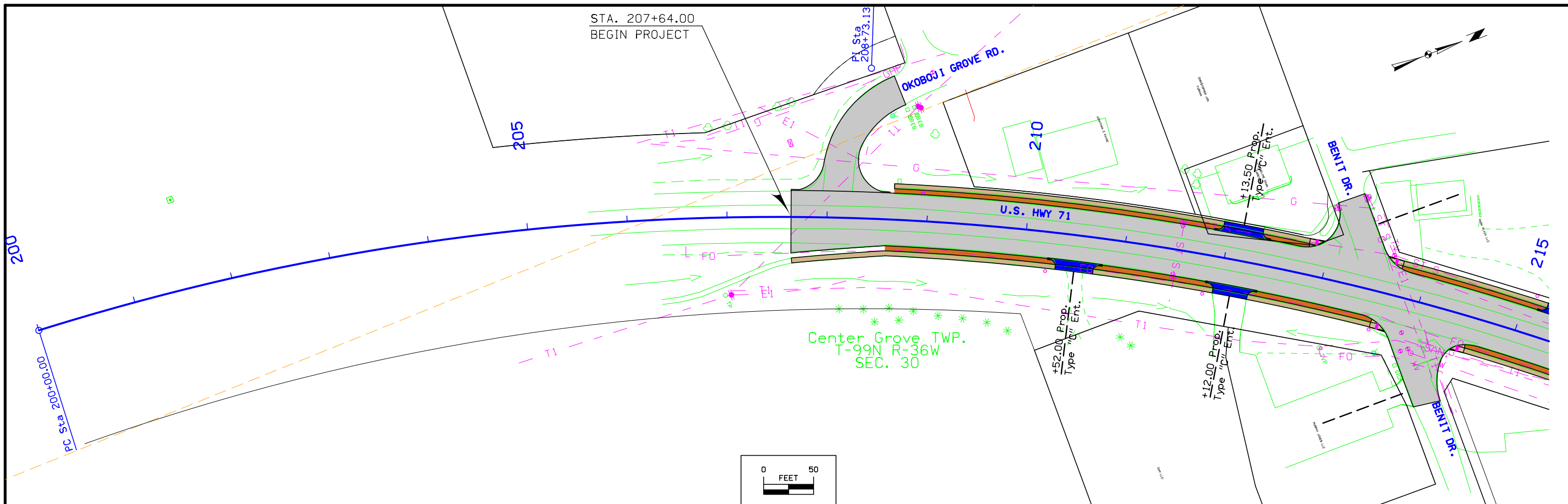
LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

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

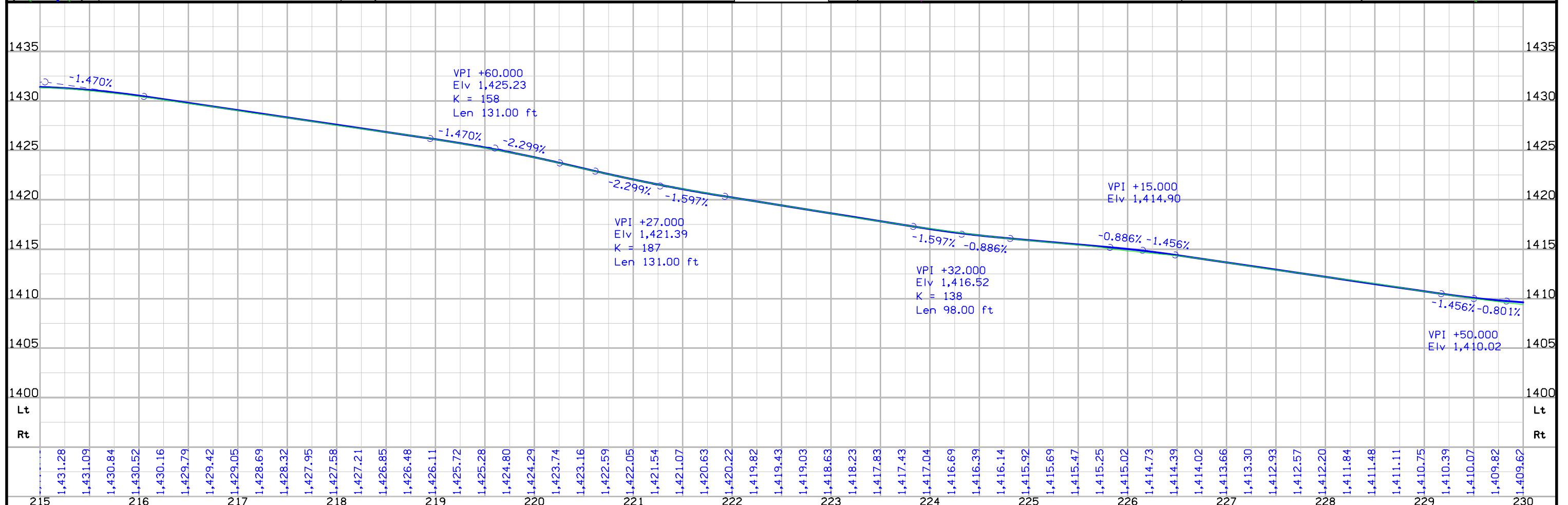
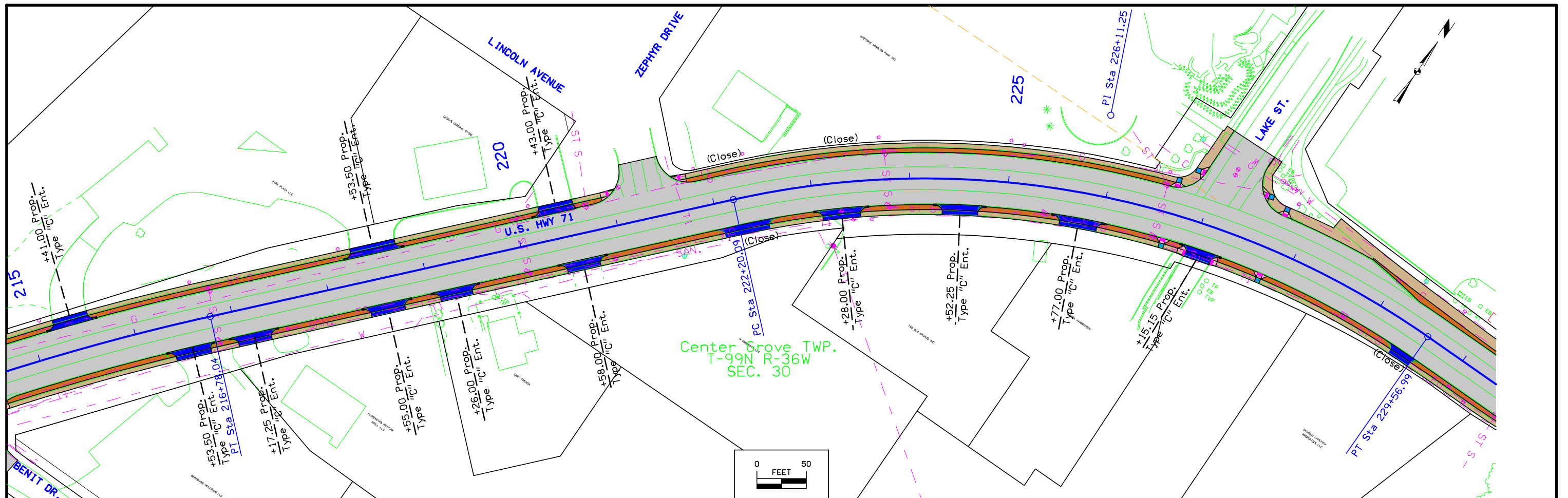
RIGHT-OF-WAY LEGEND	
	Proposed Right-of-Way
	Existing Right of Way
	Existing and Proposed Right-of-Way
	Easement and Existing Right-of-Way
	Easement (Temporary)
	Easement
	Access Control
	Property Line

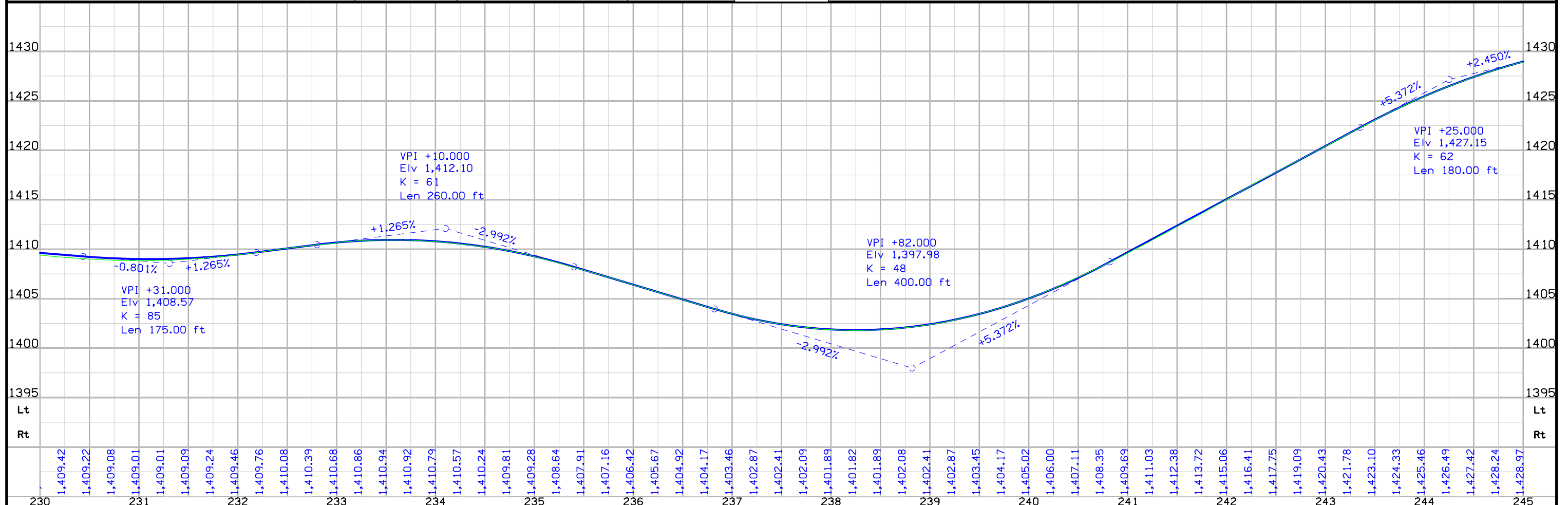
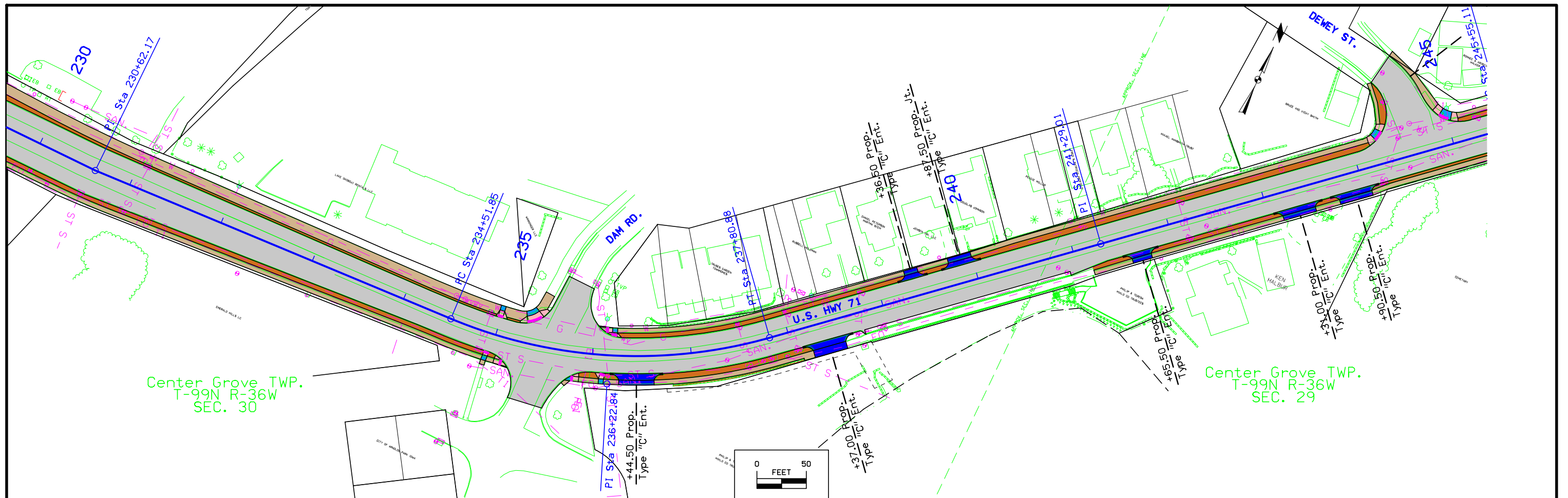
**PLAN AND PROFILE
LEGEND AND SYMBOL
INFORMATION SHEET**

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

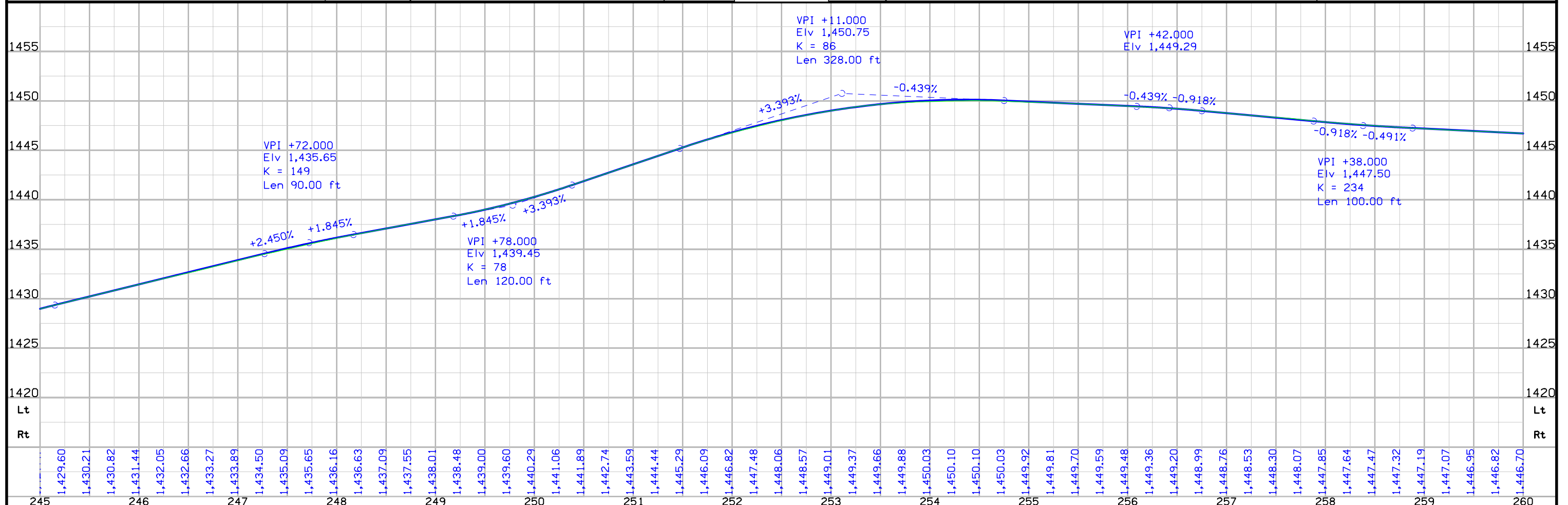
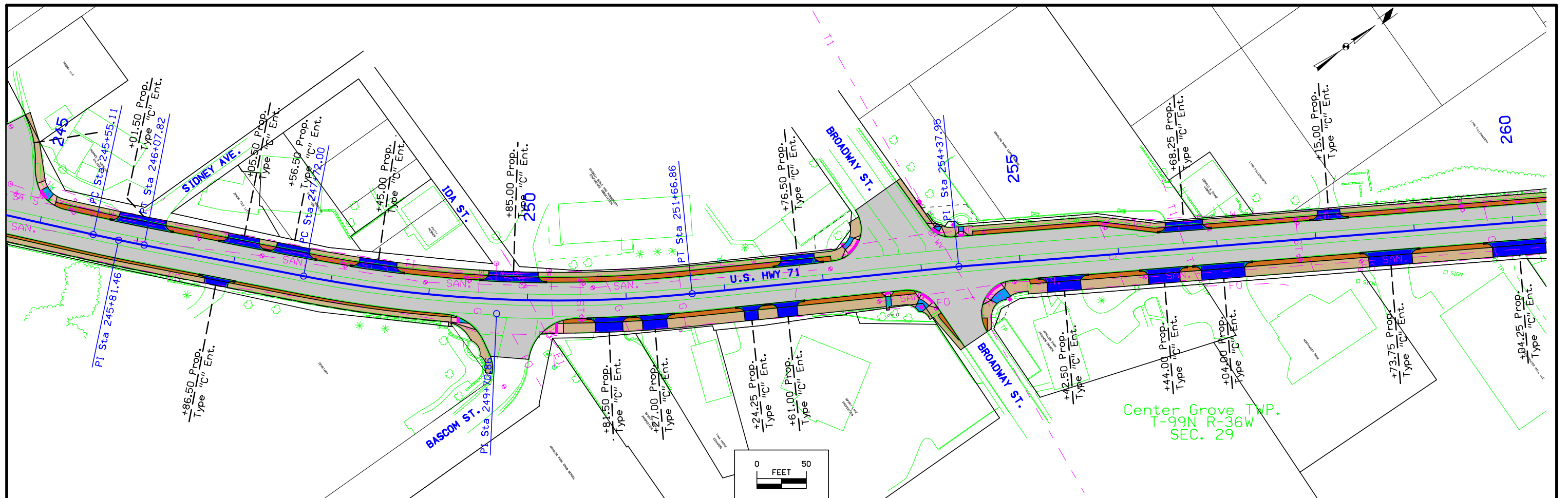


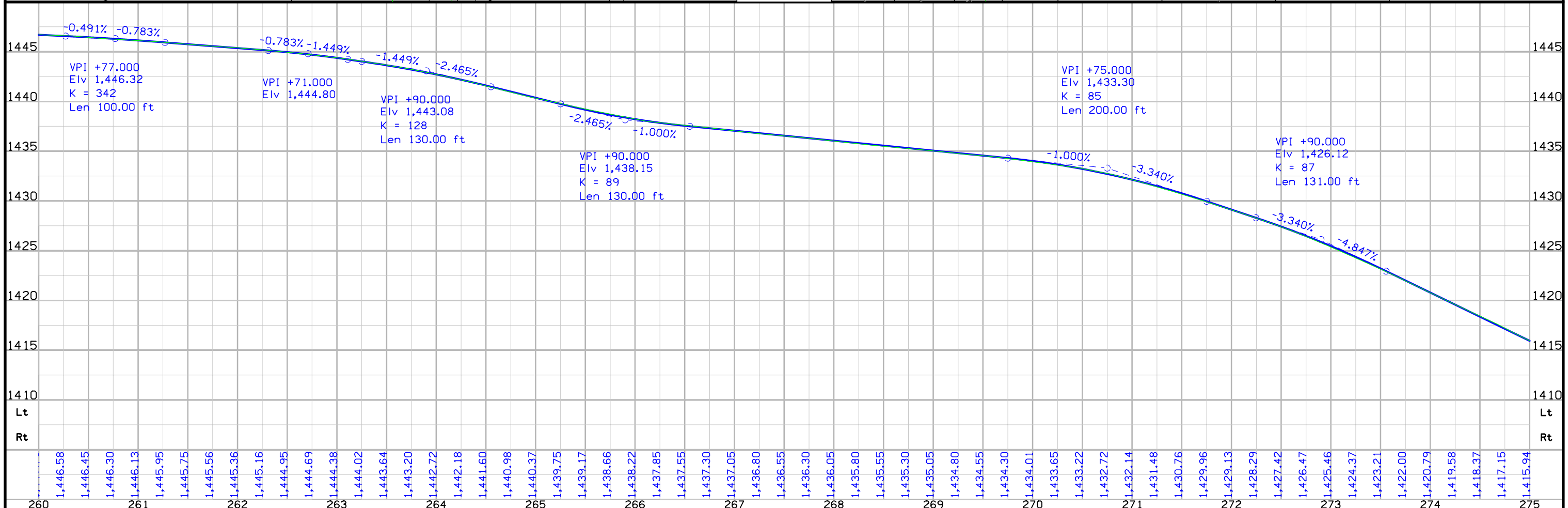
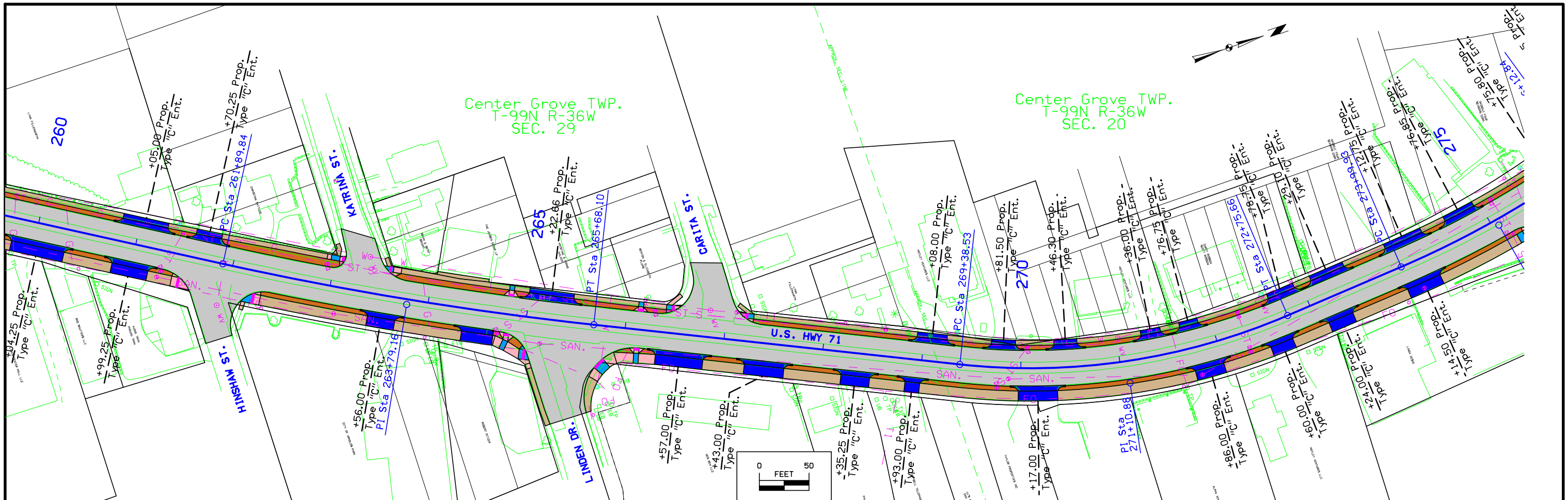
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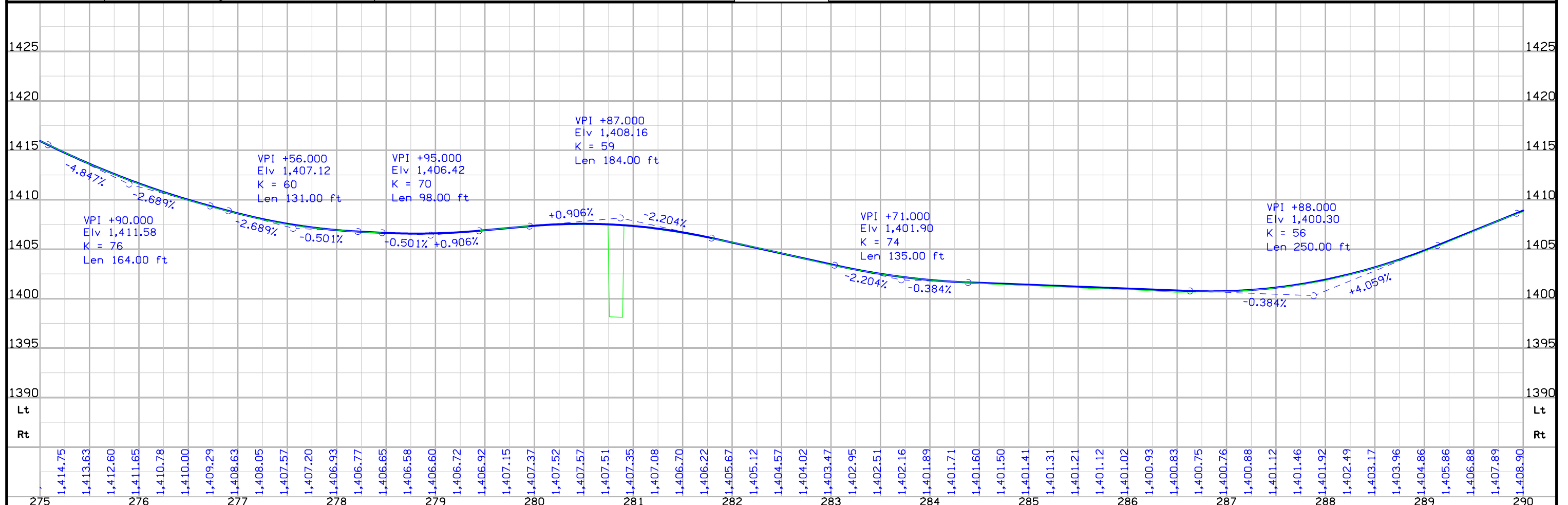
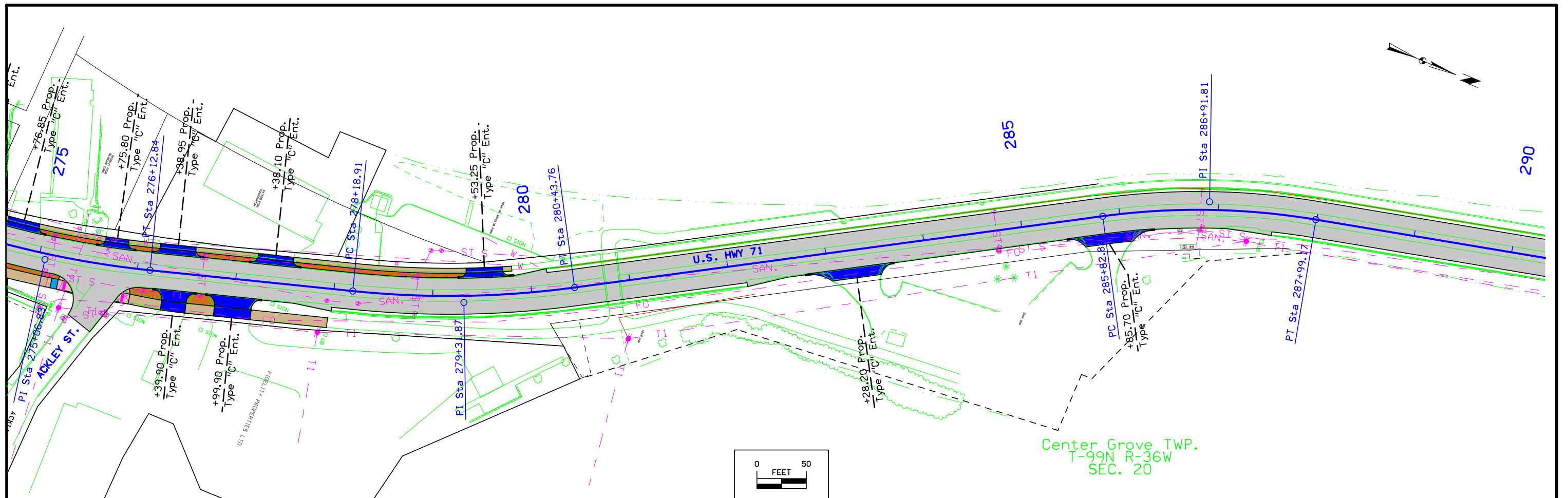


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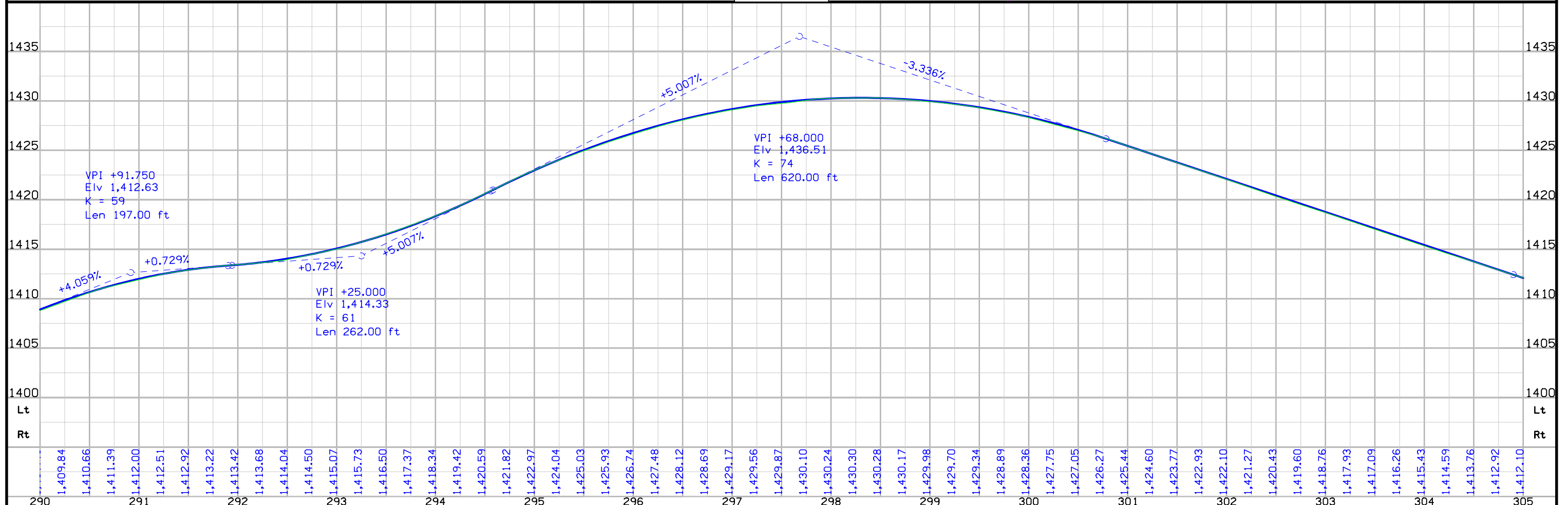
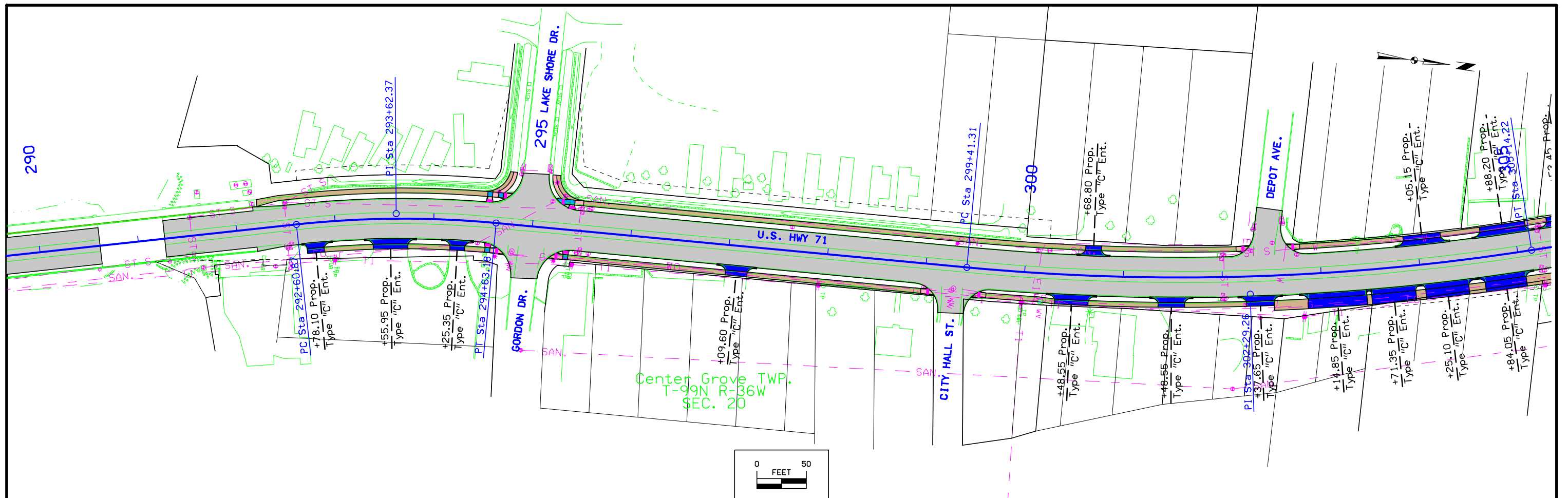


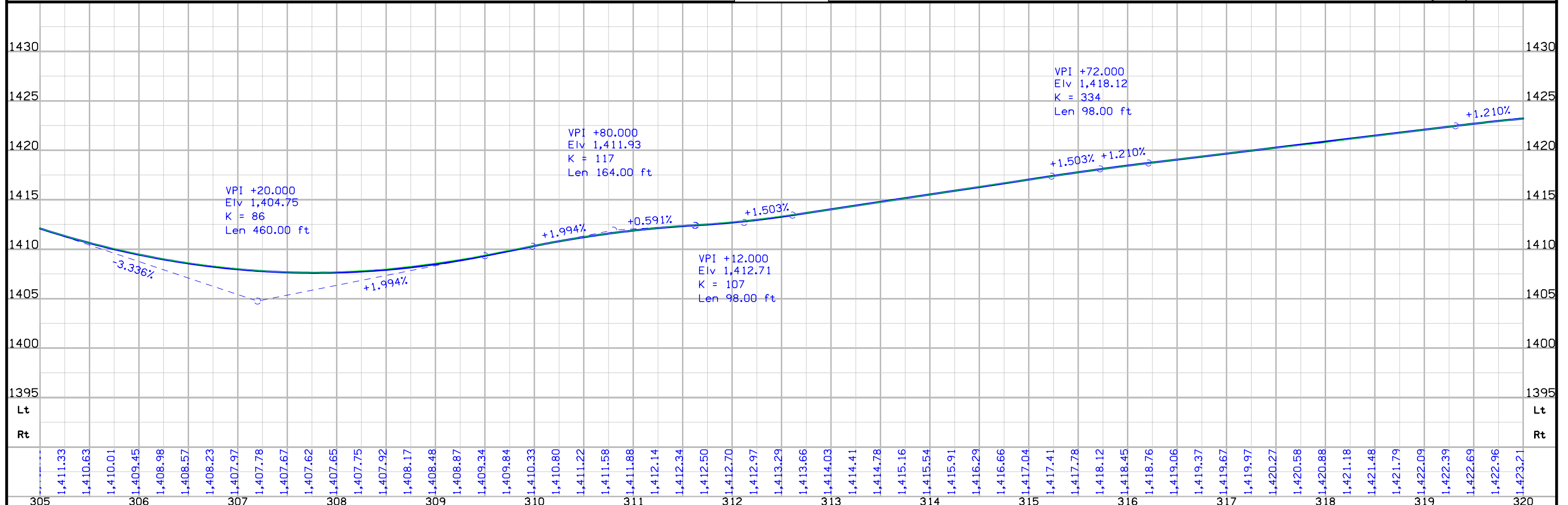
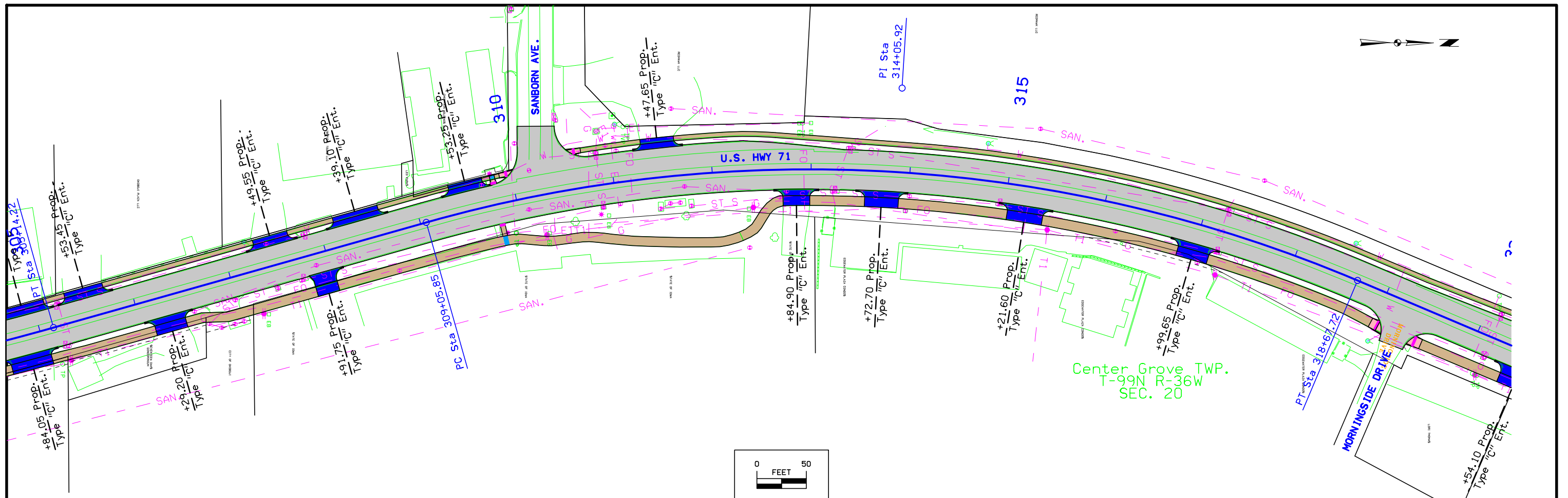


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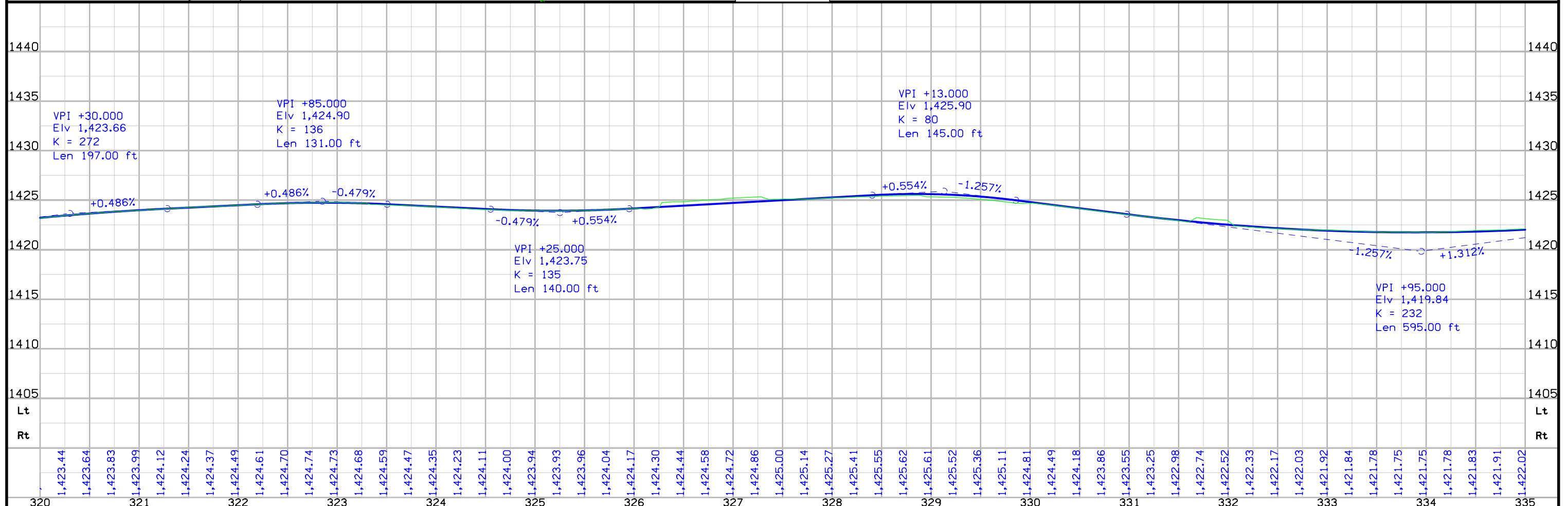
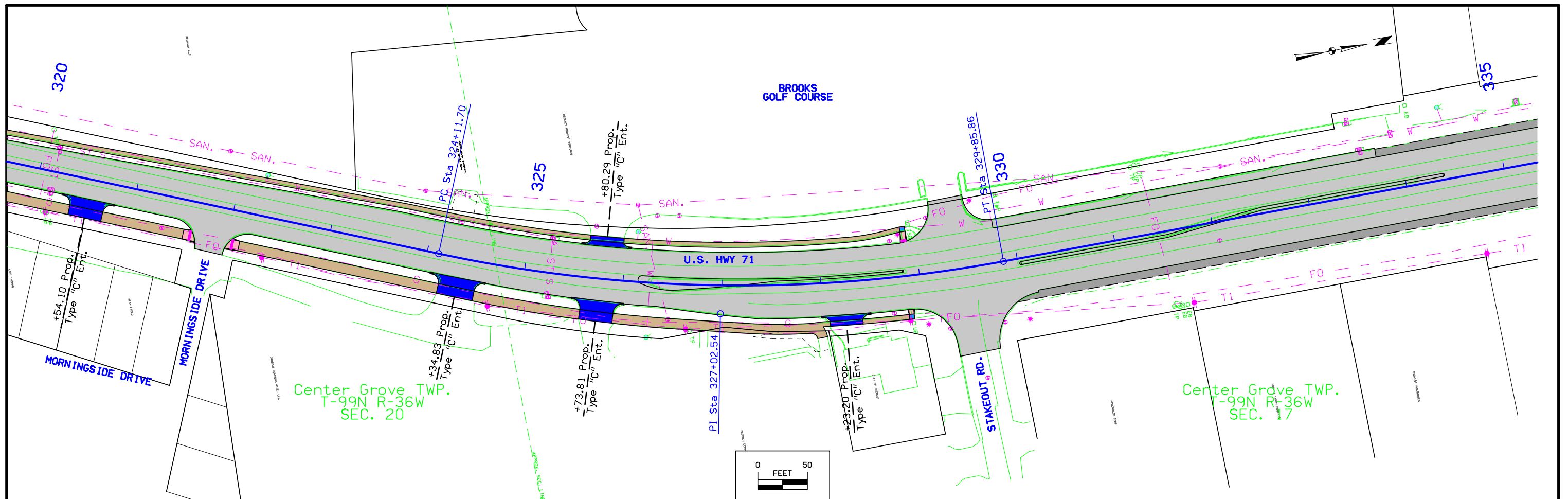


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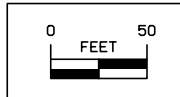
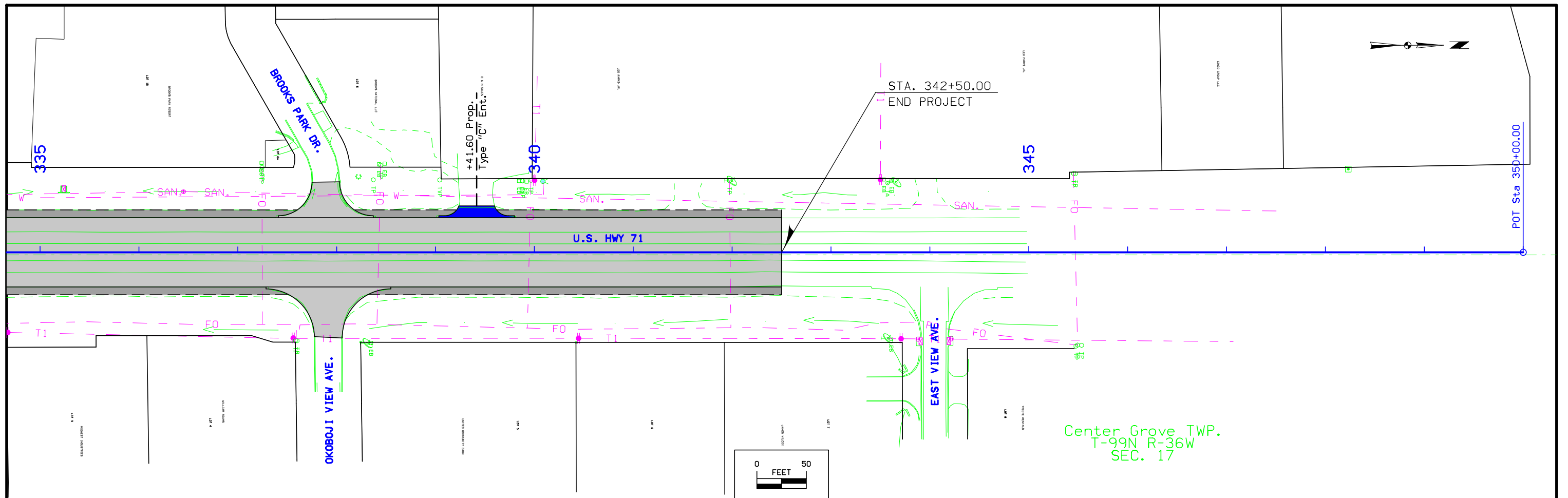




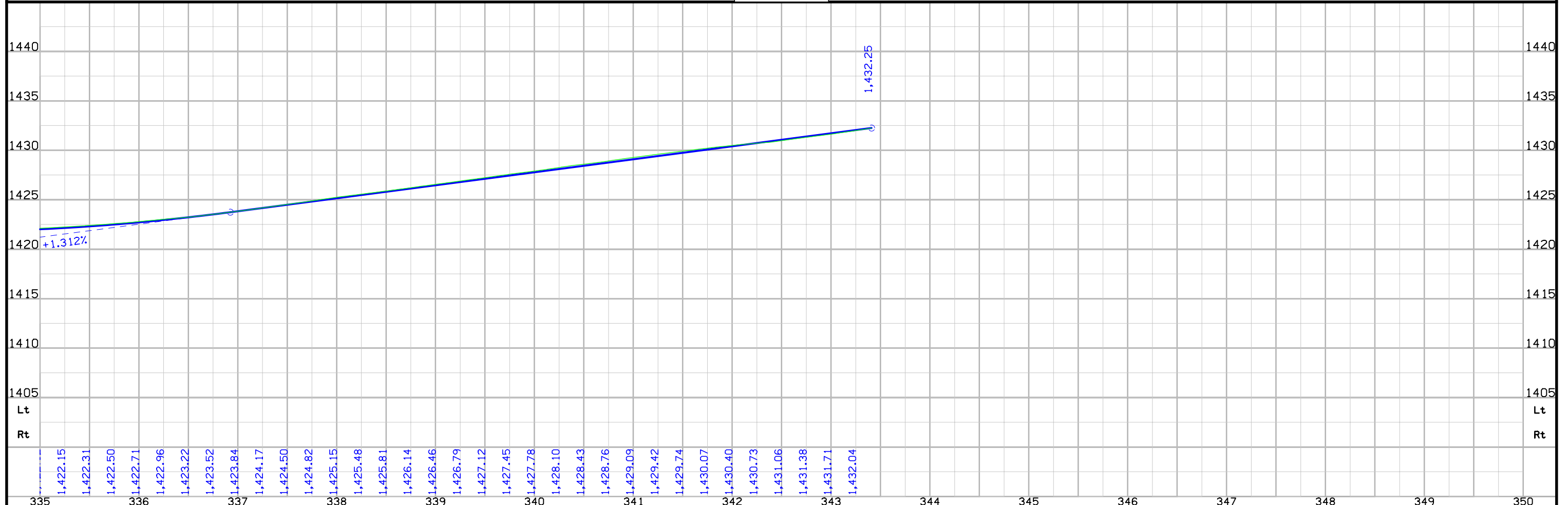
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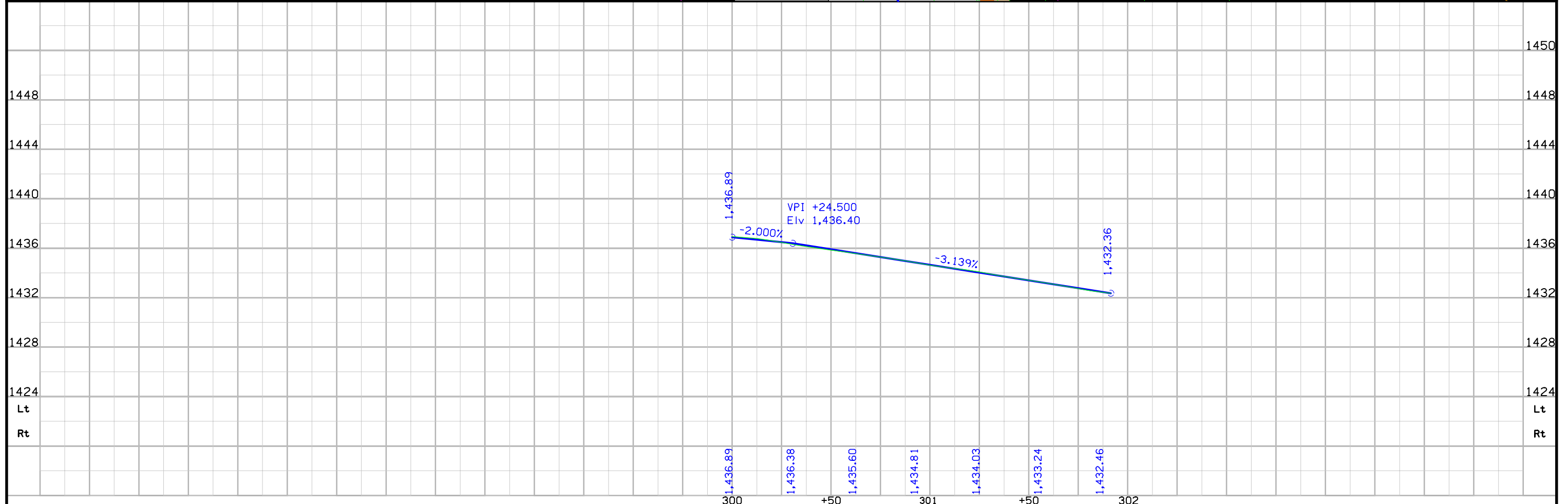
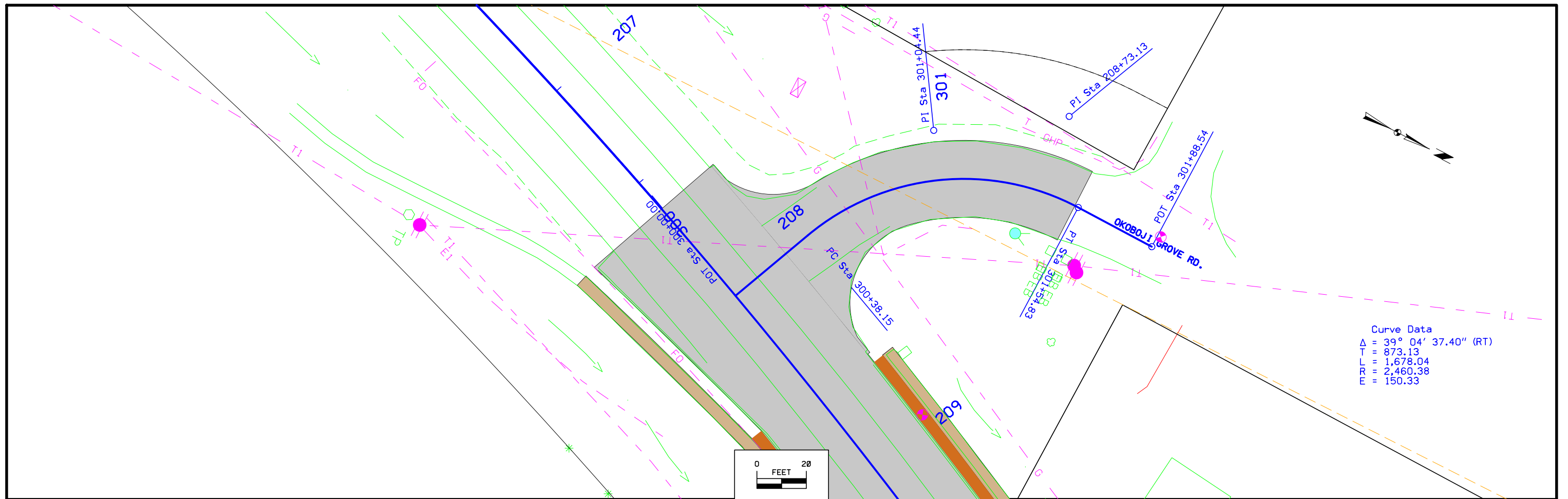


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Center Grove TWP.
T-99N R-36W
SEC. 17





TRAFFIC CONTROL PLAN

1. U.S. Hwy 71 traffic will be detoured to IA. 86 and IA. 9.
2. Traffic control on this project will be in accordance with Standard Road Plans and the "J" Sheets contained in the plans. For additional complimentary information refer to Part VI of the Manual on Uniform Traffic Control Devices and the current Standard Specifications and Special Provisions.
3. The Contractor shall coordinate traffic control with other projects in the area.
4. All traffic control devices shall be furnished, erected, maintained, and removed by the Contractor.
5. Where possible, all post mounted signs shall be placed at least 2.0 feet beyond the curb or edge of shoulder.
6. The location of storage equipment by the Contractor during non-working hours shall be as approved by the Engineer in charge of construction.
7. The Engineer may require modifications to the pavement marking details shown. Conflicting permanent edge lines, center lines, or lane lines shall be removed. As applicable, permanent edge lines, center lines, and lane lines shall be placed before the roadway is returned to normal traffic. the current Standard Specifications and Supplemental Specifications shall apply.
8. Proposed sign spacing may be modified as approved by the Engineer to meet existing field conditions or to prevent obstruction of the motorist's view of permanent signing.
9. Permanent signing that conveys a message contrary to the message of the temporary signing and not applicable to the working conditions shall be covered by the Contractor when directed by the Engineer.
10. Proposed changes in the traffic control plan shall be reviewed with the Office of Construction before changes are made.

STAGING NOTES

GENERAL NOTES

1. U.S. Hwy 71 traffic will be detoured to IA. 86/ IA. 9 during construction Stages 2 and 3.
2. A. The construction of Stages 1A, 1B, and 1C described below may be constructed independently or concurrently before Memorial Day 20XX and after Labor Day 20XX and before Memorial Day 20XX.
B. The construction of Stages 2, 3 and 4 shall be constructed after Labor Day 20XX and before Memorial Day 20XX.

LOCAL ACCESS

3. The Contractor shall at all times, accommodate LOCAL TRAFFIC (as well as local access) by providing, as a minimum, one 10 foot wide lane continuous roadway for the entire length of the project.

LOCAL TRAFFIC for this purpose is defined as:

- Emergency Vehicles
 - Law Enforcement (State Patrol, County Sheriff, City Police, DNR)
 - Fire Protection Equipment and Volunteer Fire Fighters
 - Amulances and First Responders
- School Bus Vehicles
- Public Transit Vehicles
- Official DOT, City, DNR, Contractor, and project material delivery vehicles
- Vehicles of Arnolds Park and Okoboji residents and businesses with a commercial interest

STAGING NOTES

STAGE 1A

Maintenance of Traffic

- A. Maintain local two-way traffic on existing U.S. Hwy 71.
- B. Close Okoboji Grove Road at U.S. 71 (South End).
- C. Close Benit Drive Lt., Benit Drive Rt. to remain open.
- D. Close Lake Street (South End).
- E. Close Dam Road Lt., Dam Road Rt. to remain open.
- F. Close Linden Drive.
- G. Close Lake Shore Drive Lt.
- H. Close Sanborn Avenue.

Construction

- A. Okoboji Grove Road intersection.
- B. Benit Drive intersection Lt.
- C. Lake Street intersection.
- D. Dam Road intersection Lt.
- E. Linden Drive intersection.
- F. Lake Shore Drive Lt.
- G. Sanborn Avenue and right turn lane on Southbound U.S. Hwy 71.

STAGE 1B

Maintenance of Traffic

- A. Maintain two-way local traffic on existing U.S. Hwy 71.
- B. Open Okoboji Grove Road to traffic.
- C. Open Benit Drive Lt. to traffic, close Benit Drive Rt. to a single lane.
- D. Open Lake Street to traffic.
- E. Open Dam Road Lt. to traffic, close Dam Road Rt.
- F. Close Broadway Street Lt. and Rt. (South Side) - Construct one half intersection at a time. Maintain two way traffic.
- G. Open Linden Drive to traffic.
- H. Open Lake Shore Drive to traffic, close Gordon Drive.
- I. Open Sanborn Avenue.

Construction

- A. Half of Benit Drive intersection Rt.
- B. Dam Road Rt.
- C. Broadway Street. Lt. and Rt. (South Side) - Construct one half intersection at a time. Maintain two way traffic.
- D. Gordon Drive.

STAGE 1C

Maintenance of Traffic

- A. Maintain local two-way traffic on existing U.S. Hwy 71.
- B. Switchtraffic on Benit Drive Rt.
- D. Open Dam Road Rt. to traffic.
- E. Open Broadway Street Lt. and Rt. (South Side) to traffic. Close Broadway Street Lt. and Rt. (North Side) Construct one half intersection at a time. Maintain two way traffic.
- G. Open Gordon Drive to traffic.

Construction

- A. Broadway Street Lt. and Rt. (North Side) - Construct one half intersection at a time. Maintain two way traffic.
- B. Open Broadway Street Lt. and Rt. (North Side) to traffic upon completion.

STAGE 2

SEGMENT 1 - BEGINNING OF PROJECT TO LAKE STREET

Maintenance of Traffic

- A. Maintain two way traffic on existing southbound lanes along U.S. Hwy 71.

Construction

- A. Mainline - Outside northbound lane to Lake Street. Sidewalks Rt.

SEGMENT 2 - LAKE STREET TO SANBORN AVENUE

Maintenance of Traffic

- A. Maintain southbound one-way traffic on existing southbound lane along U.S. Hwy 71.

Construction

- A. Mainline - Outside northbound lane and half of the center lane to Sanborn Avenue. Sidewalks Rt.

SEGMENT 3 - SANBORN AVENUE TO END OF PROJECT

Maintenance of Traffic

- A. Maintain two way traffic on existing southbound and center turn lanes along U.S. Hwy 71.

Construction

- A. Mainline - Outside northbound lane and shoulders to end of project. Sidewalks Rt.

STAGING NOTES

STAGE 3

SEGMENT 1 - BEGINNING OF PROJECT TO LAKE STREET

Maintenance of Traffic

A. Maintain two way traffic on newly constructed northbound lanes along U.S. Hwy 71.

Construction

A. Mainline - Outside southbound lanes to Lake Street. Sidewalks Lt.

SEGMENT 2 - LAKE STREET TO SANBORN AVENUE

Maintenance of Traffic

A. Maintain southbound one-way traffic on newly constructed northbound and half of the center turn lanes along U.S. Hwy 71.

Construction

A. Mainline - Outside southbound lane, and half of the center lane to Sanborn Avenue. Sidewalks Lt.

SEGMENT 3 - SANBORN AVENUE TO END OF PROJECT

Maintenance of Traffic

A. Maintain two way traffic on newly constructed northbound and existing center turn lane along U.S. Hwy 71.

Construction

A. Mainline - Outside southbound lane to end of project.

STAGE 4

SEGMENT 3 - SANBORN AVENUE TO END OF PROJECT

Maintenance of Traffic

A. Maintain two way traffic on newly constructed northbound and southbound lanes along U.S. Hwy 71.










Construction

A. Mainline - Remaining center lane and median paving from Sanborn Avenue to Stakeout Road.

CROSS SECTION VIEW COLOR LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS





















	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

PLAN VIEW PATTERN AND SYMBOL LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS

	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL
AND
STAGING
LEGEND AND SYMBOL
INFORMATION SHEET

(COVERS SHEET SERIES J)

DETOUR NOTES

As a part of the U.S. Highway 71

Refer to Traffic Control Plan for additional information.

The bid item for Traffic Control will be considered full compensation for installing, covering and uncovering signs required for the detour. It is the Contractor's responsibility to set up, cover, uncover, and maintain all signs along the detour routes.

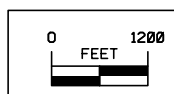
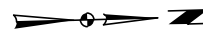
DETOUR SIGN TABULATION

No.	SIGN DESCRIPTION AND TYPE	QUANTITY	SIZE
TAB TO BE FILLED DURING FINAL DESIGN			



LEGEND

- Detour Route - U.S. Hwy. 71 (South)
- Detour Route - U.S. Hwy. 71 (North)
- Road Closure

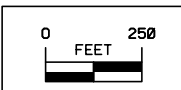
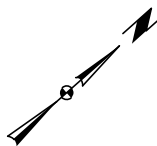


DETOURS AND
TRAFFIC CONTROL



LEGEND

- Detour Route - U.S. Hwy. 71 (South)
- Detour Route - U.S. Hwy. 71 (North)
- Road Closure

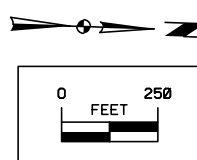


DETOURS AND TRAFFIC CONTROL

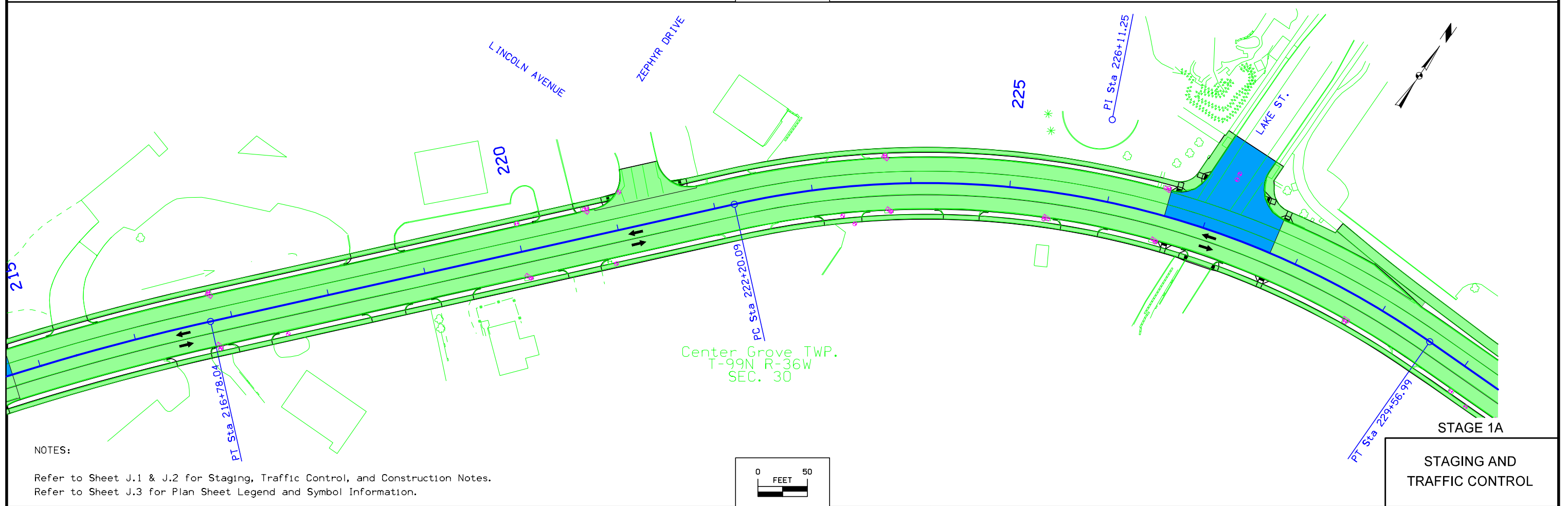
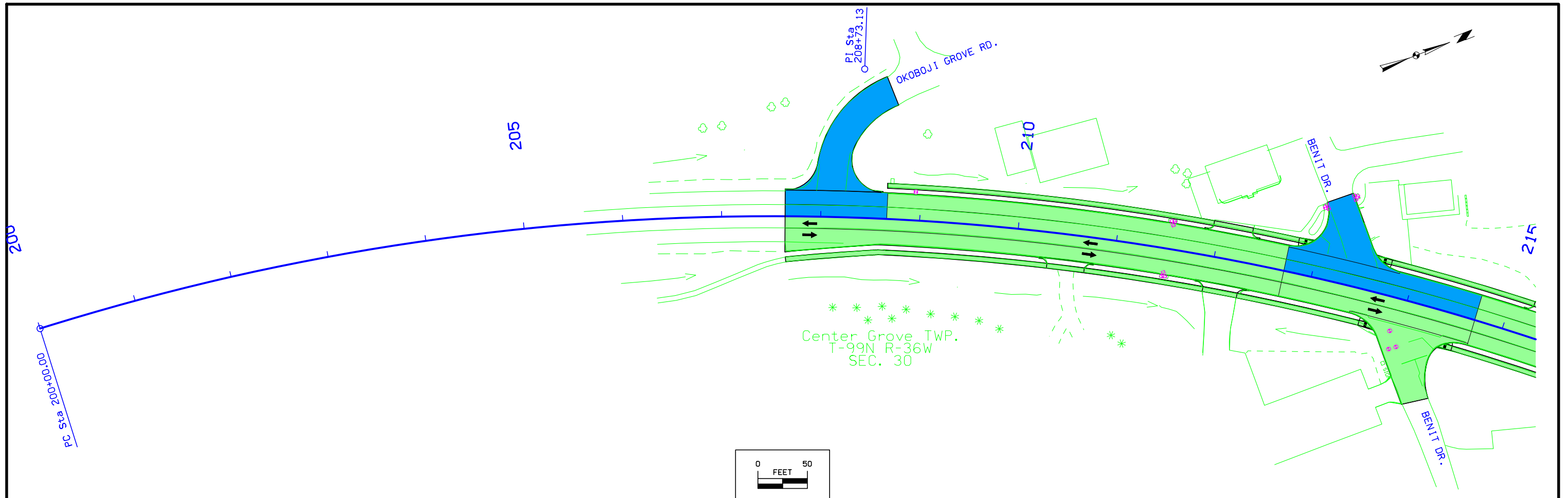


LEGEND

- Detour Route - U.S. Hwy. 71 (South)
- Detour Route - U.S. Hwy. 71 (North)
- Road Closure

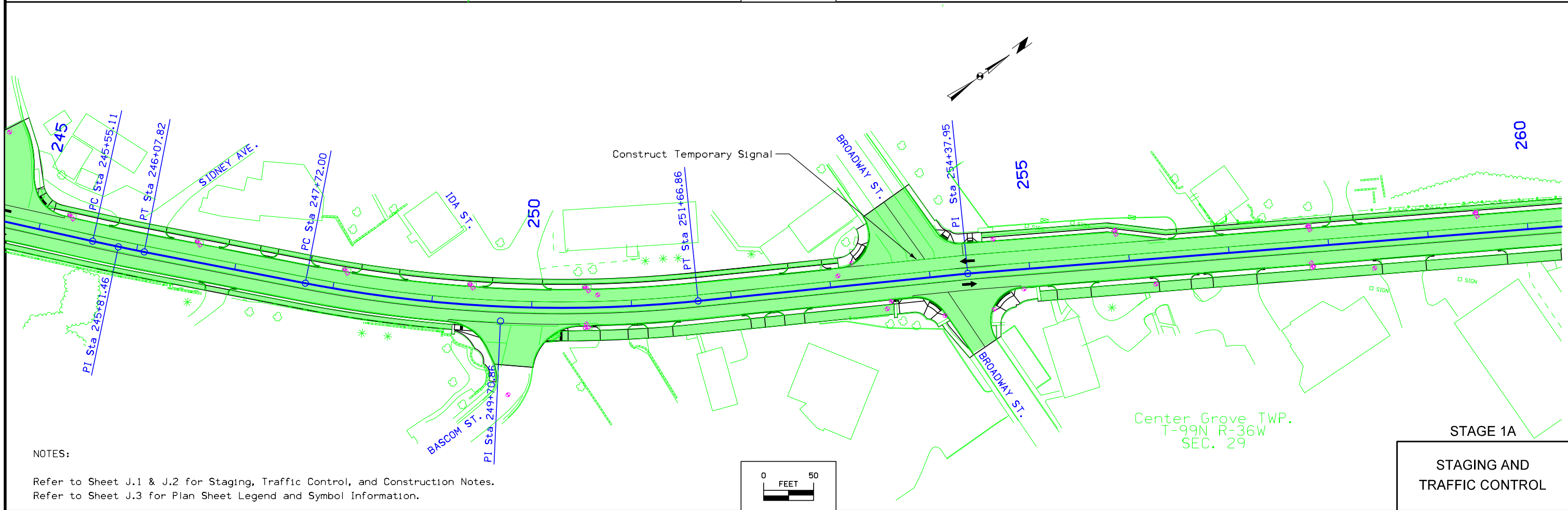
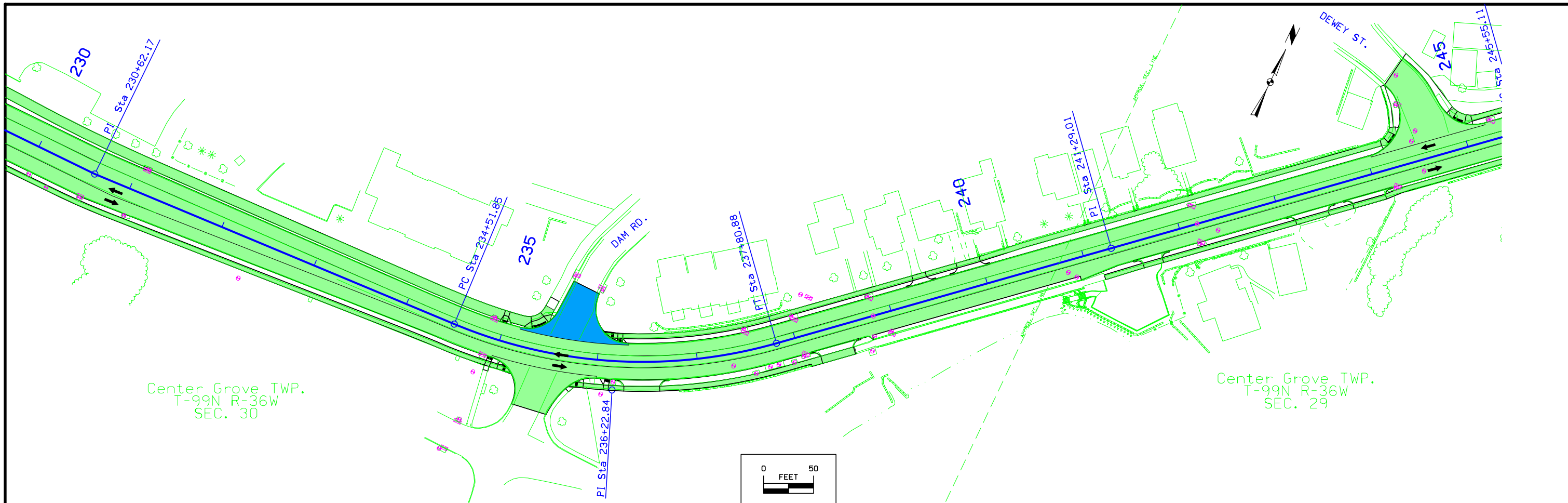


DETOURS AND TRAFFIC CONTROL



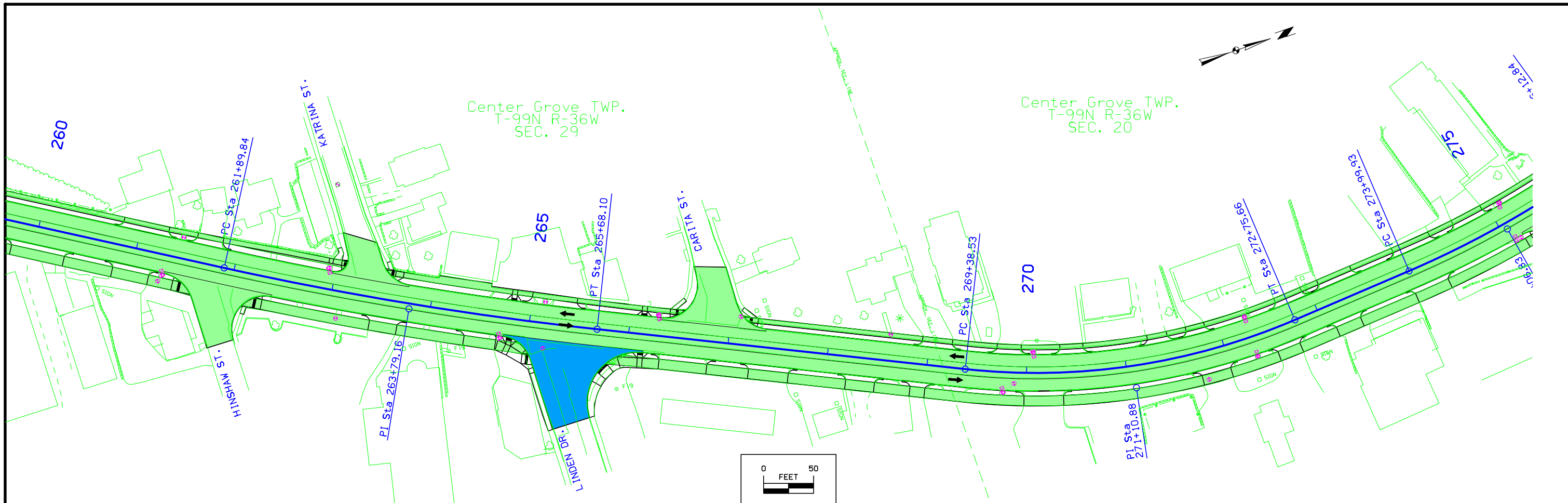
NOTES:
Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 1A
STAGING AND
TRAFFIC CONTROL

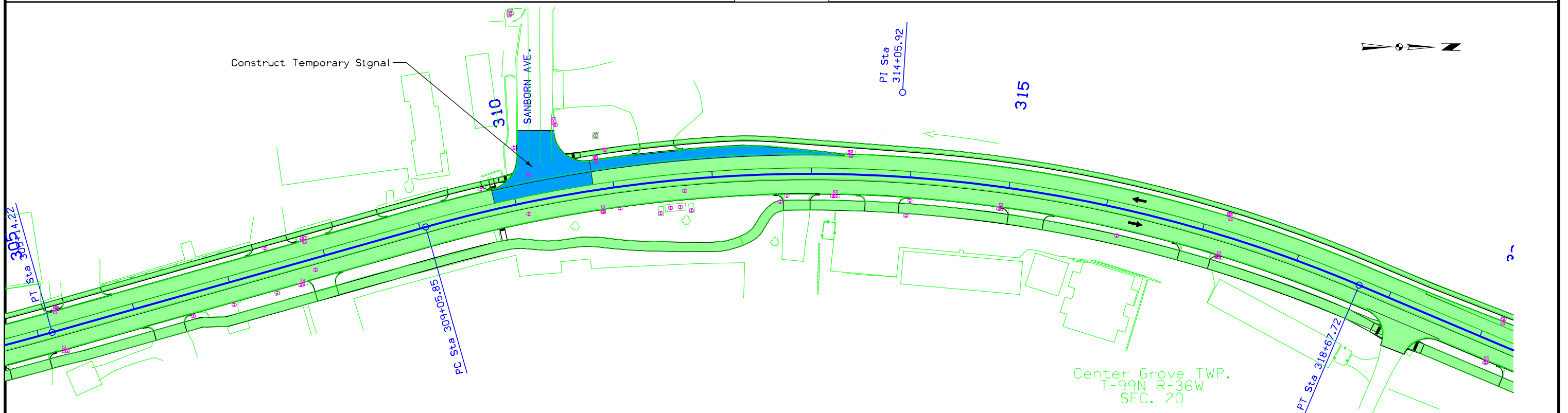
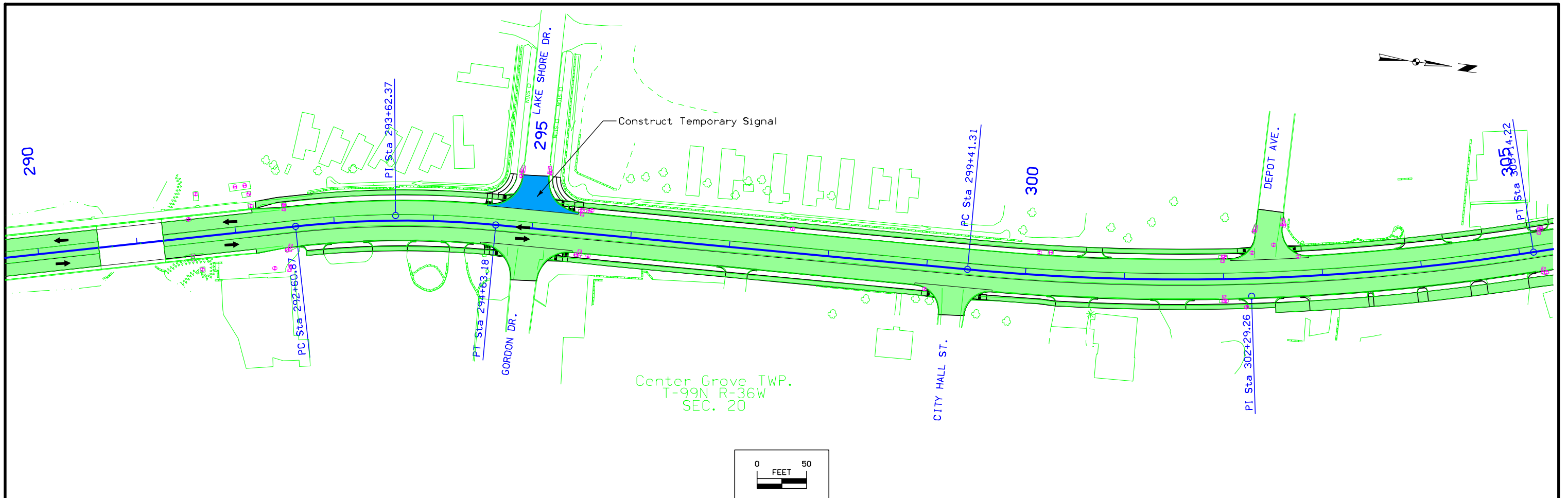


NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 1A
 STAGING AND
 TRAFFIC CONTROL

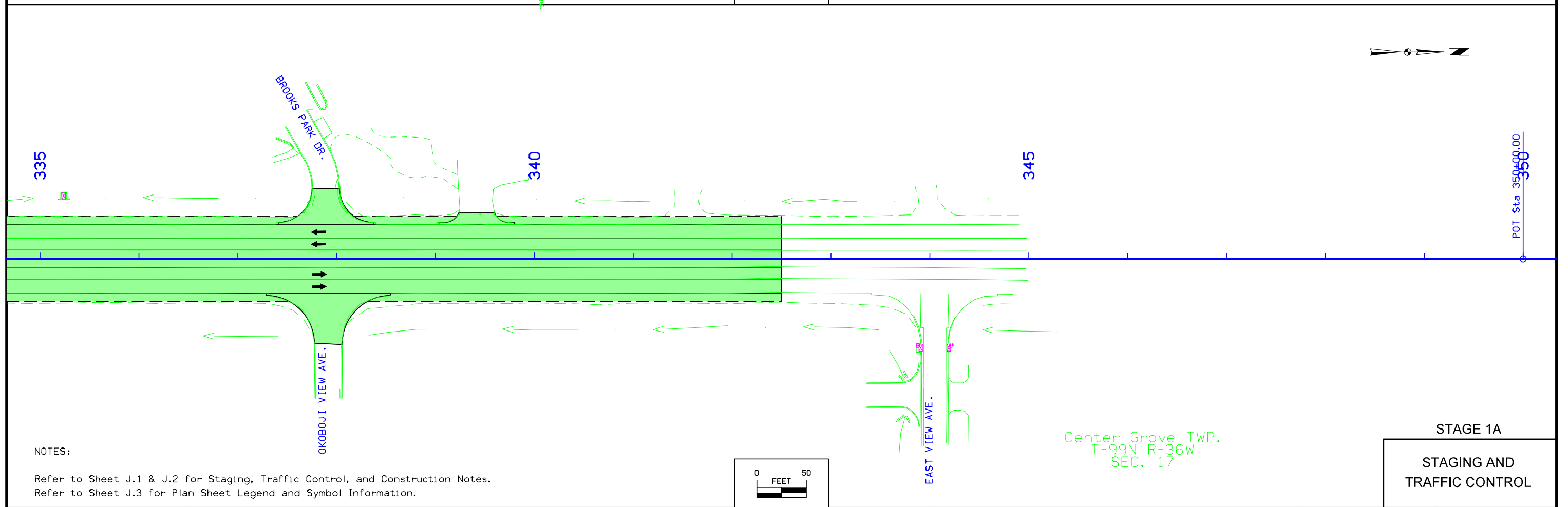
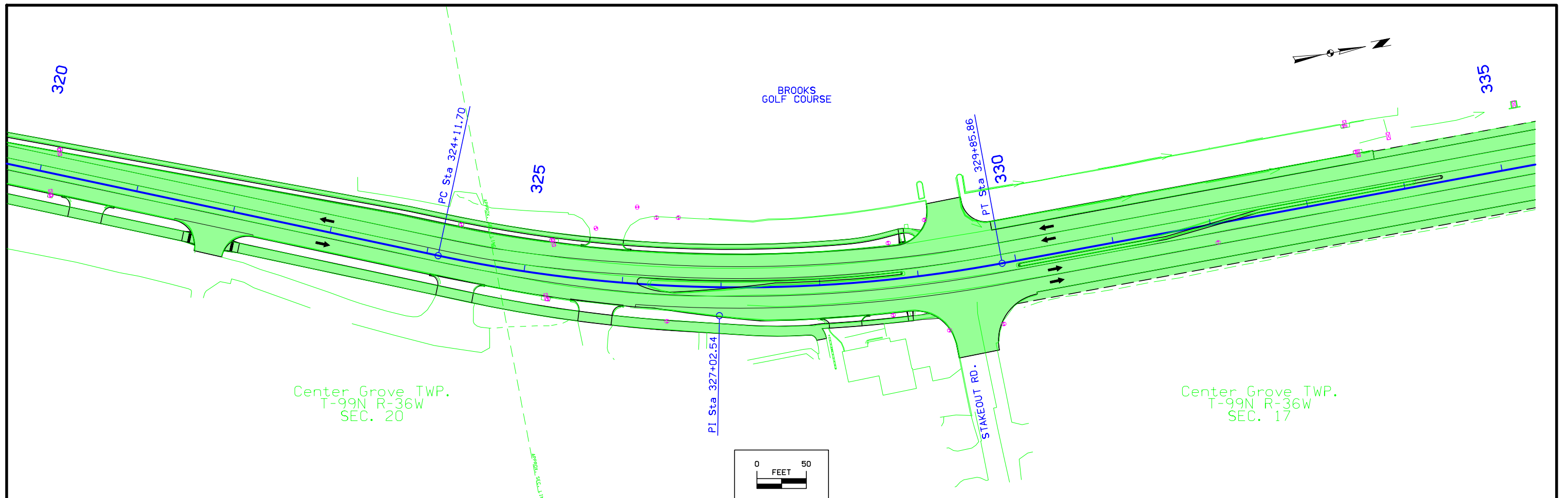


STAGE 1A
 STAGING AND
 TRAFFIC CONTROL



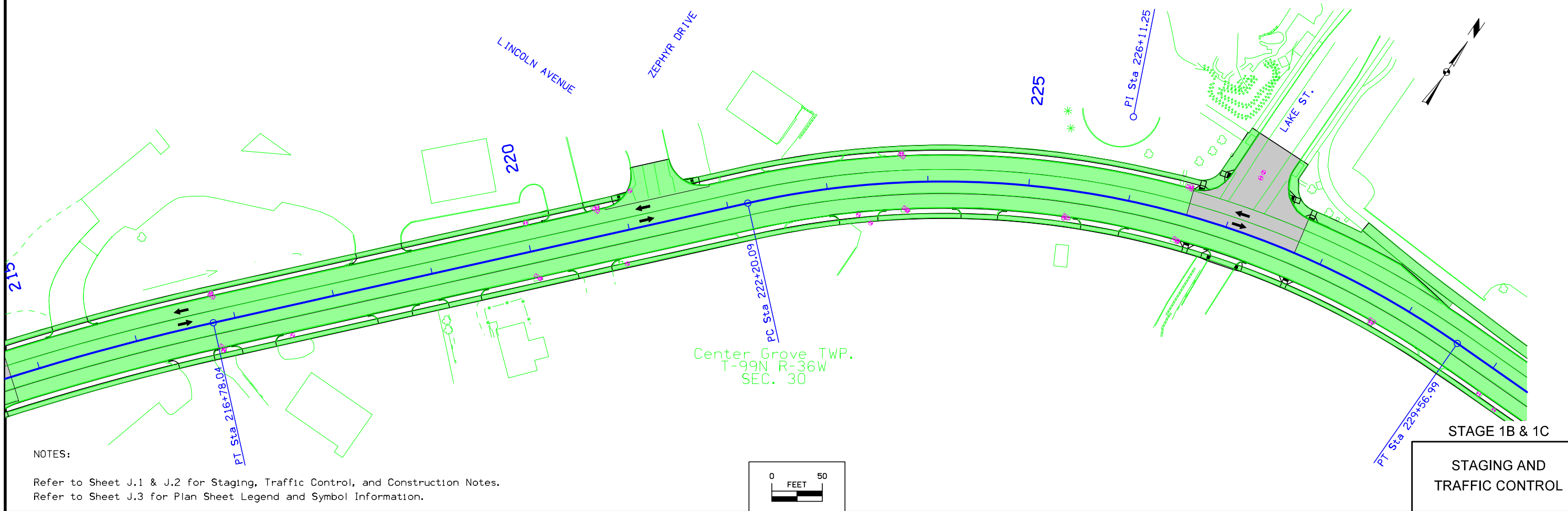
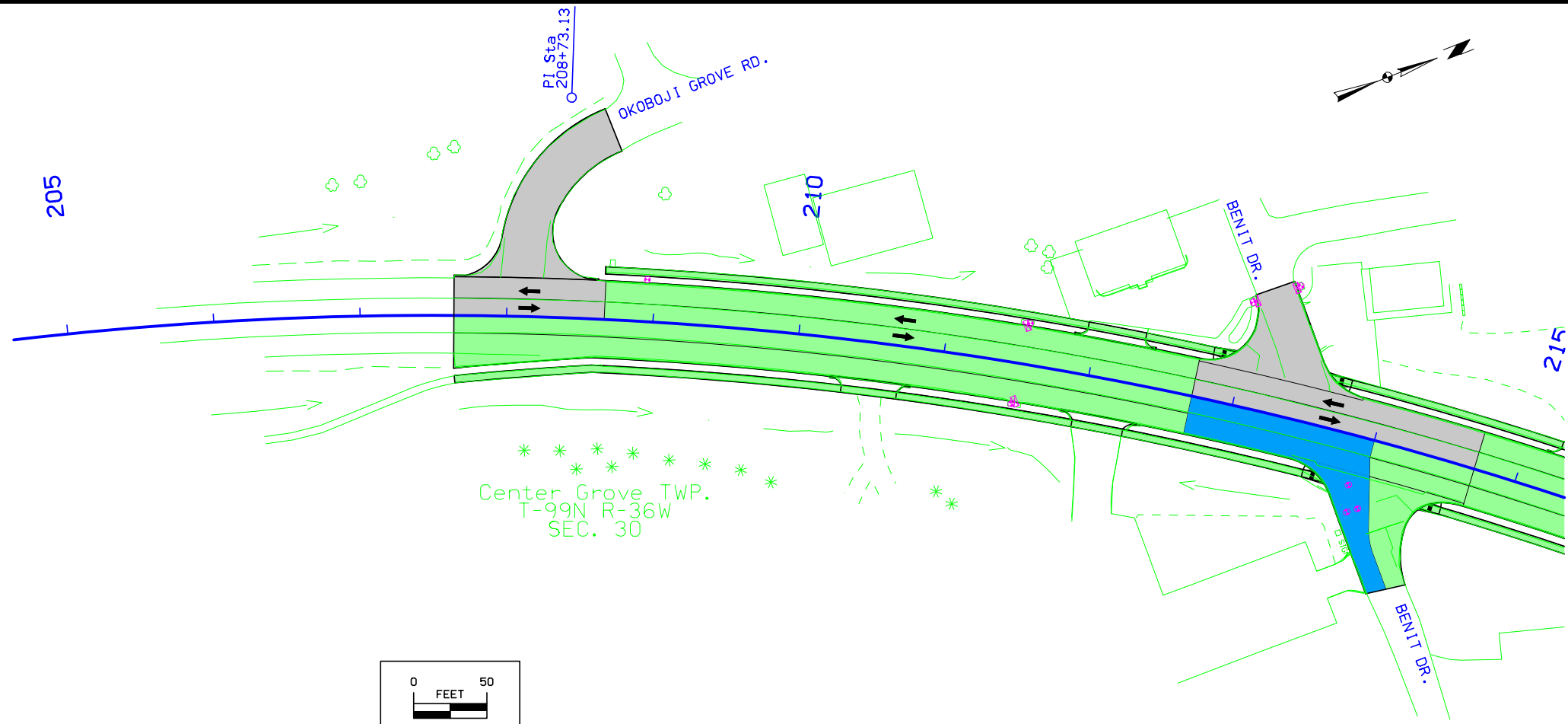
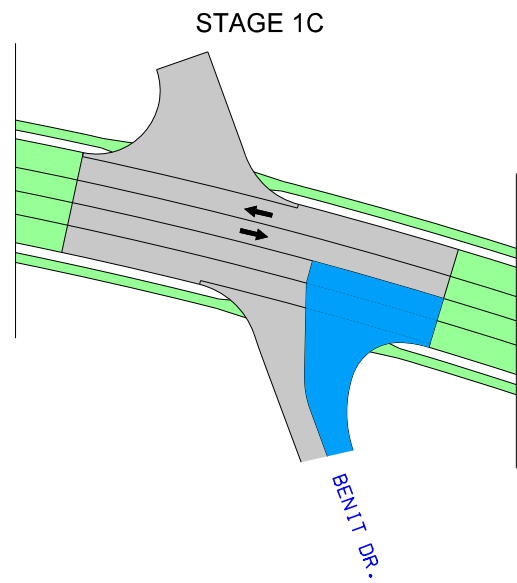
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 1A
 STAGING AND
 TRAFFIC CONTROL



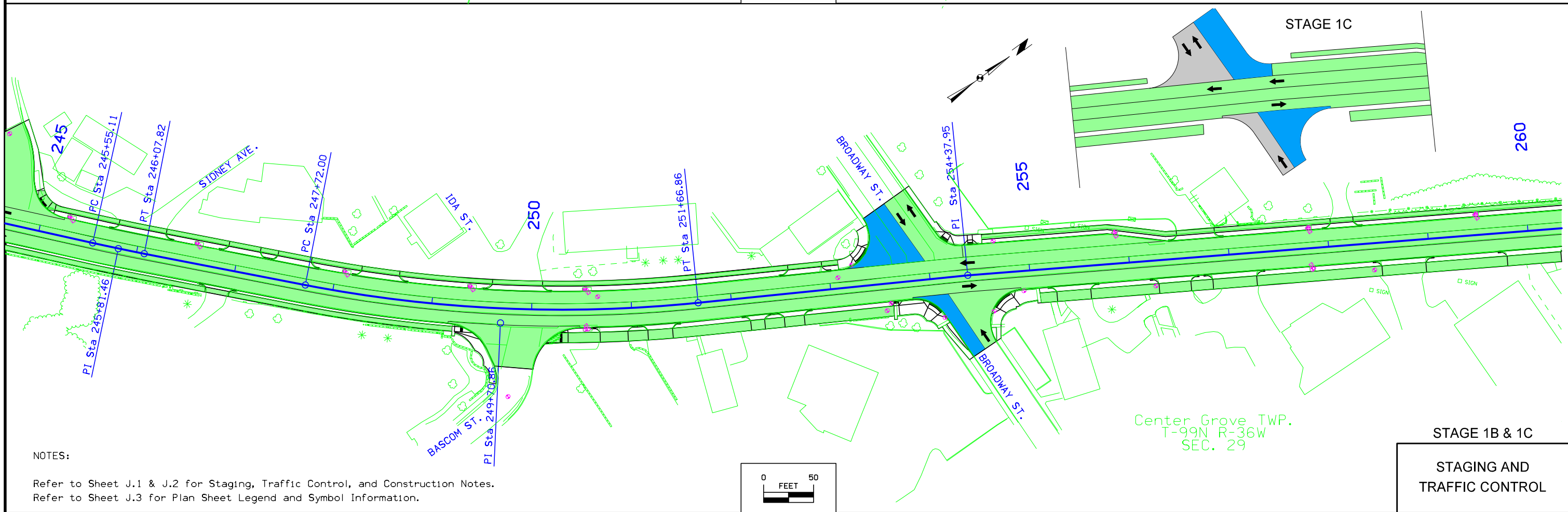
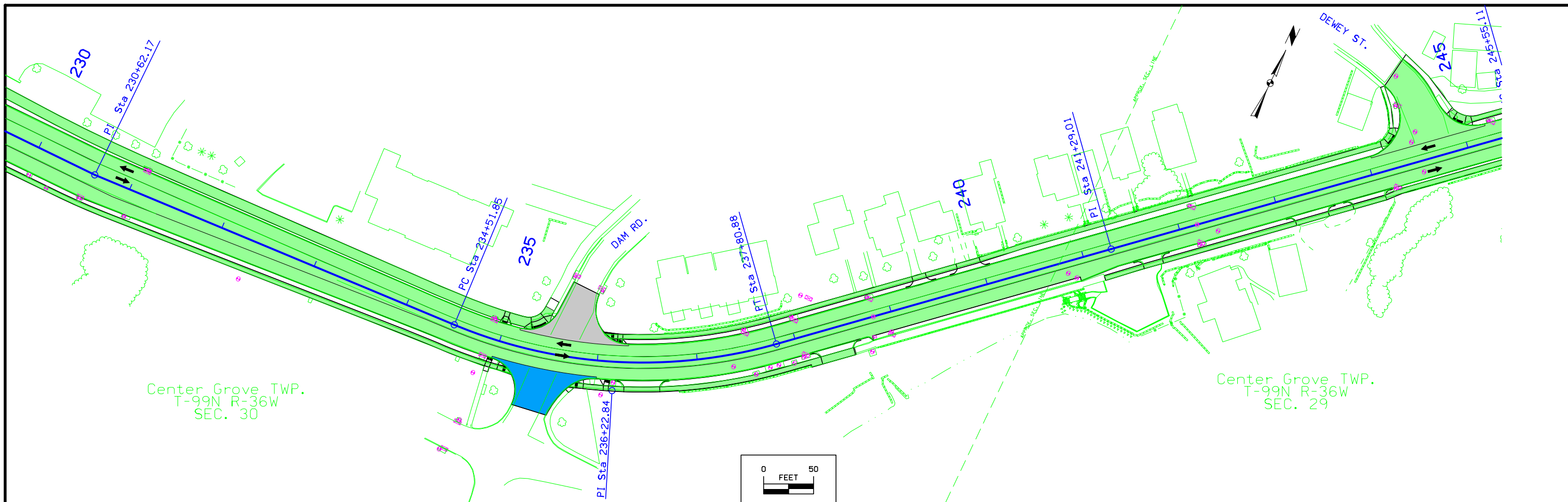
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 1A
 STAGING AND
 TRAFFIC CONTROL



