

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

Date: 12/9/2019

To: James Pavelski, PE, Grade Crossing Safety Engineer
DTIM/BTLRRH
4822 Madison Yards Way, 6th Floor South
Madison, WI 53705

From: Jared Kinziger
NE Region Railroad Coordinator

Subject: **At-Grade Crossing - Railroad Project Submittal Package (RPSP)**

Per FDM 17-20-10, (see Chapter 17-20-10 & 17-25-5), the following material is being submitted in order to proceed with railroad negotiations: *(submit one RPSP per railroad crossing)*

1. **Design ID**
1146-75-00

Construction ID
1146-75-72

2. **Railroad Surface Project ID**
1146-75-50

Railroad Signal Project ID
1146-75-51

3. **Project Title** *STH 76 – New London*
Project Subtitle *CTH JJ – Lily of the Valley Dr*
Roadway *STH 15*
County *Outagamie County*

4. **LET Date** *11/09/2021*
PS&E Date *05/01/2021*
Advanceable PS&E Date *02/02/2021*

5. **Name & Phone Number of Project Manager**

WisDOT NE Region Project Manager:

William Bertrand (920) 360-3124

WisDOT NE Region Project Leader:

WisDOT NE Region Railroad Coordinator (RRC):

Jared Kinziger (920) 492-7713

Consultant Designer:

Jeff Bauer, Jacobs (414)847-0323

1. **Detailed project overview narrative:** *(include a brief project scope overview and a more detailed narrative about the area near the RR crossing)* STH 15 is a busy commuter route between New London and the Fox Cities area. WisDOT studied STH 15 to determine

the best way to provide additional roadway capacity and improve operation efficiency and traffic safety. The proposed improvement consists of the reconstruction and expansion of approximately 10.5 miles of STH 15 from USH 45 in the City of New London to Lily of the Valley Drive in the Town of Greenville in Outagamie County. The project will expand STH 15 to a 4-lane divided highway, including a bypass of the Village of Hortonville. Roundabouts are proposed on both ends of the bypass at the STH 15 intersections with CTH T/Givens Road and CTH JJ/Manley Road. The project will be separated into the following three segments: Western Section (USH 45 – CTH T/Givens Road), Bypass Section (CTH T/Givens Road – CTH JJ), and Eastern Section (CTH JJ– Lily of the Valley Drive). Construction in the eastern section extends approximately 3.3 miles and will include six at-grade intersections (including a roundabout at CTH JJ) and a multi-modal trail along the south side of STH 15 between Greendale Road and Julius Drive. These improvements will require alterations to the existing at-grade surface railroad crossings of STH 15 and the addition of a multi-modal trail. This railroad is owned and operated by Wisconsin Central Limited. Design work is ongoing with construction for this segment scheduled to begin in Spring 2022.

2. **The *anticipated* construction project schedule is as follows:**

- *Construction Start Date: Spring 2022*
- *Detour Start Date: (if applicable) September 2022*
- *Construction Completion Date: November 2023*
- *Railroad Project Completion Dates: (needed for OCR petition/hearing)*
 - *RR Signals: 10/1/2022*
 - *RR Surface: 10/1/2022*

3. **Construction staging narrative:** *(area near the RR crossing and information about any at-grade RR crossings on the detour)*

Construction for the eastern segment will be completed in three stages with some stages having sub-stages. STH 15 will remain open to through traffic (one lane in each direction) for the vast majority of construction with the exception of a short term (+/- 4 weeks) full closure of STH 15 for the work at the Wisconsin Central Limited railroad at-grade crossing. The construction staging within the limits of the at-grade railroad crossing will generally consist of the following:

Stage 1B: Construction of the new WB lanes while traffic remains on the existing roadway.

Stage 1C: STH 15 will be closed to through traffic/detoured for approximately 4 weeks for construction of the railroad track work, roadway and trail construction, and new at-grade railroad crossing surfaces. The new railroad signals without gates and one temporary post mounted signal will need to be installed for only the proposed WB barrel and operating prior to Stage 2A starting.

Stage 2A: Construction of the new EB lanes while traffic is shifted onto the new WB lanes.

Is this the right word?

Just say premium. I likely will not be concrete panels.

1. **Work performed by Railroad narrative:** *(include existing and proposed crossing length - to be verified with the RRC)*

Project ID 1146-75-50 will remove the existing crossing surface on STH 15 and replace with three new concrete crossing surfaces, extending a minimum of one foot past the shoulder point of each roadway and trail. Work will require (2) 89.375' (11 panel) long crossing surfaces for STH 15 and (1) 16.25' (2 panel) crossing surface for the trail. The Region is requesting that the Railroad raise the track approximately 1 foot, matching the railroad profile shown in Attachment #7. A Railroad cost share for this work has yet to be determined.

Project ID 1146-75-51 will install new cantilevered signals and gates, median post mounted signals and gates, CWT circuitry, bungalow, and post mounted signals for new trail crossing.

and temporary post mounted lights for EB Stage ???

2. **Railroad crossing work included in WisDOT construction project:** *(such as paving through crossing, provide detour, road closure traffic control, etc.)*

Project ID 1146-75-72 includes clearing & grubbing of all WisDOT right of way and vision triangles, asphalt paving up to the crossing location, and installation of the detour and traffic control devices to complete the work.

Excavation of the railroad track bed and filling with select crushed.

and RR ROW. The RR will not grade or clear very well and we are paying for it. I recommend like both USH 141 crossings that DOT clears on RR ROW. Thought?

3. **Is the crossing signed EXEMPT?** ☒ Yes ☐ No
Should the crossing be signed EXEMPT? ☐ Yes ☒ No

Click here to enter text.

4. **Drainage impacts to railroad statement:** *(if none, please state so)*

Current flow patterns remain unchanged. The existing 24" cross culvert adjacent to the west side of the railroad tracks will be replaced and extended with a new 19"x30" concrete culvert and additional inlets. New 18" culverts will be installed parallel to the railroad beneath the proposed multi-use path on the west side of the railroad tracks.

5. **Are there any overhead/underground highway appurtenances or utilities being installed within railroad right-of way as part of this project?** *(Review FDM 17-60-45)*

☐ Yes ☒ No

No, not by this project

~~To be determined. Utility coordination is ongoing, with DT1078 submittals to the utility companies completed in October 2019.~~

6. **Is railroad real estate needed?** *(If yes, a Railroad Real Estate Package (RRESP) will be required, in addition to this packet)*

☒ Yes ☐ No

Real estate has already been acquired. Refer to TPP 1146-75-22 - 4.45

7. **Additional Comments:** *(exception to standards, unique design issues, environmental commitments, etc.) There will be wetland mitigation in conjunction with this project.*
8. **Railroad Crossing Report (DT-1589) and Photos** (see <https://wigov.sharepoint.com/sites/dot-dtim/btlrrh/rhs/Shared%20Documents/rcis-photo.pdf> for photo standards. Disregard the batch conversion steps. Convert photos to PDF two per page 8½ x 11) (Attachments # 1, #2, #3)

Check boxes

9. **Plan** (Attachment # 4)

- ☐ **Project Title sheet**
Attachment #4
- ☐ **Project Overview sheet showing railroad** *(if available*
Attachment #4)
- ☐ **Typical Section sheet(s) near crossing** *(existing and proposed)*
Attachment #5
- ☐ **Railroad Crossing Detail**
Attachment #6
- ☐ **Roadway Plan & Profile sheet(s)**
Attachment #7
- ☐ **Railroad Plan & Profile sheet(s)**
Attachment #7
- ☐ **Detour Plan sheet(s)** *(required if RR crossing surface replacement is part of the project)*
Attachment #8
- ☐ **Traffic Control Plan and/or Staging Plan sheet(s) near the railroad** *(if applicable)*
Attachment #9

STH 15 will remain open to through traffic (one lane in each direction) for the vast majority of construction with the exception of a short term (+/- 4 weeks) full closure of STH 15 for the work at the Wisconsin Central Limited railroad at-grade crossing. Access to the properties along STH 15 during the closures will still be provided. Work near the railroad will need to be coordinated with the Wisconsin Central Limited railroad.

- ☐ **Plans for highway appurtenances** *(Storm sewer, culverts, lighting, traffic signals, ITS, etc.)*
Attachment #10
- ☐ **Plan view w/existing & proposed corner and quadrant vision triangles** *(if applicable)*
Attachment #6
- ☐ **Right-of-Way Plat** *(draft or final) (if railroad property needed)*
Attachment #11
- ☐ **Cross sections**
Attachment #13

10. Crash History and Reports (*Attachment # 12*)

According to the Federal Railroad Administration's Office of Safety Analysis, there have been no train/vehicle crashes at this railroad crossing.

The existing at-grade railroad crossing may have been a contributing factor in one fatal crash on May 4, 2016. There have been four (4) other documented non-fatal crashes in the vicinity of the railroad crossing from 2016 – 2019.

Attachment #1

Crossing Reports – DT1589

RAILROAD CROSSING REPORT

DT1589 4/2011 (Replaces ED705)

Wisconsin Department of Transportation

1. Railroad Project ID 1146-75-50/51		2. Operating Railroad Wisconsin Central Ltd.	
3. Companion Construction Project ID 1146-75-72		4. Companion Hwy Constr. Letting Date 11/09/2021	5. Engineering ID 1146-75-00
6. Road Name STH 15		7. Official DOT/AAR Crossing Number 181840G	
8. Highway Number/Town Road/Street Name STH 15		9. Railroad Subdivision and Milepost Fox River, New London Sub 0131.25	
10. County Outagamie		11. Town/City/Village of Hortonville	

Attach sketch of crossing including track centers, approach grades and obstructions to view of approaching trains.

EXISTING DEVICES AT CROSSING

Provide information for both approaches	Northbound/Eastbound		Southbound/Westbound		Comments
	YES	NO	YES	NO	
12. Stop Signs	☐	☒	☐	☒	
13. Cross Bucks	☒	☐	☒	☐	
14. Wig Wag Signals	☐	☒	☐	☒	
15. Flashing Light Signals	☐	☒	☐	☒	☐ 8" ☐ 12" ☐ INC ☐ LED
16. Cantilever Signals	☒	☐	☒	☐	☐ 8" ☒ 12" ☐ INC ☒ LED
17. Gates	☐	☒	☐	☒	
18. Crossing Illuminated	☐	☒	☐	☒	
19. Flagging	☐	☒	☐	☒	
20. Bell	☒	☐	☐	☒	☐ M ☒ E
21. Sidelights	☐	☒	☐	☒	
22. Stop Bar	☒	☐	☒	☐	Distance From Crossing EB 45', WB 46'
23. Public Road Intersection	☐	☒	☐	☒	
24. Humped Crossing Sign	☐	☒	☐	☒	
25. Railroad Advance Warning Signs	☒	☐	☒	☐	EB 972', WB 1014'
26. RXR Pavement Markings	☒	☐	☒	☐	EB 792', WB 732'
27. Advisory Speed Signs	☐	☒	☐	☒	

OTHER CROSSING INFORMATION

28. Total No. of Tracks 1		29. No. of Main Line Tracks 1		30. No. of Other Tracks 0		31. Angle of Crossing (40) LHF () RHF					
32. Total No. of Lanes 2		33. No. of Through Lanes 2		34. No. of Parking Lanes 0		35. No. Exclusive Use Lanes 0	36. No. Sidewalks 0	37. Sidewalk Width -	38. Pavement Width 30	39. Curb ☐ Y ☒ N	40. Roadway Width 42
41. Crossing Surface Type Concrete				42. Length of Existing Crossing 65		43. Crossing Surface Condition Very Poor					
Average Daily		6 a.m.-6p.m. Number	6p.m.-6a.m. Number	Timetable Speed		Maximum Typical Train Speed		ADT 50. Year			
44. Passenger Trains				MPH		MPH		47. Highway ADT (present)		16,500 (2007)	
45. Freight Trains		2		25 MPH		10 MPH		48. Highway ADT (design)		20,000 (2040)	
46. Switching Moves				MPH		MPH		49. Posted Speed Limit		55	

SIGHT DISTANCES

Stopping Sight Distances

Distances at which crossing warning devices first visible (WDV) [1] and vehicle stopping distances (VSD) from crossing based on speed [2]

51. Approach	52. WDV	53. VSD
EB	1695	600
WB	1873	600

Quadrant Sight Distances

View of trains from stopping distance

54. Quadrant	Sight Distance [3]	
	55. Actual	56. Req'd
NW	290	290
SW	290	290
NE	290	290
SE	290	290

Clearing Sight Distances

View of trains at 25 ft from nearest rail

57. Quadrant	Sight Distance [4]	
	58. Actual	59. Req'd
NW	625	
SW	695+	
NE	473	
SE	850+	

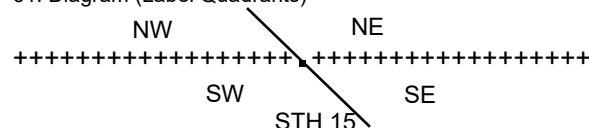
60. Obstructions, Comments

East/west railroad

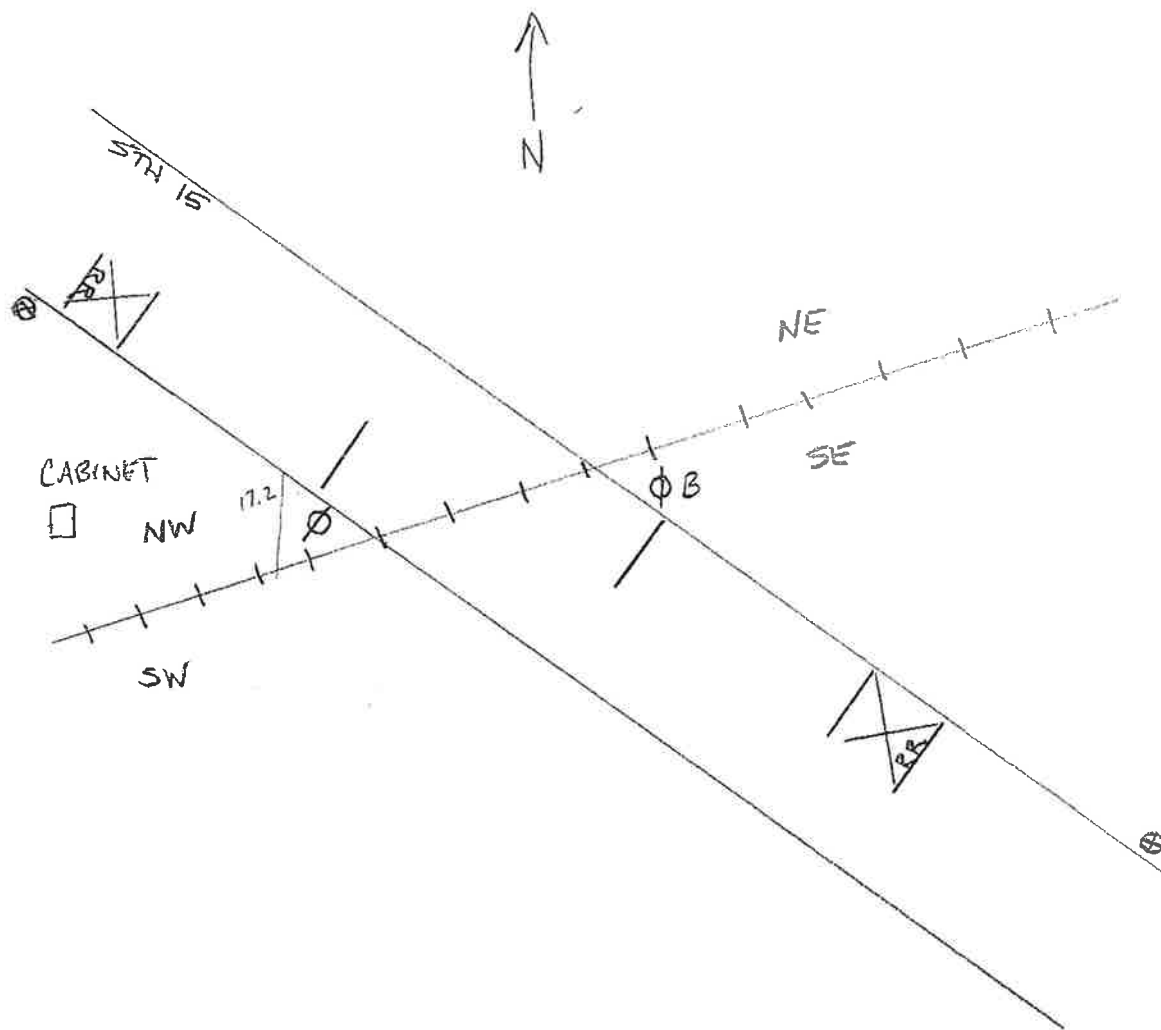
Railroad intends to increase train speed to 25 mph

Brush along right-of-way in NW, NE, SW quadrants

61. Diagram (Label Quadrants)



62. By Ryan Arndt Reviewed by Jared Kinziger RRC - 1/28/14		63. Title Engineer Gremmer & Associates, Inc.		64. Date 1/28/2014	
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Attachment #2

Photographs of Site – STH 15

Photograph Layout At-Grade Crossings

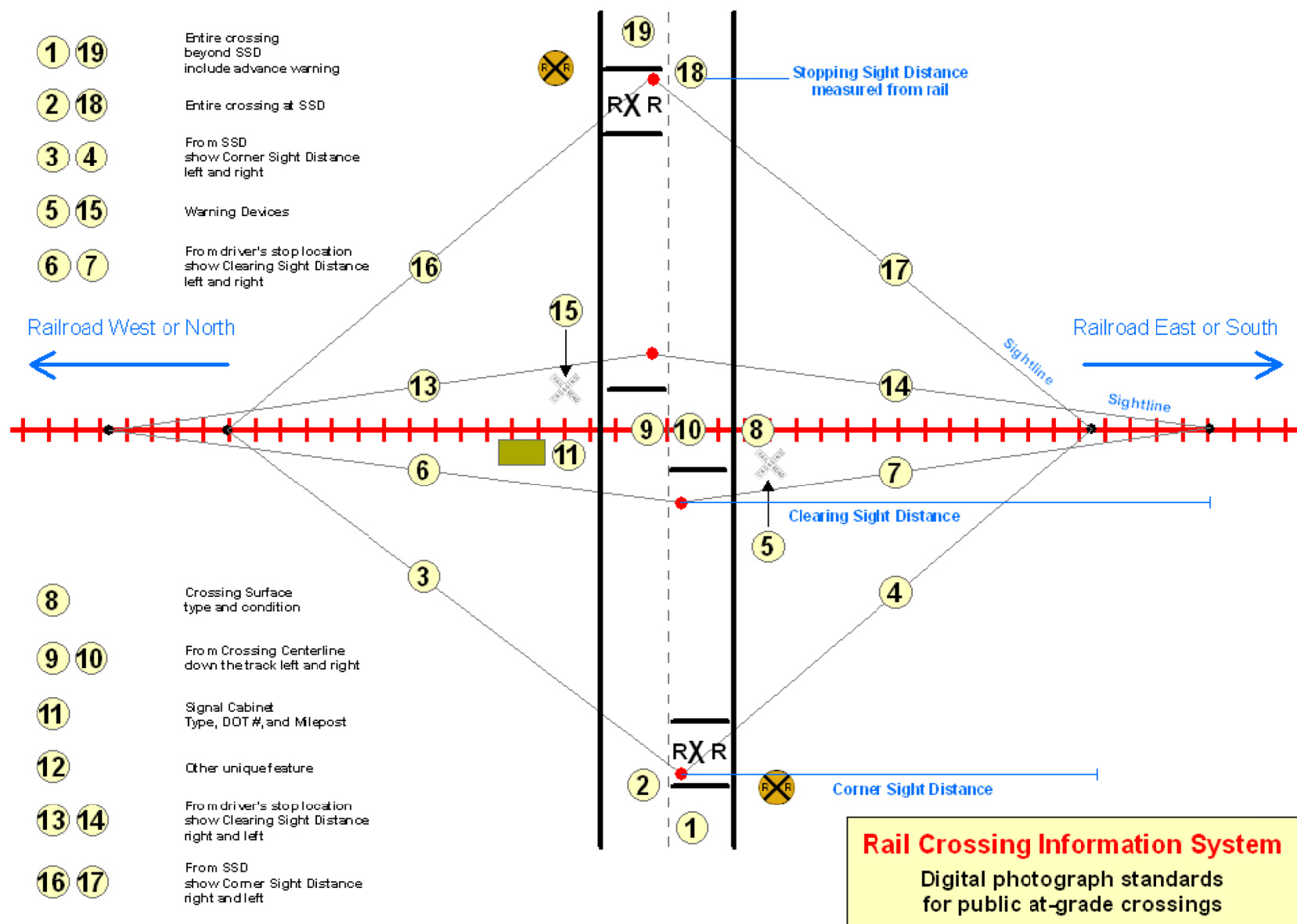




Photo #1 Beyond SSD Entire Crossing



Photo #2 At SSD Entire Crossing



Photo #3 At SSD Corner Sight Distance Left (North)



Photo #4 At SSD Corner Sight Distance Right (South)



Photo #5 Approaching Stop Warning Devices



Photo #6 At Stop Clearing Sight Distance Left (North)



Photo #7 At Stop Clearing Sight Distance Right (South)



Photo #8 At Crossing Surface Type & Condition



Photo #9 At Crossing CL Down Track Left (North)



Photo #10 At Crossing CL Down Track Right (South)



Photo #11 Signal Cabinet



Photo #12 Other Features – Old Signal/Cabinet Base



Photo #13 At Stop Clearing Sight Distance Right (North)



Photo #14 At Stop Clearing Sight Distance Left (South)



Photo #15 Approaching Stop Warning Devices



Photo #16 At SSD Corner Sight Distance Right (North)



Photo #17 At SSD Corner Sight Distance Left (South)



Photo #18 At SSD Entire Crossing



Photo #19 Beyond SSD Entire Crossing

Attachment #3

Photographs of Site – Trail Crossing

STH 15 – PROJECT # 1146-75-00 RAILROAD EAST SIDE OF HORTONVILLE BETWEEN MANLEY AND
NORTH RD. PHOTOGRAPH KEY



CENTERLINE OF RAIL LOOKING NORTHEASTERLY



LOOKING NORTH FROM PROPOSED CROSSING.



LOOKING NORTHWEST FROM PROPOSED CROSSING



LOOKING NORTHWEST FROM PROPOSED CROSSING



CENTERLINE OF RAIL LOOKING SOUTHWEST



LOOKING SOUTH FROM PROPOSED CROSSING



LOOKING SOUTHEAST FROM PROPOSED CROSSING



LOOKING EAST FROM PROPOSED CROSSING



CENTERLINE OF RAIL LOOKING NORTHEASTERLY

Attachment #4

Project Title Sheet & Project Overview

PROJECT ID: 1146-75-72
WITH: N/A

COUNTY: OUTAGAMIE

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
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 =



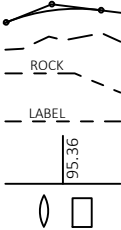
DESIGN DESIGNATION

A.A.D.T.	(2023)	=	15,900
A.A.D.T.	(2043)	=	21600
D.H.V.		=	2,550
D.D.		=	62-38
T.		=	5.2%
DESIGN SPEED		=	60 MPH
ESALS		=	2,620,700

CONVENTIONAL SYMBOLS

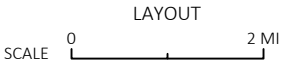
PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

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	



NONSTANDARD SYMBOLS

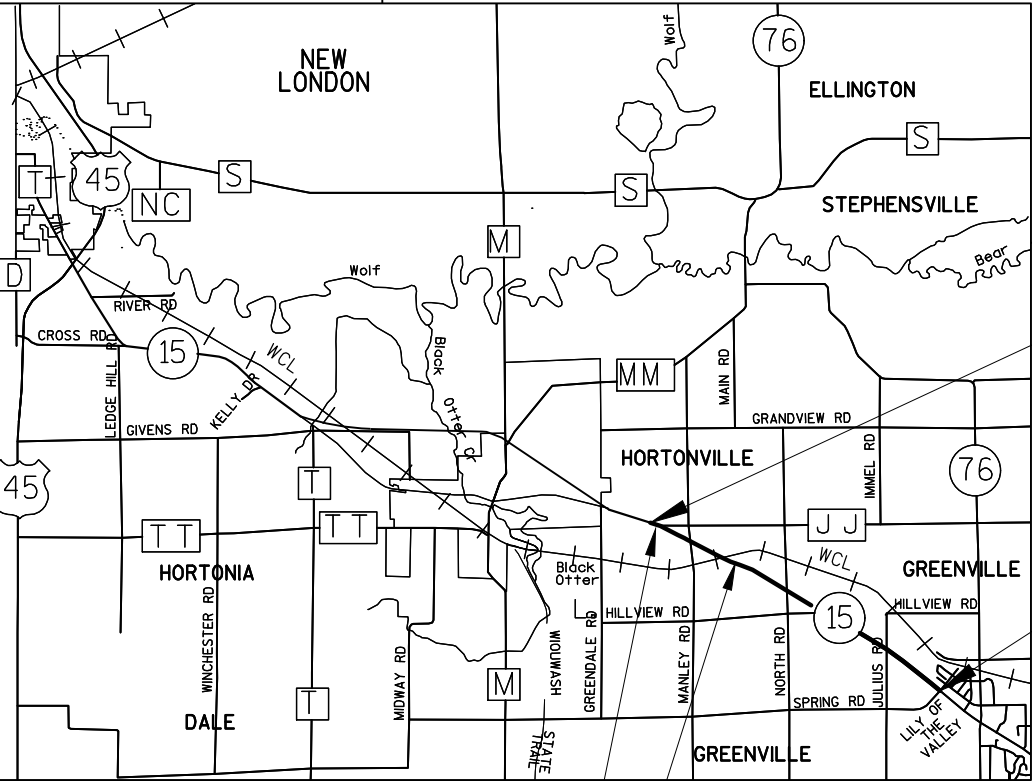
PROPOSED RELOCATION	
DITCH	
MEDIAN DRAIN/OUTFALL	
ELECTRICAL	



TOTAL NET LENGTH OF CENTERLINE = 3.596 M.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, OUTAGAMIE COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 88 (2007).



