WIS

PROJECT ID: 6260-00-72

COUNTY: WAUPACA

NOVEMBER 2026

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 = 266

21

DESIGN DESIGNATION

| | | | |
|---|---|---|---|
| A.A.D.T. | (2027) | = | 1540 |
| A.A.D.T. | (2047) | = | 1880 |
| D.H.V. | | = | 855 |
| D.D. | | = | 50/50 |
| T. | | = | 10.1% |
| DESIGN SPEED | | = | 35 MPH (STH 49 SB TO KEATINGS LAKE DR), 55 MPH (RURAL) |
| ESALS | | = | 350,000 |

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 (300'ER')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

**PLAN OF PROPOSED IMPROVEMENT**

# IOLA - STH 22/110

**STH 49 SB TO STH 110**

## STH 161

## WAUPACA COUNTY

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 6260-00-72 | WISC 2027035 | 1 |
| | | |
| | | |
| | | |

STATE PROJECT NUMBER

**6260-00-72**

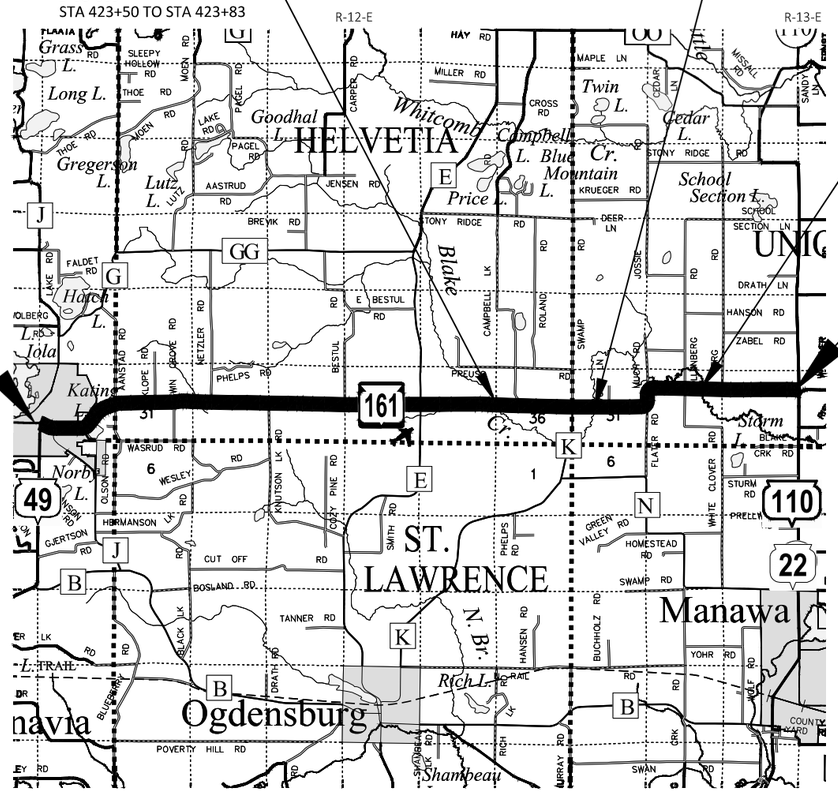
BEGIN PROJECT
STA 100+05
Y=518780.879
X=407279.126

NET EXCEPTION TO CL LENGTH
B-68-069
STA 423+50 TO STA 423+83

NET EXCEPTION TO CL LENGTH
B-68-081
STA 492+66 TO STA 493+00

NET EXCEPTION TO CL LENGTH
B-68-082
STA 575+30 TO STA 575+66

END PROJECT
STA 644+25.00




LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 10.287

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WAUPACA COUNTY, NAD83 ( 2011 ), 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 ( 2012 ). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ORIGINAL PLANS PREPARED BY

cbs²

WISCONSIN
CORY R. IHDE
45519
HORTONVILLE, WI
PROFESSIONAL ENGINEER

DATE: 7/14/2026 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | GREMMER/CBS SQUARED INC. |
| Designer | CBS SQUARED, INC. |
| Project Manager | WENDY ARNESON, P.E. |
| Regional Examiner | FRED SCHUNKE, P.E. |
| Regional Supervisor | KEVIN KUJAWA, P.E. |

APPROVED FOR THE DEPARTMENT
Digitally signed by Wendy Arneson
Contact Info: WisDOT Project Manager
DATE: Date: 2026.07.16 11:21:44-05'00' (Signature)

E

FILE NAME : O:\PDS\C3D\62600002\SHEETS\010101-TI.DWG PLOT DATE : 7/14/2026 3:59 PM PLOT BY : CORY IHDE PLOT NAME :

## UTILITIES CONTACTS

ATC MANAGEMENT, INC. - ELECTRICITY-TRANSMISSION
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
DOUG VOSBERG
(608) 877-7650 (OFFICE)
DVOSBERG@ATCLLC.COM

ALLIANT ENERGY - ELECTRICITY
883 W SCOTT ST
FOND DU LAC, WI 54937
BILL BASTIAN
(920) 322-6716 (OFFICE)
WILLIAMBASTIAN@ALLIANTENERGY.COM

ALLIANT ENERGY - GAS/PETROLEUM
883 W SCOTT ST
FOND DU LAC, WI 54937
BILL BASTIAN
(920) 322-6716 (OFFICE)
WILLIAMBASTIAN@ALLIANTENERGY.COM

AMHERST TELEPHONE COMPANY - COMMUNICATION LINE
120 MILL STREET
AMHERST, WI 54406
JACOB VAN DE VOORT
(608) 450-3050 (OFFICE)
JVANDEVOORT@AMHERSTCOMM.NET

CENTRAL WISCONSIN ELECTRIC COOPERATIVE - ELECTRICITY
10401 LYSTUL ROAD
ROSHOLT, WI 54473
TYLER TAUTGES
(715) 677-2225 (OFFICE)
TYLER.TAUTGES@CWECOOP.COM

SOLARUS - COMMUNICATION LINE
440 E GRAND AVE
WISCONSIN RAPIDS, WI 54494
DENNIS PIERCE
(715) 572-0152 (OFFICE)
PIERCE@SOLARUS.NET

TDS TELECOM - COMMUNICATION LINE
525 JUNCTION RD
MADISON, WI 53717
ROD HEINZ
(608) 664-4971 (CELL)
ROD.HEINZ@TDSTELECOM.COM

VILLAGE OF IOLA - SEWER
180 S MAIN
IOLA, WI 54945
GLENN TEZLAFF
(715) 445-2913 (OFFICE)
IOLAWWTP@TDS.NET

VILLAGE OF IOLA - WATER
180 S MAIN
IOLA, WI 54945
GLENN TEZLAFF
(715) 445-2913 (OFFICE)
IOLAWWTP@TDS.NET

## WISCONSIN DNR LIAISON

JAY SCHIEFELBEIN
DNR NORTHEAST REGIONAL HEADQUARTERS
2984 SHAWANO AVE
GREEN BAY, WI 54313-6727
(920) 360-3784
JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

## WISDOT PROJECT MANAGER

WENDY ARNESON, P.E.
681 SECOND AVE SOUTH
WISCONSIN RAPIDS, WI 54495
(715) 421-7391
WENDY.ARNESON@DOT.WI.GOV

## CONSULTANT PROJECT MANAGER

CORY IHDE, P.E.
CBS SQUARED, INC.
2500 E ENTERPRISE AVE, SUITE A
APPLETON, WI 54913
(920) 257-5025
CIHDE@CBSSQUAREDINC.COM

## 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.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112LBS/SY/IN.

APPLY TACK COAT AT 0.07 GAL/SY ON MILLED SURFACES.

RADIUS DIMENSIONS FOR THE CURB AND GUTTER ARE TO THE FLANGE LINE UNLESS OTHERWISE NOTED.

CURB AND GUTTER PLAN GRADES ARE AT THE FLANGE LINE UNLESS OTHERWISE NOTED.

## ORDER OF SECTION 2 DETAIL SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
GUARDRAIL DETAILS
CURB RAMP DETAILS
EROSION CONTROL AND STORM SEWER
PAVEMENT MARKING
ADVANCED WARNING
TRAFFIC CONTROL
DETOUR

2

## RUNOFF COEFFICIENT TABLE

| | HYDROLOGIC SOIL GROUP | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | | | B | | | C | | | D | | |
| | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | |
| LAND USE: | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER |
| ROW CROPS: | .08<br>.22 | .16<br>.30 | .22<br>.38 | .12<br>.26 | .20<br>.34 | .27<br>.44 | .15<br>.30 | .24<br>.37 | .33<br>.50 | .19<br>.34 | .28<br>.41 | .38<br>.56 |
| MEDIAN STRIPTURF: | .19<br>.24 | .20<br>.26 | .24<br>.30 | .19<br>.25 | .22<br>.28 | .26<br>.33 | .20<br>.26 | .23<br>.30 | .30<br>.37 | .20<br>.27 | .25<br>.32 | .30<br>.40 |
| SIDE SLOPETURF: | | | .25<br>.32 | | | .27<br>.34 | | | .28<br>.36 | | | .30<br>.38 |
| PAVEMENT: | | | | | | | | | | | | |
| ASPHALT: | .70 - .95 | | | | | | | | | | | |
| CONCRETE: | .80 - .95 | | | | | | | | | | | |
| BRICK: | .70 - .80 | | | | | | | | | | | |
| DRIVES, WALKS: | .75 - .85 | | | | | | | | | | | |
| ROOFS: | .75 - .95 | | | | | | | | | | | |
| GRAVEL ROADS, SHOULDERS: | .40 - .60 | | | | | | | | | | | |

TOTAL PROJECT AREA = 90.7 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.05 ACRES

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

2

BEGIN PROJECT 6260-00-72
STA 100+05
Y=518780.879
X=407279.126

VILLAGE OF IOLA

STH 49 / ADAMS ST

CTH J / PIERCE ST

IOLA CAR SHOW

STH 161

WASRUD RD

AANSTAD RD

KEATINGS LAKE DR

TOWN OF IOLA

TOWN OF HELVETIA

TOWN OF SCANDINAVIA

TOWN OF ST LAWERANCE

CULVERT CP706-W
STA 173+64
CPRCHE CLASS HE-IV 19x30-INCH REQ'D

CULVERT CP706-E
STA 173+68
CPRCHE CLASS HE-IV 19x30-INCH REQ'D

CPRC CLASS IV 24-INCH REQ'D
STA 160+24
CULVERT CP705

KLOPE RD

CULVERT CP708
STA 208+85
CPCPE 30-INCH REQ'D
REMOVING STRUCTURE
(EXISTING CATTLE PASS)

CULVERT CP707
STA 200+64
CPRC CLASS IV 24-INCH REQ'D

NETZLER RD

LITTLE WOLF RIVER

FLOODPLAIN BOUNDARY (TYP)

MATCHLINE STA 230+00

100 120 140 160 180 200 220

N

TOWN OF HELVETIA

CULVERT CP710-W
STA 279+60
CPRCHE CLASS HE-IV 19x30-INCH REQ'D

CULVERT CP710-E
STA 279+67
CPRCHE CLASS HE-IV 19x30-INCH REQ'D

BESTUL RD

LAKE KNUTSON RD

FLOODPLAIN BOUNDARY (TYP)

MATCHLINE STA 230+00

MATCHLINE STA 370+00

240 260 280 300 320 340 360

STH 161

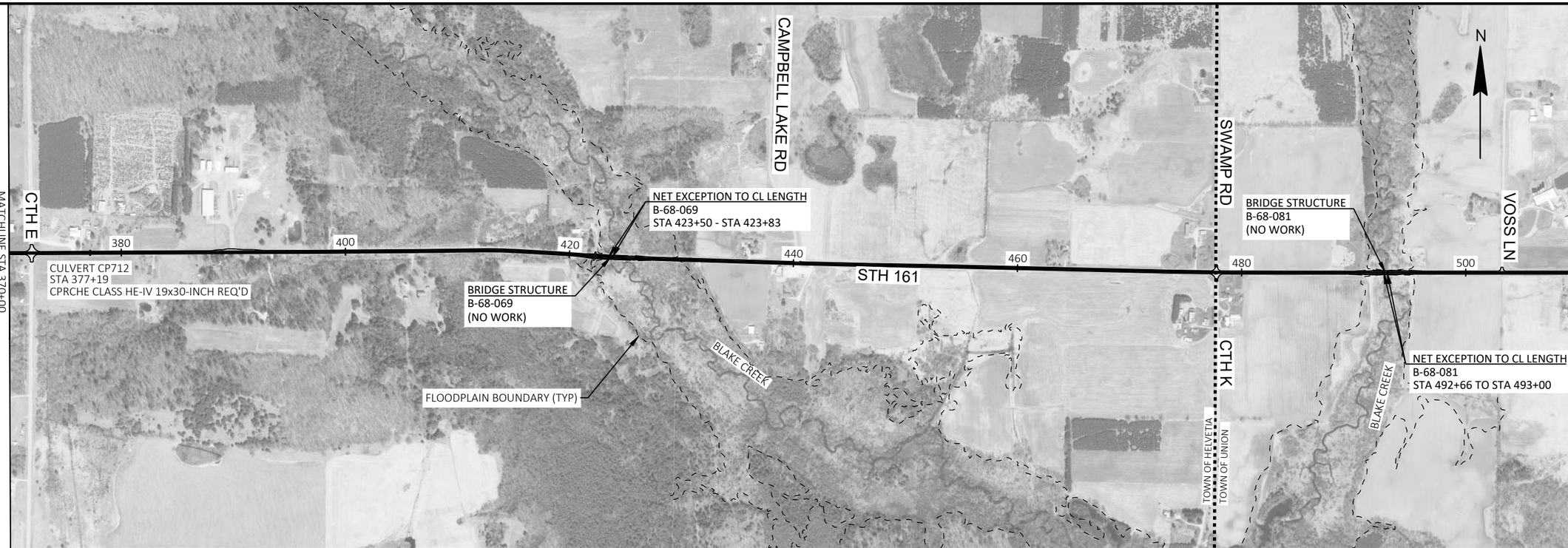
N

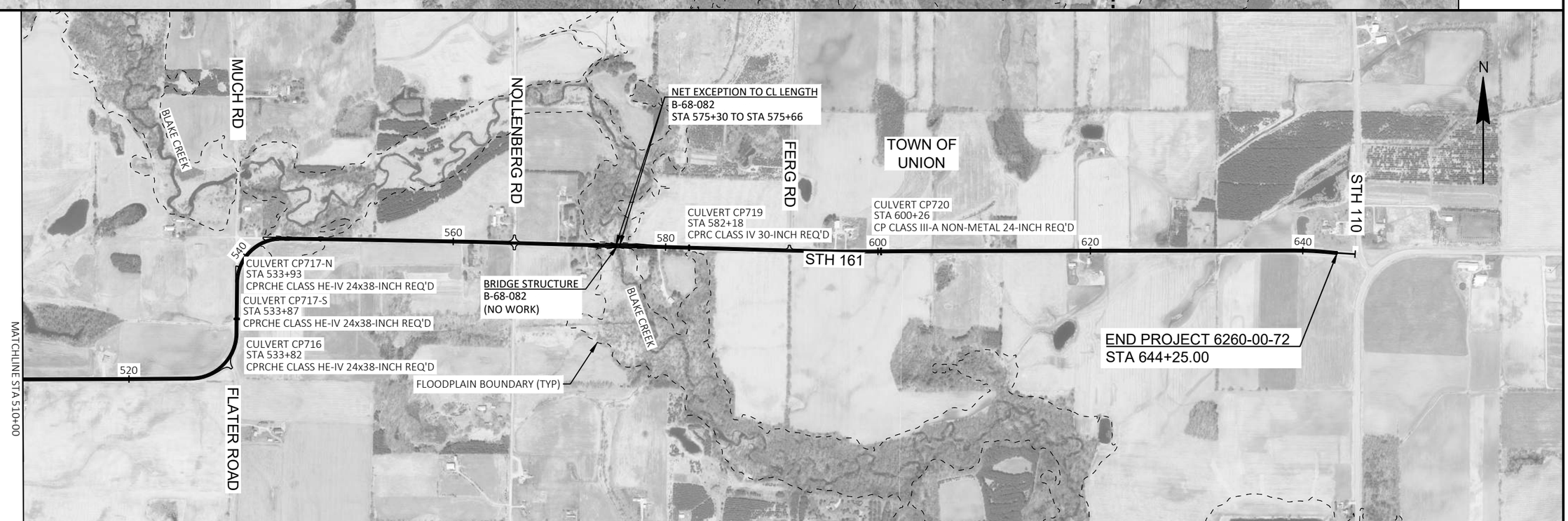
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PROJECT OVERVIEW | SHEET 3 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\020201-PO.DWG
LAYOUT NAME - 01

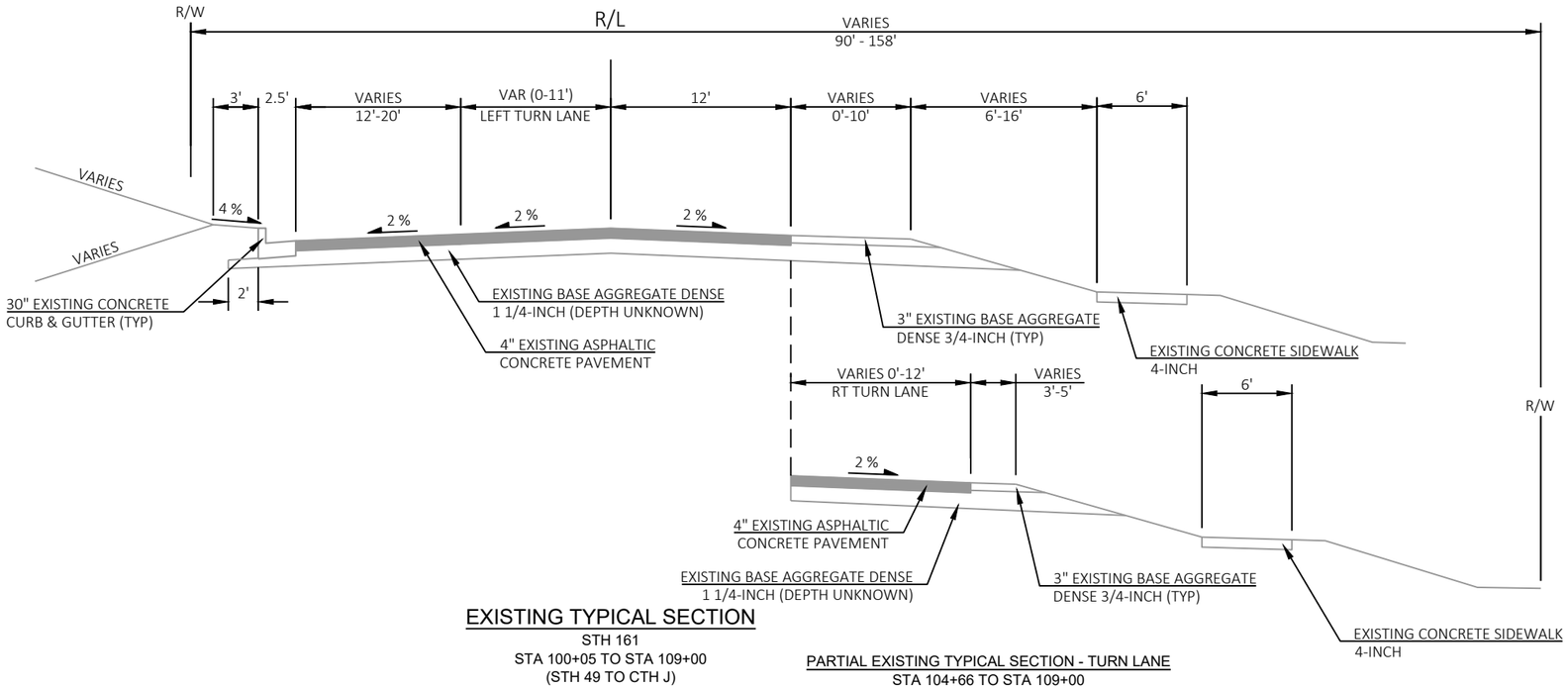
PLOT DATE : 5/29/2026 2:04 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:1000 FT

WISDOT/CADDS SHEET 44




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PROJECT OVERVIEW | SHEET 4 | E |
|---|---|---|---|---|---|

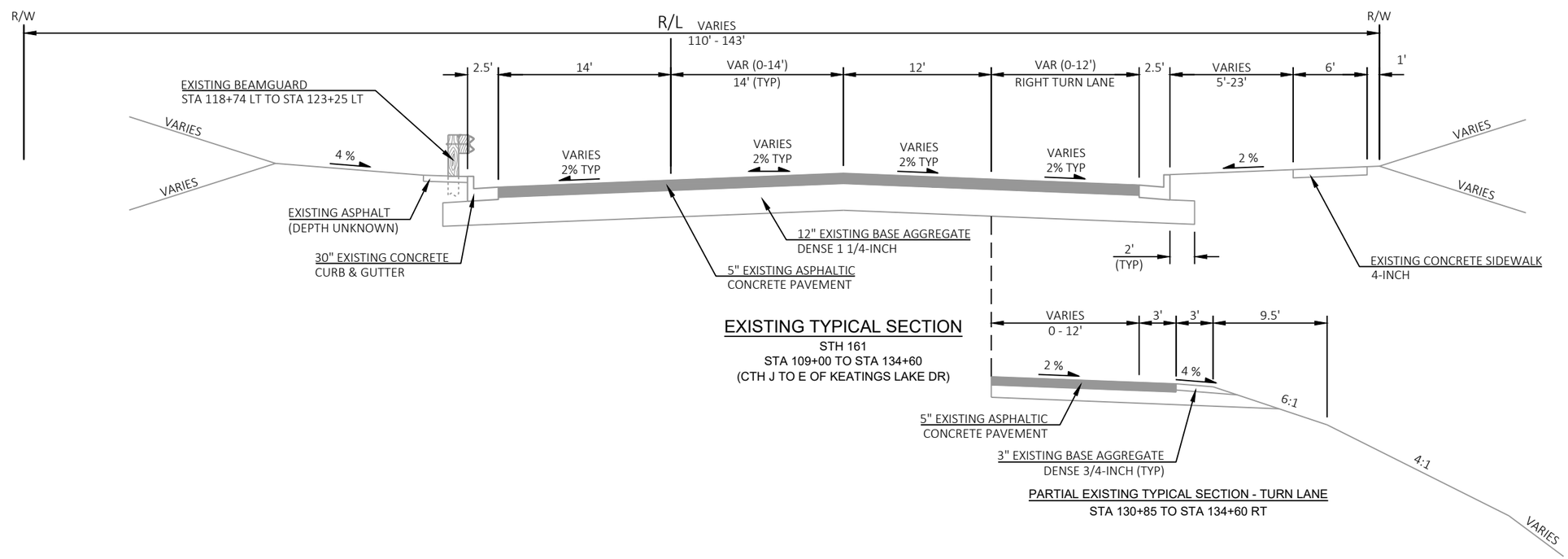



## EXISTING TYPICAL SECTION

STH 161
STA 100+05 TO STA 109+00
(STH 49 TO CTH J)

## PARTIAL EXISTING TYPICAL SECTION - TURN LANE

STA 104+66 TO STA 109+00



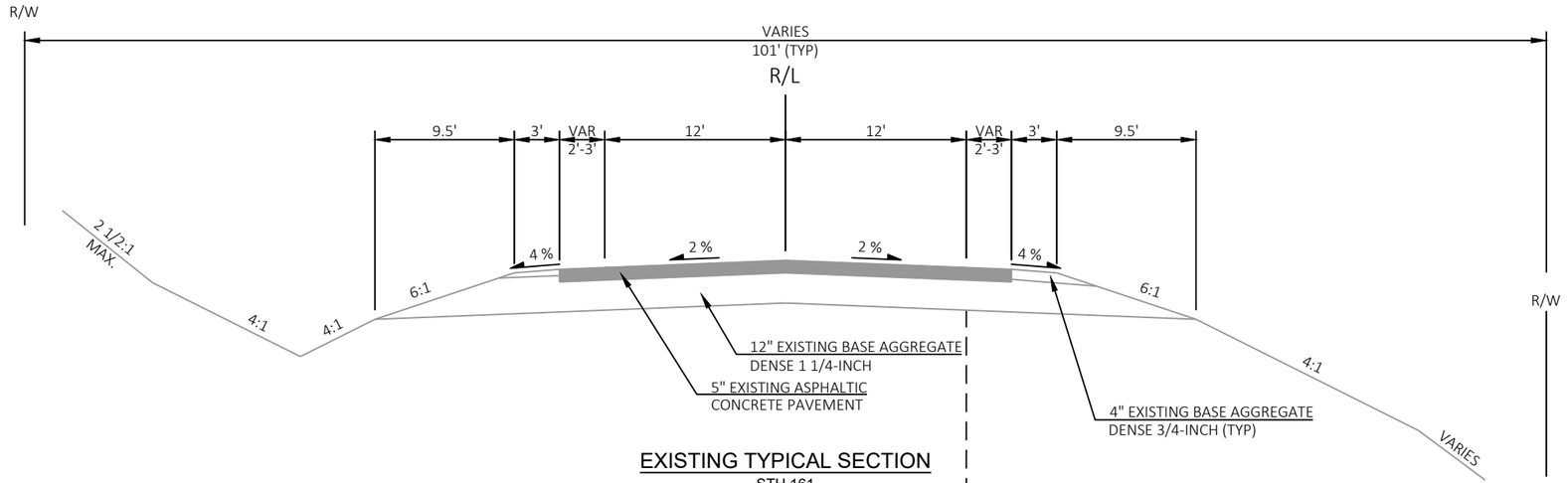

## EXISTING TYPICAL SECTION

STH 161
STA 109+00 TO STA 134+60
(CTH J TO E OF KEATINGS LAKE DR)

## PARTIAL EXISTING TYPICAL SECTION - TURN LANE

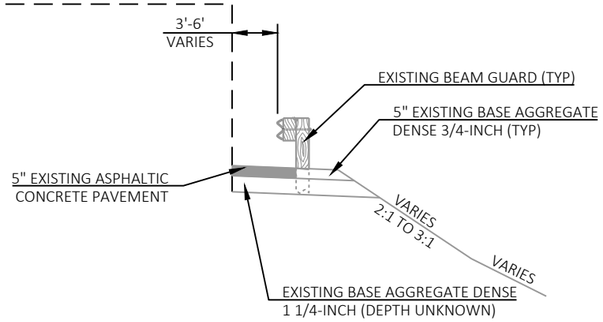
STA 130+85 TO STA 134+60 RT

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TYPICAL SECTIONS | SHEET 5 | E |
|---|---|---|---|---|---|



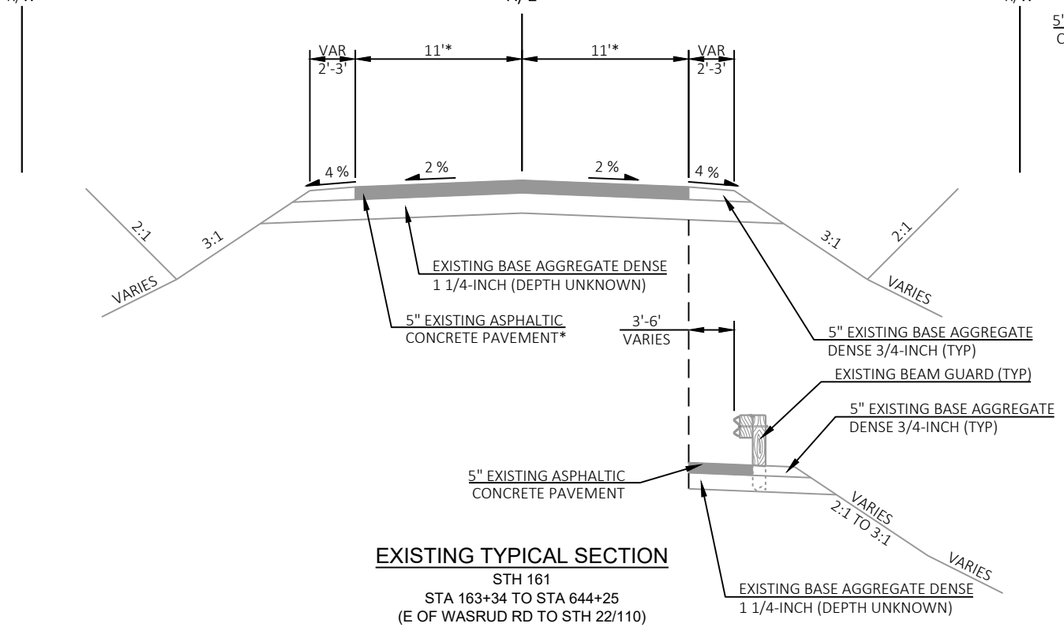

## EXISTING TYPICAL SECTION

STH 161
STA 134+60 TO STA 163+34
(E OF KEATINGS LAKE DR TO E OF WASRUD RD)




## PARTIAL EXISTING TYPICAL SECTION - BEAM GUARD

STA 161+56 TO STA 163+34 RT




## EXISTING TYPICAL SECTION

STH 161
STA 163+34 TO STA 644+25
(E OF WASRUD RD TO STH 22/110)

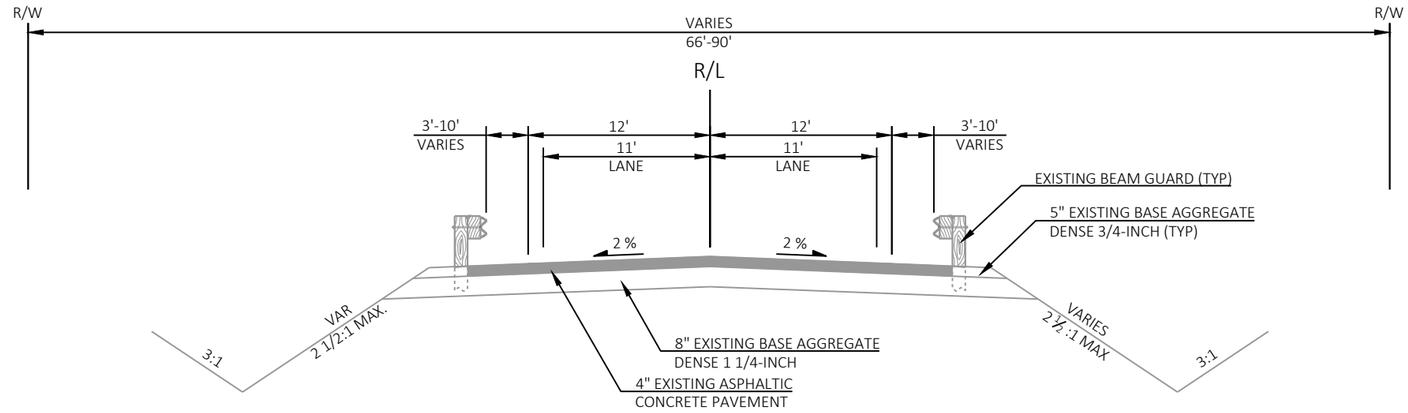
## PARTIAL EXISTING TYPICAL SECTION - BEAM GUARD

STA 163+34 TO STA 165+13 RT

*ASPHALTIC WEDGING (MAINTENANCE OVERLAYS) LOCATED THROUGHOUT ON OUTER 3/4 TO 1/2 OF TRAVEL LANES.

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TYPICAL SECTIONS | SHEET 6 | E |
|---|---|---|---|---|---|

2



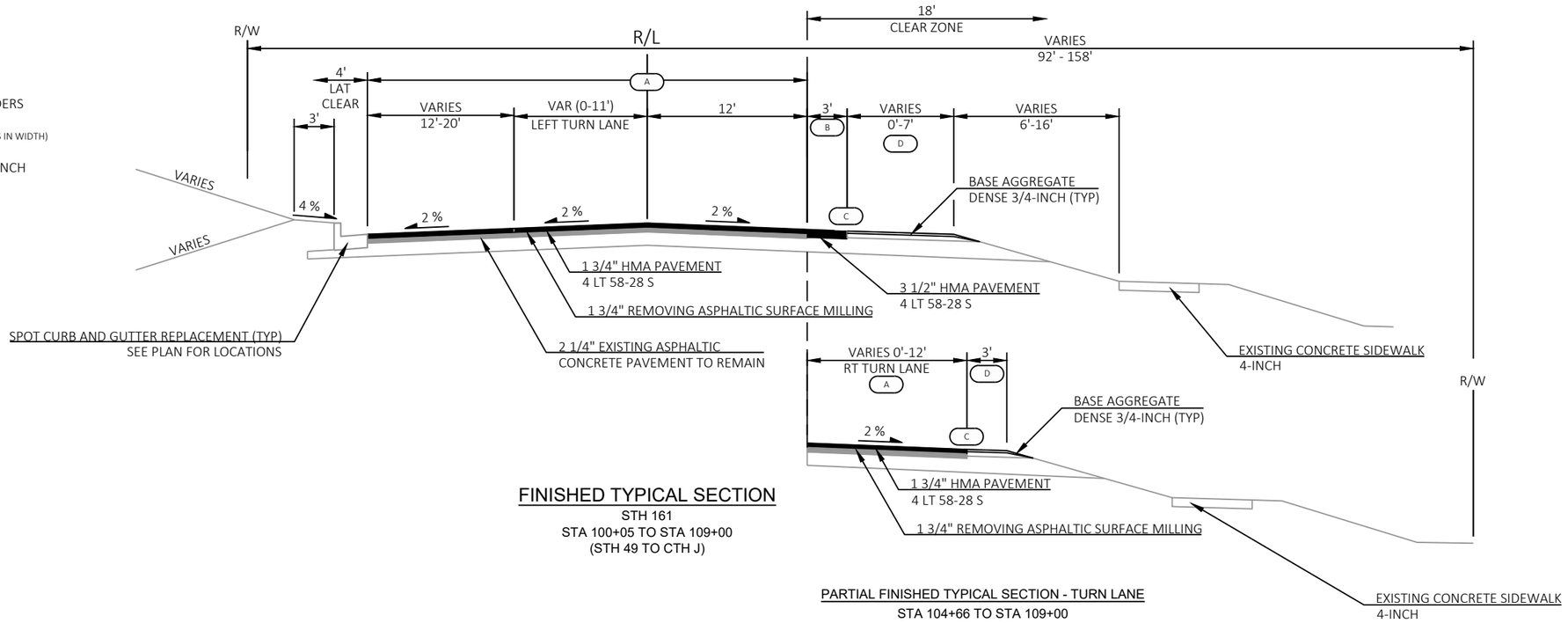

## EXISTING TYPICAL SECTION

STH 161
STA 422+13 TO STA 425+03
(B-68-69)
STA 491+10 TO STA 494+45
(B-68-81)
STA 574+15 TO STA 577+05
(B-68-82)

2

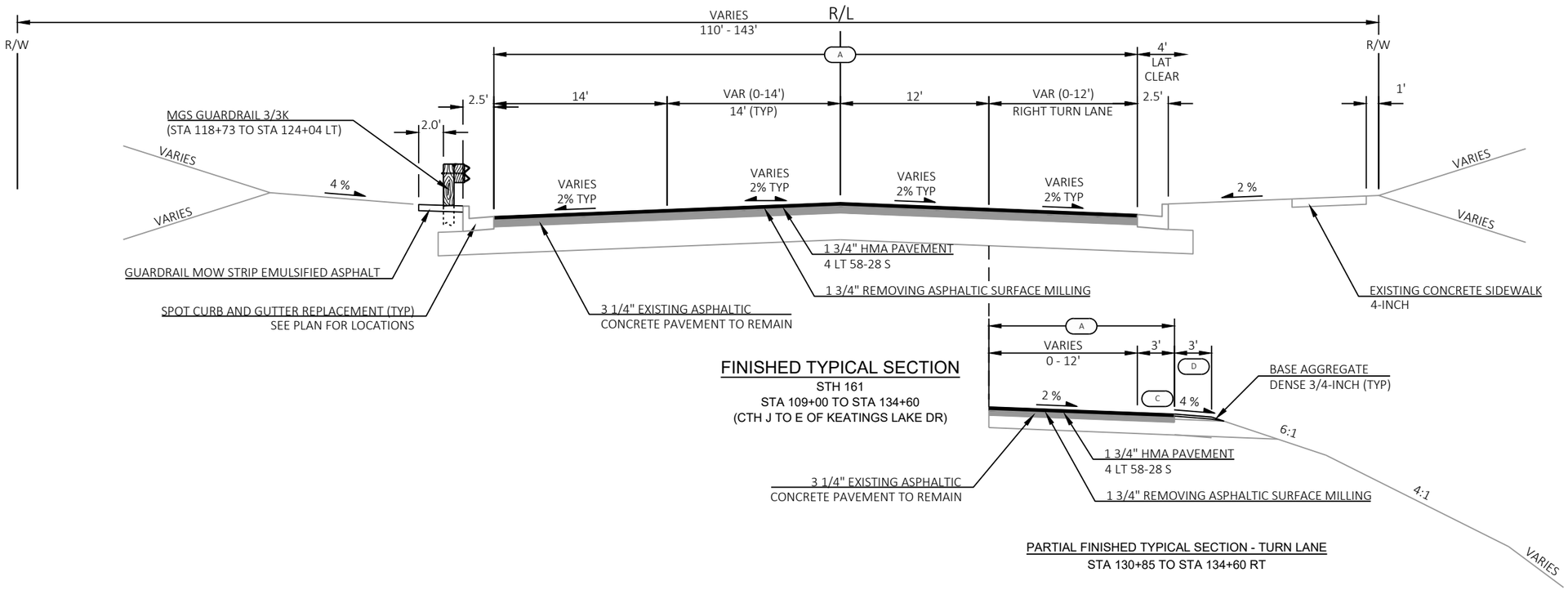
LEGEND:

- (A) -PREPARE FOUNDATION FOR ASPHALTIC PAVING
- (B) -PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
- (C) -SAFETY EDGE (INSTALLED ON ASPHALT SHOULDERS 3' OR LESS IN WIDTH)
- (D) -VARIABLE DEPTH BASE AGGREGATE DENSE 3/4-INCH
- (E) -ASPHALTIC RUMBLE STRIPS, CENTERLINE
- (REST) 4" TOPSOIL, EROSION MAT, FERTILIZER, SEED




FINISHED TYPICAL SECTION
STH 161
STA 100+05 TO STA 109+00
(STH 49 TO CTH J)

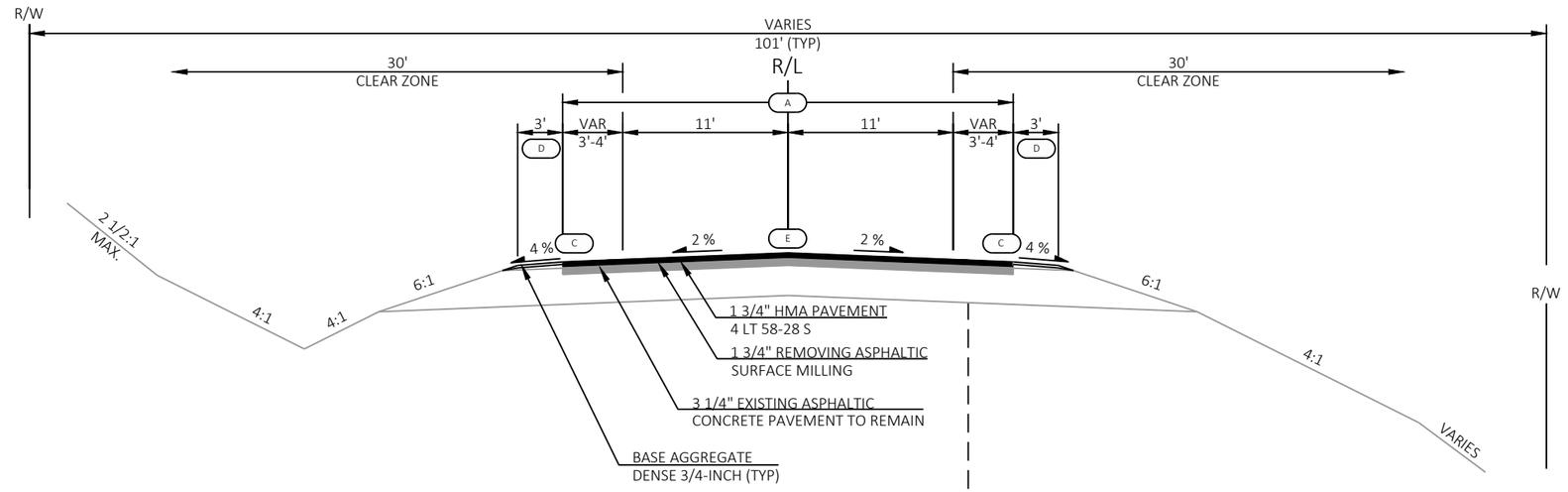
PARTIAL FINISHED TYPICAL SECTION - TURN LANE
STA 104+66 TO STA 109+00




FINISHED TYPICAL SECTION
STH 161
STA 109+00 TO STA 134+60
(CTH J TO E OF KEATINGS LAKE DR)

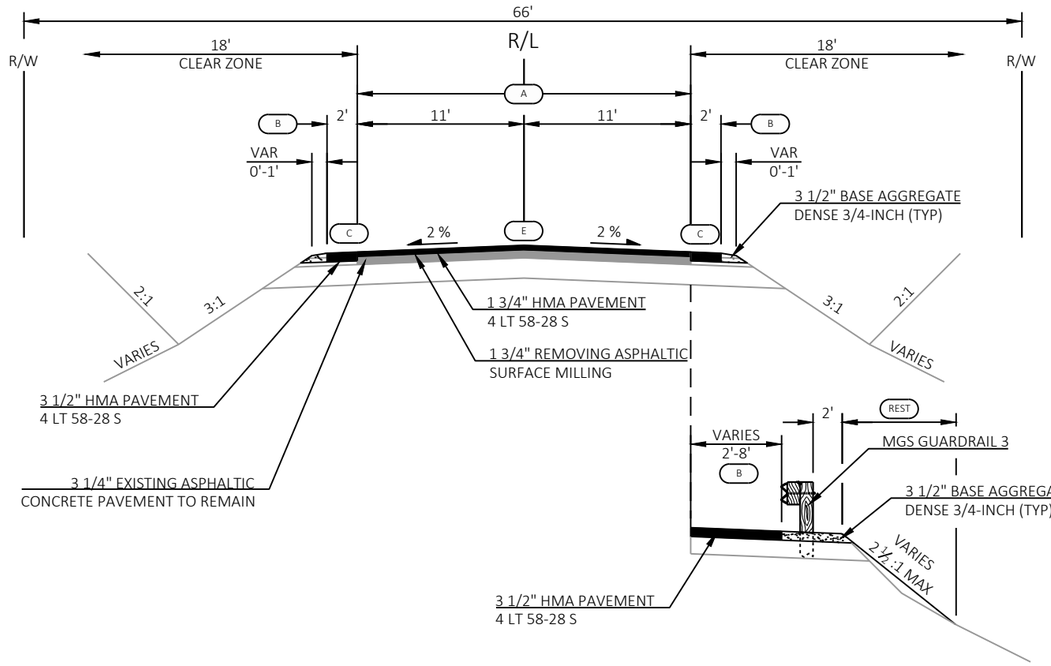
PARTIAL FINISHED TYPICAL SECTION - TURN LANE
STA 130+85 TO STA 134+60 RT

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TYPICAL SECTIONS | SHEET 8 | E |
|---|---|---|---|---|---|



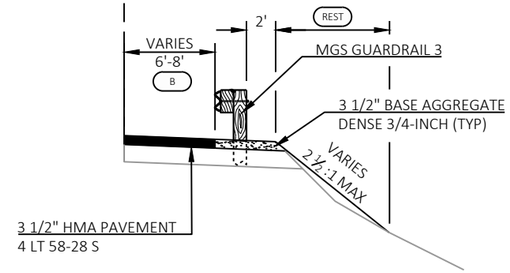

## FINISHED TYPICAL SECTION

STH 161
STA 134+60 TO STA 163+34
(E OF KEATINGS LAKE DR TO E OF WASRUD RD)




## FINISHED TYPICAL SECTION

STH 161
STA 163+34 TO STA 644+25
(E OF WASRUD RD TO STH 22/110)




## PARTIAL FINISHED TYPICAL SECTION - GUARDRAIL

STA 159+89 TO STA 163+34 RT

## PARTIAL FINISHED TYPICAL SECTION - GUARDRAIL

STA 163+34 TO STA 165+84 RT

LEGEND:

- (A) -PREPARE FOUNDATION FOR ASPHALTIC PAVING
- (B) -PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
- (C) -SAFETY EDGE (INSTALLED ON ASPHALT SHOULDERS 3' OR LESS IN WIDTH)
- (D) -VARIABLE DEPTH BASE AGGREGATE DENSE 3/4-INCH
- (E) -ASPHALTIC RUMBLE STRIPS, CENTERLINE
- (REST) 4" TOPSOIL, EROSION MAT, FERTILIZER, SEED

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TYPICAL SECTIONS | SHEET 9 | E |
|---|---|---|---|---|---|

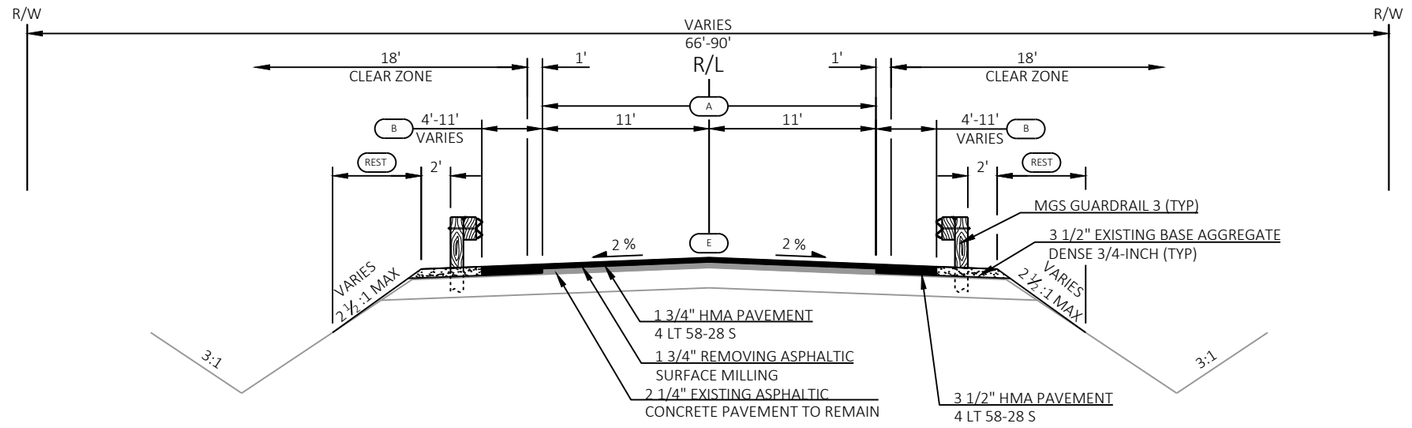
FILE NAME : O:\PDS\C3D\62600002\SHEETS\020301-TS.DWG
LAYOUT NAME - 05

PLOT DATE : 7/30/2026 7:06 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 42

LEGEND:

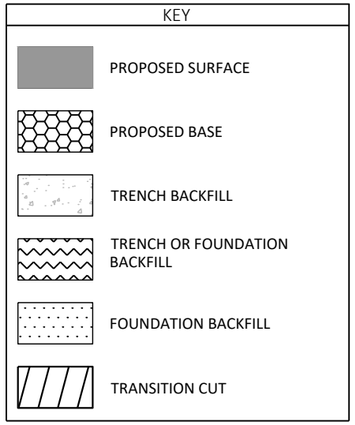
- (A) -PREPARE FOUNDATION FOR ASPHALTIC PAVING
- (B) -PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
- (C) -SAFETY EDGE (INSTALLED ON ASPHALT SHOULDERS 3' OR LESS IN WIDTH)
- (D) -VARIABLE DEPTH BASE AGGREGATE DENSE 3/4-INCH
- (E) -ASPHALTIC RUMBLE STRIPS, CENTERLINE
- (REST) 4" TOPSOIL, EROSION MAT, FERTILIZER, SEED

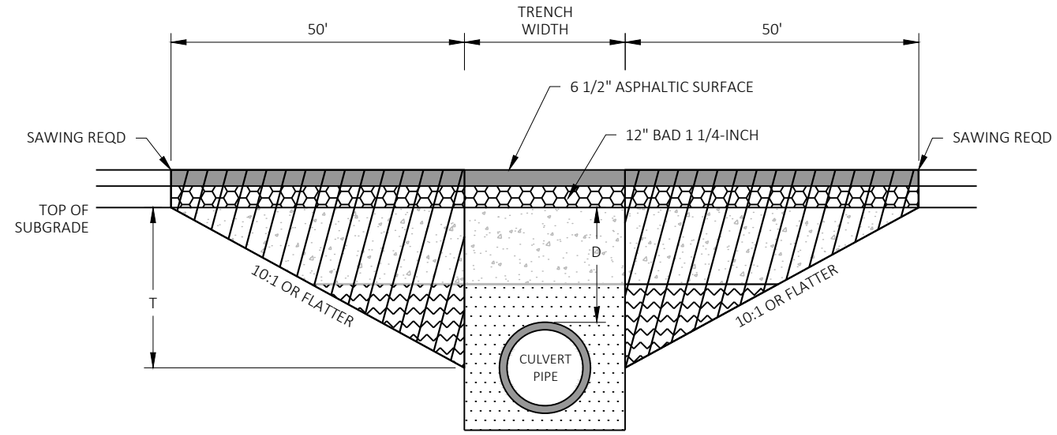



## FINISHED TYPICAL SECTION

STH 161
STA 420+04 TO STA 426+21
(B-68-69)
STA 490+66 TO STA 495+00
(B-68-81)
STA 573+30 TO STA 577+67
(B-68-82)

2




DEPTH D < 6 FT

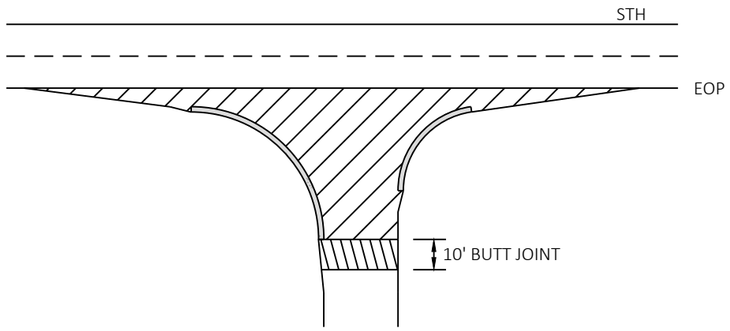
TRANSITION CUT DEPTH (T) = THE LESSER OF DEPTH TO CENTER OF PIPE OR 5 FT.
DO NOT EXTEND TRANSITION CUT BELOW HORIZONTAL CENTER OF PIPE.

**NOTES**

TRANSITION CUT IS PAID AS EXCAVATION COMMON.
TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.
BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.
PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING AND PAVING.
PLACE ASPHALTIC SURFACE AFTER CULVERT PIPE INSTALLATION AND BEFORE MILLING AND PAVING.

## CULVERT PIPE TRANSITION

| ROUTE | STA (CL) | DEPTH D (FT) | PIPE DIA (IN) | REMARKS |
|---|---|---|---|---|
| STH 161 | 173+62 | 0.21 | 19X30 | CP706-E |
| STH 161 | 173+68 | 0.21 | 19X30 | CP706-W |
| STH 161 | 200+64 | 0.58 | 24 | CP707 |
| STH 161 | 208+85 | 2.55 | 30 (42X60 EX.) | CP708-CATTLE PASS |
| STH 161 | 279+60 | 0.08 | 19X30 | CP710-W |
| STH 161 | 279+67 | 0.08 | 19X30 | CP710-E |
| STH 161 | 279+72 | 0.08 | 19X30 | CP710 |
| STH 161 | 377+19 | 0.12 | 19X30 | CP712 |
| STH 161 | 533+82 | 0.53 | 24X38 | CP716 |
| STH 161 | 533+87 | 0.53 | 24X38 | CP717-S |
| STH 161 | 533+93 | 0.53 | 24X38 | CP717-N |
| STH 161 | 582+18 | 0.45 | 30 | CP719 |
| STH 161 | 600+26 | 2.71 | 24 | CP720 |




REMOVING ASPHALTIC SURFACE MILLING

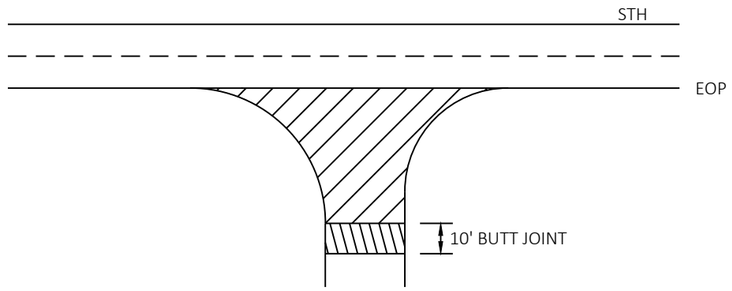
REMOVING ASPHALTIC SURFACE BUTT JOINTS
SEE BUTT JOINT DETAIL

NOTE: WHEN MATCHING TO AN UNPAVED SURFACE BUTT JOINT IS NOT REQUIRED

## SIDE ROADS

### WITH CURB AND GUTTER

CTH J / PIERCE ST
CHROME PL
IOLA CAR SHOW ENTRANCE
KEATINGS LAKE DR




REMOVING ASPHALTIC SURFACE MILLING

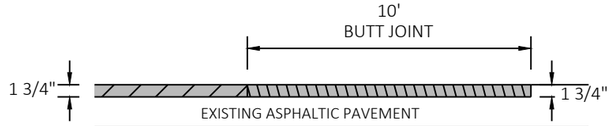
REMOVING ASPHALTIC SURFACE BUTT JOINTS
SEE BUTT JOINT DETAIL

NOTE: WHEN MATCHING TO AN UNPAVED SURFACE BUTT JOINT IS NOT REQUIRED

## SIDE ROADS

### WITHOUT CURB AND GUTTER

| | |
|---|---|
| AANSTAD RD | SWAMP RD |
| WASRUD RD | CAMPBELL LAKE RD |
| KLOPE RD | VOSS LN |
| TWIN GROVE RD | FLATER RD |
| NETZLER RD | MUCH RD |
| LAKE KNUTSON RD | NOLLENBERG RD |
| BESTUL RD | FERG RD |
| CTH E | CTH K |
| | WHITE CLOVER RD |



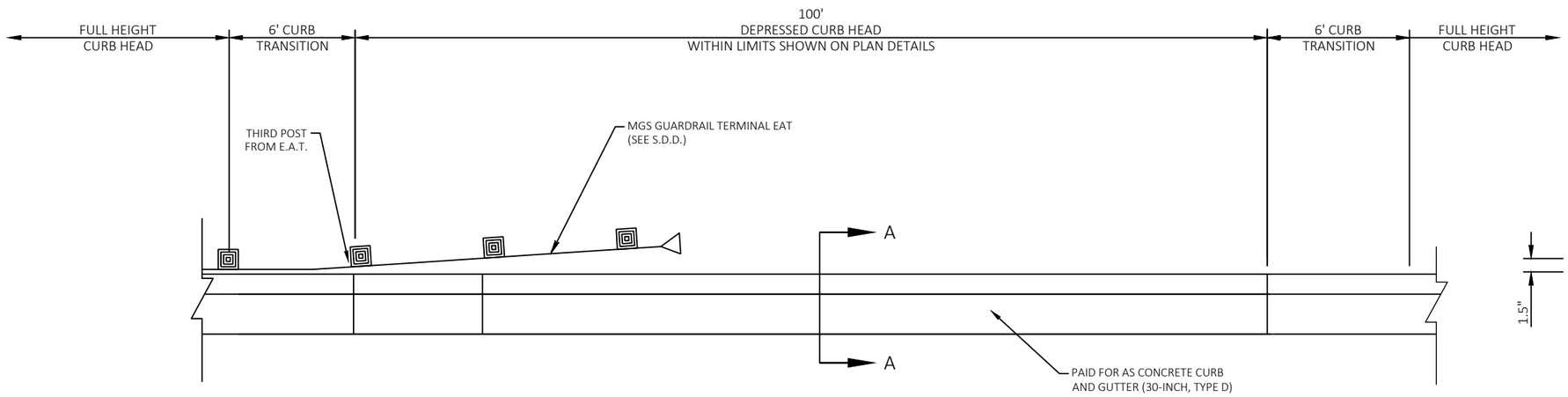

HMA PAVEMENT

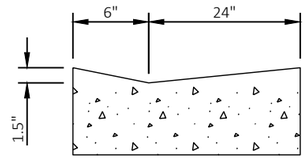
REMOVING ASPHALTIC SURFACE MILLING

REMOVING ASPHALTIC SURFACE BUTT JOINTS

## BUTT JOINT

BEGIN AND END PROJECT LIMITS, SIDE ROADS, AND BRIDGES

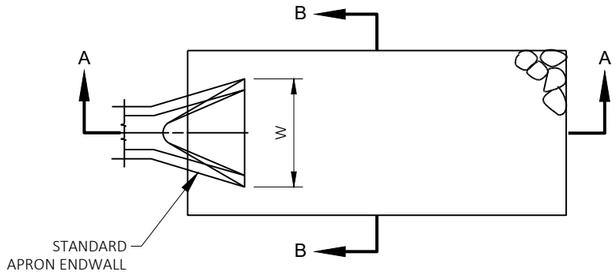


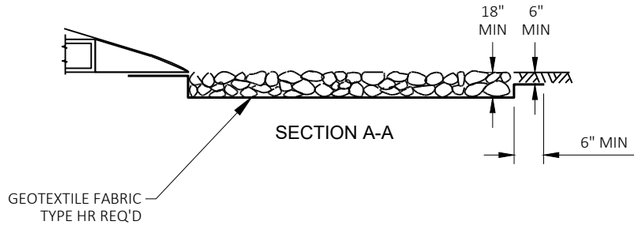



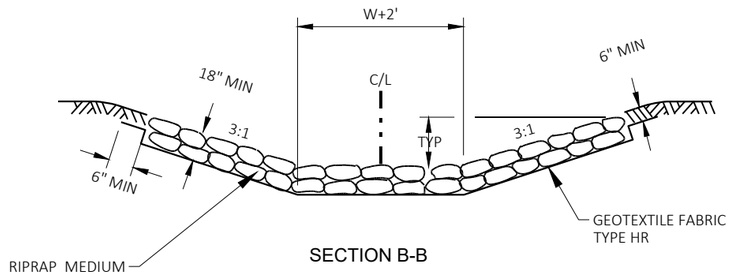

## SECTION A-A
DRIVEWAY CURB

## DRIVEWAY CURB AT GUARDRAIL EAT

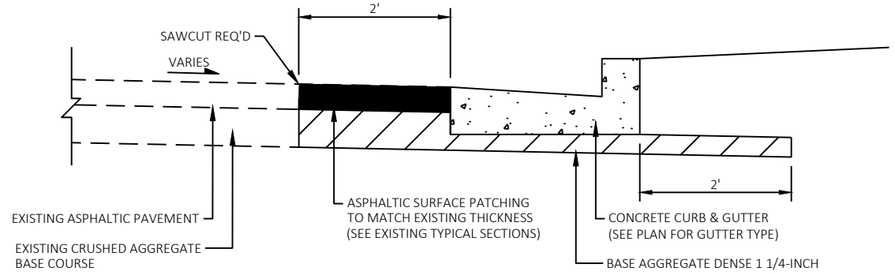
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CONSTRUCTION DETAILS | SHEET 12 | E |
|---|---|---|---|---|---|



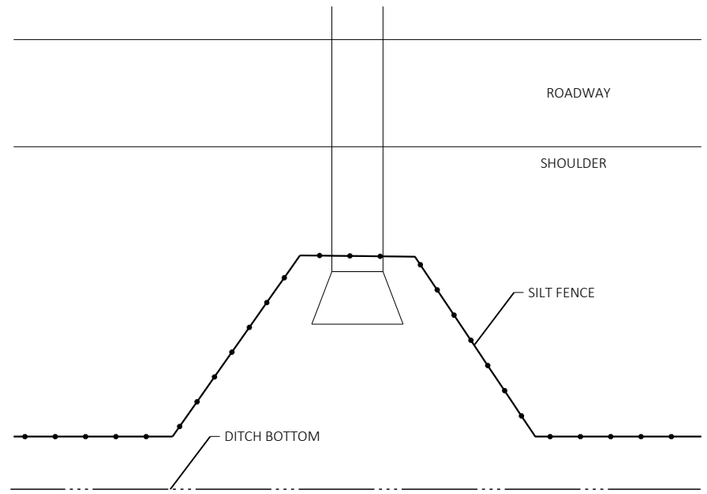




## RIP RAP AND GEOTEXTILE




## CONCRETE CURB AND GUTTER TYPE D REPLACEMENT

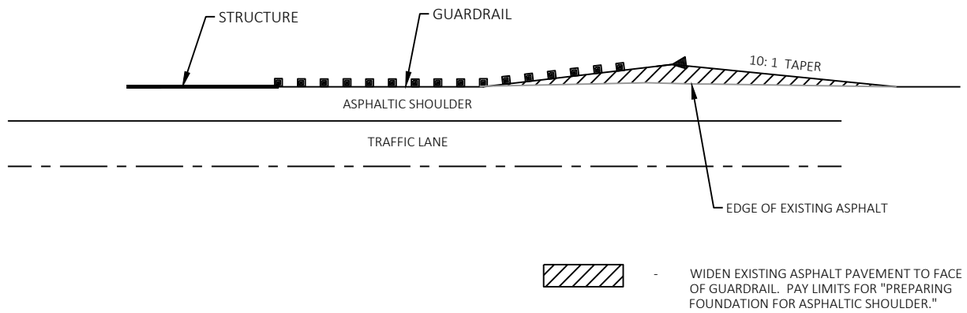
SEE SHEET PLANS FOR REPLACEMENT LOCATIONS



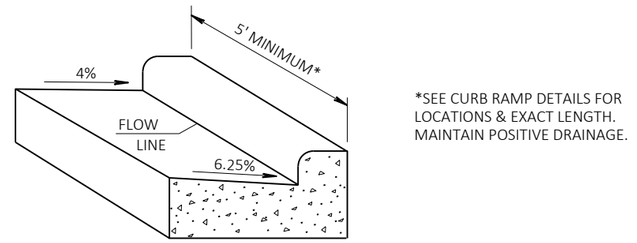

## TYPICAL SILT FENCE DETAIL AT PIPE INLET
## (AFTER CULVERT PIPE REPLACEMENT)

NOTE

SEE SILT FENCE SDD FOR ADDITIONAL INFORMATION.
TERMINATE SILT FENCE ENDS UP SLOPE.

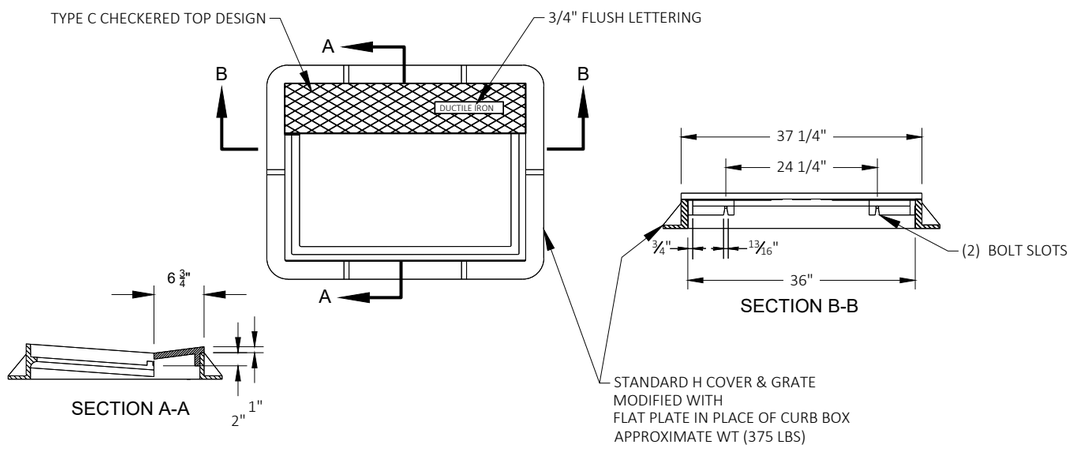



DETAIL FOR ASPHALTIC SHOULDER AT GUARDRAIL

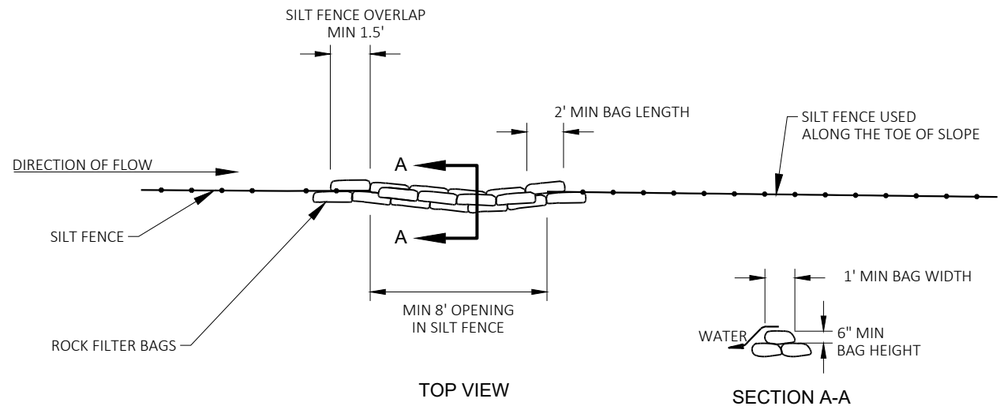



*SEE CURB RAMP DETAILS FOR LOCATIONS & EXACT LENGTH. MAINTAIN POSITIVE DRAINAGE.

DETAIL OF GUTTER SLOPE TRANSITION




INLET COVERS TYPE H-D
(WITH MOUNTABLE CURB PLATE)




ROCK BAGS USED FOR SILT FENCE RELIEF

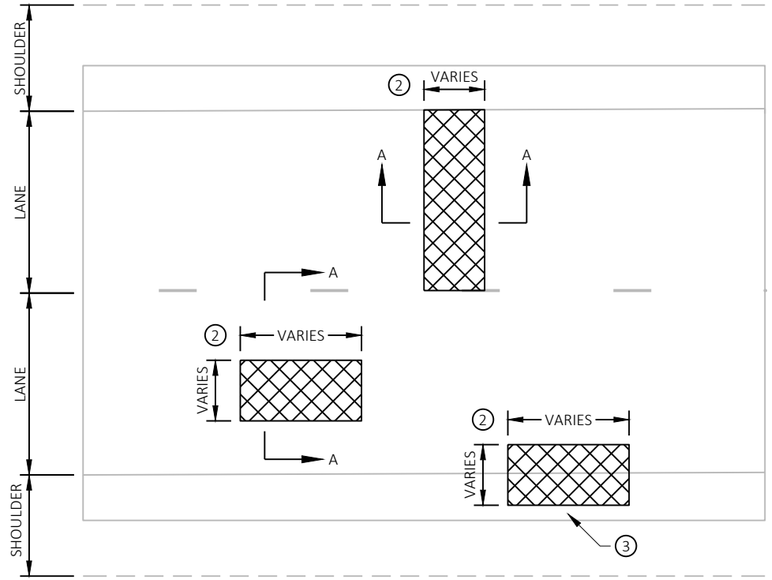
NOTES:

PERFORM REMOVING ASPHALTIC SURFACE MILLING PRIOR TO REMOVING DISTRESSED ASPHALTIC SURFACE MILLING

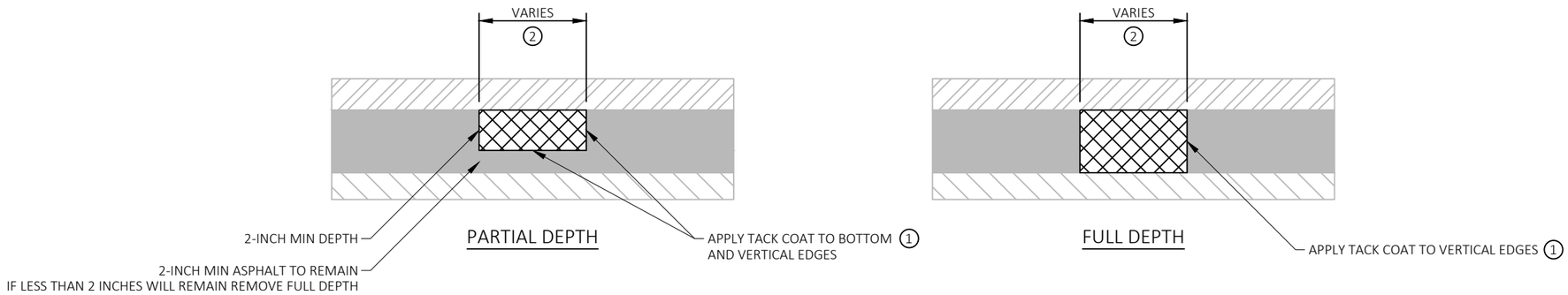
(1) MILLED VERTICAL EDGES ARE ACCEPTABLE, SAW CUTS ARE NOT REQUIRED.

(2) THE SMALLEST DIMENSION OF REMOVING DISTRESSED ASPHALTIC SURFACE MILLING IS 4 FEET IN ANY DIRECTION.

(3) WHEN THE DISTANCE FROM THE EDGE OF PAVEMENT TO EDGE OF REMOVING DISTRESSED ASPHALTIC SURFACE MILLING IS LESS THAN 1-FOOT, EXTEND THE REMOVING DISTRESSED ASPHALTIC SURFACE MILLING TO THE EDGE OF PAVEMENT.




PLAN VIEW




SECTION A-A

REMOVING ASPHALTIC SURFACE MILLING

REMOVING DISTRESSED ASPHALTIC SURFACE MILLING
ASPHALTIC SURFACE PATCHING

EXISTING ASPHALT

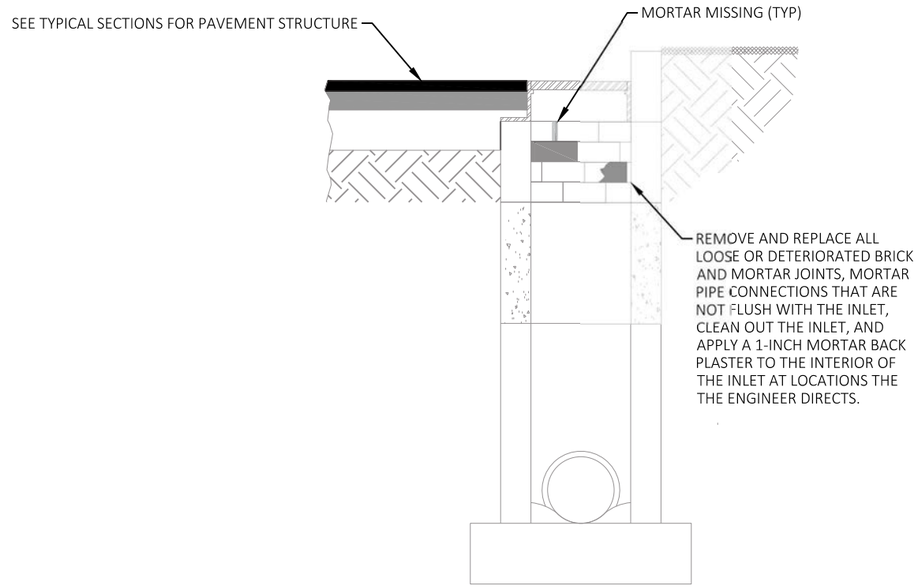
EXISTING BASE COURSE

## REMOVING DISTRESSED ASPHALTIC SURFACE MILLING

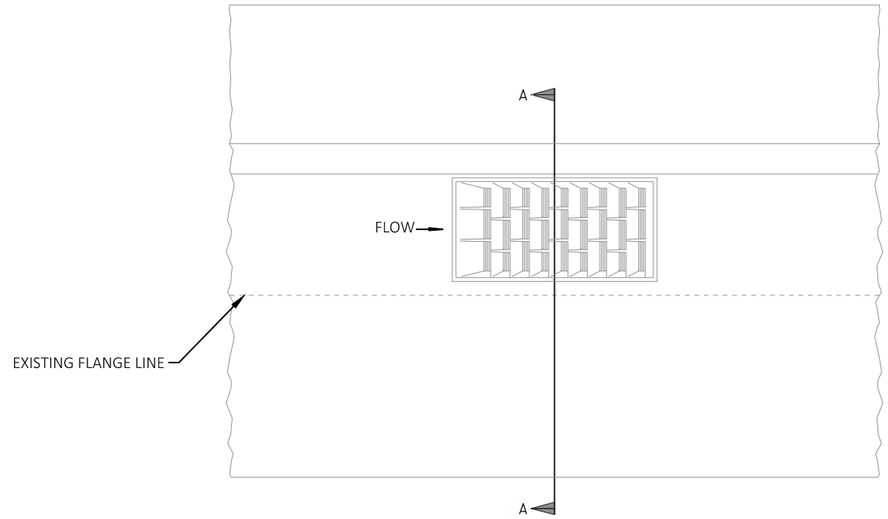
LOCATIONS AND LIMITS DETERMINED BY THE ENGINEER IN THE FIELD

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CONSTRUCTION DETAILS | SHEET 15 | E |
|---|---|---|---|---|---|

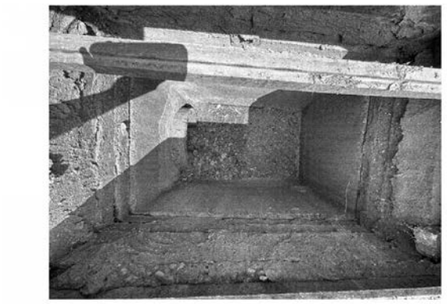
FILE NAME : O:\PDS\C3D\62600002\SHEETS\021001-CD.DWG
LAYOUT NAME - 05
PLOT DATE : 9/24/2026 2:40 PM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1:10
WISDOT/CADDS SHEET 42




EXISTING DRAINAGE STRUCTURE
SECTION A-A




PLAN VIEW



TYPICAL SCOPE OF RECONSTRUCTING INLETS

## RECONSTRUCTING INLETS

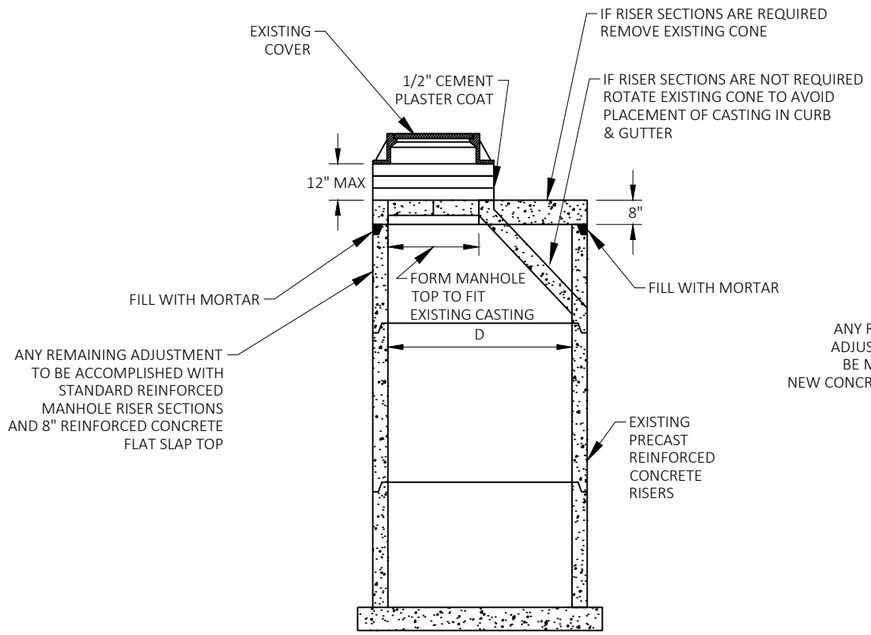
NOT TO SCALE

NOTES:

STRUCTURE DETAILS ARE INTENDED TO SHOW GENERAL CONDITION AND IS NOT AN EXACT REPRESENTATION OF EVERY STRUCTURE.

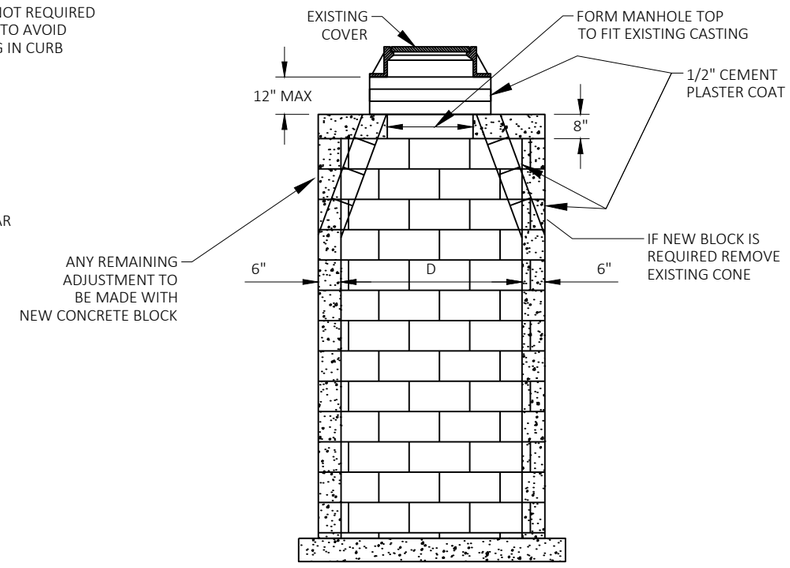
DETAILS NOT SHOWN SHALL CONFORM TO STANDARD DETAIL DRAWING FOR INLETS D-FT DIAMETER OR INLET WXL-FT

2



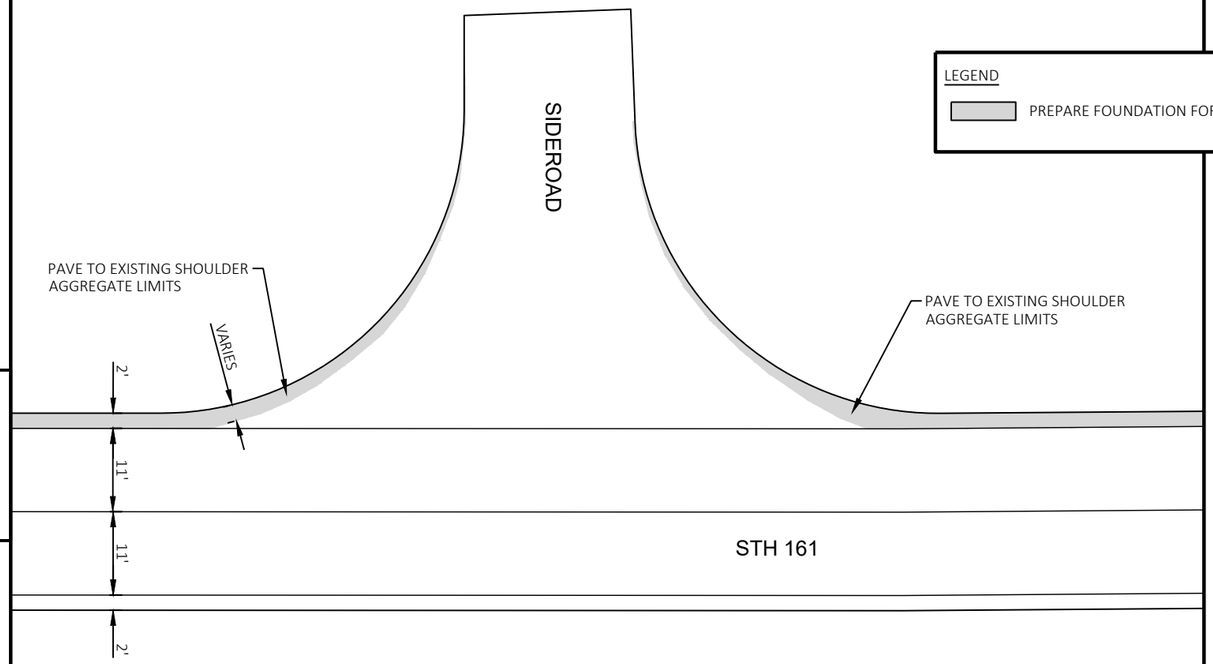

RECONSTRUCTING MANHOLES

NOTE:
DETAILS NOT SHOWN SHALL CONFORM TO STANDARD DETAIL DRAWING FOR MANHOLE D-FT DIAMETER



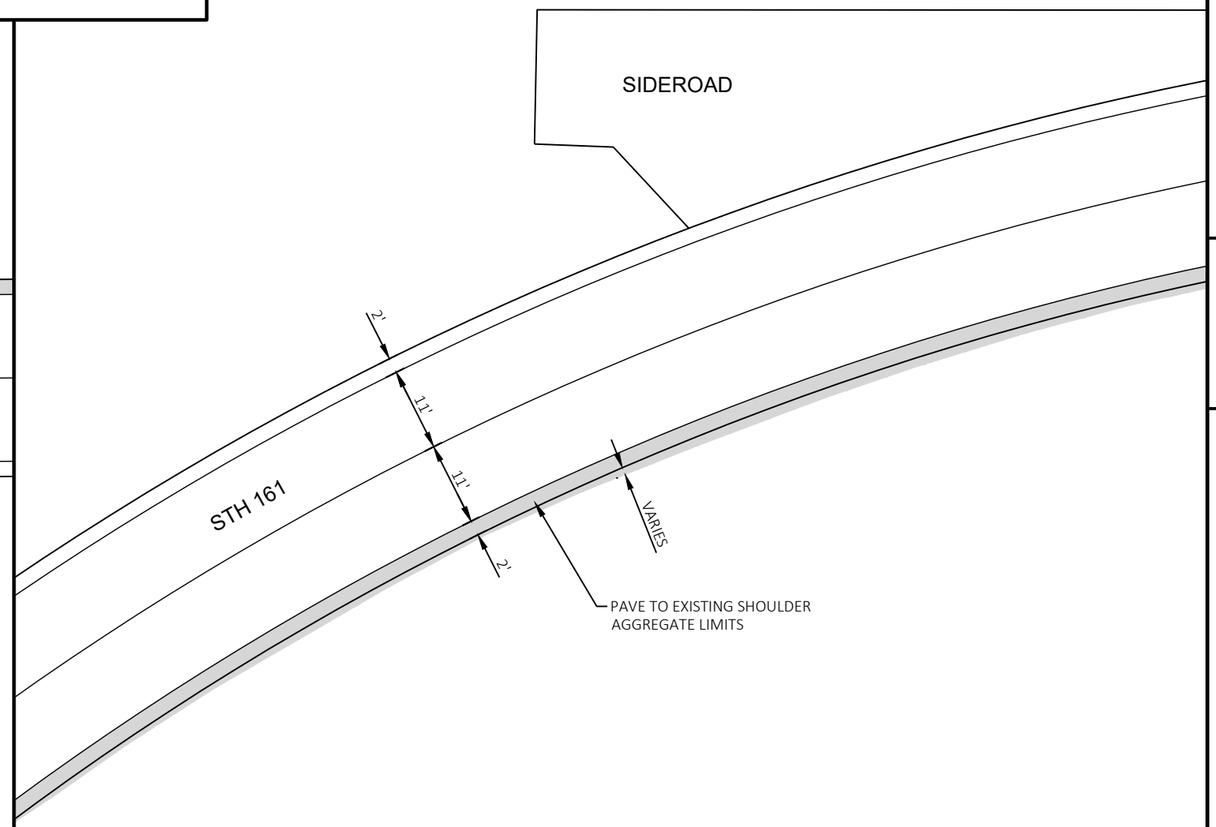

RECONSTRUCTING MANHOLES

NOTE:
DETAILS NOT SHOWN SHALL CONFORM TO STANDARD DETAIL DRAWING FOR MANHOLE D-FT DIAMETER




PAVED SHOULDERS AT RURAL INTERSECTIONS DETAIL
(TYPICAL ALL RURAL INTERSECTIONS)

LEGEND
PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS




PAVED SHOULDERS AT SUPERELEVATED CURVES DETAIL
(TYPICAL ALL LOW SIDE OF SUPERELEVATED CURVES)

5

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CONSTRUCTION DETAILS | SHEET 18 | E |
|---|---|---|---|---|---|

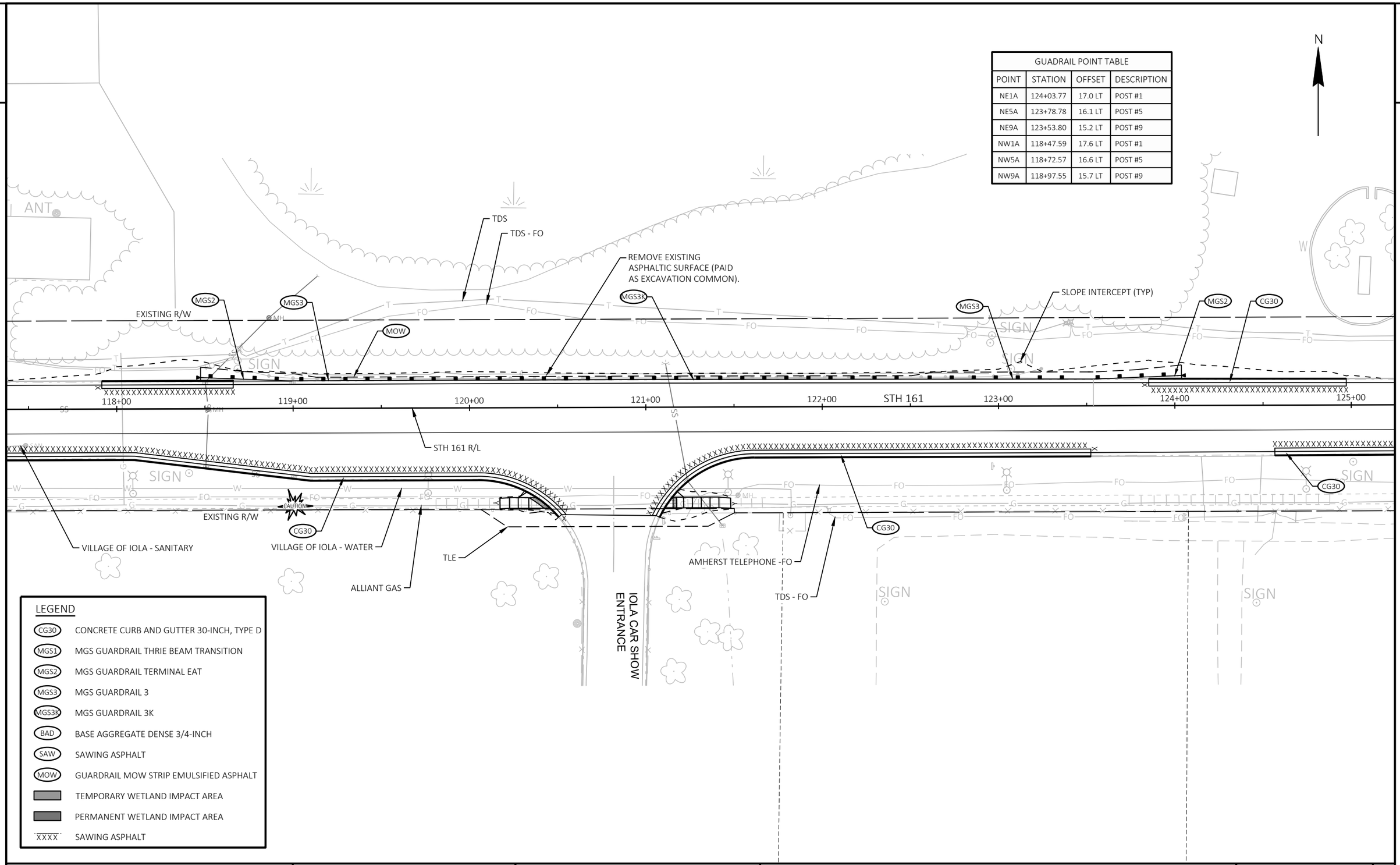
FILE NAME : O:\PDS\C3D\62600002\SHEETS\021002-CD.DWG
LAYOUT NAME - 01
PLOT DATE : 9/24/2026 2:41 PM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 44

2

2

N

| GUADRAIL POINT TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | DESCRIPTION |
| NE1A | 124+03.77 | 17.0 LT | POST #1 |
| NE5A | 123+78.78 | 16.1 LT | POST #5 |
| NE9A | 123+53.80 | 15.2 LT | POST #9 |
| NW1A | 118+47.59 | 17.6 LT | POST #1 |
| NW5A | 118+72.57 | 16.6 LT | POST #5 |
| NW9A | 118+97.55 | 15.7 LT | POST #9 |




LEGEND

| | |
|---|---|
| CG30 | CONCRETE CURB AND GUTTER 30-INCH, TYPE D |
| MGS1 | MGS GUARDRAIL THRIE BEAM TRANSITION |
| MGS2 | MGS GUARDRAIL TERMINAL EAT |
| MGS3 | MGS GUARDRAIL 3 |
| MGS3K | MGS GUARDRAIL 3K |
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| SAW | SAWING ASPHALT |
| MOW | GUARDRAIL MOW STRIP EMULSIFIED ASPHALT |
| | TEMPORARY WETLAND IMPACT AREA |
| | PERMANENT WETLAND IMPACT AREA |
| XXXX | SAWING ASPHALT |

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | GUARDRAIL DETAILS | SHEET 19 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\021201-PD.DWG
LAYOUT NAME - 01

PLOT DATE : 5/18/2026 3:57 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

2

2

N

| GUADRAIL POINT TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | DESCRIPTION |
| SE1B | 165+14.73 | 20.0 RT | POST #1 |
| SE5B | 164+89.75 | 19.1 RT | POST #5 |
| SE9B | 164+64.77 | 18.0 RT | POST #9 |
| SW1B | 160+17.55 | 20.0 RT | POST #1 |
| SW5B | 160+42.84 | 19.3 RT | POST #5 |
| SW9B | 160+68.11 | 18.0 RT | POST #9 |

ANSTAD RD

21+00

20+00

19+00

18+00

WASRUD RD

SIGN

POST

RIPRAP

EXISTING R/W

STH 161 R/L

STH 161

AMHERST TELEPHONE - FO

160+00

161+00

162+00

163+00

164+00

165+00

166+00

167+00

12'

12'

6'

4'

MOW

MGS2

MGS3

BAD

SLOPE INTERCEPT (TYP)

705-U SEE PLAN FOR CULVERT INFORMATION

705-D SEE PLAN FOR CULVERT INFORMATION

LEGEND

- CG30 CONCRETE CURB AND GUTTER 30-INCH, TYPE D
- MGS1 MGS GUARDRAIL THRIE BEAM TRANSITION
- MGS2 MGS GUARDRAIL TERMINAL EAT
- MGS3 MGS GUARDRAIL 3
- MGS3K MGS GUARDRAIL 3K
- BAD BASE AGGREGATE DENSE 3/4-INCH
- SAW SAWING ASPHALT
- MOW GUARDRAIL MOW STRIP EMULSIFIED ASPHALT
- TEMPORARY WETLAND IMPACT AREA
- PERMANENT WETLAND IMPACT AREA
- XXXX SAWING ASPHALT

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | GUARDRAIL DETAILS | SHEET 20 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\021201-PD.DWG
LAYOUT NAME - 02
PLOT DATE : 5/18/2026 3:58 PM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

2

## LEGEND

- CG30 — CONCRETE CURB AND GUTTER 30-INCH, TYPE D
- MGS1 — MGS GUARDRAIL THRIE BEAM TRANSITION
- MGS2 — MGS GUARDRAIL TERMINAL EAT
- MGS3 — MGS GUARDRAIL 3
- MGS3K — MGS GUARDRAIL 3K
- BAD — BASE AGGREGATE DENSE 3/4-INCH
- SAW — SAWING ASPHALT
- MOW — GUARDRAIL MOW STRIP EMULSIFIED ASPHALT
- TEMPORARY WETLAND IMPACT AREA
- PERMANENT WETLAND IMPACT AREA
- XXXX — SAWING ASPHALT

| GUADRAIL POINT TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | DESCRIPTION |
| NE1C | 425+68.76 | 17.0 LT | POST #1 |
| NE5C | 425+43.78 | 16.0 LT | POST #5 |
| NE9C | 425+18.80 | 15.0 LT | POST #9 |
| NW1C | 422+50.73 | 15.0 LT | POST #1 |
| NW5C | 422+75.88 | 15.0 LT | POST #5 |
| NW9C | 423+01.03 | 15.0 LT | POST #9 |

| GUADRAIL POINT TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | DESCRIPTION |
| SE1C | 425+81.25 | 17.0 RT | POST #1 |
| SE5C | 425+56.27 | 16.0 RT | POST #5 |
| SE9C | 425+31.29 | 15.0 RT | POST #9 |
| SW1C | 422+35.95 | 17.0 RT | POST #1 |
| SW5C | 422+60.85 | 15.9 RT | POST #5 |
| SW9C | 422+85.68 | 15.0 RT | POST #9 |

N

2

WETLAND BOUNDARY (TYP)
STH 161 R/L
SOLARUS - TELE
SOLARUS - FO
B-68-069
(NO WORK)
EXISTING R/W
CENTRAL WI ELEC COOP
WETLAND BOUNDARY (TYP)
T.L.E.
T.L.E.
RIPRAP
RIPRAP
RIPRAP
RIPRAP
420+00
421+00
422+00
423+00
424+00
425+00
426+00
427+00
STH 161
11'
11'
SAW
MGS2
BAD
MGS1
MGS3
SAW
BAD
MGS2
SLOPE INTERCEPT (TYP)
MGS2
T.L.E.
SAW
WETLAND BOUNDARY (TYP)
SLOPE INTERCEPT (TYP)
BAD
MGS1
MGS3
FIELD CUT REQUIRED
BLAKE CREEK
EXISTING R/W
MGS1
SAW
MGS3
WETLAND BOUNDARY (TYP)
BAD
T.L.E.
MGS2
APPROXIMATE FLOODPLAIN BOUNDARY (GIS)

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | GUARDRAIL DETAILS - B-68-69 | SHEET 21 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\021201-PD.DWG
LAYOUT NAME - 03
PLOT DATE : 5/18/2026 3:58 PM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

| GUADRAIL POINT TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | DESCRIPTION |
| NE1D | 494+60.39 | 17.0 LT | POST #1 |
| NE5D | 494+35.41 | 16.0 LT | POST #5 |
| NE9D | 494+10.43 | 15.0 LT | POST #9 |
| NW1D | 491+68.21 | 17.0 LT | POST #1 |
| NW5D | 491+93.19 | 16.0 LT | POST #5 |
| NW9D | 492+18.17 | 15.0 LT | POST #9 |

| GUADRAIL POINT TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | DESCRIPTION |
| SE1D | 493+98.21 | 17.0 RT | POST #1 |
| SE5D | 493+73.22 | 16.0 RT | POST #5 |
| SE9D | 493+48.24 | 15.0 RT | POST #9 |
| SW1D | 491+06.02 | 17.0 RT | POST #1 |
| SW5D | 491+31.00 | 16.0 RT | POST #5 |
| SW9D | 491+55.98 | 15.0 RT | POST #9 |

N

WETLAND BOUNDARY (TYP)

STH 161 R/L

SLOPE INTERCEPT (TYP)

WETLAND BOUNDARY (TYP)

EXISTING R/W

T.L.E.

STH 161

489+00 490+00 491+00 492+00 493+00 494+00 495+00 496+00

MGS1 MGS2 MGS3 SAW BAD MOW

CENTRAL WI ELEC COOP

WETLAND BOUNDARY (TYP)

APPROXIMATE FLOODPLAIN BOUNDARY (GIS)

B-68-081
(NO WORK)

BLAKE CREEK

APPROXIMATE FLOODPLAIN BOUNDARY (GIS)

LEGEND

- CG30 — CONCRETE CURB AND GUTTER 30-INCH, TYPE D
- MGS1 — MGS GUARDRAIL THRIE BEAM TRANSITION
- MGS2 — MGS GUARDRAIL TERMINAL EAT
- MGS3 — MGS GUARDRAIL 3
- MGS3K — MGS GUARDRAIL 3K
- BAD — BASE AGGREGATE DENSE 3/4-INCH
- SAW — SAWING ASPHALT
- MOW — GUARDRAIL MOW STRIP EMULSIFIED ASPHALT
- TEMPORARY WETLAND IMPACT AREA
- PERMANENT WETLAND IMPACT AREA
- XXXX — SAWING ASPHALT

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | GUARDRAIL DETAILS - B-68-81 | SHEET 22 | E |
|---|---|---|---|---|---|

| GUADRAIL POINT TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | DESCRIPTION |
| NE1E | 577+27.12 | 17.0 LT | POST #1 |
| NE5E | 577+02.14 | 16.0 LT | POST #5 |
| NE9E | 576+77.16 | 15.0 LT | POST #9 |
| NW1E | 574+31.90 | 17.0 LT | POST #1 |
| NW5E | 574+56.88 | 16.0 LT | POST #5 |
| NW9E | 574+81.86 | 15.0 LT | POST #9 |

| GUADRAIL POINT TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | DESCRIPTION |
| SE1E | 576+77.27 | 17.0 RT | POST #1 |
| SE5E | 576+52.29 | 16.0 RT | POST #5 |
| SE9E | 576+27.26 | 15.0 RT | POST #9 |
| SW1E | 573+69.46 | 17.0 RT | POST #1 |
| SW5E | 573+94.44 | 16.0 RT | POST #5 |
| SW9E | 574+19.42 | 15.0 RT | POST #9 |

N

APPROXIMATE FLOODPLAIN BOUNDARY (GIS)

WETLAND BOUNDARY (TYP)

MGS2 MOW

B-68-082 (NO WORK)

MGS3 MGS1 SAW MGS2 BAD

WETLAND BOUNDARY (TYP)

SOLARUS - TELE

T.L.E.

EXISTING R/W

STH 161 R/L

572+00 573+00 574+00 575+00 576+00 577+00 578+00 579

11' 11'

SAW SAW MGS1

STH 161

RIPRAP RIPRAP RIPRAP RIPRAP SIGN

OH GUT

EXISTING R/W

T.L.E.

MGS2 MGS3 BAD MGS1 MGS1 MGS2 SAW BAD

ALLIANT ENERGY - OH

SLOPE INTERCEPT (TYP)

WETLAND BOUNDARY (TYP)

BLAKE CREEK

WETLAND BOUNDARY (TYP)

APPROXIMATE FLOODPLAIN BOUNDARY (GIS)

APPROXIMATE FLOODPLAIN BOUNDARY (GIS)

LEGEND

- CG30 — CONCRETE CURB AND GUTTER 30-INCH, TYPE D
- MGS1 — MGS GUARDRAIL THRIE BEAM TRANSITION
- MGS2 — MGS GUARDRAIL TERMINAL EAT
- MGS3 — MGS GUARDRAIL 3
- MGS3K — MGS GUARDRAIL 3K
- BAD — BASE AGGREGATE DENSE 3/4-INCH
- SAW — SAWING ASPHALT
- MOW — GUARDRAIL MOW STRIP EMULSIFIED ASPHALT
- TEMPORARY WETLAND IMPACT AREA
- PERMANENT WETLAND IMPACT AREA
- XXXX — SAWING ASPHALT

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | GUARDRAIL DETAILS - B-68-82 | SHEET 23 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\021201-PD.DWG
LAYOUT NAME - 05

PLOT DATE : 5/18/2026 3:58 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

# CURB RAMP TYPE 4B1
## SW QUADRANT

| 0100 CTH J SW | | | | | |
|---|---|---|---|---|---|
| POINT NO. | STATION | OFFSET | ELEV. | NORTHING | EASTING |
| 100 | 108+72.50 | 57.41' RT | 976.47 | 395967.35 | 527945.63 |
| 101 | 108+69.14 | 47.81' RT | 976.55 | 395977.33 | 527943.32 |
| 102 | 108+66.36 | 42.18' RT | 976.59 | 395983.32 | 527941.17 |
| 103 | 108+30.83 | 25.40' RT | 976.44 | 396005.81 | 527907.23 |
| 104 | 108+63.77 | 42.58' RT | 976.51 | 395983.30 | 527938.41 |
| 105 | 108+61.90 | 42.87' RT | 976.54 | 395983.29 | 527936.41 |
| 106 | 108+58.16 | 43.48' RT | 976.60 | 395983.26 | 527932.41 |
| 107 | 108+53.49 | 44.27' RT | 976.68 | 395983.23 | 527927.41 |
| 108 | 108+49.28 | 44.54' RT | 976.60 | 395983.66 | 527922.97 |
| 109 | 108+49.66 | 50.30' RT | 976.51 | 395977.90 | 527922.45 |
| 110 | 108+54.07 | 50.25' RT | 976.67 | 395977.22 | 527927.10 |
| 111 | 108+59.03 | 49.41' RT | 976.59 | 395977.26 | 527932.45 |
| 112 | 108+62.74 | 48.81' RT | 976.53 | 395977.29 | 527936.45 |
| 113 | 108+64.60 | 48.51' RT | 976.50 | 395977.30 | 527938.45 |
| 114 | 108+66.73 | 48.18' RT | 976.50 | 395977.32 | 527940.73 |

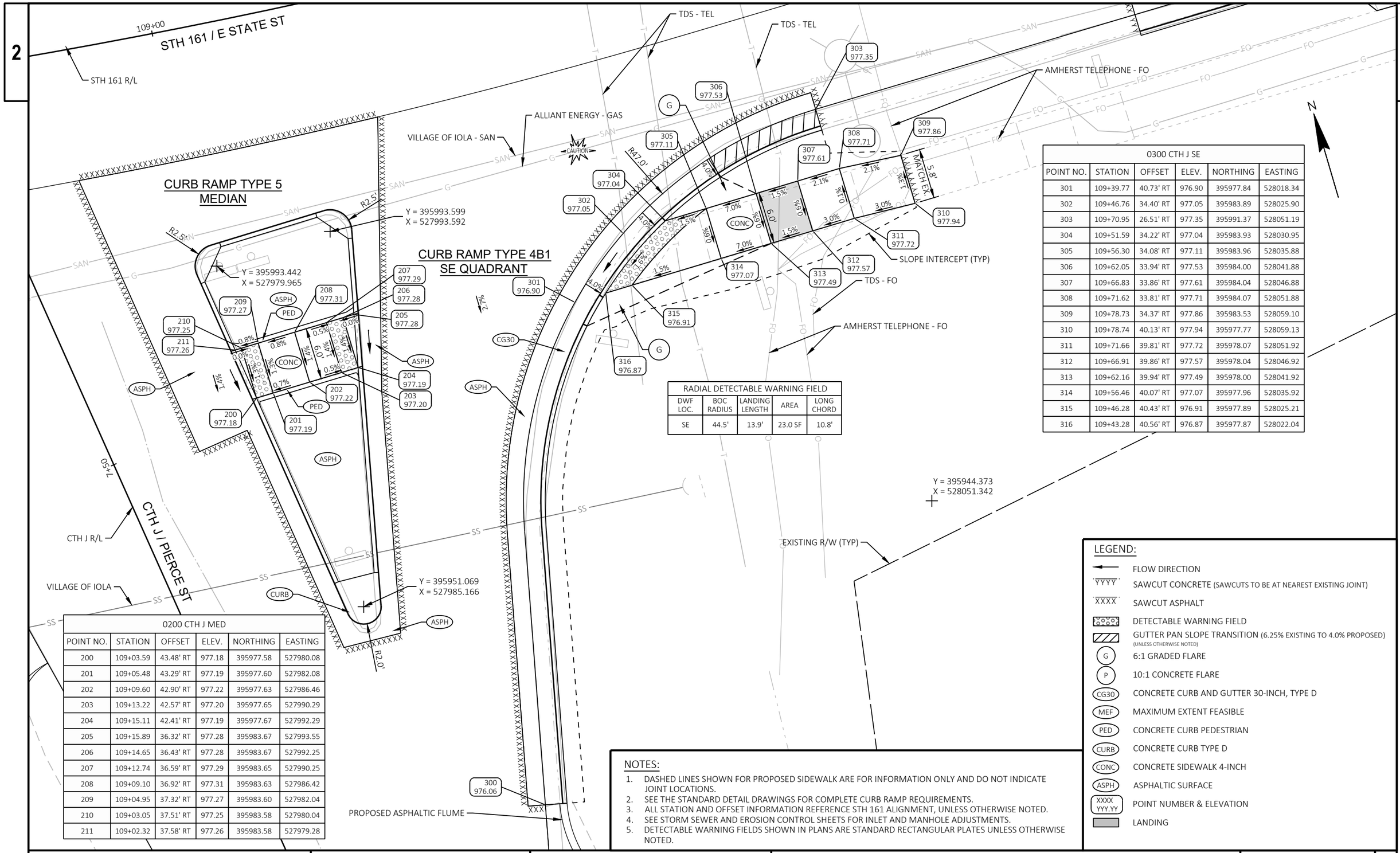
NOTES:

1. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
2. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
3. ALL STATION AND OFFSET INFORMATION REFERENCE STH 161 ALIGNMENT, UNLESS OTHERWISE NOTED.
4. SEE STORM SEWER AND EROSION CONTROL SHEETS FOR INLET AND MANHOLE ADJUSTMENTS.
5. DETECTABLE WARNING FIELDS SHOWN IN PLANS ARE STANDARD RECTANGULAR PLATES UNLESS OTHERWISE NOTED.

LEGEND:

- FLOW DIRECTION
- SAWCUT CONCRETE (SAWCUTS TO BE AT NEAREST EXISTING JOINT)
- SAWCUT ASPHALT
- DETECTABLE WARNING FIELD
- GUTTER PAN SLOPE TRANSITION (6.25% EXISTING TO 4.0% PROPOSED) (UNLESS OTHERWISE NOTED)
- G — 6:1 GRADED FLARE
- P — 10:1 CONCRETE FLARE
- CG30 — CONCRETE CURB AND GUTTER 30-INCH, TYPE D
- MEF — MAXIMUM EXTENT FEASIBLE
- PED — CONCRETE CURB PEDESTRIAN
- CURB — CONCRETE CURB TYPE D
- CONC — CONCRETE SIDEWALK 4-INCH
- ASPH — ASPHALTIC SURFACE
- XXXX YYY.YY — POINT NUMBER & ELEVATION
- LANDING

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CURB RAMP DETAILS | SHEET 24 | E |
|---|---|---|---|---|---|




| RADIAL DETECTABLE WARNING FIELD | | | | |
|---|---|---|---|---|
| DWF LOC. | BOC RADIUS | LANDING LENGTH | AREA | LONG CHORD |
| SE | 44.5' | 13.9' | 23.0 SF | 10.8' |

| 0300 CTH J SE | | | | | |
|---|---|---|---|---|---|
| POINT NO. | STATION | OFFSET | ELEV. | NORTHING | EASTING |
| 301 | 109+39.77 | 40.73' RT | 976.90 | 395977.84 | 528018.34 |
| 302 | 109+46.76 | 34.40' RT | 977.05 | 395983.89 | 528025.90 |
| 303 | 109+70.95 | 26.51' RT | 977.35 | 395991.37 | 528051.19 |
| 304 | 109+51.59 | 34.22' RT | 977.04 | 395983.93 | 528030.95 |
| 305 | 109+56.30 | 34.08' RT | 977.11 | 395983.96 | 528035.88 |
| 306 | 109+62.05 | 33.94' RT | 977.53 | 395984.00 | 528041.88 |
| 307 | 109+66.83 | 33.86' RT | 977.61 | 395984.04 | 528046.88 |
| 308 | 109+71.62 | 33.81' RT | 977.71 | 395984.07 | 528051.88 |
| 309 | 109+78.73 | 34.37' RT | 977.86 | 395983.53 | 528059.10 |
| 310 | 109+78.74 | 40.13' RT | 977.94 | 395977.77 | 528059.13 |
| 311 | 109+71.66 | 39.81' RT | 977.72 | 395978.07 | 528051.92 |
| 312 | 109+66.91 | 39.86' RT | 977.57 | 395978.04 | 528046.92 |
| 313 | 109+62.16 | 39.94' RT | 977.49 | 395978.00 | 528041.92 |
| 314 | 109+56.46 | 40.07' RT | 977.07 | 395977.96 | 528035.92 |
| 315 | 109+46.28 | 40.43' RT | 976.91 | 395977.89 | 528025.21 |
| 316 | 109+43.28 | 40.56' RT | 976.87 | 395977.87 | 528022.04 |

| 0200 CTH J MED | | | | | |
|---|---|---|---|---|---|
| POINT NO. | STATION | OFFSET | ELEV. | NORTHING | EASTING |
| 200 | 109+03.59 | 43.48' RT | 977.18 | 395977.58 | 527980.08 |
| 201 | 109+05.48 | 43.29' RT | 977.19 | 395977.60 | 527982.08 |
| 202 | 109+09.60 | 42.90' RT | 977.22 | 395977.63 | 527986.46 |
| 203 | 109+13.22 | 42.57' RT | 977.20 | 395977.65 | 527990.29 |
| 204 | 109+15.11 | 42.41' RT | 977.19 | 395977.67 | 527992.29 |
| 205 | 109+15.89 | 36.32' RT | 977.28 | 395983.67 | 527993.55 |
| 206 | 109+14.65 | 36.43' RT | 977.28 | 395983.67 | 527992.25 |
| 207 | 109+12.74 | 36.59' RT | 977.29 | 395983.65 | 527990.25 |
| 208 | 109+09.10 | 36.92' RT | 977.31 | 395983.63 | 527986.42 |
| 209 | 109+04.95 | 37.32' RT | 977.27 | 395983.60 | 527982.04 |
| 210 | 109+03.05 | 37.51' RT | 977.25 | 395983.58 | 527980.04 |
| 211 | 109+02.32 | 37.58' RT | 977.26 | 395983.58 | 527979.28 |

NOTES:

1. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
2. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
3. ALL STATION AND OFFSET INFORMATION REFERENCE STH 161 ALIGNMENT, UNLESS OTHERWISE NOTED.
4. SEE STORM SEWER AND EROSION CONTROL SHEETS FOR INLET AND MANHOLE ADJUSTMENTS.
5. DETECTABLE WARNING FIELDS SHOWN IN PLANS ARE STANDARD RECTANGULAR PLATES UNLESS OTHERWISE NOTED.

LEGEND:

- FLOW DIRECTION
- YYYY — SAWCUT CONCRETE (SAWCUTS TO BE AT NEAREST EXISTING JOINT)
- XXXX — SAWCUT ASPHALT
- DETECTABLE WARNING FIELD
- GUTTER PAN SLOPE TRANSITION (6.25% EXISTING TO 4.0% PROPOSED) (UNLESS OTHERWISE NOTED)
- G — 6:1 GRADED FLARE
- P — 10:1 CONCRETE FLARE
- CG30 — CONCRETE CURB AND GUTTER 30-INCH, TYPE D
- MEF — MAXIMUM EXTENT FEASIBLE
- PED — CONCRETE CURB PEDESTRIAN
- CURB — CONCRETE CURB TYPE D
- CONC — CONCRETE SIDEWALK 4-INCH
- ASPH — ASPHALTIC SURFACE
- XXXX YYY.YY — POINT NUMBER & ELEVATION
- LANDING

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CURB RAMP DETAILS | SHEET 25 | E |
|---|---|---|---|---|---|

2

## LEGEND:

- FLOW DIRECTION
- YYYY — SAWCUT CONCRETE (SAWCUTS TO BE AT NEAREST EXISTING JOINT)
- XXXX — SAWCUT ASPHALT
- DETECTABLE WARNING FIELD
- GUTTER PAN SLOPE TRANSITION (6.25% EXISTING TO 4.0% PROPOSED) (UNLESS OTHERWISE NOTED)
- G — 6:1 GRADED FLARE
- P — 10:1 CONCRETE FLARE
- CG30 — CONCRETE CURB AND GUTTER 30-INCH, TYPE D
- MEF — MAXIMUM EXTENT FEASIBLE
- PED — CONCRETE CURB PEDESTRIAN
- CURB — CONCRETE CURB TYPE D
- CONC — CONCRETE SIDEWALK 4-INCH
- ASPH — ASPHALTIC SURFACE
- XXXX YYY.YY — POINT NUMBER & ELEVATION
- LANDING

## NOTES:

1. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
2. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
3. ALL STATION AND OFFSET INFORMATION REFERENCE STH 161 ALIGNMENT, UNLESS OTHERWISE NOTED.
4. SEE STORM SEWER AND EROSION CONTROL SHEETS FOR INLET AND MANHOLE ADJUSTMENTS.
5. DETECTABLE WARNING FIELDS SHOWN IN PLANS ARE STANDARD RECTANGULAR PLATES UNLESS OTHERWISE NOTED.

| 0400 CHROME PL SW | | | | | |
|---|---|---|---|---|---|
| POINT NO. | STATION | OFFSET | ELEV. | NORTHING | EASTING |
| 400 | 115+08.64 | 64.67' RT | 976.63 | 395954.97 | 528589.10 |
| 401 | 115+02.22 | 57.00' RT | 976.54 | 395962.61 | 528582.66 |
| 402 | 114+95.38 | 50.98' RT | 976.45 | 395968.61 | 528575.80 |
| 403 | 114+91.06 | 51.00' RT | 976.33 | 395968.58 | 528571.48 |
| 404 | 114+87.30 | 51.00' RT | 976.39 | 395968.57 | 528567.72 |
| 405 | 114+81.30 | 51.00' RT | 976.81 | 395968.55 | 528561.72 |
| 406 | 114+76.30 | 51.00' RT | 976.89 | 395968.53 | 528556.72 |
| 407 | 114+71.30 | 51.00' RT | 977.04 | 395968.51 | 528551.72 |
| 408 | 114+66.05 | 51.49' RT | 977.20 | 395968.00 | 528546.47 |
| 409 | 114+66.10 | 57.27' RT | 977.31 | 395962.22 | 528546.54 |
| 410 | 114+71.30 | 57.00' RT | 977.14 | 395962.51 | 528551.74 |
| 411 | 114+76.30 | 57.00' RT | 976.97 | 395962.53 | 528556.74 |
| 412 | 114+81.30 | 57.00' RT | 976.90 | 395962.55 | 528561.74 |
| 413 | 114+87.30 | 57.00' RT | 976.48 | 395962.57 | 528567.74 |
| 414 | 114+95.64 | 57.00' RT | 976.48 | 395962.59 | 528576.08 |
| 415 | 114+98.64 | 57.00' RT | 976.43 | 395962.60 | 528579.08 |

STH 161 / E STATE ST

116+00

STH 161 R/L

N

VILLAGE OF IOLA

VILLAGE OF IOLA - SAN

VILLAGE OF IOLA - WATER

AMHERST TELEPHONE - FO

ALLIANT ENERGY - GAS

CAUTION

CHROME PL

CURB RAMP TYPE 4B1
SW QUADRANT

CURB RAMP TYPE 4B1
SE QUADRANT

SLOPE INTERCEPT (TYP)

MATCH EX.

CONC

EXISTING R/W (TYP)

EXISTING FENCE TO REMAIN

EXISTING FENCE TO BE REMOVED BY PROPERTY OWNER PRIOR TO CONSTRUCTION

T.L.E.

EXISTING R/W

| RADIAL DETECTABLE WARNING FIELD | | | | |
|---|---|---|---|---|
| DWF LOC. | BOC RADIUS | LANDING LENGTH | AREA | LONG CHORD |
| SW | 59.5' | 11.3' | 19.9 SF | 9.7' |

Y = 395918.970
X = 528538.624

| 0500 CHROME PL SE | | | | | |
|---|---|---|---|---|---|
| POINT NO. | STATION | OFFSET | ELEV. | NORTHING | EASTING |
| 500 | 115+58.55 | 61.39' RT | 976.47 | 395958.40 | 528639.00 |
| 501 | 115+60.93 | 57.00' RT | 976.37 | 395962.81 | 528641.37 |
| 502 | 115+65.00 | 51.00' RT | 976.23 | 395968.82 | 528645.42 |
| 503 | 115+71.71 | 43.58' RT | 976.06 | 395976.26 | 528652.11 |
| 504 | 115+68.19 | 51.00' RT | 976.12 | 395968.83 | 528648.61 |
| 505 | 115+70.19 | 51.00' RT | 976.20 | 395968.84 | 528650.61 |
| 506 | 115+74.19 | 51.00' RT | 976.36 | 395968.85 | 528654.61 |
| 507 | 115+79.19 | 51.00' RT | 976.43 | 395968.87 | 528659.61 |
| 508 | 115+84.19 | 51.00' RT | 976.46 | 395968.88 | 528664.61 |

| 0500 CHROME PL SE | | | | | |
|---|---|---|---|---|---|
| POINT NO. | STATION | OFFSET | ELEV. | NORTHING | EASTING |
| 509 | 115+88.95 | 51.52' RT | 976.49 | 395968.38 | 528669.37 |
| 510 | 115+89.02 | 57.23' RT | 976.60 | 395962.66 | 528669.46 |
| 511 | 115+84.19 | 57.00' RT | 976.57 | 395962.88 | 528664.63 |
| 512 | 115+79.19 | 57.00' RT | 976.53 | 395962.87 | 528659.63 |
| 513 | 115+74.19 | 57.00' RT | 976.46 | 395962.85 | 528654.63 |
| 514 | 115+70.19 | 57.00' RT | 976.30 | 395962.84 | 528650.63 |
| 515 | 115+68.19 | 57.00' RT | 976.22 | 395962.83 | 528648.63 |
| 516 | 115+63.87 | 57.00' RT | 976.26 | 395962.82 | 528644.30 |

Y = 395931.231
X = 528694.729

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CURB RAMP DETAILS | SHEET 26 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\021301-CR.DWG
LAYOUT NAME - 03

PLOT DATE : 9/24/2026 2:44 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 44

2

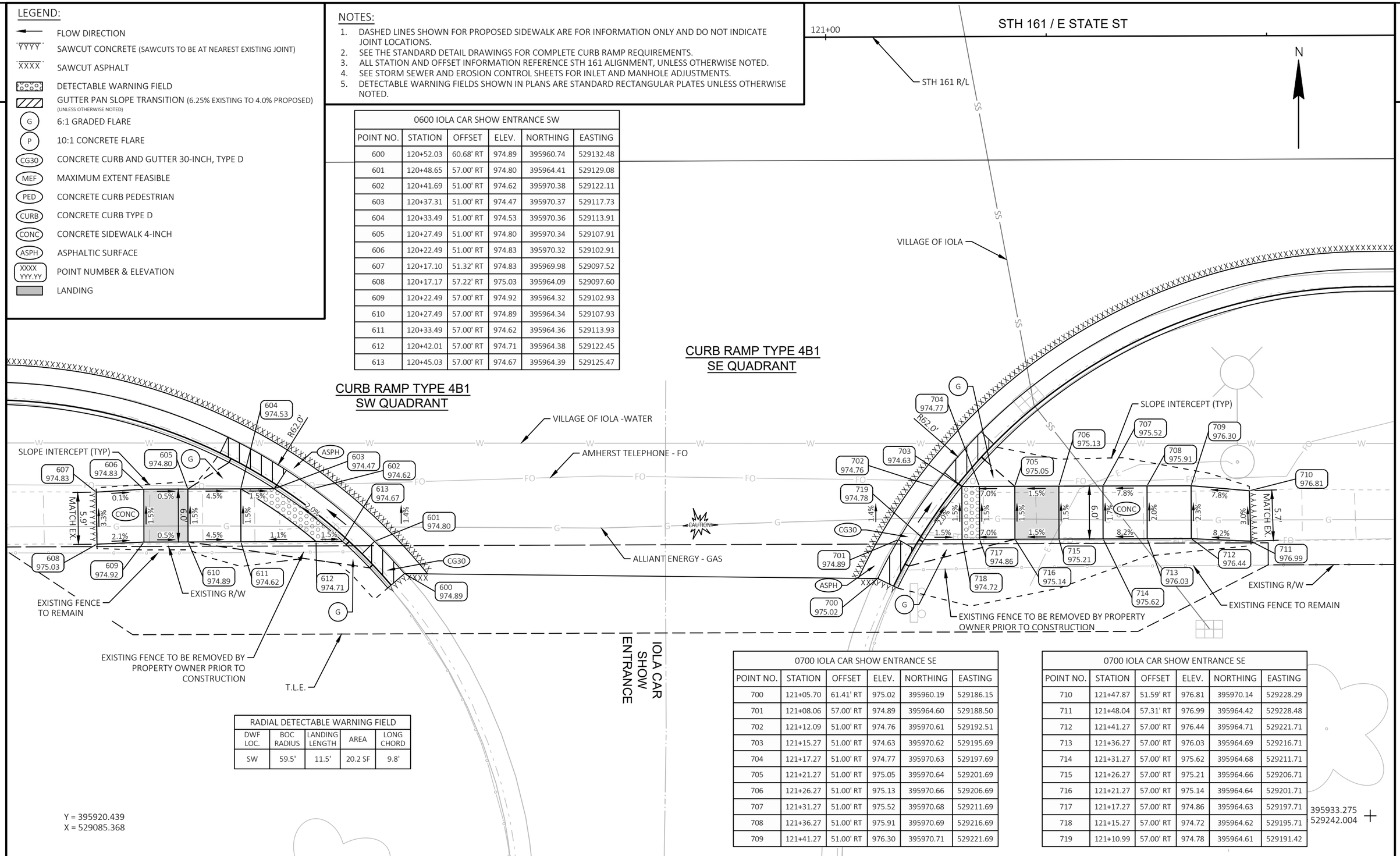
LEGEND:

- FLOW DIRECTION
- YYYY SAWCUT CONCRETE (SAWCUTS TO BE AT NEAREST EXISTING JOINT)
- XXXX SAWCUT ASPHALT
- DETECTABLE WARNING FIELD
- GUTTER PAN SLOPE TRANSITION (6.25% EXISTING TO 4.0% PROPOSED) (UNLESS OTHERWISE NOTED)
- G 6:1 GRADED FLARE
- P 10:1 CONCRETE FLARE
- CG30 CONCRETE CURB AND GUTTER 30-INCH, TYPE D
- MEF MAXIMUM EXTENT FEASIBLE
- PED CONCRETE CURB PEDESTRIAN
- CURB CONCRETE CURB TYPE D
- CONC CONCRETE SIDEWALK 4-INCH
- ASPH ASPHALTIC SURFACE
- XXXX YYY.YY POINT NUMBER & ELEVATION
- LANDING

NOTES:

1. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
2. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
3. ALL STATION AND OFFSET INFORMATION REFERENCE STH 161 ALIGNMENT, UNLESS OTHERWISE NOTED.
4. SEE STORM SEWER AND EROSION CONTROL SHEETS FOR INLET AND MANHOLE ADJUSTMENTS.
5. DETECTABLE WARNING FIELDS SHOWN IN PLANS ARE STANDARD RECTANGULAR PLATES UNLESS OTHERWISE NOTED.

| 0600 IOLA CAR SHOW ENTRANCE SW | | | | | |
|---|---|---|---|---|---|
| POINT NO. | STATION | OFFSET | ELEV. | NORTHING | EASTING |
| 600 | 120+52.03 | 60.68' RT | 974.89 | 395960.74 | 529132.48 |
| 601 | 120+48.65 | 57.00' RT | 974.80 | 395964.41 | 529129.08 |
| 602 | 120+41.69 | 51.00' RT | 974.62 | 395970.38 | 529122.11 |
| 603 | 120+37.31 | 51.00' RT | 974.47 | 395970.37 | 529117.73 |
| 604 | 120+33.49 | 51.00' RT | 974.53 | 395970.36 | 529113.91 |
| 605 | 120+27.49 | 51.00' RT | 974.80 | 395970.34 | 529107.91 |
| 606 | 120+22.49 | 51.00' RT | 974.83 | 395970.32 | 529102.91 |
| 607 | 120+17.10 | 51.32' RT | 974.83 | 395969.98 | 529097.52 |
| 608 | 120+17.17 | 57.22' RT | 975.03 | 395964.09 | 529097.60 |
| 609 | 120+22.49 | 57.00' RT | 974.92 | 395964.32 | 529102.93 |
| 610 | 120+27.49 | 57.00' RT | 974.89 | 395964.34 | 529107.93 |
| 611 | 120+33.49 | 57.00' RT | 974.62 | 395964.36 | 529113.93 |
| 612 | 120+42.01 | 57.00' RT | 974.71 | 395964.38 | 529122.45 |
| 613 | 120+45.03 | 57.00' RT | 974.67 | 395964.39 | 529125.47 |



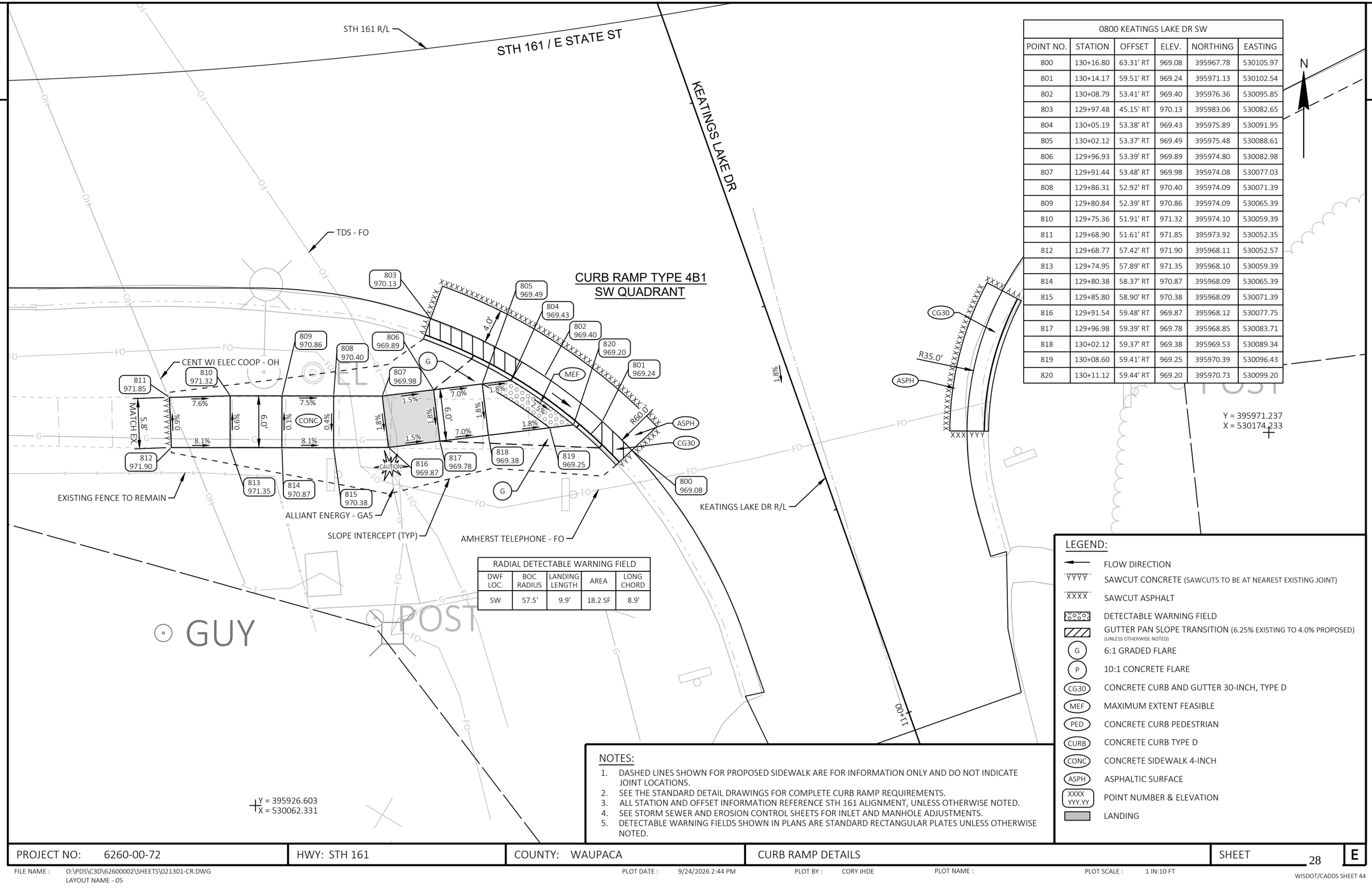

| RADIAL DETECTABLE WARNING FIELD | | | | |
|---|---|---|---|---|
| DWF LOC. | BOC RADIUS | LANDING LENGTH | AREA | LONG CHORD |
| SW | 59.5' | 11.5' | 20.2 SF | 9.8' |

| 0700 IOLA CAR SHOW ENTRANCE SE | | | | | |
|---|---|---|---|---|---|
| POINT NO. | STATION | OFFSET | ELEV. | NORTHING | EASTING |
| 700 | 121+05.70 | 61.41' RT | 975.02 | 395960.19 | 529186.15 |
| 701 | 121+08.06 | 57.00' RT | 974.89 | 395964.60 | 529188.50 |
| 702 | 121+12.09 | 51.00' RT | 974.76 | 395970.61 | 529192.51 |
| 703 | 121+15.27 | 51.00' RT | 974.63 | 395970.62 | 529195.69 |
| 704 | 121+17.27 | 51.00' RT | 974.77 | 395970.63 | 529197.69 |
| 705 | 121+21.27 | 51.00' RT | 975.05 | 395970.64 | 529201.69 |
| 706 | 121+26.27 | 51.00' RT | 975.13 | 395970.66 | 529206.69 |
| 707 | 121+31.27 | 51.00' RT | 975.52 | 395970.68 | 529211.69 |
| 708 | 121+36.27 | 51.00' RT | 975.91 | 395970.69 | 529216.69 |
| 709 | 121+41.27 | 51.00' RT | 976.30 | 395970.71 | 529221.69 |

| 0700 IOLA CAR SHOW ENTRANCE SE | | | | | |
|---|---|---|---|---|---|
| POINT NO. | STATION | OFFSET | ELEV. | NORTHING | EASTING |
| 710 | 121+47.87 | 51.59' RT | 976.81 | 395970.14 | 529228.29 |
| 711 | 121+48.04 | 57.31' RT | 976.99 | 395964.42 | 529228.48 |
| 712 | 121+41.27 | 57.00' RT | 976.44 | 395964.71 | 529221.71 |
| 713 | 121+36.27 | 57.00' RT | 976.03 | 395964.69 | 529216.71 |
| 714 | 121+31.27 | 57.00' RT | 975.62 | 395964.68 | 529211.71 |
| 715 | 121+26.27 | 57.00' RT | 975.21 | 395964.66 | 529206.71 |
| 716 | 121+21.27 | 57.00' RT | 975.14 | 395964.64 | 529201.71 |
| 717 | 121+17.27 | 57.00' RT | 974.86 | 395964.63 | 529197.71 |
| 718 | 121+15.27 | 57.00' RT | 974.72 | 395964.62 | 529195.71 |
| 719 | 121+10.99 | 57.00' RT | 974.78 | 395964.61 | 529191.42 |

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CURB RAMP DETAILS | SHEET 27 | E |
|---|---|---|---|---|---|

# CURB RAMP TYPE 4B1
## SW QUADRANT




| RADIAL DETECTABLE WARNING FIELD | | | | |
|---|---|---|---|---|
| DWF LOC. | BOC RADIUS | LANDING LENGTH | AREA | LONG CHORD |
| SW | 57.5' | 9.9' | 18.2 SF | 8.9' |

| 0800 KEATINGS LAKE DR SW | | | | | |
|---|---|---|---|---|---|
| POINT NO. | STATION | OFFSET | ELEV. | NORTHING | EASTING |
| 800 | 130+16.80 | 63.31' RT | 969.08 | 395967.78 | 530105.97 |
| 801 | 130+14.17 | 59.51' RT | 969.24 | 395971.13 | 530102.54 |
| 802 | 130+08.79 | 53.41' RT | 969.40 | 395976.36 | 530095.85 |
| 803 | 129+97.48 | 45.15' RT | 970.13 | 395983.06 | 530082.65 |
| 804 | 130+05.19 | 53.38' RT | 969.43 | 395975.89 | 530091.95 |
| 805 | 130+02.12 | 53.37' RT | 969.49 | 395975.48 | 530088.61 |
| 806 | 129+96.93 | 53.39' RT | 969.89 | 395974.80 | 530082.98 |
| 807 | 129+91.44 | 53.48' RT | 969.98 | 395974.08 | 530077.03 |
| 808 | 129+86.31 | 52.92' RT | 970.40 | 395974.09 | 530071.39 |
| 809 | 129+80.84 | 52.39' RT | 970.86 | 395974.09 | 530065.39 |
| 810 | 129+75.36 | 51.91' RT | 971.32 | 395974.10 | 530059.39 |
| 811 | 129+68.90 | 51.61' RT | 971.85 | 395973.92 | 530052.35 |
| 812 | 129+68.77 | 57.42' RT | 971.90 | 395968.11 | 530052.57 |
| 813 | 129+74.95 | 57.89' RT | 971.35 | 395968.10 | 530059.39 |
| 814 | 129+80.38 | 58.37' RT | 970.87 | 395968.09 | 530065.39 |
| 815 | 129+85.80 | 58.90' RT | 970.38 | 395968.09 | 530071.39 |
| 816 | 129+91.54 | 59.48' RT | 969.87 | 395968.12 | 530077.75 |
| 817 | 129+96.98 | 59.39' RT | 969.78 | 395968.85 | 530083.71 |
| 818 | 130+02.12 | 59.37' RT | 969.38 | 395969.53 | 530089.34 |
| 819 | 130+08.60 | 59.41' RT | 969.25 | 395970.39 | 530096.43 |
| 820 | 130+11.12 | 59.44' RT | 969.20 | 395970.73 | 530099.20 |

NOTES:

1. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
2. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
3. ALL STATION AND OFFSET INFORMATION REFERENCE STH 161 ALIGNMENT, UNLESS OTHERWISE NOTED.
4. SEE STORM SEWER AND EROSION CONTROL SHEETS FOR INLET AND MANHOLE ADJUSTMENTS.
5. DETECTABLE WARNING FIELDS SHOWN IN PLANS ARE STANDARD RECTANGULAR PLATES UNLESS OTHERWISE NOTED.

