

DNR/DOT PROJECT REVIEW

State of Wisconsin – Department of Natural Resources (DNR) and Department of Transportation (WisDOT)
DTNR0002 6/2018

DNR Internet: http://dnr.wi.gov/	WisDOT Internet: http://wisconsindot.gov/
JIM DOPERALSKI NE REGION 2984 SHAWANO AVE GREEN BAY, WI 54313	Wisconsin Department of Transportation Division of Transportation Systems Development 944 VANDERPERREN WAY GREEN BAY, WI 54304

Inform WisDOT Regional Environmental Coordinator, if more than 45 days is needed.

Design Project ID 9190-20-00	Project Highway STH 32	Review Submittal Date (m/d/yy) 3/26/19
Construction Project ID 9190-20-71	Estimated Project Cost (range) \$1,000,000.00 to 1,200,000	Construction Year (yyyy) 2021
Project Name Village of Pulaski	Project Limits CTH B - E Green Bay St	
County Brown	Project on Tribal Land <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Contact Name Kelsey Holmes	Contact (Area Code) Phone Number 920-492-5625	
Section/Township/Range See Attachment B - Project Location Map	Estimated Area of Ground Disturbance (acres) 2.17	

Type of Review Requested <input type="checkbox"/> Initial Review <input checked="" type="checkbox"/> Final Concurrence <input type="checkbox"/> Scope Change <input type="checkbox"/> Other:	Document Type <input type="checkbox"/> Environmental Assessment (EA) <input type="checkbox"/> Environmental Report (ER) <input type="checkbox"/> Programmatic Categorical Exclusion (PCE) <input checked="" type="checkbox"/> Categorical Exclusion Checklist (CEC)
WisDOT Project Classification <input type="checkbox"/> Bridge Rehabilitation, FDM 3-5-2 <input type="checkbox"/> Bridge Replacement, FDM 3-5-2 <input type="checkbox"/> Expansion, FDM 3-5-2 <input type="checkbox"/> Pavement Replacement, FDM 3-5-2 <input type="checkbox"/> Preventive Maintenance, FDM 3-1-5 <input type="checkbox"/> SHRM (State Hwy Rehab/Maint), Maintenance Manual 13.08 <input type="checkbox"/> Recondition, FDM 3-5-2 <input type="checkbox"/> Reconstruction, FDM 3-5-2 <input checked="" type="checkbox"/> Resurface, FDM 3-5-2 <input type="checkbox"/> Safety (HSIP), PMM 4-1-10 <input type="checkbox"/> Other:	Work Involved <input checked="" type="checkbox"/> Beam Guard Replacement <input type="checkbox"/> Borrow and/or Waste Site Required <input type="checkbox"/> Channel Change/Stream Relocation <input type="checkbox"/> Clearing and Grubbing <input checked="" type="checkbox"/> Culvert Replacement or Extensions <input type="checkbox"/> Dredging <input checked="" type="checkbox"/> Grading <input checked="" type="checkbox"/> Fill Outside Toe of Slope <input checked="" type="checkbox"/> Intersection Improvement <input type="checkbox"/> Right of Way Acquisition <input checked="" type="checkbox"/> Shoulder Work <input checked="" type="checkbox"/> Storm Sewer <input checked="" type="checkbox"/> Other: Roadway Widening

Storm Water Management (check all that apply)

- ☐ Trans 401 post construction requirements
☐ NPDES MS4/Urbanized Area
☐ TMDL Implementation Area
☒ Transportation Construction General Permit (TCGP)

For more information, please see the back of this form.

Project Description and Reason for Project:

(include project location map with limits and necessary attachments; attach additional sheets if needed)

See Attachment A for project Description and Reason for Project. See other included attachments for more information.

**WisDOT Division of Transportation System
Development**
Northeast Region
944 Vanderperren Way
Green Bay, WI 54304

**Governor Tony Evers
Secretary Craig Thompson**
wisconsindot.gov
Telephone: (920)492-5643
FAX: (920)492-5640
Email: ner.dtsd@dot.wi.gov



March 26, 2019

Jim Doperalski
Department of Natural Resources
2984 Shawano Ave
Green Bay, WI 54313

Subject: Final Concurrence and 401 WQC
Project ID 9190-20-71
STH 32
Village of Pulaski
Brown County

Dear Mr. Doperalski,

The Wisconsin Department of Transportation (WisDOT), Northeast Region, is requesting final concurrence and 401 WQC for Project I.D. 9190-20-71 in Brown County. As the enclosed permit application and supporting documentation indicates, unavoidable wetland filling associated with construction of this project totals 0.1 acres. Please see the Permit Application and attachments for a detailed discussion regarding wetland impacts, including type, location, and amount.

According to the *Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline* (1993, Revised 1997 and 2002), compensatory wetland mitigation must be provided and ratios of replacement versus loss are dependent on the wetland type lost and the wetland available for replacement. WisDOT is proposing to debit the impacts to the Peshtigo Brook Phase 2 site in Oconto County. Based on the 0.1 acres of wetland loss, a total of 0.1 acres of compensatory mitigation will be required for the project.

A PS&E (plans, specifications, & estimate) submittal date of November 1, 2019 is scheduled for this project. Please contact me if you have any questions regarding this request or need any further information.

Sincerely,

A handwritten signature in dark ink that reads "Kelsey Holmes". The signature is fluid and cursive, with the first name "Kelsey" and the last name "Holmes" clearly distinguishable.

Kelsey Holmes, P.E.
WisDOT Project Leader

Cc: Mike Helmrick, WisDOT Environmental Coordinator

Notice: Pursuant to chs. 30 and 31, Wis. Stats., ch. 281, Wis. Stats., and s. 283.33, Wis. Stats., this form is used to apply for coverage under the state construction site storm water runoff general permit, and to apply for a state or federal permit or certification for waterway and wetland projects or dam projects. This form and any required attachments constitute the permit application. Failure to complete and submit this application form may result in a fine and/or imprisonment or forfeiture under the provisions of applicable laws including s. 283.91, Wis. Stats. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Public Records Laws (ss. 19.31-19.39, Wis. Stats.).

Use this form for (select all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Waterway General Permit | <input checked="" type="checkbox"/> Storm water NOI - New land disturbing construction activity |
| <input type="checkbox"/> Waterway Individual Permit | <input type="checkbox"/> Storm water NOI - Renewal FIN # _____ |
| <input checked="" type="checkbox"/> Wetland General Permit | <input type="checkbox"/> Work in waters of the U.S. (Army Corps of Engineers) |
| <input type="checkbox"/> Wetland Individual Permit | <input type="checkbox"/> Dam projects (DNR-ch. 31, Wis. Stats., or Army Corps of Engineers) |

Read all instructions provided before completing. If additional space is needed, attach additional pages.

Section 1: Landowner Information

Landowner Name (first and last name, org. or entity)	Authorized Representative		
Wisconsin Department of Transportation	Kelsey Holmes		
Mailing Address	City	State	ZIP Code
944 Vanderperren Way	Green Bay	WI	54304
Email Address	Phone Number (include area code)	Alternate Phone Number	
kelsey.holmes@dot.wi.gov	(920) 492-5625		

Section 2: Applicant Information ☒ Select if same as landowner

Applicant Name (first and last name, org. or entity)	Contact Person		
Mailing Address	City	State	ZIP Code
Email Address	Phone Number (include area code)	Alternate Phone Number	

Section 3: Primary Project Contact ☒ Select if same as landowner

☐ Consultant ☐ Contractor ☐ Other – Specify: _____

Name (Ind., Org. or Entity)	Contact Person (first and last name)		
Mailing Address	City	State	ZIP Code
Email Address	Phone Number (include area code)	Alternate Phone Number	

Section 4: Project or Site Location

Project Name	County	<input type="radio"/> City <input type="radio"/> Town <input checked="" type="radio"/> Village
9190-20-71	Brown	of Pulaski

Location Address/Description
STH 32 from CTH B - E Green Bay St

Public Land Survey System (PLSS) – Provide the section, range, township information and latitude and longitude in decimal degrees, if available.

_____ ¼ of _____ ¼ of Section _____, Township 25 N, Range 19 ☒ E ☐ W _____ Latitude _____ Longitude

If this site is not wholly contained in the quarter-quarter section, more description:

T25N, R19E Sections 5-6

See Attachment B: Project Location Map for additional details.

Section 5: Pre-Application Resource Screening

Screening your project site for the presence of sensitive natural or cultural resources before applying for a permit can assist you in planning and designing your project to avoid or minimize impacts to these resources. Please identify any screening you have already completed and attach any supporting documentation to your application. If sensitive resources are identified during the permit review, it may result in delays in processing your application and/or project re-design.

Waterways: Provide the name(s) of closest waterbodies:

Unnamed Tributary to the Suamico River

Wetlands: Has the project site been assessed for the presence of wetlands? ☒ Yes ☐ No

If yes, select all sources of information used and attach supporting report or documentation:

- ☐ Wisconsin Wetland Inventory
- ☐ Wetland Locator Tool - <http://dnr.wi.gov/topic/wetlands/locating.html>
- ☐ Wetland Delineation by consultant
- ☐ NRCS Soils Map
- ☐ DNR Wetland Identification letter - <http://dnr.wi.gov/topic/wetlands/identification.html>
- ☐ DNR Wetland Confirmation letter - <http://dnr.wi.gov/topic/wetlands/identification.html>
- ☐ Army Corps of Engineers Concurrence letter
- ☒ Other: Wetland Delineation - DOT/DNR

Are wetlands proposed to be filled, excavated or disturbed during construction or as part of this project? ☒ Yes ☐ No

Endangered or Threatened Resources:

Has the presence of endangered or threatened resources been evaluated according to the protocols developed by the DNR Bureau of Natural Heritage Conservation (BNHC)? dnr.wi.gov/topic/ERReview/ ☒ Yes ☐ No

If yes, select how evaluation was completed and attach supporting report or documentation:

- ☒ DNR BNHC ER Review Letter
- ☐ Certified ER Review Letter
- ☐ Broad Incidental Take Permit/Authorization - specify (e.g. No/Low Impact Activities, Grassland and Savanna Management, etc.)

☒ Other: DNR/DOT Review

Section 6: Project Information (attach additional sheets as necessary)

Duration: 06/01/2021 09/30/2021
Anticipated Project Start Date (mm/dd/yyyy) Anticipated Project End Date (mm/dd/yyyy)

Photos: Provide photographs of the "before" condition. 11/5/15, 11/3/2016 (Attachment K)
Date of Photographs

Project Purpose and Need: Provide a one to two paragraph description of the proposed project, including land and water alterations and intended use(s) of the project.

The proposed project is located on WIS 32 from just North of CTH B to just South of E Green Bay St in the Village of Pulaski in Brown County. The purpose of this project is to preserve and extend the structural integrity of the asphaltic pavement to provide a safe and efficient highway system. The asphalt pavement along this section of WIS 32 is showing signs of distress including transverse/ longitudinal cracking and some alligator cracking, edge cracking, and rutting. The pavement structure will be at or near its service life by the time of construction and will be in need of repairs.

The project is a mill and resurface level improvement project (mill 4"/pave 4") with beam guard replacement, new roadway signs, storm sewer, culverts, and pavement markings. The roadway will also be widened 6' on each side to accommodate left turn lanes at the intersections of Blue Heron Dr. and Glenbrook Dr. Wetlands will be affected at the beam guard replacement, roadway widening, and storm sewer replacements. The loss of wetlands will be mitigated at a WisDOT bank site at a 1:1 ratio according to the Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline. Proper erosion control measures will be utilized during construction to minimize impacts.

Section 7: Certification and Permission

Certification: I hereby certify that I am the owner or authorized representative of the owner of the property which is the subject of this Permit Application. I certify that the information contained in this form and attachments is true and accurate. I certify that the project will be in compliance with all permit conditions. I understand that failure to comply with any or all of the provisions of the permit may result in permit revocation and a fine and/or imprisonment or forfeiture under the provisions of applicable laws.

Permission: I hereby give the Department permission to enter and inspect the property at reasonable times, to evaluate this notice and application, and to determine compliance with any resulting permit coverage.

Kelsey Holmes
Signature of Landowner / Authorized Representative – **For Stormwater applications, signature of landowner is required. Authorized representative is not sufficient.**

3/26/19
Date Signed

Kelsey Holmes
Printed Name of Landowner / Authorized Representative

WisDOT Project Leader
Title

Attachment Index

STH 32
9190-20-00/9190-20-71
Village of Pulaski
CTH B – E Green Bay St
Brown County

- Attachment A: Project Narrative
- Attachment B: Project Location Map
- Attachment C: Project Plan Set
- Attachment D: Environmental Special Provisions
- Attachment E: Wetland Impact Plan Sheets
- Attachment F: Wetland Impact Tracking Form
- Attachment G: Riparian Owners along WisDOT Right-of-Way
- Attachment H: WDNR Initial Project Review
- Attachment I: Section 106 Screening List
- Attachment J: Fish & Wildlife Service Coordination
- Attachment K: Existing Pictures

Attachment A: Project Narrative

State Project Number 9190-20-71

WIS 32

Description: Village of Pulaski

Project Limits: CTH B – E Green Bay St

Brown County

Introduction and Project Location

The Wisconsin Department of Transportation (WisDOT) Northeast Region is in the process of developing plans for a proposed project along WIS 32, within the Village of Pulaski, in Brown County. The project begins just North of CTH B and proceeds North 0.86 miles to just South of E Green Bay St. This section of pavement on WIS 32 consists of a two-lane highway with 12-foot lanes and is classified as a minor arterial.

Purpose, Need, and Intended Use of Project

The purpose of the project is to improve deteriorating pavement, address safety and maintenance concerns, overlay the bridge deck, clean the edge of the bridge deck, and upgrade beam guard and drainage structures.

The asphalt pavement along this section of WIS 32 is showing signs of distress including transverse/longitudinal cracking and some alligator cracking, edge cracking, and rutting. The pavement structure will be at or near its service life by the time of construction and will need repairs.

The deck of bridge B-5-260 just North of CTH B needs some repairs and will receive a concrete overlay. The edge of the deck of the bridge also has some exposed rebar and needs repairs. The edge of the deck will be cleaned, and any loose debris will be removed. The exposed surface will be coated with a sealant.

Safety will be addressed by updating the existing beam guard and grading the slopes behind the beam guard to meet the beam guard requirements. Safety issues will also be addressed by widening the existing roadway to construct left turn lanes at the intersections of Blue Heron Dr. and Glenbrook Dr.

Several pipes from the storm sewer system are in poor condition and will need to be realigned and replaced.

Project Alternative Analysis

Three alternatives were considered. The first consisting of a “do-nothing” alternative. Because the purpose of the project is to address the roadway condition, safety concerns and deficient guard rail, the “do nothing” alternative was not recommended.

The second alternative was to resurface the roadway, replace deteriorating pipes, and replace the existing beam guard. Eliminating the beam guard is not an option because it is used to protect errant

vehicles from the waterway and the bridge. Wetland fill is unavoidable while grading to meet the requirements of the beam guard installation.

The third alternative was to resurface the roadway, replace deteriorating pipes, replace the existing beam guard, and widen the roadway to address safety concerns with the intersections of Blue Heron Dr. and Glenbrook Dr. This area is growing and resulting in increased traffic flows through these intersections. The widening of the roadway through this area will allow for the construction of left turn lanes at these intersections to alleviate some safety concerns. Since both options require grading it was decided to use this alternative to address as many concerns as possible.

Proposed Activity

The proposed project includes resurfacing WIS 32, updating beam guard, upgrading two of the intersections, and replacing deteriorating storm sewer. Proposed activities include:

- Milling 4", paving 4" of HMA
- Upgrading beam guard and grading the slopes
- Relocating driveway for beam guard installation
- Widening the roadway to construct left turn lanes for the Blue Heron Dr. and Glenbrook Dr. intersections
- Replacing some of the storm sewer in the Village
- Concrete overlay of bridge B-5-260
- Clean B-5-260 edge of deck
- Replacing pedestrian curb ramp
- Replacing culvert pipe to accommodate the roadway widening

See Attachment C for the project plan sheets.

Wetlands

The affected wetlands within the proposed project area are located from the start of the project just North of CTH B up into the more urban area of the Village. The wetlands were identified and drawn on the plan sheets using wetland delineation data from a field review performed by the Wisconsin Department of Natural Resources (WDNR) and WisDOT Environmental Coordinator staff. Following the wetland investigation, it was determined that construction of the project would require excavation and fill within the delineated wetland boundaries. See Attachment E for a set of plan sheets with the impacted wetland locations identified. Unavoidable permanent impacts to these wetlands total 0.1 acres.

Wetland Impact Avoidance and Minimization

Complete avoidance of wetland impacts is not possible due to the proximity of the wetlands to the roadway. Upgrading the beam guard was unavoidable and the required grading of the slopes around the beam guard made wetland impacts inescapable. The slopes were steepened to the minimum slopes behind the beam guard where allowable to reduce the amount of wetland impact.

Wetland Mitigation

Wetland compensation ratios were obtained from the *Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline* (1993, Revised 1997 and 2002). See the Wetland Impact Tracking Form (Attachment F). A total of 0.1 acres of wetland is expected to be disturbed as part of these improvements. It was determined that an existing mitigation site would be used for compensation. Mitigation of the 0.1 acres will take place off-site at the Peshtigo Brook Phase 2 site in Oconto County.

Erosion Control

Erosion control and storm water management will be conducted in accordance with the Best Management Practices (BMP) and other guidance provided by Trans 401 – Construction Site and Erosion Control and Storm Water Management Procurers. All Erosion Control/Storm Water Management measures will be coordinated with the WDNR. Trans 401 also requires that the contractor prepare and Erosion Control Implementation Plan (ECIP), which identifies timing and staging of erosion control measures. Erosion control and storm water management measures proposed for the project include the following:

- Minimize the amount of land exposed at one time
- Silt fence
- Temporary Ditch Checks
- Culvert Pipe Ditch Checks
- Erosion Mat
- Temporary and Permanent Seeding
- Bypass Pumping

Agency Coordination Summary

During the preparation of the environmental document for the proposed project, the following agency coordination occurred:

Wisconsin Department of Natural Resources (WDNR) – The WDNR provided comments on wetlands, endangered resources, “Section 4(f) and 6(f)” lands, Fisheries/Stream work, Culverts/aquatic organism passage, Invasive species and Viral Hemorrhagic Septicemia, and floodplains in an initial project review letter dated February 16, 2016. See Attachment H for a copy of the letter.

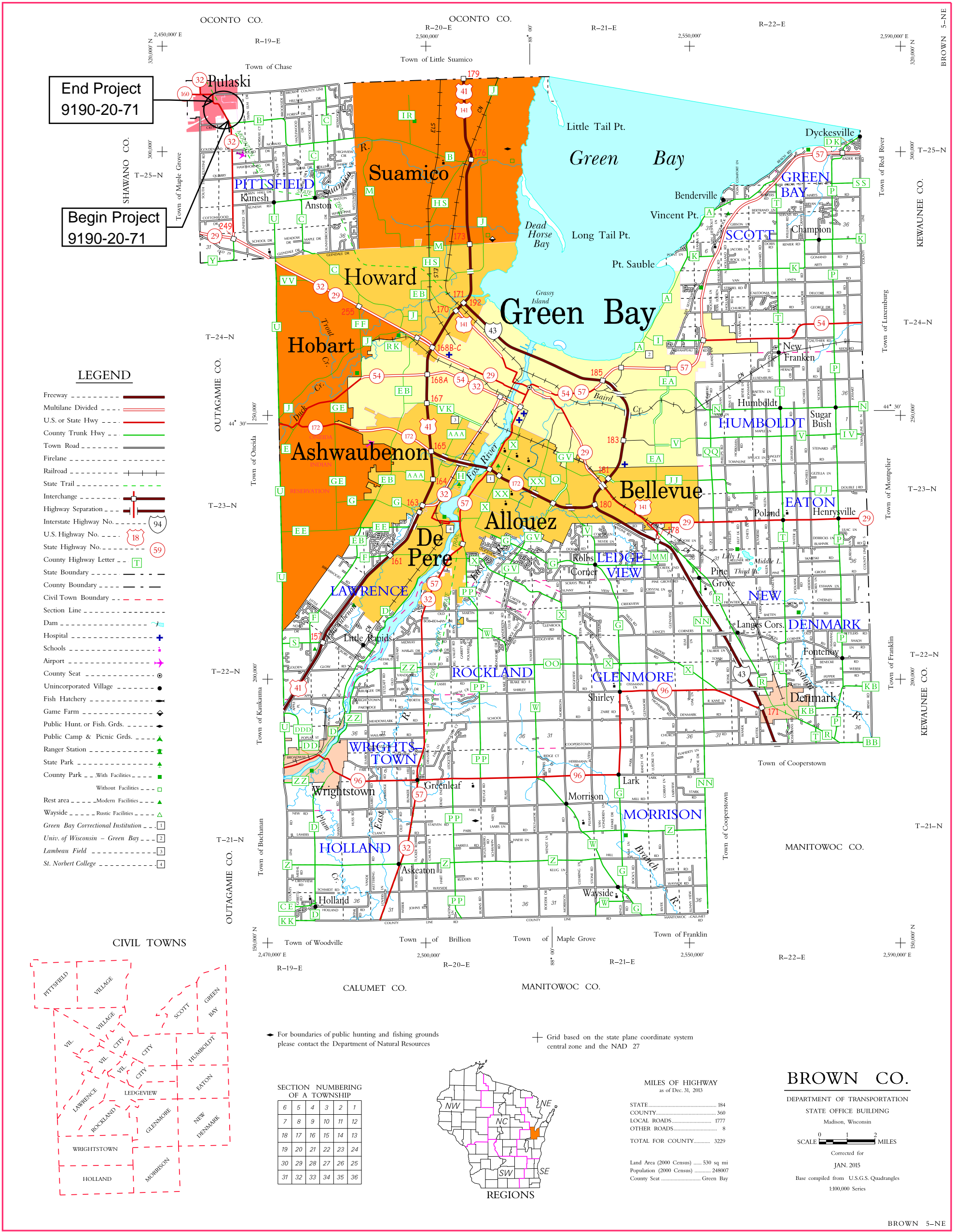
State Historical Society – The project was placed on the screening list for both history and archeology, dated June 4, 2014. See Attachment I for the 106 Screening List.

US Fish & Wildlife Services (FWS) – The project was coordinated with FWS on November 16, 2017 under the Final 4 (d) Rule for the Northern Long-Eared bat. A response form FWS was not received, which indicates concurrence with the effect determinations for the NLEB and other listed species. See Attachment J for the FWS coordination.

Attachment B: Project Location Map

Brown County

9190-20-71



Attachment C: Project Plan Set

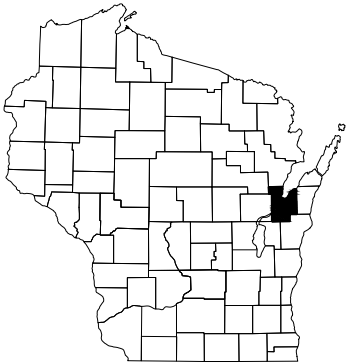
PROJECT ID:
WITH: 9190-20-71

COUNTY:
BROWN

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS =



DESIGN DESIGNATION 9190-20-00

A.A.D.T.	2021	=	8,300
A.A.D.T.	2041	=	11,000
D.H.V.		=	831
D.D.		=	60/40
T.		=	7.2%
DESIGN SPEED		=	45/35 M.P.H
ESALS		=	1,200,000

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

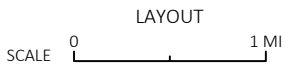
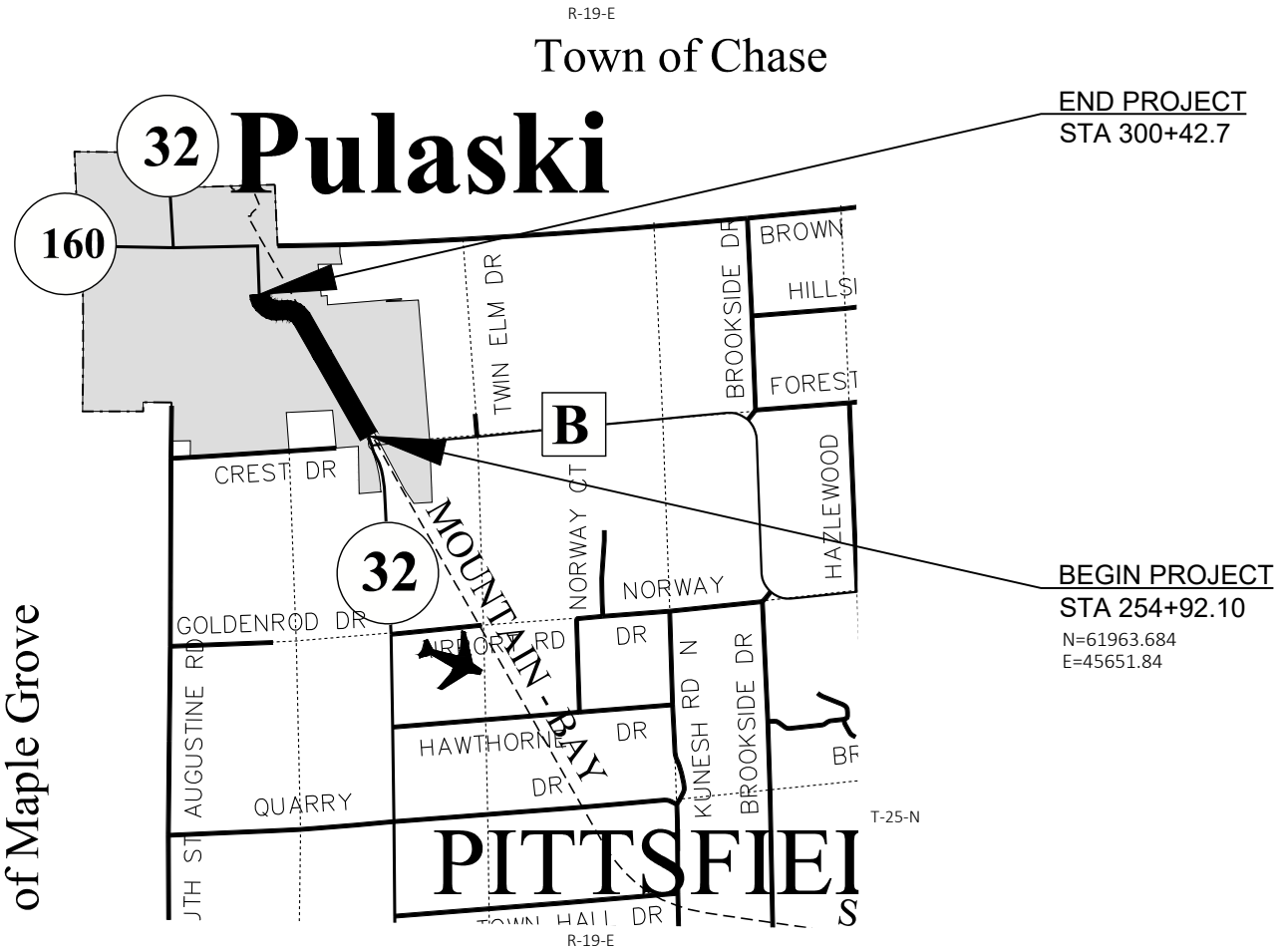
VILLAGE OF PULASKI

CTH B - EAST GREEN BAY STREET

STH 32

BROWN

STATE PROJECT NUMBER
9190-20-71



TOTAL NET LENGTH OF CENTERLINE = 0.86 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), BROWN COUNTY, NAD83 (1991), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (1991). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9190-20-71		

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	WISDOT
Designer	KELSEY HOLMES
Project Manager	ANDREW FULCER
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	DANIEL SEGERSTROM
APPROVED FOR THE DEPARTMENT	
DATE: _____	(Signature)

E

GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.

CURB AND GUTTER RADII ARE SHOWN TO THE FRONT FACE OF CURB.

ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREA BETWEEN THE SUBGRADE SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, AND COVERED WITH EROSION MAT.

THE CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THEIR OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

UTILITIES

NSIGHT TELESERVICES
CONTACT NAME
ADDRESS
CITY, STATE, ZIP
PHONE:
EMAIL:

VILLAGE OF PULASKI
JOEL VAN LANNEN - DPW
ADDRESS
PULASKI, WI 54162
PHONE: 920-822-5192
EMAIL: pubdept@villageofpulaski.org

WE ENERGIES
CONTACT NAME
ADDRESS
CITY, STATE, ZIP
PHONE:
EMAIL:

WINDSTREAM KDL, INC.
AARON GRODI OR DENNIS RUESS ???
13935 BISHOPS DR
BROOKFIELD, WI 53005
PHONE:
EMAIL:

WISCONSIN PUBLIC SERVICE
CONTACT NAME
ADDRESS
CITY, STATE, ZIP
PHONE:
EMAIL:

DNR AREA LIASON

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
JAMES DOPERALSKI
PHONE - (920) 412-0165
EMAIL - JAMES.DOPERALSKI@WISCONSIN.GOV

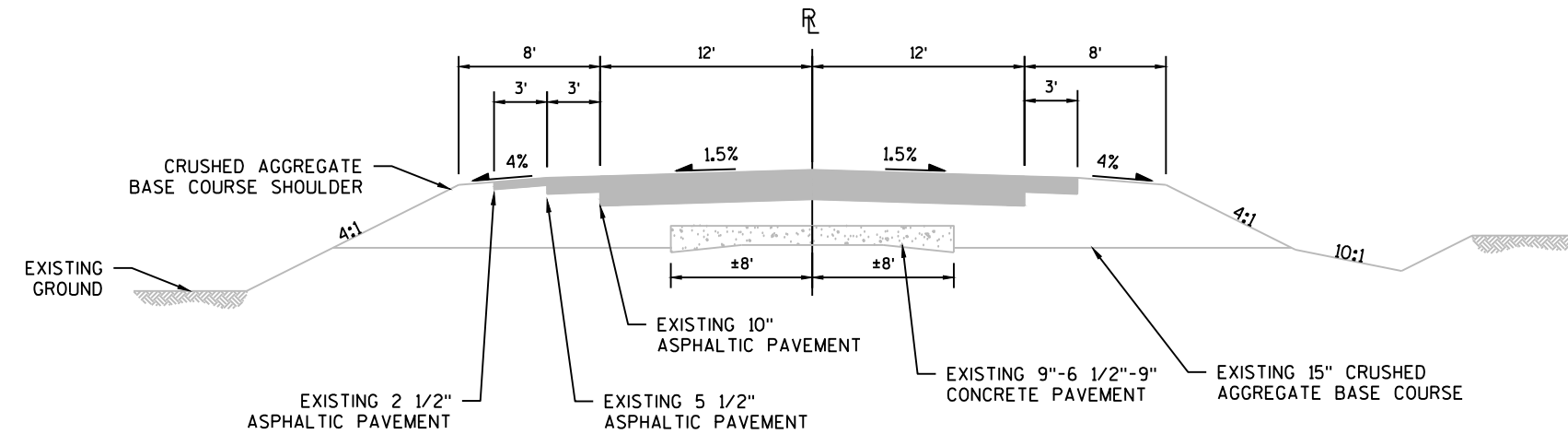


Dial 811 or (800)242-8511
www.DiggersHotline.com

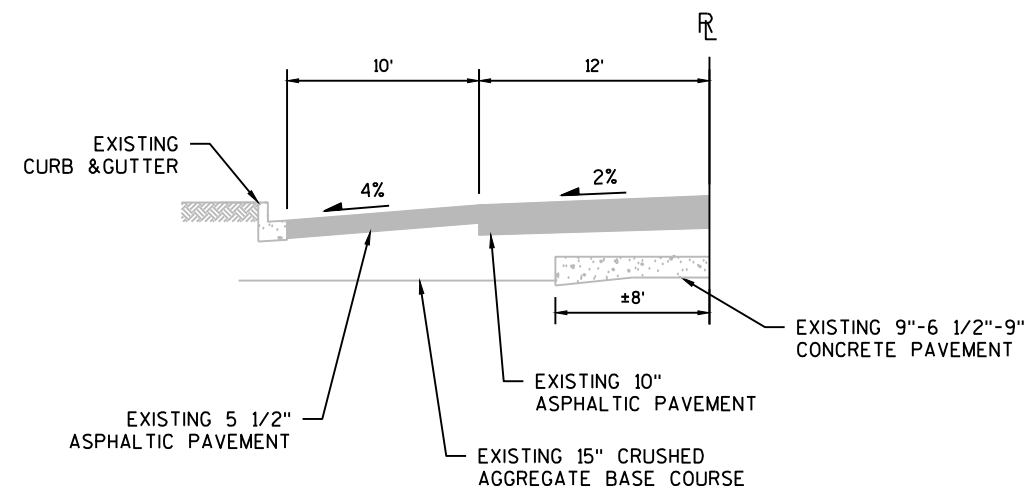
PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	GENERAL NOTES	SHEET	E
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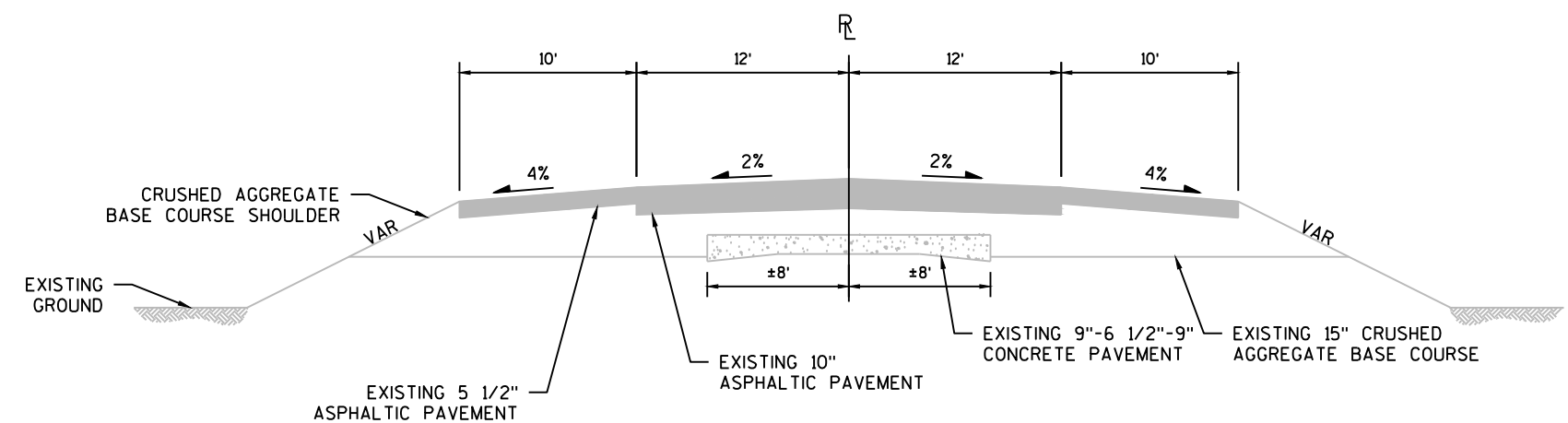
PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	PROJECT OVERVIEW	SHEET	E
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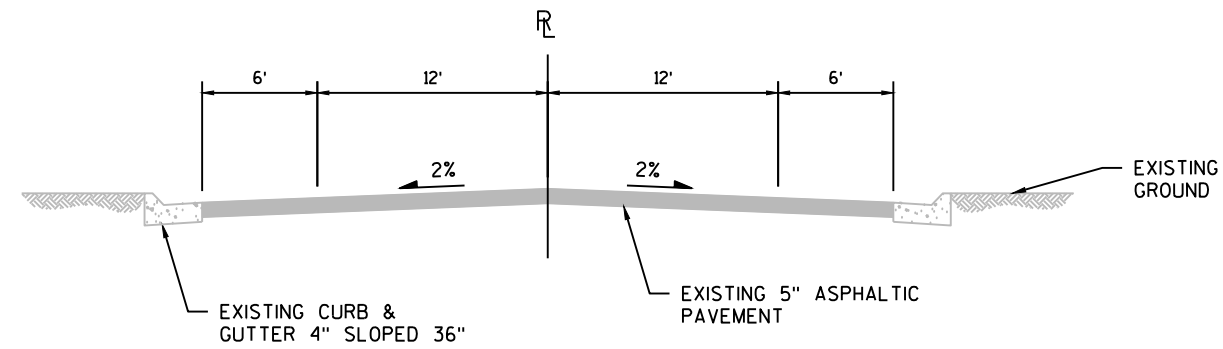
EXISTING TYPICAL SECTION STH 32
STA 254+92.1 TO STA 275+84.7



EXISTING TYPICAL SECTION STH 32
STA 249+22.78 TO STA 296+52.83 LT

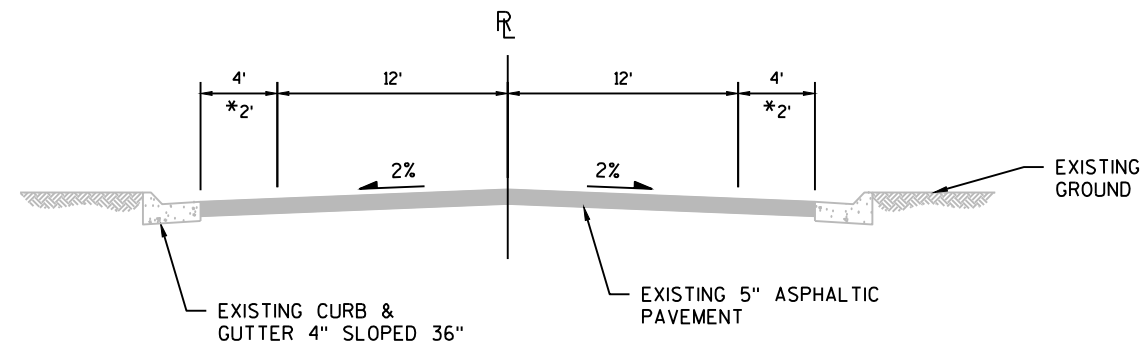


EXISTING TYPICAL SECTION STH 32
STA 275+84.7 TO STA 300+42.7



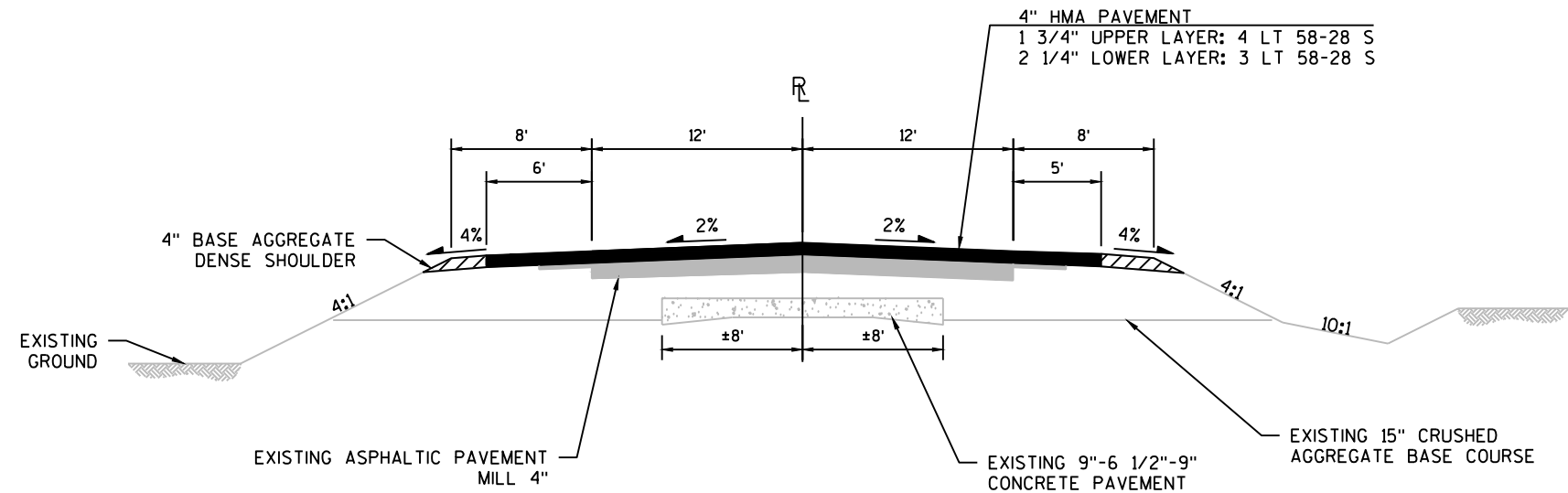
EXISTING TYPICAL SECTION SIDE ROADS

GLENBROOK DR LT
E CEDAR ST
KARCZ DR

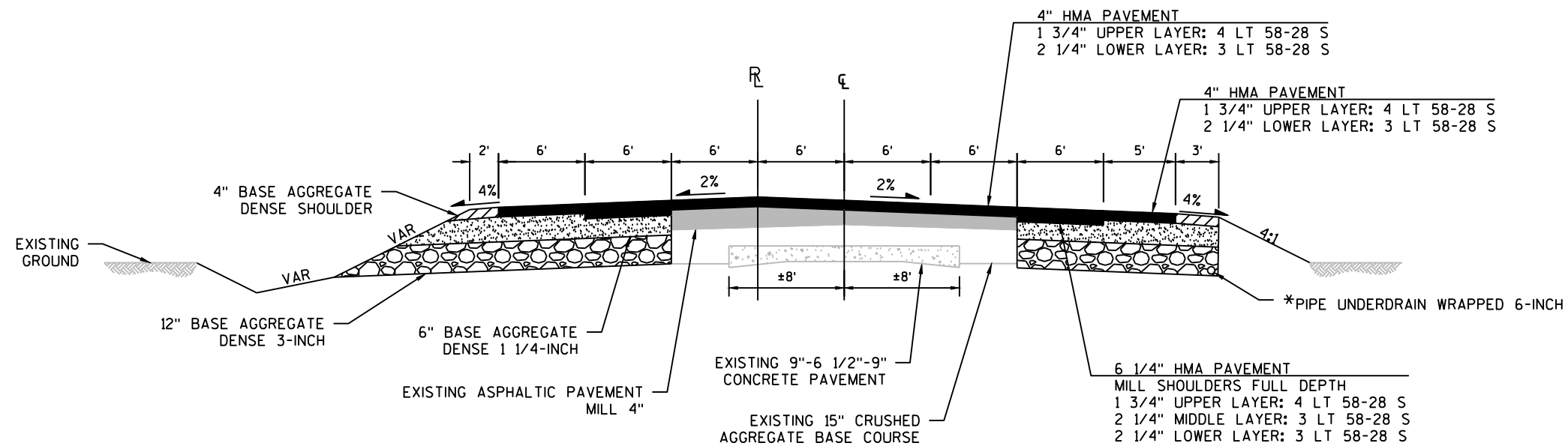


EXISTING TYPICAL SECTION SIDE ROADS

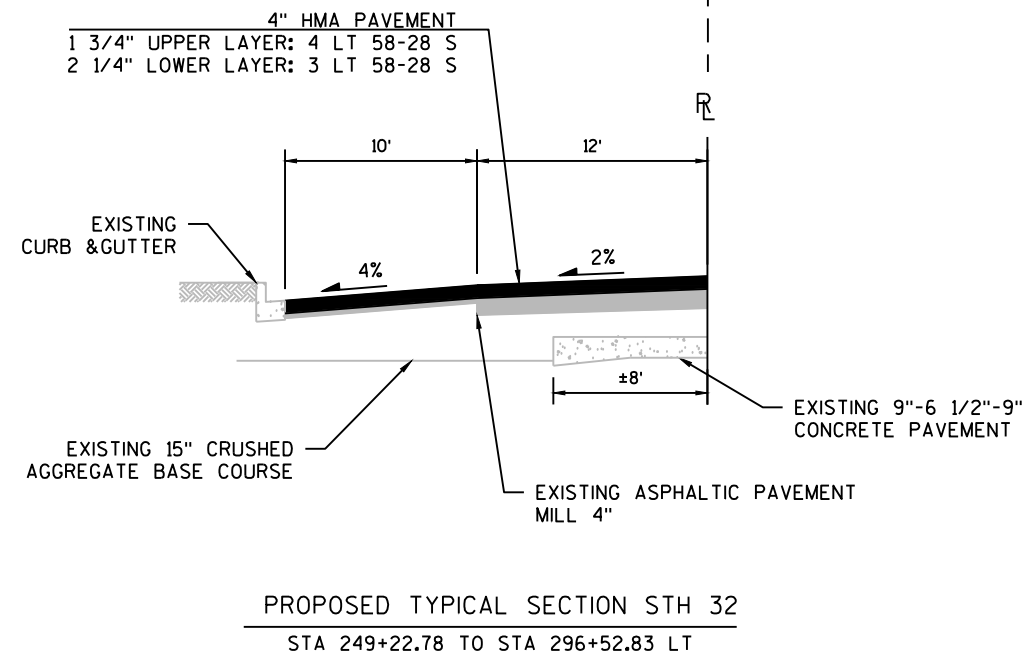
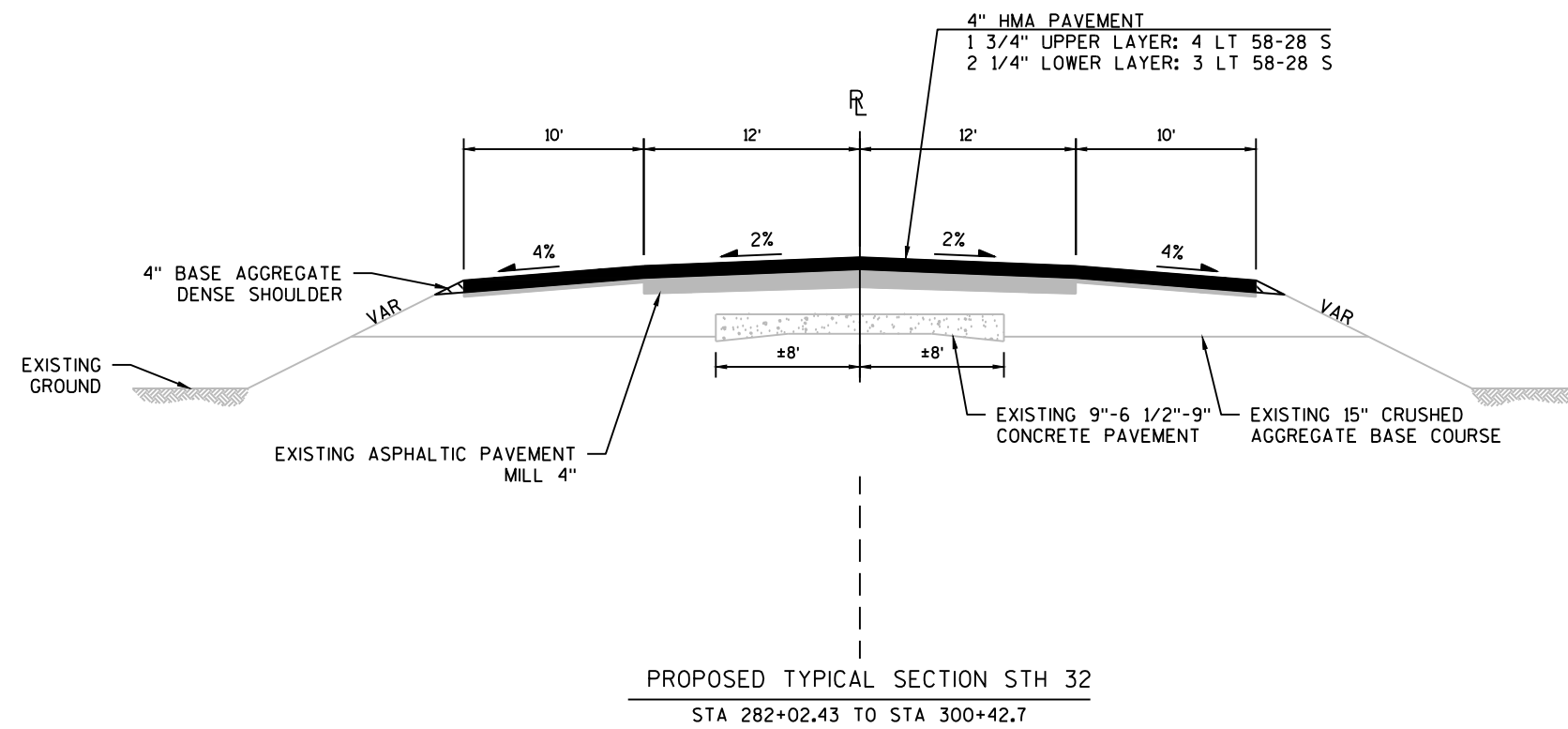
BLUE HERON DR
* GLENBROOK DR RT

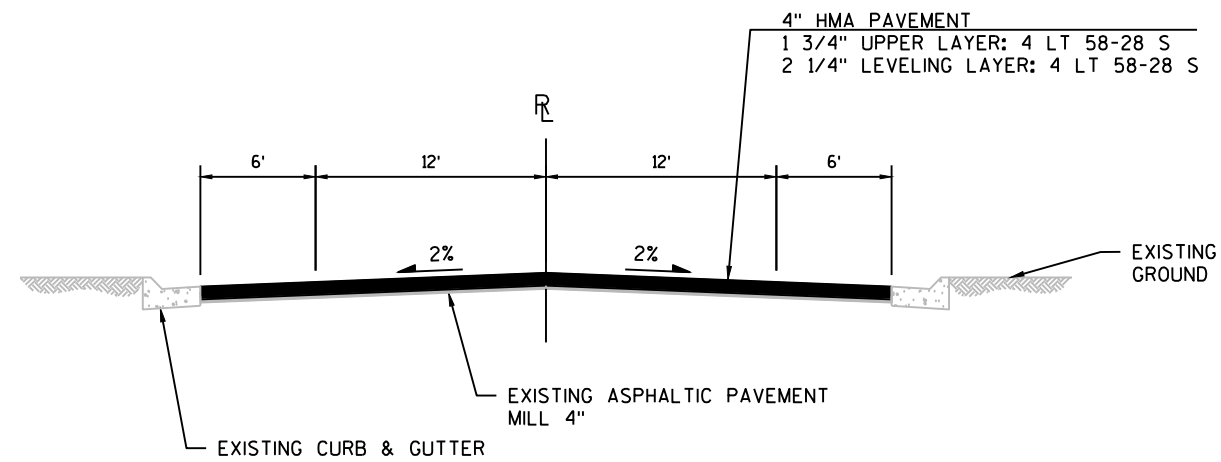


PROPOSED TYPICAL SECTION STH 32
STA 254+92.1 TO STA 261+25.25



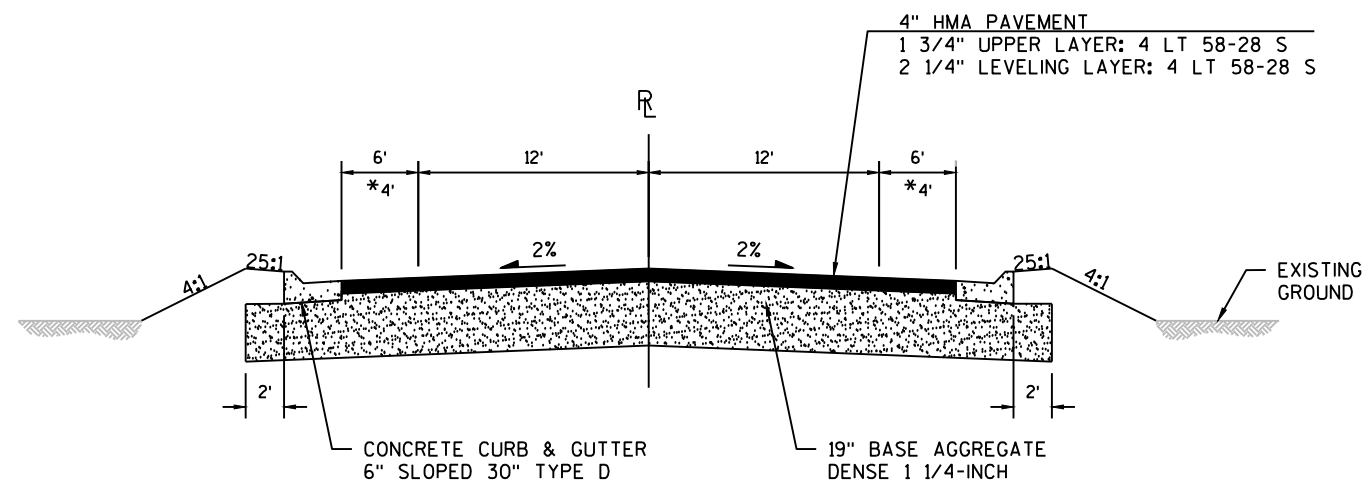
PROPOSED TYPICAL SECTION STH 32
STA 261+25.25 LT TO STA 282+02.44 LT
STA 261+25.25 RT TO STA 281+00 RT
* STA 265+00 RT TO STA 274+87.25 RT





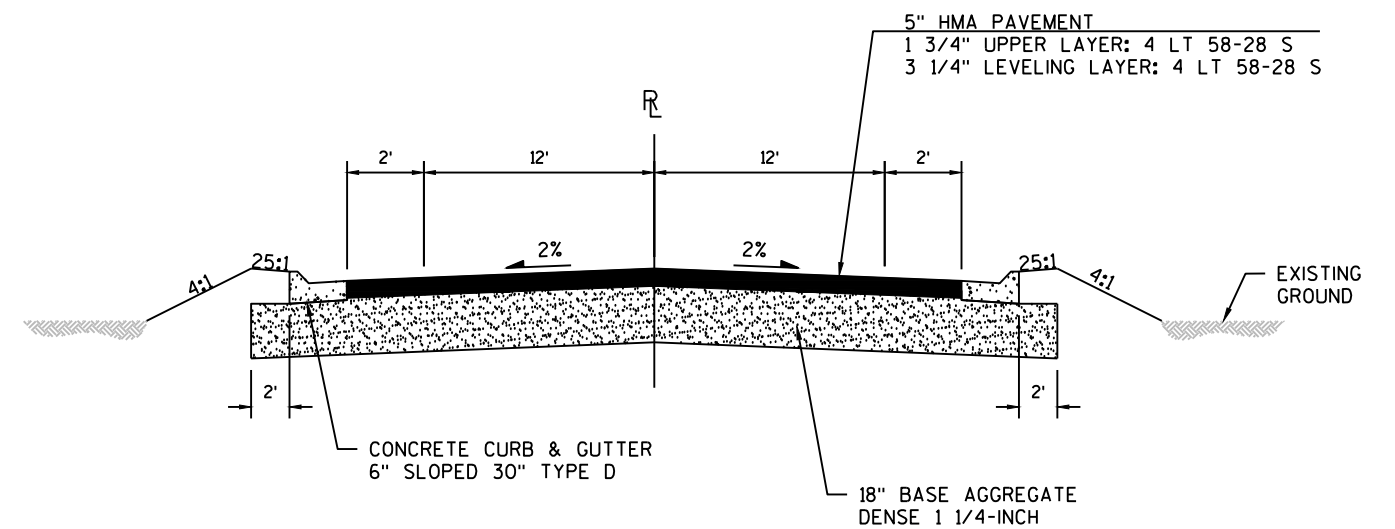
PROPOSED TYPICAL SECTION SIDE ROADS

E CEDAR ST
KARCZ DR



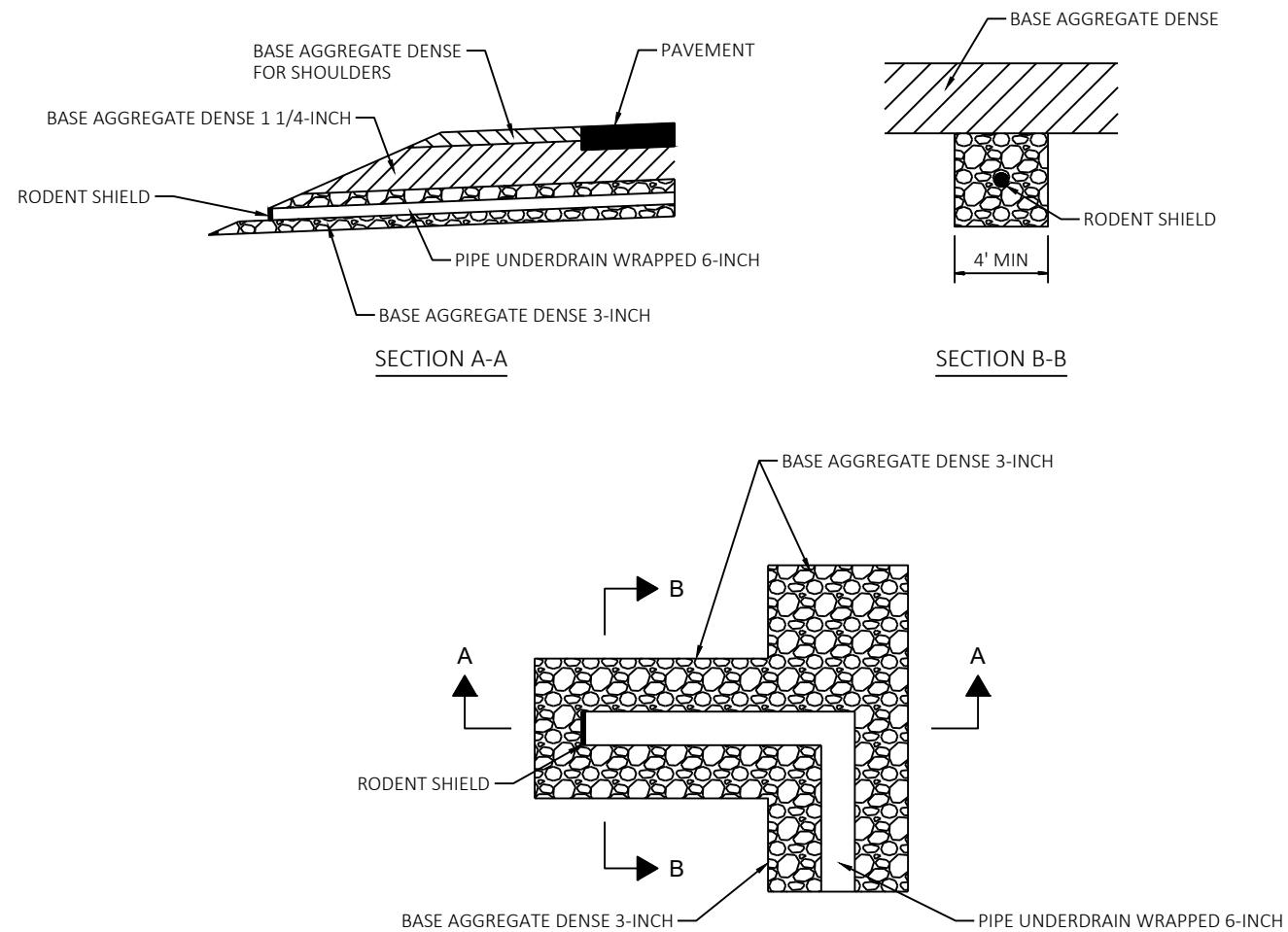
PROPOSED TYPICAL SECTION SIDE ROADS

* BLUE HERON DR
GLENBROOK DR LT



PROPOSED TYPICAL SECTION SIDE ROADS

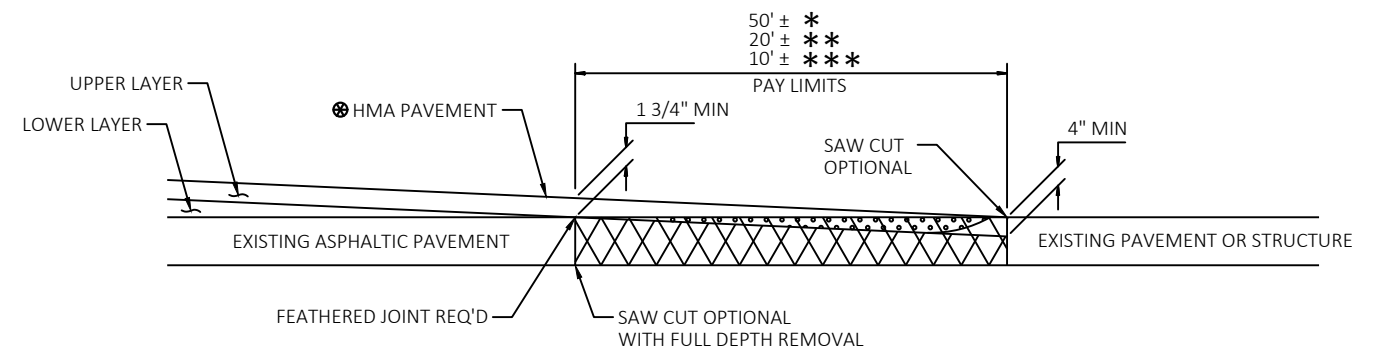
GLENBROOK DR RT



DETAIL FOR FRENCH DRAINS WITH UNDERDRAIN

DRAINS ARE TO BE CONSTRUCTED PER PLAN OR AT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL BE CONSIDERED INCIDENTAL TO THE ITEM BASE AGGREGATE DENSE 3-INCH.

