

DESIGN WAIVER REQUEST FORM



TO: TDOT Region 4 Preconstruction Director

FROM: Design Manager, Preconstruction, TDOT

DATE: 10/27/2025

This form is to be used on projects requesting a Design Waiver to non-controlling elements of design on any roadway project.

Design Waiver:

For non-controlling element deviations, a Design Waiver Request must be completed. These requests do not require FHWA's approval; the Regional Preconstruction Director (PD) provides final approval. These requests include, but are not limited to, clear zone width, passing sight distance, vertical curves, and multimodal features.

DOCUMENTATION

Design Waivers to non-controlling criteria

A design **waiver** is a variance based on non-controlling criteria. All requests shall be documented on this form. Plan sheets, location map, and supplemental information (i.e. google maps) must be enclosed for a timely review by the Department. All design waivers must be justified based on the objective and context demonstrating compliance with accepted transportation engineering principles and reasons for the decisions. The proposed variation shall not diminish the existing operation and safety of the facility. Historical in-service performance or a traffic engineering study (on site or simulation) may be required.

Waivers to Non-Controlling Criteria typically require further evaluation of the design elements to support the request such as,

- Current design criteria that could not be met.
- Existing roadway characteristics.
- Alternatives considered.
- Comparison of the safety and operational performance of the roadway and other impacts such as right-of-way, community, environmental, cost, and usability by all modes of transportation.
- Proposed mitigation measures.
- Compatibility with adjacent sections of roadway.

Additional guidance can be found in the Highway Capacity Manual, Highway Safety Manual, Performance Based Practical Design, and Flexibility in Design. Design Waiver Requests located within the city limits require a letter from the local agency approving the request.

PROJECT DATA	
Current Project Phase	Context/Scoping ☐ Footprint Established ☐ Plan-in-Hand ☐ PS&E ☐ (Base Technical Concept for Design-Build RFP)
County/ City	Lauderdale
PIN	136185.02
Federal Project No.	N/A
State Project No.	R4SVAR-S1-049 (DB 2506)
Project Limits	SR 87 Bridge over Lagoon Creek, L.M. 3.61
Local Program Project	Yes ☐ No ☒ If yes, then
State Let	Yes ☒ No ☐
Local Let	Yes ☐ No ☒
Project Type	New Alignment ☐ Reconstruction ☐ Resurfacing ☐ Road Diet/Road Reconfiguration ☐ (Note: Road Diet Evaluation form may be required) Maintenance ☐ Road Safety Audit ☐ Bridge Repair ☐ Bridge Rehabilitation ☒ Signilization ☐ Other ☐
US Route/NHS	Yes ☐ No ☒
State Route	Yes ☒ No ☐
Appalachian Development Highway System	Yes ☐ No ☒
FHWA RBI Project	Yes ☐ No ☒
Project Scope (Briefly describe the objective of project)	Replacement of existing Timber Bridge over Lagoon Creek
Project Commitments	N/A

ROADWAY GEOMETRIC DESIGN DATA	
Highway Functional Classification: (See Green Book 2011 Section 1.3)	Freeway ☐ Arterial ☐ Collector ☒ Local Road/Street ☐
Rural or Urban Context	Rural ☒ Rural Town (city limits) ☐ Suburban (initially designed as rural but currently in city limits) ☐ Urban (city limits) ☐ Urban Core (in the metropolitan government jurisdiction) ☐
Roadway Typical Section Standard Drawing:	<u>RD11-TS-2</u>
Existing Design Speed:	<u>55</u>
Existing Posted Speed:	<u>55</u>
Proposed Design Speed:	<u>45 (vertical only)</u>
Proposed Posted Speed:	<u>55</u>
Type of Terrain:	Level ☒ Rolling ☐ Mountainous ☐
Traffic Data:	ADT (2029): <u>290</u> D: <u>65-35</u> ADT (2049): <u>410</u> T: <u>3%</u> DHV: <u>41</u>
Access Control	None ☒ Partial ☐ Full ☐
Multimodal Design Elements Included in the scope of the Project	Pedestrian ☐ Pedestrian Signals ☐ Curb Ramps ☐ Shared-Use Paths ☐ New sidewalks ☐ Non-motorized Enhancement ☐ Bicycle ☐ (including bike route/lane, tract addition to existing roadway facility)
Bus Route	Yes ☐ No ☒

GEOMETRIC DESIGN NON-CONTROLLING ELEMENT CRITERIA
All applicable non-controlling elements must be completed for
Design Waiver requests

	Existing	Proposed	Waiver
Passing Sight Distance:			
Crest/Sag Vertical Curve:	55 MPH "K" Value	45 MPH "K" Value	55 MPH "K" Value
Design vehicle:			
Clear Zone width:			
Other:			

MULTIMODAL FEATURES

Facility Type:	Roadway ☐	Pedestrian ☐	Bicycle ☐	Shared-Use ☐
	Existing	Proposed	Waiver	
Curb Shape:				
Curb Ramp:				
Sidewalk:				
Shared-use Path:				
Mid-block Crossing:				
RRFB or HAWK:				
Bike Lane:				
Bike Lane Buffer:				
Bike Route:				
Bike Lane at Intersection:				
Cycle Track:				
Transit Facility/Stop				
Other:				

CRASH HISTORY

Years Reviewed	Total Crashes	Fatal Crashes	Injury Crashes

TDOT DIRECTIVES TO BE CONSIDERED FOR THE WAIVER REQUEST

	YES	NO	N/A
SAFETY			
Crash history data has been reviewed and is enclosed.	☐	☐	☒
All roadway and roadside safety mitigation measures have been considered and provided.	☐	☐	☒
The proposed variance from the minimum roadway design standards does not adversely affect the safety of the facility.	☒	☐	☐
The Highway Safety Manual was used to justify the Design Waiver.	☐	☒	☐
OPERATIONS			
The operation of the proposed typical cross-section is comparable with operation of the adjacent cross-sections.	☒	☐	☐

The proposed design does not cause a reduction in capacity or adversely affect traffic flow of the facility.	☒	☐	☐
The proposed design does not adversely affect long-term operations.	☒	☐	☐
The proposed design does not impact the existing access control.	☒	☐	☐
Travel demand management solutions have been evaluated.	☐	☐	☒
ROADWAY DESIGN			
It is not feasible to meet the minimum roadway design standards due to right-of-way restrictions, environmental impacts, etc.	☐	☒	☐
The proposed design maintains the same level of service compared to the design based on minimum roadway design standards.	☒	☐	☐
The proposed design results in a significant cost savings compared to the design based on minimum roadway design standards.	☒	☐	☐
ENVIRONMENTAL (Consult TDOT Environmental Division, if needed)			
Does the request affect environmental permit requirements? (TDEC/TVA/CORPs/TWRA, etc.)	☐	☒	☐
Does the request affect NEPA environmental boundary?	☐	☒	☐
Does the request affect Historical Section 106 area?	☐	☒	☐
WORK ZONE			
Will the proposed variation affect the TMP?	☐	☐	☒