LEGEND:

- FLOW DIRECTION
- YYYY — SAWCUT CONCRETE (SAWCUTS TO BE AT NEAREST EXISTING JOINT)
- XXXX — SAWCUT ASPHALT
- DETECTABLE WARNING FIELD
- GUTTER PAN SLOPE TRANSITION (6.25% EXISTING TO 4.0% PROPOSED) (UNLESS OTHERWISE NOTED)
- G — 6:1 GRADED FLARE
- P — 10:1 CONCRETE FLARE
- CG30 — CONCRETE CURB AND GUTTER 30-INCH, TYPE D
- MEF — MAXIMUM EXTENT FEASIBLE
- PED — CONCRETE CURB PEDESTRIAN
- CURB — CONCRETE CURB TYPE D
- CONC — CONCRETE SIDEWALK 4-INCH
- ASPH — ASPHALTIC SURFACE
- XXXX YYY.YY — POINT NUMBER & ELEVATION
- LANDING

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CURB RAMP DETAILS | SHEET 28 | E |
|---|---|---|---|---|---|

BEGIN PROJECT 6260-00-72
STA 100+05

LEGEND

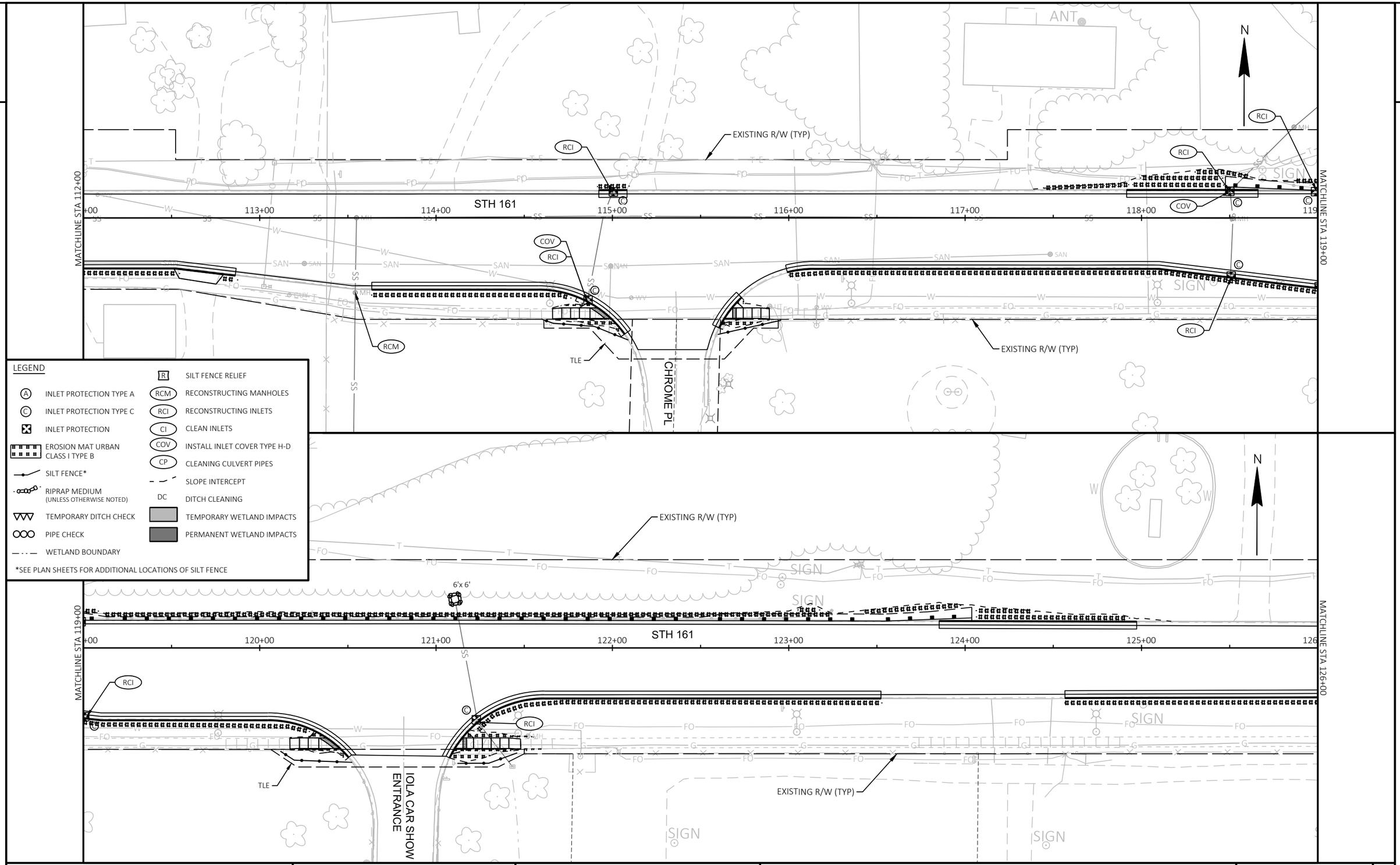
- (A) INLET PROTECTION TYPE A
- (C) INLET PROTECTION TYPE C
- INLET PROTECTION
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE*
- RIPRAP MEDIUM (UNLESS OTHERWISE NOTED)
- TEMPORARY DITCH CHECK
- PIPE CHECK
- WETLAND BOUNDARY
- [R] SILT FENCE RELIEF
- (RCM) RECONSTRUCTING MANHOLES
- (RCI) RECONSTRUCTING INLETS
- (CI) CLEAN INLETS
- (COV) INSTALL INLET COVER TYPE H-D
- (CP) CLEANING CULVERT PIPES
- SLOPE INTERCEPT
- DC DITCH CLEANING
- TEMPORARY WETLAND IMPACTS
- PERMANENT WETLAND IMPACTS

*SEE PLAN SHEETS FOR ADDITIONAL LOCATIONS OF SILT FENCE

STH 161
STH 49 / ADAMS ST
CTH J / PIERCE ST
EXISTING R/W (TYP)
MATCHLINE STA 105+00
MATCHLINE STA 112+00

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | EROSION CONTROL & STORM SEWER | SHEET 29 | E |
|---|---|---|---|---|---|

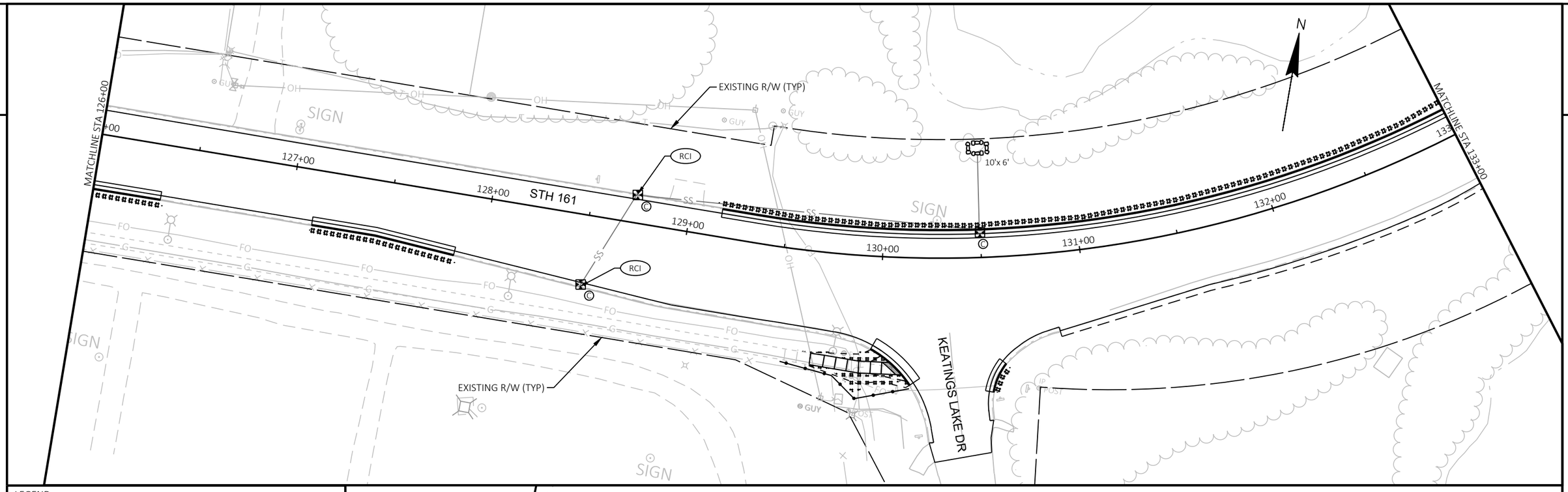
FILE NAME : O:\PDS\C3D\62600002\SHEETS\022001-EC.DWG
LAYOUT NAME - 01
PLOT DATE : 9/24/2026 2:46 PM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:50 FT




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | EROSION CONTROL & STORM SEWER | SHEET 30 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\022001-EC.DWG
LAYOUT NAME - 02
PLOT DATE : 9/24/2026 2:46 PM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

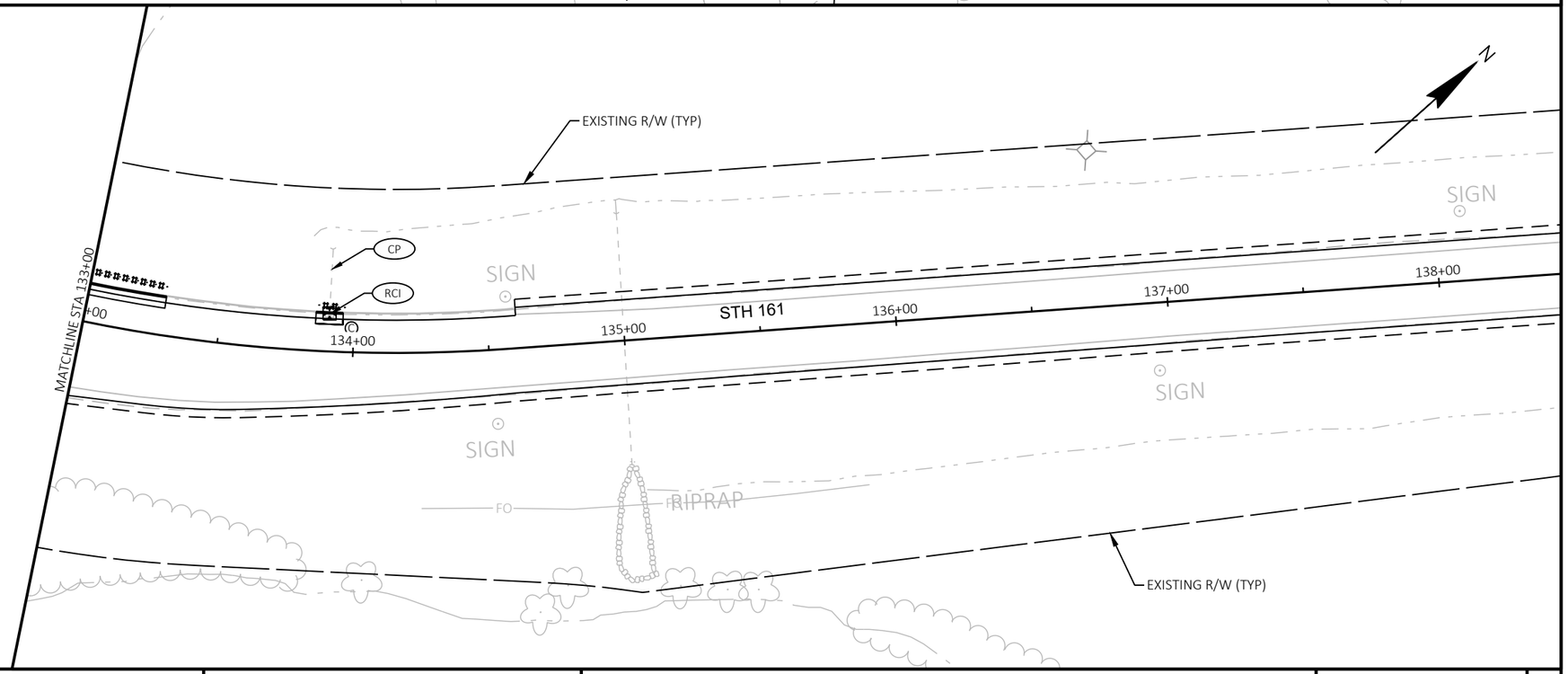
2




LEGEND

| | |
|---|---|
| (A) INLET PROTECTION TYPE A | [R] SILT FENCE RELIEF |
| (C) INLET PROTECTION TYPE C | (RCM) RECONSTRUCTING MANHOLES |
| INLET PROTECTION | (RCI) RECONSTRUCTING INLETS |
| EROSION MAT URBAN CLASS I TYPE B | (CI) CLEAN INLETS |
| SILT FENCE* | (COV) INSTALL INLET COVER TYPE H-D |
| RIPRAP MEDIUM (UNLESS OTHERWISE NOTED) | (CP) CLEANING CULVERT PIPES |
| TEMPORARY DITCH CHECK | SLOPE INTERCEPT |
| PIPE CHECK | DC DITCH CLEANING |
| WETLAND BOUNDARY | TEMPORARY WETLAND IMPACTS |
| | PERMANENT WETLAND IMPACTS |

*SEE PLAN SHEETS FOR ADDITIONAL LOCATIONS OF SILT FENCE




| | | | | |
|---|---|---|---|---|
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | EROSION CONTROL & STORM SEWER | SHEET 31 E |

FILE NAME : O:\PDS\C3D\62600002\SHEETS\022001-EC.DWG
LAYOUT NAME - 03

PLOT DATE : 9/24/2026 2:46 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : ##########

2

2

N

SIGN

SIGN

POST

POST

RIPRAP

EXISTING R/W (TYP)

STH 161

160+00

161+00

162+00

163+00

164+00

165+00

166+00

167+00

R

POST

POST

RIPRAP

POST

POST

SIGN

POST

POST

STA 160+24
CPRC CLASS IV 24-INCH REQ'D
SKEW 1° LHF

EXISTING R/W (TYP)

LEGEND

- (A) INLET PROTECTION TYPE A
- (C) INLET PROTECTION TYPE C
- INLET PROTECTION
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE*
- RIPRAP MEDIUM (UNLESS OTHERWISE NOTED)
- TEMPORARY DITCH CHECK
- PIPE CHECK
- WETLAND BOUNDARY
- [R] SILT FENCE RELIEF
- (RCM) RECONSTRUCTING MANHOLES
- (RCI) RECONSTRUCTING INLETS
- (CI) CLEAN INLETS
- (COV) INSTALL INLET COVER TYPE H-D
- (CP) CLEANING CULVERT PIPES
- SLOPE INTERCEPT
- DC DITCH CLEANING
- TEMPORARY WETLAND IMPACTS
- PERMANENT WETLAND IMPACTS

*SEE PLAN SHEETS FOR ADDITIONAL LOCATIONS OF SILT FENCE

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | EROSION CONTROL | SHEET 32 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\022001-EC.DWG
LAYOUT NAME - 04

PLOT DATE : 9/24/2026 2:47 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:50 FT

2

N

BLAKE CREEK

BRIDGE
B-68-069

EXISTING R/W (TYP)

INFILL RIPRAP REQ'D

INFILL RIPRAP REQ'D

WETLAND #B-68-69
WETLAND TYPE: SS
TEMPORARY IMPACT: 0.022 AC

WETLAND #B-68-69
WETLAND TYPE: SS
PERMANENT IMPACT: 0.019 AC

T.L.E. (TYP)

421+00 422+00 423+00 424+00 425+00 426+00 427+00 428+00

STH 161

T.L.E. (TYP)

EXISTING R/W (TYP)

INFILL RIPRAP REQ'D

WETLAND BOUNDARY (TYP)

T.L.E. (TYP)

WETLAND #B-68-69
WETLAND TYPE: SS
TEMPORARY IMPACT: 0.004 AC

WETLAND #B-68-69
WETLAND TYPE: SS
PERMANENT IMPACT: 0.001 AC

WETLAND #B-68-69
WETLAND TYPE: SS
TEMPORARY IMPACT: 0.002 AC

WETLAND #B-68-69
WETLAND TYPE: SS
PERMANENT IMPACT: 0.001 AC

INFILL RIPRAP REQ'D

TIE SILT FENCE INTO RIP RAP OR BRIDGE (TYP)

WETLAND #B-68-69
WETLAND TYPE: SS
TEMPORARY IMPACT: 0.003 AC

WETLAND #B-68-69
WETLAND TYPE: SS
PERMANENT IMPACT: 0.001 AC

WETLAND #B-68-69
WETLAND TYPE: SS
PERMANENT IMPACT: 0.025 AC

WETLAND #B-68-69
WETLAND TYPE: SS
TEMPORARY IMPACT: 0.018 AC

LEGEND

- (A) INLET PROTECTION TYPE A
- (C) INLET PROTECTION TYPE C
- INLET PROTECTION
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE*
- RIPRAP MEDIUM (UNLESS OTHERWISE NOTED)
- TEMPORARY DITCH CHECK
- PIPE CHECK
- WETLAND BOUNDARY
- [R] SILT FENCE RELIEF
- (RCM) RECONSTRUCTING MANHOLES
- (RCI) RECONSTRUCTING INLETS
- (CI) CLEAN INLETS
- (COV) INSTALL INLET COVER TYPE H-D
- (CP) CLEANING CULVERT PIPES
- SLOPE INTERCEPT
- DC DITCH CLEANING
- TEMPORARY WETLAND IMPACTS
- PERMANENT WETLAND IMPACTS

*SEE PLAN SHEETS FOR ADDITIONAL LOCATIONS OF SILT FENCE

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | EROSION CONTROL | SHEET 33 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\022001-EC.DWG
LAYOUT NAME - 05

PLOT DATE : 9/24/2026 2:47 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:50 FT

2

N

BLAKE CREEK

POST

SIGN

EXISTING R/W (TYP)

INFILL RIPRAP REQ'D

BRIDGE
B-68-081

INFILL RIPRAP REQ'D

T.L.E. (TYP)

489+00 490+00 491+00 492+00 493+00 494+00 495+00 496+00

STH 161

SIGN

EXISTING R/W (TYP)

WETLAND BOUNDARY (TYP)

INFILL RIPRAP REQ'D

T.L.E. (TYP)

LEGEND

- INLET PROTECTION TYPE A
- INLET PROTECTION TYPE C
- INLET PROTECTION
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE*
- RIPRAP MEDIUM (UNLESS OTHERWISE NOTED)
- TEMPORARY DITCH CHECK
- PIPE CHECK
- WETLAND BOUNDARY
- SILT FENCE RELIEF
- RECONSTRUCTING MANHOLES
- RECONSTRUCTING INLETS
- CLEAN INLETS
- INSTALL INLET COVER TYPE H-D
- CLEANING CULVERT PIPES
- SLOPE INTERCEPT
- DITCH CLEANING
- TEMPORARY WETLAND IMPACTS
- PERMANENT WETLAND IMPACTS

*SEE PLAN SHEETS FOR ADDITIONAL LOCATIONS OF SILT FENCE

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | EROSION CONTROL | SHEET 34 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\022001-EC.DWG
LAYOUT NAME - 06

PLOT DATE : 9/24/2026 2:47 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:50 FT

2

N

WETLAND #B-68-82
WETLAND TYPE: WM
TEMPORARY IMPACT: 0.015 AC

WETLAND #B-68-82
WETLAND TYPE: WM
PERMANENT IMPACT: 0.011 AC

WETLAND BOUNDARY (TYP)

EXISTING R/W (TYP)

HEAVY RIPRAP
(INFILL RIPRAP REQ'D)

WETLAND #B-68-82
WETLAND TYPE: WM
PERMANENT IMPACT: 0.013 AC

WETLAND #B-68-82
WETLAND TYPE: WM
TEMPORARY IMPACT: 0.006 AC

BRIDGE
B-68-082

INFILL RIPRAP REQ'D

T.L.E. (TYP)

572+00 573+00 574+00 575+00 576+00 577+00 578+00 579+00

STH
161

RIPRAP

OH

SIGN

EXISTING R/W (TYP)

INFILL RIPRAP REQ'D

T.L.E. (TYP)

WETLAND #B-68-82
WETLAND TYPE: WM
PERMANENT IMPACT: 0.002 AC

WETLAND #B-68-82
WETLAND TYPE: WM
TEMPORARY IMPACT: 0.006 AC

BLAKE CREEK

LEGEND

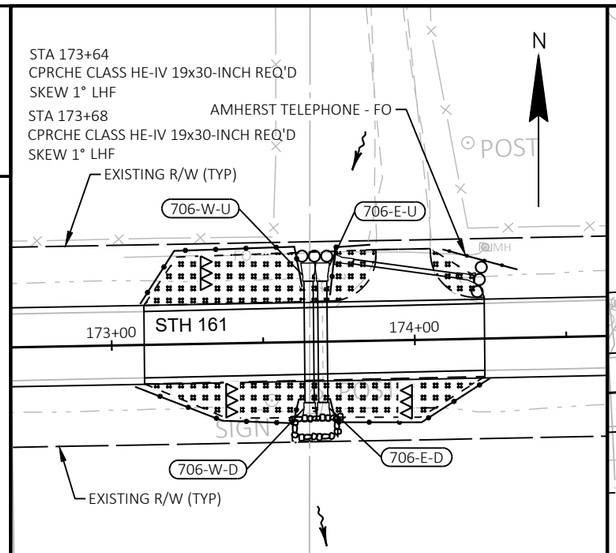
| | |
|---|---|
| A — INLET PROTECTION TYPE A | R — SILT FENCE RELIEF |
| C — INLET PROTECTION TYPE C | RCM — RECONSTRUCTING MANHOLES |
| INLET PROTECTION | RCI — RECONSTRUCTING INLETS |
| EROSION MAT URBAN CLASS I TYPE B | CI — CLEAN INLETS |
| SILT FENCE* | COV — INSTALL INLET COVER TYPE H-D |
| RIPRAP MEDIUM (UNLESS OTHERWISE NOTED) | CP — CLEANING CULVERT PIPES |
| TEMPORARY DITCH CHECK | SLOPE INTERCEPT |
| PIPE CHECK | DC — DITCH CLEANING |
| WETLAND BOUNDARY | TEMPORARY WETLAND IMPACTS |
| | PERMANENT WETLAND IMPACTS |

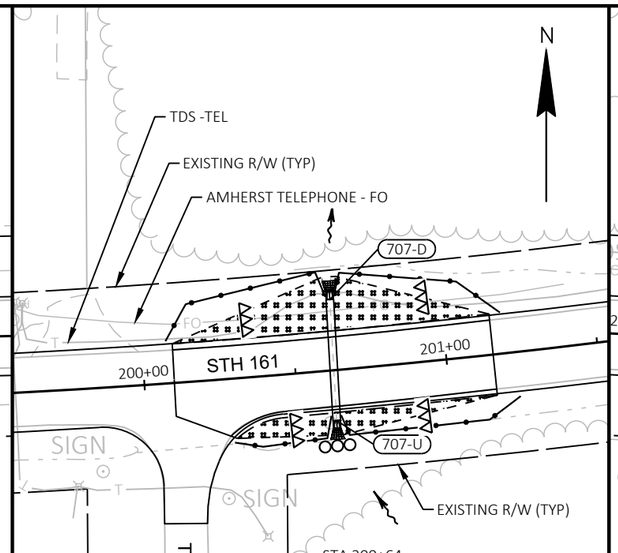
*SEE PLAN SHEETS FOR ADDITIONAL LOCATIONS OF SILT FENCE

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | EROSION CONTROL | SHEET 35 | E |
|---|---|---|---|---|---|

STA 173+64
CPRCHE CLASS HE-IV 19x30-INCH REQ'D
SKEW 1° LHF

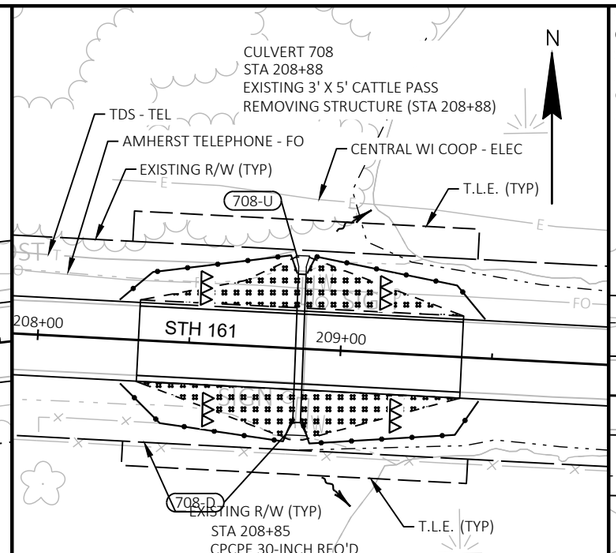
STA 173+68
CPRCHE CLASS HE-IV 19x30-INCH REQ'D
SKEW 1° LHF




STA 200+64
CPRC CLASS IV 24-INCH REQ'D
SKEW 2° LHF

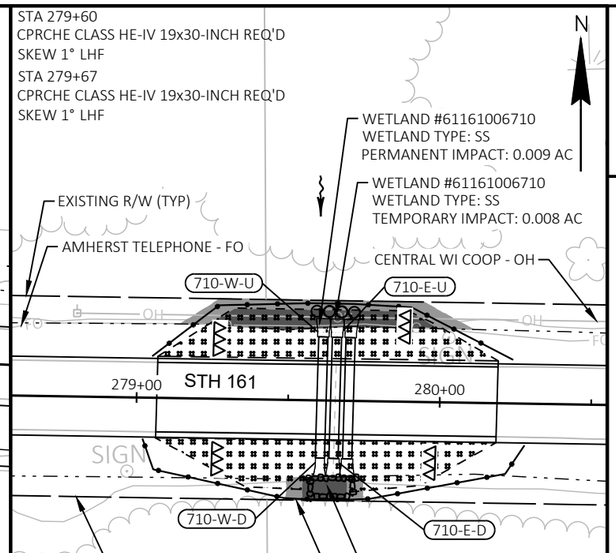
CULVERT 708
STA 208+88
EXISTING 3' X 5' CATTLE PASS
REMOVING STRUCTURE (STA 208+88)




STA 208+85
CPCPE 30-INCH REQ'D
SKEW 1° RHF

STA 279+60
CPRCHE CLASS HE-IV 19x30-INCH REQ'D
SKEW 1° LHF

STA 279+67
CPRCHE CLASS HE-IV 19x30-INCH REQ'D
SKEW 1° LHF

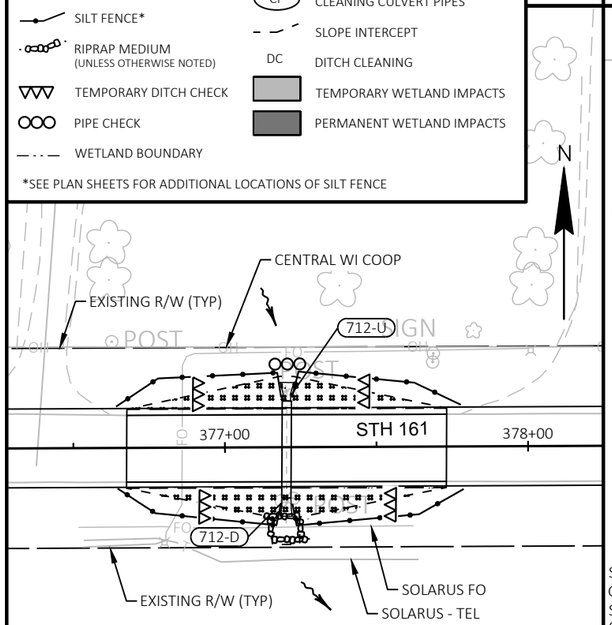



2

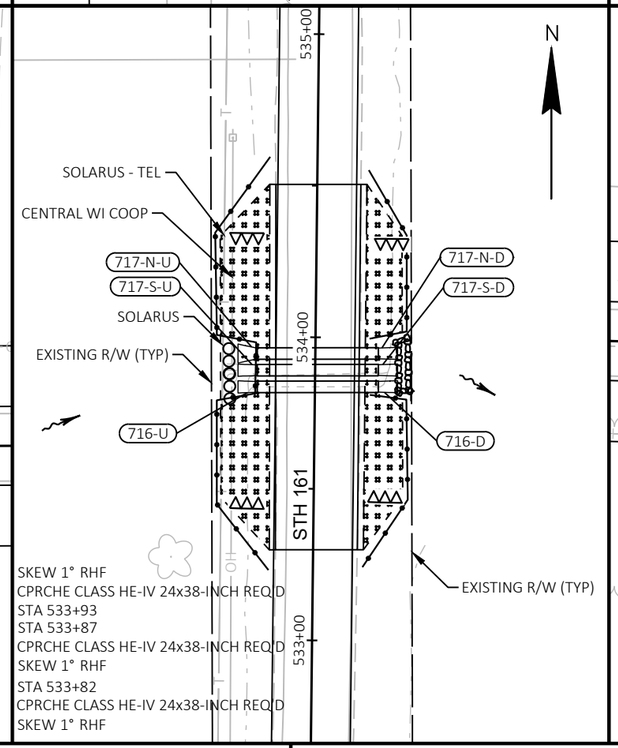
LEGEND

| | |
|---|---|
| A — INLET PROTECTION TYPE A | R — SILT FENCE RELIEF |
| C — INLET PROTECTION TYPE C | RCM — RECONSTRUCTING MANHOLES |
| INLET PROTECTION | RCI — RECONSTRUCTING INLETS |
| EROSION MAT URBAN CLASS I TYPE B | CI — CLEAN INLETS |
| SILT FENCE* | COV — INSTALL INLET COVER TYPE H-D |
| RIPRAP MEDIUM (UNLESS OTHERWISE NOTED) | CP — CLEANING CULVERT PIPES |
| TEMPORARY DITCH CHECK | SLOPE INTERCEPT |
| PIPE CHECK | DC — DITCH CLEANING |
| WETLAND BOUNDARY | TEMPORARY WETLAND IMPACTS |
| | PERMANENT WETLAND IMPACTS |

*SEE PLAN SHEETS FOR ADDITIONAL LOCATIONS OF SILT FENCE

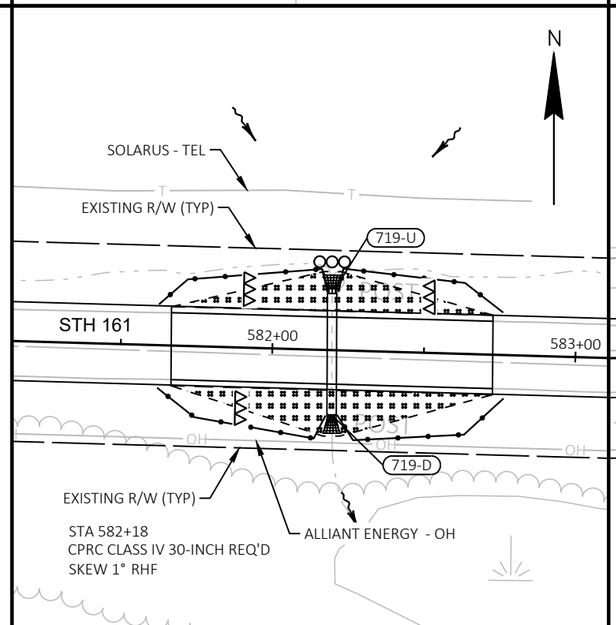



STA 377+19
CPRCHE CLASS HE-IV 19x30-INCH REQ'D
SKEW 1° LHF

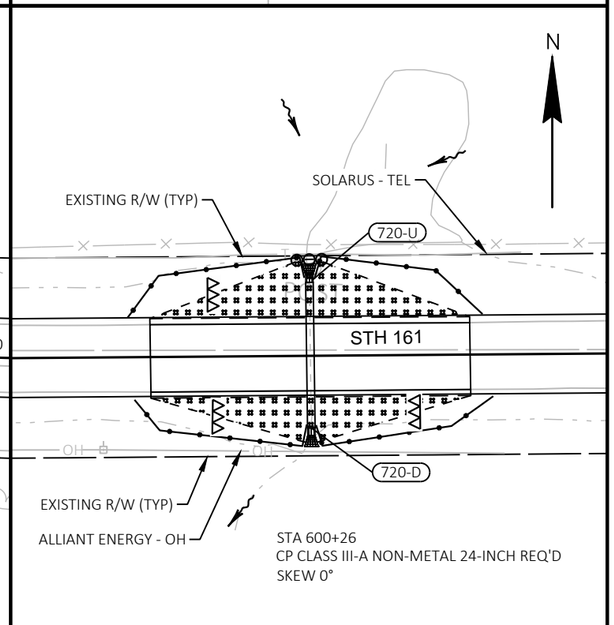



SKEW 1° RHF
CPRCHE CLASS HE-IV 24x38-INCH REQ'D
STA 533+93
STA 533+87
CPRCHE CLASS HE-IV 24x38-INCH REQ'D
SKEW 1° RHF

STA 533+82
CPRCHE CLASS HE-IV 24x38-INCH REQ'D
SKEW 1° RHF




STA 582+18
CPRC CLASS IV 30-INCH REQ'D
SKEW 1° RHF




STA 600+26
CP CLASS III-A NON-METAL 24-INCH REQ'D
SKEW 0°

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | EROSION CONTROL | SHEET 36 | E |
|---|---|---|---|---|---|

2

BEGIN PROJECT 6260-00-72
STA 100+05

STH 161

STH 49 / ADAMS ST

CTH J / PIERCE ST

MATCHLINE STA 105+00

MATCHLINE STA 112+00

EXISTING R/W (TYP)

+02.76
12.00' RT

+99.64
-11.00' LT

+66.01
12.00' RT

+99.99
0.00'

12'

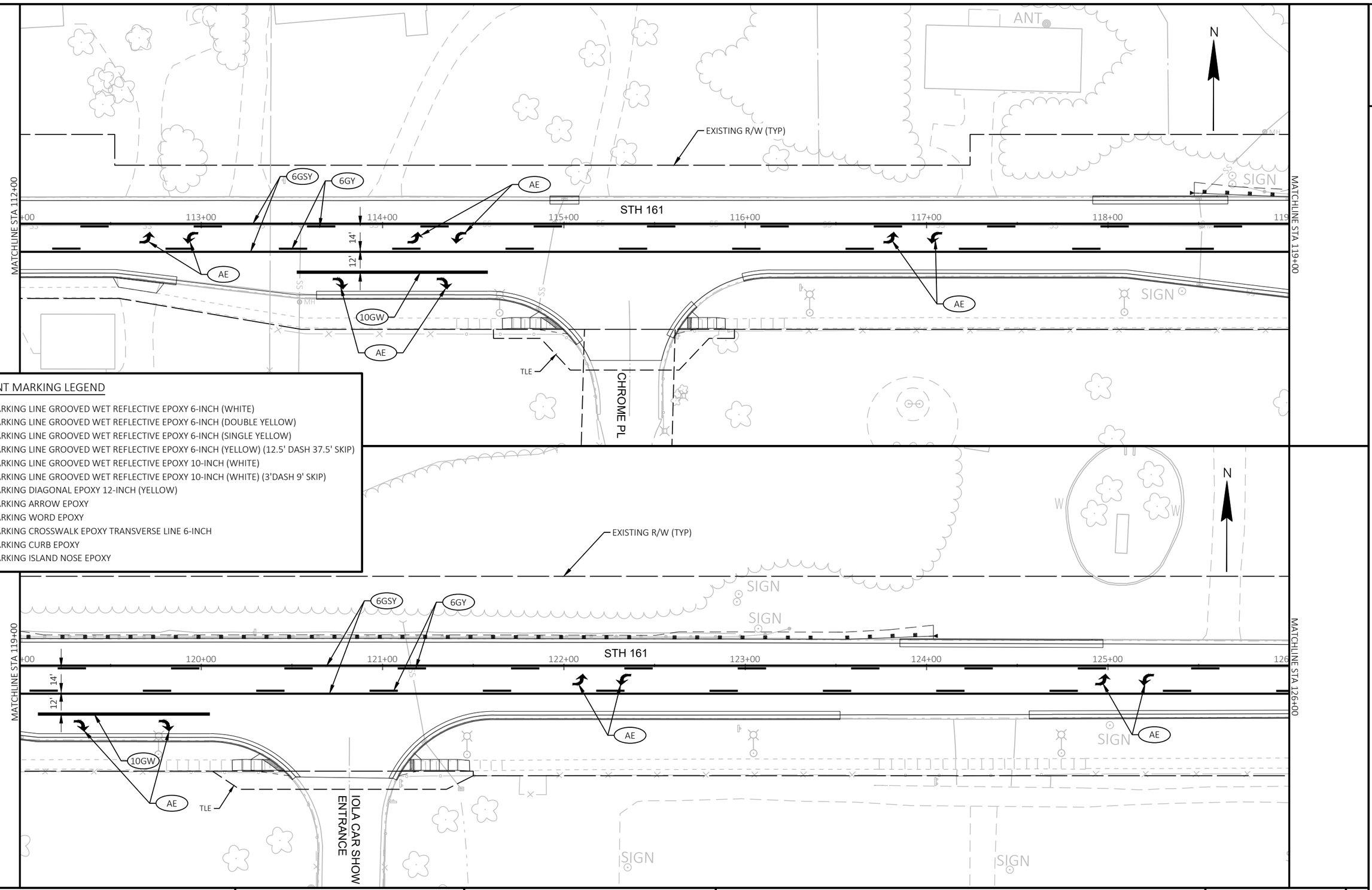
14'

11'

## PAVEMENT MARKING LEGEND

- 6GW — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6GDY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 6GSY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6GY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
- 10GW — MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE)
- 10GW1 — MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3'DASH 9' SKIP)
- 12Y — MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- AE — MARKING ARROW EPOXY
- WE — MARKING WORD EPOXY
- XE — MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
- CE — MARKING CURB EPOXY
- NE — MARKING ISLAND NOSE EPOXY

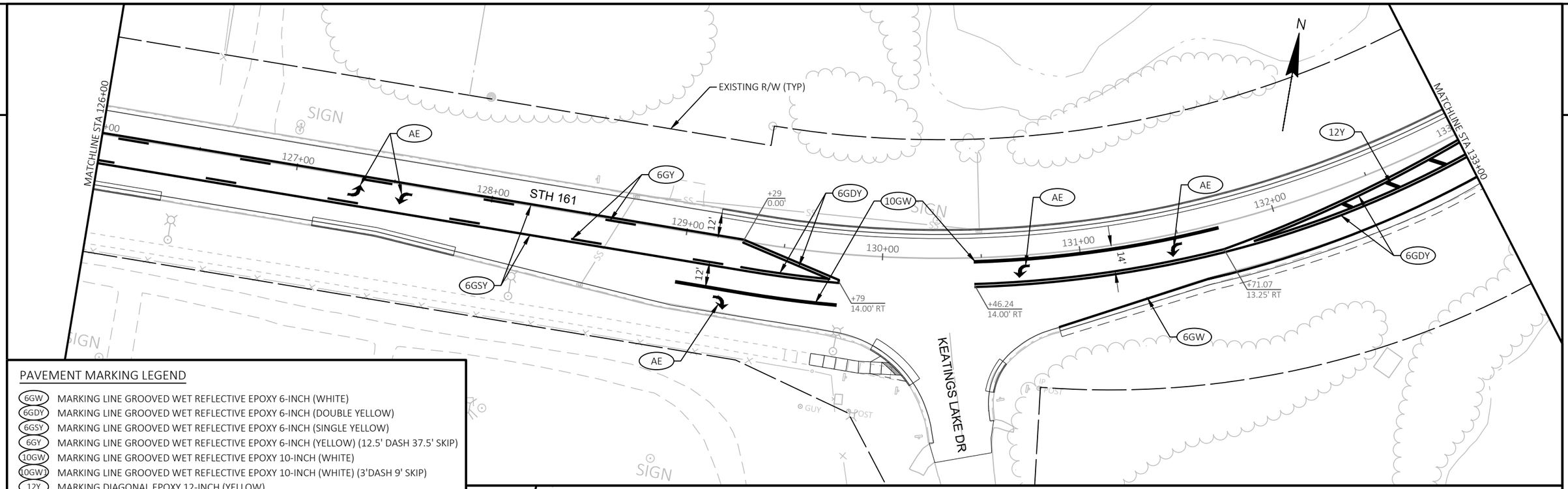
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PAVEMENT MARKING | SHEET 37 | E |
|---|---|---|---|---|---|




PAVEMENT MARKING LEGEND

| | |
|---|---|
| 6GW | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE) |
| 6GDY | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW) |
| 6GSY | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW) |
| 6GY | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP) |
| 10GW | MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) |
| 10GW1 | MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3'DASH 9' SKIP) |
| 12Y | MARKING DIAGONAL EPOXY 12-INCH (YELLOW) |
| AE | MARKING ARROW EPOXY |
| WE | MARKING WORD EPOXY |
| XE | MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH |
| CE | MARKING CURB EPOXY |
| NE | MARKING ISLAND NOSE EPOXY |

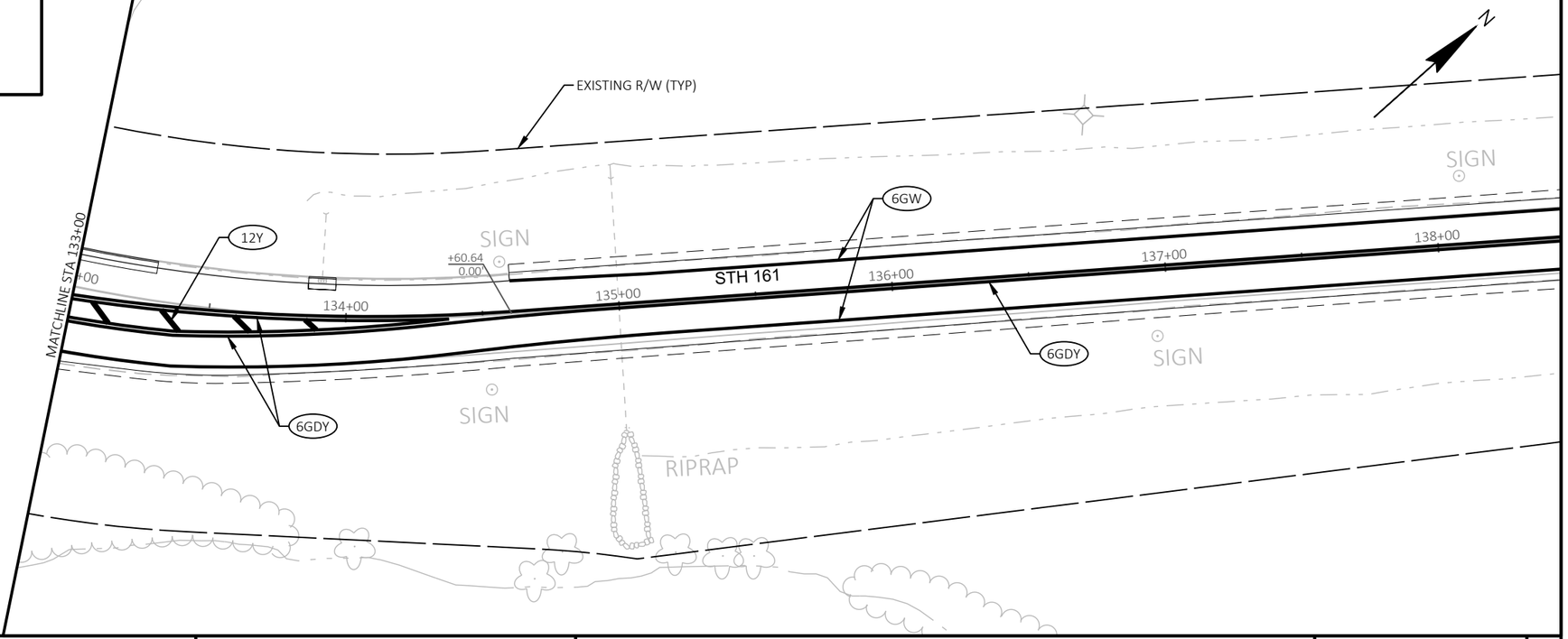
2



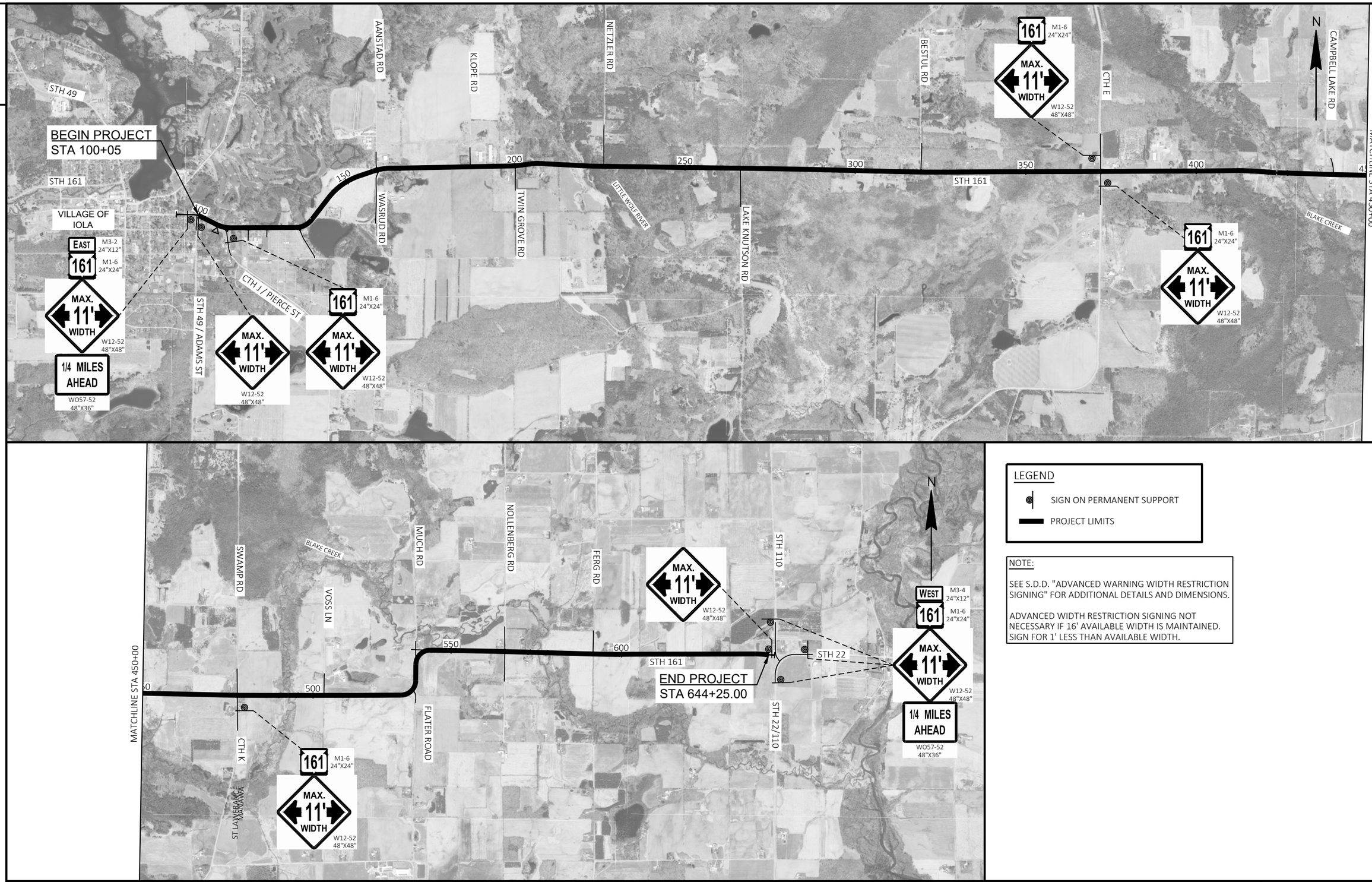

## PAVEMENT MARKING LEGEND

| | |
|---|---|
| 6GW | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE) |
| 6GDY | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW) |
| 6GSY | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW) |
| 6GY | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP) |
| 10GW | MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) |
| 10GW1 | MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3'DASH 9' SKIP) |
| 12Y | MARKING DIAGONAL EPOXY 12-INCH (YELLOW) |
| AE | MARKING ARROW EPOXY |
| WE | MARKING WORD EPOXY |
| XE | MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH |
| CE | MARKING CURB EPOXY |
| NE | MARKING ISLAND NOSE EPOXY |

SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS", AND "PAVEMENT MARKING INTERSECTIONS" FOR ADDITIONAL PAVEMENT MARKING NOT SHOWN




| | | | | |
|---|---|---|---|---|
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PAVEMENT MARKING | SHEET 39 E |




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | ADVANCED WARNING SIGNING | SHEET 40 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\025000-AW.DWG
LAYOUT NAME - 01
PLOT DATE : 5/14/2026 5:27 PM
PLOT BY : CHRIS BURNS
PLOT NAME :
PLOT SCALE : 1 IN:0.5 MI

NOTES:

** SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAILS A AND C. SECONDARY SIGNS AND BARRICADES AT THE WORK AREA WILL NEED TO BE MOVED AS WORK IS COMPLETED AT ONE WORK AREA AND SHIFTS TO THE NEXT.

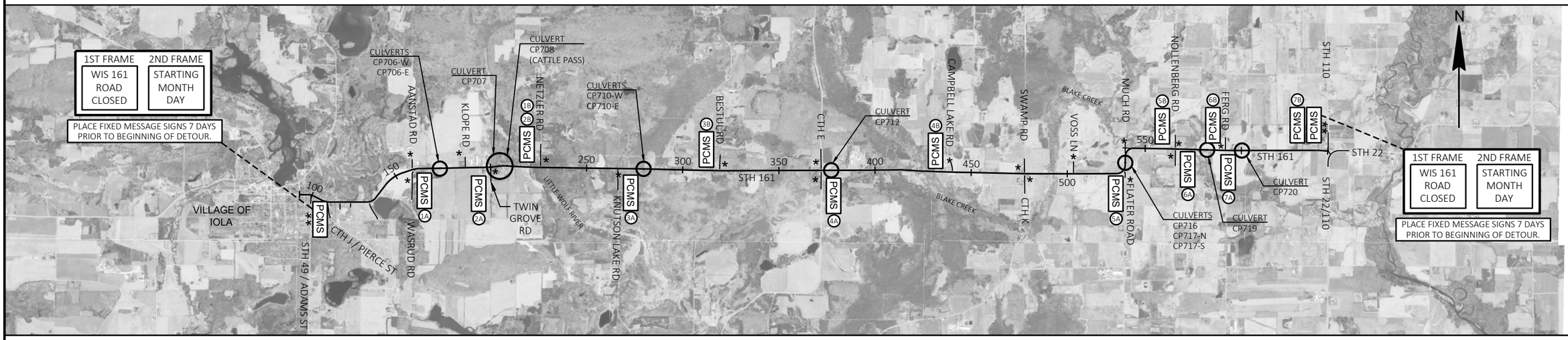
* SEE SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 3.

STH 161 WILL BE CLOSED TO TRAFFIC. REFER TO DETOUR PLAN. COMPLETE ALL CULVERT REPLACEMENTS AND ASSOCIATED RESTORATION WORK DURING CLOSURE.

ONE SET OF PCMS BOARDS WILL BE USED TO PROVIDE ROAD CLOSURE INFORMATION TO LOCAL TRAFFIC. RELOCATE SIGNS AS NEEDED DEPENDING UPON WORK AREA.

LEGEND:

- WORK AREA
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN LOCATION
- SIGN ON PERMANENT SUPPORT
- XX — MESSAGE BOARD SET/DISTANCE MESSAGE (SEE TABLE BELOW)

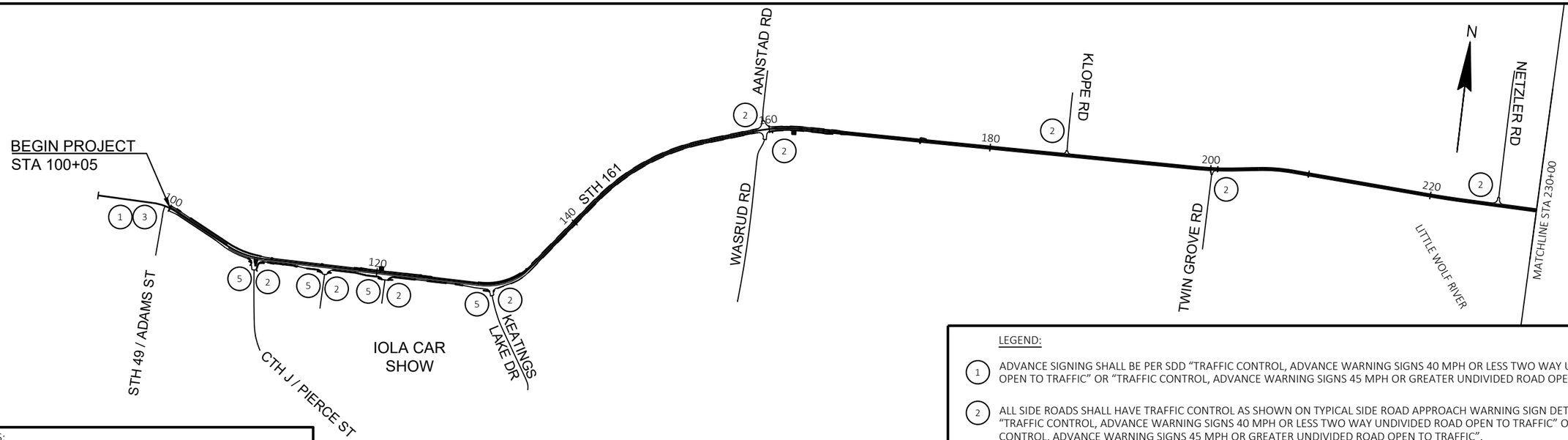



PCMS INFORMATION:

1ST FRAME: WIS 161 CLOSED X.X MILE

2ND FRAME: NO THRU TRAFFIC

| CULVERT # | MESSAGE BOARD SET | DISTANCE MESSAGE A | DISTANCE MESSAGE B |
|---|---|---|---|
| CP706 | 1 | 0.3 MI | 1 MI |
| CP707 | 2 | 0.1 MI | 0.5 MI |
| CP708 | 2 | 0.2 MI | 0.3 MI |
| CP710 | 3 | 0.3 MI | 0.8 MI |
| CP712 | 4 | 0.1 MI | 1.2 MI |
| CP716 | 5 | 0.1 MI | 0.6 MI |
| CP717 | 5 | 0.1 MI | 0.6 MI |
| CP719 | 6 | 0.3 MI | 0.2 MI |
| CP720 | 7 | 0.2 MI | 0.9 MI |




GENERAL NOTES:

ALL TRAFFIC CONTROL SIGNS AND DEVICES AND THEIR LOCATION SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD), THE PLANS, SPECIFICATIONS, CONTRACT AND APPLICABLE STANDARD DETAIL DRAWINGS.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS INAPPROPRIATE TO THE WORK ZONE, INCLUDING PRE-EXISTING SIGNING, SHALL BE COVERED, REMOVED, OR ALTERED AS SPECIFIED IN THE PLANS AND/OR SPECIALS PROVISONS OR AS DIRECTED BY THE ENGINEER.

LEGEND:

(1) ADVANCE SIGNING SHALL BE PER SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC" OR "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER UNDIVIDED ROAD OPEN TO TRAFFIC".

(2) ALL SIDE ROADS SHALL HAVE TRAFFIC CONTROL AS SHOWN ON TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL PER SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC" OR "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER UNDIVIDED ROAD OPEN TO TRAFFIC".

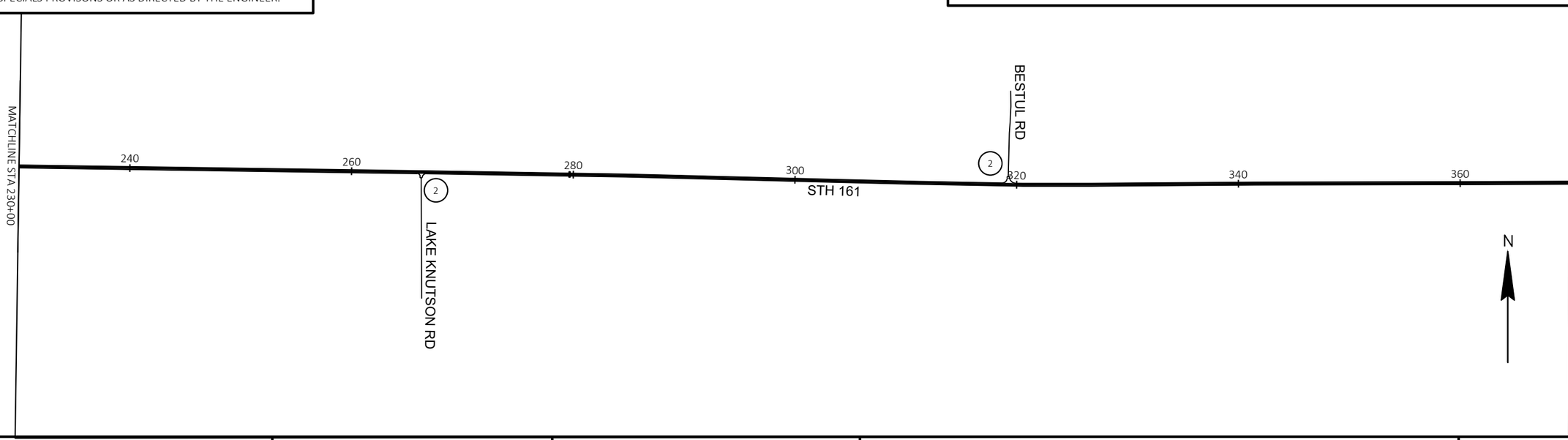
(3) TRAFFIC CONTROL FOR MILLING AND PAVING OPERATIONS SHALL BE PER SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". ADDITIONAL FLAGGER(S) IS REQUIRED WHEN WORK ZONE IS LOCATED WITHIN AN INTERSECTION.

(4) SEE SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" TO COMPLETE GUARDRAIL CONSTRUCTION. FLAG AS NECESSARY.

(5) MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES. UTILIZE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION," AND "TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS" PLAN SHEETS.

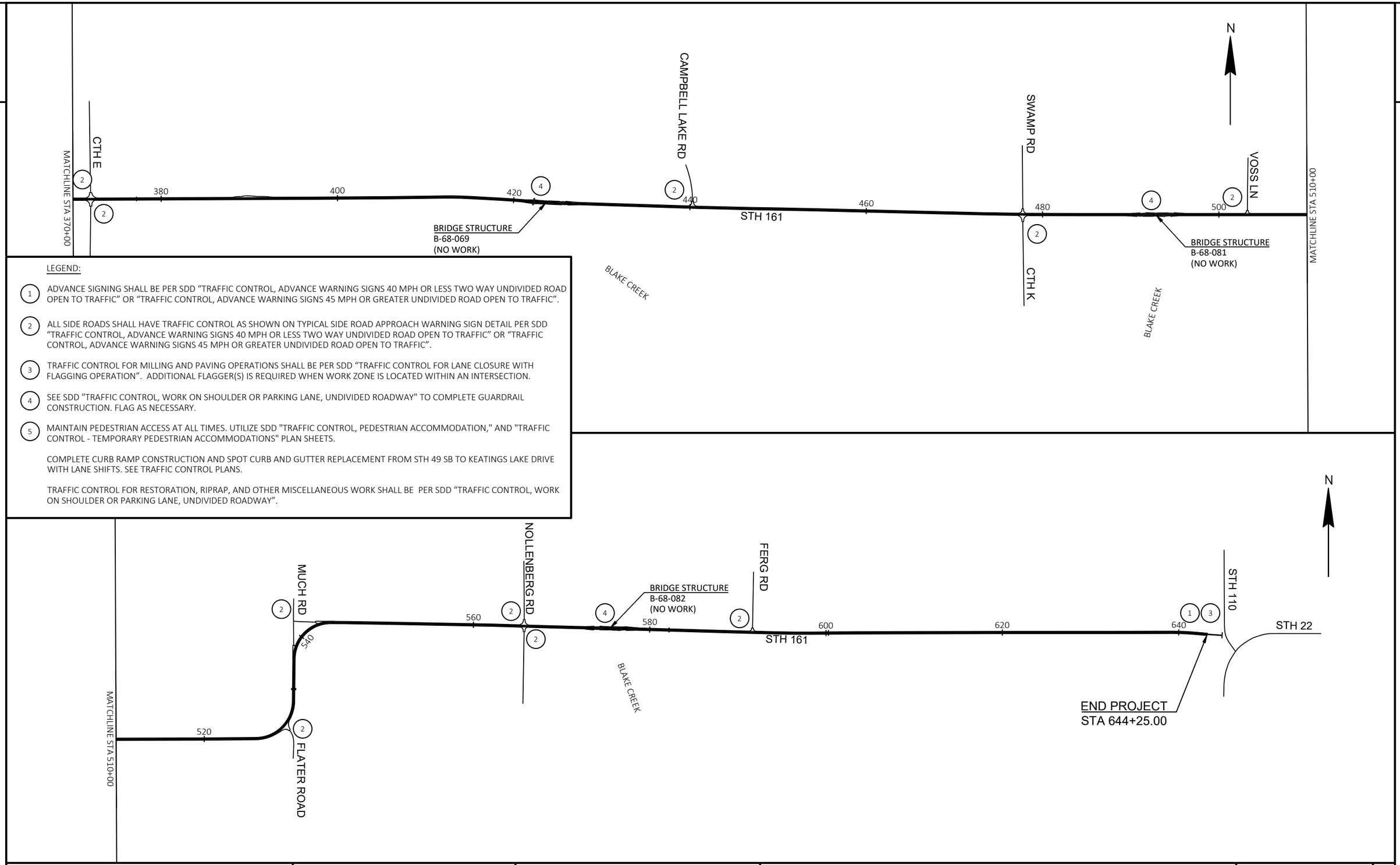
COMPLETE CURB RAMP CONSTRUCTION AND SPOT CURB AND GUTTER REPLACEMENT FROM STH 49 SB TO KEATINGS LAKE DRIVE WITH LANE SHIFTS. SEE TRAFFIC CONTROL PLANS.

TRAFFIC CONTROL FOR RESTORATION, RIPRAP, AND OTHER MISCELLANEOUS WORK SHALL BE PER SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY".




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL OVERVIEW - STAGE 2 AND 3 | SHEET 42 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\025100-TC-OVERVIEW-STAGE 2.DWG
LAYOUT NAME - 01
PLOT DATE : 5/14/2026 4:13 PM
PLOT BY : CHRIS BURNS
PLOT NAME :
PLOT SCALE : 1 IN:1000 FT
WISDOT/CADDS SHEET 44




LEGEND:

1. ADVANCE SIGNING SHALL BE PER SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC" OR "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER UNDIVIDED ROAD OPEN TO TRAFFIC".

2. ALL SIDE ROADS SHALL HAVE TRAFFIC CONTROL AS SHOWN ON TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL PER SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC" OR "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER UNDIVIDED ROAD OPEN TO TRAFFIC".

3. TRAFFIC CONTROL FOR MILLING AND PAVING OPERATIONS SHALL BE PER SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". ADDITIONAL FLAGGER(S) IS REQUIRED WHEN WORK ZONE IS LOCATED WITHIN AN INTERSECTION.

4. SEE SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" TO COMPLETE GUARDRAIL CONSTRUCTION. FLAG AS NECESSARY.

5. MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES. UTILIZE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION," AND "TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS" PLAN SHEETS.

COMPLETE CURB RAMP CONSTRUCTION AND SPOT CURB AND GUTTER REPLACEMENT FROM STH 49 SB TO KEATINGS LAKE DRIVE WITH LANE SHIFTS. SEE TRAFFIC CONTROL PLANS.

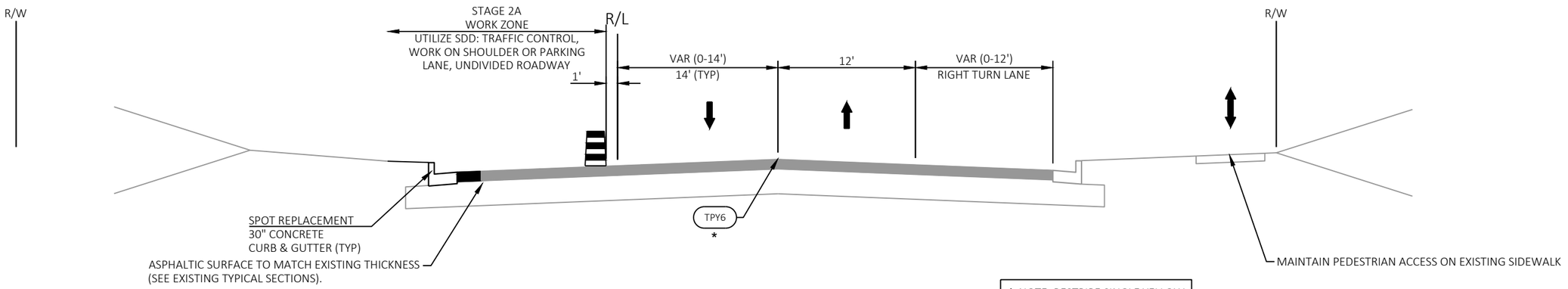
TRAFFIC CONTROL FOR RESTORATION, RIPRAP, AND OTHER MISCELLANEOUS WORK SHALL BE PER SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY".

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL OVERVIEW - STAGE 2 AND 3 | SHEET 43 | E |
|---|---|---|---|---|---|

2

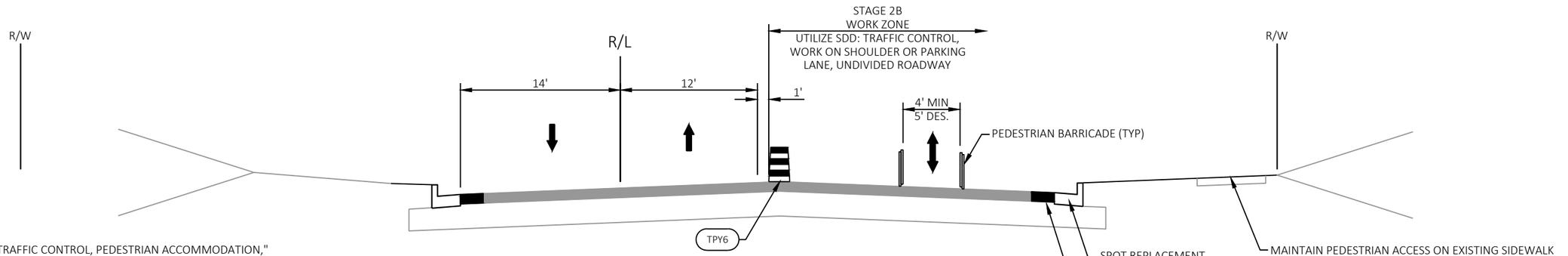
## TEMPORARY PAVEMENT MARKING LEGEND

| | |
|---|---|
| TPY6 | TEMPORARY MARKING LINE PAINT 4-INCH (DOUBLE YELLOW) |
| TPDY6 | TEMPORARY MARKING LINE PAINT 4-INCH (SINGLE YELLOW) |




STAGE 2A TYPICAL SECTION
STH 161

* NOTE: RESTRIPE SINGLE YELLOW OVER EXISTING TWO-WAY LEFT TURN LINE YELLOW SKIPS




STAGE 2B TYPICAL SECTION
STH 161

NOTES:

1) SEE S.D.D. "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION," FOR ADDITIONAL DETAILS.
2) MAINTAIN A MINIMUM 12' TRAVEL LANE WITH A 1' BUFFER WIDTH.
3) SEE STAGE 2A AND 2B TRAFFIC CONTROL PLANS AND TEMPORARY PEDESTRIAN ACCOMMODATION PLANS FOR ADDITIONAL DETAILS.
4) REMOVE ANY CONFLICTING PAVEMENT MARKINGS. ONLY ONE CENTERLINE SHALL BE VISIBLE AT ALL TIMES.
5) RESTRIPE EXISTING CENTERLINE AFTER COMPLETION OF STAGE 2B.

NOTES:

SEE SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE" AND SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR FURTHER DETAILS AND DIMENSIONS.

FLAG AS NECESSARY WHEN WORK OPERATIONS REQUIRE EQUIPMENT TO ENCROACH ONTO TRAVEL LANES. SEE S.D.D. " TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION."

STAGE 2A CONSTRUCTION:

- COMPLETE SPOT CURB AND GUTTER REPLACEMENT ALONG THE NORTH SIDE OF STH 161.
- COMPLETE STORM SEWER REHABILITATION WORK ALONG THE NORTH SIDE OF STH 161.
- COMPLETE THE GUARDRAIL REPLACEMENT WORK LOCATED ALONG THE NORTH SIDE OF STH 161.

STAGE 2A TRAFFIC:

- CLOSE THE WB TRAVEL LANE ALONG STH 161.
- SHIFT WB TRAFFIC ONTO THE EXISTING MEDIAN TURN LANES.
- MAINTAIN ACCESS TO ALL SIDE ROADS, RESIDENCES AND BUSINESSES.

END ROAD WORK
G20-2A
48"X24"

ROAD WORK AHEAD
W20-1A

COVER

EXISTING R/W (TYP)

STH 161

STH 49 / ADAMS ST

CTH J / PIERCE ST

MATCHLINE STA 104+99.64

MATCHLINE STA 111+99.99

350'

50' TYP

LEGEND

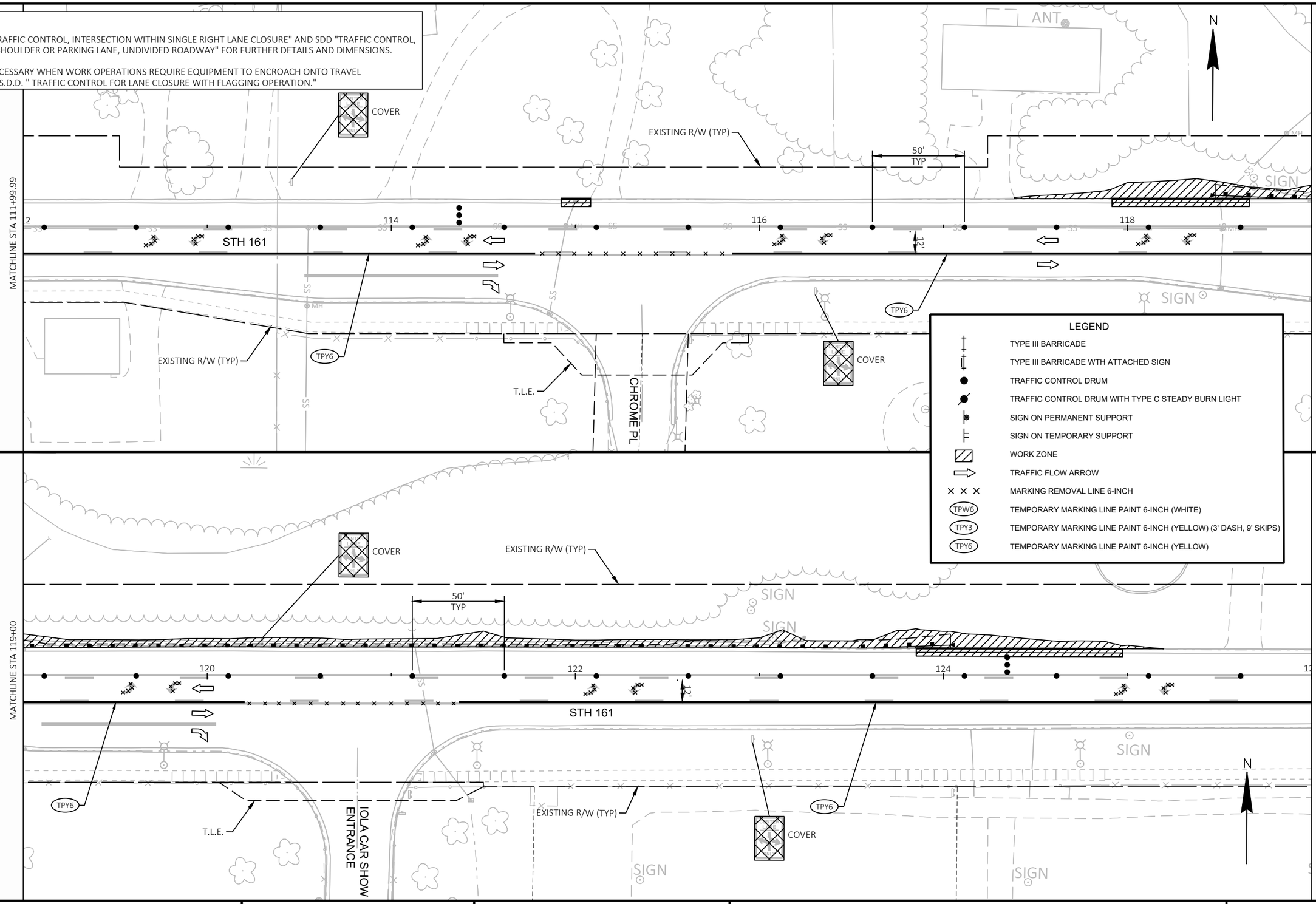
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- TPW6 TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- TPY3 TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW) (3' DASH, 9' SKIPS)
- TPY6 TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL - STAGE 2A | SHEET 45 | E |
|---|---|---|---|---|---|

NOTES:

SEE SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE" AND SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR FURTHER DETAILS AND DIMENSIONS.

FLAG AS NECESSARY WHEN WORK OPERATIONS REQUIRE EQUIPMENT TO ENCROACH ONTO TRAVEL LANES. SEE S.D.D. " TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION."




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL - STAGE 2A | SHEET 46 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\026001-S2A.DWG
LAYOUT NAME - 02

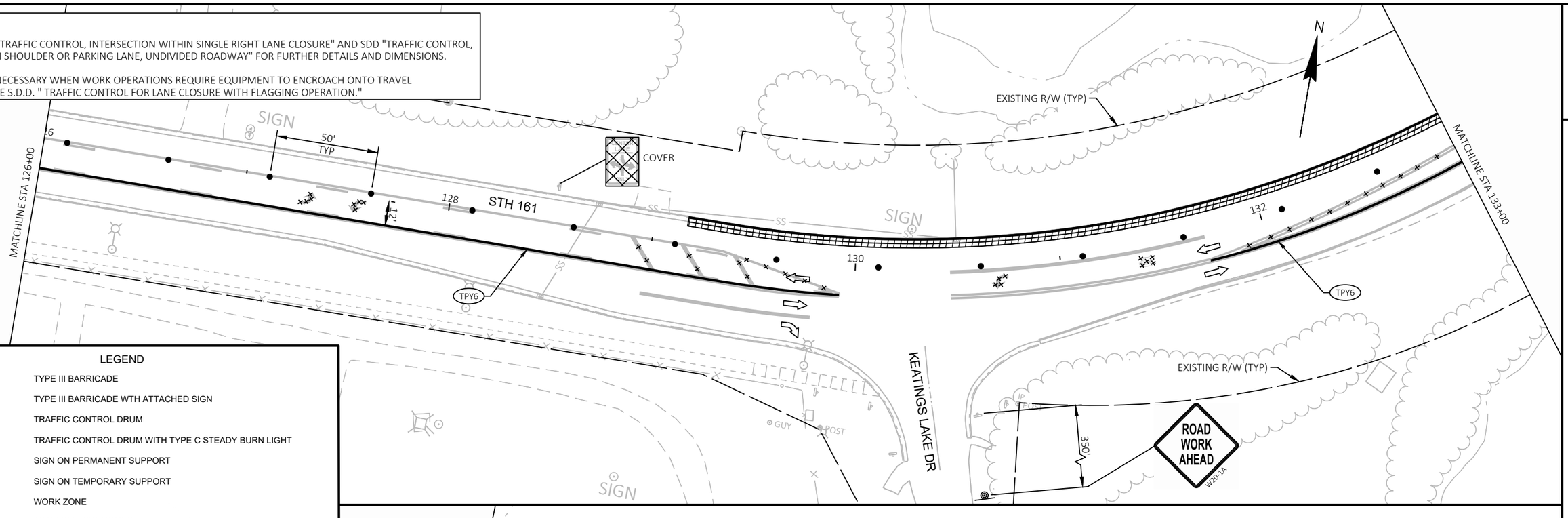
PLOT DATE : 7/20/2026 11:30 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 44

NOTES:

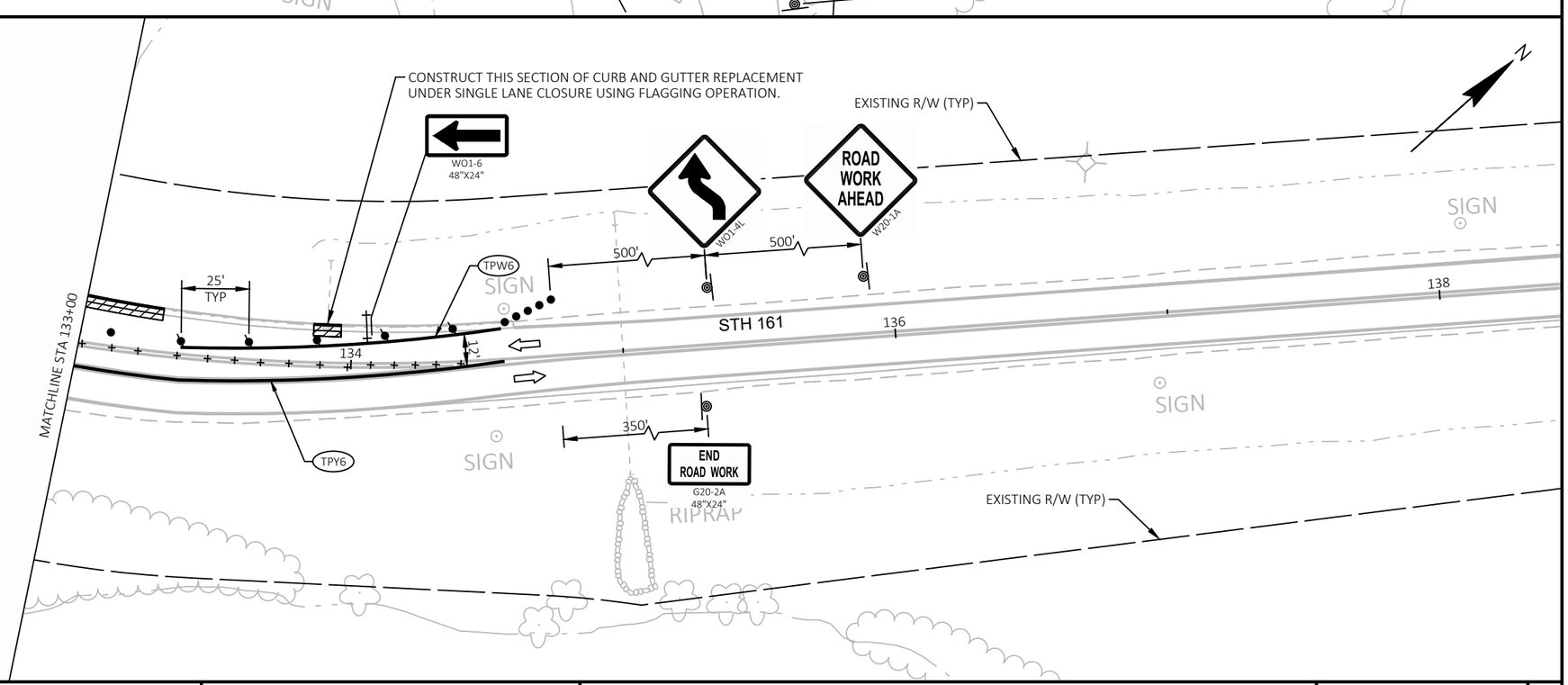
SEE SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE" AND SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR FURTHER DETAILS AND DIMENSIONS.

FLAG AS NECESSARY WHEN WORK OPERATIONS REQUIRE EQUIPMENT TO ENCROACH ONTO TRAVEL LANES. SEE S.D.D. " TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION."




LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- (TPW6) TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- (TPY3) TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW) (3' DASH, 9' SKIPS)
- (TPY6) TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL - STAGE 2A | SHEET 47 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\026001-S2A.DWG
LAYOUT NAME - 03

PLOT DATE : 7/20/2026 11:30 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 44

NOTES:

SEE SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE" AND SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR FURTHER DETAILS AND DIMENSIONS.

FLAG AS NECESSARY WHEN WORK OPERATIONS REQUIRE EQUIPMENT TO ENCROACH ONTO TRAVEL LANES. SEE S.D.D. " TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION."

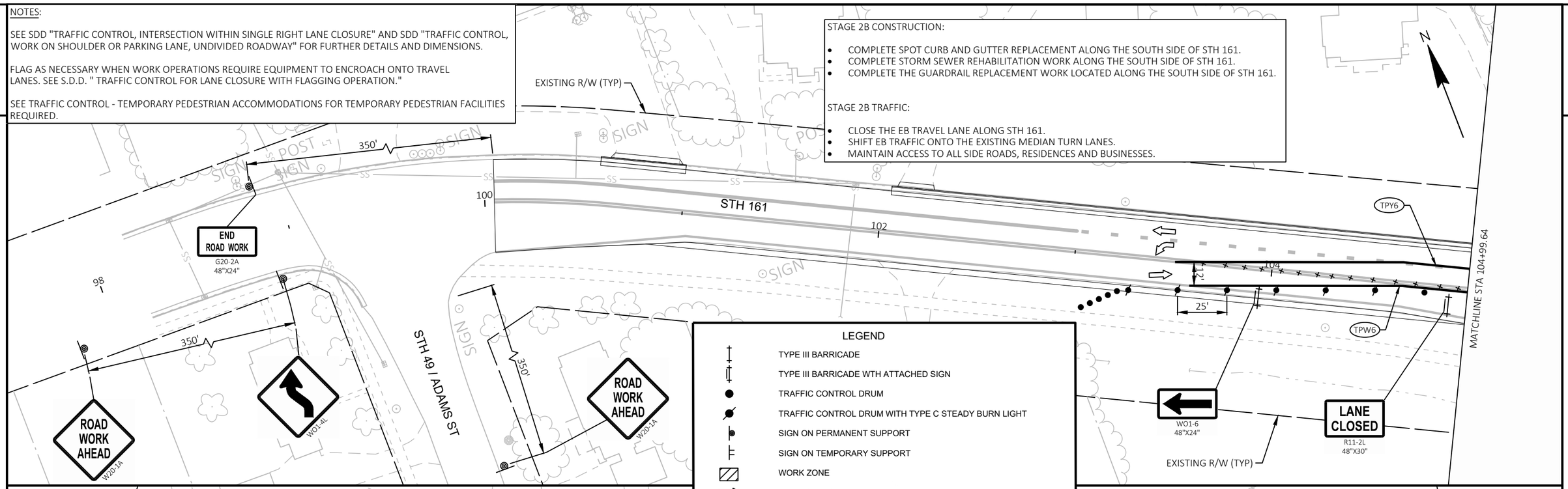
SEE TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS FOR TEMPORARY PEDESTRIAN FACILITIES REQUIRED.

STAGE 2B CONSTRUCTION:

- COMPLETE SPOT CURB AND GUTTER REPLACEMENT ALONG THE SOUTH SIDE OF STH 161.
- COMPLETE STORM SEWER REHABILITATION WORK ALONG THE SOUTH SIDE OF STH 161.
- COMPLETE THE GUARDRAIL REPLACEMENT WORK LOCATED ALONG THE SOUTH SIDE OF STH 161.

STAGE 2B TRAFFIC:

- CLOSE THE EB TRAVEL LANE ALONG STH 161.
- SHIFT EB TRAFFIC ONTO THE EXISTING MEDIAN TURN LANES.
- MAINTAIN ACCESS TO ALL SIDE ROADS, RESIDENCES AND BUSINESSES.




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL - STAGE 2B | SHEET 48 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\026101-S2B.DWG
LAYOUT NAME - 01
PLOT DATE : 7/20/2026 1:01 PM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:50 FT

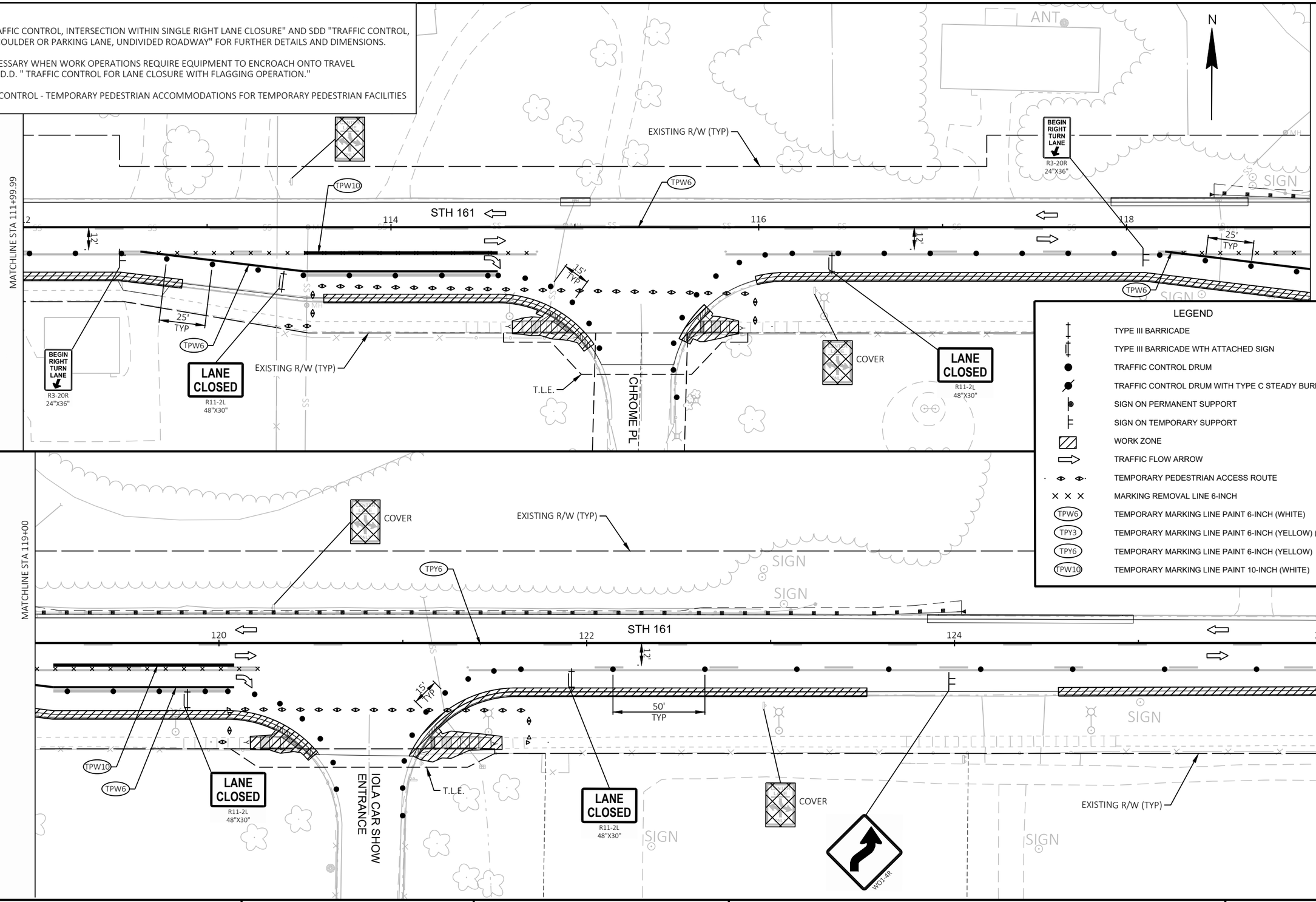
NOTES:

SEE SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE" AND SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR FURTHER DETAILS AND DIMENSIONS.

FLAG AS NECESSARY WHEN WORK OPERATIONS REQUIRE EQUIPMENT TO ENCROACH ONTO TRAVEL LANES. SEE S.D.D. " TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION."

SEE TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS FOR TEMPORARY PEDESTRIAN FACILITIES REQUIRED.

2




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL - STAGE 2B | SHEET 49 | E |
|---|---|---|---|---|---|

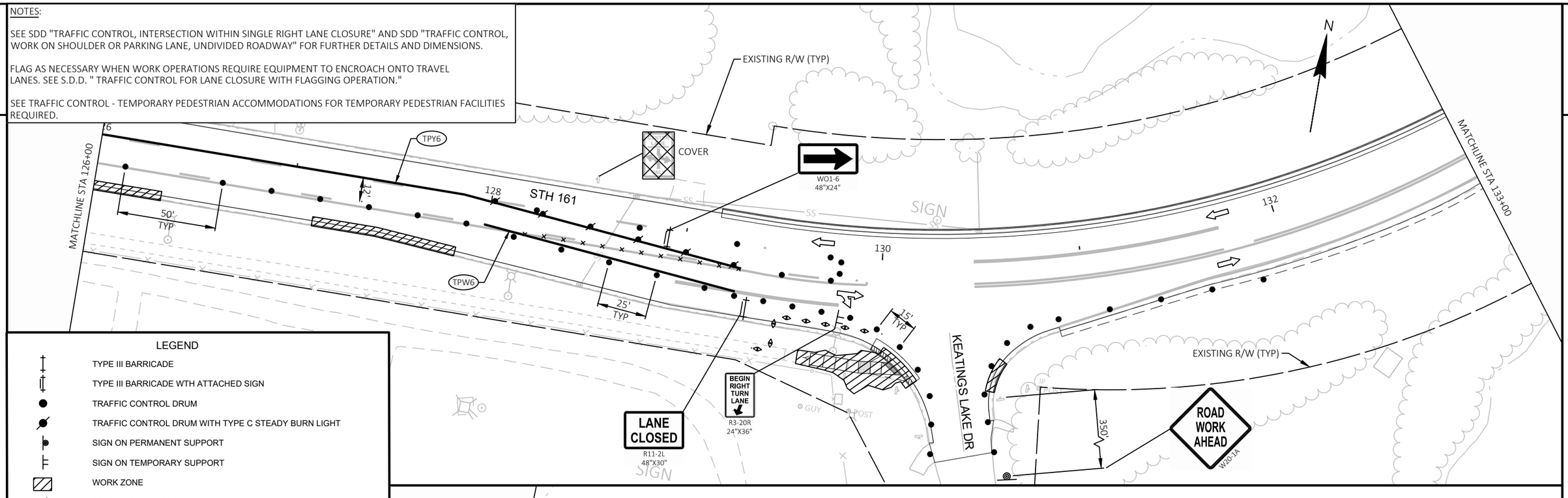

FILE NAME : O:\PDS\C3D\62600002\SHEETS\026101-S2B.DWG
LAYOUT NAME - 02
PLOT DATE : 7/20/2026 1:02 PM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

NOTES:

SEE SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE" AND SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR FURTHER DETAILS AND DIMENSIONS.

FLAG AS NECESSARY WHEN WORK OPERATIONS REQUIRE EQUIPMENT TO ENCROACH ONTO TRAVEL LANES. SEE S.D.D. " TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION."

SEE TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS FOR TEMPORARY PEDESTRIAN FACILITIES REQUIRED.




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL - STAGE 2B | SHEET 50 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\026101-S2B.DWG
LAYOUT NAME - 03

PLOT DATE : 7/20/2026 1:02 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:50 FT

2

## NOTES

SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" AND SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR FURTHER DETAILS AND DIMENSIONS.

SEE TRAFFIC CONTROL - STAGE 2B FOR MORE INFORMATION AND DETAILS.

2

N

REMOVE TEMPORARY PEDESTRIAN SURFACE AND RAMPS AFTER CURB RAMPS ARE COMPLETED. COMPLETE ASPHALT PATCH ALONG STH 161 AFTER PEDESTRIAN ACCESS ROUTE IS RETURNED TO EXISTING SIDEWALK AND NEW CURB RAMPS.

25' TYP

108+00

STOP
COVER

STH 161 R/L

109+00

STH 161 / E STATE ST

110+00

TPCW

STOP
R1-1
30"X30"

STOP
R1-1
30"X30"

TPCW

5' TYP

11'

11'

M4-60L
30"X24"

MH

SS

SS

SS

SS

10' TYP

STOP
COVER

M4-60R
30"X24"

11'

CTH J / PIERCE ST

15' TYP

TP6Y

RT6Y

EXISTING R/W (TYP)

FLAG AS NECESSARY WHEN WORK OPERATIONS REQUIRE EQUIPMENT TO ENCROACH ONTO TRAVEL LANES. SEE S.D.D. " TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION."

### PEDESTRIAN ACCOMMODATION LEGEND:

- TRAFFIC FLOW ARROW
- PROPOSED SIGN ON POST
- EXISTING SIGN ON POST
- TYPE III BARRICADE/TYPE III BARRICADE WITH SIGN
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- TEMPORARY PEDESTRIAN SURFACE MATTING
- TEMPORARY PEDESTRIAN SURFACE PLATE
- TEMPORARY CURB RAMP
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TPCW — TEMPORARY MARKING CROSSWALK PAINT 6-INCH
- TP6Y — TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- RT6Y — REMOVABLE TAPE 6-INCH (YELLOW)

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS | SHEET 51 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\026201-TC-TEMP PED ACCOMMODATIONS.DWG
LAYOUT NAME - 01

PLOT DATE : 5/29/2026 12:40 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:20 FT

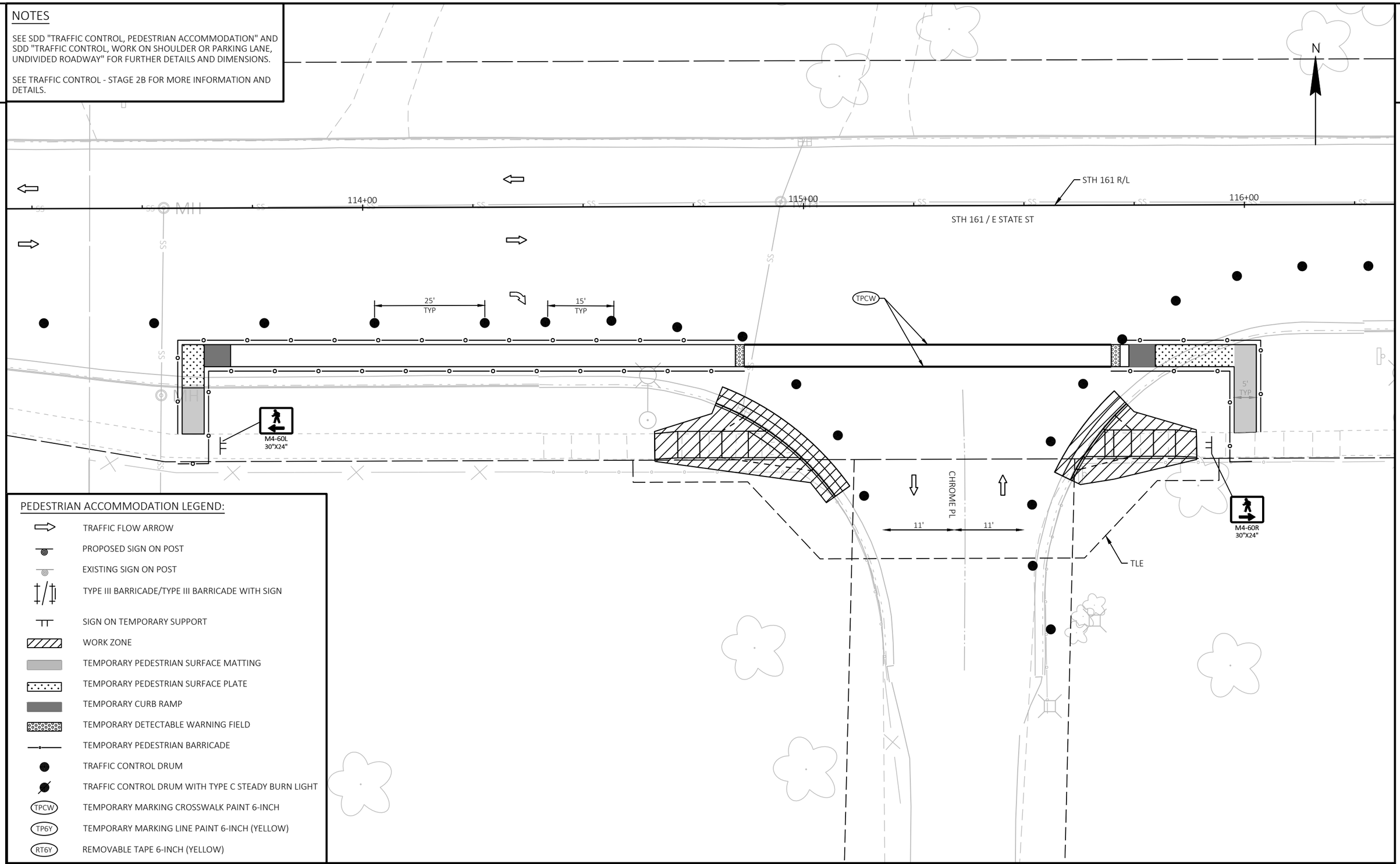
WISDOT/CADDS SHEET 42

2

## NOTES

SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" AND SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR FURTHER DETAILS AND DIMENSIONS.

SEE TRAFFIC CONTROL - STAGE 2B FOR MORE INFORMATION AND DETAILS.




### PEDESTRIAN ACCOMMODATION LEGEND:

- TRAFFIC FLOW ARROW
- PROPOSED SIGN ON POST
- EXISTING SIGN ON POST
- TYPE III BARRICADE/TYPE III BARRICADE WITH SIGN
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- TEMPORARY PEDESTRIAN SURFACE MATTING
- TEMPORARY PEDESTRIAN SURFACE PLATE
- TEMPORARY CURB RAMP
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TPCW — TEMPORARY MARKING CROSSWALK PAINT 6-INCH
- TP6Y — TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- RT6Y — REMOVABLE TAPE 6-INCH (YELLOW)

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS | SHEET 52 | E |
|---|---|---|---|---|---|

2

## NOTES

SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" AND SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR FURTHER DETAILS AND DIMENSIONS.

SEE TRAFFIC CONTROL - STAGE 2B FOR MORE INFORMATION AND DETAILS.

2

N

+00
120+00
STH 161 R/L
121+00
122+00
STH 161 / E STATE ST

SS
SS

15' TYP

TPCW

5' TYP

11'
11'

M4-60L
30"X24"

M4-60R
30"X24"

TLE

EXISTING R/W (TYP)

CAR SHOW DWY

### PEDESTRIAN ACCOMMODATION LEGEND:

- TRAFFIC FLOW ARROW
- PROPOSED SIGN ON POST
- EXISTING SIGN ON POST
- TYPE III BARRICADE/TYPE III BARRICADE WITH SIGN
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- TEMPORARY PEDESTRIAN SURFACE MATTING
- TEMPORARY PEDESTRIAN SURFACE PLATE
- TEMPORARY CURB RAMP
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TPCW — TEMPORARY MARKING CROSSWALK PAINT 6-INCH
- TP6Y — TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- RT6Y — REMOVABLE TAPE 6-INCH (YELLOW)

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS | SHEET 53 | E |
|---|---|---|---|---|---|

## NOTES

SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" AND SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR FURTHER DETAILS AND DIMENSIONS.

SEE TRAFFIC CONTROL - STAGE 2B FOR MORE INFORMATION AND DETAILS.

N

STH 161 / E STATE ST

STH 161 R/L

128+00

129+00

130+00

25' TYP

15' TYP

5' TYP

EXISTING R/W (TYP)

M4-60L
30"X24"

KEATINGS LAKE DR

11'

15'

GUY

POST

SS

### PEDESTRIAN ACCOMMODATION LEGEND:

- TRAFFIC FLOW ARROW
- PROPOSED SIGN ON POST
- EXISTING SIGN ON POST
- TYPE III BARRICADE/TYPE III BARRICADE WITH SIGN
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- TEMPORARY PEDESTRIAN SURFACE MATTING
- TEMPORARY PEDESTRIAN SURFACE PLATE
- TEMPORARY CURB RAMP
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TPCW — TEMPORARY MARKING CROSSWALK PAINT 6-INCH
- TP6Y — TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- RT6Y — REMOVABLE TAPE 6-INCH (YELLOW)

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS | SHEET 54 | E |
|---|---|---|---|---|---|

2

SEE DETAIL A

SEE DETAIL B

SEE DETAIL C

SEE DETAIL D

SEE DETAIL E

PORTAGE CO.
WAUPACA CO.

Nelsonville
Amherst Jct
Amherst
Iola
Scandinavia
Ogdensburg
Manawa
Sheridan
Waupaca
Weyauwega
Fremont
Rural
LANARK
FARMINGTON
ROYALTON
LITTLE WOLF
HARTMAN CREEK

NOTES:

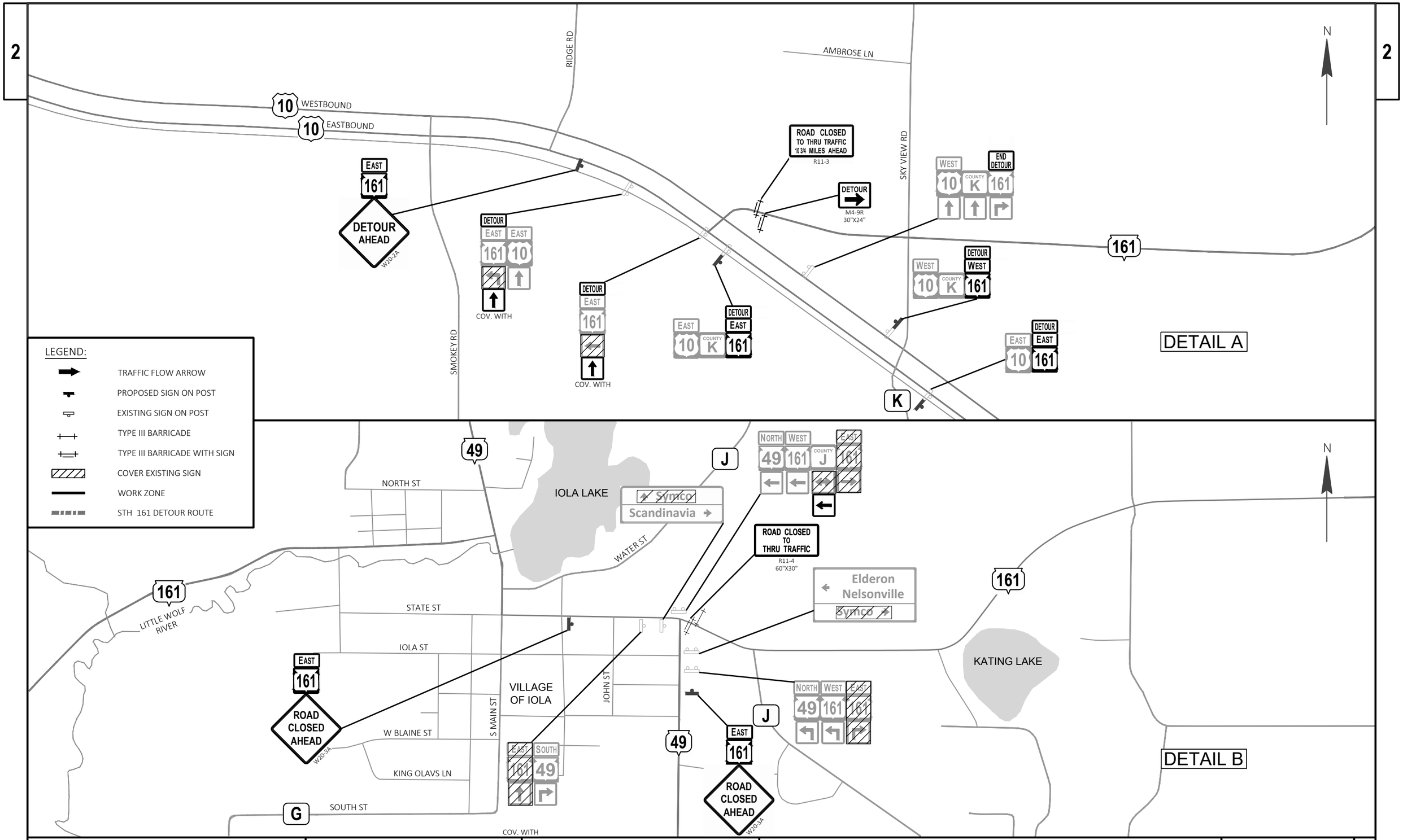
1. SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR SIGNING ON STH 161.
2. UTILIZE SDD "BARRICADE AND SIGNS FOR SIDEROAD CLOSURES" ALONG STH 161 WITHIN THE WORKZONE AREA.
3. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL.
4. ALL DETOUR SIGNS ADDED ON USH 10 SHALL BE SIZE 3 IN ACCORDANCE WITH THE WISDOT SIGN CODE LISTING.
5. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER
6. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.
7. THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
8. "WO" SIGNS ARE THE SAME AS "W" AND "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
9. ALL EXISTING SIGNS THAT NEED TO BE COVERED SHALL BE COVERED WITH A BLANK BLACK PANEL UNLESS OTHERWISE NOTED. EXISTING SIGNS BEING COVERED WITH NEW SIGN TO BE PAID FOR UNDER TRAFFIC CONTROL SIGNS BID ITEM.

LEGEND:

- TRAFFIC FLOW ARROW
- PROPOSED SIGN ON POST
- EXISTING SIGN ON POST
- TYPE III BARRICADE
- TYPE III BARRICADE WITH SIGN
- COVER EXISTING SIGN
- WORK ZONE
- STH 161 DETOUR ROUTE

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | DETOUR PLAN | SHEET 55 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\027001-DT.DWG
LAYOUT NAME - 01
PLOT DATE : 5/20/2026 3:36 PM
PLOT BY : BEN MERKATORIS
PLOT NAME :
PLOT SCALE : 1 IN:2 MI
WISDOT/CADDS SHEET 44




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | DETOUR PLAN | SHEET 56 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\027001-DT.DWG
LAYOUT NAME - 02

PLOT DATE : 5/20/2026 3:36 PM PLOT BY : BEN MERKATORIS PLOT NAME : PLOT SCALE : 1 IN:1000 FT

2

2

N

LEGEND:

- TRAFFIC FLOW ARROW
- PROPOSED SIGN ON POST
- EXISTING SIGN ON POST
- TYPE III BARRICADE
- TYPE III BARRICADE WITH SIGN
- COVER EXISTING SIGN
- WORK ZONE
- STH 161 DETOUR ROUTE

10

54

49

CITY OF WAUPACA

DETOUR WEST 161

DETOUR EAST 161

161

DETOUR AHEAD W20-2A

QQ

WEST NORTH EAST SOUTH EAST DETOUR EAST
10 49 10 49 54 161

EAST SOUTH EAST DETOUR EAST
10 49 54 161

EAST SOUTH EAST DETOUR EAST
10 49 54 161

WESTBOUND

EASTBOUND

DETAIL C

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | DETOUR PLAN | SHEET 57 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\027001-DT.DWG
LAYOUT NAME - 03

PLOT DATE : 5/20/2026 3:36 PM

PLOT BY : BEN MERKATORIS

PLOT NAME :

PLOT SCALE : 1 IN:1000 FT

WISDOT/CADDS SHEET 44

2

N

WAUPACA MUNICIPAL AIRPORT

DETAIL D

DETAIL E

LEGEND:

- TRAFFIC FLOW ARROW
- PROPOSED SIGN ON POST
- EXISTING SIGN ON POST
- TYPE III BARRICADE
- TYPE III BARRICADE WITH SIGN
- COVER EXISTING SIGN
- WORK ZONE
- STH 161 DETOUR ROUTE

DETOUR AHEAD W20-2A

ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30"

M4-9L 30"X24"

COVER WITH A4-12, 9-1/2" X 9-1/2"

Manawa / Symco / Iola

Manawa / Iola / Marion

Iola Car Show Grounds

WESTBOUND

EASTBOUND

MEADOW VIEW LN

MOUNTAIN VIEW LN

EDWARDS RD

MOUNTAIN LN

BUNKER RD

CRYSTAL RD

S APPLE TREE LN

COMMERCIAL DR

E GATE DR

PARISH LN

FERG RD

NOLLENBERG RD

WHITE CLOVER RD

BLAKE CREEK

TRINITY LN

W RIVER RD

E RIVER RD

CHURCH ST

SYMCO RD

RISKE RD

BEAVER CREEK

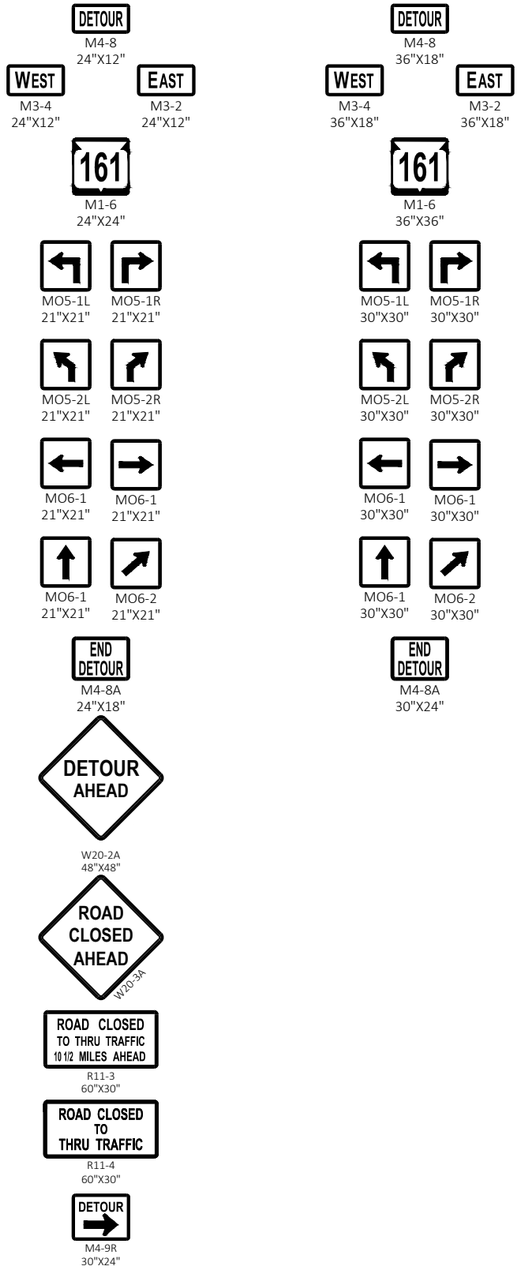
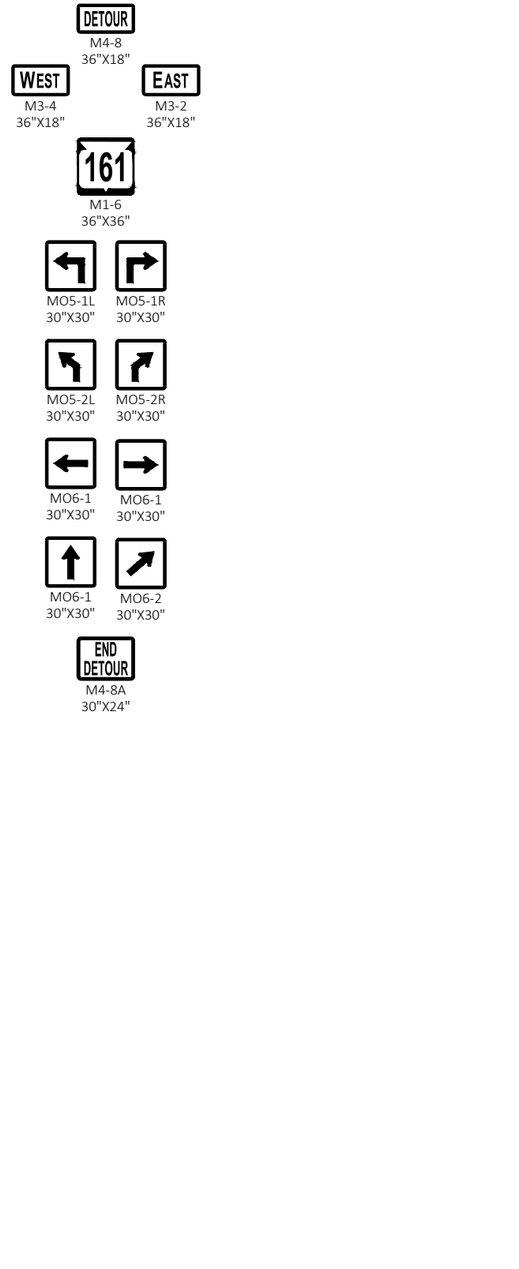
BRIDGE RD

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | DETOUR PLAN | SHEET 58 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\027001-DT.DWG
LAYOUT NAME - 04

PLOT DATE : 5/20/2026 3:36 PM PLOT BY : BEN MERKATORIS PLOT NAME : PLOT SCALE : 1 IN:1000 FT

## DETOUR SIGN PLATE LEGEND

| SIZE 2 | SIZE 3 |
|---|---|
|  |  |



2

## Estimate Of Quantities

6260-00-72

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0002 | 201.0205 | Grubbing | STA | 2.000 | 2.000 |
| 0004 | 203.0100 | Removing Small Pipe Culverts | EACH | 8.000 | 8.000 |
| 0006 | 203.0220 | Removing Structure (structure) 01. Cattle Pass | EACH | 1.000 | 1.000 |
| 0008 | 204.0100 | Removing Concrete Pavement | SY | 34.000 | 34.000 |
| 0010 | 204.0110 | Removing Asphaltic Surface | SY | 824.000 | 824.000 |
| 0012 | 204.0115 | Removing Asphaltic Surface Butt Joints | SY | 927.000 | 927.000 |
| 0014 | 204.0120 | Removing Asphaltic Surface Milling | SY | 156,100.000 | 156,100.000 |
| 0016 | 204.0130 | Removing Curb | LF | 104.000 | 104.000 |
| 0018 | 204.0150 | Removing Curb & Gutter | LF | 3,032.000 | 3,032.000 |
| 0020 | 204.0155 | Removing Concrete Sidewalk | SY | 147.000 | 147.000 |
| 0022 | 204.0165 | Removing Guardrail | LF | 1,679.000 | 1,679.000 |
| 0024 | 204.0180 | Removing Delineators and Markers | EACH | 10.000 | 10.000 |
| 0026 | 204.0245 | Removing Storm Sewer (size) 01. 12-Inch | LF | 8.000 | 8.000 |
| 0028 | 204.9060.S | Removing (item description) 01. Apron Endwalls For Culvert Pipe Reinforced Concrete | EACH | 1.000 | 1.000 |
| 0030 | 205.0100 | Excavation Common | CY | 1,785.000 | 1,785.000 |
| 0032 | 208.0100 | Borrow | CY | 394.000 | 394.000 |
| 0034 | 211.0101 | Prepare Foundation for Asphaltic Paving (project) 01. 6260-00-72 | EACH | 1.000 | 1.000 |
| 0036 | 211.0400 | Prepare Foundation for Asphaltic Shoulders | STA | 963.000 | 963.000 |
| 0038 | 213.0100 | Finishing Roadway (project) 01. 6260-00-72 | EACH | 1.000 | 1.000 |
| 0040 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 3,592.000 | 3,592.000 |
| 0042 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 1,560.000 | 1,560.000 |
| 0044 | 450.4000 | HMA Cold Weather Paving | TON | 4,600.000 | 4,600.000 |
| 0046 | 455.0605 | Tack Coat | GAL | 12,180.000 | 12,180.000 |
| 0048 | 460.0105.S | HMA Percent Within Limits (PWL) Test Strip Volumetrics | EACH | 1.000 | 1.000 |
| 0050 | 460.0110.S | HMA Percent Within Limits (PWL) Test Strip Density | EACH | 1.000 | 1.000 |
| 0052 | 460.2005 | Incentive Density PWL HMA Pavement | DOL | 14,750.000 | 14,750.000 |
| 0054 | 460.2007 | Incentive Density HMA Pavement Longitudinal Joints | DOL | 11,490.000 | 11,490.000 |
| 0056 | 460.2010 | Incentive Air Voids HMA Pavement | DOL | 18,400.000 | 18,400.000 |
| 0058 | 460.5224 | HMA Pavement 4 LT 58-28 S | TON | 18,320.000 | 18,320.000 |
| 0060 | 465.0105 | Asphaltic Surface | TON | 828.000 | 828.000 |
| 0062 | 465.0110 | Asphaltic Surface Patching | TON | 2,330.000 | 2,330.000 |
| 0064 | 465.0120 | Asphaltic Surface Driveways and Field Entrances | TON | 4.000 | 4.000 |
| 0066 | 465.0305 | Asphaltic Surface Safety Islands | TON | 45.000 | 45.000 |
| 0068 | 465.0315 | Asphaltic Flumes | SY | 28.000 | 28.000 |
| 0070 | 465.0560 | Asphaltic Rumble Strips, Centerline | LF | 47,480.000 | 47,480.000 |
| 0072 | 520.1024 | Apron Endwalls for Culvert Pipe 24-Inch | EACH | 2.000 | 2.000 |
| 0074 | 520.3424 | Culvert Pipe Class III-A Non-metal 24-Inch | LF | 48.000 | 48.000 |
| 0076 | 520.8000 | Concrete Collars for Pipe | EACH | 2.000 | 2.000 |
| 0078 | 520.8700 | Cleaning Culvert Pipes | EACH | 3.000 | 3.000 |
| 0080 | 521.1018 | Apron Endwalls for Culvert Pipe Steel 18-Inch | EACH | 2.000 | 2.000 |
| 0082 | 521.1030 | Apron Endwalls for Culvert Pipe Steel 30-Inch | EACH | 2.000 | 2.000 |
| 0084 | 521.3118 | Culvert Pipe Corrugated Steel 18-Inch | LF | 34.000 | 34.000 |
| 0086 | 522.0424 | Culvert Pipe Reinforced Concrete Class IV 24-Inch | LF | 48.000 | 48.000 |
| 0088 | 522.0430 | Culvert Pipe Reinforced Concrete Class IV 30-Inch | LF | 40.000 | 40.000 |
| 0090 | 522.1012 | Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch | EACH | 1.000 | 1.000 |
| 0092 | 522.1024 | Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch | EACH | 3.000 | 3.000 |
| 0094 | 522.1030 | Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch | EACH | 2.000 | 2.000 |
| 0096 | 522.2419 | Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch | LF | 232.000 | 232.000 |
| 0098 | 522.2424 | Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch | LF | 120.000 | 120.000 |

6260-00-72

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0100 | 522.2619 | Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch | EACH | 12.000 | 12.000 |
| 0102 | 530.0130 | Culvert Pipe Corrugated Polyethylene 30-Inch | LF | 49.000 | 49.000 |
| 0104 | 601.0110 | Concrete Curb Type D | LF | 89.000 | 89.000 |
| 0106 | 601.0411 | Concrete Curb & Gutter 30-Inch Type D | LF | 3,032.000 | 3,032.000 |
| 0108 | 601.0600 | Concrete Curb Pedestrian | LF | 28.000 | 28.000 |
| 0110 | 602.0405 | Concrete Sidewalk 4-Inch | SF | 1,312.000 | 1,312.000 |
| 0112 | 602.0505 | Curb Ramp Detectable Warning Field Yellow | SF | 48.000 | 48.000 |
| 0114 | 602.0605 | Curb Ramp Detectable Warning Field Radial Yellow | SF | 95.000 | 95.000 |
| 0116 | 602.0810 | Concrete Driveway 6-Inch | SY | 38.000 | 38.000 |
| 0118 | 606.0200 | Riprap Medium | CY | 63.000 | 63.000 |
| 0120 | 606.0300 | Riprap Heavy | CY | 18.000 | 18.000 |
| 0122 | 608.0312 | Storm Sewer Pipe Reinforced Concrete Class III 12-Inch | LF | 4.000 | 4.000 |
| 0124 | 611.0420 | Reconstructing Manholes | EACH | 1.000 | 1.000 |
| 0126 | 611.0430 | Reconstructing Inlets | EACH | 15.000 | 15.000 |
| 0128 | 614.0010 | Barrier System Grading Shaping Finishing | EACH | 14.000 | 14.000 |
| 0130 | 614.0397 | Guardrail Mow Strip Emulsified Asphalt | SY | 632.000 | 632.000 |
| 0132 | 614.2300 | MGS Guardrail 3 | LF | 966.250 | 966.250 |
| 0134 | 614.2330 | MGS Guardrail 3 K | LF | 337.500 | 337.500 |
| 0136 | 614.2500 | MGS Thrie Beam Transition | LF | 480.000 | 480.000 |
| 0138 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 16.000 | 16.000 |
| 0140 | 618.0100 | Maintenance and Repair of Haul Roads (project) 01. 6260-00-72 | EACH | 1.000 | 1.000 |
| 0142 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0144 | 620.0300 | Concrete Median Sloped Nose | SF | 39.000 | 39.000 |
| 0146 | 624.0100 | Water | MGAL | 78.000 | 78.000 |
| 0148 | 625.0100 | Topsoil | SY | 2,705.000 | 2,705.000 |
| 0150 | 628.1504 | Silt Fence | LF | 8,900.000 | 8,900.000 |
| 0152 | 628.1520 | Silt Fence Maintenance | LF | 8,900.000 | 8,900.000 |
| 0154 | 628.1905 | Mobilizations Erosion Control | EACH | 6.000 | 6.000 |
| 0156 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 3.000 | 3.000 |
| 0158 | 628.2008 | Erosion Mat Urban Class I Type B | SY | 2,705.000 | 2,705.000 |
| 0160 | 628.7005 | Inlet Protection Type A | EACH | 2.000 | 2.000 |
| 0162 | 628.7015 | Inlet Protection Type C | EACH | 15.000 | 15.000 |
| 0164 | 628.7504 | Temporary Ditch Checks | LF | 440.000 | 440.000 |
| 0166 | 628.7555 | Culvert Pipe Checks | EACH | 100.000 | 100.000 |
| 0168 | 628.7570 | Rock Bags | EACH | 440.000 | 440.000 |
| 0170 | 629.0210 | Fertilizer Type B | CWT | 2.000 | 2.000 |
| 0172 | 630.0130 | Seeding Mixture No. 30 | LB | 75.000 | 75.000 |
| 0174 | 630.0140 | Seeding Mixture No. 40 | LB | 57.000 | 57.000 |
| 0176 | 630.0200 | Seeding Temporary | LB | 83.000 | 83.000 |
| 0178 | 630.0500 | Seed Water | MGAL | 197.000 | 197.000 |
| 0180 | 633.5200 | Markers Culvert End | EACH | 28.000 | 28.000 |
| 0182 | 634.0612 | Posts Wood 4x6-Inch x 12-FT | EACH | 12.000 | 12.000 |
| 0184 | 634.0616 | Posts Wood 4x6-Inch x 16-FT | EACH | 3.000 | 3.000 |
| 0186 | 634.0618 | Posts Wood 4x6-Inch x 18-FT | EACH | 2.000 | 2.000 |
| 0188 | 638.2102 | Moving Signs Type II | EACH | 17.000 | 17.000 |
| 0190 | 638.2602 | Removing Signs Type II | EACH | 2.000 | 2.000 |
| 0192 | 638.3000 | Removing Small Sign Supports | EACH | 2.000 | 2.000 |
| 0194 | 642.5201 | Field Office Type C | EACH | 1.000 | 1.000 |
| 0196 | 643.0300 | Traffic Control Drums | DAY | 6,245.000 | 6,245.000 |

## Estimate Of Quantities

6260-00-72

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0198 | 643.0420 | Traffic Control Barricades Type III | DAY | 853.000 | 853.000 |
| 0200 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 1,706.000 | 1,706.000 |
| 0202 | 643.0715 | Traffic Control Warning Lights Type C | DAY | 396.000 | 396.000 |
| 0204 | 643.0900 | Traffic Control Signs | DAY | 13,451.000 | 13,451.000 |
| 0206 | 643.0920 | Traffic Control Covering Signs Type II | EACH | 22.000 | 22.000 |
| 0208 | 643.1050 | Traffic Control Signs PCMS | DAY | 69.000 | 69.000 |
| 0210 | 643.3165 | Temporary Marking Line Paint 6-Inch | LF | 77,395.000 | 77,395.000 |
| 0212 | 643.3180 | Temporary Marking Line Removable Tape 6-Inch | LF | 60.000 | 60.000 |
| 0214 | 643.3265 | Temporary Marking Line Paint 10-Inch | LF | 310.000 | 310.000 |
| 0216 | 643.3305 | Temporary Marking Crosswalk Paint 6-Inch | LF | 768.000 | 768.000 |
| 0218 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0220 | 644.1430 | Temporary Pedestrian Surface Plate | SF | 290.000 | 290.000 |
| 0222 | 644.1440 | Temporary Pedestrian Surface Matting | SF | 854.000 | 854.000 |
| 0224 | 644.1601 | Temporary Pedestrian Curb Ramp | DAY | 220.000 | 220.000 |
| 0226 | 644.1605 | Temporary Pedestrian Detectable Warning Field | SF | 180.000 | 180.000 |
| 0228 | 644.1810 | Temporary Pedestrian Barricade | LF | 1,226.000 | 1,226.000 |
| 0230 | 645.0120 | Geotextile Type HR | SY | 240.000 | 240.000 |
| 0232 | 646.2020 | Marking Line Epoxy 6-Inch | LF | 573.000 | 573.000 |
| 0234 | 646.2040 | Marking Line Grooved Wet Ref Epoxy 6-Inch | LF | 172,537.000 | 172,537.000 |
| 0236 | 646.4040 | Marking Line Grooved Wet Ref Epoxy 10-Inch | LF | 1,132.000 | 1,132.000 |
| 0238 | 646.5020 | Marking Arrow Epoxy | EACH | 27.000 | 27.000 |
| 0240 | 646.5120 | Marking Word Epoxy | EACH | 2.000 | 2.000 |
| 0242 | 646.6466 | Cold Weather Marking Epoxy 6-Inch | LF | 173,110.000 | 173,110.000 |
| 0244 | 646.6470 | Cold Weather Marking Epoxy 10-Inch | LF | 1,132.000 | 1,132.000 |
| 0246 | 646.7120 | Marking Diagonal Epoxy 12-Inch | LF | 112.000 | 112.000 |
| 0248 | 646.7420 | Marking Crosswalk Epoxy Transverse Line 6-Inch | LF | 132.000 | 132.000 |
| 0250 | 646.8120 | Marking Curb Epoxy | LF | 30.000 | 30.000 |
| 0252 | 646.8220 | Marking Island Nose Epoxy | EACH | 3.000 | 3.000 |
| 0254 | 646.9002 | Marking Removal Line 6-Inch | LF | 3,134.000 | 3,134.000 |
| 0256 | 646.9102 | Marking Removal Line 10-Inch | LF | 106.000 | 106.000 |
| 0258 | 646.9200 | Marking Removal Line Wide | LF | 120.000 | 120.000 |
| 0260 | 646.9300 | Marking Removal Special Marking | EACH | 28.000 | 28.000 |
| 0262 | 650.5500 | Construction Staking Curb Gutter and Curb & Gutter | LF | 3,035.000 | 3,035.000 |
| 0264 | 650.6000 | Construction Staking Pipe Culverts | EACH | 13.000 | 13.000 |
| 0266 | 650.8000 | Construction Staking Resurfacing Reference | LF | 54,320.000 | 54,320.000 |
| 0268 | 650.9000 | Construction Staking Curb Ramps | EACH | 9.000 | 9.000 |
| 0270 | 650.9500 | Construction Staking Sidewalk (project) 01. 6260-00-72 | EACH | 1.000 | 1.000 |
| 0272 | 650.9911 | Construction Staking Supplemental Control (project) 01. 6260-00-72 | EACH | 1.000 | 1.000 |
| 0274 | 680.0100 | Public Land Survey Monument Verify and Reset | EACH | 14.000 | 14.000 |
| 0276 | 690.0150 | Sawing Asphalt | LF | 4,063.000 | 4,063.000 |
| 0278 | 690.0250 | Sawing Concrete | LF | 193.000 | 193.000 |
| 0280 | 740.0440 | Incentive IRI Ride | DOL | 43,450.000 | 43,450.000 |
| 0282 | ASP.1T0A | On-the-Job Training Apprentice at $5.00/HR | HRS | 2,000.000 | 2,000.000 |
| 0284 | ASP.1T0G | On-the-Job Training Graduate at $5.00/HR | HRS | 1,260.000 | 1,260.000 |
| 0286 | SPV.0030 | Special 01. Fertilizer For Lawn Type Turf | CWT | 1.000 | 1.000 |
| 0288 | SPV.0035 | Special 01. Removing Excess Shoulder Material | CY | 2,200.000 | 2,200.000 |
| 0290 | SPV.0060 | Special 01. Cleaning Inlets | EACH | 2.000 | 2.000 |
| 0292 | SPV.0060 | Special 02. Inlet Covers Type H-D | EACH | 2.000 | 2.000 |
| 0294 | SPV.0060 | Special 03. Apron Endwalls for Culvert Pipe Sloped Cross Drains Steel 24x38-Inch 4:1 | EACH | 6.000 | 6.000 |

## Estimate Of Quantities

6260-00-72

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0296 | SPV.0090 | Special 01. Ditch Cleaning | LF | 100.000 | 100.000 |
| 0298 | SPV.0090 | Special 02. Maintaining Exclusion Fence | LF | 5,300.000 | 5,300.000 |
| 0300 | SPV.0090 | Special 03. Remove, Salvage and Reinstall Fence | LF | 142.000 | 142.000 |
| 0302 | SPV.0180 | Special 01. Removing Distressed Asphaltic Surface Milling | SY | 11,570.000 | 11,570.000 |
| 0304 | SPV.0195 | Special 01. Infill Riprap | TON | 33.000 | 33.000 |

3

## GRUBBING

| | | | | | 201.0205 |
|---|---|---|---|---|---|
| | | | | | GRUBBING |
| CATEGORY | STATION | TO | STATION | LOCATION | STA |
| 0010 | 576+40 | - | 578+30 | STH 161 RT | 2 |
| | | | | TOTAL 0010 | 2 |

## BUTT JOINTS

| | | | | 204.0115 | |
|---|---|---|---|---|---|
| | | | | REMOVING ASPHALTIC SURFACE BUTT JOINTS | |
| CATEGORY | STATION | LOCATION | | SY | REMARKS |
| 0010 | 100+05 | STH 161 | | 54 | BOP |
| 0010 | 109+07 | STH 161 | | 43 | CTH J |
| 0010 | 115+34 | STH 161 | | 45 | CHROME PL |
| 0010 | 120+79 | STH 161 | | 63 | IOLA CAR SHOW ENTRANCE |
| 0010 | 130+39 | STH 161 | | 34 | KEATINGS LAKE DR |
| 0010 | 159+50 | STH 161 | | 64 | WASRUD RD |
| 0010 | 186+93 | STH 161 | | 19 | KLOPE RD |
| 0010 | 200+10 | STH 161 | | 16 | TWIN GROVE RD |
| 0010 | 226+14 | STH 161 | | 20 | NETZLER RD |
| 0010 | 266+28 | STH 161 | | 23 | KNUTSON LAKE RD |
| 0010 | 319+22 | STH 161 | | 23 | BESTUL RD |
| 0010 | 372+00 | STH 161 | | 59 | CTH E |
| 0010 | 423+70 | STH 161 | | 67 | B-68-069 |
| 0010 | 440+28 | STH 161 | | 25 | CAMPBELL LAKE RD |
| 0010 | 477+75 | STH 161 | | 20 | SWAMP RD |
| 0010 | 477+77 | STH 161 | | 23 | CTH K |
| 0010 | 492+75 | STH 161 | | 67 | B-68-081 |
| 0010 | 503+23 | STH 161 | | 25 | VOSS LN |
| 0010 | 529+50 | STH 161 | | 26 | FLATER RD |
| 0010 | 538+77 | STH 161 | | 22 | MUCH RD S |
| 0010 | 545+20 | STH 161 | | 20 | MUCH RD E |
| 0010 | 565+74 | STH 161 | | 23 | NOLLENBURG RD |
| 0010 | 565+77 | STH 161 | | 25 | WHITE CLOVER RD |
| 0010 | 575+50 | STH 161 | | 67 | B-68-082 |
| 0010 | 591+65 | STH 161 | | 24 | FERG RD |
| 0010 | 643+25 | STH 161 | | 30 | EOP |
| | | | TOTAL 0010 | 927 | |

MILLING FOR SIDEROADS INCLUDED WITH MAINLINE MILLING

## AGGREGATE SHOULDERS

| | | | | | * 305.0110 | * 624.0100 | SPV.0035.01 | |
|---|---|---|---|---|---|---|---|---|
| | | | | | BASE AGGREGATE DENSE 3/4-INCH | WATER | SPECIAL (01. REMOVING EXCESS SHOULDER MATERIAL) | |
| CATEGORY | STATION | TO | STATION | LOCATION | TON | MGAL | CY | REMARKS |
| 0010 | 100+05 | - | 101+25 | STH 161 | 12 | 0.2 | -- | |
| 0010 | 101+25 | - | 104+66 | STH 161 | 15 | 0.3 | -- | |
| 0010 | 104+66 | - | 109+00 | STH 161 | 10 | 0.2 | -- | |
| 0010 | 117+30 | - | 125+20 | STH 161 | 62 | 1.0 | -- | _T URBAN GUARDRAIL SECTION |
| 0010 | 130+85 | - | 134+60 | STH 161 | 8 | 0.2 | -- | |
| 0010 | 134+60 | - | 158+00 | STH 161 | 100 | 1.5 | -- | |
| 0010 | 158+00 | - | 163+34 | STH 161 | 74 | 1.2 | -- | RT GUARDRAIL |
| 0010 | 163+34 | - | 167+00 | STH 161 | 53 | 0.8 | 10 | RT GUARDRAIL |
| 0010 | 167+00 | - | 421+00 | STH 161 | 1450 | 22.0 | 1160 | |
| 0010 | 421+00 | - | 428+00 | STH 161 | 160 | 2.4 | 39 | LT AND RT GUARDRAIL |
| 0010 | 428+00 | - | 490+00 | STH 161 | 360 | 5.4 | 280 | |
| 0010 | 490+00 | - | 496+00 | STH 161 | 130 | 2.0 | 33 | LT AND RT GUARDRAIL |
| 0010 | 496+00 | - | 573+00 | STH 161 | 440 | 6.6 | 350 | |
| 0010 | 573+00 | - | 578+00 | STH 161 | 110 | 1.7 | 28 | LT AND RT GUARDRAIL |
| 0010 | 578+00 | - | 644+25 | STH 161 | 380 | 5.7 | 300 | |
| | | | | TOTAL 0010 | 3,364 | 51.2 | 2,200 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

## CULVERT PATCHES

| | | | | | | * 305.0110 | 305.0120 | * 455.0605 | 465.0105 | * 624.0100 | * 690.0150 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | BASE AGGREGATE DENSE 3/4-INCH | BASE AGGREGATE DENSE 1 1/4-INCH | TACK COAT | ASPHALTIC SURFACE | WATER | SAWING ASPHALT |
| CATEGORY | STATION | TO | STATION | CULVERT # | LOCATION | TON | TON | GAL | TON | MGAL | LF |
| 0010 | 173+10 | - | 174+23 | 706 | STH 161 | 29 | 190 | 17 | 100 | 3.3 | 44 |
| 0010 | 200+10 | - | 201+15 | 707 | STH 161 | 23 | 190 | 17 | 102 | 3.2 | 64 |
| 0010 | 208+33 | - | 209+40 | 708 | STH 161 | 26 | 190 | 17 | 100 | 3.3 | 46 |
| 0010 | 279+06 | - | 280+19 | 710 | STH 161 | 27 | 200 | 18 | 105 | 3.5 | 46 |
| 0010 | 376+67 | - | 377+73 | 712 | STH 161 | 26 | 180 | 16 | 95 | 3.1 | 44 |
| 0010 | 533+30 | - | 534+51 | 716/717 | STH 161 | 29 | 250 | 23 | 135 | 4.2 | 55 |
| 0010 | 581+66 | - | 582+73 | 719 | STH 161 | 26 | 180 | 16 | 96 | 3.1 | 44 |
| 0010 | 599+74 | - | 600+80 | 720 | STH 161 | 26 | 180 | 16 | 95 | 3.1 | 44 |
| | | | | | TOTAL 0010 | 212 | 1,560 | 140 | 828 | 26.8 | 387 |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

3

HMA

| CATEGORY | STATION | TO | STATION | LOCATION | 204.0120 ASPHALTIC SURFACE MILLING SY | 211.0400 FOUNDATION FOR ASPHALTIC SHOULDERS STA | 450.4000 COLD WEATHER PAVING TON | * 455.0605 TACK COAT GAL | 460.5224 HMA PAVEMENT 4 LT 58-28 S TON | * 465.0110 ASPHALTIC SURFACE PATCHING TON | SPV.0180.01 REMOVING DISTRESSED ASPHALTIC SURFACE SY | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 100+05 | - | 134+60 | STH 161 | 17,810 | 5 | -- | 1,256 | 1,780 | -- | -- | URBAN SECTION |
| 0010 | 134+60 | - | 166+12 | STH 161 | 11,470 | -- | -- | 803 | 1,130 | -- | -- | URBAN SECTION TO START OF SHOULDER WIDENING |
| 0010 | 166+12 | - | 266+28 | STH 161 | 25,930 | 202 | -- | 2,053 | 3,210 | -- | -- | START OF SHOULDER WIDENING TO KNUTSON LAKE RD |
| 0010 | 222+00 | - | 242+00 | STH 161 | -- | -- | -- | -- | -- | 890 | 4,890 | ASSUMED FULL 22' WIDTH REPAIR FOR STA RANGE |
| 0010 | 266+28 | - | 372+00 | STH 161 | 28,020 | 212 | -- | 2,185 | 3,380 | -- | -- | KNUTSON LAKE RD TO CTH E |
| 0010 | 372+00 | - | 423+59 | STH 161 | 13,870 | 104 | -- | 1,106 | 1,740 | -- | -- | CTH E TO B-68-069 |
| 0010 | 423+83 | - | 477+75 | STH 161 | 14,440 | 108 | -- | 1,132 | 1,760 | -- | -- | B-68-069 TO CTH K/SWAMP RD |
| 0010 | 477+75 | - | 492+66 | STH 161 | 4,200 | 30 | -- | 324 | 500 | -- | -- | CTH K/SWAMP RD TO B-68-081 |
| 0010 | 493+00 | - | 565+75 | STH 161 | 20,600 | 146 | -- | 1,535 | 2,280 | -- | -- | B-68-081 TO WHITE CLOVER RD/NOLLENBERG RD |
| 0010 | 525+00 | - | 545+00 | STH 161 | -- | -- | -- | -- | -- | 890 | 4,890 | ASSUMED FULL 22' WIDTH REPAIR FOR STA RANGE |
| 0010 | 565+75 | - | 575+30 | STH 161 | 2,660 | 20 | -- | 214 | 340 | -- | -- | WHITE CLOVER RD/NOLLENBERG RD TO B-68-082 |
| 0010 | 575+66 | - | 643+25 | STH 161 | 17,100 | 136 | -- | 1,382 | 2,200 | -- | -- | B-68-082 - EOP |
| 0010 | 575+75 | - | 580+00 | STH 161 | -- | -- | -- | -- | -- | 190 | 1,040 | |
| 0010 | | | | UNDISTRIBUTED | -- | -- | 4,600 | 50 | -- | 140 | 750 | |
| | | | | TOTAL 0010 | 156,100 | 963 | 4,600 | 12,040 | 18,320 | 2,110 | 11,570 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

EARTHWORK CULVERTS

| CATEGORY | STATION | TO | STATION | LOCATION | 205.0100 EXCAVATION COMMON CY | 208.0100 BORROW CY |
|---|---|---|---|---|---|---|
| 0010 | 173+10 | - | 174+23 | CULVERT 706 | 165 | 17 |
| 0010 | 200+10 | - | 201+15 | CULVERT 707 | 200 | 53 |
| 0010 | 208+30 | - | 209+45 | CULVERT 708 | 330 | 203 |
| 0010 | 279+06 | - | 280+19 | CULVERT 710 | 150 | 15 |
| 0010 | 376+67 | - | 377+73 | CULVERT 712 | 150 | 20 |
| 0010 | 533+30 | - | 534+51 | CULVERTS 716/717 | 230 | 36 |
| 0010 | 581+66 | - | 582+73 | CULVERT 719 | 230 | 14 |
| 0010 | 599+74 | - | 600+80 | CULVERT 720 | 330 | 36 |
| | | | | TOTAL 0010 | 1,785 | 394 |

3

CULVERT PIPE SUMMARY

| CATEGORY | STATION | LOCATION | LOCATION | 203.0100 REMOVING SMALL PIPE CULVERTS EACH | 203.0220.01 REMOVING STRUCTURE (01.68161006708) EACH | 204.9060.S.01 REMOVING ITEM (01.AEW RC) EACH | 520.1024 AEW 24-INCH EACH | 520.3424 CP CIII-A NON-METAL 24-INCH LF | 520.8000 CONCRETE COLLARS FOR PIPE EACH | 521.1018 AEW STEEL 18-INCH EACH | 521.1030 AEW STEEL 30-INCH EACH | 521.3118 CP STEEL 18-INCH LF | 522.0424 CPRC C-IV 24-INCH LF | 522.0430 CPRC C-IV 30-INCH LF | 522.1024 AEW CPRC 24-INCH EACH | 522.1030 AEW CPRC 30-INCH EACH | 522.2419 CPRC HE-IV 19X30-INCH LF | 522.2424 CPRC HE-IV 24X38-INCH LF | 522.2619 AEW CPRC HE 19X30-INCH EACH | 530.0130 CP CORRUGATED POLYETHYLENE 30-INCH LF | * 633.5200 MARKERS CULVERT END EACH | 650.6000 CONSTURCTION STAKING PIPE CULVERTS EACH | SPV.0060.03 SPECIAL (03. AEW SLOPED CD STEEL HE 24X38-INCH 4:1) EACH | INLET** ELEVATION | OUTLET** ELEVATION | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 160+25 | 161 RT | CULVERT 705 | -- | -- | 1 | -- | -- | 1 | -- | -- | -- | 8 | -- | 1 | -- | -- | -- | -- | -- | 1 | -- | -- | 972.78 | 972.69 | EXISTING 24" RCCP |
| 0010 | 173+65 | 161 | CULVERT 706-W | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | 2 | -- | 2 | 1 | -- | 945.90 | 945.74 | EXISTING 18" CMCP |
| 0010 | 173+70 | 161 | CULVERT 706-E | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | 2 | -- | 2 | 1 | -- | 945.90 | 945.74 | |
| 0010 | 173+97 | 161 LT | DW 574 | -- | -- | -- | -- | -- | -- | 2 | -- | 34 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 946.30 | 946.00 | 0.064" MIN PIPE THICKNESS |
| 0010 | 200+63 | 161 | CULVERT 707 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | 2 | -- | -- | -- | -- | -- | 2 | 1 | -- | 948.06 | 945.59 | EXISTING 24" CMCP |
| 0010 | 208+86 | 161 | CULVERT 708 | -- | 1 | -- | -- | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- | 49 | 2 | 1 | -- | 923.55 | 923.55 | EXISTING 42"X60" CATTLE PASS |
| 0010 | 279+61 | 161 | CULVERT 710-W | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | 2 | -- | 2 | 1 | -- | 877.10 | 876.90 | |
| 0010 | 279+66 | 161 | CULVERT 710-E | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | 2 | -- | 2 | 1 | -- | 877.10 | 876.90 | EXISTING 24" CMCP |
| 0010 | 279+70 | 161 | CULVERT 710 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | 2 | -- | 2 | 1 | -- | 877.10 | 876.90 | |
| 0010 | 377+20 | 161 | CULVERT 712 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 32 | -- | 2 | -- | 2 | 1 | -- | 869.35 | 868.95 | EXISTING 24" CMCP |
| 0010 | 533+84 | 161 | CULVERT 716 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | -- | 2 | 1 | 2 | 840.35 | 840.30 | EXISTING 30" CMCP |
| 0010 | 533+89 | 161 | CULVERT 717-S | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | -- | 2 | 1 | 2 | 840.35 | 840.30 | EXISTING 30" CMCP |
| 0010 | 533+95 | 161 | CULVERT 717-N | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | -- | 2 | 1 | 2 | 840.35 | 840.30 | |
| 0010 | 582+20 | 161 | CULVERT 719 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | 2 | -- | -- | -- | -- | 2 | 1 | -- | 825.70 | 825.50 | EXISTING 30" CMCP |
| 0010 | 600+27 | 161 | CULVERT 720 | 1 | -- | -- | 2 | 48 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 1 | -- | 856.00 | 855.63 | EXISTING 24" CMCP |
| | | | TOTALS 0010 | 8 | 1 | 1 | 2 | 48 | 1 | 2 | 2 | 34 | 48 | 40 | 3 | 2 | 232 | 120 | 12 | 49 | 27 | 13 | 6 | | | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

**PIPE INVERT AT END OF PIPE FOR INFORMATION ONLY. FIELD VERIFY

PWL TABLE

| Location | Station | Mixture Use | Underlying Surface | Bid Item | Tons | Thickness | Quality Management Program to be used for: Mixture Acceptance | Quality Management Program to be used for: Density Acceptance |
|---|---|---|---|---|---|---|---|---|
| Driving Lanes (12 feet) | 100+05 - 109+00<br>109+00 - 134+60 RT | Upper Layer | 2 1/4" - Milled HMA<br>3 1/4" - Milled HMA | 4 LT 58-28 S | 580 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Incentive Density PWL HMA Pavement 460.2005 |
| TWLTL/Left Turn Lanes (14 feet) | 100+05 - 109+00<br>109+00 - 134+60 | Upper Layer | 2 1/4" - Milled HMA<br>3 1/4" - Milled HMA | 4 LT 58-28 S | 540 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Incentive Density PWL HMA Pavement 460.2005 |
| Driving Lanes (14 feet) | 109+00 - 134+60 LT | Upper Layer | 3 1/4" - Milled HMA Surface | 4 LT 58-28 S | 400 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Incentive Density PWL HMA Pavement 460.2005 |
| Driving Lanes (11 feet) | 134+60 - 163+34<br>163+34 - 644+25*<br>*Varying pavement sections noted below. | Upper Layer | 3 1/4" - Milled HMA Surface | 4 LT 58-28 S | 11,840 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Incentive Density PWL HMA Pavement 460.2005 |
| Driving Lanes (11 feet) | *420+04 - 426+21<br>*490+66 - 495+00<br>*573+30 - 577+67 | Upper Layer | 2 1/4" - Milled HMA Surface | 4 LT 58-28 S | 340 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Incentive Density PWL HMA Pavement 460.2005 |
| 0'-6' Shoulder LT | 100+05 - 109+00 | Upper Layer | 2 1/4" - Milled HMA Surface | 4 LT 58-28 S | 30 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Department Acceptance (SS 460.3.3.2)<br>*Not eligible for incentive |
| Shoulders (Width Varies) | 100+05 - 104+66 RT<br>163+34 - 644+25 | Upper Layer | Asphaltic Surface | 4 LT 58-28 S | 3,715 | 3.50" | PWL Incentive Air Voids HMA Pavement 460.2010 | Department Acceptance (SS 460.3.3.2)<br>*Not eligible for incentive |
| Shoulders/Turn Lanes | 104+66 - 109+00 RT<br>109+00 - 134+60 | Upper Layer | 2 1/4" - Milled HMA Surface | 4 LT 58-28 S | 190 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Department Acceptance (SS 460.3.3.2)<br>*Not eligible for incentive |
| 3'-4' Shoulder (Width Varies) | 134+60 - 163+34 | Upper Layer | 3 1/4" - Milled HMA Surface | 4 LT 58-28 S | 220 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Department Acceptance (SS 460.3.3.2)<br>*Not eligible for incentive |
| Turn Lanes (Width Varies) | Project Rural 134+60 to 644+25 Misc Areas | Upper Layer | Milled HMA Surface | 4 LT 58-28 S | 60 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Department Acceptance (SS 460.3.3.2)<br>*Not eligible for incentive |
| Side Roads | Project | Upper Layer | Milled HMA Surface (Depth Varies) | 4 LT 58-28 S | 400 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Department Acceptance (SS 460.3.3.2)<br>*Not eligible for incentive |
| Project | Culvert Patches | All Layers | Base Aggregate/Asphaltic Suface | Asphaltic Surface | 828 | 6.5" Total | (SS 465) | Ordinary Compaction (SS 450.3.2.6.2) |

REMOVING DELINEATORS AND MARKERS

| CATEGORY | STATION | CULVERT # | LOCATION | 204.0180 * REMOVING DELINEATORS AND MARKERS EACH | 638.2602 * REMOVING SIGNS TYPE II EACH | 638.3000 * REMOVING SMALL SIGN SUPPORTS EACH | REMARKS |
|---|---|---|---|---|---|---|---|
| 0010 | 173+67 | 706 | STH 161 | 1 | -- | -- | |
| 0010 | 200+63 | 707 | STH 161 | 2 | -- | -- | |
| 0010 | 208+87 | 708 | STH 161 | -- | 2 | 2 | CHEVRONS |
| 0010 | 279+63 | 710 | STH 161 | 2 | -- | -- | |
| 0010 | 377+20 | 712 | STH 161 | -- | -- | -- | |
| 0010 | 533+91 | 716/717 | STH 161 | 2 | -- | -- | |
| 0010 | 582+20 | 719 | STH 161 | 2 | -- | -- | |
| 0010 | 600+27 | 720 | STH 161 | 1 | -- | -- | INCLUDES FENCE POST MARKER |
| | | | TOTAL 0010 | 10 | 2 | 2 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

CENTERLINE RUMBLE STRIPS

| CATEGORY | STATION | TO | STATION | LOCATION | 465.0560 ASPHALTIC RUMBLE STRIPS, CENTERLINE LF |
|---|---|---|---|---|---|
| 0010 | 134+50 | - | 644+25 | STH 161 CL | 47,480 |
| | | | | TOTAL 0010 | 47,480 |

3

CURB RAMPS AND CURB & GUTTER

| CATEGORY | STATION | TO | STATION | LOCATION | 204.0100 REMOVING CONCRETE PAVEMENT SY | 204.0110 REMOVING ASPHALTIC SURFACE SY | 204.0130 REMOVING CURB LF | 204.0150 REMOVING CURB & GUTTER LF | 204.0155 REMOVING CONCRETE SIDEWALK SY | * 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON | * 465.0110 ASPHALTIC SURFACE PATCHING TON | 465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON | 465.0305 ASPHALTIC SURFACE SAFETY ISLANDS TON | 465.0315 ASPHALTIC FLUMES SY | 601.0110 CONCRETE CURB TYPE D LF | 601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF | 601.0600 CONCRETE CURB PEDESTRIAN LF | 602.0405 CONCRETE SIDEWALK 4-INCH SF | 602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF | 602.0605 CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW SF | 602.0810 CONCRETE DRIVEWAY 6-INCH SY | 620.0300 CONCRETE MEDIAN SLOPED NOSE SF | 650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF | 650.9000 CONSTRUCTION STAKING CURB RAMPS EACH | * 690.0150 SAWING ASPHALT LF | 690.0250 SAWING CONCRETE LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 100+57 | - | 101+00 | STH 161 LT | -- | 20 | -- | 43 | -- | -- | 3 | 2 | -- | -- | -- | 43 | -- | -- | -- | -- | -- | -- | 0 | -- | 80 | 5 | |
| 0010 | 102+05 | - | 109+50 | STH 161 LT | -- | 175 | -- | 736 | -- | 2 | 46 | 2 | -- | -- | -- | 736 | -- | -- | -- | -- | -- | -- | 736 | -- | 780 | 5 | |
| 0010 | 108+31 | - | 108+77 | STH 161 RT | -- | 14 | -- | 57 | 11 | -- | 4 | -- | -- | 14 | -- | 57 | -- | 100 | 12 | -- | -- | -- | 57 | 1 | 66 | 11 | CTH J/PIERCE ST RAMP SW |
| 0010 | 108+88 | - | 109+24 | STH 161 RT | -- | 117 | 104 | -- | 9 | 14 | 22 | -- | 45 | -- | 89 | -- | 28 | 79 | 24 | -- | -- | 39 | 104 | 2 | 169 | -- | CTH J/PIERCE ST NORTH NOSES TYPE 2 SOUTH NOSE TYPE 1 |
| 0010 | 109+24 | - | 109+80 | STH 161 RT | -- | 22 | -- | 93 | 21 | -- | 7 | -- | -- | 14 | -- | 93 | -- | 200 | -- | 23 | -- | -- | 93 | 1 | 103 | 11 | CTH J/PIERCE ST RAMP SE |
| 0010 | 110+09 | - | 112+86 | STH 161 RT | 34 | 62 | -- | 278 | -- | -- | 18 | -- | -- | -- | -- | 278 | -- | 3 | -- | -- | 38 | -- | 278 | -- | 282 | 61 | |
| 0010 | 110+37 | - | 110+53 | STH 161 LT | -- | 4 | -- | 16 | -- | -- | 1 | -- | -- | -- | -- | 16 | -- | -- | -- | -- | -- | -- | 0 | -- | 20 | 5 | INLET REPAIR |
| 0010 | 113+64 | - | 115+07 | STH 161 RT | -- | 35 | -- | 154 | 20 | -- | 10 | -- | -- | -- | -- | 154 | -- | 170 | -- | 20 | -- | -- | 154 | 1 | 160 | 11 | CHROME PL RAMP SW |
| 0010 | 114+92 | - | 115+08 | STH 161 LT | -- | 4 | -- | 16 | -- | -- | 1 | -- | -- | -- | -- | 16 | -- | -- | -- | -- | -- | -- | 0 | -- | 20 | 5 | |
| 0010 | 115+60 | - | 115+73 | STH 161 RT | -- | 6 | -- | 23 | 16 | -- | 2 | -- | -- | -- | -- | 23 | -- | 140 | -- | 12 | -- | -- | 23 | 1 | 27 | 11 | CHROME PL RAMP SE |
| 0010 | 115+99 | - | 120+52 | STH 161 RT | -- | 103 | -- | 461 | 17 | -- | 29 | -- | -- | -- | -- | 461 | -- | 150 | -- | 21 | -- | -- | 461 | 1 | 469 | 11 | CAR SHOW DWY RAMP SW |
| 0010 | 117+92 | - | 118+66 | STH 161 LT | -- | 17 | -- | 75 | -- | -- | 5 | -- | -- | -- | -- | 75 | -- | -- | -- | -- | -- | -- | 75 | -- | 79 | 5 | |
| 0010 | 121+06 | - | 123+52 | STH 161 RT | -- | 59 | -- | 258 | 24 | -- | 17 | -- | -- | -- | -- | 258 | -- | 210 | 12 | -- | -- | -- | 258 | 1 | 266 | 11 | CAR SHOW DWY RAMP SE |
| 0010 | 123+82 | - | 124+97 | STH 161 LT | -- | 25 | -- | 112 | -- | -- | 7 | -- | -- | -- | -- | 112 | -- | -- | -- | -- | -- | -- | 112 | -- | 120 | 5 | DRIVEWAY CURB REQUIRED BY EAT |
| 0010 | 124+57 | - | 126+34 | STH 161 RT | -- | 40 | -- | 178 | -- | -- | 12 | -- | -- | -- | -- | 178 | -- | -- | -- | -- | -- | -- | 178 | -- | 186 | 5 | |
| 0010 | 127+12 | - | 127+86 | STH 161 RT | -- | 17 | -- | 74 | -- | -- | 5 | -- | -- | -- | -- | 74 | -- | -- | -- | -- | -- | -- | 74 | -- | 82 | 5 | |
| 0010 | 129+16 | - | 133+29 | STH 161 LT | -- | 91 | -- | 404 | -- | -- | 26 | -- | -- | -- | -- | 404 | -- | -- | -- | -- | -- | -- | 404 | -- | 412 | 5 | DRIVEWAY CURB REQUIRED BY EAT KEATINGS LAKE DR RAMP SW |
| 0010 | 129+57 | - | 130+15 | STH 161 RT | -- | 6 | -- | 28 | 29 | -- | 2 | -- | -- | -- | -- | 28 | -- | 260 | -- | 19 | -- | -- | 28 | 1 | 34 | 11 | |
| 0010 | 130+52 | - | 130+58 | STH 161 RT | -- | 4 | -- | 16 | -- | -- | 2 | -- | -- | -- | -- | 16 | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 5 | |
| 0010 | 133+86 | - | 133+96 | STH 161 LT | -- | 3 | -- | 10 | -- | -- | 1 | -- | -- | -- | -- | 10 | -- | -- | -- | -- | -- | -- | -- | -- | 14 | 5 | |
| | | | | TOTAL 0010 | 34 | 824 | 104 | 3,032 | 147 | 16 | 220 | 4 | 45 | 28 | 89 | 3,032 | 28 | 1,312 | 48 | 95 | 38 | 39 | 3,035 | 9 | 3,391 | 193 | |

## STORM SEWER

| CATEGORY | STATION | OFFSET | LOCATION | 520.8700 CLEANING CULVERT PIPES EACH | * 606.0200 RIPRAP MEDIUM CY | 611.0420 RECONSTRUCTING MANHOLES EACH | 611.0430 RECONSTRUCTING INLETS EACH | * 633.5200 MARKERS CULVERT END EACH | * 645.0120 GEOTEXTILE TYPE HR SY | SPV.0060.01 SPECIAL (01. CLEANING INLETS) EACH | SPV.0060.02 SPECIAL (02. INLET COVER TYPE H-D) EACH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 99+07 | 32.5' RT | STH 161 | -- | -- | -- | -- | -- | -- | 1 | -- |
| 0010 | 101+55 | 33.7' LT | STH 161 | 1 | -- | -- | -- | -- | -- | -- | -- |
| 0010 | 106+40 | 73.9' RT | STH 161 | 1 | -- | -- | -- | -- | -- | -- | -- |
| 0010 | 106+34 | 23.2' LT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 106+34 | 73.8' RT | STH 161 | -- | -- | -- | -- | 1 | -- | -- | -- |
| 0010 | 107+28 | 37.0' LT | STH 161 | -- | -- | -- | -- | -- | -- | 1 | -- |
| 0010 | 110+45 | 28.7' RT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 110+45 | 15.9' LT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 113+54 | 42.4' RT | STH 161 | -- | -- | 1 | -- | -- | -- | -- | -- |
| 0010 | 114+86 | 46.5' RT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | 1 |
| 0010 | 115+00 | 15.3' LT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 118+50 | 15.2' LT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | 1 |
| 0010 | 118+50 | 33.8' RT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 119+00 | 15.3' LT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 119+00 | 39.8' RT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 121+11 | 24.7' LT | STH 161 | -- | 2 | -- | -- | -- | 8 | -- | -- |
| 0010 | 121+24 | 41.8' RT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 121+43 | 70.1' RT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 128+72 | 14.0' LT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 128+51 | 36.4' RT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 130+49 | 14.1' LT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| 0010 | 130+50 | 52.4' LT | STH 161 | -- | 5 | -- | -- | -- | 16 | -- | -- |
| 0010 | 133+91 | 37.5' LT | STH 161 | 1 | -- | -- | -- | -- | -- | -- | -- |
| 0010 | 133+91 | 14.0' LT | STH 161 | -- | -- | -- | 1 | -- | -- | -- | -- |
| | | | TOTAL 0010 | 3 | 7 | 1 | 15 | 1 | 24 | 2 | 2 |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

## CULVERT PIPE 703

| CATEGORY | STATION | LOCATION | 204.0245.01 REMOVING STORM SEWER (SIZE) (01. 12-INCH) LF | * 520.8000 CONCRETE COLLARS FOR PIPE EACH | 522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH | 608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF |
|---|---|---|---|---|---|---|
| 0010 | 106+40 | CP703 | 8 | 1 | 1 | 4 |
| | | TOTAL 0010 | 8 | 1 | 1 | 4 |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

## MONUMENTS

| CATEGORY | STATION | TO | STATION | LOCATION | 680.0100 PUBLIC LAND REFERENCE MONUMENT VERIFY AND RESET EACH | REMARKS | |
|---|---|---|---|---|---|---|---|
| 0010 | 114+60 | - | 115+95 | STH 161 RT | 1 | PROPERTY CORNER | CHROME PL |
| 0010 | 120+06 | - | 121+50 | STH 161 RT | 1 | PROPERTY CORNER | CAR SHOW DWY |
| 0010 | 159+00 | - | 159+50 | STH 161 | 1 | T24N R11E 36/31 | WASRUD RD |
| 0010 | 186+75 | - | 187+00 | STH 161 | 1 | T24N R12E 31 | KLOPE RD |
| 0010 | 239+75 | - | 240+00 | STH 161 | 1 | T24N R12E 32 | |
| 0010 | 266+00 | - | 266+25 | STH 161 | 1 | T24N R12E 32/33 | KNUTSON LAKE RD |
| 0010 | 292+50 | - | 292+75 | STH 161 | 1 | T24N R12E 33 | |
| 0010 | 319+00 | - | 319+25 | STH 161 | 1 | T24N R12E 33/34 | BESTUL RD |
| 0010 | 345+25 | - | 345+50 | STH 161 | 1 | T24N R12E 34 | |
| 0010 | 371+75 | - | 372+25 | STH 161 | 1 | T24N R12E 34/35 | CTH E |
| 0010 | 424+50 | - | 242+75 | STH 161 | 1 | T24N R12E 35/36 | E OF B-68-069 |
| 0010 | 451+00 | - | 451+25 | STH 161 | 1 | T24N R12E 36 | |
| 0010 | 477+50 | - | 478+00 | STH 161 | 1 | T24N R12E 36/31 | CTH K / SWAMP RD |
| 0010 | 503+00 | - | 503+25 | STH 161 | 1 | T24N R13E 31 | VOSS LN |
| | | | | TOTAL 0010 | 14 | | |

## MAINTAINING EXCLUSION FENCE

| CATEGORY | STATION | TO | STATION | LOCATION | SPV.0090.02 SPECIAL (02. MAINTAINING EXCLUSION FENCE) LF |
|---|---|---|---|---|---|
| 0010 | 218+22 | - | 219+25 | STH 161 LT | 160 |
| 0010 | 218+38 | - | 220+60 | STH 161 RT | 280 |
| 0010 | 219+55 | - | 225+95 | STH 161 LT | 710 |
| 0010 | 226+33 | - | 230+00 | STH 161 LT | 440 |
| 0010 | 220+87 | - | 230+03 | STH 161 RT | 970 |
| 0010 | 230+30 | - | 233+52 | STH 161 RT | 380 |
| 0010 | 230+43 | - | 235+95 | STH 161 LT | 610 |
| 0010 | 233+90 | - | 237+84 | STH 161 RT | 450 |
| 0010 | 236+17 | - | 242+93 | STH 161 LT | 730 |
| 0010 | 238+12 | - | 243+23 | STH 161 RT | 570 |
| | | | | TOTAL 0010 | 5,300 |

## 614.0010-BARRIER SYSTEM GRADING SHAPING FINISHING

**ITEMS AND QUANTITIES LISTED FOR BID INFORMATION ONLY

| CATEGORY | STATION | TO | STATION | LOCATION | 205.0100** EXCAVATION COMMON CY | 208.0100** BORROW CY | 625.0100** TOPSOIL SY | 628.2008** EROSION MAT URBAN CLASS I TYPE B SY | 629.0210** FERTILIZER TYPE B CWT | 630.0130** SEEDING MIX NO. 30 LB | 630.0200** SEEDING TEMPORARY LB | 630.0500** SEED WATER MGAL | 650.9920** CONSTRUCTION STAKING SLOPE STAKES LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 117+35 | - | 125+17 | STH 161 LT | 17 | -- | 194 | 194 | 0.2 | 8.8 | 5.3 | 3 | 782 |
| 0010 | 159+89 | - | 167+10 | STH 161 RT | 13 | 65 | 376 | 376 | 0.3 | 17.0 | 10.2 | 6 | 721 |
| 0010 | 421+32 | - | 423+42 | STH 161 LT | 28 | -- | 137 | 137 | 0.1 | 6.2 | 3.7 | 3 | 210 |
| 0010 | 420+90 | - | 423+42 | STH 161 RT | 5 | 40 | 208 | 208 | 0.2 | 9.4 | 5.7 | 4 | 252 |
| 0010 | 423+90 | - | 427+18 | STH 161 LT | 15 | 26 | 268 | 268 | 0.2 | 12.1 | 7.3 | 5 | 328 |
| 0010 | 423+89 | - | 427+30 | STH 161 RT | 10 | 45 | 261 | 261 | 0.2 | 11.8 | 7.1 | 4 | 341 |
| 0010 | 489+57 | - | 492+59 | STH 161 RT | 19 | -- | 258 | 258 | 0.2 | 11.7 | 7.0 | 4 | 302 |
| 0010 | 490+19 | - | 492+59 | STH 161 LT | 11 | -- | 124 | 124 | 0.1 | 5.6 | 3.4 | 2 | 240 |
| 0010 | 493+07 | - | 495+47 | STH 161 RT | 12 | -- | 186 | 186 | 0.2 | 8.4 | 5.1 | 3 | 240 |
| 0010 | 493+07 | - | 496+10 | STH 161 LT | 29 | -- | 285 | 285 | 0.2 | 12.9 | 7.7 | 5 | 303 |
| 0010 | 572+20 | - | 575+23 | STH 161 RT | 2 | 166 | 372 | 372 | 0.3 | 16.8 | 10.1 | 6 | 303 |
| 0010 | 572+83 | - | 575+23 | STH 161 LT | 0 | 161 | 403 | 403 | 0.3 | 18.2 | 10.9 | 7 | 240 |
| 0010 | 575+74 | - | 578+27 | STH 161 RT | 59 | 71 | 454 | 454 | 0.3 | 20.5 | 12.3 | 7 | 253 |
| 0010 | 575+74 | - | 578+76 | STH 161 LT | 55 | 49 | 465 | 465 | 0.3 | 21.0 | 12.6 | 7 | 302 |
| | | | | TOTAL 0010 | 275 | 623 | 3,991 | 3,991 | 3.1 | 180.4 | 108.4 | 66 | 4,817 |

## GUARDRAIL

| CATEGORY | STATION | TO | STATION | LOCATION | 204.0165 REMOVING GUARDRAIL LF | 614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH | 614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY | 614.2300 MGS GUARDRAIL 3 LF | 614.2330 MGS GUARDRAIL 3 K LF | 614.2500 MGS THRIE BEAM TRANSITION LF | 614.2610 MGS GUARDRAIL TERMINAL EAT EACH | * 690.0150 SAWING ASPHALT LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 117+35 | - | 125+17 | STH 161 LT | 452 | 1 | 310 | 112.5 | 337.5 | -- | 2 | -- | |
| 0010 | 159+89 | - | 167+10 | STH 161 RT | 355 | 1 | 280 | 387.5 | -- | -- | 2 | 285 | |
| 0010 | 421+32 | - | 423+42 | STH 161 LT | 72 | 1 | -- | -- | -- | 40 | 1 | -- | B-68-69 NW |
| 0010 | 420+90 | - | 423+42 | STH 161 RT | 72 | 1 | -- | 16.25 | -- | 40 | 1 | -- | B-68-69 SW, FIELD CUT REQUIRED |
| 0010 | 423+90 | - | 427+18 | STH 161 LT | 72 | 1 | -- | 87.5 | -- | 40 | 1 | -- | B-68-69 NE |
| 0010 | 423+89 | - | 427+30 | STH 161 RT | 72 | 1 | -- | 100.0 | -- | 40 | 1 | -- | B-68-69 SE |
| 0010 | 489+57 | - | 492+59 | STH 161 RT | 75 | 1 | -- | 62.5 | -- | 40 | 1 | -- | B-68-81 SW |
| 0010 | 490+19 | - | 492+59 | STH 161 LT | 75 | 1 | -- | -- | -- | 40 | 1 | -- | B-68-81 NW |
| 0010 | 493+07 | - | 495+47 | STH 161 RT | 75 | 1 | -- | -- | -- | 40 | 1 | -- | B-68-81 SE |
| 0010 | 493+07 | - | 496+10 | STH 161 LT | 75 | 1 | -- | 62.5 | -- | 40 | 1 | -- | B-68-81 NE |
| 0010 | 572+20 | - | 575+23 | STH 161 RT | 71 | 1 | -- | 62.5 | -- | 40 | 1 | -- | B-68-82 SW |
| 0010 | 572+83 | - | 575+23 | STH 161 LT | 71 | 1 | 42 | -- | -- | 40 | 1 | -- | B-68-82 NW |
| 0010 | 575+74 | - | 578+27 | STH 161 RT | 71 | 1 | -- | 12.5 | -- | 40 | 1 | -- | B-68-82 SE |
| 0010 | 575+74 | - | 578+76 | STH 161 LT | 71 | 1 | -- | 62.5 | -- | 40 | 1 | -- | B-68-82 NE |
| | | | | TOTAL 0010 | 1,679 | 14 | 632 | 966.25 | 337.5 | 480 | 16 | 285 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