BEGIN PROJECT
STA 465'EB'+00
Y = 587782.90
X = 775213.89

END PROJECT
STA 654'EB'+87.14

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 76 - NEW LONDON

CTH JJ - LILY OF THE VALLEY DR

STH 15
OUTAGAMIE COUNTY

STATE PROJECT NUMBER
1146-75-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1146-75-72		

ORIGINAL PLANS PREPARED BY
GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac
85 South Pioneer Road, Suite 300 • Fond du Lac, WI 54605
(920) 924-5720 • fax (920) 924-5725

DATE: _____
BENJAMIN L. OITZINGER, PE

ORIGINAL PLANS PREPARED BY
ch2m
MILWAUKEE, WISCONSIN

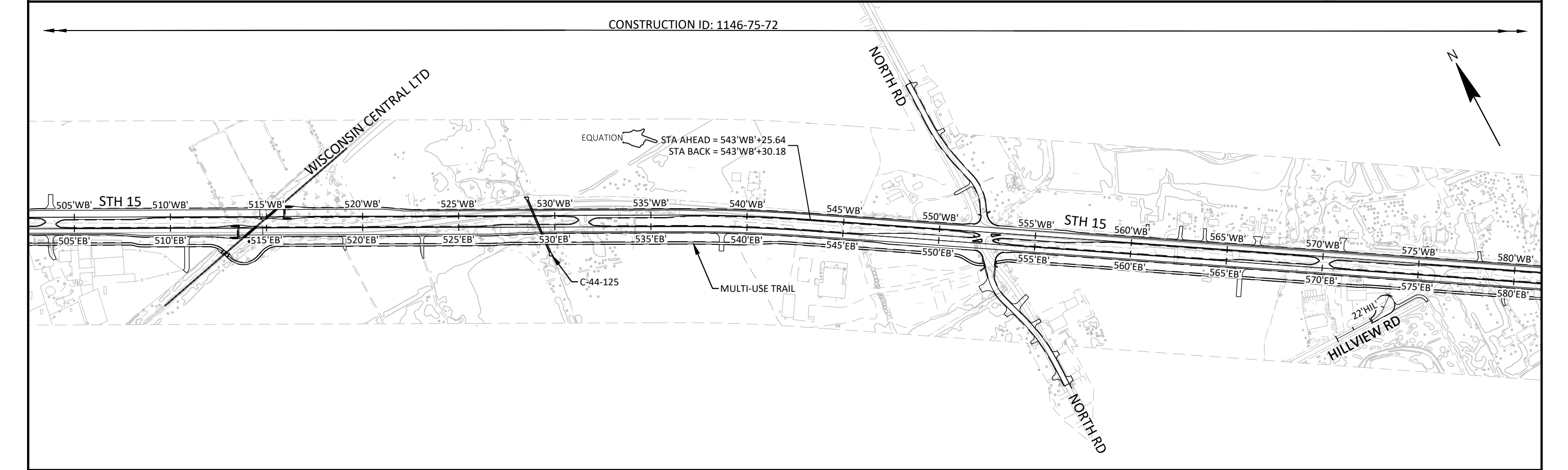
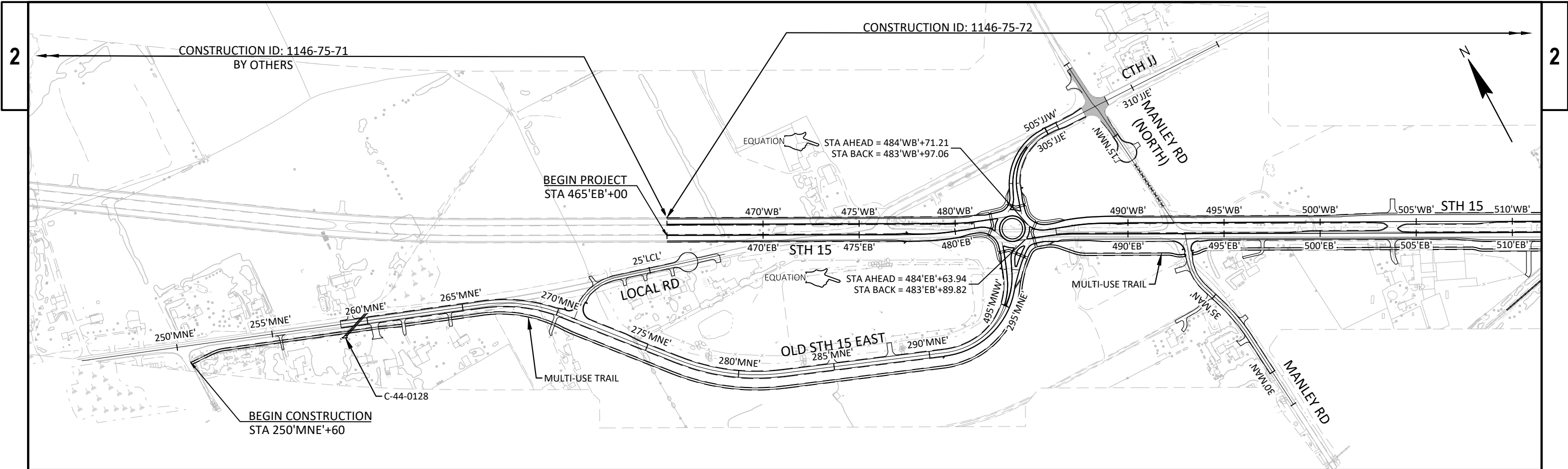
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

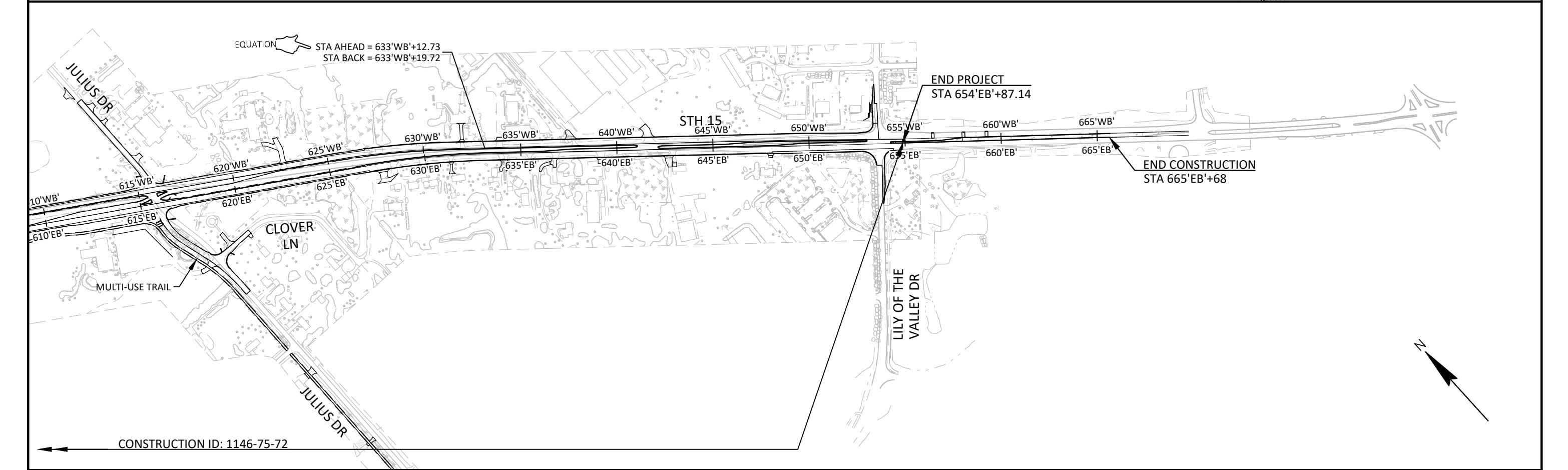
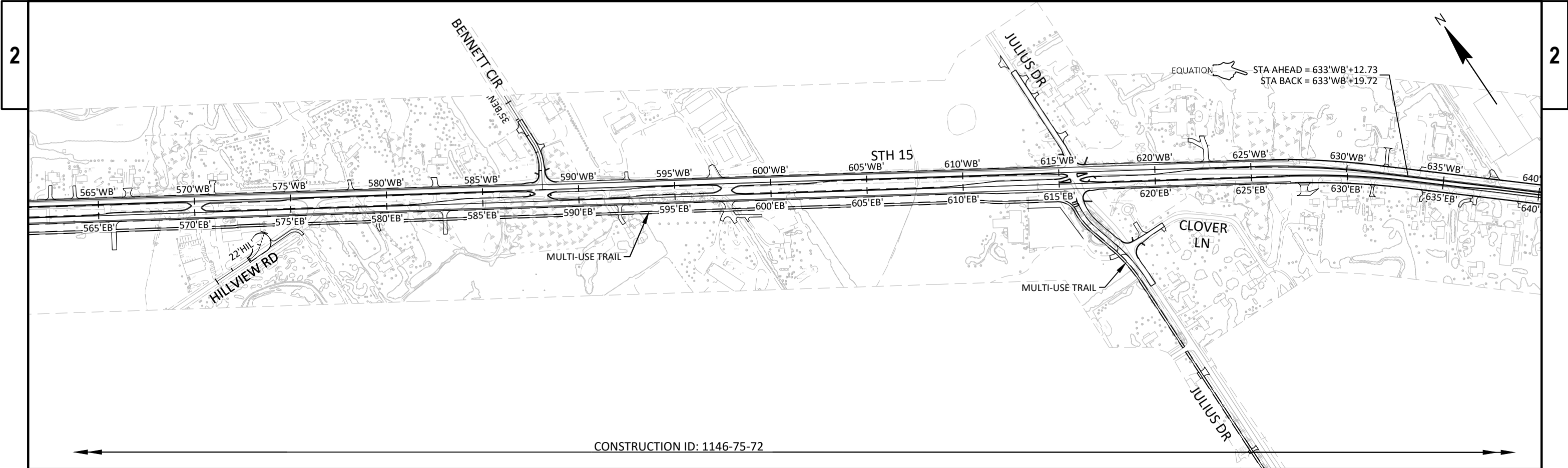
PREPARED BY	
Surveyor	WISDOT NER/GREMMER AND ASSOCIATES
Designer	CH2M HILL/GREMMER AND ASSOCIATES
Project Manager	WILLIAM BERTRAND
Regional Examiner	
Regional Supervisor	TAMMY RABE

APPROVED FOR THE DEPARTMENT
DATE: _____
(Signature)

E



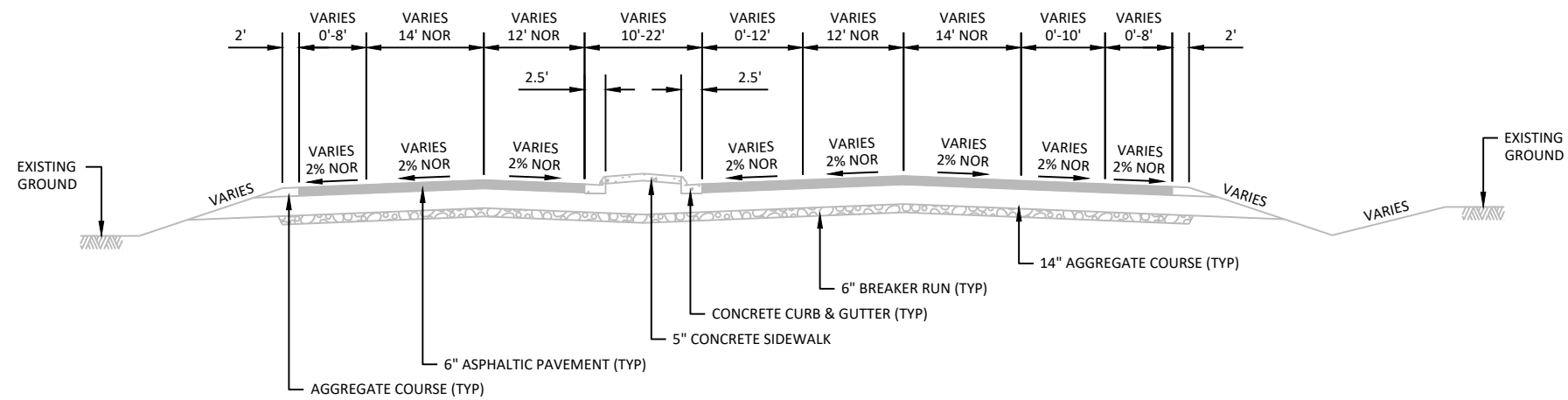
PROJECT NO: 1146-75-72	HWY: STH 15	COUNTY: OUTAGAMIE	PROJECT OVERVIEW	SHEET 3 E
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PROJECT NO: 1146-75-72	HWY: STH 15	COUNTY: OUTAGAMIE	PROJECT OVERVIEW	SHEET 4	E
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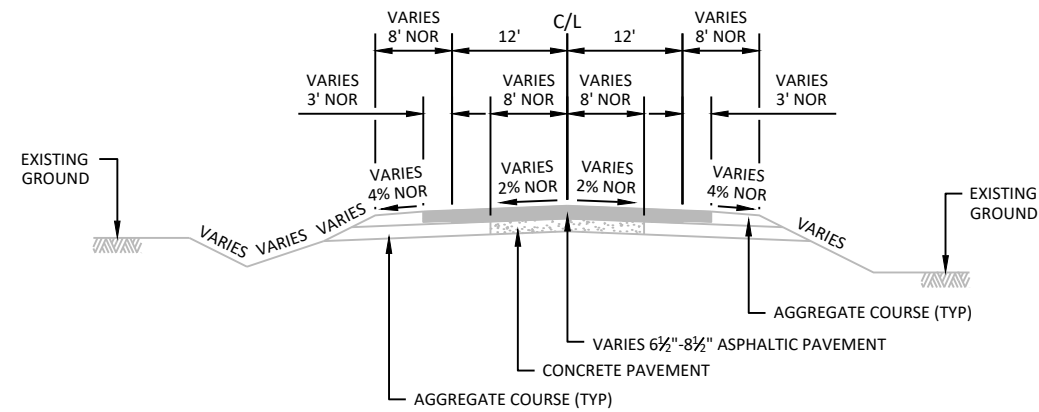
Attachment #5

Typical Sections



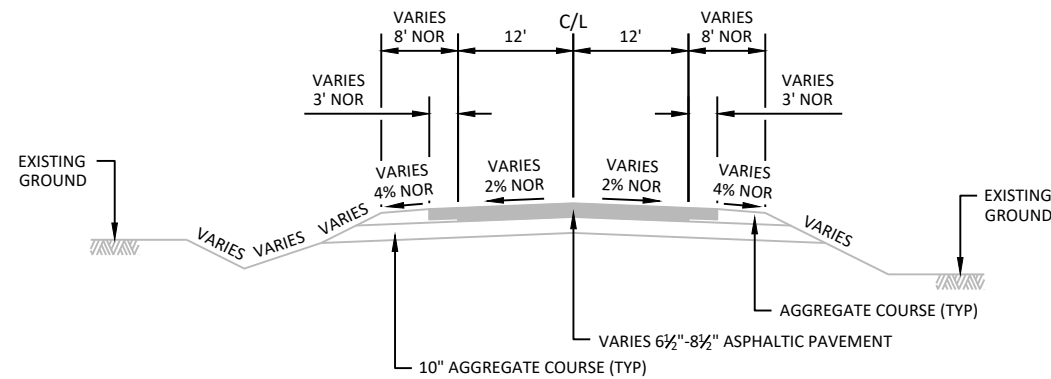
EXISTING TYPICAL SECTION

STH 15
STA 644'EB'+20 TO STA 652'EB'+70



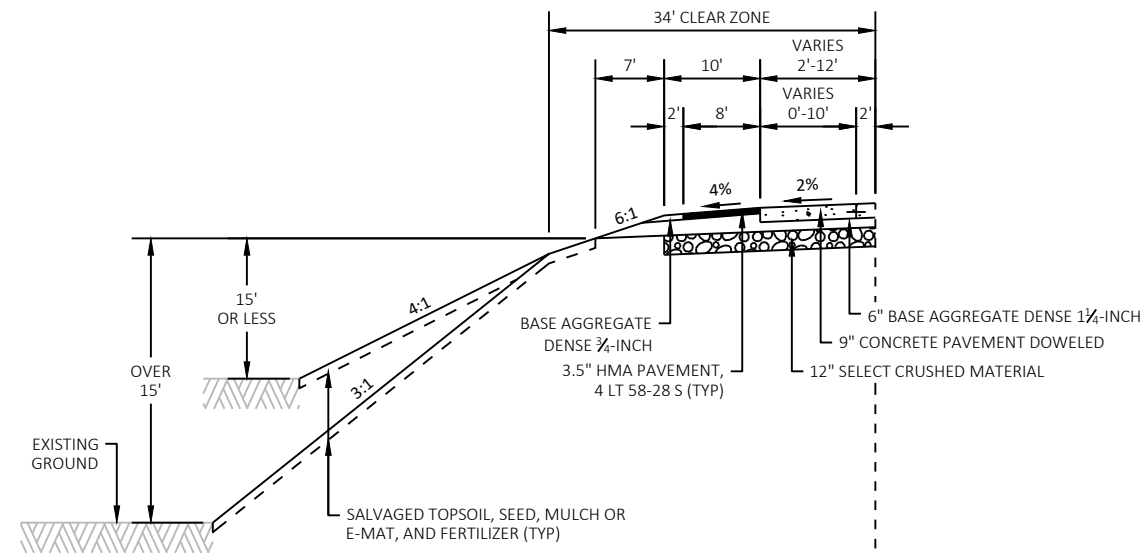
EXISTING TYPICAL SECTION

STH 15
STA 492'EB'+35 TO STA 523'EB'+50
STA 540'EB'+35 TO STA 552'EB'+85
STA 608'EB'+35 TO STA 616'EB'+35

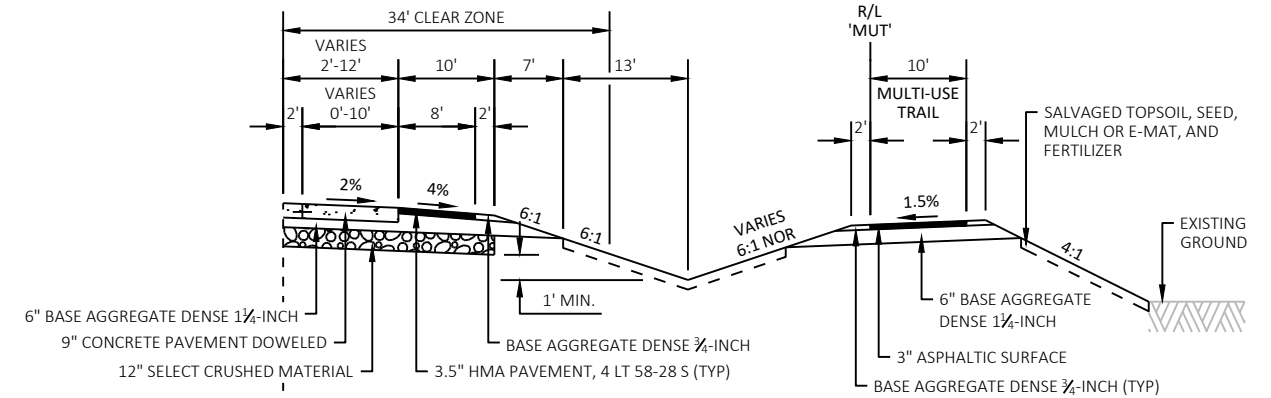


EXISTING TYPICAL SECTION

STH 15
STA 465'EB'+00 TO STA 492'EB'+35
STA 523'EB'+50 TO STA 540'EB'+35
STA 552'EB'+85 TO STA 608'EB'+35
STA 616'EB'+35 TO STA 644'EB'+20
STA 258'MNE'+60 TO STA 298'MNE'+16 (OLD STH 15 EAST ALIGNMENT)

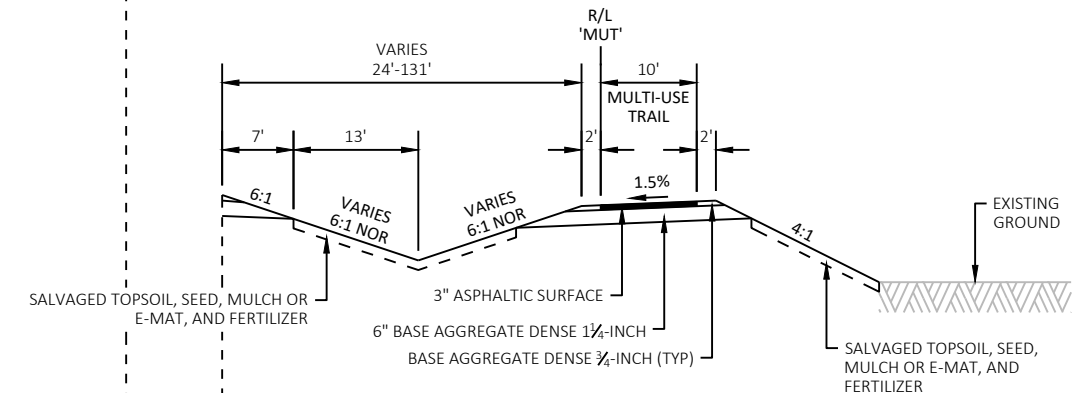


ACCELERATION/ DECELERATION LANE SECTION
STH 15
 STA 500'WB'+62 - STA 522'WB'+31



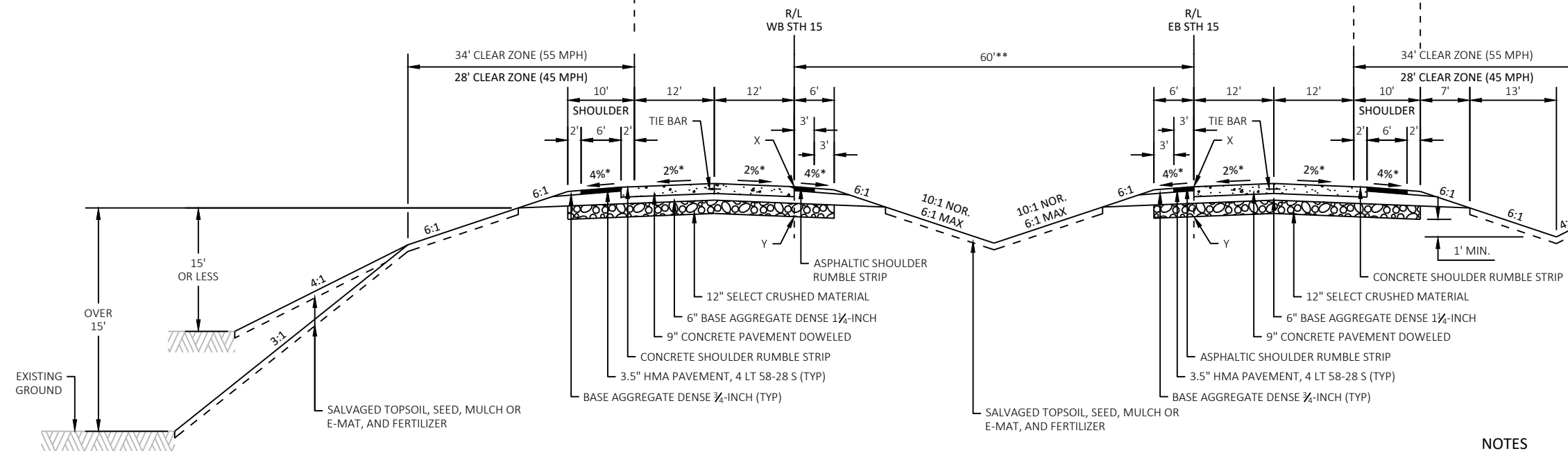
ACCELERATION/ DECELERATION LANE SECTION

STH 15
 STA 507'EB'+26 TO STA 529'EB'+17
 (STA 1015'MUT'+77 TO STA 1038'MUT'+31)



TRAIL SECTION

STH 15
 STA 489'EB'+44 TO STA 507'EB'+26
 (STA 994'MUT'+12 TO STA 1015'MUT'+77)
 STA 529'EB'+17 TO STA 614'EB'+86
 (STA 1038'MUT'+31 TO STA 1124'MUT'+07)



FINISHED TYPICAL SECTION

STH 15
 STA 465'EB'+00 TO STA 477'EB'+47
 STA 489'EB'+44 TO STA 626'EB'+98

NOTES

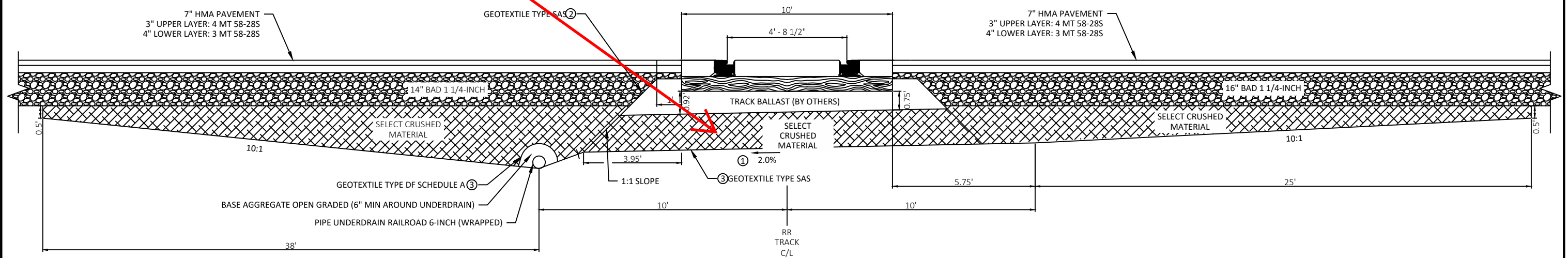
- "X" = POINT REFERENCED TO ON PROFILE (PROFILE GRADE LINE - PGL)
- "Y" = SUBGRADE REFERRED TO ON CROSS SECTIONS
- * CROSS SLOPE VARIES DUE TO SUPERELEVATION (SEE CROSS SECTIONS AND SUPERELEVATION TABLE FOR FURTHER DETAILS)
- ** MEDIAN WIDTH VARIES FROM 60'-32' FROM STA 625'EB'+21 TO STA 633'EB'+14. SEE CONSTRUCTION DETAILS FOR TURN LANES.

Attachment #6

Railroad Crossing Details

We need to EBS down to about 5.5' below the existing road elevation per Niel. Example, RR St. 620+00 should excavate on the high side to about 893.2. The section looks to be wrong and this detail. Please go back and verify this done and show me once confirmed correct.

1. 2% CROSS SLOPE REQUIRED ON THE SELECT CRUSHED MATERIAL. SLOPE IS CONTINUOUS AND DOES NOT CROWN AT THE TRACK CENTERLINE.
2. GEOTEXTILE TYPE SAS PLACED IN ORDER TO PROVIDE SEPARATION BETWEEN ROADWAY BASE COURSE AND TRACK BALLAST.
3. GEOTEXTILE TYPE SAS PLACED TO PROVIDE SEPARATION UNDER THE UNDERDRAIN. GEOTEXTILE TYPE DF SCHEDULE A AND BASE AGGREGATE OPEN GRADED PLACED TO PROVIDE 6 INCHES OF SEPARATION BETWEEN TOP OF UNDERDRAIN AND SELECT CRUSHED MATERIAL.