DESIGN WAIVER REQUEST – JUSTIFIED BASED ON GUIDANCE FROM THE FOLLOWING:					
Design Guidance Source	Design Guidance Met				
	YES	NO	N/A	Do Not Know	Source Reference if answered “Yes” (page, section, drawing, etc.)
AASHTO Publication	☐	☒	☐	☐	
Highway Safety Manual	☐	☒	☐	☐	
Highway Capacity Manual	☐	☒	☐	☐	
FHWA Publication	☐	☒	☐	☐	
NCHRP Publication	☐	☒	☐	☐	
TRB Publication	☐	☒	☐	☐	
TDOT Design Guidelines	☐	☒	☐	☐	
TDOT Standard Drawings	☐	☒	☐	☐	
Guidance from other states	☐	☒	☐	☐	
Other					

DESCRIBE THE REASONING AND JUSTIFICATION OF THE DESIGN WAIVER REQUEST:

The purpose of this project is to replace an existing timber bridge. The existing bridge is located less than 200' from an existing box culvert bridge to the west. The intent is to replace the timber bridge and to not impact the box culvert bridge. Per direction from TDOT hydraulics, the new bridge must maintain the existing low chord elevation. Therefore a grade raise is required to meet this requirement. A proposed vertical curve with a “K” value of 55 MPH cannot be achieved without creating a significant grade raise and an impact to the existing box culvert bridge. Therefore, a 45 MPH vertical curve is requested. Impact to the box culvert bridge would

add unnecessary construction cost to the project, and the significant grade raise would cause additional environmental impacts, right of way impacts, and added cost to the project due to the overall larger project footprint.

DESCRIBE THE ALTERNATIVES CONSIDERED

Multiple beam types were considered; however, it was determined that a min. 36" box beam will be required to span Lagoon Creek. The depth of the proposed beam dictates the need to raise the roadway grade in order to maintain the existing low chord elevation. Multiple vertical alignments were analyzed. The vertical alignment shown in the BTC that represents the 55 mph curve moves the PI off the bridge to the east, which raises the grade and adds to the project limits to the east. This option still poses a concern to tie down before the box culvert bridge on the west. A proposed 45 mph vertical alignment will help minimize overall impacts of this project including the potential need to replace the existing culvert bridge to the west.

DESIGN WAIVER APPROVED BY:

Gary Scruggs

Oct 29, 2025

Regional Preconstruction Director

Date

- ☐ Reviewer Comments Attached
- ☐ Additional Design Waiver Information Attached

Index Of Sheets

LINE AND GRADE INDEX OF SHEETS

TITLE SHEET	1
TYPICAL SECTIONS	2
RIGHT-OF-WAY ACQUISITION TABLE(S)	3
PROPERTY MAP.....	3A
PRESENT LAYOUTS	4
ROW DETAILS	4A
PROPOSED LAYOUTS	4B
PROPOSED PROFILES	4C
ROADWAY CROSS SECTIONS.....	5-10

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

HAYWOOD COUNTY

STATE ROUTE 87
BRIDGE OVER
LAGOON CREEK L.M. 3.61

LINE AND GRADE
BRIDGE REPLACEMENT

STATE HIGHWAY NO. 87 F.A.H.S. NO.

DOES THIS PROJECT QUALIFY
FOR UTILITY CHAPTER 86

YES

NO

TENN.

YEAR

2025

SHEET NO.

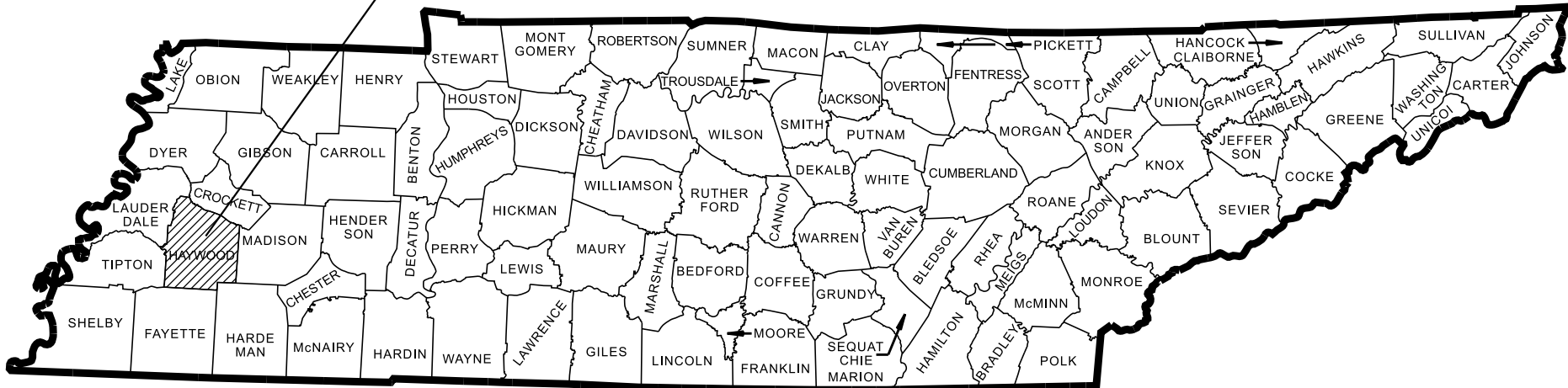
1

FED. AID PROJ. NO.

STATE PROJ. NO.

PROJECT LOCATION

BRIDGE ID. # 38S80460001



NO EXCLUSIONS

CAUTION!
PRELIMINARY
PLANS
SUBJECT TO
CHANGE

SEALED BY

APPROVED:

DEPUTY COMMISSIONER /
CHIEF ENGINEER

DATE:

APPROVED:

DEPUTY GOVERNOR &
COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

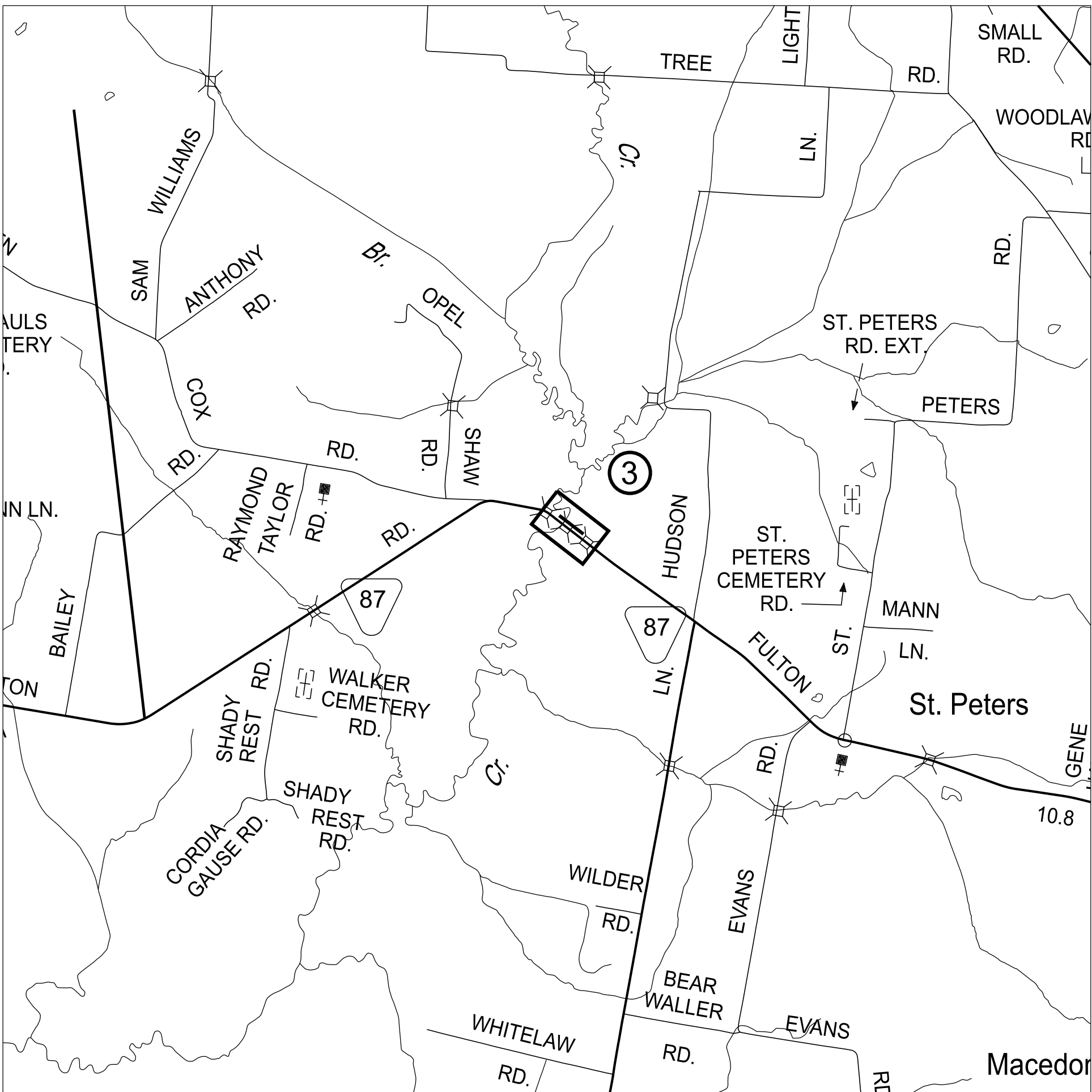
APPROVED:

DIVISION ADMINISTRATOR

DATE

SURVEY	TRAFFIC DATA
	ADT (2029) 290
	ADT (2049) 410
	DHV (2029) 41
	D -
	T (ADT) 5.0%
	T (DHV) 5.0%
	V 55 MPH

COORDINATES ARE NAD/83(1995) () ADJUSTMENT) ADJUSTED BY
THE FACTOR OF _____ AND TIED TO THE TGRN. ALL ELEVATIONS
ARE REFERENCED TO THE NAVD 1988 USING GEOID _____



SCALE: 1"= 1/2 MILE

R.O.W. LENGTH	MILES
ROADWAY LENGTH	MILES
BRIDGE LENGTH	MILES
BOX BRIDGE LENGTH	MILES
BOX BRIDGE LENGTH	MILES ▲
PROJECT LENGTH	MILES

Not included in the project length (Non Riding Surface).

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES
CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW
THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF
THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2021 AND
ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS
AND IN THE PROPOSAL CONTRACT.

TDOT PROJECT MANAGER: STEVE SELLERS

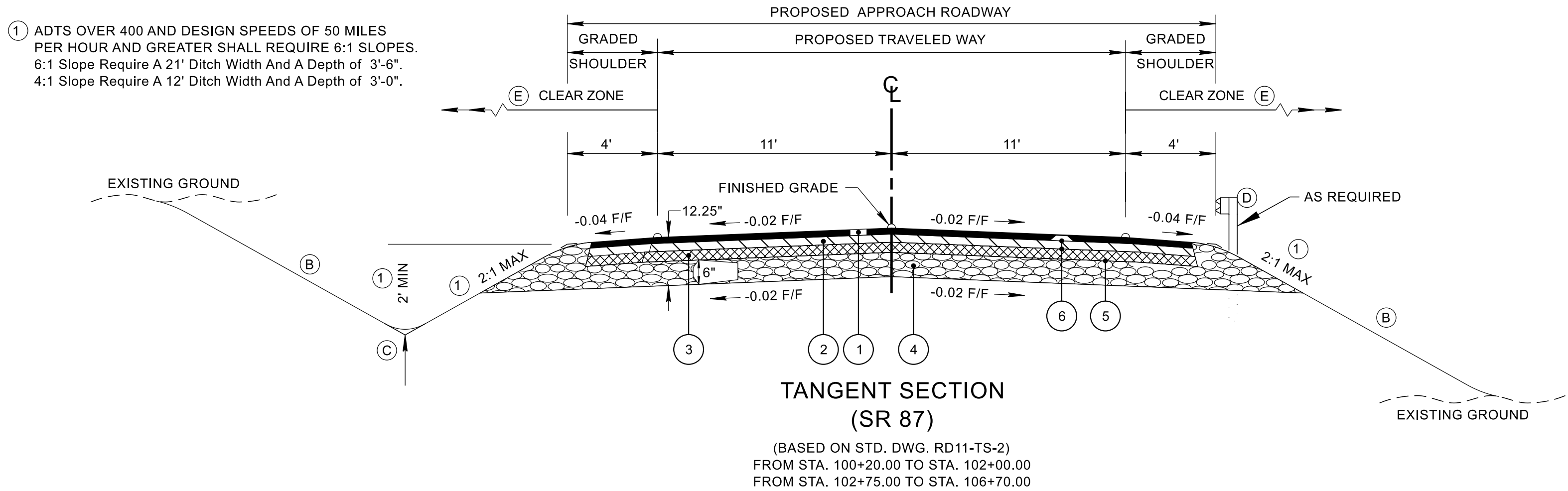
DESIGN FIRM : AMERICAN STRUCTUREPOINT INC

DESIGNER : CHECKED BY

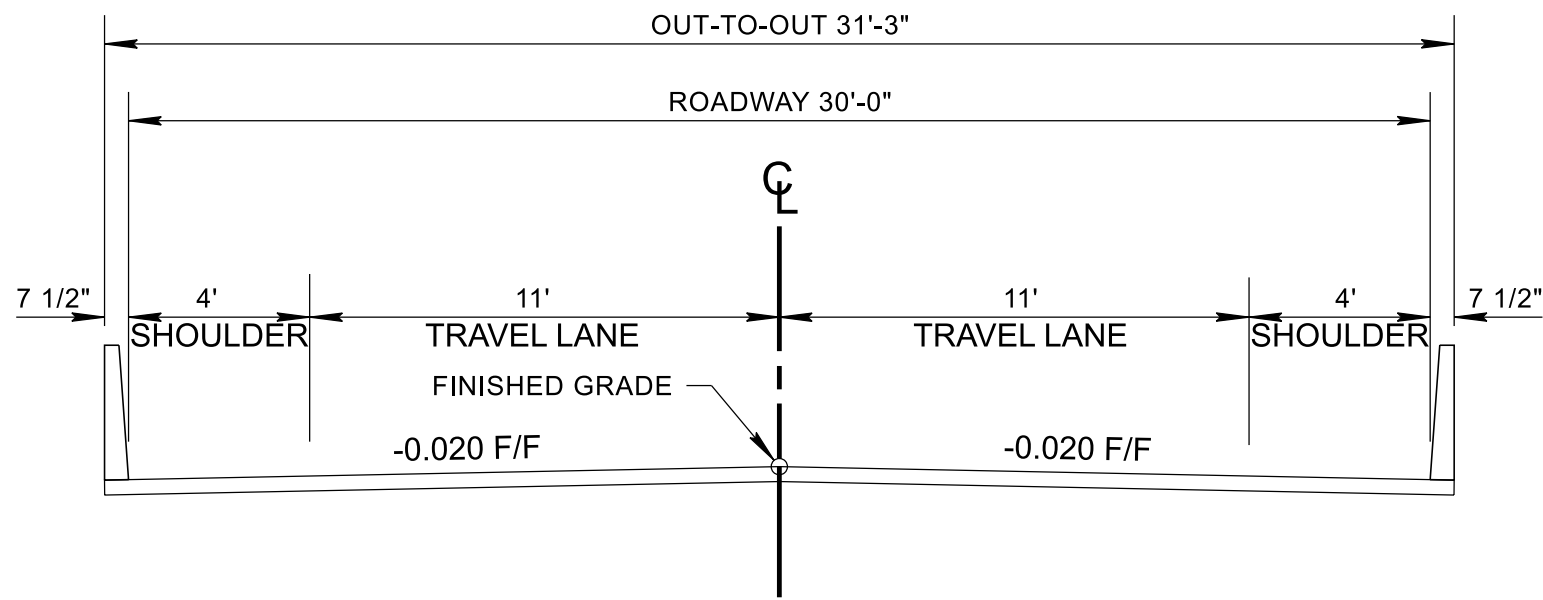
P.E. NO.