EROSION CONTROL AND RESTORATION

| CATEGORY | STATION | TO | STATION | LOCATION | * 606.0200 RIPRAP MEDIUM CY | 606.0300 RIPRAP HEAVY CY | 625.0100 TOPSOIL SY | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF | 628.2008 EROSION MAT URBAN CLASS I TYPE B SY | 628.7504 TEMPORARY DITCH CHECKS LF | 628.7555 CULVERT PIPE CHECKS EACH | 628.7570 ROCK BAGS EACH | 629.0210 FERTILIZER TYPE B CWT | 630.0130 SEEDING MIXTURE NO. 30 LB | 630.0140 SEEDING MIXTURE NO. 40 LB | 630.0200 SEEDING TEMPORARY LB | 630.0500 SEED WATER MGAL | * 645.0120 GEOTEXTILE TYPE HR SY | SPV.0030.01 SPECIAL (01. FERTILIZER FOR LAWN TYPE TURF) CWT | SPV.0090.01 SPECIAL (01. DITCH CLEANING) LF | SPV.0195.01 SPECIAL (01. INFILL RIPRAP) TON | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 100+50 | - | 133+30 | STH 161 | -- | -- | 663 | -- | -- | 663 | -- | -- | -- | -- | -- | 30 | 18 | 45 | -- | 0.5 | -- | -- | SPOT CURB AND GUTTER REPAIR |
| 0010 | 105+90 | - | 106+90 | STH 161 RT | -- | -- | 112 | -- | -- | 112 | 40 | -- | -- | -- | -- | 5 | 3 | 8 | -- | 0.1 | 100 | -- | DITCH CLEANING |
| 0010 | 108+25 | - | 110+00 | STH 161 RT | -- | -- | 49 | 200 | 200 | 49 | -- | -- | -- | -- | -- | 3 | 2 | 4 | -- | 0.1 | -- | -- | CTH J/PIERCE ST RAMPS |
| 0010 | 114+50 | - | 116+00 | STH 161 RT | -- | -- | 34 | 130 | 130 | 34 | -- | -- | -- | -- | -- | 2 | 1 | 3 | -- | 0.1 | -- | -- | CHROME PL RAMPS |
| 0010 | 120+00 | - | 121+75 | STH 161 RT | -- | -- | 36 | 154 | 154 | 36 | -- | -- | -- | -- | -- | 2 | 1 | 3 | -- | 0.1 | -- | -- | CAR SHOW DWY RAMPS |
| 0010 | 129+50 | - | 130+25 | STH 161 RT | -- | -- | 40 | 99 | 99 | 40 | -- | -- | -- | -- | -- | 2 | 2 | 3 | -- | 0.1 | -- | -- | KEATINGS LAKE DR RAMP |
| 0010 | 173+00 | - | 174+50 | STH 161 | 9 | -- | 123 | 202 | 202 | 123 | 30 | 16 | -- | 0.1 | 6 | -- | 4 | 9 | 22 | -- | -- | -- | CULVERT 706-W |
| 0010 | 200+00 | - | 201+50 | STH 161 | -- | -- | 146 | 227 | 227 | 146 | 40 | 3 | -- | 0.1 | 7 | -- | 4 | 10 | -- | -- | -- | -- | CULVERT 707 |
| 0010 | 208+25 | - | 209+50 | STH 161 | -- | -- | 162 | 257 | 257 | 162 | 40 | -- | -- | 0.2 | 8 | -- | 5 | 11 | -- | -- | -- | -- | CATTLE PASS REMOVAL |
| 0010 | 279+00 | - | 280+50 | STH 161 | 7 | -- | 163 | 259 | 259 | 163 | 40 | 16 | -- | 0.2 | 8 | -- | 5 | 11 | 17 | -- | -- | -- | CULVERT 710-W |
| 0010 | 376+50 | - | 378+00 | STH 161 | 5 | -- | 133 | 252 | 252 | 133 | 40 | 3 | -- | 0.1 | 6 | -- | 4 | 9 | 12 | -- | -- | -- | CULVERT 712 |
| 0010 | 533+00 | - | 534+75 | STH 161 | 11 | -- | 126 | 261 | 261 | 126 | 40 | 30 | -- | 0.1 | 6 | -- | 4 | 9 | 27 | -- | -- | -- | CULVERT 716 |
| 0010 | 581+50 | - | 583+00 | STH 161 | -- | -- | 170 | 250 | 250 | 170 | 20 | 5 | -- | 0.2 | 8 | -- | 5 | 12 | -- | -- | -- | -- | CULVERT 719 |
| 0010 | 599+50 | | 601+00 | STH 161 | -- | -- | 206 | 262 | 262 | 206 | 30 | 3 | -- | 0.2 | 10 | -- | 6 | 14 | -- | -- | -- | -- | CULVERT 720 |
| | | | | BEAMGUARD AREAS | | | | | | | | | | | | | | | | | | | RESTORATION FOR BEAMGUARD INCIDENTAL TO ITEM 614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING |
| 0010 | 117+38 | - | 125+15 | STH 161 LT | -- | -- | -- | 200 | 200 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 0010 | 159+89 | - | 167+15 | STH 161 RT | -- | -- | -- | 780 | 780 | -- | -- | -- | 25 | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 0010 | 421+70 | - | 423+50 | STH 161 LT | 1 | -- | -- | 200 | 200 | -- | 30 | 3 | 25 | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | B-68-069 NW |
| 0010 | 420+80 | - | 423+50 | STH 161 RT | 1 | -- | -- | 270 | 270 | -- | -- | -- | 25 | -- | -- | -- | -- | -- | 3 | -- | -- | 1 | B-68-069 SW |
| 0010 | 423+82 | - | 427+36 | STH 161 LT | 1 | -- | -- | 390 | 390 | -- | -- | -- | 25 | -- | -- | -- | -- | -- | 3 | -- | -- | 1 | B-68-069 NE |
| 0010 | 423+82 | - | 427+50 | STH 161 RT | 4 | -- | -- | 350 | 350 | -- | -- | -- | 25 | -- | -- | -- | -- | -- | 10 | -- | -- | 3 | B-68-069 SE |
| 0010 | 490+05 | - | 492+67 | STH 161 LT | 2 | -- | -- | 230 | 230 | -- | -- | 3 | 25 | -- | -- | -- | -- | -- | 4 | -- | -- | 1 | B-68-081 NW |
| 0010 | 489+33 | - | 492+67 | STH 161 RT | 3 | -- | -- | 340 | 340 | -- | -- | -- | 25 | -- | -- | -- | -- | -- | 7 | -- | -- | 2 | B-68-081 SW |
| 0010 | 493+00 | - | 496+25 | STH 161 LT | 3 | -- | -- | 330 | 330 | -- | -- | -- | 25 | -- | -- | -- | -- | -- | 7 | -- | -- | 2 | B-68-081 NE |
| 0010 | 493+00 | - | 495+35 | STH 161 RT | 2 | -- | -- | 250 | 250 | -- | -- | -- | 25 | -- | -- | -- | -- | -- | 5 | -- | -- | 2 | B-68-081 SE |
| 0010 | 572+60 | - | 575+30 | STH 161 LT | -- | 18 | -- | 280 | 280 | -- | -- | -- | 25 | -- | -- | -- | -- | -- | 38 | -- | -- | 9 | B-68-082 NW |
| 0010 | 572+15 | - | 575+30 | STH 161 RT | 2 | -- | -- | 310 | 310 | -- | -- | -- | 50 | -- | -- | -- | -- | -- | 4 | -- | -- | 1 | B-68-082 SW |
| 0010 | 575+66 | - | 578+95 | STH 161 LT | 2 | -- | -- | 290 | 290 | -- | -- | -- | 25 | -- | -- | -- | -- | -- | 4 | -- | -- | 1 | B-68-082 NE |
| 0010 | 575+66 | - | 578+40 | STH 161 RT | 3 | -- | -- | 340 | 340 | -- | -- | -- | 25 | -- | -- | -- | -- | -- | 7 | -- | -- | 2 | B-68-082 SE |
| | | | | 25% UNDISTRIBUTED | | | 542 | 1,787 | 1,787 | 542 | 90 | 18 | 90 | 0.8 | 16 | 13 | 19 | 46 | 45 | -- | -- | 7 | |
| | | | | TOTAL 0010 | 56 | 18 | 2,705 | 8,900 | 8,900 | 2,705 | 440 | 100 | 440 | 2.0 | 75 | 57 | 83 | 197 | 216 | 1.0 | 100 | 33 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

## TEMPORARY PAVEMENT MARKING

| CATEGORY | STATION | | TO STATION | LOCATION | 643.3165 TEMPORARY MARKING LINE PAINT 6-INCH SOLID WHITE LF | 643.3165 TEMPORARY MARKING LINE PAINT 6-INCH SOLID YELLOW LF | 643.3165 TEMPORARY MARKING LINE PAINT 6-INCH 12.5' SKIPS YELLOW LF | 643.3180 TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH SOLID YELLOW LF | 643.3265 TEMPORARY MARKING LINE PAINT 10-INCH SOLID WHITE LF | 646.9002 MARKING REMOVAL LINE 6-INCH LF | 646.9102 MARKING REMOVAL LINE 10-INCH LF | 646.9200 MARKING REMOVAL LINE WIDE LF | 646.9300 MARKING REMOVAL SPECIAL MARKING EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STAGE 2A** | | | | | | | | | | | | | | |
| 0010 | 100+00 | - | 108+50 | STH 161 | -- | -- | -- | -- | -- | -- | -- | -- | 4 | |
| 0010 | 108+50 | - | 130+00 | STH 161 | 1,725 | -- | -- | -- | -- | 363 | -- | 120 | 20 | |
| 0010 | 130+00 | - | 134+60 | STH 161 | 291 | 118 | -- | -- | -- | 546 | -- | -- | 2 | |
| 0010 | 130+00 | - | 134+60 | STH 161 | -- | 484 | 63 | -- | -- | -- | -- | -- | 2 | REINSTALL REMOVED CL MARKINGS |
| | | | | STAGE 2A SUBTOTAL | 2,016 | 602 | 63 | 0 | 0 | 909 | 0 | 120 | 28 | |
| **STAGE 2B** | | | | | | | | | | | | | | |
| 0010 | 100+00 | - | 108+50 | STH 161 | 474 | 498 | -- | -- | -- | 775 | -- | -- | -- | |
| 0010 | 108+50 | - | 130+00 | STH 161 | 515 | 2,245 | -- | 60 | 204 | 1,450 | 106 | -- | -- | INCLUDES CTH J TEMP CL STRIPING |
| 0010 | REINSTALL REMOVED MARKINGS | | | | -- | 1,388 | 63 | -- | 106 | -- | -- | -- | -- | REINSTALL REMOVED CL MARKINGS |
| | | | | STAGE 2B SUBTOTAL | 989 | 4,131 | 63 | 60 | 310 | 2,225 | 106 | 0 | 0 | |
| **NON-STAGED** | | | | | | | | | | | | | | |
| 0010 | 100+00 | - | 108+50 | STH 161 | -- | 1,652 | -- | -- | -- | -- | -- | -- | -- | |
| 0010 | 108+50 | - | 130+00 | STH 161 | -- | 4,022 | -- | -- | -- | -- | -- | -- | -- | PERIMETER OF TWLTL |
| 0010 | 130+00 | - | 134+60 | STH 161 | -- | 844 | -- | -- | -- | -- | -- | -- | -- | PERIMETER OF MEDIAN ONLY |
| 0010 | 134+60 | - | 372+00 | STH 161 | -- | 23,680 | 3,900 | -- | -- | -- | -- | -- | -- | |
| 0010 | 372+00 | - | 643+25 | STH 161 | -- | 30,559 | 4,876 | -- | -- | -- | -- | -- | -- | |
| | | | | NON-STAGED SUBTOTAL | 0 | 60,757 | 8,776 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | TOTAL 0010 | | 77,395 | | 60 | 310 | 3,134 | 106 | 120 | 28 | |

## MOVING SIGNS

| CATEGORY | STATION | | TO STATION | LOCATION | 634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH | 634.0616 POSTS WOOD 4X6-INCH X 16-FT EACH | 634.0618 POSTS WOOD 4X6-INCH X 18-FT EACH | 638.2102 MOVING SIGNS TYPE II EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 0010 | 109+05 | | | STH 161 RT | -- | 3 | -- | 3 | SPLITTER ISLAND |
| 0010 | 173+52 | | | STH 161 RT | -- | -- | 1 | 1 | NO PASSING SIGN |
| 0010 | 423+50 | - | 423+82 | STH 161 | 4 | -- | -- | 4 | BRIDGE B-68-069 CHEVRONS |
| 0010 | 492+67 | - | 489+33 | STH 161 | 4 | -- | -- | 4 | BRIDGE B-68-081 CHEVRONS |
| 0010 | 573+98 | | | STH 161 RT | -- | -- | 1 | 1 | NO PASSING SIGNS |
| 0010 | 575+30 | - | 575+66 | STH 161 | 4 | -- | -- | 4 | BRIDGE B-68-082 CHEVRONS |
| | | | | TOTAL 0010 | 12 | 3 | 2 | 17 | |

## INLET PROTECTION

| CATEGORY | STATION | OFFSET | LOCATION | 628.7005 INLET PROTECTION TYPE A EACH | 628.7015 INLET PROTECTION TYPE C EACH |
|---|---|---|---|---|---|
| 0010 | 100+46 | 35.0' LT | STH 161 | 1 | -- |
| 0010 | 101+86 | 20.0' LT | STH 161 | -- | 1 |
| 0010 | 106+34 | 23.0' LT | STH 161 | -- | 1 |
| 0010 | 107+28 | 37.0' LT | STH 161 | 1 | -- |
| 0010 | 110+45 | 15.0' LT, 27.0' RT | STH 161 | -- | 2 |
| 0010 | 114+86 | 46.5' RT | STH 161 | -- | 1 |
| 0010 | 115+00 | 14.5' LT | STH 161 | -- | 1 |
| 0010 | 118+50 | 14.5' LT, 33.0' RT | STH 161 | -- | 2 |
| 0010 | 119+00 | 14.5' LT, 39.0' RT | STH 161 | -- | 2 |
| 0010 | 121+23 | 41.0' RT | STH 161 | -- | 1 |
| 0010 | 128+51 | 38.0' RT | STH 161 | -- | 1 |
| 0010 | 128+73 | 13.5' LT | STH 161 | -- | 1 |
| 0010 | 130+50 | 13.5' LT | STH 161 | -- | 1 |
| 0010 | 133+91 | 13.0' LT | STH 161 | -- | 1 |
| | | | TOTAL 0010 | 2 | 15 |

## TRAFFIC CONTROL

| CATEGORY | LOCATION | ESTIMATED DURATION DAYS | * 643.0300 TRAFFIC CONTROL DRUMS EACH** | DAY | * 643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH** | DAY | * 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH** | DAY | * 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH** | DAY | * 643.0900 TRAFFIC CONTROL SIGNS EACH** | DAY | 643.1050 TRAFFIC CONTROL SIGNS PCMS EACH** | DAY | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STAGE 1** | | | | | | | | | | | | | | | |
| 0010 | CULVERT 1A | 3 | 10 | 30 | 12 | 36 | 24 | 72 | -- | -- | 8 | 24 | 2 | 6 | |
| 0010 | CULVERT 2A | 3 | 10 | 30 | 12 | 36 | 24 | 72 | -- | -- | 8 | 24 | 2 | 6 | |
| 0010 | CULVERT 3A | 3 | 10 | 30 | 12 | 36 | 24 | 72 | -- | -- | 8 | 24 | 2 | 6 | |
| 0010 | CULVERT 4A | 3 | 10 | 30 | 12 | 36 | 24 | 72 | -- | -- | 8 | 24 | 2 | 6 | |
| 0010 | CULVERT 5A | 3 | 10 | 30 | 12 | 36 | 24 | 72 | -- | -- | 8 | 24 | 2 | 6 | |
| 0010 | CULVERT 6A | 3 | 10 | 30 | 12 | 36 | 24 | 72 | -- | -- | 8 | 24 | 2 | 6 | |
| 0010 | CULVERT 7A | 3 | 10 | 30 | 12 | 36 | 24 | 72 | -- | -- | 8 | 24 | 2 | 6 | |
| 0010 | PROJECT WIDE | 28 | -- | -- | -- | -- | -- | -- | -- | -- | 34 | 952 | -- | -- | |
| 0010 | Project BOP/EOP | 7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 14 | |
| 0010 | DETOUR OVERVIEW | 28 | -- | -- | -- | -- | -- | -- | -- | -- | 178 | 4984 | -- | -- | |
| 0010 | DETOUR DETAIL A | 28 | -- | -- | 2 | 56 | 4 | 112 | -- | -- | 19 | 532 | -- | -- | |
| 0010 | DETOUR DETAIL B | 28 | -- | -- | 2 | 56 | 4 | 112 | -- | -- | 8 | 224 | -- | -- | |
| 0010 | DETOUR DETAIL C | 28 | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 560 | -- | -- | |
| 0010 | DETOUR DETAIL D | 28 | -- | -- | -- | -- | -- | -- | -- | -- | 40 | 1120 | -- | -- | |
| 0010 | DETOUR DETAIL E | 28 | -- | -- | 2 | 56 | 4 | 112 | -- | -- | 26 | 728 | -- | -- | |
| | STAGE 1 SUBTOTAL | | | 210 | | 420 | | 840 | | 0 | | 9268 | | 56 | |
| **STAGE 2A** | | | | | | | | | | | | | | | |
| 0010 | MAINLINE URBAN | 14 | 78 | 1092 | 7 | 98 | 14 | 196 | 6 | 84 | 7 | 98 | -- | -- | ADDITIONAL QUANTITY WITH TEMP PED. |
| 0010 | MAINLINE GENERAL | 14 | -- | -- | -- | -- | -- | -- | -- | -- | 35 | 490 | -- | -- | |
| | STAGE 2A SUBTOTAL | | | 1092 | | 98 | | 196 | | 84 | | 588 | | 0 | |
| **STAGE 2B** | | | | | | | | | | | | | | | |
| 0010 | MAINLINE URBAN | 15 | 56 | 840 | 10 | 150 | 20 | 300 | 6 | 90 | 12 | 180 | -- | -- | ADDITIONAL QUANTITY WITH TEMP PED. |
| 0010 | MAINLINE GENERAL | 15 | -- | -- | -- | -- | -- | -- | -- | -- | 35 | 525 | -- | -- | |
| | STAGE 2B SUBTOTAL | | | 840 | | 150 | | 300 | | 90 | | 705 | | 0 | |
| **STAGE 3** | | | | | | | | | | | | | | | |
| 0010 | MAINLINE HMA | 45 | -- | -- | -- | -- | -- | -- | -- | -- | 52 | 2340 | -- | -- | INCLUDES LOW SHOULDER SIGNS |
| 0010 | SHOULDER CLOSURE | 21 | 38 | 798 | -- | -- | -- | -- | -- | -- | 2 | 42 | -- | -- | GUARDRAIL WORK |
| | STAGE 3 SUBTOTAL | | | 798 | | 0 | | 0 | | 0 | | 42 | | 0 | |
| | 10% UNDISTRIBUTED | | | 735 | | 167 | | 334 | | 46 | | 2653 | | 13 | |
| | TOTAL 0010 | | | 3,675 | | 835 | | 1,670 | | 220 | | 13,257 | | 69 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

** SHOWN FOR INFORMATION ONLY

## COVERING SIGNS TYPE II

| CATEGORY | LOCATION | 643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II NUMBER OF CYCLES | NUMBER OF SIGNS | EACH |
|---|---|---|---|---|
| STAGE 1A | | | | |
| 0010 | DETOUR DETAIL B | 1 | 5 | 5 |
| 0010 | DETOUR DETAIL E | 1 | 5 | 5 |
| | STAGE 1 SUBTOTAL | | | 10 |
| STAGE 2A | | | | |
| 0010 | MAINLINE URBAN | 1 | 8 | 8 |
| 0010 | CTH J | 1 | 2 | 2 |
| | STAGE 2A SUBTOTAL | | | 10 |
| 0010 | 10% UNDISTRIBUTED | | | 2 |
| | TOTAL 0010 | | | 22 |

## REMOVE, SALVAGE AND REINSTALL FENCE

| CATEGORY | STATION | TO | STATION | LOCATION | SPV.0090.03 SPECIAL (03. REMOVE, SALVAGE AND REINSTALL FENCE) LF |
|---|---|---|---|---|---|
| 0010 | 572+98 | - | 574+39 | STH 161 RT | 142 |
| | | | | TOTAL 0010 | 142 |

## PAVEMENT MARKING

| CATEGORY | STATION | TO | STATION | LOCATION | 646.2020 MARKING LINE EPOXY 6-INCH SOLID WHITE LF | 646.2020 MARKING LINE EPOXY 6-INCH SOLID YELLOW LF | 646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH SOLID WHITE LF | 646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH 3'SKIPS WHITE LF | 646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH SOLID YELLOW LF | 646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH 12.5'SKIPS YELLOW LF | 646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH SOLID WHITE LF | 646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH 3'SKIPS WHITE LF | 646.5020 MARKING ARROW EPOXY EACH | 646.5120 MARKING WORD EPOXY EACH | 646.6466 COLD WEATHER MARKING EPOXY 6-INCH LF | 646.6470 COLD WEATHER MARKING EPOXY 10-INCH LF | 646.7120 MARKING DIAGONAL EPOXY 12-INCH LF | 646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF | 646.8120 MARKING CURB EPOXY LF | 646.8220 MARKING ISLAND NOSE EPOXY EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 100+00 | - | 108+75 | STH 161 | -- | -- | 832 | -- | 1,654 | -- | 518 | 50 | 4 | 2 | 2,486 | 568 | -- | -- | -- | -- | |
| 0010 | | - | | CTH J | 75 | 140 | -- | -- | -- | -- | -- | -- | -- | -- | 215 | -- | -- | 132 | 30 | 3 | |
| 0010 | 108+75 | - | 130+25 | STH 161 | 33 | -- | -- | -- | 4,361 | 915 | 438 | -- | 21 | -- | 5,309 | 438 | 56 | -- | -- | -- | |
| 0010 | 130+25 | - | 134+60 | STH 161 | -- | -- | 392 | -- | 1,353 | -- | 126 | -- | 2 | -- | 1,745 | 126 | 56 | -- | -- | -- | |
| 0010 | 134+60 | - | 372+00 | STH 161 | 65 | 180 | 46,596 | -- | 24,129 | 3,900 | -- | -- | -- | -- | 74,870 | -- | -- | -- | -- | -- | REGULAR EPOXY INCLUDED FOR CTH E |
| 0010 | 372+00 | - | 643+25 | STH 161 | 20 | 60 | 52,868 | 136 | 30,476 | 4,925 | -- | -- | -- | -- | 88,485 | -- | -- | -- | -- | -- | REGULAR EPOXY INCLUDED FOR CTH K |
| | | | | SUBTOTAL | 193 | 380 | 100,688 | 136 | 61,973 | 9,740 | 1,082 | 50 | 27 | 2 | 173,110 | 1,132 | 112 | 132 | 30 | 3 | |
| | | | | TOTAL 0010 | 573 | | 172,537 | | | | 1,132 | | 27 | 2 | 173,110 | 1,132 | 112 | 132 | 30 | 3 | |

## TEMPORARY PEDESTRIAN ACCOMMODATIONS

| CATEGORY | LOCATION | ESTIMATED DURATION DAYS | * 643.0300 TRAFFIC CONTROL DRUMS EACH** | 643.0300 DAY | * 643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH** | 643.0420 DAY | * 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH** | 643.0705 DAY | * 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH** | 643.0715 DAY | * 643.0900 TRAFFIC CONTROL SIGNS EACH** | 643.0900 DAY | 643.3305 TEMPORARY MARKING CROSSWALK PAINT 6-INCH LF | 644.1430 TEMPORARY PEDESTRIAN SURFACE PLATE SF | 644.1440 TEMPORARY PEDESTRIAN SURFACE MATTING SF | 644.1601 TEMPORARY PEDESTRIAN CURB RAMP EACH** | 644.1601 DAY | 644.1605 TEMPORARY PEDESTRIAN DETECTABLE WARNING SF | 644.1810 TEMPORARY PEDESTRIAN BARRICADE LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | CTH J | 16 | 56 | 896 | 1 | 16 | 2 | 32 | 10 | 160 | 5 | 80 | 160 | -- | 285 | 1 | 16 | 40 | 224 |
| 0010 | CHROME PLACE | 16 | 30 | 480 | | -- | | -- | | -- | 3 | 48 | 168 | 140 | 155 | 2 | 32 | 20 | 405 |
| 0010 | CAR SHOW DRIVEWAY | 16 | 28 | 448 | | -- | | -- | | -- | 2 | 32 | 170 | 85 | 285 | 2 | 32 | 20 | 238 |
| 0010 | KEATINGS LAKE DRIVE | 16 | 32 | 512 | | -- | | -- | | -- | 1 | 16 | -- | 40 | 50 | 1 | 16 | 10 | 152 |
| 0010 | STAGE 3 RAMPS FOR MILLED SURFACE DROP-OFF | 15 | | -- | | -- | | -- | | -- | | -- | 200 | -- | -- | 7 | 105 | 90 | 96 |
| 0010 | 10% UNDISTRIBUTED | | | 234 | | 2 | | 4 | | 16 | | 18 | 70 | 25 | 79 | | 19 | | 111 |
| | TOTAL 0010 | | | 2,570 | | 18 | | 36 | | 176 | | 194 | 768 | 290 | 854 | | 220 | 180 | 1,226 |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

** SHOWN FOR INFORMATION ONLY

## CONSTRUCTION STAKING

| CATEGORY | STATION | TO | STATION | LOCATION | 650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF |
|---|---|---|---|---|---|
| 0010 | 100+05 | - | 643+25 | STH 161 | 54,320 |
| | | | | TOTAL 0010 | 54,320 |

NOTES:

THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.

REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

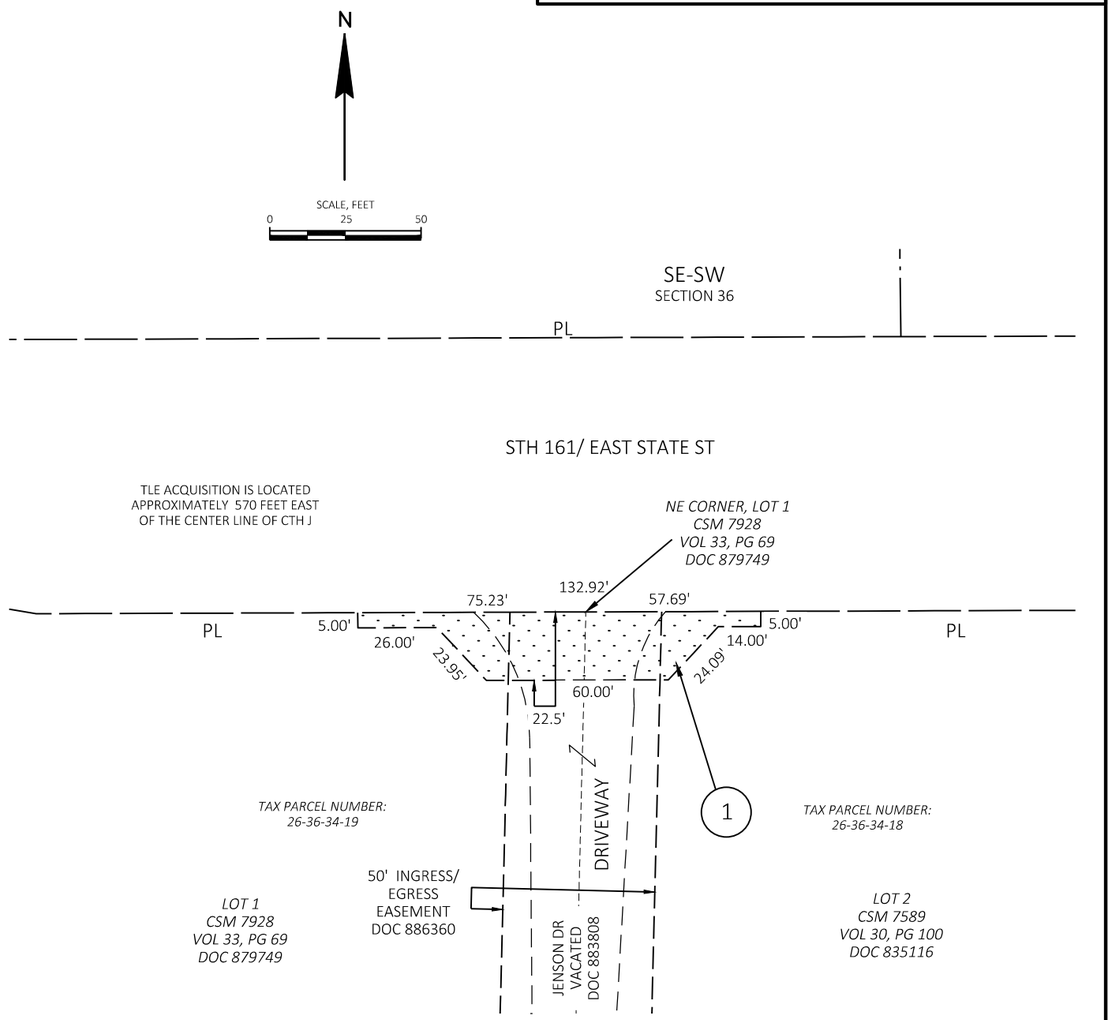
PURPOSE OF ALL TLES IS FOR GRADING, UNLESS OTHERWISE NOTED.

| R/W PROJECT NUMBER: 6260-00-22 | SHEET NUMBER: 1 |
|---|---|

TLE ACQUISITION EXHIBIT
VILLAGE OF IOLA - STH 161
STH 49 TO STH 110

STH 161 — WAUPACA COUNTY

THAT PART OF LOT 1, CSM 7928, VOL. 33, PG 69, DOC 879749, PART OF LOT 2, CSM 7589, VOL 30, PG 100, DOC 835116, LOCATED IN THE SE 1/4 - SW 1/4, SECTION 36, T24N, R11E, VILLAGE OF IOLA, WAUPACA COUNTY, WISCONSIN.




## SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

| PARCEL NUMBER | OWNER(S) | INTEREST REQUIRED | TLE SQUARE FEET |
|---|---|---|---|
| 1 | IOLA OLD CAR SHOW, INC | TLE | 2002 |

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | UTILITY OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| N/A | N/A | N/A |

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
NORTH CENTRAL REGION - WISCONSIN RAPIDS

SIGNATURE: Craig D. Smits Digitally signed by Craig Smits Date: 2025.02.19 10:07:48-06'00' DATE:

PRINT NAME: CRAIG D. SMITS

FILE NAME : 040101-RP.DWG PLOT DATE : 1/3/2025 7:39 AM R/W PROJECT: 6260-00-02-1

NOTES:

THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.

REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

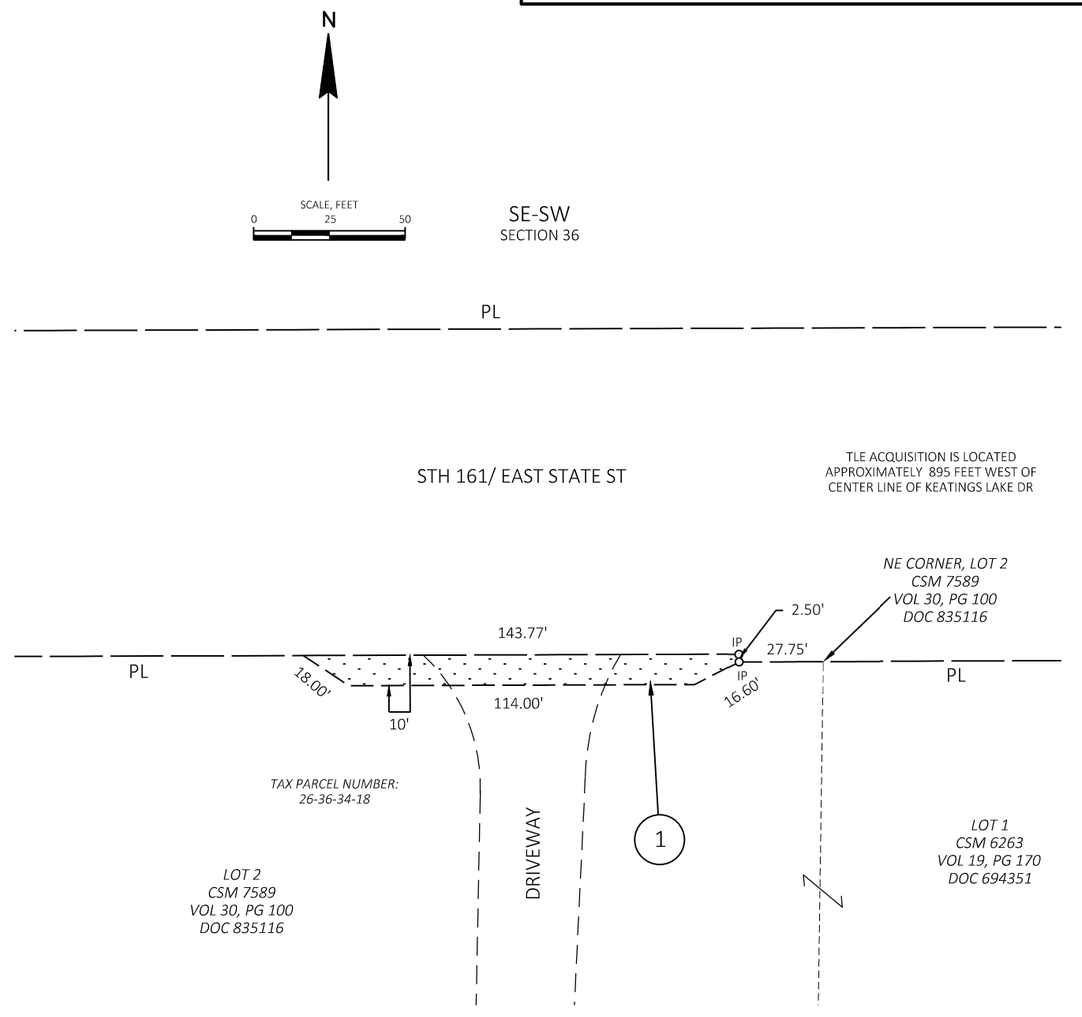
PURPOSE OF ALL TLES IS FOR GRADING, UNLESS OTHERWISE NOTED.

| R/W PROJECT NUMBER: 6260-00-22 | SHEET NUMBER: 2 |
|---|---|

TLE ACQUISITION EXHIBIT
VILLAGE OF IOLA - STH 161
STH 49 TO STH 110

STH 161 — WAUPACA COUNTY

THAT PART OF LOT 2, CSM 7589, VOL 30, PG 100, DOC 835116, LOCATED IN THE SE 1/4 - SW 1/4, SECTION 36, T24N, R11E, VILLAGE OF IOLA, WAUPACA COUNTY, WISCONSIN.




## SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

| PARCEL NUMBER | OWNER(S) | INTEREST REQUIRED | TLE SQUARE FEET |
|---|---|---|---|
| 1 | IOLA OLD CAR SHOW, INC | TLE | 1307 |

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | UTILITY OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| N/A | N/A | N/A |

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
NORTH CENTRAL REGION - WISCONSIN RAPIDS

SIGNATURE: Craig D. Smits Digitally signed by Craig Smits Date: 2025.02.19 10:09:09-06'00' DATE:

PRINT NAME: CRAIG D. SMITS



FILE NAME : 040101-RP.DWG PLOT DATE : 1/3/2025 7:39 AM R/W PROJECT: 6260-00-02-2

NOTES:

THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.

REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

PURPOSE OF ALL TLES IS FOR GRADING, UNLESS OTHERWISE NOTED.

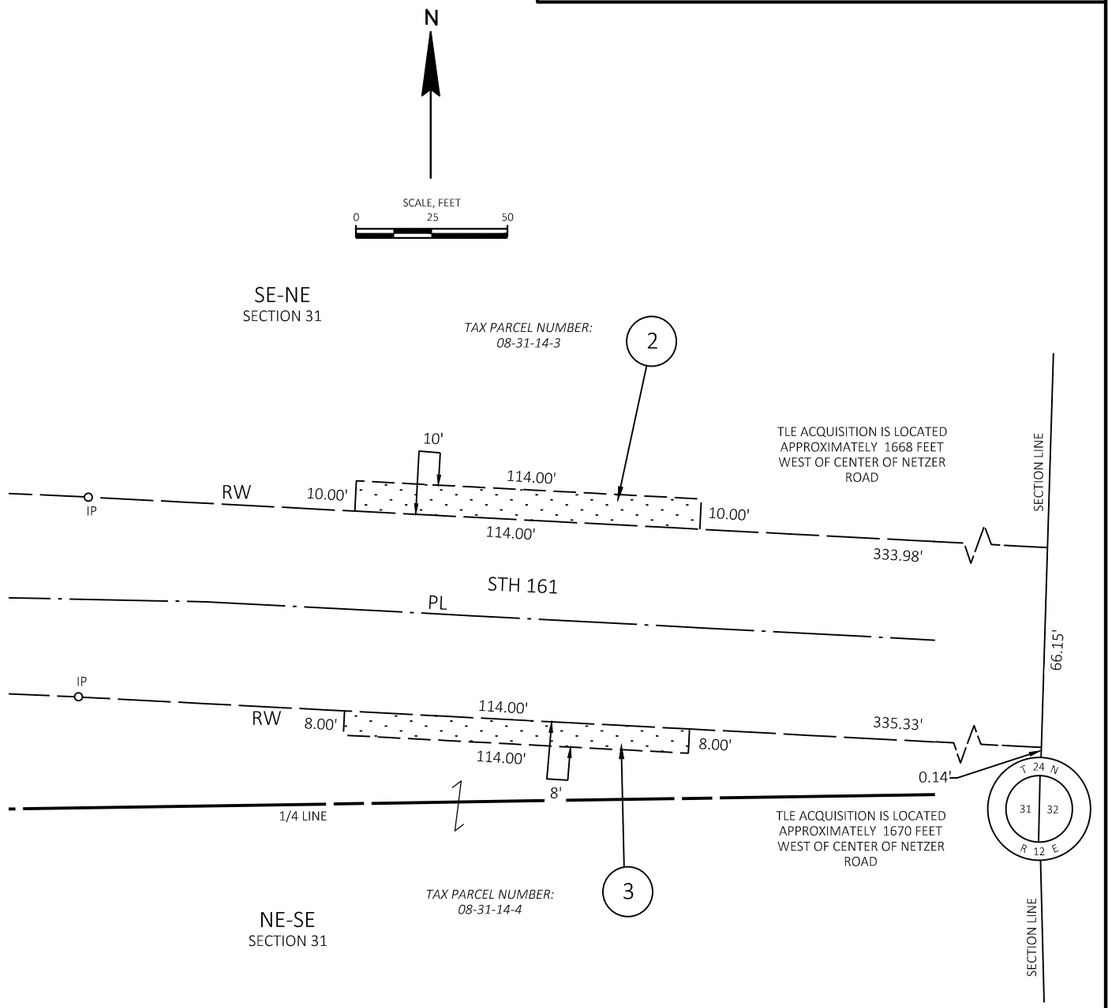
| R/W PROJECT NUMBER: 6260-00-22 | SHEET NUMBER: 3 |
|---|---|

TLE ACQUISITION EXHIBIT
TOWN OF HELVETIA - STH 161
STH 49 TO STH 110

STH 161 — WAUPACA COUNTY

THAT PART OF THE SE 1/4 OF THE NE 1/4, SECTION 31, T24N, R12E, TOWN OF HELVETIA, WAUPACA COUNTY, WISCONSIN.

4




## SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

| PARCEL NUMBER | OWNER(S) | INTEREST REQUIRED | TLE SQUARE FEET |
|---|---|---|---|
| 2 | ANDREW T & SUZANNE K SELLE, NATHAN P & HOLLY K SELLE | TLE | 1140 |
| 3 | BENJAMIN C. AND CHARLES J. WASRUD | TLE | 912 |

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | UTILITY OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| N/A | N/A | N/A |

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
NORTH CENTRAL REGION - WISCONSIN RAPIDS

SIGNATURE: Craig D. Smits Digitally signed by Craig Smits Date: 2025.02.19 10:10:36-06'00' DATE:

PRINT NAME: CRAIG D. SMITS



NOTES:

THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.

REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

PURPOSE OF ALL TLES IS FOR GRADING, UNLESS OTHERWISE NOTED.

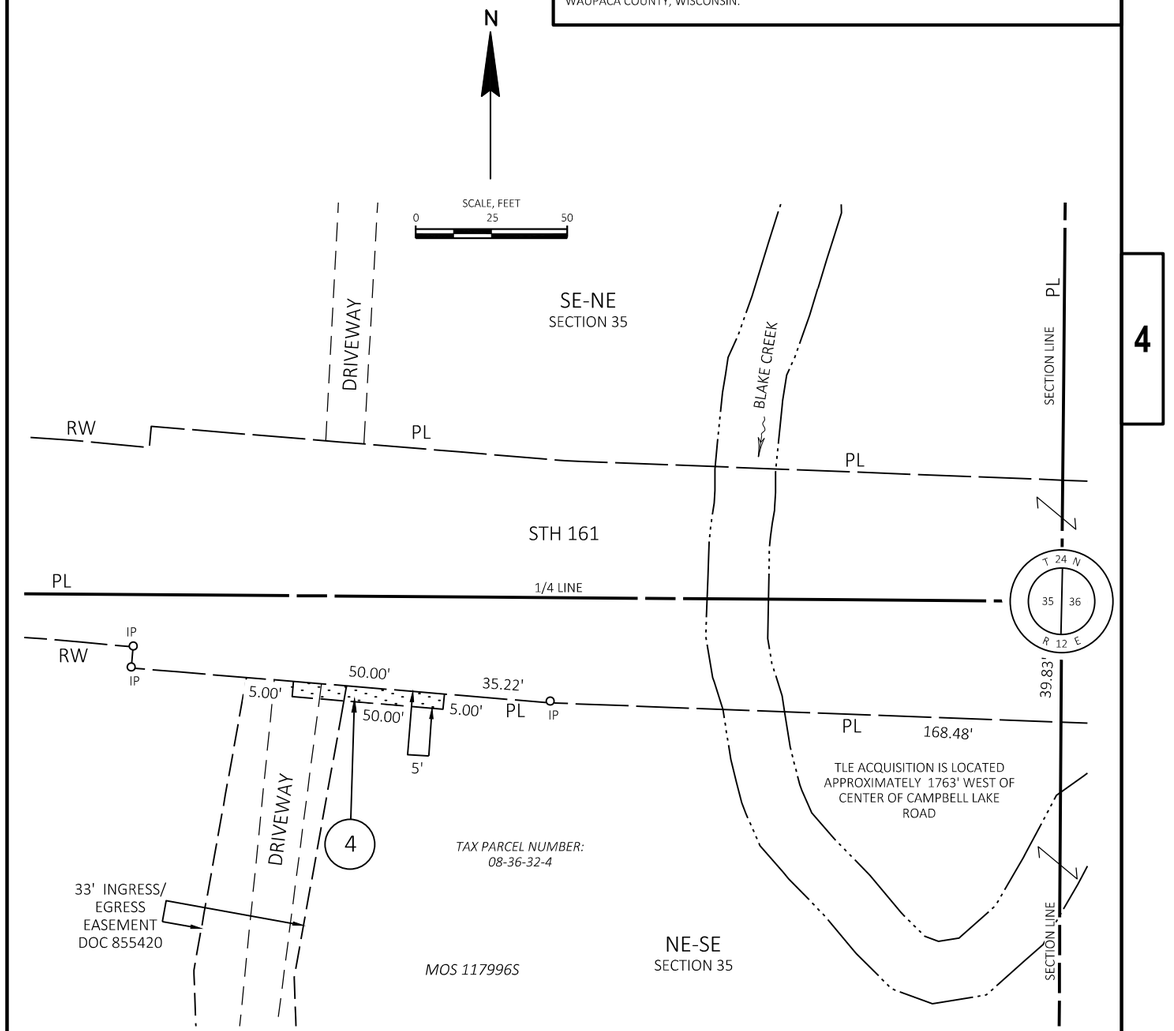
| R/W PROJECT NUMBER: 6260-00-22 | SHEET NUMBER: 4 |
|---|---|

TLE ACQUISITION EXHIBIT
TOWN OF HELVETIA - STH 161
STH 49 TO STH 110

STH 161 — WAUPACA COUNTY

THAT PART OF THE NE 1/4 OF THE SE 1/4, SECTION 35, T24N, R12E, TOWN OF HELVETIA, WAUPACA COUNTY, WISCONSIN.

4




## SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

| PARCEL NUMBER | OWNER(S) | INTEREST REQUIRED | TLE SQUARE FEET |
|---|---|---|---|
| 4 | FRITZ HOLDINGS, LLC | TLE | 250 |

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | UTILITY OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| N/A | N/A | N/A |

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
NORTH CENTRAL REGION - WISCONSIN RAPIDS

SIGNATURE: Craig D. Smits Digitally signed by Craig Smits Date: 2025.02.19 10:09:33-06'00' DATE:

PRINT NAME: CRAIG D. SMITS

NOTES:

THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.

REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

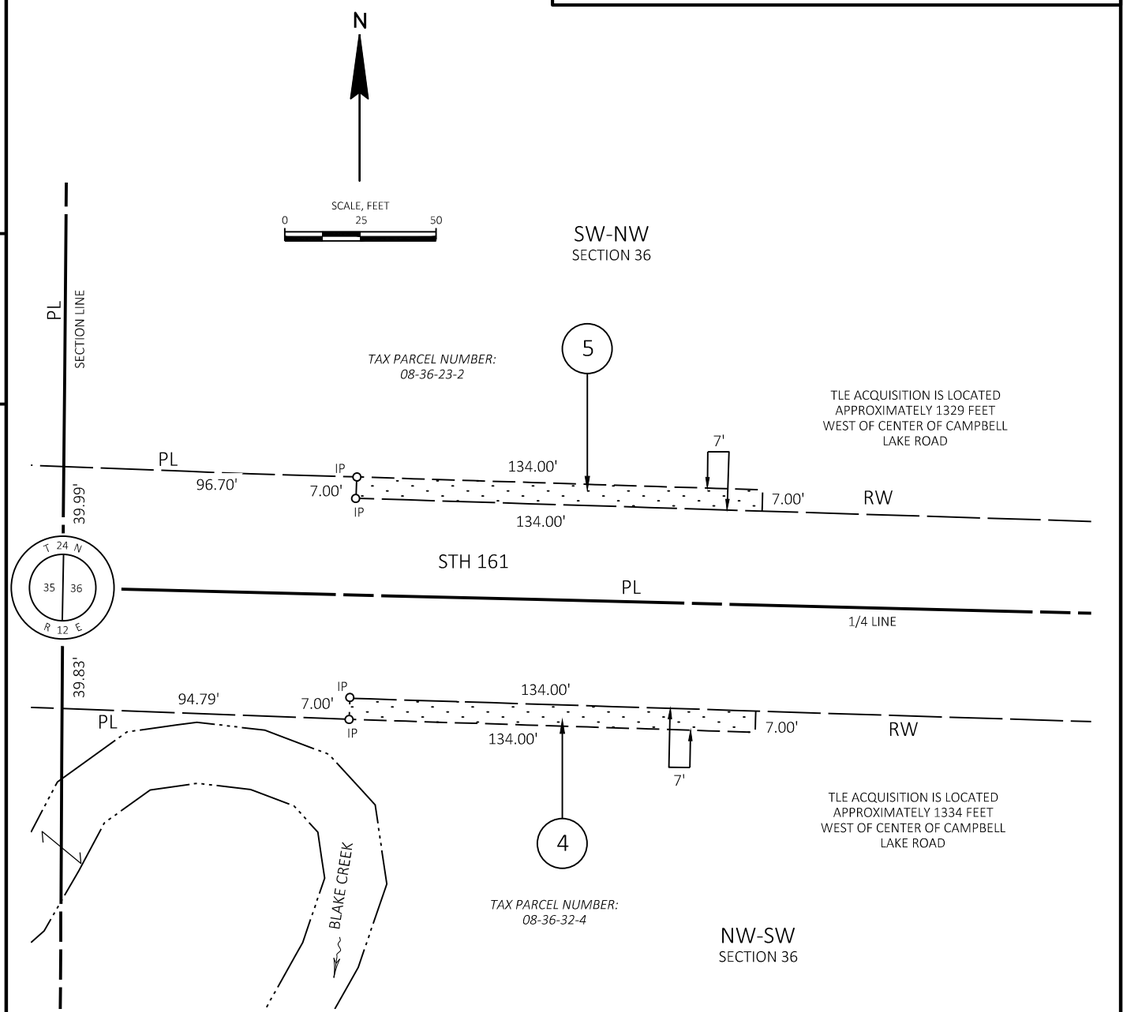
PURPOSE OF ALL TLES IS FOR GRADING, UNLESS OTHERWISE NOTED.

| R/W PROJECT NUMBER: 6260-00-22 | SHEET NUMBER: 5 |
|---|---|

TLE ACQUISITION EXHIBIT
TOWN OF HELVETIA- STH 161
STH 49 TO STH 110

STH 161 — WAUPACA COUNTY

THAT PART OF THE SW 1/4 OF THE NW 1/4, AND PART OF THE NW 1/4 OF SW 1/4, SECTION 36, T124N, R12E, TOWN OF HELVETIA, WAUPACA COUNTY, WISCONSIN.




## SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

| PARCEL NUMBER | OWNER(S) | INTEREST REQUIRED | TLE SQUARE FEET |
|---|---|---|---|
| 4 | FRITZ HOLDINGS, LLC | TLE | 935 |
| 5 | BLOCK'S AUTO INC(VENDOR)<br>THOMAS R & CHERYL A OSTROWSKI(PURCHASERS) | TLE | 941 |

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | UTILITY OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| N/A | N/A | N/A |

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
NORTH CENTRAL REGION - WISCONSIN RAPIDS

SIGNATURE: Craig D. Smits Digitally signed by Craig Smits Date: 2025.02.19 10:11:10-06'00' DATE:

PRINT NAME: CRAIG D. SMITS



NOTES:

THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.

REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

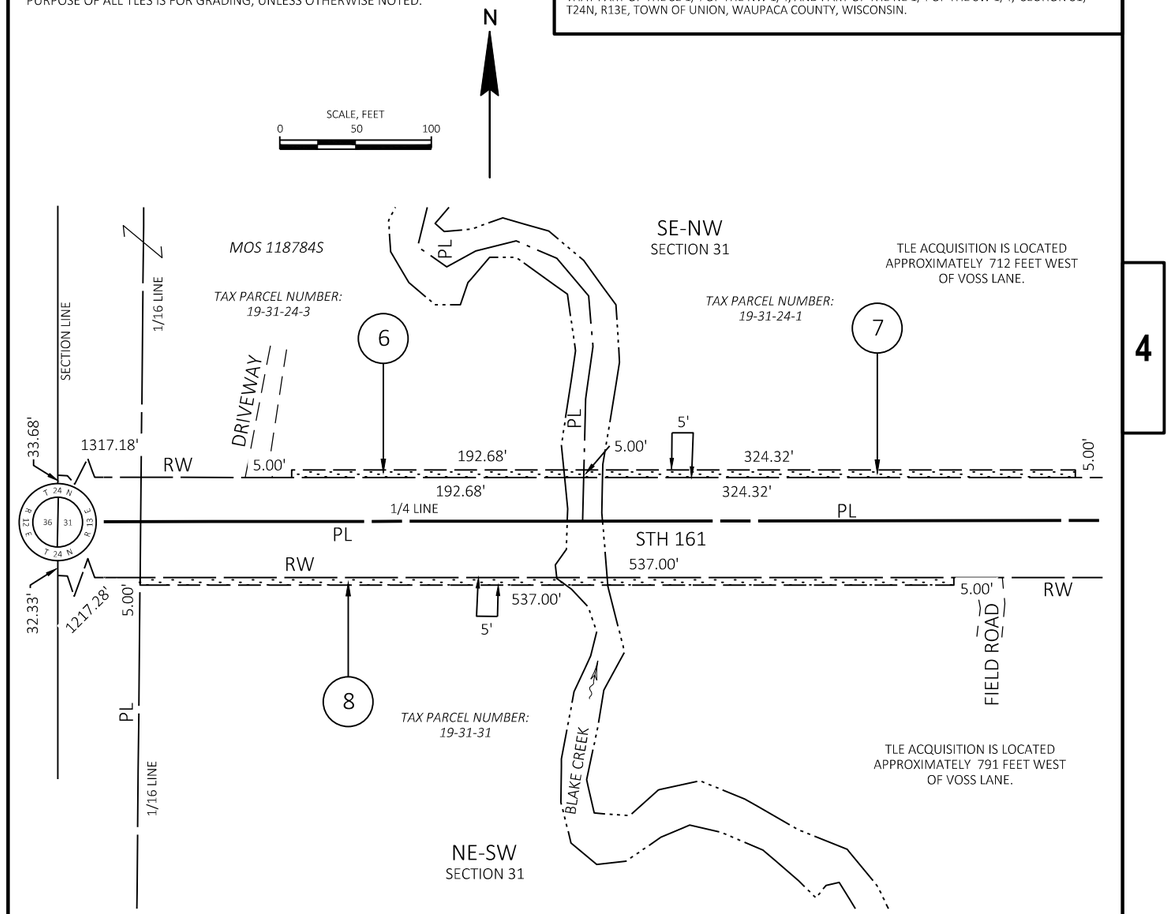
PURPOSE OF ALL TLES IS FOR GRADING, UNLESS OTHERWISE NOTED.

| R/W PROJECT NUMBER: 6260-00-22 | SHEET NUMBER: 6 |
|---|---|

TLE ACQUISITION EXHIBIT
TOWN OF UNION - STH 161
STH 49 TO STH 110

STH 161 — WAUPACA COUNTY

THAT PART OF THE SE 1/4 OF THE NW 1/4, AND PART OF THE NE 1/4 OF THE SW 1/4, SECTION 31, T24N, R13E, TOWN OF UNION, WAUPACA COUNTY, WISCONSIN.




## SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

| PARCEL NUMBER | OWNER(S) | INTEREST REQUIRED | TLE SQUARE FEET |
|---|---|---|---|
| 6 | DAVID L TORDSEN | TLE | 964 |
| 7 | LANCE G PREUSS | TLE | 1621 |
| 8 | TOOD L. & PAMELA S. BONIKOWSKE, HUSAND & WIFE, AS SURVIVORSHIP MARITAL PROPERTY, AS VENDOR; & DANIEL T. BONIKOWSKE, A MARRIED PERSON, & CHAD L. BONIKOWSKE, TO EACH A ONE-HALF INTEREST AS JOINT TENANTS, AS VENDEE, UNDER LAND CONTRACT RECORDED JANUARY 30, 2018 AS DOCUMENT NO. 859288 & LAND CONTRACT RECORDED JANUARY 30, 2018 AS DOCUMNET NO. 859289 | TLE | 2685 |

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | UTILITY OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| N/A | N/A | N/A |

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
NORTH CENTRAL REGION - WISCONSIN RAPIDS

SIGNATURE: Craig D. Smits Digitally signed by Craig Smits Date: 2025.02.19 10:11:54-06'00' DATE:

PRINT NAME: CRAIG D. SMITS

NOTES:

THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.

REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

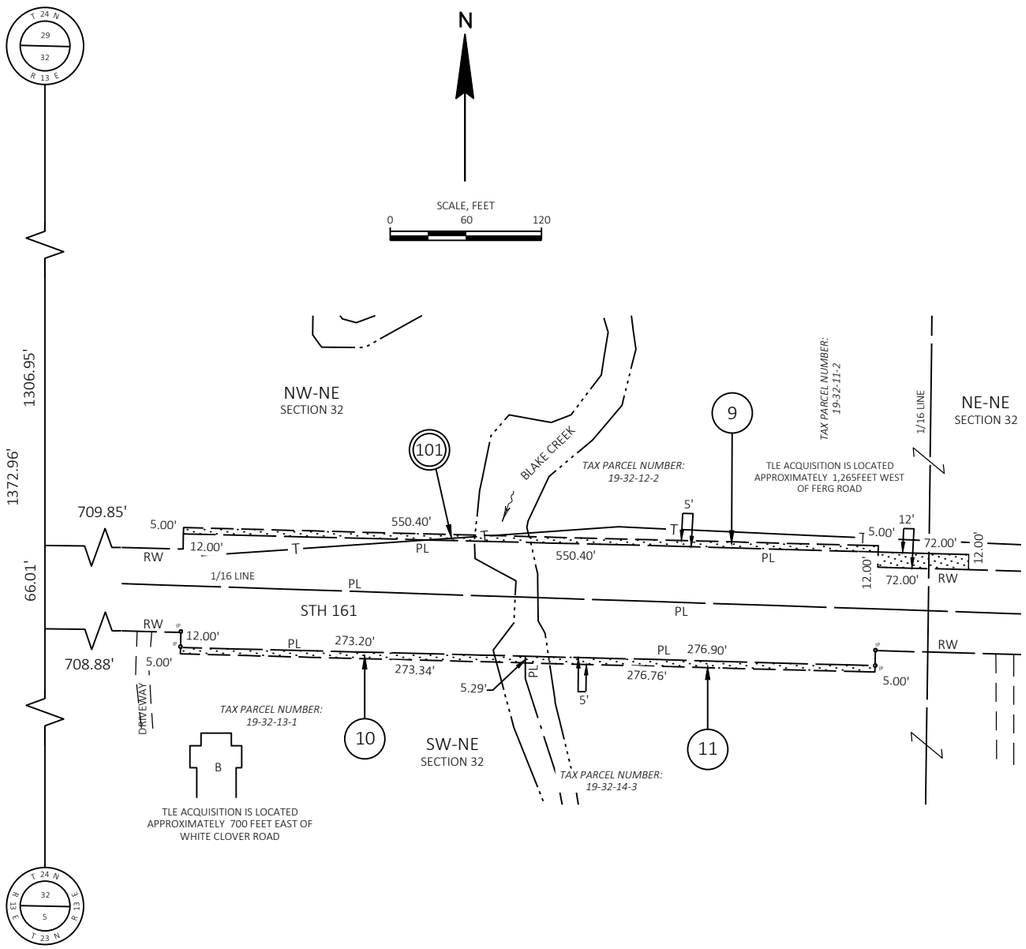
PURPOSE OF ALL TLES IS FOR GRADING, UNLESS OTHERWISE NOTED.

| R/W PROJECT NUMBER: 6260-00-22 | SHEET NUMBER: 7 |
|---|---|

TLE ACQUISITION EXHIBIT
TOWN OF UNION - STH 161
STH 49 TO STH 110

STH 161 — WAUPACA COUNTY

THAT PART OF THE NW 1/4 OF THE NE 1/4, AND PART OF THE SW 1/4 OF THE NE 1/4, AND PART OF THE NE 1/4 OF THE NE 1/4, SECTION 32, T24N, R13E, TOWN OF UNION, WAUPCA COUNTY, WISCONSIN.




## SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

| PARCEL NUMBER | OWNER(S) | INTEREST REQUIRED | TLE SQUARE FEET |
|---|---|---|---|
| 9 | KEITH NEMMETZ | TLE | 3510 |
| 10 | CANDACE GRAWVUNDER | TLE | 1405 |
| 11 | JANE M SUEHS | TLE | 1451 |

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | UTILITY OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 101 | WOOD COUNTY TELEPHONE COMPANY DBA SOLARUS (TELEPHONE) | NO RECORD OF EASEMENT |

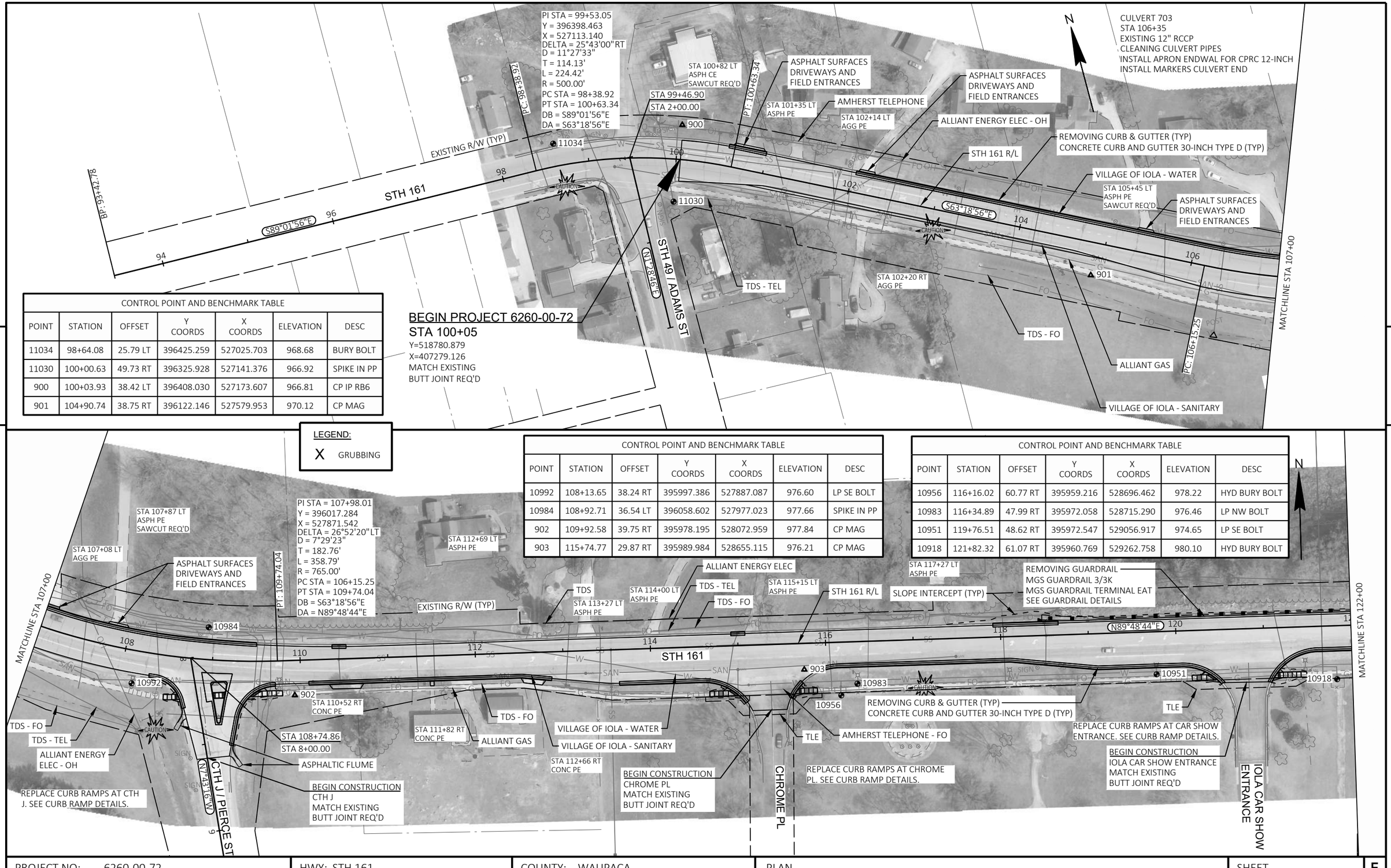
THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
NORTH CENTRAL REGION - WISCONSIN RAPIDS

SIGNATURE: Craig D. Smits Digitally signed by Craig Smits Date: 2025.02.19 10:12:14-06'00' DATE: _____

PRINT NAME: CRAIG D. SMITS

FILE NAME : 040101-RP.DWG PLOT DATE : 12/31/2024 4:52 AM R/W PROJECT: 6260-00-02-7

4




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 11034 | 98+64.08 | 25.79 LT | 396425.259 | 527025.703 | 968.68 | BURY BOLT |
| 11030 | 100+00.63 | 49.73 RT | 396325.928 | 527141.376 | 966.92 | SPIKE IN PP |
| 900 | 100+03.93 | 38.42 LT | 396408.030 | 527173.607 | 966.81 | CP IP RB6 |
| 901 | 104+90.74 | 38.75 RT | 396122.146 | 527579.953 | 970.12 | CP MAG |

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10992 | 108+13.65 | 38.24 RT | 395997.386 | 527887.087 | 976.60 | LP SE BOLT |
| 10984 | 108+92.71 | 36.54 LT | 396058.602 | 527977.023 | 977.66 | SPIKE IN PP |
| 902 | 109+92.58 | 39.75 RT | 395978.195 | 528072.959 | 977.84 | CP MAG |
| 903 | 115+74.77 | 29.87 RT | 395989.984 | 528655.115 | 976.21 | CP MAG |

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10956 | 116+16.02 | 60.77 RT | 395959.216 | 528696.462 | 978.22 | HYD BURY BOLT |
| 10983 | 116+34.89 | 47.99 RT | 395972.058 | 528715.290 | 976.46 | LP NW BOLT |
| 10951 | 119+76.51 | 48.62 RT | 395972.547 | 529056.917 | 974.65 | LP SE BOLT |
| 10918 | 121+82.32 | 61.07 RT | 395960.769 | 529262.758 | 980.10 | HYD BURY BOLT |

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 78 E |
|---|---|---|---|---|

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10056 | 133+07.13 | 68.47 RT | 396087.760 | 530402.951 | 963.10 | SPIKE IN TREE |
| 10052 | 134+71.04 | 80.28 RT | 396209.688 | 530539.333 | 956.87 | SPIKE IN TREE |
| 907 | 135+16.79 | 16.05 RT | 396285.153 | 530516.454 | 963.33 | CP MAG |

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 905 | 125+71.74 | 24.25 LT | 396047.373 | 529651.903 | 978.03 | CP MAG |
| 10915 | 129+85.12 | 70.95 RT | 395956.015 | 530071.728 | 971.46 | CHISLED "X" NE SLAB |
| 906 | 130+71.05 | 41.77 RT | 396000.286 | 530159.923 | 968.76 | CP MAG |

MATCHLINE STA 122+00

REMOVING GUARDRAIL
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT

SLOPE INTERCEPT (TYP)

TDS - TEL

TDS - FO

STA 125+64 LT
ASPH PE

N89°48'44"E

STA 126+75 LT
ASPH PE

905

STH 161 R/L

CENTRAL WI ELEC COOP

AMHERST
TELEPHONE - FO

TDS - FO

ALLIANT GAS

STA 124+31 RT
CONC CE

STA 128+97 LT
ASPH PE

PC: 129+34.97

STA 130+24.81
STA 12+00.00

EXISTING R/W (TYP)

REMOVING CURB & GUTTER (TYP)
CONCRETE CURB AND GUTTER
30-INCH TYPE D (TYP)

REPLACE CURB RAMP AT KEATINGS
LAKE DR. SEE CURB RAMP DETAILS.

END CONSTRUCTION
KEATING LAKE DR
MATCH EXISTING
BUTT JOINT REQ'D

10915

906

KEATINGS LAKE DR

N19°31'14"W

10056

907

10052

TDS

PT: 134+56.33

N37°40'19"E

MATCHLINE STA 137+00

PI STA = 132+15.24
Y = 396025.228
X = 530295.486
DELTA = 52°08'25"LT
D = 10°00'00"
T = 280.32'
L = 521.40'
R = 572.96'
PC STA = 129+34.92
PT STA = 134+56.33
DB = N89°48'44"E
DA = N37°40'19"E

LEGEND:

X GRUBBING

STA 141+13 LT
AGG PE

PC: 142+74.31

STH 161 R/L

EXISTING R/W (TYP)

STH 161

N37°40'19"E

STA 141+15 RT
AGG PE

MATCHLINE STA 137+00

MATCHLINE STA 152+00

PI STA = 148+53.44
Y = 397352.957
X = 531320.633
DELTA = 33°44'18"RT
D = 3°00'00"
T = 579.14'
L = 1124.61'
R = 1909.86'
PC STA = 142+74.31
PT STA = 153+98.92
DB = N37°40'19"E
DA = N71°24'37"E

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 79 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 02

PLOT DATE : 7/22/2026 3:03 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10067 | 158+71.33 | 54.19 RT | 397635.950 | 532333.489 | 978.12 | SPIKE IN PP |
| 908 | 159+22.31 | 27.39 RT | 397675.627 | 532373.668 | 976.85 | CP MAG |
| 10074 | 159+26.40 | 59.11 LT | 397760.134 | 532354.771 | 977.83 | SPIKE IN LP |

BEGIN CONSTRUCTION
AANSTAD RD
MATCH EXISTING
BUTT JOINT REQ'D

PUBLIC LAND
REFERENCE MONUMENT
VERIFY AND RESET

AANSTAD RD

PC: 158+31.57

PI: 153+98.92

10074

PC: 20+60.33

AMHERST TELEPHONE - FO

STA 159+54.77
STA 20+00.00

STH 161 R/L

PI: 163+33.54

PI STA = 21+31.01
Y = 397837.315
X = 532365.467
DELTA = 14°03'53"RT
D = 10°00'00"
T = 70.68'
L = 140.65'
R = 572.96'
PC STA = 20+60.33
PT STA = 22+00.98
DB = N14°16'39"W
DA = N00°12'46"W

N

PI: 166+63.57

MATCHLINE STA 152+00

STH 161

PI: 20+00.00

908

PT: 19+63.17

ATC - OH

10067

PRC: 18+42.46

705-U
STA 160+25, 28.4' RT
CONC COLLAR

705-D
STA 160+25, 36.4' RT
APRON ENDWALLS FOR CPRC 24-INCH

PI STA = 19+05.63
Y = 397613.442
X = 532422.437
DELTA = 41°42'12"LT
D = 34°32'56"
T = 63.17'
L = 120.71'
R = 165.84'
PC STA = 18+42.46
PT STA = 19+63.17
DB = N27°25'33"E
DA = N14°16'39"W

WASRUD RD

PI STA = 160+84.54
Y = 397756.149
X = 532519.406
DELTA = 17°34'09"RT
D = 3°30'00"
T = 252.97'
L = 501.98'
R = 1637.02'
PC STA = 158+31.57
PT STA = 163+33.54
DB = N71°24'37"E
DA = N88°58'46"E
SE = 5.9%

REMOVING GUARDRAIL
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT
SEE GUARDRAIL DETAIL SHEETS

SLOPE INTERCEPT (TYP)

END CONSTRUCTION
WASRUD RD
MATCH EXISTING
BUTT JOINT REQ'D

PC: 17+18.63

MATCHLINE STA 167+00

5

5

LEGEND:
X GRUBBING

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10193 | 173+54.48 | 34.23 LT | 397813.413 | 533792.470 | 948.15 | SPIKE IN FENCE CNR POST |
| 10188 | 174+18.18 | 35.95 LT | 397816.325 | 533856.061 | 948.16 | SPIKE IN FENCE CNR POST |
| 909 | 174+35.45 | 10.51 RT | 397770.224 | 533874.271 | 948.74 | CP MAG |
| 910 | 180+75.11 | 10.77 RT | 397782.960 | 534513.800 | 951.45 | CP MAG |

N

PI: 167+49.99

MATCHLINE STA 167+00

EXISTING R/W (TYP)

STA 174+00 LT
AGG FE

PI: 174+07.36

CULVERT DW574
STA 173+97
CMP 18-INCH REQ'D
SKEW 82°LHF

AMHERST TELEPHONE - FO

10193

10188

STH 161 R/L

STH 161

909

910

STA 181+81 RT
AGG PE

SLOPE INTERCEPT (TYP)

CULVERT CP706-W
STA 173+64
CPRCHE CLASS HE-IV 19x30-INCH REQ'D
SKEW 1°LHF

EXISTING 24" CMCP
REMOVING SMALL PIPE CULVERTS
INSTALL MARKERS CULVERT END

CULVERT CP706-E
STA 173+68
CPRCHE CLASS HE-IV 19x30-INCH REQ'D
SKEW 1°LHF

STA 180+85 RT
AGG FE

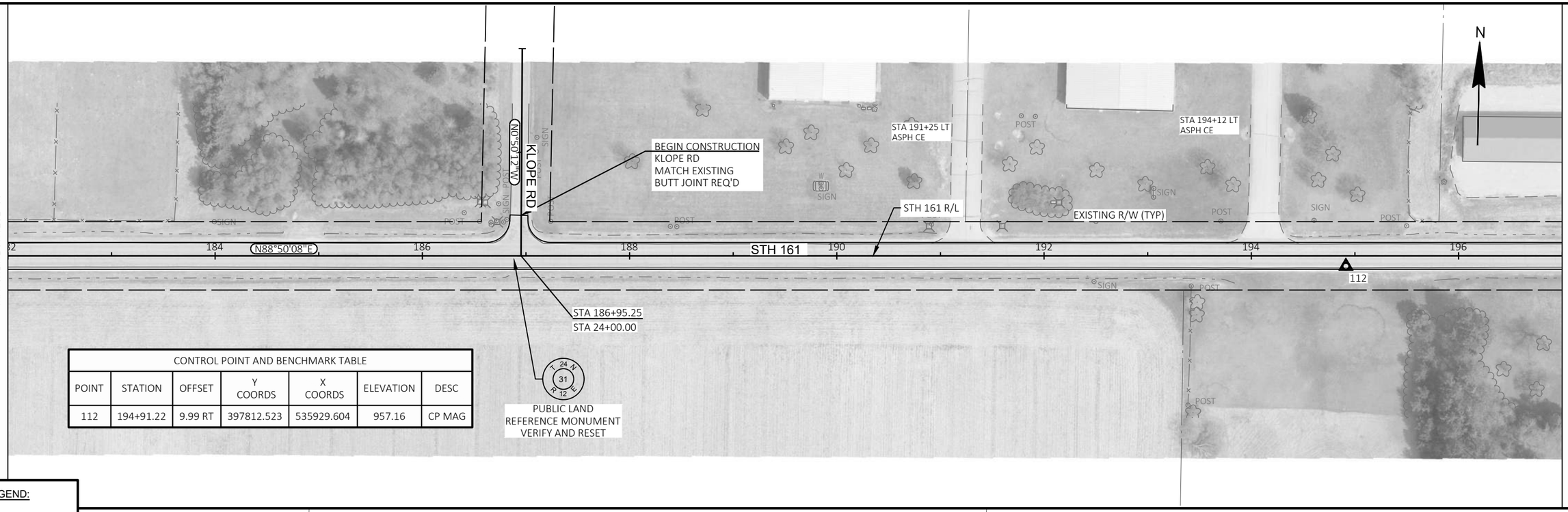
MATCHLINE STA 182+00

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 80 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 03

PLOT DATE : 7/22/2026 3:04 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

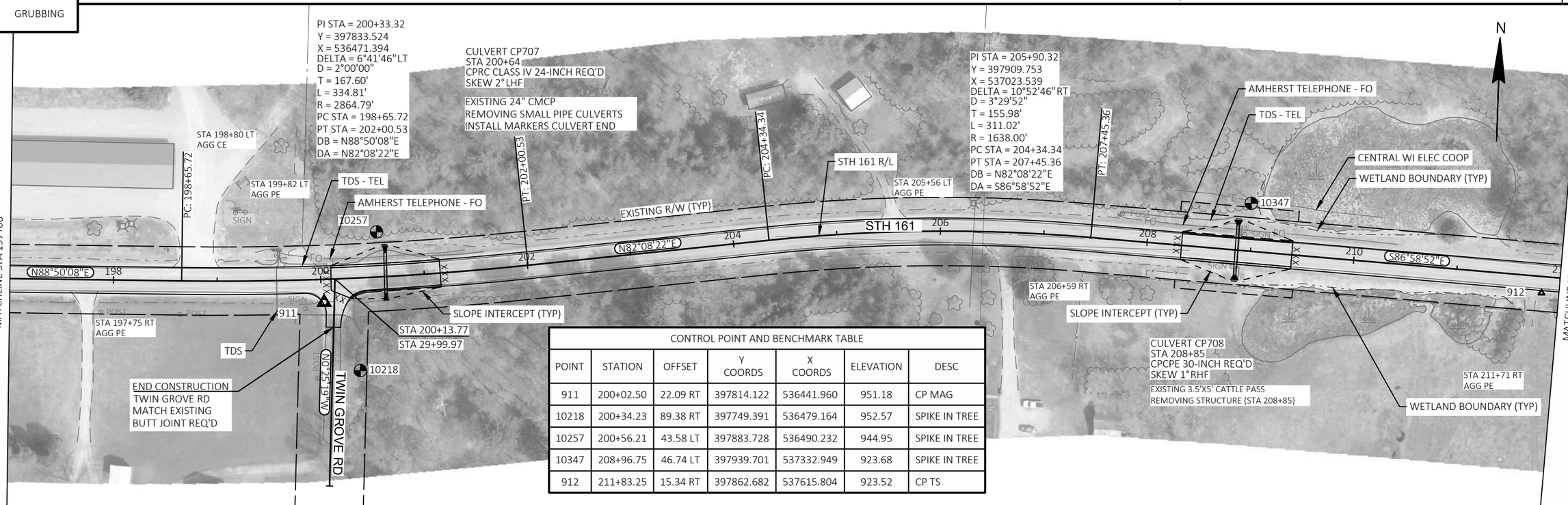
WISDOT/CADDS SHEET 44




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 112 | 194+91.22 | 9.99 RT | 397812.523 | 535929.604 | 957.16 | CP MAG |

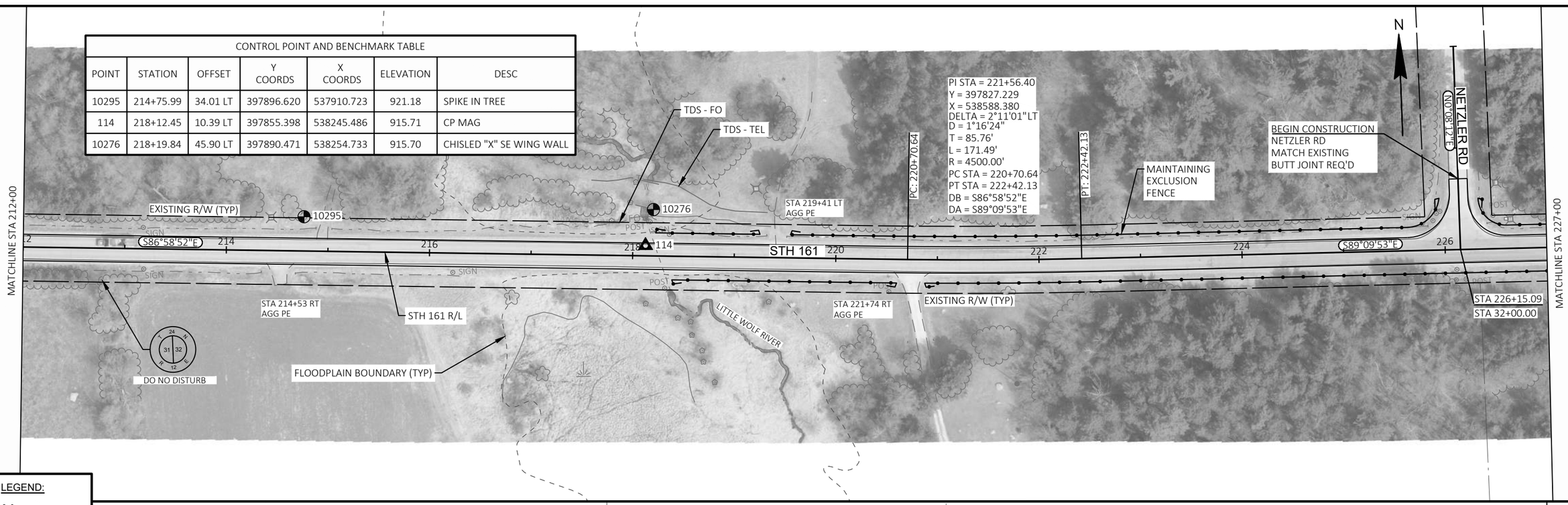
LEGEND:

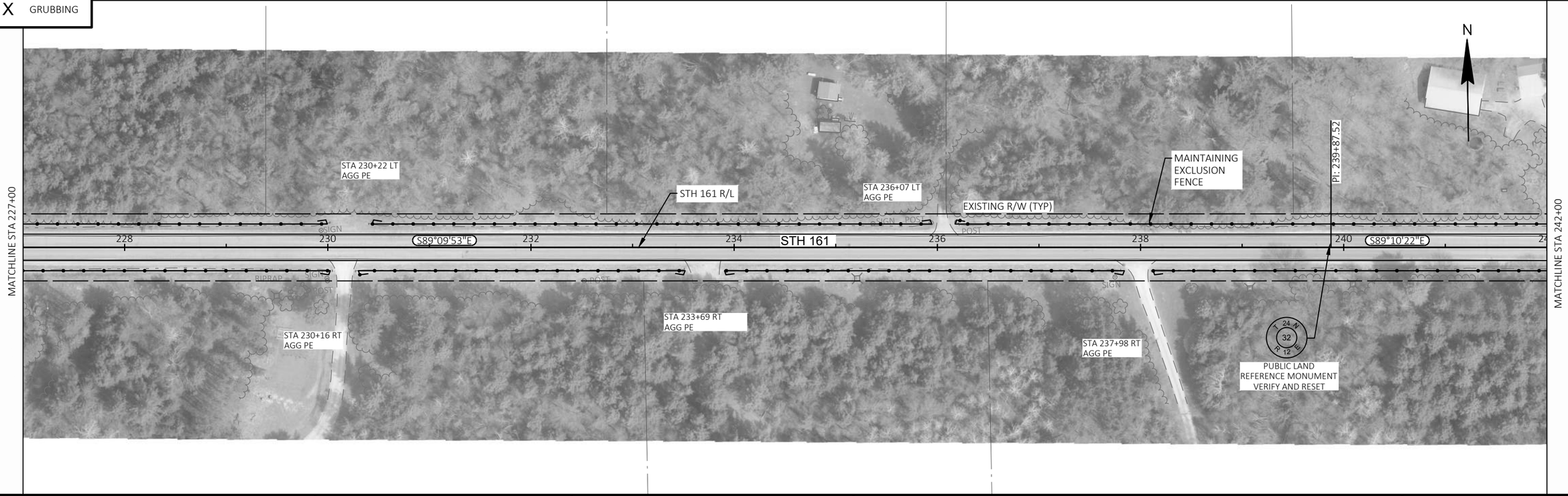
X GRUBBING




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 911 | 200+02.50 | 22.09 RT | 397814.122 | 536441.960 | 951.18 | CP MAG |
| 10218 | 200+34.23 | 89.38 RT | 397749.391 | 536479.164 | 952.57 | SPIKE IN TREE |
| 10257 | 200+56.21 | 43.58 LT | 397883.728 | 536490.232 | 944.95 | SPIKE IN TREE |
| 10347 | 208+96.75 | 46.74 LT | 397939.701 | 537332.949 | 923.68 | SPIKE IN TREE |
| 912 | 211+83.25 | 15.34 RT | 397862.682 | 537615.804 | 923.52 | CP TS |

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10295 | 214+75.99 | 34.01 LT | 397896.620 | 537910.723 | 921.18 | SPIKE IN TREE |
| 114 | 218+12.45 | 10.39 LT | 397855.398 | 538245.486 | 915.71 | CP MAG |
| 10276 | 218+19.84 | 45.90 LT | 397890.471 | 538254.733 | 915.70 | CHISLED "X" SE WING WALL |




LEGEND:

X GRUBBING

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 82 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 05

PLOT DATE : 7/22/2026 3:04 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

LEGEND:

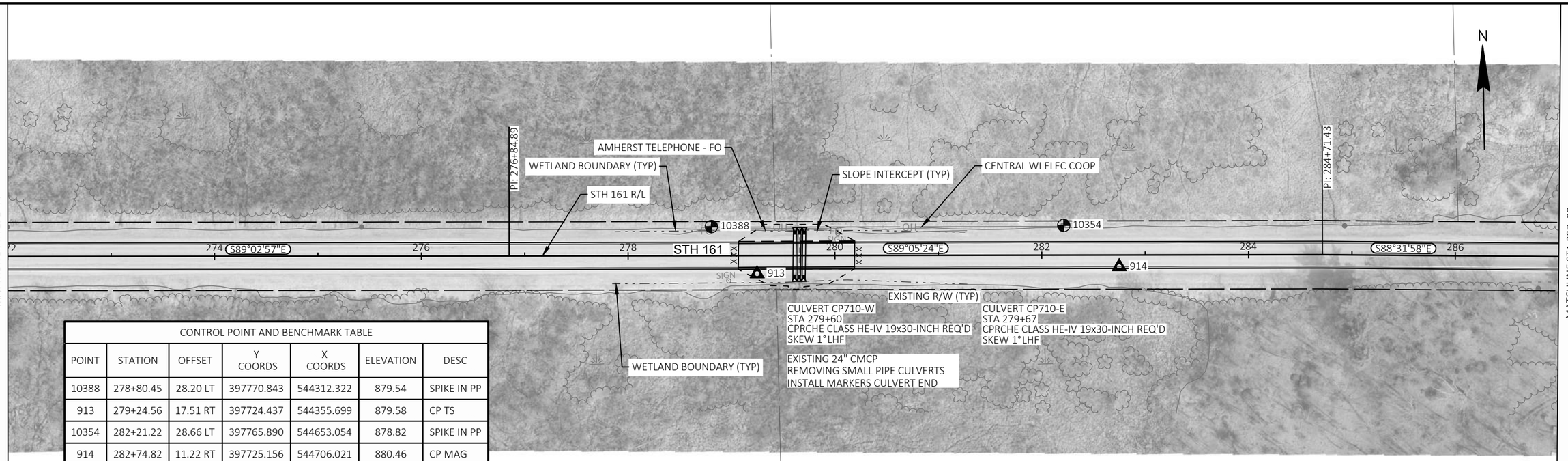
X GRUBBING

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 83 E |
|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 06

PLOT DATE : 7/22/2026 3:04 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

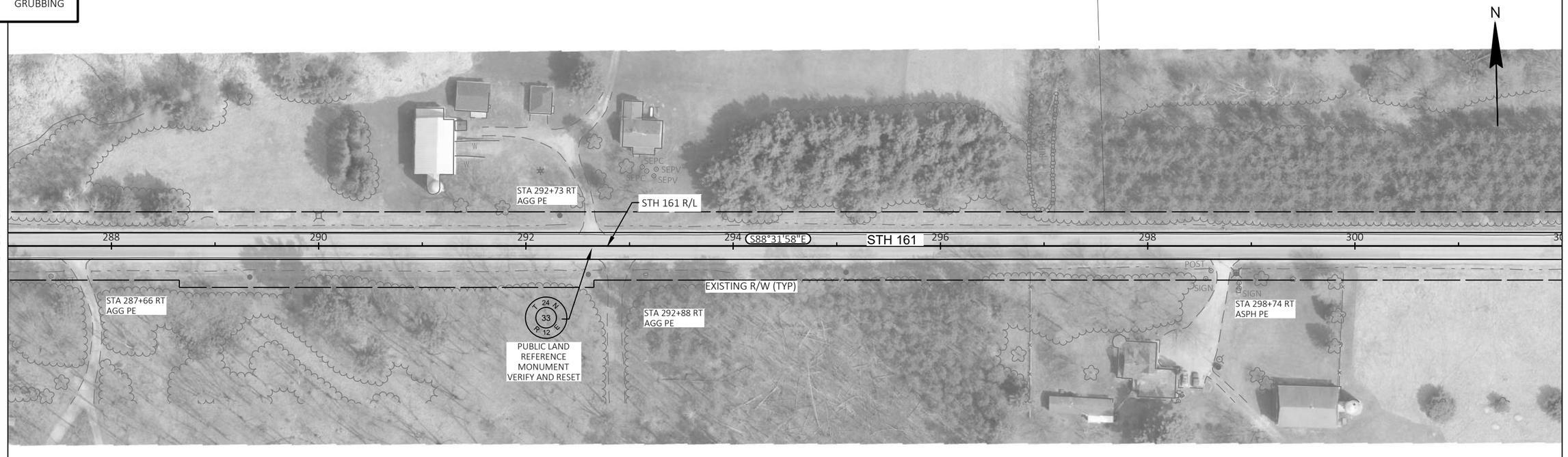
WISDOT/CADDS SHEET 44




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10388 | 278+80.45 | 28.20 LT | 397770.843 | 544312.322 | 879.54 | SPIKE IN PP |
| 913 | 279+24.56 | 17.51 RT | 397724.437 | 544355.699 | 879.58 | CP TS |
| 10354 | 282+21.22 | 28.66 LT | 397765.890 | 544653.054 | 878.82 | SPIKE IN PP |
| 914 | 282+74.82 | 11.22 RT | 397725.156 | 544706.021 | 880.46 | CP MAG |

LEGEND:

X GRUBBING

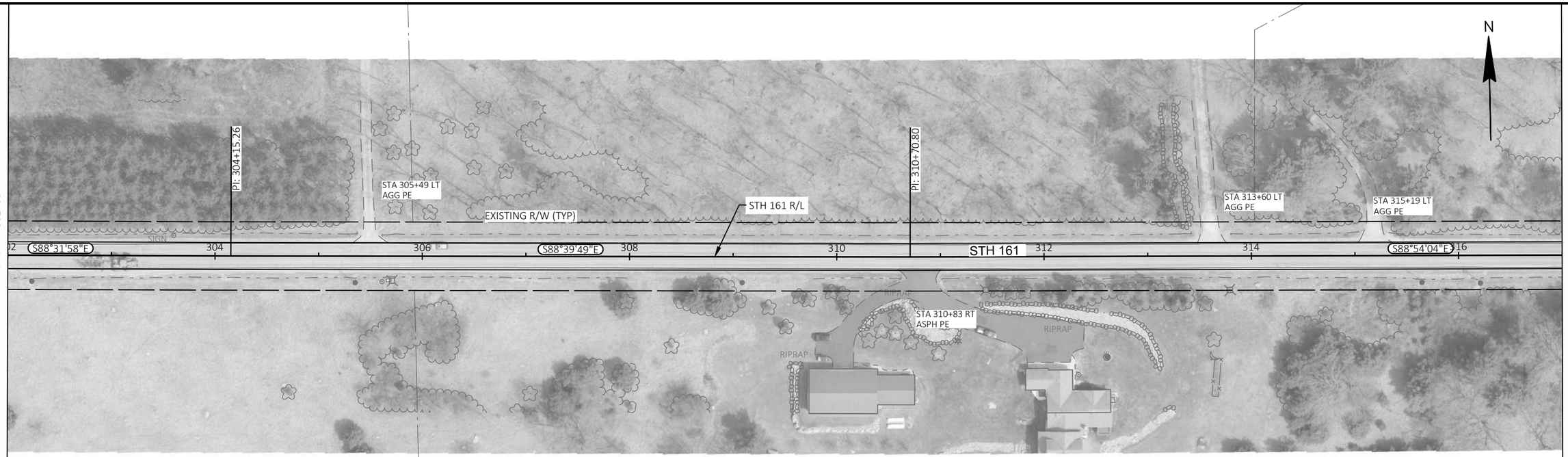


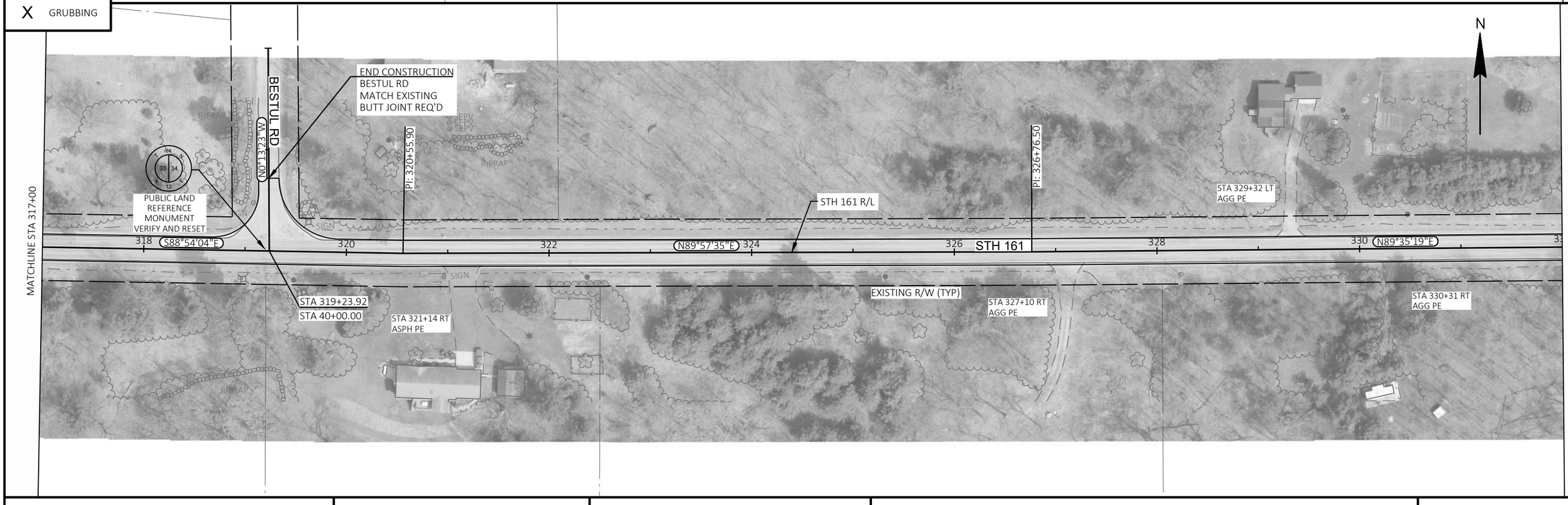

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 84 E |
|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 07

PLOT DATE : 7/22/2026 3:05 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44




5

5

LEGEND:

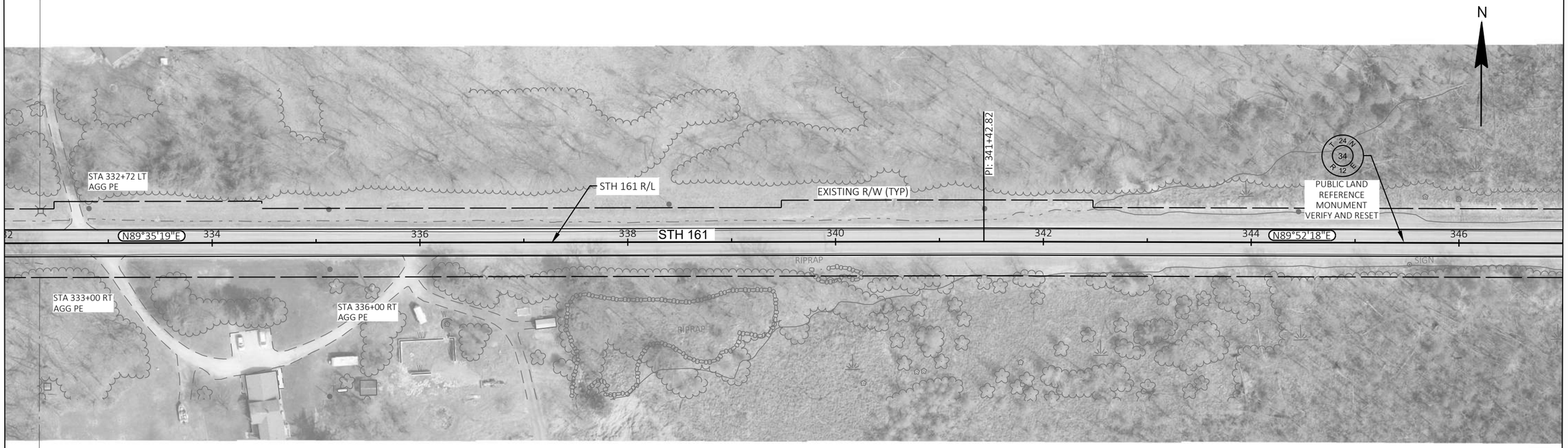
X GRUBBING

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 85 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 08

PLOT DATE : 7/22/2026 3:05 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

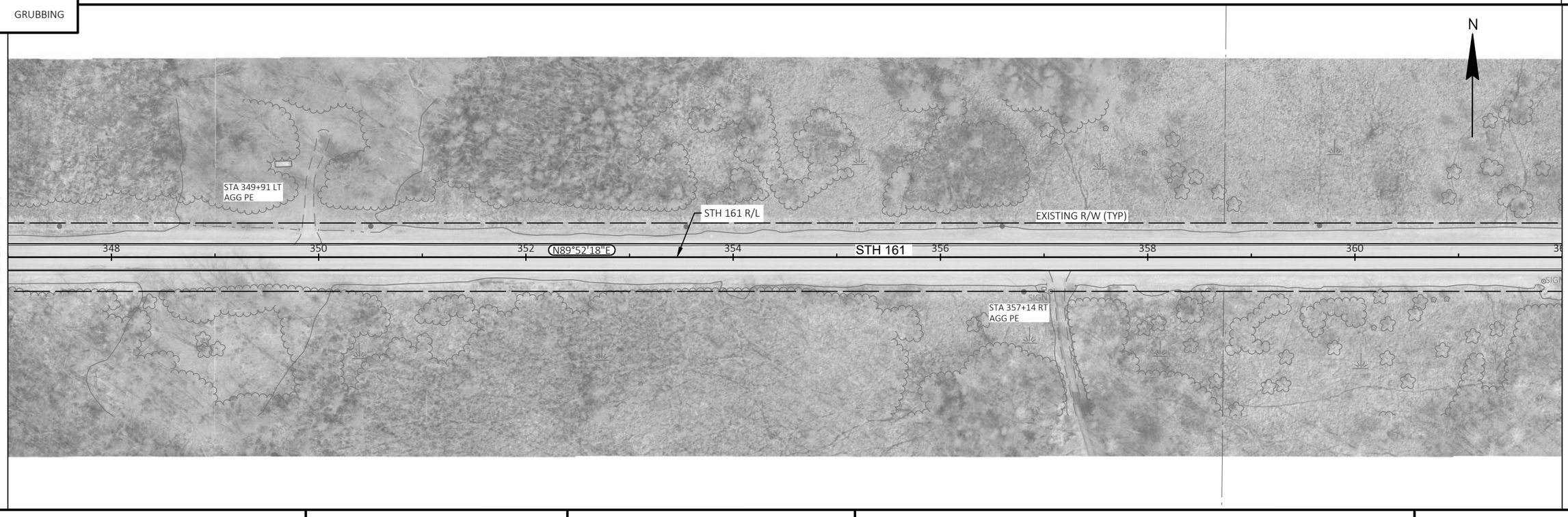



5

5

LEGEND:

X GRUBBING

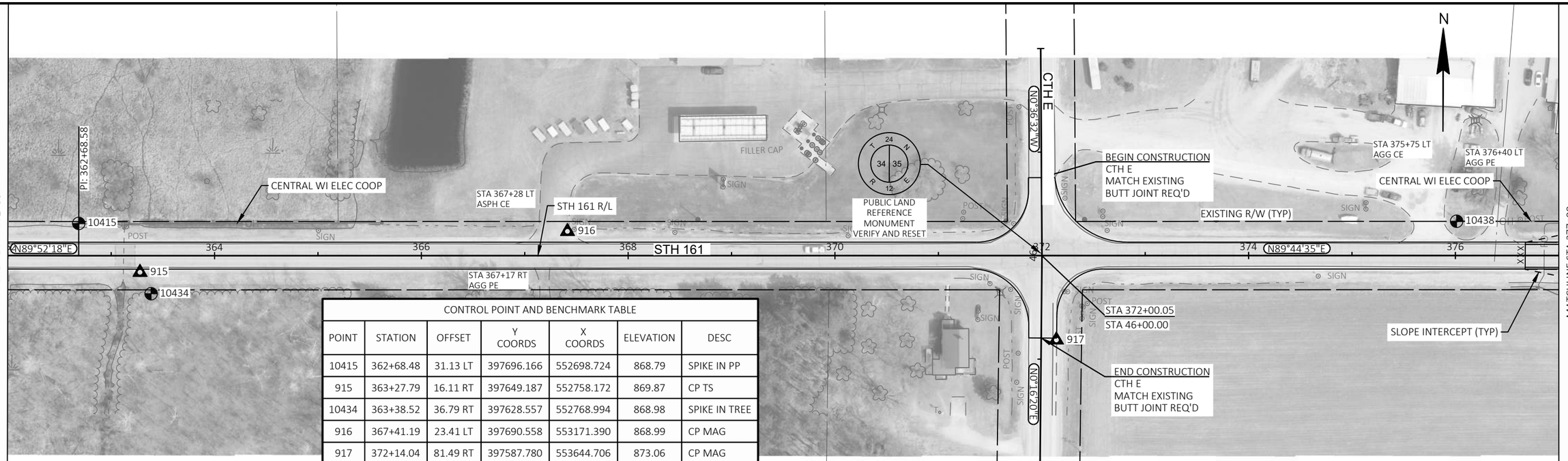



| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 86 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 09

PLOT DATE : 7/22/2026 3:05 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

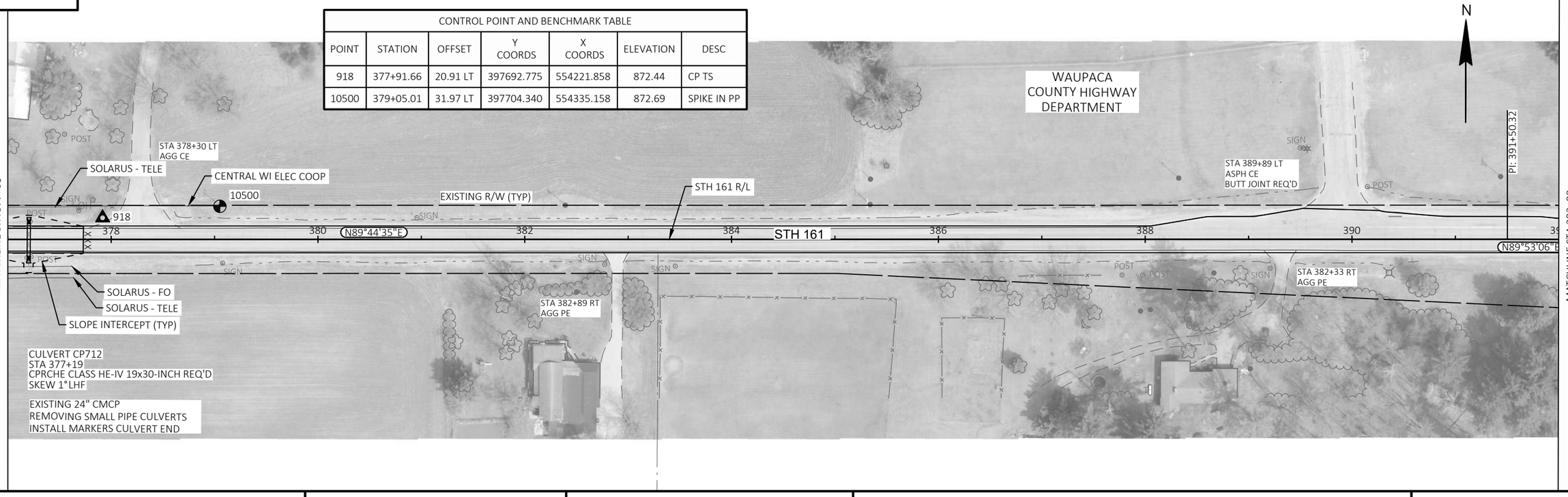
WISDOT/CADDS SHEET 44




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10415 | 362+68.48 | 31.13 LT | 397696.166 | 552698.724 | 868.79 | SPIKE IN PP |
| 915 | 363+27.79 | 16.11 RT | 397649.187 | 552758.172 | 869.87 | CP TS |
| 10434 | 363+38.52 | 36.79 RT | 397628.557 | 552768.994 | 868.98 | SPIKE IN TREE |
| 916 | 367+41.19 | 23.41 LT | 397690.558 | 553171.390 | 868.99 | CP MAG |
| 917 | 372+14.04 | 81.49 RT | 397587.780 | 553644.706 | 873.06 | CP MAG |
| 10438 | 376+01.18 | 33.07 LT | 397704.080 | 554031.326 | 871.13 | SPIKE IN PP |

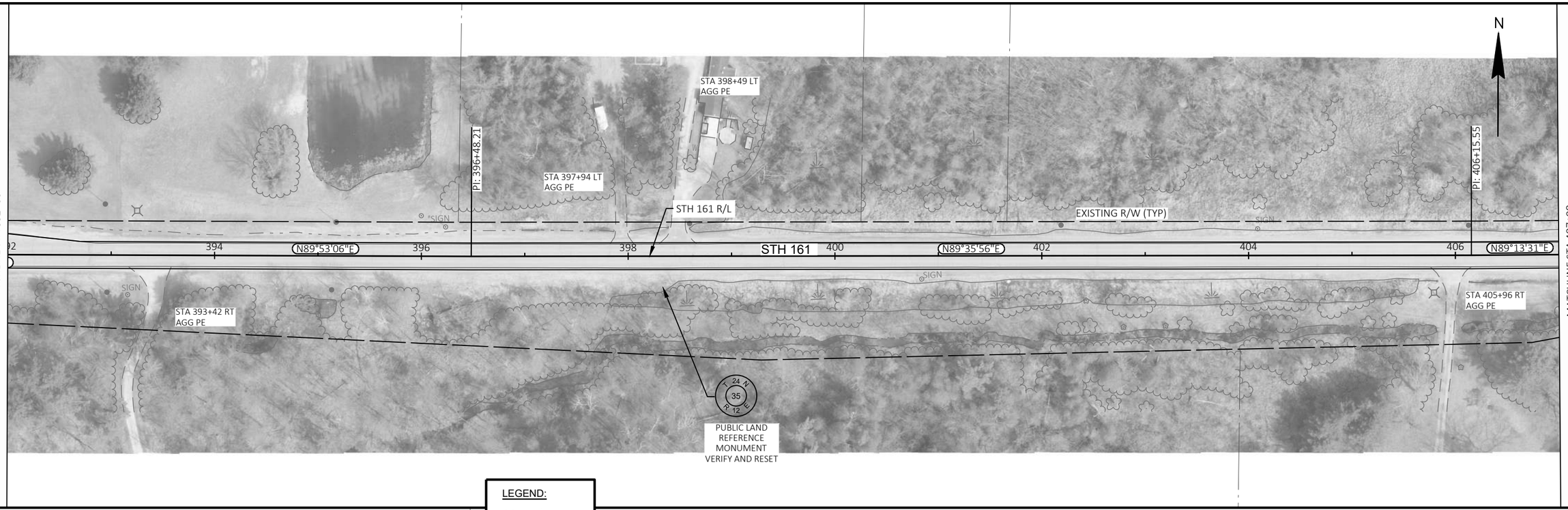
LEGEND:

X GRUBBING




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 918 | 377+91.66 | 20.91 LT | 397692.775 | 554221.858 | 872.44 | CP TS |
| 10500 | 379+05.01 | 31.97 LT | 397704.340 | 554335.158 | 872.69 | SPIKE IN PP |

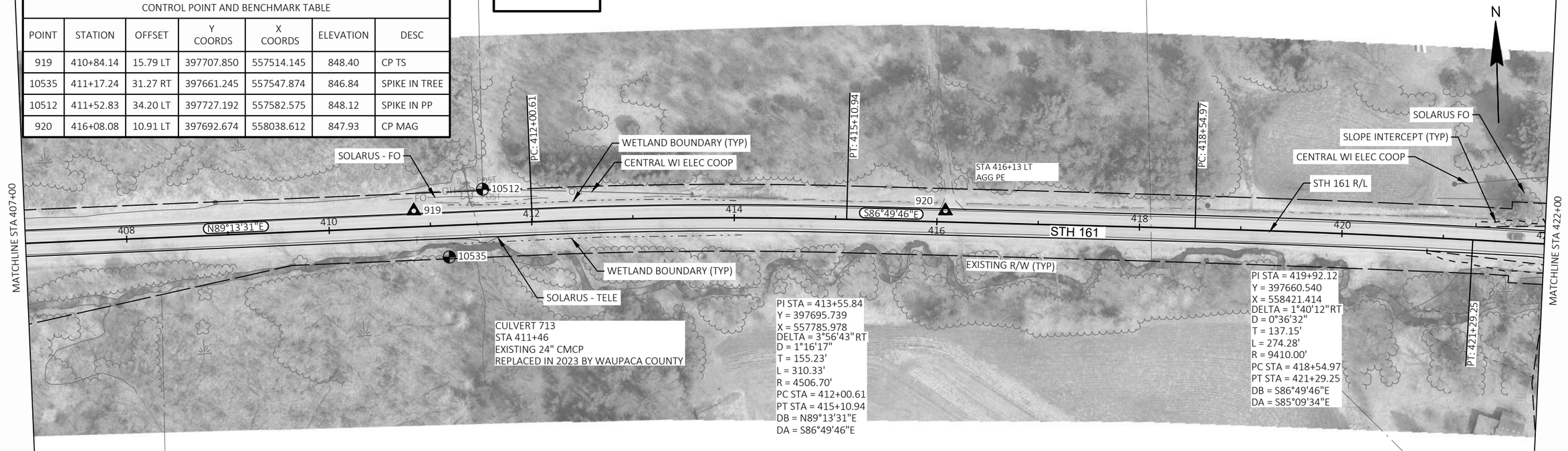
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 87 | E |
|---|---|---|---|---|---|




LEGEND:

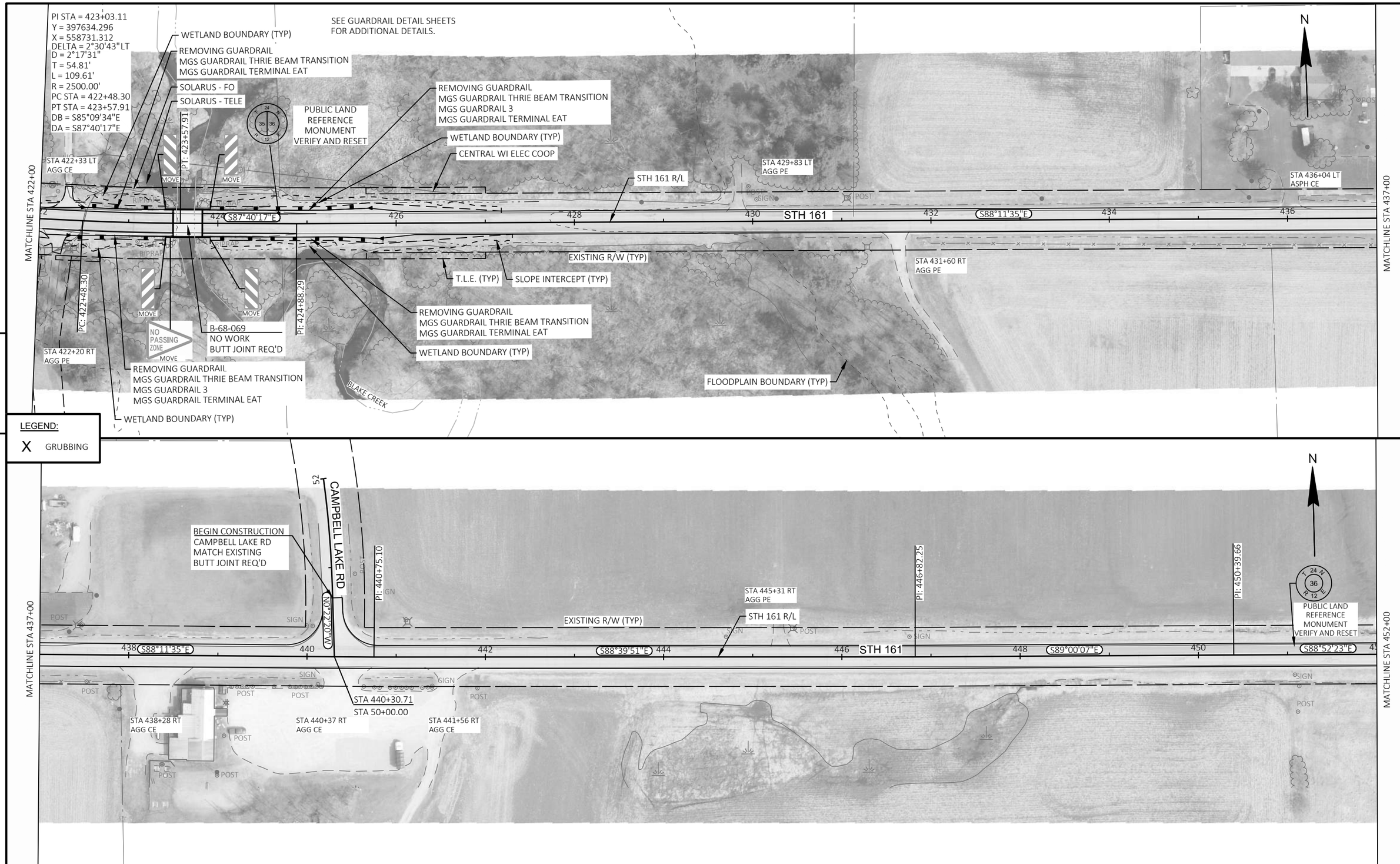
X GRUBBING

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 919 | 410+84.14 | 15.79 LT | 397707.850 | 557514.145 | 848.40 | CP TS |
| 10535 | 411+17.24 | 31.27 RT | 397661.245 | 557547.874 | 846.84 | SPIKE IN TREE |
| 10512 | 411+52.83 | 34.20 LT | 397727.192 | 557582.575 | 848.12 | SPIKE IN PP |
| 920 | 416+08.08 | 10.91 LT | 397692.674 | 558038.612 | 847.93 | CP MAG |




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 88 | E |
|---|---|---|---|---|---|

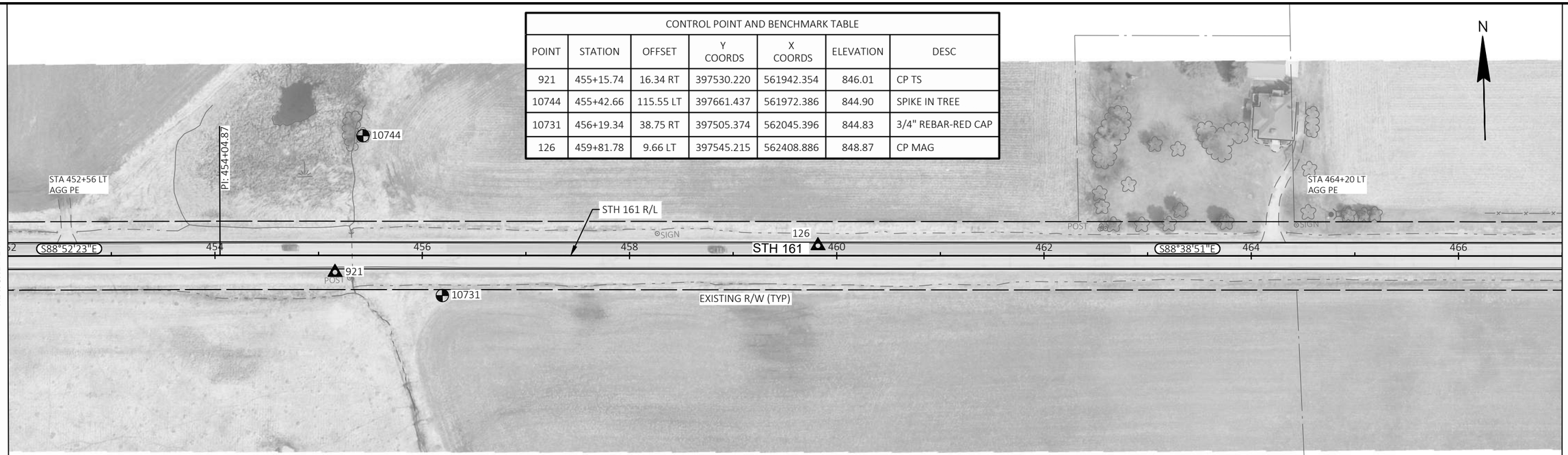

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 11
PLOT DATE : 7/22/2026 3:06 PM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

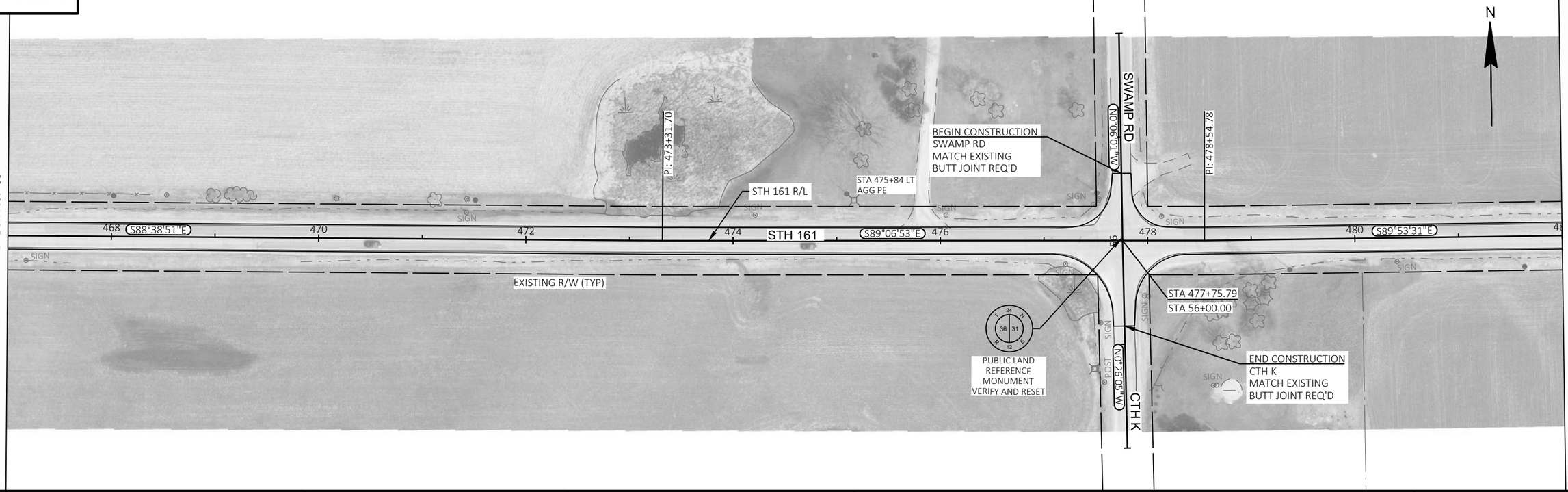



| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 89 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 12
PLOT DATE : 7/22/2026 3:06 PM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 921 | 455+15.74 | 16.34 RT | 397530.220 | 561942.354 | 846.01 | CP TS |
| 10744 | 455+42.66 | 115.55 LT | 397661.437 | 561972.386 | 844.90 | SPIKE IN TREE |
| 10731 | 456+19.34 | 38.75 RT | 397505.374 | 562045.396 | 844.83 | 3/4" REBAR-RED CAP |
| 126 | 459+81.78 | 9.66 LT | 397545.215 | 562408.886 | 848.87 | CP MAG |




LEGEND:

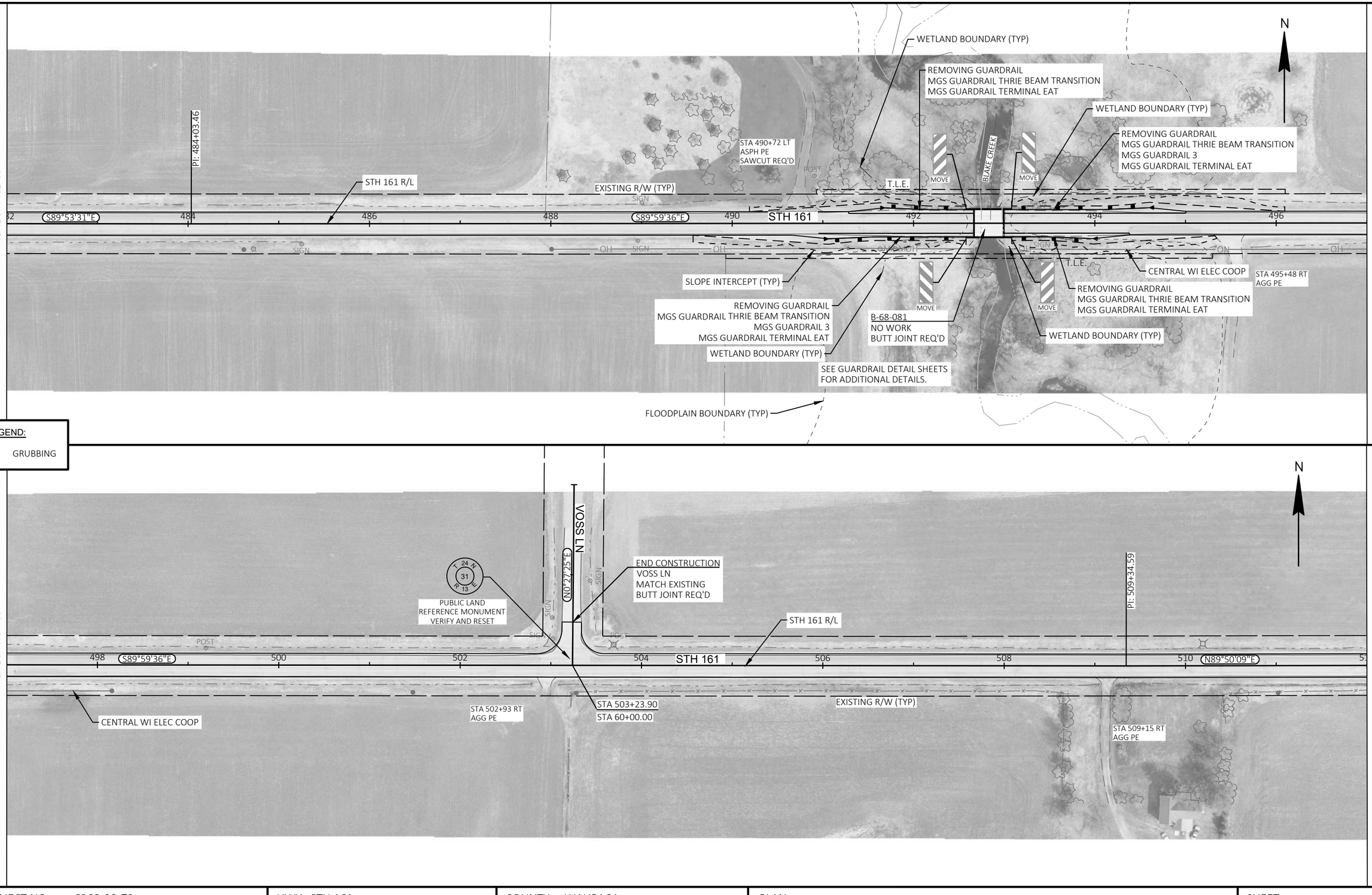
X GRUBBING

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 90 E |
|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 13

PLOT DATE : 7/22/2026 3:06 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

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5

LEGEND:

X GRUBBING

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 91 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 14

PLOT DATE : 7/22/2026 3:06 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10621 | 525+02.30 | 28.25 RT | 397473.016 | 568928.939 | 852.94 | SPIKE IN PP |

MATCHLINE STA 512+00

STA 517+93 LT
AGG PE

STH 161 R/L

PI: 520+01.32

CULVERT 715
STA 525+58
EXISTING 24" CMCP
REPLACED IN 2023 BY WAUPACA COUNTY

PC: 525+86.02

N89°50'09"E

STH 161

N89°33'03"E

EXISTING R/W (TYP)

10621

SOLARUS - TELE

ALLIANT ENERGY

MATCHLINE STA 527+00

5

5

LEGEND:

X GRUBBING

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10599 | 527+22.86 | 51.32 RT | 397476.000 | 569163.253 | 853.65 | SPIKE IN PP |
| 922 | 527+30.43 | 23.54 RT | 397504.940 | 569161.885 | 853.12 | CP TS |
| 10555 | 532+24.99 | 25.38 LT | 397901.032 | 569412.083 | 844.71 | SPIKE IN PP |
| 130 | 532+39.10 | 13.37 RT | 397912.635 | 569451.580 | 846.77 | CP MAG |
| 10573 | 534+65.77 | 27.54 LT | 398140.168 | 569413.513 | 843.12 | SPIKE IN PP |

END CONSTRUCTION
MULCH RD
MATCH EXISTING
BUTT JOINT REQ'D

PC: 537+31.78

MUCH RD

N0°15'14"W

MUCH RD

S89°03'23"E

RIPRAP

PI STA = 530+07.36
Y = 397505.229
X = 569433.711
DELTA = 88°53'16"LT
D = 13°20'13"
T = 421.34'
L = 666.48'
R = 429.60'
PC STA = 525+86.02
PT STA = 532+52.49
DB = N89°33'03"E
DA = N00°39'46"E

N7°04'55"W

STA 537+20.01
STA 68+00.13

PI STA = 541+44.92
Y = 398818.904
X = 569448.911
DELTA = 89°31'18"RT
D = 13°45'11"
T = 413.14'
L = 650.92'
R = 416.60'
PC STA = 537+31.78
PT STA = 543+82.70
DB = N00°39'46"E
DA = S89°48'56"E

MATCHLINE STA 527+00

922
10599

SOLARUS - TELE

STA 529+64 LT
AGG PE

STA 529+68.10
STA 66+00.00

PT: 532+52.49

ALLIANT ENERGY

SOLARUS -TELE

10573

N0°39'46"E

EXISTING R/W (TYP)

STH 161 R/L

10555

STH 161

130

SLOPE INTERCEPT (TYP)

CULVERT CP717-N
STA 533+93
CPRCHE CLASS HE-IV 24x38-INCH REQ'D
SKEW 1°RHF

CULVERT CP717-S
STA 533+87
CPRCHE CLASS HE-IV 24x38-INCH REQ'D
SKEW 1°RHF

CULVERT CP716
STA 533+82
CPRCHE CLASS HE-IV 24x38-INCH REQ'D
SKEW 1°RHF

EXISTING (2) 30" CMCP
REMOVING SMALL PIPE CULVERTS (2)
INSTALL MARKERS CULVERT END

N16°58'28"W

END CONSTRUCTION
FLATER RD
MATCH EXISTING
BUTT JOINT REQ'D

FLATER ROAD

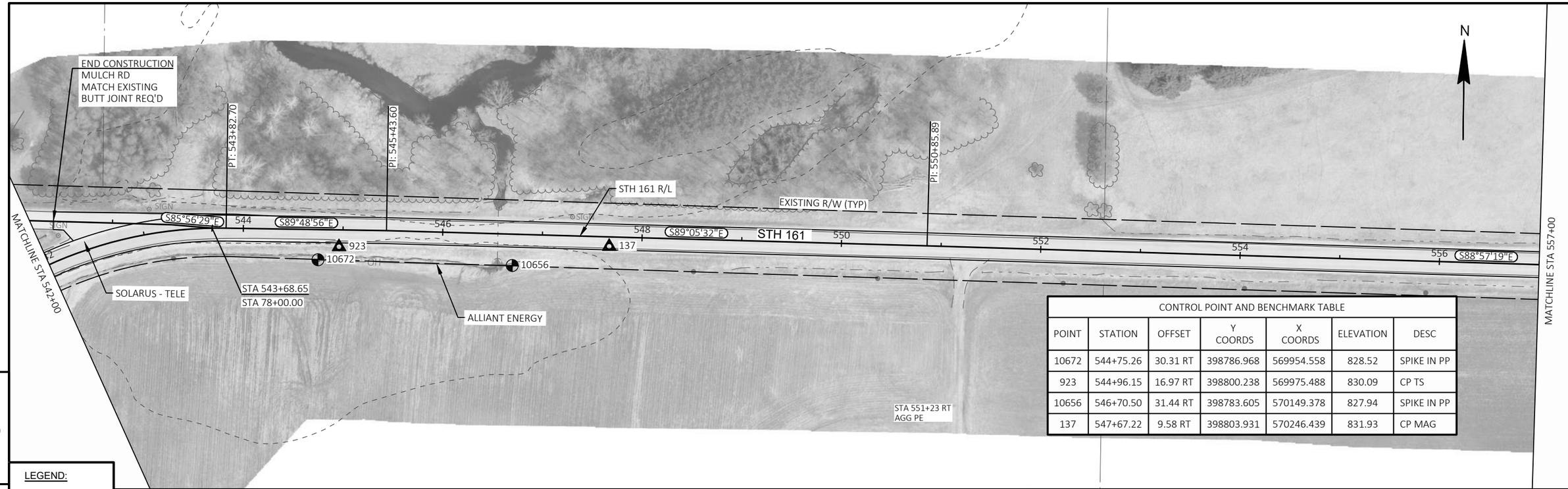
MATCHLINE STA 542+00

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 92 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 15

PLOT DATE : 7/22/2026 3:07 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10672 | 544+75.26 | 30.31 RT | 398786.968 | 569954.558 | 828.52 | SPIKE IN PP |
| 923 | 544+96.15 | 16.97 RT | 398800.238 | 569975.488 | 830.09 | CP TS |
| 10656 | 546+70.50 | 31.44 RT | 398783.605 | 570149.378 | 827.94 | SPIKE IN PP |
| 137 | 547+67.22 | 9.58 RT | 398803.931 | 570246.439 | 831.93 | CP MAG |

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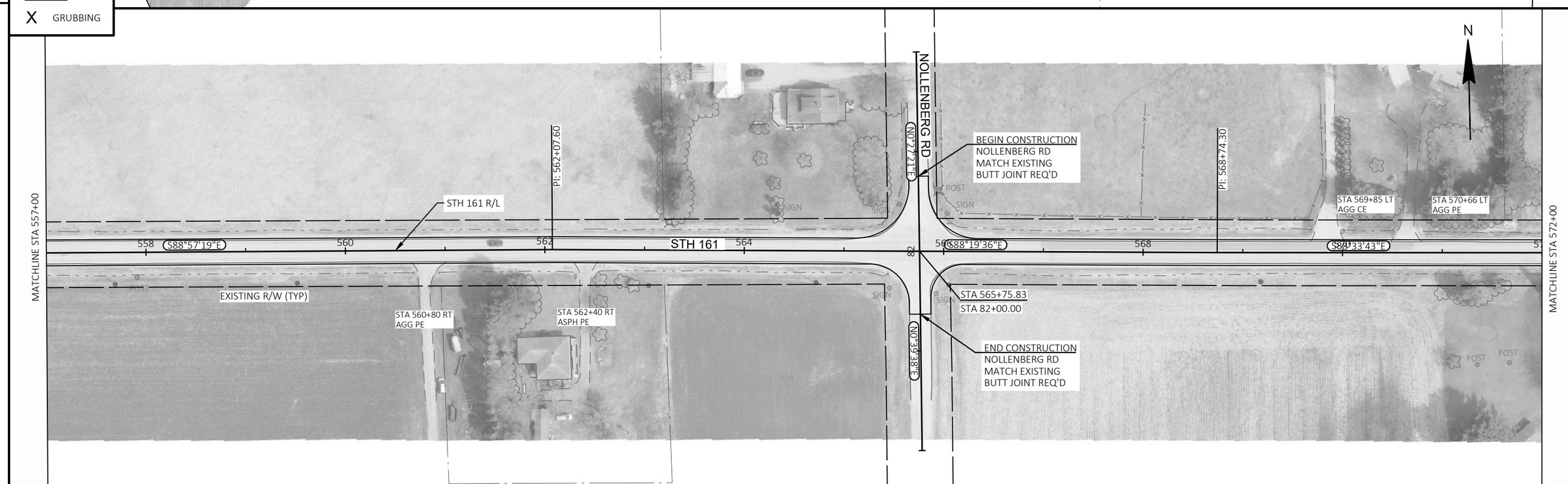
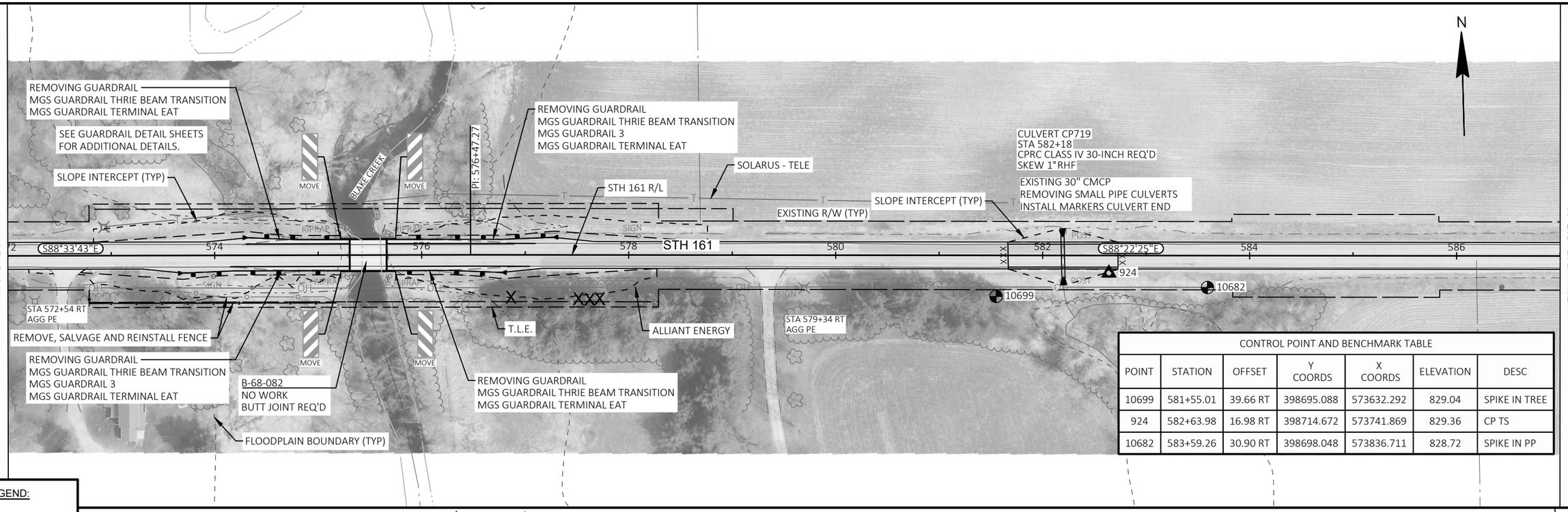
LEGEND:

X GRUBBING



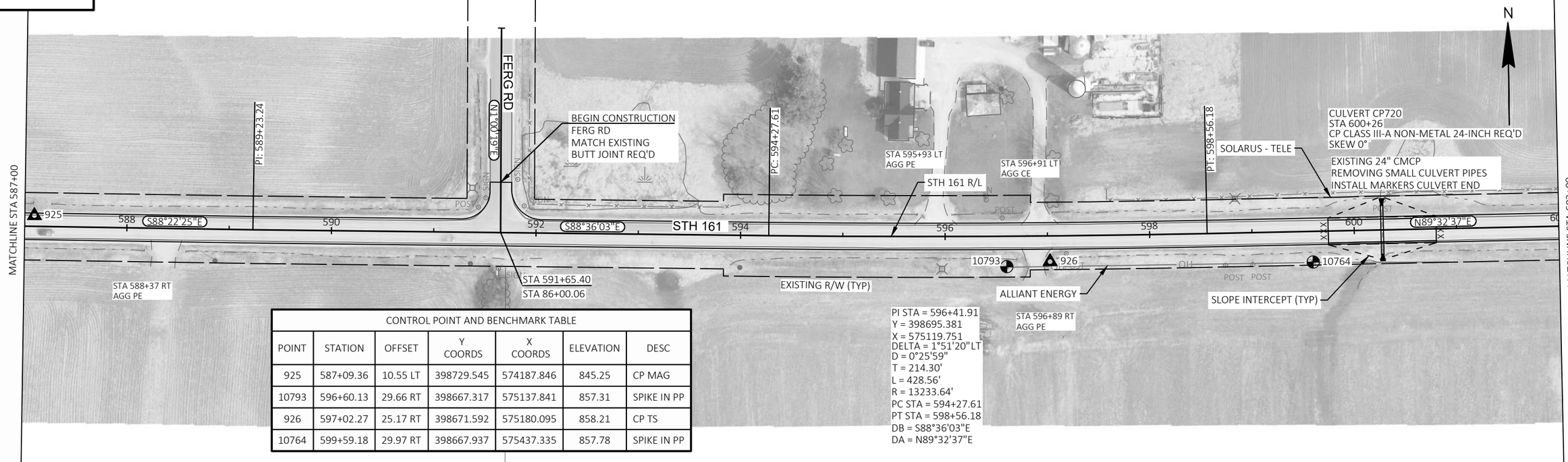

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 93 | E |
|---|---|---|---|---|---|




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10699 | 581+55.01 | 39.66 RT | 398695.088 | 573632.292 | 829.04 | SPIKE IN TREE |
| 924 | 582+63.98 | 16.98 RT | 398714.672 | 573741.869 | 829.36 | CP TS |
| 10682 | 583+59.26 | 30.90 RT | 398698.048 | 573836.711 | 828.72 | SPIKE IN PP |

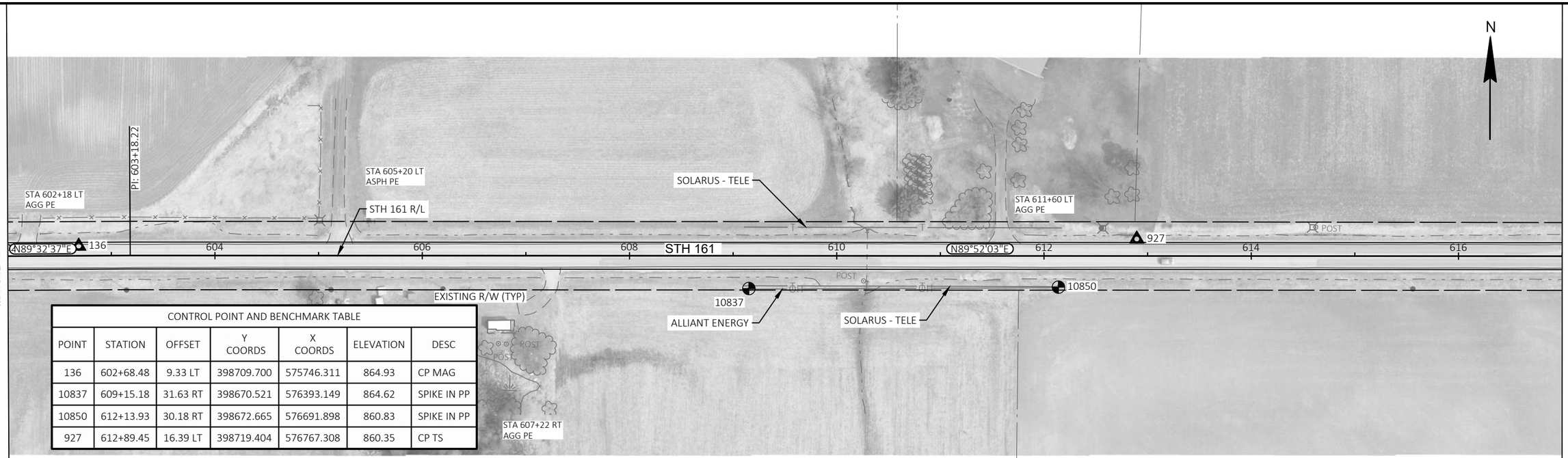
LEGEND:

X GRUBBING




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 925 | 587+09.36 | 10.55 LT | 398729.545 | 574187.846 | 845.25 | CP MAG |
| 10793 | 596+60.13 | 29.66 RT | 398667.317 | 575137.841 | 857.31 | SPIKE IN PP |
| 926 | 597+02.27 | 25.17 RT | 398671.592 | 575180.095 | 858.21 | CP TS |
| 10764 | 599+59.18 | 29.97 RT | 398667.937 | 575437.335 | 857.78 | SPIKE IN PP |

PI STA = 596+41.91
Y = 398695.381
X = 575119.751
DELTA = 1°51'20"LT
D = 0°25'59"
T = 214.30'
L = 428.56'
R = 13233.64'
PC STA = 594+27.61
PT STA = 598+56.18
DB = S88°36'03"E
DA = N89°32'37"E




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 136 | 602+68.48 | 9.33 LT | 398709.700 | 575746.311 | 864.93 | CP MAG |
| 10837 | 609+15.18 | 31.63 RT | 398670.521 | 576393.149 | 864.62 | SPIKE IN PP |
| 10850 | 612+13.93 | 30.18 RT | 398672.665 | 576691.898 | 860.83 | SPIKE IN PP |
| 927 | 612+89.45 | 16.39 LT | 398719.404 | 576767.308 | 860.35 | CP TS |

LEGEND:

X GRUBBING

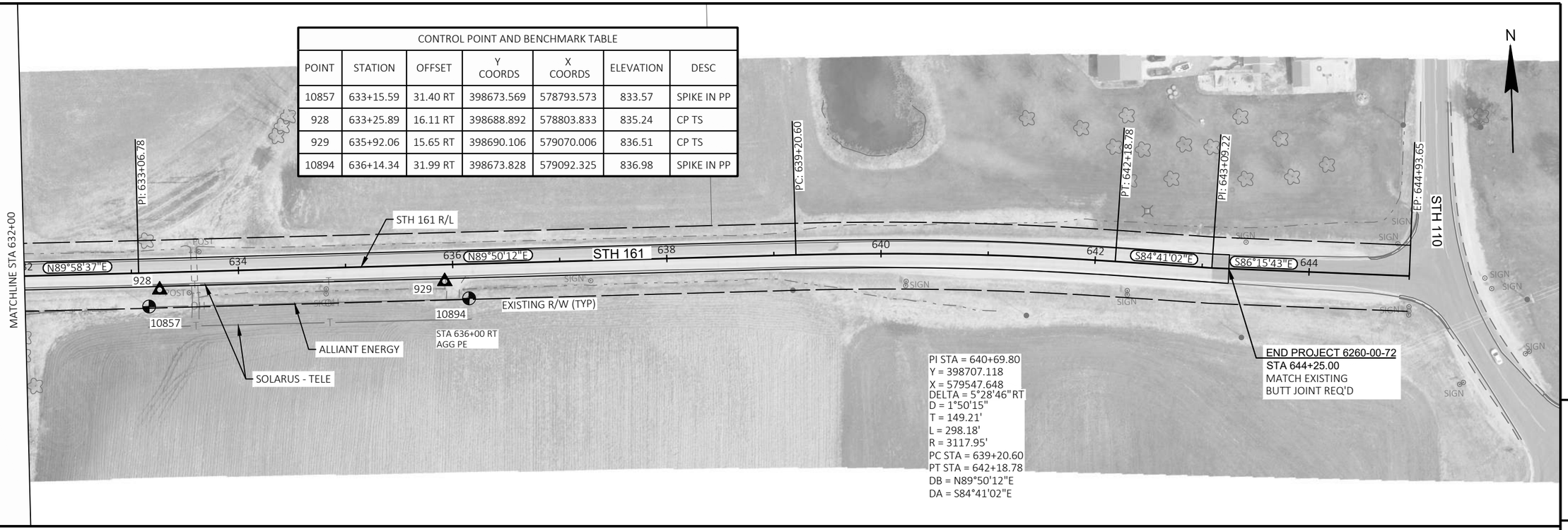
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 95 E |
|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\050201-PN.DWG
LAYOUT NAME - 18

PLOT DATE : 7/22/2026 3:07 PM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 10857 | 633+15.59 | 31.40 RT | 398673.569 | 578793.573 | 833.57 | SPIKE IN PP |
| 928 | 633+25.89 | 16.11 RT | 398688.892 | 578803.833 | 835.24 | CP TS |
| 929 | 635+92.06 | 15.65 RT | 398690.106 | 579070.006 | 836.51 | CP TS |
| 10894 | 636+14.34 | 31.99 RT | 398673.828 | 579092.325 | 836.98 | SPIKE IN PP |

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LEGEND:

X GRUBBING

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | PLAN | SHEET 96 | E |
|---|---|---|---|---|---|

# Standard Detail Drawing List

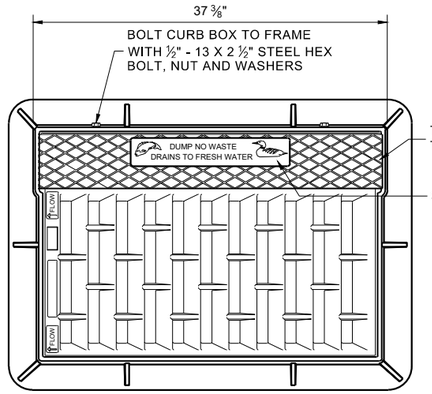
| | |
|---|---|
| 08A05-22A | INLET COVERS TYPE A, H, A-S, H-S AND Z |
| 08B09-04 | MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER |
| 08C06-03 | INLETS 3-FT AND 4-FT DIAMETER |
| 08C07-03 | INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT |
| 08D01-24A | CONCRETE CURB AND GUTTER |
| 08D01-24B | CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS |
| 08D05-23A | CURB RAMPS TYPES 1 AND 1-A |
| 08D05-23B | CURB RAMPS TYPES 2 AND 3 |
| 08D05-23C | CURB RAMPS TYPES 4A AND 4A1 |
| 08D05-23D | CURB RAMPS TYPES 4B AND 4B1 |
| 08D05-23E | CURB RAMPS TYPES 5, 6, 7A, 7B & 8 |
| 08D05-23F | CURB RAMPS RADIAL DETECTABLE WARNING FIELD |
| 08D05-23G | CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES |
| 08E08-03 | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06 | SILT FENCE |
| 08E10-02 | INLET PROTECTION TYPES A, B, C AND D |
| 08E15-01 | CULVERT PIPE CHECK |
| 08F01-11 | APRON ENDWALLS FOR CULVERT PIPE |
| 08F02-01 | APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE |
| 08F04-08 | JOINT TIES FOR CONCRETE PIPE  AND CONCRETE COLLAR DETAIL |
| 08F08-02 | STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS |
| 13A11-04A | CENTERLINE RUMBLE STRIPS - ASPHALT |
| 13A11-04D | CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS |
| 13C19-03 | HMA LONGITUDINAL JOINTS |
| 14B28-04A | GUARDRAIL MOW STRIP |
| 14B28-04B | GUARDRAIL MOW STRIP |
| 14B29-01 | SAFETY EDGE |
| 14B42-07A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-07B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-07C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-07D | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B44-04A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B45-05A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 15A01-13B | FLEXIBLE MARKER POST FOR RIGHT-OF-WAY |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A04-08E | DELINEATOR POST WITH REFLECTIVE SHEETING |
| 15C02-10A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-10B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES |
| 15C02-10C | DETOUR SIGNING FOR MAINLINE CLOSURES |
| 15C02-10F | ADVANCED WIDTH RESTRICTION SIGNING |
| 15C02-10H | MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING |
| 15C03-05 | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES |
| 15C04-05 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C05-05 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C06-12 | SIGNING AND MARKING FOR TWO LANE BRIDGES |
| 15C07-16B | PAVEMENT MARKING WORDS |
| 15C07-16C | PAVEMENT MARKING ARROWS |
| 15C08-24A | PERMANENT LONGITUDINAL PAVEMENT MARKINGS |
| 15C08-24B | TEMPORARY LONGITUDINAL PAVEMENT MARKING |
| 15C08-24C | PAVEMENT MARKING (TURN LANES) |
| 15C11-11B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |
| 15C12-09A | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION |
| 15C12-09B | TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE |
| 15C18-09A | MEDIAN ISLAND PAVEMENT MARKINGS |
| 15C18-09B | PAVEMENT MARKINGS, MEDIAN ISLAND NOSE |
| 15C19-11A | MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY |
| 15C33-05 | STOP LINE AND CROSSWALK PAVEMENT MARKING |
| 15C35-06A | PAVEMENT MARKING (INTERSECTIONS) |
| 15D21-07A | TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE |
| 15D21-07B | TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE |
| 15D28-06 | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED  ROADWAY |

6

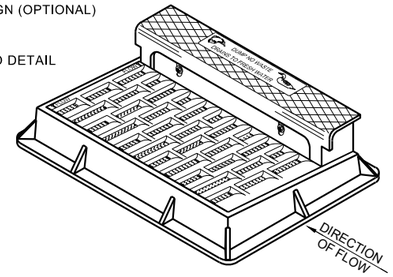
# Standard Detail Drawing List

| | |
|---|---|
| 15D30-12A | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION |
| 15D30-12B | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION |
| 15D30-12C | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION |
| 15D30-12H | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION |
| 15D39-03 | TRAFFIC CONTROL, DROP-OFF SIGNING |
| 15D44-02 | TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES |
| 15D45-03 | TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL |
| 15D50-05B | TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT |
| 15D51-02 | TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY |

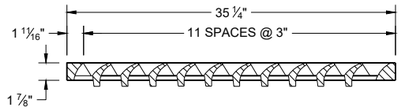

6

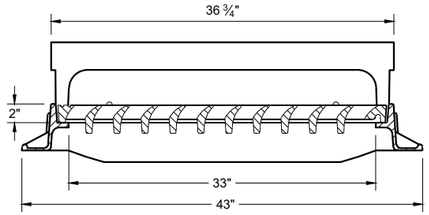


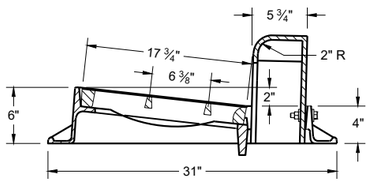

NOTE: EITHER CASTING IS ACCEPTABLE

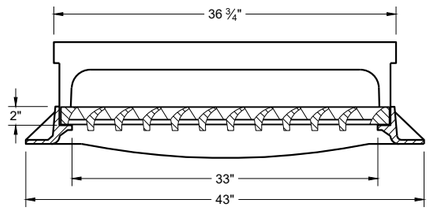


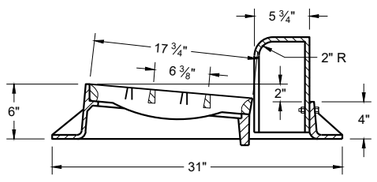

NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"



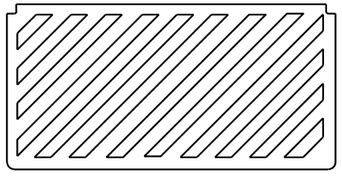




**TYPE "H"**

NOTE: EITHER CASTING IS ACCEPTABLE

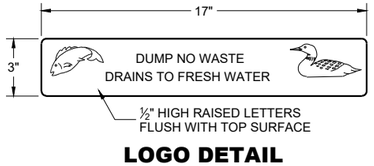
1 1/8" DIAGONAL BARS WITH 1 5/8" OPENINGS



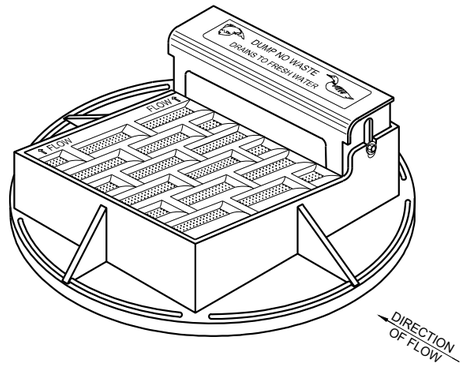
**SPECIAL GRATE FOR TYPE "H" COVER**

(MEASURES 35" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

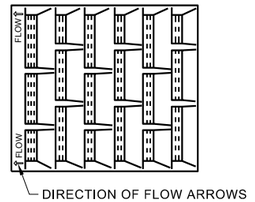


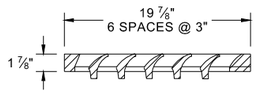

**LOGO DETAIL**

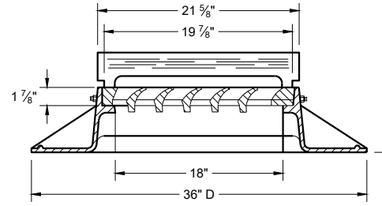


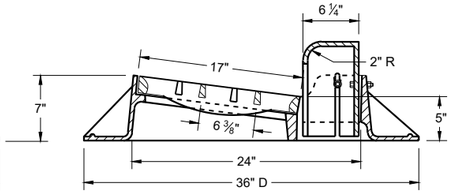

NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

NOTE: EITHER CASTING IS ACCEPTABLE



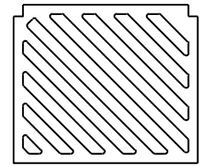




**TYPE "A"**

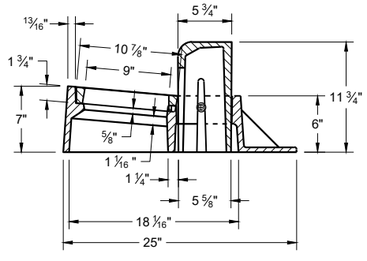
1" DIAGONAL BARS
WITH 1 1/2" OPENINGS

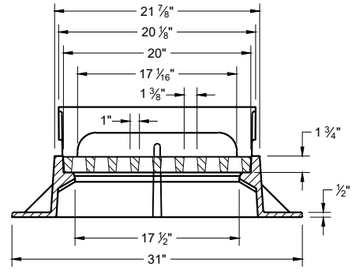


**SPECIAL GRATE FOR TYPE "A" COVER**

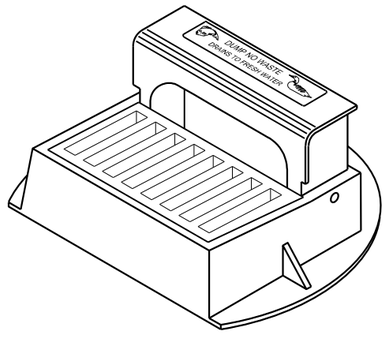
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)




**TYPE "Z"**




## 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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

# INLET COVERS
# TYPES A, H, A-S, H-S AND Z

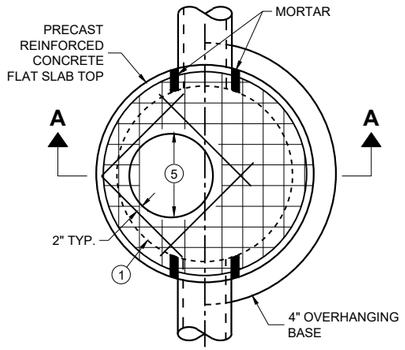
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

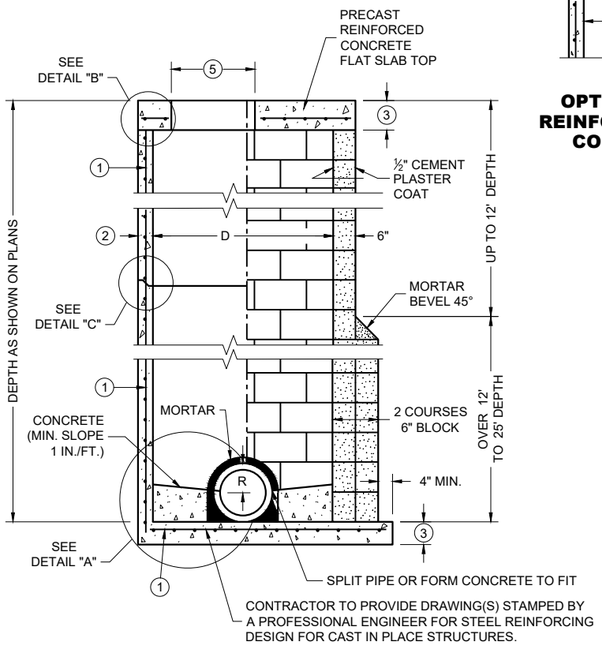
FHWA


6
SDD 08A05-22a




**PLAN VIEW**

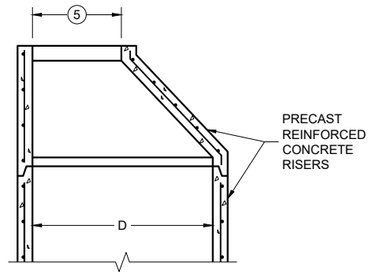
## CIRCULAR OPENING



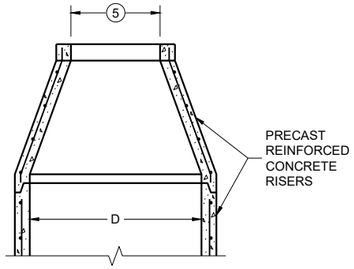

**SECTION A - A**

**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**

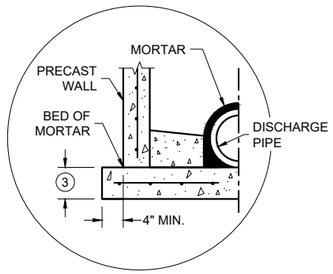
**CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE** (1)



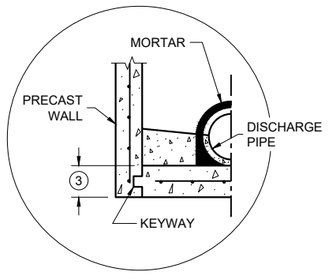

**OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP**




**OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP**

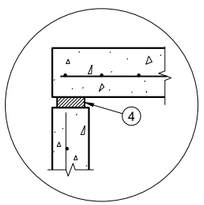



**SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION**

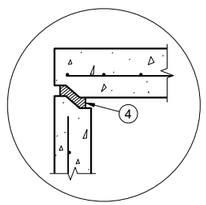



**PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION**

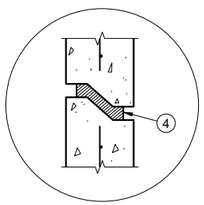
**DETAIL "A"**




**TOP WITH PLAIN END JOINT**




**TOP WITH TONGUE AND GROOVE JOINT**




**RISER WITH TONGUE AND GROOVE JOINT**

**DETAIL "B"** **DETAIL "C"**

## MANHOLE COVER OPENING MATRIX

| OPENING SIZE (FT.) (5) \ MANHOLE COVER TYPE | C | ALL J'S | K | L | M |
|---|---|---|---|---|---|
| 2 DIA. | X | X | | X | |
| 3 DIA. | | | X | | X |

## PIPE MATRIX

| MANHOLE SIZE (DIA.) | MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES | | MINIMUM WALL THICKNESS (IN) | MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS |
|---|---|---|---|---|
| | 180° SEPARATION (IN) | 90° SEPARATION (IN) | | |
| 3-FT | 15 | 12 | 4 | 6 |
| 4-FT | 24 | 18 | 4 | 6 |
| 5-FT | 36 | 24 | 5 | 8 |
| 6-FT | 42 | 36 | 6 | 8 |
| 7-FT | 48 | 36/42 * | 7 | 8 |
| 8-FT | 60 | 42 | 8 | 8 |
| 9-FT | 66 | 54 | 9 | 10 |
| 10-FT | 72 | 60 | 10 | 10 |

*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.