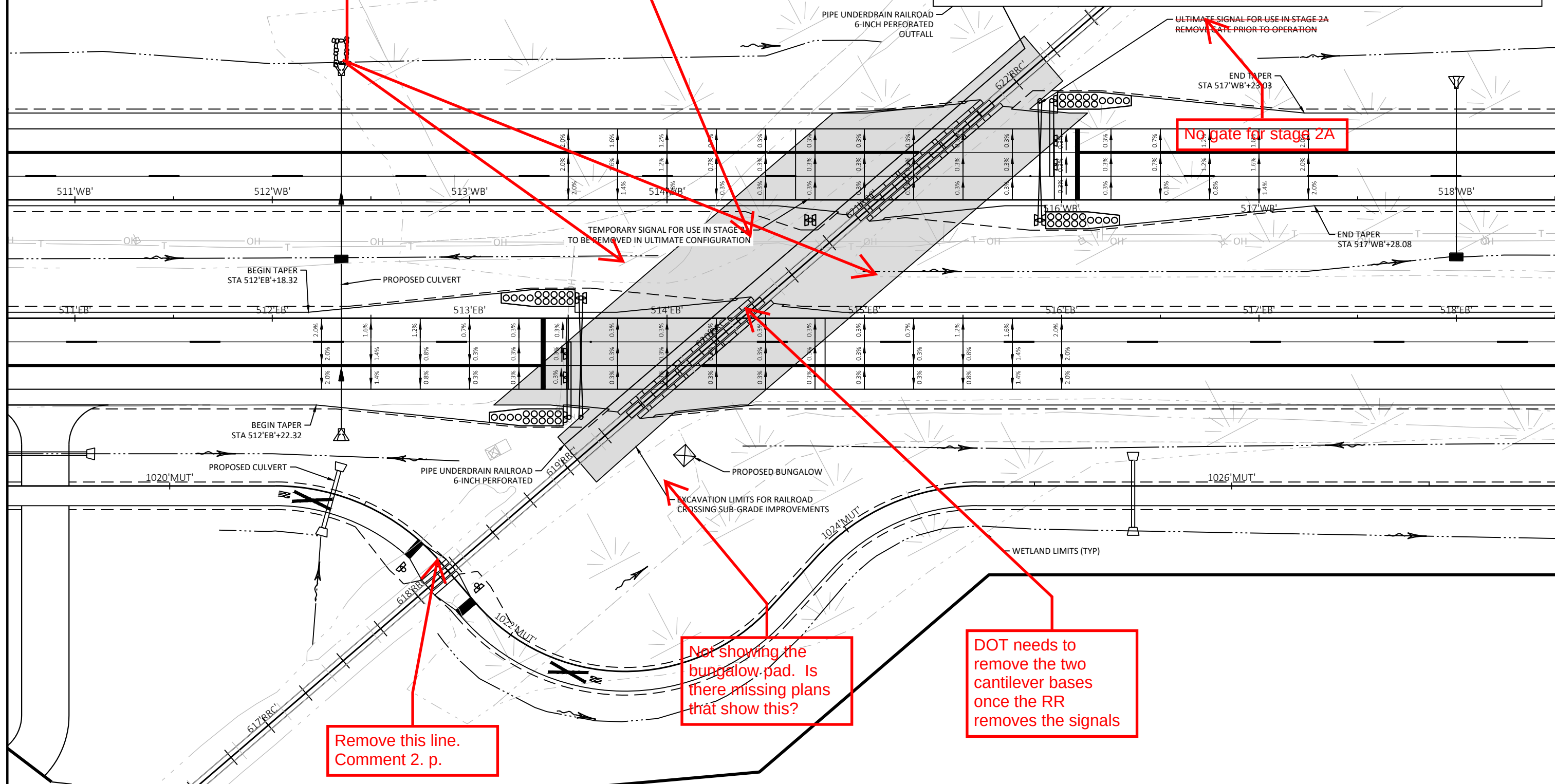
TYPICAL CROSS SECTION - RAILROAD CROSSING DETAIL

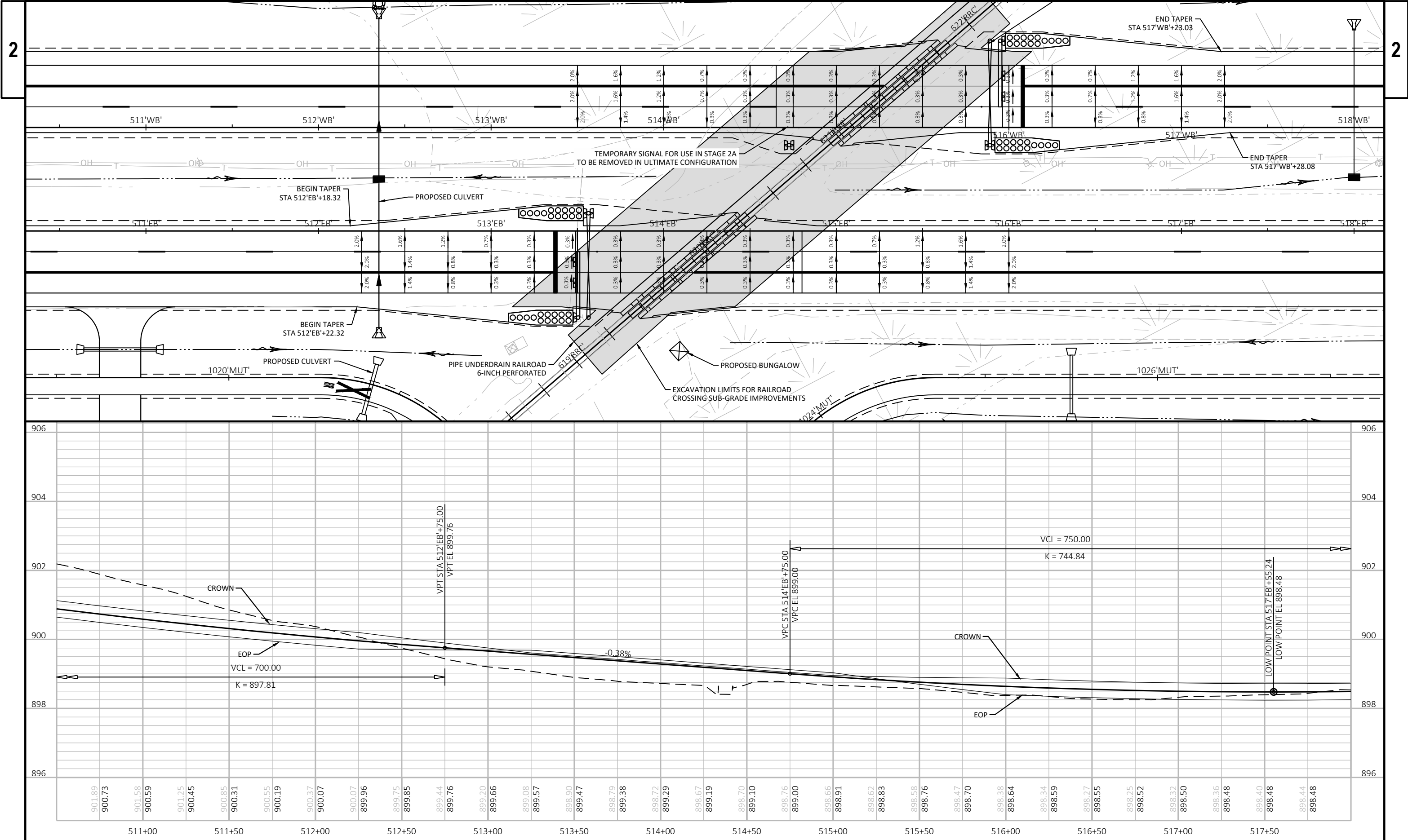
Comment 5.e. Cross Section doesn't show median ditch. Are we doing as I asked? Show me.

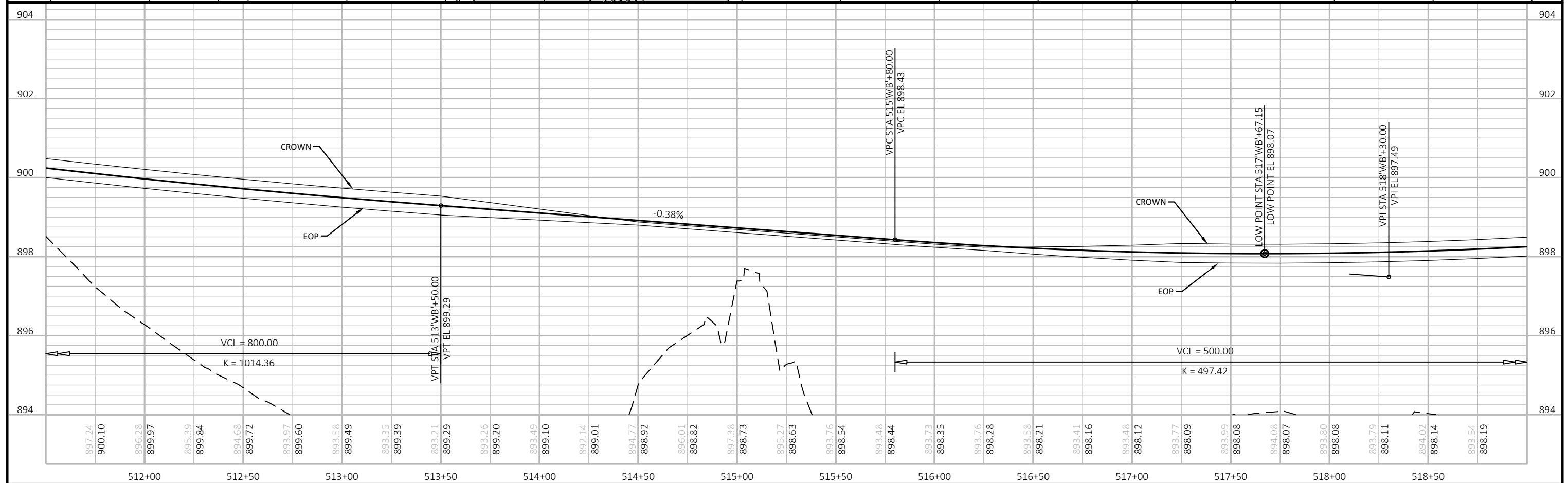
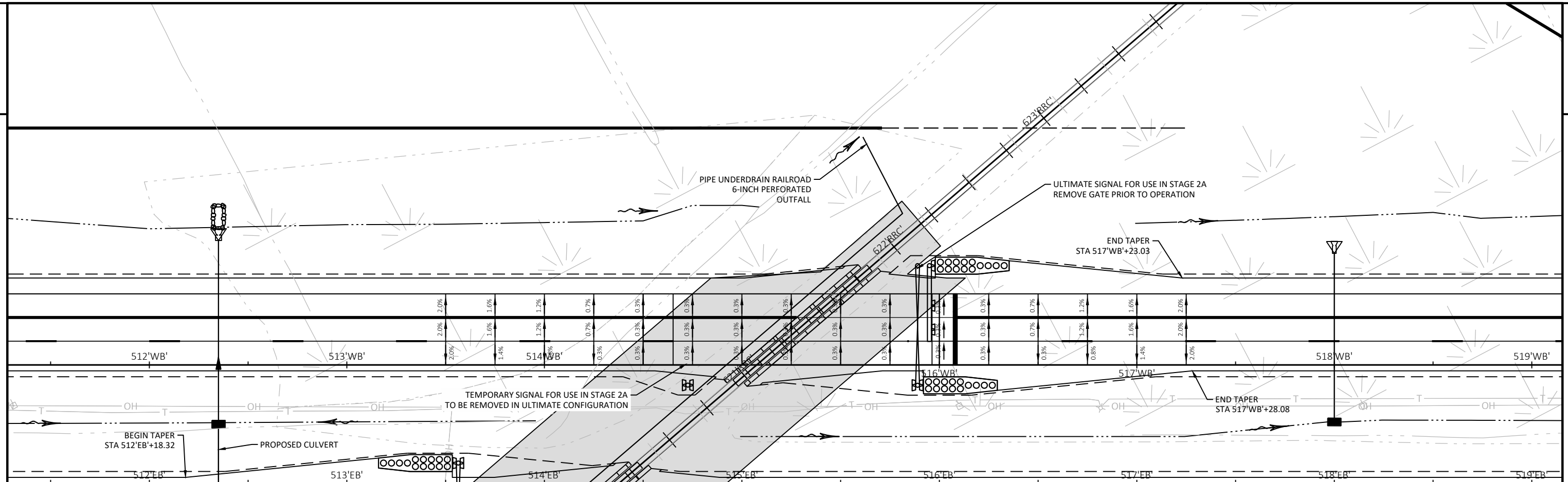
Point note at the signal

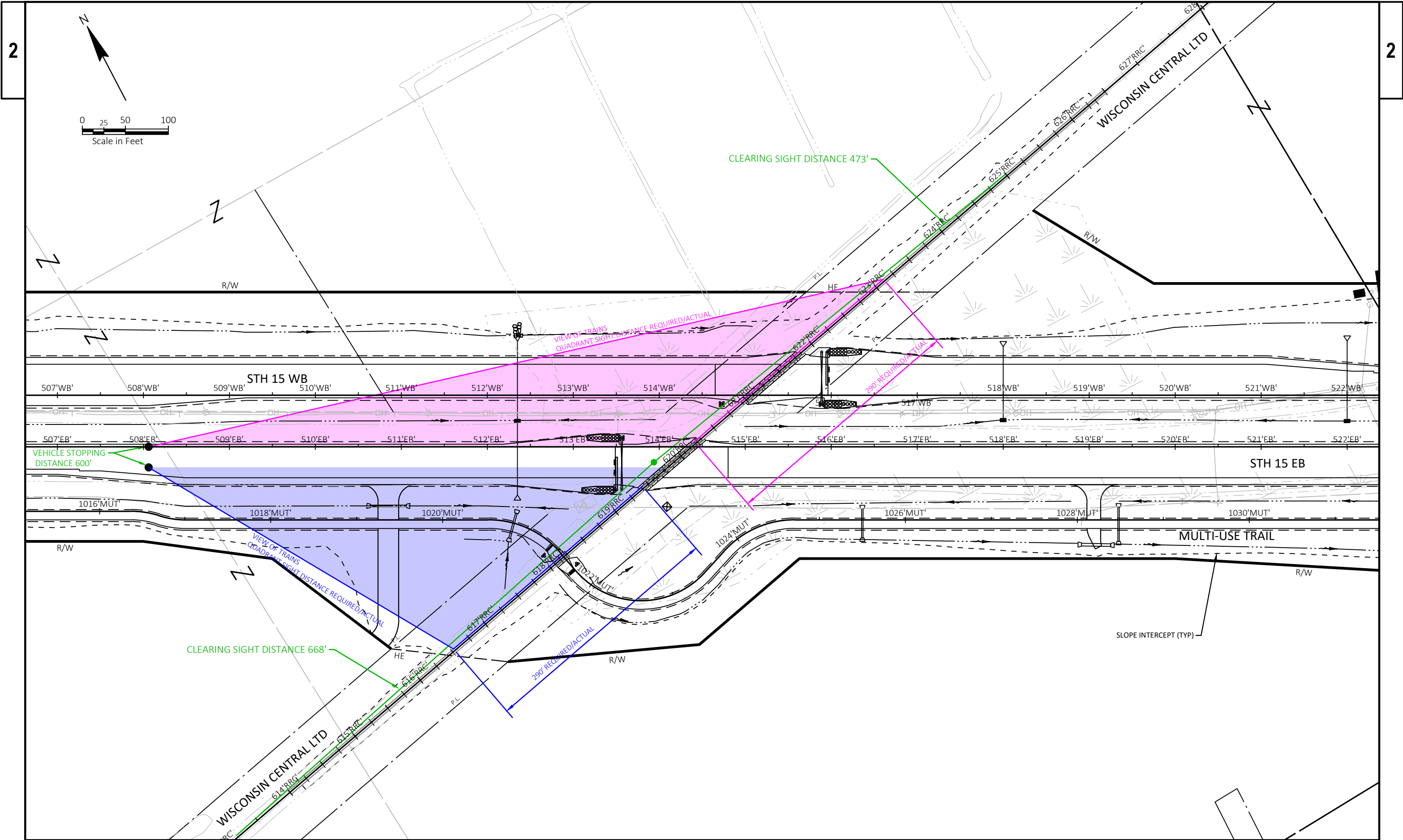
Comment from 9/16/19 email word document:

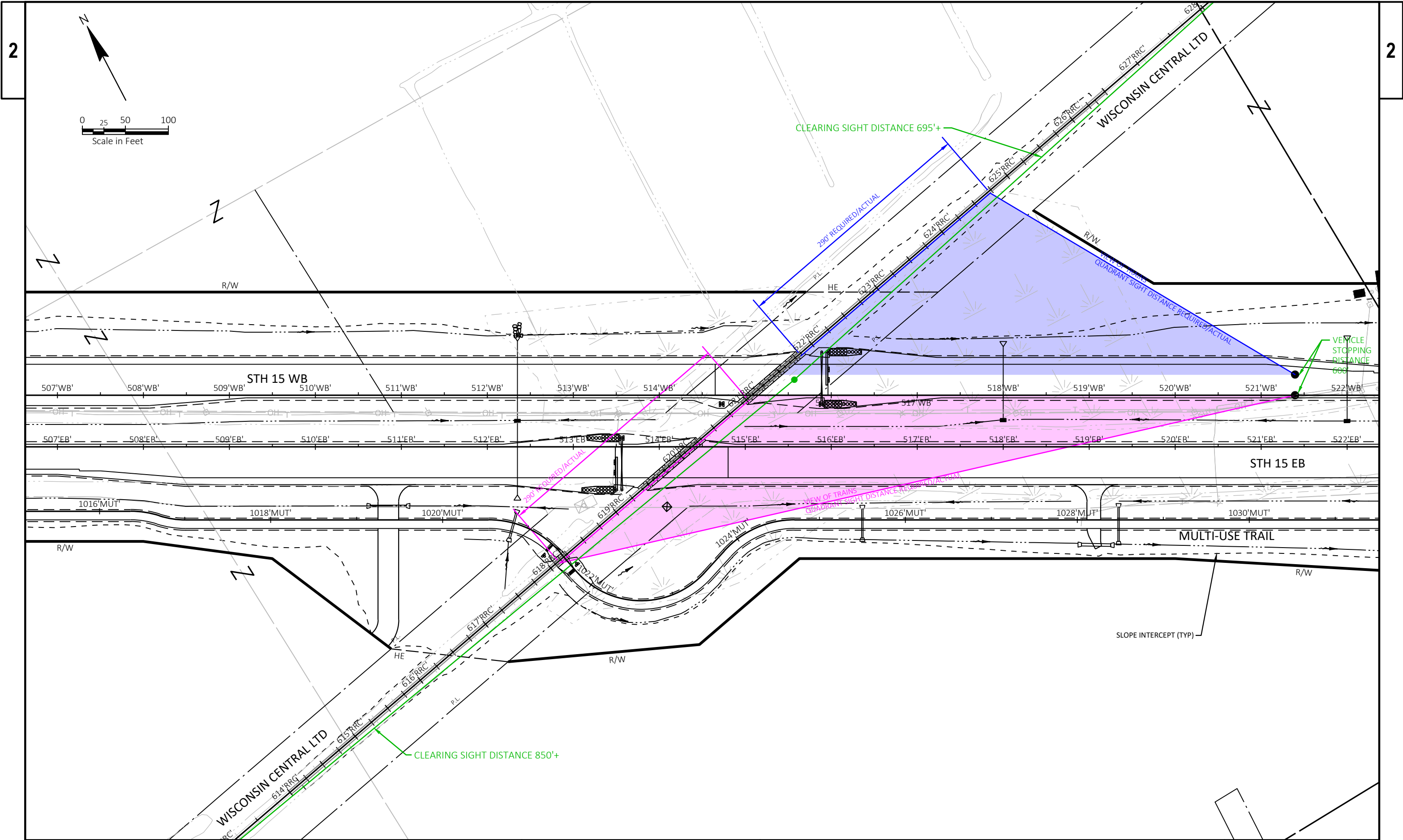
1. Do 2. a. & d. & e. & g.
2. Do 2. h. last sentence note.
3. Do 2. l. & o. & p.
4. Do we have plans that show 3. ?
5. Do 5. a. & b. & c. & d. & e. & h. Put underdrain as deep as we can once the RR ditch is graded to the other ditch in the NW quad. Show me plans.
6. I know we talked about 5. f. but I can't find anything in the plans to confirm. Please show me.
7. Do 5.g. i. - v. Show me.