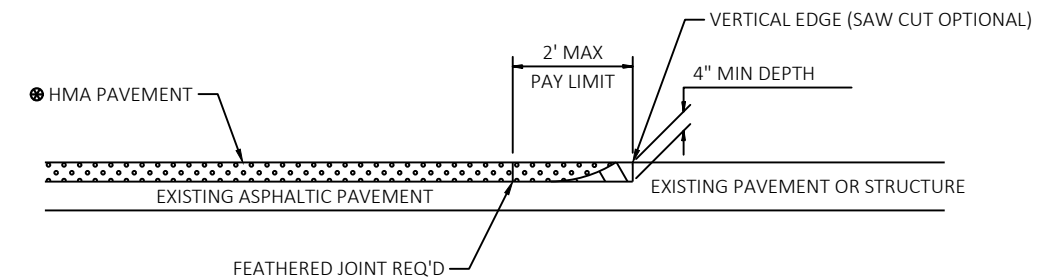


SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

- REMOVING ASPHALTIC SURFACE, BUTT JOINTS (FULL DEPTH REMOVAL OPTIONAL)
- ASPHALTIC WEDGING (FULL DEPTH REMOVAL OPTION)
- REMOVING ASPHALTIC SURFACE, BUTT JOINTS (MILLING OPTION)

BUTT JOINT DETAIL FOR NON MILLED ASPHALTIC PAVEMENTS (PROFILE CHANGE)

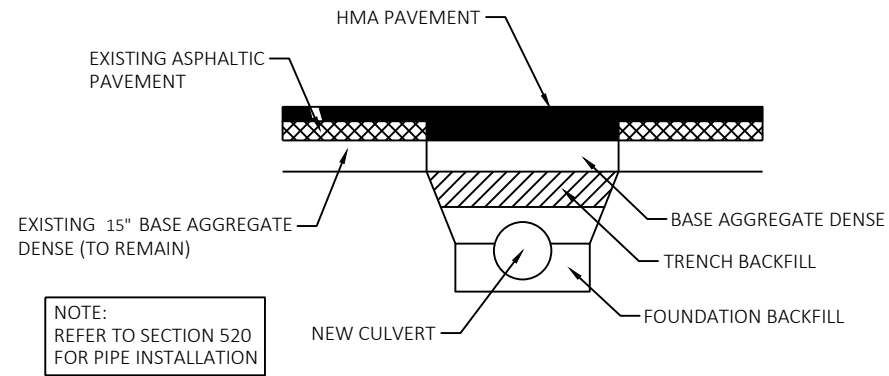
- * MAINLINE
- ** SIDEROADS
- *** PRIVATE ENTRANCES



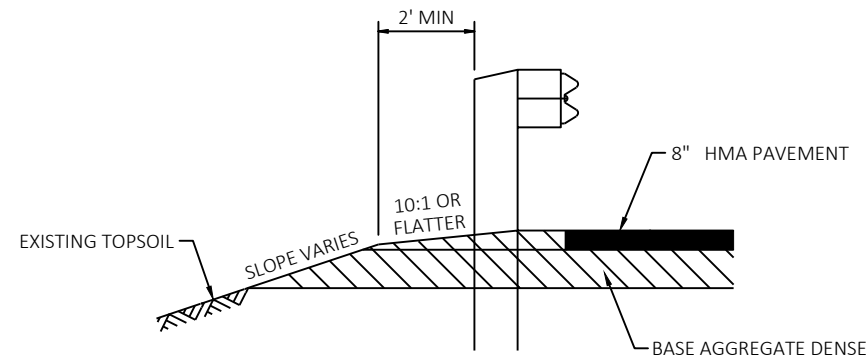
SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

- REMOVING ASPHALTIC SURFACE, MILLING
- REMOVE ASPHALTIC SURFACE WEDGE AT BUTT JOINT TO CREATE VERTICAL EDGE

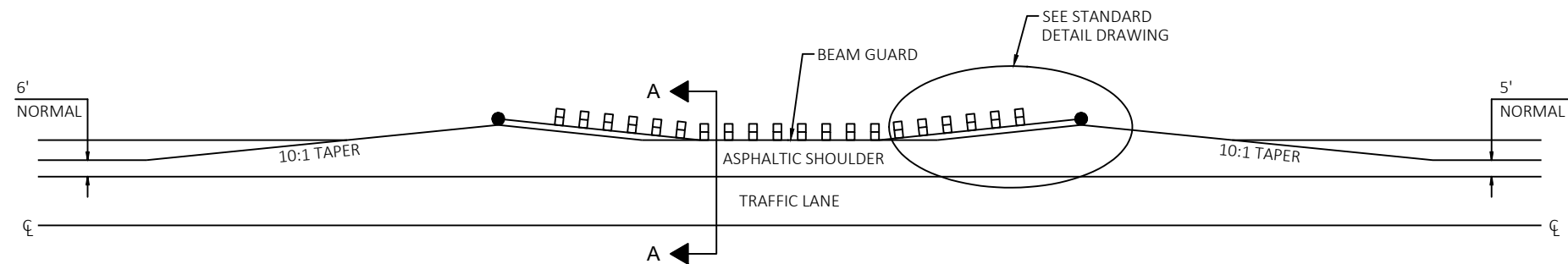
BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)



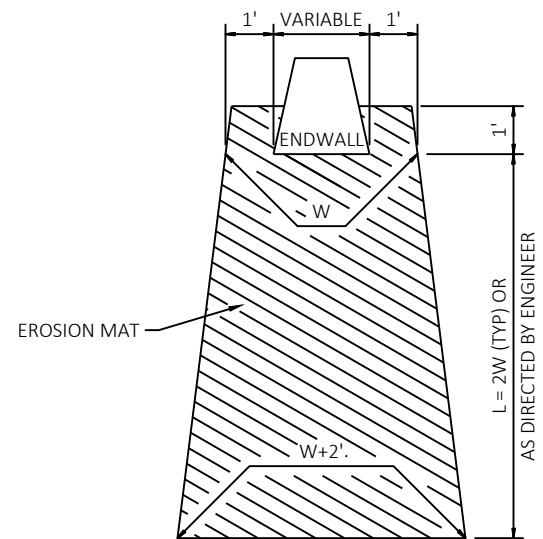
PAVEMENT AT CULVERT REPLACEMENTS



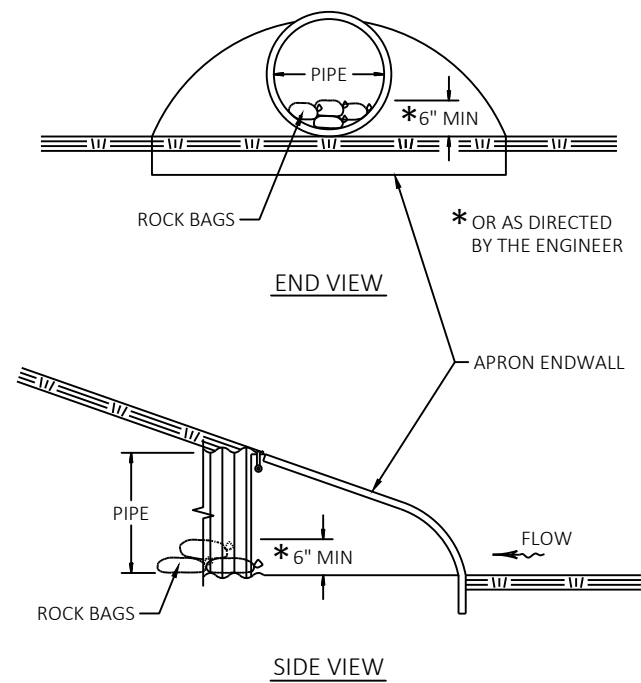
SECTION A-A



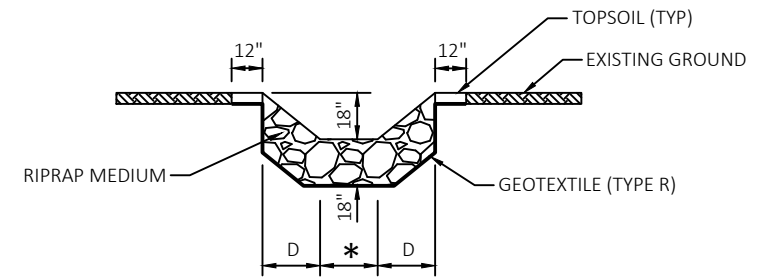
DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD



EROSION MAT TREATMENT AT CULVERTS

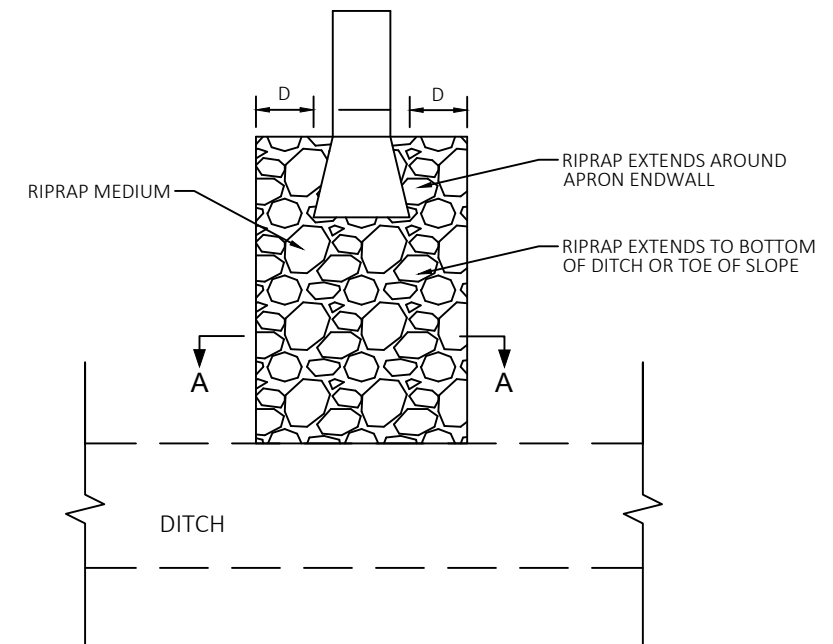


CULVERT PIPE CHECKS

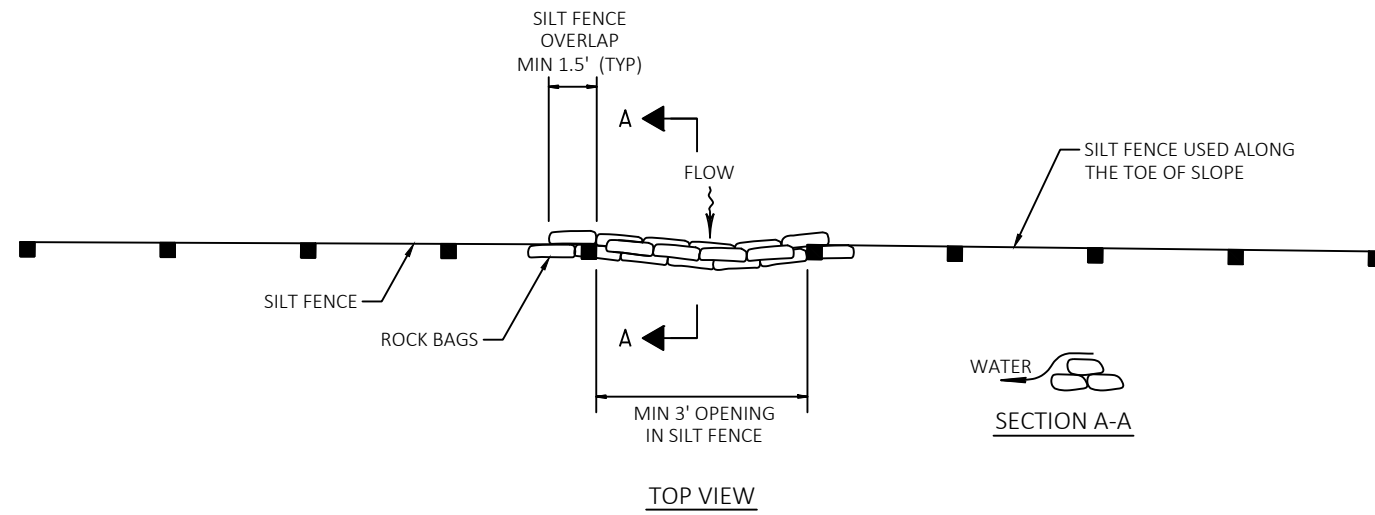


SECTION A-A

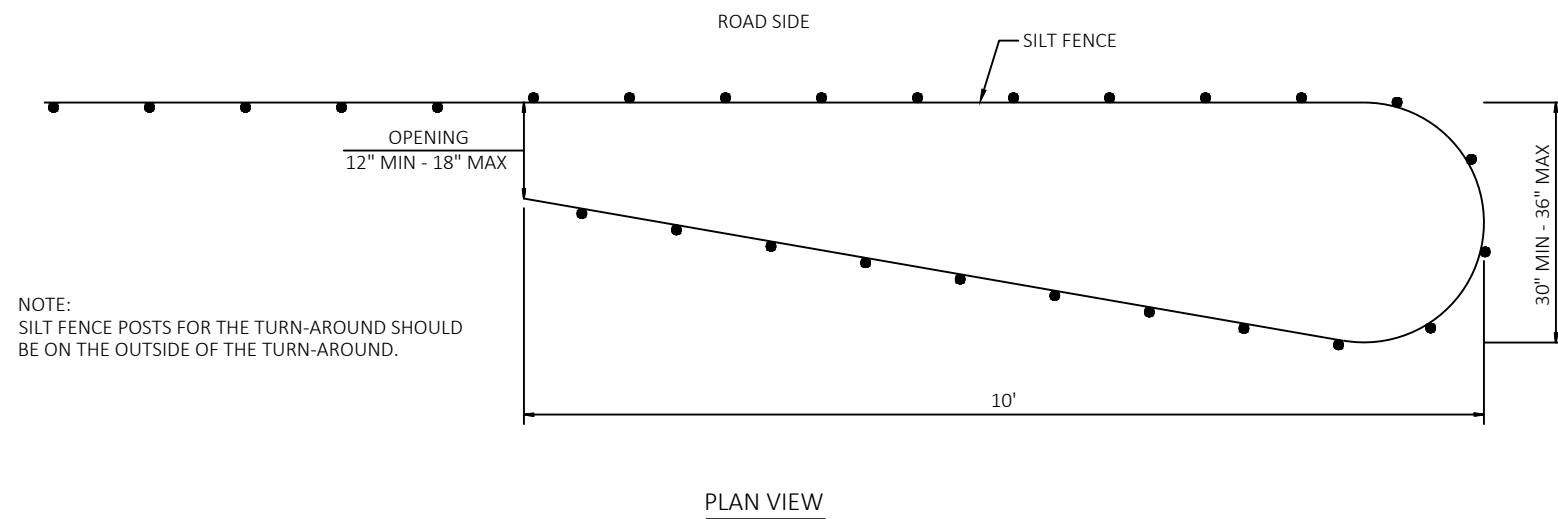
* APRON ENDWALL WIDTH
D = PIPE DIAMETER



RIPRAP TREATMENT AT STORM SEWER OUTFALLS

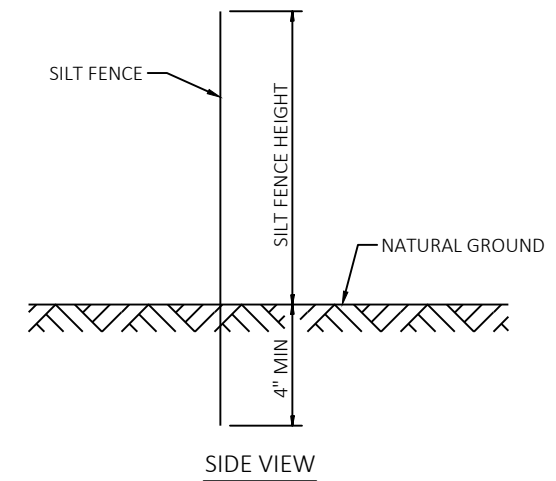


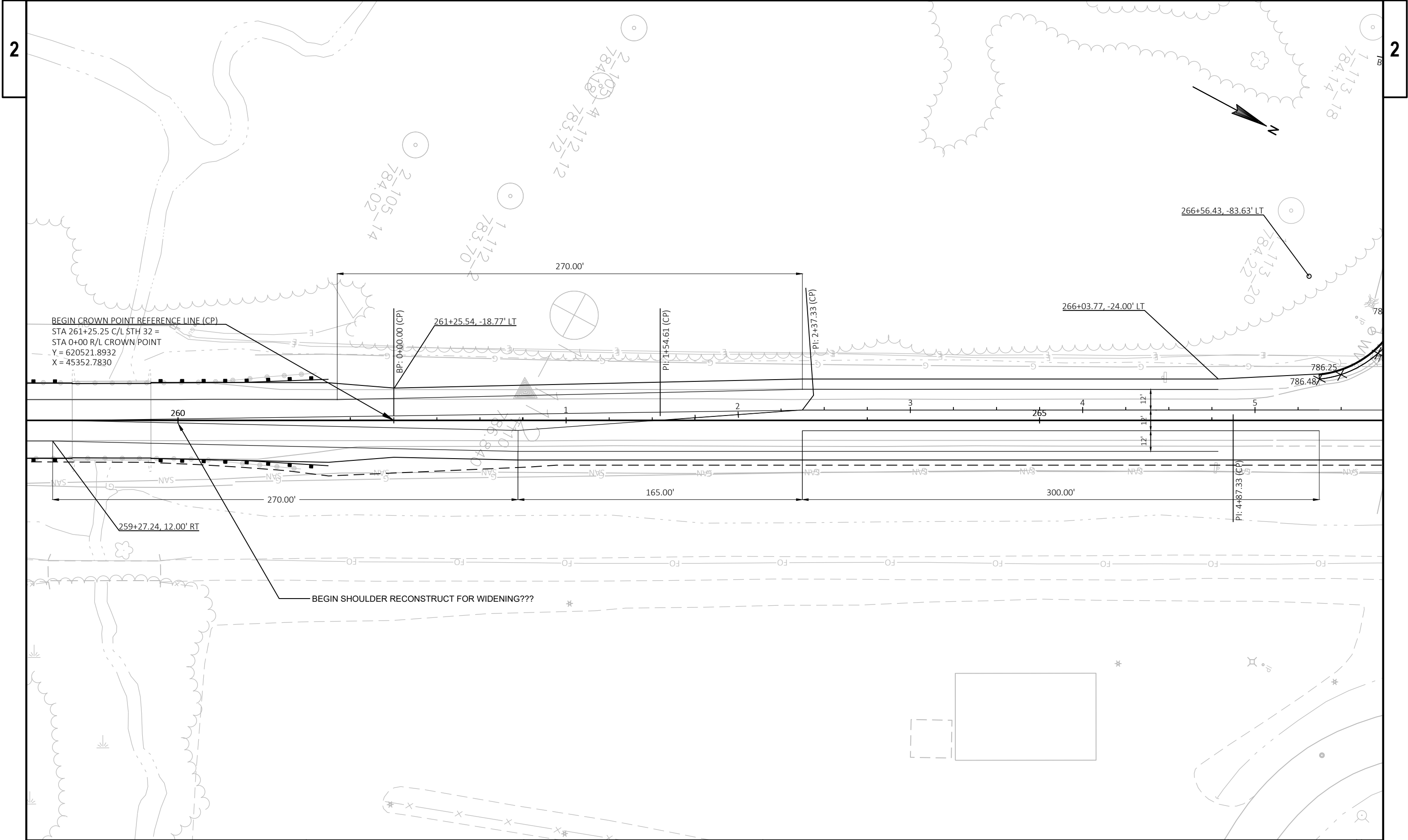
ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL



NOTE:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD
BE ON THE OUTSIDE OF THE TURN-AROUND.

SILT FENCE TURN-AROUND DETAIL

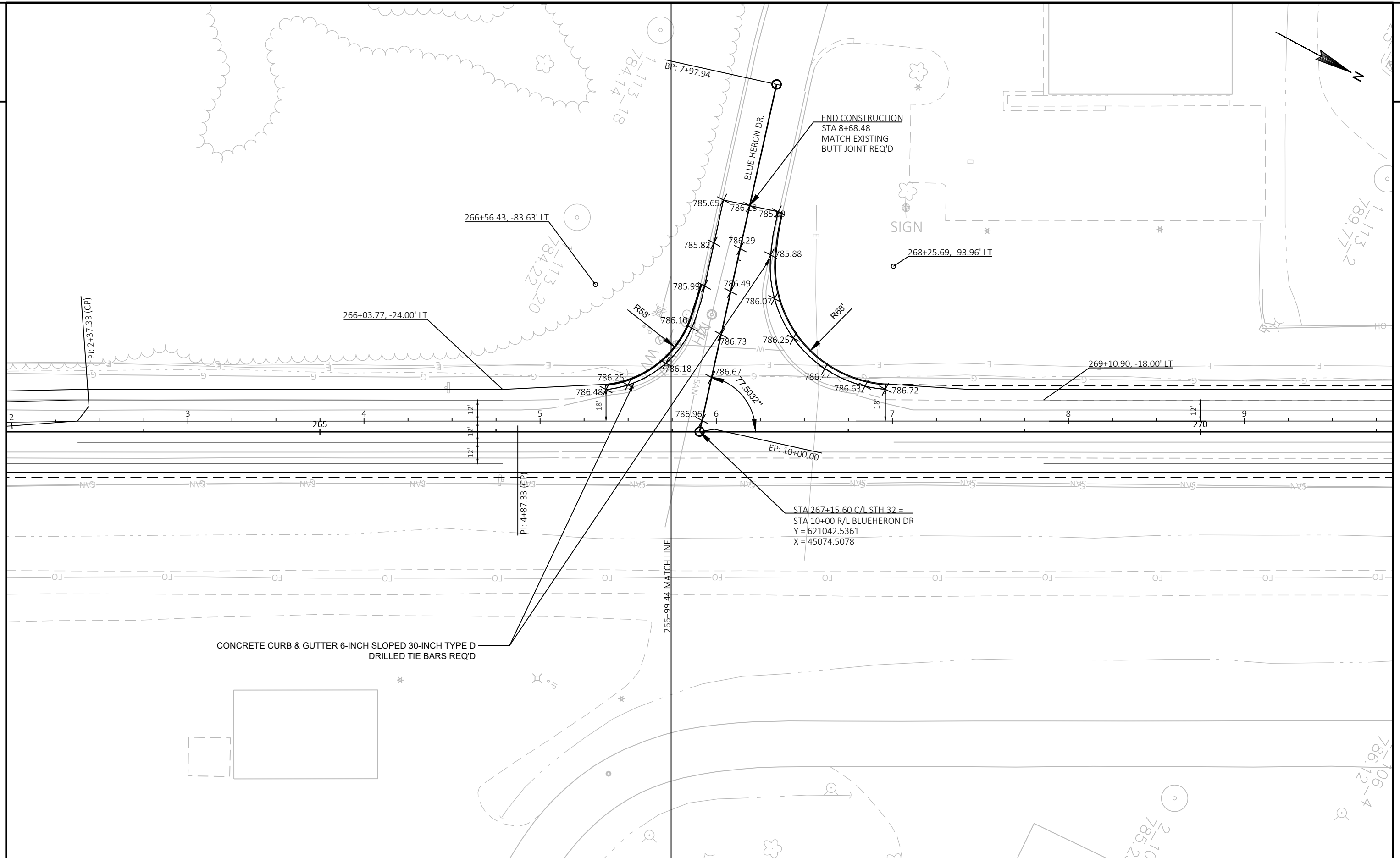




PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	INTERSECTION DETAILS	SHEET	E
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2

2



PROJECT NO:	9190-20-71
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HWY: STH 32

COUNTY: BROWN

INTERSECTION DETAILS (BLUE HERON DR)

SHEET

E

FILE NAME : N:\PDS\C3D\91902000\SHEETSPLAN\021101-ID.DWG
LAYOUT NAME - 021101-id-2

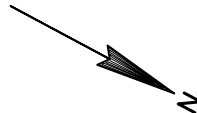
PLOT DATE : 3/4/2019 4:42 PM

PLOT BY : HOLMES, KELSEY J

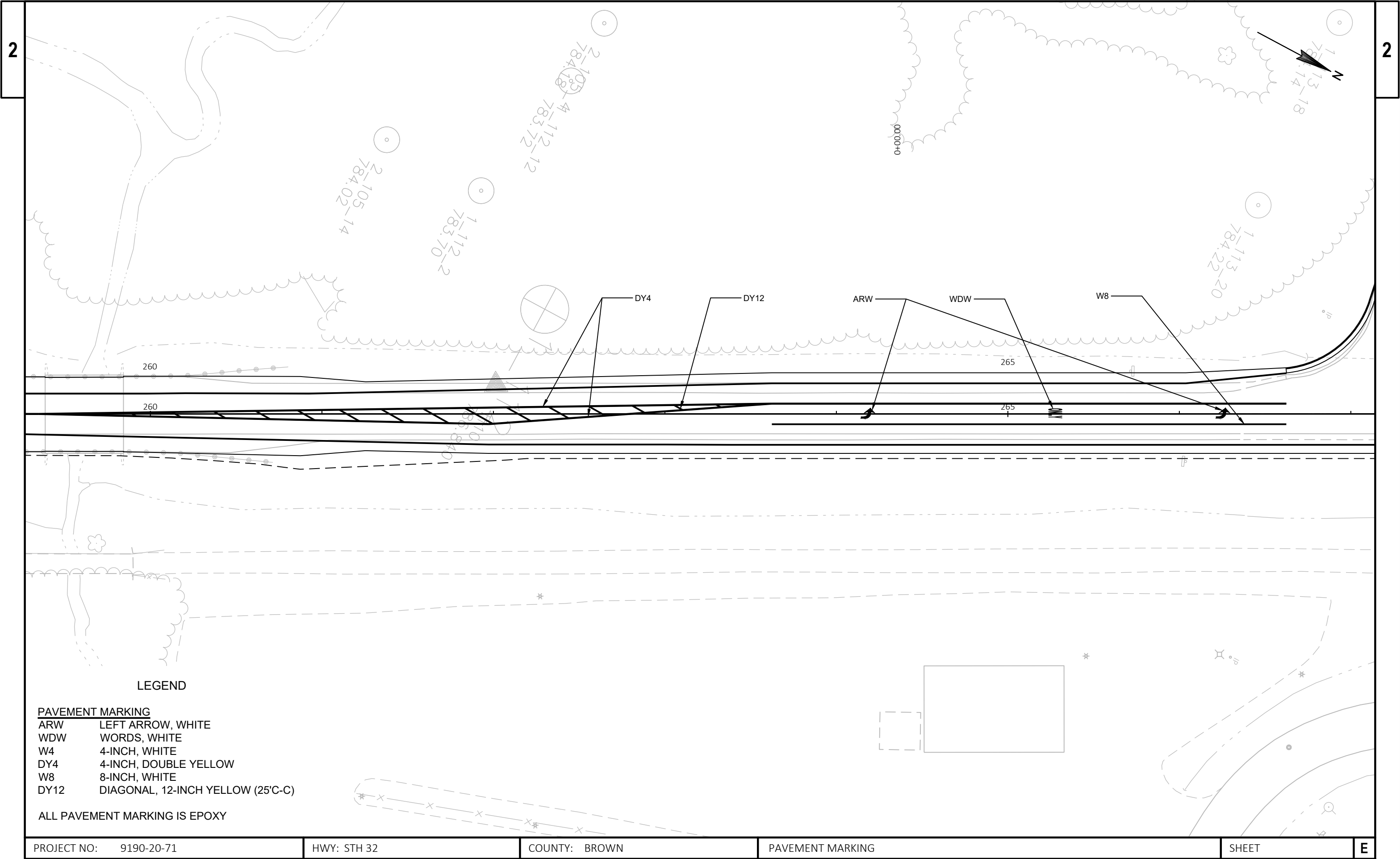
PLOT NAME :

PLOT SCALE : 1 IN:50 FT

WISDOT/CADDs SHEET 42

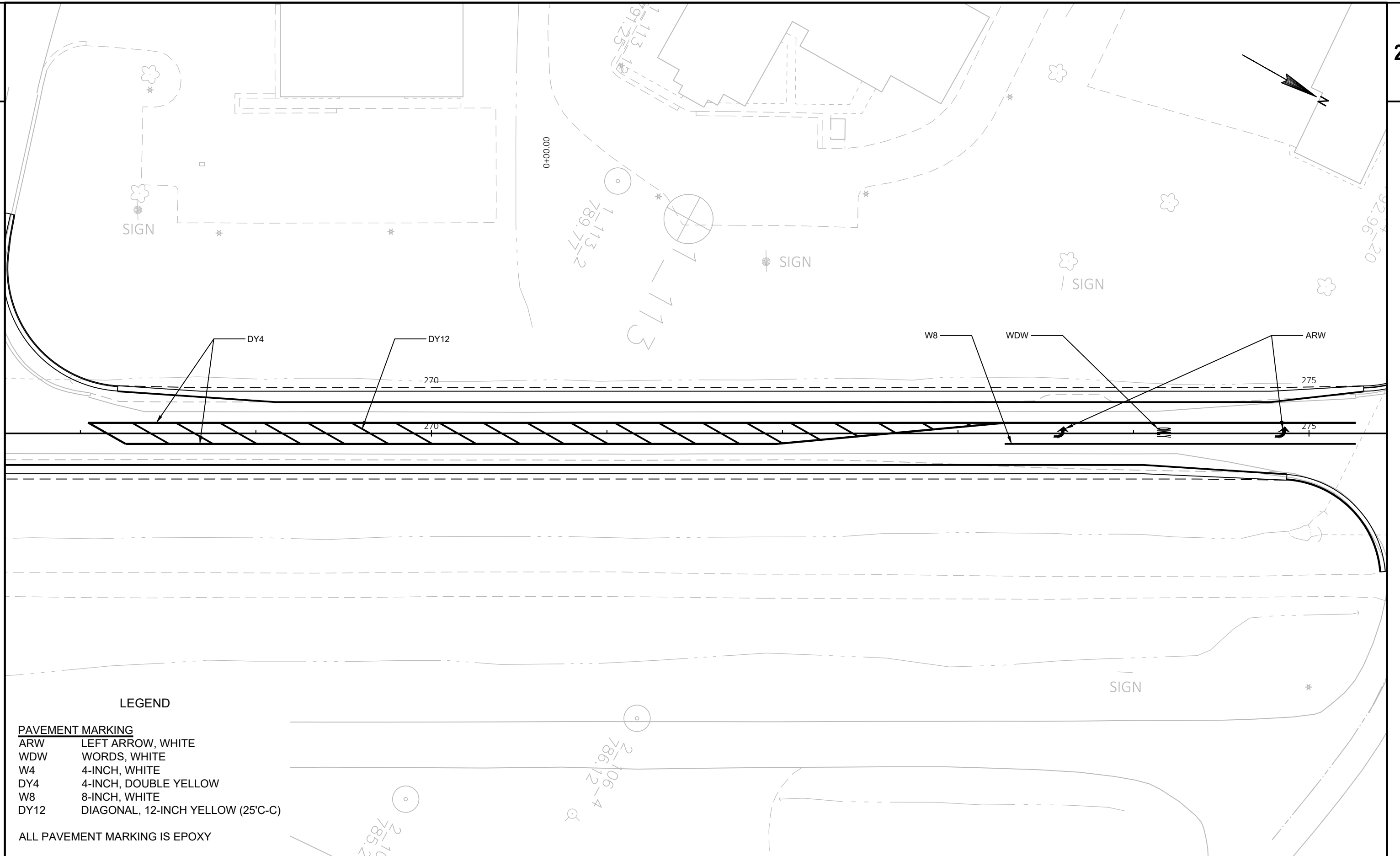


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2

2



LEGEND

PAVEMENT MARKING

- | | |
|------|-----------------------------------|
| ARW | LEFT ARROW, WHITE |
| WDW | WORDS, WHITE |
| W4 | 4-INCH, WHITE |
| DY4 | 4-INCH, DOUBLE YELLOW |
| W8 | 8-INCH, WHITE |
| DY12 | DIAGONAL, 12-INCH YELLOW (25°C-C) |

ALL PAVEMENT MARKING IS EPOXY

PROJECT NO: 9190-20-71

HWY: STH 32

COUNTY: BROWN

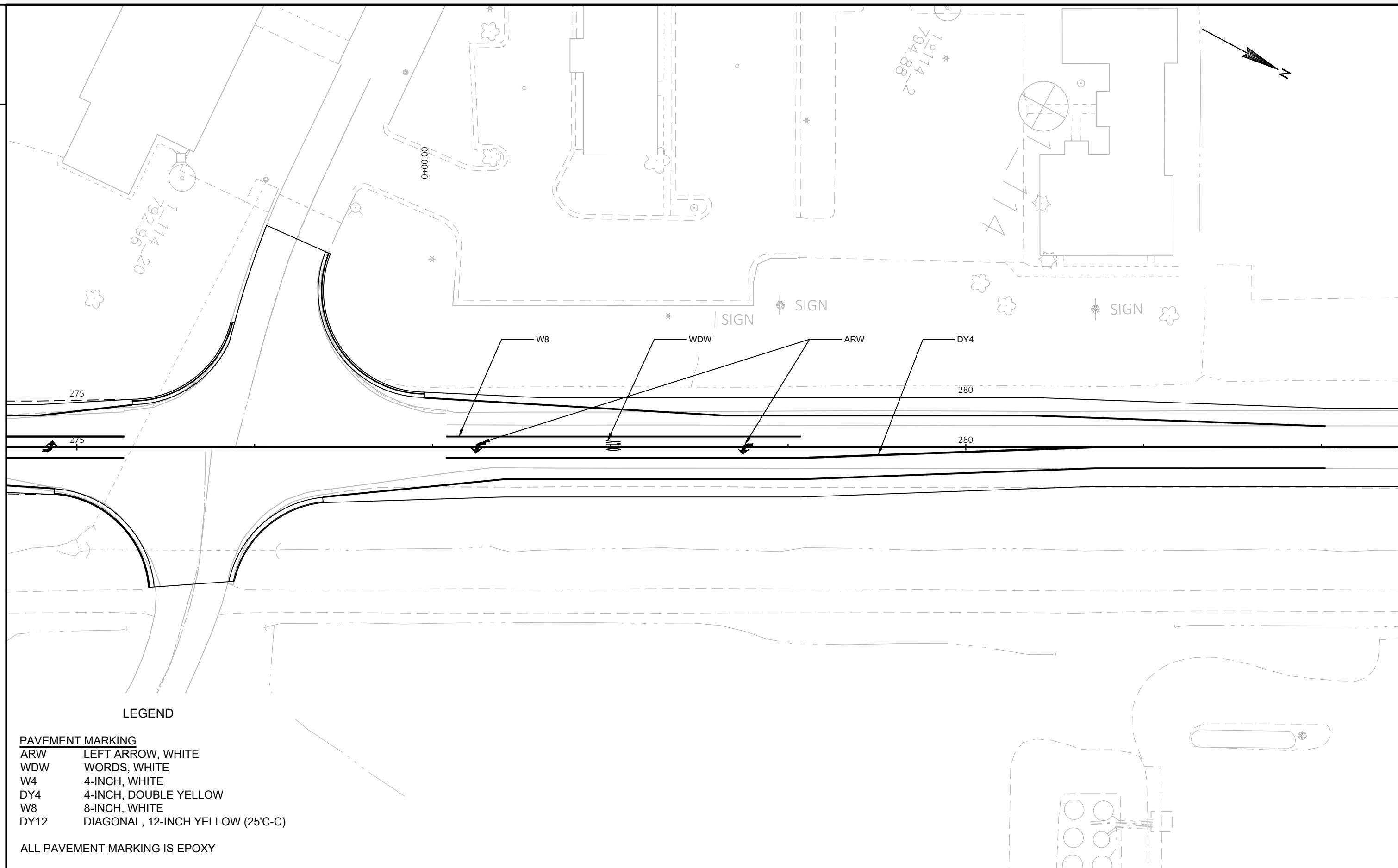
PAVEMENT MARKING

SHEET

E

2

2



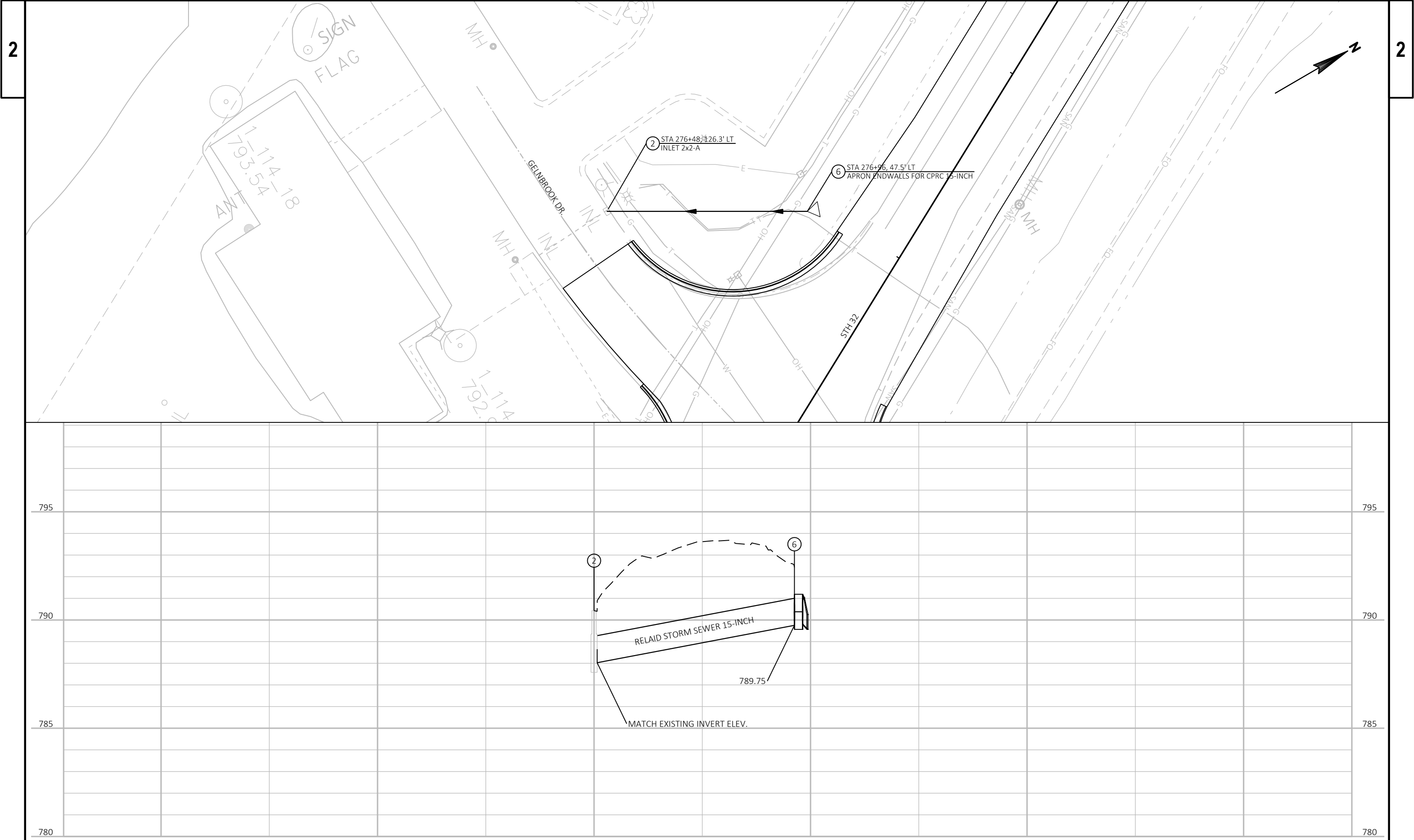
LEGEND

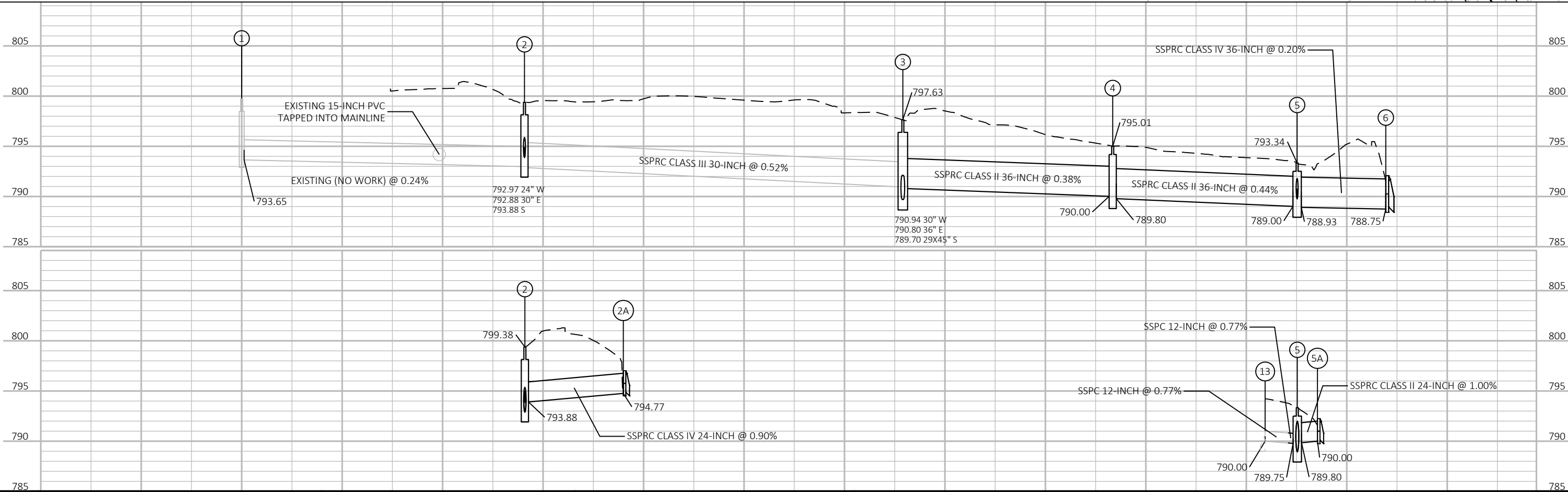
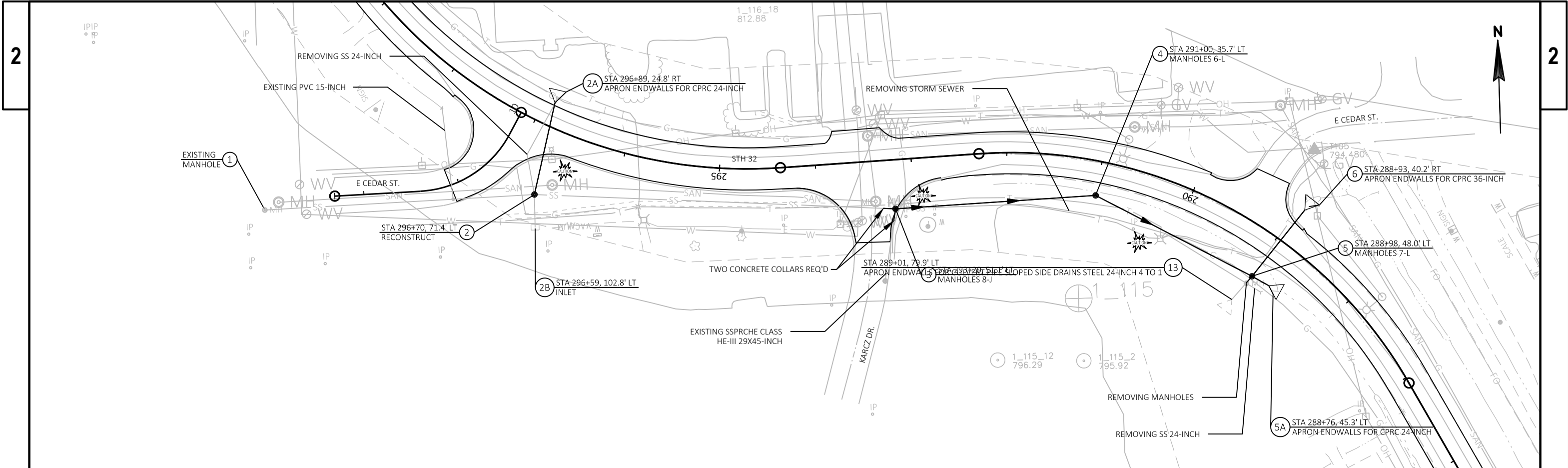
PAVEMENT MARKING

- | | |
|------|-----------------------------------|
| ARW | LEFT ARROW, WHITE |
| WDW | WORDS, WHITE |
| W4 | 4-INCH, WHITE |
| DY4 | 4-INCH, DOUBLE YELLOW |
| W8 | 8-INCH, WHITE |
| DY12 | DIAGONAL, 12-INCH YELLOW (25°C-C) |

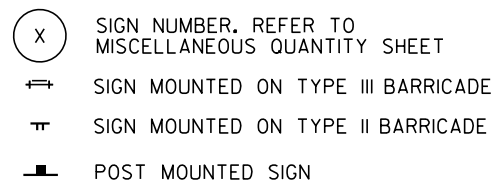
ALL PAVEMENT MARKING IS EPOXY

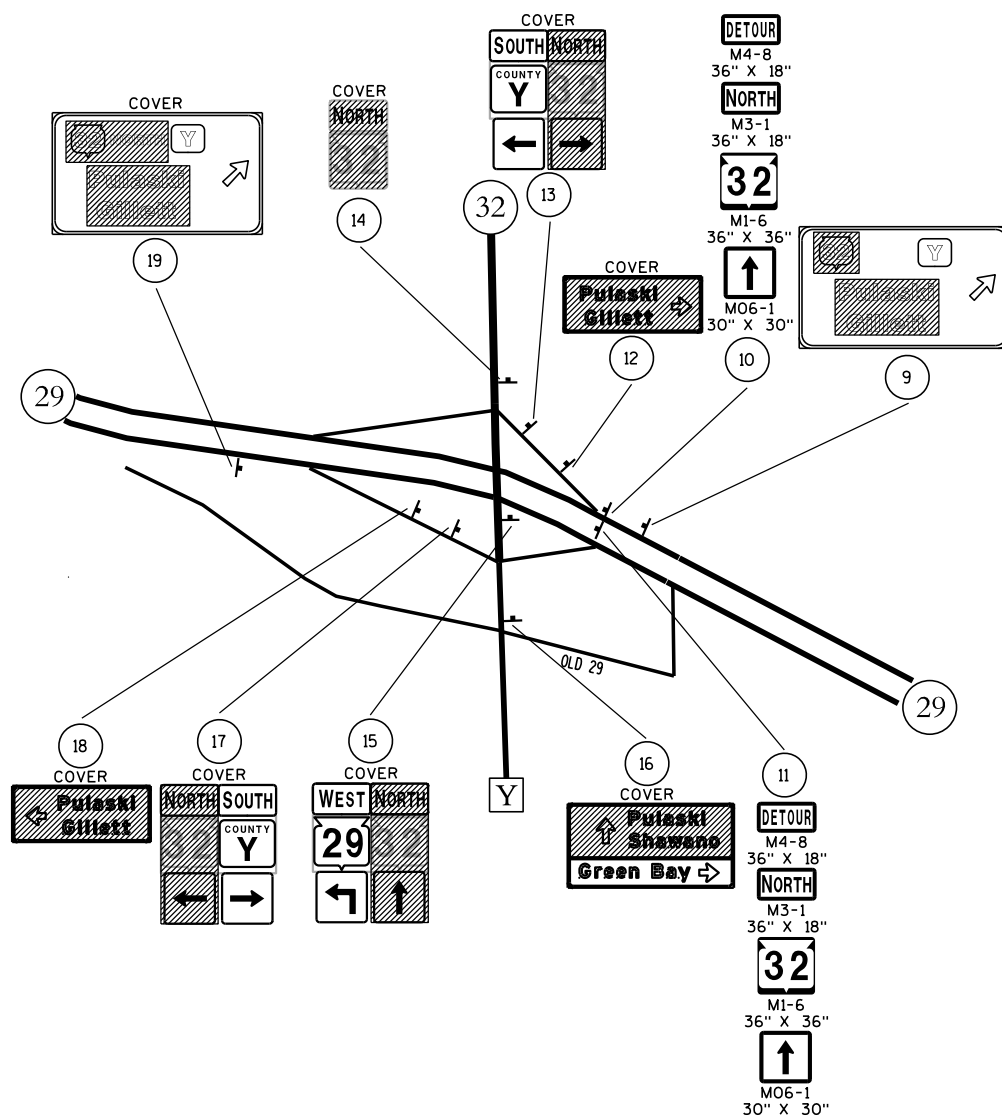
PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	PAVEMENT MARKING	SHEET	E
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PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	STORM SEWER	SHEET	E
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LEGEND

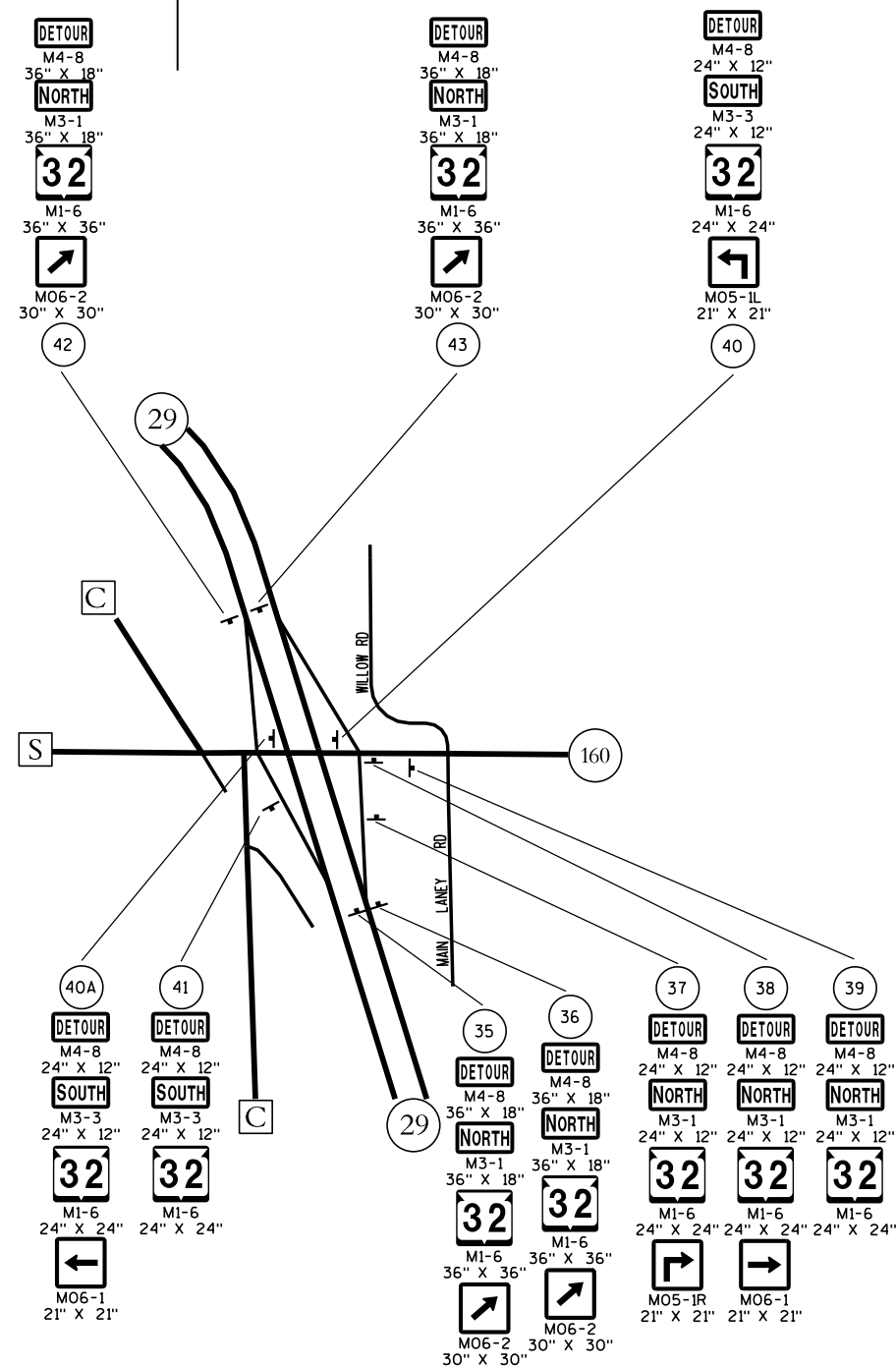
(X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET

⇐ SIGN MOUNTED ON TYPE III BARRICADE

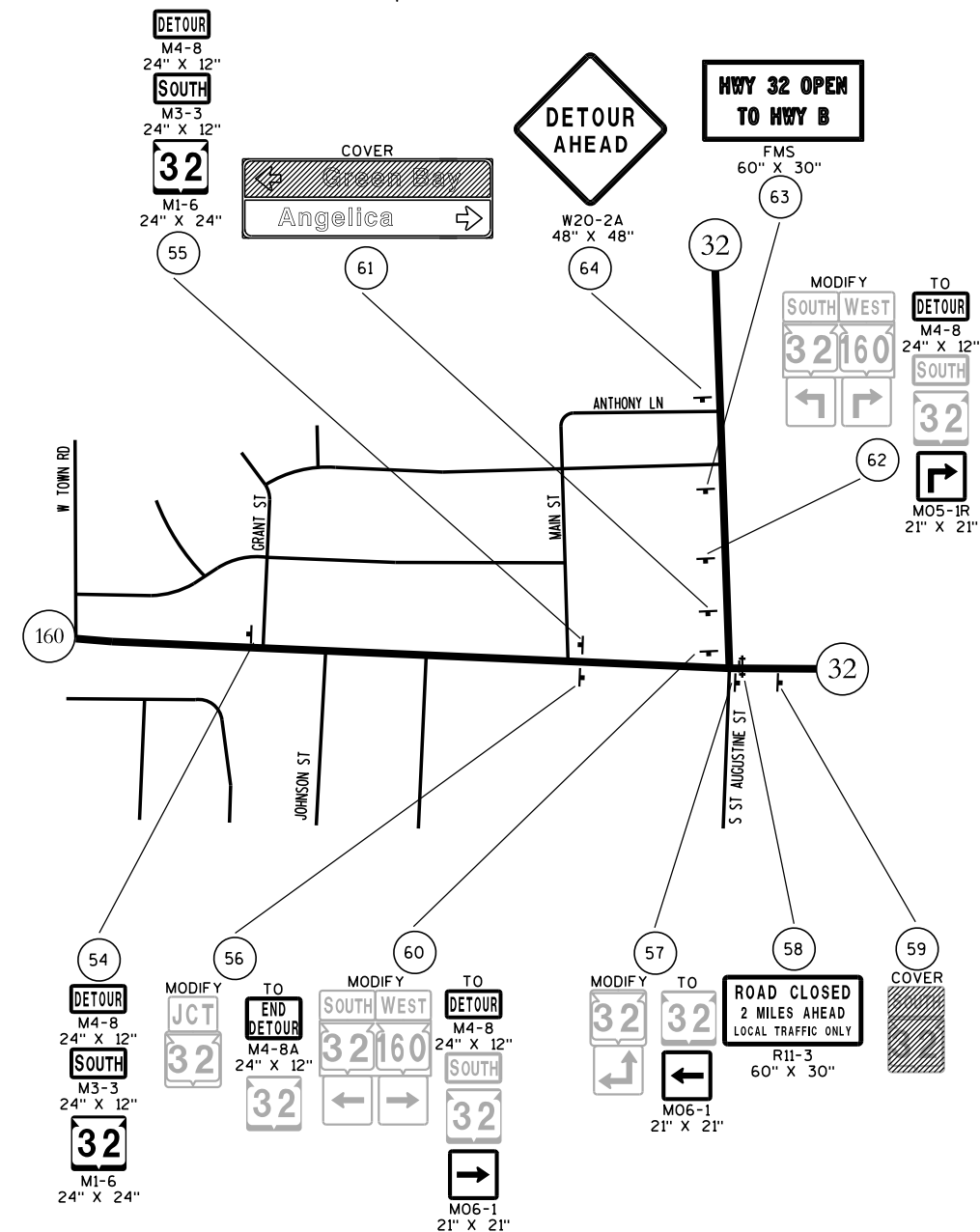
π SIGN MOUNTED ON TYPE II BARRICADE

 POST MOUNTED SIGN

DETAIL 1



DETAIL 2



DETAIL 3

PLAN SHEET PRODUCED
BY WISDOT-NE REGION

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER	●
ACCESS RIGHTS	AR	(MATERIAL AS NOTED)	
ACRES	AC	SET R/W MONUMENT W/CAP	○
CHORD BEARING	CH BRG	11-1/2" OUTSIDE DIA. X 18"	
CHORD DISTANCE	CH DIS	IRON PIPE 1.13 LBS./FT.)	
DEED	(D)	FOUND TYPE 2 MON.	●
DOCUMENT	DOC	FOUND 3/4" REBAR	●
EAST BOUND	EB	SET P.K. NAIL	△
GAS VALVE	GV	PROPOSED R/W	PRW000
INLET	IL	BOUNDARY POINT	=====
LENGTH OF CURVE	L	CORPORATE LIMITS	=====
MANHOLE	MH	EXISTING R/W	=====
MONUMENT	MON	SECTION LINE	=====
NORTH BOUND	NB	QUARTER LINE	=====
PAGE	PG	SIXTEENTH LINE	=====
PERMANENT	PERM	PROPOSED OR NEW R/W LINE	=====
PERMANENT LIMITED EASEMENT	P.L.E.	PROPOSED EASEMENT LINE	-----
PRIVATE DRIVEWAY	PD	CSM, SUBDIVISION, OR	-----
PROPERTY LINE	PL	PLAT OF SURVEY LINE	-----
RADIUS	RAD	PARCEL NUMBER	00
REFERENCE LINE	R/L		000
REMAINING	REM		0-0
RIGHT OF WAY	R/W		
SECTION	SEC		
SECTION LINE	S		
FOUND IRON PIPE	IP		
STATION	STA		
TEMPORARY LIMITED EASEMENT	T.L.E.		
TIE POINT	TIE		
VOLUME	VOL		
ADJOINING LANDS			
WITH SAME OWNER			
PARALLEL TO LINE	00°		
BUILDING TO BE RAZED			
FEE ACQUISITION			
BEGIN POINT	BP		
END POINT	EP		

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD	OH
TRANSMISSION LINES	TH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
NON-COMPENSABLE	NON-COMPENSABLE
COMPENSABLE	COMPENSABLE
POWER POLE	□
TELEPHONE POLE	○
TELEPHONE PEDESTAL	×
ELECTRIC TOWER	⊠

NOTES:

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO COMPLETION OF PROJECT.

AREAS SHOWN IN THE TOTAL ACRES COLUMN OF THE SCHEDULE OF LANDS & INTEREST TABLE MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

COORDINATES AS SHOWN ARE NOT INTENDED TO BE USED FOR RETRACEMENT PURPOSES AND MUST BE VERIFIED WITH THE COUNTY SURVEY DEPARTMENT.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD 83 (2007) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

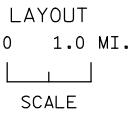
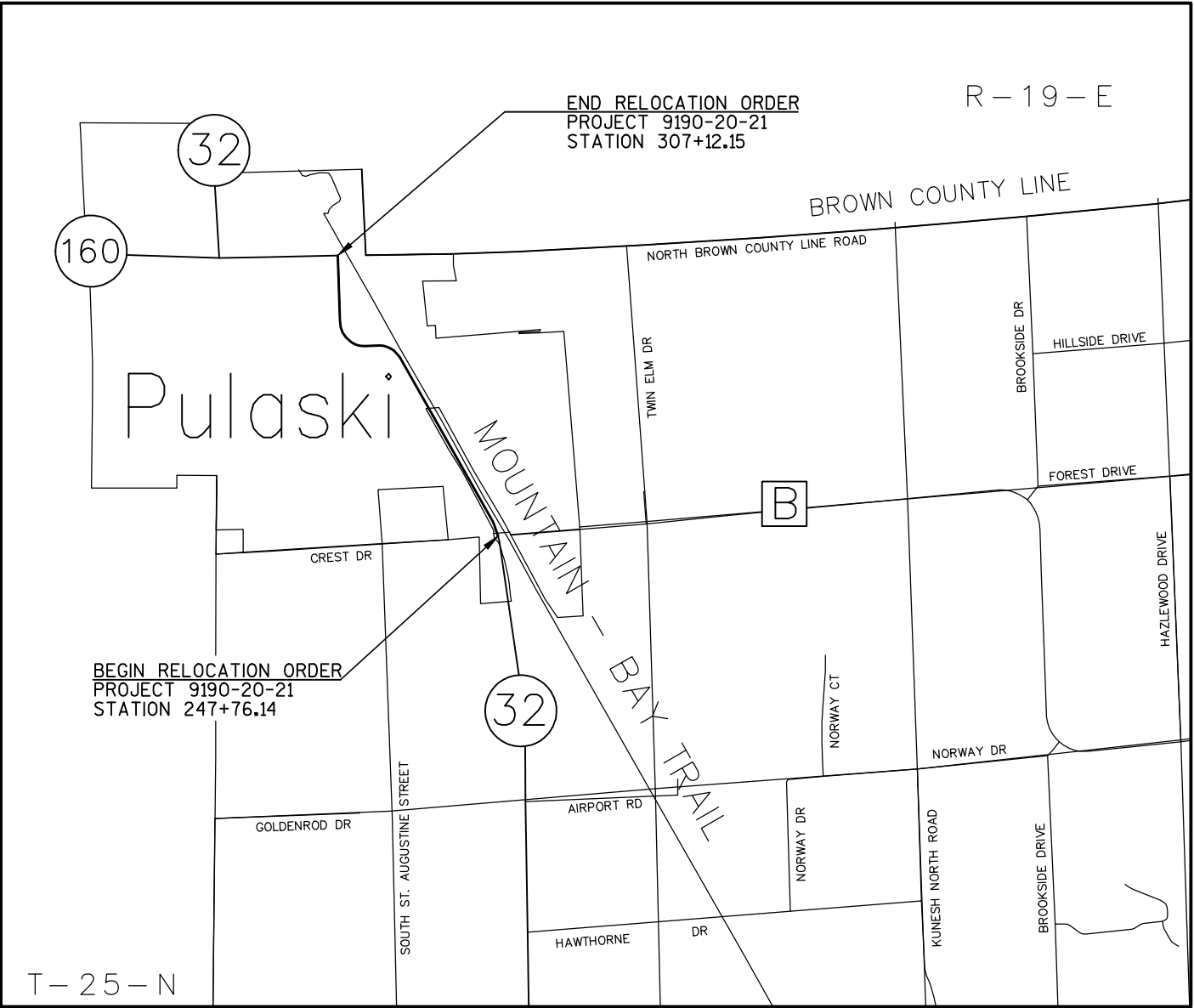
EXISTING RIGHT OF WAY WAS ACQUIRED FROM PROJECT(S): T-0261 (4), CSMs AND PLAT OF SURVEYS

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT(S)/DOC.#:

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE.

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO DEPARTMENT OF TRANSPORTATION.

FEE SIMPLE TO ALL THOSE EXISTING LANDS OF THE GRANTOR CURRENTLY USED FOR HIGHWAY PURPOSES, DESIGNATED AS EXISTING RIGHT OF WAY, WHETHER ACQUIRED BY SEPARATE CONVEYANCE OR OTHERWISE, BOUND BY THE TRAVERSE OF THE COURSE TABLE OF NEW RIGHT OF WAY AS SHOWN ON THE SAID TRANSPORTATION PROJECT PLAT.



TOTAL NET LENGTH OF CENTERLINE = 1.00 MI.

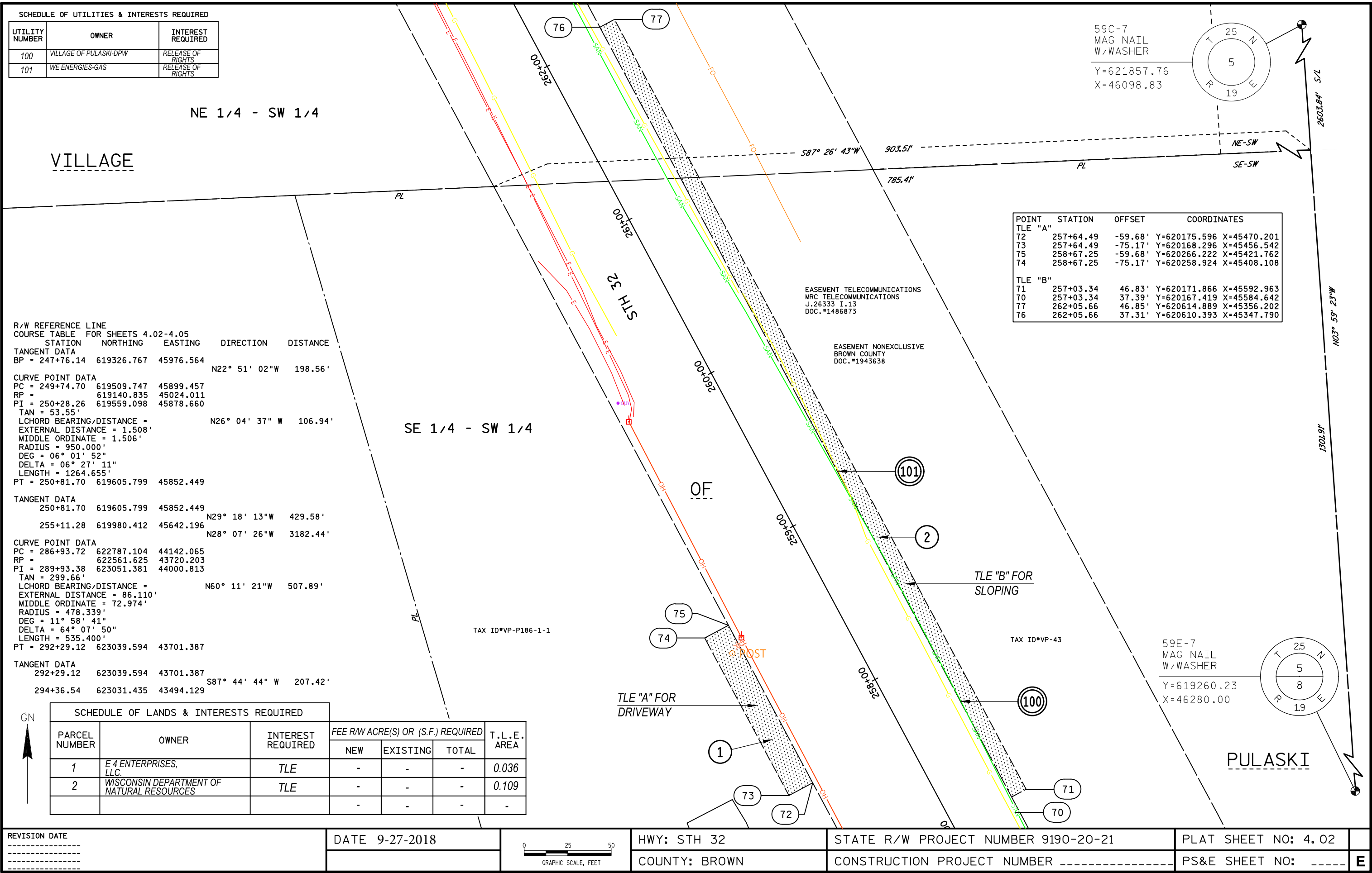


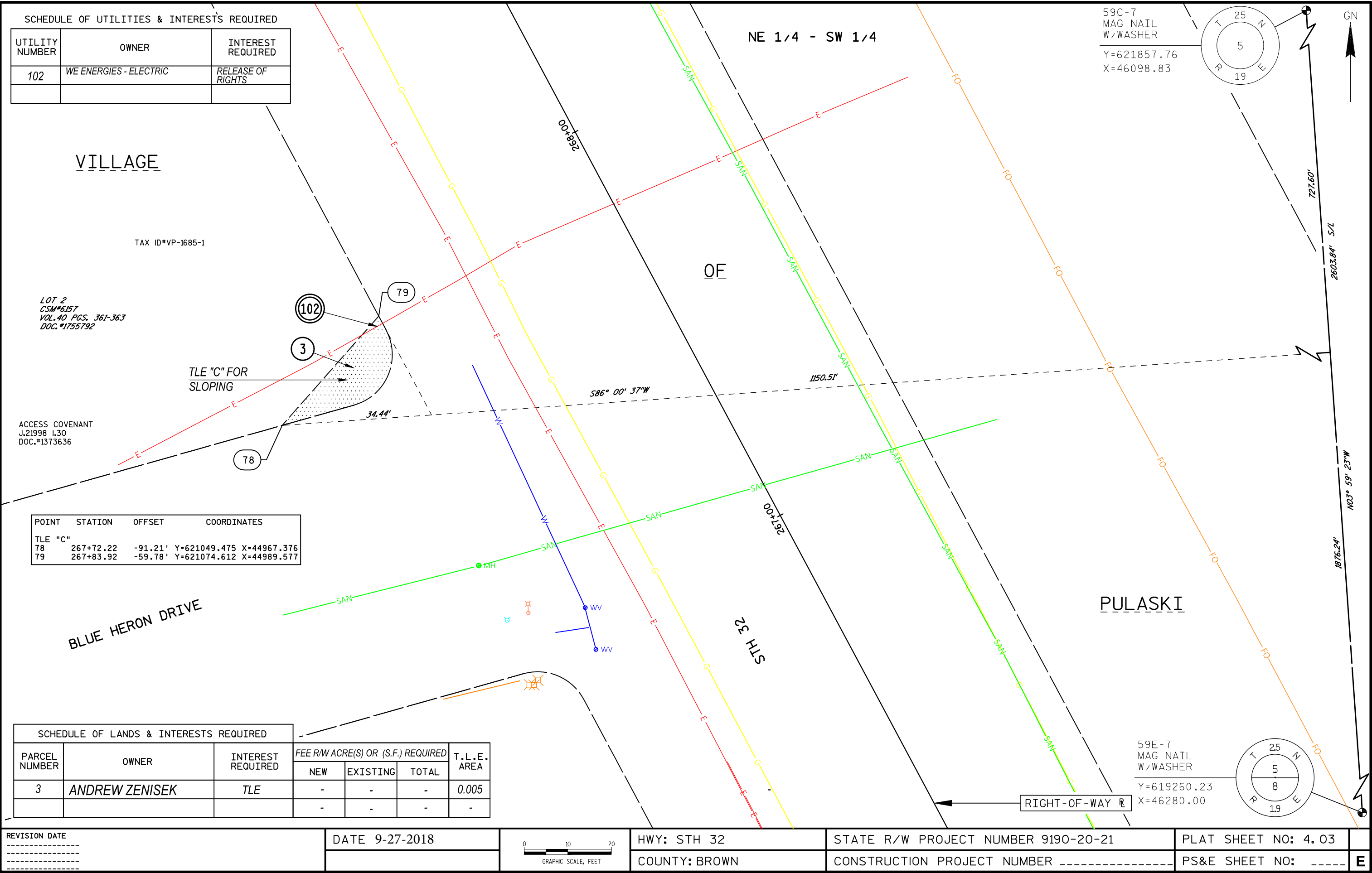
Gregory T. Belanger

R/W PROJECT NUMBER	SHEET	TOTAL
9190-20-21	NUMBER	SHEET
FEDERAL PROJECT NUMBER	4.01	5

PLAT OF RIGHT OF WAY REQUIRED FOR		
VILLAGE OF PULASKI		
CTH B - EAST GREEN BAY ST.		
STH 32		BROWN COUNTY

REVISION DATE	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED:	DATE: 9-27-2018 <i>Curt Van Erem</i> CURT VAN EREM





SCHEDULE OF UTILITIES & INTERESTS REQUIRED		
UTILITY NUMBER	OWNER	INTEREST REQUIRED
102	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS

59C-7
MAG NAIL
W/WASHER
Y=621857.76
X=46098.83

25
N
5
E
19
P

GN

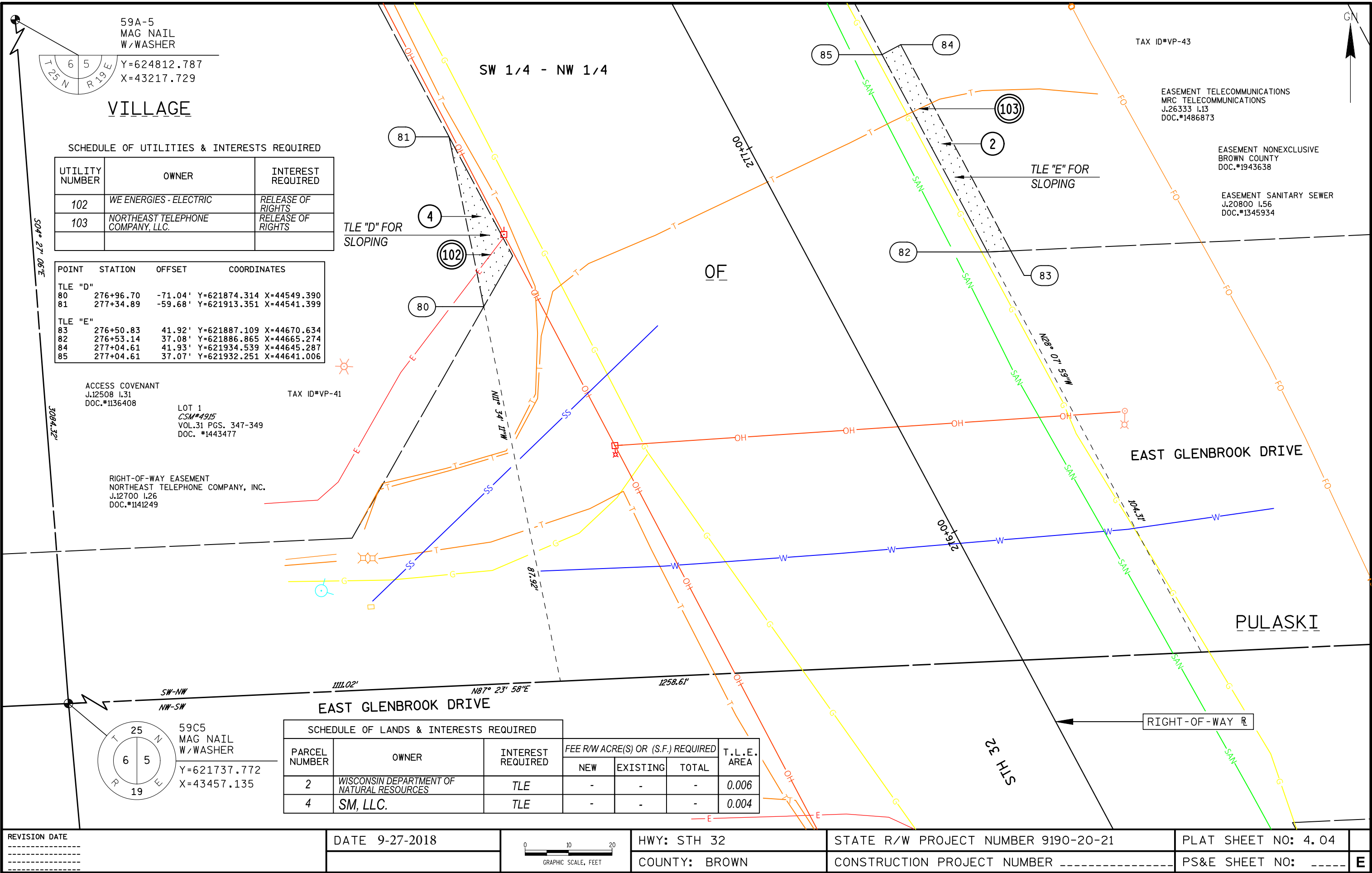
POINT	STATION	OFFSET	COORDINATES
TLE "C"			
78	267+72.22	-91.21'	Y=621049.475 X=44967.376
79	267+83.92	-59.78'	Y=621074.612 X=44989.577