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

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. 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 IMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH 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.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

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

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 "D".

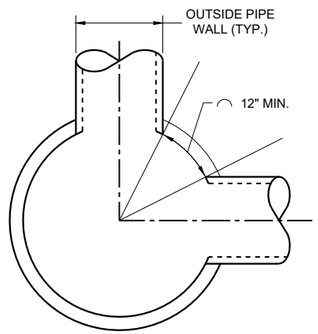
(1) FOR PRECAST MANHOLES AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(2) SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES

(3) SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.

(4) JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.

(5) SEE MANHOLE COVER OPENING MATRIX.




**MINIMUM HORIZONTAL PIPE SEPARATION**

**DETAIL "D"**

**MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER**

**MANHOLES, 3-FT, 4-FT 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 — /S/ Rodney Taylor
DATE — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA



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SDD 08B09-04

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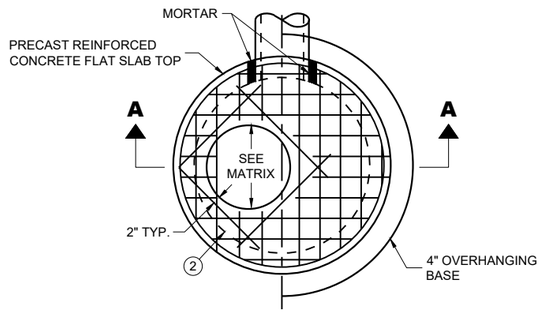
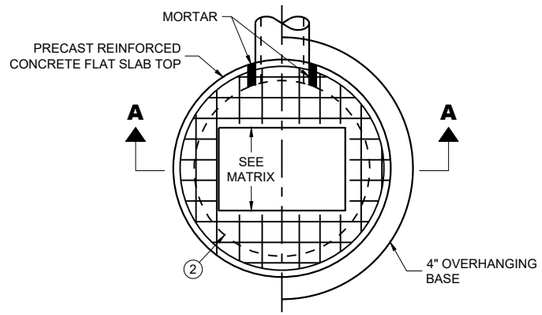
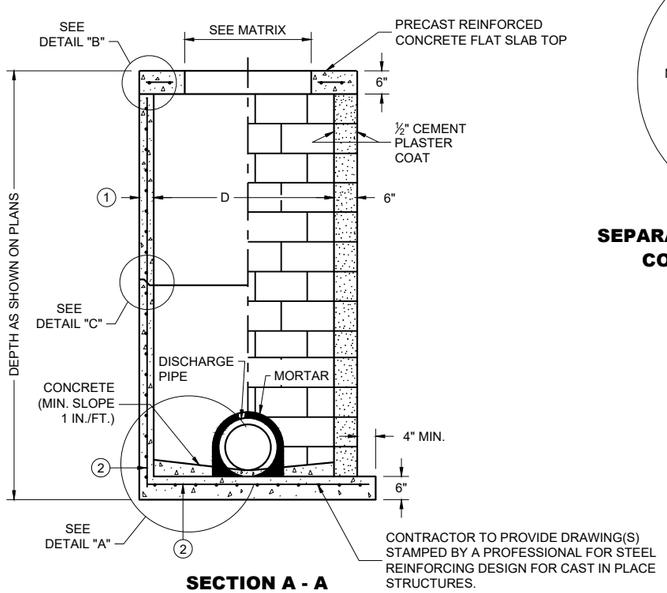
SDD 08B09-04




**PLAN VIEW CIRCULAR OPENING**




**PLAN VIEW RECTANGULAR OPENING**




**SECTION A - A**

**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**

**CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE** (2)

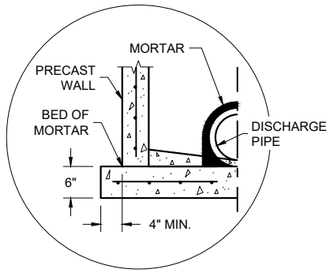
**CIRCULAR INLETS WITH FLAT TOP**

## CATCH BASIN COVER OPENING MATRIX

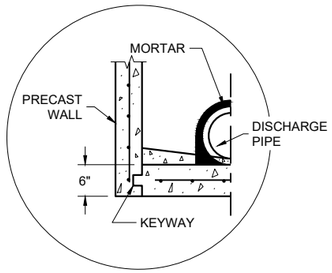
| INLET SIZE | INLET COVER TYPE | ALL A'S | ALL B'S | BW | C | F | ALL H'S | S | T | V V-B | WM | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | OPENING SIZE (FT.) | | | | | | | | | | | |
| 3-FT | 2 DIA. | | | | X | | | | | | | X |
| | 2 X 2 | X | X | | | | | X | | X | | |
| 4-FT | 2 DIA. | | | | X | | | | | | | X |
| | 2 X 2 | X | X | | | | | X | | X | | |
| | 2 X 2.5 | | | X | | | | X | X | X | X | |
| | 2 X 3 | | | | | | X | | | | | |
| | 2.5 X 3 | | | | | X | | | | | | |

## PIPE MATRIX

| INLET SIZE | MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES | |
|---|---|---|
| | 180° SEPARATION (IN) | 90° SEPARATION (IN) |
| 3-FT | 15 | 12 |
| 4-FT | 24 | 18 |

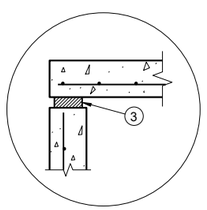



**SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION**

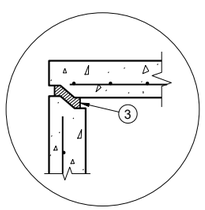



**PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION**

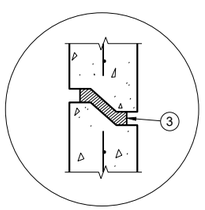
**DETAIL "A"**




**TOP WITH PLAIN END JOINT**




**TOP WITH TONGUE AND GROOVE JOINT**




**RISER WITH TONGUE AND GROOVE JOINT**

**DETAIL "B"** **DETAIL "C"**

## 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 INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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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.

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

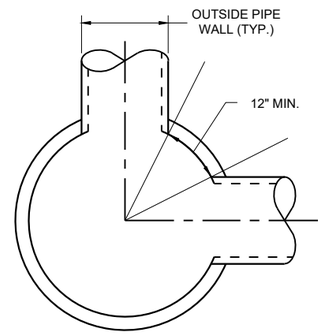
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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 "D".

(1) MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT DIAMETER AND 5 INCHES FOR 4-FT DIAMTER PRECAST INLETS.

(2) FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(3) JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.




**MINIMUM HORIZONTAL PIPE SEPARATION**

**DETAIL "D"**

**INLETS 3-FT AND 4-FT DIAMETER**

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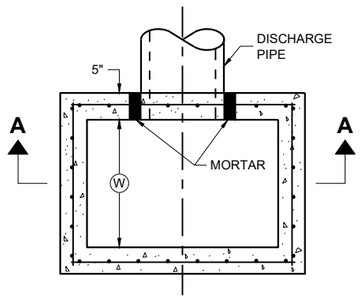
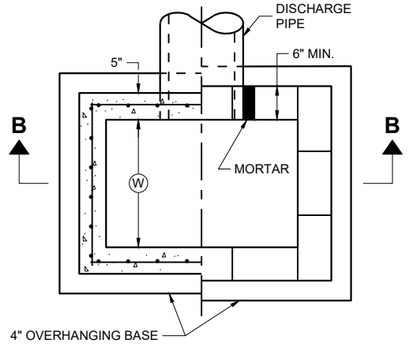
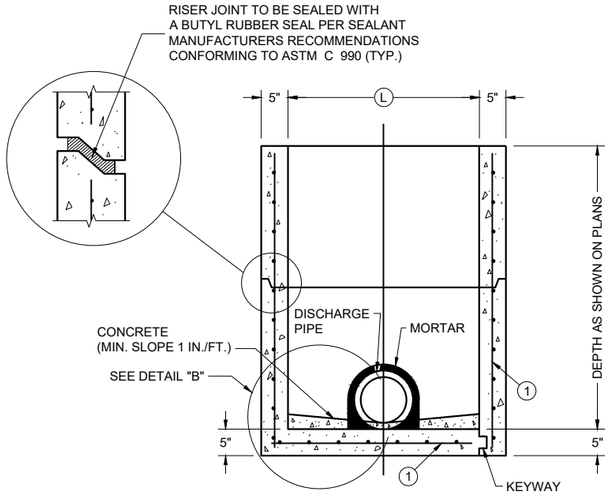



**PLAN VIEW**



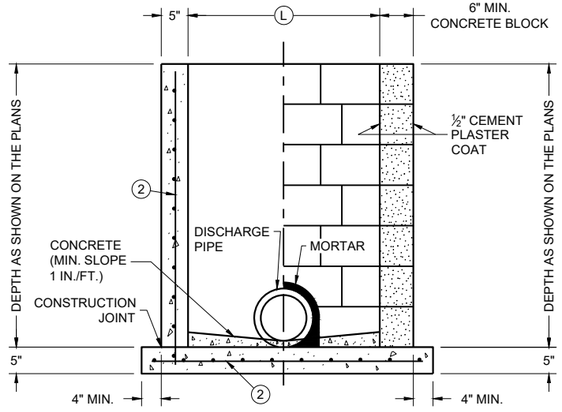

**PLAN VIEW**




**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**

**PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE**

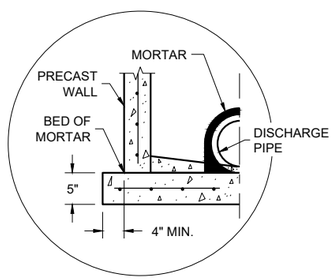
**SECTION A - A**




**CAST IN PLACE REINFORCED CONCRETE**

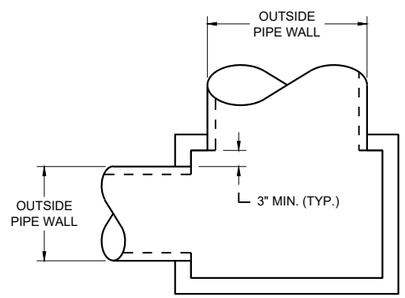
**CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE** (1)

**SECTION B - B**




**SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION**

**DETAIL "B"**




**DETAIL "A"**

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP N0T 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 INLET 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 PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES 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.

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND 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.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

(1) FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913
(2) CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

## CATCH BASIN COVER MATRIX

| INLET SIZE | WIDTH (W) (FT.) | LENGTH (L) (FT.) | INLET COVER TYPE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ALL A'S | ALL B'S | BW | F | ALL H'S | S | T | V | WM | V V-B |
| 2 X 2-FT | 2 | 2 | X | X | | | | X | | | | |
| 2 X 2.5-FT | 2 | 2.5 | | | X | | | X | X | X | X | |
| 2 X 3-FT | 2 | 3 | | | | | X | | | | | |
| 2.5 X 3-FT | 2.5 | 3 | | | | X | | | | | | |
| 2 X 3.5-FT | 2 | 3.5 | | | | | | | | | | X |

## PIPE MATRIX

| CATCH BASIN SIZE | MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES | |
|---|---|---|
| | WIDTH (IN) | LENGTH (IN) |
| 2 X 2-FT | 12 | 12 |
| 2 X 2.5-FT | 12 | 18 |
| 2 X 3-FT | 12 | 24 |
| 2.5 X 3-FT | 18 | 24 |
| 2 X 3.5-FT | 12 | 30 |

**INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-FT**

**INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2 X 3.5-FT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA





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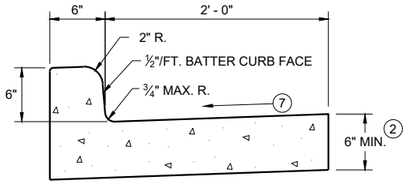
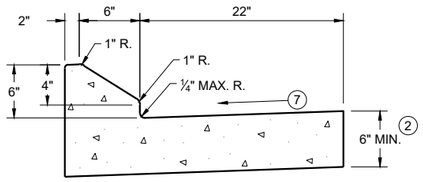
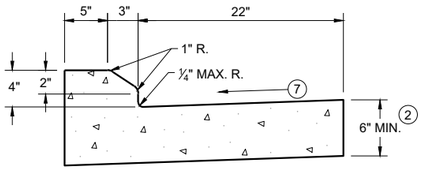
SDD 08C07-03



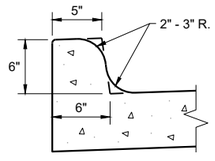

**TYPES A (1) & D**



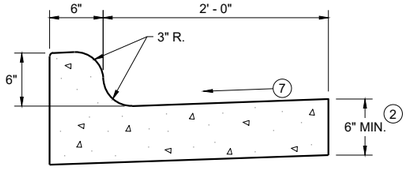

**6" SLOPED CURB TYPES G (1) & J**




**4" SLOPED CURB TYPES G (1) & J**

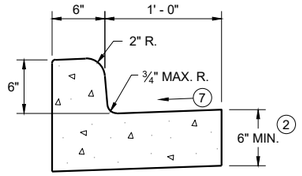



**TYPES K (1) & L**
(OPTIONAL CURB SHAPE)



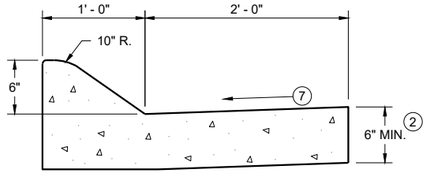

**TYPES K (1) & L**

**CONCRETE CURB AND GUTTER 30"**

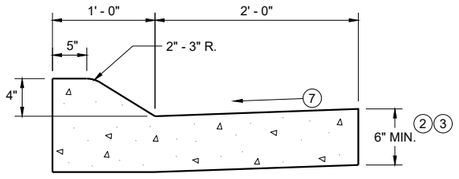



**TYPES A (1) & D**

**CONCRETE CURB AND GUTTER 18"**

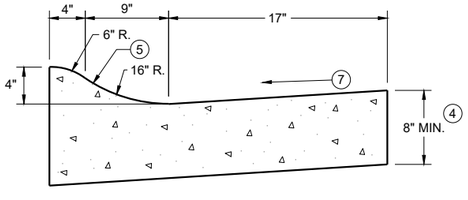



**6" SLOPED CURB TYPES A (1) & D**



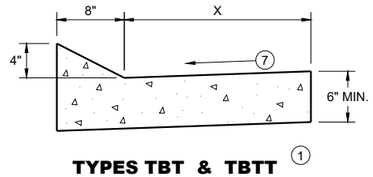

**4" SLOPED CURB TYPES A (1) & D**

**CONCRETE CURB AND GUTTER 36"**




**4" SLOPED CURB TYPES R (1) & T**
**CONCRETE CURB AND GUTTER 30"**

| TBT & TBTT | X |
|---|---|
| 30" | 22" |
| 36" | 28" |

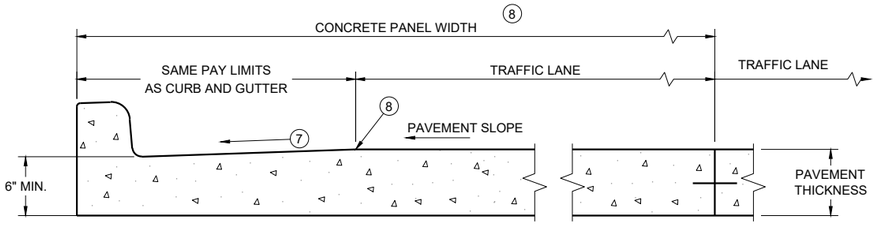



**TYPES TBT & TBTT (1)**

**CONCRETE CURB AND GUTTER**

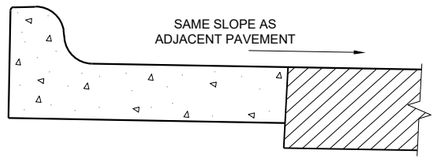
**PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE**

| PAVEMENT THICKNESS | MAXIMUM PANEL WIDTH |
|---|---|
| LESS THAN 10" | 12' |
| 10" & ABOVE | 15' |




**PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER ***

* BIKE LANE IS NOT SHOWN




**REVERSE SLOPE GUTTER (6)**
(TYPICAL FOR ALL CURB & GUTTER TYPES)

## GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

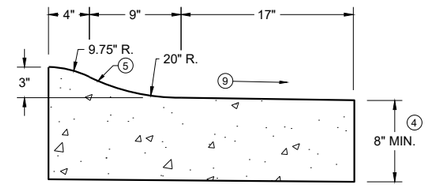
(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

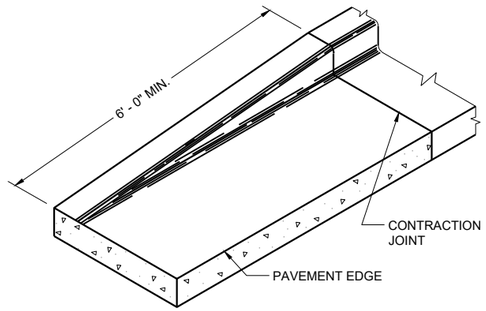
(9) SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY



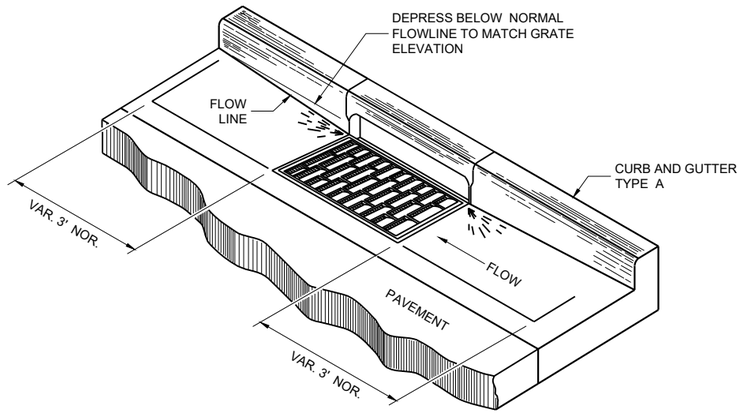

**3" SLOPED CURB TYPES R (1) & T**

**CONCRETE CURB AND GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




## END SECTION CURB AND GUTTER




## DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

## GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

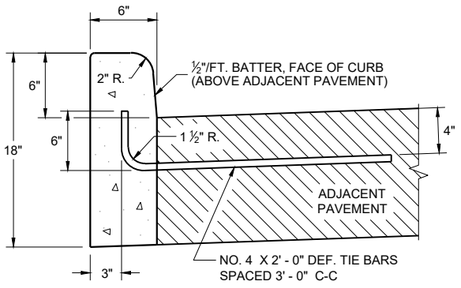
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

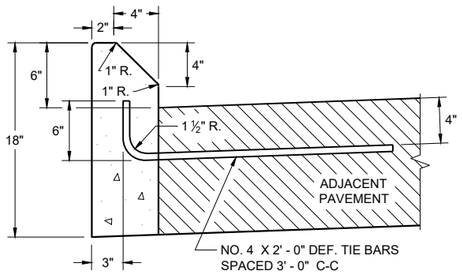
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

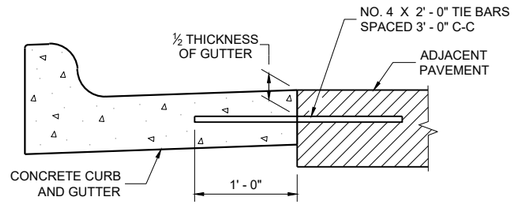



TYPES A (1) & D

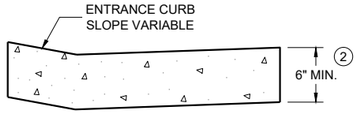



TYPES G (1) & J

## CONCRETE CURB

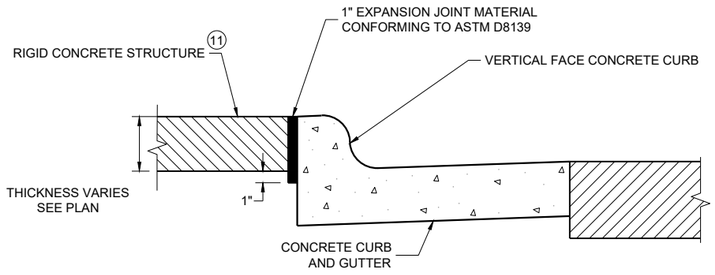



## TYPICAL TIE BAR LOCATION (1)

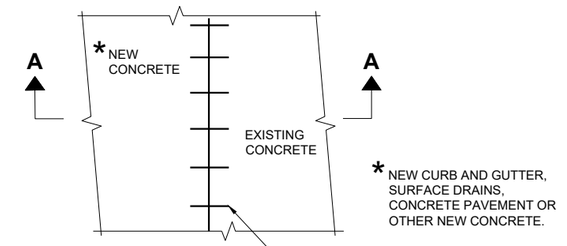



## DRIVEWAY ENTRANCE CURB (10)

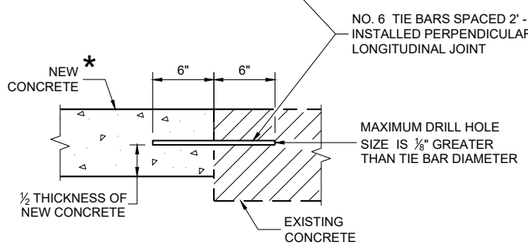
(WHEN DIRECTED BY THE ENGINEER)




## EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)




PLAN VIEW




SECTION A - A

## TIE BARS DRILLED INTO EXISTING PAVEMENT

**CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA



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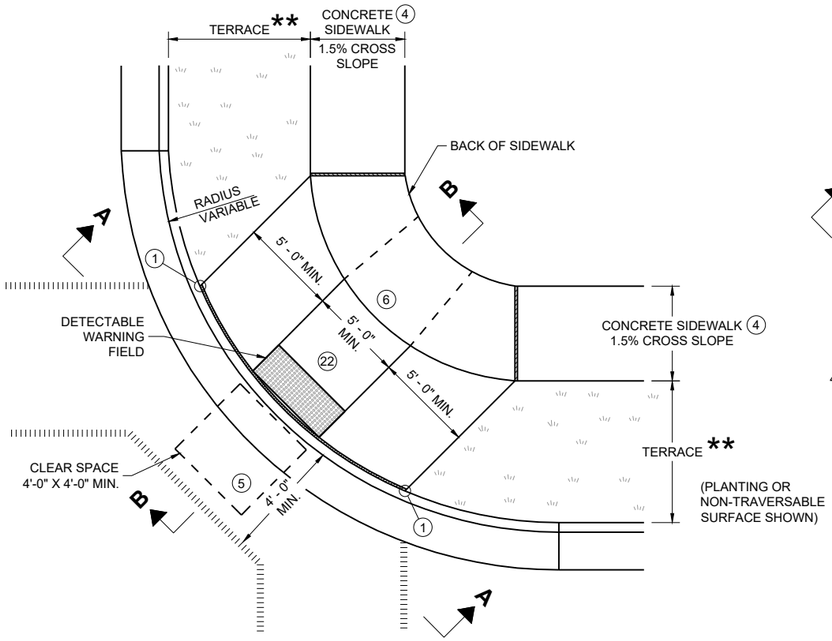
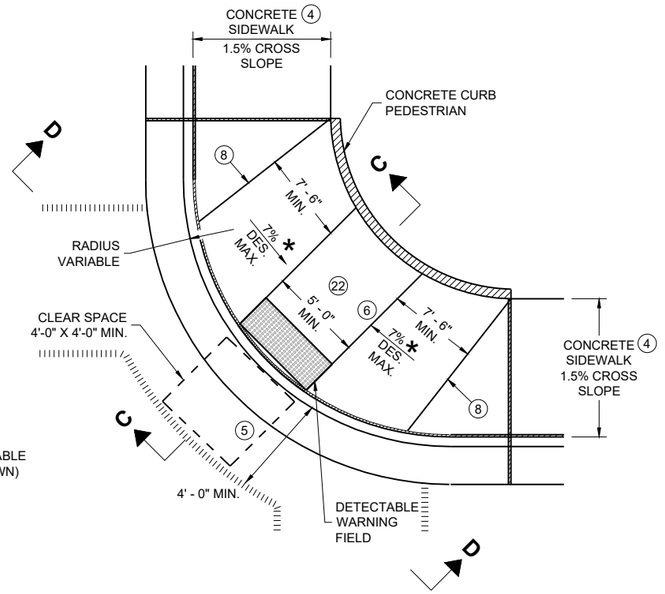
SDD 08D01-24b




**PLAN VIEW**

## CURB RAMP TYPE 1

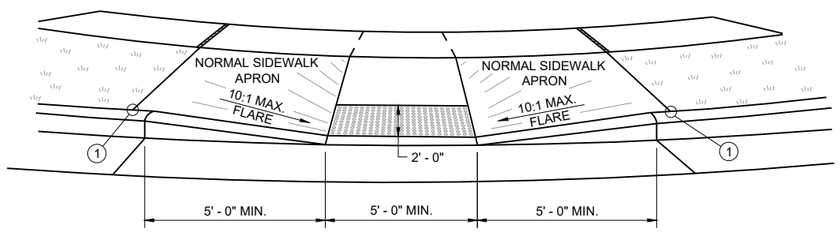
**(CENTER OF CORNER RADIUS)**



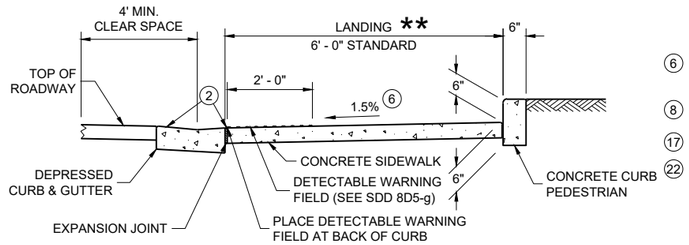

**PLAN VIEW**

## CURB RAMP TYPE 1 - A

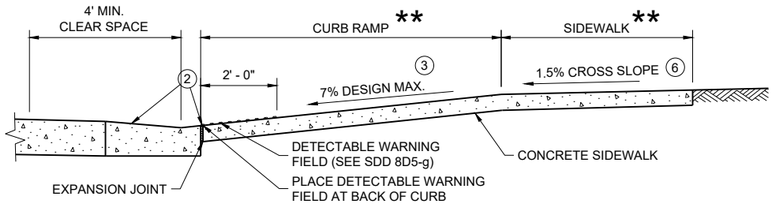
**(NO TERRACE)**



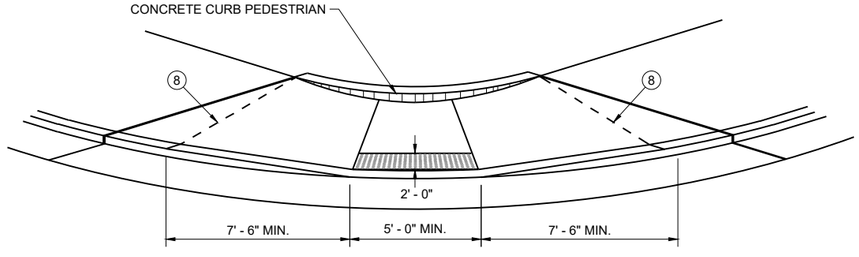

**VIEW A - A FOR TYPE 1**




**SECTION C - C FOR TYPE 1 - A**




**SECTION B - B FOR TYPE 1**




**VIEW D - D FOR TYPE 1 - A**

## GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE CURB RAMP.

TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF CURB RAMP.

DETECTABLE WARNING FILED SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD"

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE CURB RAMP.

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(2) GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(5) PROVIDE A CLEAR SPACE IN THE STREET AND GUTTER AREA. WHEN THE GUTTER CROSS SLOPE EXCEEDS 2.1%, CONSTRUCT THE CLEAR SPACE IN THE STREET AREA AND THE 4 FOOT WIDTH IS MEASURED FROM THE FLANGE LINE. FOR RECONSTRUCTION AND MODERNIZATION PROJECTS THE CLEAR SPACE SLOPE PARALLEL TO THE CURBLINE SHOULD BE 2.1% MAX FOR CROSSINGS THAT ARE STOP AND YIELD CONTROLLED, AND 5% MAX FOR THOSE THAT ARE SIGNAL CONTROLLED. FOR PERPETUATION AND REHABILITATION PROJECTS THE SLOPE OF THE CLEAR SPACE PARALLEL TO THE CURBLINE WILL MATCH THE ROADWAY LONGITUDINAL SLOPE. THE SLOPE OF THE CLEAR SPACE PERPENDICULAR TO THE CURBLINE WILL MATCH THE ROADWAY CROSS SLOPE BUT SHOULD NOT EXCEED 5% UNLESS THE ROADWAY IS SUPERELEVATED (WHEN SUPERELEVATED THE ROADWAY CROSS SLOPE SHOULD MATCH THE SUPERELEVATION).

(6) PROVIDE A 5 FOOT BY 5 FOOT LANDING. SLOPE PERPENDICULAR TO CURB SHALL BE 2.1% MAXIMUM. SLOPE PARALLEL TO CURB SHALL MATCH THE CURB AND GUTTER LONGITUDINAL SLOPE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(17) A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.

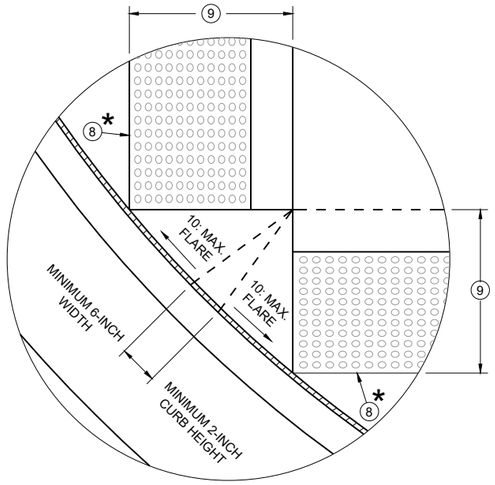
(22) THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.

## LEGEND

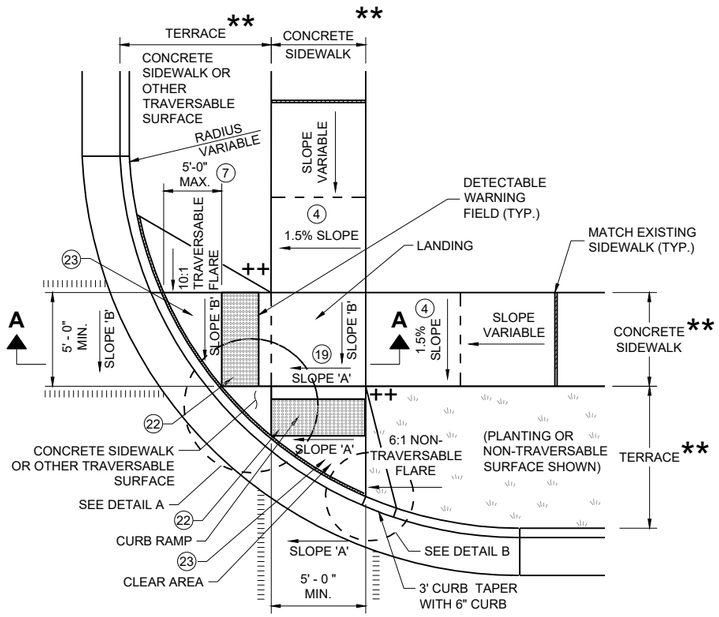
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- * MAXIMUM 8.3%
- ** WIDTH SHOWN ELSEWHERE IN THE PLANS

**CURB RAMPS TYPE 1 AND 1-A**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



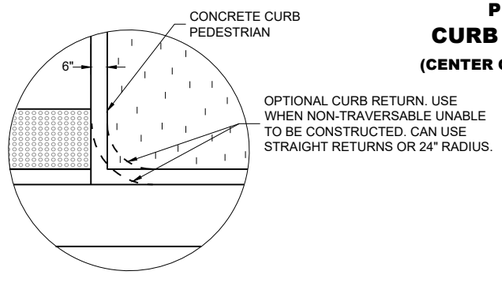

**DETAIL A**



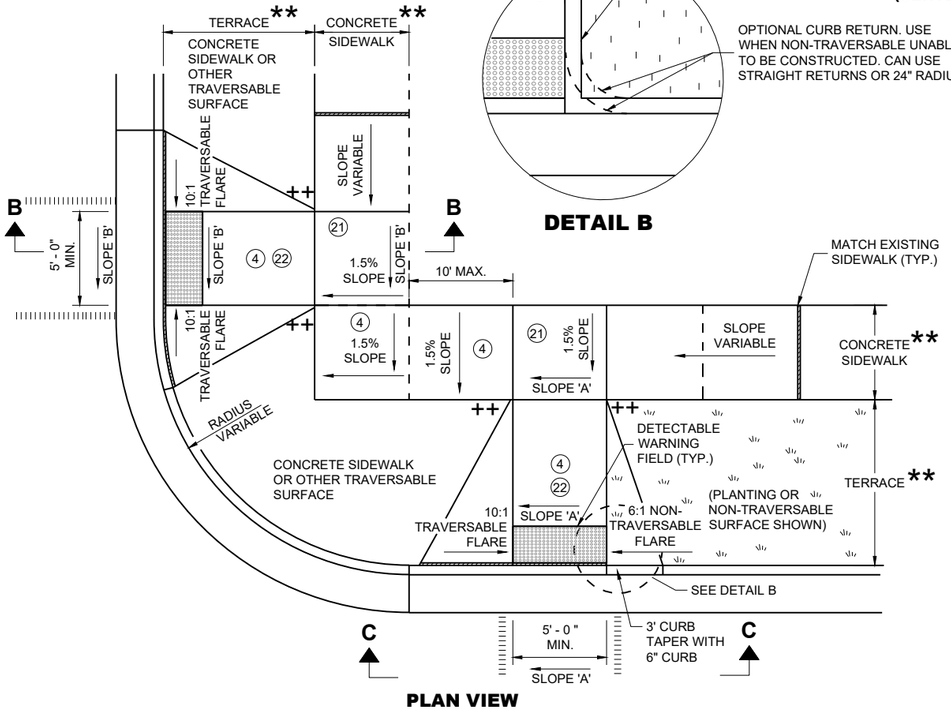

**PLAN VIEW**

## CURB RAMP TYPE 2

**(CENTER OF CORNER RADIUS)**




**DETAIL B**




**PLAN VIEW**

## CURB RAMP TYPE 3

**(OUTSIDE OF CROSSWALK AREA)**

## GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(7) WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(9) WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% DESIGN MAXIMUM SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% DESIGN MAXIMUM SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

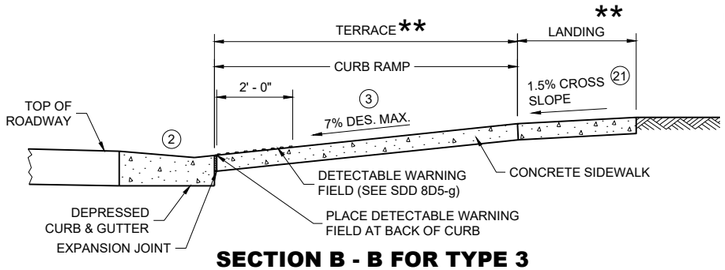
(17) A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.

(19) WHERE A LANDING SERVES TWO CURB RAMPS, THE LANDING SLOPE SHALL NOT EXCEED THE CROSS SLOPE AT THE BOTTOM OF THE RAMP OR WITHIN THE CROSSWALK PARALLEL TO THE DIRECTION OF TRAVEL.

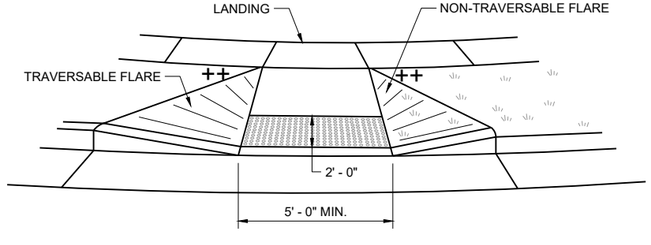
(21) PROVIDE A LANDING WITH A SLOPE PARALLEL TO ROADWAY THAT MATCHES SLOPE AT THE BOTTOM OF THE ADJACENT RAMP. SLOPE PERPENDICULAR TO ROADWAY SHALL BE 2.1% MAXIMUM. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.

(22) THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.

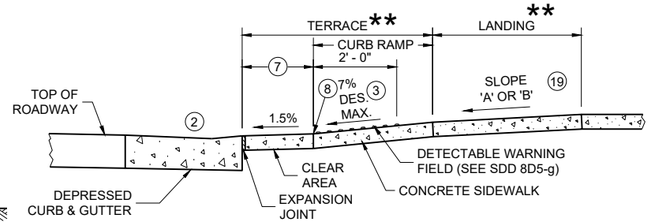
(23) THE CLEAR AREA BETWEEN THE BOTTOM OF RAMP AND BACK OF CURB SHALL BE SLOPED SO THAT WATER DRAINS OUT OF ONE SIDE OR BOTH SIDES OF THE CURB OPENING.




**SECTION B - B FOR TYPE 3**




**VIEW C - C FOR TYPE 3**



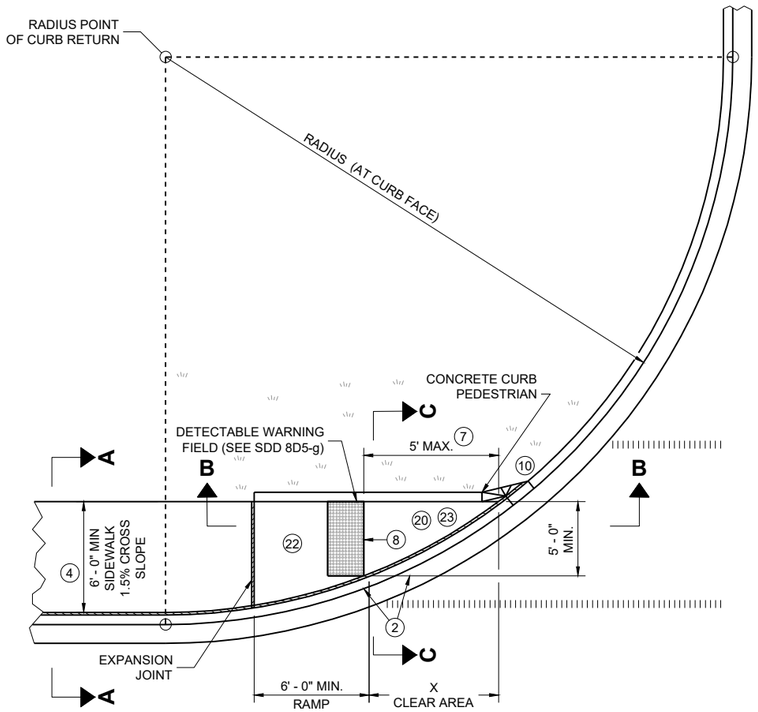

**SECTION A - A FOR TYPE 2**

### LEGEND

| | |
|---|---|
| ▨ | ½" EXPANSION JOINT SIDEWALK |
| – – – – | CONTRACTION JOINT SIDEWALK |
| ▥ | PAVEMENT MARKING CROSSWALK (WHITE) |
| * | MAXIMUM 2.1% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK |
| ** | WIDTH SHOWN ELSEWHERE IN THE PLANS |
| ++ | CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE |

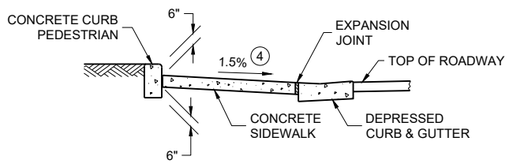
**CURB RAMPS TYPE 2 AND 3**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

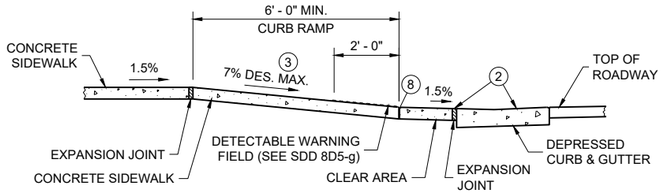



**PLAN VIEW**

**CURB RAMP TYPE 4A**




**SECTION C - C FOR TYPE 4A**



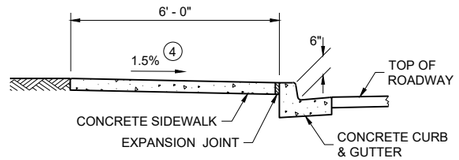

**SECTION B - B FOR TYPE 4A AND TYPE 4A1**

## LEGEND

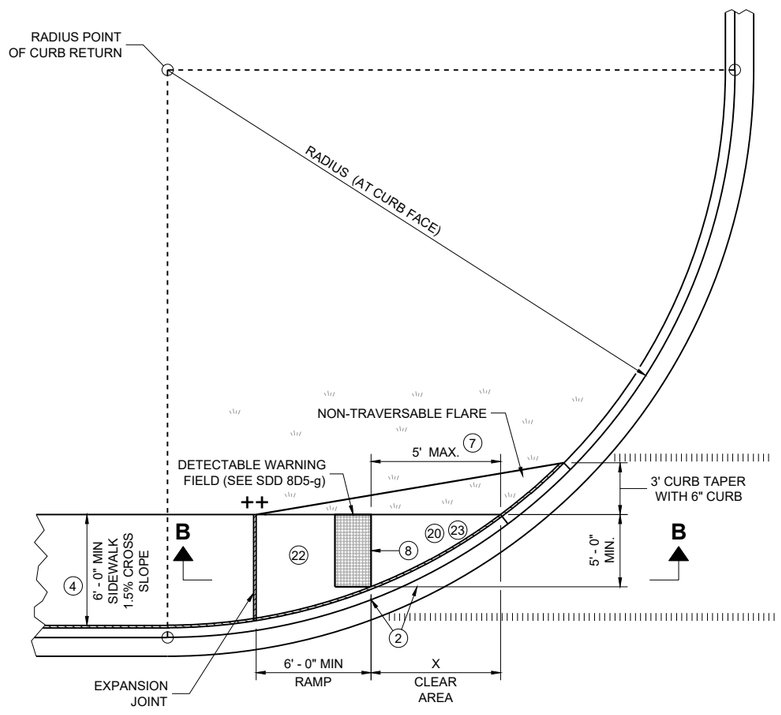
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)
- ++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

| RADIUS (AT CURB FACE) | X |
|---|---|
| 10 FEET | 4' - 7" |

INTERMEDIATE RADII CAN BE INTERPOLATED




**SECTION A - A FOR TYPE 4A**




**PLAN VIEW**

**CURB RAMP TYPE 4A1**

## GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

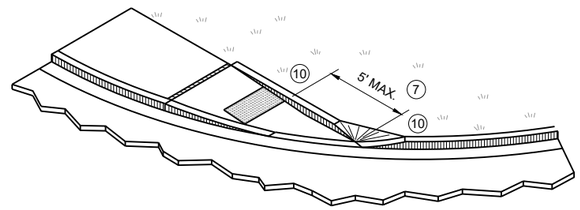
(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

(17) A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.

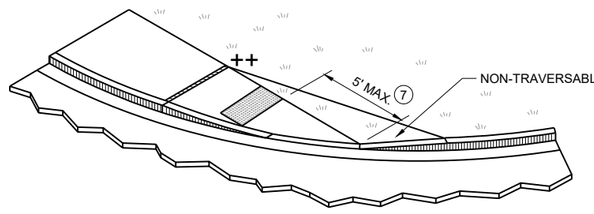
(20) MAXIMUM 1.5% DESIGN MAXIMUM AND 2.1% PROWAG MAXIMUM RUNNING SLOPE ON CLEAR AREA. CROSS SLOPE OF CLEAR AREA SHALL MATCH THE CROSS SLOPE OF THE ADJACENT CROSSWALK.

(22) THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.

(23) THE CLEAR AREA BETWEEN THE BOTTOM OF RAMP AND BACK OF CURB SHALL BE SLOPED SO THAT WATER DRAINS OUT OF ONE SIDE OR BOTH SIDES OF THE CURB OPENING.



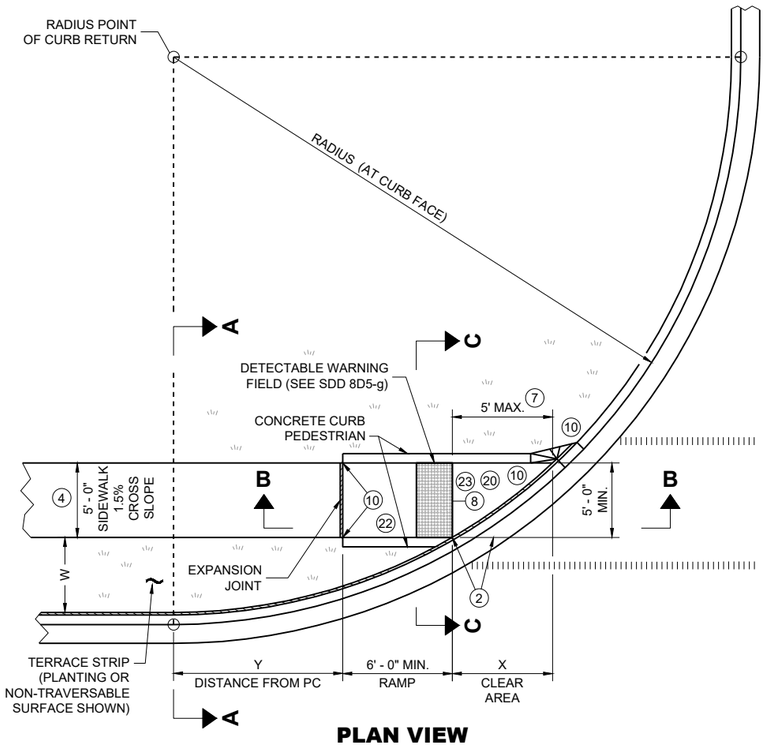

**ISOMETRIC VIEW FOR TYPE 4A**




**ISOMETRIC VIEW FOR TYPE 4A1**

**CURB RAMPS**
**TYPE 4A AND 4A1**

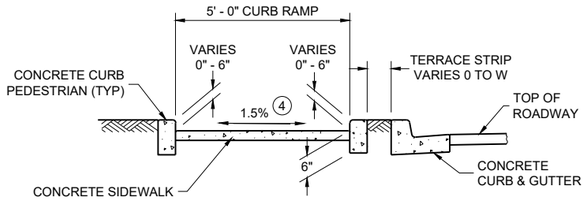
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




**PLAN VIEW**
**CURB RAMP TYPE 4B**

| RADIUS (AT CURB FACE) | W = 3' - 0" | | W = 4' - 0" | | W = 5' - 0" | | W = 6' - 0" | | W = 7' - 0" | | W = 8' - 0" | | W = 9' - 0" | | W = 10' - 0" | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | Y | X | Y | X | Y | X | Y | X | Y | X | Y | X | Y | X | Y |
| 10 FEET | 2' - 10 ¼" | 0' - 5" | 2' - 1" | 1' - 4 ½" | 1' - 5" | 2' - 1" | 0' - 10" | 2' - 7 ½" | 0' - 3 ¼" | 3' - 0 ¼" | | | | | | |
| 15 FEET | 4' - 6 ¾" | 2' - 1 ¾" | 3' - 9" | 3' - 5 ¾" | 3' - 1 ¼" | 4' - 6" | 2' - 6 ¾" | 5' - 4 ½" | 2' - 1" | 6' - 1" | 1' - 8" | 6' - 8 ½" | 1' - 3 ¼" | 7' - 2 ½" | 0' - 10 ¾" | 7' - 7 ¼" |
| 20 FEET | | | 4' - 11 ½" | 5' - 1 ¾" | 4' - 3 ¼" | 6' - 5 ½" | 3' - 8 ¾" | 7' - 7" | 3' - 3" | 8' - 6 ½" | 2' - 10" | 9' - 4 ½" | 2' - 5 ½" | 10' - 1 ¼" | 2' - 1 ¼" | 10' - 9" |
| 30 FEET | | | | | | | | | 4' - 10 ¾" | 12' - 5 ¾" | 4' - 5 ½" | 13' - 7 ¾" | 4' - 0 ¾" | 14' - 8 ½" | 3' - 8 ½" | 15' - 8 ¼" |
| 40 FEET | | | | | | | | | | | | | | | 4' - 10 ¾" | 19' - 8 ¼" |

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH




**SECTION C - C FOR TYPE 4B**

## LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)
- * MAXIMUM 2.1% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK
- ++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

## GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

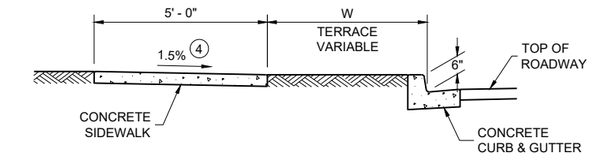
(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

(17) A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.

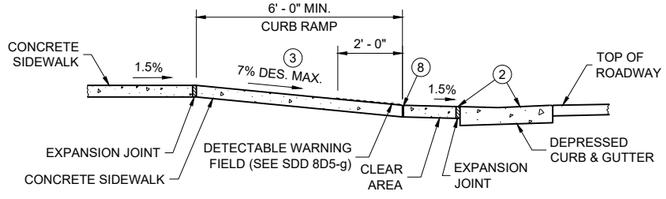
(20) MAXIMUM 1.5% DESIGN MAXIMUM AND 2.1% PROWAG MAXIMUM RUNNING SLOPE ON CLEAR AREA. CROSS SLOPE OF CLEAR AREA SHALL MATCH THE CROSS SLOPE OF THE ADJACENT CROSSWALK.

(22) THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.

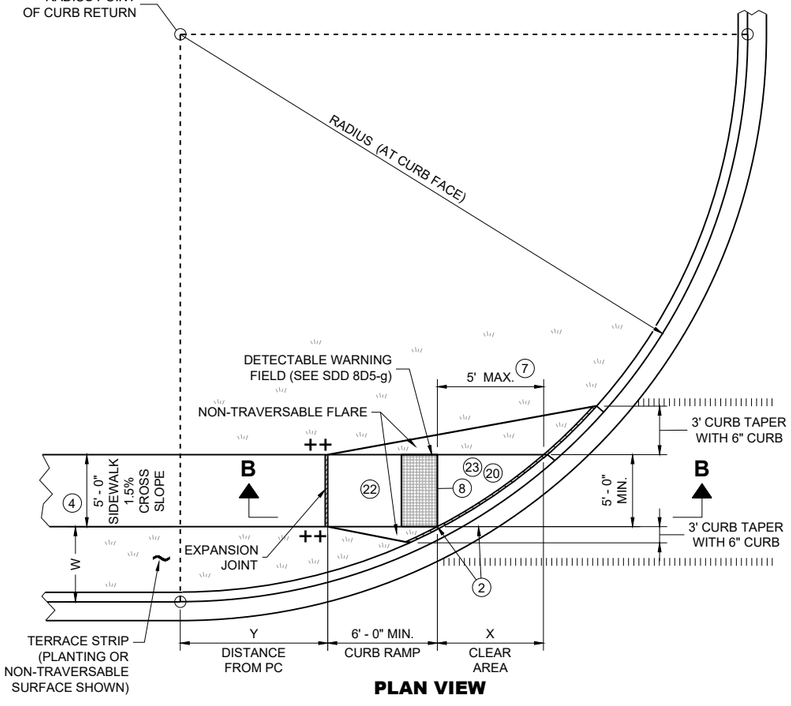
(23) THE CLEAR AREA BETWEEN THE BOTTOM OF RAMP AND BACK OF CURB SHALL BE SLOPED SO THAT WATER DRAINS OUT OF ONE SIDE OR BOTH SIDES OF THE CURB OPENING.



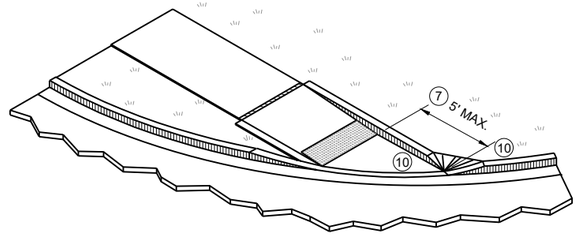

**SECTION A - A FOR TYPE 4B**



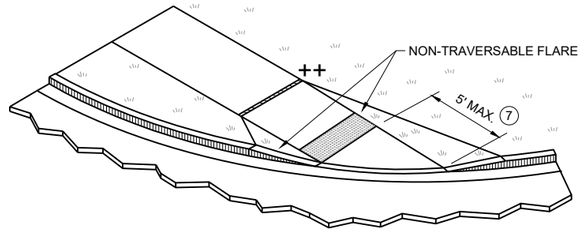

**SECTION B - B FOR TYPE 4B AND TYPE 4B1**




**PLAN VIEW**
**CURB RAMP TYPE 4B1**



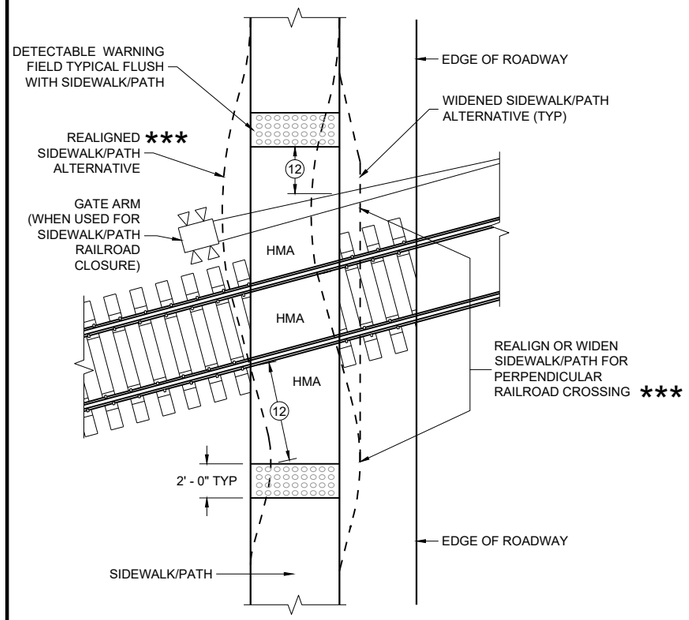

**ISOMETRIC VIEW FOR TYPE 4B**




**ISOMETRIC VIEW FOR TYPE 4B1**

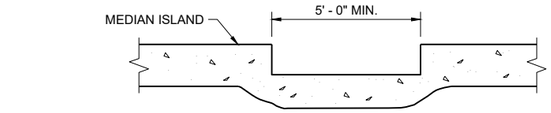
**CURB RAMPS**
**TYPE 4B AND 4B1**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

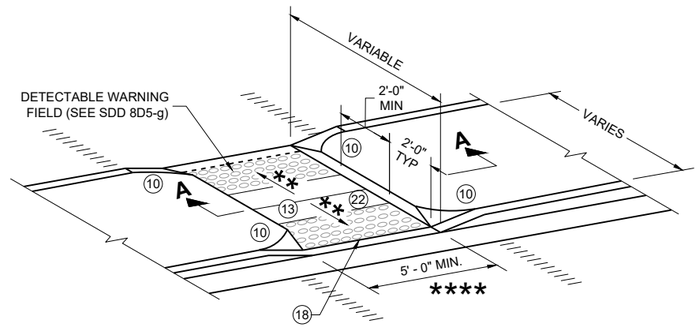



## CURB RAMP TYPE 8

### DETECTABLE WARNINGS FOR SIDEWALKS OR SHARED USE PATHS AT RAILROAD CROSSINGS




### SECTION A - A FOR TYPE 5




## CURB RAMP TYPE 5

### MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING

## GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

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.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A 5 FOOT BY 5 FOOT LANDING. SLOPE PERPENDICULAR TO CURB SHALL BE 2.1% MAXIMUM. SLOPE PARALLEL TO CURB SHALL MATCH THE CURB AND GUTTER LONGITUDINAL SLOPE.

(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

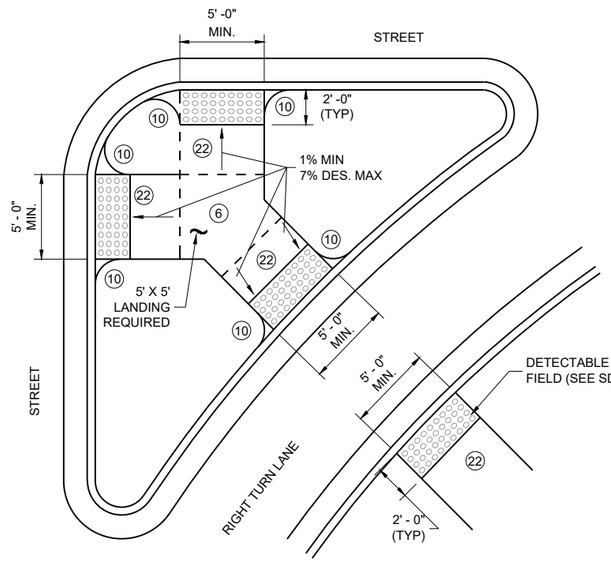
(12) THE DOWNSTREAM EDGE OF THE DETECTABLE WARNING SHOULD BE LOCATED AT LEAST 2 FEET UPSTREAM FROM THE AUTOMATIC GATE, COUNTERWEIGHT, FLASHING-LIGHT SIGNALS, OR CROSSBUCK ASSEMBLY SPECIFIC TO THE PATHWAY OR SIDEWALK (IF ANY ARE PRESENT) AND AT LEAST 12 FEET FROM THE NEAREST RAIL.

(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

(17) A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.

(18) WHEN THE DISTANCE BETWEEN THE BACK OF CURBS IS LESS THAN 6 FEET BUT THE FACE OF CURB TO FACE OF CURB DISTANCE IS 6 FEET OR GREATER THEN THE DETECTABLE WARNING FIELDS MAY BE MOVED SO THAT THE EDGE OF THE WARNING FIELD IS PLACED AT THE GUTTER FLOWLINE. MAINTAIN A MINIMUM OF TWO FEET BETWEEN DETECTABLE WARNING FIELD PANELS.

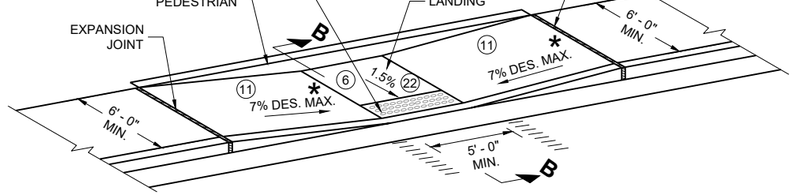
(22) THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.




## CURB RAMP TYPE 6

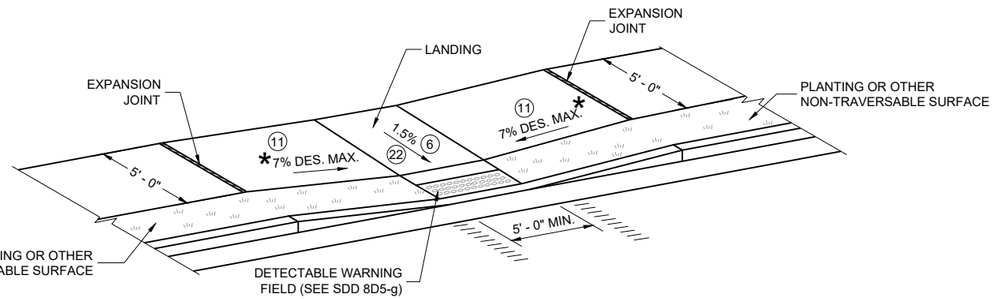
### DETECTABLE WARNING AT ISLANDS

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS




## CURB RAMP TYPE 7A

### FOR INTERSECTIONS AND MID BLOCK CROSSINGS

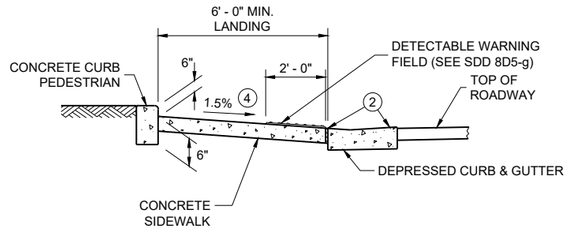



## CURB RAMP TYPE 7B

### FOR INTERSECTIONS AND MID BLOCK CROSSINGS

## LEGEND

| | |
|---|---|
| ═══ | ½" EXPANSION JOINT SIDEWALK |
| – – – – | CONTRACTION JOINT FIELD LOCATED |
| ıı ıı ıı ıı | PAVEMENT MARKING CROSSWALK (WHITE) |
| * | MAXIMUM 8.3% |
| ** | 1% MINIMUM (PROVIDE DRAINAGE) |
| *** | DETAILS TO BE DETERMINED BY ENGINEER |
| **** | FOR SHARED USE PATHS, WIDTH MUST BE AS WIDE AS THE CROSSWALK |

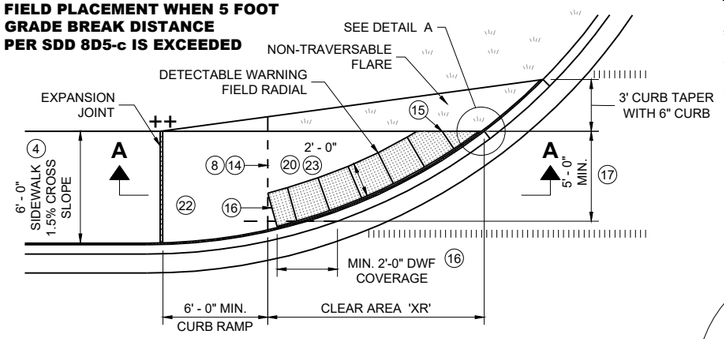



### SECTION B - B FOR TYPE 7A

**CURB RAMPS**
**TYPE 5, 6, 7A, 7B & 8**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

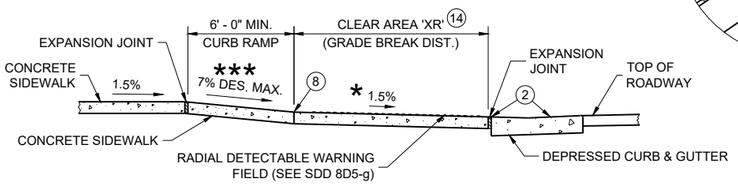
**RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-c IS EXCEEDED**




**PLAN VIEW**

## CURB RAMP TYPE 4A1

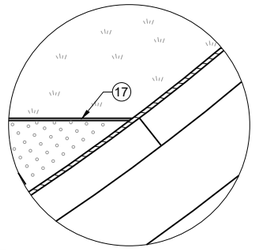
## (GRADE BREAK DISTANCE GREATER THAN 5 FEET)




**SECTION A - A FOR TYPE 4A1**

## LEGEND

| | |
|---|---|
| ═══ | ½" EXPANSION JOINT SIDEWALK |
| – – – – | CONTRACTION JOINT SIDEWALK |
| ıı ıı ıı ıı | PAVEMENT MARKING CROSSWALK (WHITE) |
| ** | WIDTH SHOWN ELSEWHERE IN THE PLANS |
| *** | MAXIMUM 8.3% |
| ++ | CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE |




**DETAIL A**

## GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AD ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A 5 FOOT BY 5 FOOT LANDING. SLOPE PERPENDICULAR TO CURB SHALL BE 2.1% MAXIMUM. SLOPE PARALLEL TO CURB SHALL MATCH THE CURB AND GUTTER LONGITUDINAL SLOPE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

(17) A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.

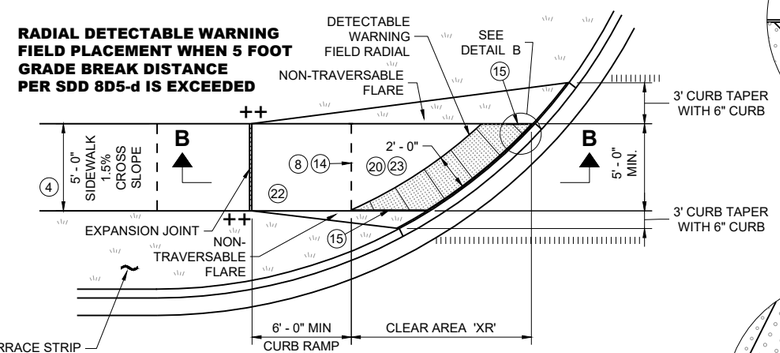
(19) WHERE A LANDING SERVES TWO CURB RAMPS, THE LANDING SLOPE SHALL NOT EXCEED THE CROSS SLOPE AT THE BOTTOM OF THE RAMP OR WITHIN THE CROSSWALK PARALLEL TO THE DIRECTION OF TRAVEL.

(20) MAXIMUM 1.5% DESIGN MAXIMUM AND 2.1% PROWAG MAXIMUM RUNNING SLOPE ON CLEAR AREA. CROSS SLOPE OF CLEAR AREA SHALL MATCH THE CROSS SLOPE OF THE ADJACENT CROSSWALK.

(22) THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.

(23) THE CLEAR AREA BETWEEN THE BOTTOM OF RAMP AND BACK OF CURB SHALL BE SLOPED SO THAT WATER DRAINS OUT OF ONE SIDE OR BOTH SIDES OF THE CURB OPENING.

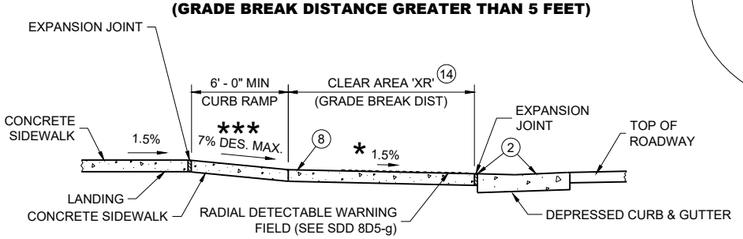
**RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-d IS EXCEEDED**



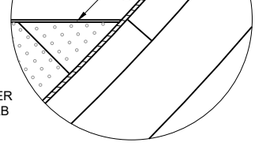

**PLAN VIEW**

## CURB RAMP TYPE 4B1

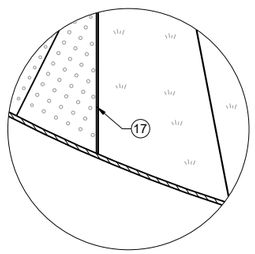
**(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**




**SECTION B - B FOR TYPE 4B1**

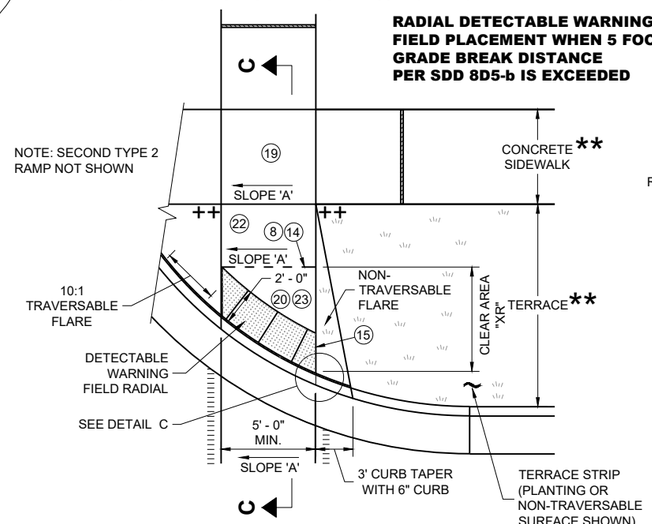



**DETAIL B**




**DETAIL C**

**RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-b IS EXCEEDED**

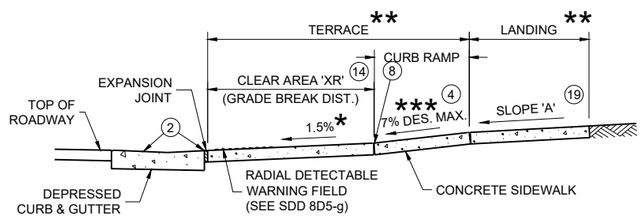



**PLAN VIEW**

## CURB RAMP TYPE 2

**(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**

**(ON LINE WITH SIDEWALK)**



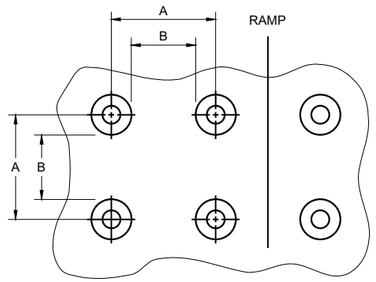

**SECTION C - C FOR TYPE 2**

**CURB RAMPS**
**RADIAL DETECTABLE WARNING**

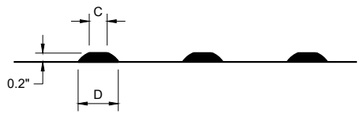
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

| | MIN. | MAX. |
|---|---|---|
| **A** | 1.6" | 2.4" |
| **B** | 0.65" | 1.5" |
| **C** | * | * |
| **D** | 0.9" | 1.4" |

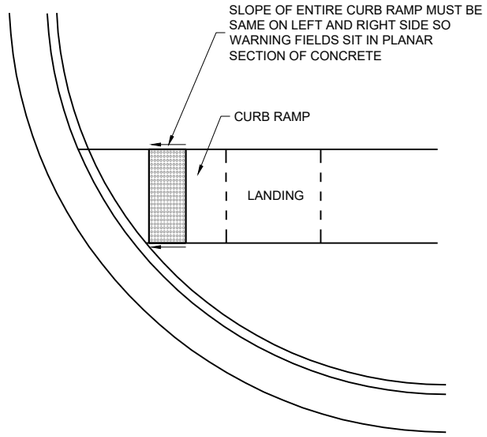
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.




**PLAN VIEW**




**ELEVATION VIEW**




**DETECTABLE WARNING FIELD**
**PLANAR INSTALLATION**

## GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

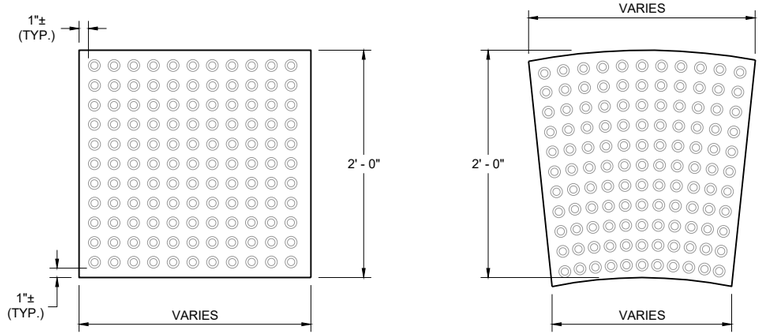
FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

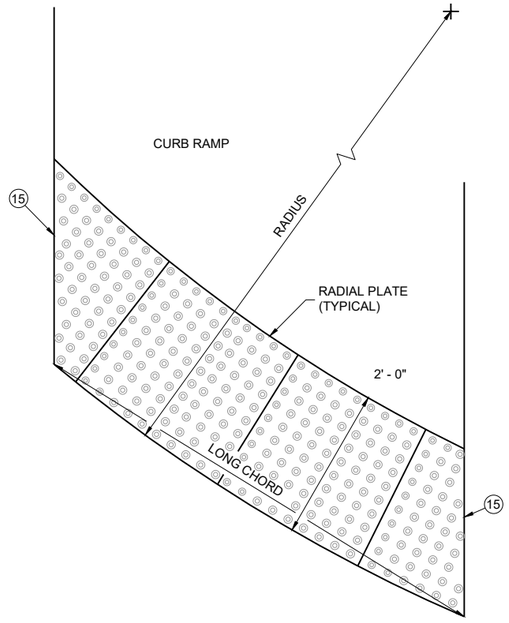
**TRUNCATED DOMES**
**DETECTABLE WARNING PATTERN DETAIL**



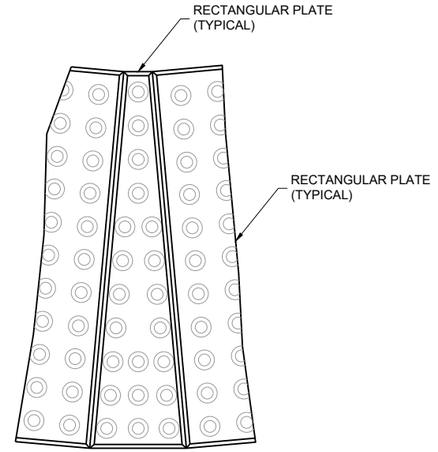

**RECTANGULAR PLATES**

**RADIAL PLATES**

**PLAN VIEW**
**DETECTABLE WARNING FIELDS (TYPICAL)**




**PLAN VIEW**
**RADIAL DETECTABLE WARNING FIELD ATTRIBUTES**




**PLAN VIEW**
**RADIAL WEDGE PLATE CONNECTION DETAIL**

**CURB RAMPS**
**RECTANGULAR AND RADIAL**
**DETECTABLE WARNING PLATES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2026 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA



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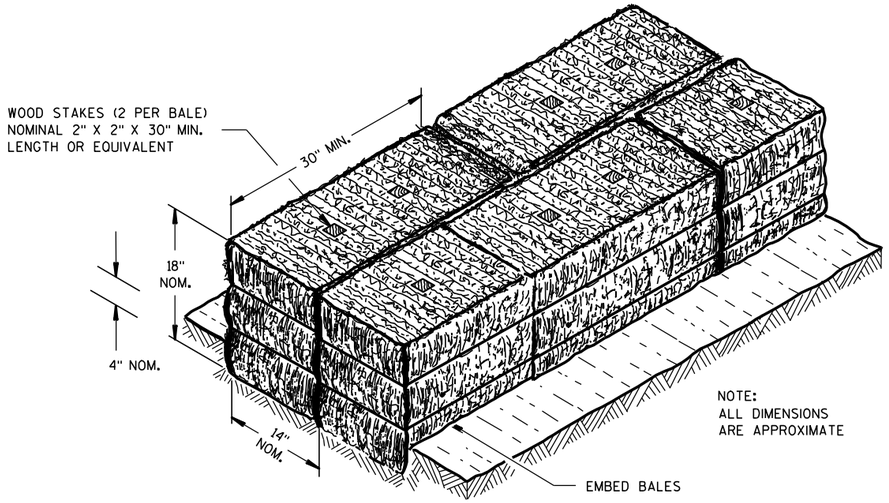
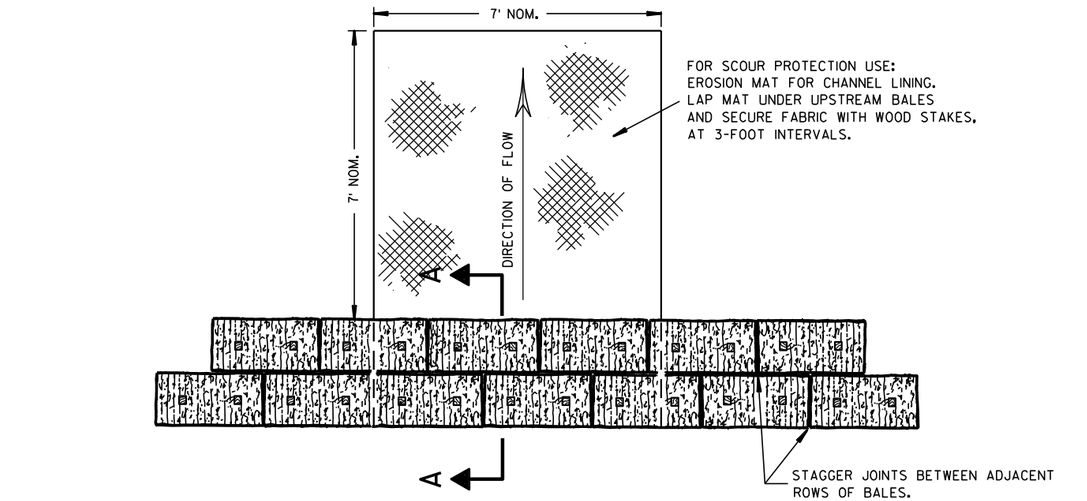
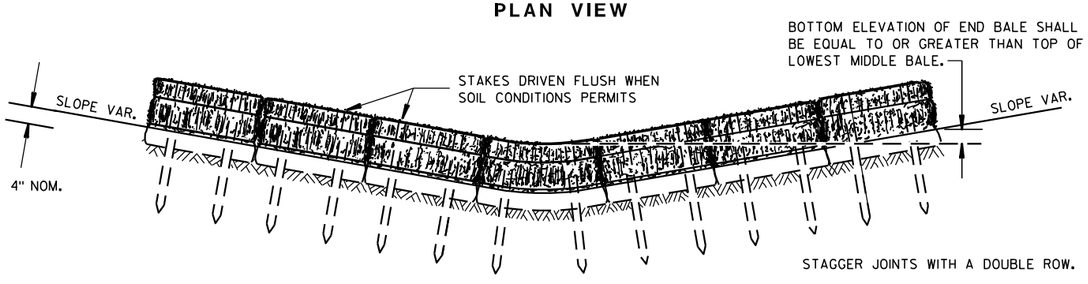
SDD 08D05-23g




**SECTION A-A**




**PLAN VIEW**



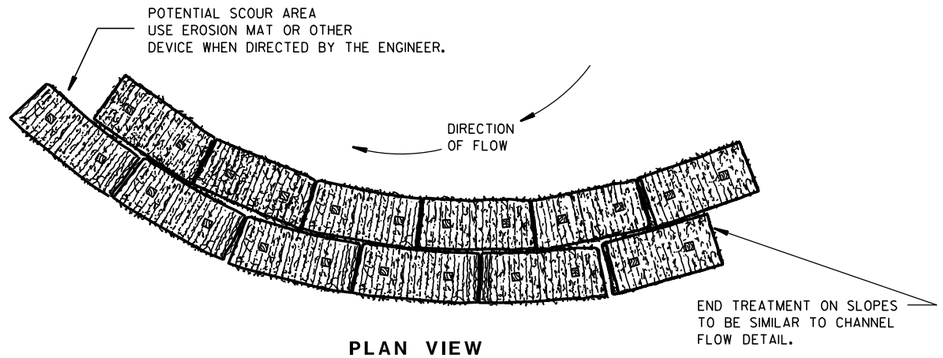

**FRONT ELEVATION**

## TEMPORARY DITCH CHECK USING EROSION BALES (1)

## GENERAL NOTES

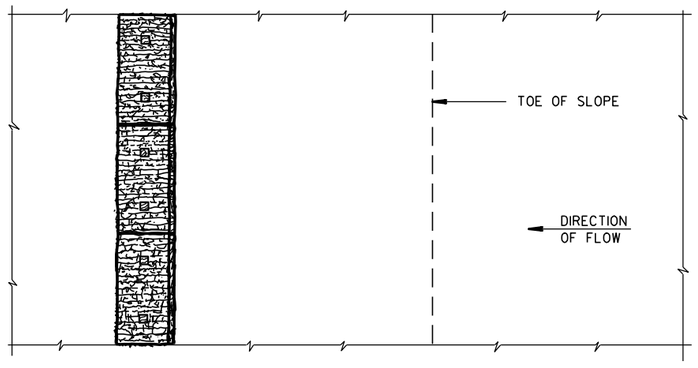
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

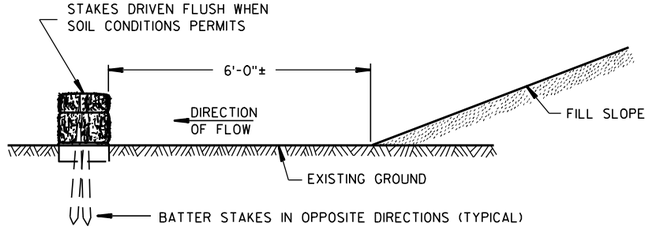



**PLAN VIEW**

WHEN ALTERING THE DIRECTION OF FLOW




**PLAN VIEW**




**FRONT ELEVATION**

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

## EROSION BALES FOR SHEET FLOW

## TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

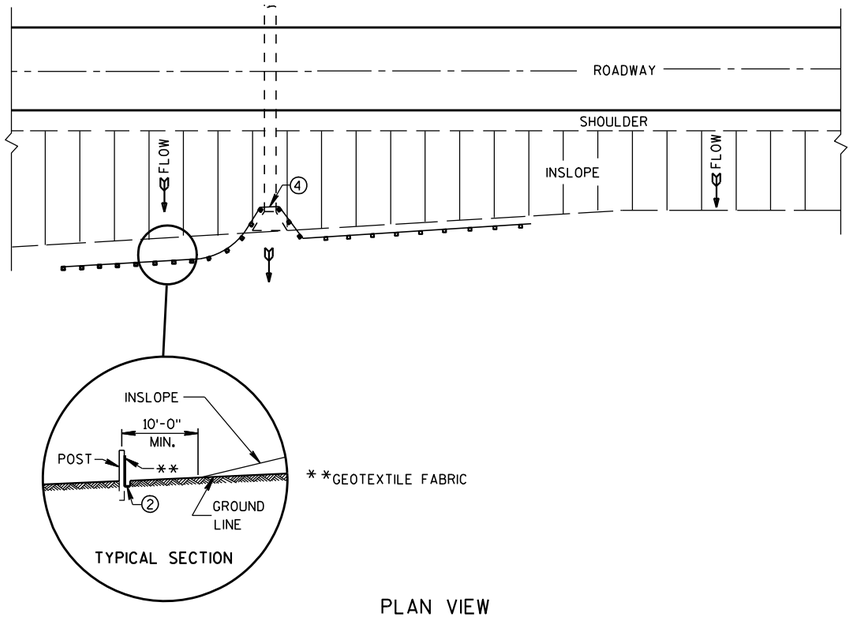






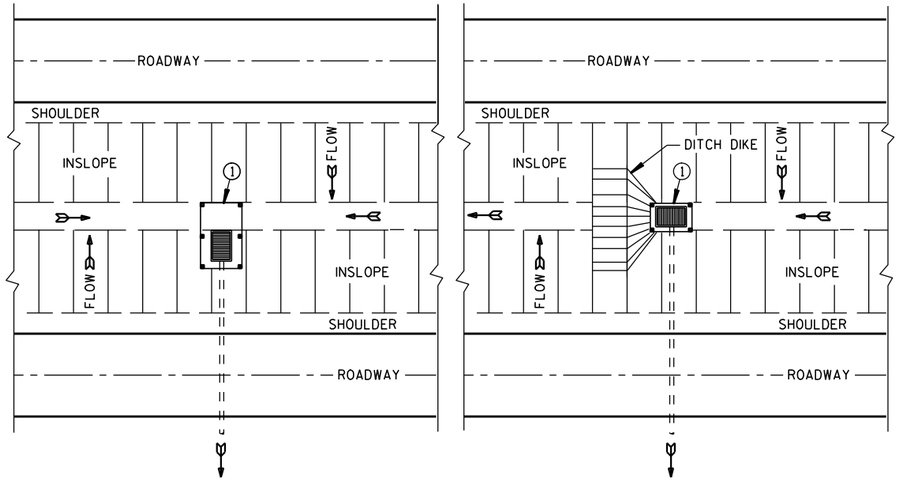
6

S.D.D. 8 E 8-3




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE




PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

## GENERAL NOTES

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

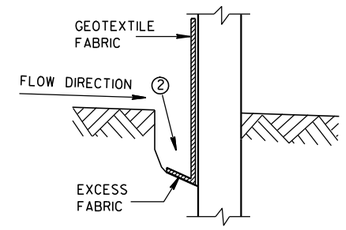
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

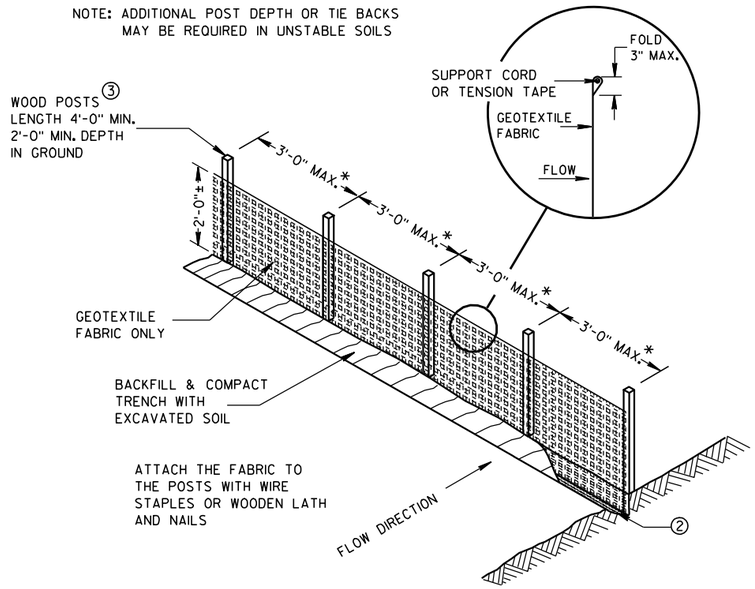
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

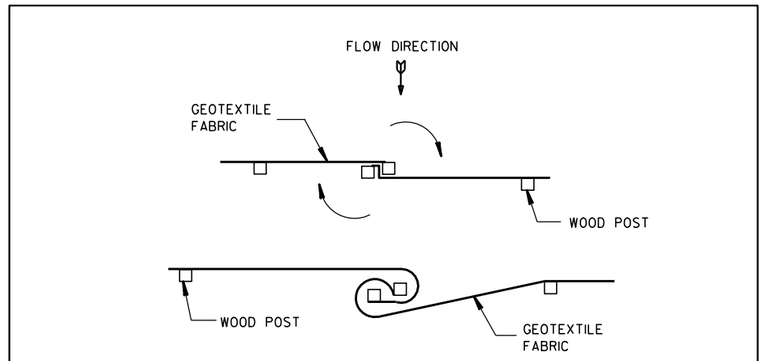
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



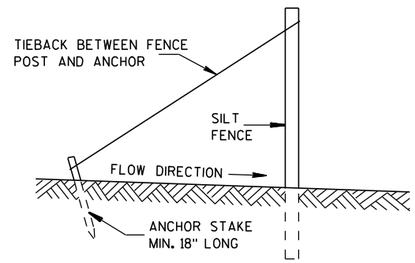

## TRENCH DETAIL




## SILT FENCE




## JOINING TWO LENGTHS OF SILT FENCE ⑤




## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

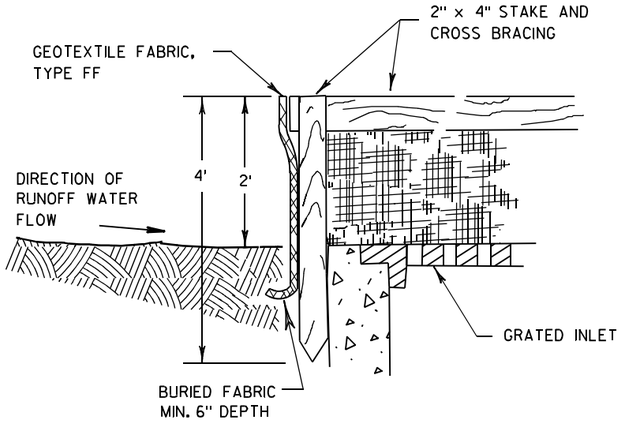


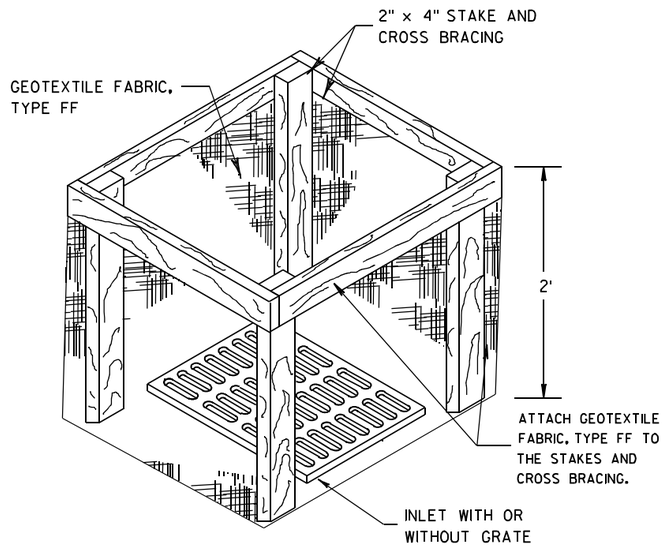
6

S.D.D. 8 E 9-6

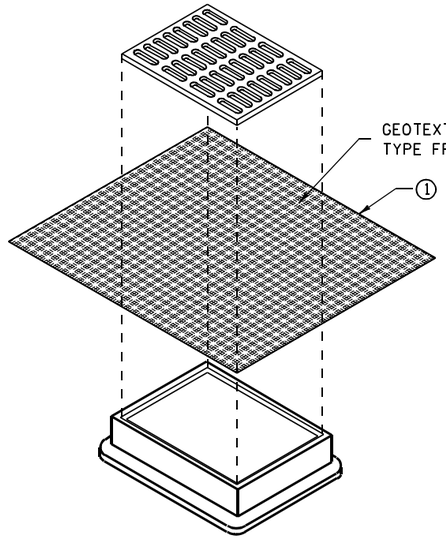
6

S.D.D. 8 E 9-6



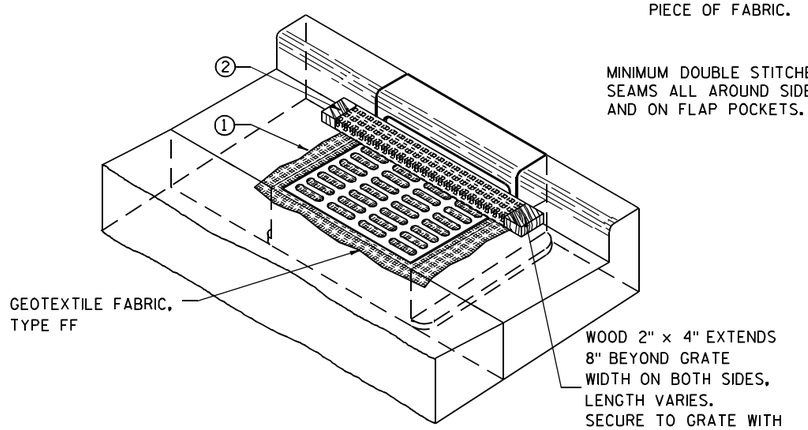




## INLET PROTECTION, TYPE A

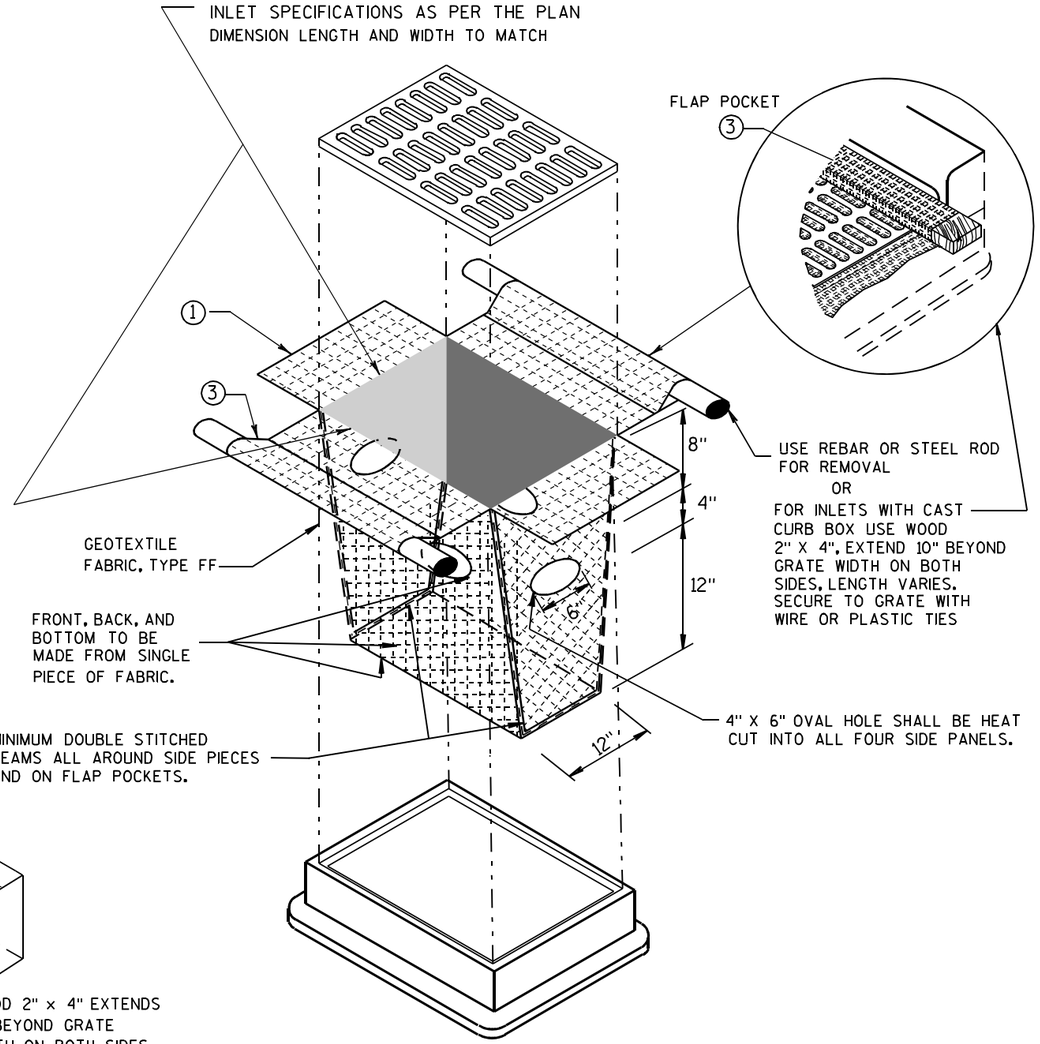



## INLET PROTECTION, TYPE B
## (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)




## INLET PROTECTION, TYPE C (WITH CURB BOX)




## INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ② )

## GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

## INSTALLATION NOTES

### TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

### TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

**INLET PROTECTION**
**TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

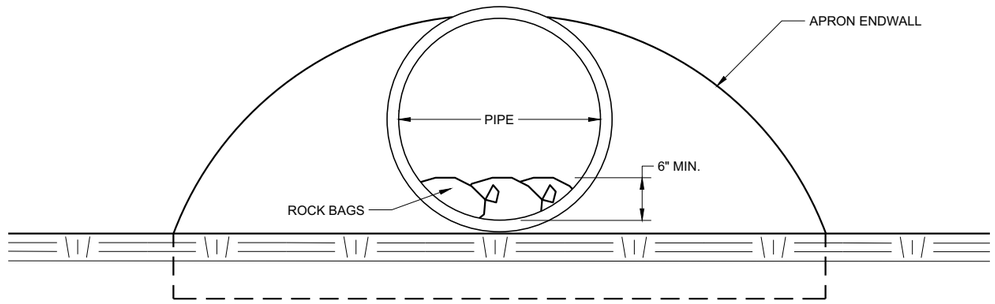
10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

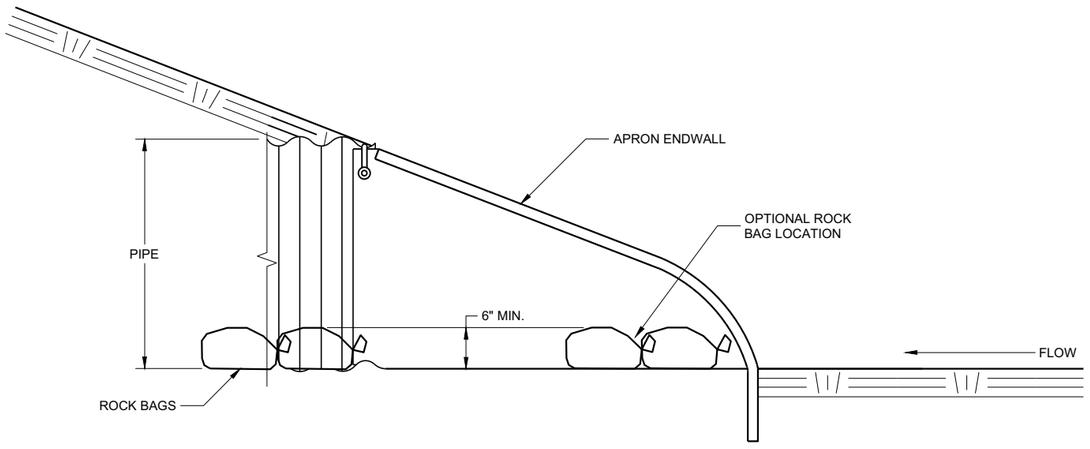
FHWA




6
S.D.D. 8 E 10-2




**END VIEW**




**SIDE VIEW**

## CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

**CULVERT PIPE CHECK**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 — DATE
/S/ Daniel Schave — EROSION CONTROL ENGI
FHWA



6

SDD 08E15 - 01

6

SDD 08E15 - 01

## METAL APRON ENDWALLS

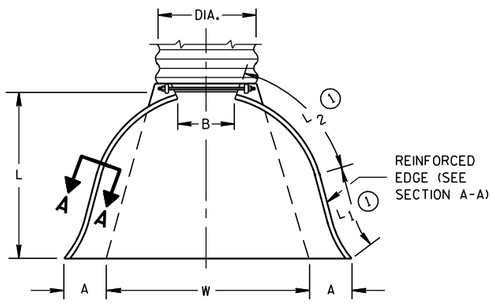
| PIPE DIA. (IN.) | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | .064 | .060 | 6 | 6 | 6 | 21 | 12 | 17 1/2 | 24 | 2 1/2 to 1 | 1 Pc. |
| 15 | .064 | .060 | 7 | 8 | 6 | 26 | 14 | 21 3/4 | 30 | 2 1/2 to 1 | 1 Pc. |
| 18 | .064 | .060 | 8 | 10 | 6 | 31 | 15 | 28 1/4 | 36 | 2 1/2 to 1 | 1 Pc. |
| 21 | .064 | .060 | 9 | 12 | 6 | 36 | 18 | 29 5/8 | 42 | 2 1/2 to 1 | 1 Pc. |
| 24 | .064 | .075 | 10 | 13 | 6 | 41 | 18 | 37 1/4 | 48 | 2 1/2 to 1 | 1 Pc. |
| 30 | .079 | .075 | 12 | 16 | 8 | 51 | 18 | 52 1/4 | 60 | 2 1/2 to 1 | 1 Pc. |
| 36 | .079 | .105 | 14 | 19 | 9 | 60 | 24 | 59 3/4 | 72 | 2 1/2 to 1 | 2 Pc. |
| 42 | .109 | .105 | 16 | 22 | 11 | 69 | 24 | 75 5/8 | 84 | 2 1/2 to 1 | 2 Pc. |
| 48 | .109 | .105 | 18 | 27 | 12 | 78 | 24 | 81 | 90 | 2 1/4 to 1 | 3 Pc. |
| 54 | .109 | .105 | 18 | 30 | 12 | 84 | 30 | 85 1/2 | 102 | 2 1/4 to 1 | 3 Pc. |
| 60 | .109× | .105× | 18 | 33 | 12 | 87 | — | — | 114 | 2 to 1 | 3 Pc. |
| 66 | .109× | .105× | 18 | 36 | 12 | 87 | — | — | 120 | 2 to 1 | 3 Pc. |
| 72 | .109× | .105× | 18 | 39 | 12 | 87 | — | — | 126 | 2 to 1 | 3 Pc. |
| 78 | .109× | .105× | 18 | 42 | 12 | 87 | — | — | 132 | 1 1/2 to 1 | 3 Pc. |
| 84 | .109× | .105× | 18 | 45 | 12 | 87 | — | — | 138 | 1 1/2 to 1 | 3 Pc. |
| 90 | .109× | .105× | 18 | 37 | 12 | 87 | — | — | 144 | 1 1/2 to 1 | 3 Pc. |
| 96 | .109× | .105× | 18 | 35 | 12 | 87 | — | — | 150 | 1 1/2 to 1 | 3 Pc. |

× EXCEPT CENTER PANEL SEE GENERAL NOTES

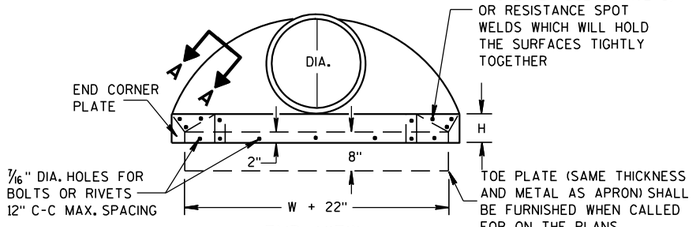
## REINFORCED CONCRETE APRON ENDWALLS

| PIPE DIA. (IN.) | DIMENSIONS (Inches) T | A | B | C | D | E | G | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|
| 12 | 2 | 4 | 24 | 48 7/8 | 72 1/8 | 24 | 2 | 3 to 1 |
| 15 | 2 1/4 | 6 | 27 | 46 | 73 | 30 | 2 1/4 | 3 to 1 |
| 18 | 2 1/2 | 9 | 27 | 46 | 73 | 36 | 2 1/2 | 3 to 1 |
| 21 | 2 3/4 | 9 | 36 | 37 1/2 | 73 1/2 | 42 | 2 3/4 | 3 to 1 |
| 24 | 3 | 9 1/2 | 43 1/2 | 30 | 73 1/2 | 48 | 3 | 3 to 1 |
| 27 | 3 1/4 | 10 1/2 | 49 1/2 | 24 | 73 1/2 | 54 | 3 1/4 | 3 to 1 |
| 30 | 3 1/2 | 12 | 54 | 19 3/4 | 73 1/2 | 60 | 3 1/2 | 3 to 1 |
| 36 | 4 | 15 | 63 | 34 3/4 | 97 3/4 | 72 | 4 | 3 to 1 |
| 42 | 4 1/2 | 21 | 63 | 35 | 98 | 78 | 4 1/2 | 3 to 1 |
| 48 | 5 | 24 | 72 | 26 | 98 | 84 | 5 | 3 to 1 |
| 54 | 5 1/2 | 27 | 65 | * 33 1/4 - ** 35 | * 98 1/4 - ** 100 | 90 | 5 1/2 | 2 2/5 to 1 |
| 60 | 6 | * 30 - ** 35 | 60 | 39 | 99 | 96 | 5 | 2 to 1 |
| 66 | 6 1/2 | * 24 - ** 30 | * 72 - ** 78 | * 21 - ** 27 | 99 | 102 | 5 1/2 | 2 to 1 |
| 72 | 7 | * 24 - ** 36 | 78 | 21 | 99 | 108 | 6 | 2 to 1 |
| 78 | 7 1/2 | * 24 - ** 36 | 78 | 21 | 99 | 114 | 6 1/2 | 2 to 1 |
| 84 | 8 | 36 | 90 1/2 | 21 | 111 1/2 | 120 | 6 1/2 | 1 1/2 to 1 |
| 90 | 8 1/2 | 41 | 87 1/2 | 24 | 111 1/2 | 132 | 6 1/2 | 1 1/2 to 1 |

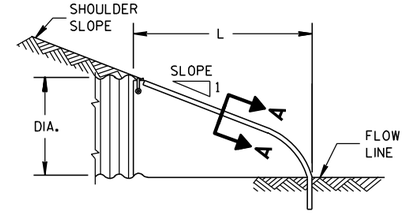
*MINIMUM
**MAXIMUM




PLAN VIEW

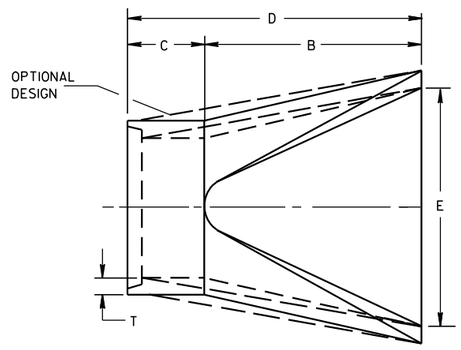



END VIEW

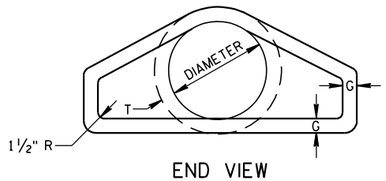



SIDE ELEVATION

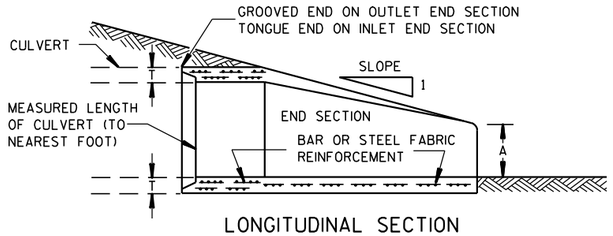
## METAL ENDWALLS




PLAN

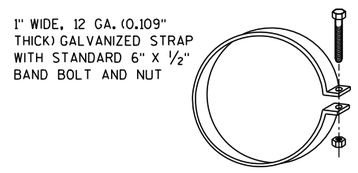



END VIEW



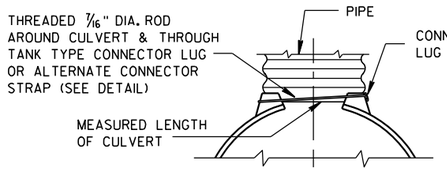

LONGITUDINAL SECTION

## CONCRETE ENDWALLS

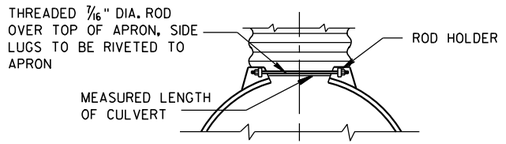



ALTERNATE FOR TYPE 1 CONNECTION

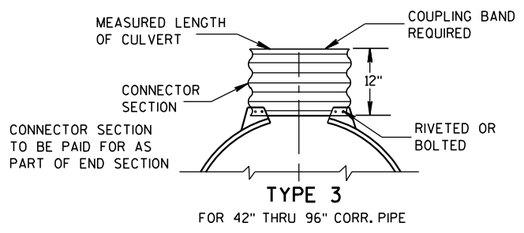
## END SECTION CONNECTOR STRAP



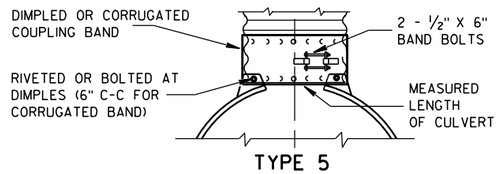

TYPE 1
FOR 12" THRU 24" CORR. PIPE




TYPE 2
FOR 30" THRU 96" CORR. PIPE




TYPE 3
FOR 42" THRU 96" CORR. PIPE




TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

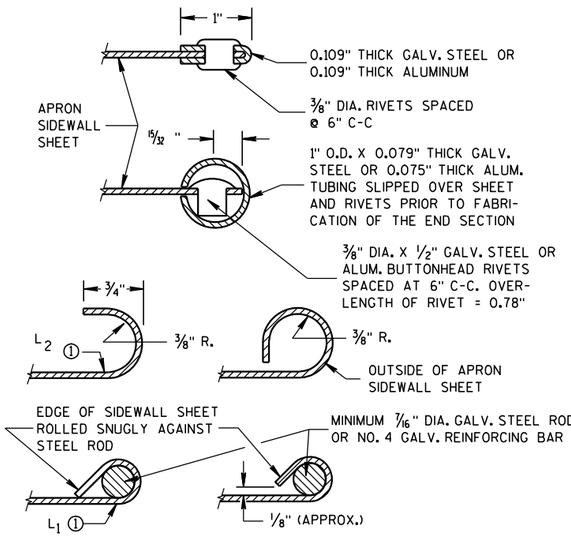
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

## CONNECTION DETAILS




## SECTION A-A

## 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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

# APRON ENDWALLS FOR CULVERT PIPE

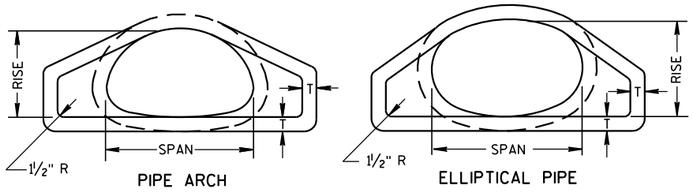
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

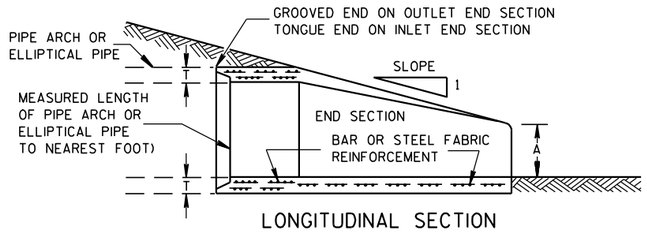


6

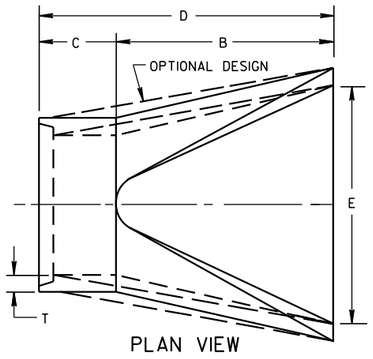
S.D.D. 8 F 1-11




END VIEW

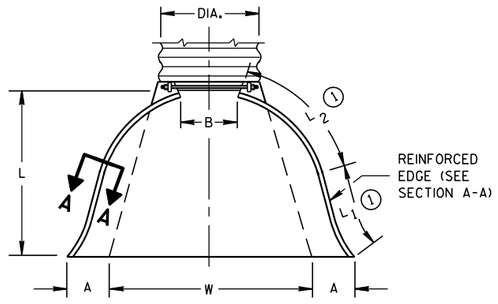



LONGITUDINAL SECTION

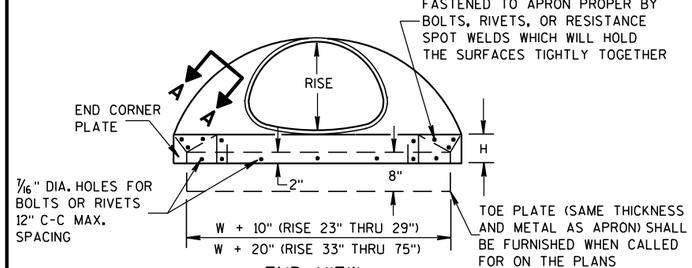



PLAN VIEW

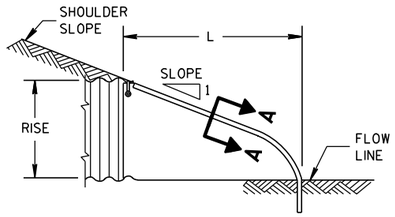
# CONCRETE ENDWALLS




PLAN VIEW

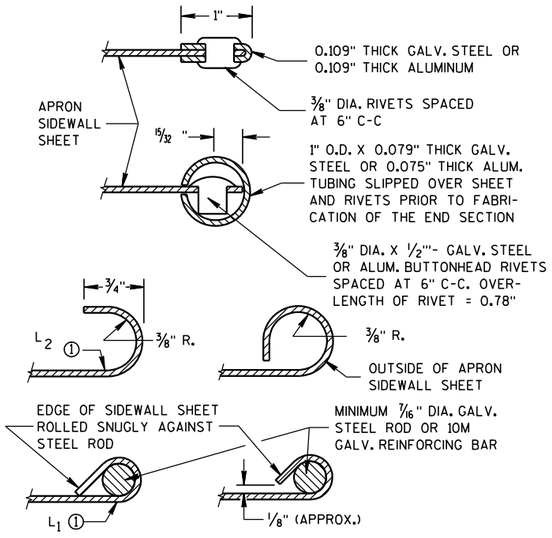



END VIEW




SIDE ELEVATION

# METAL ENDWALLS




SECTION A-A

## 2- 2/3" X 1/2" CORRUGATIONS

| EQUIV. DIA. (Inches) | (Inches) SPAN | (Inches) RISE | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 17 | 13 | .064 | .060 | 7 | 9 | 6 | 19 | 14 | 16 | 30 | 2½ to 1 | 1 Pc. |
| 18 | 21 | 15 | .064 | .060 | 7 | 10 | 6 | 23 | 14 | 19⅜ | 36 | 2½ to 1 | 1 Pc. |
| 21 | 24 | 18 | .064 | .060 | 8 | 12 | 6 | 28 | 18 | 21¾ | 42 | 2½ to 1 | 1 Pc. |
| 24 | 28 | 20 | .064 | .060 | 9 | 14 | 6 | 32 | 18 | 27½ | 48 | 2½ to 1 | 1 Pc. |
| 30 | 35 | 24 | .079 | .075 | 10 | 16 | 6 | 39 | 18 | 37⅝ | 60 | 2½ to 1 | 1 Pc. |
| 36 | 42 | 29 | .079 | .075 | 12 | 18 | 8 | 46 | 24 | 45⅜ | 75 | 2½ to 1 | 1 Pc. |
| 42 | 49 | 33 | .109 | .105 | 13 | 21 | 9 | 53 | 24 | 54¾ | 85 | 2½ to 1 | 2 Pc. |
| 48 | 57 | 38 | .109 | .105 | 18 | 26 | 12 | 63 | 24 | 68 | 90 | 2½ to 1 | 3 Pc. |
| 54 | 64 | 43 | .109 | .105 | 18 | 30 | 12 | 70 | 24 | 72¾ | 102 | 2¼ to 1 | 3 Pc. |
| 60 | 71 | 47 | .109* | .105* | 18 | 33 | 12 | 77 | 30 | 82¼ | 114 | 2¼ to 1 | 3 Pc. |
| 66 | 77 | 52 | .109* | .105* | 18 | 36 | 12 | 77 | — | — | 126 | 2 to 1 | 3 Pc. |
| 72 | 83 | 57 | .109* | .105* | 18 | 39 | 12 | 77 | — | — | 138 | 2 to 1 | 3 Pc. |

## 3" X 1" CORRUGATIONS

| EQUIV. DIA. (Inches) | (Inches) SPAN | (Inches) RISE | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | 53 | 41 | .109 | .105 | 18 | 26 | 12 | 63 | 24 | 72¾ | 90 | 2½ to 1 | 2 Pc. |
| 54 | 60 | 46 | .109 | .105 | 18 | 30 | 12 | 70 | 30 | 82¼ | 102 | 2 to 1 | 2 Pc. |
| 60 | 66 | 51 | .109* | .105* | 18 | 33 | 12 | 77 | — | — | 114 | 1½ to 1 | 3 Pc. |
| 66 | 73 | 55 | .109* | .105* | 18 | 36 | 12 | 77 | — | — | 126 | 1½ to 1 | 3 Pc. |
| 72 | 81 | 59 | .109* | .105* | 18 | 39 | 12 | 77 | — | — | 138 | 2 to 1 | 3 Pc. |
| 78 | 87 | 63 | .109* | .105* | 22 | 38 | 12 | 77 | — | — | 148 | 1½ to 1 | 3 Pc. |
| 84 | 95 | 67 | .109* | .105* | 22 | 34 | 12 | 77 | — | — | 162 | 1½ to 1 | 3 Pc. |
| 90 | 103 | 71 | .109* | .105* | 22 | 38 | 12 | 77 | — | — | 174 | 1½ to 1 | 3 Pc. |
| 96 | 112 | 75 | .109* | .105* | 24 | 40 | 12 | 77 | — | — | 174 | 1½ to 1 | 3 Pc. |

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

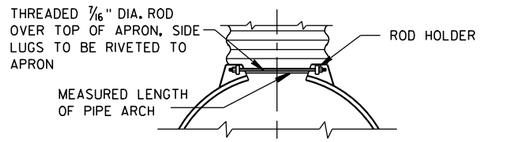
## REINFORCED CONCRETE PIPE ARCH

| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) ** SPAN | ** RISE | T | A | B | C | D | E | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|---|
| 24 | 29 | 18 | 3 | 8½ | 39 | 33 | 72 | 48 | 3 to 1 |
| 30 | 36 | 22 | 3½ | 9½ | 50 | 46 | 96 | 60 | 3 to 1 |
| 36 | 44 | 27 | 4 | 11⅛ | 60 | 36 | 96 | 72 | 3 to 1 |
| 42 | 51 | 31 | 4½ | 15 13/16 | 60 | 36 | 96 | 78 | 3 to 1 |
| 48 | 58 | 36 | 5 | 21 | 60 | 36 | 96 | 84 | 3 to 1 |
| 54 | 65 | 40 | 5½ | 25½ | 60 | 36 | 96 | 90 | 3 to 1 |
| 60 | 73 | 45 | 6 | 31 | 60 | 36 | 96 | 96 | 3 to 1 |
| 72 | 88 | 54 | 7 | 31 | 60 | 39 | 99 | 120 | 2 to 1 |
| 84 | 102 | 62 | 8 | 28½ | 83 | 19 | 102 | 144 | 2 to 1 |

## REINFORCED CONCRETE ELLIPTICAL PIPE

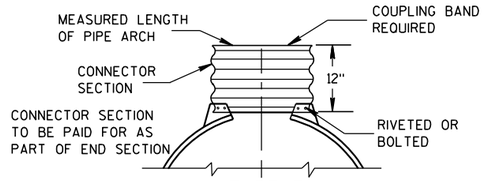
| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) ** SPAN | ** RISE | T | A | B | C | D | E | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|---|
| 24 | 30 | 19 | 3¼ | 8½ | 39 | 33 | 72 | 48 | 3 to 1 |
| 30 | 38 | 24 | 3¾ | 9½ | 54 | 18 | 72 | 60 | 3 to 1 |
| 36 | 45 | 29 | 4½ | 11⅛ | 60 | 24 | 84 | 72 | 2½ to 1 |
| 42 | 53 | 34 | 5 | 15¾ | 60 | 36 | 96 | 78 | 2½ to 1 |
| 48 | 60 | 38 | 5½ | 21 | 60 | 36 | 96 | 84 | 2½ to 1 |
| 54 | 68 | 43 | 6 | 25½ | 60 | 36 | 96 | 90 | 2½ to 1 |
| 60 | 76 | 48 | 6½ | 30 | 60 | 36 | 96 | 96 | 2½ to 1 |

**NOMINAL SIZE



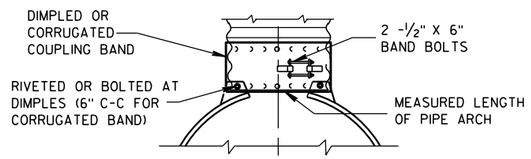

TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH




TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH




TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

# CONNECTION DETAILS

# 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.

CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

**APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



6

S.D.D. 8 F 2-1

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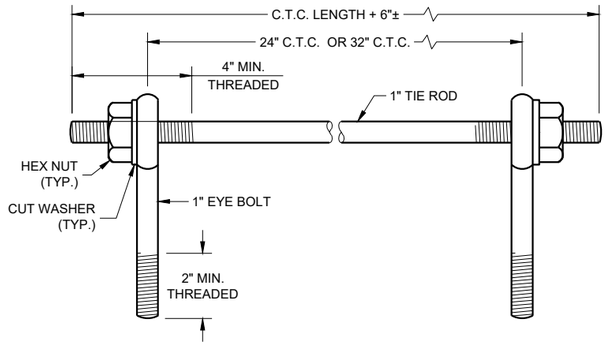
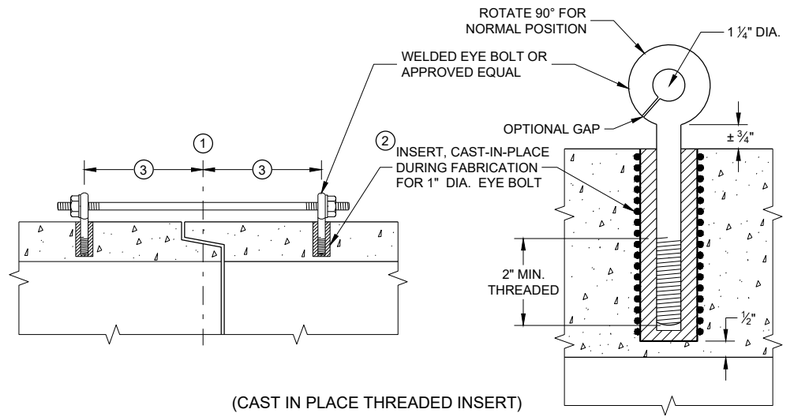
S.D.D. 8 F 2-1




**EYE BOLTS AND TIE ROD**




(CAST IN PLACE THREADED INSERT)

**LONGITUDINAL SECTIONS**

# EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

## GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

(2) THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

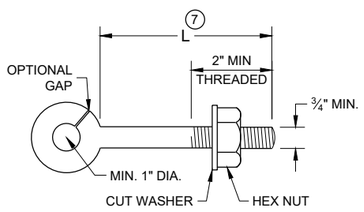
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

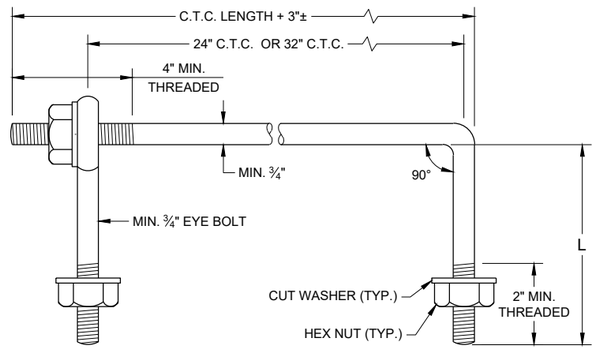
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

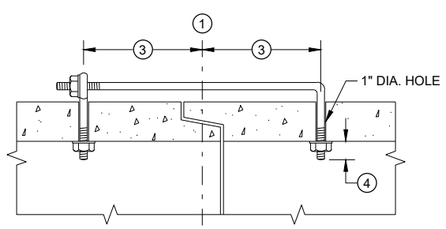



**EYE BOLT** (7)

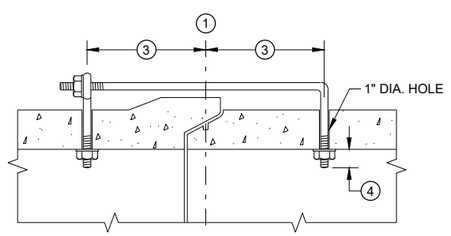
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.




**EYE BOLT AND TIE ROD**




(TONGUE AND GROOVE PIPE)




(MODIFIED BELL PIPE)

**LONGITUDINAL SECTION**

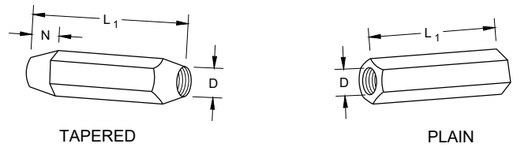
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

## EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

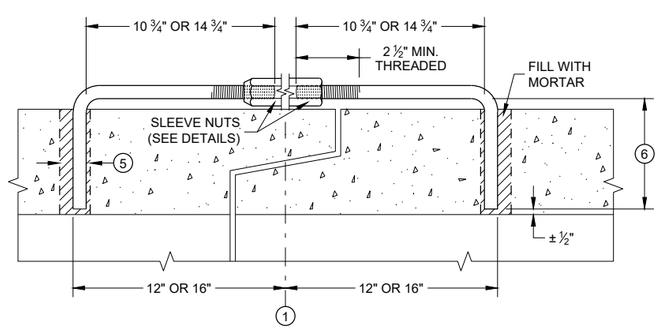
| PIPE DIAMETER | TIE ROD DIAMETER | D | $L_1$ | N |
|---|---|---|---|---|
| 12 - 60 | ⅝ | ⅝ | 5 | ½ |
| 66 - 84 | ¾ | ¾ | 5 | ½ |
| 90 - 144 | 1 | 1 | 7 | 1 7/16 |

DIMENSIONS SHOWN ARE IN INCHES



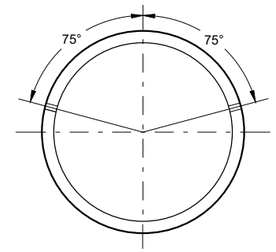

RIGHT AND LEFT THREADS

**SLEEVE NUTS**



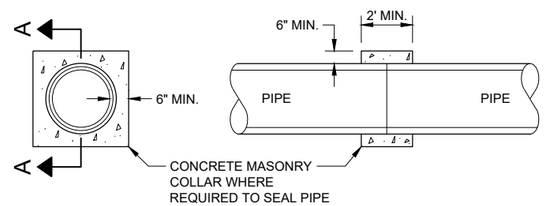

**LONGITUDINAL SECTION**

## ADJUSTABLE TIE ROD (ALTERNATE NO. 3)




PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

**TRANSVERSE SECTION**




**SECTION A - A**

## CONCRETE COLLAR DETAIL

**JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

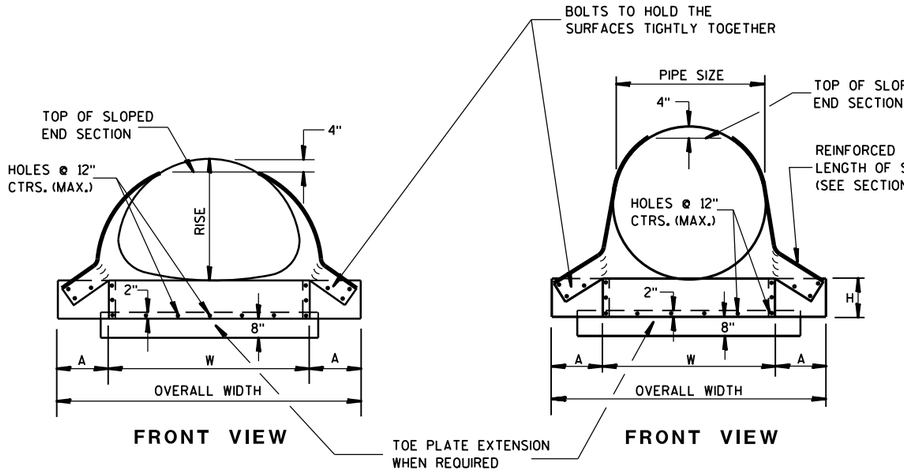
APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA



SDD 08F04 - 08

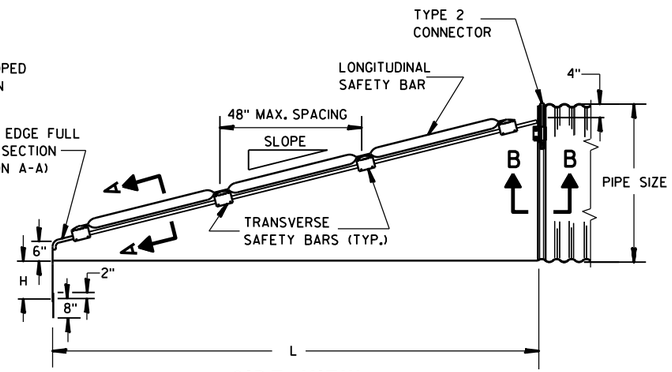
SDD 08F04 - 08




FRONT VIEW




FRONT VIEW




SIDE VIEW
(48" SIZE ILLUSTRATED)

## GENERAL NOTES

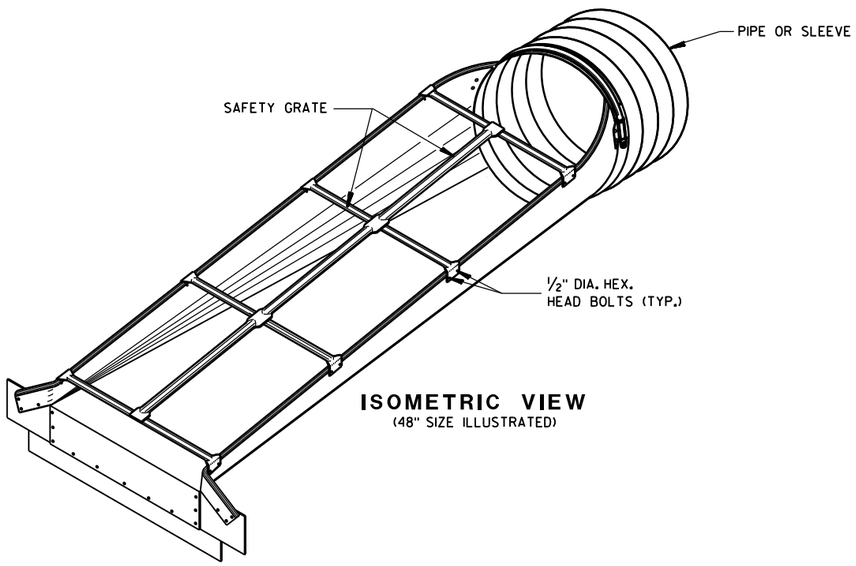
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

SAFETY GRATES SHALL BE FABRICATED FROM 3-INCH DIAMETER GALVANIZED PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL. THE LONGITUDINAL BAR SHALL BE WELDED TO THE TRANSVERSE BARS WHERE THE BARS CROSS. THE NUMBER OF TRANSVERSE BARS REQUIRED WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

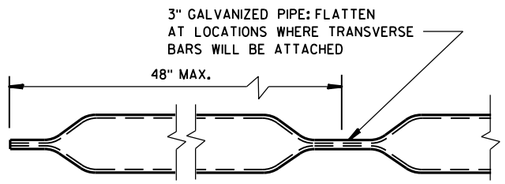
SLOPED STEEL ENDWALLS LOCATED AT THE ENDS OF CONCRETE CULVERT PIPE SHALL BE FURNISHED WITH STEEL ADAPTER SLEEVES.

**STEEL APRON ENDWALLS FOR CULVERT PIPE CROSS DRAINS**

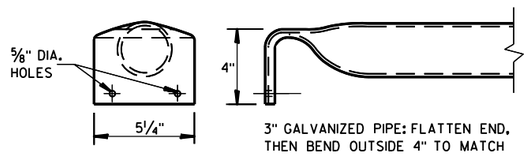
| PIPE DIA. (IN.) | MIN. THICK. | | DIMENSIONS (Inches) | | | | L DIMENSIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | IN. | GAGE | A | H | W | OVERALL WIDTH | SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES |
| 36 | .109 | 12 | 12 | 9 | 42 | 66 | 4:1 | 104 | 6:1 | 156 |
| 42 | .109 | 12 | 16 | 12 | 48 | 80 | 4:1 | 128 | 6:1 | 192 |
| 48 | .109 | 12 | 16 | 12 | 54 | 86 | 4:1 | 152 | 6:1 | 228 |
| 54 | .109 | 12 | 16 | 12 | 60 | 92 | 4:1 | 176 | 6:1 | 264 |
| 60 | .109 | 12 | 16 | 12 | 66 | 98 | 4:1 | 200 | 6:1 | 300 |




ISOMETRIC VIEW
(48" SIZE ILLUSTRATED)



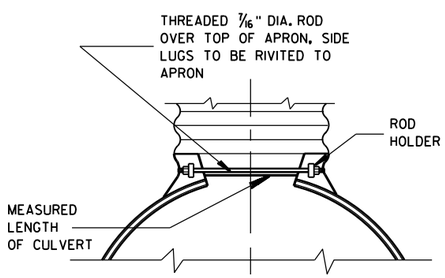

LONGITUDINAL SAFETY BAR



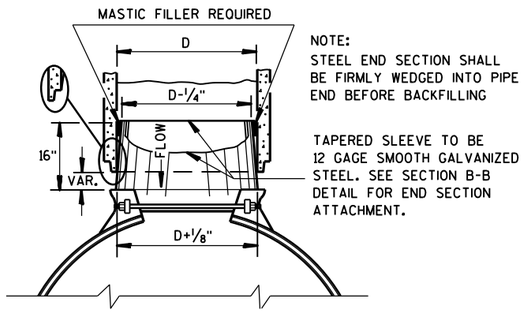

TRANSVERSE SAFETY BAR

**STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED CROSS DRAINS**

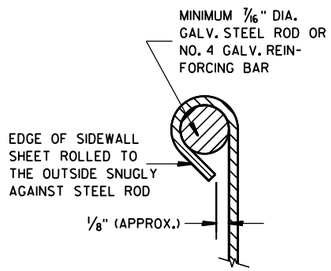
| EQUIV. DIA. (IN.) | INCHES | | MIN. THICK. | | DIMENSIONS (Inches) | | | | L DIMENSIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SPAN | RISE | IN. | GAGE | A | H | W | OVERALL WIDTH | SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES |
| 30 | 35 | 24 | .079 | 14 | 12 | 9 | 41 | 65 | 4:1 | 56 | 6:1 | 84 |
| 36 | 42 | 29 | .109 | 12 | 12 | 9 | 48 | 72 | 4:1 | 76 | 6:1 | 114 |
| 42 | 49 | 33 | .109 | 12 | 16 | 12 | 55 | 87 | 4:1 | 92 | 6:1 | 138 |
| 48 | 57 | 38 | .109 | 12 | 16 | 12 | 63 | 95 | 4:1 | 112 | 6:1 | 168 |
| 54 | 64 | 43 | .109 | 12 | 16 | 12 | 70 | 102 | 4:1 | 132 | 6:1 | 198 |
| 60 | 71 | 47 | .109 | 12 | 16 | 12 | 77 | 109 | 4:1 | 148 | 6:1 | 222 |



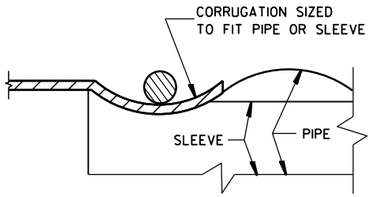

TYPE 2 CONNECTOR DETAIL




STEEL ADAPTER SLEEVE FOR CONCRETE PIPE




SECTION A-A




SECTION B-B

**STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA



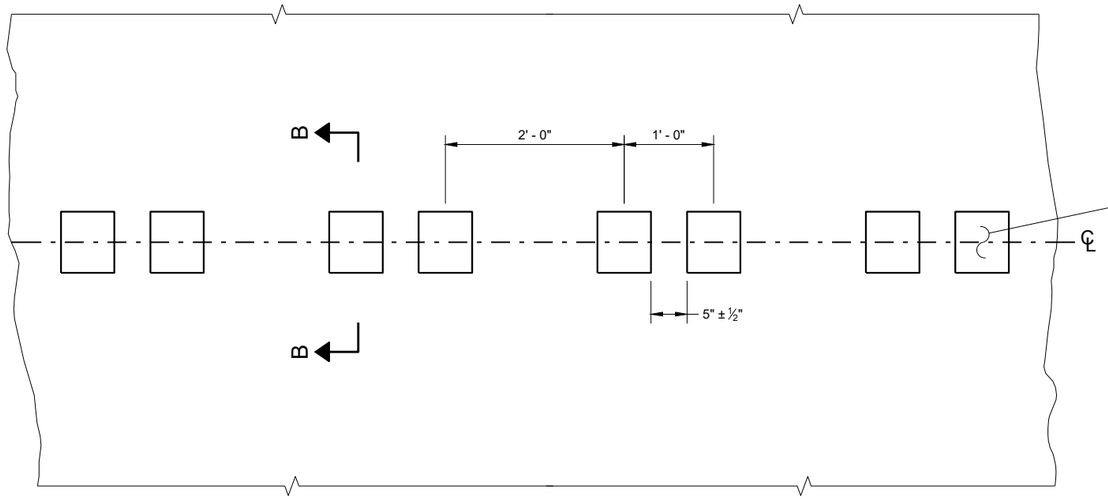

6

S.D.D. 8 F 8-2

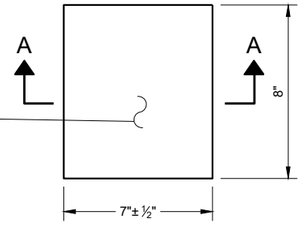
## GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

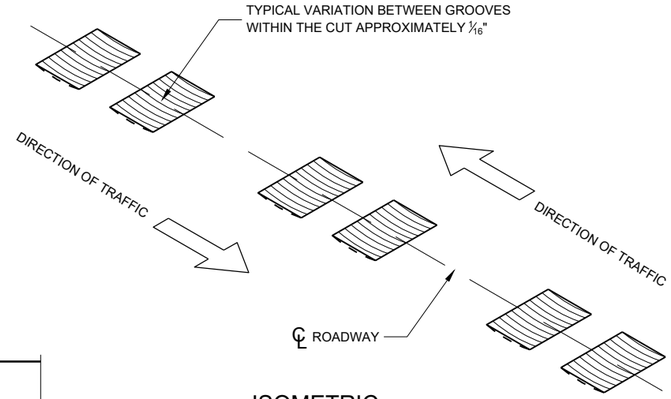
CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



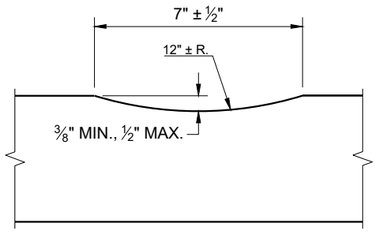

**PLAN DETAIL VIEW**



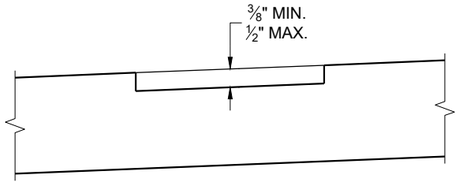

**PLAN VIEW**
**(SINGLE GROOVE)**



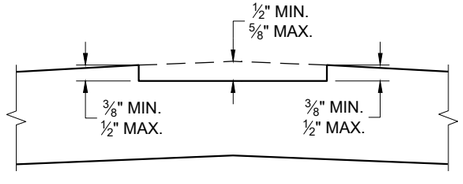

ISOMETRIC



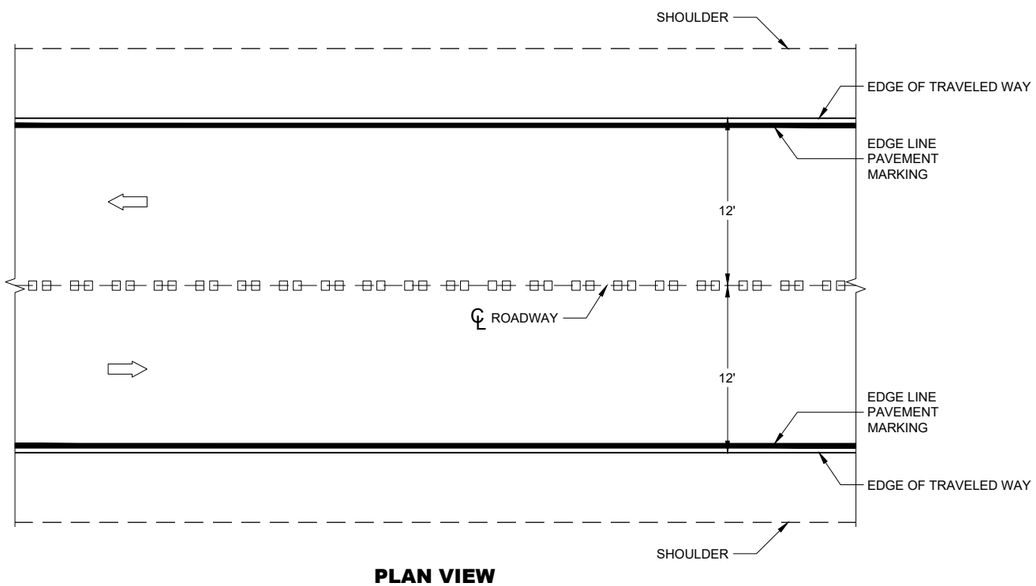

**SECTION A - A**




**SECTION B - B**
**SUPERELEVATED ROADWAY**




**SECTION B - B**
**CROWNED ROADWAY**




**PLAN VIEW**

**CENTERLINE RUMBLE STRIPS - ASPHALT**

| CENTERLINE RUMBLE STRIPS - ASPHALT | |
|---|---|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION | 120 |

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SDD 13A11 - 04a

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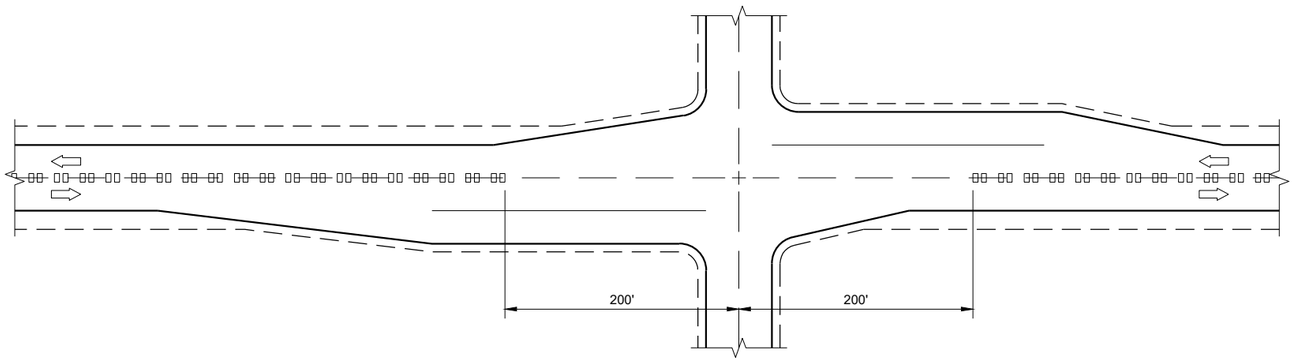
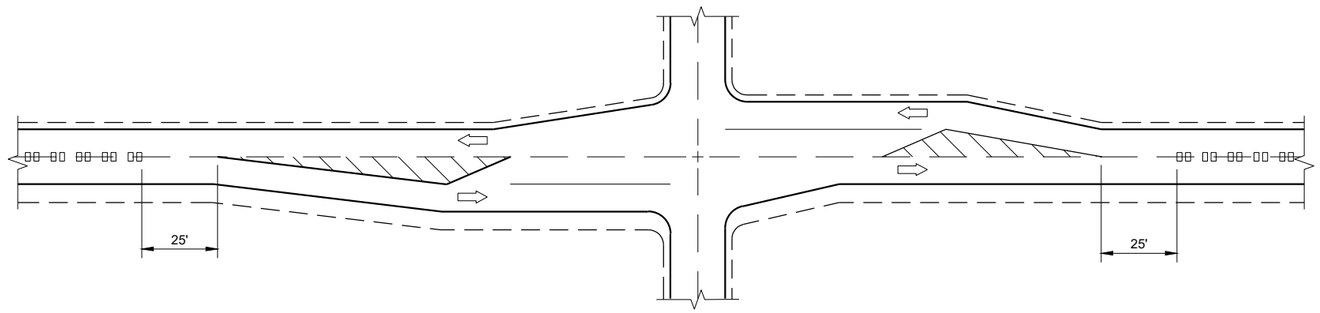
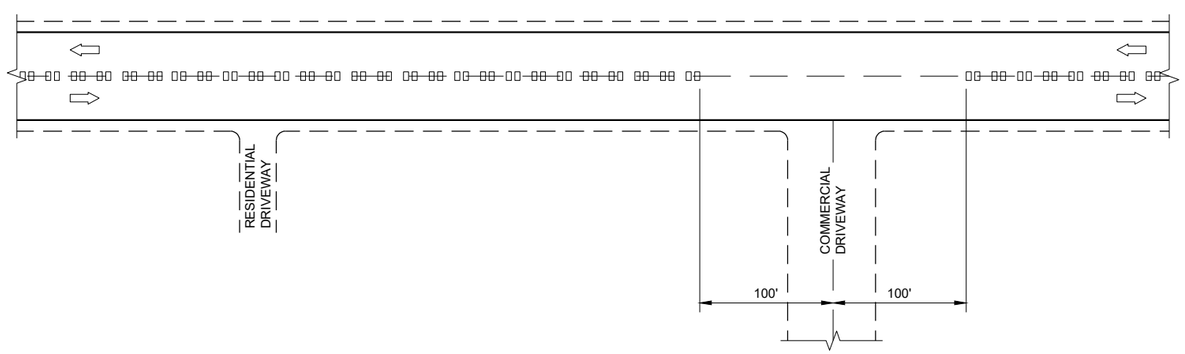



## CENTERLINE GROOVES AT INTERSECTIONS



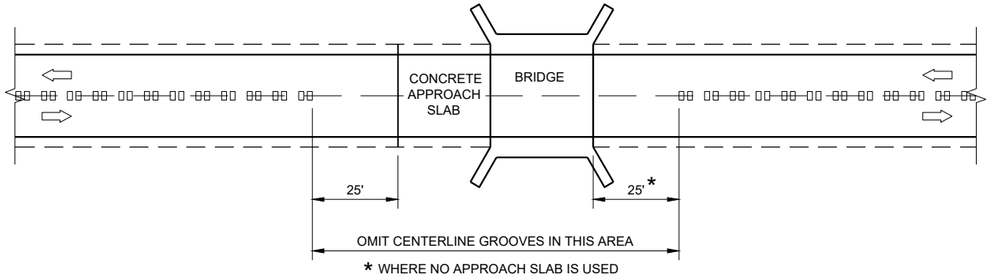

## CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



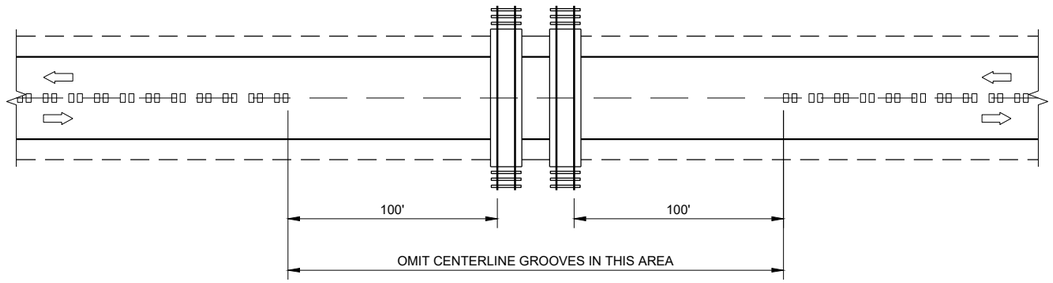

## CENTERLINE GROOVES AT DRIVEWAYS (1)

## GENERAL NOTES

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.