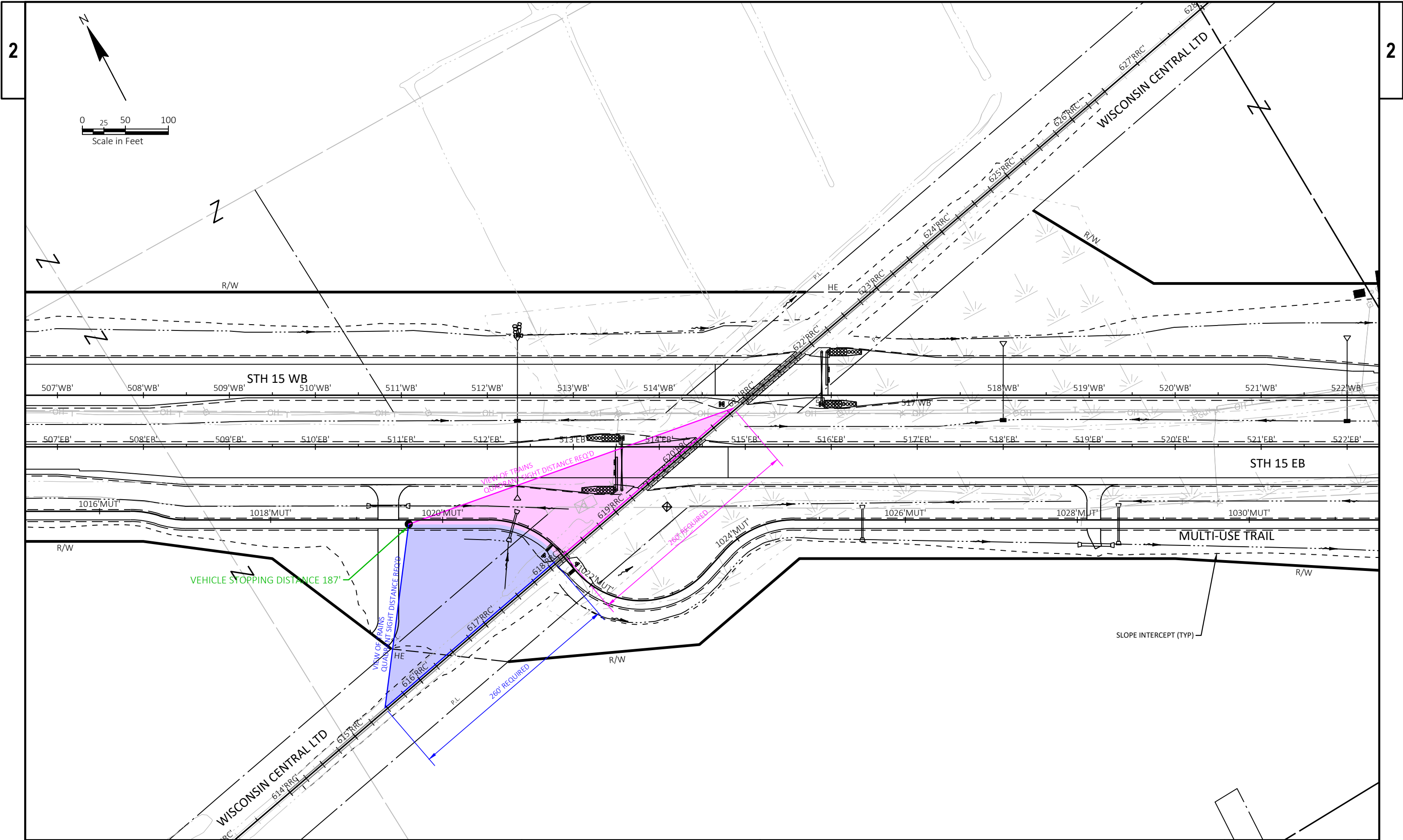




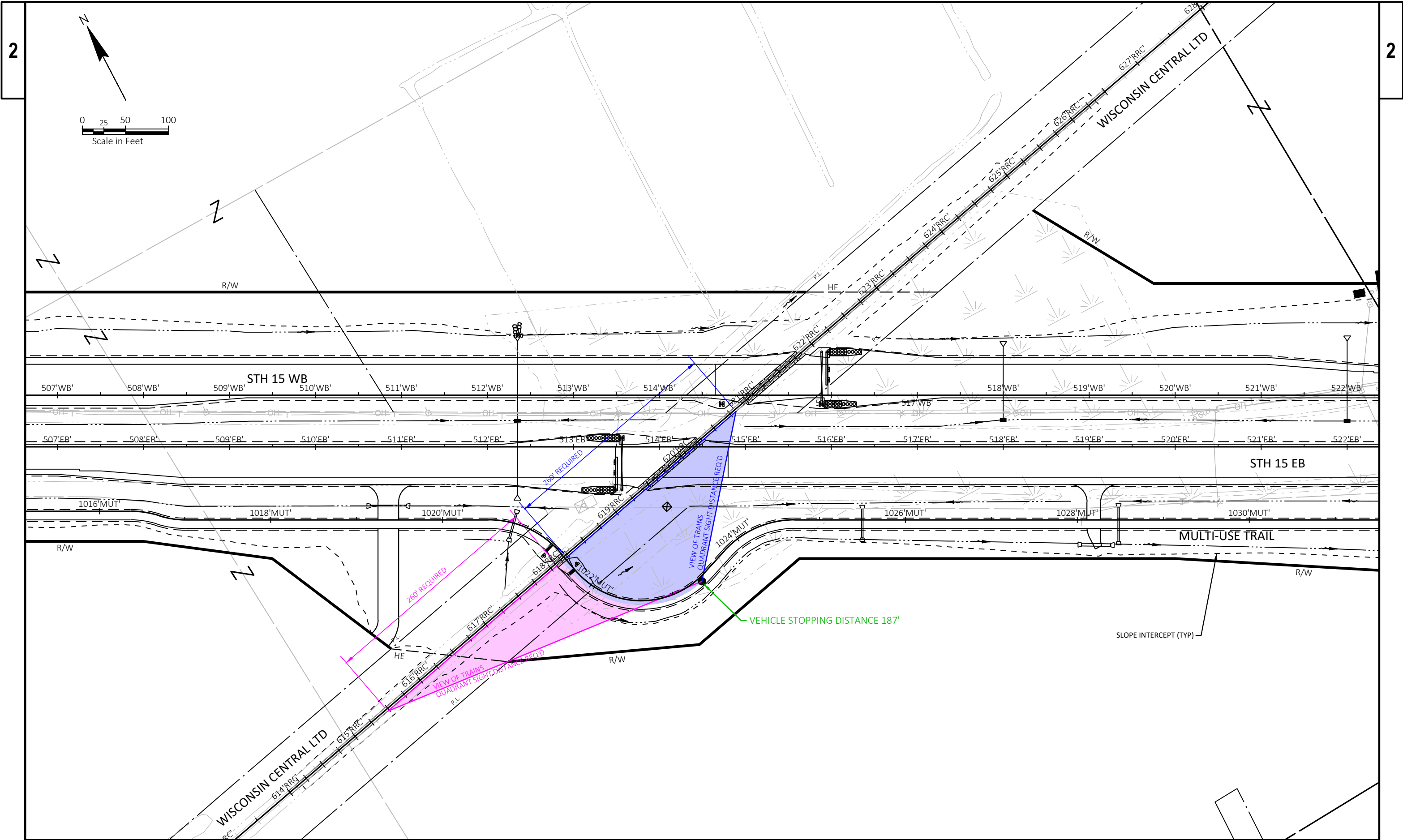








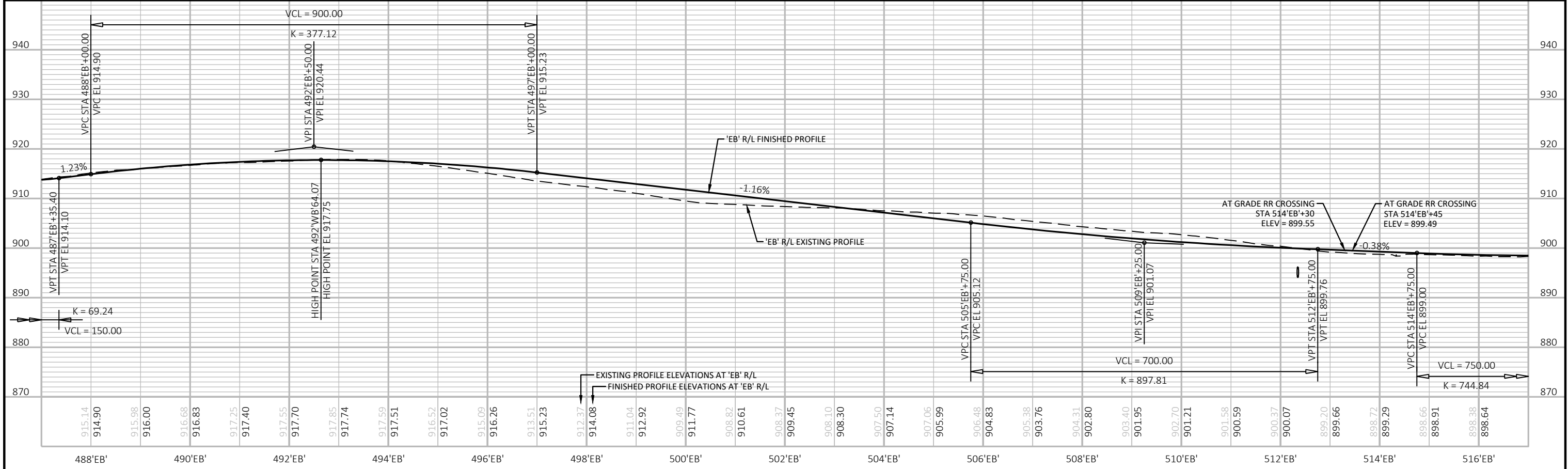
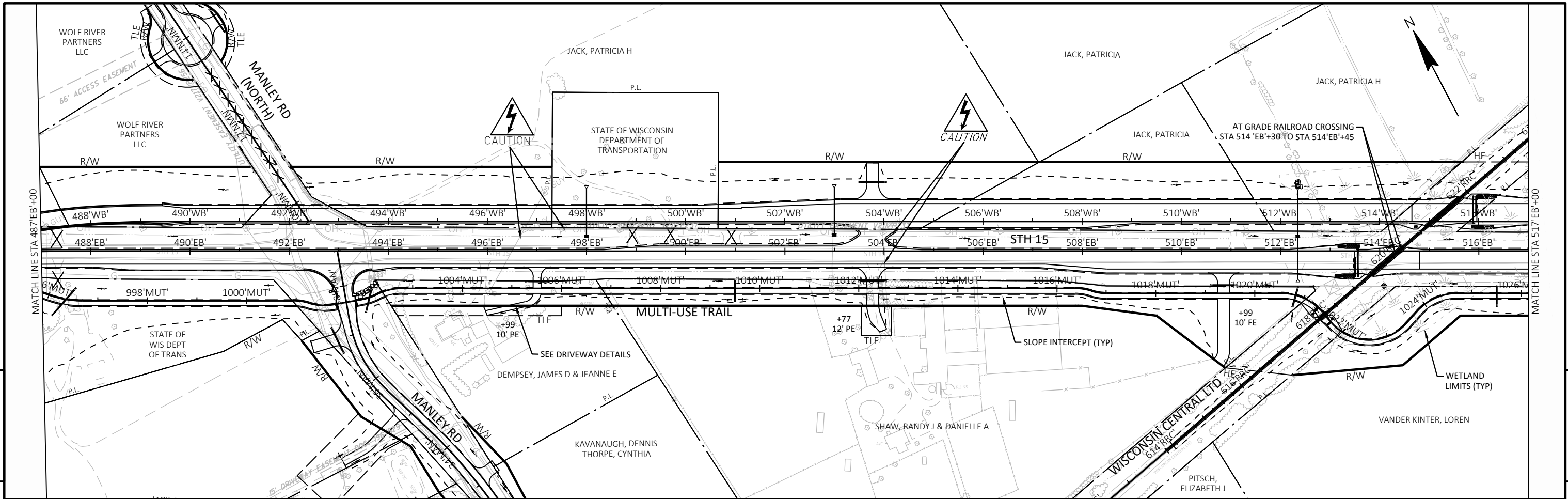
PROJECT NO: 1146-75-72	HWY: STH 15	COUNTY: OUTAGAMIE	MULTI-USE TRAIL PROPOSED EB APPROACH	SHEET	E
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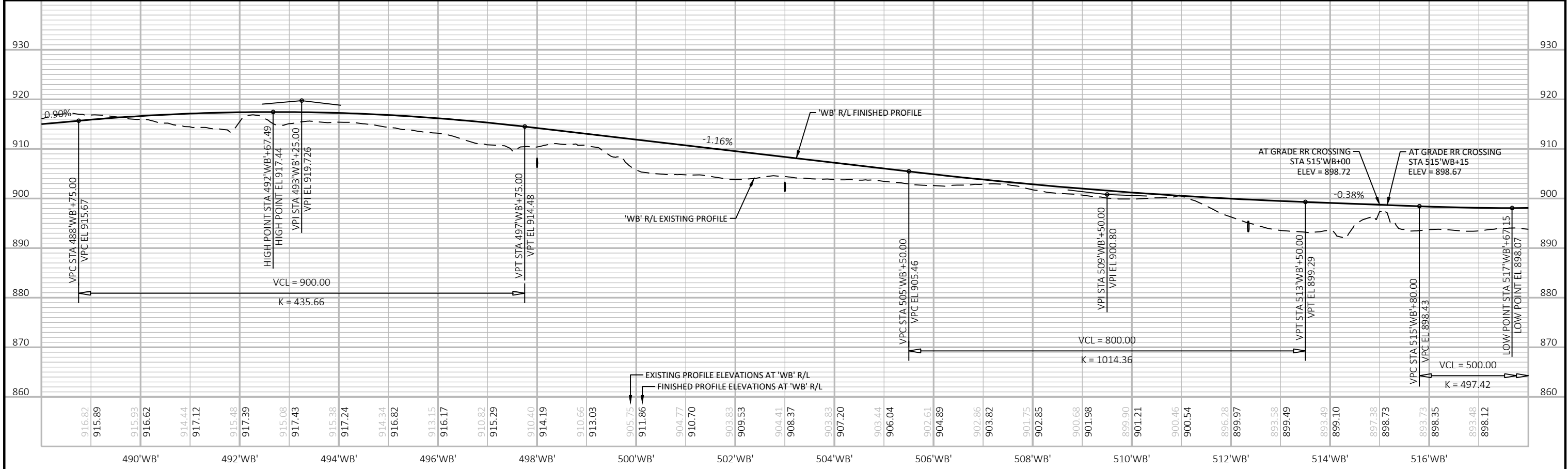
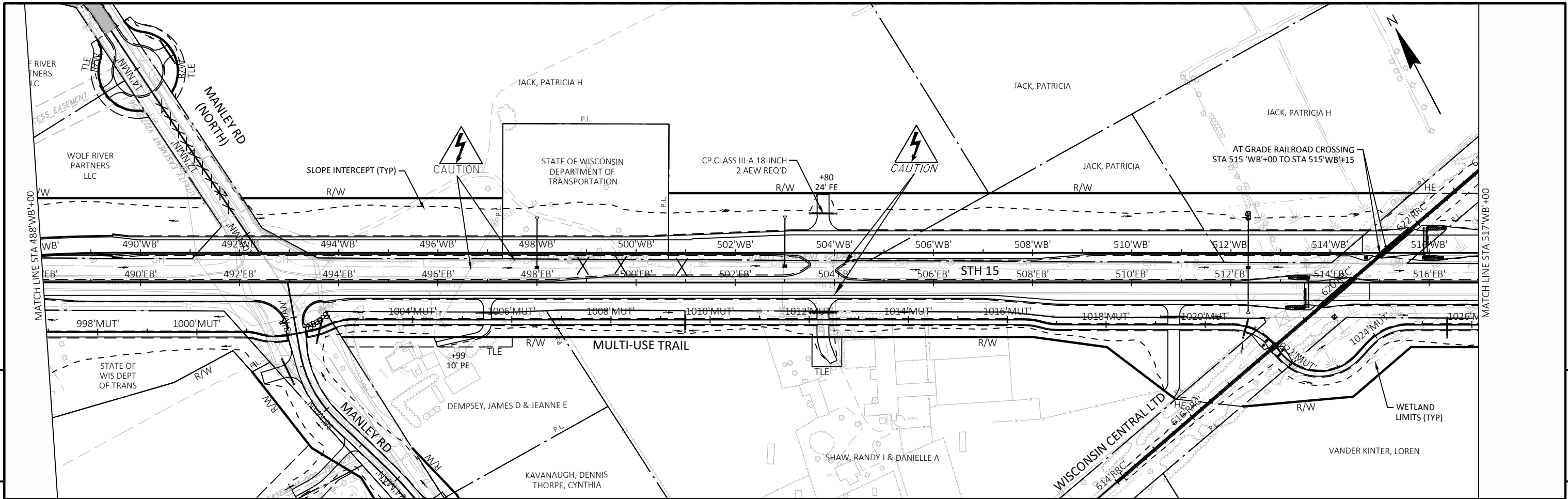
PROJECT NO: 1146-75-72	HWY: STH 15	COUNTY: OUTAGAMIE	MULTI-USE TRAIL PROPOSED WB APPROACH	SHEET	E
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Attachment #7

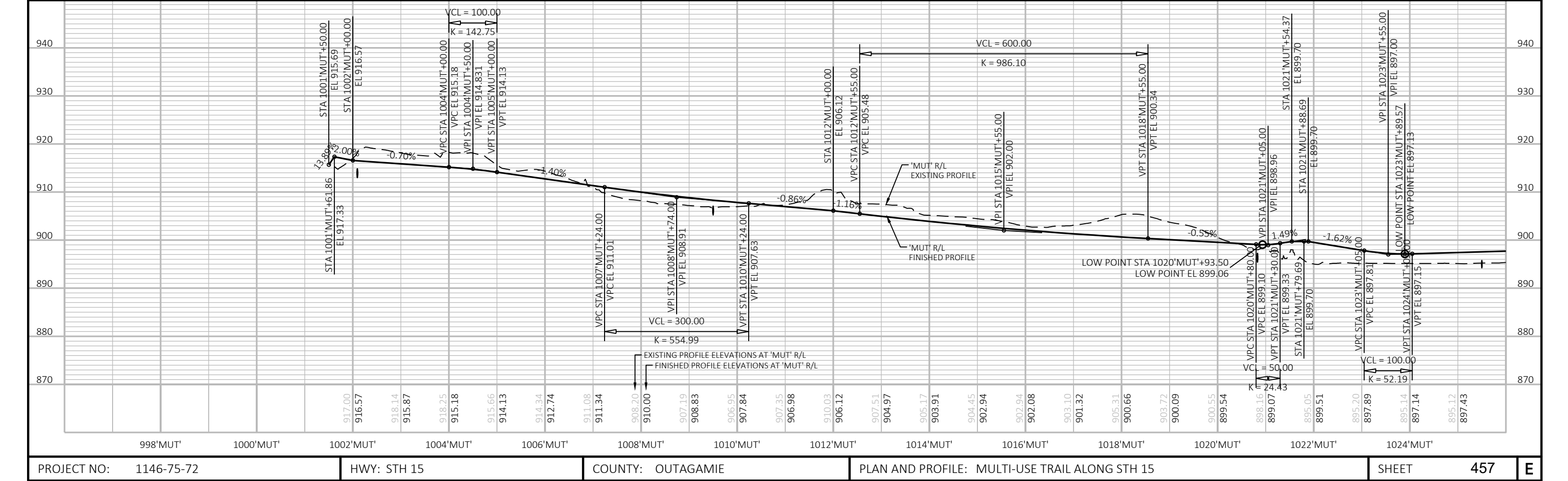
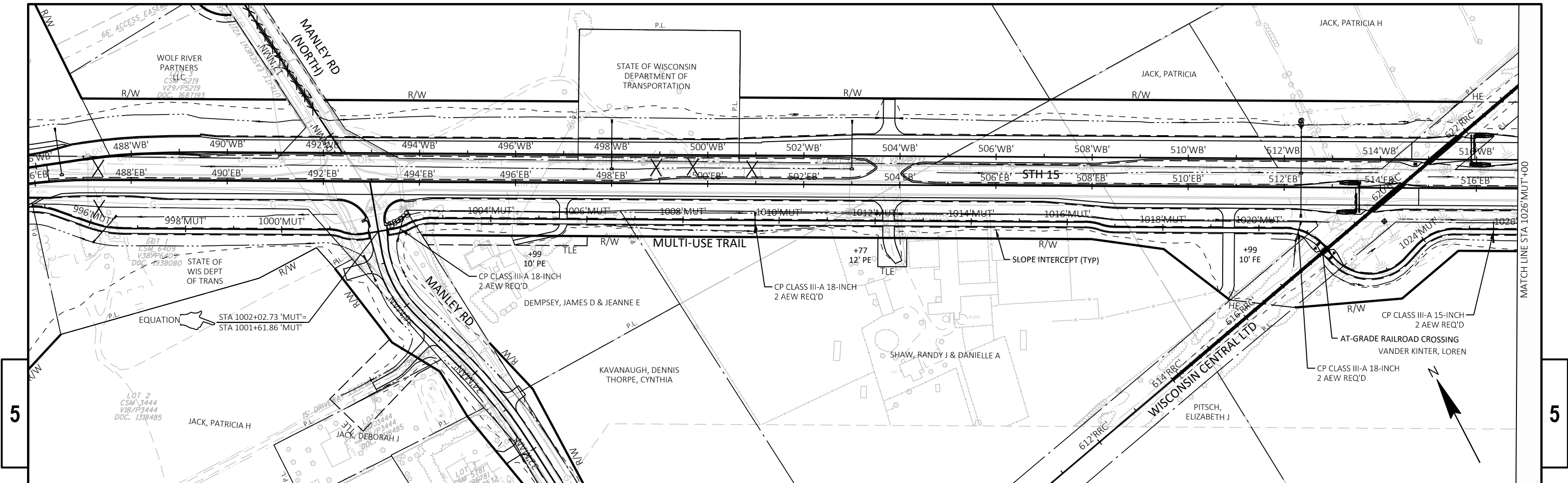
Plan & Profile Sheets

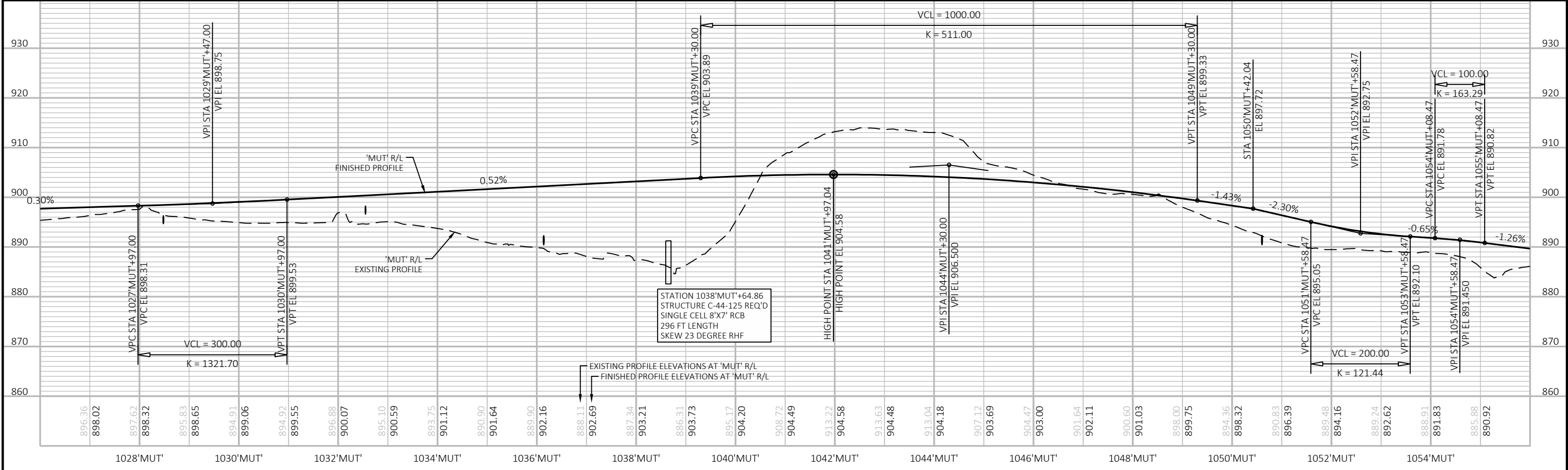
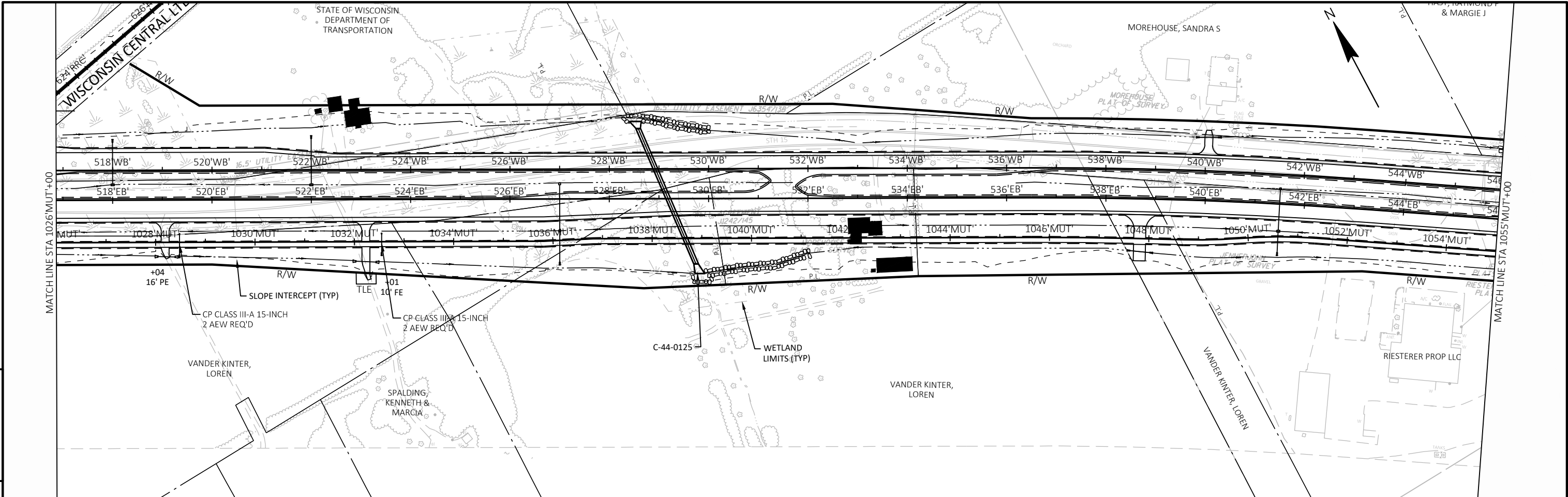


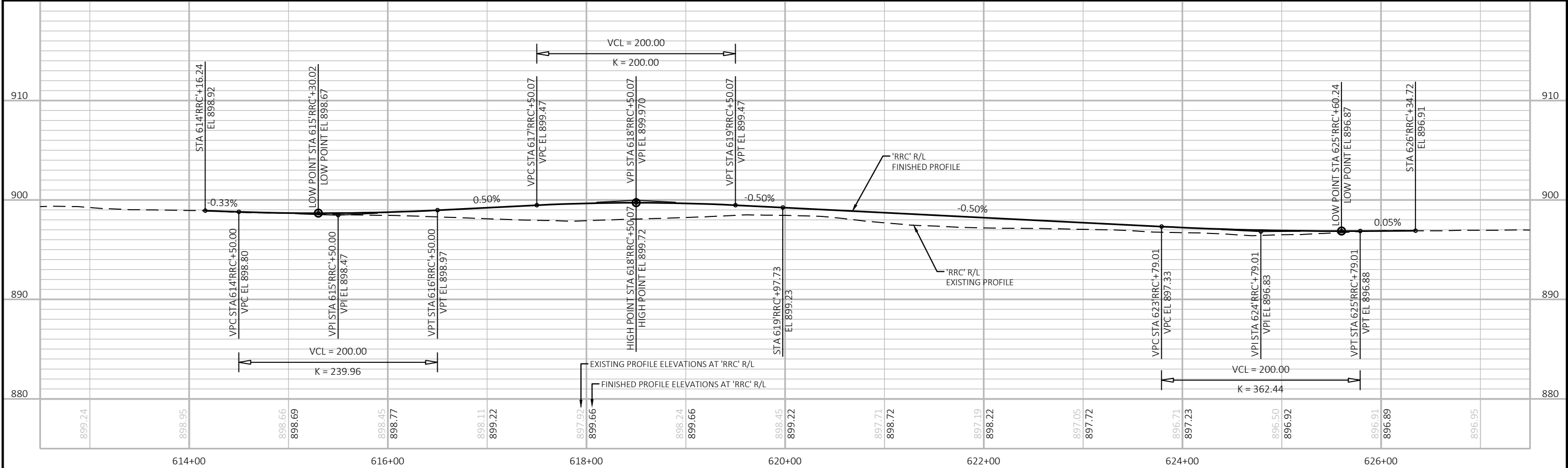
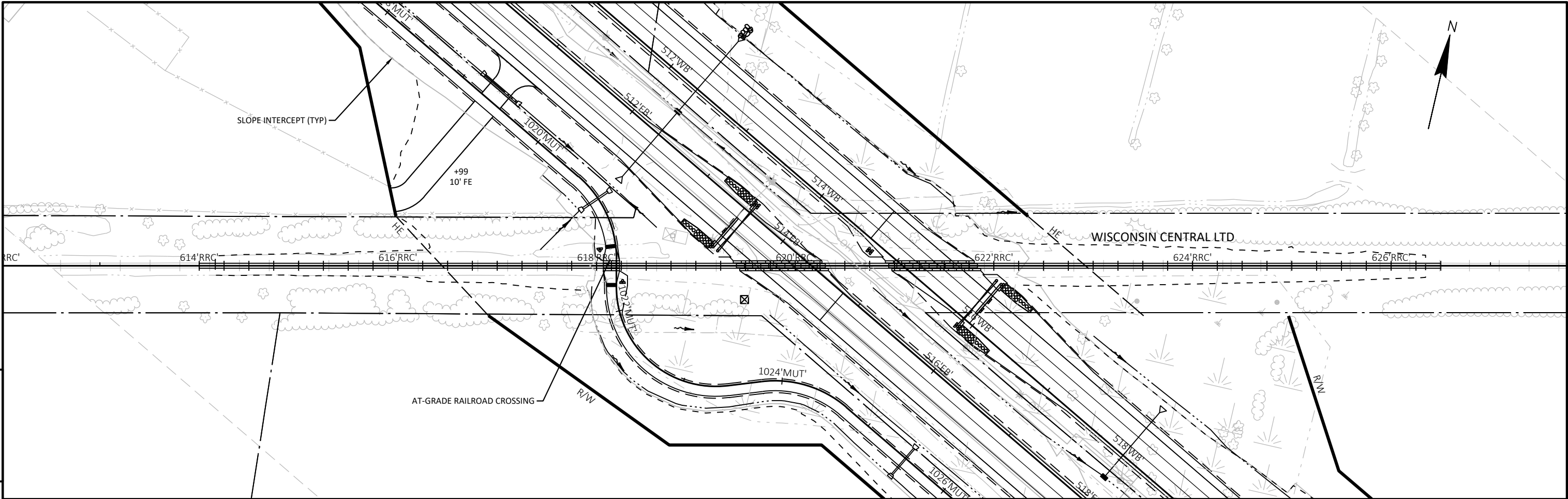
PROJECT NO: 1146-75-72	HWY: STH 15	COUNTY: OUTAGAMIE	PLAN AND PROFILE: STH 15 EB	SHEET 429	E
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PROJECT NO:	1146-75-72	HWY: STH 15	COUNTY: OUTAGAMIE	PLAN AND PROFILE: STH 15 WB	SHEET	436	E
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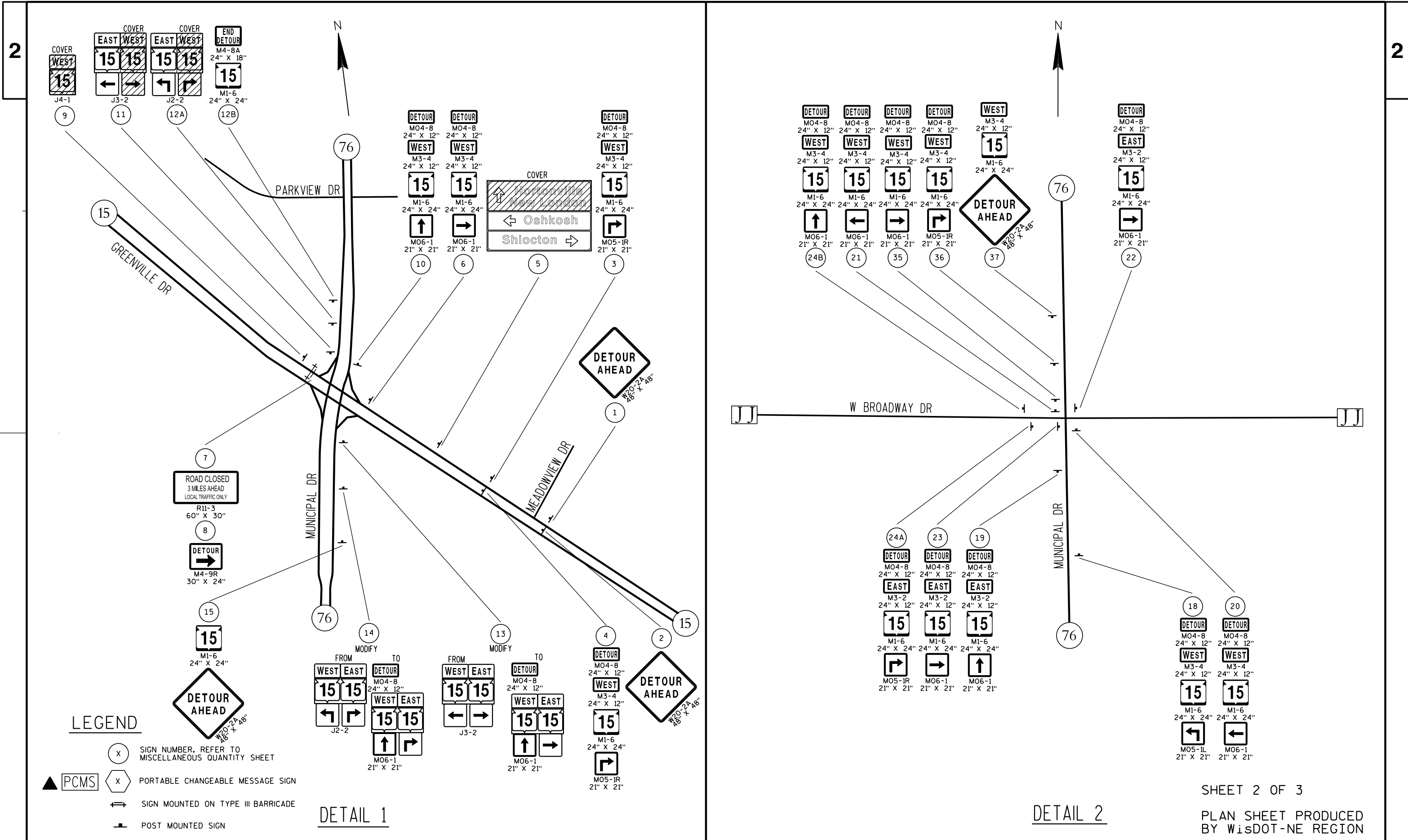


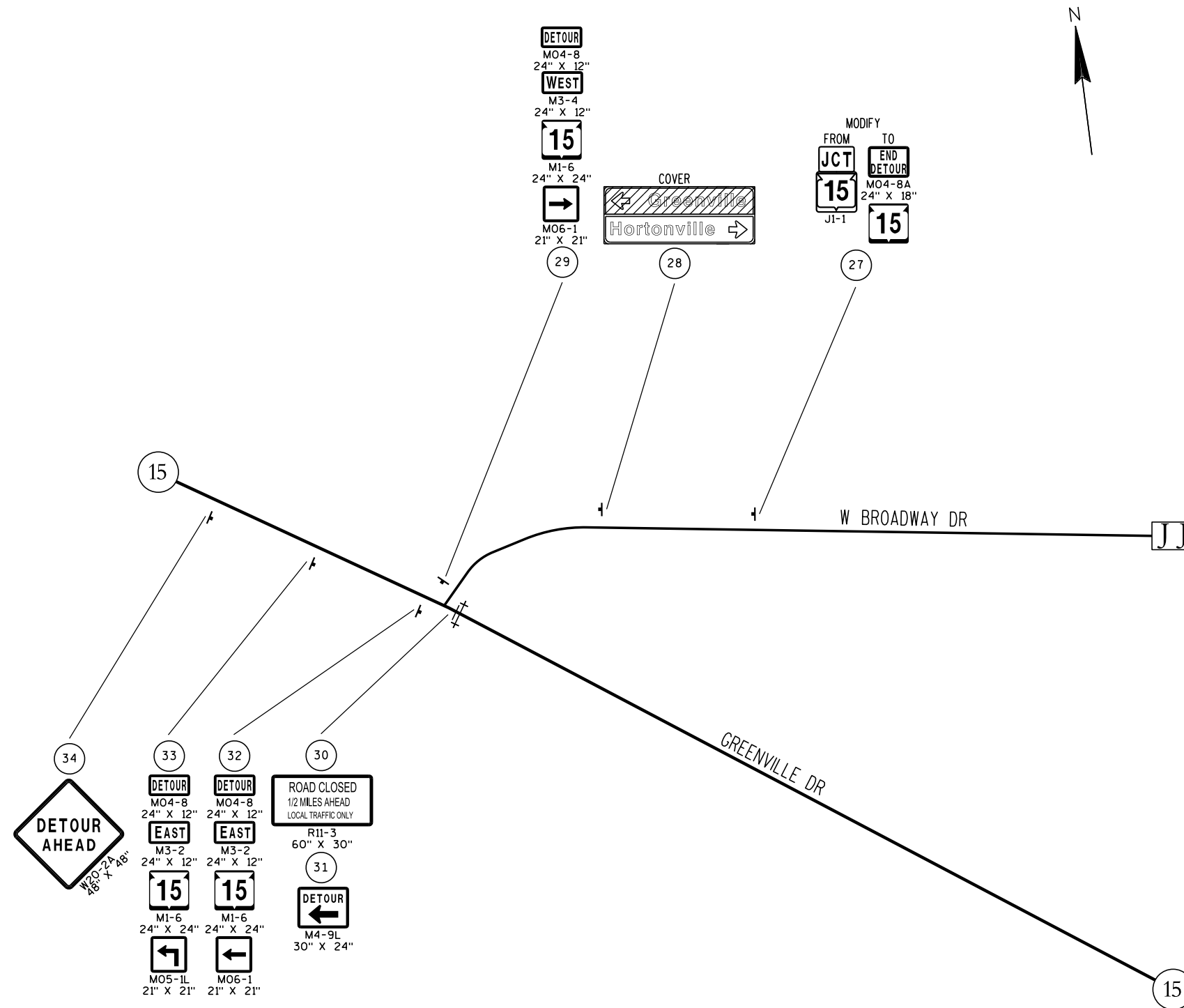
Attachment #8

Detour Plan Sheets



- SHEET 1 OF 3
- PLAN SHEET PRODUCED
BY WisDOT-NE REGION





LEGEND

- (X) SIGN NUMBER, REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

DETAIL 3

SHEET 3 OF 3

PLAN SHEET PRODUCED
BY WISDOT-NE REGION

PROJECT NO:1146-75-72

HWY: STH 15

COUNTY: OUTAGAMIE

DETOUR SIGNING DETAIL

SHEET 302

E

Attachment #9

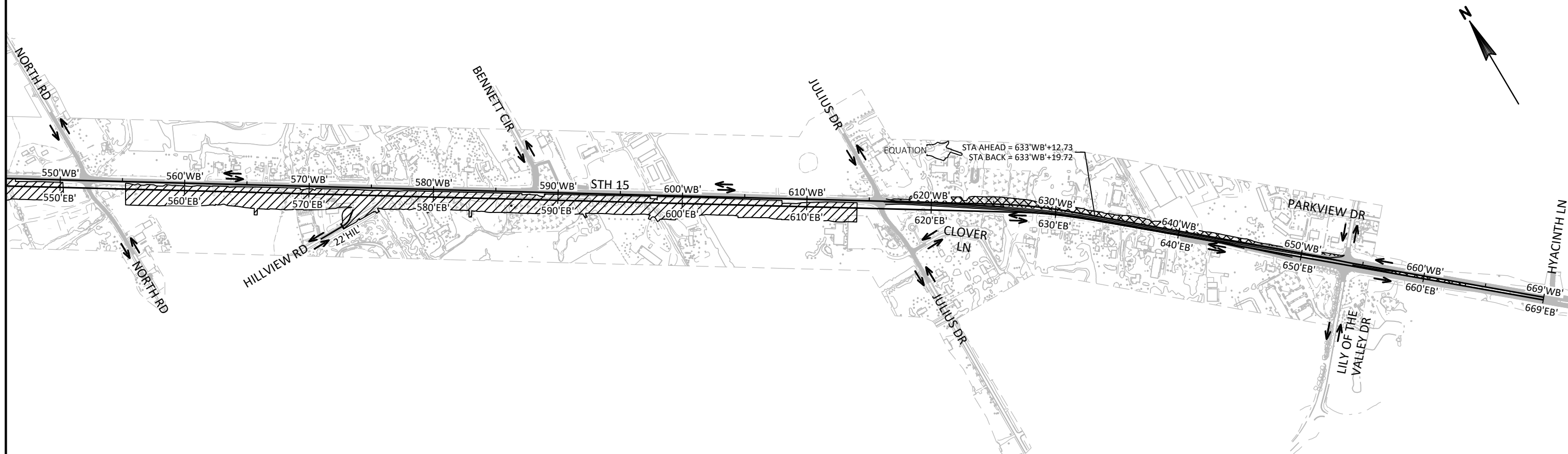
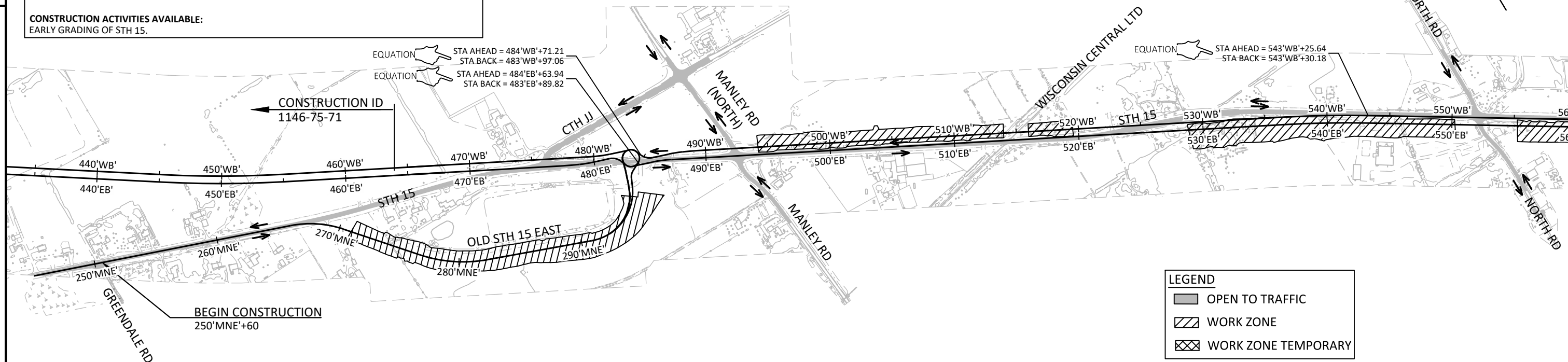
Staging Plan Sheets

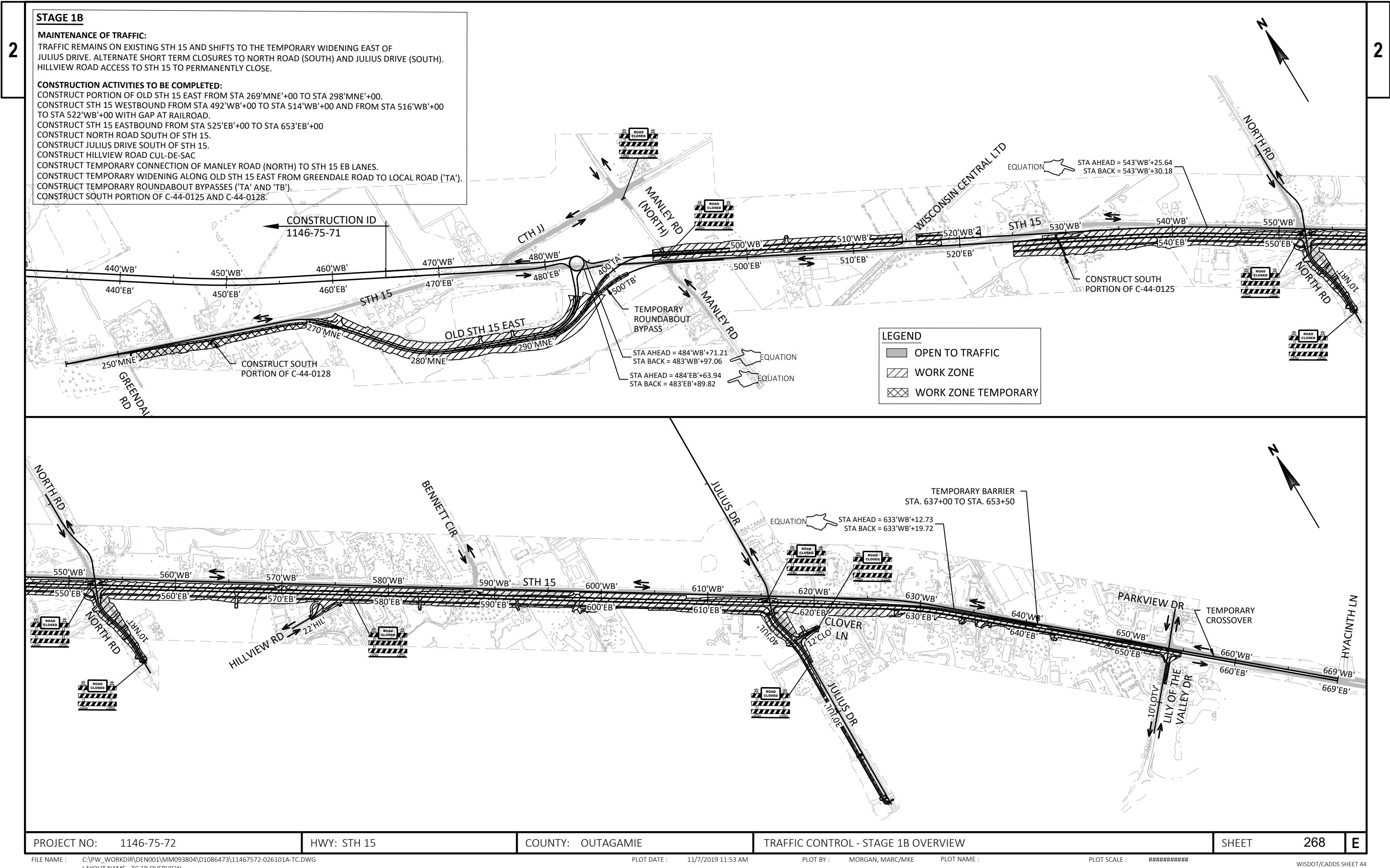
STAGE 1A

MAINTENANCE OF TRAFFIC:
TRAFFIC REMAINS ON EXISTING STH 15.

CONSTRUCTION ACTIVITIES TO BE COMPLETED:
TEMPORARY WIDENING 'TW' ON STH 15 WESTBOUND FROM JULIUS DRIVE TO HYACINTH LANE.
TEMPORARY CROSSOVER IN THE MEDIAN EAST OF LILY OF THE VALLEY DRIVE.

CONSTRUCTION ACTIVITIES AVAILABLE:
EARLY GRADING OF STH 15.





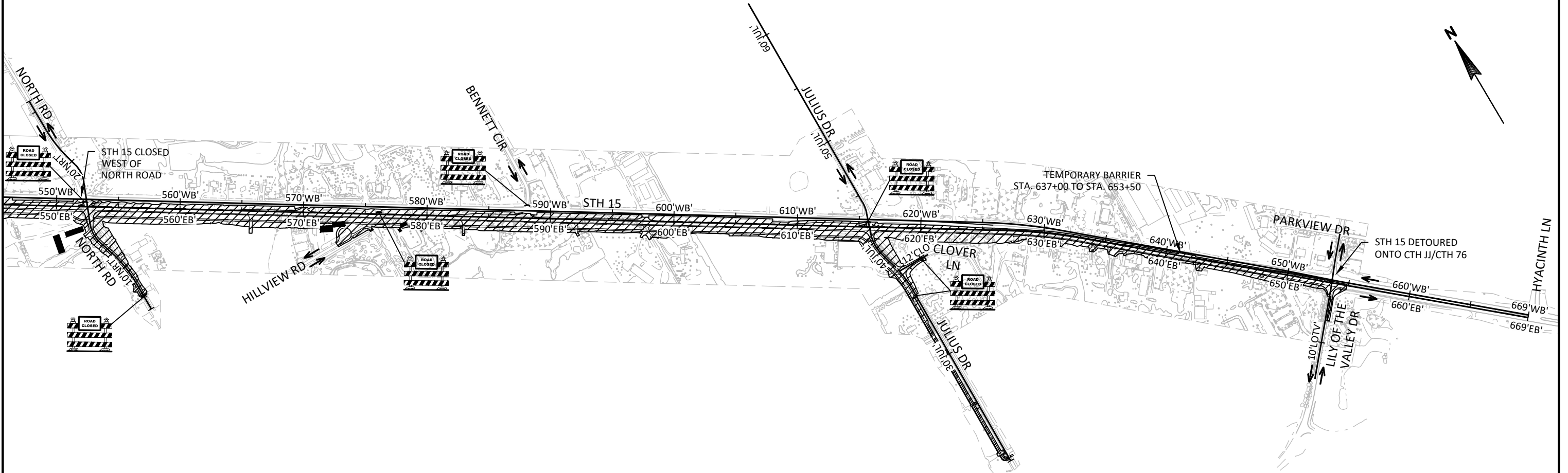
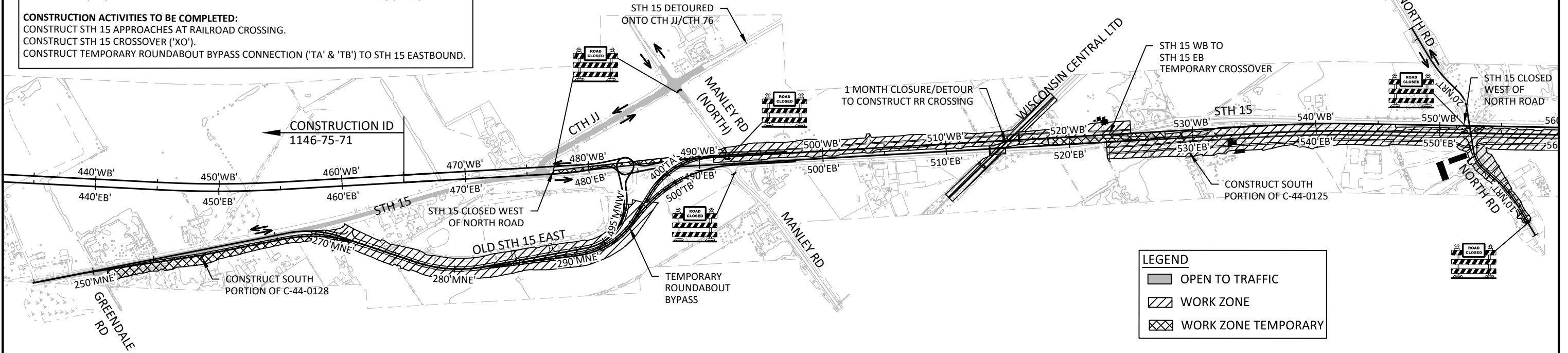
STAGE 1C

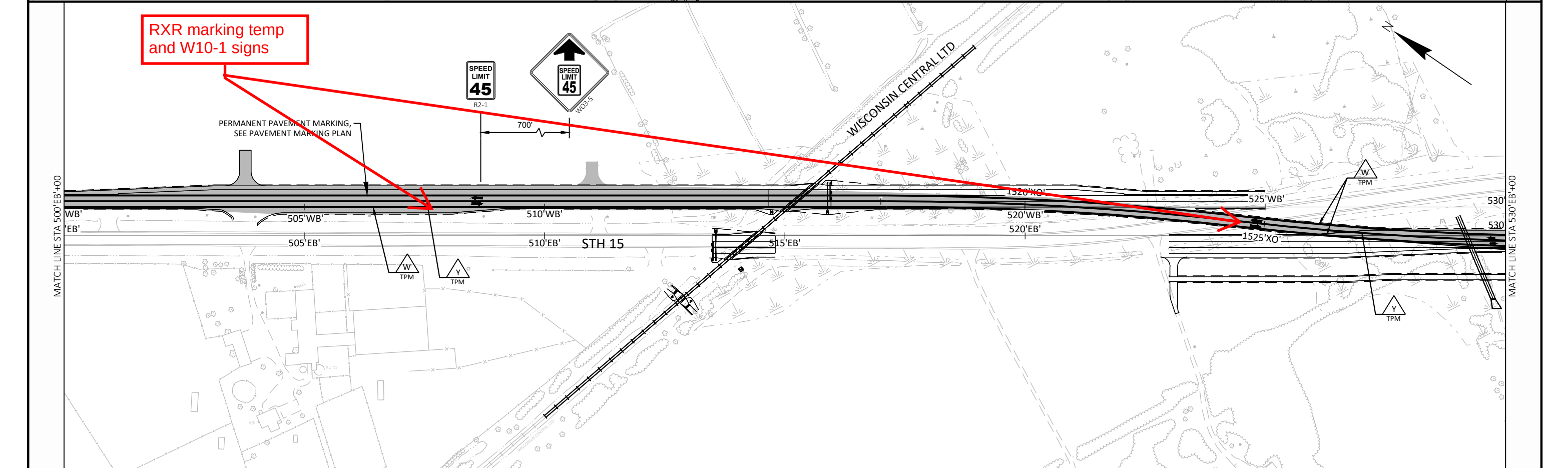
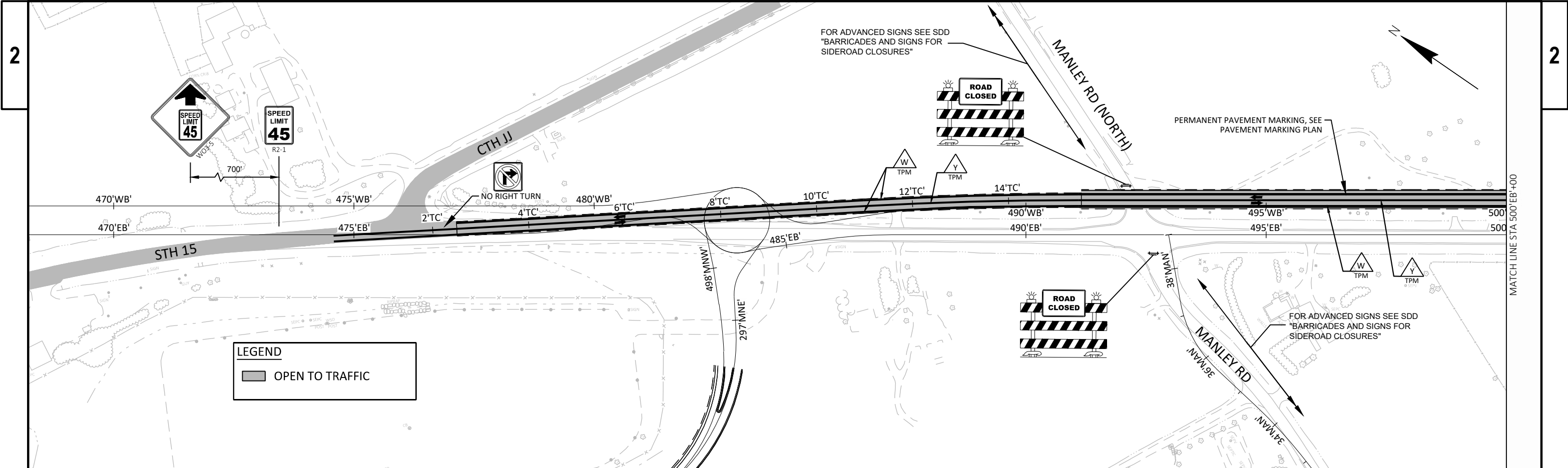
MAINTENANCE OF TRAFFIC:

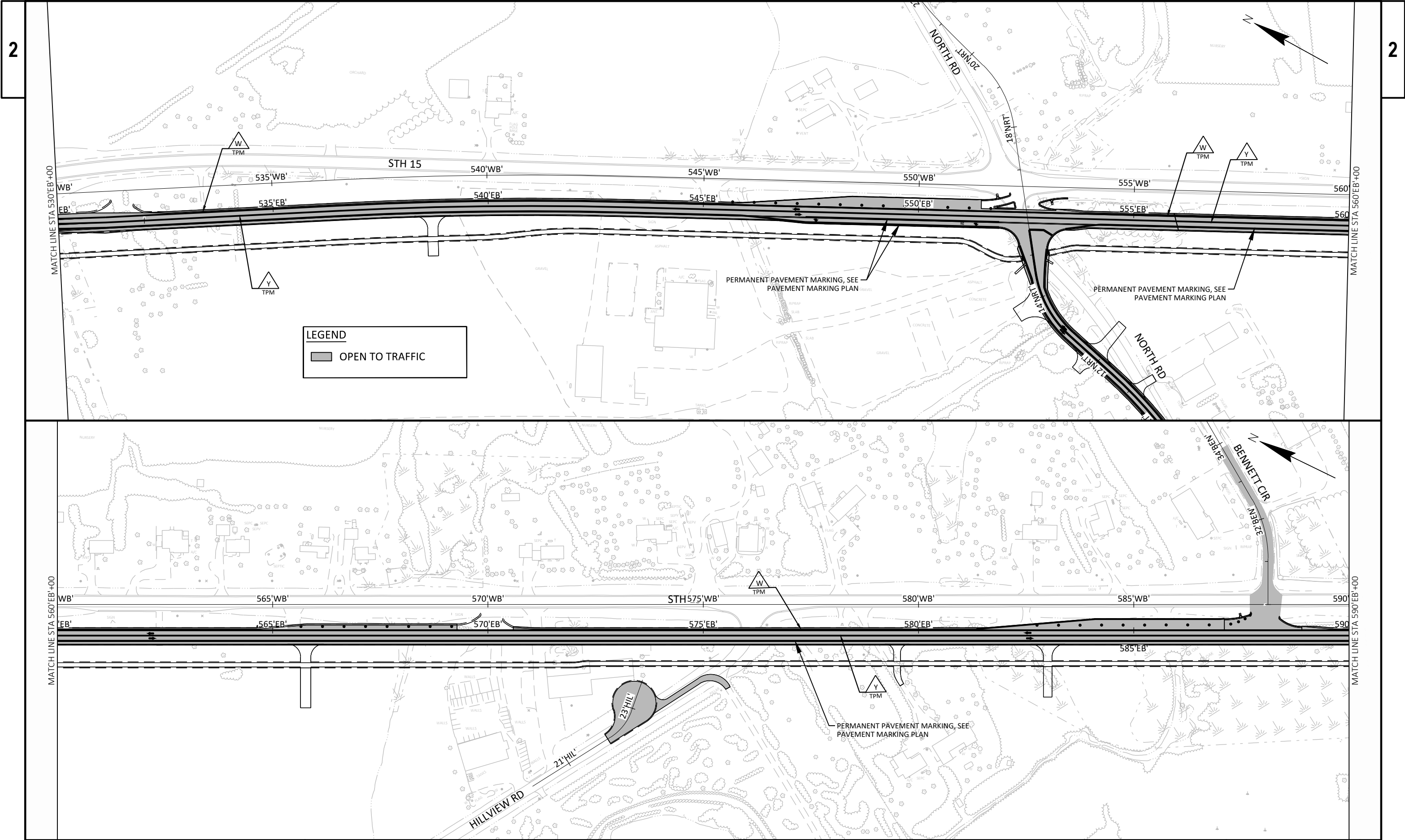
STH 15 CLOSED FROM CTH JJ TO NORTH ROAD. DETOUR WILL BE IN PLACE. PRIOR TO WINTER SHUTDOWN, TRAFFIC WILL BE SHIFTED TO NEWLY CONSTRUCTED STH 15 LANES, 1 LANE IN EACH DIRECTION, AND UTILIZE THE TEMPORARY CONNECTION ('XO') AT STA 525'EB'+00. IN ADDITION, AN INTERIM TEMPORARY CONNECTION ('TC') CAN BE UTILIZED AT STA 485'EB'+00 TO CONNECT TO EXISTING STH 15.

CONSTRUCTION ACTIVITIES TO BE COMPLETED:

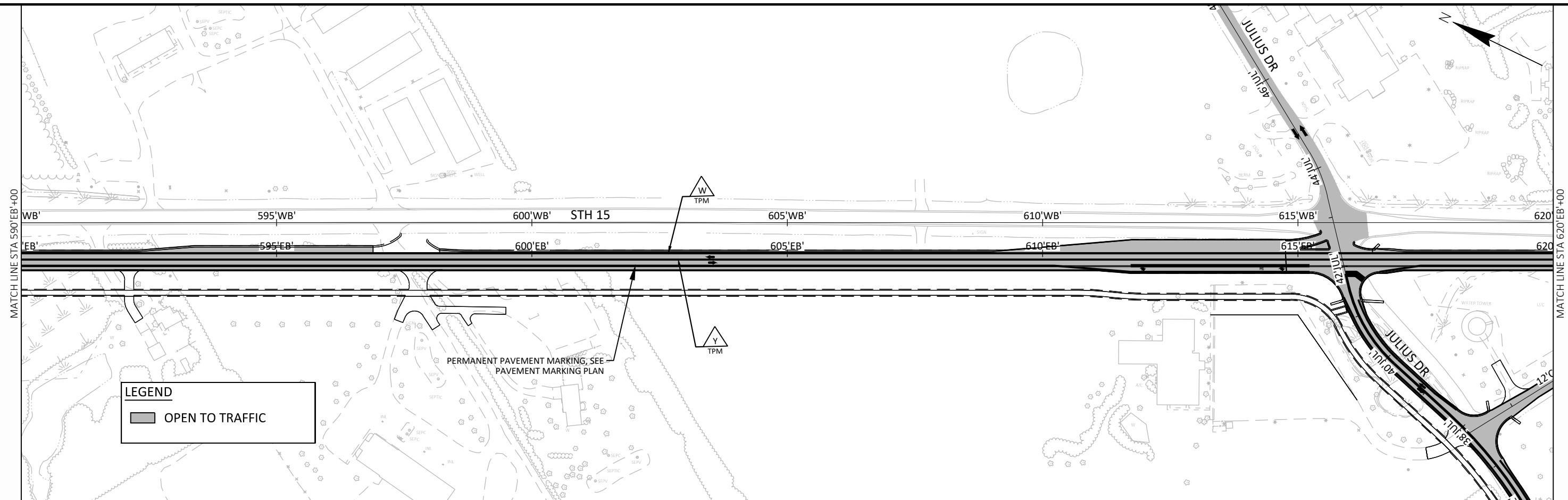
CONSTRUCT STH 15 APPROACHES AT RAILROAD CROSSING.
CONSTRUCT STH 15 CROSSOVER ('XO').
CONSTRUCT TEMPORARY ROUNDABOUT BYPASS CONNECTION ('TA' & 'TB') TO STH 15 EASTBOUND.



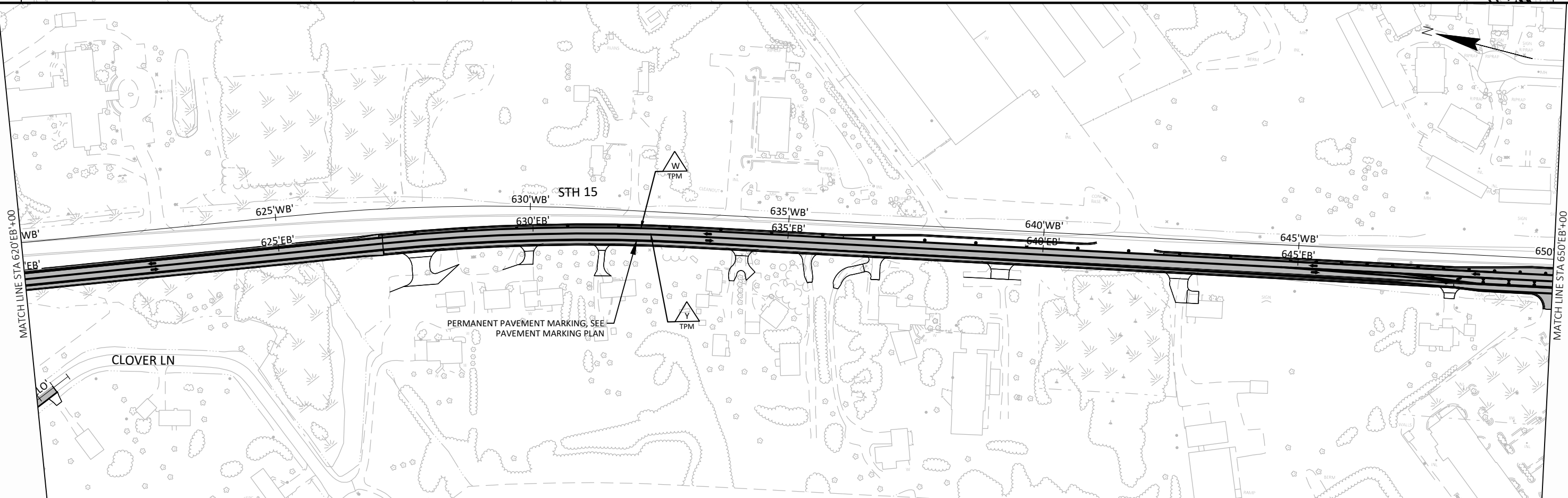




2



2



PROJECT NO:	1146-75-72
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HWY: STH 15

COUNTY: OUTAGAMIE

TRAFFIC CONTROL - WINTER SHUTDOWN - STH 15

SHEET 280

I

FILE NAME : C:\PW_WORKDIR\DEN001\MM093804\D1086473\11467572-026203-TC.DWG
LAYOUT NAME - TCWS-03

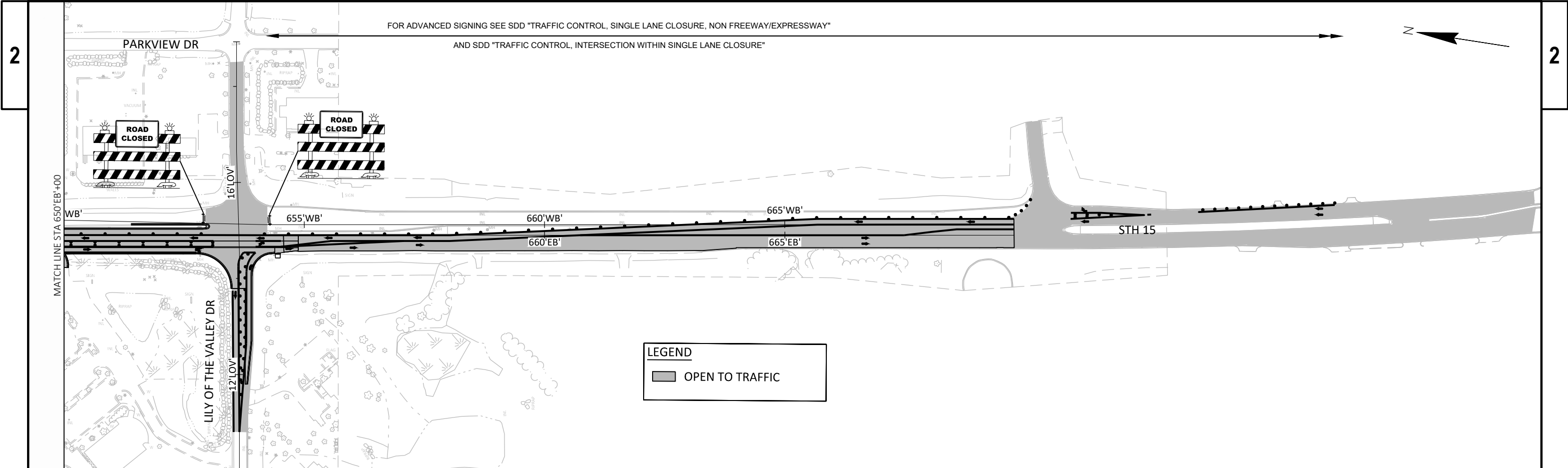
PLOT DATE : 11/7/2019 11:41 AM

PLOT BY : MORGAN, MARC/MKE

PLOT NAME :

PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44



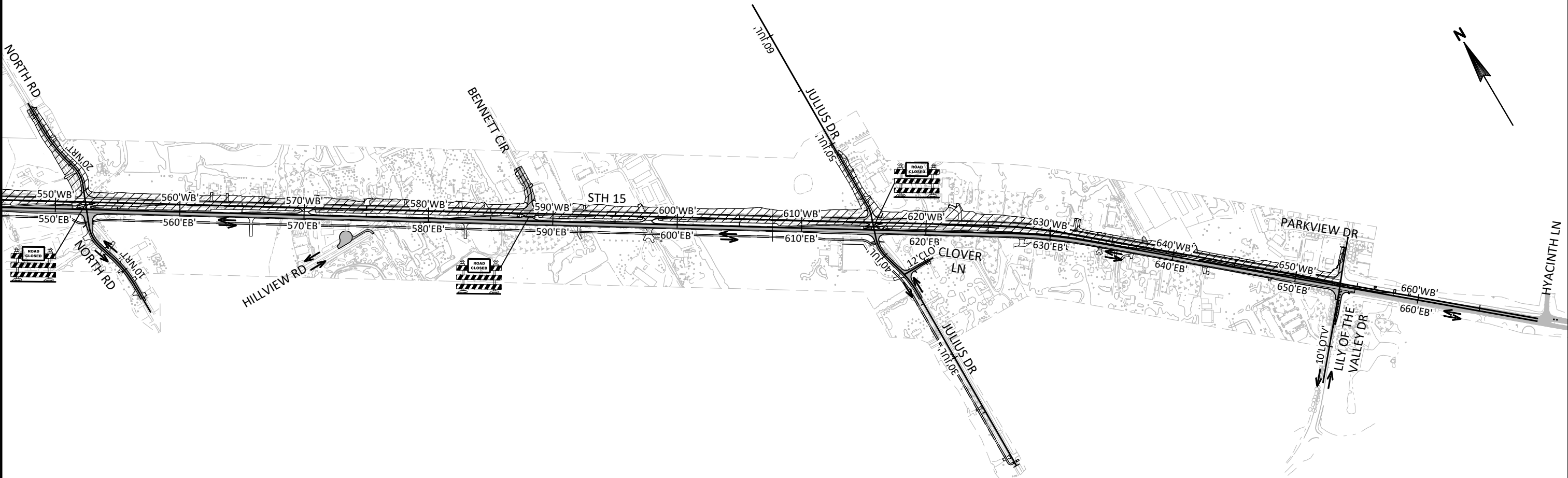
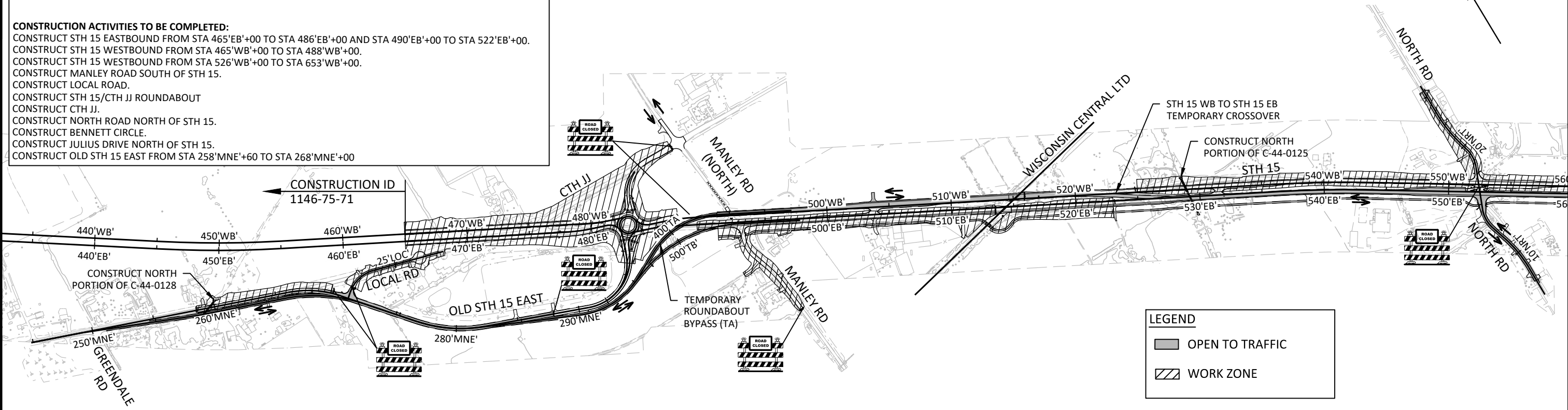
STAGE 2A

MAINTENANCE OF TRAFFIC:

STH 15 TRAFFIC WILL REMAIN IN THE WINTER SHUTDOWN CONFIGURATION EXCEPT AT THE WEST END. TRAFFIC WILL BE SHIFTED ONTO OLD STH 15 EAST AND THEN TO TEMPORARY ROUNDABOUT BYPASS 'TA'.

CONSTRUCTION ACTIVITIES TO BE COMPLETED:

- CONSTRUCT STH 15 EASTBOUND FROM STA 465'EB'+00 TO STA 486'EB'+00 AND STA 490'EB'+00 TO STA 522'EB'+00.
- CONSTRUCT STH 15 WESTBOUND FROM STA 465'WB'+00 TO STA 488'WB'+00.
- CONSTRUCT STH 15 WESTBOUND FROM STA 526'WB'+00 TO STA 653'WB'+00.
- CONSTRUCT MANLEY ROAD SOUTH OF STH 15.
- CONSTRUCT LOCAL ROAD.
- CONSTRUCT STH 15/CTH JJ ROUNDABOUT
- CONSTRUCT CTH JJ.
- CONSTRUCT NORTH ROAD NORTH OF STH 15.
- CONSTRUCT BENNETT CIRCLE.
- CONSTRUCT JULIUS DRIVE NORTH OF STH 15.
- CONSTRUCT OLD STH 15 EAST FROM STA 258'MNE'+60 TO STA 268'MNE'+00



2

STAGE 2B

MAINTENANCE OF TRAFFIC:

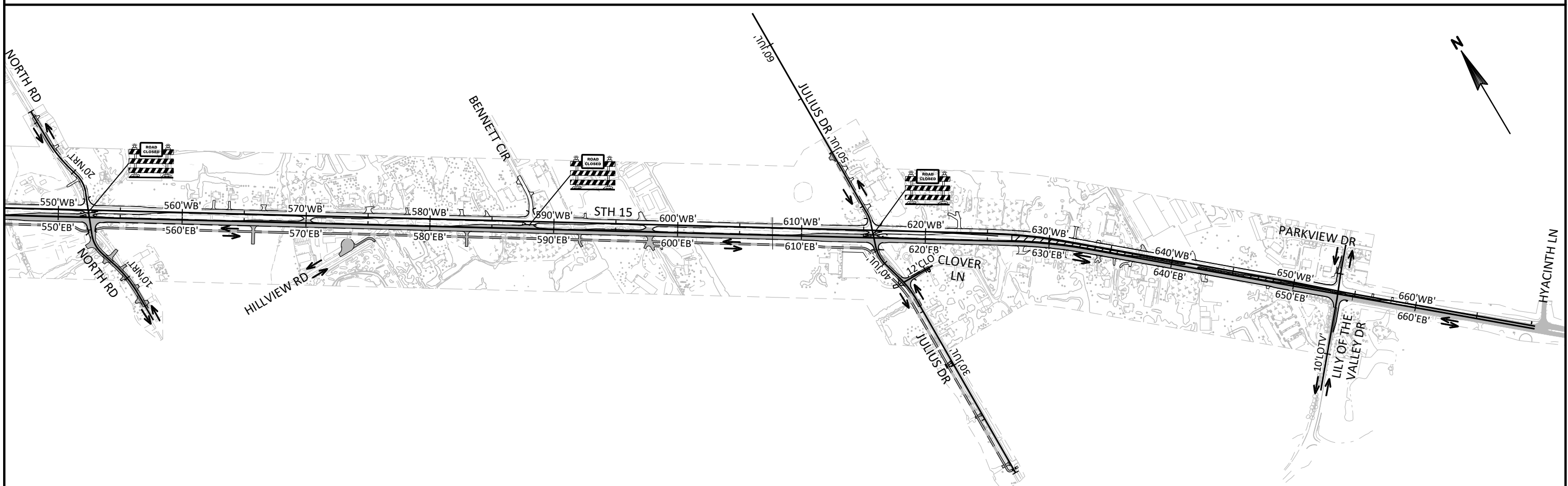
STH 15 TRAFFIC WILL BE 1 LANE IN EACH DIRECTION ON NEW OLD STH 15 EAST, THE TEMPORARY ROUNDABOUT BYPASS AND STH 15 EASTBOUND COMPLETED LANES.

CONSTRUCTION ACTIVITIES TO BE COMPLETED:

- CONSTRUCT STH 15 EASTBOUND FROM STA 487'EB'+00 TO STA 489'EB'+00.
- CONSTRUCT STH 15 WESTBOUND FROM STA 489'WB'+00 TO 491'WB'+00.
- CONSTRUCT MEDIAN FROM STA 519'EB'+00 TO STA 527'EB'+00
- CONSTRUCT STH 15 WESTBOUND FROM STA 522'WB'+00 TO STA 529'WB'+25.
- REMOVE TEMPORARY CROSSOVER AND TEMPORARY ROUNDABOUT BYPASS 'TA'
- REMOVE TEMPORARY WIDENING AT 'TA'

STH 15 TRAFFIC WILL BE 1 LANE IN EACH DIRECTION ON NEW OLD STH 15 EAST, THE TEMPORARY ROUNDABOUT BYPASS AND STH 15 EASTBOUND COMPLETED LANES.

CONSTRUCT STH 15 EASTBOUND FROM STA 487'EB+00 TO STA 489'EB+00.
CONSTRUCT STH 15 WESTBOUND FROM STA 489'WB+00 TO 491'WB+00.
CONSTRUCT MEDIAN FROM STA 519'EB+00 TO STA 527'EB+00
CONSTRUCT STH 15 WESTBOUND FROM STA 522'WB+00 TO STA 529'WB+25.
REMOVE TEMPORARY CROSSOVER AND TEMPORARY ROUNDABOUT BYPASS 'T'
REMOVE TEMPORARY WIDENING AT 'TA'

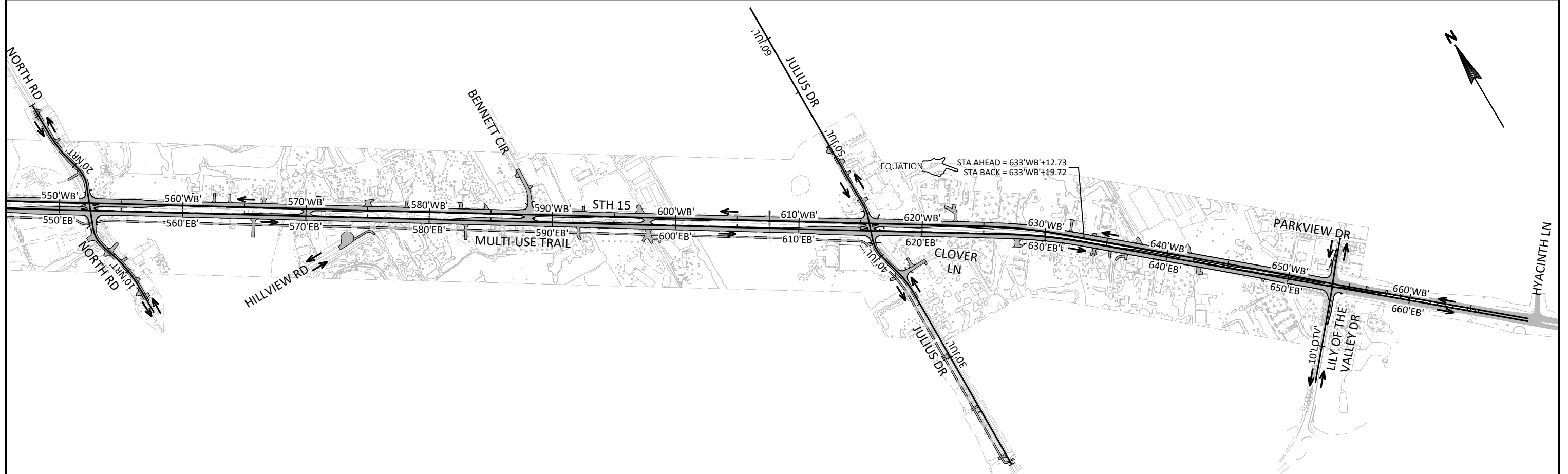
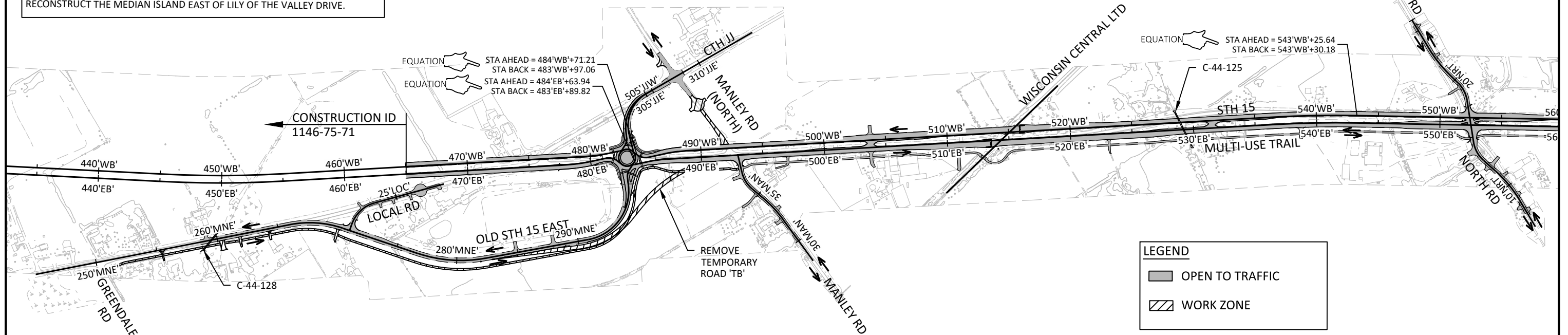
[illegible]

2

STAGE 2C

MAINTENANCE OF TRAFFIC:
STH 15 AND LOCAL ROADS OPEN TO TRAFFIC.

CONSTRUCTION ACTIVITIES TO BE COMPLETED:
CONSTRUCT OVERLAY ON CTH JJ.
CONSTRUCT CUL-DE-SAC ON MANLEY ROAD (NORTH).
CONSTRUCT MULTI-USE PATH FROM GREENDALE ROAD TO MANLEY ROAD.
RECONSTRUCT THE MEDIAN ISLAND EAST OF LILY OF THE VALLEY DRIVE.



PROJECT NO: 1146-75-72

HWY: STH 15

COUNTY: OUTAGAMIE

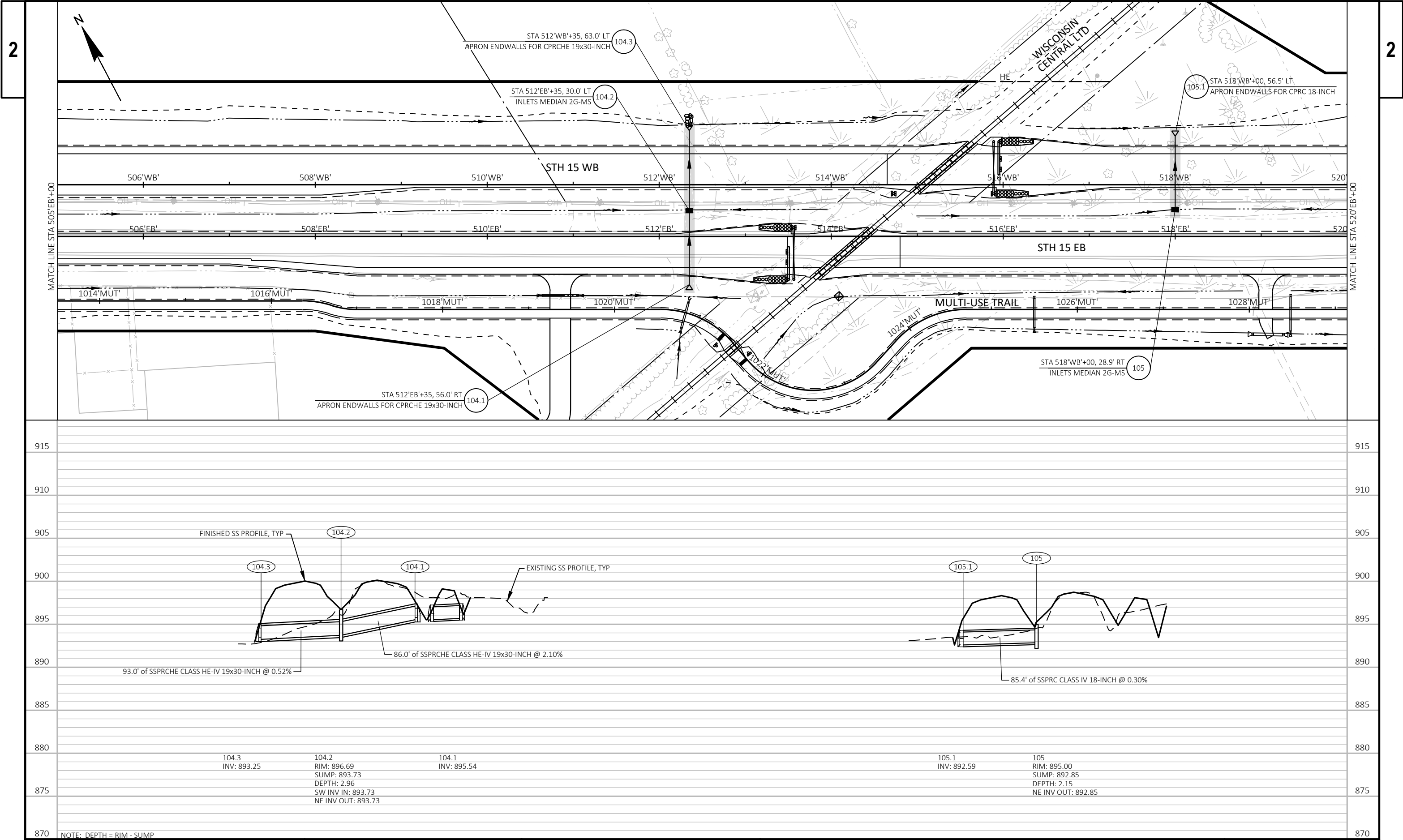
TRAFFIC CONTROL - STAGE 2C OVERVIEW

SHEET 294

E

Attachment #10

Drainage Plan Sheet



Attachment #11

Right-of-Way Plan Sheets

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL OWNER (S) NUMBER	INTEREST REQUIRED	R/W ACRES REQUIRED	ACRES	TEMP.
148 PATRICIA JACK	FEE, ACCESS RIGHTS	2.353	0	2.353
152 RANDY J. & DANIELLE A. SHAW	FEE, ACCESS RIGHTS	0.810	0	0.810
153 WISCONSIN CENTRAL, LTD.	HIGHWAY EASEMENT	0	0	1.102
154 LOREN VANDER KINTER	FEE, TLE	2.091	0	0.020

UTILITY INTERESTS REQUIRED:

922 AT&T WISCONSIN	RELEASE OF RIGHTS
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TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.45

PART OF THE SE1/4-NW1/4 AND THE FRACTIONAL NE1/4-NW1/4 OF SECTION 5, T21N, R16E, ALL IN THE TOWN OF GREENVILLE, OUTAGAMIE COUNTY, WISCONSIN

RELOCATION ORDER - STH 15 (LILY OF THE VALLEY DRIVE - USH 45), OUTAGAMIE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1) THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2) THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

Document #: 2024135
Date: 09-05-2014 Time: 08:55 AM
Pages: 1 Fee: \$25.00
County: OUTAGAMIE State: WI
SARAH R VAN CAMP, REGISTER OF DEEDS
The above recording information verifies this document has been electronically recorded and returned to the submitter

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1146-75-22- 4.45
AMENDMENT NO:

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF TRANSPORTATION PROJECT PLAT NO. 1146-75-22- 4.01, AS DOCUMENT #2016623 FOR ADDITIONAL INFORMATION.

SIGN SCHEDULE

SIGN NUMBER	SIGN OWNER
156-1	BETHLEHEM LUTHERAN CHURCH

BASIS OF EXISTING HIGHWAY R/W

ROUTE	BASIS	YEAR
STH 15	TPP 6430-06-00-4.07	2011
	TPP 6430-06-00-4.08	2011
CN RAILWAY	TPP 6430-06-00-4.08	2011
	C&NW RAILROAD ALIGNMENT MAP	1917
	ADJACENT CSM 5781	2008

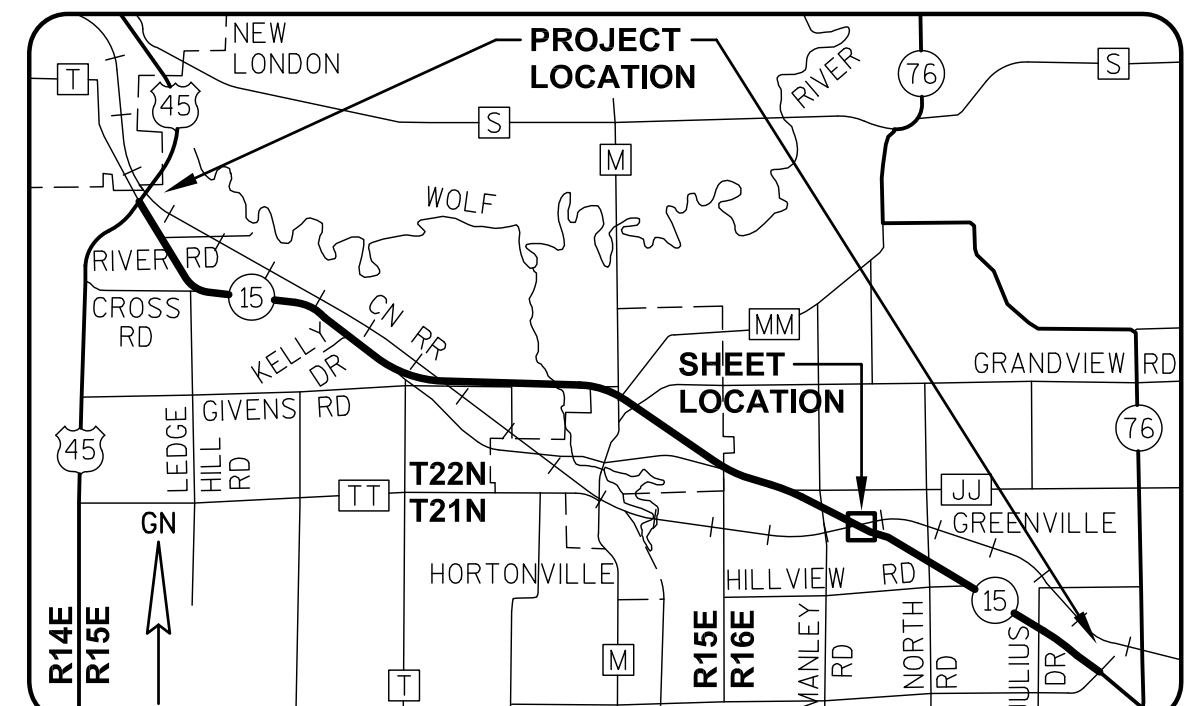
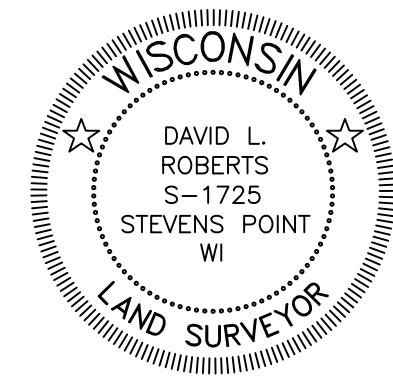
EXISTING ACCESS CONTROL: PROJECT 1146-01-21

COURSE TABLE

FROM POINT	TO POINT	BEARING	DISTANCE
350	9209	S03°09'35"E	1954.46'
9209	9210	S03°09'35"E	401.36'
9210	9211	N58°59'57"W	426.71'
9211	9212	N62°17'31"W	436.84'
9212	9213	S77°01'33"W	153.41'
9213	9215	N67°25'26"W	223.59'
9215	9201	N55°59'45"W	136.78'
9201	9204	N25°03'38"W	173.54'
9204	9194	N54°41'50"W	49.92'
9194	9180	N04°11'58"W	357.40'
9180	9200	S62°17'31"E	859.35'
9200	9205	S62°17'31"E	153.41'
9205	9206	N77°01'33"E	145.74'
9206	9207	S31°02'59"E	163.89'
9207	9208	S62°17'31"E	125.00'
9208	9209	S62°17'31"E	120.08'

COORDINATE TABLE

POINT	Y (NORTH)	X (EAST)
9513	585819.694	778951.894
9514	585534.350	779495.208
9515	585117.606	780288.716
9516	585444.395	779105.191



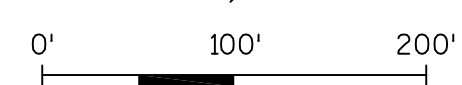
I, DAVID L. ROBERTS, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1146-75-22-4.45, AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

DATE 9/04/2014 DAVID L. ROBERTS
RLS S-1725, FOR GREMER & ASSOCIATES, INC.

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

DATE 9/4/2014 CURT VAN EREM
REAL ESTATE SUPERVISOR

SCALE, FEET



REVISED: 09/04/2014
040445-15.DWG

APPRAISAL PLAT DATE:

Attachment #12

Crash History and Reports



Federal Railroad Administration

Office of Safety Analysis

[Home](#) [What's New](#) [Crossing](#) [Forms/Publications](#) [Downloads](#) [Data](#) [Documents](#) [Policies](#) [Support](#)

5.02 - Generate Crossing Inventory and Accident Reports

Please click on one of the links below or enter a crossing number, pick the report type and click on the **Generate Report** button to produce the Report.

Report Type: ☐ Inventory ☒ Accident ☐ Contact Sheet

Crossing#:

Crossing number is valid but not in the accident file.

[Generate Report](#)[Generate Map](#)

Additional Links

[Query by Location\Railroad](#)[Query by Crossing](#)[Accident Prediction \(WBAPS\)](#)[DOT Crossing Inventory Information](#)[Crossing Data help](#)[Rail Crossing Locator Mobile Application](#)[Maps](#)[Notice](#)[Using this Site](#)

Accident File as of: July 30, 2019

Crossing Inventory File as of: Today



Memorandum

Wisconsin Department
of Transportation
Division of Transportation System Development
Joseph Nestler, Administrator
Hill Farms State Transportation Building
4802 Sheboygan Ave., Room 451
Madison, Wisconsin 53705

STH 15 Crash Analysis: Outagamie County
Prepared For: Bill Bertrand/WisDOT Northeast Region
Prepared By: Scott Nelson/WisDOT Northeast Region
Date: November 29, 2017
RE: Project 1146-75-00

Introduction

The Wisconsin Department of Transportation (WisDOT) has identified an improvement project for STH 15 in Outagamie County from the eastern leg of the STH 15/USH 45 intersection to approximately 300-feet east of the STH 15/Lily of the Valley Road intersection, approximately 10.6 miles of mainline.

Crash data in this memo includes crash data from 2012 to 2016, updating the previous memo completed on April 27, 2012 by CH2MHill utilizing crash data from 2006-2010. To keep the memorandum format consistent, all tables were reproduced showing the same information, but using the updated crash data.

This memorandum consistently divides the project into three segments. The West segment is from the eastern leg of the STH 15/USH 45 intersection to west of the STH 15/CTH T/Givens Road intersection. The Hortonville segment includes rural transitional to high speed sections on the west and east ends and an urban section in the downtown vicinity from Spruce Street to Warner Street posted between 25 and 35 mph. The East segment is from east of the STH 15/CTH JJ intersection to approximately 300-feet east of the STH 15/Lily of the Valley Road intersection. Appendix A contains a complete listing of the crashes (excluding deer).

Crash Rates and Severity

Table 1 lists the total crashes and the KAB (combination of fatal, Type A Injury, and Type B Injury) crashes for each of the three segments in the corridor. Severities of crashes are identified as fatal, Type A, Type B, Type C, and property damage only. A type A injury refers to a suspected serious injury. A type B injury refers to a suspected minor injury. A type C injury refers to a possible injury. The crash rates for the roadway segments are in crashes per hundred million vehicle miles traveled.

Table 1
Crash Severity Rates (excluding deer crashes)

Severity	West			Hortonville			East			Total	
	Crashes	Percent	Rate	Crashes	Percent	Rate	Crashes	Percent	Rate	Crashes	Percent
KAB Crashes	7	12.1%	13.80	14	9.2%	17.19	21	21.9%	24.79	42	13.7%
Total Crashes	58	100.0%	114.31	153	100.0%	187.82	96	100.0%	113.35	307	100.0%



Memorandum

Wisconsin Department
of Transportation
Division of Transportation System Development
Joseph Nestler, Administrator
Hill Farms State Transportation Building
4802 Sheboygan Ave., Room 451
Madison, Wisconsin 53705

Crash Rates and Trends

The severity rate tables compare the segment rates to the statewide average rates based on the severity type. Statewide average crash rates are compiled for 12 classes of state routes on the state system. The West and East segments are compared to Rural 2-lane Highways with AADT greater than or equal to 7,000. The Hortonville segment is compared to 2-lane Highways Posted at 40 mph or lower. The crash rates for the roadway segments are in crashes per hundred million vehicle miles traveled.

Table 2
West Segment Crash Rates

Severity Rates - West Segment					
West Segment Crash Rate	Statewide Crash Rate (430) Rural 2-lane AADT >7,000	Statewide Crash Rate Upper Control Limit	West Segment KAB Rate	Statewide KAB Crash Rate	Statewide KAB Rate Upper Control Limit
114.31	90.57	103.93	13.80	18.36	24.38

Table 3
West Segment Crashes per Year

Crashes per Year West Segment					
Severity	2012	2013	2014	2015	2016
Injury A	0	2	0	1	0
Injury B	3	0	0	1	0
Injury C	1	1	2	0	2
PDO	8	10	6	9	12
Total	12	13	8	11	14

The rural West segment has a crash rate of 114.31 crashes per 100 MVM which is higher than the statewide rate of 90.57 and exceeds the upper control limit of 103.93 for the peer group. The upper control limit is described as one standard deviation above the mean crash rate. The KAB crash rate of 13.8 crashes per 100 MVM is less than the statewide KAB rate of 18.36



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Table 4
Hortonville Segment Crash Rates

Severity Rates - Hortonville Segment					
Hortonville Segment	Statewide Crash Rate (440) Low Speed 2-lane Highways posted at 40mph or lower	Statewide Crash Rate Upper Control Limit	Hortonville Segment KAB Rate	Statewide KAB Crash Rate	Statewide KAB Rate Upper Control Limit
Crash Rate					
187.82	292.29	311.24	17.19	34.46	40.96

Table 5
Hortonville Segment Crashes per Year

Crashes per Year Hortonville Segment					
Severity	2012	2013	2014	2015	2016
Injury A	1	0	0	2	0
Injury B	1	0	5	3	2
Injury C	5	5	6	8	4
PDO	15	18	24	33	21
Total	22	23	35	46	27

The urban Hortonville crash rate is 187.82 crashes per 100 MVM is less than the statewide average of 292.29. The segments KAB crash rate is 17.19 crashes per 100 MVM is less than the statewide average of 34.46.



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Table 6
East Segment Crash Rates

Severity Rates - East Segment					
East Segment Crash Rate	Statewide Crash Rate (430) Rural 2-lane AADT >7,000	Statewide Crash Rate Upper Control Limit	East Segment KAB Rate	Statewide KAB Crash Rate	Statewide KAB Rate Upper Control Limit
113.35	90.57	100.91	24.79	18.36	23.02

Table 7
East Segment Crashes per Year

Crashes per Year East Segment					
Severity	2012	2013	2014	2015	2016
Fatal	0	0	0	0	1
Injury A	1	4	2	1	1
Injury B	1	3	3	1	3
Injury C	4	1	3	3	2
PDO	5	14	20	11	12
Total	11	22	28	16	19

The rural East segment has a crash rate of 113.35 crashes per 100 MVM which is higher than the statewide rate of 90.57 and exceeds the upper control limit of 100.91 for the peer group. The upper control limit is described as one standard deviation above the mean crash rate. The KAB crash rate of 24.79 crashes per 100 MVM is higher than the statewide KAB rate of 18.36 and exceeds the upper control limit of 23.02 for the peer group.



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Crash Types

Table 8 summarizes crash types for each project segment. The predominant crash type for each segment is rear end crashes accounting for over half of the crashes. The causes of the high number of rear ends is likely due to access points along the corridor without turn lanes, excessive delay at traffic signal controlled intersections, and the over-capacity of the roadway. The next most common crash type is fixed objects/off road crashes.

Table 8
Type of Crash

Type of Crash								
Segment	West		Hortonville		East		Total	
Angle	10	17.2%	9	5.9%	13	13.5%	32	10.4%
Head-On	1	1.7%	1	0.7%	1	1.0%	3	1.0%
FO/OR	20	34.5%	22	14.4%	24	25.0%	66	21.5%
Rear-End	21	36.2%	104	68.0%	50	52.1%	175	57.0%
SSO	4	6.9%	6	3.9%	4	4.2%	14	4.6%
SSS	1	1.7%	8	5.2%	2	2.1%	11	3.6%
Unknown	1	1.7%	3	2.0%	2	2.1%	6	2.0%

Truck Crashes

Table 9 lists the crash percentage that involved a truck. A significant amount (39.7%) of total crashes in the corridor involved a truck. Rear end crashes made up 54.9% of the total truck crashes, followed by 14.8% fixed object/off road crashes and 13.9% right angle crashes. The severity of the crashes involving trucks was mostly minor, with 66.4% property damage only (PDO) type crashes and one fatality mentioned below. The total percentage of truck traffic on the corridor is less than 8%.

Truck Crashes	
Segment	Percent Trucks involved in crashes
West	37.9%
Hortonville	43.8%
East	34.4%

Fatal Crash

A fatal crash occurred on May 4, 2016 on STH 15 about 0.4 miles east of Manley Road. An eastbound tanker truck stopped for the rail road crossing. The passenger car following the truck was unable to stop in time or avoid the truck and struck the truck in the rear. A westbound vehicle



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approaching the intersection took evasive action and swerved to miss the initial crash while it was happening and lost control and rolled onto its roof killing the driver.

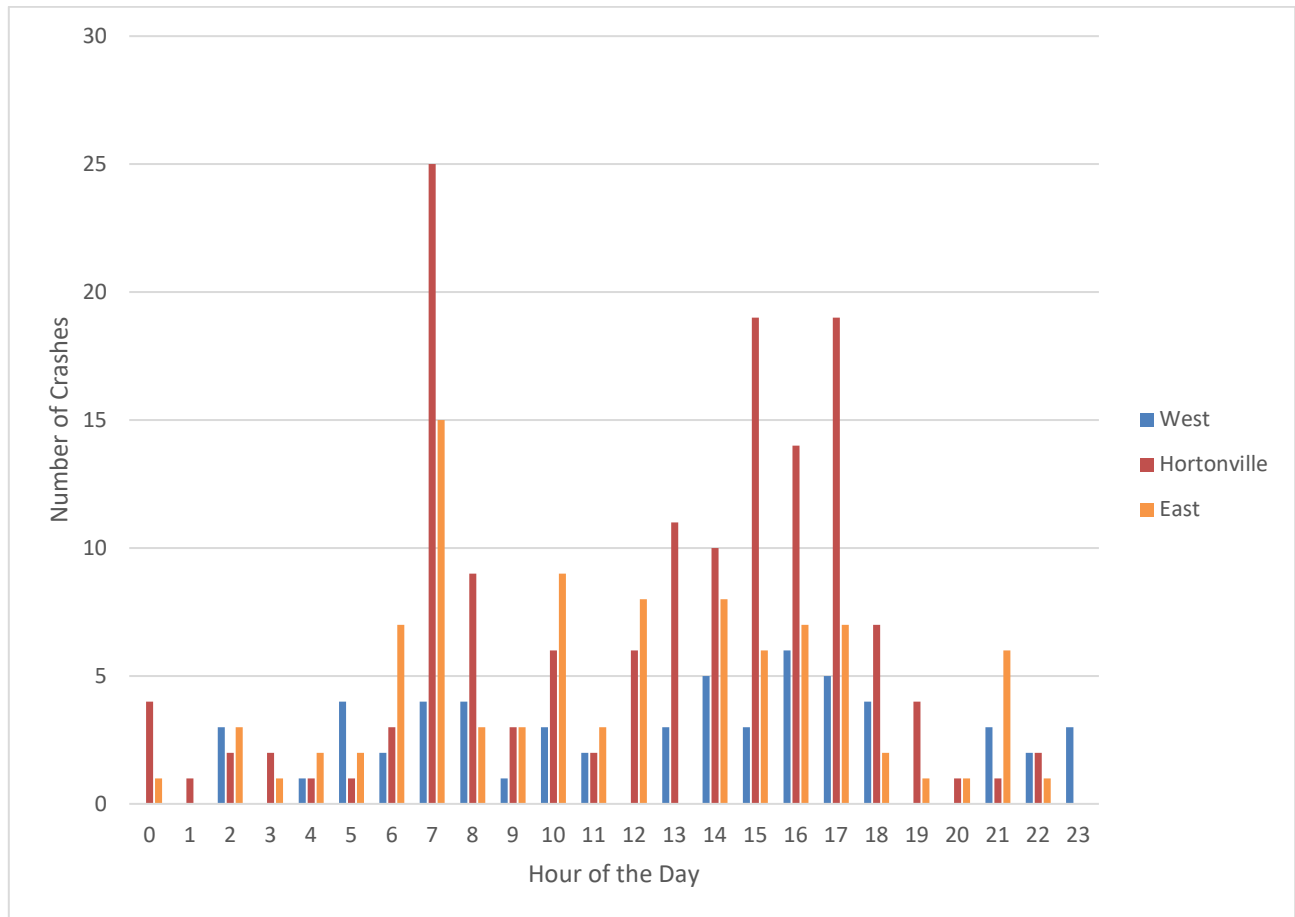


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Time of Day

Most crashes occurred during the busiest traffic periods. The distribution of crashes is shown below. The highest number of crashes in the Hortonville and East segments occurred between 7am and 8am. The West segment seen the highest number of crashes between 4pm and 5pm. The time of day crash peaks in the morning and afternoon in Hortonville correspond to the times when cycle failures occur at the two traffic signals.





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Crash Location

Tables 10 and 11 summarize the distribution of crashes within the corridor between 2012 and 2016. The majority of the crashes do occur at the busier intersections. The three segments with the highest number of crashes in order at Mill St. to Olk St., Olk St. to Kelly Way, and Julius to Lily of the Valley Road. The urban segment crashes are largely related to congestion and delay resulting in rear end crashes. The rural segments were mainly due to adverse weather conditions and traffic back-ups.

Table 10
Crash Distribution by Type of Crash

Crash Distribution by Type of Crash								
Segment	Angle	Head-On	Off Road	Rear End	SSO	SSS	Unknown	Total
USH 45 Intersection	9	1	1	11	2	1	1	26
USH 45 - Cross Road	0	0	2	4	2	0	0	8
Cross Road Intersection	0	0	3	1	0	0	0	4
Cross Road - Kelly Drive	1	0	10	3	0	0	0	14
East of Kelly Drive	0	0	4	2	0	0	0	6
West Segment Total	10	1	20	21	4	1	1	58
West of Givens Rd - Industrial Dr	2	0	0	5	1	0	0	8
Industrial Dr Intersection	0	0	1	3	0	1	0	5
Industrial Dr - West of Mill St	0	1	0	6	0	0	0	7
Mill Street - Olk Street	3	0	6	18	1	3	2	33
Olk Intersection	3	0	0	8	0	2	0	13
Olk St to Kelly Way	1	0	1	24	1	0	1	28
Kelly Way Intersection	0	0	0	14	0	0	0	14
Kelly Way - Greendale Rd	0	0	3	3	1	0	0	7
Greendale Road Intersection	0	0	0	4	0	0	0	4
Greendale Road to East of CTH JJ	0	0	11	19	2	2	0	34
Hortonville Segment Total	9	1	22	104	6	8	3	153
West of Manley Rd	0	0	1	0	0	0	1	2
Manley Road Intersection	1	0	2	1	0	0	0	4
Manley - North Road	1	1	1	12	1	0	0	16
North Road Intersection	2	0	2	7	0	0	0	11
North Road - Hillview	0	0	3	1	0	0	0	4
Hillview Intersection	0	0	1	7	1	0	0	9
Hillview - Julius	3	0	7	4	1	1	0	16
Julius Intersection	0	0	1	4	1	1	0	7
Julius - Lily of the Valley Road	2	0	3	13	0	0	0	18
Lily of the Valley Road Intersection	4	0	2	1	0	0	1	8
East Segment Total	13	1	24	50	4	2	2	96



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Table 11
Crash Distribution by Severity

Crash Distribution by Severity						
Segment	Fatal	Injury A	Injury B	Injury C	PDO	Total
USH 45 Intersection	0	1	2	4	19	26
USH 45 - Cross Road	0	1	0	1	6	8
Cross Road Intersection	0	0	0	0	4	4
Cross Road - Kelly Drive	0	1	2	0	11	14
East of Kelly Drive	0	0	0	1	5	6
West Segment Total	0	3	4	6	45	58
West of Givens Rd - Industrial Dr	0	0	1	4	3	8
Industrial Dr Intersection	0	0	1	0	4	5
Industrial Dr - West of Mill St	0	0	1	1	5	7
Mill Street - Olk Street	0	0	1	5	27	33
Olk Intersection	0	1	2	0	10	13
Olk Stree to Kelly Way	0	0	2	5	21	28
Kelly Way Intersection	0	0	2	4	8	14
Kelly Way - Greendale Rd	0	0	0	0	7	7
Greendale Road Intersection	0	0	0	2	2	4
Greendale Road to East of CTH JJ	0	2	1	7	24	34
Hortonville Segment Total	0	3	11	28	111	153
West of Manley Rd	0	0	0	0	2	2
Manley Road Intersection	0	1	0	0	3	4
Manley - North Road	1	2	2	1	11	17
North Road Intersection	0	1	1	4	5	11
North Road - Hillview	0	0	0	2	2	4
Hillview Intersection	0	2	2	0	5	9
Hillview - Julius	0	0	3	0	13	16
Julius Intersection	0	1	2	0	4	7
Julius - Lily of the Valley Road	0	2	1	5	10	18
Lily of the Valley Road Intersection	0	0	0	1	7	8
East Segment Total	1	9	11	13	62	96



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Intersection Crash Rates

Table 12 lists the intersection crash rates and ADTs for crossroads as provided by WisDOT. Intersection crashes include crashes that occurred with 250' of the intersection.

Table 12
Intersection Crash Rates

Intersection Crash Rates			
Intersection	Crashes (2012-2016)	Entering Vehicles based on April 29, 2012 report	Rate
USH 45	26	16089	0.89
Cross Road	4	9375	0.23
Givens Road (N)/CTH T	7	10298	0.37
Givens Road (S)	0	9911	0.00
Mill St	13	11800*	0.60
CTH M/Nash St	14	15650	0.49
N Olk St	13	12850*	0.55
Warner St	20	14550*	0.75
Kelly Way	12	12850*	0.51
CTH JJ	13	15941	0.45
Manley Rd	4	13873	0.16
North Rd	11	14859	0.41
Hillview Rd	9	14867	0.33
Julius Dr	7	15504	0.25
Lily of the Valley	8	18534	0.24

*Estimated based on recent manual turning movement count or latest WisDOT traffic count. These intersections were not analyzed with the original study.

The intersection of STH 15/USH 45 still has the highest number of crashes for intersections along the corridor. Emerging safety issues that did not exist with the 2006-2010 include the intersection of Warner St. which has had 20 crashes during the study period. Also noteworthy, is the intersections of CTH JJ, Manley, North, and Hillview have all had crashes nearly double from the previous study.



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Countermeasures

All recommendations from the previous study are still valid as no construction has been complete to address the issues. A few additional comments:

- The previous recommendation for signal timing and phasing improvements have been implemented so these recommendations are no longer valid. The interim traffic signal improvements at STH 15 & USH 45 have reduced the number of crashes from 41 to 26.
- The signalized intersection of STH 15 & Warner St. has seen a sharp increase in crashes mainly associated with cycle failures that occur during the am and pm peaks causing numerous rear end crashes. It should also be noted that per WisDOT guidelines, only crashes within 250' intersections are identified as intersection crashes, even though the queue exceeds over 4000' through a crest vertical and horizontal curve.

Appendix A



5/6/13, 10am, Rear End

2/27/13, 8am, Side Swipe Opp, Snow, A

3/6/16, 2pm, Rear End

12/16/12, 4am, Utility Pole, Wet, Fog, Alc.

10/26/16, 2pm, Rear End, Wet, C
11/9/12, 5am, Rear End

4/16/15, 7am, Rear End
9/20/12, 4pm, Side Swipe Same Dir
7/17/12, 8am, Rear End, C
9/10/13, 10am, Rear End
7/1/14, 1pm, Rear End, C
11/8/14, 11am, Rear End
9/18/15, 4pm, Rear End
7/23/16, 3pm, Rear End
8/29/16, 6am, Rear End
9/4/16, 11am, Rear End
3/8/12, 5pm, Right Angle
3/24/12, 1pm, Right Angle, B
6/16/12, 4pm, Right Angle
12/7/12, 5pm, Side Swipe Opp Dir
6/9/13, 5pm, Single Vehicle, Curb
8/23/13, 4pm, Right Angle, A
11/8/13, 4pm, Rear End
12/12/13, 7am, Side Swipe Opp Dir, Snow, C
5/3/16, 7am, Right Angle, C
7/13/15, 5am, Head On, Wet
9/27/16, Right Angle, Wet
7/8/12, 1pm, Right Angle, B
5/6/13, 9pm, Right Angle
11/27/14, 6pm, Right Angle
12/26/13, 10am, Single Veh

9/26/12, 10pm, Side Swipe Opp Dir



10/26/16, 3pm, Rear End, Wet

9/2/15, 9pm, Mailbox, Wet, B

6/25/12, 10pm, Right Angle, B
4/27/14, 2am, Guard Rail, Wet
10/31/13, 2pm, Rear End, Wet
2/11/16, 11pm, Rear End
2/8/15, 2am, Ditch, Alc
2/21/15, 7am, Tree, A

1/11/16, 9pm, Overturn, Snow

9/25/13, 3pm, Rear End
2/1/13, 5pm, Single Veh, Snow
12/8/15, 5am, Ditch, Wet

11/3/16, 9am, Utility Pole

3/11/14, 2pm, Single Veh

3/24/14, 11pm, Ditch, Ice

11/17/14, 5am, Guard Rail

10/30/15, 8am, Rear End

2/15/16, 8am, Ditch, Ice
12/16/16, 6pm, Guard Rail, Snow

1/20/15, 2am, Guard Rail, Snow

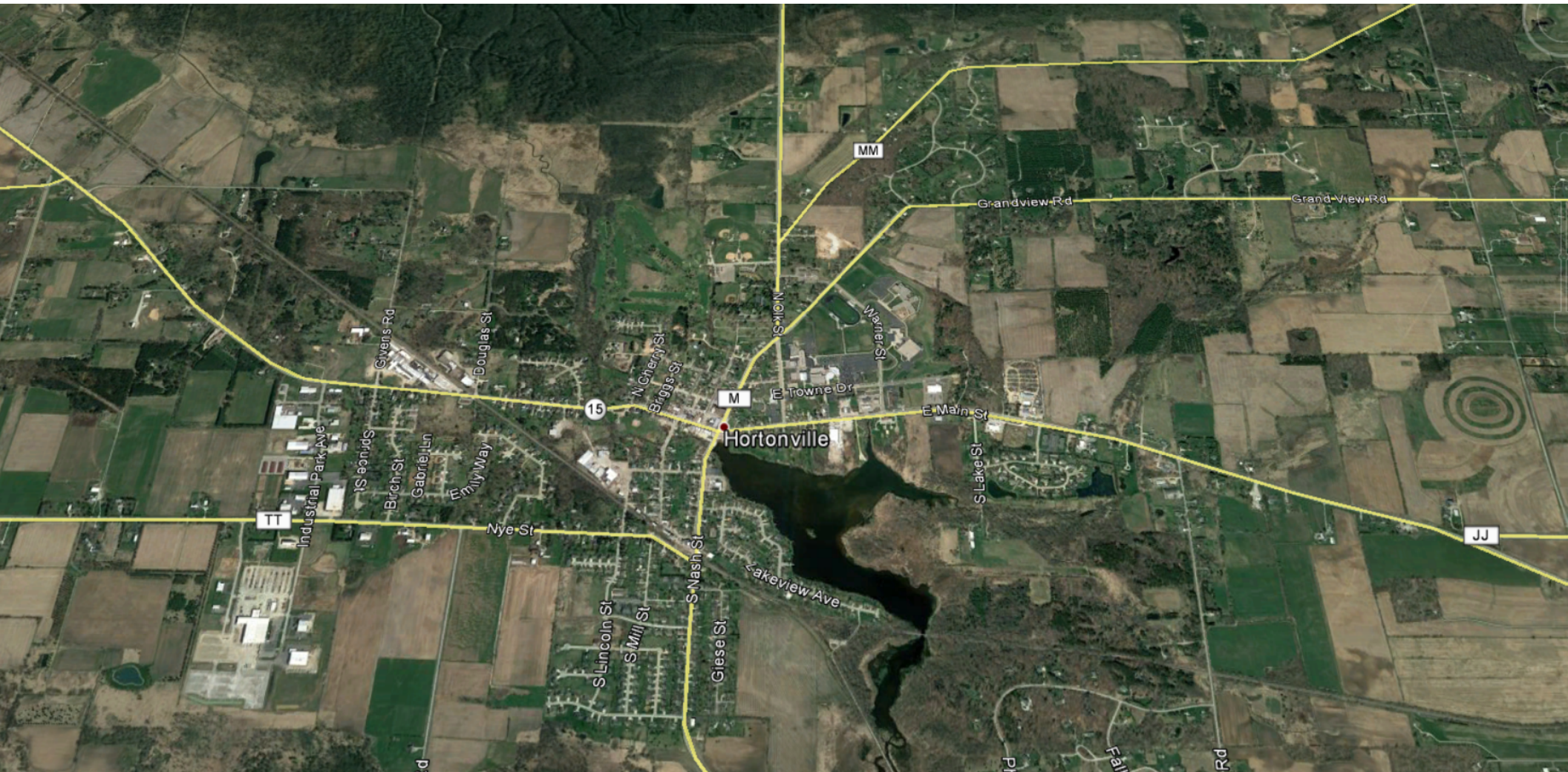
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2/1/15, 6am, Rear End, Snow