SCHEDULE OF LANDS & INTERESTS REQUIRED						
PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRE(S) OR (S.F.) REQUIRED			T.L.E. AREA
			NEW	EXISTING	TOTAL	
3	ANDREW ZENISEK	TLE	-	-	-	0.005
			-	-	-	-

59E-7
MAG NAIL
W/WASHER
Y=619260.23
X=46280.00

25
N
5
E
19
P

GN



59A-5
MAG NAIL
W/WASHER

Y=624812.787
X=43217.729

VILLAGE

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
102	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS
103	NORTHEAST TELEPHONE COMPANY, LLC.	RELEASE OF RIGHTS

POINT	STATION	OFFSET	COORDINATES
TLE "D"			
80	276+96.70	-71.04'	Y=621874.314 X=44549.390
81	277+34.89	-59.68'	Y=621913.351 X=44541.399
TLE "E"			
83	276+50.83	41.92'	Y=621887.109 X=44670.634
82	276+53.14	37.08'	Y=621886.865 X=44665.274
84	277+04.61	41.93'	Y=621934.539 X=44645.287
85	277+04.61	37.07'	Y=621932.251 X=44641.006

ACCESS COVENANT
J.12508 I.31
DOC.*1136408

TAX ID*VP-41

LOT 1
CSM*4915
VOL.31 PGS. 347-349
DOC. *1443477

RIGHT-OF-WAY EASEMENT
NORTHEAST TELEPHONE COMPANY, INC.
J.12700 I.26
DOC.*1141249

EAST GLENBROOK DRIVE

SCHEDULE OF LANDS & INTERESTS REQUIRED						
PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRE(S) OR (S.F.) REQUIRED			T.L.E. AREA
			NEW	EXISTING	TOTAL	
2	WISCONSIN DEPARTMENT OF NATURAL RESOURCES	TLE	-	-	-	0.006
4	SM, LLC.	TLE	-	-	-	0.004

REVISION DATE

DATE 9-27-2018

0 10 20
GRAPHIC SCALE, FEET

HWY: STH 32

COUNTY: BROWN

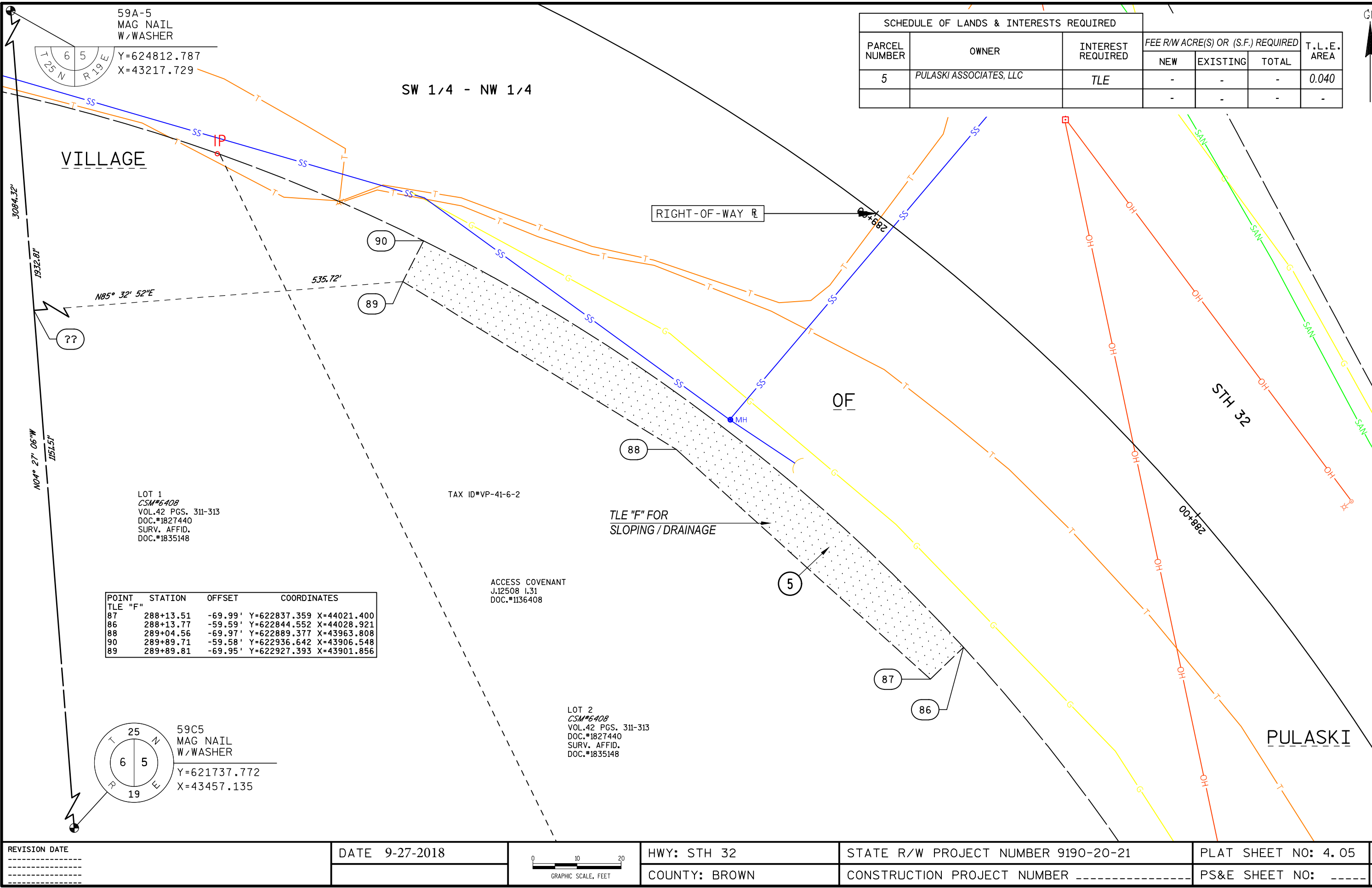
STATE R/W PROJECT NUMBER 9190-20-21

CONSTRUCTION PROJECT NUMBER

PLAT SHEET NO: 4.04

PS&E SHEET NO: _____

E



59A-5
MAG NAIL
W/WASHER
Y=624812.787
X=43217.729

SCHEDULE OF LANDS & INTERESTS REQUIRED						
PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRE(S) OR (S.F.) REQUIRED			T.L.E. AREA
			NEW	EXISTING	TOTAL	
5	PULASKI ASSOCIATES, LLC	TLE	-	-	-	0.040
			-	-	-	-

VILLAGE

RIGHT-OF-WAY R

OF

STH 32

PULASKI

LOT 1
CSM#6408
VOL.42 PGS. 311-313
DOC.#1827440
SURV. AFFID.
DOC.#1835148

TAX ID*VP-41-6-2

TLE "F" FOR
SLOPING / DRAINAGE

ACCESS COVENANT
J.12508 I.31
DOC.#1136408

POINT	STATION	OFFSET	COORDINATES	
TLE "F"				
87	288+13.51	-69.99'	Y=622837.359	X=44021.400
86	288+13.77	-59.59'	Y=622844.552	X=44028.921
88	289+04.56	-69.97'	Y=622889.377	X=43963.808
90	289+89.71	-59.58'	Y=622936.642	X=43906.548
89	289+89.81	-69.95'	Y=622927.393	X=43901.856

59C5
MAG NAIL
W/WASHER
Y=621737.772
X=43457.135

LOT 2
CSM#6408
VOL.42 PGS. 311-313
DOC.#1827440
SURV. AFFID.
DOC.#1835148

REVISION DATE

DATE 9-27-2018

0 10 20
GRAPHIC SCALE, FEET

HWY: STH 32

COUNTY: BROWN

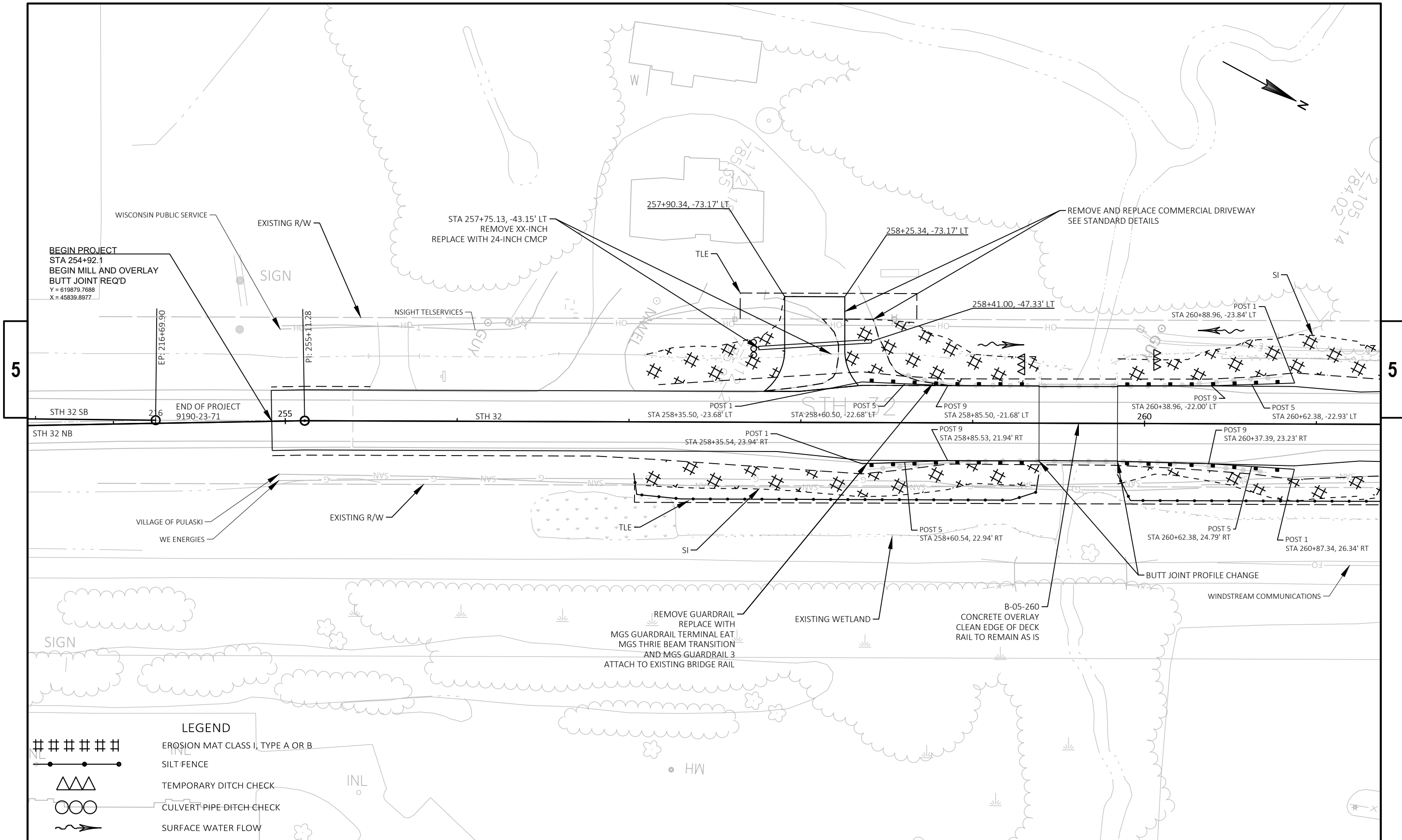
STATE R/W PROJECT NUMBER 9190-20-21

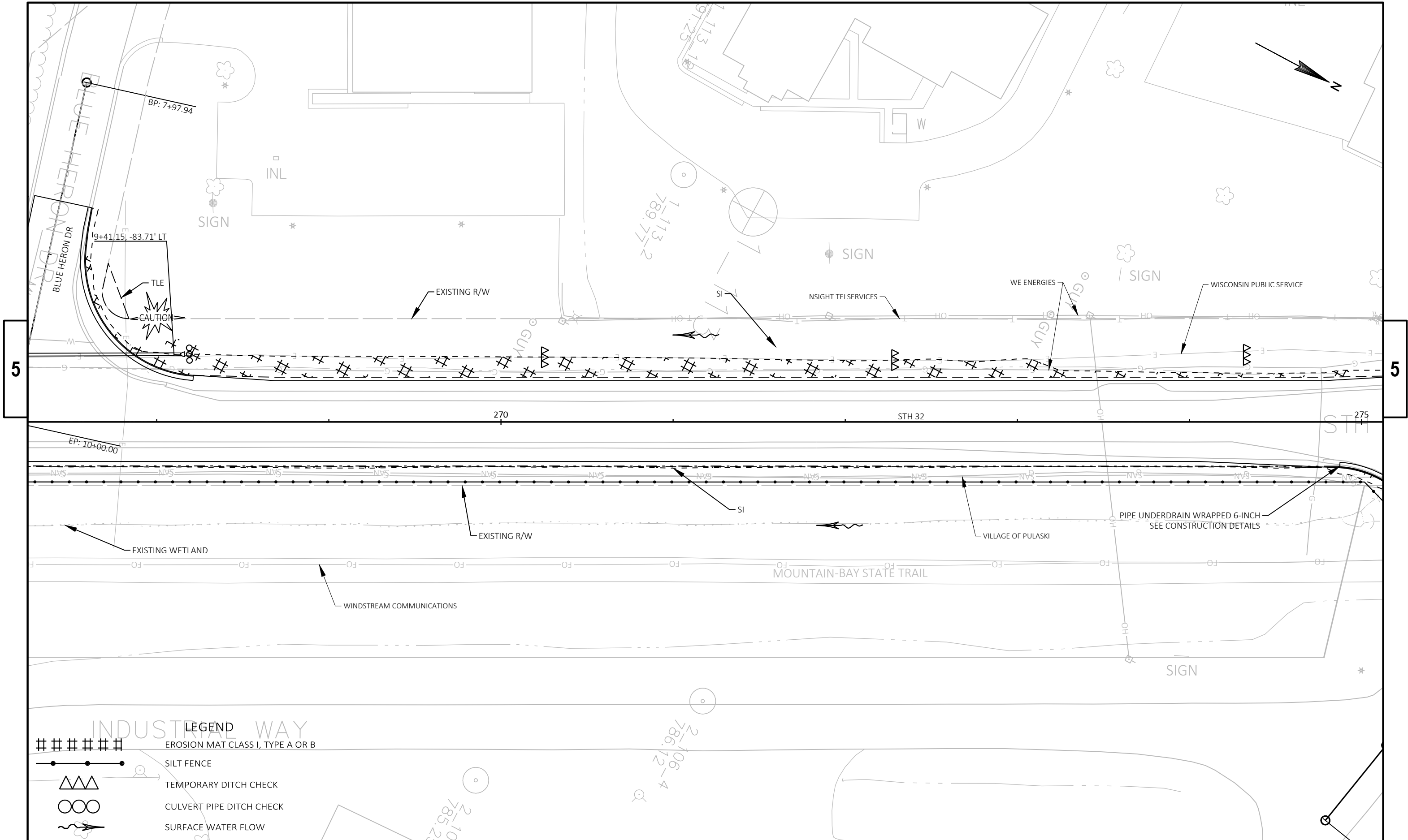
CONSTRUCTION PROJECT NUMBER _____

PLAT SHEET NO: 4.05

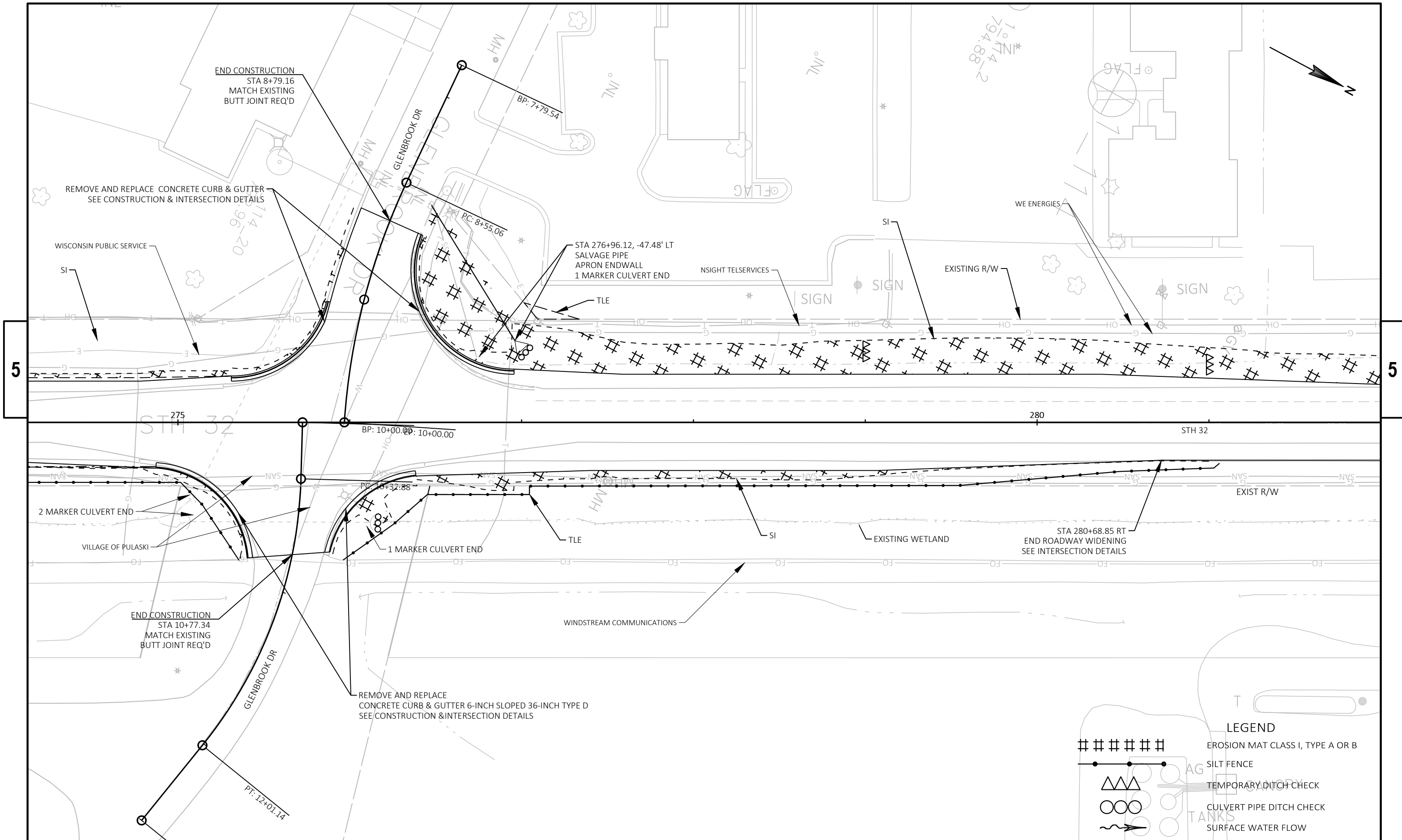
PS&E SHEET NO: _____

E

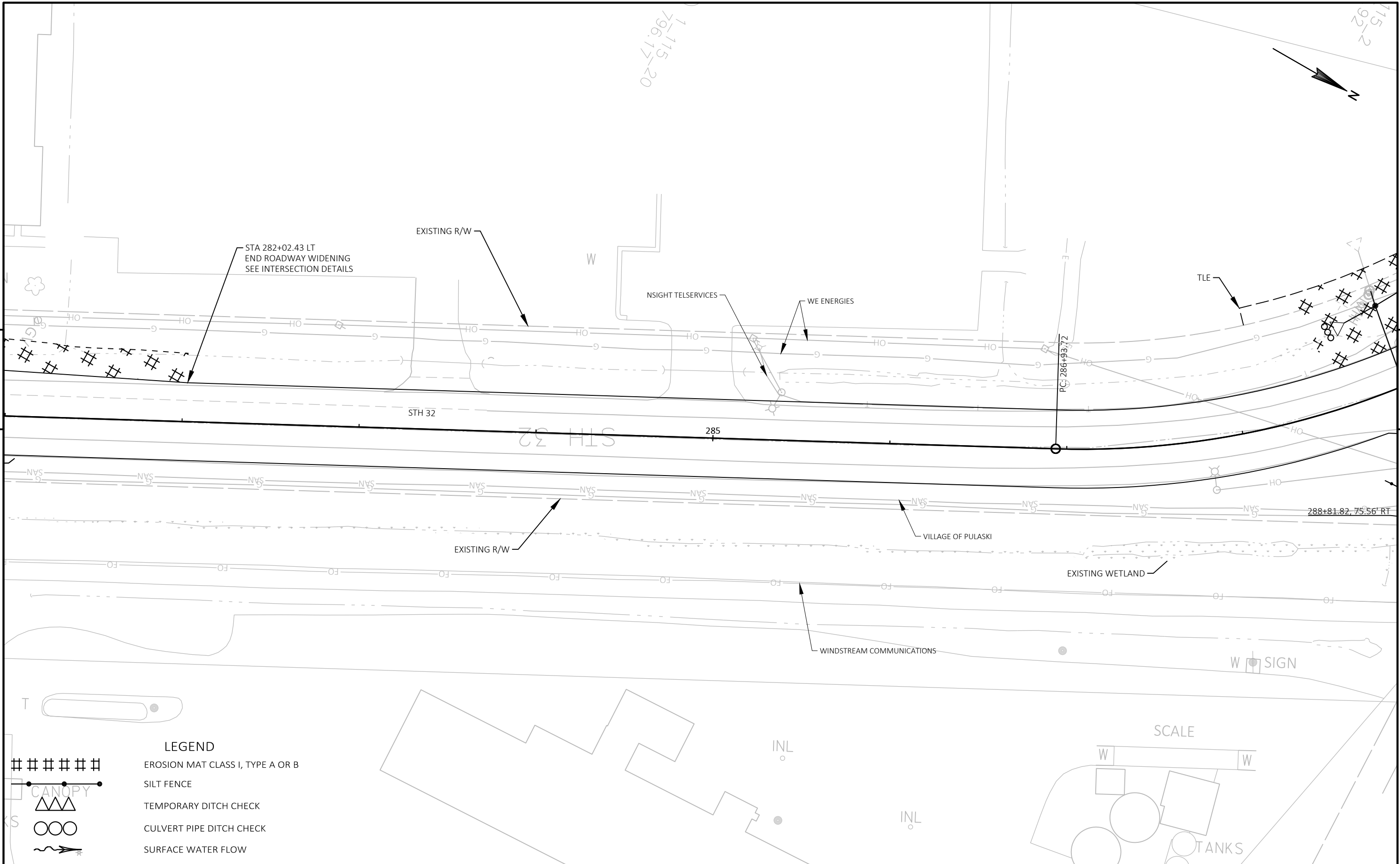




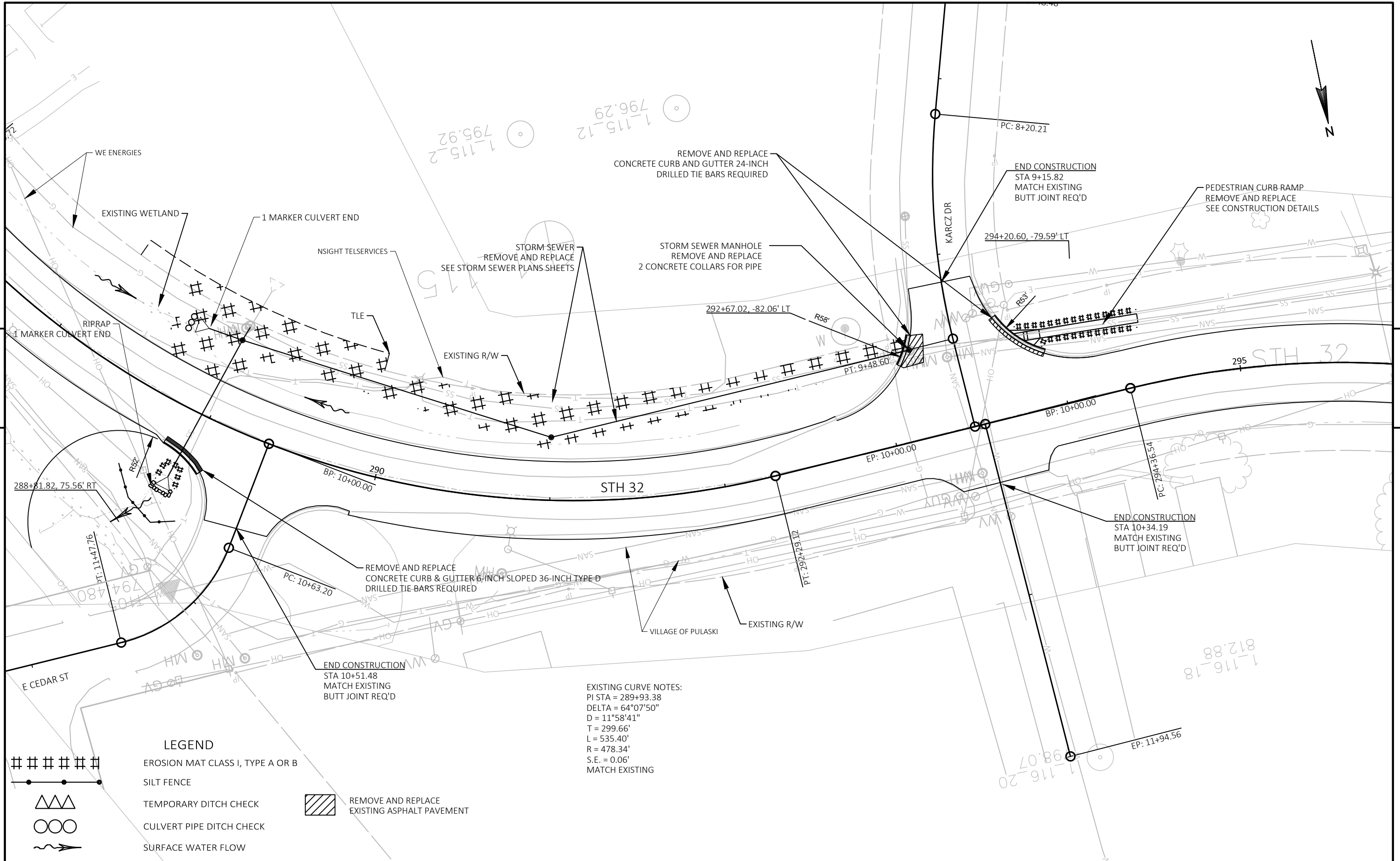
PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	PLAN SHEETS	SHEET	E
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PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	PLAN SHEETS	SHEET	E
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PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	PLAN SHEETS	SHEET	E
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PROJECT NO: 9190-20-71

HWY: STH 32

COUNTY: BROWN

PLAN SHEETS

SHEET

E

FILE NAME : N:\PDS\C3D\91902000\050201-PN.DWG
LAYOUT NAME - 050206

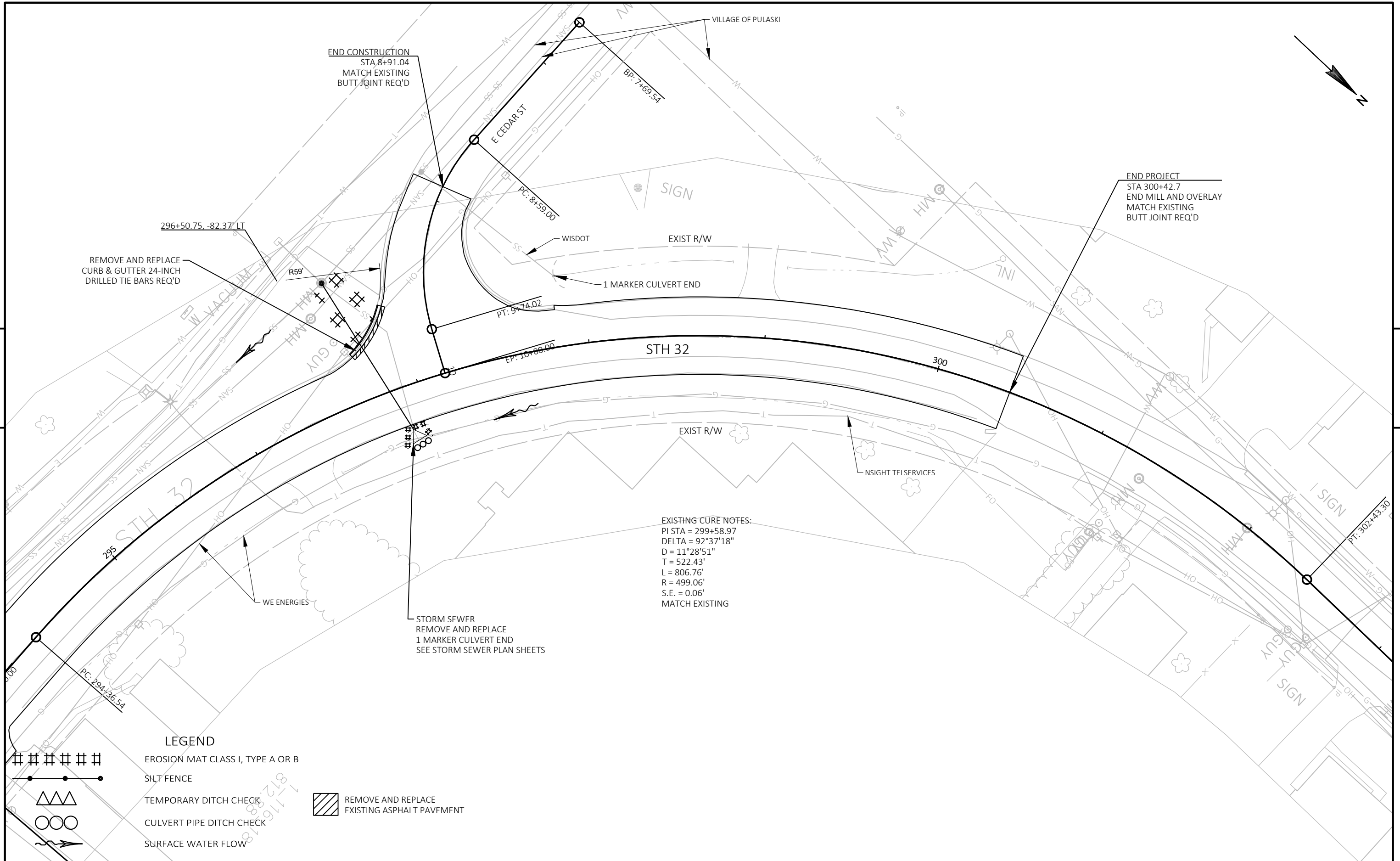
PLOT DATE : 3/20/2019 1:24 PM

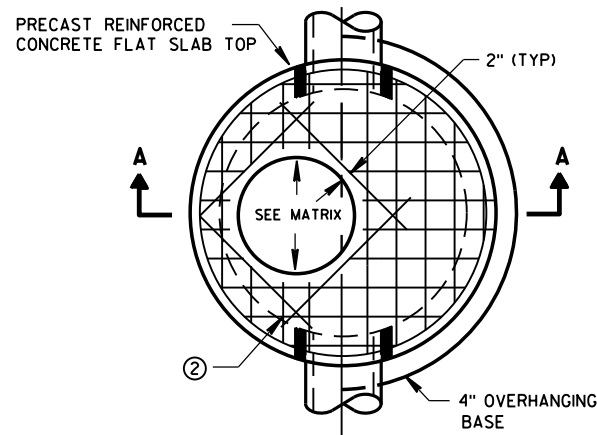
PLOT BY : HOLMES, KELSEY J

PLOT NAME :

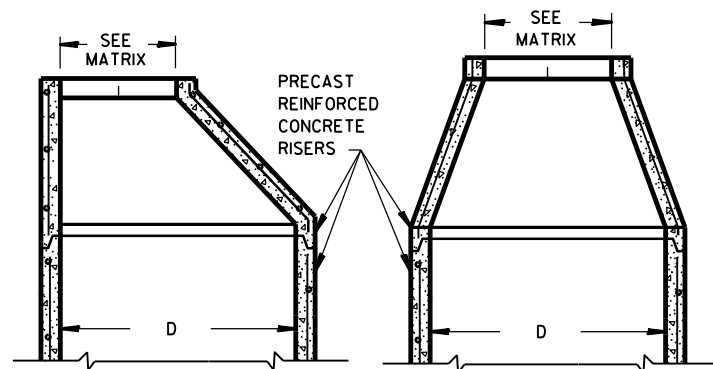
PLOT SCALE : #####

WISDOT/CADD5 SHEET 44



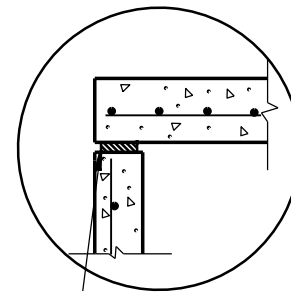


PLAN VIEW CIRCULAR OPENING

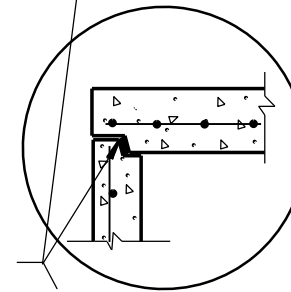


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

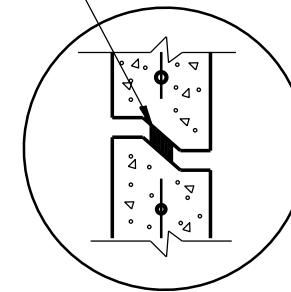
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



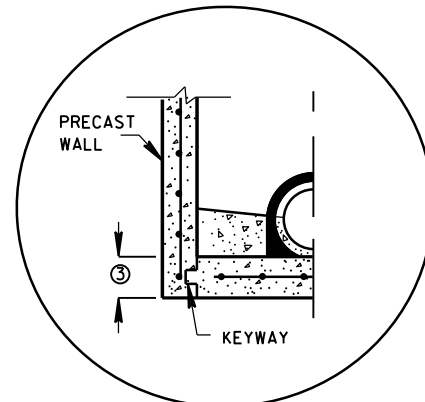
TOP WITH TONGUE AND GROOVE JOINT



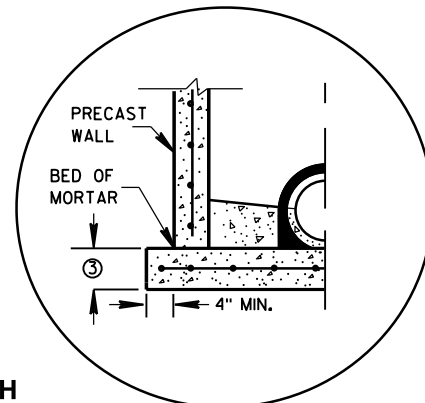
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

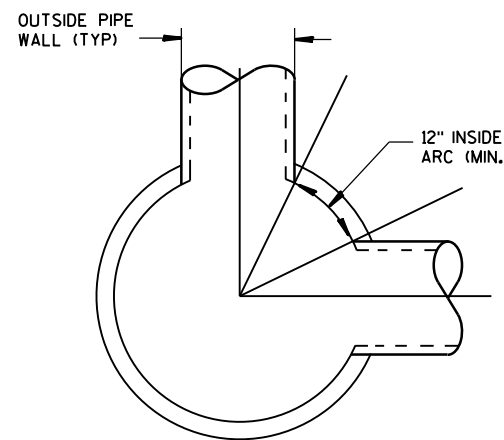


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

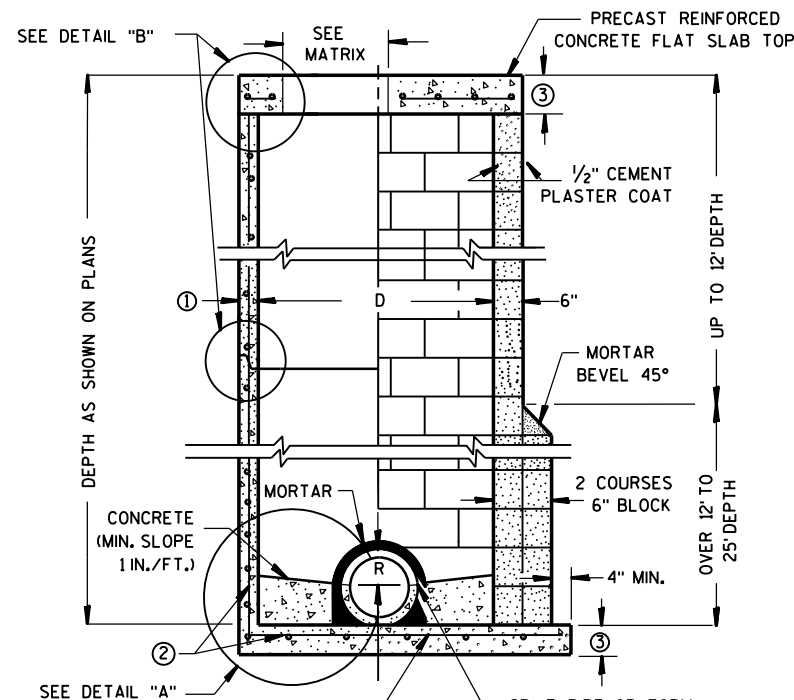


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

PRECAST REINFORCED CONCRETE BLOCK WITH CONCRETE WITH MONOLITHIC BASE CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- ② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

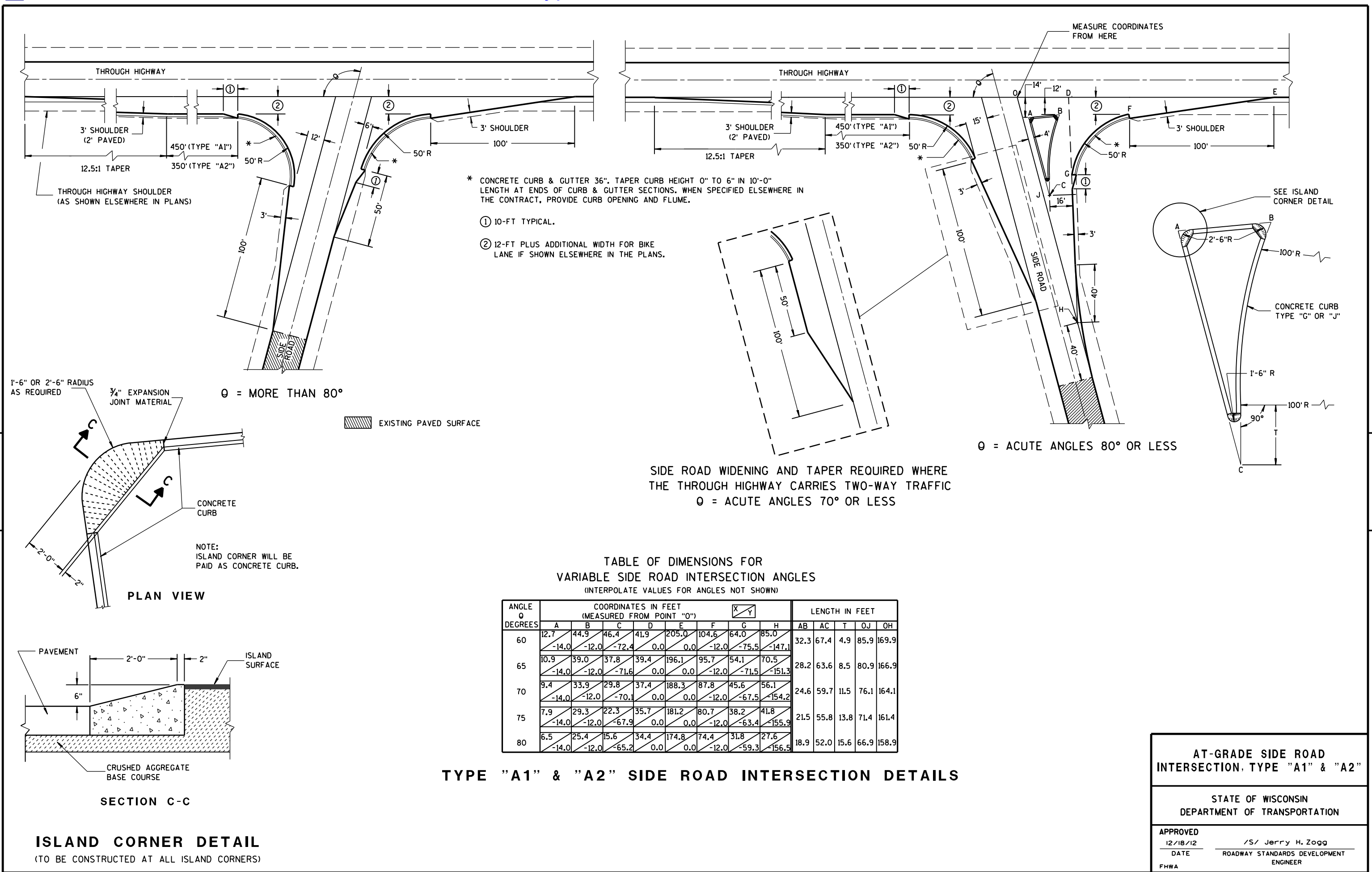
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2016
DATE

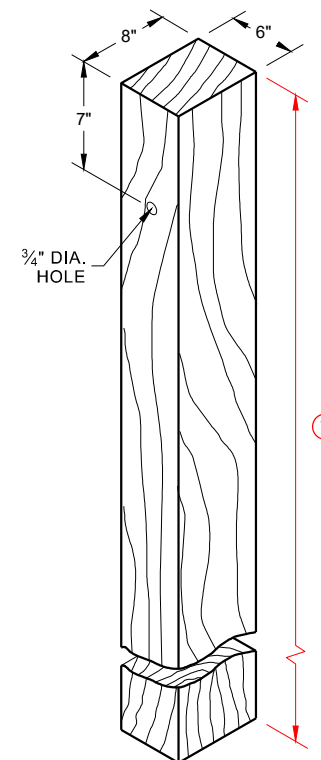
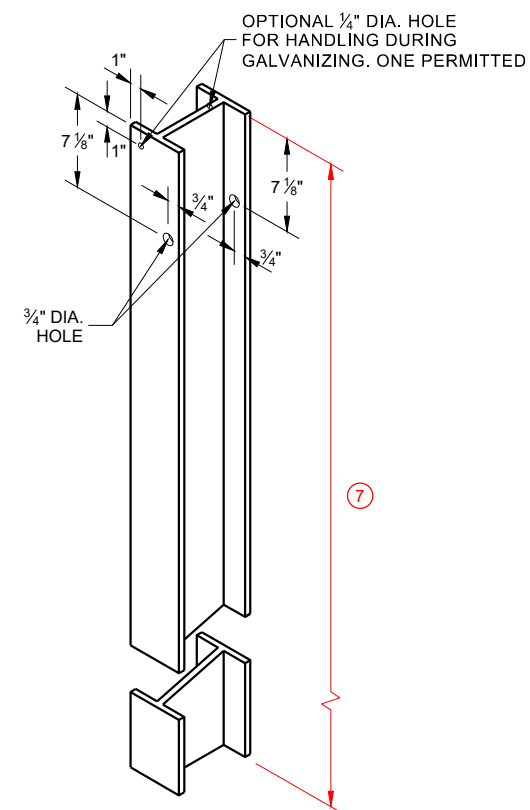
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA



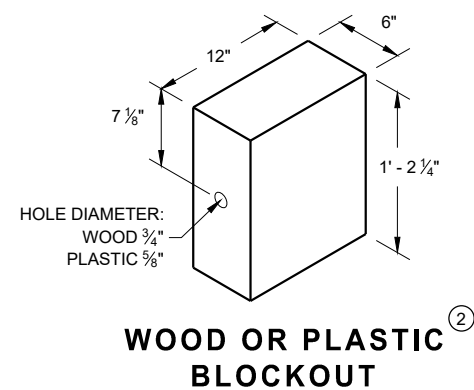
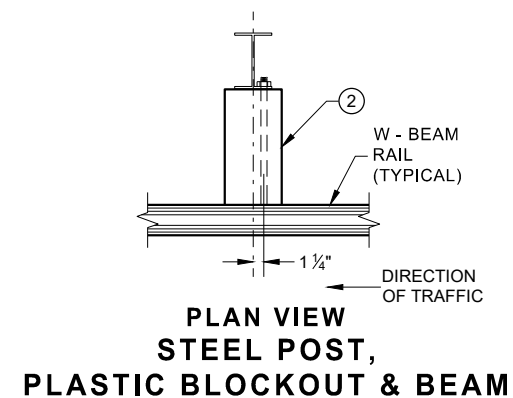
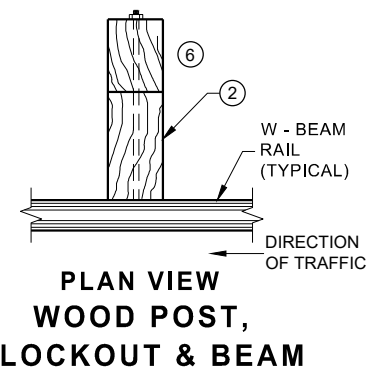
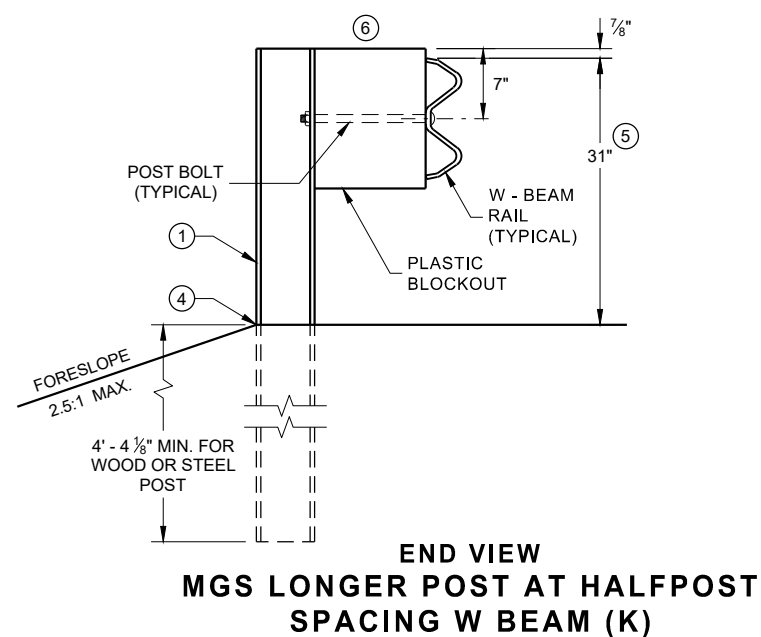
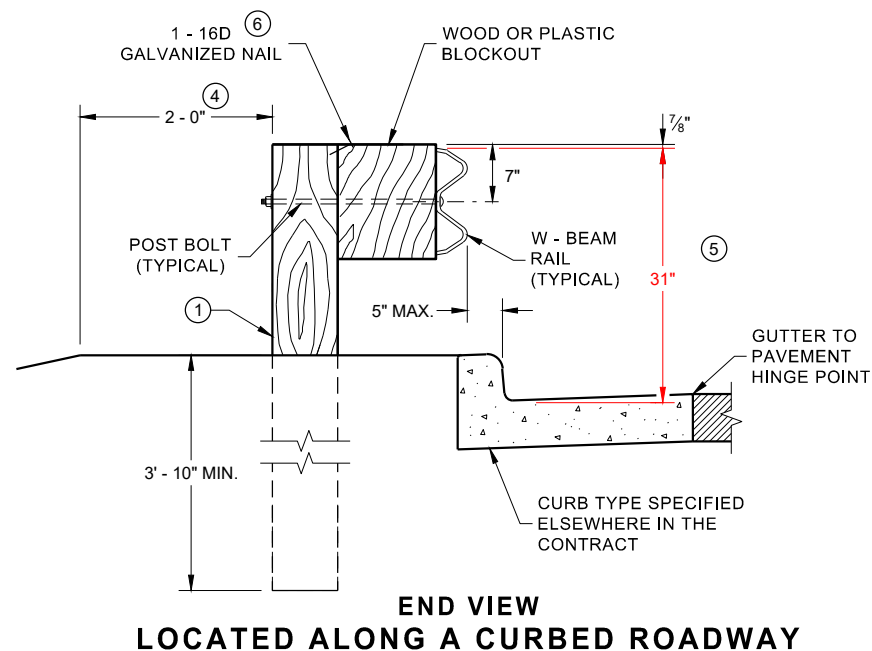
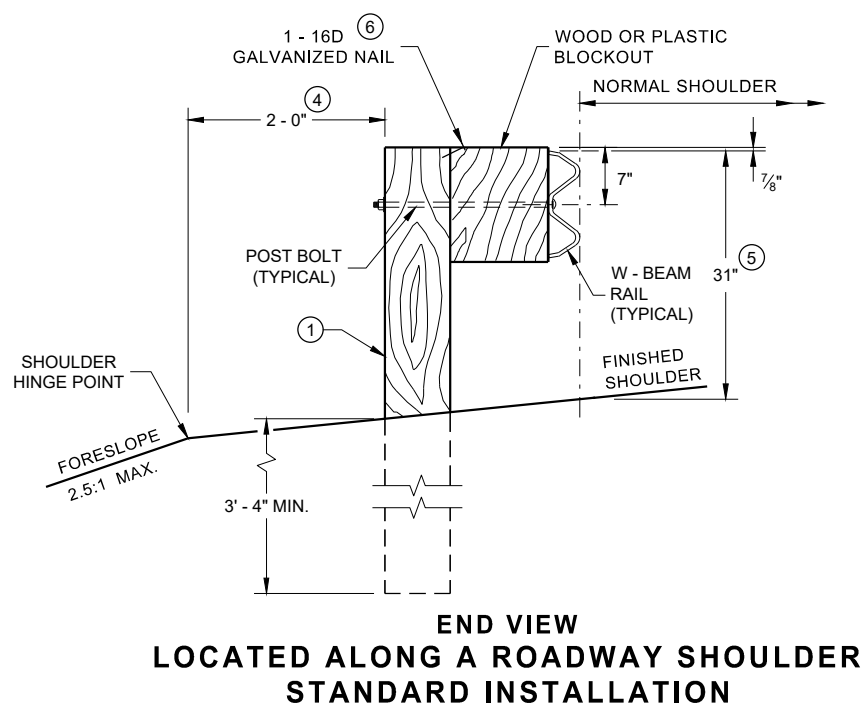


-
- END VIEW**
- SETTING STEEL OR WOOD POST IN ROCK**
- 44 1/2" MIN.
WHERE "A"
IS ≥ 22"
- "A"
- 2 1/2"
- 2" MIN.
- 12"
- 2" MIN.
- FILL WITH
FOUNDATION
BACKFILL
- 20" MINIMUM EMBEDMENT IN SOLID
ROCK IF SHORTENED POST IS USED
WHERE "A" IS ≤ 22"
- 3



**STEEL POST & HOLE
PUNCHING DETAIL
(W 6 X 9) ①**

WOOD POST (6" X 8") NOMINAL ^①

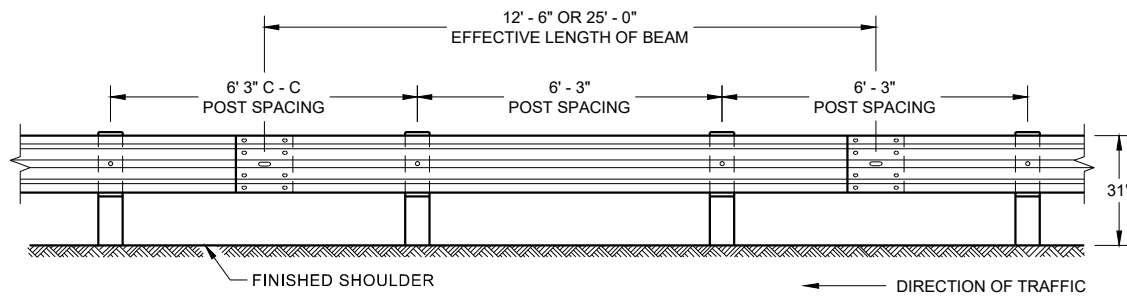


MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

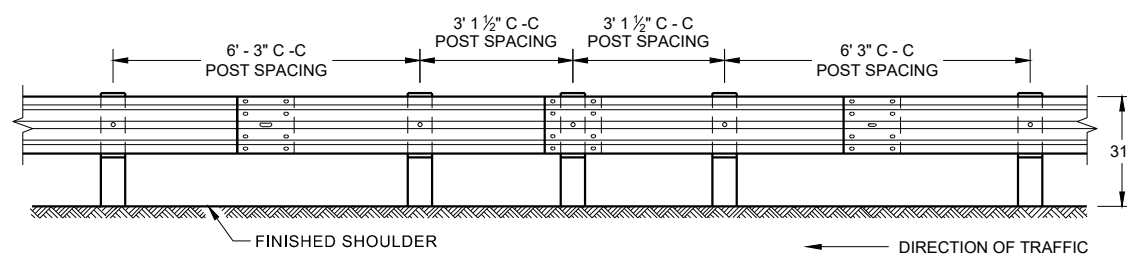
STATE OF WISCONSIN
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SDD 14B42 - 06a

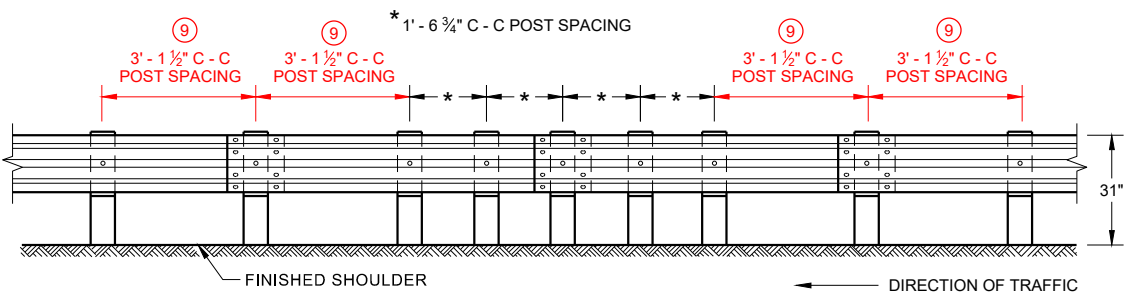
SDD 14B42 - 06a



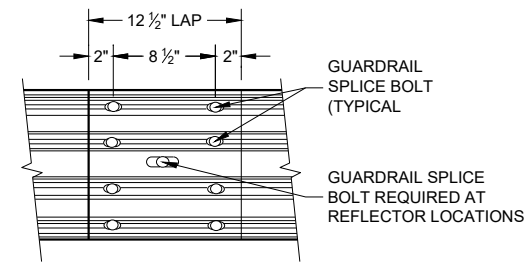
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



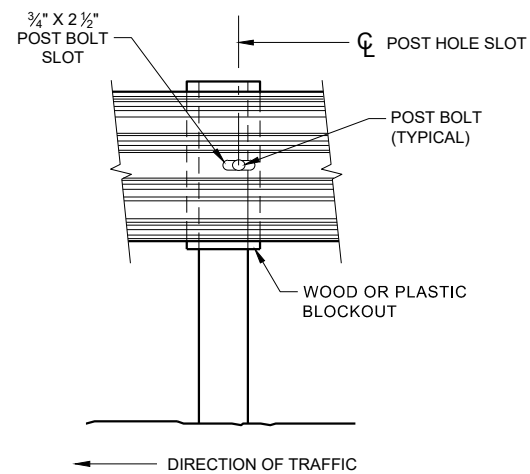
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



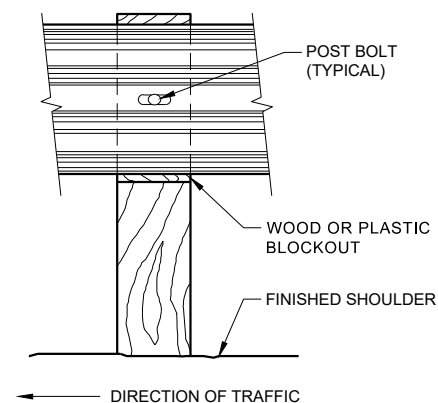
**FRONT VIEW
QUARTER POST SPACING (QS)**



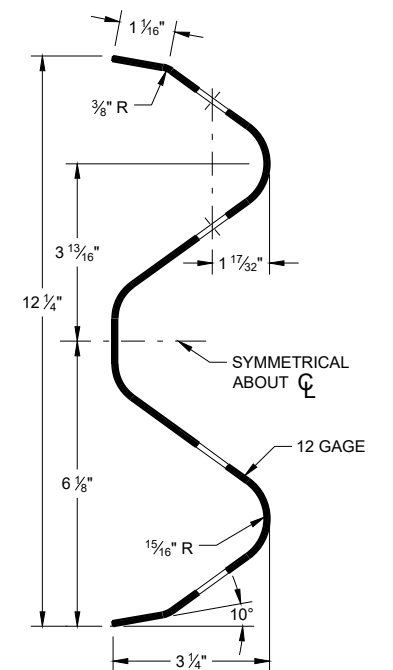
**FRONT VIEW
MID-SPAN BEAM SPLICE**



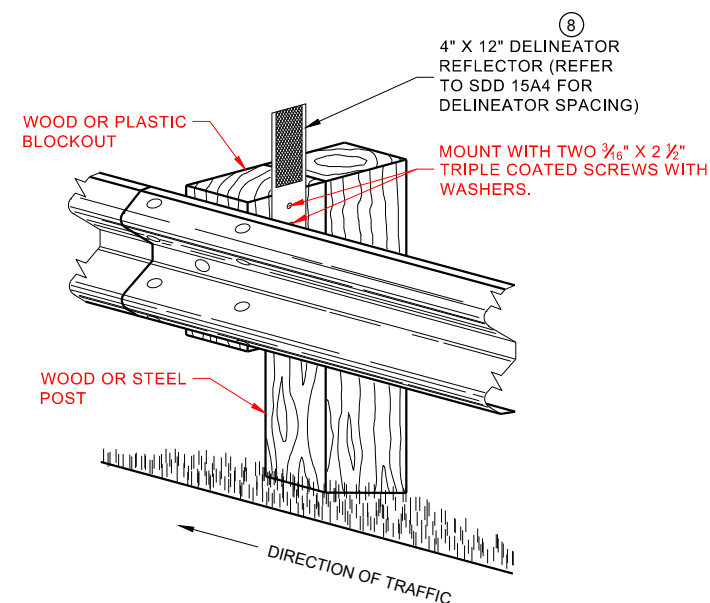
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



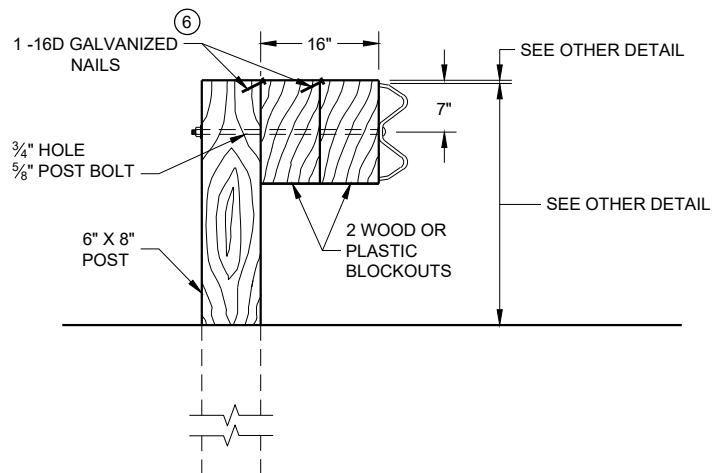
SECTION THRU W-BEAM RAIL



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

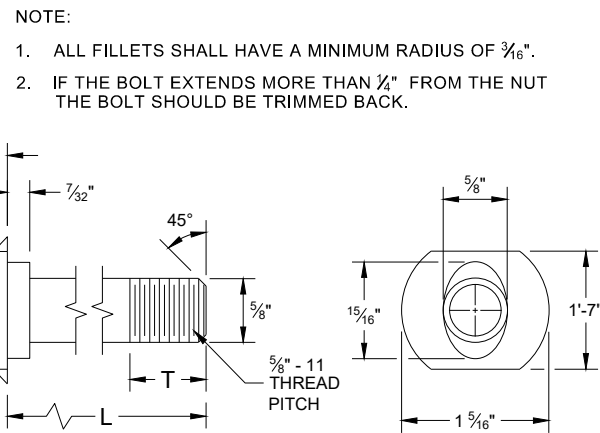
GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/4" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



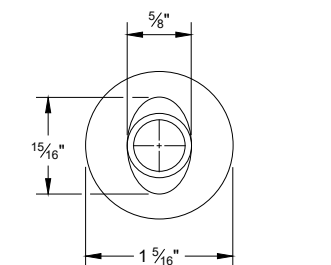
DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

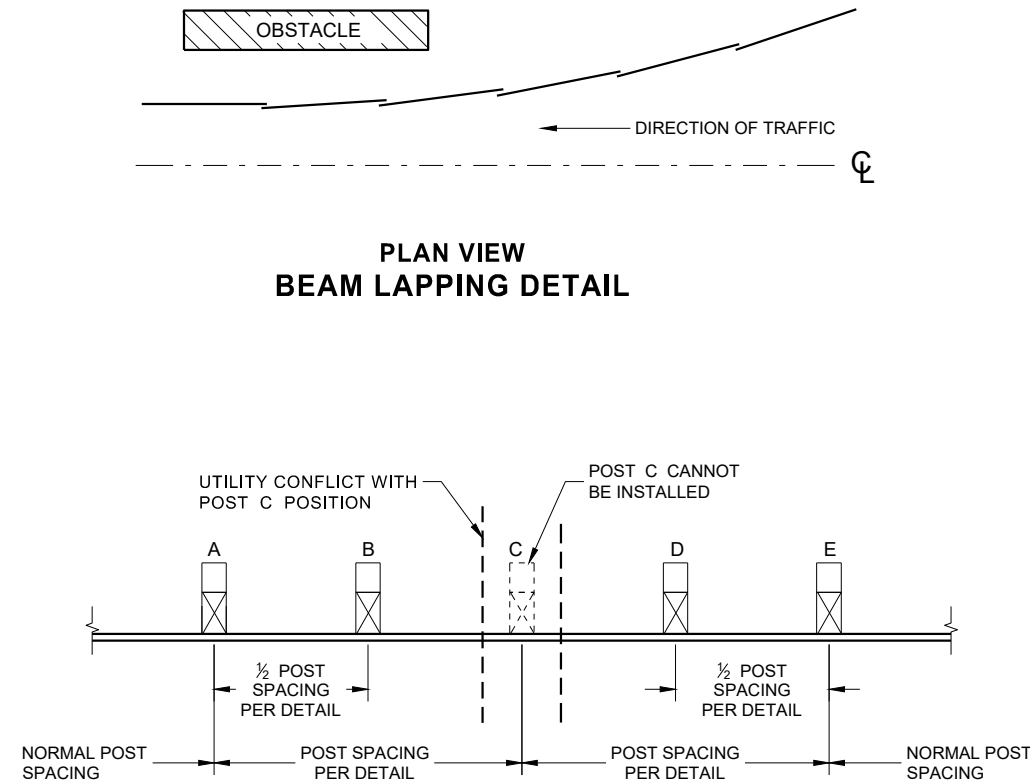


POST BOLT TABLE

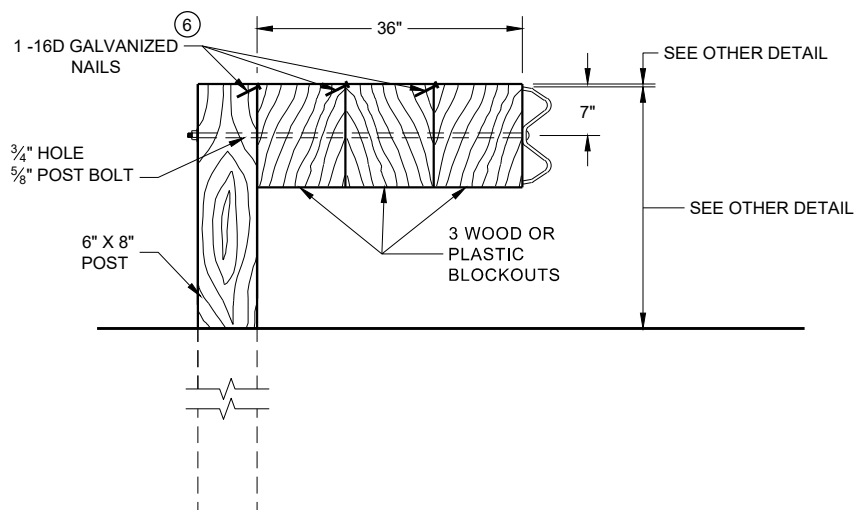
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

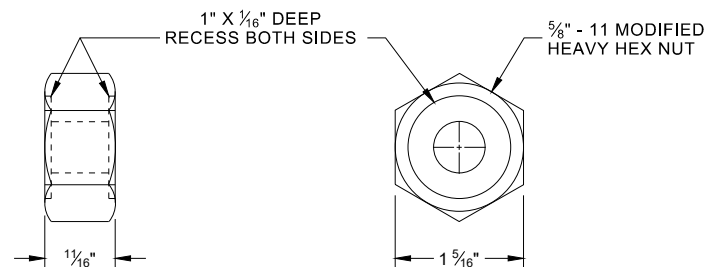


POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

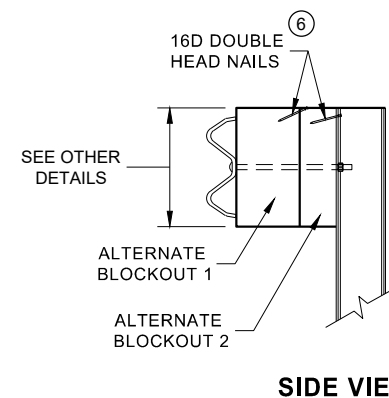


DETAIL FOR 36" BLOCKOUT DEPTH

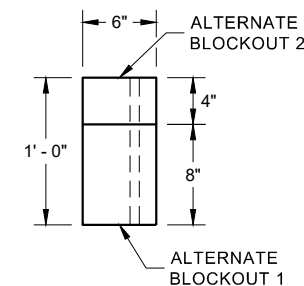
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW

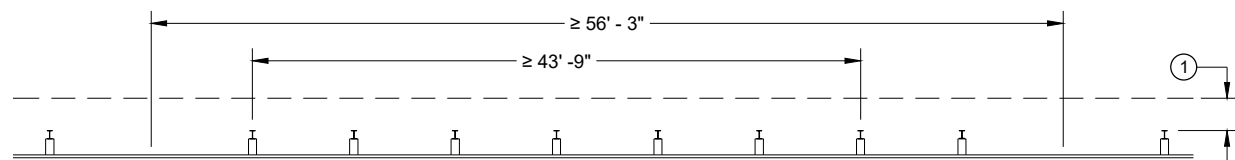


PLAN VIEW

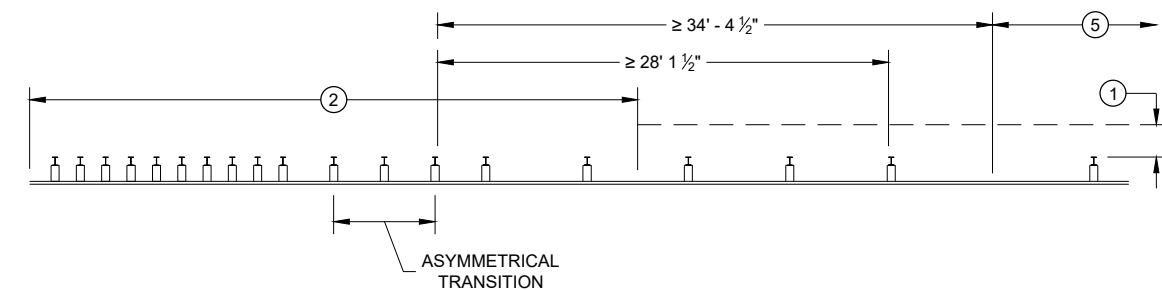
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

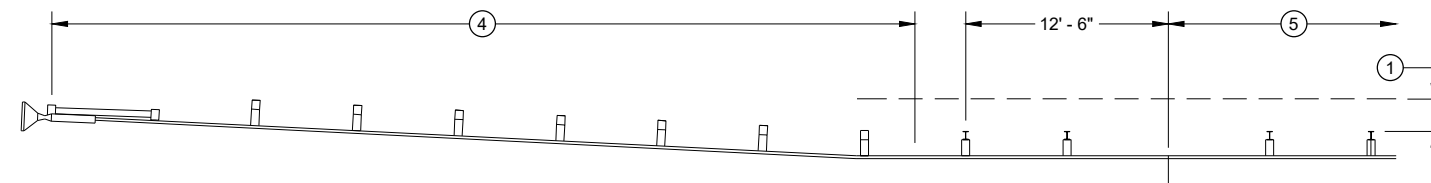
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



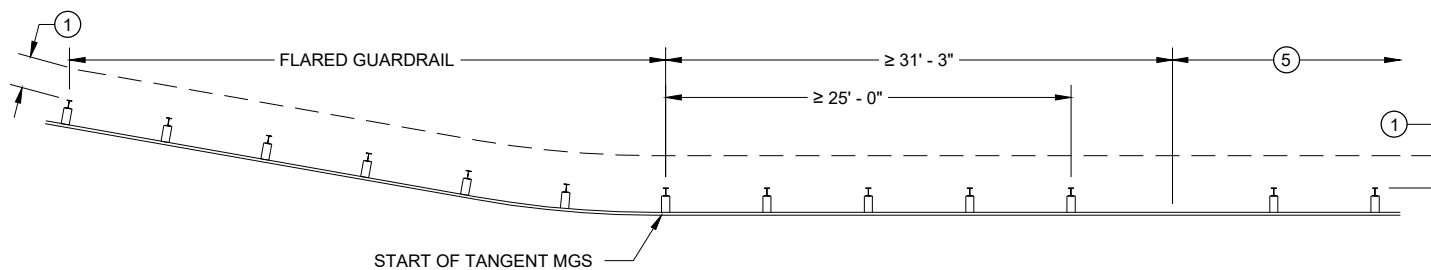
MISSING POST IN NORMAL BEAM GUARD RUN



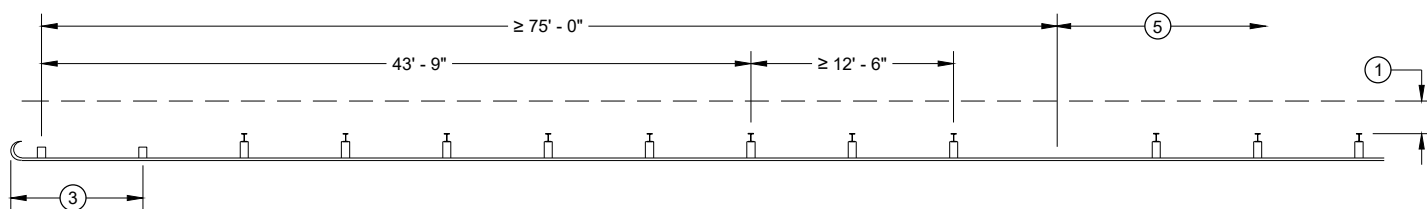
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



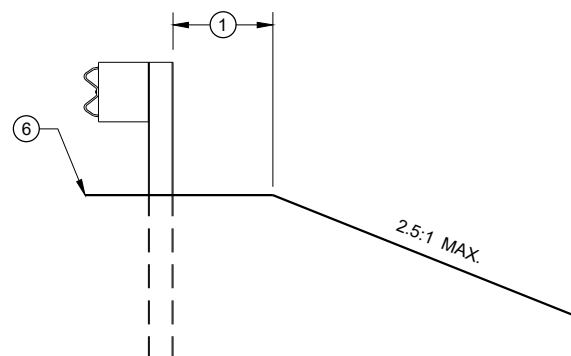
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

- (1) MINIMUM OF 2 FEET OF GRADING BEHIND POST.
- (2) SEE SDD 14B45 FOR MORE DETAILS.
- (3) SEE SDD 14B47 FOR MORE DETAILS.
- (4) SEE SDD 14B44 FOR MORE DETAILS.
- (5) SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
- (6) SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



SDD 14b44-a Midwest Guardrail System (MGS) Energy Absorbing Terminal (EAT) - Layout

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
- (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
- (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- (F) DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

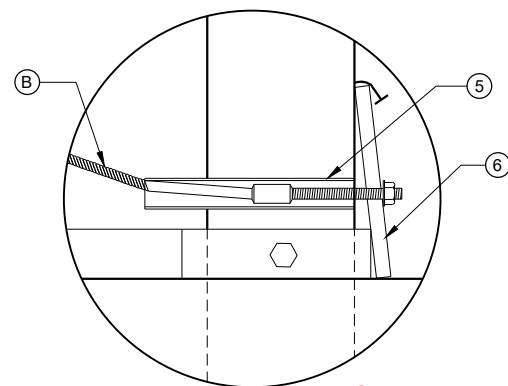
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

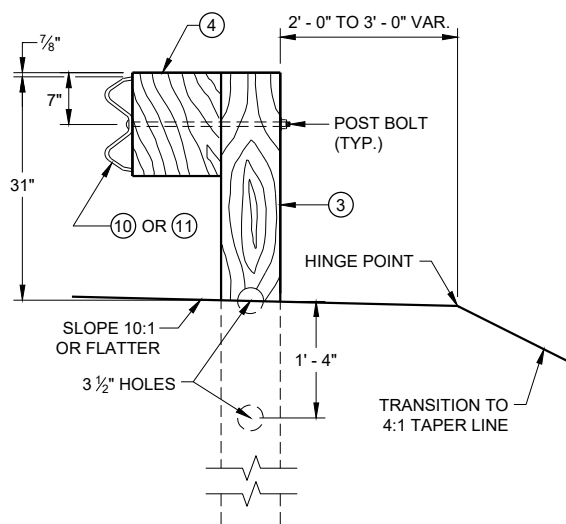
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

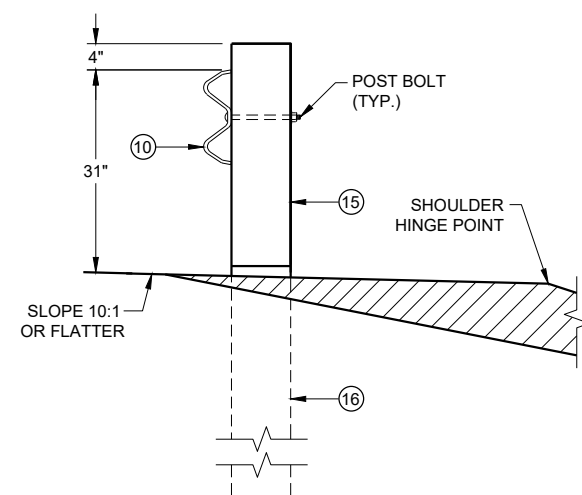
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



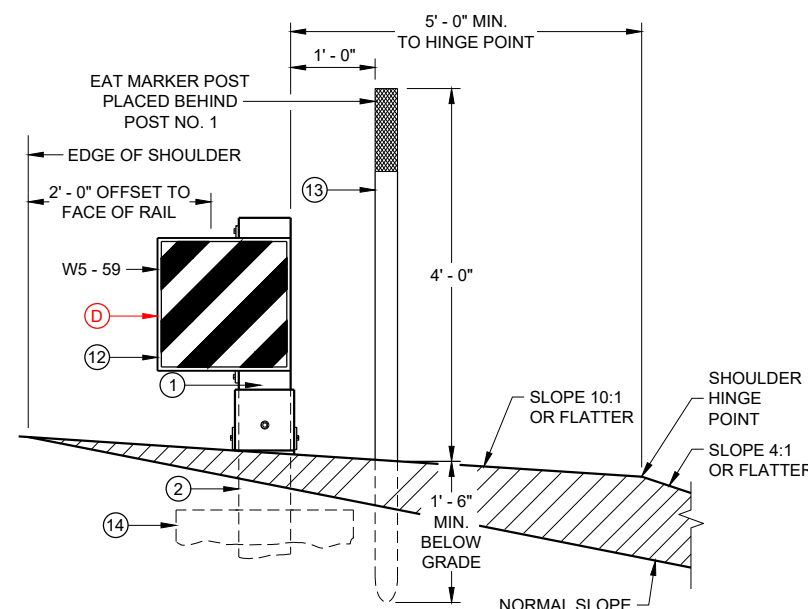
DETAIL "A"



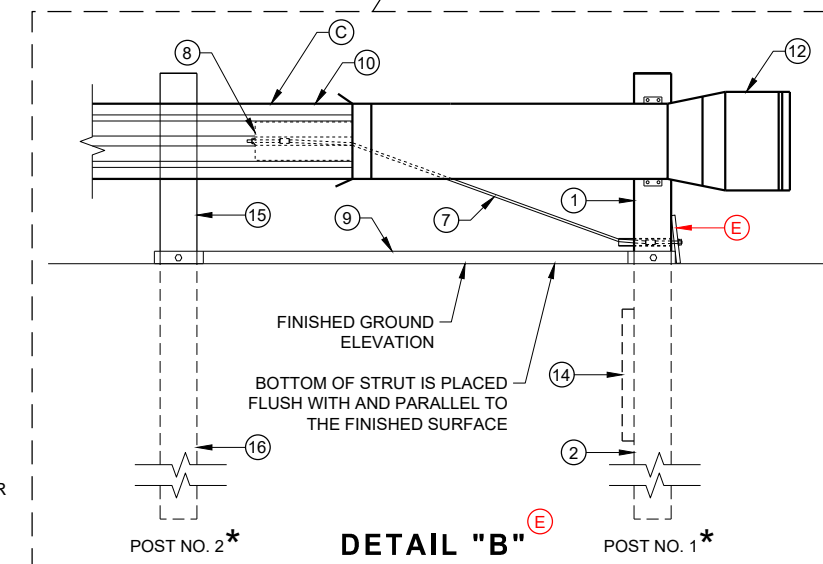
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



DETAIL "B"

**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

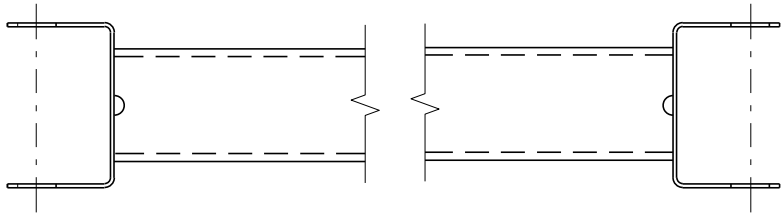
STATE OF WISCONSIN
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6

6

SDD 14B44 - 04a

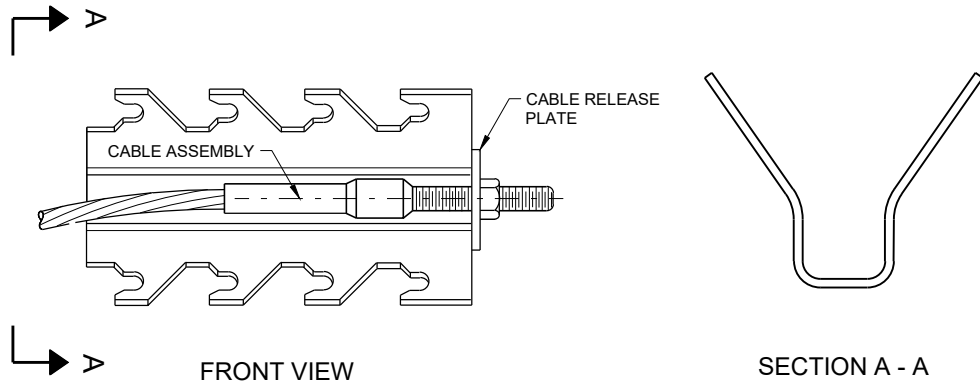
SDD 14B44 - 04a



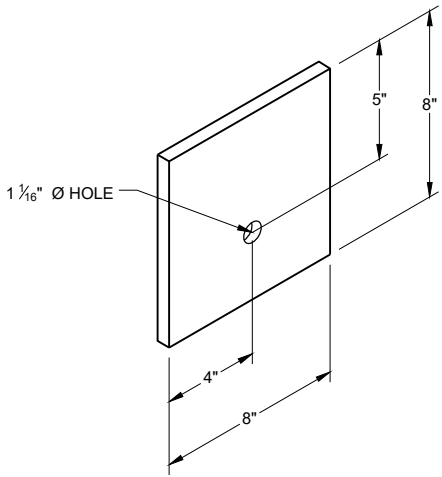
GENERIC GROUND STRUT⁹ ^E

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX⁹ ^E



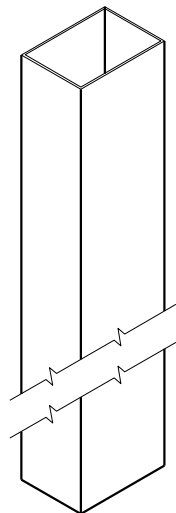
BEARING PLATE⁶ ^E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

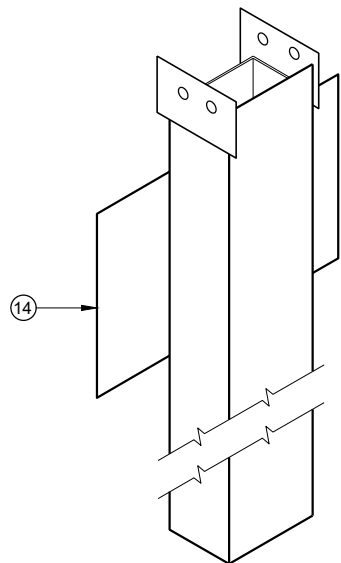
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



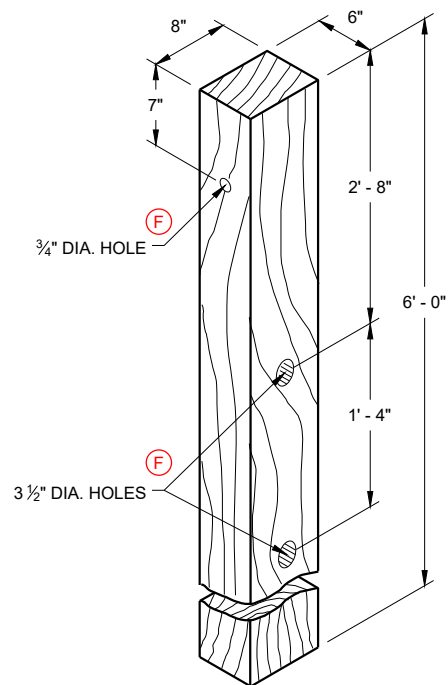
SDD 14b44-c MGS EAT - Post Details, Block Detail, Marker Post Detail, Reflective Sheeting Detail



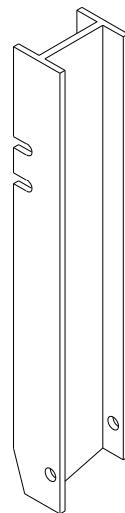
UPPER POST NO. 1 ^① (E)



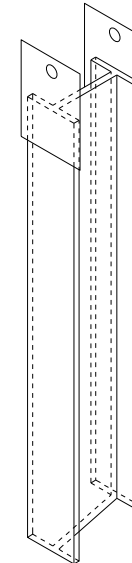
LOWER POST NO. 1 ^② (E)



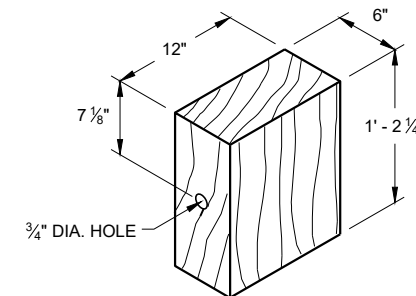
WOOD CRT POST ^③ (E)
POSTS NUMBER 3-9



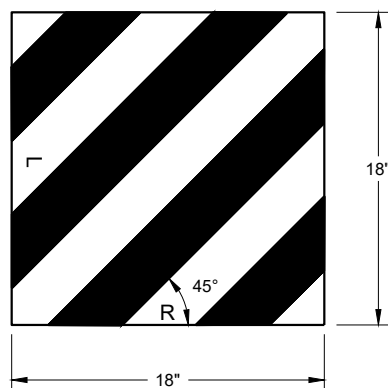
UPPER POST NO. 2 ^⑮ (E)



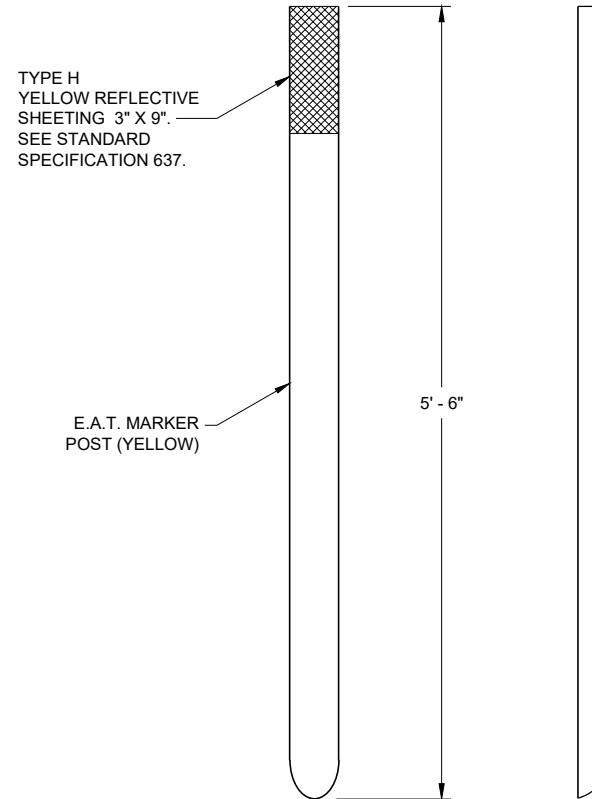
LOWER POST NO. 2 ^⑯ (E)



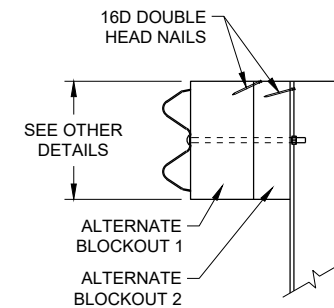
WOOD BLOCKOUT ^④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



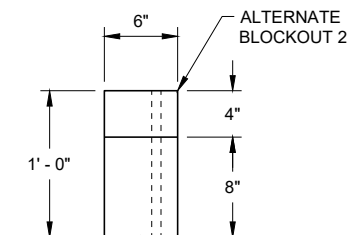
W5 - 59
REFLECTIVE SHEETING DETAIL ^⑤



FRONT VIEW SIDE VIEW
E.A.T. MARKER POST ^⑬



SIDE VIEW



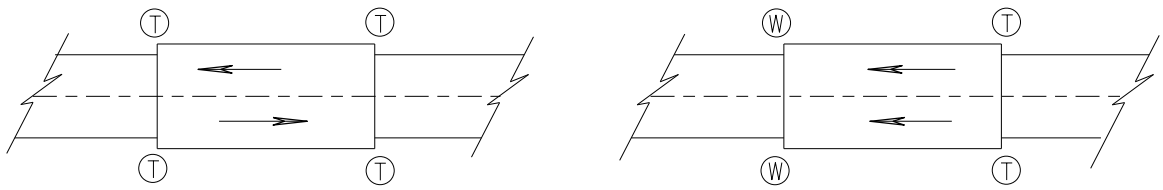
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	



SDD 14b45-a Midwest Guardrail System (MGS) Thrie Beam Transition - Layout



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

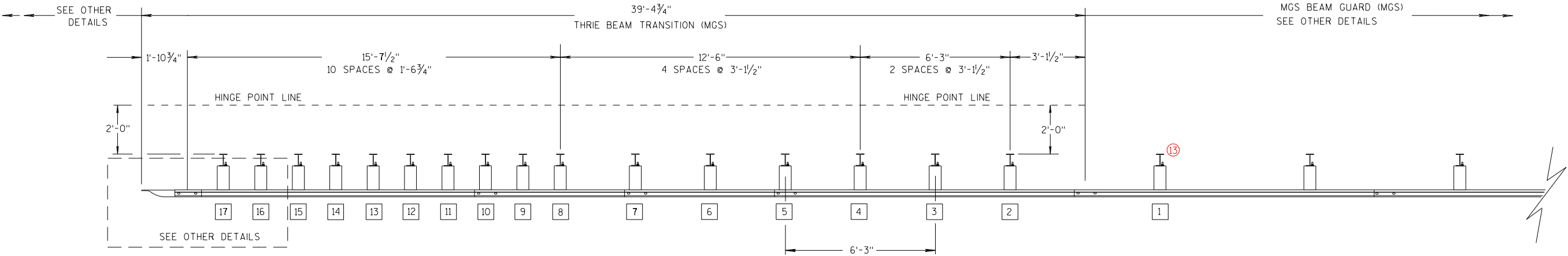
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

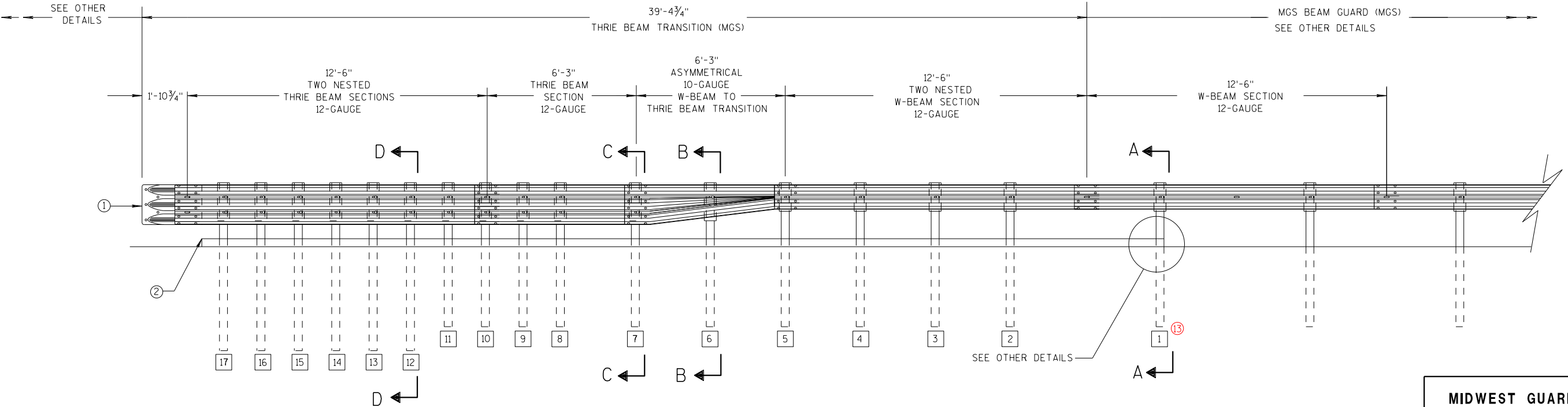
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

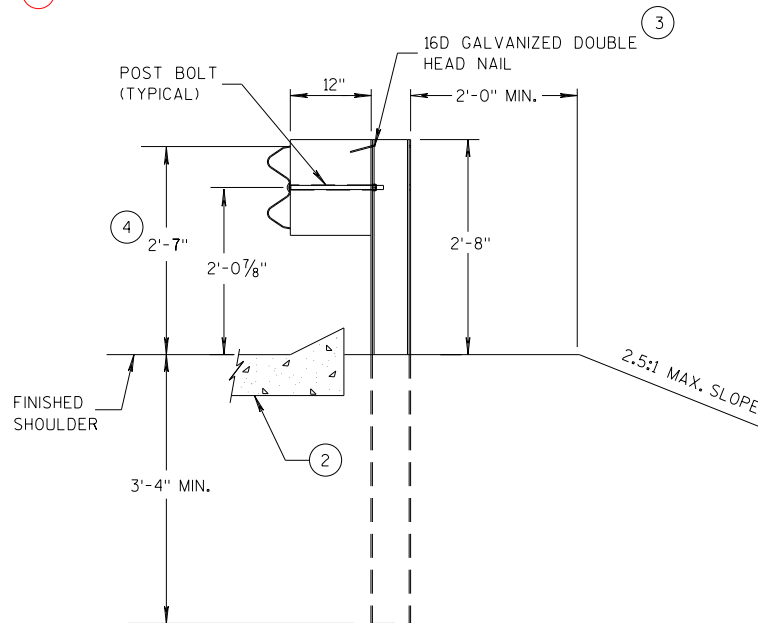
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



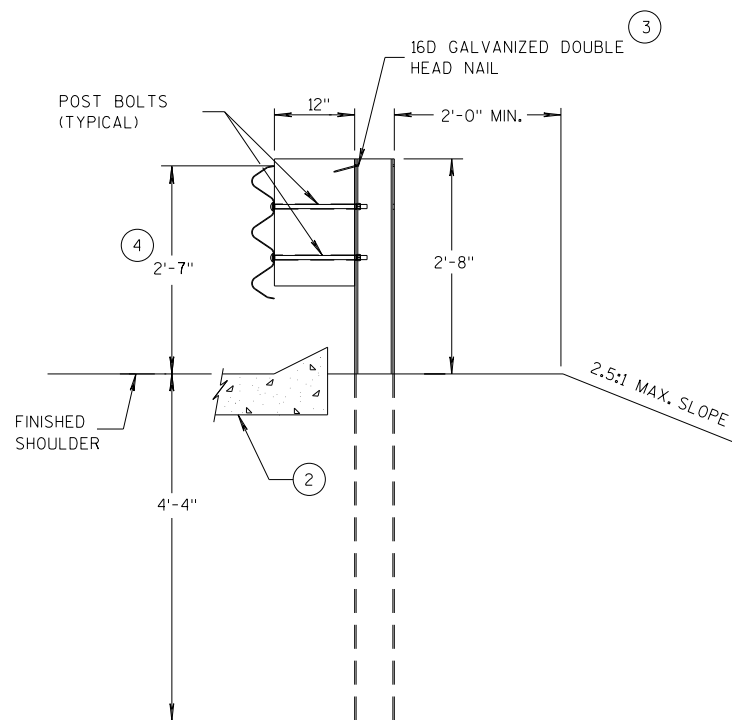
SDD 14b45-b MGS Thrie Beam Transition - Post Details, Thrie Beam Terminal Connector Details, Splice Detail, Cross Section

GENERAL NOTES

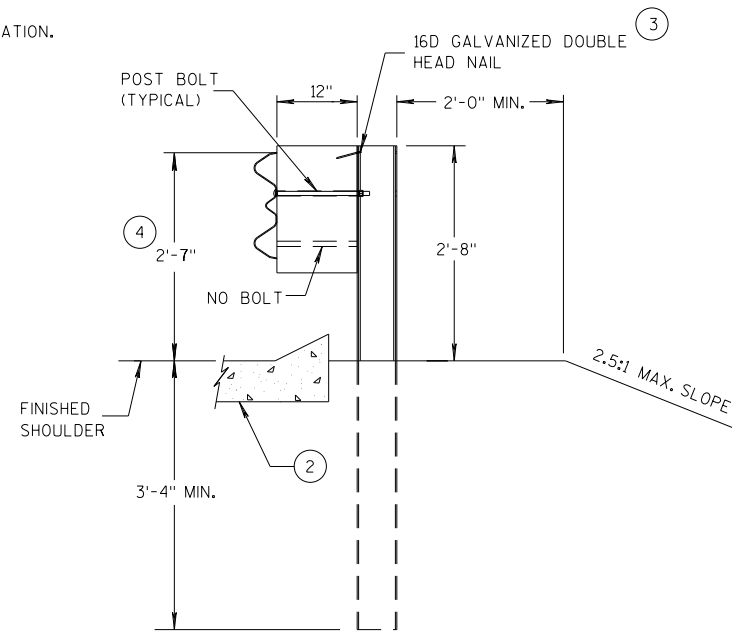
- (2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- (3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- (4) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.
- (13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



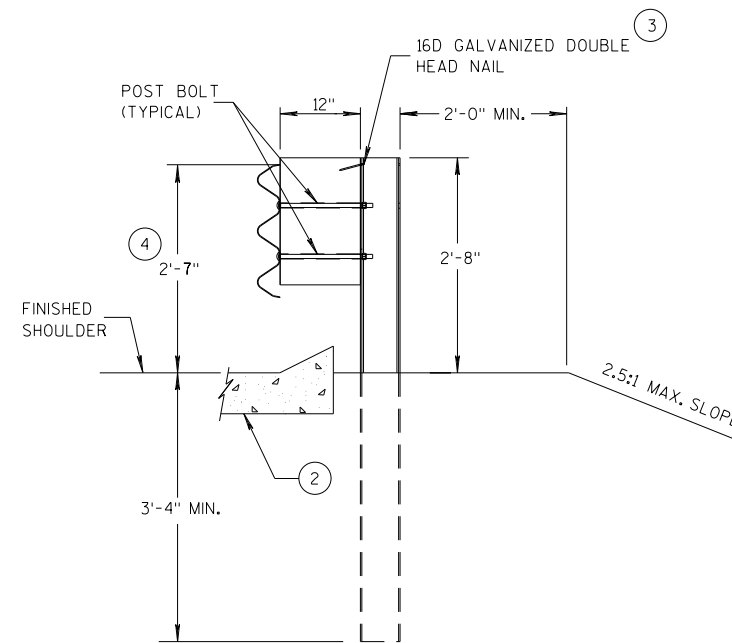
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

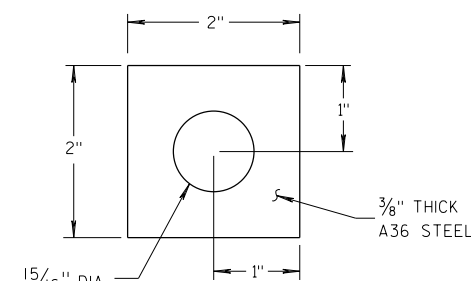
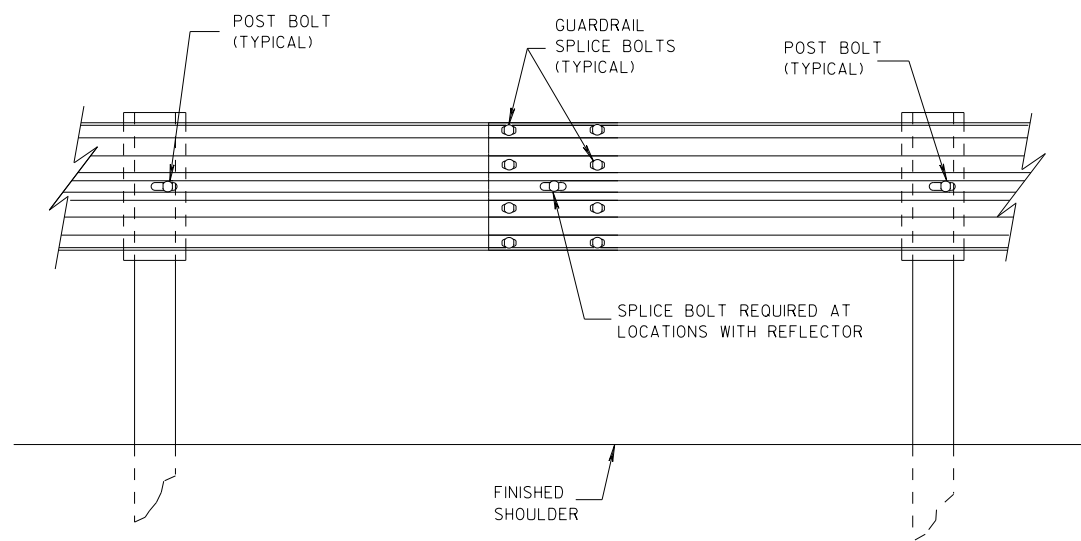
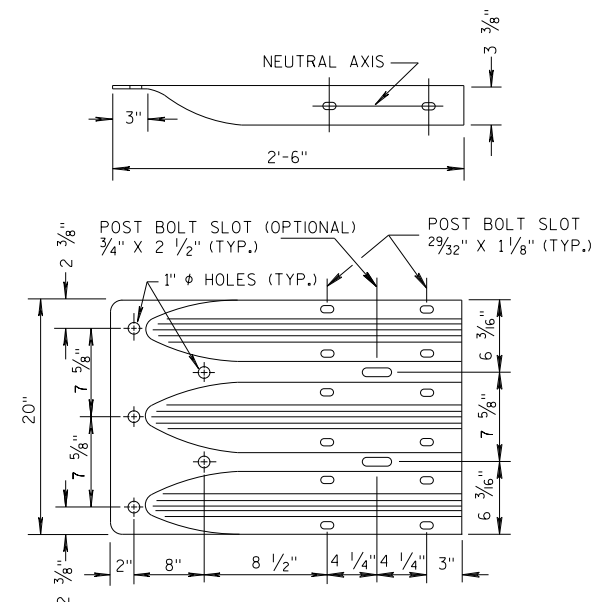


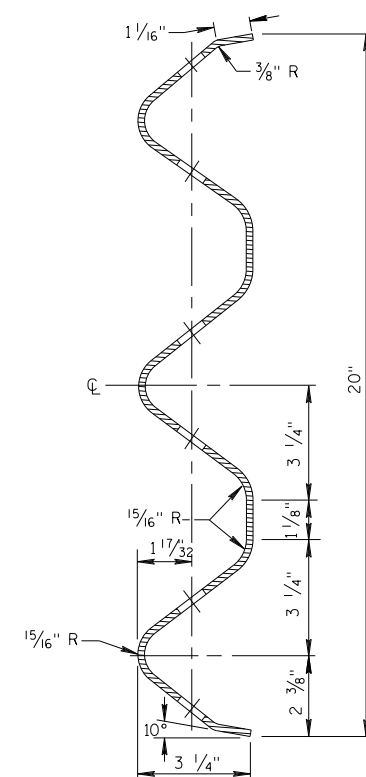
PLATE WASHER DETAIL



SPICE DETAIL



THRIE BEAM
TERMINAL CONNECTOR



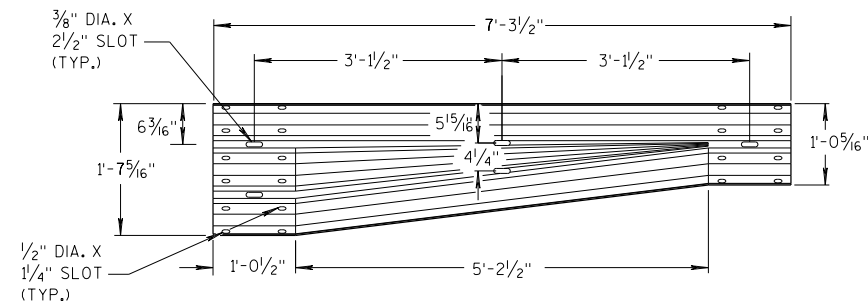
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

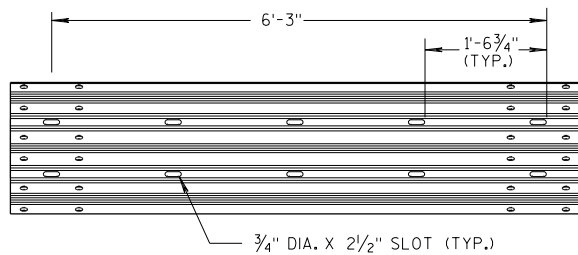
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



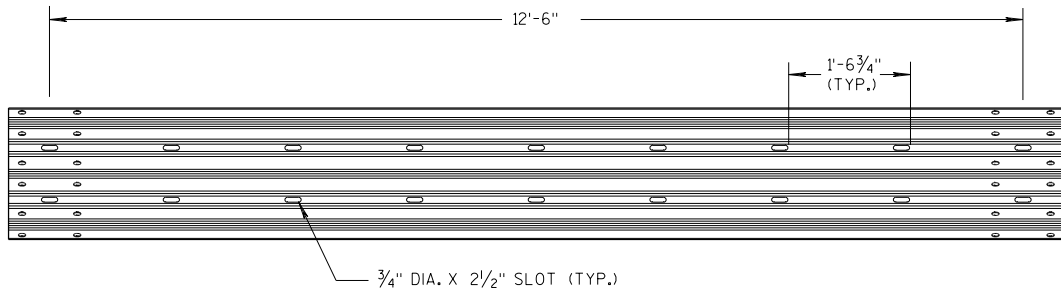
SDD 14b45-c MGS Thrie Beam Transition - Thrie Beam Details, Post Details, Block Details



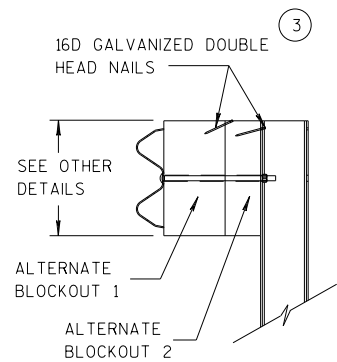
W-BEAM TO THRIE BEAM TRANSITION SECTION



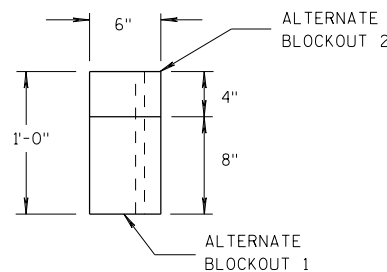
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

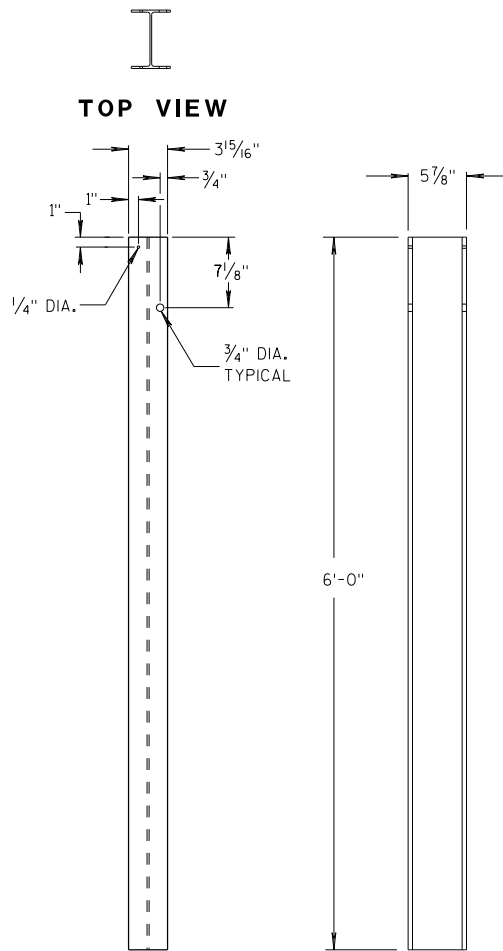


SIDE VIEW



TOP VIEW

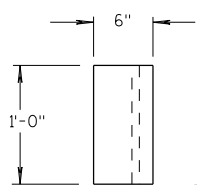
ALTERNATE WOOD BLOCKOUT DETAIL



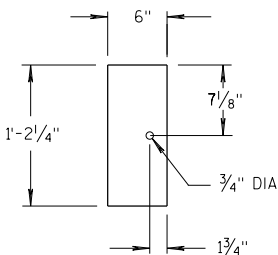
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

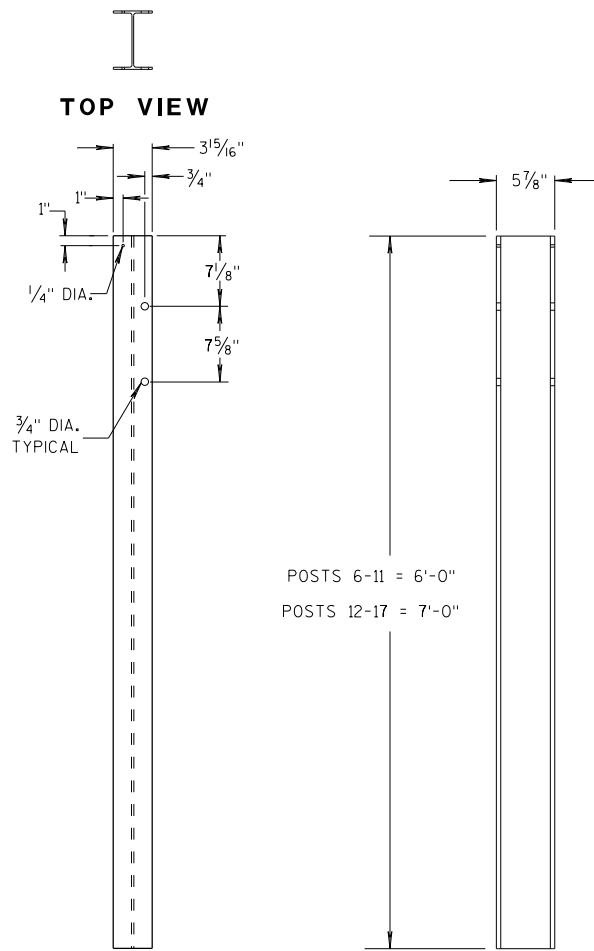


TOP VIEW



FRONT VIEW

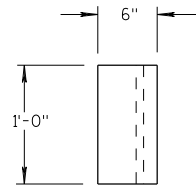
BLOCKOUT POSTS 1-5



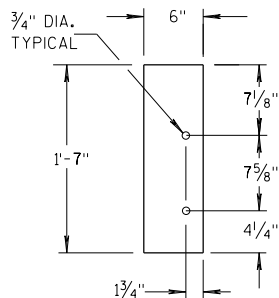
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

5 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

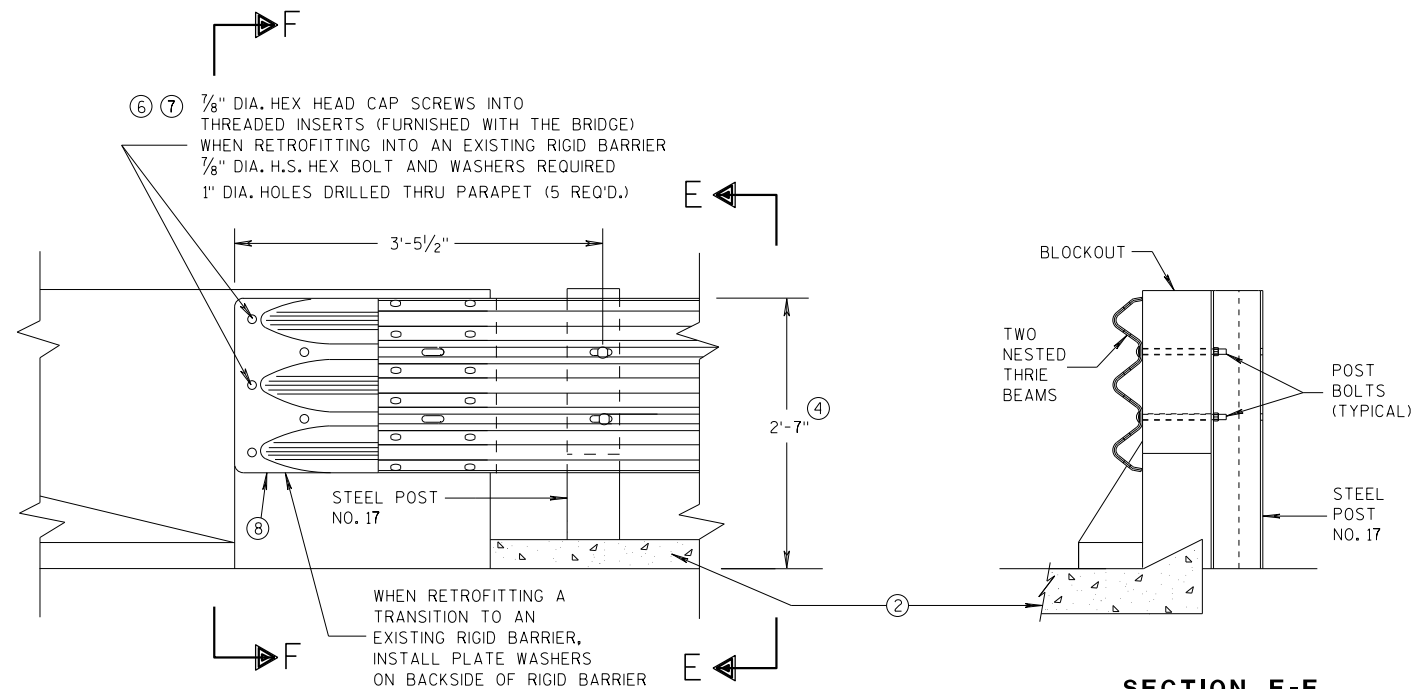
13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SDD 14b45-d MGS Thrie Beam Transition - W and Thrie Beam Connection to Bridge Parapet with Square Ends



FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

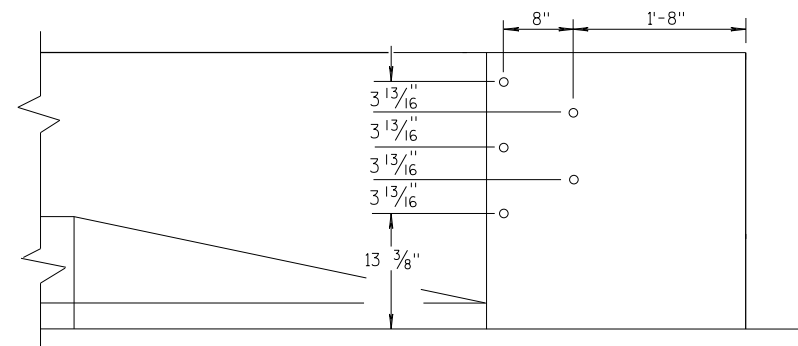
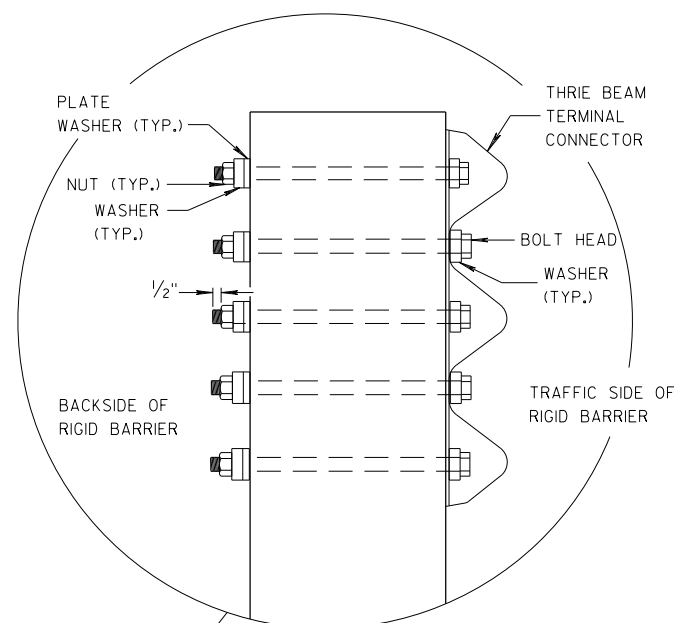
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

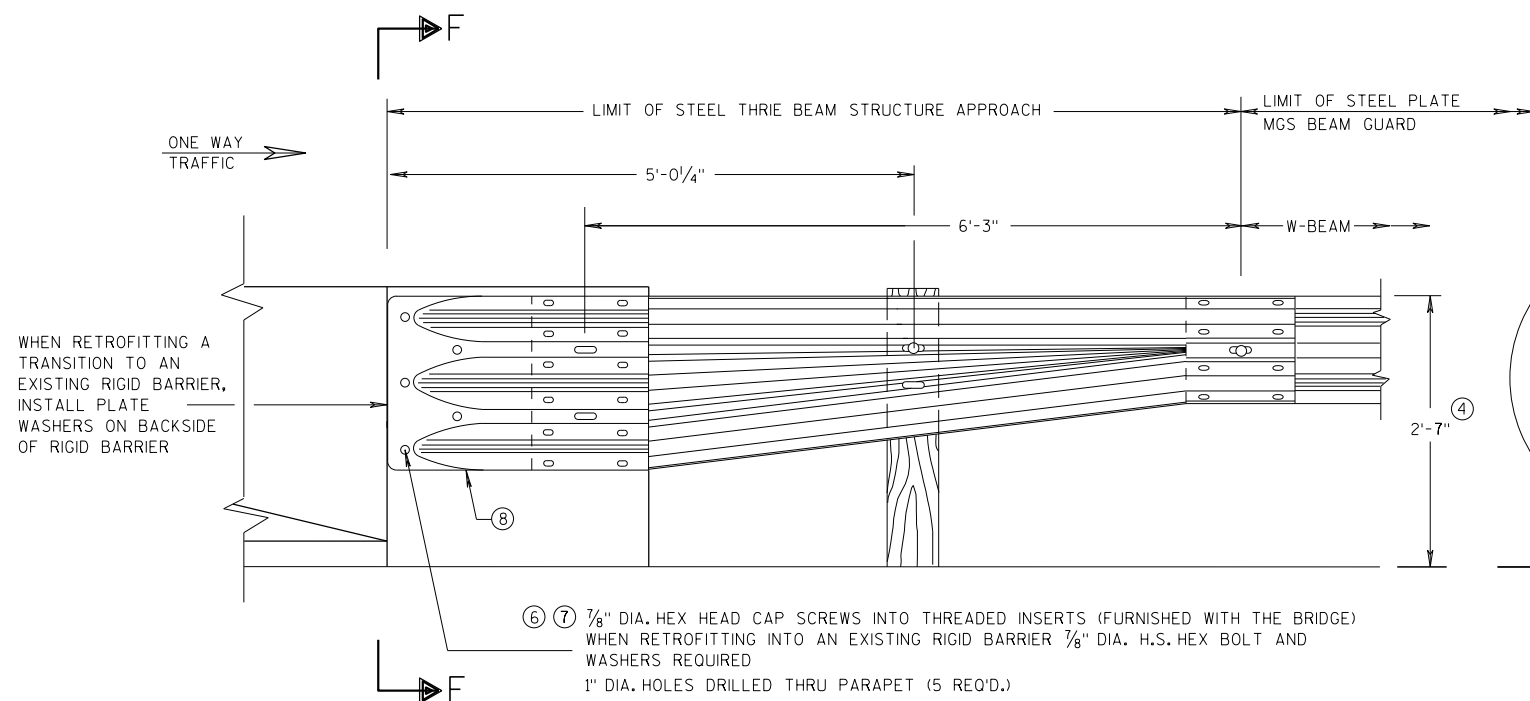
⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}"$ THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X $3 \frac{1}{2}"$.



DRILL HOLE LOCATION



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

SECTION F-F

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

07/2018

DATE

FHWA

/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

UNIT SUPERVISOR

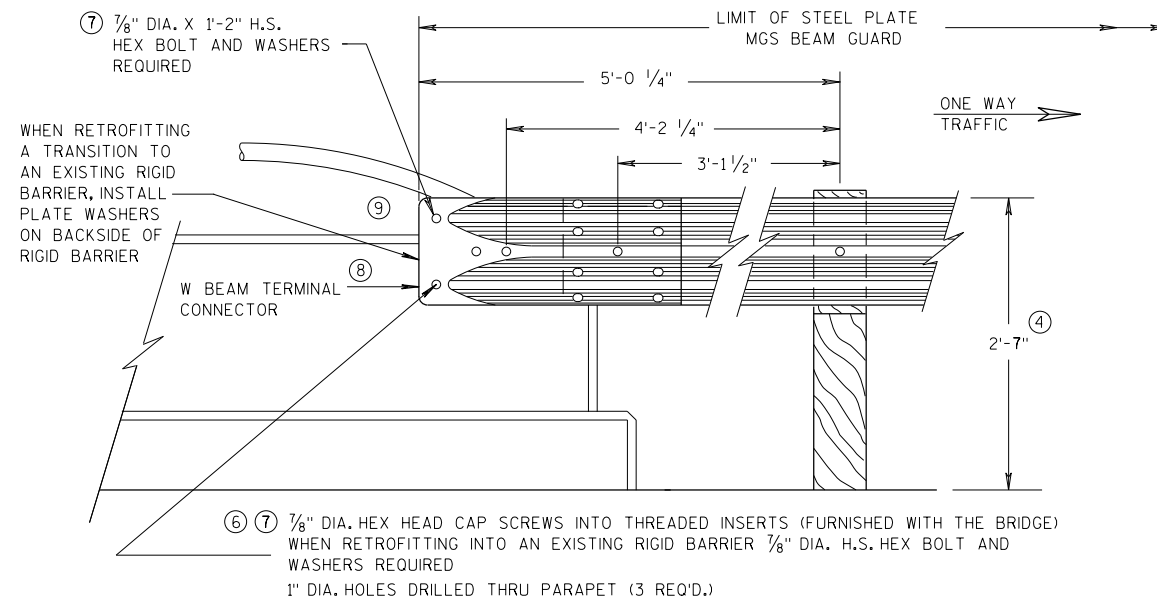


SDD 14b45-e MGS Thrie Beam Transition - W and Thrie Beam Connection to Vertical Faced Parapets

GENERAL NOTES

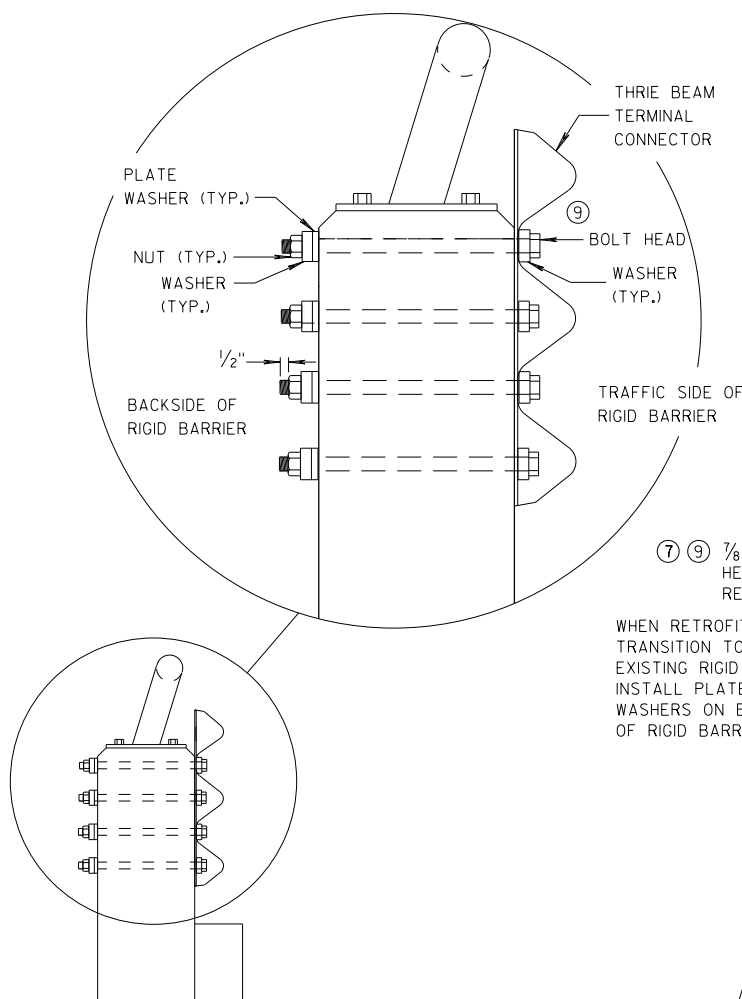
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}"$ THICK AND ONE PLATE WASHER, REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}"$.
- ⑨ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

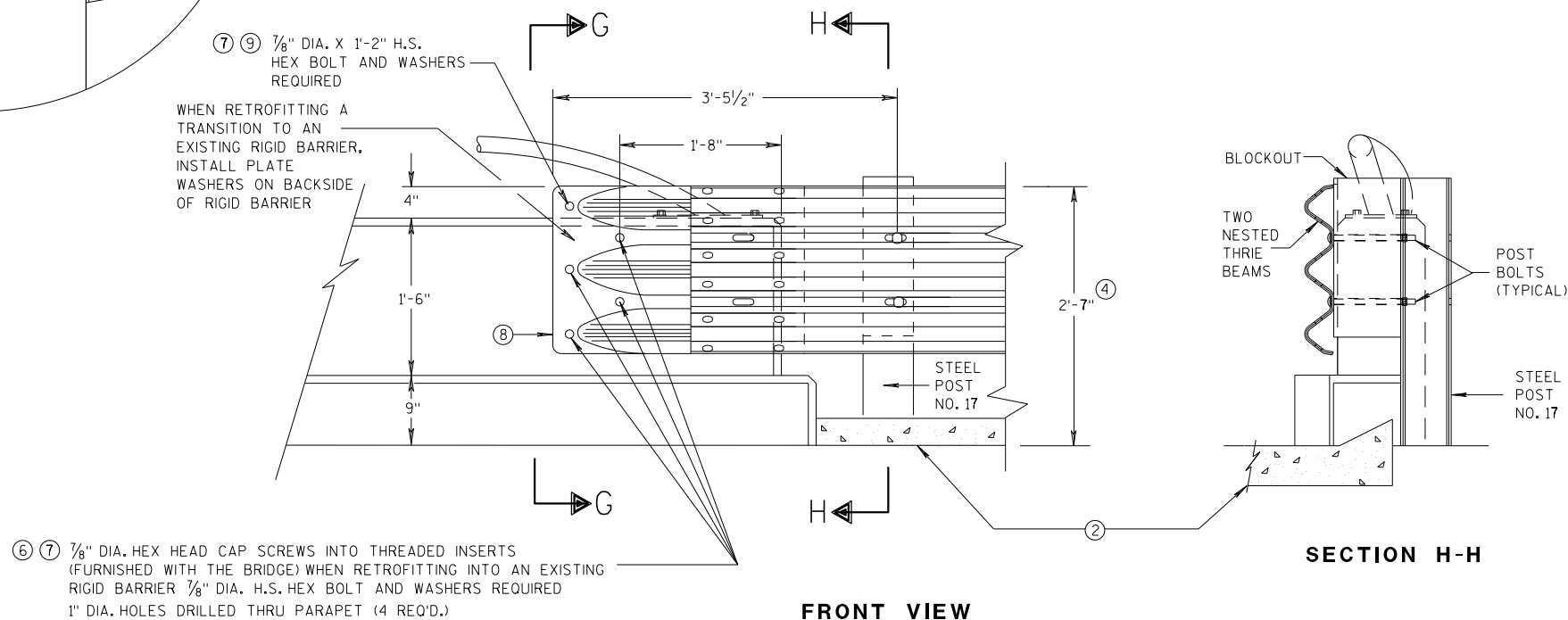


FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

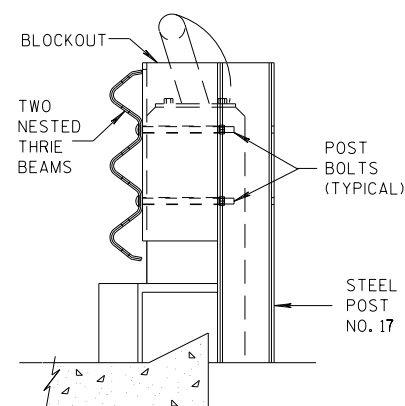


SECTION G-G



FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



SECTION H-H

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

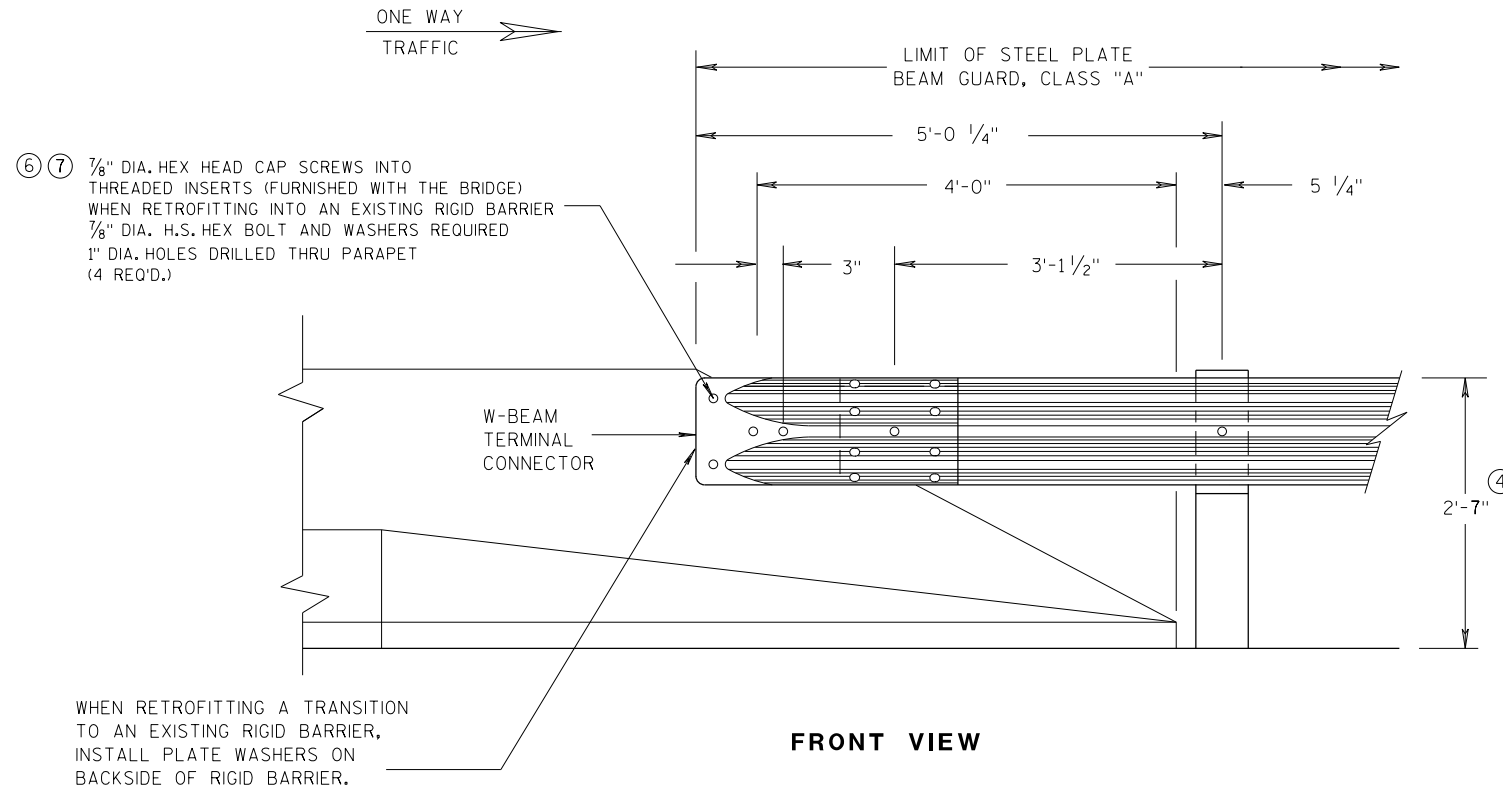
APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



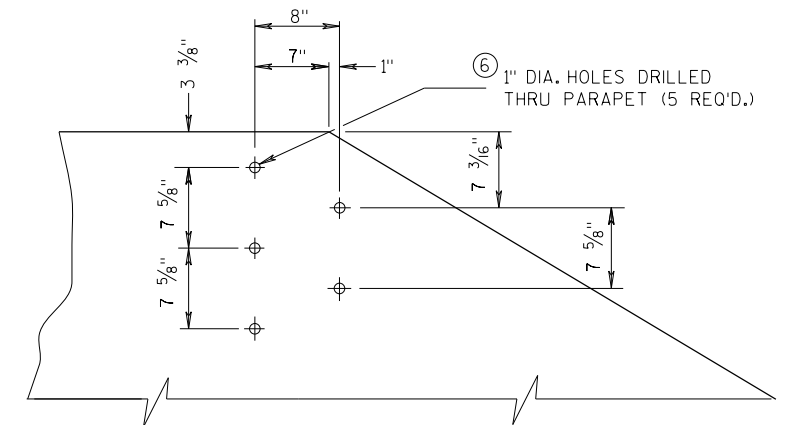
SDD 14b45-f MGS Thrie Beam Transition - W and Thrie Beam Connection to Bridge Parapets with Sloped Ends

GENERAL NOTES

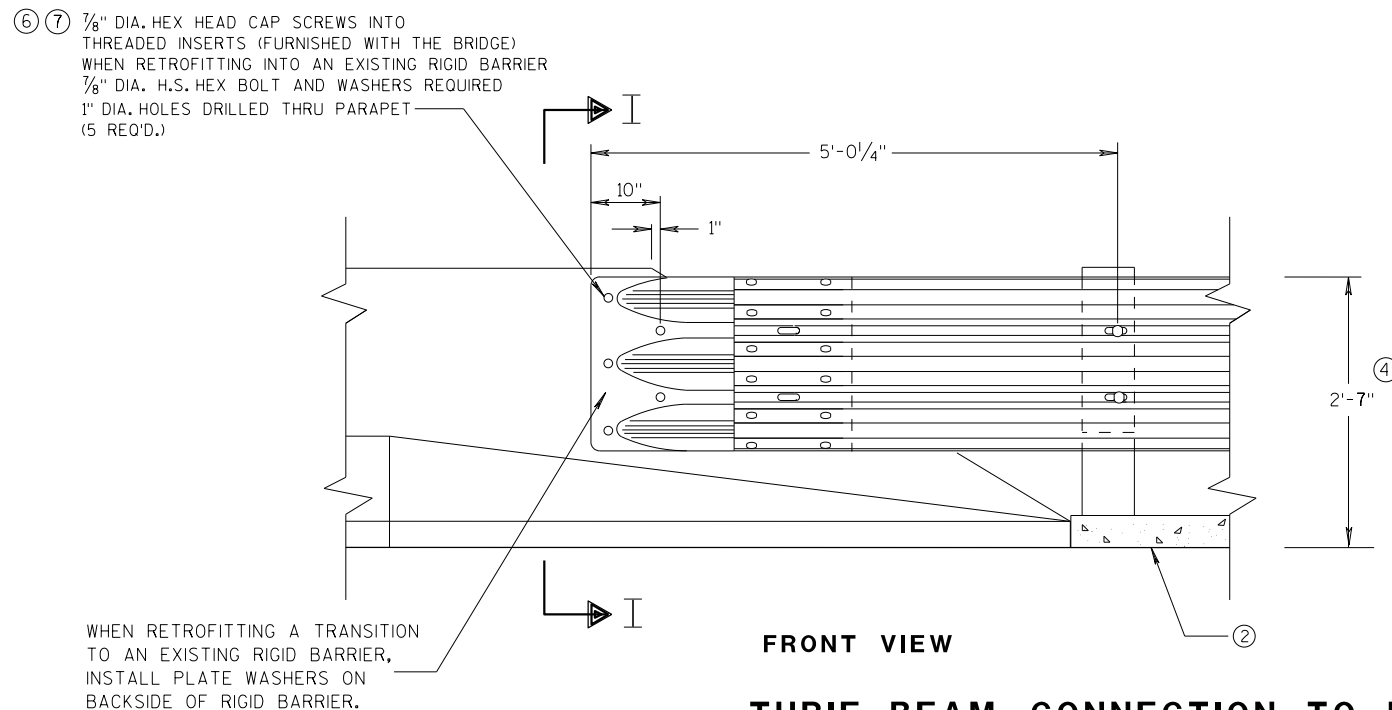
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}"$ THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