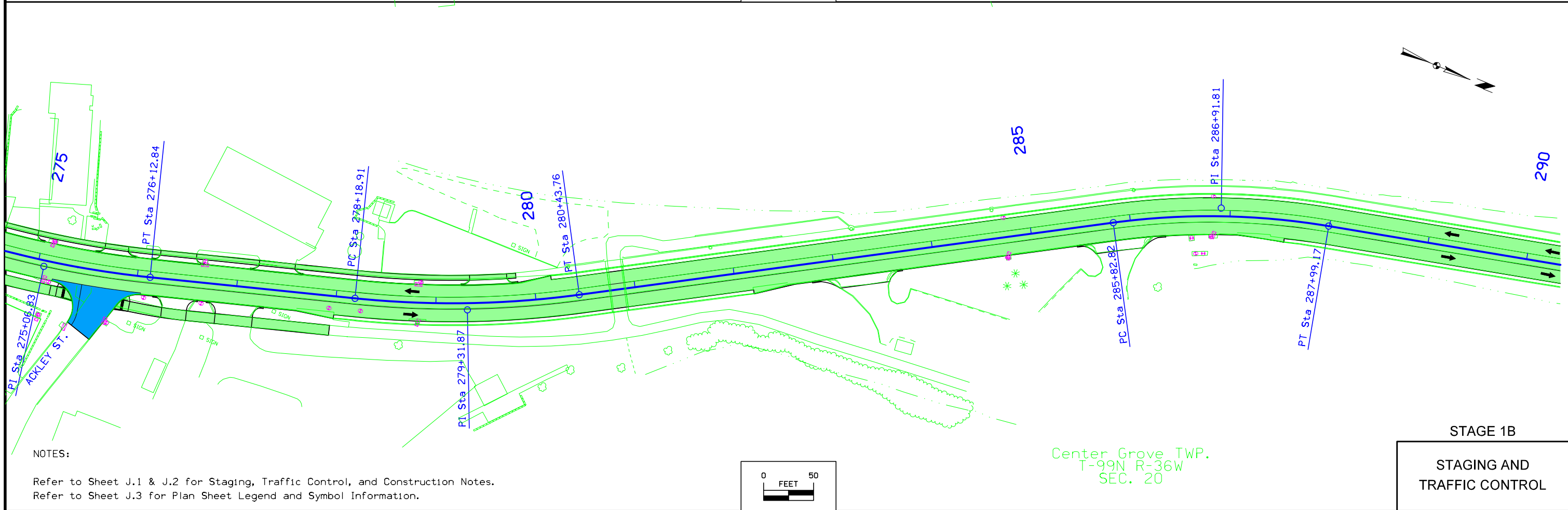
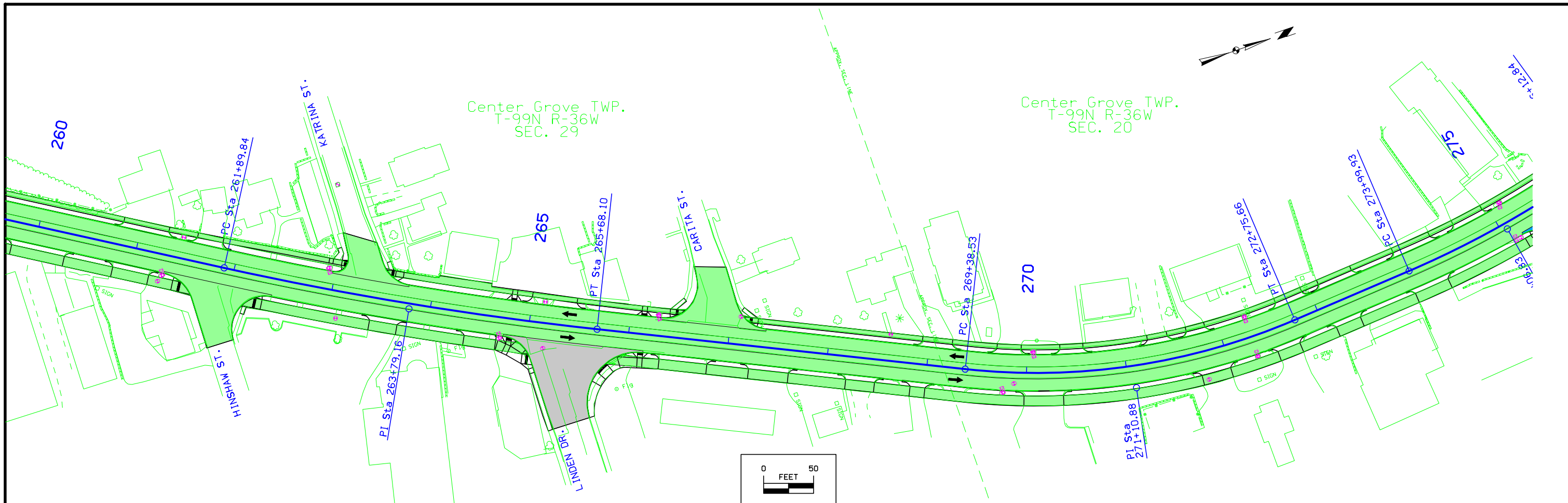
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 1B & 1C
 STAGING AND
 TRAFFIC CONTROL



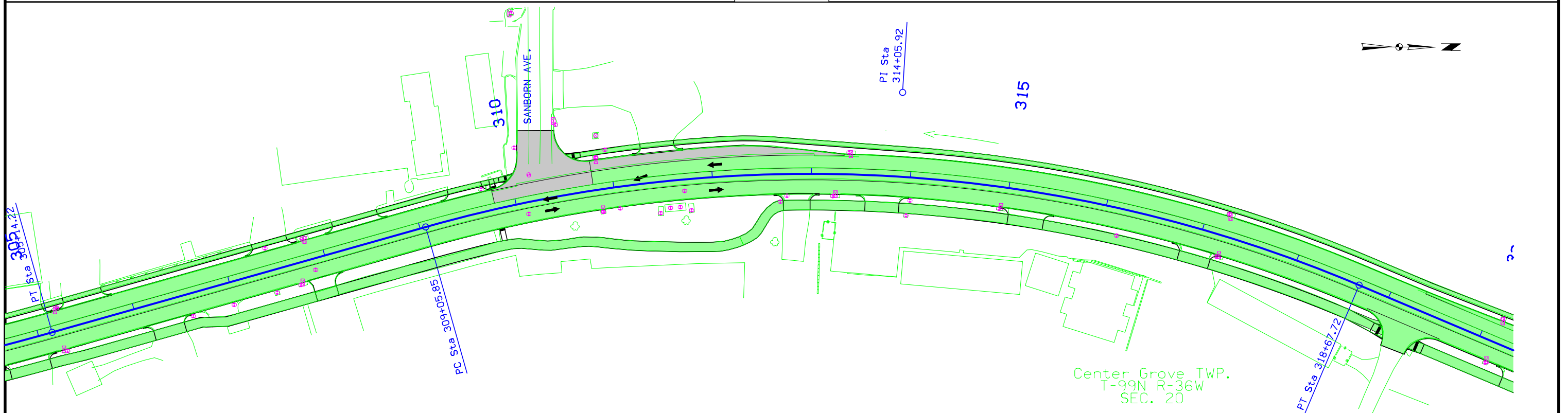
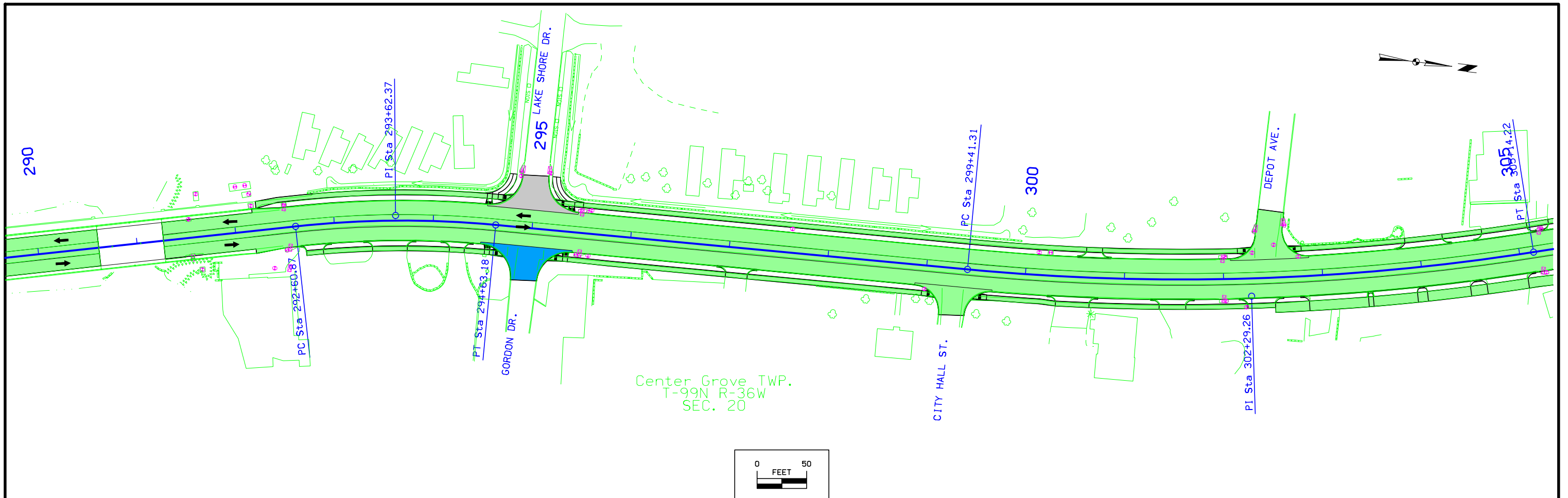
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 1B & 1C
 STAGING AND
 TRAFFIC CONTROL



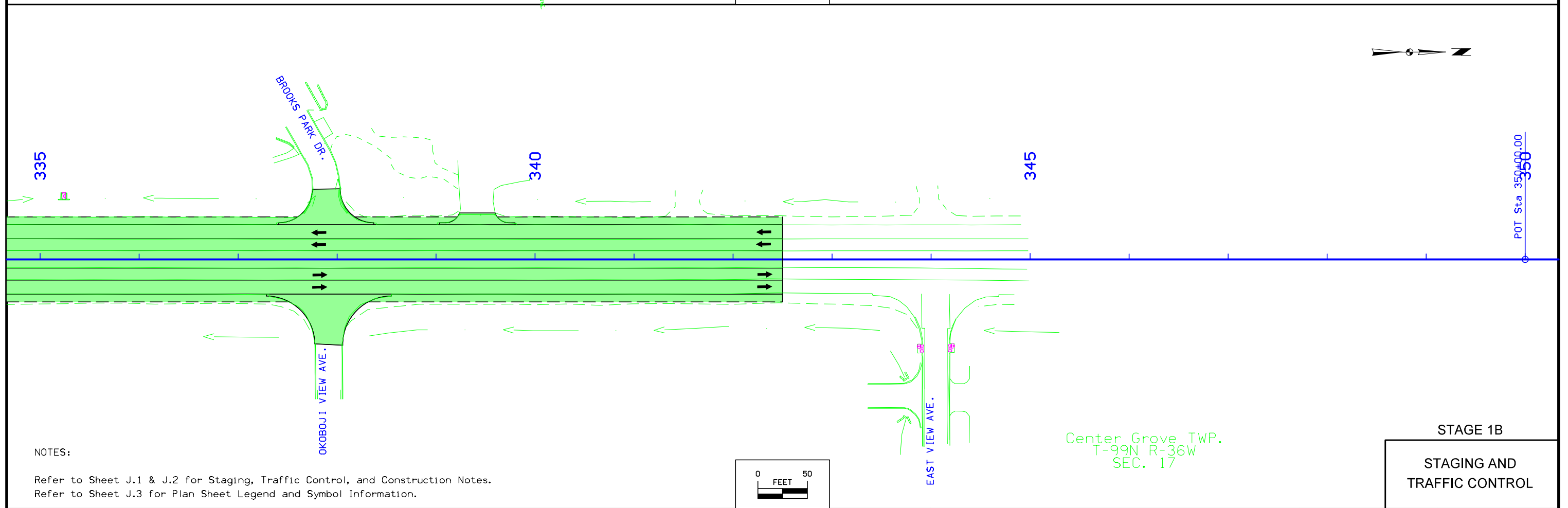
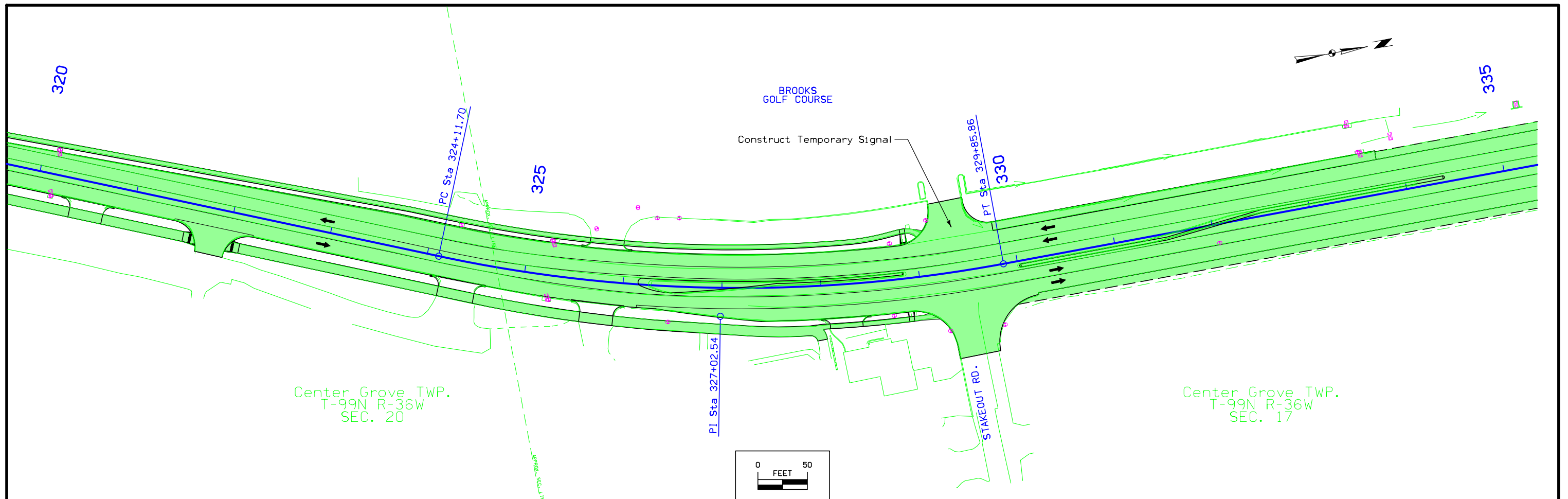
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 1B
 STAGING AND
 TRAFFIC CONTROL



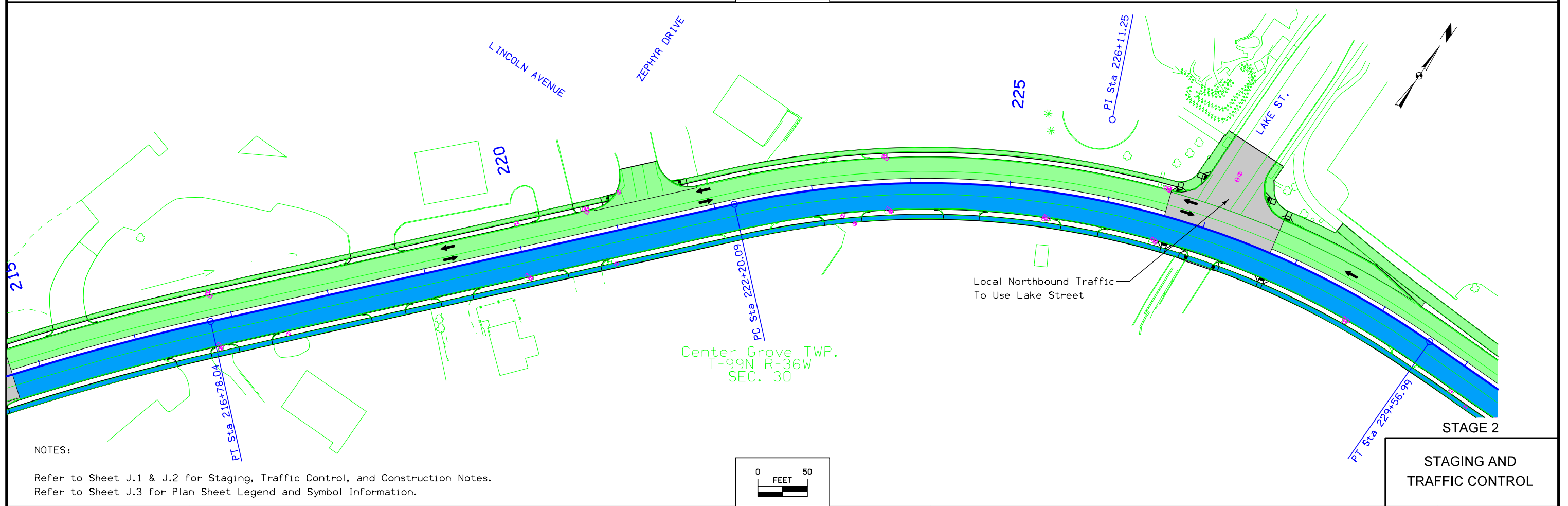
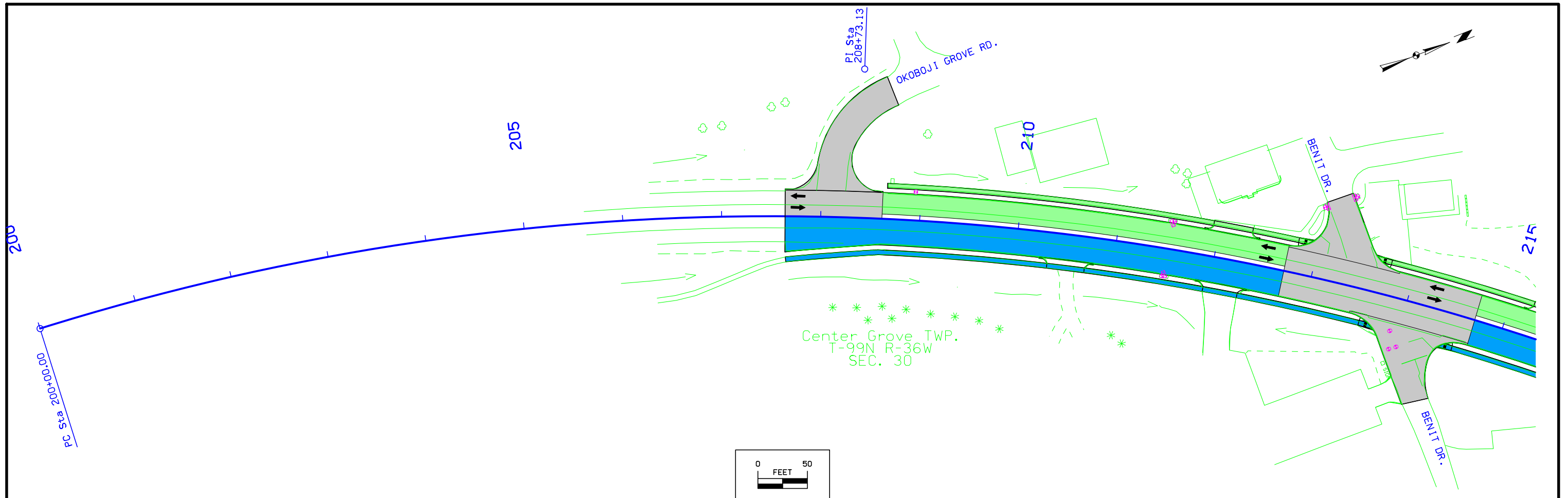
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 1B
 STAGING AND
 TRAFFIC CONTROL



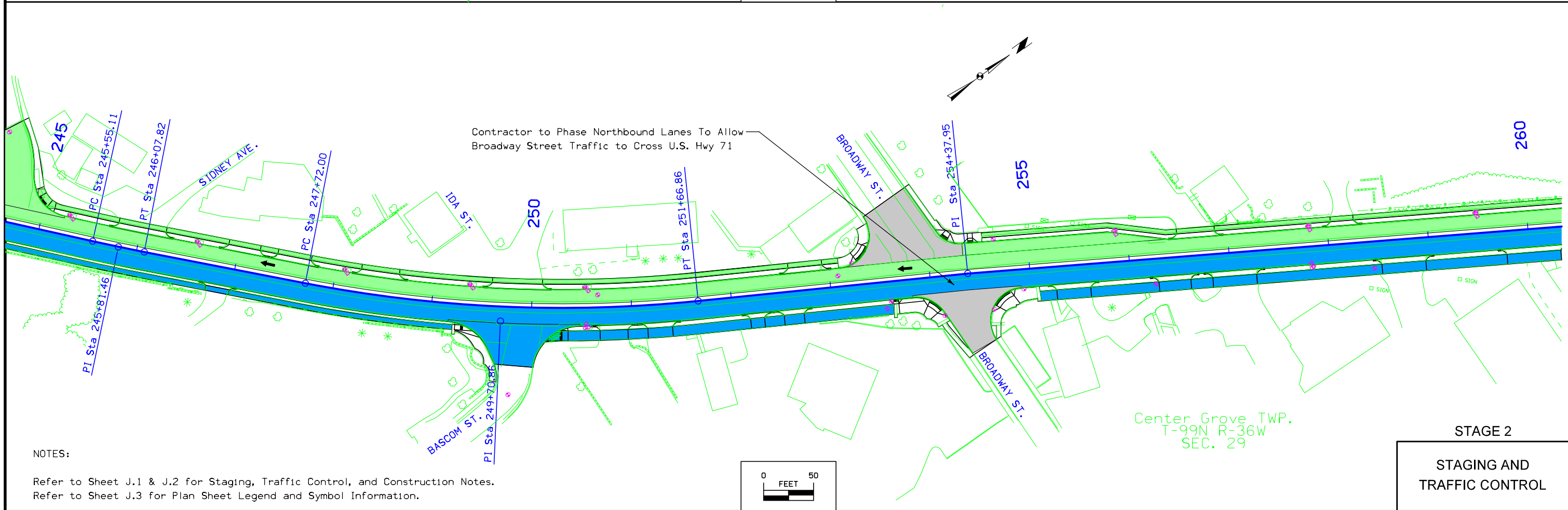
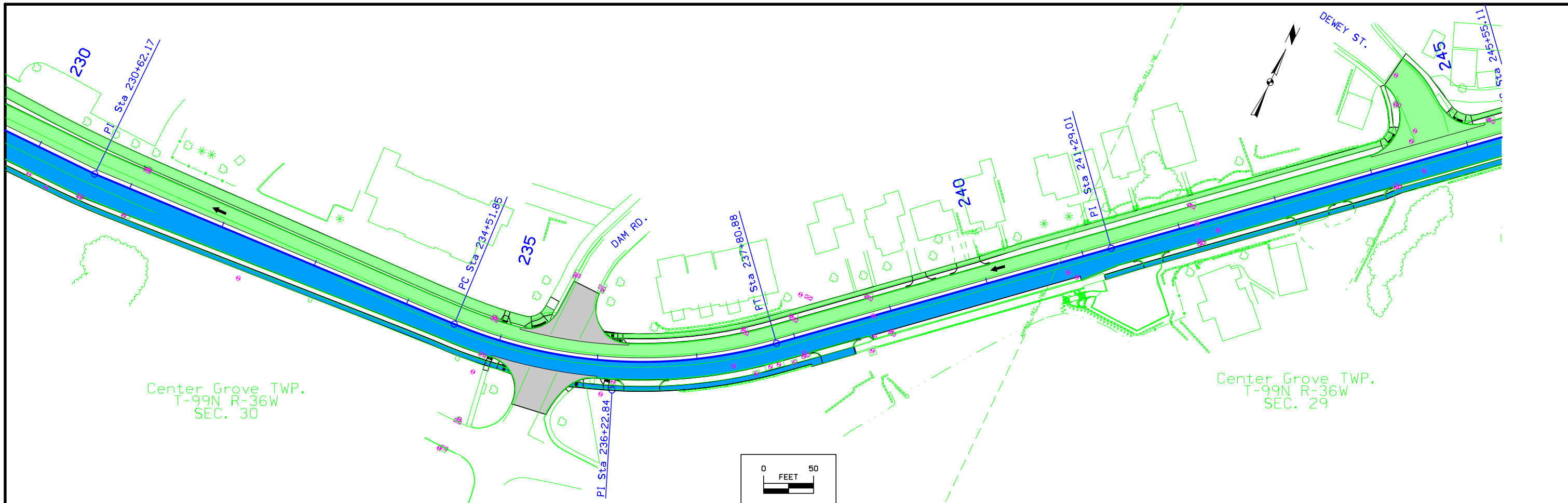
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 1B
 STAGING AND
 TRAFFIC CONTROL



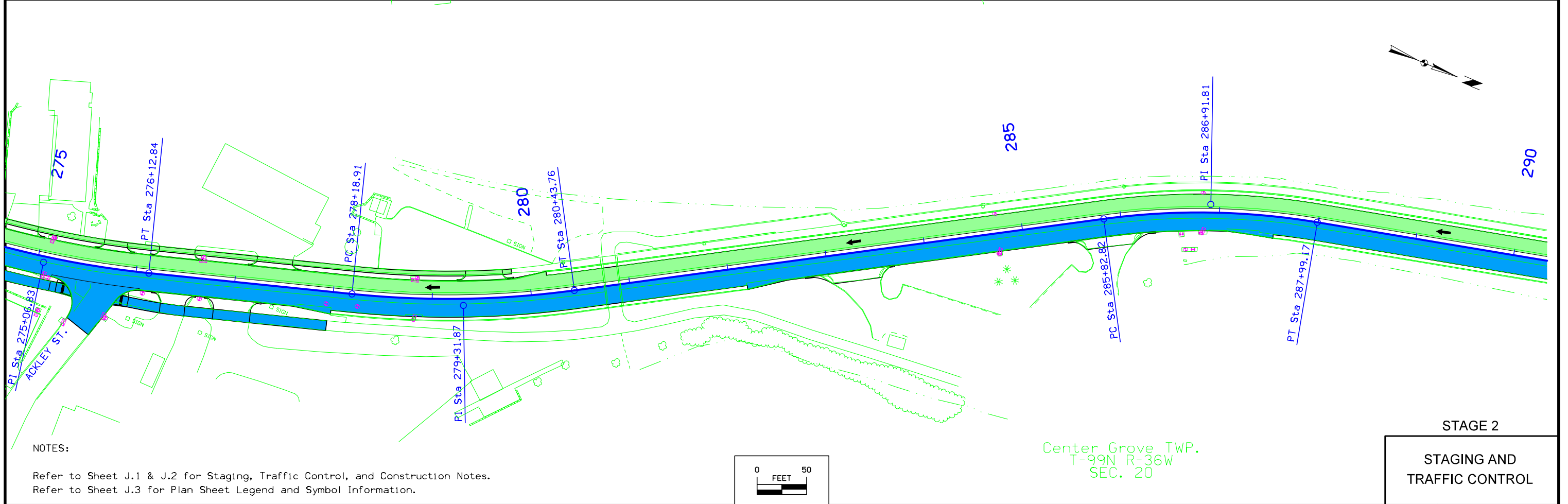
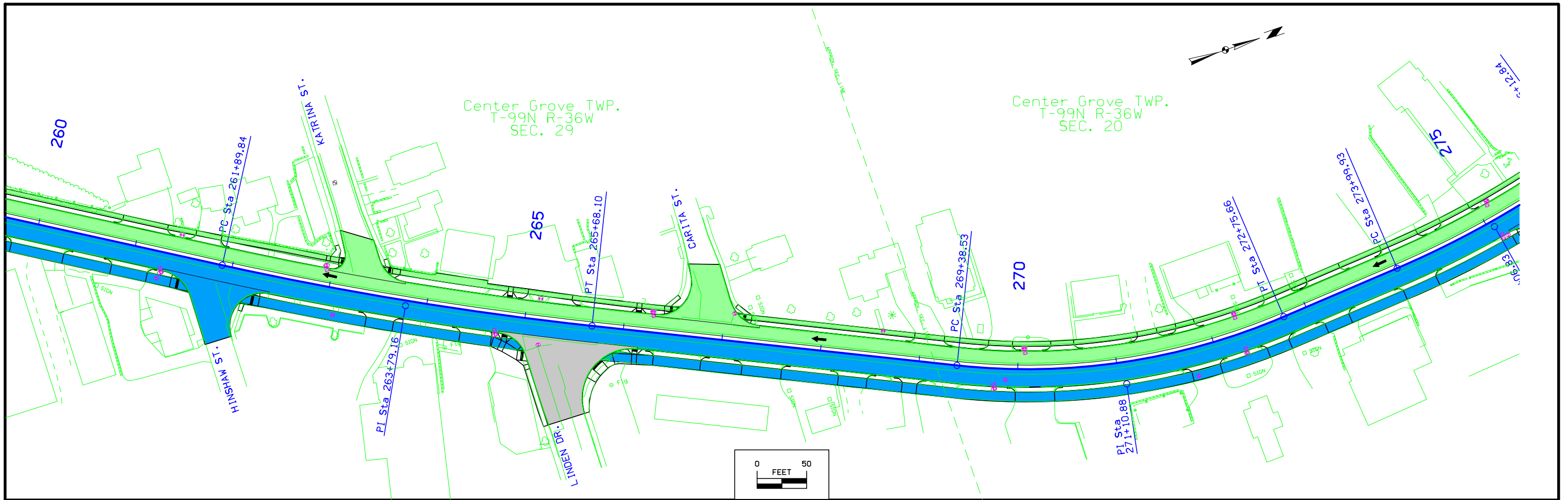
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 2
 STAGING AND
 TRAFFIC CONTROL



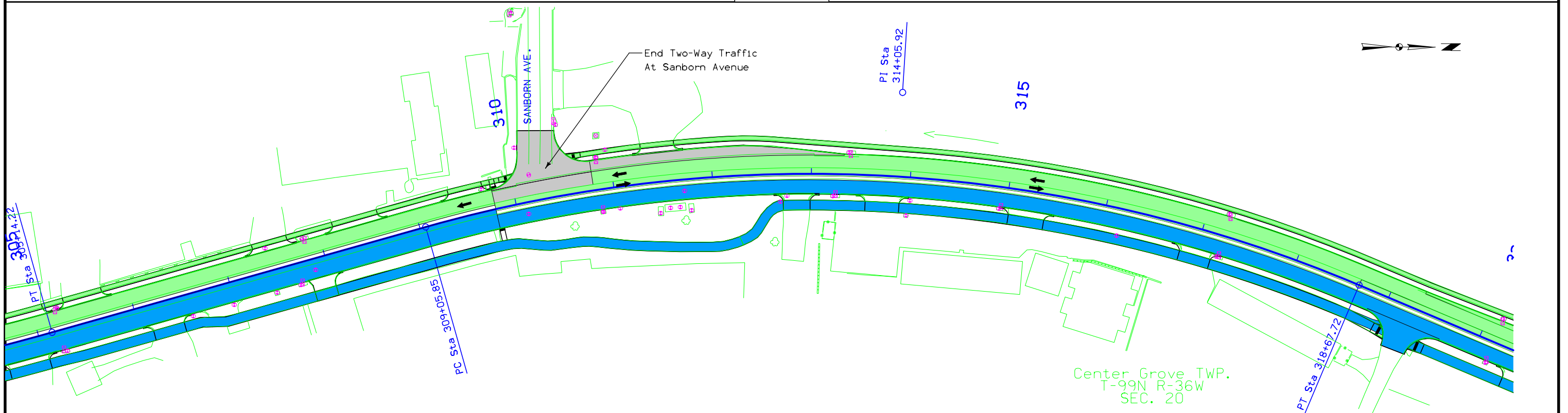
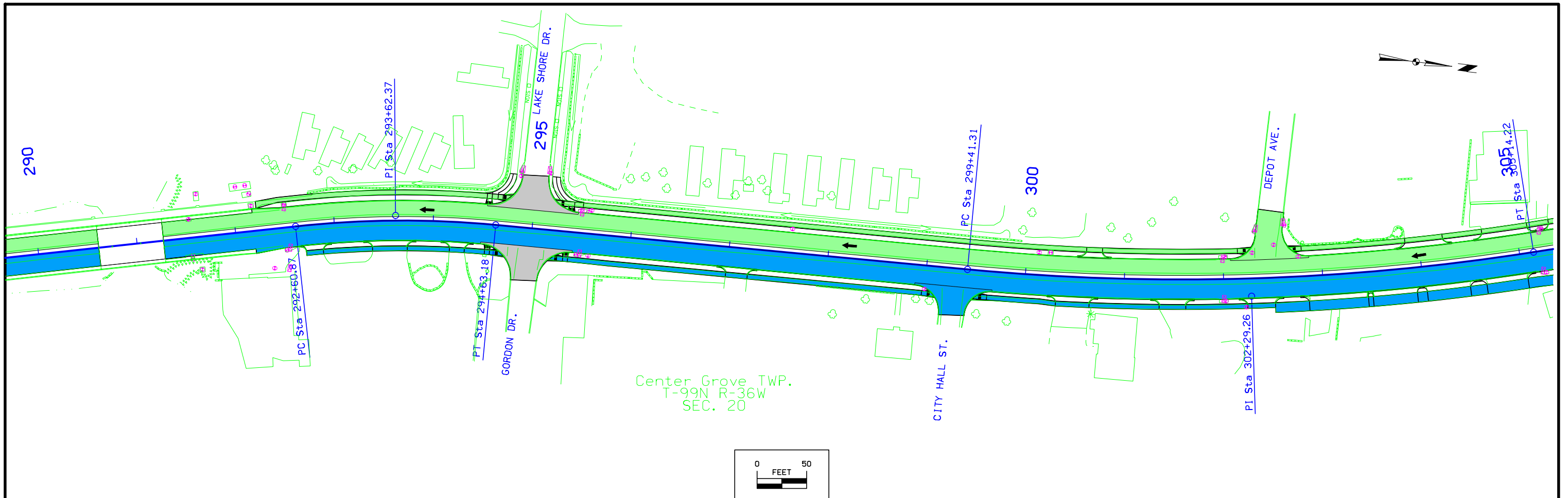
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 2
 STAGING AND
 TRAFFIC CONTROL



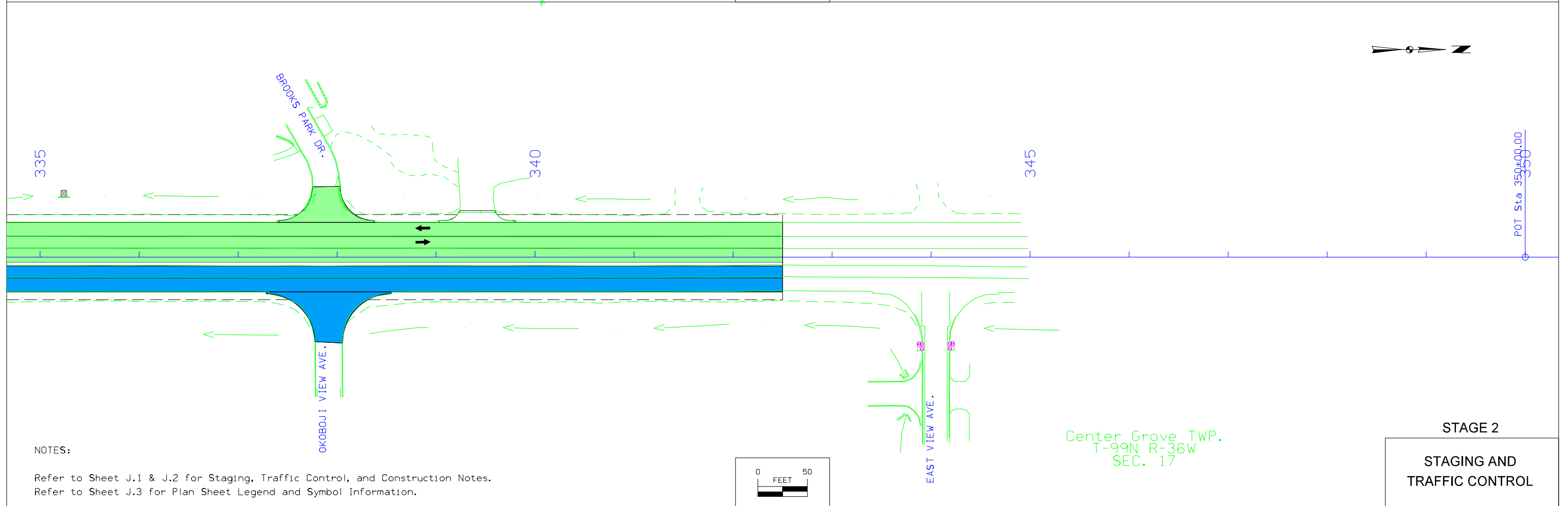
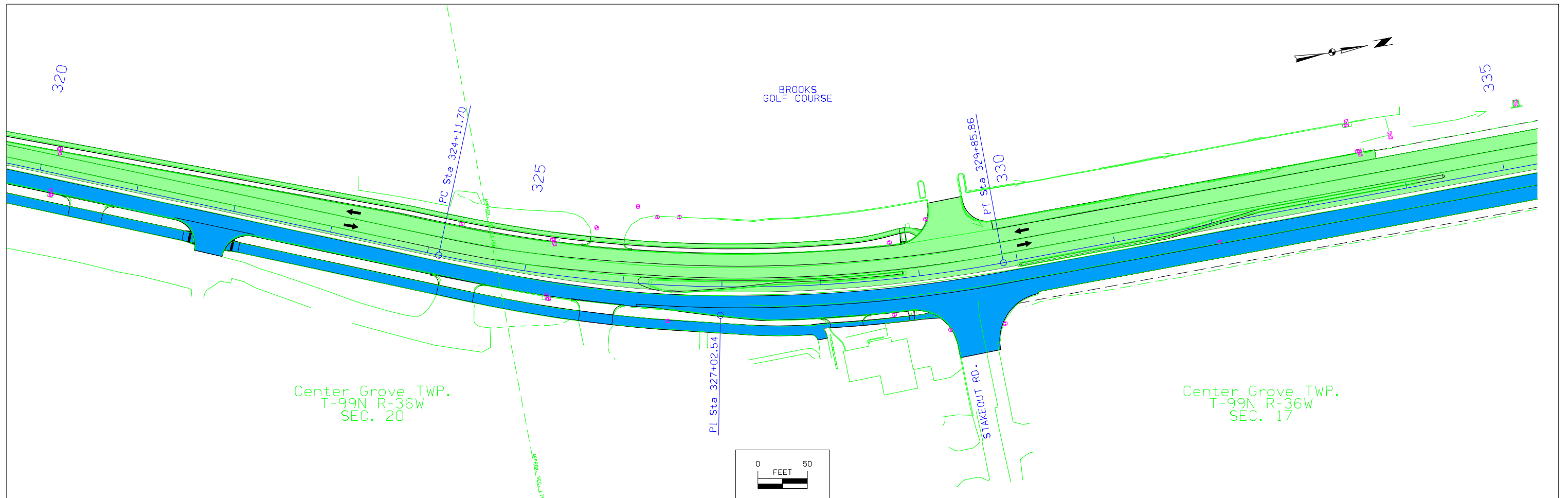
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 2
 STAGING AND
 TRAFFIC CONTROL



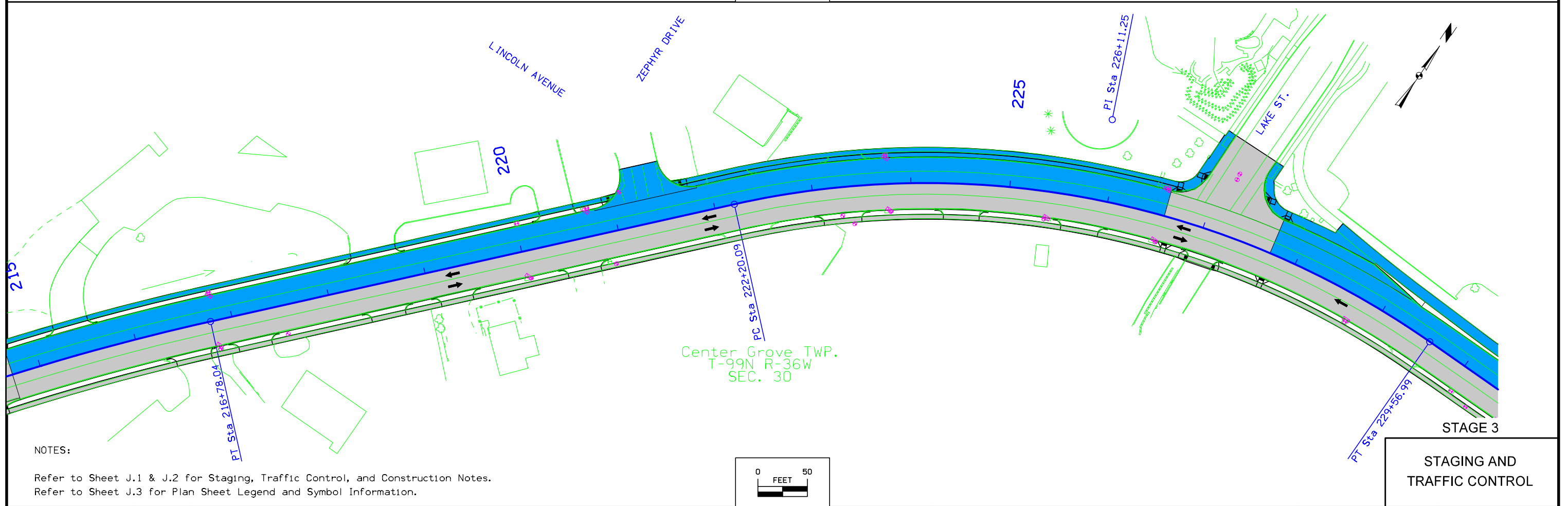
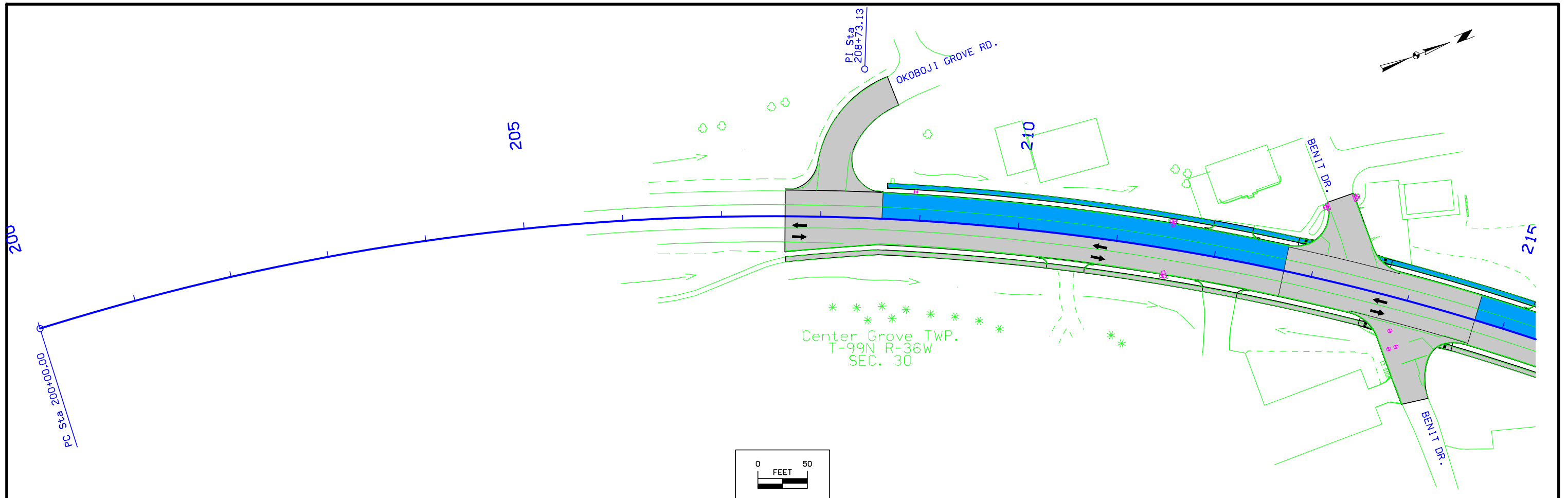
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 2
 STAGING AND
 TRAFFIC CONTROL



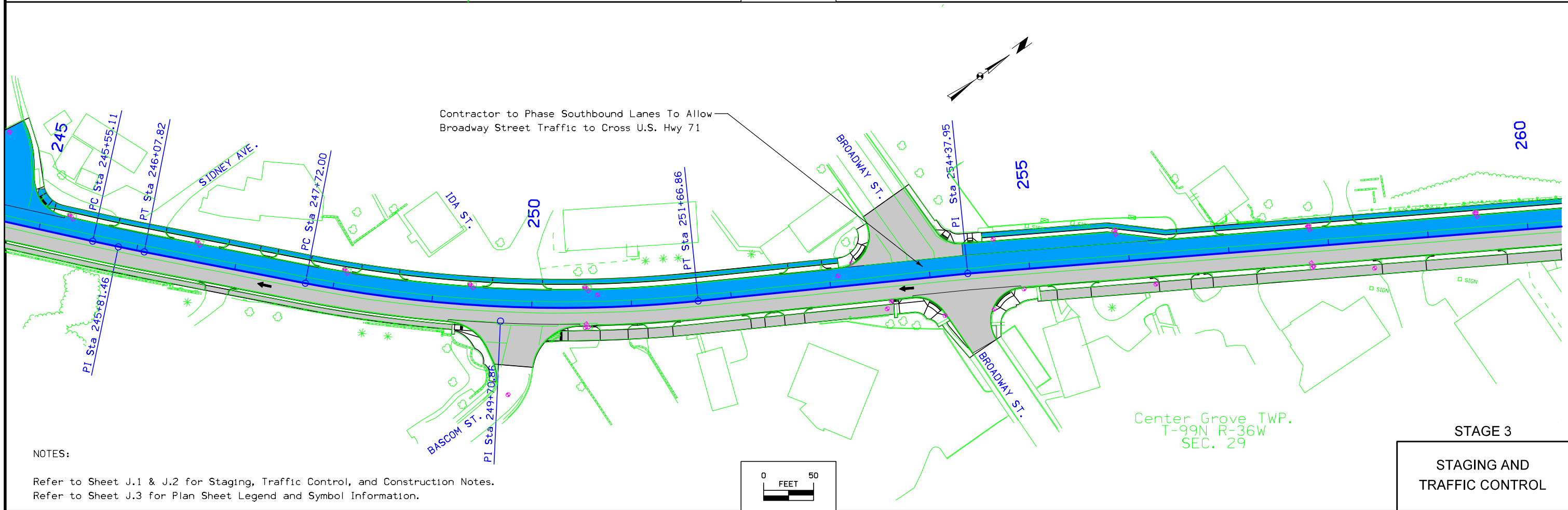
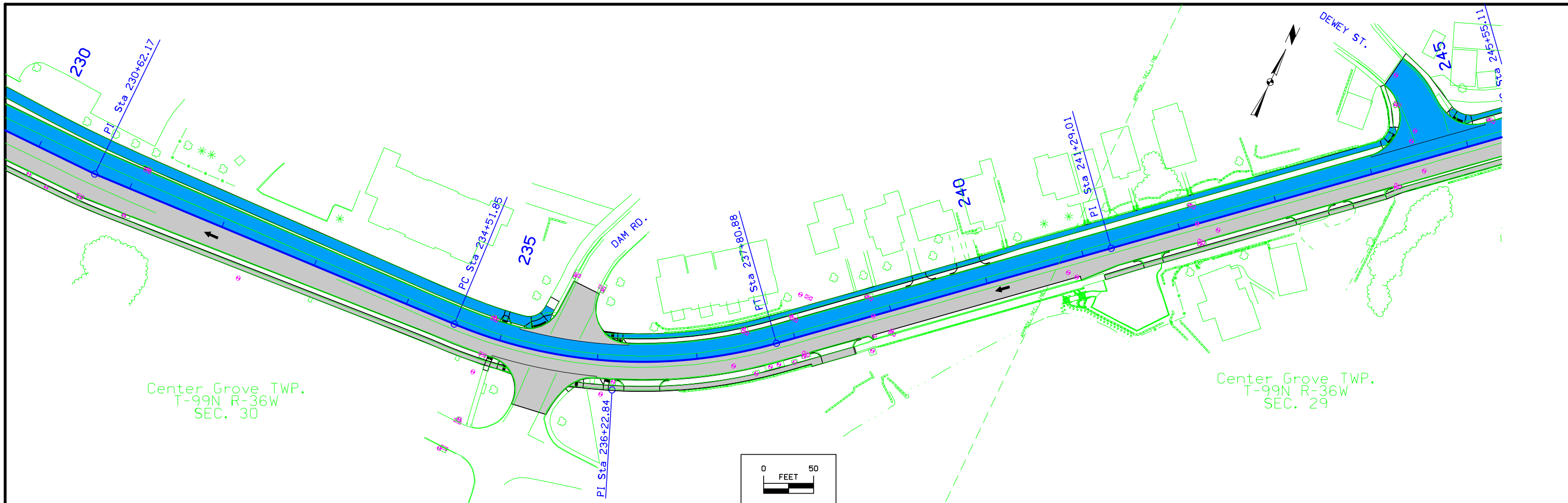
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 2
 STAGING AND
 TRAFFIC CONTROL



NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

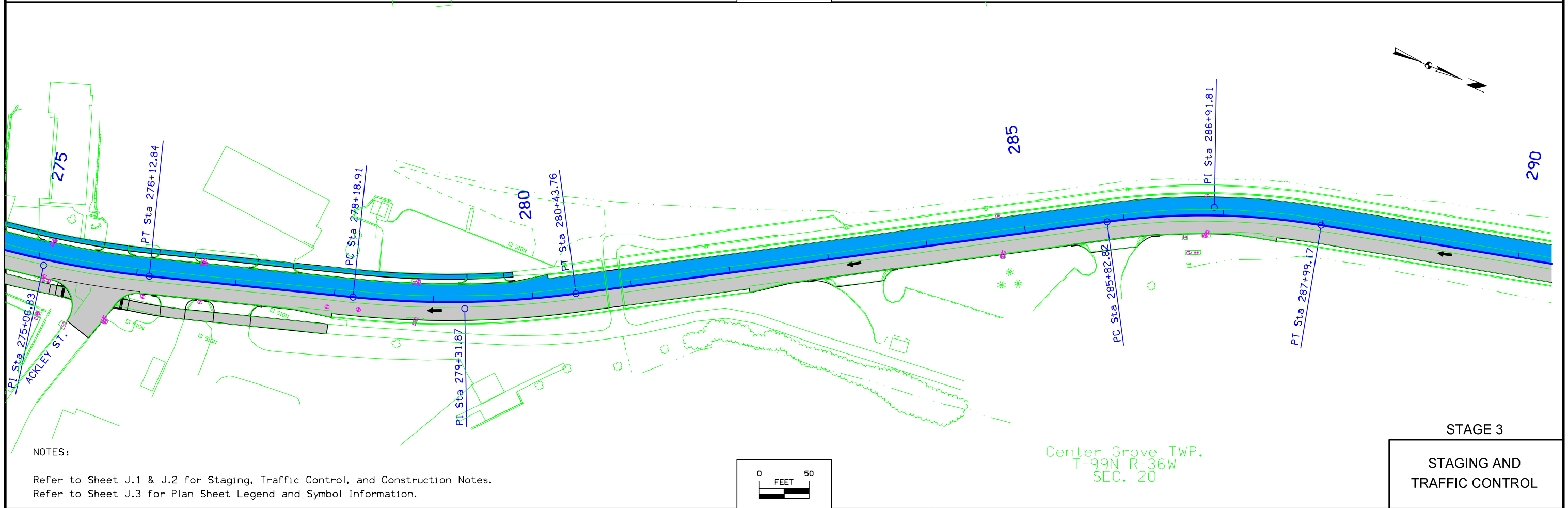
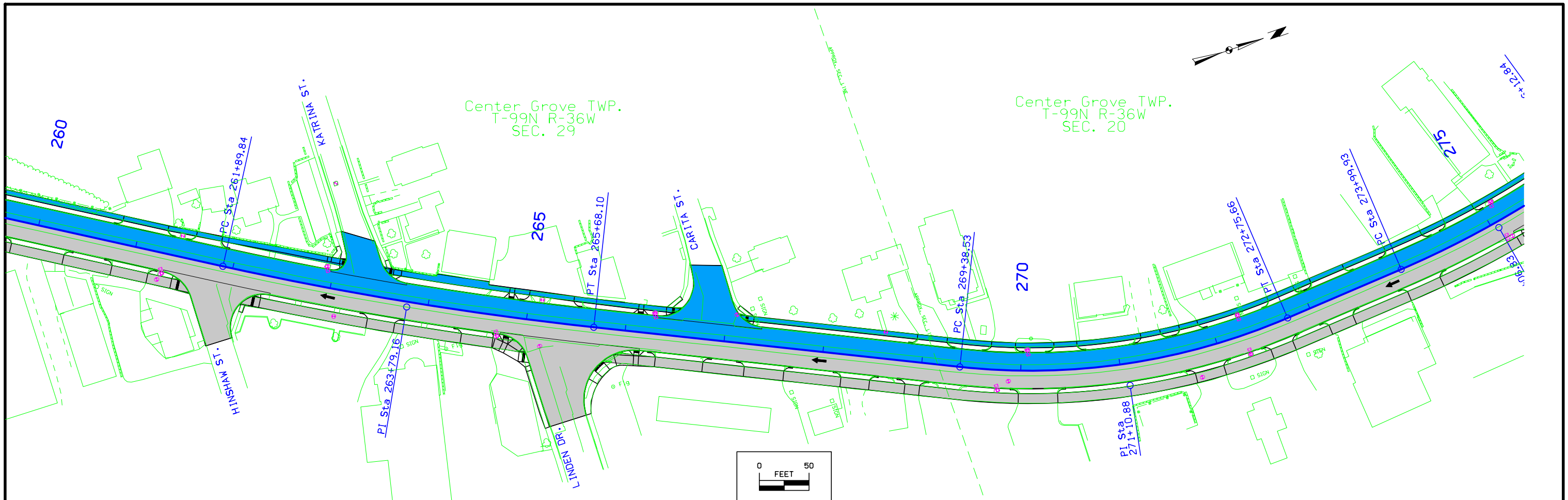
STAGE 3
 STAGING AND
 TRAFFIC CONTROL



Contractor to Phase Southbound Lanes To Allow Broadway Street Traffic to Cross U.S. Hwy 71

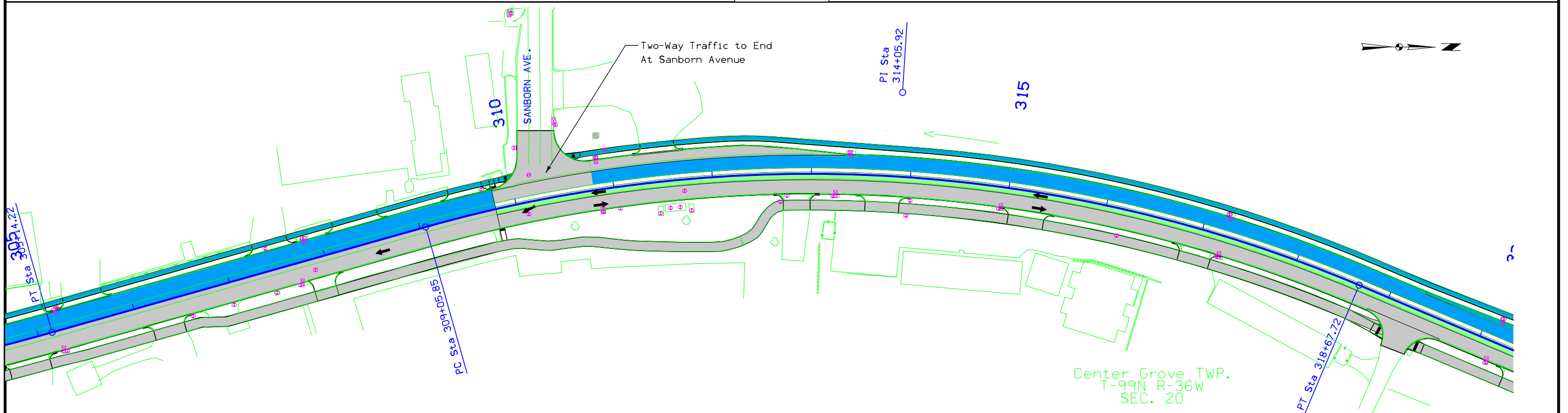
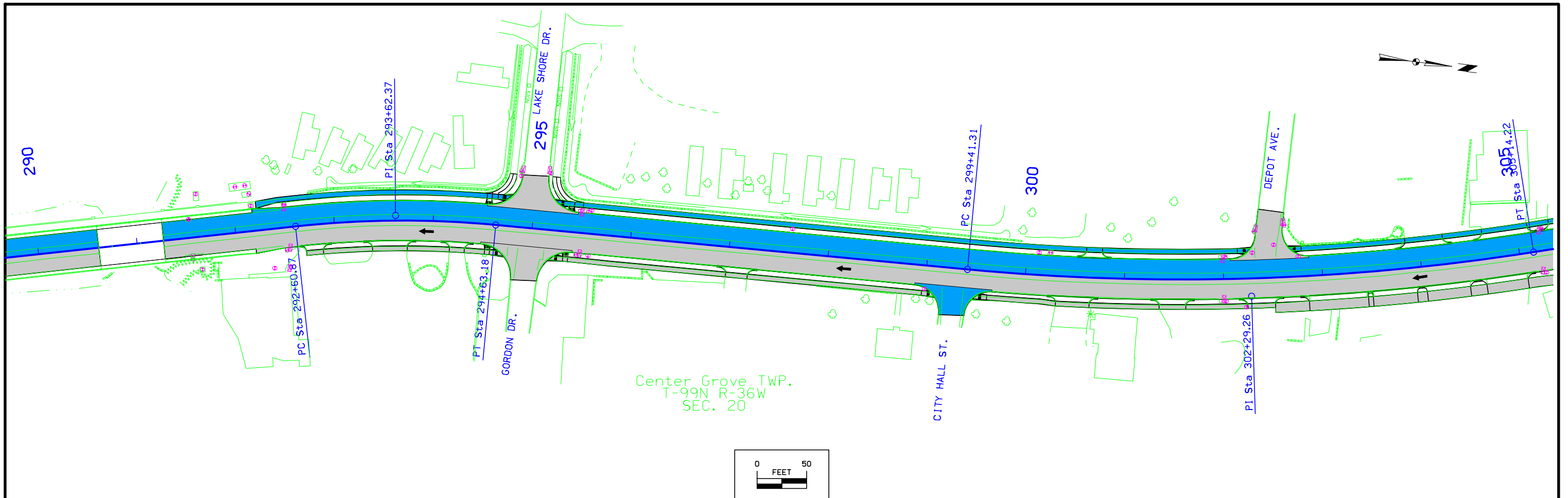
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 3
 STAGING AND TRAFFIC CONTROL



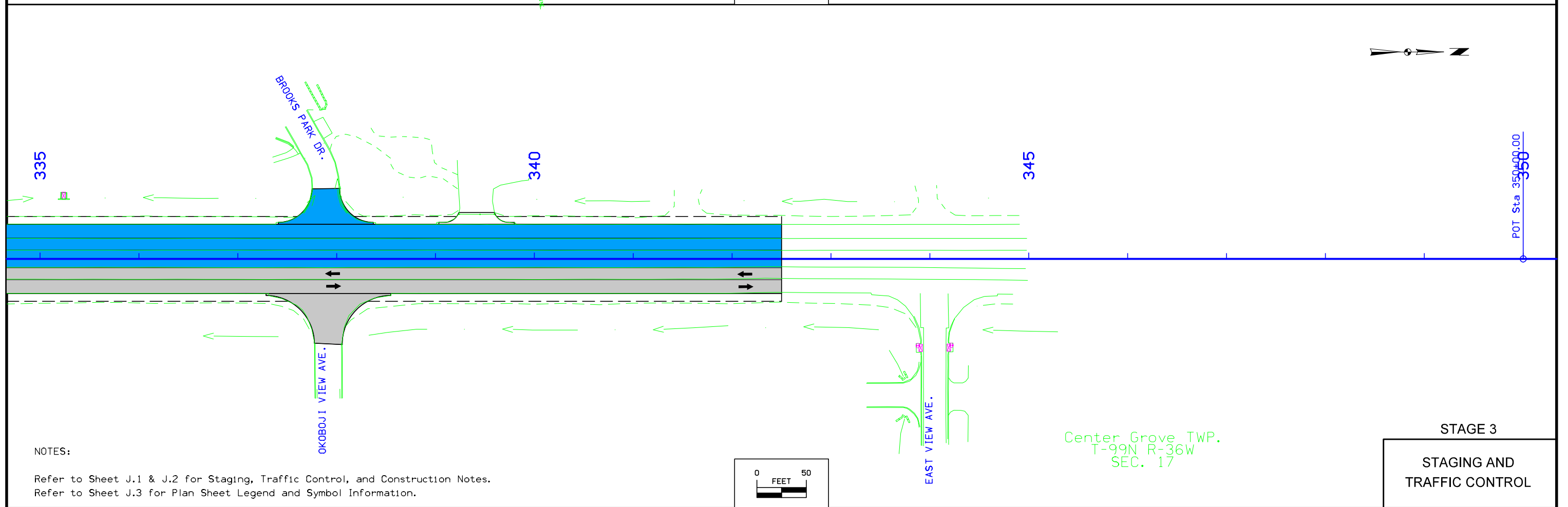
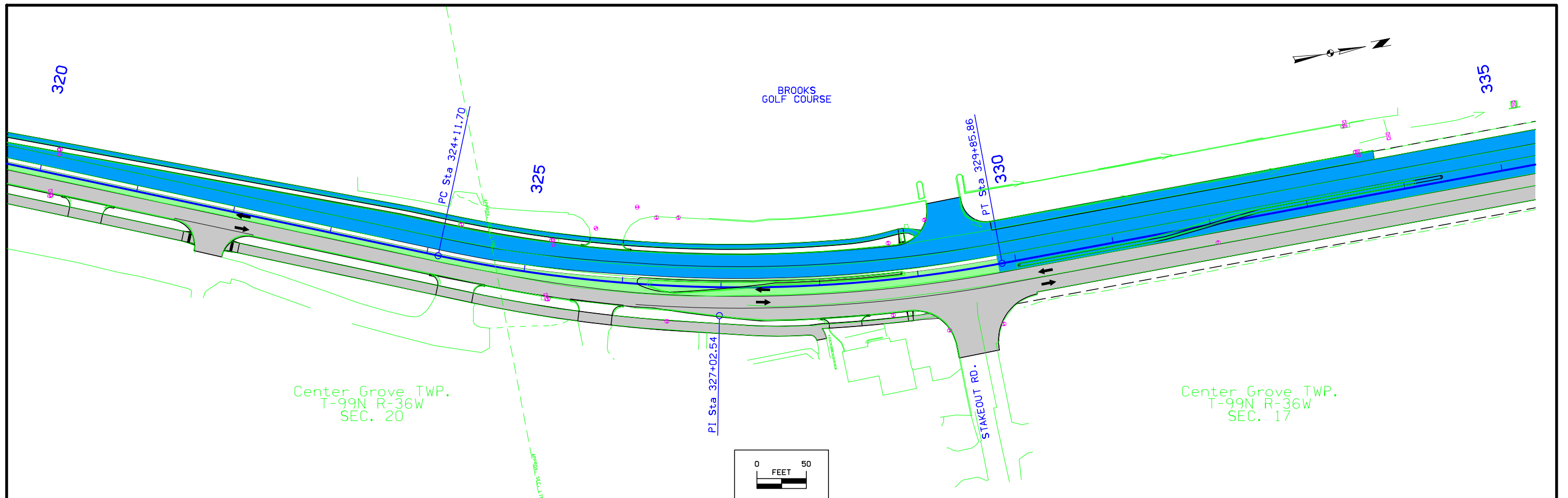
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 3
 STAGING AND
 TRAFFIC CONTROL



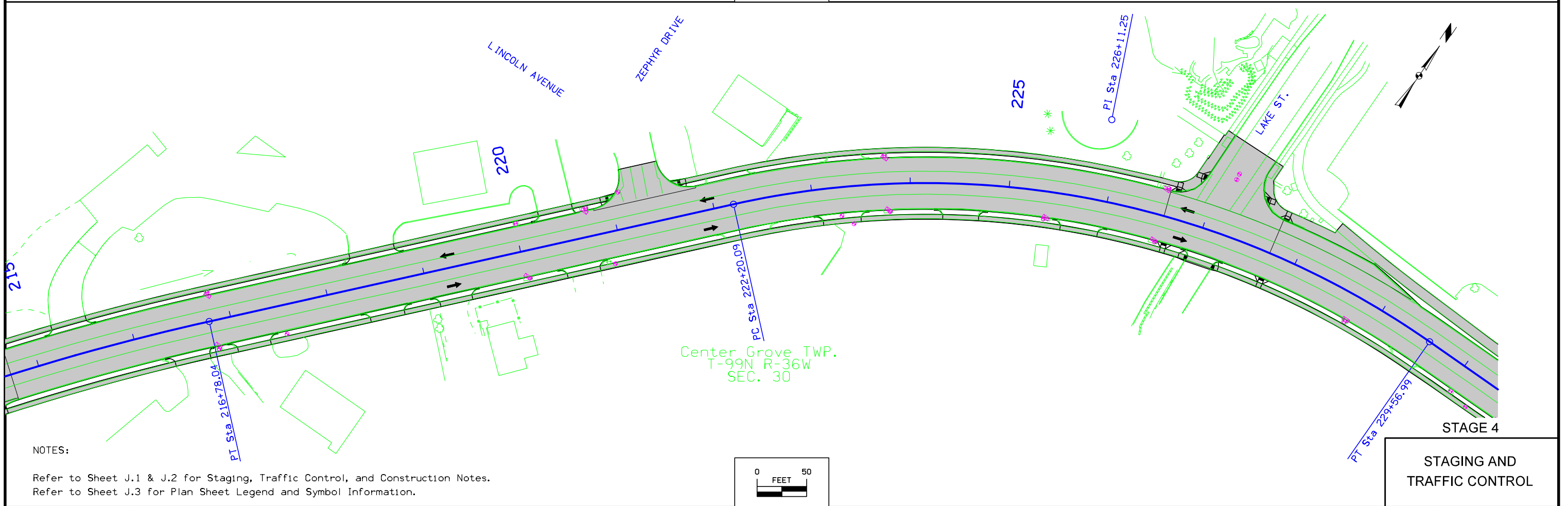
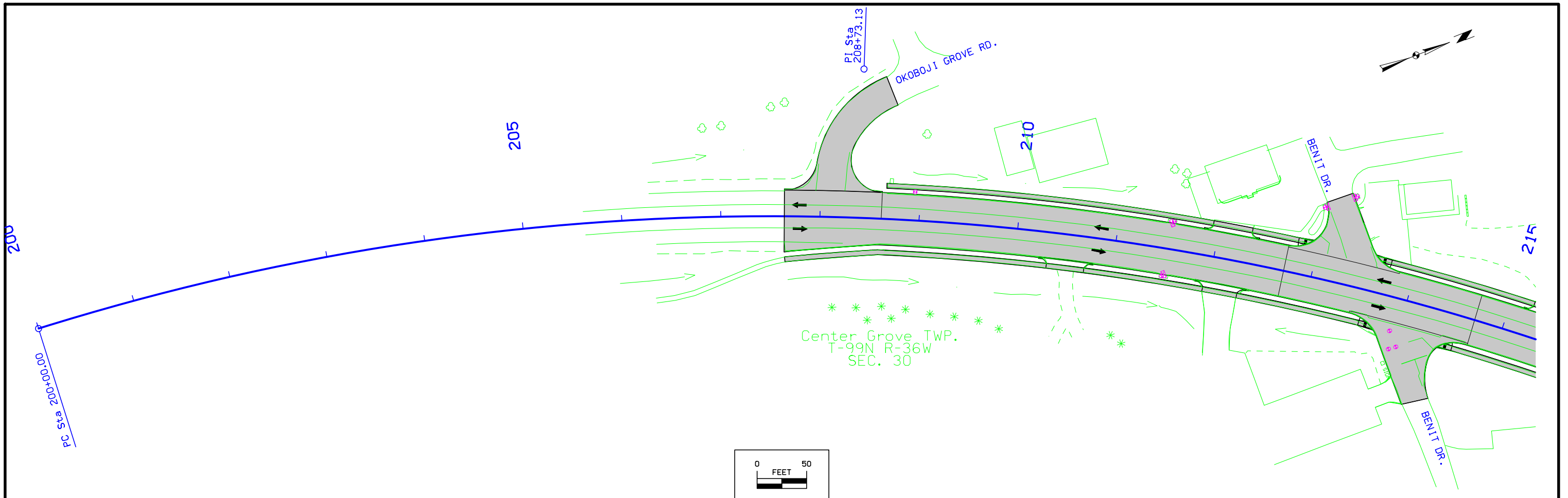
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 3
 STAGING AND
 TRAFFIC CONTROL



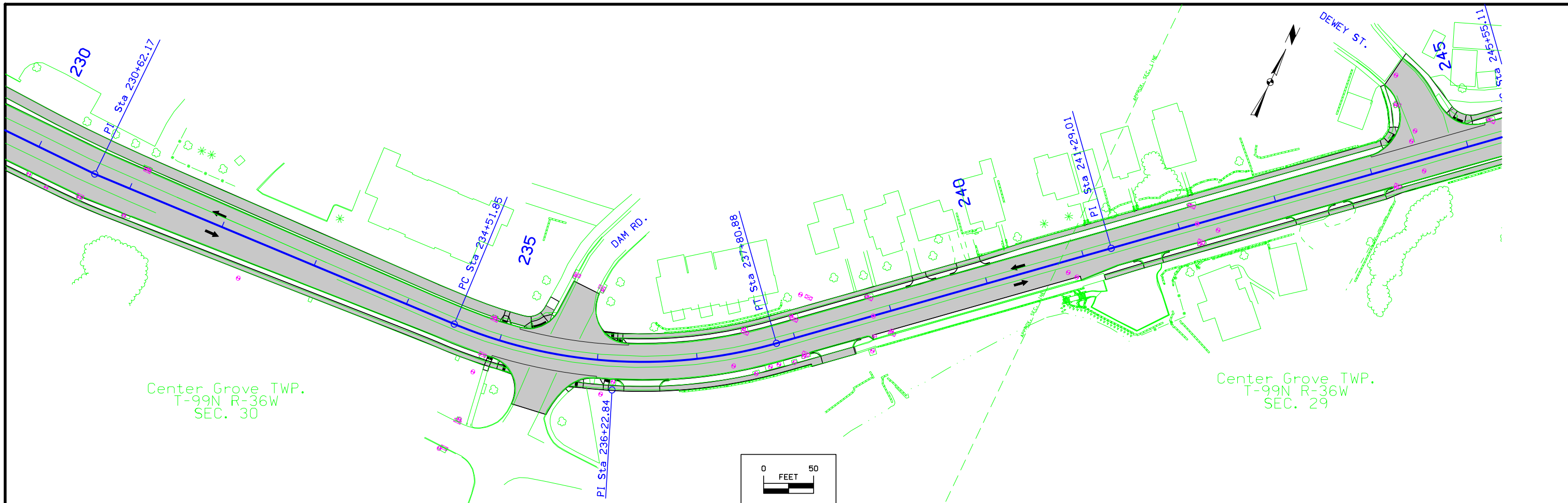
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
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STAGE 3
 STAGING AND
 TRAFFIC CONTROL



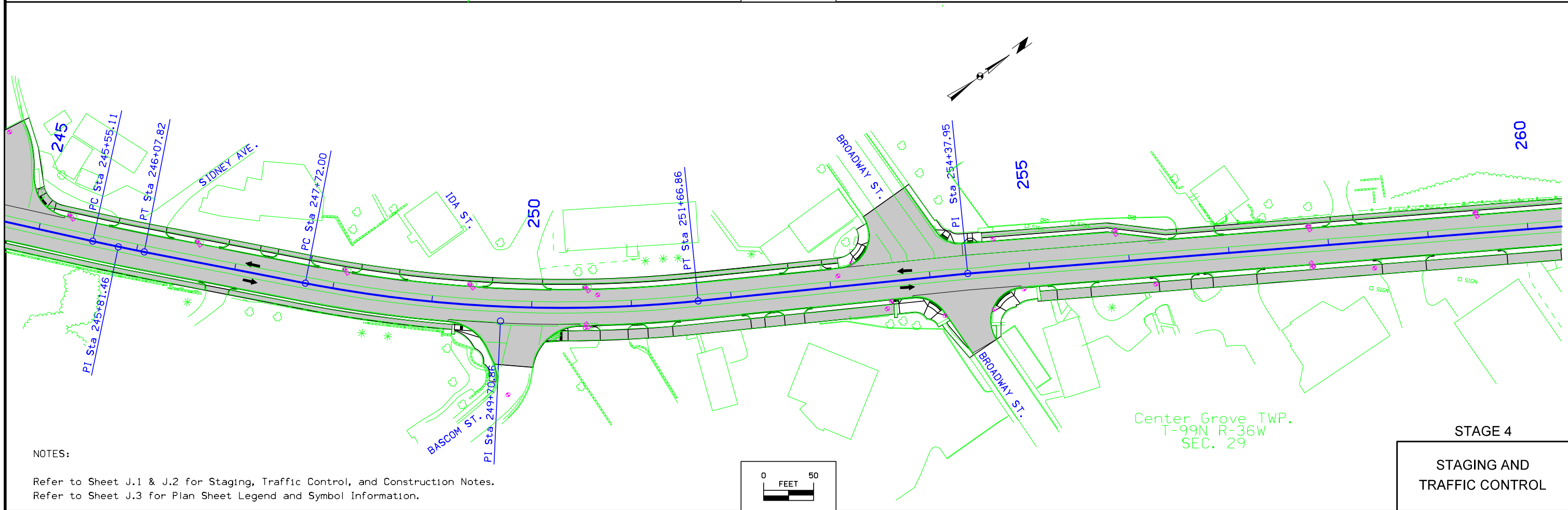
NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 4
 STAGING AND
 TRAFFIC CONTROL



Center Grove TWP.
T-99N R-36W
SEC. 30

Center Grove TWP.
T-99N R-36W
SEC. 29

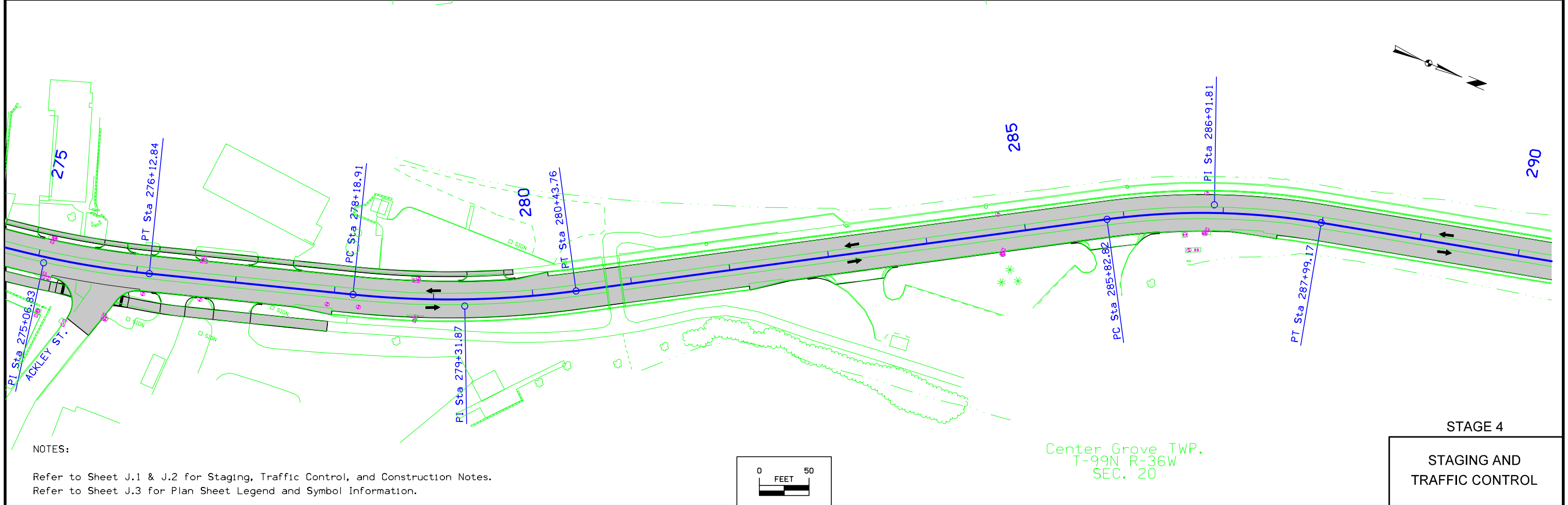
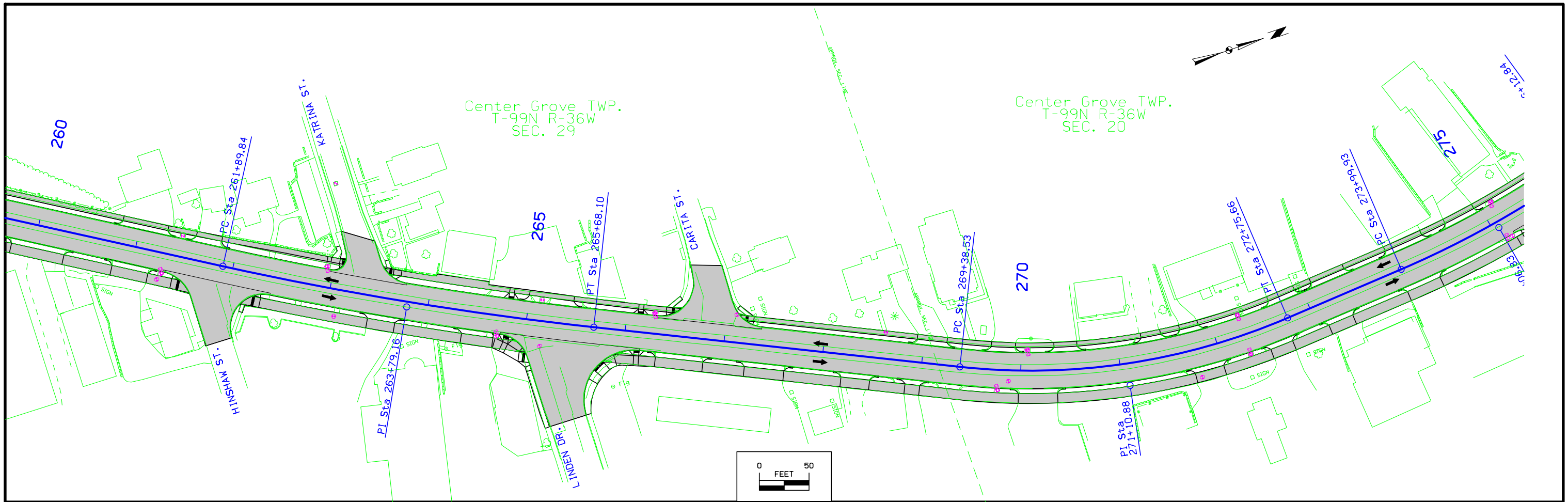


Center Grove TWP.
T-99N R-36W
SEC. 29

STAGE 4

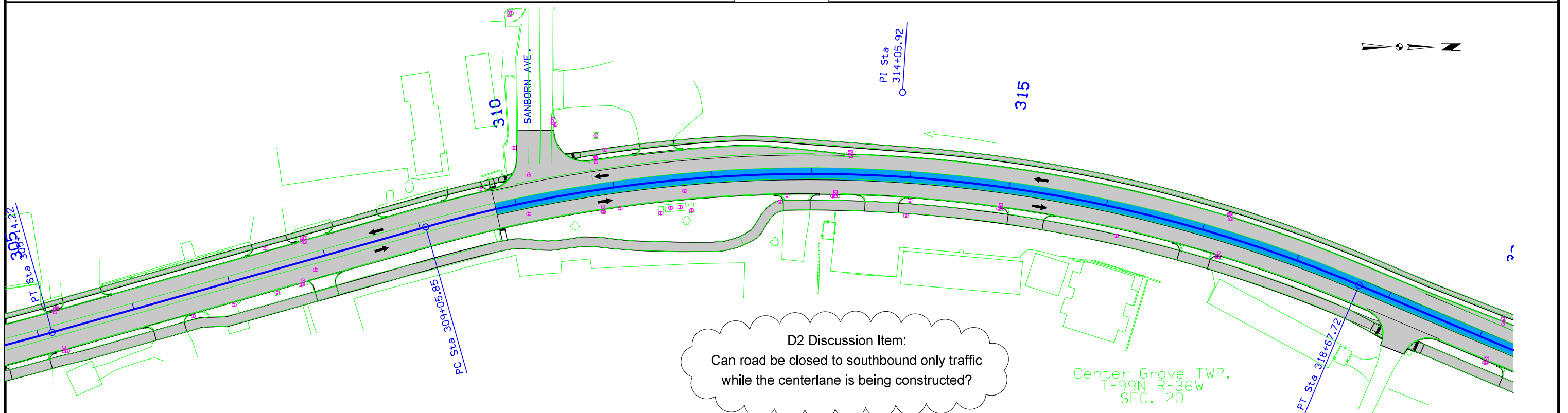
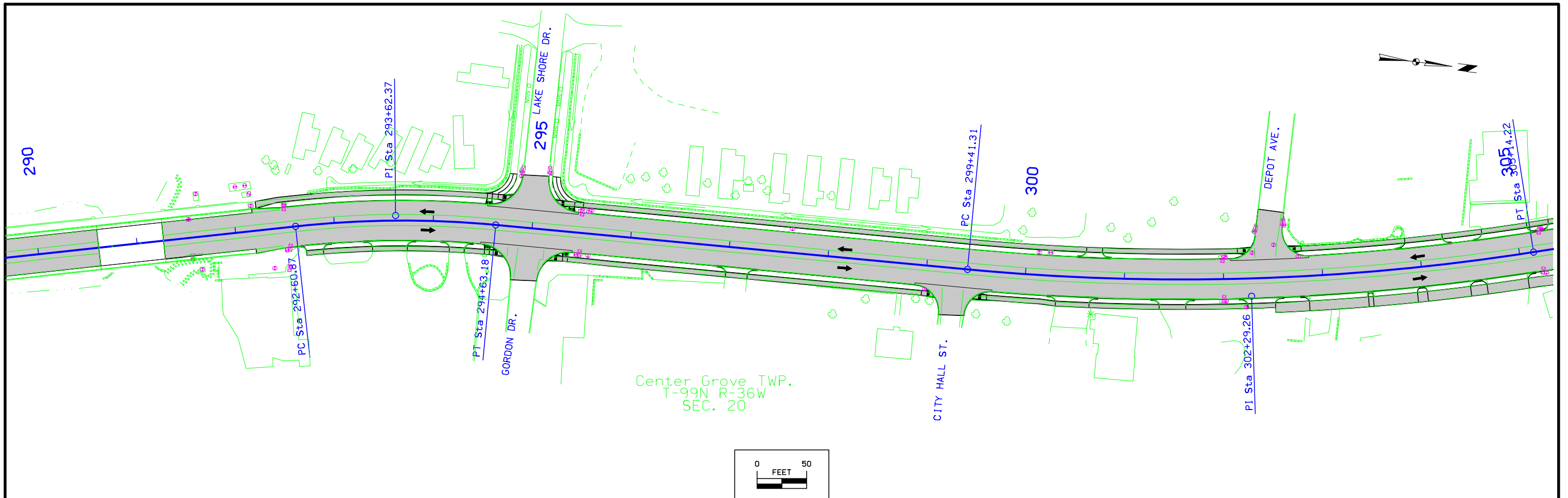
STAGING AND
TRAFFIC CONTROL

NOTES:
Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.



NOTES:
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 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

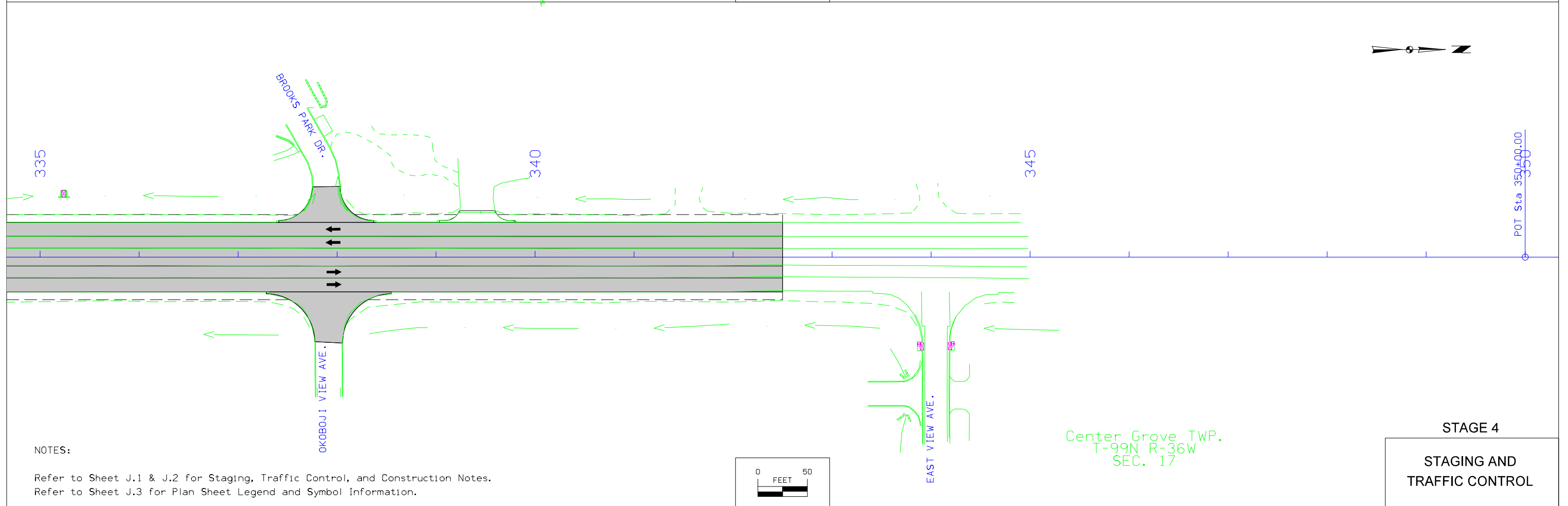
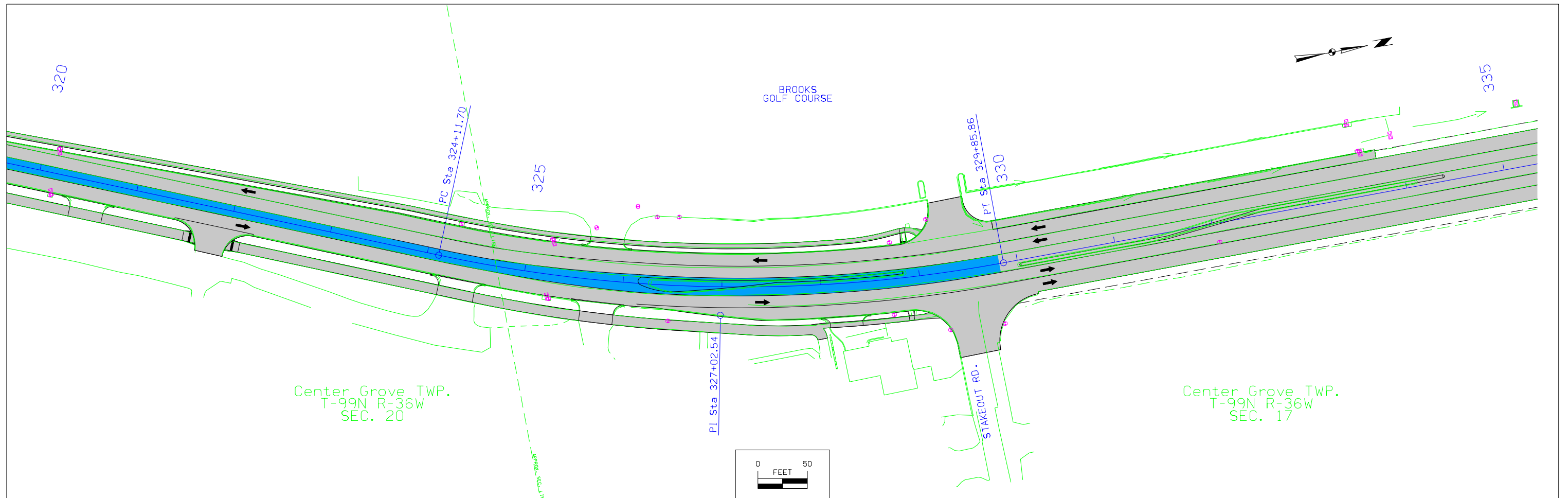
STAGE 4
 STAGING AND
 TRAFFIC CONTROL



D2 Discussion Item:
 Can road be closed to southbound only traffic
 while the centerlane is being constructed?

NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 4
 STAGING AND
 TRAFFIC CONTROL



NOTES:
 Refer to Sheet J.1 & J.2 for Staging, Traffic Control, and Construction Notes.
 Refer to Sheet J.3 for Plan Sheet Legend and Symbol Information.

STAGE 4
 STAGING AND
 TRAFFIC CONTROL

GENERAL NOTES:

1. THE ENGINEER WILL STAKE THE LOCATION OF ALL DETECTORS, HANDHOLES, AND FOUNDATIONS IN THE FIELD.
2. ALL QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE ACTUAL SITE CONDITIONS PRIOR TO PERFORMING SIGNAL WORK.
3. THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY COMPANY TO DETERMINE THE EXACT LOCATION OF THE SERVICE POLE AND POWER SUPPLY. THE CONTRACTOR SHALL PROVIDE CONNECTION TO THE POWER SOURCE USING A 40 AMP 120V FUSED OR CIRCUIT BREAKER TYPE WEATHERPROOF DISCONNECT. ALL COSTS ASSOCIATED WITH THE ELECTRICAL SERVICE CONNECTION SHALL BE INCLUDED IN THE LUMP SUM BID FOR THE TRAFFIC SIGNAL WORK.
4. THE CONTRACTOR SHALL SUBMIT TO THE STATE TRAFFIC ENGINEER A LIST OF TRAFFIC SIGNAL ITEMS (CATALOG CUT SHEETS ACCEPTABLE) THAT ARE PROPOSED FOR INSTALLATION.

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE PROPER UTILITY COMPANIES AND CITY OFFICIALS FOR THE PURPOSE OF LOCATING UNDERGROUND FACILITIES AND COORDINATING CONSTRUCTION ACTIVITIES.

6. ALL TRAFFIC SIGNAL WORK IN THIS PROJECT SHALL BE IN ACCORDANCE WITH THE IOWA DOT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, LATEST EDITION, CURRENT DOT SUPPLEMENTAL SPECIFICATIONS, IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS), AND PROJECT SPECIAL PROVISIONS.
7. PRELIMINARY AND EXISTING SIGNAL LAYOUTS SHOWN. FINAL DESIGN PENDING DESIGN REVIEW AND FINAL GEOMETRIC CONFIGURATION.