5/7/14, 2pm, Rear End, C

3/1/12, 11pm, Ditch

1/26/15, 6pm, Guard Rail, Snow
12/16/13, 5pm, Guard Rail, Snow





4/28/15, Midnight, Other Animal

9/21/13, 7am, Single Veh, A
12/18/15, Noon, Right Angle, Snow

4/29/14, 7am, Rear End, Wet
6/7/16, 2am, Ditch

1/16/14, 6am, Ditch, Ice

1/12/15, 7am, Rear End, Wet
/24/16, 5pm, Right Angle, Snow, A

12/21/12, 11am, Rear End, B

3/5/15, 2pm, Rear End
5/19/15, 3pm, Rear End

10/31/13, 2pm, Rear End, Wet
12/23/13, 5am, Rear End, Snow, C
9/9/16, 3pm, Rear End

4/30/16, 10am, Rear End
5/4/16, 4pm, Rear End, Fatal

7/18/13, 6am, Head On, A
12/26/14, 6am, Overturn, Ice

11/22/13, 6am, Overturn, Snow

11/5/12, 7am, Rear End
9/21/16, 9pm, Side Swipe Opp Dir, Wet
6/3/16, 7am, Rear End, B

3/30/12, 10am, Rear End, Wet
12/13/16, 8am, Rear End

3/19/14, 2am, Overturn, Snow
11/20/15, 5pm, Tree, C
10/12/16, 4pm, Rear End, Wet, C

11/9/16, 10am, Utility Pole

12/17/13, 8am, Rear End, Snow
7/29/14, 6pm, Utility Pole, Wet
12/4/14, 7am, Rear End, A
8/3/15, 7am, Side Swipe Opp Dir, B
3/12/16, Noon, Rear End, B
9/9/16, 4pm, Rear End, Wet
12/23/16, 2pm, Rear End, Snow
9/12/14, 9pm, Rear End, Wet
9/12/14, 9pm, Rear End, Wet, A



2/14/13, 5pm, Right Angle, Ice, Snow
2/28/14, 10pm, Rear End, Snow
6/13/14, 4pm, Rear End
2/28/14, 9pm, Overturn, Snow

2/20/13, 9am, Rear End, Wet, A

1/5/16, 4pm, Rear End, B

6/4/14, 3pm, Ditch

9/28/13, 11am, Rear End
10/3/14, 7am, Rear End, Wet, C

11/23/12, 9pm, Right Angle
12/3/12, 6pm, Other Animal, Wet
12/22/13, Noon, Traffic Sign, Snow
9/20/14, 3am, Traffic Sign, Wet
1/31/15, 8pm, Right Angle
5/10/16, 3pm, Right Angle, C
6/23/16, 2pm, Rear End
10/3/16, 7am, Right Angle, Fog

8/15/14, Noon, Rear End, B

2/11/13, 4am, Single Veh, Ice
1/30/13, 9pm, Right Angle, Snow
1/25/14, 9am, Overturn, Ice, Wind
7/22/16, 5pm, Culvert
8/7/13, Noon, Side Swipe Same Dir
8/25/14, 10am, Rear End, B

9/25/15, 4pm, Ditch

2/11/13, 4am, Ditch, Ice
12/16/14, 7pm, Side Swipe Opp Dir, Ice, Snow, B

6/27/15, 5pm, Overturn
10/21/16, 2pm, Right Angle

12/26/14, 5am, Fixed Object, Ice

2/1/13, 4pm, Rear End, Snow, B
1/3/14, 9am, Side Swipe Same Dir
8/23/14, 2pm, Rear End

3/18/13, 3pm, Rear End, Snow, A
2/12/14, 7am, Rear End, Snow
12/20/13, 10am, Side Swipe Opp Dir, Snow, B
11/6/14, 2pm, Rear End, C

3/25/14, 6am, Rear End, Ice

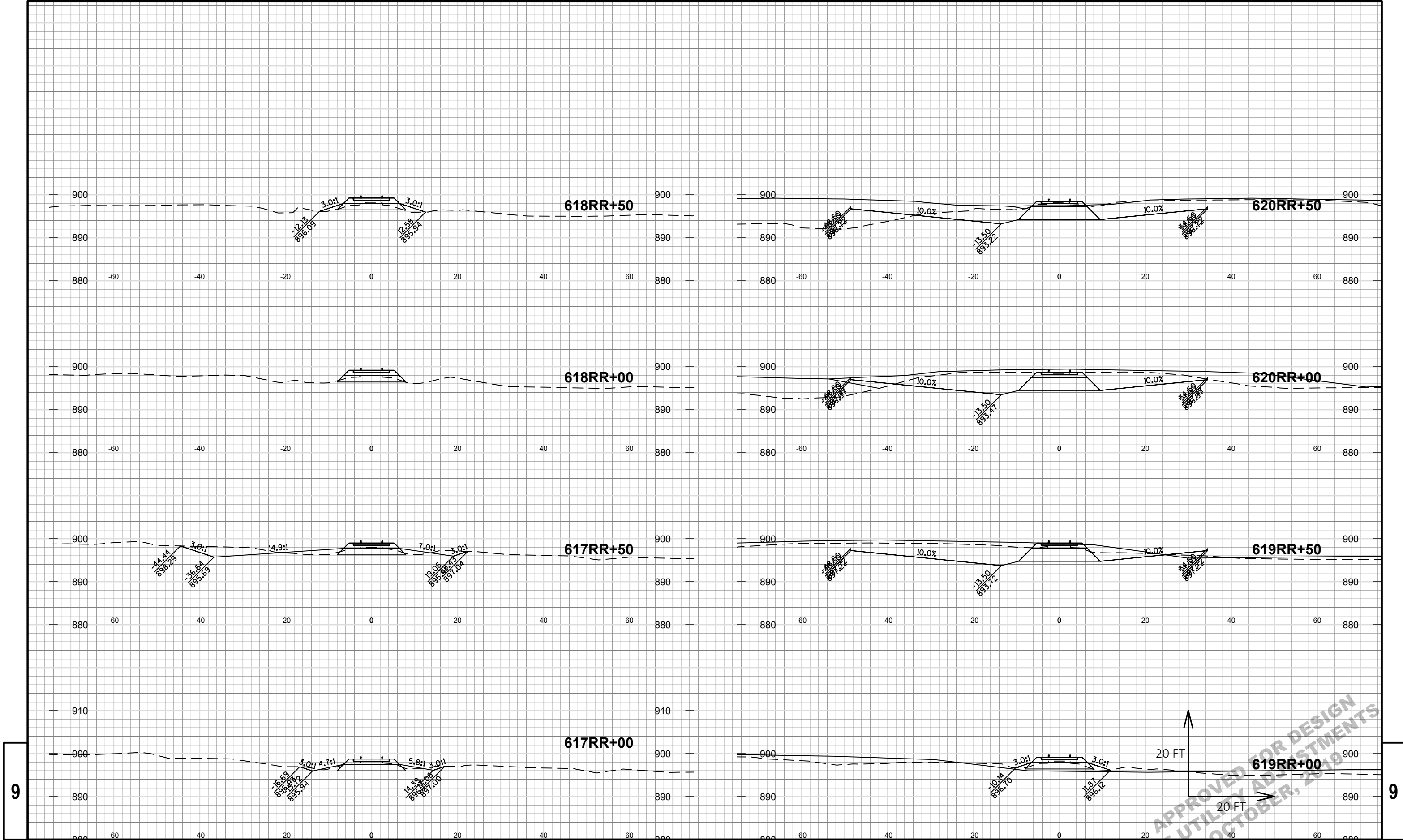
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3/7/12, 7am, Rear End
12/19/12, 7am, Rear End, C
1/9/15, 10am, Tree, Ice
5/13/15, Noon, Rear End, C

12/20/13, 10am, Right Angle, Snow
6/19/14, 11am, Rear End
12/17/13, 6am, Rear End, Snow

11/25/14, Noon, Right Angle, Snow, C

Attachment #13

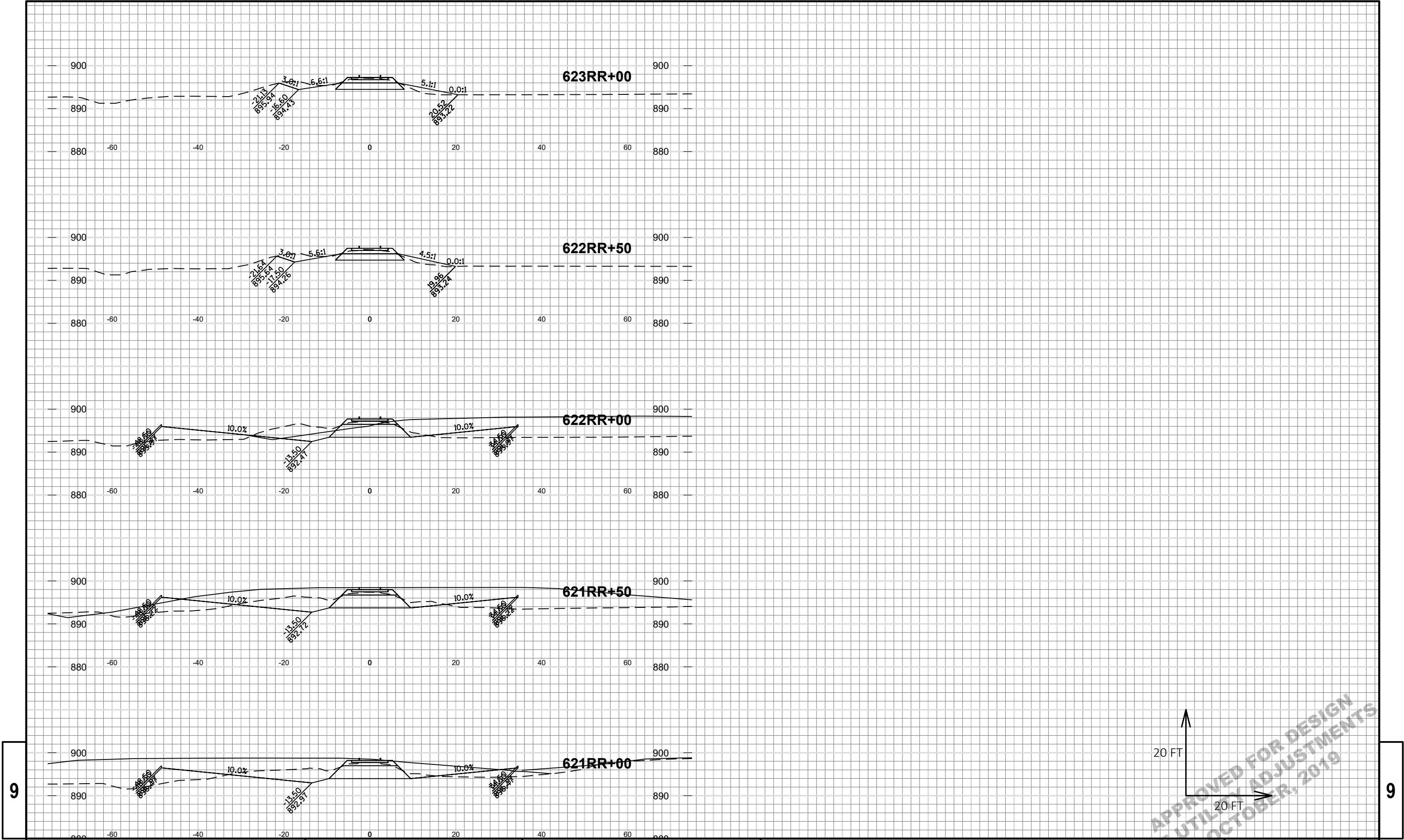
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9

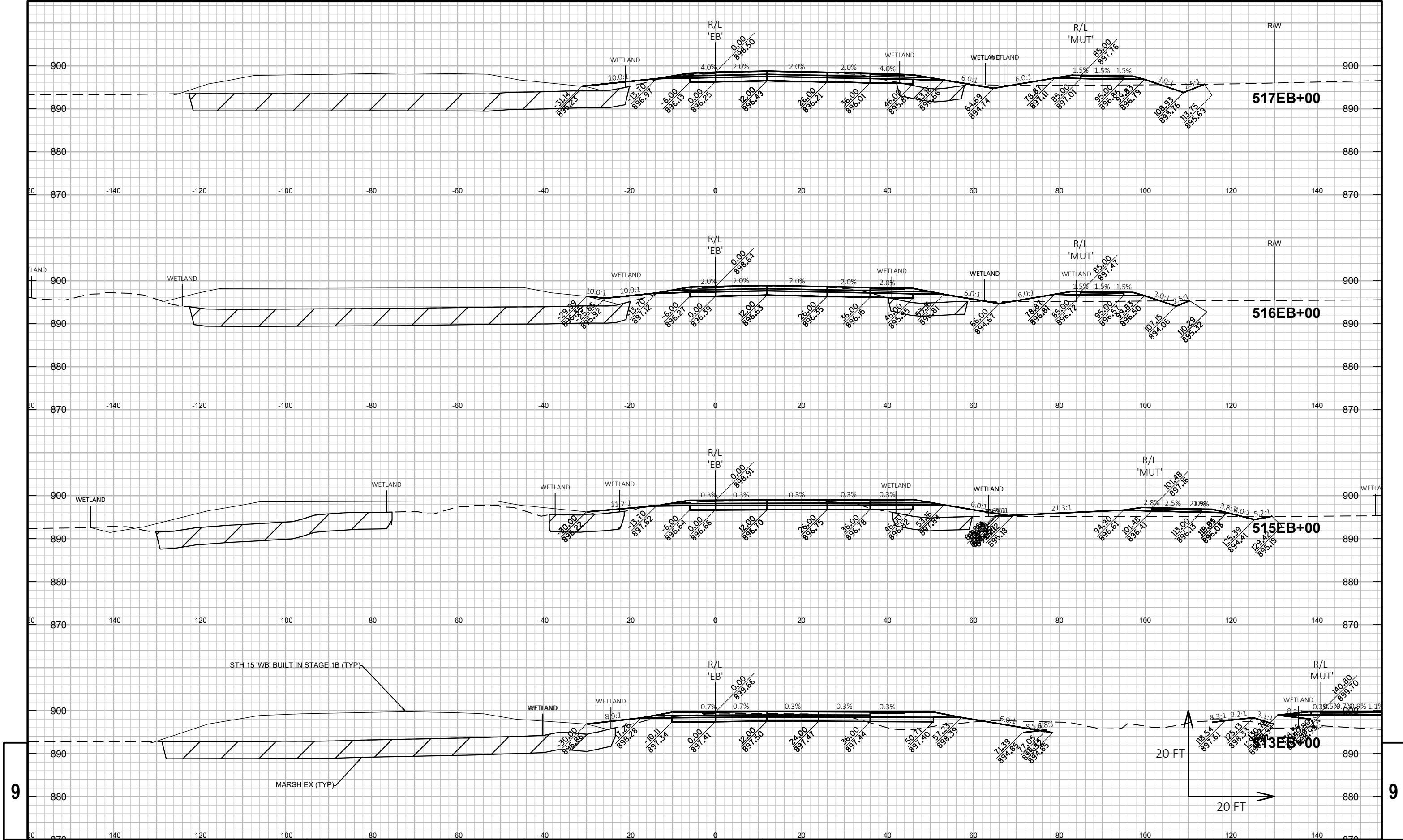
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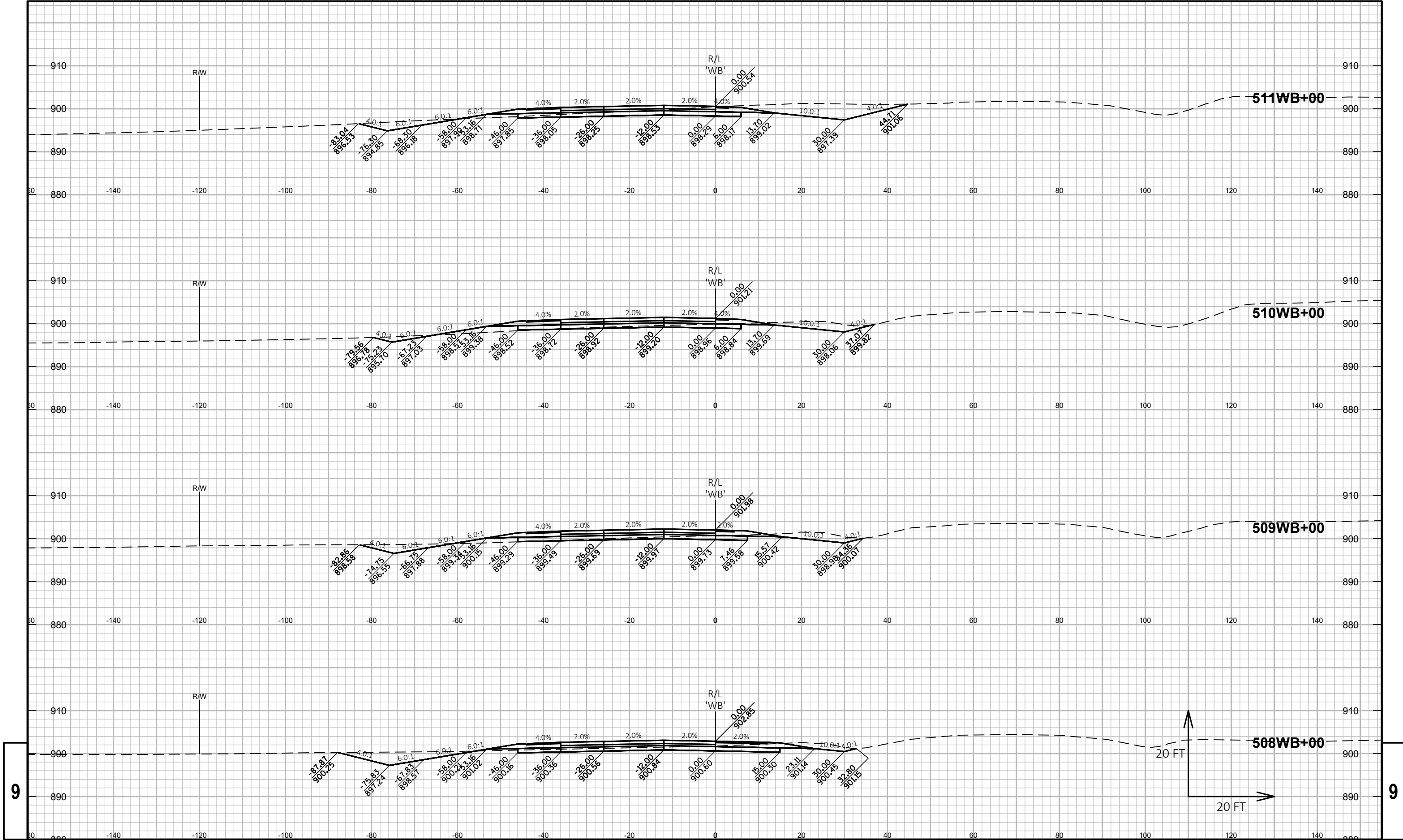


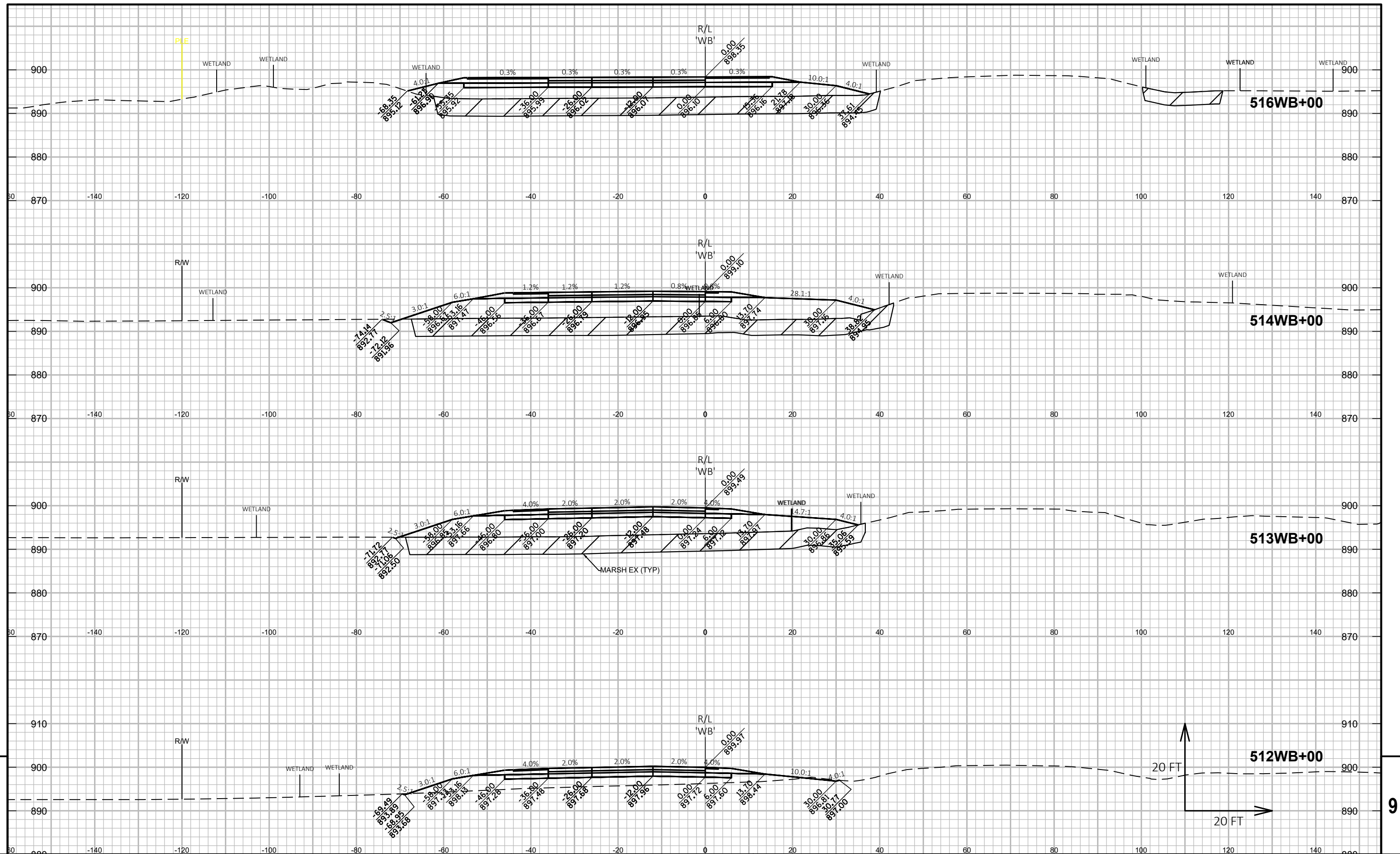
APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER, 2019

9

9







PROJECT NO:	1146-75-72
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HWY: STH 15

COUNTY: OUTAGAMIE

CROSS SECTIONS: STH 15 'WB' - STAGE 1B

SHEET	589
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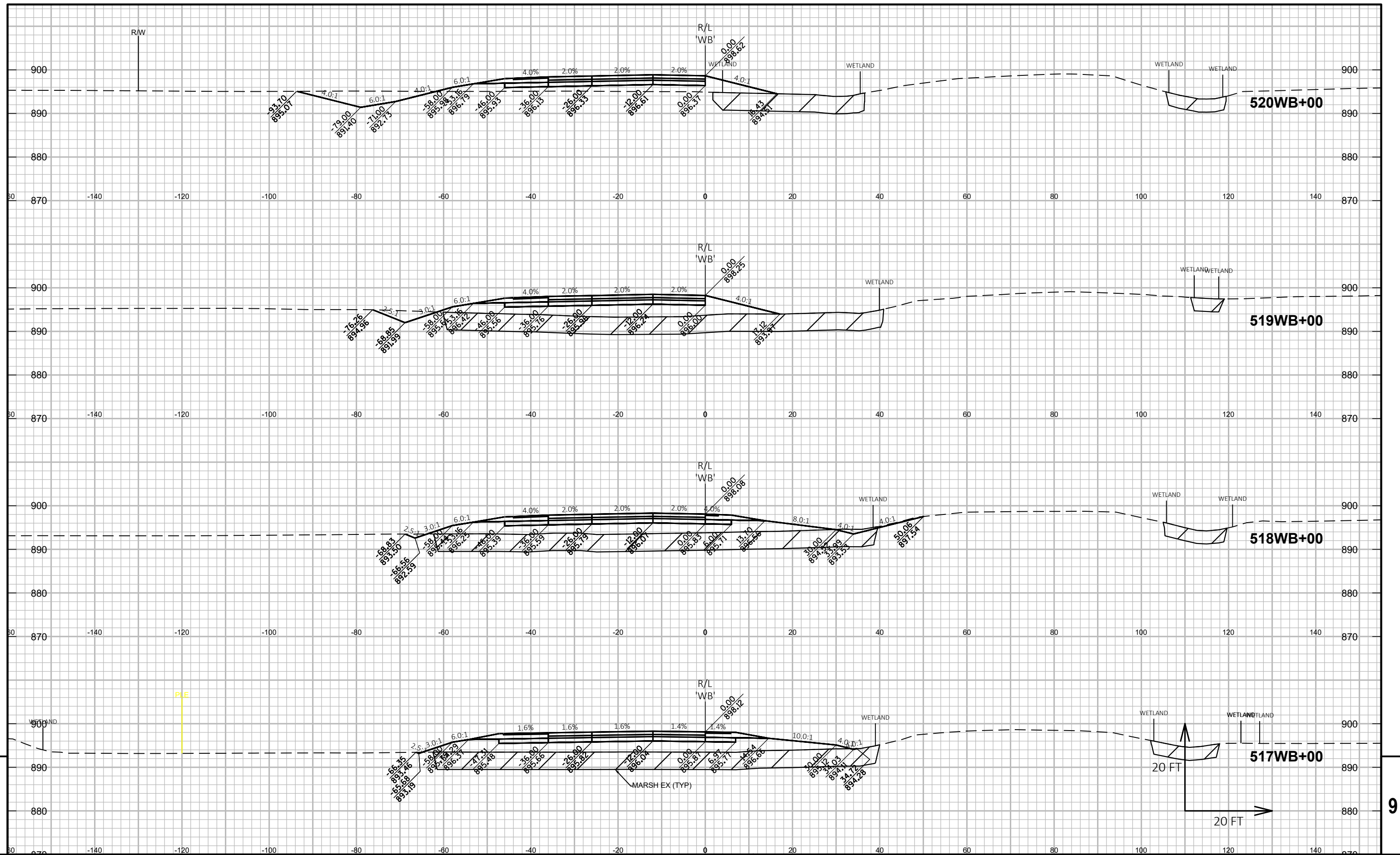
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PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO:	1146-75-72
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HWY: STH 15

COUNTY: OUTAGAMIE

CROSS SECTIONS: STH 15 'WB' - STAGE 1B

SHEET	590
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PLOT NAME :

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