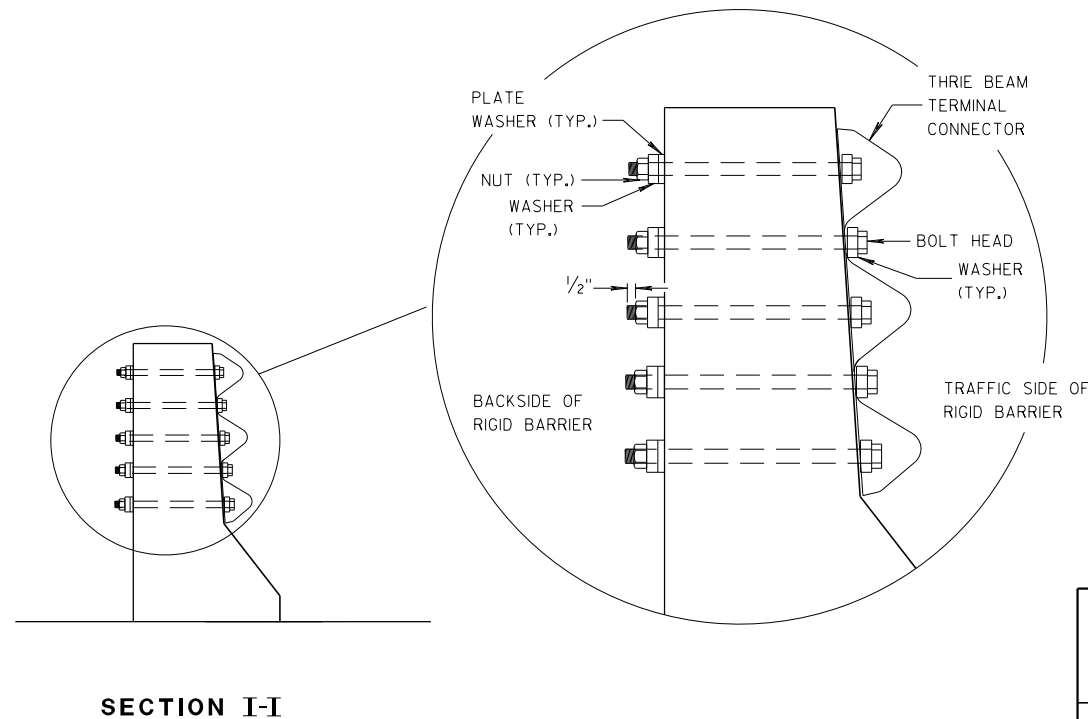
**W BEAM CONNECTION TO
PARAPETS WITH SLOPED ENDS
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)**



**DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION**



**THRIE BEAM CONNECTION TO BRIDGE
PARAPETS WITH SLOPED ENDS**



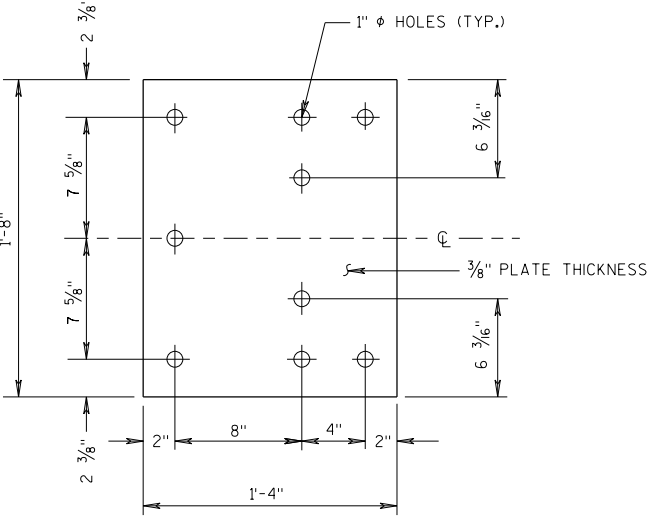
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

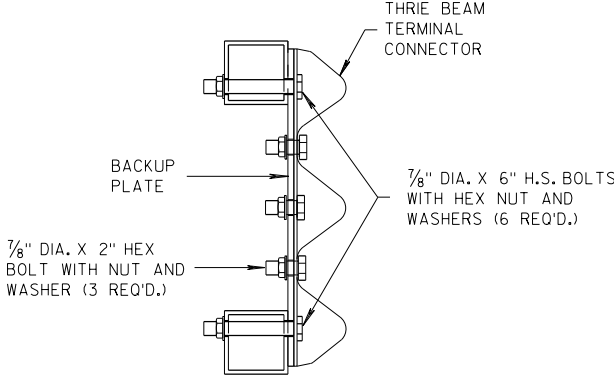
APPROVED
07/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



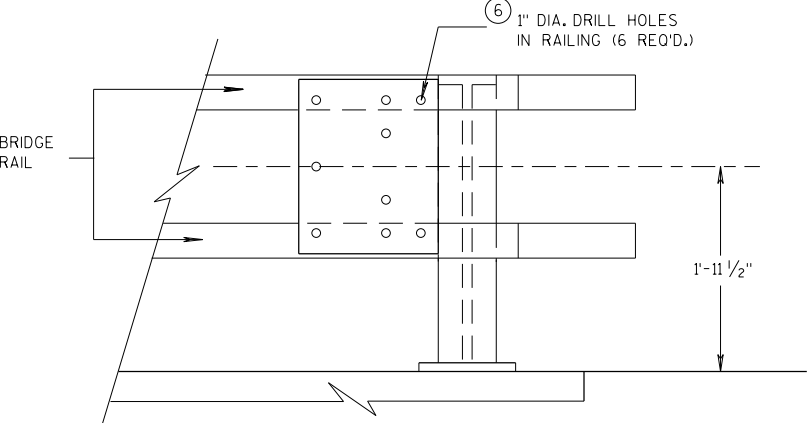
SDD 14b45-g MGS Thrie Beam Transition - Connection to W and F Bridge Parapet



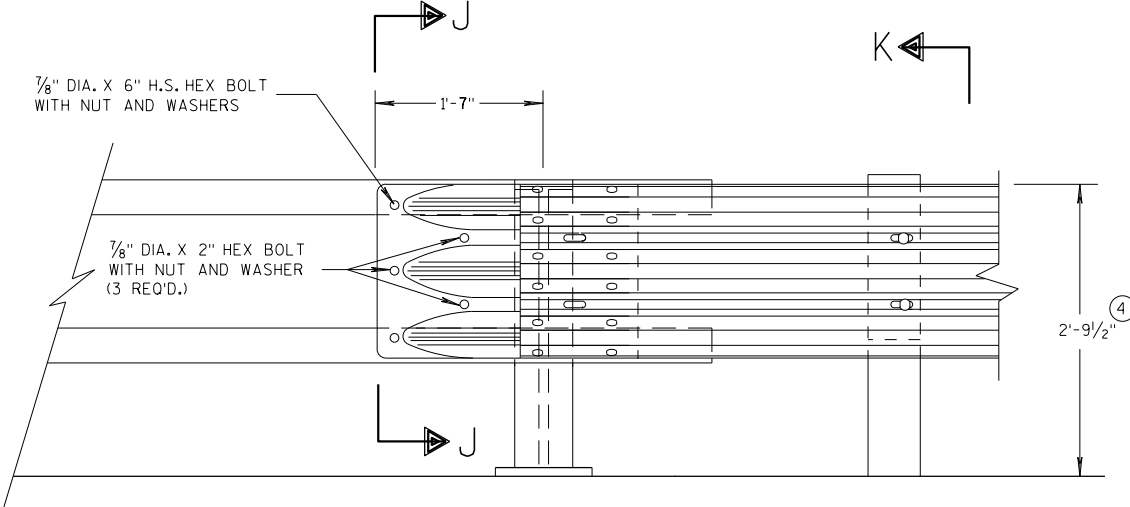
BACK-UP PLATE DETAIL



SECTION J-J



BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

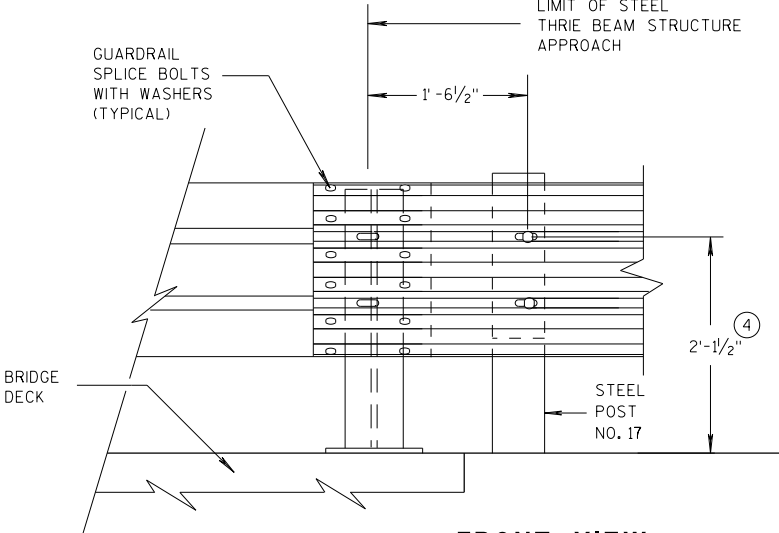


FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

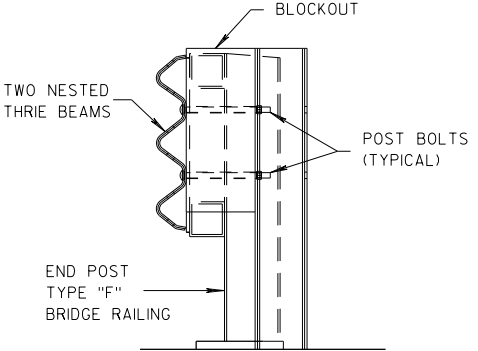
GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



SECTION K-K

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

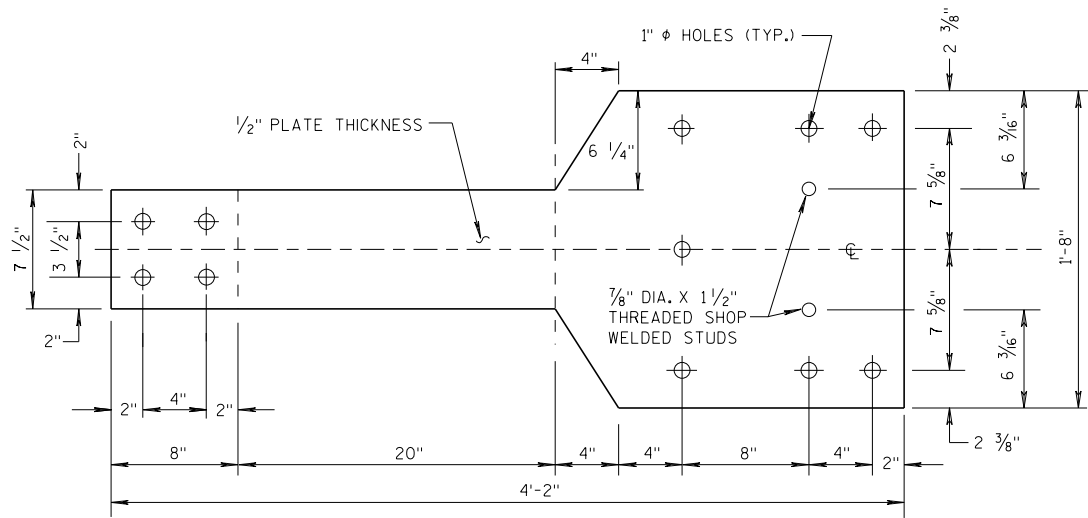
APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



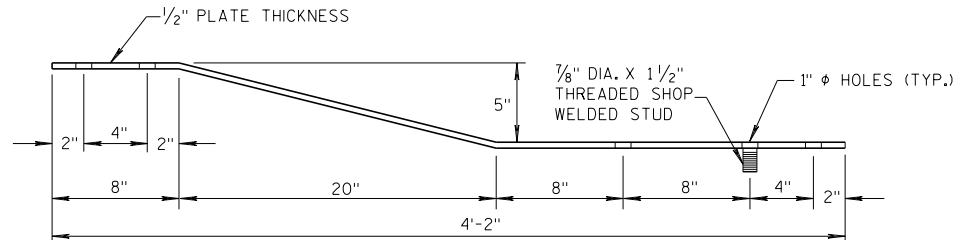
SDD 14b45-h MGS Thrie Beam Transition - Connection to M Bridge Parapet

GENERAL NOTES

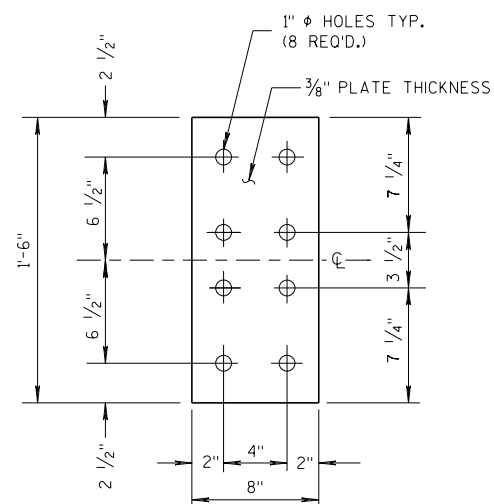
- (4) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



FRONT VIEW

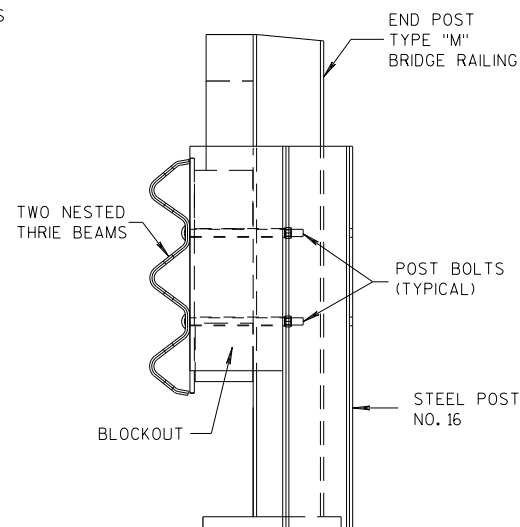


PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"

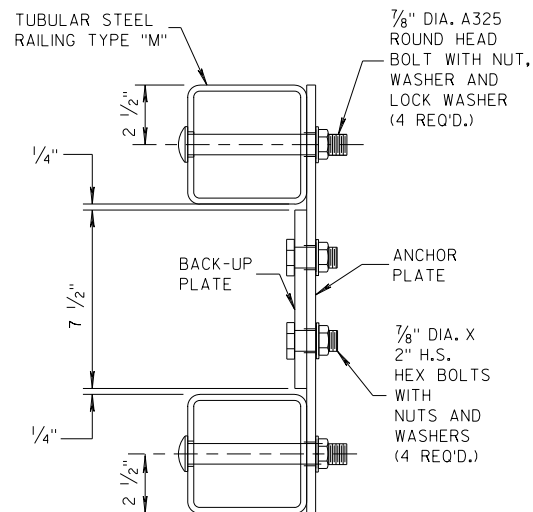


FRONT VIEW

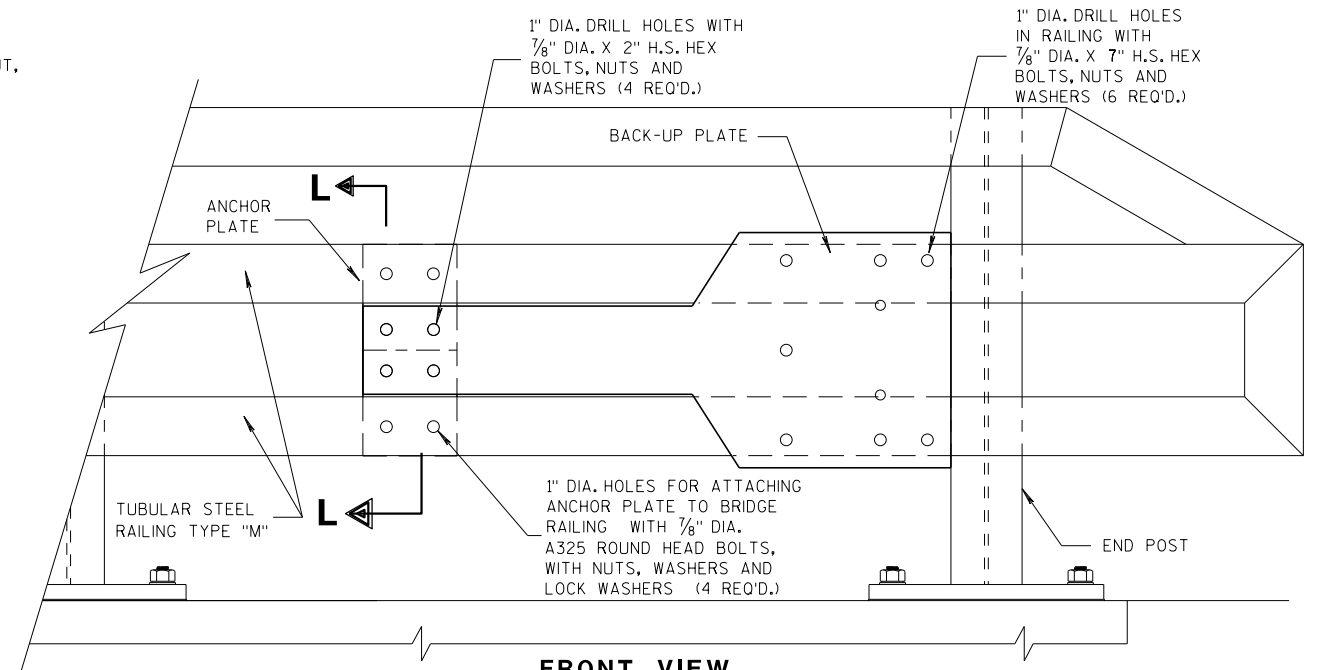
ANCHOR
PLATE DETAIL,
TYPE "M"



SECTION M-M

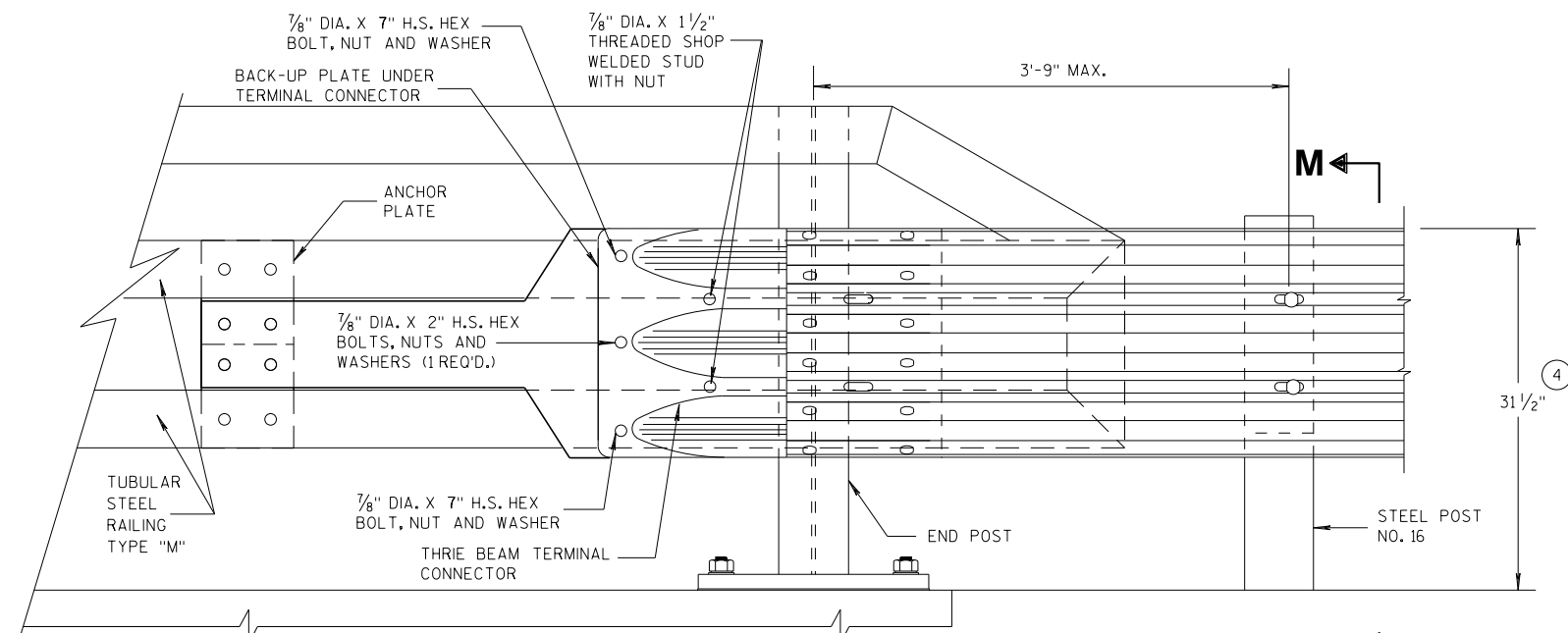


SECTION L-L

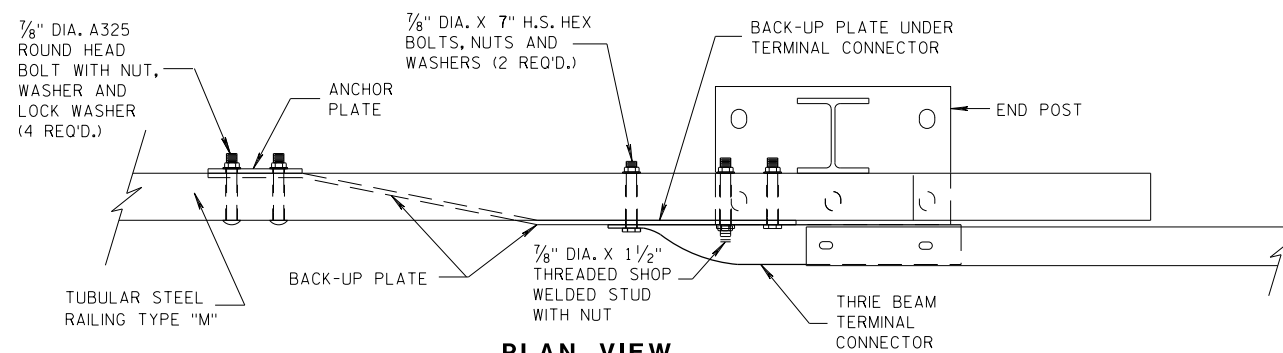


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

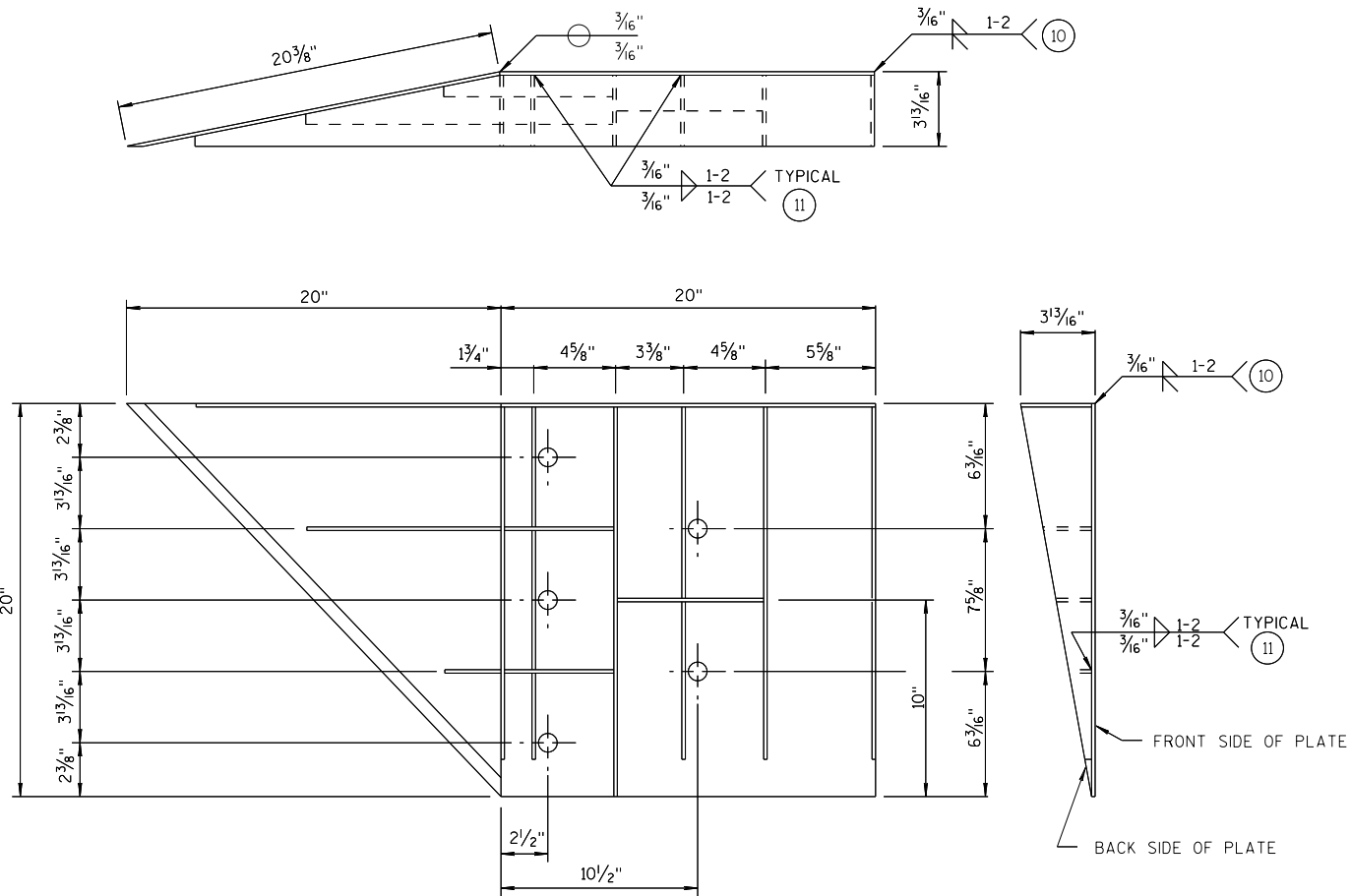


SDD 14b45-i MGS Thrie Beam Transition - Single Slope Connection Plate Details

GENERAL NOTES

- COVER PLATE PANELS ARE $\frac{3}{16}$ " THICK.
- ALL STIFFENERS ARE $\frac{1}{4}$ " THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- 10 STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- 11 STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
 $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

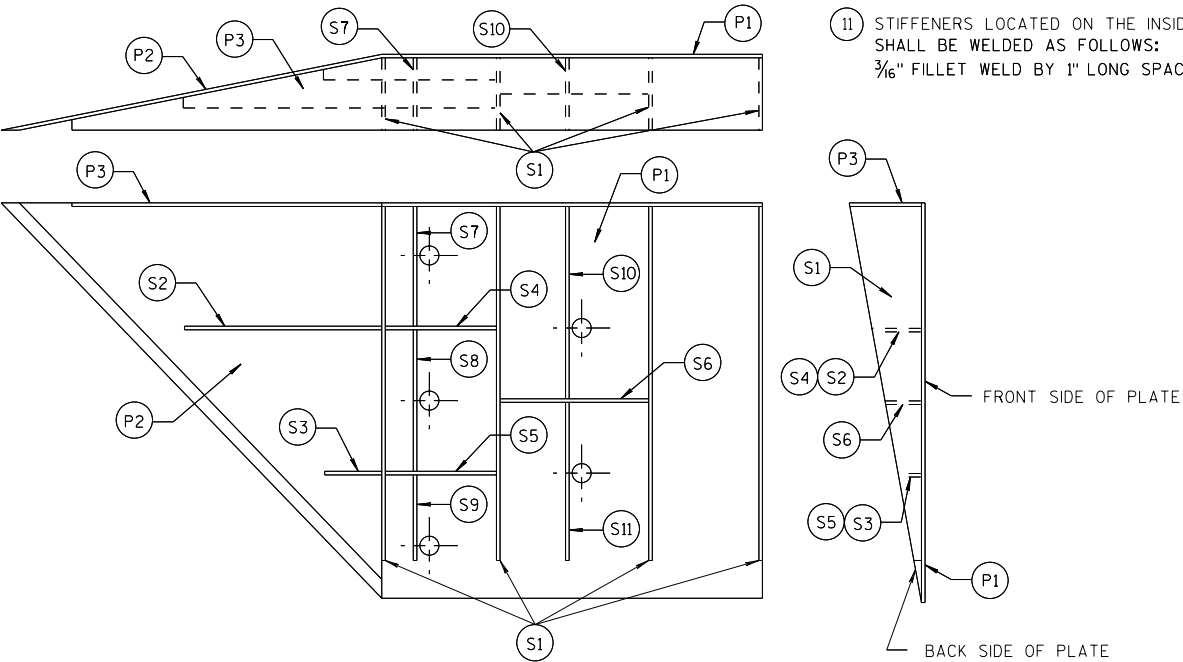


PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)

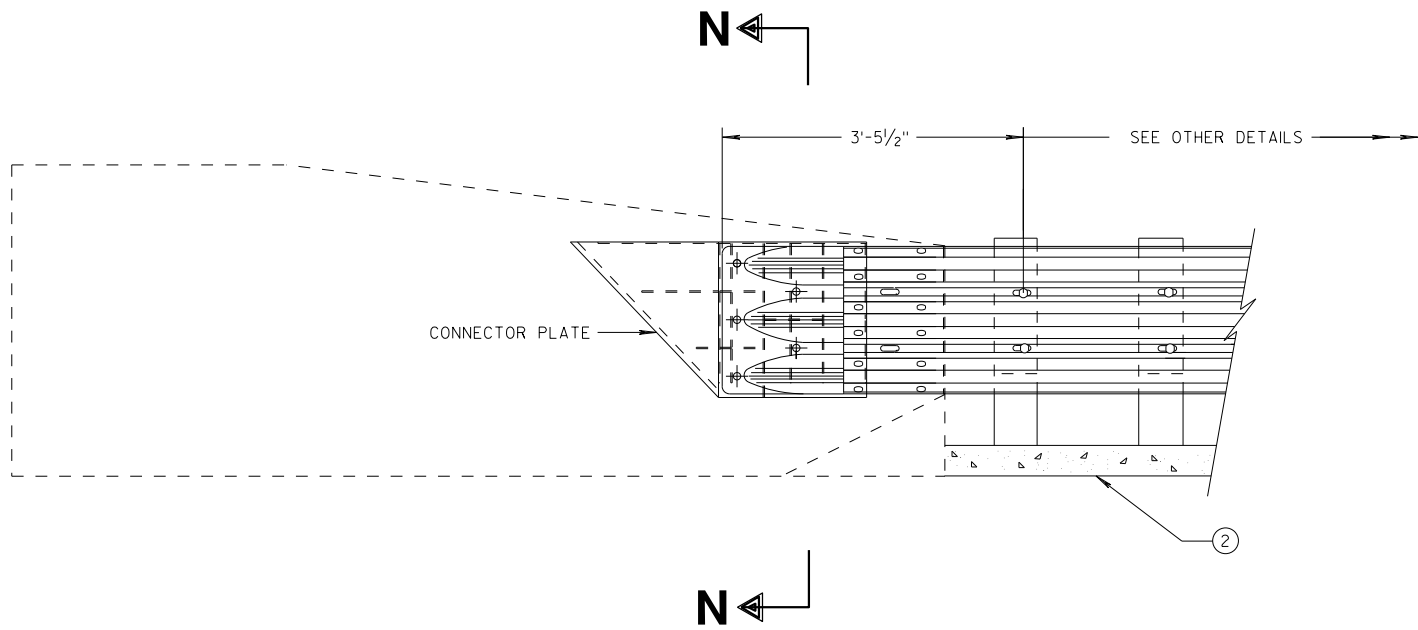
CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	$\frac{3}{16}$ "
P2	1		20" x 20" x 28 $\frac{9}{16}$ "	$\frac{3}{16}$ "
P3	1		39" x 35 $\frac{5}{8}$ " x 20" x 19 $\frac{5}{16}$ "	$\frac{3}{16}$ "
S1	4		18 $\frac{7}{16}$ " x 35 $\frac{5}{8}$ " x 18 $\frac{3}{4}$ "	$\frac{1}{4}$ "
S2	1		10 $\frac{1}{4}$ " x 2 $\frac{7}{16}$ " x 10 $\frac{3}{8}$ " x $\frac{1}{2}$ "	$\frac{1}{4}$ "
S3	1		3" x 1 $\frac{1}{16}$ " x 3 $\frac{1}{8}$ " x $\frac{1}{2}$ "	$\frac{1}{4}$ "
S4	1		6 $\frac{1}{8}$ " x 2 $\frac{7}{16}$ "	$\frac{1}{4}$ "
S5	1		6 $\frac{1}{8}$ " x 1 $\frac{1}{16}$ "	$\frac{1}{4}$ "
S6	1		7 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ "	$\frac{1}{4}$ "
S7	1		2 $\frac{9}{16}$ " x 6" x 35 $\frac{5}{8}$ " x 5 $\frac{7}{8}$ "	$\frac{1}{4}$ "
S8	1		1 $\frac{5}{32}$ " x 7 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " x 7 $\frac{3}{8}$ "	$\frac{1}{4}$ "
S9	1		6 $\frac{1}{16}$ " x 6 $\frac{3}{16}$ " x 1 $\frac{3}{32}$ "	$\frac{1}{4}$ "
S10	1		1 $\frac{7}{8}$ " x 9 $\frac{7}{8}$ " x 35 $\frac{5}{8}$ " x 9 $\frac{11}{16}$ "	$\frac{1}{4}$ "
S11	1		8 $\frac{1}{2}$ " x 8 $\frac{3}{4}$ " x 1 $\frac{3}{16}$ "	$\frac{1}{4}$ "

SINGLE SLOPE CONNECTION PLATE

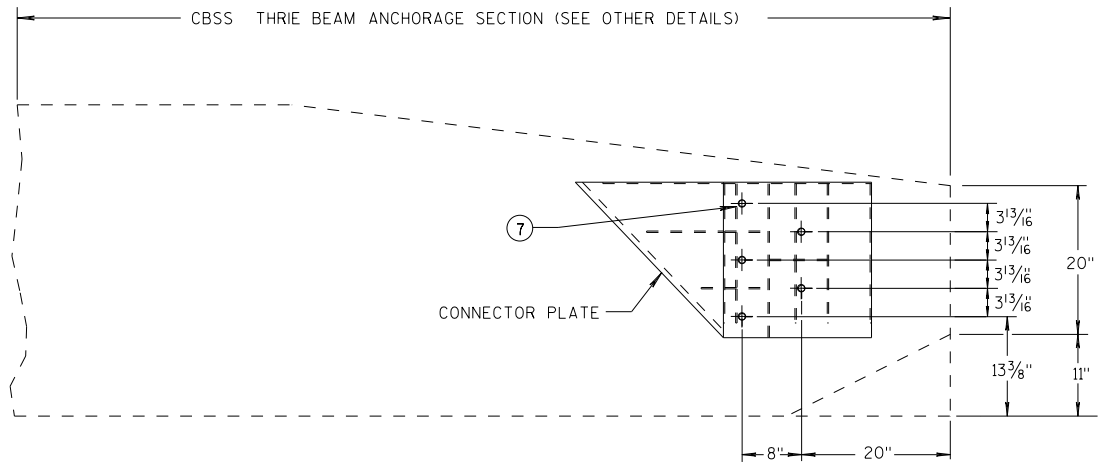
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

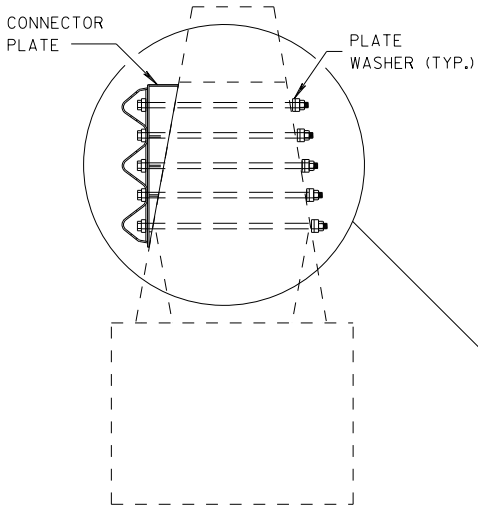


SINGLE SLOPE CONNECTION PLATE PLACEMENT

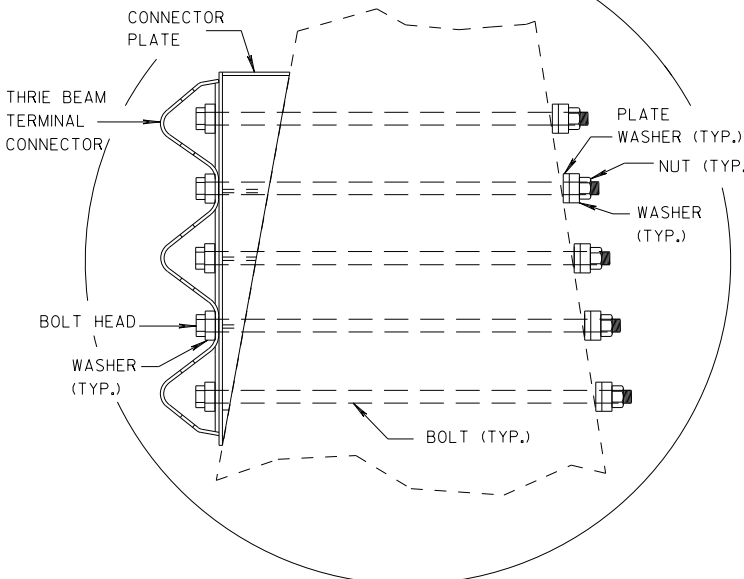
GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

- (2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- (7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



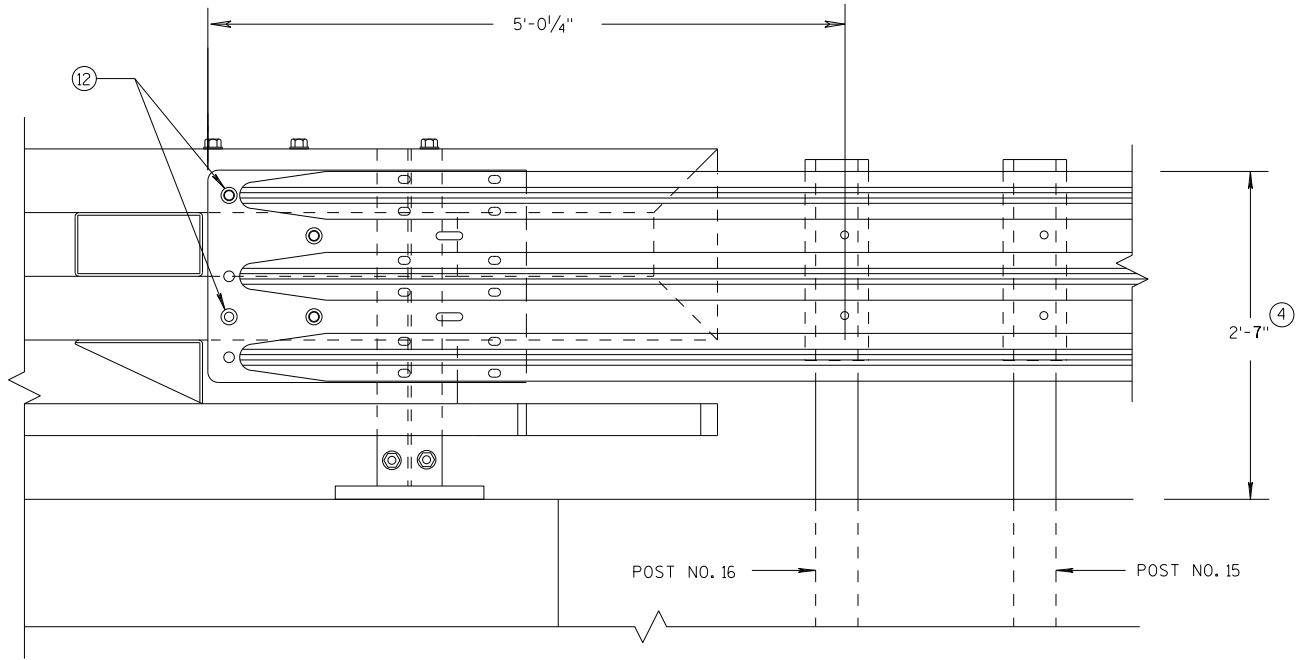
SECTION N-N



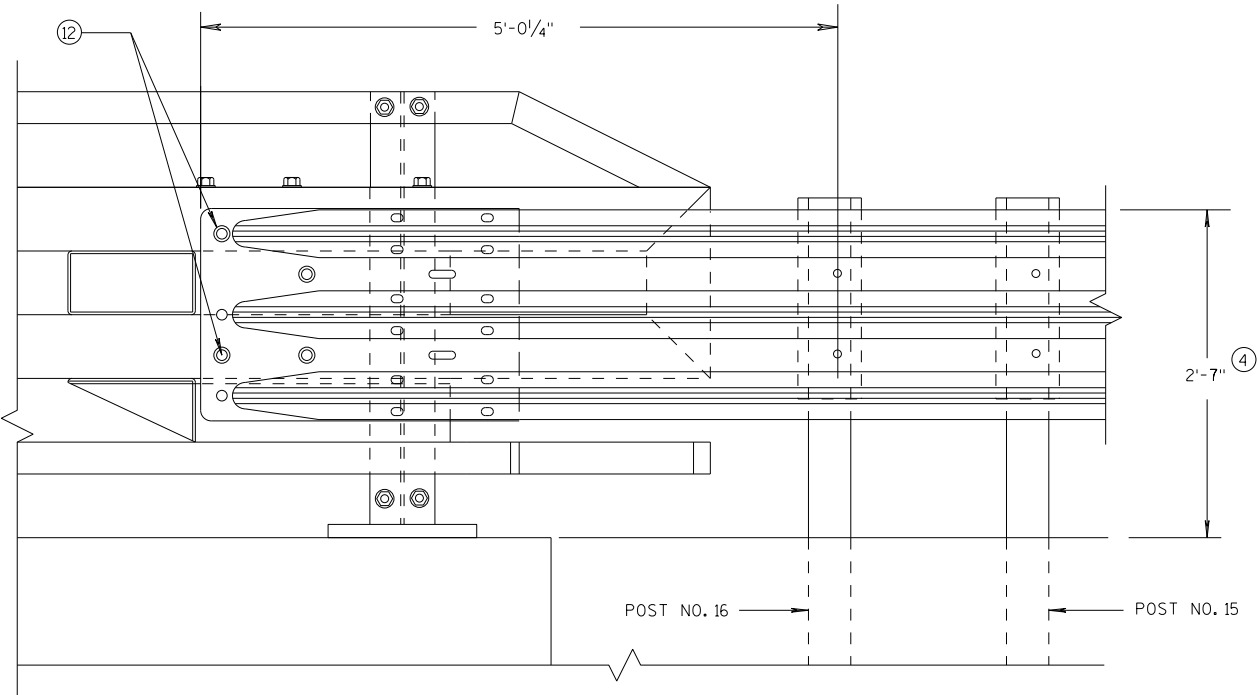
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



ELEVATION OF DETAIL AT NY3 END POST
THRIE BEAM RAIL ATTACHMENT

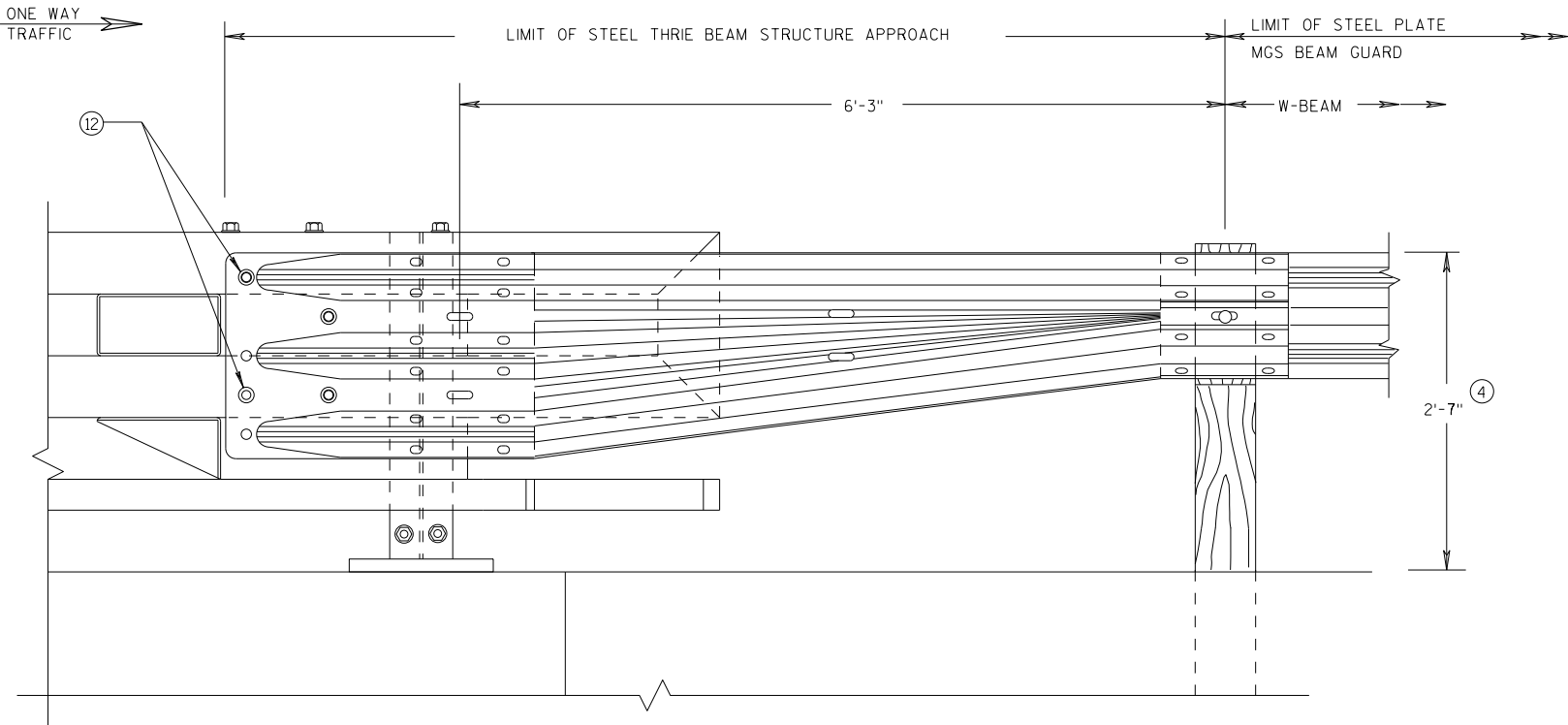


ELEVATION OF DETAIL AT NY4 END POST
THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND $\frac{1}{2}$ -INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	



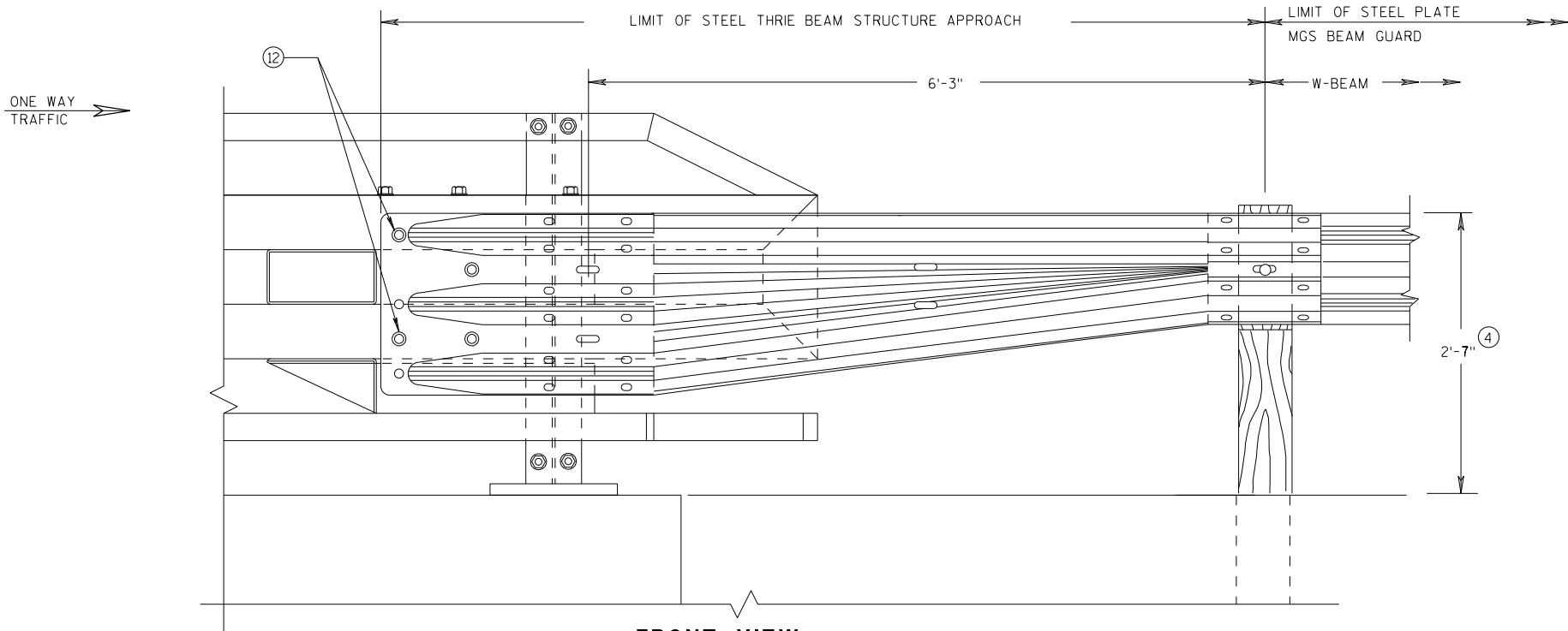
GENERAL NOTES

- (4) TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- (12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND $\frac{1}{2}$ -INCH BEYOND NUT.

FRONT VIEW
W BEAM TRANSITION AND
CONNECTION TO BRIDGE RAILING TYPE "NY3"
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

6

S.D.D. 14 B 45-5L



FRONT VIEW
W BEAM TRANSITION AND
CONNECTION TO BRIDGE RAILING TYPE "NY4"
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

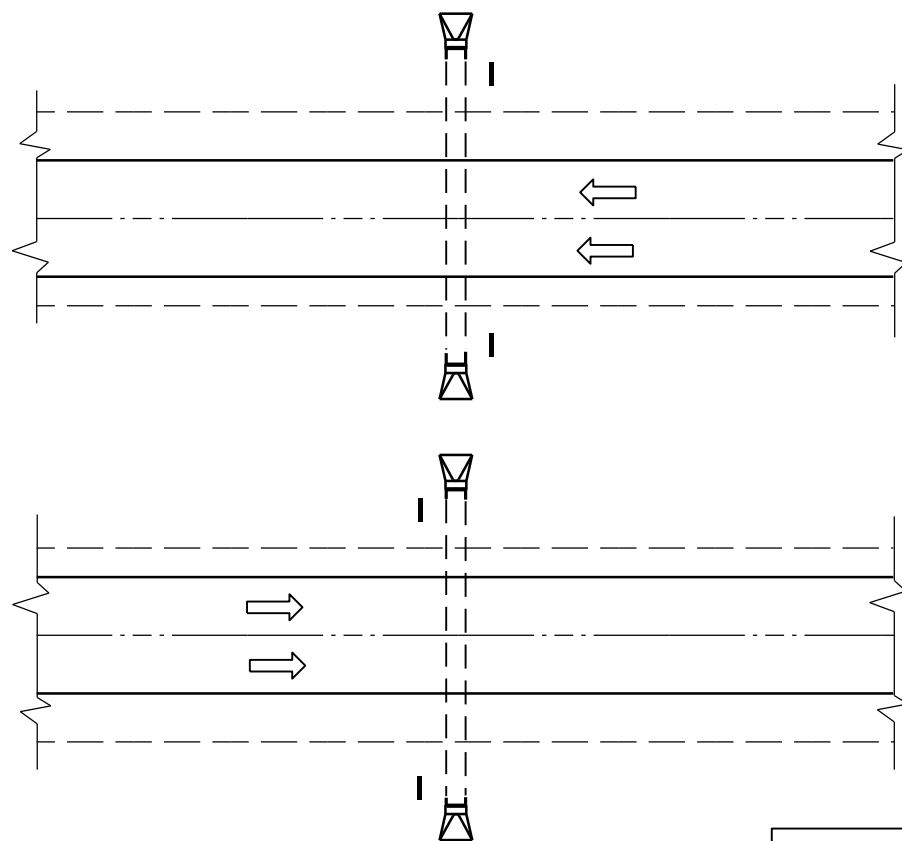
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S.D.D. 14 B 45-5L

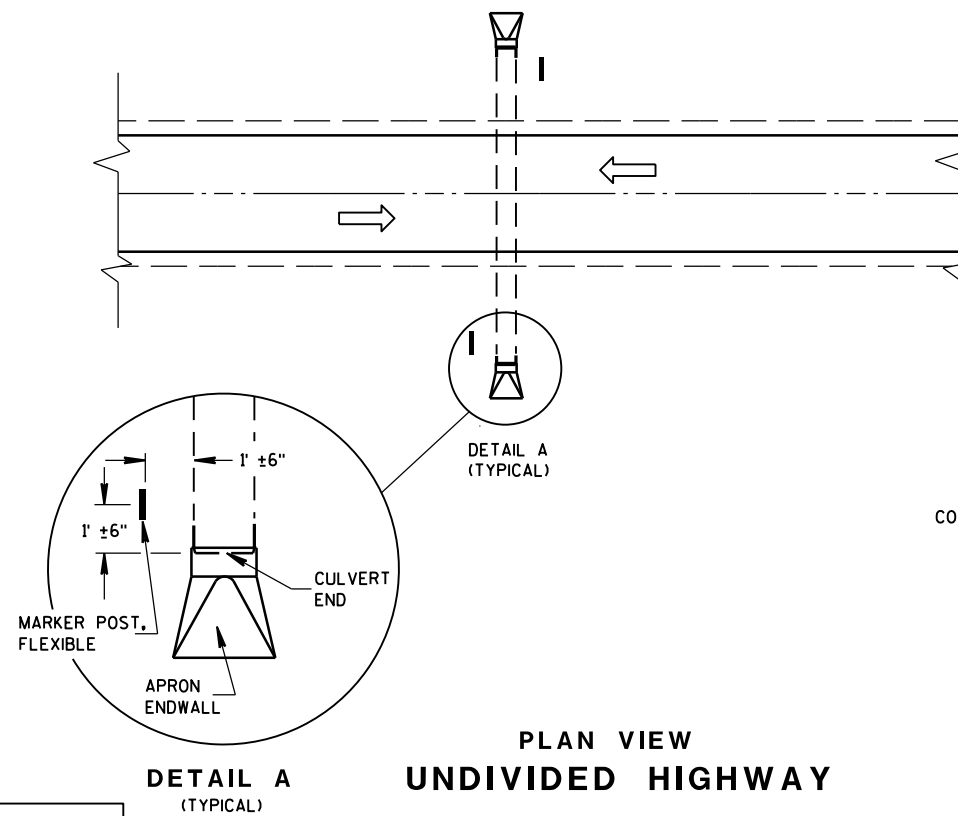
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	



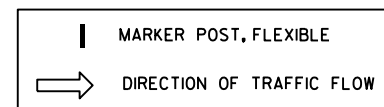
SDD 15a3-a Flexible Marker Post for Culvert End



PLAN VIEW
DIVIDED HIGHWAY



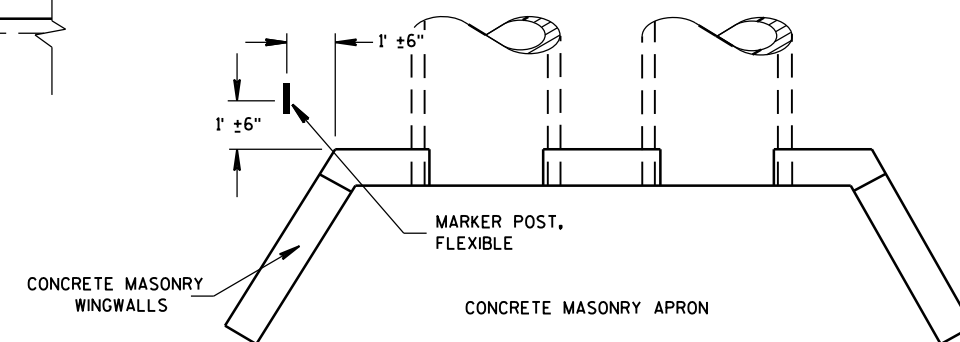
PLAN VIEW
UNDIVIDED HIGHWAY



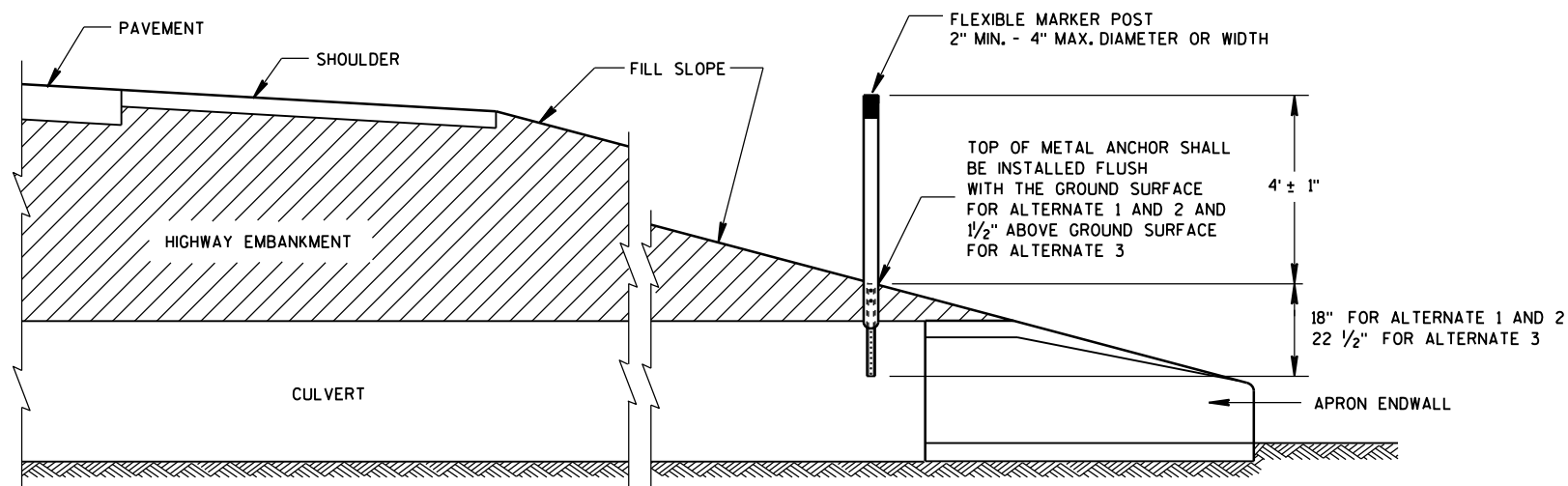
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



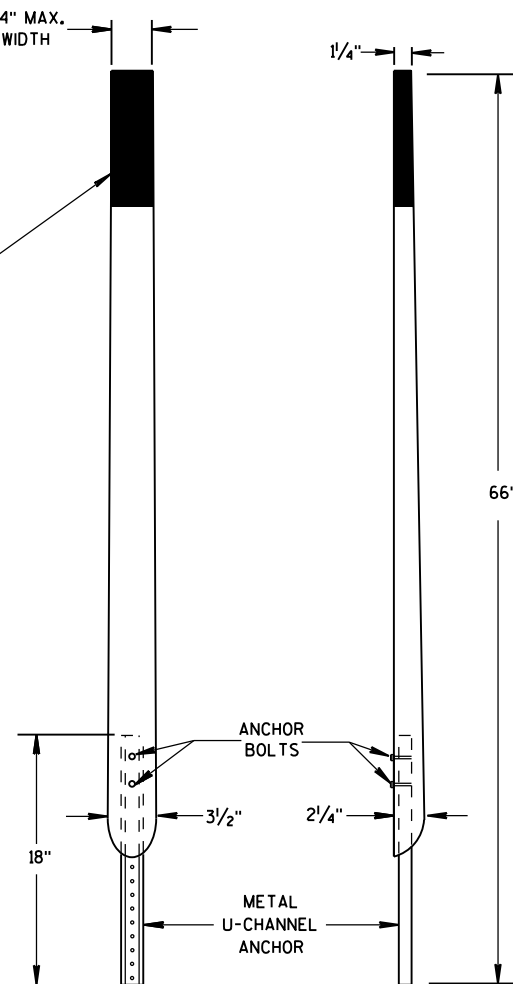
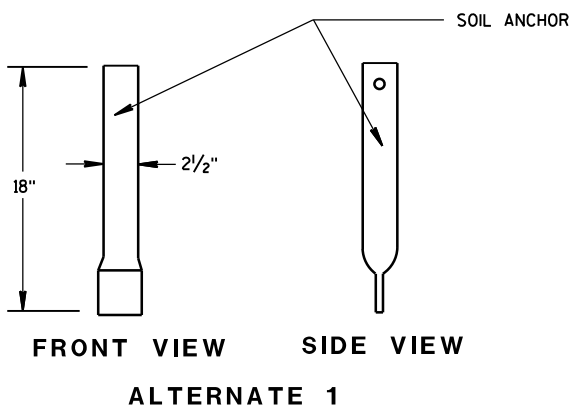
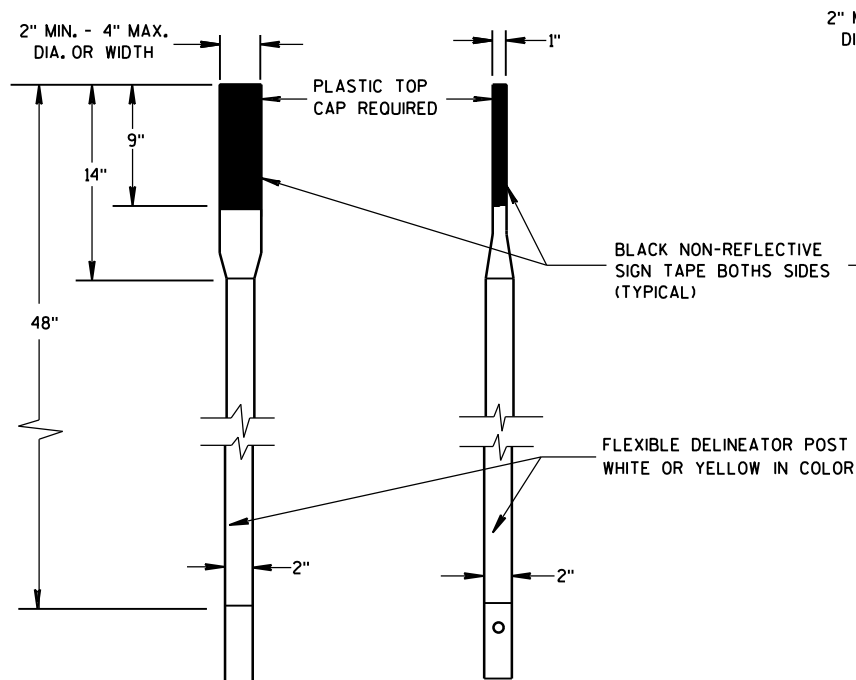
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

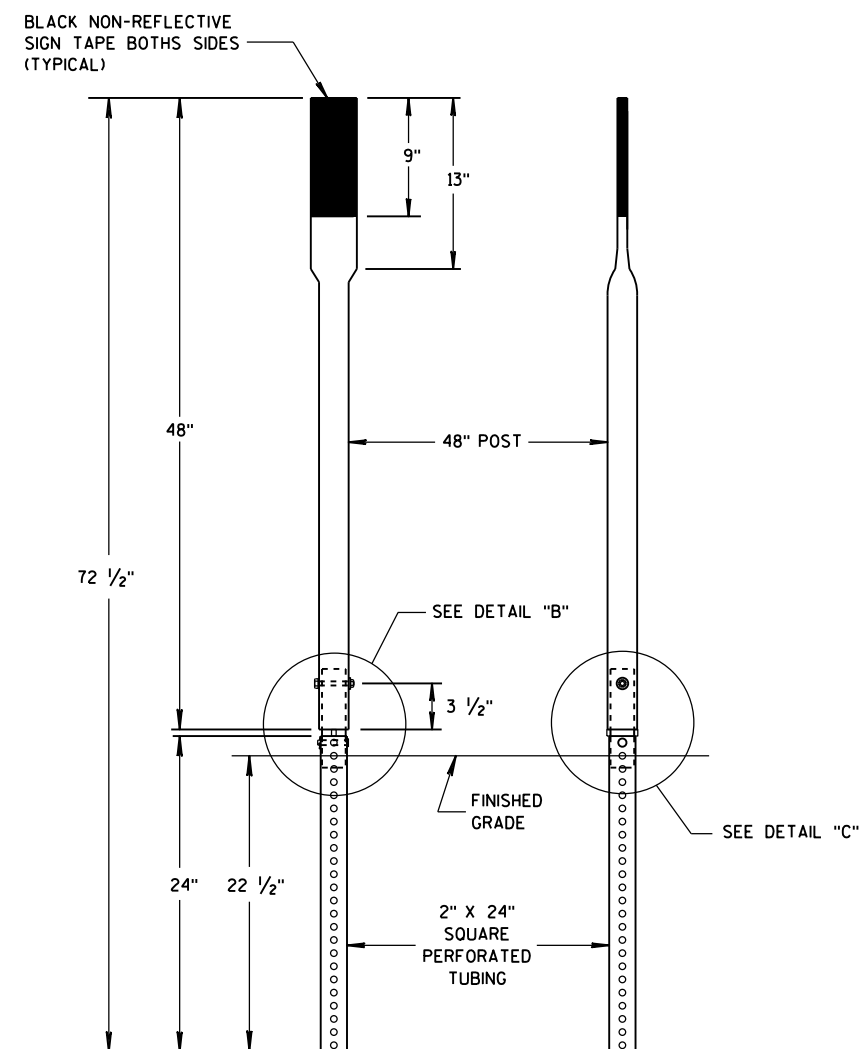


SDD 15a3-b Flexible Marker Post for Culvert End

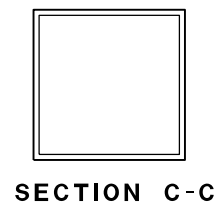


FRONT VIEW SIDE VIEW
ALTERNATE 2

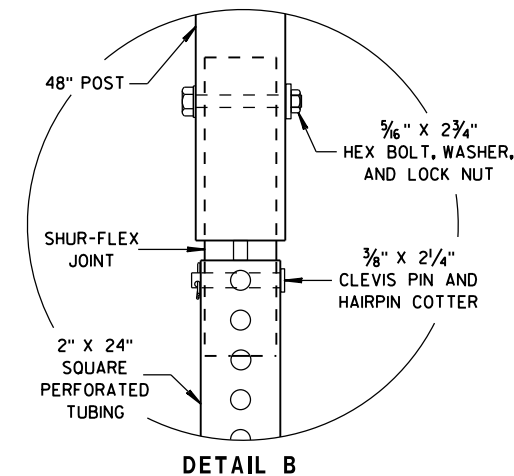
FLEXIBLE MARKER POSTS



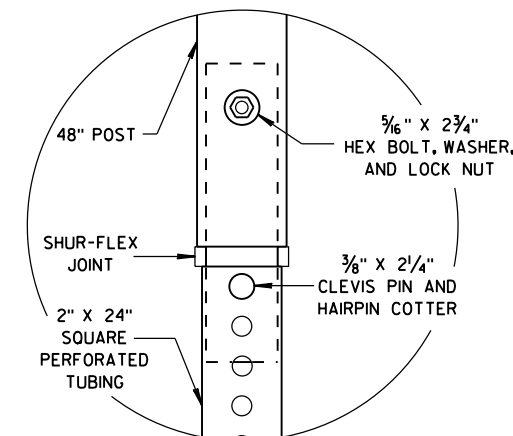
FRONT VIEW SIDE VIEW
ALTERNATE 3



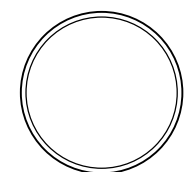
SECTION C-C



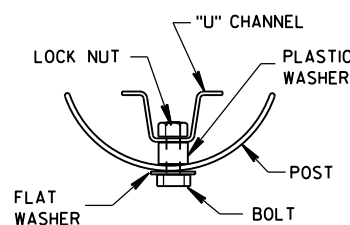
DETAIL B



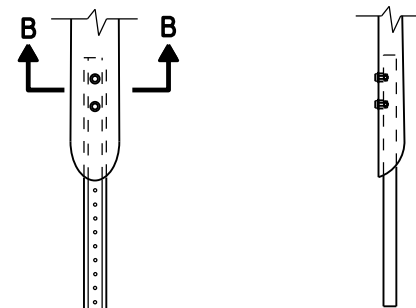
DETAIL C



SECTION A-A



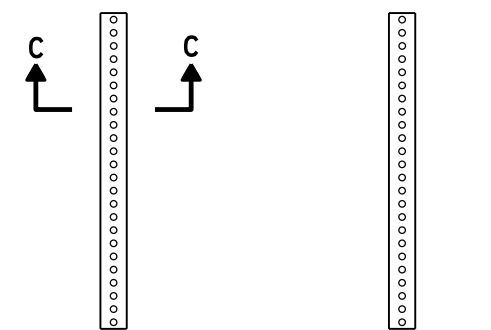
SECTION B-B



FRONT VIEW SIDE VIEW

ALTERNATE 2

FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW

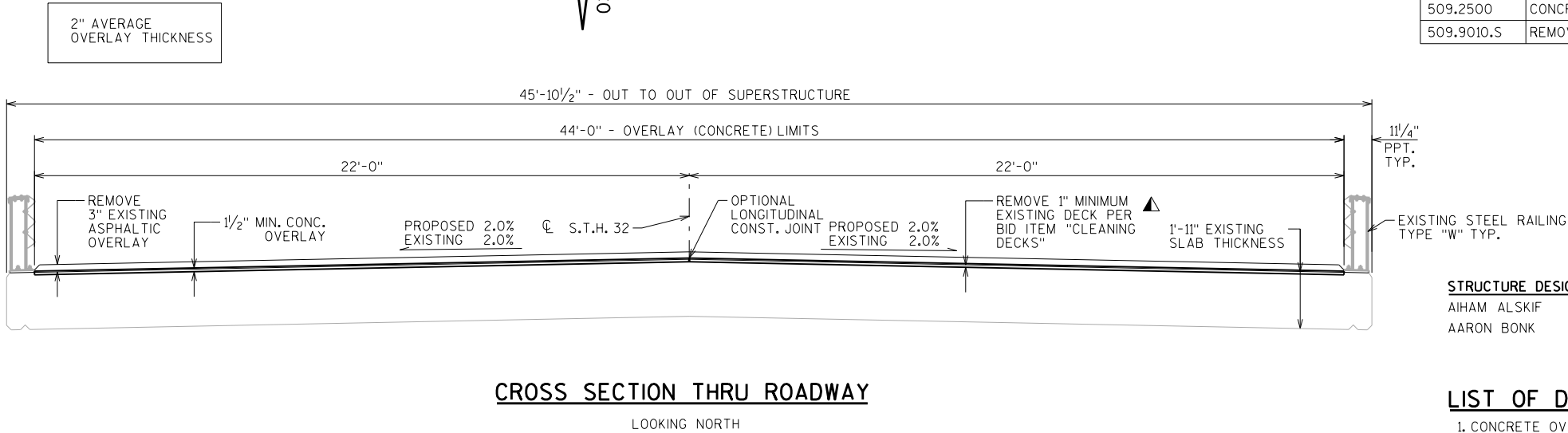
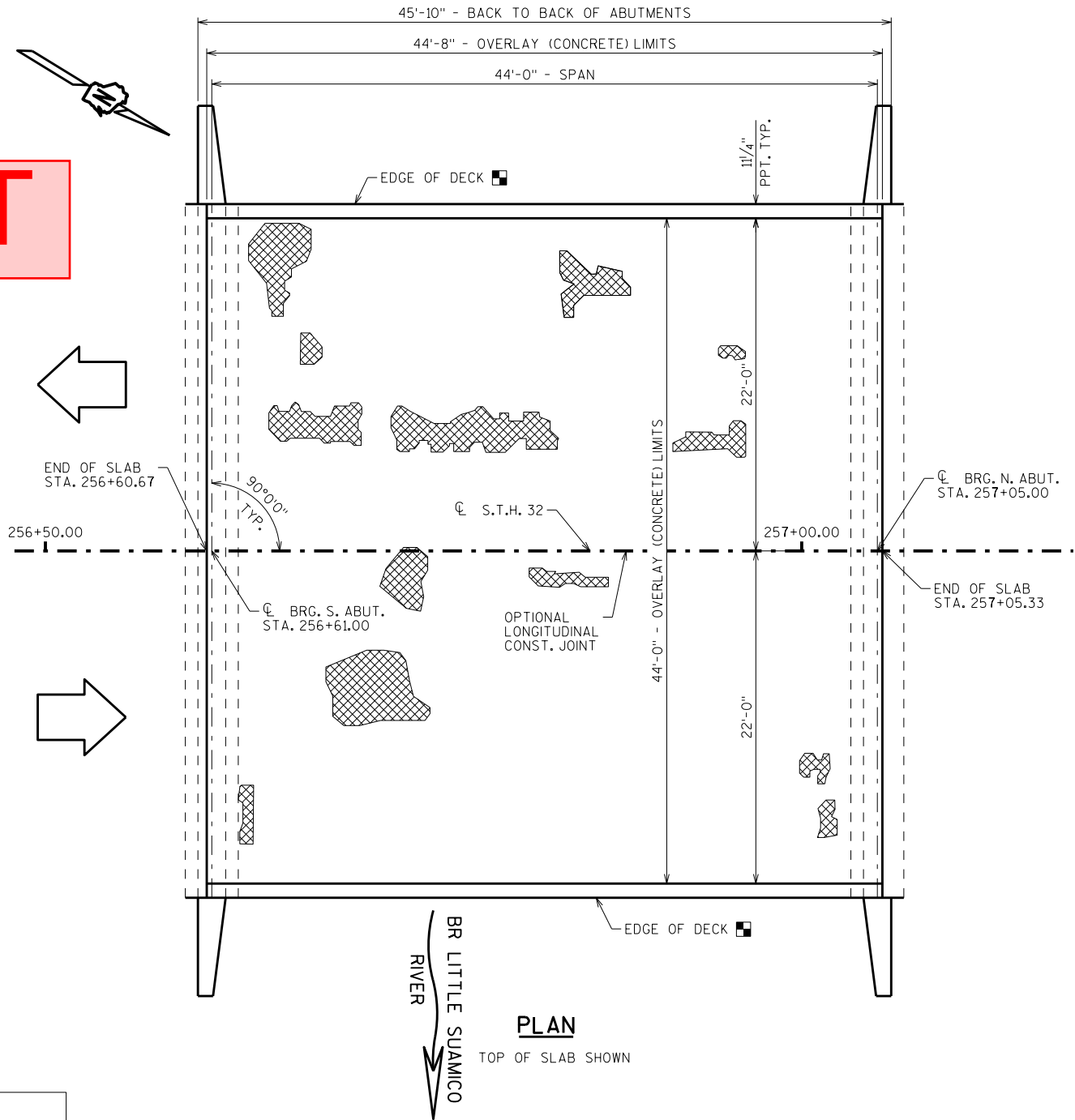
ALTERNATE 3

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

DRAFT



DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HS-20
INVENTORY RATING: HS-21
OPERATING RATING: HS-35
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 209(KIPS)

MATERIAL PROPERTIES:
CONCRETE MASONRY:
SUPERSTRUCTURE & OVERLAY DECK — f'c = 4,000 P.S.I.