## CENTERLINE GROOVES AT BRIDGES




## CENTERLINE GROOVES AT RAILROADS

**CENTER LINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAIL ROADS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ John Jenkins — ROADWAY STANDARDS DEVE ENGINEER

FHWA



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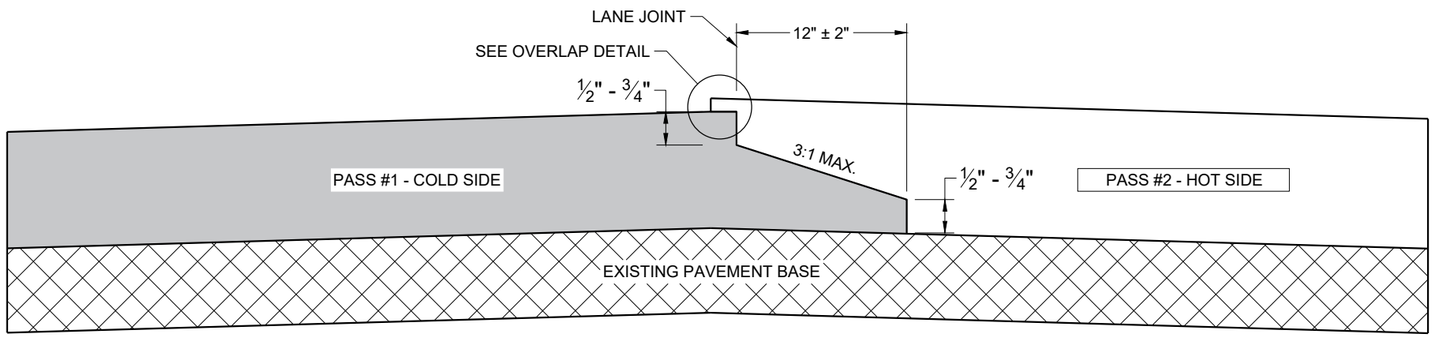
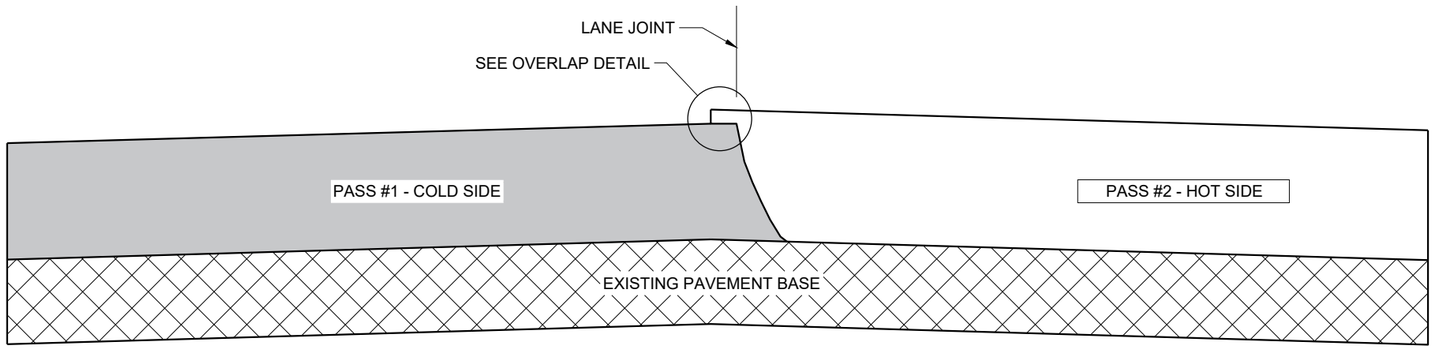
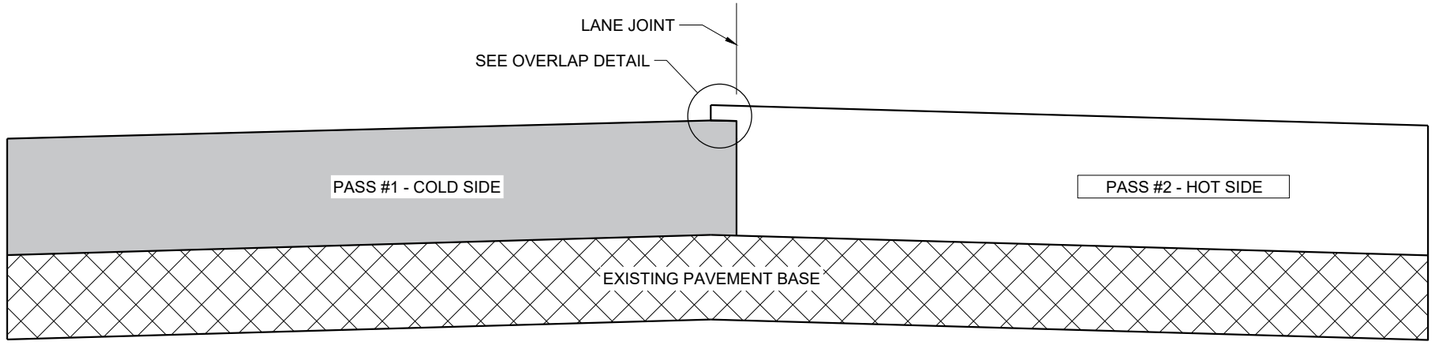
SDD 13A11 - 04d




**TYPICAL PAVEMENT CROSS SECTION**
**NOTCHED WEDGE JOINT**




**TYPICAL PAVEMENT CROSS SECTION**
**VERTICAL JOINT**




**TYPICAL PAVEMENT CROSS SECTION**
**VERTICAL JOINT (MILLED)**

## GENERAL NOTES

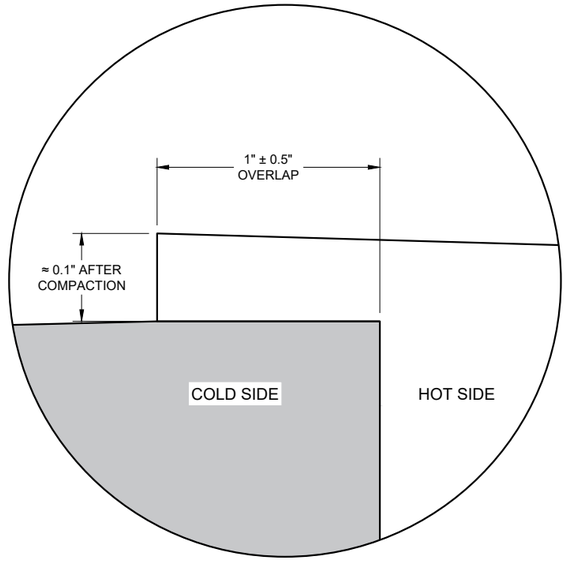
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.




**OVERLAP DETAIL (TYPICAL)**

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SDD 13C19 - 03

SDD 13C19 - 03

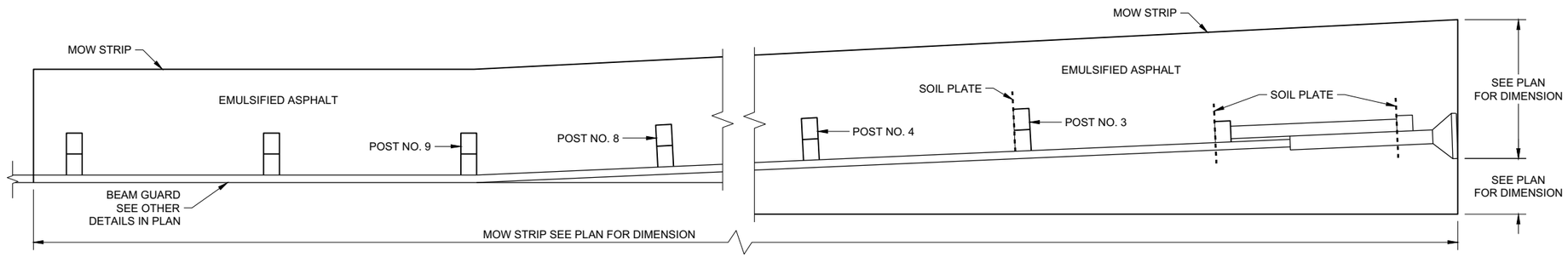
**HMA LONGITUDINAL JOINTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



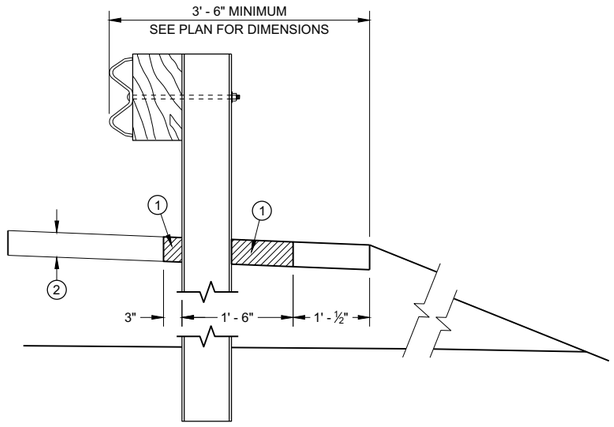

**PLAN VIEW**

## MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

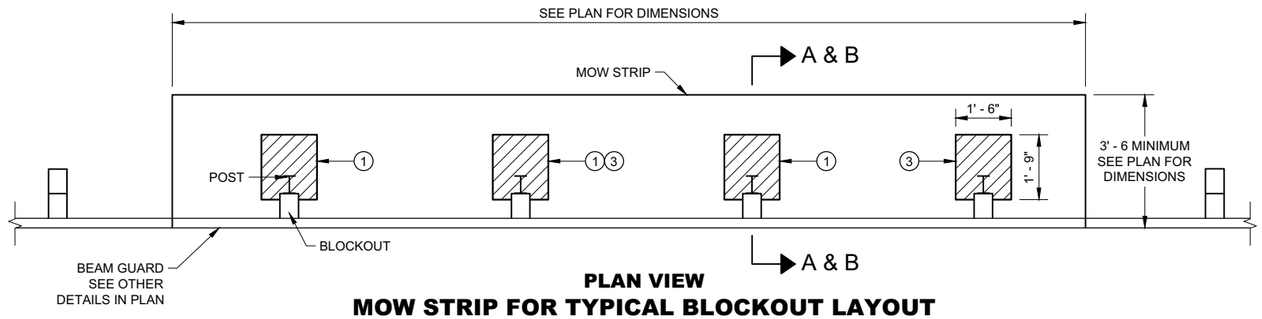
## GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

1. CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
2. DEPTH OF MOW STRIP:
   ASPHALT - 4"
   CONCRETE - 4"
   EMULSIFIED ASPHALT - 1" OR LESS
3. FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)

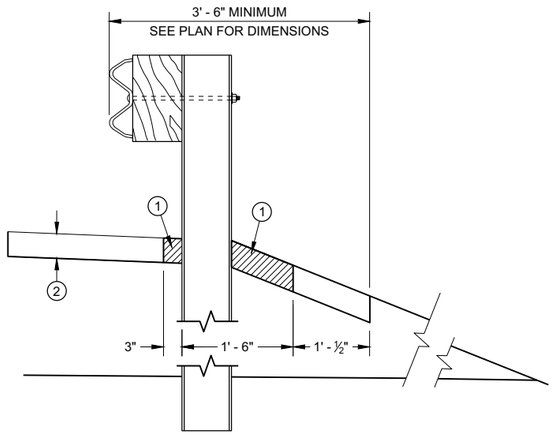



**SECTION A - A**

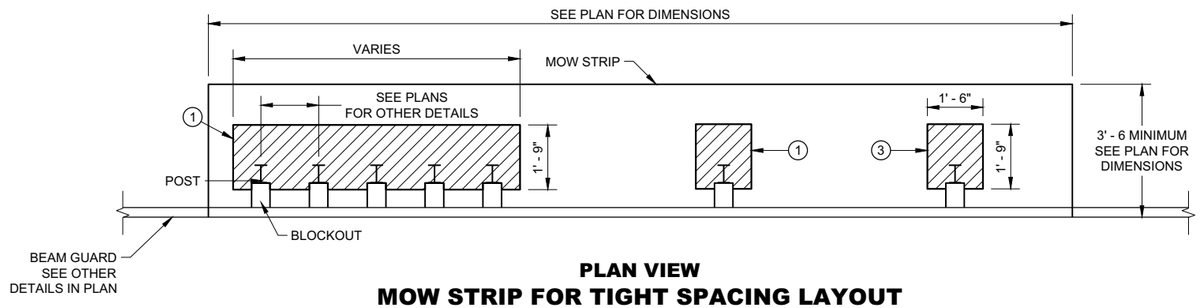



**PLAN VIEW**

## MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT

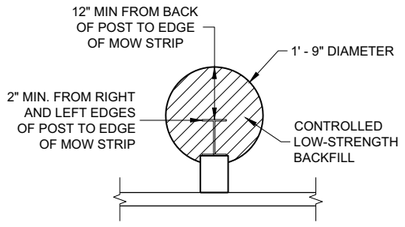



**SECTION B - B**

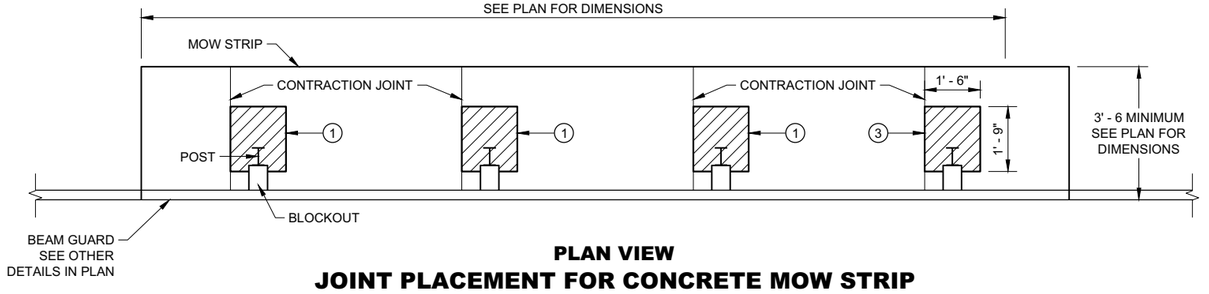



**PLAN VIEW**

## MOW STRIP FOR TIGHT SPACING LAYOUT




## ALTERNATIVE HMA MOW STRIP DESIGN




**PLAN VIEW**

## JOINT PLACEMENT FOR CONCRETE MOW STRIP

**GUARDRAIL MOW STRIP**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




6


SDD 14B28 - 04a

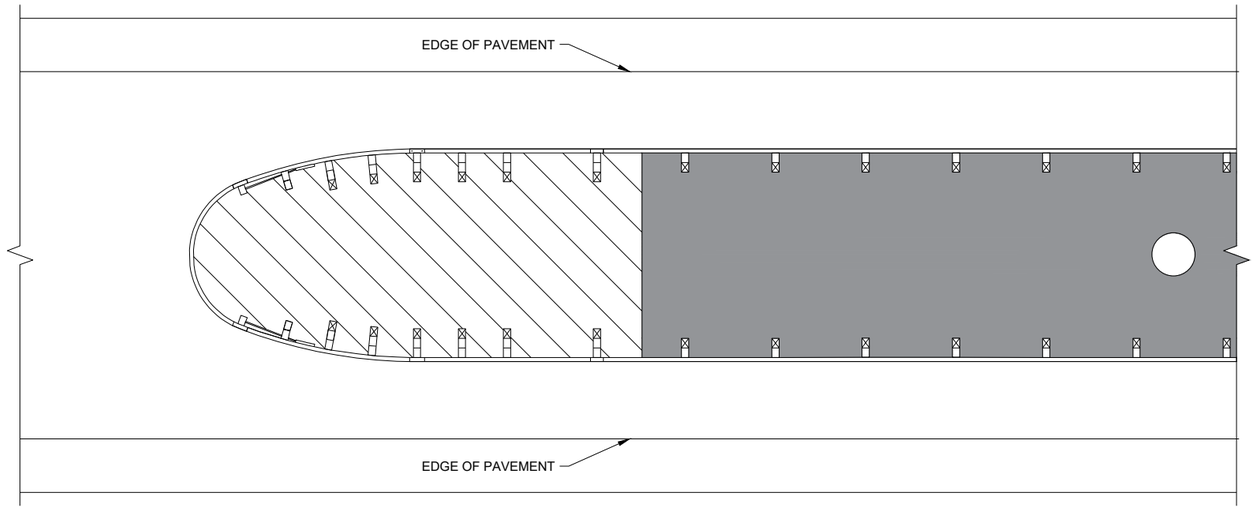
## LEGEND

CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

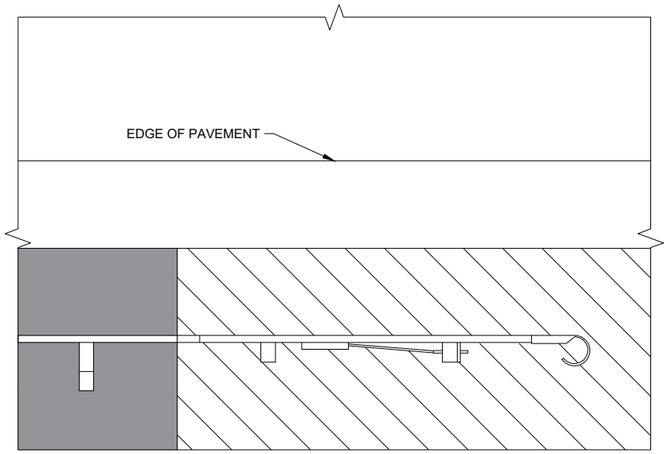
EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

## GENERAL NOTES

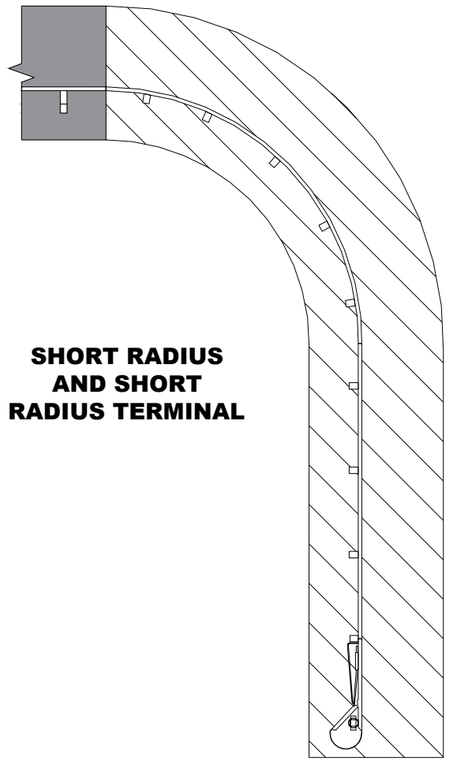
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



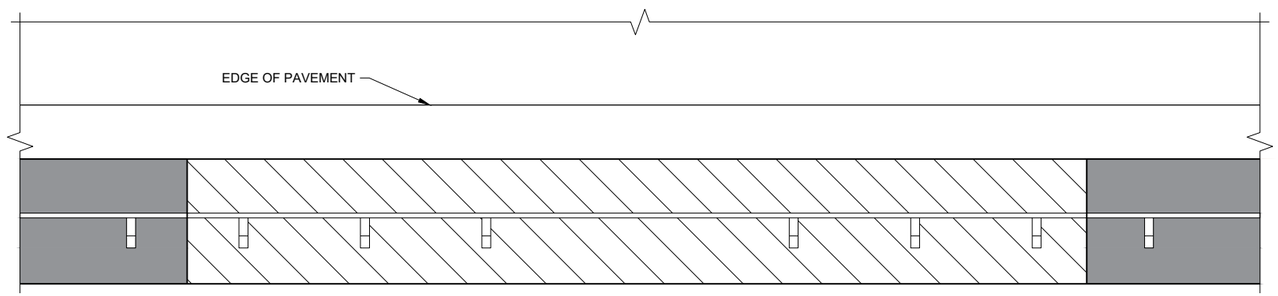

**THRIE BEAM BULLNOSE**




**TYPE 2 TERMINAL**



**SHORT RADIUS AND SHORT RADIUS TERMINAL**




**LONG - SPAN**

**GUARDRAIL MOW STRIP**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

August 2020
DATE

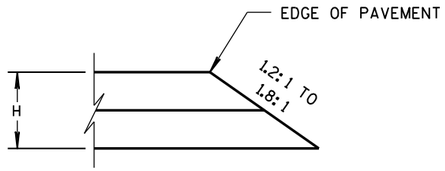
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
ENGINEER

FHWA



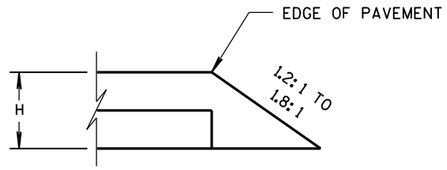


6
SDD 14B28 - 04b



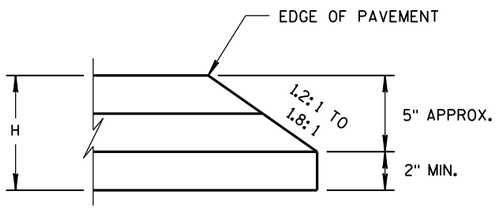

CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



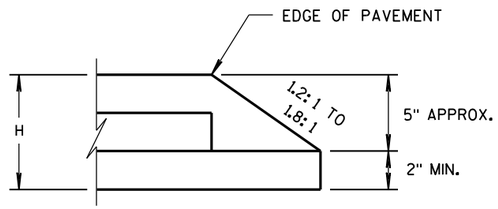

CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS




CONSTRUCTED WITH FINAL TWO LAYERS

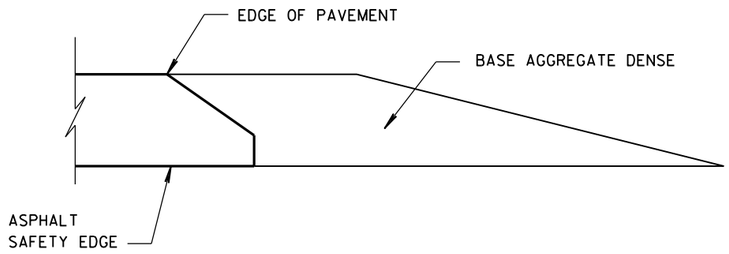
FOR H GREATER THAN 5"




CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

## HMA PAVEMENT AND HMA OVERLAYS




## FINISHED SHOULDER AGGREGATE PLACEMENT

6

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S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

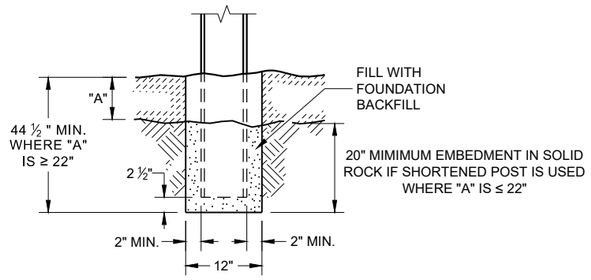
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

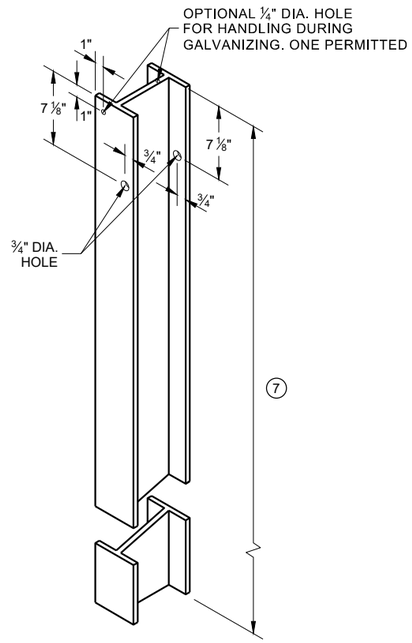
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(6) WHEN USING STEEL POST 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.

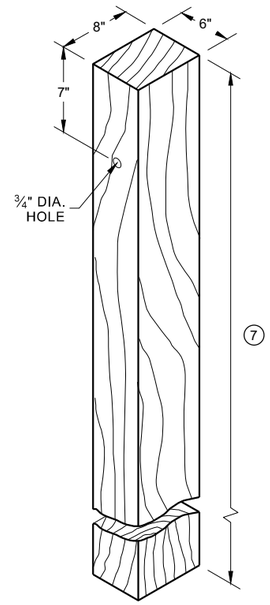
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



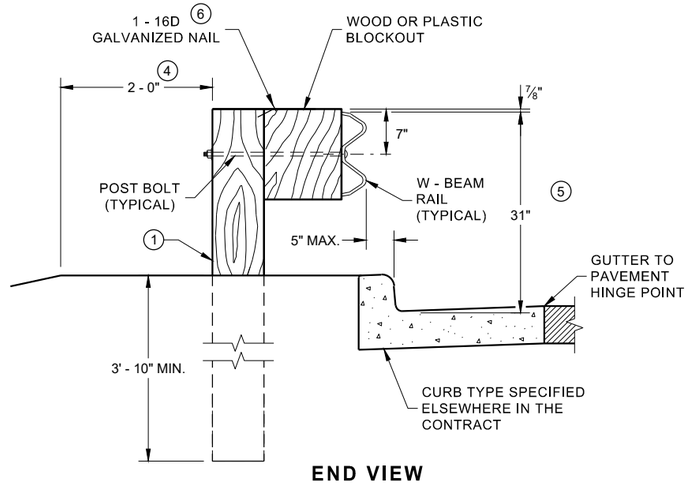

END VIEW
**SETTING STEEL OR WOOD POST IN ROCK** (3)



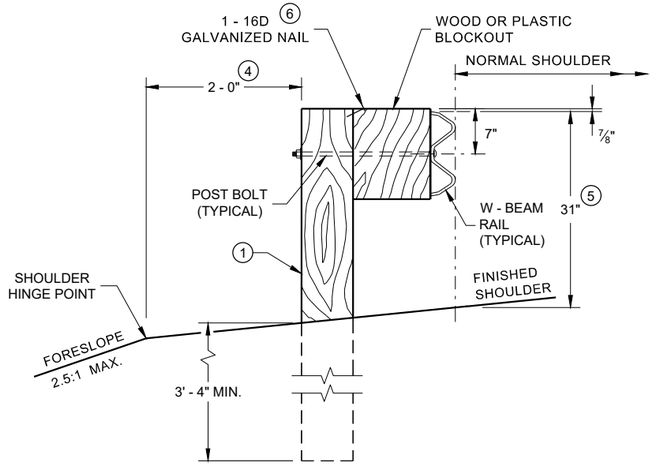

**STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)** (1)



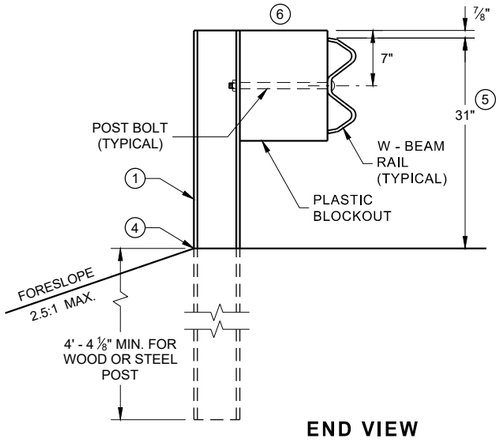

**WOOD POST (6" X 8") NOMINAL** (1)



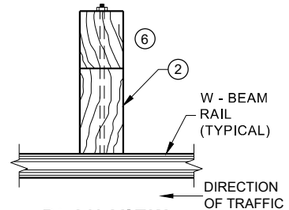

END VIEW
**LOCATED ALONG A CURBED ROADWAY**



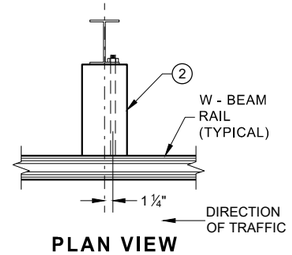

END VIEW
**LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION**



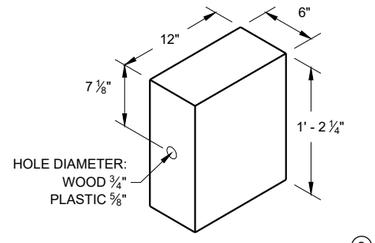

END VIEW
**MGS LONGER POST AT HALFPOST SPACING W BEAM (K)**




PLAN VIEW
**WOOD POST, BLOCKOUT & BEAM**




PLAN VIEW
**STEEL POST, PLASTIC BLOCKOUT & BEAM**




**WOOD OR PLASTIC BLOCKOUT** (2)

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SDD 14B42 - 07a

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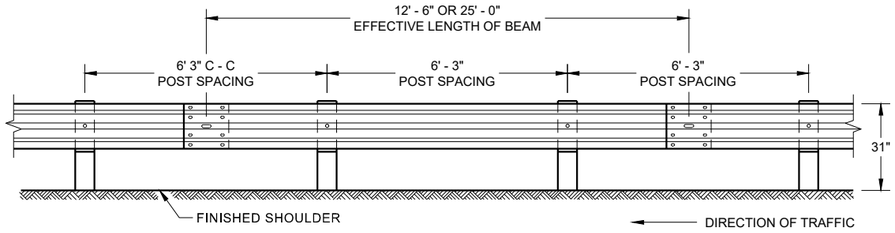
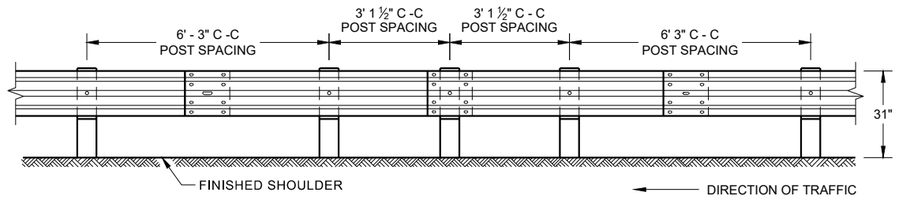
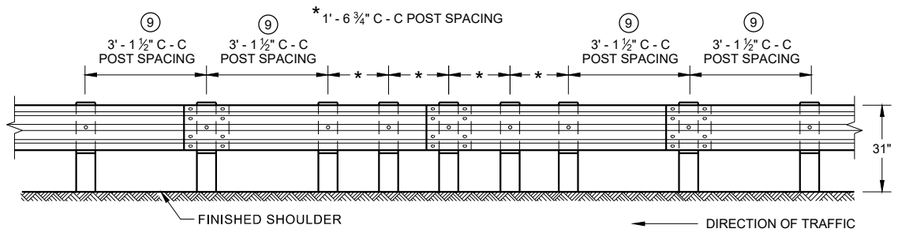


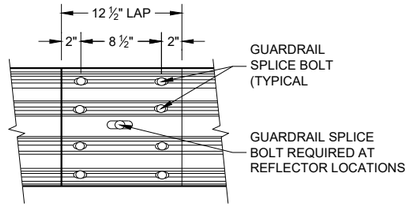

**FRONT VIEW**
**POST SPACING STANDARD INSTALLATION**



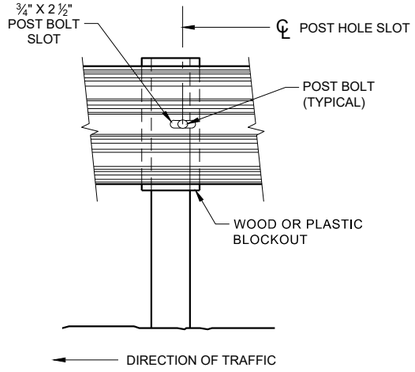

**FRONT VIEW**
**HALF POST SPACING (HS) AND**
**HALF POST SPACING WITH LONGER POSTS (K)**



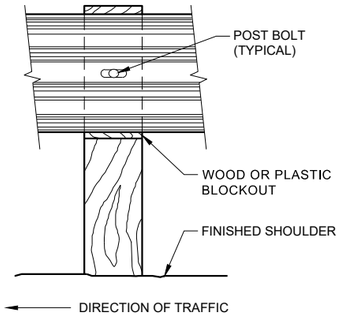

**FRONT VIEW**
**QUARTER POST SPACING (QS)**



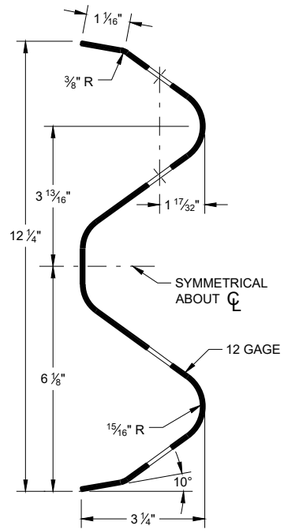

**FRONT VIEW**
**MID-SPAN BEAM SPLICE**



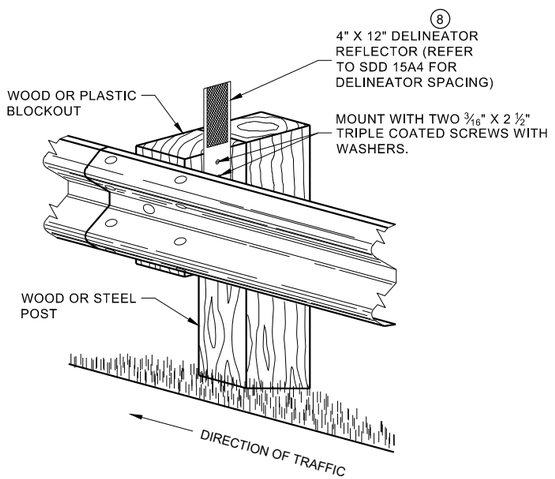

**FRONT VIEW AT STEEL POST**




**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.

⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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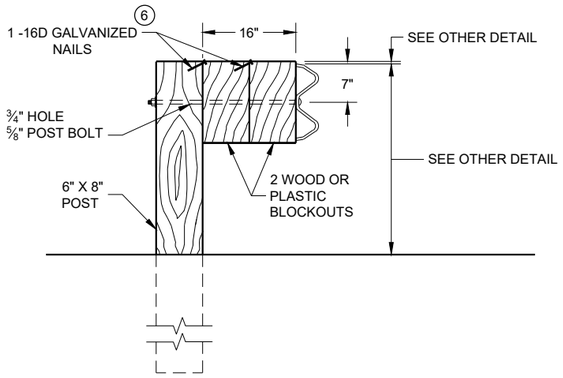
SDD 14B42 - 07b

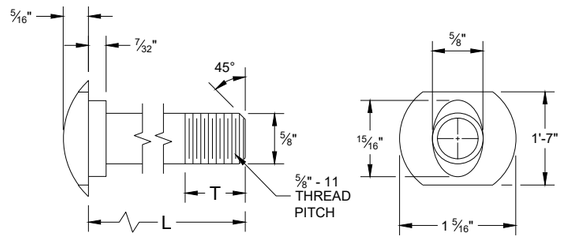



## DETAIL FOR 16" BLOCKOUT DEPTH

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.

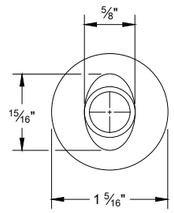
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

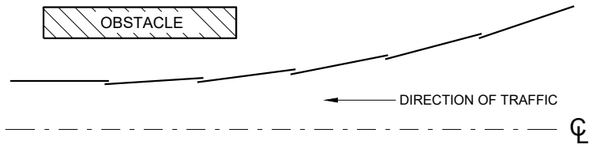



## POST BOLT TABLE

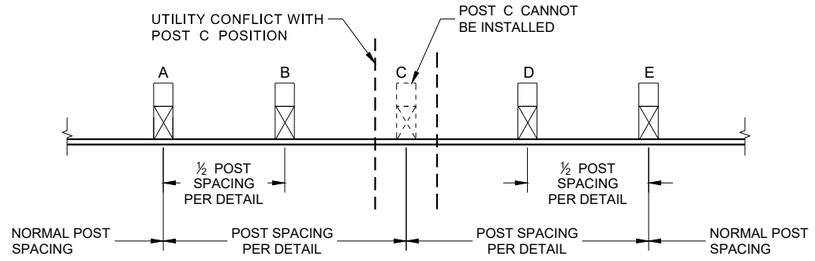
| L | T (MIN.) |
|---|---|
| 1 ¼" | 1 ⅛" |
| 2" | 1 ¾" |
| 10" | 4" |
| 14" | 4 1⁄16" |
| 18" | 4" |
| 21" | 4 1⁄16" |
| 25" | 4" |



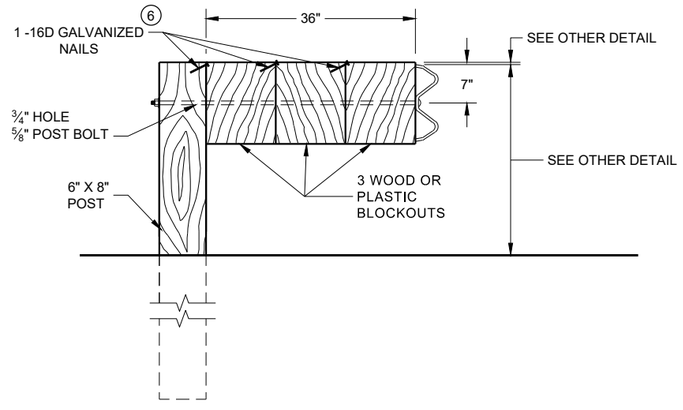

## ALTERNATE BOLT HEAD



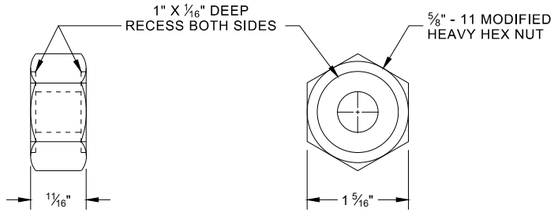

## PLAN VIEW
## BEAM LAPPING DETAIL



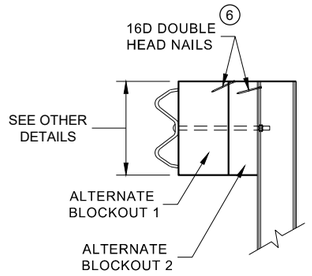

## POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



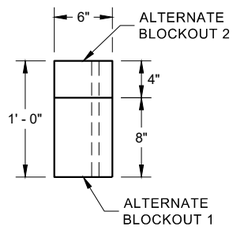

## DETAIL FOR 36" BLOCKOUT DEPTH




## POST BOLT, SPLICE BOLT AND RECESS NUT




## SIDE VIEW




## PLAN VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL

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.

(6) WHEN USING STEEL POST AD 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.

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**



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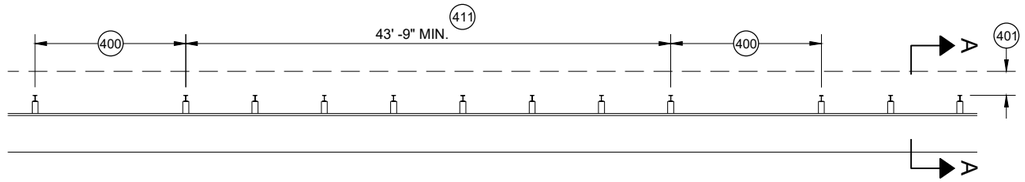
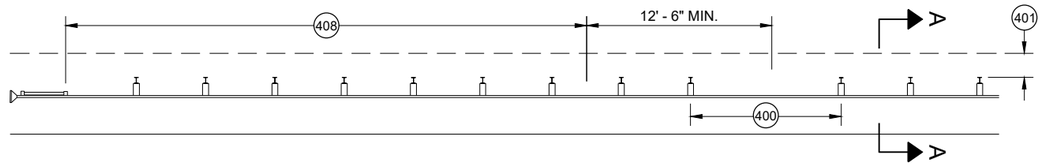
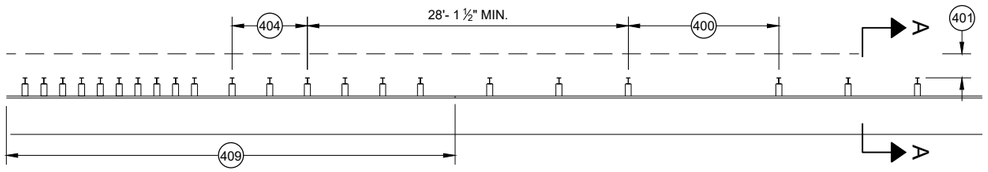
SDD 14B42 - 07c



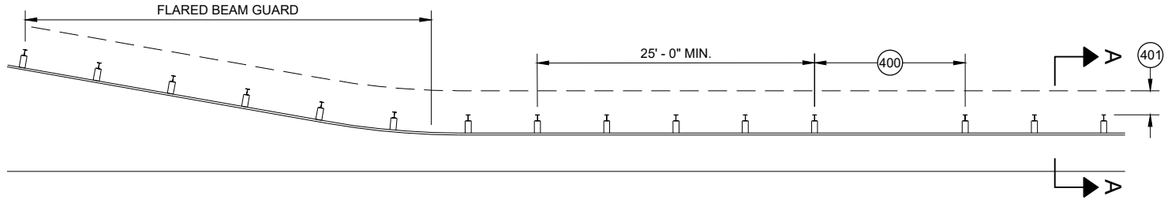

**MISSING POST IN MGS GUARDRAIL**



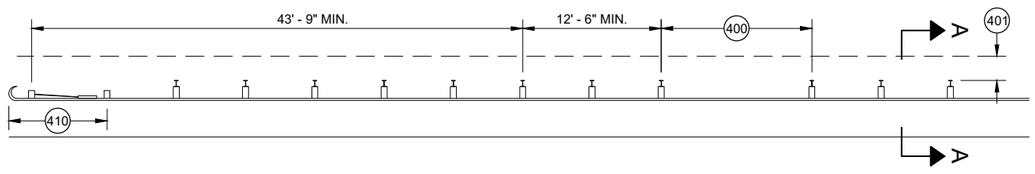

**MISSING POST IN MGS GUARDRAIL NEAR EAT**



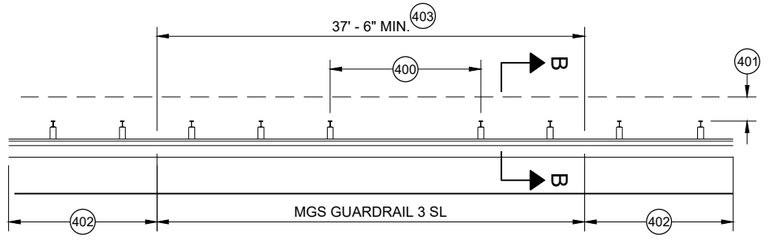

**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**




**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

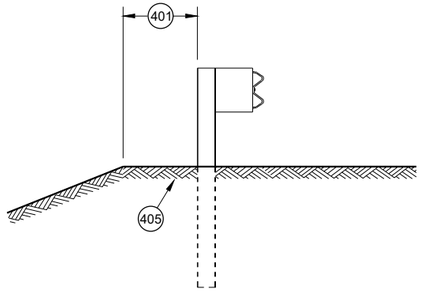



**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

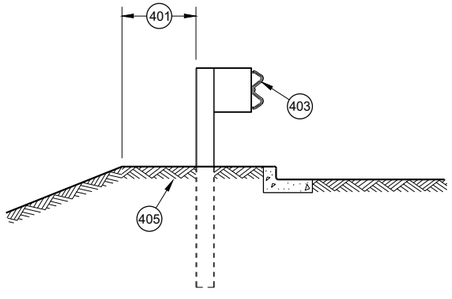



**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)** 407

400 MAX SPAN 12' - 6"
401 2' MIN.
402 MGS GUARDRAIL 3
403 NESTING BEAM GUARD
404 ASYMMETRIC TRANSITION
405 SOIL WELL DRAINED AND COMPACTED
406 SEE OTHER DRAWINGS IN THIS SDD
407 SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
408 SEE SDD 14B44
409 SEE SDD 14B45
410 SEE SDD 14B47
411 MINIMUM DISTANCE BETWEEN MISSING POST SPANS.




**SECTION A - A** 406




**SECTION B - B** 406

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA





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SDD 14B42 - 07d

## GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) 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.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

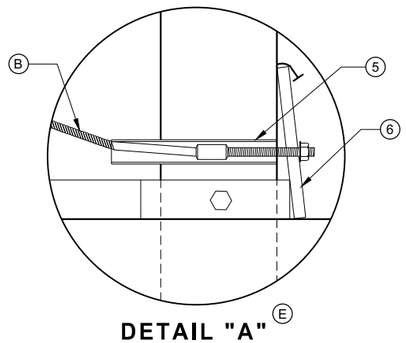
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

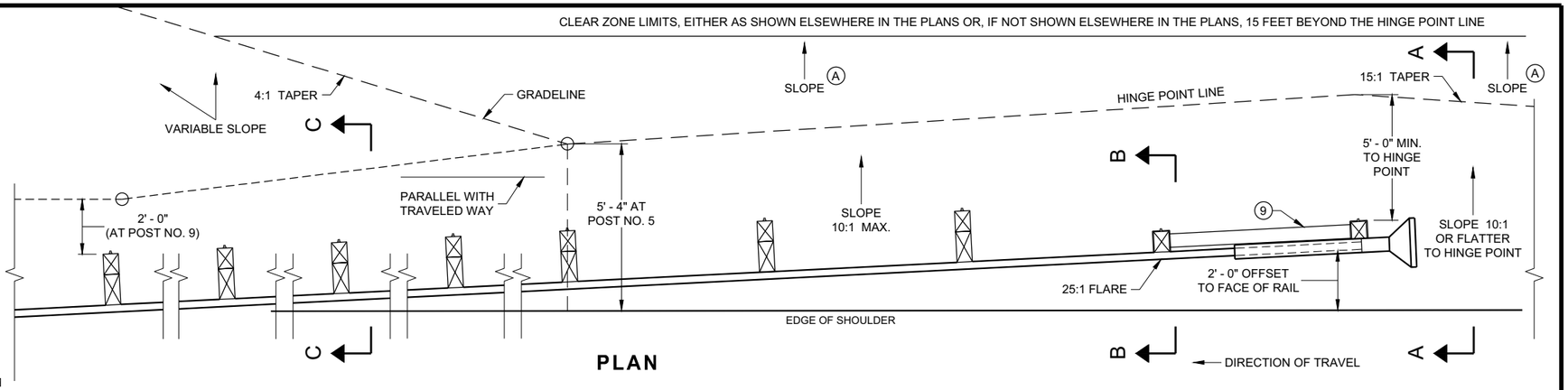
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

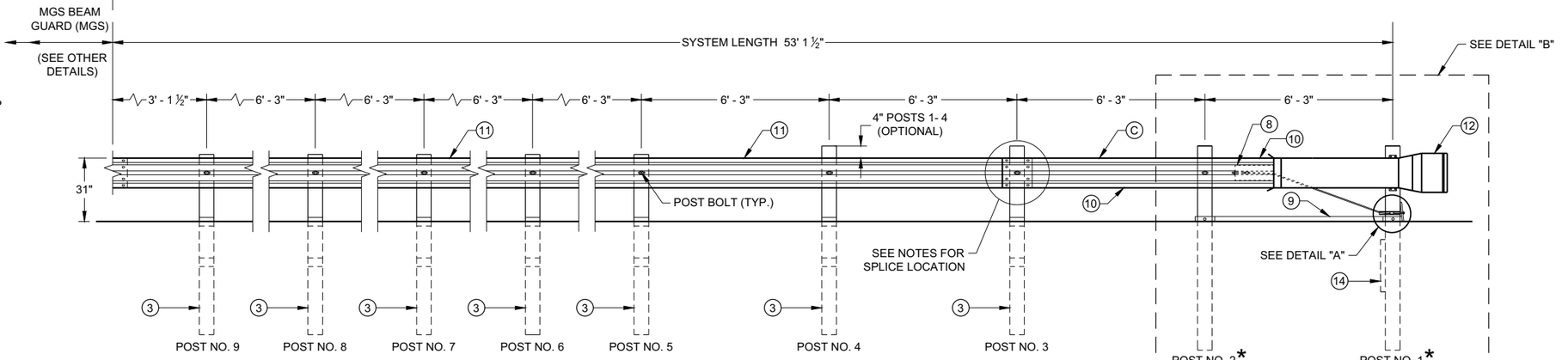
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



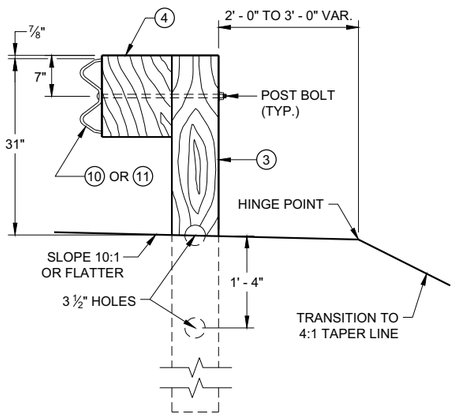

DETAIL "A" (E)



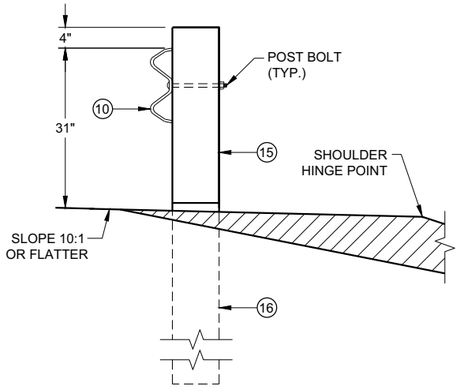

PLAN



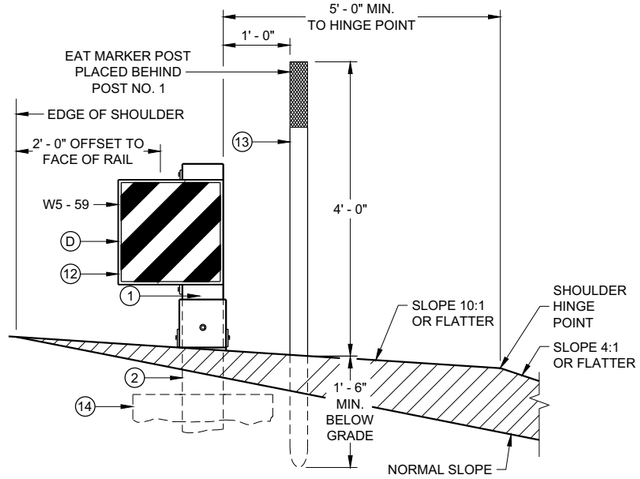

ELEVATION



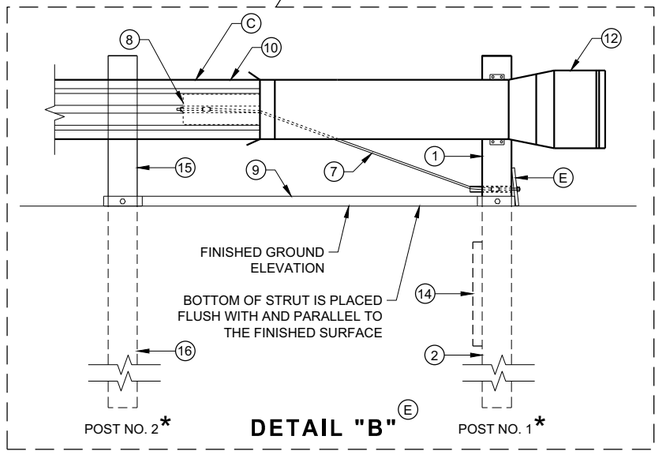

SECTION C - C
TYPICAL AT POST NOS. 3 - 9




SECTION B - B
TYPICAL AT POST NO. 2*




SECTION A - A
TYPICAL AT POST NO. 1*




DETAIL "B" (E)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SDD 14B44 - 04a

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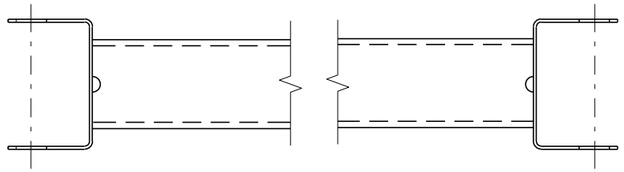
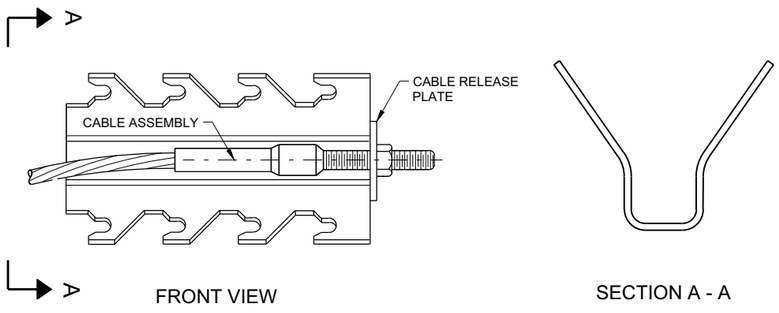


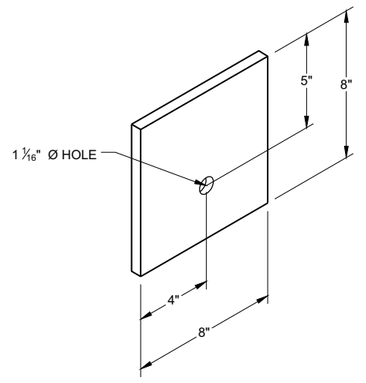
## GENERIC GROUND STRUT ⑨ Ⓔ

## BILL OF MATERIALS

| PART NO. | DESCRIPTION<br>MATERIALS PROVIDED BY MGS EAT MANUFACTURER.<br>SEE MANUGACTURER'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.<br>SECTIONS VARY IN LENGTH. |
| ⑫ | IMPACT HEAD |
| ⑬ | EAT MARKER POST - YELLOW<br>(SEE APPROVED PRODUCTS LIST) |
| ⑭ | SOIL PLATE |
| ⑮ | UPPER POST NO. 2 |
| ⑯ | LOWER POST NO. 2 |




## GENERIC ANCHOR CABLE BOX ⑧ Ⓔ




## BEARING PLATE ⑥ Ⓔ

6

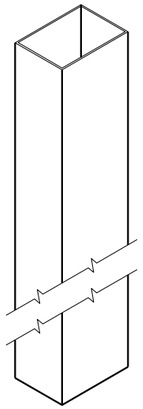
6

SDD 14B44 - 04b

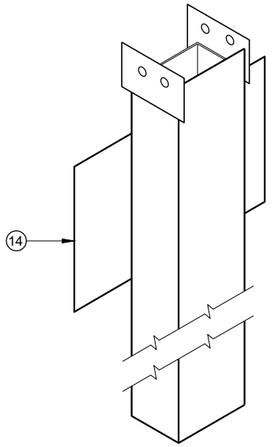
SDD 14B44 - 04b

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

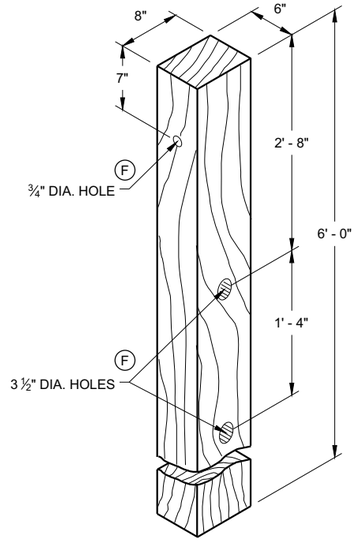
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



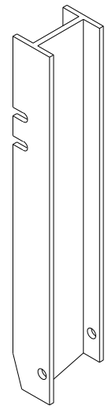
**UPPER POST NO. 1** ① Ⓔ



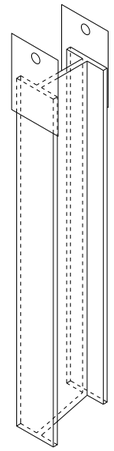

**LOWER POST NO. 1** ② Ⓔ



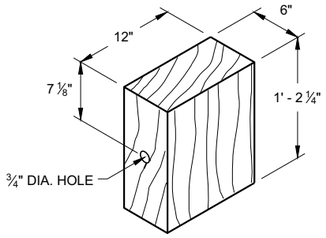

**WOOD CRT POST** ③ Ⓔ
POSTS NUMBER 3-9



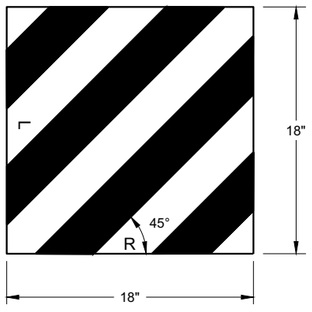
**UPPER POST NO. 2** ⑮ Ⓔ



**LOWER POST NO. 2** ⑯ Ⓔ

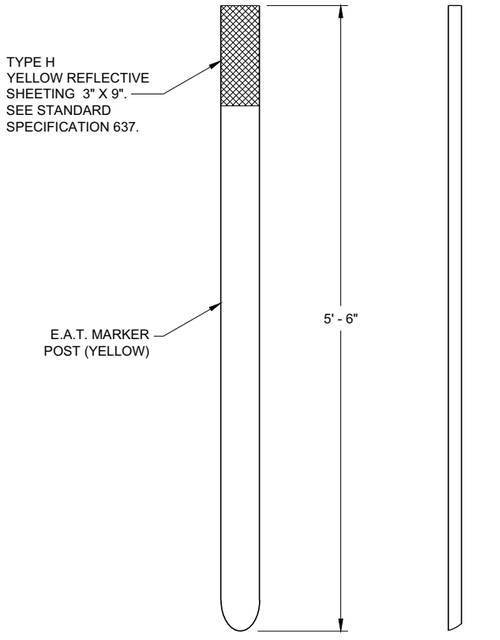



**WOOD BLOCKOUT** ④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



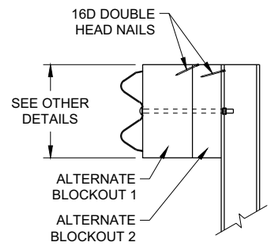

W5 - 59

**REFLECTIVE SHEETING DETAIL** Ⓔ

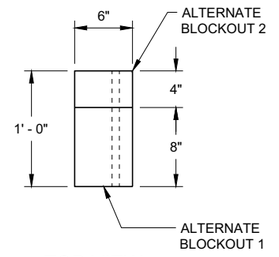



FRONT VIEW SIDE VIEW

**E.A.T. MARKER POST** ⑬




SIDE VIEW




TOP VIEW

**ALTERNATE WOOD BLOCKOUT DETAIL**

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

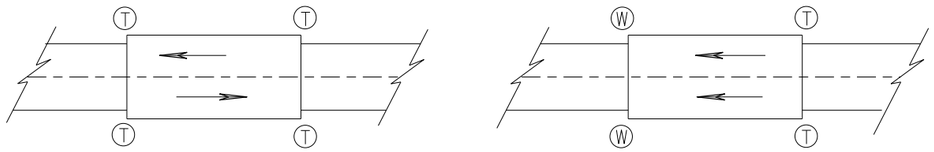
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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




6


SDD 14B44 - 04c




**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 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

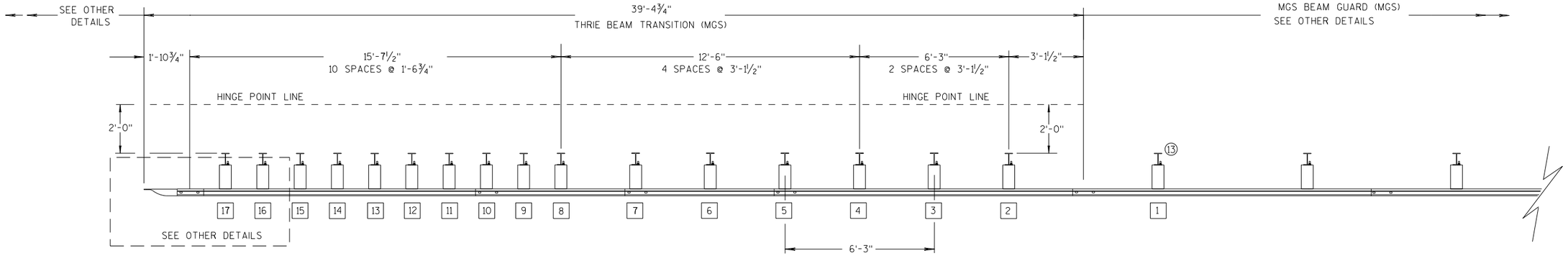
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

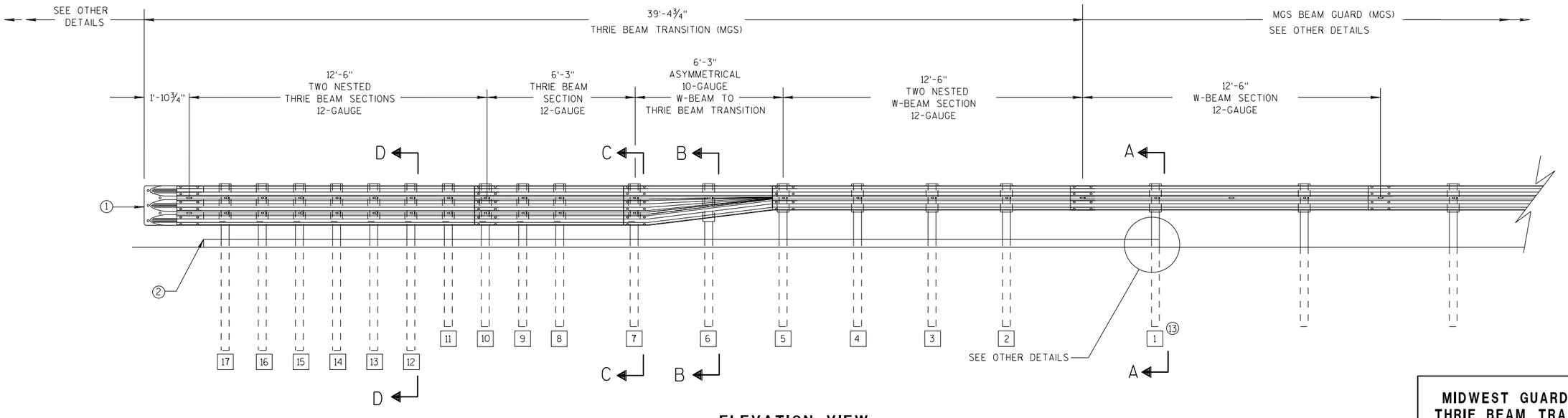
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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 TRANSPOR







6

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

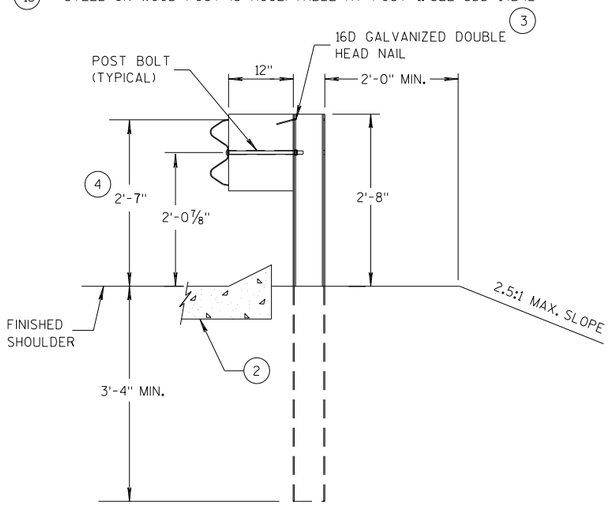
## GENERAL NOTES

(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.

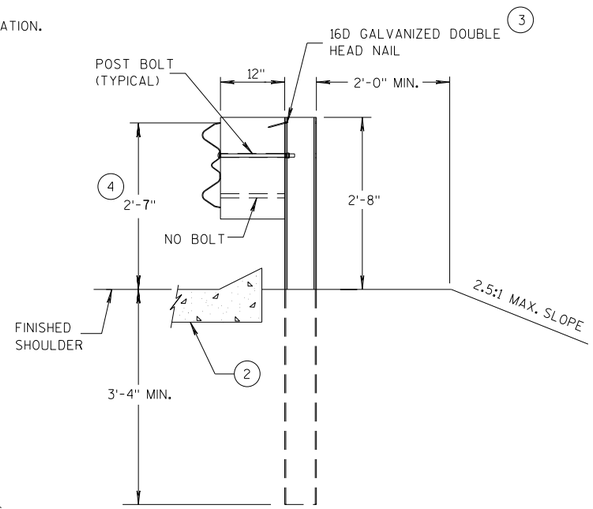
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



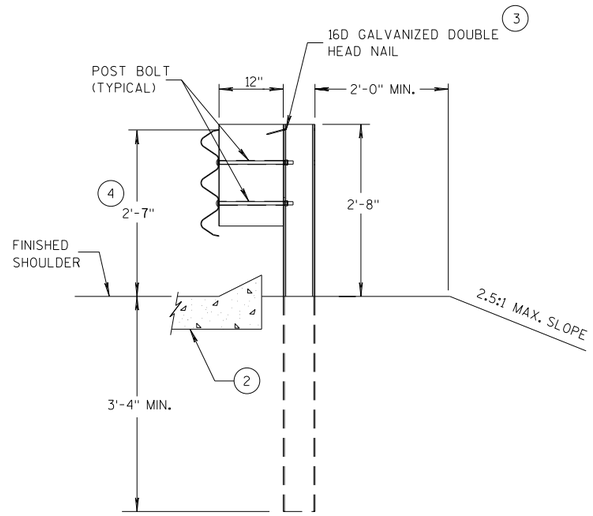

SECTION A-A (13)

**POSTS 1-5**



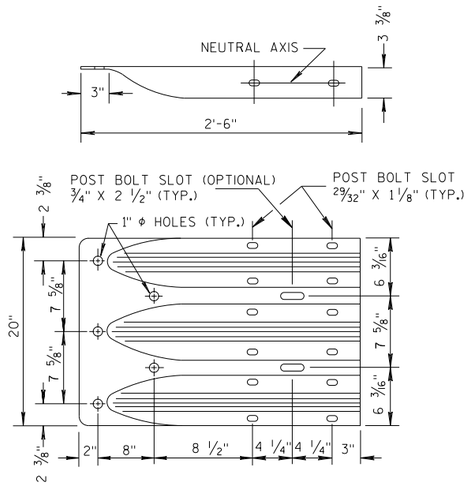

SECTION B-B

**POST 6**

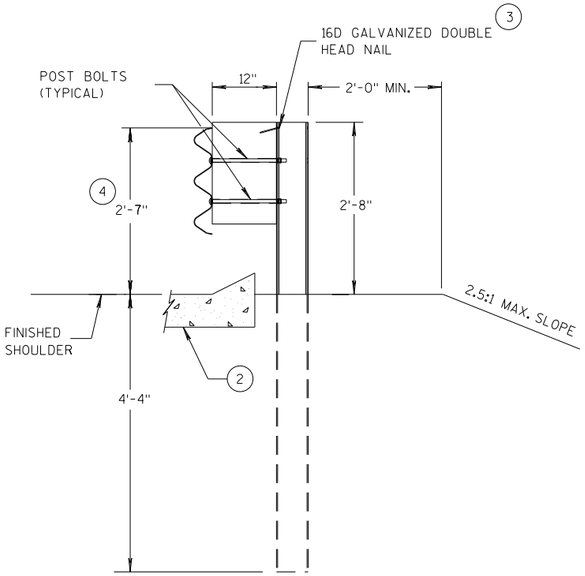



SECTION C-C

**POSTS 7-11**

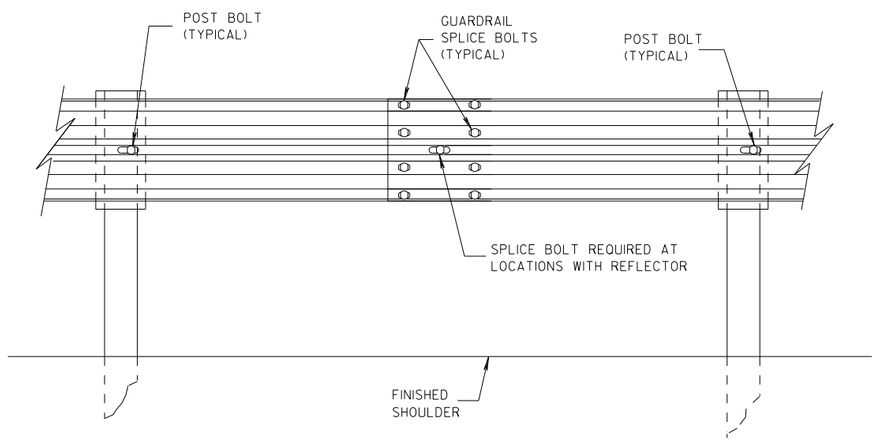



**THRIE BEAM TERMINAL CONNECTOR**




SECTION D-D

**POSTS 12-17**




**SPLICE DETAIL**

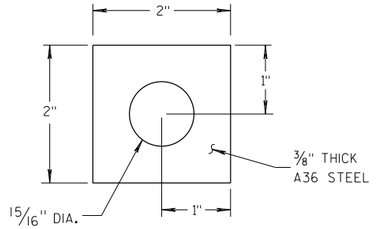
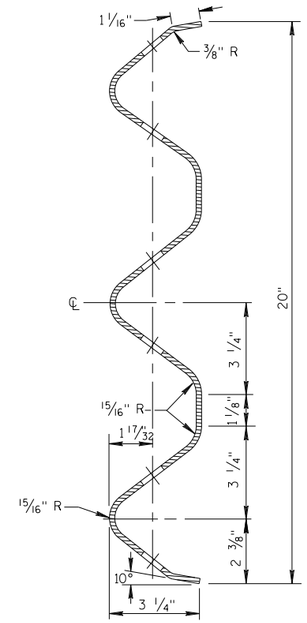



**PLATE WASHER DETAIL**




**SECTION THRU THRIE BEAM RAIL ELEMENT**

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

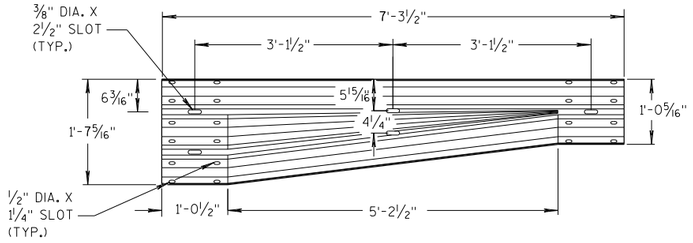
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 134

6

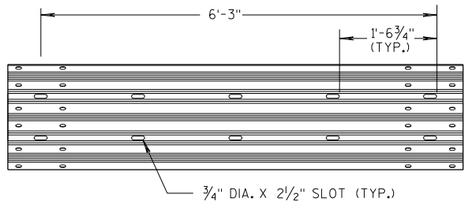
S.D.D. 14 B 45-5b

6

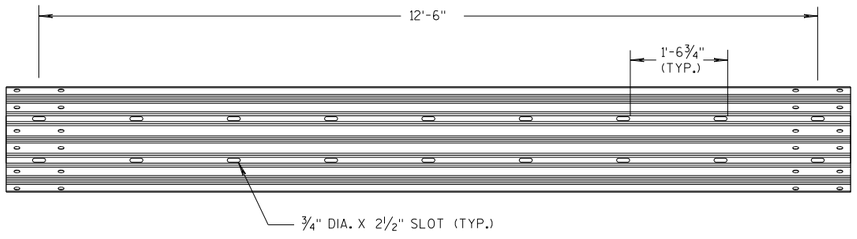
S.D.D. 14 B 45-5b



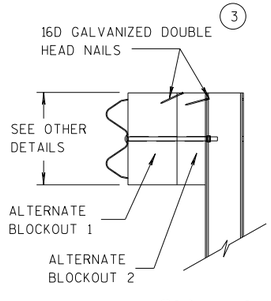

## W-BEAM TO THRIE BEAM TRANSITION SECTION



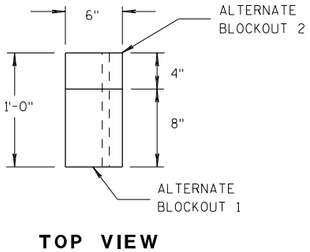

## 6'-3" THRIE BEAM SECTION




## 12'-6" THRIE BEAM SECTION

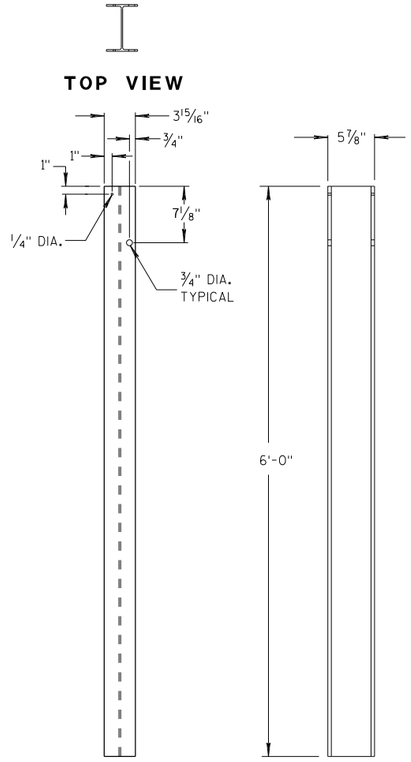



SIDE VIEW



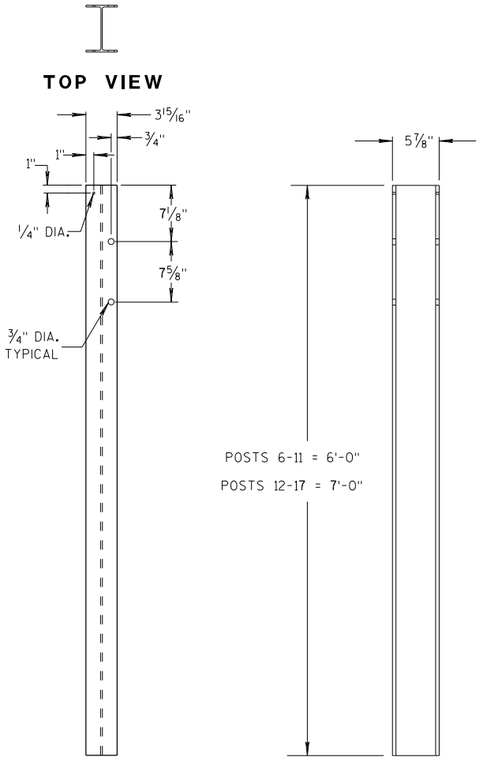

TOP VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL



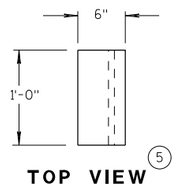

FRONT VIEW SIDE VIEW

## STEEL POSTS 1-5 (13)

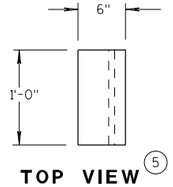



FRONT VIEW SIDE VIEW

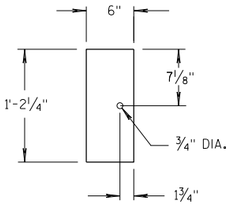
## STEEL POSTS 6-17




TOP VIEW (5)

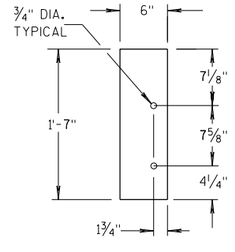



TOP VIEW (5)




FRONT VIEW

## BLOCKOUT POSTS 1-5




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.

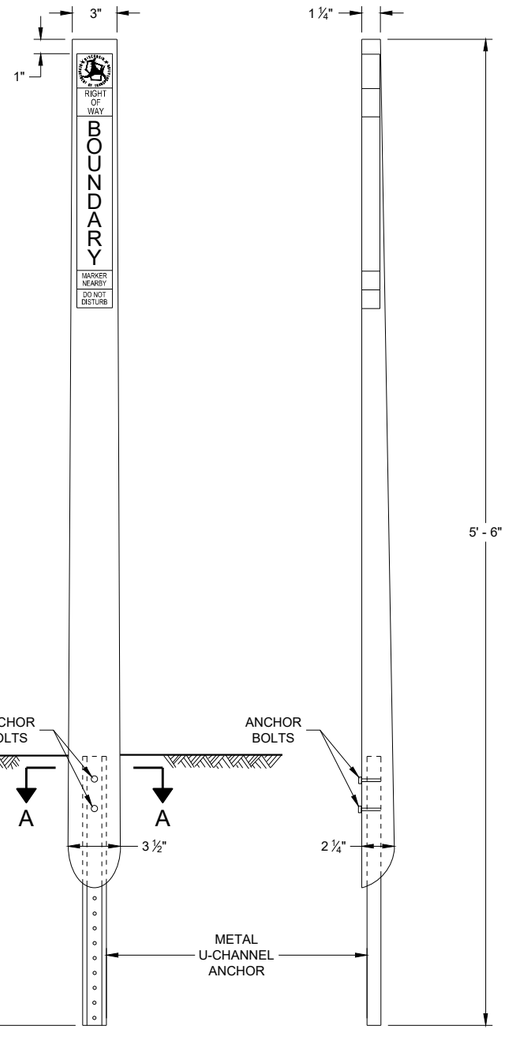
**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF



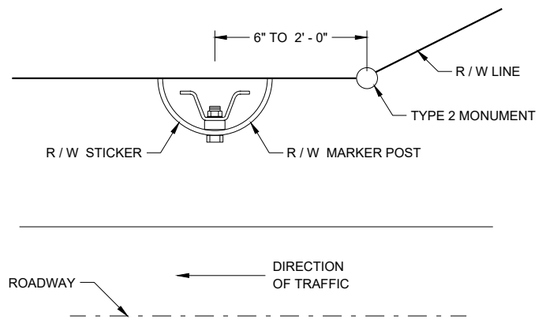

6

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

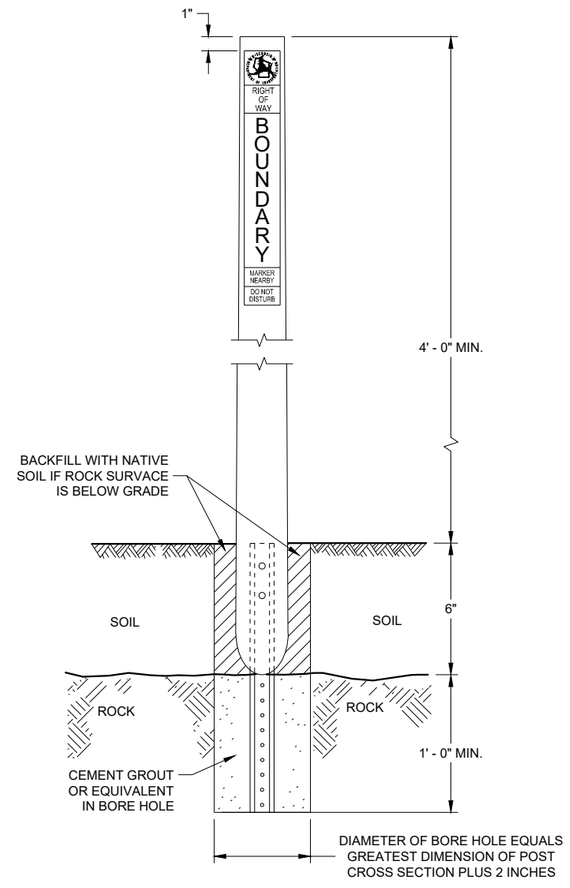



**FRONT VIEW** **SIDE VIEW**

**FLEXIBLE MARKER POST FOR ① RIGHT-OF-WAY**




**PLAN VIEW**




**FRONT VIEW** ①②

**ROCK INSTALLATION**

## GENERAL NOTES

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

A FLEXIBLE MARKER POST FOR RIGHT -OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

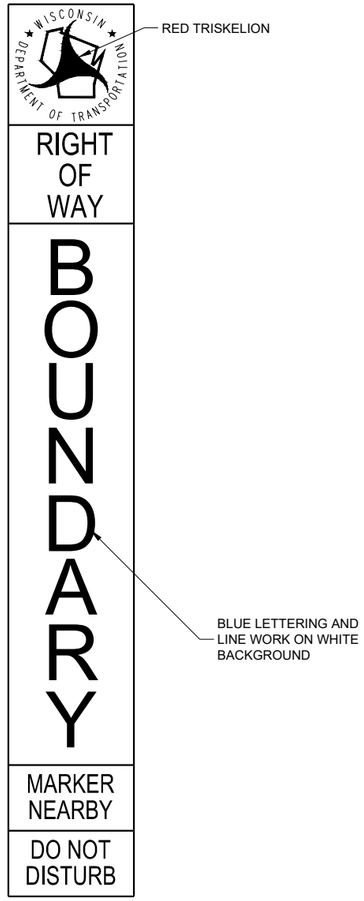
THE RIGHT-OF-WAY STICKER DIMENSIONS SHALL BE 2 ¼" X 17" AND THE STICKER SHALL BE MADE OF A NON-RELECTIVE VINYL MATERIAL. THE RIGHT-OF-WAY STICKER SHALL FACE THE ROADWAY.

INSTALL PER DEPTH OF MANUFACTURER'S RECOMMENDATION BUT NOT LESS THAN 18 INCHES BELOW GRADE FROM THE BOTTOM OF THE METAL U-CHANNEL ANCHOR.

① FLEXIBLE MARKER POSTS SHALL BE INCLUDED IN THE APPROVED PRODUCTS LIST FOR MARKER POSTS AND SHALL BE FEDERAL YELLOW IN COLOR.

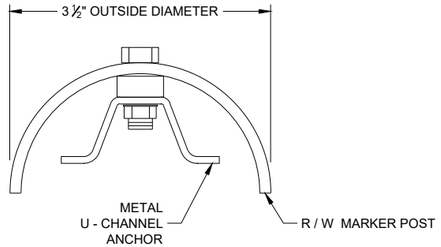
② IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 4' - 0" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

FILL THE BORE HOLE WITH CEMENT GROUT OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.




**RIGHT-OF-WAY STICKER**

THE RIGHT-OF-WAY STICKER SHALL BE ATTACHED 1" FROM THE TOP OF THE RIGHT-OF-WAY POST PRIOR TO DELIVERY.




**SECTION A - A**

**FLEXIBLE MARKER POST FOR RIGHT - OF - WAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/16/2016 DATE
/S/ Ray Kumapayii
CHIEF SURVEYING AND MA ENGINEER

FHWA

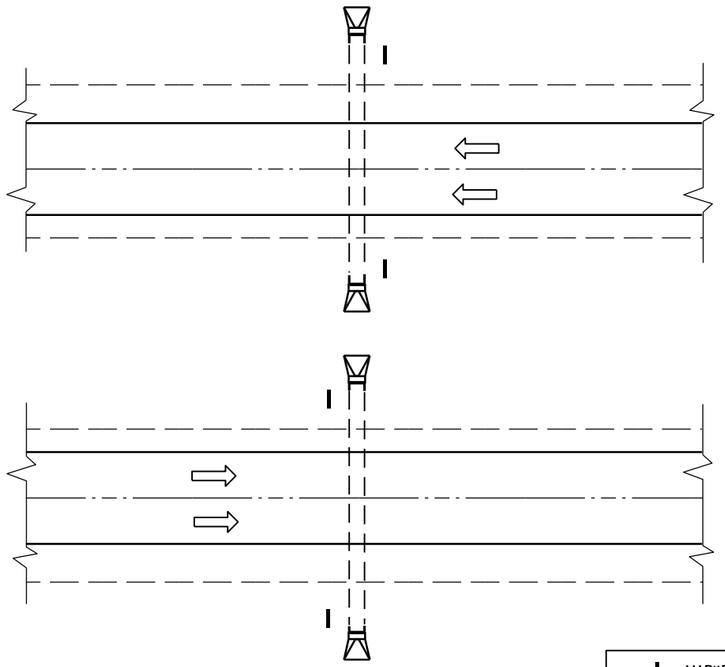


6

SDD15A01 - 13b

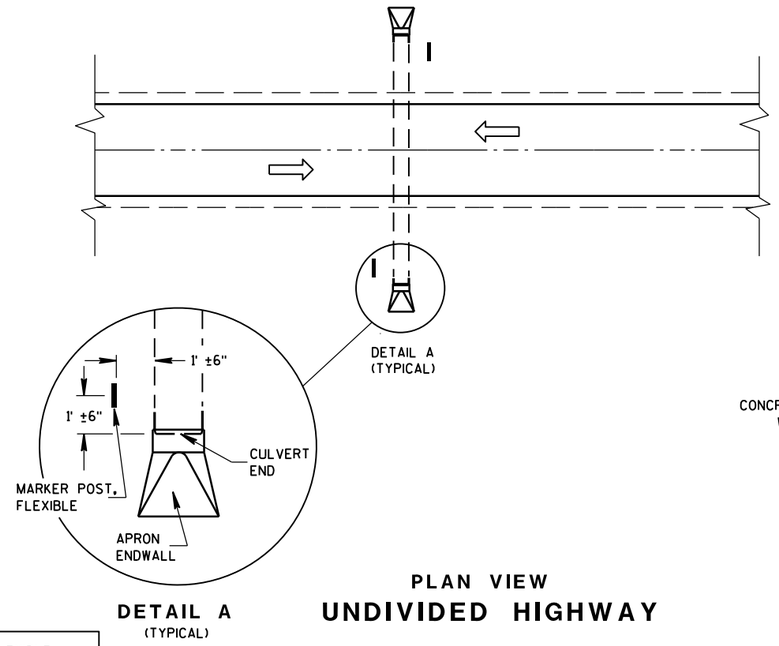
6

SDD15A01 - 13b



PLAN VIEW

## DIVIDED HIGHWAY




DETAIL A
(TYPICAL)

PLAN VIEW

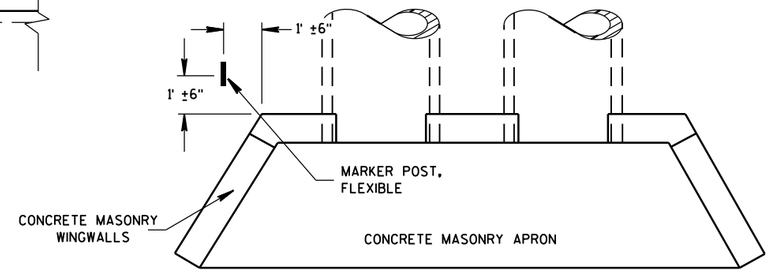
## UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

## GENERAL NOTES

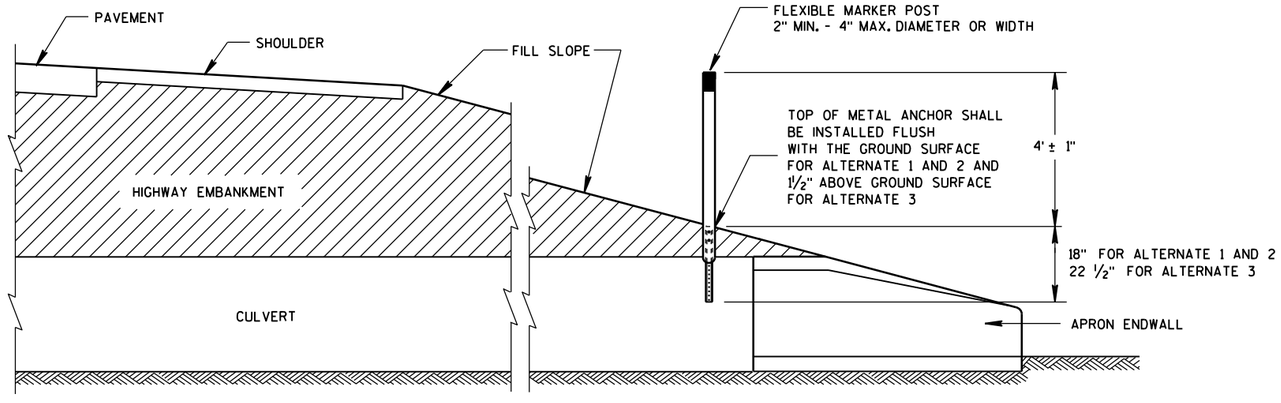
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.




PLAN VIEW

## CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

## FLEXIBLE MARKER POST LOCATION




CROSS SECTION

## FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

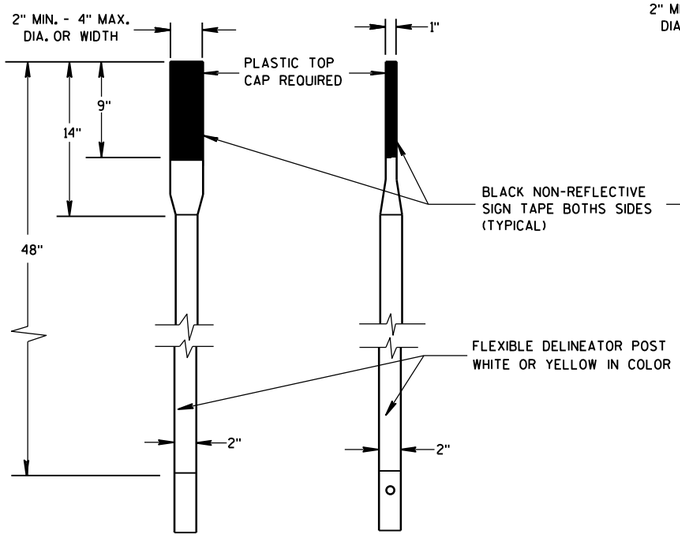


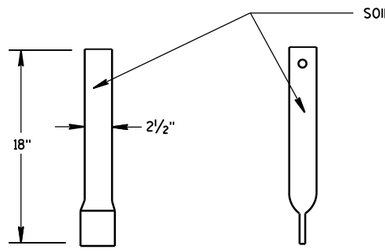
6

S.D.D. 15 A 3-2a

6

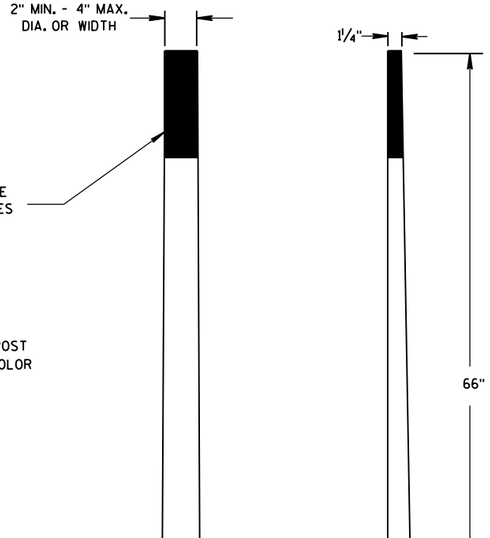
S.D.D. 15 A 3-2a



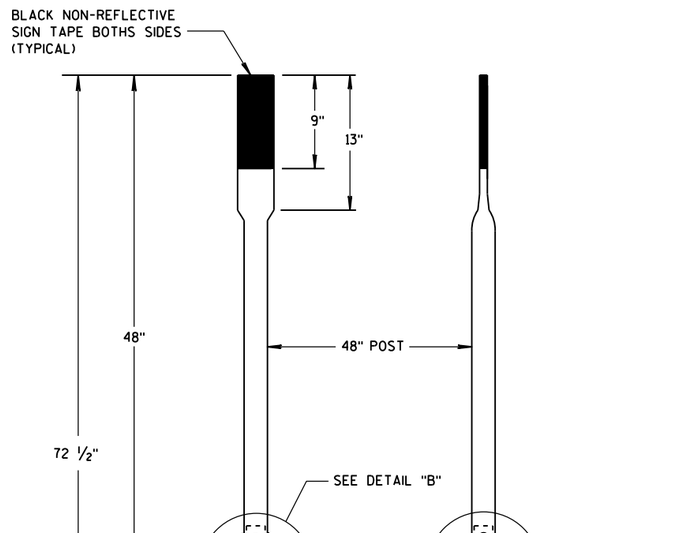

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

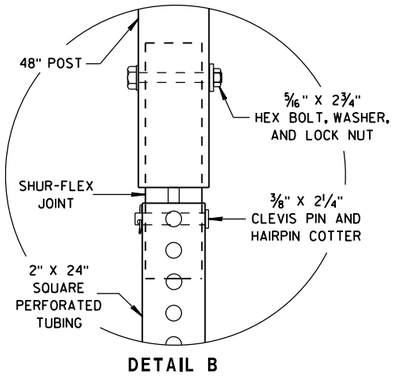
ALTERNATE 2



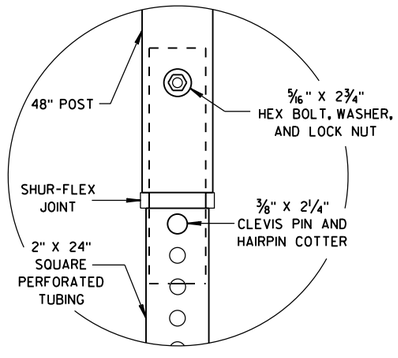

FRONT VIEW SIDE VIEW

ALTERNATE 3

## FLEXIBLE MARKER POSTS




DETAIL B

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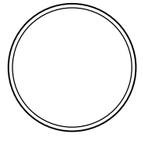
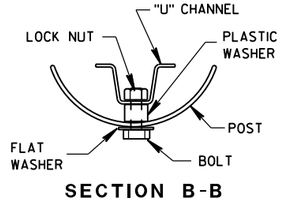
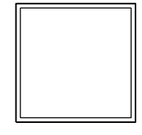


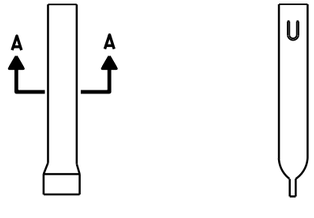
SECTION A-A




SECTION B-B

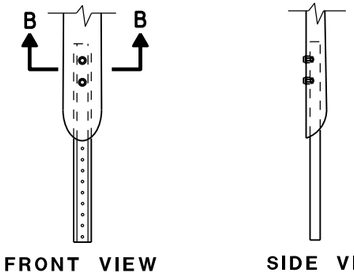


SECTION C-C



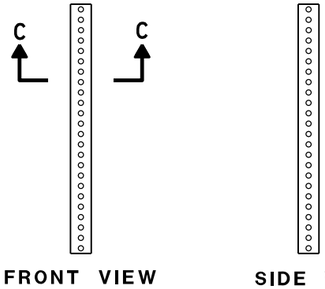

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

ALTERNATE 2




FRONT VIEW SIDE VIEW

ALTERNATE 3

## FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

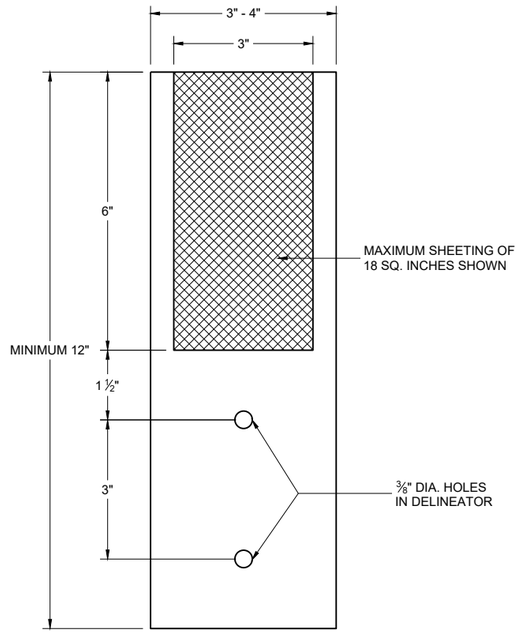


6

S.D.D. 15 A 3-2b

6

S.D.D. 15 A 3-2b




**4" x 12" DELINEATOR**
**WITH REFLECTIVE SHEETING**

**REFLECTOR SPACING TABLE**

| REFLECTOR SPACING | MINIMUM NUMBER OF REFLECTORS |
|---|---|
| 100' C-C | 3 |

**DELINEATOR POST**
**WITH REFLECTIVE SHEETING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

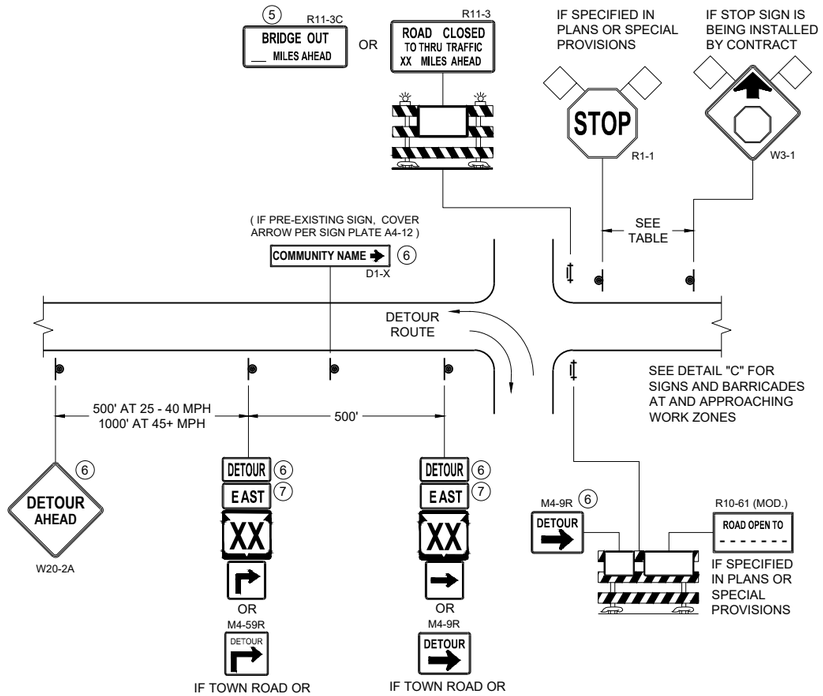
APPROVED
March 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA



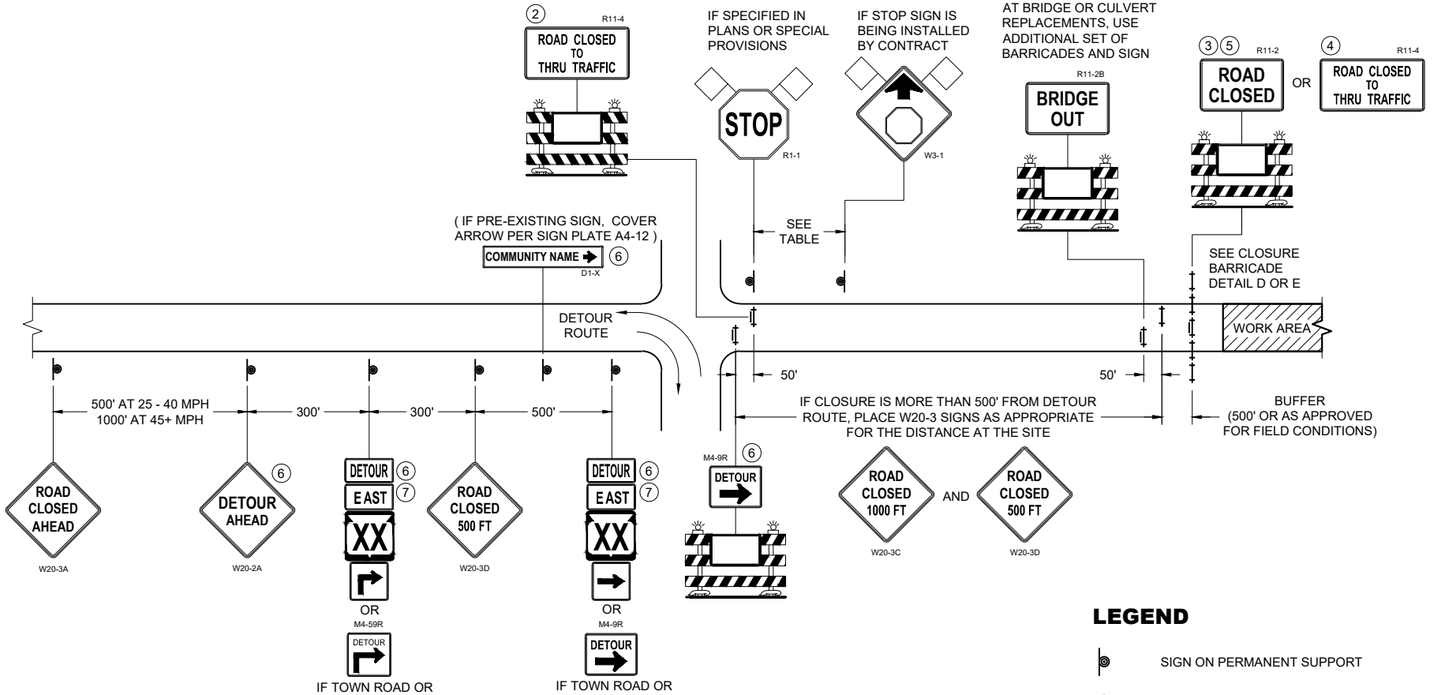

6
SDD 15A04-08e




**DETAIL A**

**MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )




**DETAIL B**

**MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )

## LEGEND

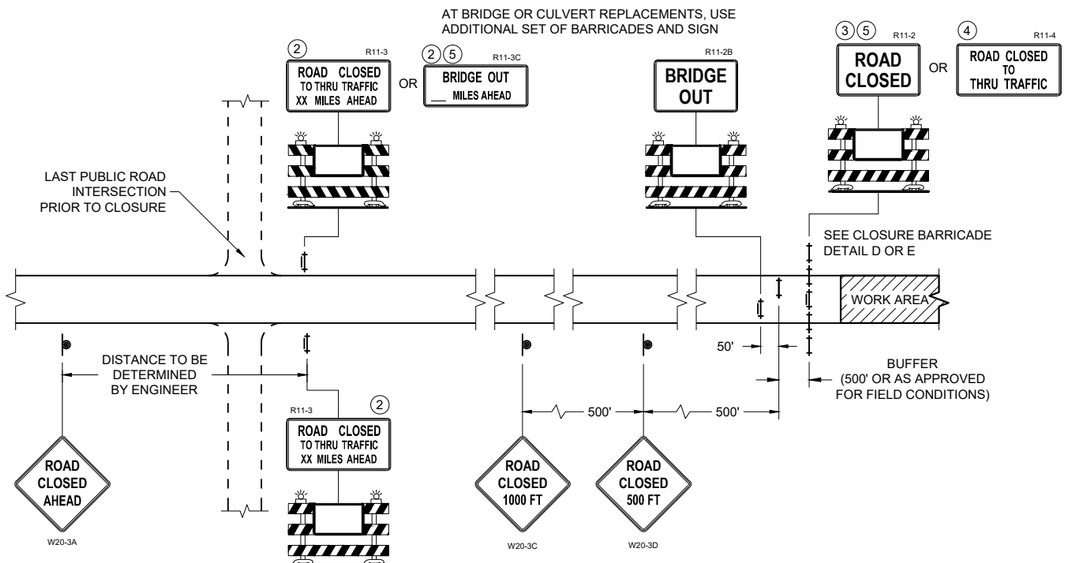
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8

EAST M3 - X

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M06 - 1




**DETAIL C**

**MAINLINE CLOSURE, NO POSTED DETOUR**

| SPEED LIMIT (MPH) | "STOP AHEAD" ADVANCE WARNING DISTANCE (FT) |
|---|---|
| 25 | 200 |
| 30 | 200 |
| 35 | 350 |
| 40 | 350 |
| 45 | 500 |
| 50 | 550 |
| 55 | 750 |

SEE SDD 15C2-SHEET "b" FOR GENERAL NOTES AND FOOTNOTES (1) THROUGH (7)

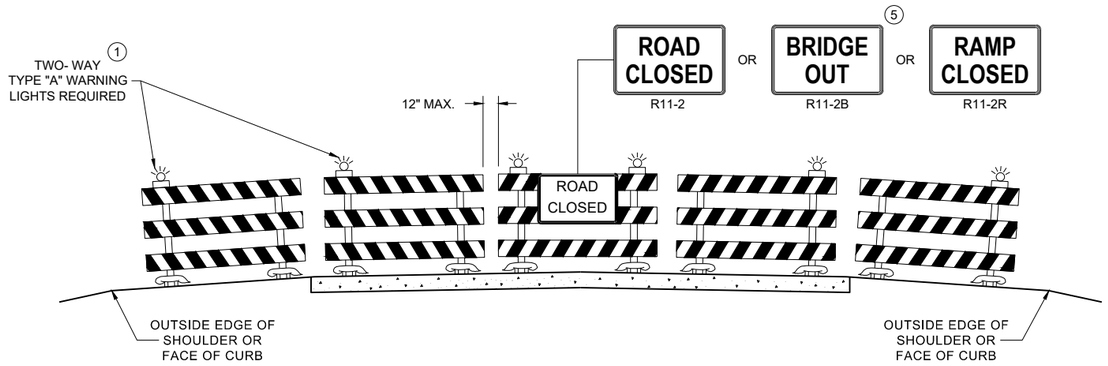
**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

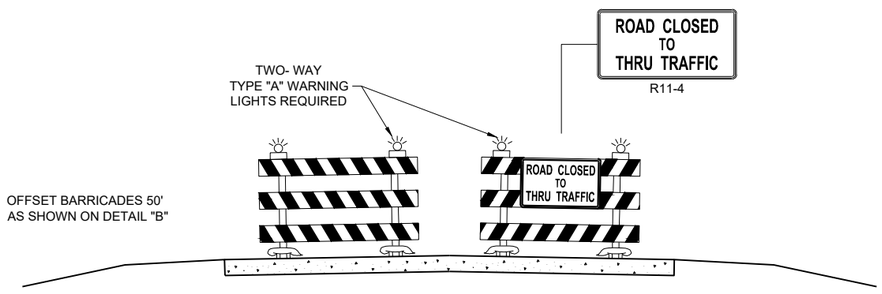

6
SDD 15C02-10a




**DETAIL D**

**ROAD CLOSURE BARRICADE DETAIL**

**APPROACH VIEW**




**DETAIL E**

**LANE CLOSURE BARRICADE DETAIL**

**APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

PARTIAL NUMBERS ON SIGNS SHALL BE DISPLAYED AS A WHOLE NUMBER(AS NEEDED) FOLLOWED BY A FRACTION. SIGNS SHALL NOT DISPLAY NUMBERS IN DECIMAL FORM.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

SIGNS PLACED ON TYPE III BARRICADES THAT ARE SIZES OTHER THAN 48"X30" SHALL HAVE A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE.

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS FOR VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA




6

SDD 15C02-10b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

## LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

## GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

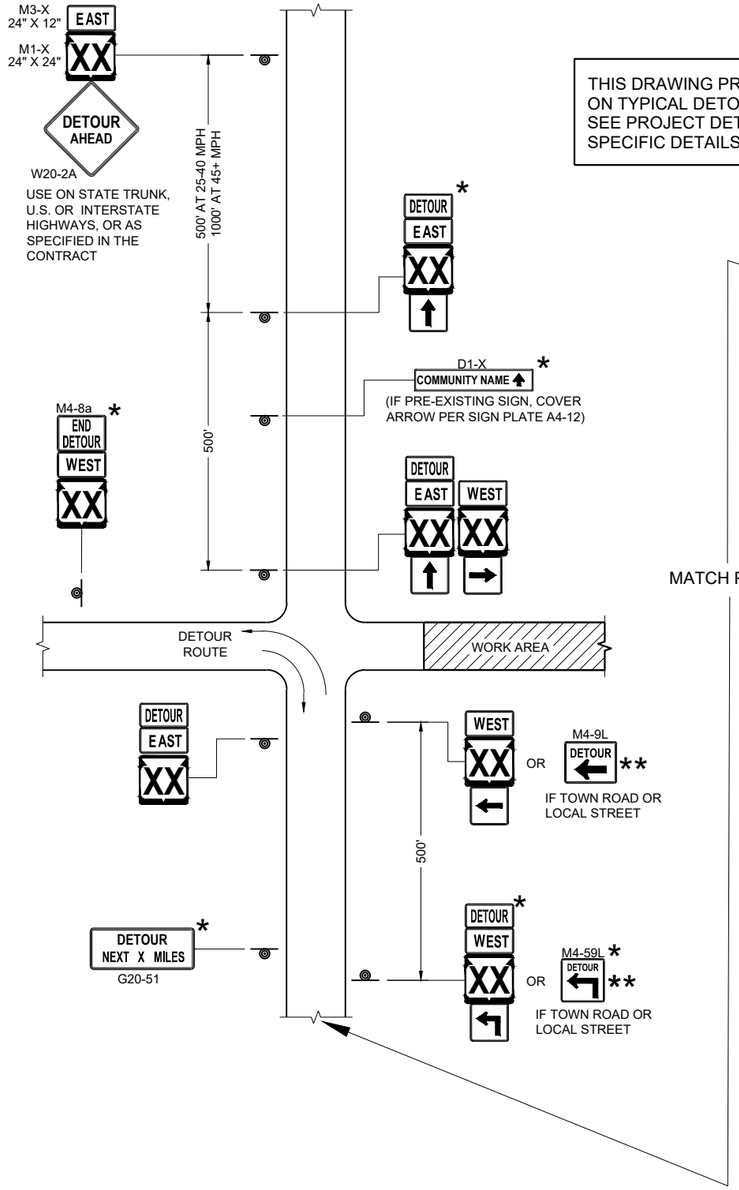
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

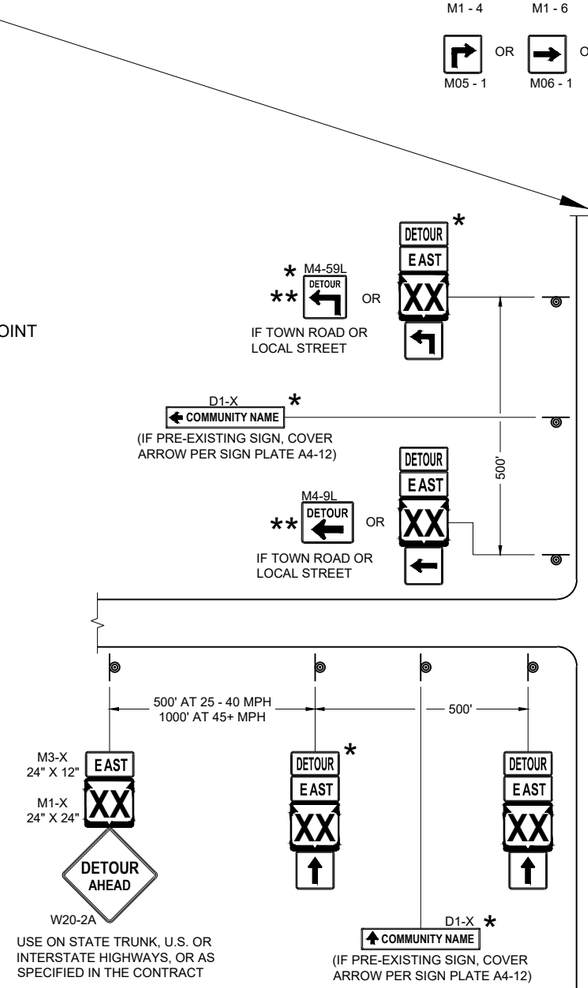
SIGN SIZES SHALL BE AS FOLLOWS:

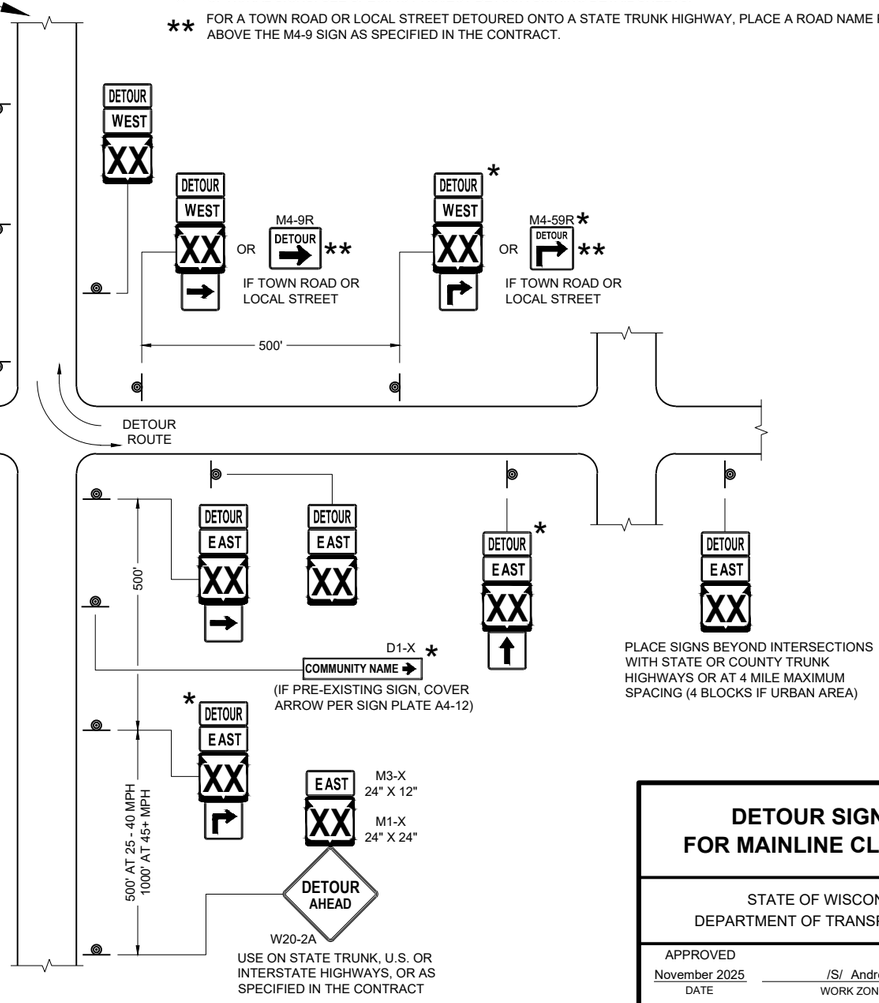
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.




SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

**DETAIL F**
**DETOUR SIGNING**

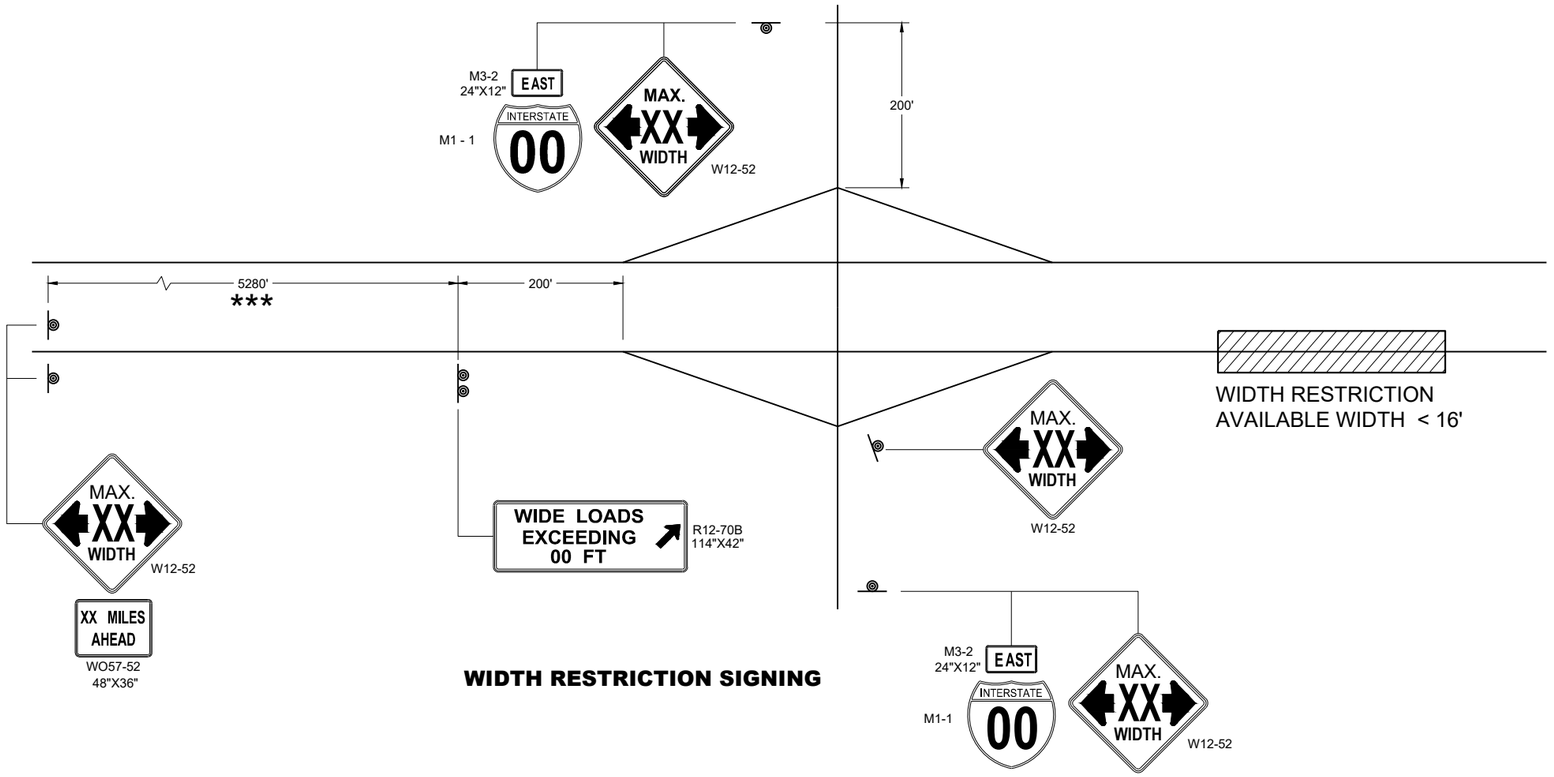
## DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA


6
SDD 15C02-10c




**WIDTH RESTRICTION SIGNING**

## LEGEND

SIGN ON PERMANENT SUPPORT

## GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL " IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

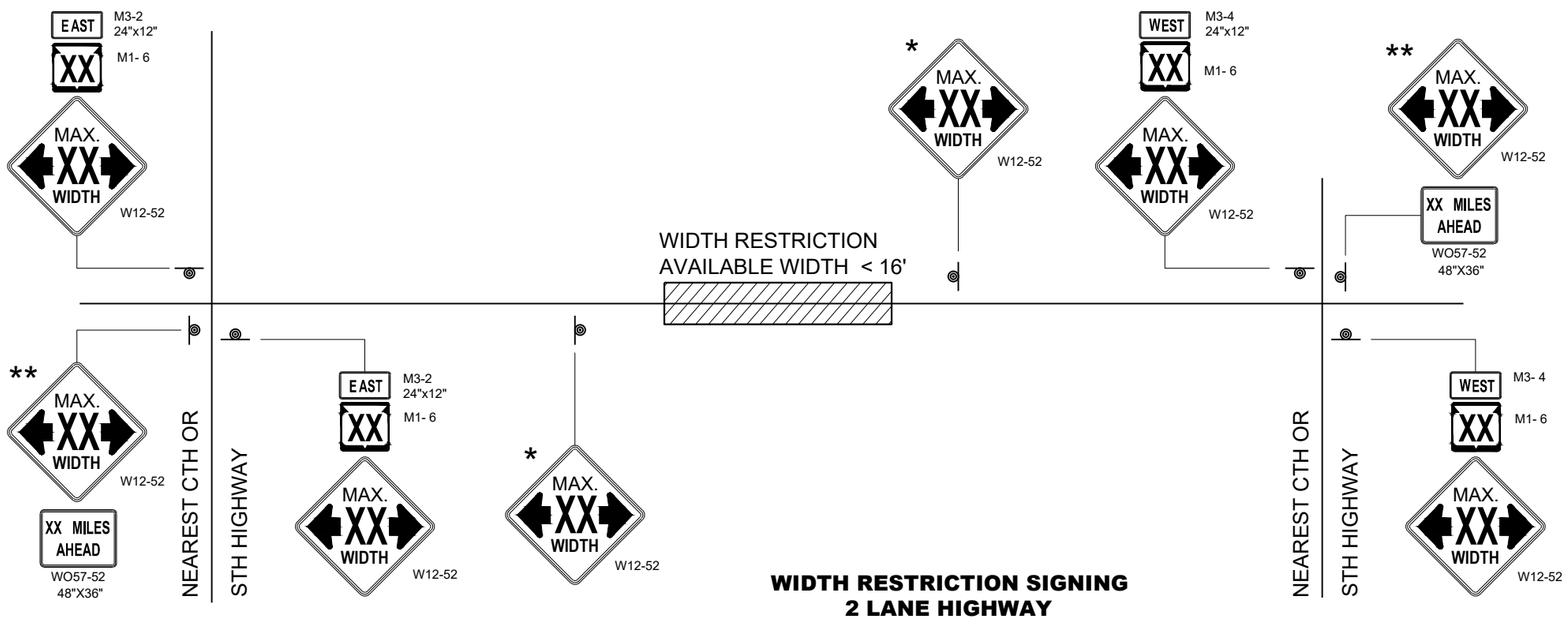
WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.

WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH




**WIDTH RESTRICTION SIGNING**
**2 LANE HIGHWAY**

**ADVANCED WIDTH RESTRICTION SIGNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

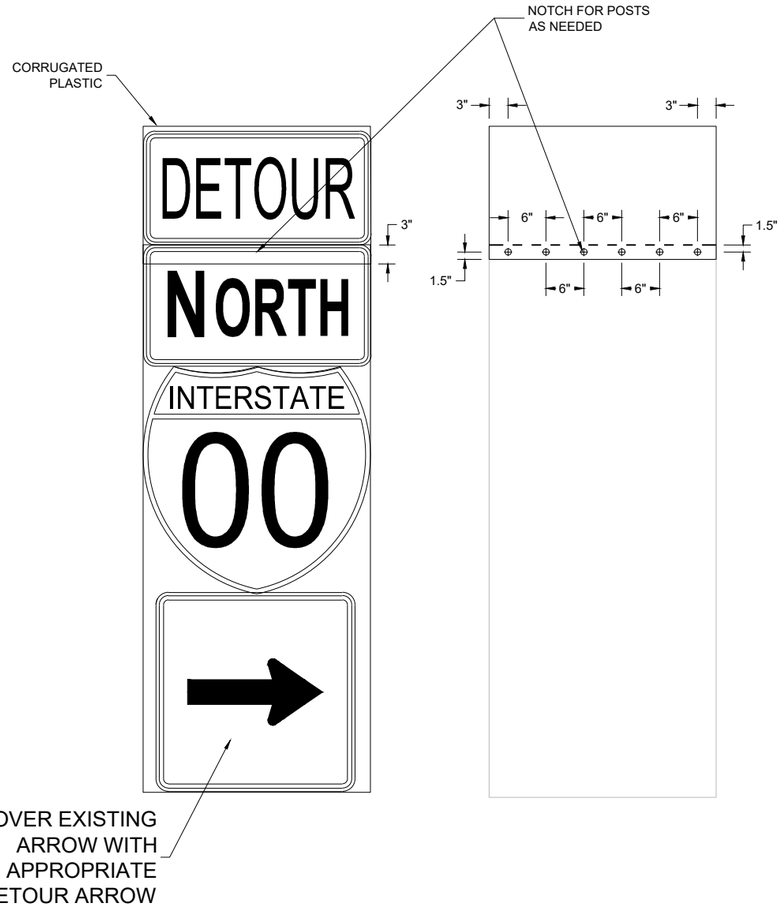


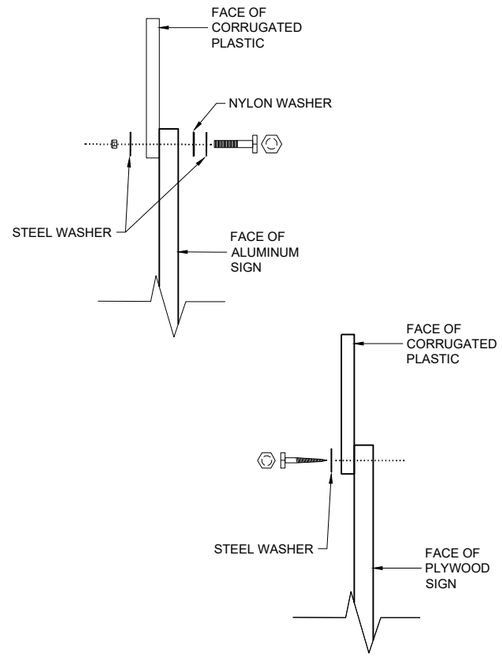
6

SDD 15C02-10f

SDD 15C02-10f

**FRONT SIDE** **BACK SIDE** **SIDE VIEW**




## GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3.
B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

PLYWOOD SIGNS:
LAG SCREWS - 5/16" x 1"
ALUMINUM SIGNS:
MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS
WASHERS:
1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
1-1/4" O.D. x 3/8" I.D. x .080 NYLON

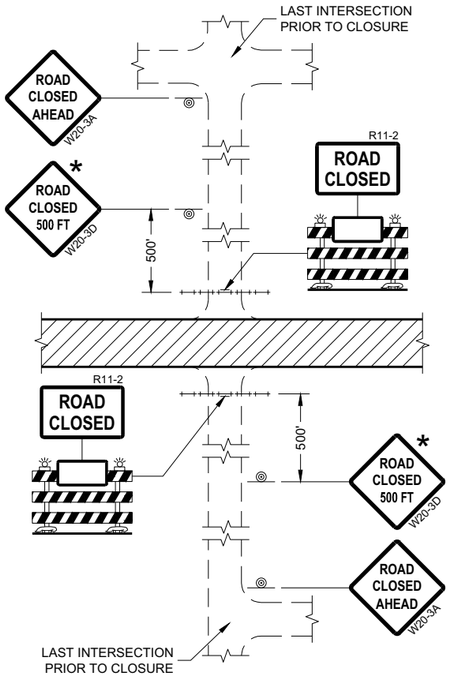
## MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

**MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING**

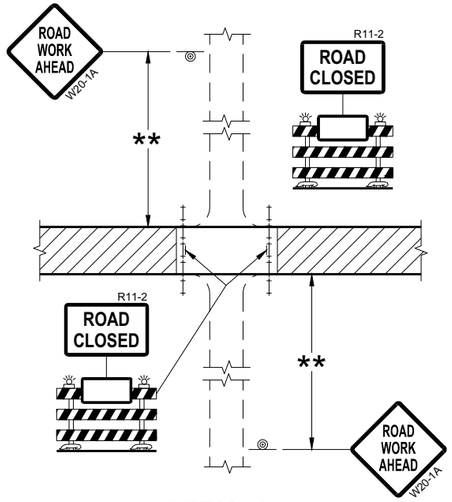
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA


6
SDD 15C02-10h




**DETAIL 1**
(NO ACCESS TO PROJECT)




**DETAIL 2**
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

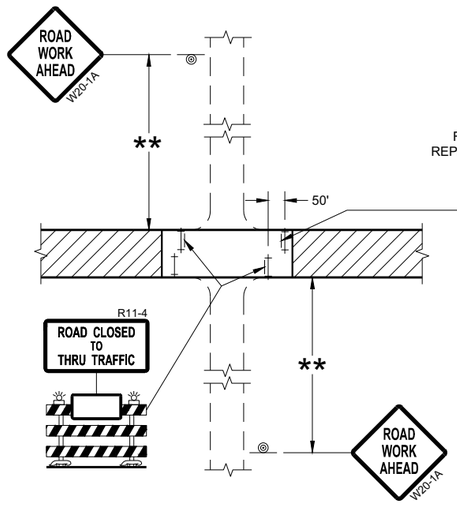
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

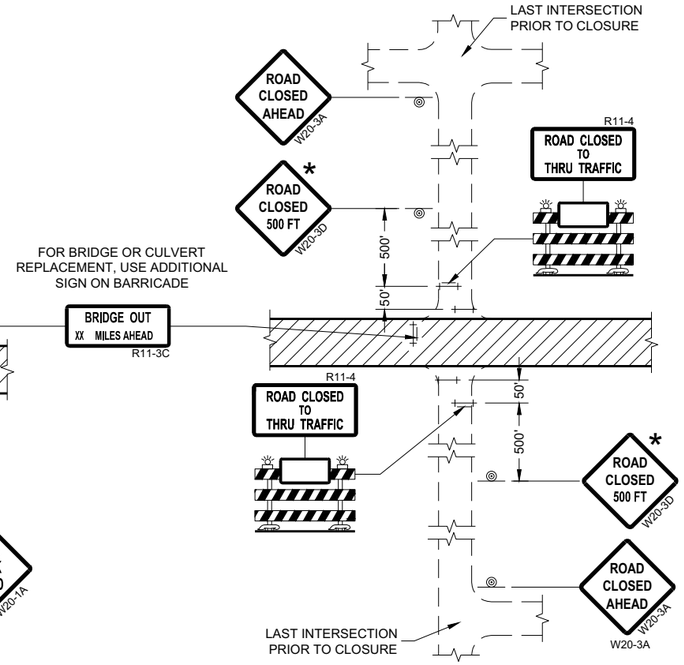
THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.




**DETAIL 3**
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

**DETAIL 4**
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

**BARRICADES AND SIGNS FOR SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



6

SDD 15C03 - 05

SDD 15C03 - 05

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

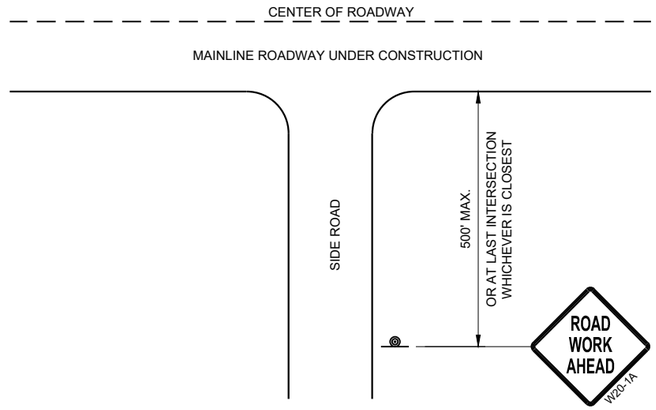
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS

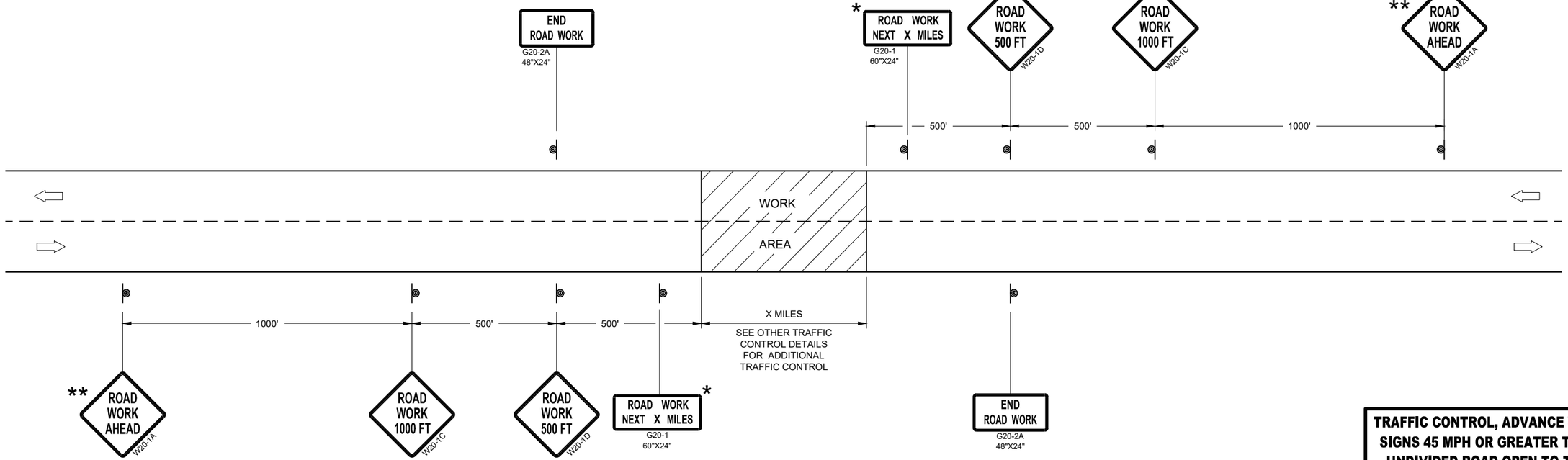
** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.




**TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL**

## LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA




**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER**

**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA




6


SDD 15C04 - 05

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

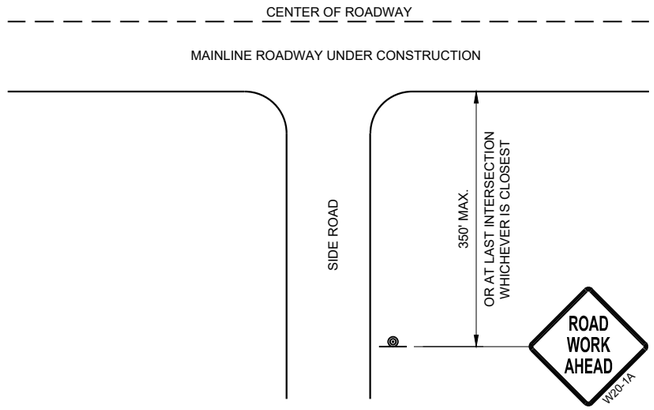
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



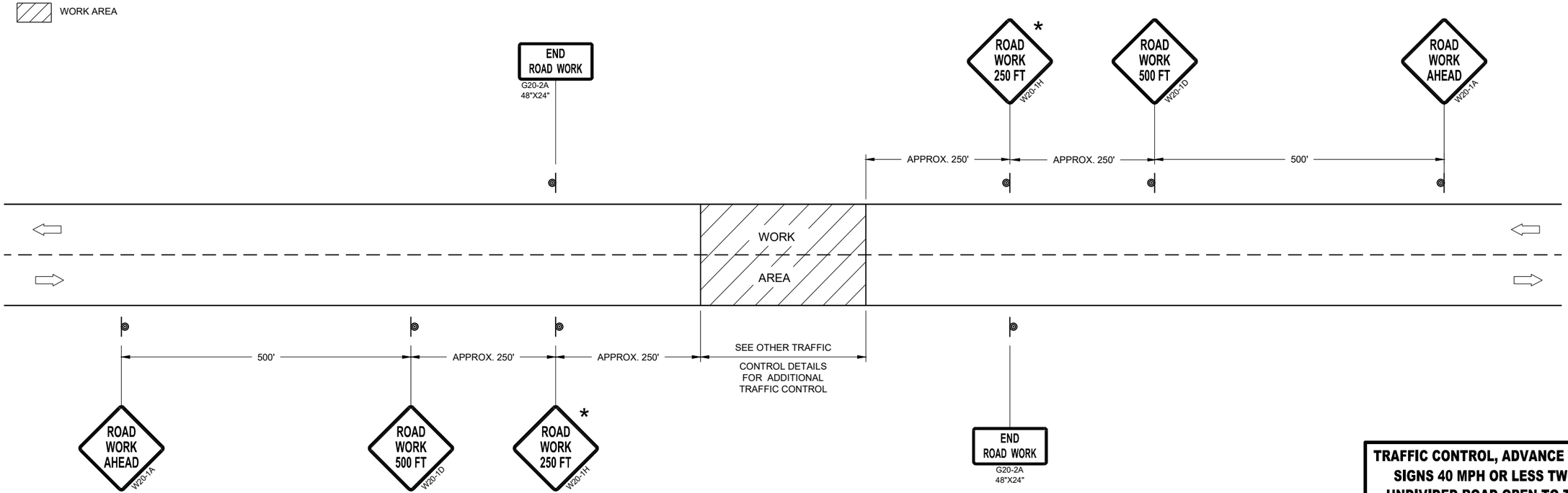

**TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL**

## LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA




**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS**

**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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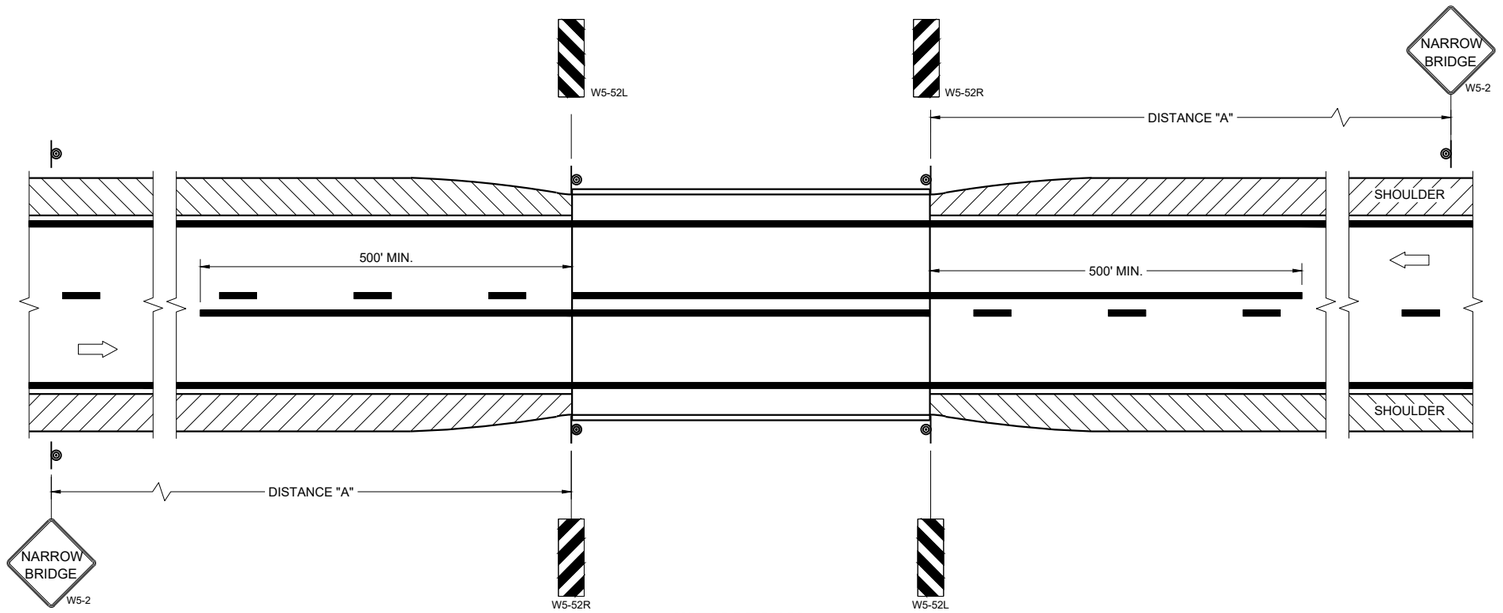
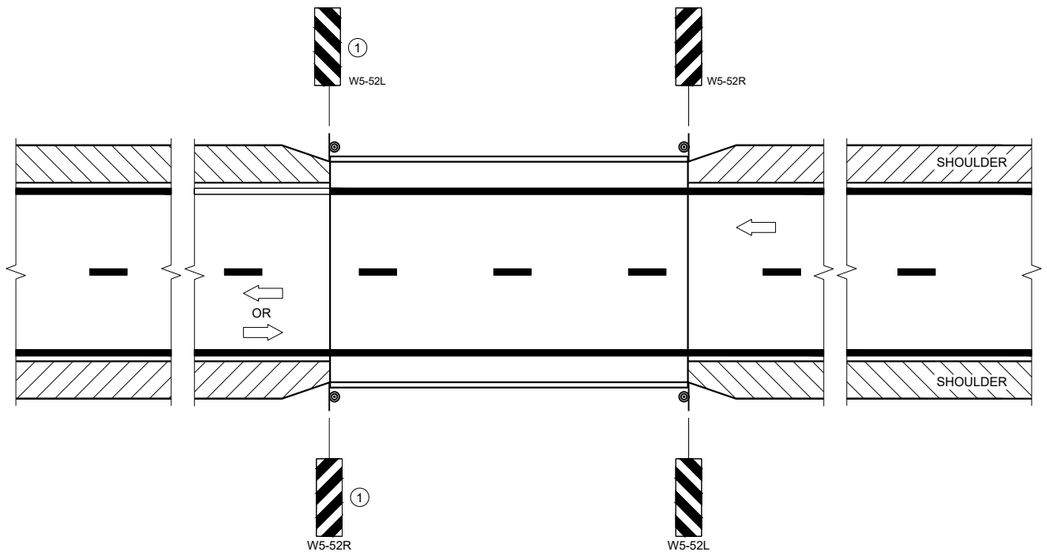
SDD 15C05 - 05




## SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.




## SITUATION 2

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

## GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

## LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

### DISTANCE TABLE

| POSTED OR 85TH PERCENTILE SPEED | DISTANCE "A" |
|---|---|
| 25 | 150' |
| 30 | 200' |
| 35 | 250' |
| 40 | 300' |
| 45 | 400' |
| 50 | 550' |
| 55 | 700' |

**SIGNING AND MARKING FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA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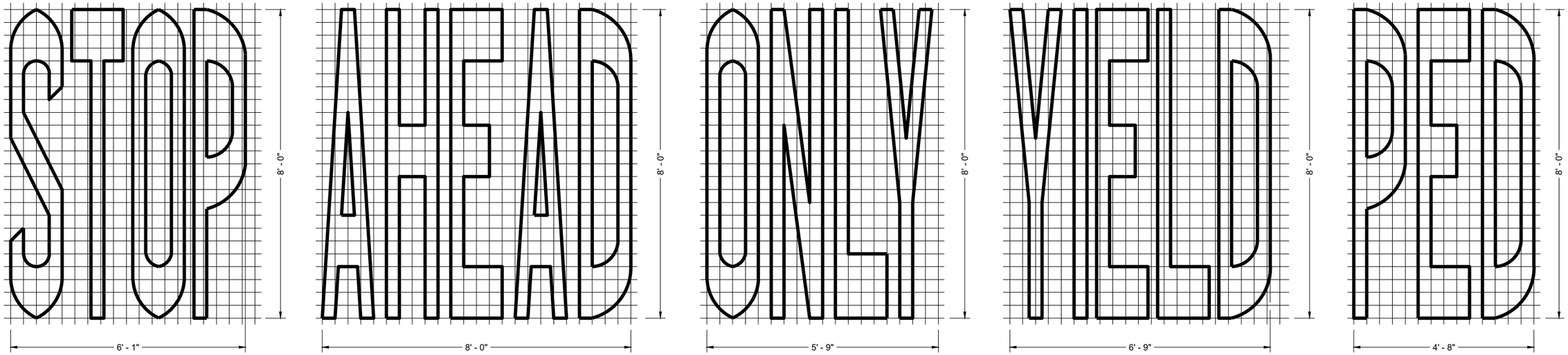
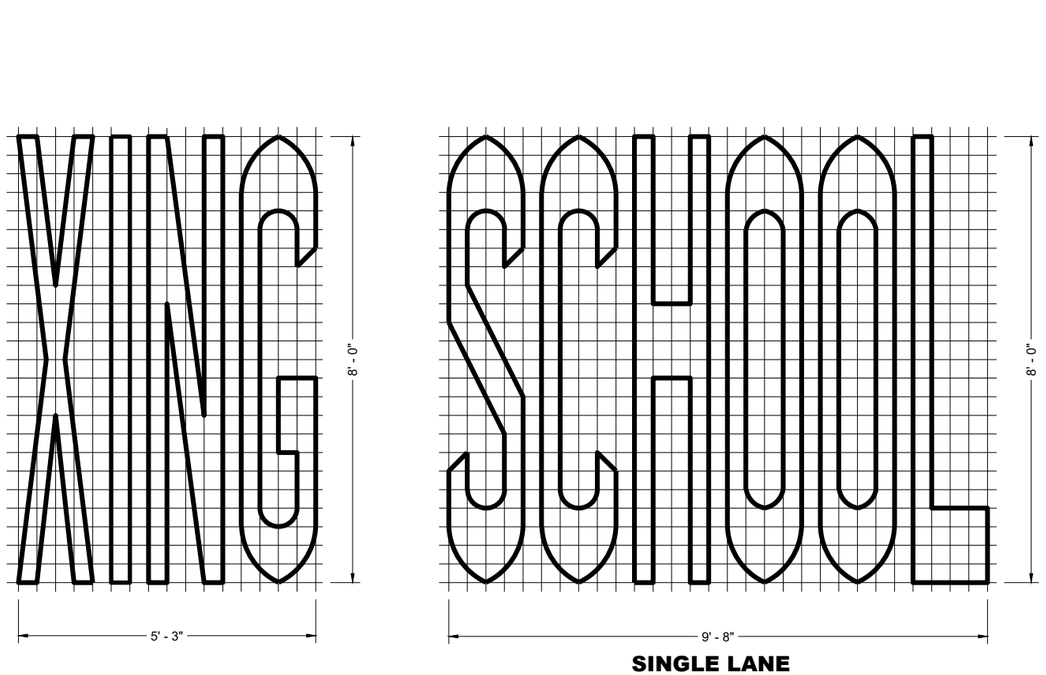
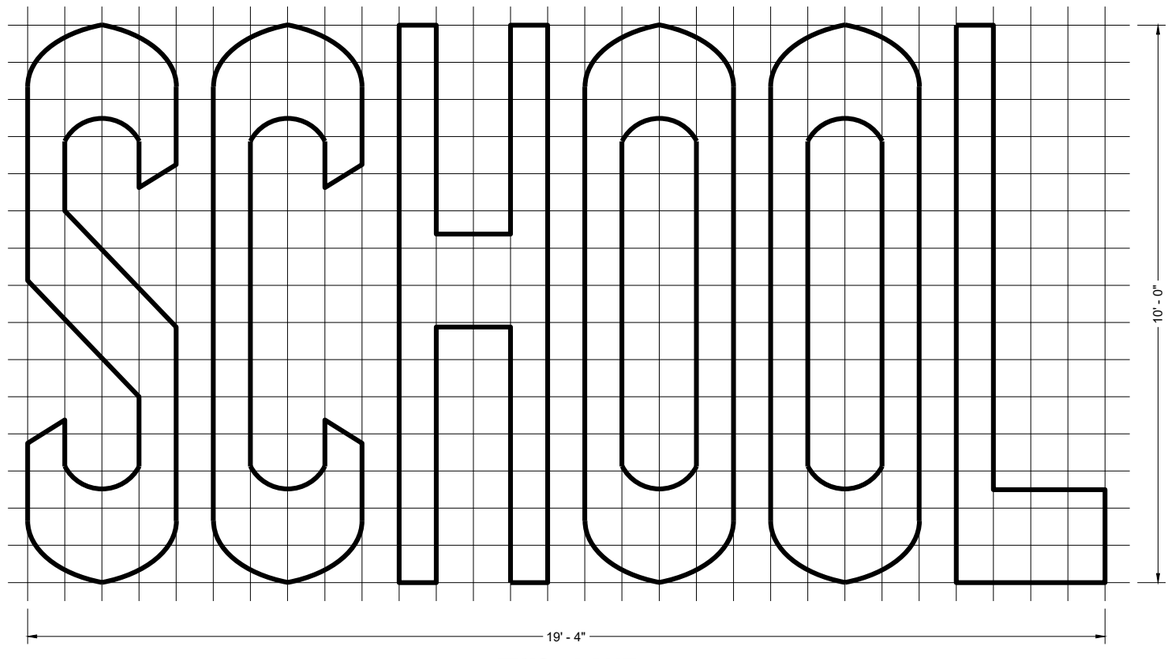
SDD 15C06-12




**SINGLE LANE**




**TWO - LANE**

## GENERAL NOTES

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

**PAVEMENT MARKING WORDS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Jeannie Silver — STATE SIGNING AND MARKING ENGINEER

FHWA

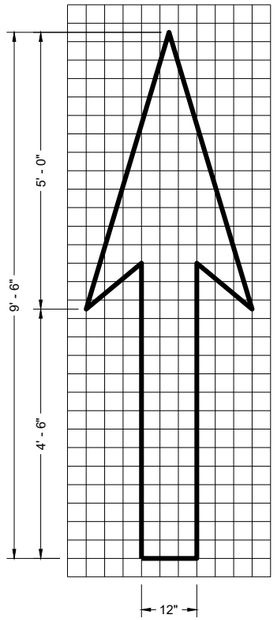



6

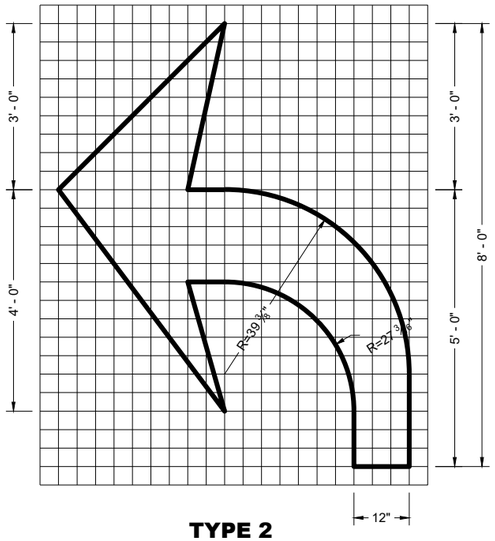

SDD 15C07-16b

## GENERAL NOTES

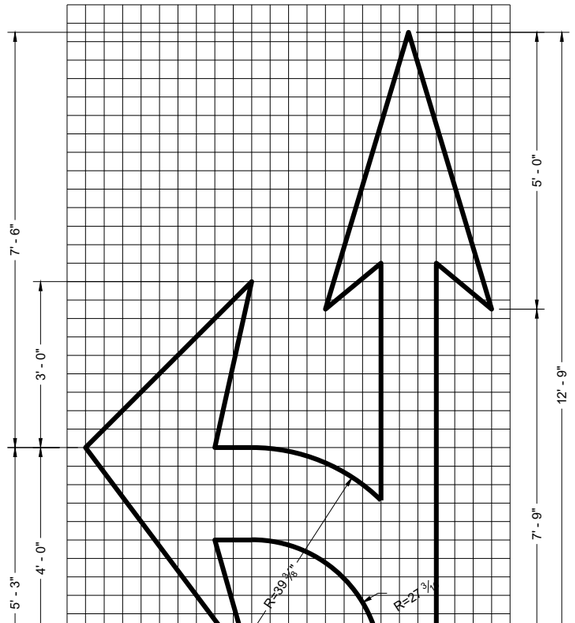
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.