DESIGN NOTES:

- LAKE ST
1. SOUTH APPROACH IS A PRIVATE DRIVE. PED SIGNAL HEADS AND PED BUTTONS TO BE INCLUDED ACROSS THIS APPROACH TO INFORM PEDESTRIANS OF WHEN THIS APPROACH IS BEING SERVED BY SIGNAL.
 2. EXISTING PAVEMENT MARKINGS ON LAKE ST (SOUTHBOUND APPROACH) DO NOT ALLOW THROUGH MOVEMENT TO PRIVATE DR. EXISTING PAVEMENT MARKINGS FOR SB LAKE ST ARE LEFT LANE MUST TURN LEFT AND RIGHT LANE MUST TURN RIGHT. SIGNAL HEAD CONFIGURATION SHOWN IN THIS PRELIMINARY SUBMITTAL ARE INTENDED TO MATCH EXISTING PAVEMENT MARKINGS AND MOVEMENTS. NEW MOVEMENTS MAY BE CONSIDERED FOLLOWING DESIGN REVIEW.
 3. MAINLINE ALIGNMENT IS ON A CURVE. NEAR SIDE SIGNALS FOR THE WEST APPROACH ARE INCLUDED TO PROVIDE ADEQUATE SIGNAL VISIBILITY INCLUDING DURING SIGNIFICANT QUEUING EVENTS.

- LINDEN DR
1. WEST APPROACH IS A PRIVATE DRIVE. PED SIGNAL HEADS AND PED BUTTONS TO BE INCLUDED ACROSS THIS APPROACH TO INFORM PEDESTRIANS OF WHEN THIS APPROACH IS BEING SERVED BY SIGNAL.
 2. EXISTING PAVEMENT MARKINGS ON LINDEN DR (WESTBOUND APPROACH) DO NOT ALLOW THROUGH MOVEMENT TO PRIVATE DR. EXISTING PAVEMENT MARKINGS FOR WB LINDEN DR ARE LEFT LANE MUST TURN LEFT AND RIGHT LANE MUST TURN RIGHT. SIGNAL HEAD CONFIGURATION SHOWN IN THIS PRELIMINARY SUBMITTAL ARE INTENDED TO MATCH EXISTING PAVEMENT MARKINGS AND MOVEMENTS. NEW MOVEMENTS MAY BE CONSIDERED FOLLOWING DESIGN REVIEW.
 4. NO PROTECTED LEFT TURN SIGNAL HEADS OR PHASING ANTICIPATED. THIS SIGNAL IS CLOSE TO THE INTERSECTION TO THE NORTH (CARITA ST). NB LEFT TURN MOVEMENTS AT CARITA ST ARE PERMITTED WITH EXISTING PAVEMENT MARKINGS AND MAY CAUSE QUEUING THROUGH THE SIGNALIZED INTERSECTION AT LINDEN DR DEPENDING ON VOLUME. SIMILAR CONFLICT MAY EXIST FOR SB LEFT TURN MOVEMENT AT LINDEN DR DEPENDING ON VOLUME.

- LAKESHORE DR/GORDON DR
1. EXISTING ROW AND AVAILABLE SPACE ON WEST SIDE OF INTERSECTION IS LIMITED DUE TO EXISTING RETAINING WALLS. THIS COULD LIMIT THE LOCATION OF TEMPORARY SIGNAL POLES.

- STAKEOUT RD
1. ADDITIONAL SIDEWALK/TRAIL FACILITIES ANTICIPATED ON NORTH SIDE OF INTERSECTION.

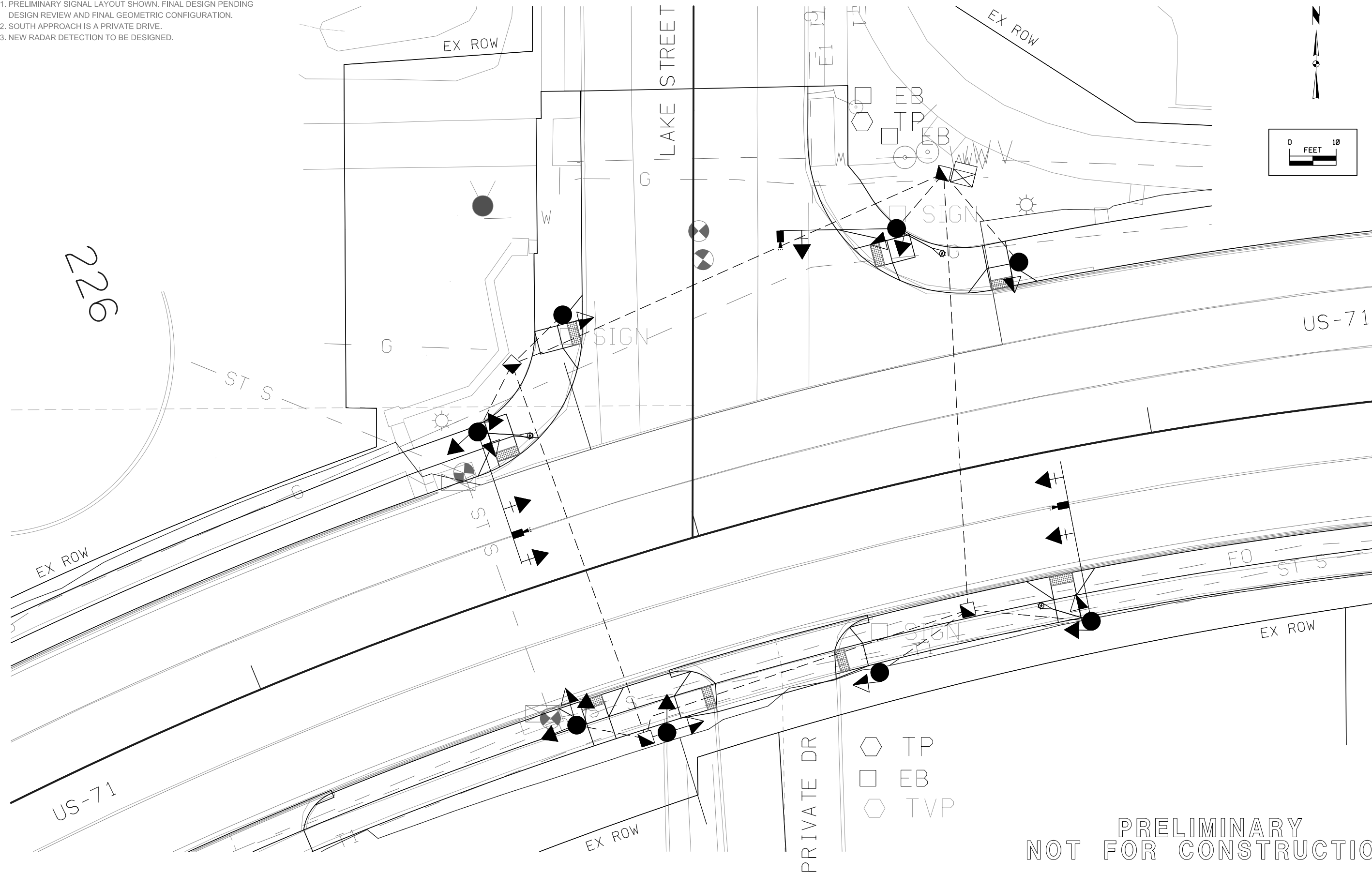
PRELIMINARY
NOT FOR CONSTRUCTION

TRAFFIC SIGNAL GENERAL NOTES

FILE NO.	ENGLISH	DESIGN TEAM ITERIS	DICKINSON COUNTY	PROJECT NUMBER NHSN-71-9(78)--2R-30	SHEET NUMBER N.1
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INTERSECTION NOTES:

1. PRELIMINARY SIGNAL LAYOUT SHOWN. FINAL DESIGN PENDING DESIGN REVIEW AND FINAL GEOMETRIC CONFIGURATION.
2. SOUTH APPROACH IS A PRIVATE DRIVE.
3. NEW RADAR DETECTION TO BE DESIGNED.

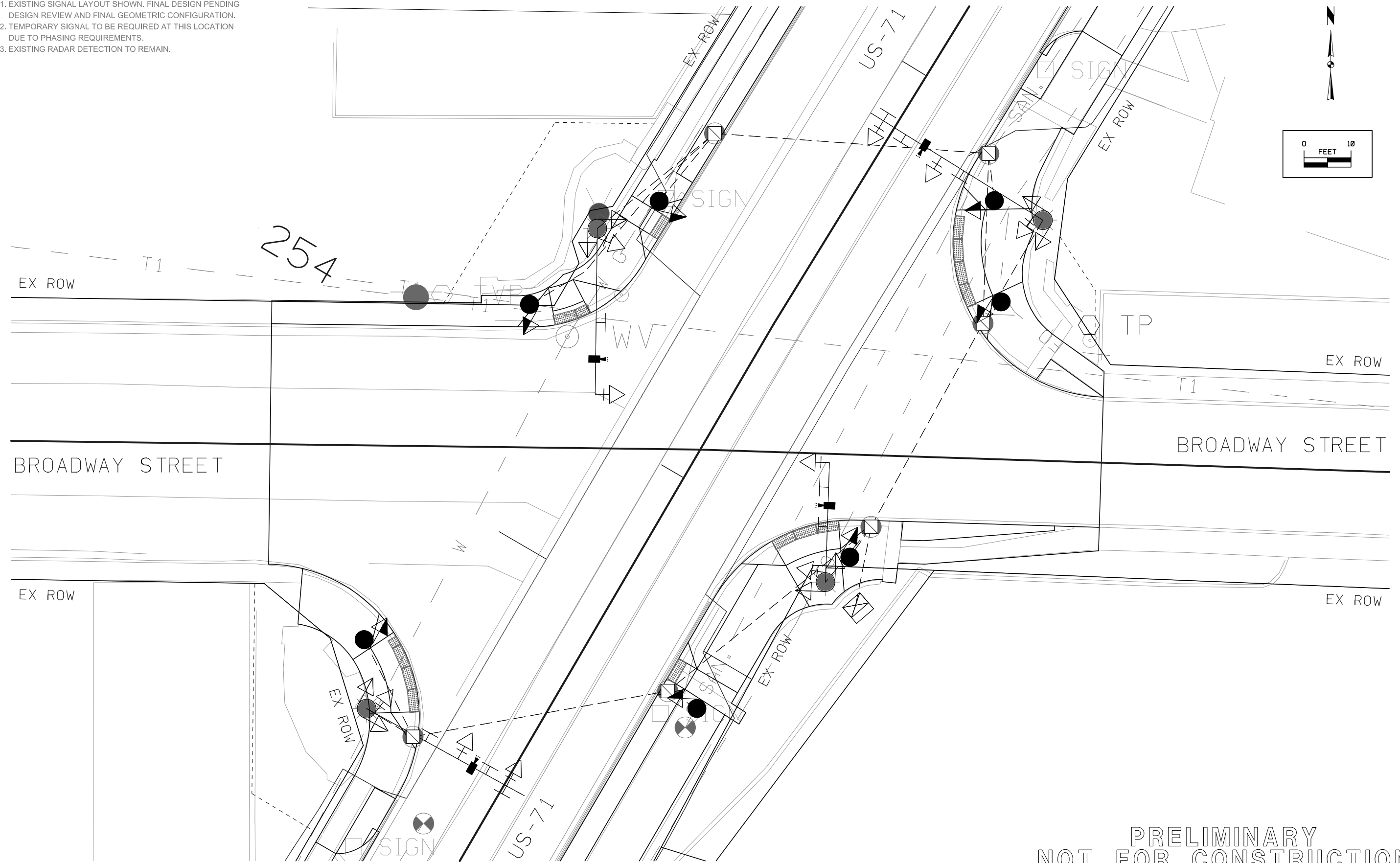


PRELIMINARY
NOT FOR CONSTRUCTION

US-71 and LAKE STREET

INTERSECTION NOTES:

1. EXISTING SIGNAL LAYOUT SHOWN. FINAL DESIGN PENDING DESIGN REVIEW AND FINAL GEOMETRIC CONFIGURATION.
2. TEMPORARY SIGNAL TO BE REQUIRED AT THIS LOCATION DUE TO PHASING REQUIREMENTS.
3. EXISTING RADAR DETECTION TO REMAIN.

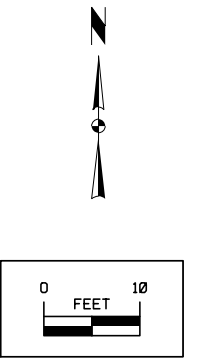


PRELIMINARY
NOT FOR CONSTRUCTION

US-71 and BROADWAY STREET

INTERSECTION NOTES:

- 1. PRELIMINARY SIGNAL LAYOUT SHOWN. FINAL DESIGN PENDING DESIGN REVIEW AND FINAL GEOMETRIC CONFIGURATION.
- 2. WEST APPROACH IS A PRIVATE DR.
- 3. NEW RADAR DETECTION TO BE DESIGNED.

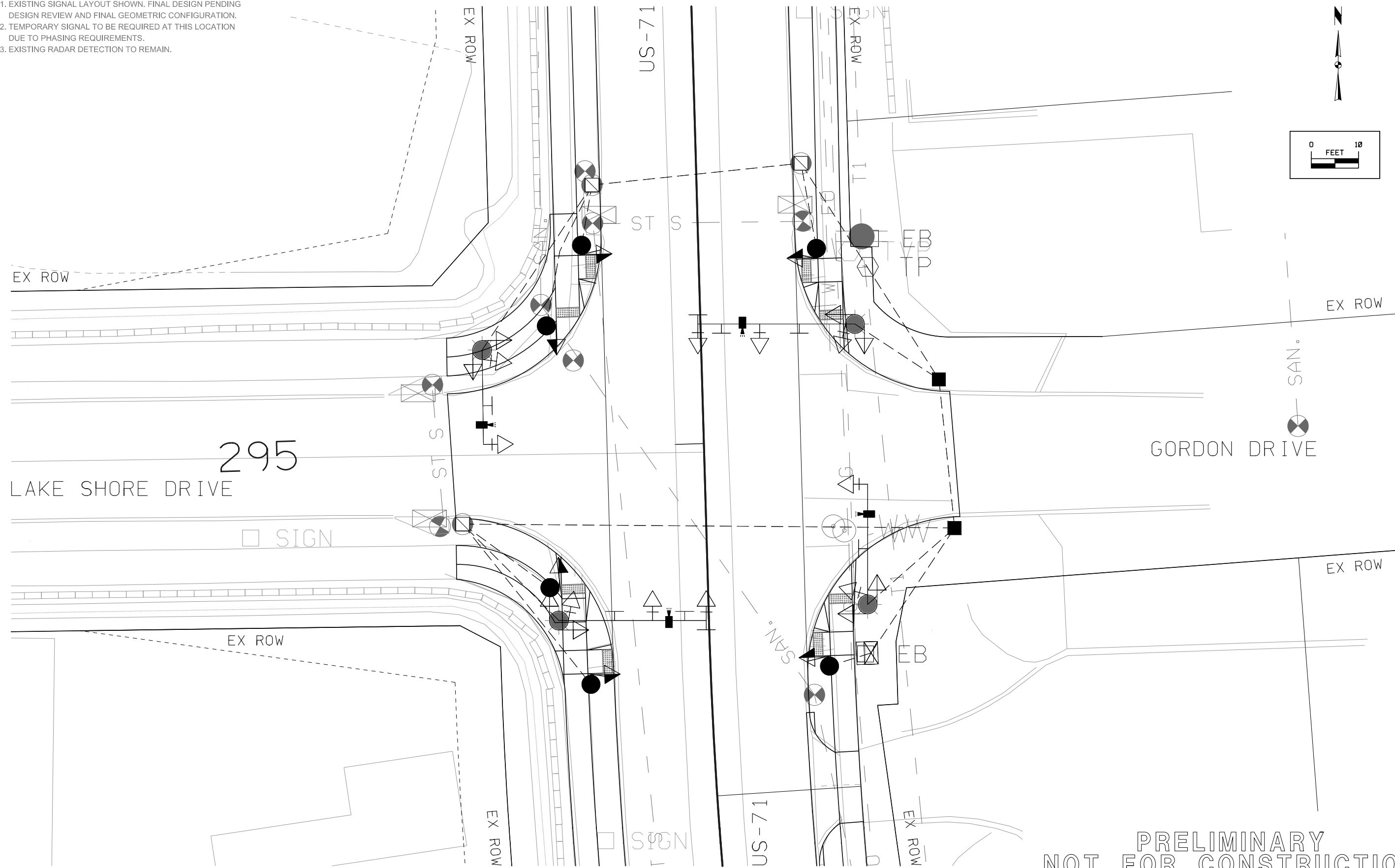


PRELIMINARY
NOT FOR CONSTRUCTION

US-71 and LINDEN DRIVE

INTERSECTION NOTES:

1. EXISTING SIGNAL LAYOUT SHOWN. FINAL DESIGN PENDING DESIGN REVIEW AND FINAL GEOMETRIC CONFIGURATION.
2. TEMPORARY SIGNAL TO BE REQUIRED AT THIS LOCATION DUE TO PHASING REQUIREMENTS.
3. EXISTING RADAR DETECTION TO REMAIN.

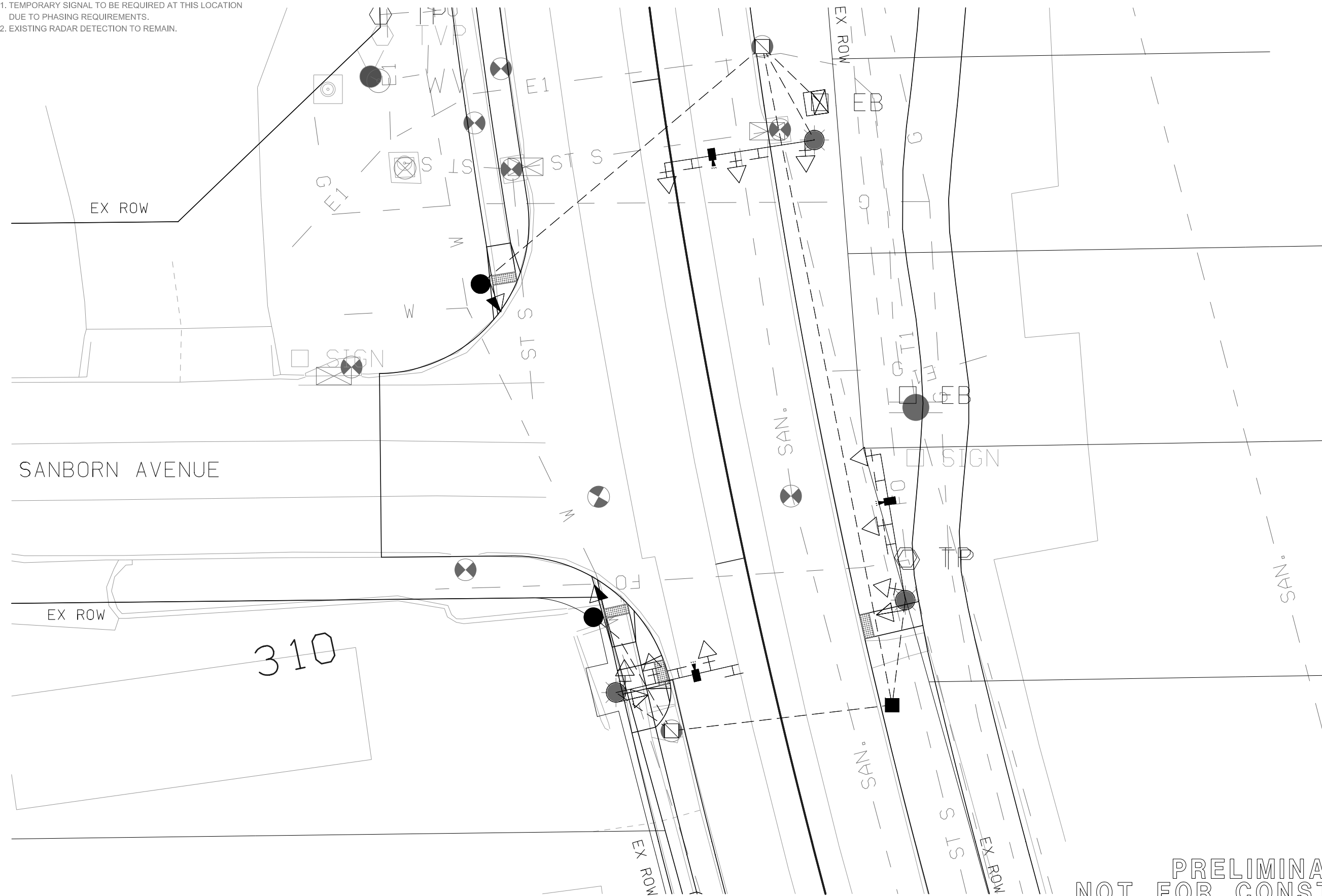


PRELIMINARY
NOT FOR CONSTRUCTION

US-71 and LAKE SHORE DRIVE/GORDON DRIVE

INTERSECTION NOTES:

- 1. TEMPORARY SIGNAL TO BE REQUIRED AT THIS LOCATION DUE TO PHASING REQUIREMENTS.
- 2. EXISTING RADAR DETECTION TO REMAIN.



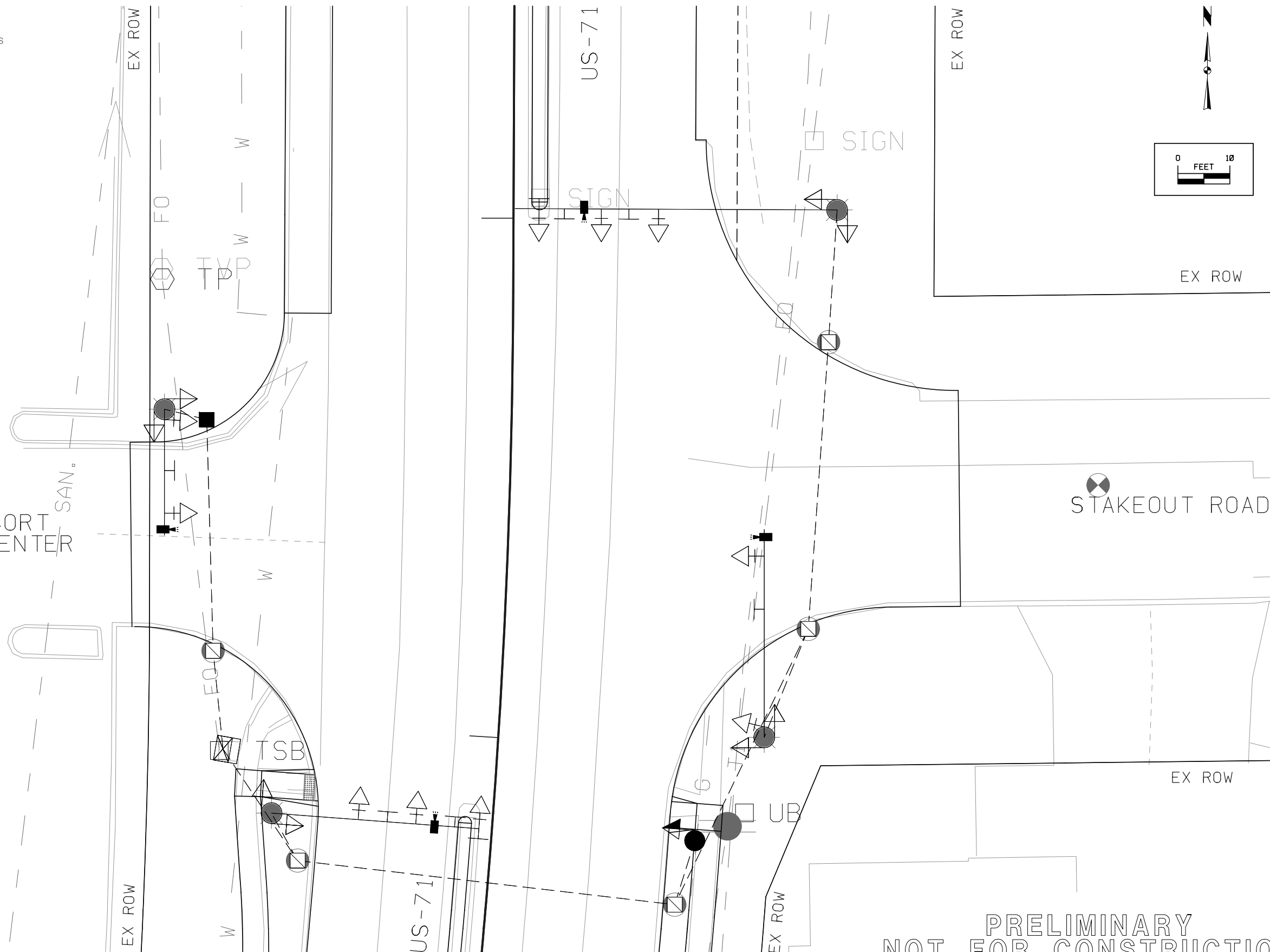
PRELIMINARY
NOT FOR CONSTRUCTION

US-71 and SANBORN AVENUE

INTERSECTION NOTES:

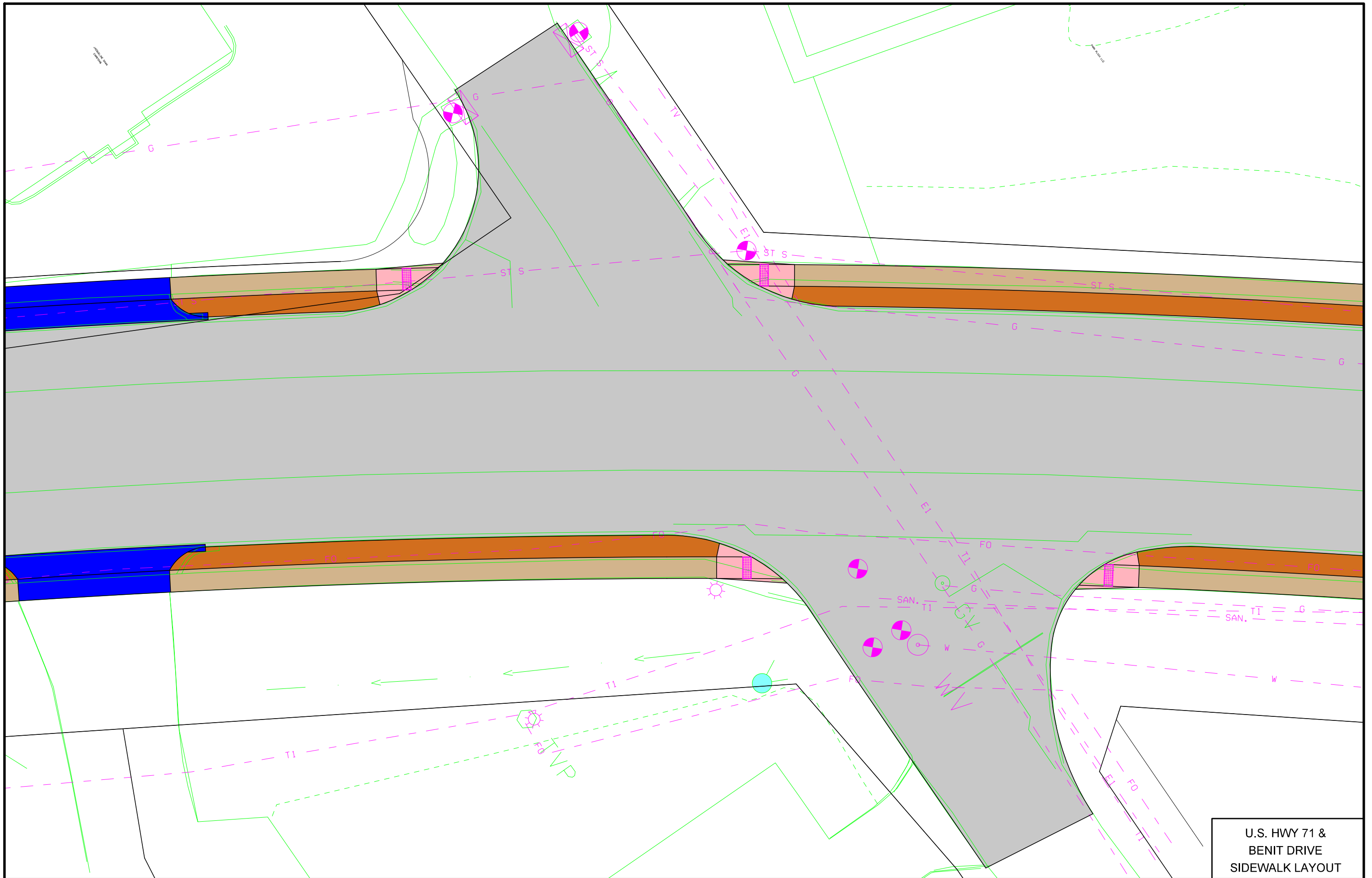
1. TEMPORARY SIGNAL TO BE REQUIRED AT THIS LOCATION DUE TO PHASING REQUIREMENTS.
2. NORTH MAST ARMS HAVE EXISTING PED PUSH BUTTONS, BUT NO SIDEWALK RAMPS. ADDITIONAL DESIGN TO ACCESS THESE ANTICIPATED.
3. EXISTING RADAR DETECTION TO REMAIN.

ARROWWOOD RESORT & CONFERENCE CENTER

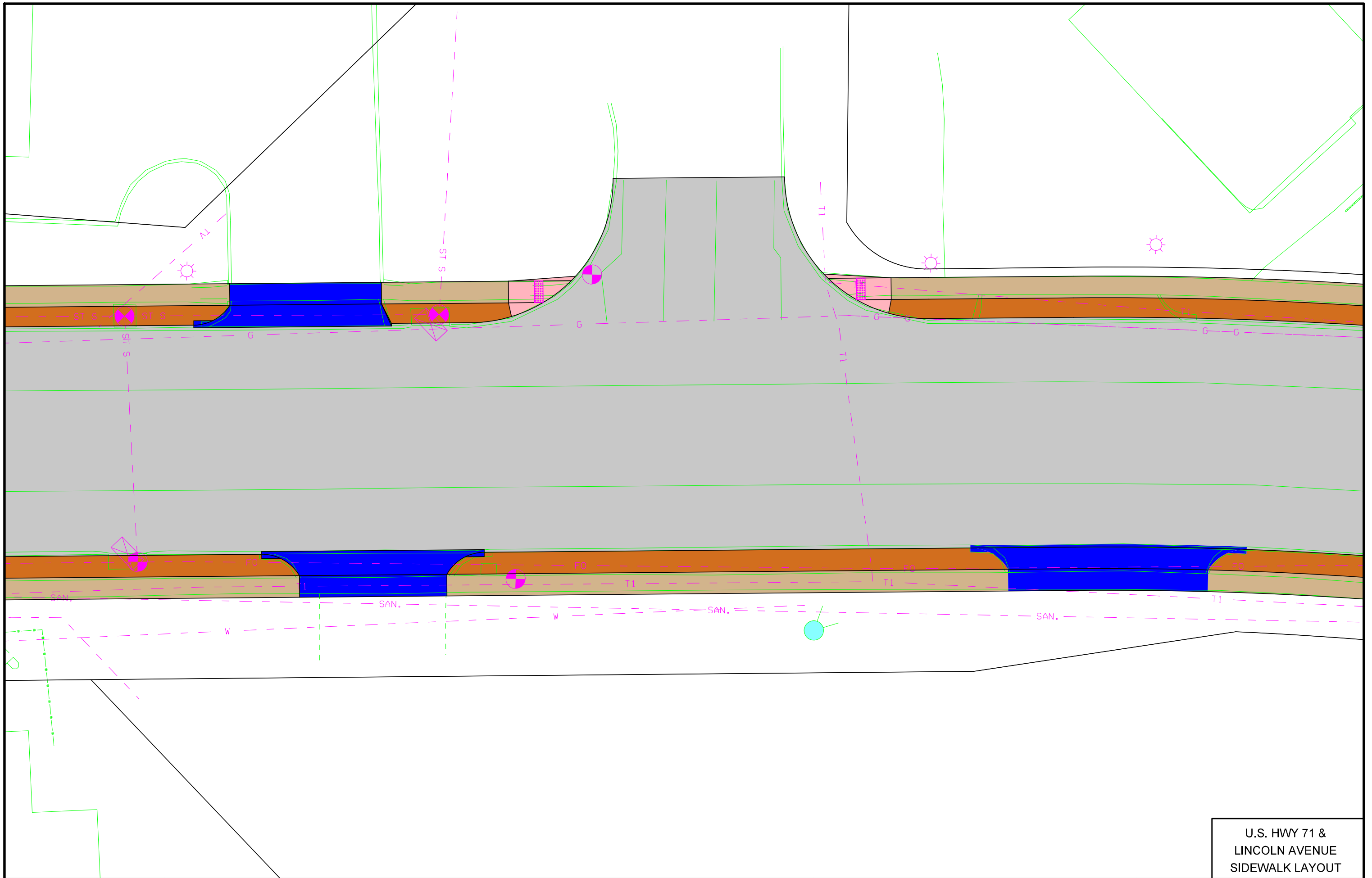


PRELIMINARY
NOT FOR CONSTRUCTION

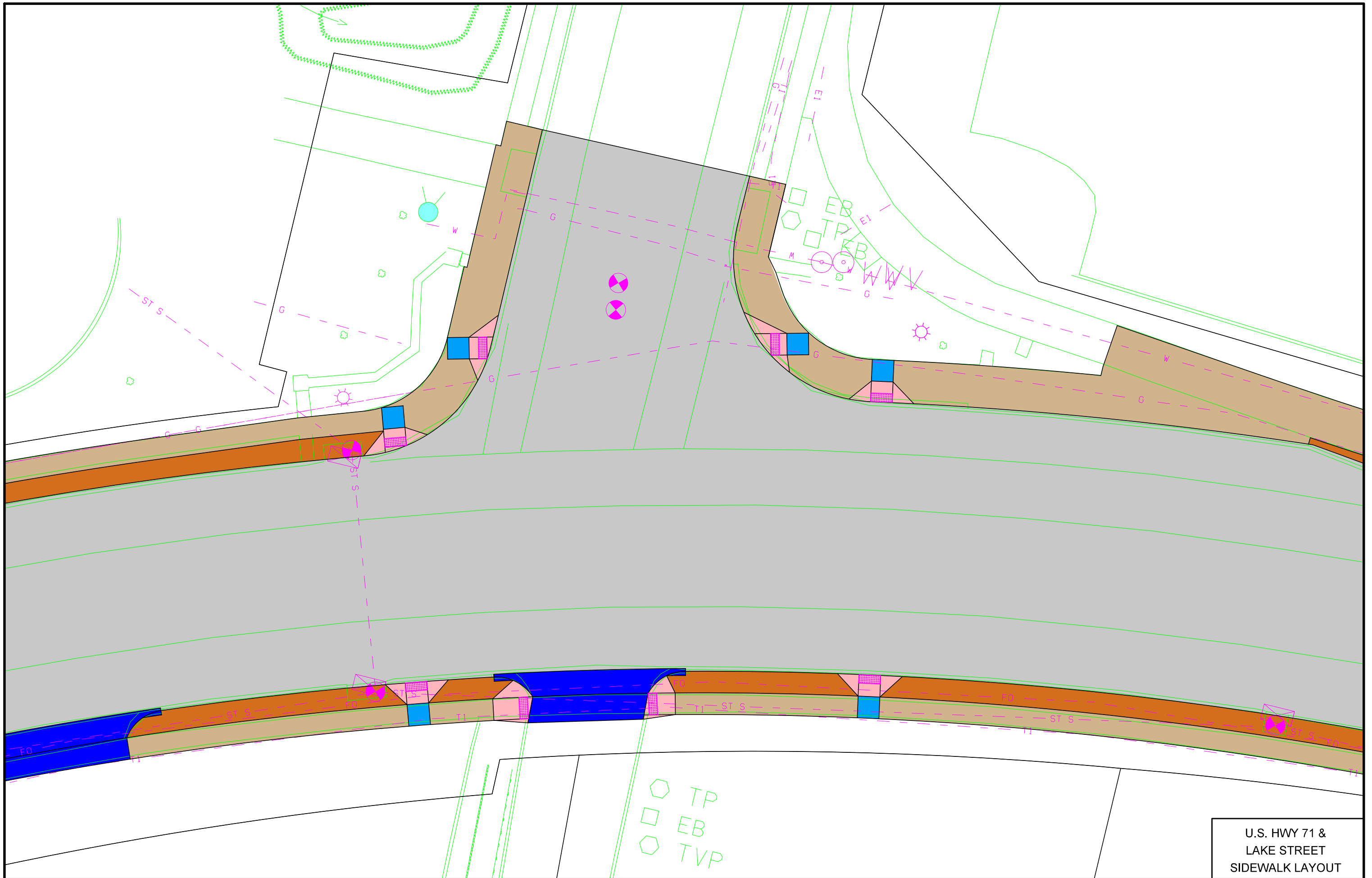
US-71 and STAKEOUT ROAD



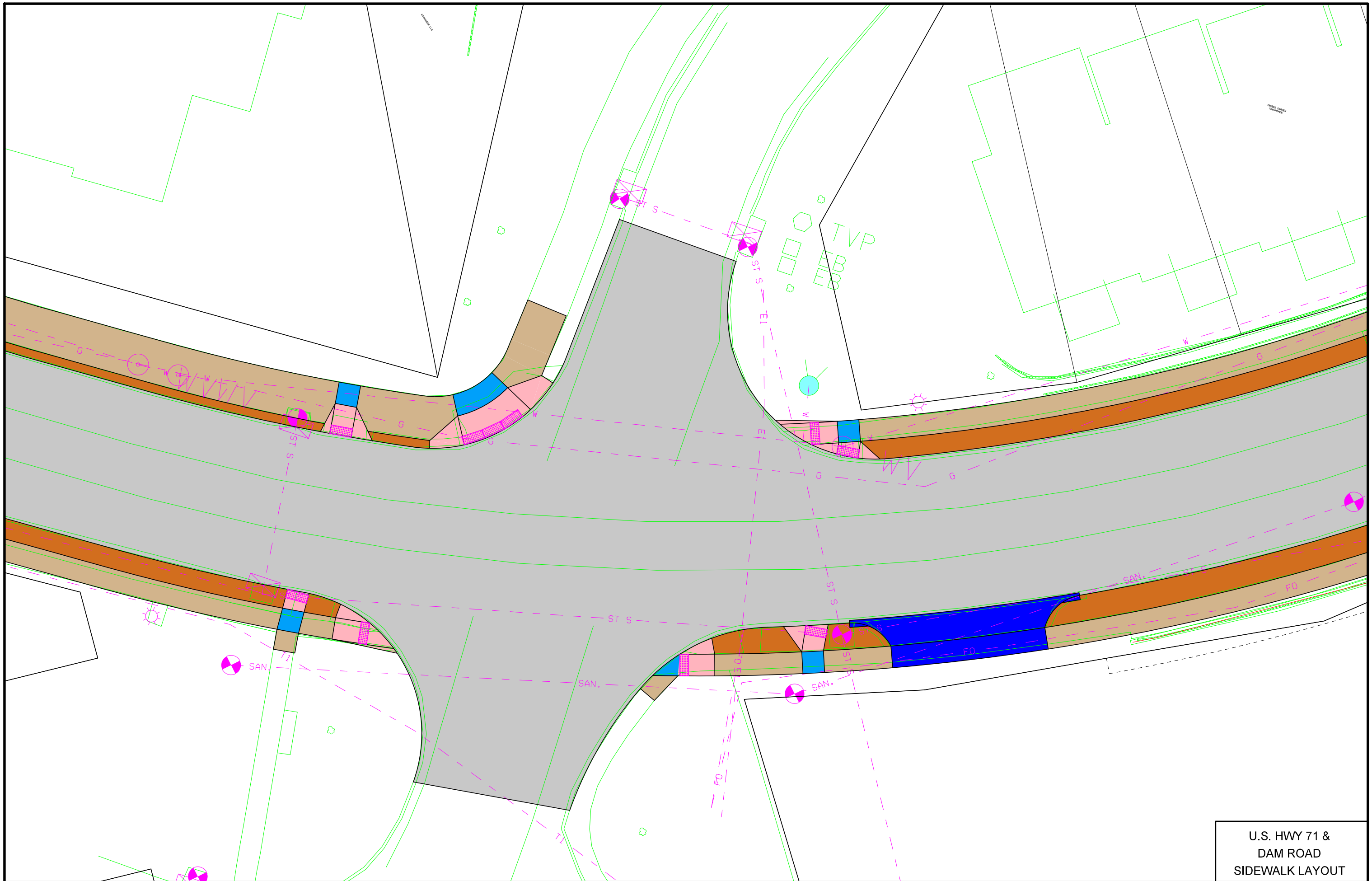
U.S. HWY 71 &
 BENIT DRIVE
 SIDEWALK LAYOUT



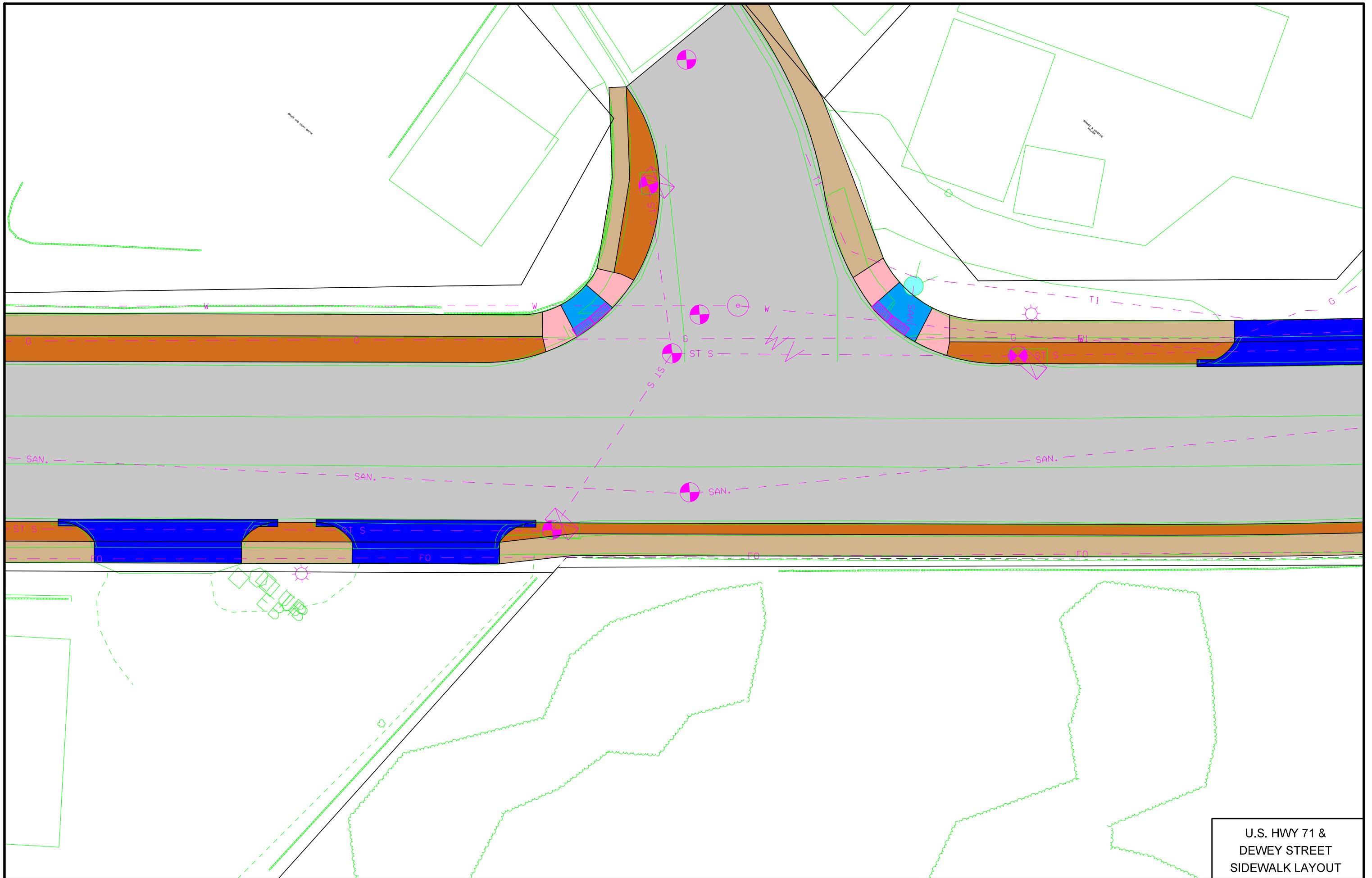
U.S. HWY 71 &
LINCOLN AVENUE
SIDEWALK LAYOUT



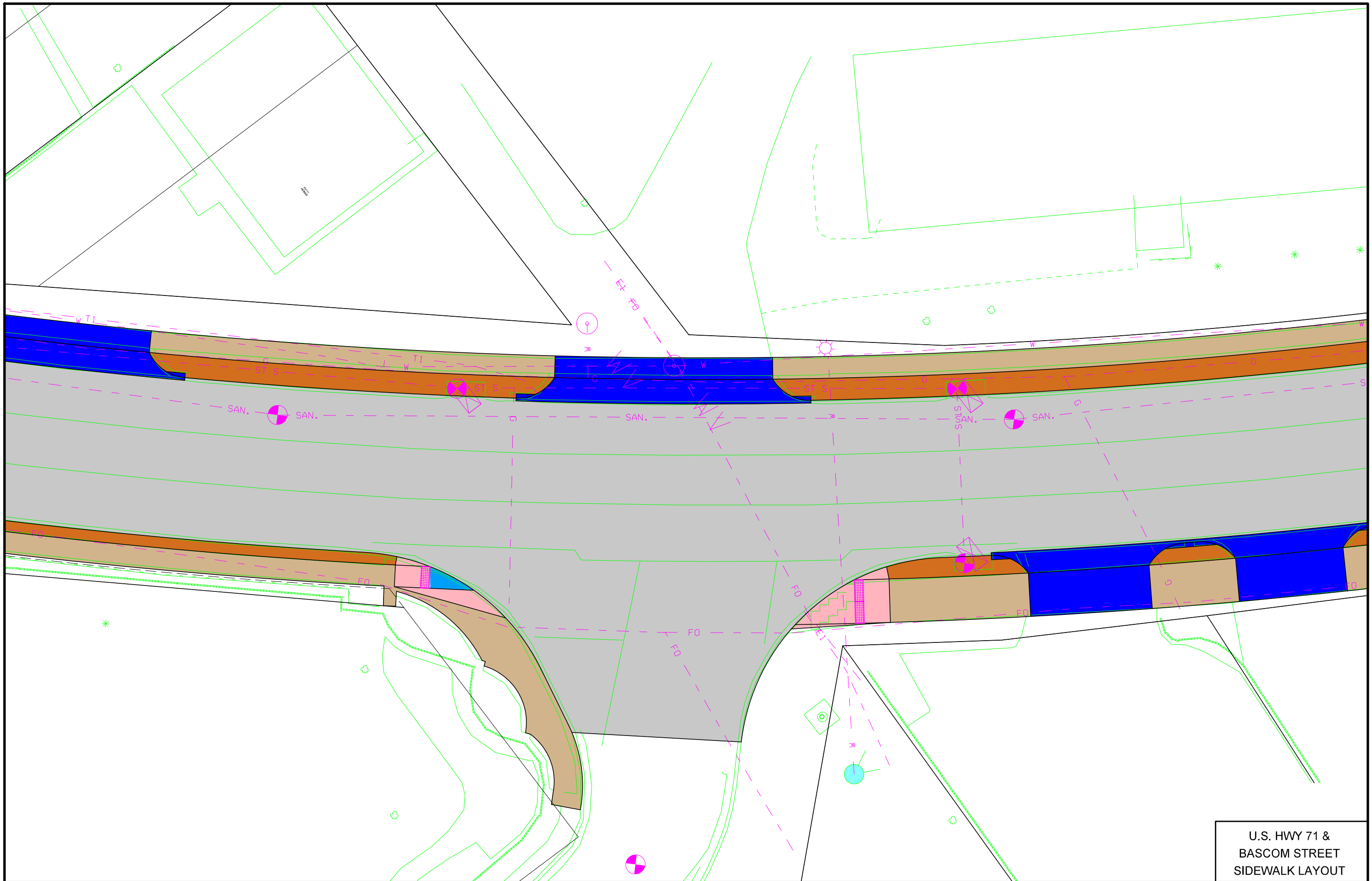
U.S. HWY 71 &
LAKE STREET
SIDEWALK LAYOUT



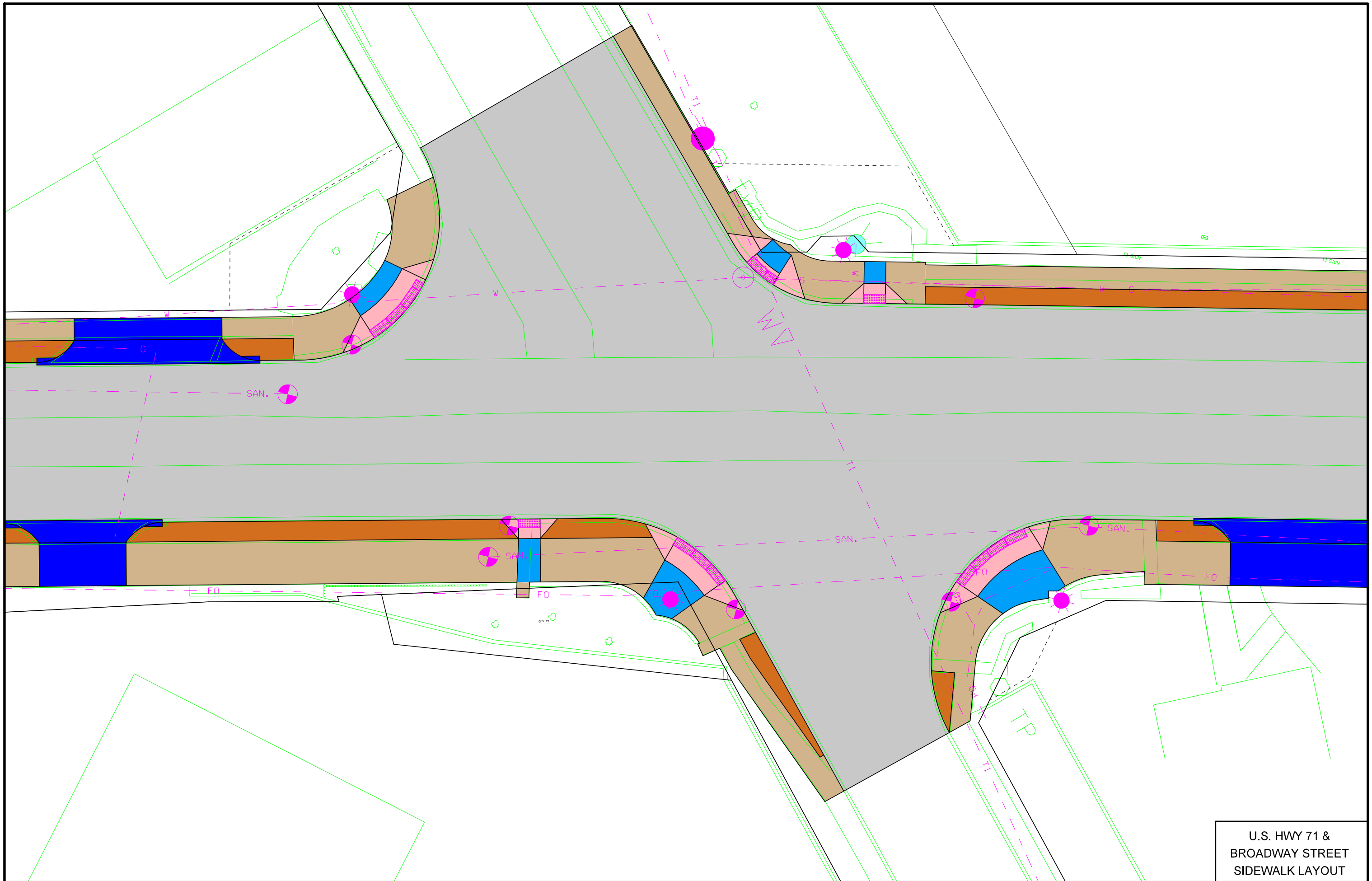
U.S. HWY 71 &
DAM ROAD
SIDEWALK LAYOUT



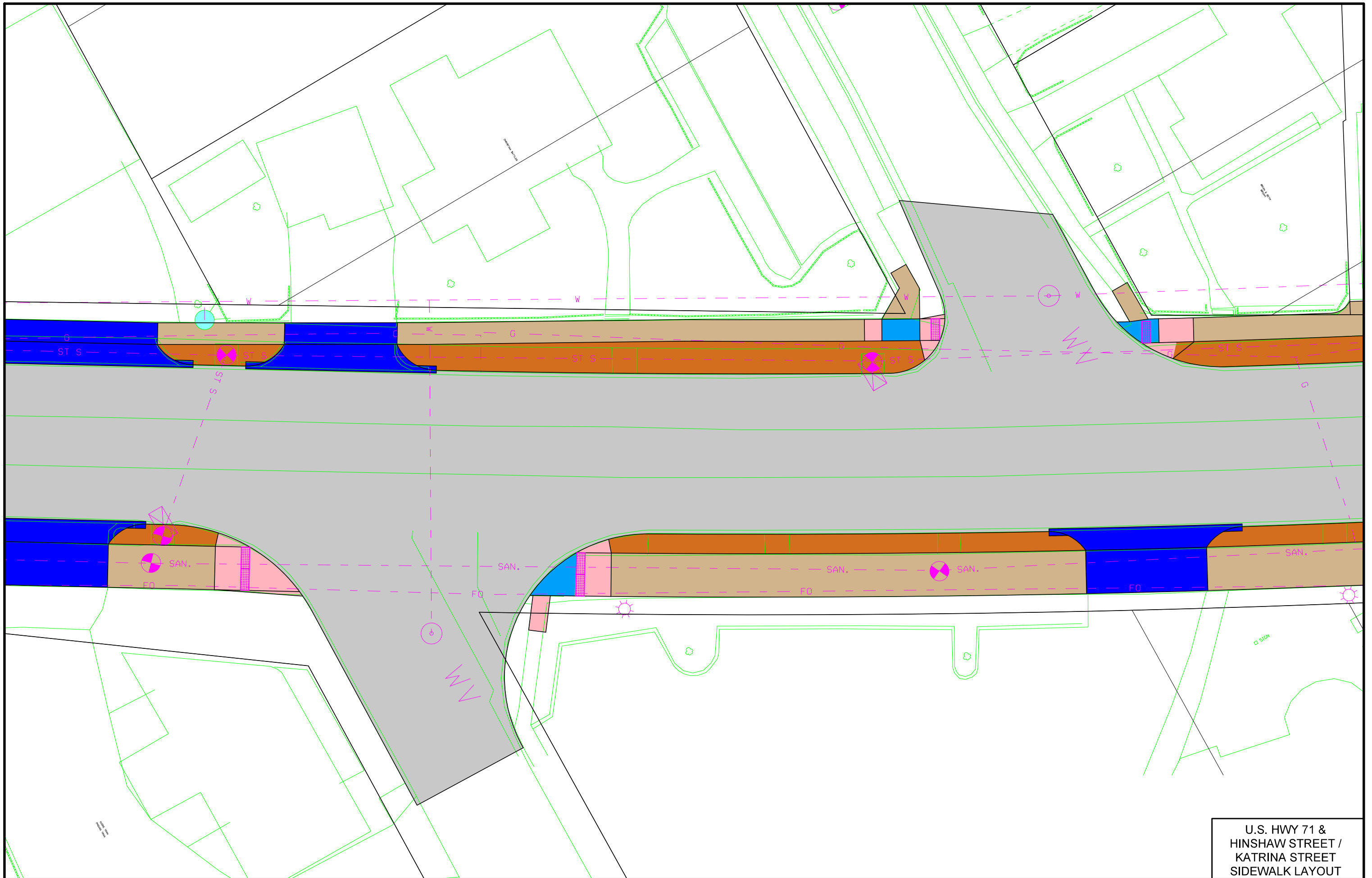
U.S. HWY 71 &
DEWEY STREET
SIDEWALK LAYOUT



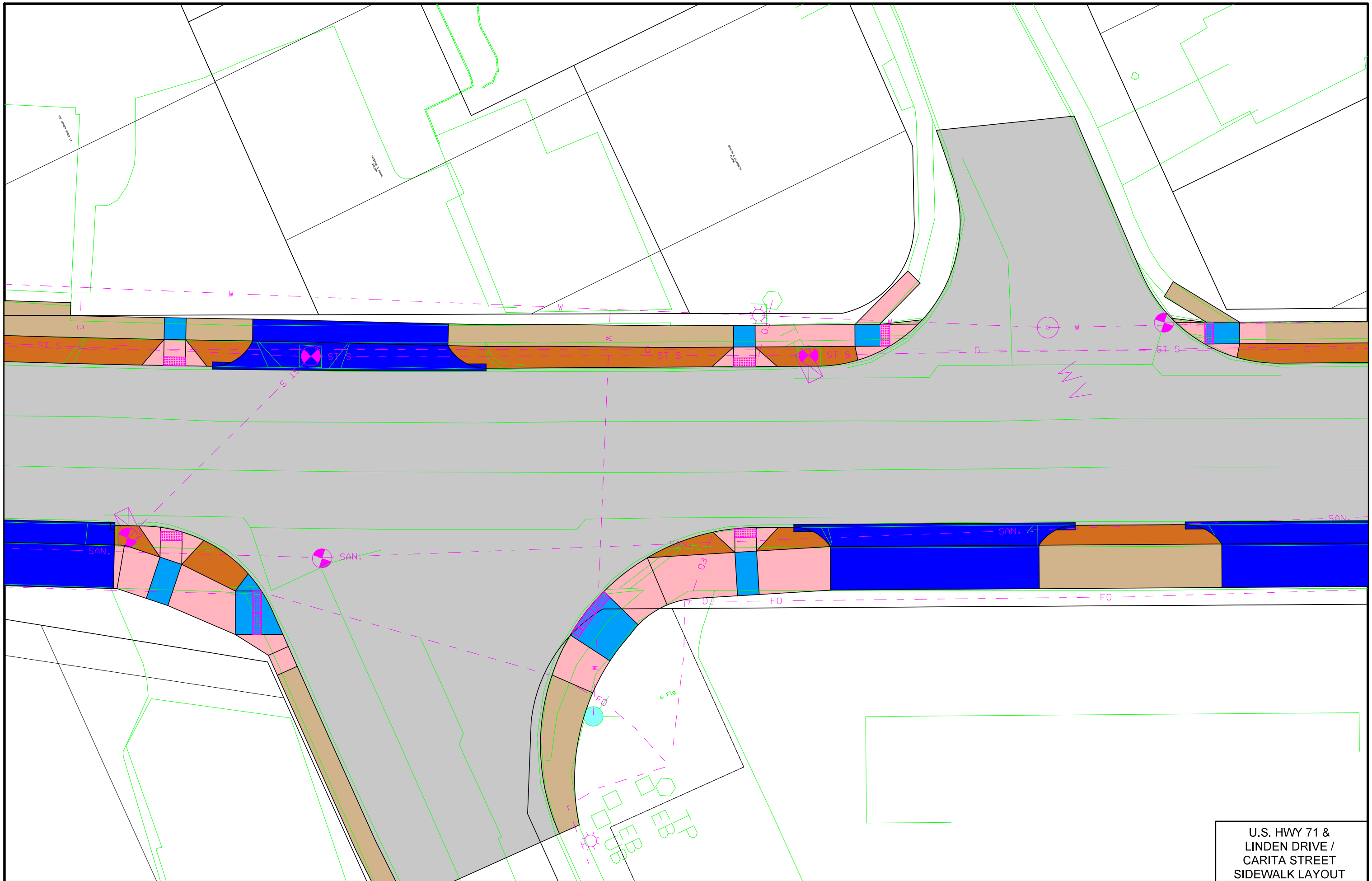
U.S. HWY 71 &
BASCOM STREET
SIDEWALK LAYOUT



U.S. HWY 71 &
BROADWAY STREET
SIDEWALK LAYOUT



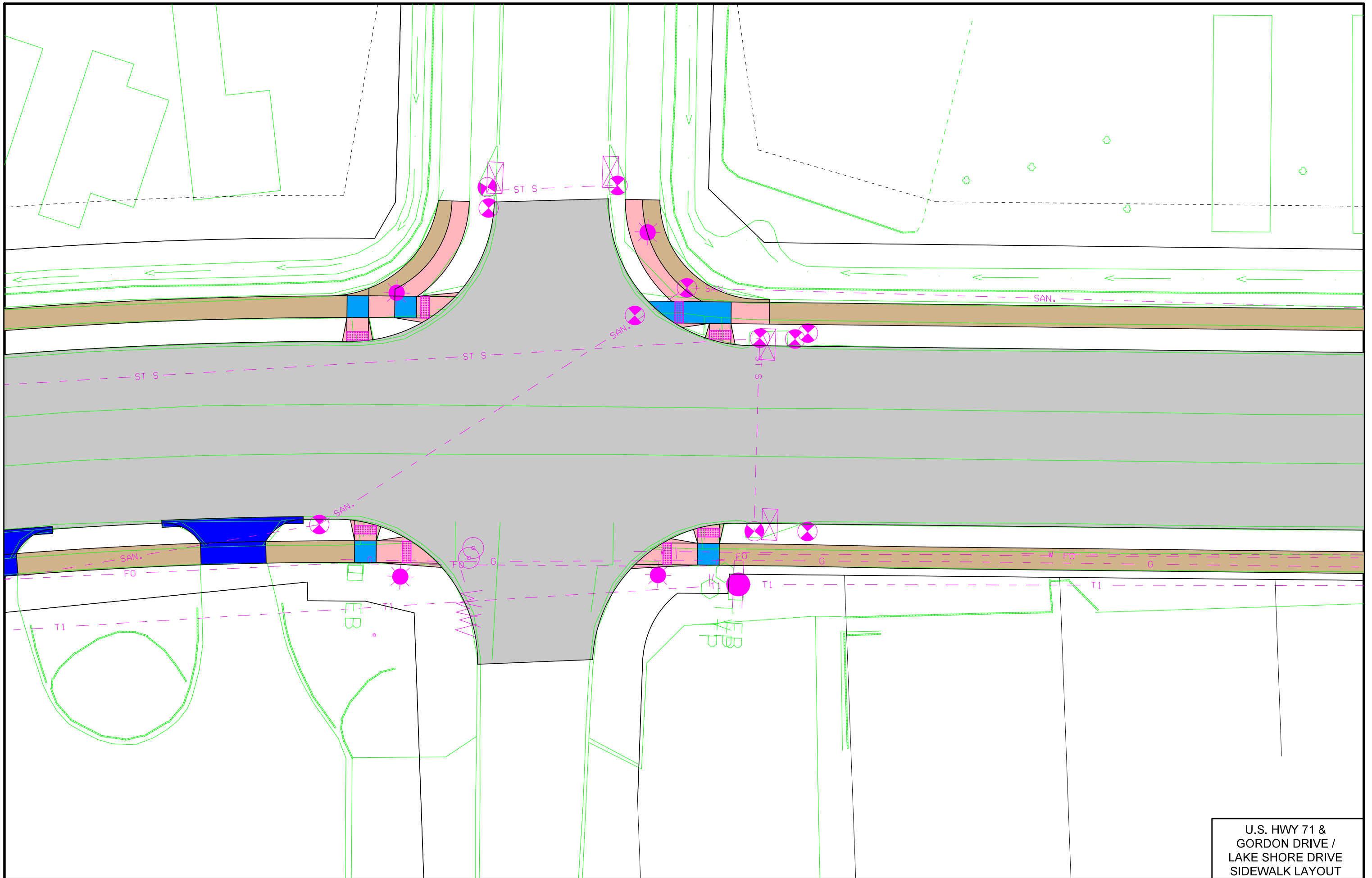
U.S. HWY 71 &
 HINSHAW STREET /
 KATRINA STREET
 SIDEWALK LAYOUT

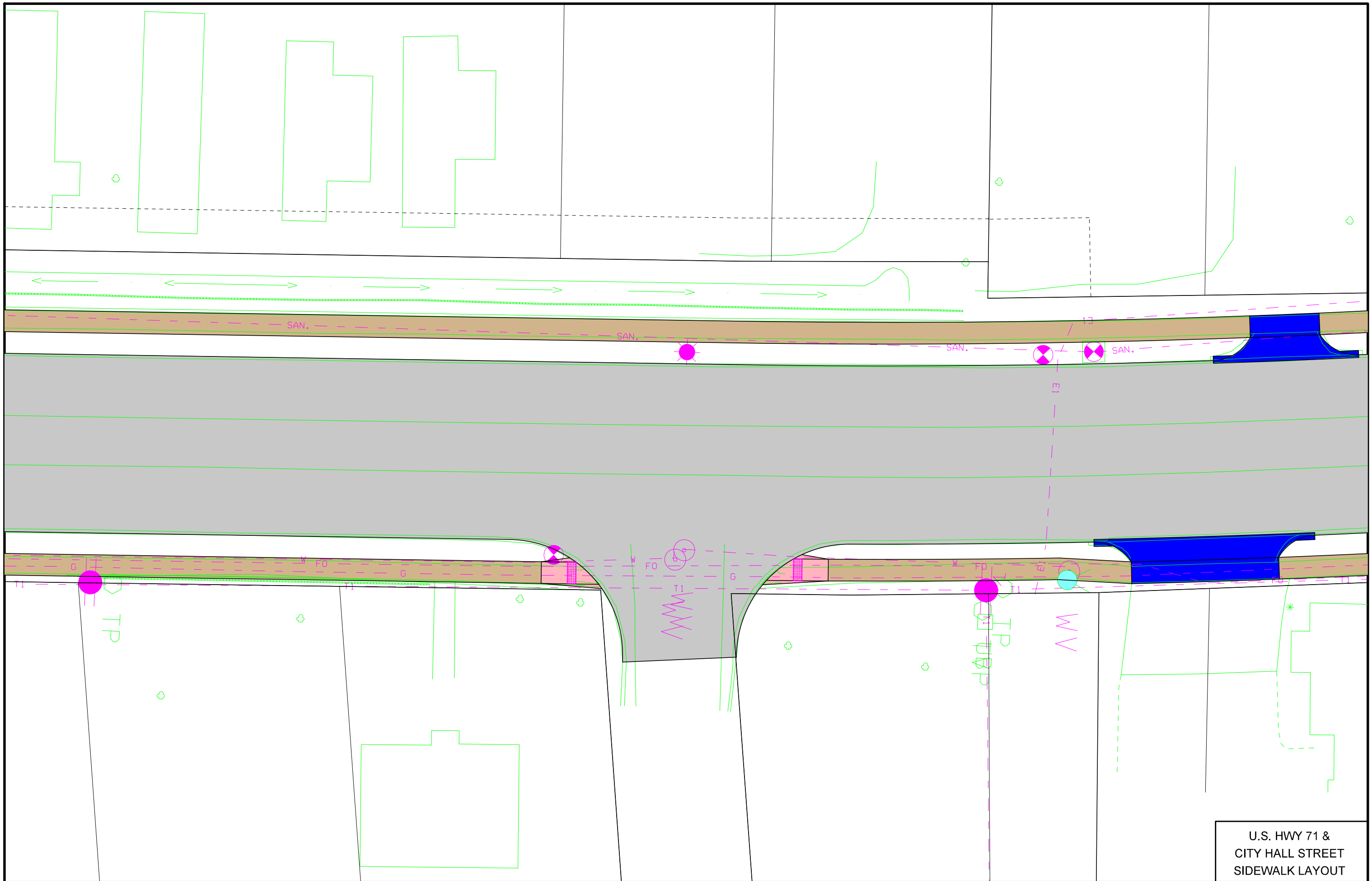


U.S. HWY 71 &
LINDEN DRIVE /
CARITA STREET
SIDEWALK LAYOUT

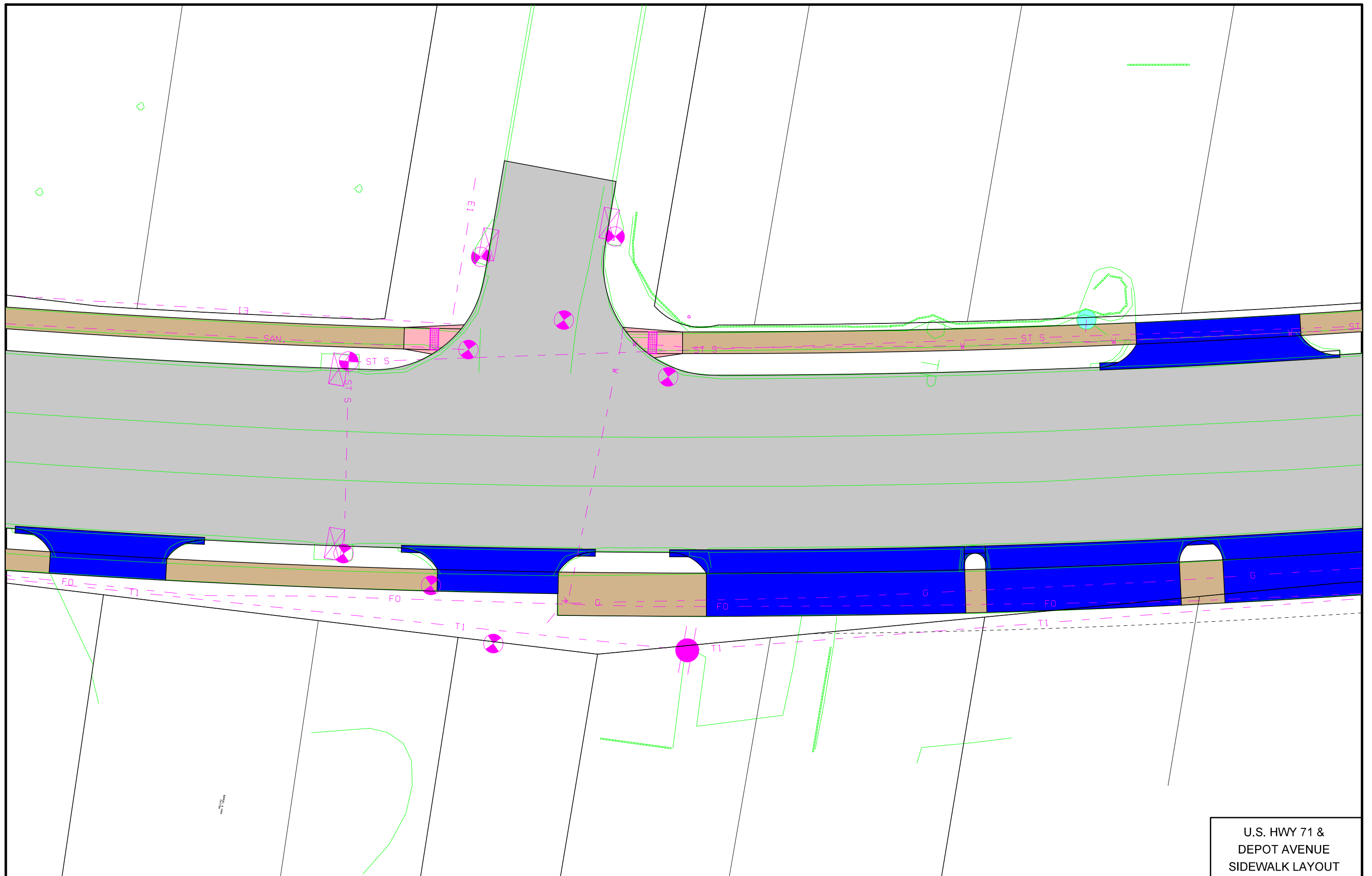


U.S. HWY 71 &
ACKLEY STREET
SIDEWALK LAYOUT

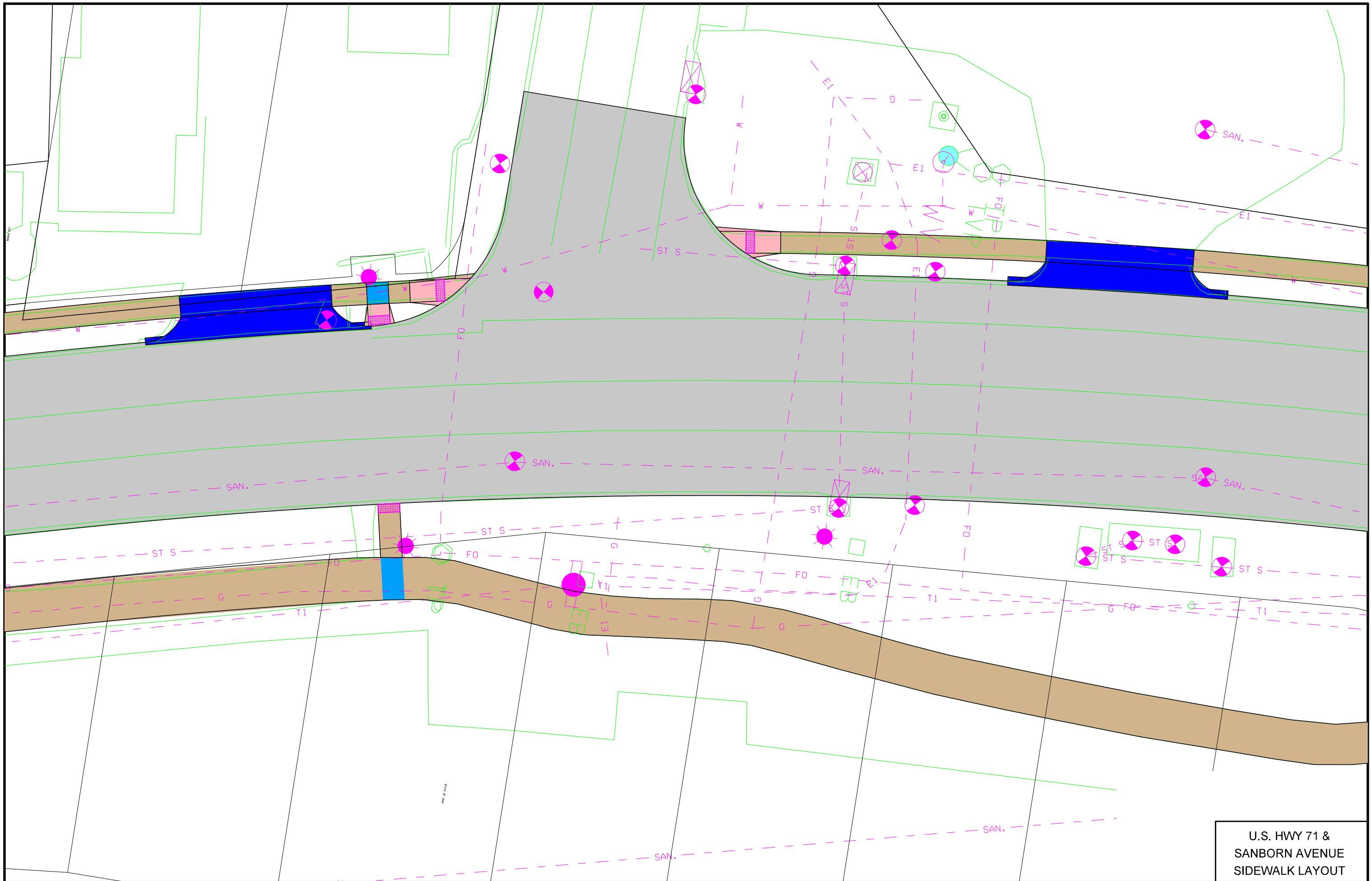




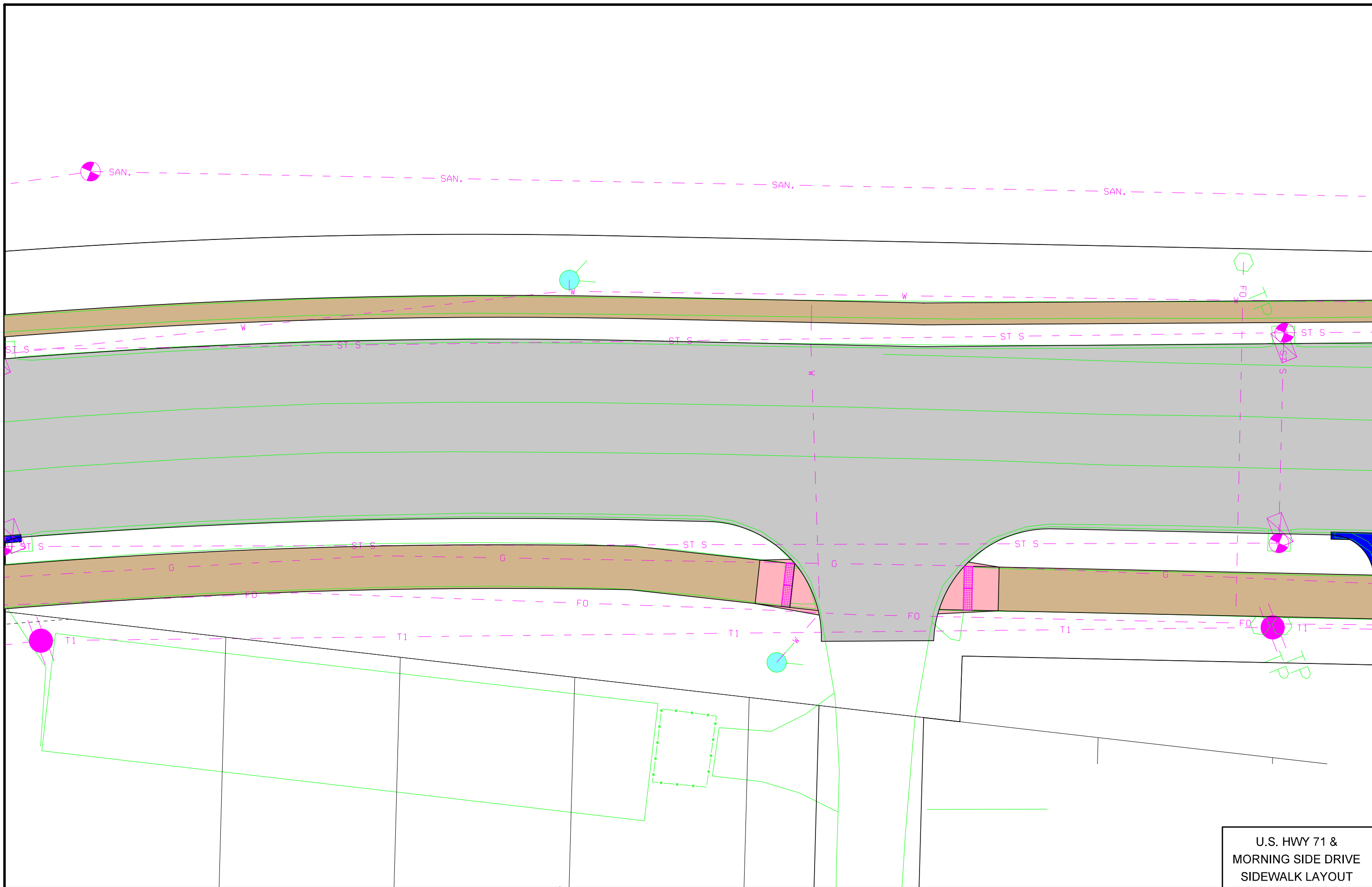
U.S. HWY 71 &
CITY HALL STREET
SIDEWALK LAYOUT



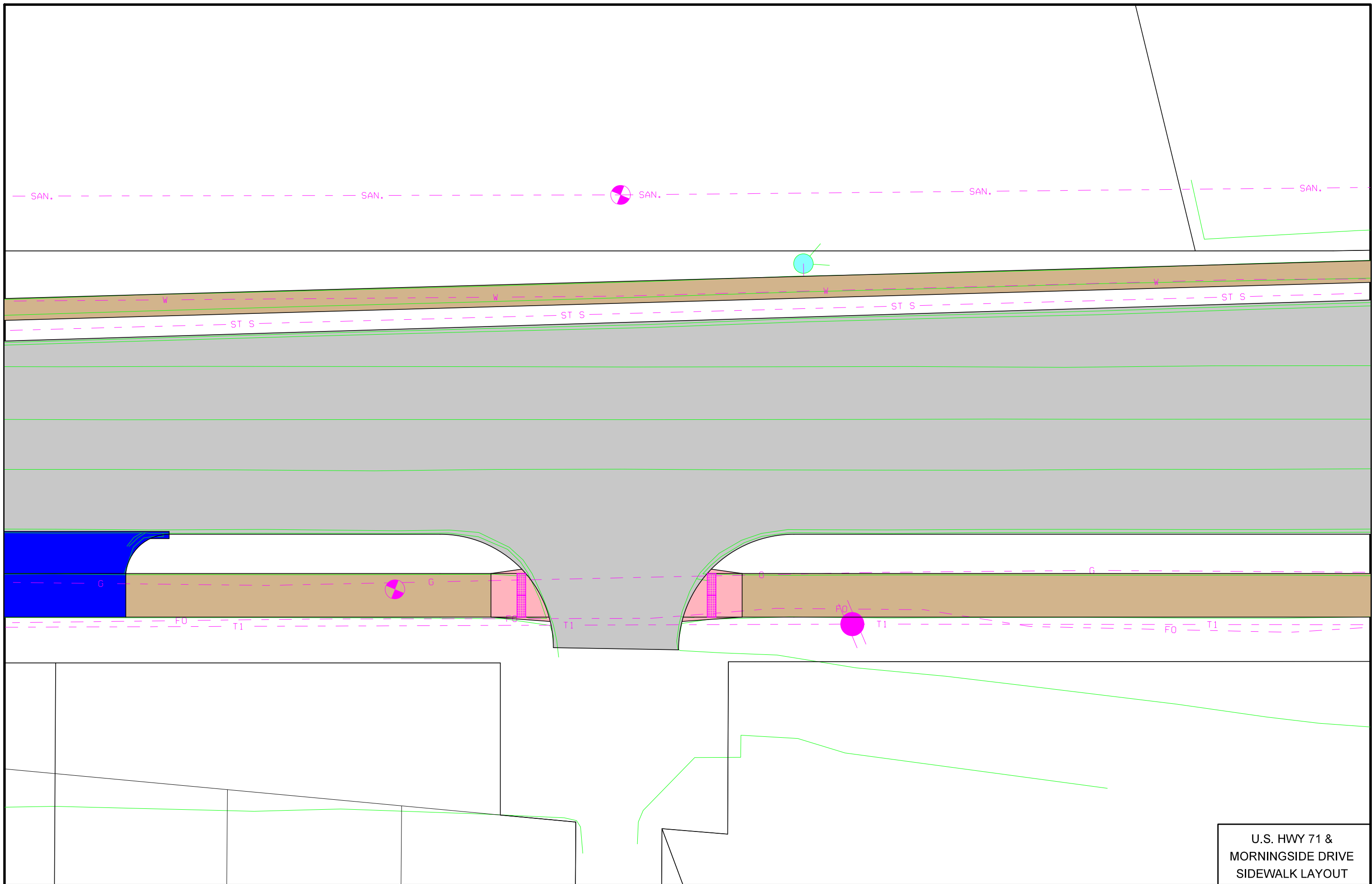
U.S. HWY 71 &
 DEPOT AVENUE
 SIDEWALK LAYOUT



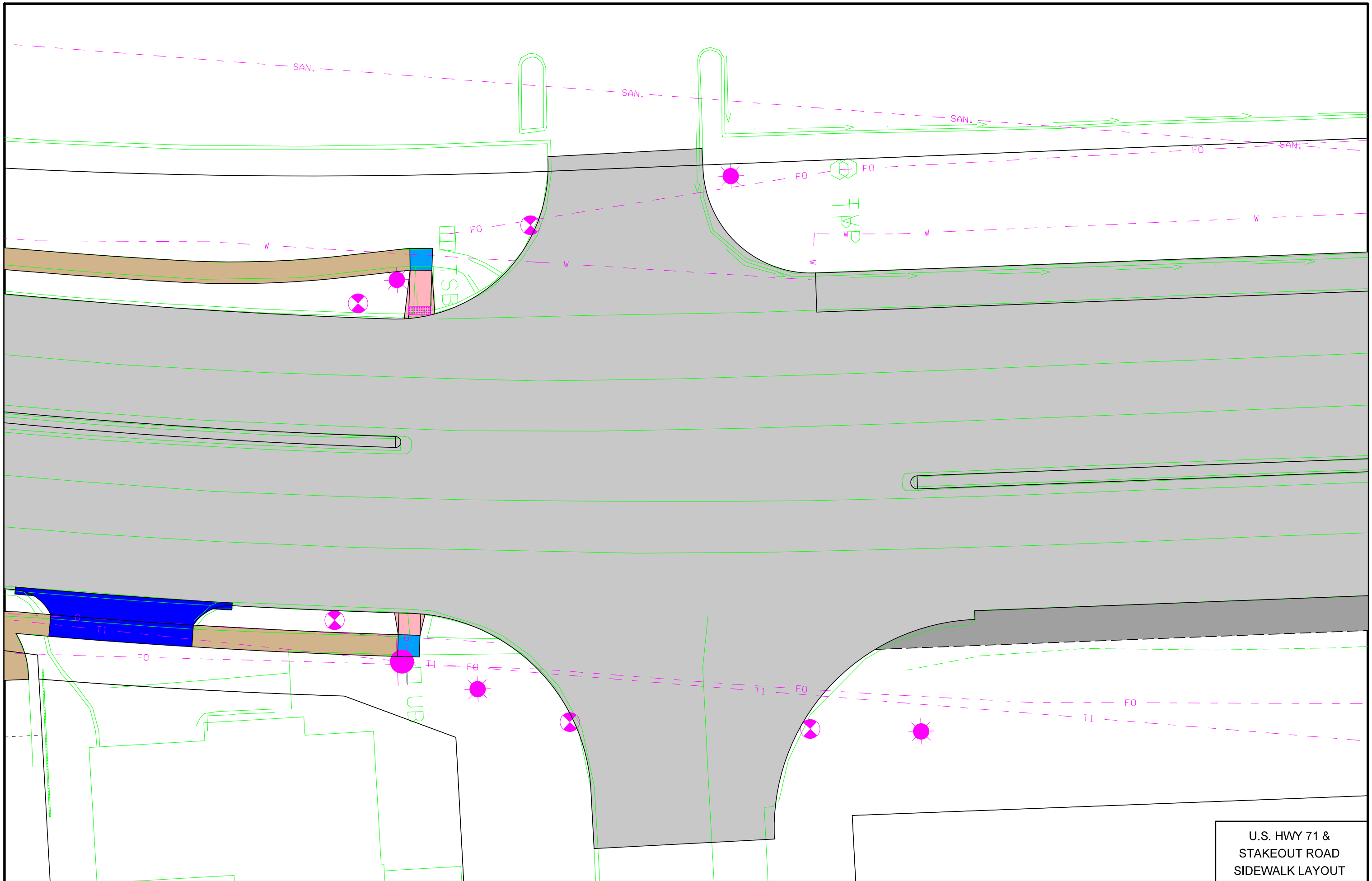
U.S. HWY 71 &
SANBORN AVENUE
SIDEWALK LAYOUT



U.S. HWY 71 &
MORNING SIDE DRIVE
SIDEWALK LAYOUT



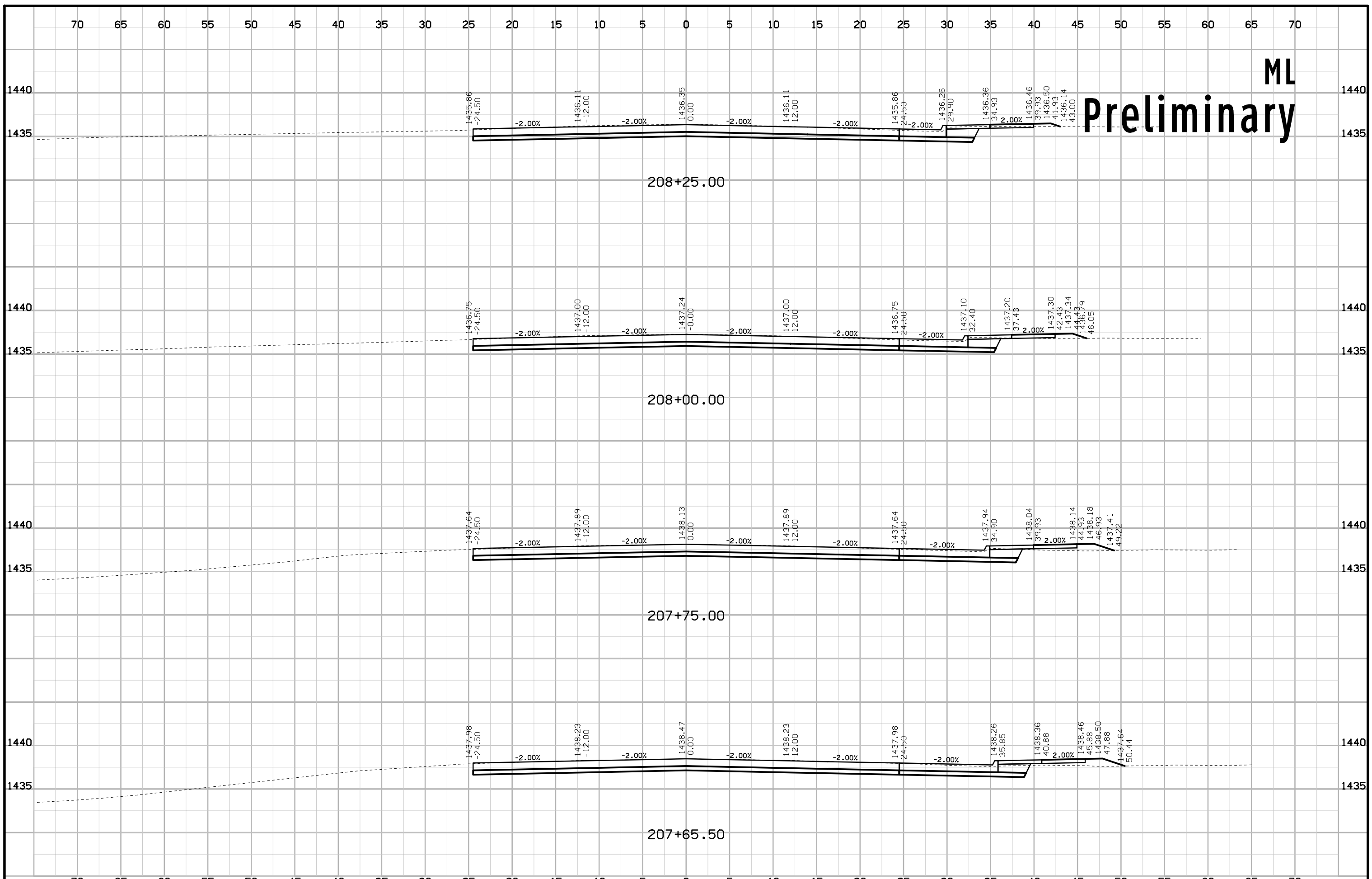
U.S. HWY 71 &
MORNINGSIDE DRIVE
SIDEWALK LAYOUT



U.S. HWY 71 &
STAKEOUT ROAD
SIDEWALK LAYOUT

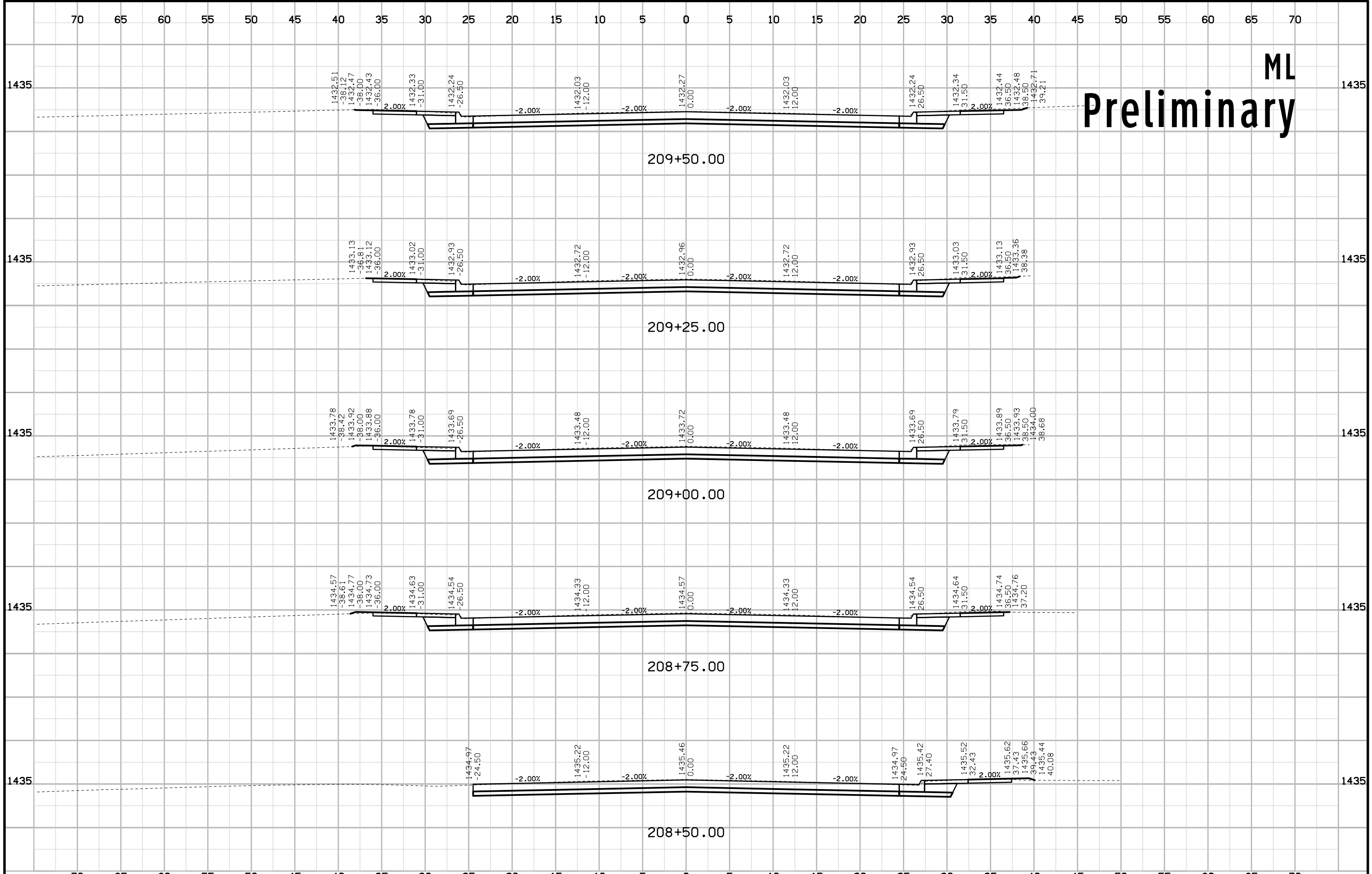
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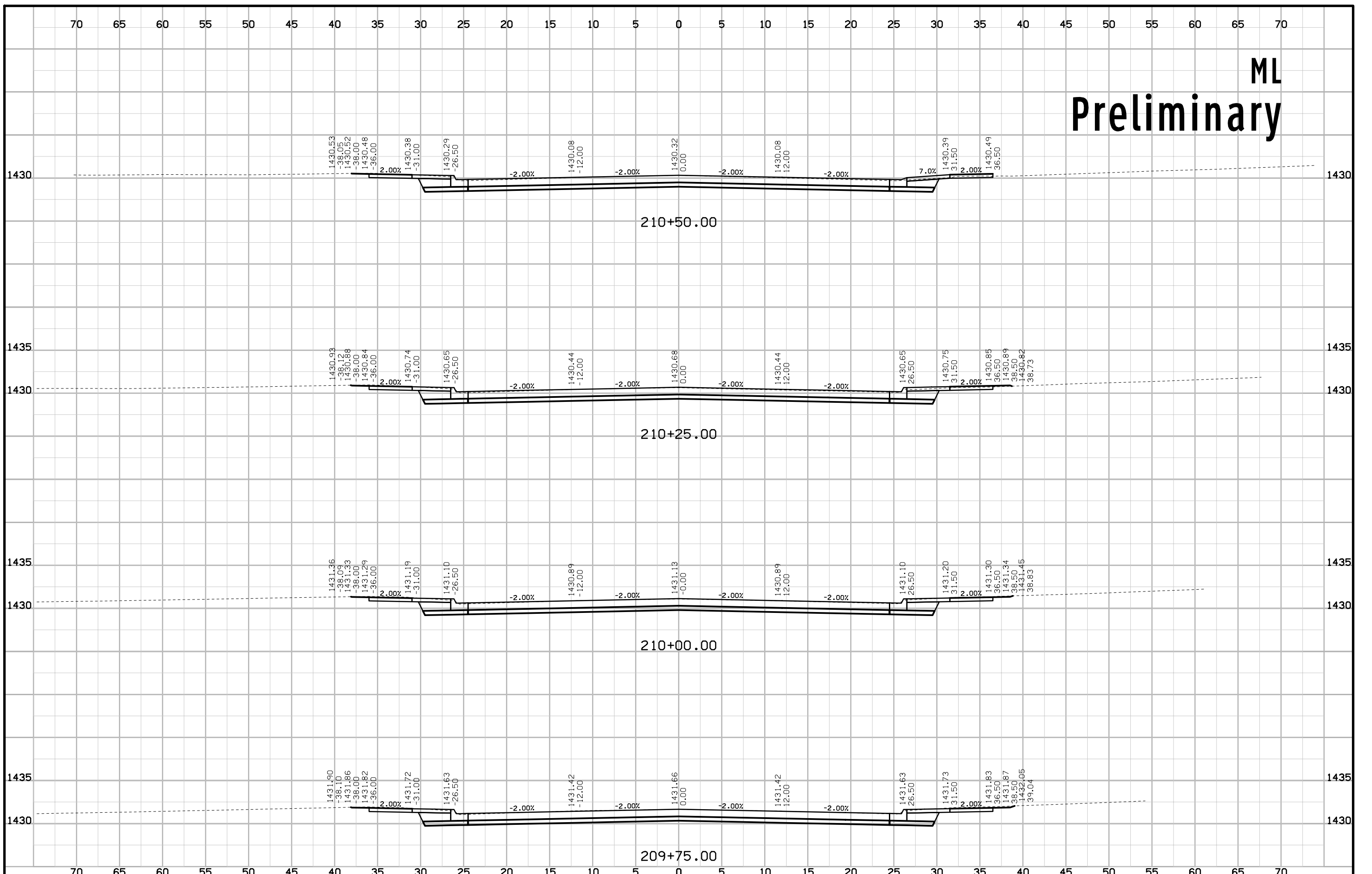


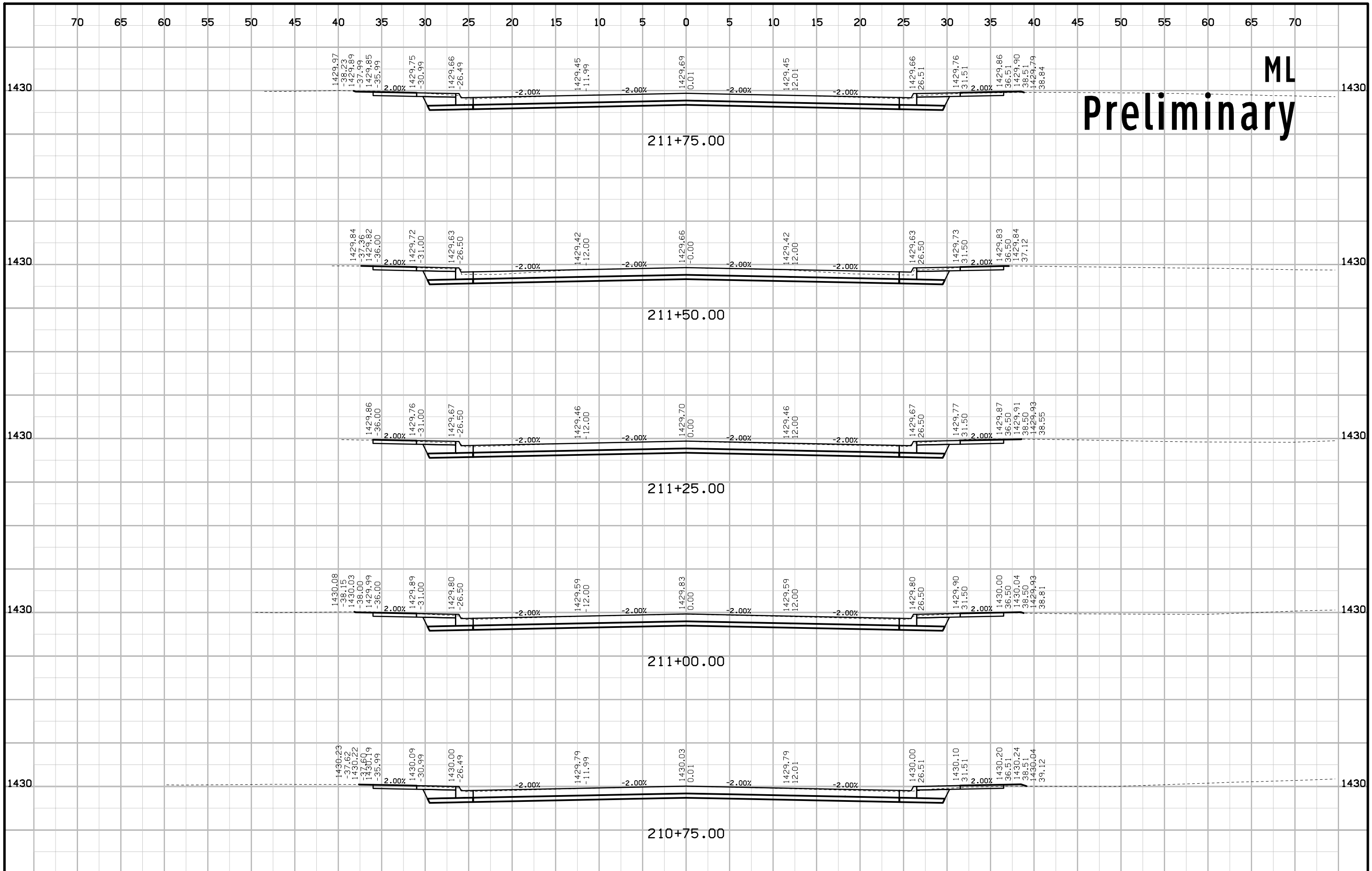
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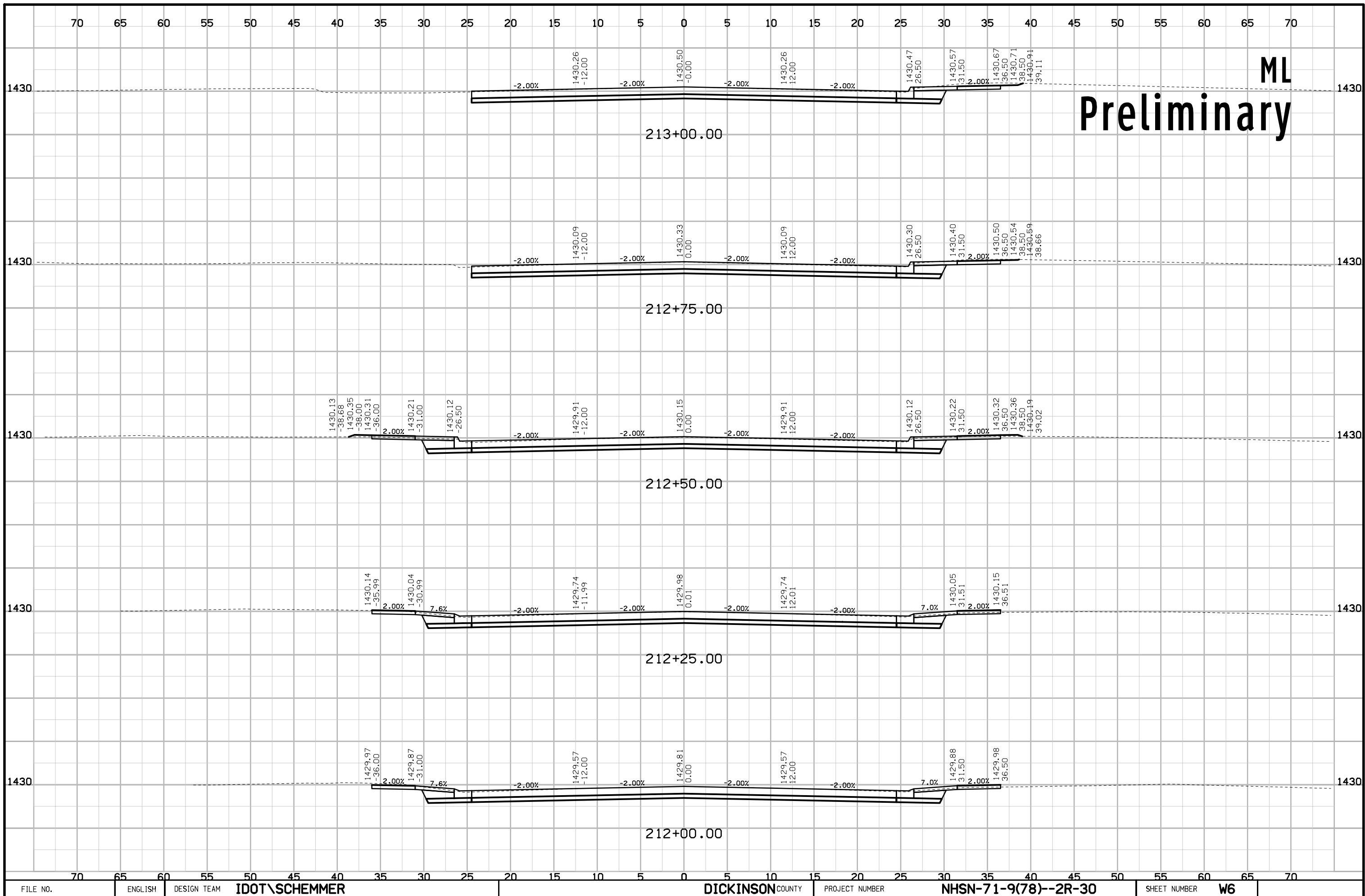
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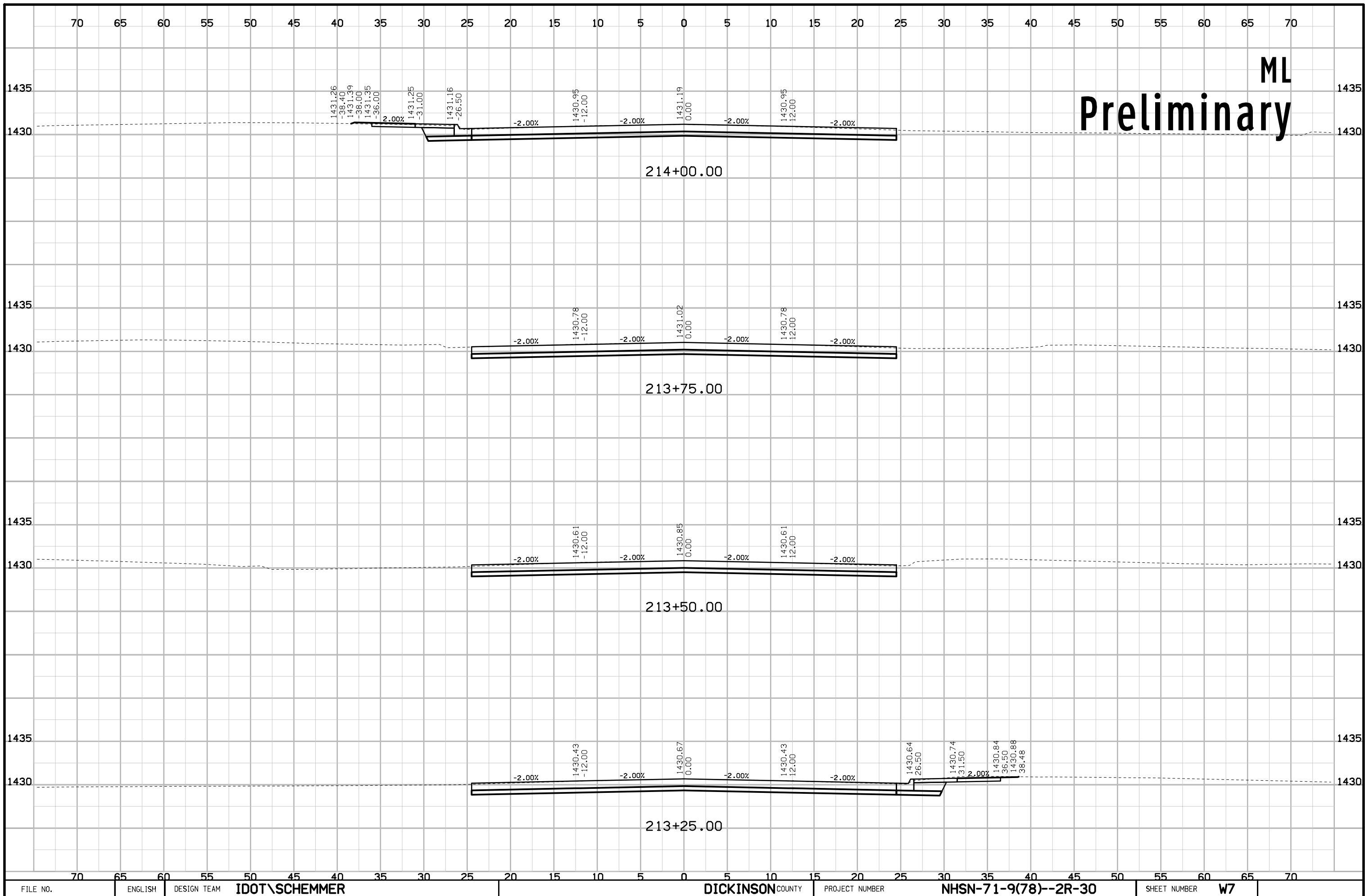


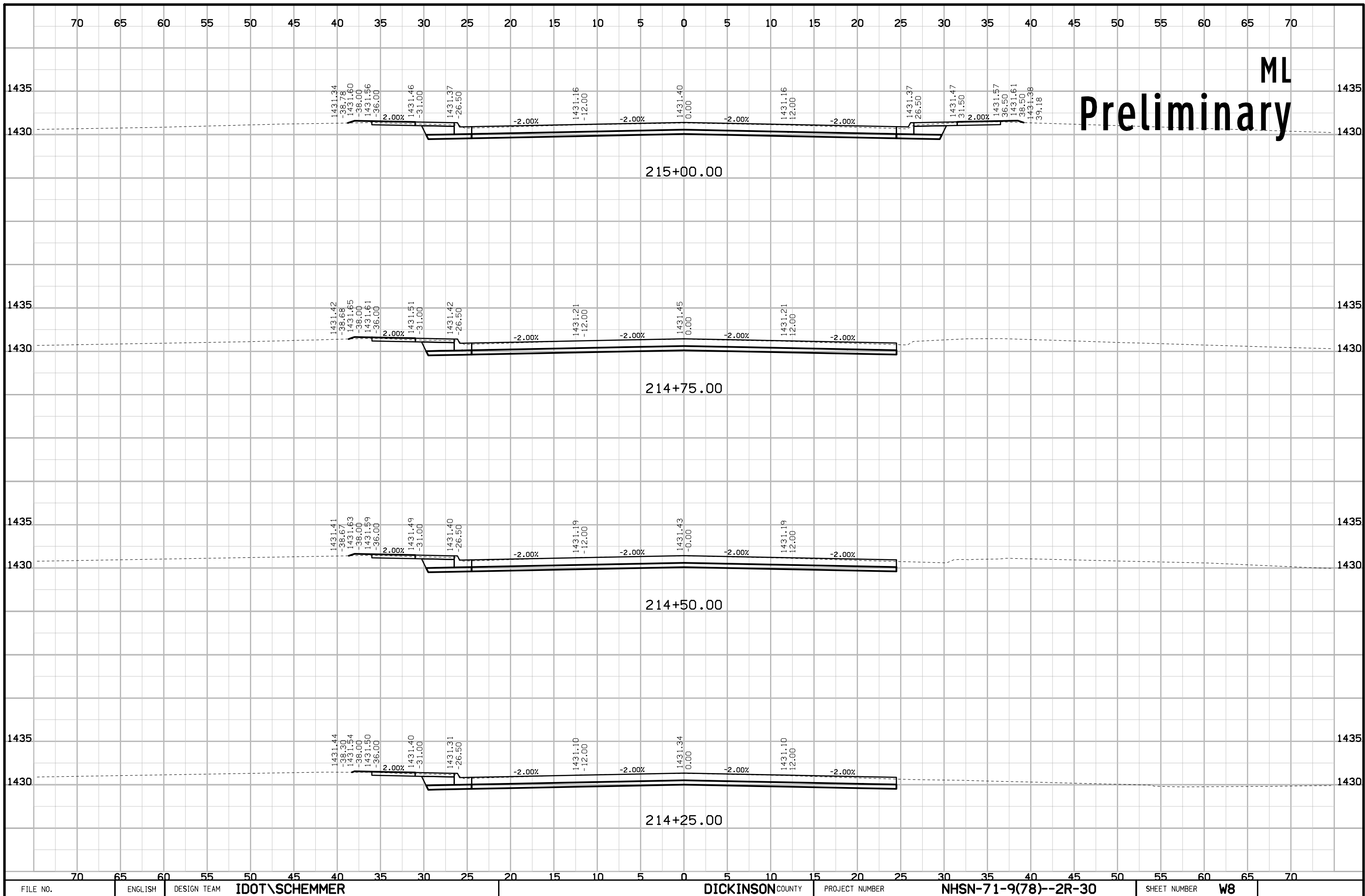
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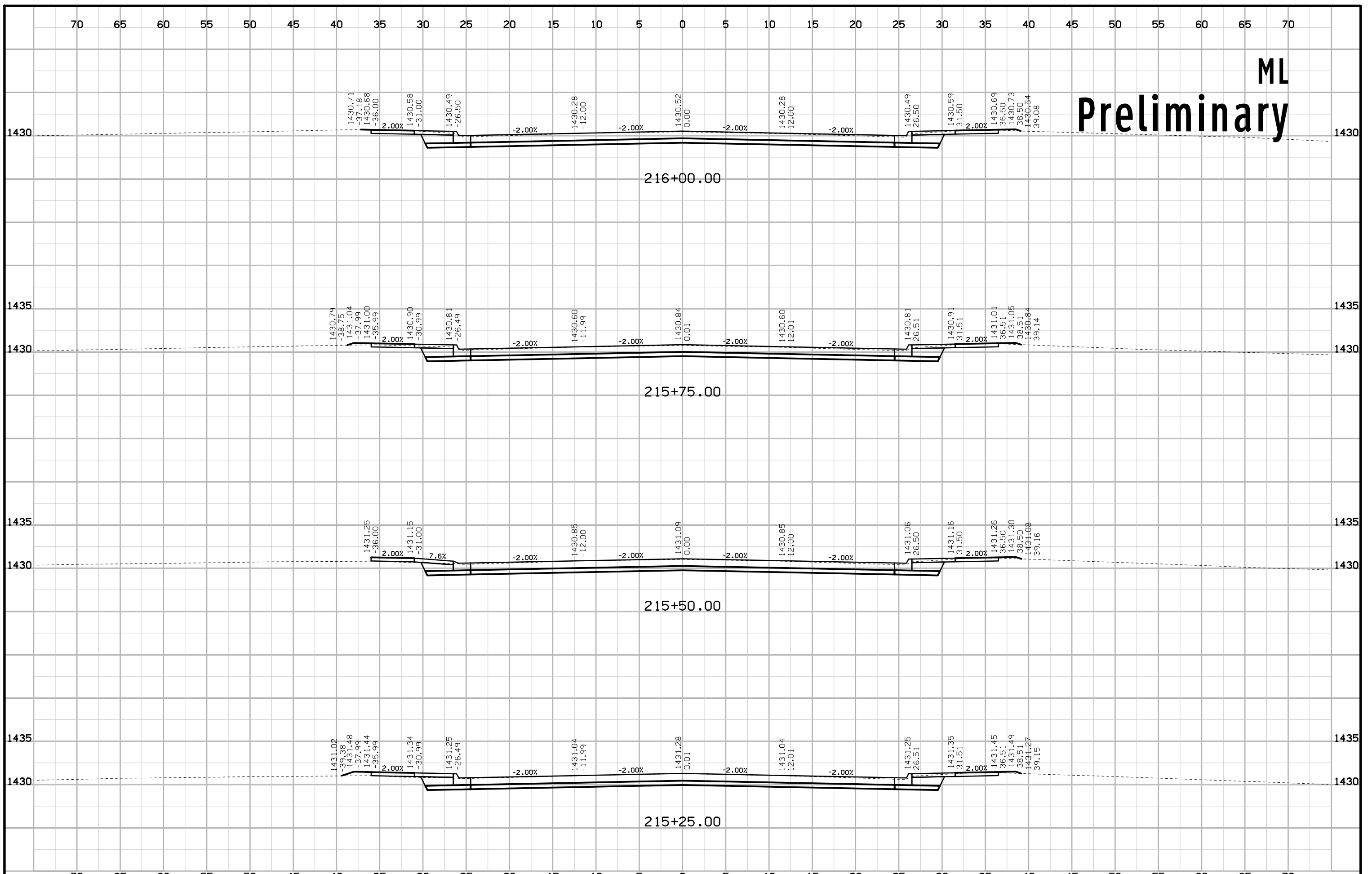


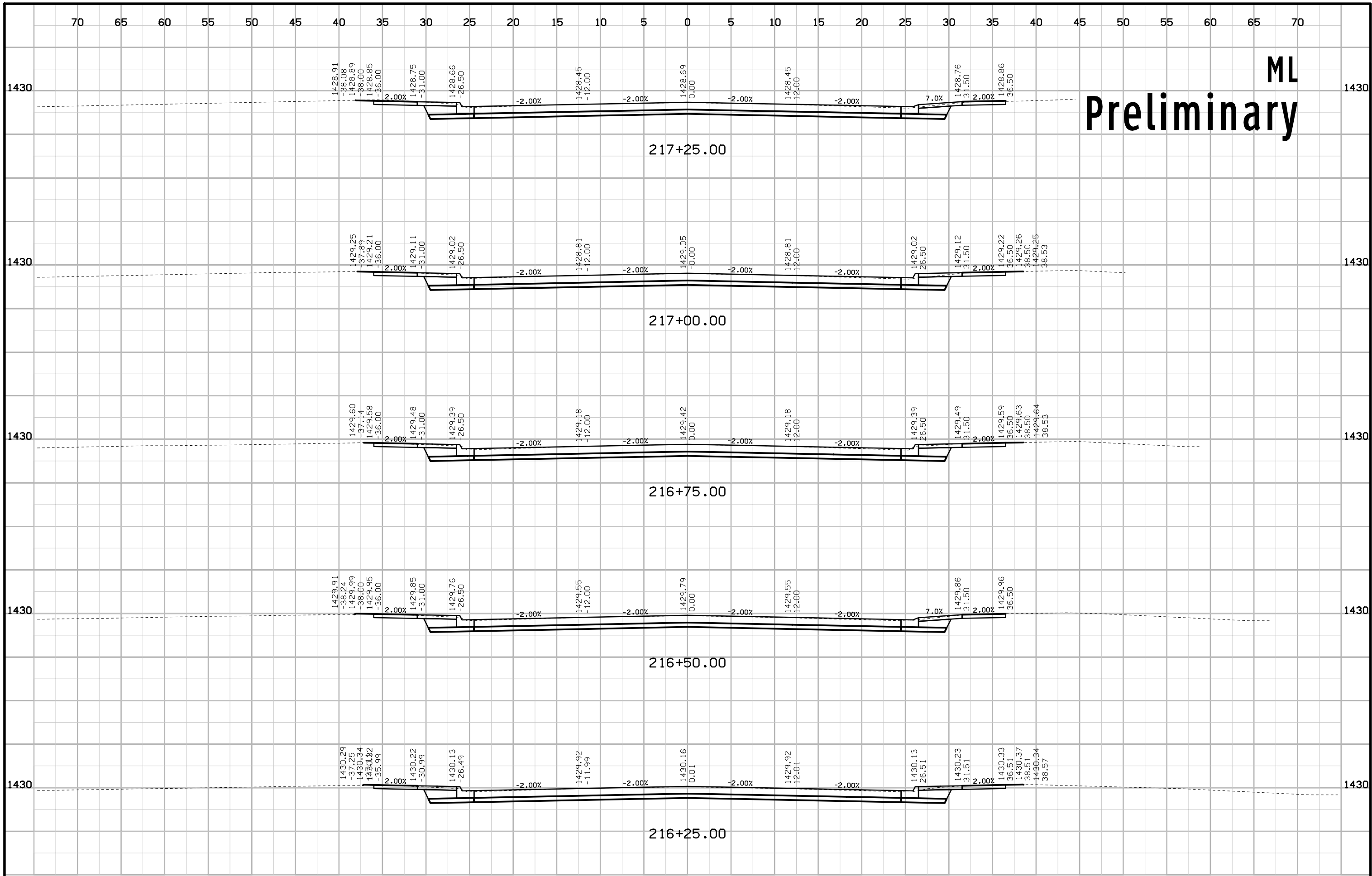


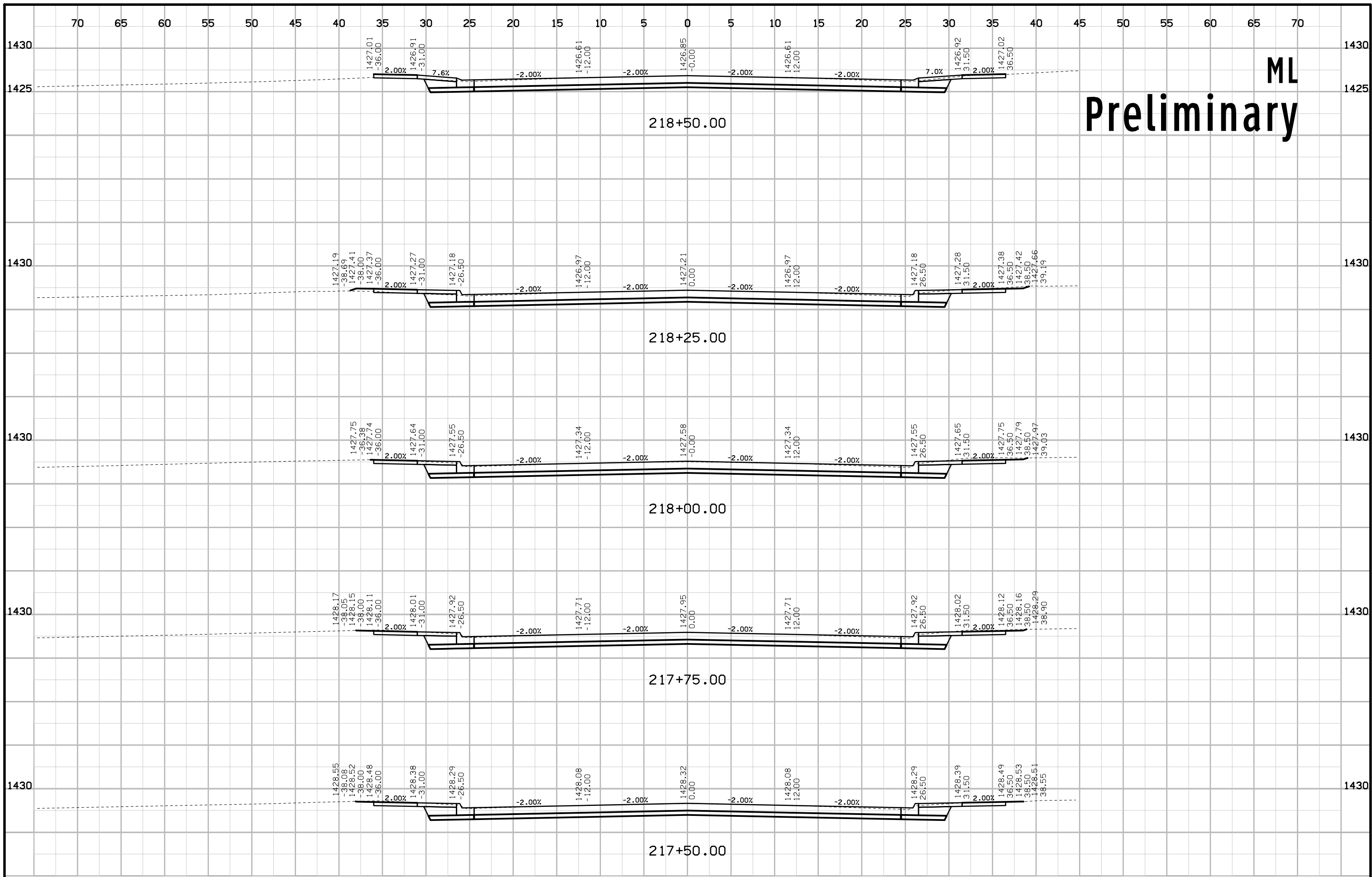




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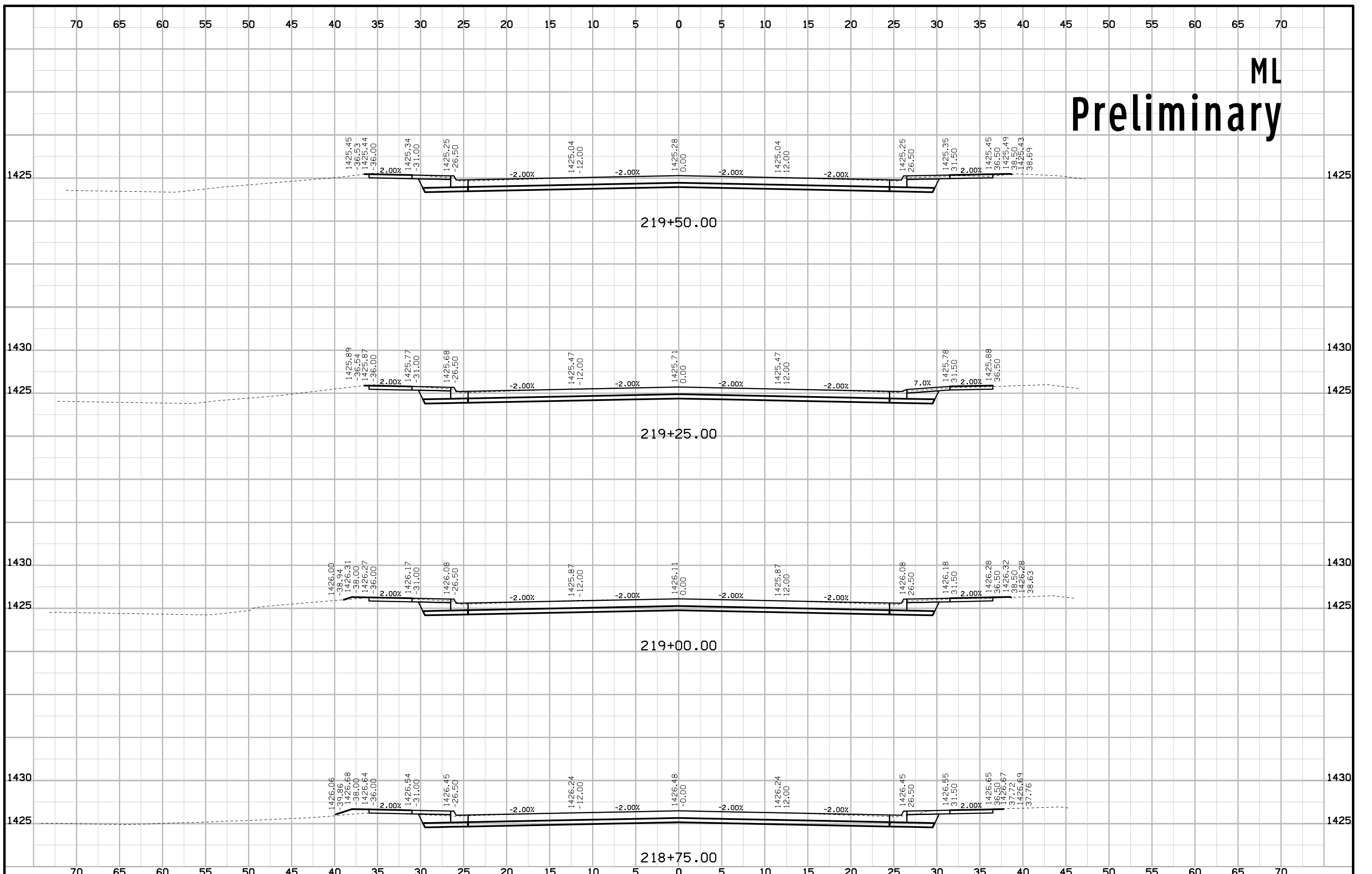






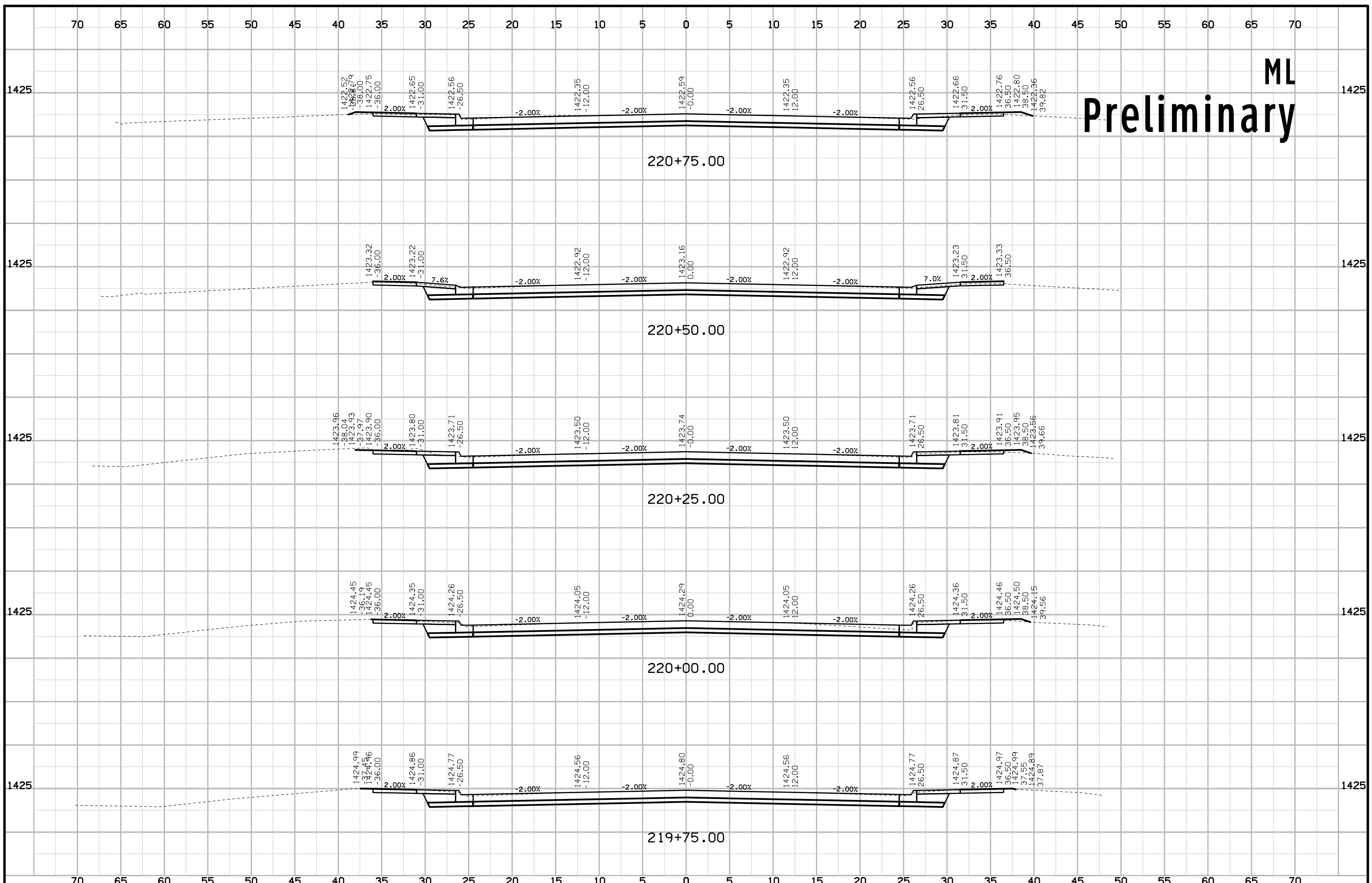
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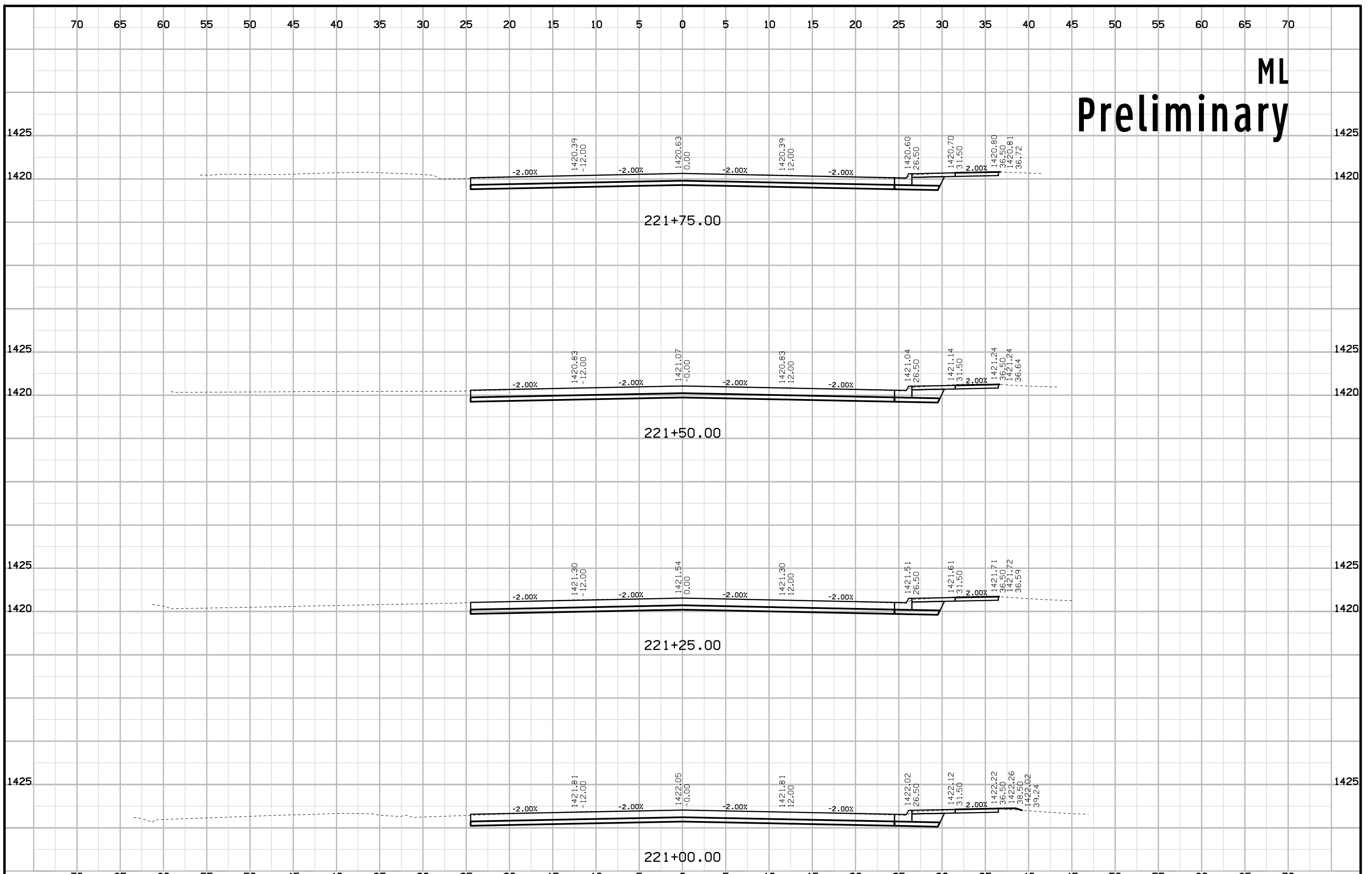


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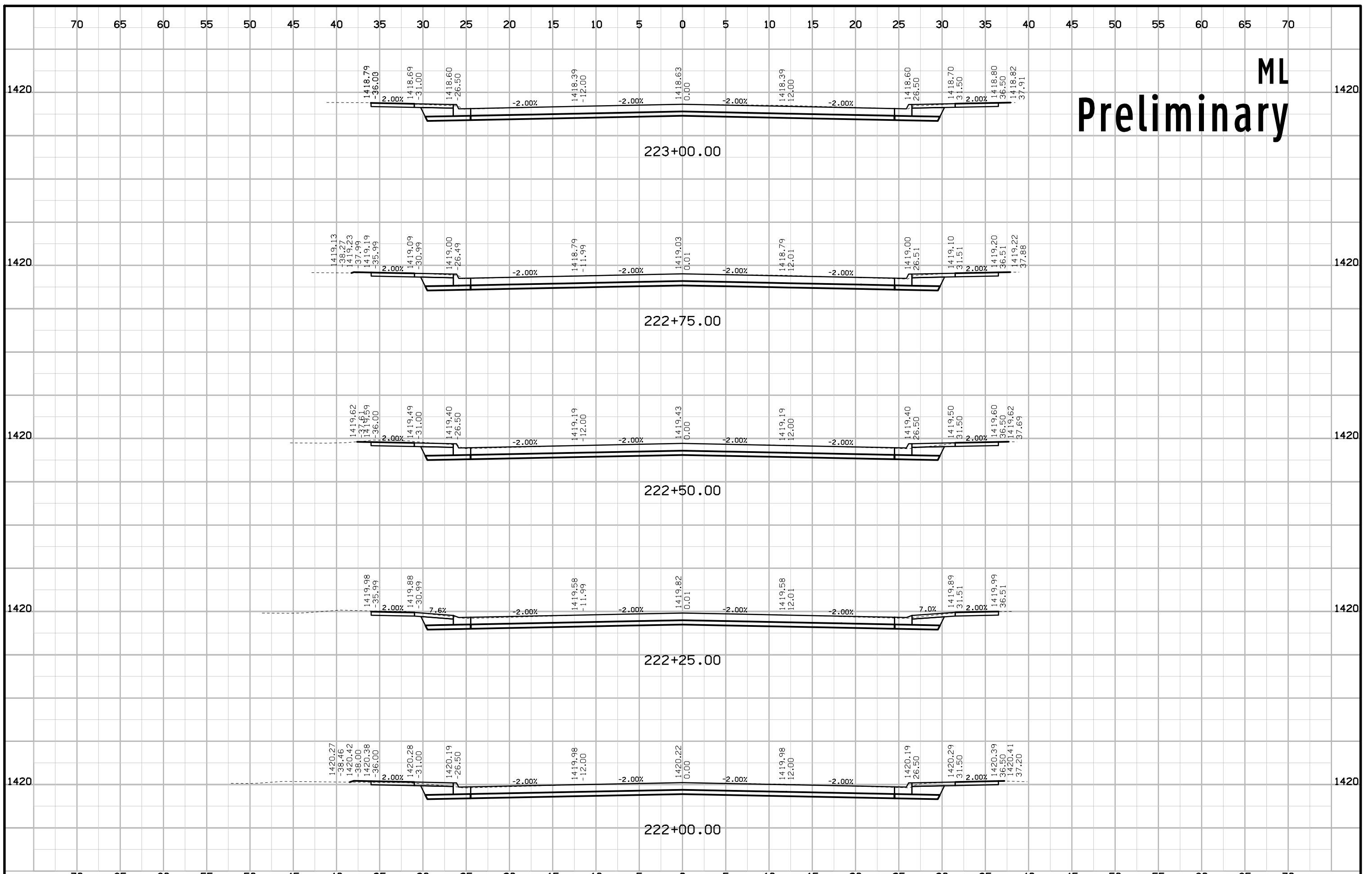
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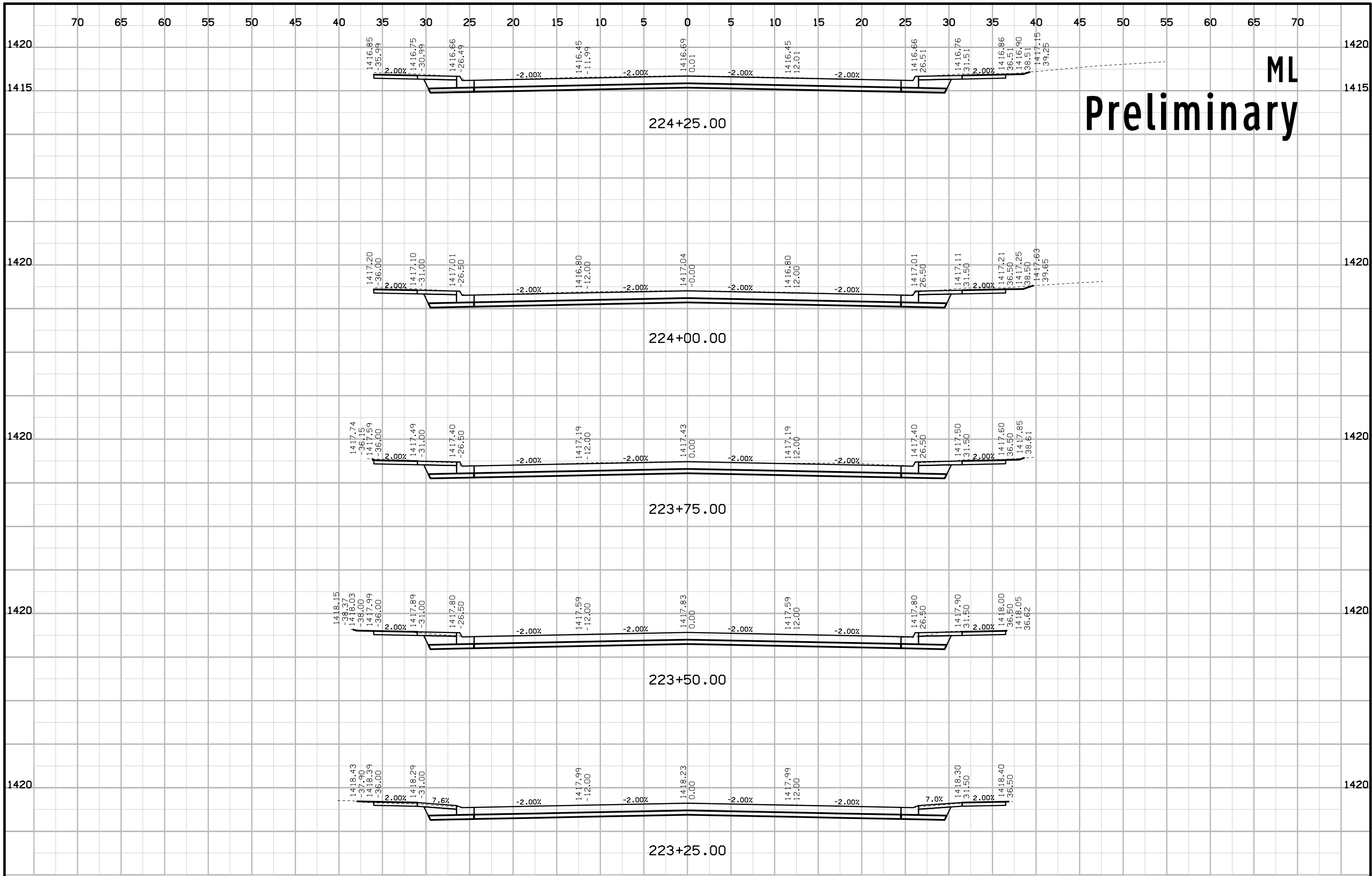


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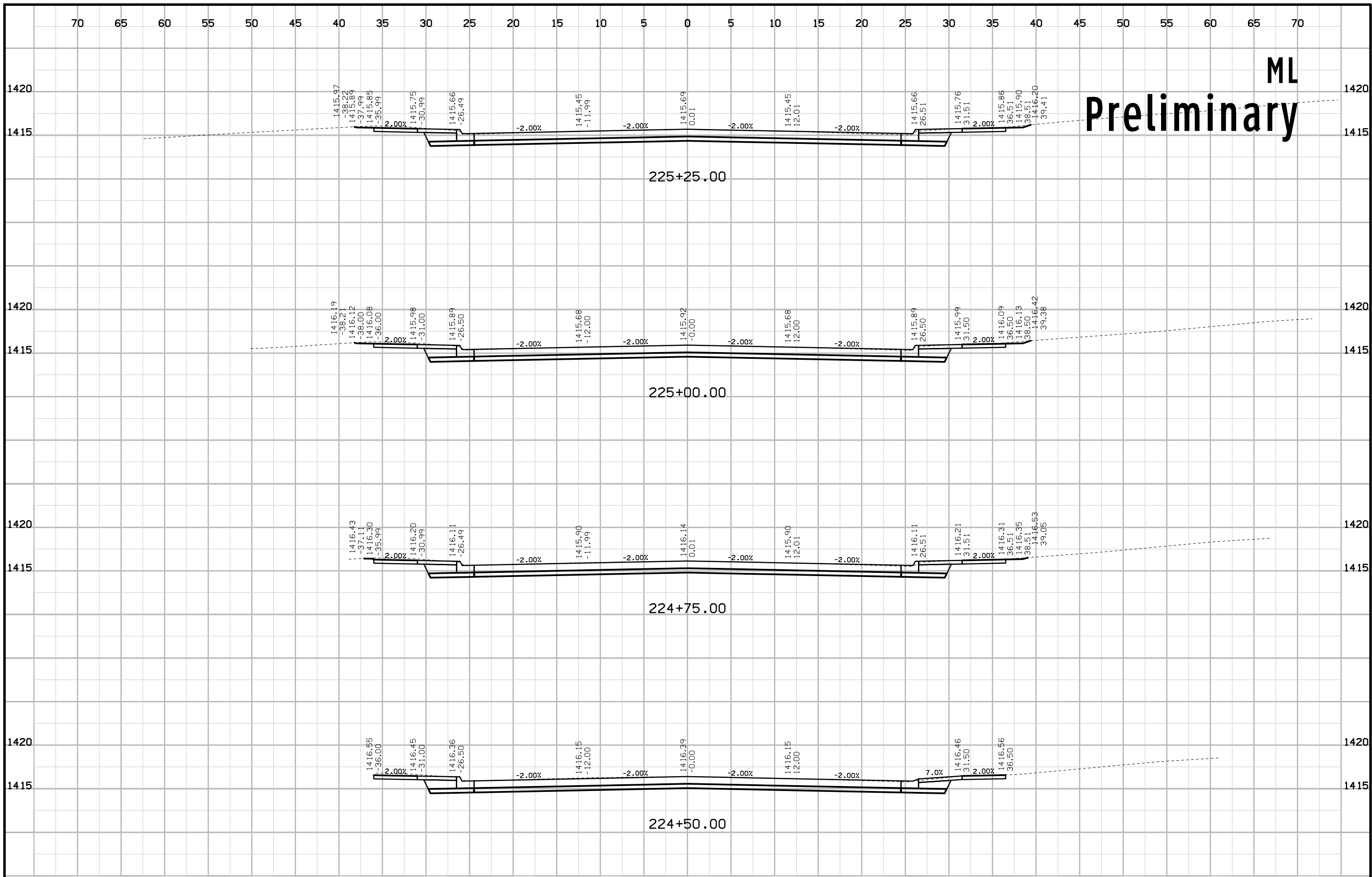


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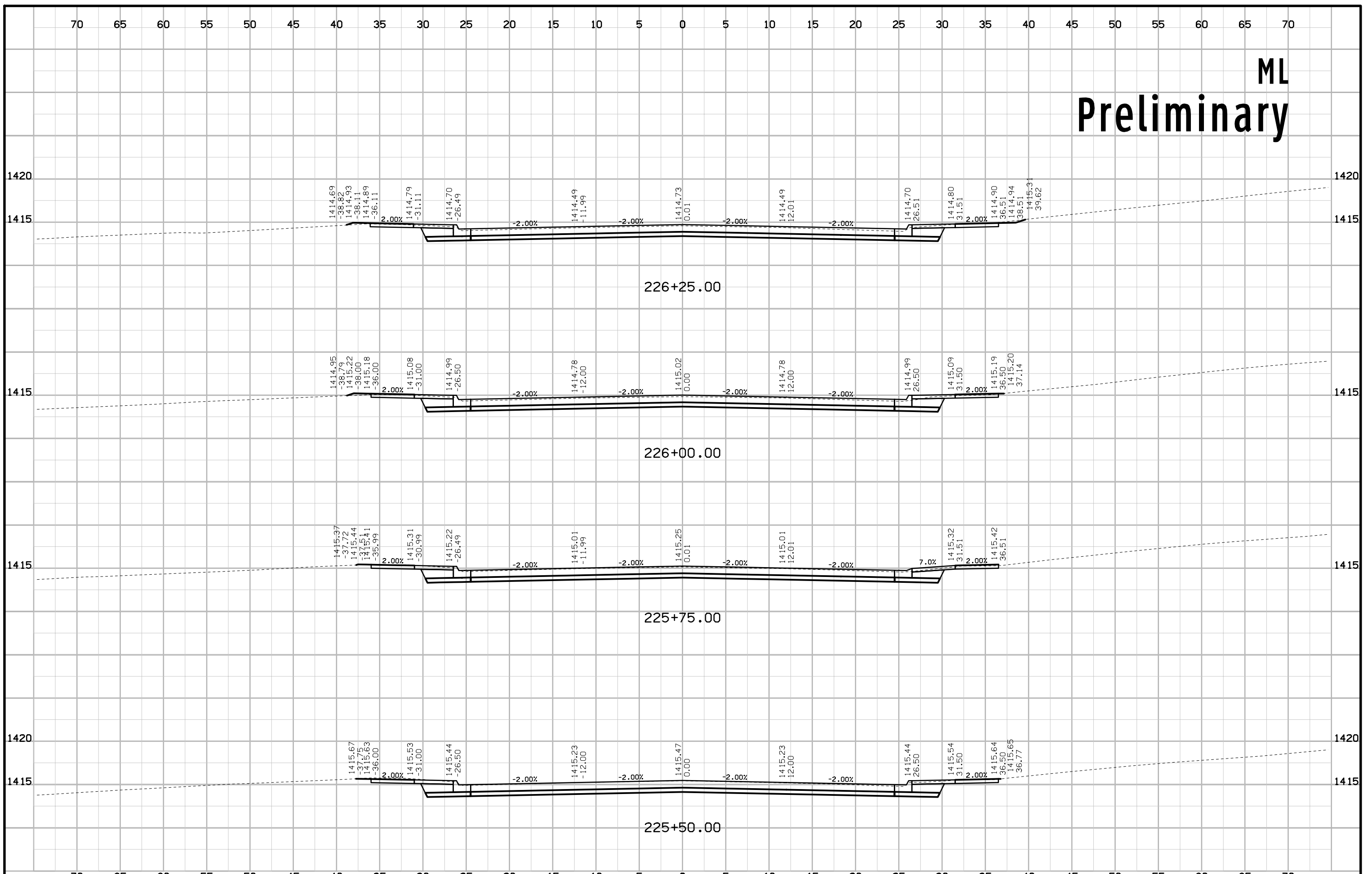


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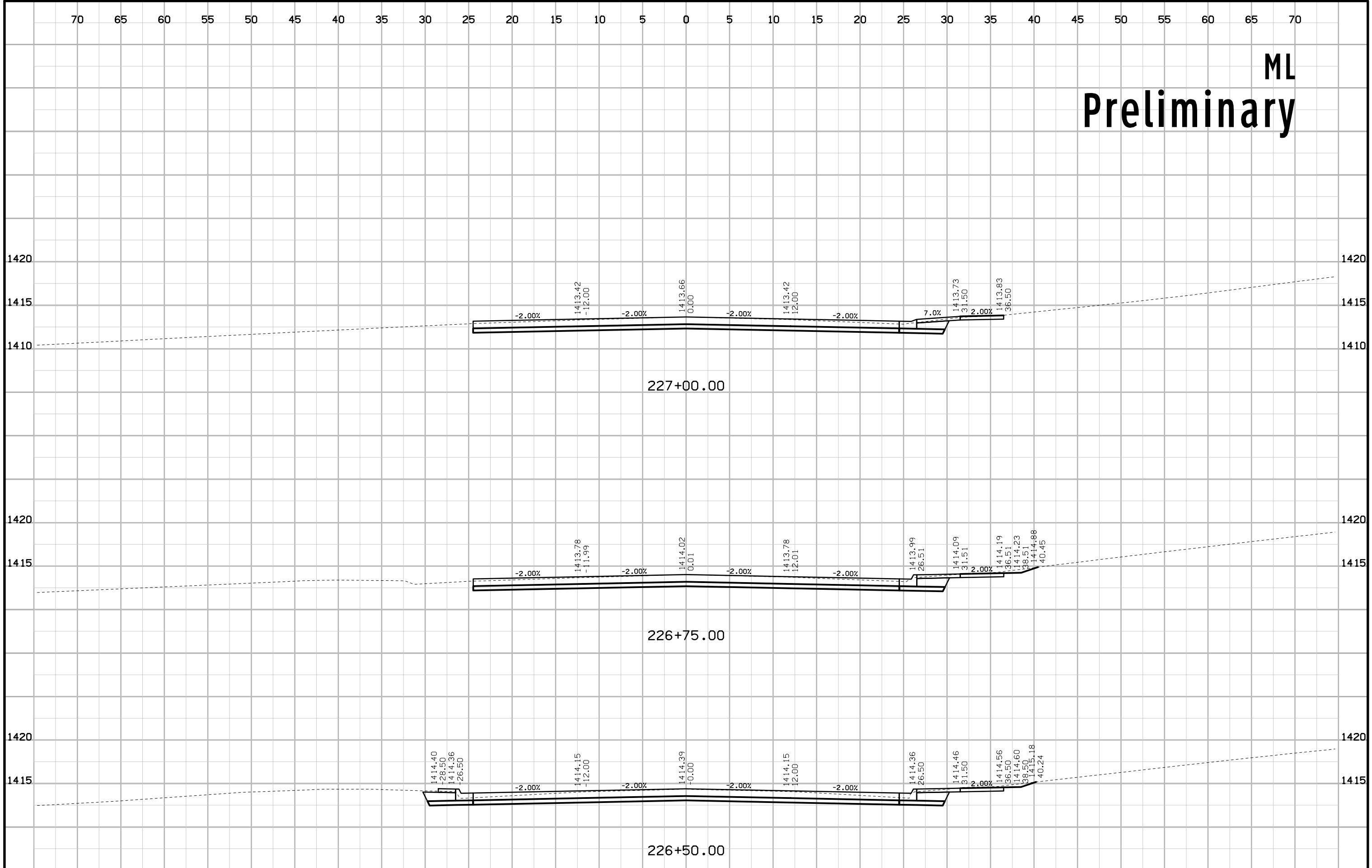


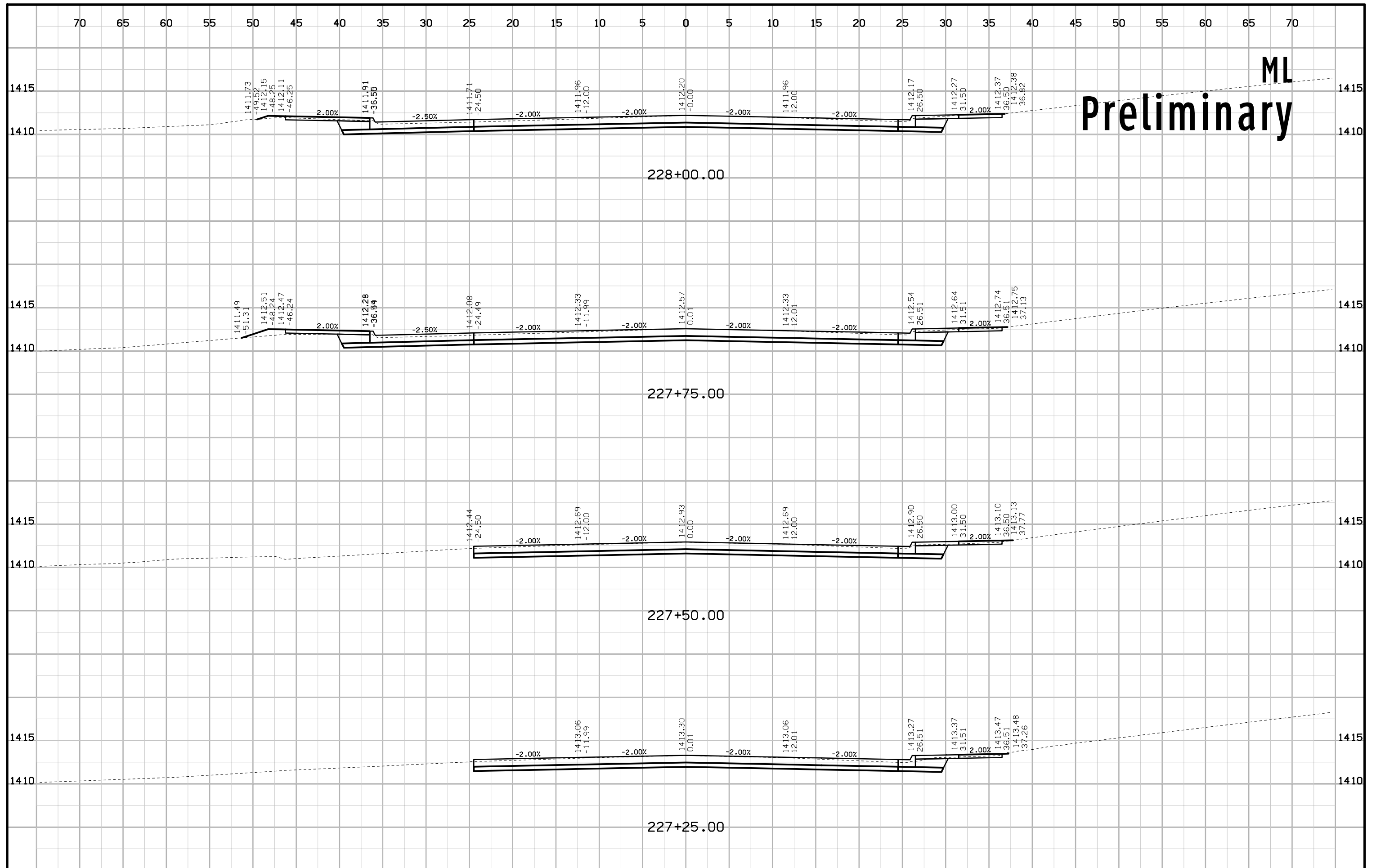
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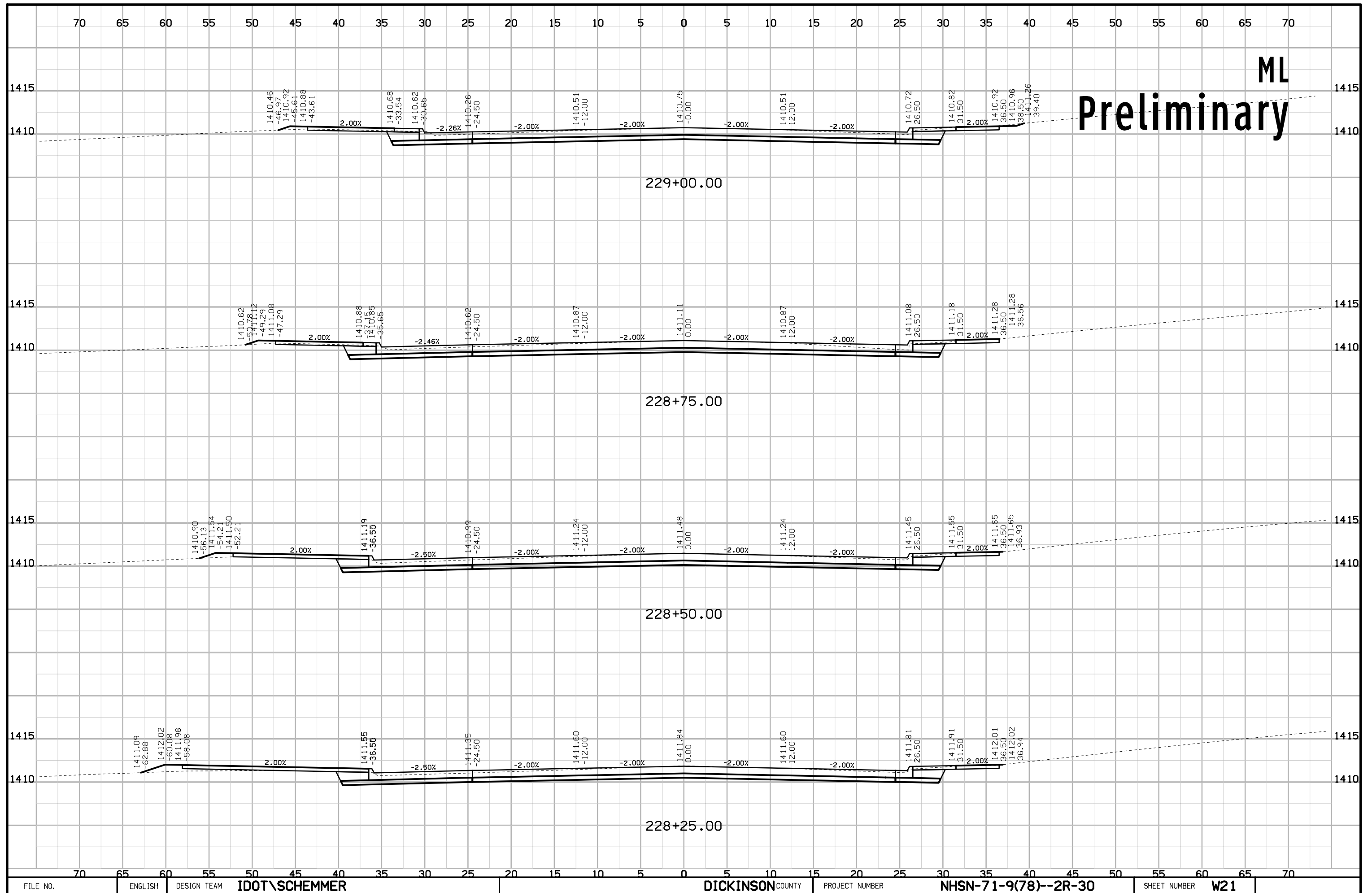


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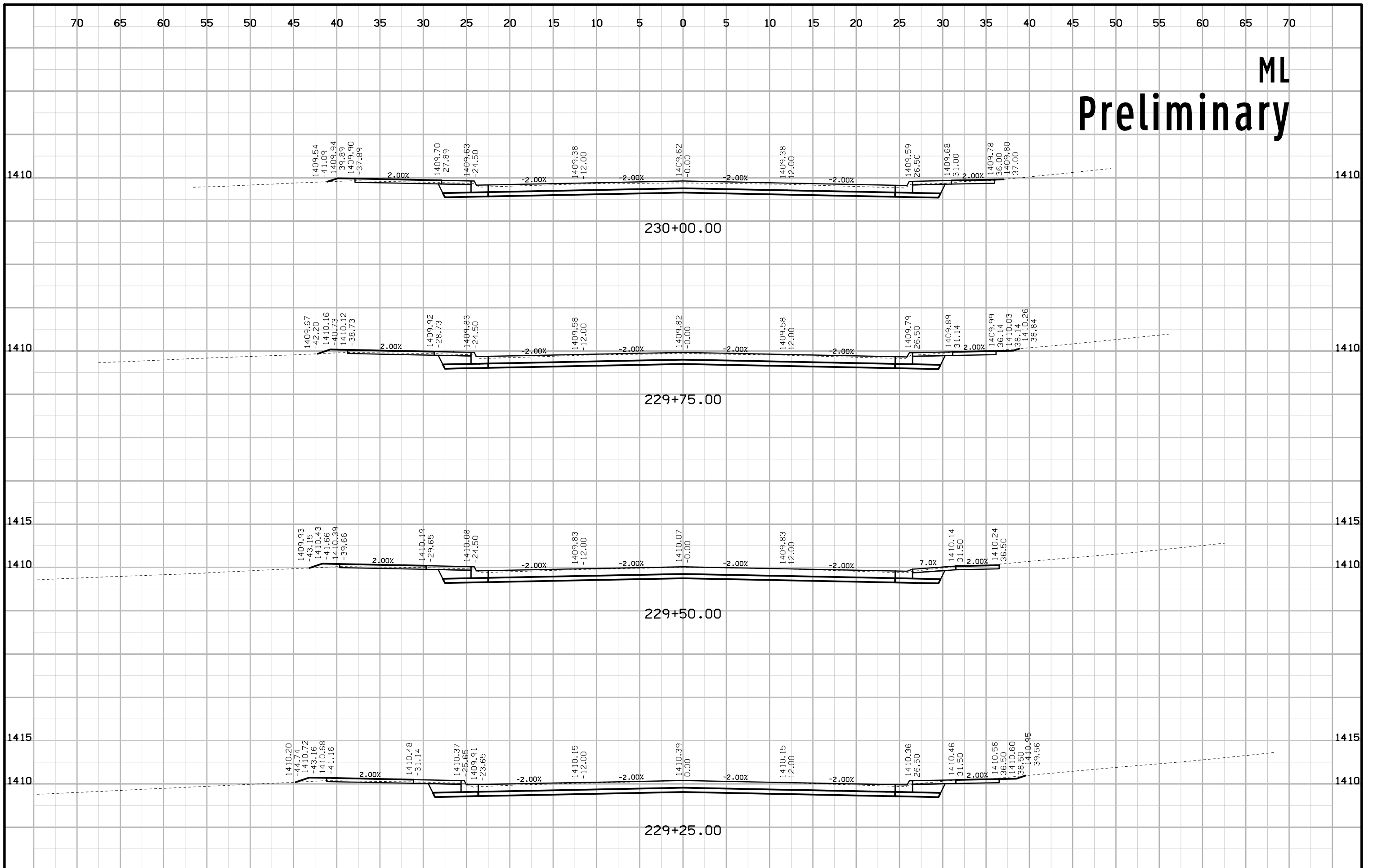




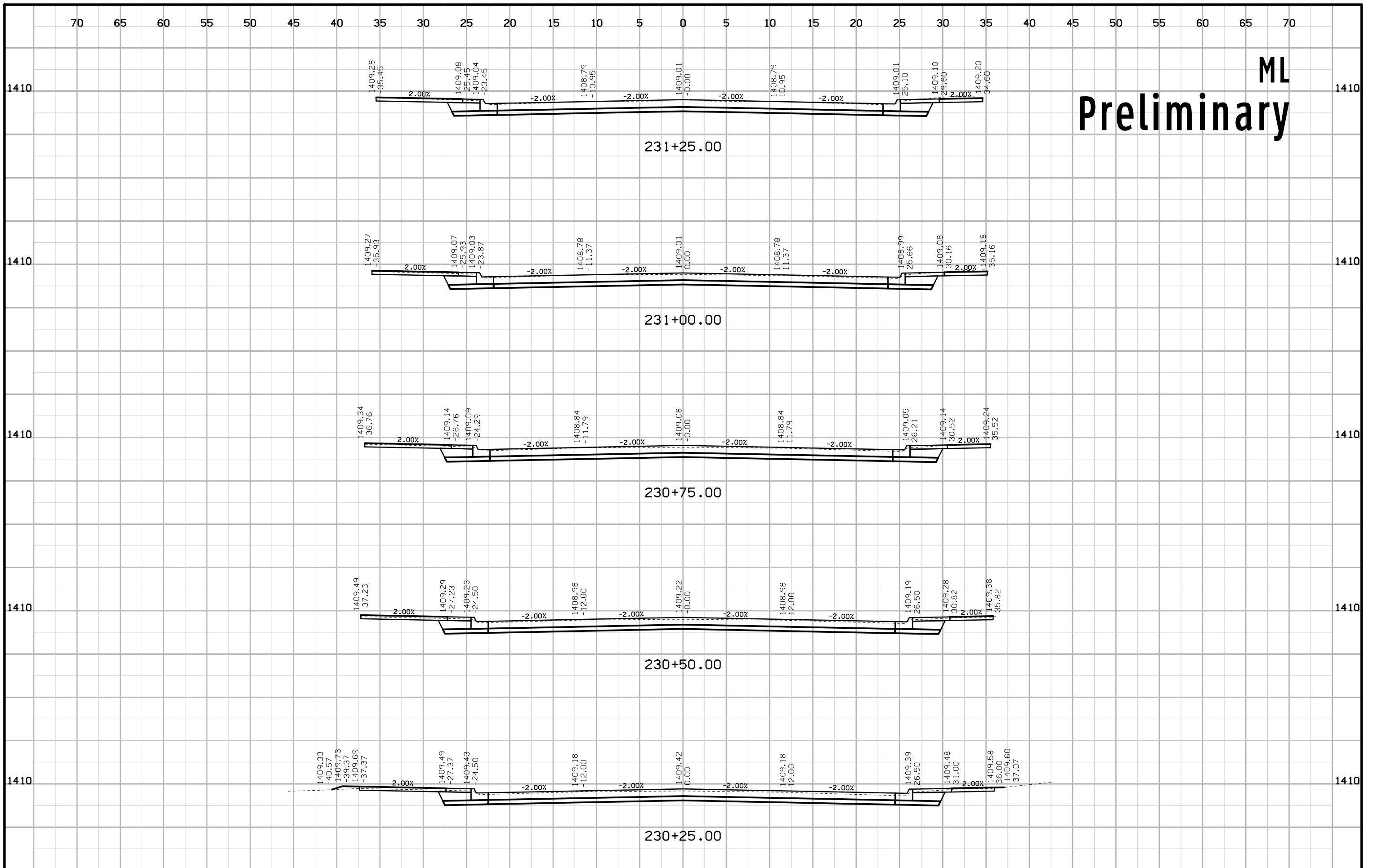
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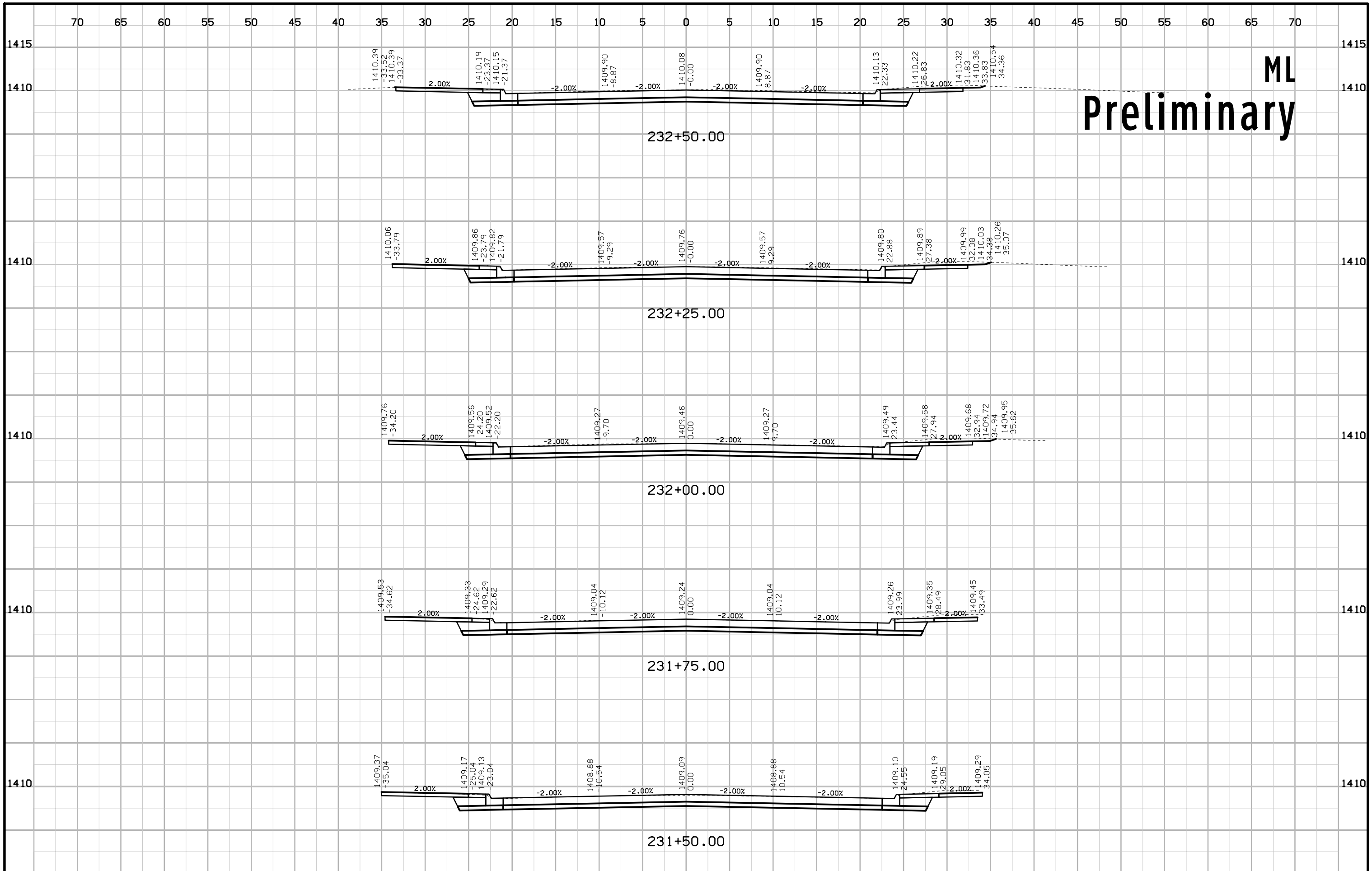


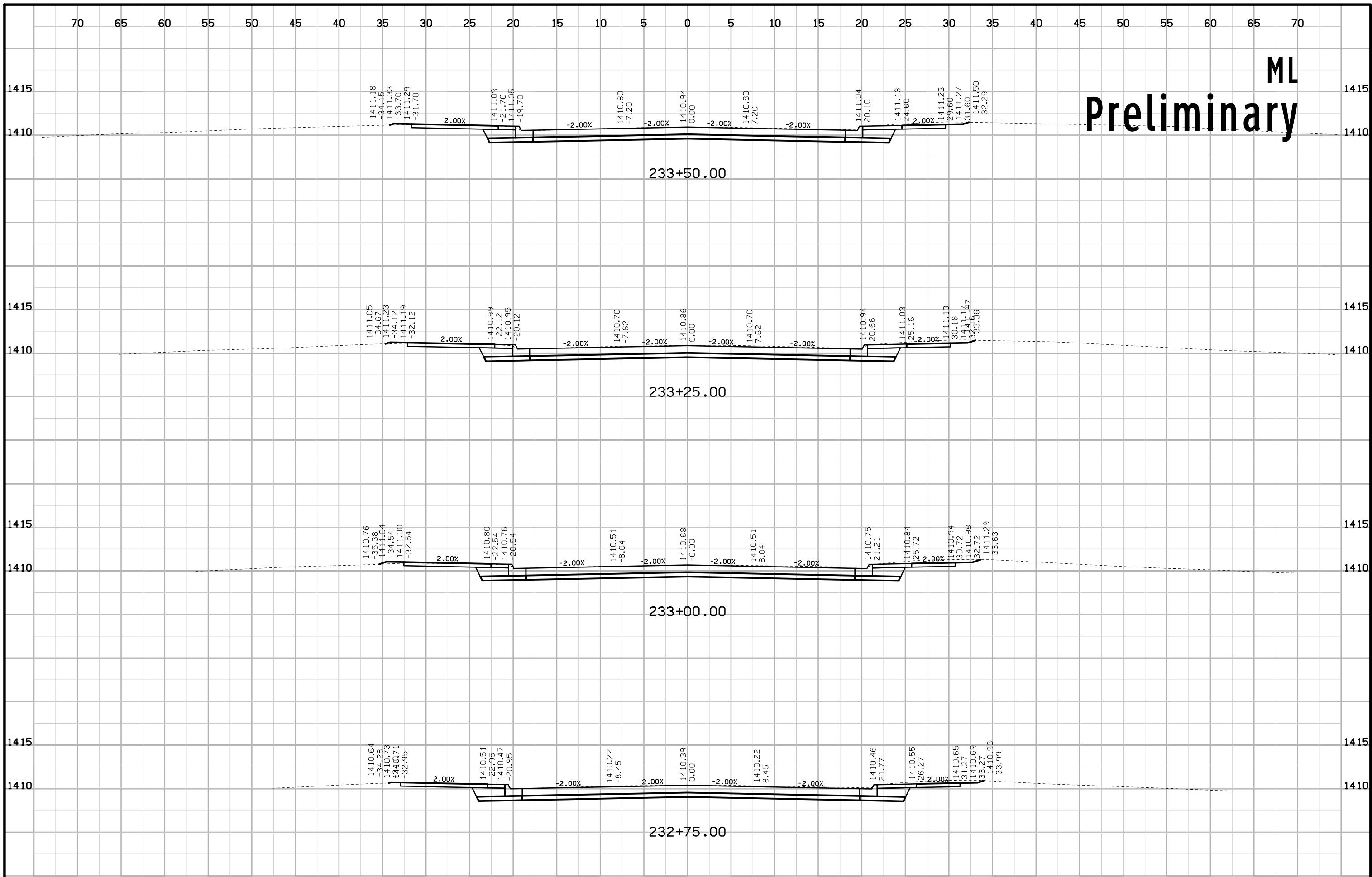
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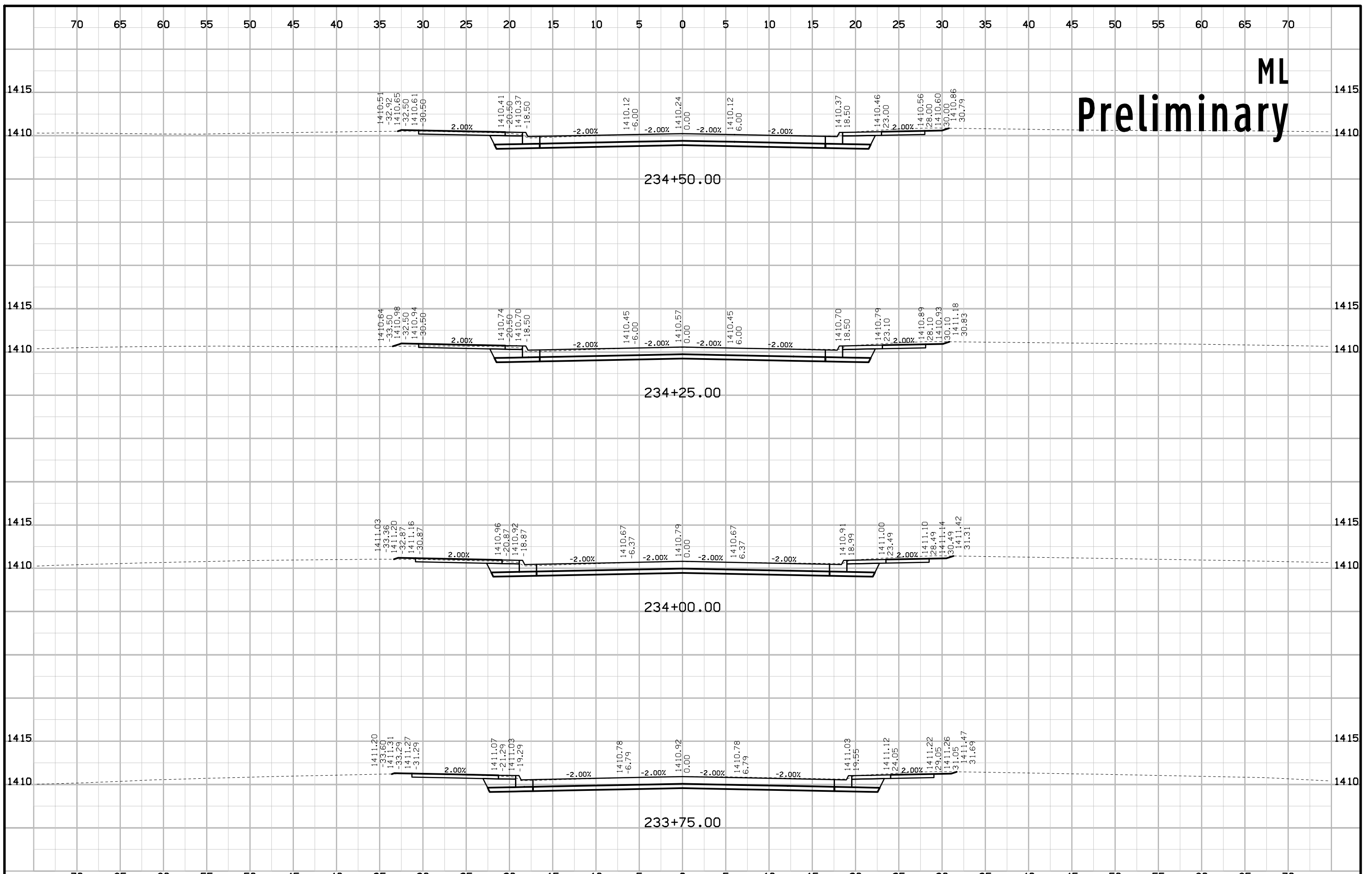




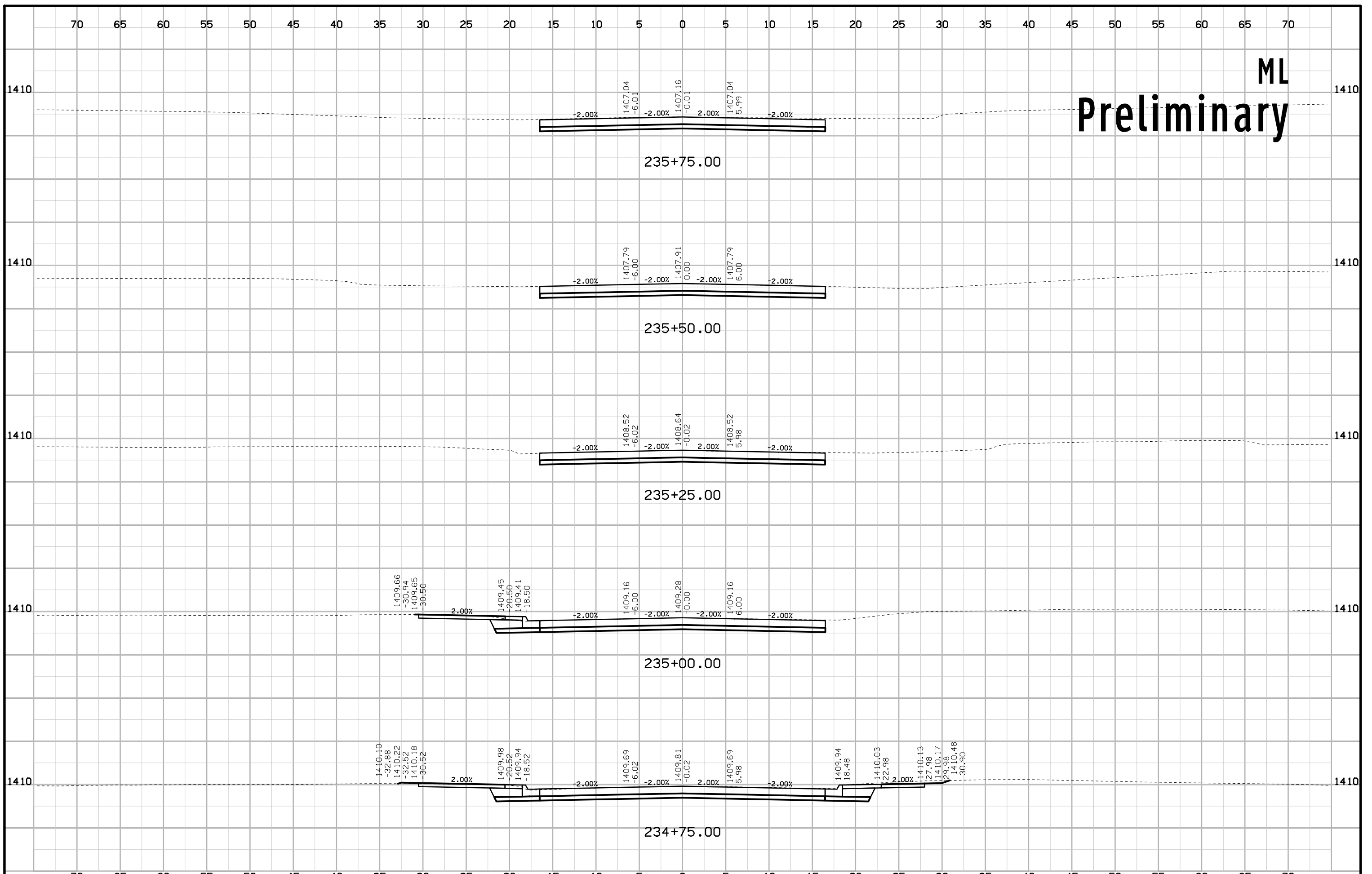


FILE NO.	ENGLISH	DESIGN TEAM	IDOT\SCHEMMER	DICKINSON COUNTY	PROJECT NUMBER	NHSN-71-9(78)--2R-30	SHEET NUMBER	W25
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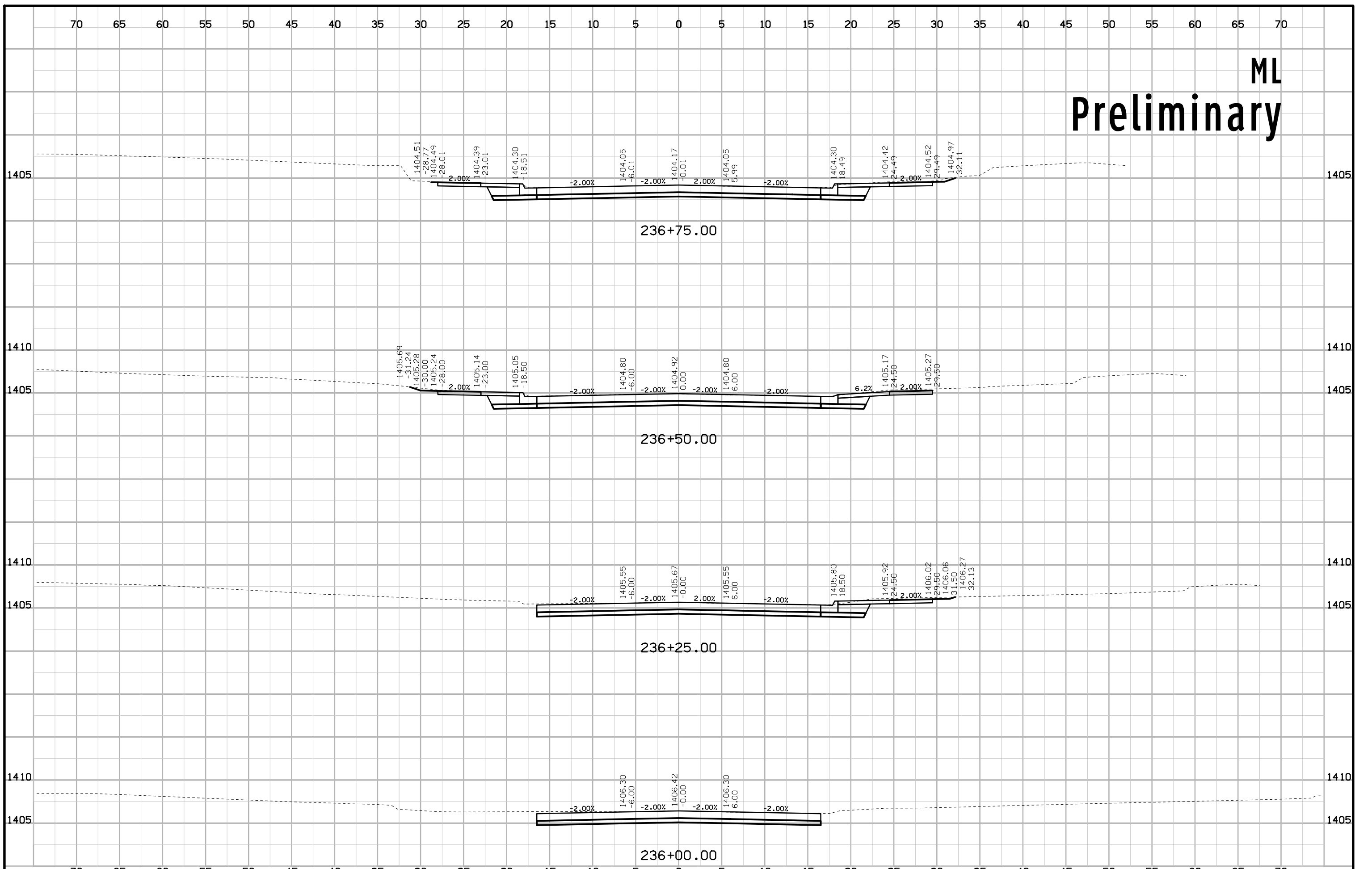
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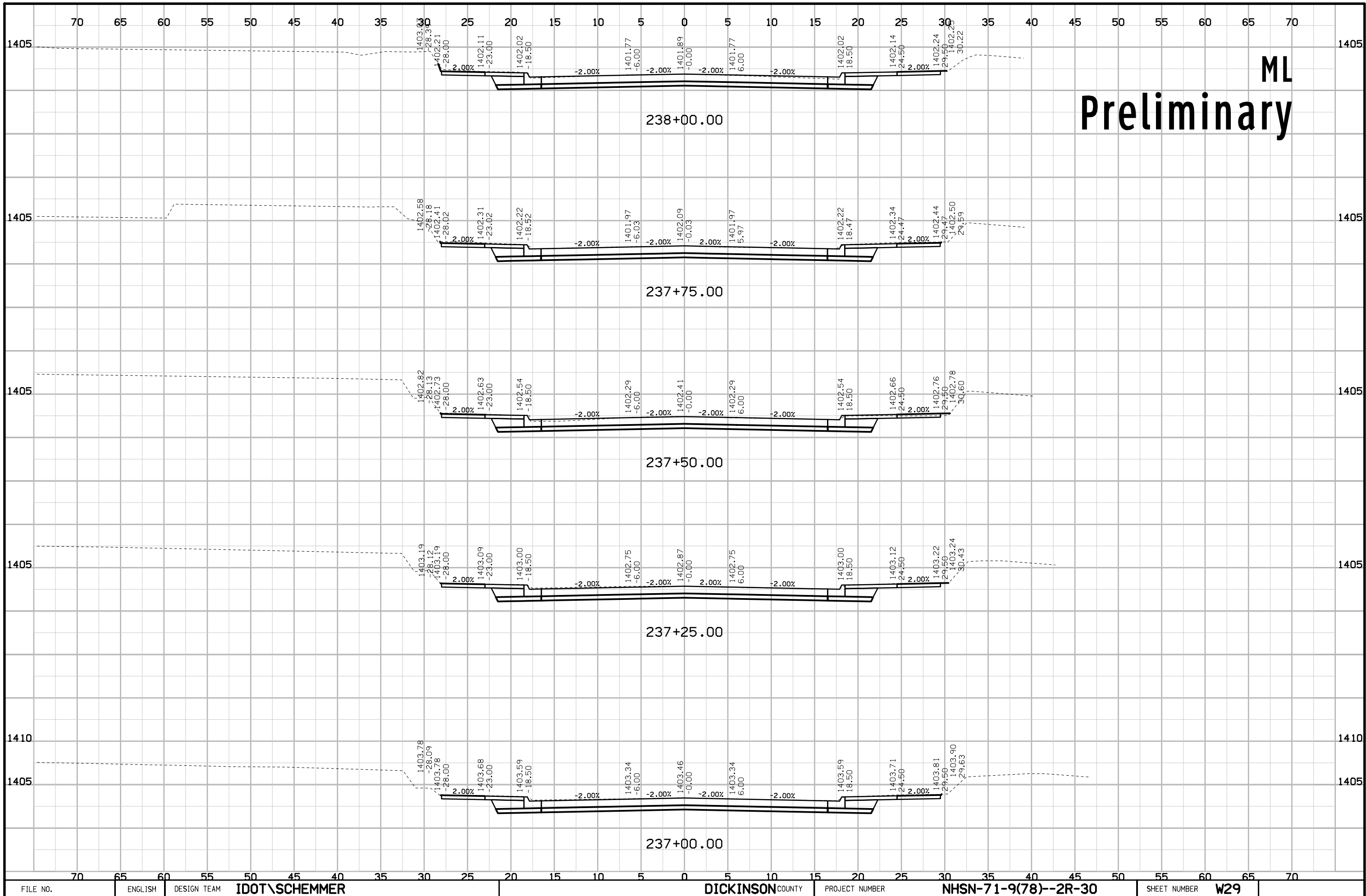


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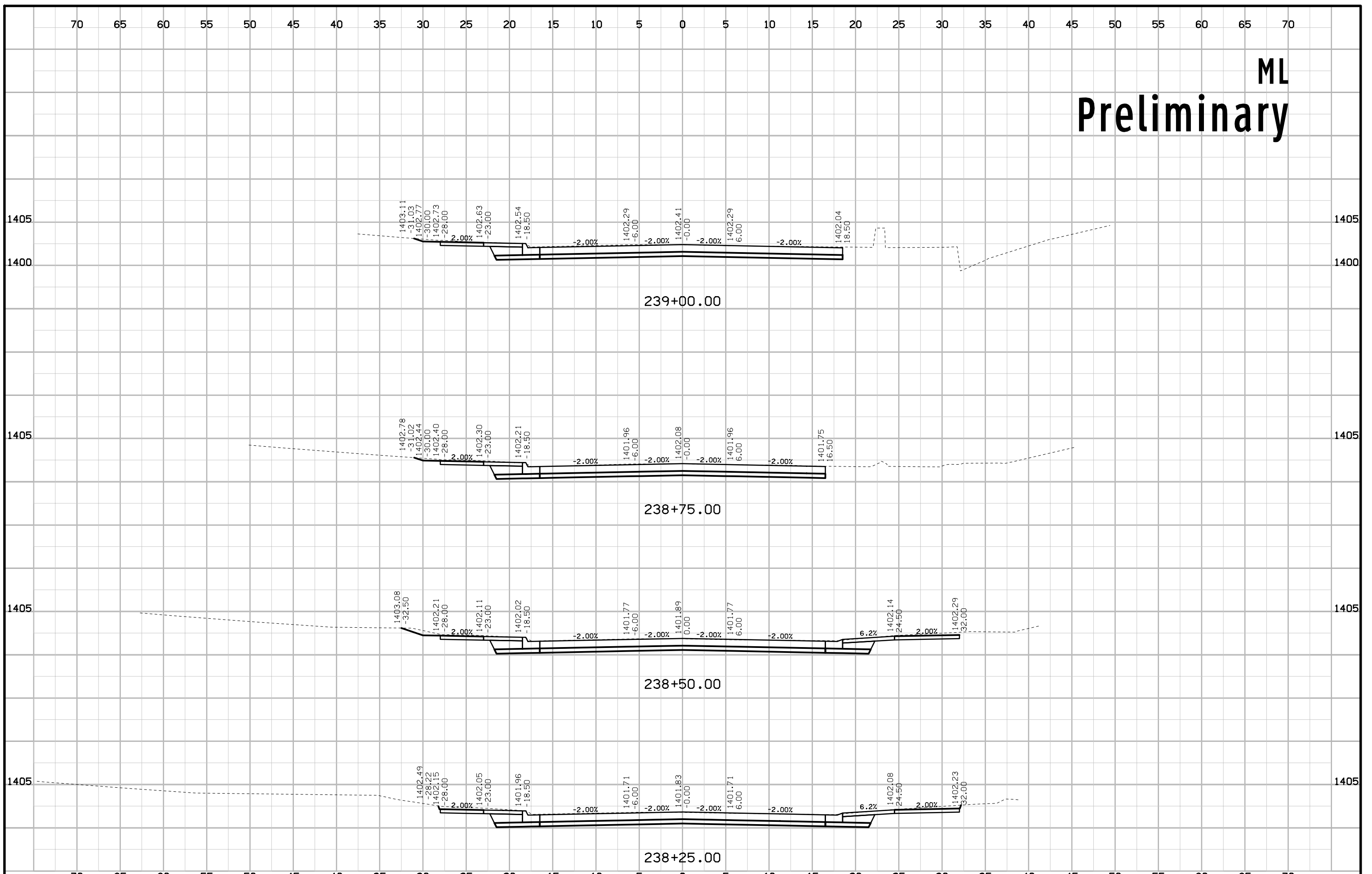
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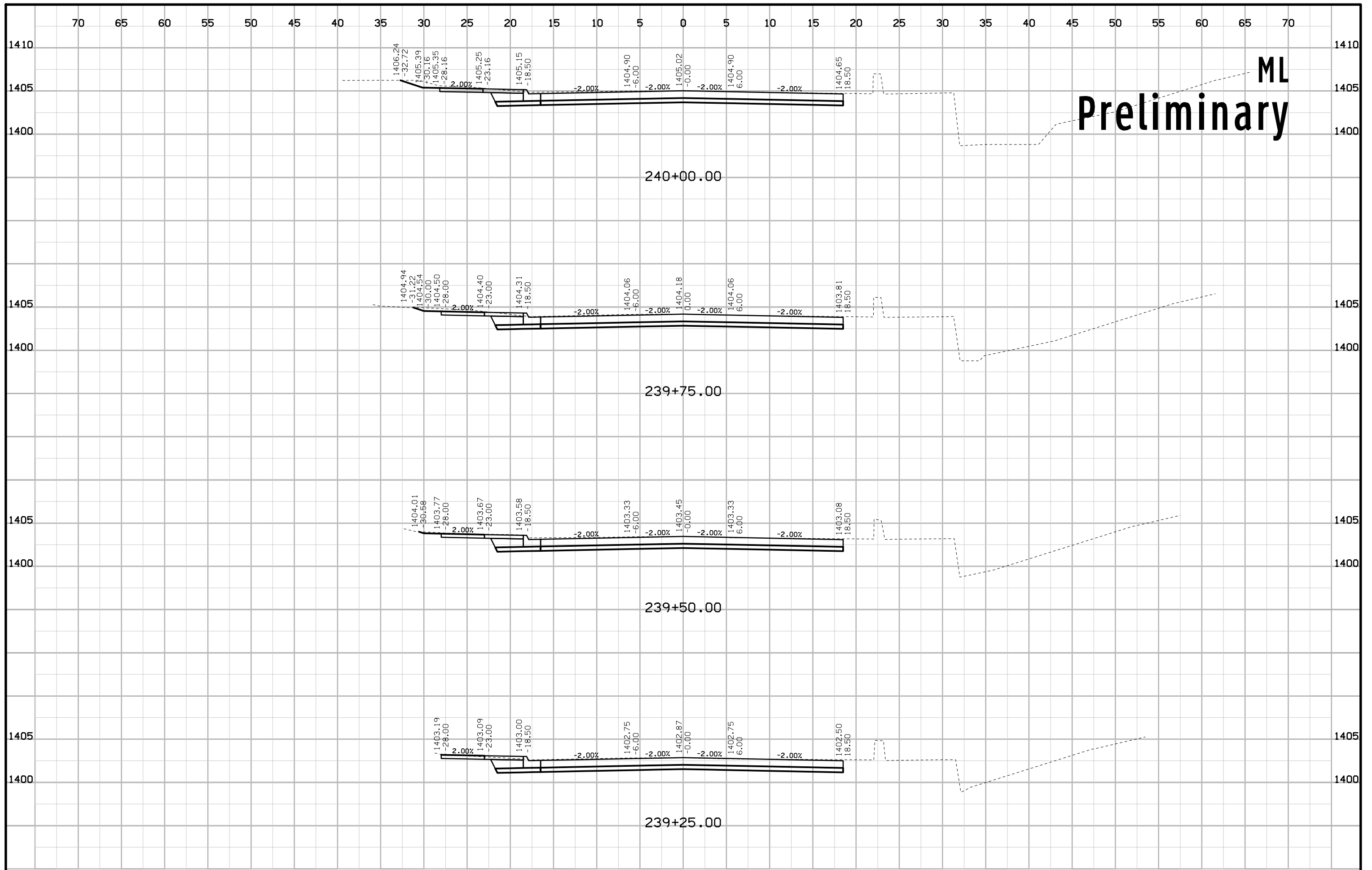




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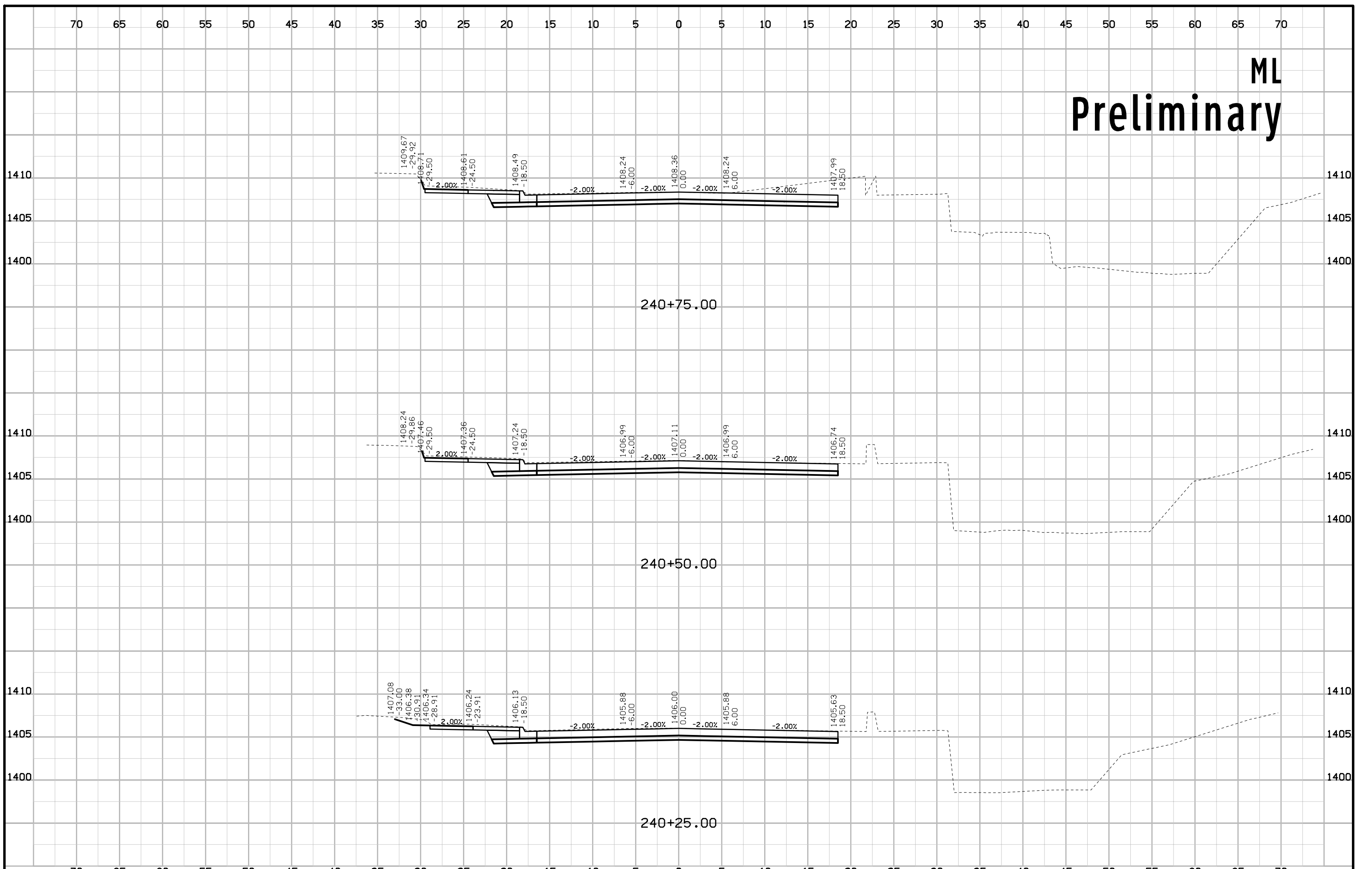
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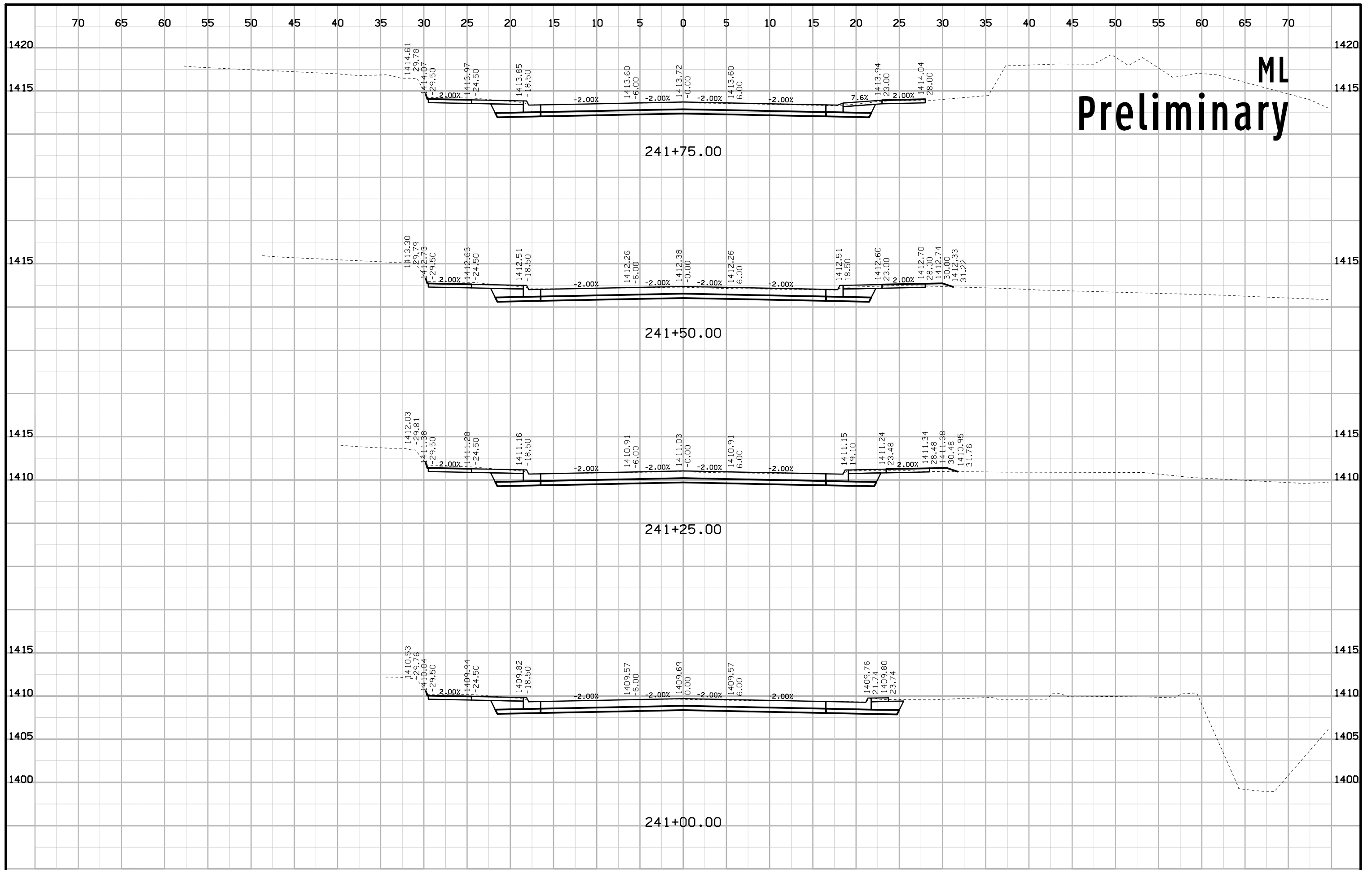


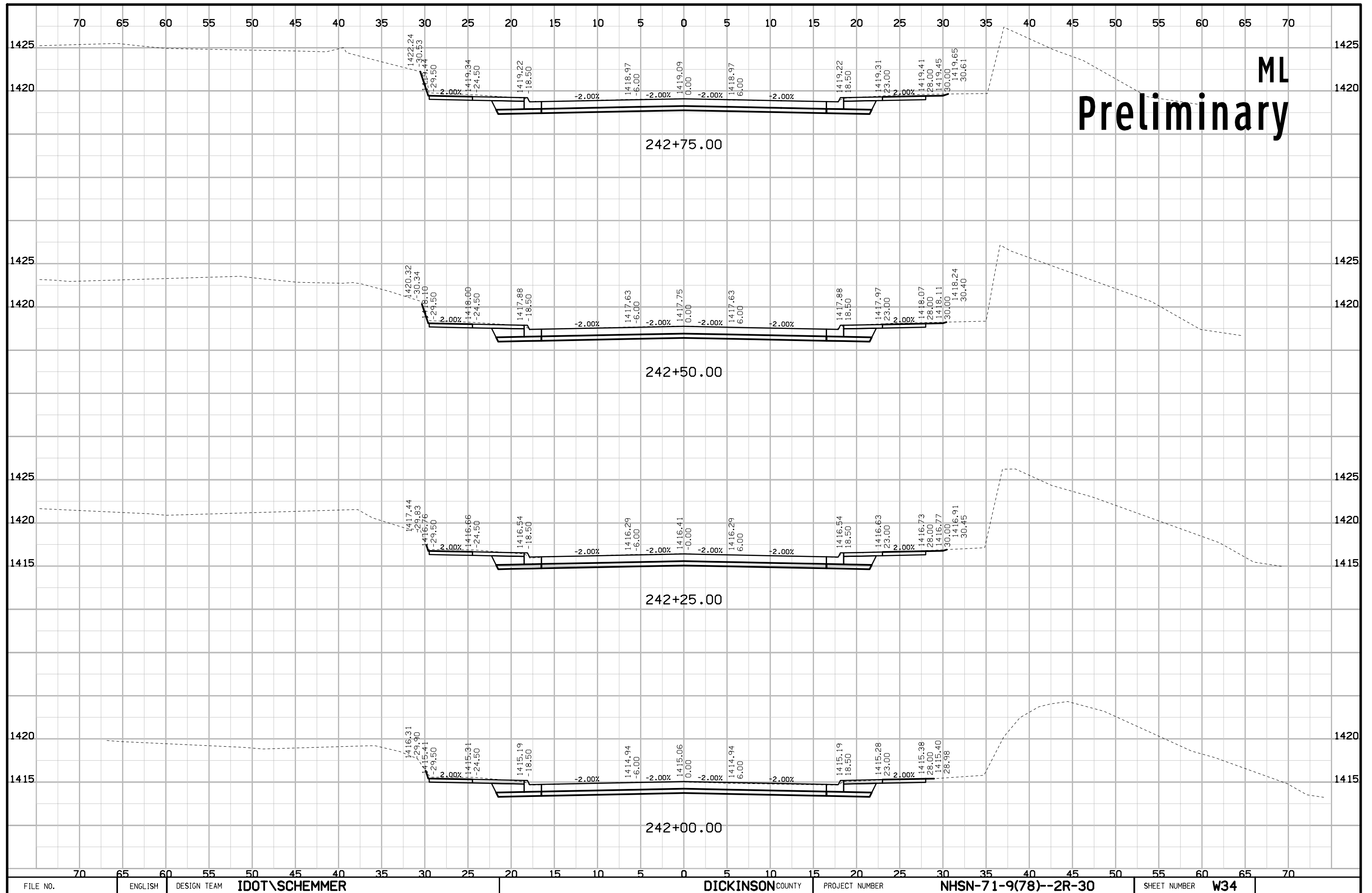


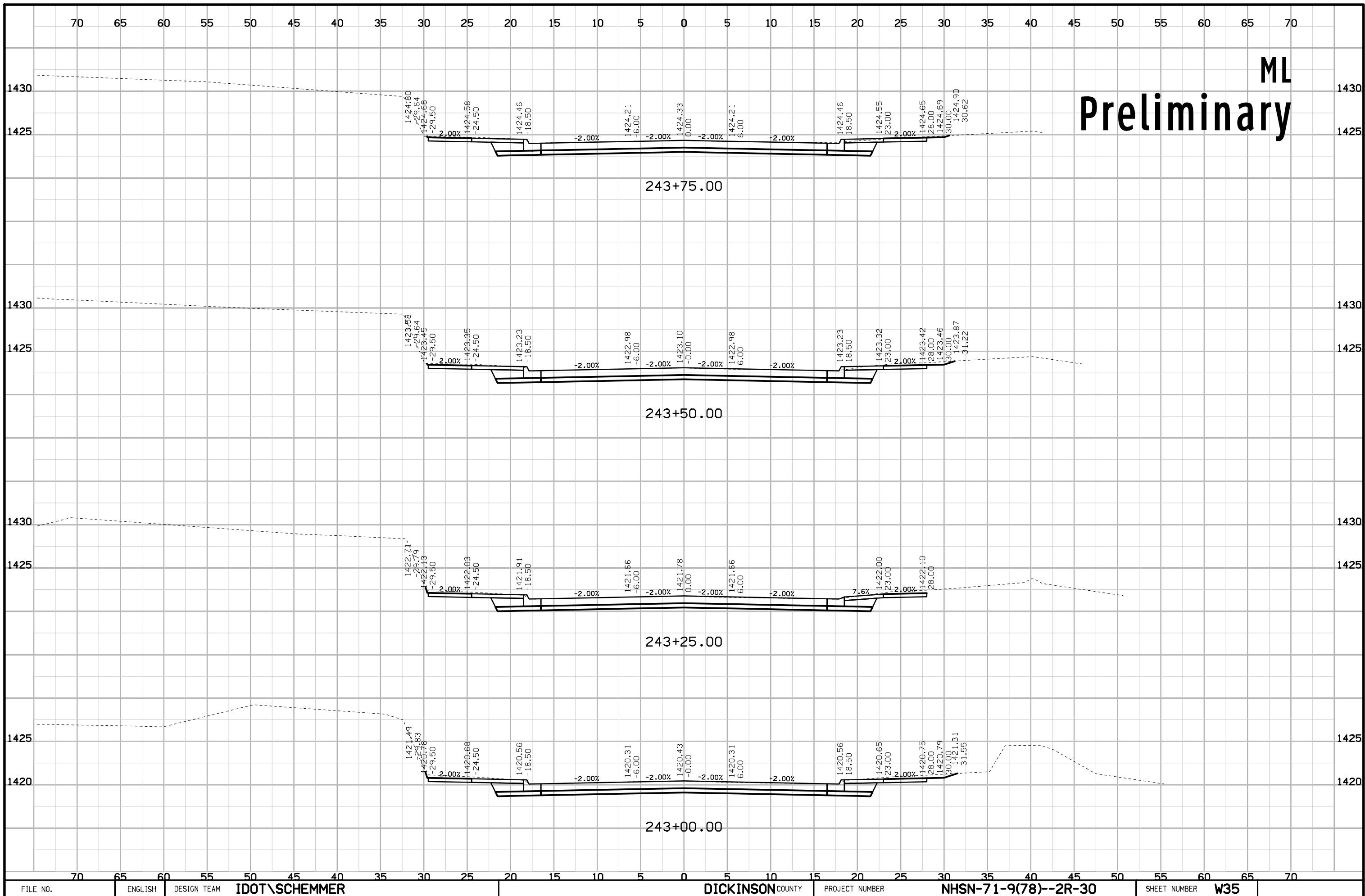
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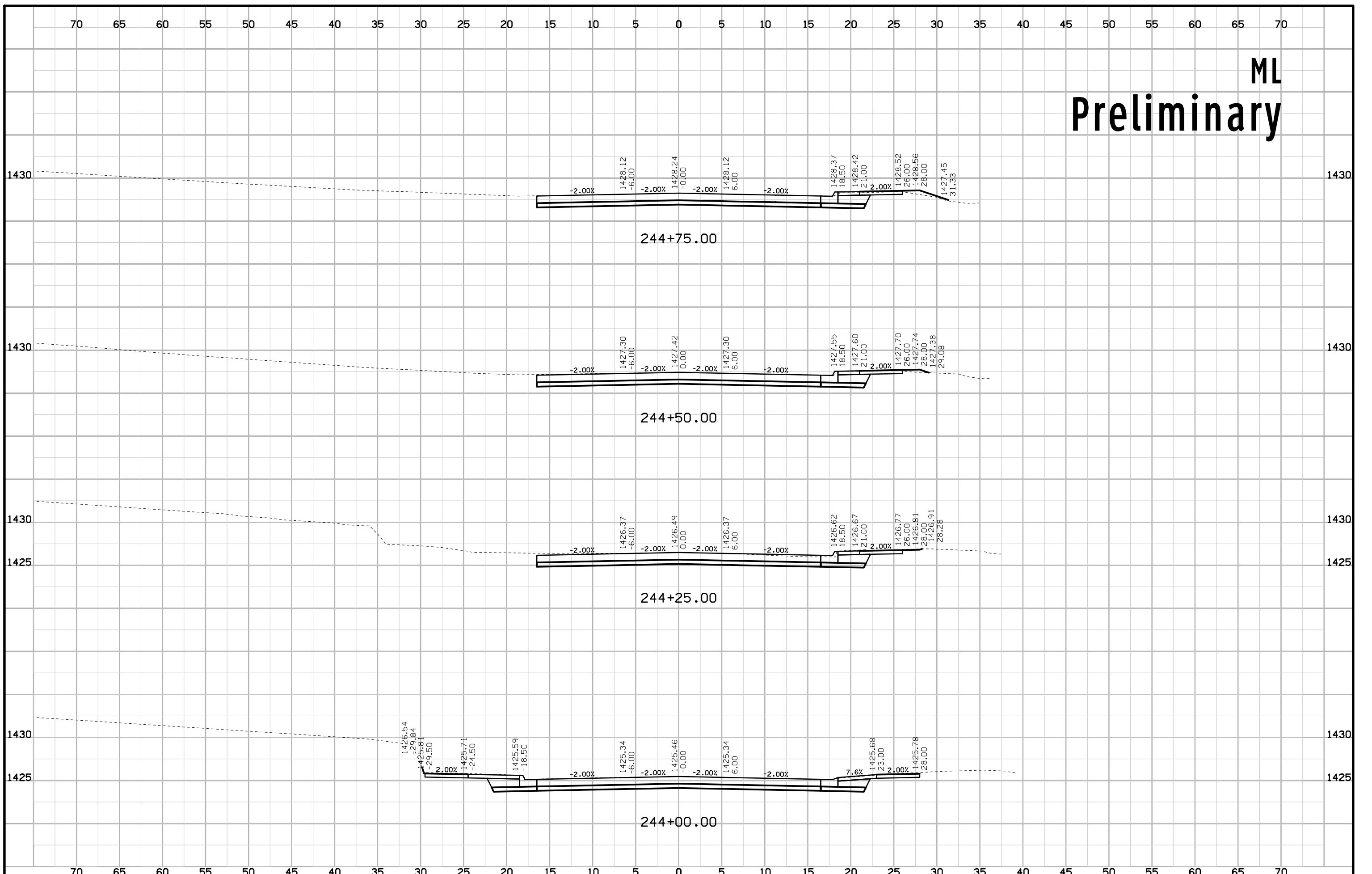




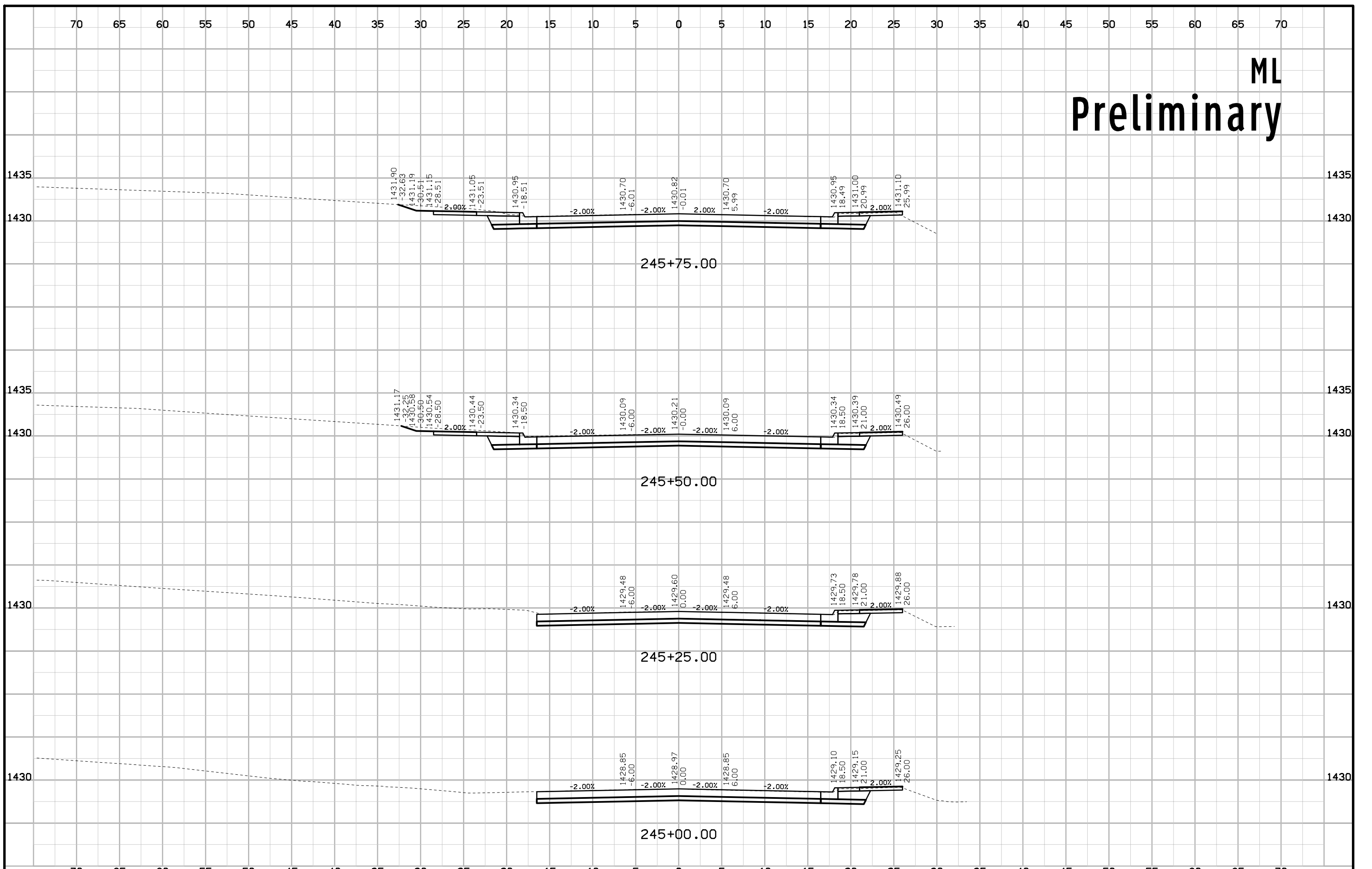




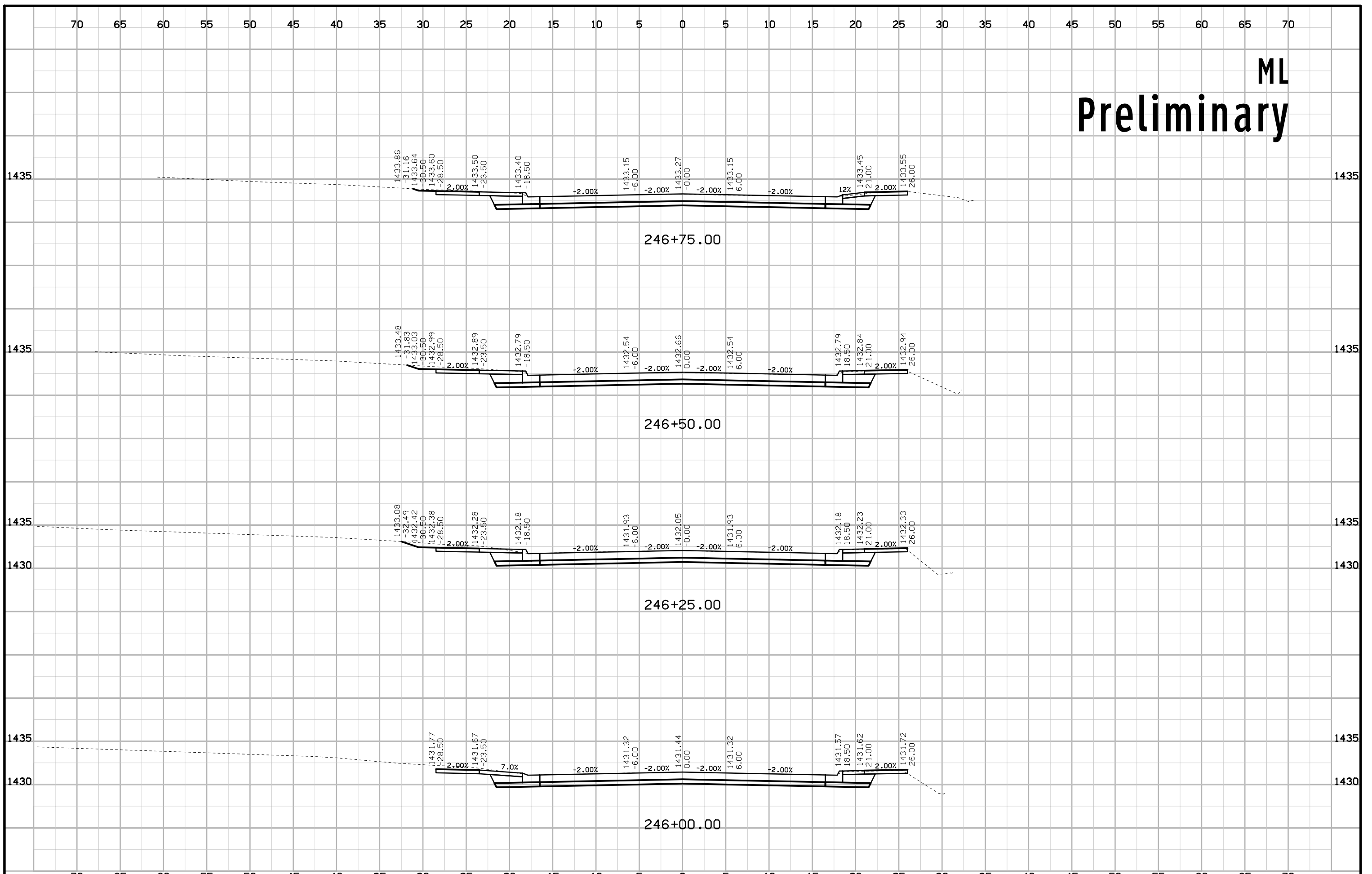
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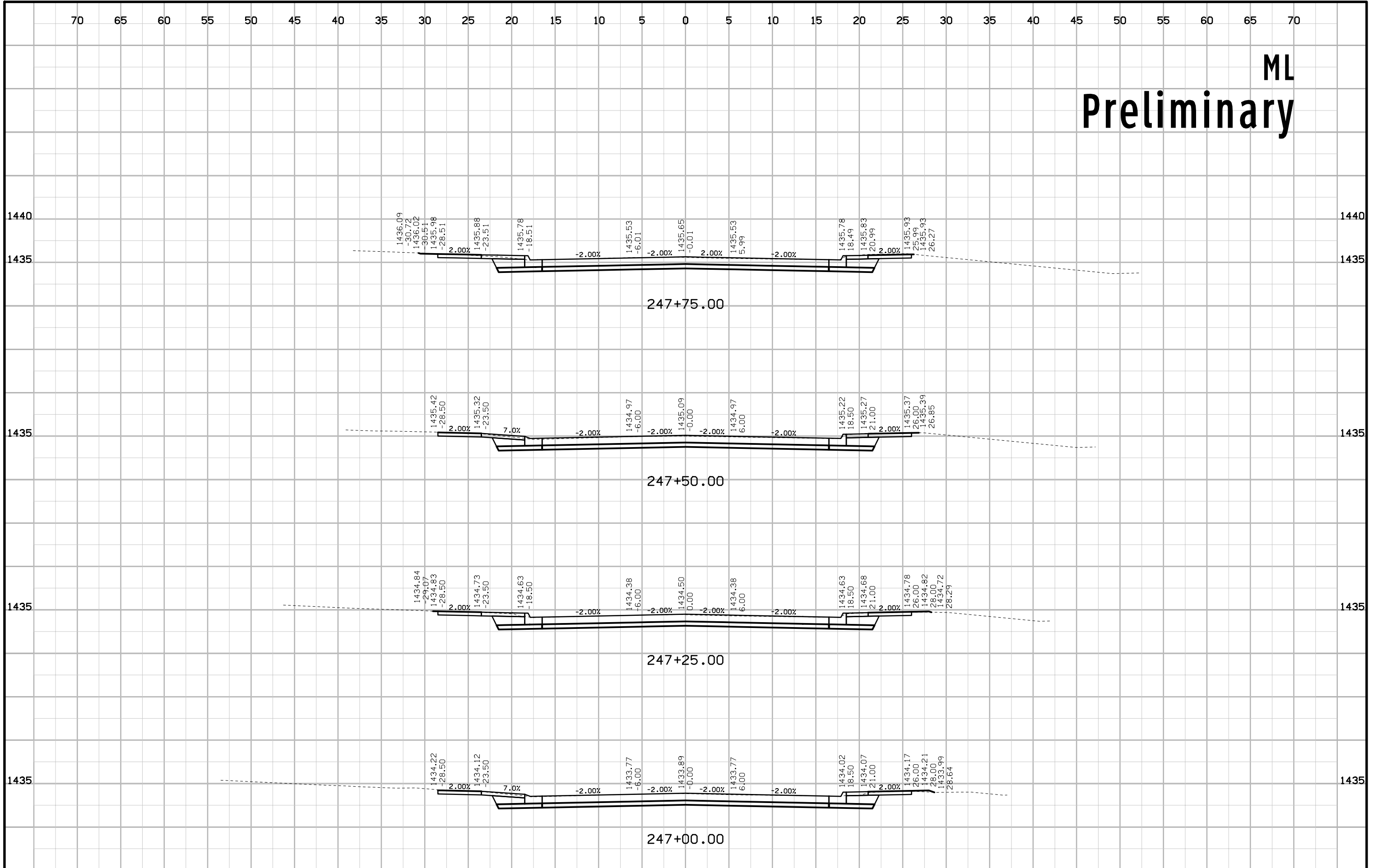
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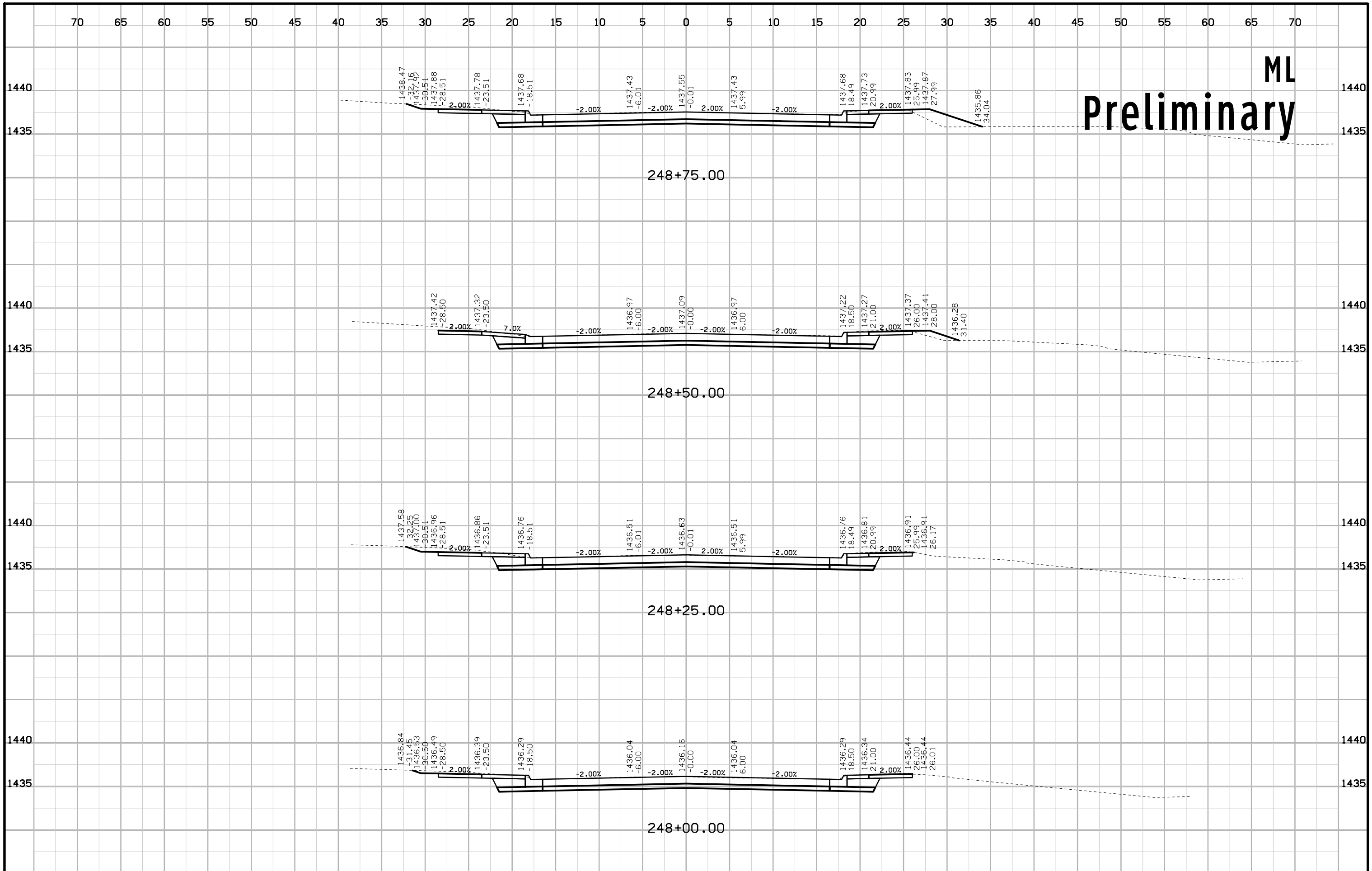


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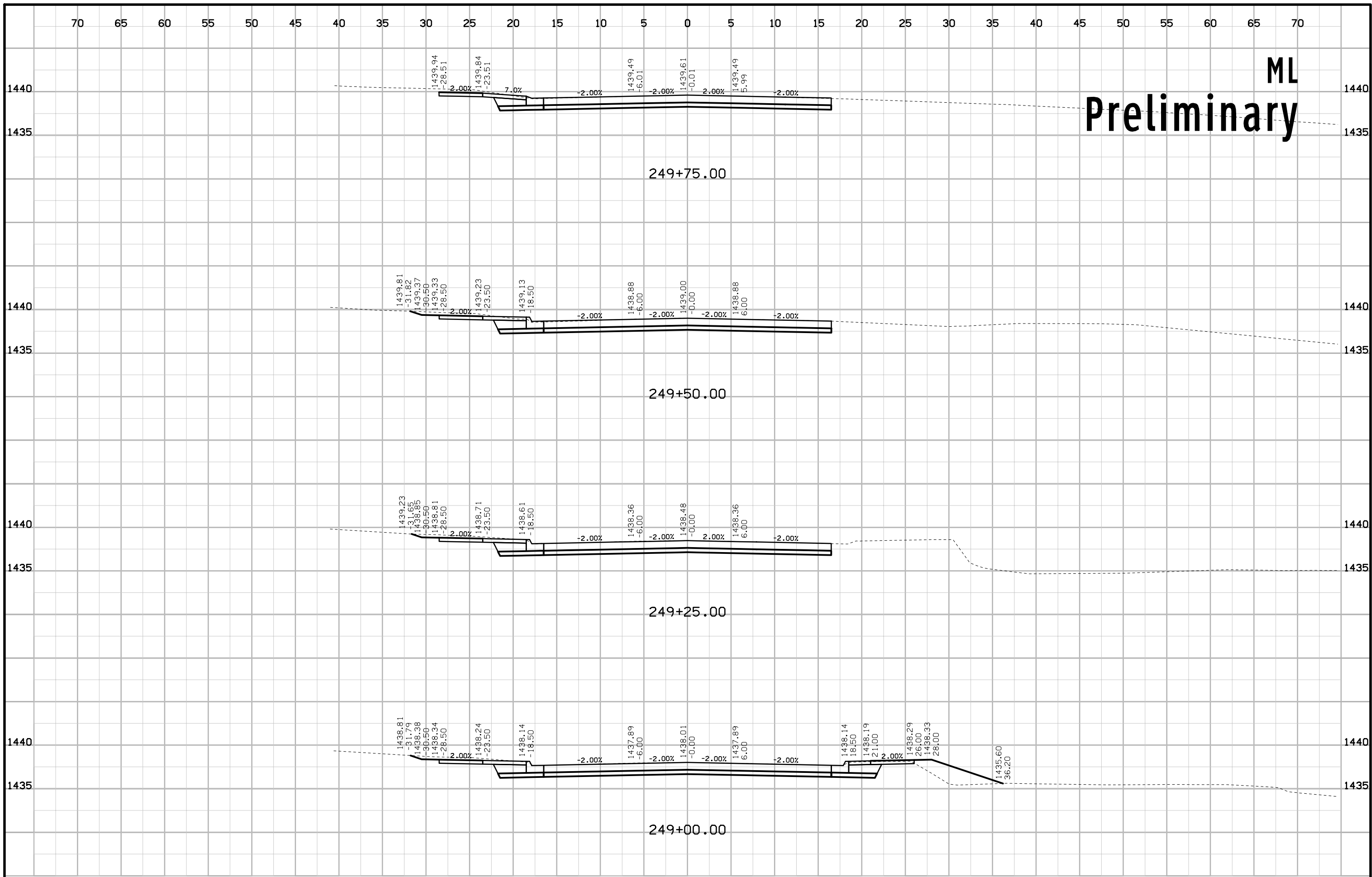


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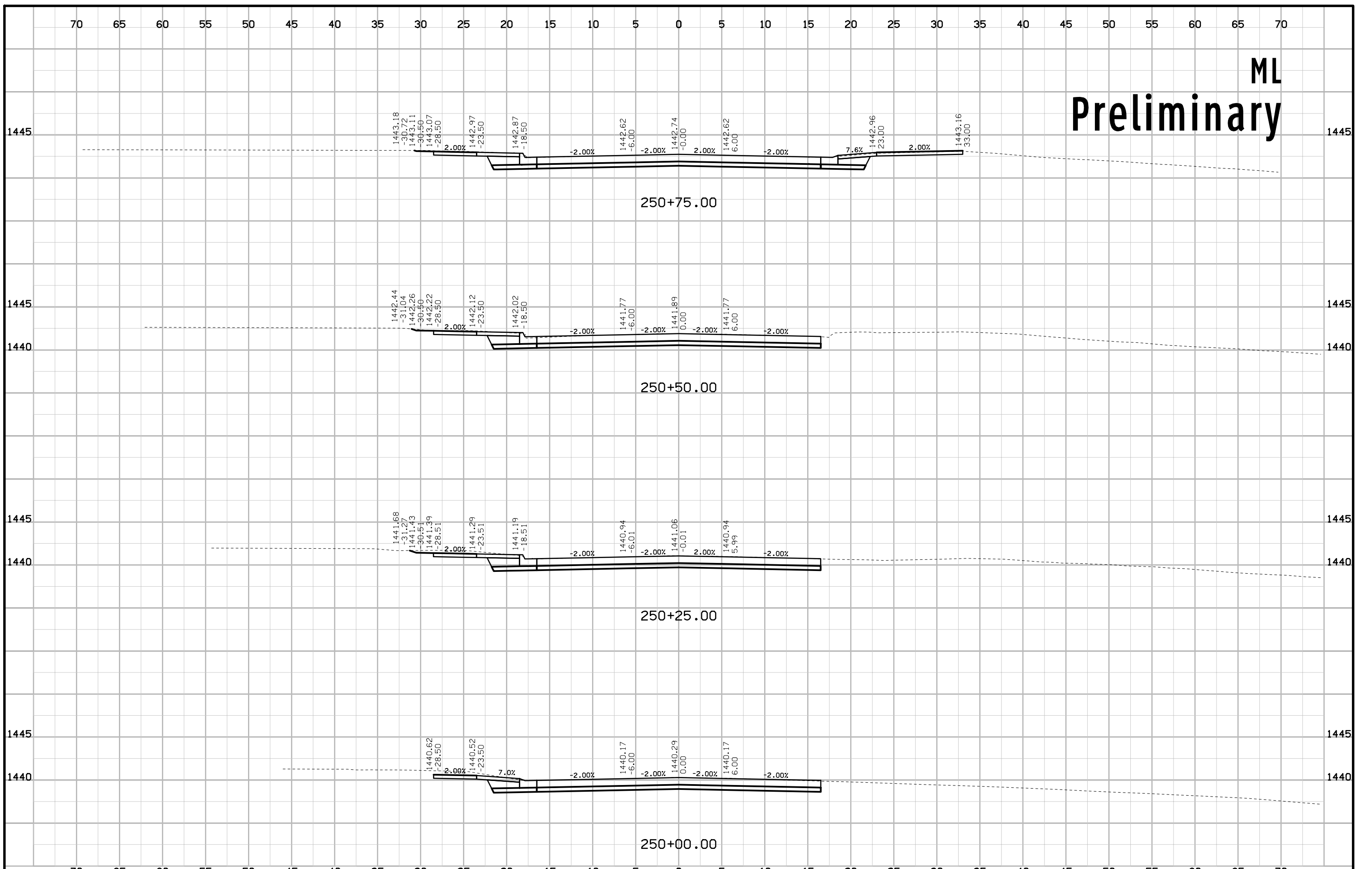


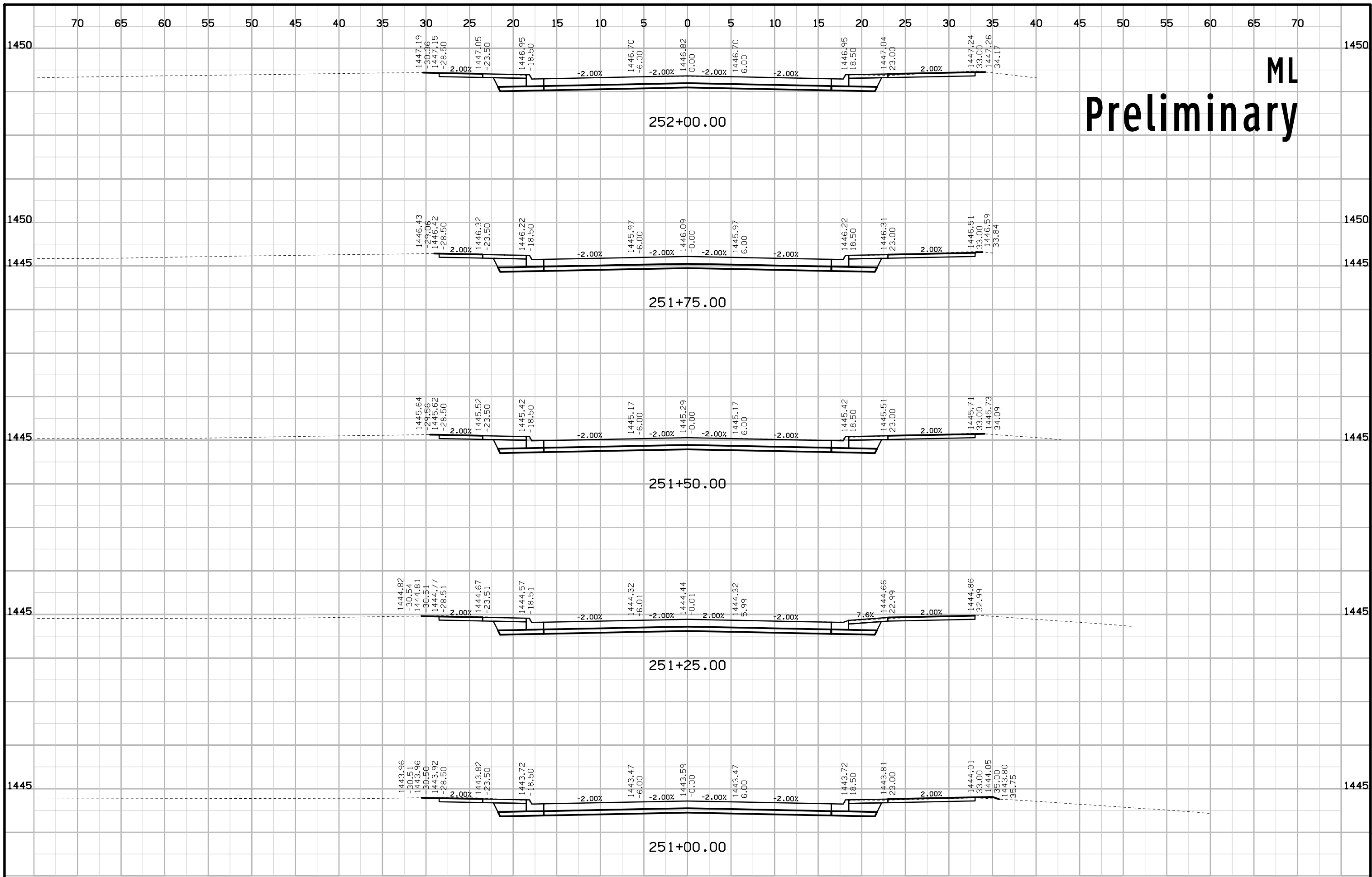


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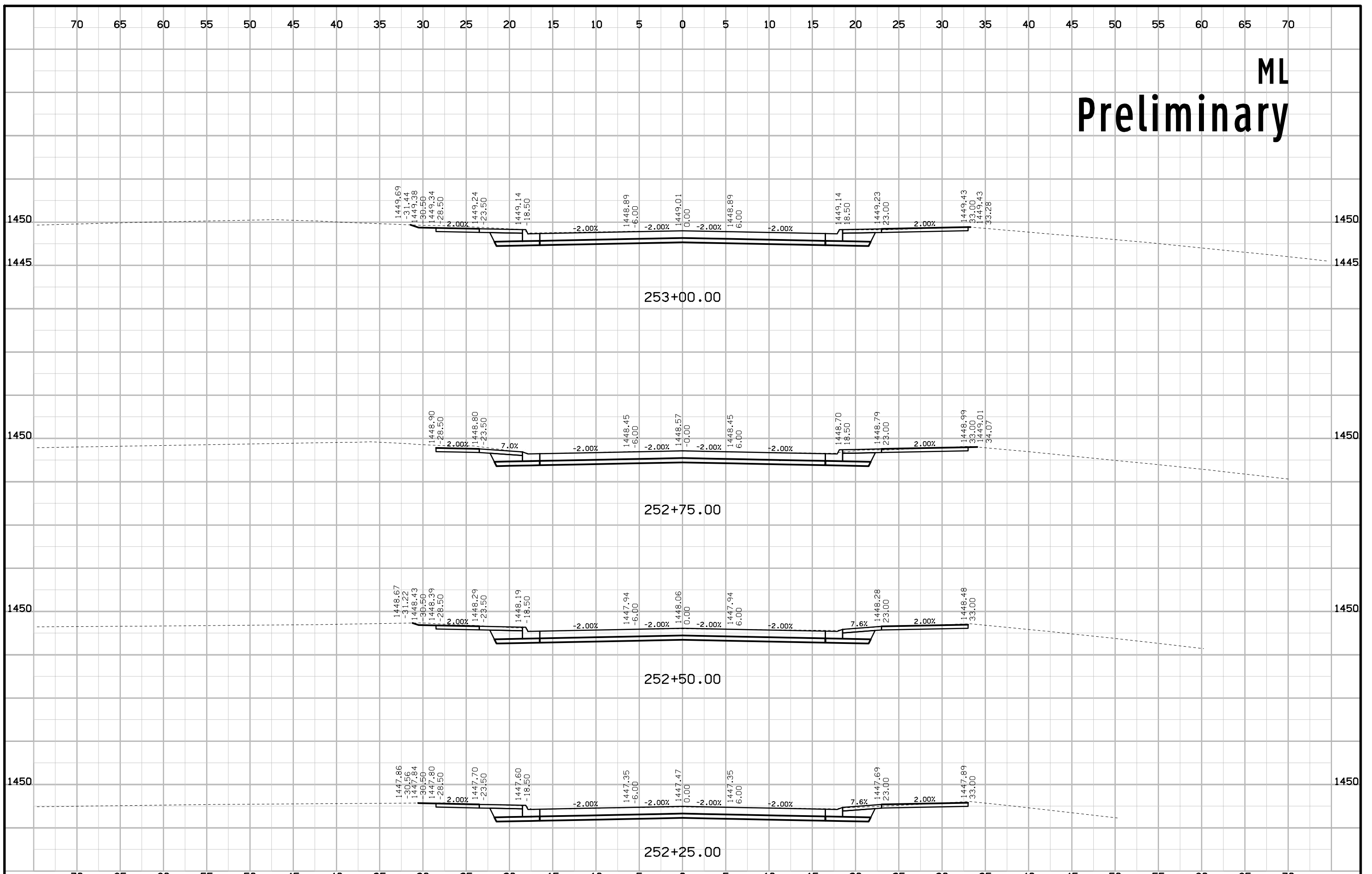
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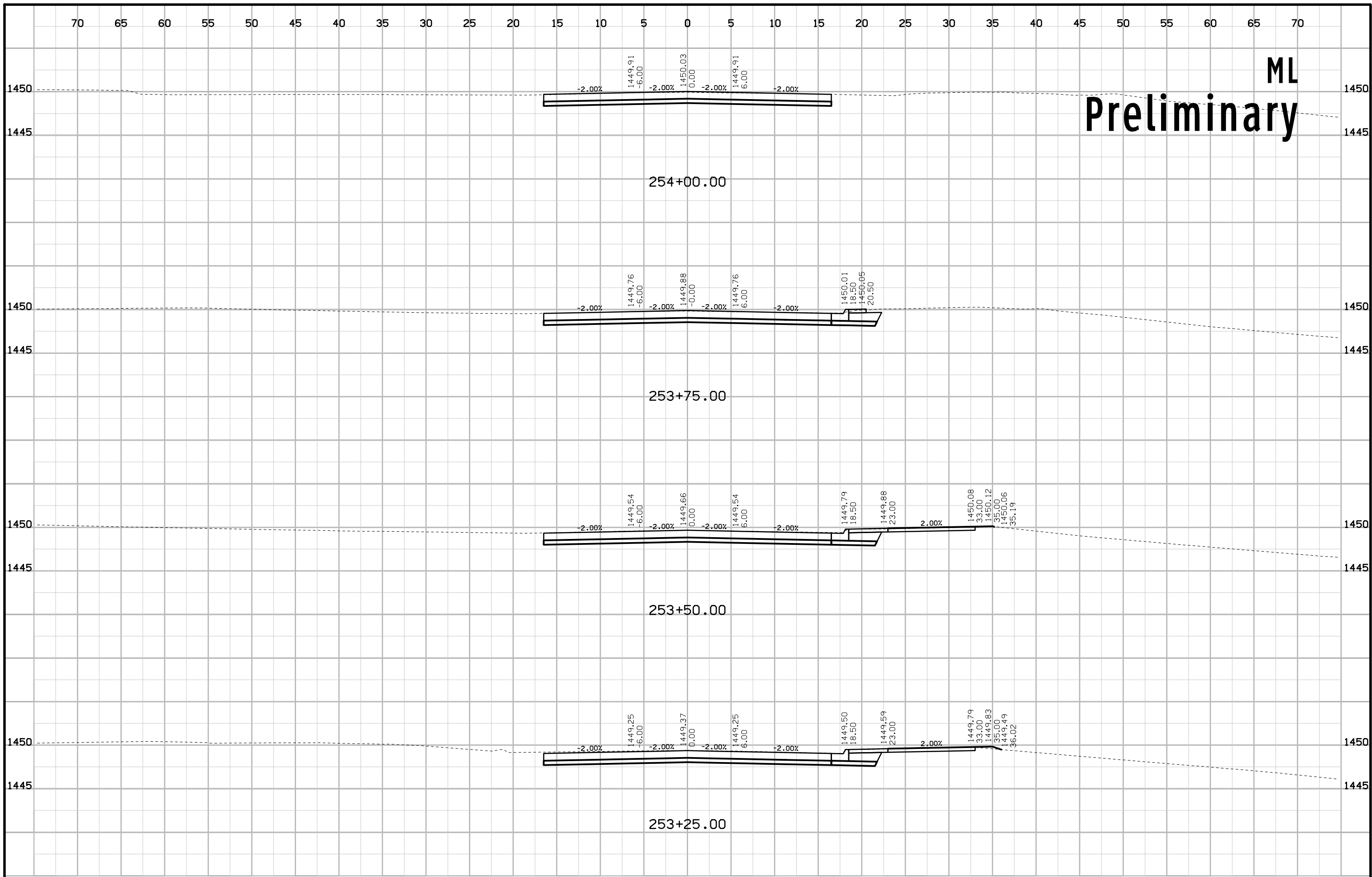


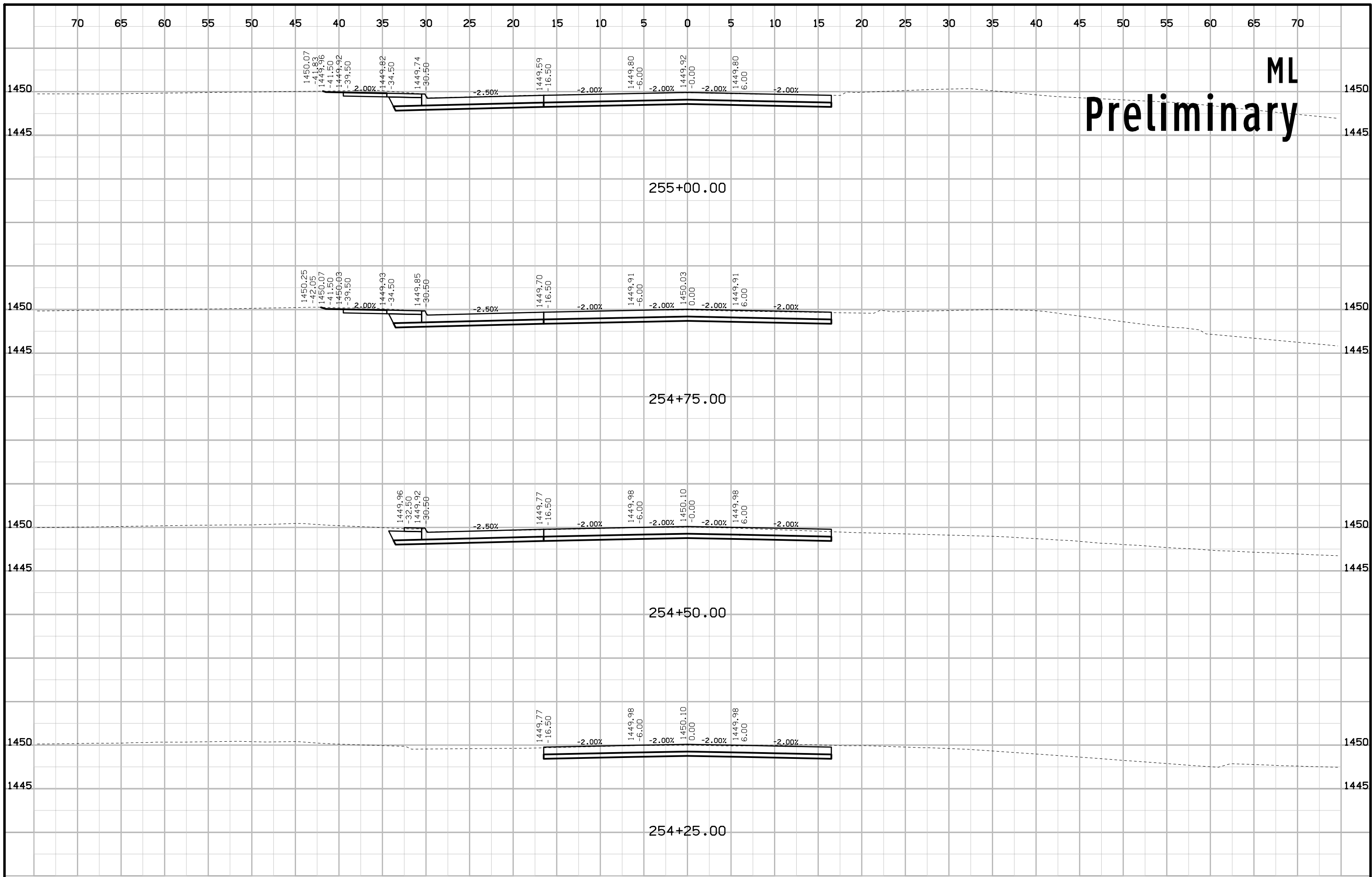


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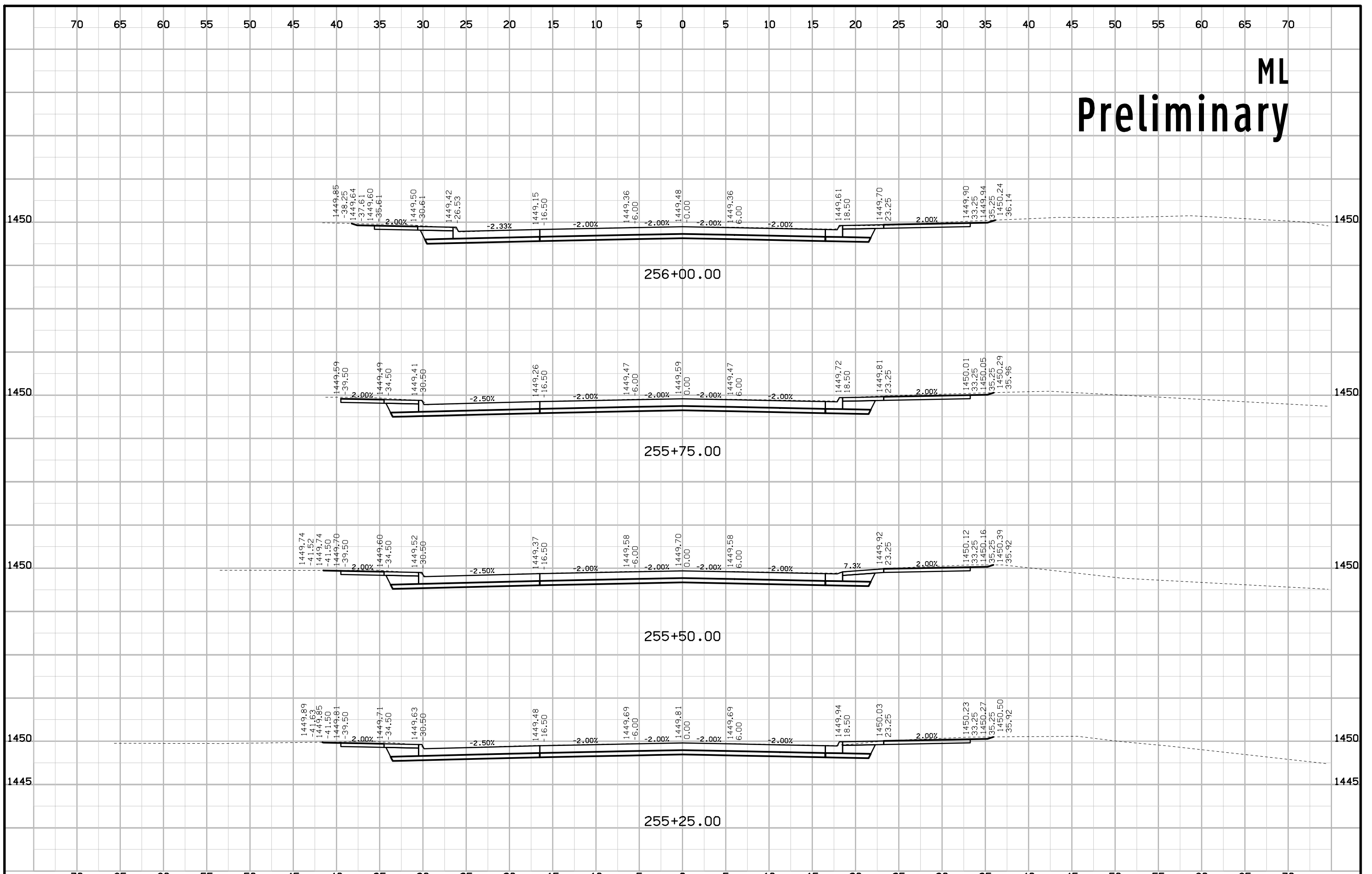
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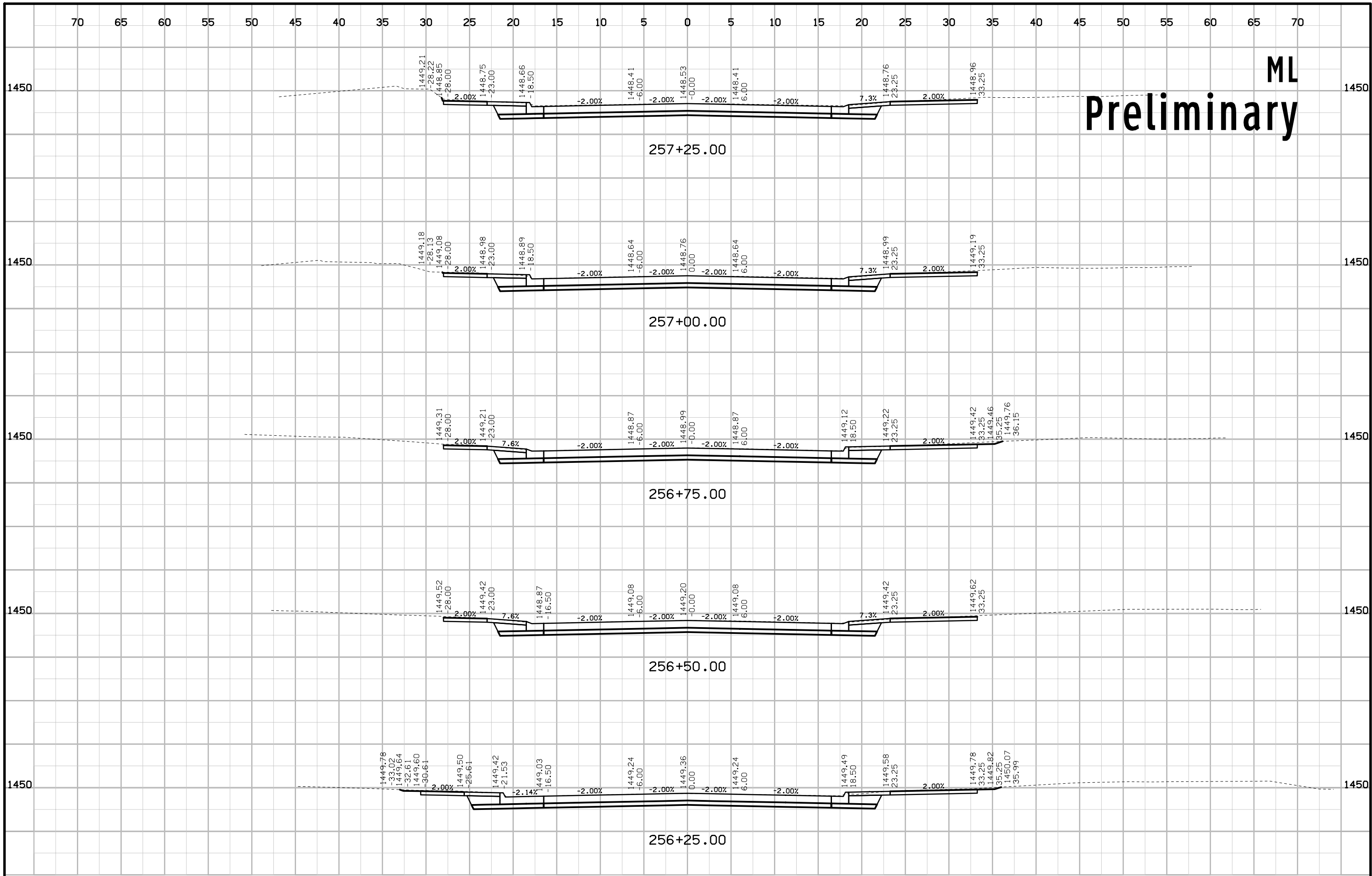




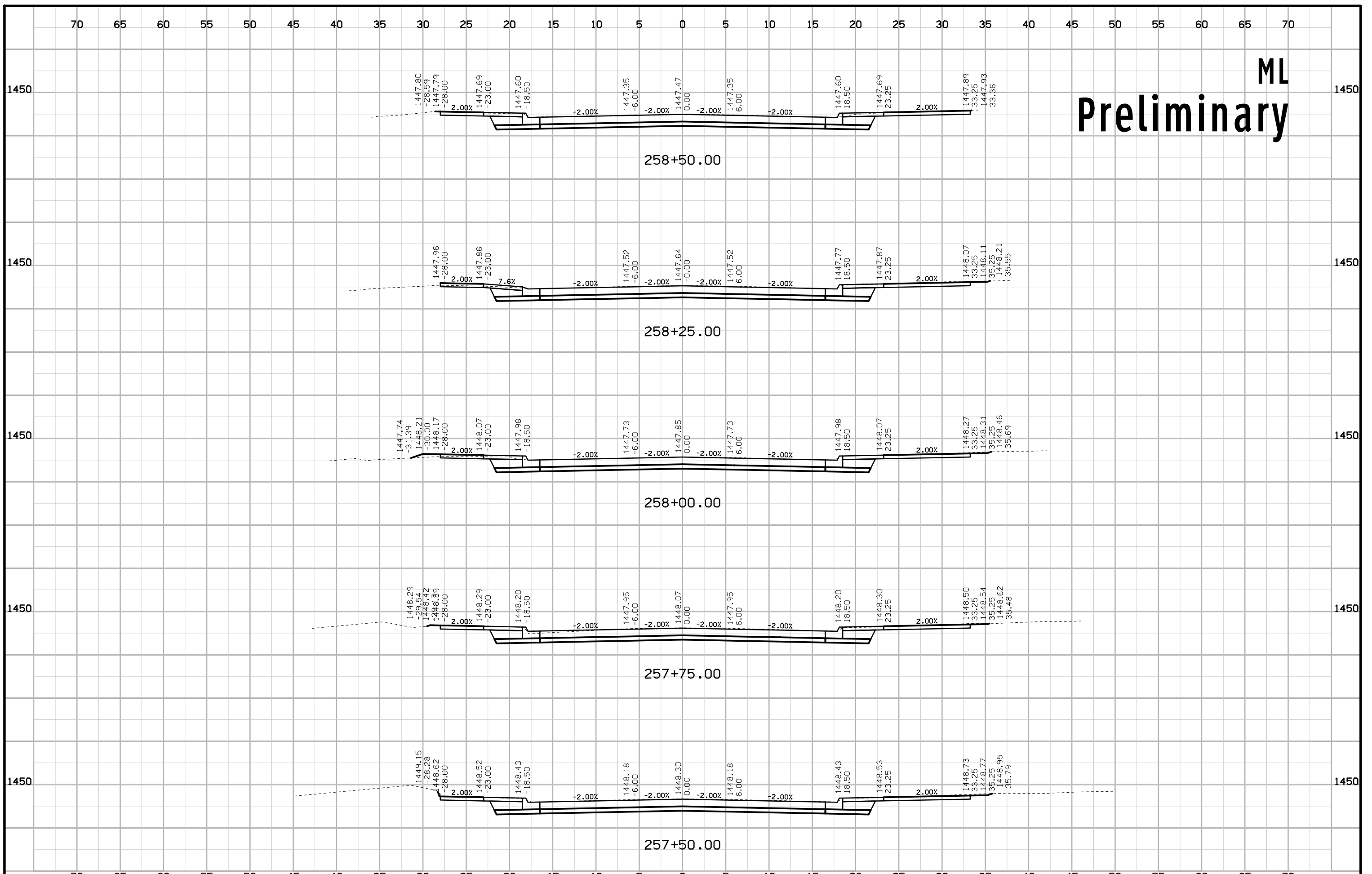


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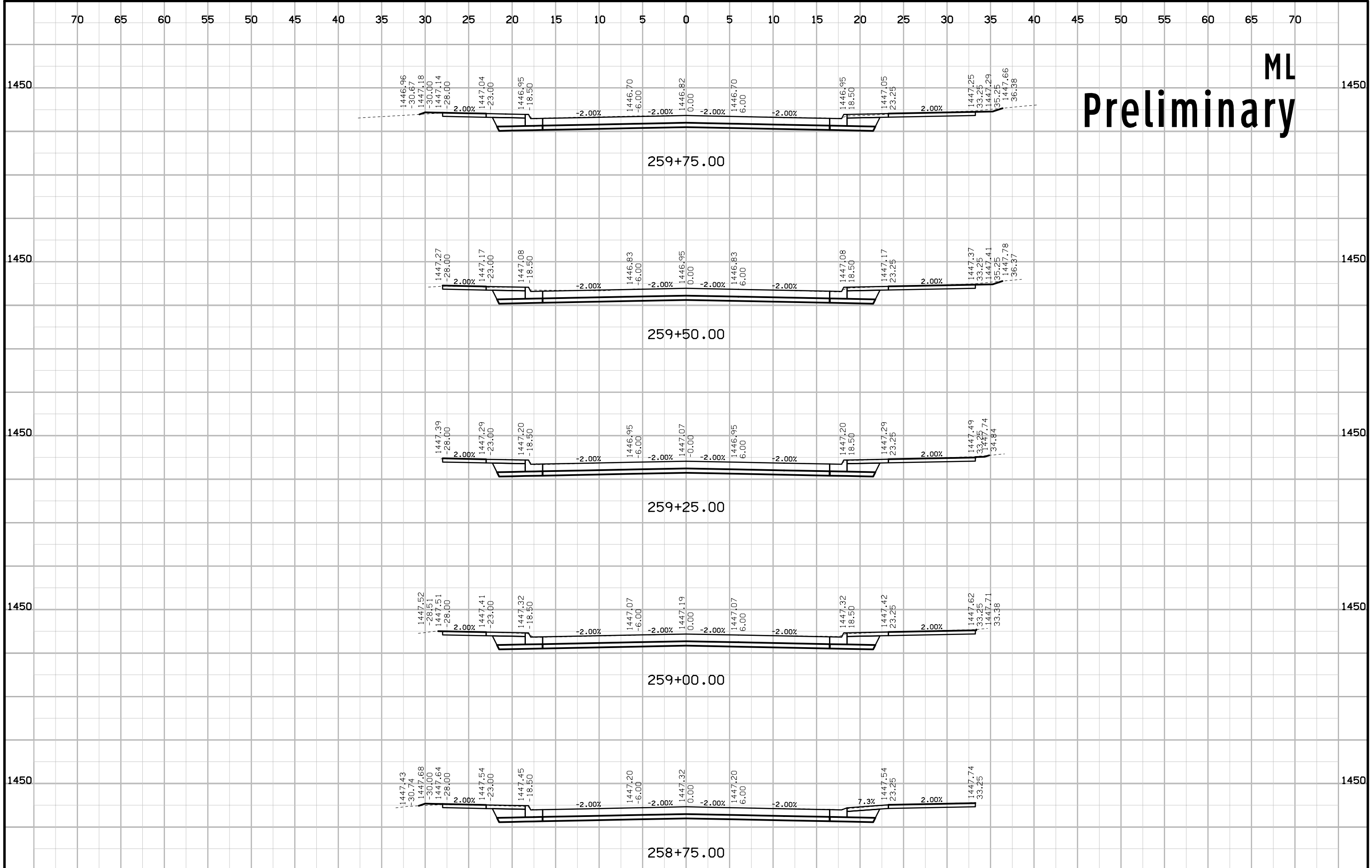




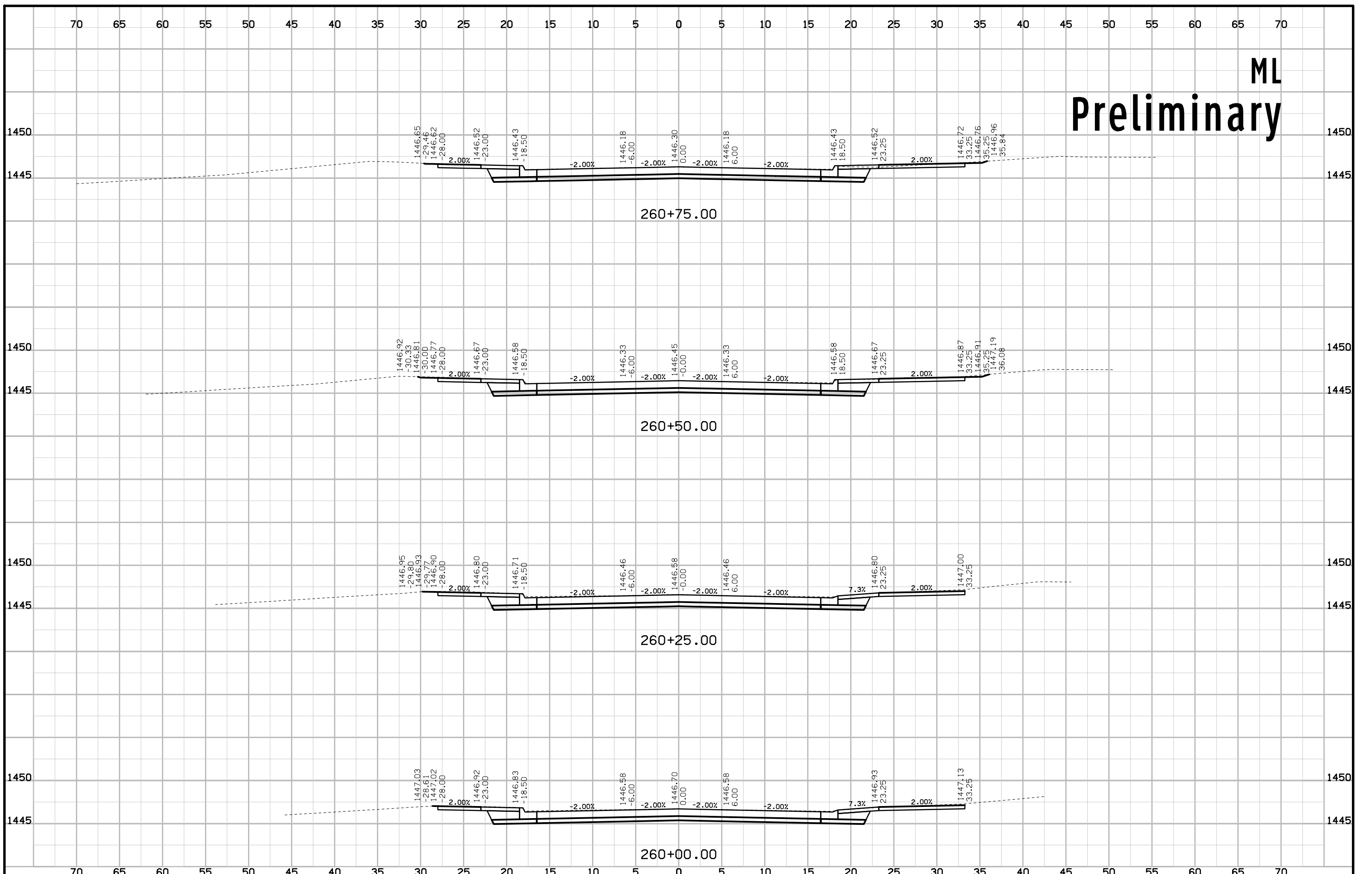
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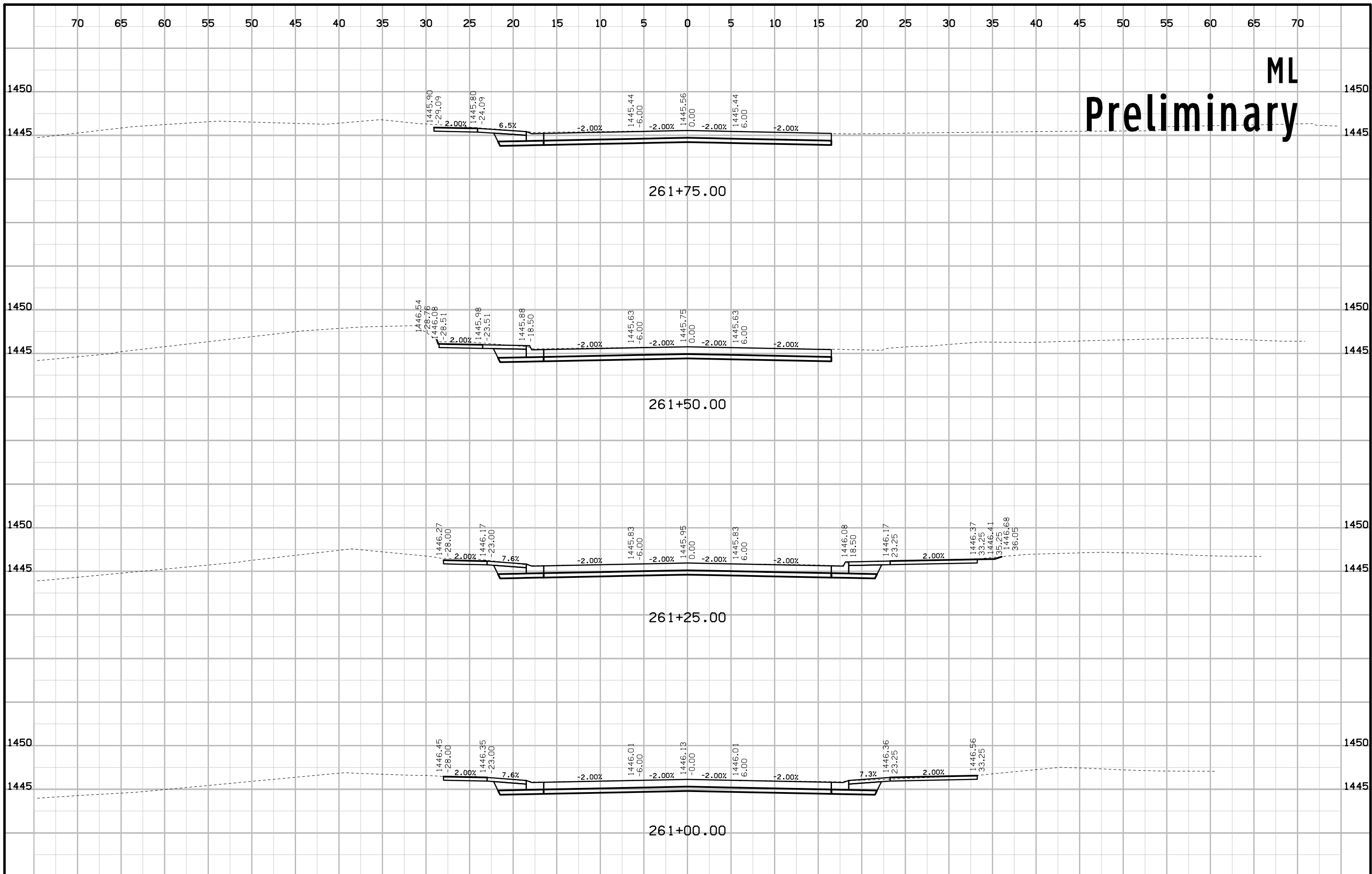


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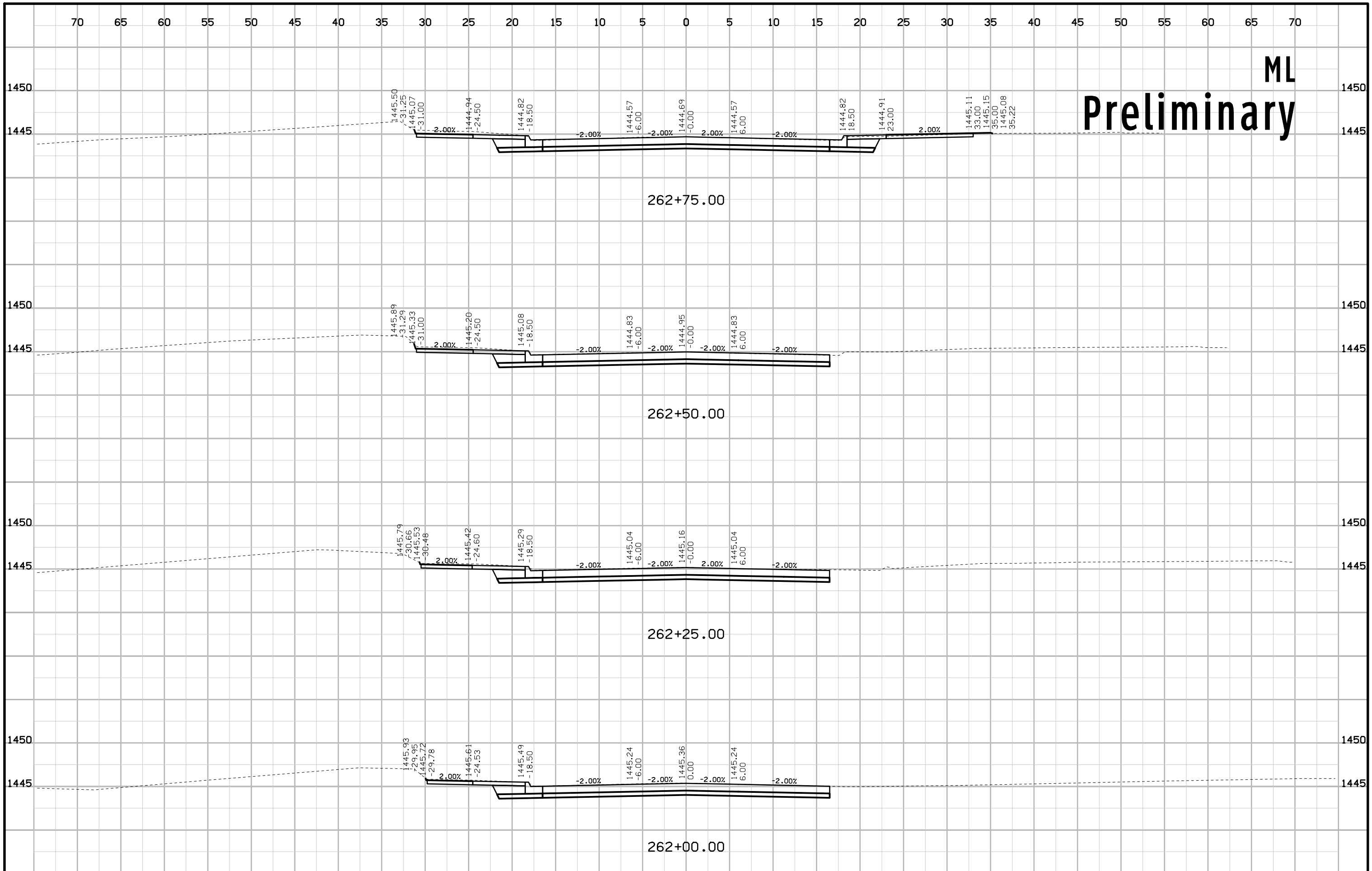


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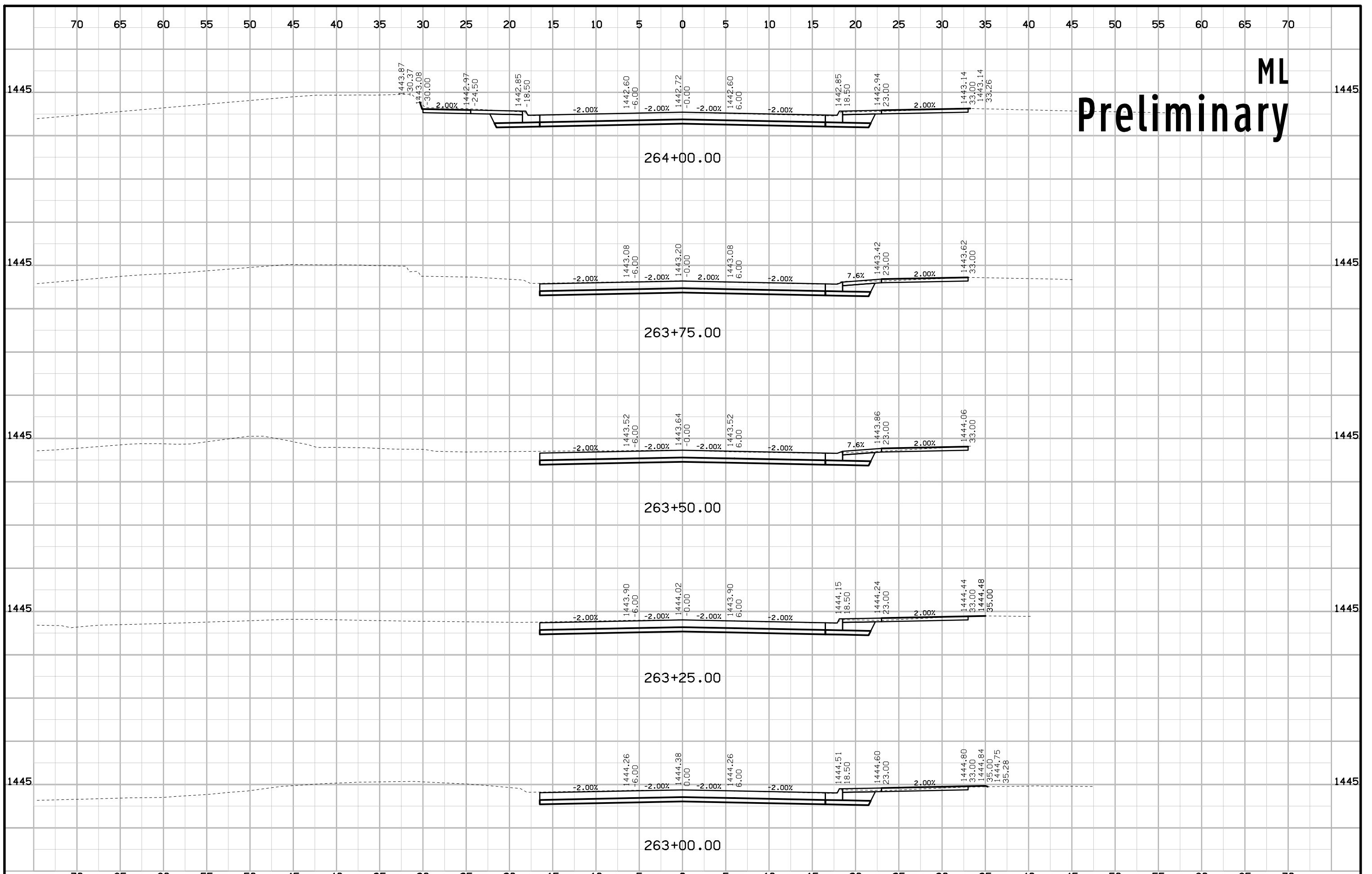


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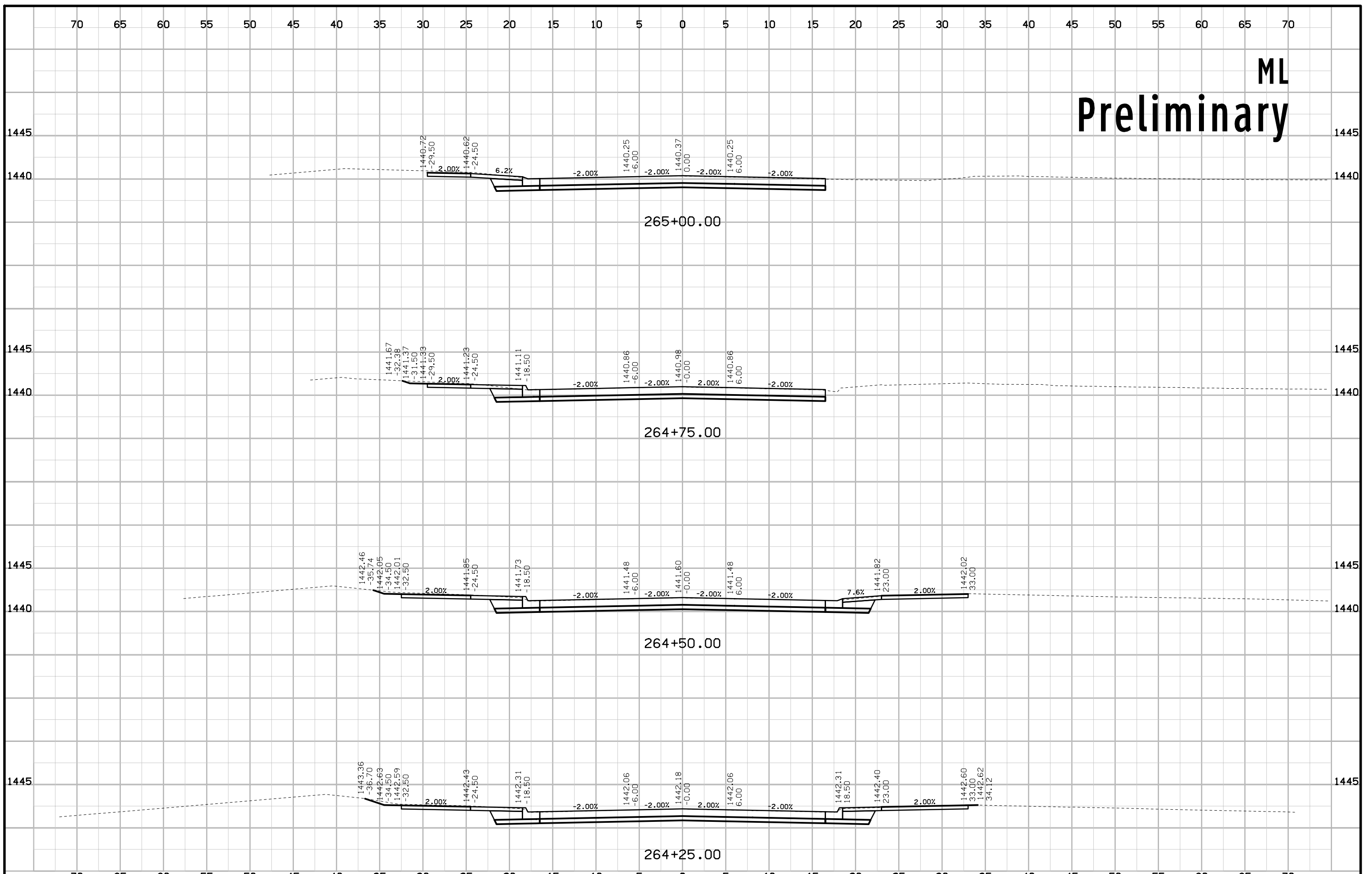


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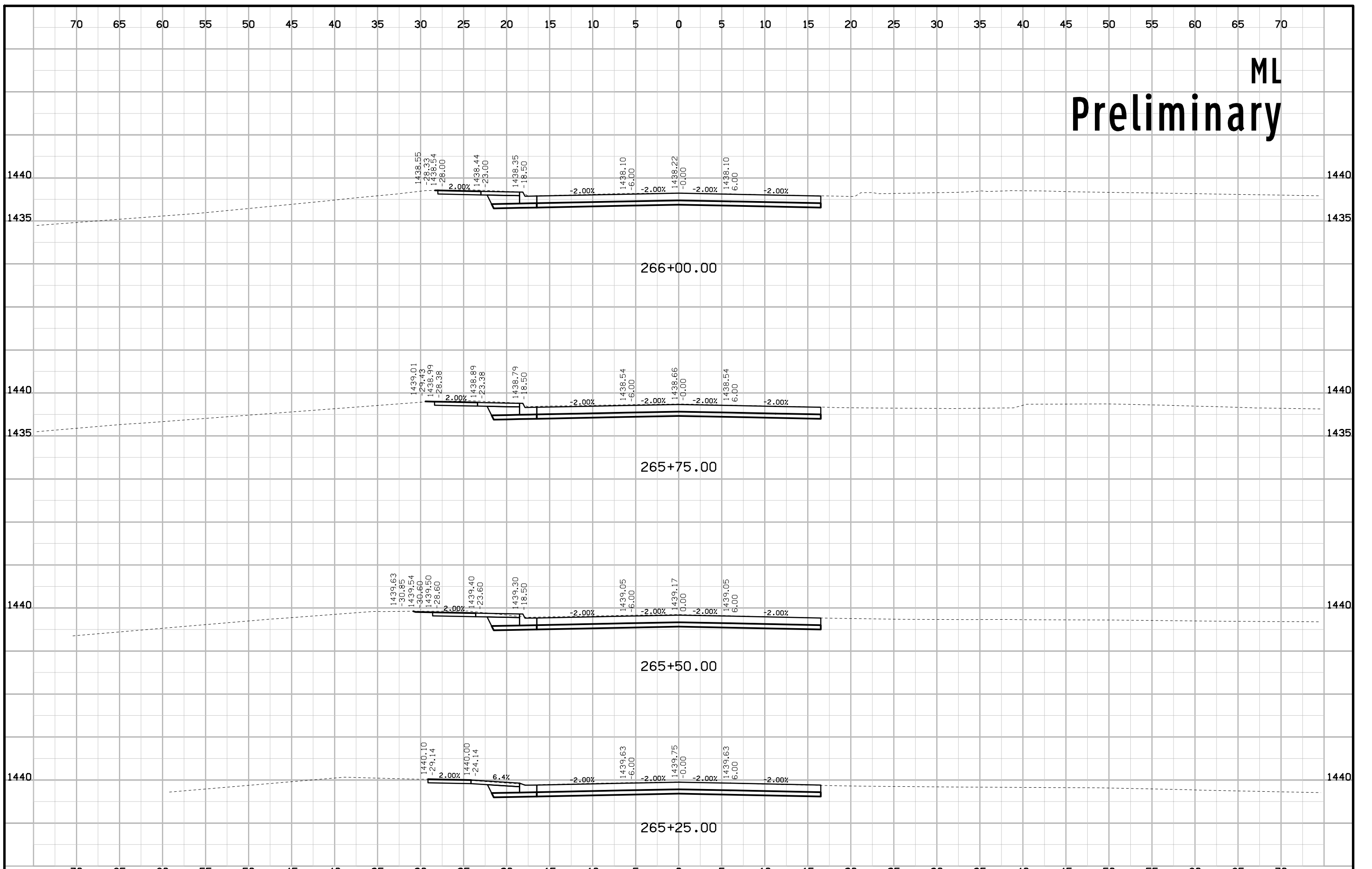
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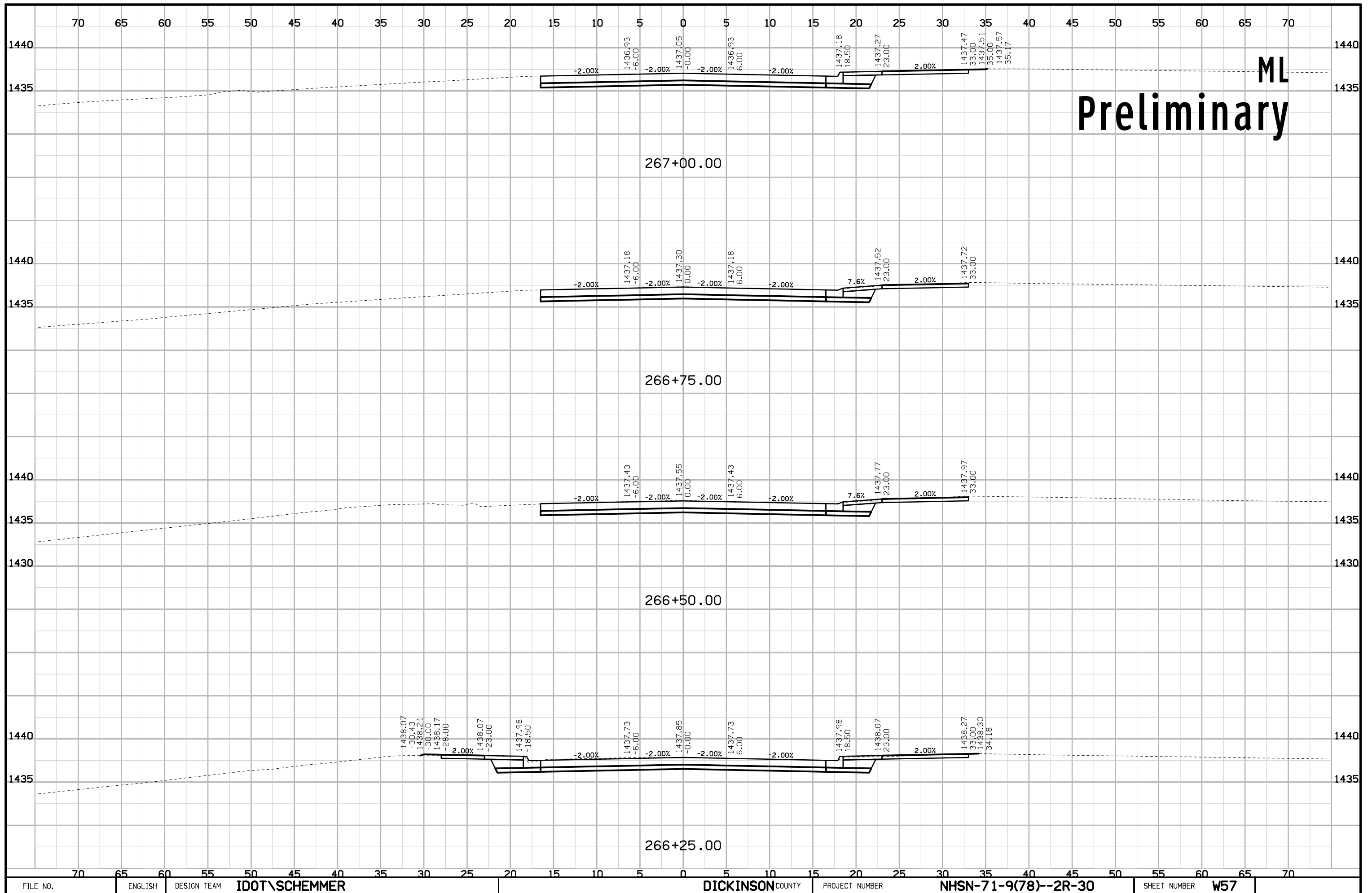


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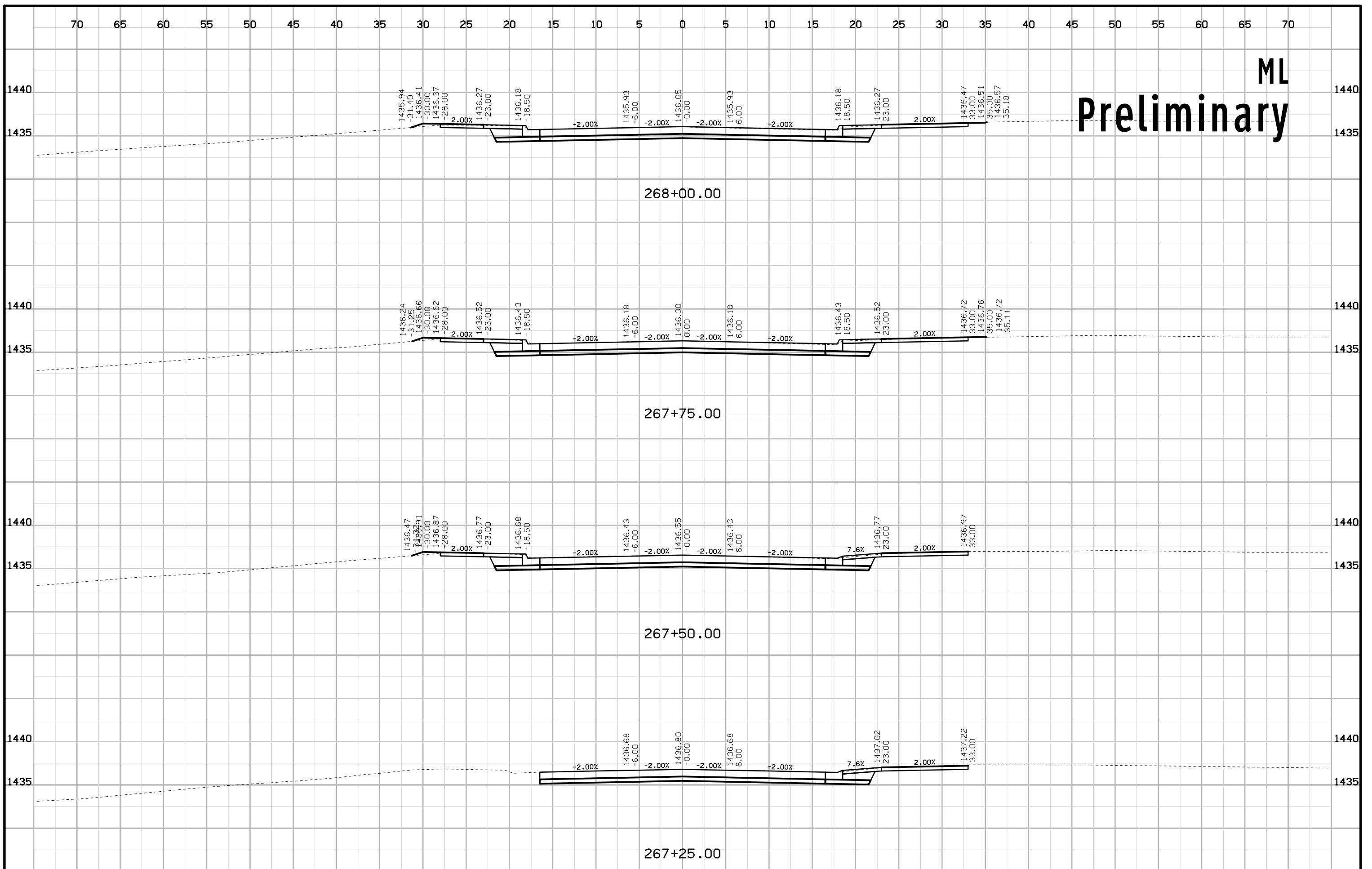


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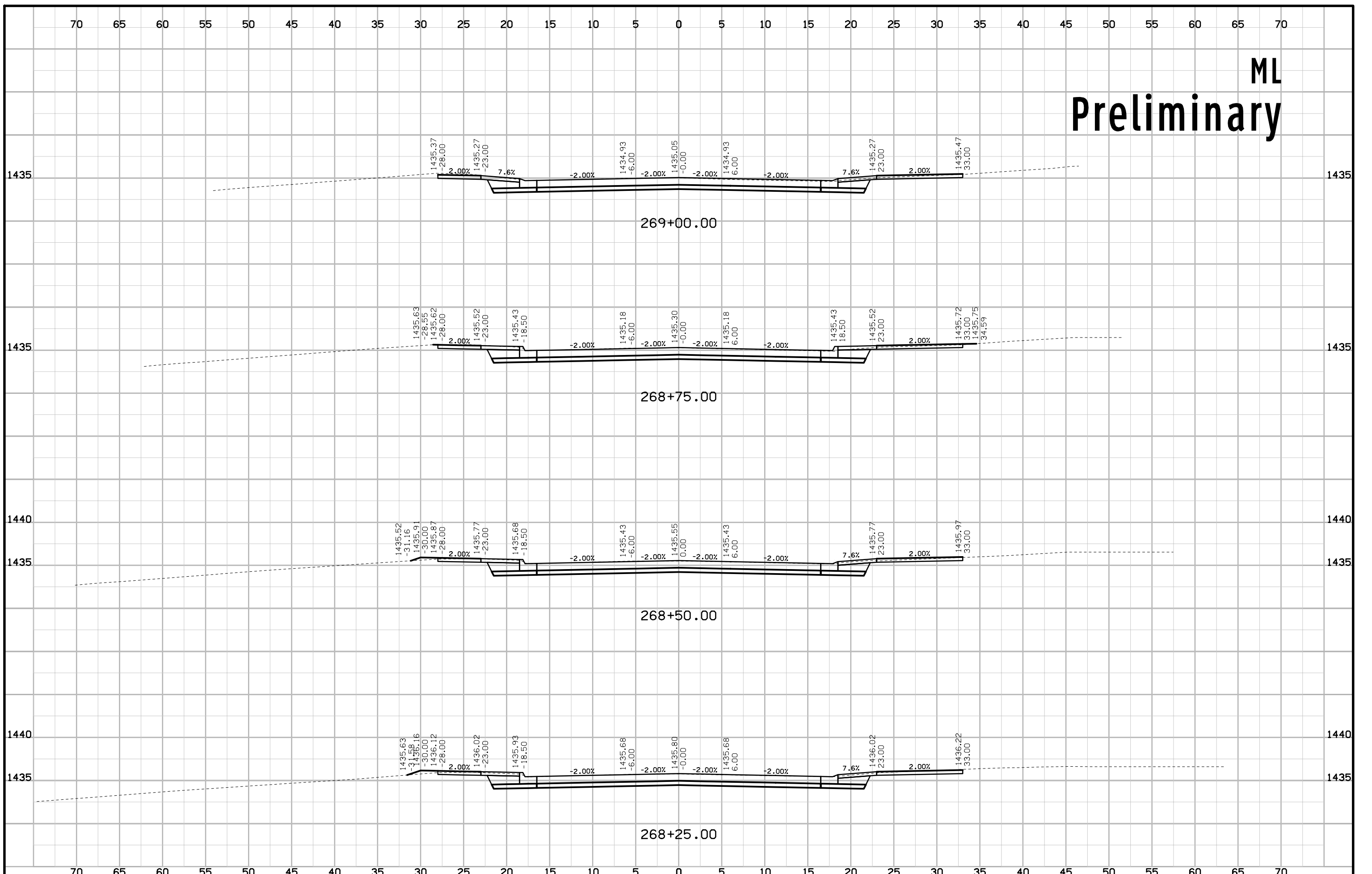


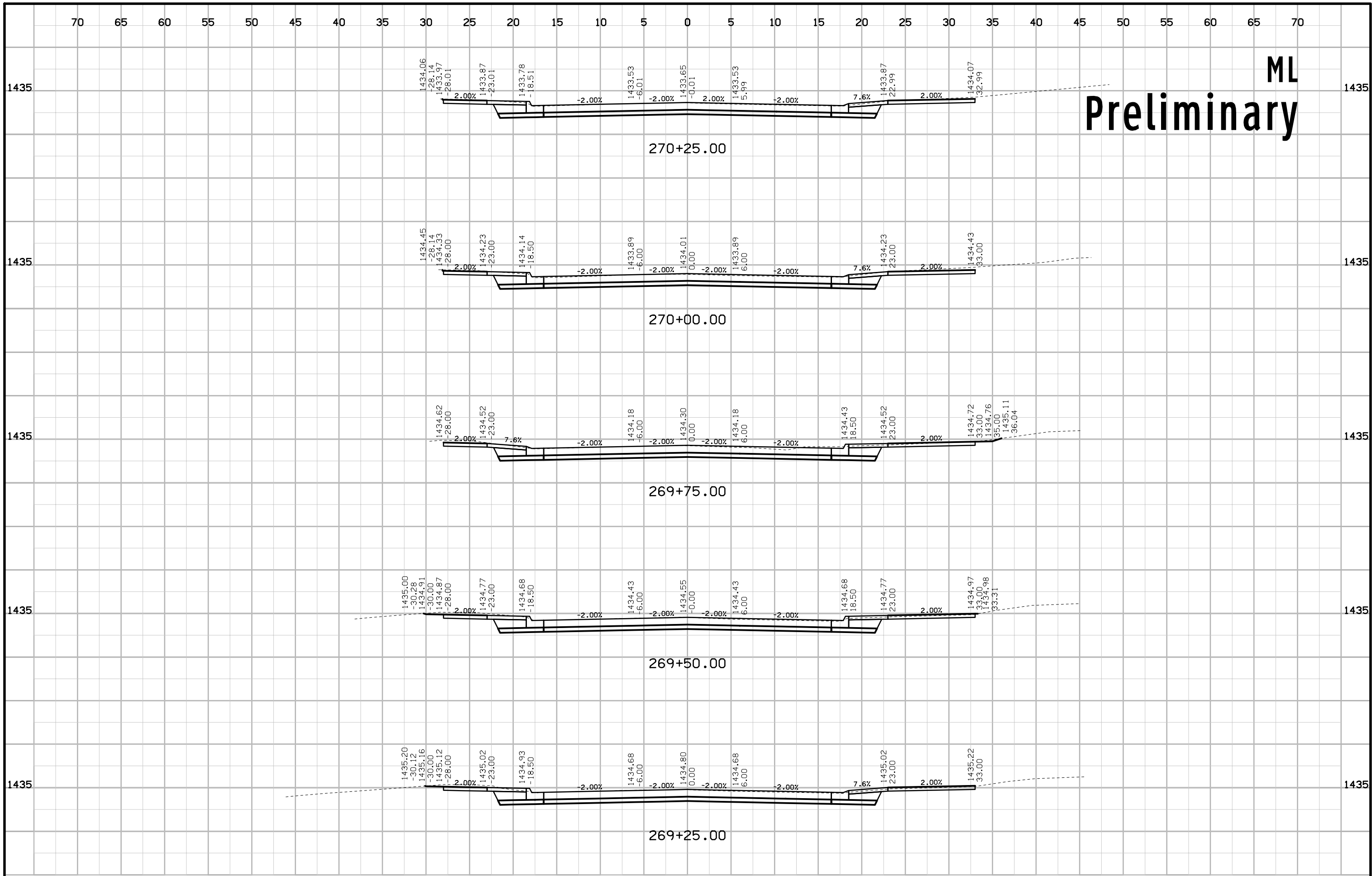


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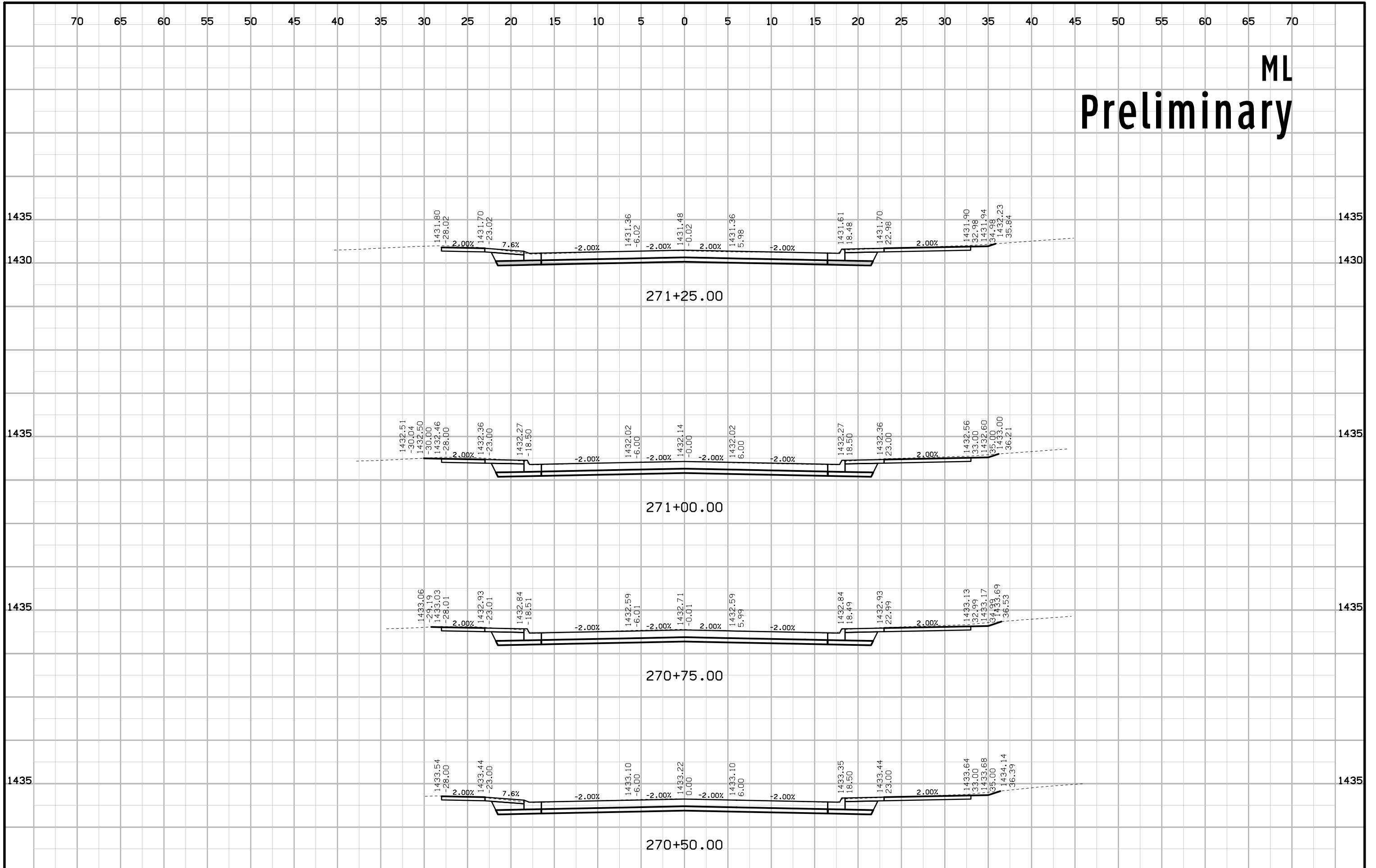


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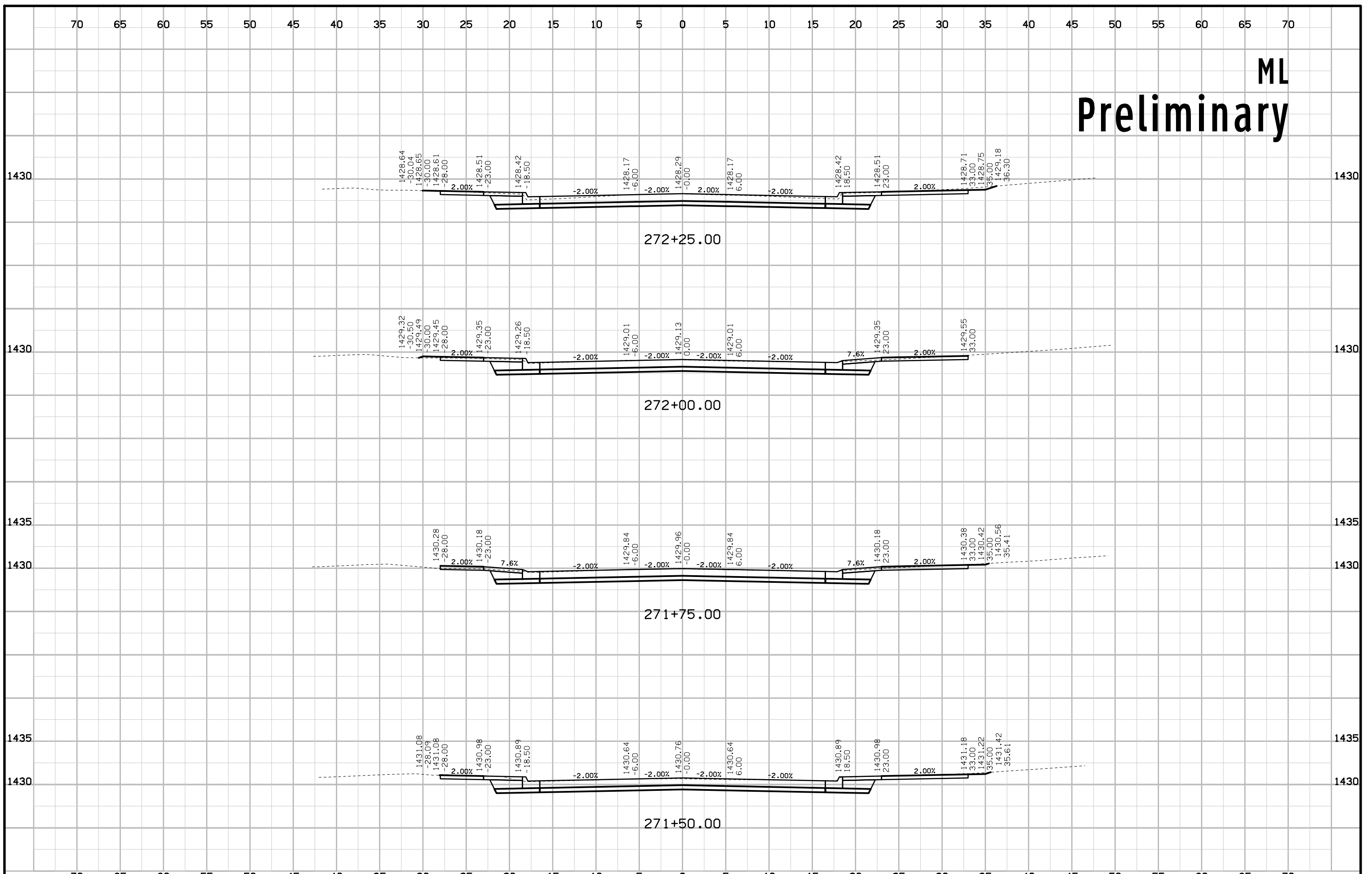




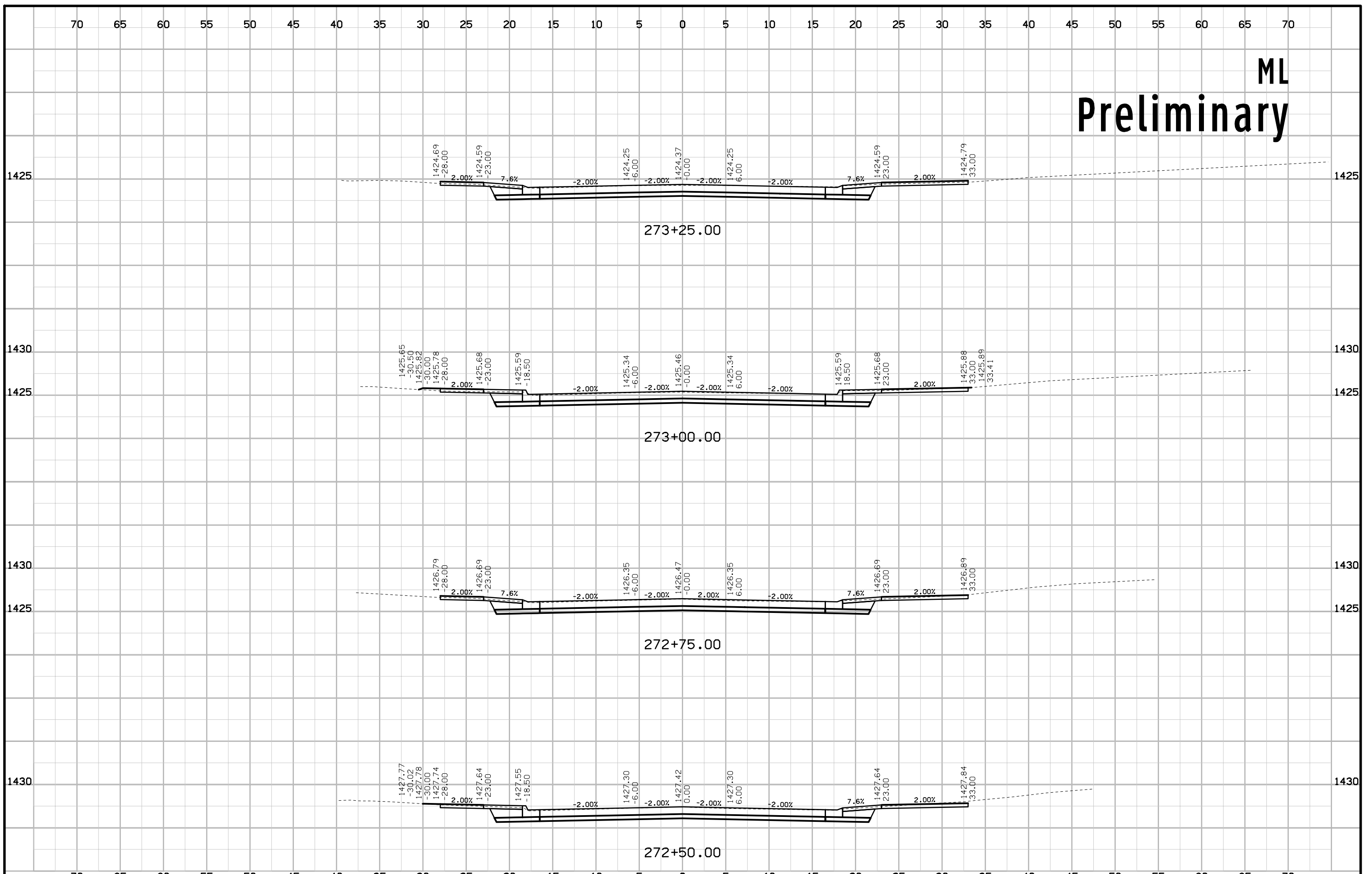
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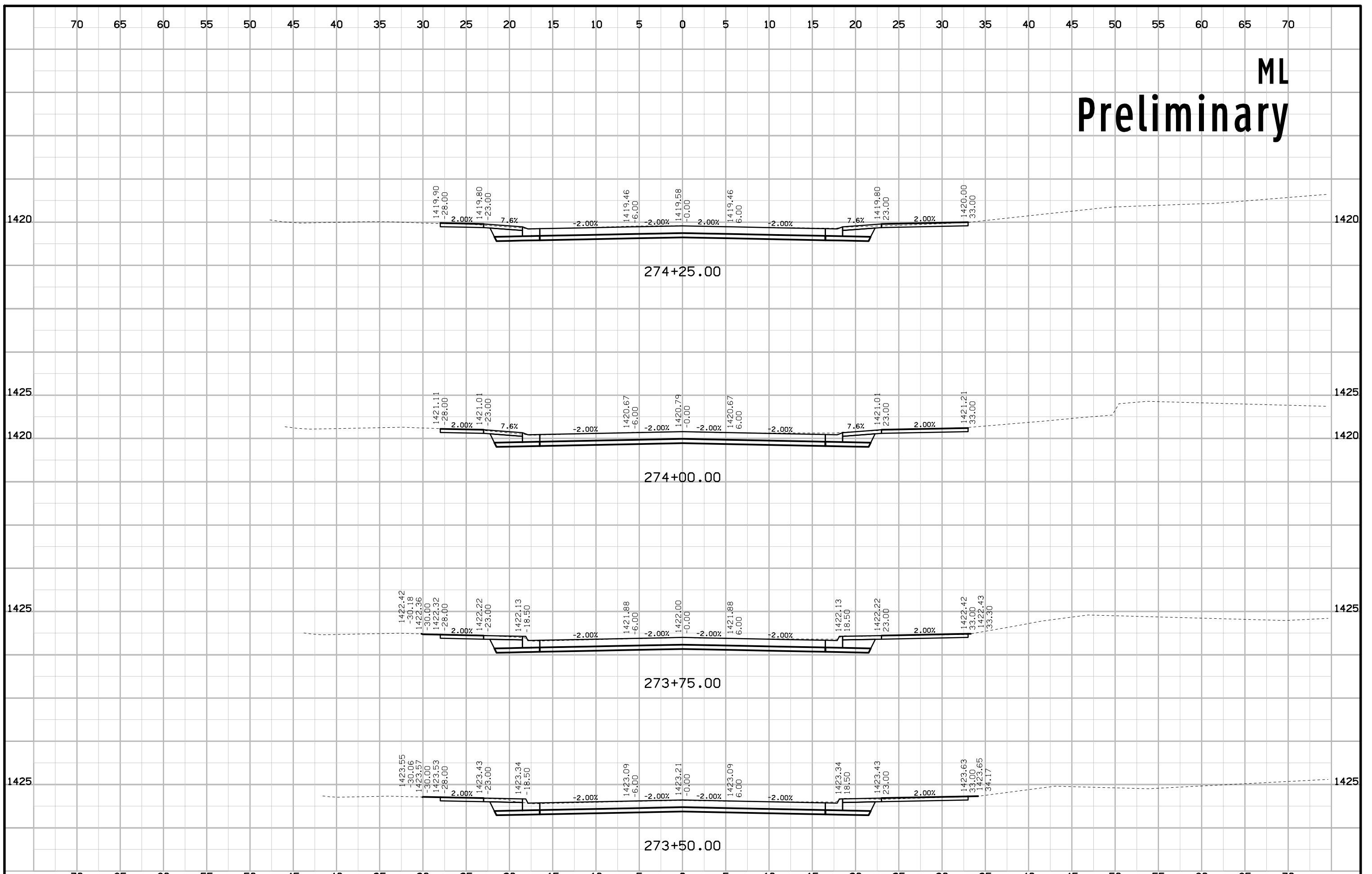
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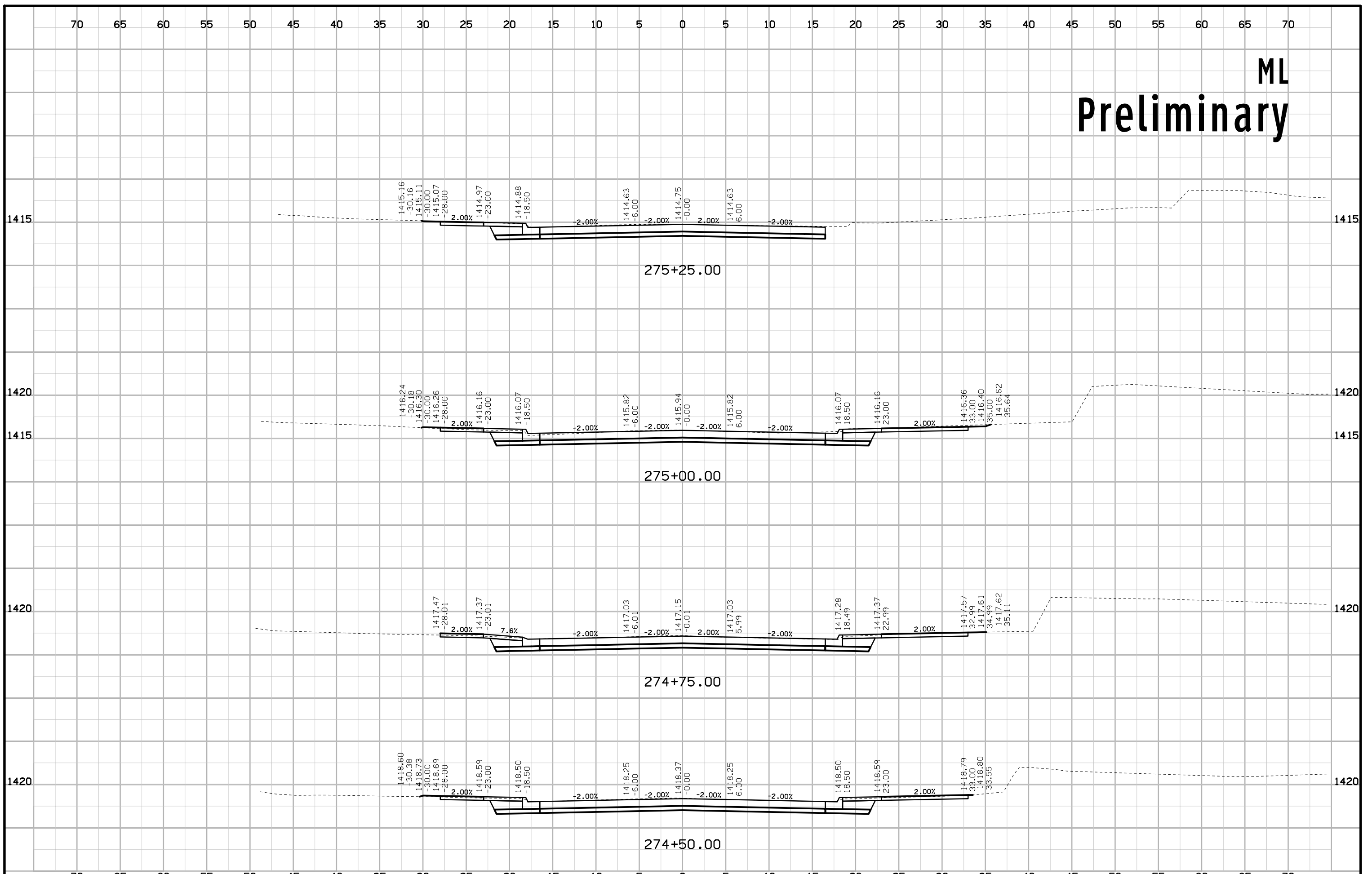
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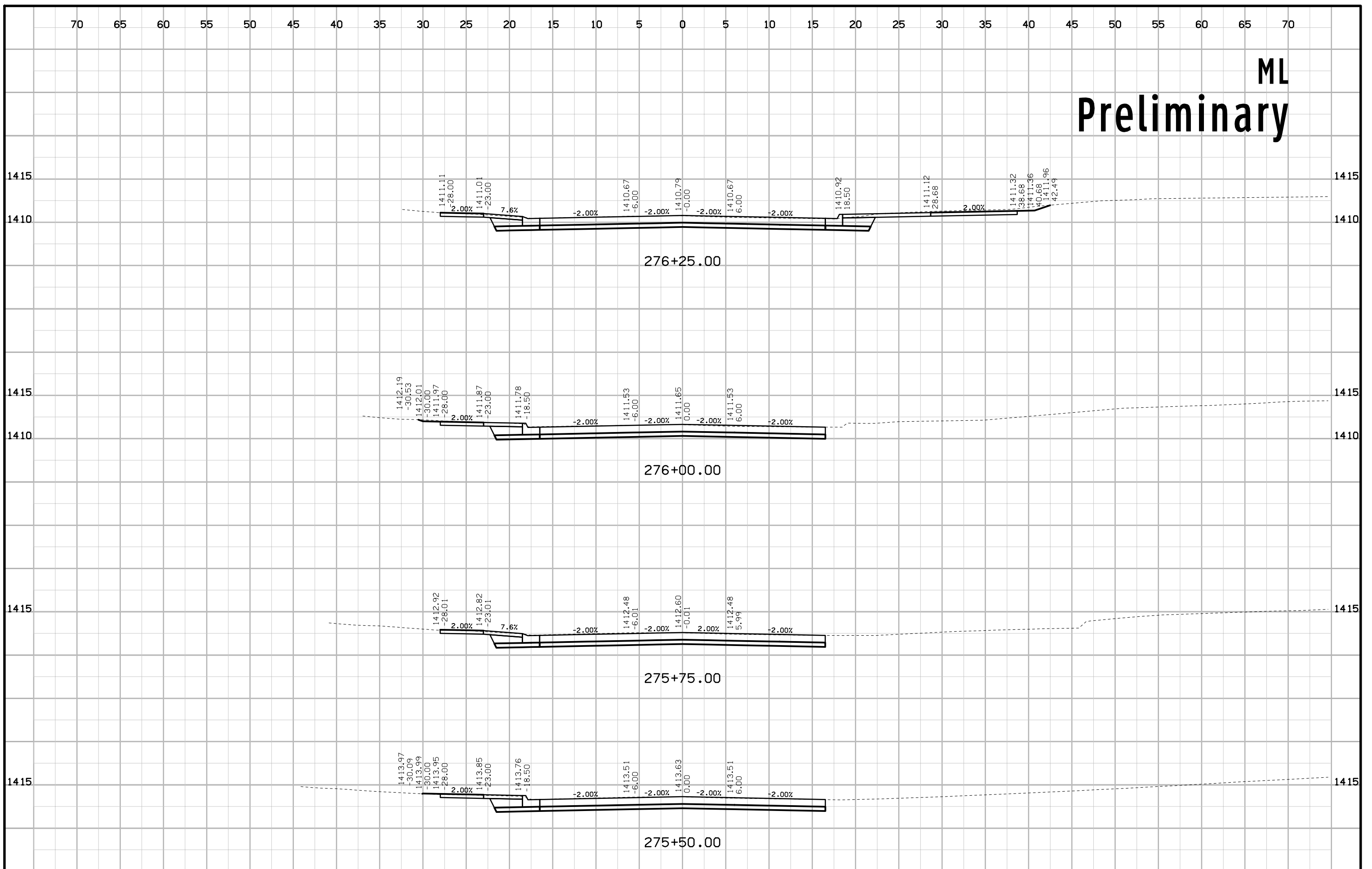
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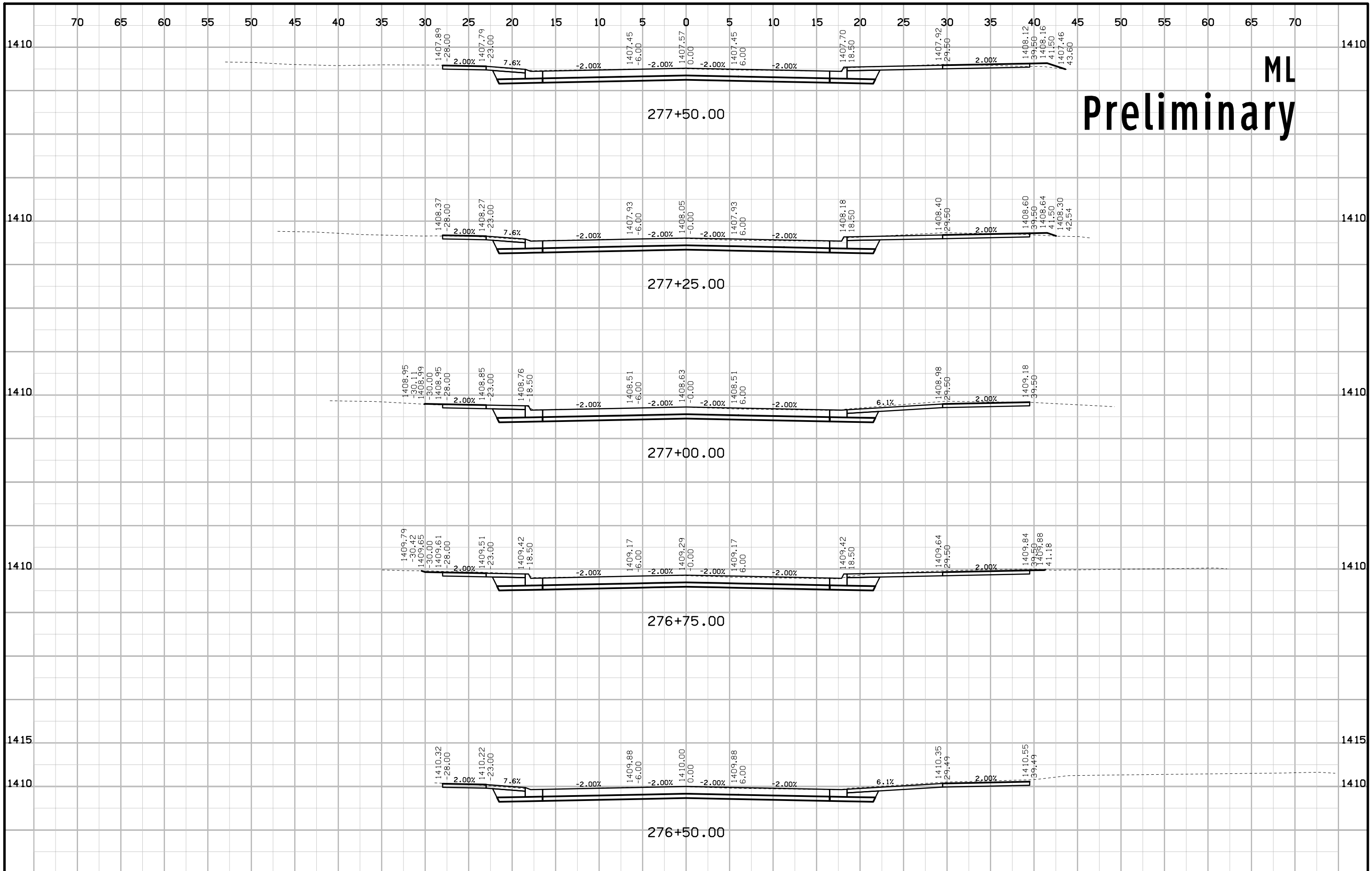


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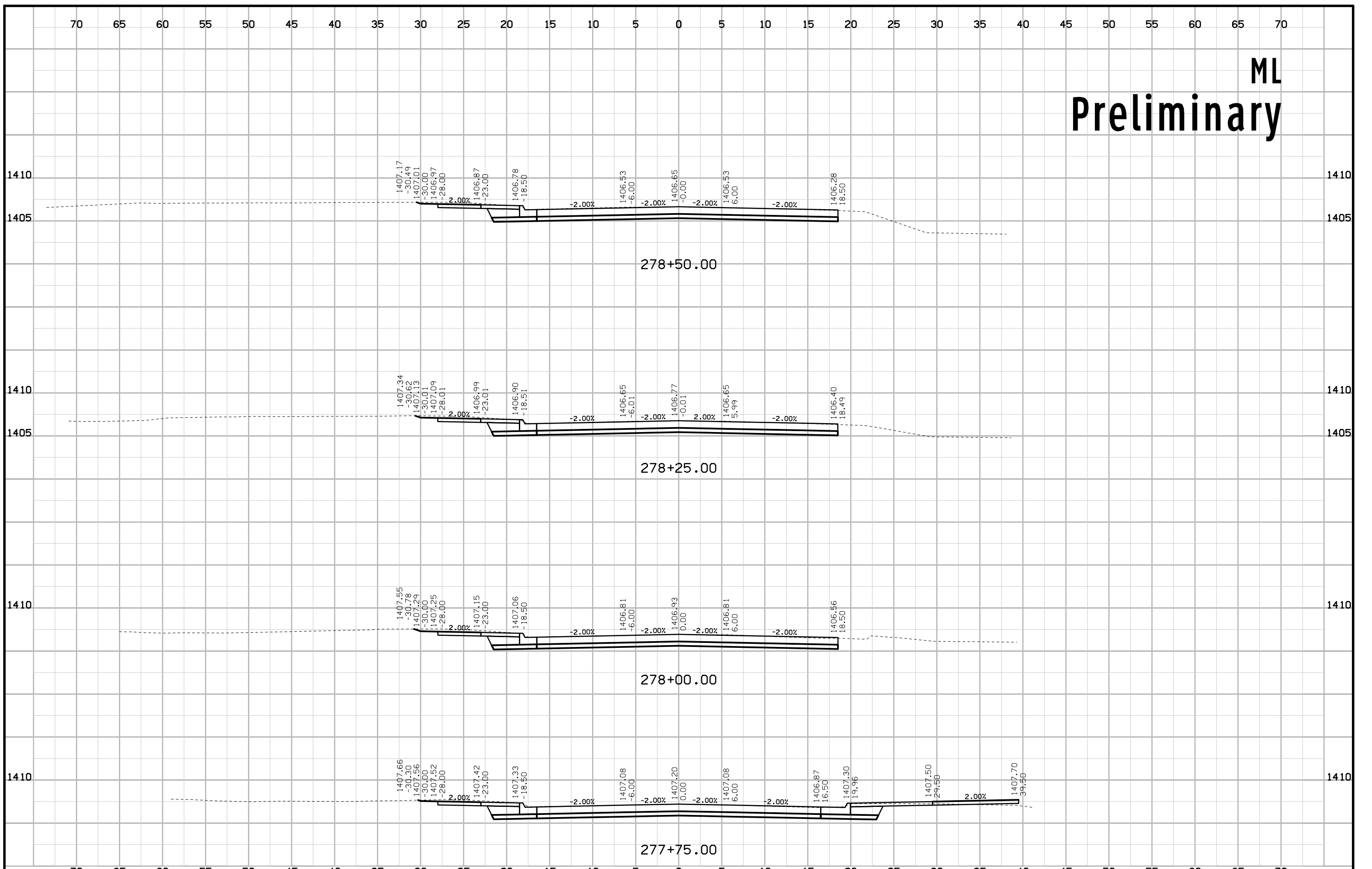
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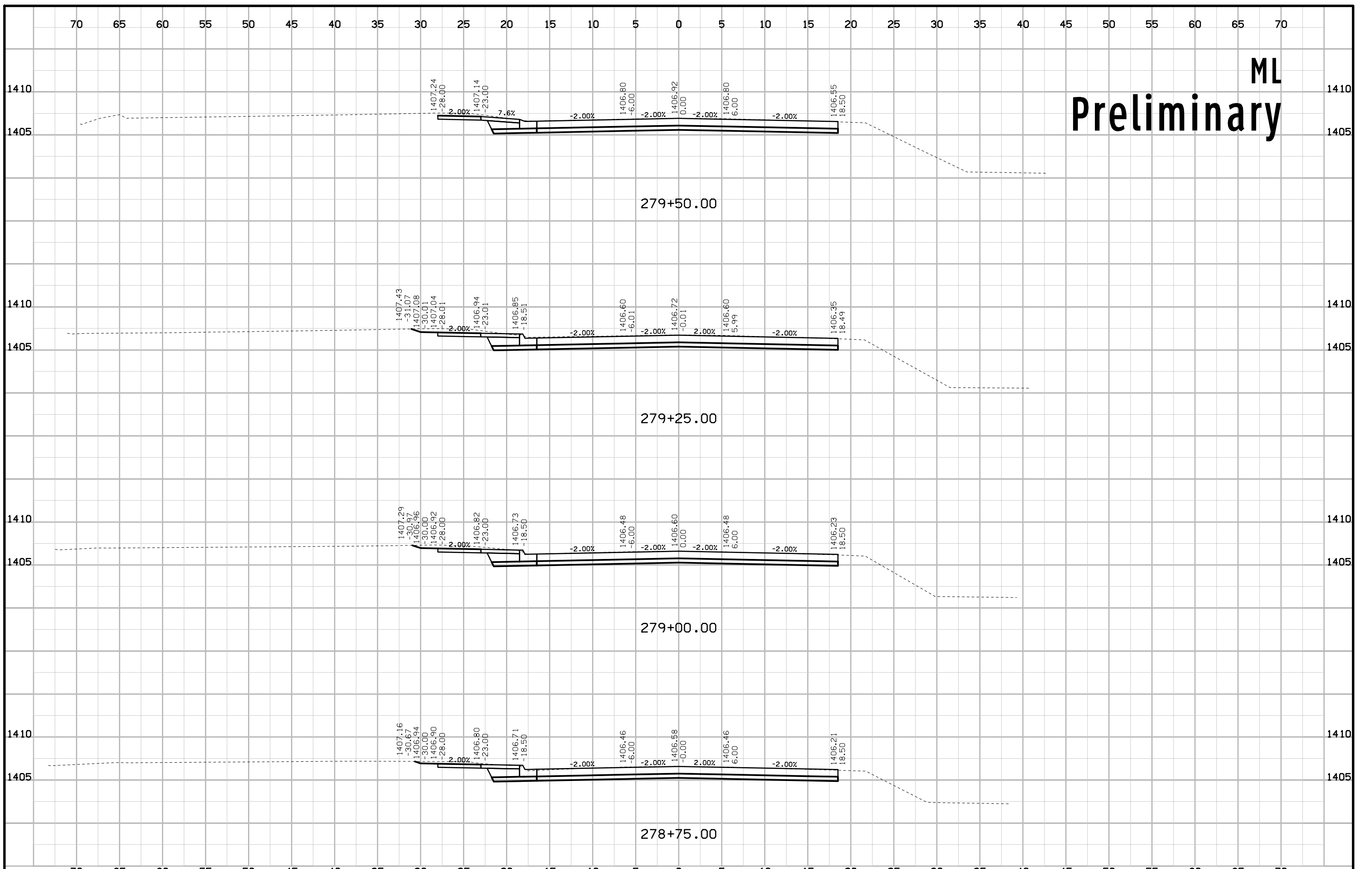


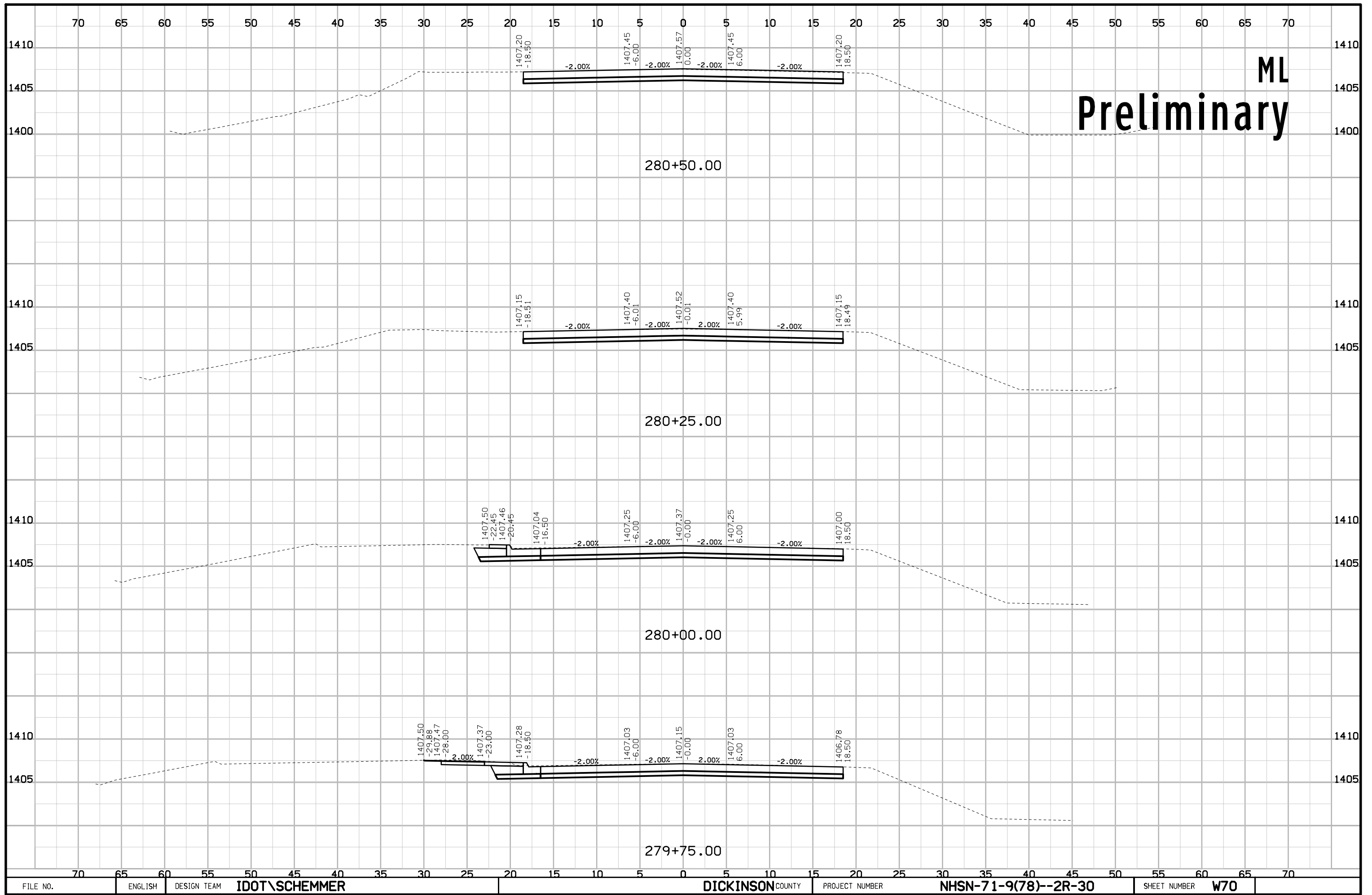
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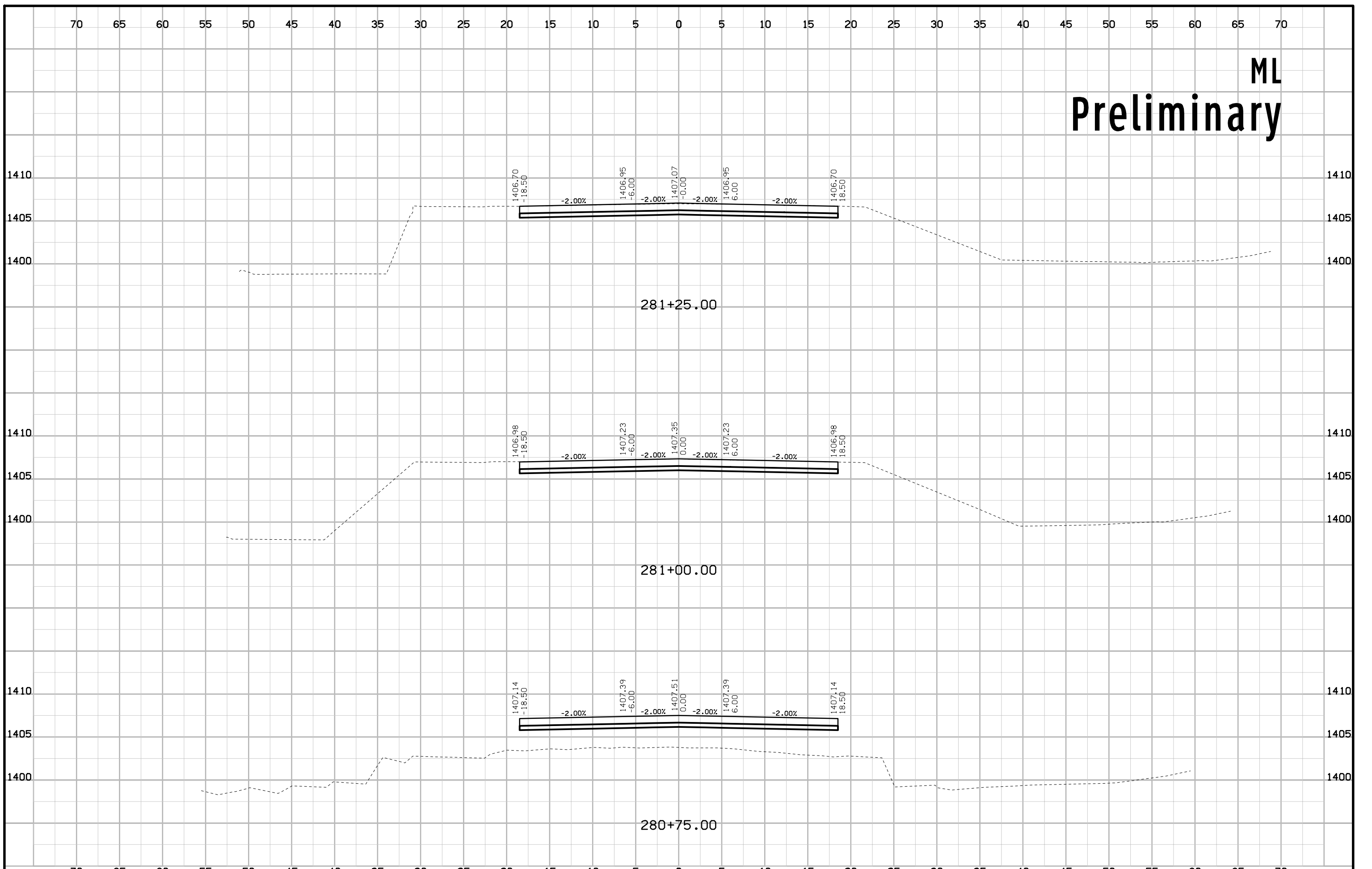


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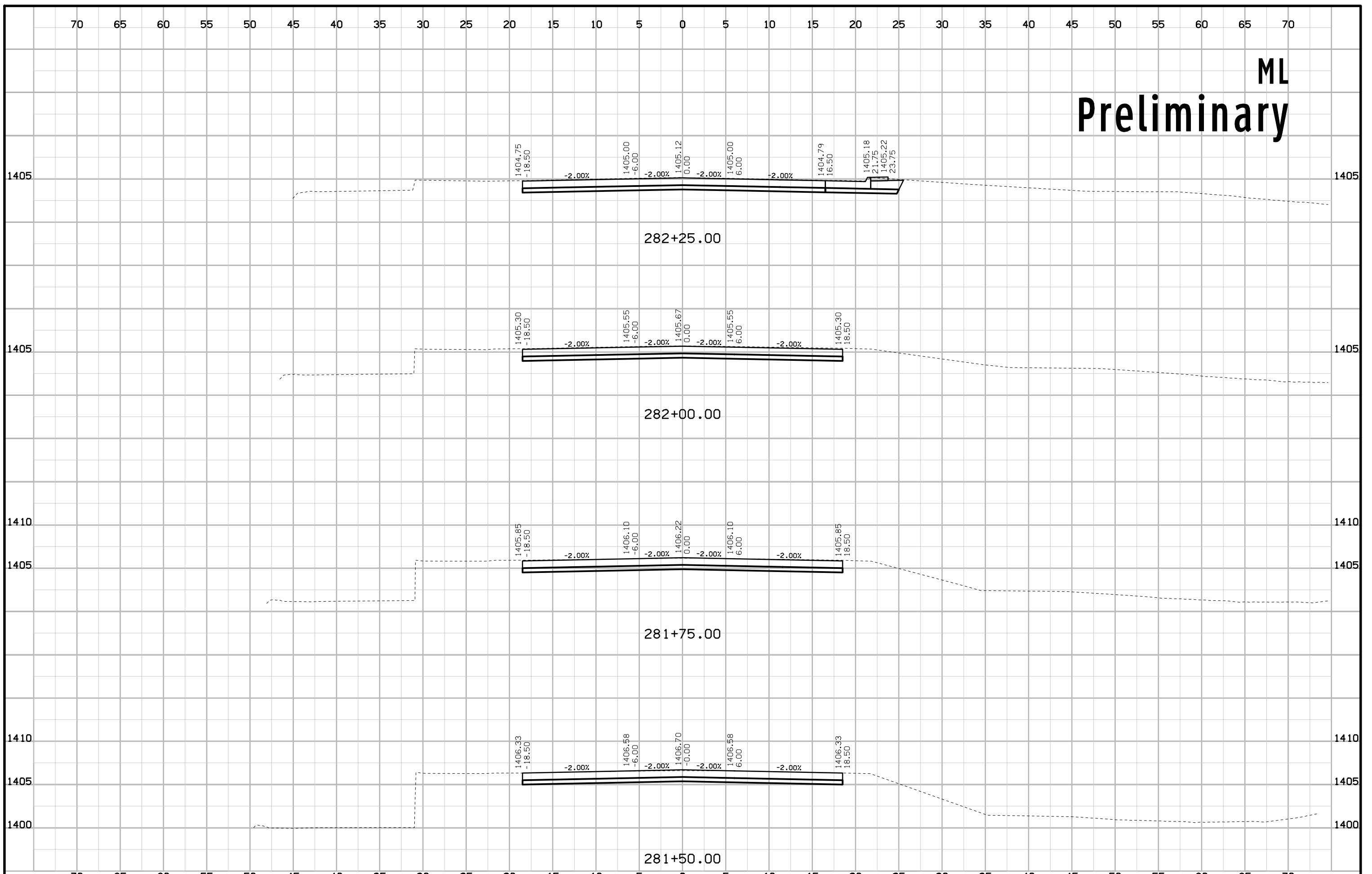




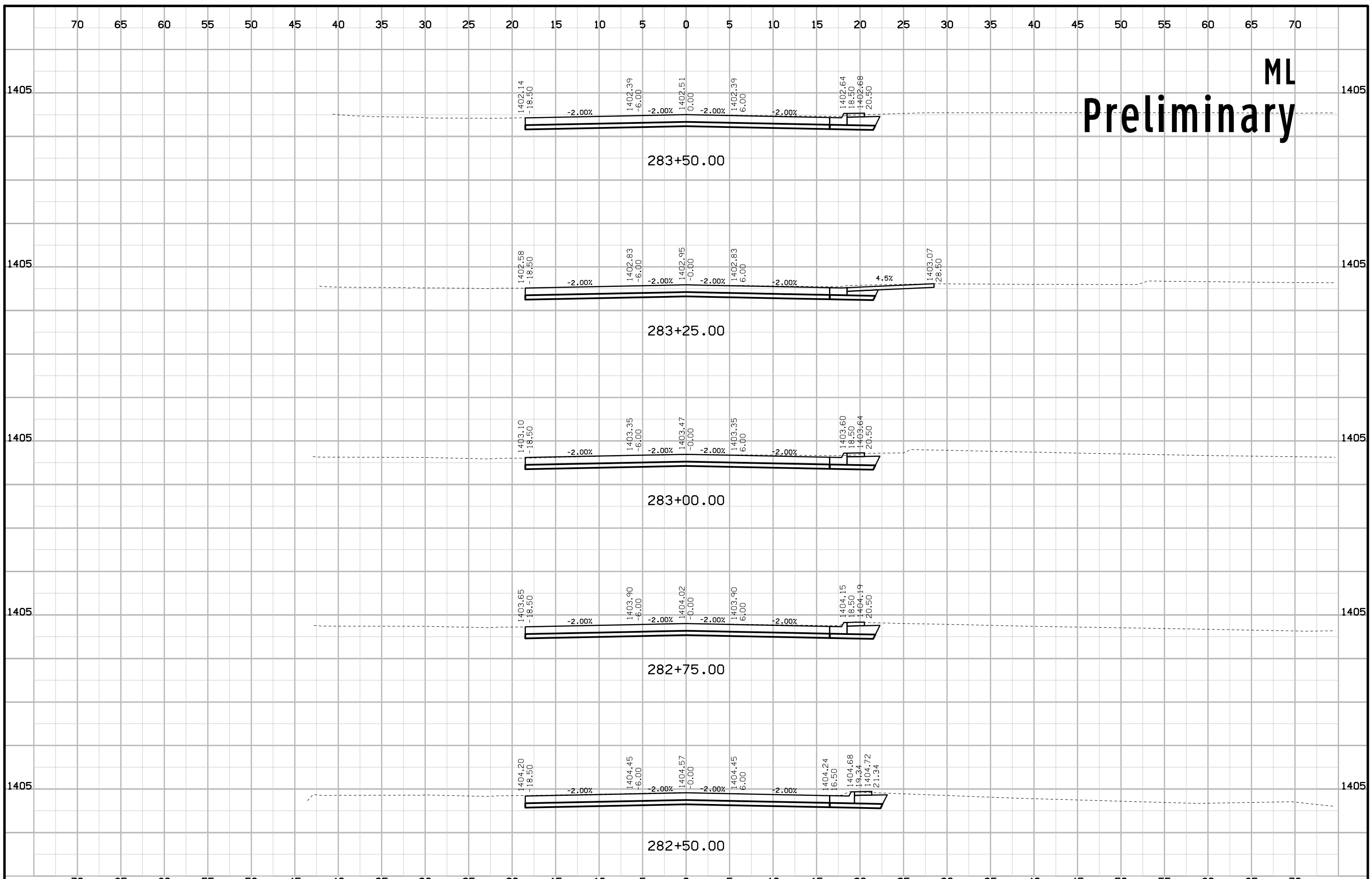
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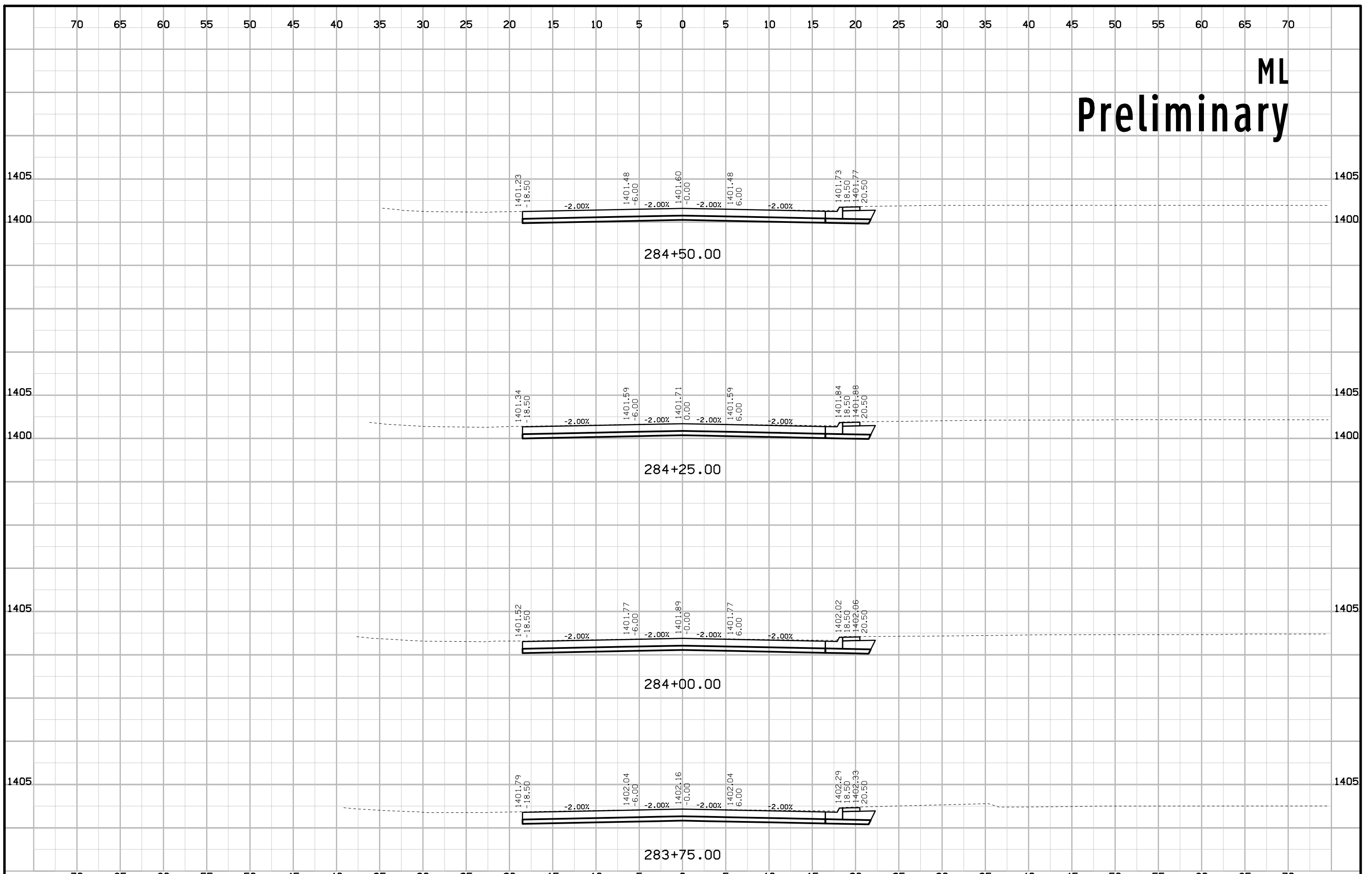
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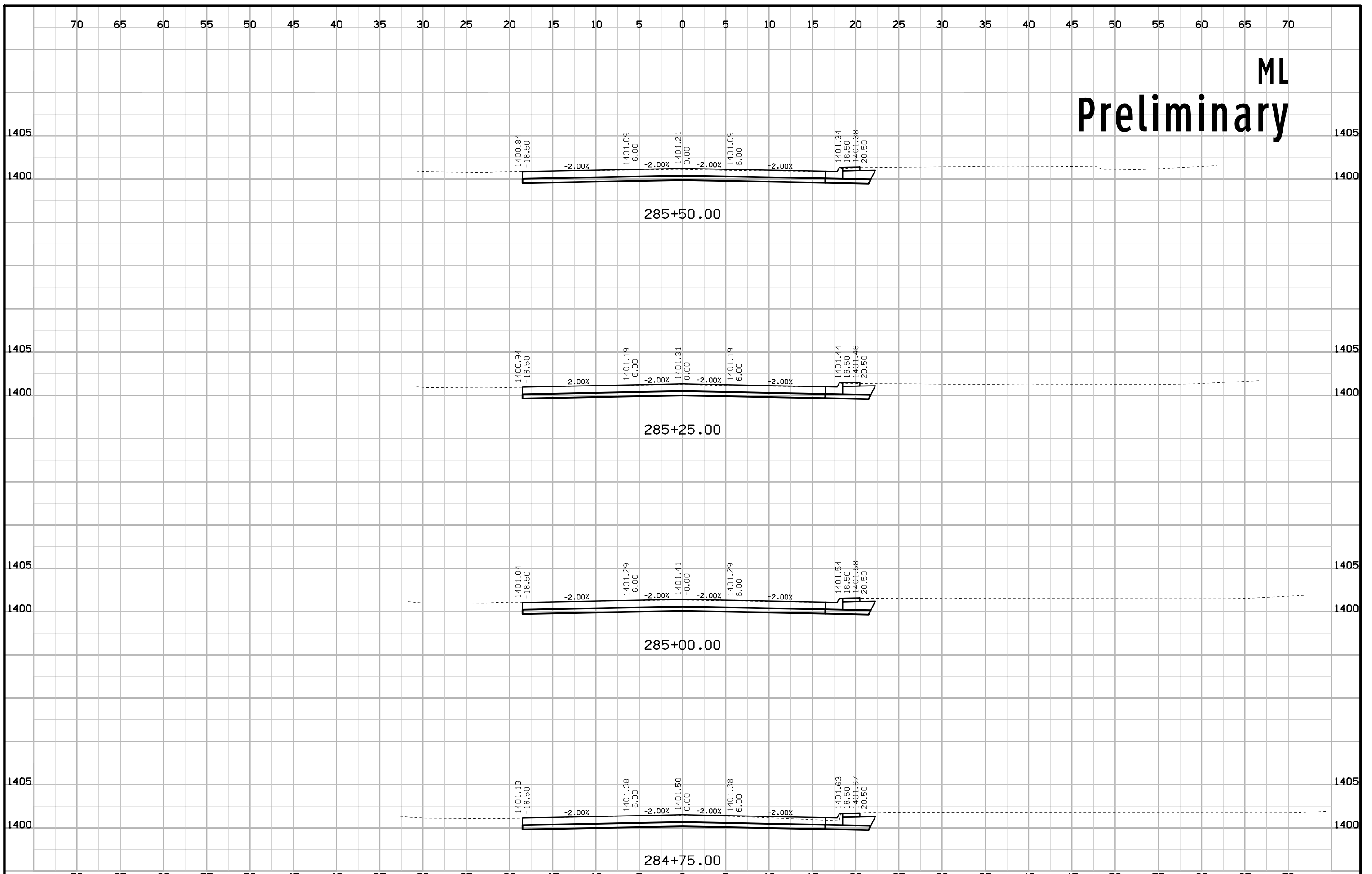
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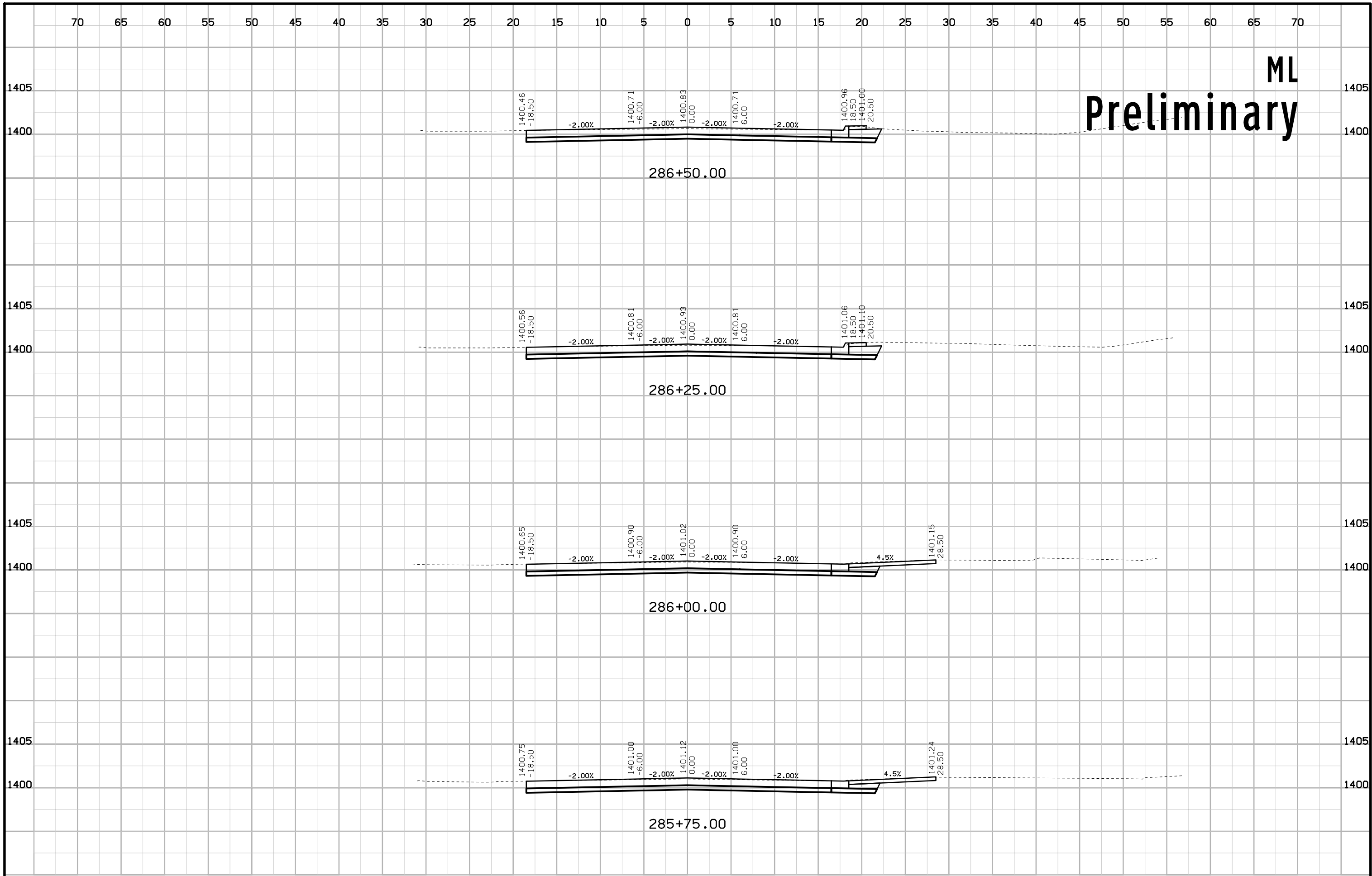


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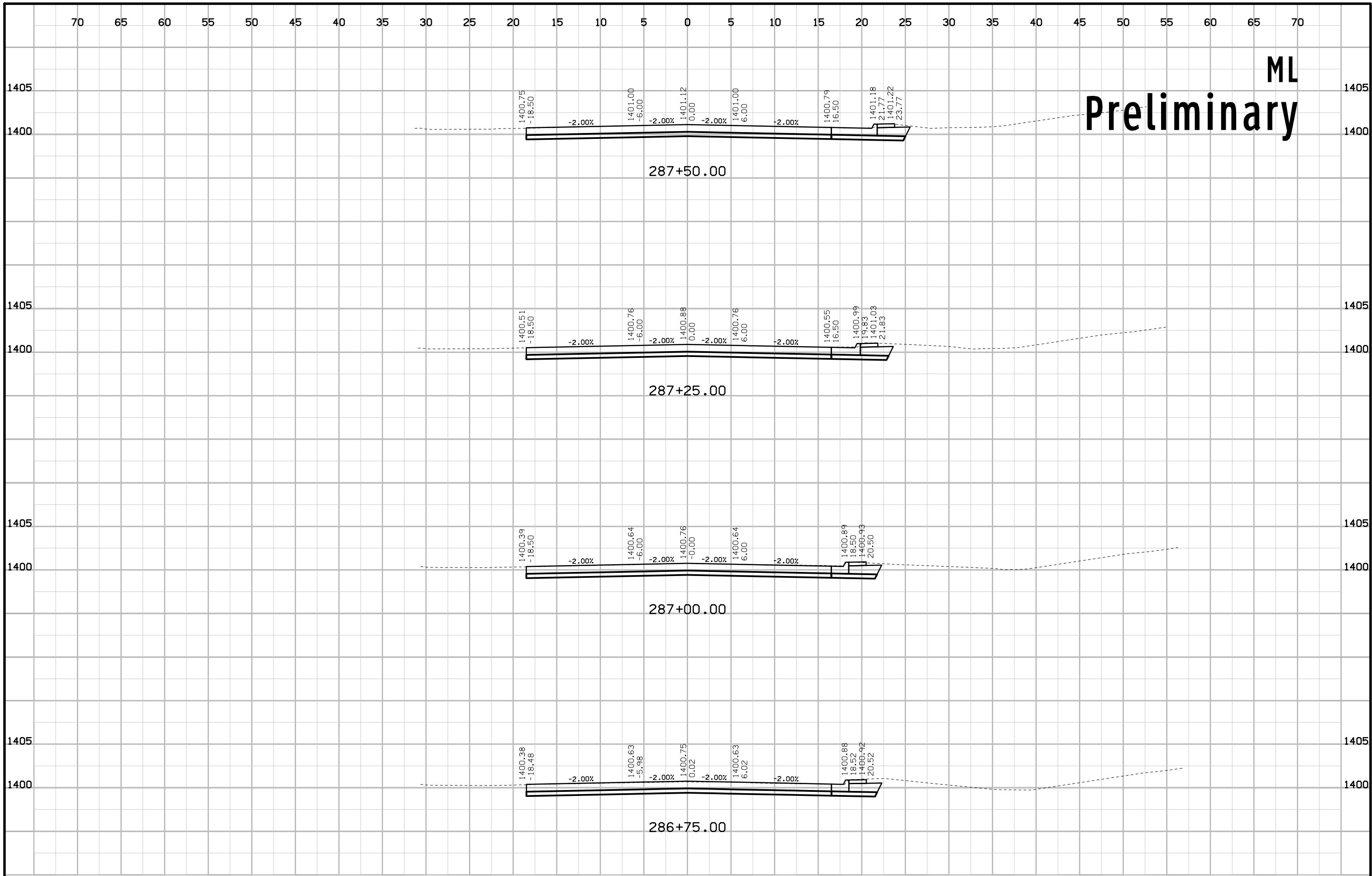


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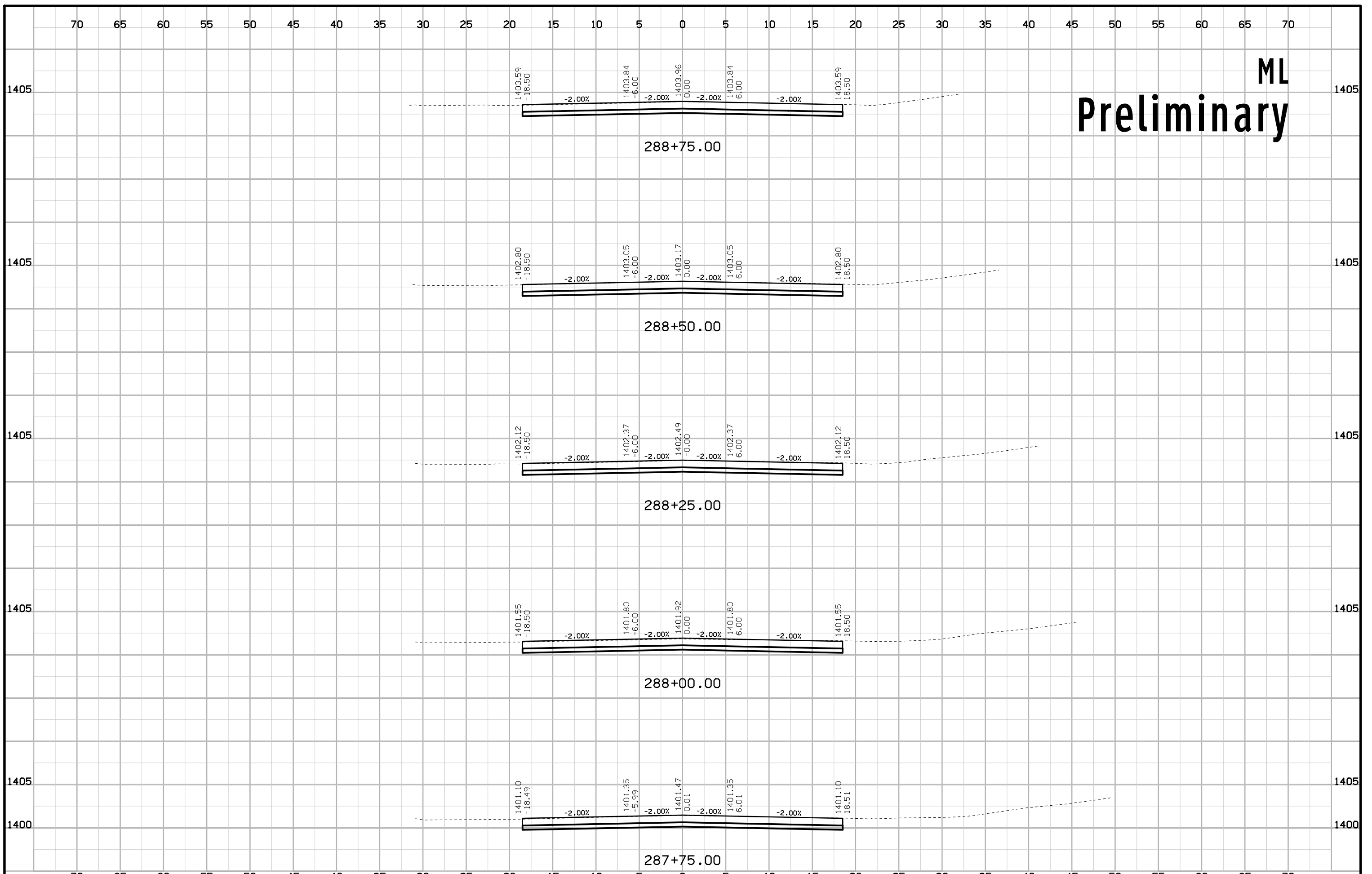


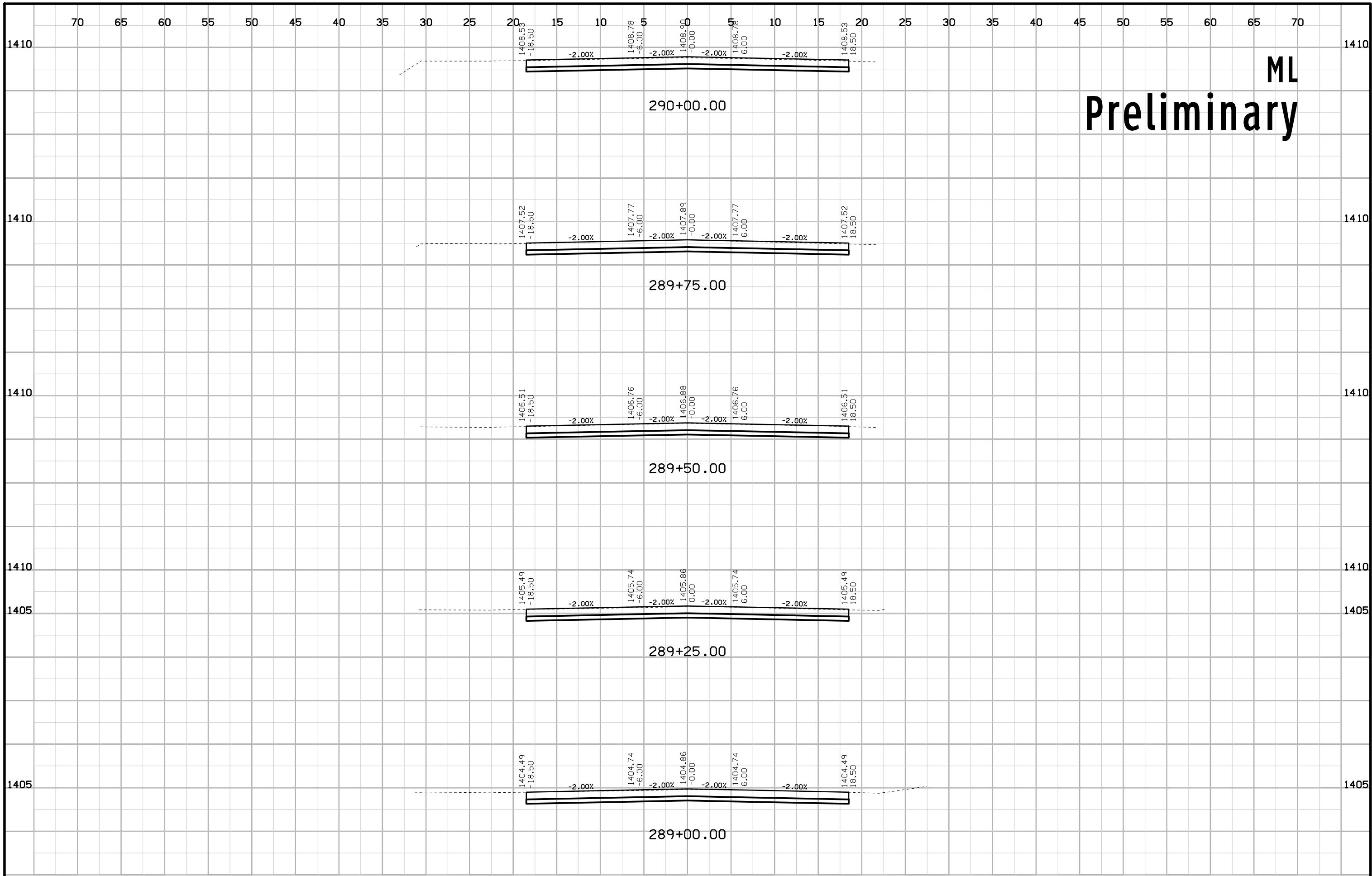
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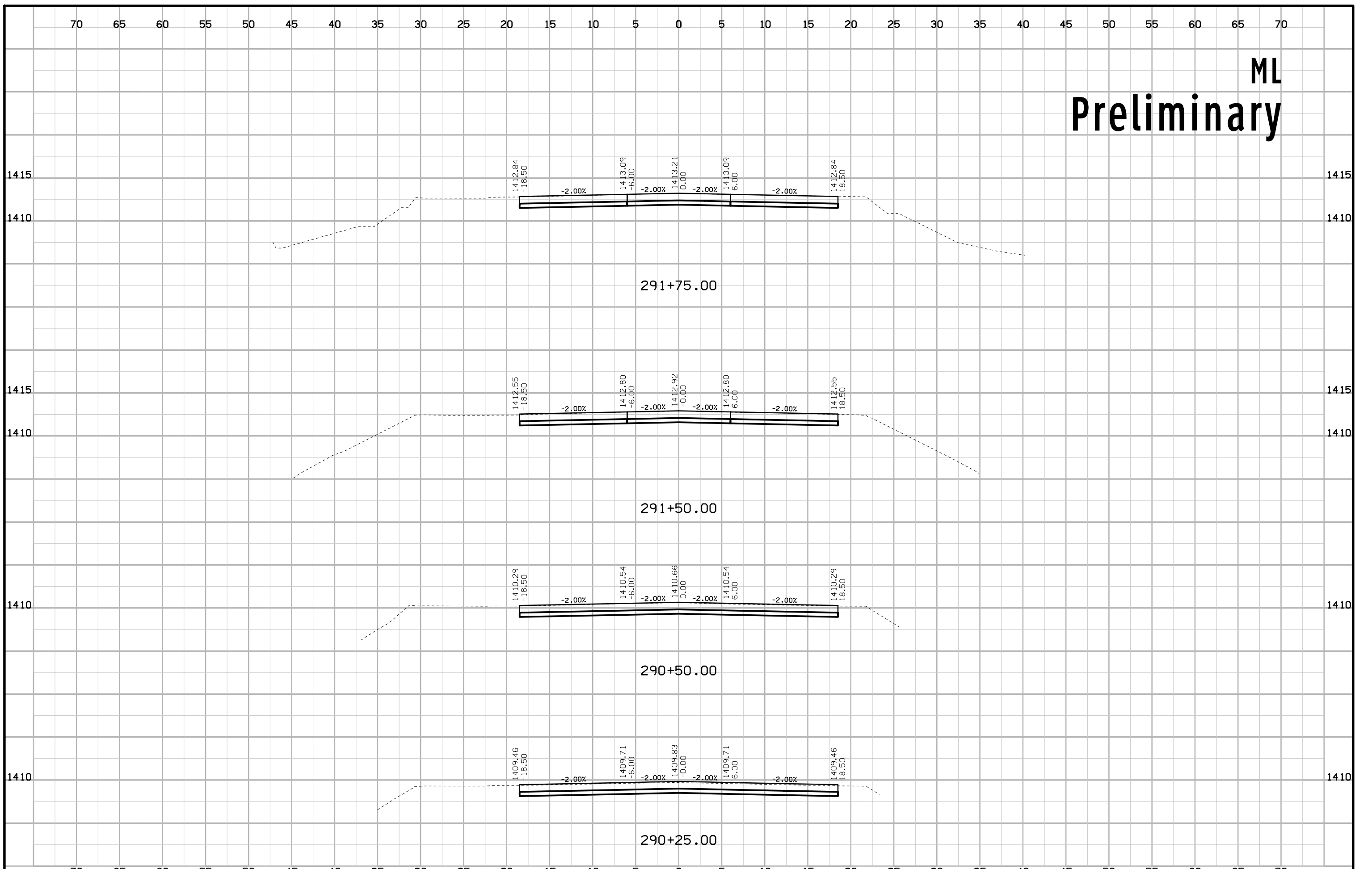
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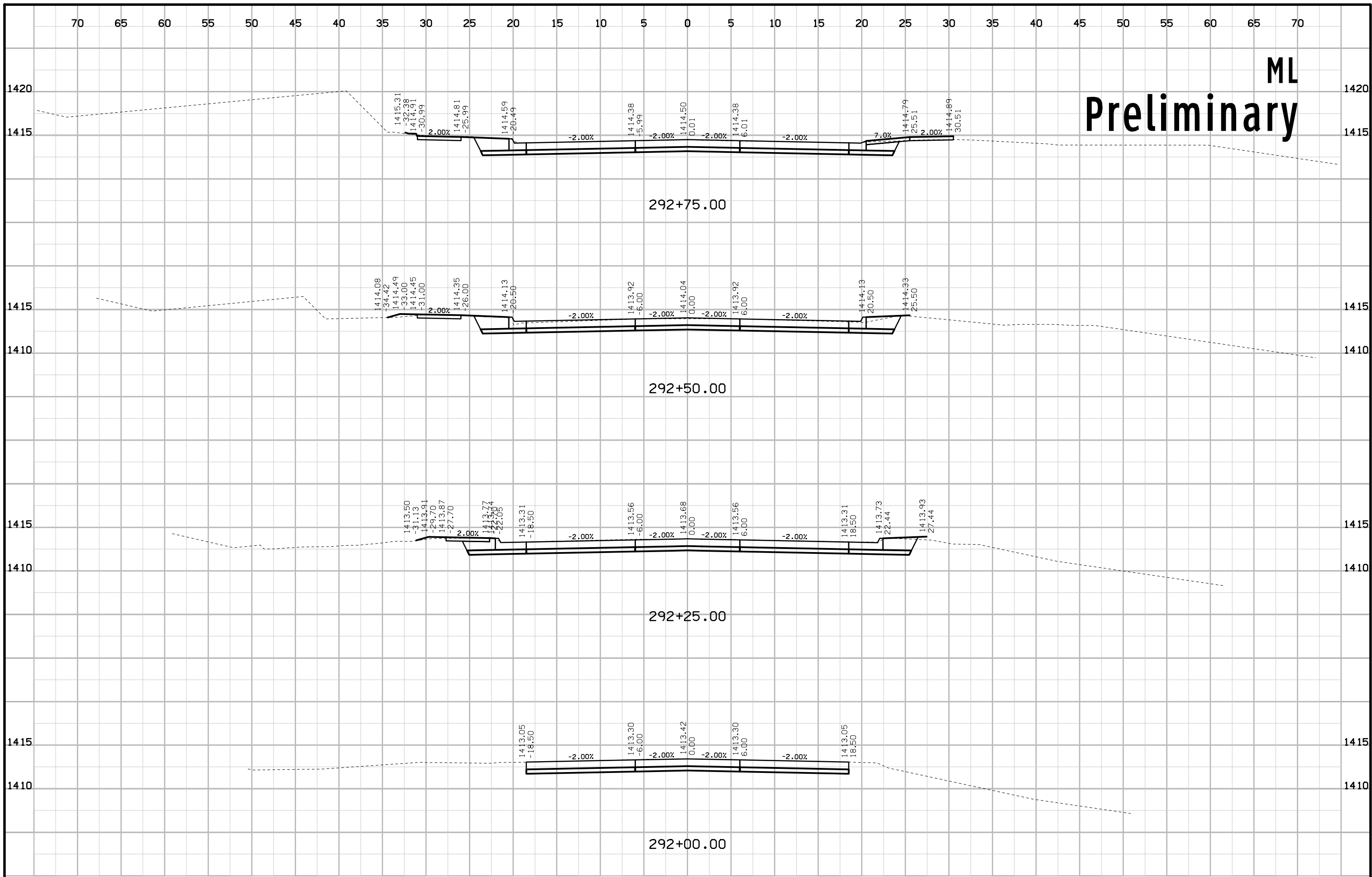




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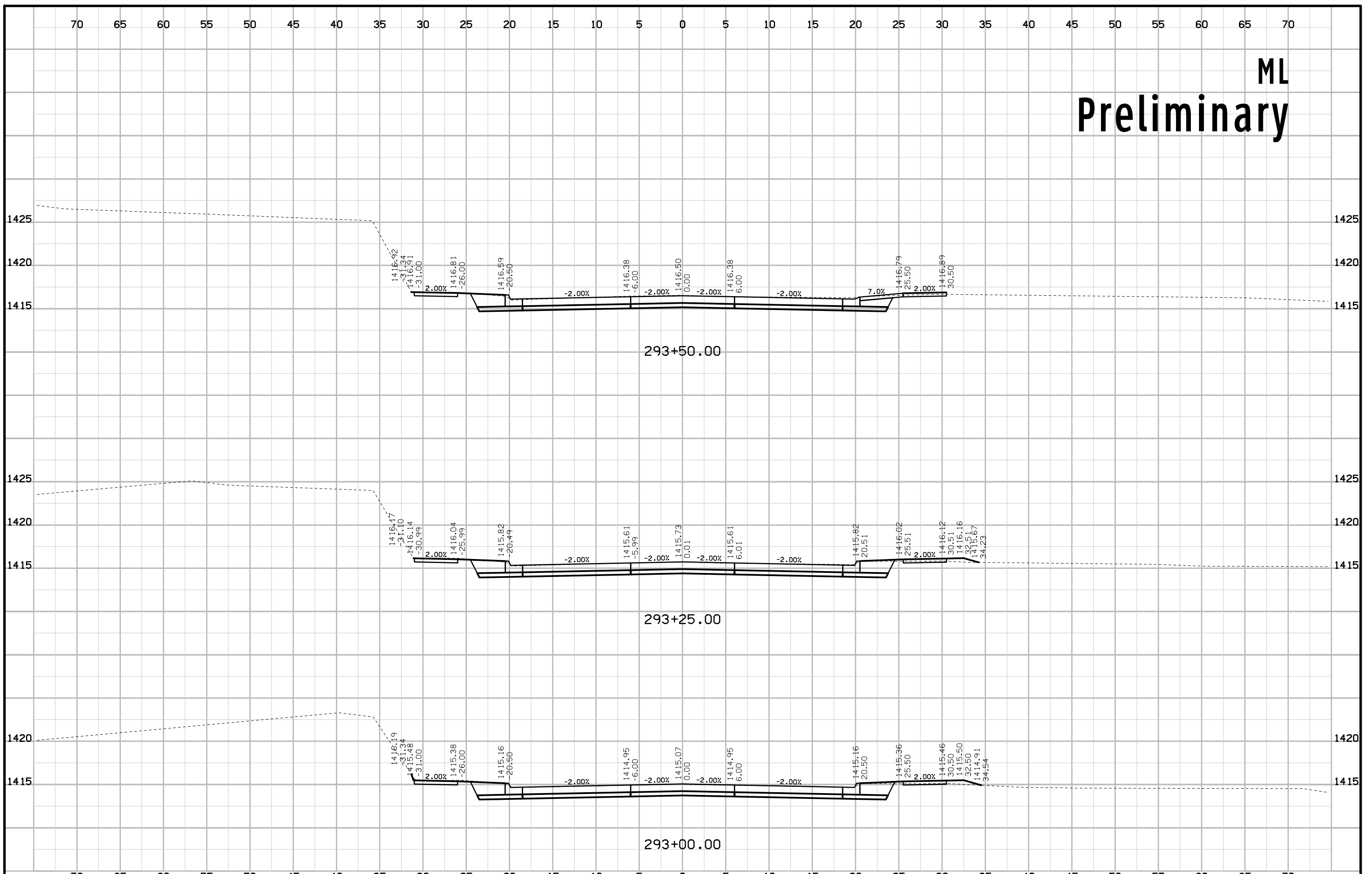
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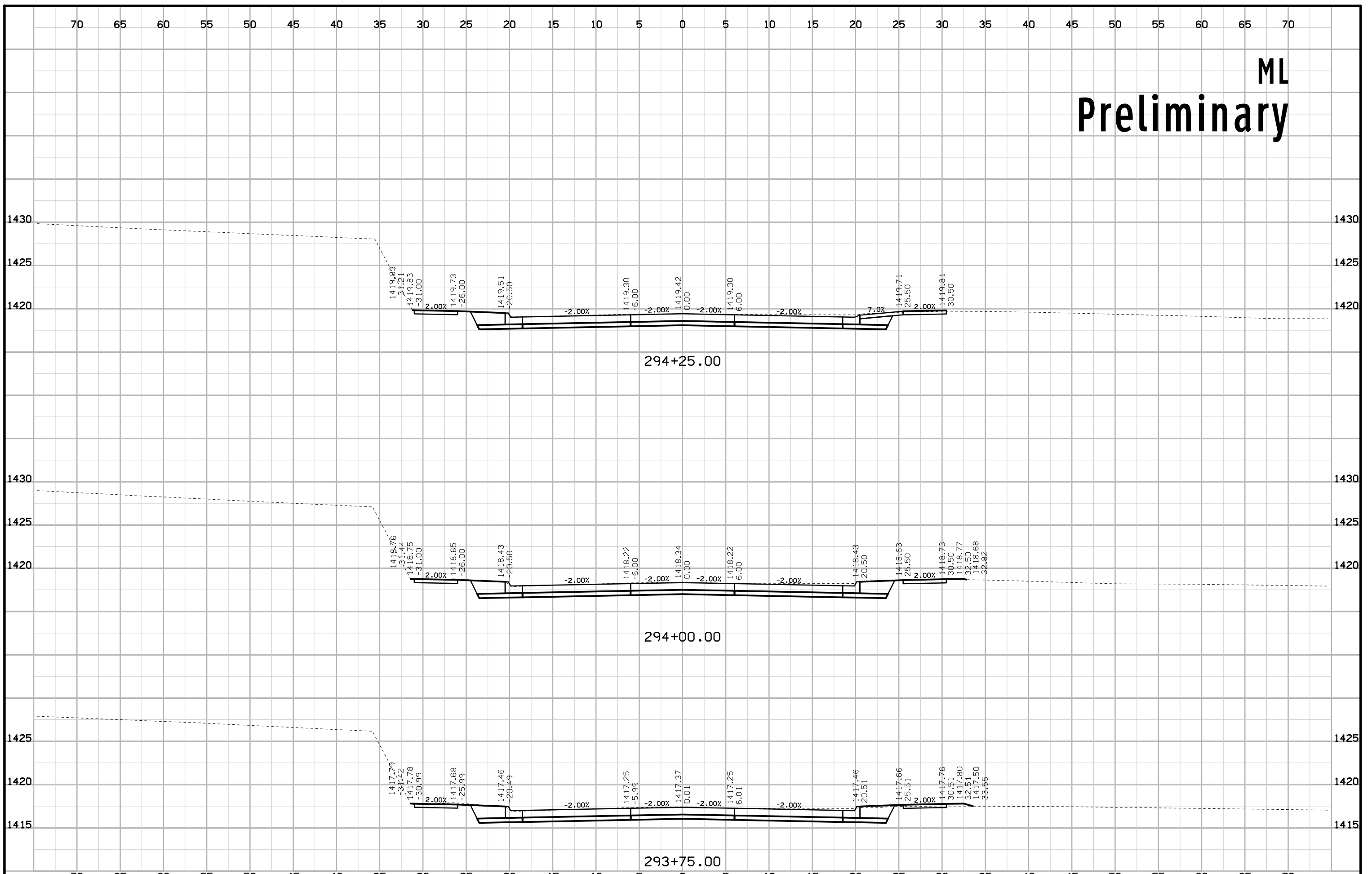


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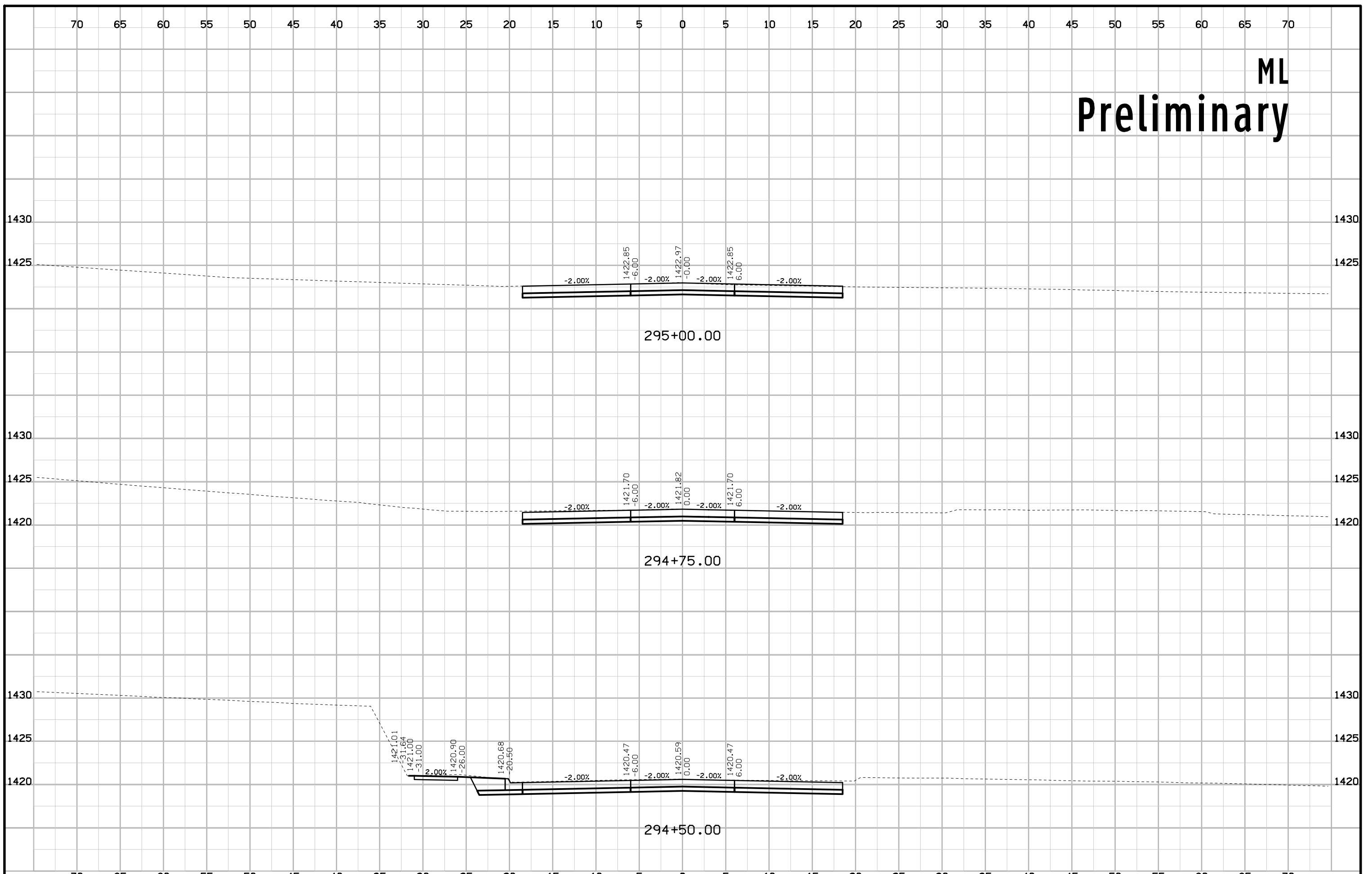
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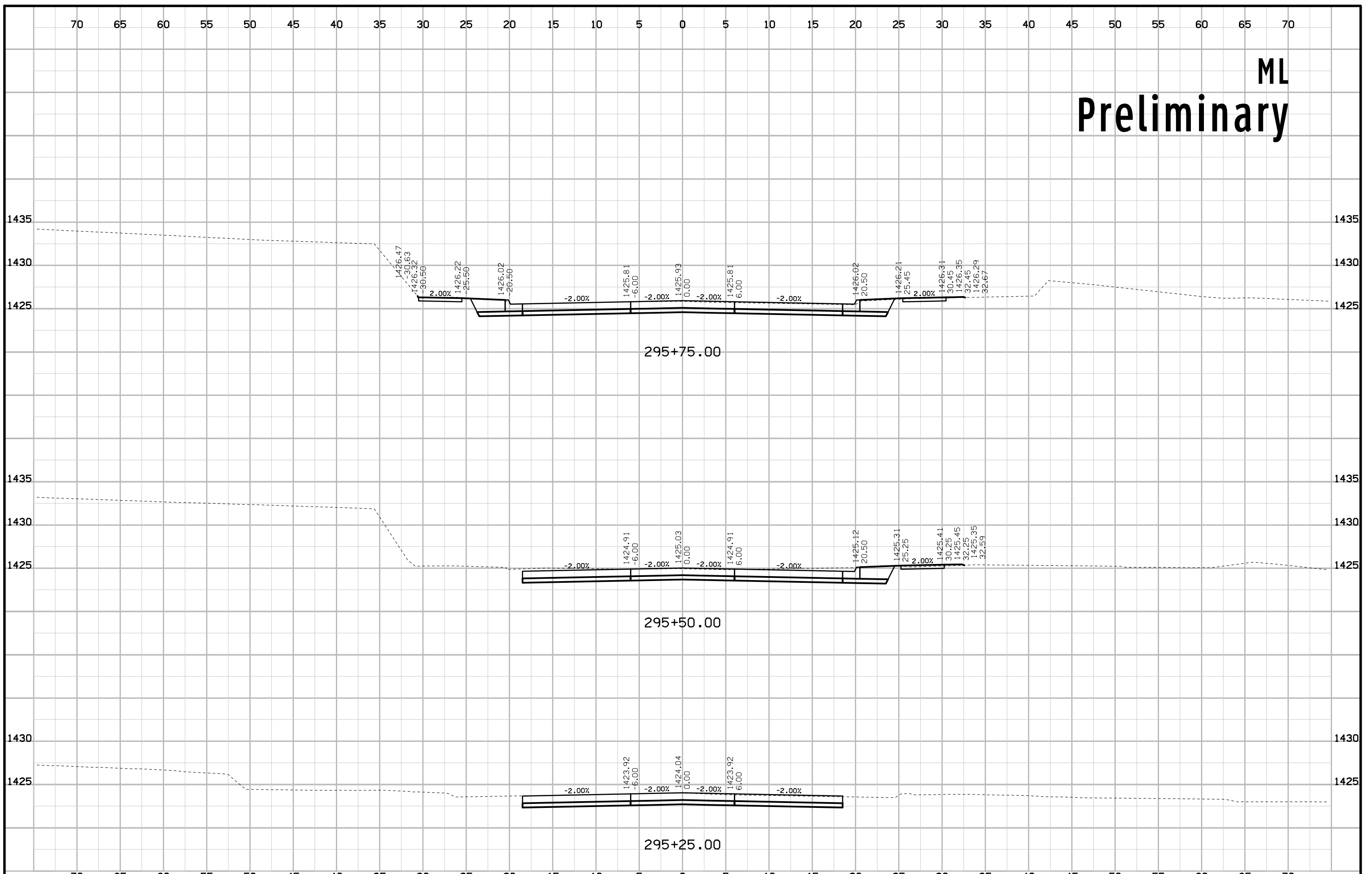
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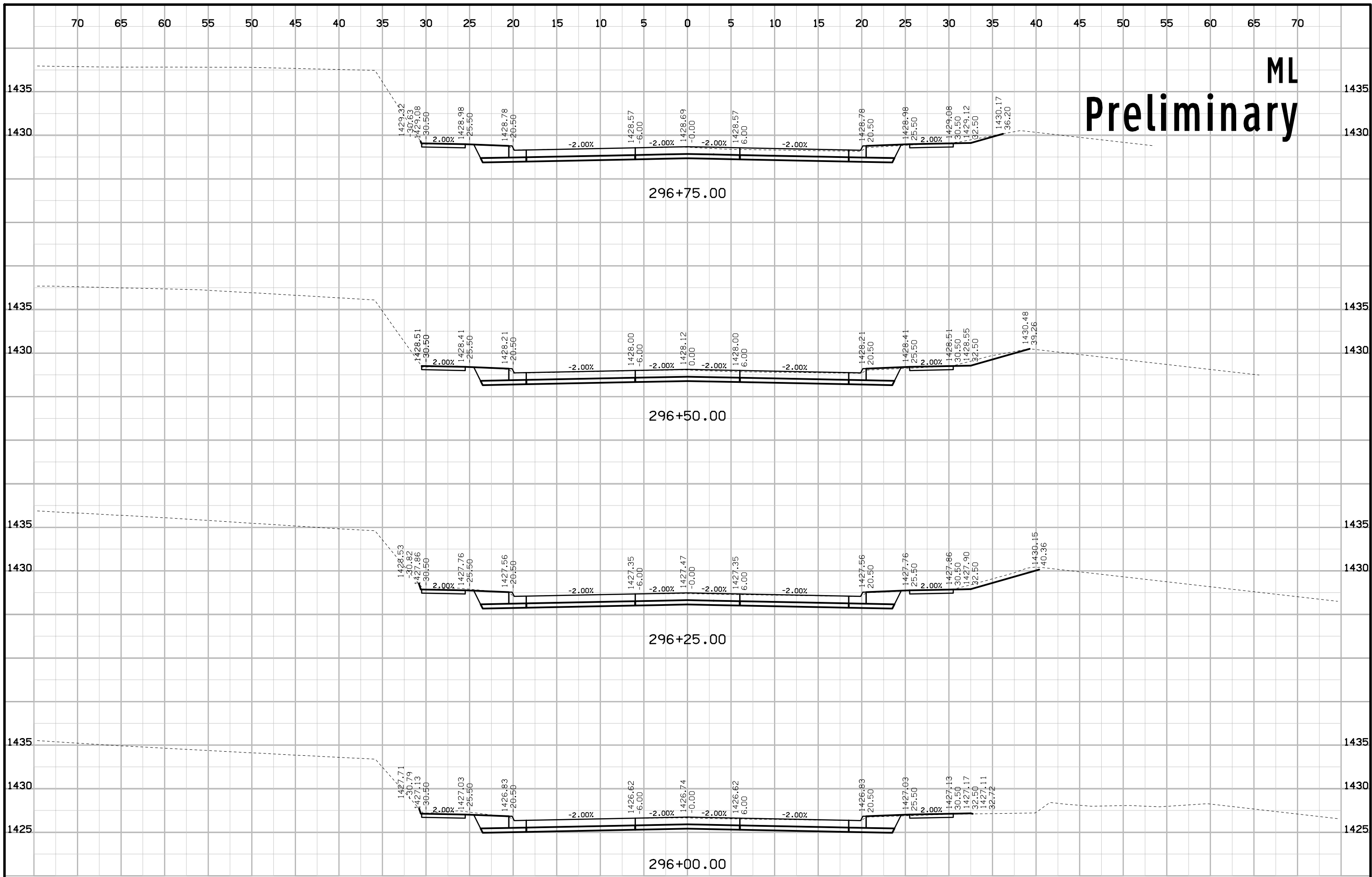


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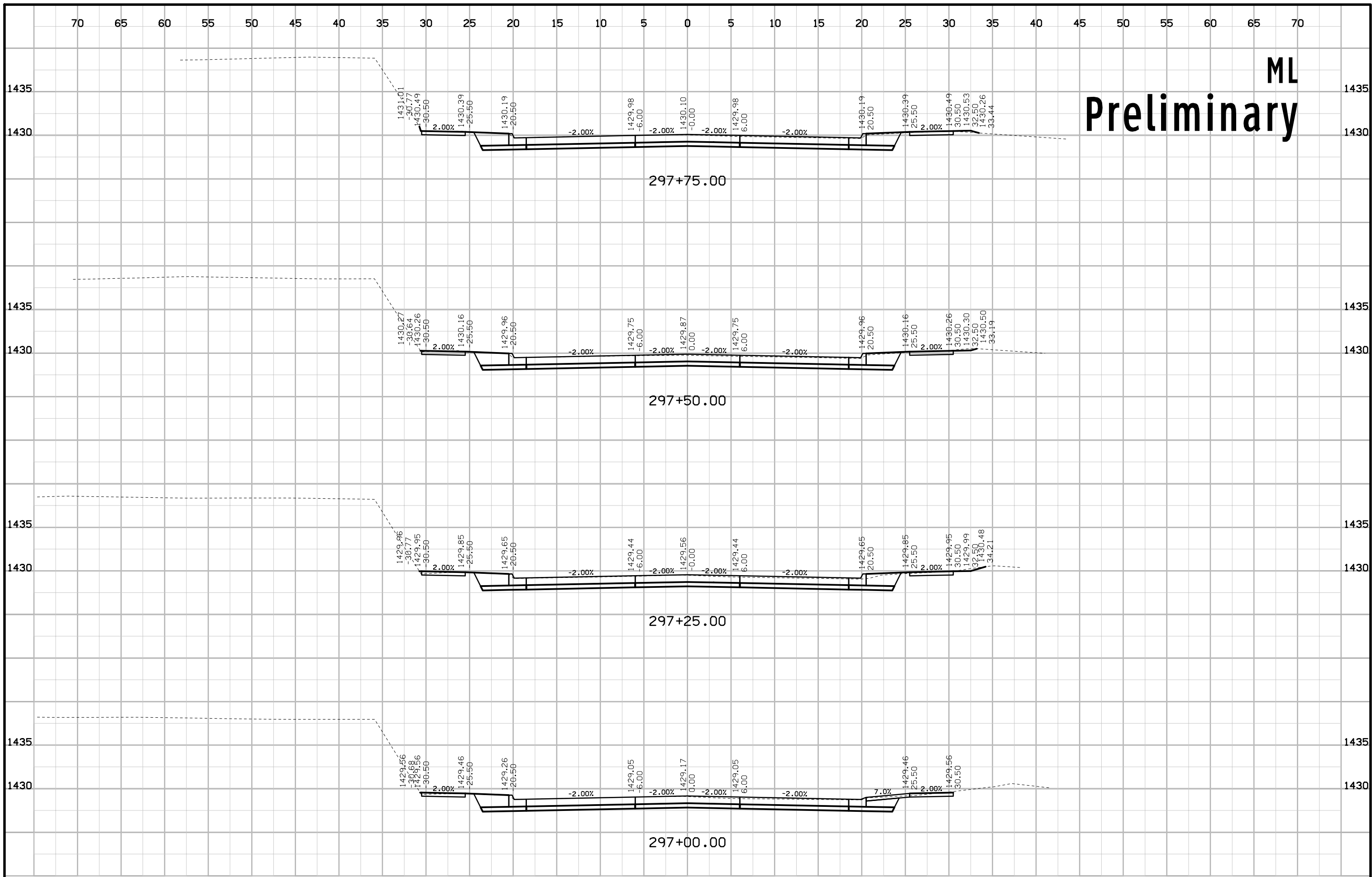


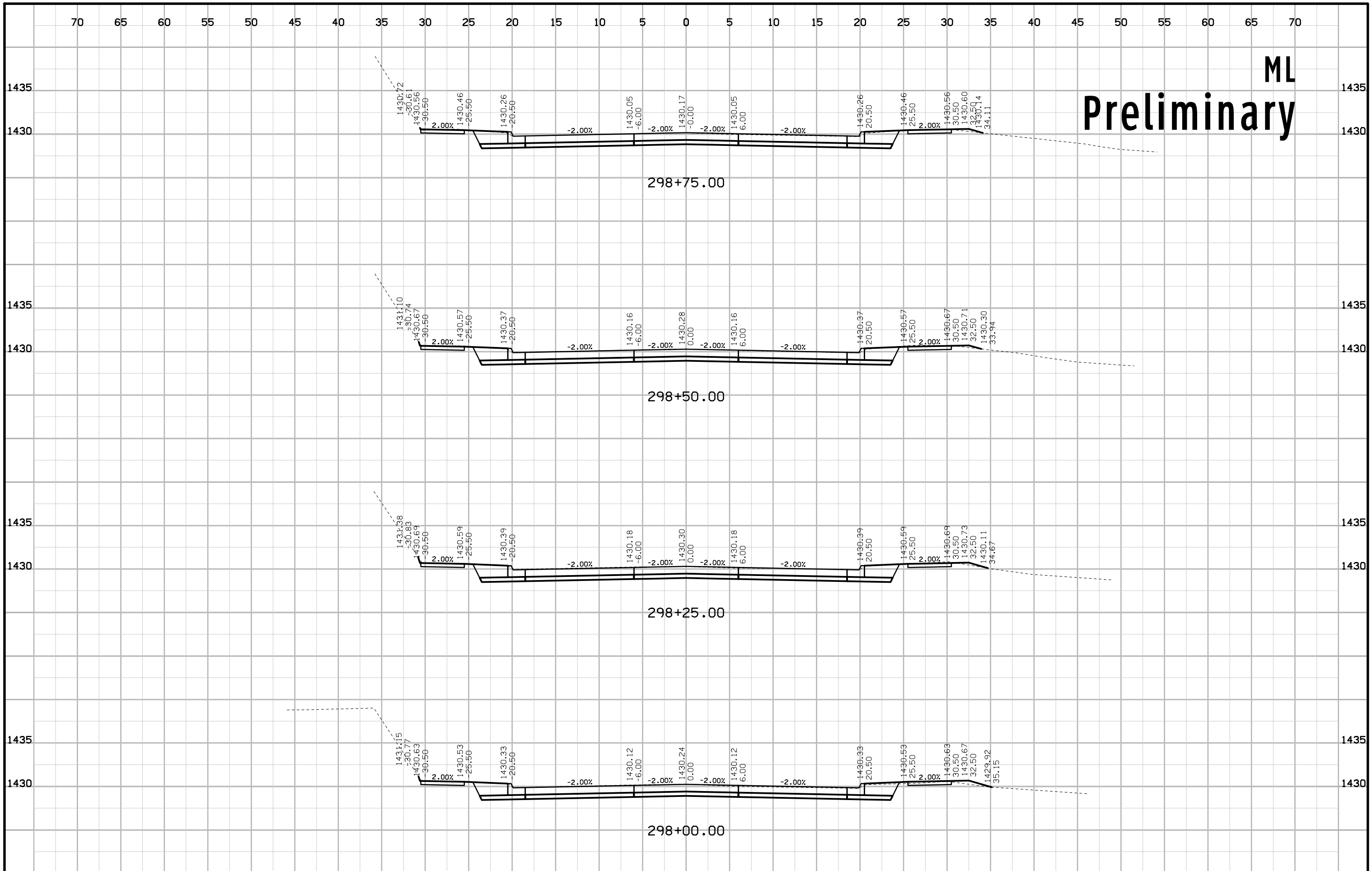
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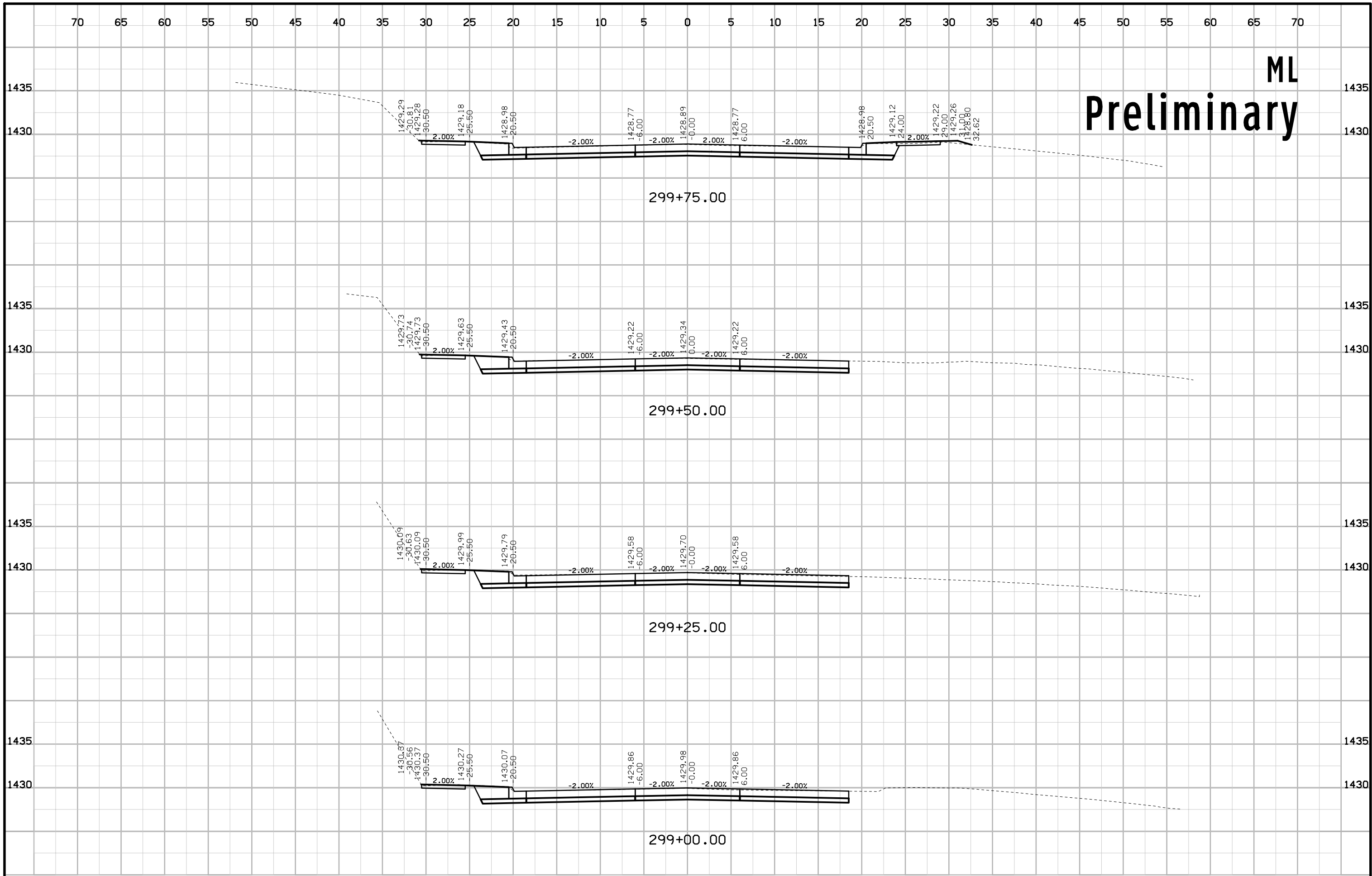


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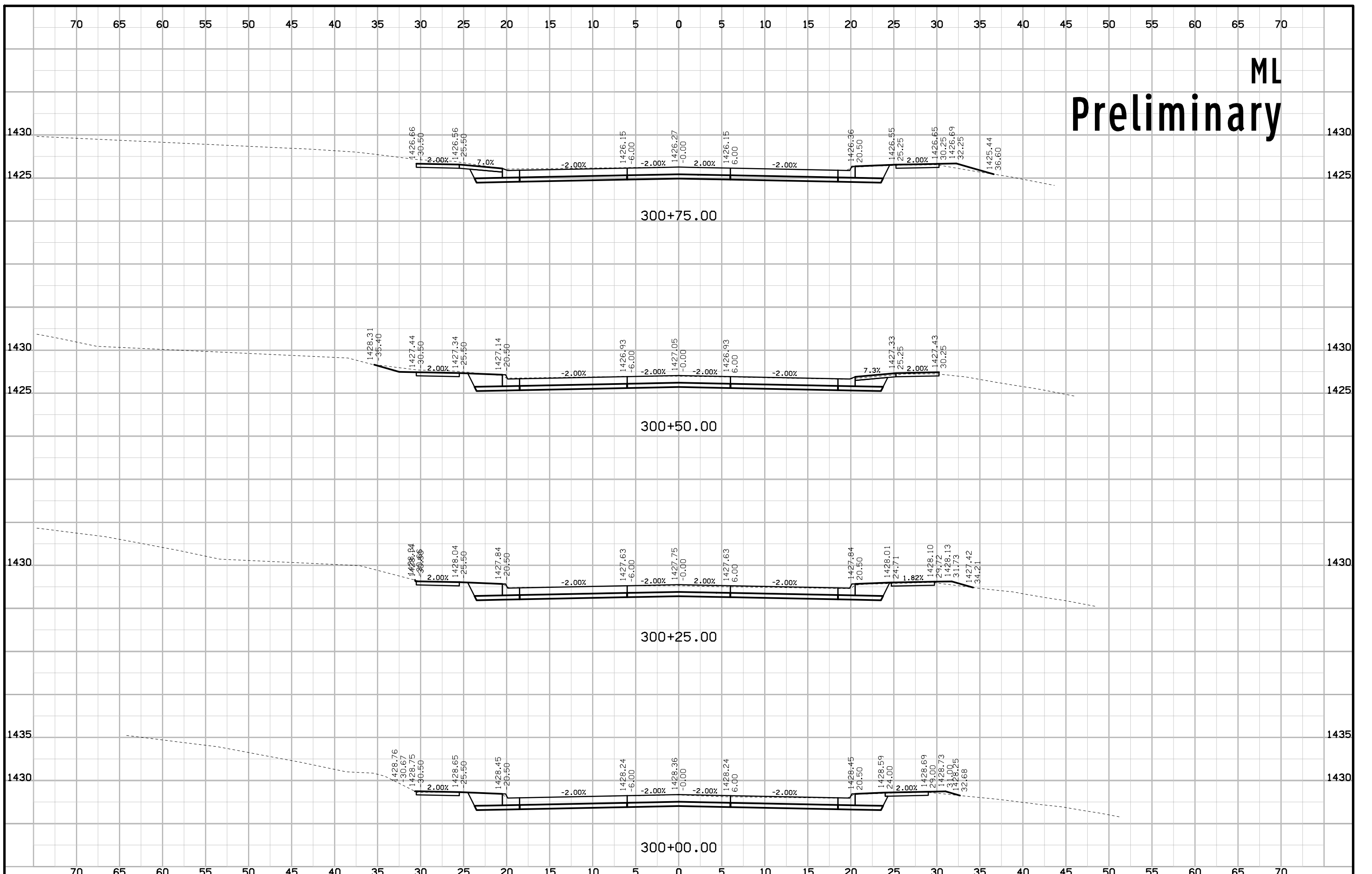


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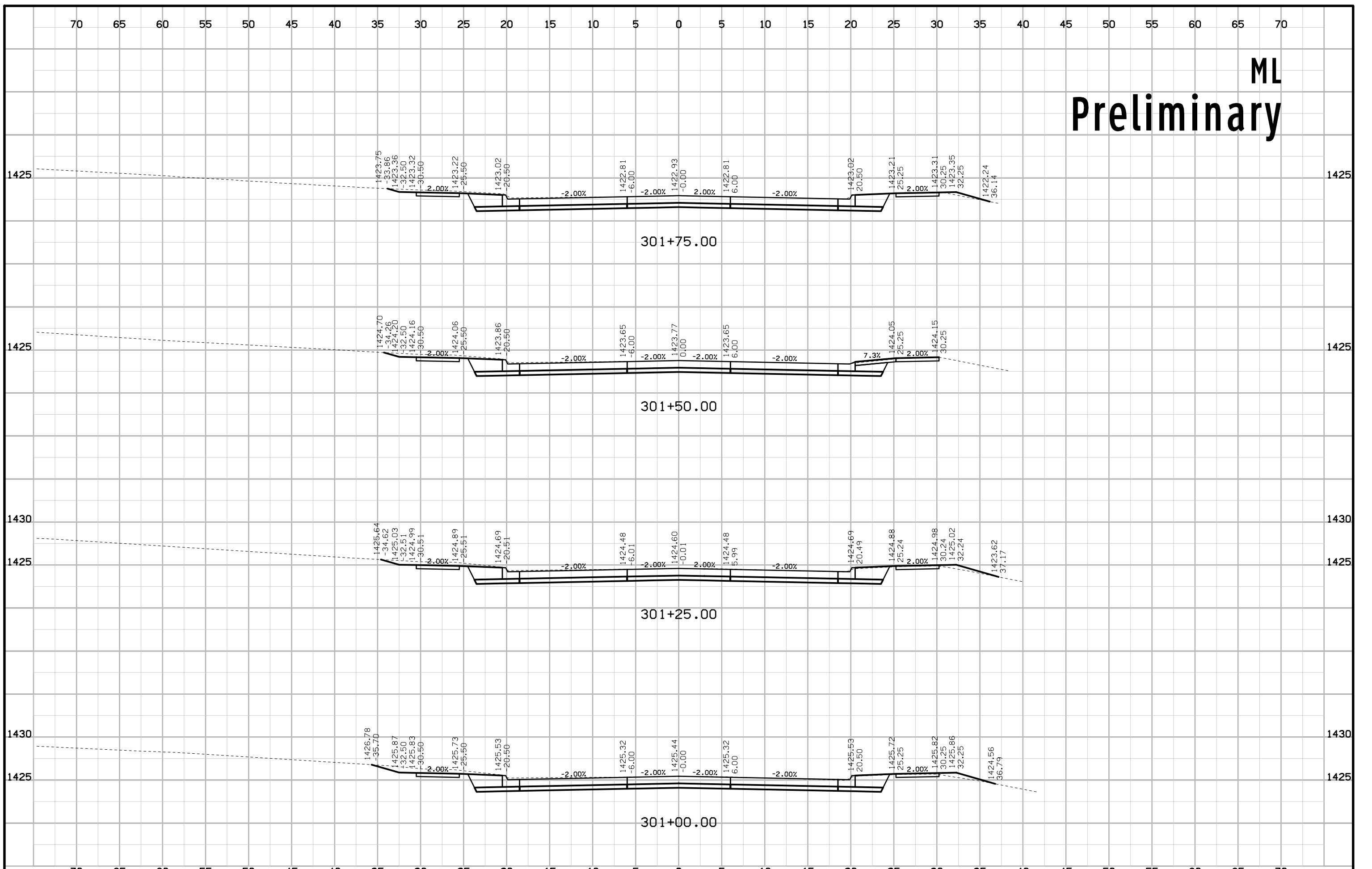


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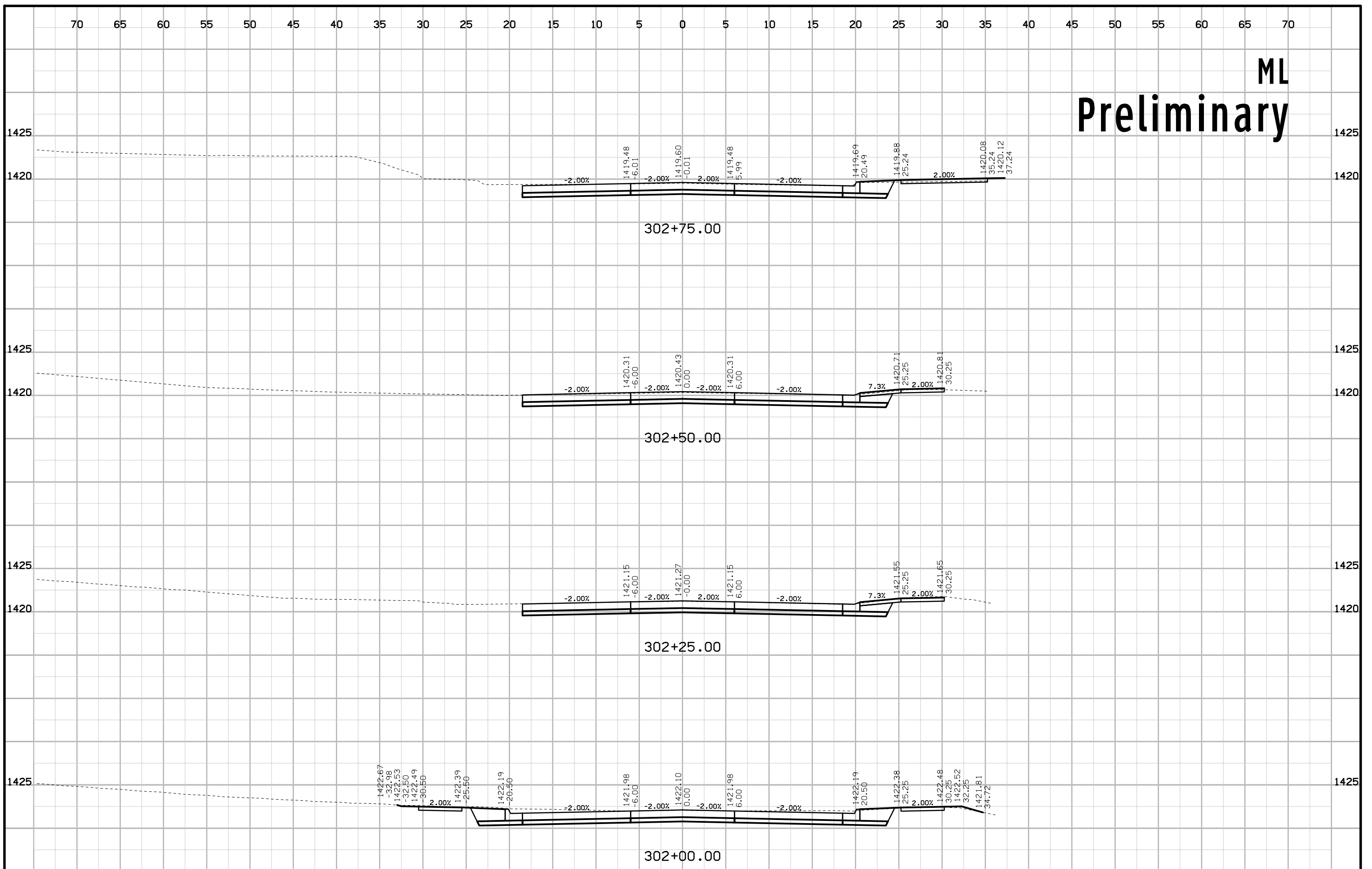
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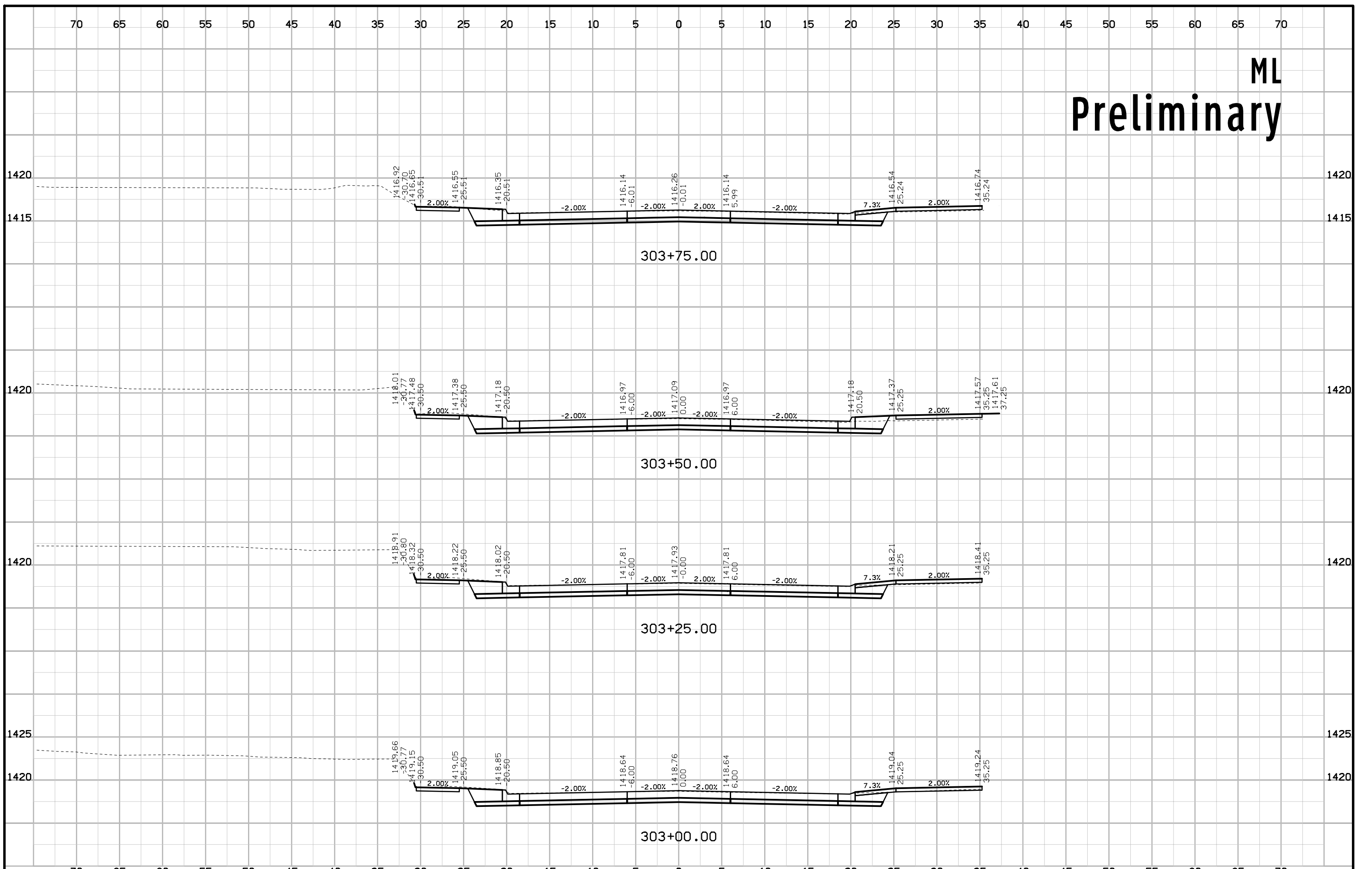
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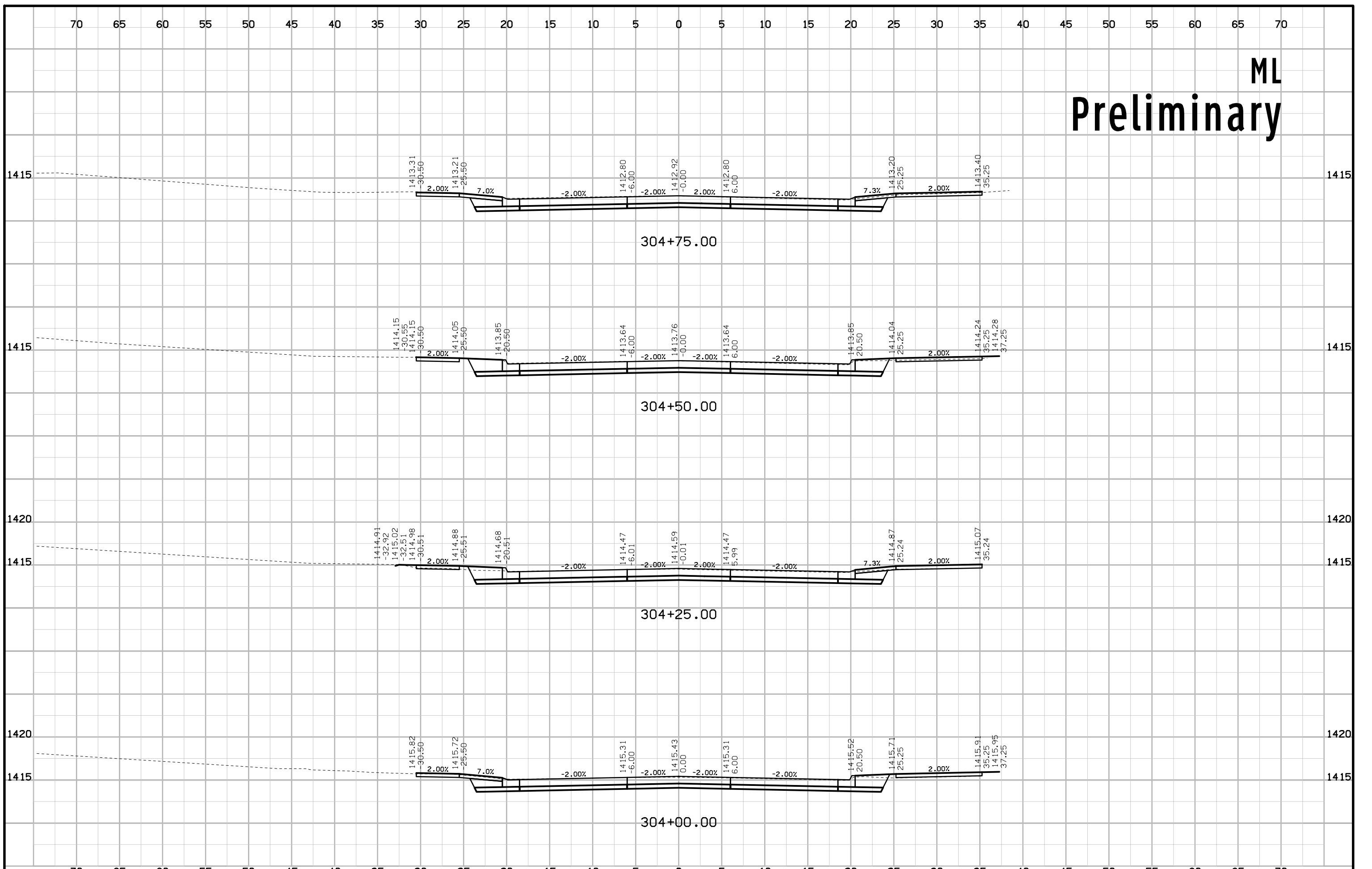
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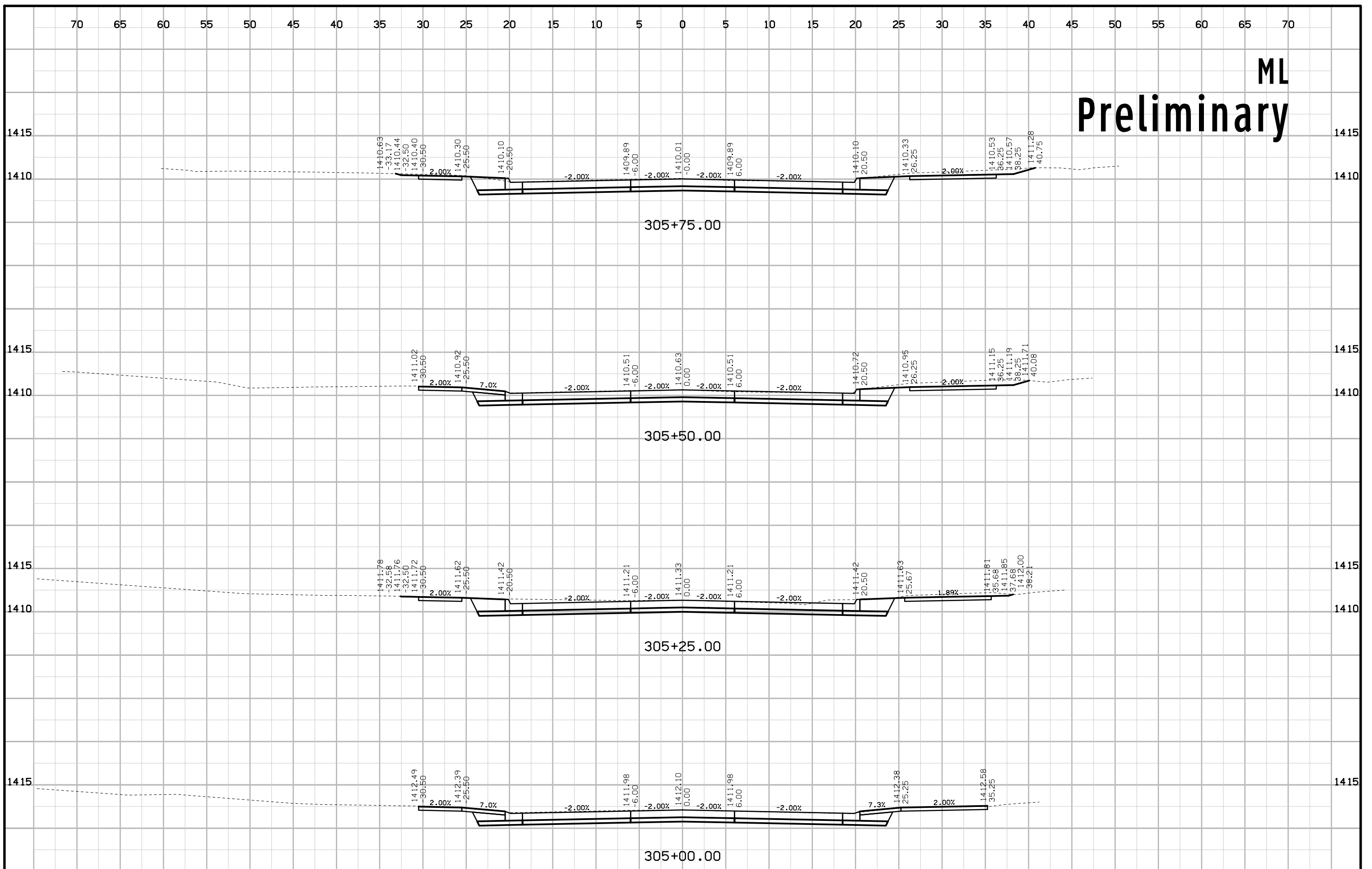
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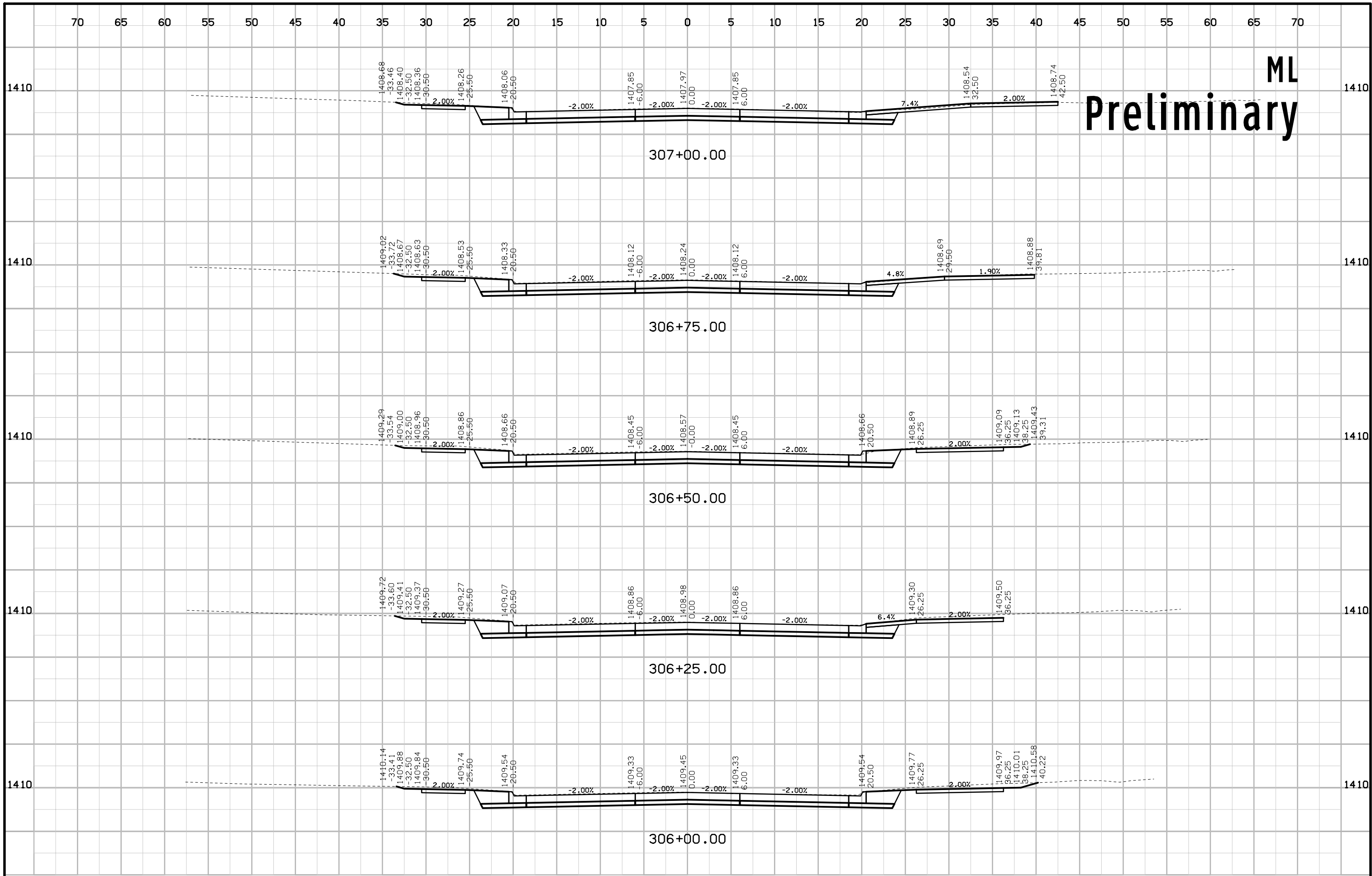


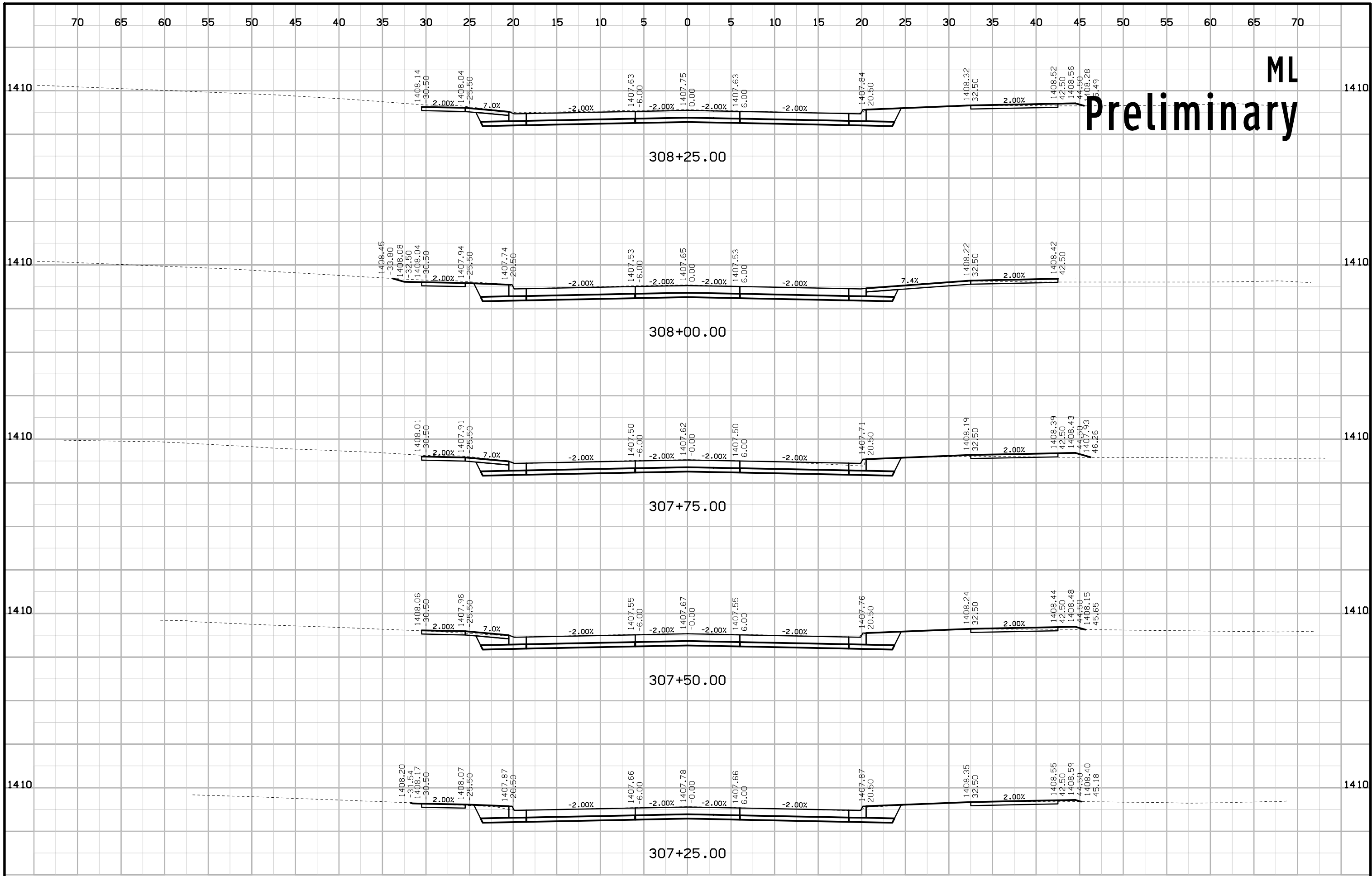
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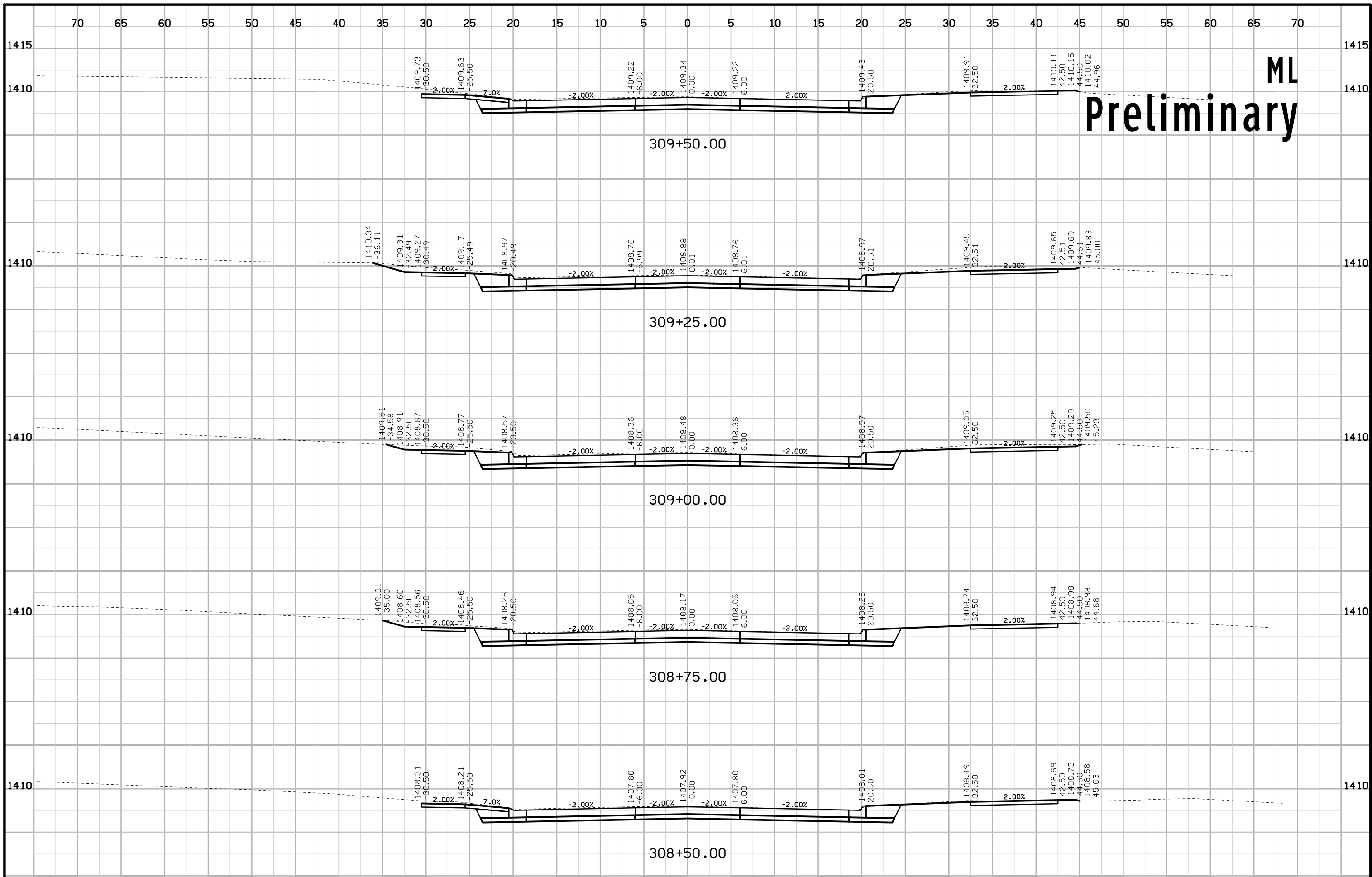
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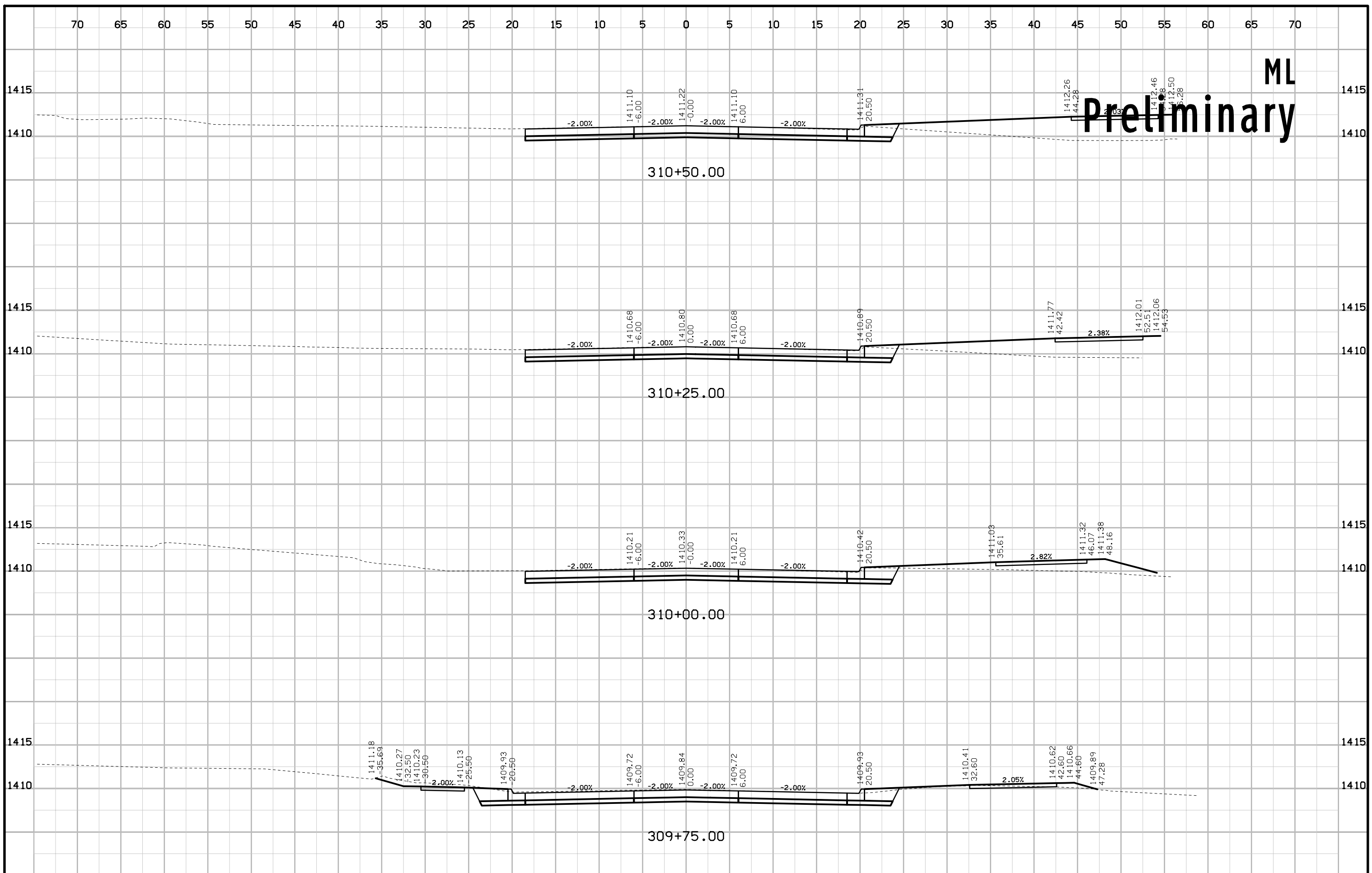
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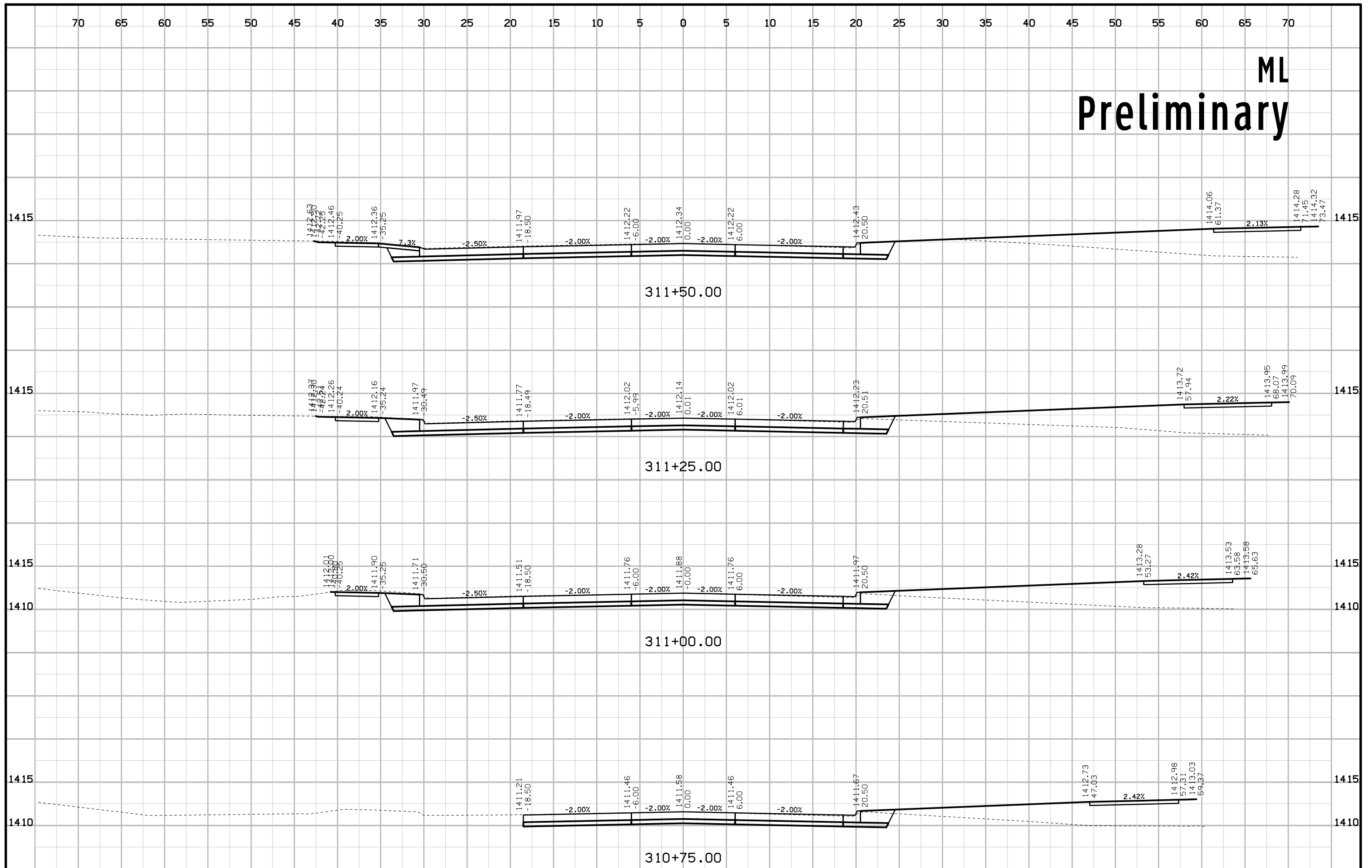
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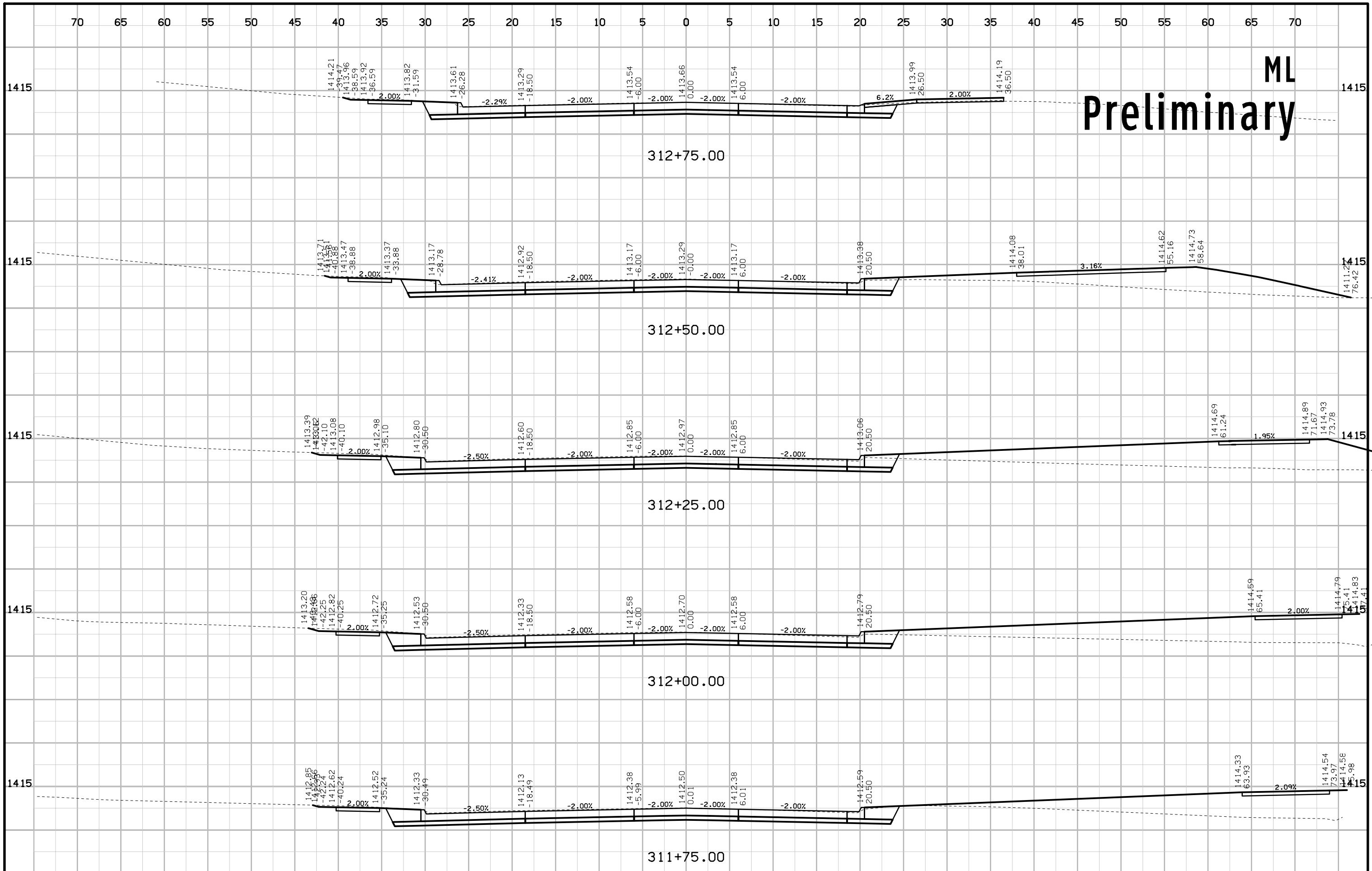
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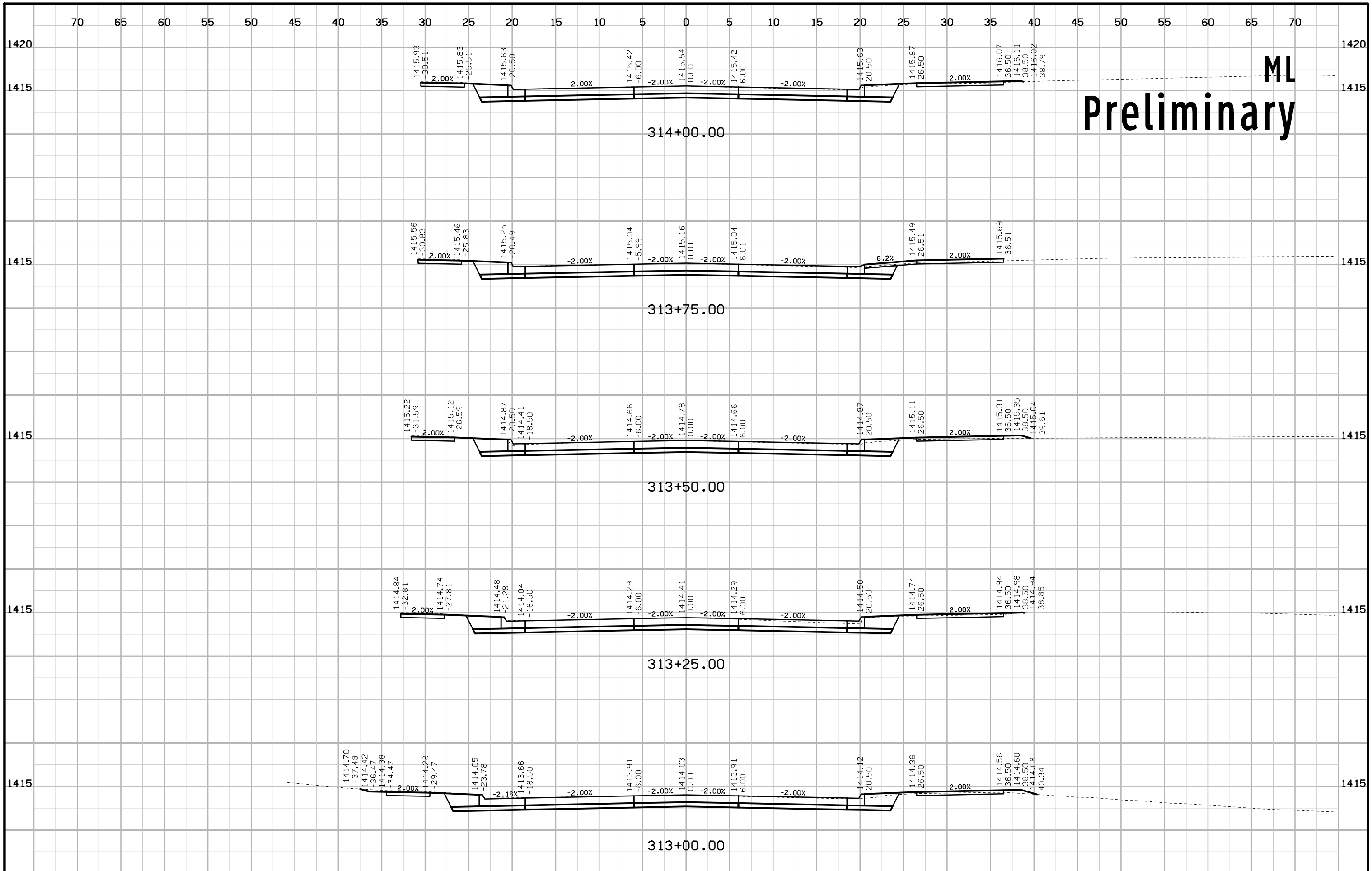


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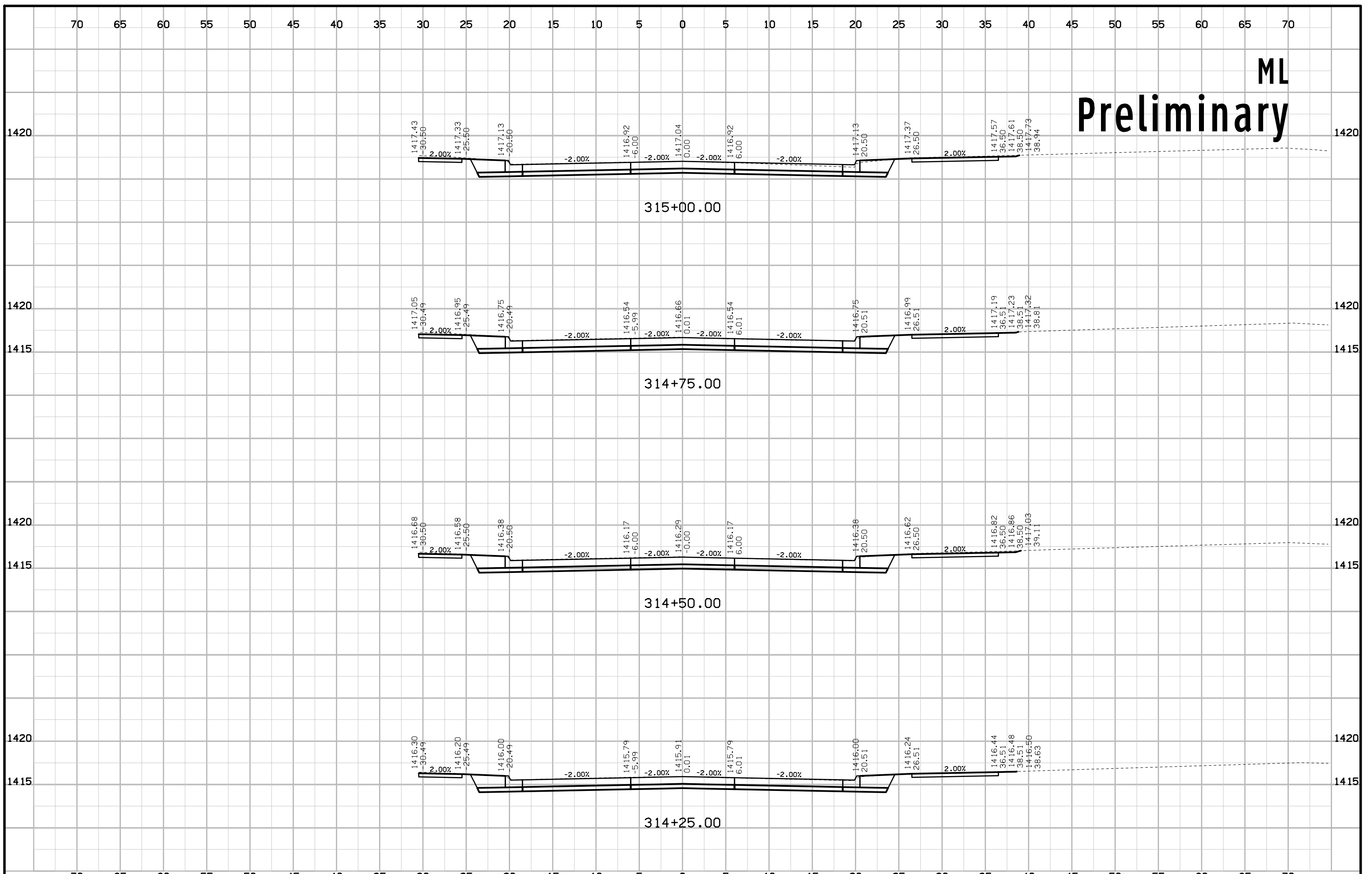


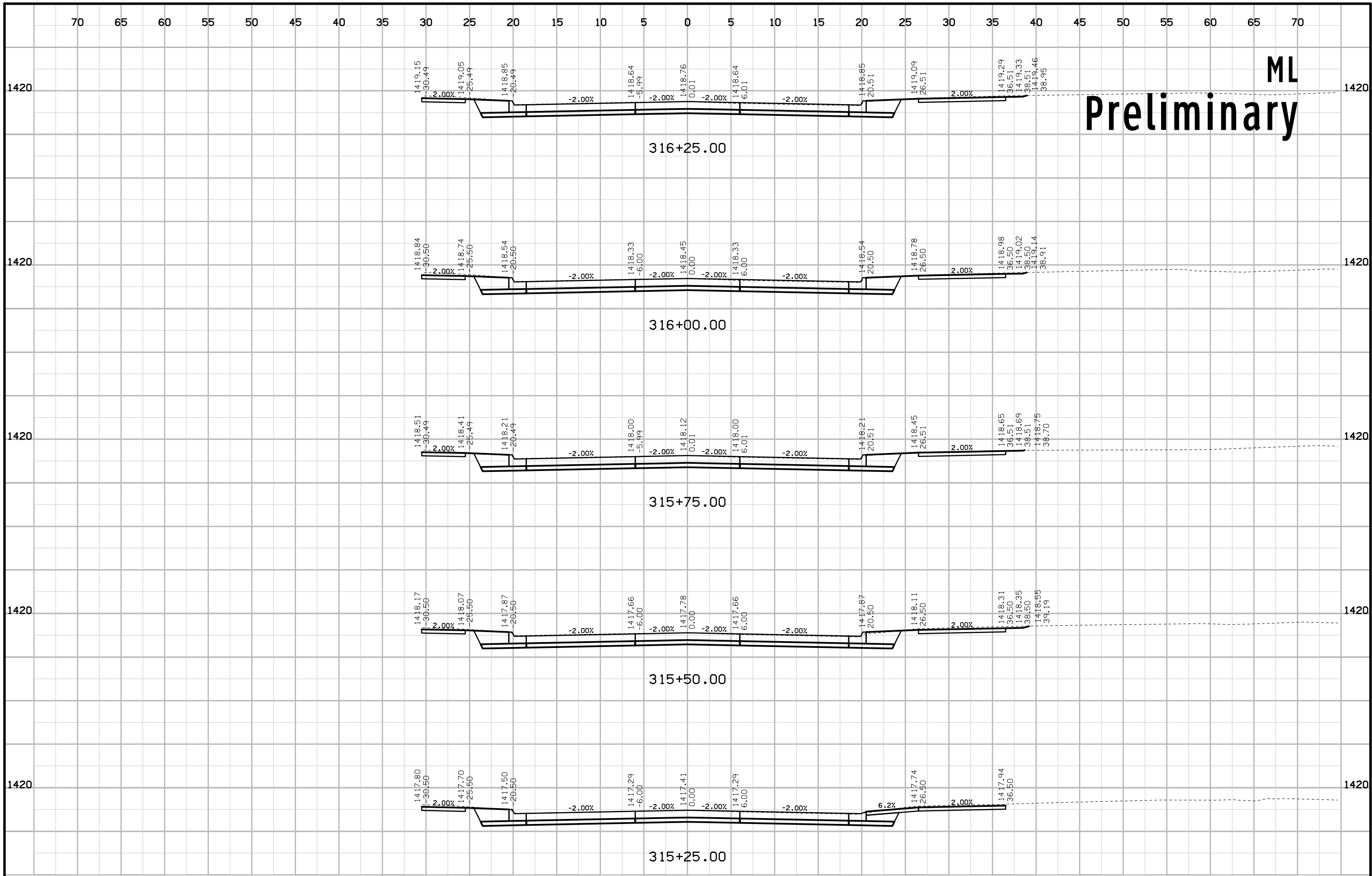


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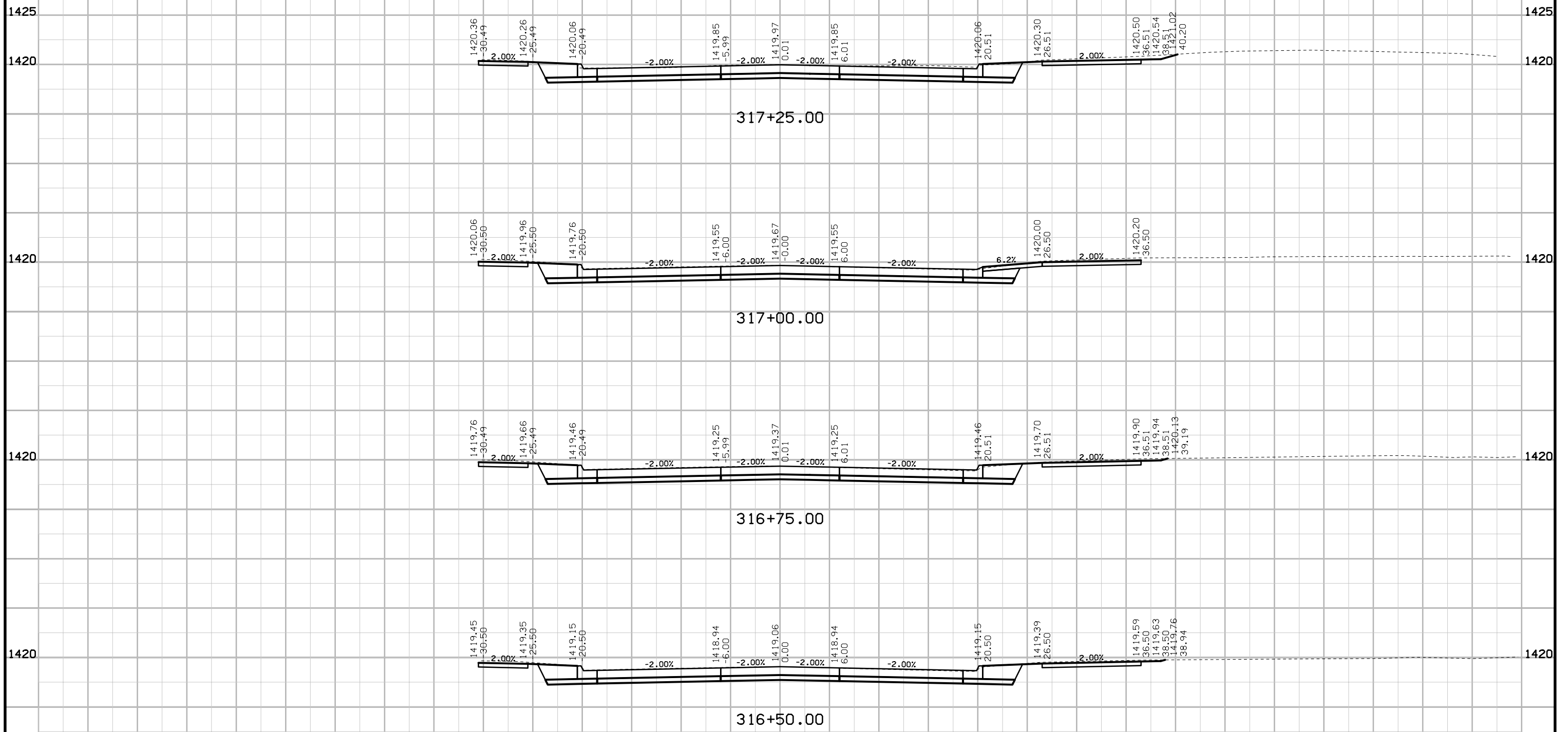
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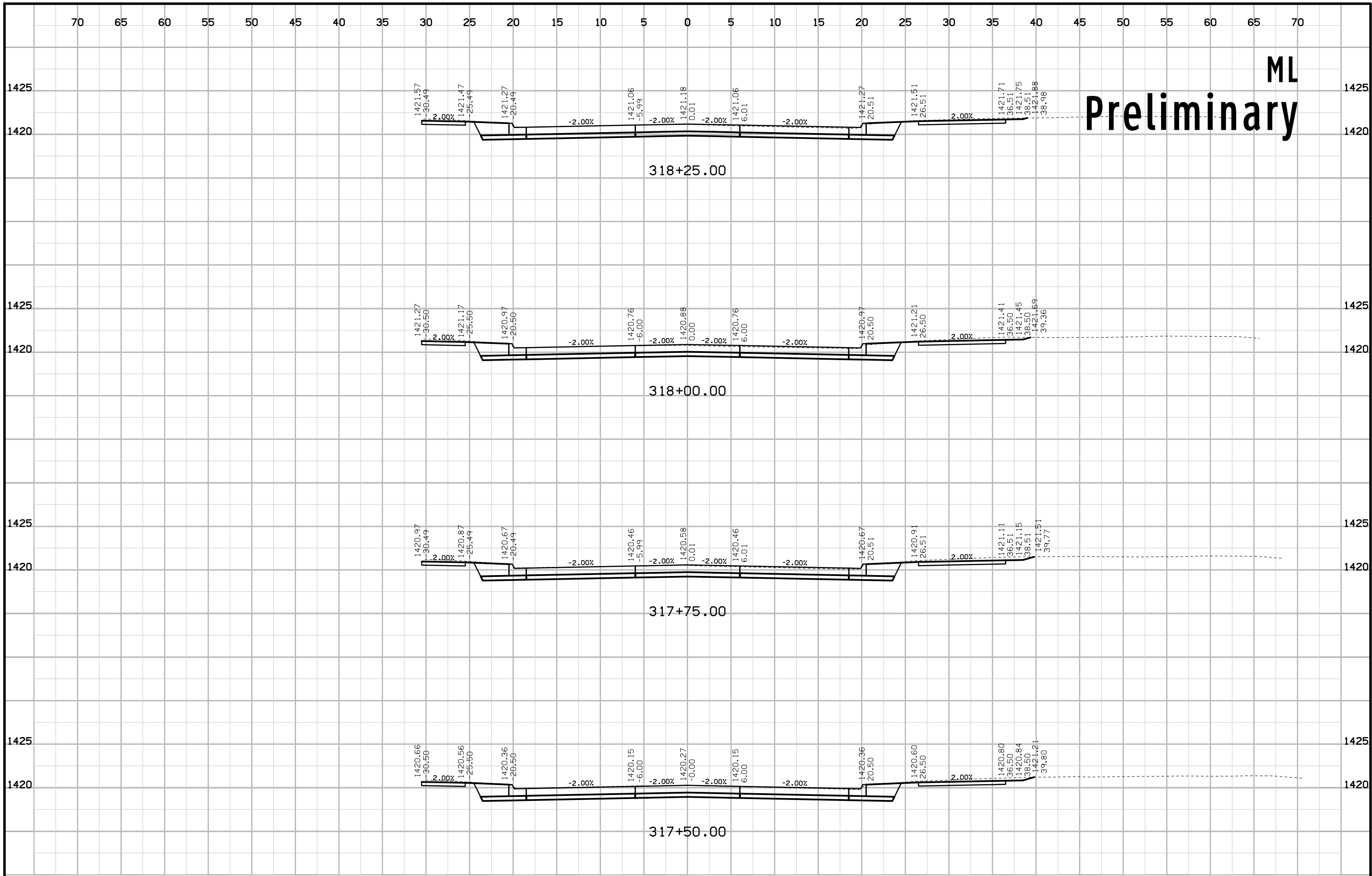


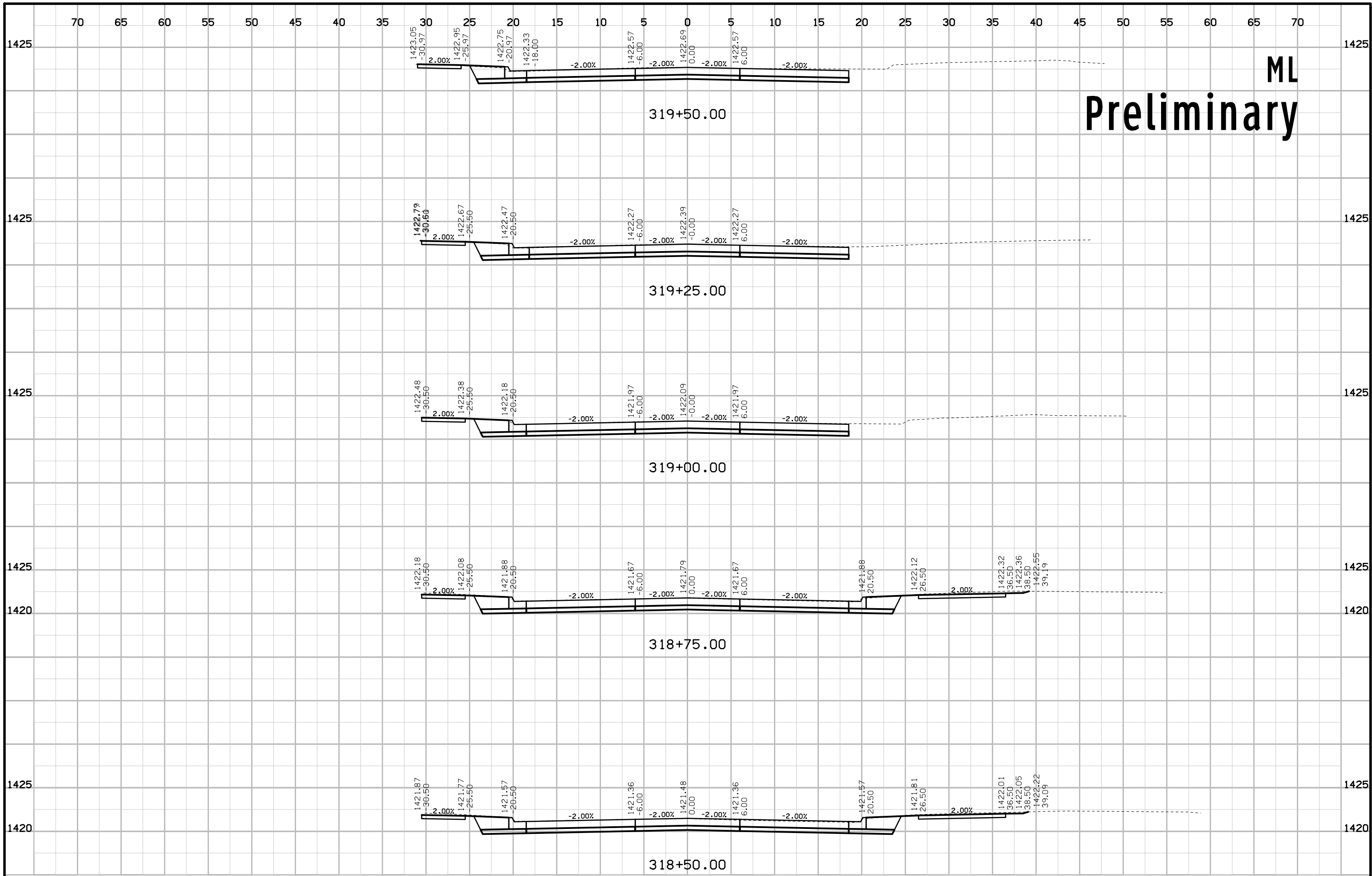


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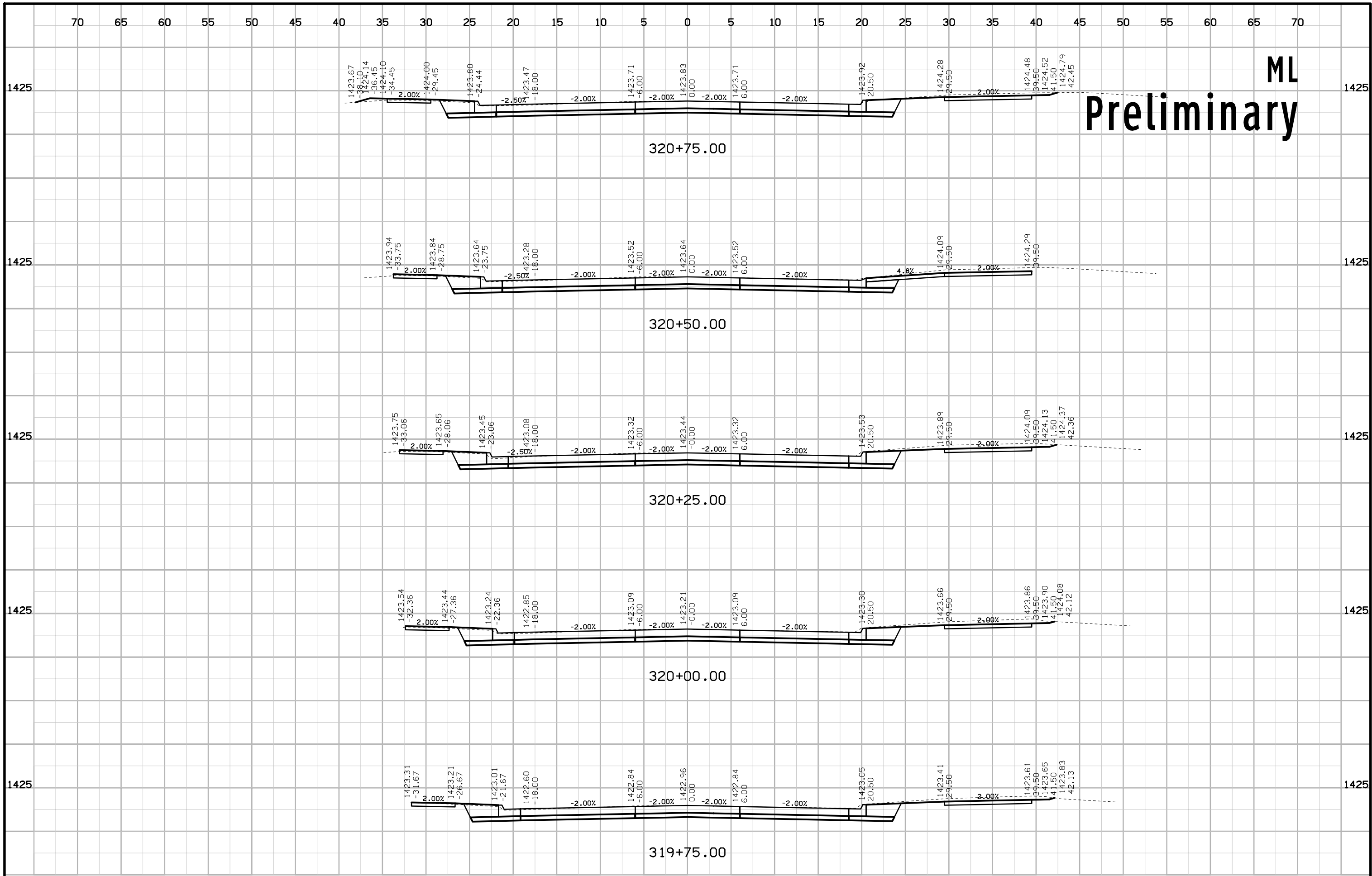
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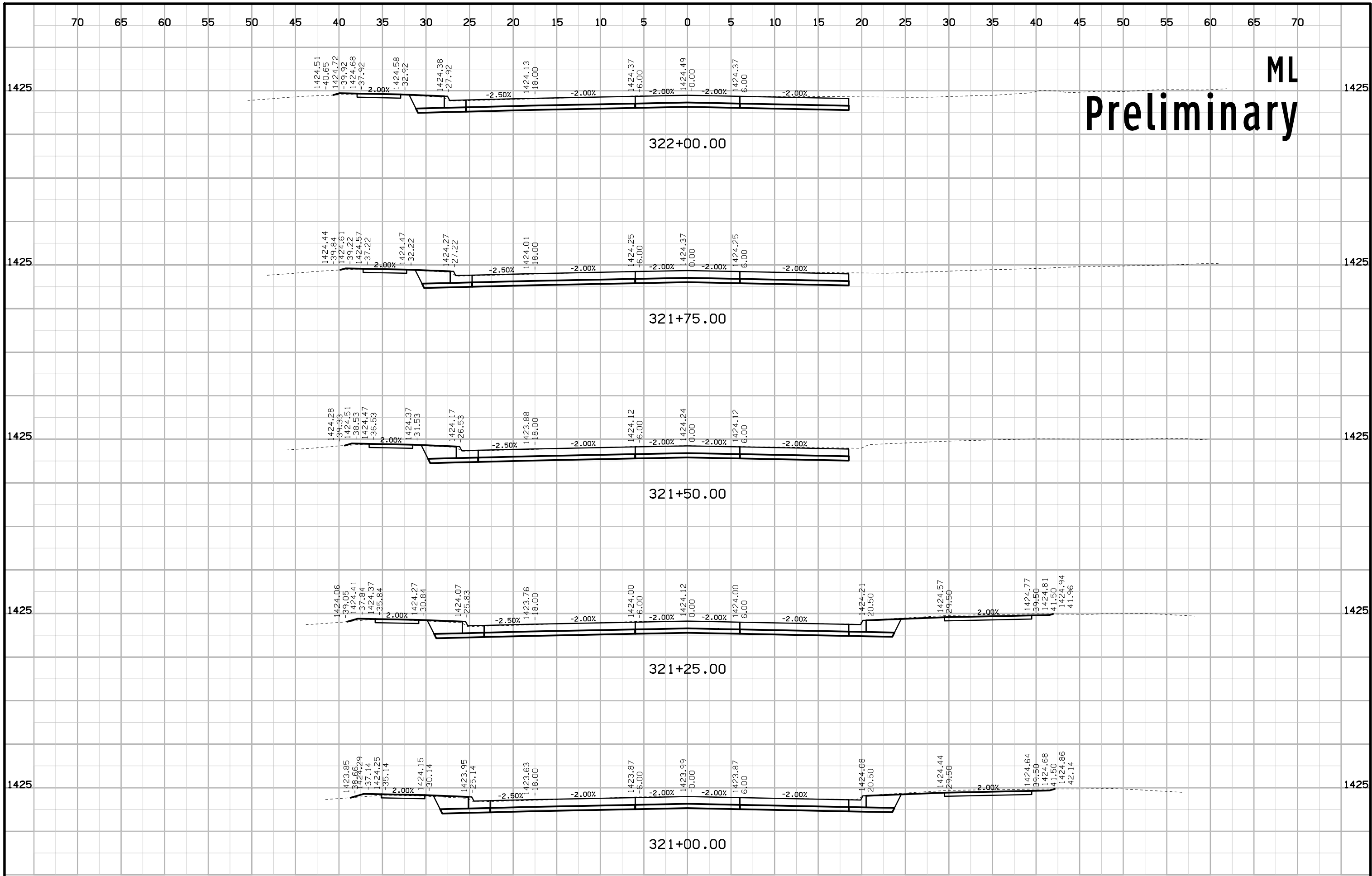




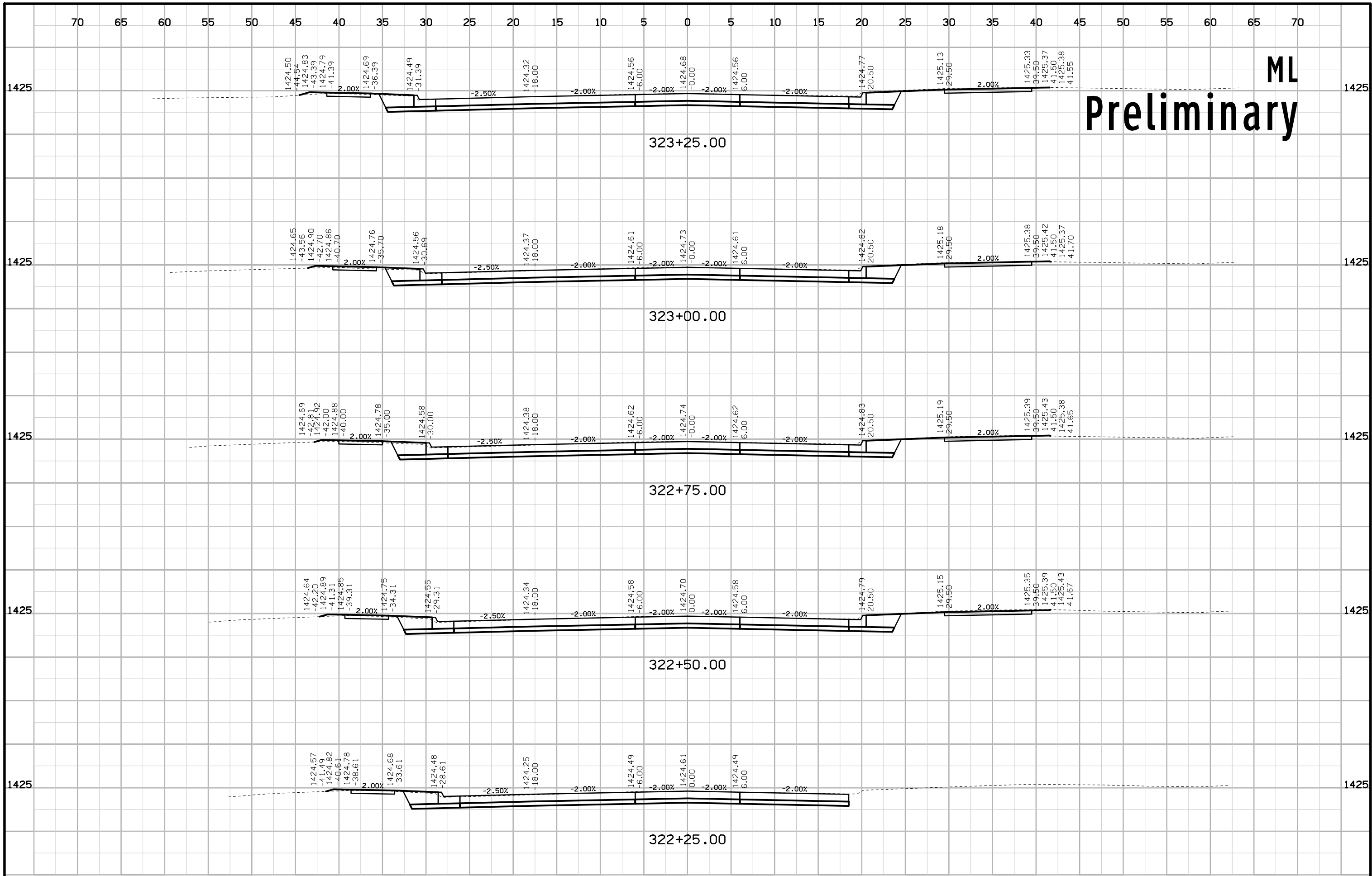


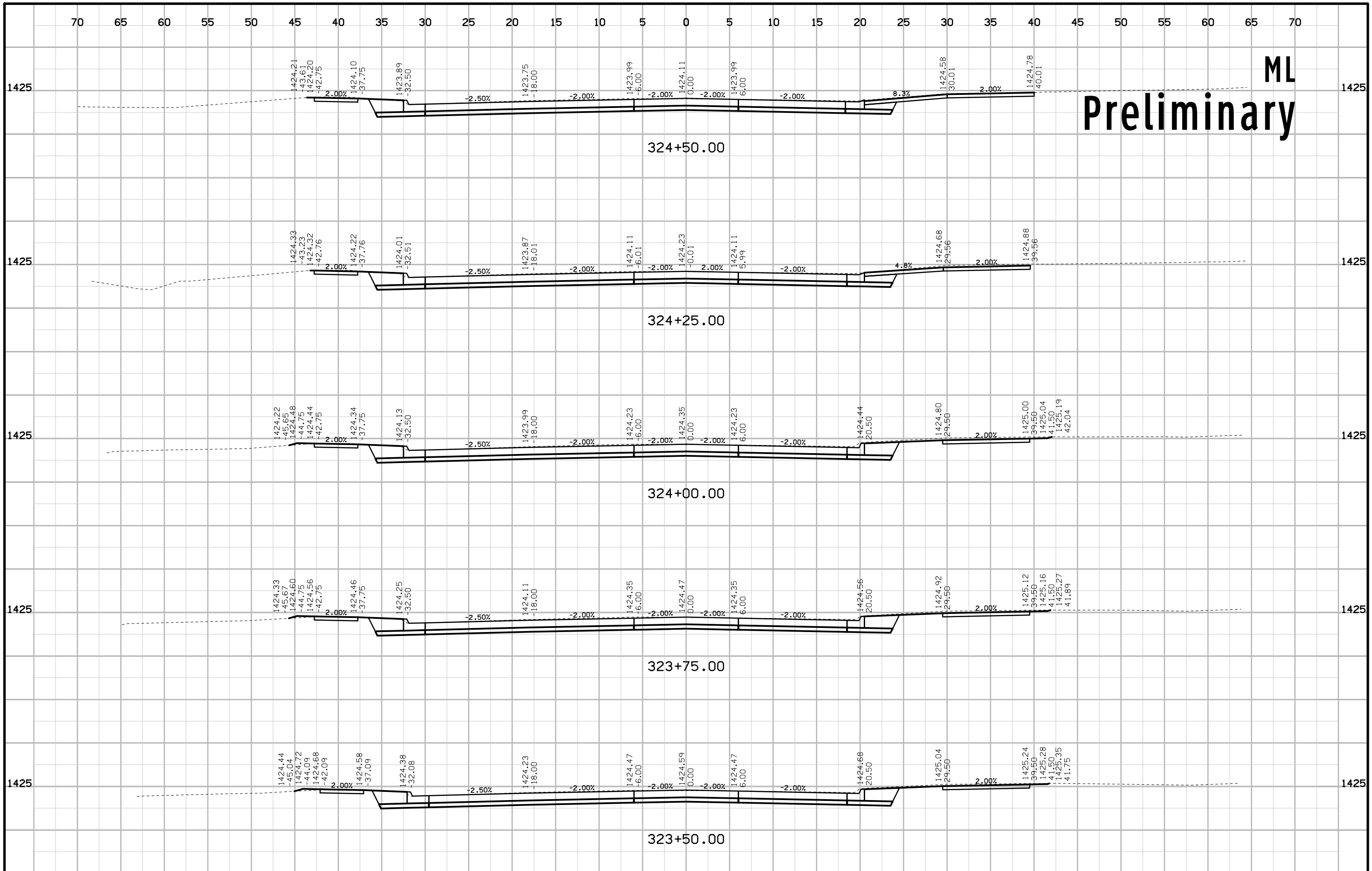
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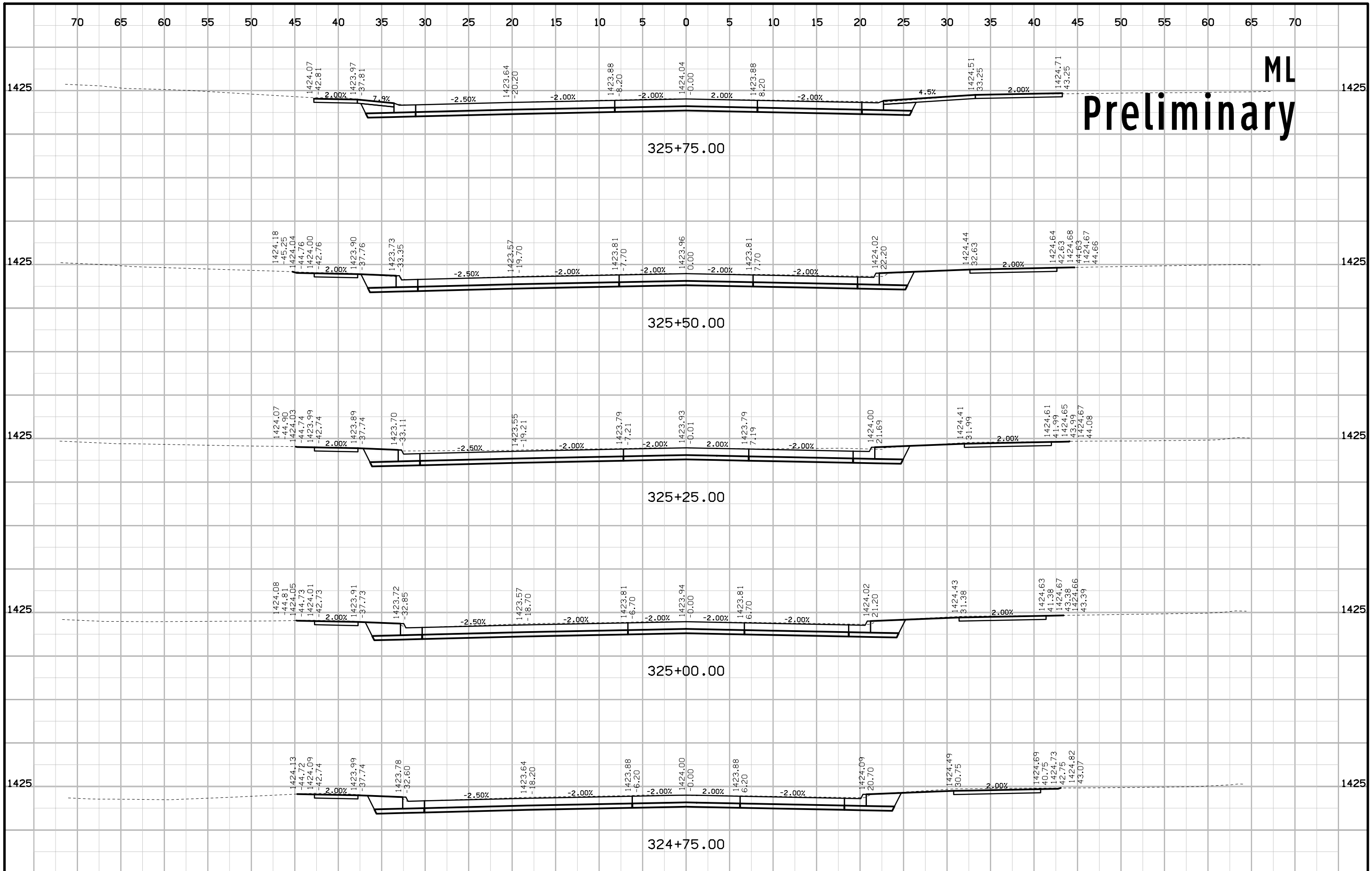




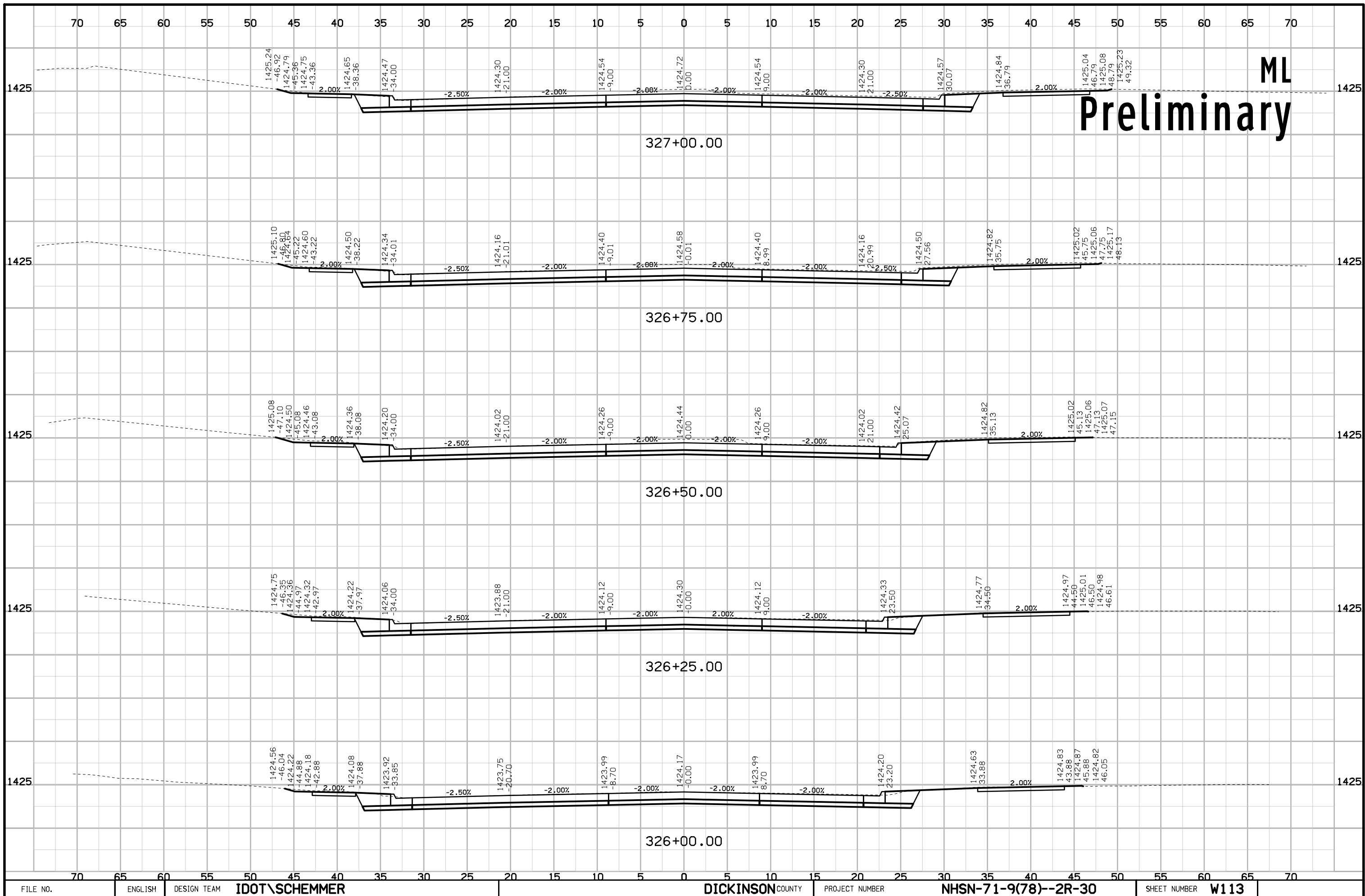
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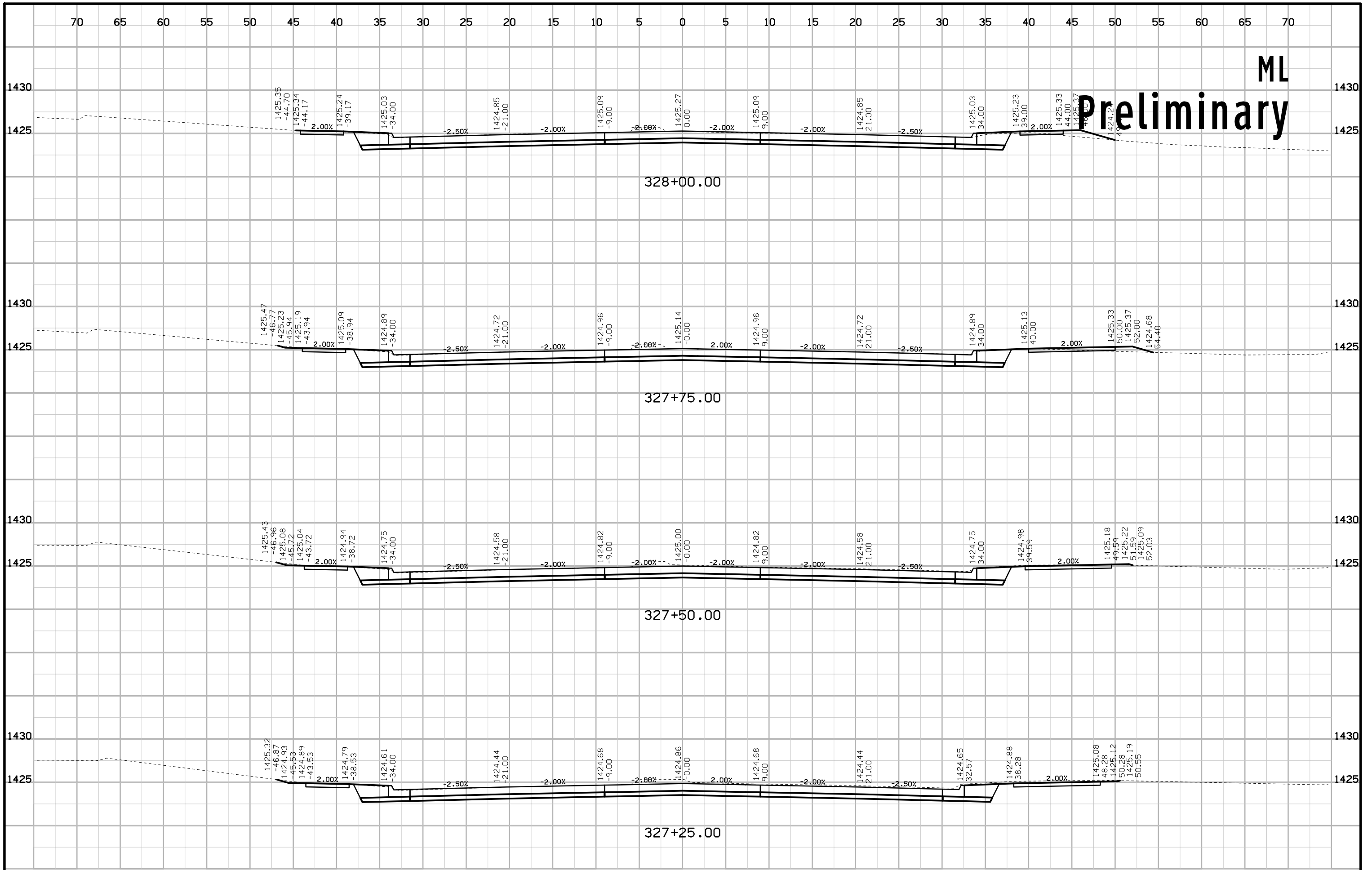


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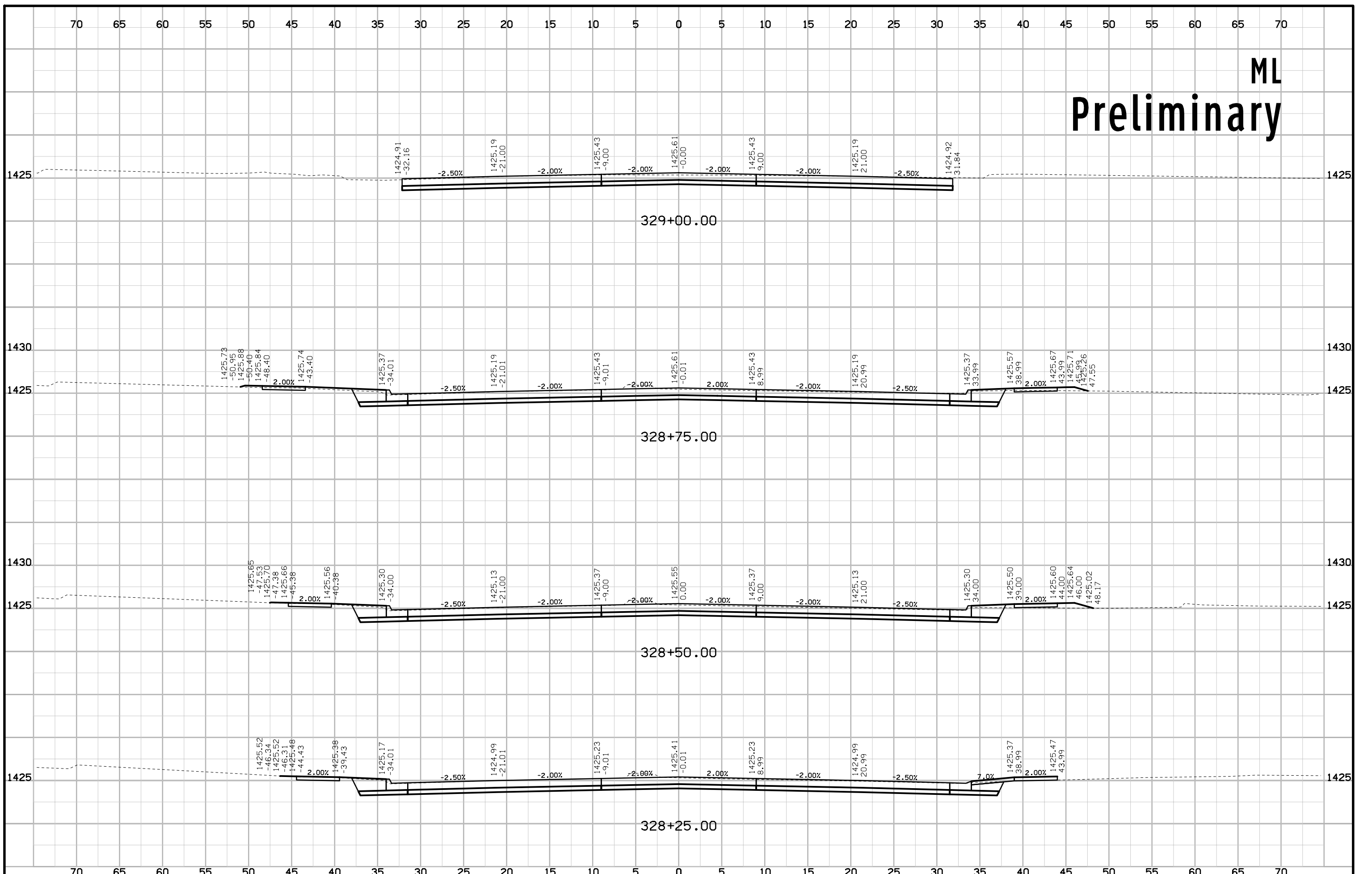


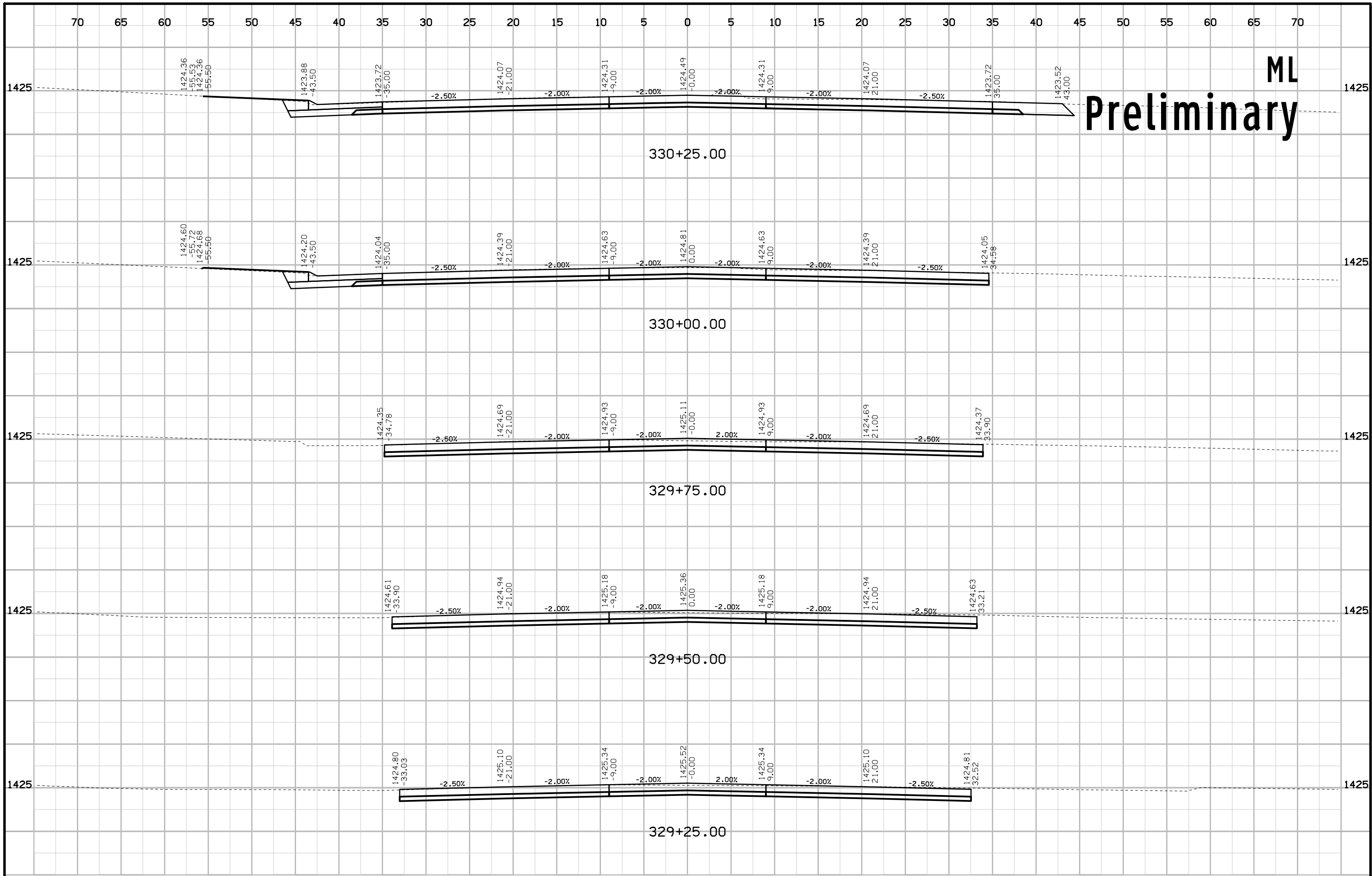
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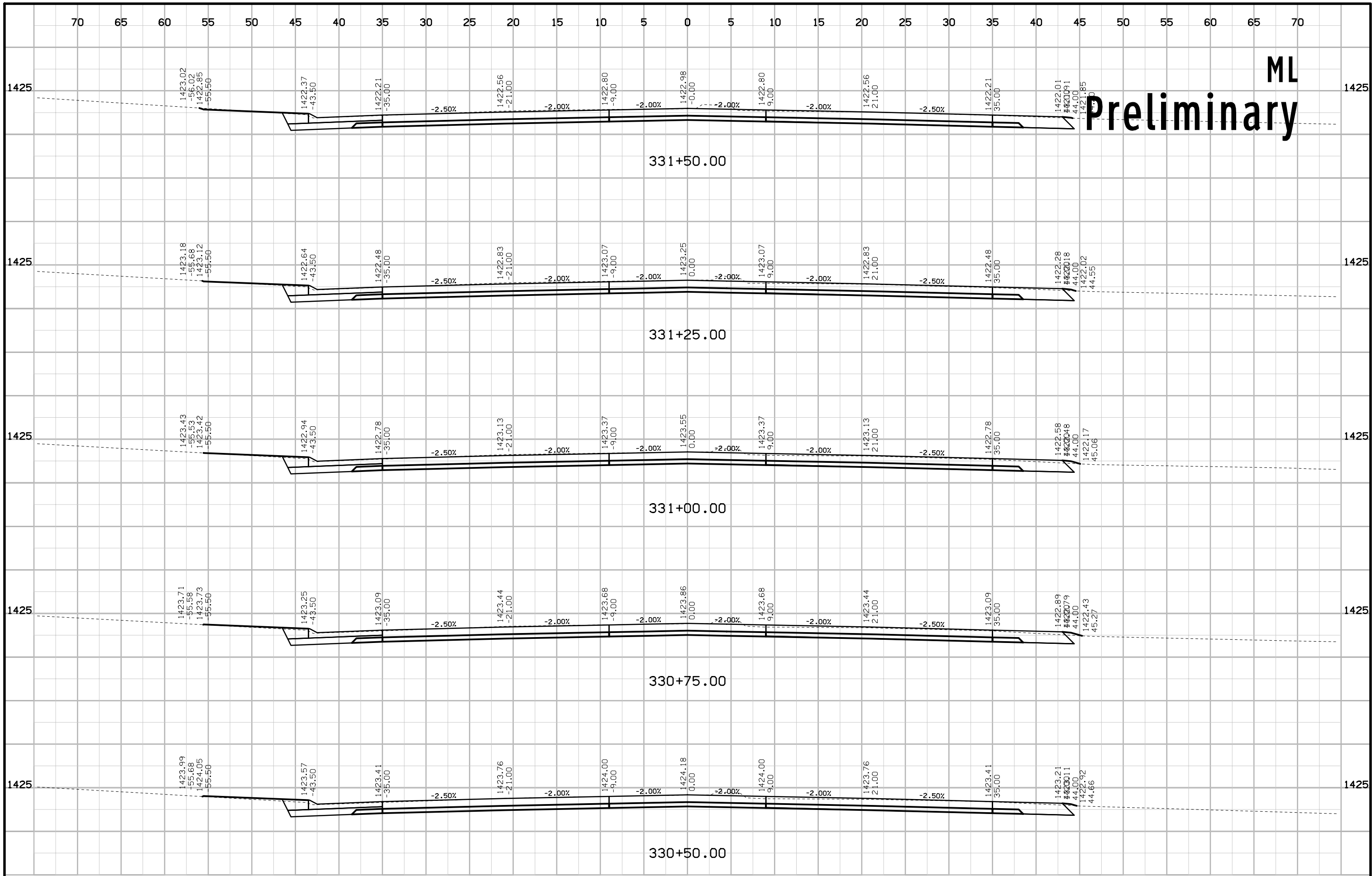


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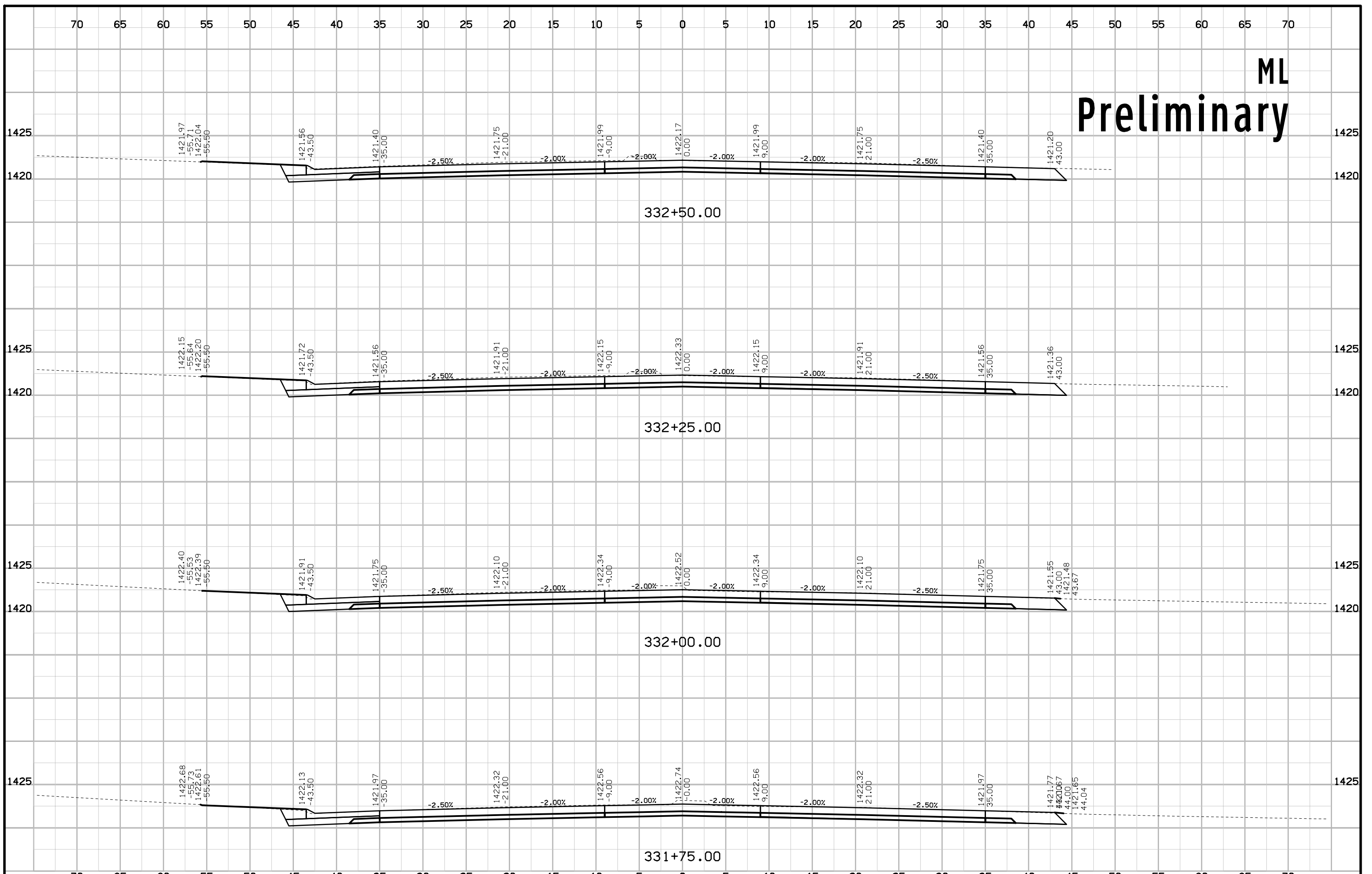


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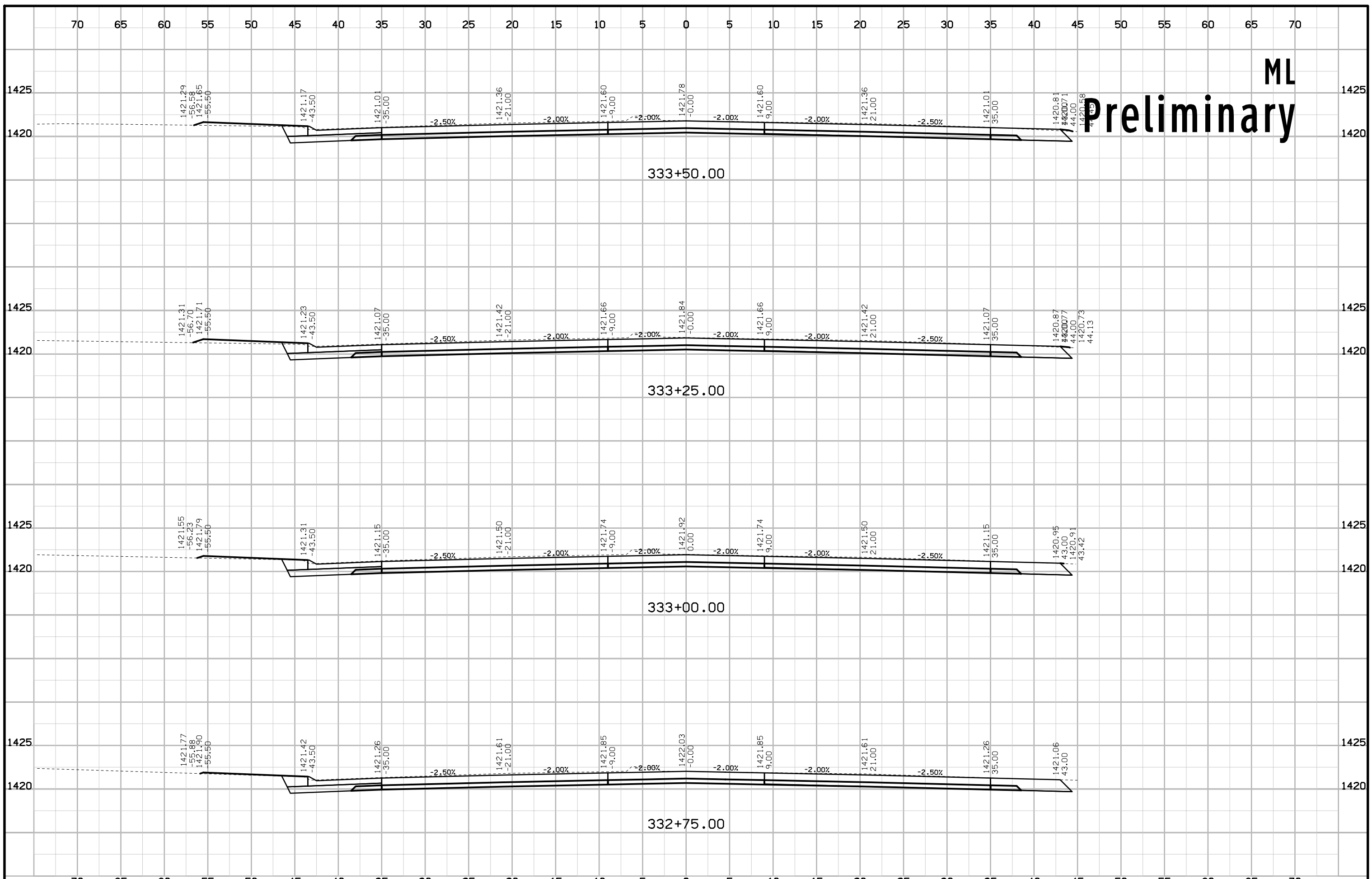
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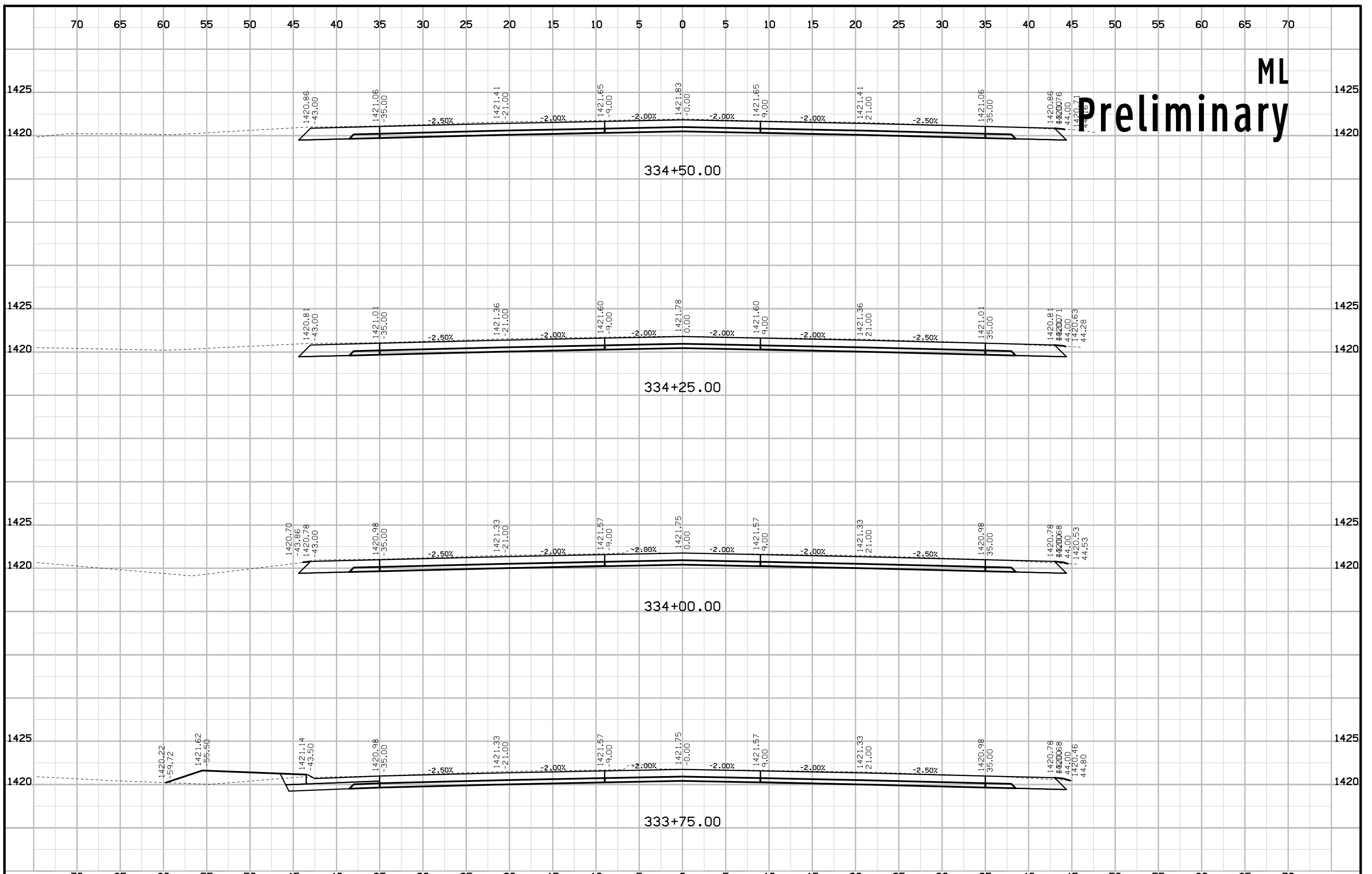
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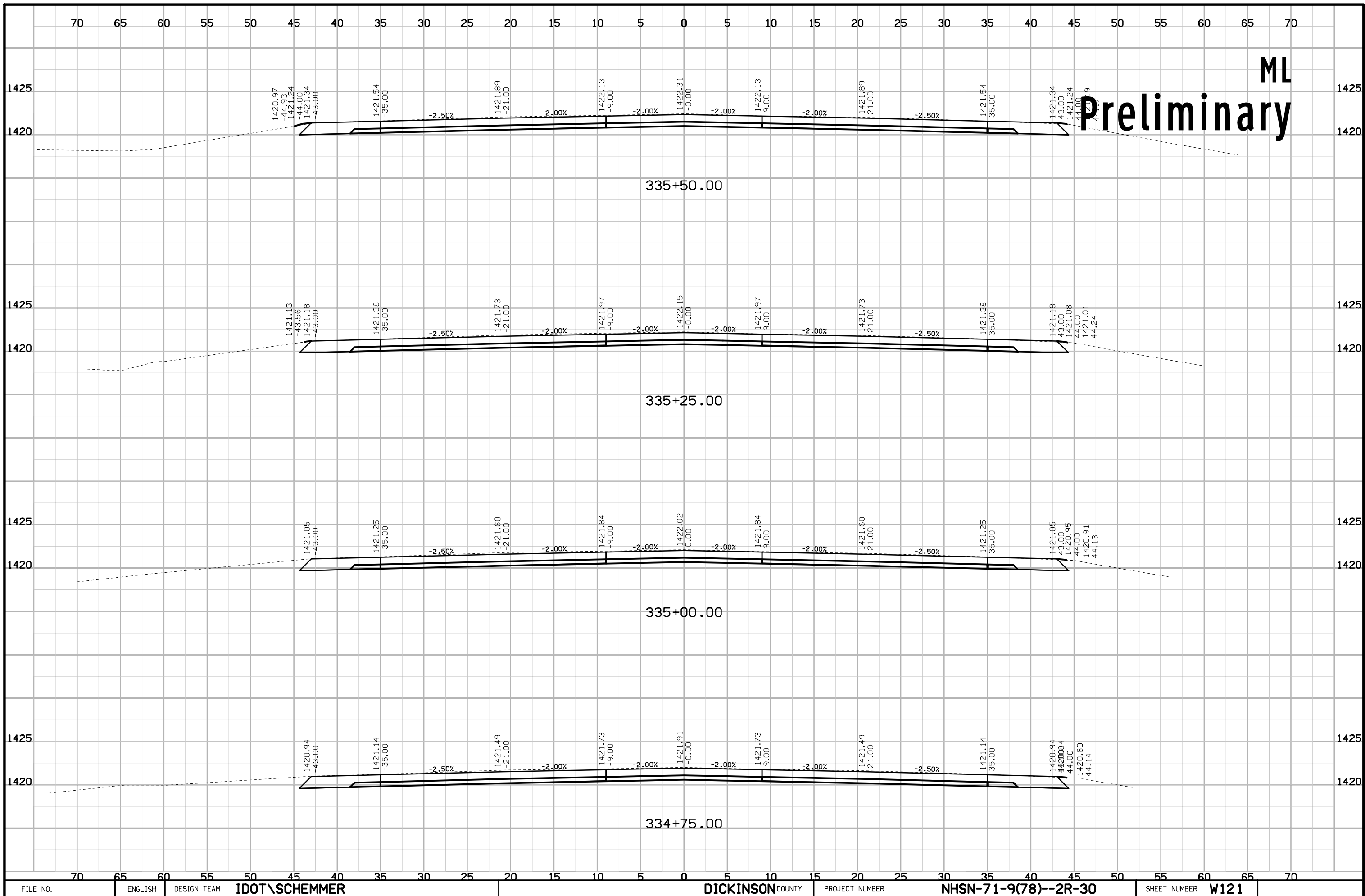
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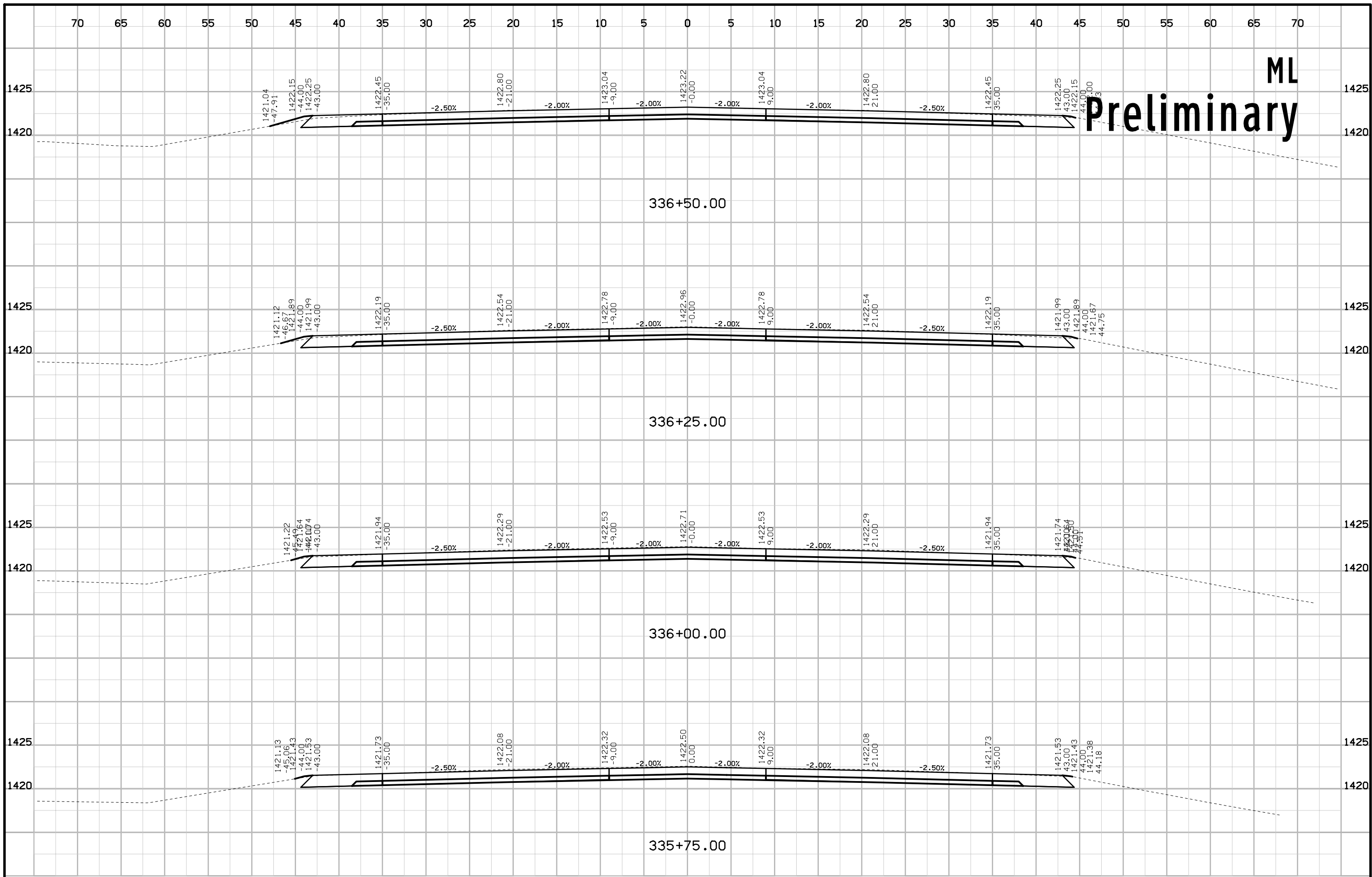


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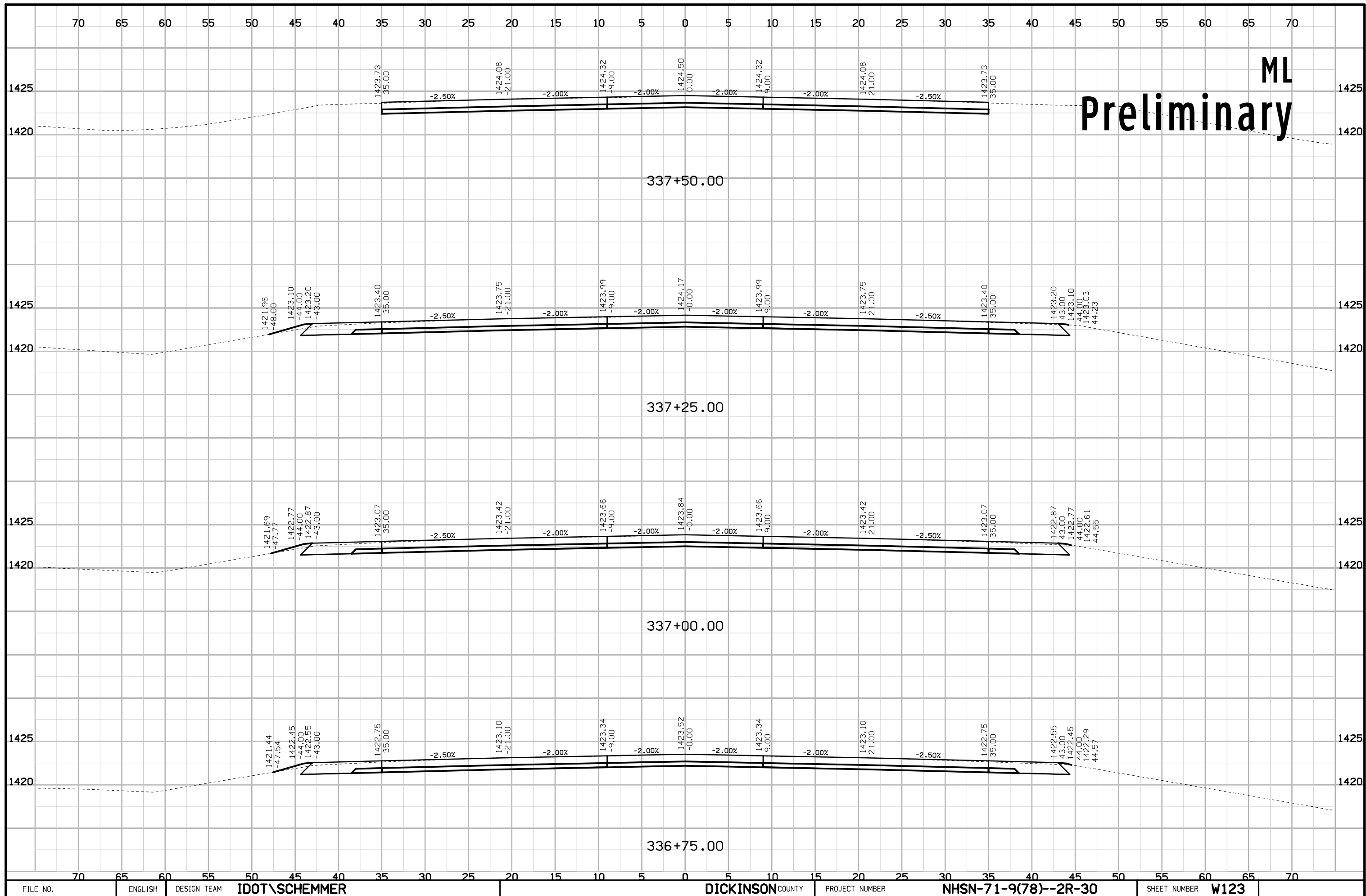
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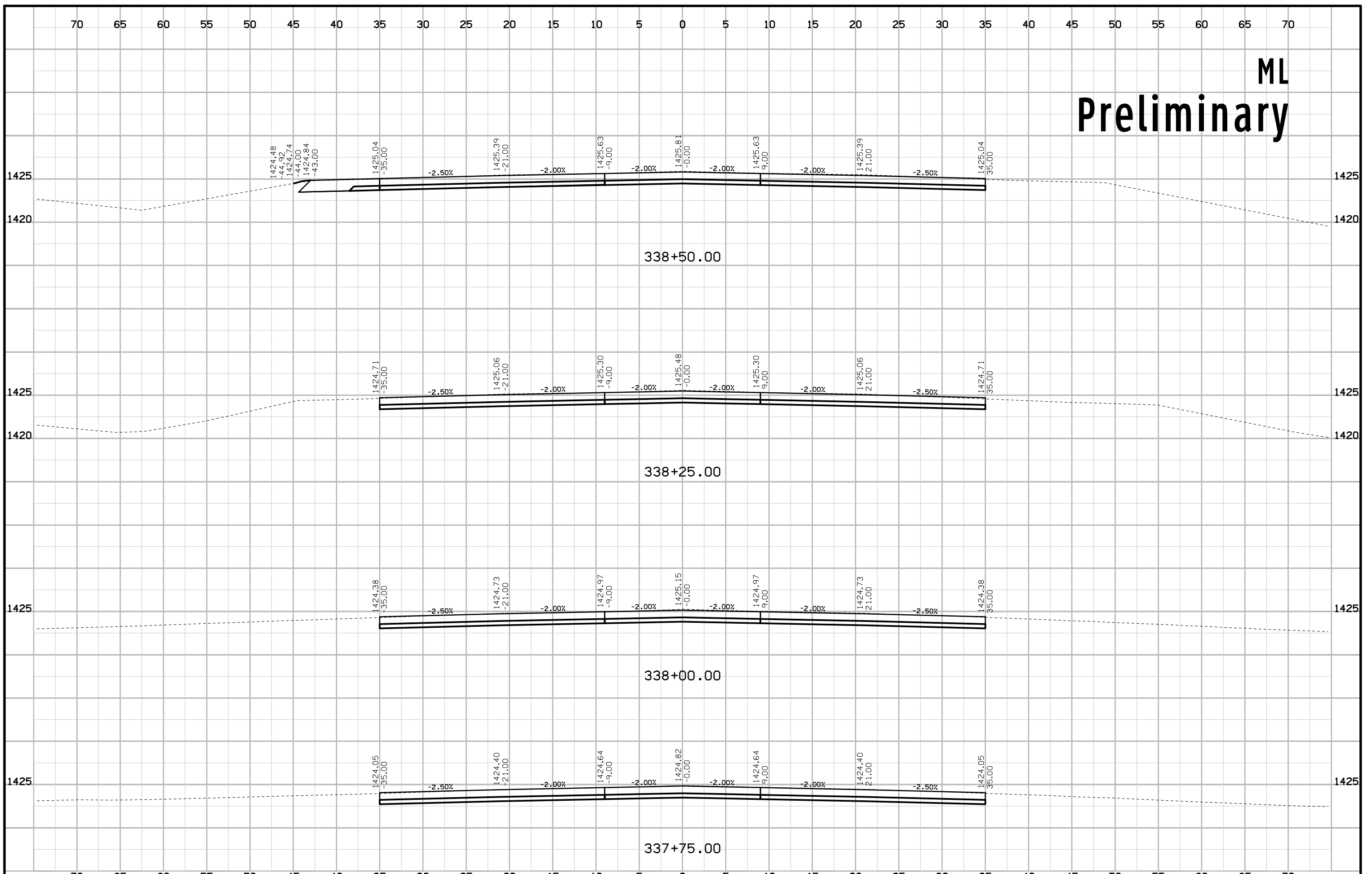


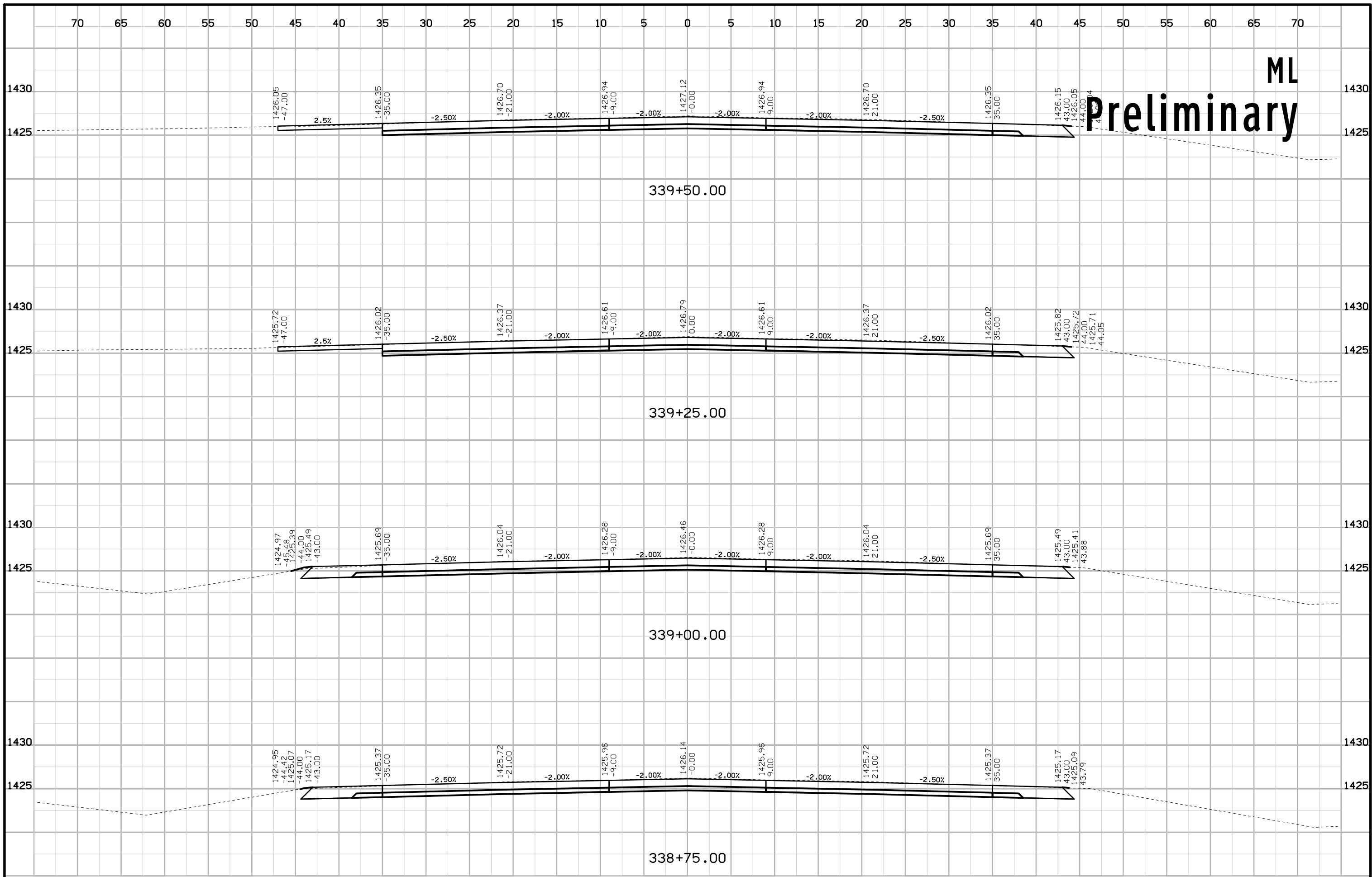


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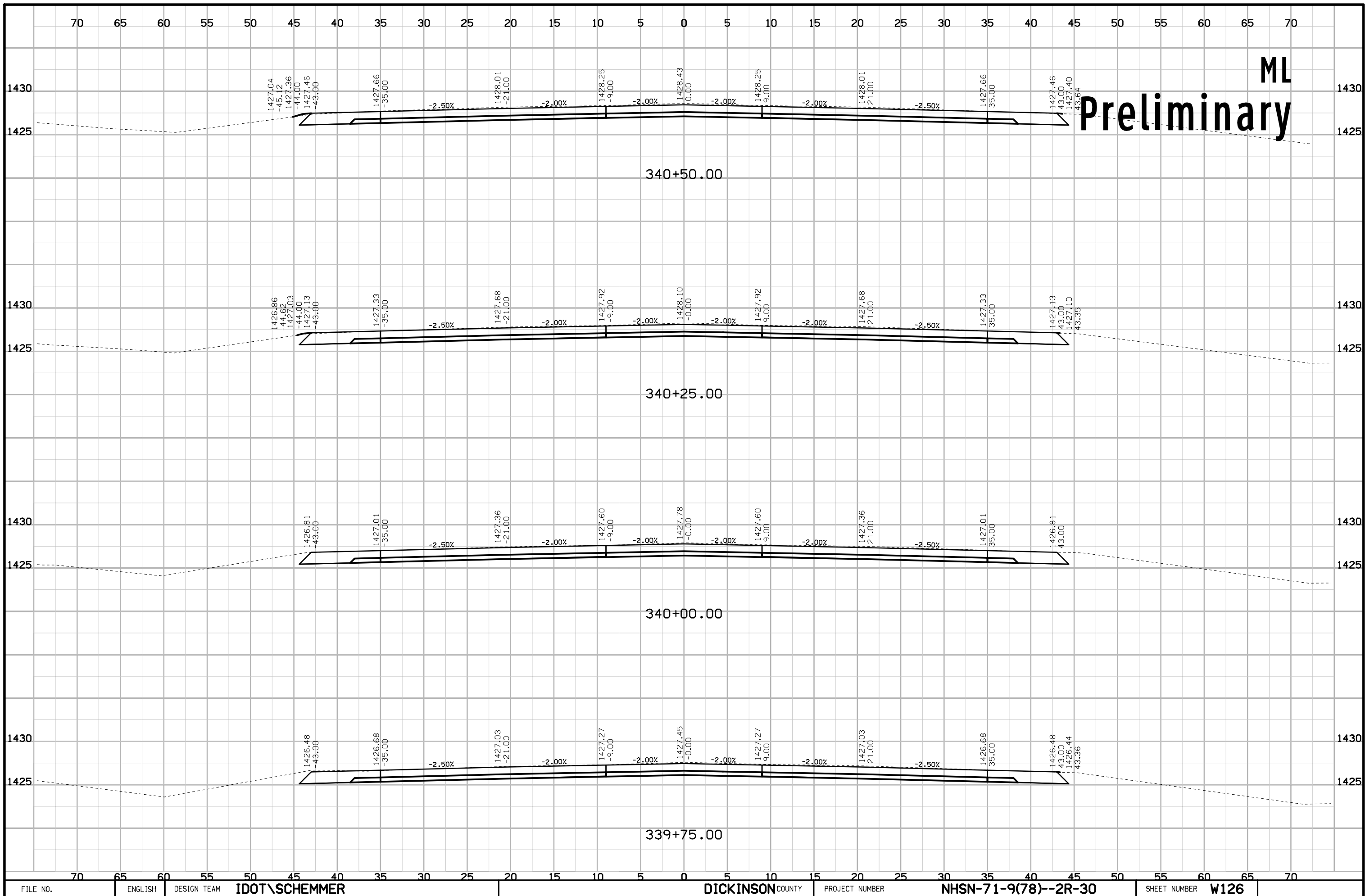


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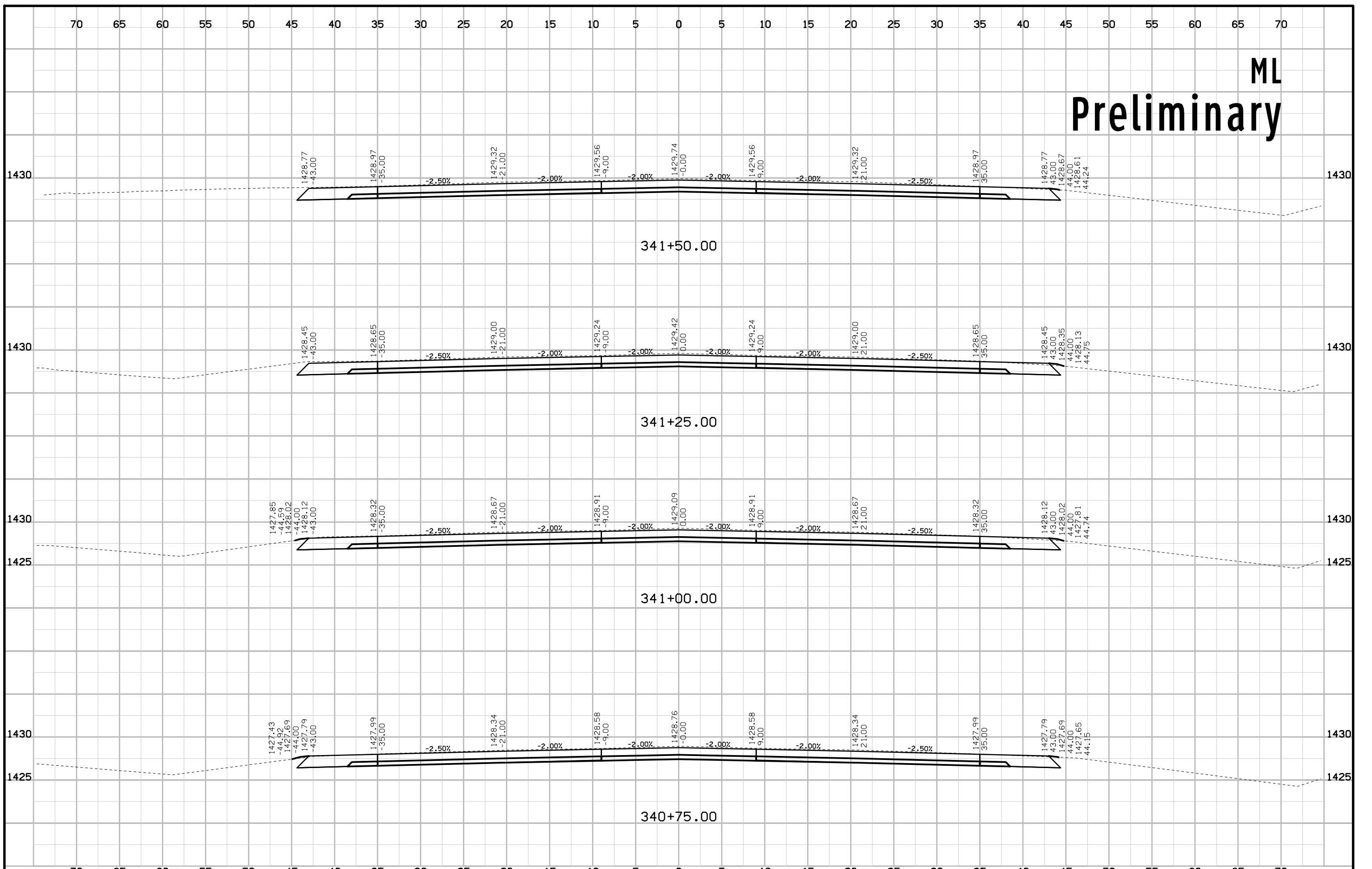




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