TRAFFIC VOLUME

S.T.H. 32
ADT = 7800 (2041)
R.D.S. = 45 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP SURFACE OF THE CONCRETE OVERLAY.

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1 1/2", CONTACT THE STRUCTURES DESIGN SECTION.

THE ENTIRE EXISTING ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-260" AND A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS 1/2-INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".


TOTAL ESTIMATED QUANTITIES

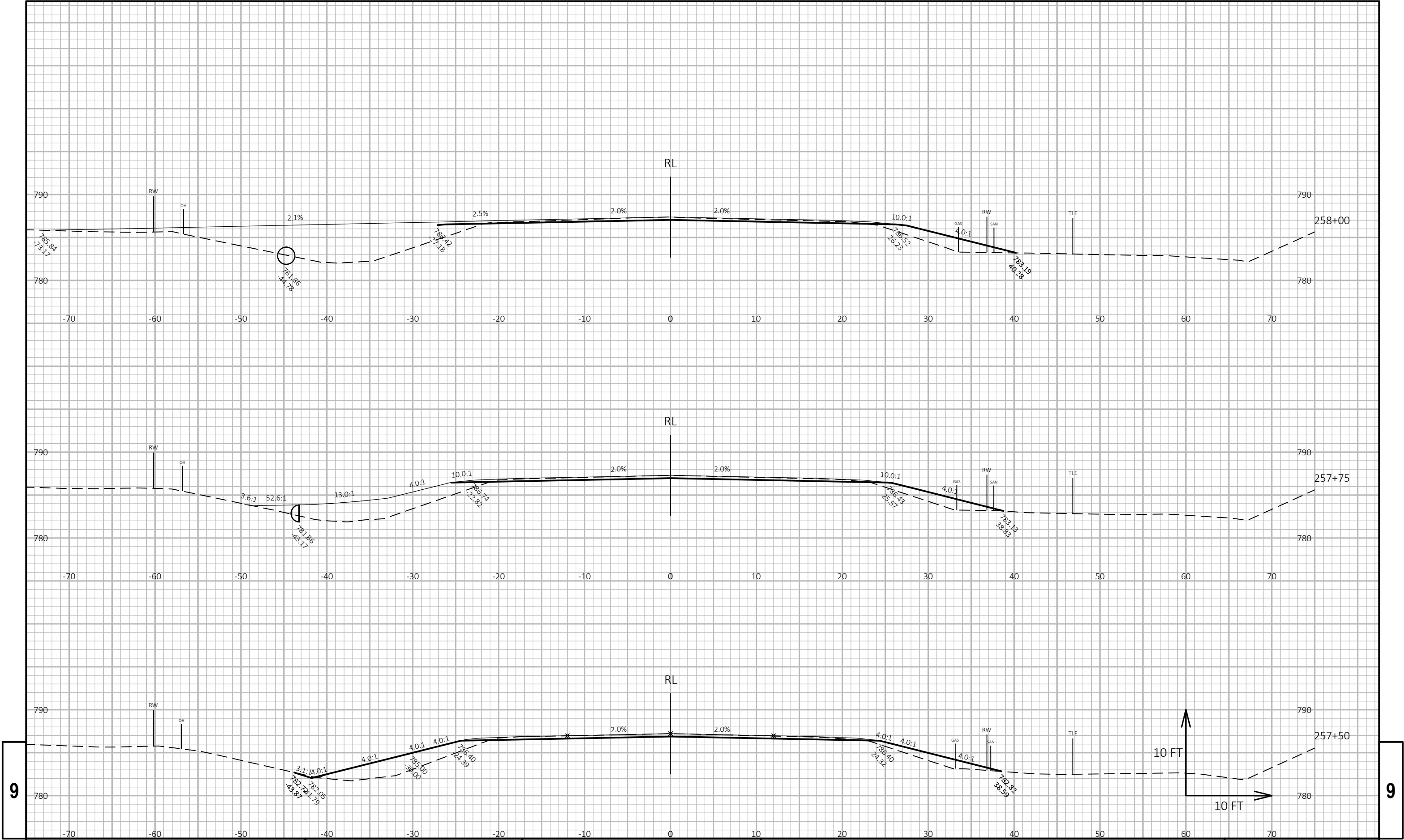
BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	219
509.0301	PREPARATION DECKS TYPE 1	SY	11
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	219
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	13
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-260	SY	219

STRUCTURE DESIGN CONTACTS:
AIHAM ALSKIF (608) 261-6113
AARON BONK (608) 261-0261

LIST OF DRAWINGS

1. CONCRETE OVERLAY

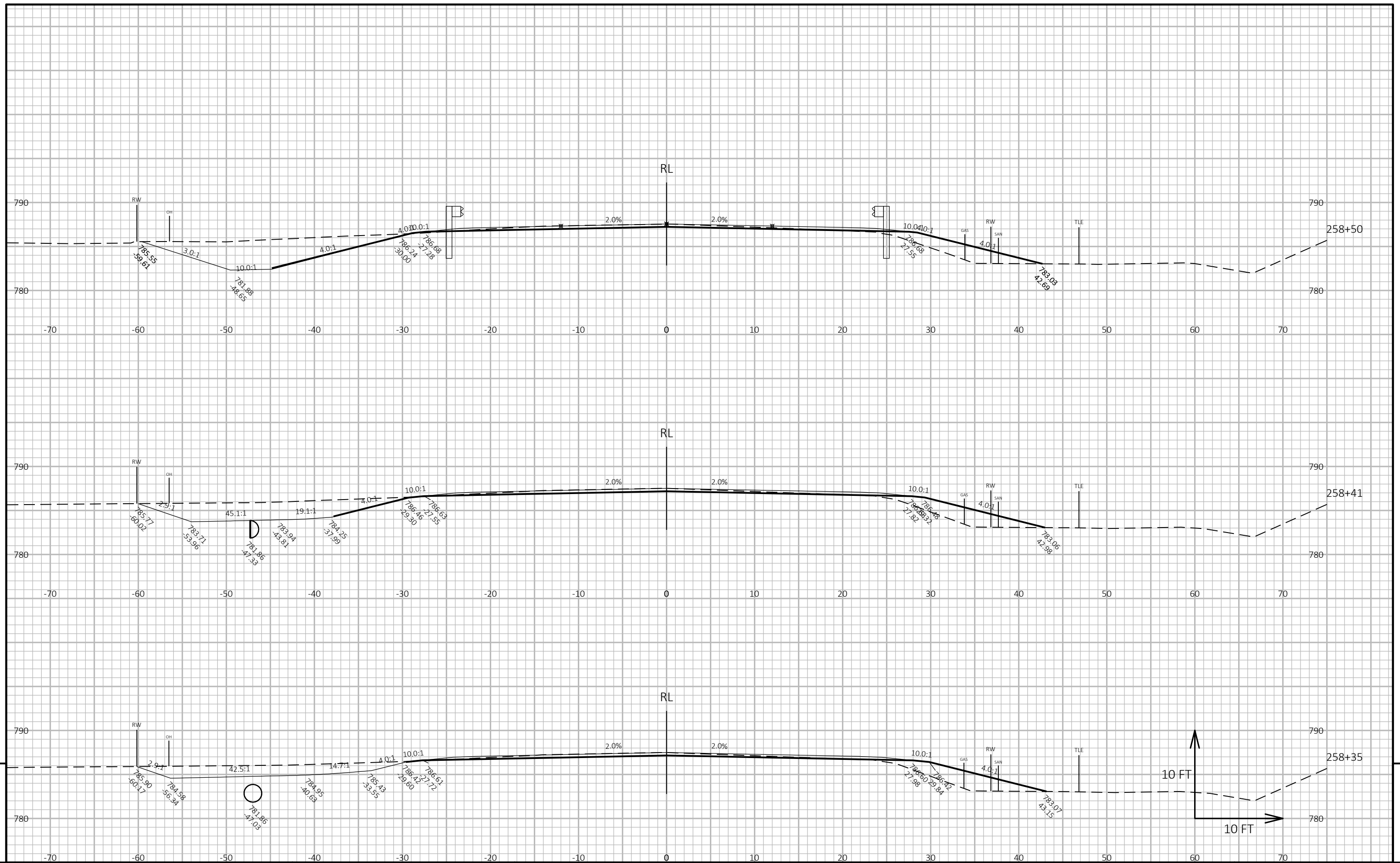
NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES			
ACCEPTED CHIEF STRUCTURES DESIGN ENGINEER _____ DATE _____			
STRUCTURE B-5-260			
STH 32 OVER BR LITTLE SUAMICO RIVER			
COUNTY	BROWN	VILLAGE	PULASKI
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	AA	DESIGNED CK'D. JJS	DRAWN BY AA
CONCRETE OVERLAY			SHEET 1 OF 1

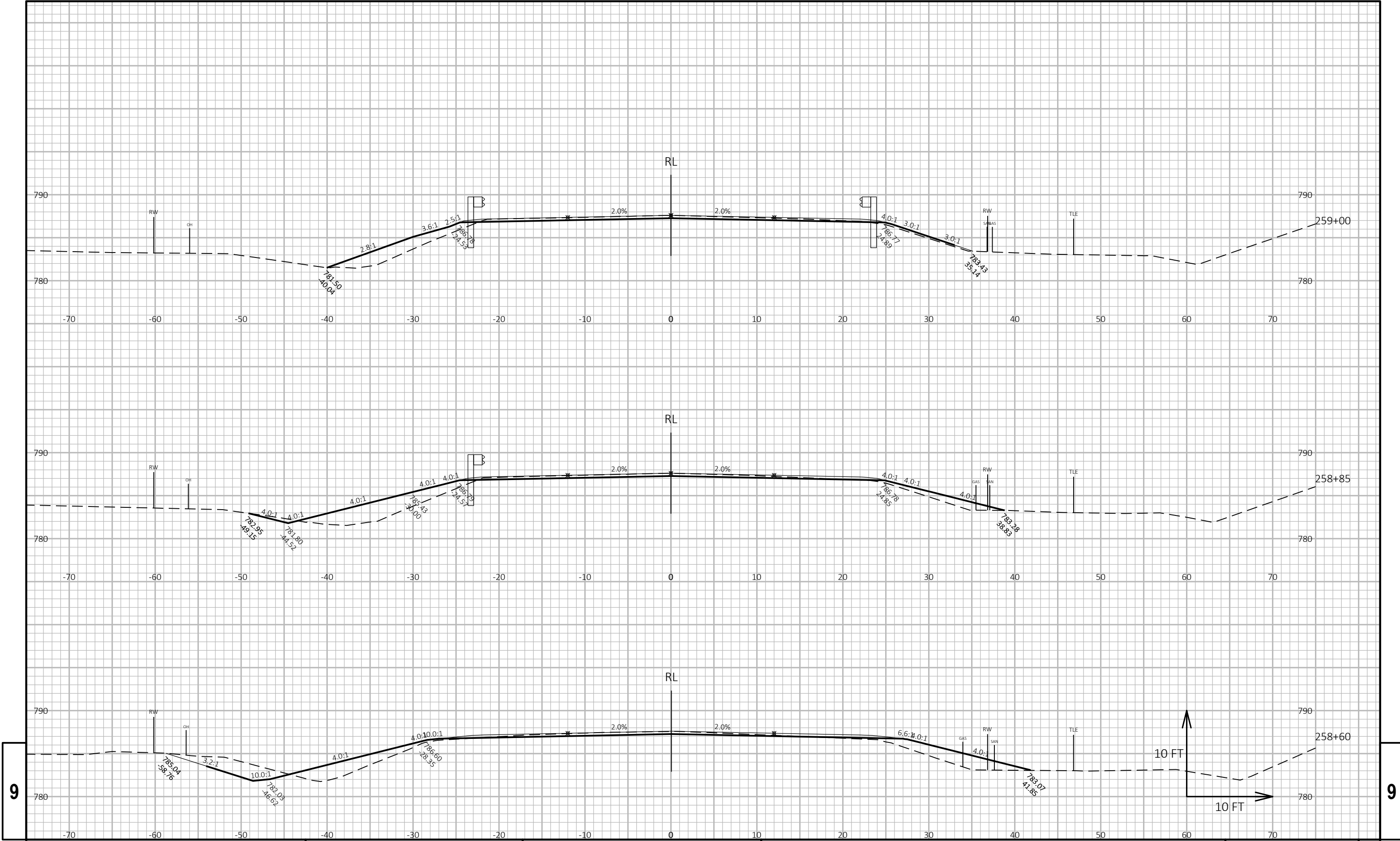


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PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	CROSS SECTIONS: STH 32	SHEET	E
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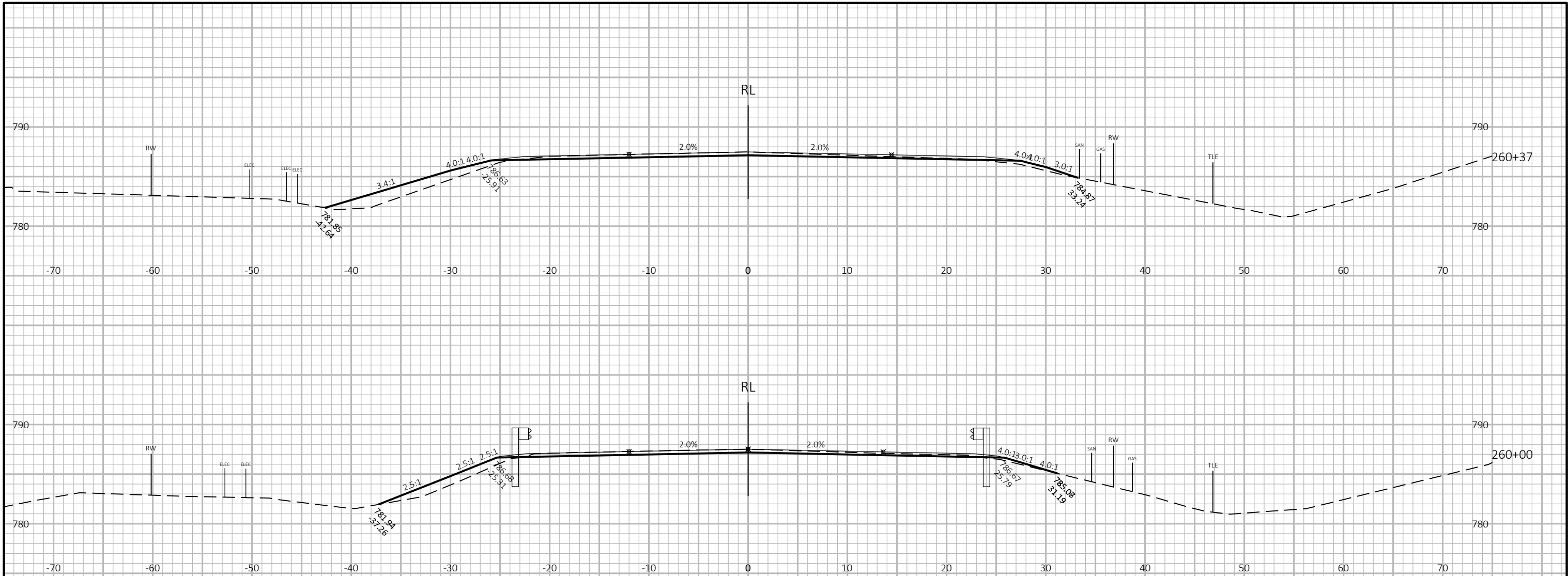




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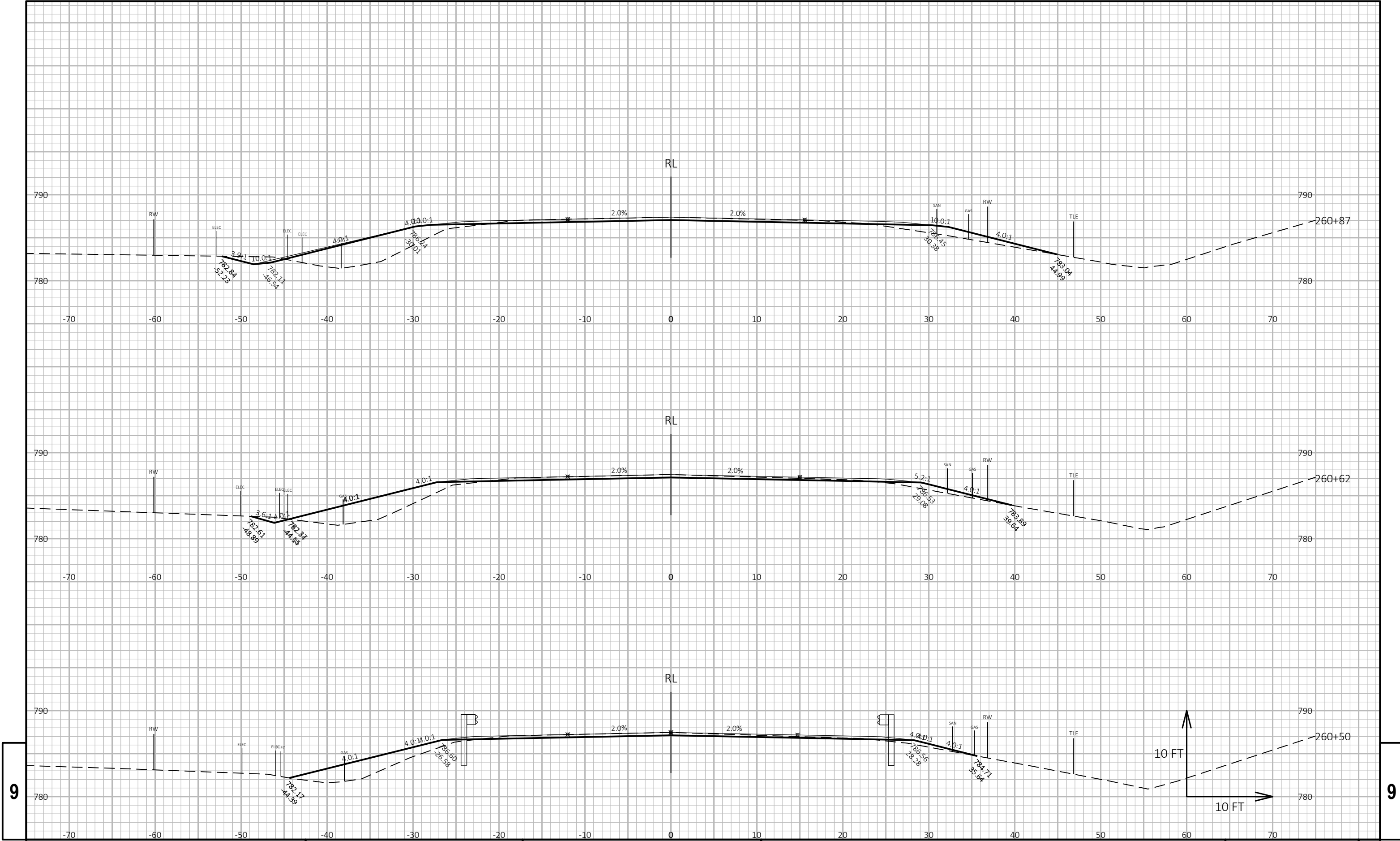
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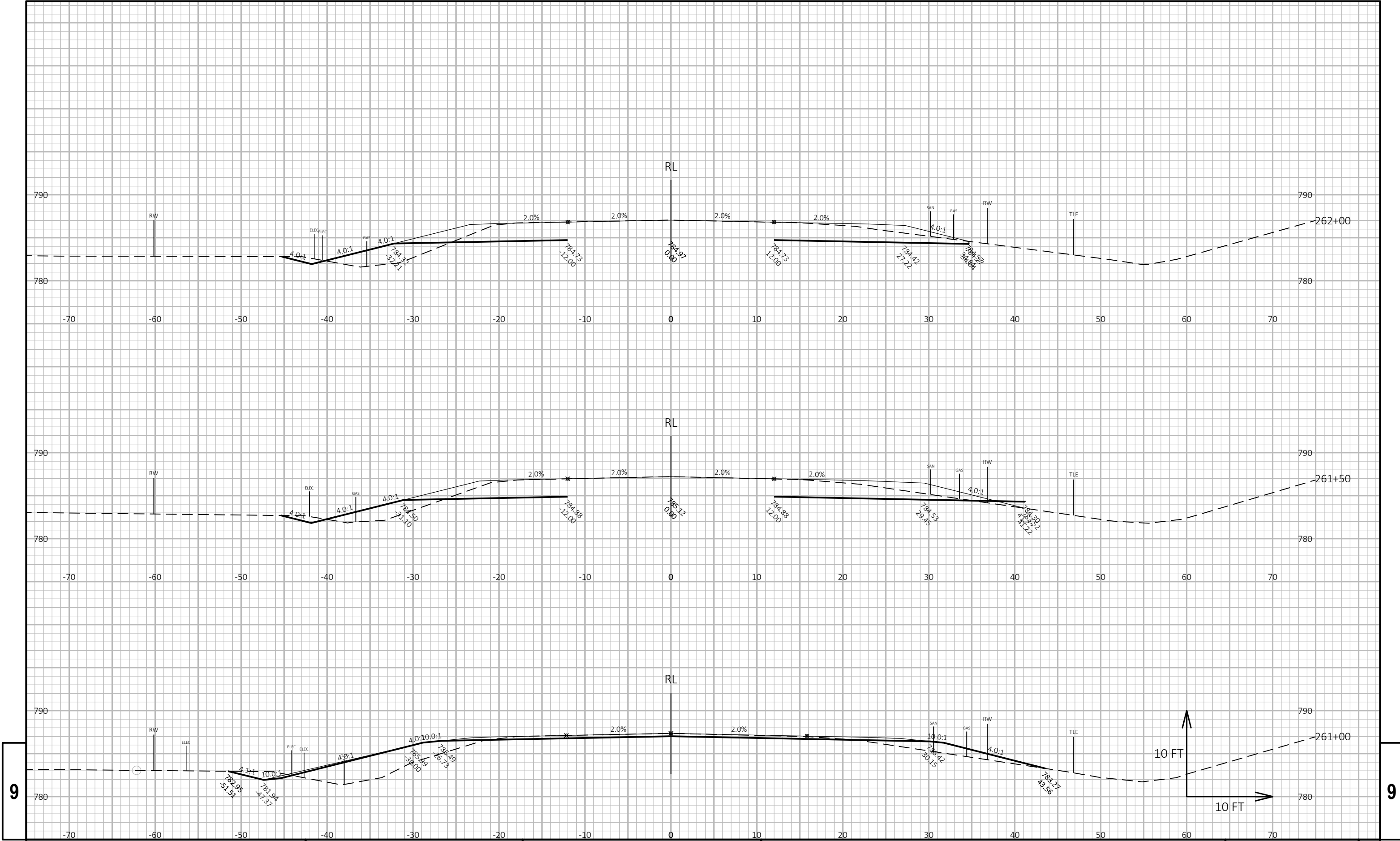
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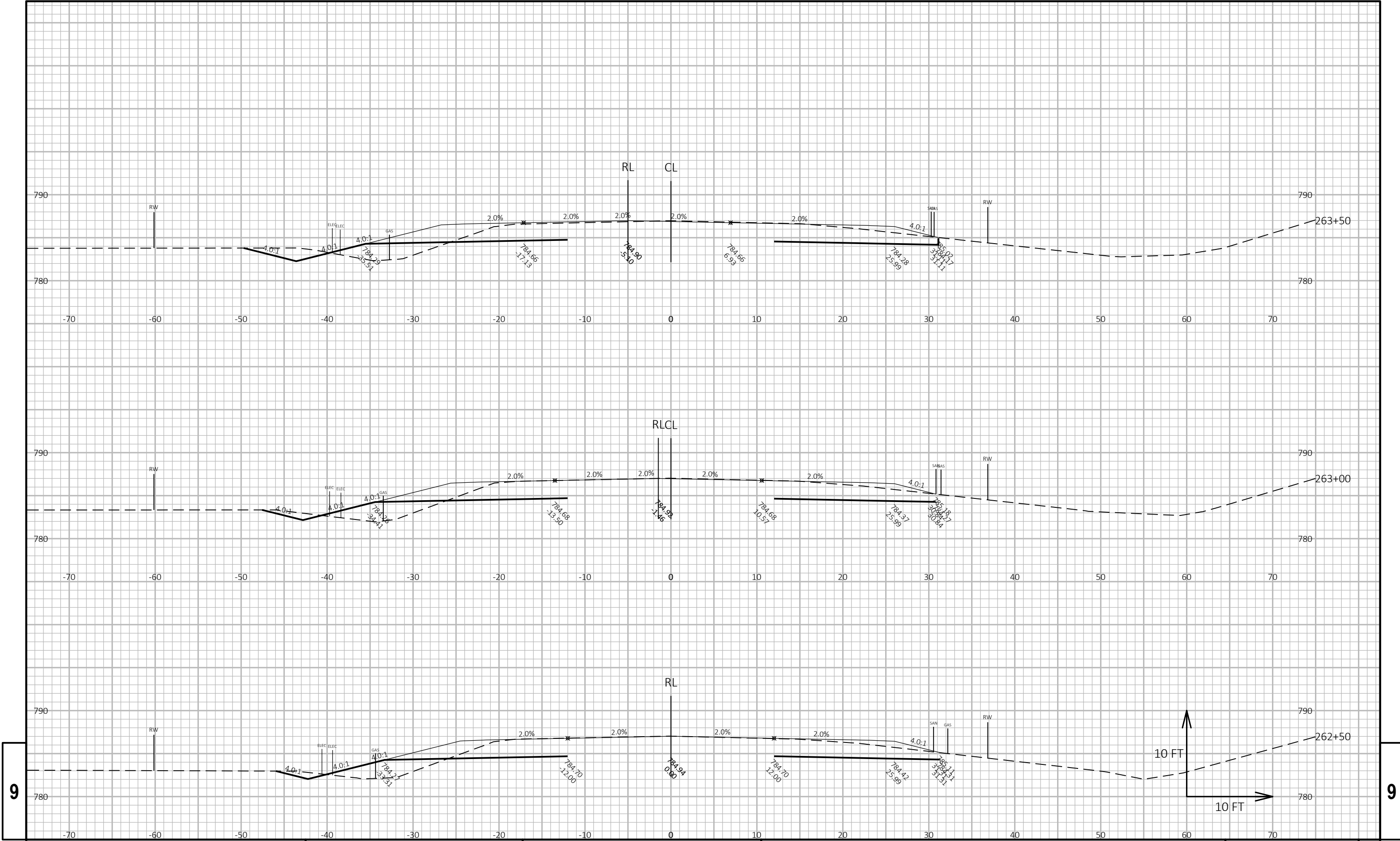
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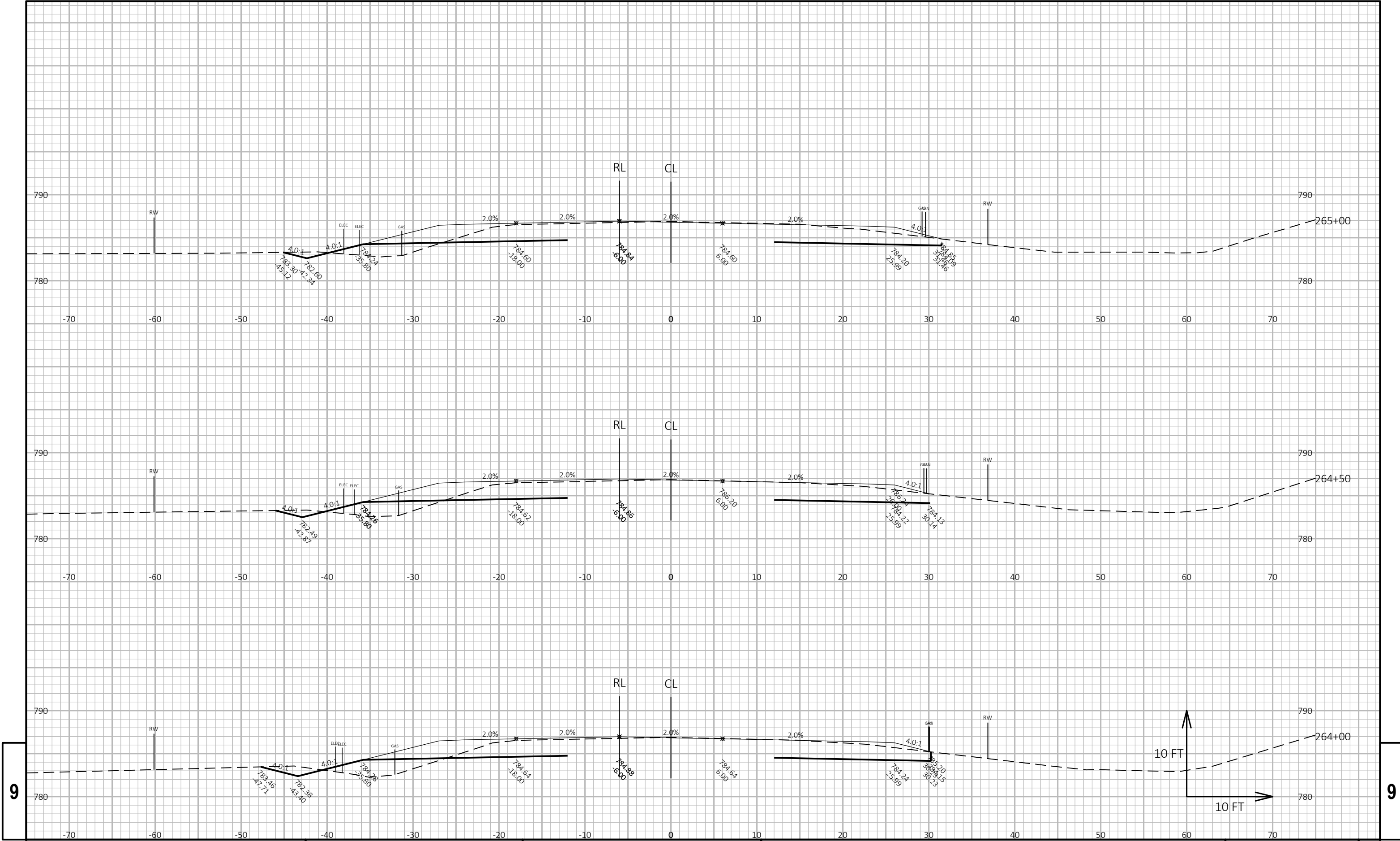
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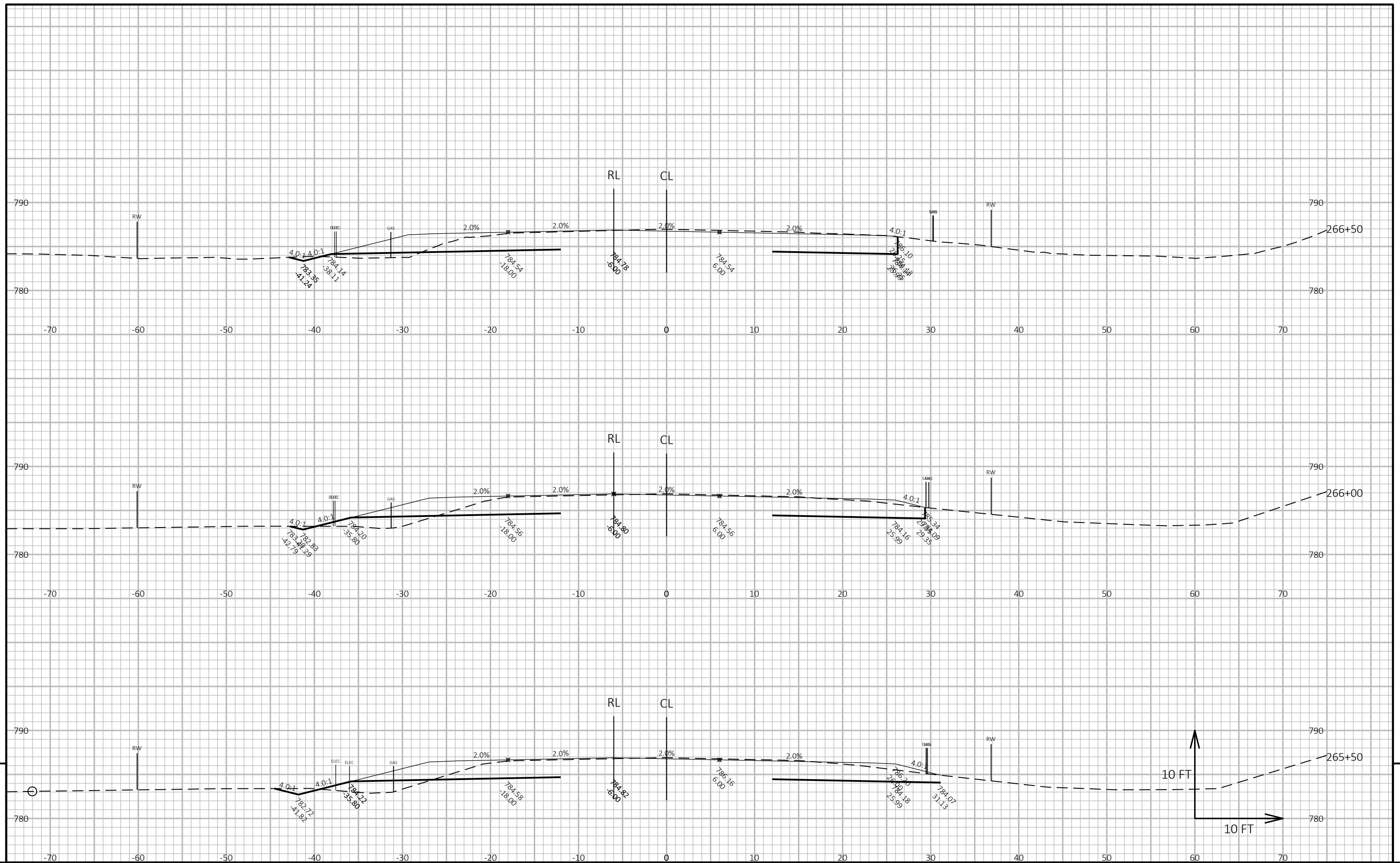
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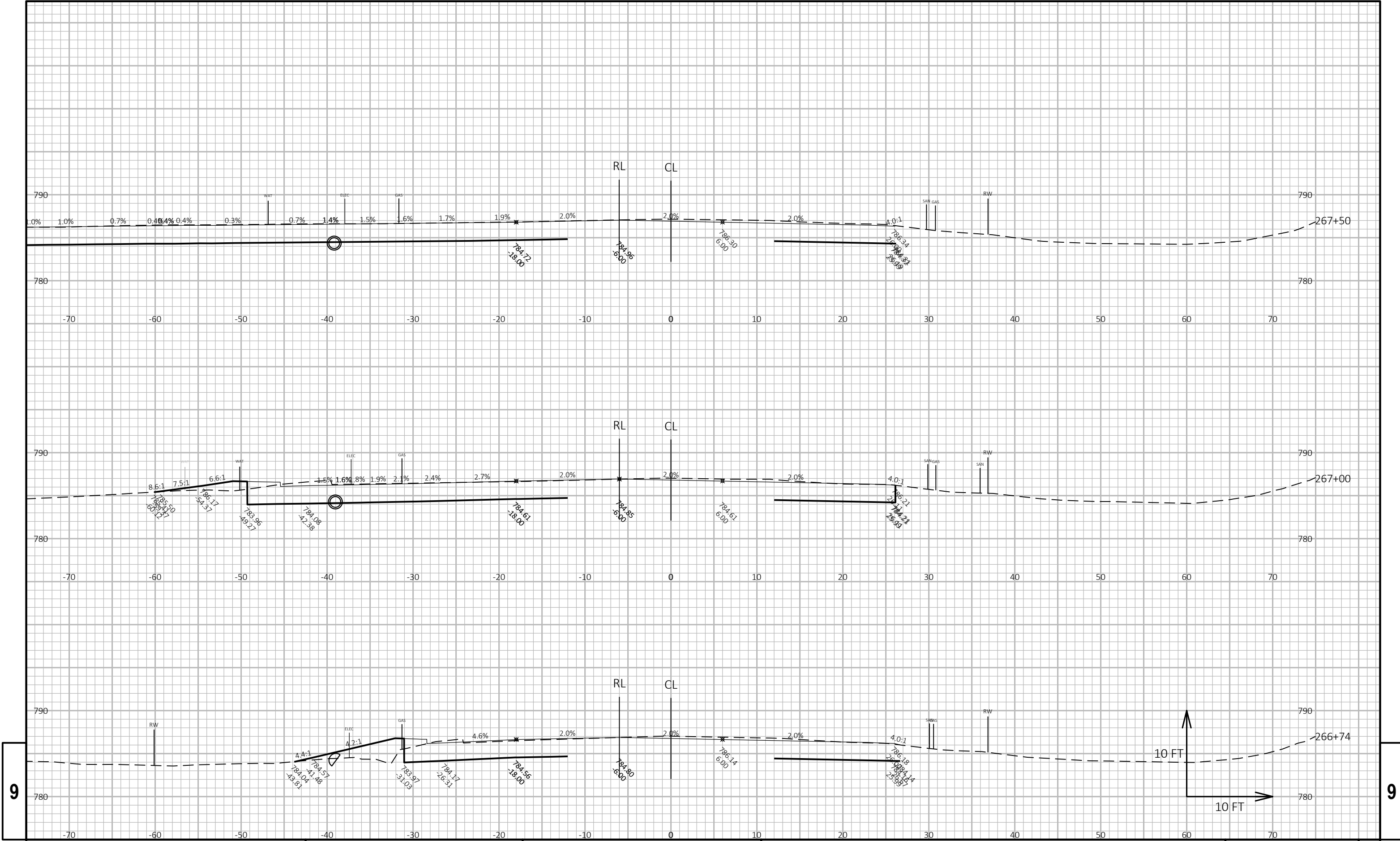
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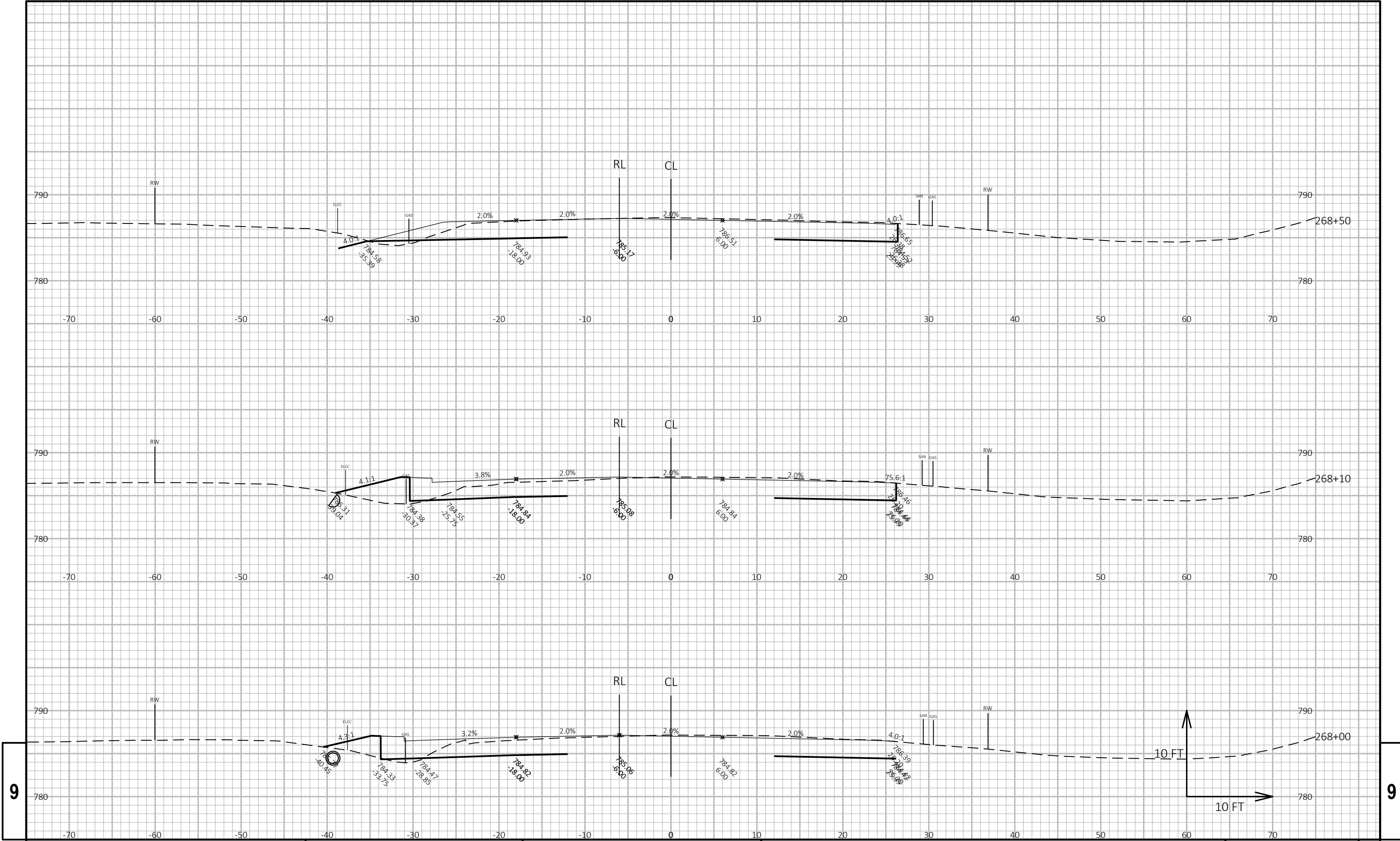


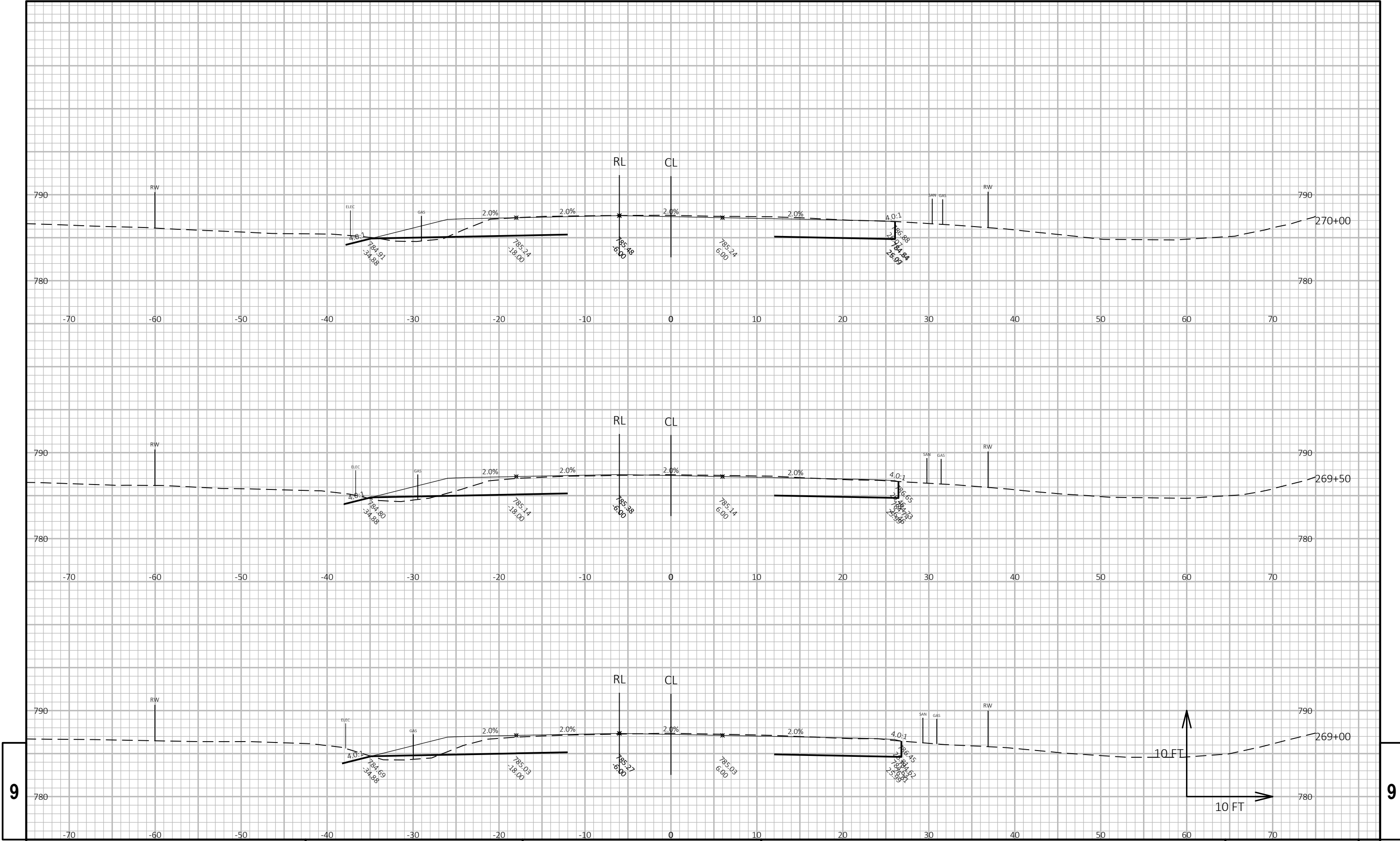


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PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	CROSS SECTIONS: STH 32	SHEET	E
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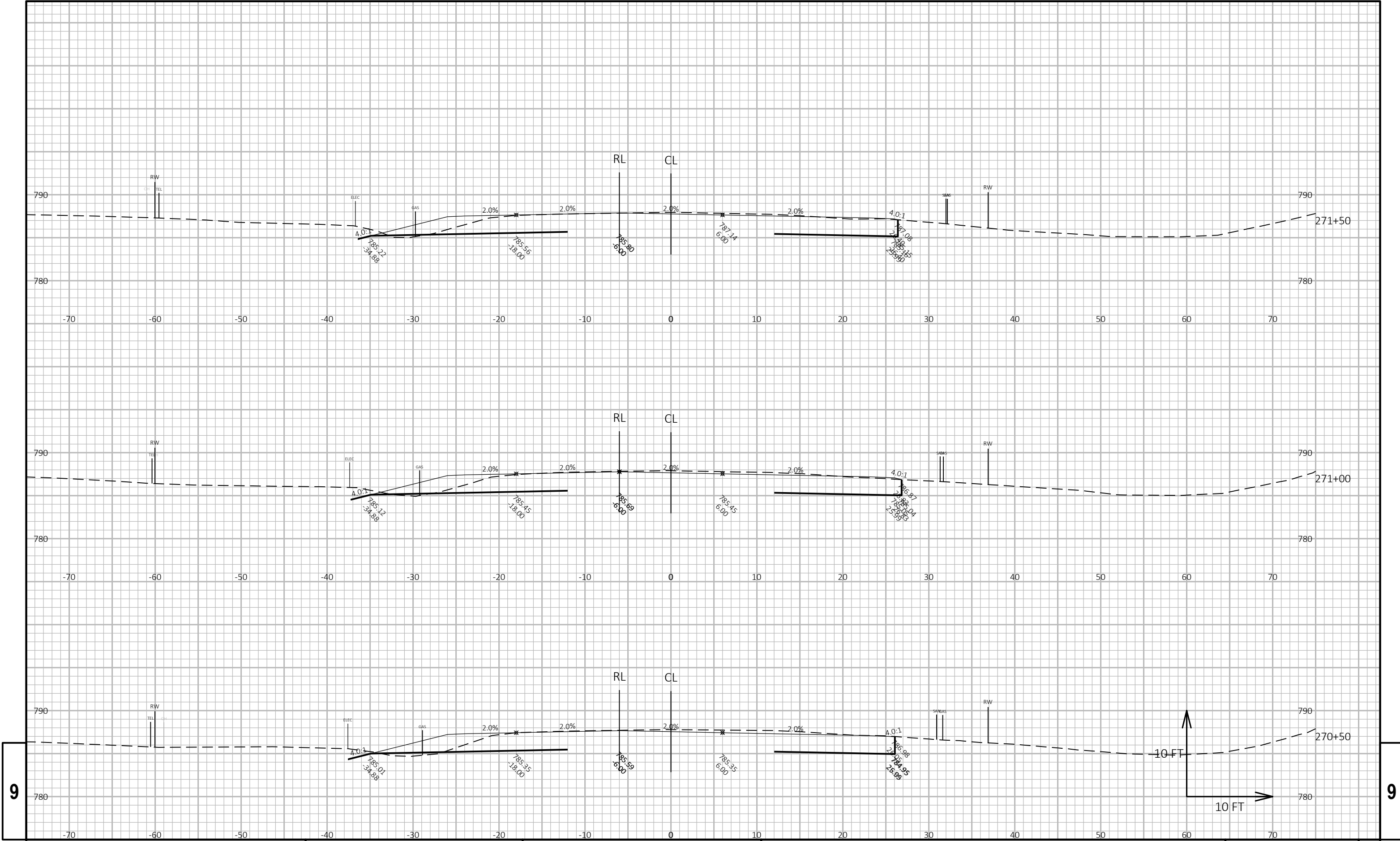




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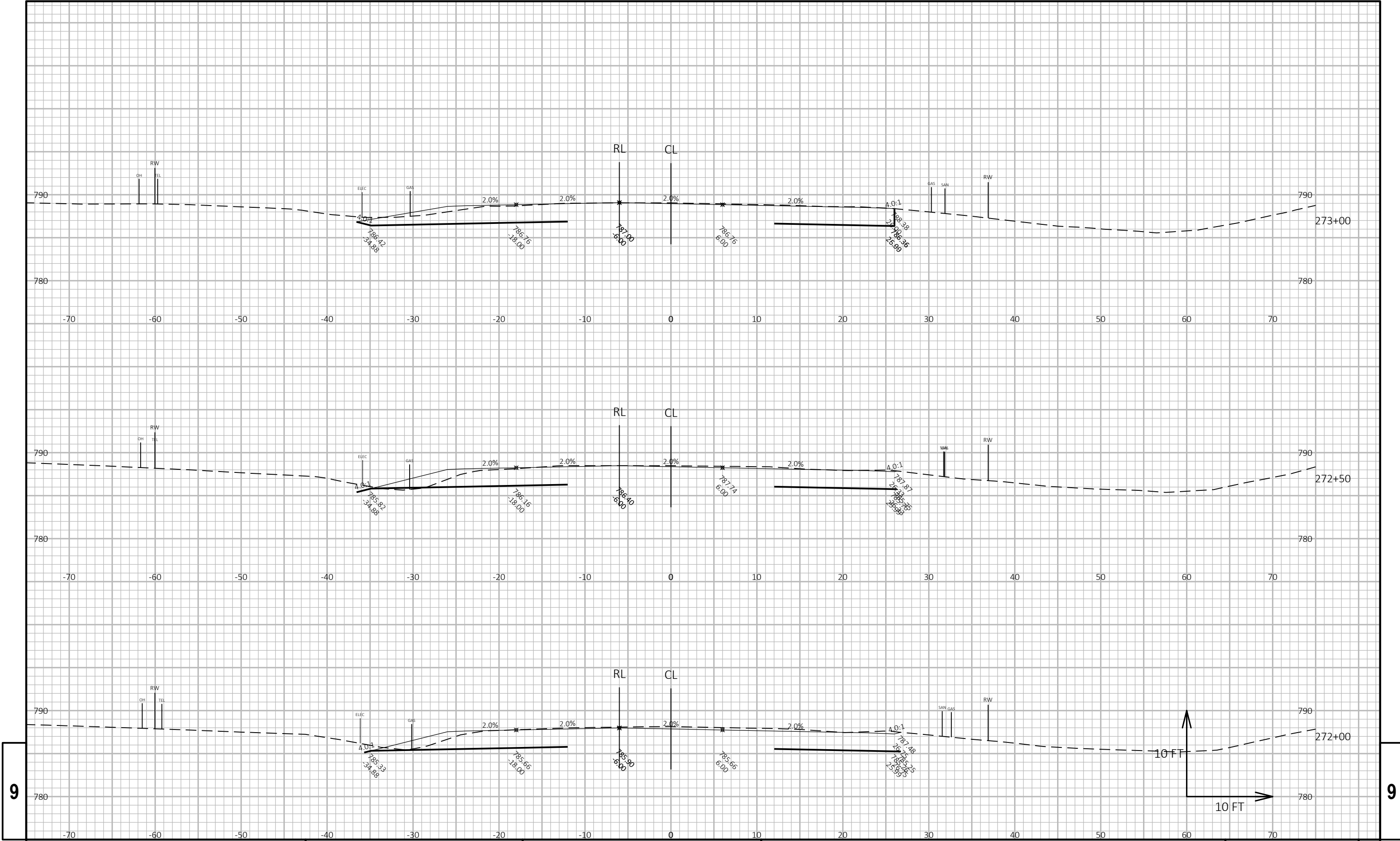
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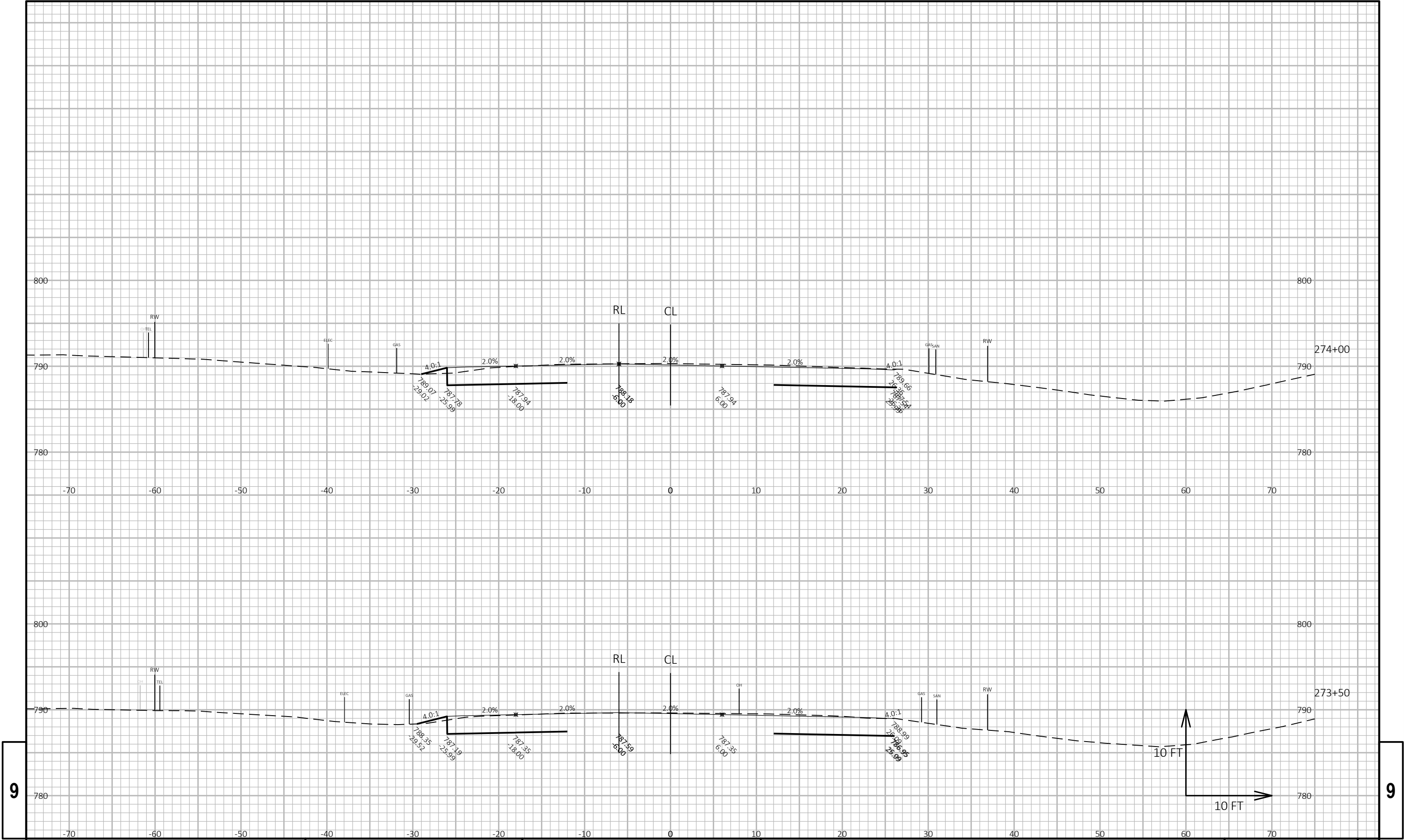
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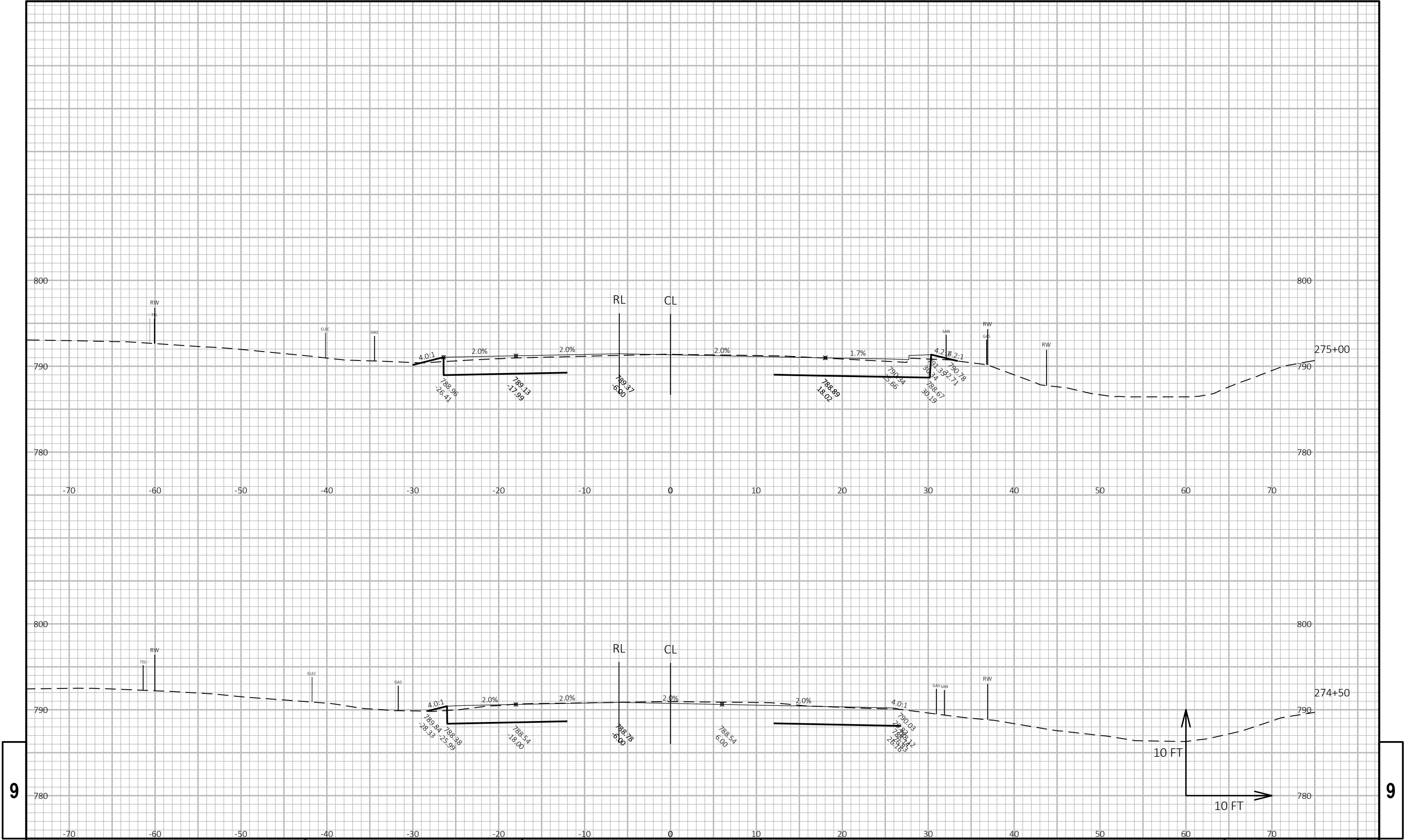
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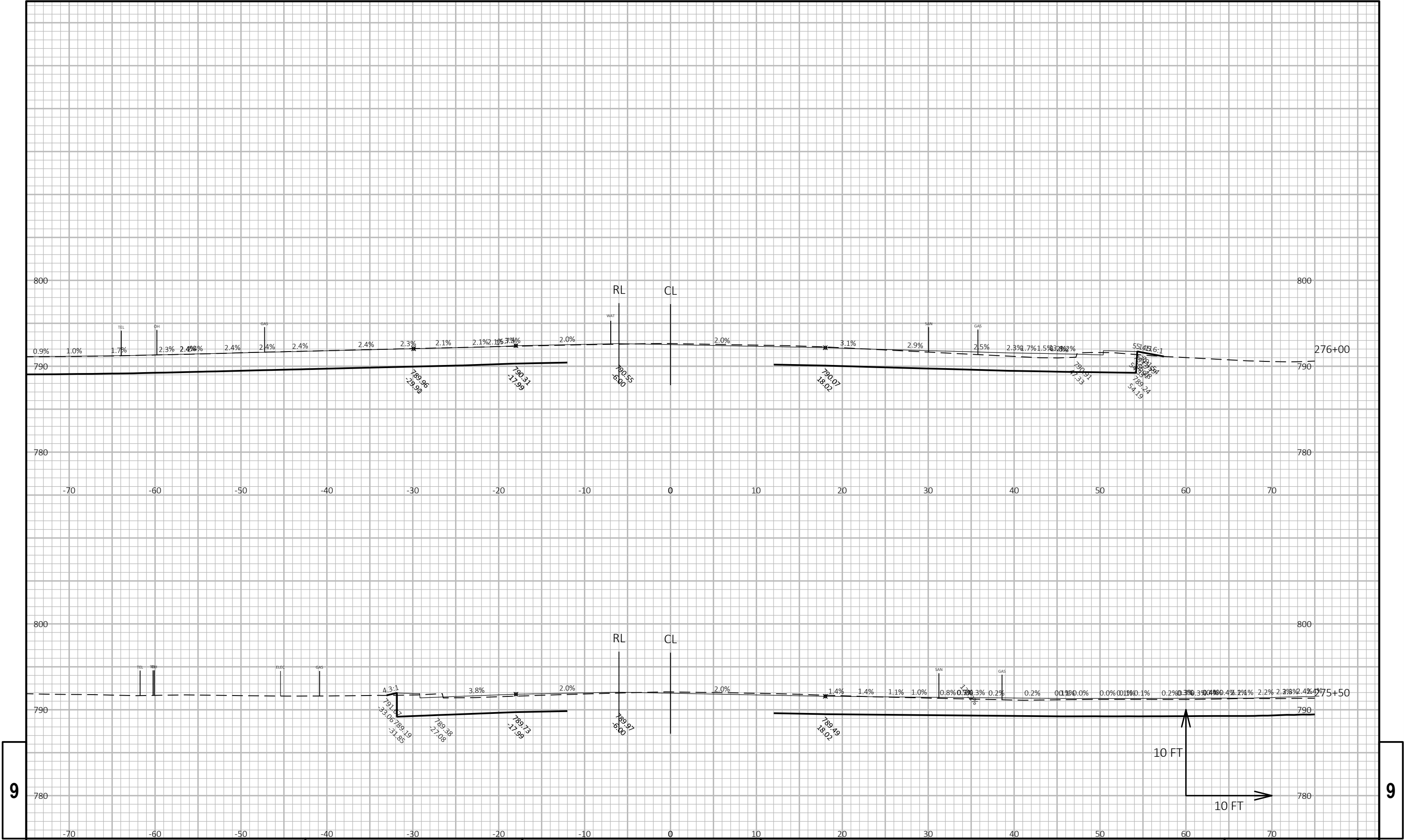
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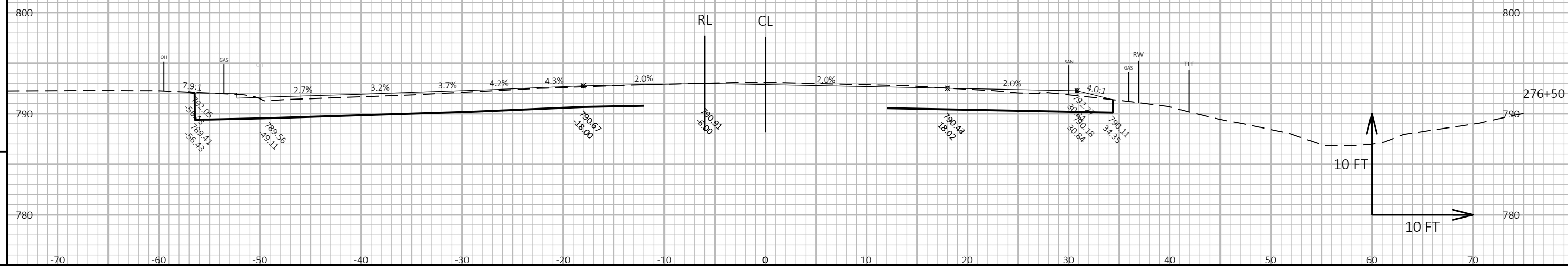
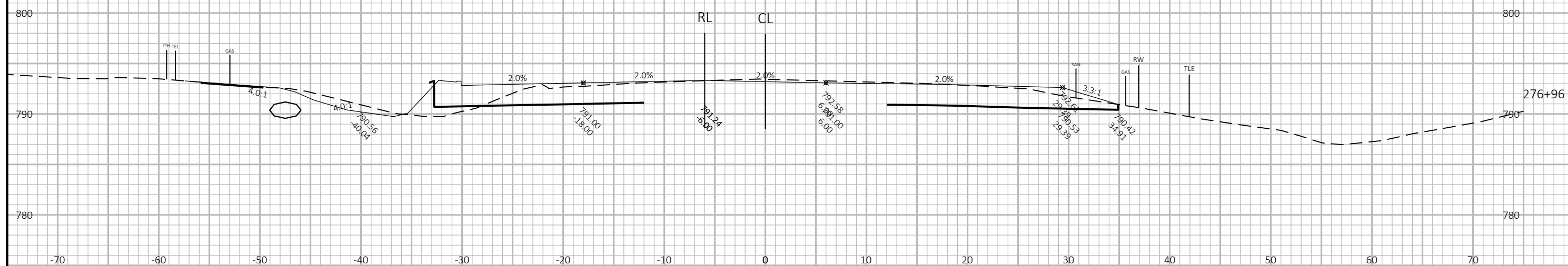


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PROJECT NO:	9190-20-71
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HWY: STH 32

COUNTY: BROWN

CROSS SECTIONS: STH 32

SHEET

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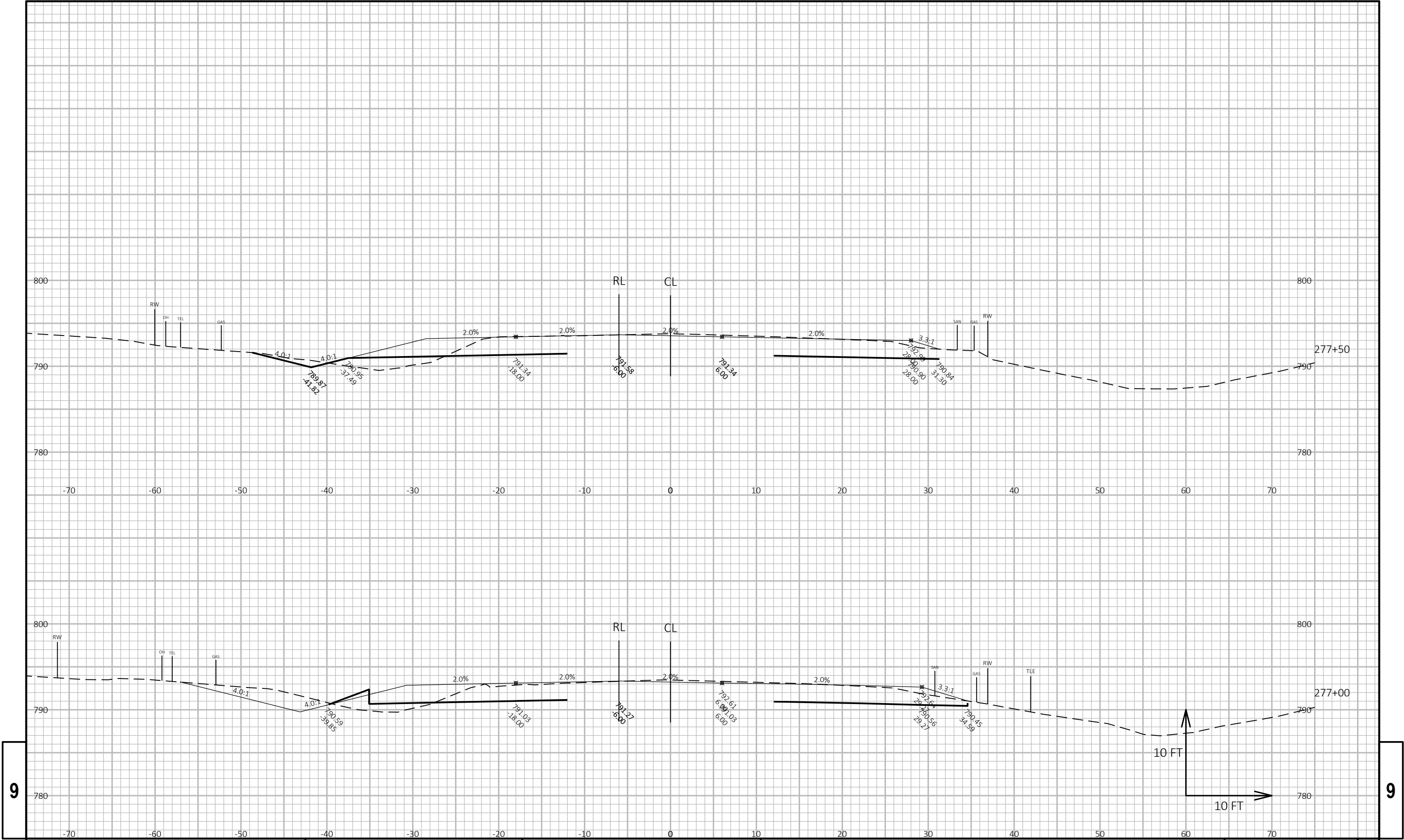
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PLOT NAME :

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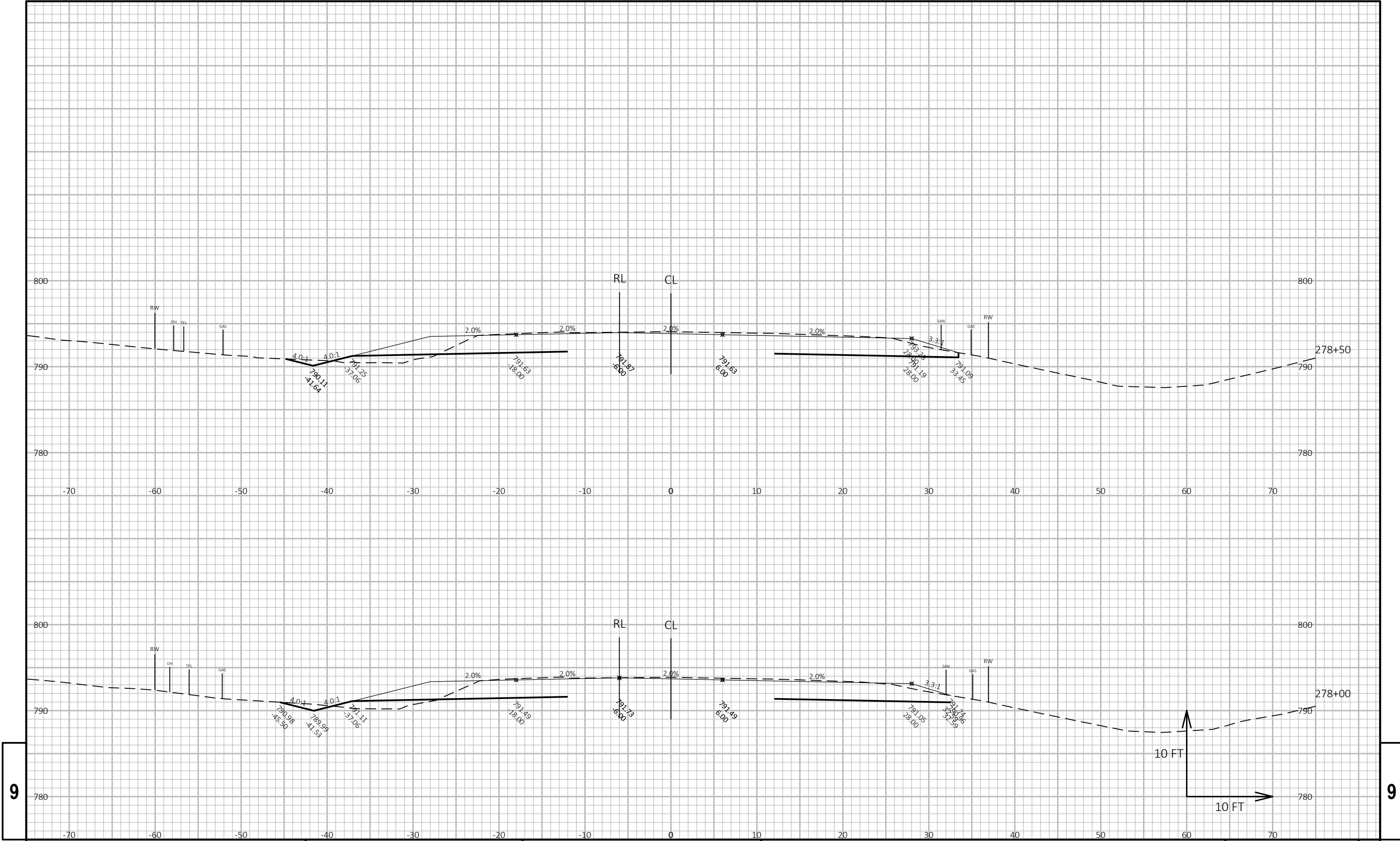
WISDOT/CADDS SHEET 49

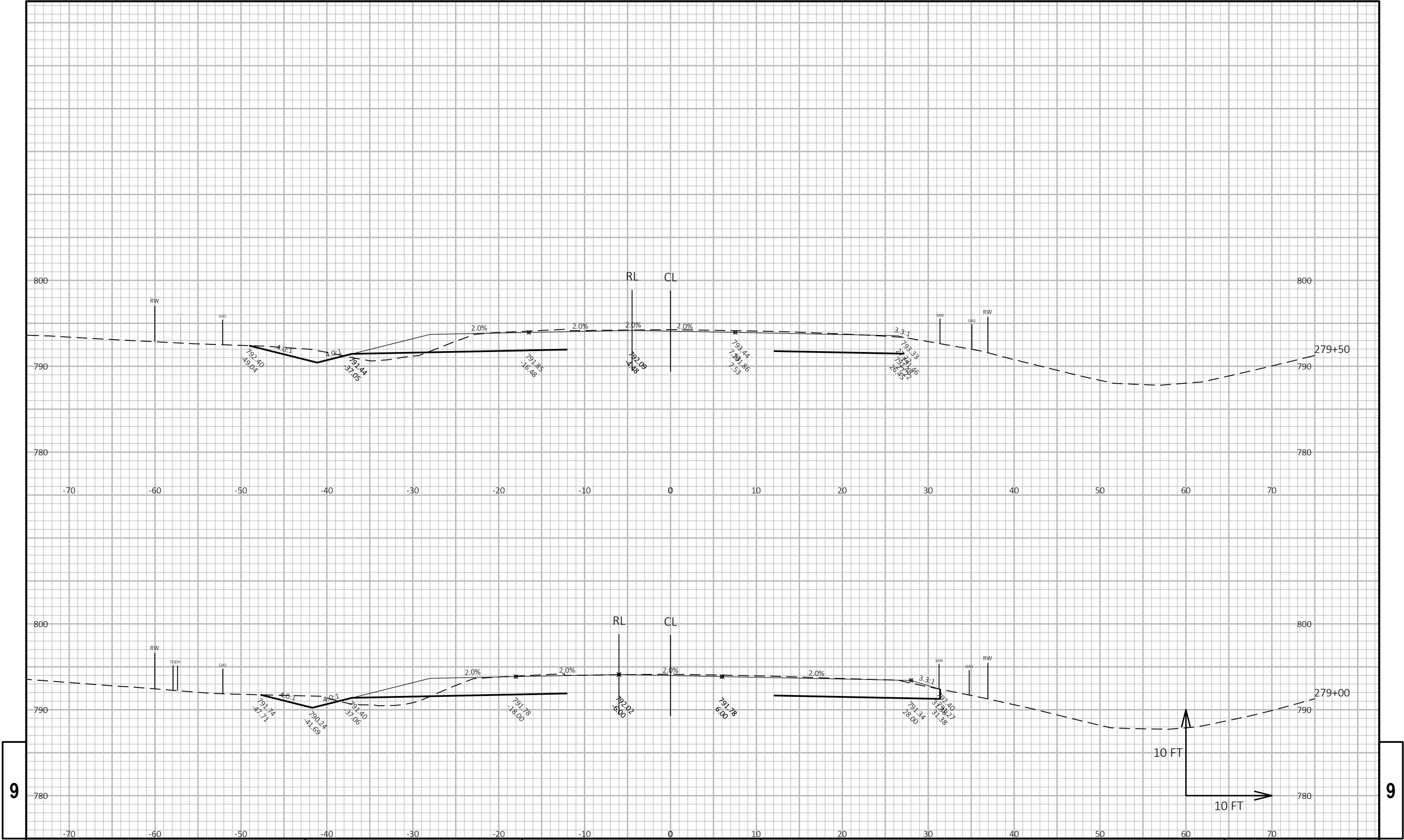


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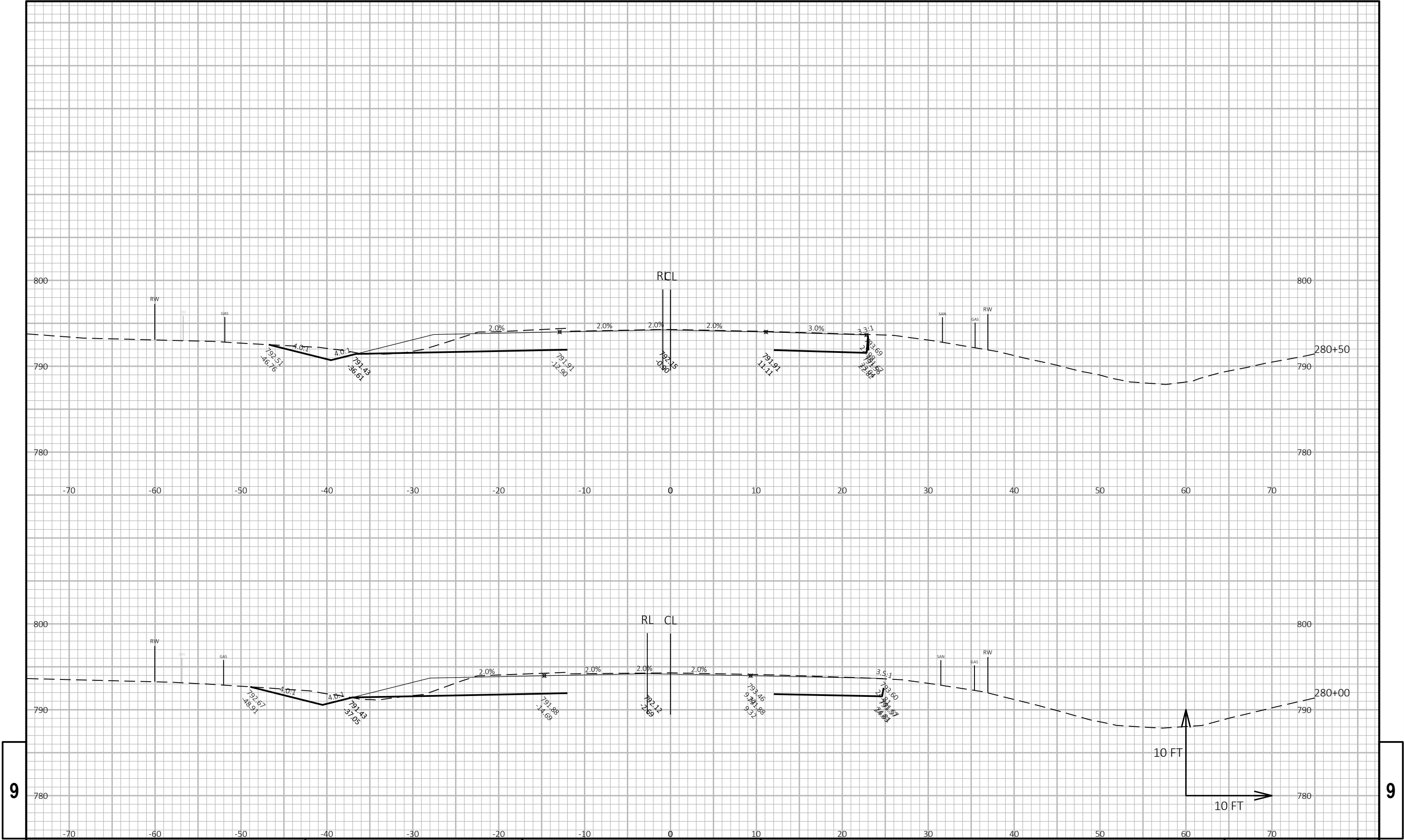
PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	CROSS SECTIONS: STH 32	SHEET	E
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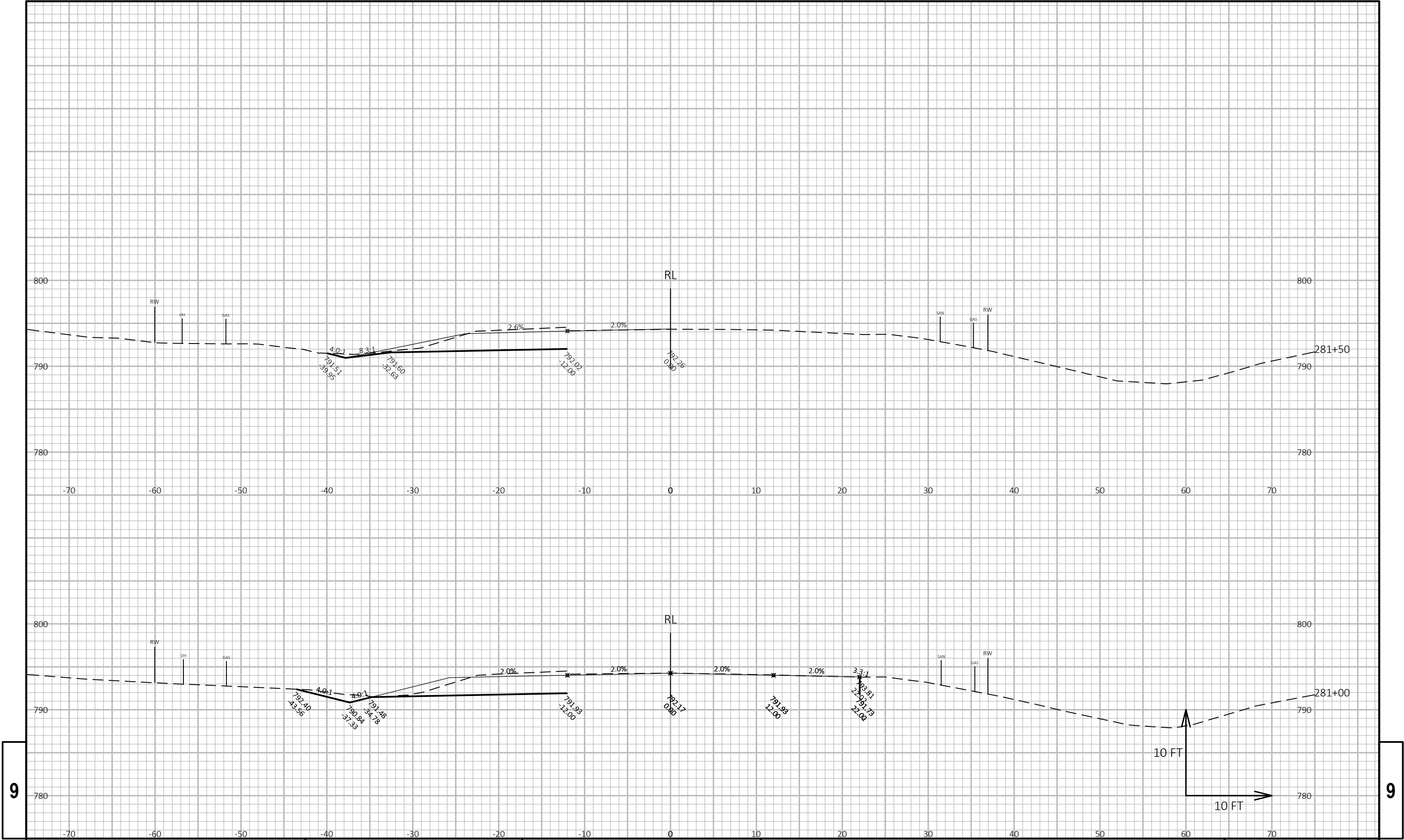




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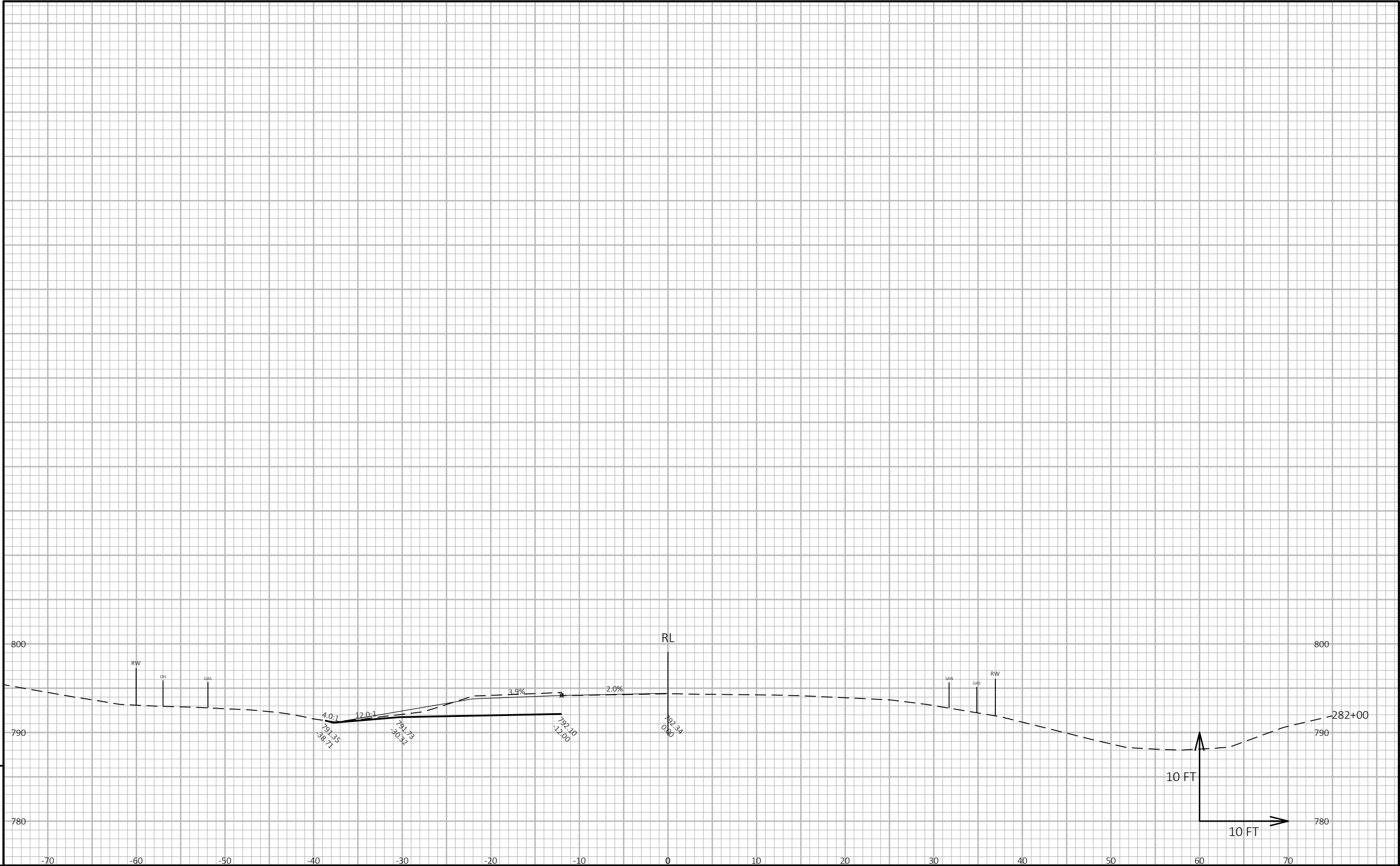




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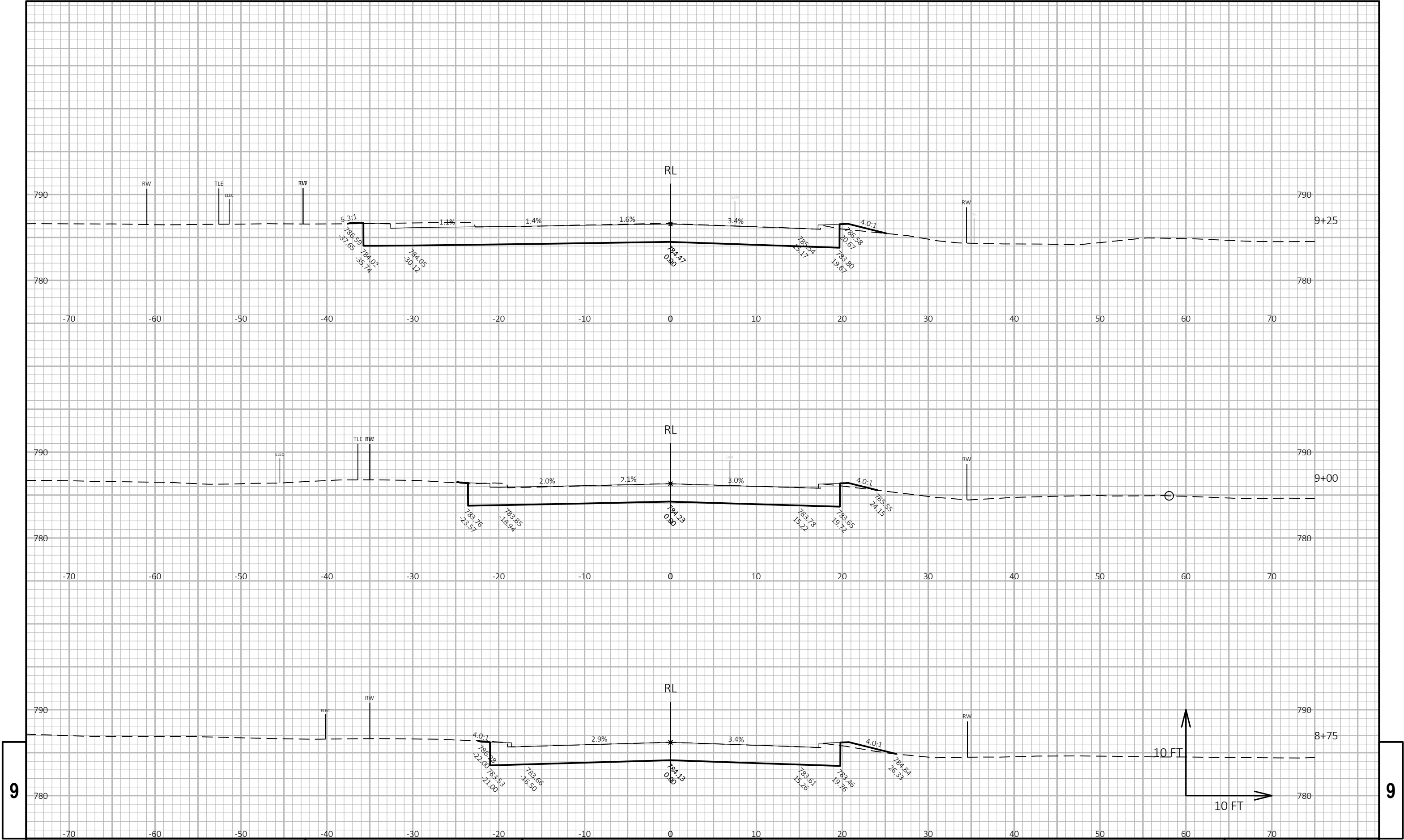
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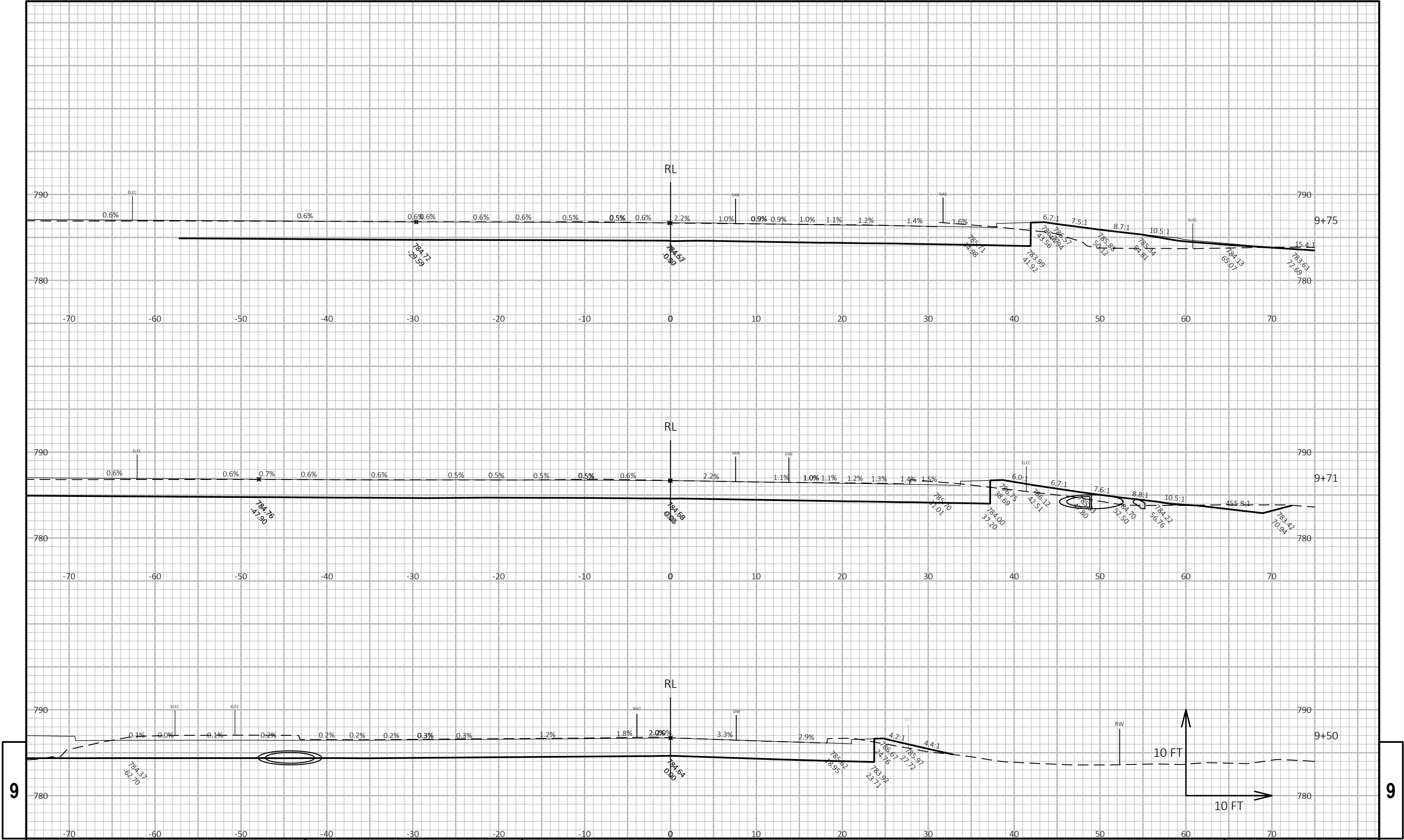
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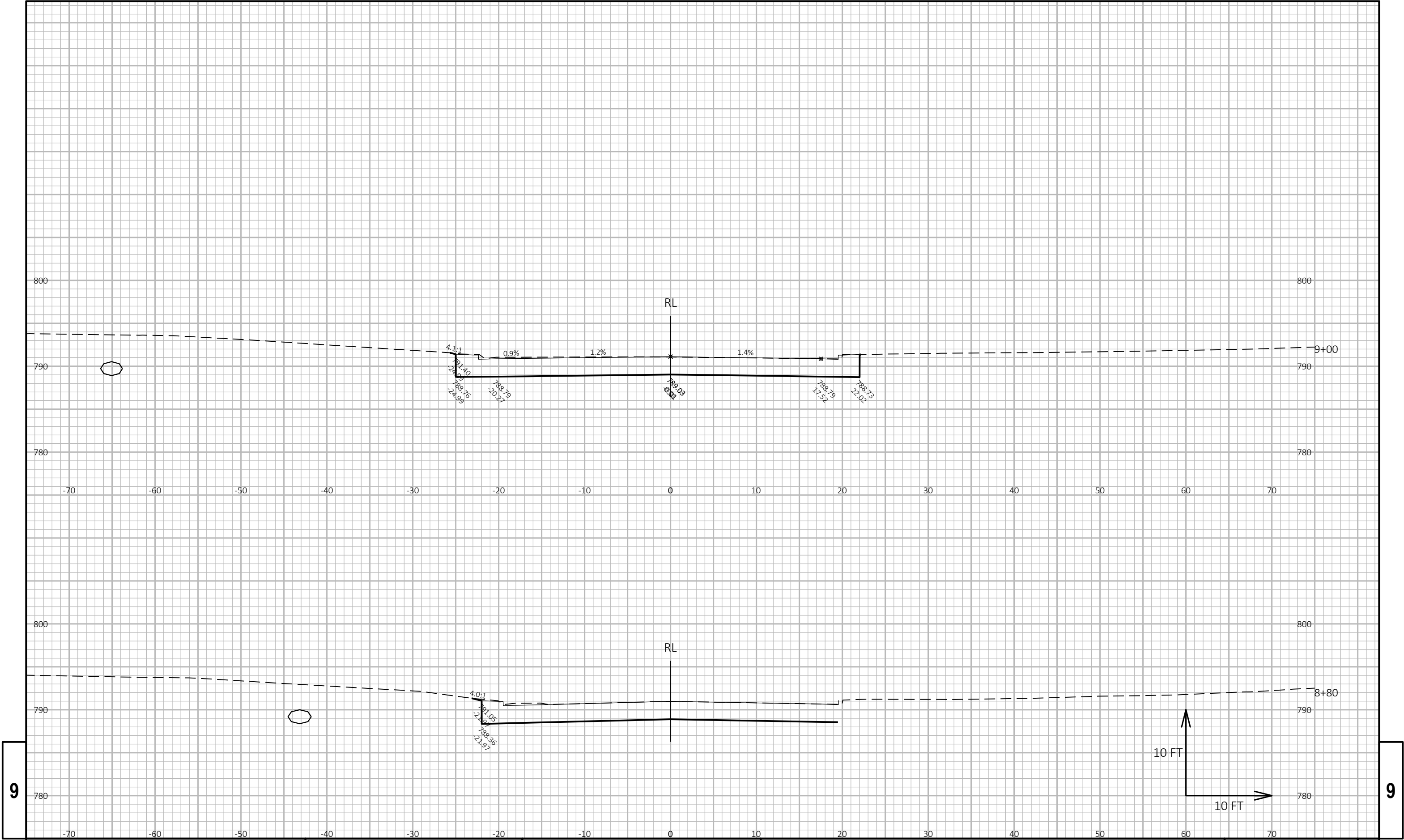


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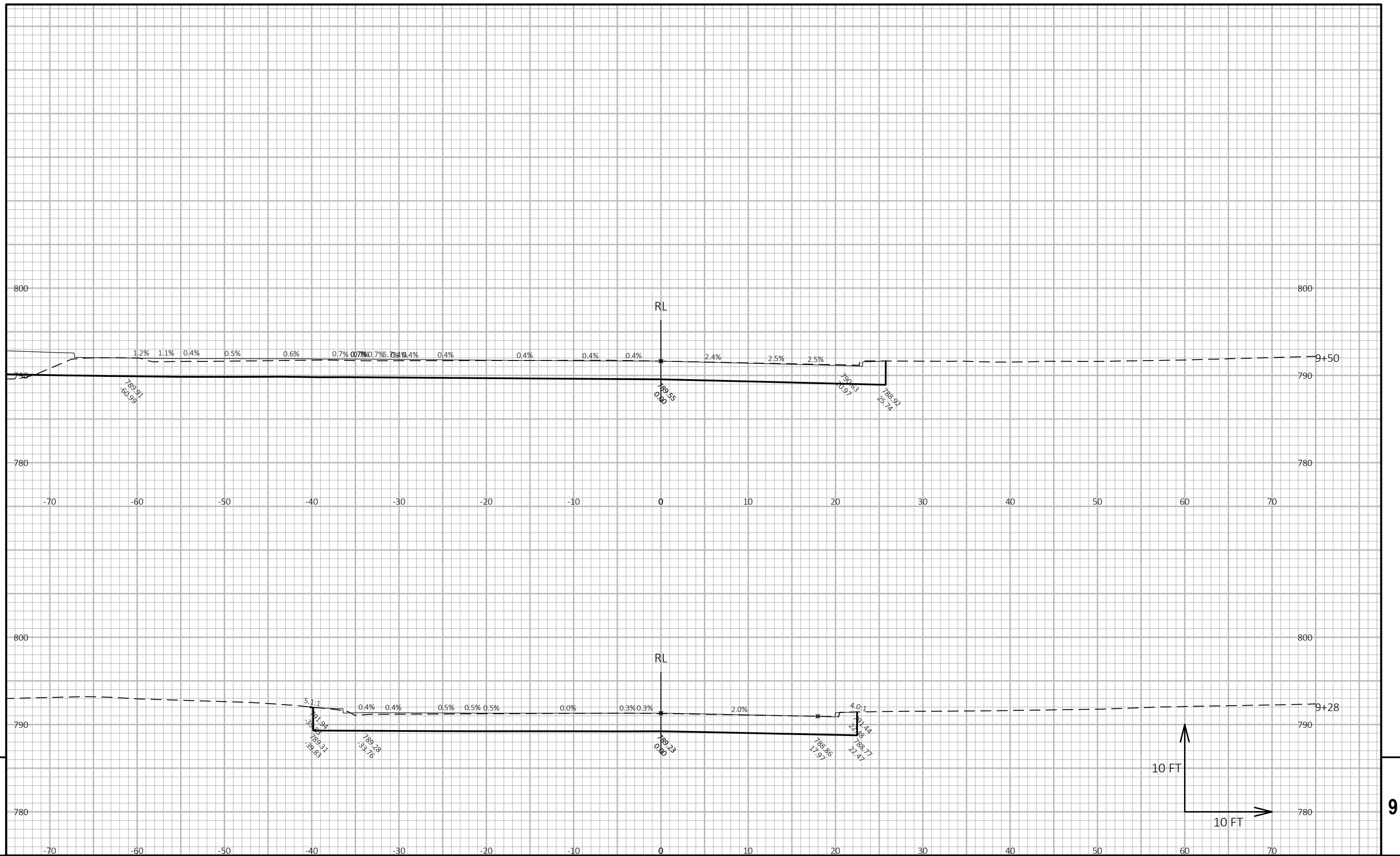
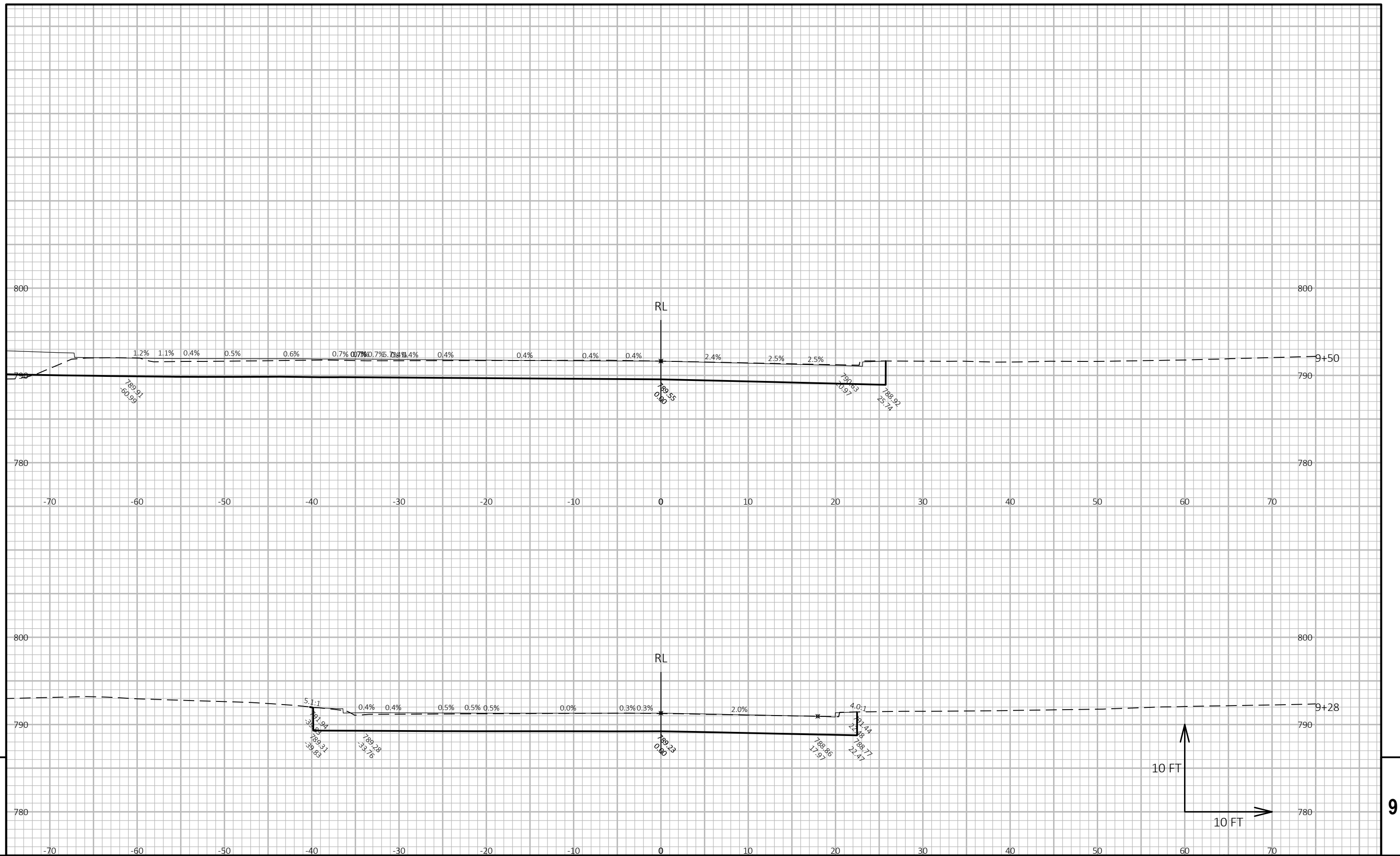
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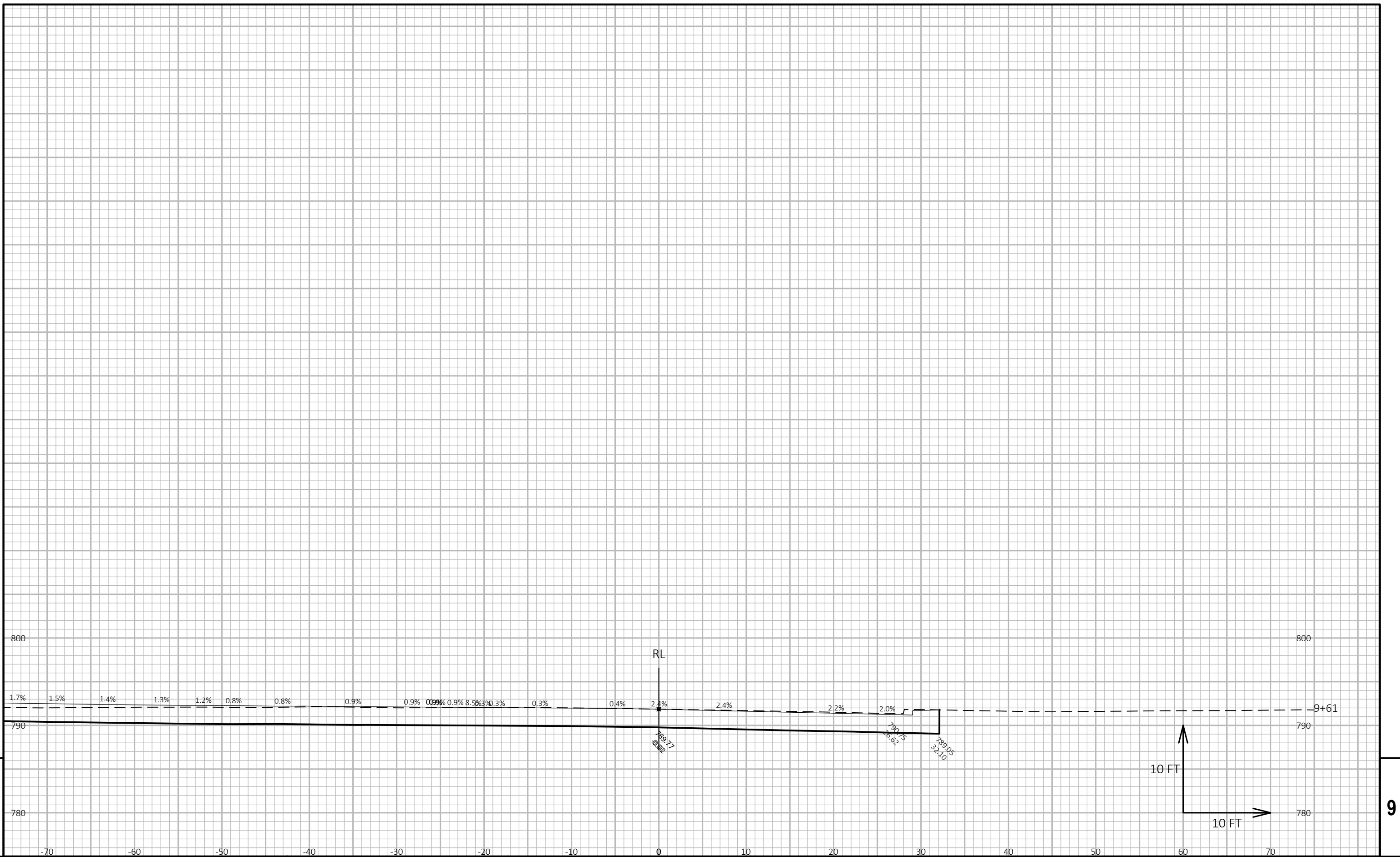
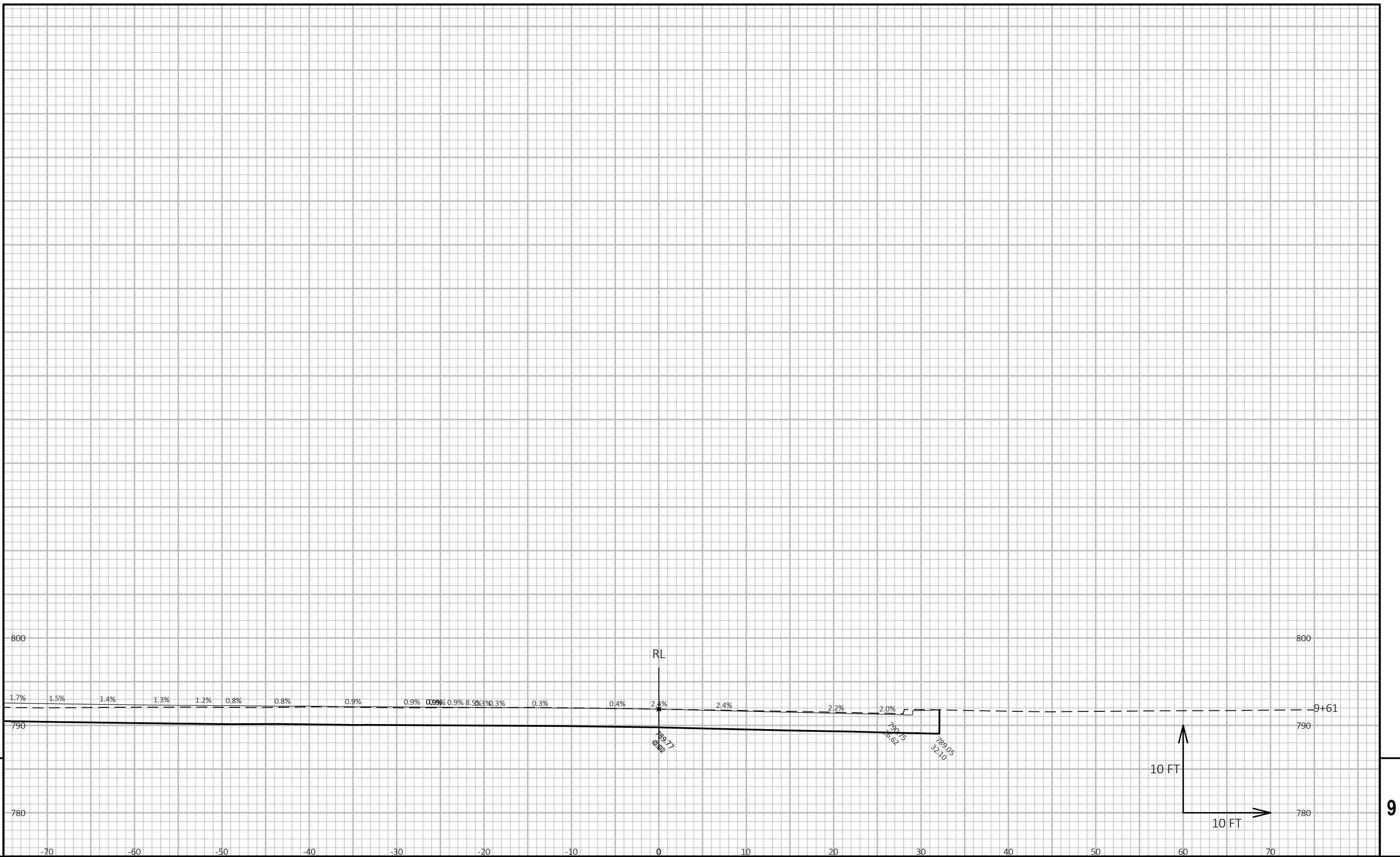


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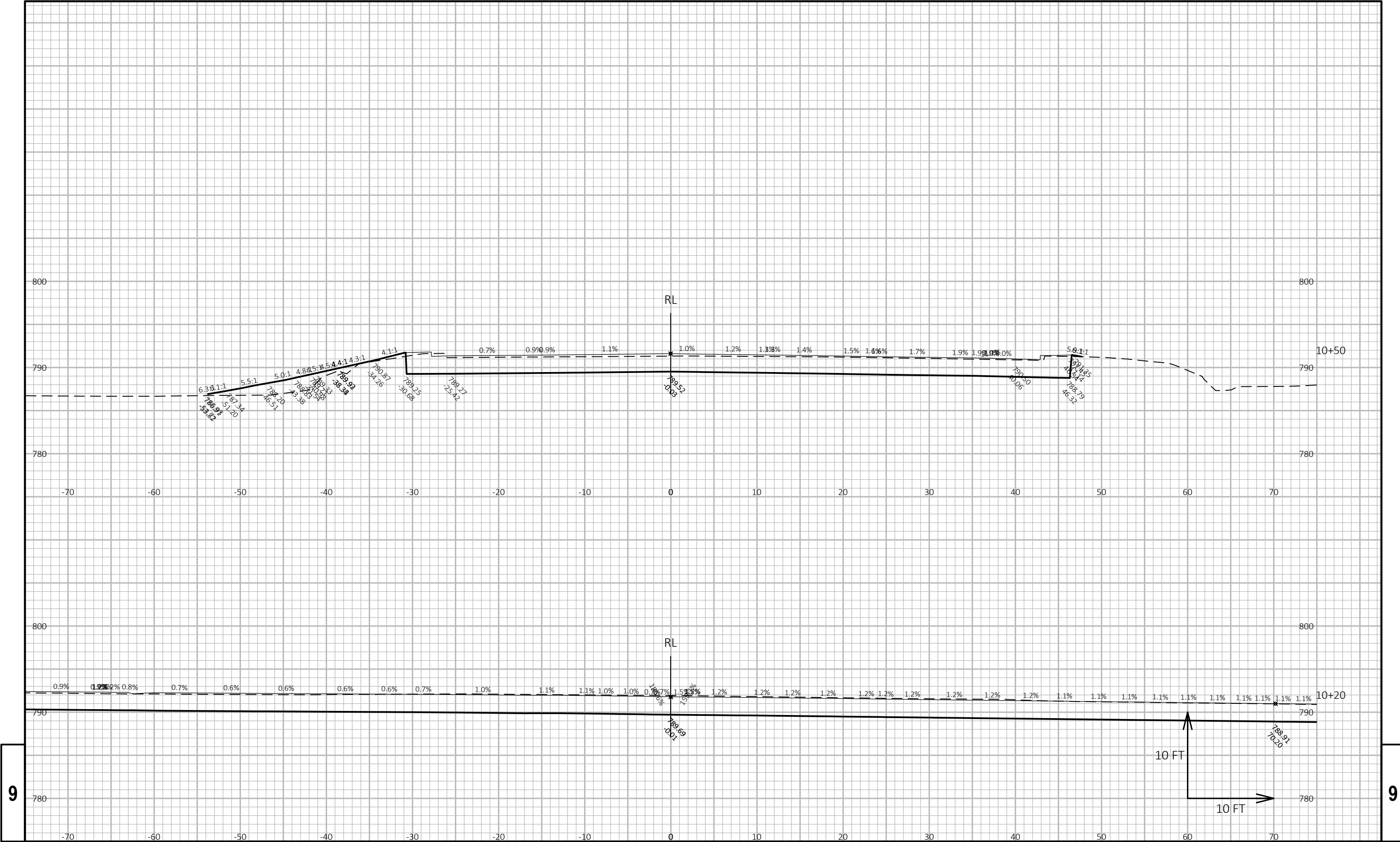


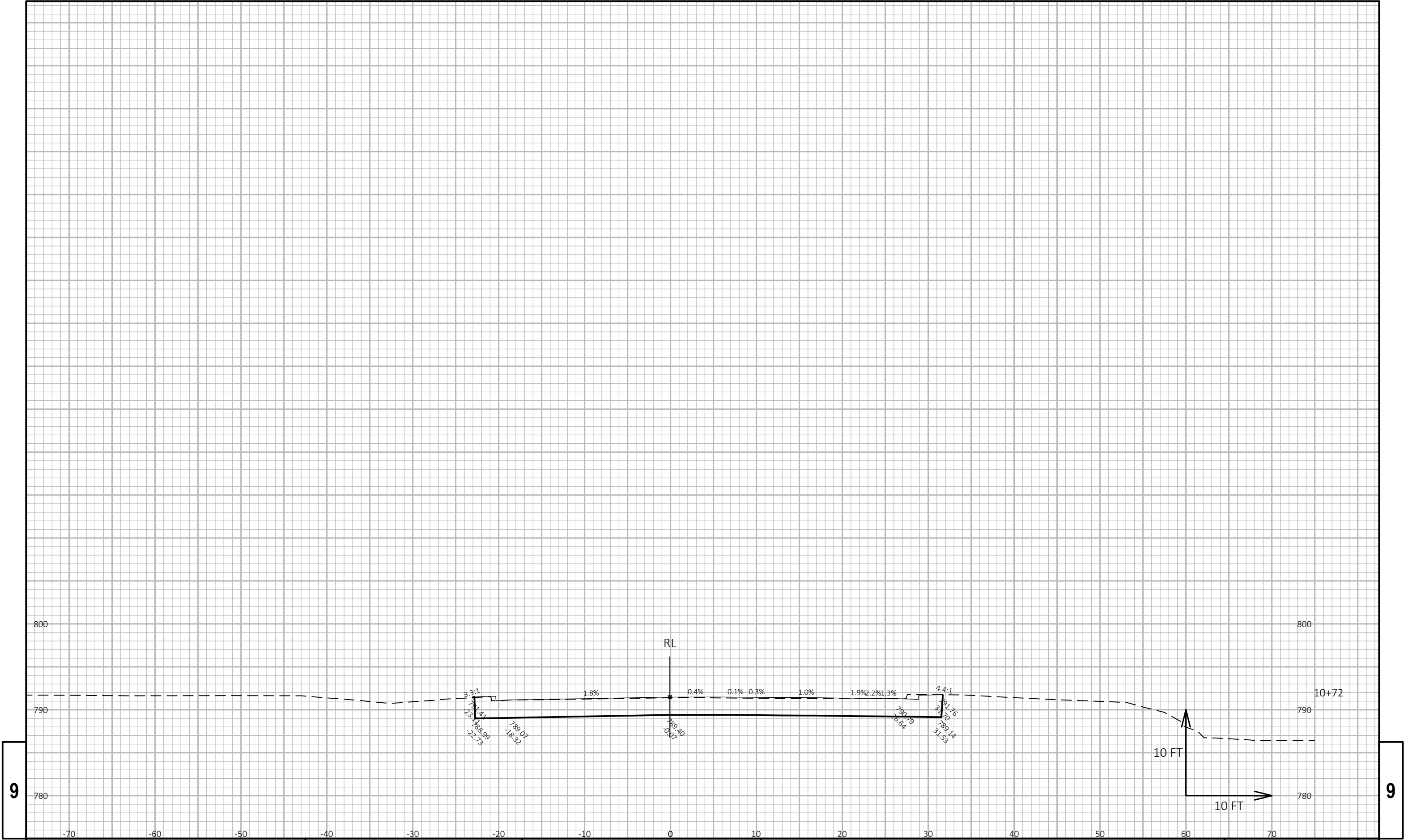
PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	CROSS SECTIONS: GLENBROOK DR	SHEET	E
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PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	CROSS SECTIONS: GLENBROOK DR	SHEET	E
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PROJECT NO: 9190-20-71	HWY: STH 32	COUNTY: BROWN	CROSS SECTIONS: GLENBROOK DR	SHEET	E
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EPlans Preliminary Sheet Numbering Tool

This sheet: ftp://ftp.dot.state.wi.us/transp/roads/eplans/prelim_sheet_numbers.pdf

Notes

- Acrobat 5 or higher is required to use this tool.
- The Bureau of Highway Construction places sheet numbers in the final plan.
- This sheet is for placing preliminary sheet numbers with a "PRE_" prefix.
- If a plan contains multiple projects, number each plan individually.
- Leave this sheet in the plan.

TO ADD PRELIMINARY SHEET NUMBERS

1. Insert this sheet at the end of the plan

- a. With the plan open in Acrobat, select Document > Insert Pages.
- b. In the Select File to Insert dialog box, select this file (prelim_sheet_numbers.pdf)
- c. In the Insert dialog box, choose After for Location and Last page for Page.
- d. Click OK.

2. Click the Place Preliminary Sheet Numbers button

- a. Go to the last sheet of the plan.
- b. Click the Place Preliminary Sheet Numbers button once.
(The preliminary sheet number appears in the bottom right corner of the sheets.
The number should match the page number in the Acrobat Status bar).

3. Re-Save the PDF

- a. Select File > Save As and save the PDF.

TO REMOVE PRELIMINARY SHEET NUMBERS

Attachment D: Environmental Special Provisions

Special Provisions

Table of Contents

	Article	Description	Page #
1.	General.....		2
2.	Scope of Work.....		2
3.	Prosecution and Progress.....		2
4.	Notice to Contractor, Verification of Asbestos Inspection, No Asbestos Found.		3
5.	Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.....		3
6.	Information to Bidders, WPDES General Construction Storm Water Discharge Permit.		3
7.	Environmental Protection, Aquatic Exotic Species Control.		3
8.	Environmental Protection, Blandings Turtle.....		4
9.	Environmental Protection, By-Pass Pumping		4
10.	Environmental Protection, Dewatering.....		4

STSP'S Revised November 19, 2018

SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 9190-20-71, Village of Pulaski, CTH B - E Green Bay St, STH 32, Brown County, Wisconsin and Project 9190-23-71, Green Bay – Pulaski, STH 29 – Village of Pulaski, STH 32, Brown County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2019 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.

100-005 (20181119)

2. Scope of Work.

The work under this contract shall consist of Structure B-05-0229, Structure B-05-0230, Structure B-5-0260, Structure C-05-0032, removing asphaltic surface milling, HMA pavement, Cold-In-Place recycling, excavation common, borrow, base aggregate dense, culvert pipe reinforced concrete, concrete curb and gutter, concrete sidewalk, storm sewer pipe reinforced concrete, guardrail, signing, pavement marking, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

3. Prosecution and Progress.

Begin work within ten calendar days after the engineer issues a written notice to do so.

Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date.

To revise the start date, submit a written request to the engineer at least two weeks before the intended start date. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources.

Complete construction operations on WIS 32 to the stage necessary to reopen it to through traffic prior to 12:01 AM July 15, 2021.

Fish Spawning

There shall be no instream disturbance of the following waters as a result of construction activity under or for this contract, prior to June 16, 2021, in order to avoid adverse impacts upon the spawning of Northern Pike.

Project 9190-20-71

- Unnamed Tributary to the Suamico River (B-05-0260)

Project 9190-23-71

- West Branch Suamico River (C-05-0031)
- Unnamed (C-05-0032)
- Potter Creek (C-05-0033)

Any change to this limitation will require submitting a written request by the contractor to the engineer, subsequent review and concurrence by the Department of Natural Resources in the request, and final approval by the engineer. The approval will include all conditions to the request as mutually agreed upon by WisDOT and DNR.

0036 (20090901)

Northern Long-eared Bat (*Myotis septentrionalis*)

Northern Long-eared Bats (NLEB) have the potential to inhabit the project limits because they roost in trees. Roosts may not have been observed on this project, but conditions to support the species exist. The species and all active roosts are protected by the Federal Endangered Species Act. If an individual bat or active roost is encountered during construction operations, stop work and notify the engineer and the WisDOT Regional Environmental Coordinator (REC).

If additional construction activities beyond what was originally specified are required to complete the work, approval from the engineer, following coordination with WisDOT REC, is required prior to initiating these activities.

4. Notice to Contractor, Verification of Asbestos Inspection, No Asbestos Found.

John Roelke, License Number All-119523, inspected Structure B-05-0260 for asbestos on July 17, 2017. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from: Andy Fulcer (920) 362-6126.

stp-107-127 (20120615)

5. Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Andy Fulcer at (920) 362-6126.

stp-107-054 (20080901)

6. Information to Bidders, WPDES General Construction Storm Water Discharge Permit.

The department has obtained coverage through the Wisconsin Department of Natural Resources to discharge storm water associated with land disturbing construction activities of this contract under the Wisconsin Pollutant Discharge Elimination System General Construction Storm Water Discharge Permit (WPDES Permit No. WI-S066796-1). A certificate of permit coverage is available from the regional office by contacting Andy Fulcer at (920) 362-6126. Post the permit in a conspicuous place at the construction site.

stp-107-056 (20180628)

7. Environmental Protection, Aquatic Exotic Species Control.

Exotic invasive organisms such as VHS, zebra mussels, purple loosestrife, and Eurasian water milfoil are becoming more prolific in Wisconsin and pose adverse effects to waters of the state. Wisconsin State Statutes 30.07, "Transportation of Aquatic Plants and Animals; Placement of Objects in Navigable Waters", details the state law that requires the removal of aquatic plants and zebra mussels each time equipment is put into state waters.

At construction sites that involve navigable water or wetlands, use the follow cleaning procedures to minimize the chance of exotic invasive species infestation. Use these procedures for all equipment that comes in contact with waters of the state and/or infested water or potentially infested water in other states.

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels before being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Guidelines from the Wisconsin Department of Natural Resources for disinfection are available at:

<http://dnr.wi.gov/topic/invasives/disinfection.html>

Use the following inspection and removal procedures:

1. Before leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species;

2. Drain all water from boats, trailers, bilges, live wells, coolers, bait buckets, engine compartments, and any other area where water may be trapped;
3. Inspect boat hulls, propellers, trailers and other surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can before leaving the area or invested waters; and
4. Disinfect your boat, equipment and gear by either:
 - 4.1. Washing with ~212 F water (steam clean), or
 - 4.2. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
 - 4.3. Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore this disinfect should be used in conjunction with a hot water (>104° F) application.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.

stp-107-055 (20130615)

8. Environmental Protection, Blandings Turtle

Blandings turtles, a special concern turtle, are known to inhabit the riparian corridor. It is reasonable to assume that Blandings turtles may be present at or near the project site during construction. If project construction starts in the spring, protect the perimeter of the areas to be disturbed with properly trenched-in silt fence before May 1 (March 15 for project within the riparian corridors) to discourage turtles from entering the work area. If the construction area cannot be silt-fenced by May 1 (March 15 for projects within the riparian corridors), install the silt fence before construction activities. Also, survey the area behind the silt fence and remove all turtles confined within the project area before any site disturbance. Complete the survey and removal of turtles from construction areas periodically throughout the construction period.

ner-107-070 (20171213)

9. Environmental Protection, By-Pass Pumping

Add the following to standard spec 107.18:

If by-pass pumping is required, the means and methods proposed to be used during construction shall be submitted for approval as part of the Erosion Control Implementation Plan for each location it is required. The submittal shall include how the intake will be managed to not cause an increase in the background level turbidity during pumping; equipment pumping rate capabilities; discharge energy dissipation; and erosion controls. For by-pass pumping that will extend beyond one working day, the submittal should also include how the work zone will be managed and protected should the pump fail; be shut down due to unacceptable water quality; or storm water flows exceed the pumping rate of equipment. After setup of the approved by-pass pumping operation, the contractor shall demonstrate that the means and methods will pump the water at an acceptable water quality before starting work that necessitates the by-pass pumping. The cost of all work and materials associated with by-pass pumping is incidental to the bid items the work is associated with. Erosion control devices beyond the discharge energy dissipation point will be paid for at the contract unit prices for the items that are included in the plan.

ner-107-035 (20180212)

10. Environmental Protection, Dewatering

Add the following to standard spec 107.18:

If dewatering is required, treat the water to remove suspended sediments by filtration, settlement or other appropriate best management practice before discharge. The means and methods proposed to be used during construction shall be submitted for approval as part of the Erosion Control Implementation Plan for dewatering at each location it is required. The submittal shall also include the details of how the intake will be managed to not cause an increase in the background level turbidity before treatment and any additional erosion controls necessary to prevent sediments from reaching the project limits or wetlands and waterways. Guidance on dewatering can be found on the Wisconsin Department of Natural

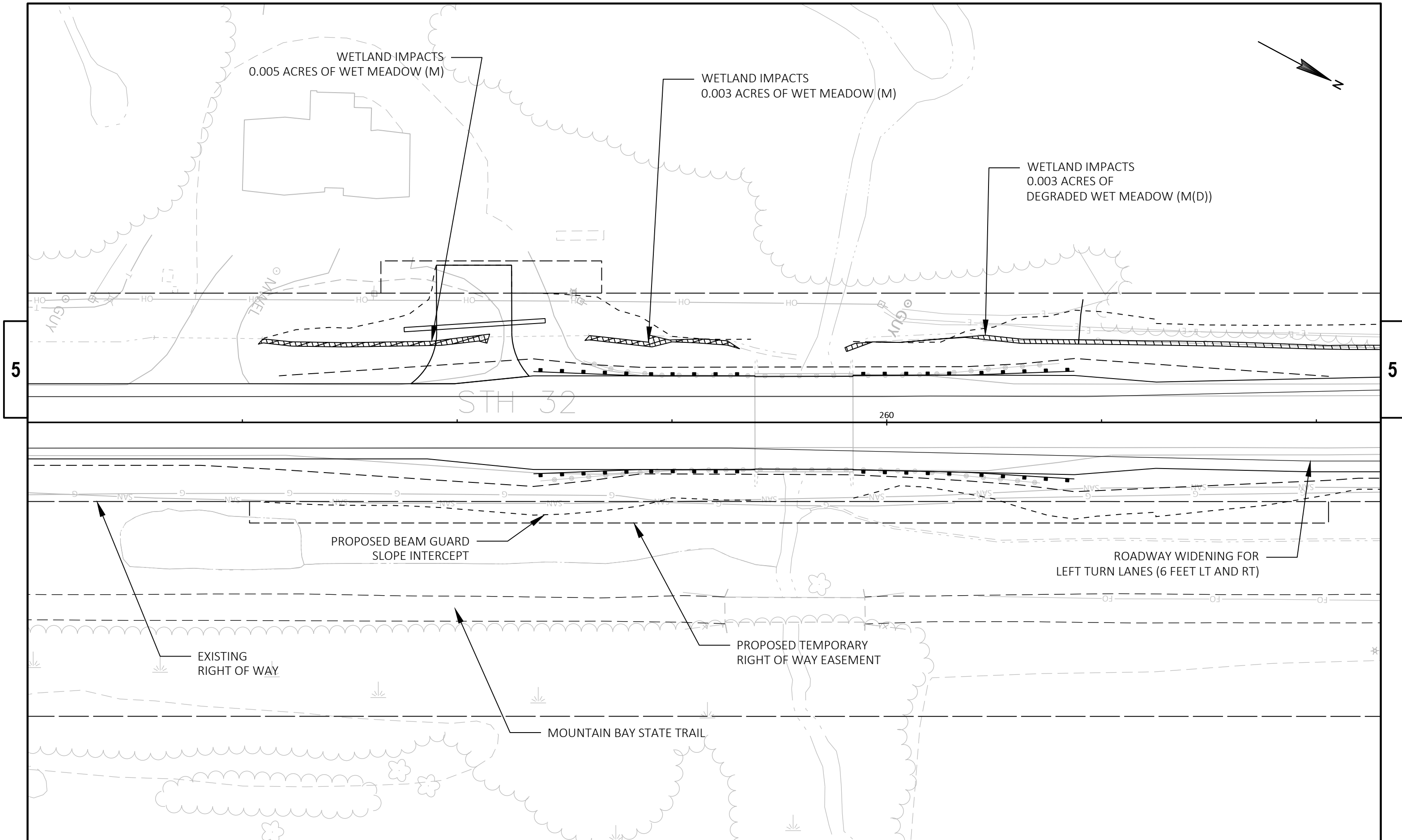
Resources website located in the Storm Water Construction Technical Standards, Dewatering Code #1061, "Dewatering". This document can be found at the WisDNR website:

http://dnr.wi.gov/topic/stormwater/standards/const_standards.html

The cost of all work and materials associated with water treatment and/or dewatering is incidental to the bid items the work is associated.

ner-107-040 (20180212)

Attachment E: Wetland Impact Plan Sheets



PROJECT NO: 9190-20-00

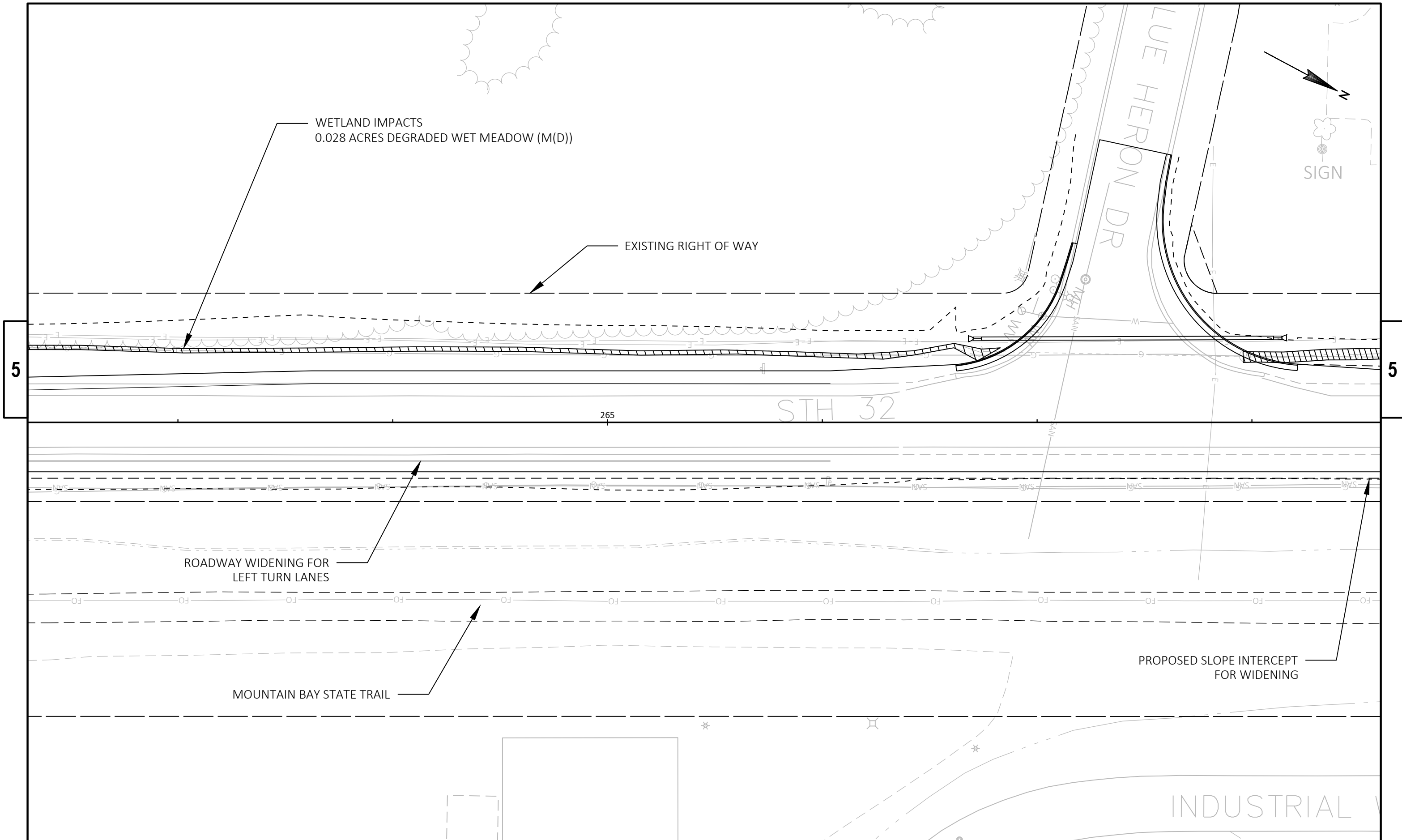
HWY: STH 32

COUNTY: BROWN

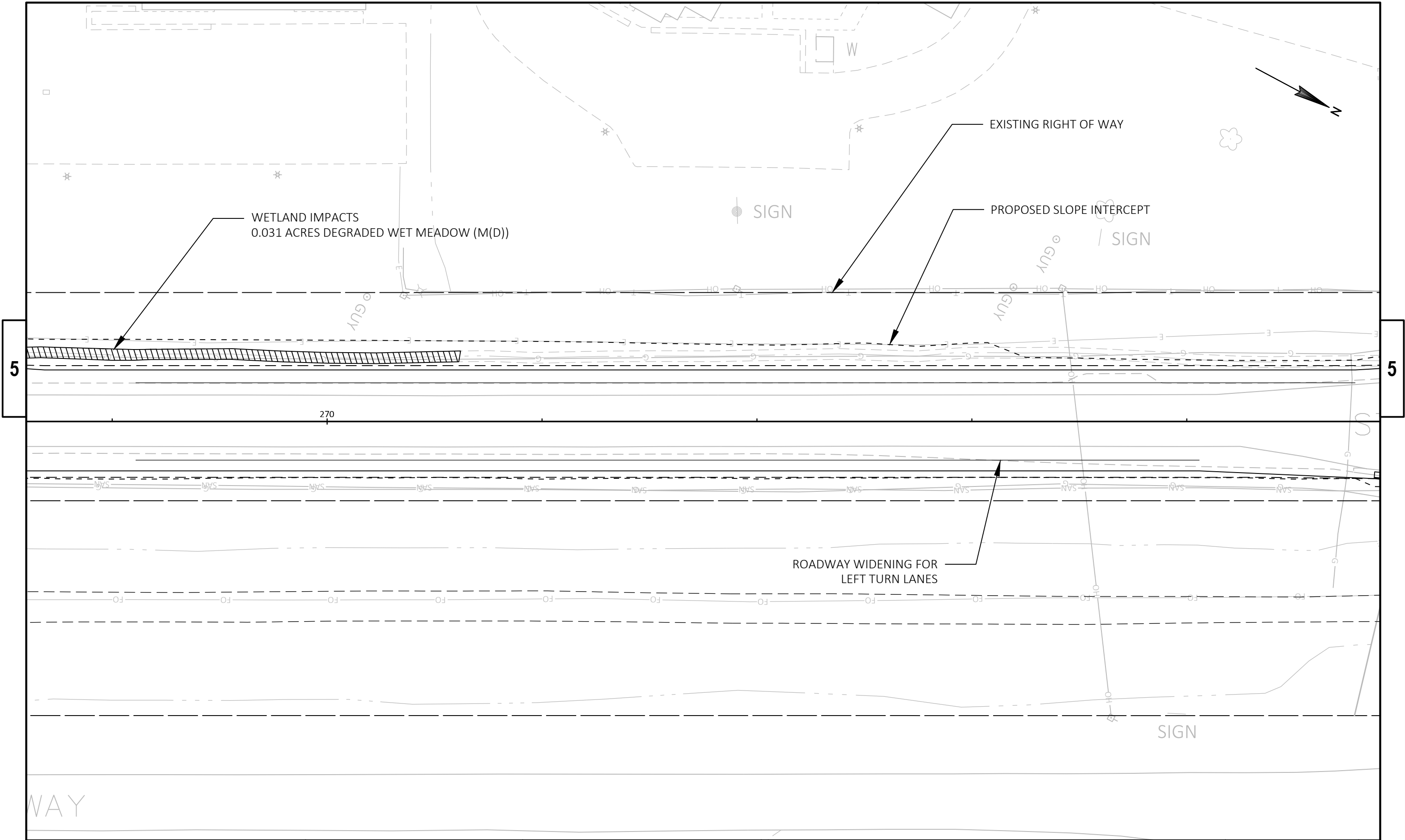
WETLAND IMPACT AREAS AND ROADWAY WIDENING

SHEET

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PROJECT NO: 9190-20-00	HWY: STH 32	COUNTY: BROWN	WETLAND IMPACT AREAS AND ROADWAY WIDENING	SHEET	E
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PROJECT NO: 9190-20-00

HWY: STH 32

COUNTY: BROWN

WETLAND IMPACT AREAS AND ROADWAY WIDENING

SHEET

E

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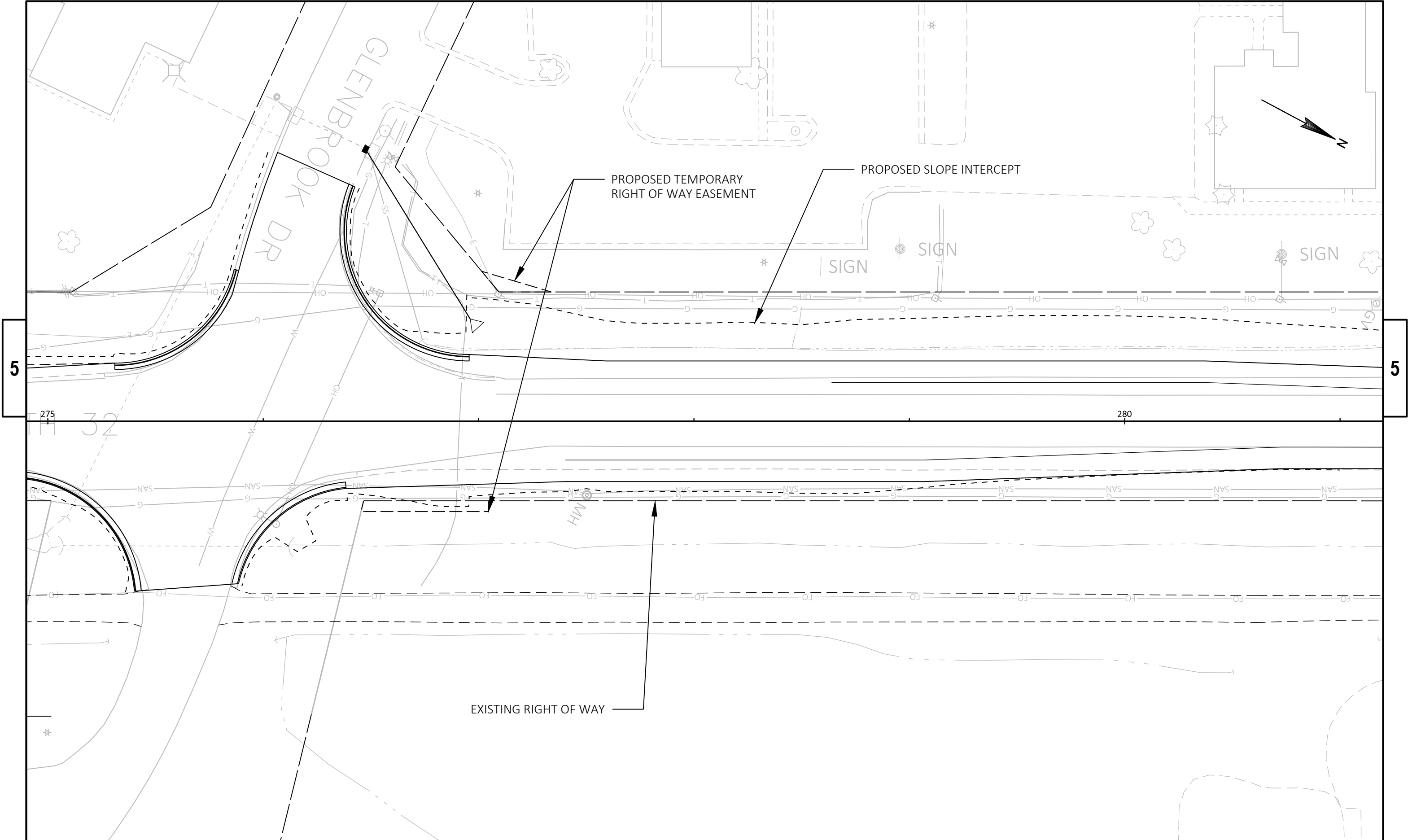
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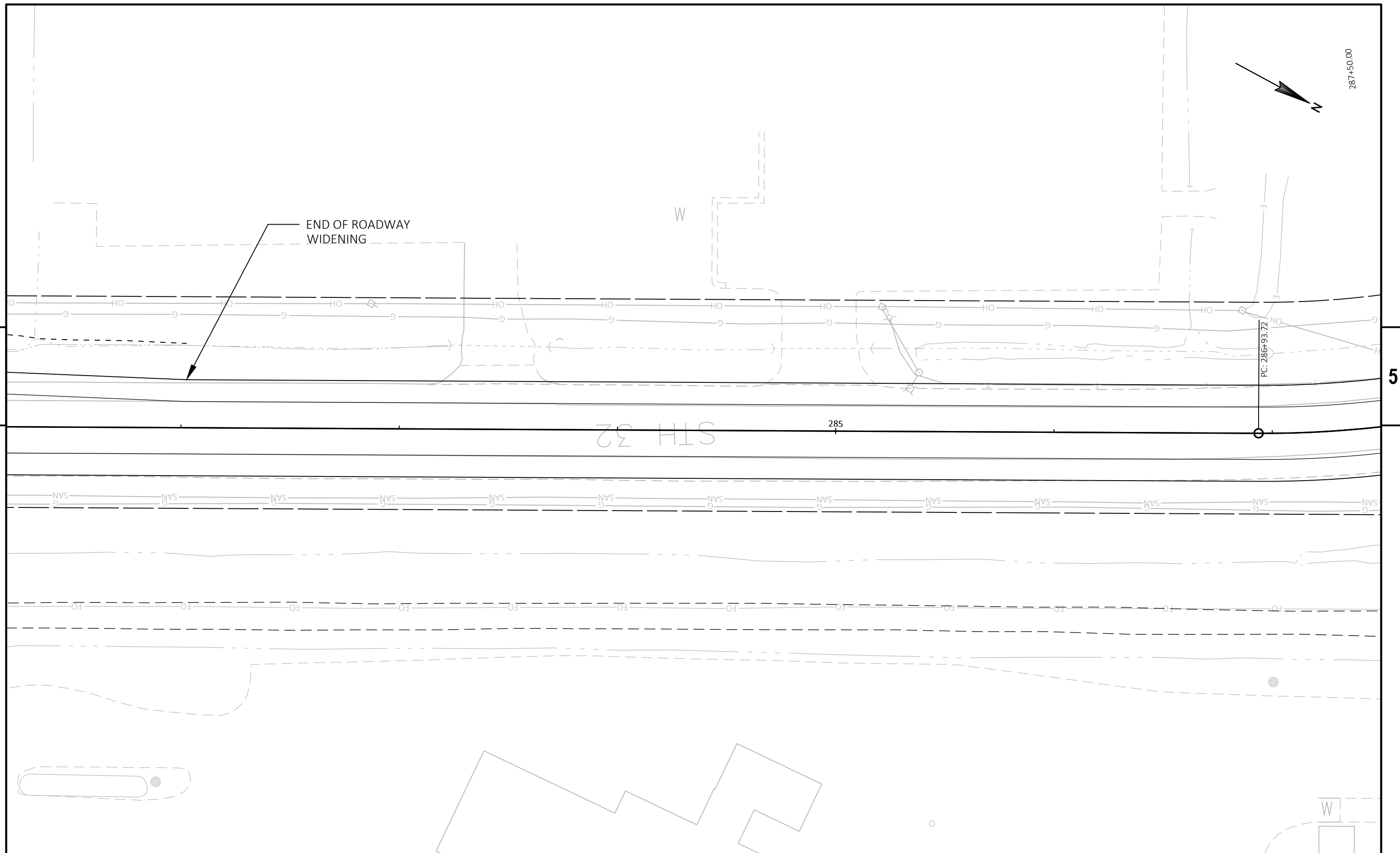
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PLOT SCALE : 1 IN:40 FT

WISDOT/CADDs SHEET 44



PROJECT NO: 9190-20-00	HWY: STH 32	COUNTY: BROWN	WETLAND IMPACT AREAS AND ROADWAY WIDENING	SHEET	E
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PROJECT NO:	9190-20-00
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HWY: STH 32

COUNTY: BROWN

WETLAND IMPACT AREAS AND ROADWAY WIDENING

SHEET

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FILE NAME : N:\PDS\C3D\91902000\SHEETSOETHER\919020_WETLAND IMPACTS.DWG
LAYOUT NAME - Wetland Impacts5

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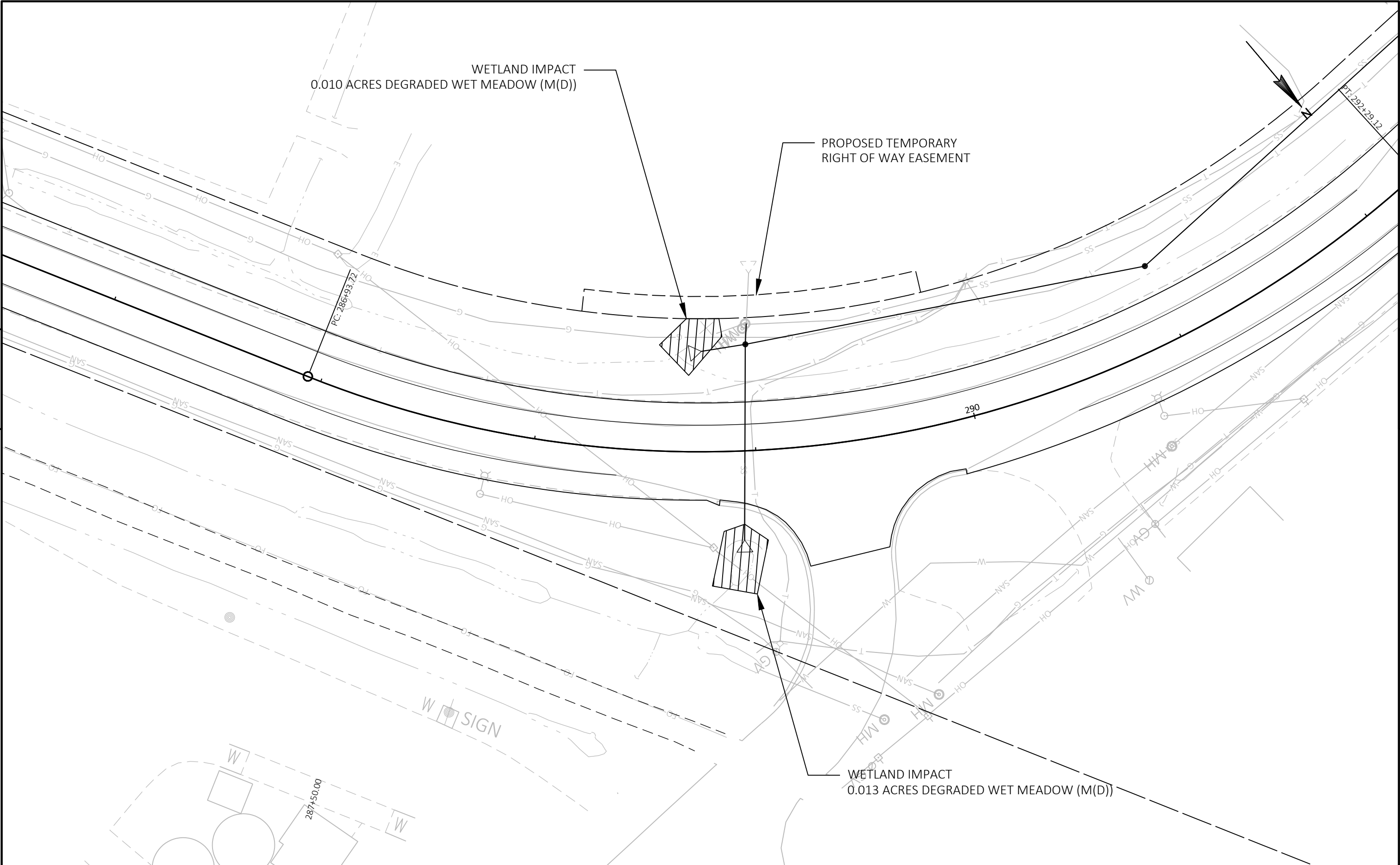
PLOT BY : HOLMES, KELSEY J

PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

5



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PROJECT NO: 9190-20-00	HWY: STH 32	COUNTY: BROWN	WETLAND IMPACT AREAS AND ROADWAY WIDENING	SHEET	E
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Attachment F: Wetland Impact Tracking Form



Wisconsin Department of Transportation

Division of Transportation System Development
Northeast Region

WETLAND IMPACT TRACKING FORM

****This form must be filled out for all projects.****

Return This Completed Form to:

Jennifer Gibson
Environmental Coordinator
WisDOT - Northeast Region
944 Vanderperren Way
Green Bay, WI 54304
Phone : (920) 492-4160

FAX: (920) 492-0144
Jennifer.Gibson@dot.wi.gov

**Please Complete All
Information Highlighted In
Yellow**

**WisDOT Regional
Environmental Coordinator
(REC) Will Complete Sections
Highlighted In Green**

Project Design I.D. #: 9190-20-00

Project Construction I.D. #: 9190-20-71

Hwy/ Project Title : STH 32: Village of Pulaski
CTH B - East Green Bay St

County : Brown

Construction Year : Advanceable to 2020 (2021)

Let Date: February/March 2020 (3/9/2021)

Date this form is completed: 2/5/18

Date this form is approved: 3/8/2018

This Form Prepared by: Kelsey Holmes 920-492-5625 kelsey.holmes@dot.wi.gov
NAME PHONE EMAIL

This Form Approved by: Jennifer Gibson 920-492-4160 Jennifer.Gibson@dot.wi.gov
NAME PHONE EMAIL

Is a discharge of dredged or fill material into wetlands anticipated?

NO ☐ ➡ Form complete; no further information is required (RETURN FORM).

YES ☒ ➡ 1. Complete remainder of form:

- Complete yellow portions on both pages of the form and return to REC for finalization and approval.
- Include comment about sending for approval only after final impacts are determined.

2. Include final APPROVED form with DNR 401 and COE 404 permit applications.

Wetland Delineation/
Determination completed by: Mike Helmrick 920-492-7738 Michael.helmrick@dot.wi.gov
Jim Doperalski 920-412-0165 James.Doperalski.wisconsin.gov
NAME PHONE EMAIL

WisDOT Environmental Coordinator/WDNR Transportation Liaison
QUALIFICATIONS

Describe methods used to avoid and minimize impacts to wetlands:

Slopes behind beamguard were steepened as much as possible to decrease the amount of wetland impact.

Was professional discretion
used to determine debit
ratio? No ☒ Yes ☐ ➡ Describe discretionary
rationale below:

WETLAND IMPACT / REPLACEMENT SUMMARY

Type Impacted	Area Impacted	Type Mitigated	Area Mitigated
AB	-	AB	-
BOG	-	BOG	-
DM	-	DM	-
M	0.01	M	0.10
RPE	-	RPE	-
RPF	-	RPF	-
SM	-	SM	-
SS	-	SS	-
WS	-	WS	-
AB(D)	-	TOTAL	0.10
DM(D)	-		
M(D)	0.09		
RPE(D)	-		
RPF(D)	-		
SM(D)	-		
SS(D)	-		
WS(D)	-		
TOTAL	0.10		

**WETLAND IMPACT TRACKING FORM - PAGE 2**
DETAILED TABLE OF WETLAND IMPACTS**Directions to complete Page 2:**

1. One location may be made up of several different wetland types. List each type of wetland impacted from each location on the project corridor separately in the table below.
2. Contact the Environmental Coordinator for appropriate ratio and bank information.
3. Use Department of Transportation Wetland Classification System:
<http://roadwaystandards.dot.wi.gov/standards/fdm/24-05-010att.pdf#d24-5a10.2>
4. Individual wetland areas should be reported to the **nearest 0.001-acre**. Impacts are summed by type and rounded to the **nearest 0.01-acre**.

						DOT REC will provide this information.		
Point #	Wetland ID	Impact Location (project station)	Lat/Long	Type Impacted	Area Impacted	Debit Ratio	Type Mitigated	Area Mitigated
	1	STA 257+07 - STA 258+17 LT	Lat: 44.659620 Long: -88.223615	M	0.005	1.000	M	0.005
	1	STA 258+59 - STA 259+36 LT	Lat: 44.659948 Long: -88.223873	M	0.003	1.000	M	0.003
	1	STA 259+79 - STA 260+90 LT	Lat: 44.660292 Long: -88.224091	M(D)	0.003	1.000	M	0.003
	2	STA 260+90 - STA 267+08 LT	Lat: 44.661150 Long: -88.225734	M(D)	0.028	1.000	M	0.028
	3	STA 267+91 - STA 270+62 LT	Lat: 44.662478 Long: -88.225734	M(D)	0.031	1.000	M	0.031
	4	STA 288+55 - STA 288+86 LT	Lat: 44.667075 Long: -88.229398	M(D)	0.010	1.000	M	0.010
	4	STA 288+80 - STA 289+03 RT	Lat: 44.667319 Long: -88.229193	M(D)	0.013	1.000	M	0.013
								0.000
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								0.000

Is there potential for onsite mitigation? If unknown, check with the REC.YES ☐ Where is it located? (T/R, station, map)NO ☒ List bank site to be used. **(Determined by REC)**

Peshtigo Brook Phase 2

Please attach another sheet if the space provided is not adequate for all impacts or to add any additional comments.

Attachment G: Riparian Owners along WisDOT Right-of-Way

Property Number	Property Owner	Owner Address		Site Address		Wetland Location
1	E 4 Enterprises LLC	832 Van Lom Ct	Pulaski, WI 54162	931 STH 32	Pulaski, WI 54162	STA 257+07 LT to STA 261+50 LT
2	McKeefry Real Estate LLC	1051 STH 32	Pulaski, WI 54162	Blue Heron Dr	Pulaski, WI 54162	STA 261+50 RT to STA 266+96 RT
3	Andrew Zenisek	10404 Old Monroe Rd	Matthews, NC 28105	791 Blue Heron Dr	Pulaski, WI 54162	STA 267+68 LT to STA 270+33 LT
4	Premier Community Bank	230 Mavis Rd	Marion, WI 54950	1051 Block STH 32	Pulaski, WI 54162	STA 270+33 LT to STA 270+62 LT
5	Kwik Trip Inc	PO Box 2107	Lacrosse, WI 54602	717 S Wisconsin St	Pulaski, WI 54162	STA 288+54 LT to STA 288+86 LT
6	Wisconsin Department of Natural Resources	PO Box 7921	Madison, WI 53707	Cedar St	Pulaski, WI 54162	STA 288+79 RT to STA 289+03 RT

Attachment H: WDNR Initial Project Review



February 16, 2016

DOT: Brown

Matthew Ternes
WI Department of Transportation
944 Vanderperren Way
Green Bay, WI 54304

Subject: DNR Initial Project Review
Project I.D. 9190-20-00/71
STH 32 Resurface
CTH B to East Green Bay Street, Village of Pulaski
Brown County
T.25N. – R.19E., Sections 5 and 6

Dear Mr. Ternes:

The Wisconsin Department of Natural Resources (DNR) has received the information you provided for the proposed above-referenced project on February 5, 2016. According to your proposal, the purpose of this project is to resurface STH 32. Proposed improvements include milling the existing pavement, paving new layer of asphalt, intersection improvements, signing, pavement marking, replacement of culvert pipes, beam guard upgrades, storm sewer work, and minor structure improvements to the edge of a bridge deck.

Preliminary information has been reviewed by DNR staff for the project under the DNR/DOT (Wisconsin Department of Transportation) Cooperative Agreement. Initial comments on the project as proposed are included below, and assume that additional information will be provided that addresses all resource concerns identified. In addition to the project specific resource concerns highlighted below, it is DNR's expectation that the full range of DOT roadway standards will be applied throughout the design process.

A. Project-Specific Resource Concerns

Section 4(f) Requirement

Public lands are present in the vicinity of this project. If there is potential for impacts to these lands, please begin coordination with us as soon as possible. *First and foremost, every effort should be taken to avoid impacts to these lands.*

There is a U.S. Dept. of Transportation "Section 4(f)" process for federally funded transportation projects that impact various types of public parks, wildlife refuges, and recreation areas. This requirement is coordinated by state and federal transportation departments. Please ensure the 4f process as described in DOT FDM Chapter 21-25-1 is followed.

Land and Water Conservation Fund (LWCF) Lands and 6(f) Requirement

An additional "6(f)" requirement will apply to Mountain Bay State Trail. Section 6(f) of the LWCF requires that special steps be taken when land acquired with LWCF funding is converted from a recreational use to any other

use. These lands must be replaced with property of equal market value, as well as equivalent usefulness and location. DNR together with the National Park Service (NPS), administers this program. Please be aware that while both the 4(f) and 6(f) processes may be initiated concurrently, DNR must have final 4(f) approval from the Federal Highways Administration before we may send 6(f) materials to the National Park Service for their approval.

If it is determined that avoidance of this property is not practicable, then DNR will begin the 6(f) process with DOT and the NPS. This is a lengthy process, which can take up to one year or longer to complete, so adequate planning will be necessary. The process is coordinated by the DNR Transportation Liaison, working with the DNR State LWCF Grants Manager.

Wetlands

There is potential for wetland impacts to occur as a result of this project. Wetland impacts must be avoided and/or minimized to the greatest extent practicable. Unavoidable wetland losses must be compensated for in accordance with the DNR/DOT Cooperative Agreement and the DOT Wetland Mitigation Banking Technical Guideline. Per the Cooperative Agreement, mitigation banking is the preferred compensation option, however DOT and DNR agree that other practicable and ecologically valuable project specific opportunities may be pursued on a case-by-case basis. DNR requests information regarding the amount and type of unavoidable wetland impacts.

During my site visit I noticed wetland vegetation sticking out of the snow in several areas throughout the project. Several culvert crossings have wetland vegetation along the drainageway or waterway. It is likely there will be wetlands impacted if work outside the toe-of-slope in the beam guard or culvert crossings.

Fisheries/Stream Work

There is a waterway crossing along this project about 760 feet south of Blue heron Drive. The waterway is an unnamed tributary to Suamico River. Based on consultation with the Area Fish Biologist using air photos, DNR Northern Pike maps and The Nature Conservancy (TNC) barrier maps this unnamed tributary to Suamico River has higher potential for spring spawning activity. In order to protect developing fish eggs and substrate for aquatic organisms, all instream work that could adversely impact water quality should be undertaken between June 16 and the end of February.

Aquatic Connectivity and Culvert Work

If the structure at the unnamed tributary to Suamico River will be replaced or modified in a way that would impact the waterway then stream connectivity should be incorporated into the design. If the structure will incorporate a bottom then it should be set and sized in such a manner to avoid or minimize impacts to stream morphology, aquatic organism passage, and water quality. This requires that water flow characteristics and streambed sediment in the culvert should closely match the characteristics of the streambed sediment in the natural channel and inside the structure. The invert elevations of the existing and proposed structure, the water surface elevations, and the natural streambed elevations upstream and downstream should be specified in the plans. The natural streambed elevations should extend well beyond the zone of influence of the culvert. The invert elevation of the new culvert should be set an adequate distance below the natural streambed elevation, to allow for a natural and continuous streambed condition to occur.

Endangered Resources

Based upon a review of the Natural Heritage Inventory (NHI) and other DNR records dated February 11, 2016, there are records for the Blandings turtle (*Emydoidea blandingii*), which is a special concern turtle. If project construction will start in the spring, the perimeter of the area to be disturbed should be protected with properly trenched-in silt fence prior to May 1 (March 15 for projects within the riparian corridors) to discourage turtles from entering the work area. If the construction area cannot be silt-fenced by May 1 (or March 15 for projects within riparian corridors), the silt fence must be installed prior to construction activities and the area behind the

silt fence must be surveyed and any turtles confined within the project area removed prior to any site disturbance, and throughout the construction period.

Invasive Species and Viral Hemorrhagic Septicemia (VHS)

Adequate precautions should be taken to prevent transporting or introducing invasive species via construction equipment, as provided under chapter NR 40 Wis. Adm. Code. Further information on species classified as Restricted or Prohibited under NR 40 can be found at: <http://dnr.wi.gov/topic/Invasives/classification.html>.

DNR will work with project managers to help identify specific problem areas across the project site and recommend preventive measures. The following Best Management Practices (BMPs) for rights-of-way provide a series of measures that will ensure reasonable precautions are taken throughout the stages of construction: <http://www.wisconsinforestry.org/files/invasiveBMPs/TransportationRoW-BMPs.pdf>.

Any equipment coming into contact with surface waters must be properly cleaned and disinfected to address the spread of invasive species and viruses. Special provisions must require contractors to implement the following measures before and after mobilizing in-water equipment to prevent the spread of VHS, Zebra Mussel, and other invasive species. Contractors should follow *STSP 107-055 Environmental Protection, Aquatic Exotic Species Control*, or protocol found here: http://dnr.wi.gov/topic/fishing/documents/vhs/disinfection_protocols.pdf.

Additional information on invasive species and infested waters can be found at: <http://dnr.wi.gov/lakes/invasives/AISByWaterbody.aspx>

Floodplains

A determination must be made as to whether or not the project lies within a mapped/zoned floodplain. Floodplain impacts should be assessed and/or quantified and appropriate coordination must be carried out in accordance with the DOT/DNR Cooperative Agreement. Coordination must also occur with the Brown County Zoning Program.

B. Project Specific Construction Site Considerations

The following issues should be addressed in the Special Provisions, and the contractor will be required to outline their construction methods in the Erosion Control Implementation Plan (ECIP). An adequate ECIP for the project must be developed by the contractor and submitted to this office for review at least 14 days prior to the preconstruction conference. Erosion control and stormwater measures must adhere to the DNR/DOT Cooperative Agreement, Trans 401, and applicable federal laws.

Erosion Control and Storm Water Management

- Erosion control devices should be specified on the construction plans. All disturbed bank areas should be adequately protected and restored as soon as feasible.
- If erosion mat is used along stream banks, DNR recommends that biodegradable non-netted mat be used (e.g. Class I Type A Urban, Class I Type B Urban, or Class II Type C). Long-term netted mats may cause animals to become entrapped while moving in and out of the stream. Avoid the use of fine mesh matting that is tied or bonded at the mesh intersection such that the openings in the mesh are fixed in size.
- If dewatering is required for any reason, the water must be pumped into a properly selected and sized dewatering basin before the clean/filtered water is allowed to enter any waterway or wetland. The basin must remove suspended solids and contaminants to the maximum extent practicable. A properly designed and constructed dewatering basin must take into consideration maximum pumping volume (gpm or cfs)

and the sedimentation rate for soils to be encountered. Do not house any dewatering technique in a wetland.

- The contractor should restrict the removal of vegetative cover and exposure of bare ground to the minimum amounts necessary to complete construction. Restoration of disturbed soils should take place as soon as conditions permit. If sufficient vegetative cover will not be achieved because of late season construction, the site must be properly winterized.
- All temporary stock piles must be in an upland location and protected with erosion control measures (e.g. silt fence, rock filter-bag berm, etc.). Do not stockpile materials in wetlands, waterways, or floodplains.

Structure Removal/Bridge Demolition

STSP 203-020, *Removing Old Structure Over Waterway With Minimal Debris*, will be adequate for this project on all waterway crossings. Please coordinate with DNR early in the design phase of the project if the bridge must be dropped into the waterway before removal.

Temporary Structure

If a temporary bridge is needed during construction, it is recommended that it be a clear span structure located on the side of the waterway that minimized wetland impacts. If the temporary structure is anticipated to be in place for longer than 14 days it should be temporary seeded and mulched.

These requirements should be addressed in the special provisions and require the contractor to outline these construction methods in the ECIP.

Asbestos

A Notification of Demolition and/or Renovation and Application for Permit Exemption, DNR form 4500-113 (chapters NR 406, 410, and 447 Wis. Adm. Code) may be required. Please refer to DOT FDM 21-35-45 and the DNR's notification requirements web page: <http://dnr.wi.gov/topic/Demo/Asbestos.html> for further guidance on asbestos inspections and notifications. Contact Mark Davis, Air Management Specialist 608-266-3658, with questions on the form. The notification must be submitted 10 working days in advance of demolition projects.

This project may require a permit from the U.S. Army Corps of Engineers (ACOE). For further details you will need to contact Jessica Kempke of the ACOE located in the Green Bay office, at (920) 448-2824. All local, state, and federal permits and/or approvals must be obtained prior to commencing construction activities.

The above comments represent the DNR's initial concerns for the proposed project and do not constitute final concurrence. Final concurrence will be granted after further review of refined project plans, and additional consultation if necessary. If any of the concerns or information provided in this letter requires further clarification, please contact this office at (920) 412-0165, or email at james.doperalski@wisconsin.gov.

Sincerely,



James P. Doperalski Jr.
Environmental Analysis & Review Specialist

cc: Mike Helmrick - DOT
File

Attachment I: Section 106 Screening List

Pursuant to 36 CFR 800.3 (a)(1) WisDOT (Cultural Resources) has determined the proposed actions for these undertakings (projects) will have no potential to cause effects to historic properties. No further section 106 obligations are required. However, if the proposed actions for an undertaking (project) should change in any way that would involve ground disturbing activities, additional section 106 coordination is required for that undertaking (project).

<i>County</i>	<i>Main ID</i>	<i>Notification Date</i>	<i>Project Put on Screening List for</i>	<i>Route</i>	<i>Title</i>	<i>Bridge ID</i>
Brown	4603-05-00	10/12/2016	Both Archaeology and History	V of Bellevue, CTH V	Tordeur Lane - Wayside Place; Bridge P	P-05-0005
Brown	4607-09-00	05/22/2012	Both Archaeology and History	CTH X (Village of Allou	WI Central LTD RR Bridge	B-009
Brown	4616-02-00	01/21/2015	Both Archaeology and History	CTH ZZ	Bridge Replacement P-05-0127	P-05-0127
Brown	4984-01-66	07/10/2009	Archaeology Only	Rehad of Fox Navigatio		
Brown	4985-00-40	08/11/2006	Both Archaeology and History	Lawrence Drive	Scheuring Road (CTH F) - Main Ave	
Brown	4985-00-42	08/19/2009	Both Archaeology and History	Jordan Road (City of D	Merrill St to O'Keefe Rd	
Brown	4985-00-44	08/17/2009	Both Archaeology and History	Fox River Rec Trail Co	Rockland Rd to Midway Rd	
Brown	4985-00-51	01/21/2015	Both Archaeology and History	Allard St	Grant St - Reid St	
Brown	4985-00-53	01/27/2015	History Only	Erie Street	O'Keefe St - Virginia Dr	
Brown	4985-00-55	01/23/2015	Both Archaeology and History	Libal St	Ridgeway Dr - LeBrun Rd	
Brown	4985-00-57	01/23/2015	Both Archaeology and History	Helena Street	Seventh St - Sixth St	
Brown	4985-00-59	01/23/2015	Both Archaeology and History	Ninth Street	CTH EE - Main Avenue	
Brown	4987-01-98	11/20/2006	History Only	Baird Creek Bike/Ped T	Danz Ave - Baird Creek Road	
Brown	4987-02-00	08/21/2009	Both Archaeology and History	Verlin Rd Sidewalk & Bi	Main St to Bellevue St	
Brown	4987-02-10	05/04/2006	Archaeology Only	Bay Settlement Road	Judy Lane - 2950 s/o Church Road	
Brown	4987-02-14	05/03/2007	Both Archaeology and History	Day Street	Harvey St - Elizabeth St	
Brown	4987-02-18	06/20/2007	Both Archaeology and History	Dousman St	Military Ave to Platten St	
Brown	4987-02-23	11/06/2006	Both Archaeology and History	Bay Beach Road	North Irwin Ave at Beach park Entrance	
Brown	4987-02-25	11/06/2006	Both Archaeology and History	Ninth St at Gross Ave		
Brown	4987-02-30	11/06/2006	Both Archaeology and History	Baird St at Stuart St		
Brown	4987-02-36	04/21/2009	Both Archaeology and History	CTH H/S Broadway St.	1.3 miles north of STH 32 - n/a	b-05-0741
Brown	4987-02-38	03/27/2009	Archaeology Only	Military Avenue	Langlade Ave - Dousman St	
Brown	4987-02-46	11/20/2007	Both Archaeology and History	Dousman St at Norther		
Brown	4987-02-50	09/25/2009	Both Archaeology and History	Manitowoc Road	Main St East Access Rd to Greenbrier R	
Brown	4987-02-54	01/23/2015	Both Archaeology and History	CTH YY	Holmgren Way - Ashland Ave	
Brown	4987-02-58	01/23/2015	Archaeology Only	Gray Street	Dousman St - Velp Ave	
Brown	4987-02-61	04/23/2015	Both Archaeology and History	Mather Street	Vroman St - Roy Avenue	
Brown	4987-07-00	06/05/2014	Both Archaeology and History	STH 29	Green Bay Lift Structures	
Brown	9190-20-00	06/04/2014	Both Archaeology and History	STH 32	CTH B - East Green Bay St	
Brown	9190-21-00	10/07/2008	Both Archaeology and History	STH 32	STH 32 & CTH B Intersection	
Brown	9190-23-00	06/04/2014	Both Archaeology and History	STH 32	STH 29 - Village of Pulaski	
Brown	9202-10-00	01/17/2012	History Only	STH 29	WCL - CTH EB/ Green Bay (West Boun	
Brown	9210-09-00	11/28/2006	Both Archaeology and History	STH 54- City of Green	STH 172 - Pleasant Lane	
Brown	9210-13-00	09/26/2013	Archaeology Only	STH 54	STH 54/57 Interchange - East County Li	
Brown	9210-14-00	11/07/2010	Both Archaeology and History	Mason St Bridge Reha	Over the Fox River, City of Green Bay	B05-134
Brown	9210-16-00	09/30/2013	Both Archaeology and History	STH 54	Mason St Bridge	B-05-0134
Brown	9210-17-30	08/21/2015	History Only	STH 54	Mason Street Bridge	B-05-0134
Brown	9265-06-00	07/31/2007	Both Archaeology and History	CTH G/Fernando Dr	CTH G bridge @ Dutchmans Creek	P05-0046
Brown	9266-10-00	12/03/2012	Both Archaeology and History	Ashwaubenon School	Safe Routes to School	
Brown	9266-11-00	01/23/2015	Both Archaeology and History	Cormier Road	Oneida St/CTH AA - Ashland Ave/STH 3	
Brown	9267-03-00	09/11/2013	Both Archaeology and History	St. Pat's Road Bridge	Village of Suamico	
Brown	9268-09-00	09/11/2013	Both Archaeology and History	School Drive Bridge	Town of Pittsfield	
Brown	9269-04-00	09/21/2009	History Only	Villages of Howard and	Off St Trails and Sidewalks	

Attachment J: Fish & Wildlife Service Coordination

Holmes, Kelsey J - DOT

From: Helmrick, Michael - DOT
Sent: Thursday, November 16, 2017 8:10 AM
To: 'Horton, Andrew'
Cc: Fulcer, Andrew - DOT; Holmes, Kelsey J - DOT
Subject: RE: Request to Initiate Informal Section 7 Consultation - Project ID 9190-20-00/71 and 9190-23-00/71, Brown County, WI
Attachments: final packet 9190-20-71 and 9190-23-71 StreamlinedConsultationForm29Feb2....pdf
Categories: Env - Tribal

RE: Request to Initiate Informal Section 7 Consultation - **May affect, not likely to adversely affect NLEB**; Project ID 9190-20-00/71 and 9190-23-00/71, Brown County, WI

Andrew,

WisDOT is submitting the following information and determination to fulfil Section 7(a)(2) responsibilities under the ESA pertaining to potential impacts to the Dwarf Lake Iris in addition to the Northern long-eared bat. Submittal materials are in the attached PDF.

In accordance with the final 4(d) rule issued for the northern long-eared bat, WisDOT has determined that the proposed activity, described in greater detail below, will not result in prohibited take of the NLEB. Some tree removal is anticipated.

The proposed work for Project 9190-23-00/71 - The asphaltic pavement along this section of STH 32 is deteriorating and is in need of resurfacing. This project will resurface the pavement after replacing several culvert pipes and small box culverts. It will also include surface repairs on several structures. This project will also install barrier and end treatments to protect the piers of the bridge that STH 29 runs on. It will also replace the existing beam guard on two sections and install end treatments that meet current specifications. Lastly this project will include new signing and pavement marking.

The proposed work for Project 9190-20-00/71 - The asphaltic pavement along this section of STH 32 is deteriorating and is in need of resurfacing. This project will resurface the pavement after replacing the aging storm sewer. To extend the life of the deck this project will also complete a concrete deck overlay and surface repairs on bridge B-5-260. The beam guard and end terminals for this structure will be upgraded and brought up to specifications. Lastly this project will include new signing and pavement marking.

In accordance with the streamlined consultation framework, WisDOT intends to rely on the programmatic biological opinion developed for the final 4(d) rule and this submittal to satisfy our Section 7(a)(2) responsibilities.

If you have questions, please contact me at 920-492-7738.

Thanks

Mike

Mike Helmrick

Region Environmental Coordinator
Wisconsin Department of Transportation
Northeast Region

Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

Information to Determine 4(d) Rule Compliance:	YES	NO
1. Does the project occur wholly outside of the WNS Zone ¹ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Have you contacted the appropriate agency ² to determine if your project is near known hibernacula or maternity roost trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Could the project alter the entrance or interior environment of a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

You are eligible to use this form if you have answered yes to question #1 **or** yes to question #2 **and** no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

Agency and Applicant³ (Name, Email, Phone No.):

Mike Helmricks
michael.helmricks@dot.wi.gov
920-492-7738

Project Name: 1470-25-00 – WIS 42 resurfacing, South County line to the City limits of Kewaunee

Project Location (include coordinates if known):

Brown County, Wisconsin (Coordinates are too numerous to list).
See attachment 1 for project location maps.

¹ <http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf>

² See <http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html>

³ If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

Basic Project Description (provide narrative below or attach additional information):

Project 9190-23-00/71 - The asphaltic pavement along this section of STH 32 is deteriorating and is in need of resurfacing. This project will resurface the pavement after replacing several culvert pipes and small box culverts. It will also include surface repairs on several structures. This project will also install barrier and end treatments to protect the piers of the bridge that STH 29 runs on. It will also replace the existing beam guard on two sections and install end treatments that meet current specifications. Lastly this project will include new signing and pavement marking.

Project 9190-20-00/71 - The asphaltic pavement along this section of STH 32 is deteriorating and is in need of resurfacing. This project will resurface the pavement after replacing the aging storm sewer. To extend the life of the deck this project will also complete a concrete deck overlay and surface repairs on bridge B-5-260. The beam guard and end terminals for this structure will be upgraded and brought up to specifications. Lastly this project will include new signing and pavement marking

The Wisconsin Department of Natural Resources (WDNR) reviewed their Natural Heritage Inventory database on 11/15/2017. In that review, WDNR determined that there are no known NLEB maternity roost trees within 150 feet and no known hibernacula within 0.25 miles of the proposed project (Attachment 2).

Attachment 3 contains the official species list generated using the IPAC tool on 11/15/2017 (Consultation Code: 03E17000-2018-SLI-0209). The effect determinations for the Federally-listed species are in Attachment 4.

General Project Information	YES	NO
Does the project occur within 0.25 miles of a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project occur within 150 feet of a known maternity roost tree?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project include forest conversion ⁴ ? (if yes, report acreage below)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Estimated total acres of forest conversion	Less than 1	
If known, estimated acres ⁵ of forest conversion from April 1 to October 31	Unknown	
If known, estimated acres of forest conversion from June 1 to July 31 ⁶	Unknown	
Does the project include timber harvest? (if yes, report acreage below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated total acres of timber harvest		
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated wind capacity (MW)		

⁴ Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).

⁵ If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.

⁶ If the activity includes tree clearing in June and July, also include those acreage in April to October.

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature:  Date Submitted: 11-16-2017

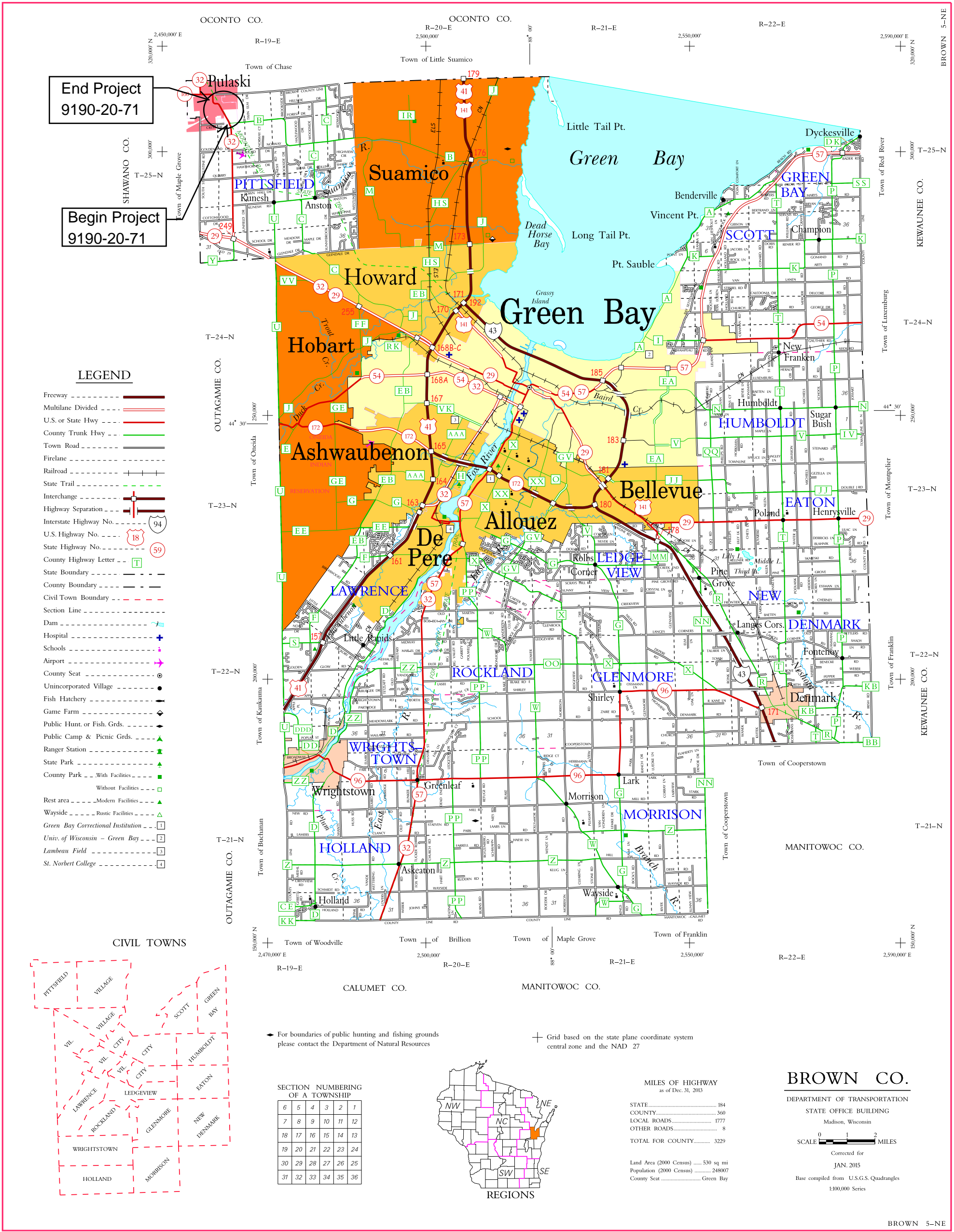
List of Attachments

- 1: Project Location Map
- 2: WDNR NHI Review
- 3: Official Species List
- 4: Effect Determinations for Federally Listed Species

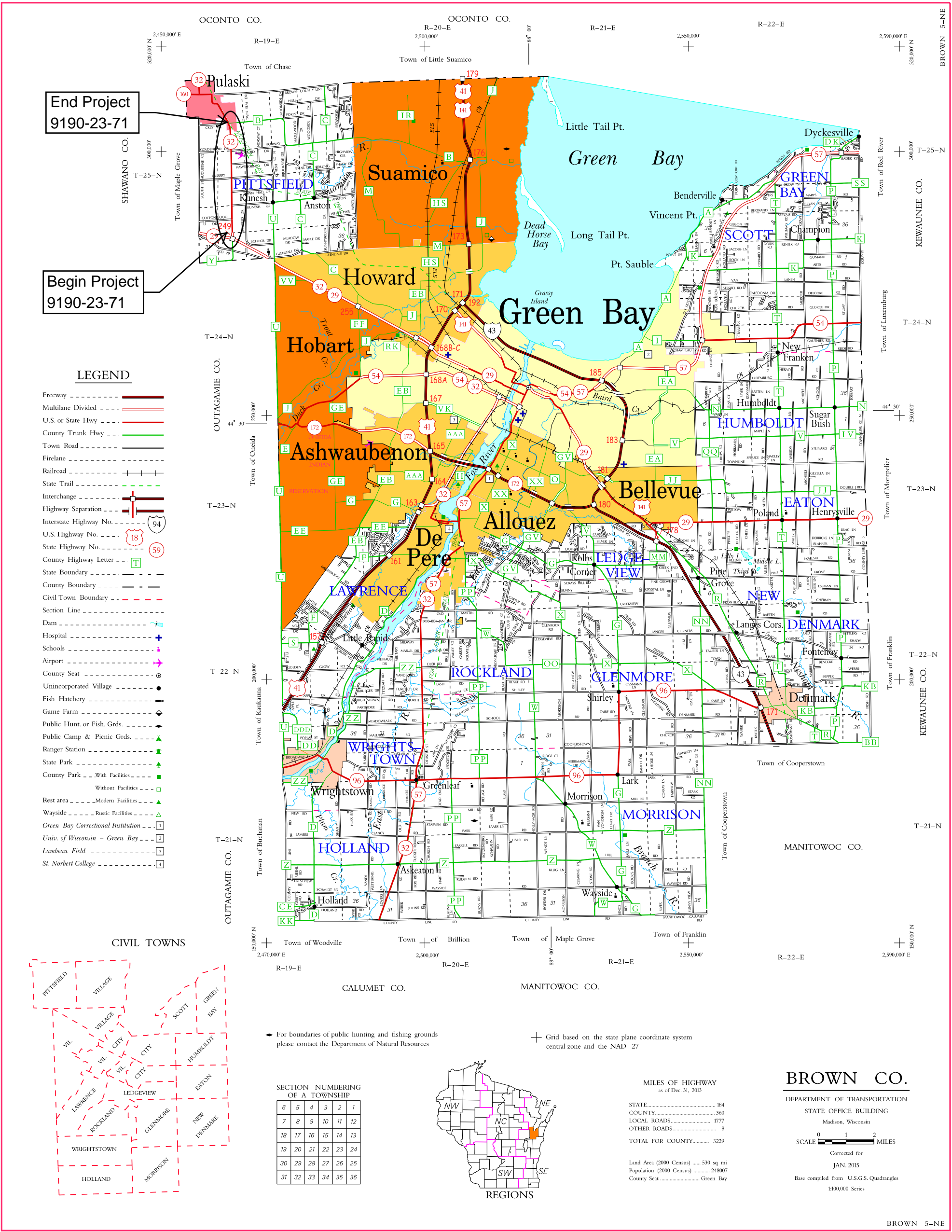
1: Project Location Map

Brown County

9190-20-71



Brown County
9190-23-71



2: WDNR NHI review

Helmrick, Michael - DOT

From: Doperalski, James P - DNR
Sent: Wednesday, November 15, 2017 3:52 PM
To: Helmrick, Michael - DOT
Subject: RE: NLEB check on two projects on WIS 32 in Brown CO

Mike I did a NHI review on November 15, 2017 and did not find any records for the NLEB or the Rusty Patched Bumble Bee.

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

James P. Doperalski Jr.
Cell Phone: (920) 412-0165
James.Doperalski@wisconsin.gov

From: Helmrick, Michael - DOT
Sent: Wednesday, November 15, 2017 3:37 PM
To: Doperalski, James P - DNR <James.Doperalski@wisconsin.gov>
Subject: NLEB check on two projects on WIS 32 in Brown CO

Jim –

I need a check for NLEB on two projects. 9190-20-00 and 9190-23-00, these are on WIS 32 in Brown CO between Pulaski and highway 29. We looked at wetlands on this stretch this year. I have attached the prelim comments letters for reference.

Thanks

Mike

Mike Helmrick
Region Environmental Coordinator
Wisconsin Department of Transportation
Northeast Region
Phone: (920) 492-7738
wisconsin.dot.gov

If this is related to a records request, please email: dotdtsdnerecords@dot.wi.gov

3: Official Species List



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Green Bay Ecological Services Field Office
2661 Scott Tower Drive
New Franken, WI 54229-9565
Phone: (920) 866-1717 Fax: (920) 866-1710



In Reply Refer To:

November 15, 2017

Consultation Code: 03E17000-2018-SLI-0209

Event Code: 03E17000-2018-E-00486

Project Name: 9190-20-71 and 9190-23-71, WIS 32, Brown CO

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Service if they determine their project "may affect" listed species or critical habitat.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website <http://ecos.fws.gov/ipac/> at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. This website contains step-by-step instructions which will help you determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all **wind energy projects** and **projects that include installing towers that use guy wires or**

are over 200 feet in height (e.g., communication towers), please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.) and Migratory Bird Treaty Act (16 U.S.C. 703 et seq), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html> to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Green Bay Ecological Services Field Office

2661 Scott Tower Drive

New Franken, WI 54229-9565

(920) 866-1717

Project Summary

Consultation Code: 03E17000-2018-SLI-0209

Event Code: 03E17000-2018-E-00486

Project Name: 9190-20-71 and 9190-23-71, WIS 32, Brown CO

Project Type: TRANSPORTATION

Project Description: Project 9190-23-00/71 - The asphaltic pavement along this section of STH 32 is deteriorating and is in need of resurfacing. This project will resurface the pavement after replacing several culvert pipes and small box culverts. It will also include surface repairs on several structures. This project will also install barrier and end treatments to protect the piers of the bridge that STH 29 runs on. It will also replace the existing beam guard on two sections and install end treatments that meet current specifications. Lastly this project will include new signing and pavement marking.

Project 9190-20-00/71 - The asphaltic pavement along this section of STH 32 is deteriorating and is in need of resurfacing. This project will resurface the pavement after replacing the aging storm sewer. To extend the life of the deck this project will also complete a concrete deck overlay and surface repairs on bridge B-5-260. The beam guard and end terminals for this structure will be upgraded and brought up to specifications. Lastly this project will include new signing and pavement marking

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/44.6331297251401N88.22030602172481W>



Counties: **Brown, WI**

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Flowering Plants

NAME	STATUS
Dwarf Lake Iris <i>Iris lacustris</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/598	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

4: Effect Determinations for Federally Listed Species

9190-20-00/71 and 9190-23-00/71
WIS 32
WIS 29 to Pulaski
Brown County

Effect determination for Federally Listed Species:

Species Common Name	Species Scientific Name	Effect Determination	Justification
Dwarf Lake Iris	<i>Iris lacustris</i>	No effect	No occurrence in NHI and habitat not present
Northern long-eared Bat	<i>Myotis septentrionalis</i>	may effect, but will not result in a prohibited take	Activity will not remove a known roost tree or any other tree within 150 feet of a known maternity roost tree from June 1 – July 31. Activity is not within 0.25 miles of known hibernacula

Attachment K: Existing Pictures

Structure 6 Storm Sewer Outfall 11/5/15



Storm Sewer Inlet 5A 11/5/15



Ditch between WIS 32 and the Mountain-Bay State Trail 11/3/2016