TYPE 1




TYPE 2

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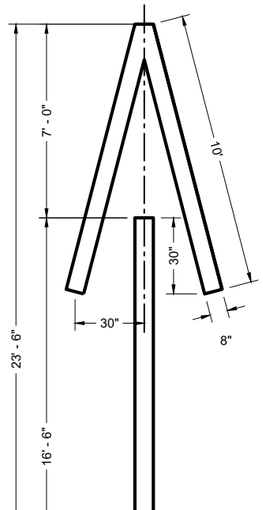
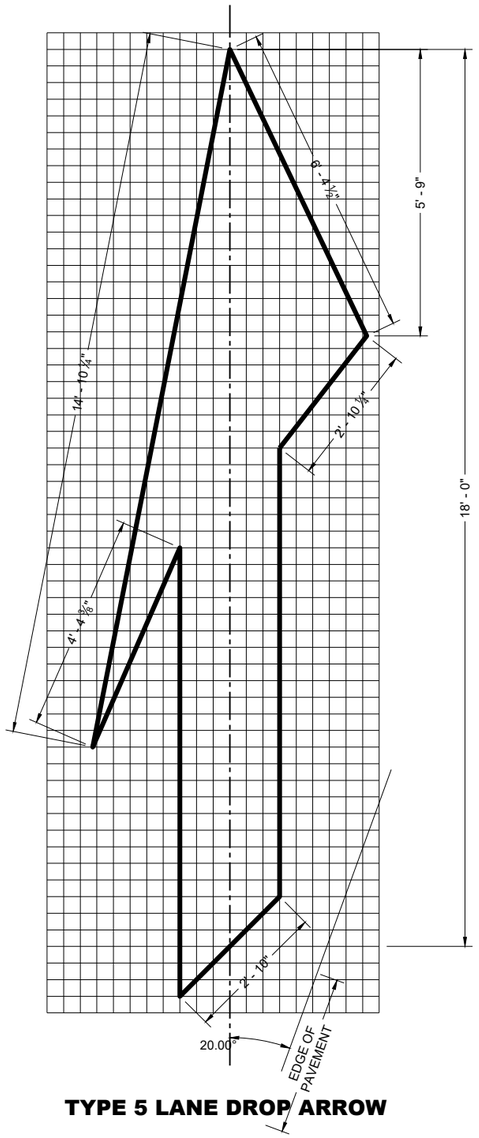
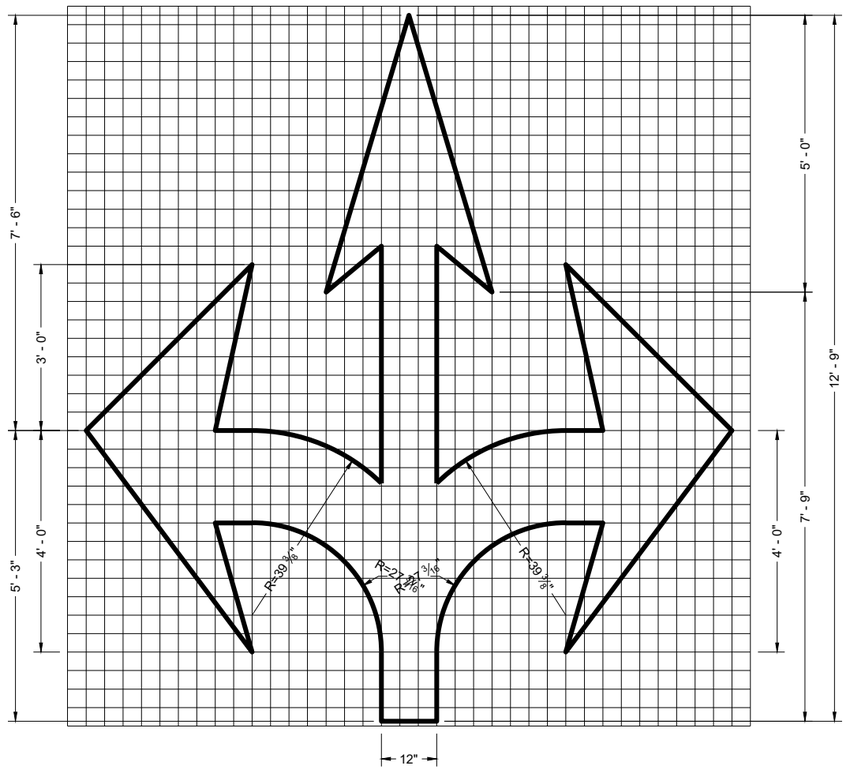


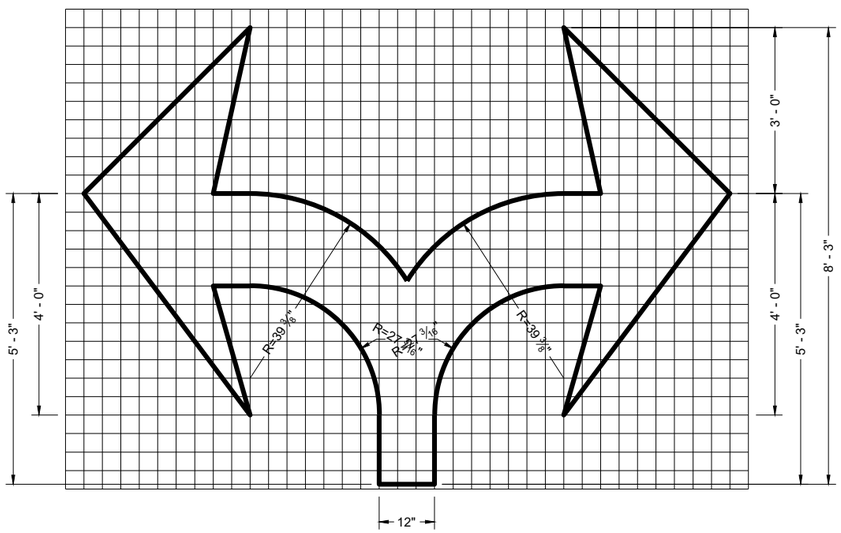

TYPE 4




TYPE 5 LANE DROP ARROW




TYPE 6




TYPE 7

**PAVEMENT MARKING ARROWS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Jeannie Silver — STATE SIGNING AND MARKING ENGINEER

FHWA



6

SDD 15C07-16c

6

SDD 15C07-16c

## GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

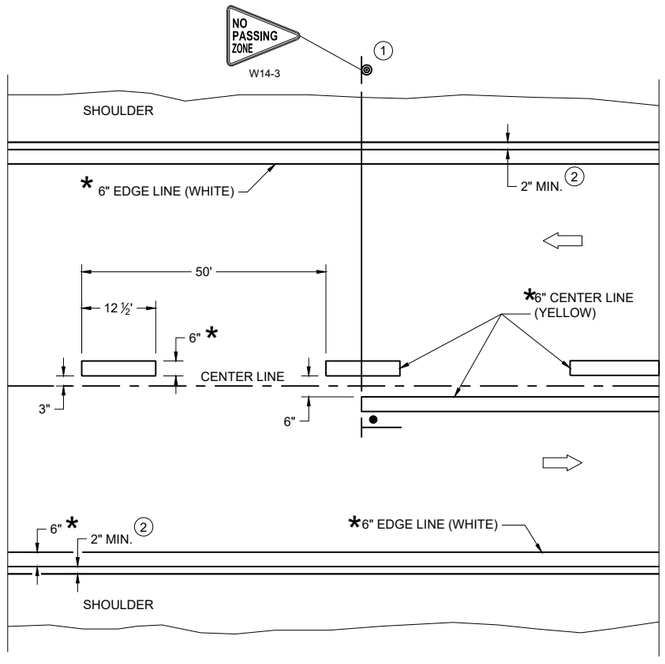
## LEGEND

"T" MARKING

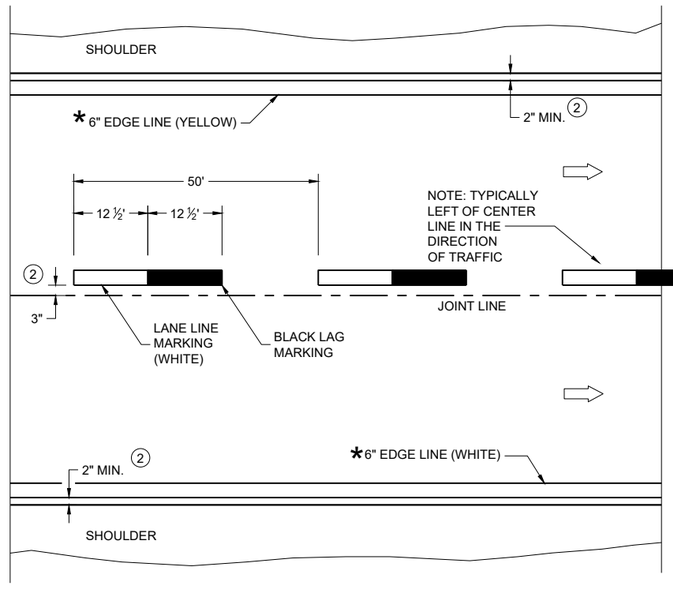
SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES




TWO WAY TRAFFIC




ONE WAY TRAFFIC

**PERMANENT PAVEMENT MARKING**

**PERMANENT LONGITUDINAL PAVEMENT MARKINGS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

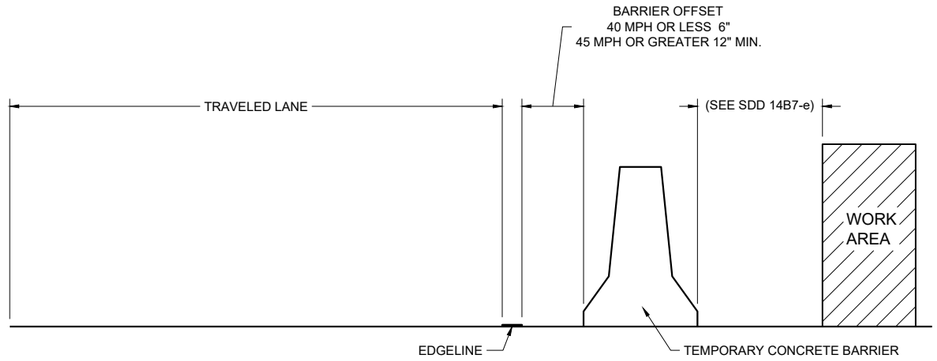
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA





6
SDD 15C08-24a




**TEMPORARY BARRIER OFFSET FROM EDGELINE**

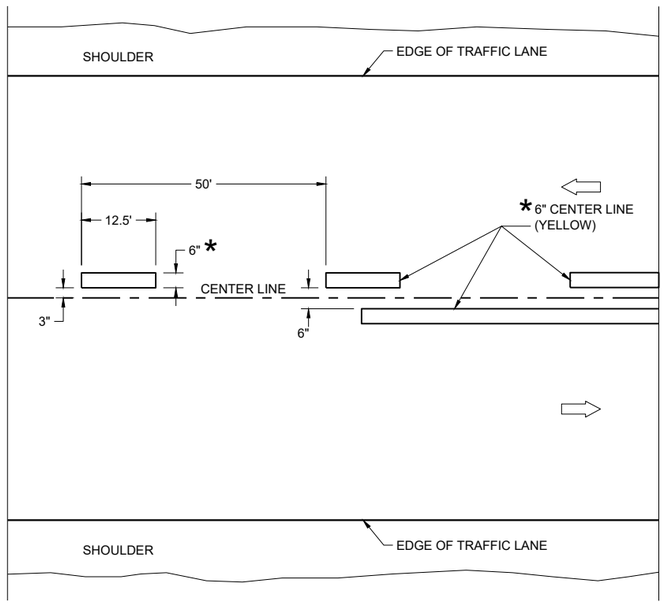
## GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

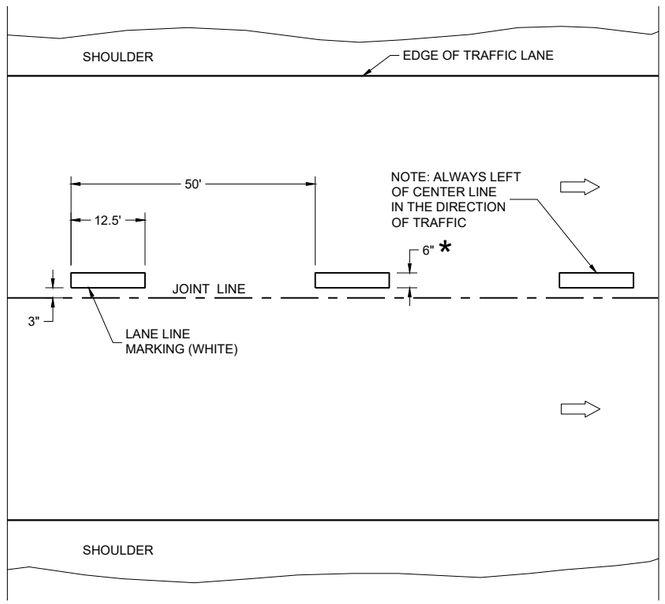
## LEGEND

DIRECTION OF TRAFFIC

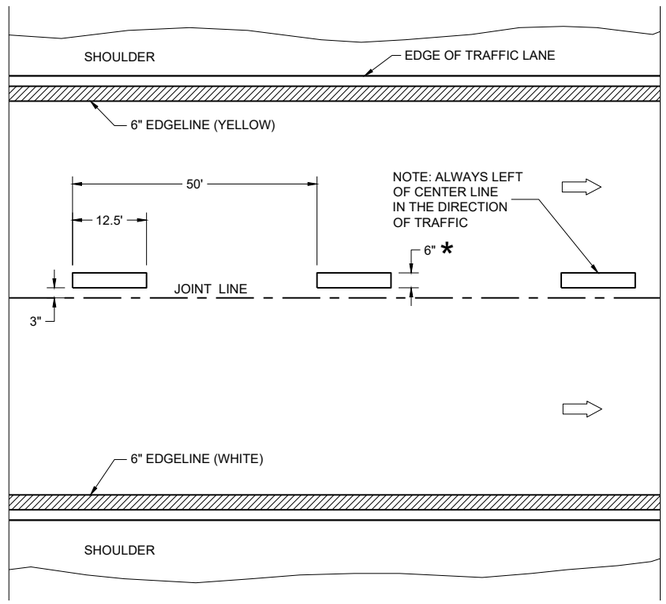
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES




**TWO WAY TRAFFIC**




**ONE WAY TRAFFIC**




**FREEWAYS AND EXPRESSWAYS**

**TEMPORARY PAVEMENT MARKING**

**TEMPORARY LONGITUDINAL PAVEMENT MARKING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA



6

SDD 15C08-24b

6

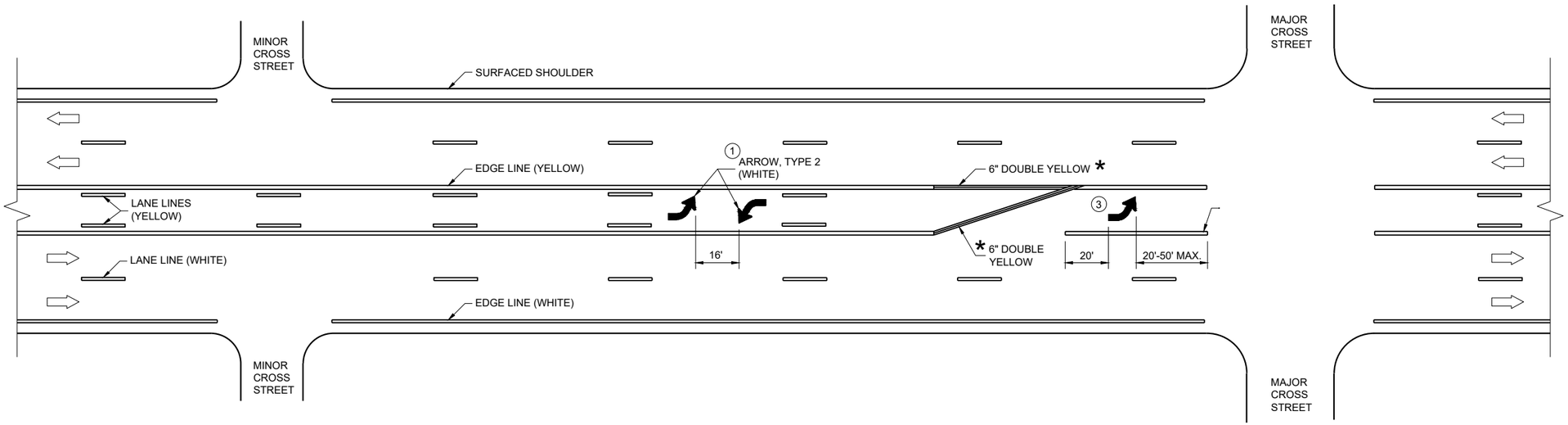
SDD 15C08-24b

## GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 10" WHITE
3. TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

⇨ DIRECTION OF TRAFFIC

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES




**TWO WAY LEFT TURN LANE**



6



SDD 15C08-24c

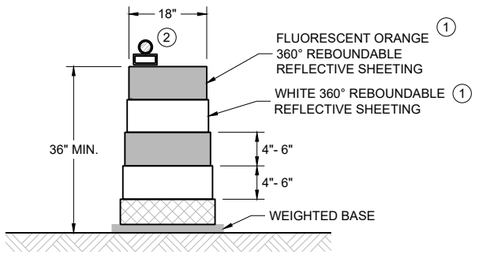
**PAVEMENT MARKING (TURN LANES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

## GENERAL NOTES

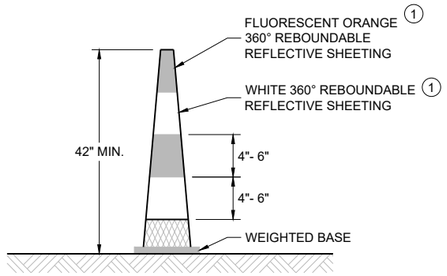
(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.




### DRUM

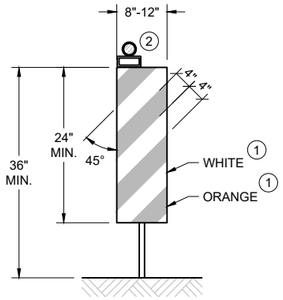
BALLAST WIDTHS
RANGE FROM 24"-36"




### 42" CONE

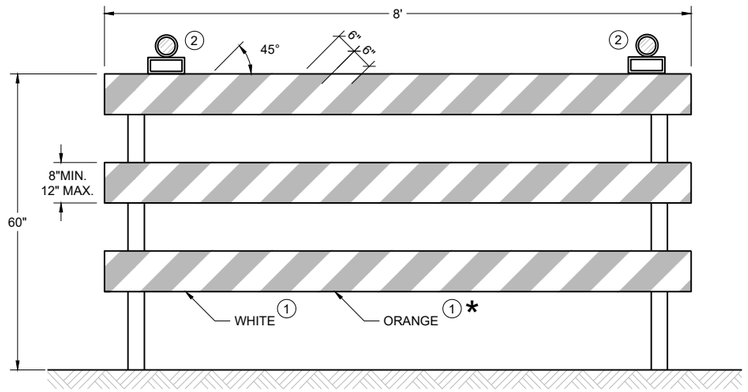
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"




### VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.




### TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

**CHANNELIZING DEVICES**
**DRUMS, CONES, BARRICADES**
**AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2026 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA





6
SDD 15C11-11b

## LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

## GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

## FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

## TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

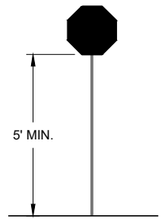
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



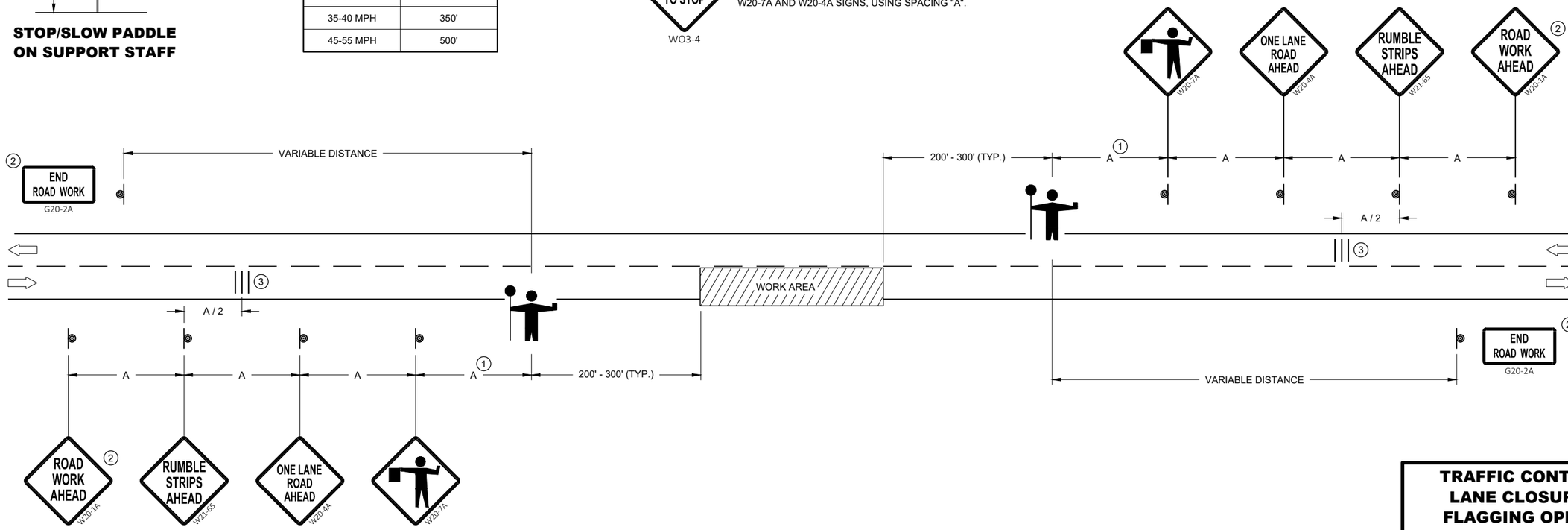

**STOP/SLOW PADDLE ON SUPPORT STAFF**

## SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

| SPEED LIMIT | SPACING "A" |
|---|---|
| 25-30 MPH | 200' |
| 35-40 MPH | 350' |
| 45-55 MPH | 500' |

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".




# TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



6

SDD 15C12 - 09a

6

SDD 15C12 - 09a

## GENERAL NOTES

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL CONE 42-INCH

TRAFFIC CONTROL DRUM

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

AFAD — AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

## GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

## FLAGGING

IF THE AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) STOPS WORKING, FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

(1) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(2) IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.

## TEMPORARY PORTABLE RUMBLE STRIPS

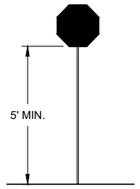
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

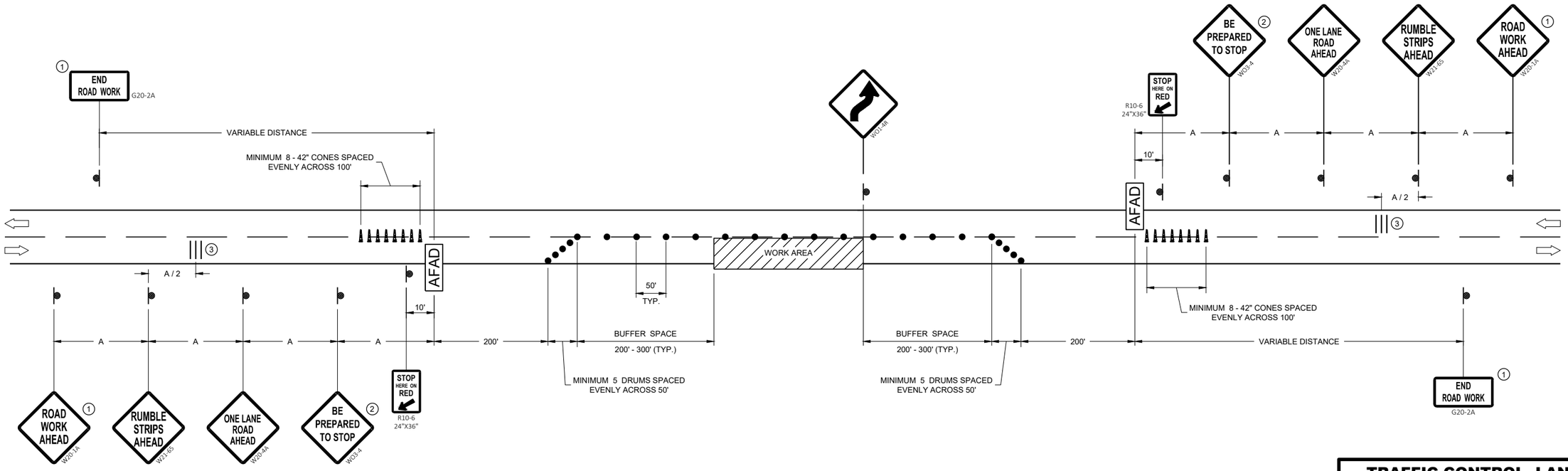
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.




**STOP/SLOW PADDLE ON SUPPORT STAFF**

**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

| SPEED LIMIT | SPACING "A" |
|---|---|
| 25-30 MPH | 200' |
| 35-40 MPH | 350' |
| 45-55 MPH | 500' |




# TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA



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SDD 15C12 - 09b

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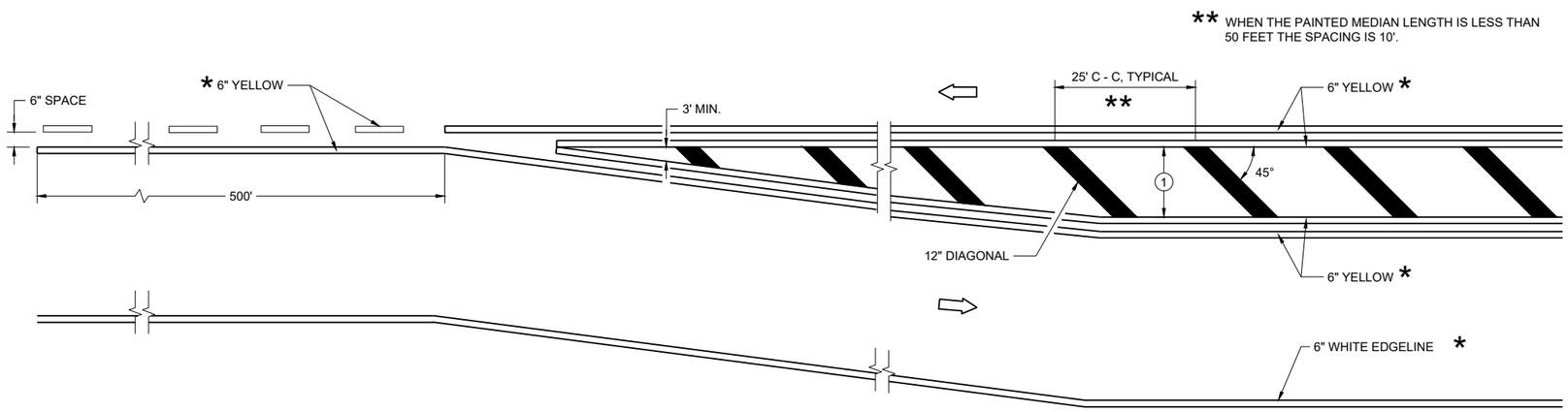
SDD 15C12 - 09b



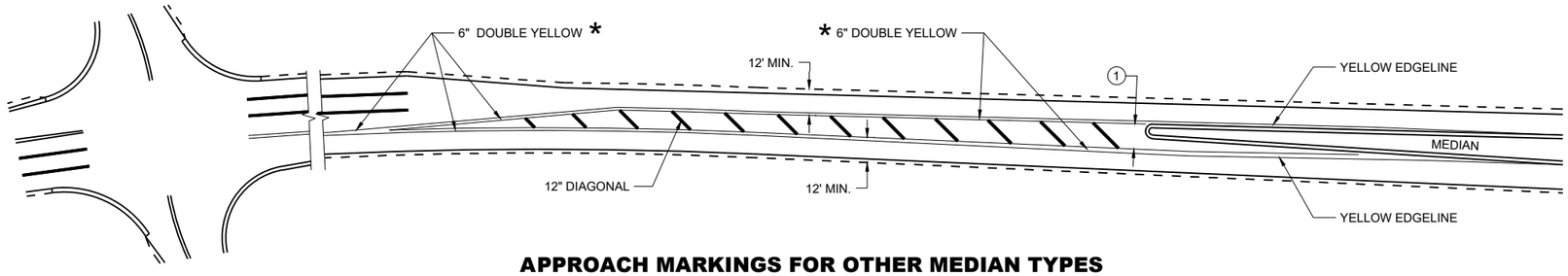

**MEDIAN ISLAND DETAIL**

## GENERAL NOTES

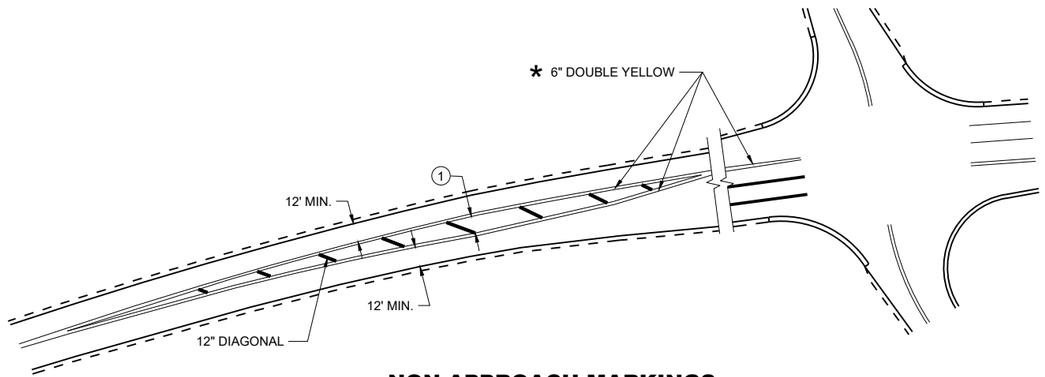
(1) DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

DIRECTION OF TRAVEL

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES




**APPROACH MARKINGS FOR OTHER MEDIAN TYPES**




**NON-APPROACH MARKINGS**

**MEDIAN ISLAND PAVEMENT MARKINGS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

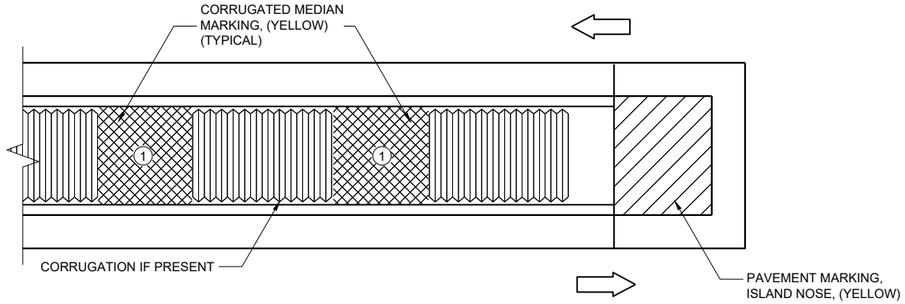
FHWA



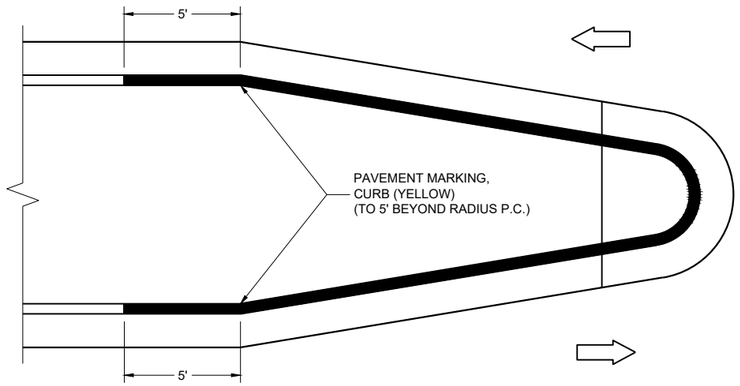


6

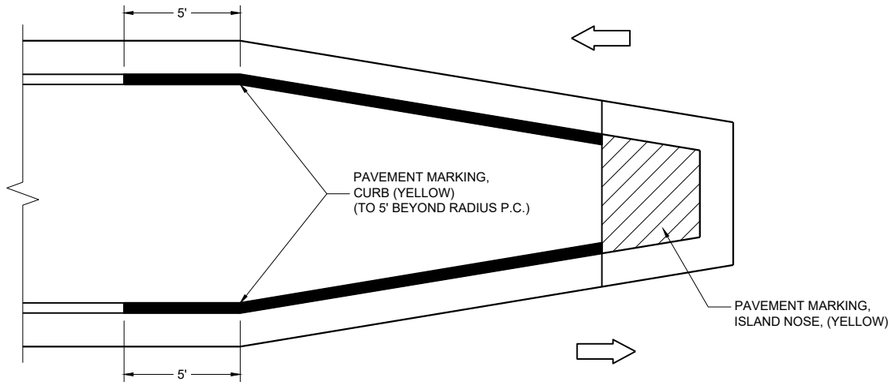
SDD 15C18-09a




**MEDIAN ISLAND WITH SQUARE BLUNT NOSE**




**MEDIAN ISLAND WITH ROUND BLUNT NOSE**




**MEDIAN ISLAND WITH SLOPED NOSE**

**TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS**

## GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

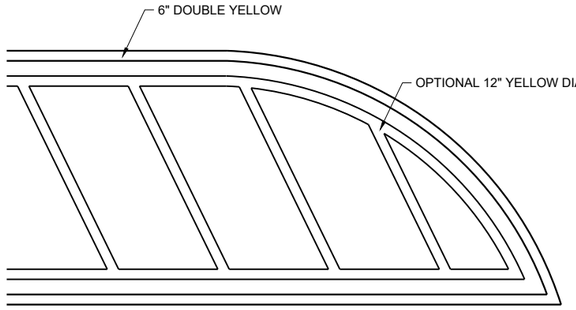
(1) APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL




**FLUSH MEDIAN ISLAND NOSE**

**PAVEMENT MARKINGS,
MEDIAN ISLAND NOSE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA



6



SDD 15C18-09b

## LEGEND

**V1** LEAD VEHICLE

**V2** MARKING VEHICLE

**V3** SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

## GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

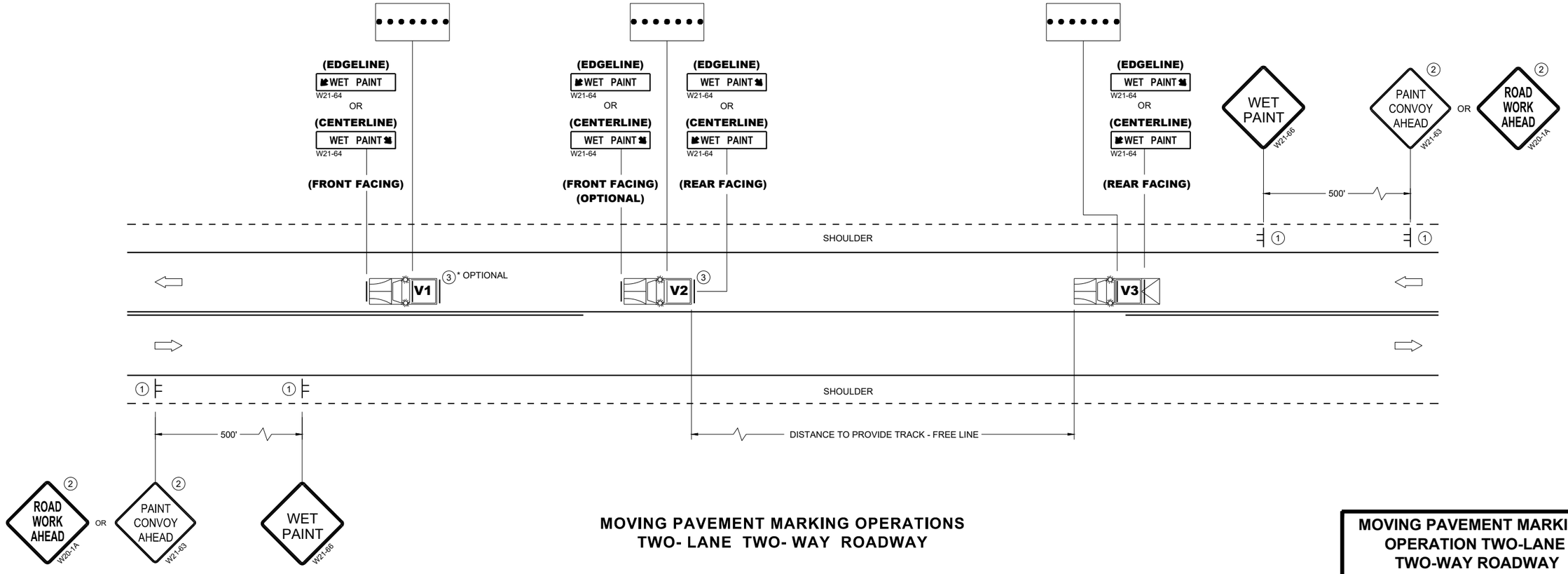
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY MAJOR INTERSECTION.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

(3) V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.




**MOVING PAVEMENT MARKING OPERATIONS**
**TWO- LANE TWO- WAY ROADWAY**

**MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — STATE ELECTRICAL ENGINEER

FHWA



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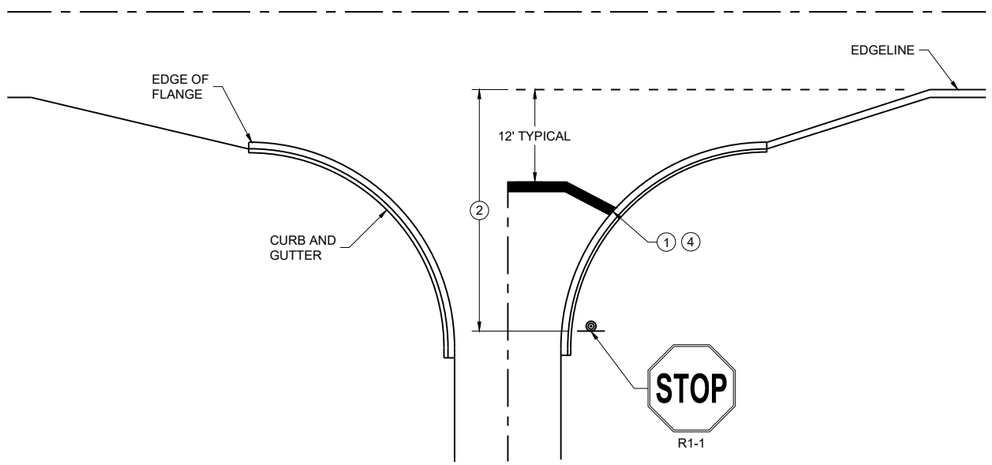
SDD 15C19-11a

SDD 15C19-11a

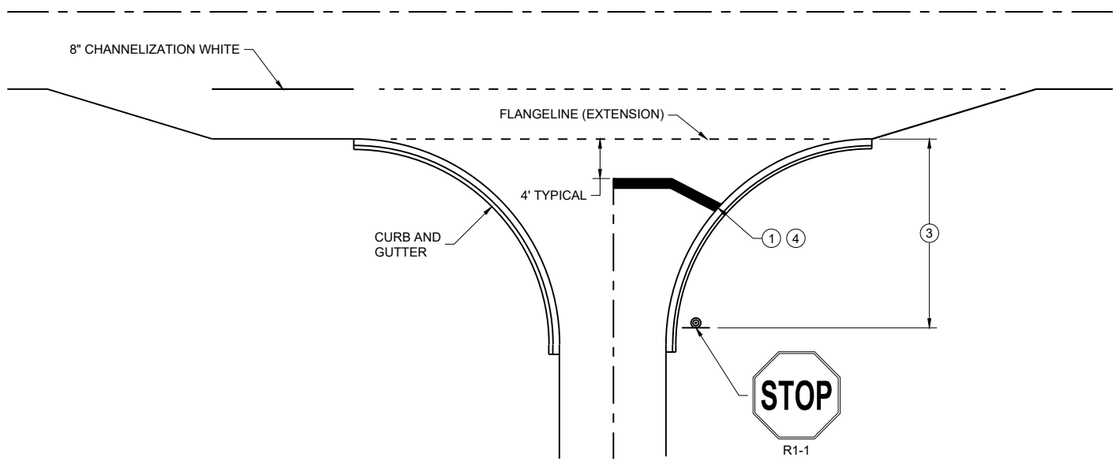
## GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

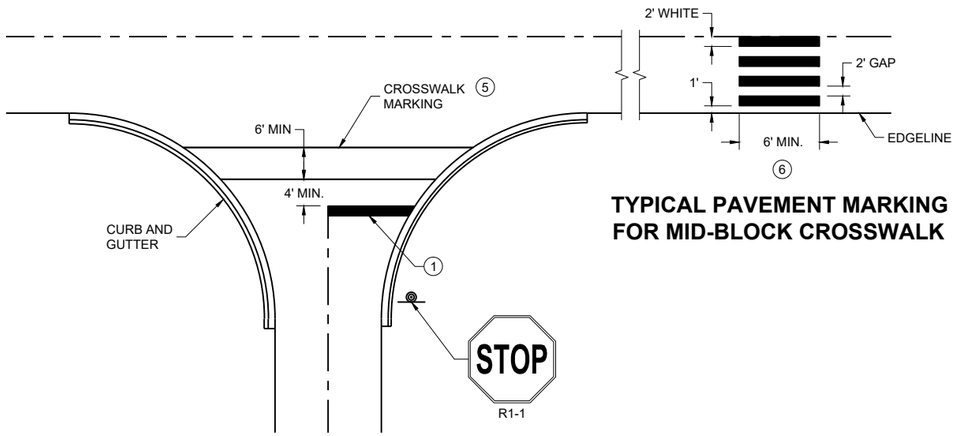
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
6. POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS




**TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER**

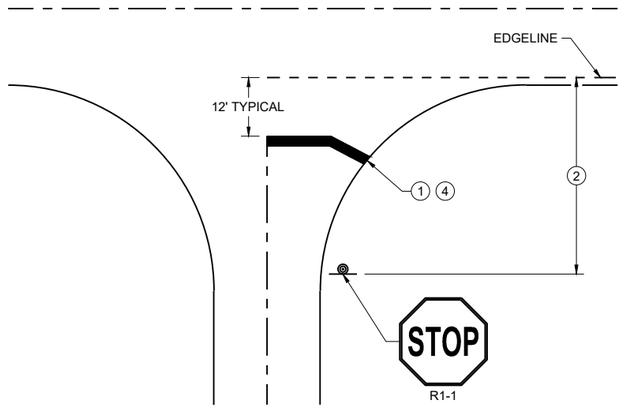



**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE**




**TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK** (5)

**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING**




**TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER**

**STOP LINE AND CROSSWALK PAVEMENT MARKING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

March 2024 — DATE

/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

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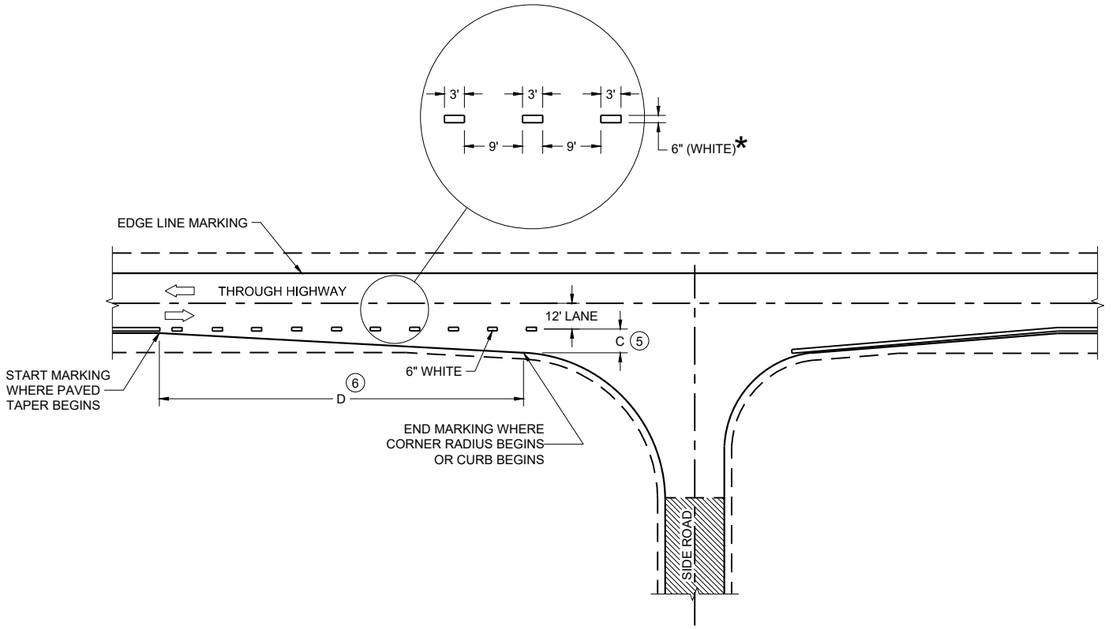
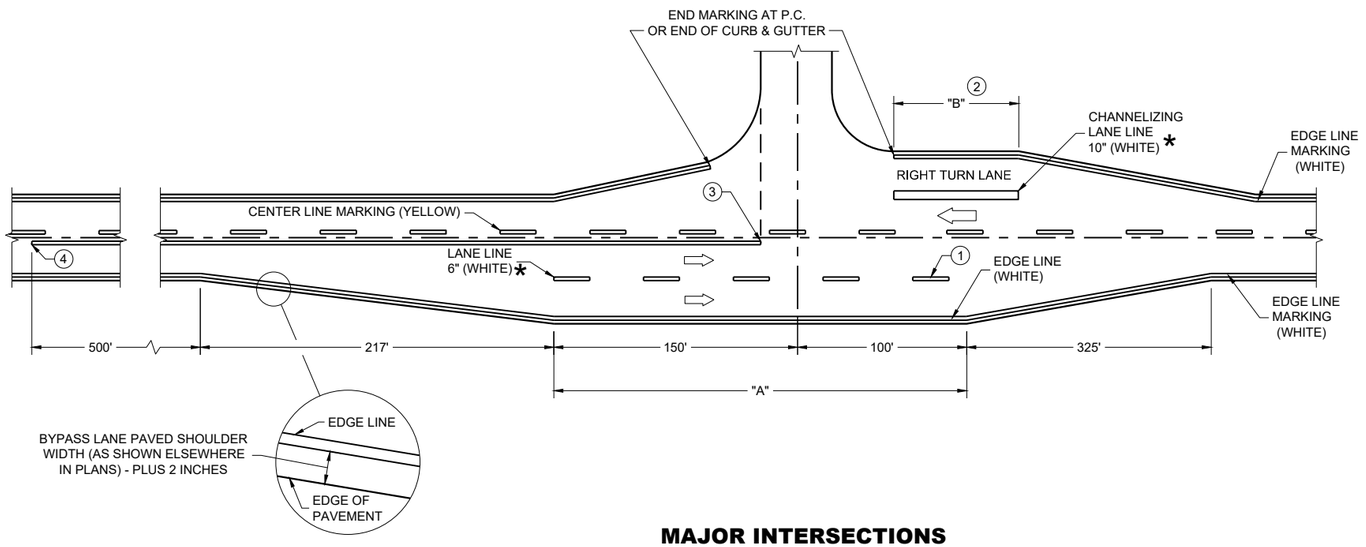
SDD 15C33-05




**MINOR INTERSECTION**




**MAJOR INTERSECTIONS**

**(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)**

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

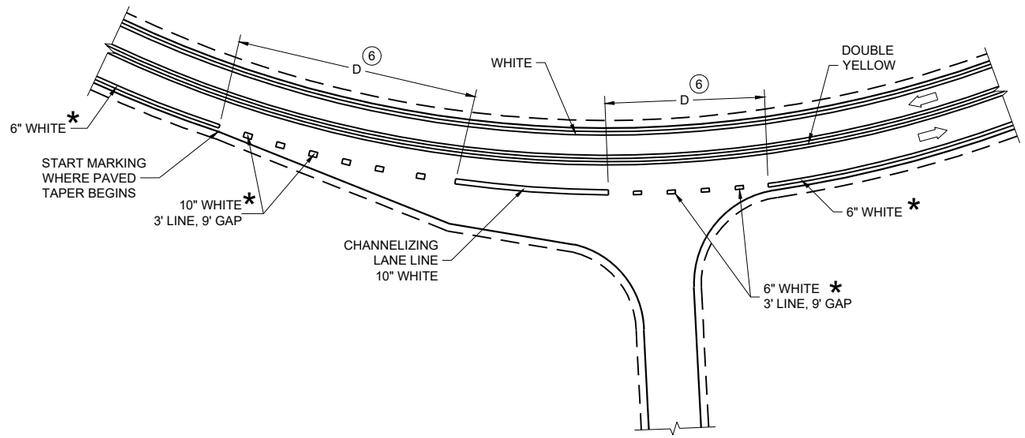
## GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

## LEGEND

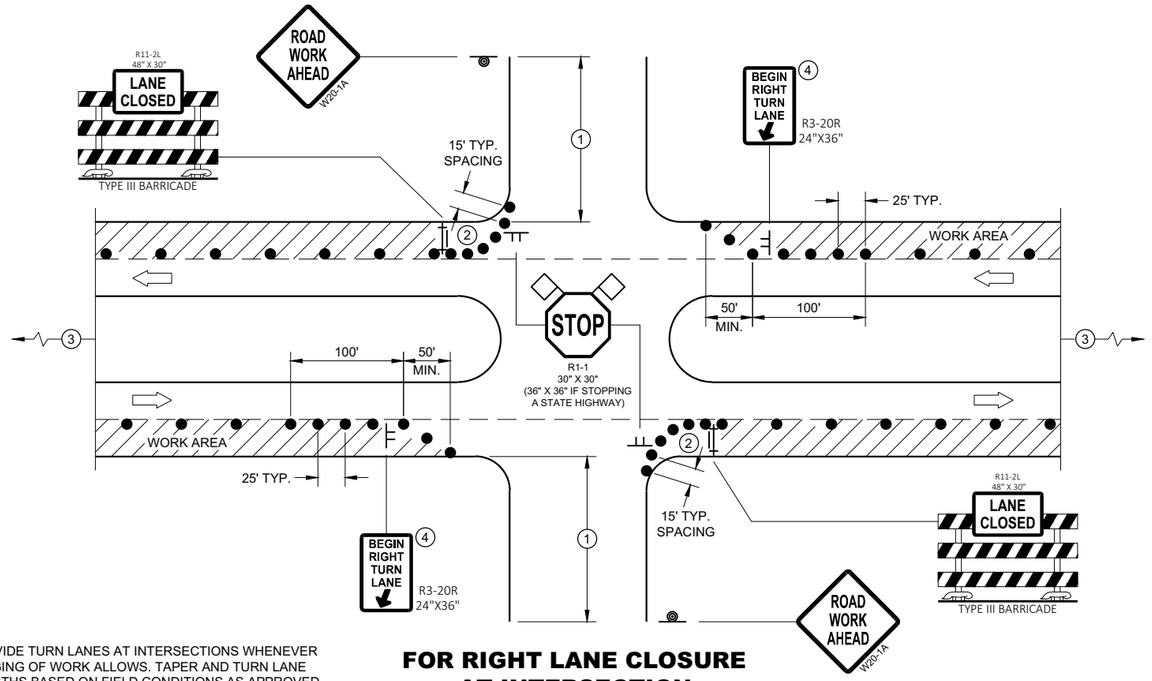
DIRECTION OF TRAVEL




**INTERSECTION ON OUTSIDE OF CURVE**

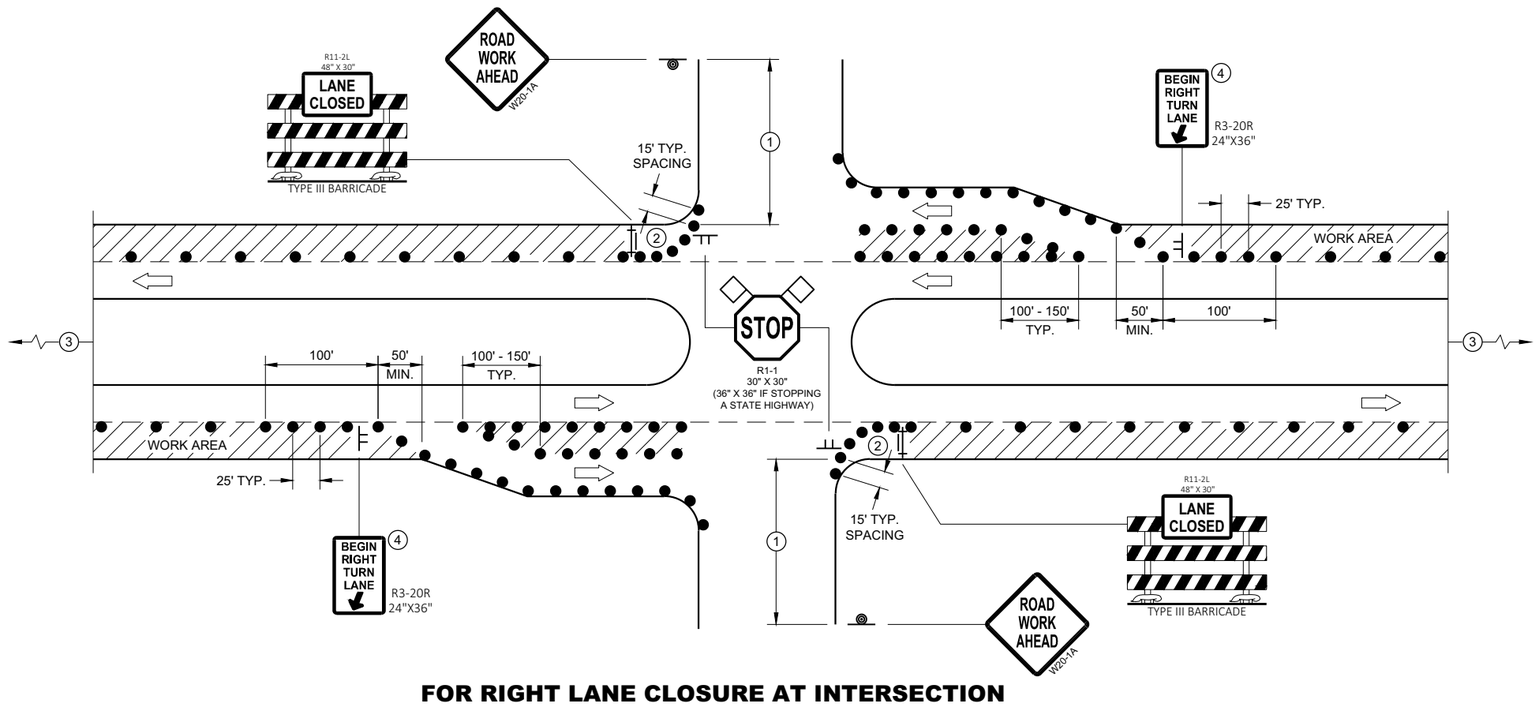
**PAVEMENT MARKING (INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




**FOR RIGHT LANE CLOSURE AT INTERSECTION**

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.




**FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)**

## GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

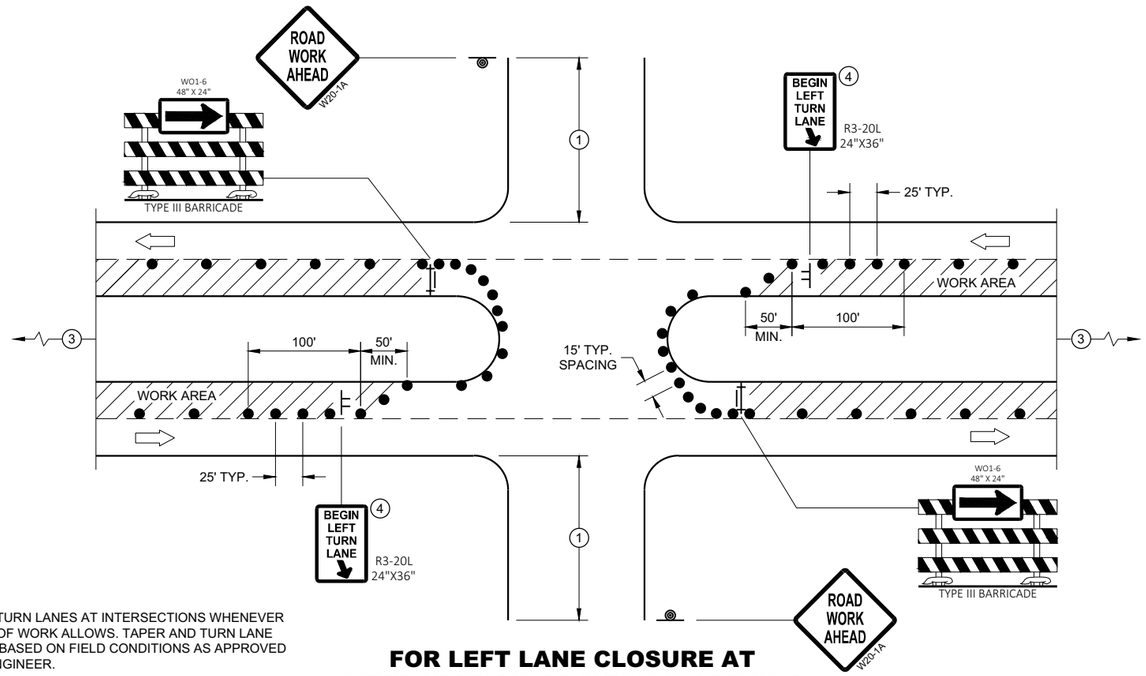
(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

## LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

**TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE**




PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

## FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

## GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

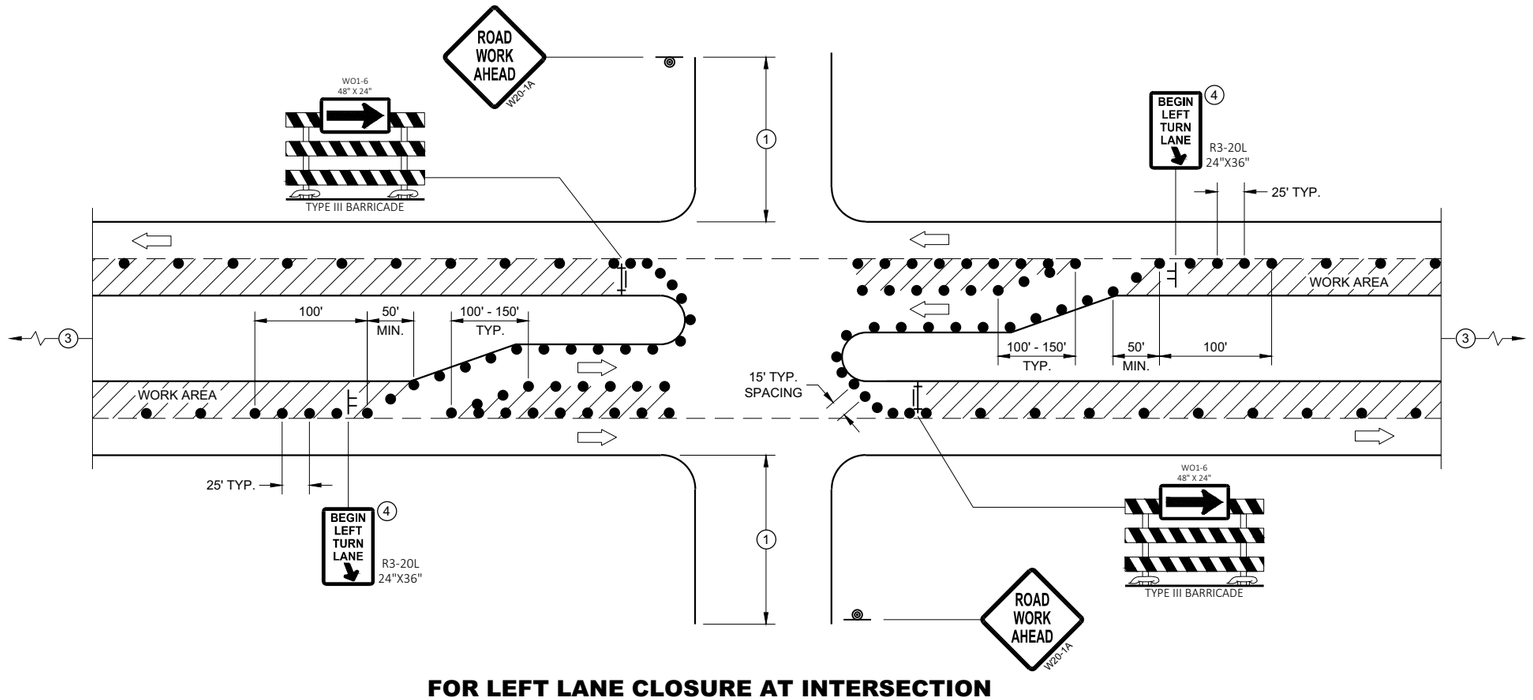
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.




## FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

## LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

**TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA



6

SDD 15D21 - 07b

6

SDD 15D21 - 07b

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK ZONE

## GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

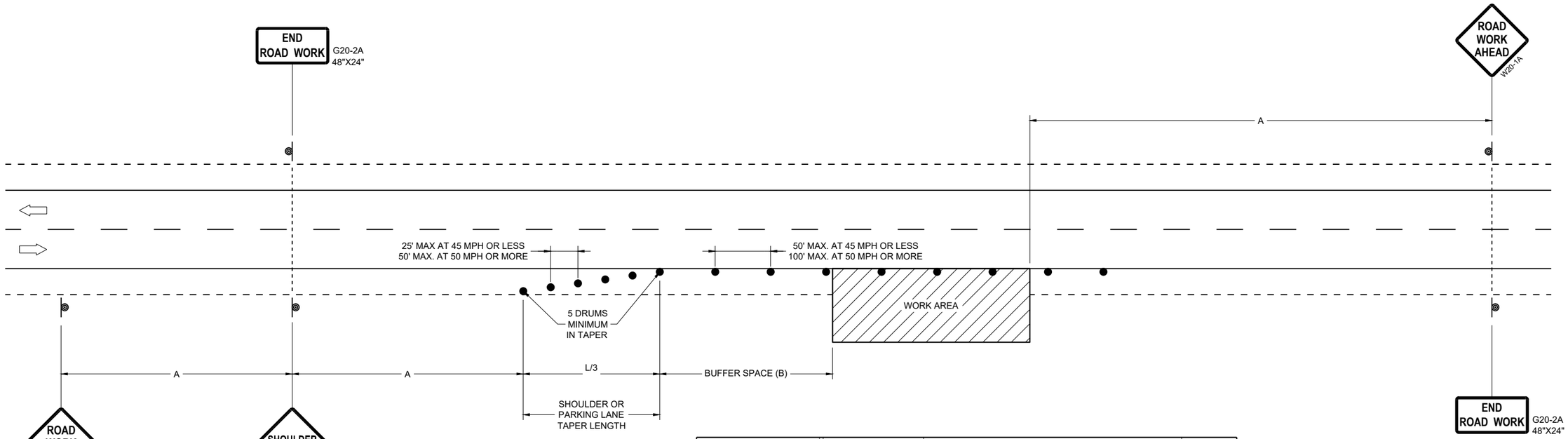
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.




| POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH) | ADVANCE WARNING SIGN SPACING (A) FEET | SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT) | | | | | | BUFFER SPACE (B) FEET |
|---|---|---|---|---|---|---|---|---|
| | | 3 | 4 | 5 | 6 | 7 | 8 | |
| 25 | 200' | 10 | 14 | 17 | 21 | 24 | 28 | 155 |
| 30 | 200' | 15 | 20 | 25 | 30 | 35 | 40 | 200 |
| 35 | 350' | 20 | 27 | 34 | 40 | 47 | 54 | 250 |
| 40 | 350' | 26 | 35 | 44 | 53 | 62 | 70 | 305 |
| 45 | 500' | 45 | 59 | 74 | 89 | 104 | 119 | 360 |
| 50 | 500' | 50 | 66 | 83 | 99 | 116 | 132 | 425 |
| 55 | 500' | 54 | 73 | 91 | 109 | 127 | 145 | 495 |

# TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

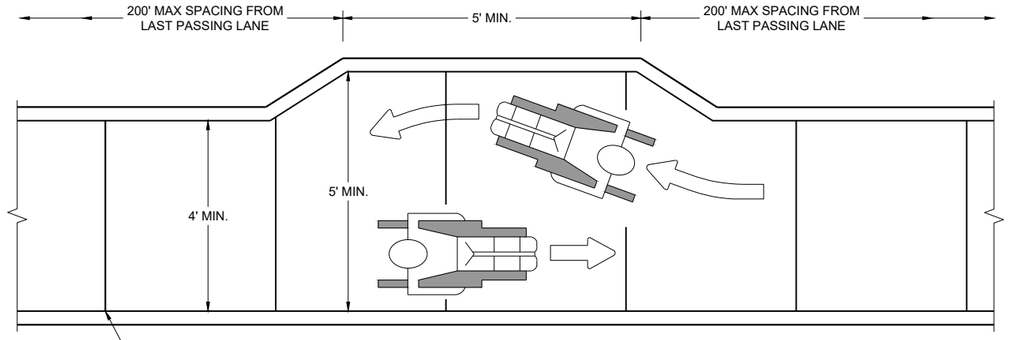
APPROVED
May 2026
DATE

/S/ ANDREW HEIDTKE
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

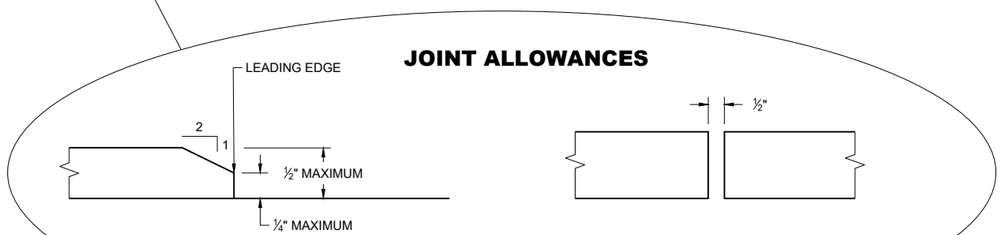
FHWA



6
SDD 15D28-06




**NARROW SIDEWALK PASSING DETAIL**




**MAXIMUM VERTICAL GAP**

**MAXIMUM HORIZONTAL GAP**

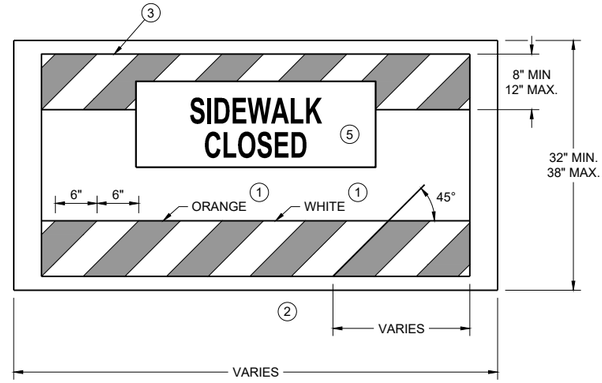
## GENERAL NOTES

BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

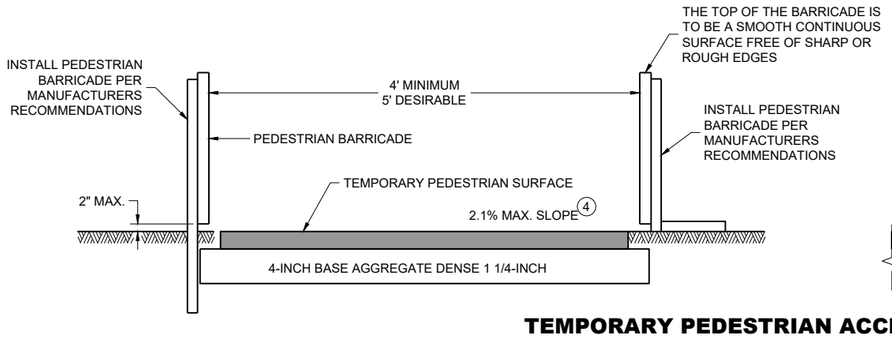
1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.
3. PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.

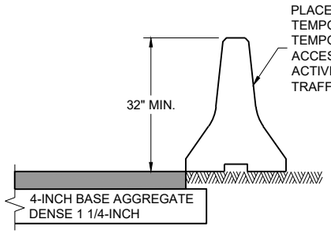
4. WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.
5. WHERE SIGNS FOR TEMPORARY PEDESTRIAN ACCOMMODATIONS ARE SHOWN BEING PLACED BEHIND TEMPORARY PEDESTRIAN BARRICADE, THE SIGNS MAY BE MOUNTED ON THE TEMPORARY PEDESTRIAN BARRICADE INSTEAD. A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE SHALL BE USED IF MOUNTED ON THE BARRICADE. THE TOP OF THE SIGN SHALL BE MOUNTED BELOW THE TOP OF THE BARRICADE TO ALLOW A CONTINUOUS HAND-TRAILING EDGE.

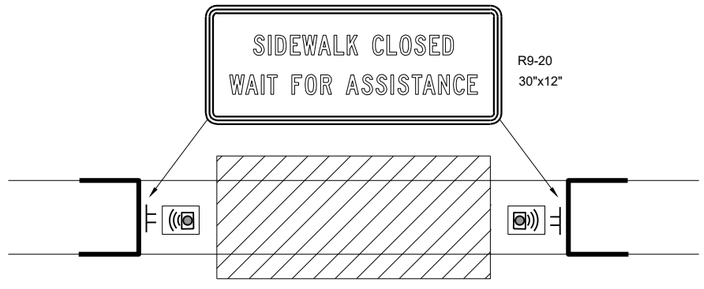



**TEMPORARY PEDESTRIAN BARRICADE ***




**TEMPORARY PEDESTRIAN ACCESS**



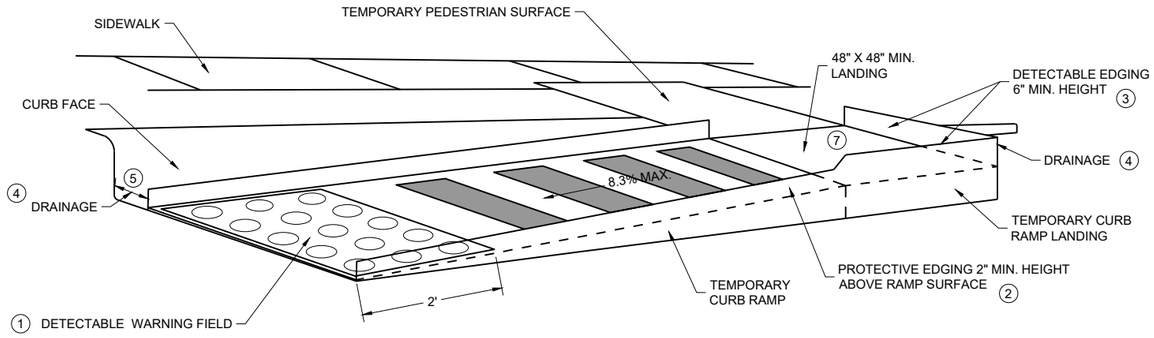

**TEMPORARY PEDESTRIAN FLAGGING**

**LEGEND**

- TEMPORARY PEDESTRIAN BARRICADE
- AUDIBLE MESSAGE DEVICE
- TEMPORARY SIGN SUPPORT
- WORK AREA

**TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




**PERSPECTIVE VIEW**

## GENERAL NOTES

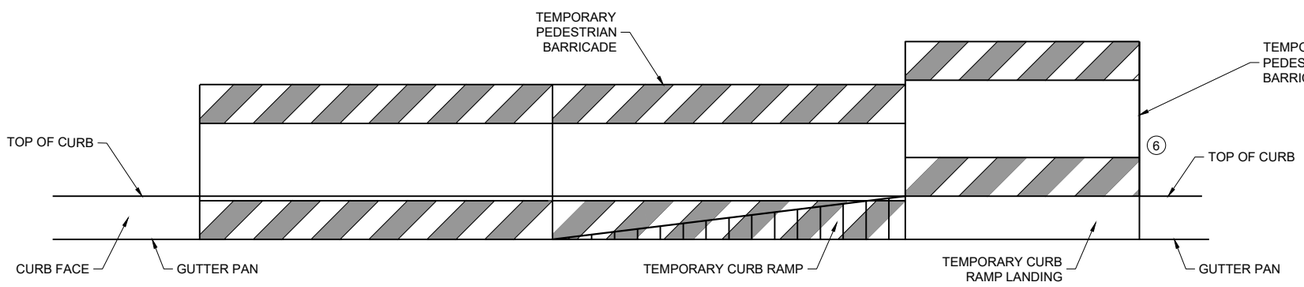
CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:48 (2.1%) MAX. CROSS-SLOPE.

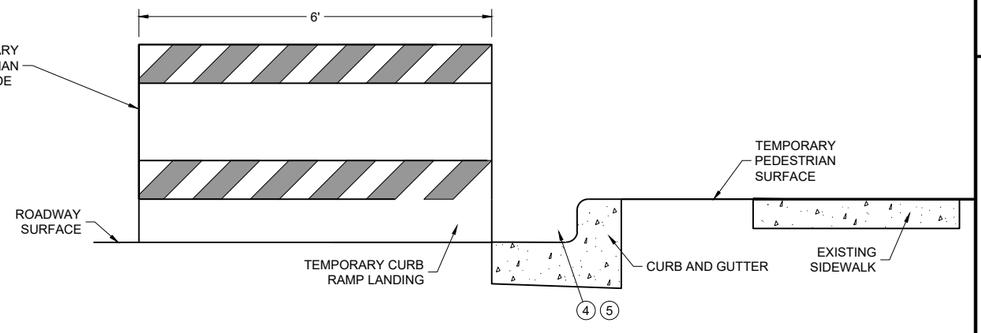
CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

1. INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.
2. PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
5. ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.
6. IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.
7. LANDING TO BE SLOPED A MAXIMUM OF 2.1% IN ALL DIRECTIONS OF PEDESTRIAN TRAVEL.




**FRONT VIEW**




**SIDE VIEW**

**TEMPORARY CURB RAMP PARALLEL TO CURB**

**TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

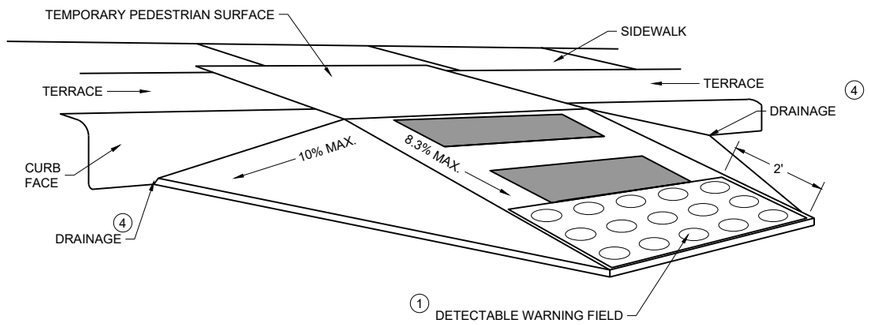


6

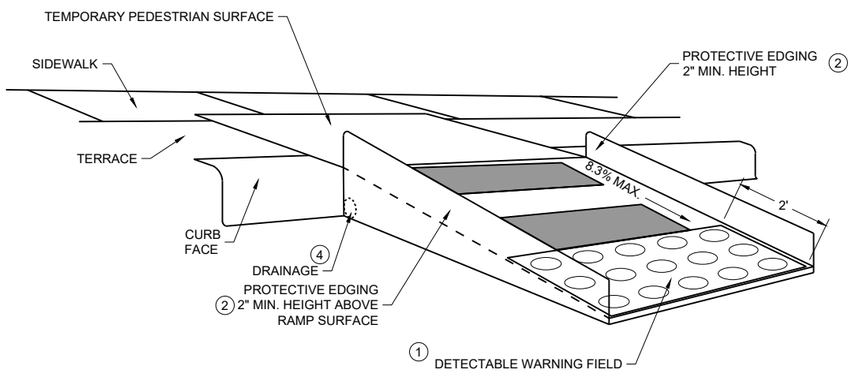
SDD 15D30-12b

6

SDD 15D30-12b




**WITH SIDE APRON** (5)




**WITH PROTECTIVE EDGE**

## TEMPORARY CURB RAMP PERPENDICULAR TO CURB

## GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:48 (2.1%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS

(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

## LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- UNDER PEDESTRIAN TRAFFIC
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

## GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

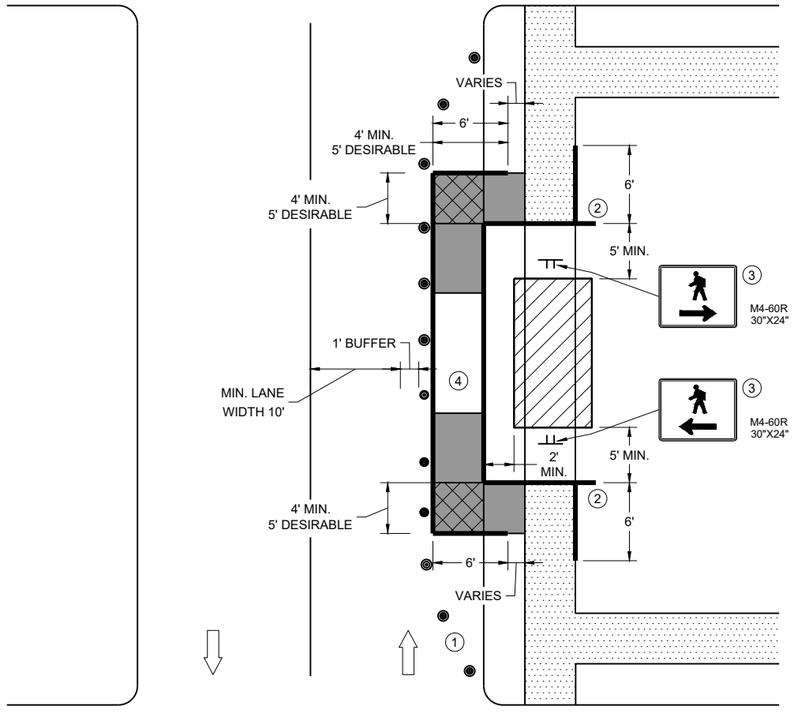
WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

(1) SHOULDER OR LANE CLOSURE ADVANCE WARNING AND BUFFER SPACE REQUIRED.

(2) PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL PAST THE SIDEWALK ON THE SIDE AWAY FROM THE ROAD.

(3) MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.

(4) USE EXISTING PAVEMENT SURFACE. IF EXISTING PAVEMENT SURFACE HAS BEEN REMOVED, USE A TEMPORARY PEDESTRIAN SURFACE. WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.




**SIDEWALK BYPASS, SINGLE SIDE**

6

SDD 15D30-12h

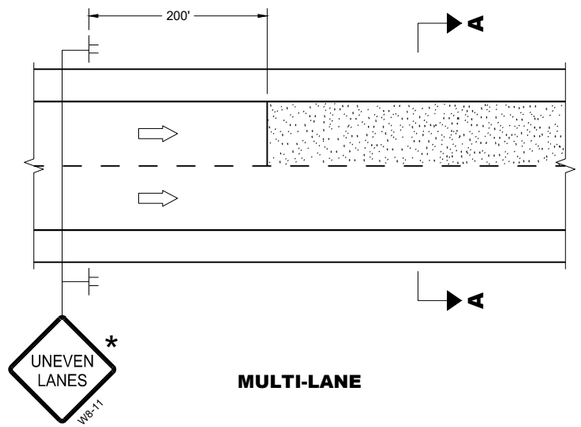
**TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

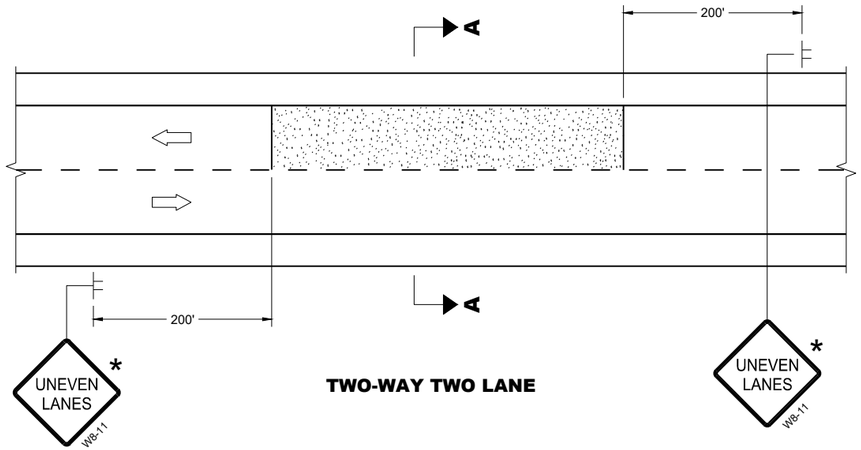


6

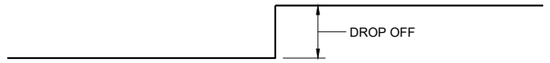
SDD 15D30-12h




**MULTI-LANE**

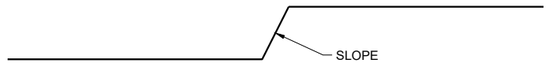



**TWO-WAY TWO LANE**

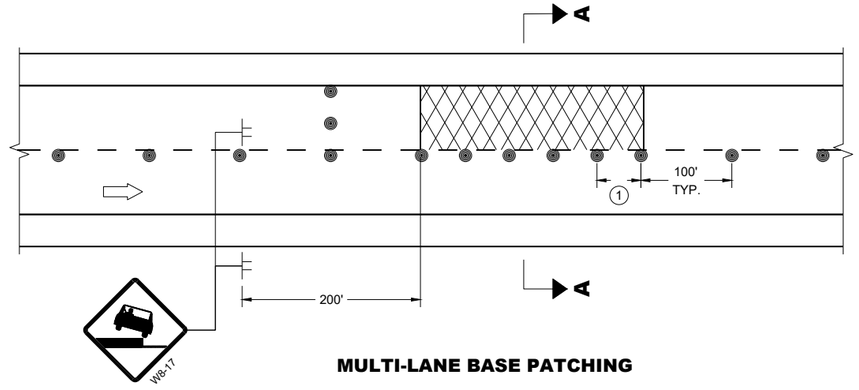



**SECTION A - A**

**OR**




**SECTION A - A**




**MULTI-LANE BASE PATCHING**

**ADJACENT LANE DROP-OFFS**

## GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

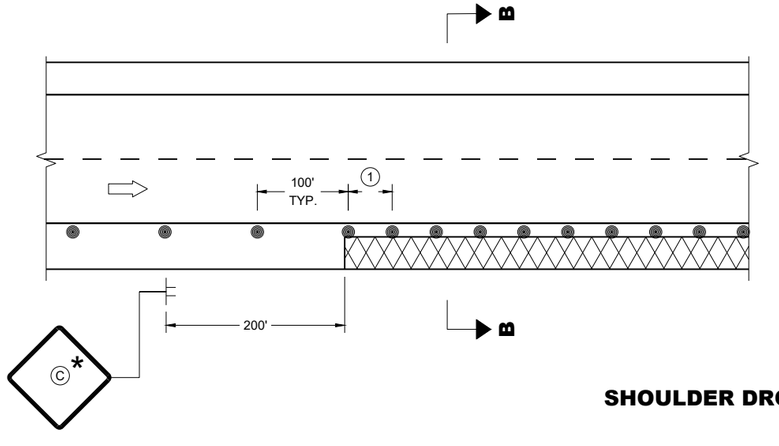
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

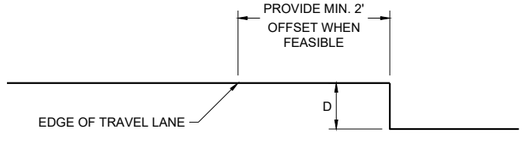
(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

## LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE




**SHOULDER DROP-OFFS**




**SECTION B - B**

| D | SIGN (C) |
|---|---|
| < 2" WITH A SLOPE STEEPER THAN 3:1 | LOW SHOULDER WO8-9 |
| 2" < 6" WITH A SLOPE STEEPER THAN 3:1 | SHOULDER DROP - OFF W8-9A |
| | **PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT** |

**TRAFFIC CONTROL, DROP-OFF SIGNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA



6
SDD 15D39-03

## GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

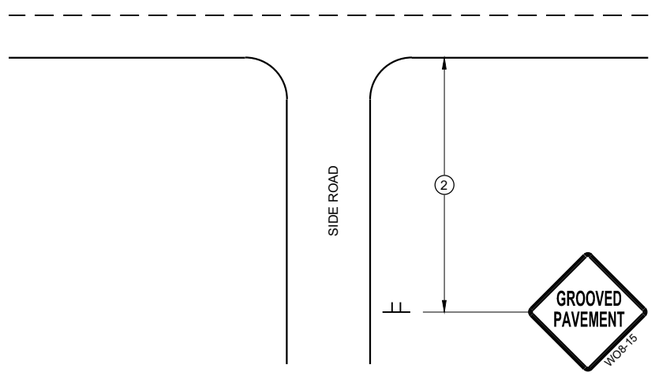
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

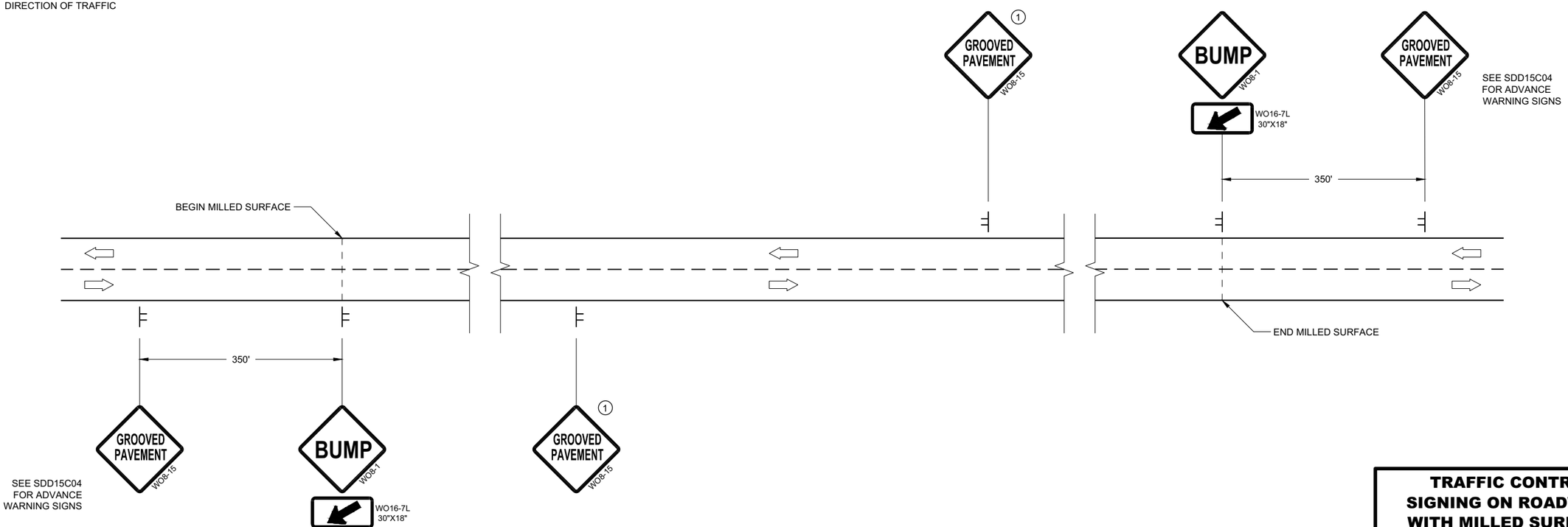
## LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC




**TYPICAL SIDE ROAD APPROACH SIGN DETAIL**




**DETAIL FOR SIGNING ON MILLED SURFACES**

**TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA



SDD 15D44 - 02

SDD 15D44 - 02

## GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

(1) PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

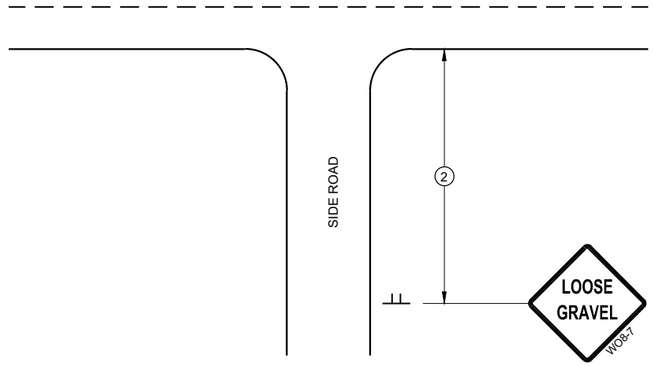
(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

(3) ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

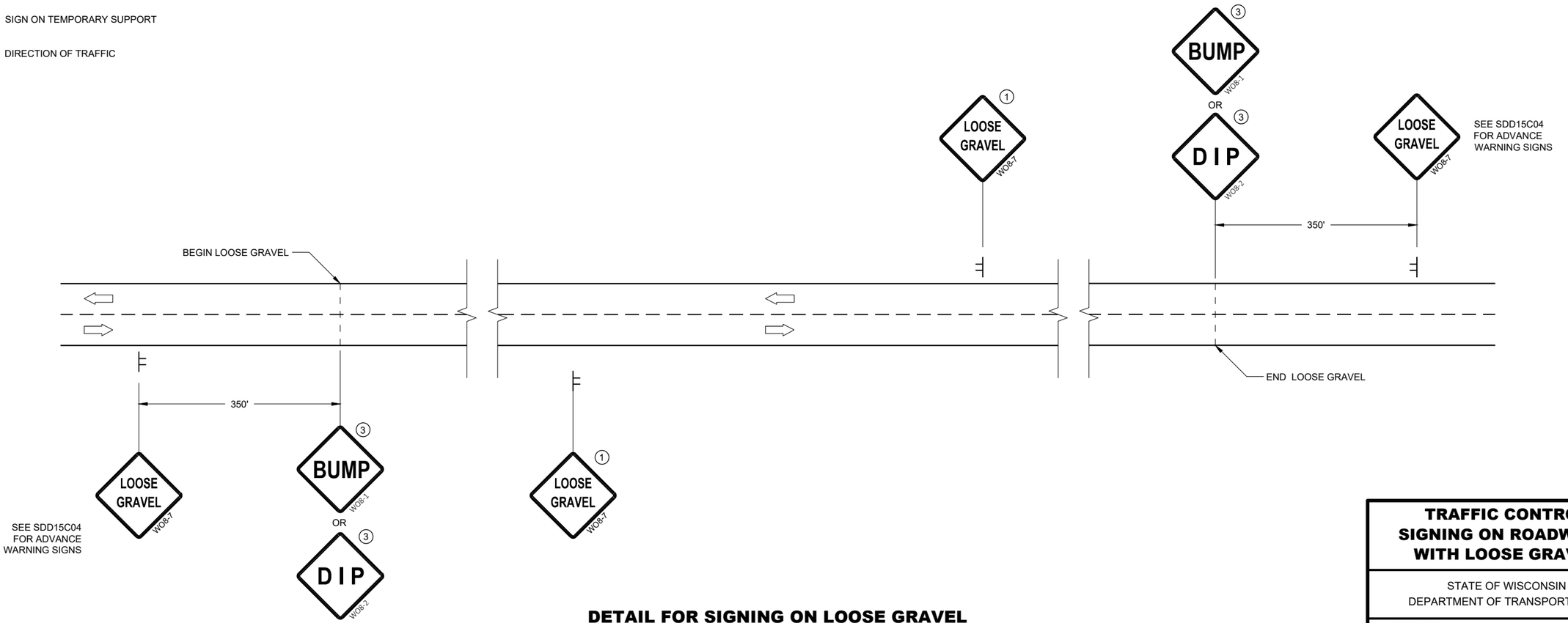
## LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC




**TYPICAL SIDE ROAD APPROACH SIGN DETAIL**




**DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES**

**TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



6

SDD 15D45 - 03

6

SDD 15D45 - 03

## LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA

| POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH) | ADVANCE WARNING SIGN SPACING (A) FEET | SHIFTING TAPER (L/2) FEET |
|---|---|---|
| 25 | 200 | 60 |
| 30 | 200 | 90 |
| 35 | 350 | 120 |
| 40 | 350 | 160 |
| 45 | 500 | 270 |
| 50 | 500 | 300 |
| 55 | 500 | 330 |

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

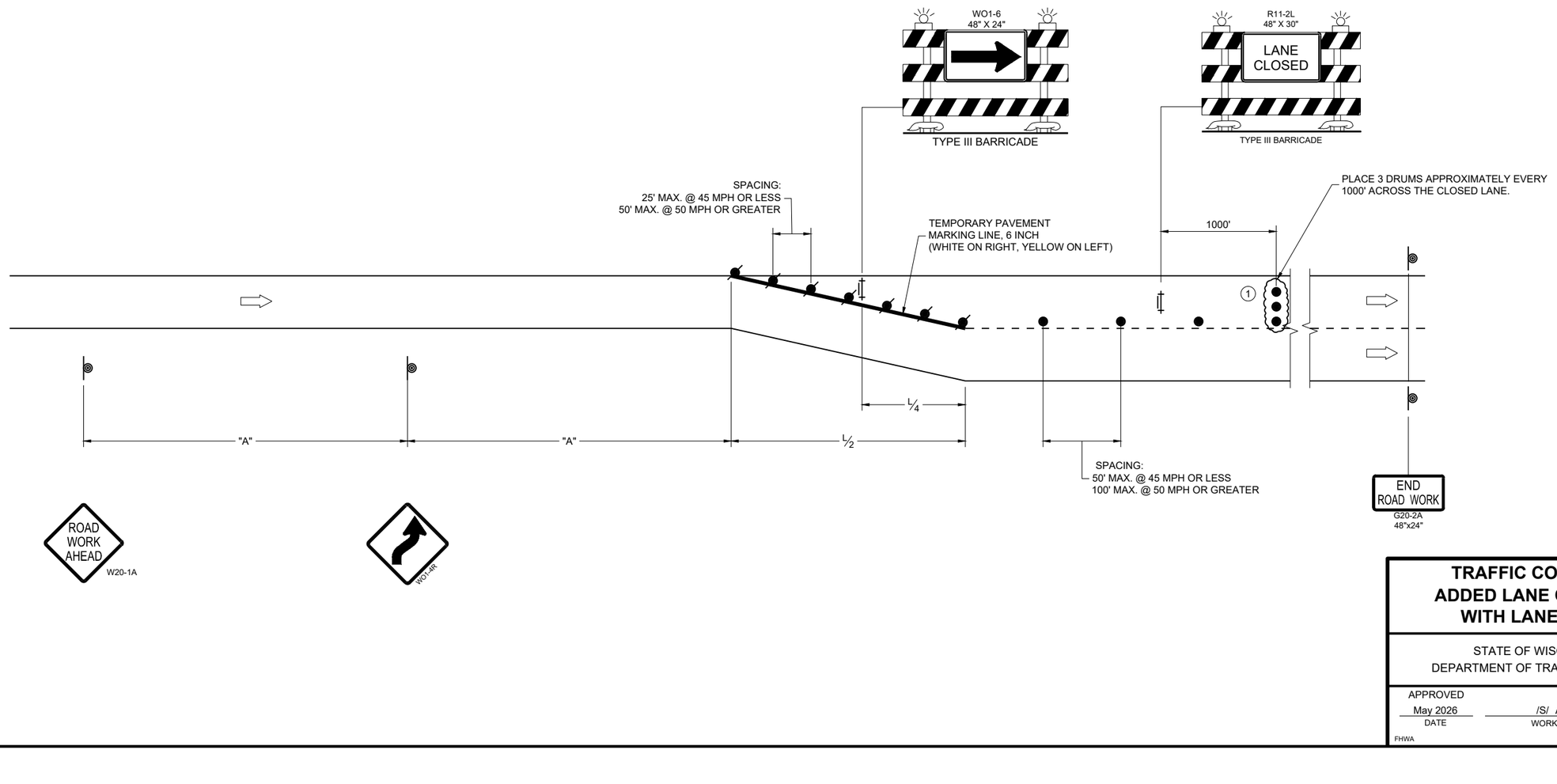
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.

PLACE TEMPORARY PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

(1) DRUMS IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.




# TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2026 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA



6
SDD 15D50-05b

## LEGEND

V1 WORK VEHICLE

V2 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

FLASHING ARROW PANEL (CAUTION)

WORK AREA

DIRECTION OF TRAFFIC

| POSTED SPEED PRIOR TO WORK STARTING (MPH) | DECISION SIGHT DISTANCE (D) |
|---|---|
| 0 - 25 | 550' |
| 30 | 550' |
| 35 | 700' |
| 40 | 700' |
| 45 | 900' |
| 50 | 900' |
| 55 | 1200' |

## GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

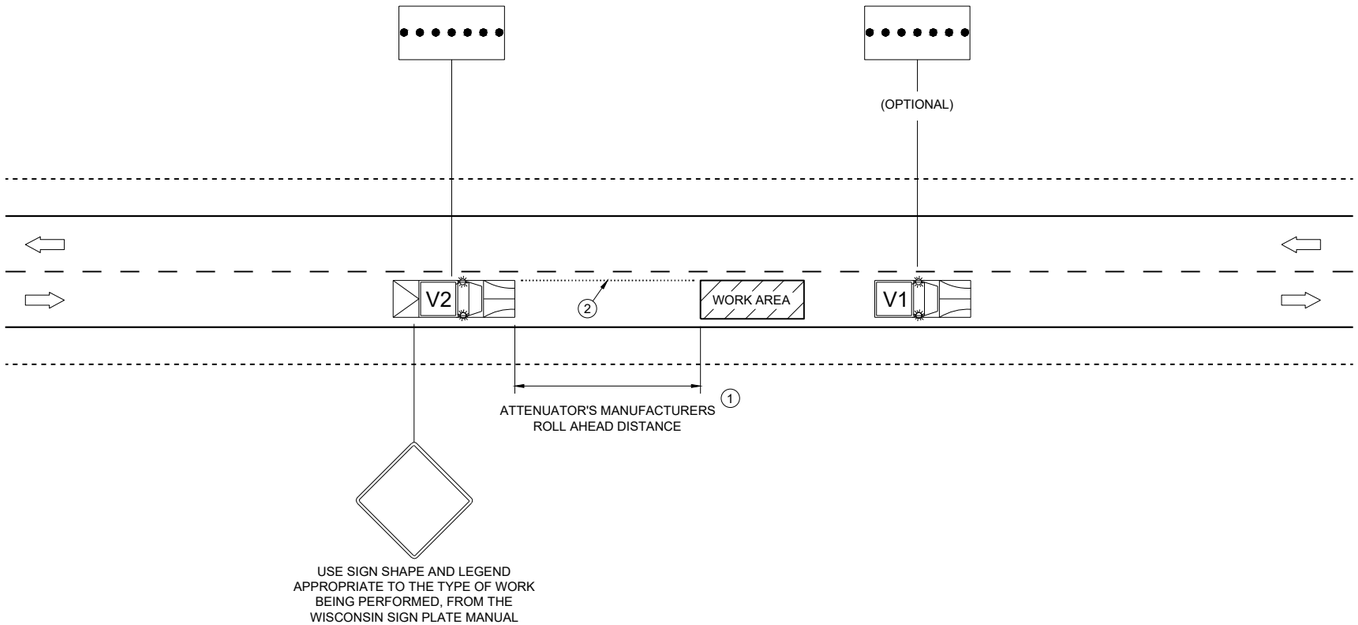
ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

(1) DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

(2) ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.




**TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2025 — DATE

/S/ Andrew Heidtke — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

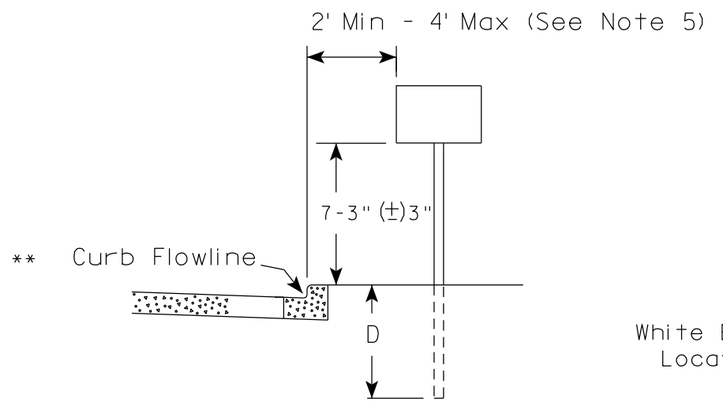
FHWA



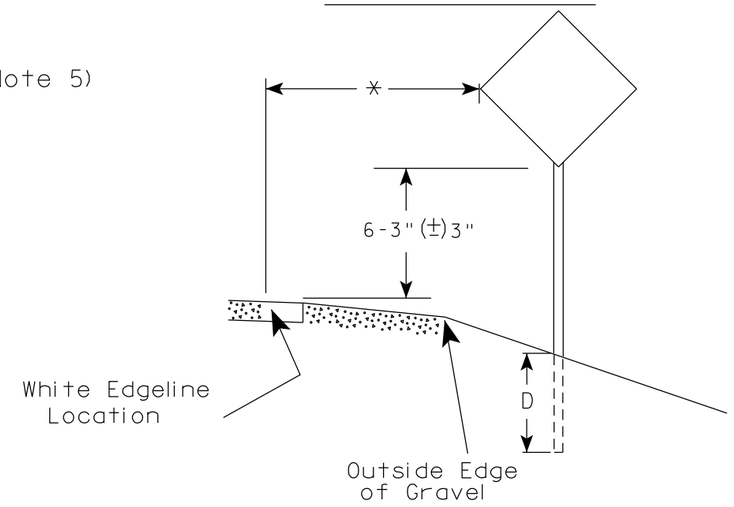


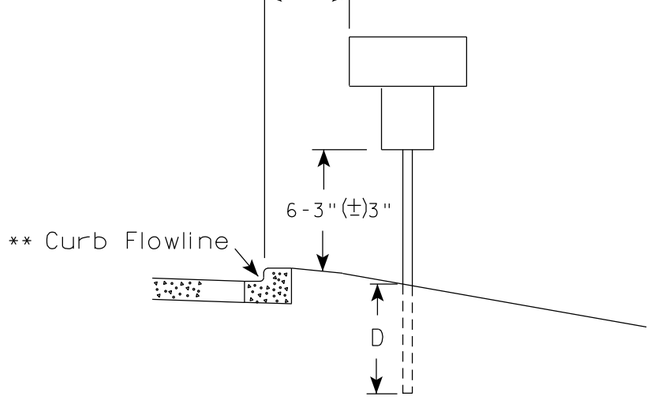
6 SDD 15D51-02

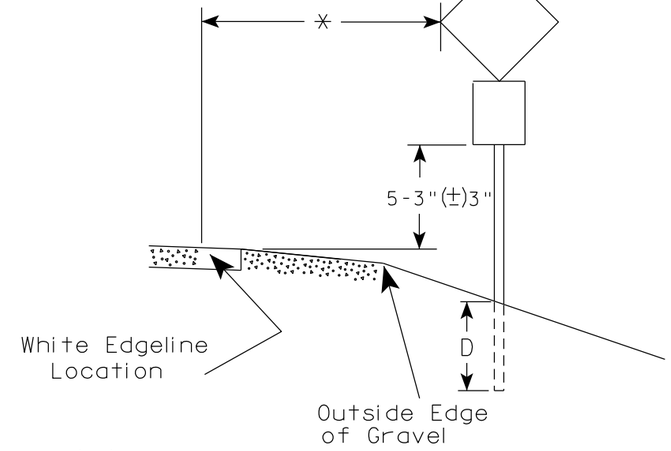
## URBAN AREA




## RURAL AREA (See Note 2)




** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

### POST EMBEDMENT DEPTH

| Area of Sign Installation ( Sq. Ft. ) | D ( Min ) |
|---|---|
| 20 or Less | 4' |
| Greater than 20 | 5' |

### GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

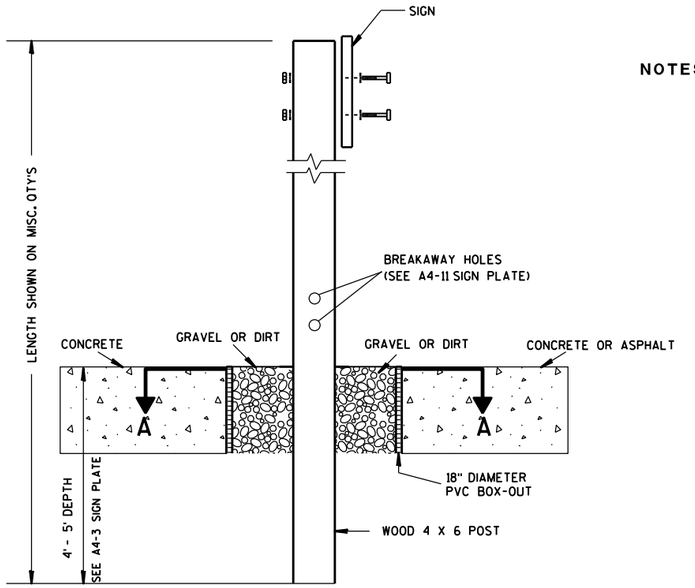
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

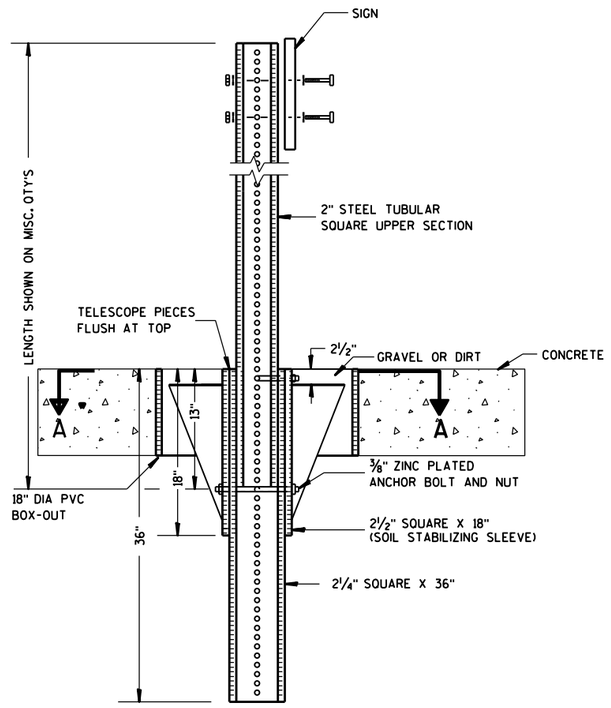
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 174 | E |
|---|---|---|---|---|---|




**ELEVATION VIEW**

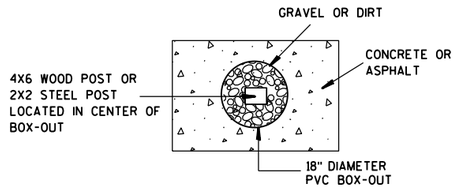
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.




**ELEVATION VIEW**

**DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT**




**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

# SIGN POST BOX-OUTS A4-3B

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

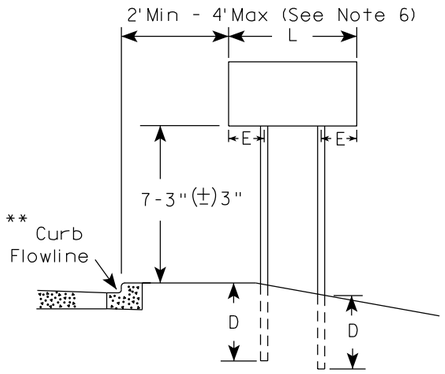
DATE 1/27/14 PLATE NO. A4-3B.1



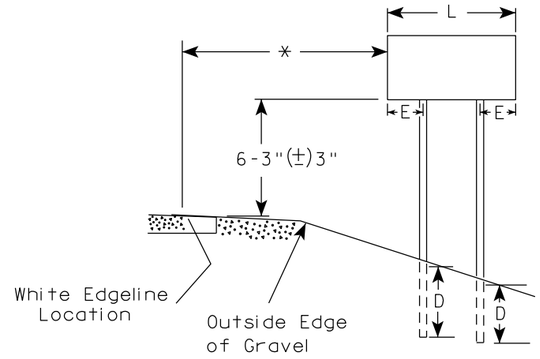
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

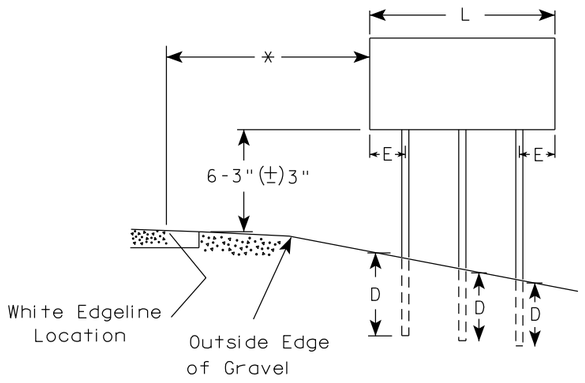
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

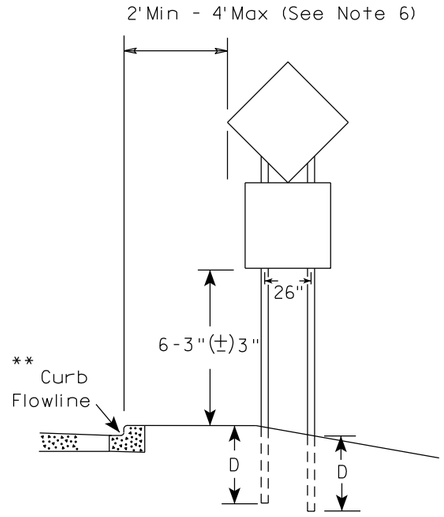
## URBAN AREA



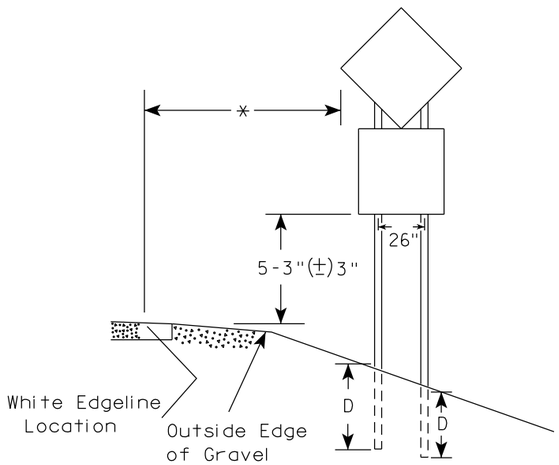

## RURAL AREA (See Note 3)




48" DIAMOND WARNING SIGN




48" DIAMOND WARNING SIGN

| SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED) | | |
|---|---|---|
| | L | E |
| *** | Greater than 48" Less than 60" | 12" |
| | 60" to 108" | L/5 |

| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|---|---|
| L | E |
| Greater than 108" to 144" | 12" |

## GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±) 3".

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

## POST EMBEDMENT DEPTH

| Area of Sign Installation ( Sq. Ft. ) | D ( Min ) |
|---|---|
| 20 or Less | 4' |
| Greater than 20 | 5' |

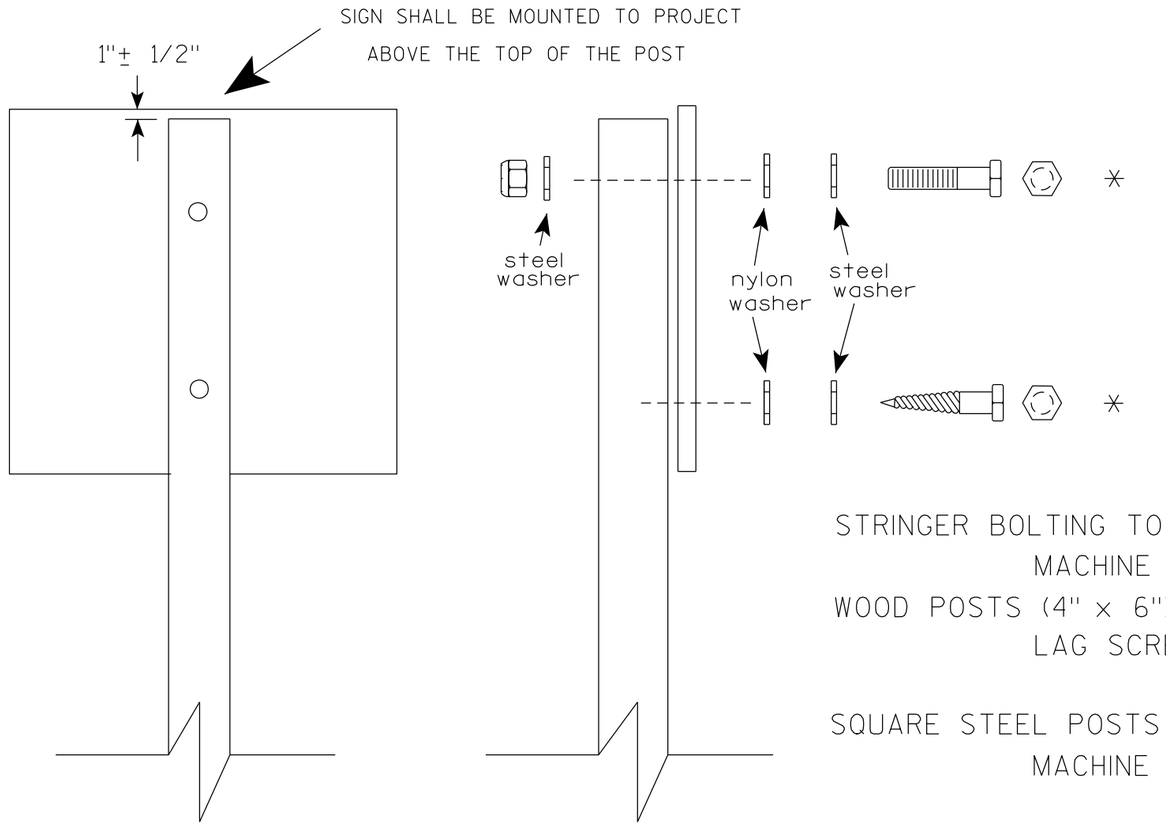
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 176 | E |
|---|---|---|---|---|---|




Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

# ATTACHMENT OF SIGNS TO POSTS

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

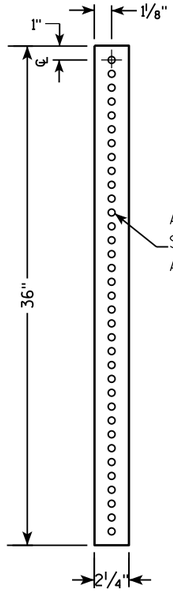
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

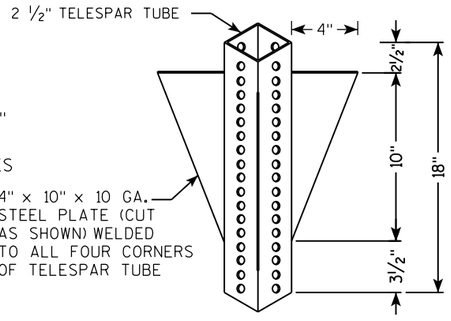
SHEET NO: 177 E

## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

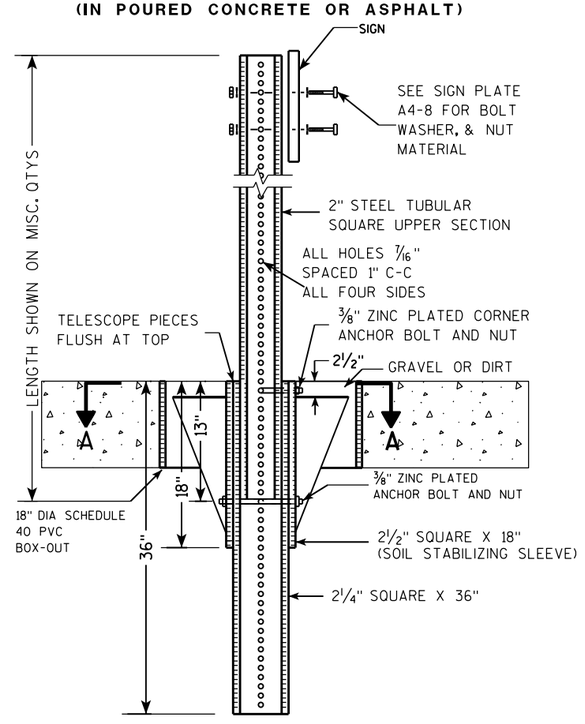
**2 ¼ " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



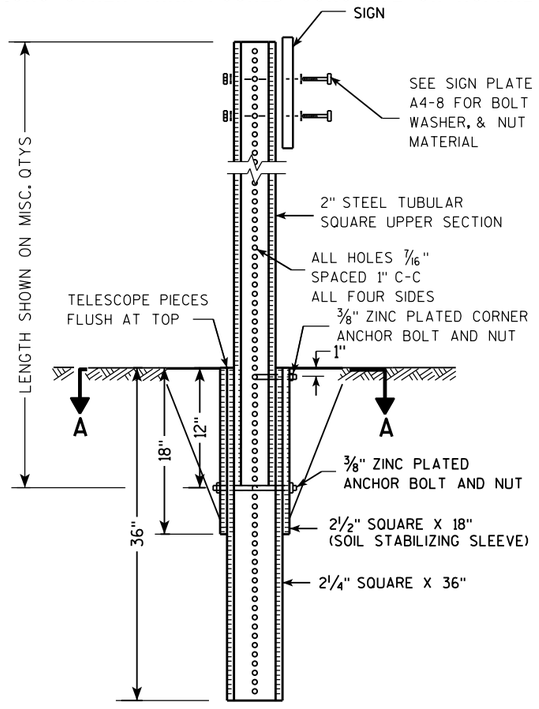

**2 ½ " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

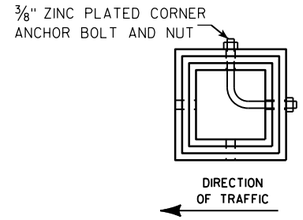



## DETAIL OF TUBULAR STEEL SIGN POST
**(IN POURED CONCRETE OR ASPHALT)**




## DETAIL OF TUBULAR STEEL SIGN POST
**(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**




**SECTION A-A**

| Area of Sign Installation (Sq. Ft.) | Number of Required Posts |
|---|---|
| 9 or less | 1 |
| Greater than 9 less than or equal to 18 | 2 |
| Greater than 18 less than or equal to 27 | 3 |

**Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).**

TUBULAR STEEL
SIGN POST
A4-9

*WISCONSIN DEPT OF TRANSPORTATION*

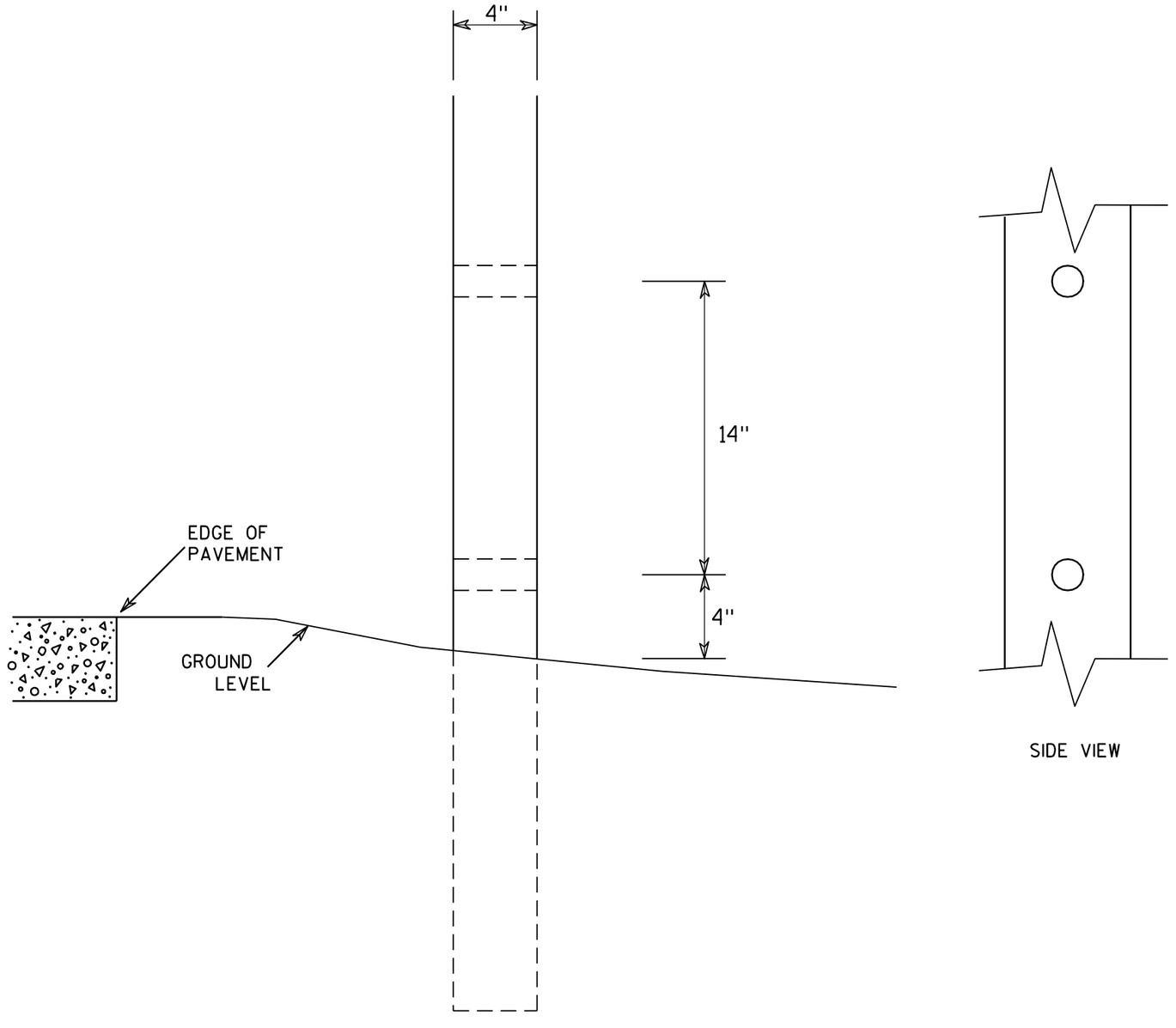
APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42






SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

# 4 X 6 WOOD POST MODIFICATIONS

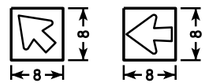
WISCONSIN DEPT OF TRANSPORTATION

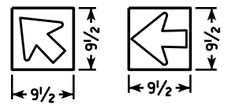
APPROVED Chester J Spang for State Traffic Engineer

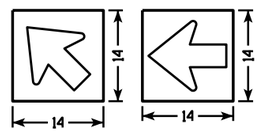
DATE 3/27/97 PLATE NO. A4-11.2

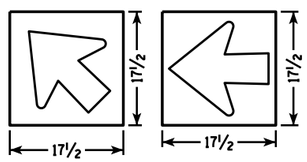
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 179 | E |
|---|---|---|---|---|---|

# SIGN LAYOUT WITH VARIOUS SIZED MESSAGES







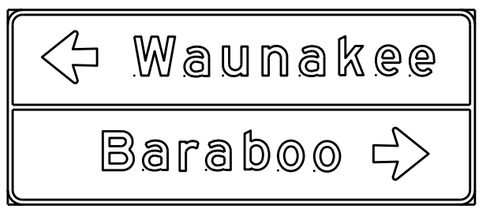



## GENERAL NOTES

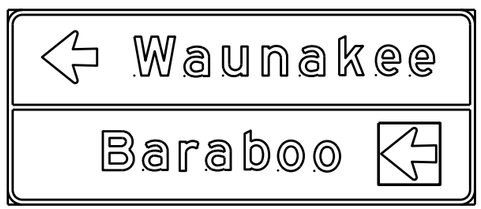
1. Materials shall conform to Standard Specification Section 637.
   Base - Sheet Aluminum 0.040" Thickness
   Sheeting - Orange Type F Reflective
   Arrow - Black Non-Reflective
2. Arrow signs shall be fastened to permanent sign by either aluminum rivets or aluminum self-tapping sheet metal screws. There shall be a minmum of 2 fasteners used per arrow sign.
3. There shall be a spacer consisting of a 0.08" nylon washer between the back of the arrow sign and the face of the permanent sign.
4. Arrows are per standard plate A1-2
5. Use separate arrow sign for each destination
6. Tilt arrow is always at 45 degrees
7. Arrow is centered on arrow sign

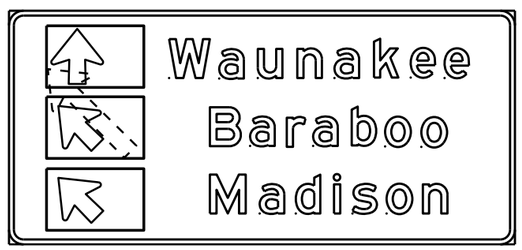
| Lower Case Copy Size | Standard Width (Single Arrow) | 2 Line Tilt Arrow Cover Width | 3 Line Tilt Arrow Cover Width | Height |
|---|---|---|---|---|
| 3¾" Series C | 8 | 9 ½ | 14 ½ | 8 |
| 4½" Series D & E | 9 ½ | 10 | 15 | 9 ½ |
| 6" Series D & E | 14 | 16 | 20 ½ | 14 |
| 8" Series E | 17 ½ | 20 ½ | 25 | 17 ½ |

## BEFORE



## AFTER




**DESTINATION DIRECTIONAL ARROW FOR DETOUR SIGNS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/08/14

A4-12.2

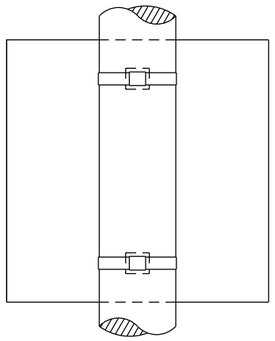


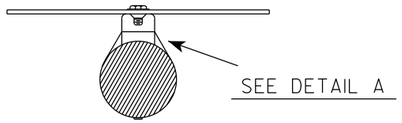
PROJECT NO:

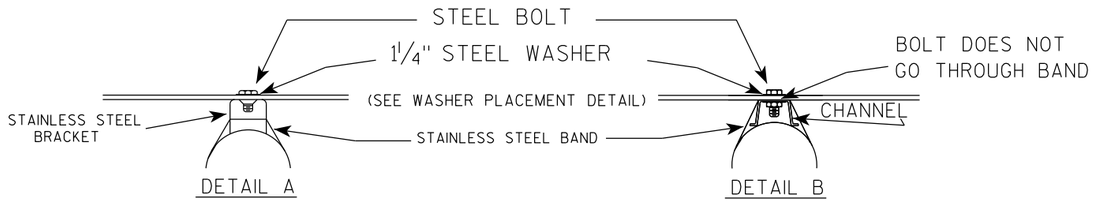
SHEET NO: E

# BANDING

SINGLE SIGN



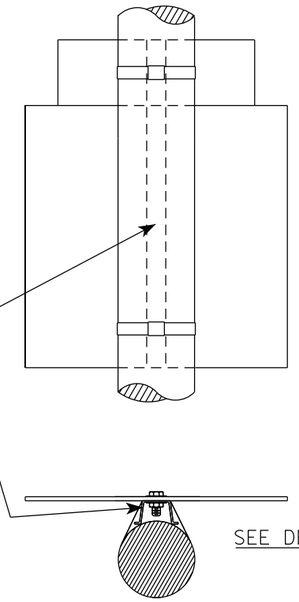



## GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

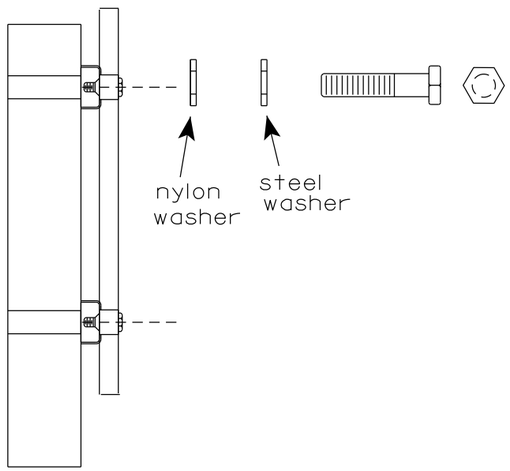
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL INSTALLATION SHEET



WASHER PLACEMENT




WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

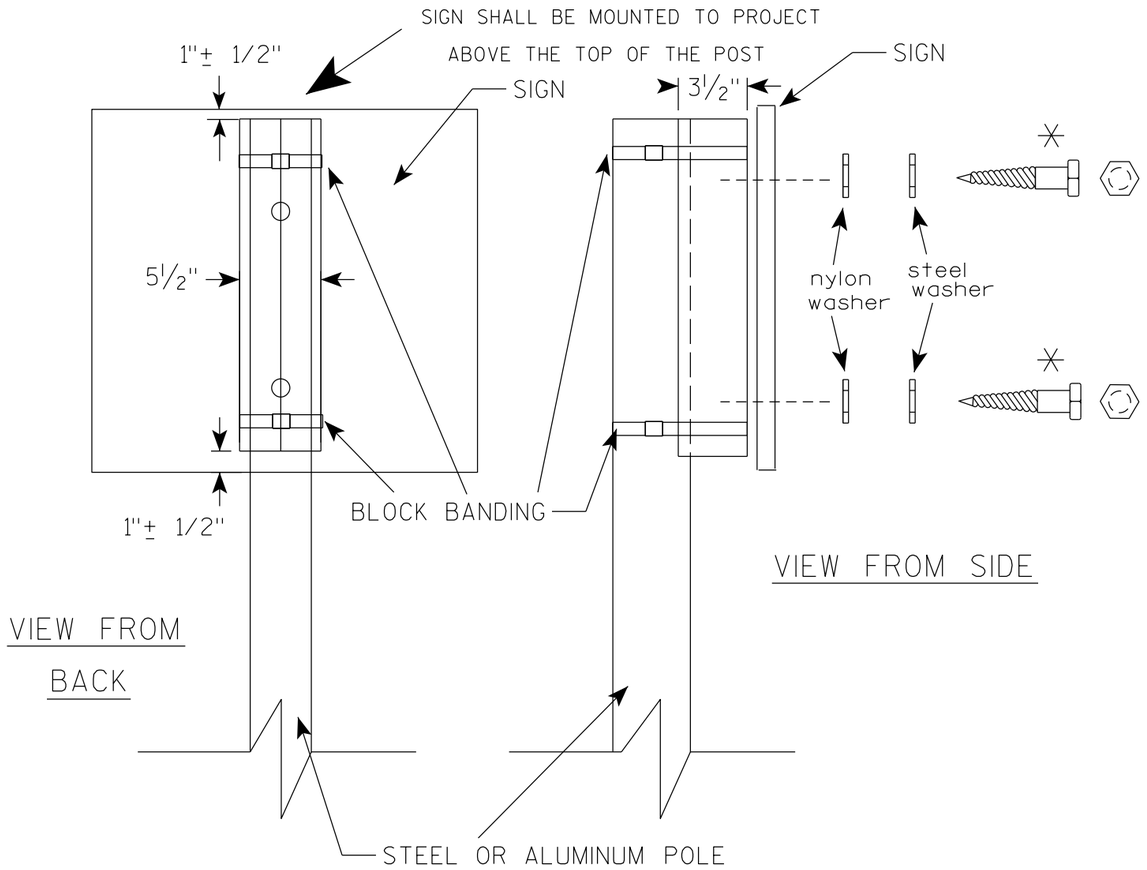
DATE 6/10/19 PLATE NO. A5-9.4

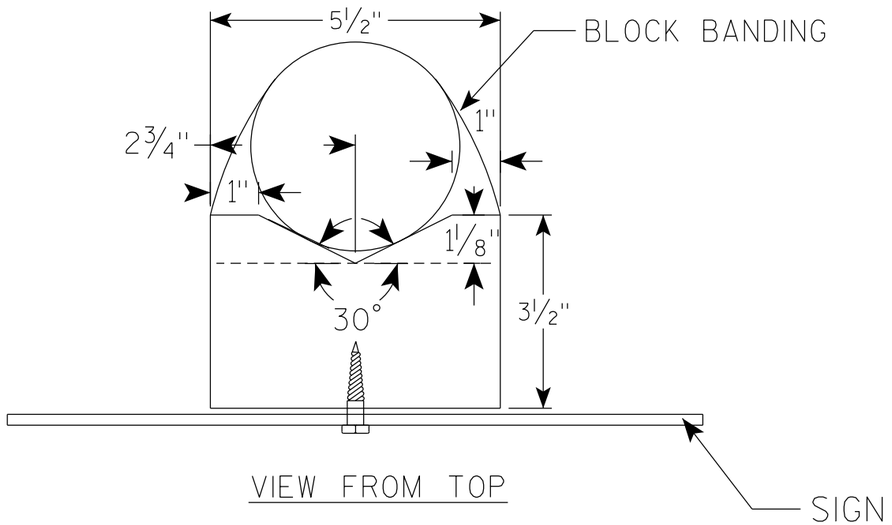
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 181 | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7




## GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

# BLOCK BANDING DETAIL ( V-BLOCK OPTION )

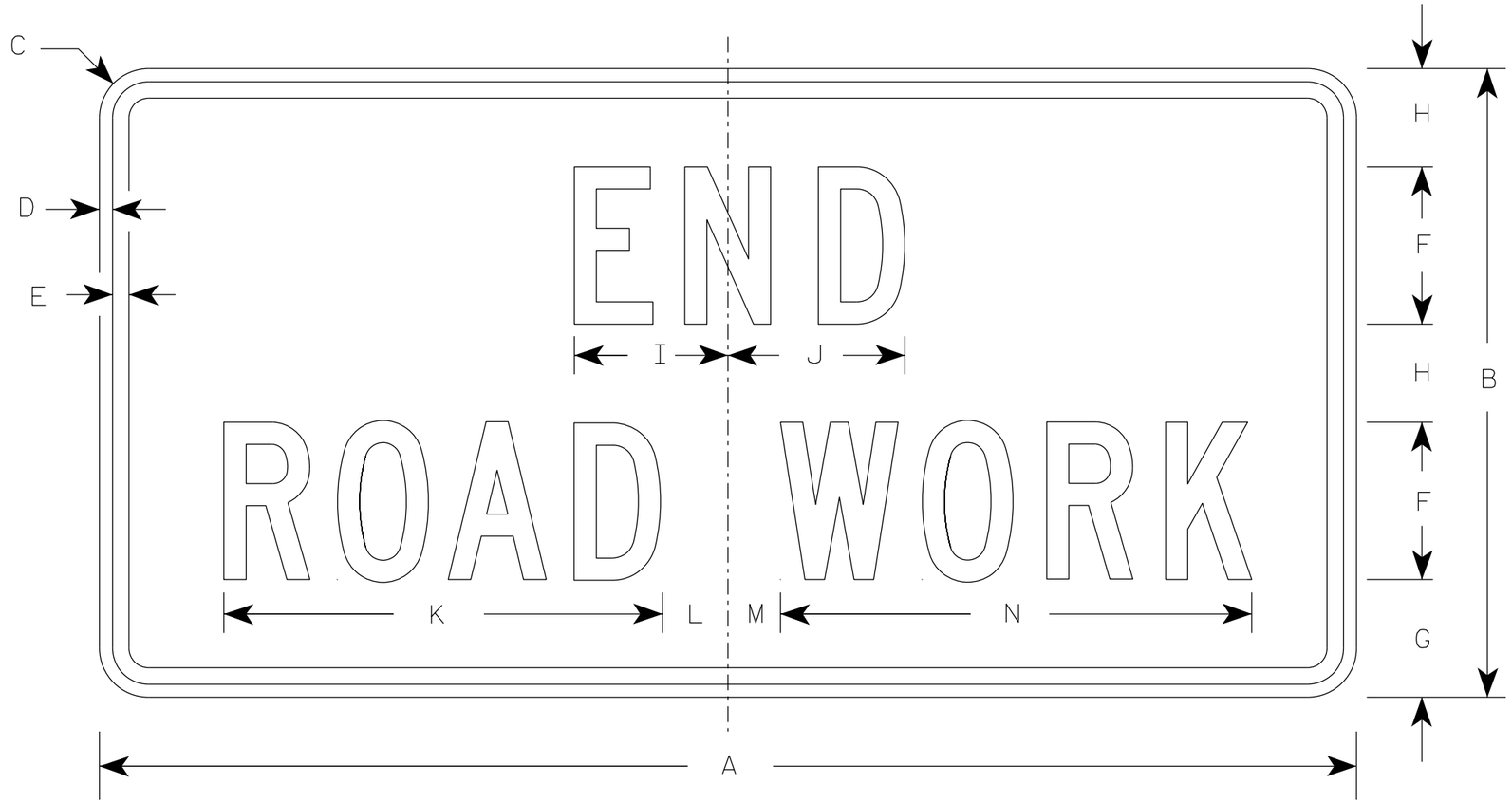
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 182 E




G20-2A

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 4 | 3 3/4 | 2 1/2 | 4 1/8 | 4 1/8 | 11 1/8 | 2 | 1 | 12 1/8 | | | | | | | | | | | | | 4.5 |
| 2 | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 |
| 2M | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 |
| 3 | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 |
| 4 | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 |
| 5 | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 |

STANDARD SIGN

G20-2A

WISCONSIN DEPT OF TRANSPORTATION

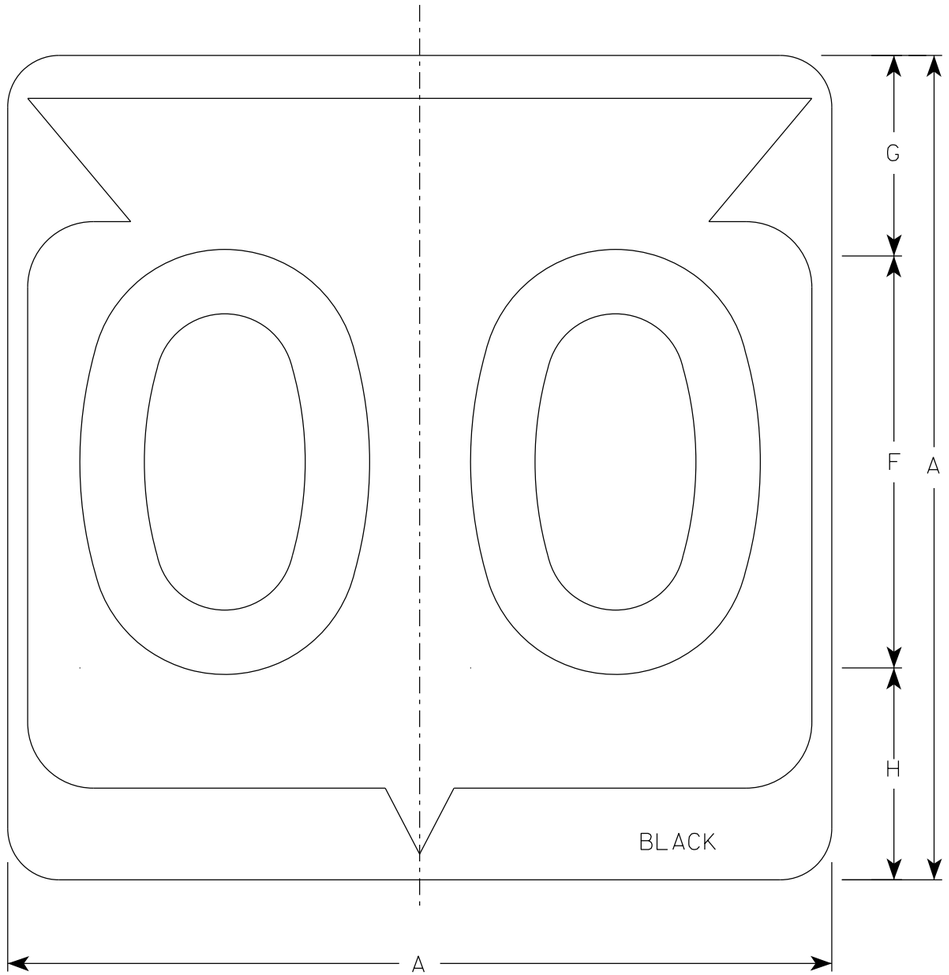
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-2A.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



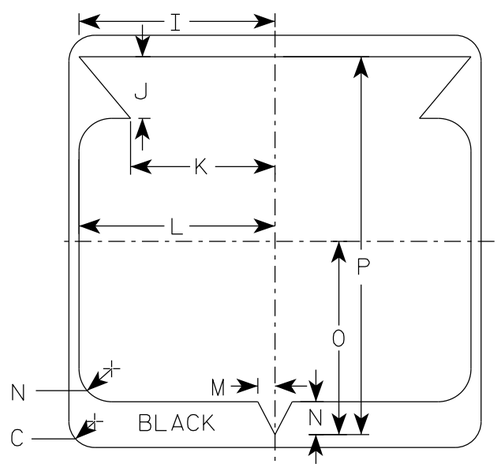
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\G202A.dgn PLOT DATE : 26-JAN 2023 8:27 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42




M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | | 1 1/2 | | | 12 | 5 1/2 | 6 1/2 | 10 1/4 | 2 1/2 | 8 7/8 | 11 1/2 | 1 | 1 7/8 | 11 1/4 | 21 7/8 | | | | | | | | | | | 4.0 |
| 2M | 24 | | 1 1/2 | | | 12 | 5 1/2 | 6 1/2 | 10 1/4 | 2 1/2 | 8 7/8 | 11 1/2 | 1 | 1 7/8 | 11 1/4 | 21 7/8 | | | | | | | | | | | 4.0 |
| 3 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 |
| 4 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 |
| 5 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 |

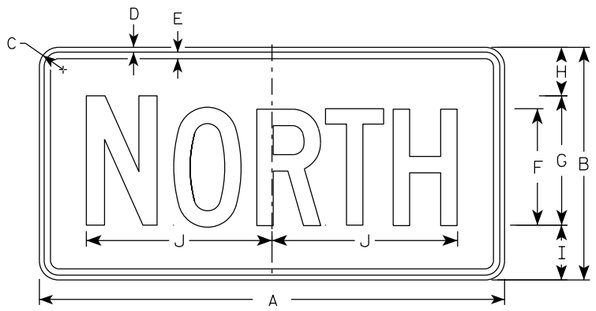
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

*WISCONSIN DEPT OF TRANSPORTATION*

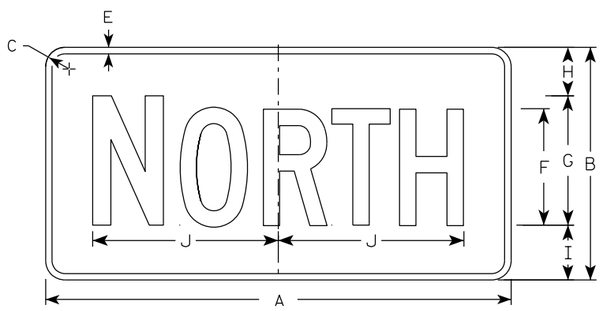
APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

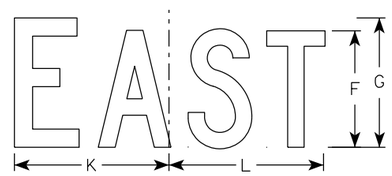
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 184 | E |
|---|---|---|---|---|---|




M3-1
MM3-1
MP3-1

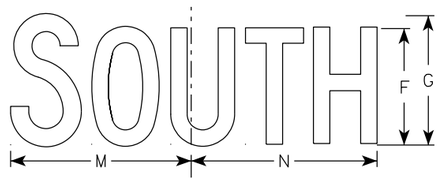



MB3-1
MK3-1
MN3-1

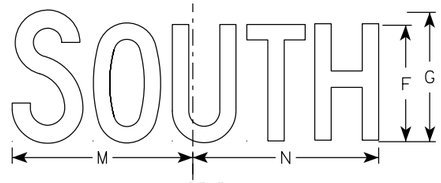



M3-2
MM3-2
MP3-2

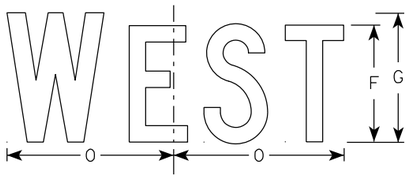
MB3-2
MK3-2
MN3-2



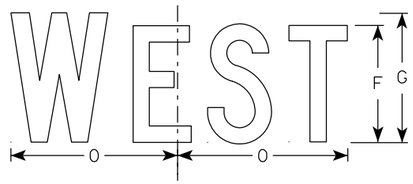

M3-3
MM3-3
MP3-3




MB3-3
MK3-3
MN3-3




M3-4
MM3-4
MP3-4




MB3-4
MK3-4
MN3-4

## NOTES

1. All Signs Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 6 | 7 | 2 1/4 | 2 3/4 | 10 1/4 | 7 7/8 | 8 3/8 | 10 1/4 | 9 3/4 | 8 3/4 | | | | | | | | | | | | 2.00 |
| 2M | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 6 | 7 | 2 1/4 | 2 3/4 | 10 1/4 | 7 7/8 | 8 3/8 | 10 1/4 | 9 3/4 | 8 3/4 | | | | | | | | | | | | 2.00 |
| 3 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | | | | | | | | | | 4.5 |
| 4 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | | | | | | | | | | 4.5 |
| 5 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | | | | | | | | | | 4.5 |

STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

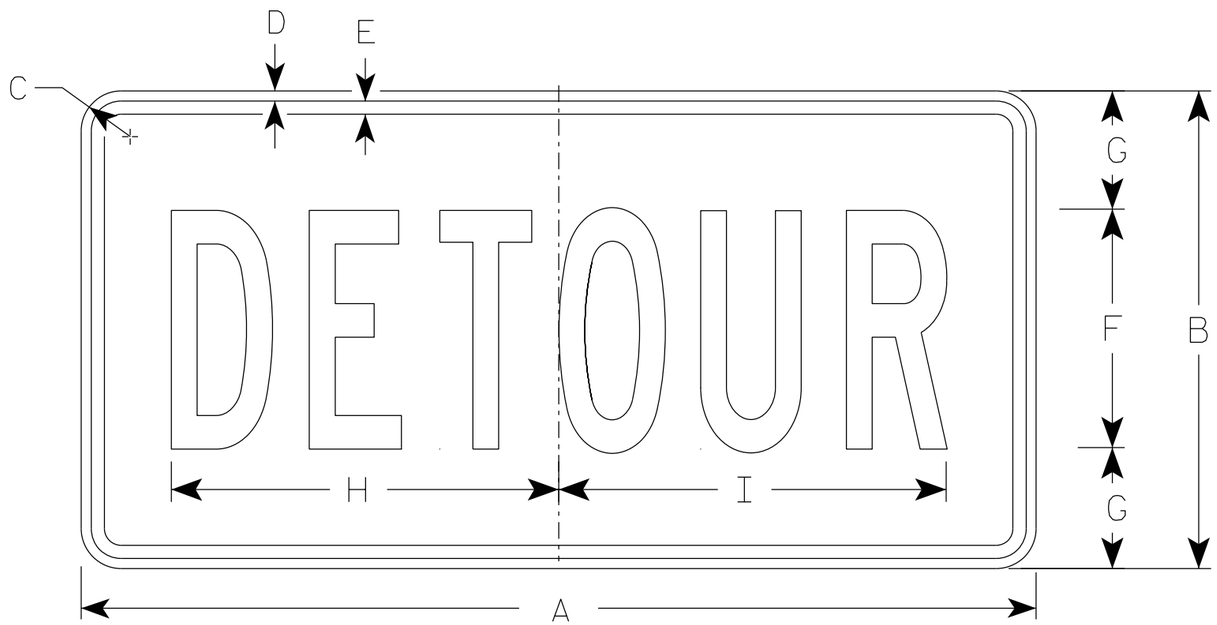
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 185 | E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.




M4-8

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 6 | 3 | 10 | 10 1/4 | | | | | | | | | | | | | | | | | | 2.0 |
| 2M | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 6 | 3 | 10 | 10 1/4 | | | | | | | | | | | | | | | | | | 2.0 |
| 3 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 | | | | | | | | | | | | | | | | | | 4.5 |
| 4 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 | | | | | | | | | | | | | | | | | | 4.5 |
| 5 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 | | | | | | | | | | | | | | | | | | 4.5 |

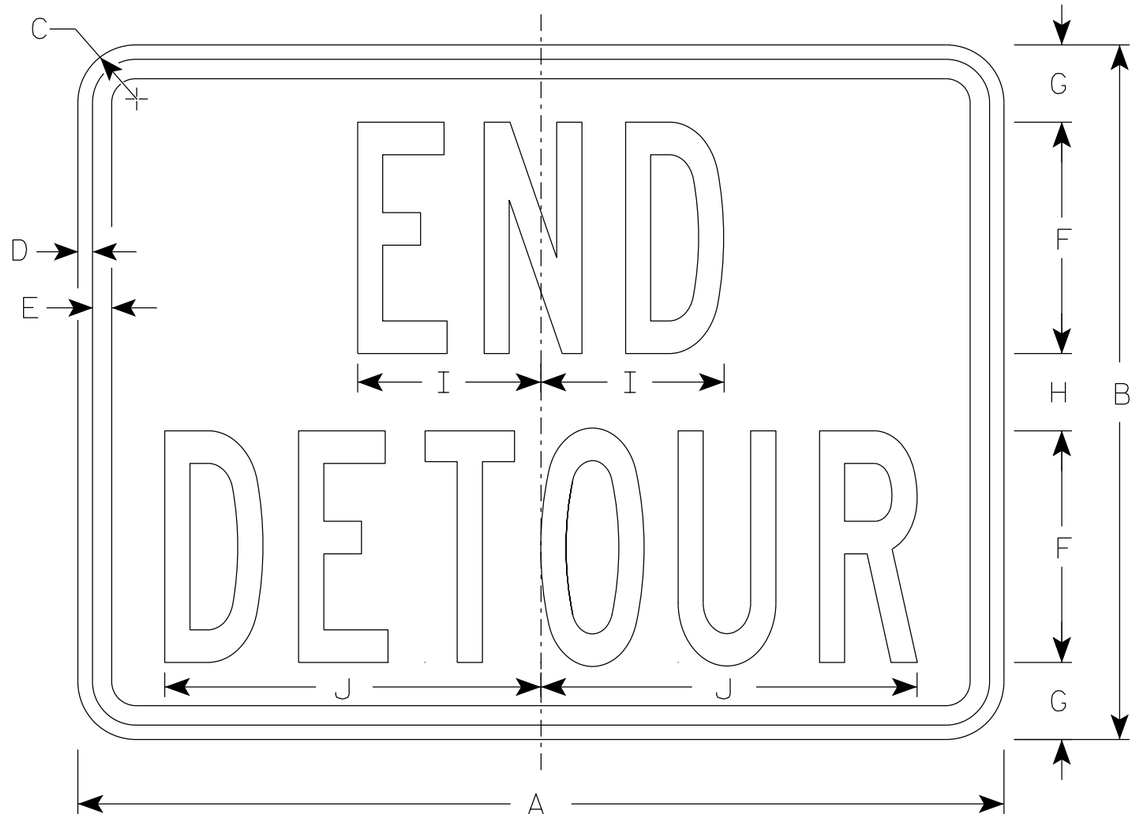
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E |
|---|---|---|---|---|




M4-8A

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 18 | 1 ½ | ⅜ | ½ | 6 | 2 | 2 | 4 ¾ | 9 ¾ | | | | | | | | | | | | | | | | | 3.0 |
| 2M | 24 | 18 | 1 ½ | ⅜ | ½ | 6 | 2 | 2 | 4 ¾ | 9 ¾ | | | | | | | | | | | | | | | | | 3.0 |
| 3 | 30 | 24 | 1 ½ | ⅜ | ½ | 8 | 2 ½ | 3 | 6 ¾ | 13 | | | | | | | | | | | | | | | | | 5.0 |
| 4 | 30 | 24 | 1 ½ | ⅜ | ½ | 8 | 2 ½ | 3 | 6 ¾ | 13 | | | | | | | | | | | | | | | | | 5.0 |
| 5 | 30 | 24 | 1 ½ | ⅜ | ½ | 8 | 2 ½ | 3 | 6 ¾ | 13 | | | | | | | | | | | | | | | | | 5.0 |

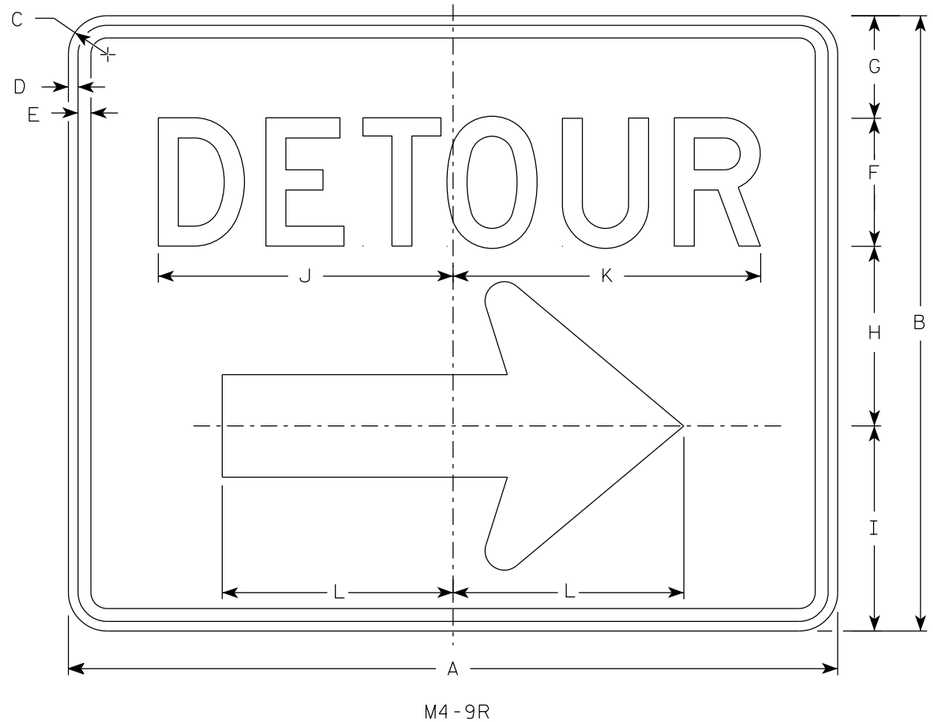
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

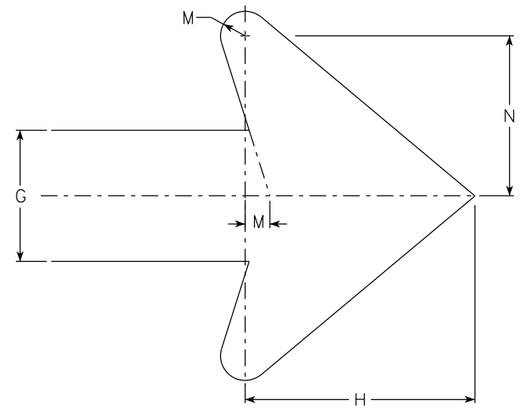
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 187 | E




M4-9R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M4-9L is the same as M4-9R except the arrow is reversed.




Arrow Detail

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 30 | 24 | 1 1/2 | 3/8 | 1/2 | 5 | 4 | 7 | 8 | 11 1/2 | 12 | 9 | 3/4 | 4 7/8 | | | | | | | | | | | | | 5.00 |
| 2M | 30 | 24 | 1 1/2 | 3/8 | 1/2 | 5 | 4 | 7 | 8 | 11 1/2 | 12 | 9 | 3/4 | 4 7/8 | | | | | | | | | | | | | 5.00 |
| 3 | 30 | 24 | 1 1/2 | 3/8 | 1/2 | 5 | 4 | 7 | 8 | 11 1/2 | 12 | 9 | 3/4 | 4 7/8 | | | | | | | | | | | | | 5.00 |
| 4 | 48 | 36 | 1 7/8 | 1/2 | 5/8 | 8 | 6 | 10 1/2 | 11 5/8 | 20 5/8 | 20 1/2 | 13 1/4 | 1 1/8 | 6 7/8 | | | | | | | | | | | | | 12.0 |
| 5 | 48 | 36 | 1 7/8 | 1/2 | 5/8 | 8 | 6 | 10 1/2 | 11 5/8 | 20 5/8 | 20 1/2 | 13 1/4 | 1 1/8 | 6 7/8 | | | | | | | | | | | | | 12.0 |

STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

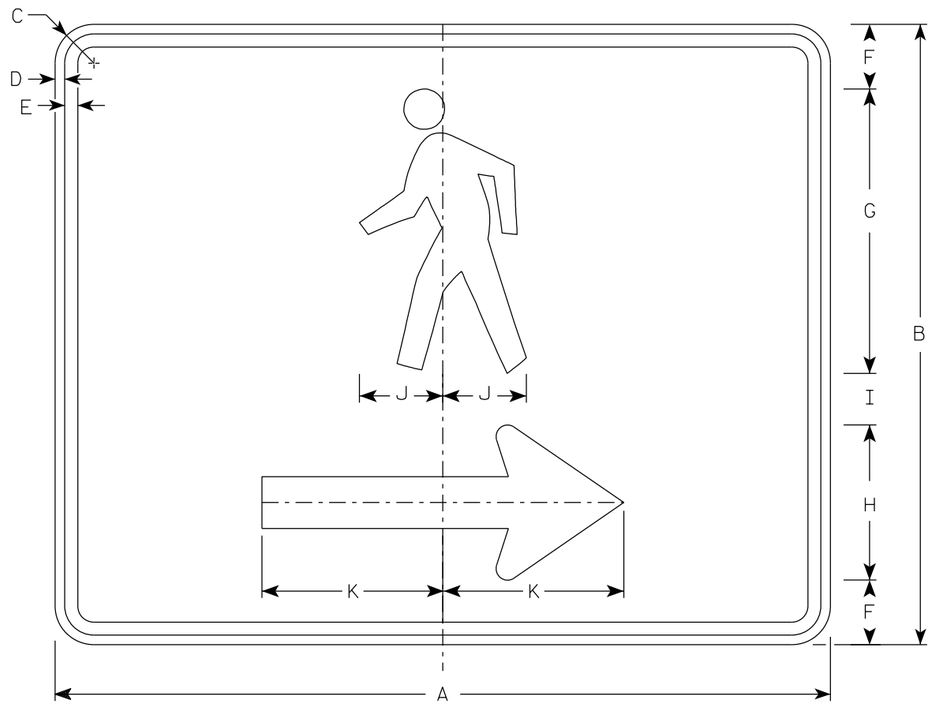
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



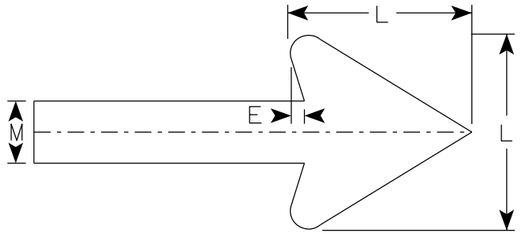
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M49R.dgn PLOT DATE : 21-MARCH 2023 1:40 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M4-60L is the same as M4-60R except the arrow is reversed.