PIN NO. 136185.02

TYPE	YEAR	PROJECT NO.	SHEET NO.
			2



- Ⓐ THE SLOPE OF THE SHOULDER AND THE ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 7%.
- Ⓑ SEE STANDARD DRAWINGS RD11-S-11 AND RD11-S-11B FOR FILL AND CUT SLOPE TABLES, ROUNDING ON TOP OF CUT SLOPES AND TOE OF FILL SLOPES, SPECIAL ROCK TREATMENT AND SUB GRADE ROUNDING IF APPLICABLE.
- Ⓒ SEE STANDARD DRAWING RD11-S-11A FOR ROUNDING OF ROADSIDE DITCH SLOPES.
- Ⓓ SEE STANDARD DRAWING S-PL-6 FOR TYPICAL GUARDRAIL PLACEMENT.
- Ⓔ SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE CRITERIA. SEE THE "ROADSIDE DESIGN GUIDE", AASHTO, 2011, FOR FURTHER INFORMATION REGARDING CLEAR ZONES.



PROPOSED PAVEMENT SCHEDULE	
① ASPHALTIC CONCRETE SURFACE (HOT MIX) PG64-22 GRADING "D" SURFACE @ 1.25" THICK (APPROX. 132.5 LB./S.Y.) 411-01.10 ACS MIX (PG64-22) GRADING "D"	④ MINERAL AGGREGATE 6.00" THICK 303-01 MINERAL AGGREGATE, TYPE "A" BASE, GRADING "D"
② BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22 GRADING "B-M2" @ 2.00" THICK (APPROX. 226 LB./S.Y.) 307-01.08 ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING "B-M2"	⑤ PRIME COAT 402-01 BITUMINOUS MATERIAL FOR PRIME COAT (PC) AT 0.30-0.35 GALLONS/S.Y. 402-02 AGGREGATE FOR COVER MATERIAL (PC) AT 8-12 LB./S.Y.
③ BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22 GRADING "A" @ 3.00" THICK (APPROX. 345 LB./S.Y.) 307-01.01 ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING "A"	⑥ TACK COAT 403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC) AT 0.07 GALLONS/S.Y. SEE 403.05 FOR DETERMINING APPLICATION RATE IN THE FIELD

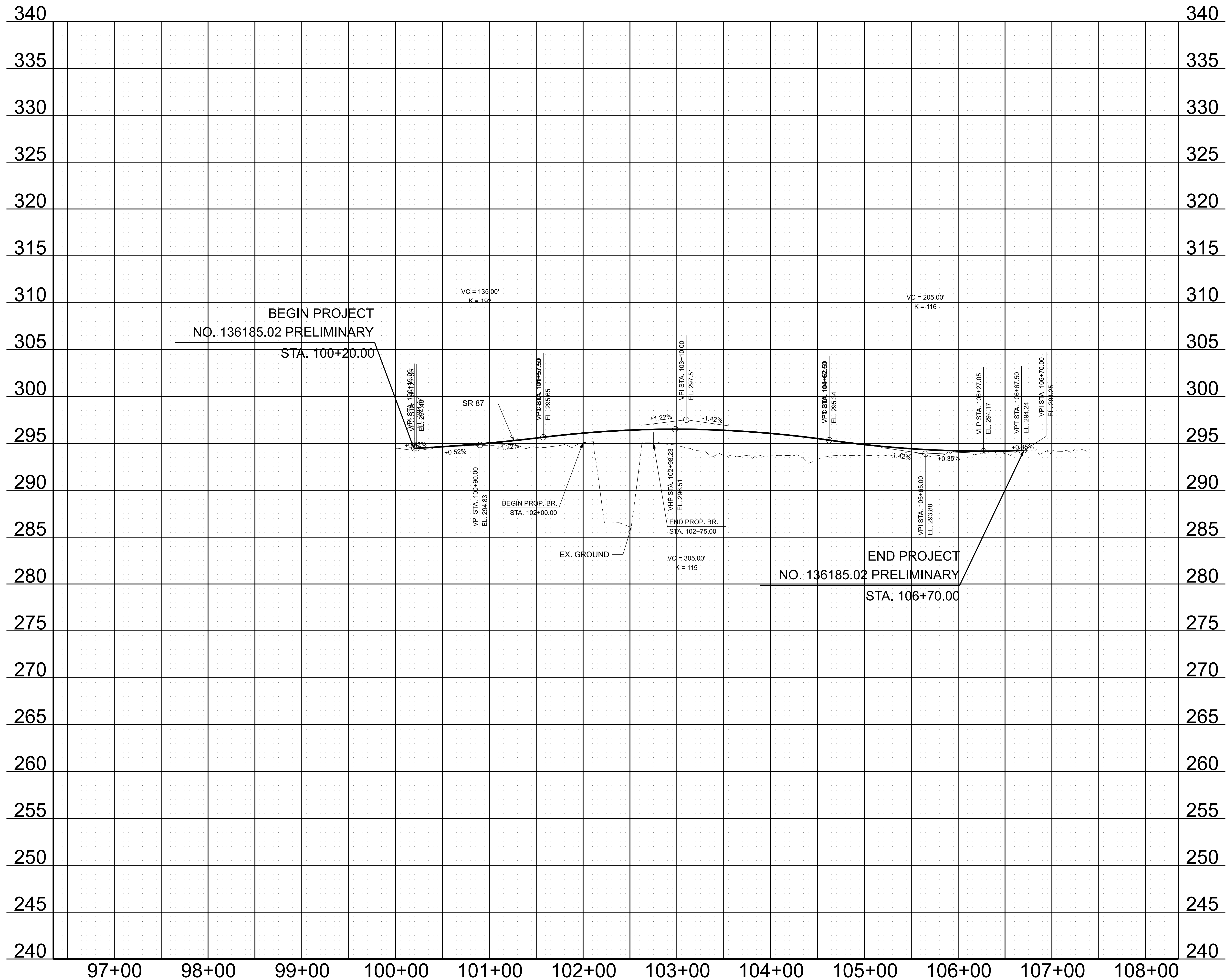
SEALED BY

COORDINATES ARE NAD 83(), ARE DATUM ADJUSTED BY THE FACTOR OF AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID .

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL
SECTIONS

8/19/2025 8:41:19 AM C:\TMP\PIW\SEID\NAILLON@STRUCTUREPOINT.COM\0160754\38S087-SHT-PROPOSED PROFILE.DGN

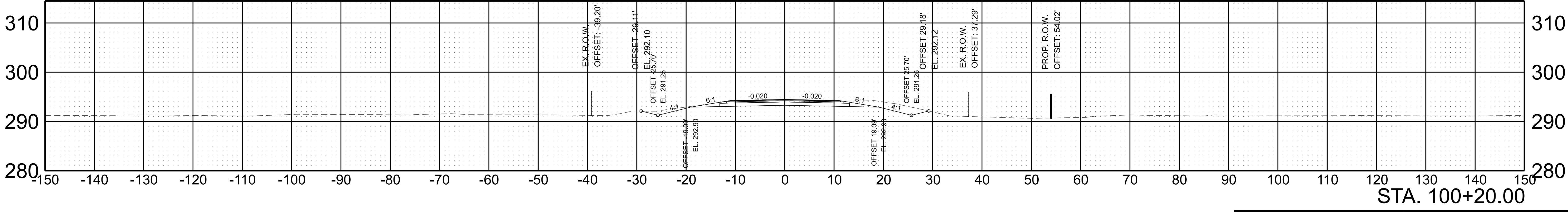
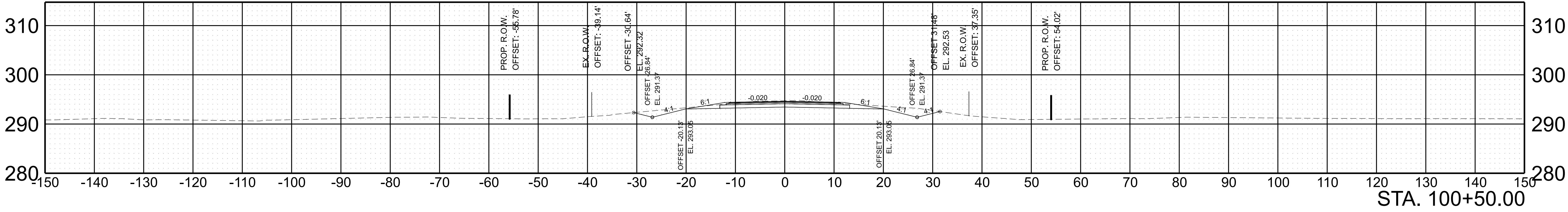
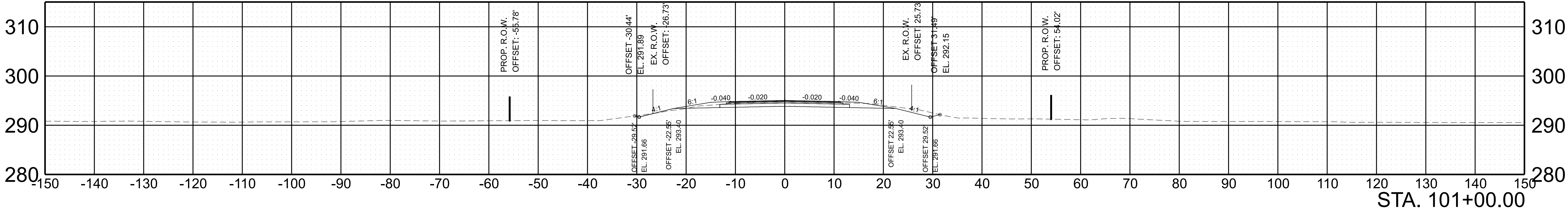


TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025		4C

SEALED BY

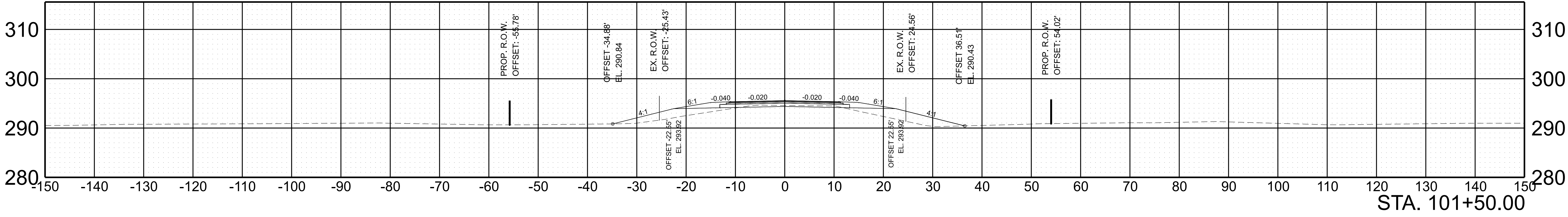
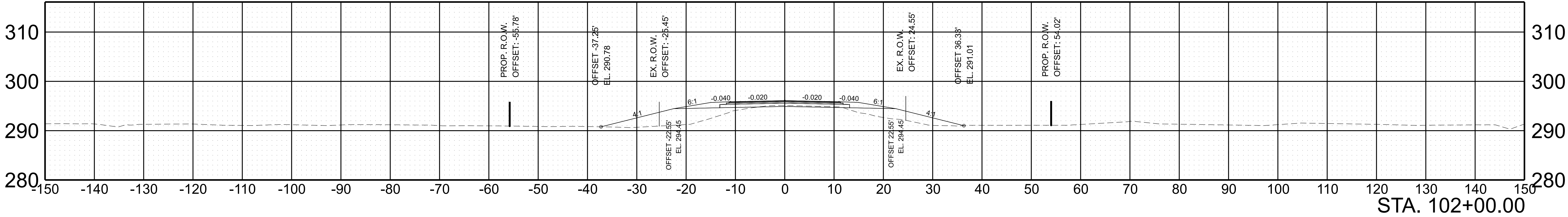
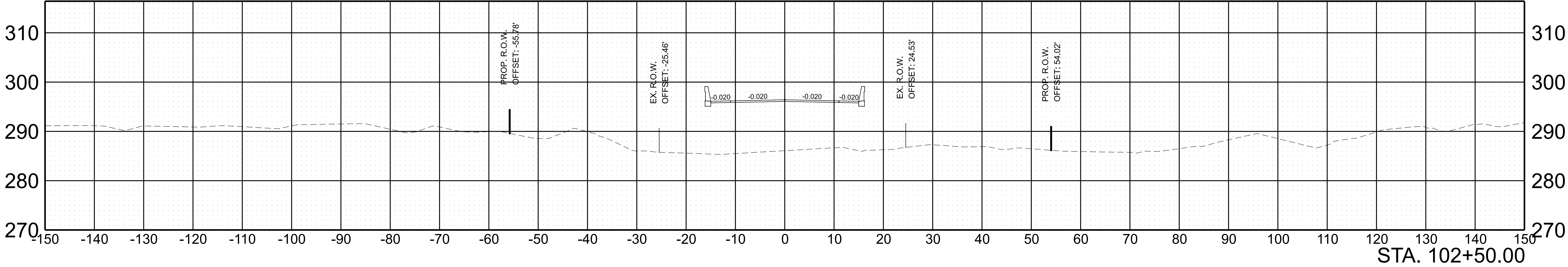
STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION
PROPOSED PROFILE
STA. 96+35.00 TO STA. 108+35.00
SCALE: 1" = 50' HORIZ. 1" = 5' VERT.

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025		5



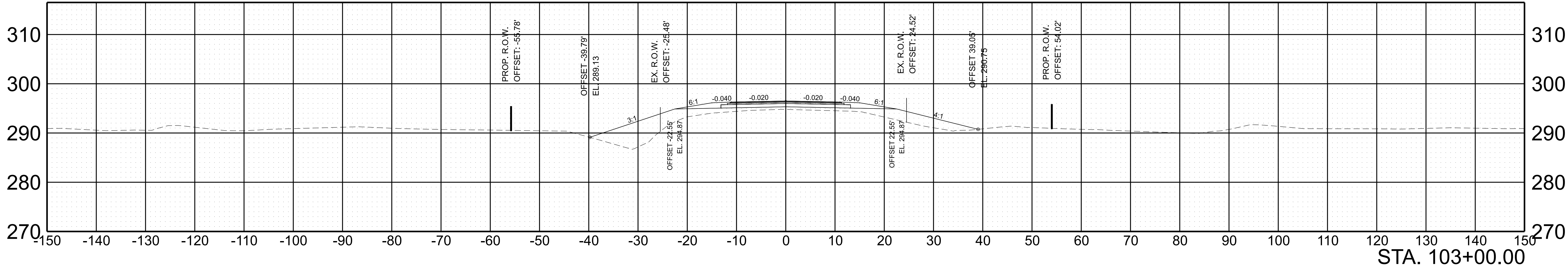
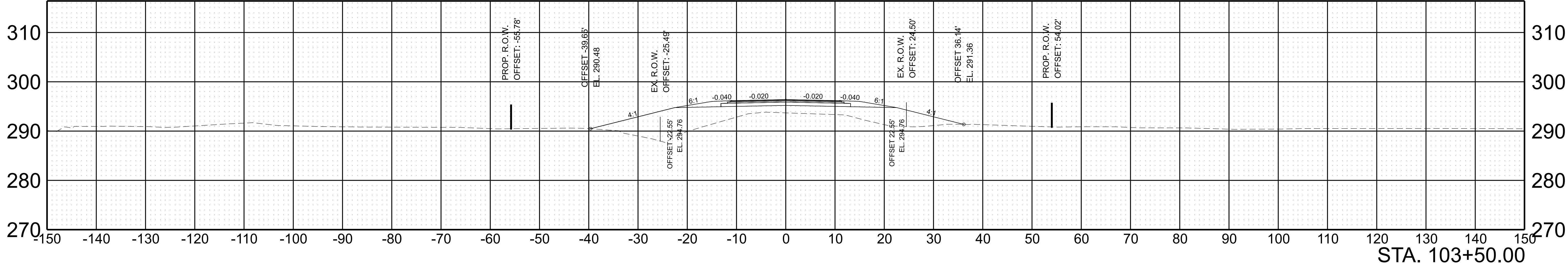
SCALE:	1"=10' HORIZ.	BEGIN STA. 100+20.00
	1"=10' VERT.	END STA. 101+00.00

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025		6



SCALE: 1"=10' HORIZ.	BEGIN STA. 101+50.00
1"=10' VERT.	END STA. 102+50.00

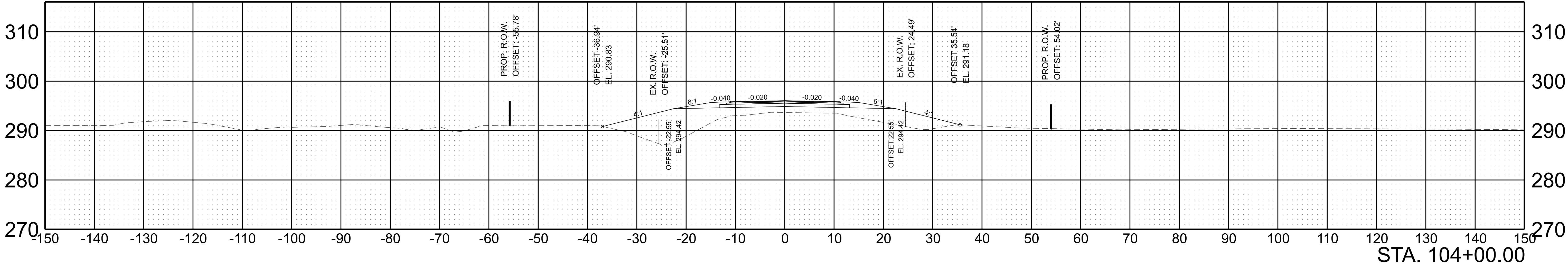
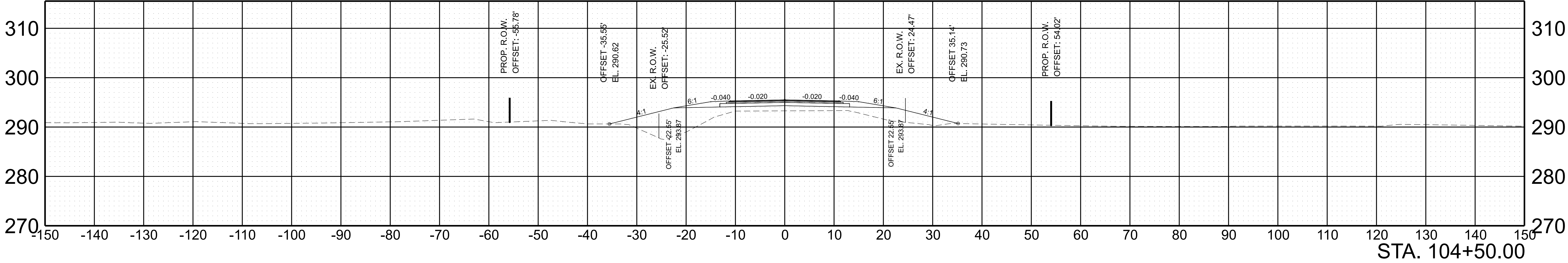
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025		7



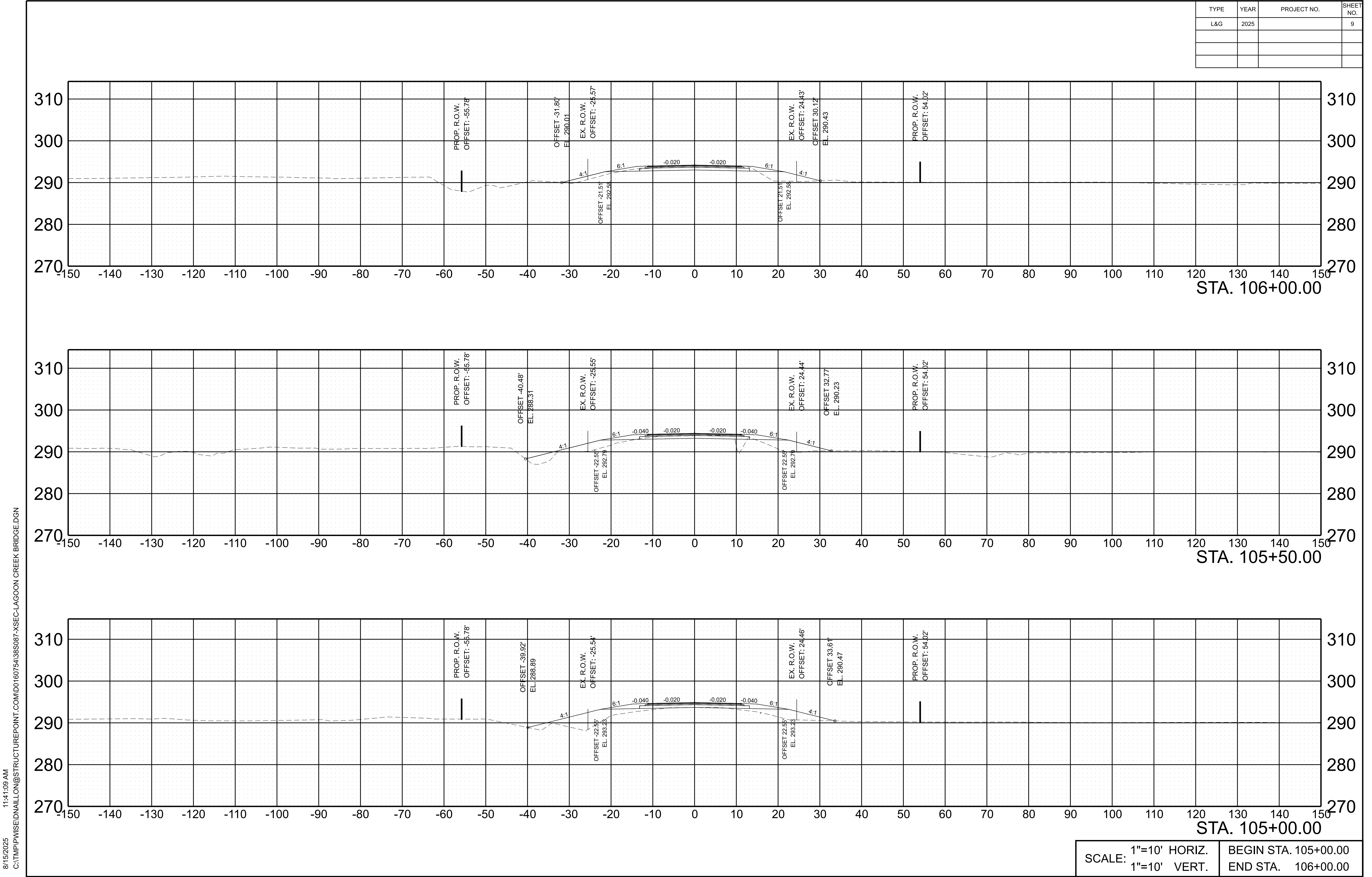
SCALE: 1"=10' HORIZ.
1"=10' VERT.

BEGIN STA. 103+00.00
END STA. 103+50.00

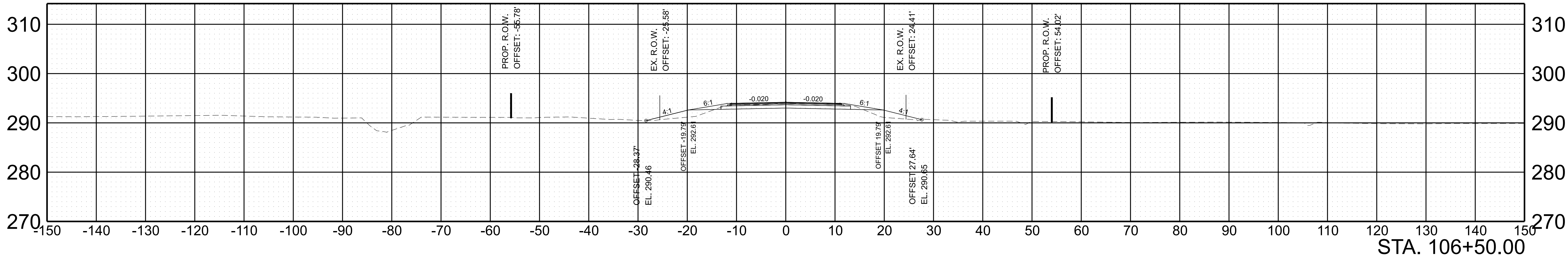
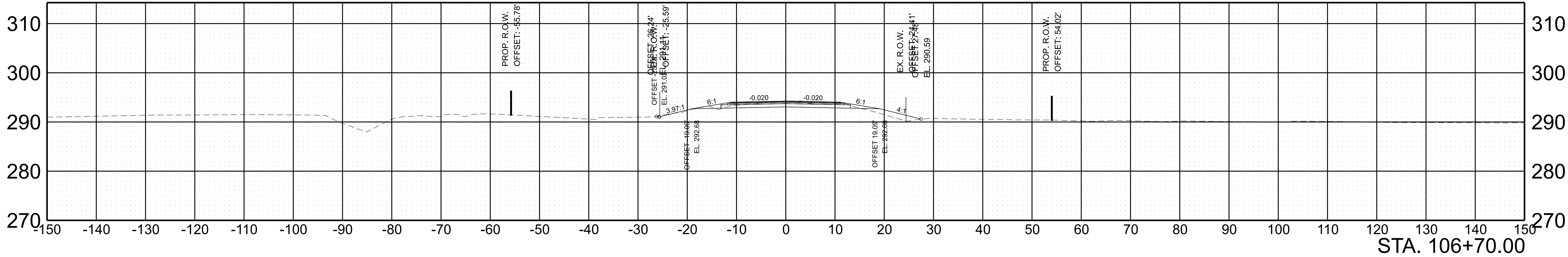
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025		8



SCALE:	1"=10' HORIZ.	BEGIN STA. 104+00.00
	1"=10' VERT.	END STA. 104+50.00

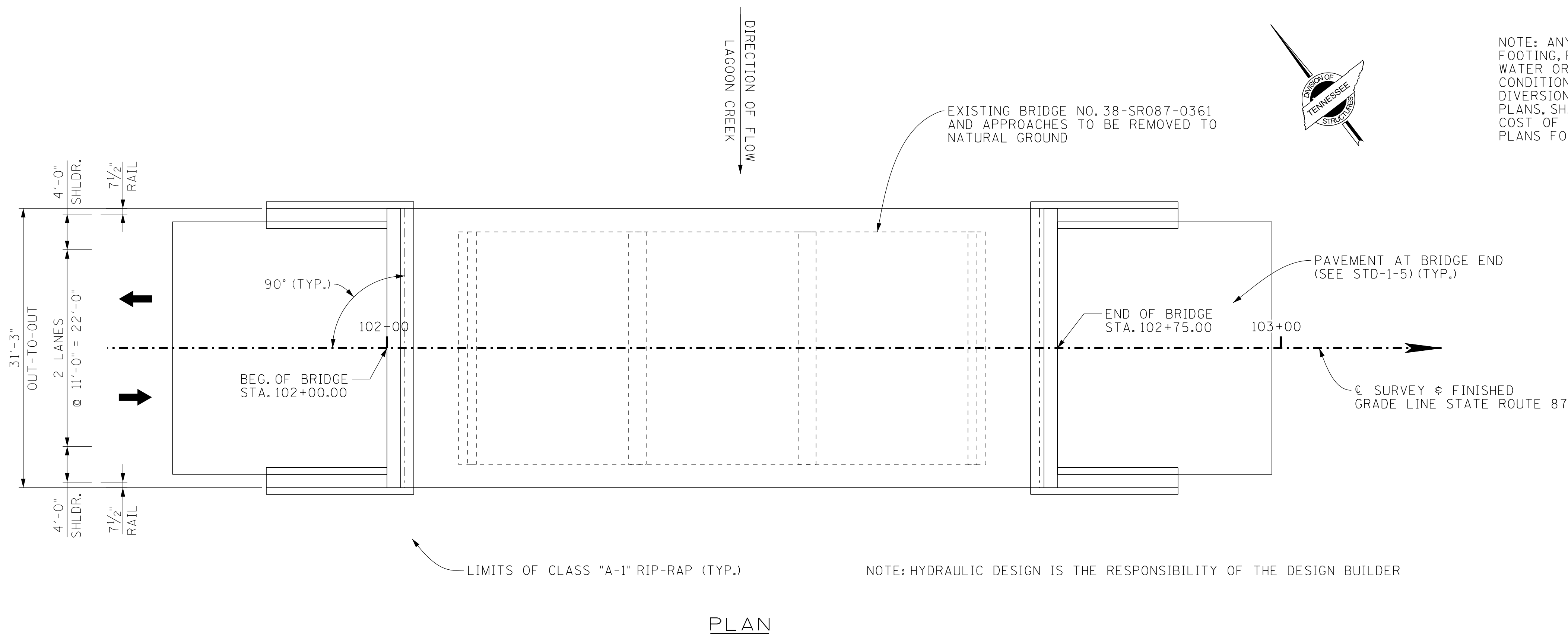
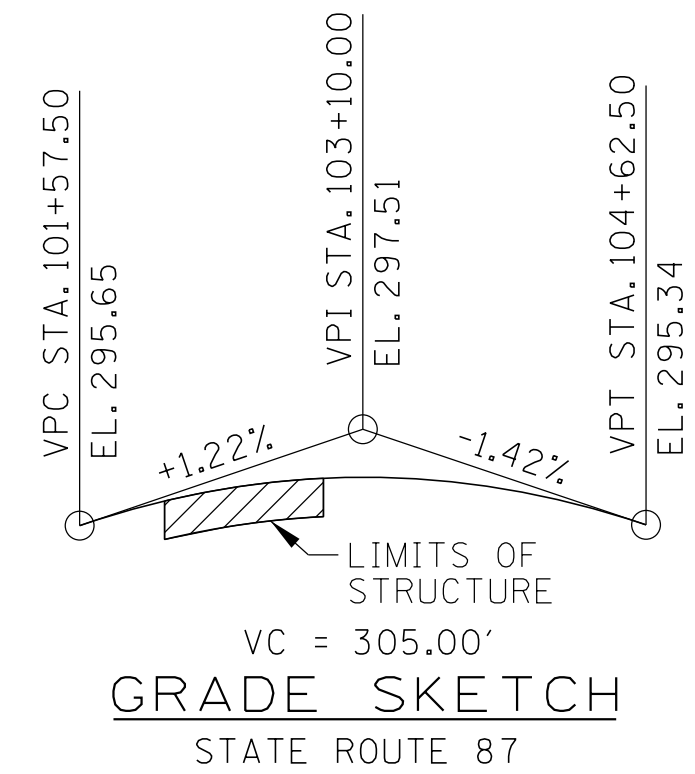
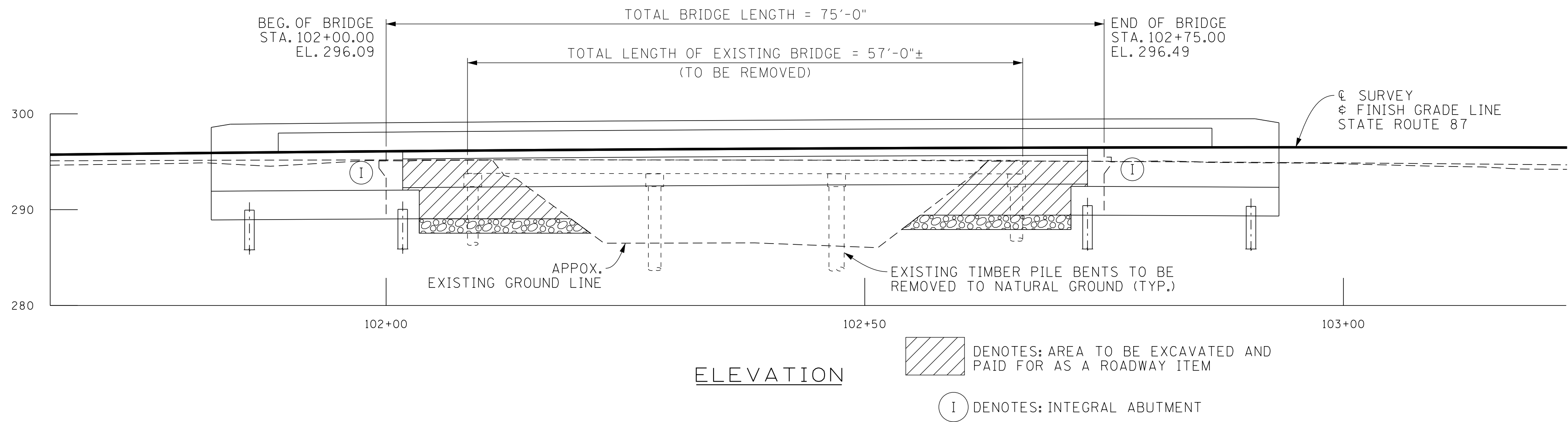


TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025		10



SCALE:	1"=10' HORIZ.	BEGIN STA. 106+50.00
	1"=10' VERT.	END STA. 106+70.00

CONST. NO.:			
PROJECT NO.		YEAR	SHEET NO.
38SRO870001		2025	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
- -			
- -			
- -			
- -			
- -			



NOTE: ANY WORK WITHIN THE STREAM CHANNEL AREA (E.G. PIER/BENT FOOTING, RIP-RAP PLACEMENT, ETC.) SHALL BE SEPARATED FROM FLOWING WATER OR EXPECTED FLOW PATH AND PERFORMED DURING LOW FLOW CONDITIONS. ALL ITEMS USED WITHIN THE STREAM CHANNEL AREA FOR DIVERSION OF FLOW (OR EXPECTED FLOW), UNLESS SPECIFIED IN THE PLANS, SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS. THIS NOTE EXCLUDES ANY ITEMS SPECIFIED IN THE PLANS FOR TEMPORARY DIVERSION CHANNELS (EC-STR-31).

2049 ADTT = 14
22'-0" ROADWAY,
4'-0" SHOULDER EACH SIDE,
AND STD-1-ISS PARAPET
DESIGN SPEED = 55 MPH

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
CONCEPTUAL LAYOUT
OF BRIDGE
S.R. 87 OVER LAGOON CREEK
BRIDGE I.D. NO. 38S80460001
STATION 102+37.50
LOG MILE 3.61
HAYWOOD COUNTY
2025

PIN NO.: 134848.00
DESIGN BY: _____ DATE: _____
DRAWN BY: _____ DATE: _____
SUPERVISED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____

	11		



(LOOKING FORWARD ON SURVEY)