M4-60R




Arrow Detail

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 30 | 24 | 1 ½ | ⅜ | ½ | 2 ½ | 11 | 6 | 2 | 3 ¼ | 7 | 6 | 2 | | | | | | | | | | | | | | 5.00 |
| 2M | 30 | 24 | 1 ½ | ⅜ | ½ | 2 ½ | 11 | 6 | 2 | 3 ¼ | 7 | 6 | 2 | | | | | | | | | | | | | | 5.00 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

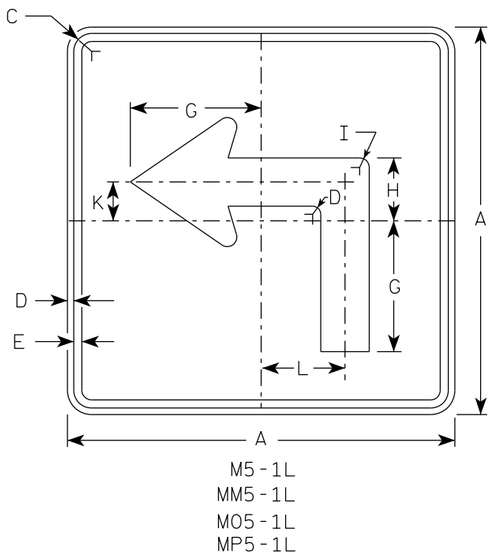
STANDARD SIGN
M4-60 L&R

WISCONSIN DEPT OF TRANSPORTATION

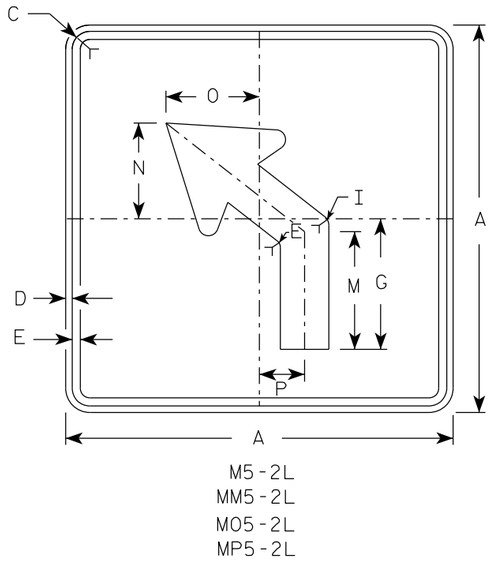
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/14/2023 PLATE NO. M4-60.2

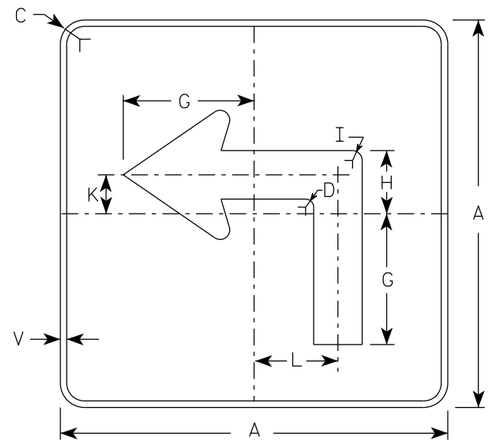
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 189 | E



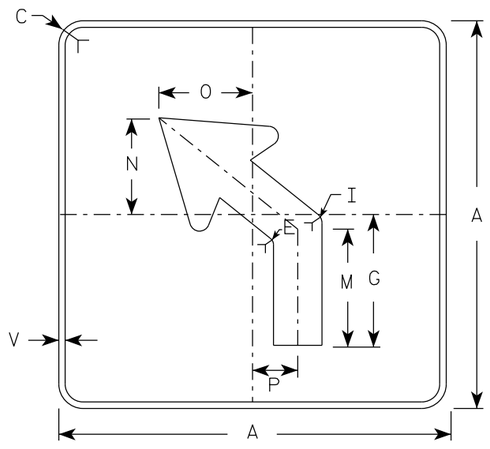

M5-1L
MM5-1L
MO5-1L
MP5-1L




M5-2L
MM5-2L
MO5-2L
MP5-2L




MB5-1L
MK5-1L
MN5-1L
MR5-1L

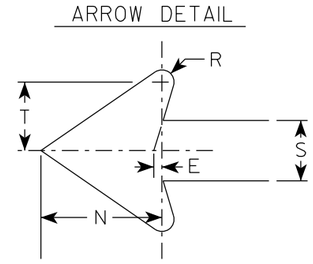



MB5-2L
MK5-2L
MN5-2L
MR5-2L

## NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 21 | | 1 1/2 | 3/8 | 3/8 | | 7 | 3 3/8 | 5/8 | | 2 1/8 | 4 1/2 | 6 3/8 | 5 1/4 | 5 | 2 1/2 | | 1/2 | 2 5/8 | 3 | | 1/2 | | | | | 3.06 |
| 2M | 21 | | 1 1/2 | 3/8 | 3/8 | | 7 | 3 3/8 | 5/8 | | 2 1/8 | 4 1/2 | 6 3/8 | 5 1/4 | 5 | 2 1/2 | | 1/2 | 2 5/8 | 3 | | 1/2 | | | | | 3.06 |
| 3 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | | 1/2 | | | | | 6.25 |
| 4 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | | 1/2 | | | | | 6.25 |
| 5 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | | 1/2 | | | | | 6.25 |

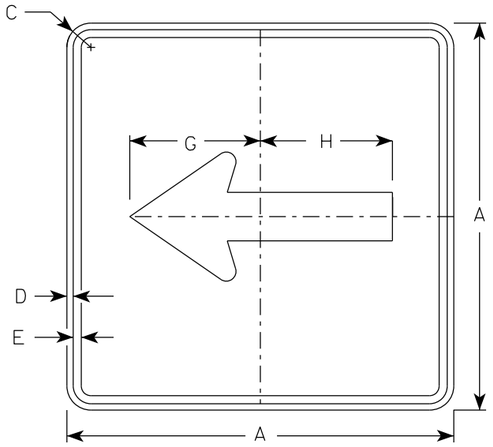
# STANDARD SIGN
# M5-1 & M5-2

*WISCONSIN DEPT OF TRANSPORTATION*

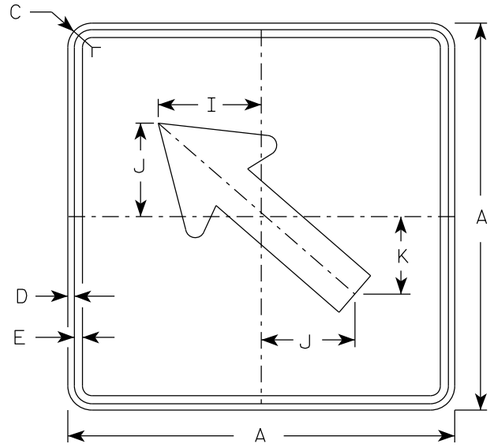
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

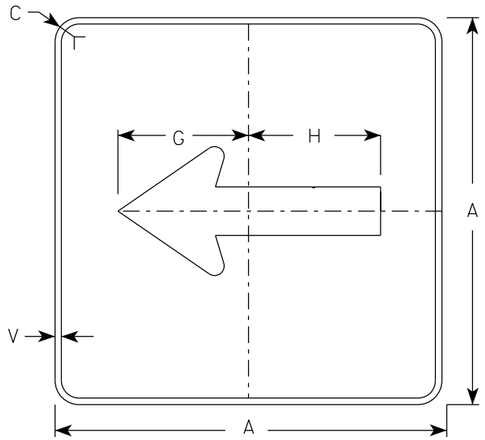
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 190 | E



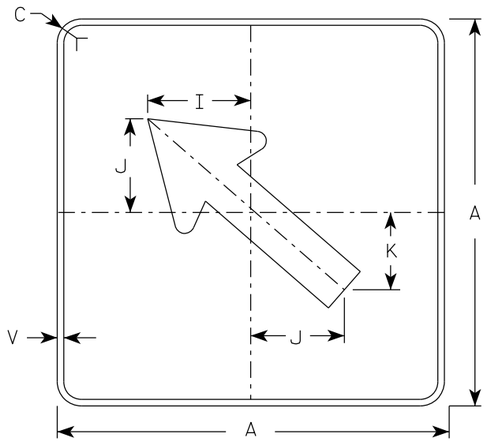

M6-1
MM6-1
MO6-1
MP6-1




M6-2
MM6-2
MO6-2
MP6-2




MB6-1
MK6-1
MN6-1
MR6-1

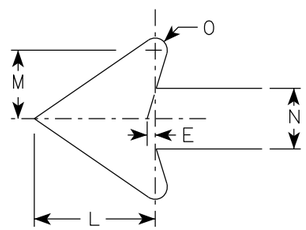



MB6-2
MK6-2
MN6-2
MR6-2

NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow

ARROW DETAIL




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 21 | | 1 1/2 | 3/8 | 3/8 | | 7 1/2 | 7 1/8 | 5 5/8 | 5 | 4 1/4 | 5 1/4 | 3 | 2 5/8 | 1/2 | | | | | | | 1/2 | | | | | 3.06 |
| 2M | 21 | | 1 1/2 | 3/8 | 3/8 | | 7 1/2 | 7 1/8 | 5 5/8 | 5 | 4 1/4 | 5 1/4 | 3 | 2 5/8 | 1/2 | | | | | | | 1/2 | | | | | 3.06 |
| 3 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | | 1/2 | | | | | 6.25 |
| 4 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | | 1/2 | | | | | 6.25 |
| 5 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | | 1/2 | | | | | 6.25 |

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

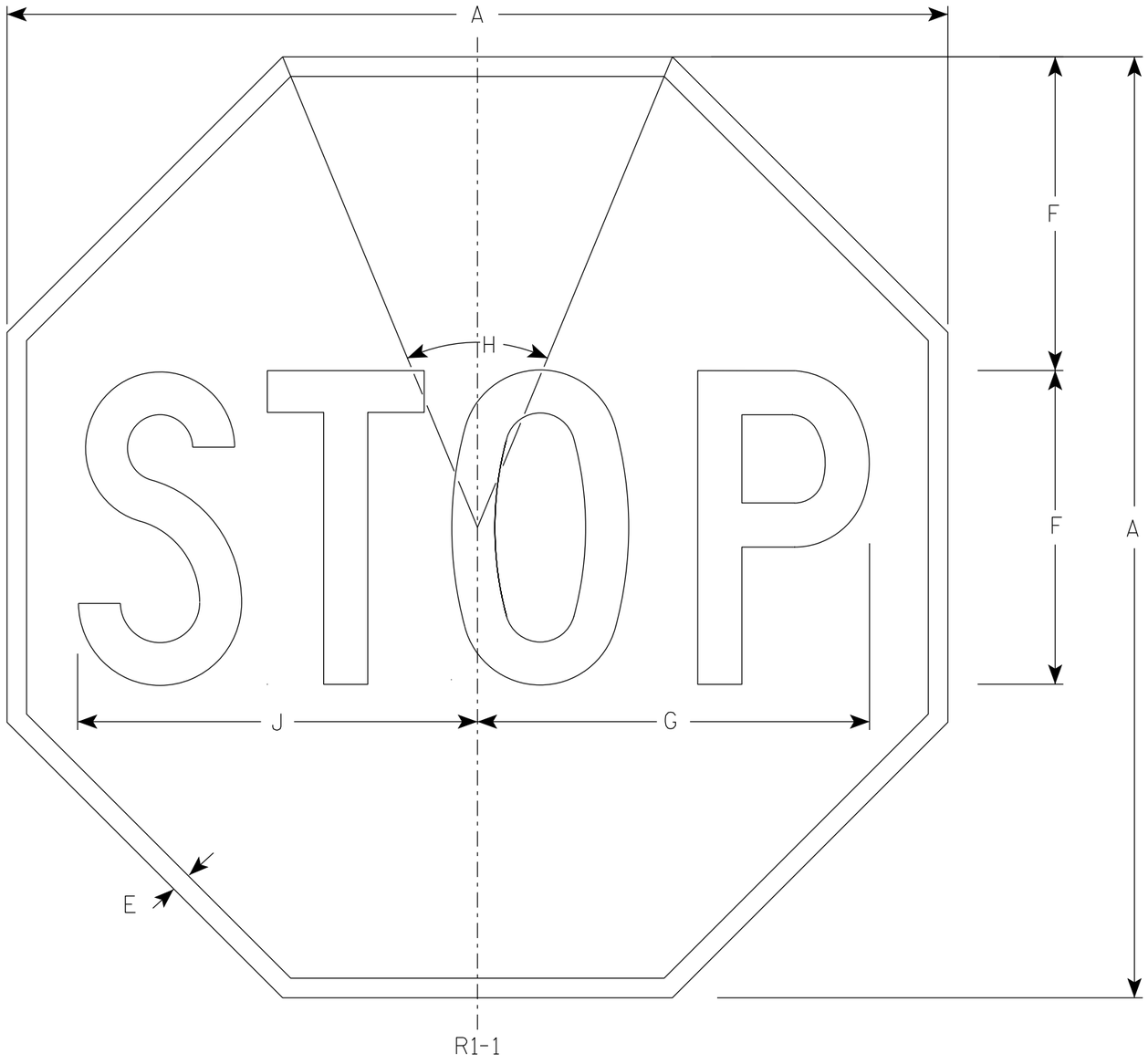
DATE 2/13/2023 PLATE NO. M6-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 191 | E



7

7




NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - Red
   Message - White
3. Message Series - C

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30 | | | | 5/8 | 10 | 12 1/2 | 45° | | 12 3/4 | | | | | | | | | | | | | | | | | 5.18 |
| 2S | 30 | | | | 5/8 | 10 | 12 1/2 | 45° | | 12 3/4 | | | | | | | | | | | | | | | | | 5.18 |
| 2M | 36 | | | | 3/4 | 12 | 15 | 45° | | 15 3/8 | | | | | | | | | | | | | | | | | 7.46 |
| 3 | 36 | | | | 3/4 | 12 | 15 | 45° | | 15 3/8 | | | | | | | | | | | | | | | | | 7.46 |
| 4 | 48 | | | | 1 | 16 | 20 | 45° | | 20 1/2 | | | | | | | | | | | | | | | | | 13.25 |
| 5 | 48 | | | | 1 | 16 | 20 | 45° | | 20 1/2 | | | | | | | | | | | | | | | | | 13.25 |
| 6 | 18 | | | | 3/8 | 6 | 7 3/4 | 45° | | 7 3/4 | | | | | | | | | | | | | | | | | 1.86 |

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

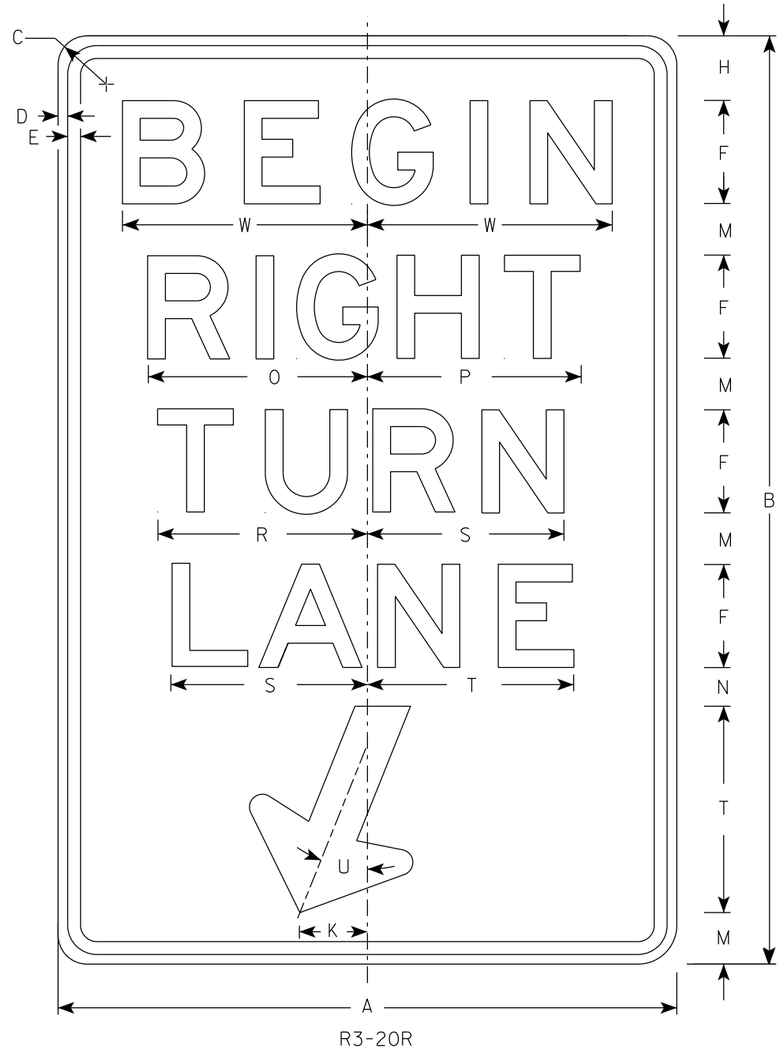
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/9/2025 PLATE NO. R1-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 192 E



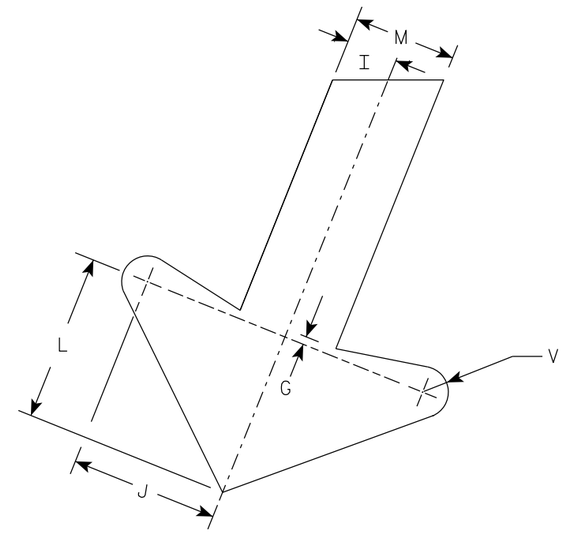

7




R3-20R

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - E




ARROW DETAIL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 24 | 36 | 1 1/2 | 3/8 | 1/2 | 4 | 1/4 | 2 1/2 | 1 | 2 7/8 | 2 5/8 | 3 1/4 | 2 | 1 1/2 | 8 1/2 | 8 1/4 | | 8 1/8 | 7 5/8 | 8 | 22° | 1/2 | 9 1/2 | | | | 6.0 |
| 2M | 24 | 36 | 1 1/2 | 3/8 | 1/2 | 4 | 1/4 | 2 1/2 | 1 | 2 7/8 | 2 5/8 | 3 1/4 | 2 | 1 1/2 | 8 1/2 | 8 1/4 | | 8 1/8 | 7 5/8 | 8 | 22° | 1/2 | 9 1/2 | | | | 6.0 |
| 3 | 36 | 54 | 1 7/8 | 1/2 | 5/8 | 6 | 3/8 | 3 3/4 | 1 1/2 | 4 1/4 | 4 | 4 7/8 | 3 | 2 1/4 | 12 3/4 | 12 1/2 | | 12 1/4 | 11 1/2 | 12 | 22° | 3/4 | 13 1/4 | | | | 13.5 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

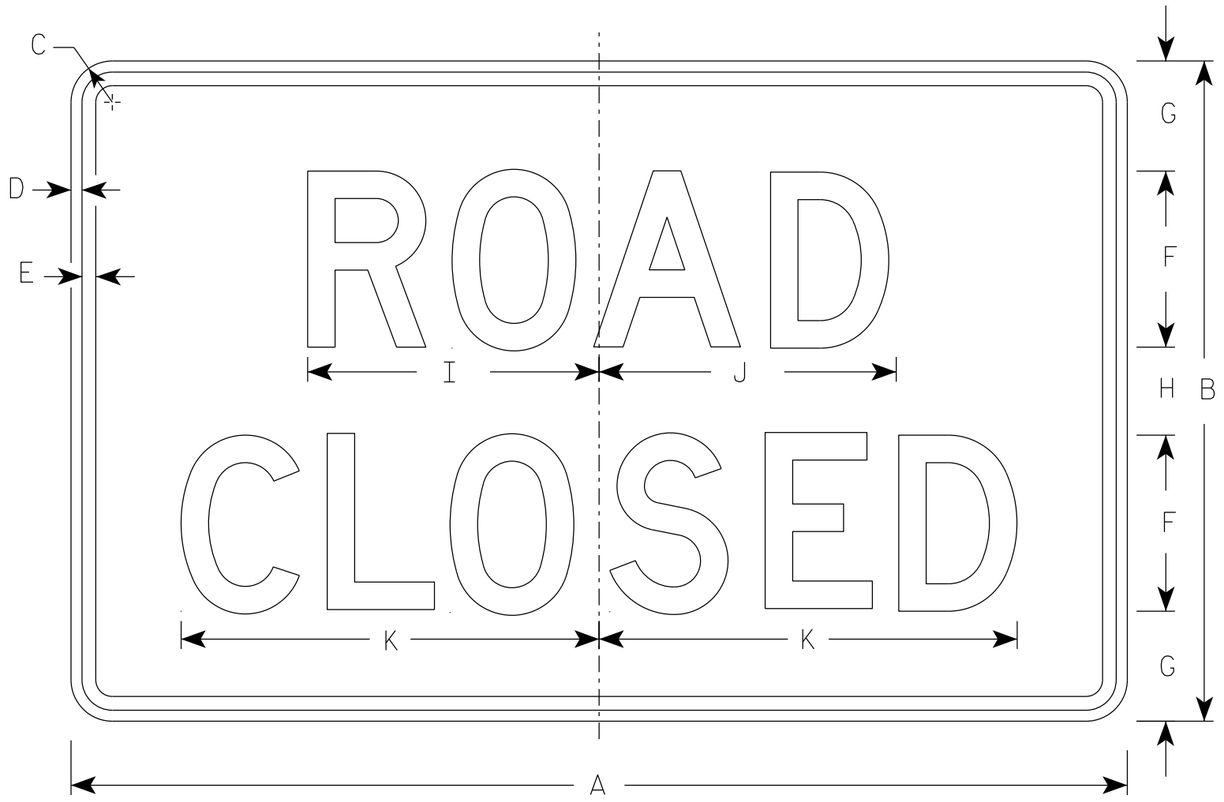
STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/23/23 PLATE NO. R3-20R.7

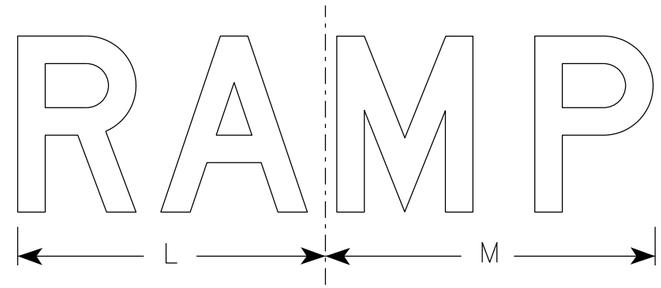
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 193 | E



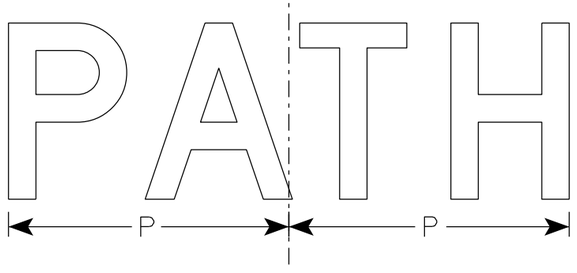

R11-2

NOTES

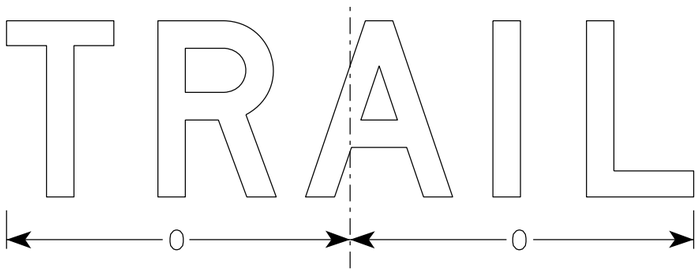
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



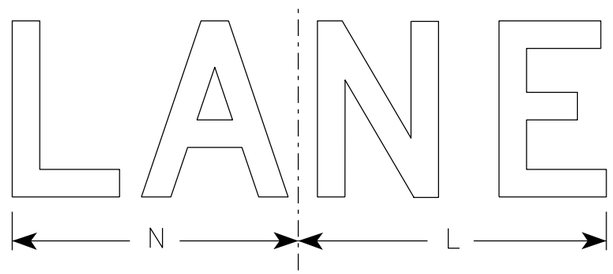

R11-2R




R11-2C




R11-2T




R11-2L

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | 12 3/4 | | | | | | | | | | | 10.0 |
| 2M | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | 12 3/4 | | | | | | | | | | | 10.0 |
| 3 | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | 12 3/4 | | | | | | | | | | | 10.0 |
| 4 | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | 12 3/4 | | | | | | | | | | | 10.0 |
| 5 | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | 12 3/4 | | | | | | | | | | | 10.0 |

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

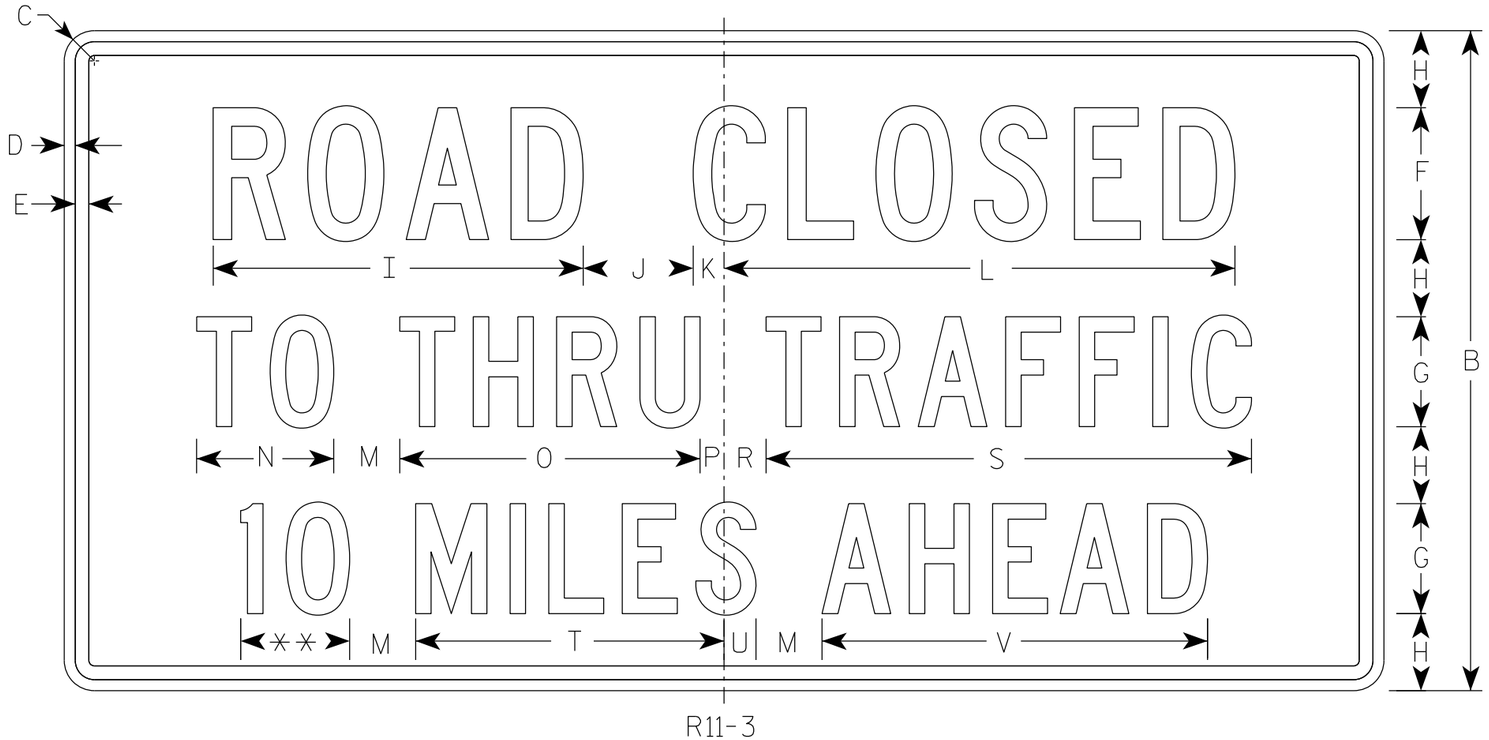
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/3/26 PLATE NO. R11-2.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

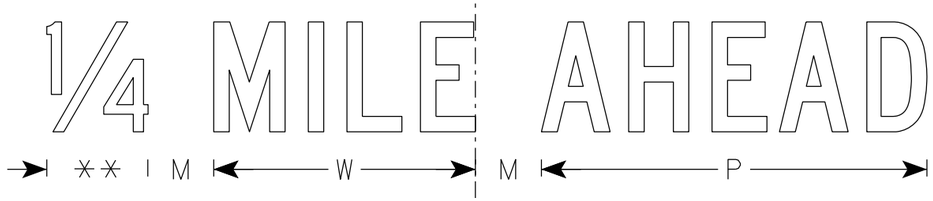
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.




R11-3

** See Note 5




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 18 | 1 1/2 | 3/8 | 3/8 | 4 | 3 | 2 | 11 1/4 | 3 | 1 1/8 | 15 3/8 | 2 | 3 3/4 | 8 1/4 | 5/8 | | 1 3/8 | 13 1/4 | 8 3/8 | 7/8 | 10 1/2 | 7 1/8 | | | | 4.5 |
| 2S | 60 | 30 | 1 7/8 | 1/2 | 5/8 | 6 | 5 | 3 1/2 | 16 7/8 | 5 | 1 3/8 | 23 1/4 | 3 | 6 1/4 | 13 5/8 | 1 1/8 | | 1 7/8 | 22 1/8 | 14 | 1 1/2 | 17 1/2 | 11 7/8 | | | | 12.5 |
| 2M | 60 | 30 | 1 7/8 | 1/2 | 5/8 | 6 | 5 | 3 1/2 | 16 7/8 | 5 | 1 3/8 | 23 1/4 | 3 | 6 1/4 | 13 5/8 | 1 1/8 | | 1 7/8 | 22 1/8 | 14 | 1 1/2 | 17 1/2 | 11 7/8 | | | | 12.5 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

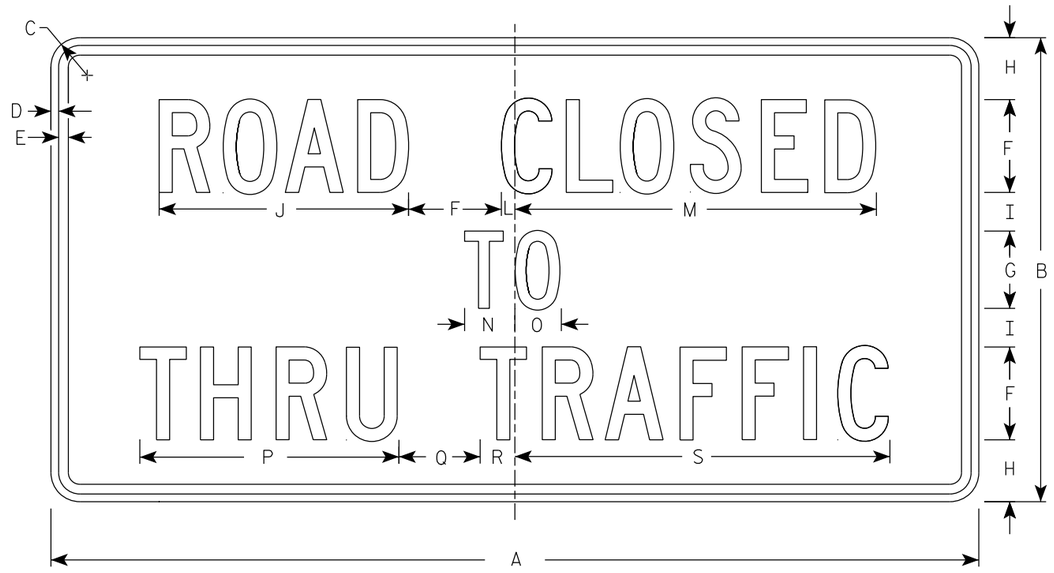
STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3.10

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 195 | E |
|---|---|---|---|---|---|




R11-4

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 60 | 30 | 1 7/8 | 1/2 | 5/8 | 6 | 5 | 4 | 2 1/2 | 16 1/8 | | 7/8 | 23 3/8 | 3 1/4 | 3 | 16 3/4 | 5 1/4 | 2 1/4 | 24 1/4 | | | | | | | | 12.5 |
| 2M | 60 | 30 | 1 7/8 | 1/2 | 5/8 | 6 | 5 | 4 | 2 1/2 | 16 1/8 | | 7/8 | 23 3/8 | 3 1/4 | 3 | 16 3/4 | 5 1/4 | 2 1/4 | 24 1/4 | | | | | | | | 12.5 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

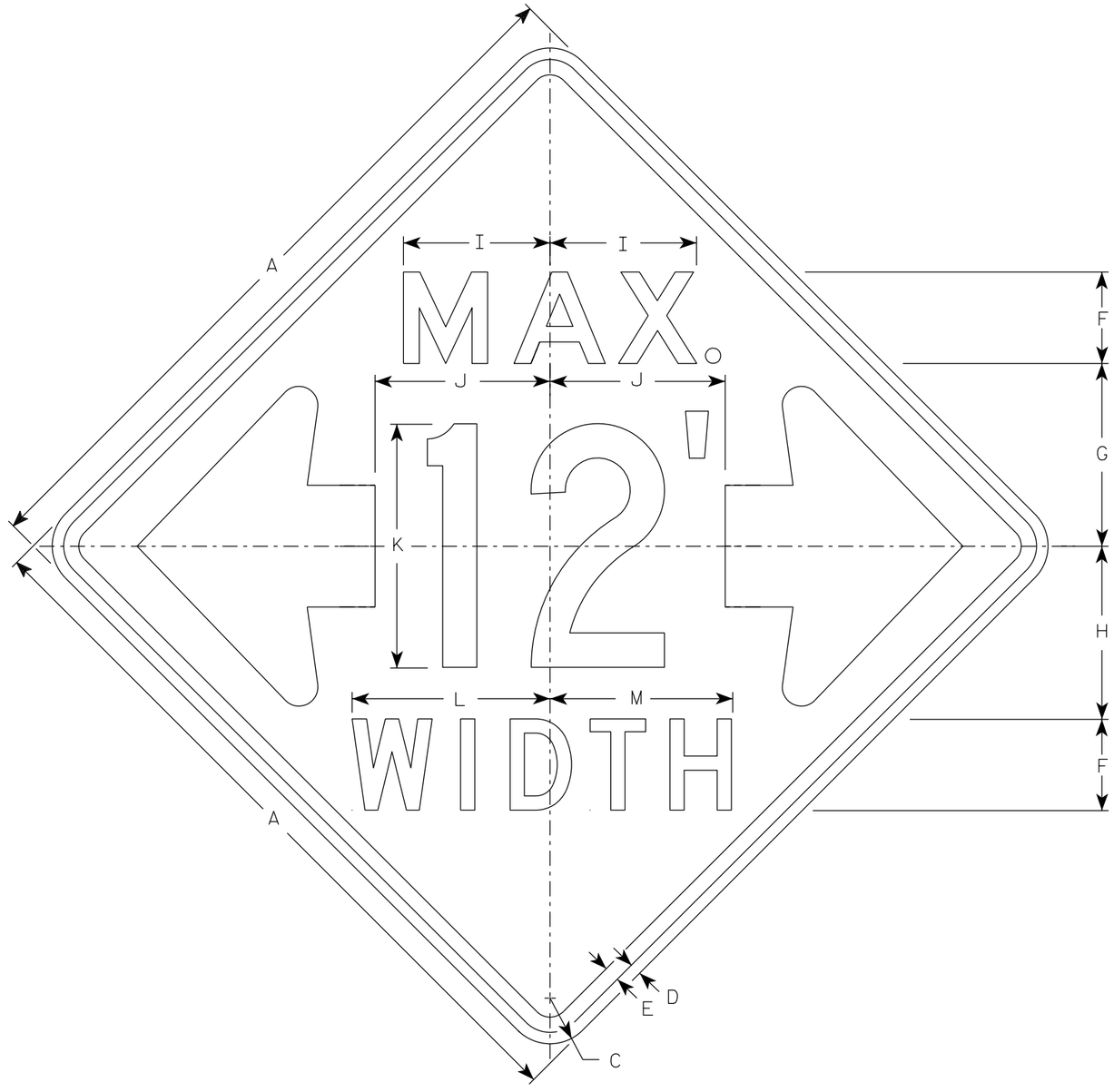
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-4.4

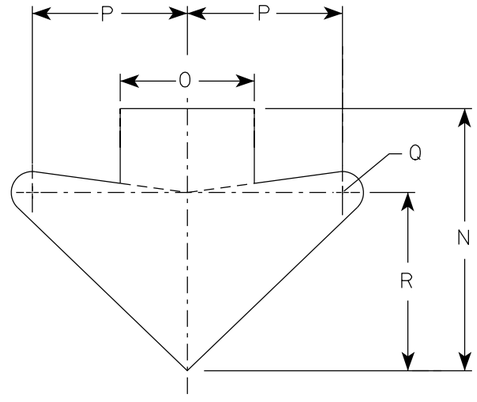
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 196 | E




W12-52

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. The top line is series E, the numerals are series C, and the bottom line is series D.
5. Substitute appropriate numerals and adjust spacing as required.




ARROW DETAIL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | | 3 | ¾ | 1 | 6 | 12 | 11 ⅜ | 9 ⅝ | 11 ½ | 16 | 13 | 12 | 15 ⅝ | 8 | 9 ¼ | 1 ¼ | 10 ⅝ | | | | | | | | | 16.0 |
| 2M | 48 | | 3 | ¾ | 1 | 6 | 12 | 11 ⅜ | 9 ⅝ | 11 ½ | 16 | 13 | 12 | 15 ⅝ | 8 | 9 ¼ | 1 ¼ | 10 ⅝ | | | | | | | | | 16.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
W12-52

*WISCONSIN DEPT OF TRANSPORTATION*

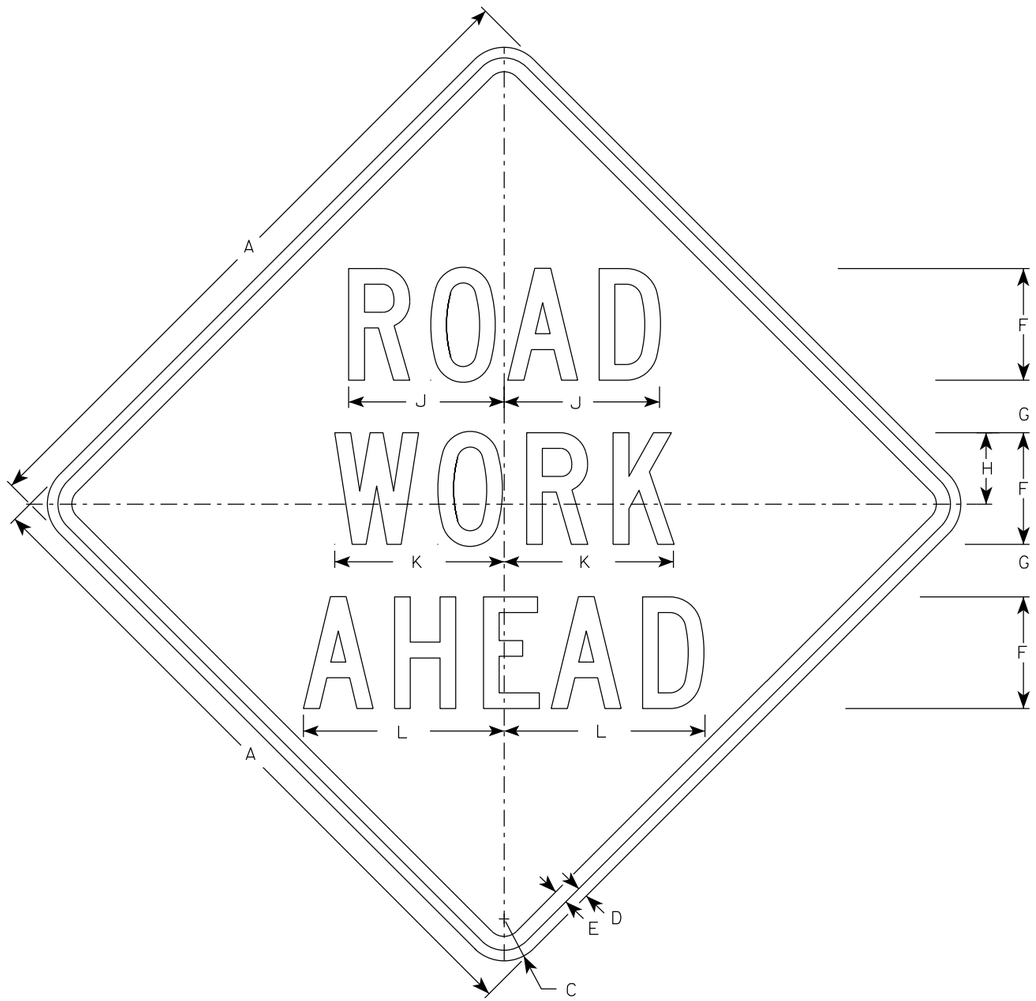
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/10/2024 PLATE NO. W12-52.8

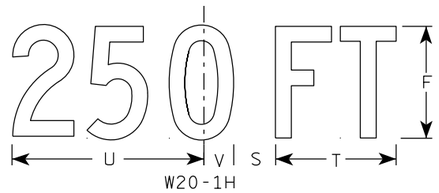
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 197 E

NOTES

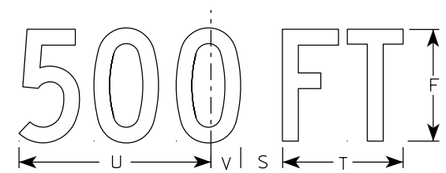
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.




W20-1A

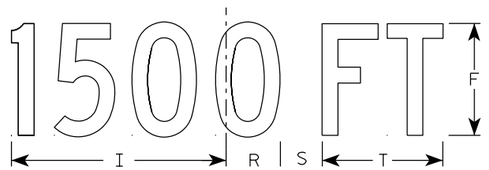



W20-1H

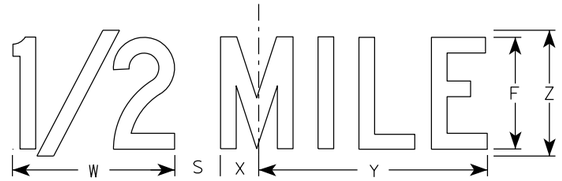



W20-1D

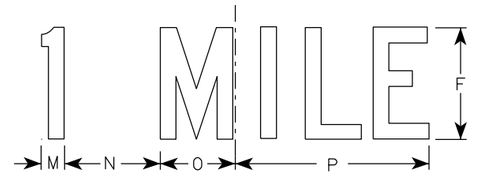
W20-1C



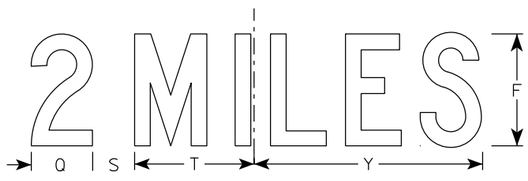

W20-1B




W20-1G




W20-1F




W20-1E

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 2 1/4 | 5/8 | 3/4 | 5 | 2 5/8 | 3 1/4 | 10 1/8 | 7 | 7 5/8 | 8 7/8 | 1 1/8 | 4 1/2 | 3 1/2 | 9 | 3 1/4 | 2 1/2 | 2 1/4 | 5 5/8 | 9 | 1 3/8 | 8 | 1 3/4 | 10 3/4 | 6 | 9.0 |
| 2S | 48 | | 3 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 2M | 48 | | 3 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 3 | 48 | | 3 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 4 | 48 | | 3 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 5 | 48 | | 3 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |

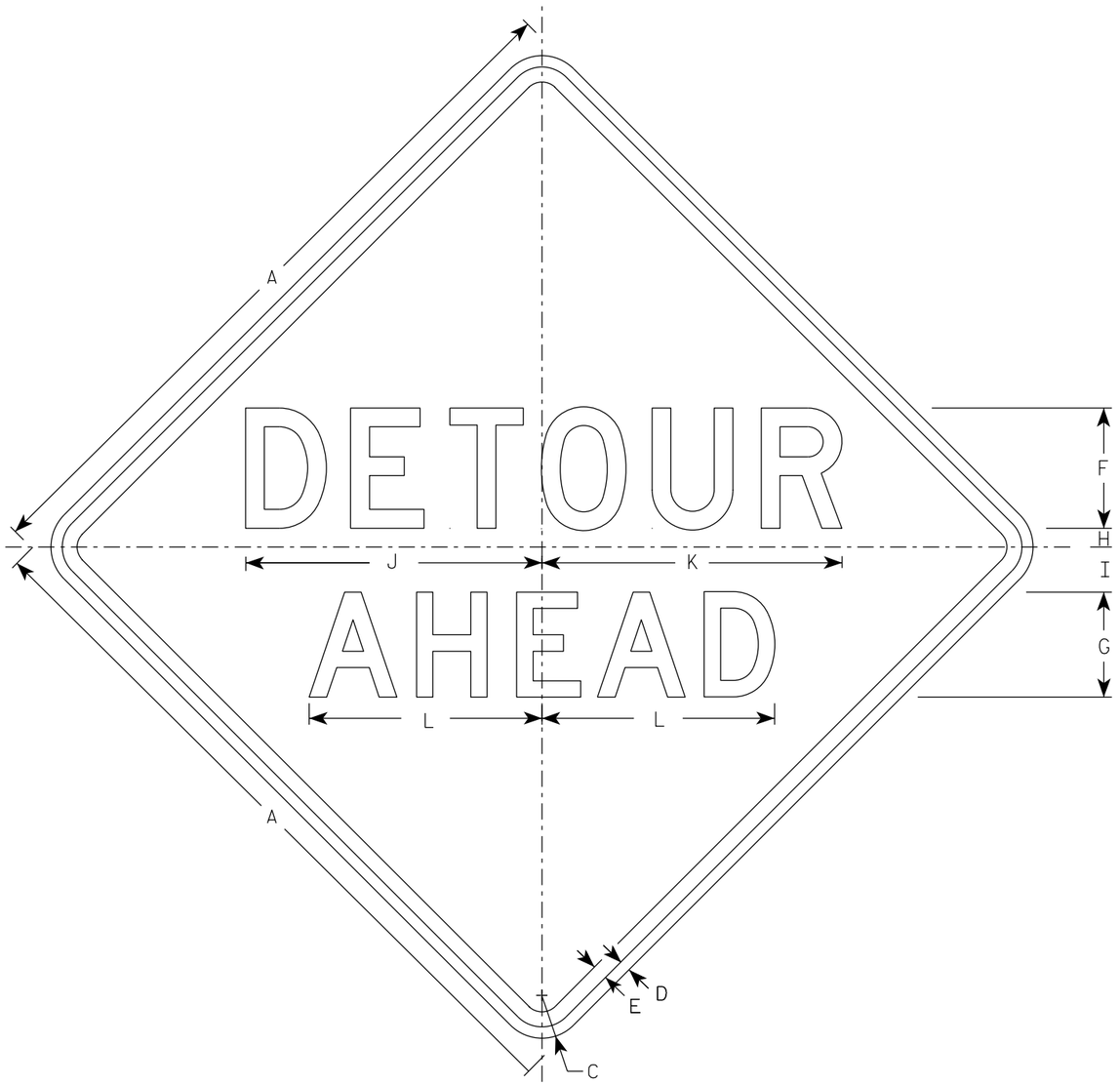
STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

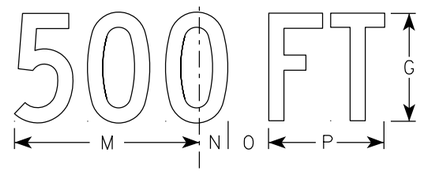
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-1.12

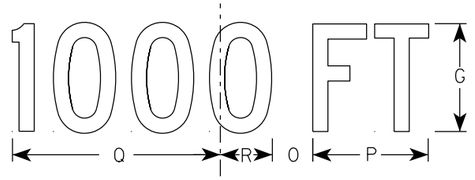
PROJECT NO: SHEET NO: 198 E



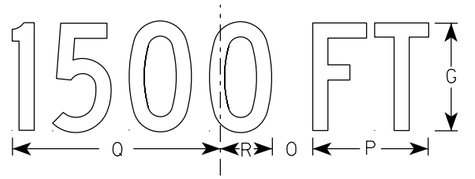

W20-2A



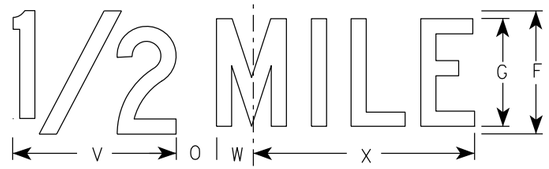

W20-2D



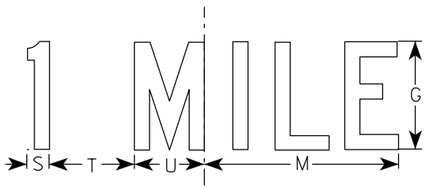

W20-2C




W20-2B




W20-2G




W20-2F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 2 1/4 | 5/8 | 3/4 | 6 | 5 | 1 | 2 1/4 | 14 3/4 | 15 | 11 5/8 | 9 | 1 3/8 | 1 7/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 1/8 | 4 1/2 | 3 1/2 | 8 | 1 3/4 | 10 3/4 | | | 9.0 |
| 2S | 48 | | 3 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 2M | 48 | | 3 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 3 | 48 | | 3 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 4 | 48 | | 3 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 5 | 48 | | 3 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

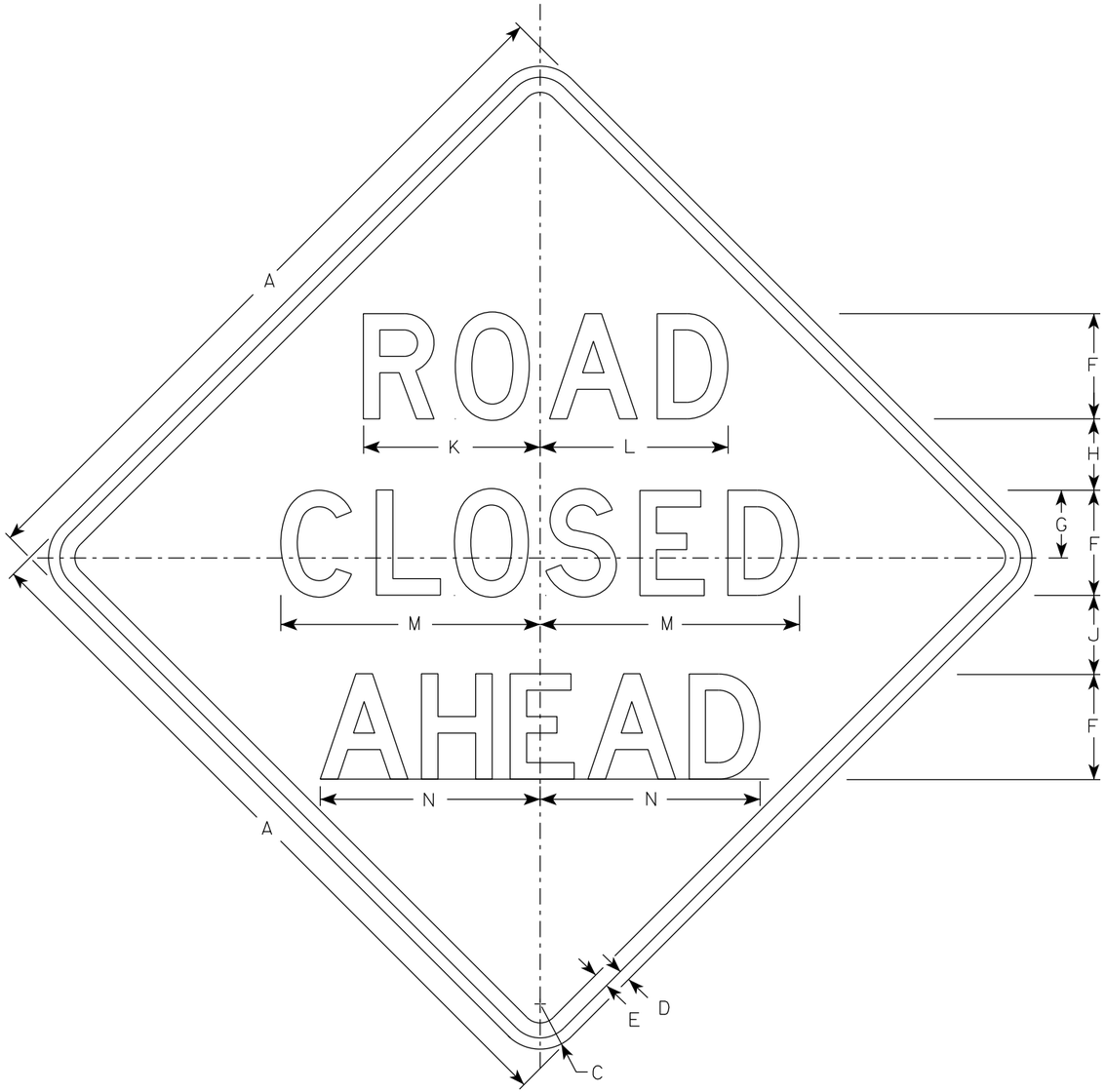
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-2.7

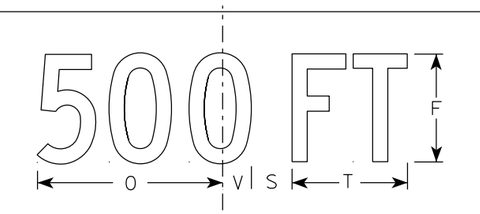
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



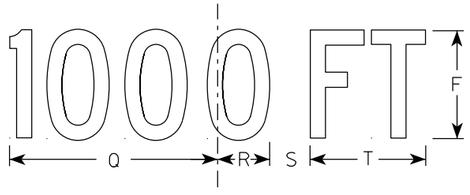
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W202.DGN PLOT DATE : 10-JAN 2024 11:36 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



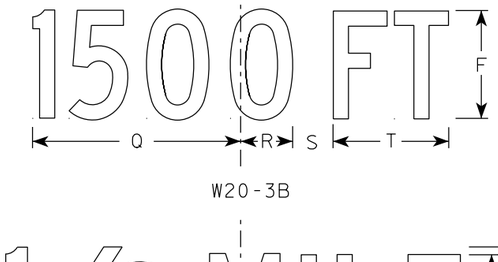

W20-3A



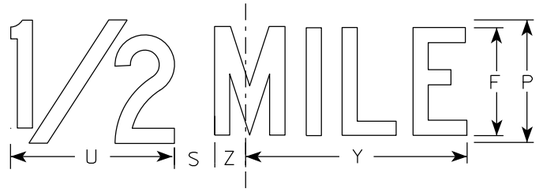

W20-3D



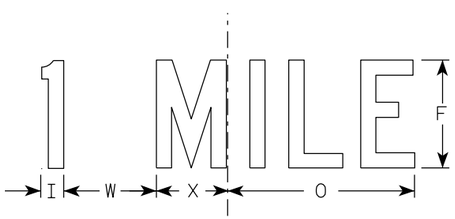

W20-3C




W20-3B




W20-3G




W20-3F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 2 1/4 | 5/8 | 3/4 | 5 | 3 3/8 | 3 1/2 | 1 1/8 | 4 | 8 3/8 | 8 7/8 | 12 1/2 | 11 | 9 | 6 | 10 1/8 | 2 1/2 | 1 7/8 | 5 5/8 | 8 | 1 3/8 | 4 1/2 | 3 1/2 | 10 3/4 | 1 3/4 | 9.0 |
| 2S | 48 | | 3 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 2M | 48 | | 3 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 3 | 48 | | 3 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 4 | 48 | | 3 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 5 | 48 | | 3 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |

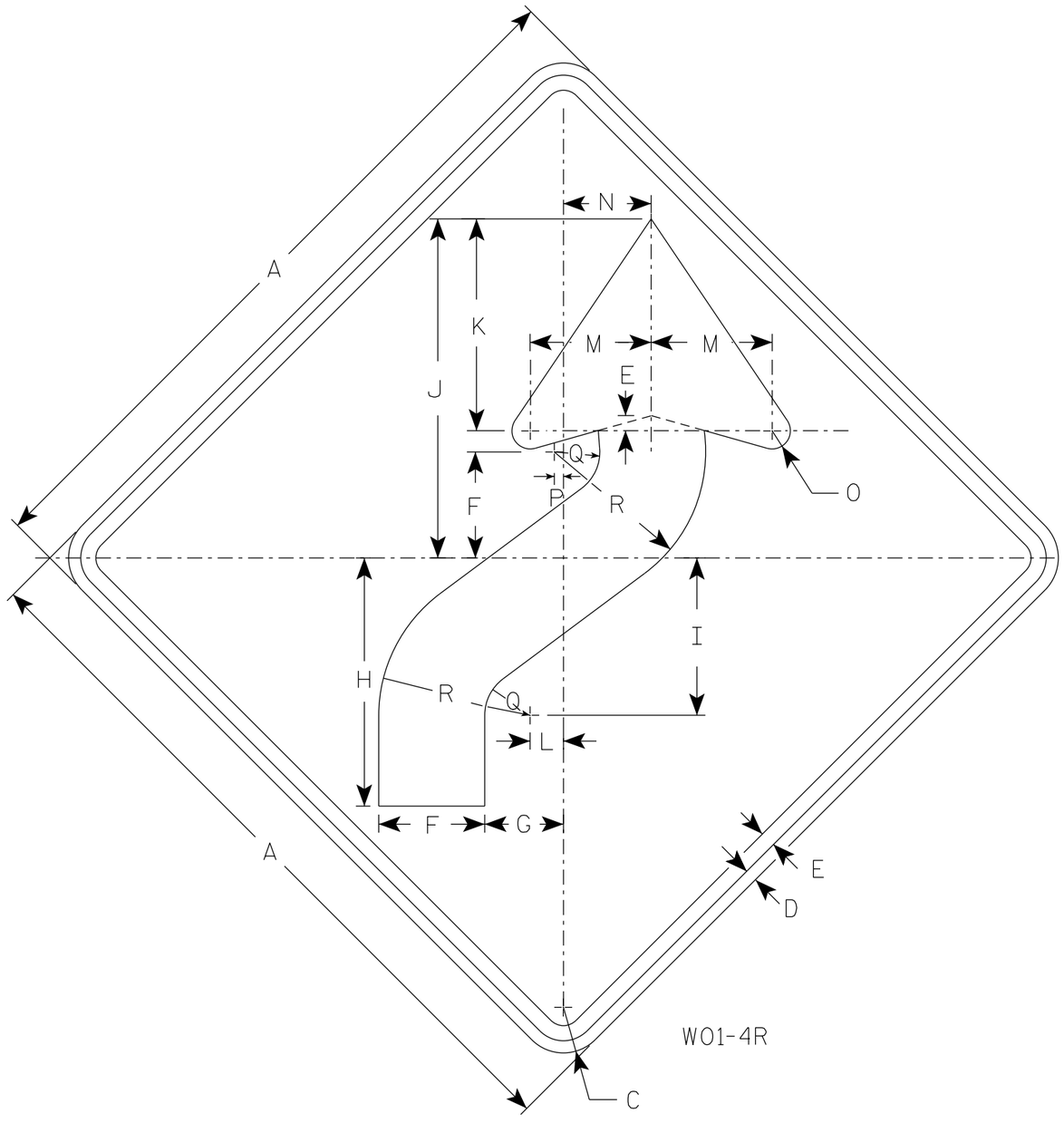
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 200 | E




W01-4R

## NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 2 1/4 | 5/8 | 3/4 | 5 1/4 | 4 | 12 3/8 | 7 7/8 | 16 7/8 | 10 1/2 | 1 5/8 | 6 | 4 1/2 | 1 | 1/2 | 2 1/4 | 7 1/2 | | | | | | | | | 9.0 |
| 2S | 48 | | 3 | 3/4 | 1 | 7 | 5 1/4 | 16 1/2 | 10 1/2 | 22 1/2 | 14 | 2 1/4 | 8 | 6 | 1 1/4 | 5/8 | 3 | 10 | | | | | | | | | 16.0 |
| 2M | 48 | | 3 | 3/4 | 1 | 7 | 5 1/4 | 16 1/2 | 10 1/2 | 22 1/2 | 14 | 2 1/4 | 8 | 6 | 1 1/4 | 5/8 | 3 | 10 | | | | | | | | | 16.0 |
| 3 | 48 | | 3 | 3/4 | 1 | 7 | 5 1/4 | 16 1/2 | 10 1/2 | 22 1/2 | 14 | 2 1/4 | 8 | 6 | 1 1/4 | 5/8 | 3 | 10 | | | | | | | | | 16.0 |
| 4 | 48 | | 3 | 3/4 | 1 | 7 | 5 1/4 | 16 1/2 | 10 1/2 | 22 1/2 | 14 | 2 1/4 | 8 | 6 | 1 1/4 | 5/8 | 3 | 10 | | | | | | | | | 16.0 |
| 5 | 48 | | 3 | 3/4 | 1 | 7 | 5 1/4 | 16 1/2 | 10 1/2 | 22 1/2 | 14 | 2 1/4 | 8 | 6 | 1 1/4 | 5/8 | 3 | 10 | | | | | | | | | 16.0 |

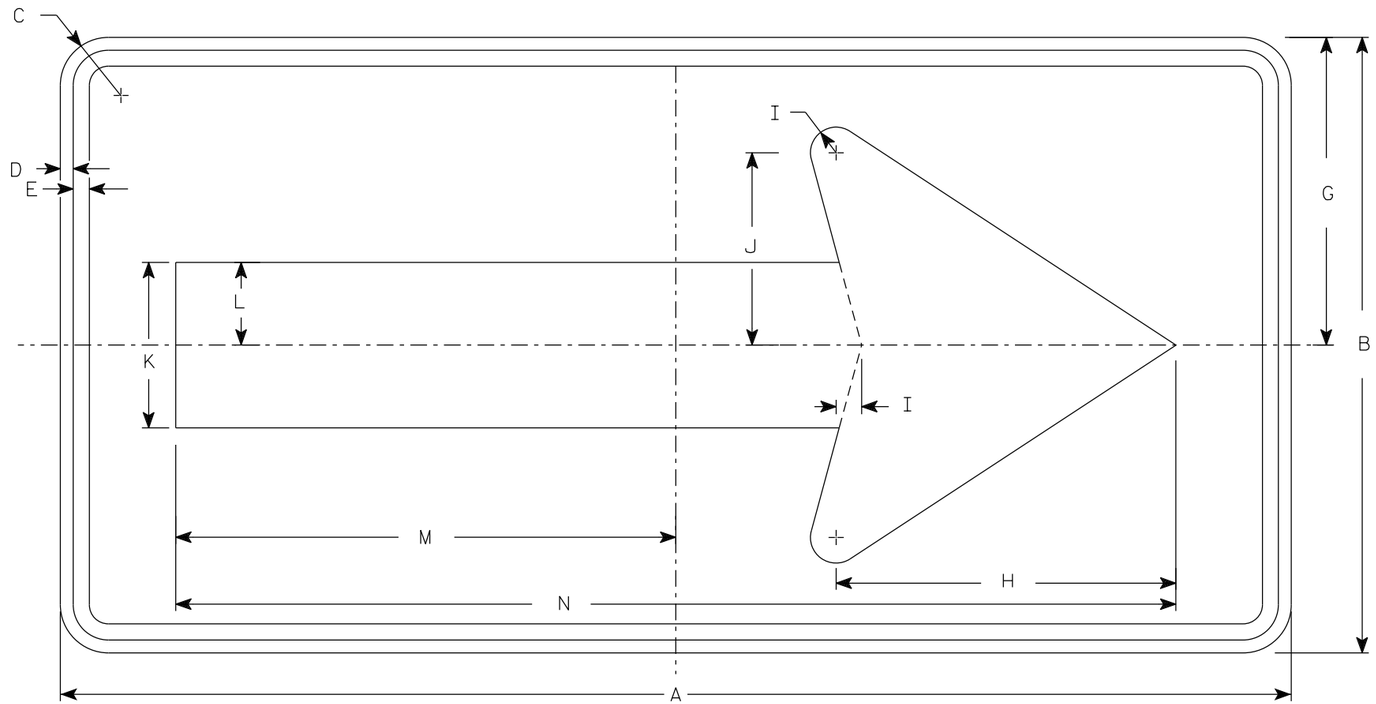
# STANDARD SIGN
# W01-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-4.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 201 | E




WO1-6

## NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 24 | 1 7/8 | 1/2 | 5/8 | | 12 | 13 1/4 | 1 | 7 1/2 | 6 1/2 | 3 1/4 | 19 1/2 | 39 | | | | | | | | | | | | | 8.0 |
| 2M | 48 | 24 | 1 7/8 | 1/2 | 5/8 | | 12 | 13 1/4 | 1 | 7 1/2 | 6 1/2 | 3 1/4 | 19 1/2 | 39 | | | | | | | | | | | | | 8.0 |
| 3 | 60 | 30 | 1 7/8 | 1/2 | 5/8 | | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8 | 4 | 24 3/8 | 48 3/4 | | | | | | | | | | | | | 12.5 |
| 4 | 60 | 30 | 1 7/8 | 1/2 | 5/8 | | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8 | 4 | 24 3/8 | 48 3/4 | | | | | | | | | | | | | 12.5 |
| 5 | 60 | 30 | 1 7/8 | 1/2 | 5/8 | | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8 | 4 | 24 3/8 | 48 3/4 | | | | | | | | | | | | | 12.5 |

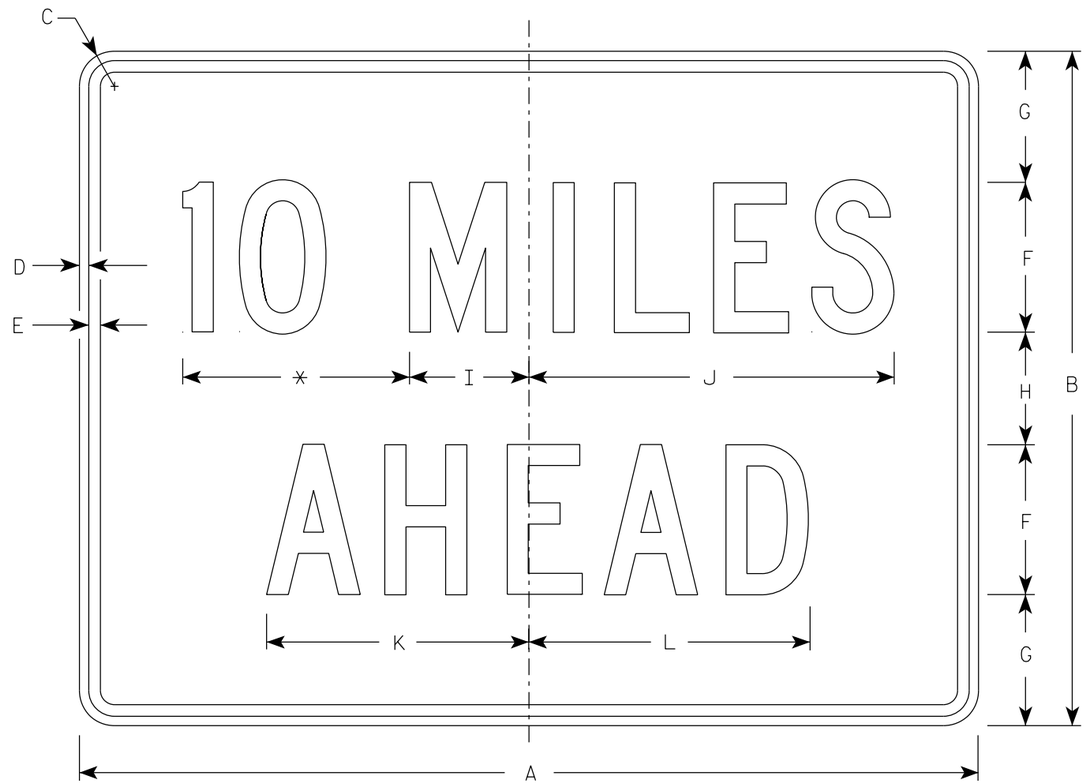
STANDARD SIGN
WO1-6

*WISCONSIN DEPT OF TRANSPORTATION*

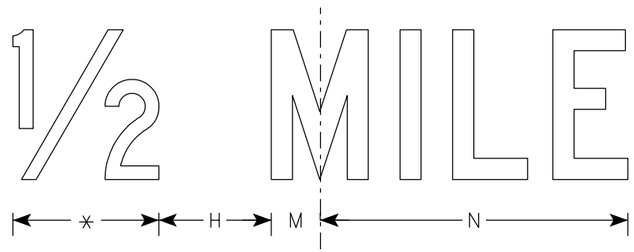
APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 1/24/2024 PLATE NO. WO1-6.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E




W057-52




NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to the nearest quarter mile and optically adjust spacing to achieve proper balance.

* See note 5

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 24 | 1 1/2 | 3/8 | 1/2 | 6 | 4 1/2 | 3 | 4 3/4 | 14 5/8 | 10 5/8 | 11 3/8 | 2 | 12 | | | | | | | | | | | | | 6.0 |
| 2S | 48 | 36 | 2 1/4 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 2M | 48 | 36 | 2 1/4 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 3 | 48 | 36 | 2 1/4 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 4 | 48 | 36 | 2 1/4 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 5 | 48 | 36 | 2 1/4 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |

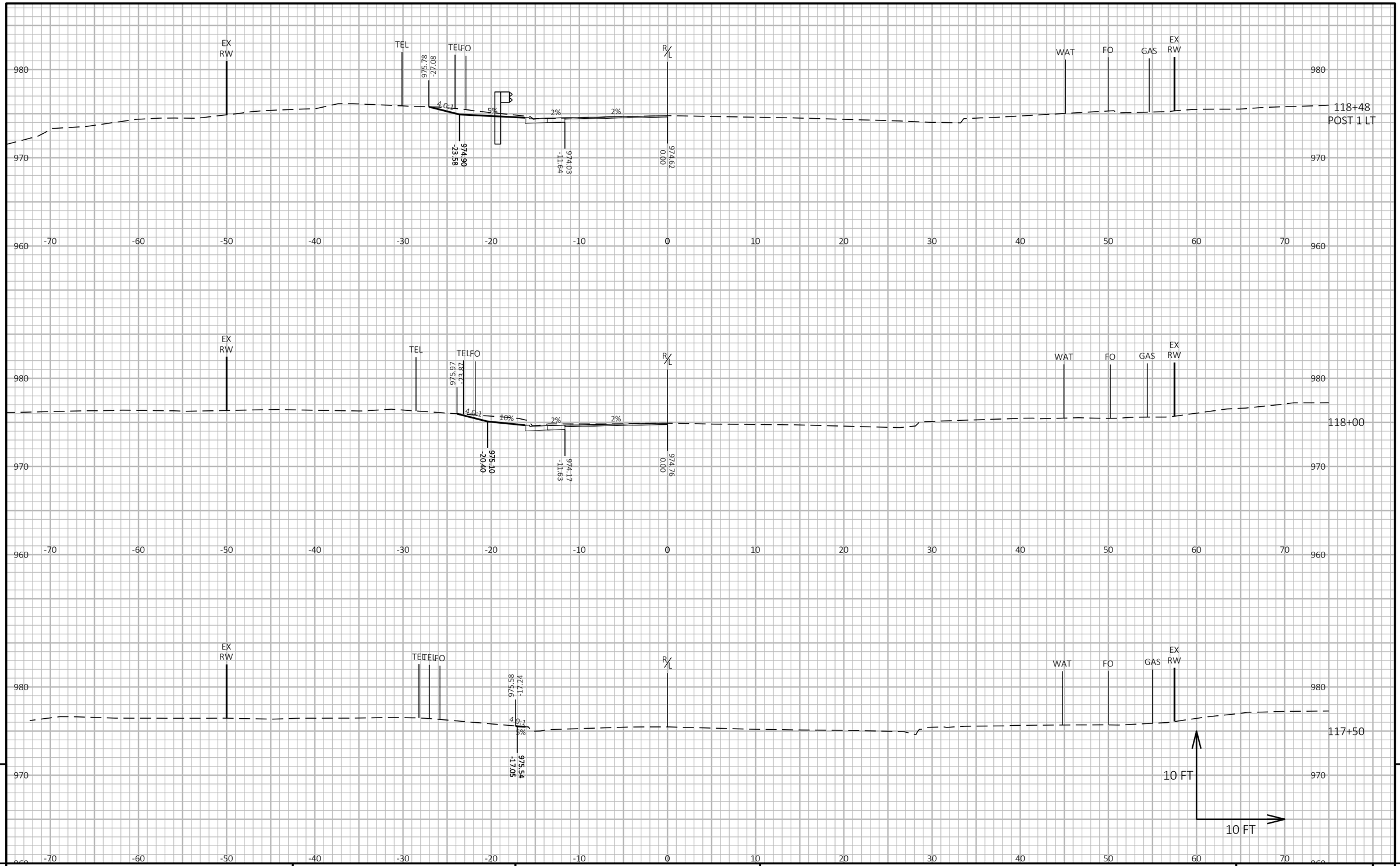
STANDARD SIGN
W057-52

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W057-52.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 203 E




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 204 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 01

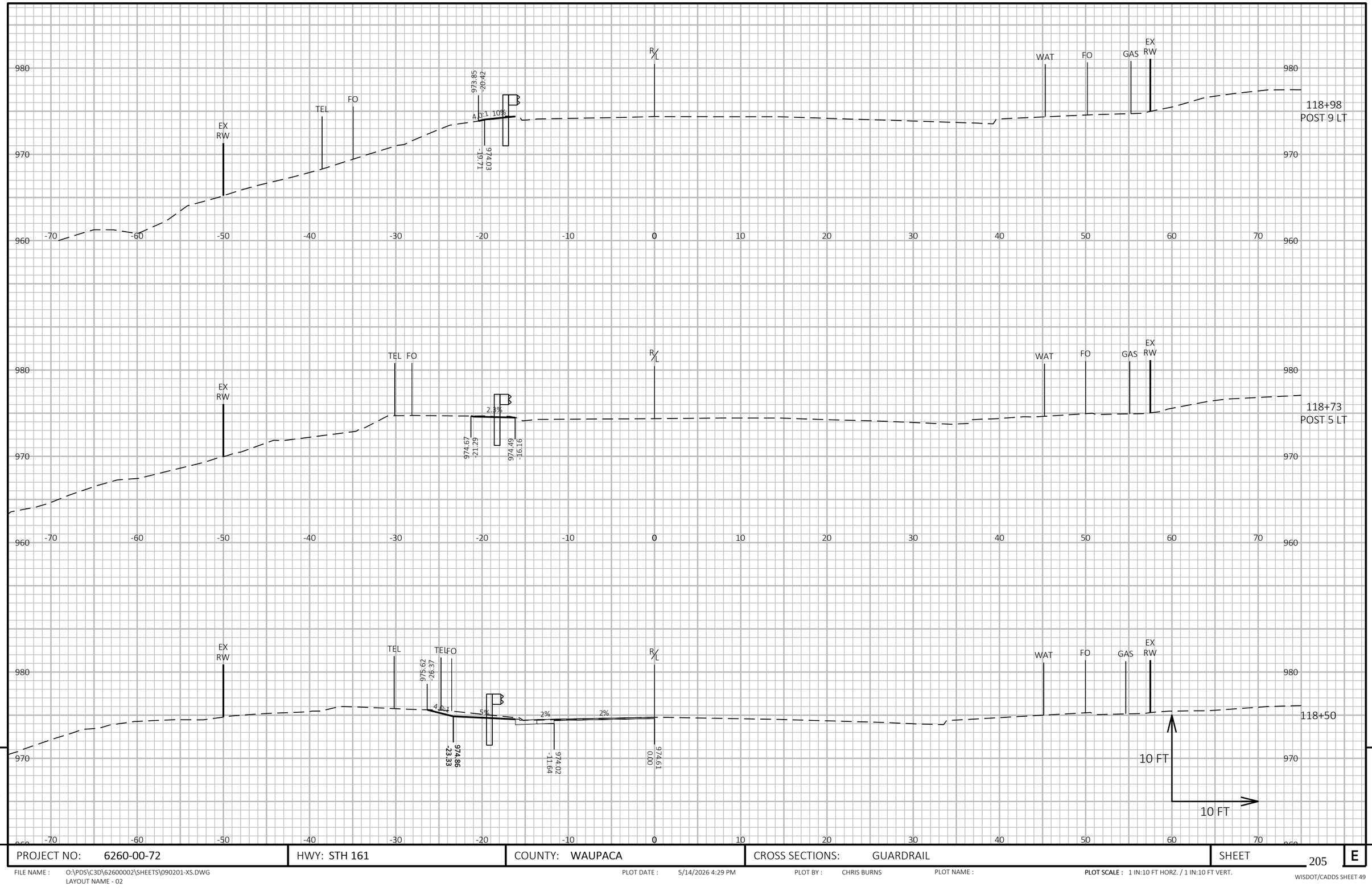
PLOT DATE : 5/14/2026 4:29 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 205 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 02

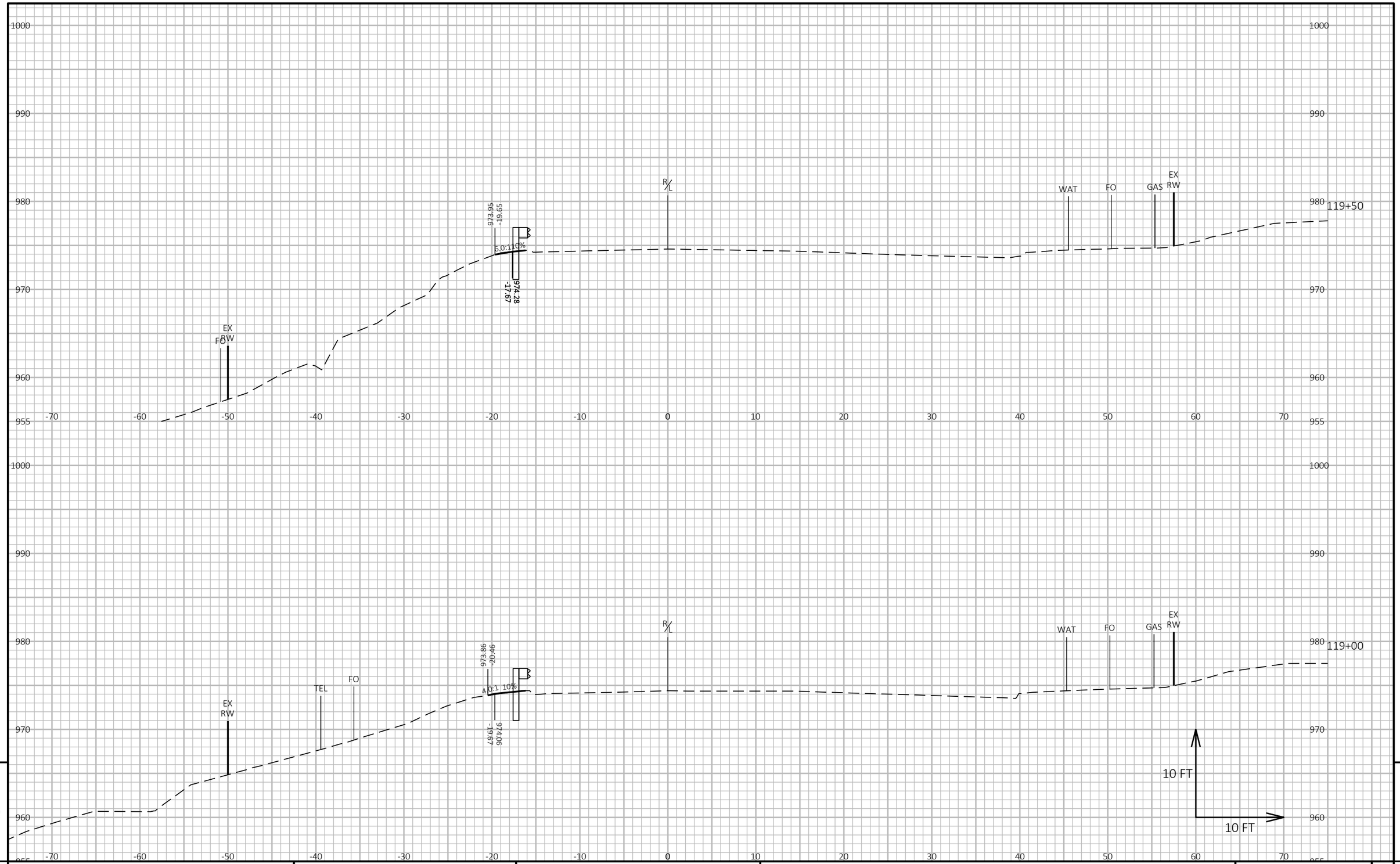
PLOT DATE : 5/14/2026 4:29 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 206 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 03

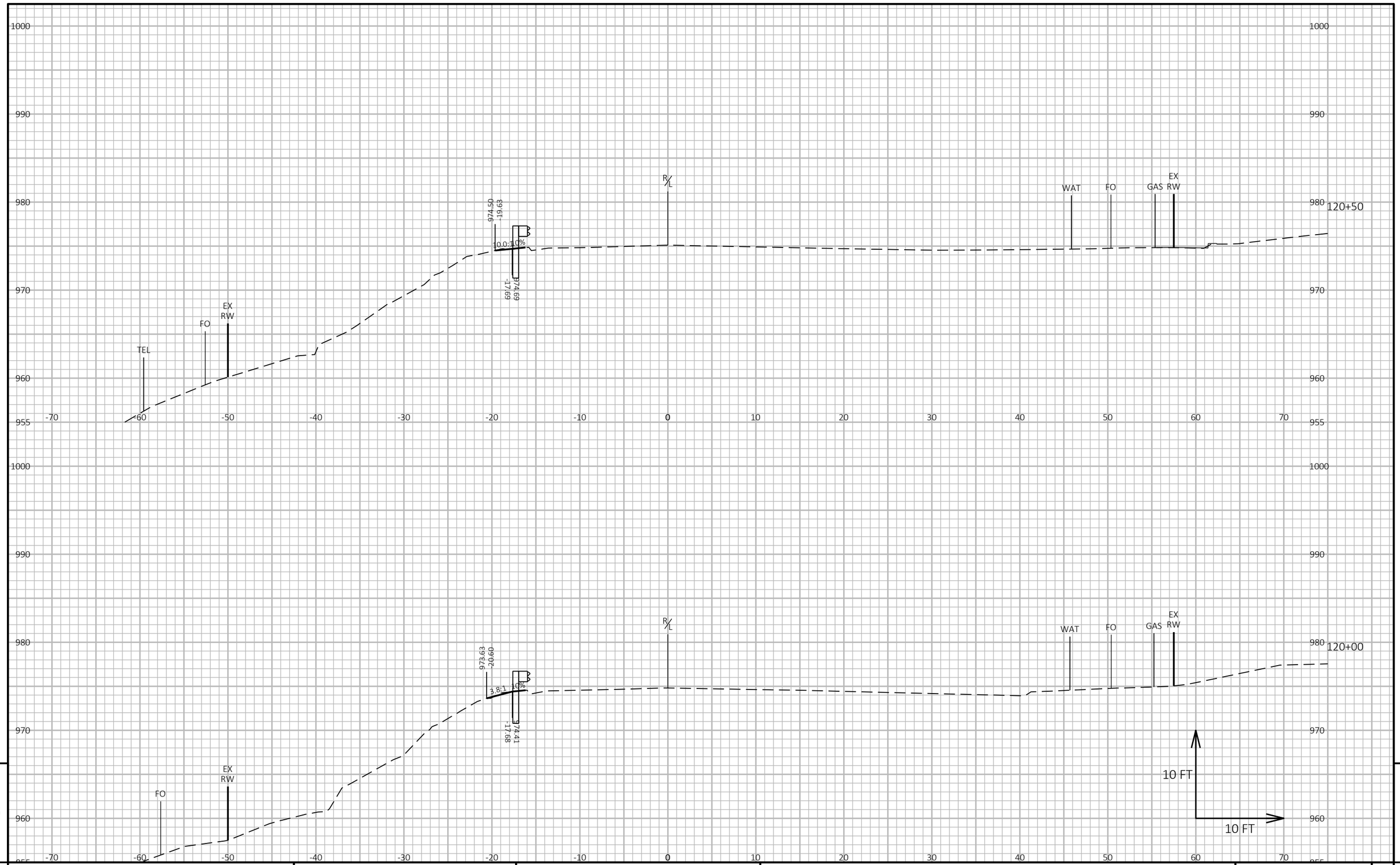
PLOT DATE : 5/14/2026 4:29 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 207 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 04

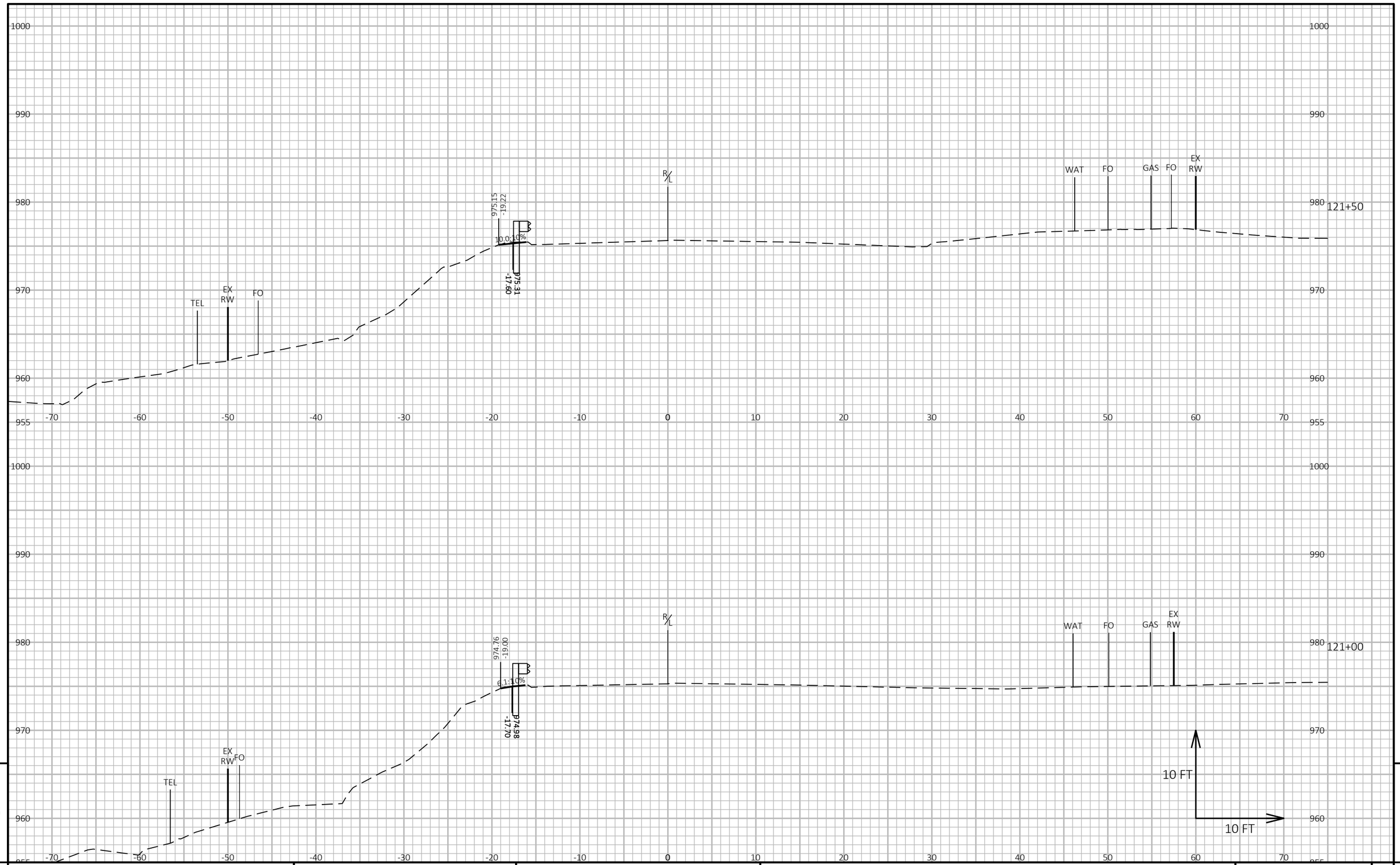
PLOT DATE : 5/14/2026 4:29 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 208 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 05

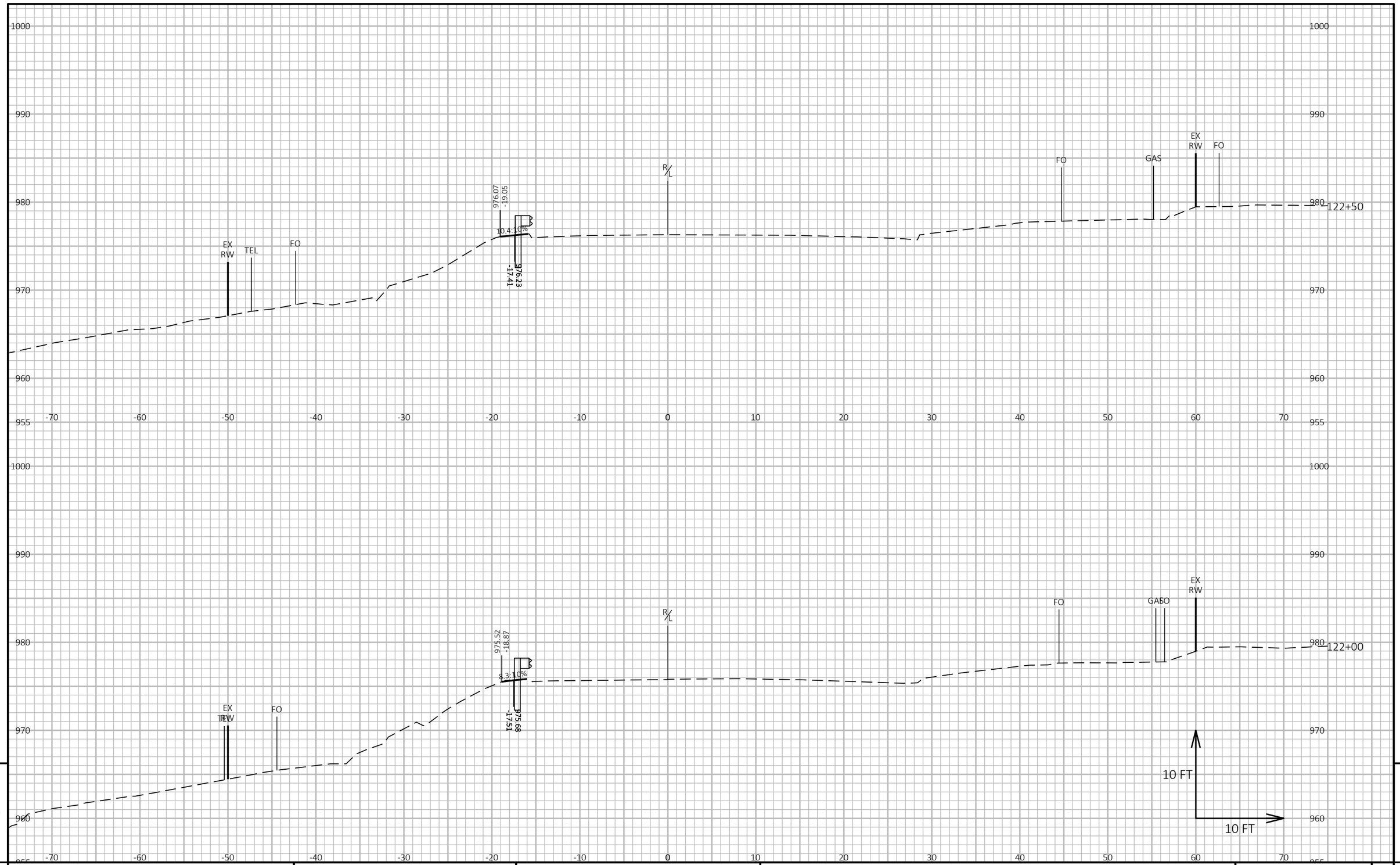
PLOT DATE : 5/14/2026 4:29 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 209 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 06

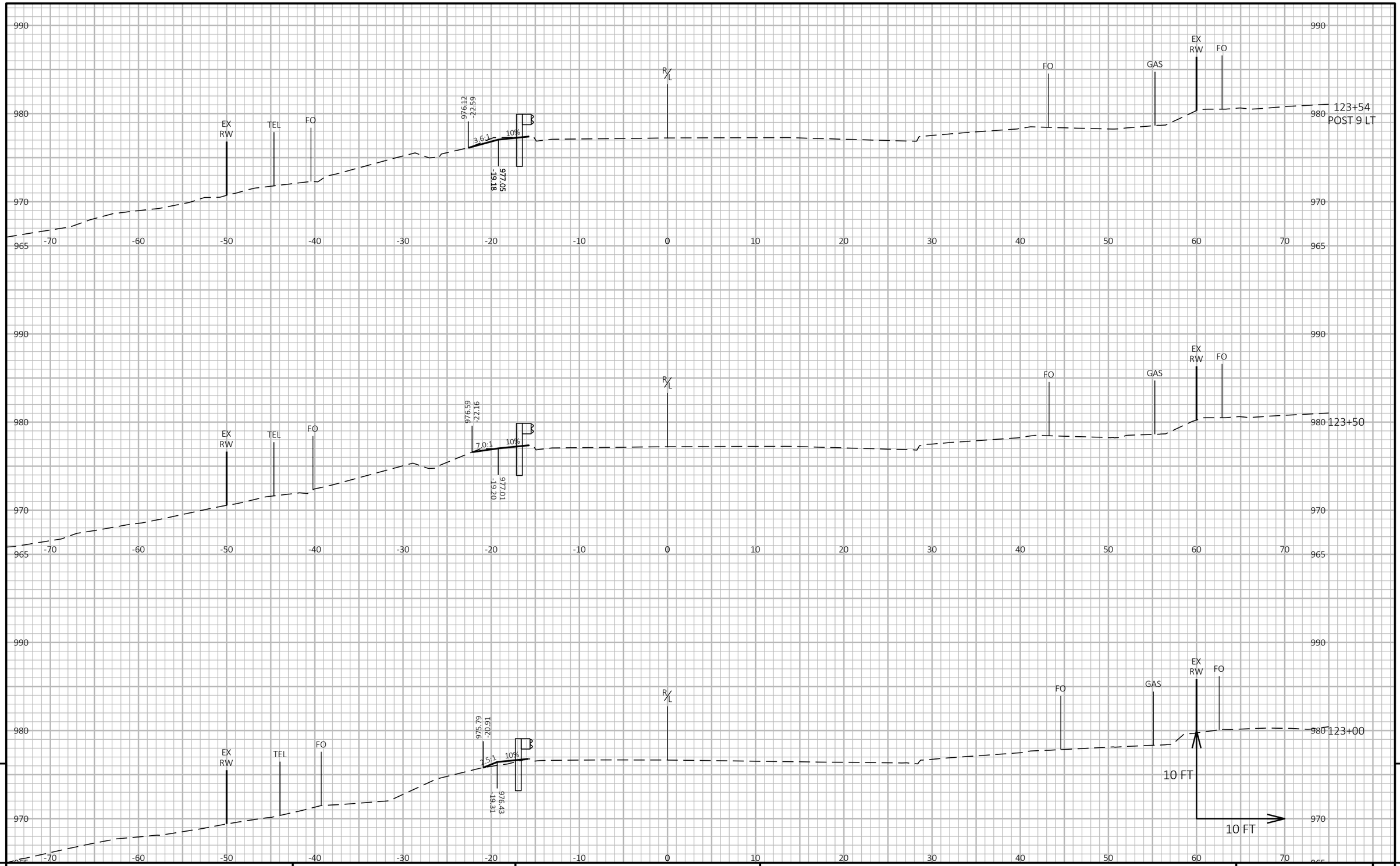
PLOT DATE : 5/14/2026 4:29 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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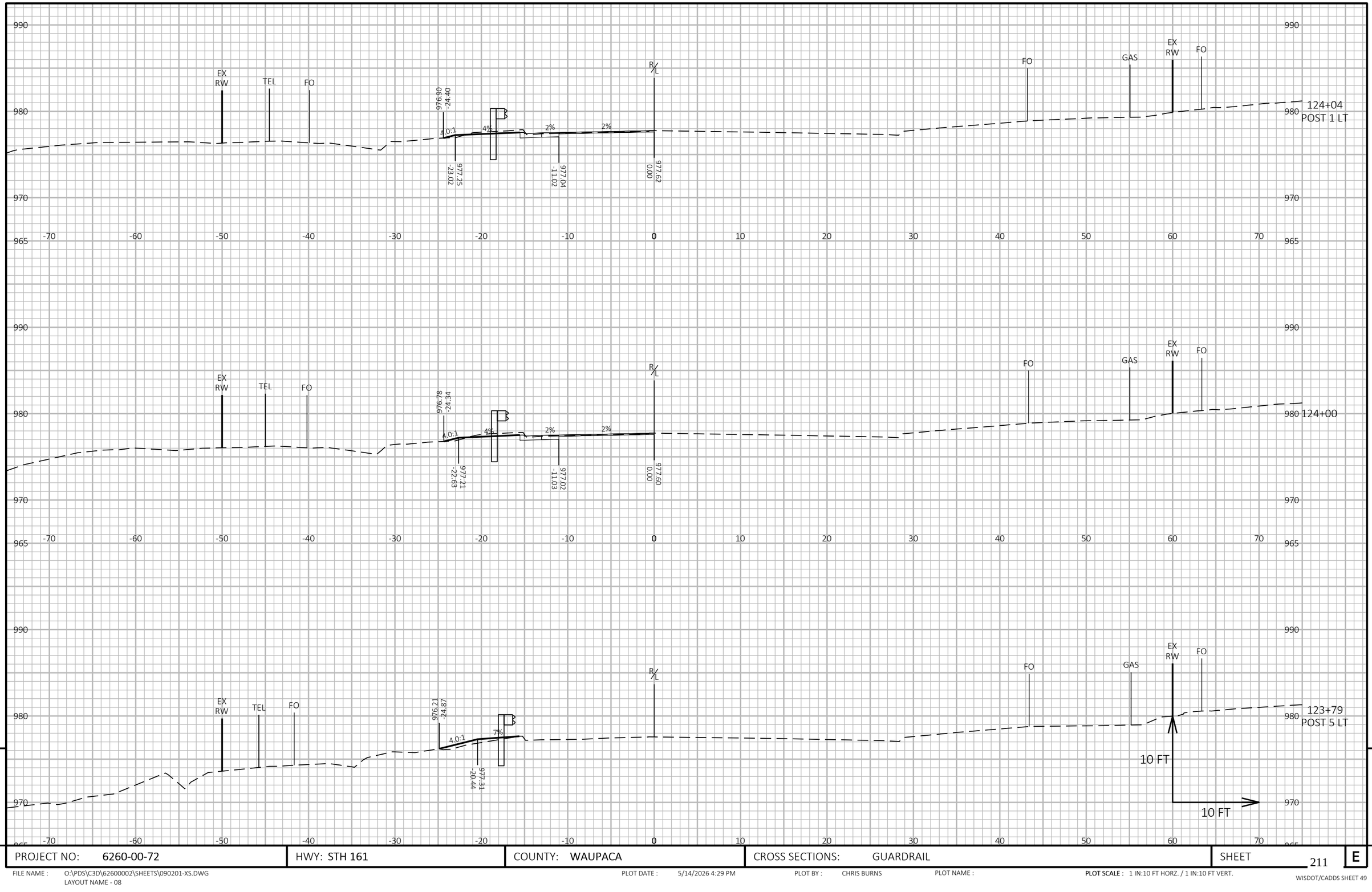
9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 210 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 07

PLOT DATE : 5/14/2026 4:29 PM PLOT BY : CHRIS BURNS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 211 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 08

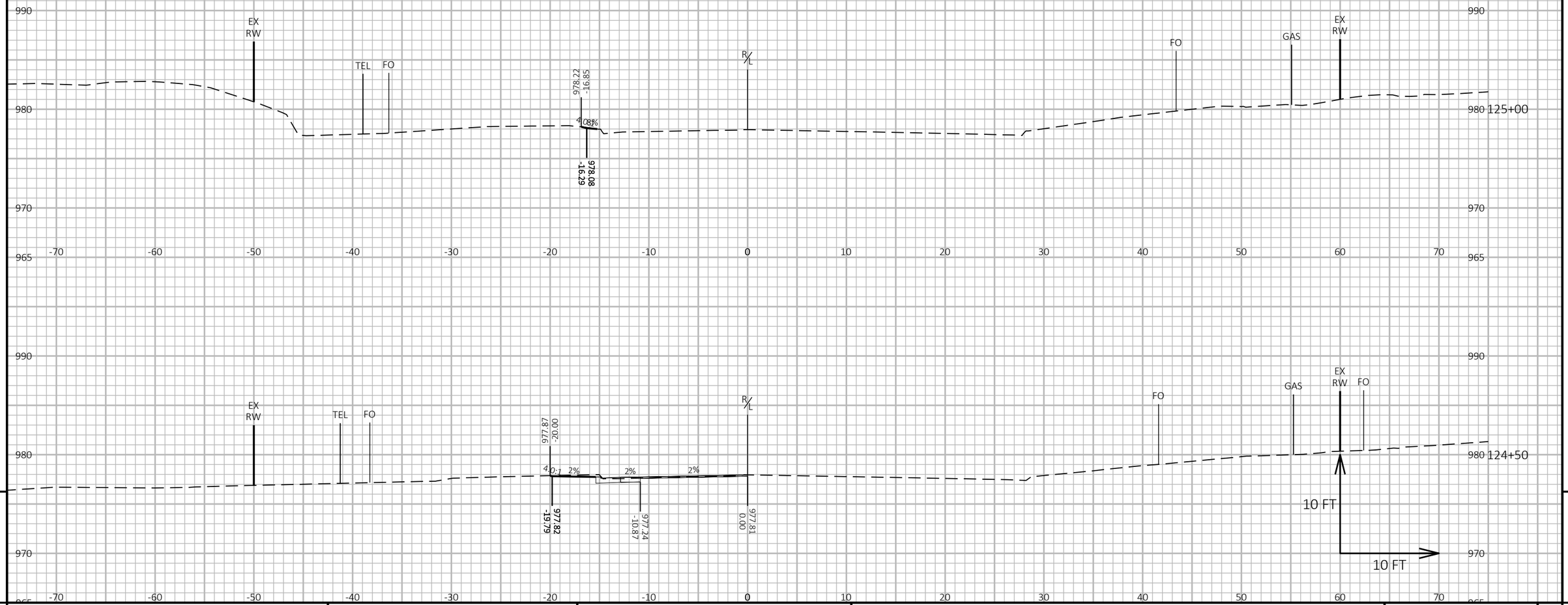
PLOT DATE : 5/14/2026 4:29 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 212 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 09

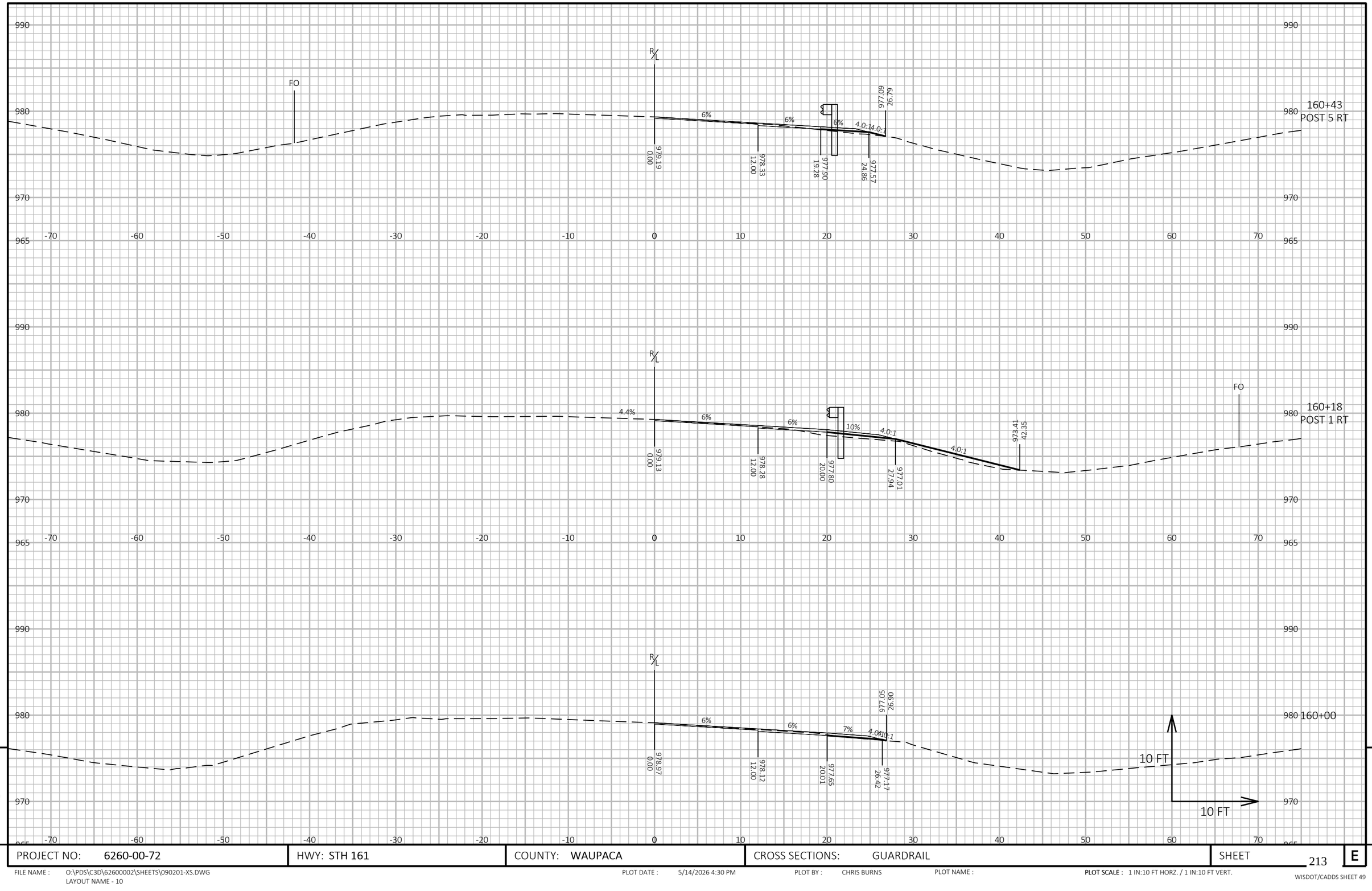
PLOT DATE : 5/14/2026 4:29 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



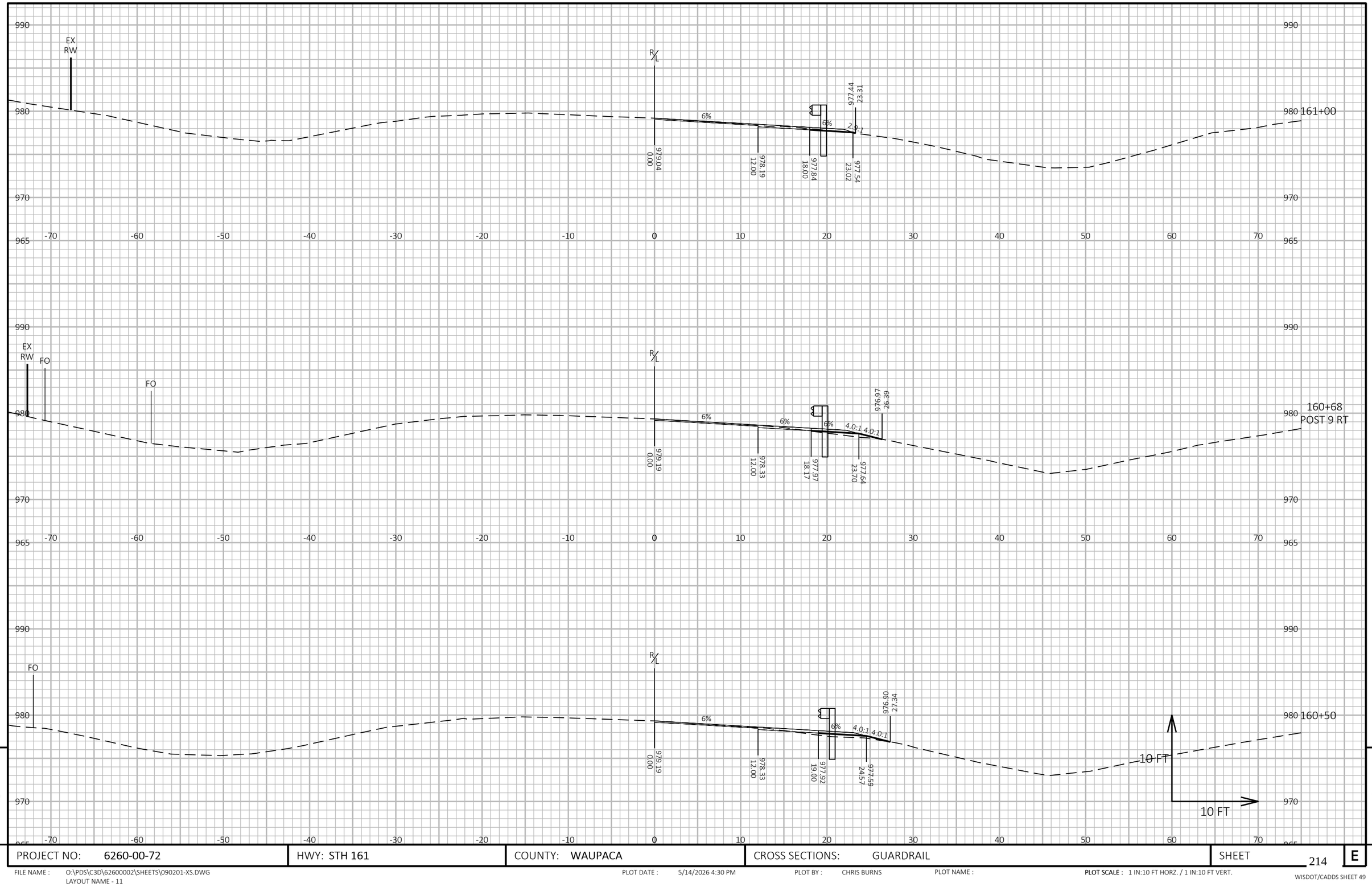

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 213 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 10

PLOT DATE : 5/14/2026 4:30 PM PLOT BY : CHRIS BURNS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 214 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 11

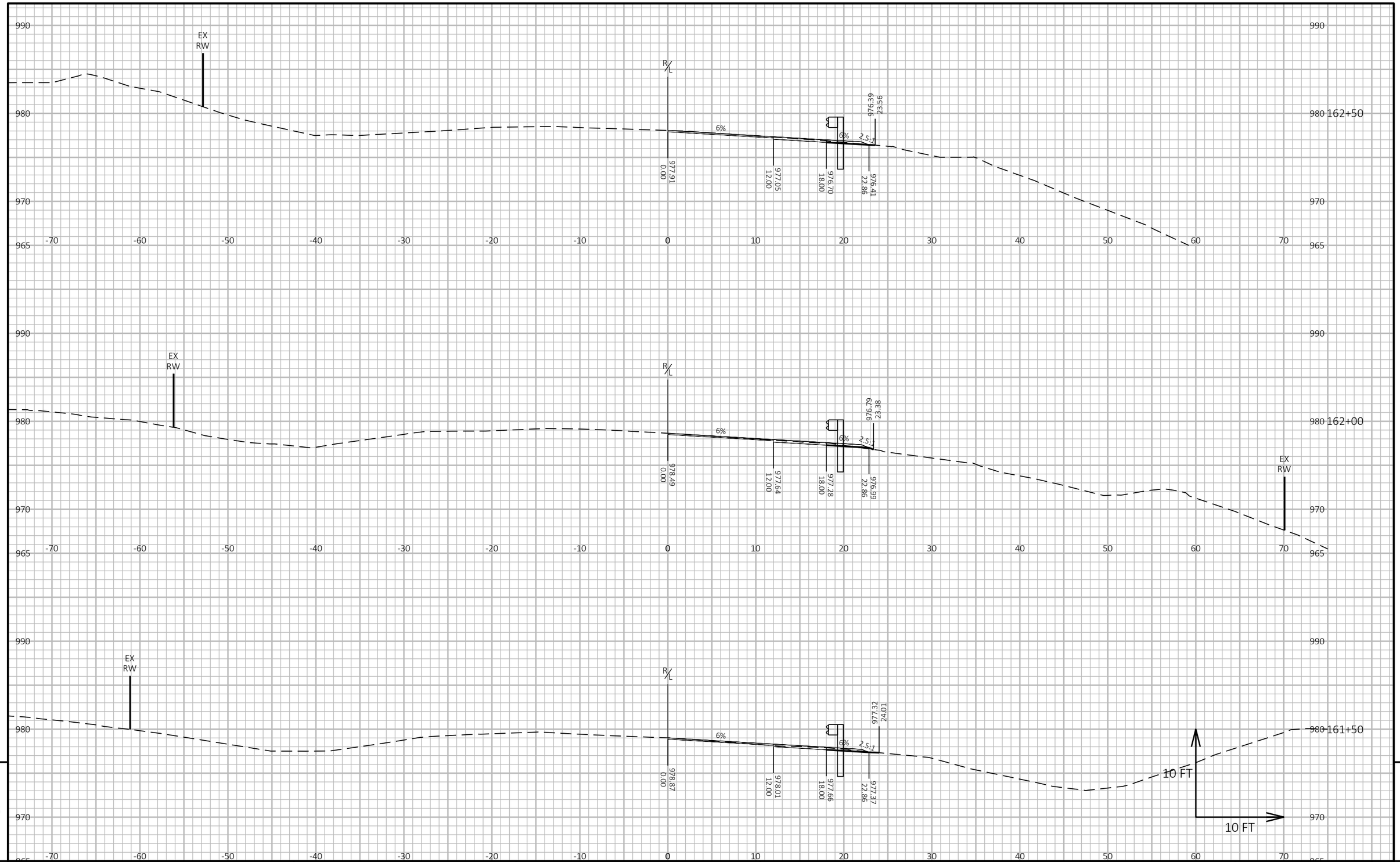
PLOT DATE : 5/14/2026 4:30 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 215 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 12

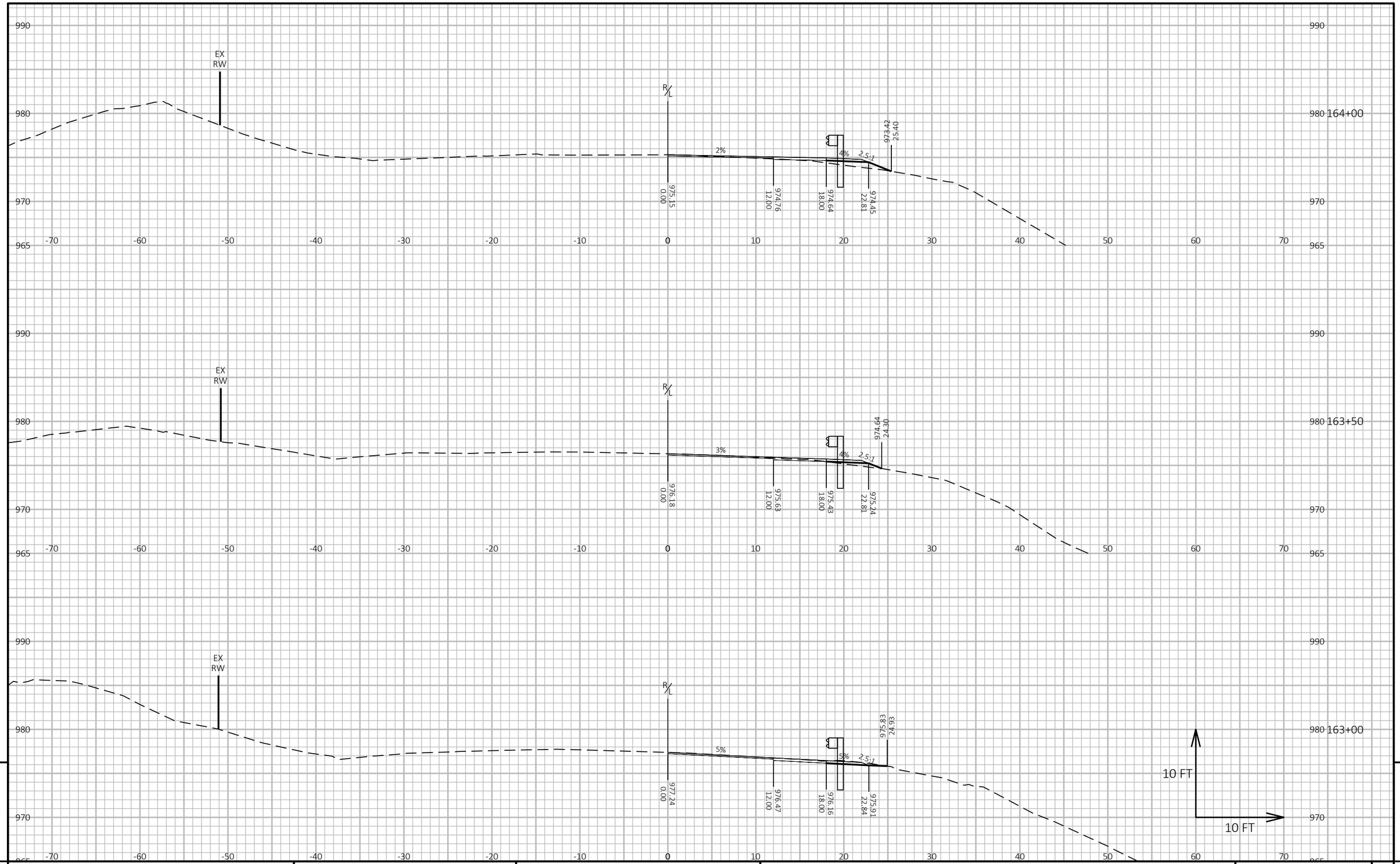
PLOT DATE : 5/14/2026 4:30 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 216 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 13

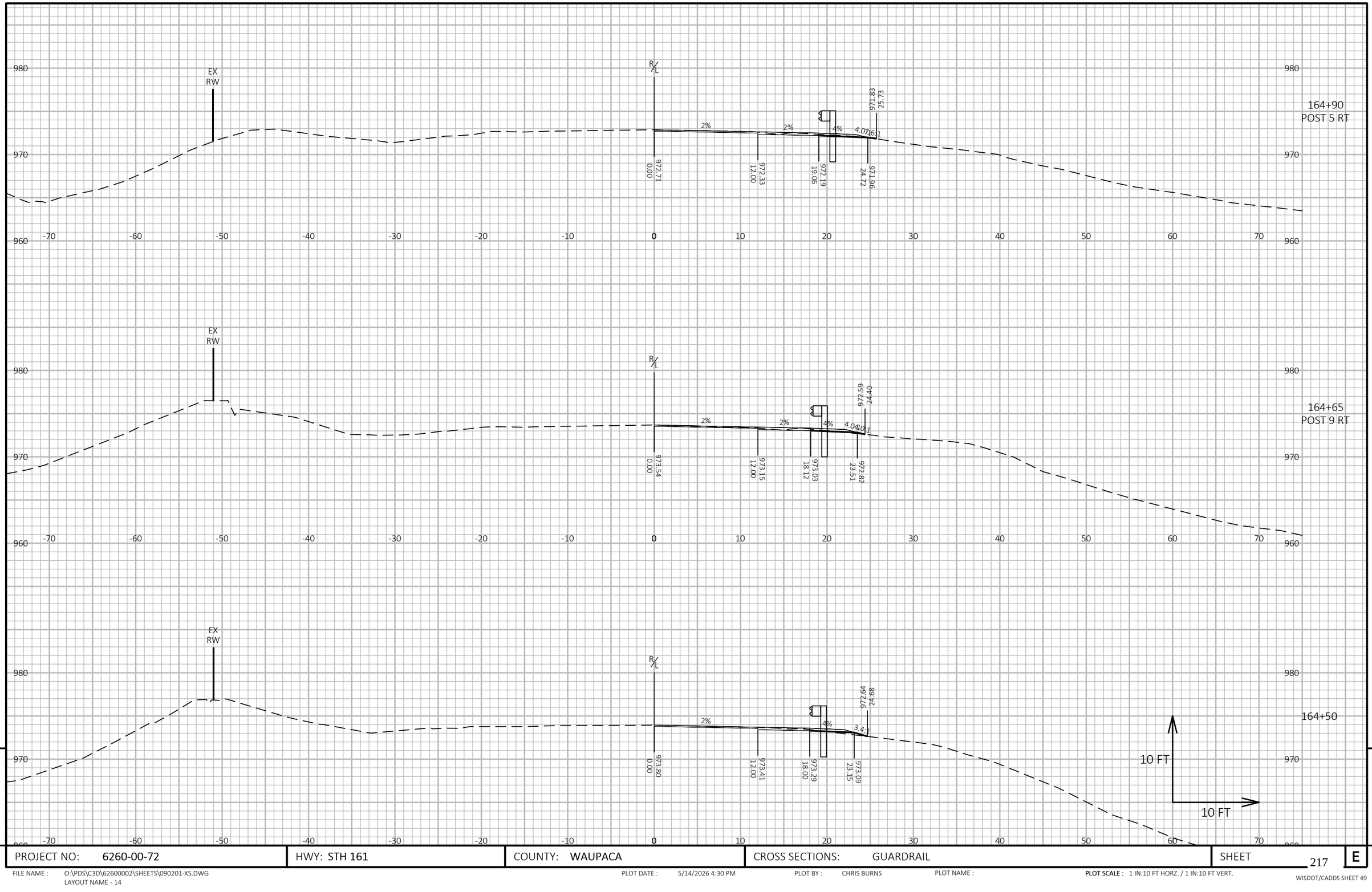
PLOT DATE : 5/14/2026 4:30 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 217 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 14

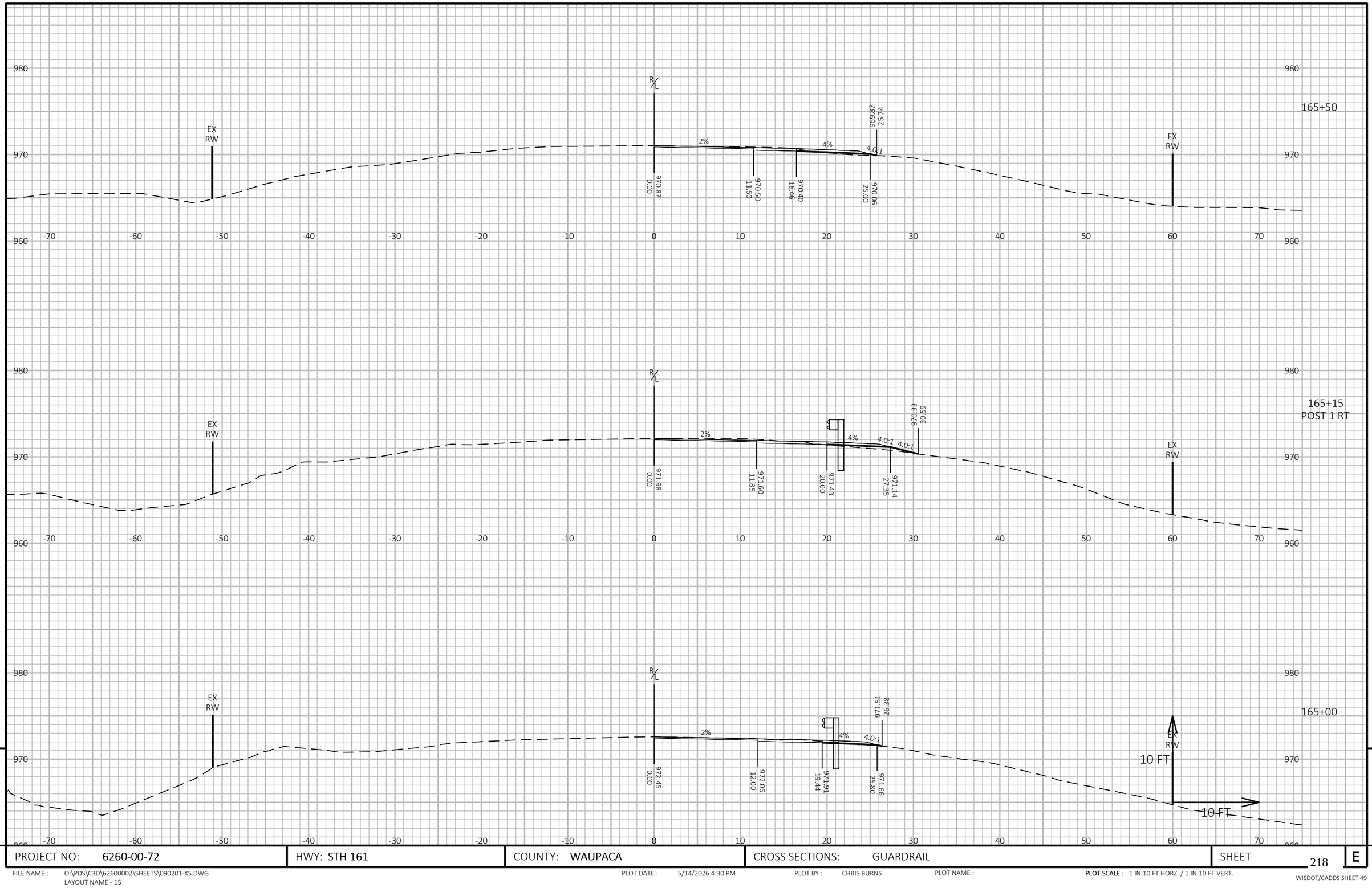
PLOT DATE : 5/14/2026 4:30 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 218 | E |
|---|---|---|---|---|---|

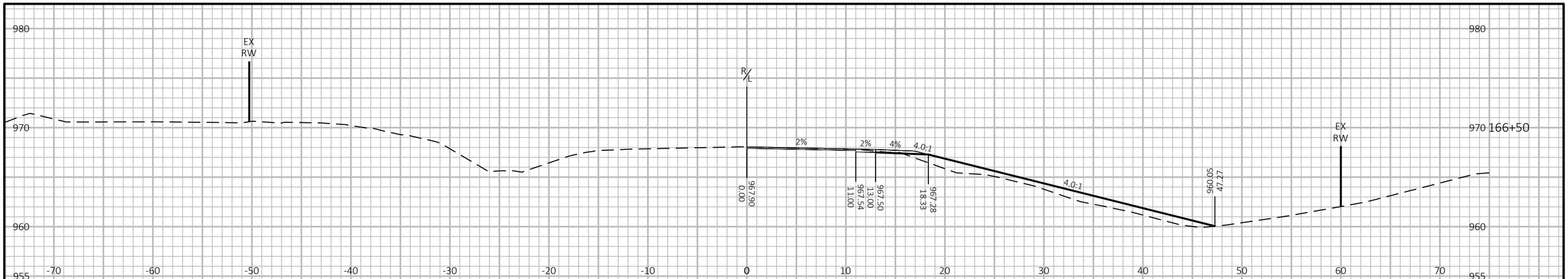
FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 15

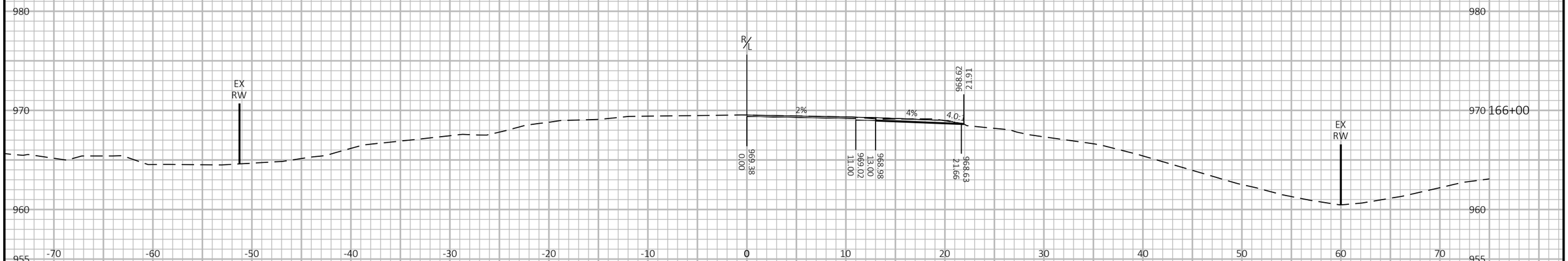
PLOT DATE : 5/14/2026 4:30 PM

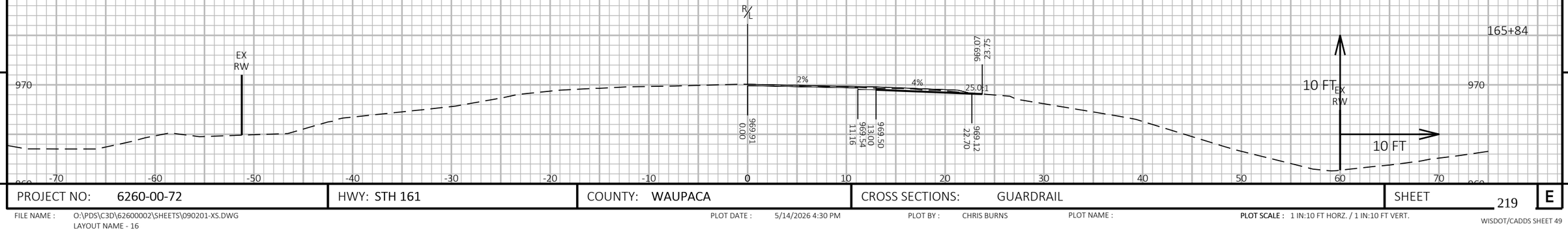
PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

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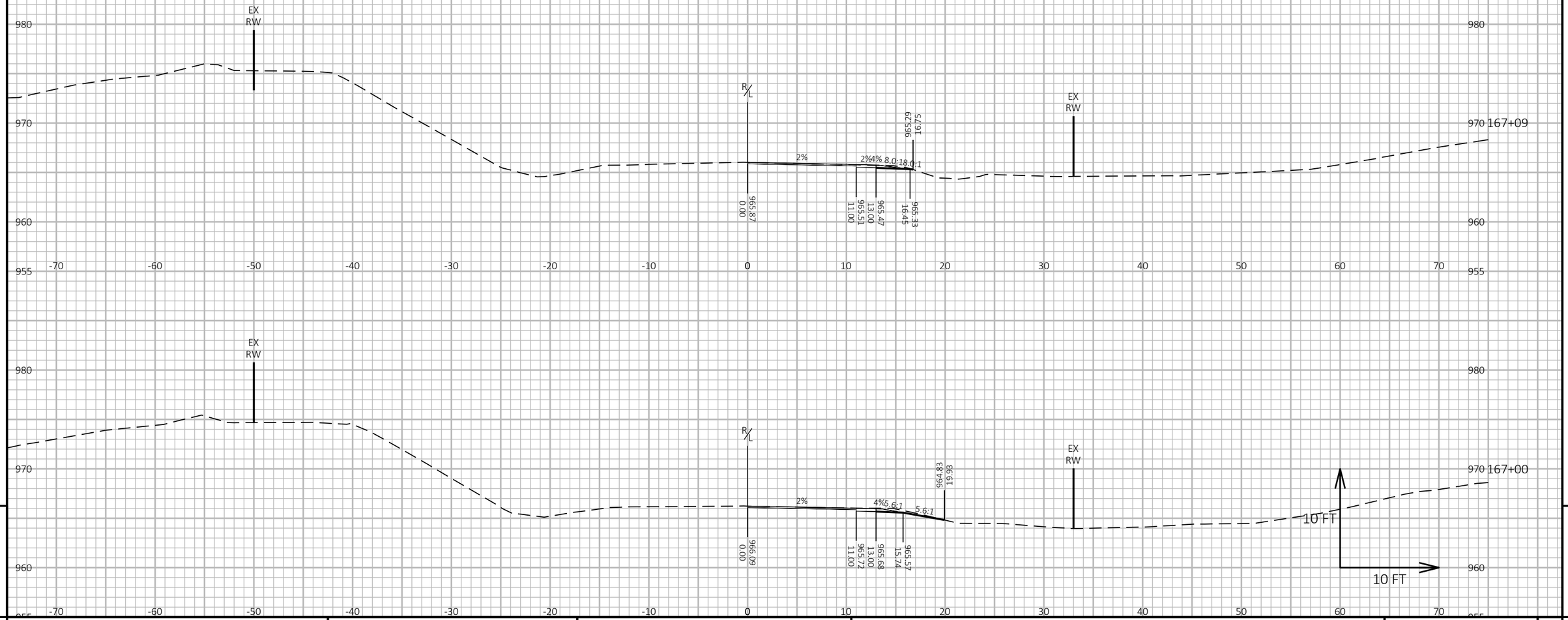
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 219 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 16

PLOT DATE : 5/14/2026 4:30 PM PLOT BY : CHRIS BURNS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 220 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 17

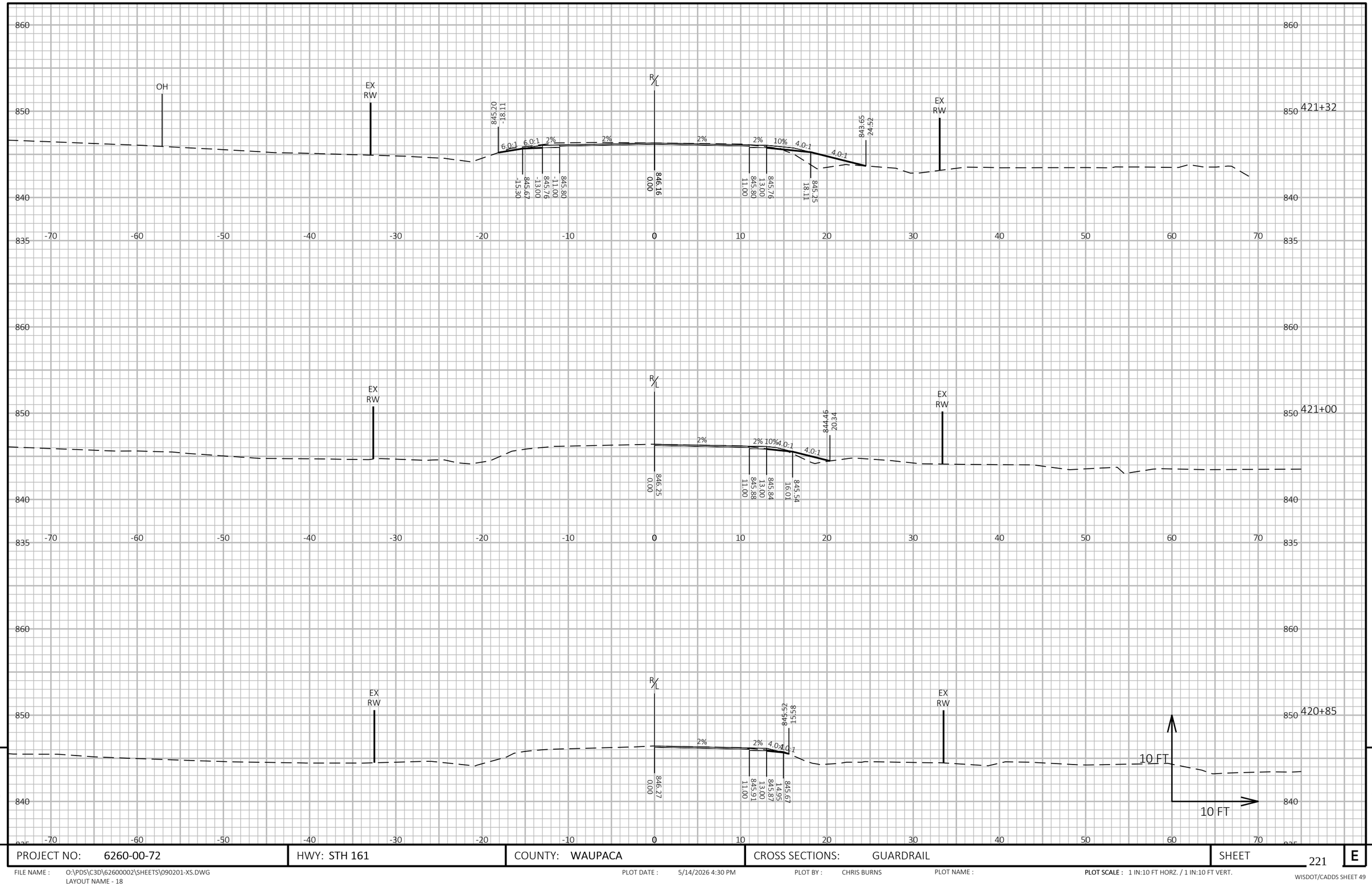
PLOT DATE : 5/14/2026 4:30 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 221 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 18

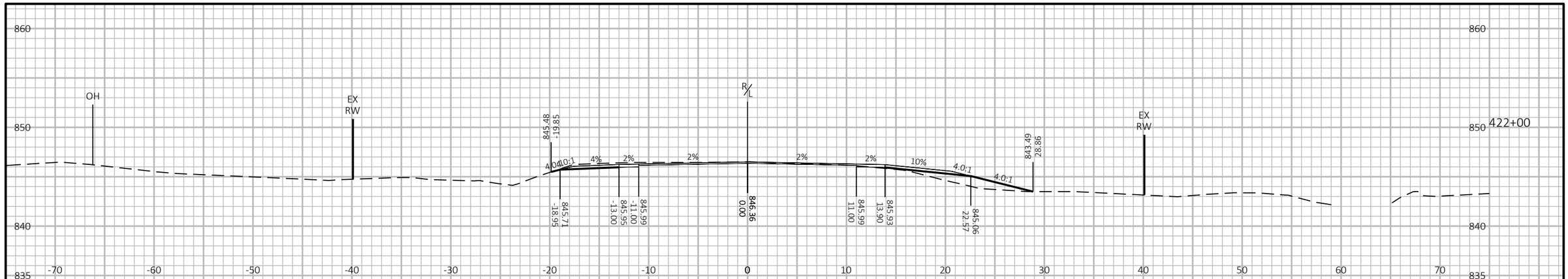
PLOT DATE : 5/14/2026 4:30 PM

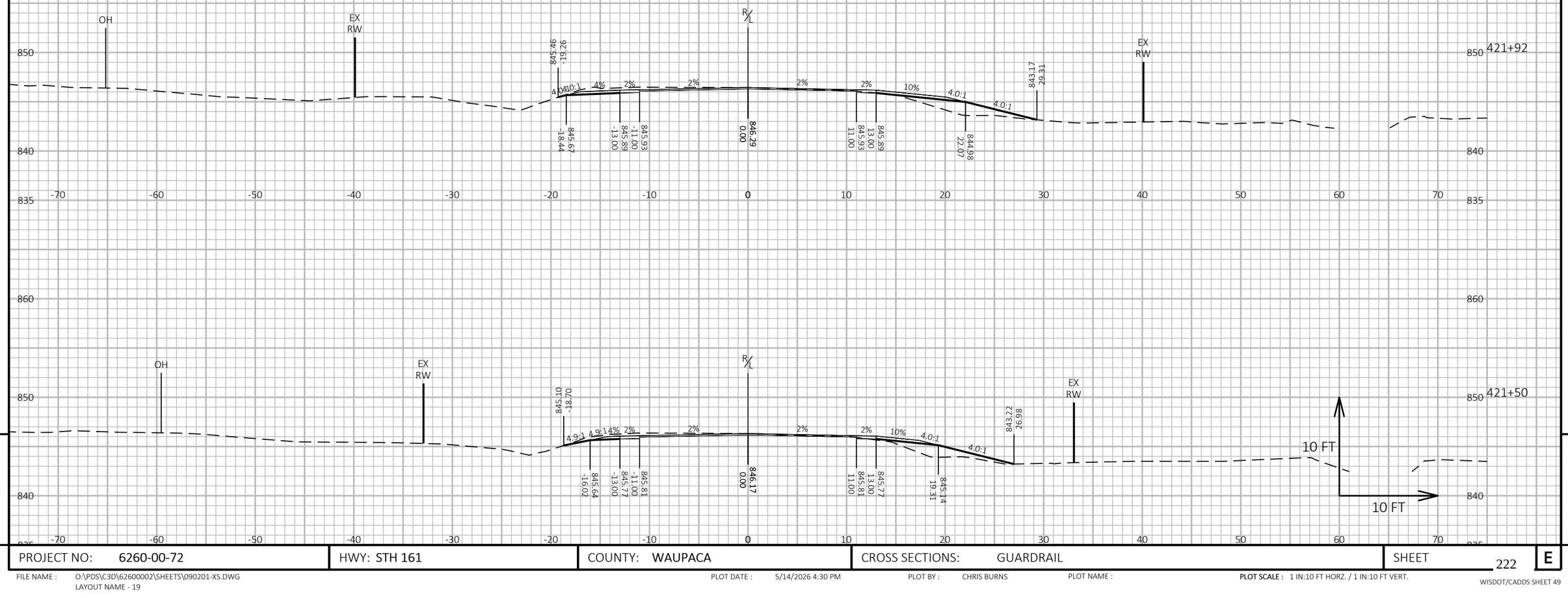
PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49







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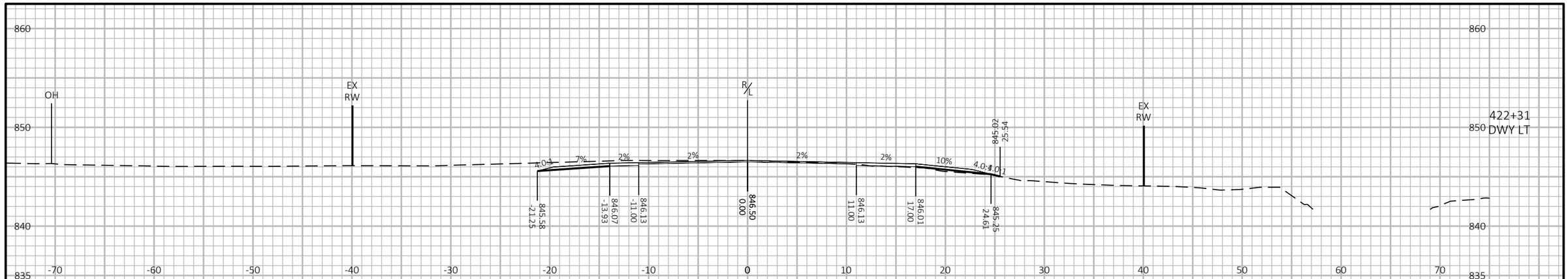
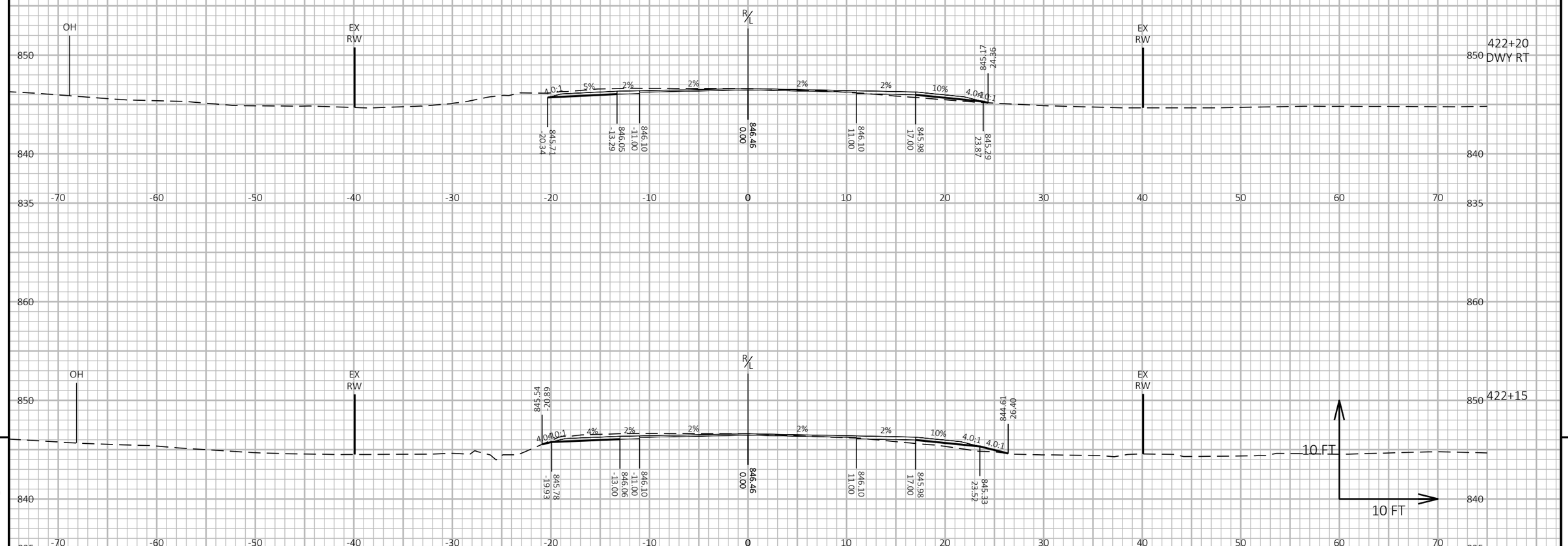
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 222 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 19

PLOT DATE : 5/14/2026 4:30 PM PLOT BY : CHRIS BURNS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49







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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 223 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 20

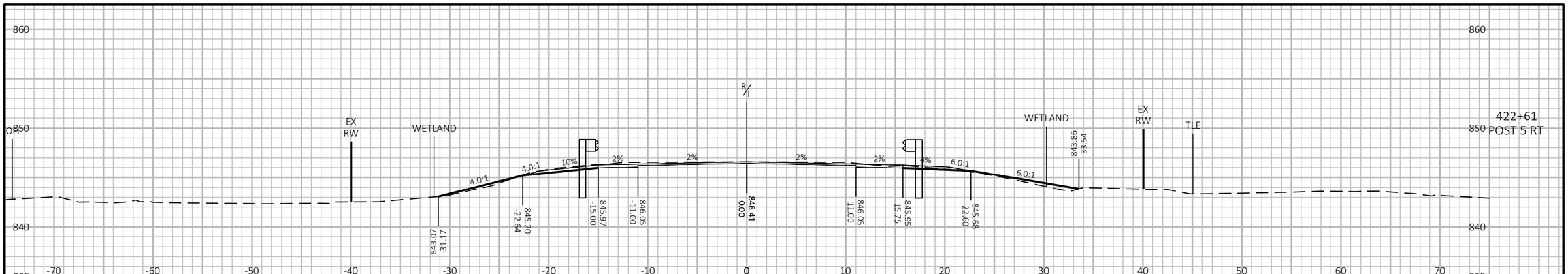
PLOT DATE : 5/14/2026 4:30 PM

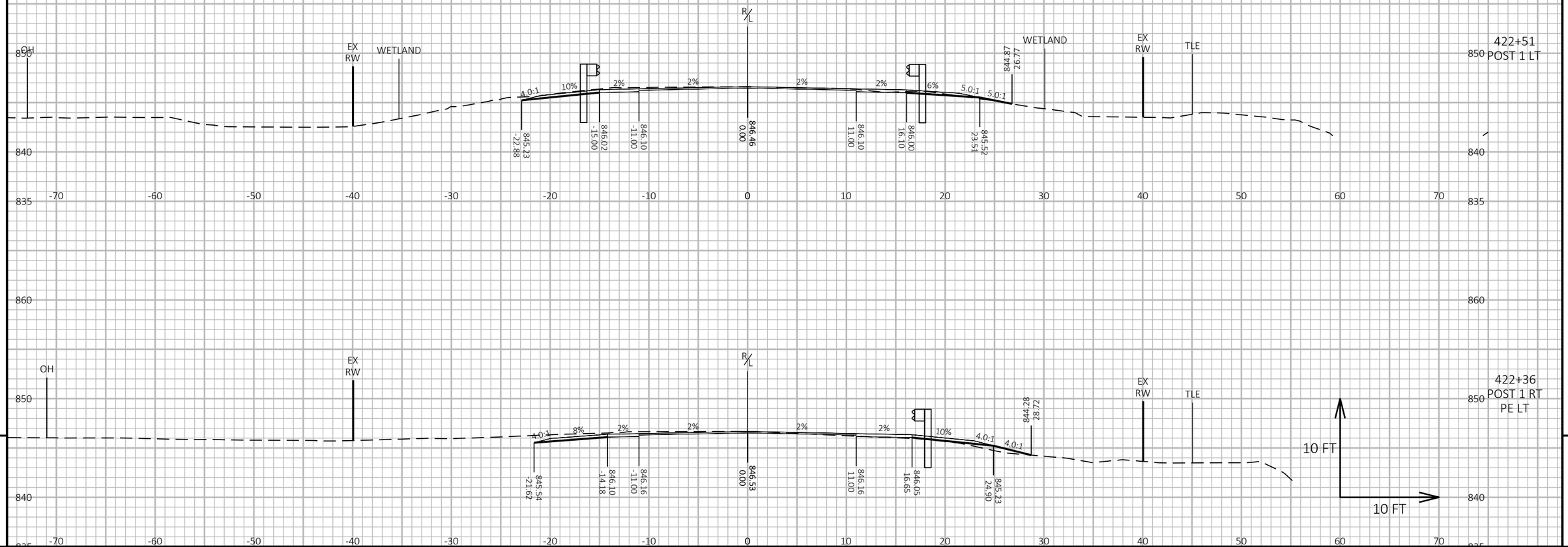
PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49







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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 224 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 21

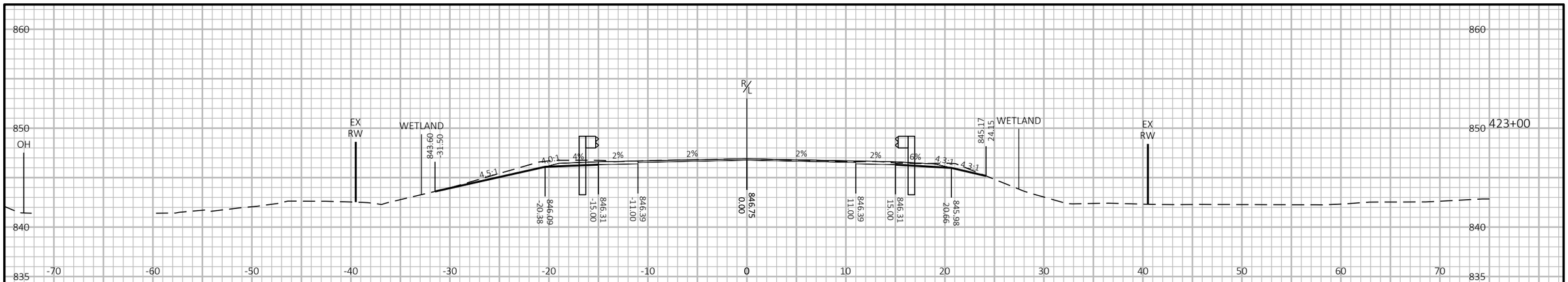
PLOT DATE : 5/14/2026 4:30 PM

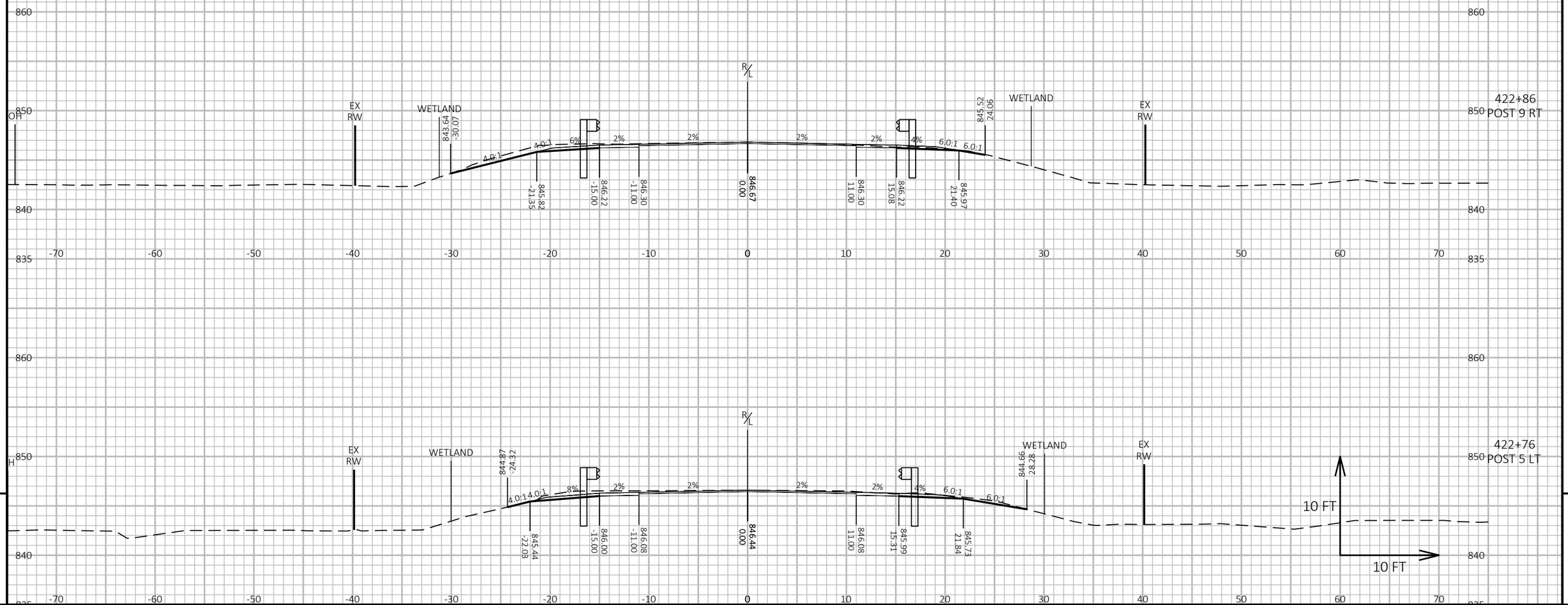
PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49







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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 225 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 22

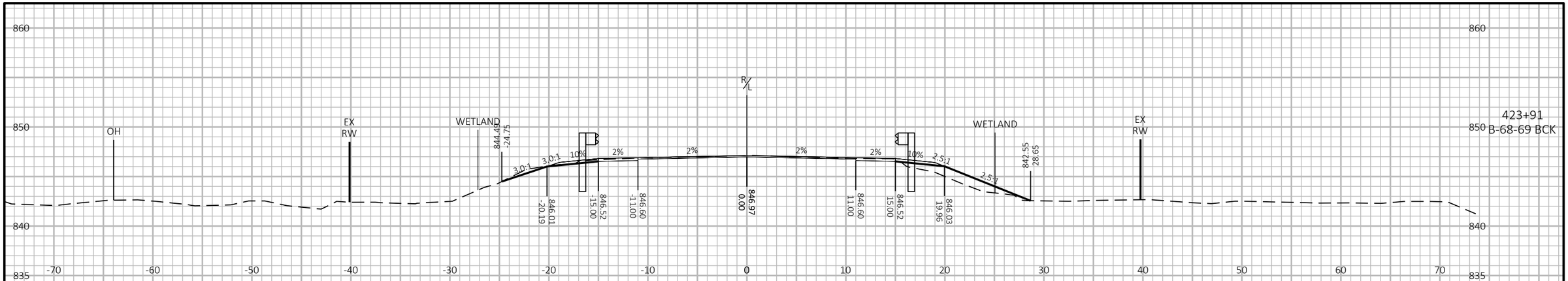
PLOT DATE : 5/14/2026 4:30 PM

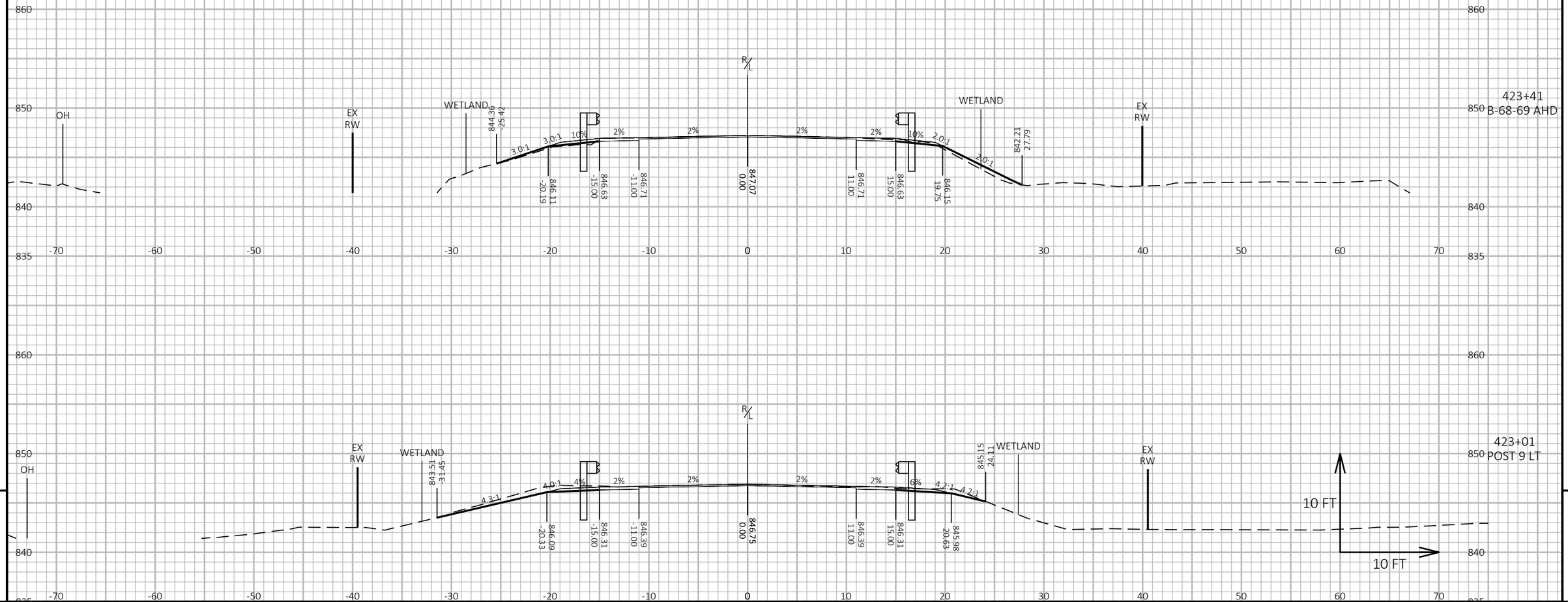
PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49







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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 226 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 23

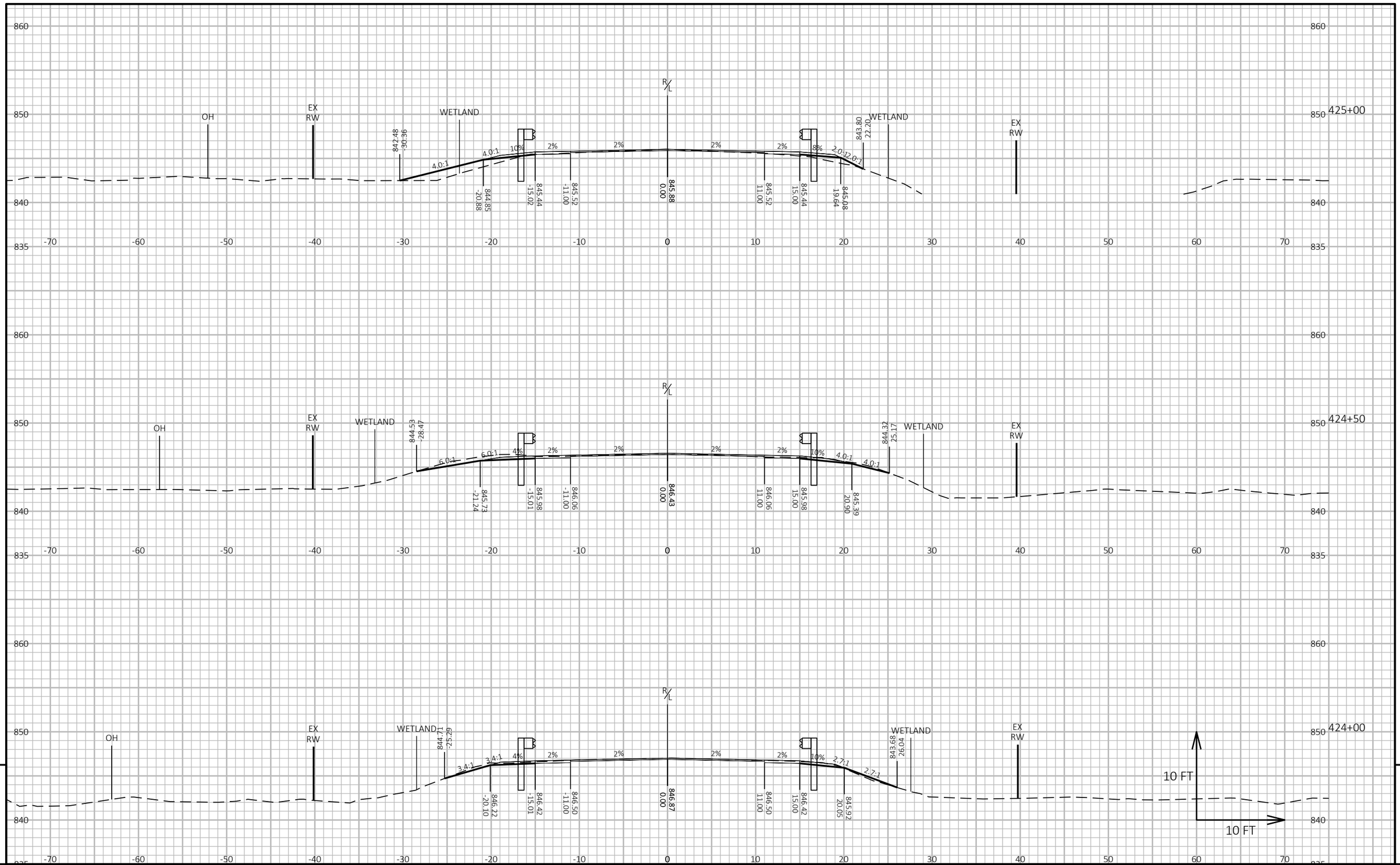
PLOT DATE : 5/14/2026 4:30 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 227 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 24

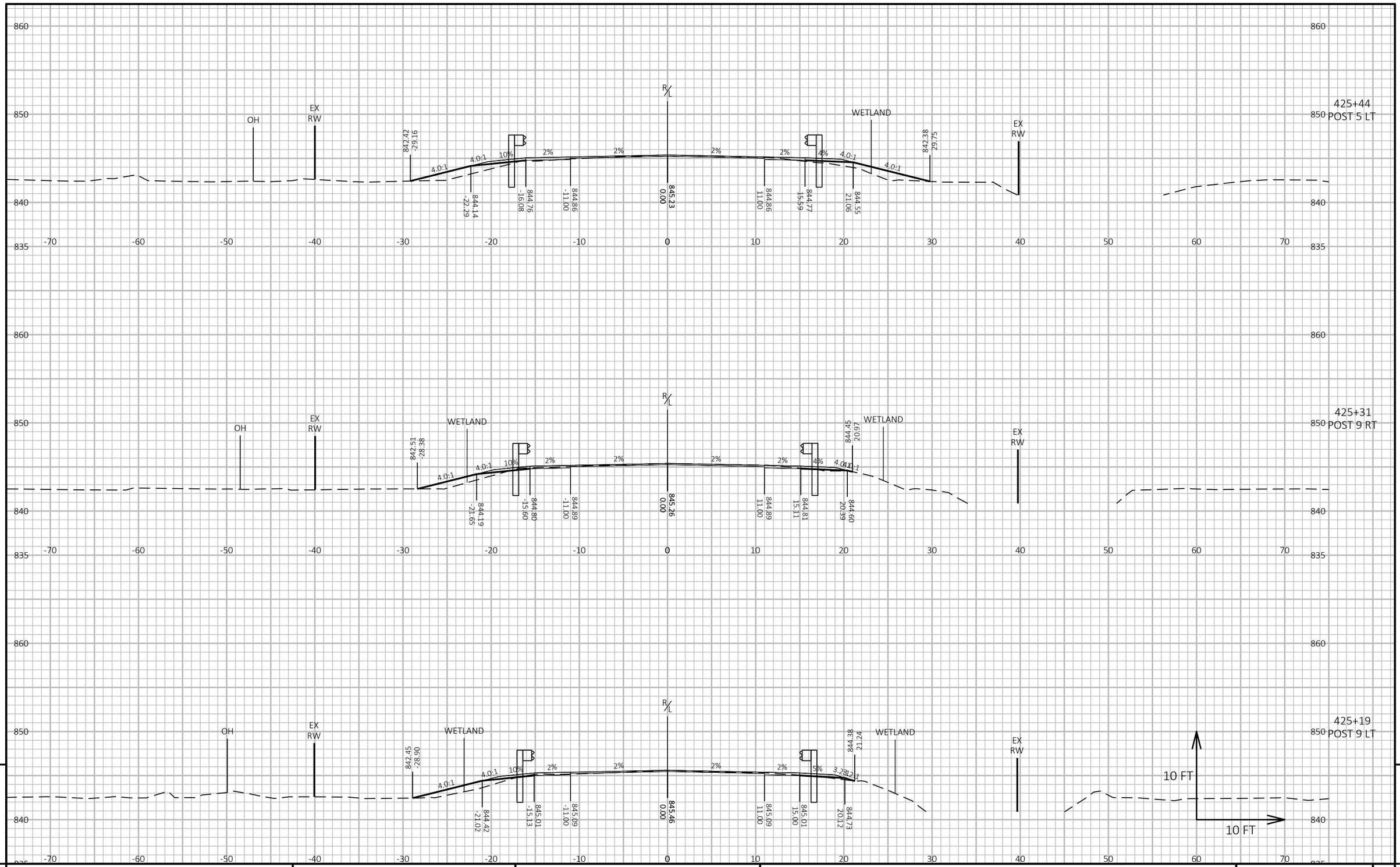
PLOT DATE : 5/14/2026 4:30 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 228 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 25

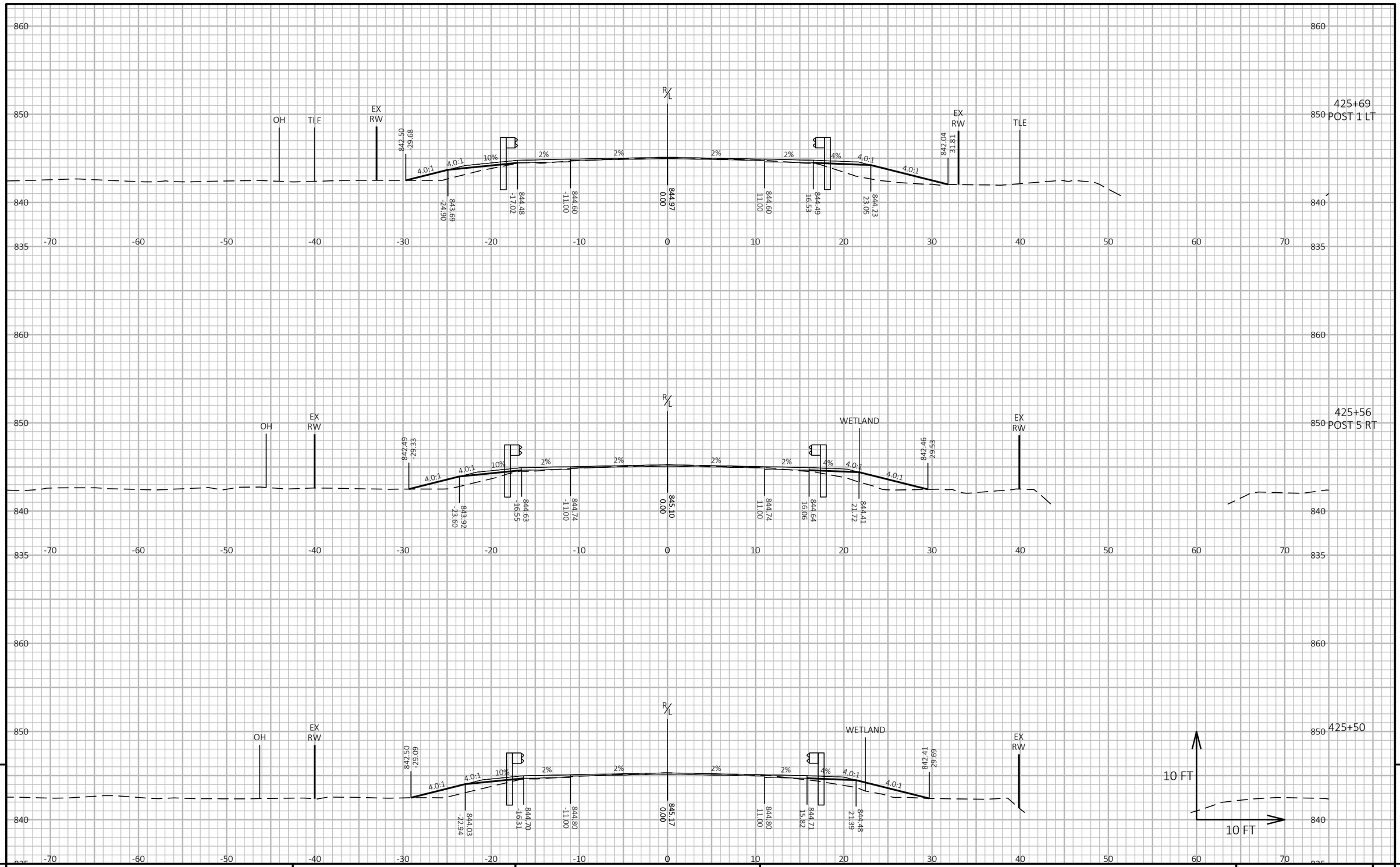
PLOT DATE : 5/14/2026 4:30 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 229 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 26

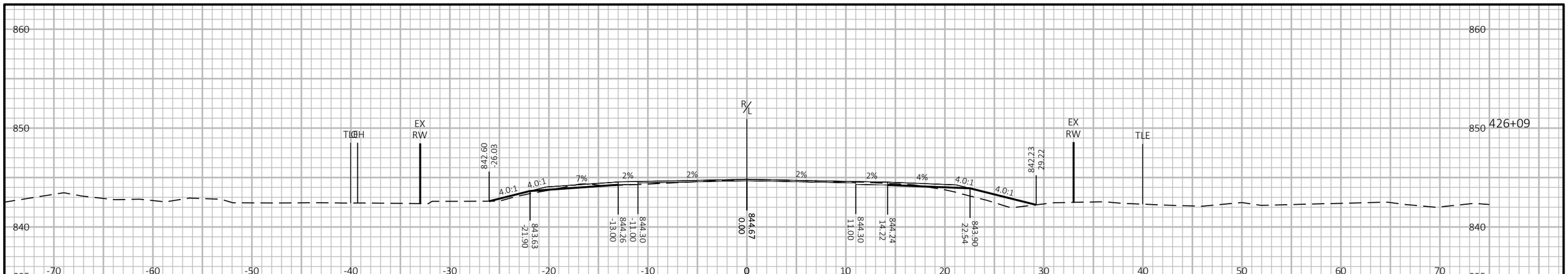
PLOT DATE : 5/14/2026 4:30 PM

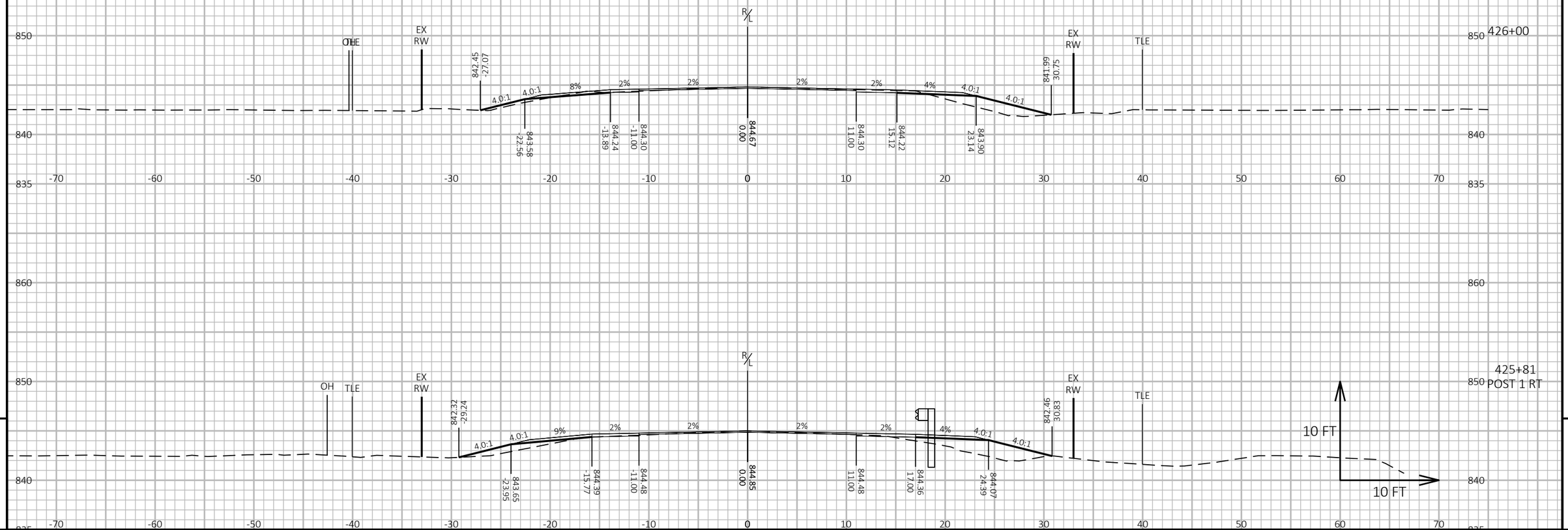
PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49







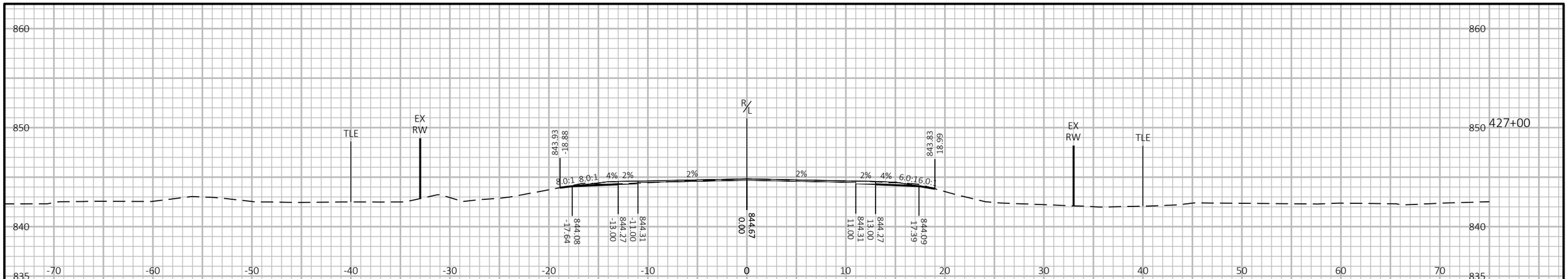
9 9

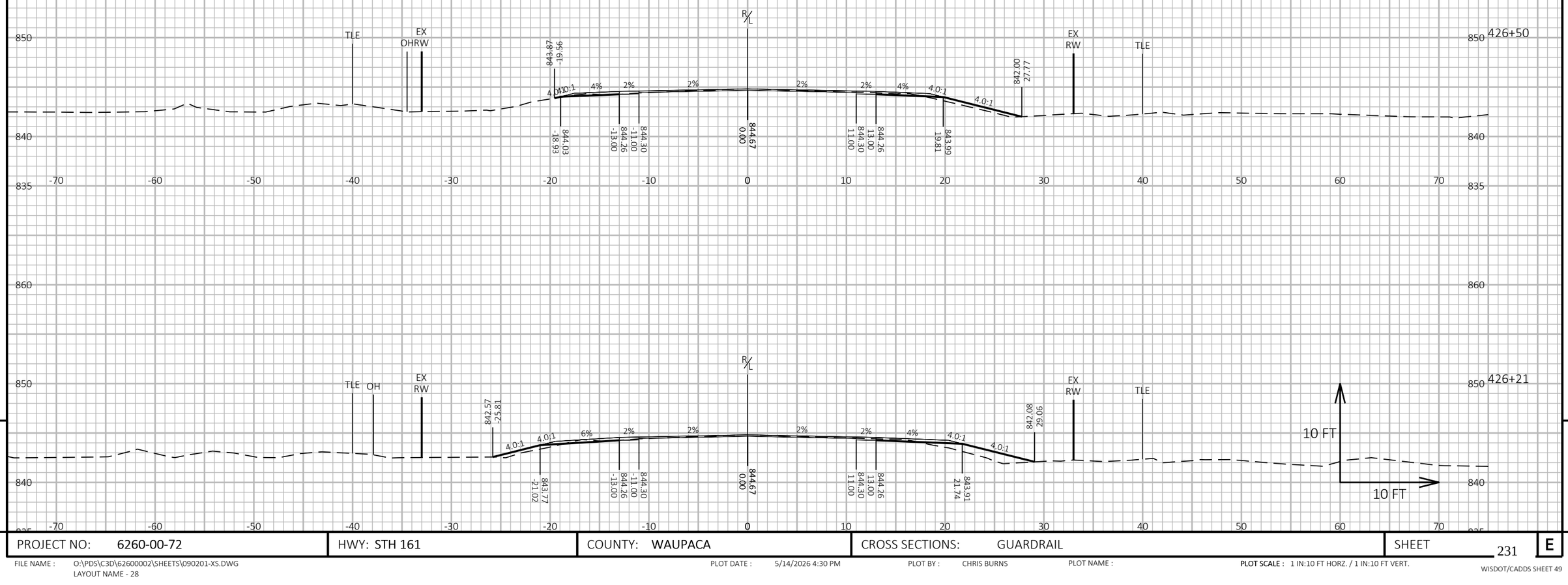
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 230 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 27

PLOT DATE : 5/14/2026 4:30 PM PLOT BY : CHRIS BURNS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49







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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 231 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 28

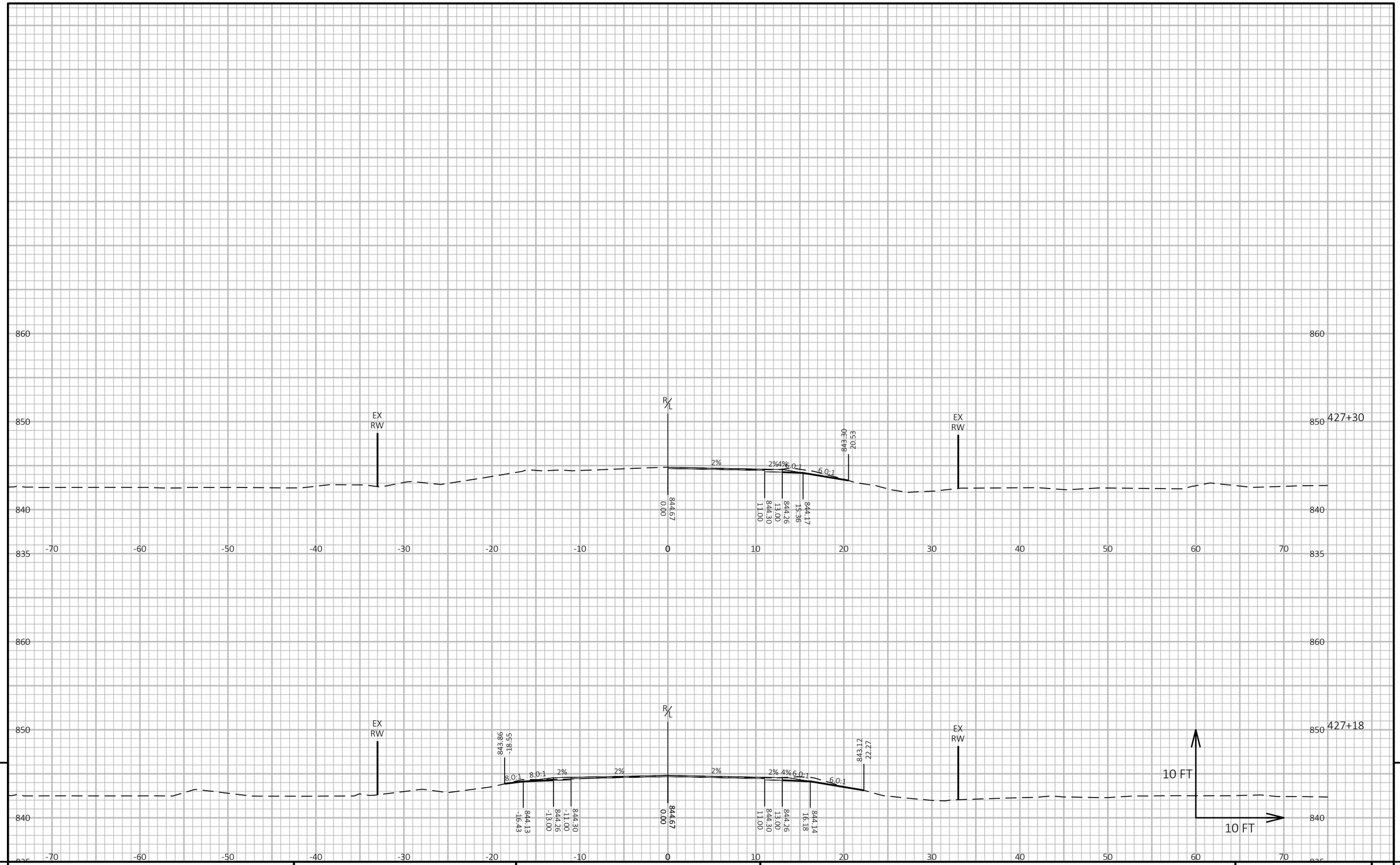
PLOT DATE : 5/14/2026 4:30 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 232 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 29

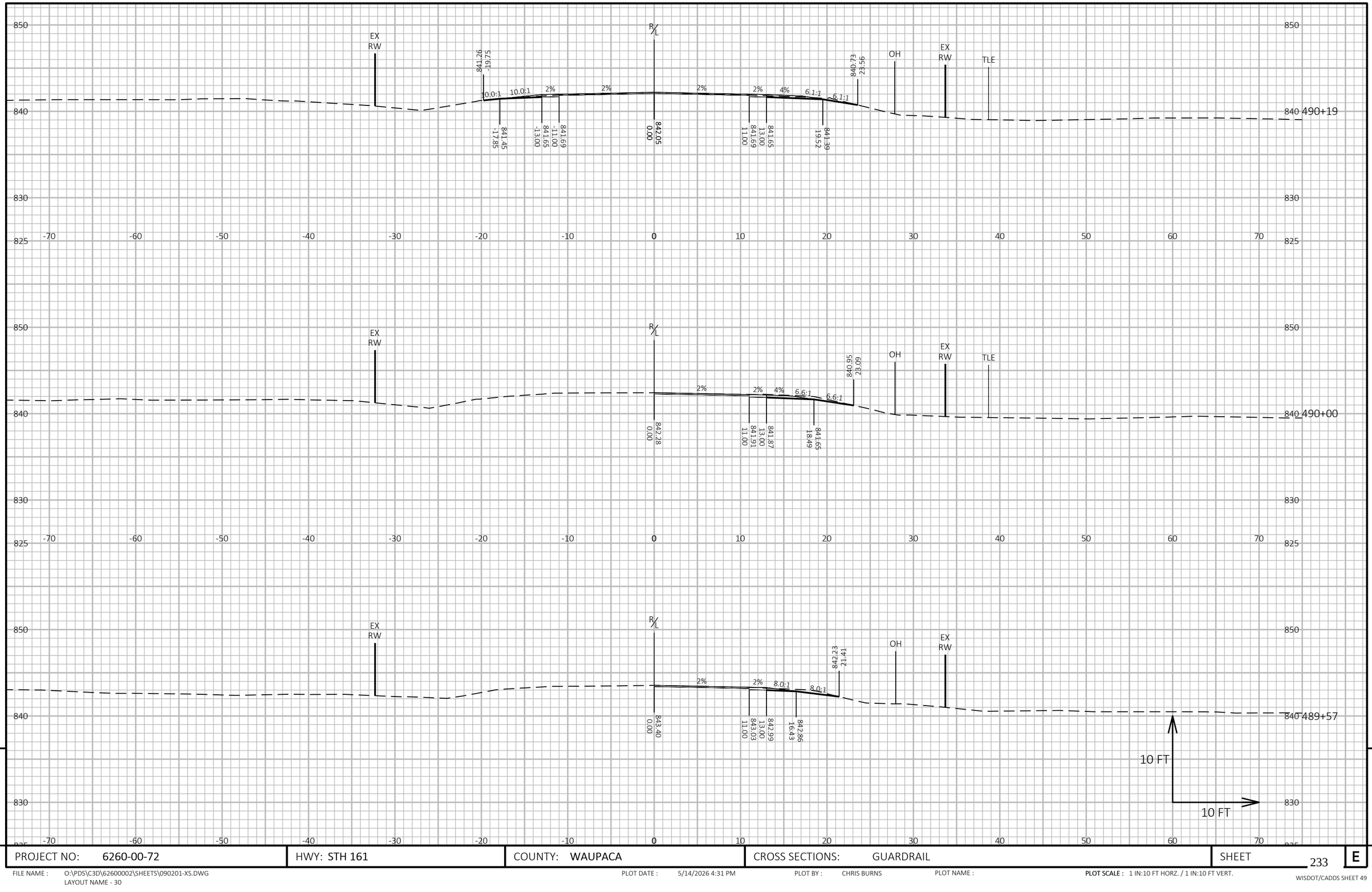
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 233 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 30

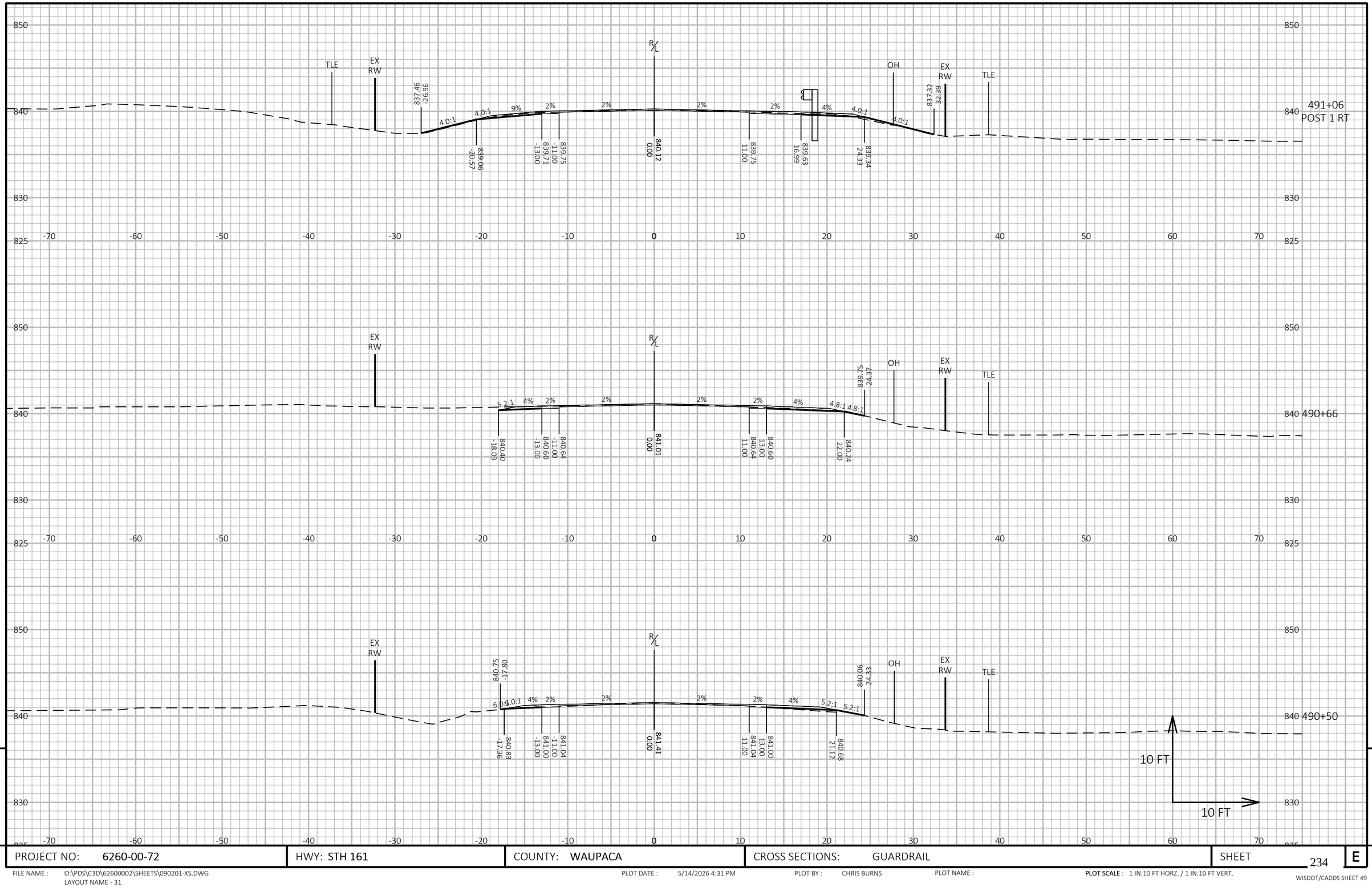
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



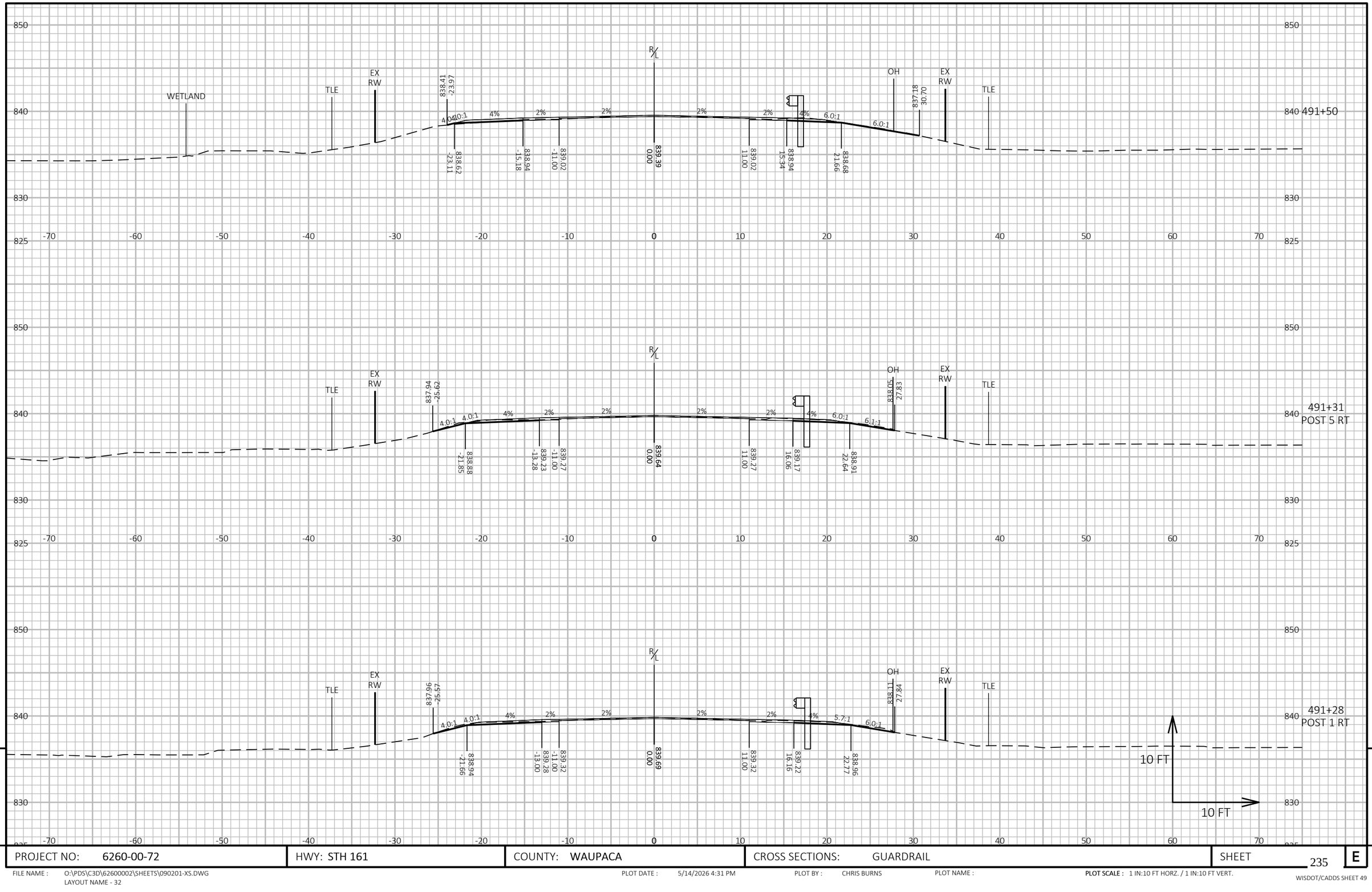

9 9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 234 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 31

PLOT DATE : 5/14/2026 4:31 PM PLOT BY : CHRIS BURNS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



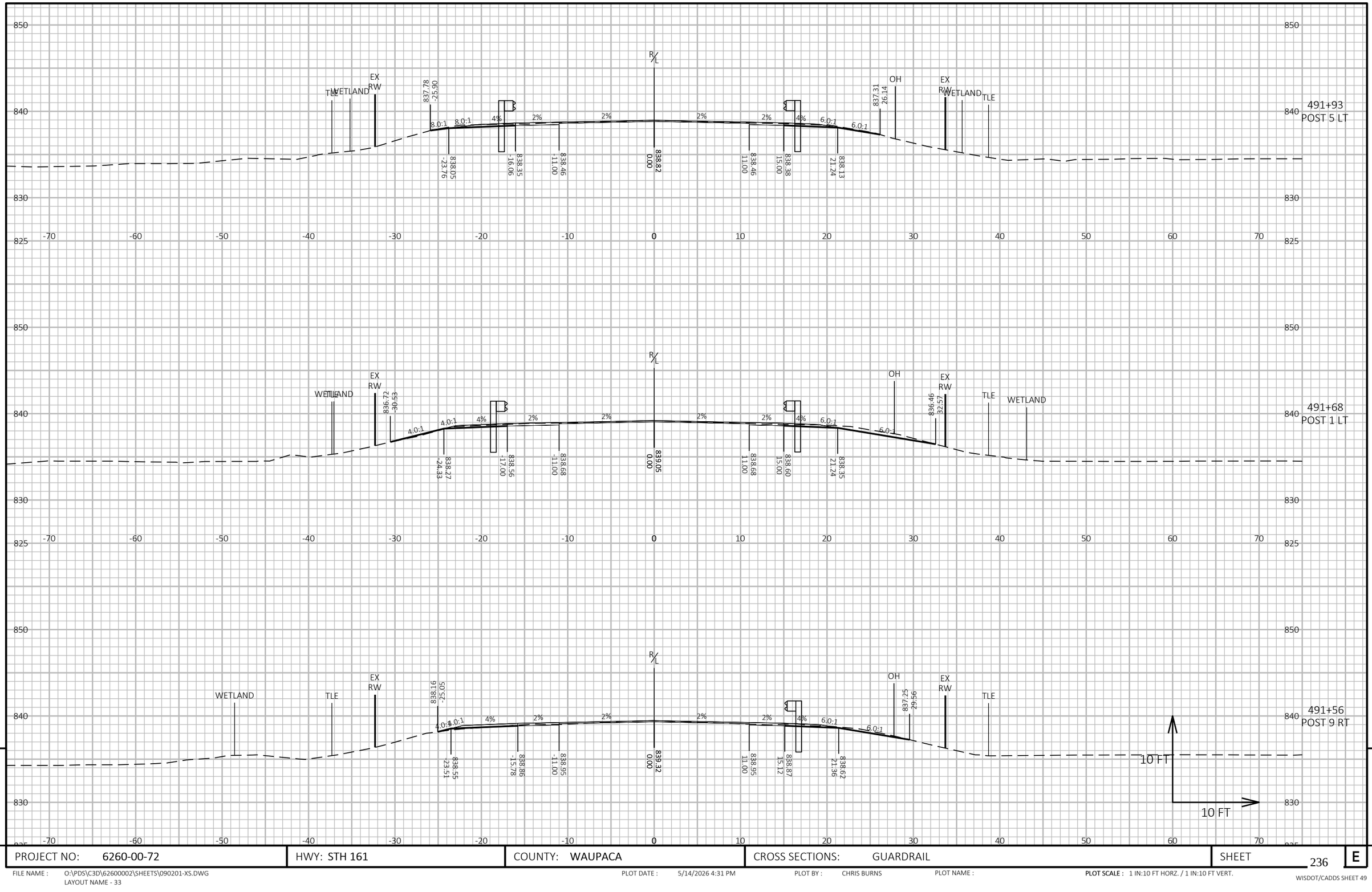

9 9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 235 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 32

PLOT DATE : 5/14/2026 4:31 PM PLOT BY : CHRIS BURNS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 236 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 33

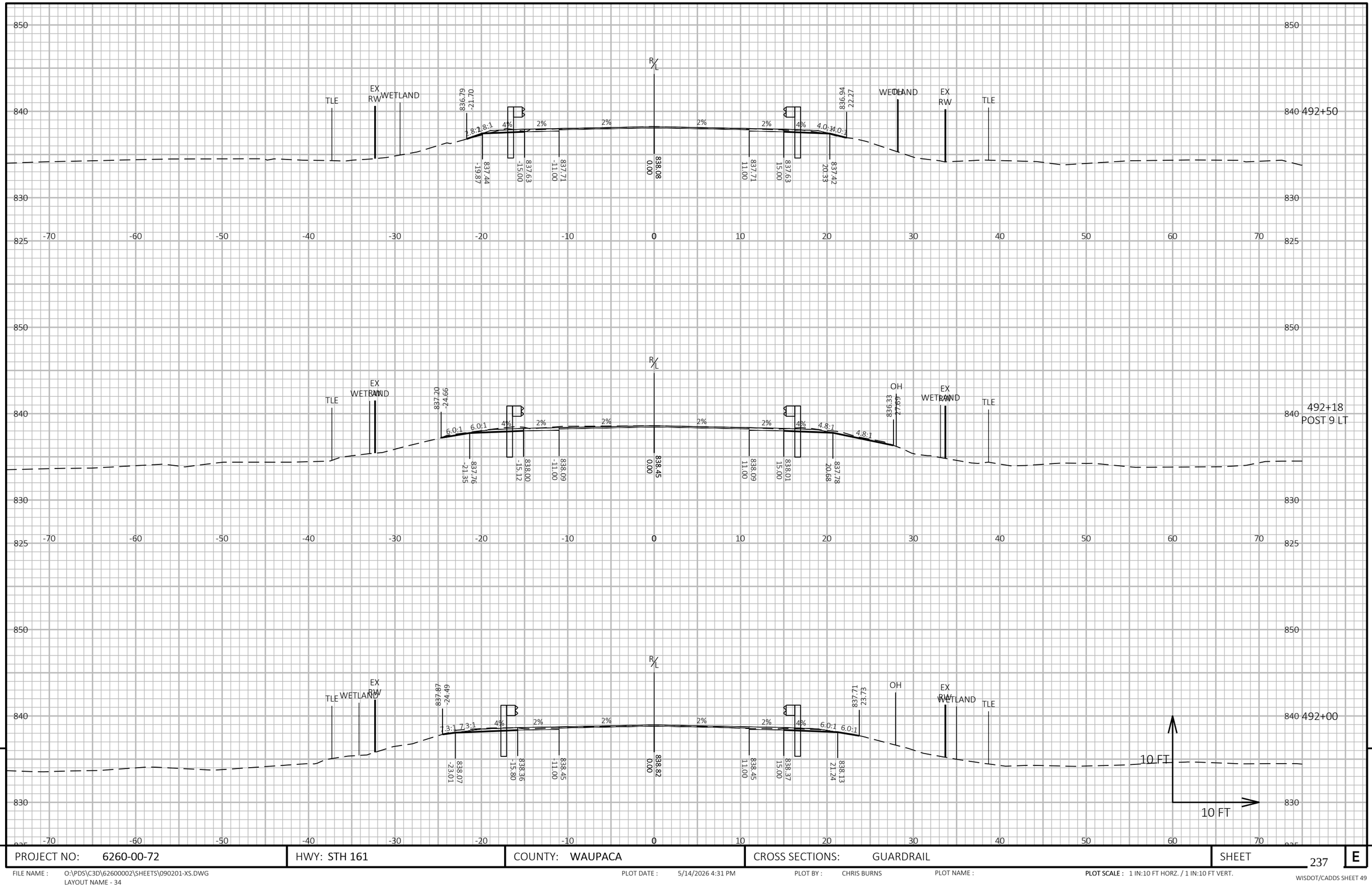
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 237 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 34

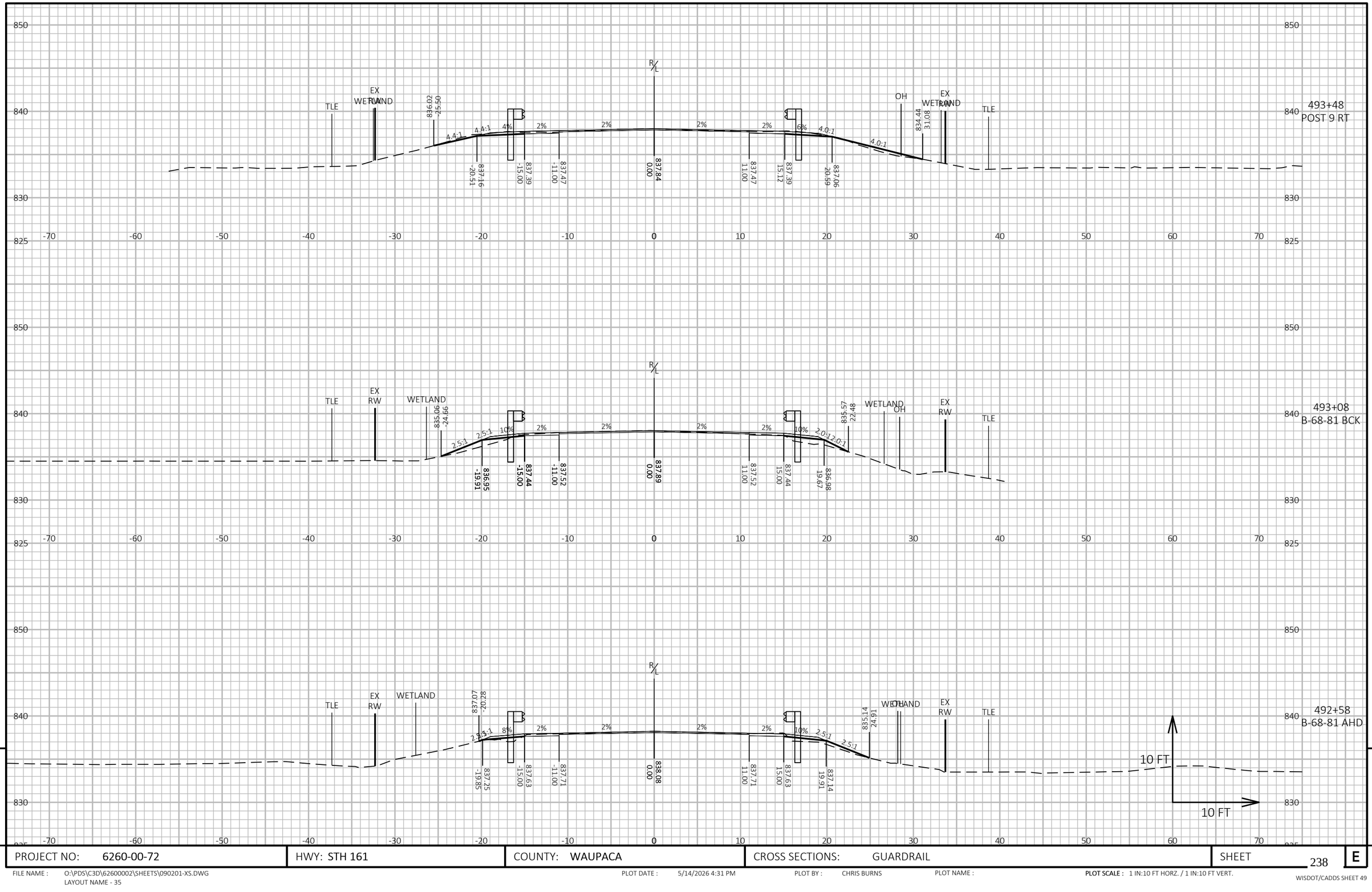
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 238 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 35

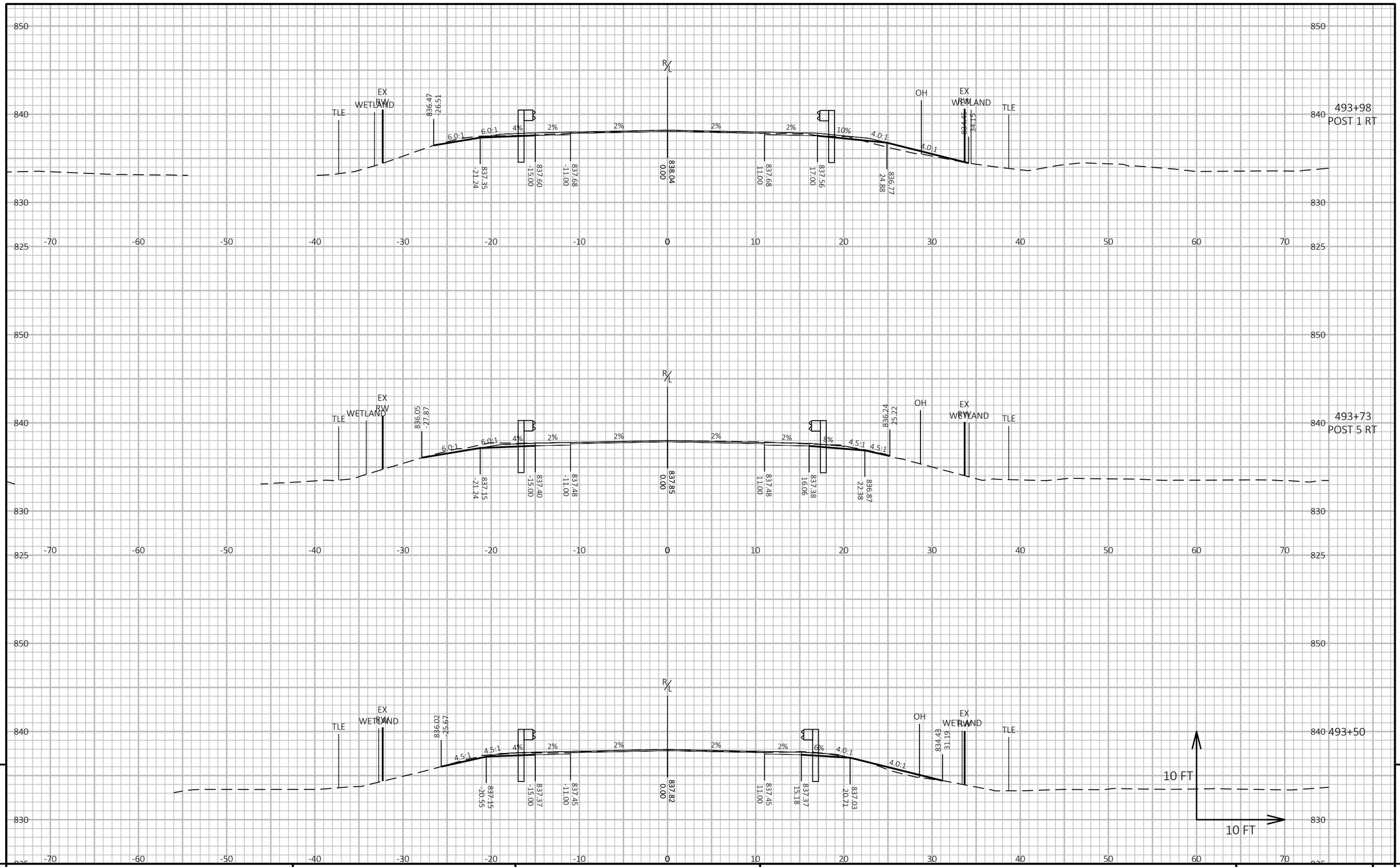
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 239 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 36

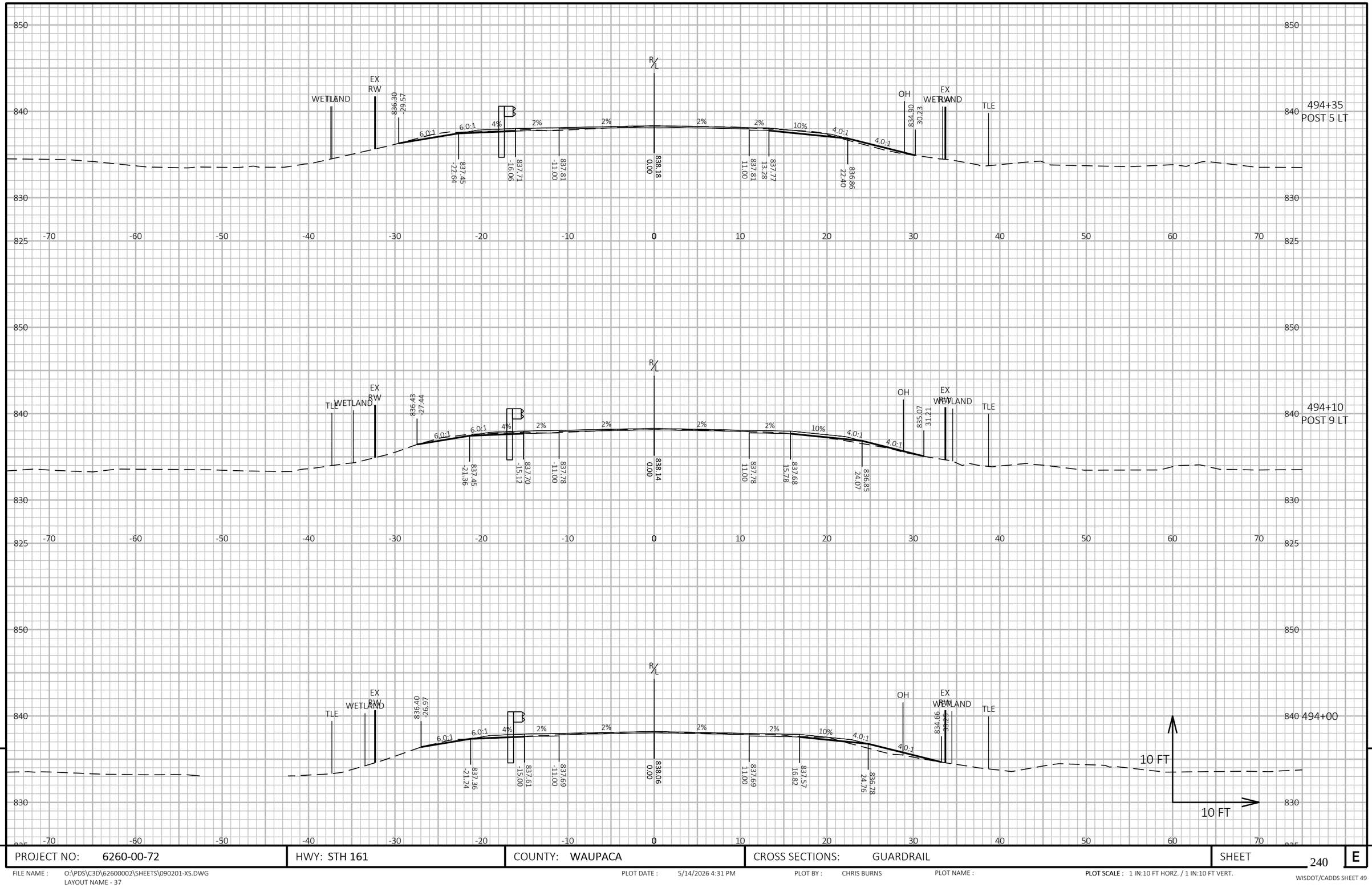
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 240 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 37

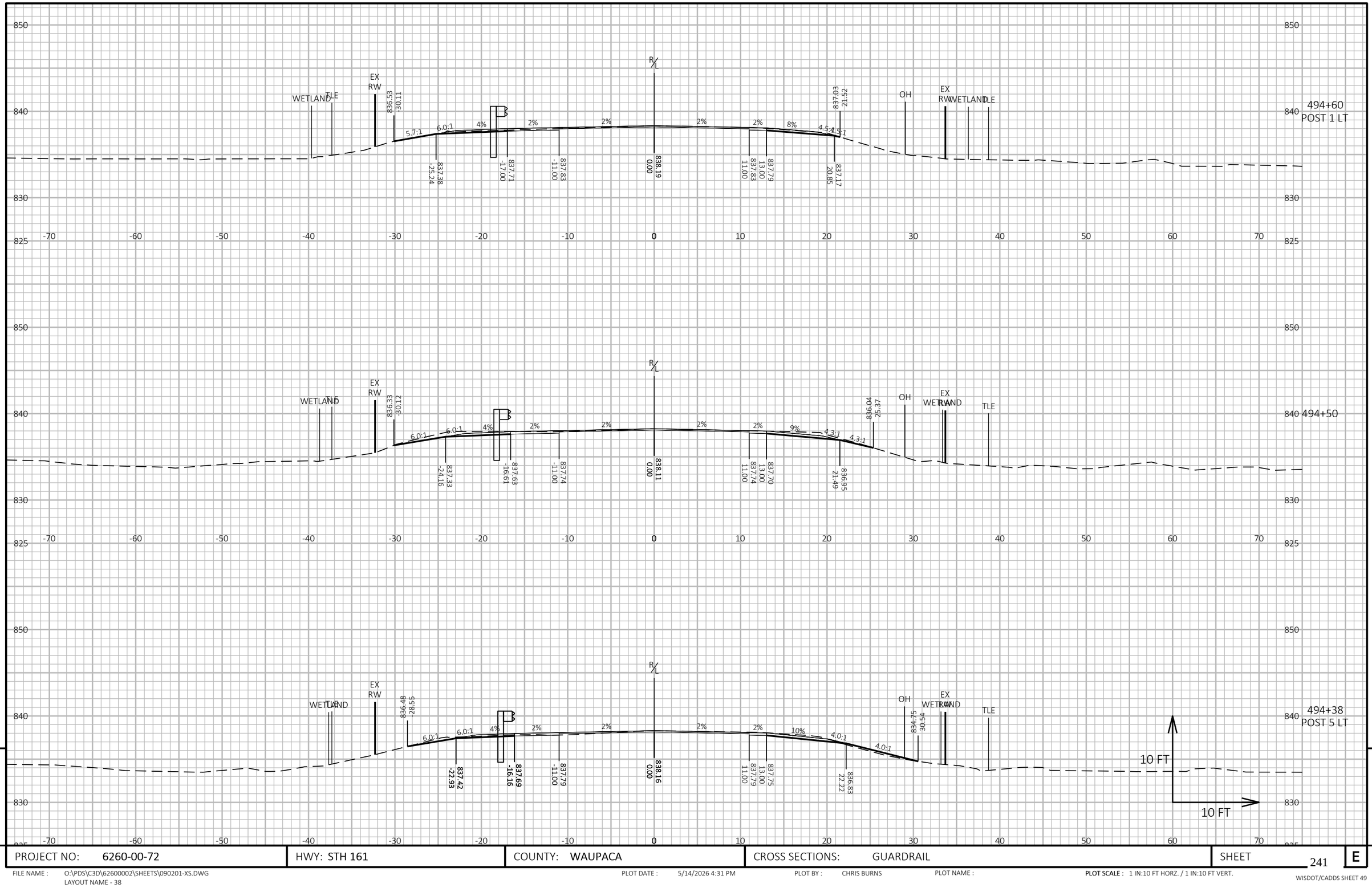
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 241 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 38

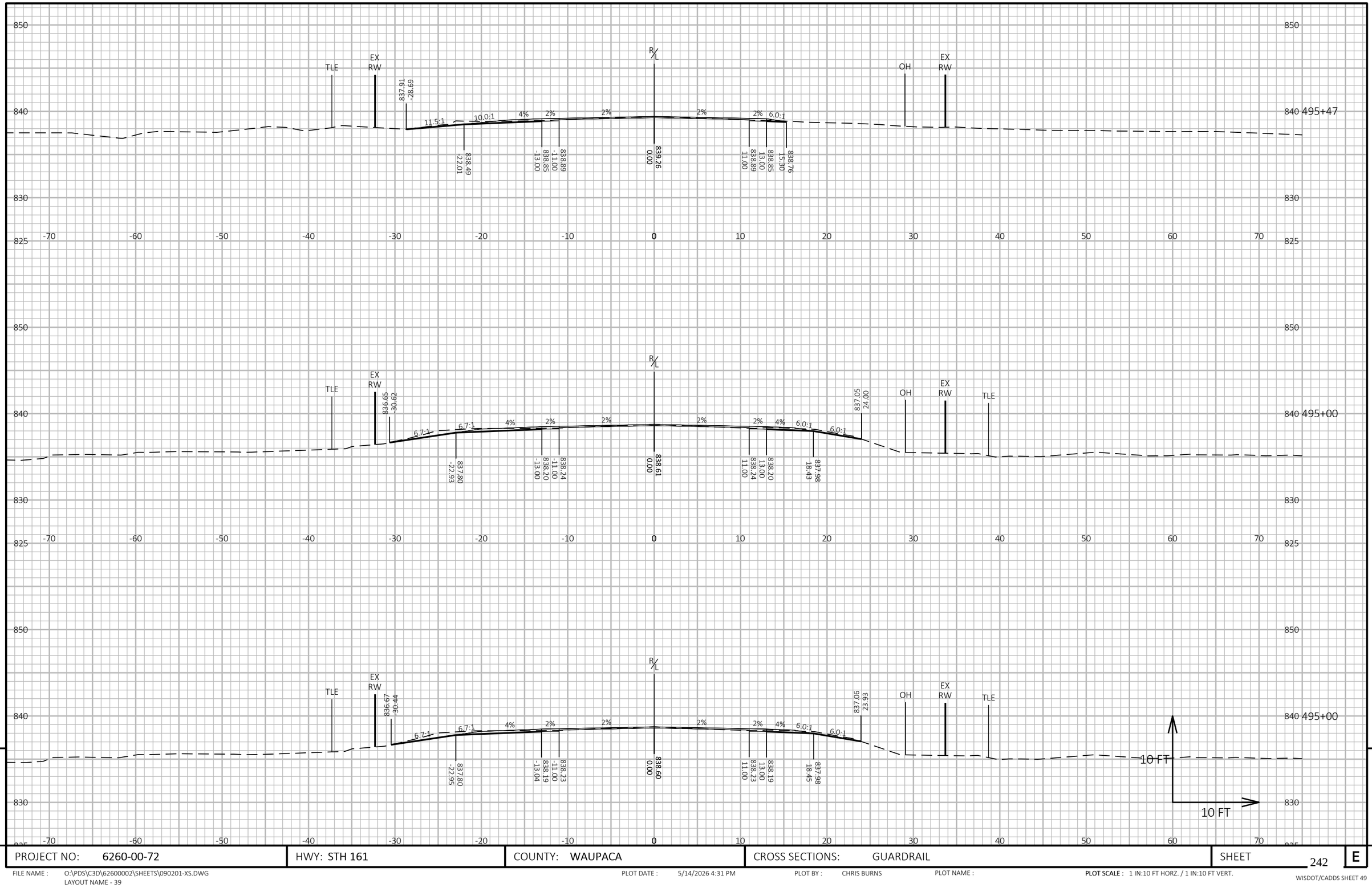
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




| | | | | |
|---|---|---|---|---|
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 242 E |

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 39

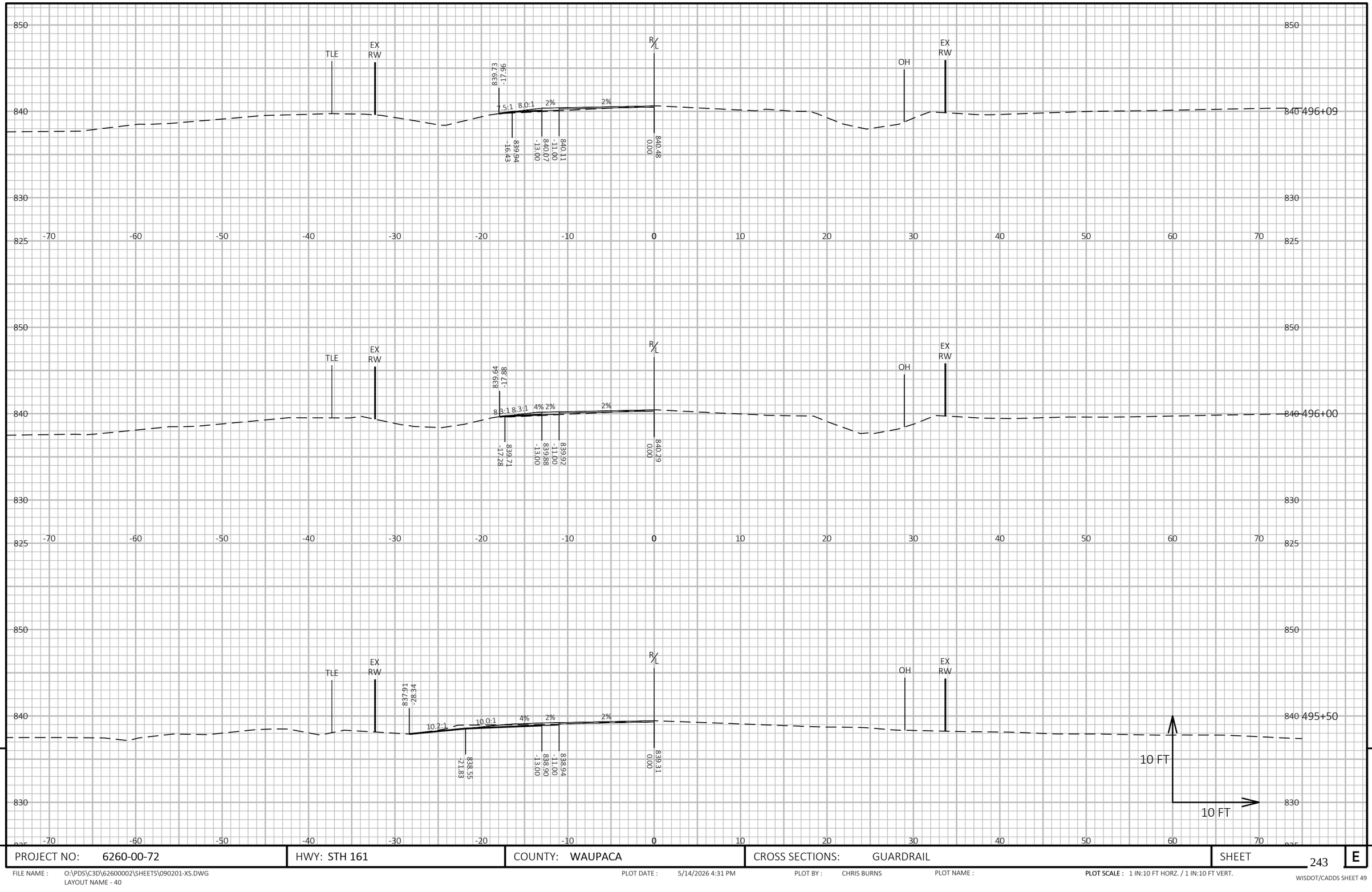
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 243 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 40

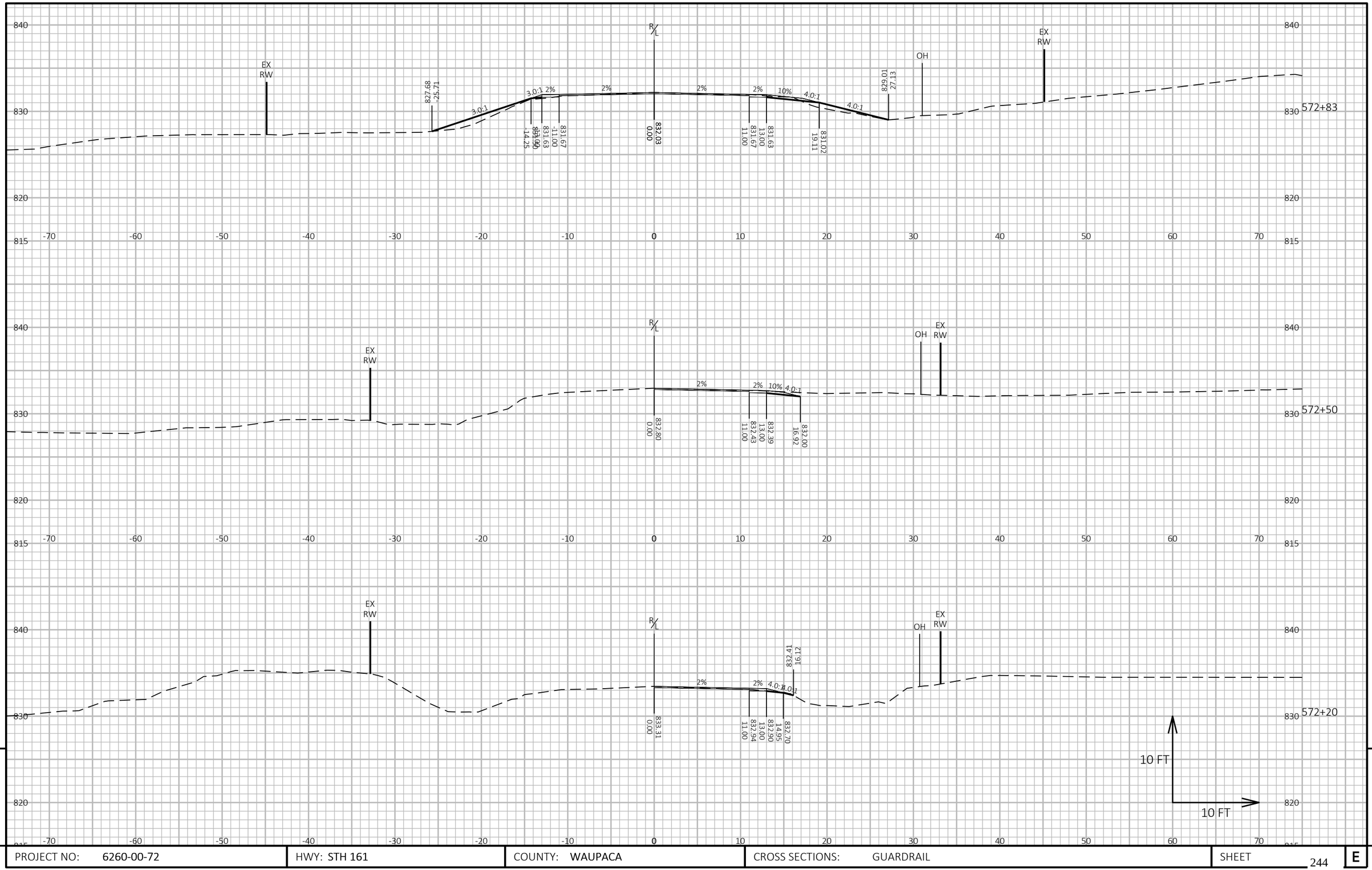
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 244 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 41

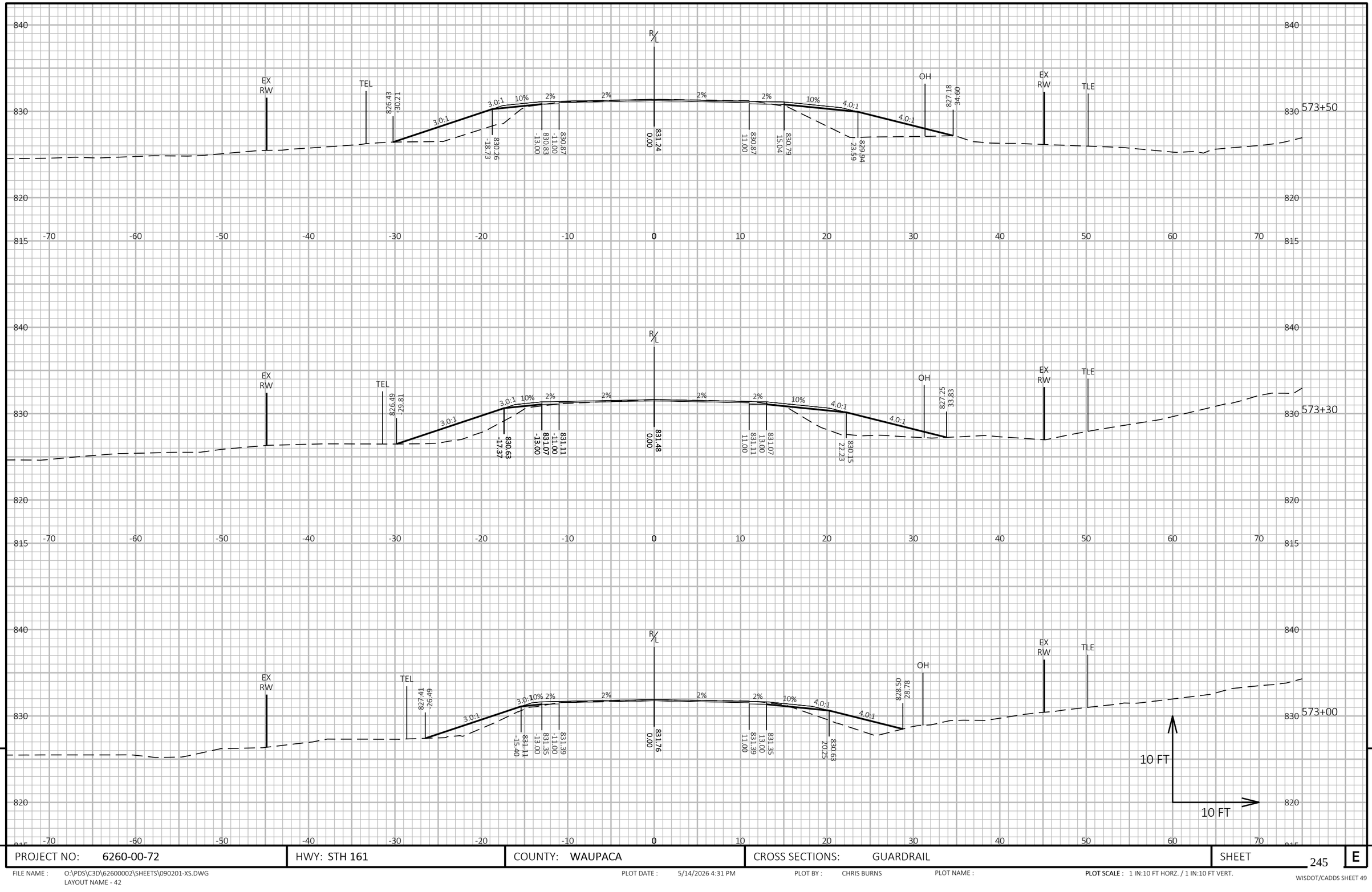
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 245 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 42

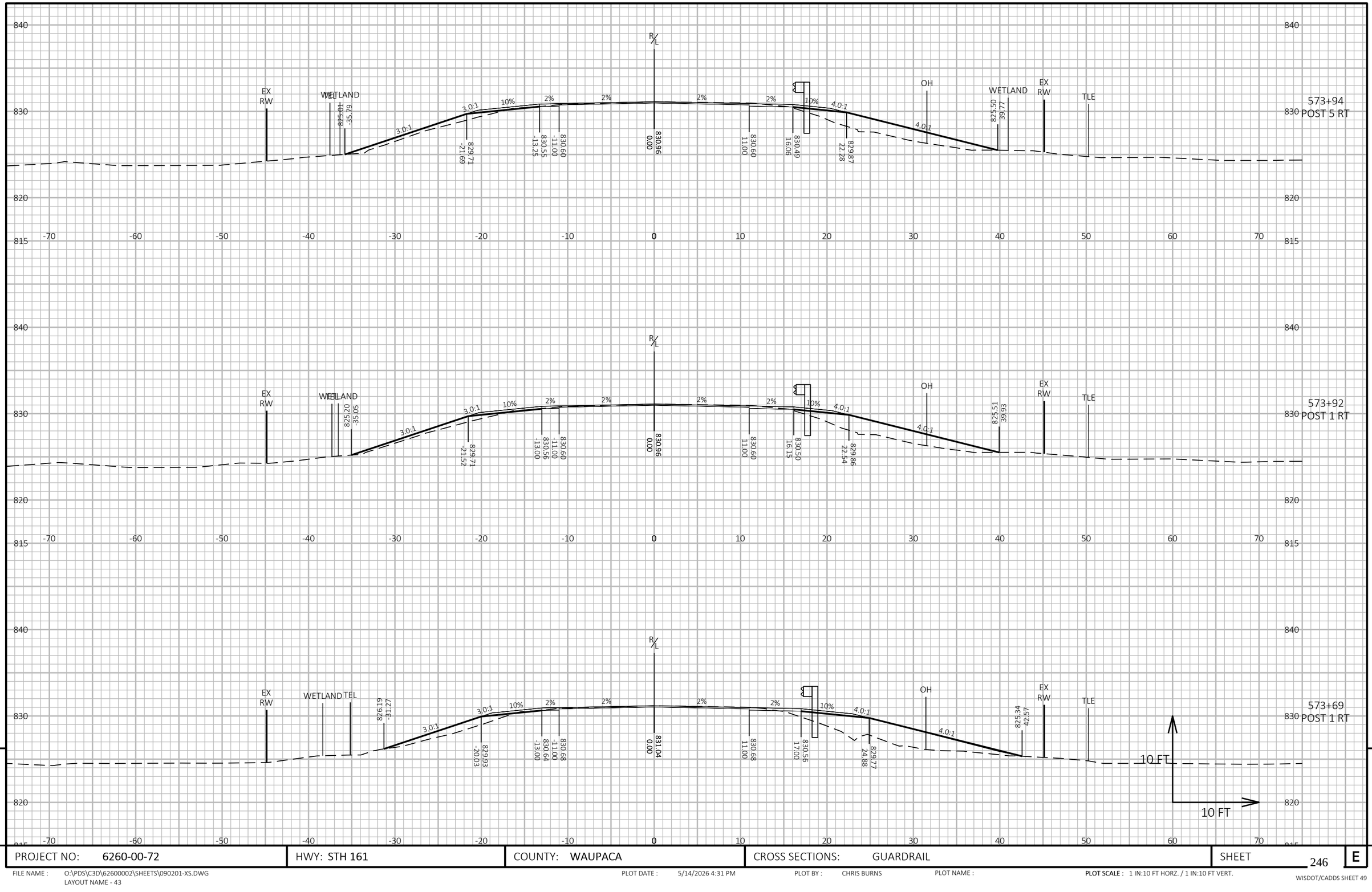
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 246 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 43

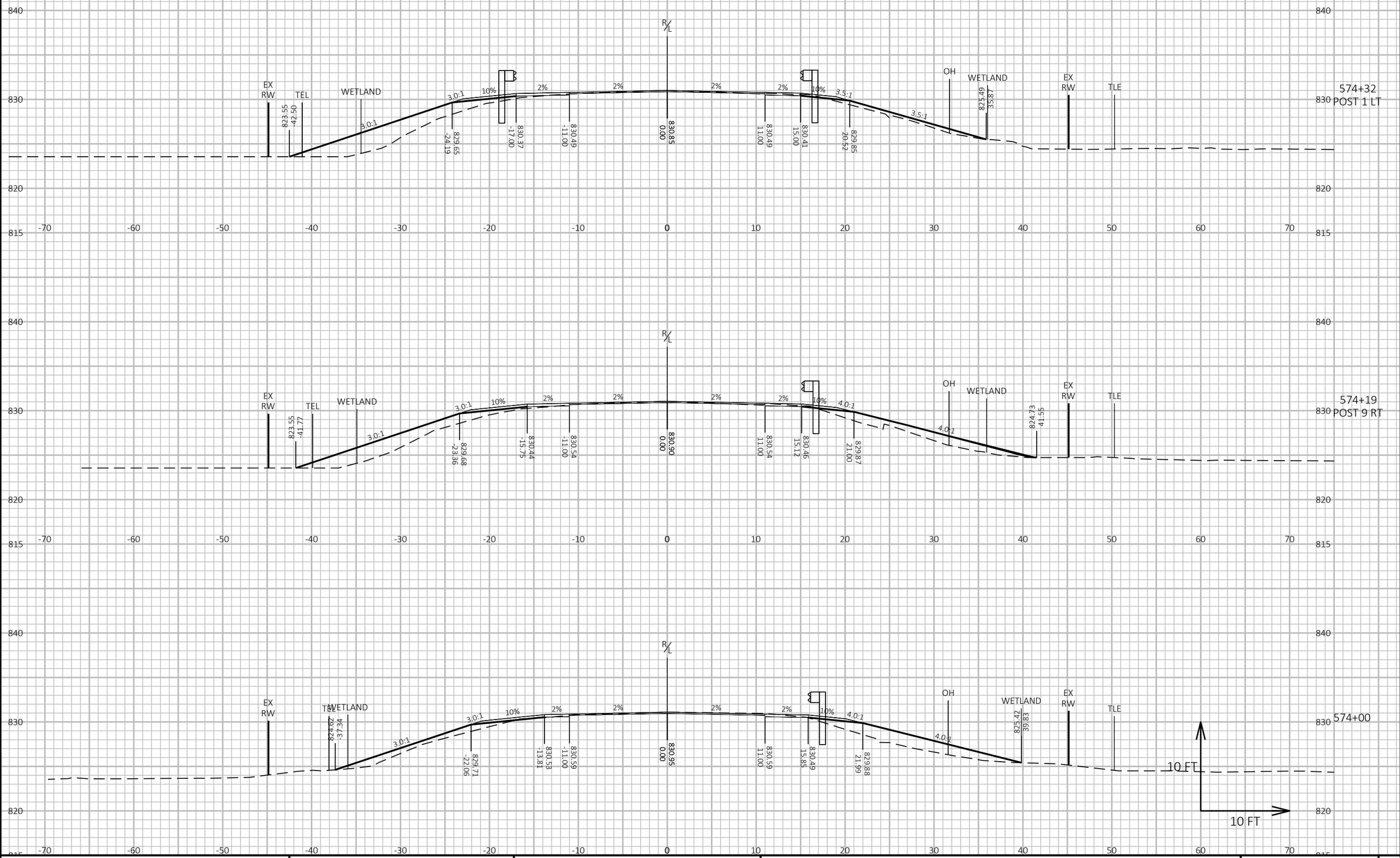
PLOT DATE : 5/14/2026 4:31 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 247 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 44

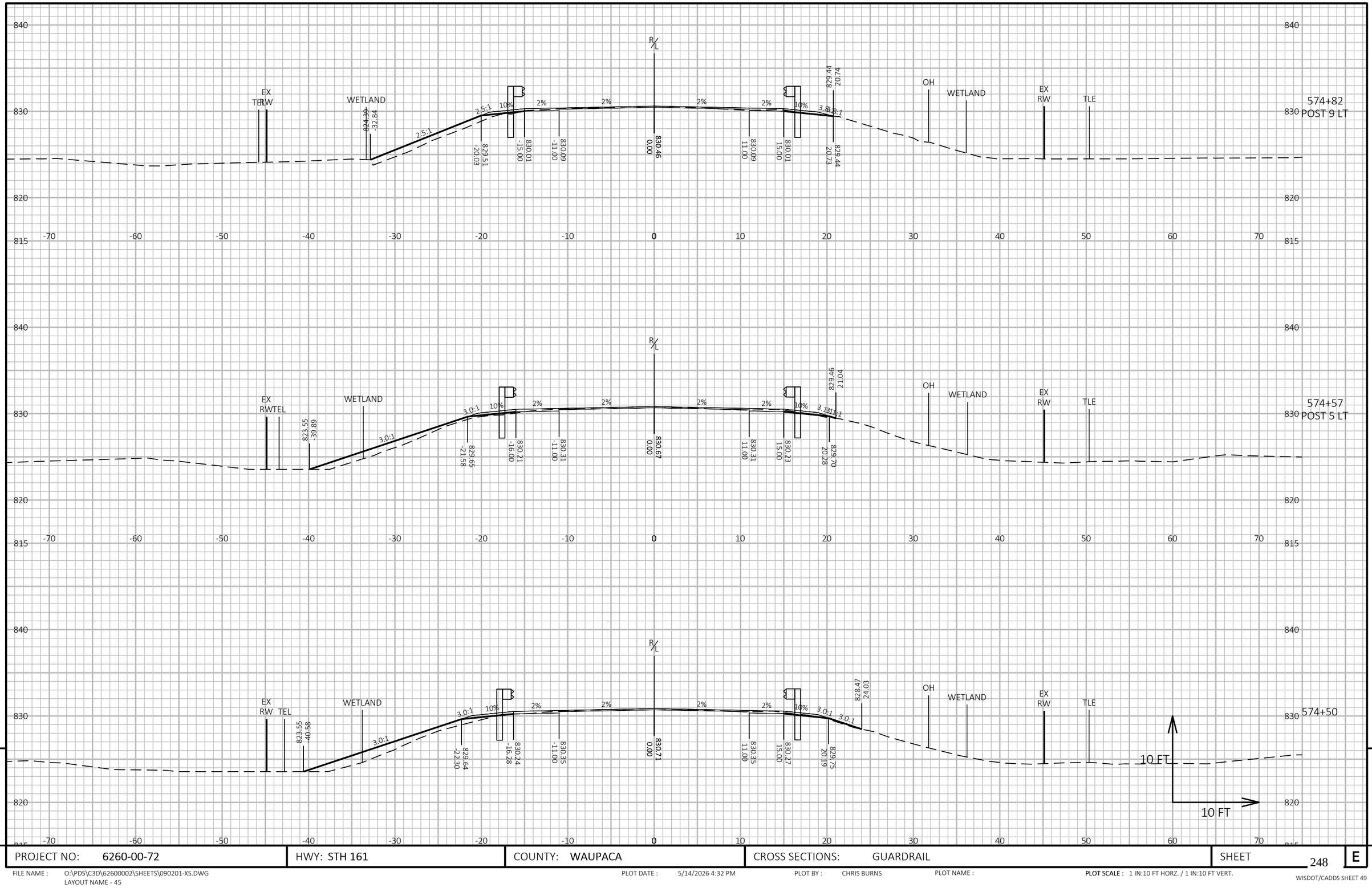
PLOT DATE : 5/14/2026 4:32 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

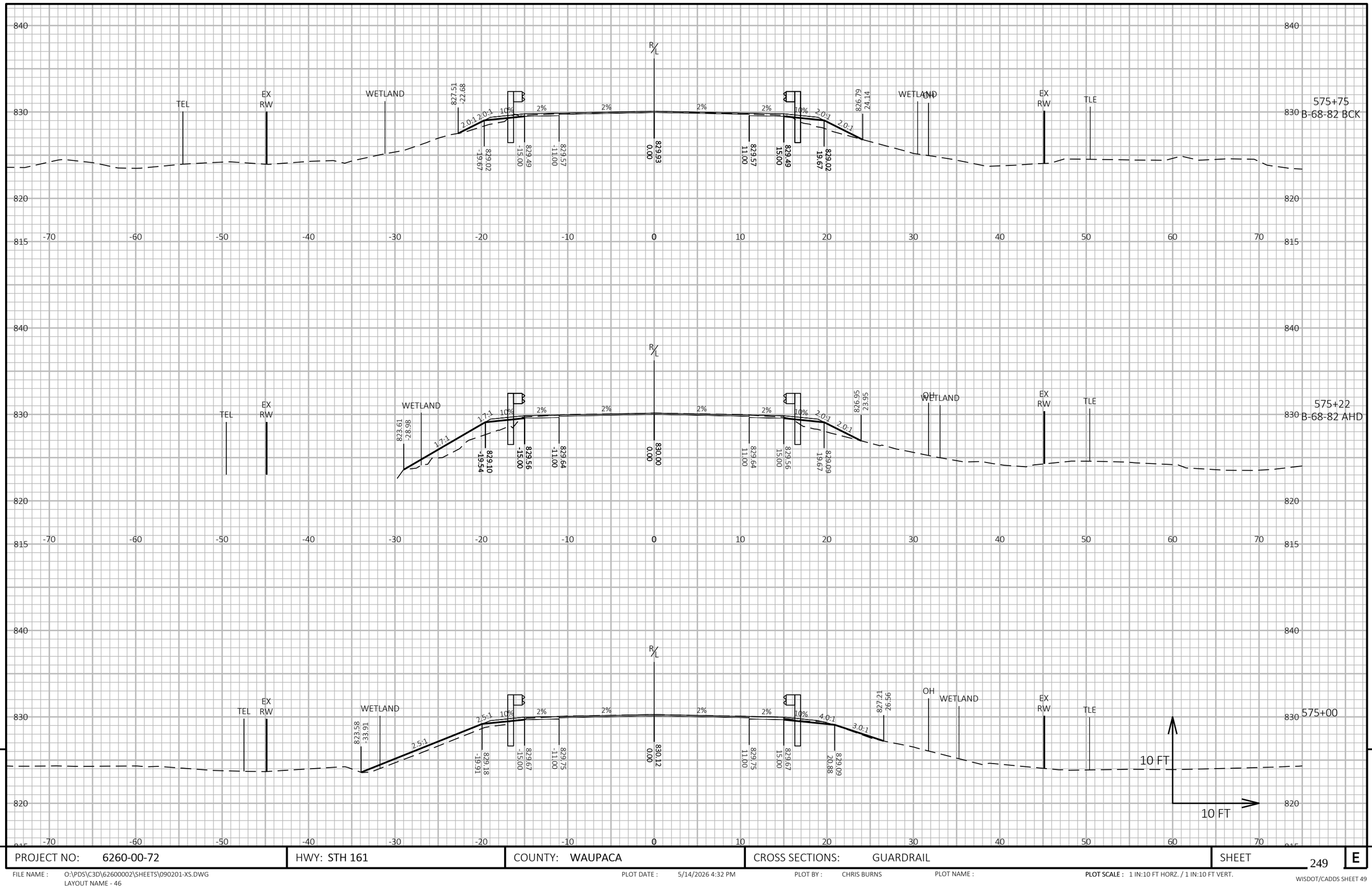



| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 248 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 45

PLOT DATE : 5/14/2026 4:32 PM PLOT BY : CHRIS BURNS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 249 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 46

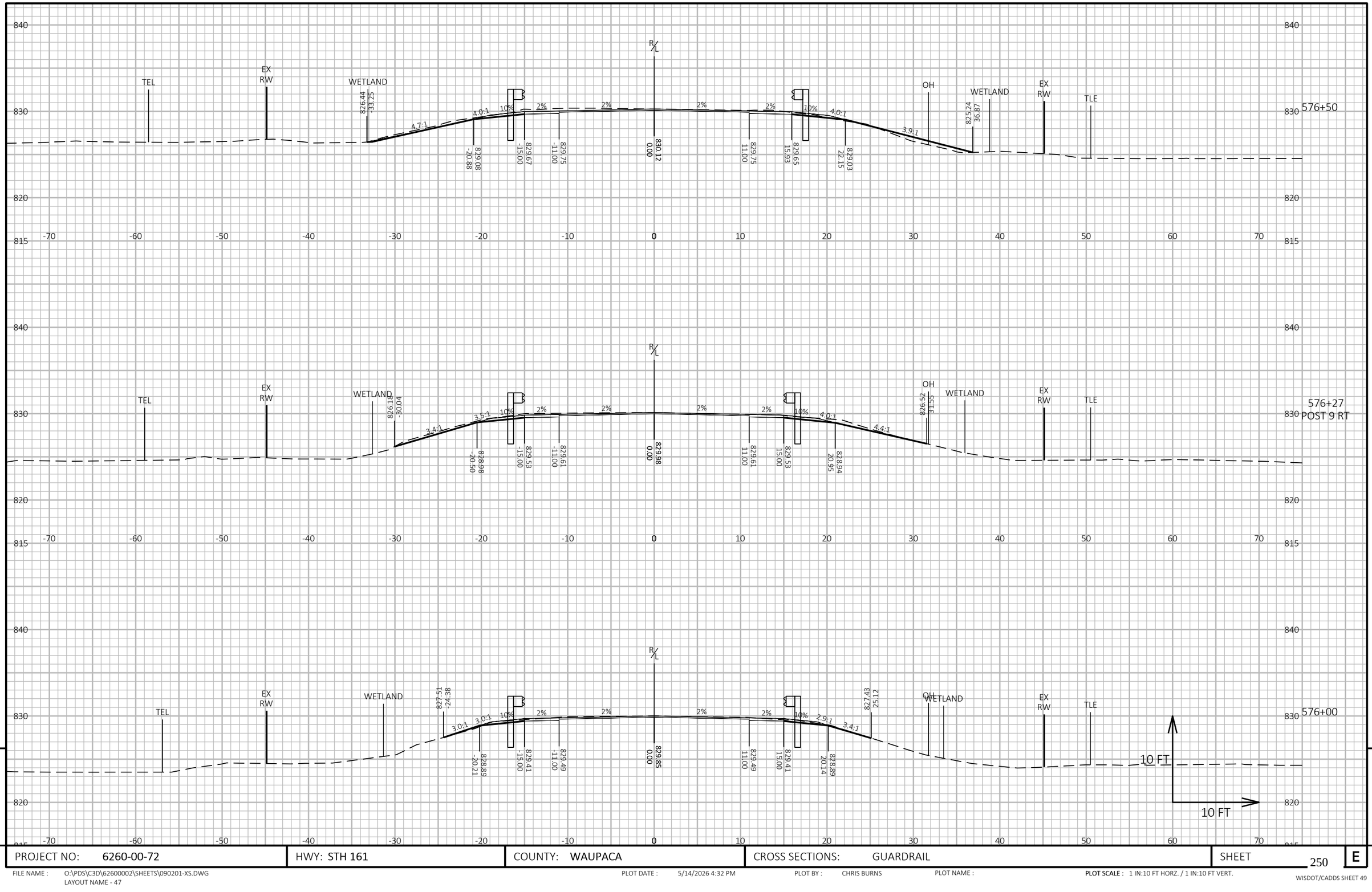
PLOT DATE : 5/14/2026 4:32 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 250 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 47

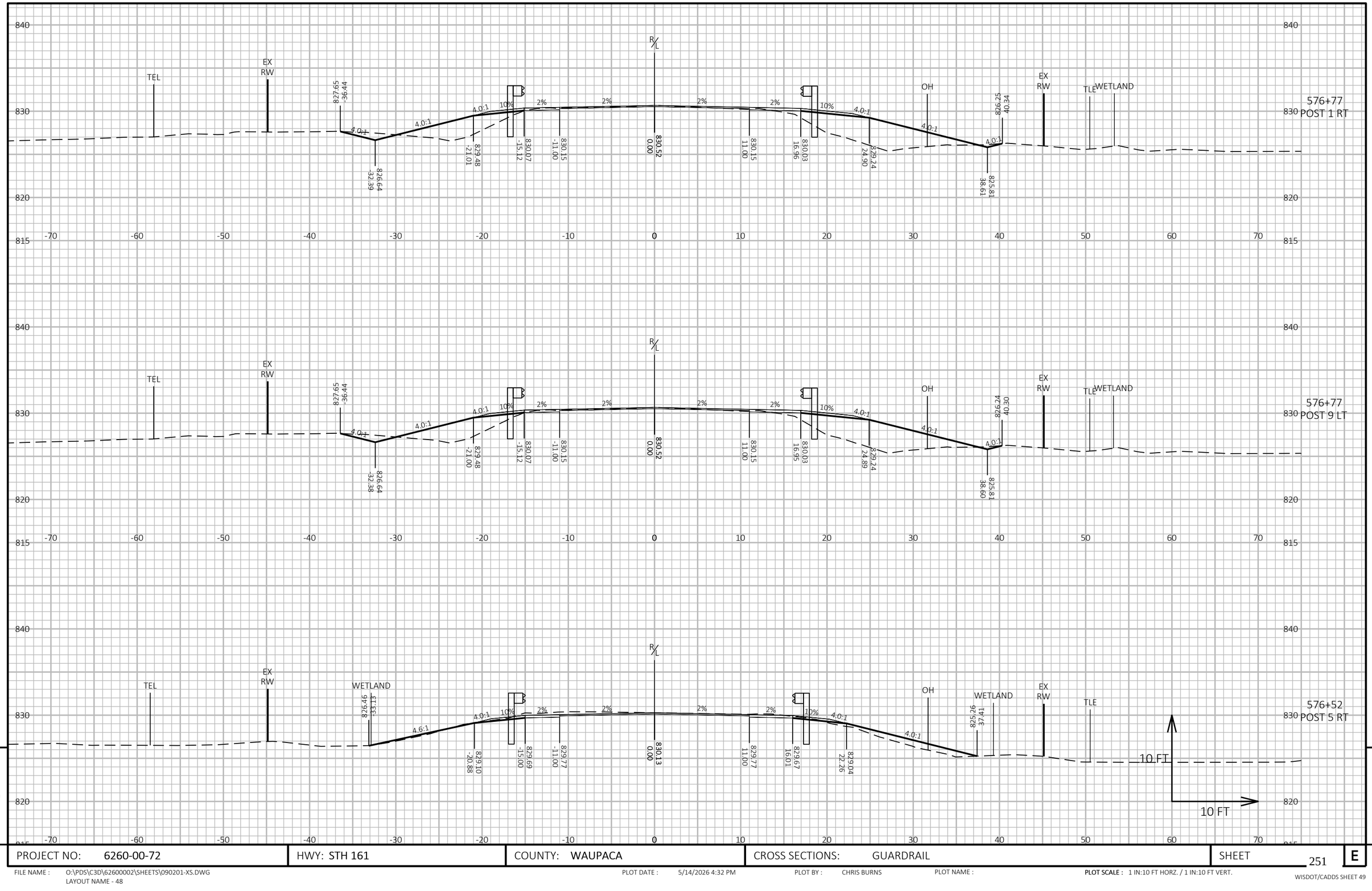
PLOT DATE : 5/14/2026 4:32 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 251 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 48

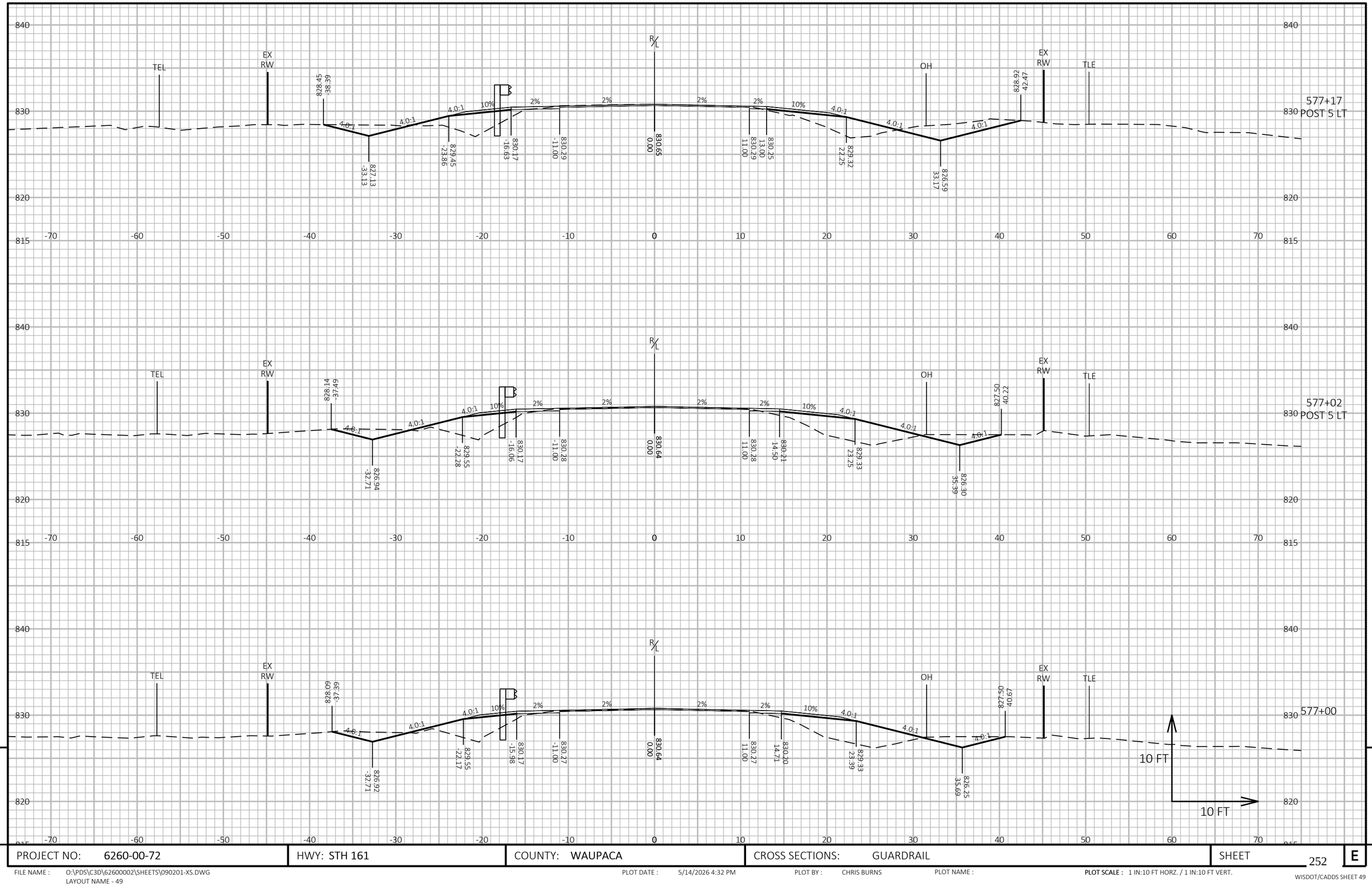
PLOT DATE : 5/14/2026 4:32 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



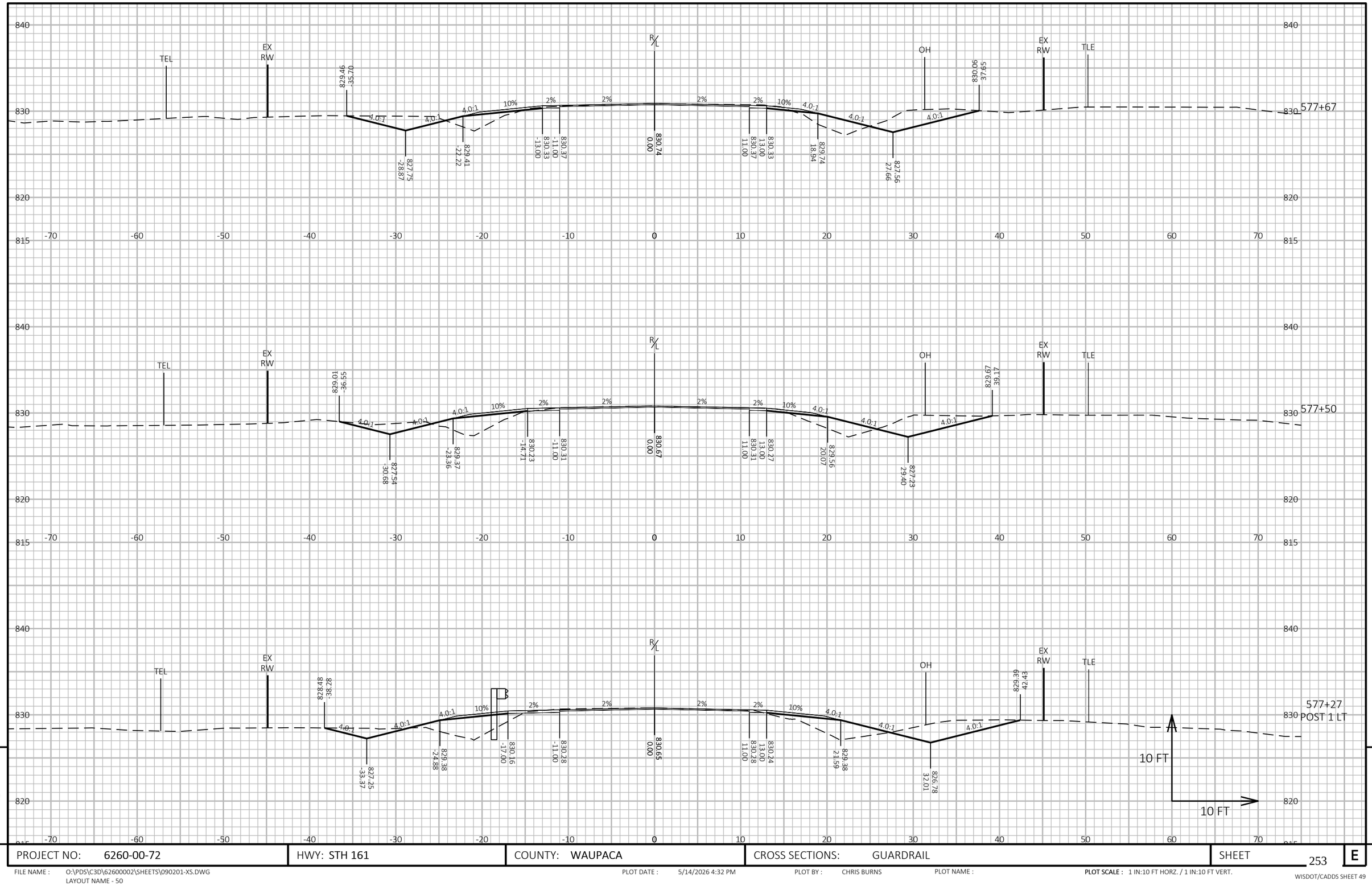

9 9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 252 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 49

PLOT DATE : 5/14/2026 4:32 PM PLOT BY : CHRIS BURNS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



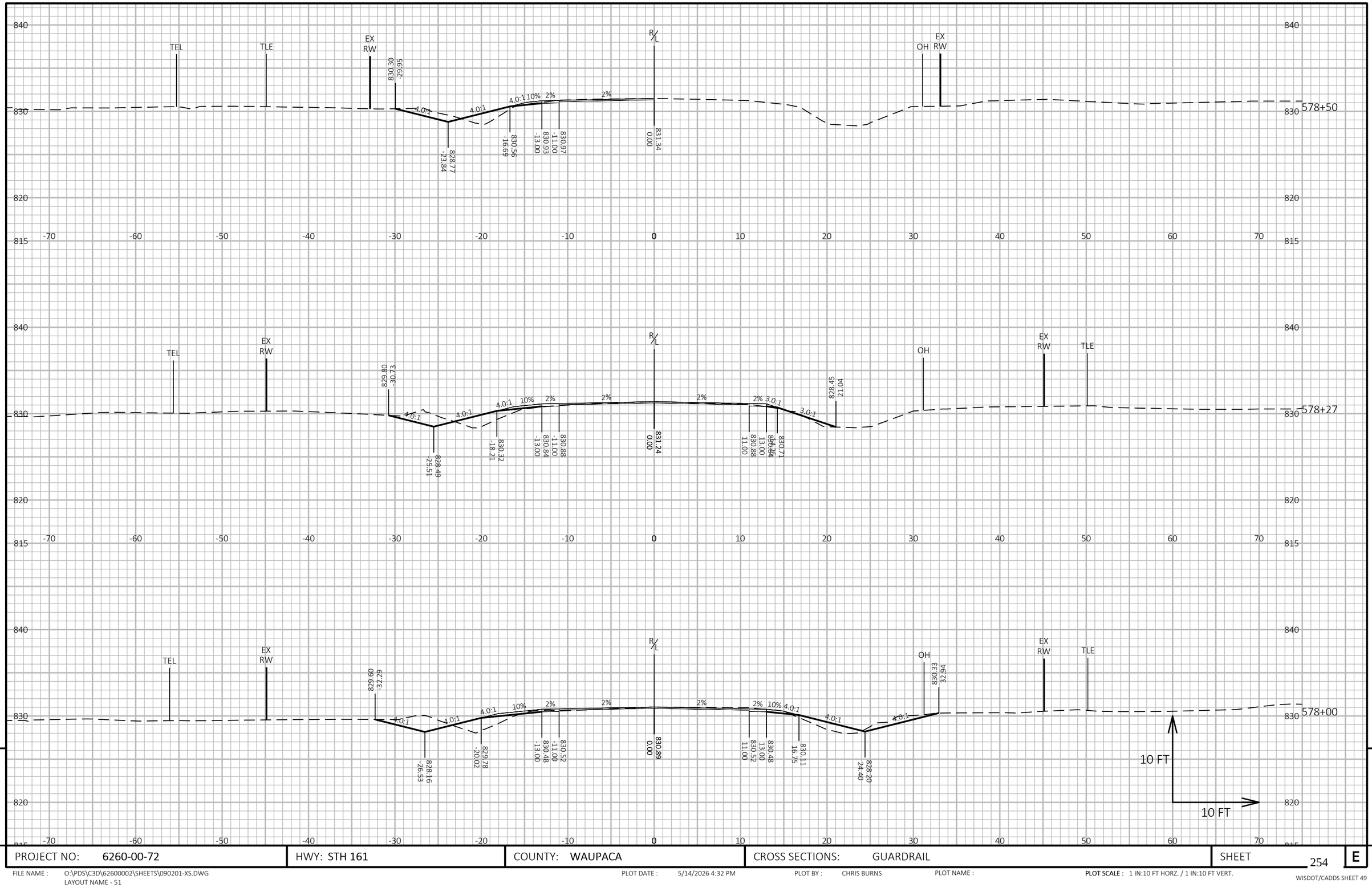

9 9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 253 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 50

PLOT DATE : 5/14/2026 4:32 PM PLOT BY : CHRIS BURNS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 254 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 51

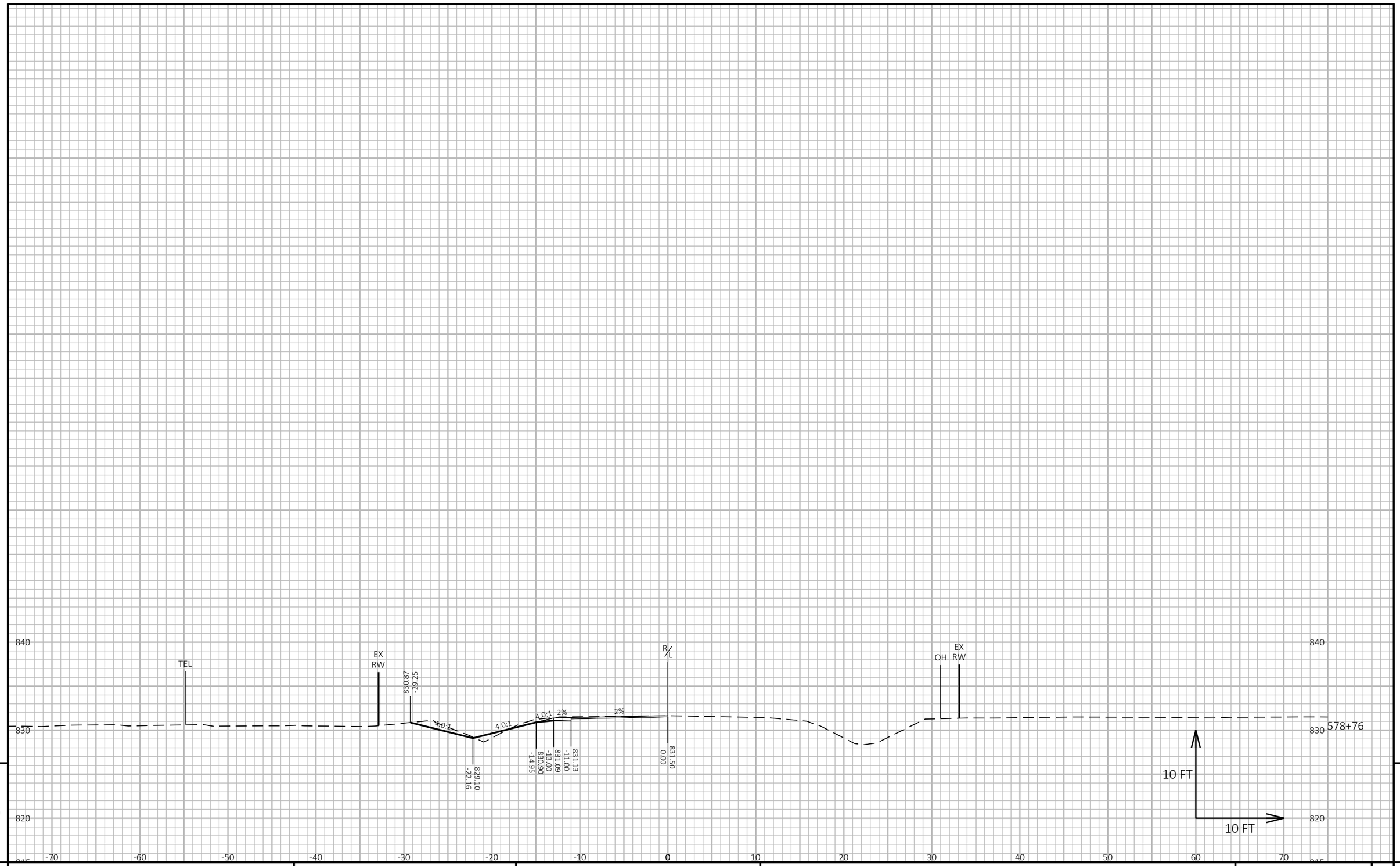
PLOT DATE : 5/14/2026 4:32 PM

PLOT BY : CHRIS BURNS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



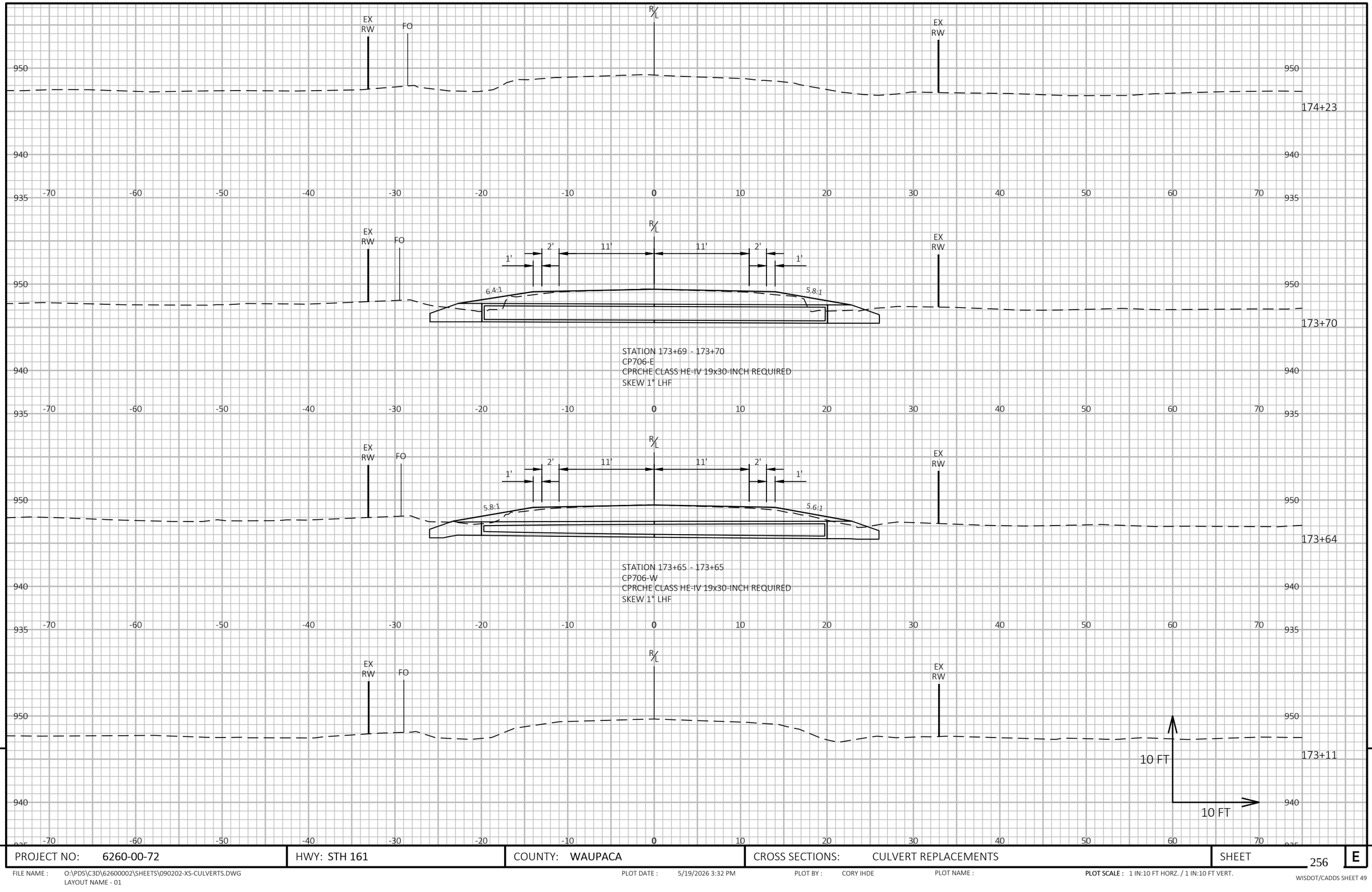

9 9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: GUARDRAIL | SHEET 255 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090201-XS.DWG
LAYOUT NAME - 52

PLOT DATE : 5/14/2026 4:32 PM PLOT BY : CHRIS BURNS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: CULVERT REPLACEMENTS | SHEET 256 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 01

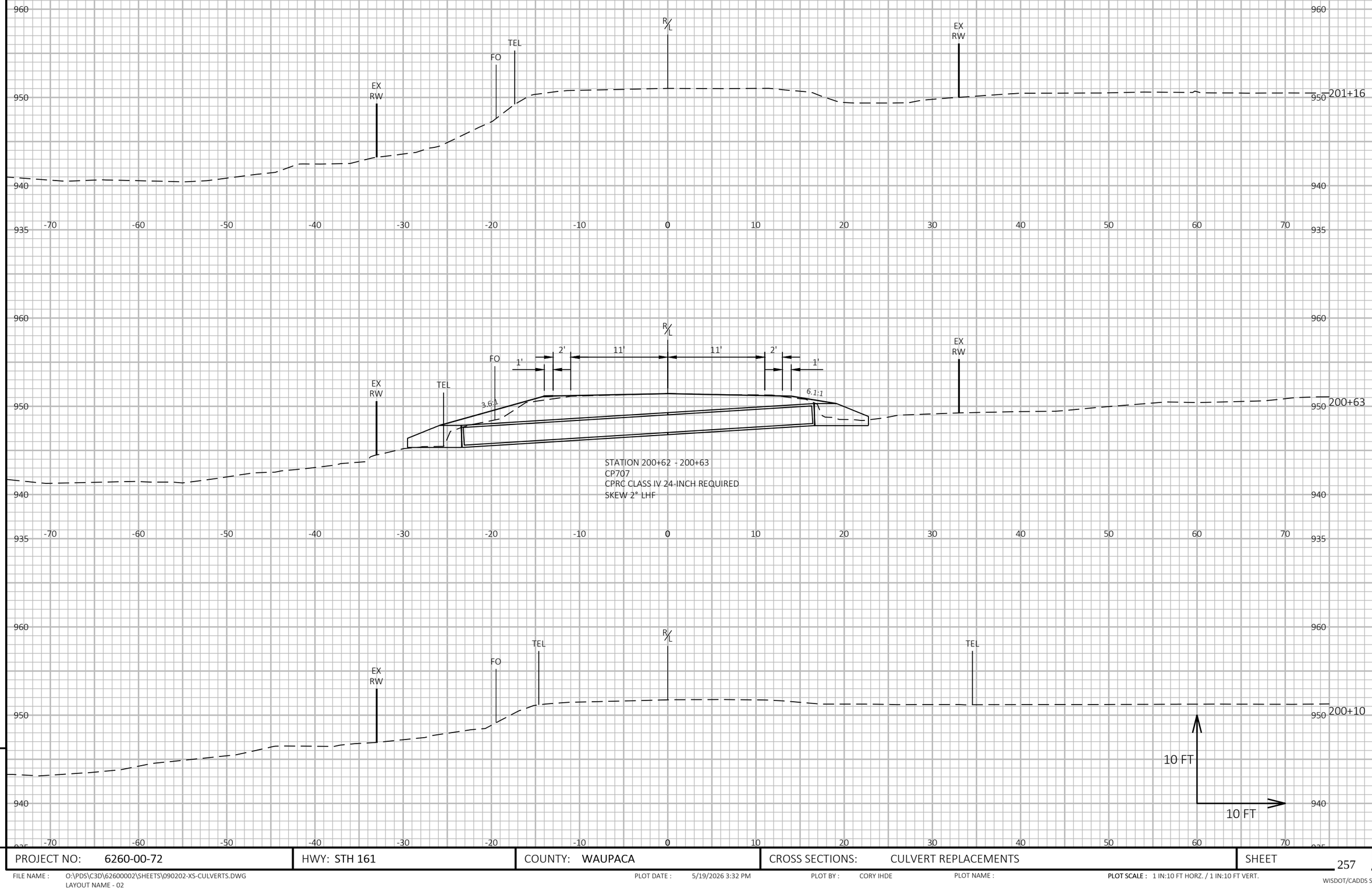
PLOT DATE : 5/19/2026 3:32 PM

PLOT BY : CORY IHDE

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: CULVERT REPLACEMENTS | SHEET 257 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 02

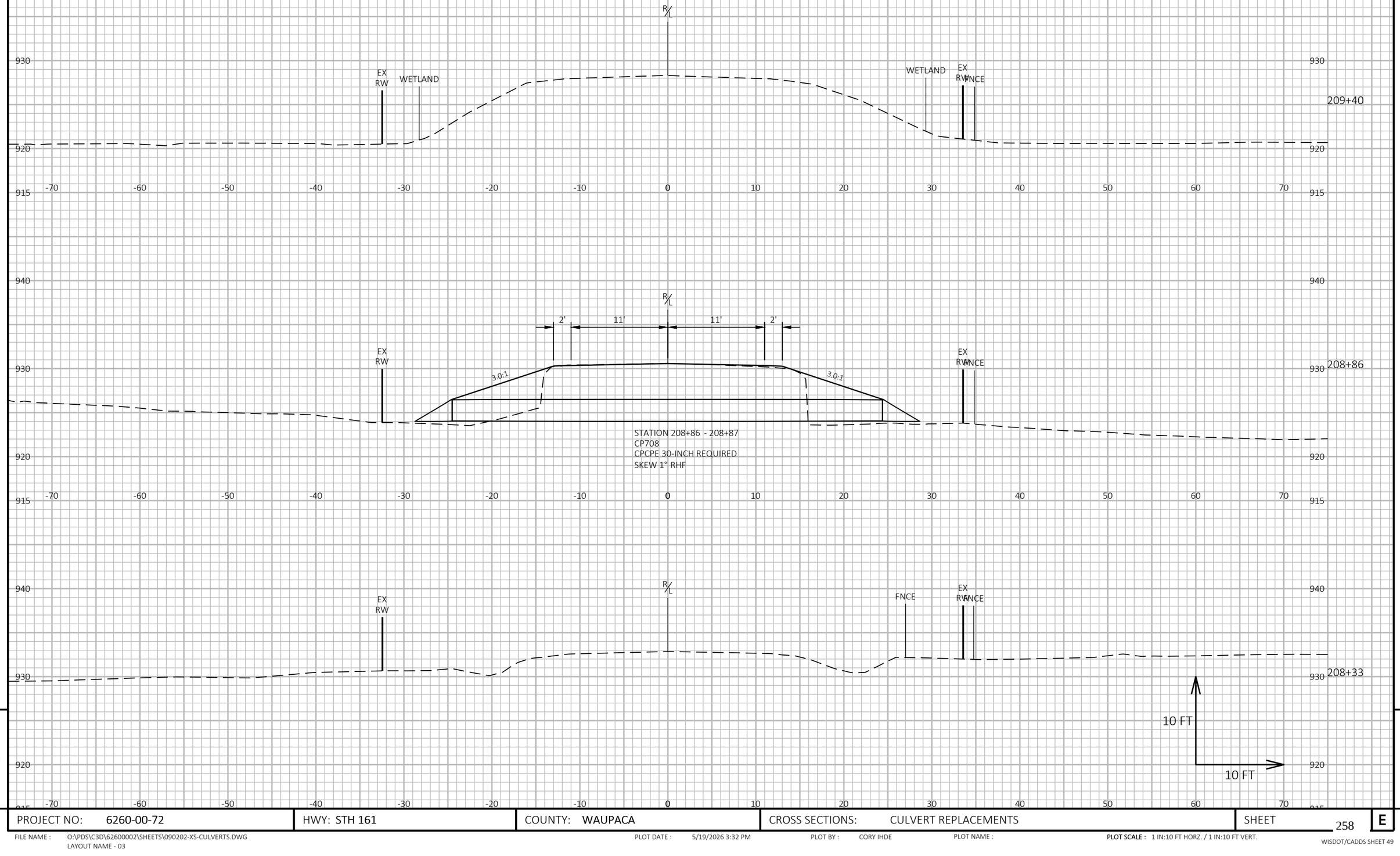
PLOT DATE : 5/19/2026 3:32 PM

PLOT BY : CORY IHDE

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: CULVERT REPLACEMENTS | SHEET 258 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 03

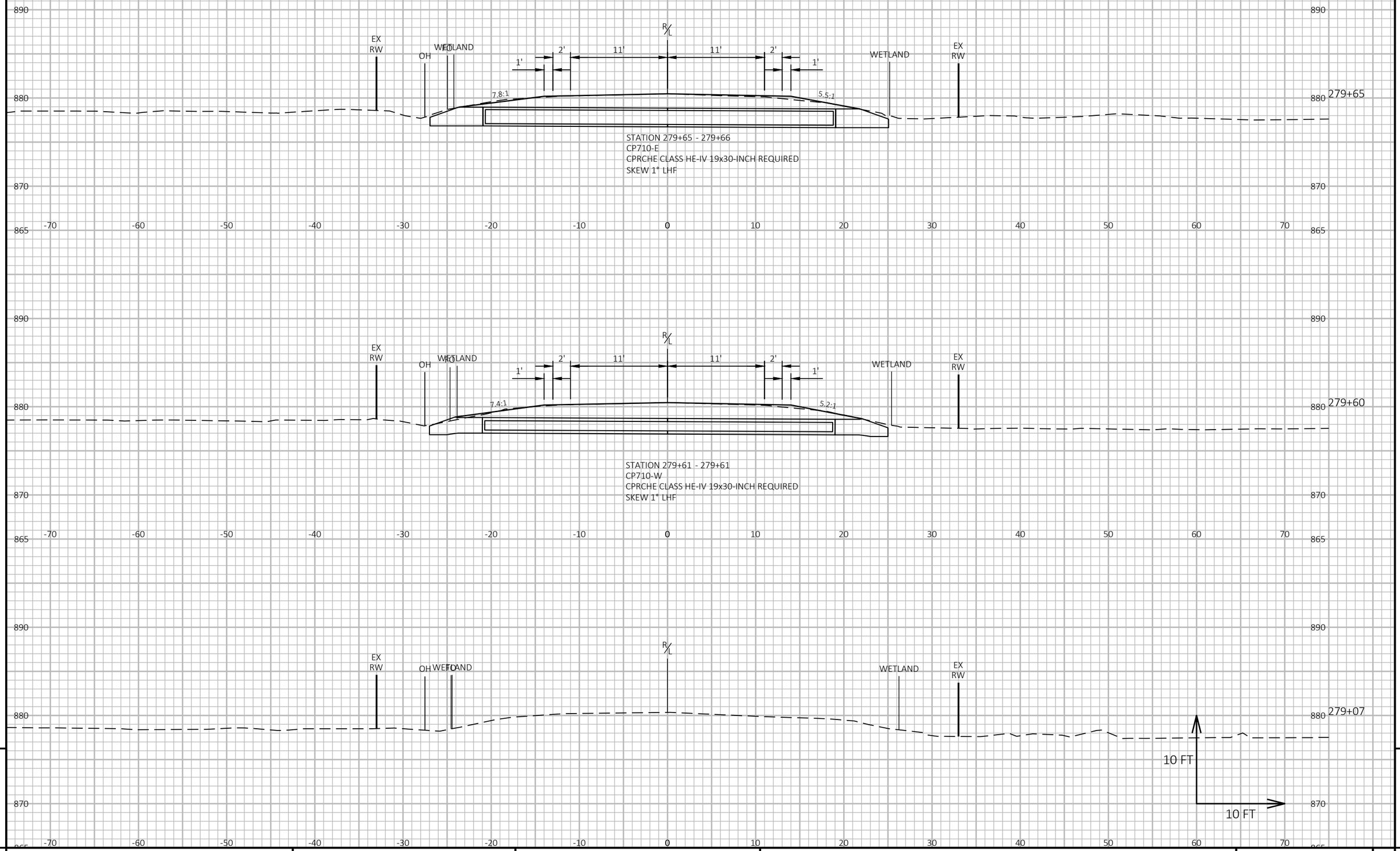
PLOT DATE : 5/19/2026 3:32 PM

PLOT BY : CORY IHDE

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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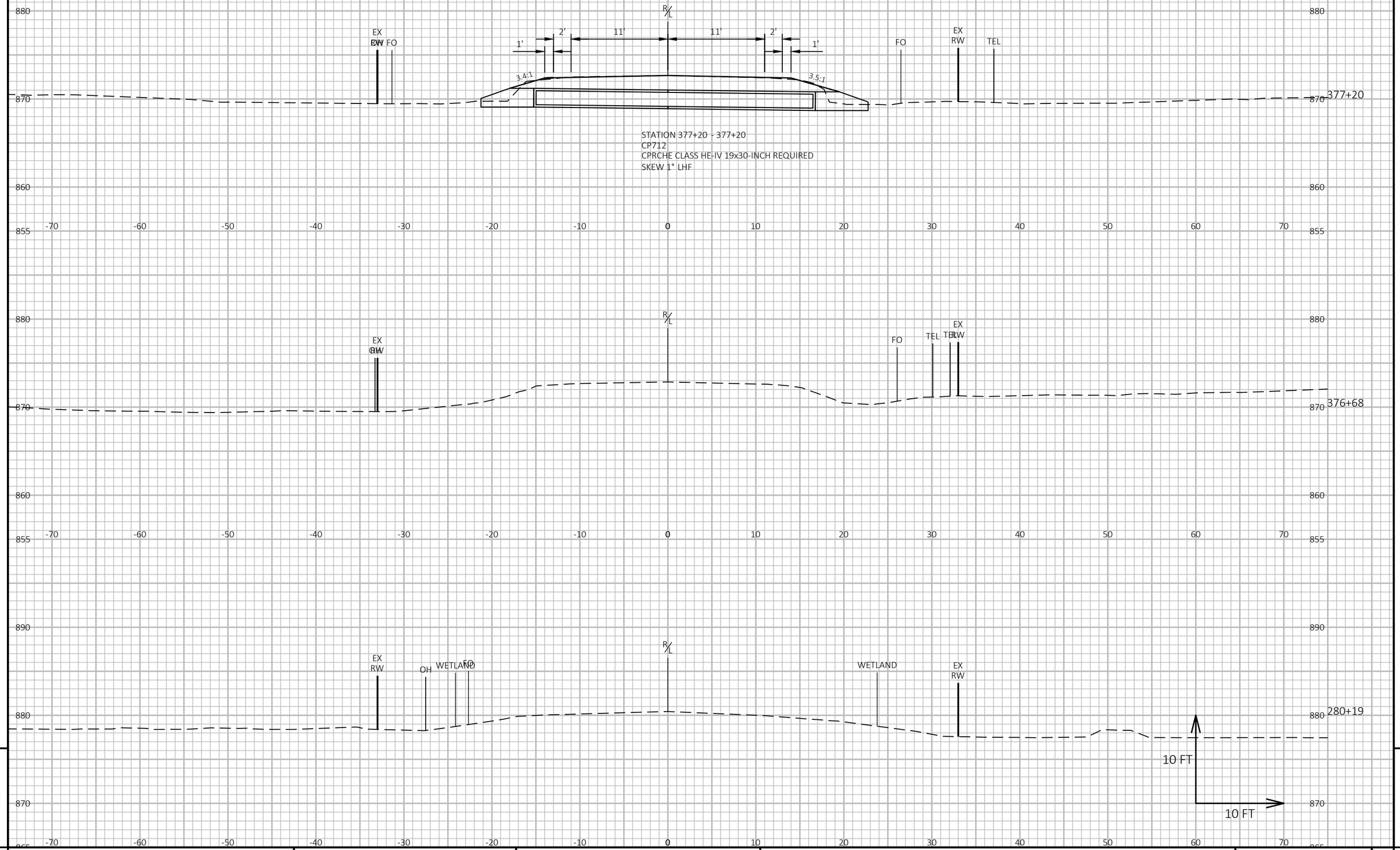
9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: CULVERT REPLACEMENTS | SHEET 259 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 04

PLOT DATE : 5/19/2026 3:32 PM PLOT BY : CORY IHDE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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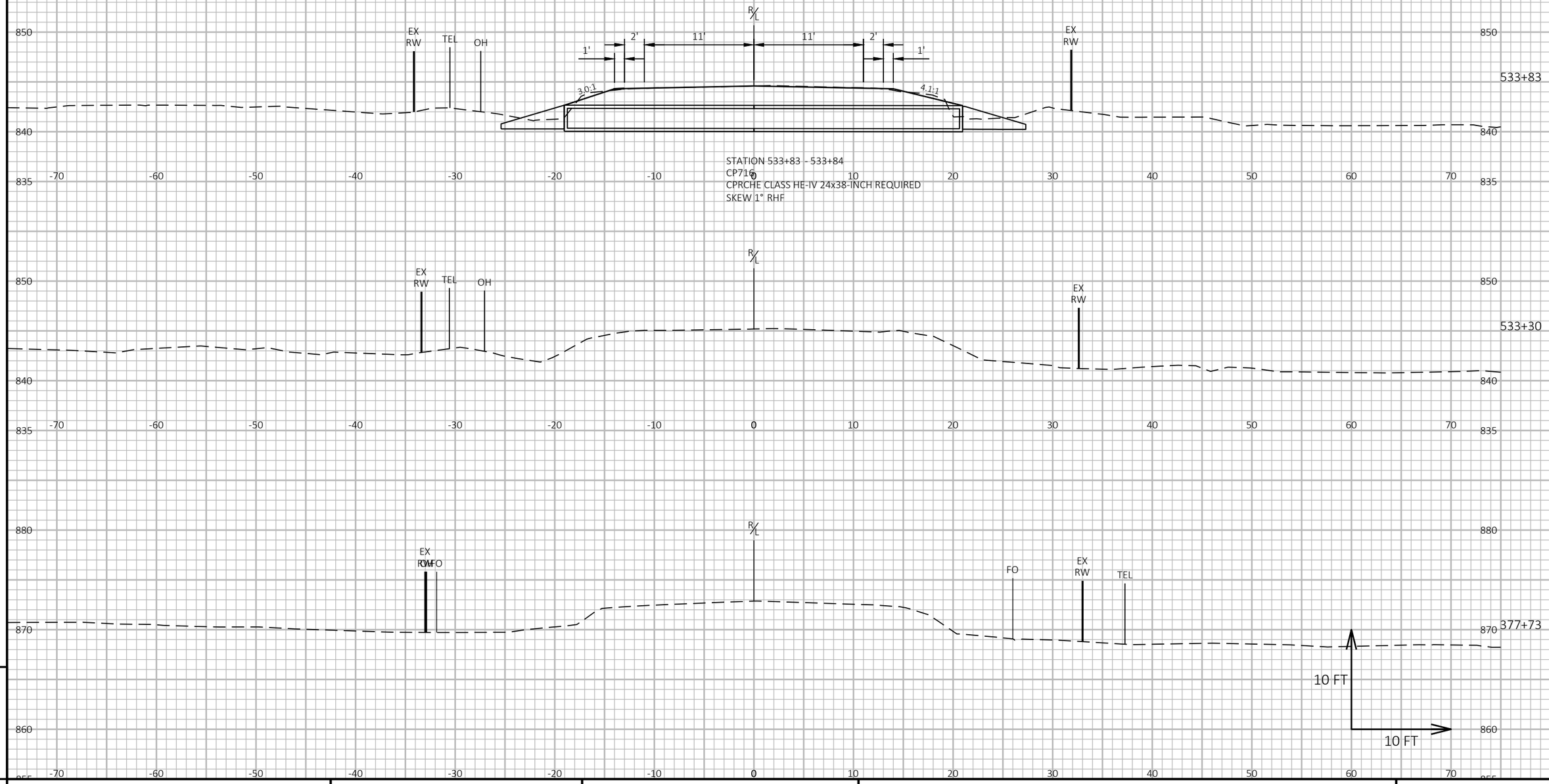
| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: CULVERT REPLACEMENTS | SHEET 260 | E |
|---|---|---|---|---|---|


FILE NAME : O:\PDS\C3D\62600002\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 05
PLOT DATE : 5/19/2026 3:32 PM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49




| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: CULVERT REPLACEMENTS | SHEET 261 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 06

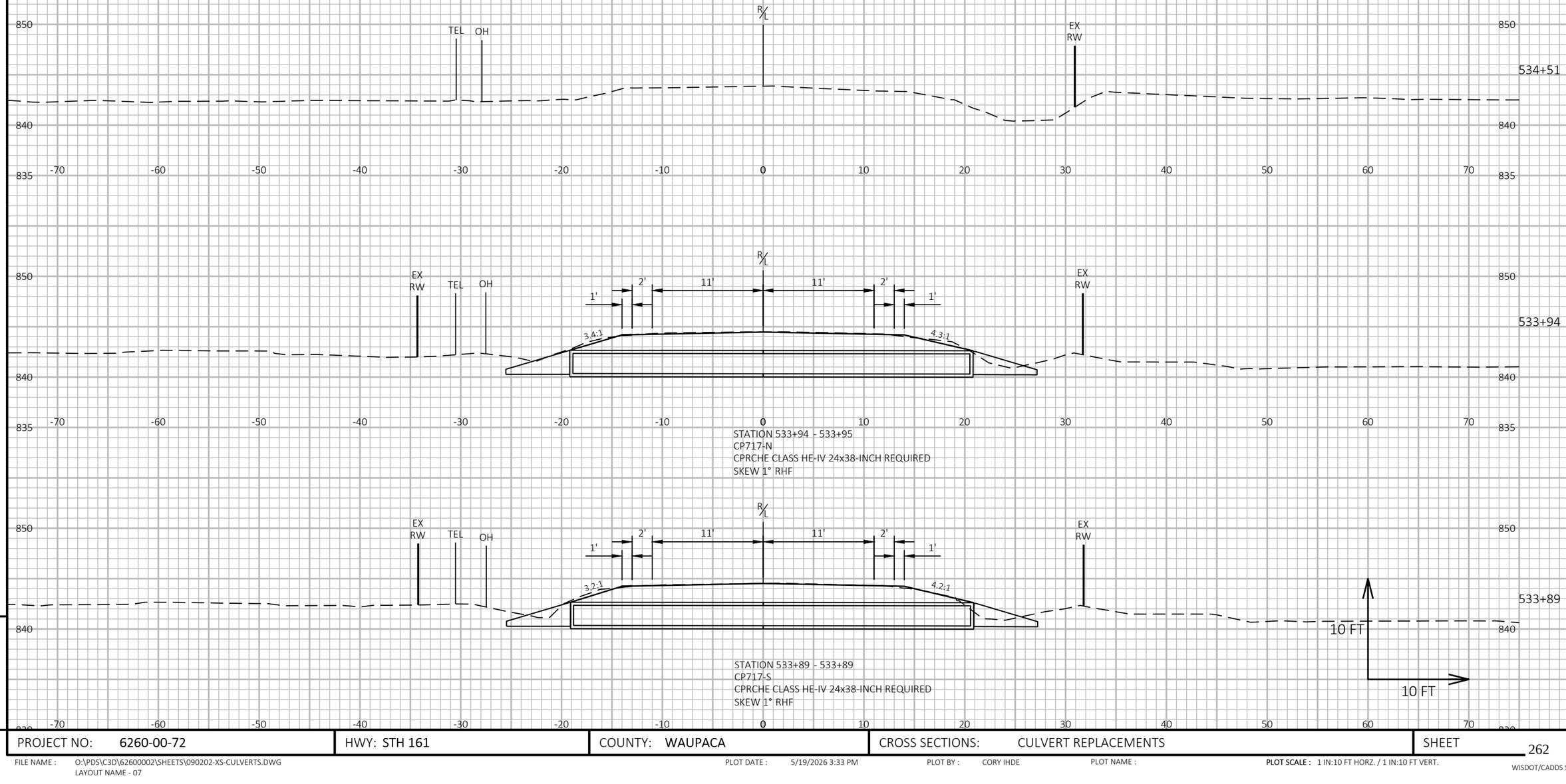
PLOT DATE : 5/19/2026 3:33 PM

PLOT BY : CORY IHDE

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




STATION 533+94 - 533+95
CP717-N
CPRCHE CLASS HE-IV 24x38-INCH REQUIRED
SKEW 1° RHF

STATION 533+89 - 533+89
CP717-S
CPRCHE CLASS HE-IV 24x38-INCH REQUIRED
SKEW 1° RHF

9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: CULVERT REPLACEMENTS | SHEET 262 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 07

PLOT DATE : 5/19/2026 3:33 PM

PLOT BY : CORY IHDE

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

9

9

| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: CULVERT REPLACEMENTS | SHEET 263 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 08

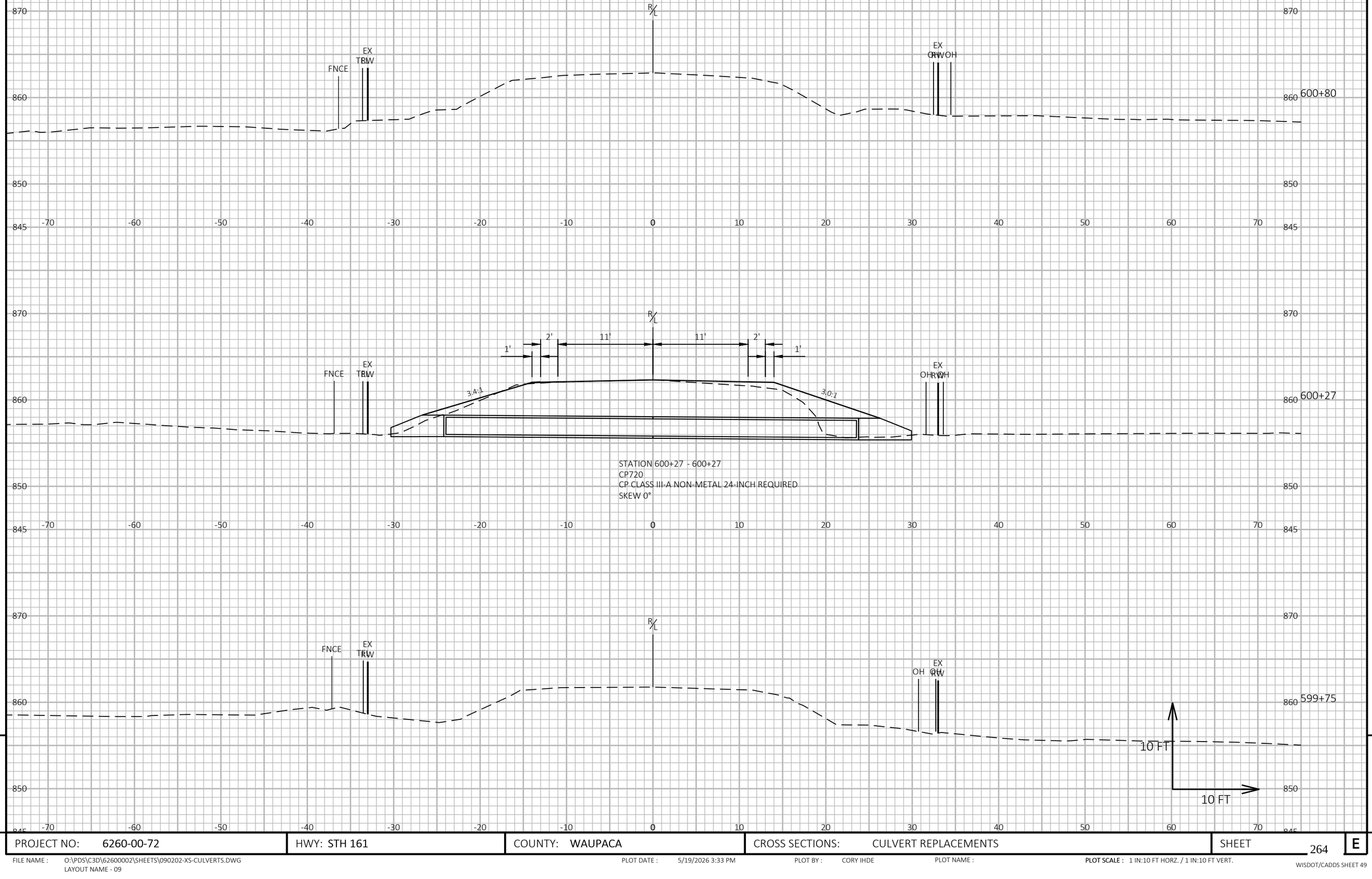
PLOT DATE : 5/19/2026 3:33 PM

PLOT BY : CORY IHDE

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 6260-00-72 | HWY: STH 161 | COUNTY: WAUPACA | CROSS SECTIONS: CULVERT REPLACEMENTS | SHEET 264 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\62600002\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 09

PLOT DATE : 5/19/2026 3:33 PM PLOT BY : CORY IHDE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

**Wisconsin Department of Transportation**

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov