RHI

PROJECT ID: 1166-05-80

WITH: N/A

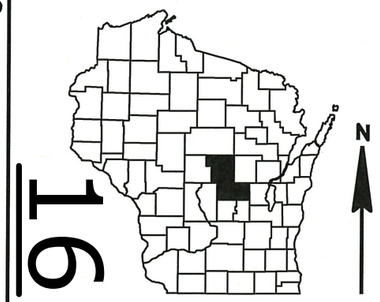
COUNTY: PORTAGE, WAUSHARA

SEPTEMBER 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 = 358



DESIGN DESIGNATION 1166-05-80

| | | | |
|---|---|---|---|
| A.A.D.T. | 2027 | = | 14,785 |
| A.A.D.T. | 2047 | = | 15,957 |
| D.H.V. | | = | 1,850 |
| D.D. | | = | 58/42 |
| T. | | = | 22.24% |
| DESIGN SPEED | | = | 70 MPH |
| ESALS | | = | 9,210,000 |

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'EB')
- 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

# PLAINFIELD - STEVENS POINT

CTH O TO STH 54, NB

## IH 39

## PORTAGE & WAUSHARA COUNTIES

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 1166-05-80 | | |
| | | |
| | | |
| | | |

STATE PROJECT NUMBER

**1166-05-80**

END PROJECT
STA 1635+65.02

STRUCTURE B-49-010
DITCH NO. 2 / BUENA VISTA CREEK (NO WORK)

STRUCTURE B-49-009
DITCH NO. 8 (NO WORK)

STRUCTURE B-49-008
DITCH NO. 3 (NO WORK)

STRUCTURE B-49-007
DITCH NO. 4 / FOURMILE CREEK (NO WORK)

STRUCTURE C-49-005
N. BRANCH TENMILE CREEK (NO WORK)

STRUCTURE B-69-022
STH 73 (NO WORK)

STRUCTURE B-49-050
BIRCH DR (NO WORK)

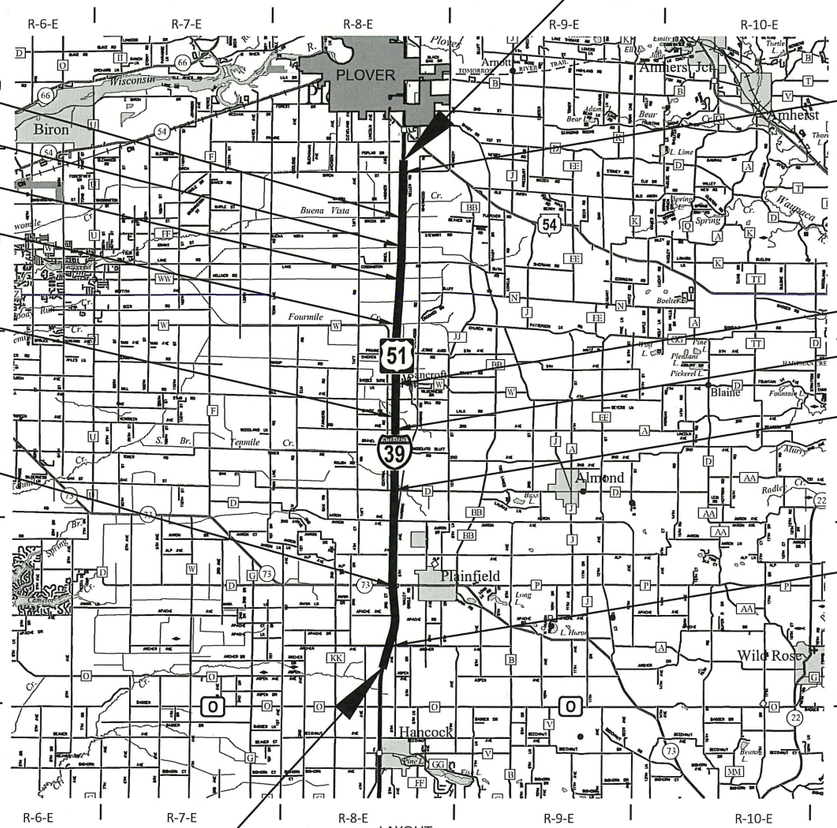
STRUCTURE B-49-044
CTH W (NO WORK)

STRUCTURE B-49-043
3RD AVE (NO WORK)

STRUCTURE B-49-042
CTH D (NO WORK)

PORTAGE CO
WAUSHARA CO

STRUCTURE B-69-016
ARCHER AVE (NO WORK)




LAYOUT

SCALE 0 5 MI

BEGIN PROJECT
STA 741+70.33
Y=76,137.314
X=177,038.588

**TOTAL NET LENGTH OF CENTERLINE =** 16.931 MILES

WAUSHARA CO = 4.815 MILES

PORTAGE CO = 12.116 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), PORTAGE 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 18.

ORIGINAL PLANS PREPARED BY

cbs2

WISCONSIN
CORY R. IHDE
45519
HORTONVILLE, WI
PROFESSIONAL ENGINEER

DATE: 4/28/2026 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | CBS SQUARED, INC. |
| Designer | CBS SQUARED, INC. |
| Project Manager | KOREY BOEHM, P.E. |
| Regional Examiner | FRED SCHUNKE, P.E. |
| Regional Supervisor | KEVIN KUJAWA, P.E |

APPROVED FOR THE DEPARTMENT

DATE: 4-28-26 (Signature)

E

FILE NAME : O:\PDS\C3D\11660510\SHEETS\010101-TI.DWG PLOT DATE : 4/28/2026 1:13 PM PLOT BY : CORY IHDE PLOT NAME :

## UTILITIES CONTACTS

ADAMS-COLUMBIA ELECTRIC COOPERATIVE - ELECTRICITY
401 E LAKE ST
FRIENDSHIP, WI 53934
JESSE KLEMETSON
(800) 831-8629
JKLEMETSON@ACECWI.COM

AT&T WISCONSIN - COMMUNICATION LINE
70 E DIVISION ST
FOND DU LAC, WI 54935
CHARLES BARTELT
(920) 410-5104
CB1461@ATT.COM

ALLIANT ENERGY - COMMUNICATION LINE
200 1ST STREET SE
CEDAR RAPIDS, IA 52401
SCOTT HERMANSON
(319) 929-0003
SCOTTHERMANSON@ALLIANTENERGY.COM

ALLIANT ENERGY - ELECTRICITY
800 N WISCONSIN STREET
BERLIN, WI 54923
GRAYNE SKIBO
(920) 948-4054
GRAYNESKIBO@ALLIANTENERGY.COM

FLINT HILLS RESOURCES, LC - GAS/PETROLEUM
N4240 STATE ROAD 26
WAUPUN, WI 53963
TIM KAROW
(920) 324-9300 (OFFICE)
(920) 296-8899 (CELL)
TIMKAROW@FHR.COM

SOLARUS - COMMUNICATION LINE
440 E GRAND AVE
P.O. BOX 8045
WISCONSIN RAPIDS, WI 54494
DENNIS PIERCE
(715) 572-0152 (CELL)
PIERCE@SOLARUS.NET

UNION TELEPHONE COMPANY - COMMUNICATION LINE
120 MILL STREET
AMHEARST, WI 54906
JACOB VAN DE VOORT
(608) 450-3050 (CELL)
JVANDEVOORT@AMHERSTCOMM.NET

WE ENERGIES - GAS/PETROLEUM
1921 8TH STREET S
WISCONSIN RAPIDS, WI 54494
LARRY KOCH
(715) 421-9293 (CELL)
LARRY.KOCH@WE-ENERGIES.COM

WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY
1700 SHERMAN STREET
WAUSAU, WI 54401
JEREMY SLOWINSKI
(715) 321-6933 (CELL)
JEREMY.SLOWINSKI@WISCONSINPUBLICSERVICE.COM

WISCONSIN PUBLIC SERVICE CORPORATION - GAS/PETROLEUM
1700 SHERMAN STREET
WAUSAU, WI 54401
TYLER DAHLSTROM
(715) 432-9212 (CELL)
TYLER.DAHLSTROM@WISCONSINPUBLICSERVICE.COM

## WISCONSIN DNR LIAISON

JEREMIAH SCHIEFELBEIN (PORTAGE CO)
2984 SHAWANO AVE.
GREEN BAY, WISCONSIN 54313
(920) 360-3784
JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

MARTY DILLENBURG (WAUSHARA CO)
OSHKOSH SERVICE CENTER
625 E COUNTY ROAD Y, SUITE 70
OSHKOSH, WISCONSIN 54901-9731
(920) 410-7428
MARTY.DILLENBURG@WISCONSIN.GOV

## DESIGN PROJECT MANAGER

KOREY BOEHM
1681 2ND AVENUE SOUTH
WISCONSIN RAPIDS, WI 54495
PHONE: (715) 421-8311
EMAIL: KOREY.BOEHM@DOT.WI.GOV

## DESIGN CONTACT

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

## RAMP ABBREVIATIONS

CA - STH 73 IH 39 NB ON RAMP
CB - STH 73 IH 39 NB OFF RAMP

GA - CTH D IH 39 NB ON RAMP
GB - CTH D IH 39 NB OFF RAMP

MA - CTH W IH 39 NB ON RAMP
MB - CTH W IH 39 NB OFF RAMP

## 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 112 LBS/SY/IN.

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

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

## 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 = 329.8 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.9 ACRES

## ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
GUARDRAIL DETAILS
CULVERT REPLACEMENT DETAILS
STORM SEWER
PAVEMENT MARKING AND PERMANENT SIGNING
ADVANCED WARNING SIGNING
TRAFFIC CONTROL

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

## STANDARD ABBREVIATIONS

| | |
|---|---|
| ABUT | ABUTMENT |
| AC | ACRE |
| AGG | AGGREGATE |
| AH | AHEAD |
| ∠ | ANGLE |
| AADT | ANNUAL AVERAGE DAILY TRAFFIC |
| AEW | APRON ENDWALL |
| ASPH | ASPHALTIC |
| BK | BACK |
| BC | BACK OF CURB |
| BAD | BASE AGGREGATE DENSE |
| BL OR B/L | BASE LINE |
| BM | BENCH MARK |
| CB | CATCH BASIN |
| CL OR C/L | CENTER LINE |
| Δ | CENTRAL ANGLE OR DELTA |
| CE | COMMERCIAL ENTRANCE |
| CONC | CONCRETE |
| CSW | CONCRETE SIDEWALK |
| CONST | CONSTRUCTION |
| CP | CONTROL POINT |
| CO | COUNTY |
| CTH | COUNTY TRUCK HIGHWAY |
| CY | CUBIC YARD |
| CP | CULVERT PIPE |
| CPCA | CULVERT PIPE CORRUGATED ALUMINUM |
| CPCPE | CULVERT PIPE CORRUGATED POLYETHYLENE |
| CPCPP | CULVERT PIPE CORRUGATED POLYPROPYLENE |
| CPCS | CULVERT PIPE CORRUGATED STEEL |
| CPCSAC | CULVERT PIPE CORRUGATED STEEL ALUMINUM COATED |
| CPCSPC | CULVERT PIPE CORRUGATED STEEL POLYMER COATED |
| CPRC | CULVERT PIPE REINFORCED CONCRETE |
| CPRCHE | CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL |
| CPS | CULVERT PIPE SALVAGED |
| CPT | CULVERT PIPE TEMPORARY |
| C & G | CURB AND GUTTER |
| D | DEGREE OF CURVE |
| DHV | DESIGN HOUR VOLUME |
| DIA | DIAMETER |
| DD | DIRECTIONAL DISTRIBUTION |
| DE | DRAINAGE EASEMENT |
| DWY | DRIVEWAY |
| EA | EACH |
| EB | EASTBOUND |
| EL OR ELEV | ELEVATION |
| EMB | EMBANKMENT |
| EW | ENDWALL |
| EAT | ENERGY ABSORBING TERMINAL |
| ESALS | EQUIVALENT SINGLE AXLE LOADS |
| EXC | EXCAVATION |
| EBS | EXCAVATION BELOW SUBGRADE |
| EXIST | EXISTING |
| FERT | FERTILIZER |
| FE | FIELD ENTRANCE |
| FL OR F/L | FLOW LINE |
| FT | FOOT |
| FTMS | FREE TRAFFIC MANAGEMENT SYSTEM |
| HES | HIGH EARLY STRENGTH |
| HE | HIGHWAY EASEMENT |
| CWT | HUNDRED WEIGHT |
| IN DIA | INCH DIAMETER |
| INL | INLET |
| ID | INSIDE DIAMETER |
| INTERS | INTERSECTION |
| IH | INTERSTATE HIGHWAY |
| INV | INVERT |
| JT | JOINT |
| LT | LEFT |
| LHF | LEFT HAND FORWARD |
| L | LENGTH OF CURVE |
| LF | LINEAR FOOT |
| LC | LONG CHORD OF CURVE |
| LS | LUMP SUM |
| MGAL | ONE THOUSAND GALLONS |
| MH | MANHOLE |
| ML OR M/L | MATCH LINE |
| NOM | NOMINAL |
| NC | NORMAL CROWN |
| NB | NORTHBOUND |
| NO | NUMBER |
| OD | OUTSIDE DIAMETER |
| PAVT | PAVEMENT |
| PLE | PERMANENT LIMITED EASEMENT |
| PC | POINT OF CURVATURE |
| PI | POINT OF INTERSECTION |
| PT | POINT OF TANGENCY |
| PCC | PORTLAND CEMENT CONCRETE |
| LB | POUND |
| PSI | POUNDS PER SQUARE INCH |
| PE | PRIVATE ENTRANCE |
| PROJ | PROJECT |
| PL | PROPERTY LINE |
| PRW | PROPOSED RIGHT OF WAY |
| R | RADIUS |
| RL OR R/L | REFERENCE LINE |
| REQD | REQUIRED |
| RT | RIGHT |
| RHF | RIGHT HAND FORWARD |
| R/W | RIGHT OF WAY |
| RD | ROAD |
| RDWY | ROADWAY |
| SHLDR | SHOULDER |
| SW | SIDEWALK |
| SB | SOUTHBOUND |
| SPECS | SPECIFICATIONS |
| SF | SQUARE FEET |
| SY | SQUARE YARD |
| SDD | STANDARD DETAIL DRAWINGS |
| STH | STATE TRUNK HIGHWAY |
| STA | STATION |
| SSPC | STORM SEWER PIPE COMPOSITE |
| SSCPE | STORM SEWER PIPE CORRUGATED POLYETHYLENE |
| SSCPP | STORM SEWER PIPE CORRUGATED POLYPROPYLENE |
| SSPNRC | STORM SEWER PIPE NON-REINFORCED CONCRETE |
| SSPRC | STORM SEWER PIPE REINFORCED CONCRETE |
| SSPRC | STORM SEWER PIPE REINFORCED CONCRETE |
| SSPRCHE | STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL |
| SE | SUPERELEVATION |
| SL OR S/L | SURVEY LINE |
| TEMP | TEMPORARY |
| TI | TEMPORARY INTEREST |
| TLE | TEMPORARY LIMITED EASEMENT |
| TC | TOP OF CURB |
| TL OR T/L | TRANSIT LINE |
| T | TRUCKS (PERCENT OF) |
| TYP | TYPICAL |
| USH | UNITED STATES HIGHWAY |
| VAR | VARIABLE |
| VC | VERTICAL CURVE |
| VPC | VERTICAL POINT OF CURVATURE |
| VPI | VERTICAL POINT OF INTERSECTION |
| VPT | VERTICAL POINT OF TANGENCY |
| W | WEST |
| WB | WESTBOUND |

2

BEGIN PROJECT
STA 741+70.33
Y = 76137.314
X = 177038.588

STRUCTURE
B-69-016
(NO WORK)

STRUCTURE
B-69-022
(NO WORK)

CULVERT 69039006933
STA 855+69

BIG ROCHE A CRI CREEK

CTH O

ARCHER AVE

IH 39

STH 73

'CA' RAMP

'CB' RAMP

750 800 850 900

MATCHLINE STA 950+00

N

BEGIN CONSTRUCTION
STA 1048+83.98
MATCH EXISTING

WAUSHARA CO.
PORTAGE CO.

S BRANCH TENMILE CREEK

STRUCTURE
B-49-042
(NO WORK)

CULVERT 49039007547
STA 1208+17

END CONSTRUCTION
STA 1232+89.00
MATCH EXISTING

CULVERT 49039007546
STA 1207+58

(NO WORK) STRUCTURE C-49-012

(NO WORK) STRUCTURE C-49-005

MATCHLINE STA 950+00

MATCHLINE STA 1250+00

1000 1050 1100 1150 1200

IH 39

'GB' RAMP

'GA' RAMP

STRUCTURE
B-49-0188
(NO WORK)

'MB' RAMP

'MA' RAMP

CTH D

CTH W

3RD AVE

TOWN OF PLAINFIELD

TOWN OF PINE GROVE

TOWN OF BUENA VISTA

(NO WORK)
STRUCTURE
B-49-043

(NO WORK)
STRUCTURE
B-49-044

N BRANCH TENMILE CREEK

CULVERT 49039008972
STA 1187+85

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PROJECT OVERVIEW | SHEET 4 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\020201-PO.DWG
LAYOUT NAME - 01
PLOT DATE : 4/20/2026 10:30 AM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:0.5 MI
WISDOT/CADDS SHEET 44

2

CULVERT 49039007554
STA 1376+57

CULVERT 49039007552
STA 1356+60

STRUCTURE
B-49-007

STRUCTURE
B-49-047

CULVERT 49039007558
STA 1523+37

CULVERT 49039007556
STA 1495+79

STRUCTURE
B-49-009

TOWN OF BUENA VISTA

TOWN OF PLOVER

MATCHLINE STA 1250+00

1300

1350

1400

1450

1500

IH 39

MATCHLINE STA 1550+00

CULVERT 49039007550
STA 1301+68

DITCH NO. 4 / FOURMILE CREEK

STRUCTURE
B-49-008

DITCH NO. 3

CODDINGTON RD

DITCH NO. 8

ISHERWOOD LATERAL

STRUCTURE
B-49-010

DITCH NO. 2 / BUENA VISTA CREEK

VILLAGE OF PLOVER

END PROJECT
STA 1635+65.02

CULVERT 49039007560
STA 1560+56

STRUCTURE
B-49-050

STRUCTURE
B-49-013

MATCHLINE STA 1550+00

1600

1650

1700

IH 39

BIRCH DR

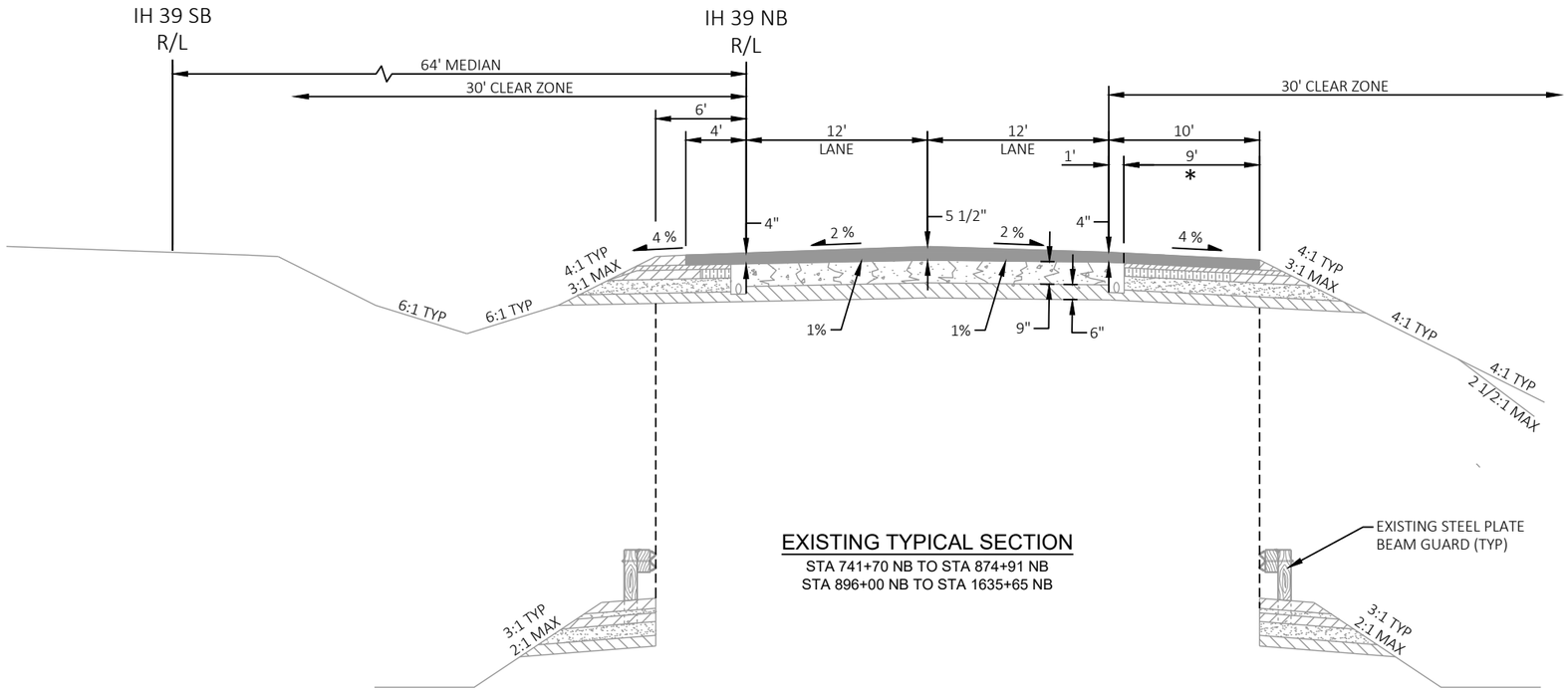
STH 54/US 51

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PROJECT OVERVIEW | SHEET 5 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\020201-PO.DWG
LAYOUT NAME - 02

PLOT DATE : 4/20/2026 10:30 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:0.5 MI

WISDOT/CADDS SHEET 44




EXISTING TYPICAL SECTION

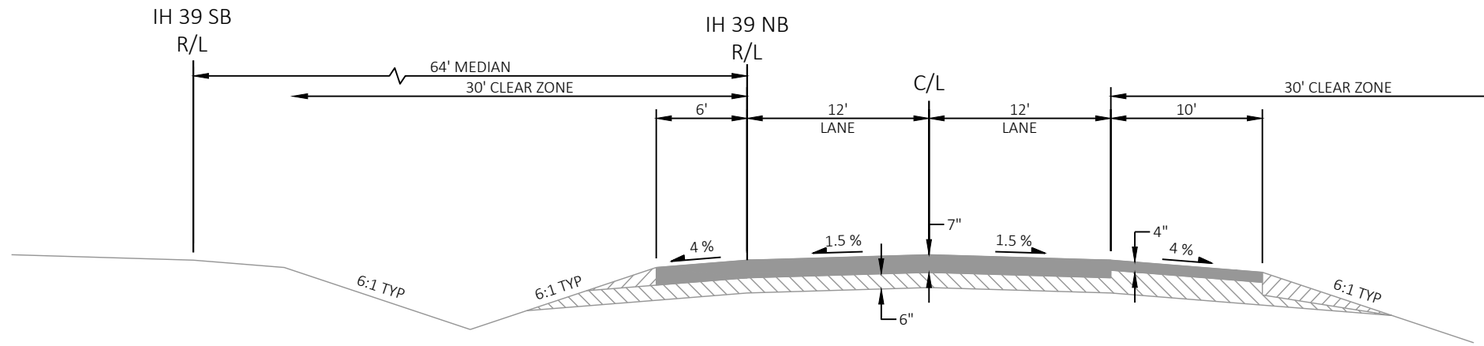
STA 741+70 NB TO STA 874+91 NB
STA 896+00 NB TO STA 1635+65 NB

LEGEND

EXISTING

- CONCRETE PAVEMENT
- RUBBLIZED CONCRETE PAVEMENT
- SELECT BORROW-BITUMINOUS STABILIZED
- BASE AGGREGATE DENSE 3/4-INCH
- PULVERIZED ASPHALTIC PAVEMENT
- ASPHALTIC PAVEMENT
- SELECT BURROW
- GRAVEL OR CRUSHED STONE BASE COURSE

* INDICATES PAVEMENT NOT RESURFACED WITH 2017 PROJECT (LAST RESURFACED IN 2001)




EXISTING TYPICAL SECTION

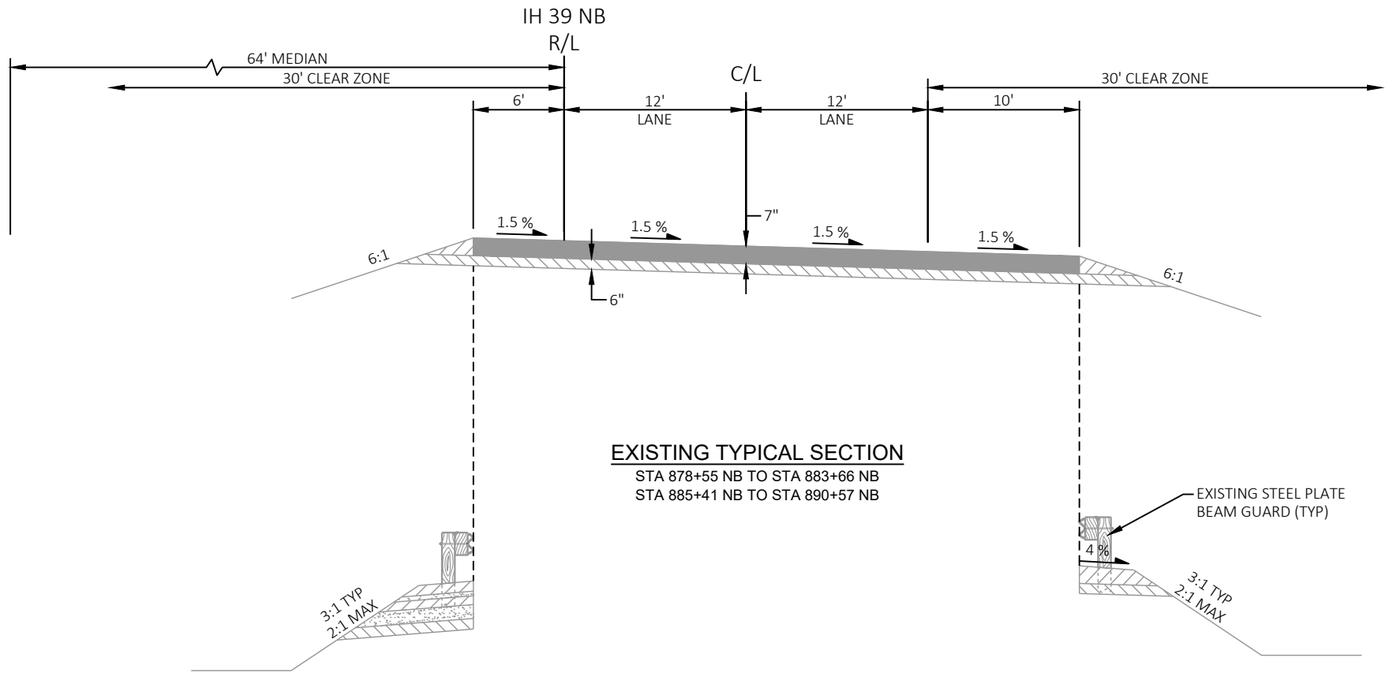
STA 874+91 NB TO STA 878+55 NB
STA 890+57 NB TO STA 896+00 NB

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TYPICAL SECTIONS | SHEET 6 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\020301-TS.DWG
LAYOUT NAME - 01

PLOT DATE : 4/20/2026 11:07 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:10 FT

2




EXISTING TYPICAL SECTION

STA 878+55 NB TO STA 883+66 NB
STA 885+41 NB TO STA 890+57 NB

LEGEND

EXISTING

- CONCRETE PAVEMENT
- RUBBLIZED CONCRETE PAVEMENT
- SELECT BORROW-BITUMINOUS STABILIZED
- BASE AGGREGATE DENSE 3/4-INCH
- PULVERIZED ASPHALTIC PAVEMENT
- ASPHALTIC PAVEMENT
- SELECT BURROW
- GRAVEL OR CRUSHED STONE BASE COURSE

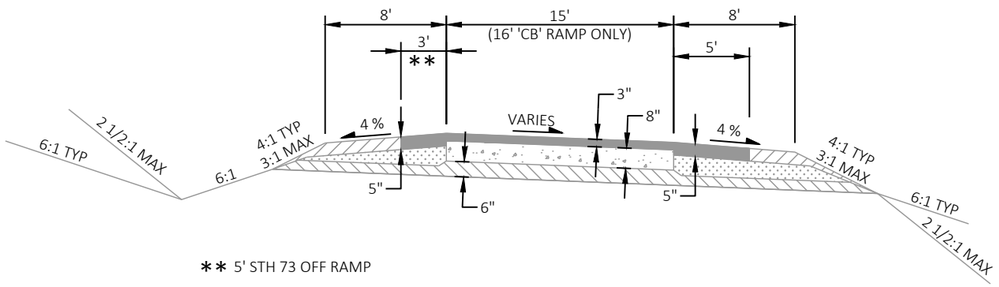
* INDICATES PAVEMENT NOT RESURFACED WITH 2017 PROJECT (LAST RESURFACED IN 2001)

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TYPICAL SECTIONS | SHEET 7 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\020301-TS.DWG
LAYOUT NAME - 02

PLOT DATE : 4/20/2026 11:07 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:10 FT

2




** 5' STH 73 OFF RAMP

## EXISTING TYPICAL SECTION

STA 867+65 CB TO STA 880+65 CB
STA 1033+26 CA TO STA 1048+27 CA

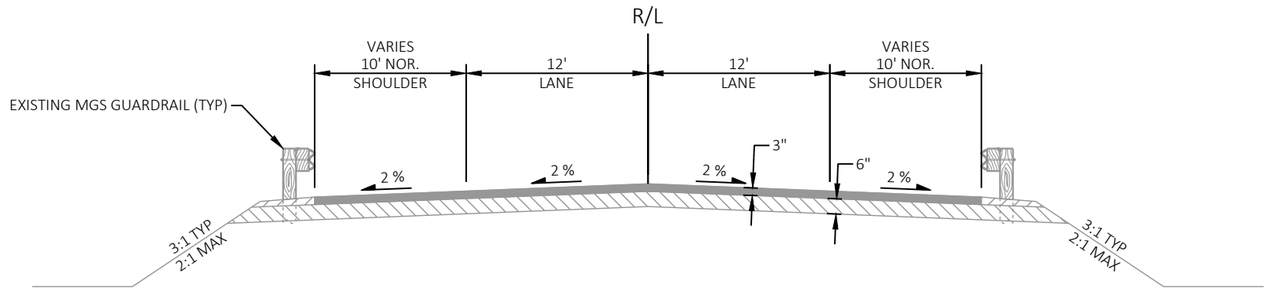
STA 1033+26 GB TO STA 1048+27 GB
STA 1048+87 GA TO STA 1068+02 GA

STA 1217+20 MB TO STA 1232+41 MB
STA 1233+08 MA TO STA 1252+32 MA

LEGEND

EXISTING

- CONCRETE PAVEMENT
- RUBBLIZED CONCRETE PAVEMENT
- SELECT BORROW-BITUMINOUS STABILIZED
- BASE AGGREGATE DENSE 3/4-INCH
- PULVERIZED ASPHALTIC PAVEMENT
- ASPHALTIC PAVEMENT
- SELECT BURROW
- GRAVEL OR CRUSHED STONE BASE COURSE



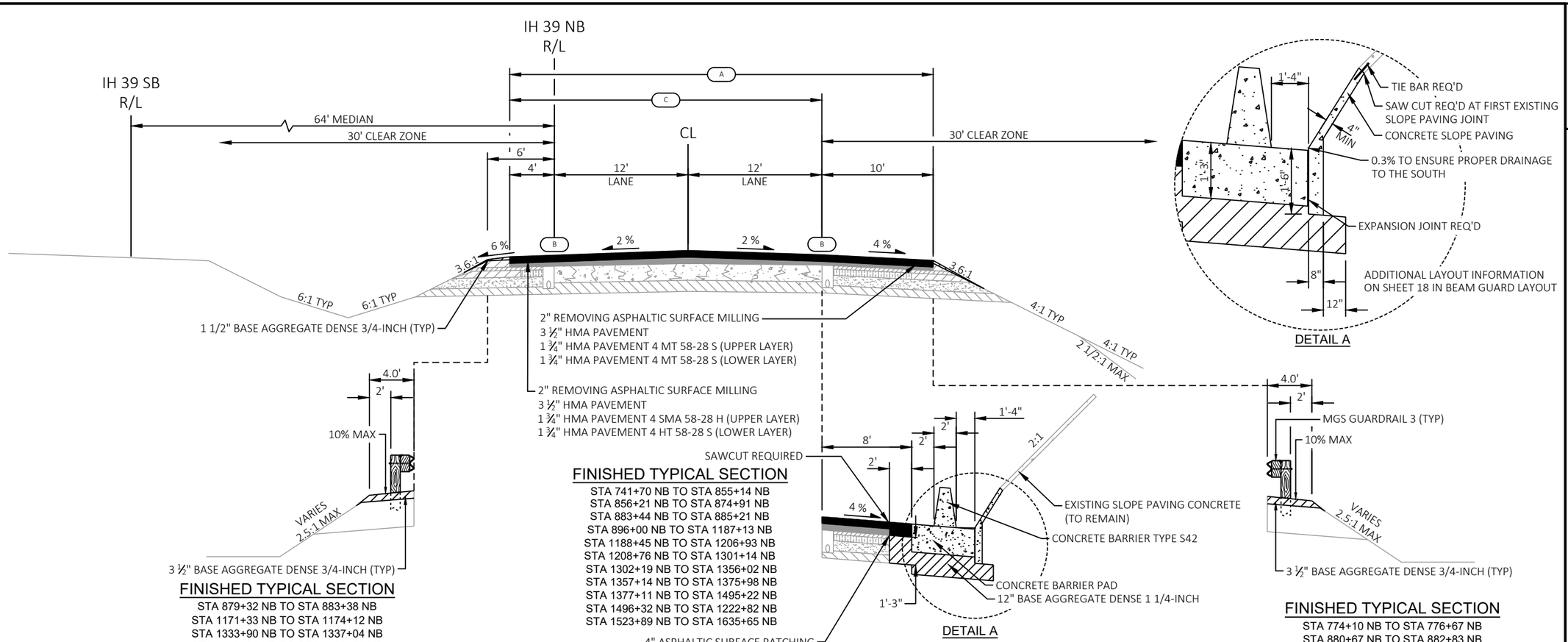

## EXISTING TYPICAL SECTION

STA 500+00 EB CTH D TO STA 514+40 EB CTH D
STA 800+00 EB CTH W TO STA 814+87 EB CTH W

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TYPICAL SECTIONS | SHEET 8 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\020301-TS.DWG
LAYOUT NAME - 03

PLOT DATE : 4/20/2026 11:07 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:10 FT




## FINISHED TYPICAL SECTION

STA 879+32 NB TO STA 883+38 NB
STA 1171+33 NB TO STA 1174+12 NB
STA 1333+90 NB TO STA 1337+04 NB
STA 1413+21 NB TO STA 1416+39 NB
STA 1466+08 NB TO STA 1469+23 NB
STA 1519+04 NB TO STA 1522+19 NB

## FINISHED TYPICAL SECTION

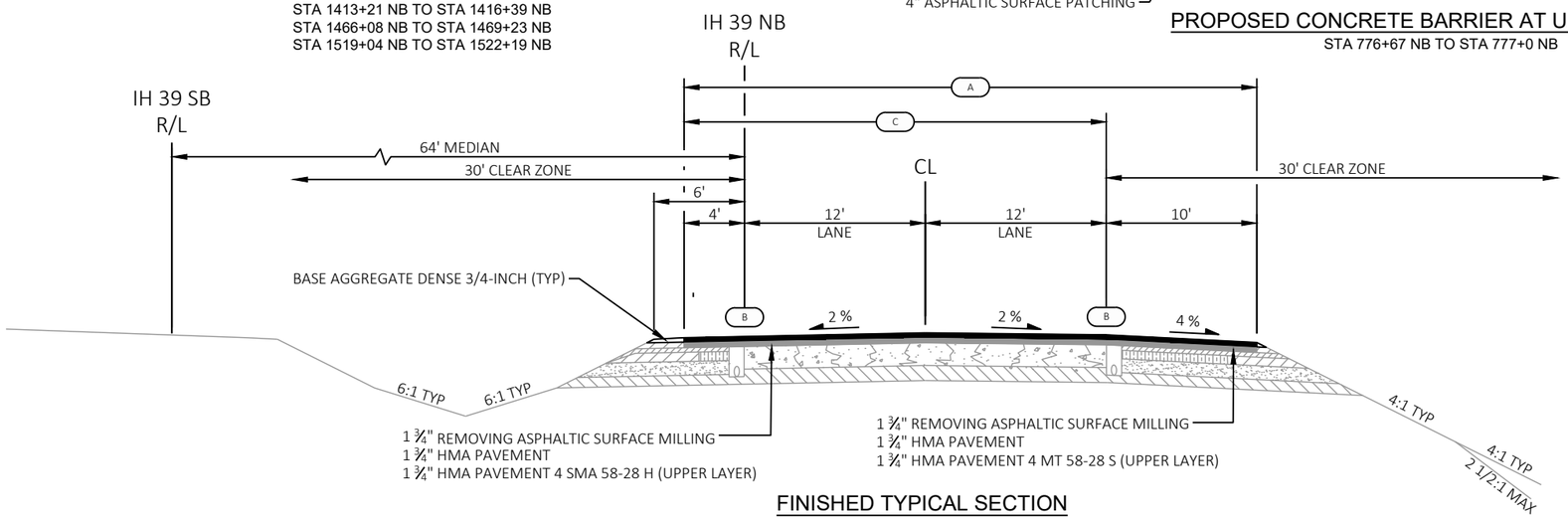
STA 741+70 NB TO STA 855+14 NB
STA 856+21 NB TO STA 874+91 NB
STA 883+44 NB TO STA 885+21 NB
STA 896+00 NB TO STA 1187+13 NB
STA 1188+45 NB TO STA 1206+93 NB
STA 1208+76 NB TO STA 1301+14 NB
STA 1302+19 NB TO STA 1356+02 NB
STA 1357+14 NB TO STA 1375+98 NB
STA 1377+11 NB TO STA 1495+22 NB
STA 1496+32 NB TO STA 1222+82 NB
STA 1523+89 NB TO STA 1635+65 NB

## PROPOSED CONCRETE BARRIER AT UNDERPASSES

STA 776+67 NB TO STA 777+0 NB

## FINISHED TYPICAL SECTION

STA 774+10 NB TO STA 776+67 NB
STA 880+67 NB TO STA 882+83 NB
STA 1171+96 NB TO STA 1174+12 NB
STA 1334+29 NB TO STA 1337+06 NB
STA 1413+73 NB TO STA 1416+41 NB
STA 1466+60 NB TO STA 1469+26 NB
STA 1519+56 NB TO STA 1522+22 NB
STA 1557+88 NB TO STA 1561+75 NB




## FINISHED TYPICAL SECTION

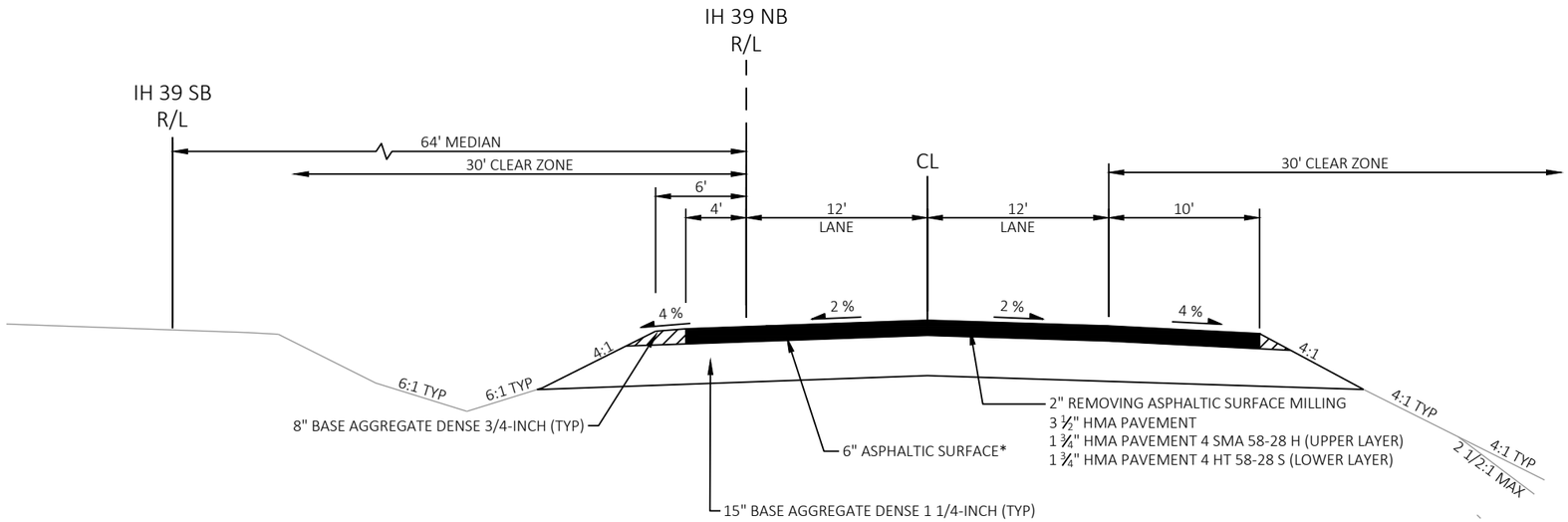
(NO PROFILE INCREASE UNDER BRIDGES)

STA 774+28 NB TO STA 779+78 NB
STA 1046+00 NB TO STA 1051+50 NB
STA 1150+94 NB TO STA 1156+44 NB
STA 1230+13 NB TO STA 1235+63 NB
STA 1440+09 NB TO STA 1445+59 NB
STA 1598+80 NB TO STA 1604+30 NB

LEGEND:

- (A) -PREPARE FOUNDATION FOR ASPHALTIC PAVING
- (B) -ASPHALTIC SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
- (C) -LIMITS OF SMA OVERLAY

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TYPICAL SECTIONS | SHEET 9 | E |
|---|---|---|---|---|---|

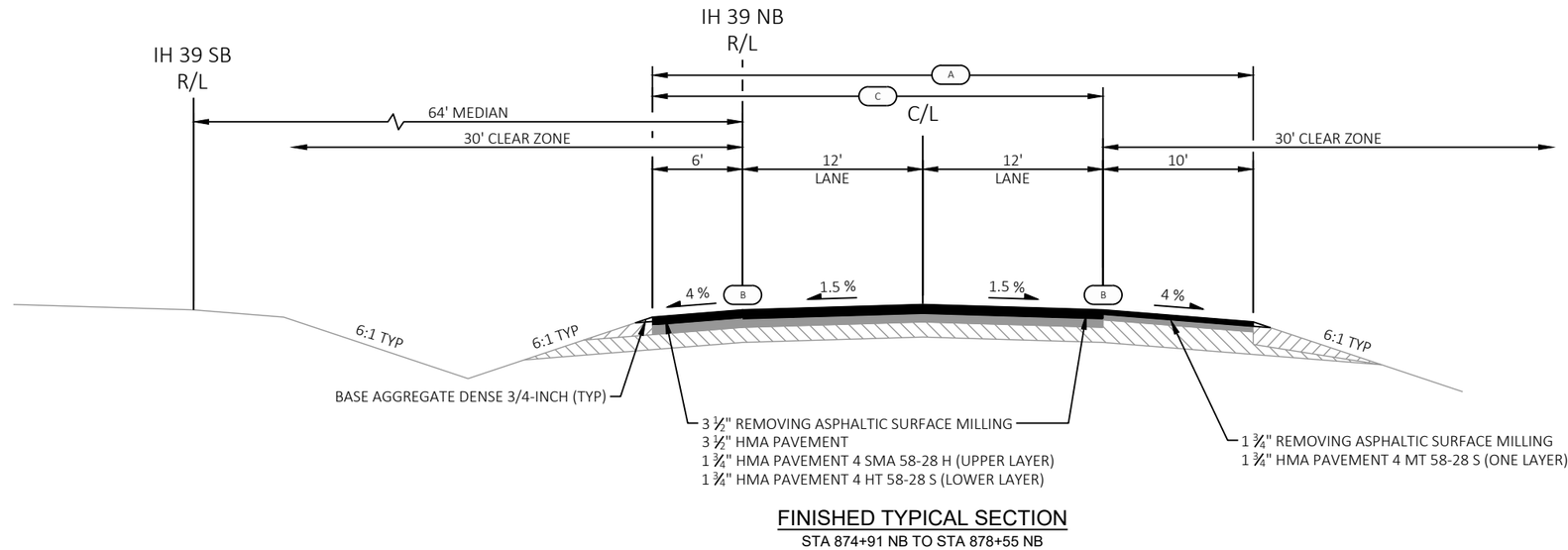



## FINISHED TYPICAL SECTION

(AT CULVERT REPLACEMENTS)

STA 855+14 NB TO STA 856+21 NB
STA 1187+13 NB TO STA 1188+45 NB
STA 1206+93 NB TO STA 1208+76 NB
STA 1301+14 NB TO STA 1302+19 NB
STA 1356+02 NB TO STA 1357+14 NB
STA 1375+98 NB TO STA 1377+11 NB
STA 1495+22 NB TO STA 1496+32 NB
STA 1522+82 NB TO STA 1523+89 NB

* 6 INCH ASPHALTIC SURFACE TO BE PLACED PRIOR TO MAINLINE MILLING AND PAVING OPERATIONS WITH 4.0 INCH REMAINING AFTER MAINLINE MILLING




## FINISHED TYPICAL SECTION

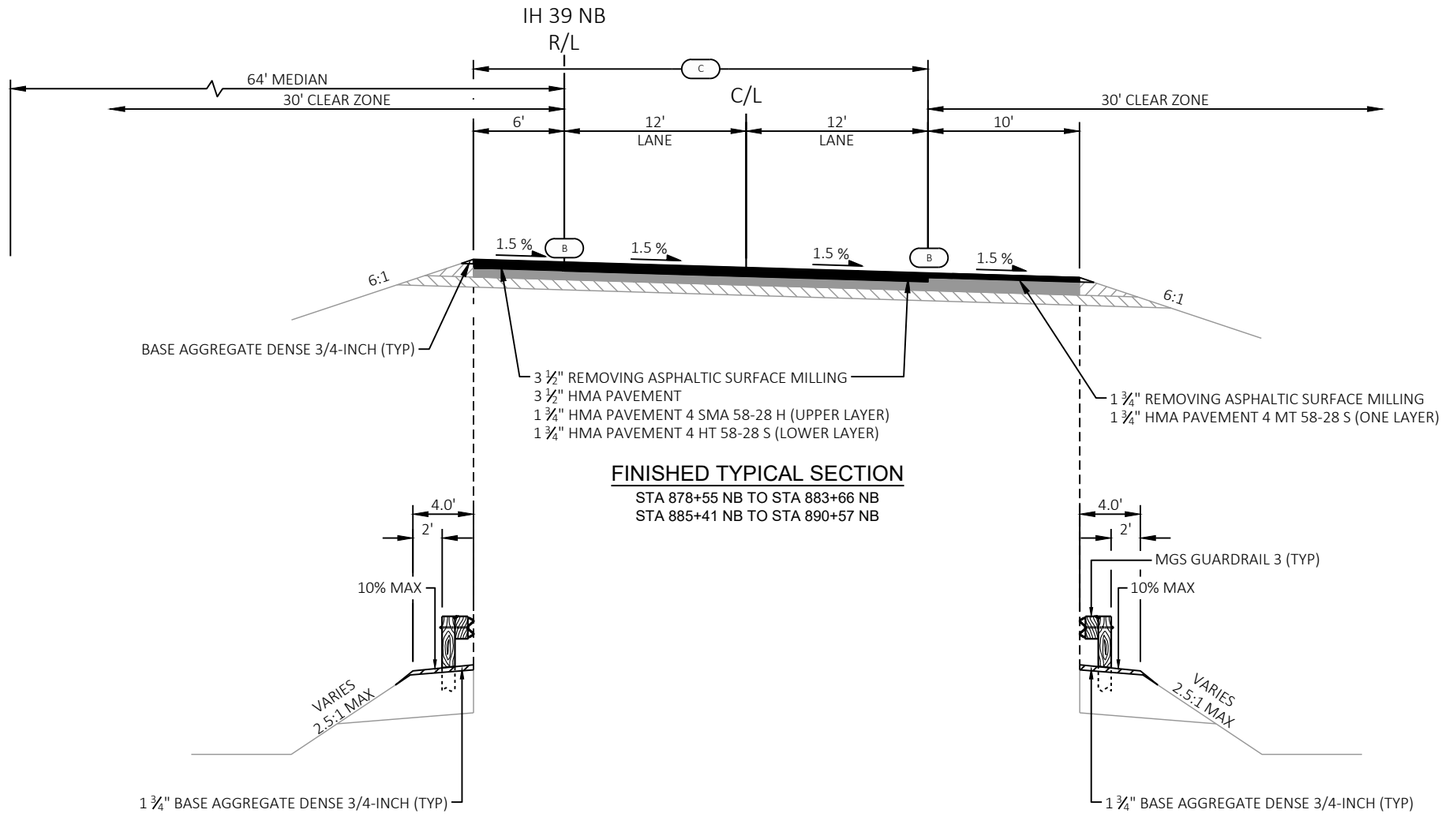
STA 874+91 NB TO STA 878+55 NB
STA 890+57 NB TO STA 896+00 NB

LEGEND:

- (A) -PREPARE FOUNDATION FOR ASPHALTIC PAVING
- (B) -ASPHALTIC SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
- (C) -LIMITS OF SMA OVERLAY

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TYPICAL SECTIONS | SHEET 10 | E |
|---|---|---|---|---|---|

2




## FINISHED TYPICAL SECTION

STA 878+55 NB TO STA 883+66 NB
STA 885+41 NB TO STA 890+57 NB

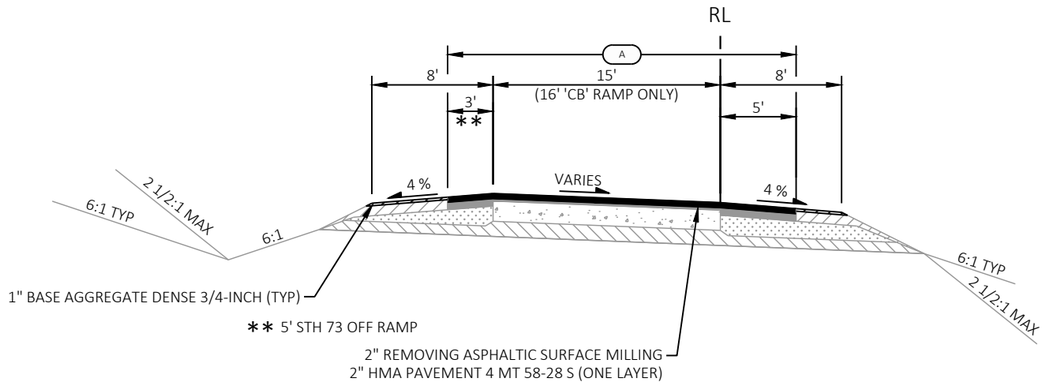
LEGEND:

- (A) -PREPARE FOUNDATION FOR ASPHALTIC PAVING
- (B) -ASPHALTIC SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
- (C) -LIMITS OF SMA OVERLAY

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TYPICAL SECTIONS | SHEET 11 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\020301-TS.DWG
LAYOUT NAME - 06
PLOT DATE : 4/20/2026 11:07 AM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

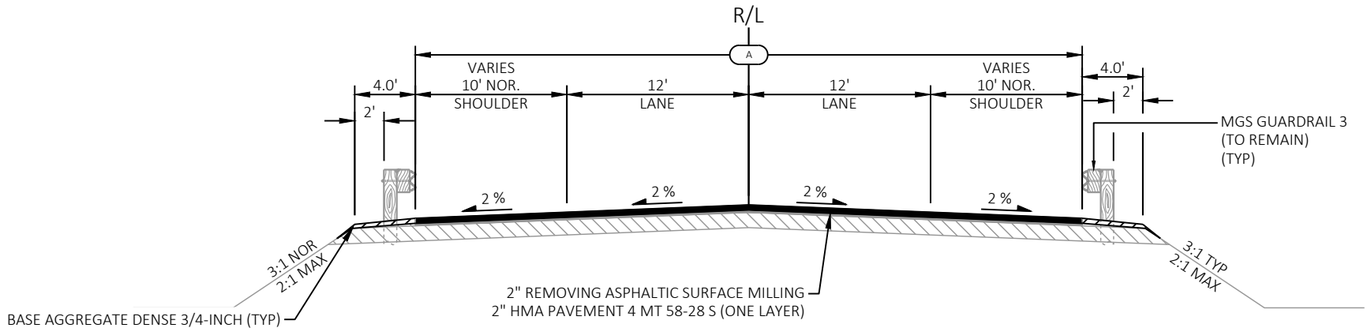



## FINISHED TYPICAL SECTION

STA 867+65 CB TO STA 880+65 CB
STA 1033+26 CA TO STA 1048+27 CA

STA 1033+26 GB TO STA 1048+27 GB
STA 1048+87 GA TO STA 1068+02 GA

STA 1217+20 MB TO STA 1232+41 MB
STA 1233+08 MA TO STA 1252+32 MA




## FINISHED TYPICAL SECTION

STA 500+00 EB CTH D TO STA 514+40 EB CTH D
STA 800+00 EB CTH W TO STA 814+87 EB CTH W

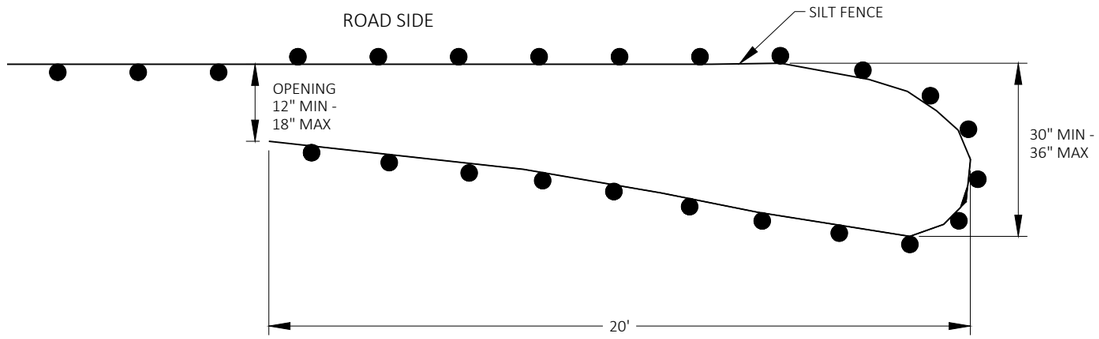
LEGEND:

- (A) -PREPARE FOUNDATION FOR ASPHALTIC PAVING
- (B) -ASPHALTIC SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
- (C) -LIMITS OF SMA OVERLAY

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TYPICAL SECTIONS | SHEET 12 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\020301-TS.DWG
LAYOUT NAME - 07
PLOT DATE : 4/20/2026 11:07 AM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

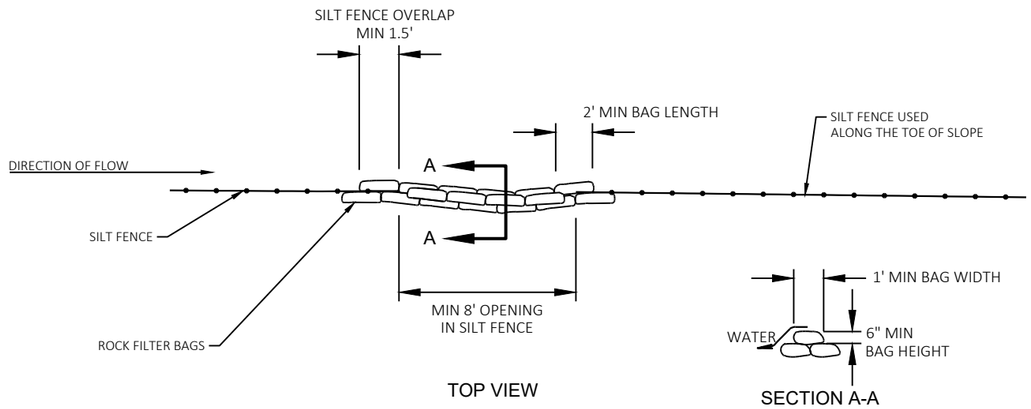
2




PLAN VIEW

## TEMPORARY SMALL ANIMAL TURN-AROUND

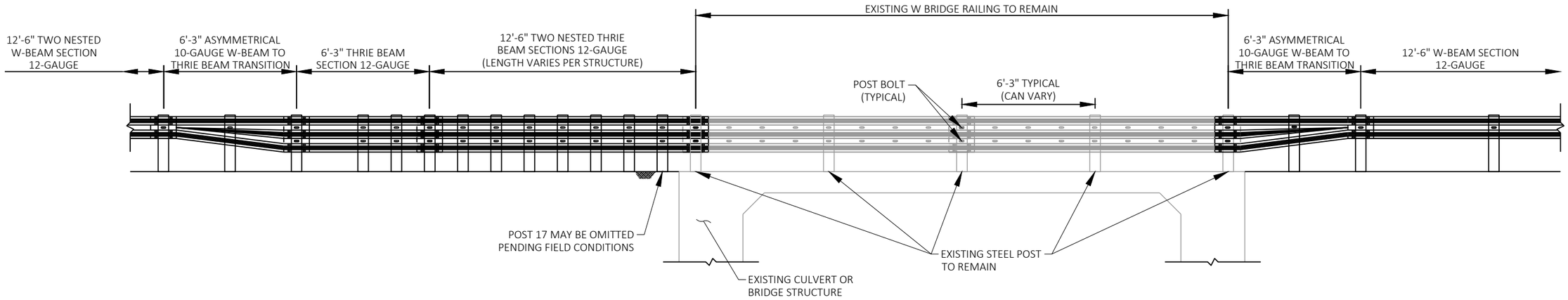
GENERAL NOTES:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND. AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.




TOP VIEW

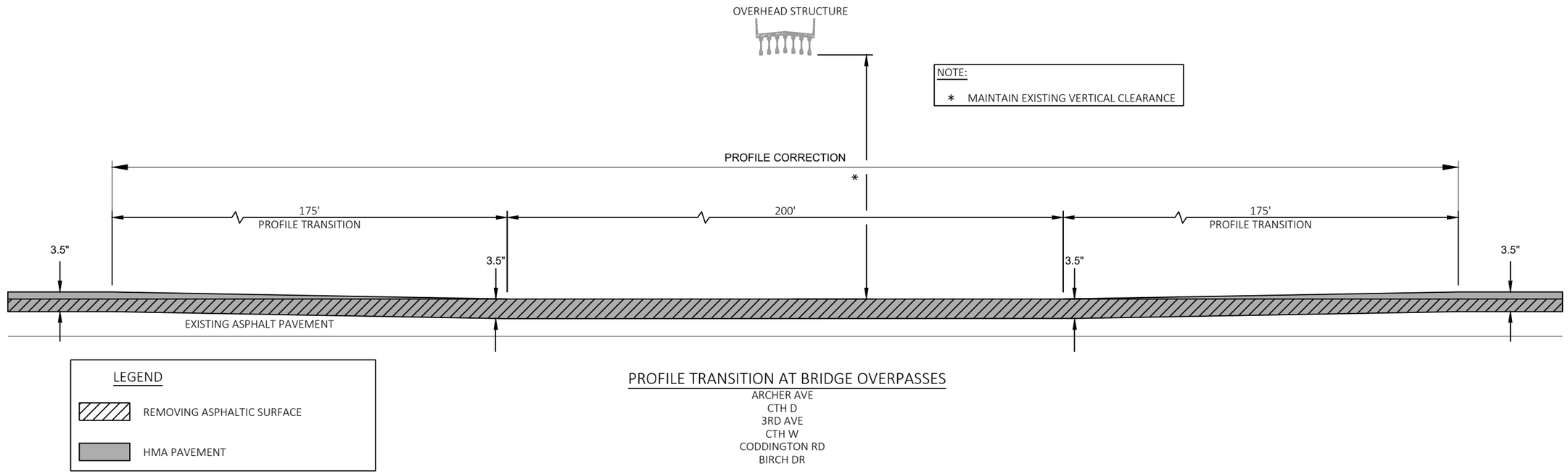
SECTION A-A

## ROCK BAGS USED FOR SILT FENCE RELIEF



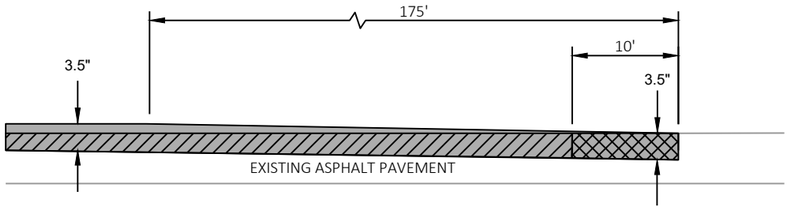

## GUARDRAIL DETAIL

C-49-005
B-49-007
B-49-008
B-49-009
B-49-010




## PROFILE TRANSITION AT BRIDGE OVERPASSES

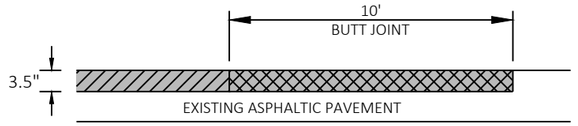
ARCHER AVE
CTH D
3RD AVE
CTH W
CODDINGTON RD
BIRCH DR



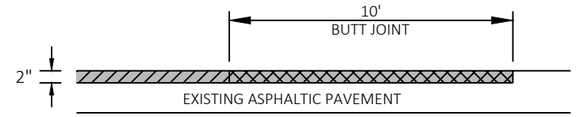

PROFILE TRANSITION
BEGINNING OF PROJECT
END OF PROJECT

LEGEND

- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- HMA PAVEMENT

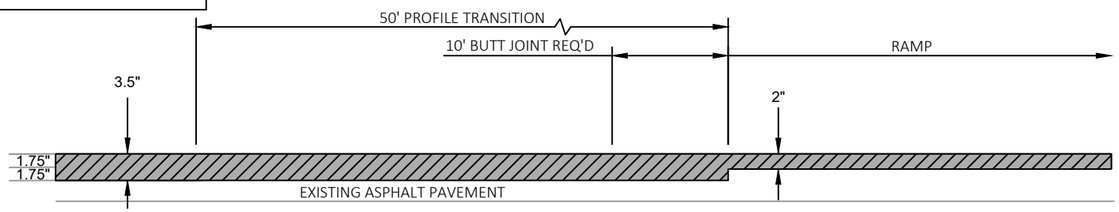



MAINLINE AT B-69-022

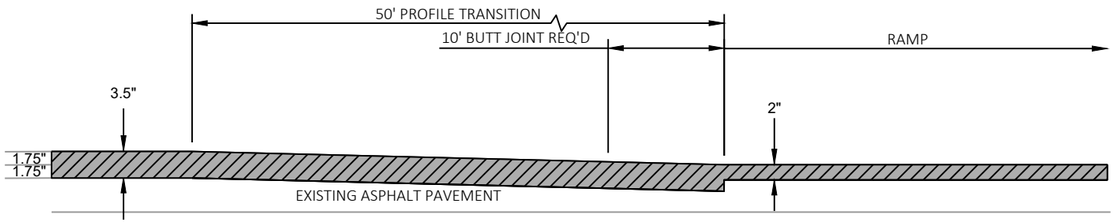



AT RAMP TERMINALS, AND SIDE ROAD LIMITS

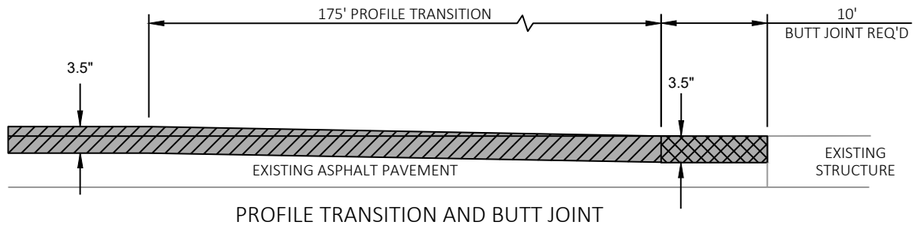
BUTT JOINT




PROFILE TRANSITION
RAMP CA AT 73
RAMP CB AT 73



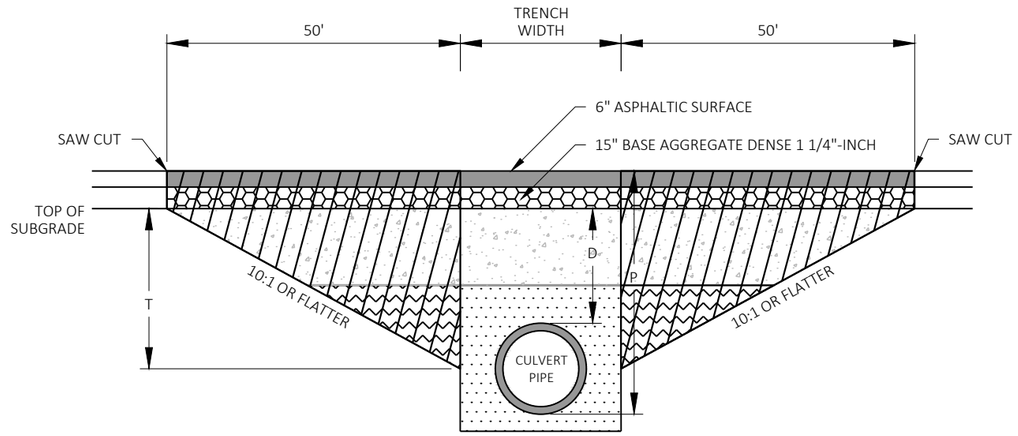

PROFILE TRANSITION
RAMP GA AT D
RAMP GB AT D
RAMP MA AT W
RAMP MB AT W




PROFILE TRANSITION AND BUTT JOINT
C-49-005
B-49-007
B-49-008
B-49-009
B-49-010

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CONSTRUCTION DETAILS | SHEET 15 | E |
|---|---|---|---|---|---|

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.

KEY

- PROPOSED SURFACE
- PROPOSED BASE
- TRENCH BACKFILL
- TRENCH OR FOUNDATION BACKFILL
- FOUNDATION BACKFILL
- TRANSITION CUT

**NOTES**

**TRANSITION CUT IS PAID AS EXCAVATION COMMON.**

**TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.**

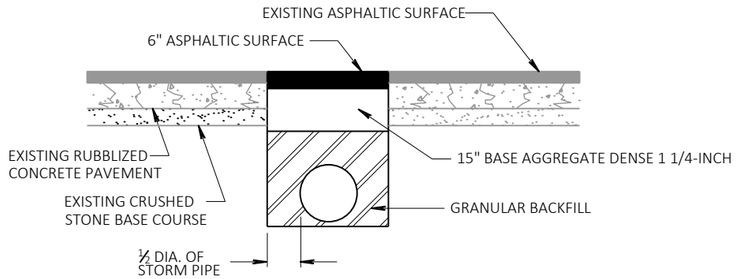
**BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.**

PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING AND PAVING.

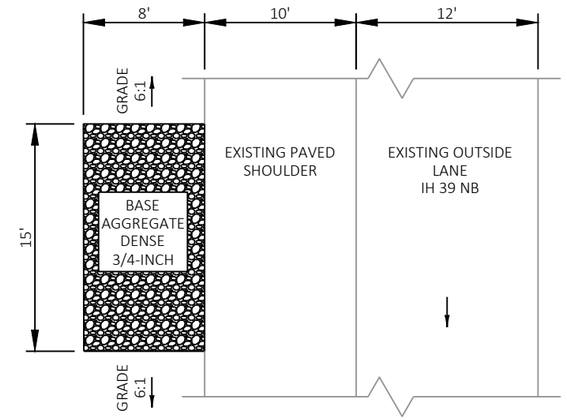
## CULVERT PIPE TRANSITION

| ROUTE | STA (CL) | DEPTH D (FT) | PIPE DIA (IN) | REMARKS | DEPTH TO BOTTOM OF PIPE FROM EXISTING PAVEMENT ELEVATION (P) |
|---|---|---|---|---|---|
| IH 39 | 855+69 | 0.50 | 19"X30" | C 6933 | 4.40' |
| IH 39 | 1187+85 | 1.21 | 48" | C 8972 | 7.8' |
| IH 39 | 1207+58 | 2.20 | 30" | C 7546 | 7.0' |
| IH 39 | 1208+17 | 1.99 | 30" | C 7547 | 6.8' |
| IH 39 | 1301+68 | * | 30" | C 7550 | 4.4' |
| IH 39 | 1356+60 | 4.40 | 48" | C 7552 | 11.0' |
| IH 39 | 1376+57 | 3.35 | 60" | C 7554 | 11.1' |
| IH 39 | 1495+79 | 2.53 | 36" | C 7556 | 8.0' |
| IH 39 | 1523+37 | 2.47 | 30" | C 7558 | 7.3' |

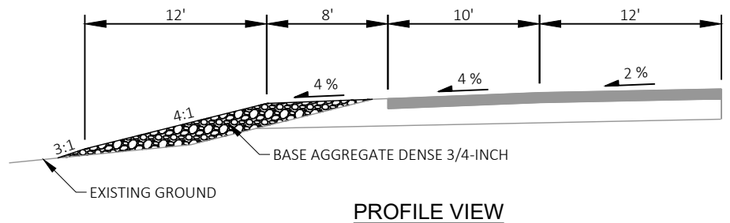
* TOP OF PIPE LOCATED WITH IN PROPOSED SUBGRADE.




DETAILS FOR STORM SEWER PIPE INSTALLATION
IN AREAS OF EXISTING PAVEMENT



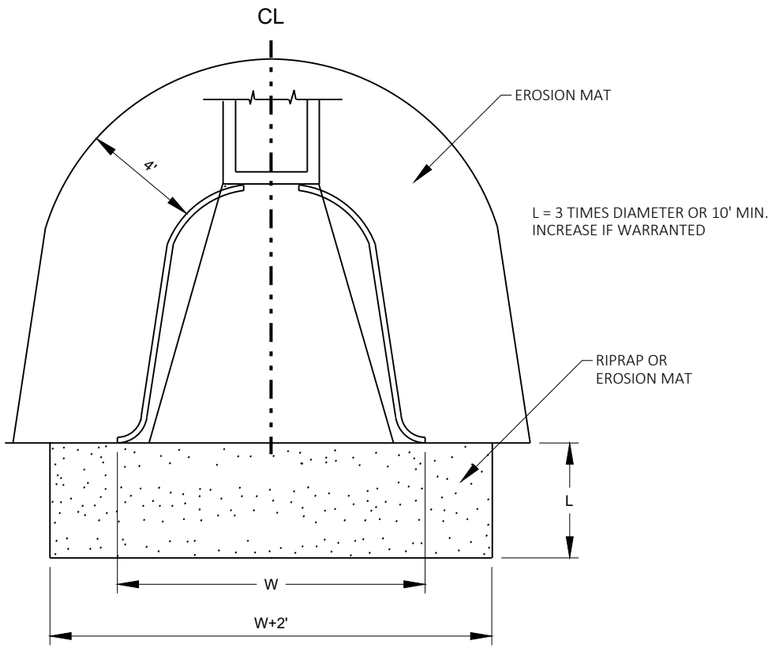

PLAN VIEW



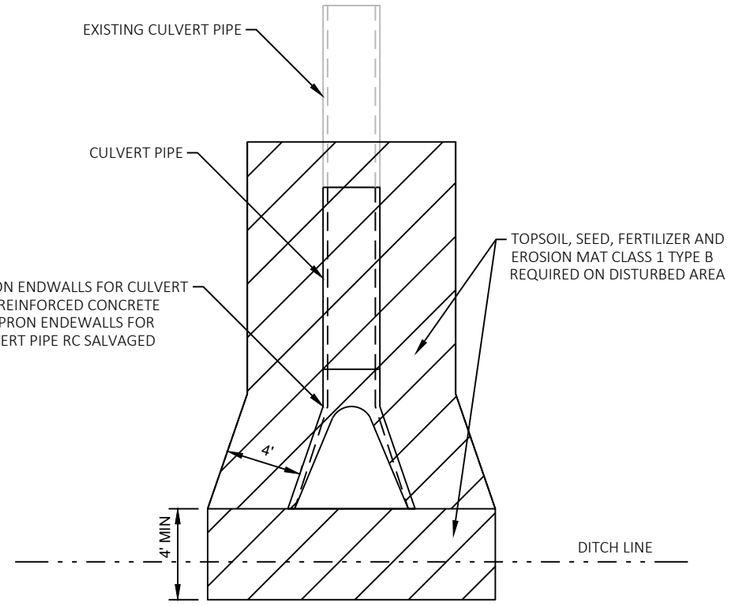

PROFILE VIEW

DIGITAL SPEED LIMIT TRAILER PAD DETAIL

2

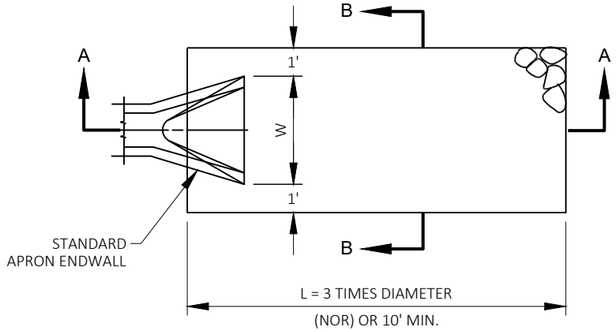


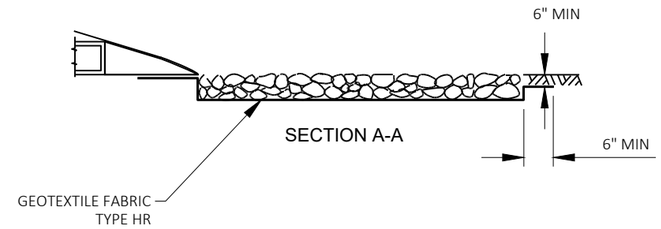

EROSION CONTROL AT PIPE ENDS

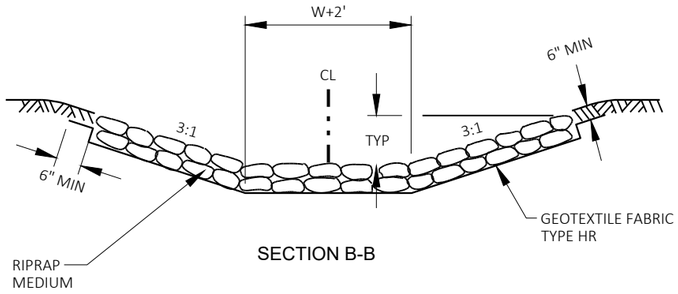



EROSION CONTROL FOR CROSS DRAIN RESTORATION

SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS



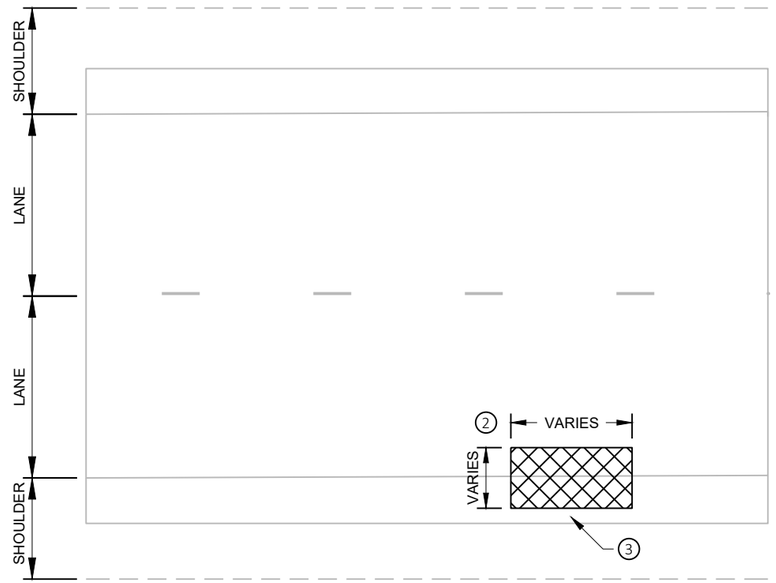




RIPRAP AND GEOTEXTILE

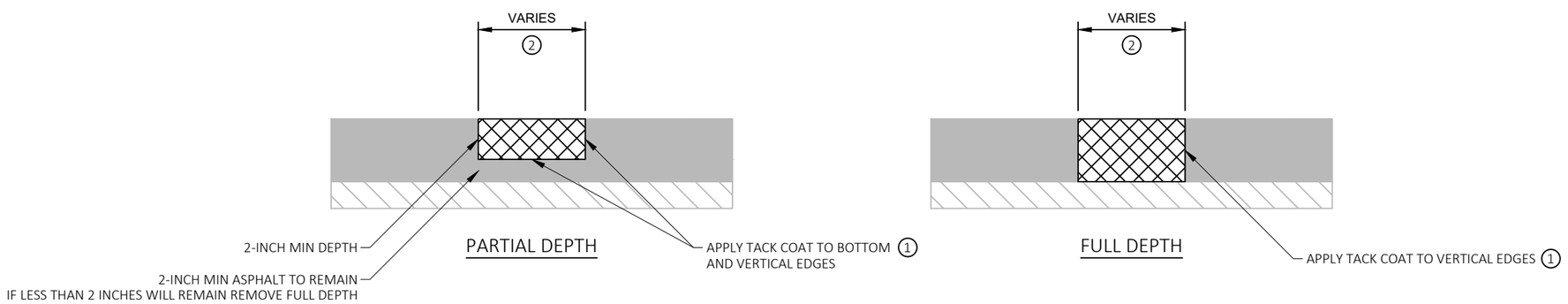
NOTES:

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 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

IH 39 SB

R\L IH 39 NB

UNION TEL - FO

STRUCTURE
B-69-016

772 774 776 778

IH 39 NB

MGS2

1095.04 XXXXXXXXXXXXXXXXXXXXXXXX 1095.27

MGS1

EXISTING R/W (TYP)

SLOPE INTERCEPT (TYP)

POST #9
+60.5, 34.1' RT

POST #5
+35.5, 35.1' RT

EAT POST #1
+10.5, 36.0' RT

MGS3

ADAMS / COLUMBIA -OH

BAD

CONCRETE SLOPE PAVING
ESTIMATED 38' X 5'

ARCHER AVE

CB42

BAD

MGS1

MGS3

MGS4

LEGEND

| | |
|---|---|
| CB42 | CONCRETE BARRIER TYPE S42 |
| MGS1 | MGS GUARDRAIL THRIE BEAM TRANSITION |
| MGS2 | MGS GUARDRAIL TERMINAL EAT |
| MGS3 | MGS GUARDRAIL 3 |
| MGSL | MGS GUARDRAIL LONG SPAN |
| MGS4 | MGS GUARDRAIL TERMINAL TYPE 2 |
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| XXXXX | SAWING CONCRETE |
| XXXXX | SAWING ASPHALT |

LEGEND

| | |
|---|---|
| INLET PROTECTION TYPE C | WETLAND IMPACT AREA |
| SILT FENCE | SLOPE INTERCEPT |
| EROSION MAT URBAN CLASS I TYPE B | CULVERT PIPE CHECK |
| | RIPRAP MEDIUM |

IH 39 SB

EAT POST #1
+32.6, 8.0' LT

POST #5
+57.5, 7.0' LT

POST #9
+82.5, 6.1' LT

SLOPE INTERCEPT (TYP)

MGS2

MGS3

BAD

MGS1

R\L IH 39 NB

878 880 882 884

IH 39 NB

SLOPE INTERCEPT (TYP)

MGS2

MGS3

MGS1

CAUTION

BAD

STRUCTURE
B-69-022

STH 73

POST #5
+92.5, 35.1' RT

POST #9
+17.6, 34.1' RT

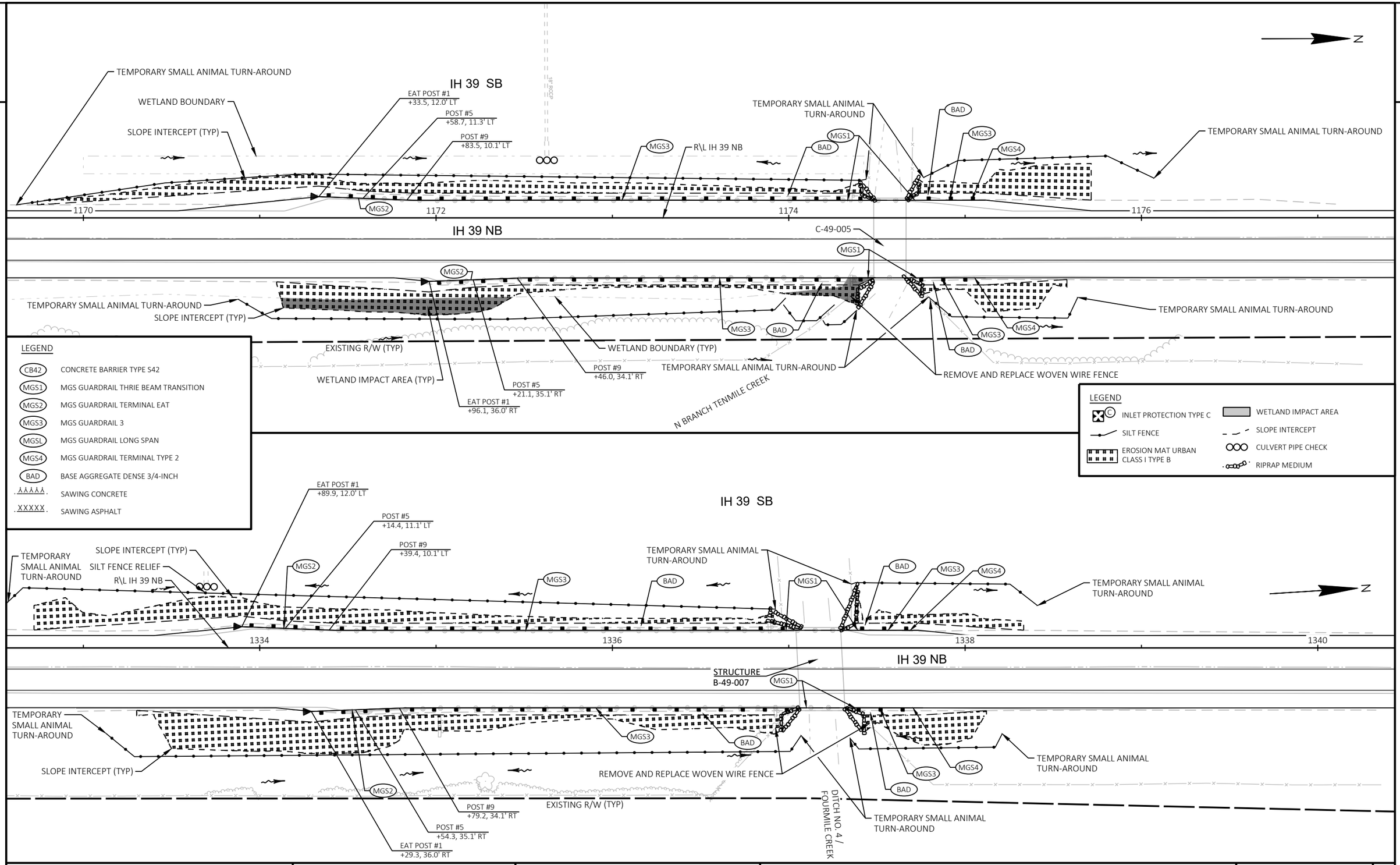
EAT POST #1
+67.5, 36.0' RT

WE ENERGIES - GAS

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | GUARDRAIL DETAILS | SHEET 20 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\021201-PD.DWG
LAYOUT NAME - 01
PLOT DATE : 5/1/2026 10:28 AM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

2




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | GUARDRAIL DETAILS | SHEET 21 | E |
|---|---|---|---|---|---|

2

2

N

IH 39 SB

TEMPORARY SMALL ANIMAL TURN-AROUND

R\L IH 39 NB

SLOPE INTERCEPT (TYP)

EAT POST #1 +20.9, 12.0' LT

POST #5 +45.9, 11.1' LT

POST #9 +70.9, 10.1' LT

MGS2

MGS3

BAD

MGS1

MGS4

1412

1414

1416

1418

IH 39 NB

STRUCTURE B-49-008

EXISTING R/W (TYP)

EAT POST #1 +73.1, 36.0' RT

POST #5 +98.1, 35.1' RT

POST #9 +23.1, 34.1' RT

REMOVE AND REPLACE WOVEN WIRE FENCE

DITCH NO. 3

LEGEND

| | |
|---|---|
| CB42 | CONCRETE BARRIER TYPE S42 |
| MGS1 | MGS GUARDRAIL THRIE BEAM TRANSITION |
| MGS2 | MGS GUARDRAIL TERMINAL EAT |
| MGS3 | MGS GUARDRAIL 3 |
| MGSL | MGS GUARDRAIL LONG SPAN |
| MGS4 | MGS GUARDRAIL TERMINAL TYPE 2 |
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| | SAWING CONCRETE |
| | SAWING ASPHALT |

LEGEND

| | |
|---|---|
| C | INLET PROTECTION TYPE C |
| | SILT FENCE |
| | EROSION MAT URBAN CLASS I TYPE B |
| | WETLAND IMPACT AREA |
| | SLOPE INTERCEPT |
| | CULVERT PIPE CHECK |
| | RIPRAP MEDIUM |

2.2'

3.2'

POSTS WITHIN 8' OF GAS LINE SHALL BE HAND DUG (TYP)

CAUTION

DETAIL A

9.2'

DETAIL B

SLOPE INTERCEPT (TYP)

R\L IH 39 NB

TEMPORARY SMALL ANIMAL TURN-AROUND

EAT POST #1 +08.1, 12.0' LT

POST #5 +33.0, 11.1' LT

POST #9 +58.0, 10.1' LT

1464

1466

1468

1470

DETAIL A

IH 39 NB

DETAIL B

STRUCTURE B-49-009

SLOPE INTERCEPT (TYP)

FLINT HILLS - GAS

EAT POST #1 +60.3, 36.0' RT

POST #5 +85.3, 35.1' RT

POST #9 +10.3, 34.1' RT

REMOVE AND REPLACE WOVEN WIRE FENCE

DITCH NO. 8

EXISTING R/W (TYP)

| | | | |
|---|---|---|---|
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | GUARDRAIL DETAILS |

SHEET 22 E

FILE NAME : O:\PDS\C3D\11660510\SHEETS\021201-PD.DWG
LAYOUT NAME - 03

PLOT DATE : 5/1/2026 10:29 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 44

2

IH 39 SB

EAT POST #1
+04.3, 12.0' LT

POST #5
+29.3, 11.1' LT

POST #9
+54.3, 10.1' LT

TEMPORARY SMALL ANIMAL
TURN-AROUND

SLOPE INTERCEPT (TYP)

MGS2

R\L IH 39 NB

MGS3

BAD

TEMPORARY SMALL ANIMAL
TURN-AROUND

MGS1

BAD

MGS3

MGS4

CULVERT 49039007558
STA 1523+35
EXISTING 30" CPCS (LINED)

TEMPORARY SMALL ANIMAL
TURN-AROUND

N

1518

1520

1522

1524

9 NB

IH 39 NB

STRUCTURE
B-49-010

MGS1

TEMPORARY SMALL ANIMAL
TURN-AROUND

MGS4

POST #9
+06.6, 34.1' RT

MGS3

BAD

EAT POST#1
+56.6, 36.0' RT

MGS2

POST #5
+81.6, 35.1' RT

SLOPE INTERCEPT (TYP)

TEMPORARY SMALL ANIMAL
TURN-AROUND

MGS3

BAD

TEMPORARY SMALL ANIMAL
TURN-AROUND

EXISTING R/W (TYP)

REMOVE AND REPLACE WOVEN WIRE FENCE

DITCH NO.2 /
BUENA VISTA CREEK

LEGEND

| | |
|---|---|
| CB42 | CONCRETE BARRIER TYPE S42 |
| MGS1 | MGS GUARDRAIL THRIE BEAM TRANSITION |
| MGS2 | MGS GUARDRAIL TERMINAL EAT |
| MGS3 | MGS GUARDRAIL 3 |
| MGSL | MGS GUARDRAIL LONG SPAN |
| MGS4 | MGS GUARDRAIL TERMINAL TYPE 2 |
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| XXXXX | SAWING CONCRETE |
| XXXXX | SAWING ASPHALT |

LEGEND

| | |
|---|---|
| INLET PROTECTION TYPE C | WETLAND IMPACT AREA |
| SILT FENCE | SLOPE INTERCEPT |
| EROSION MAT URBAN CLASS I TYPE B | CULVERT PIPE CHECK |
| | RIPRAP MEDIUM |

IH 39 SB

CULVERT 49039007560
STA 1560+63
EXISTING 72"X 72" CATTLE PASS

R\L IH 39 NB

N

1556

1558

1560

1562

IH 39 NB

POST #9
+38.6, 34.1' RT

MGS3

BAD

TEMPORARY SMALL ANIMAL
TURN-AROUND

SLOPE INTERCEPT (TYP)

MGS2

TEMPORARY SMALL ANIMAL
TURN-AROUND

MGSL

MGS4

EXISTING R/W (TYP)

TEMPORARY SMALL ANIMAL
TURN-AROUND

POST #5
+13.6, 35.1' RT

EAT POST #1
+88.7, 36.0' RT

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | GUARDRAIL DETAILS | SHEET 23 | E |
|---|---|---|---|---|---|

2

LEGEND

- ADJUSTING EAT
- REPLACING GUARDRAIL RAIL AND HARDWARE
- REPLACING GUARDRAIL POST AND BLOCKS
- REPLACING GUARDRAIL POSTS AND BLOCKS - EAT
- RE — REMOVE EXCESS MATERIAL UNDER GUARDRAIL

N

2

ALLIANT ENERGY

FO FO MH FO FO FO FO FO FO FO

WISDOT -ELECTRICITY

EAT IS 2" BELOW REQUIRED HEIGHT

R\L CTH W

RE

STRUCTURE B-49-042

EAT IS 1.5" BELOW REQUIRED HEIGHT

RE

12" CMP

CTH D

TWISTED BLOCK ON POST

504D 506D 508D 510D

RE

EAT IS 2" BELOW REQUIRED HEIGHT

ROTATED BLOCK

WISDOT -ELECTRICITY

IH 39 SB

IH 39 NB

ROTATED BLOCK

RE

EAT IS 3" BELOW REQUIRED HEIGHT

WPS -ELECTRICITY

E

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | GUARDRAIL DETAILS - CTH D | SHEET 24 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\021202-PD.DWG
LAYOUT NAME - 05

PLOT DATE : 5/1/2026 10:30 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- ADJUSTING EAT
- REPLACING GUARDRAIL RAIL AND HARDWARE
- REPLACING GUARDRAIL POST AND BLOCKS
- REPLACING GUARDRAIL POSTS AND BLOCKS - EAT
- RE — REMOVE EXCESS MATERIAL UNDER GUARDRAIL

N

STRUCTURE
B-49-044

EAT IS 2.5" BELOW REQUIRED HEIGHT

RE

R\L CTH W

804W

806W

808W

CTH W

810W

WISDOT - ELECTRICITY

EAT IS 2" BELOW REQUIRED HEIGHT

RE

REPLACE 25' RAIL SECTION

NOTE:
SAWCUT AT FLANGE FOR CLEAN EDGE TO PAVE ASPHALT UP TO (TYP)

RE

EAT IS 1" BELOW REQUIRED HEIGHT

RE

IH 39 SB

IH 39 NB

EAT IS 1.5" BELOW REQUIRED HEIGHT

ROTATED BLOCK

REPLACE 25' RAIL SECTION

WISDOT - ELECTRICITY

2

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | GUARDRAIL DETAILS - CTH W | SHEET 25 | E |
|---|---|---|---|---|---|

2

2

N

STA 855+68.02, 39.12' LT
CONCRETE COLLARS
6933 D

EX PIPE ID: 6933
STA 855+69
CPRCHE CLASS HE-IV 19x30-INCH REQUIRED
SKEW 0° `

STA 855+14
MATCH EXISTING
SAW CUT REQ'D

STA 856+21
MATCH EXISTING
SAW CUT REQ'D

853+00 854+00 855+00 856+00 857+00 858+00

IH 39 NB

IH 39 R/L

4'
12'
12'
11'

STA 855+67.53, 40.87' RT
APRON ENDWALLS FOR CPRCHE 19x30-INCH
6933 U

EXISTING R/W (TYP)

LEGEND

- INLET PROTECTION TYPE A
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- RIPRAP MEDIUM
- PIPE CHECK
- SLOPE INTERCEPT
- WETLAND IMPACTS

N

WETLAND BOUNDARY (TYP)

STA 1188+01.87, 28.65' LT
CONCRETE COLLARS
8972 D

EX PIPE ID: 8972
STA 1187+85
CPRC CLASS IV 48-INCH REQUIRED
SKEW 26° LHF

STA 1187+13
MATCH EXISTING
SAW CUT REQ'D

STA 1188+45
MATCH EXISTING
SAW CUT REQ'D

48" CPRC

1185+00 1186+00 1187+00 1188+00 1189+00 1190+00

4'
12'
12'
10'

IH 39 R/L

IH 39 NB

STA 1187+64.68, 42.18' RT
APRON ENDWALLS FOR CPRC 48-INCH
8972 U

WETLAND BOUNDARY (TYP)

EXISTING R/W (TYP)

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CULVERT REPLACEMENT DETAILS | SHEET 26 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\021203-PD.DWG
LAYOUT NAME - 01

PLOT DATE : 7/28/2026 4:28 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

N

UNION TEL CO - APRROX

WPS ELEC - APRROX

WETLAND BOUNDARY (TYP)

STA 1207+69.76, 26.38' LT
CONCRETE COLLARS
7546 D

7547 D
STA 1208+29.49, 23.01' LT
CONCRETE COLLARS

STA 1206+93
MATCH EXISTING
SAW CUT REQ'D

STA 1208+76
MATCH EXISTING
SAW CUT REQ'D

4'
2.5'
12'
12'
10'

IH 39 NB

IH 39 R/L

STA 1207+42.57, 48.86' RT
APRON ENDWALLS FOR CPRC 30-INCH
7546 U

EX PIPE ID: 7546
STA 1207+58
CPRC CLASS III 30-INCH REQUIRED
SKEW 18° LHF

7547 U
STA 1208+01.94, 52.09' RT
APRON ENDWALLS FOR CPRC 30-INCH

EX PIPE ID: 7547
STA 1208+17
CPRC CLASS III 30-INCH REQUIRED
SKEW 18° LHF

WETLAND BOUNDARY (TYP)

LEGEND

- INLET PROTECTION TYPE A
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- RIPRAP MEDIUM
- PIPE CHECK
- SLOPE INTERCEPT
- WETLAND IMPACTS

N

STA 1301+67.32, 39.61' LT
CONCRETE COLLARS
7550 D

STA 1301+14
MATCH EXISTING
SAW CUT REQ'D

STA 1302+19
MATCH EXISTING
SAW CUT REQ'D

1299+00 1300+00 1301+00 1302+00 1303+00 1304+00 1305+00

4'
12'
12'
10'

IH 39 NB

STA 1301+66.10, 37.38' RT
APRON ENDWALLS FOR CPRC 24-INCH
7550 U

EXISTING R/W (TYP)

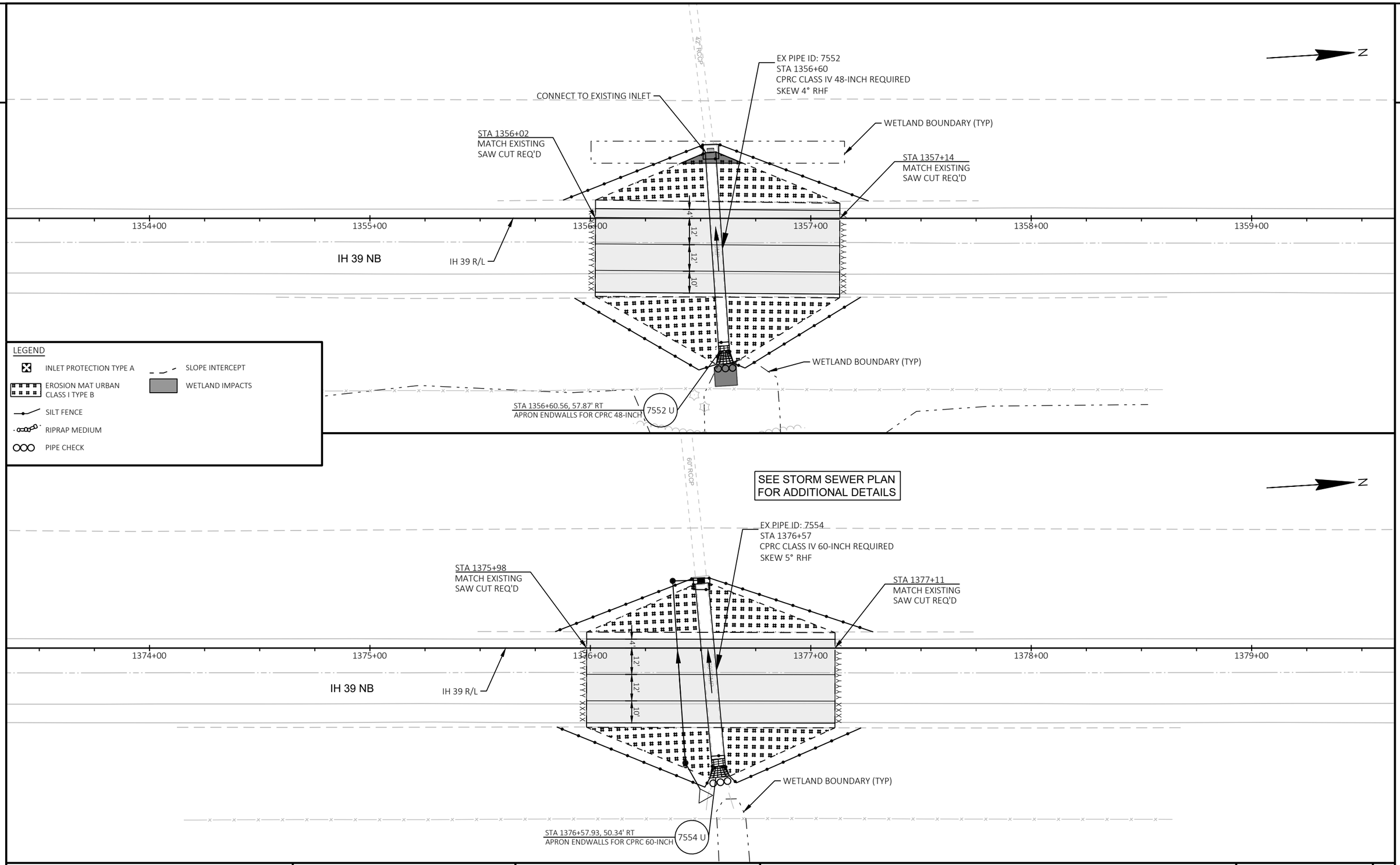
EX PIPE ID: 7550
STA 1301+68
CPRC CLASS IV 24-INCH REQUIRED
SKEW 1° LHF

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CULVERT REPLACEMENT DETAILS | SHEET 27 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\021203-PD.DWG
LAYOUT NAME - 02

PLOT DATE : 7/28/2026 4:28 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:40 FT

2




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CULVERT REPLACEMENT DETAILS | SHEET 28 | E |
|---|---|---|---|---|---|

2

2

N

CONNECT TO EXISTING INLET

EX PIPE ID: 7556
STA 1495+79
CPRC CLASS IV 36-INCH REQUIRED
SKEW 3° RHF

STA 1495+22
MATCH EXISTING
SAW CUT REQ'D

STA 1496+32
MATCH EXISTING
SAW CUT REQ'D

36" RCCP

1493+00 1494+00 1495+00 1496+00 1497+00 1498+00 1499+00

IH 39 NB

IH 39 R/L

4'
12'
12'
10'

STA 1495+78.57, 48.99' RT
APRON ENDWALLS FOR CPRC 36-INCH

7556 U

LEGEND

- INLET PROTECTION TYPE A
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- RIPRAP MEDIUM
- PIPE CHECK
- SLOPE INTERCEPT
- WETLAND IMPACTS

EXISTING R/W (TYP)

N

STA 1523+34.87, 28.39' LT
CONCRETE COLLARS

7558 D

EX PIPE ID: 7558
STA 1523+37
CPRC CLASS IV 30-INCH REQUIRED
SKEW 1° RHF

STA 1522+82
MATCH EXISTING
SAW CUT REQ'D

STA 1523+89
MATCH EXISTING
SAW CUT REQ'D

1521+00 1522+00 1523+00 1524+00 1525+00 1526+00

IH 39 NB

IH 39 R/L

6'
12'
12'
10'

30" RCCP

STA 1523+35.87, 51.61' RT
APRON ENDWALLS FOR CPRC 30-INCH

7558 U

EXISTING R/W (TYP)

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CULVERT REPLACEMENT DETAILS | SHEET 29 | E |
|---|---|---|---|---|---|

2

2

STH 73

SEE SDD "CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES."

N

STRUCTURE
B-69-022

REMOVE EXISTING INLET AND PIPE

883

882

IH 39 NB

12"

CAUTION

WE ENERGIES - GAS

1-U STA 882+90, 33.7' RT
INLETS 2x2.5-V

1-D STA 882+93, 102.2' RT
APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH

SLOPE INTERCEPT (TYP)

STH 73 OFF RAMP

EXISTING R/W (TYP)

OH

G

1130
1125
1120
1115
1110
1105
1100
1095

1-U

PROPOSED PROFILE

1119.29

EXISTING PROFILE

1114.29

CPCPE 12-INCH

1-D

1099.56

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | STORM SEWER | SHEET 30 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\022501-SS.DWG
LAYOUT NAME - 01

PLOT DATE : 5/1/2026 8:56 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:40 FT

NOTES:

1. REMOVE PIPE FROM T01 TO MH01, PIPE FROM MH02 TO T02, AND STRUCTURE T02 AFTER COMPLETION OF TEMPORARY DIVERSION FOR CULVERT PIPE REPLACEMENT.
2. SEAL STRUCTURE OPENINGS ON T01, MH01, AND MH02.

N

STA 1376+50, 30.8' LT
INLETS MEDIAN 2G-MS
T01

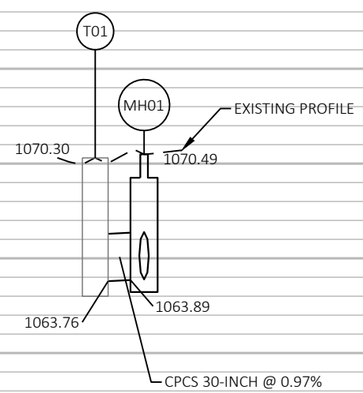
CONNECTING TO
EXISTING INLET

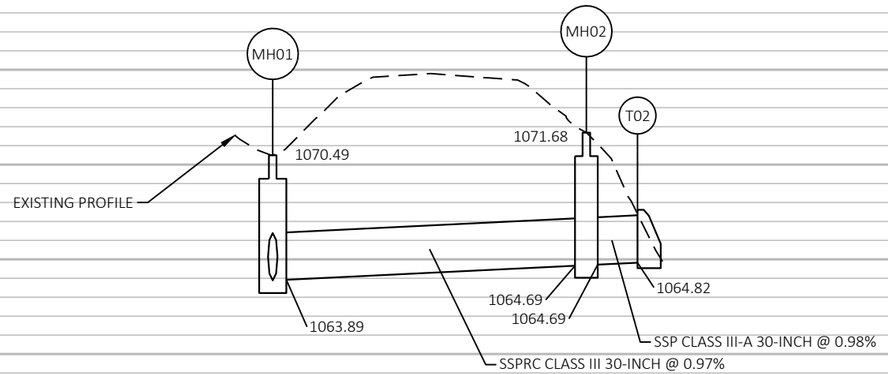
STA 1376+37, 30.5' LT
MANHOLES 6-J
MH01

T02
STA 1376+50, 63.9' RT
APRON ENDWALL FOR CULVERT PIPE 30-INCH

MH02
STA 1376+43, 52.1' RT
MANHOLES 5-J

60" RCCP
60" CMP
30"
30"
30"
EXISTING R/W (TYP)
IH 39 NB
1377
1376



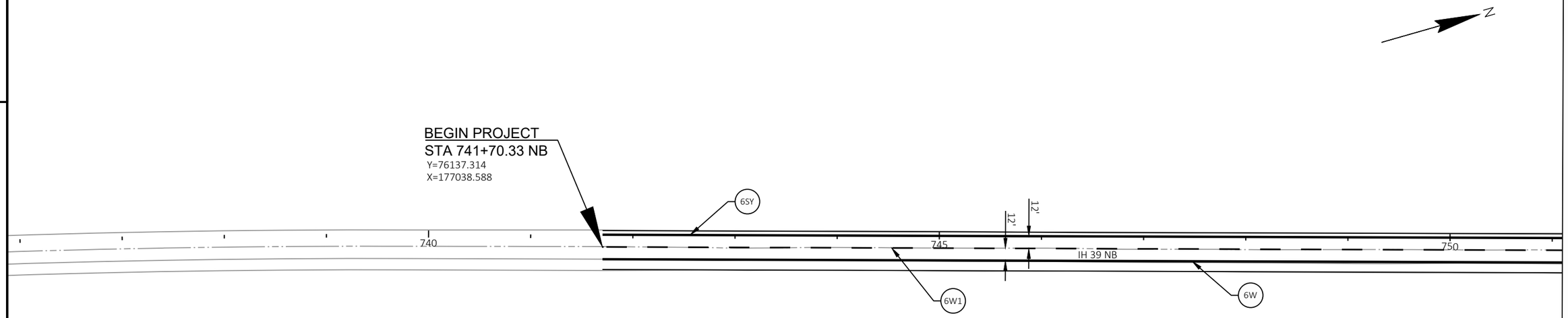




1085 1080 1075 1070 1065 1060 1055 1050

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | STORM SEWER | SHEET 31 E |
|---|---|---|---|---|

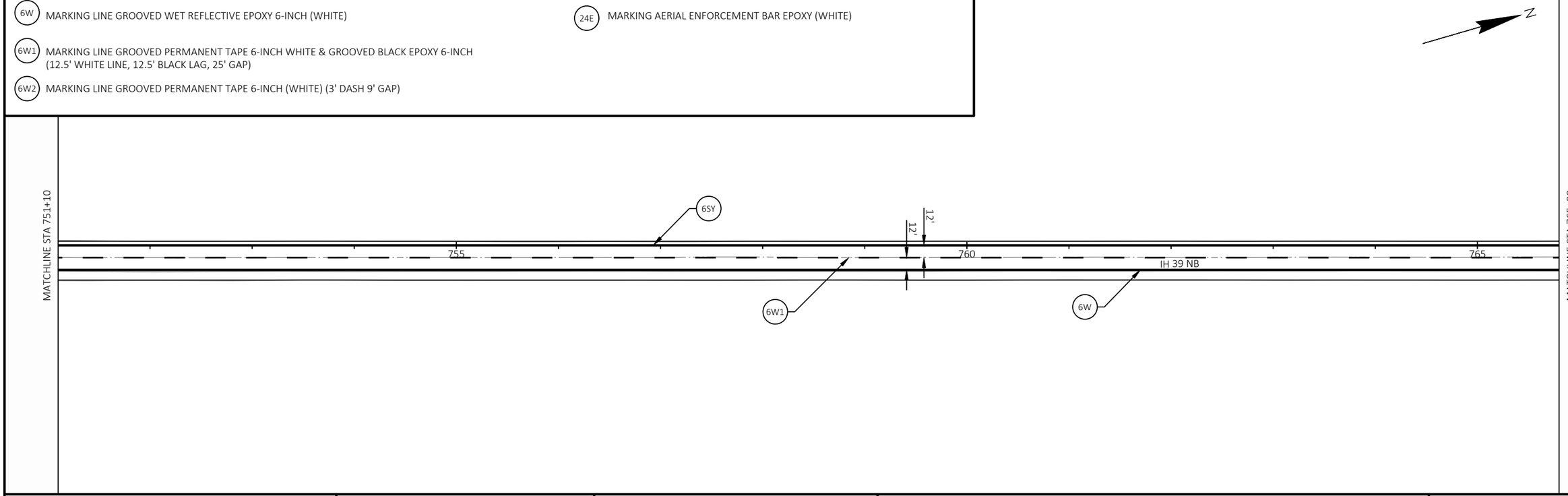
FILE NAME : O:\PDS\C3D\11660510\SHEETS\022501-SS.DWG
LAYOUT NAME - 02
PLOT DATE : 5/1/2026 8:56 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

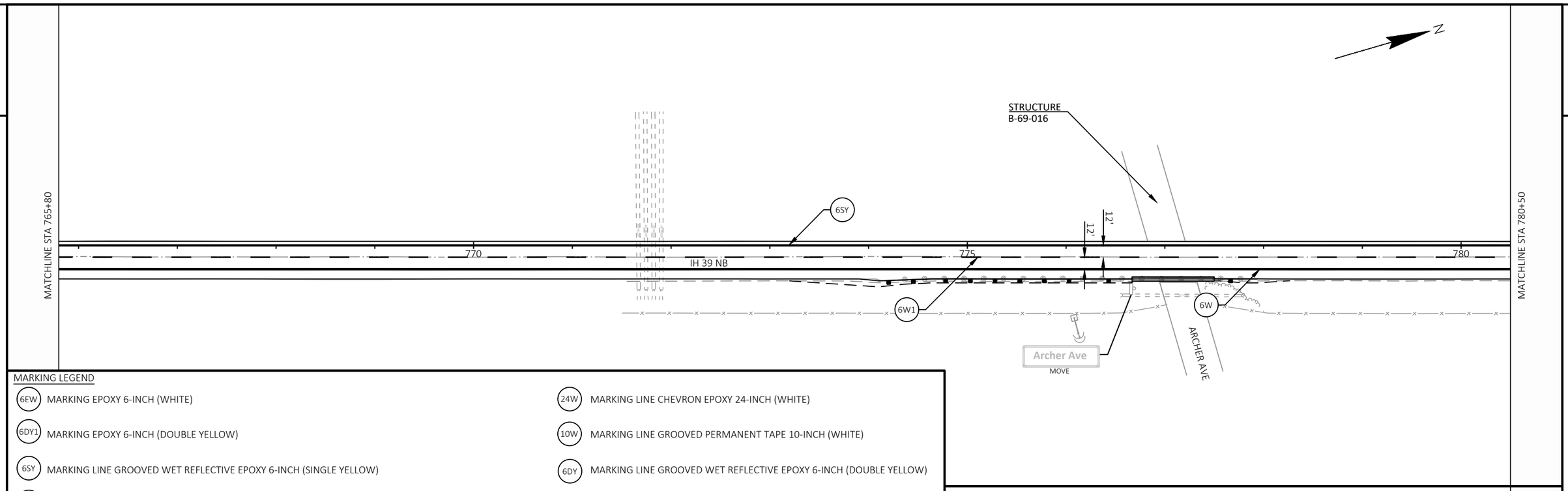



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

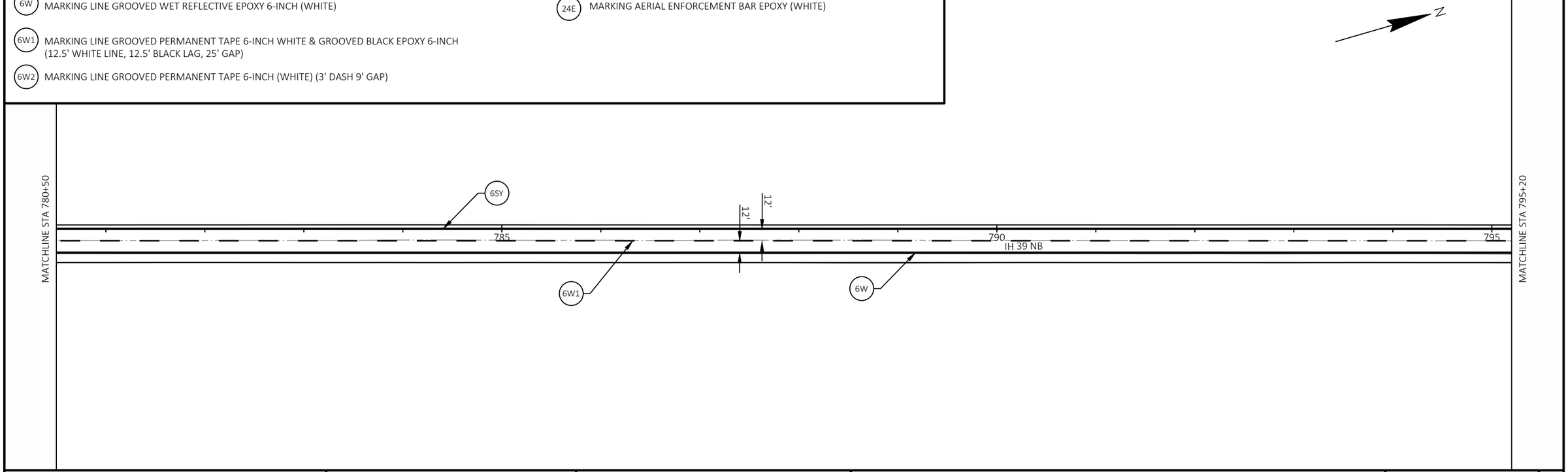



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 32 | E |
|---|---|---|---|---|---|

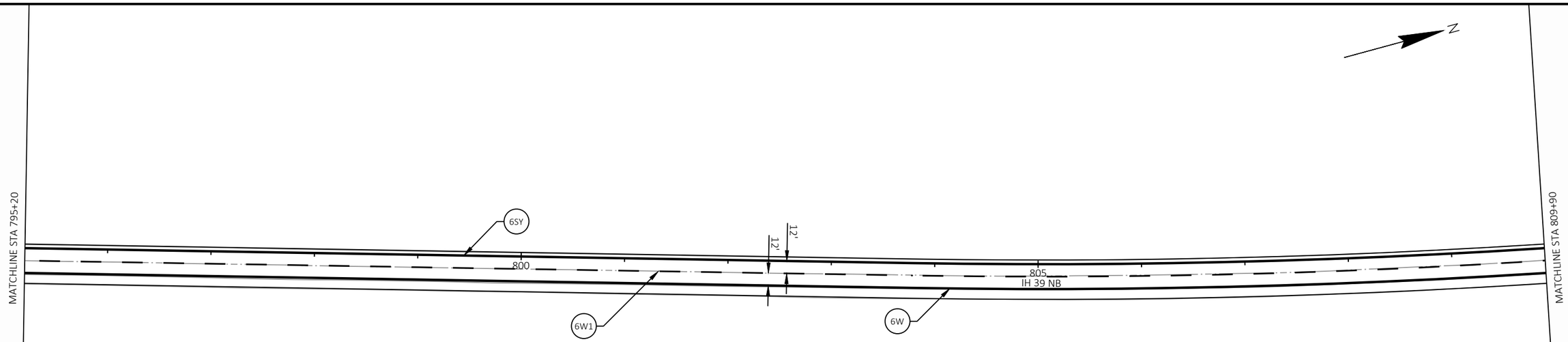



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

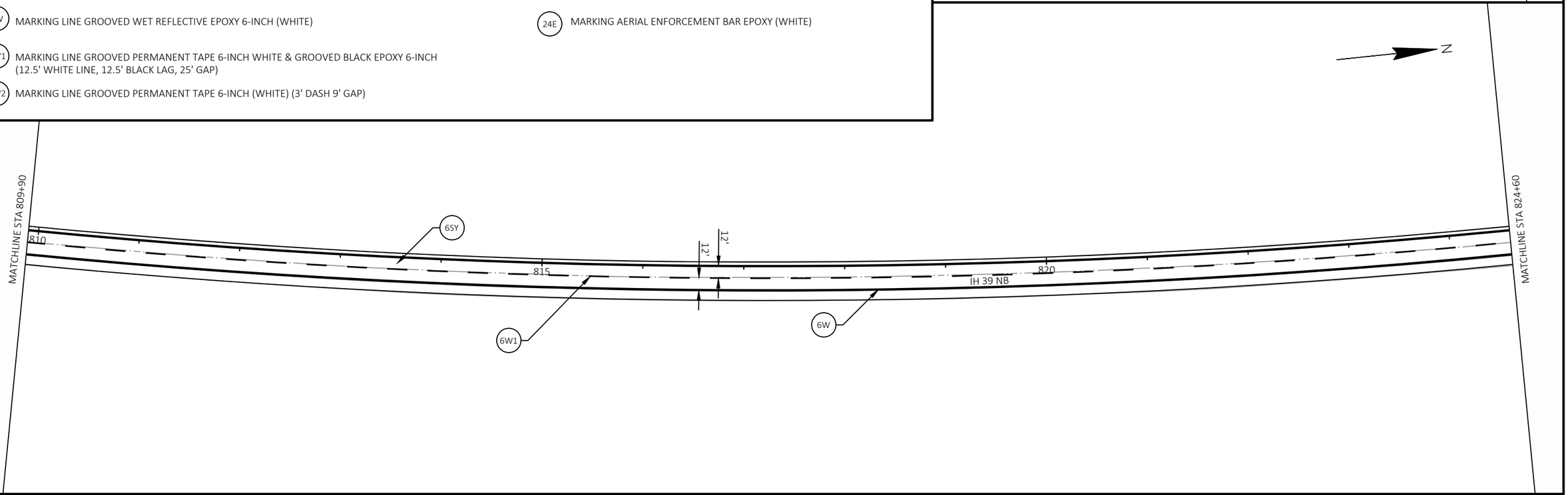



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 33 E |
|---|---|---|---|---|

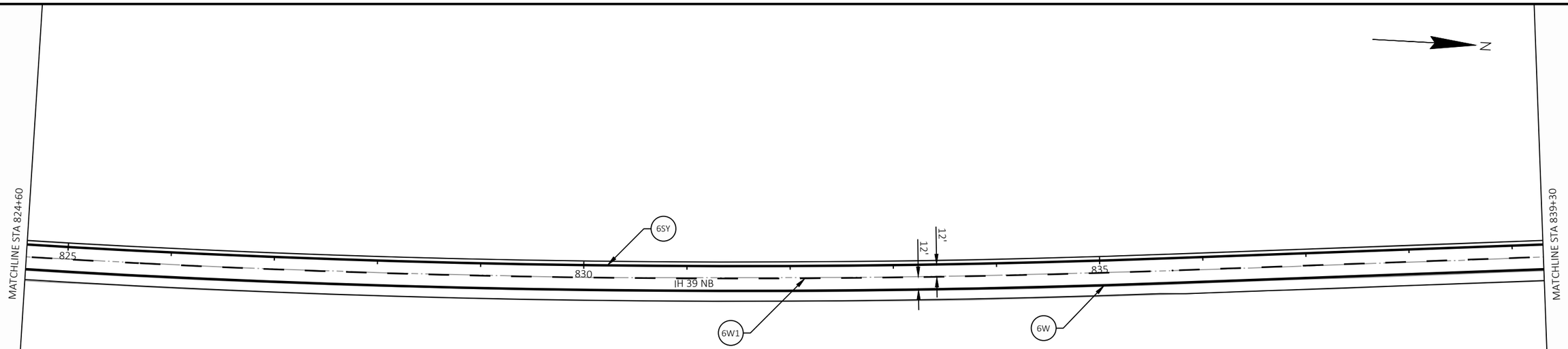



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

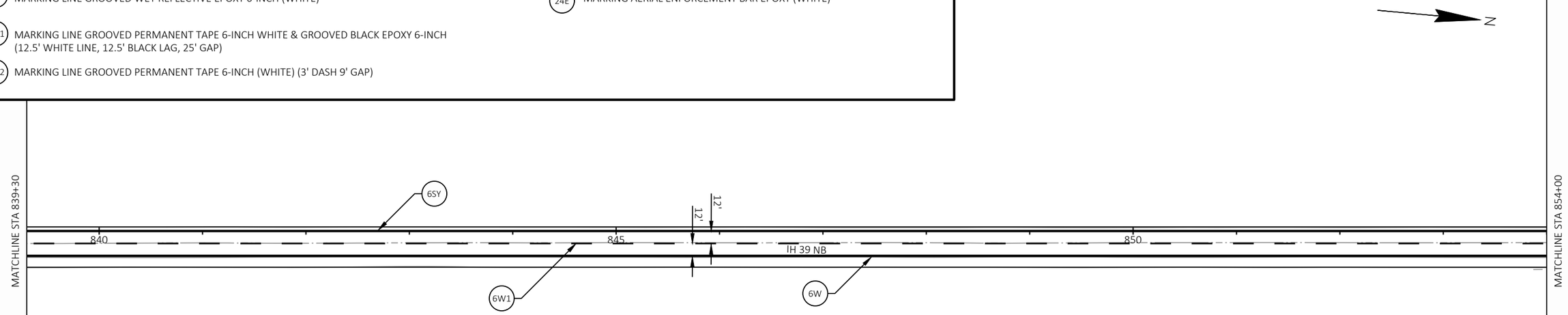



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 34 | E |
|---|---|---|---|---|---|

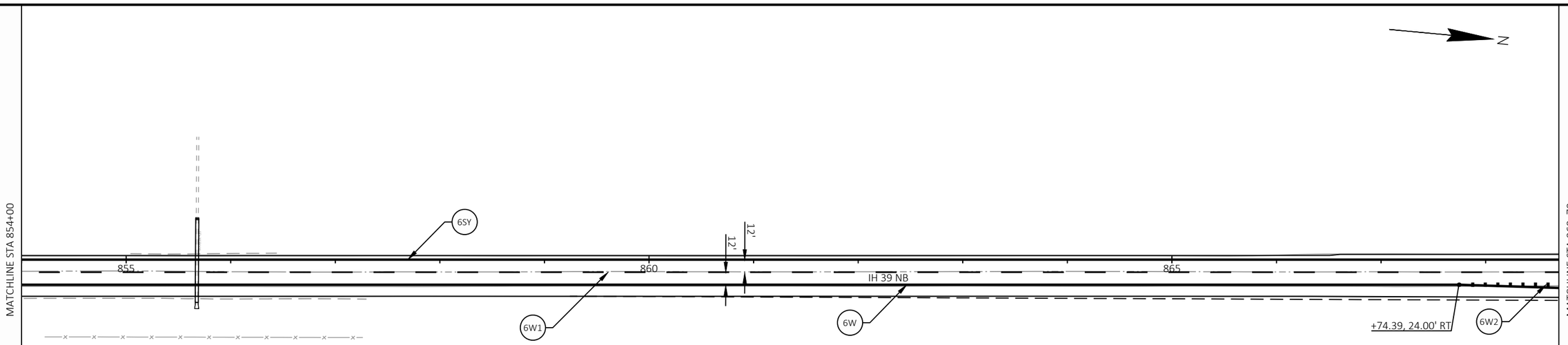



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)



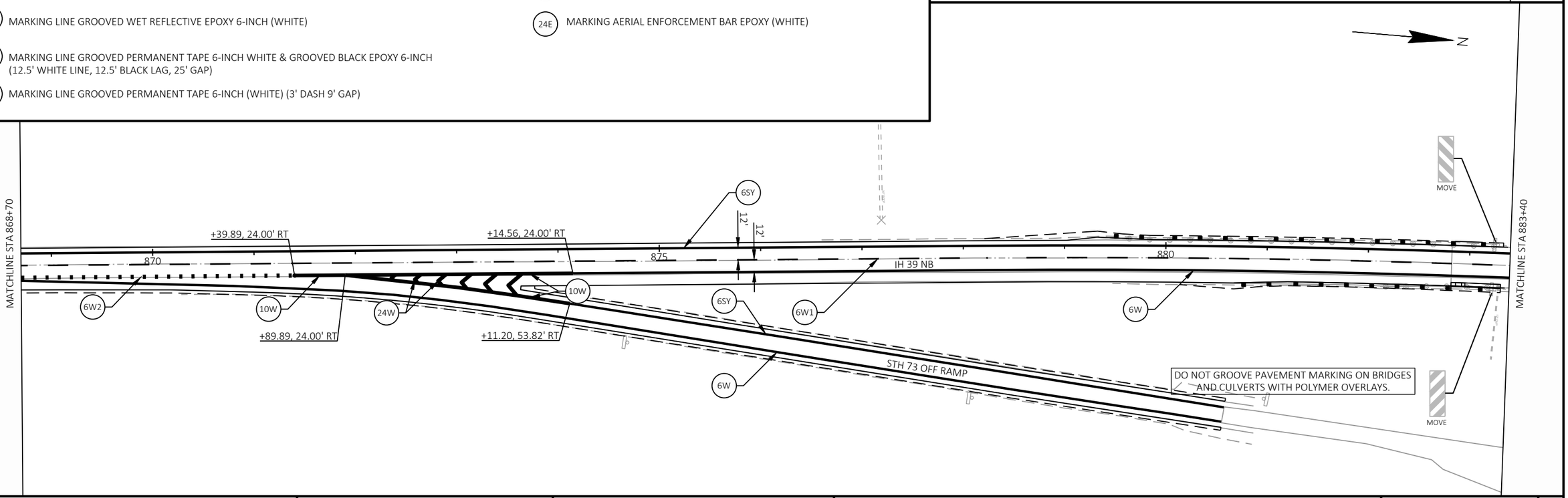

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 35 | E |
|---|---|---|---|---|---|



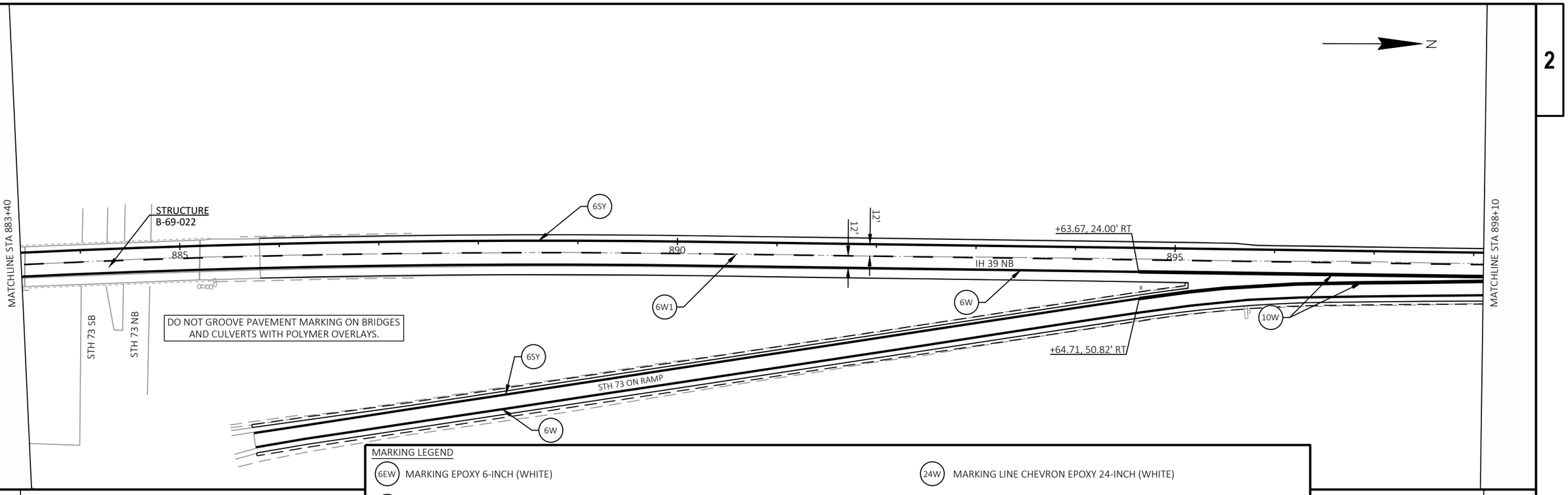

2

MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

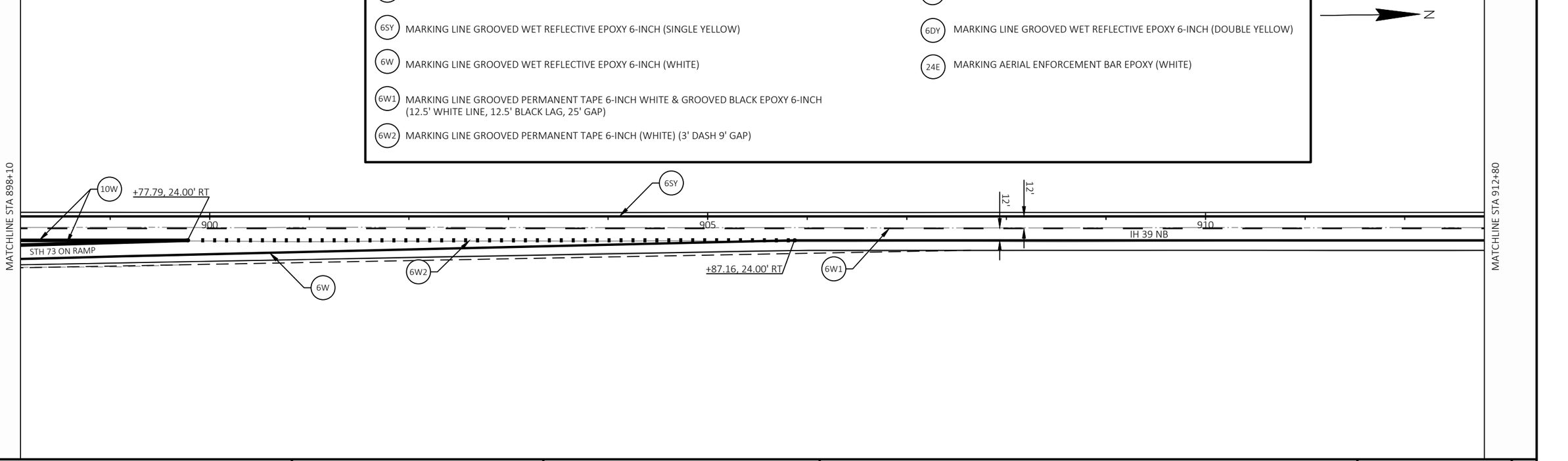



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 36 | E |
|---|---|---|---|---|---|



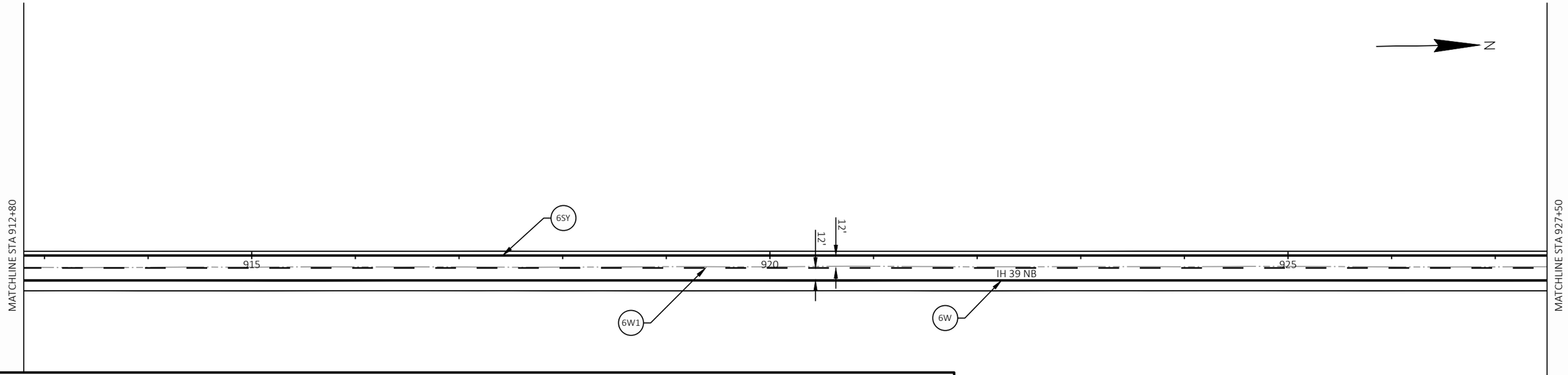

MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)



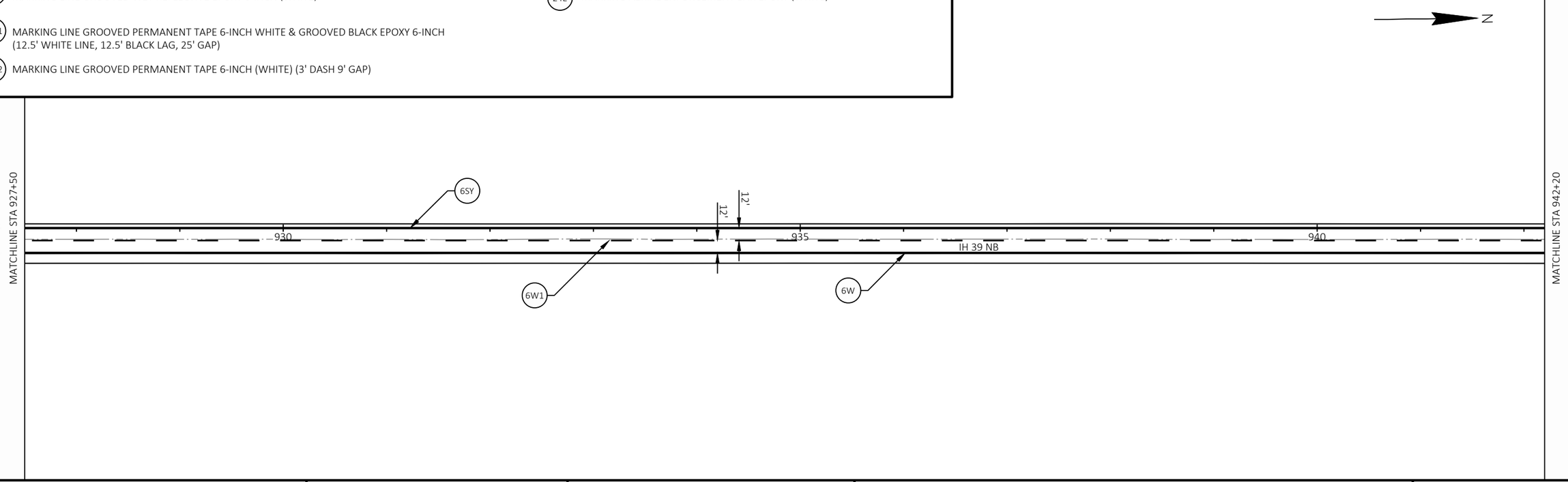

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 37 | E |
|---|---|---|---|---|---|

2

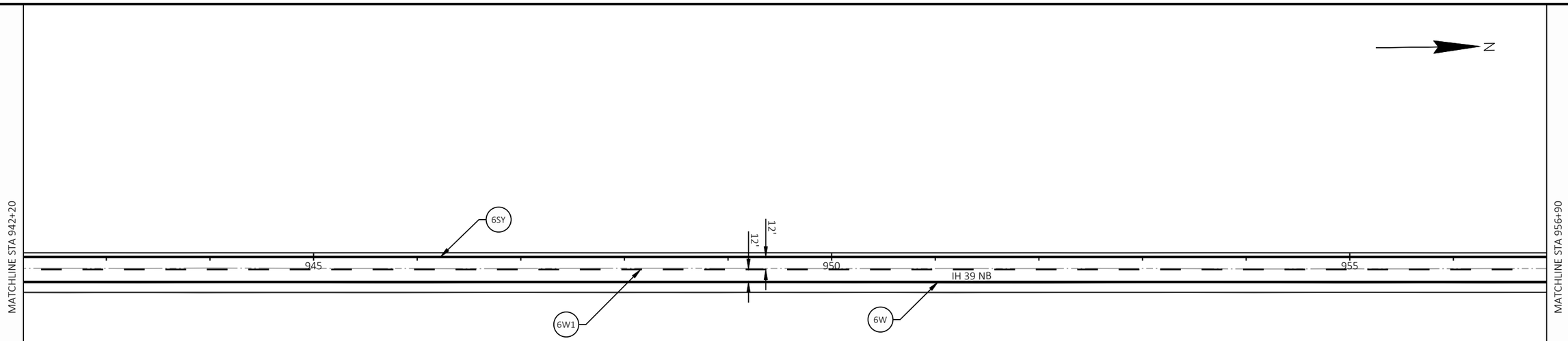



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

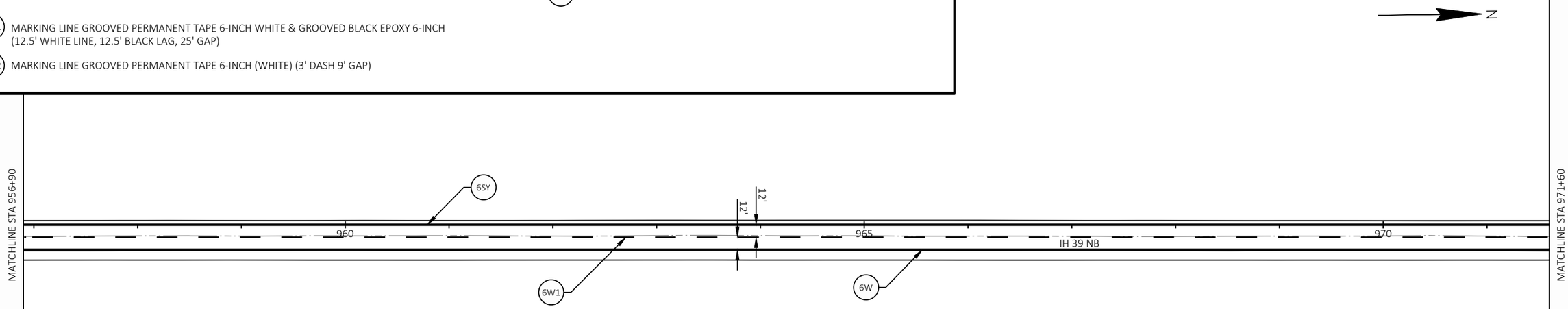



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 38 | E |
|---|---|---|---|---|---|



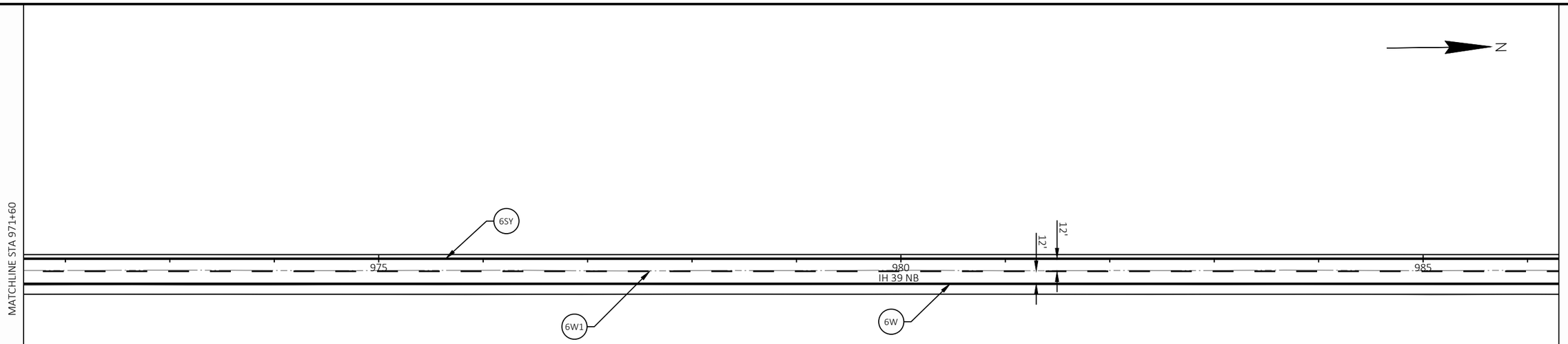

MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)



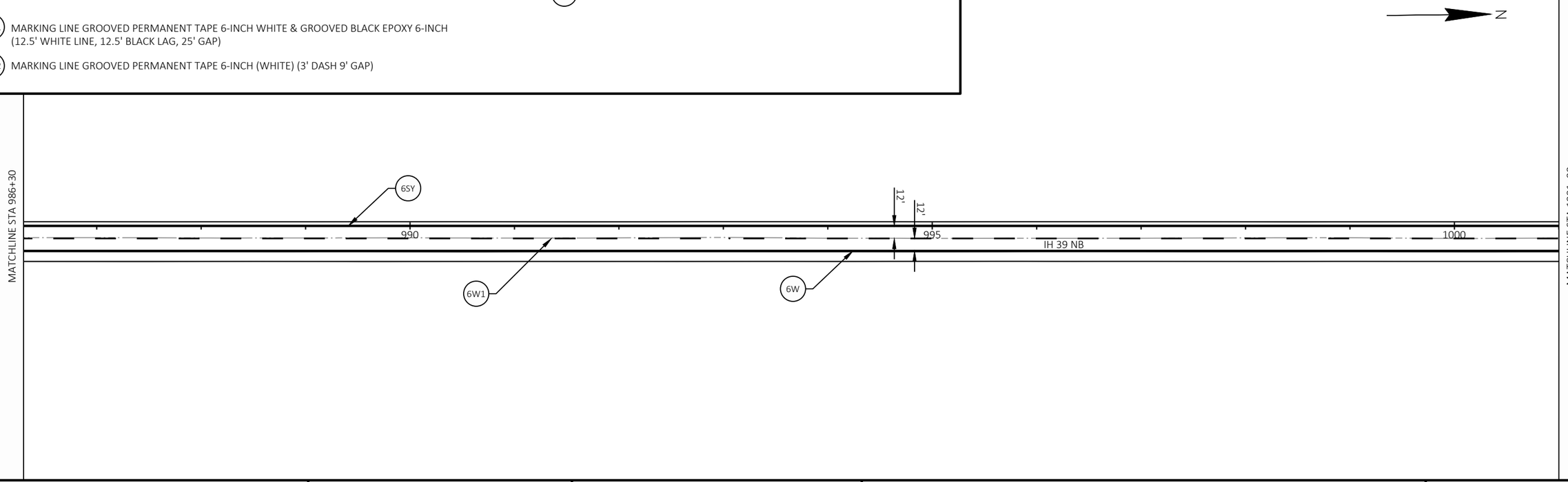

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 39 E |
|---|---|---|---|---|

2

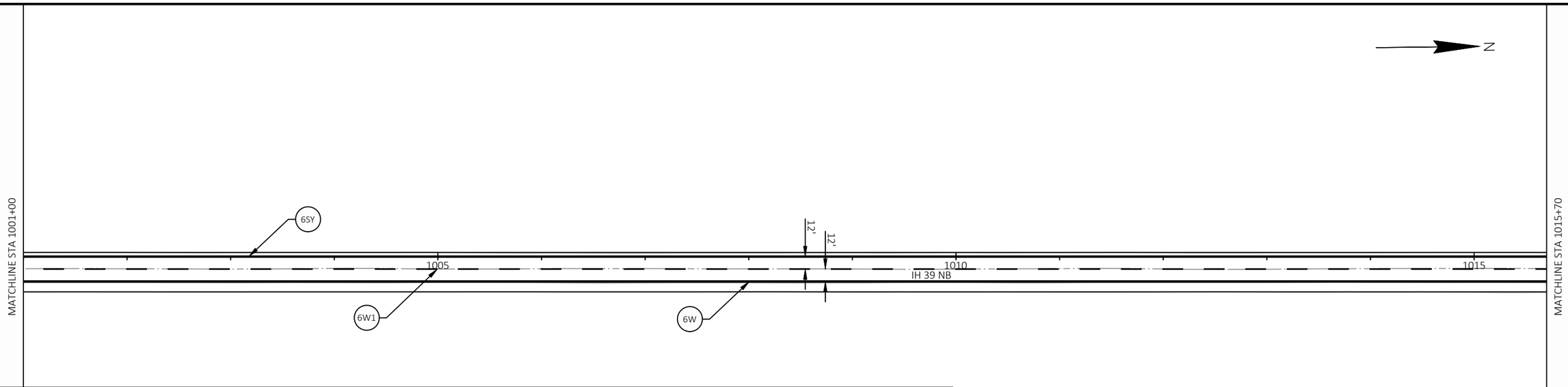



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

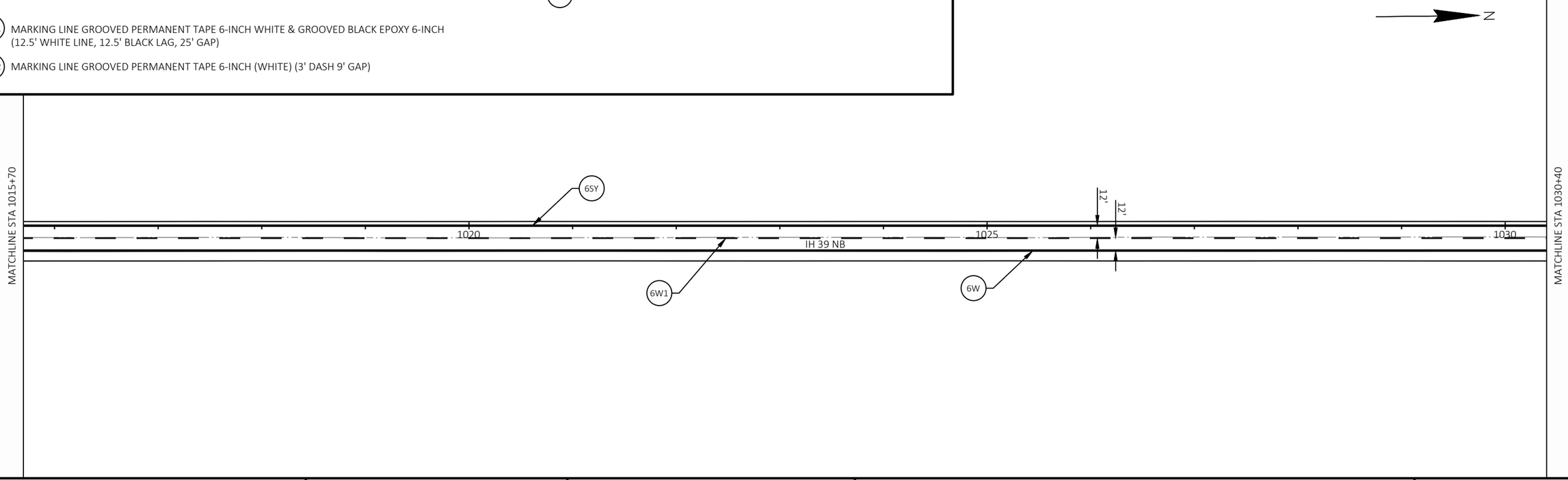



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 40 | E |
|---|---|---|---|---|---|

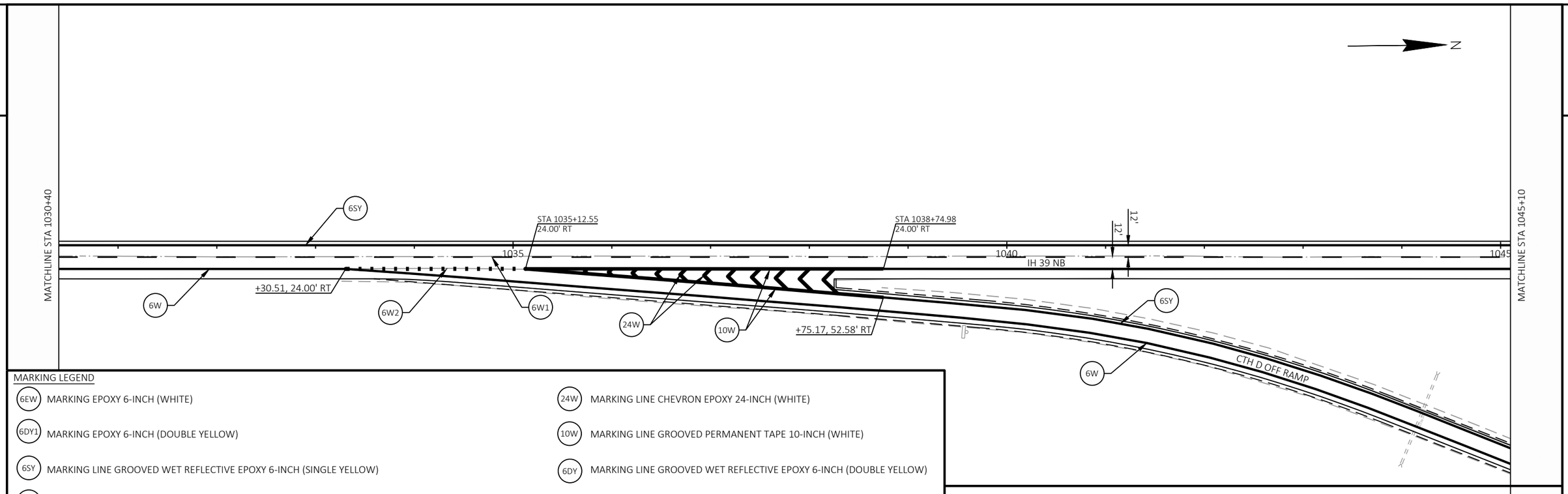



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

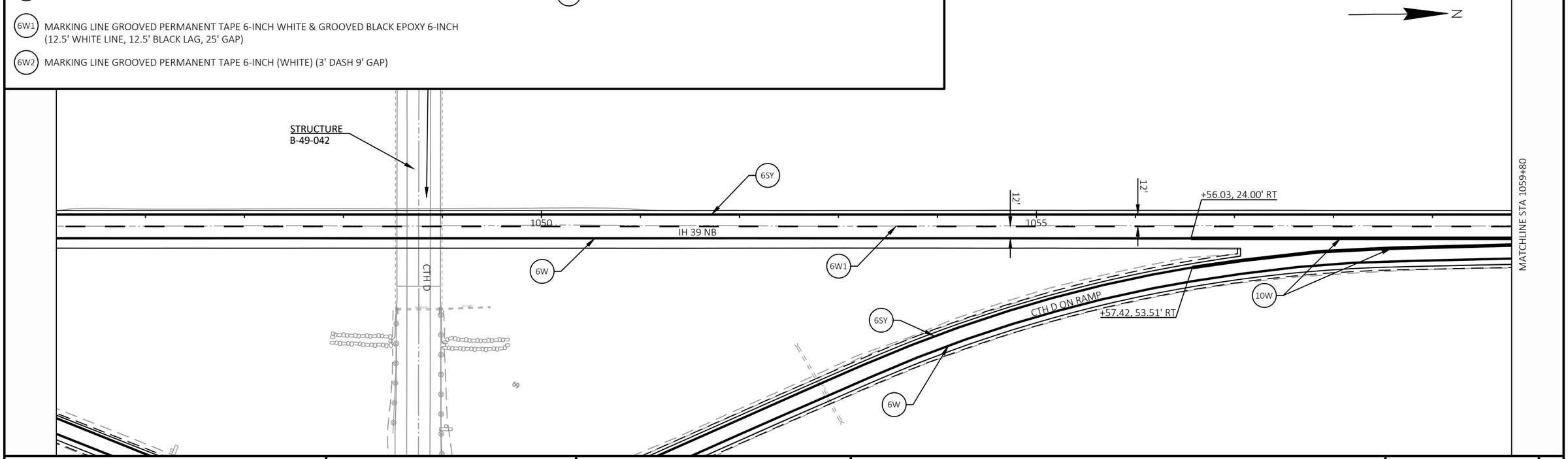



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 41 | E |
|---|---|---|---|---|---|

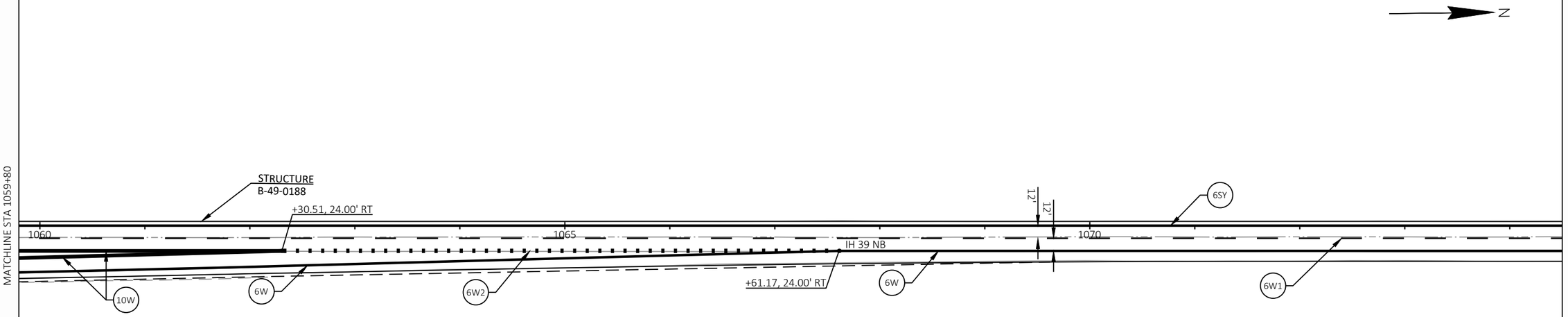



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

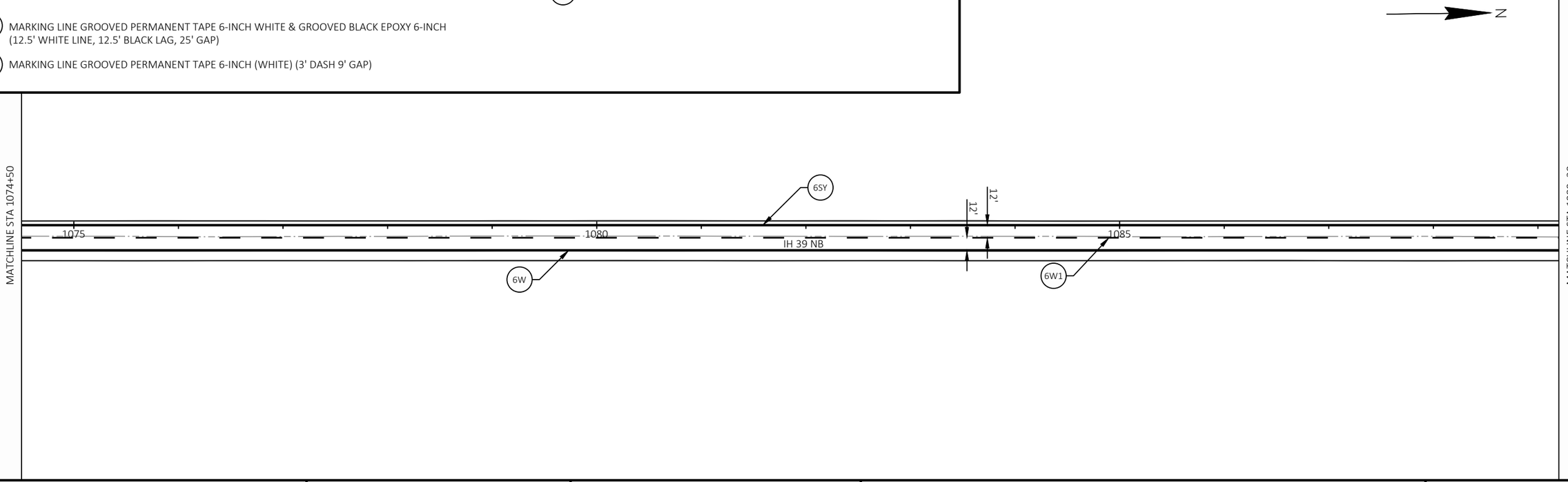



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 42 | E |
|---|---|---|---|---|---|

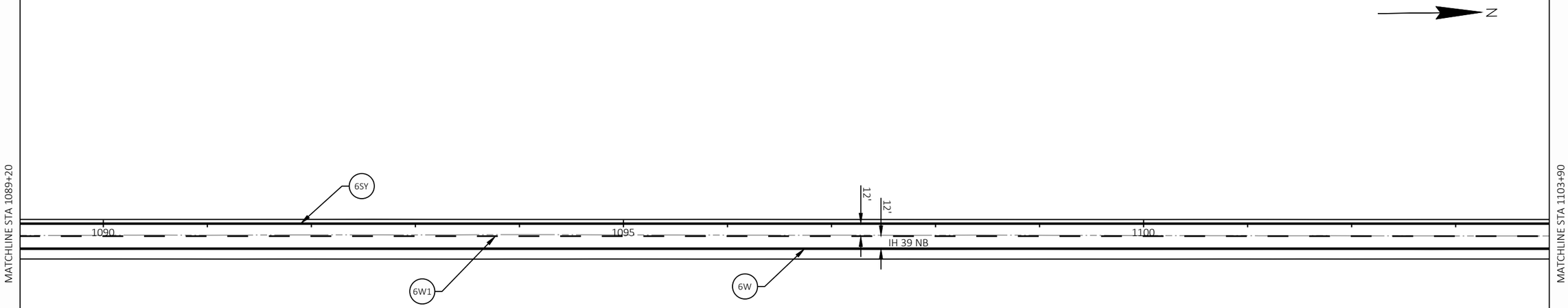



MARKING LEGEND

- 6EW MARKING EPOXY 6-INCH (WHITE)
- 6DY1 MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

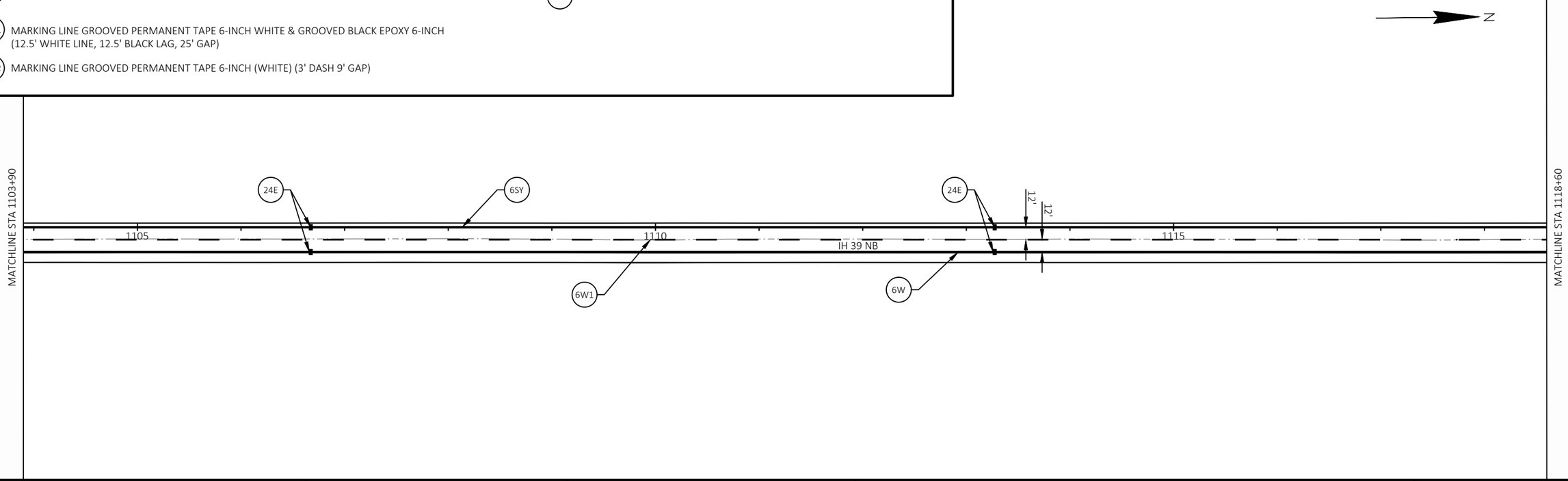



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 43 | E |
|---|---|---|---|---|---|

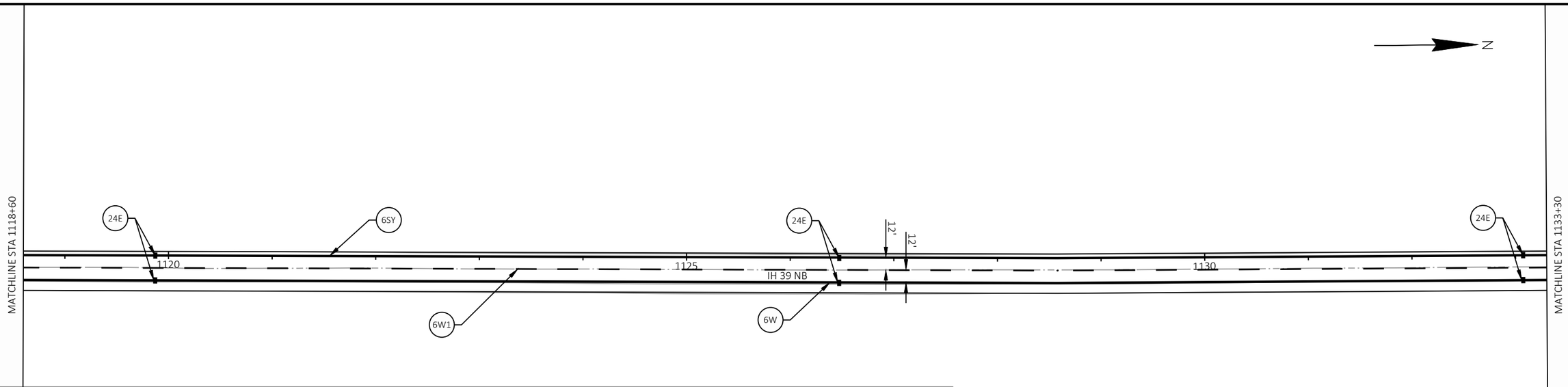



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

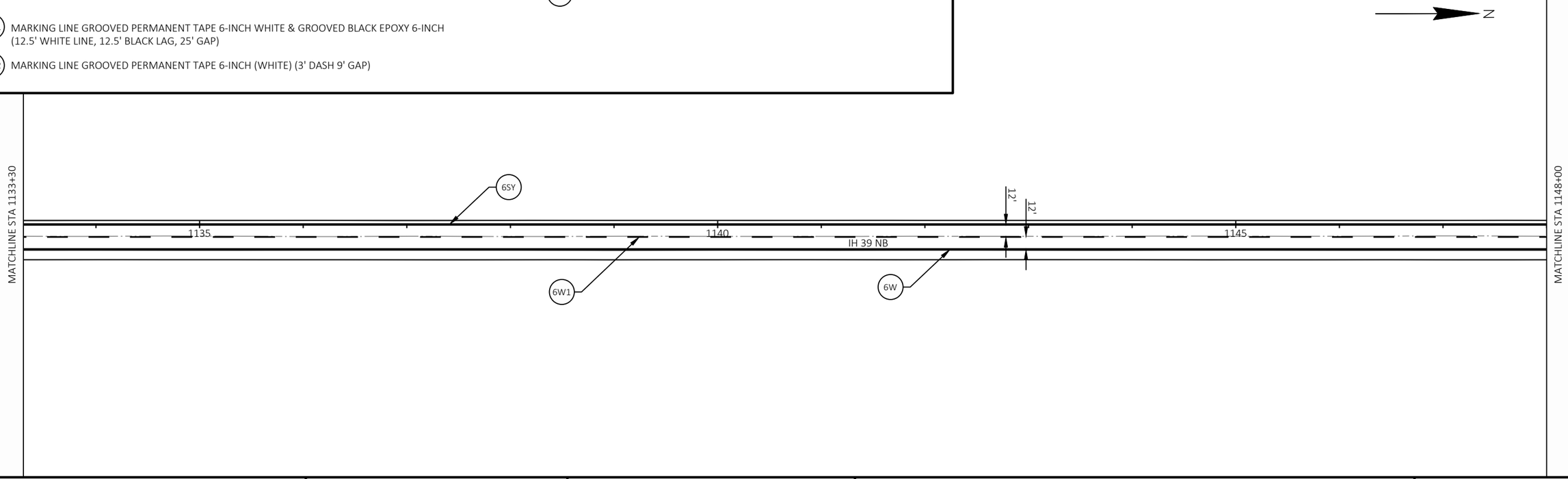



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 44 | E |
|---|---|---|---|---|---|

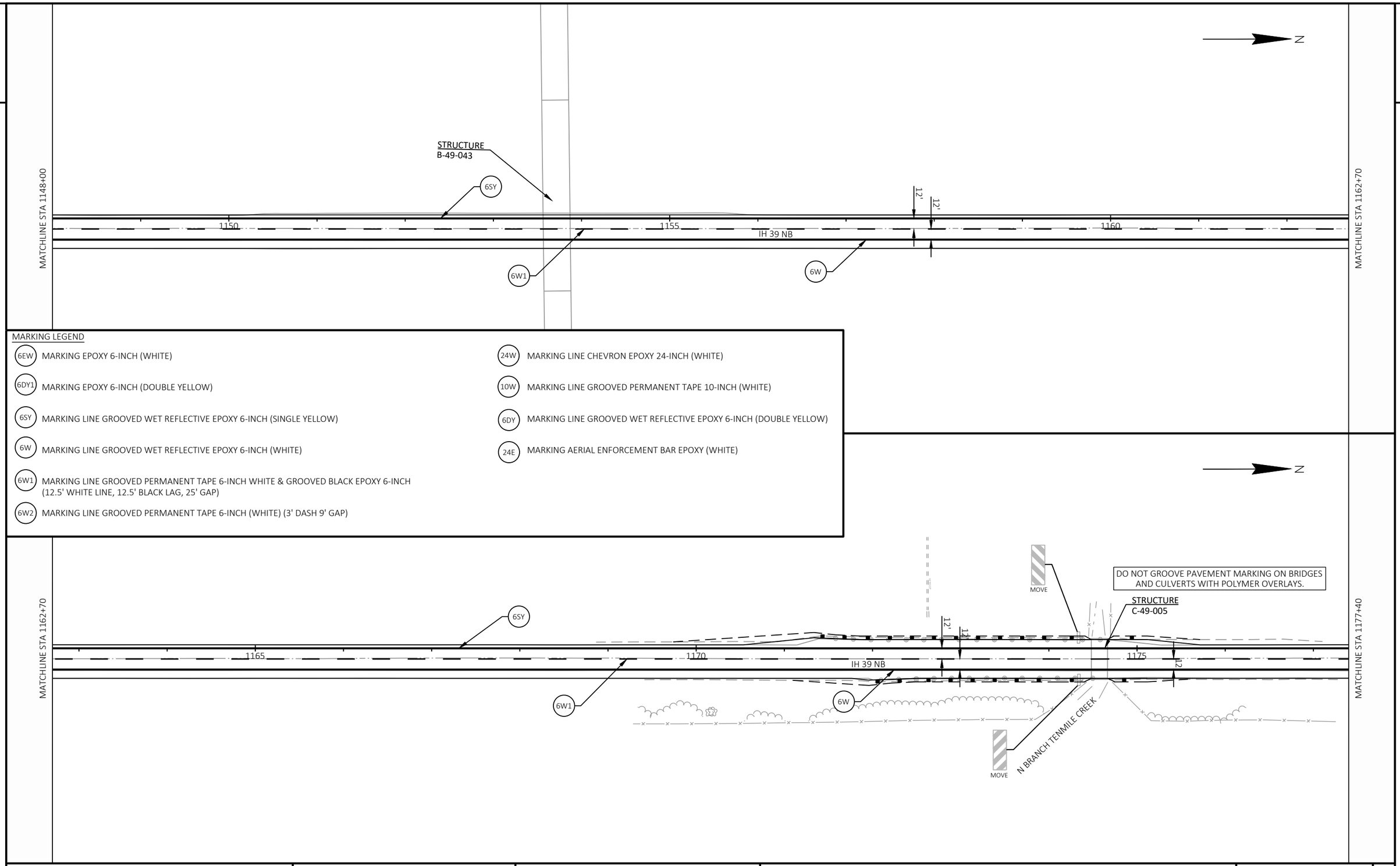



MARKING LEGEND

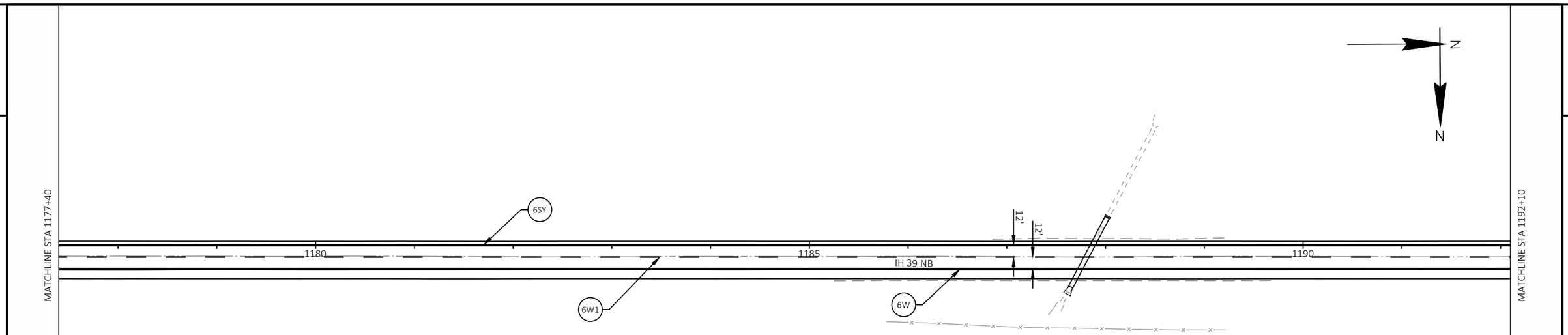
- 6EW MARKING EPOXY 6-INCH (WHITE)
- 6DY1 MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 45 | E |
|---|---|---|---|---|---|

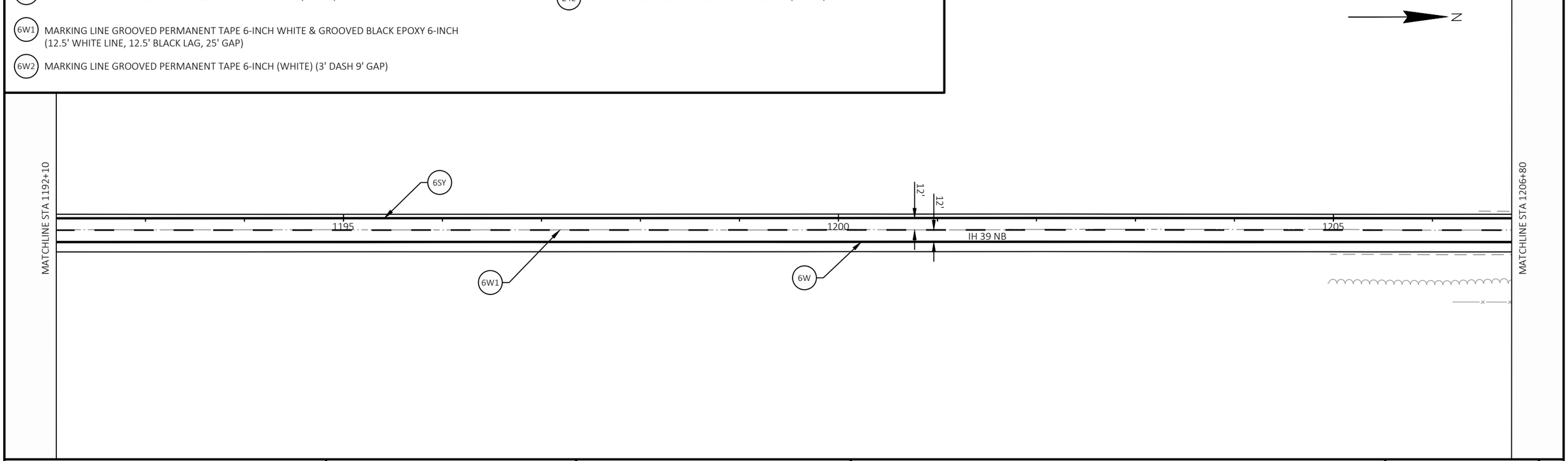



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 46 | E |
|---|---|---|---|---|---|

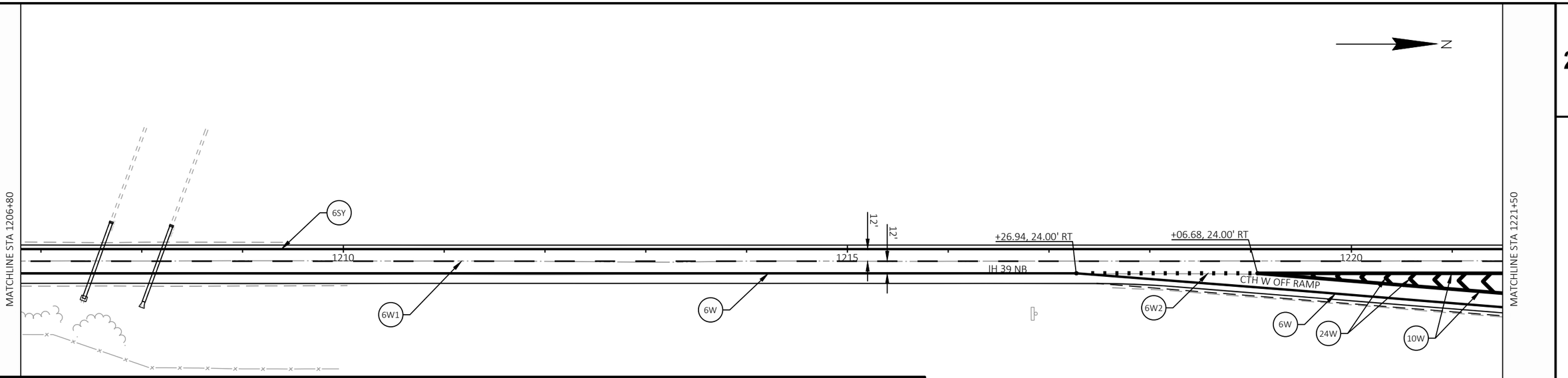



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

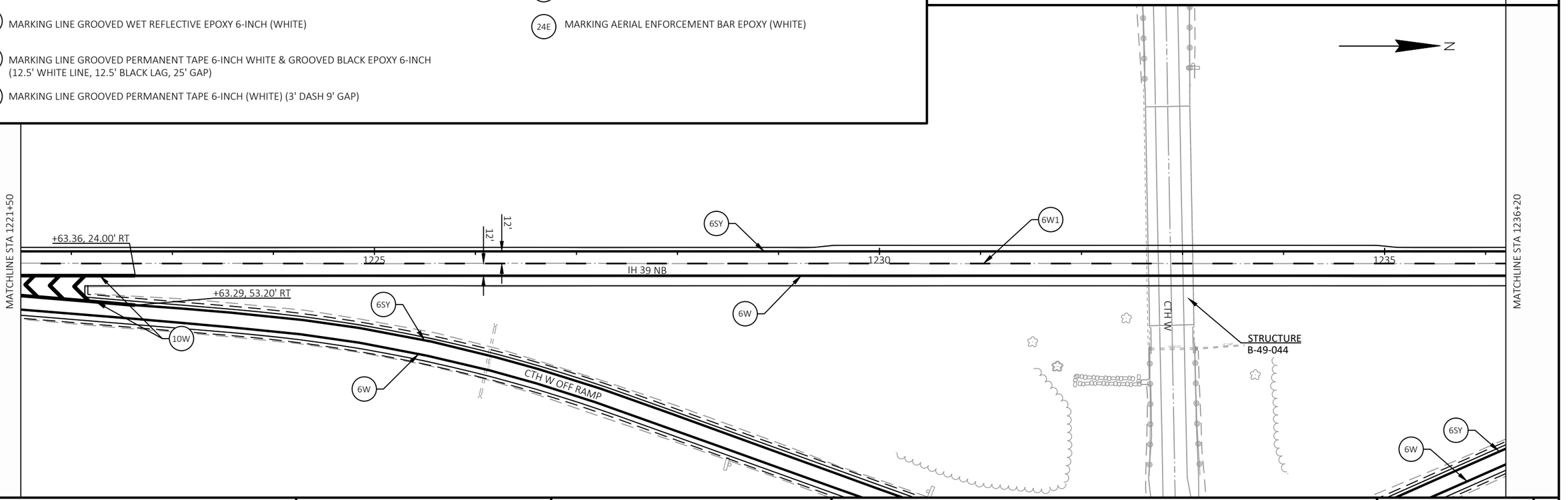



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 47 | E |
|---|---|---|---|---|---|



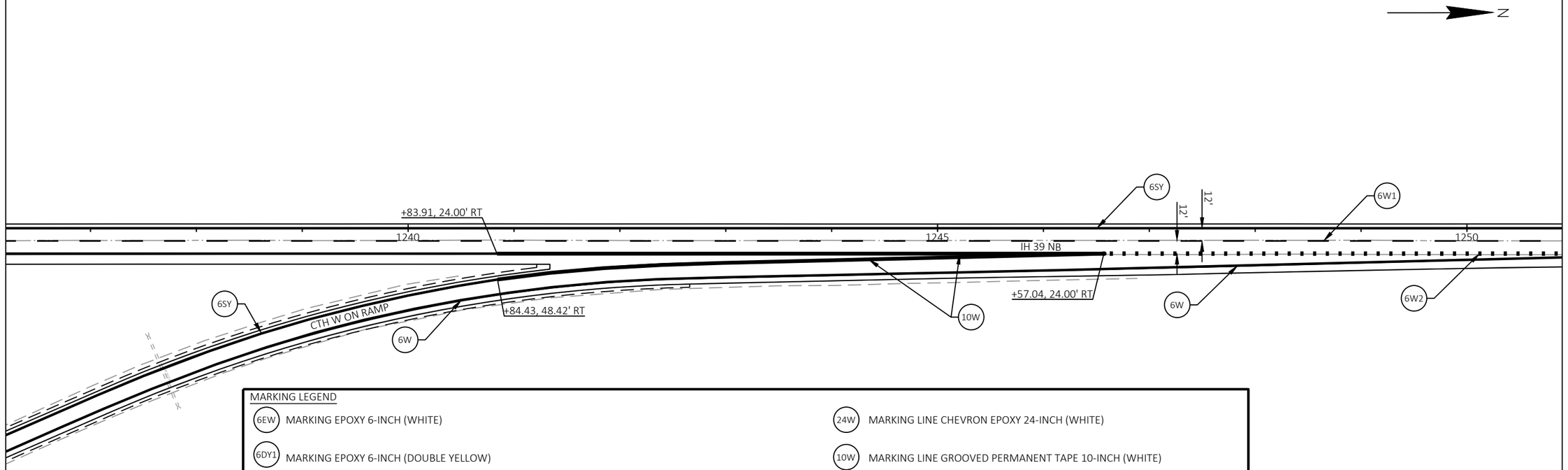

MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)



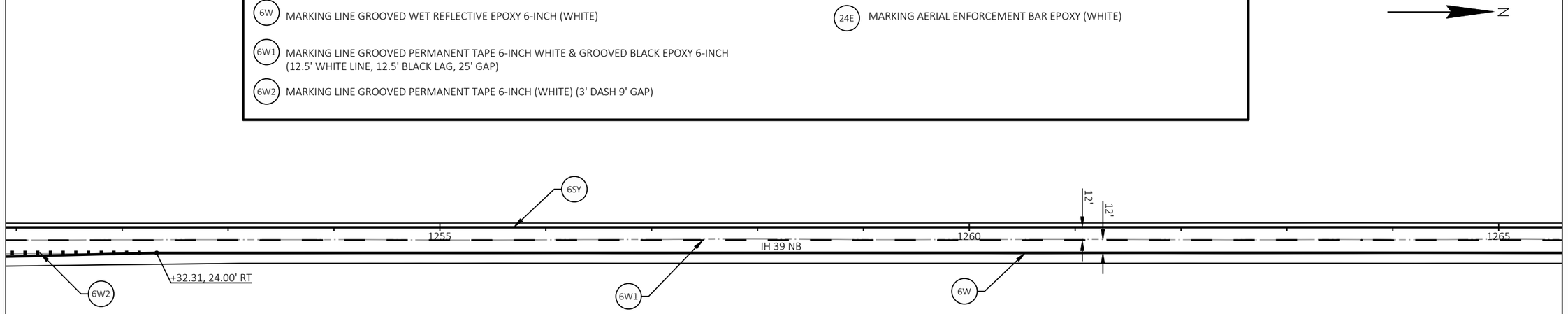

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 48 | E |
|---|---|---|---|---|---|

2

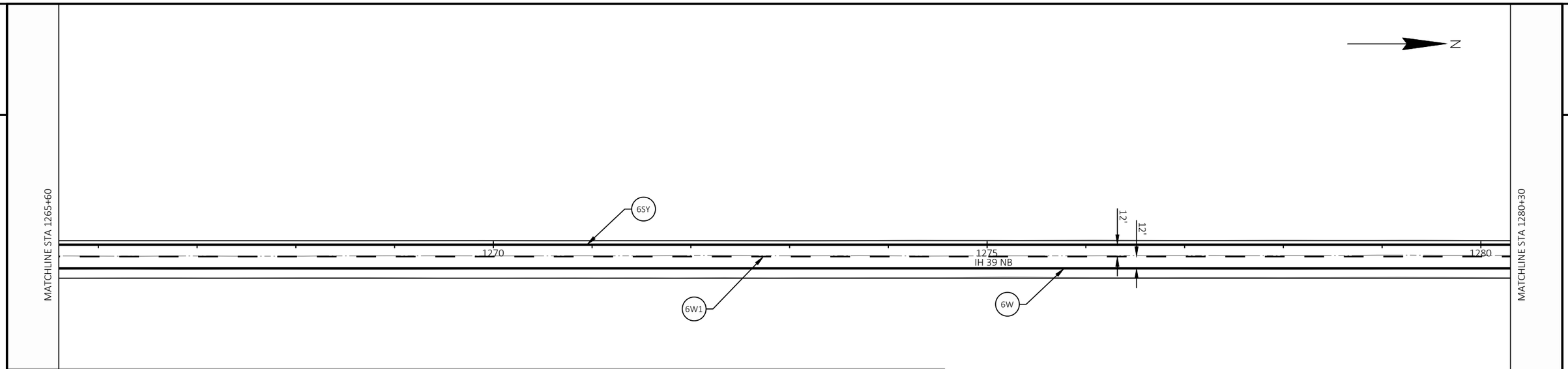



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

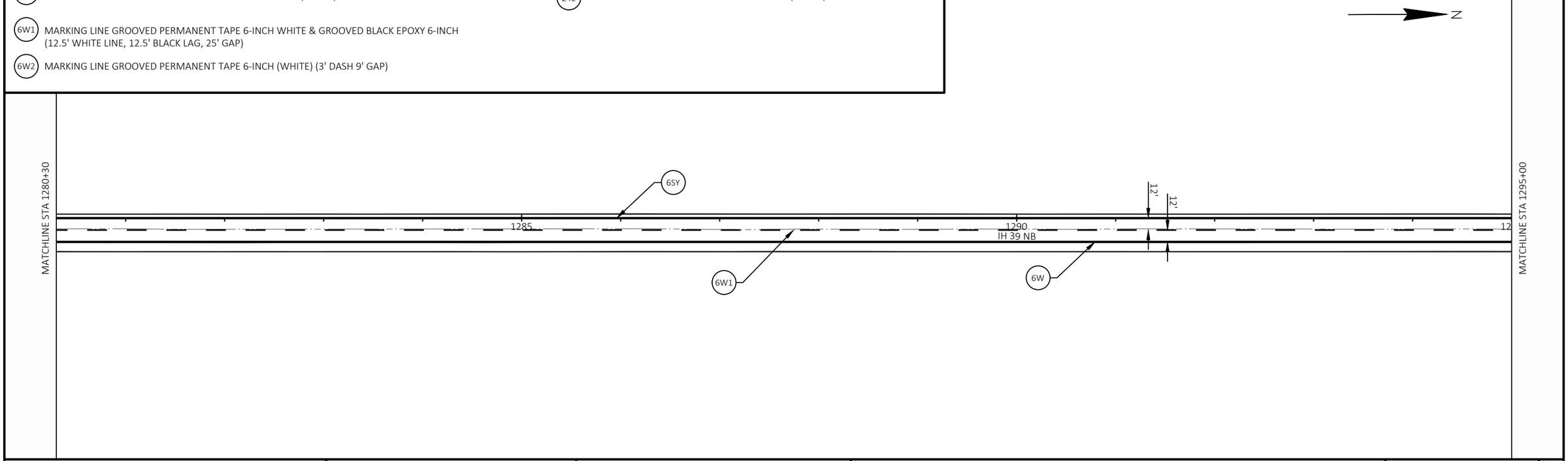



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 49 | E |
|---|---|---|---|---|---|

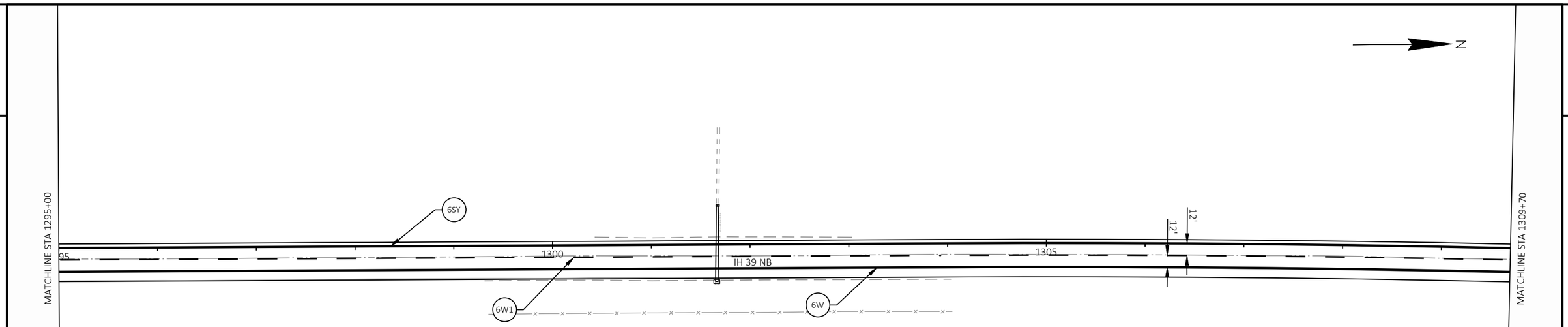



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

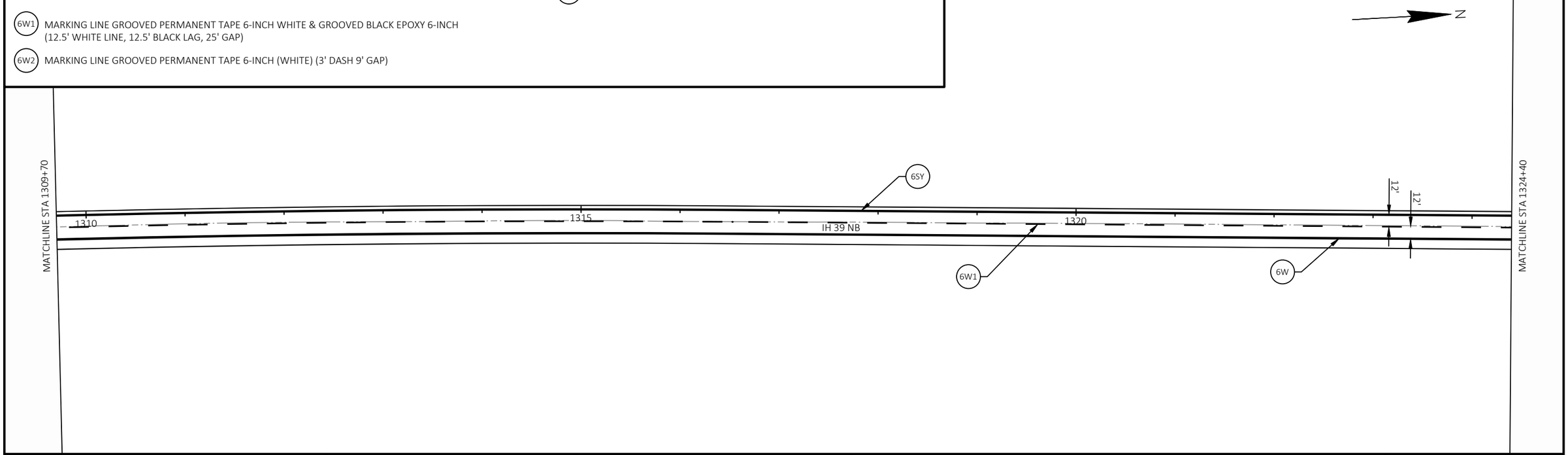



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 50 E |
|---|---|---|---|---|

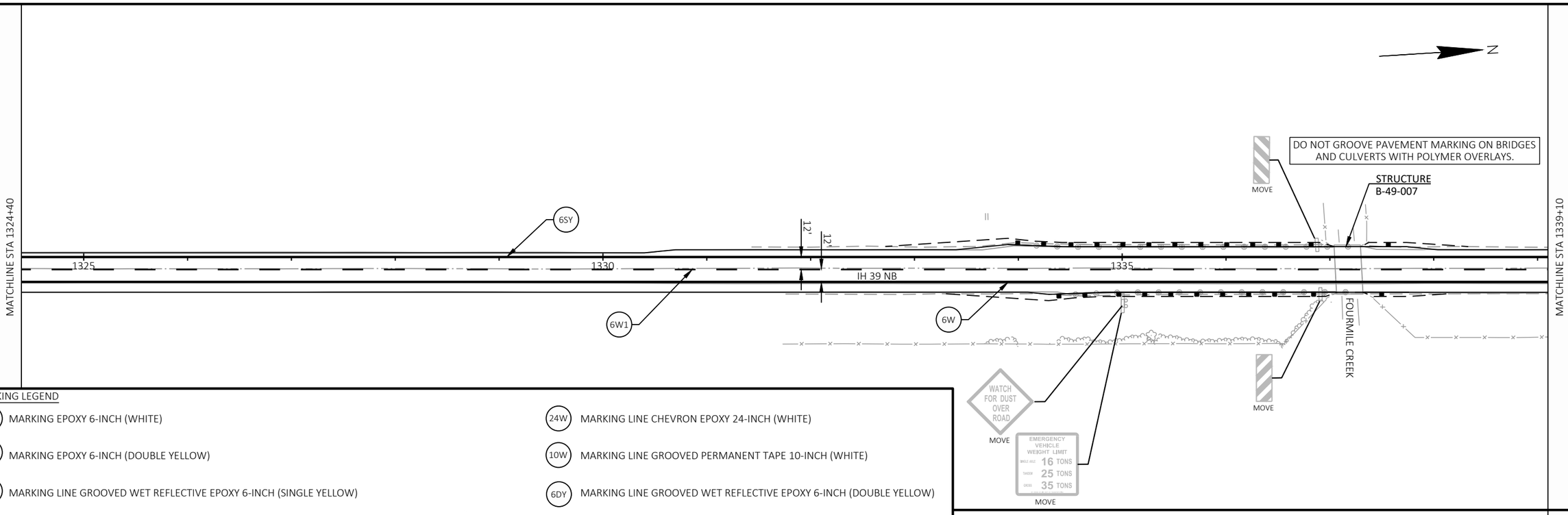



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

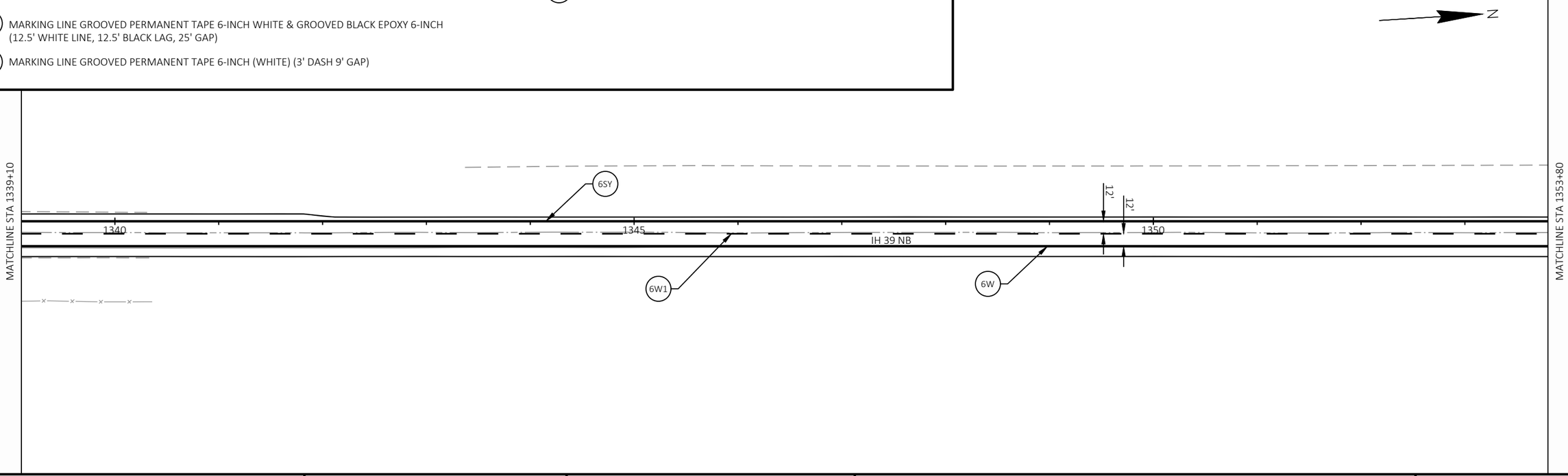



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 51 | E |
|---|---|---|---|---|---|

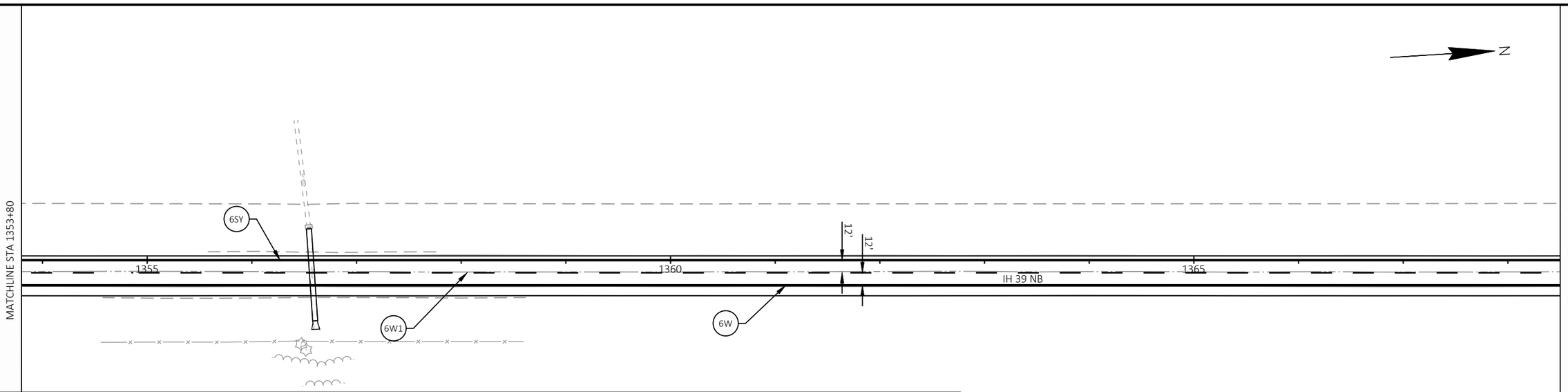



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

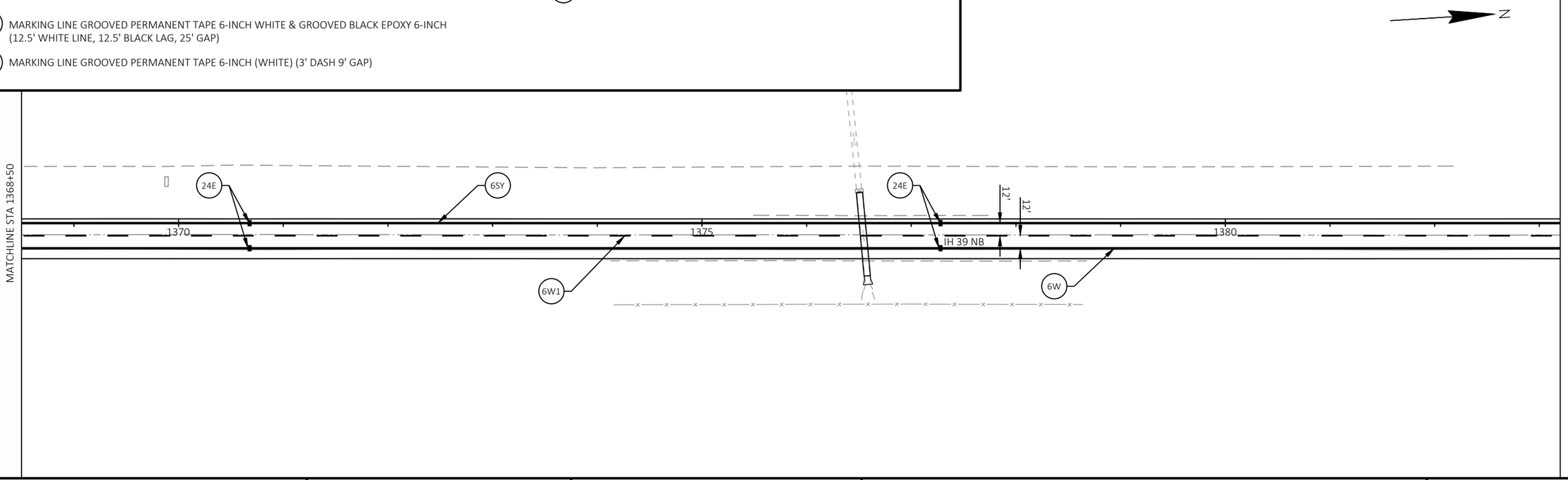



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 52 | E |
|---|---|---|---|---|---|

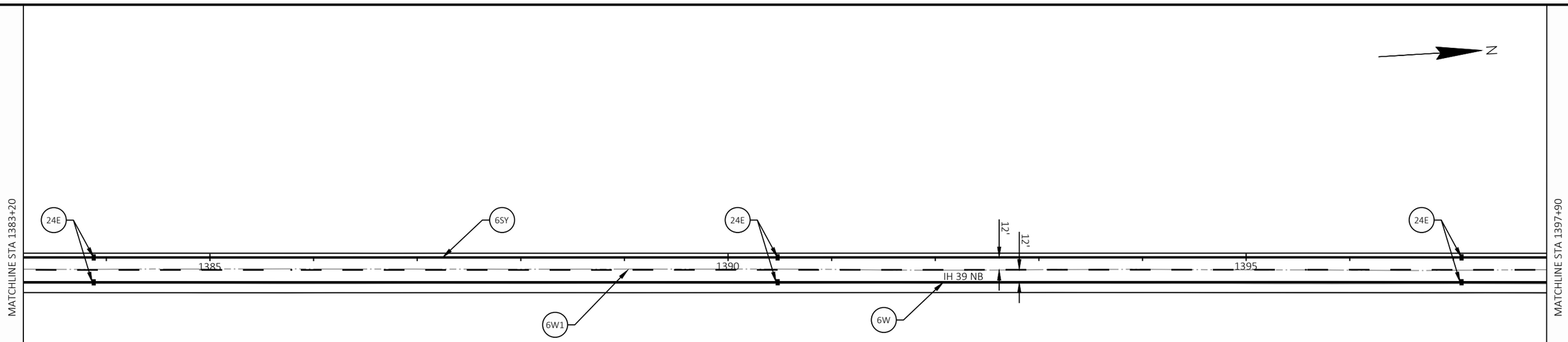



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

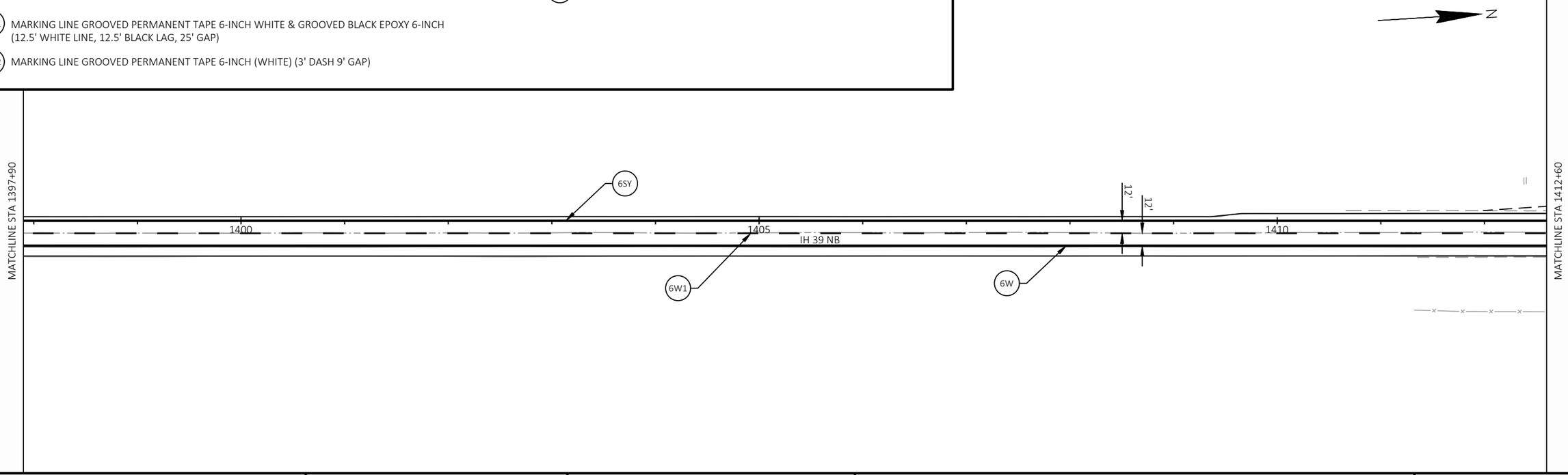



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 53 E |
|---|---|---|---|---|

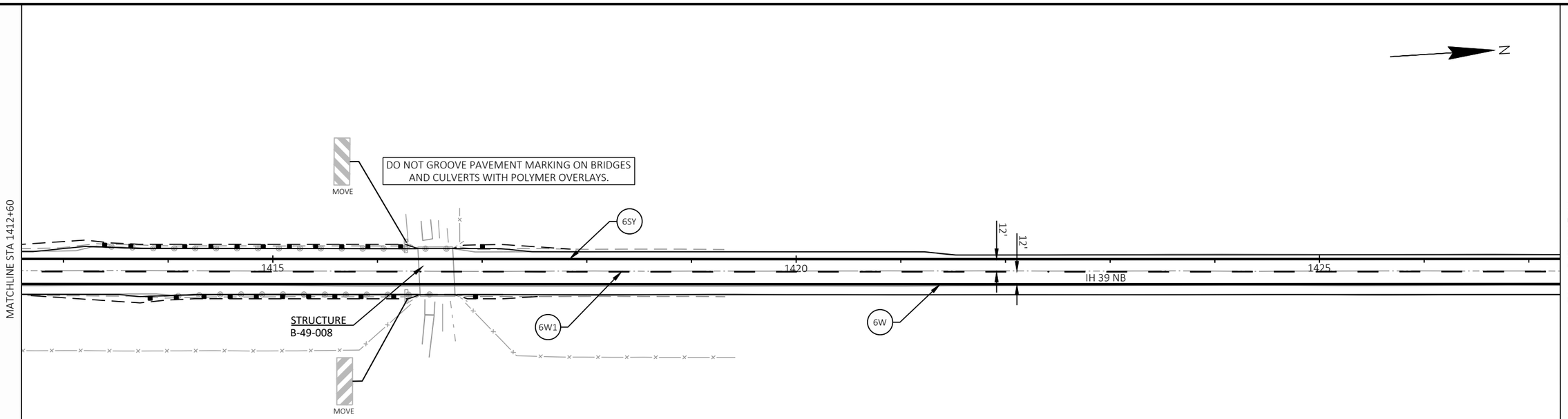



MARKING LEGEND

- 6EW MARKING EPOXY 6-INCH (WHITE)
- 6DY1 MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

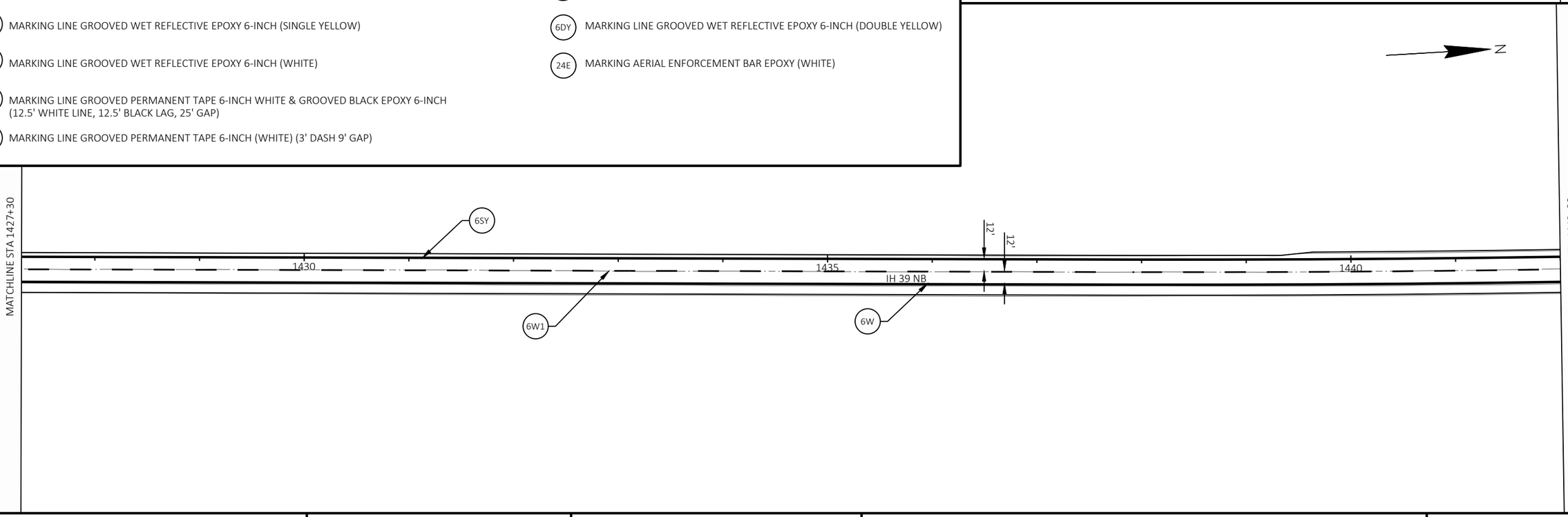



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 54 | E |
|---|---|---|---|---|---|

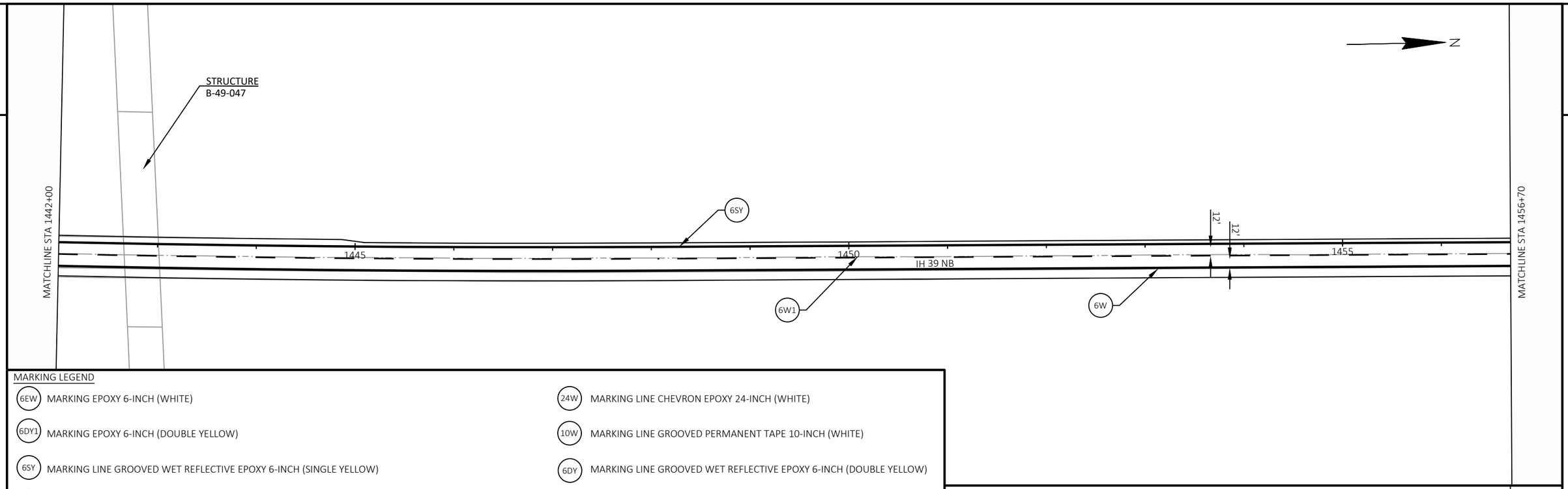



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

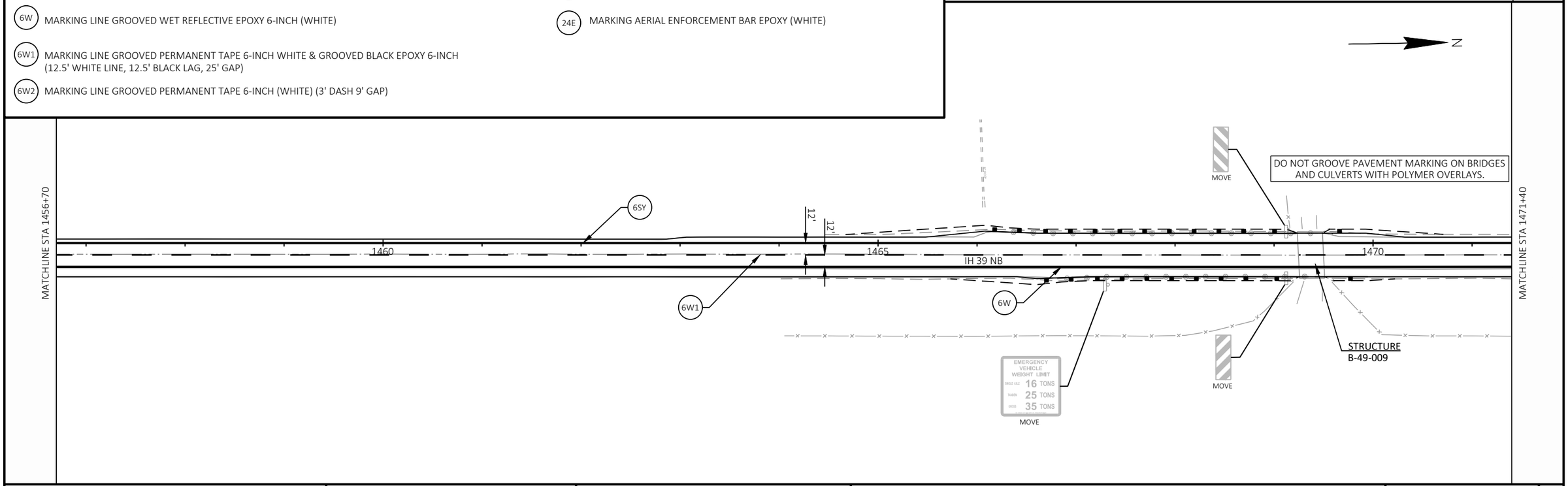



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 55 | E |
|---|---|---|---|---|---|



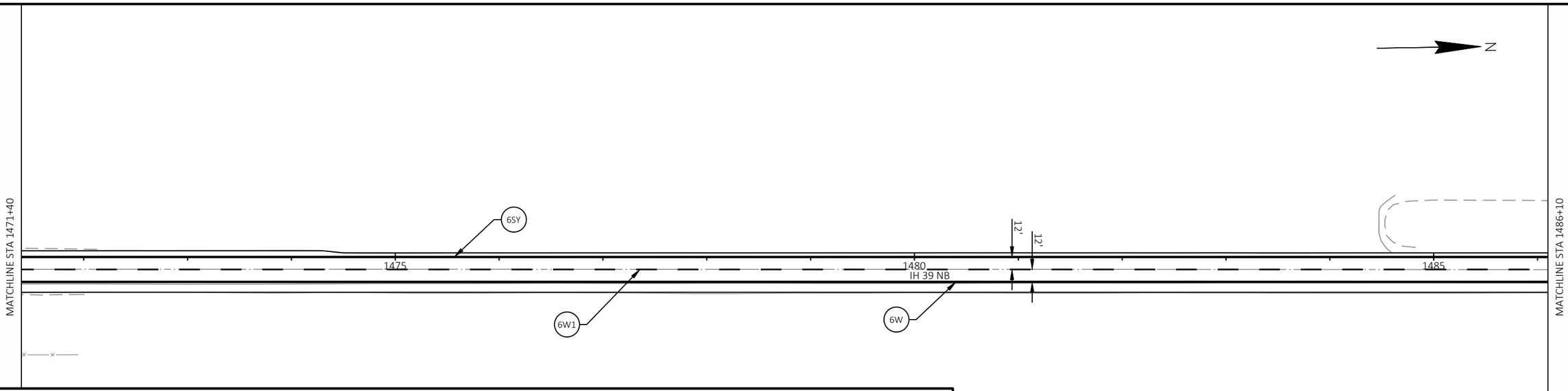

MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)



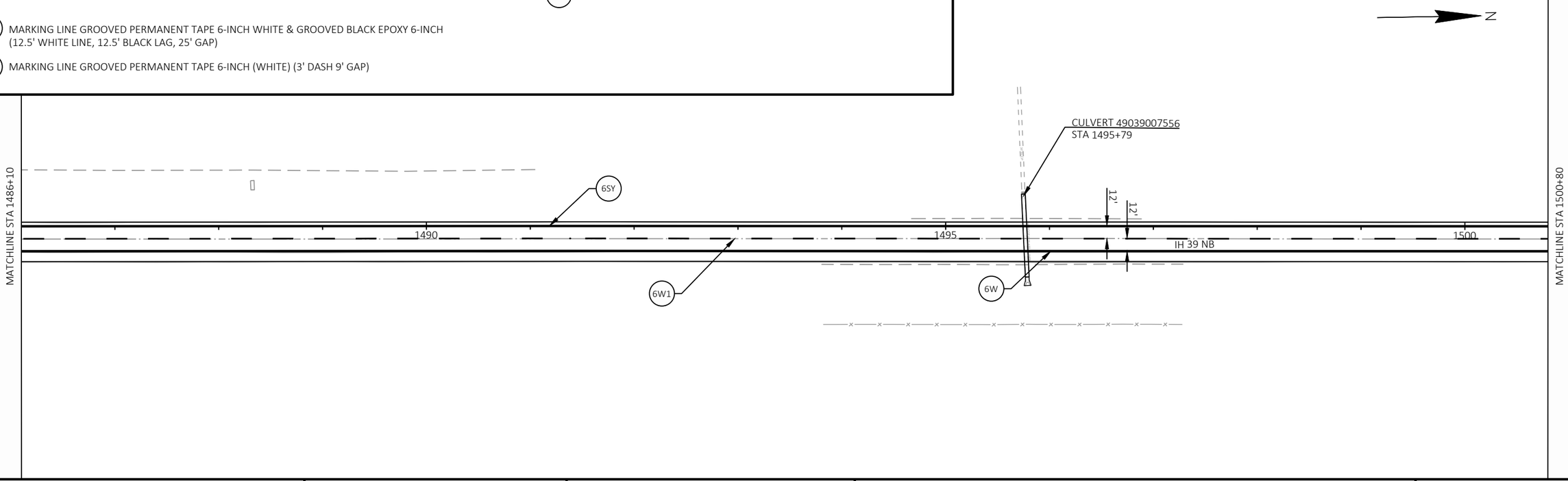

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 56 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\024501-PM.DWG
LAYOUT NAME - 25
PLOT DATE : 7/29/2026 2:59 PM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

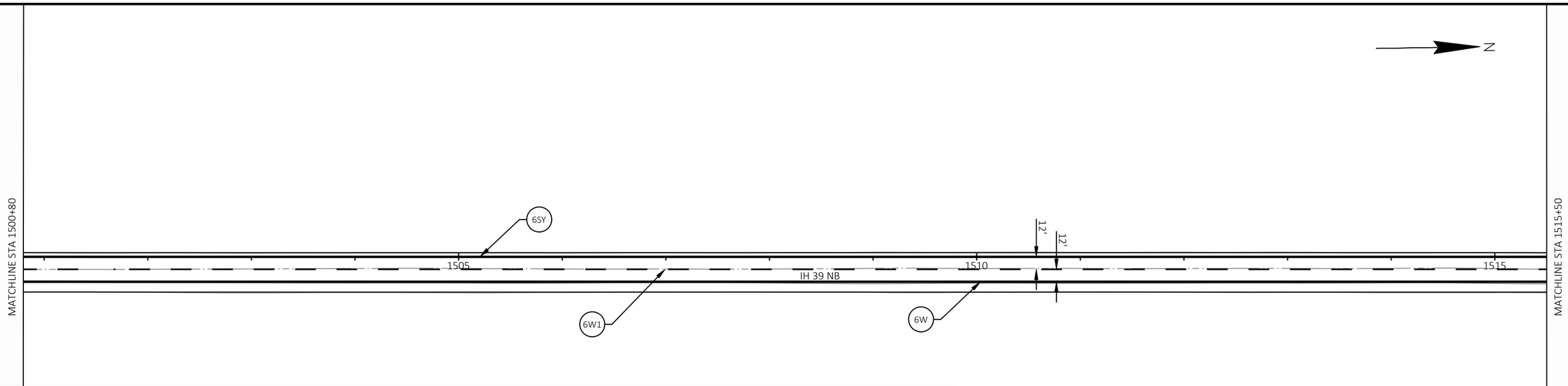



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

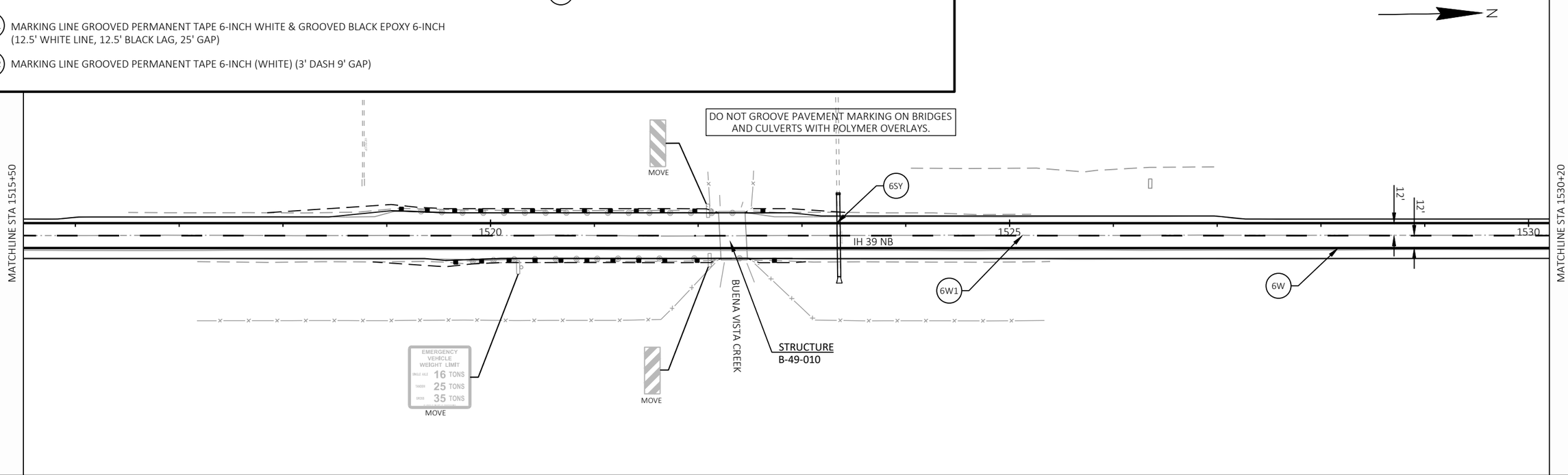



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 57 | E |
|---|---|---|---|---|---|

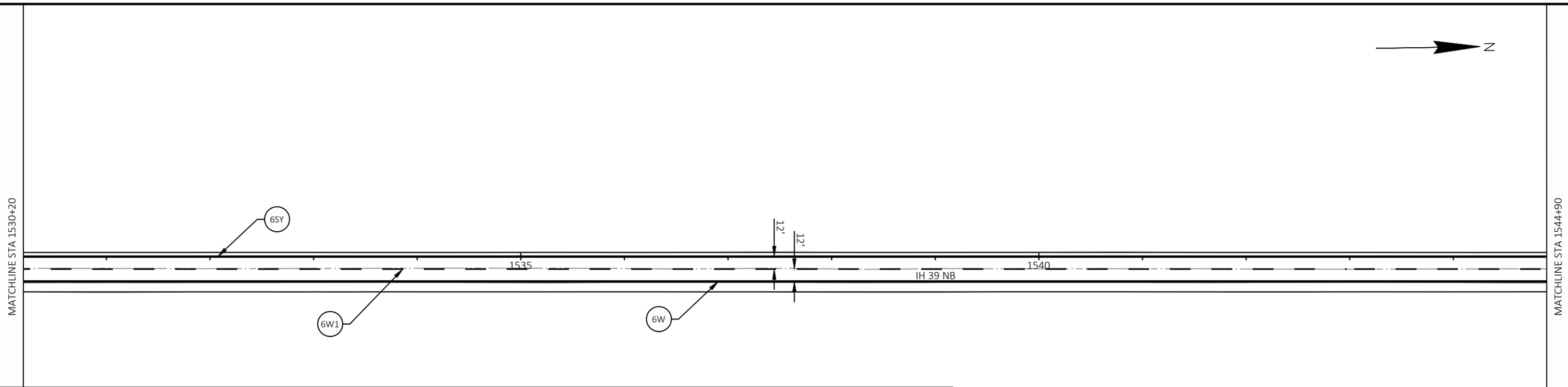



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

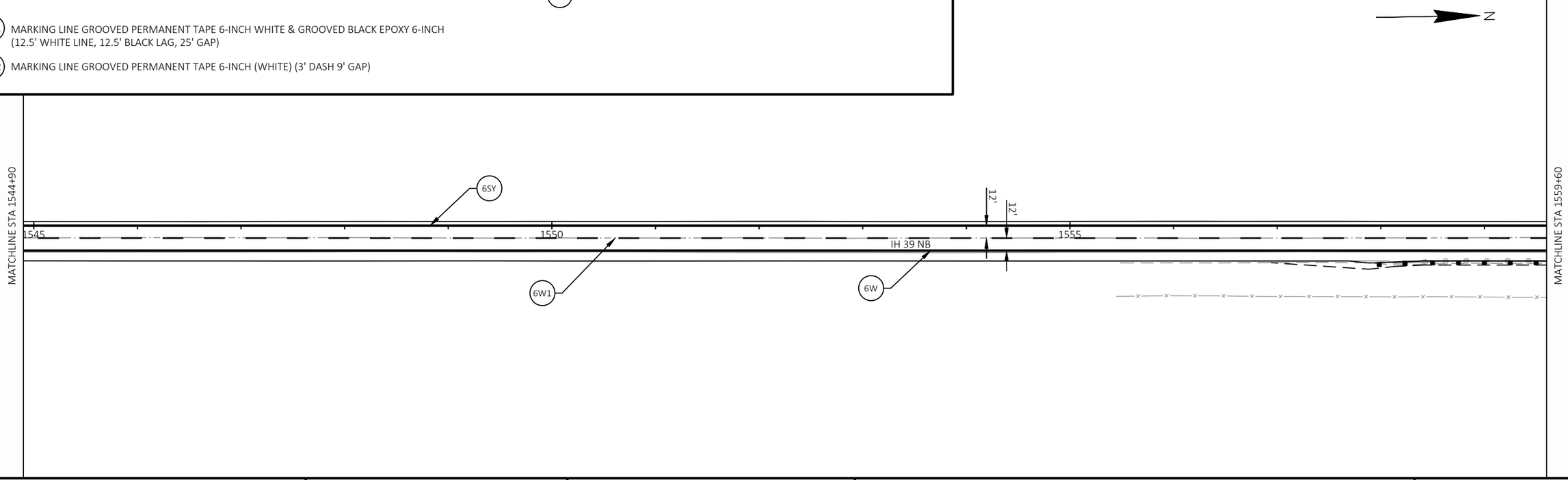



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 58 | E |
|---|---|---|---|---|---|

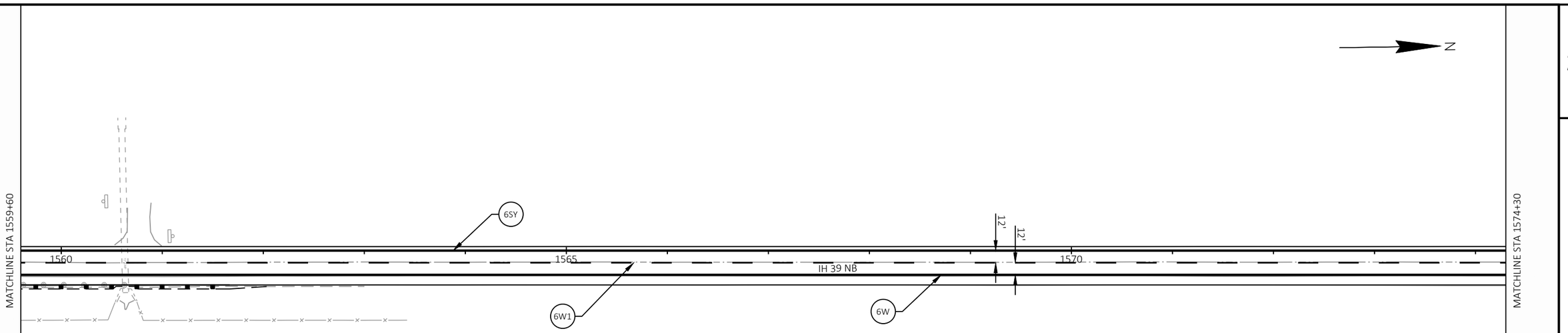



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

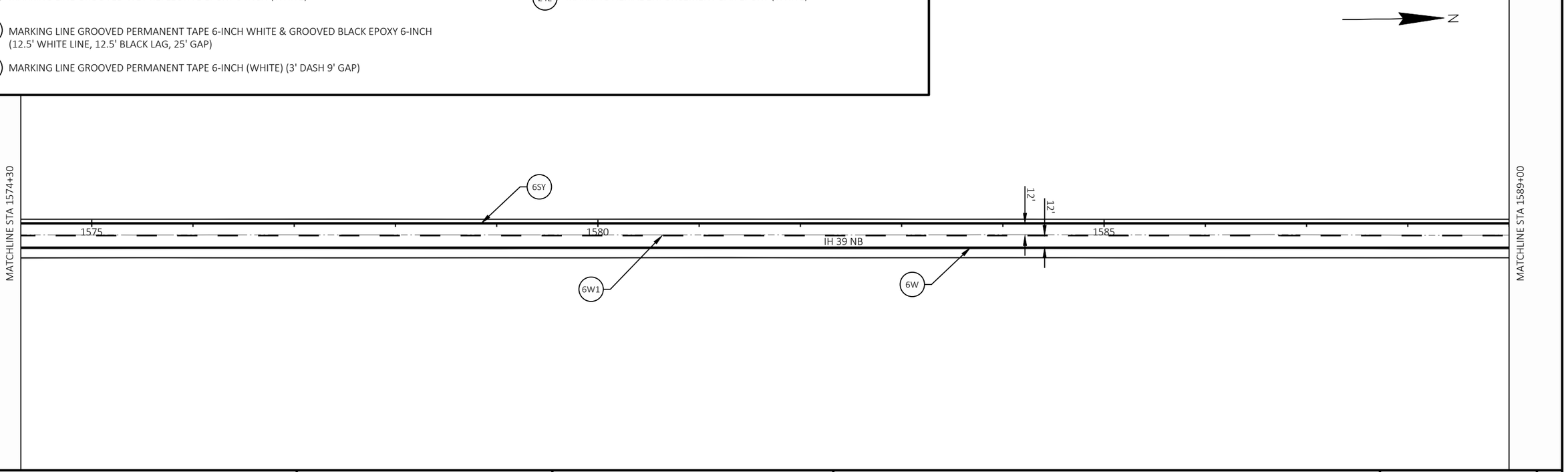



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 59 | E |
|---|---|---|---|---|---|

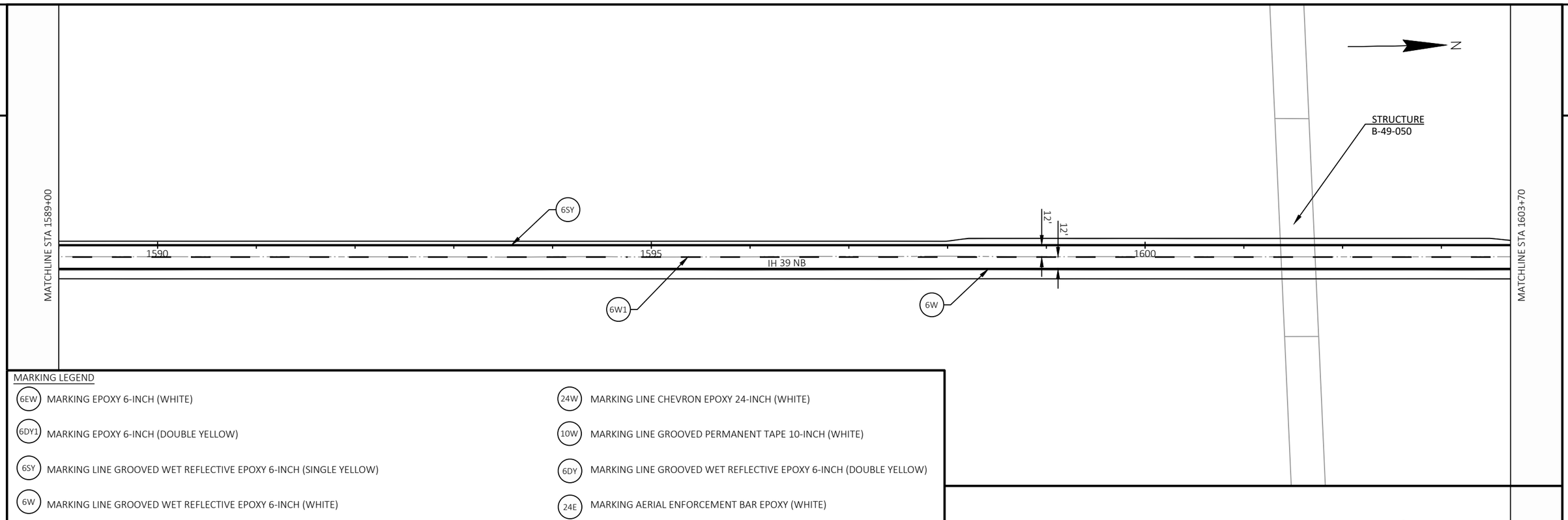



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

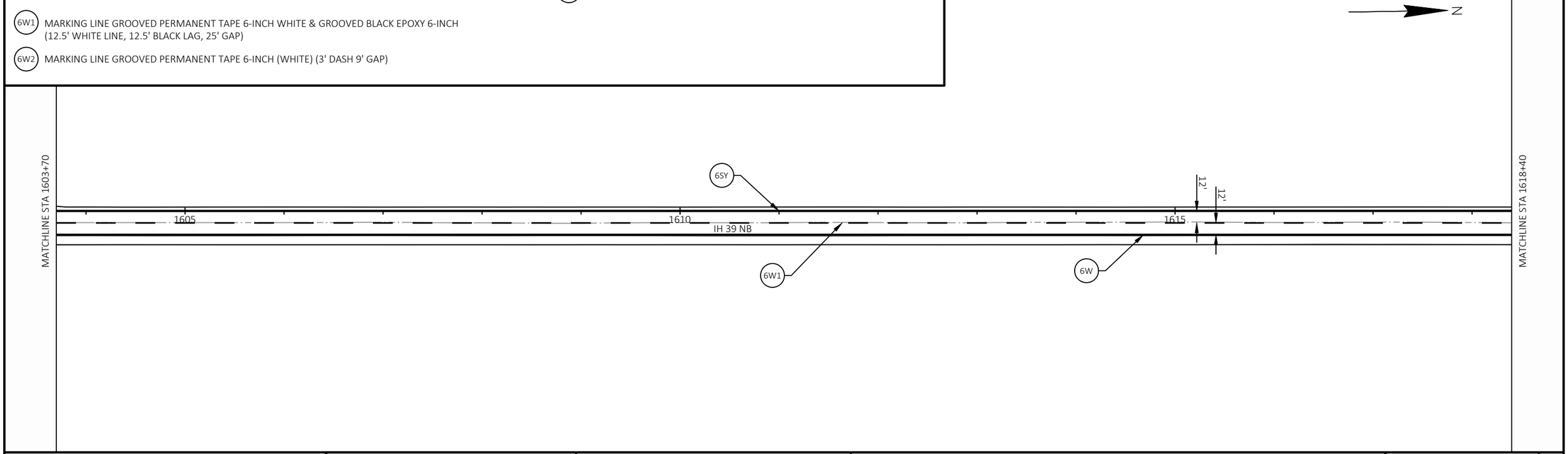



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 60 | E |
|---|---|---|---|---|---|

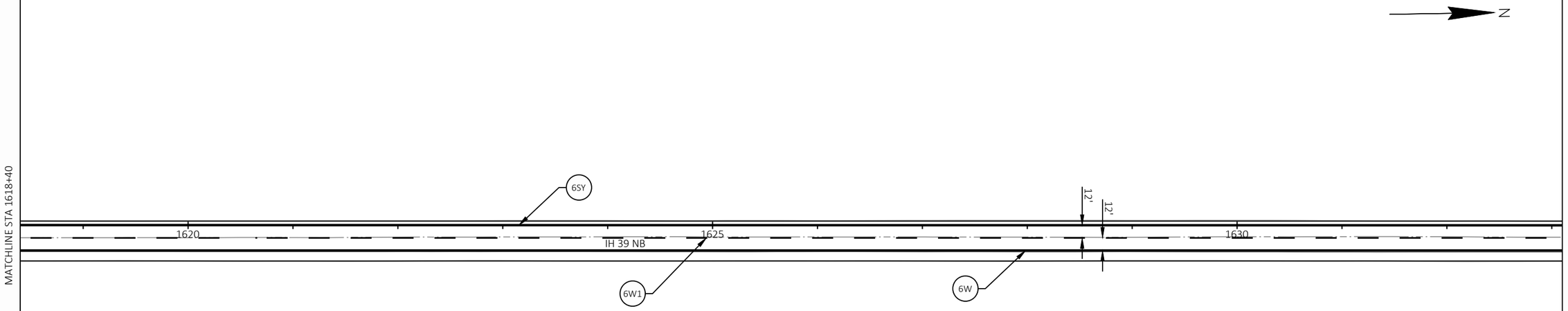



MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)

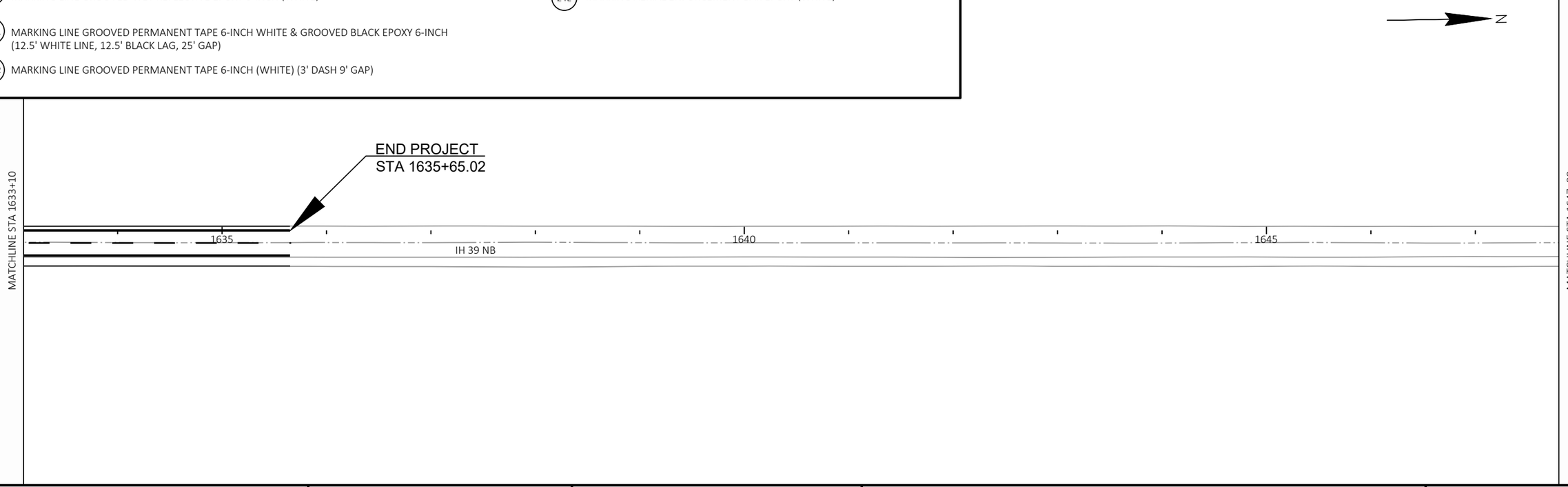



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 61 | E |
|---|---|---|---|---|---|




MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 6SY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6W1 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
- 6W2 — MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE) (3' DASH 9' GAP)
- 24W — MARKING LINE CHEVRON EPOXY 24-INCH (WHITE)
- 10W — MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 24E — MARKING AERIAL ENFORCEMENT BAR EPOXY (WHITE)




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING AND PERMANENT SIGNING | SHEET 62 | E |
|---|---|---|---|---|---|

2

2

N

MATCHLINE STA 508+20.52

505

CTH D

12'

12'

6EW

6EY

18W

10W1

6DY1

MH

MARKING LEGEND

| | |
|---|---|
| 6EW | MARKING EPOXY 6-INCH (WHITE) |
| 6EY | MARKING EPOXY 6-INCH (YELLOW) |
| 6DY1 | MARKING EPOXY 6-INCH (DOUBLE YELLOW) |
| 18W | MARKING STOP LINE EPOXY 18-INCH (WHITE) |
| 10W1 | MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) |
| 6DY | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW) |

12" CMP

18" RCP

MATCHLINE STA 508+20.52

510

CTH D

12'

12'

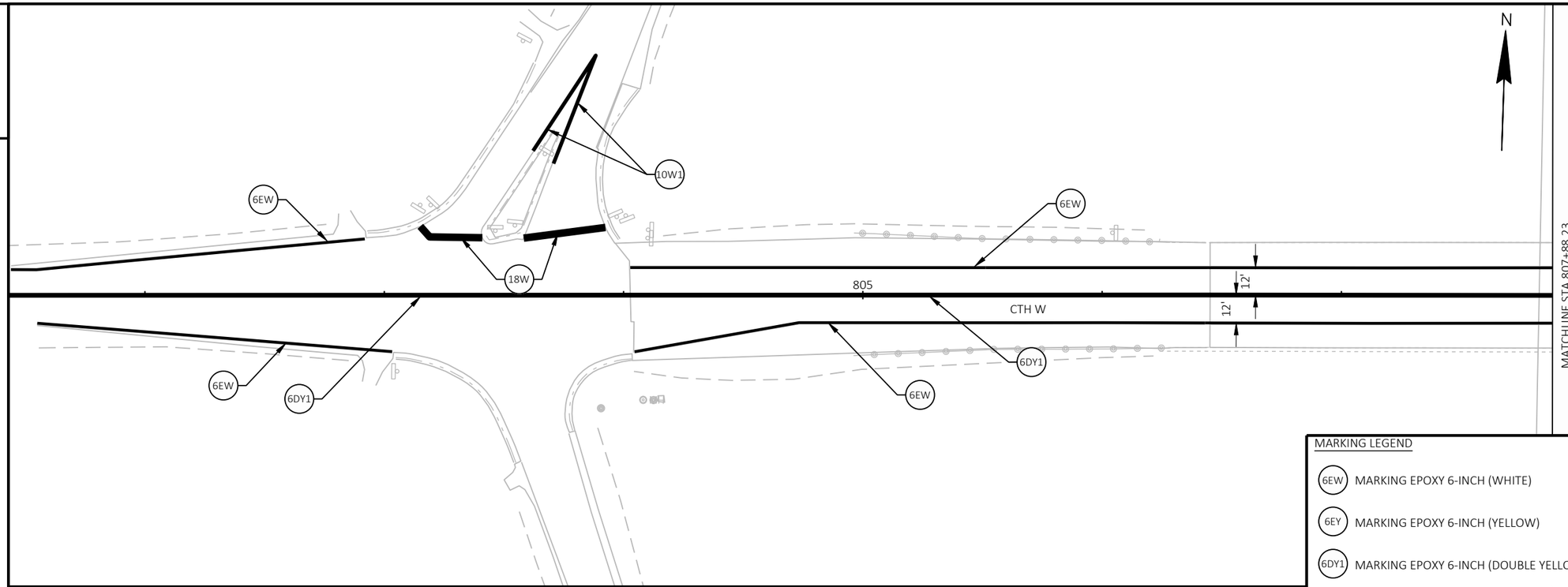
N

| | | | | |
|---|---|---|---|---|
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PAVEMENT MARKING - CTH D | SHEET 63 E |

FILE NAME : O:\PDS\C3D\11660510\SHEETS\024502- PM SIDEROAD.DWG
LAYOUT NAME - 05

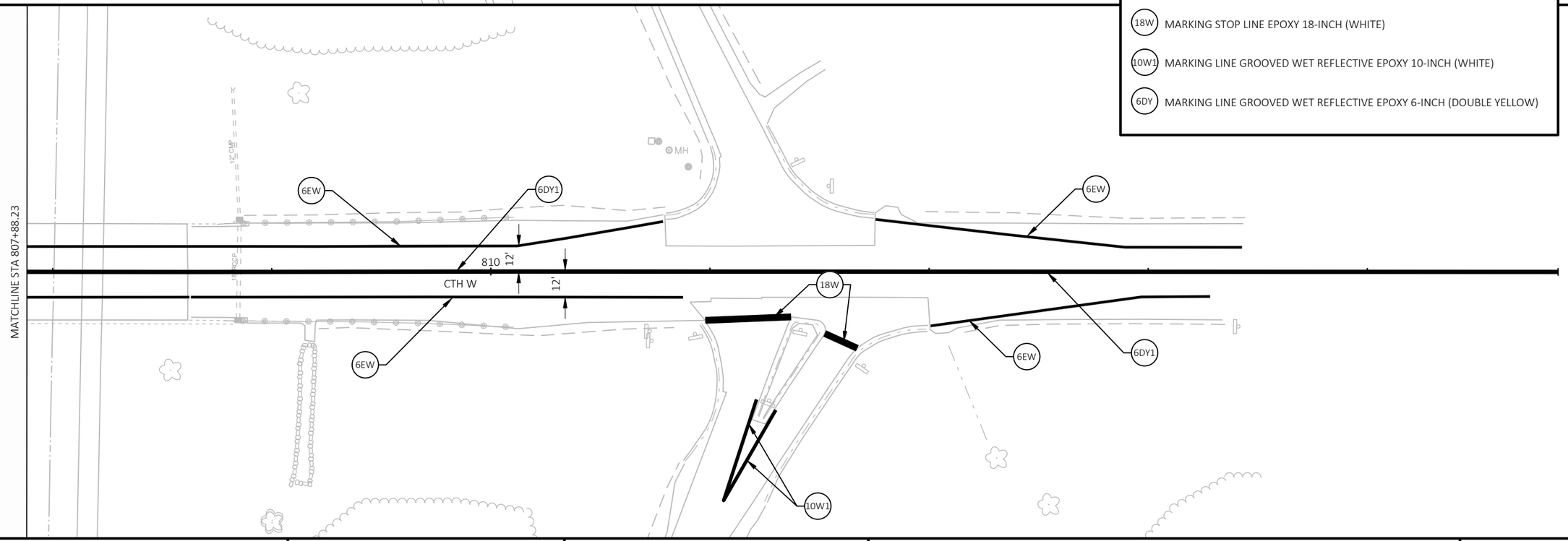
PLOT DATE : 7/29/2026 3:15 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 44




MARKING LEGEND

- 6EW — MARKING EPOXY 6-INCH (WHITE)
- 6EY — MARKING EPOXY 6-INCH (YELLOW)
- 6DY1 — MARKING EPOXY 6-INCH (DOUBLE YELLOW)
- 18W — MARKING STOP LINE EPOXY 18-INCH (WHITE)
- 10W1 — MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE)
- 6DY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)



NOTES:

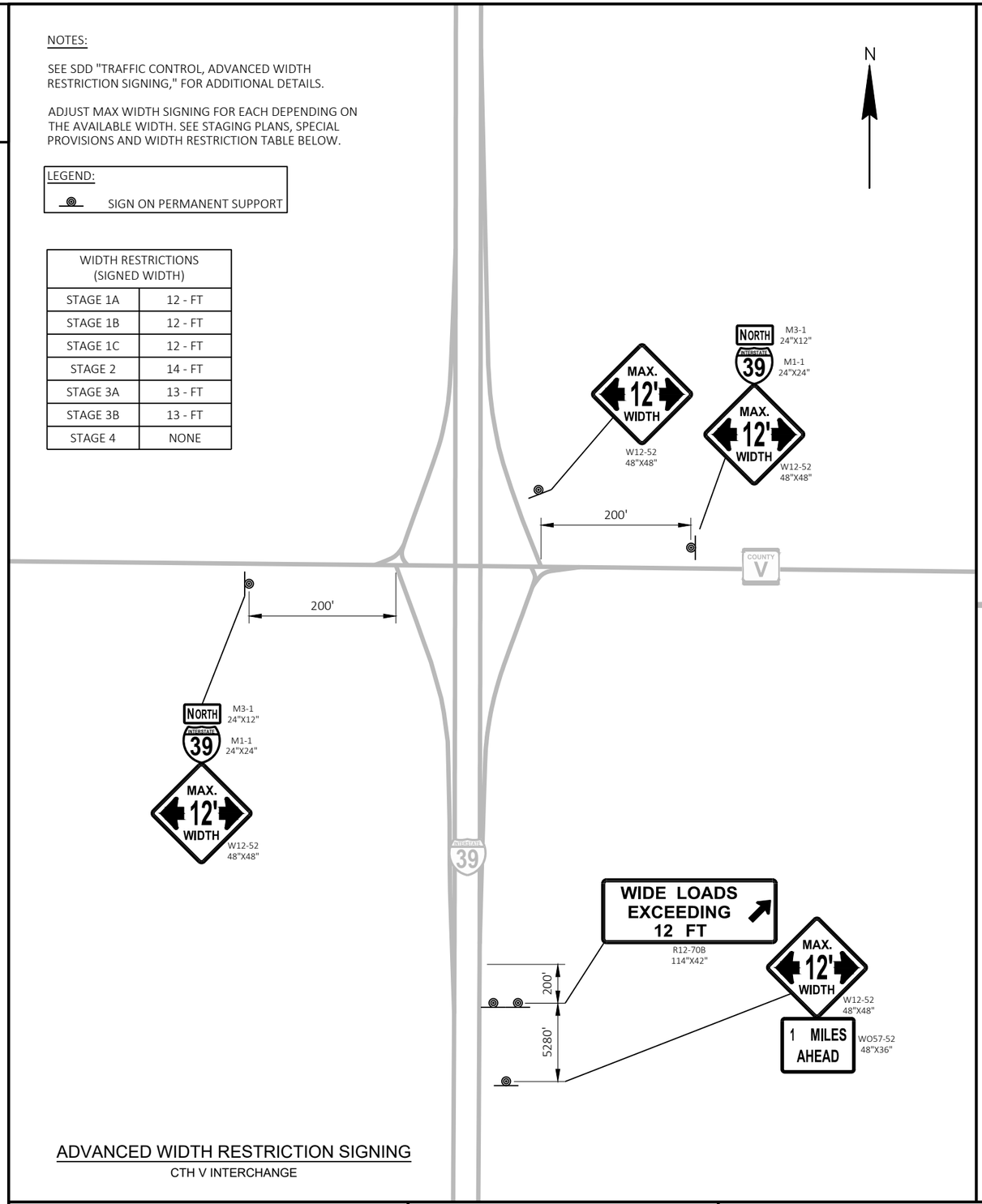
SEE SDD "TRAFFIC CONTROL, ADVANCED WIDTH RESTRICTION SIGNING," FOR ADDITIONAL DETAILS.

ADJUST MAX WIDTH SIGNING FOR EACH DEPENDING ON THE AVAILABLE WIDTH. SEE STAGING PLANS, SPECIAL PROVISIONS AND WIDTH RESTRICTION TABLE BELOW.

LEGEND:

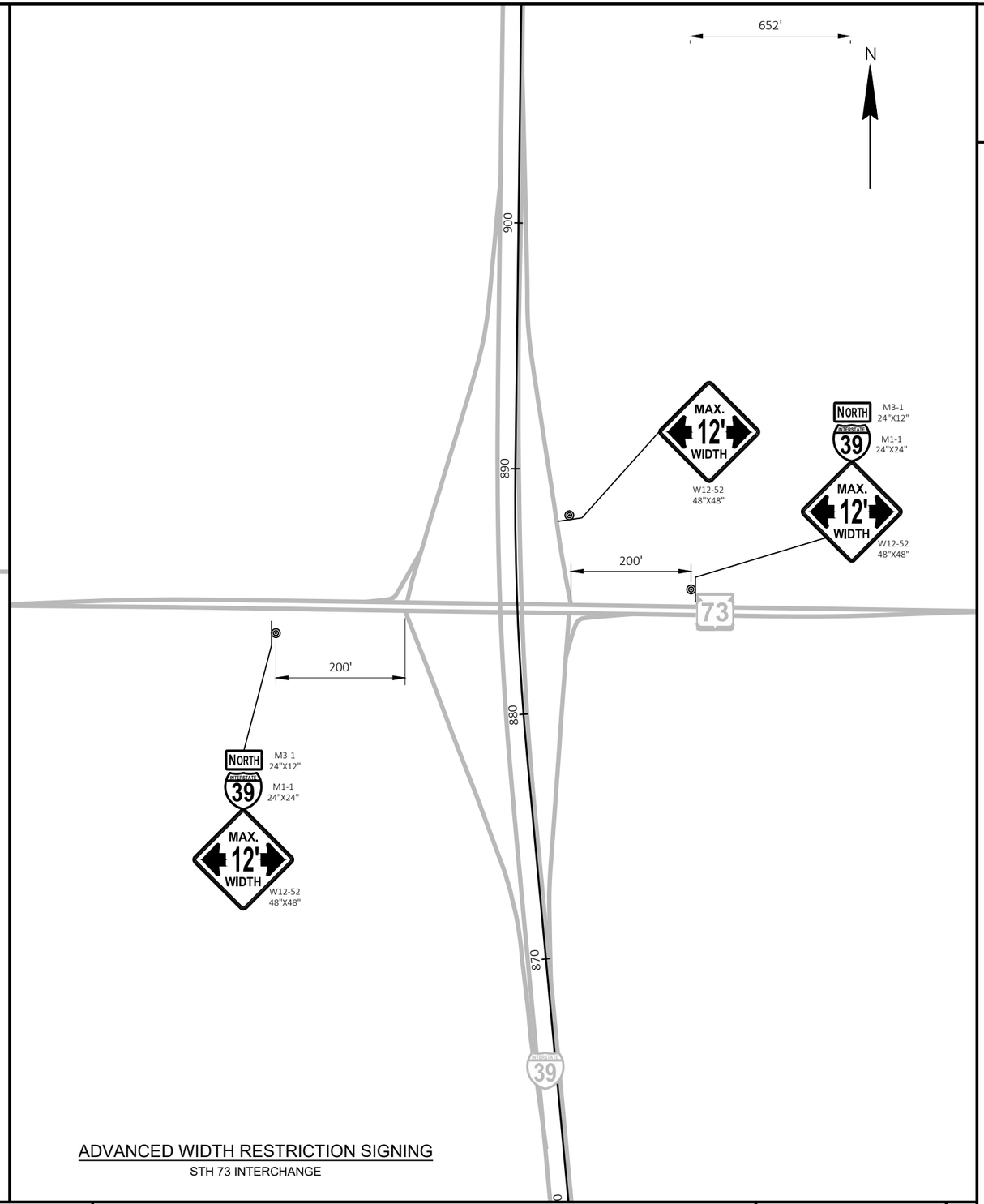
SIGN ON PERMANENT SUPPORT

| WIDTH RESTRICTIONS (SIGNED WIDTH) | |
|---|---|
| STAGE 1A | 12 - FT |
| STAGE 1B | 12 - FT |
| STAGE 1C | 12 - FT |
| STAGE 2 | 14 - FT |
| STAGE 3A | 13 - FT |
| STAGE 3B | 13 - FT |
| STAGE 4 | NONE |




ADVANCED WIDTH RESTRICTION SIGNING

CTH V INTERCHANGE




ADVANCED WIDTH RESTRICTION SIGNING

STH 73 INTERCHANGE

NOTES:

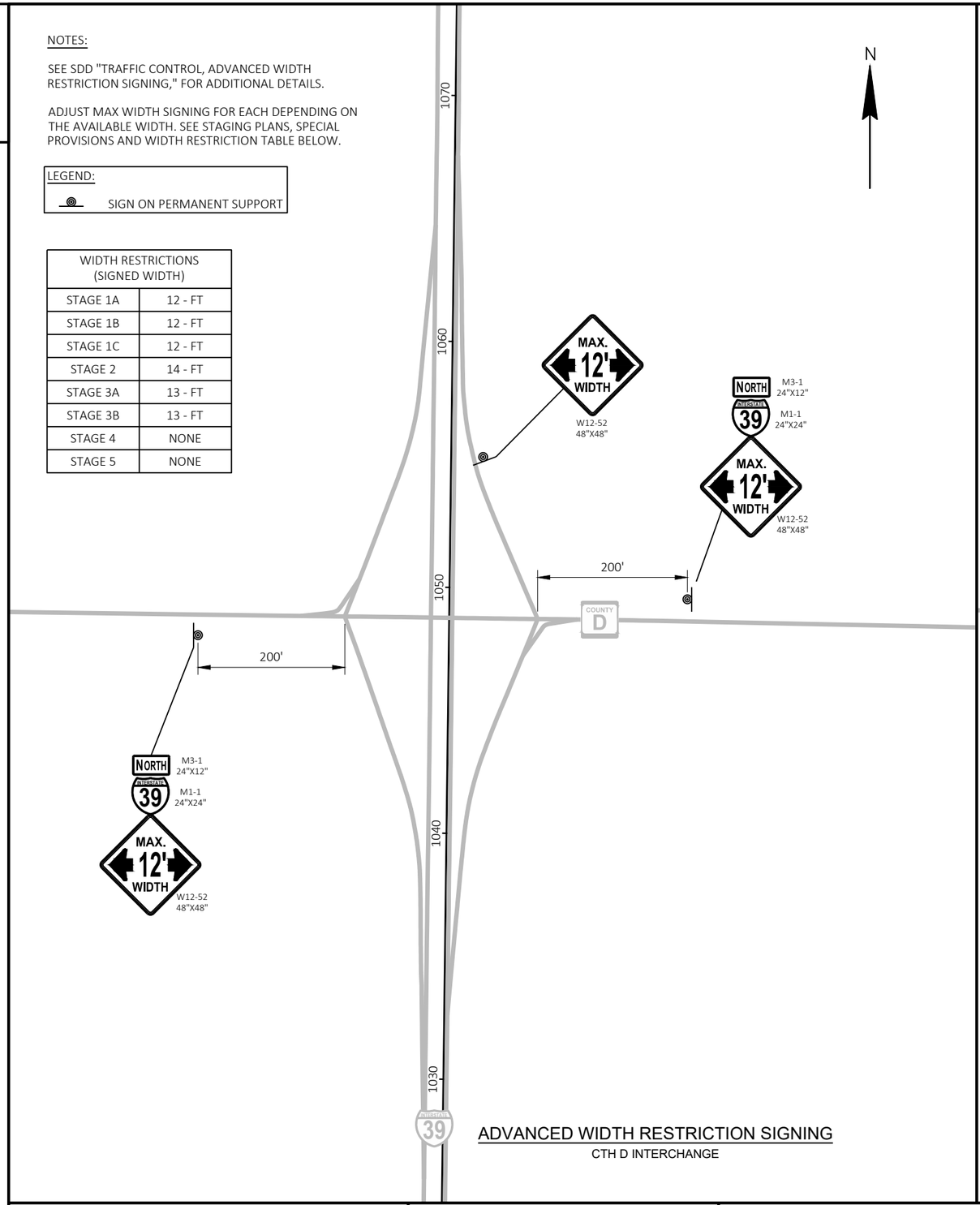
SEE SDD "TRAFFIC CONTROL, ADVANCED WIDTH RESTRICTION SIGNING," FOR ADDITIONAL DETAILS.

ADJUST MAX WIDTH SIGNING FOR EACH DEPENDING ON THE AVAILABLE WIDTH. SEE STAGING PLANS, SPECIAL PROVISIONS AND WIDTH RESTRICTION TABLE BELOW.

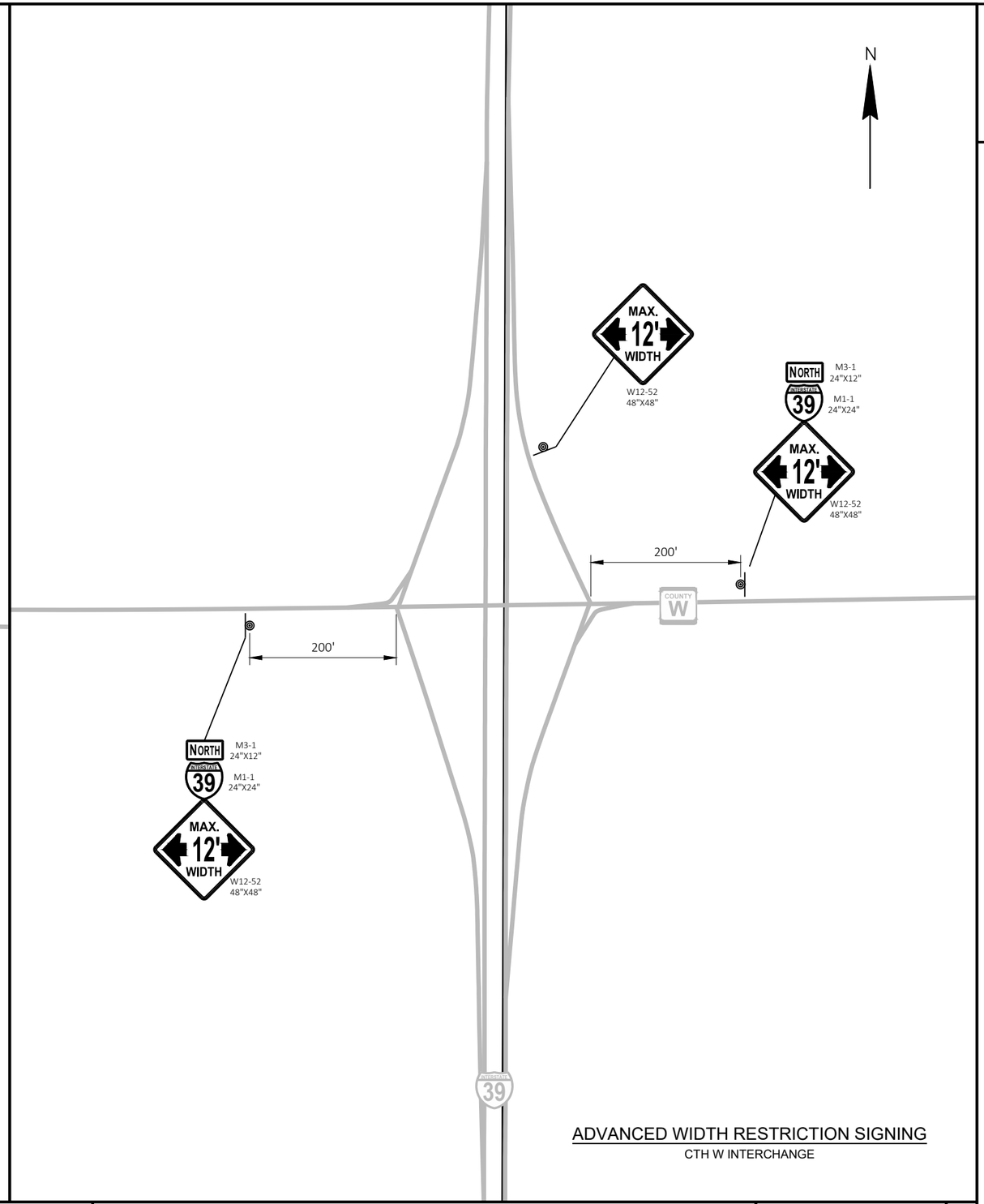
LEGEND:

SIGN ON PERMANENT SUPPORT

| WIDTH RESTRICTIONS (SIGNED WIDTH) | |
|---|---|
| STAGE 1A | 12 - FT |
| STAGE 1B | 12 - FT |
| STAGE 1C | 12 - FT |
| STAGE 2 | 14 - FT |
| STAGE 3A | 13 - FT |
| STAGE 3B | 13 - FT |
| STAGE 4 | NONE |
| STAGE 5 | NONE |




ADVANCED WIDTH RESTRICTION SIGNING
CTH D INTERCHANGE




ADVANCED WIDTH RESTRICTION SIGNING
CTH W INTERCHANGE

2

LEGEND:

MB PORTABLE CHANGEABLE MESSAGE BOARD

N

900

890

880

870

860

1070

1060

1050

1040

1030

1250

1240

1230

1220

1210

73

COUNTY D

COUNTY W

AVE/STATE 39

MB

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| NIGHTLY RAMP CLOSURE | MM/DD TO MM/DD |

(UTILIZED FOR NIGHTLY RAMP CLOSURE DISPLAYED AND ONE WEEK PRIOR)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| I-39 NB RAMP CLOSED | XX PM TO XX AM |

(UTILIZED FOR NIGHTLY RAMP CLOSURE ONLY)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| I-39 NB RAMP CLOSED | XX PM TO XX AM |

(UTILIZED FOR NIGHTLY RAMP CLOSURE ONLY)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| NIGHTLY RAMP CLOSURE | MM/DD TO MM/DD |

(UTILIZED FOR NIGHTLY RAMP CLOSURE DISPLAYED AND ONE WEEK PRIOR)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| NIGHTLY RAMP CLOSURE | MM/DD TO MM/DD |

(DISPLAYED ONE WEEK PRIOR TO SHORT TERM CLOSURE)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| HWY 73 EXIT CLOSED | USE EXIT 139 |

(UTILIZED DURING NIGHTLY RAMP CLOSURE)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| RAMP CLOSURE | MM/DD TO MM/DD |

(DISPLAYED ONE WEEK PRIOR TO SHORT TERM CLOSURE)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| HWY D EXIT CLOSED | USE EXIT 136 |

(UTILIZED DURING SHORT TERM CLOSURE. DISPLAYED ONE WEEK PRIOR)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| RAMP CLOSURE | MM/DD TO MM/DD |

(UTILIZED DURING SHORT TERM CLOSURE. DISPLAYED ONE WEEK PRIOR)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| RAMP CLOSURE | MM/DD TO MM/DD |

(UTILIZED DURING SHORT TERM CLOSURE. DISPLAYED ONE WEEK PRIOR)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| RAMP CLOSURE | MM/DD TO MM/DD |

(UTILIZED DURING SHORT TERM CLOSURE. DISPLAYED ONE WEEK PRIOR)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| HWY D EXIT CLOSED | USE EXIT 143 |

(UTILIZED DURING SHORT TERM CLOSURE. DISPLAYED ONE WEEK PRIOR)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| RAMP CLOSURE | MM/DD TO MM/DD |

(DISPLAYED ONE WEEK PRIOR TO SHORT TERM CLOSURE)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| RAMP CLOSURE | MM/DD TO MM/DD |

(UTILIZED DURING SHORT TERM CLOSURE. DISPLAYED ONE WEEK PRIOR)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| RAMP CLOSURE | MM/DD TO MM/DD |

(UTILIZED DURING SHORT TERM CLOSURE. DISPLAYED ONE WEEK PRIOR)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| RAMP CLOSURE | MM/DD TO MM/DD |

(DISPLAYED ONE WEEK PRIOR TO SHORT TERM CLOSURE)

| PCMS MESSAGING | |
|---|---|
| FRAME 1 | FRAME 2 |
| HWY W EXIT CLOSED | USE HWY D EXIT |

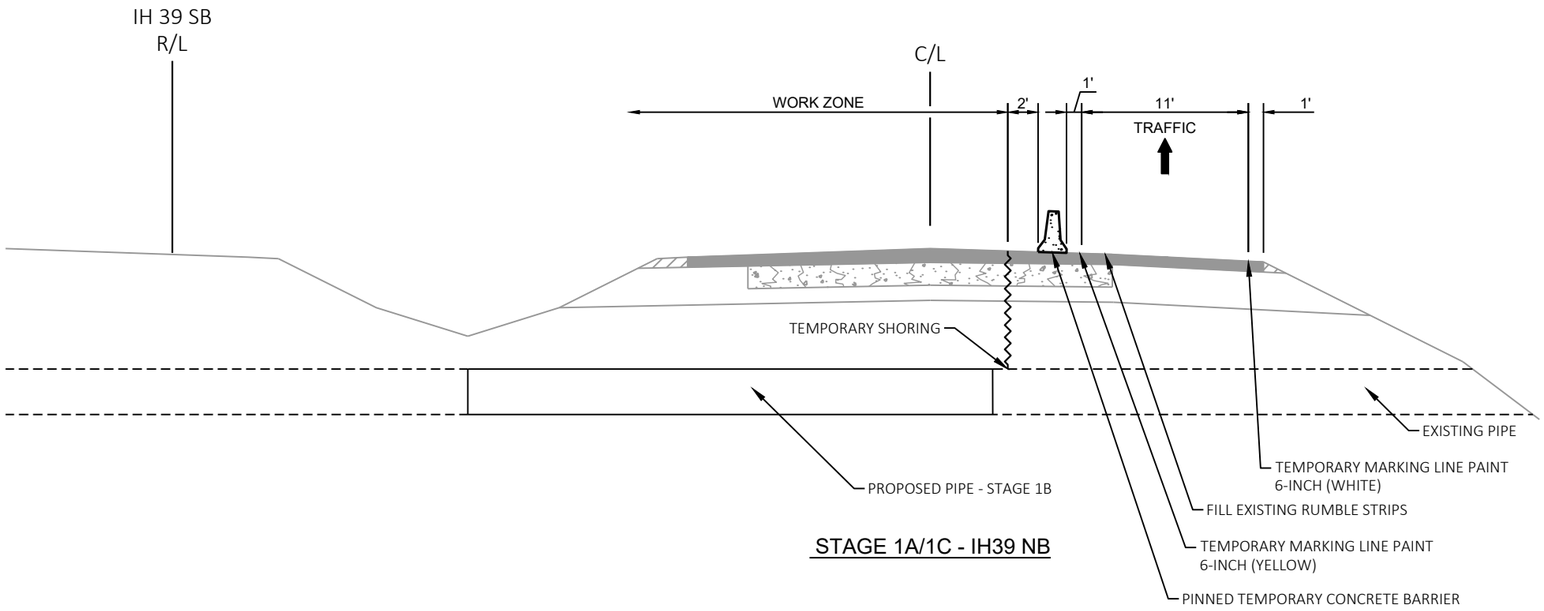
(UTILIZED DURING SHORT TERM CLOSURE. DISPLAYED ONE WEEK PRIOR)

MB PLACE IN ADVANCE OF CTH D EXIT

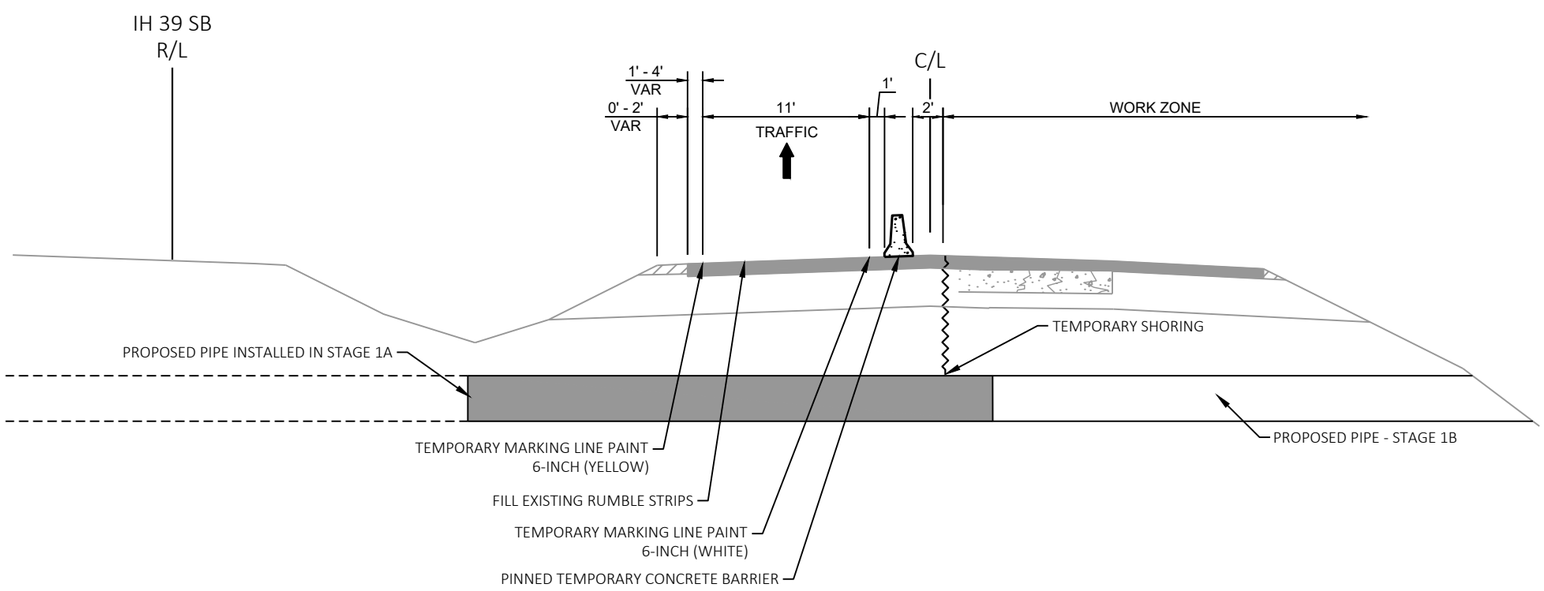
2

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | ADVANCED WARNING SIGNING - RAMP CLOSURES | SHEET 67 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\025001-AW.DWG
LAYOUT NAME - 03
PLOT DATE : 4/30/2026 3:50 PM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:500 FT
WISDOT/CADDS SHEET 44



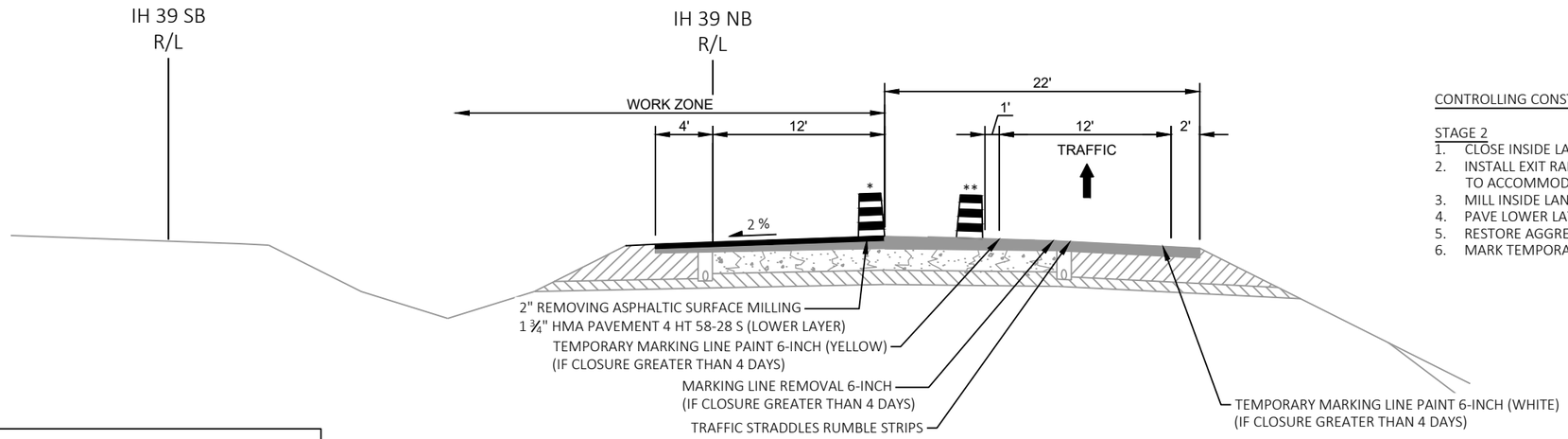

STAGE 1A/1C - IH39 NB




STAGE 1B - IH39 NB

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - TYPICAL SECTIONS STAGE 1A - 1C | SHEET 68 | E |
|---|---|---|---|---|---|

2




STAGE 2
STA 741+70 NB TO STA 874+91 NB
STA 896+00 NB TO STA 1635+65 NB

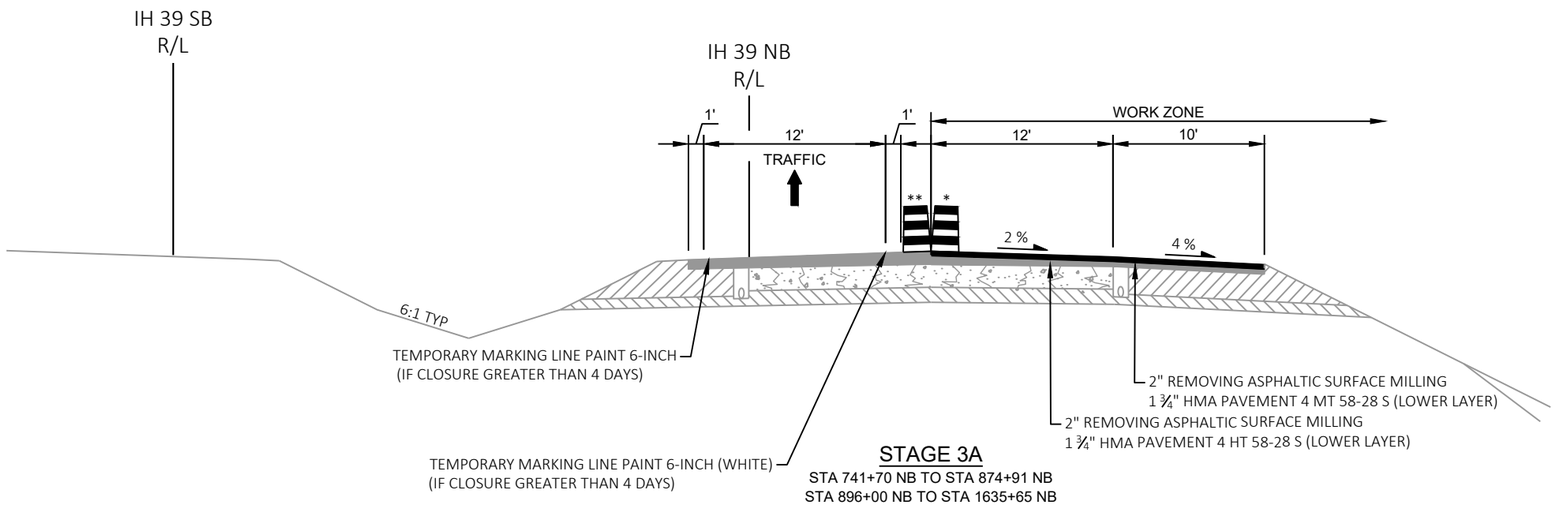
CONTROLLING CONSTRUCTION ACTIVITIES

STAGE 2
1. CLOSE INSIDE LANE AND SHOULDER.
2. INSTALL EXIT RAMP AND ENTRANCE RAMP TRAFFIC CONTROL TO ACCOMMODATE INSIDE LANE CLOSURE.
3. MILL INSIDE LANE AND SHOULDER.
4. PAVE LOWER LAYER ON INSIDE LANE AND SHOULDER.
5. RESTORE AGGREGATE SHOULDER.
6. MARK TEMPORARY EDGE LINES.

NOTES:

* NORMAL DRUM AND LANE LOCATION DURING NON-WORKING HOURS AND DESIGNATED WORKING HOURS IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED.

** TEMPORARY DRUM AND LANE LOCATION DURING WORKING HOURS ONLY. DRUMS SHALL BE MOVED AND RETURNED TO NORMAL POSITION IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED. TRAFFIC EXPECTED TO SHIFT ONTO SHOULDER TO BYPASS CONSTRUCTION OPERATIONS.

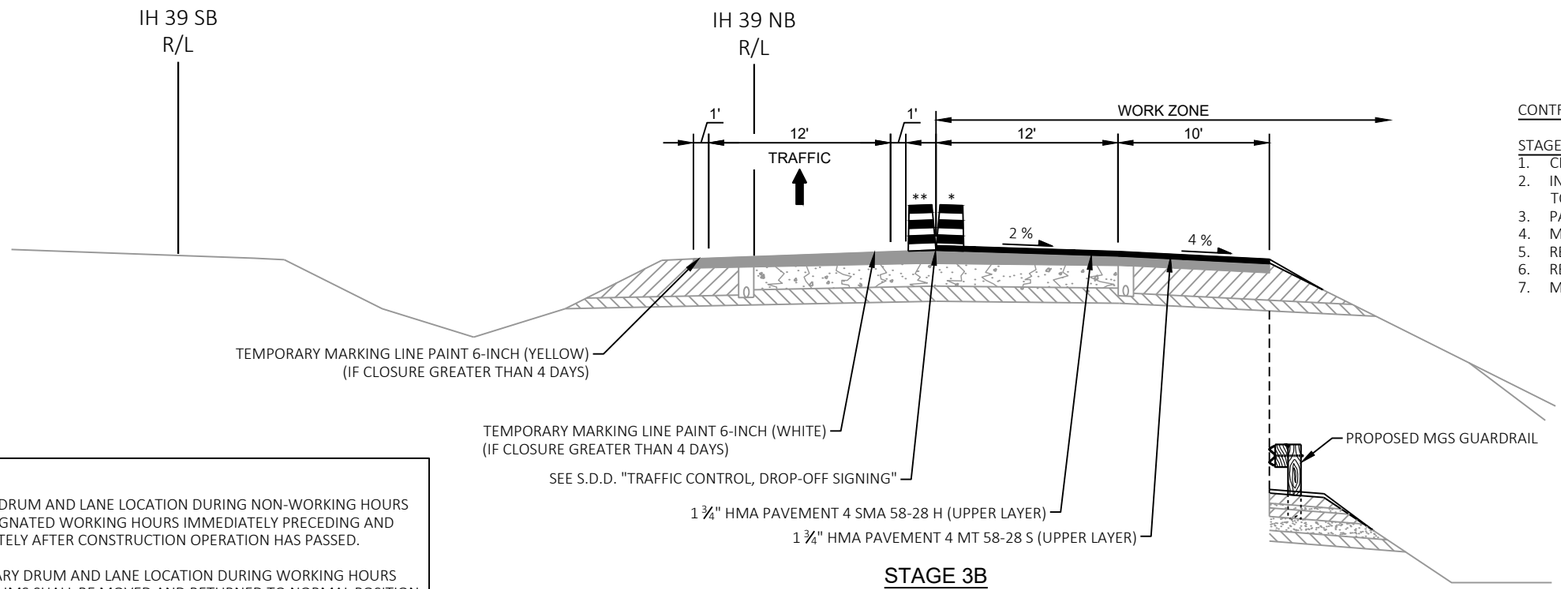



STAGE 3A
STA 741+70 NB TO STA 874+91 NB
STA 896+00 NB TO STA 1635+65 NB

CONTROLLING CONSTRUCTION ACTIVITIES

STAGE 3A
1. CLOSE OUTSIDE LANE AND SHOULDER.
2. INSTALL EXIT RAMP AND ENTRANCE RAMP TRAFFIC CONTROL TO ACCOMMODATE OUTSIDE LANE CLOSURE.
3. MILL OUTSIDE LANE AND SHOULDER.
4. PAVE LOWER LAYER ON OUTSIDE LANE AND SHOULDER.
5. MILL AND PAVE EXIT AND ENTRANCE RAMPS.
6. RESTORE AGGREGATE SHOULDER.

2




CONTROLLING CONSTRUCTION ACTIVITIES

STAGE 3B
1. CLOSE OUTSIDE LANE AND SHOULDER.
2. INSTALL EXIT RAMP AND ENTRANCE RAMP TRAFFIC CONTROL TO ACCOMMODATE INSIDE LANE CLOSURE.
3. PAVE UPPER LAYER ON OUTSIDE LANE AND SHOULDER.
4. MILL AND PAVE EXIT AND ENTRANCE RAMPS.
5. RESTORE AGGREGATE SHOULDER.
6. REPLACE GUARDRAIL.
7. MARK TEMPORARY EDGE LINES.

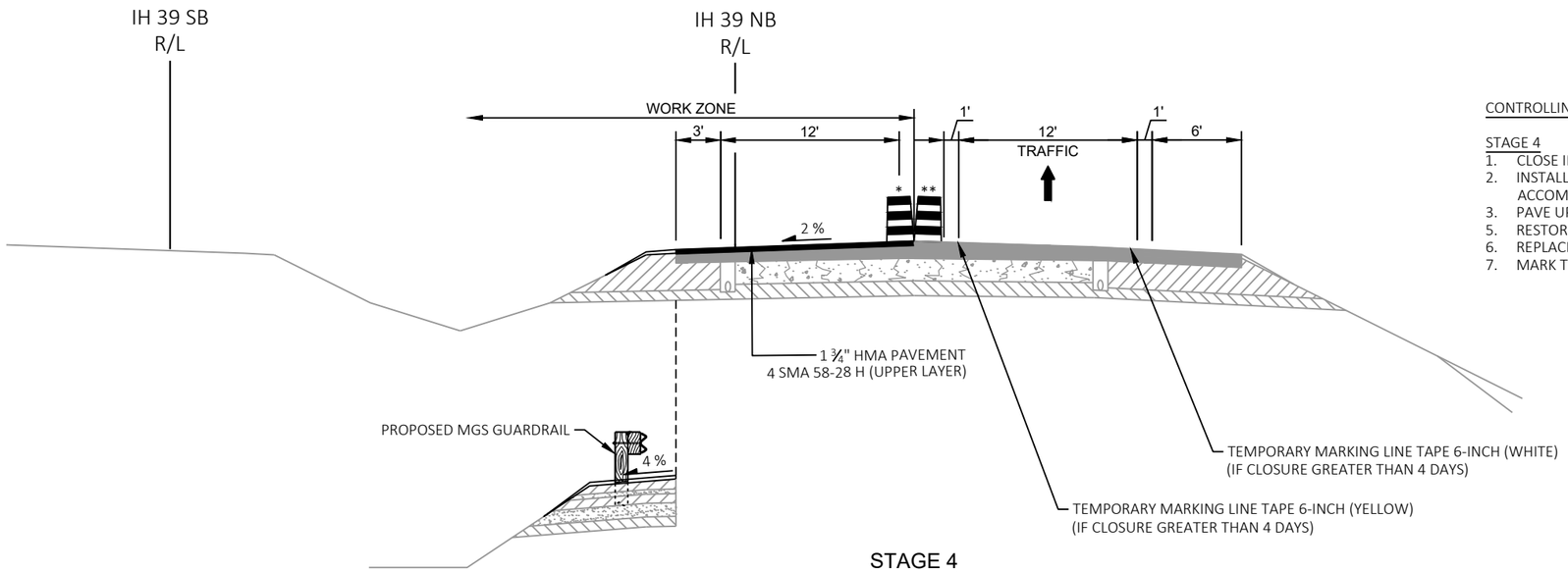
NOTES:

* NORMAL DRUM AND LANE LOCATION DURING NON-WORKING HOURS AND DESIGNATED WORKING HOURS IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED.

** TEMPORARY DRUM AND LANE LOCATION DURING WORKING HOURS ONLY. DRUMS SHALL BE MOVED AND RETURNED TO NORMAL POSITION IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED. TRAFFIC EXPECTED TO SHIFT ONTO SHOULDER TO BYPASS CONSTRUCTION OPERATIONS.

## STAGE 3B

STA 741+70 NB TO STA 874+91 NB
STA 896+00 NB TO STA 1635+65 NB

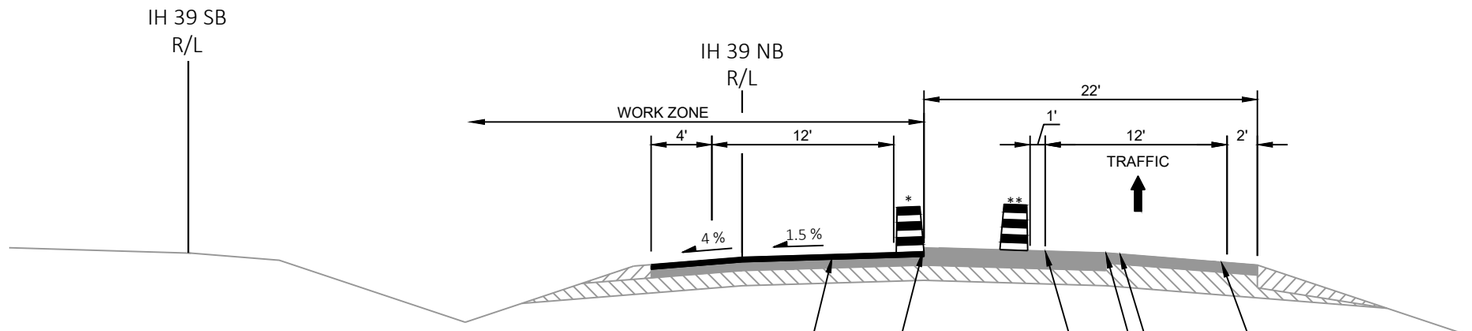



CONTROLLING CONSTRUCTION ACTIVITIES

STAGE 4
1. CLOSE INSIDE LANE AND SHOULDER.
2. INSTALL EXIT RAMP AND ENTRANCE RAMP TRAFFIC CONTROL TO ACCOMMODATE OUTSIDE LANE CLOSURE.
3. PAVE UPPER LAYER ON INSIDE LANE AND SHOULDER.
5. RESTORE AGGREGATE SHOULDER.
6. REPLACE GUARDRAIL.
7. MARK TEMPORARY EDGE LINES.

## STAGE 4

STA 743+45 NB TO STA 874+91 NB
STA 896+00 NB TO STA 1633+90 NB




NOTES:

* NORMAL DRUM AND LANE LOCATION DURING NON-WORKING HOURS AND DESIGNATED WORKING HOURS IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED.

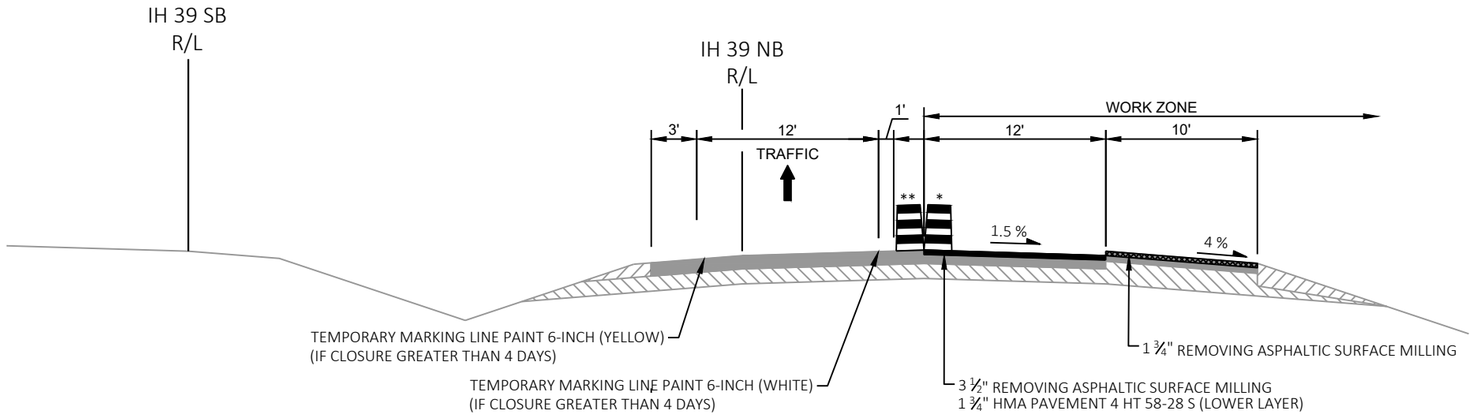
** TEMPORARY DRUM AND LANE LOCATION DURING WORKING HOURS ONLY. DRUMS SHALL BE MOVED AND RETURNED TO NORMAL POSITION IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED. TRAFFIC EXPECTED TO SHIFT ONTO SHOULDER TO BYPASS CONSTRUCTION OPERATIONS.

CONTROLLING CONSTRUCTION ACTIVITIES

STAGE 2
1. CLOSE INSIDE LANE AND SHOULDER.
2. INSTALL EXIT RAMP AND ENTRANCE RAMP TRAFFIC CONTROL TO ACCOMMODATE INSIDE LANE CLOSURE.
3. MILL INSIDE LANE AND SHOULDER.
4. PAVE LOWER LAYER ON INSIDE LANE AND SHOULDER.
5. RESTORE AGGREGATE SHOULDER.
6. MARK TEMPORARY EDGE LINES.

## STAGE 2

STA 874+91 NB TO STA 896+00 NB

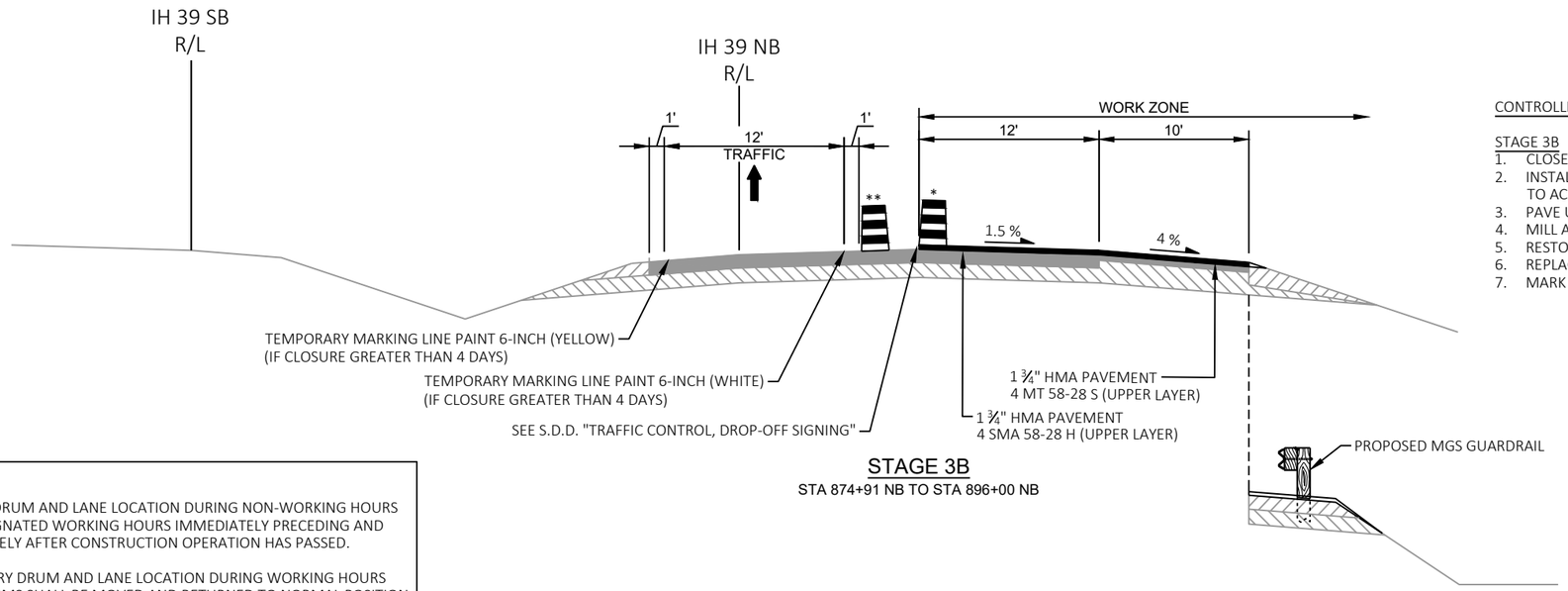



CONTROLLING CONSTRUCTION ACTIVITIES

STAGE 3A
1. CLOSE OUTSIDE LANE AND SHOULDER.
2. INSTALL EXIT RAMP AND ENTRANCE RAMP TRAFFIC CONTROL TO ACCOMMODATE OUTSIDE LANE CLOSURE.
3. MILL OUTSIDE LANE AND SHOULDER.
4. PAVE LOWER LAYER ON OUTSIDE LANE AND SHOULDER.
5. MILL AND PAVE EXIT AND ENTRANCE RAMPS.
6. RESTORE AGGREGATE SHOULDER.

## STAGE 3A

STA 874+91 NB TO STA 896+00 NB




STAGE 3B

STA 874+91 NB TO STA 896+00 NB

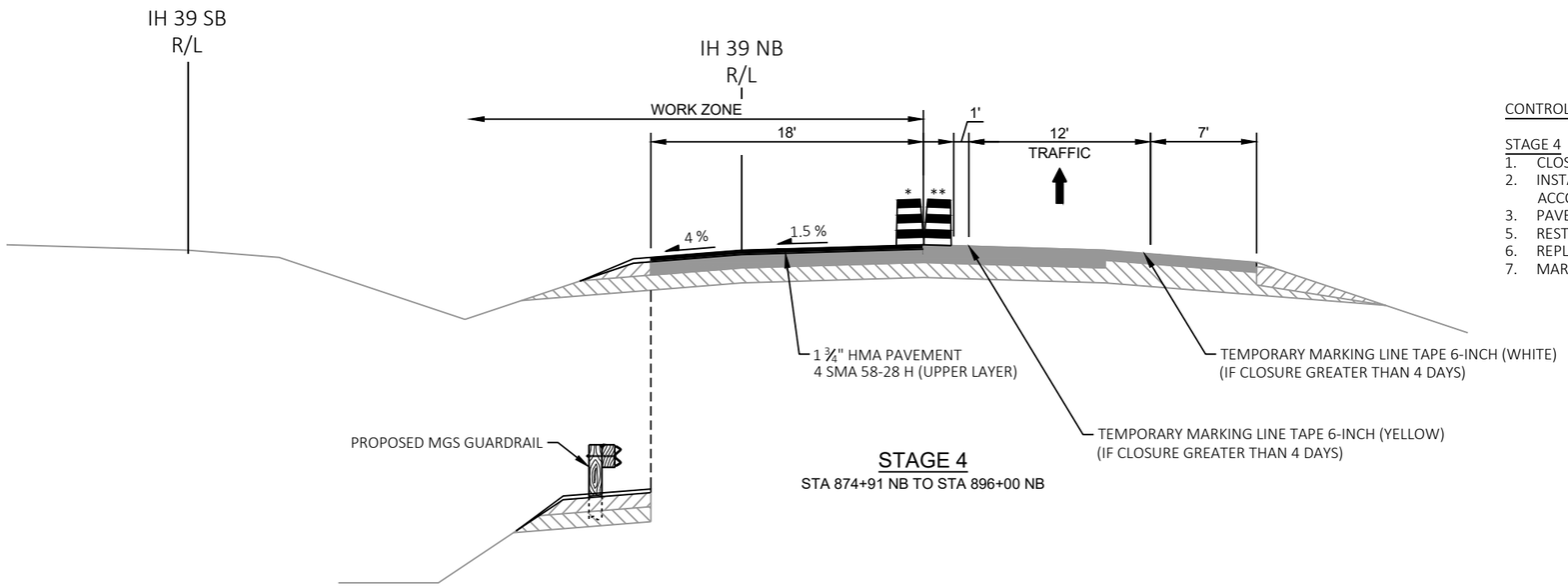
NOTES:

* NORMAL DRUM AND LANE LOCATION DURING NON-WORKING HOURS AND DESIGNATED WORKING HOURS IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED.

** TEMPORARY DRUM AND LANE LOCATION DURING WORKING HOURS ONLY. DRUMS SHALL BE MOVED AND RETURNED TO NORMAL POSITION IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED. TRAFFIC EXPECTED TO SHIFT ONTO SHOULDER TO BYPASS CONSTRUCTION OPERATIONS.

CONTROLLING CONSTRUCTION ACTIVITIES

STAGE 3B
1. CLOSE OUTSIDE LANE AND SHOULDER.
2. INSTALL EXIT RAMP AND ENTRANCE RAMP TRAFFIC CONTROL TO ACCOMMODATE INSIDE LANE CLOSURE.
3. PAVE UPPER LAYER ON OUTSIDE LANE AND SHOULDER.
4. MILL AND PAVE EXIT AND ENTRANCE RAMPS.
5. RESTORE AGGREGATE SHOULDER.
6. REPLACE GUARDRAIL.
7. MARK TEMPORARY EDGE LINES.

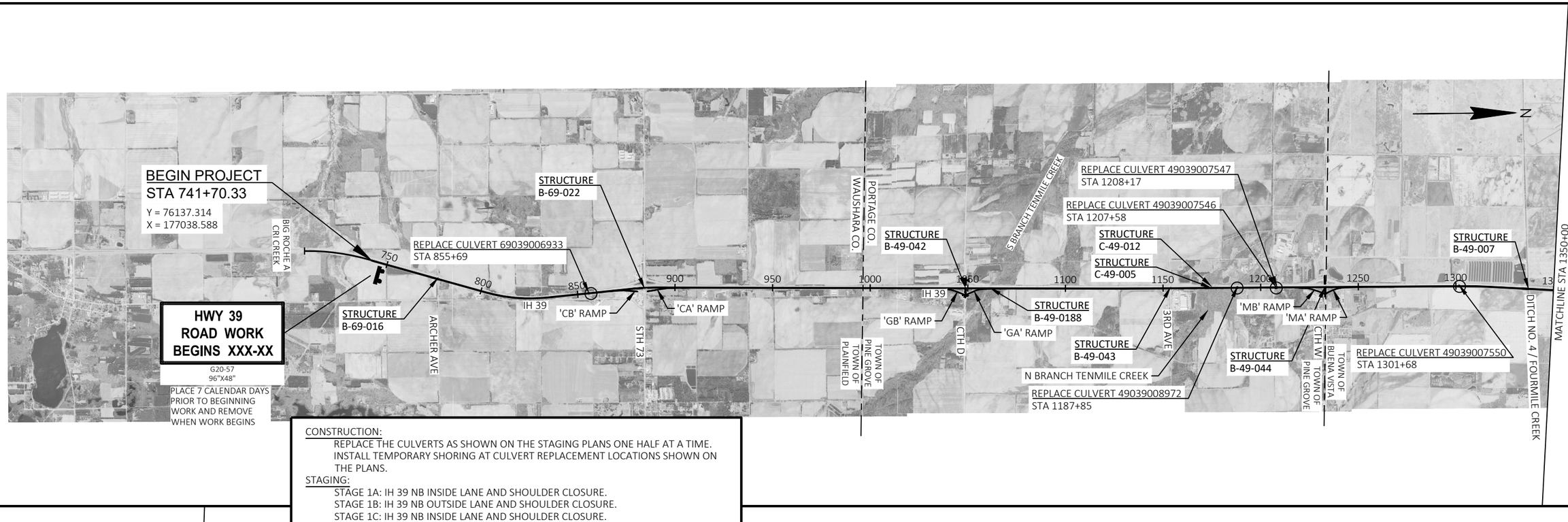



STAGE 4

STA 874+91 NB TO STA 896+00 NB

CONTROLLING CONSTRUCTION ACTIVITIES

STAGE 4
1. CLOSE INSIDE LANE AND SHOULDER.
2. INSTALL EXIT RAMP AND ENTRANCE RAMP TRAFFIC CONTROL TO ACCOMMODATE OUTSIDE LANE CLOSURE.
3. PAVE UPPER LAYER ON INSIDE LANE AND SHOULDER.
5. RESTORE AGGREGATE SHOULDER.
6. REPLACE GUARDRAIL.
7. MARK TEMPORARY EDGE LINES.




CONSTRUCTION:

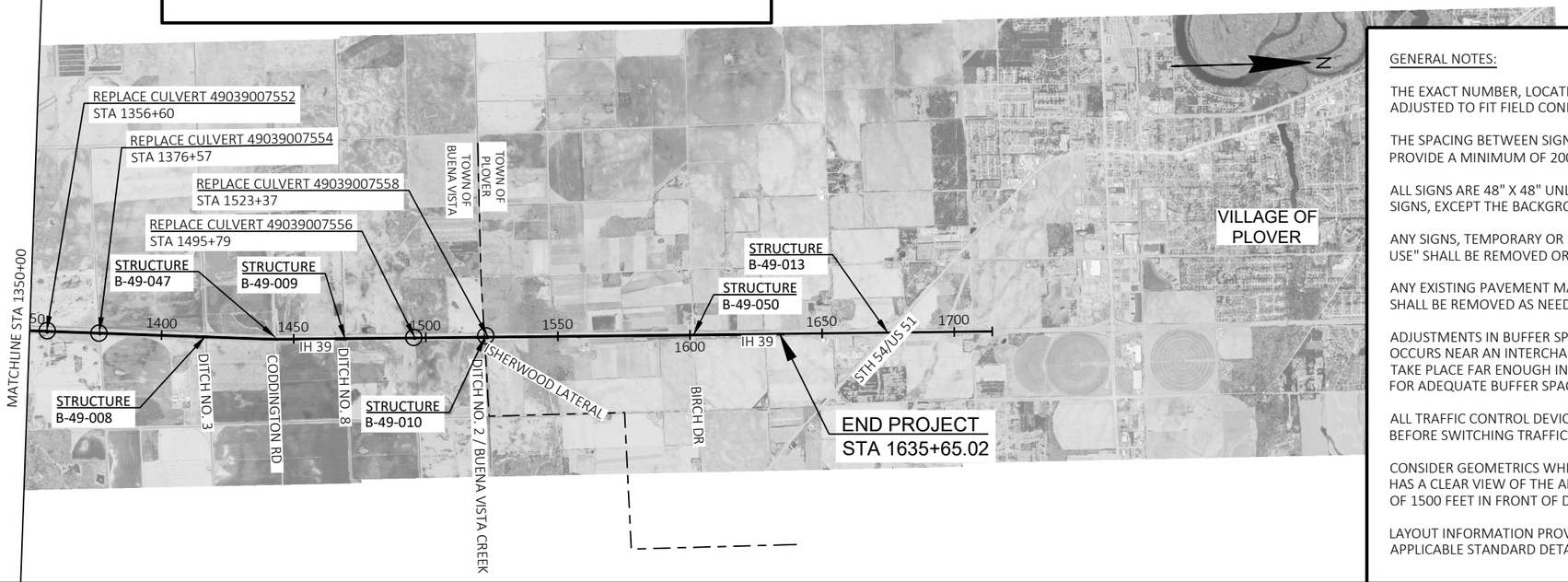
REPLACE THE CULVERTS AS SHOWN ON THE STAGING PLANS ONE HALF AT A TIME. INSTALL TEMPORARY SHORING AT CULVERT REPLACEMENT LOCATIONS SHOWN ON THE PLANS.

STAGING:

STAGE 1A: IH 39 NB INSIDE LANE AND SHOULDER CLOSURE.
STAGE 1B: IH 39 NB OUTSIDE LANE AND SHOULDER CLOSURE.
STAGE 1C: IH 39 NB INSIDE LANE AND SHOULDER CLOSURE.

RESTRICTIONS:

MAX. WIDTH RESTRICTIONS, SEE SPECIAL PROVISIONS AND ADVANCED WIDTH RESTRICTION WARNING




GENERAL NOTES:

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. "WO" SIGNS ARE THE SAME AS "W" SIGNS, 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.

ANY EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED AS NEEDED AND AS APPROVED BY THE ENGINEER.

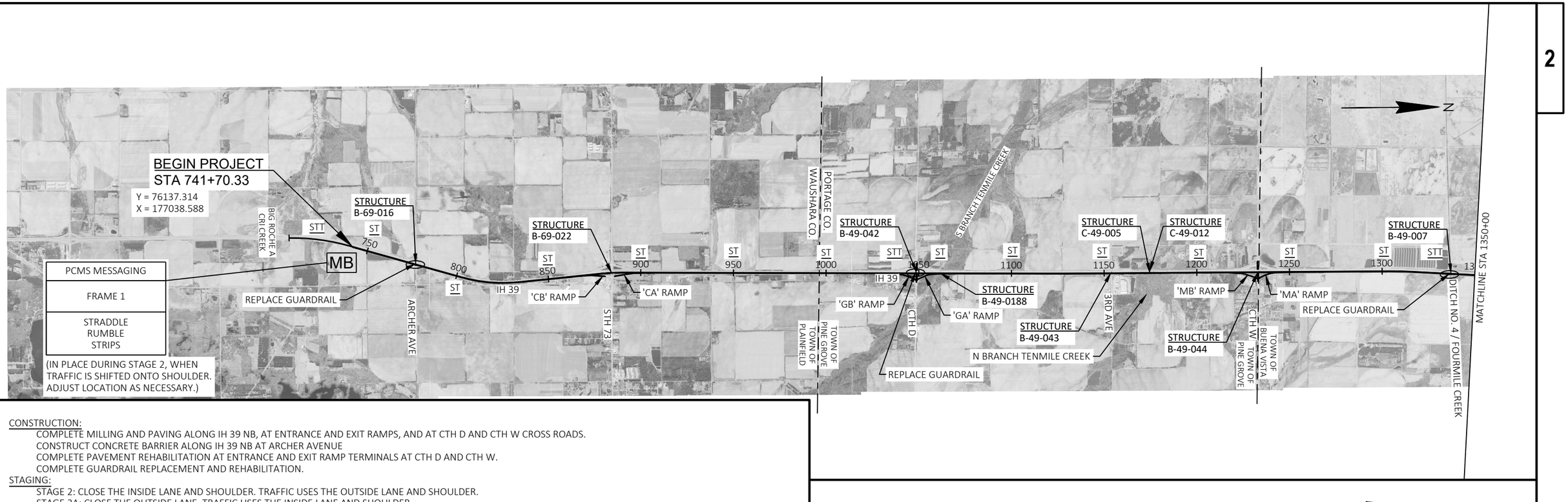
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE.

ALL TRAFFIC CONTROL DEVICES TO BE IN PLACE AND APPROVED BY THE ENGINEER BEFORE SWITCHING TRAFFIC.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF DRUMS.

LAYOUT INFORMATION PROVIDED IS NOT INTENDED TO REPLACE WHAT IS PROVIDED IN APPLICABLE STANDARD DETAIL DRAWINGS.

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL OVERVIEW - STAGE 1A TO STAGE 1C | SHEET 73 | E |
|---|---|---|---|---|---|




CONSTRUCTION:

COMPLETE MILLING AND PAVING ALONG IH 39 NB, AT ENTRANCE AND EXIT RAMPS, AND AT CTH D AND CTH W CROSS ROADS.
CONSTRUCT CONCRETE BARRIER ALONG IH 39 NB AT ARCHER AVENUE
COMPLETE PAVEMENT REHABILITATION AT ENTRANCE AND EXIT RAMP TERMINALS AT CTH D AND CTH W.
COMPLETE GUARDRAIL REPLACEMENT AND REHABILITATION.

STAGING:

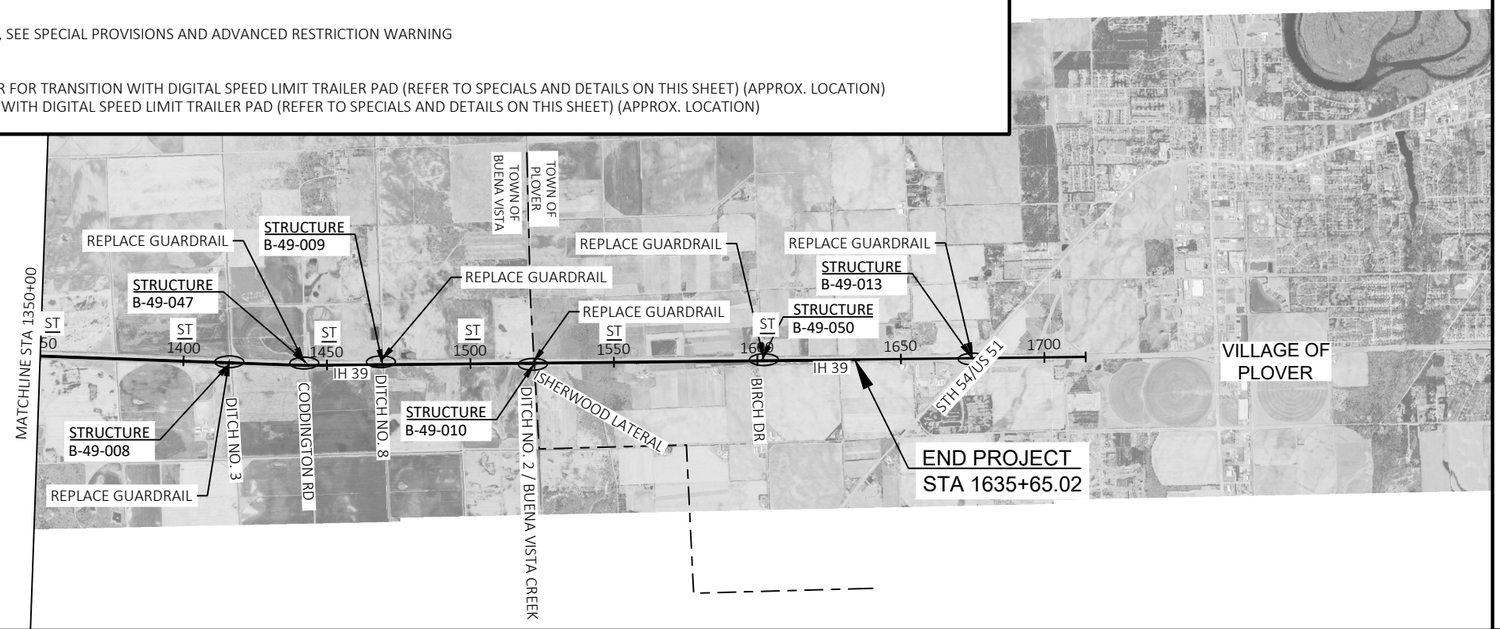
STAGE 2: CLOSE THE INSIDE LANE AND SHOULDER. TRAFFIC USES THE OUTSIDE LANE AND SHOULDER.
STAGE 3A: CLOSE THE OUTSIDE LANE. TRAFFIC USES THE INSIDE LANE AND SHOULDER.
STAGE 3B: CLOSE THE OUTSIDE LANE. TRAFFIC USES THE INSIDE LANE AND SHOULDER. UTILIZE SHORT TERM ENTRANCE AND EXIT RAMP CLOSURES TO COMPLETE MILLING AND PAVING AND PAVEMENT REHABILITATION WORK.
STAGE 4: CLOSE THE INSIDE LANE AND SHOULDER. TRAFFIC USES THE OUTSIDE LANE AND SHOULDER.

RESTRICTIONS:

MAX. WIDTH RESTRICTIONS, SEE SPECIAL PROVISIONS AND ADVANCED RESTRICTION WARNING

LEGEND:

STT - DIGITAL SPEED LIMIT TRAILER FOR TRANSITION WITH DIGITAL SPEED LIMIT TRAILER PAD (REFER TO SPECIALS AND DETAILS ON THIS SHEET) (APPROX. LOCATION)
ST - DIGITAL SPEED LIMIT TRAILER WITH DIGITAL SPEED LIMIT TRAILER PAD (REFER TO SPECIALS AND DETAILS ON THIS SHEET) (APPROX. LOCATION)




GENERAL NOTES:

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. "WO" SIGNS ARE THE SAME AS "W" SIGNS, 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.

ANY EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED AS NEEDED AND AS APPROVED BY THE ENGINEER.

COVER EXISTING 70 MPH SIGNS WHEN LANE CLOSURES ARE IN EFFECT.

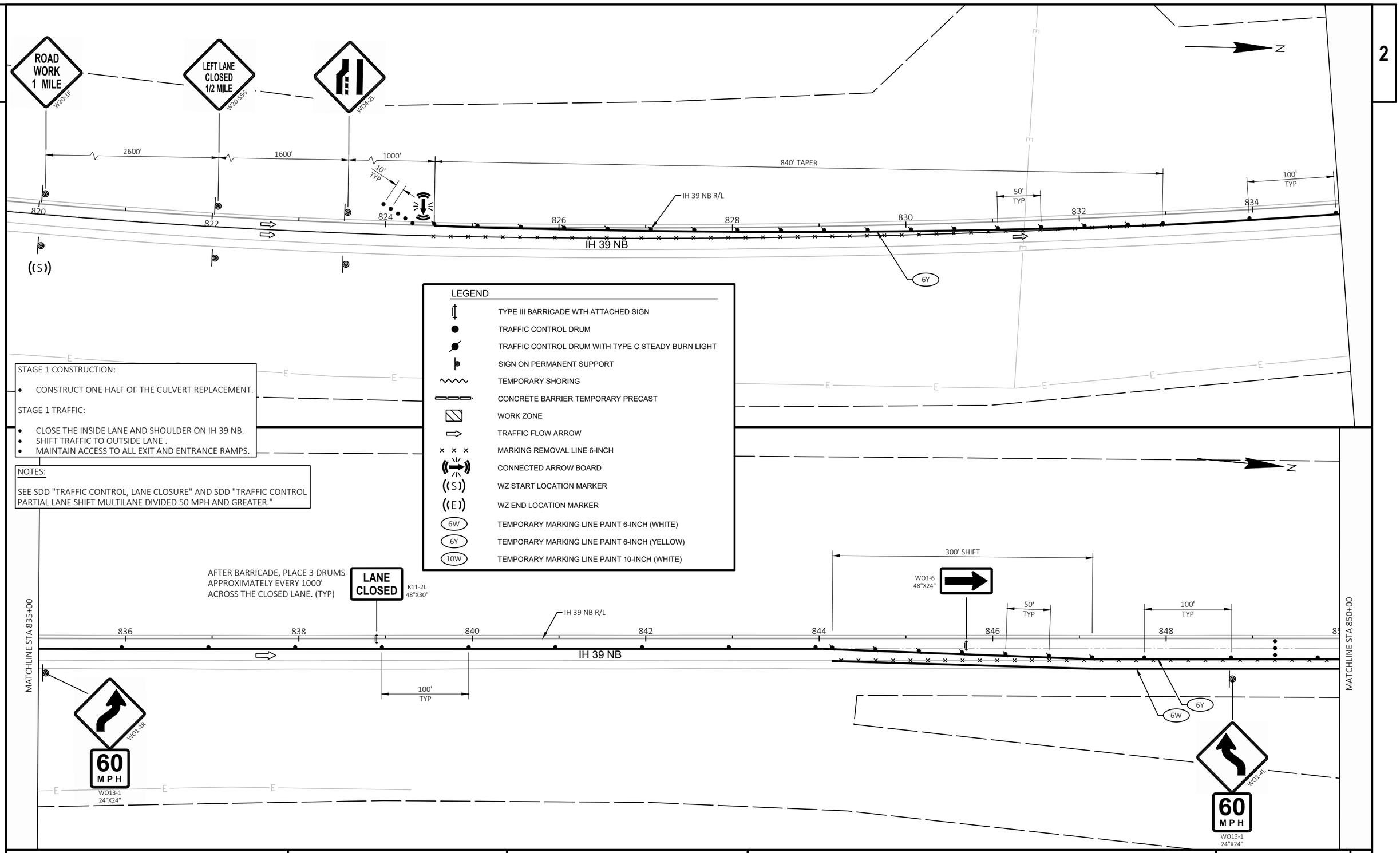
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE.

ALL TRAFFIC CONTROL DEVICES TO BE IN PLACE AND APPROVED BY THE ENGINEER BEFORE SWITCHING TRAFFIC.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF DRUMS.

LAYOUT INFORMATION PROVIDED IS NOT INTENDED TO REPLACE WHAT IS PROVIDED IN APPLICABLE STANDARD DETAIL DRAWINGS.

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL OVERVIEW - STAGES 2-4 | SHEET 74 | E |
|---|---|---|---|---|---|

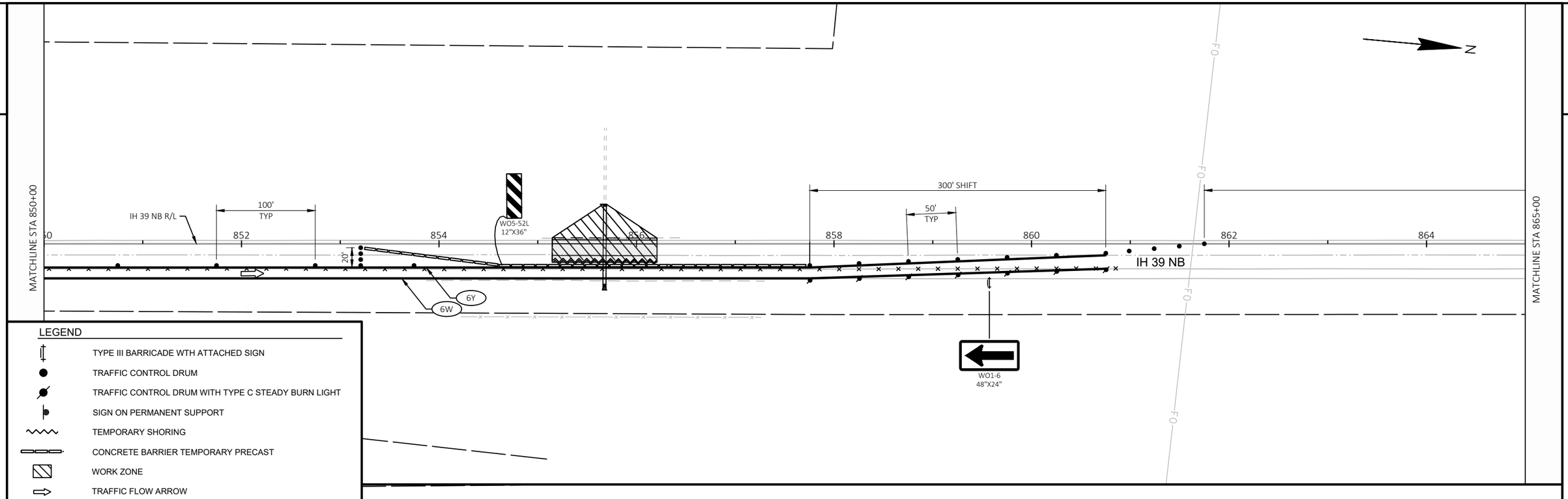



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 75 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026001-TC-STAGE 1A.DWG
LAYOUT NAME - 01

PLOT DATE : 4/30/2026 2:41 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

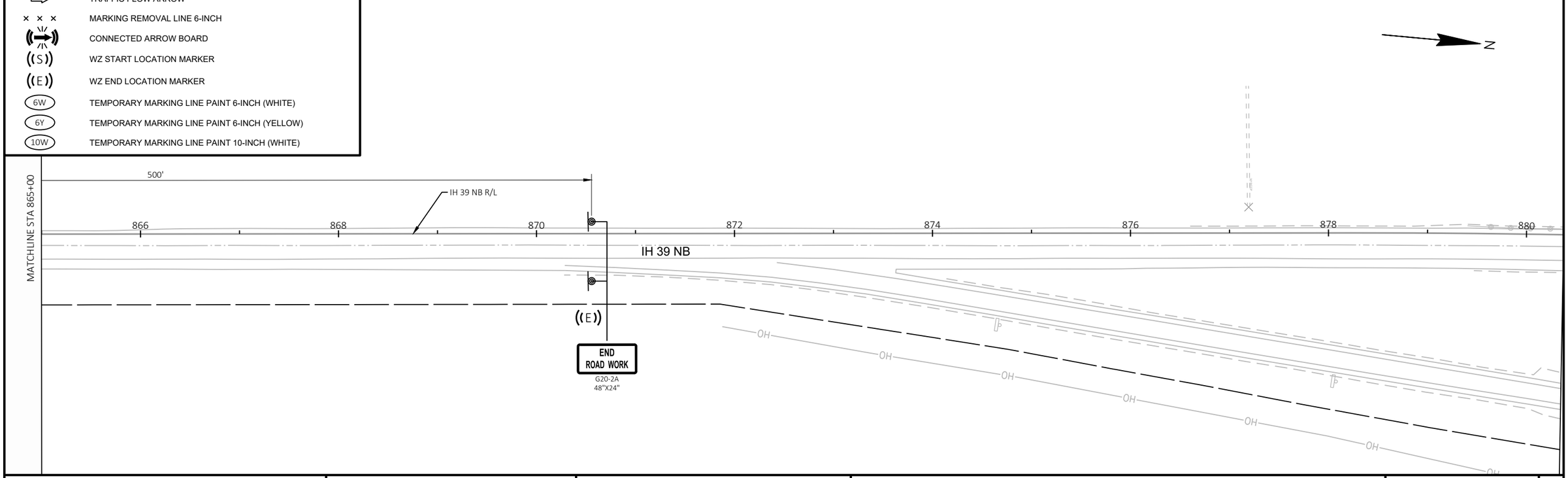
2




2

LEGEND

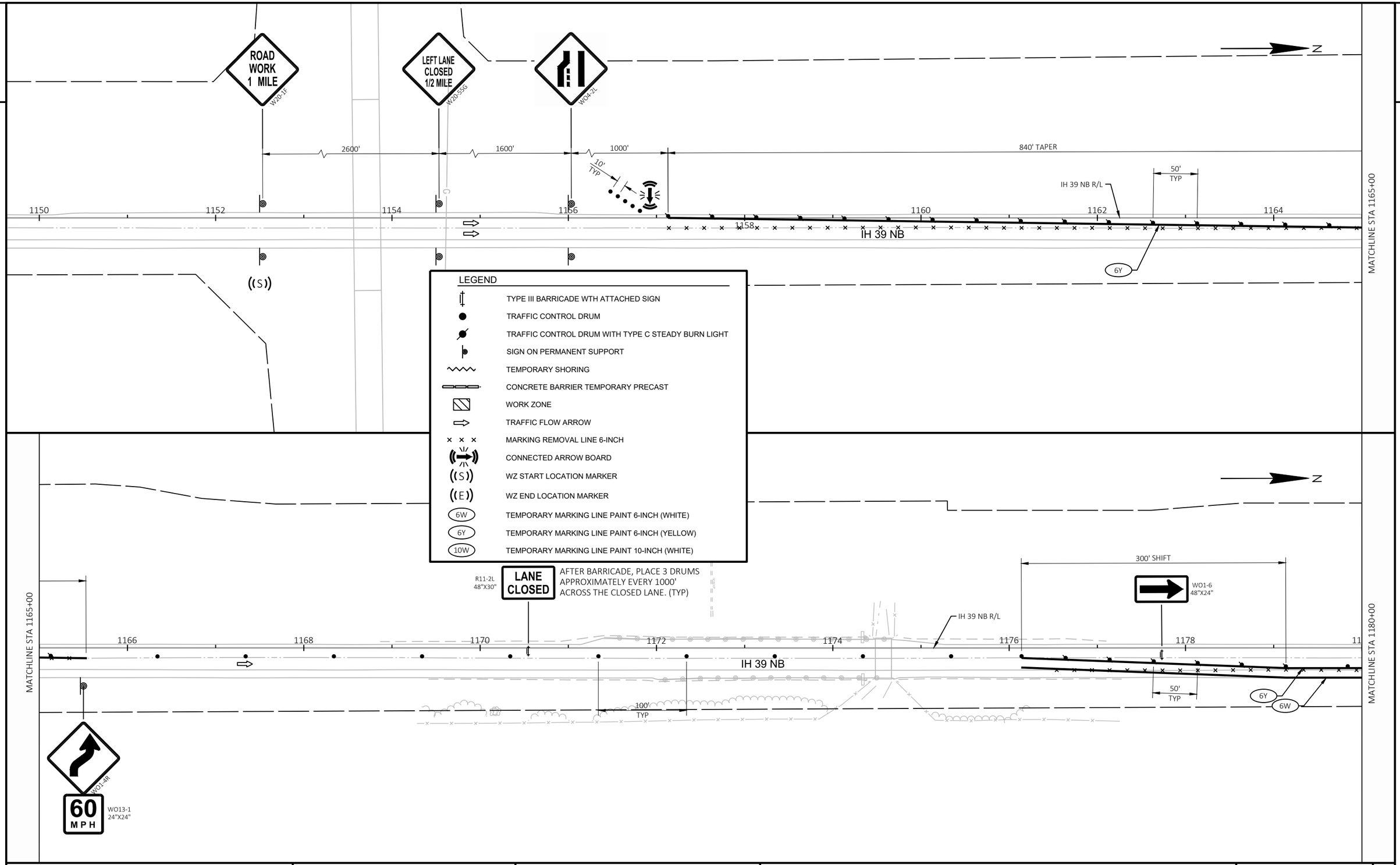
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 76 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026001-TC-STAGE 1A.DWG
LAYOUT NAME - 02

PLOT DATE : 4/30/2026 2:41 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

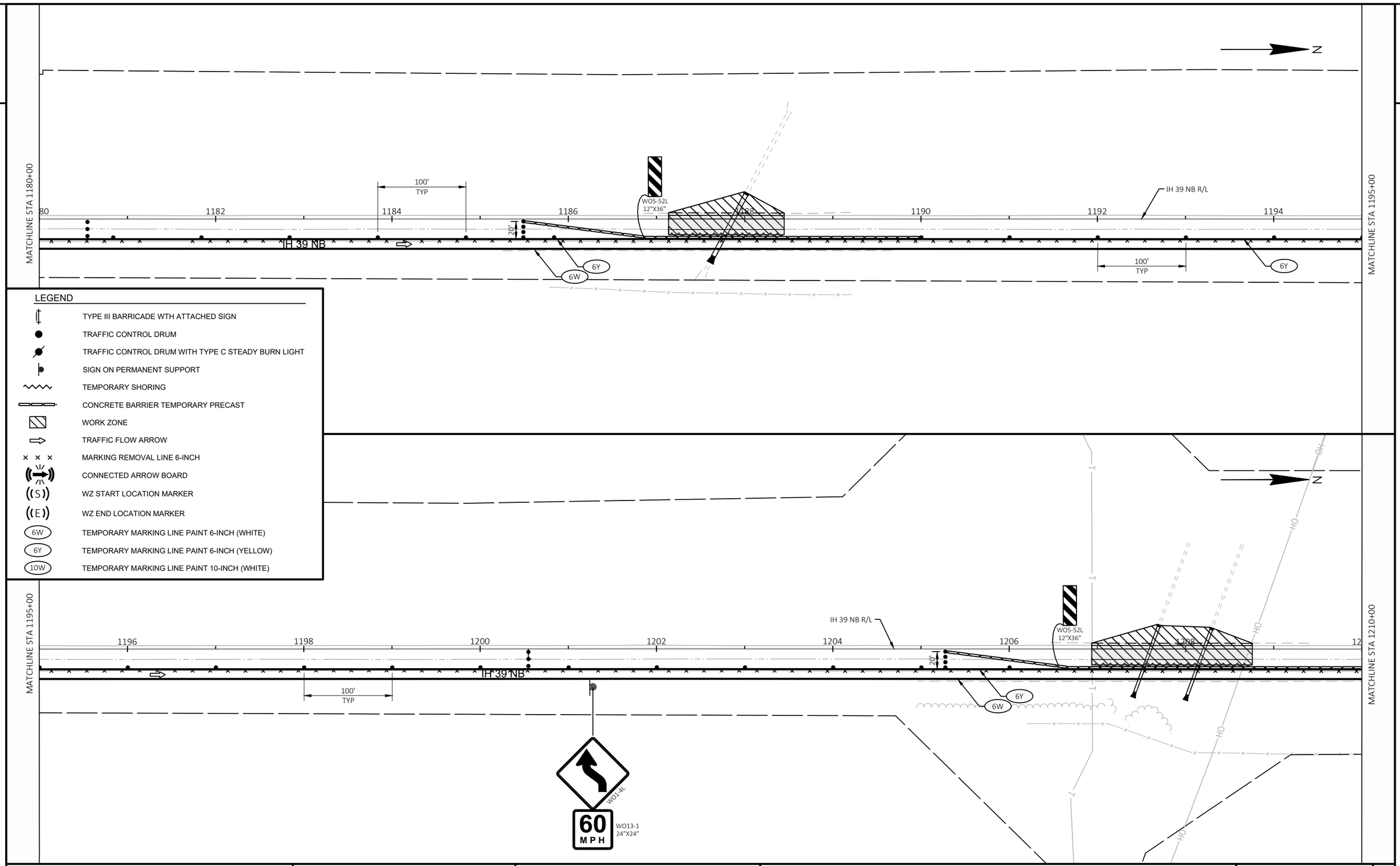



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 77 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026001-TC-STAGE 1A.DWG
LAYOUT NAME - 03

PLOT DATE : 4/30/2026 2:42 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2




LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER
- 6W — TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y — TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W — TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

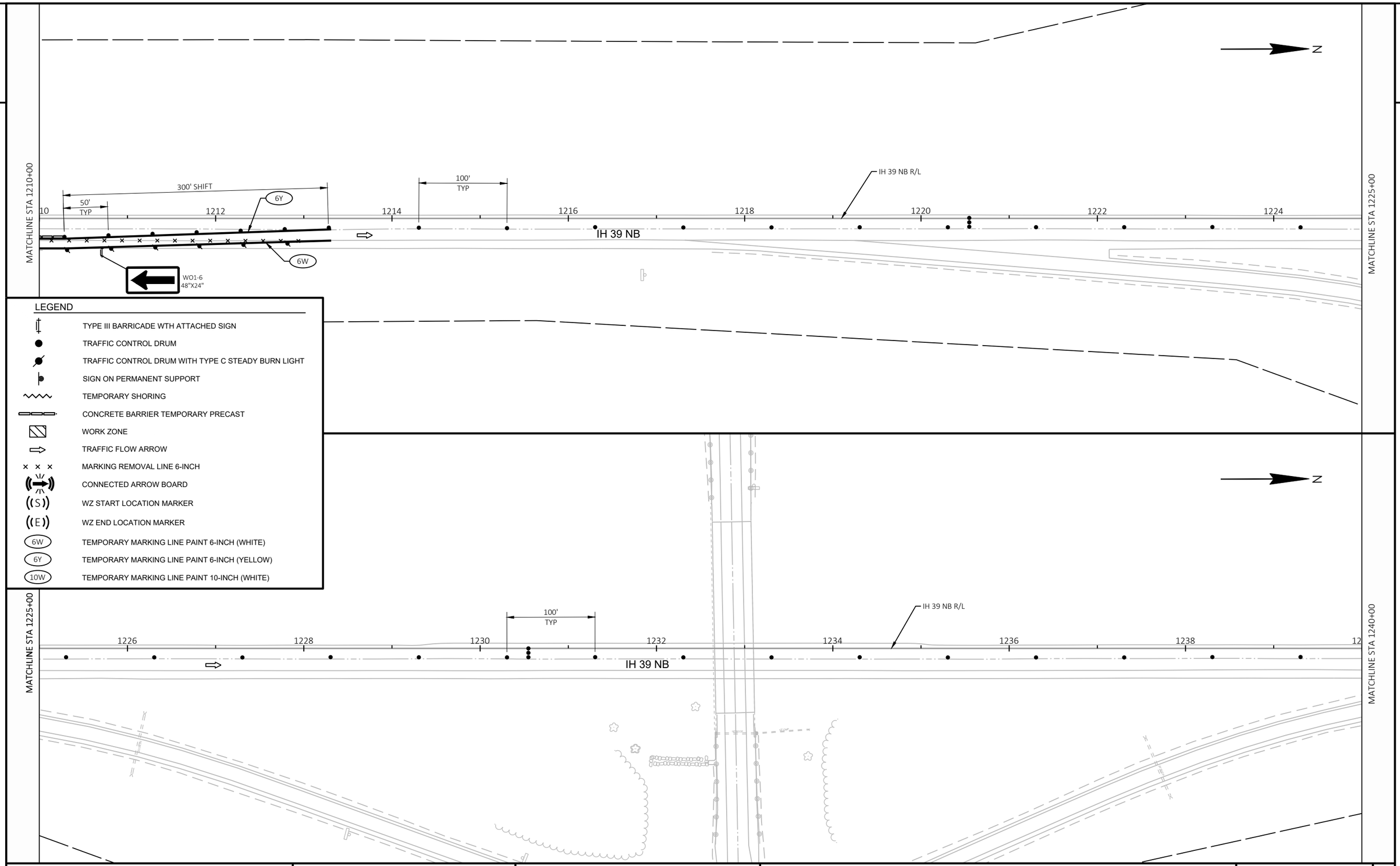
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 78 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026001-TC-STAGE 1A.DWG
LAYOUT NAME - 04

PLOT DATE : 4/30/2026 2:42 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2



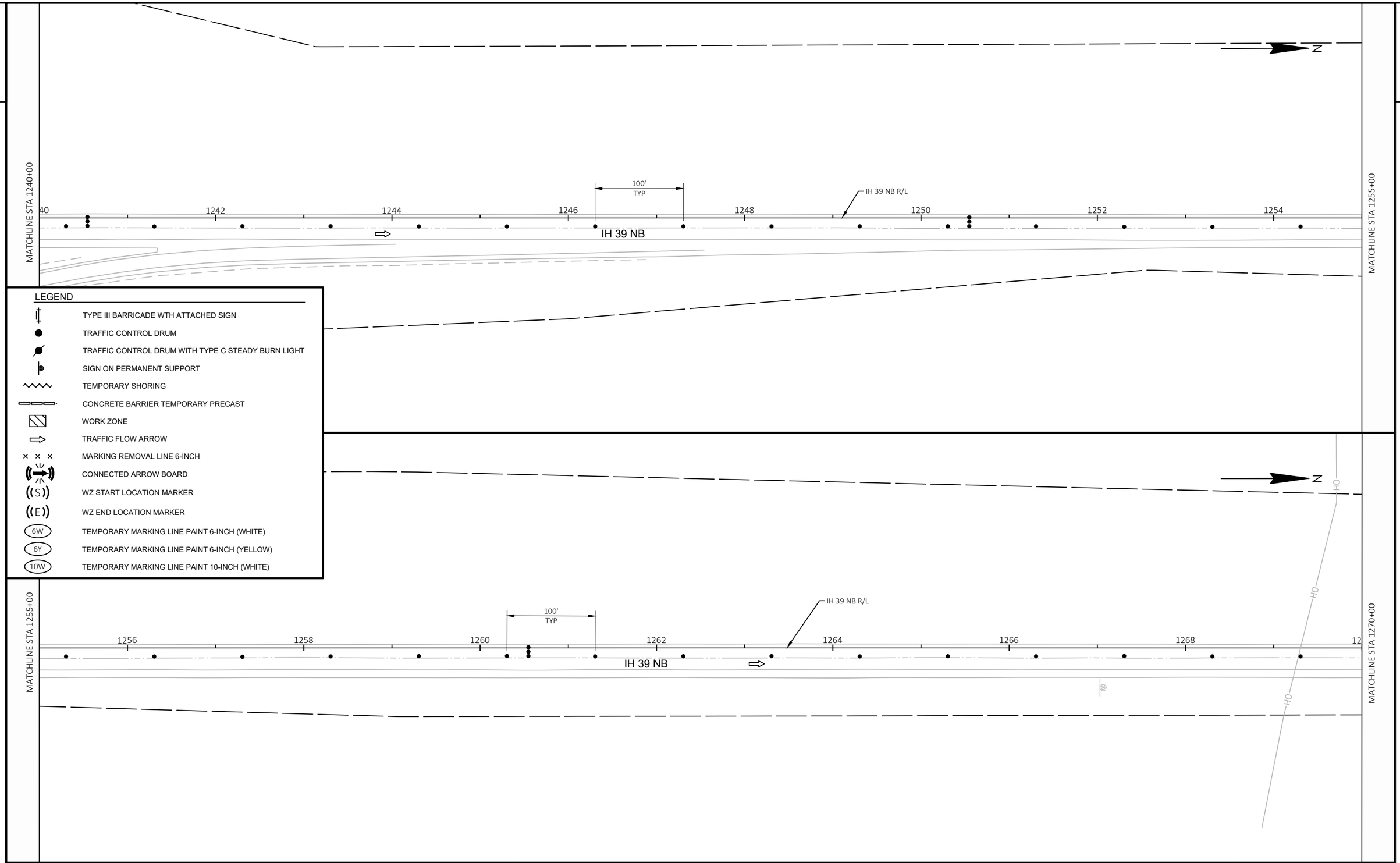

LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 79 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026001-TC-STAGE 1A.DWG
LAYOUT NAME - 05
PLOT DATE : 4/30/2026 2:43 PM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

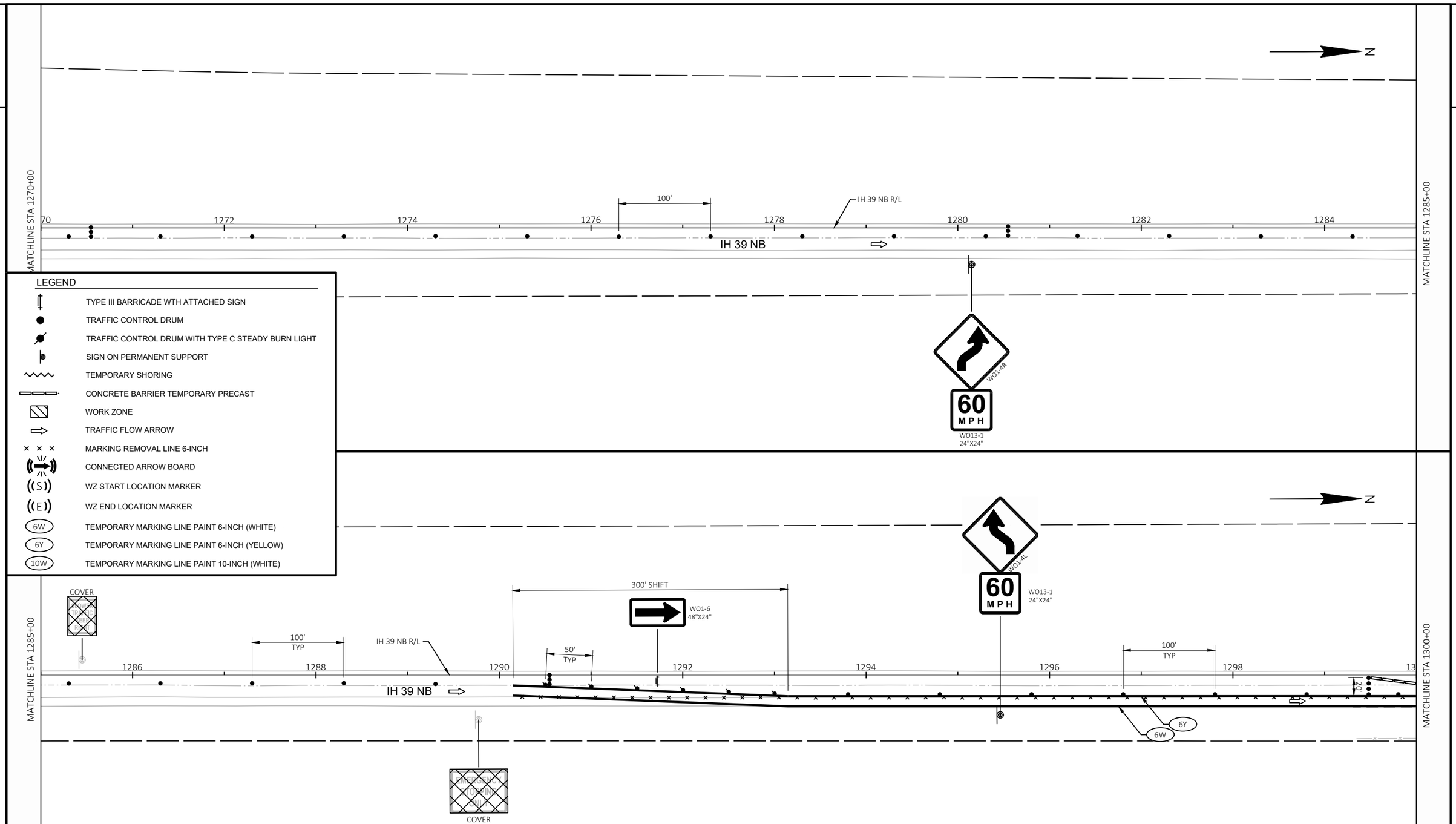



LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

2

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 80 | E |
|---|---|---|---|---|---|



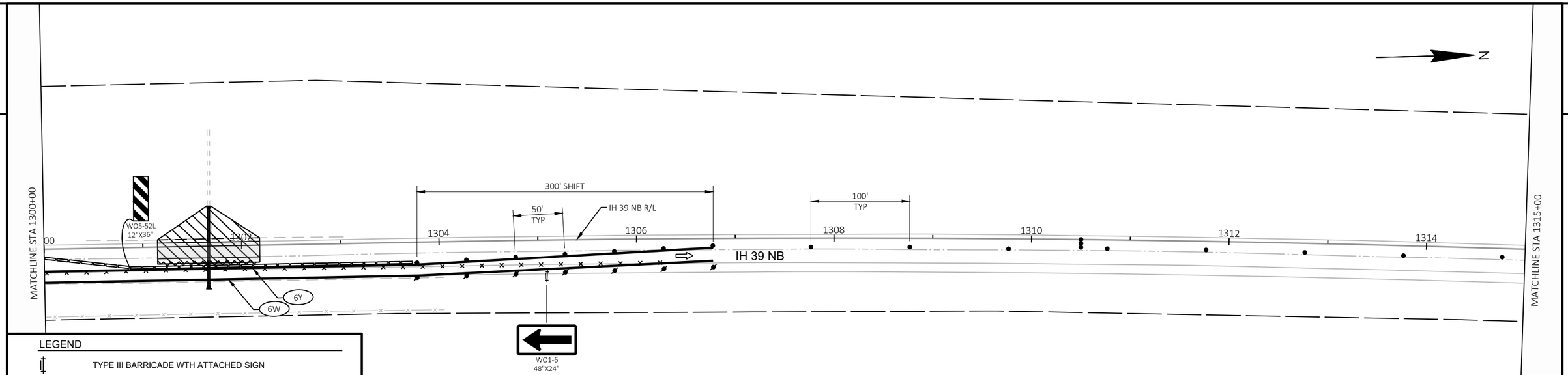

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 81 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026001-TC-STAGE 1A.DWG
LAYOUT NAME - 07

PLOT DATE : 4/30/2026 2:44 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

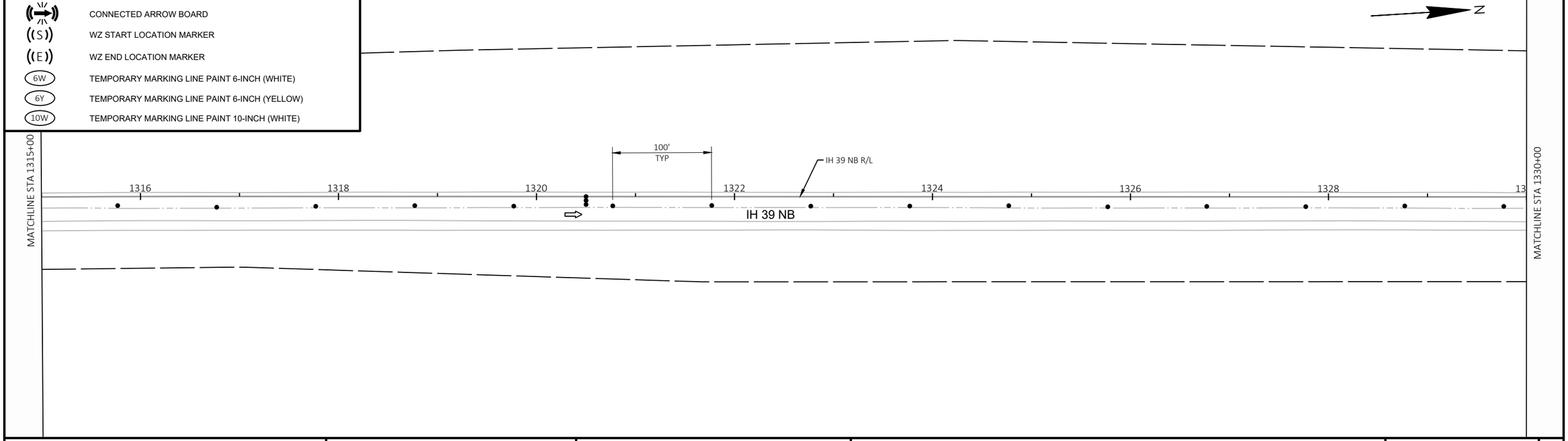
WISDOT/CADDS SHEET 44

2




LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)



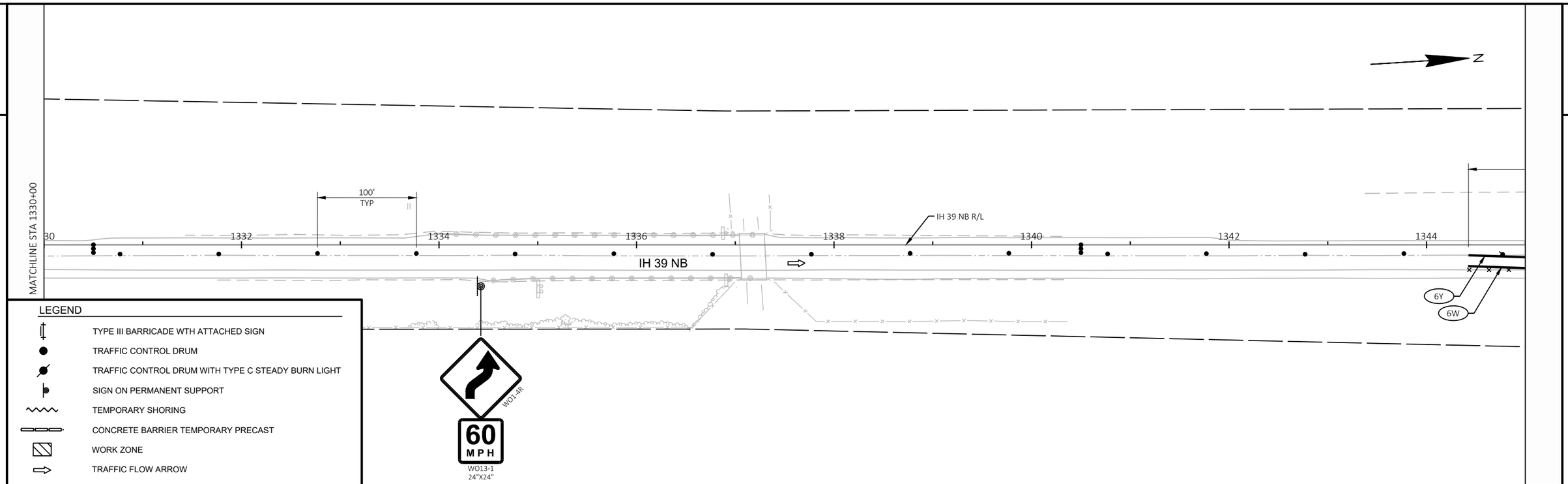

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 82 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026001-TC-STAGE 1A.DWG
LAYOUT NAME - 08

PLOT DATE : 4/30/2026 2:44 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

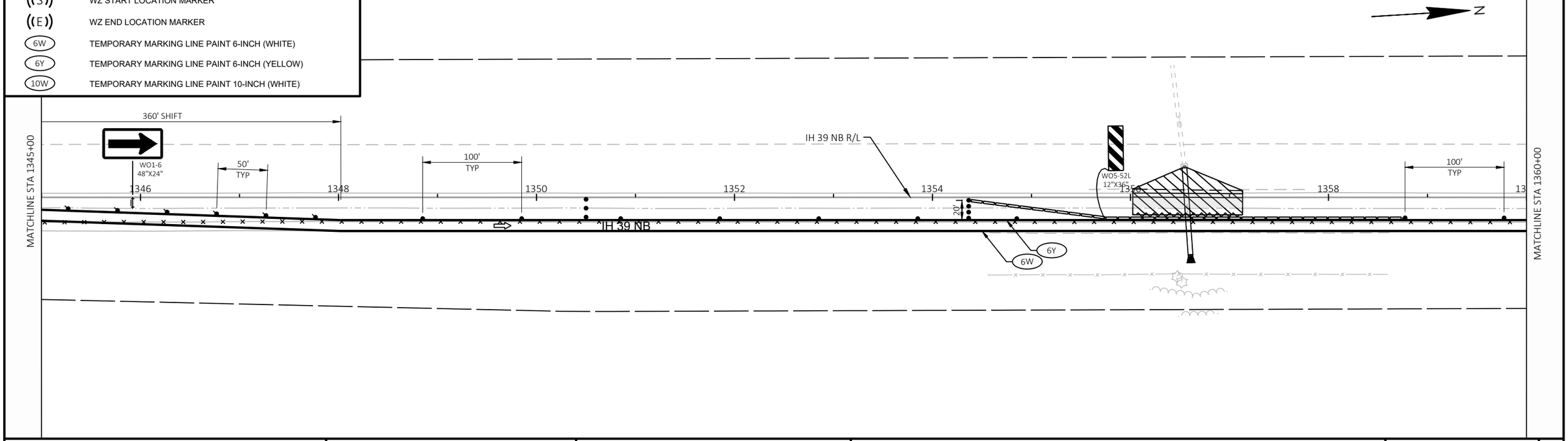
WISDOT/CADDS SHEET 44

2




LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

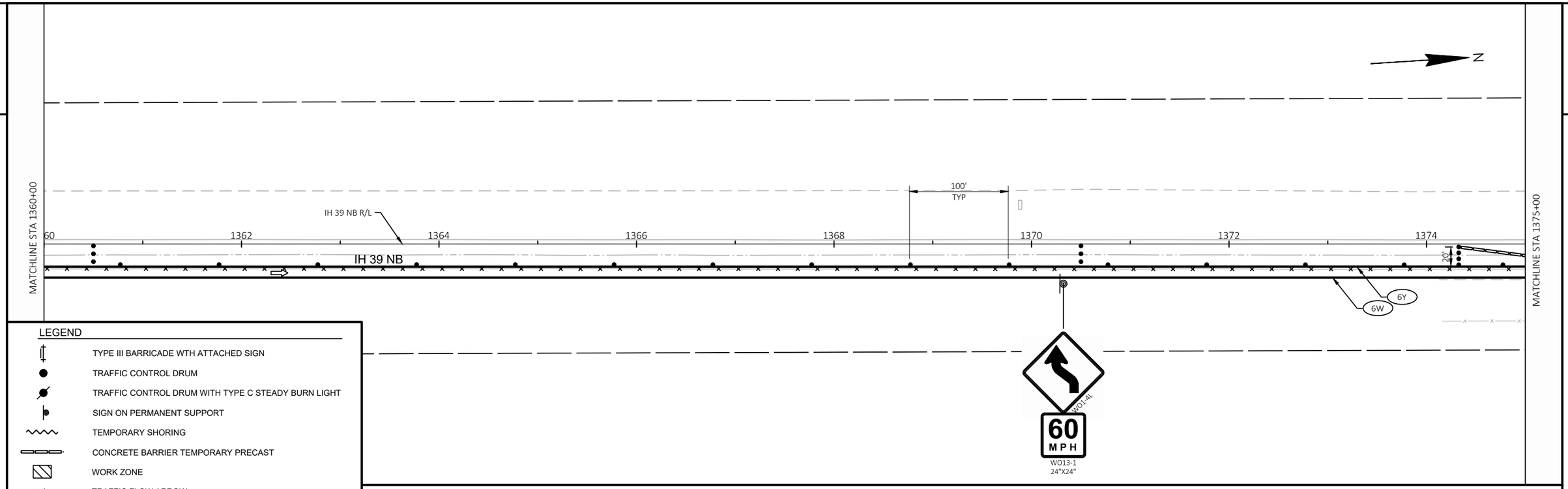



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 83 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026001-TC-STAGE 1A.DWG
LAYOUT NAME - 09

PLOT DATE : 4/30/2026 2:45 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

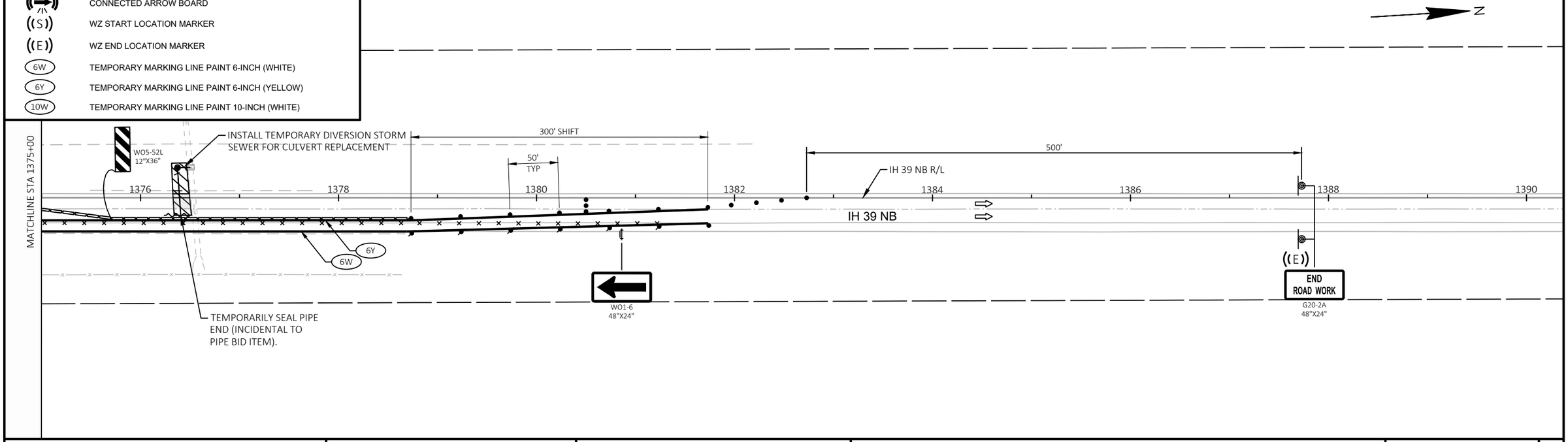
2




2

LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

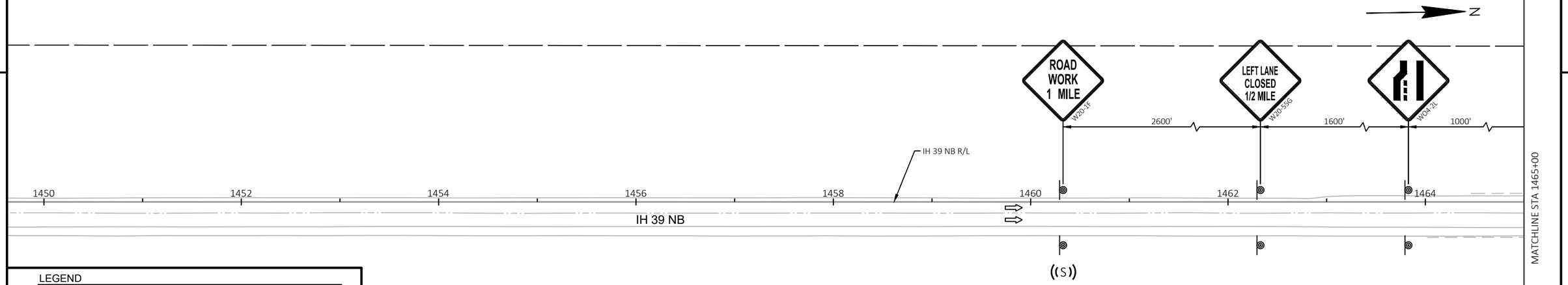



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 84 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026001-TC-STAGE 1A.DWG
LAYOUT NAME - 10

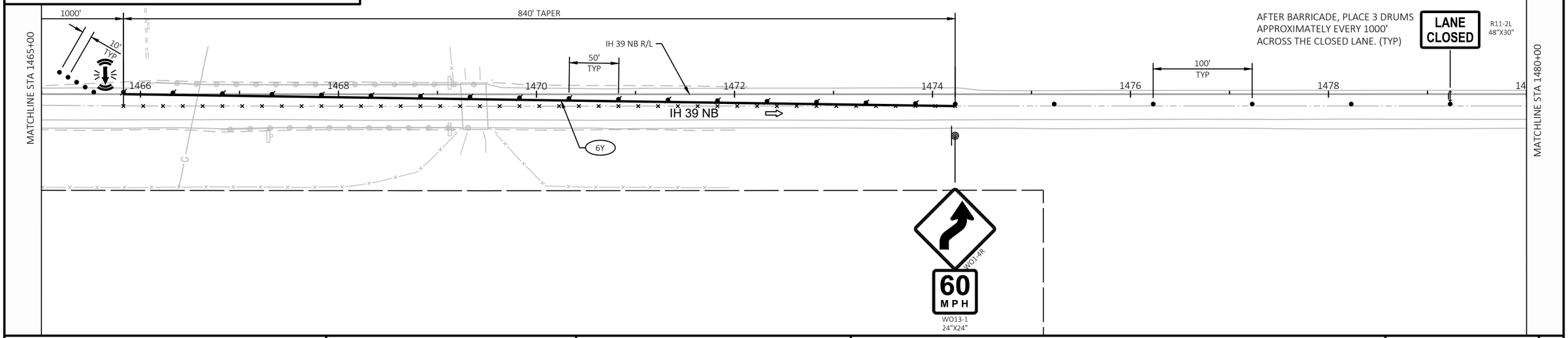
PLOT DATE : 4/30/2026 2:45 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

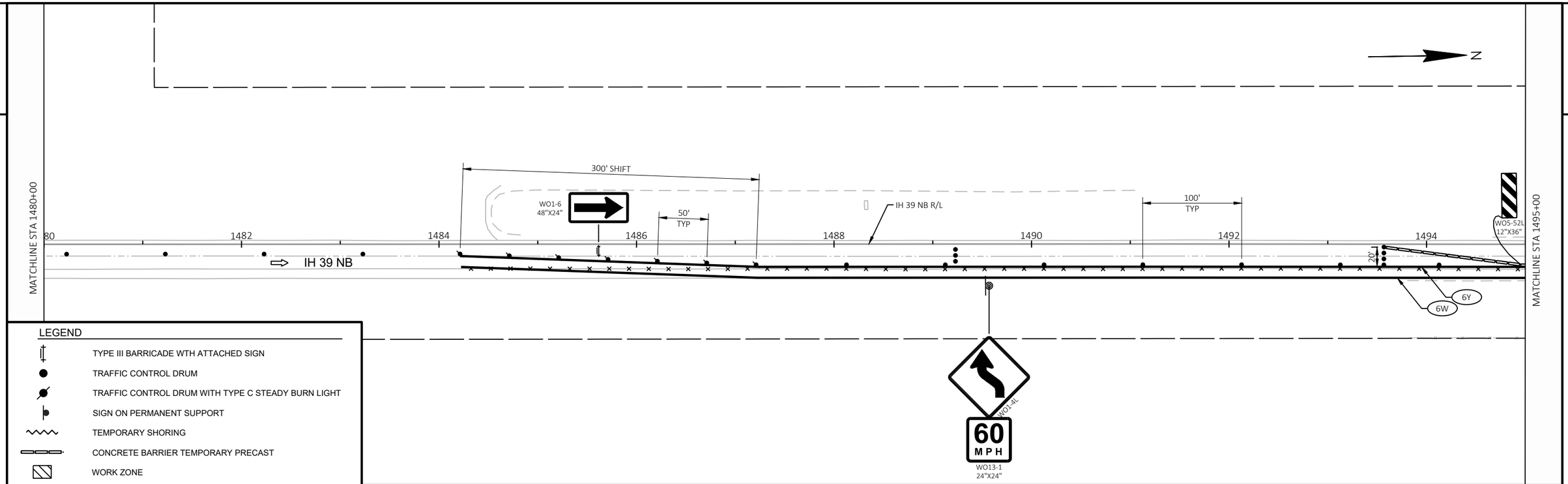



LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

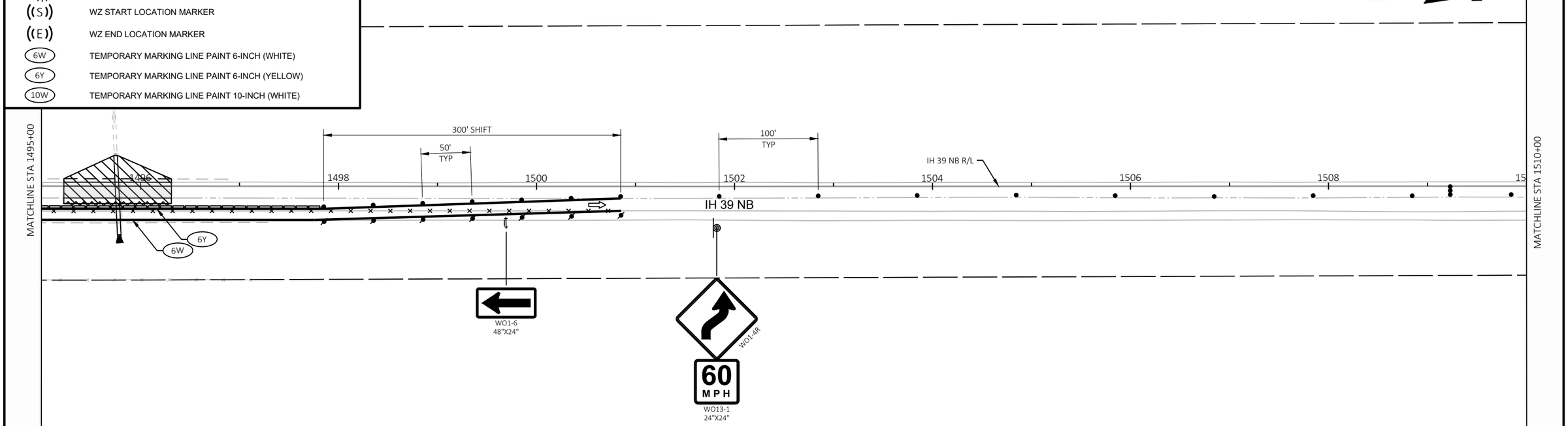



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 85 | E |
|---|---|---|---|---|---|




LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 86 | E |
|---|---|---|---|---|---|

2

MATCHLINE STA 1510+00

10

IH 39 NB

300' SHIFT

WO1-6
48"X24"

50'
TYP

1512

1514

1516

1518

100'
TYP

1520

IH 39 NB R/L

1522

WO5-52L
12"X36"

1524

MATCHLINE STA 1525+00

20'

6Y

6W

WO1-4L

60
MPH

WO13-1
24"X24"

N

2

LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

N

MATCHLINE STA 1525+00

300' SHIFT

50'
TYP

1526

1528

IH 39 NB R/L

1530

500'

1532

1534

1536

1538

1540

IH 39 NB

6W

6Y

(E)

WO1-6
48"X24"

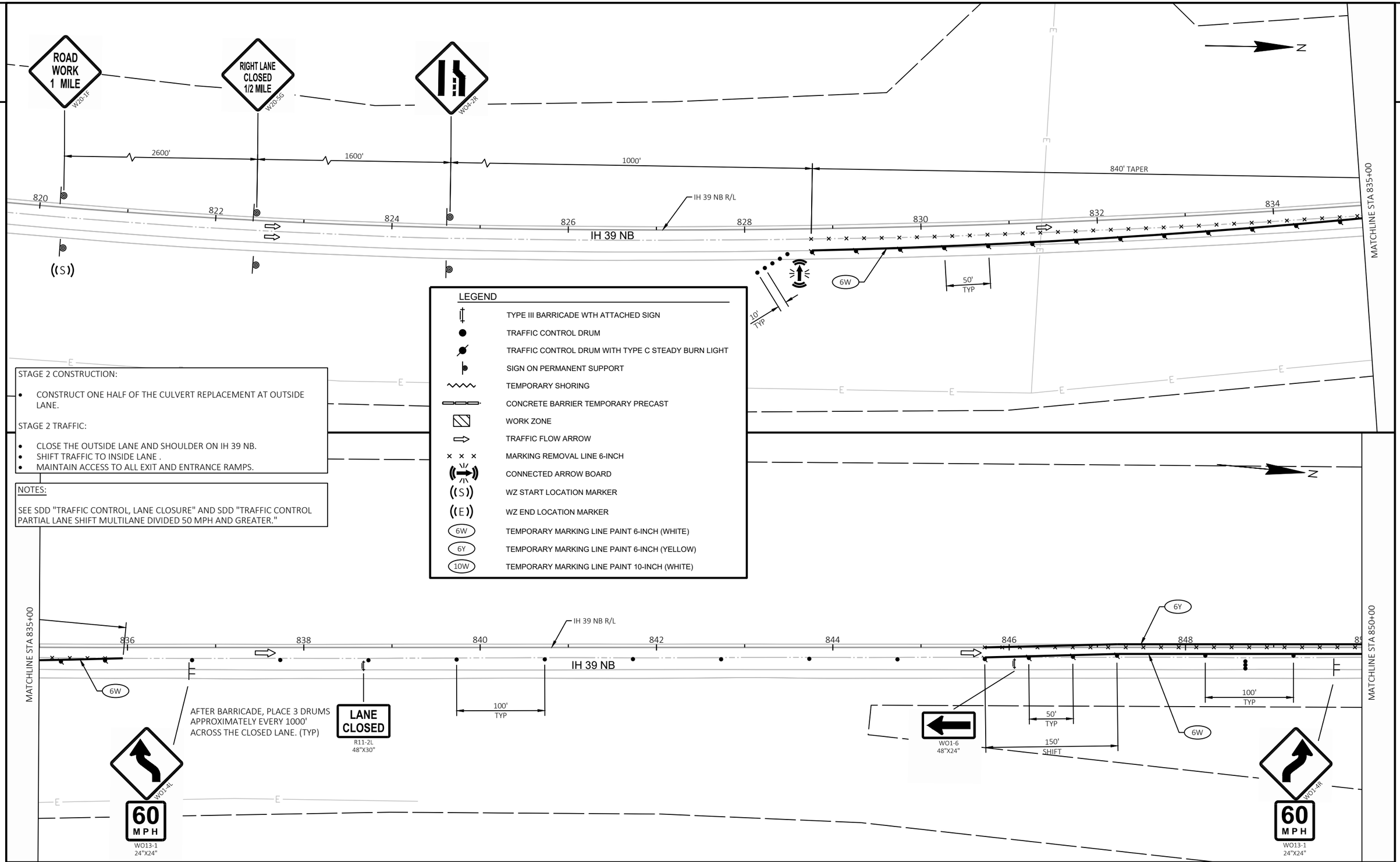
END
ROAD WORK

G20-2A
48"X24"

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1A | SHEET 87 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026001-TC-STAGE 1A.DWG
LAYOUT NAME - 15

PLOT DATE : 4/30/2026 2:47 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 88 | E |
|---|---|---|---|---|---|


FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 01
PLOT DATE : 4/30/2026 4:29 PM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

MATCHLINE STA 850+00

MATCHLINE STA 865+00

IH 39 NB R/L

IH 39 NB

WO1-6
48"X24"

G20-2A
48"X24"

END
ROAD WORK

WO5-52R
12"X36"

6Y

6W

20'

100'
TYP

50'
TYP

25'
TYP

500'

150'
SHIFT

850 852 854 856 858 860 862 864

866 868 870 872 874 876 878 880

N

F.O.

OH

P

(E)

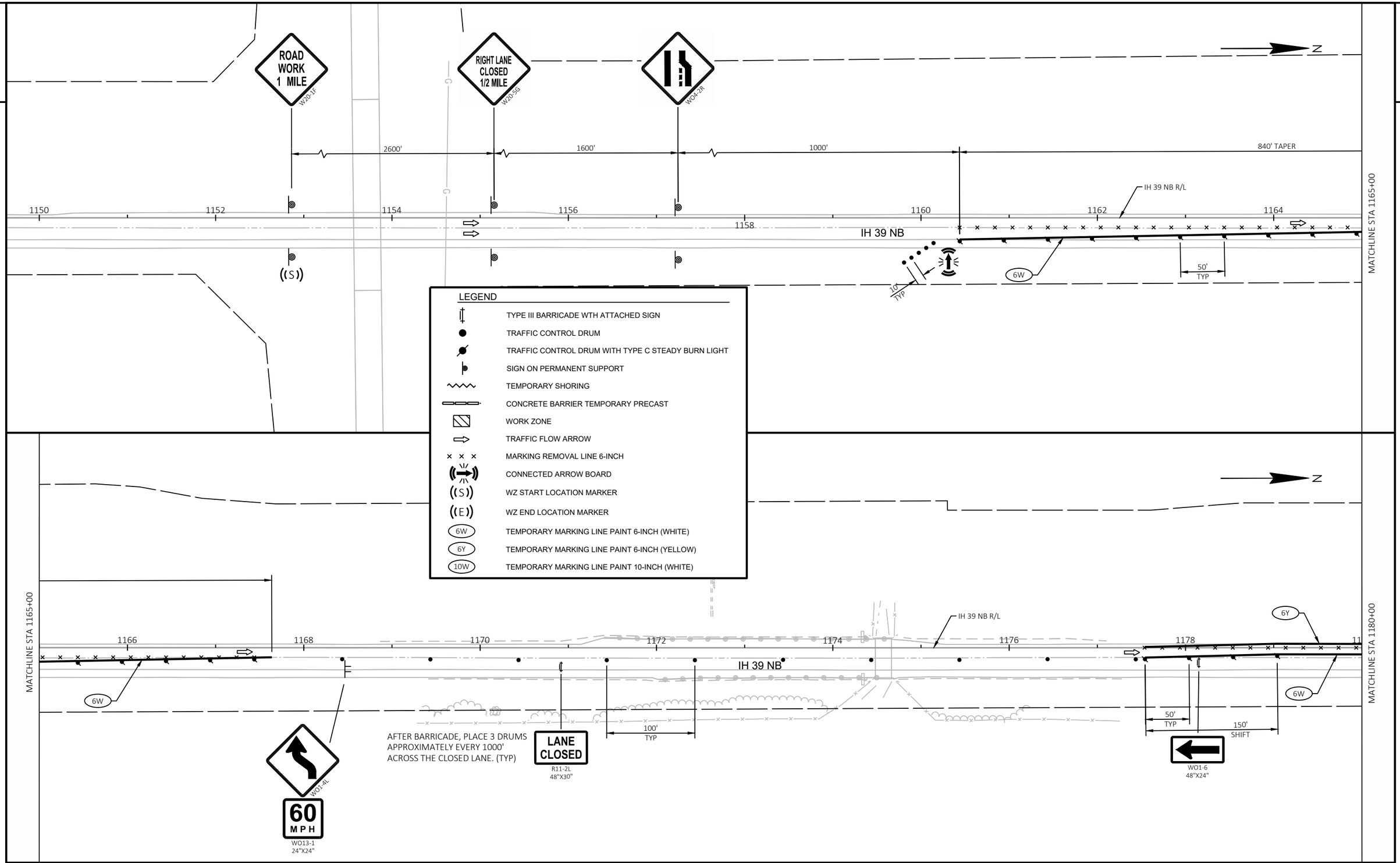
## LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 89 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 02

PLOT DATE : 4/30/2026 4:30 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 90 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 03

PLOT DATE : 4/30/2026 4:31 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

MATCHLINE STA 1180+00

1180 1182 1184 1186 1188 1190 1192 1194

IH 39 NB

IH 39 NB R/L

6Y

6W

100' TYP

L 20'

WO5-52R 12"X36"

N

MATCHLINE STA 1195+00

2

## LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

MATCHLINE STA 1195+00

1196 1198 1200 1202 1204 1206 1208 12

IH 39 NB

IH 39 NB R/L

6Y

6W

100' TYP

L 20'

WO5-52R 12"X36"

WO1-4R

60 MPH

WO13-1 24"X24"

N

MATCHLINE STA 1210+00

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 91 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 04

PLOT DATE : 4/30/2026 4:31 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

MATCHLINE STA 1210+00

WO1-6
48"X24"

150'
SHIFT

6Y

50'
TYP

10 1212 1214 1216 1218 1220 1222 1224

IH 39 NB

IH 39 NB R/L

100'
TYP

25'
TYP

6W

25'
TYP

170' 235' TAPER 300'

25'
TYP

10W

EXIT

E5-1
48"X48"

EXIT RAMP

END
ROAD WORK

G20-2A
48"X24"

MATCHLINE STA 1225+00

N

## LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER
- 6W — TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y — TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W — TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

MATCHLINE STA 1225+00

1226 1228 1230 1232 1234 1236 1238 12

IH 39 NB

IH 39 NB R/L

100'
TYP

CTH W

N

EXIT RAMP

WO4-1R

ROAD
WORK
AHEAD

W20-1A

ENTRANCE RAMP

MATCHLINE STA 1240+00

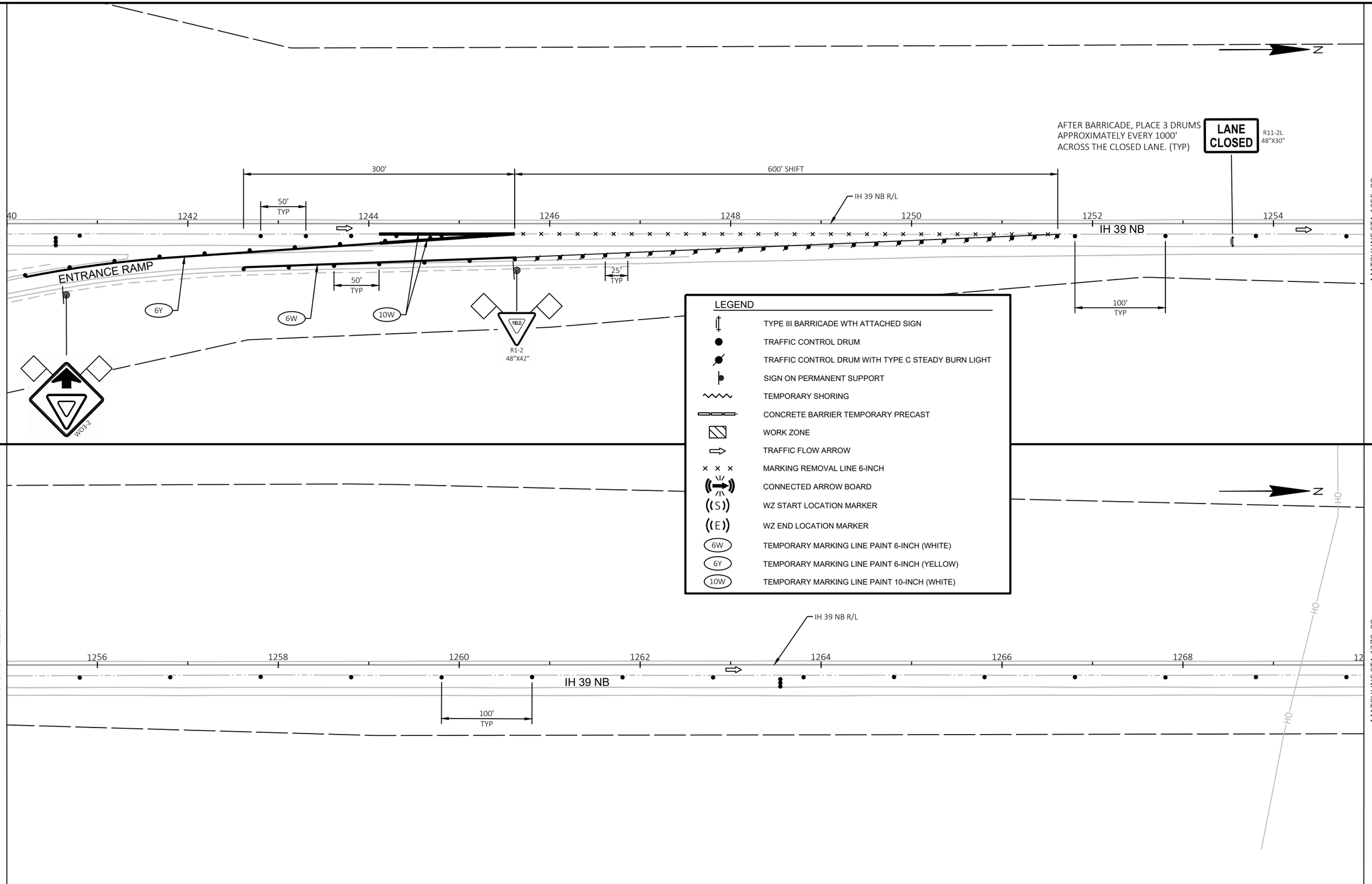
2

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 92 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 05

PLOT DATE : 4/30/2026 4:32 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44


N
MATCHLINE STA 1240+00
MATCHLINE STA 1255+00
MATCHLINE STA 1270+00
AFTER BARRICADE, PLACE 3 DRUMS APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE. (TYP)
LANE CLOSED
R11-2L 48"X30"
300'
600' SHIFT
50' TYP
IH 39 NB R/L
1240
1242
1244
1246
1248
1250
1252
1254
IH 39 NB
ENTRANCE RAMP
6Y
6W
10W
50' TYP
25' TYP
YIELD
R1-2 48"X42"
100' TYP
W03-2
1256
1258
1260
1262
1264
1266
1268
HO
LEGEND
TYPE III BARRICADE WTH ATTACHED SIGN
TRAFFIC CONTROL DRUM
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
SIGN ON PERMANENT SUPPORT
TEMPORARY SHORING
CONCRETE BARRIER TEMPORARY PRECAST
WORK ZONE
TRAFFIC FLOW ARROW
MARKING REMOVAL LINE 6-INCH
CONNECTED ARROW BOARD
WZ START LOCATION MARKER
WZ END LOCATION MARKER
6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

2

MATCHLINE STA 1270+00

N

70 1272 1274 1276 1278 1280 1282 1284

IH 39 NB R/L

IH 39 NB

100'
TYP

WO1-4L

60
MPH

WO13-1
24"X24"

MATCHLINE STA 1285+00

2

## LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

MATCHLINE STA 1285+00

N

COVER

1286 1288 1290 1292 1294 1296 1298 13

IH 39 NB R/L

IH 39 NB

6Y

6W

100'
TYP

50'
TYP

150' SHIFT

100'
TYP

20'

EMERGENCY
STOPPING
ONLY

WO1-6
48"X24"

WO1-4R

60
MPH

WO13-1
24"X24"

MATCHLINE STA 1300+00

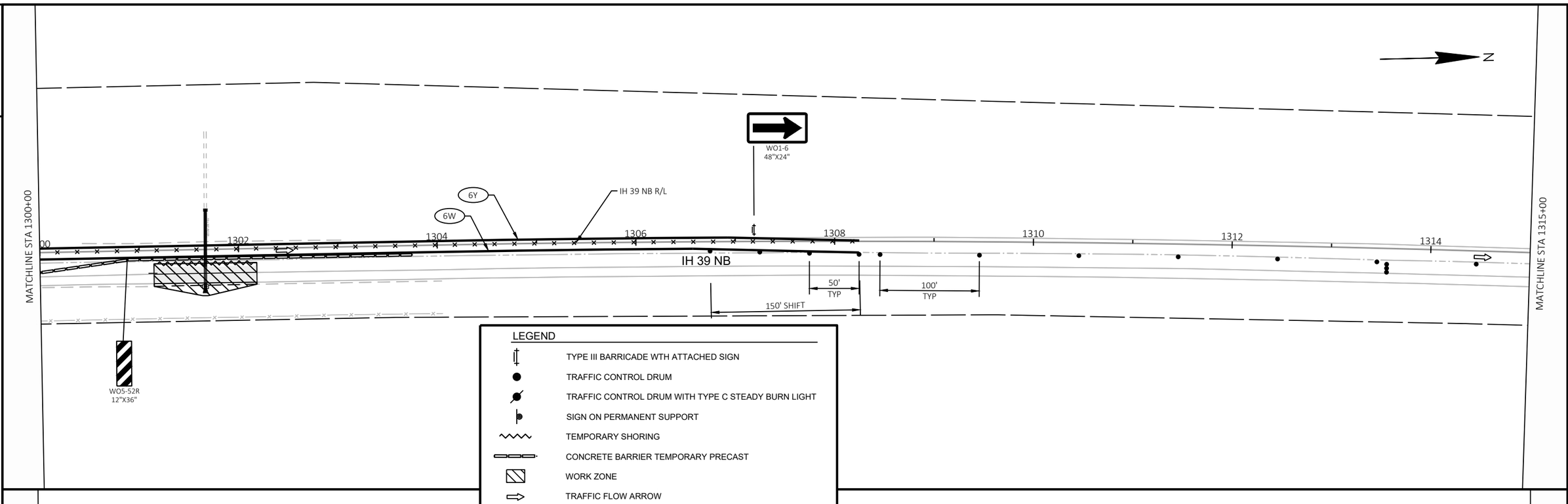
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 94 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 07

PLOT DATE : 4/30/2026 4:34 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2




LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

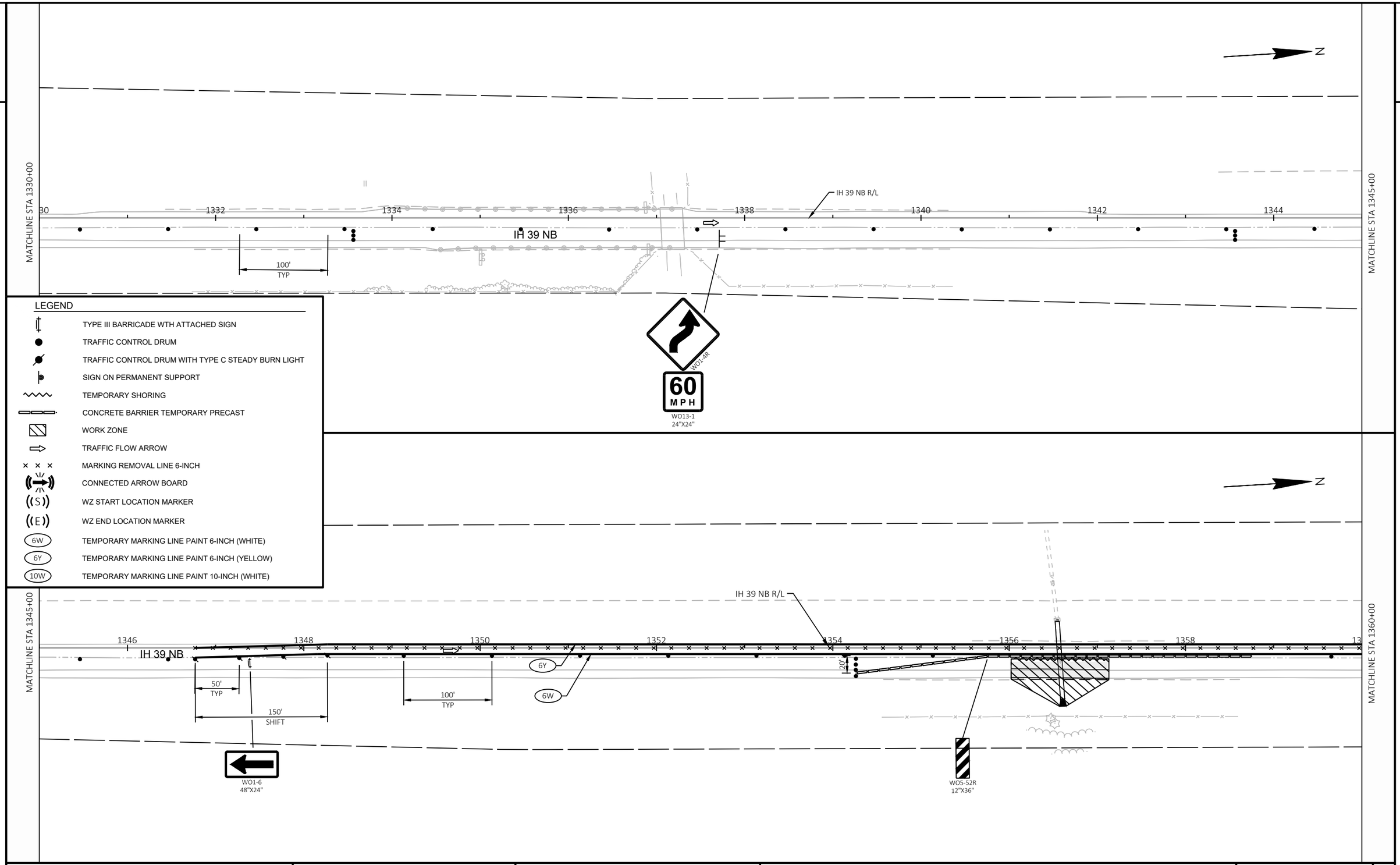
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 95 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 08

PLOT DATE : 4/30/2026 4:35 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

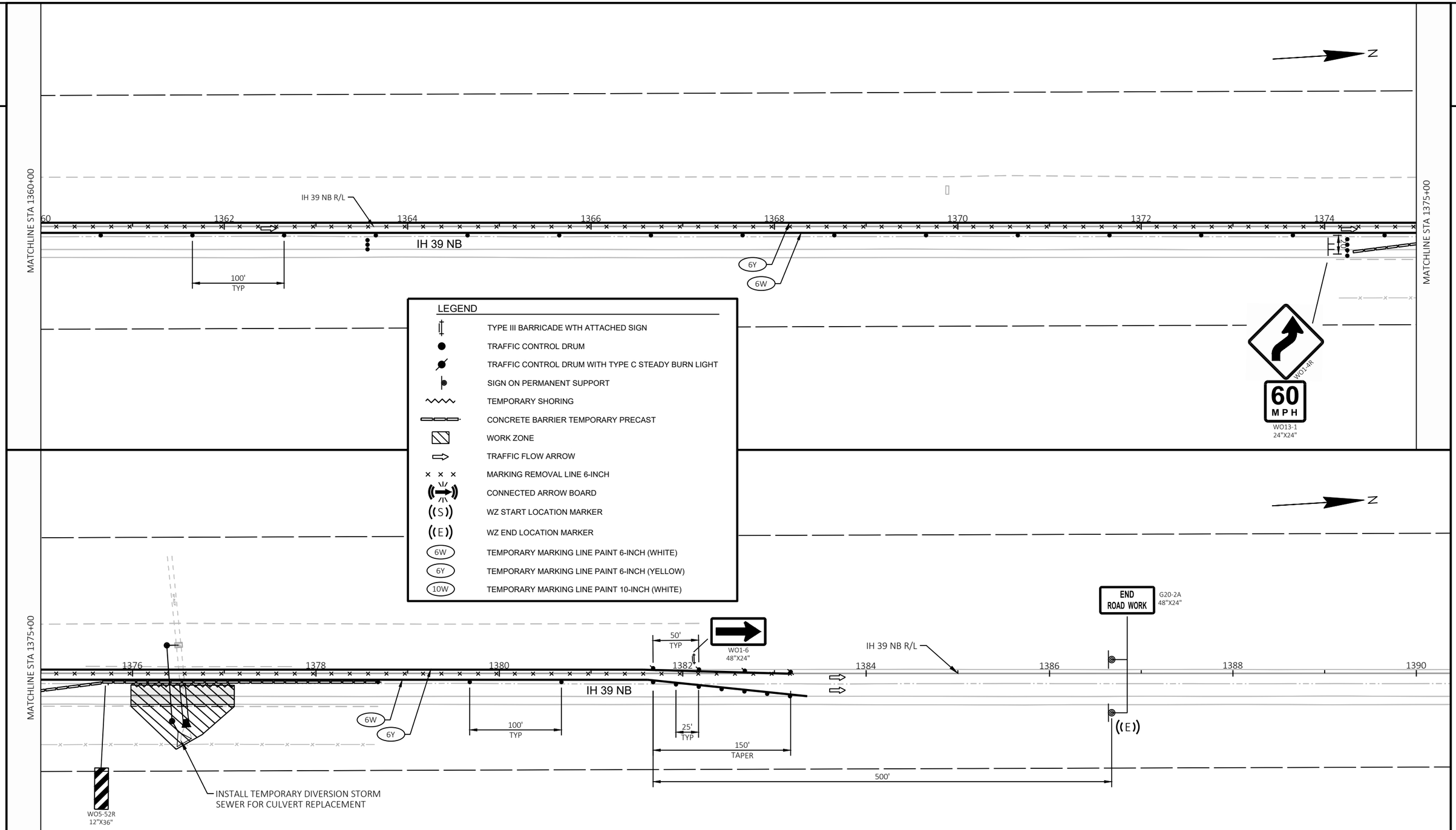



LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER
- 6W — TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y — TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W — TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 96 E |
|---|---|---|---|---|


FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 09
PLOT DATE : 4/30/2026 4:35 PM
PLOT BY : ED OCHS
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 97 | E |
|---|---|---|---|---|---|

2

2

N

IH 39 NB R/L

1450 1452 1454 1456 1458 1460 1462 1464

IH 39 NB

LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

N

MATCHLINE STA 1465+00

IH 39 NB R/L

1466 1468 1470 1472 1474 1476 1478

IH 39 NB

6W

(S)

10' TYP

50' TYP

2600' 1600' 1000' 1050' TAPER

ROAD WORK 1 MILE W20-1F

RIGHT LANE CLOSED 1/2 MILE W20-5G

W04-2R

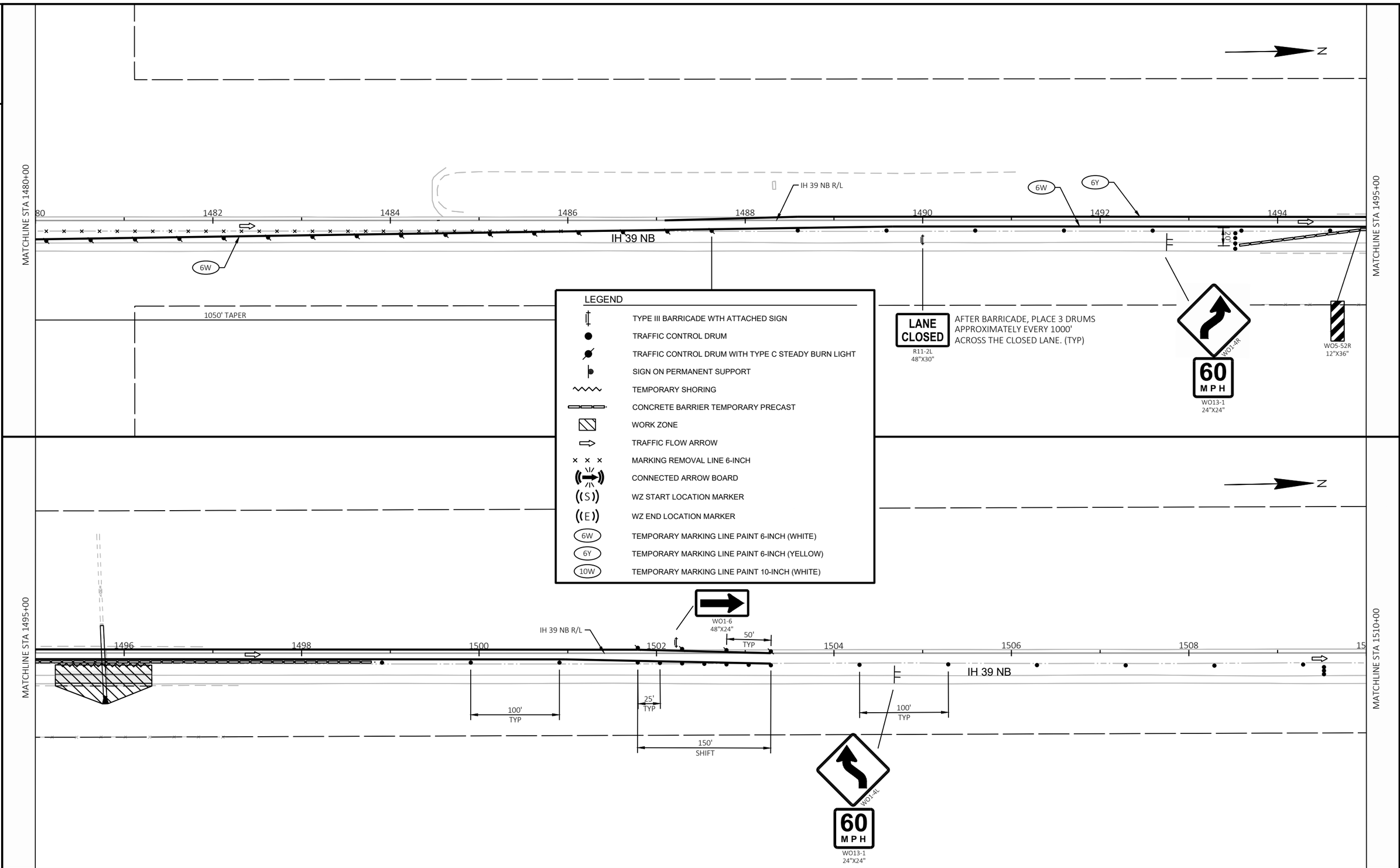
MATCHLINE STA 1480+00

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 98 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 13

PLOT DATE : 4/30/2026 4:37 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 99 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 14

PLOT DATE : 4/30/2026 4:38 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

MATCHLINE STA 1510+00

10 1512 1514 1516 1518 1520 1522 1524

IH 39 NB R/L

IH 39 NB

50' TYP

150' SHIFT

100' TYP

20'

6Y 6W

WO1-6 48"X24"

WO1-4R

60 MPH

WO13-1 24"X24"

WO5-52R 12"X36"

MATCHLINE STA 1525+00

2

N

LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

N

MATCHLINE STA 1525+00

WO1-6 48"X24"

50' TYP

END ROAD WORK

G20-2A 48"X24"

IH 39 NB R/L

1526 1528 1530 1532 1534 1536 1538 1540

IH 39 NB

6Y 6W

100' TYP

25' TYP

150' SHIFT

500'

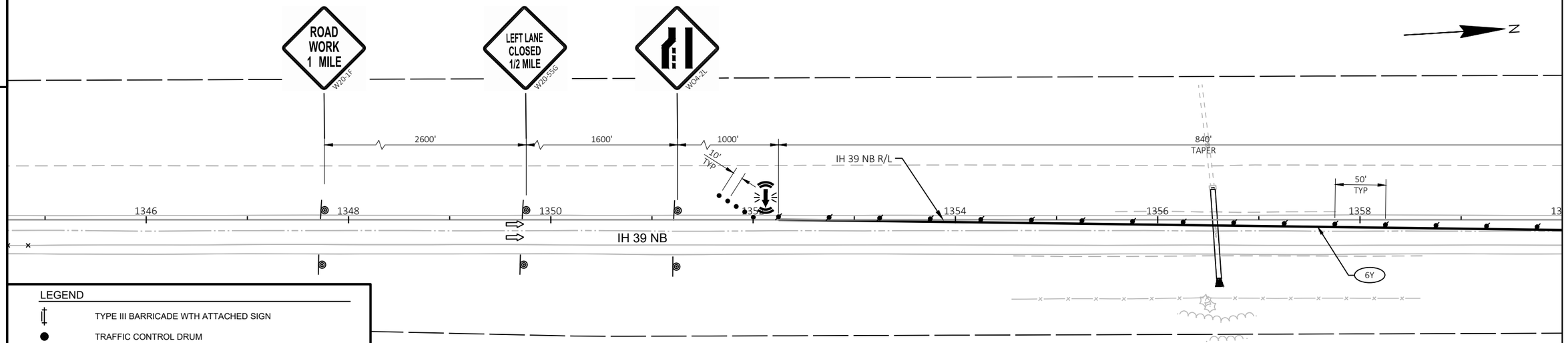
(E)

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1B | SHEET 100 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026002-TC-STAGE 1B.DWG
LAYOUT NAME - 15

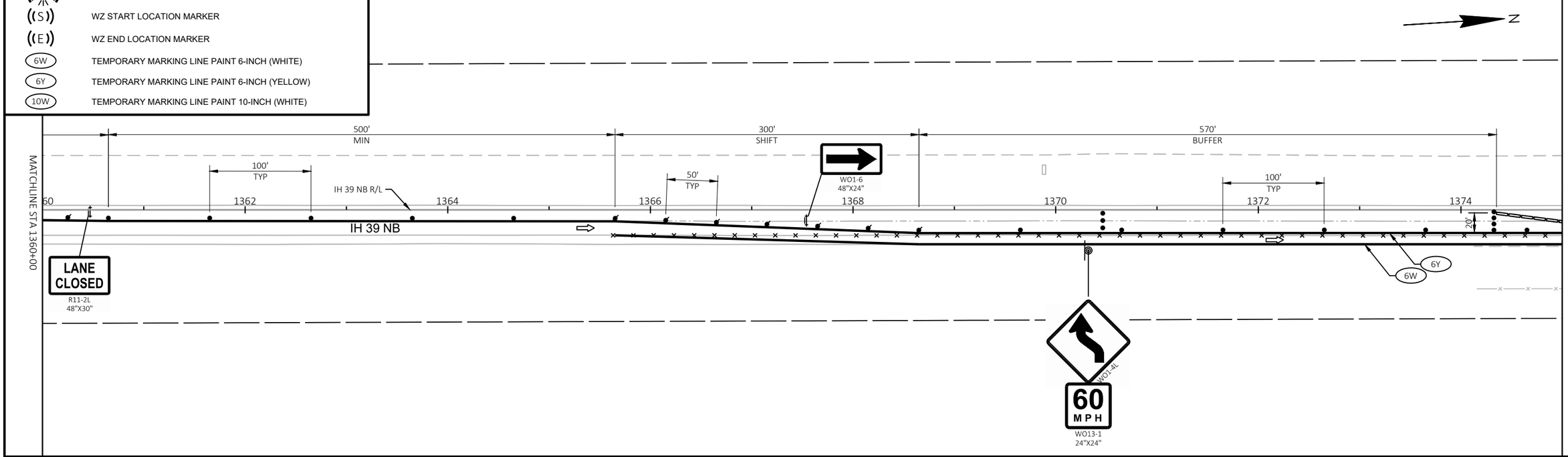
PLOT DATE : 4/30/2026 4:39 PM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44




LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY SHORING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE
- TRAFFIC FLOW ARROW
- MARKING REMOVAL LINE 6-INCH
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 10W TEMPORARY MARKING LINE PAINT 10-INCH (WHITE)

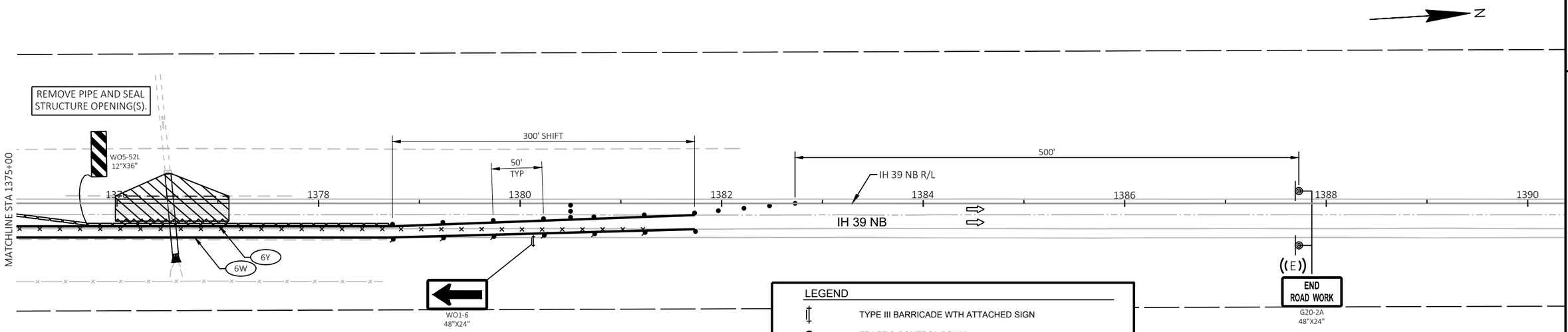



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1C | SHEET 101 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\026003-TC-STAGE 1C.DWG
LAYOUT NAME - 09

PLOT DATE : 5/1/2026 9:06 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2




LEGEND

| | |
|---|---|
| | TYPE III BARRICADE WTH ATTACHED SIGN |
| | TRAFFIC CONTROL DRUM |
| | TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT |
| | SIGN ON PERMANENT SUPPORT |
| | TEMPORARY SHORING |
| | CONCRETE BARRIER TEMPORARY PRECAST |
| | WORK ZONE |
| | TRAFFIC FLOW ARROW |
| × × × | MARKING REMOVAL LINE 6-INCH |
| | CONNECTED ARROW BOARD |
| (S) | WZ START LOCATION MARKER |
| (E) | WZ END LOCATION MARKER |
| 6W | TEMPORARY MARKING LINE PAINT 6-INCH (WHITE) |
| 6Y | TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW) |
| 10W | TEMPORARY MARKING LINE PAINT 10-INCH (WHITE) |

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | TRAFFIC CONTROL - STAGE 1C | SHEET 102 | E |
|---|---|---|---|---|---|

## Estimate Of Quantities

1166-05-80

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0002 | 203.0100 | Removing Small Pipe Culverts | EACH | 8.000 | 8.000 |
| 0004 | 203.0220 | Removing Structure (structure) 01. STA 1376+57 | EACH | 1.000 | 1.000 |
| 0006 | 204.0100 | Removing Concrete Pavement | SY | 3,822.000 | 3,822.000 |
| 0008 | 204.0110 | Removing Asphaltic Surface | SY | 445.000 | 445.000 |
| 0010 | 204.0115 | Removing Asphaltic Surface Butt Joints | SY | 453.000 | 453.000 |
| 0012 | 204.0120 | Removing Asphaltic Surface Milling | SY | 403,060.000 | 403,060.000 |
| 0014 | 204.0150 | Removing Curb & Gutter | LF | 8.000 | 8.000 |
| 0016 | 204.0165 | Removing Guardrail | LF | 4,105.000 | 4,105.000 |
| 0018 | 204.0170 | Removing Fence | LF | 210.000 | 210.000 |
| 0020 | 204.0175 | Removing Concrete Slope Paving | SY | 26.000 | 26.000 |
| 0022 | 204.0180 | Removing Delineators and Markers | EACH | 51.000 | 51.000 |
| 0024 | 204.0220 | Removing Inlets | EACH | 1.000 | 1.000 |
| 0026 | 204.0245 | Removing Storm Sewer (size) 01. 12-Inch | LF | 72.000 | 72.000 |
| 0028 | 204.0245 | Removing Storm Sewer (size) 02. 30-Inch | LF | 27.000 | 27.000 |
| 0030 | 205.0100 | Excavation Common | CY | 5,910.000 | 5,910.000 |
| 0032 | 211.0101 | Prepare Foundation for Asphaltic Paving (project) 01. 1166-05-80 | EACH | 1.000 | 1.000 |
| 0034 | 213.0100 | Finishing Roadway (project) 01. 1166-05-80 | EACH | 1.000 | 1.000 |
| 0036 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 4,684.000 | 4,684.000 |
| 0038 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 4,415.000 | 4,415.000 |
| 0040 | 416.0610 | Drilled Tie Bars | EACH | 160.000 | 160.000 |
| 0042 | 416.0620 | Drilled Dowel Bars | EACH | 139.000 | 139.000 |
| 0044 | 416.1720 | Concrete Pavement Replacement | SY | 198.000 | 198.000 |
| 0046 | 455.0605 | Tack Coat | GAL | 46,335.000 | 46,335.000 |
| 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 | 460.0115.S | HMA Pavement Test Strip Volumetrics | EACH | 1.000 | 1.000 |
| 0054 | 460.0120.S | HMA Test Strip Density | EACH | 1.000 | 1.000 |
| 0056 | 460.2000 | Incentive Density HMA Pavement | DOL | 34,160.000 | 34,160.000 |
| 0058 | 460.2005 | Incentive Density PWL HMA Pavement | DOL | 21,920.000 | 21,920.000 |
| 0060 | 460.2007 | Incentive Density HMA Pavement Longitudinal Joints | DOL | 17,440.000 | 17,440.000 |
| 0062 | 460.2010 | Incentive Air Voids HMA Pavement | DOL | 26,163.000 | 26,163.000 |
| 0064 | 460.6224 | HMA Pavement 4 MT 58-28 S | TON | 21,950.000 | 21,950.000 |
| 0066 | 460.7224 | HMA Pavement 4 HT 58-28 S | TON | 26,163.000 | 26,163.000 |
| 0068 | 460.8424 | HMA Pavement 4 SMA 58-28 H | TON | 27,160.000 | 27,160.000 |
| 0070 | 460.9000.S | Material Transfer Vehicle | EACH | 1.000 | 1.000 |
| 0072 | 465.0105 | Asphaltic Surface | TON | 1,787.000 | 1,787.000 |
| 0074 | 465.0110 | Asphaltic Surface Patching | TON | 707.000 | 707.000 |
| 0076 | 465.0315 | Asphaltic Flumes | SY | 103.000 | 103.000 |
| 0078 | 465.0510 | Asphaltic Rumble Strips, Shoulder Divided Roadway | LF | 173,460.000 | 173,460.000 |
| 0080 | 511.1100 | Temporary Shoring | SF | 9,450.000 | 9,450.000 |
| 0082 | 520.1030 | Apron Endwalls for Culvert Pipe 30-Inch | EACH | 1.000 | 1.000 |
| 0084 | 520.8000 | Concrete Collars for Pipe | EACH | 6.000 | 6.000 |
| 0086 | 521.1012 | Apron Endwalls for Culvert Pipe Steel 12-Inch | EACH | 1.000 | 1.000 |
| 0088 | 521.3130 | Culvert Pipe Corrugated Steel 30-Inch | LF | 13.000 | 13.000 |
| 0090 | 522.0130 | Culvert Pipe Reinforced Concrete Class III 30-Inch | LF | 160.000 | 160.000 |
| 0092 | 522.0424 | Culvert Pipe Reinforced Concrete Class IV 24-Inch | LF | 77.000 | 77.000 |
| 0094 | 522.0430 | Culvert Pipe Reinforced Concrete Class IV 30-Inch | LF | 80.000 | 80.000 |
| 0096 | 522.0436 | Culvert Pipe Reinforced Concrete Class IV 36-Inch | LF | 80.000 | 80.000 |
| 0098 | 522.0448 | Culvert Pipe Reinforced Concrete Class IV 48-Inch | LF | 168.000 | 168.000 |

1166-05-80

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0100 | 522.0460 | Culvert Pipe Reinforced Concrete Class IV 60-Inch | LF | 80.000 | 80.000 |
| 0102 | 522.1024 | Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch | EACH | 1.000 | 1.000 |
| 0104 | 522.1030 | Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch | EACH | 3.000 | 3.000 |
| 0106 | 522.1036 | Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch | EACH | 1.000 | 1.000 |
| 0108 | 522.1048 | Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch | EACH | 2.000 | 2.000 |
| 0110 | 522.1060 | Apron Endwalls for Culvert Pipe Reinforced Concrete 60-Inch | EACH | 1.000 | 1.000 |
| 0112 | 522.2419 | Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch | LF | 80.000 | 80.000 |
| 0114 | 522.2619 | Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch | EACH | 1.000 | 1.000 |
| 0116 | 530.0112 | Culvert Pipe Corrugated Polyethylene 12-Inch | LF | 70.000 | 70.000 |
| 0118 | 601.0586 | Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBTT | LF | 49.000 | 49.000 |
| 0120 | 603.1142 | Concrete Barrier Type S42 | LF | 83.000 | 83.000 |
| 0122 | 603.8000 | Concrete Barrier Temporary Precast Delivered | LF | 3,570.000 | 3,570.000 |
| 0124 | 603.8125 | Concrete Barrier Temporary Precast Installed | LF | 7,580.000 | 7,580.000 |
| 0126 | 603.8500 | Anchoring Concrete Barrier Temporary Precast | LF | 5,200.000 | 5,200.000 |
| 0128 | 604.0400 | Slope Paving Concrete | SY | 23.000 | 23.000 |
| 0130 | 606.0200 | Riprap Medium | CY | 252.000 | 252.000 |
| 0132 | 608.0330 | Storm Sewer Pipe Reinforced Concrete Class III 30-Inch | LF | 83.000 | 83.000 |
| 0134 | 608.3030 | Storm Sewer Pipe Class III-A 30-Inch | LF | 14.000 | 14.000 |
| 0136 | 611.0530 | Manhole Covers Type J | EACH | 2.000 | 2.000 |
| 0138 | 611.0654 | Inlet Covers Type V | EACH | 1.000 | 1.000 |
| 0140 | 611.2005 | Manholes 5-FT Diameter | EACH | 1.000 | 1.000 |
| 0142 | 611.2006 | Manholes 6-FT Diameter | EACH | 1.000 | 1.000 |
| 0144 | 611.3225 | Inlets 2x2.5-FT | EACH | 1.000 | 1.000 |
| 0146 | 614.0010 | Barrier System Grading Shaping Finishing | EACH | 25.000 | 25.000 |
| 0148 | 614.0950 | Replacing Guardrail Posts and Blocks | EACH | 3.000 | 3.000 |
| 0150 | 614.0951 | Replacing Guardrail Rail and Hardware | LF | 75.000 | 75.000 |
| 0152 | 614.2300 | MGS Guardrail 3 | LF | 3,275.000 | 3,275.000 |
| 0154 | 614.2340 | MGS Guardrail 3 L | LF | 112.500 | 112.500 |
| 0156 | 614.2500 | MGS Thrie Beam Transition | LF | 608.000 | 608.000 |
| 0158 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 14.000 | 14.000 |
| 0160 | 614.2620 | MGS Guardrail Terminal Type 2 | EACH | 12.000 | 12.000 |
| 0162 | 616.0100 | Fence Woven Wire (height) 01. 4 - Feet | LF | 210.000 | 210.000 |
| 0164 | 618.0100 | Maintenance and Repair of Haul Roads (project) 01. 1160-05-80 | EACH | 1.000 | 1.000 |
| 0166 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0168 | 624.0100 | Water | MGAL | 137.300 | 137.300 |
| 0170 | 625.0100 | Topsoil | SY | 3,230.000 | 3,230.000 |
| 0172 | 628.1504 | Silt Fence | LF | 11,880.000 | 11,880.000 |
| 0174 | 628.1520 | Silt Fence Maintenance | LF | 11,880.000 | 11,880.000 |
| 0176 | 628.1905 | Mobilizations Erosion Control | EACH | 8.000 | 8.000 |
| 0178 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 4.000 | 4.000 |
| 0180 | 628.2008 | Erosion Mat Urban Class I Type B | SY | 3,230.000 | 3,230.000 |
| 0182 | 628.7005 | Inlet Protection Type A | EACH | 4.000 | 4.000 |
| 0184 | 628.7015 | Inlet Protection Type C | EACH | 2.000 | 2.000 |
| 0186 | 628.7504 | Temporary Ditch Checks | LF | 50.000 | 50.000 |
| 0188 | 628.7555 | Culvert Pipe Checks | EACH | 125.000 | 125.000 |
| 0190 | 628.7570 | Rock Bags | EACH | 50.000 | 50.000 |
| 0192 | 629.0210 | Fertilizer Type B | CWT | 3.000 | 3.000 |
| 0194 | 630.0120 | Seeding Mixture No. 20 | LB | 100.000 | 100.000 |
| 0196 | 630.0200 | Seeding Temporary | LB | 33.000 | 33.000 |

1166-05-80

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0198 | 630.0500 | Seed Water | MGAL | 75.000 | 75.000 |
| 0200 | 633.0100 | Delineator Posts Steel | EACH | 51.000 | 51.000 |
| 0202 | 633.0500 | Delineator Reflectors | EACH | 51.000 | 51.000 |
| 0204 | 633.5200 | Markers Culvert End | EACH | 9.000 | 9.000 |
| 0206 | 634.0614 | Posts Wood 4x6-Inch x 14-FT | EACH | 12.000 | 12.000 |
| 0208 | 634.0616 | Posts Wood 4x6-Inch x 16-FT | EACH | 4.000 | 4.000 |
| 0210 | 634.0618 | Posts Wood 4x6-Inch x 18-FT | EACH | 3.000 | 3.000 |
| 0212 | 638.2102 | Moving Signs Type II | EACH | 17.000 | 17.000 |
| 0214 | 638.3000 | Removing Small Sign Supports | EACH | 19.000 | 19.000 |
| 0216 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0218 | 643.0300 | Traffic Control Drums | DAY | 85,500.000 | 85,500.000 |
| 0220 | 643.0370.S | Digital Speed Reduction System (DSRS) | DAY | 102.000 | 102.000 |
| 0222 | 643.0420 | Traffic Control Barricades Type III | DAY | 1,160.000 | 1,160.000 |
| 0224 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 2,300.000 | 2,300.000 |
| 0226 | 643.0715 | Traffic Control Warning Lights Type C | DAY | 10,400.000 | 10,400.000 |
| 0228 | 643.0810 | Traffic Control Connected Arrow Boards | DAY | 270.000 | 270.000 |
| 0230 | 643.0900 | Traffic Control Signs | DAY | 12,040.000 | 12,040.000 |
| 0232 | 643.0910 | Traffic Control Covering Signs Type I | EACH | 13.000 | 13.000 |
| 0234 | 643.0920 | Traffic Control Covering Signs Type II | EACH | 32.000 | 32.000 |
| 0236 | 643.1000 | Traffic Control Signs Fixed Message | SF | 173.000 | 173.000 |
| 0238 | 643.1051 | Traffic Control Signs PCMS with TMC Communications | DAY | 150.000 | 150.000 |
| 0240 | 643.1220 | Traffic Control Connected Work Zone Start and End Location Markers | DAY | 270.000 | 270.000 |
| 0242 | 643.3165 | Temporary Marking Line Paint 6-Inch | LF | 469,400.000 | 469,400.000 |
| 0244 | 643.3180 | Temporary Marking Line Removable Tape 6-Inch | LF | 4,440.000 | 4,440.000 |
| 0246 | 643.3265 | Temporary Marking Line Paint 10-Inch | LF | 9,200.000 | 9,200.000 |
| 0248 | 643.3280 | Temporary Marking Line Removable Tape 10-Inch | LF | 950.000 | 950.000 |
| 0250 | 643.3805 | Temporary Marking Stop Line Paint 18-Inch | LF | 460.000 | 460.000 |
| 0252 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0254 | 645.0120 | Geotextile Type HR | SY | 646.000 | 646.000 |
| 0256 | 646.2020 | Marking Line Epoxy 6-Inch | LF | 10,113.000 | 10,113.000 |
| 0258 | 646.2025 | Marking Line Grooved Black Epoxy 6-Inch | LF | 22,350.000 | 22,350.000 |
| 0260 | 646.2040 | Marking Line Grooved Wet Ref Epoxy 6-Inch | LF | 193,571.000 | 193,571.000 |
| 0262 | 646.2050 | Marking Line Grooved Permanent Tape 6-Inch | LF | 22,962.000 | 22,962.000 |
| 0264 | 646.4040 | Marking Line Grooved Wet Ref Epoxy 10-Inch | LF | 353.000 | 353.000 |
| 0266 | 646.4050 | Marking Line Grooved Permanent Tape 10-Inch | LF | 5,265.000 | 5,265.000 |
| 0268 | 646.5420 | Marking Aerial Enforcement Bar Epoxy | EACH | 20.000 | 20.000 |
| 0270 | 646.5520 | Marking Outfall Epoxy | EACH | 716.000 | 716.000 |
| 0272 | 646.6120 | Marking Stop Line Epoxy 18-Inch | LF | 224.000 | 224.000 |
| 0274 | 646.7220 | Marking Chevron Epoxy 24-Inch | LF | 586.000 | 586.000 |
| 0276 | 646.9002 | Marking Removal Line 6-Inch | LF | 126,245.000 | 126,245.000 |
| 0278 | 650.4000 | Construction Staking Storm Sewer | EACH | 3.000 | 3.000 |
| 0280 | 650.6000 | Construction Staking Pipe Culverts | EACH | 9.000 | 9.000 |
| 0282 | 650.8000 | Construction Staking Resurfacing Reference | LF | 99,974.000 | 99,974.000 |
| 0284 | 650.9911 | Construction Staking Supplemental Control (project) 01. 1166-05-80 | EACH | 1.000 | 1.000 |
| 0286 | 690.0150 | Sawing Asphalt | LF | 1,279.000 | 1,279.000 |
| 0288 | 690.0250 | Sawing Concrete | LF | 3,249.000 | 3,249.000 |
| 0290 | 740.0440 | Incentive IRI Ride | DOL | 33,704.000 | 33,704.000 |
| 0292 | SPV.0060 | Special 01. Locate and Clean Underdrain Outfalls | EACH | 716.000 | 716.000 |
| 0294 | SPV.0060 | Special 02. Temporary Pipe Connection 19x30-Inch | EACH | 1.000 | 1.000 |

1166-05-80

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0296 | SPV.0060 | Special 03. Temporary Pipe Connection 30-Inch | EACH | 4.000 | 4.000 |
| 0298 | SPV.0060 | Special 04. Temporary Pipe Connection 36-Inch | EACH | 1.000 | 1.000 |
| 0300 | SPV.0060 | Special 05. Temporary Pipe Connection 48-Inch | EACH | 2.000 | 2.000 |
| 0302 | SPV.0060 | Special 06. Temporary Pipe Connection 60-Inch | EACH | 1.000 | 1.000 |
| 0304 | SPV.0060 | Special 07. Culvert Pipe Replacement Limits Exploration | EACH | 6.000 | 6.000 |
| 0306 | SPV.0060 | Special 08. Connecting to Existing Inlets | EACH | 4.000 | 4.000 |
| 0308 | SPV.0060 | Special 09. Adjusting EAT | EACH | 8.000 | 8.000 |
| 0310 | SPV.0060 | Special 10. Digital Speed Limit Trailer Pad | EACH | 21.000 | 21.000 |
| 0312 | SPV.0060 | Special 11. Temporary Water Diversion Culvert 49039007554 | EACH | 1.000 | 1.000 |
| 0314 | SPV.0060 | Special 12. Sealing Storm Structure Openings | EACH | 3.000 | 3.000 |
| 0316 | SPV.0090 | Special 01. Fill Existing Rumble Strips | LF | 27,780.000 | 27,780.000 |
| 0318 | SPV.0090 | Special 02. Removing Excess Material Under Guardrail | LF | 1,160.000 | 1,160.000 |
| 0320 | SPV.0180 | Special 01. Removing Distress Asphaltic Surface Milling | SY | 4,940.000 | 4,940.000 |

## ASPHALT REMOVALS

| CATEGORY | STATION | TO | STATION | LOCATION | * 204.0100 REMOVING CONCRETE PAVEMENT SY | 204.0110 REMOVING ASPHALTIC SURFACE SY | 204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY | 204.0120 REMOVING ASPHALTIC SURFACE MILLING SY | * 690.0150 SAWING ASPHALT LF | * 690.0250 SAWING CONCRETE LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **STAGE 2** | | | | | | | | | | | |
| 0010 | 741+70 | -- | 874+91 | IH 39 NB | -- | -- | 6 | 23,690 | -- | -- | BOP - STH 73 |
| 0010 | 874+91 | -- | 882+83 | IH 39 NB | -- | -- | 7 | 1,590 | -- | -- | STH 73 INT (S OF BRIDGE) |
| 0010 | 885+80 | -- | 896+00 | IH 39 NB | -- | -- | 7 | 2,040 | -- | -- | STH 73 INT (N OF BRIDGE) |
| 0010 | 896+00 | -- | 1174+49 | IH 39 NB | -- | -- | 6 | 49,530 | -- | -- | STH 73 - N BR 10-MI CREEK |
| 0010 | 1174+66 | -- | 1337+05 | IH 39 NB | -- | -- | 12 | 28,870 | -- | -- | N BR 10-MI - DITCH NO. 4 |
| 0010 | 1337+30 | -- | 1416+40 | IH 39 NB | -- | -- | 12 | 14,070 | -- | -- | DITCH NO. 4 - DITCH NO. 3 |
| 0010 | 1416+71 | -- | 1469+25 | IH 39 NB | -- | -- | 12 | 9,350 | -- | -- | DITCH NO. 3 - DITCH NO. 8 |
| 0010 | 1469+48 | -- | 1522+21 | IH 39 NB | -- | -- | 12 | 9,380 | -- | -- | DITCH NO. 8 - DITCH NO. 2 |
| 0010 | 1522+45 | -- | 1635+65 | IH 39 NB | -- | -- | 6 | 20,130 | -- | -- | DITCH NO. 2 - EOP |
| | | | | STAGE 2 SUBTOTAL | 0 | 0 | 80 | 158,650 | 0 | 0 | |
| **STAGE 3A** | | | | | | | | | | | |
| 0010 | 741+70 | -- | 874+91 | IH 39 NB | -- | -- | 8 | 32,570 | -- | -- | BOP - STH 73 |
| 0010 | 874+91 | -- | 882+83 | IH 39 NB | -- | -- | 8 | 1,940 | -- | -- | STH 73 INT (S OF BRIDGE) |
| 0010 | 885+80 | -- | 896+00 | IH 39 NB | -- | -- | 8 | 2,500 | -- | -- | STH 73 INT (N OF BRIDGE) |
| 0010 | 896+00 | -- | 1174+49 | IH 39 NB | -- | -- | 8 | 68,110 | -- | -- | STH 73 - N BR TENMILE CREEK |
| 0010 | 1174+66 | -- | 1337+05 | IH 39 NB | -- | -- | 16 | 39,720 | -- | -- | N BR 10-MI CREEK - DITCH NO. 4 |
| 0010 | 1217+48 | -- | 1231+16 | RAMP MB | 737 | -- | 0 | -- | -- | 713 | RAMP TERMINUS |
| 0010 | 1234+12 | -- | 1253+10 | RAMP MA | 503 | -- | 0 | -- | -- | 467 | RAMP TERMINUS |
| 0010 | 1337+30 | -- | 1416+40 | IH 39 NB | -- | -- | 16 | 19,340 | -- | -- | DITCH NO. 4 - DITCH NO. 3 |
| 0010 | 1416+71 | -- | 1469+25 | IH 39 NB | -- | -- | 16 | 12,850 | -- | -- | DITCH NO. 3 - DITCH NO. 8 |
| 0010 | 1469+48 | -- | 1522+21 | IH 39 NB | -- | -- | 16 | 12,890 | -- | -- | DITCH NO. 8 - DITCH NO. 2 |
| 0010 | 1522+45 | -- | 1635+65 | IH 39 NB | -- | -- | 8 | 27,680 | -- | -- | DITCH NO. 2 - EOP |
| | | | | STAGE 3A SUBTOTAL | 1,240 | 0 | 104 | 217,600 | 0 | 1,180 | |
| **STAGE 3B** | | | | | | | | | | | |
| 0010 | 870+17 | -- | 880+65 | RAMP CB | -- | -- | 19 | 2,510 | -- | -- | |
| 0010 | 885+66 | -- | 906+00 | RAMP CA | -- | -- | 17 | 3,690 | -- | -- | |
| 0010 | 1033+60 | -- | 1047+14 | RAMP GB | -- | 82 | 17 | 3,080 | -- | -- | INCLUDES FLUME REMOVAL |
| 0010 | 502+18 | -- | 512+43 | CTH D | -- | -- | 100 | 3,640 | -- | -- | |
| 0010 | 503+00 | - | 503+75 | CTH D SB EXIT RAMP | -- | 144 | -- | -- | 8 | -- | INCLUDES FLUME REMOVAL |
| 0010 | 503+25 | - | 503+75 | CTH D SB ON RAMP | -- | 125 | -- | -- | 7 | -- | INCLUDES FLUME REMOVAL |
| 0010 | 1049+57 | -- | 1064+97 | RAMP GA | -- | 94 | 17 | 3,360 | -- | -- | INCLUDES FLUME REMOVAL |
| 0010 | 1217+48 | -- | 1231+16 | RAMP MB | -- | -- | 9 | 3,130 | -- | -- | |
| 0010 | 802+00 | -- | 812+97 | CTH W | -- | -- | 81 | 4,250 | -- | -- | |
| 0010 | 1234+12 | -- | 1253+10 | RAMP MA | -- | -- | 9 | 3,150 | -- | -- | |
| | | | | STAGE 3B SUBTOTAL | 0 | 445 | 269 | 26,810 | 15 | 0 | |
| | | | | TOTAL 0010 | 1,240 | 445 | 453 | 403,060 | 15 | 1,180 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

## STORM SEWER REMOVALS

| CATEGORY | STATION | LOCATION | 204.0220 REMOVING INLETS EACH | 204.0245.01 REMOVING STORM SEWER (SIZE) (01. 12-INCH) LF |
|---|---|---|---|---|
| 0010 | 833+30 | IH 39 NB RT | 1 | 72 |
| | | TOTAL 0010 | 1 | 72 |

## BASE AGGREGATE

| CATEGORY | STATION | TO | STATION | LOCATION | * 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON | * 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON | * 624.0100 WATER MGAL | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0010 | 741+70 | - | 874+91 | IH 39 NB | 498 | -- | 7.5 | |
| 0010 | 874+91 | - | 878+55 | IH 39 NB | 10 | -- | 0.2 | |
| 0010 | 878+55 | - | 883+66 | IH 39 NB | 14 | -- | 0.3 | |
| 0010 | 870+17 | - | 880+65 | RAMP CB | 52 | -- | 0.8 | |
| 0010 | 885+80 | - | 890+57 | IH 39 NB | 13 | -- | 0.2 | |
| 0010 | 885+66 | - | 906+00 | RAMP CA | 101 | -- | 1.6 | |
| 0010 | 890+57 | - | 896+00 | IH 39 NB | 15 | -- | 0.3 | |
| 0010 | 896+00 | - | 1635+65 | IH 39 NB | 2,740 | -- | 41.2 | |
| 0010 | 1033+60 | - | 1048+26 | RAMP GB | 73 | -- | 1.1 | |
| 0010 | 503+00 | - | 503+75 | CTH D SB EXIT RAMP | 9 | -- | 0.2 | |
| 0010 | 503+25 | - | 503+75 | CTH D SB ON RAMP | 6 | -- | 0.1 | |
| 0010 | 502+18 | - | 512+43 | CTH D | 118 | -- | 1.8 | |
| 0010 | 1048+87 | - | 1064+97 | RAMP GA | 80 | -- | 1.2 | |
| 0010 | 1217+48 | - | 1232+41 | RAMP MB | 74 | -- | 1.2 | |
| 0010 | 1231+16 | - | 1233+29 | RAMP MB | -- | 72 | 1.1 | CONCRETE REMOVAL |
| 0010 | 802+00 | - | 812+97 | CTH W | 122 | -- | 1.9 | |
| 0010 | 1233+08 | - | 1253+10 | RAMP MA | 99 | -- | 1.5 | |
| 0010 | 1232+51 | - | 1234+12 | RAMP MA | -- | 49 | 0.8 | CONCRETE REMOVAL |
| | | | | TOTAL 0010 | 4,024 | 121 | 63.0 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

## CONCRETE REPLACEMENT

| CATEGORY | STATION | TO | STATION | LOCATION | * 416.0610 DRILLED TIE BARS EACH | 416.0620 DRILLED DOWEL BARS EACH | 416.1720 CONCRETE PAVEMENT REPLACEMENT SY | * 690.0250 SAWING CONCRETE LF |
|---|---|---|---|---|---|---|---|---|
| 0010 | 1047+42 | - | 1048+05 | RAMP GB | 47 | 8 | 43 | 135 |
| 0010 | 1048+43 | - | 1048+67 | RAMP GB | 18 | 34 | 45 | 86 |
| 0010 | 1048+33 | - | 1048+64 | RAMP GA | 18 | 24 | 38 | 82 |
| 0010 | 503+00 | - | 503+75 | CTH D SB EXIT RAMP | 5 | 44 | 12 | 108 |
| 0010 | 503+25 | - | 503+75 | CTH D SB ON RAMP | 44 | 29 | 60 | 175 |
| | | | | TOTAL 0010 | 132 | 139 | 198 | 586 |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

HMA

| CATEGORY | STATION | TO | STATION | LOCATION | * 455.0605 TACK COAT GAL | 460.6224 HMA PAVEMENT 4 MT 58-28 S TON | 460.7224 HMA PAVEMENT 4 HT 58-28 S TON | 460.8424 HMA PAVEMENT 4 SMA 58-28 H TON | * 465.0105 ASPHALTIC SURFACE TON | * 465.0110 ASPHALTIC SURFACE PATCHING TON | REMARKS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STAGE 2 | | | | | | | | | | | | |
| 0010 | 741+70 | -- | 874+91 | IH 39 NB | 1,360 | -- | 2,220 | -- | -- | -- | BOP - STH 73 | *** |
| 0010 | 874+91 | -- | 882+83 | IH 39 NB | 95 | -- | 155 | -- | -- | -- | STH 73 INT (S OF BRIDGE) | |
| 0010 | 885+80 | -- | 896+00 | IH 39 NB | 122 | -- | 200 | -- | -- | -- | STH 73 INT (N OF BRIDGE) | |
| 0010 | 896+00 | -- | 1174+49 | IH 39 NB | 2,850 | -- | 4,660 | -- | -- | -- | STH 73 - N BR 10-MI CREEK | *** |
| 0010 | 1174+66 | -- | 1337+05 | IH 39 NB | 1,670 | -- | 2,730 | -- | -- | -- | N BR 10-MI CREEK - DITCH NO. 4 | *** |
| 0010 | 1337+30 | -- | 1416+40 | IH 39 NB | 844 | -- | 1,380 | -- | -- | -- | DITCH NO. 4 - DITCH NO. 3 | |
| 0010 | 1416+71 | -- | 1469+25 | IH 39 NB | 502 | -- | 819 | -- | -- | -- | DITCH NO. 3 - DITCH NO. 8 | *** |
| 0010 | 1469+48 | -- | 1522+21 | IH 39 NB | 562 | -- | 919 | -- | -- | -- | DITCH NO. 8 - DITCH NO. 2 | |
| 0010 | 1522+45 | -- | 1635+65 | IH 39 NB | 1,150 | -- | 1,880 | -- | -- | -- | DITCH NO. 2 - EOP | *** |
| 0010 | PROJECT | | | | -- | -- | -- | -- | -- | 25 | UNDISTRIBUTED | |
| | | | STAGE 2 SUBTOTAL | | 9,155 | 0 | 14,963 | 0 | 0 | 25 | | |
| STAGE 3A | | | | | | | | | | | | |
| 0010 | 741+70 | -- | 874+91 | IH 39 NB | 1,870 | 1,390 | 1,670 | -- | -- | -- | BOP - STH 73 | *** |
| 0010 | 874+91 | -- | 882+83 | IH 39 NB | 63 | -- | 103 | -- | -- | -- | STH 73 INT (S OF BRIDGE) | |
| 0010 | 885+80 | -- | 896+00 | IH 39 NB | 82 | -- | 133 | -- | -- | -- | STH 73 INT (N OF BRIDGE) | |
| 0010 | 896+00 | -- | 1174+49 | IH 39 NB | 3,920 | 2,910 | 3,500 | -- | -- | -- | STH 73 - N BR 10-MI CREEK | *** |
| 0010 | 1174+66 | -- | 1337+05 | IH 39 NB | 2,300 | 1,710 | 2,050 | -- | -- | -- | N BR 10-MI CREEK - DITCH NO. 4 | *** |
| 0010 | 1217+48 | -- | 1231+16 | RAMP MB | 88 | -- | -- | -- | 249 | -- | LOWER AND MIDDLE LIFTS | |
| 0010 | 1234+12 | -- | 1253+10 | RAMP MA | 60 | -- | -- | -- | 171 | -- | LOWER AND MIDDLE LIFTS | |
| 0010 | 1337+30 | -- | 1416+40 | IH 39 NB | 1,160 | 861 | 1,030 | -- | -- | -- | DITCH NO. 4 - DITCH NO. 3 | |
| 0010 | 1416+71 | -- | 1469+25 | IH 39 NB | 690 | 512 | 615 | -- | -- | -- | DITCH NO. 3 - DITCH NO. 8 | *** |
| 0010 | 1469+48 | -- | 1522+21 | IH 39 NB | 773 | 574 | 689 | -- | -- | -- | DITCH NO. 8 - DITCH NO. 2 | |
| 0010 | 1522+45 | -- | 1635+65 | IH 39 NB | 1,580 | 1,170 | 1,410 | -- | -- | -- | DITCH NO. 2 - EOP | *** |
| 0010 | PROJECT | | | | -- | -- | -- | -- | -- | 25 | UNDISTRIBUTED | |
| | | | STAGE 3A SUBTOTAL | | 12,586 | 9,127 | 11,200 | 0 | 420 | 25 | | |
| STAGE 3B | | | | | | | | | | | | |
| 0010 | 741+70 | -- | 874+91 | IH 39 NB | 1,950 | 1,450 | -- | 1,740 | -- | -- | BOP - STH 73 | |
| 0010 | 870+17 | -- | 880+65 | RAMP CB | 150 | 280 | -- | -- | -- | -- | | |
| 0010 | 874+91 | -- | 882+83 | IH 39 NB | 116 | 86 | -- | 103 | -- | -- | STH 73 INT (S OF BRIDGE) | |
| 0010 | 885+80 | -- | 896+00 | IH 39 NB | 150 | 111 | -- | 133 | -- | -- | STH 73 INT (N OF BRIDGE) | |
| 0010 | 885+66 | -- | 906+00 | RAMP CA | 221 | 413 | -- | -- | -- | -- | | |
| 0010 | 896+00 | -- | 1174+49 | IH 39 NB | 4,080 | 3,030 | -- | 3,640 | -- | -- | STH 73 - N BR 10-MI CREEK | |
| 0010 | 1033+60 | -- | 1047+14 | RAMP GB | 184 | 344 | -- | -- | -- | -- | | |
| 0010 | 502+18 | -- | 512+43 | CTH D | 218 | 409 | -- | -- | 19 | -- | | |
| 0010 | 1049+57 | -- | 1064+97 | RAMP GA | 201 | 375 | -- | -- | -- | -- | | |
| 0010 | 1174+66 | -- | 1337+05 | IH 39 NB | 2,380 | 1,770 | -- | 2,120 | -- | -- | N BR 10-MI CREEK - DITCH NO. 4 | |
| 0010 | 1217+48 | -- | 1231+16 | RAMP MB | 275 | 432 | -- | -- | -- | -- | | |
| 0010 | 802+00 | -- | 812+97 | CTH W | 255 | 478 | -- | -- | -- | -- | | |
| 0010 | 1234+12 | -- | 1253+10 | RAMP MA | 249 | 408 | -- | -- | -- | -- | | |
| 0010 | 1337+30 | -- | 1416+40 | IH 39 NB | 1,160 | 861 | -- | 1,030 | -- | -- | DITCH NO. 4 - DITCH NO. 3 | |
| 0010 | 1416+71 | -- | 1469+25 | IH 39 NB | 771 | 572 | -- | 687 | -- | -- | DITCH NO. 3 - DITCH NO. 8 | |
| 0010 | 1469+48 | -- | 1522+21 | IH 39 NB | 773 | 574 | -- | 689 | -- | -- | DITCH NO. 8 - DITCH NO. 2 | |
| 0010 | 1522+45 | -- | 1635+65 | IH 39 NB | 1,660 | 1,230 | -- | 1,480 | -- | -- | DITCH NO. 2 - EOP | |
| 0010 | PROJECT | | | | -- | -- | -- | -- | -- | 25 | UNDISTRIBUTED | |
| | | | STAGE 3B SUBTOTAL | | 14,793 | 12,823 | 0 | 11,622 | 19 | 25 | | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

*** OMIT 550' BELOW SIDE ROAD OVERPASS PER TYPICAL SECTIONS. MILL AND PAVE WITH UPPER LIFT TO AVOID PROFILE INCREASE.

**CONTINUED ON NEXT PAGE**

HMA

| CATEGORY | STATION | TO | STATION | LOCATION | * 455.0605 TACK COAT GAL | 460.6224 HMA PAVEMENT 4 MT 58-28 S TON | 460.7224 HMA PAVEMENT 4 HT 58-28 S TON | 460.8424 HMA PAVEMENT 4 SMA 58-28 H TON | * 465.0105 ASPHALTIC SURFACE TON | * 465.0110 ASPHALTIC SURFACE PATCHING TON | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STAGE 4 | | | | | | | | | | | |
| 0010 | 741+70 | -- | 874+91 | IH 39 NB | 1,420 | -- | -- | 2,320 | -- | -- | BOP - STH 73 |
| 0010 | 874+91 | -- | 882+83 | IH 39 NB | 95 | -- | -- | 155 | -- | -- | STH 73 INT (S OF BRIDGE) |
| 0010 | 885+80 | -- | 896+00 | IH 39 NB | 122 | -- | -- | 200 | -- | -- | STH 73 INT (N OF BRIDGE) |
| 0010 | 896+00 | -- | 1174+49 | IH 39 NB | 2,970 | -- | -- | 4,850 | -- | -- | STH 73 - N BR 10-MI CREEK |
| 0010 | 1174+66 | -- | 1337+05 | IH 39 NB | 1,730 | -- | -- | 2,830 | -- | -- | N BR 10-MI CREEK - DITCH NO. 4 |
| 0010 | 1337+30 | -- | 1416+40 | IH 39 NB | 844 | -- | -- | 1,380 | -- | -- | DITCH NO. 4 - DITCH NO. 3 |
| 0010 | 1416+71 | -- | 1469+25 | IH 39 NB | 560 | -- | -- | 914 | -- | -- | DITCH NO. 3 - DITCH NO. 8 |
| 0010 | 1469+48 | -- | 1522+21 | IH 39 NB | 562 | -- | -- | 919 | -- | -- | DITCH NO. 8 - DITCH NO. 2 |
| 0010 | 1522+45 | -- | 1635+65 | IH 39 NB | 1,210 | -- | -- | 1,970 | -- | -- | DITCH NO. 2 - EOP |
| 0010 | PROJECT | | | | -- | -- | -- | -- | -- | 25 | UNDISTRIBUTED |
| | | | | STAGE 4 SUBTOTAL | 9,513 | 0 | 0 | 15,538 | 0 | 25 | |
| | | | | TOTAL 0010 | 46,047 | 21,950 | 26,163 | 27,160 | 439 | 100 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

*** OMIT 550' BELOW SIDE ROAD OVERPASS PER TYPICAL SECTIONS. MILL AND PAVE WITH UPPER LIFT TO AVOID PROFILE INCREASE.

**CONTINUED FROM PREVIOUS PAGE**

**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 | 741+70 - 874+91<br>896+00 - 1635+65 | Lower Layer | 2"of Milled HMA Surface on Rubblized Concrete | 4 HT 58-28 S | 21,920 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Incentive Density PWL HMA Pavement 460.2005 |
| Driving Lanes<br>(STH 73 Interchange) | 874+91 - 882+83<br>885+80 - 896+00 | Lower Layer | Milled HMA Surface | 4 HT 58-28 S | 473 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Incentive Density HMA Pavement 460.2000 |
| Driving Lanes | 741+70 - 882+83<br>885+80 - 1635+65 | Upper Layer | 4 HT 58-28 S | 4 SMA 58-28 H | 23,246 | 1.75" | QMP (SS 460.2.8) | Incentive Density HMA Pavement 460.2000 |
| 4' Inside Shoulder | 741+70 - 874+91<br>896+00 - 1635+65 | Lower Layer | 2"of Milled HMA Surface on Pulverized Asphalt | 4 HT 58-28 S | 3,652 | 1.75" | PWL Incentive Air Voids HMA Pavement 460.2010 | Incentive Density HMA Pavement 460.2000 |
| 6' Inside Shoulder<br>(STH 73 Interchange) | 874+91 - 882+83<br>885+80 - 896+00 | Lower Layer | Milled HMA Surface | 4 HT 58-28 S | 118 | 1.75" | QMP (SS 460.2.8) | Incentive Density HMA Pavement 460.2000 |
| 4' Inside Shoulder | 741+70 - 874+91<br>896+00 - 1635+65 | Upper Layer | 4 HT 58-28 S | 4 SMA 58-28 H | 3,796 | 1.75" | QMP (SS 460.2.8) | Incentive Density HMA Pavement 460.2000 |
| 6' Inside Shoulder<br>(STH 73 Interchange) | 874+91 - 882+83<br>885+80 - 896+00 | Upper Layer | 4 HT 58-28 S | 4 SMA 58-28 H | 118 | 1.75" | QMP (SS 460.2.8) | Incentive Density HMA Pavement 460.2000 |
| 10' Outside Shoulder | 741+70 - 874+91<br>896+00 - 1635+65 | Lower Layer | 2"of Milled HMA Surface on Pulverized Asphalt | 4 MT 58-28 S | 9,127 | 1.75" | QMP (SS 460.2.8) | Incentive Density HMA Pavement 460.2000 |
| 10' Outside Shoulder | 741+70 - 874+91<br>896+00 - 1635+65 | Upper Layer | 4 MT 58-28 S | 4 MT 58-28 S | 9,487 | 1.75" | QMP (SS 460.2.8) | Incentive Density HMA Pavement 460.2000 |
| 10' Outside Shoulder<br>(STH 73 Interchange) | 874+91 - 882+83<br>885+80 - 896+00 | Upper Layer | Milled HMA Surface | 4 MT 58-28 S | 197 | 1.75" | QMP (SS 460.2.8) | Incentive Density HMA Pavement 460.2000 |
| Ramp MB & MA Termini<br>(Concrete Removal Area) | 1231+15 'MB' - 1233+42 'MB'<br>123238 'MA' - 1234+13 'MA' | Lower Layer | Base Aggregate | Asphaltic Surface | 280 | 4" | (SS 465) | Ordinary Compaction (SS 450.3.2.6.2) |
| Ramp MB & MA Termini<br>(Concrete Removal Area) | 1231+15 'MB' - 1233+42 'MB'<br>123238 'MA' - 1234+13 'MA' | Middle Layer | Asphaltic Surface | Asphaltic Surface | 140 | 2" | (SS 465) | Ordinary Compaction (SS 450.3.2.6.2) |
| Ramps | Varies | Upper Layer | Concrete Pavement or Asphaltic Surface | 4 MT 58-28 S | 2,252 | 2" | QMP (SS 460.2.8) | Incentive Density HMA Pavement 460.2000 |
| Side Roads | 502+18 'D' - 512+43 'D'<br>802+00 'W' - 812+97 'W' | Upper Layer | Milled HMA Surface<br>Base Aggregate | 4 MT 58-28 S | 409<br>478 | 2" | QMP (SS 460.2.8) | Incentive Density HMA Pavement 460.2000 |
| Project | Varies | Patching | Base Aggregate | Asphaltic Surface Patching | 100 | Varies | (SS 465) | Ordinary Compaction (SS 450.3.2.6.2) |

CULVERT PIPES

| FROM | | TO | LOCATION | 522.0130 CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH LF | 522.0424 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF | 522.0430 CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH LF | 522.0436 CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH LF | 522.0448 CULVERT PIPE REINFORCED CONCRETE CLASS IV 48-INCH LF | 522.0460 CULVERT PIPE REINFORCED CONCRETE CLASS IV 60-INCH LF | 522.2419 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH LF | INLET ELEVATION* | DISCHARGE ELEVATION* | SLOPE FT/FT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6933 U | - | 6933 D | IH 39 NB | -- | -- | -- | -- | -- | -- | 80 | 1099.69 | 1099.29 | 0.0049 |
| 7546 U | - | 7546 D | IH 39 NB | 80 | -- | -- | -- | -- | -- | -- | 1077.69 | 1077.45 | 0.0029 |
| 7547 U | - | 7547 D | IH 39 NB | 80 | -- | -- | -- | -- | -- | -- | 1077.95 | 1077.71 | 0.0029 |
| 7550 U | - | 7550 D | IH 39 NB | -- | 77 | -- | -- | -- | -- | -- | 1073.83 | 1073.46 | 0.0048 |
| 7552 U | - | 7552 D | IH 39 NB | -- | -- | -- | -- | 88 | -- | -- | 1064.32 | 1064.07 | 0.0028 |
| 7554 U | - | 7554 D | IH 39 NB | -- | -- | -- | -- | -- | 80 | -- | 1064.61 | 1063.66 | 0.0119 |
| 7556 U | - | 7556 D | IH 39 NB | -- | -- | -- | 80 | -- | -- | -- | 1069.54 | 1069.21 | 0.0041 |
| 7558 U | - | 7558 D | IH 39 NB | -- | -- | 80 | -- | -- | -- | -- | 1068.35 | 1066.79 | 0.0195 |
| 8972 U | - | 8972 D | IH 39 NB | -- | -- | -- | -- | 80 | -- | -- | 1075.93 | 1075.71 | 0.0028 |
| | | | TOTAL 0010 | 160 | 77 | 80 | 80 | 168 | 80 | 80 | | | |

*FIELD VERIFY PIPE INVERTS AND MATCH POINTS.

3

CULVERT ENDWALLS

| STRUCTURE | LOCATION | 520.8000 CONCRETE COLLARS FOR PIPE EACH | 522.1024 AEW FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH | 522.1030 AEW FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH | 522.1036 AEW FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH | 522.1048 AEW FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH EACH | 522.1060 AEW FOR CULVERT PIPE REINFORCED CONCRETE 60-INCH EACH | 522.2619 AEW FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH EACH |
|---|---|---|---|---|---|---|---|---|
| 6933 D | IH 39 NB | 1 | -- | -- | -- | -- | -- | -- |
| 6933 U | IH 39 NB | -- | -- | -- | -- | -- | -- | 1 |
| 7546 D | IH 39 NB | 1 | -- | -- | -- | -- | -- | -- |
| 7546 U | IH 39 NB | -- | -- | 1 | -- | -- | -- | -- |
| 7547 D | IH 39 NB | 1 | -- | -- | -- | -- | -- | -- |
| 7547 U | IH 39 NB | -- | -- | 1 | -- | -- | -- | -- |
| 7550 D | IH 39 NB | 1 | -- | -- | -- | -- | -- | -- |
| 7550 U | IH 39 NB | -- | 1 | -- | -- | -- | -- | -- |
| 7552 U | IH 39 NB | -- | -- | -- | -- | 1 | -- | -- |
| 7554 U | IH 39 NB | -- | -- | -- | -- | -- | 1 | -- |
| 7556 U | IH 39 NB | -- | -- | -- | 1 | -- | -- | -- |
| 7558 D | IH 39 NB | 1 | -- | -- | -- | -- | -- | -- |
| 7558 U | IH 39 NB | -- | -- | 1 | -- | -- | -- | -- |
| 8972 D | IH 39 NB | 1 | -- | -- | -- | -- | -- | -- |
| 8972 U | IH 39 NB | -- | -- | -- | -- | 1 | -- | -- |
| | TOTAL 0010 | 6 | 1 | 3 | 1 | 2 | 1 | 1 |

TEMPORARY SHORING

| CATEGORY | STATION | TO | STATION | CULVERT # | LOCATION | 511.1100 TEMPORARY SHORING SF |
|---|---|---|---|---|---|---|
| STAGE 1A | | | | | | |
| 0010 | 855+14 | - | 856+21 | 6933 | IH 39 NB | 382 |
| 0010 | 1187+13 | - | 1188+45 | 8972 | IH 39 NB | 634 |
| 0010 | 1206+93 | - | 1208+76 | 7546 / 7547 | IH 39 NB | 884 |
| 0010 | 1301+14 | - | 1302+19 | 7550 | IH 39 NB | 350 |
| 0010 | 1356+02 | - | 1357+14 | 7552 | IH 39 NB | 644 |
| 0010 | 1375+98 | - | 1377+11 | 7554 | IH 39 NB | 115 |
| 0010 | 1495+22 | - | 1496+32 | 7556 | IH 39 NB | 565 |
| 0010 | 1522+82 | - | 1523+89 | 7558 | IH 39 NB | 536 |
| | | | | | STAGE 1A SUBTOTAL | 4,110 |
| STAGE 1B | | | | | | |
| 0010 | 855+14 | - | 856+21 | 6933 | IH 39 NB | 382 |
| 0010 | 1187+13 | - | 1188+45 | 8972 | IH 39 NB | 634 |
| 0010 | 1206+93 | - | 1208+76 | 7546 / 7547 | IH 39 NB | 884 |
| 0010 | 1301+14 | - | 1302+19 | 7550 | IH 39 NB | 350 |
| 0010 | 1356+02 | - | 1357+14 | 7552 | IH 39 NB | 644 |
| 0010 | 1375+98 | - | 1377+11 | 7554 | IH 39 NB | 680 |
| 0010 | 1495+22 | - | 1496+32 | 7556 | IH 39 NB | 565 |
| 0010 | 1522+82 | - | 1523+89 | 7558 | IH 39 NB | 536 |
| | | | | | STAGE 1B SUBTOTAL | 4,675 |
| STAGE 1C | | | | | | |
| 0010 | 1375+98 | - | 1377+11 | 7554 | IH 39 NB | 665 |
| | | | | | STAGE 1C SUBTOTAL | 665 |
| | | | | | TOTAL 0010 | 9,450 |

## CULVERT PATCHES

| CATEGORY | STATION | CULVERT # | LOCATION | 203.0100 * REMOVING SMALL PIPE CULVERTS EACH | 203.0220.01 REMOVING STRUCTURE (STRUCTURE) (01. STA 1376+57) EACH | 204.0100 * REMOVING CONCRETE PAVEMENT SY | 205.0100 EXCAVATION COMMON CY | 305.0110 * BASE AGGREGATE DENSE 3/4-INCH TON | 305.0120 * BASE AGGREGATE DENSE 1 1/4-INCH TON | 455.0605 * TACK COAT GAL | 465.0105 * ASPHALTIC SURFACE TON | 624.0100 * WATER MGAL | 633.5200 MARKERS CULVERT END EACH | 650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH | 690.0150 * SAWING ASPHALT LF | 690.0250 * SAWING CONCRETE LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STAGE 1A | | | | | | | | | | | | | | | | | |
| 0010 | 855+68 | 6933 | IH 39 NB | 1 | -- | 201 | 240 | 12 | 251 | 17 | 80 | 4.0 | -- | 1 | 6 | 140 | EXISTING 19" X 30" CMP |
| 0010 | 1187+87 | 8972 | IH 39 NB | 1 | -- | 248 | 430 | 15 | 310 | 21 | 98 | 4.9 | -- | 1 | 6 | 165 | EXISTING 48" CMP |
| 0010 | 1207+60 | 7546 | IH 39 NB | 1 | -- | 341 | 208 | 21 | 432 | 29 | 138 | 6.6 | -- | 1 | 6 | 216 | EXISTING 30" CMP |
| 0010 | 1207+60 - 1208+21 | | IH 39 NB | - | -- | -- | 185 | -- | -- | -- | -- | -- | -- | -- | -- | -- | BETWEEN CULVERTS |
| 0010 | 1208+21 | 7547 | IH 39 NB | 1 | -- | -- | 201 | -- | -- | -- | -- | -- | -- | 1 | -- | -- | EXISTING 30" CMP |
| 0010 | 1301+67 | 7550 | IH 39 NB | 1 | -- | 197 | 218 | 12 | 246 | 17 | 78 | 3.9 | -- | 1 | 6 | 138 | EXISTING 19" X 30" CMP |
| 0010 | 1356+60 | 7552 | IH 39 NB | 1 | -- | 210 | 436 | 13 | 263 | 18 | 83 | 4.2 | -- | 1 | 6 | 145 | EXISTING 48" CMP |
| 0010 | 1376+57 | 7554 | IH 39 NB | -- | -- | 20 | -- | 2 | 24 | 2 | 8 | 0.4 | -- | -- | 6 | 46 | EXISTING 60" CMP |
| 0010 | 1495+79 | 7556 | IH 39 NB | 1 | -- | 206 | 401 | 13 | 258 | 17 | 82 | 4.1 | -- | 1 | 6 | 143 | EXISTING 36" CMP |
| 0010 | 1523+35 | 7558 | IH 39 NB | 1 | -- | 203 | 377 | 12 | 253 | 17 | 80 | 4.0 | -- | 1 | 6 | 141 | EXISTING 30" CMP |
| | | STAGE 1A SUBTOTAL | | 8 | 0 | 1,626 | 2,696 | 100 | 2,037 | 138 | 647 | 32.1 | 0 | 8 | 48 | 1,134 | |
| STAGE 1B | | | | | | | | | | | | | | | | | |
| 0010 | 855+68 | 6933 | IH 39 NB | -- | -- | 82 | 222 | 4 | 212 | 15 | 68 | 3.3 | 1 | -- | 126 | 14 | |
| 0010 | 1187+87 | 8972 | IH 39 NB | -- | -- | 102 | 390 | 5 | 261 | 18 | 84 | 4.0 | 1 | -- | 151 | 14 | |
| 0010 | 1207+60 | 7546 | IH 39 NB | -- | -- | 143 | 188 | 7 | 362 | 25 | 116 | 5.6 | 1 | -- | 202 | 14 | |
| 0010 | 1207+60 - 1208+21 | | IH 39 NB | -- | -- | -- | 84 | -- | -- | -- | -- | -- | -- | -- | -- | -- | BETWEEN CULVERTS |
| 0010 | 1208+21 | 7547 | IH 39 NB | -- | -- | -- | 183 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | |
| 0010 | 1301+67 | 7550 | IH 39 NB | -- | -- | 81 | 204 | 4 | 208 | 14 | 67 | 3.2 | 1 | -- | 124 | 14 | |
| 0010 | 1356+60 | 7552 | IH 39 NB | -- | -- | 86 | 392 | 5 | 221 | 15 | 71 | 3.4 | 1 | -- | 131 | 14 | |
| 0010 | 1376+57 | 7554 | IH 39 NB | -- | 1 | 88 | 406 | 5 | 225 | 15 | 72 | 3.5 | 1 | 1 | 133 | 14 | |
| 0010 | 1495+79 | 7556 | IH 39 NB | -- | -- | 85 | 361 | 5 | 217 | 15 | 70 | 3.4 | 1 | -- | 129 | 14 | |
| 0010 | 1523+35 | 7558 | IH 39 NB | -- | -- | 83 | 340 | 4 | 214 | 15 | 68 | 3.3 | 1 | -- | 127 | 14 | |
| | | STAGE 1B SUBTOTAL | | 0 | 1 | 750 | 2,770 | 39 | 1,920 | 132 | 616 | 29.7 | 9 | 1 | 1,123 | 112 | |
| STAGE 1C | | | | | | | | | | | | | | | | | |
| 0010 | 1376+57 | 7554 | IH 39 NB | -- | -- | 194 | 444 | 13 | 267 | 18 | 85 | 4.2 | -- | -- | 6 | 147 | |
| | | | | 0 | 0 | 194 | 444 | 13 | 267 | 18 | 85 | 4 | 0 | 0 | 6 | 147 | |
| | | | TOTAL 0010 | 8 | 1 | 2,570 | 5,910 | 152 | 4,224 | 288 | 1,348 | 66.0 | 9 | 9 | 1,177 | 1,393 | |

* ADDITIONAL QUANTITES LISTED ELSEWHERE

## STORM SEWER STRUCTURES

| STRUCTURE | STATION | OFFSET** | LOCATION | 521.1012 AEW FOR CULVERT PIPE STEEL 12-INCH EACH | 611.0654 INLET COVERS TYPE V EACH | 611.3225 INLETS 2X2.5-FT EACH | 650.4000 * CONSTRUCTION STAKING STORM SEWER EACH | RIM*** ELEVATION | INVERT**** ELEVATION | DEPTH***** FT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1-D | 882+93.19 | 102.19' RT | 39NB | 1 | -- | -- | -- | N/A | N/A | N/A |
| 1-U | 882+89.88 | 33.73' RT | 39NB | -- | 1 | 1 | 1 | 1119.29 | 1114.29 | 3.67 |
| | | | TOTALS | 1 | 1 | 1 | 1 | | | |

REMARKS:
*ADDITIONAL QUANTITIES LISTED ELSEWHERE
**STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE
***RIM ELEV IS AT THE INLET COVER FLANGE LOCATION
****FOR STRUCTURES WITHOUT SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE
*****DEPTH = RIM ELEV - TOP OF STRUCTURE BASE ELEV - COVER HEIGHT - 6-INCH ADJUSTMENT RING HEIGHT

## STORM SEWER PIPES

| FROM | - | TO | LOCATION | 530.0112 CULVERT PIPE CORRUGATED POLYETHYLENE 12-INCH LF | INLET ELEVATION | DISCHARGE ELEVATION |
|---|---|---|---|---|---|---|
| 1-U | - | 1-D | IH 39 RT | 70 | 1114.29 | 1099.56 |
| | | | TOTALS | 70 | | |

PERMANENT BARRIER

| CATEGORY | STATION | TO | STATION | LOCATION | 204.0175 REMOVING CONCRETE SLOPE PAVING SY | * 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON | * 416.0610 DRILLED TIE BARS EACH | * 465.0110 ASPHALTIC SURFACE PATCHING TON | 603.1142 CONCRETE BARRIER TYPE S42 LF | 604.0400 SLOPE PAVING CONCRETE SY | * 690.0150 SAWING ASPHALT LF | * 690.0250 SAWING CONCRETE LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 776+67 | - | 777+50 | IH 39 NB RT | 26 | 70 | 12 | 7 | 83 | 23 | 87 | 38 |
| | | | | TOTAL 0010 | 26 | 70 | 12 | 7 | 83 | 23 | 87 | 38 |

* ADDITIONAL QUANTITES LISTED ELSEWHERE

RUMBLE STRIPS

| CATEGORY | STATION | TO | STATION | LOCATION | 465.0510 ASPHALTIC RUMBLE STRIPS, SHOULDER DIVIDED ROADWAY LF |
|---|---|---|---|---|---|
| 0010 | 741+70 | - | 866+74 | IH 39 NB LT & RT | 24,676 |
| 0010 | 866+74 | - | 873+63 | IH 39 NB LT | 689 |
| 0010 | 873+63 | - | 882+82 | IH 39 NB LT &RT | 1,836 |
| 0010 | 885+80 | - | 895+14 | IH 39 NB LT & RT | 1,866 |
| 0010 | 895+14 | - | 899+87 | IH 39 NB LT | 473 |
| 0010 | 899+87 | - | 1032+34 | IH 39 NB LT &RT | 26,494 |
| 0010 | 1032+34 | - | 1038+25 | IH 39 NB LT | 591 |
| 0010 | 1038+25 | - | 1057+06 | IH 39 NB LT &RT | 3,762 |
| 0010 | 1057+06 | - | 1061+61 | IH 39 NB LT | 455 |
| 0010 | 1061+61 | - | 1216+22 | IH 39 NB LT &RT | 30,772 |
| 0010 | 1216+22 | - | 1222+13 | IH 39 NB LT | 590 |
| 0010 | 1222+13 | - | 1241+34 | IH 39 NB LT &RT | 3,842 |
| 0010 | 1241+34 | - | 1246+34 | IH 39 NB LT | 500 |
| 0010 | 1246+32 | - | 1635+65 | IH 39 NB LT &RT | 76,914 |
| | | | | TOTAL 0010 | 173,460 |

TEMPORARY BARRIER

| CATEGORY | STATION | CULVERT # | LOCATION | 603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF | 603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF | 603.8500 ANCHORING CONCRETE BARRIER TEMPORARY PRECAST LF | REMARKS |
|---|---|---|---|---|---|---|---|
| STAGE 1A | | | | | | | |
| 0010 | 855+68 | 6933 | IH 39 NB | 450 | 450 | 310 | |
| 0010 | 1187+87 | 8972 | IH 39 NB | 450 | 450 | 310 | |
| 0010 | 1207+60 - 1208+21 | 7546 / 7547 | IH 39 NB | 500 | 500 | 360 | |
| 0010 | 1301+67 | 7550 | IH 39 NB | 430 | 430 | 290 | |
| 0010 | 1356+60 | 7552 | IH 39 NB | 440 | 440 | 300 | |
| 0010 | 1376+57 | 7554 | IH 39 NB | 440 | 440 | 300 | |
| 0010 | 1495+79 | 7556 | IH 39 NB | 430 | 430 | 290 | |
| 0010 | 1523+35 | 7558 | IH 39 NB | 430 | 430 | 290 | |
| | | | STAGE 1A SUBTOTAL | 3,570 | 3,570 | 2,450 | |
| STAGE 1B | | | | | | | |
| 0010 | 855+68 | 6933 | IH 39 NB | -- | 450 | 310 | |
| 0010 | 1187+87 | 8972 | IH 39 NB | -- | 450 | 310 | |
| 0010 | 1207+60 - 1208+21 | 7546 / 7547 | IH 39 NB | -- | 500 | 360 | |
| 0010 | 1301+67 | 7550 | IH 39 NB | -- | 430 | 290 | |
| 0010 | 1356+60 | 7552 | IH 39 NB | -- | 440 | 300 | |
| 0010 | 1376+57 | 7554 | IH 39 NB | -- | 440 | 300 | |
| 0010 | 1495+79 | 7556 | IH 39 NB | -- | 430 | 290 | |
| 0010 | 1523+35 | 7558 | IH 39 NB | -- | 430 | 290 | |
| | | | STAGE 1B SUBTOTAL | 0 | 3,570 | 2,450 | |
| STAGE 1C | | | | | | | |
| 0010 | 1376+57 | 7554 | IH 39 NB | -- | 440 | 300 | |
| | | | STAGE 1C SUBTOTAL | 0 | 440 | 300 | |
| | | | TOTAL 0010 | 3,570 | 7,580 | 5,200 | |

GUARDRAIL

| CATEGORY | STATION | TO | STATION | LOCATION | 204.0165 * REMOVING GUARDRAIL LF | 305.0110 * BASE AGGREGATE DENSE 3/4-INCH TON | 614.0950 REPLACING GUARDRAIL POSTS AND BLOCKS EACH | 614.0951 REPLACING GUARDRAIL RAIL AND HARDWARE LF | 614.2300 MGS GUARDRAIL 3 LF | 614.2340 MGS GUARDRAIL 3 L LF | 614.2500 MGS THRIE BEAM TRANSITION LF | 614.2610 MGS GUARDRAIL TERMINAL EAT EACH | 614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH | 624.0100 * WATER MGAL | SPV.0060.09 SPECIAL (09. ADJUSTING EAT) EACH | SPV.0090.02 SPECIAL (02. REMOVING EXCESS MATERIAL UNDER GUARDRAIL) LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 774+06 | - | 777+94 | IH 39 NB RT | 379 | 36 | -- | -- | 200 | -- | 48 | 1 | 1 | 0.6 | -- | -- | ARCHER AVE |
| 0010 | 879+28 | - | 883+37 | IH 39 NB LT | 379 | 38 | -- | -- | 312.5 | -- | 40 | 1 | -- | 0.6 | -- | -- | STH 73 |
| 0010 | 880+62 | - | 883+37 | IH 39 NB RT | 121 | 26 | -- | -- | 175 | -- | 40 | 1 | -- | 0.4 | -- | -- | STH 73 |
| 0010 | 1171+29 | - | 1175+12 | IH 39 NB LT | 326 | 36 | -- | -- | 262.5 | -- | 48 | 1 | 1 | 0.6 | -- | -- | N BR 10-MI CREEK |
| 0010 | 1171+91 | - | 1175+12 | IH 39 NB RT | 263 | 30 | -- | -- | 200 | -- | 48 | 1 | 1 | 0.5 | -- | -- | N BR 10-MI CREEK |
| 0010 | 1333+84 | - | 1337+74 | IH 39 NB LT | 333 | 36 | -- | -- | 262.5 | -- | 48 | 1 | 1 | 0.6 | -- | -- | DITCH NO. 4 |
| 0010 | 1334+23 | - | 1337+74 | IH 39 NB RT | 282 | 33 | -- | -- | 225 | -- | 48 | 1 | 1 | 0.5 | -- | -- | DITCH NO. 4 |
| 0010 | 1413+16 | - | 1417+18 | IH 39 NB LT | 340 | 37 | -- | -- | 262.5 | -- | 48 | 1 | 1 | 0.6 | -- | -- | DITCH NO. 3 |
| 0010 | 1413+68 | - | 1417+20 | IH 39 NB RT | 278 | 33 | -- | -- | 212.5 | -- | 48 | 1 | 1 | 0.5 | -- | -- | DITCH NO. 3 |
| 0010 | 1466+03 | - | 1469+93 | IH 39 NB LT | 333 | 36 | -- | -- | 262.5 | -- | 48 | 1 | 1 | 0.6 | -- | -- | DITCH NO. 8 |
| 0010 | 1466+55 | - | 1469+93 | IH 39 NB RT | 270 | 32 | -- | -- | 212.5 | -- | 48 | 1 | 1 | 0.5 | -- | -- | DITCH NO. 8 |
| 0010 | 1518+99 | - | 1522+89 | IH 39 NB LT | 333 | 36 | -- | -- | 262.5 | -- | 48 | 1 | 1 | 0.6 | -- | -- | DITCH NO. 2 |
| 0010 | 1519+51 | - | 1522+89 | IH 39 NB RT | 202 | 32 | -- | -- | 212.5 | -- | 48 | 1 | 1 | 0.5 | -- | -- | DITCH NO. 2 |
| 0010 | 1557+89 | - | 1561+66 | IH 39 NB RT | 266 | 35 | -- | -- | 212.5 | 112.5 | -- | 1 | 1 | 0.6 | -- | -- | CATTLE PASS MGS TYPE L SPAN 25' |
| 0010 | 504+16 | - | 509+67 | CTH D | -- | 16 | 3 | 25 | -- | -- | -- | -- | -- | 0.3 | 4 | 643 | REPLACING GUARDRAIL RAIL AND HARDWARE INCLUDES EAT RAIL OR THRIE BEAM AS NEEDED |
| 0010 | 804+96 | - | 810+12 | CTH W | -- | 16 | -- | 50 | -- | -- | -- | -- | -- | 0.3 | 4 | 517 | |
| | | | | TOTAL 0010 | 4,105 | 508 | 3 | 75 | 3,275 | 112.5 | 608 | 14 | 12 | 8.3 | 8 | 1,160 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

601 - CURB

| CATEGORY | STATION | TO | STATION | LOCATION | 204.0100 * REMOVING CONCRETE PAVEMENT SY | 204.0150 REMOVING CURB & GUTTER LF | 416.0610 * DRILLED TIE BARS EACH | 601.0586 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE TBTT LF | 628.7015 INLET PROTECTION TYPE C EACH | 690.0250 * SAWING CONCRETE LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 882+82 | - | 883+32 | IH 39 NB RT | 12 | 8 | 16 | 49 | 2 | 52 | STH 73 DROP INLET |
| | | | | TOTAL 0010 | 12 | 8 | 16 | 49 | 2 | 52 | |

* ADDITIONAL QUANTITES LISTED ELSEWHERE

STORM SEWER PIPES - TEMPORARY WATER DIVERSION

| FROM | - | TO | LOCATION | 204.0245.02 REMOVING STORM SEWER (30-INCH) LF | 521.3130 CULVERT PIPE CORRUGATED STEEL 30-INCH LF | 608.0330 STORM SEWER PIPE RC CLASS III 30-INCH LF | 608.3030 STORM SEWER PIPE CLASS III-A 30-INCH LF | INLET ELEVATION | DISCHARGE ELEVATION | SLOPE FT/FT |
|---|---|---|---|---|---|---|---|---|---|---|
| MH01 | - | T01 | 39NB | 13 | 13 | -- | -- | 1063.89 | 1063.76 | 0.0097 |
| MH02 | - | MH01 | 39NB | -- | -- | 83 | -- | 1064.69 | 1063.89 | 0.0097 |
| T02 | - | MH02 | 39NB | 14 | -- | -- | 14 | 1064.82 | 1064.69 | 0.0098 |
| | | | TOTALS | 27 | 13 | 83 | 14 | | | |

## EROSION CONTROL AT CULVERTS

| CATEGORY | STATION | TO | STATION | CULVERT # | LOCATION | 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 | 628.7005 INLET PROTECTION TYPE A EACH | 628.7504 TEMPORARY DITCH CHECKS LF | * 628.7555 CULVERT PIPE CHECKS EACH | 628.7570 ROCK BAGS EACH | 629.0210 FERTILIZER TYPE B CWT | 630.0120 SEEDING MIXTURE NO. 20 LB | 630.0200 SEEDING TEMPORARY LB | 630.0500 SEED WATER MGAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STAGE 1A | | | | | | | | | | | | | | | | | |
| 0010 | 855+14 | - | 856+21 | 6933 | IH 39 | 210 | 150 | 150 | 210 | -- | -- | -- | -- | 0.2 | 6 | 2 | 4.8 |
| 0010 | 1187+13 | - | 1188+45 | 8972 | IH 39 | 180 | 170 | 170 | 180 | -- | -- | -- | -- | 0.2 | 5 | 2 | 4.1 |
| 0010 | 1206+93 | - | 1208+76 | 7546 / 7547 | IH 39 | 270 | 220 | 220 | 270 | -- | -- | -- | -- | 0.2 | 8 | 2 | 6.1 |
| 0010 | 1301+14 | - | 1302+19 | 7550 | IH 39 | 200 | 160 | 160 | 200 | -- | -- | -- | -- | 0.2 | 6 | 2 | 4.5 |
| 0010 | 1356+02 | - | 1357+14 | 7552 | IH 39 | 150 | 150 | 150 | 150 | 1 | -- | -- | -- | 0.1 | 5 | 2 | 3.4 |
| 0010 | 1495+22 | - | 1496+32 | 7556 | IH 39 | 150 | 150 | 150 | 150 | 1 | -- | -- | -- | 0.1 | 5 | 2 | 3.4 |
| 0010 | 1522+82 | - | 1523+89 | 7558 | IH 39 | 120 | 140 | 140 | 120 | -- | -- | -- | -- | 0.1 | 4 | 1 | 2.7 |
| | | | | | STAGE 1A SUBTOTAL | 1,280 | 1,140 | 1,140 | 1,280 | 2 | 0 | 0 | 0 | 1.1 | 39 | 13 | 29.0 |
| STAGE 1B | | | | | | | | | | | | | | | | | |
| 0010 | 855+14 | - | 856+21 | 6933 | IH 39 | 60 | 150 | 150 | 60 | -- | -- | 5 | -- | 0.1 | 2 | 1 | 1.4 |
| 0010 | 1187+13 | - | 1188+45 | 8972 | IH 39 | 120 | 160 | 160 | 120 | -- | -- | 10 | -- | 0.1 | 4 | 1 | 2.7 |
| 0010 | 1206+93 | - | 1208+76 | 7546 / 7547 | IH 39 | 270 | 230 | 230 | 270 | -- | -- | 10 | -- | 0.2 | 8 | 2 | 6.1 |
| 0010 | 1301+14 | - | 1302+19 | 7550 | IH 39 | 70 | 150 | 150 | 70 | -- | -- | 5 | -- | 0.1 | 2 | 1 | 1.6 |
| 0010 | 1356+02 | - | 1357+14 | 7552 | IH 39 | 200 | 160 | 160 | 200 | -- | -- | 10 | -- | 0.2 | 6 | 2 | 4.5 |
| 0010 | 1375+98 | - | 1377+11 | 7554 | IH 39 | 160 | 170 | 170 | 160 | -- | -- | 13 | -- | 0.2 | 5 | 2 | 3.6 |
| 0010 | 1495+22 | - | 1496+32 | 7556 | IH 39 | 130 | 170 | 170 | 130 | -- | -- | 7 | -- | 0.1 | 4 | 1 | 3.0 |
| 0010 | 1522+82 | - | 1523+89 | 75+58 | IH 39 | 140 | 160 | 160 | 140 | -- | -- | 5 | -- | 0.1 | 4 | 1 | 3.2 |
| | | | | | STAGE 1B SUBTOTAL | 1,150 | 1,350 | 1,350 | 1,150 | 0 | 0 | 65 | 0 | 1.1 | 35 | 11 | 26.1 |
| STAGE 1C | | | | | | | | | | | | | | | | | |
| 0010 | 1375+98 | - | 1377+11 | 7554 | IH 39 | 150 | 160 | 160 | 150 | 1 | -- | -- | -- | 0.1 | 5 | 2 | 3.4 |
| | | | | | STAGE 1C SUBTOTAL | 150 | 160 | 160 | 150 | 1 | 0 | 0 | 0 | 0.1 | 5 | 2 | 3.4 |
| 0010 | | - | | | UNDISTRIBUTED (25%) | 650 | 650 | 650 | 650 | 1 | 50 | 15 | 50 | 0.7 | 21 | 7 | 16.5 |
| | | | | | TOTAL 0010 | 3,230 | 3,300 | 3,300 | 3,230 | 4 | 50 | 80 | 50 | 3.0 | 100 | 33 | 75.0 |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

## STORM SEWER STRUCTURES - TEMPORARY WATER DIVERSION

| STRUCTURE | STATION | OFFSET** | LOCATION | 520.1030 APRON ENDWALLS FOR CULVERT PIPE 30-INCH EACH | 611.0530 MANHOLE COVERS TYPE J EACH | 611.2005 MANHOLES 5-FT DIAMETER EACH | 611.2006 MANHOLES 6-FT DIAMETER EACH | * 650.4000 CONSTRUCTION STAKING STORM SEWER EACH | * SPV.0060.08 CONNECTING TO EXISTING INLETS EACH | SPV.0060.11 TEMPORARY WATER DIVERSION CULVERT EACH | SPV.0060.12 SEALING STORM STRUCTURE OPENINGS EACH | RIM*** ELEVATION | INVERT**** ELEVATION | DEPTH***** FT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EXISTING INLET | 1376+50.4 | 30.9' LT | 39 NB | -- | -- | -- | -- | -- | 1 | 1 | 1 | FIELD VERIFY EXISTING INLET ELEVATIONS | | |
| MH01 | 1376+37.33 | 30.45' LT | 39NB | -- | 1 | -- | 1 | 1 | -- | -- | 1 | 1070.49 | 1063.89 | 5.66 |
| MH02 | 1376+43.09 | 52.12' RT | 39NB | -- | 1 | 1 | -- | 1 | -- | -- | 1 | 1071.68 | 1064.69 | 6.05 |
| T02 | 1376+49.75 | 63.88' RT | 39NB | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 1064.82 | -- |
| | | | TOTALS | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 3 | | | |

REMARKS:
*ADDITIONAL QUANTITIES LISTED ELSEWHERE
**STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE
***RIM ELEV IS AT THE INLET COVER FLANGE LOCATION
****FOR STRUCTURES WITH SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE SUMP. FOR STRUCTURES WITHOUT SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE
*****DEPTH = RIM ELEV - TOP OF STRUCTURE BASE ELEV - COVER HEIGHT - 6-INCH ADJUSTMENT RING HEIGHT

3

## 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 | 614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH | 625.0100** TOPSOIL SY | 628.2008** EROSION MAT URBAN CLASS I TYPE B SY | 629.0205** FERTILIZER TYPE A CWT | 630.0120** SEEDING MIX NO. 20 LB | 630.0200** SEEDING TEMPORARY LB | 630.0500** SEED WATER MGAL | 650.9920** CONSTRUCTION STAKING SLOPE STAKES LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 773+20 | - | 777+56 | IH 39 RT | 15 | 98 | 1 | 360 | 360 | 0.3 | 6.5 | 3.3 | 6 | 436 |
| 0010 | 777+50 | - | 778+27 | IH 39 RT | 4 | 10 | 1 | 50 | 50 | 0.1 | 0.9 | 0.5 | 1 | 77 |
| 0010 | 878+21 | - | 883+32 | IH 39 LT | 4 | 33 | 1 | 190 | 190 | 0.2 | 3.5 | 1.8 | 3 | 511 |
| 0010 | 878+21 | - | 883+32 | IH 39 RT | 24 | 13 | 1 | 390 | 390 | 0.3 | 7.1 | 3.6 | 6 | 511 |
| 0010 | 1169+74 | - | 1174+41 | IH 39 LT | 10 | 34 | 1 | 260 | 260 | 0.2 | 4.7 | 2.4 | 4 | 467 |
| 0010 | 1174+74 | - | 1175+72 | IH 39 LT | 5 | 6 | 1 | 140 | 140 | 0.1 | 2.6 | 1.3 | 3 | 98 |
| 0010 | 1169+74 | - | 1174+41 | IH 39 RT | 7 | 54 | 1 | 264 | 264 | 0.2 | 4.8 | 2.4 | 4 | 467 |
| 0010 | 1174+74 | - | 1175+72 | IH 39 RT | 2 | 13 | 1 | 85 | 85 | 0.1 | 1.6 | 0.8 | 2 | 98 |
| 0010 | 1332+72 | - | 1336+96 | IH 39 LT | 7 | 43 | 1 | 310 | 310 | 0.2 | 5.6 | 2.8 | 5 | 424 |
| 0010 | 1337+38 | - | 1338+33 | IH 39 LT | 6 | 1 | 1 | 60 | 60 | 0.1 | 1.1 | 0.6 | 1 | 95 |
| 0010 | 1333+30 | - | 1336+96 | IH 39 RT | 8 | 145 | 1 | 450 | 450 | 0.3 | 8.1 | 4.1 | 7 | 366 |
| 0010 | 1337+42 | - | 1338+12 | IH 39 RT | 1 | 30 | 1 | 100 | 100 | 0.1 | 1.8 | 0.9 | 2 | 70 |
| 0010 | 1411+98 | - | 1416+30 | IH 39 LT | 12 | 56 | 1 | 305 | 305 | 0.2 | 5.5 | 2.8 | 5 | 432 |
| 0010 | 1416+83 | - | 1417+85 | IH 39 LT | 6 | 1 | 1 | 80 | 80 | 0.1 | 1.5 | 0.8 | 2 | 102 |
| 0010 | 1412+69 | - | 1416+30 | IH 39 RT | 8 | 104 | 1 | 315 | 315 | 0.2 | 5.7 | 2.9 | 5 | 361 |
| 0010 | 1416+83 | - | 1417+53 | IH 39 RT | 1 | 5 | 1 | 40 | 40 | 0.1 | 0.8 | 0.4 | 1 | 70 |
| 0010 | 1464+67 | - | 1469+17 | IH 39 LT | 6 | 48 | 1 | 320 | 320 | 0.3 | 5.8 | 2.9 | 5 | 450 |
| 0010 | 1469+56 | - | 1470+71 | IH 39 LT | 9 | 6 | 1 | 80 | 80 | 0.1 | 1.5 | 0.8 | 2 | 115 |
| 0010 | 1465+73 | - | 1469+17 | IH 39 RT | 15 | 24 | 1 | 220 | 220 | 0.2 | 4.0 | 2.0 | 4 | 344 |
| 0010 | 1469+56 | - | 1470+22 | IH 39 RT | 0 | 16 | 1 | 60 | 60 | 0.1 | 1.1 | 0.6 | 1 | 66 |
| 0010 | 1517+85 | - | 1522+12 | IH 39 LT | 15 | 29 | 1 | 300 | 300 | 0.2 | 5.4 | 2.7 | 5 | 427 |
| 0010 | 1522+52 | - | 1523+42 | IH 39 LT | 2 | 6 | 1 | 100 | 100 | 0.1 | 1.8 | 0.9 | 2 | 90 |
| 0010 | 1518+87 | - | 1522+12 | IH 39 RT | 14 | 83 | 1 | 345 | 345 | 0.3 | 6.3 | 3.2 | 6 | 325 |
| 0010 | 1522+59 | - | 1523+04 | IH 39 RT | 1 | 8 | 1 | 30 | 30 | 0.1 | 0.6 | 0.3 | 1 | 45 |
| 0010 | 1556+94 | - | 1562+03 | IH 39 RT | 11 | 124 | 1 | 580 | 580 | 0.4 | 10.5 | 5.3 | 9 | 509 |
| | | | | TOTAL 0010 | 193 | 986 | 25 | 5,434 | 5,434 | 4.6 | 98.8 | 50.1 | 92 | 6,956 |

3

SILT FENCE AND CULVERT PIPE CHECKS AT GUARDRAIL

| CATEGORY | STATION | TO | STATION | LOCATION | 204.0170 REMOVING FENCE LF | 616.0100.01 FENCE WOVEN WIRE (HEIGHT) (01. 4 - FEET) LF | * 628.1504 SILT FENCE LF | * 628.1520 SILT FENCE MAINTENANCE LF | * 628.7555 CULVERT PIPE CHECKS EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 773+03 | - | 778+38 | IH 39 NB RT | -- | -- | 450 | 450 | 5 | ARCHER AVE |
| 0010 | 878+05 | - | 883+43 | IH 39 NB LT | -- | -- | 560 | 560 | -- | STH 73 |
| 0010 | 879+73 | - | 883+30 | IH 39 NB RT | -- | -- | 390 | 390 | -- | STH 73 |
| 0010 | 1169+62 | - | 1176+22 | IH 39 NB LT | -- | -- | 750 | 750 | 2 | N BR 10-MI CREEK (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | 1170+89 | - | 1175+65 | IH 39 NB RT | 45 | 45 | 580 | 580 | -- | N BR 10-MI CREEK (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | 1332+40 | - | 1338+41 | IH 39 NB LT | -- | -- | 670 | 670 | 2 | DITCH NO. 4 (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | 1333+12 | - | 1338+21 | IH 39 NB RT | 45 | 45 | 630 | 630 | -- | DITCH NO. 4 (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | 1411+63 | - | 1418+07 | IH 39 NB LT | -- | -- | 710 | 710 | 2 | DITCH NO. 3 (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | 1412+50 | - | 1417+64 | IH 39 NB RT | 40 | 40 | 580 | 580 | -- | DITCH NO. 3 (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | 1464+48 | - | 1470+89 | IH 39 NB LT | -- | -- | 740 | 740 | 2 | DITCH NO. 8 (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | 1465+61 | - | 1470+46 | IH 39 NB RT | 40 | 40 | 560 | 560 | -- | DITCH NO. 8 (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | 1517+68 | - | 1523+78 | IH 39 NB LT | -- | -- | 700 | 700 | 2 | DITCH NO. 2 (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | 1518+60 | - | 1523+33 | IH 39 NB RT | 40 | 40 | 570 | 570 | -- | DITCH NO. 2 (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | 1556+37 | - | 1562+04 | IH 39 NB RT | -- | -- | 690 | 690 | 21 | CATTLE PASS (TEMP SMALL ANIMAL TURNAROUNDS) |
| 0010 | | | | UNDISTRIBUTED (25%) | -- | | -- | -- | 9 | |
| | | | | TOTAL 0010 | 210 | 210 | 8,580 | 8,580 | 45 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

SIGNING

| CATEGORY | STATION | LOCATION | 634.0614 POSTS WOOD 4X6-INCH X 14-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 | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0010 | 776+70 | IH 39 RT | -- | 2 | -- | 1 | 2 | ARCHER AVENUE |
| 0010 | 883+25 | IH 39 LT & RT | 2 | -- | -- | 2 | 2 | BRIDGE MARKER |
| 0010 | 1174+33 | IH 39 LT & RT | 2 | -- | -- | 2 | 2 | BRIDGE MARKER |
| 0010 | 1335+00 | IH 39 RT | -- | -- | 2 | 1 | 2 | WATCH FOR DUST OVER THE ROAD |
| 0010 | 1335+00 | IH 39 RT | -- | -- | 1 | 1 | 1 | EMERGENCY WEIGHT |
| 0010 | 1336+86 | IH 39 LT & RT | 2 | -- | -- | 2 | 2 | BRIDGE MARKER |
| 0010 | 1416+28 | IH 39 LT & RT | 2 | -- | -- | 2 | 2 | BRIDGE MARKER |
| 0010 | 1462+28 | IH 39 RT | -- | 1 | -- | 1 | 1 | EMERGENCY VEHICLE WEIGHT LIMIT |
| 0010 | 1469+13 | IH 39 LT & RT | 2 | -- | -- | 2 | 2 | BRIDGE MARKER |
| 0010 | 1520+28 | IH 39 RT | -- | 1 | -- | 1 | 1 | EMERGENCY VEHICLE WEIGHT LIMIT |
| 0010 | 1522+14 | IH 39 LT & RT | 2 | -- | -- | 2 | 2 | BRIDGE MARKER |
| | | TOTAL 0010 | 12 | 4 | 3 | 17 | 19 | |

EROSION CONTROL MOBILIZATIONS

| CATEGORY | LOCATION | 628.1905 MOBILIZATIONS EROSION CONTROL EACH | 628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH |
|---|---|---|---|
| 0010 | IH 39 NB | 8 | 4 |
| | TOTAL 0010 | 8 | 4 |

643 FIXED MESSAGE

| CATEGORY | LOCATION | 643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF | REMARKS |
|---|---|---|---|
| 0010 | IH 39 NB RT | 33 | WIDTH RESTRICTION R12-70B |
| 0010 | IH 39 NB RT | 32 | ADVANCED WARNING G20-57 |
| 0010 | IH 39 NB RT | 108 | 6X RAMP CLOSED SIGNS G20-61 |
| | TOTAL 0010 | 173 | |

DELINEATORS

| CATEGORY | STATION | TO | STATION | LOCATION | 204.0180 REMOVING DELINEATORS AND MARKERS EACH | 633.0100 DELINEATOR POSTS STEEL EACH | 633.0500 DELINEATOR REFLECTORS EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0010 | 741+70 | - | 884+00 | IH 39 NB | 6 | 6 | 6 | SEE MESSAGE BELOW |
| 0010 | 884+00 | - | 1049+00 | IH 39 NB | 6 | 6 | 6 | SEE MESSAGE BELOW |
| 0010 | 1049+00 | - | 1233+00 | IH 39 NB | 7 | 7 | 7 | SEE MESSAGE BELOW |
| 0010 | 1233+00 | - | 1635+65 | IH 39 NB | 15 | 15 | 15 | SEE MESSAGE BELOW |
| 0010 | 870+17 | - | 880+65 | RAMP CB | 2 | 2 | 2 | SEE MESSAGE BELOW |
| 0010 | 885+66 | - | 906+00 | RAMP CA | 3 | 3 | 3 | SEE MESSAGE BELOW |
| 0010 | 1033+60 | - | 1047+14 | RAMP GB | 3 | 3 | 3 | SEE MESSAGE BELOW |
| 0010 | 1049+57 | - | 1064+97 | RAMP GA | 3 | 3 | 3 | SEE MESSAGE BELOW |
| 0010 | 1217+48 | - | 1231+16 | RAMP MB | 3 | 3 | 3 | SEE MESSAGE BELOW |
| 0010 | 1234+12 | - | 1253+10 | RAMP MA | 3 | 3 | 3 | SEE MESSAGE BELOW |
| | | | | TOTAL 0010 | 51 | 51 | 51 | |

NOTE: ASSUMED 15% OF DELINEATORS WOULD BE MISSING, DAMAGED, OR NEED TO BE REMOVED DUE TO CONTRACTOR OPERATIONS.

606 - FLUMES AND RIPRAP

| CATEGORY | STATION | LOCATION | 465.0315 ASPHALTIC FLUMES SY | 606.0200 RIPRAP MEDIUM CY | 645.0120 GEOTEXTILE TYPE HR SY | REMARKS |
|---|---|---|---|---|---|---|
| 0010 | 882+90 | IH 39 NB RT | -- | 5 | 16 | 7' x 11' RIP RAP PAD |
| 0010 | 1174+45 | TEN MILE CREEK LT | -- | 3 | 9 | REFER TO BG DETAILS |
| 0010 | 1174+45 | TEN MILE CREEK RT | -- | 6 | 16 | REFER TO BG DETAILS |
| 0010 | 1174+70 | TEN MILE CREEK LT | -- | 4 | 11 | REFER TO BG DETAILS |
| 0010 | 1174+70 | TEN MILE CREEK RT | -- | 4 | 11 | REFER TO BG DETAILS |
| 0010 | 1231+45 | RAMP MB RT | 28 | 3 | 9 | |
| 0010 | 1233+92 | RAMP MA RT | 21 | 3 | 9 | |
| 0010 | 1049+38 RT | RAMP GB ON | 15 | 36 | 83 | |
| 0010 | 1048+13 RT | RAMP GA EXIT | 17 | 31 | 71 | |
| 0010 | 503+26 LT | CTH D ON RAMP | 7 | 23 | 51 | |
| 0010 | 503+03 RT | CTH D EXIT RAMP | 15 | 43 | 100 | |
| 0010 | 1337+00 | DITCH NO. 4 LT | -- | 8 | 24 | REFER TO BG DETAILS |
| 0010 | 1337+00 | DITCH NO. 4 RT | -- | 7 | 20 | REFER TO BG DETAILS |
| 0010 | 1337+35 | DITCH NO. 4 LT | -- | 12 | 35 | REFER TO BG DETAILS |
| 0010 | 1337+35 | DITCH NO. 4 RT | -- | 8 | 22 | REFER TO BG DETAILS |
| 0010 | 1416+30 | DITCH NO. 3 LT | -- | 5 | 15 | REFER TO BG DETAILS |
| 0010 | 1416+30 | DITCH NO. 3 RT | -- | 4 | 10 | REFER TO BG DETAILS |
| 0010 | 1416+75 | DITCH NO. 3 LT | -- | 6 | 17 | REFER TO BG DETAILS |
| 0010 | 1416+75 | DITCH NO. 3 RT | -- | 10 | 29 | REFER TO BG DETAILS |
| 0010 | 1522+14 | DITCH NO. 2 LT | -- | 6 | 17 | REFER TO BG DETAILS |
| 0010 | 1522+14 | DITCH NO. 2 RT | -- | 6 | 16 | REFER TO BG DETAILS |
| 0010 | 1522+50 | DITCH NO. 2 LT | -- | 5 | 14 | REFER TO BG DETAILS |
| 0010 | 1522+50 | DITCH NO. 2 RT | -- | 4 | 12 | REFER TO BG DETAILS |
| 0010 | 1560+52 | CATTLE PASS RT | -- | 5 | 15 | REFER TO BG DETAILS |
| 0010 | 1560+75 | CATTLE PASS RT | -- | 5 | 14 | REFER TO BG DETAILS |
| | | TOTAL 0010 | 103 | 252 | 646 | |

## TEMPORARY PAVEMENT MARKING

| CATEGORY | STATION | TO | STATION | LOCATION | 643.3165 TEMPORARY MARKING LINE PAINT 6-INCH SOLID YELLOW LF | 643.3165 TEMPORARY MARKING LINE PAINT 6-INCH SOLID WHITE LF | 643.3165 TEMPORARY MARKING LINE PAINT 6-INCH 12.5' SKIPS WHITE LF | 643.3180 TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH SOLID YELLOW LF | 643.3180 TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH SOLID WHITE LF | 643.3265 TEMPORARY MARKING LINE PAINT 10-INCH WHITE LF | 643.3280 TEMPORARY MARKING LINE REMOVABLE TAPE 10-INCH WHITE LF | 643.3805 TEMPORARY MARKING STOP LINE PAINT 18-INCH LF | 646.9002 MARKING REMOVAL LINE 6-INCH LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STAGE 1A | | | | | | | | | | | | | | |
| 0010 | 824+00 | - | 862+00 | IH 39 NB | 3,630 | 1,670 | - | -- | -- | -- | -- | -- | 1,870 | |
| 0010 | 1166+00 | - | 1382+00 | IH 39 NB | 11,020 | 9,120 | - | -- | -- | -- | -- | -- | 9,330 | |
| 0010 | 1465+00 | - | 1502+00 | IH 39 NB | 5,170 | 3,330 | - | -- | -- | -- | -- | -- | 3,540 | |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | 970 | -- | - | -- | -- | -- | -- | -- | -- | TC SWITCH AND PATCHES |
| | | | | STAGE 1A SUBTOTAL | 20,790 | 14,120 | 0 | 0 | 0 | 0 | 0 | 0 | 14,740 | |
| STAGE 1B | | | | | | | | | | | | | | |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | 400 | 1,100 | - | -- | -- | 510 | -- | -- | 210 | ON/OFF RAMP CTH W |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | -- | 2,520 | - | -- | -- | -- | -- | -- | 630 | CLOSED LANE TAPERS |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | 13,630 | 13,950 | -- | -- | -- | -- | -- | -- | 13,640 | CULVERT LANE SHIFTS |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | -- | -- | 630 | -- | -- | -- | -- | -- | 89,395 | TC SWITCH INCLUDES WHITE LINE REMOVAL |
| | | | | STAGE 1B SUBTOTAL | 14,030 | 17,570 | 630 | 0 | 0 | 510 | 0 | 0 | 103,875 | |
| STAGE 1C | | | | | | | | | | | | | | |
| 0010 | 1347+00 | - | 1388+00 | IH 39 NB | 2,950 | 1,610 | -- | -- | -- | -- | -- | -- | 1,610 | |
| | | | | STAGE 1C SUBTOTAL | 2,950 | 1,610 | 0 | 0 | 0 | 0 | 0 | 0 | 1,610 | |
| STAGE 2 | | | | | | | | | | | | | | |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | 1,680 | -- | - | 840 | -- | -- | -- | -- | -- | TAPERS |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | -- | 7,160 | - | -- | -- | -- | -- | -- | -- | AS LANES OPEN UP FOR 2 LANE TRAVEL |
| 0010 | 741+70 | - | 1635+60 | IH 39 NB | 89,400 | -- | - | -- | -- | -- | -- | -- | -- | LOWER LIFT HMA TC SWITCH |
| | | | | STAGE 2 SUBTOTAL | 91,080 | 7,160 | 0 | 840 | 0 | 0 | 0 | 0 | 0 | |
| STAGE 3A | | | | | | | | | | | | | | |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | -- | 1,680 | -- | -- | 1,580 | -- | -- | -- | -- | TAPERS |
| 0010 | 741+69 | - | 1635+64 | IH 39 NB | -- | -- | 22,350 | -- | -- | -- | -- | -- | -- | AS LANES OPEN UP FOR 2 LANE TRAVEL |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | -- | 2,400 | - | -- | -- | 1,500 | -- | -- | -- | ON AND OFF RAMPS CROSS EXISTING |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | -- | 2,400 | - | -- | -- | 1,500 | -- | -- | -- | ON AND OFF RAMPS CROSS LOWER |
| | | | | STAGE 3A SUBTOTAL | 0 | 6,480 | 22,350 | 0 | 1,580 | 3,000 | 0 | 0 | 0 | |
| STAGE 3B | | | | | | | | | | | | | | |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | -- | -- | - | -- | 1,800 | -- | 900 | -- | -- | ON AND OFF RAMPS CROSS SURFACE |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | 4,880 | 9,910 | - | -- | -- | 5,260 | -- | -- | -- | ON AND OFF RAMPS SURFACE |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | -- | -- | 22,350 | -- | -- | -- | -- | -- | -- | AS LANES OPEN UP FOR 2 LANE TRAVEL |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | -- | 89,400 | - | -- | -- | -- | -- | -- | -- | FINAL LIFT MAINLINE TC SWITCH |
| 0010 | 502+18 | - | 512+43 | CTH D | 2,640 | 2,345 | - | -- | -- | -- | -- | 212 | -- | |
| 0010 | 802+00 | - | 813+00 | CTH W | 2,980 | 1,955 | - | -- | -- | -- | -- | 236 | -- | |
| | | | | STAGE 3B SUBTOTAL | 10,500 | 103,610 | 22,350 | 0 | 1,800 | 5,260 | 900 | 448 | 0 | |
| STAGE 4 | | | | | | | | | | | | | | |
| 0010 | 741+70 | - | 1635+65 | IH 39 NB | 89,400 | - | 22,349 | - | - | - | - | - | - | INSIDE LANE SURFACE |
| | | | | STAGE 4 SUBTOTAL | 89,400 | 0 | 22,349 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 0010 | | | | UNDISTRIBUTED (5%) | 11,460 | 7,570 | 3,391 | 50 | 170 | 430 | 50 | 12 | 6,020 | |
| | | | | TOTAL 0010 | | 469,400 | | | 4,440 | 9,200 | 950 | 460 | 126,245 | |

TRAFFIC CONTROL

| CATEGORY | LOCATION | ESTIMATED DURATION DAYS | 643.0300 TRAFFIC CONTROL DRUMS EACH** | 643.0300 TRAFFIC CONTROL DRUMS DAY | 643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH** | 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY | 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH** | 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY | 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH** | 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY | 643.0810 TRAFFIC CONTROL CONNECTED ARROW BOARDS EACH** | 643.0810 TRAFFIC CONTROL CONNECTED ARROW BOARDS DAY | 643.0900 TRAFFIC CONTROL SIGNS EACH** | 643.0900 TRAFFIC CONTROL SIGNS DAY | 643.1051 TRAFFIC CONTROL SIGNS PCMS WITH TMC COMMUNICATIONS EACH** | 643.1051 TRAFFIC CONTROL SIGNS PCMS WITH TMC COMMUNICATIONS DAY | 643.1220 TRAFFIC CONTROL CONNECTED WORK ZONE START AND END LOCATION MARKERS EACH** | 643.1220 TRAFFIC CONTROL CONNECTED WORK ZONE START AND END LOCATION MARKERS DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STAGE 1A | | | | | | | | | | | | | | | | | | |
| 0010 | IH 39 NB | 21 | 530 | 11,130 | 16 | 336 | 32 | 672 | 142 | 2,982 | 3 | 63 | 73 | 1,533 | -- | -- | 3 | 63 |
| 0010 | ADVANCE WARNING | 21 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 50 | 1,050 | -- | -- | -- | -- |
| | STAGE 1A SUBTOTAL | | | 11,130 | | 336 | | 672 | | 2,982 | | 63 | | 2,583 | | 0 | | 63 |
| STAGE 1B | | | | | | | | | | | | | | | | | | |
| 0010 | IH 39 NB | 20 | 535 | 10,700 | 16 | 320 | 32 | 640 | 130 | 2,600 | 3 | 60 | 74 | 1,480 | -- | -- | 3 | 60 |
| 0010 | ADVANCE WARNING | 20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 50 | 1,000 | -- | -- | -- | -- |
| | STAGE 1B SUBTOTAL | | | 10,700 | | 320 | | 640 | | 2,600 | | 60 | | 2,480 | | 0 | | 60 |
| STAGE 1C | | | | | | | | | | | | | | | | | | |
| 0010 | IH 39 NB | 7 | 65 | 455 | 3 | 21 | 6 | 42 | 31 | 217 | 1 | 7 | 14 | 98 | -- | -- | 1 | 7 |
| | STAGE 1C SUBTOTAL | | | 455 | | 21 | | 42 | | 217 | | 7 | | 98 | | | | 7 |
| STAGE 2 | | | | | | | | | | | | | | | | | | |
| 0010 | IH 39 NB | 20 | 520 | 10,400 | 1 | 20 | 2 | 40 | 18 | 360 | 1 | 20 | 11 | 220 | 1 | 20 | 1 | 20 |
| 0010 | IH 39 OFF AND ON RAMPS | 20 | 22 | 440 | 1 | 20 | 2 | 40 | 8 | 160 | -- | -- | 5 | 100 | -- | -- | -- | -- |
| 0010 | ADVANCE WARNING | 20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 50 | 1,000 | -- | -- | -- | -- |
| | STAGE 2 SUBTOTAL | | | 10,840 | | 40 | | 80 | | 520 | | 20 | | 1,320 | | 0 | | 20 |
| STAGE 3A | | | | | | | | | | | | | | | | | | |
| 0010 | IH 39 NB | 20 | 520 | 10,400 | 1 | 20 | 2 | 40 | 18 | 360 | 1 | 20 | 11 | 220 | -- | -- | 1 | 20 |
| 0010 | IH 39 OFF AND ON RAMPS | 20 | 68 | 1,360 | 2 | 40 | 4 | 80 | 33 | 660 | -- | -- | 7 | 140 | -- | -- | -- | -- |
| 0010 | ADVANCE WARNING | 20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 50 | 1,000 | -- | -- | -- | -- |
| | STAGE 3A SUBTOTAL | | | 11,760 | | 60 | | 120 | | 1,020 | | 20 | | 1,360 | | 0 | | 20 |
| STAGE 3B | | | | | | | | | | | | | | | | | | |
| 0010 | IH 39 NB | 25 | 520 | 13,000 | 1 | 25 | 2 | 50 | 18 | 450 | 1 | 25 | 11 | 275 | -- | -- | 1 | 25 |
| 0010 | IH 39 OFF AND ON RAMPS | 25 | 68 | 1,700 | 2 | 50 | 4 | 100 | 33 | 825 | -- | -- | 7 | 175 | -- | -- | -- | -- |
| 0010 | CTH W CLOSURE | 7 | 50 | 350 | 8 | 56 | 16 | 112 | -- | -- | -- | -- | 15 | 105 | 3 | 42 | -- | -- |
| 0010 | CTH D CLOSURE | 7 | 50 | 350 | 8 | 56 | 16 | 112 | -- | -- | -- | -- | 15 | 105 | 3 | 42 | -- | -- |
| 0010 | STH 73 NIGHTLY CLOSURE | 2 | 36 | 72 | 8 | 16 | 16 | 32 | -- | -- | -- | -- | 13 | 26 | 5 | 45 | -- | -- |
| 0010 | ADVANCE WARNING | 25 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 50 | 1,250 | -- | -- | -- | -- |
| | STAGE 3B SUBTOTAL | | | 15,472 | | 203 | | 406 | | 1,275 | | 25 | | 1,936 | | 129 | | 25 |
| STAGE 4 | | | | | | | | | | | | | | | | | | |
| 0010 | IH 39 NB | 32 | 520 | 16,640 | 1 | 32 | 2 | 64 | 18 | 576 | 1 | 32 | 11 | 352 | -- | -- | 1 | 32 |
| 0010 | IH 39 OFF AND ON RAMPS | 32 | 22 | 704 | 1 | 32 | 2 | 64 | 8 | 256 | -- | -- | 5 | 160 | -- | -- | -- | -- |
| 0010 | ADVANCE WARNING | 32 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 640 | -- | -- | -- | -- |
| | STAGE 4 SUBTOTAL | | | 17,344 | | 64 | | 128 | | 832 | | 32 | | 1,152 | | 0 | | 32 |
| 0010 | UNDISTRIBUTED (10%) | | | 7,799 | | 116 | | 212 | | 954 | | 43 | | 1,111 | | 21 | | 43 |
| | TOTAL 0010 | | | 85,500 | | 1,160 | | 2,300 | | 10,400 | | 270 | | 12,040 | | 150 | | 270 |

**FOR INFORMATION ONLY

DIGITAL SPEED REDUCTION SYSTEM

| CATEGORY | STATION | LOCATION | DIGITAL SPEED LIMIT TRAILERS** | 643.0370.S DIGITAL SPEED REDUCTION SYSTEM (DSRS) DAY | SPV.0060.10 SPECIAL (10. DIGITAL SPEED LIMIT TRAILER PAD) EACH |
|---|---|---|---|---|---|
| 0010 | STAGE 2 | IH 39 | 21 | 23 | 21 |
| 0010 | STAGE 3A | IH 39 | 21 | 25 | -- |
| 0010 | STAGE 3B | IH 39 | 21 | 27 | -- |
| 0010 | STAGE 4 | IH 39 | 21 | 27 | -- |
| | TOTAL 0010 | | | 102 | 21 |

**FOR INFORMATION ONLY

COVERING SIGNS

| CATEGORY | LOCATION | 643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH** | NO CYCLES | EACH | 643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH** | NO CYCLES | EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|
| STAGE 1A | | | | | | | | |
| 0010 | IH 39 | -- | -- | -- | 2 | 1 | 2 | SLOW TRAFFIC AND EMERGENCY STOPPING |
| | STAGE 1A SUBTOTAL | | | 0 | | | 2 | |
| STAGE 1B | | | | | | | | |
| 0010 | IH 39 | -- | -- | -- | 1 | 1 | 1 | SLOW TRAFFIC |
| | STAGE 1B SUBTOTAL | | | 0 | | | 1 | |
| STAGE 2 | | | | | | | | |
| 0010 | IH 39 DIGITIAL SPEED REDUCTION SYSTEM | -- | -- | -- | 6 | 1 | 6 | 70 MPH SIGNS (ESTIMATED) |
| | STAGE 2 SUBTOTAL | | | 0 | | | 6 | |
| STAGE 3B | | | | | | | | |
| 0010 | STAGE 3 ON AND OFF RAMPS CTH W | 2 | 1 | 2 | 5 | 1 | 5 | ARROW, EXIT AND LOCATION MILEAGE SIGN INCLUDES INSTALL/REMOVE CYCLE OF CLOSED SIGNS ON STH 73 |
| 0010 | STAGE 3 ON AND OFF RAMPS CTH D | 2 | 1 | 2 | 5 | 1 | 5 | |
| 0010 | STAGE  3 STH 73 | 2 | 2 | 4 | 5 | 2 | 10 | |
| 0010 | STAGE 3 STH 73 CLOSED SIGNS | 2 | 2 | 4 | - | - | - | |
| | STAGE 3B SUBTOTAL | | | 12 | | | 20 | |
| 0010 | UNDISTRIBUTED (10%) | | | 1 | | | 3 | |
| | TOTAL 0010 | | | 13 | | | 32 | |

** FOR INFORMATION ONLY

3

PAVEMENT MARKING

| CATEGORY | STATION | TO | STATION | LOCATION | 646.2020 MARKING LINE EPOXY 6-INCH SOLID YELLOW LF | SOLID WHITE LF | 646.2025 MARKING LINE GROOVED BLACK EPOXY 6-INCH 12.5' SKIPS LF | 646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH SOLID YELLOW LF | SOLID WHITE LF | 646.2050 MARKING LINE GROOVED PERMANENT TAPE 6-INCH 3' SKIPS WHITE LF | 12.5' SKIPS WHITE LF | 646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH SOLID WHITE LF | 646.4050 MARKING LINE GROOVED PERMANENT TAPE 10-INCH SOLID WHITE LF | 646.5420 MARKING AERIAL ENFORCEMENT BAR EPOXY WHITE EACH | 646.5520 MARKING OUTFALL EPOXY WHITE EACH | 646.6120 MARKING STOP LINE EPOXY 18-INCH WHITE LF | 646.7220 MARKING CHEVRON EPOXY 24-INCH WHITE LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 741+70 | - | 884+00 | IH 39 NB | -- | -- | 3,558 | 14,230 | 14,230 | -- | 3,558 | -- | -- | -- | 114 | -- | -- |
| 0010 | 884+00 | - | 1049+00 | IH 39 NB | -- | -- | 4,125 | 16,500 | 16,500 | -- | 4,125 | -- | -- | -- | 132 | -- | -- |
| 0010 | 1049+00 | - | 1233+00 | IH 39 NB | -- | -- | 4,600 | 18,400 | 18,400 | -- | 4,600 | -- | -- | 10 | 148 | -- | -- |
| 0010 | 1233+00 | - | 1635+65 | IH 39 NB | -- | -- | 10,067 | 40,265 | 40,265 | -- | 10,067 | -- | -- | 10 | 322 | -- | -- |
| 0010 | 870+17 | - | 880+65 | RAMP CB | -- | -- | -- | 654 | 1,290 | 92 | -- | -- | 498 | -- | -- | -- | 118 |
| 0010 | 885+66 | - | 906+00 | RAMP CA | -- | -- | -- | 900 | 2,021 | 152 | -- | -- | 1,029 | -- | -- | -- | -- |
| 0010 | 1033+60 | - | 1047+14 | RAMP GB | -- | 62 | -- | 930 | 1,406 | 46 | -- | -- | 727 | -- | -- | -- | 235 |
| 0010 | 1049+57 | - | 1064+97 | RAMP GA | -- | -- | -- | 704 | 1,804 | 133 | -- | -- | 1,149 | -- | -- | -- | -- |
| 0010 | 1217+48 | - | 1231+16 | RAMP MB | -- | -- | -- | 855 | 1,389 | 45 | -- | -- | 715 | -- | -- | -- | 233 |
| 0010 | 1234+12 | - | 1253+10 | RAMP MA | -- | -- | -- | 831 | 1,997 | 144 | -- | -- | 1,147 | -- | -- | -- | -- |
| 0010 | 502+18 | - | 512+43 | CTH D | 2,662 | 2,460 | -- | -- | -- | -- | -- | 160 | -- | -- | -- | 106 | -- |
| 0010 | 802+00 | - | 813+00 | CTH W | 2,974 | 1,955 | -- | -- | -- | -- | -- | 193 | -- | -- | -- | 118 | -- |
| | | | | SUBTOTAL | 5,636 | 4,477 | 22,350 | 94,269 | 99,302 | 612 | 22,350 | 353 | 5,265 | 20 | 716 | 224 | 586 |
| | | | | TOTAL 0010 | 10,113 | | 22,350 | 193,571 | | 22,962 | | 353 | 5,265 | 20 | 716 | 224 | 586 |

3

## CONSTRUCTION STAKING

| CATEGORY | STATION | TO | STATION | LOCATION | 650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF |
|---|---|---|---|---|---|
| 0010 | 743+45 | - | 1633+90 | IH 39 NB | 89,045 |
| 0010 | 870+17 | -- | 880+65 | RAMP CB | 1,048 |
| 0010 | 885+66 | -- | 906+00 | RAMP CA | 2,034 |
| 0010 | 1033+60 | -- | 1047+14 | RAMP GB | 1,354 |
| 0010 | 502+18 | -- | 512+43 | CTH D | 805 |
| 0010 | 1049+57 | -- | 1064+97 | RAMP GA | 1,540 |
| 0010 | 1217+48 | -- | 1231+16 | RAMP MB | 1,368 |
| 0010 | 802+00 | -- | 812+97 | CTH W | 882 |
| 0010 | 1234+12 | -- | 1253+10 | RAMP MA | 1,898 |
| | | | | TOTAL 0010 | 99,974 |

## SHOULDER PREP WORK

| CATEGORY | STATION | TO | STATION | LOCATION | * 465.0110 ASPHALTIC SURFACE PATCHING TON | SPV.0090.01 SPECIAL (01. FILL EXISTING RUMBLE STRIPS) LF | *** SPV.0180.01 SPECIAL (01. REMOVING DISTRESS ASPHALTIC SURFACE MILLING) SY |
|---|---|---|---|---|---|---|---|
| STAGE 1A | | | | | | | |
| 0010 | 844+14 | - | 860+75 | IH 39 NB RT | 50 | 1,670 | 420 |
| 0010 | 1176+14 | - | 1213+31 | IH 39 NB RT | 110 | 3,720 | 930 |
| 0010 | 1290+15 | - | 1306+78 | IH 39 NB RT | 50 | 1,670 | 420 |
| 0010 | 1344+42 | - | 1381+73 | IH 39 NB RT | 110 | 3,740 | 940 |
| 0010 | 1484+22 | - | 1500+85 | IH 39 NB RT | 50 | 1,670 | 420 |
| 0010 | 1511+82 | - | 1528+44 | IH 39 NB RT | 50 | 1,670 | 420 |
| | | | | STAGE 1A SUBTOTAL | 420 | 14,140 | 3,550 |
| STAGE 1B | | | | | | | |
| 0010 | 844+14 | - | 860+75 | IH 39 NB RT | 20 | 1,480 | 150 |
| 0010 | 1176+14 | - | 1213+31 | IH 39 NB RT | 50 | 3,590 | 360 |
| 0010 | 1290+15 | - | 1306+78 | IH 39 NB RT | 20 | 1,690 | 170 |
| 0010 | 1344+42 | - | 1381+73 | IH 39 NB RT | 50 | 3,640 | 370 |
| 0010 | 1484+22 | - | 1500+85 | IH 39 NB RT | 20 | 1,620 | 170 |
| 0010 | 1511+82 | - | 1528+44 | IH 39 NB RT | 20 | 1,620 | 170 |
| | | | | | 180 | 13,640 | 1,390 |
| | | | | TOTAL 0010 | 600 | 27,780 | 4,940 |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE
***2.5% OF SHOULDER AREA ASSUMED FOR REMOVING DISTRESS ASPHALTIC SURFACE MILLING

## LOCATE AND CLEAN UNDEDRAIN OUTFALLS

| CATEGORY | STATION | TO | STATION | LOCATION | SPV.0060.01 SPECIAL (01. LOCATE AND CLEAN UNDERDRAIN OUTFALLS) EACH |
|---|---|---|---|---|---|
| 0010 | 741+70 | - | 884+00 | IH 39 NB | 114 |
| 0010 | 884+00 | - | 1049+00 | IH 39 NB | 132 |
| 0010 | 1049+00 | - | 1233+00 | IH 39 NB | 148 |
| 0010 | 1233+00 | - | 1635+65 | IH 39 NB | 322 |
| | | | | TOTAL 0010 | 716 |

## CULVERT PIPE CONNECTIONS

| CATEGORY | STATION | CULVERT # | LOCATION | SPV.0060.02 SPECIAL (02. TEMPORARY PIPE CONNECTION 19X30-INCH) EACH | SPV.0060.03 SPECIAL (03. TEMPORARY PIPE CONNECTION 30-INCH) EACH | SPV.0060.04 SPECIAL (04. TEMPORARY PIPE CONNECTION 36-INCH) EACH | SPV.0060.05 SPECIAL (05. TEMPORARY PIPE CONNECTION 48-INCH) EACH | SPV.0060.06 SPECIAL (06. TEMPORARY PIPE CONNECTION 60-INCH) EACH | SPV.0060.07 SPECIAL (07. CULVERT PIPE REPLACEMENT LIMITS EXPLORATION) EACH | * SPV.0060.08 SPECIAL (08. CONNECTING TO EXISTING INLETS) EACH |
|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 855+68 | 6933 | IH 39 NB | 1 | -- | -- | -- | -- | 1 | -- |
| 0010 | 1187+87 | 8972 | IH 39 NB | -- | -- | -- | 1 | -- | 1 | -- |
| 0010 | 1207+60 | 7546 | IH 39 NB | -- | 1 | -- | -- | -- | 1 | -- |
| 0010 | 1208+21 | 7547 | IH 39 NB | -- | 1 | -- | -- | -- | 1 | -- |
| 0010 | 1301+67 | 7550 | IH 39 NB | -- | 1 | -- | -- | -- | 1 | -- |
| 0010 | 1356+60 | 7552 | IH 39 NB | -- | -- | -- | 1 | -- | -- | 1 |
| 0010 | 1376+57 | 7554 | IH 39 NB | -- | -- | -- | -- | 1 | -- | 1 |
| 0010 | 1495+79 | 7556 | IH 39 NB | -- | -- | 1 | -- | -- | -- | 1 |
| 0010 | 1523+35 | 7558 | IH 39 NB | -- | 1 | -- | -- | -- | 1 | -- |
| | | | TOTAL 0010 | 1 | 4 | 1 | 2 | 1 | 6 | 3 |

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 53 | 774+10.20 | 34.26 RT | 79239.115 | 177974.947 | 1094.43 | CP |
| 100 | 776+68.80 | 40.70 RT | 79485.666 | 178053.238 | 1096.08 | BM |
| 54 | 777+93.37 | 32.78 RT | 79607.495 | 178080.375 | 1095.30 | CP |

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 122 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 01

PLOT DATE : 5/1/2026 10:52 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 123 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 02

PLOT DATE : 5/1/2026 10:52 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 55 | 854+18.90 | 34.67 RT | 87105.021 | 178884.475 | 1102.94 | CP |
| 102 | 855+35.60 | 70.36 RT | 87224.526 | 178909.218 | 1101.46 | BM |
| 56 | 855+77.82 | 34.69 RT | 87263.262 | 178869.791 | 1103.26 | CP |
| 101 | 856+28.14 | 73.56 RT | 87316.970 | 178903.829 | 1101.57 | BM |
| 57 | 857+09.93 | 34.99 RT | 87394.831 | 178857.854 | 1103.48 | CP |

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 58 | 880+87.90 | 39.46 RT | 89762.357 | 178645.321 | 1115.66 | CP |
| 103 | 883+41.06 | 35.38 RT | 90014.012 | 178626.537 | 1122.81 | BM |
| 60 | 883+50.69 | 140.24 RT | 90028.462 | 178730.844 | 1098.20 | CP |
| 104 | 884+32.43 | 29.35 RT | 90104.776 | 178616.582 | 1102.19 | BM |
| 59 | 886+73.07 | 40.27 RT | 90344.888 | 178620.636 | 1120.88 | CP |

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 124 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 03
PLOT DATE : 5/1/2026 10:52 AM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44

5

5

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 125 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 04

PLOT DATE : 5/1/2026 10:53 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

MATCHLINE STA 969+00

N

AKRON AVE

OH

PI: 993+05.56 NB

EXISTING R/W (TYP)

IH 39 SB

970NB

N0°42'53"E

975NB

980NB

985NB

990NB

995NB

IH 39 NB

R\L IH 39 NB

EXISTING R/W (TYP)

WPS ELEC - APPROX

UNION TEL CO - APPROX

AKRON AVE

OH

MATCHLINE STA 999+00

5

5

MATCHLINE STA 999+00

N

EXISTING R/W (TYP)

IH 39 SB

1000NB

1005NB

N0°43'04"E

1010NB

1015NB

1020NB

1025NB

IH 39 NB

R\L IH 39 NB

EXISTING R/W (TYP)

MATCHLINE STA 1029+00

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 126 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 05

PLOT DATE : 5/1/2026 10:53 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:200 FT

MATCHLINE STA 1029+00

MATCHLINE STA 1059+00

MATCHLINE STA 1059+00

MATCHLINE STA 1089+00

5

5

N

EXISTING R/W (TYP)

IH 39 SB

R\L IH 39 NB

+25.22
23.31' RT

Y = 104994.876
X = 178782.841

1030NB

1035NB

1040NB

N0°43'04"E

1045NB

1050NB

1055NB

1035GB

IH 39 NB

1040GB

50'
PROFILE TRANSITION

'GB' RAMP

1045GB

'GB' RAMP R/L

SEE RAMP DETAILS

WISDOT -ELECTRICITY

CTH D

505

SEE GUARDRAIL DETAILS

STRUCTURE B-49-042
(NO WORK)

WPS -ELECTRICITY

ALLIANT ENERGY

61

62

63

108

107

175'
PROFILE TRANSITION

175'
PROFILE TRANSITION

SEE GUARDRAIL DETAILS

510

1055GA

50'
PROFILE TRANSITION

'GA' RAMP

1050GA

'GA' RAMP R/L

WISDOT -ELECTRICITY

CONTROL POINT AND BENCHMARK TABLE

| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
|---|---|---|---|---|---|---|
| 61 | 1046+26.85 | 33.51 RT | 106296.270 | 178809.338 | 1095.20 | CP |
| 62 | 1048+15.94 | 38.72 RT | 106485.285 | 178816.915 | 1094.22 | CP |
| 108 | 1048+52.57 | 88.67 RT | 106521.280 | 178867.328 | 1117.37 | BM |
| 107 | 1048+98.93 | 89.36 RT | 106567.633 | 178868.594 | 1117.32 | BM |
| 63 | 1050+73.28 | 33.58 RT | 106742.665 | 178815.002 | 1093.87 | CP |

N

S BRANCH TENMILE CREEK

EXISTING R/W (TYP)

IH 39 SB

+02.37
22.83' RT

Y = 108471.759
X = 178825.917

1060NB

1065NB

1070NB

N0°43'04"E

1075NB

1080NB

1085NB

1060GA

1065GA

IH 39 NB

STRUCTURE B-49-0188
(NO WORK)

R\L IH 39 NB

EXISTING R/W (TYP)

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 127 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 06

PLOT DATE : 5/1/2026 10:53 AM

PLOT BY : CORY IHDE

PLOT NAME :

PLOT SCALE : 1 IN:200 FT

5

5

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 128 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 07

PLOT DATE : 5/1/2026 10:54 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 64 | 1151+57.14 | 33.85 RT | 116826.243 | 178918.707 | 1088.67 | CP |
| 65 | 1152+95.89 | 37.68 RT | 116964.980 | 178922.923 | 1088.17 | CP |
| 109 | 1152+96.63 | 69.45 RT | 116965.630 | 178954.698 | 1085.54 | BM |
| 110 | 1154+45.31 | 81.38 RT | 117114.271 | 178967.048 | 1085.09 | BM |
| 66 | 1155+45.66 | 33.73 RT | 117214.753 | 178919.684 | 1087.47 | CP |
| 67 | 1171+39.48 | 33.74 RT | 118808.569 | 178924.219 | 1082.78 | CP |

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 69 | 1180+60.84 | 33.41 RT | 119729.938 | 178926.296 | 1082.43 | CP |
| 114 | 1186+88.82 | 81.28 RT | 120357.796 | 178975.728 | 1077.60 | BM |
| 70 | 1187+76.32 | 33.70 RT | 120445.415 | 178928.374 | 1082.75 | CP |
| 113 | 1187+84.22 | 83.69 RT | 120453.197 | 178978.374 | 1077.23 | BM |
| 71 | 1189+57.87 | 33.55 RT | 120626.965 | 178928.674 | 1082.83 | CP |

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 72 | 1204+99.89 | 33.84 RT | 122168.950 | 178933.045 | 1083.63 | CP |
| 115 | 1207+12.72 | 84.69 RT | 122381.618 | 178984.608 | 1081.90 | BM |
| 73 | 1207+69.00 | 36.95 RT | 122438.055 | 178937.049 | 1083.78 | CP |
| 116 | 1208+07.56 | 117.14 RT | 122476.350 | 179017.365 | 1080.34 | BM |
| 74 | 1208+96.41 | 33.74 RT | 122565.467 | 178934.259 | 1083.93 | CP |

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 129 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 08
PLOT DATE : 5/1/2026 10:54 AM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:200 FT

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 75 | 1229+39.53 | 34.08 RT | 124608.584 | 178941.379 | 1085.47 | CP |
| 117 | 1231+51.46 | 89.38 RT | 124820.327 | 178997.389 | 1084.40 | BM |
| 76 | 1232+39.56 | 38.19 RT | 124908.590 | 178946.489 | 1085.06 | CP |
| 118 | 1234+24.13 | 78.45 RT | 125093.028 | 178987.355 | 1083.69 | BM |
| 77 | 1235+38.08 | 33.17 RT | 125207.126 | 178942.462 | 1084.93 | CP |

5

5

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 130 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 09

PLOT DATE : 5/1/2026 10:54 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:200 FT

5

MATCHLINE STA 1269+00

HO

HO

WPS ELEC - APPROX

EXISTING R/W (TYP)

IH 39 SB

1270NB 1275NB 1280NB N0°13'37"E 1285NB 1290NB 1295NB

IH 39 NB

EXISTING R/W (TYP)

R\L IH 39 NB

MATCHLINE STA 1299+00

5

N

CULVERT 7550
STA 1301+68
CPRC CLASS IV 24-INCH REQ'D
SKEW 1° LHF
EXISTING 19"X 30" CPCS
REMOVING SMALL PIPE CULVERTS

SEE CULVERT DETAILS

PC: 1303+92.12 NB

EXISTING R/W (TYP)

PT: 1316+52.83 NB

IH 39 SB

1300NB N0°13'37"E 1305NB 1310NB 1315NB 1320NB N3°35'15"E 1325NB

IH 39 NB

78 119 79 120 80

EXISTING R/W (TYP)

R\L IH 39 NB

MATCHLINE STA 1299+00

MATCHLINE STA 1329+00

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 78 | 1299+33.62 | 36.67 RT | 131602.592 | 178969.477 | 1077.25 | CP |
| 119 | 1300+85.07 | 68.06 RT | 131753.917 | 179001.462 | 1074.85 | BM |
| 79 | 1301+93.26 | 32.74 RT | 131862.248 | 178966.573 | 1077.33 | CP |
| 120 | 1303+37.96 | 67.95 RT | 132006.800 | 179002.357 | 1076.10 | BM |
| 80 | 1303+54.90 | 32.79 RT | 132023.880 | 178967.266 | 1077.19 | CP |

PI STA = 1310+22.65
Y = 132691.760
X = 178937.117
DELTA = 3°21'38" RT
D = 0°16'00"
T = 630.54'
L = 1260.71'
R = 21495.00'
PC STA = 1303+92.12
Y = 132061.229
X = 178934.619
PT STA = 1316+52.83
Y = 133321.060
X = 178976.571
DB = N00°13'37"E
DA = N03°35'15"E
SE = 2%

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 131 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 10

PLOT DATE : 5/1/2026 10:55 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:200 FT

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 81 | 1332+58.95 | 33.00 RT | 134921.972 | 179110.005 | 1076.00 | CP |
| 121 | 1337+31.91 | 35.47 RT | 135393.852 | 179142.062 | 1075.80 | BM |
| 82 | 1337+46.59 | 33.21 RT | 135408.644 | 179140.732 | 1075.79 | CP |
| 122 | 1337+82.17 | 76.79 RT | 135441.425 | 179186.449 | 1070.83 | BM |
| 83 | 1338+88.39 | 33.13 RT | 135550.171 | 179149.520 | 1075.79 | CP |

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 84 | 1354+40.17 | 37.08 RT | 137098.657 | 179250.564 | 1074.04 | CP |
| 124 | 1356+39.88 | 77.21 RT | 137295.457 | 179303.120 | 1070.50 | BM |
| 85 | 1356+69.80 | 33.55 RT | 137328.062 | 179261.425 | 1074.43 | CP |
| 123 | 1356+91.17 | 77.20 RT | 137346.647 | 179306.325 | 1070.96 | BM |
| 86 | 1358+47.40 | 33.42 RT | 137505.318 | 179272.415 | 1074.40 | CP |

MATCHLINE STA 1329+00

EXISTING R/W (TYP)

SLOPE INTERCEPT (TYP)

STRUCTURE B-49-007
(NO WORK)

175'
PROFILE TRANSITION

175'
PROFILE TRANSITION

IH 39 SB

1330NB

N3°35'15"E

1335NB

1340NB

1345NB

1350NB

IH 39 NB

1355NB

N3°35'32"E

PI: 1354+85.46 NB

SEE CULVERT DETAILS

WETLAND BOUNDARY (TYP)

N

81

121

82

83

122

84

124

85

123

86

EXISTING R/W (TYP)

R\L IH 39 NB

SLOPE INTERCEPT (TYP)

SEE GUARDRAIL DETAILS

DITCH NO. 4 / FOURMILE CREEK

WETLAND BOUNDARY

WETLAND IMPACT

CULVERT 7552
STA 1356+60
CPRC CLASS IV 48-INCH REQ'D
SKEW 4° RHF
EXISTING 48" CPCS
REMOVING SMALL PIPE CULVERTS

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 87 | 1374+08.10 | 36.58 RT | 139062.757 | 179373.357 | 1074.05 | CPTREB |
| 126 | 1376+35.12 | 77.31 RT | 139286.774 | 179428.238 | 1071.71 | BM |
| 88 | 1376+72.33 | 33.56 RT | 139326.656 | 179386.904 | 1074.33 | CP |
| 125 | 1376+83.10 | 76.68 RT | 139334.699 | 179430.613 | 1070.55 | BM |
| 89 | 1378+03.23 | 33.56 RT | 139457.300 | 179395.106 | 1074.25 | CP |

MATCHLINE STA 1359+00

WETLAND BOUNDARY (TYP)

N

EXISTING R/W (TYP)

PI: 1385+78.25 NB

IH 39 SB

1360NB

1365NB

N3°35'32"E

1370NB

1375NB

1380NB

1385NB

N3°33'41"E

IH 39 NB

87

88

89

126

125

R\L IH 39 NB

EXISTING R/W (TYP)

SEE CULVERT DETAILS

CULVERT 7554
STA 1376+57
CPRC CLASS IV 60-INCH REQ'D
SKEW 5° RHF
EXISTING 60" CPCS
REMOVE OLD STRUCTURE

MATCHLINE STA 1389+00

5

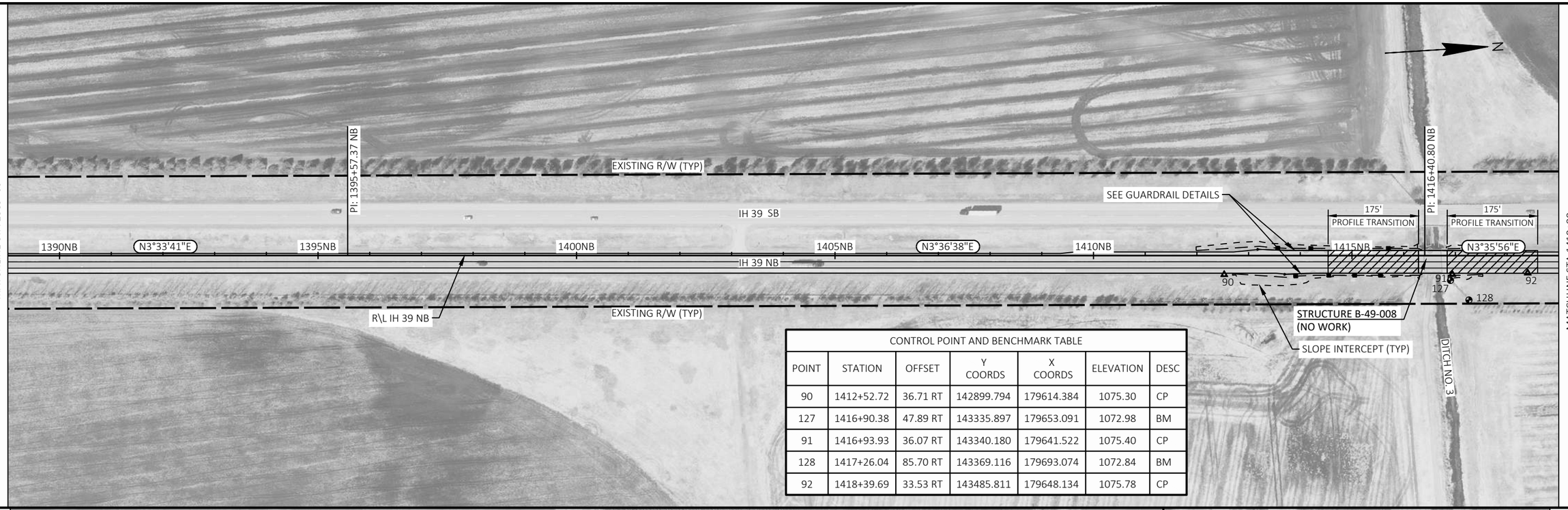
5

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 132 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 11

PLOT DATE : 5/1/2026 10:55 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44




| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 90 | 1412+52.72 | 36.71 RT | 142899.794 | 179614.384 | 1075.30 | CP |
| 127 | 1416+90.38 | 47.89 RT | 143335.897 | 179653.091 | 1072.98 | BM |
| 91 | 1416+93.93 | 36.07 RT | 143340.180 | 179641.522 | 1075.40 | CP |
| 128 | 1417+26.04 | 85.70 RT | 143369.116 | 179693.074 | 1072.84 | BM |
| 92 | 1418+39.69 | 33.53 RT | 143485.811 | 179648.134 | 1075.78 | CP |

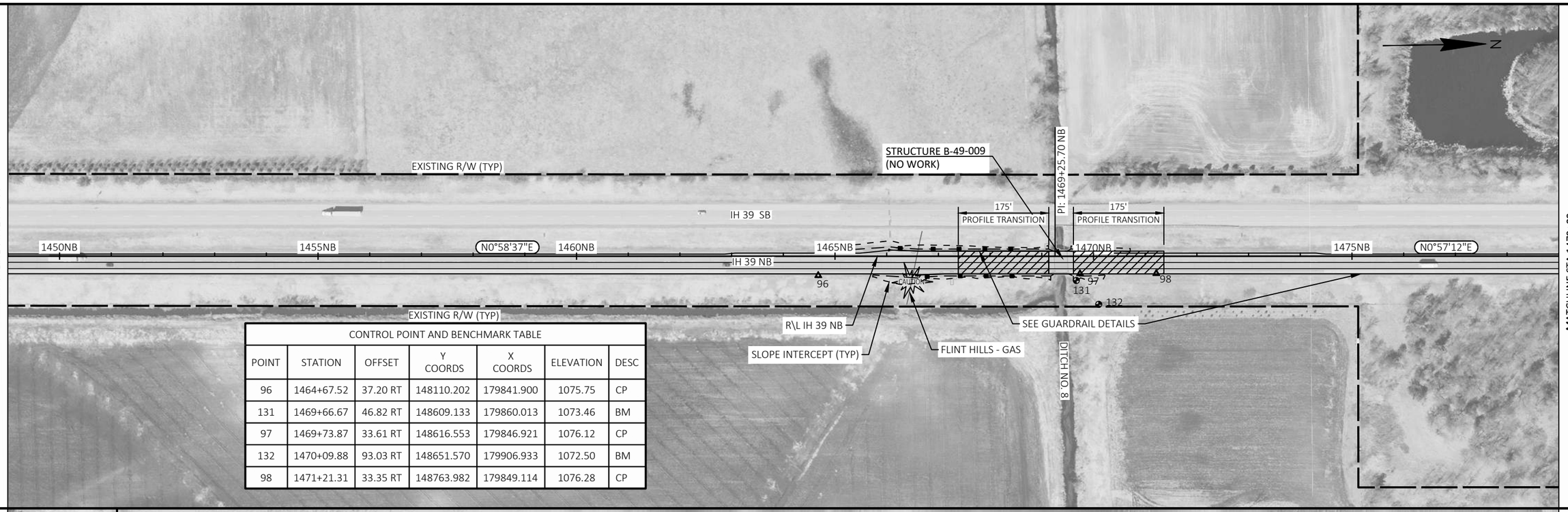
| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 93 | 1439+71.28 | 37.95 RT | 145613.365 | 179784.533 | 1075.77 | CP |
| 129 | 1441+96.02 | 97.31 RT | 145835.586 | 179854.900 | 1070.43 | BM |
| 94 | 1442+01.87 | 37.91 RT | 145844.064 | 179795.816 | 1075.93 | CP |
| 130 | 1442+48.00 | 43.76 RT | 145889.979 | 179803.642 | 1074.55 | BM |
| 95 | 1445+05.95 | 33.71 RT | 146148.570 | 179802.945 | 1076.05 | CP |

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 133 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 12

PLOT DATE : 5/1/2026 10:55 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44




CONTROL POINT AND BENCHMARK TABLE

| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
|---|---|---|---|---|---|---|
| 96 | 1464+67.52 | 37.20 RT | 148110.202 | 179841.900 | 1075.75 | CP |
| 131 | 1469+66.67 | 46.82 RT | 148609.133 | 179860.013 | 1073.46 | BM |
| 97 | 1469+73.87 | 33.61 RT | 148616.553 | 179846.921 | 1076.12 | CP |
| 132 | 1470+09.88 | 93.03 RT | 148651.570 | 179906.933 | 1072.50 | BM |
| 98 | 1471+21.31 | 33.35 RT | 148763.982 | 179849.114 | 1076.28 | CP |

CONTROL POINT AND BENCHMARK TABLE

| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
|---|---|---|---|---|---|---|
| 49 | 1493+95.42 | 37.28 RT | 151037.667 | 179891.133 | 1076.66 | CP |
| 134 | 1495+18.53 | 94.13 RT | 151159.756 | 179950.145 | 1072.52 | BM |
| 48 | 1495+81.61 | 33.97 RT | 151223.889 | 179891.108 | 1076.55 | CP |
| 133 | 1496+07.92 | 93.80 RT | 151249.139 | 179951.393 | 1072.52 | BM |
| 47 | 1497+56.49 | 33.63 RT | 151398.744 | 179893.852 | 1076.35 | CP |

CULVERT 7556
STA 1495+79
CPRC CLASS IV 36-INCH REQ'D
SKEW 3° RHF
EXISTING 36" CPCS (LINED)
REMOVING SMALL PIPE CULVERTS

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 134 E |
|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 13
PLOT DATE : 5/1/2026 10:56 AM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:200 FT

| CONTROL POINT AND BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
| 44 | 1517+67.73 | 37.20 RT | 153409.663 | 179931.558 | 1074.27 | CP |
| 135 | 1522+62.61 | 45.90 RT | 153904.337 | 179948.565 | 1071.15 | BM |
| 45 | 1522+79.45 | 33.90 RT | 153921.371 | 179936.841 | 1074.28 | CP |
| 136 | 1523+11.85 | 93.16 RT | 153952.793 | 179996.632 | 1070.91 | BM |
| 46 | 1524+68.98 | 34.11 RT | 154110.874 | 179940.196 | 1074.52 | CP |

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 135 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 14
PLOT DATE : 5/1/2026 10:56 AM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:200 FT

5

5

CONTROL POINT AND BENCHMARK TABLE

| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
|---|---|---|---|---|---|---|
| 50 | 1595+47.38 | 33.90 RT | 161188.310 | 180057.021 | 1086.91 | CP |

CONTROL POINT AND BENCHMARK TABLE

| POINT | STATION | OFFSET | Y COORDS | X COORDS | ELEVATION | DESC |
|---|---|---|---|---|---|---|
| 51 | 1600+88.72 | 38.04 RT | 161729.502 | 180070.148 | 1087.14 | CP |
| 105 | 1601+16.03 | 45.55 RT | 161756.688 | 180078.103 | 1086.46 | BM |
| 106 | 1602+38.27 | 68.55 RT | 161878.527 | 180103.131 | 1086.57 | BM |
| 52 | 1603+70.44 | 33.98 RT | 162011.252 | 180070.758 | 1087.66 | CP |

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 136 | E |
|---|---|---|---|---|---|

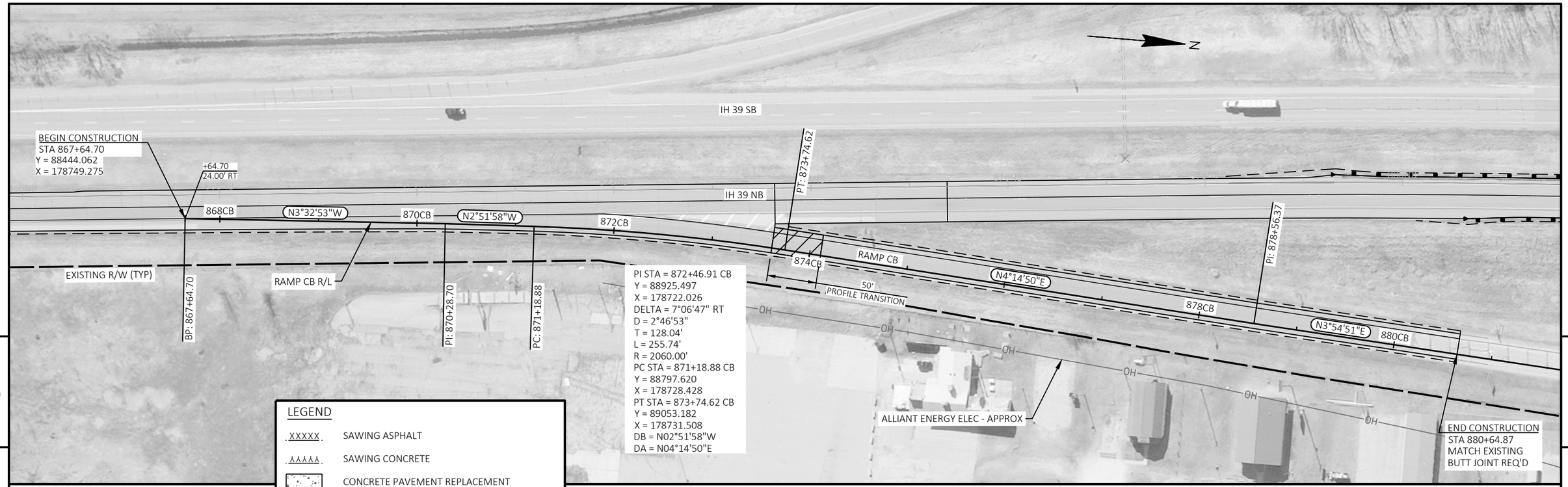
5

5

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN | SHEET 137 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050201-PN.DWG
LAYOUT NAME - 16

PLOT DATE : 5/1/2026 10:56 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:200 FT



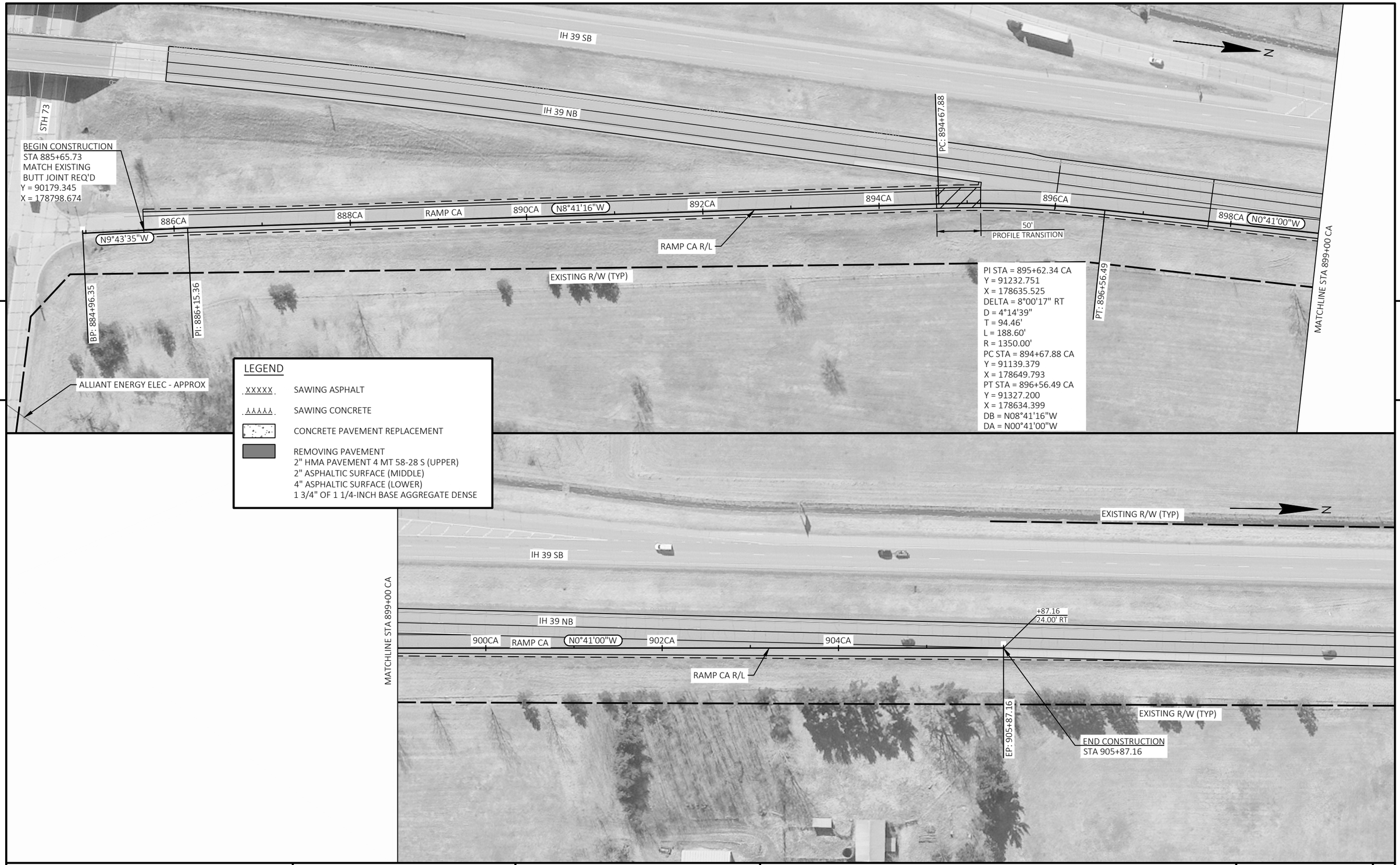

5

5

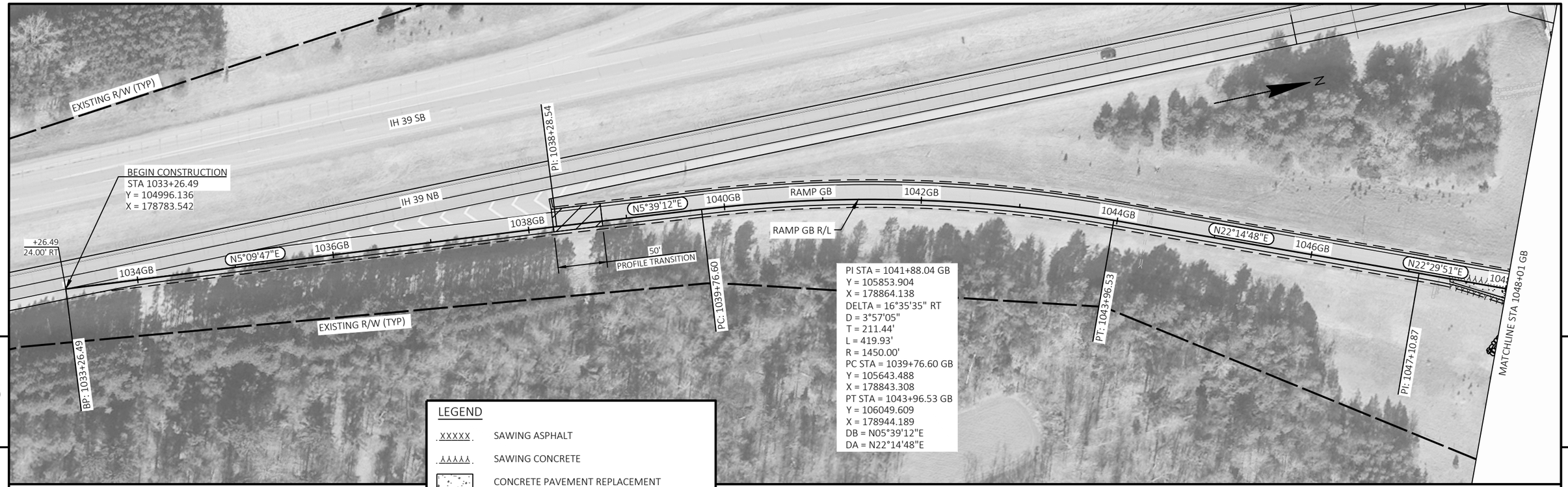
THIS FRAME INTENTIONALLY LEFT BLANK

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN - RAMP CB | SHEET 138 | E |
|---|---|---|---|---|---|


FILE NAME : O:\PDS\C3D\11660510\SHEETS\050202-PN.DWG
LAYOUT NAME - 18
PLOT DATE : 5/1/2026 10:19 AM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44




| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN - RAMP CA | SHEET 139 | E |
|---|---|---|---|---|---|




5

5

LEGEND

- SAWING ASPHALT
- SAWING CONCRETE
- CONCRETE PAVEMENT REPLACEMENT
- REMOVING PAVEMENT
  2" HMA PAVEMENT 4 MT 58-28 S (UPPER)
  2" ASPHALTIC SURFACE (MIDDLE)
  4" ASPHALTIC SURFACE (LOWER)
  1 3/4" OF 1 1/4-INCH BASE AGGREGATE DENSE

THIS FRAME INTENTIONALLY LEFT BLANK

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN - RAMP GB | SHEET 140 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050202-PN.DWG
LAYOUT NAME - 20

PLOT DATE : 5/1/2026 10:19 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

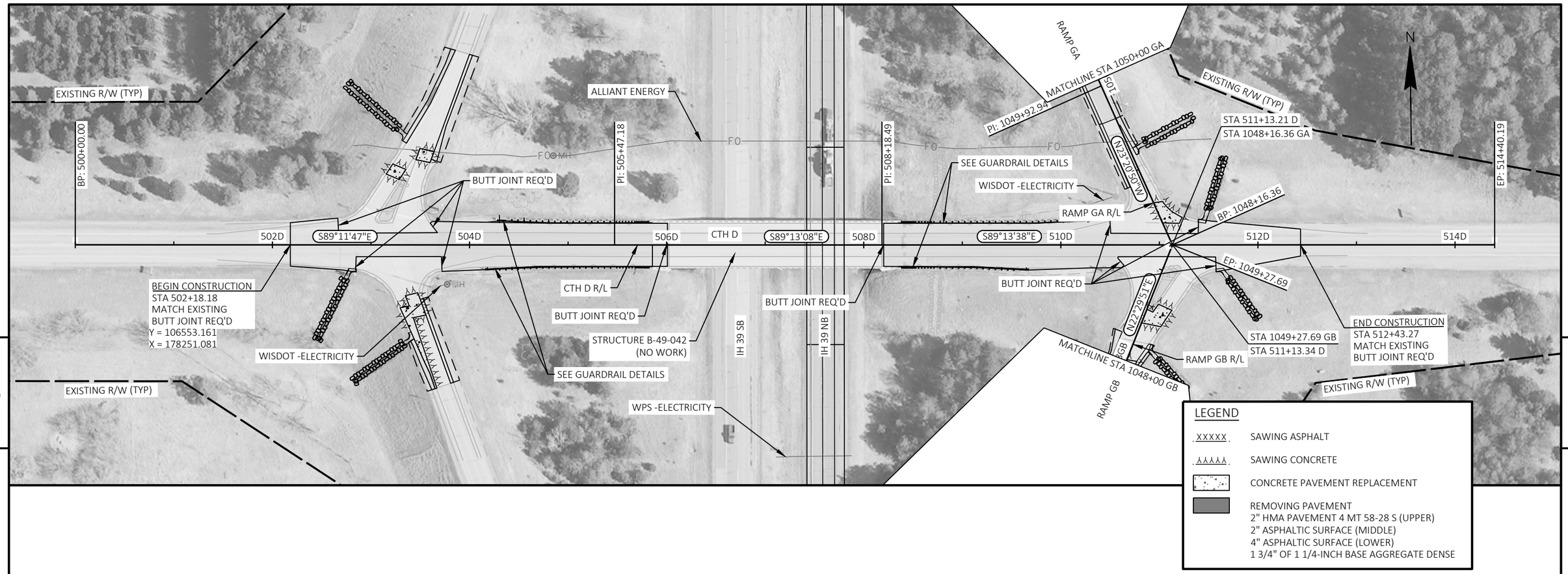
WISDOT/CADDS SHEET 44

5

5

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN - RAMP GA | SHEET 141 | E |
|---|---|---|---|---|---|

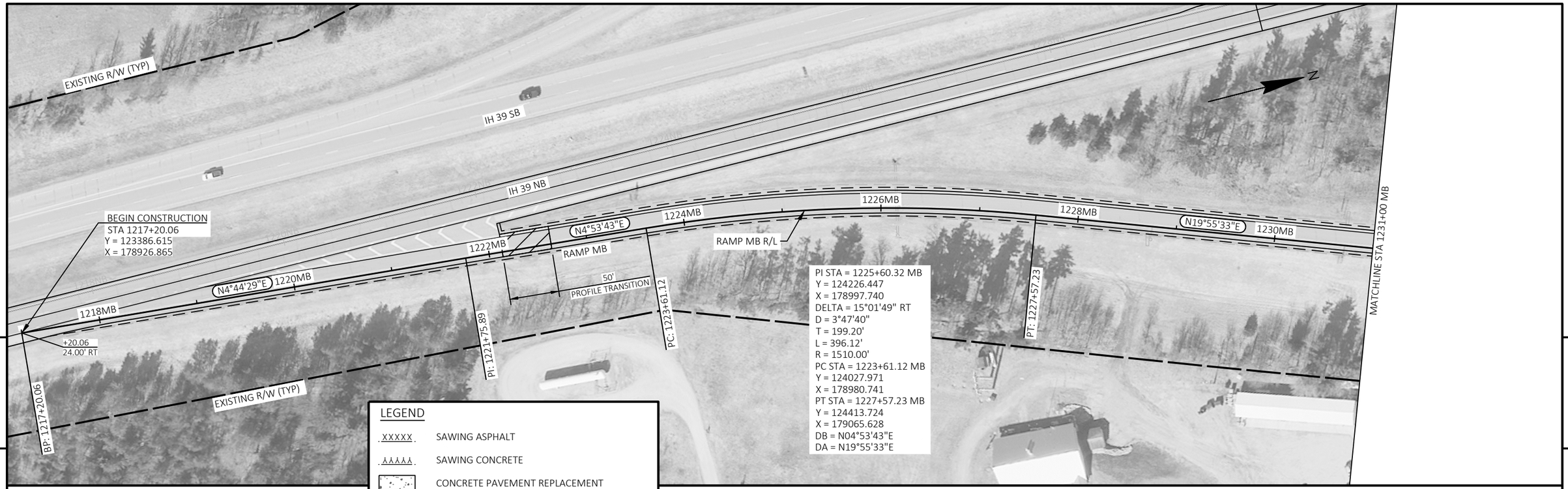
FILE NAME : O:\PDS\C3D\11660510\SHEETS\050202-PN.DWG
LAYOUT NAME - 21
PLOT DATE : 5/1/2026 10:20 AM
PLOT BY : CORY IHDE
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44




5

5

THIS FRAME INTENTIONALLY LEFT BLANK




5

5

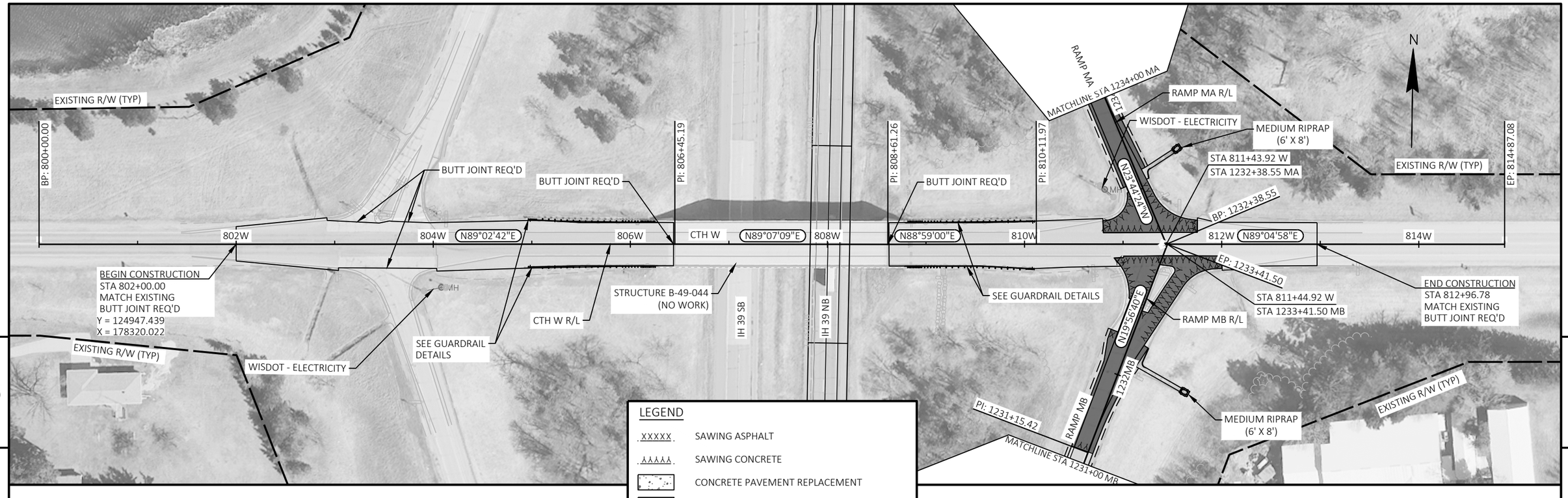
THIS FRAME INTENTIONALLY LEFT BLANK

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | PLAN - RAMP MA | SHEET 144 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\050202-PN.DWG
LAYOUT NAME - 24

PLOT DATE : 5/1/2026 10:21 AM PLOT BY : CORY IHDE PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44




LEGEND

- XXXXX SAWING ASPHALT
- XXXXX SAWING CONCRETE
- CONCRETE PAVEMENT REPLACEMENT
- REMOVING PAVEMENT
  2" HMA PAVEMENT 4 MT 58-28 S (UPPER)
  2" ASPHALTIC SURFACE (MIDDLE)
  4" ASPHALTIC SURFACE (LOWER)
  1 3/4" OF 1 1/4-INCH BASE AGGREGATE DENSE

THIS FRAME INTENTIONALLY LEFT BLANK

# Standard Detail Drawing List

| | |
|---|---|
| 08A05-22D | INLET COVERS TYPE V, V-B, & VV-B |
| 08A05-22E | INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M |
| 08B09-04 | MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER |
| 08C07-03 | INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT |
| 08D01-24A | CONCRETE CURB & GUTTER |
| 08D01-24B | CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS |
| 08D03-09A | CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES |
| 08D03-09B | CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES |
| 08D04-07 | CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES |
| 08D15-05A | EDGEDRAIN OUTLET AND OUTFALL MARKERS |
| 08E08-03 | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06 | SILT FENCE |
| 08E10-02 | INLET PROTECTION TYPE 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 |
| 13A05-06A | SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY |
| 13A05-06B | SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY |
| 13C09-18A | CONCRETE PAVEMENT REPAIR AND REPLACEMENT |
| 13C09-18B | CONCRETE PAVEMENT REPAIR AND REPLACEMENT |
| 13C09-18C | CONCRETE PAVEMENT REPAIR AND REPLACEMENT |
| 13C09-18D | CONCRETE PAVEMENT REPAIR AND REPLACEMENT |
| 13C19-03 | HMA LONGITUDINAL JOINTS |
| 14B07-16A | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16B | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16C | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16D | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16E | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16F | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16G | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16H | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16I | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16J | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16K | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16L | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16M | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16N | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B32-11A | CONCRETE BARRIER SINGLE SLOPE (CBSS) |
| 14B32-11B | CONCRETE BARRIER SINGLE SLOPE (CBSS) |
| 14B33-02G | CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR |
| 14B33-02H | CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR |
| 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 |
| 14B43-04B | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B43-04C | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 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) |
| 14B45-05G | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B47-06A | MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL |
| 14B47-06B | MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL |
| 14B47-06C | MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL |
| 14B47-06D | MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL |
| 14B47-06E | MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL |
| 14B47-06F | MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL |
| 14B47-06G | MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL |
| 14D01-01 | TURTLE EXCLUSION FENCE CLIMBING TURTLE |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A04-08A | FLEXIBLE DELINEATOR POST |

6

# Standard Detail Drawing List

| | |
|---|---|
| 15A04-08B | BARRIER WALL DELINEATOR WITH REFLECTIVE SHEETING |
| 15A04-08C | DELINEATOR POST WITH REFLECTIVE SHEETING |
| 15A04-08E | DELINEATOR POST WITH REFLECTIVE SHEETING |
| 15B01-08A | FENCE WOVEN WIRE |
| 15B01-08B | FENCE WOVEN WIRE |
| 15C02-10D | ON RAMP LANE CLOSURE |
| 15C02-10E | OFF RAMP LANE CLOSURE |
| 15C02-10F | ADVANCED WIDTH RESTRICTION SIGNING |
| 15C02-10G | TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE |
| 15C02-10H | MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING |
| 15C08-24A | PERMANENT LONGITUDINAL PAVEMENT MARKINGS |
| 15C08-24B | TEMPORARY LONGITUDINAL PAVEMENT MARKING |
| 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 |
| 15C14-05 | AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS |
| 15C31-08A | PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP |
| 15C31-08C | PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP |
| 15C33-05 | STOP LINE AND CROSSWALK PAVEMENT MARKING |
| 15D12-16A | TRAFFIC CONTROL, LANE CLOSURE |
| 15D12-16G | TRAFFIC CONTROL, LANE CLOSURE , DIGITAL SPEED REDUCTION SYSTEM |
| 15D15-08A | TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE |
| 15D15-08C | TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE |
| 15D15-08D | TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE |
| 15D15-08E | TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE |
| 15D16-07 | TRAFFIC CONTROL, EXIT RAMP CLOSURE |
| 15D27-05 | TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY,  SPEEDS GREATER THAN 40 MPH |
| 15D28-05 | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED  ROADWAY |
| 15D39-03 | TRAFFIC CONTROL, DROP-OFF SIGNING |
| 15D40-07B | TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND OVER |
| 15D40-07D | TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER |
| 15D43-03 | TRAFFIC CONTROL, SHORT DURATION MOBILE OPERATIONS |
| 15D47-03A | TRAFFIC CONTROL, INGRESS/EGRESS WITH BARRIER |
| 15D47-03B | TRAFFIC CONTROL, INGRESS/EGRESS WITHOUT BARRIER |

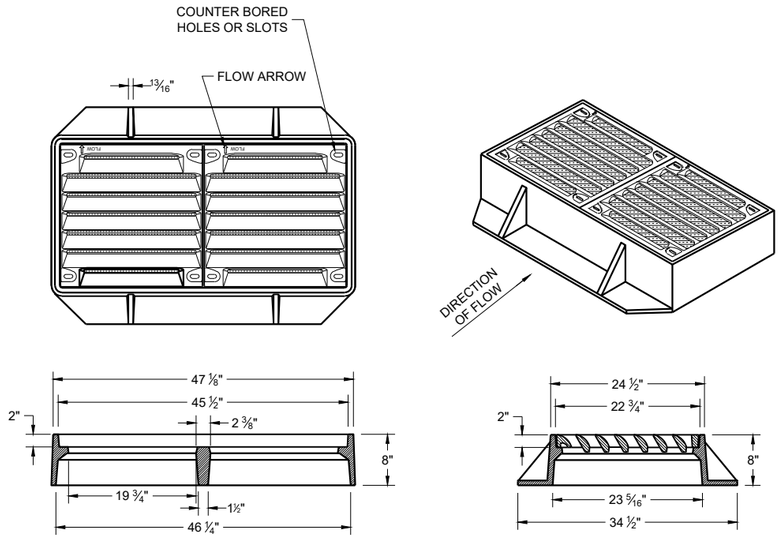


6

## 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.

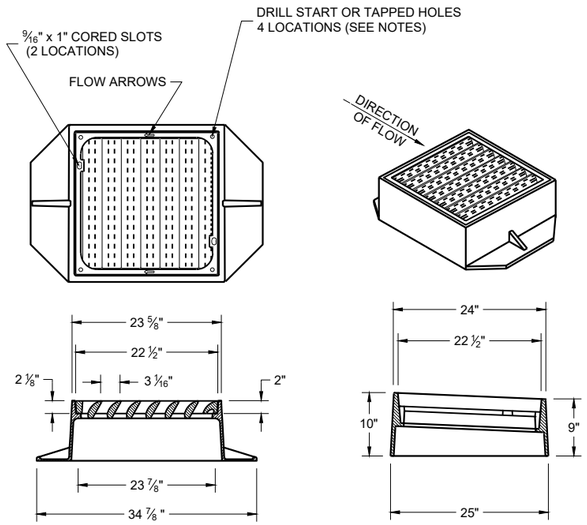
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.




### TYPE "VV-B"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER
ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

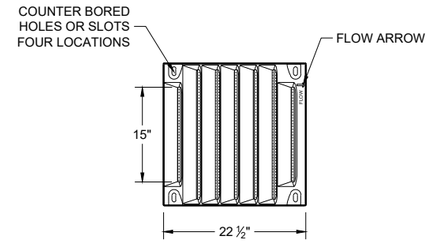
TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 35B
⅜" DIA. X 1/16" DRILL START IN 8 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B




### TYPE "V"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A
⅜" DIA. X 1/16" DRILL START IN 4 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B




### BOLT DOWN GRATE FOR TYPE "V" AND "VV-B" COVER

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER NOTED AS TYPE "V-B" OR "VV-B" (FOR DOUBLE GRATE) ON DRAINAGE TABLE

TAP ½" -13 HOLES IN FOUR LOCATIONS PER GRATE IN FRAME TO BOLT GRATE(S).
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD
BOLTS - ½" -13 STAINLESS STEEL BOLTS WITH WASHERS
TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT OVERTIGHTEN.

**INLET COVERS**
**TYPES V, V-B, AND VV-B**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



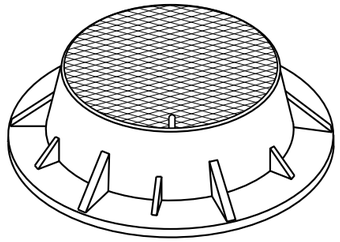
6
SDD 08A05-22d

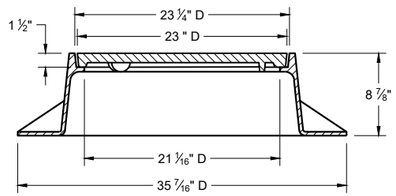
## GENERAL NOTES

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 MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

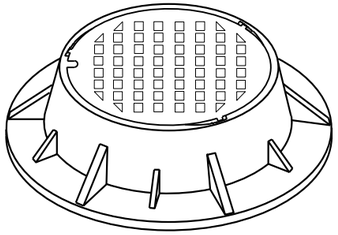
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

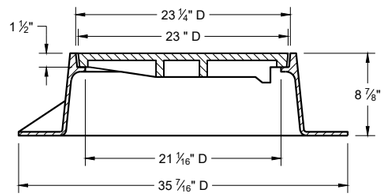





**TYPE "J"**

**NOTE: EITHER CASTING IS ACCEPTABLE**

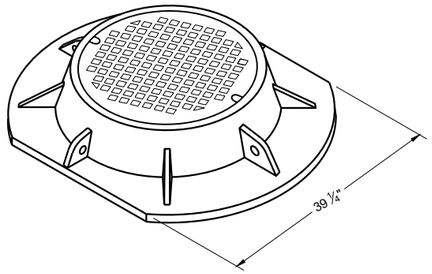


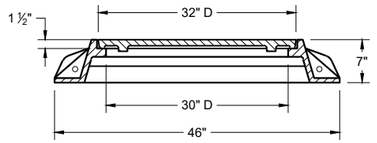



**TYPE "J" SPECIAL**

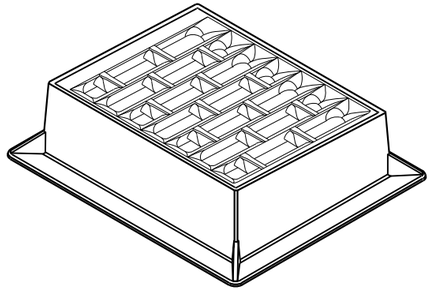
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

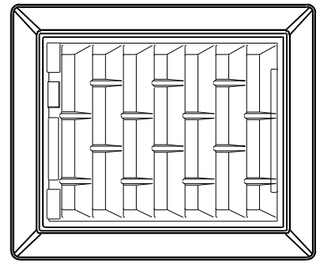
**NOTE: EITHER CASTING IS ACCEPTABLE**

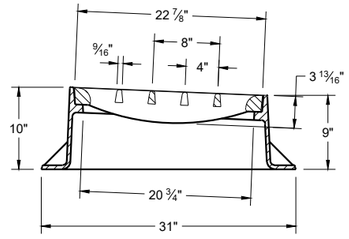


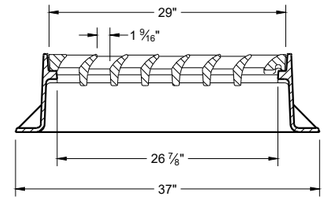




**TYPE "K"**

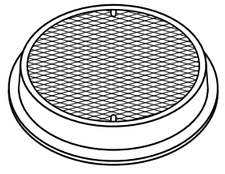


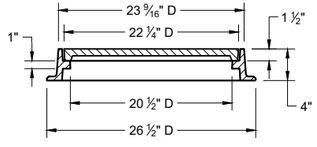




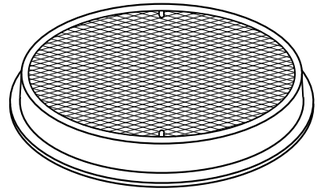



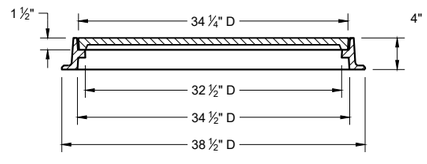

**INLET COVER TYPE "BW"**






**TYPE "L"**






**TYPE "M"**

**INLET COVERS TYPES BW**
**MANHOLE COVERS TYPES K, J, J-S, L, AND M**

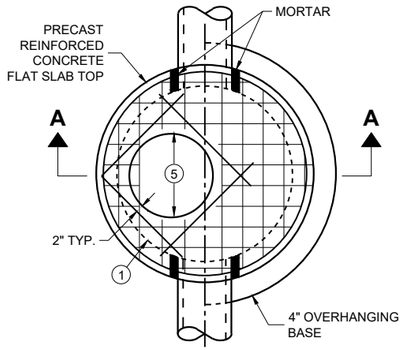
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

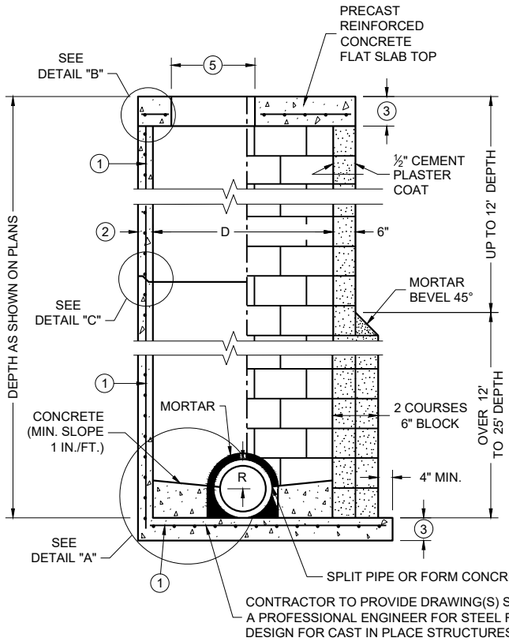
6

SDD 08A05-22e




**PLAN VIEW**

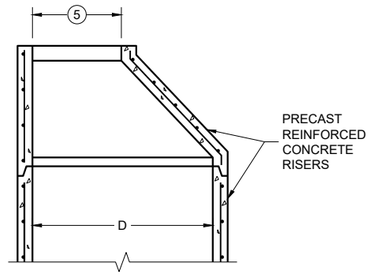
## CIRCULAR OPENING



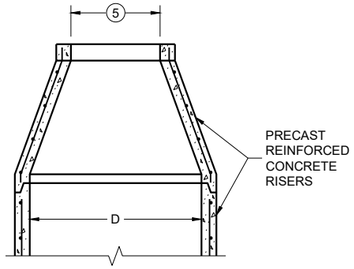

**SECTION A - A**

**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**

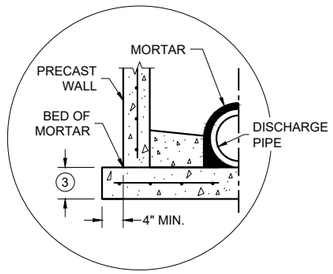
**CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE** (1)



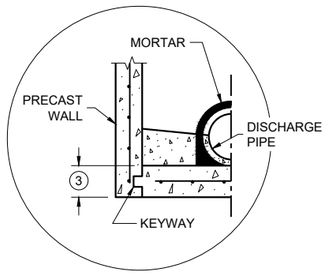

**OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP**




**OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP**

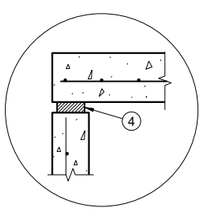



**SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION**

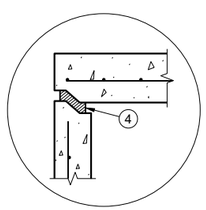



**PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION**

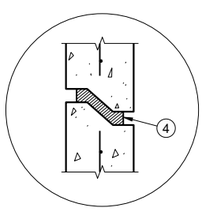
## DETAIL "A"




**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".

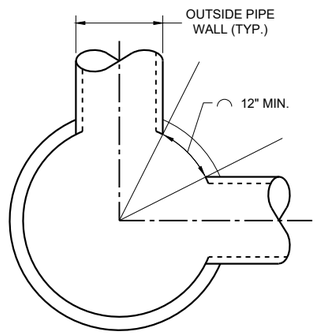
(1) FOR PRECAST MANHOLES AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(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**

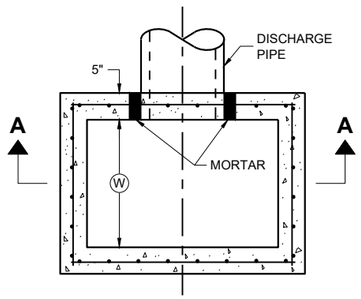
## DETAIL "D"

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

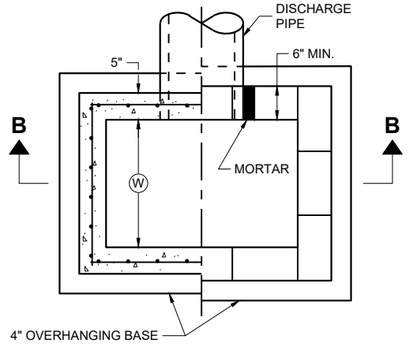
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

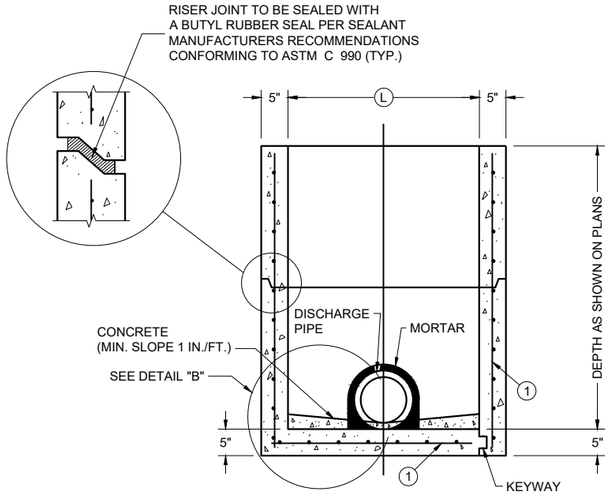
FHWA




**PLAN VIEW**



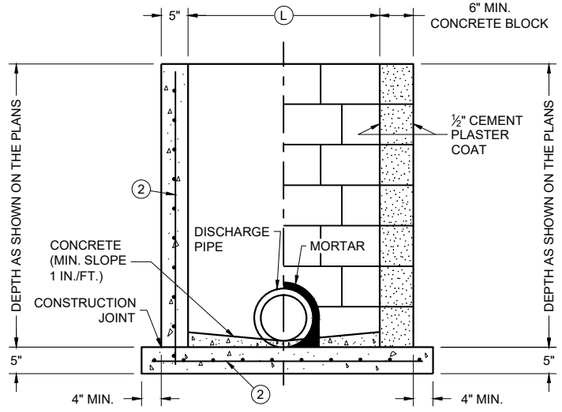

**PLAN VIEW**




**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**

**PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE**

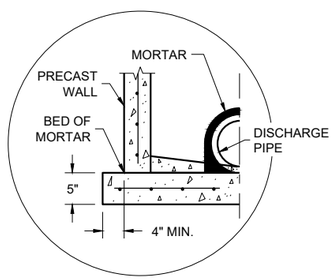
**SECTION A - A**




**CAST IN PLACE REINFORCED CONCRETE**

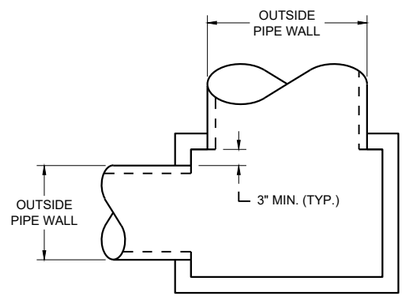
**CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE** (1)

**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

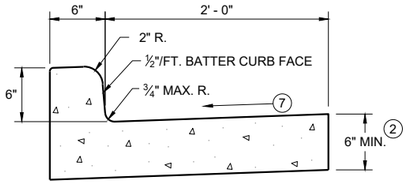
APPROVED
December 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

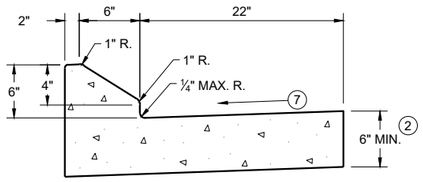
FHWA



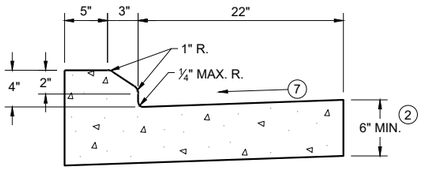
6
SDD 08C07-03



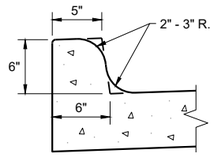

**TYPES A (1) & D**



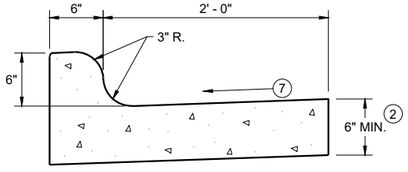

**6" SLOPED CURB TYPES G (1) & J**




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

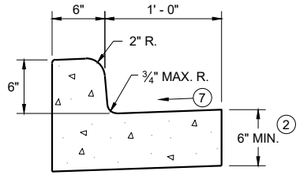



**TYPES K (1) & L**
(OPTIONAL CURB SHAPE)



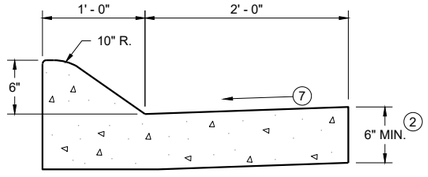

**TYPES K (1) & L**

**CONCRETE CURB AND GUTTER 30"**

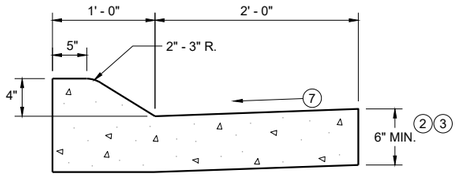



**TYPES A (1) & D**

**CONCRETE CURB AND GUTTER 18"**

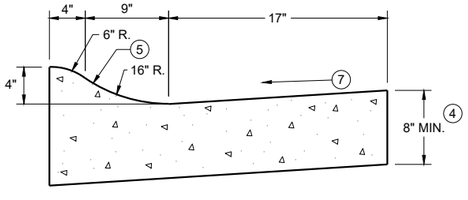



**6" SLOPED CURB TYPES A (1) & D**



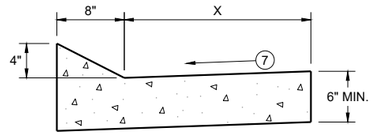

**4" SLOPED CURB TYPES A (1) & D**

**CONCRETE CURB AND GUTTER 36"**




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

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

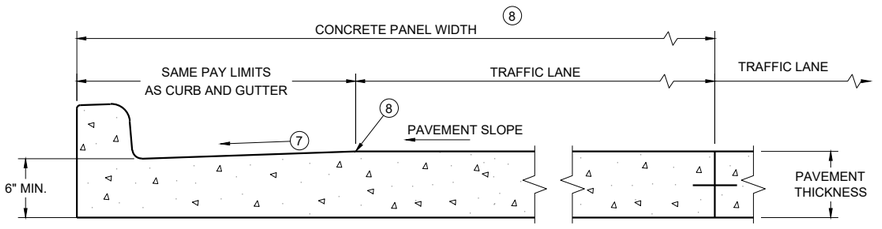



**TYPES TBT & TBTT (1)**

**CONCRETE CURB AND GUTTER**

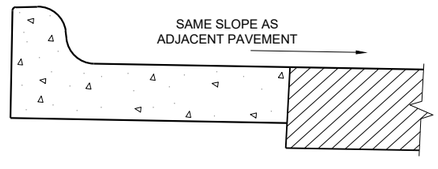
**PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE**

| 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.

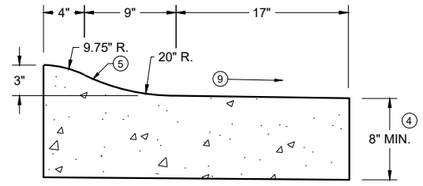
(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(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.

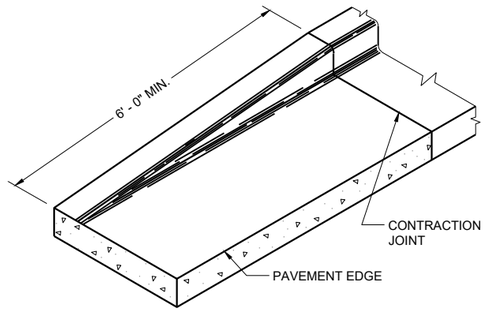
(9) SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY



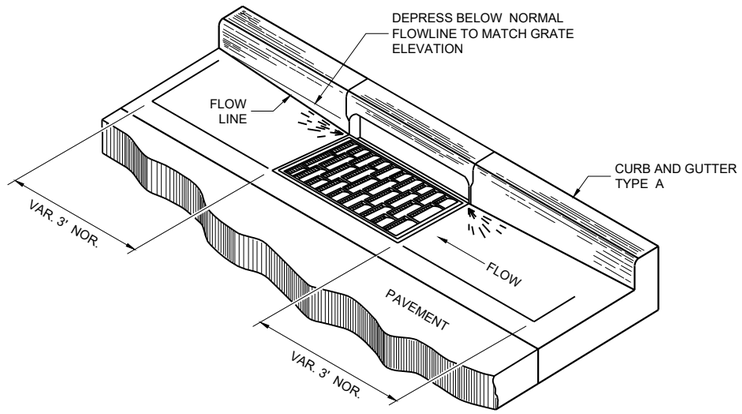

**3" SLOPED CURB TYPES R (1) & T**

**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.

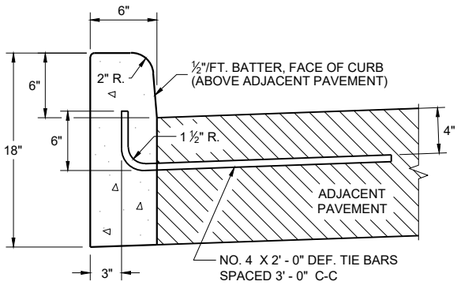
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

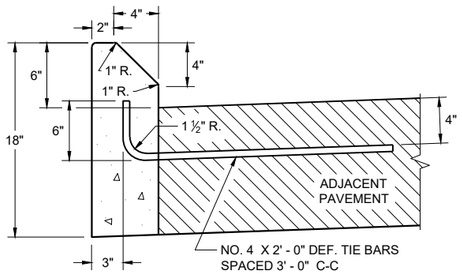
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(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.

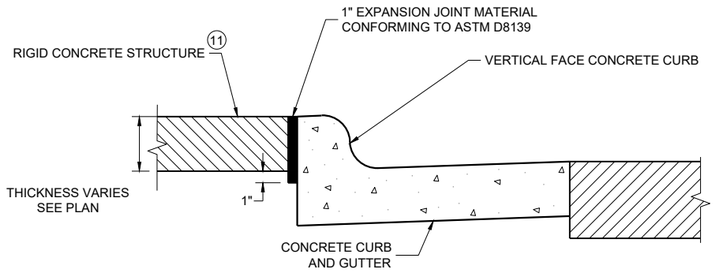



**TYPES A (1) & D**

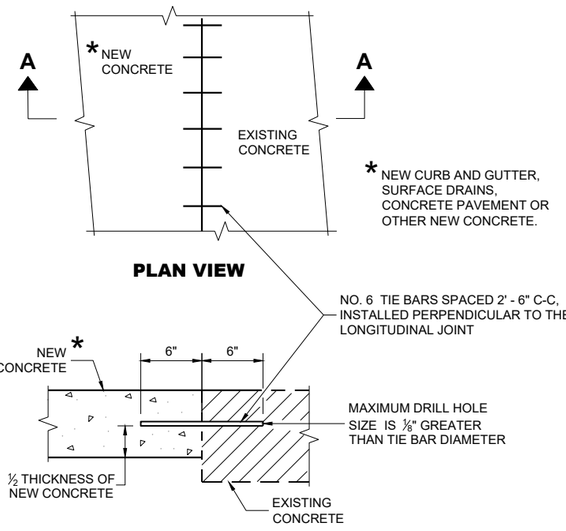



**TYPES G (1) & J**

**CONCRETE CURB**



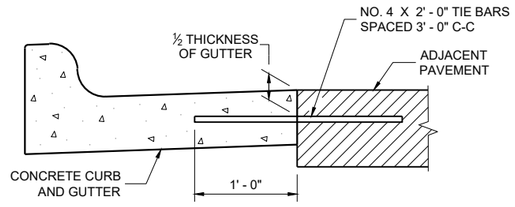

**EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)**



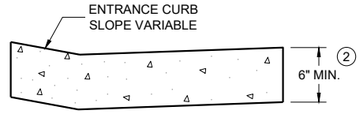

**PLAN VIEW**

**SECTION A - A**

**TIE BARS DRILLED INTO EXISTING PAVEMENT**




**TYPICAL TIE BAR LOCATION (1)**




**DRIVEWAY ENTRANCE CURB (10)**

(WHEN DIRECTED BY THE ENGINEER)

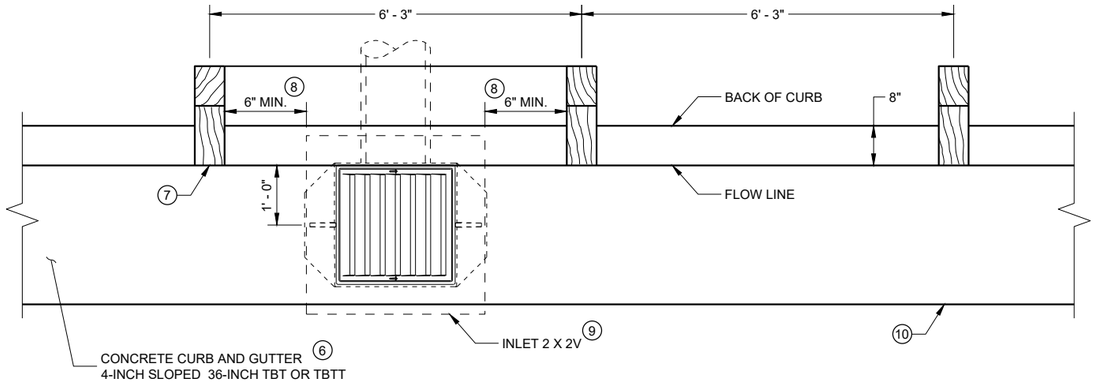
**CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

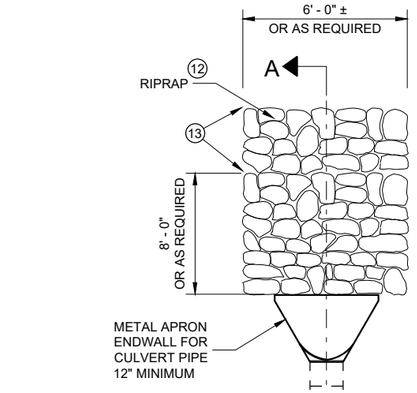
FHWA


6
SDD 08D01-24b




## INLET PLAN VIEW

(NOTE: RAIL NOT SHOWN FOR CLARITY)




## 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.

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

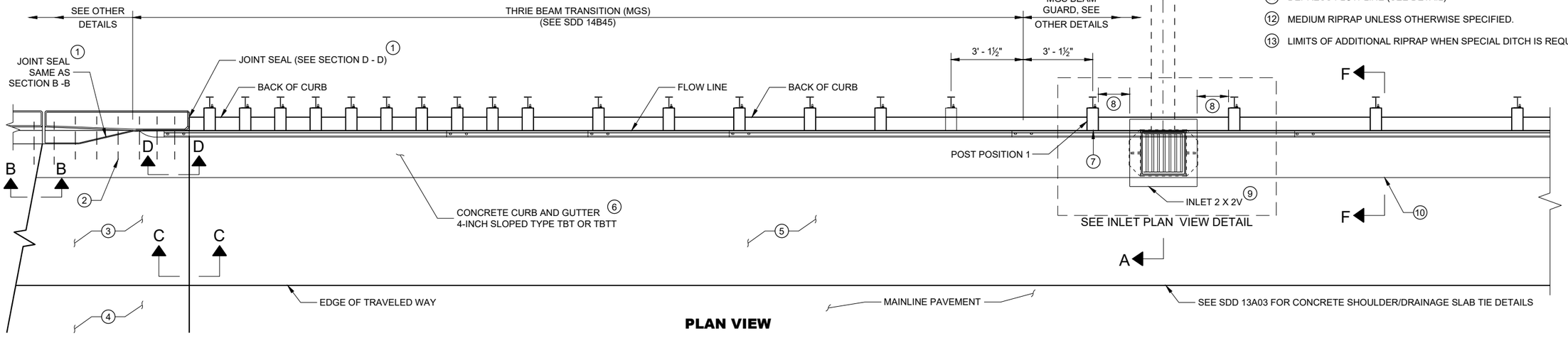
(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

(10) START CURB AND GUTTER TRANSITION OR END SECTION.

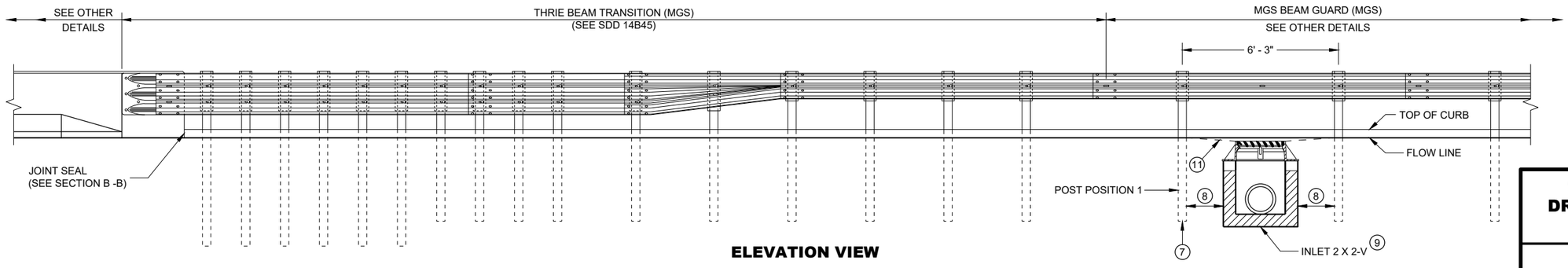
(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(13) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.




**PLAN VIEW**




**ELEVATION VIEW**

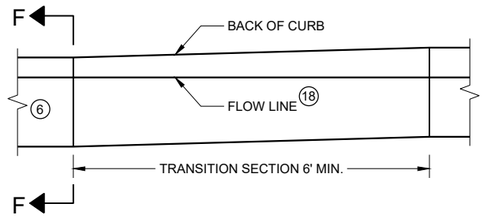
# CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

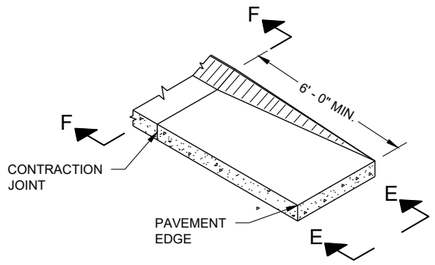




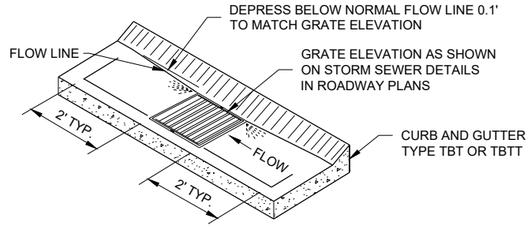
6
SDD 08D03 - 09a



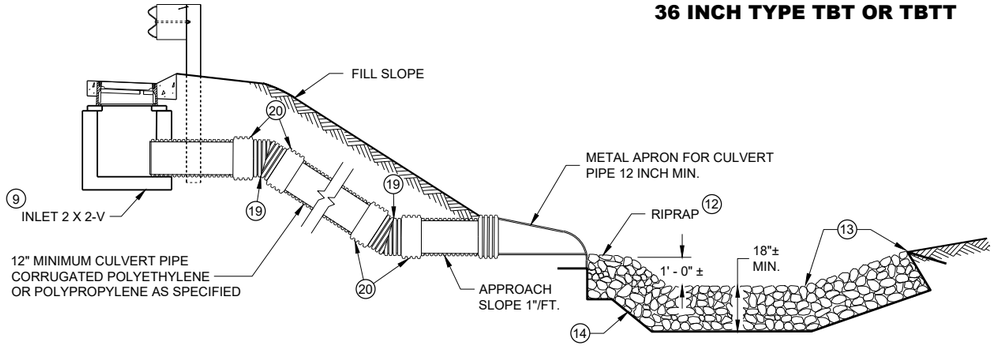

**CURB AND GUTTER TRANSITION SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**



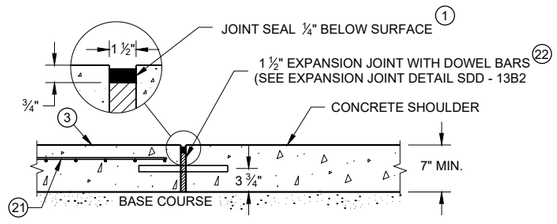

**CURB AND GUTTER END SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**




**CURB AND GUTTER FLOW LINE DEPRESSION AT INLETS CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

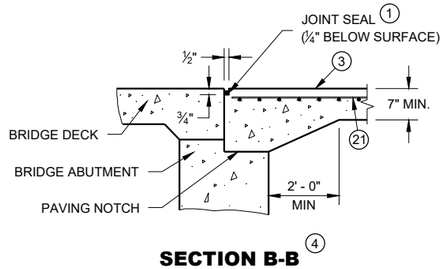



**SECTION A - A**

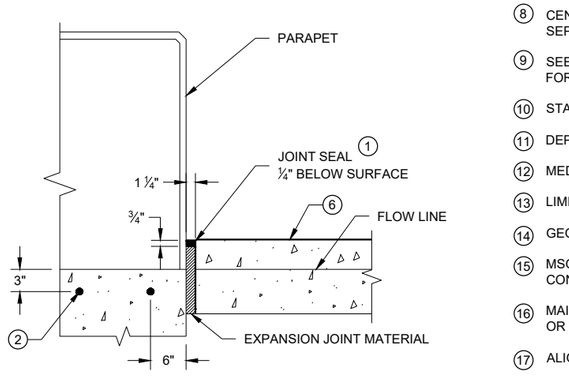



**SECTION C - C**

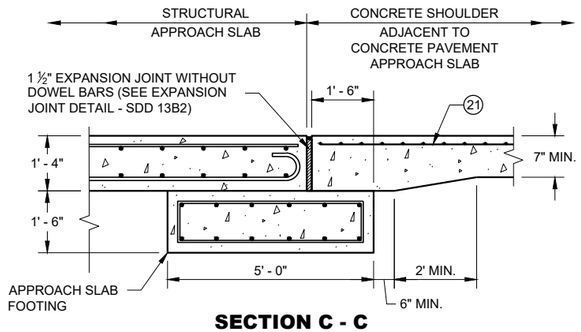
**JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS**




**SECTION B-B** 4

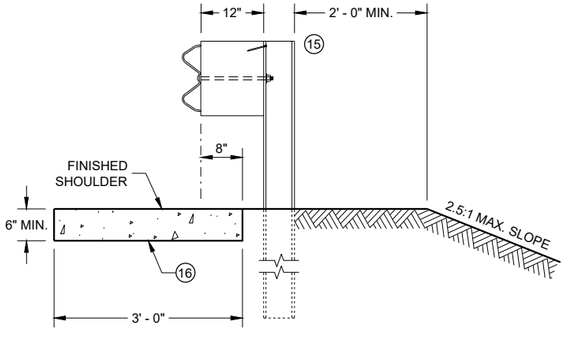



**SECTION D - D**

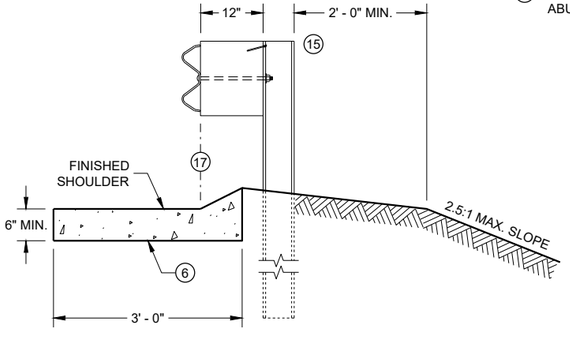



**SECTION C - C**

**JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB**




**SECTION E - E**




**SECTION F - F**

## 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.

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

(10) START CURB AND GUTTER TRANSITION OR END SECTION.

(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(13) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(14) GEOTEXTILE TYPE HR.

(15) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(16) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

(17) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(18) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

(19) MANUFACTURER SUPPLIED BEND.

(20) MANUFACTURER SUPPLIED EXTERNAL MECHANICAL COUPLING OR A MANUFACTURER RECOMMENDED COUPLING WITH A MASTIC IMPREGNATED GEOTEXTILE WRAP AND MECHANICAL FASTENING BANDS.

(21) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

(22) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.

**CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

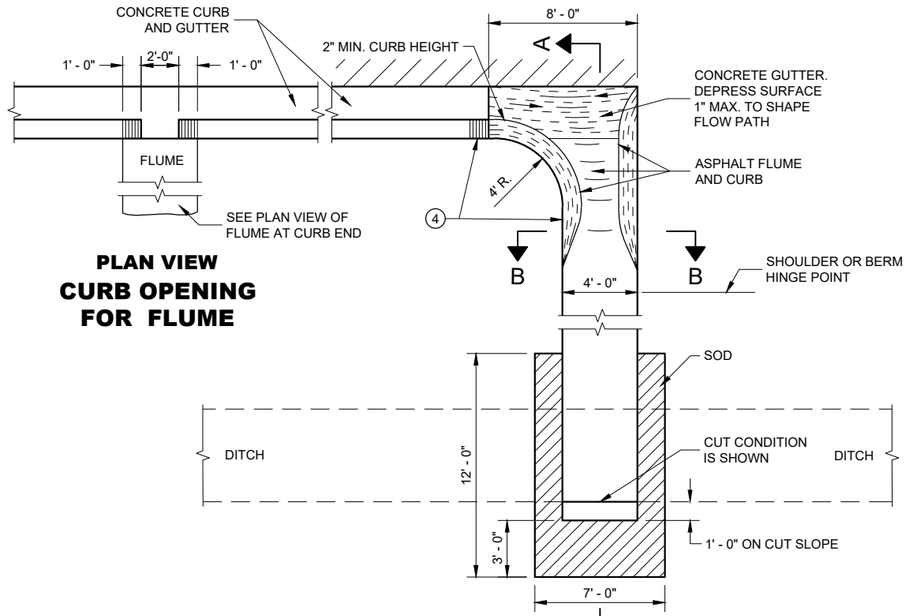



6

SDD 08D03 - 09b

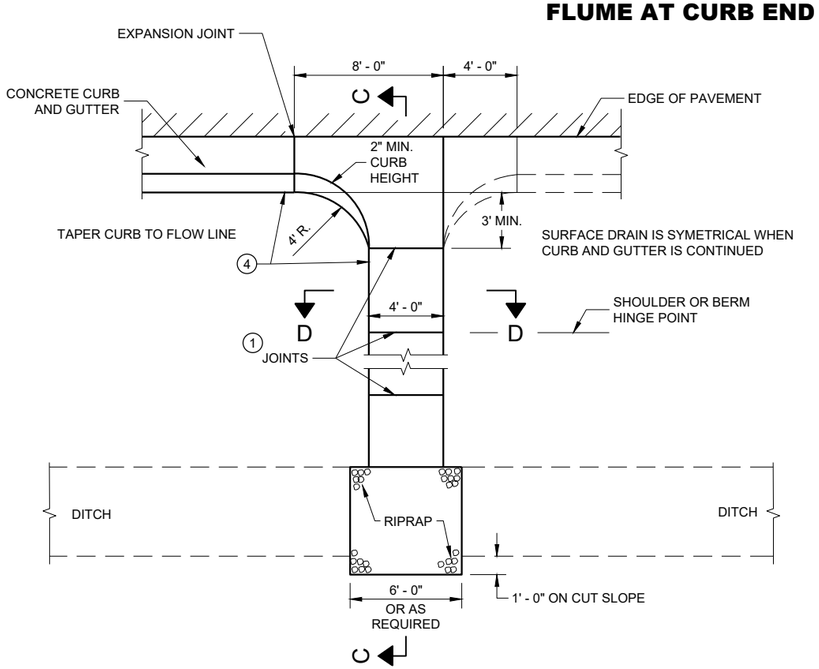
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

## ASPHALTIC FLUME




**PLAN VIEW**
**CURB OPENING FOR FLUME**

**PLAN VIEW**
**FLUME AT CURB END**



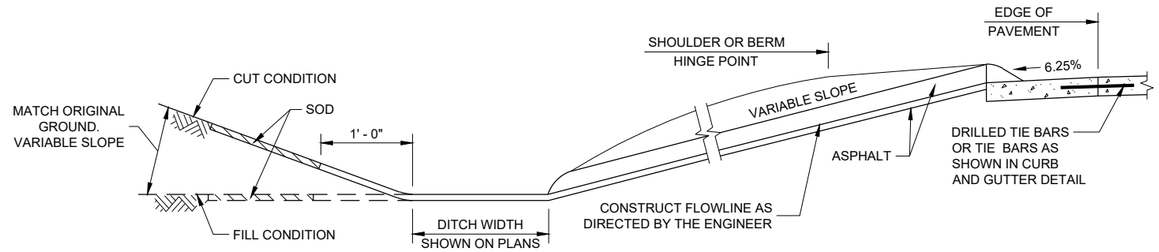

**PLAN VIEW**
**CONCRETE SURFACE DRAIN**

## GENERAL NOTES

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

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

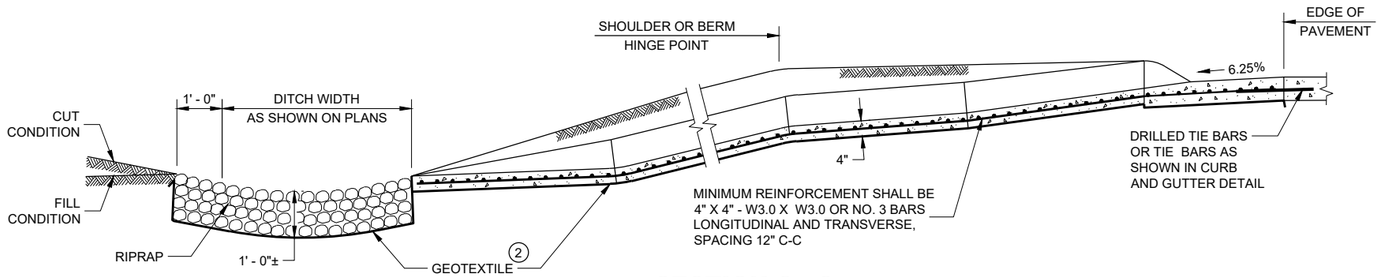
1. JOINTS SHALL BE ⅛" TO ¼" WIDE BY 1½" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
2. GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
3. CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
4. ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



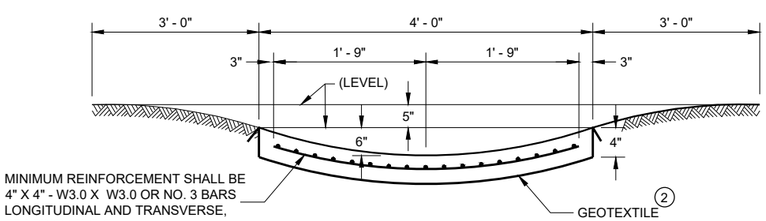

**SECTION A - A**




**SECTION B - B**




**SECTION C - C**




**SECTION D - D**

**CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

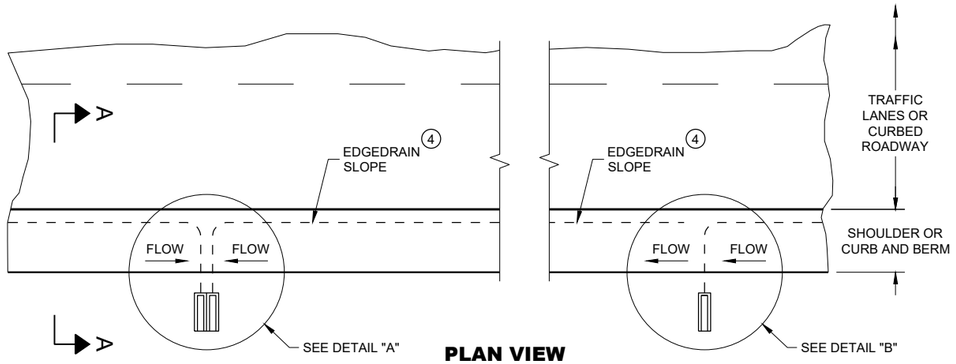


6

SDD 08D04 - 07

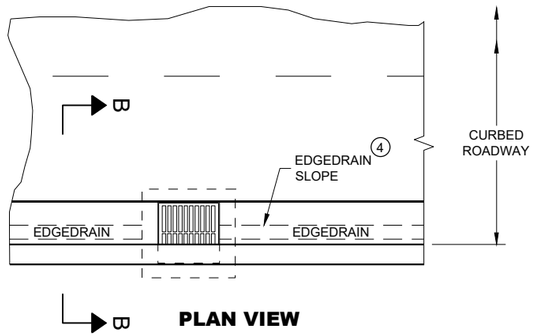
6

SDD 08D04 - 07




**PLAN VIEW**

## ROADWAY WITH SHOULDERS OR CURBS
### (EDGEDRAIN CONNECTS TO ROADSIDE) (2)




**PLAN VIEW**

## ROADWAY WITH CURBS
### (EDGEDRAIN CONNECTS INTO INLET STRUCTURE)

## 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) UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

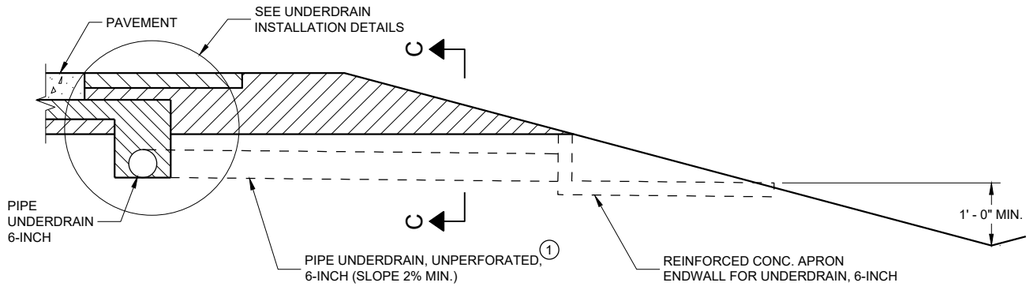
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

(2) MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

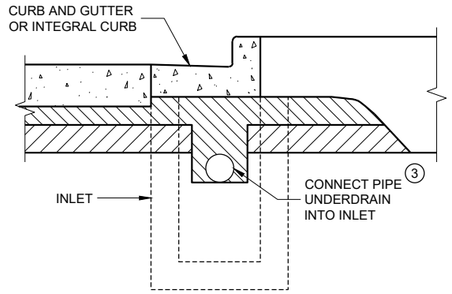
(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



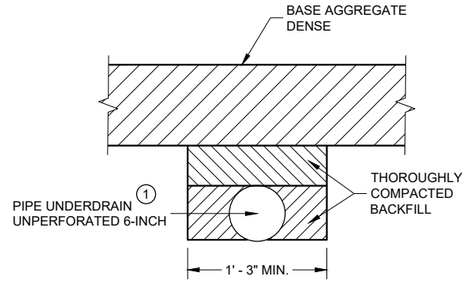

**SECTION A - A**

## RURAL CROSS SECTION



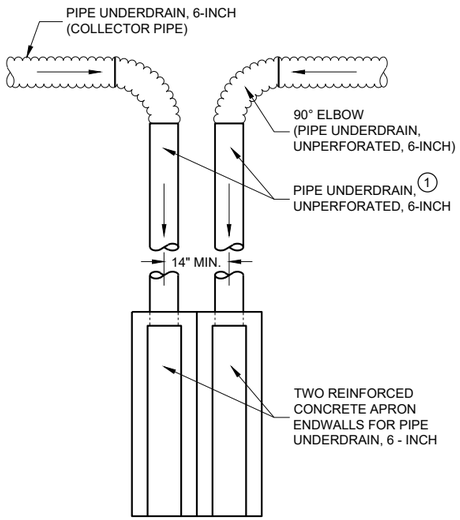

**SECTION B - B**

## URBAN CROSS SECTION

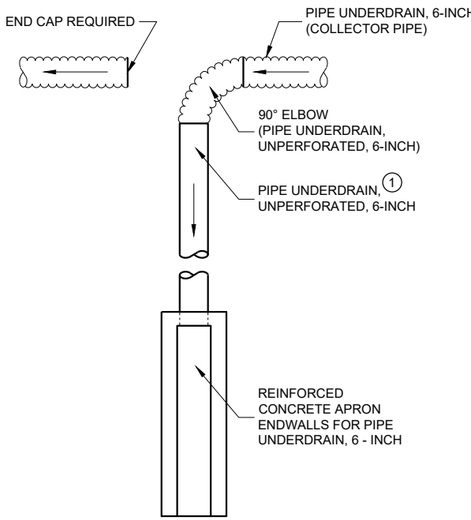



**SECTION C - C**

## TRENCH FOR OUTFALL PIPE

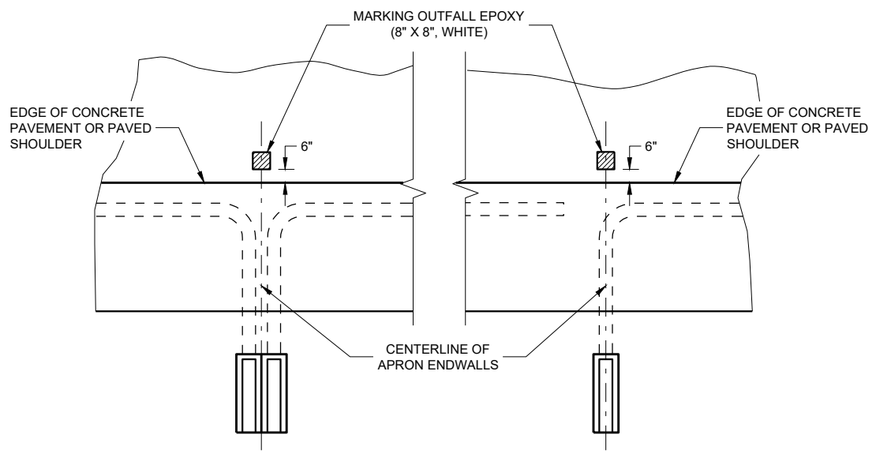



**DETAIL "A"**
TO BE USED AT LOW POINT LOCATIONS




**DETAIL "B"**
TO BE USED AT INTERMEDIATE LOCATIONS

## TYPICAL DRAIN OUT DETAILS




LOW POINT LOCATIONS — INTERMEDIATE LOCATIONS

## PAVEMENT MARKINGS FOR OUTFALL MARKERS

**EDGEDRAIN OUTLET AND OUTFALL MARKERS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

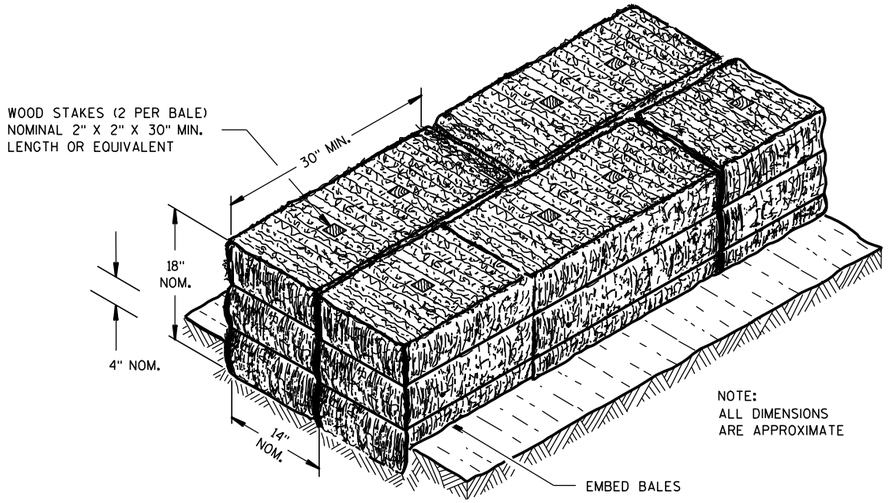


6

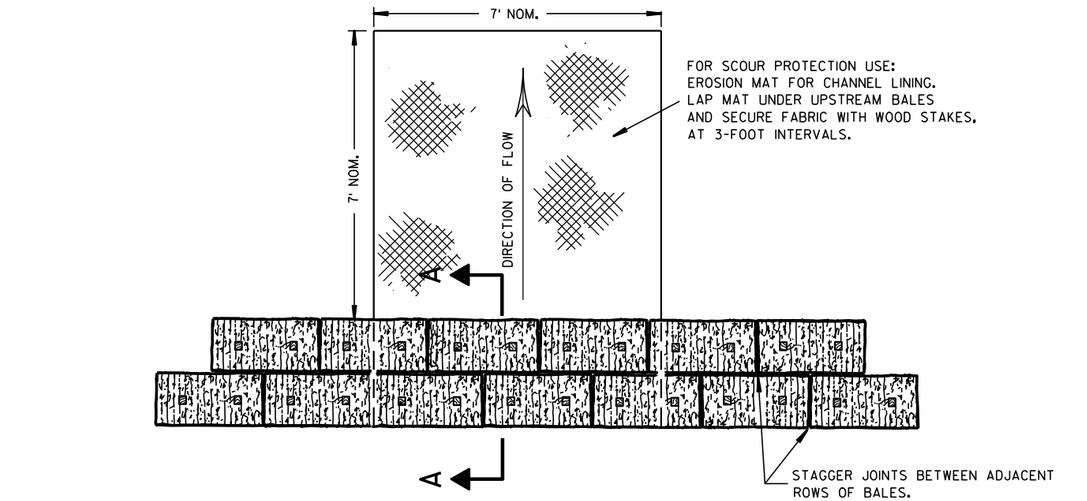
SDD08D15 - 05a

6

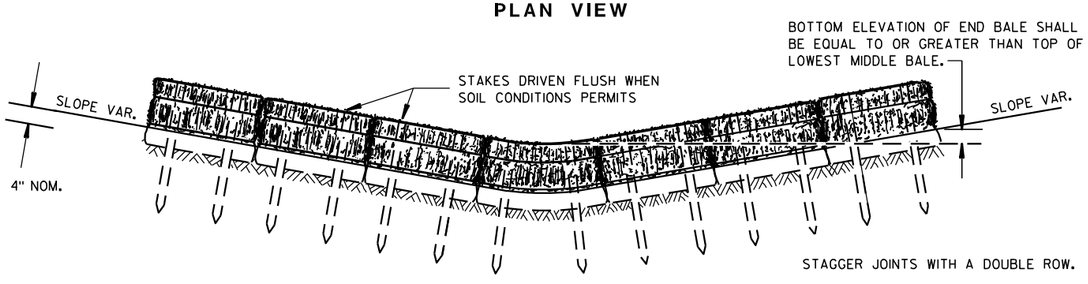
SDD08D15 - 05a




**SECTION A-A**




**PLAN VIEW**



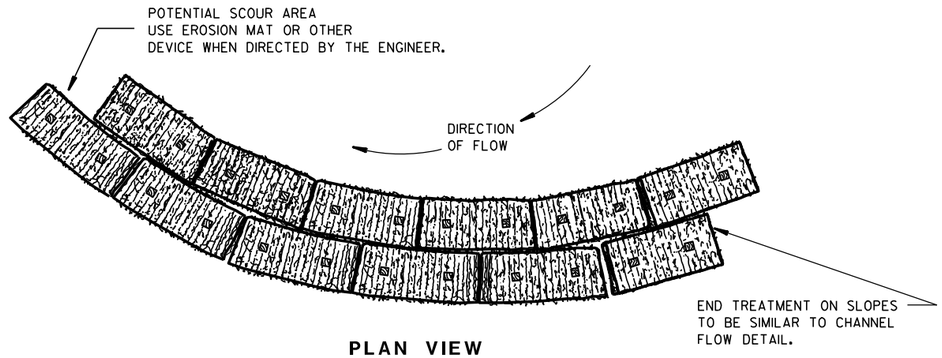

**FRONT ELEVATION**

## TEMPORARY DITCH CHECK USING EROSION BALES (1)

## GENERAL NOTES

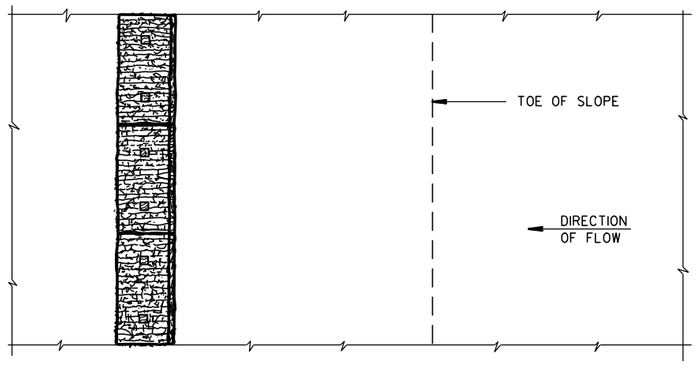
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

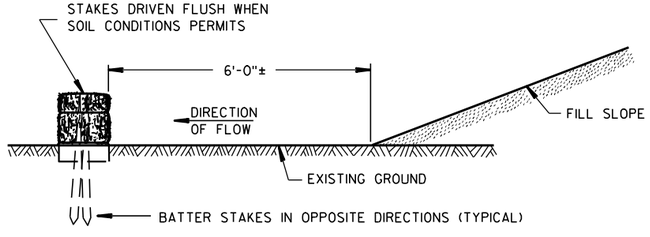



**PLAN VIEW**

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

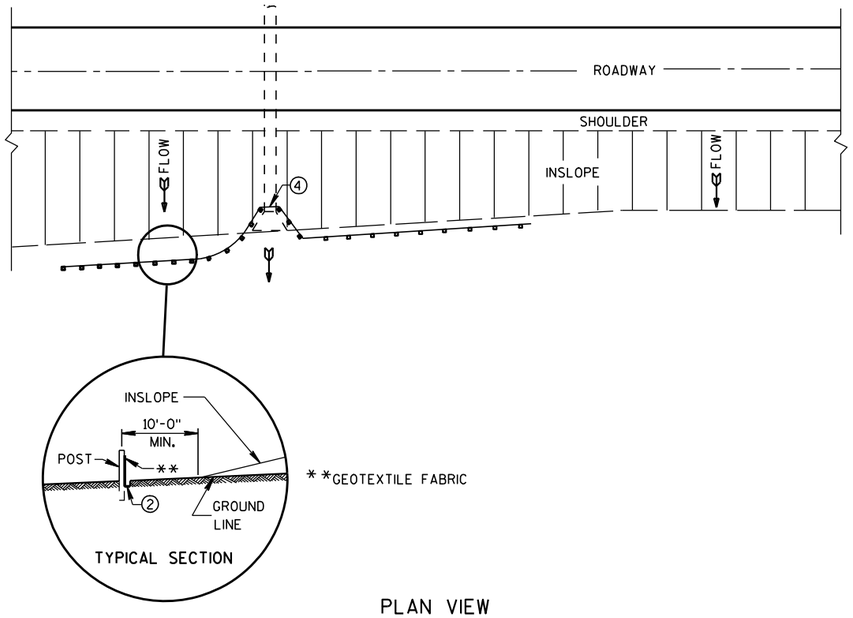


6

S.D.D. 8 E 8-3

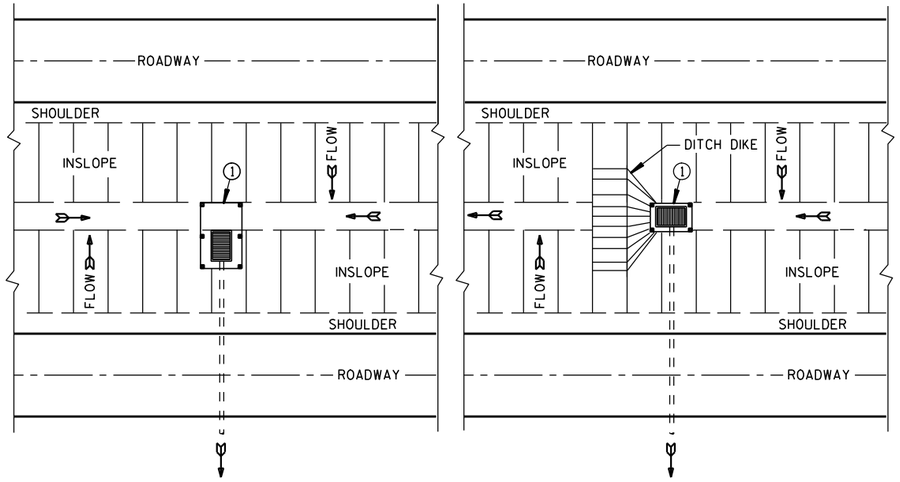
6

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.

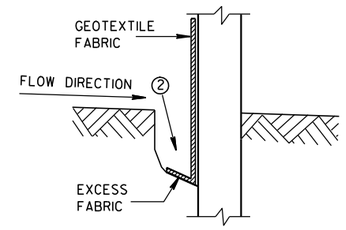
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

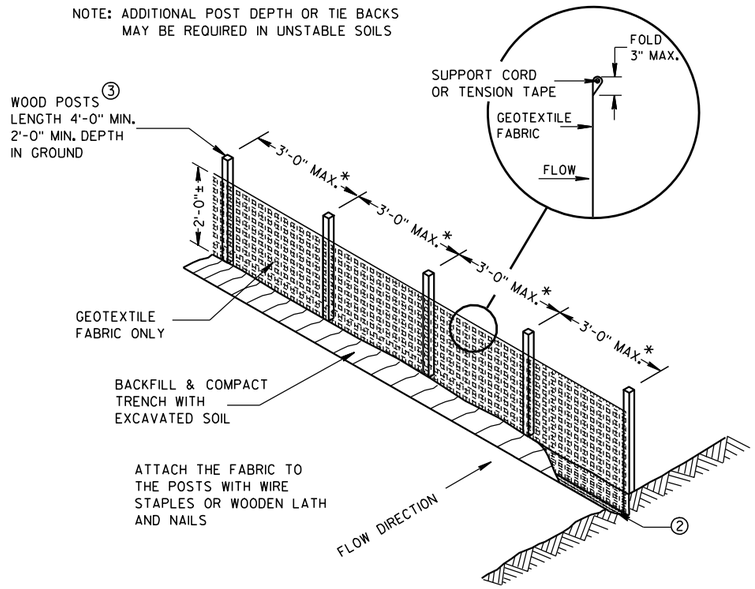
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

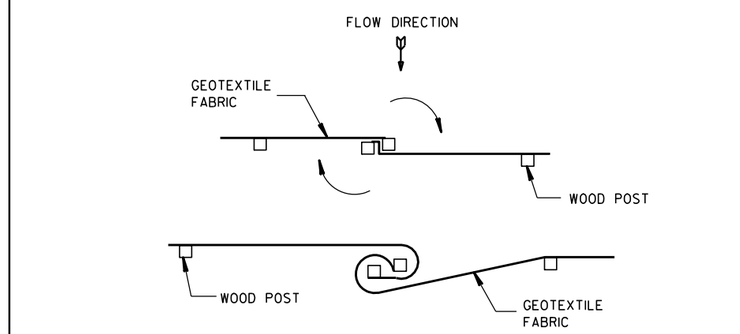
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



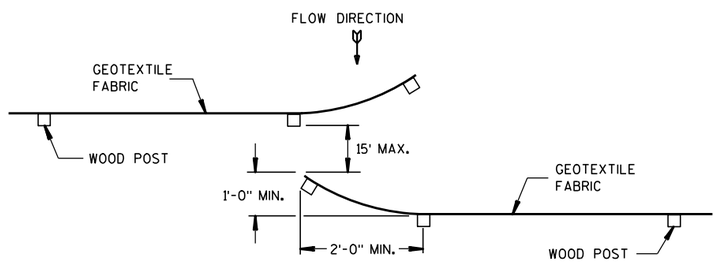

## TRENCH DETAIL




## SILT FENCE

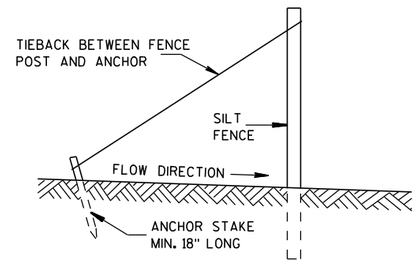



TWIST METHOD




HOOK METHOD

## 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

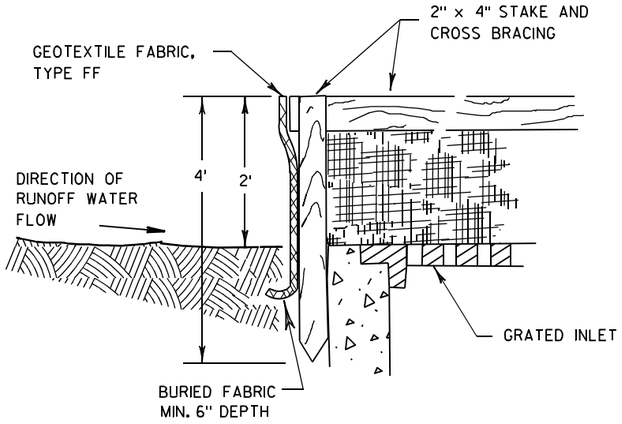


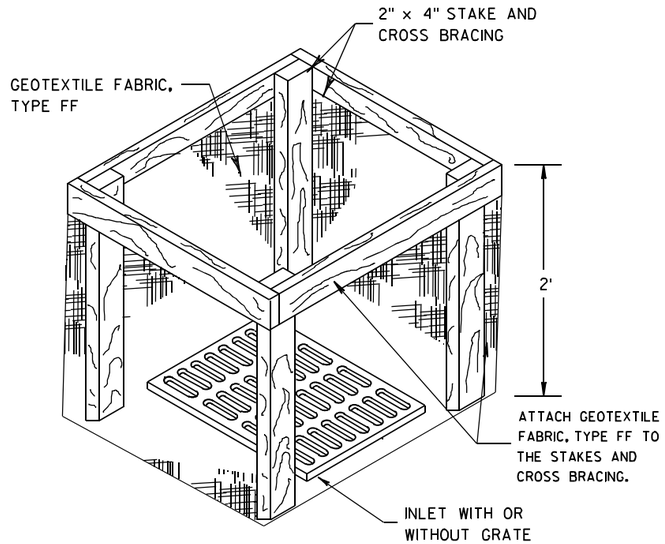
6

S.D.D. 8 E 9-6

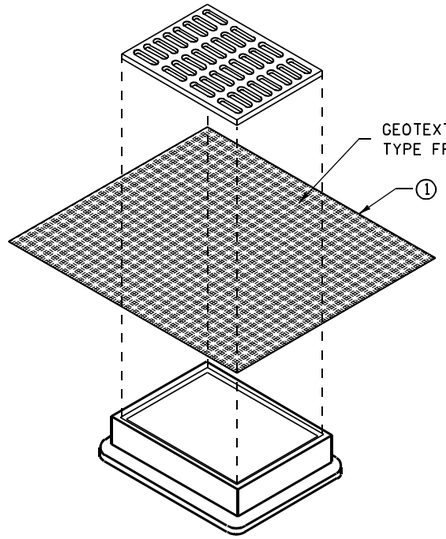
6

S.D.D. 8 E 9-6



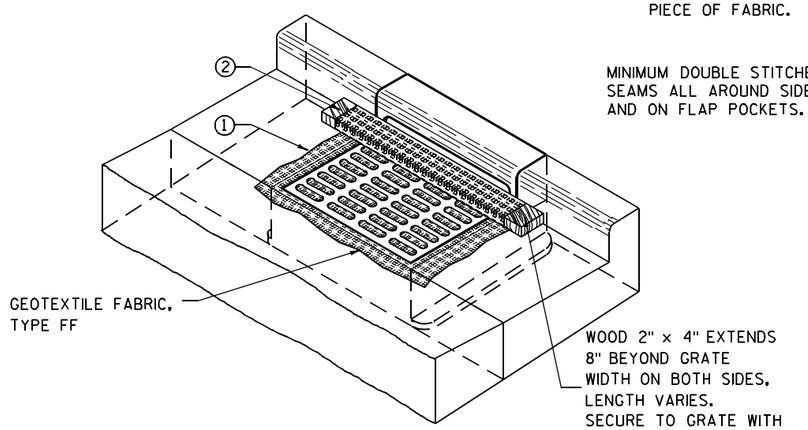




## INLET PROTECTION, TYPE A

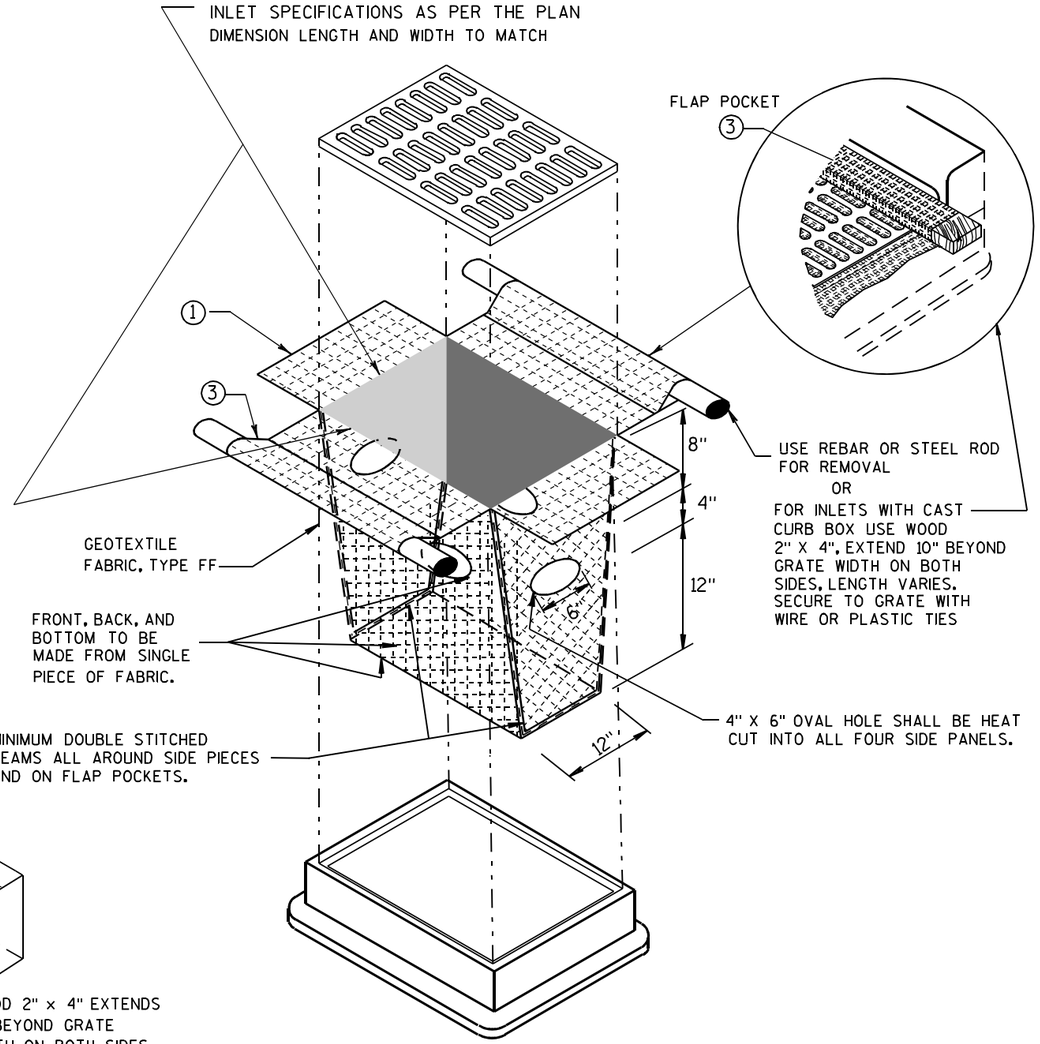



## INLET PROTECTION, TYPE B
## (WITHOUT CURB BOX)

(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.

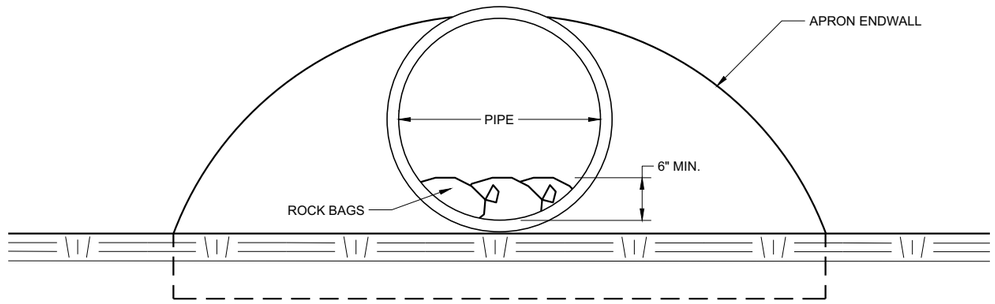
**INLET PROTECTION**
**TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

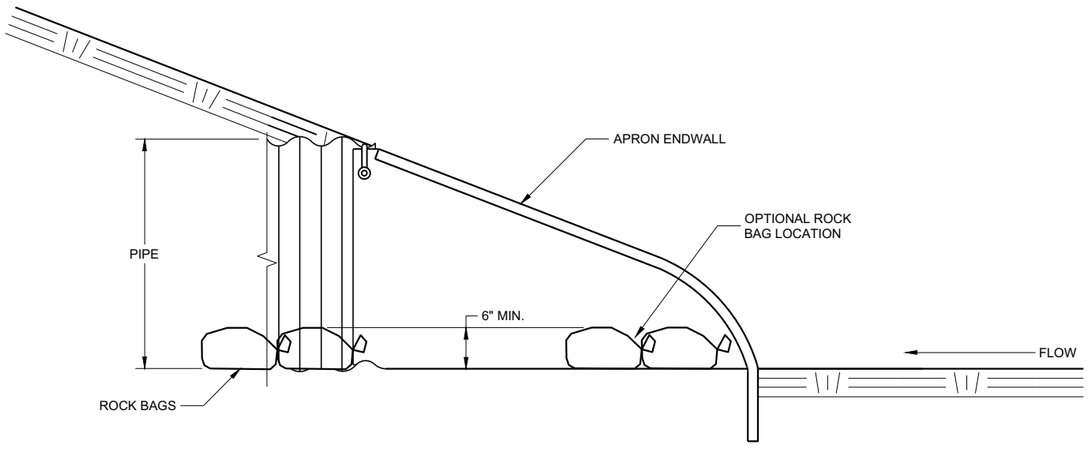
APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA




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

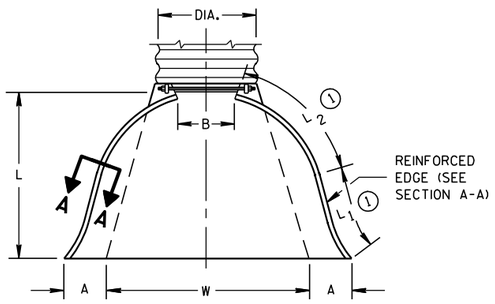
| PIPE DIA. (IN.) | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | .064 | .060 | 6 | 6 | 6 | 21 | 12 | 17 1/2 | 24 | 2 1/2 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

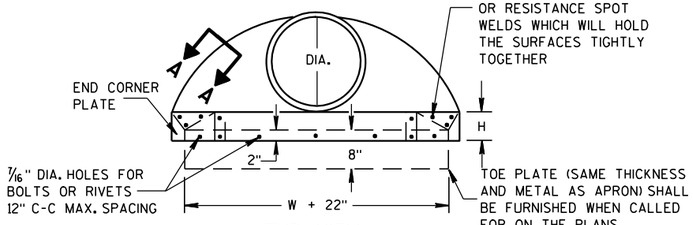
## REINFORCED CONCRETE APRON ENDWALLS

| 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 |

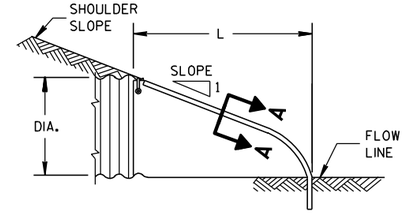
*MINIMUM
**MAXIMUM




PLAN VIEW

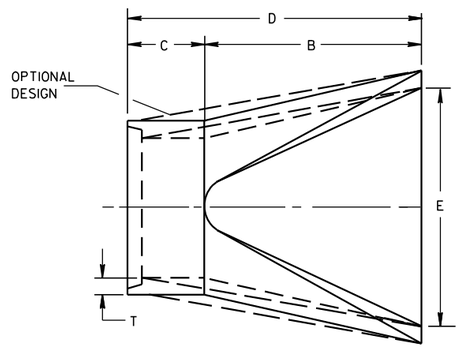



END VIEW

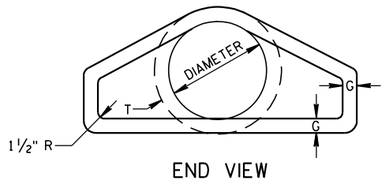



SIDE ELEVATION

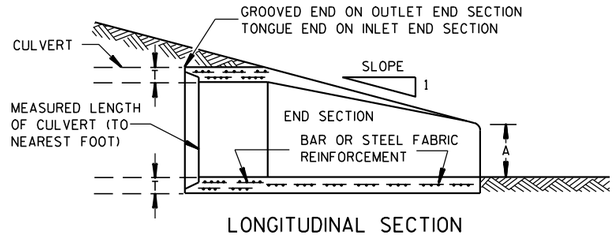
## METAL ENDWALLS




PLAN

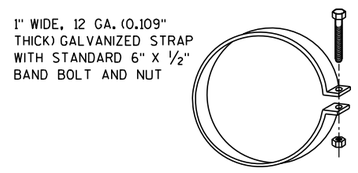



END VIEW



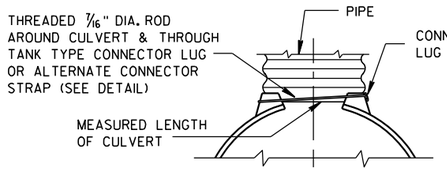

LONGITUDINAL SECTION

## CONCRETE ENDWALLS

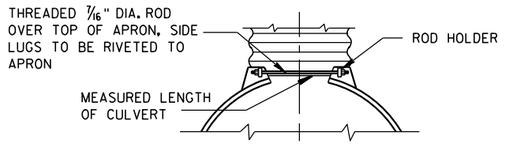



ALTERNATE FOR TYPE 1 CONNECTION

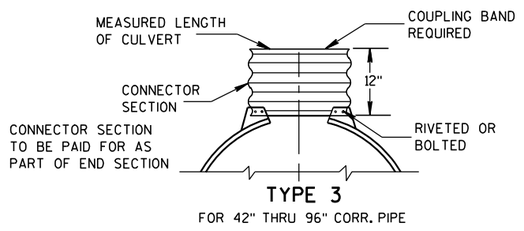
## END SECTION CONNECTOR STRAP



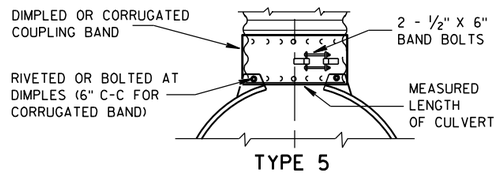

TYPE 1
FOR 12" THRU 24" CORR. PIPE




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

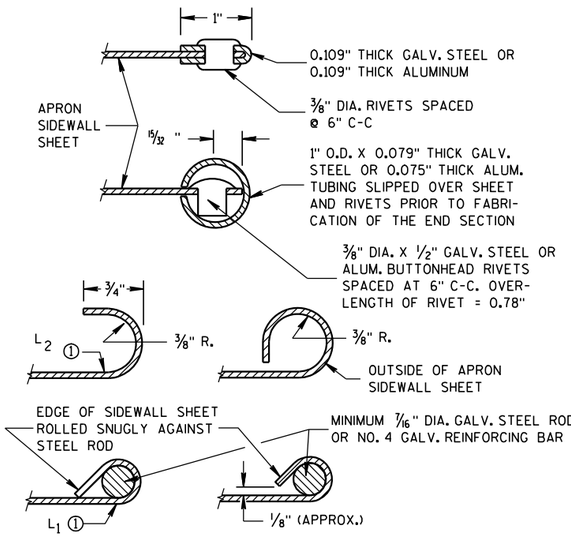
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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**

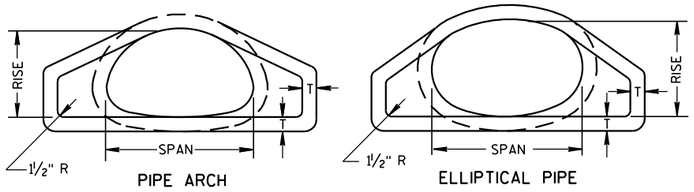
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

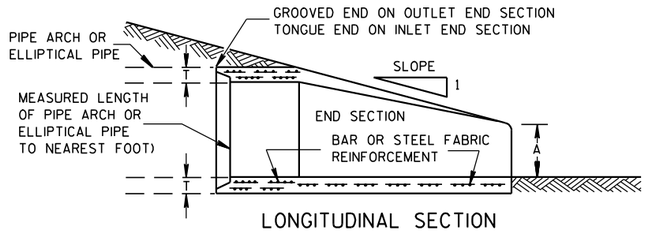


6

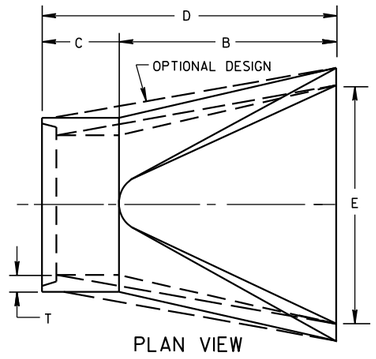
S.D.D. 8 F 1-11




END VIEW

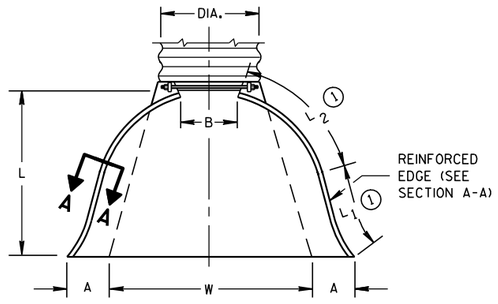



LONGITUDINAL SECTION

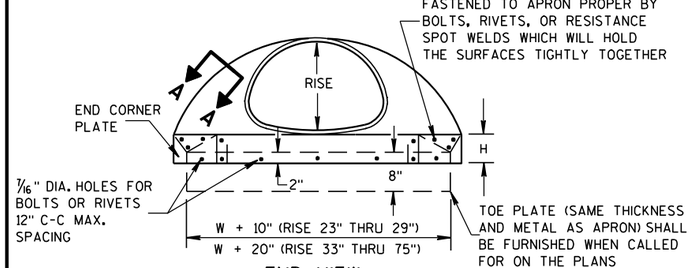



PLAN VIEW

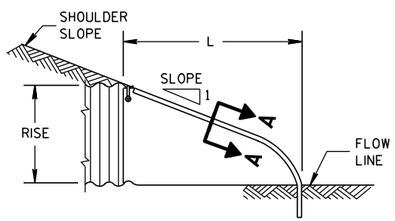
## CONCRETE ENDWALLS




PLAN VIEW

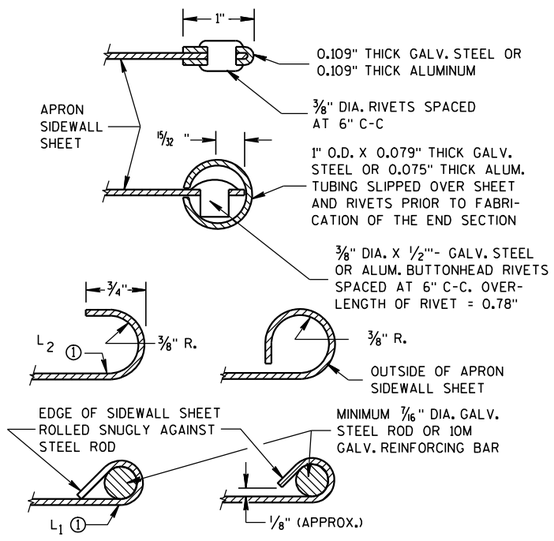



END VIEW




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

## 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.

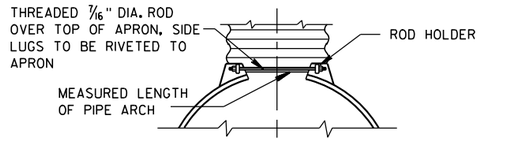
CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

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.

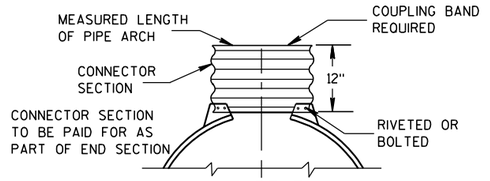
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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.



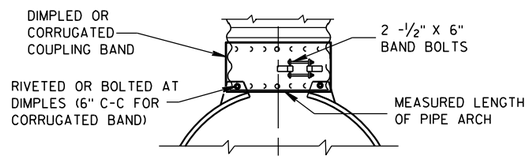

TYPE 2

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

**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

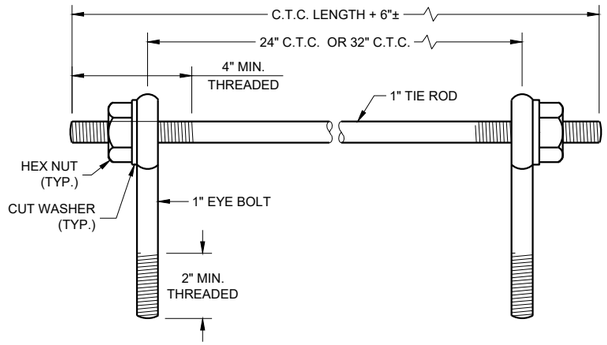


6

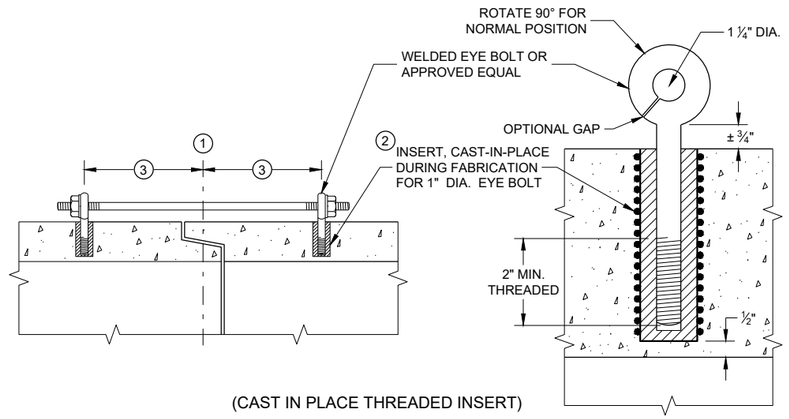
S.D.D. 8 F 2-1

6

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.

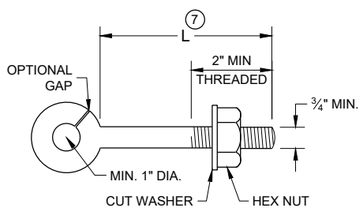
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

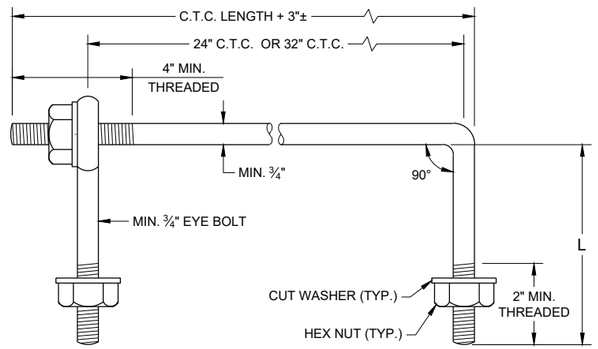
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

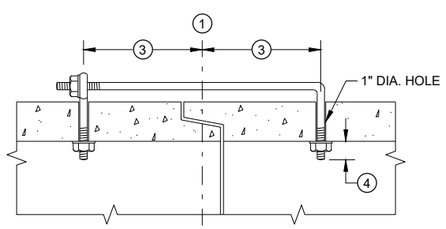



**EYE BOLT** (7)

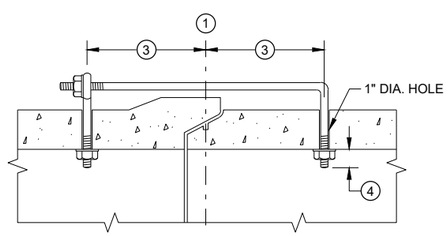
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.




**EYE BOLT AND TIE ROD**




(TONGUE AND GROOVE PIPE)




(MODIFIED BELL PIPE)

**LONGITUDINAL SECTION**

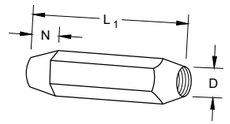
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

## EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

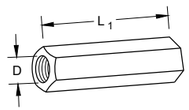
ADJUSTABLE TIE ROD TABLE

| 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



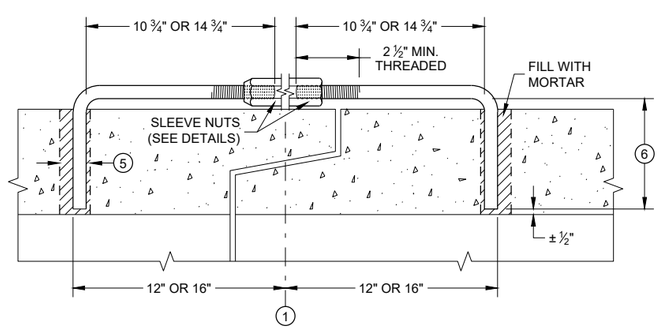

TAPERED




PLAIN

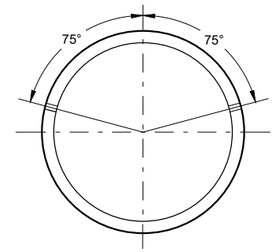
RIGHT AND LEFT THREADS

**SLEEVE NUTS**



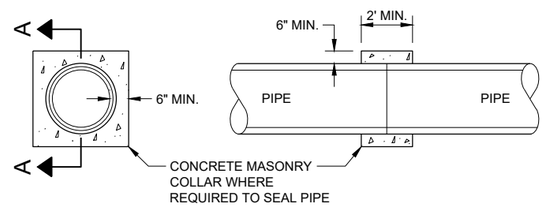

**LONGITUDINAL SECTION**

## 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

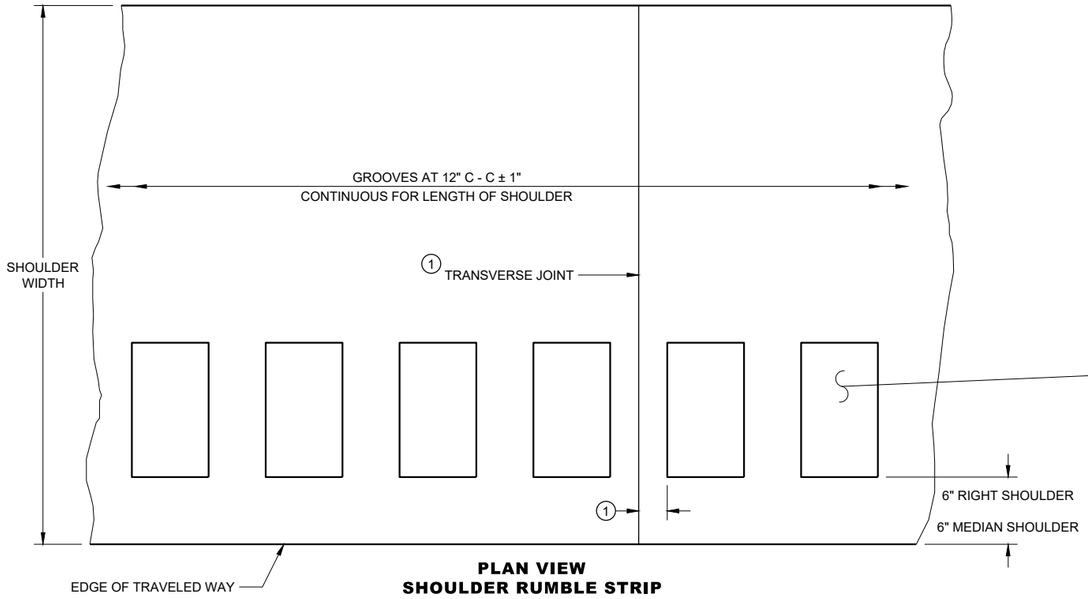
APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

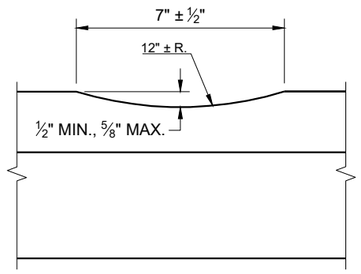


SDD 08F04 - 08

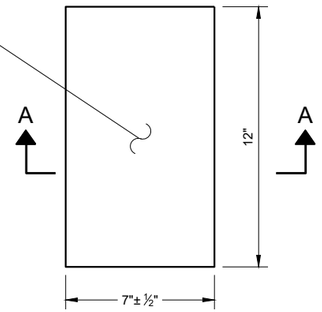
SDD 08F04 - 08




**PLAN VIEW**
**SHOULDER RUMBLE STRIP**




**SECTION A - A**




**PLAN VIEW**
**(SINGLE GROOVE)**

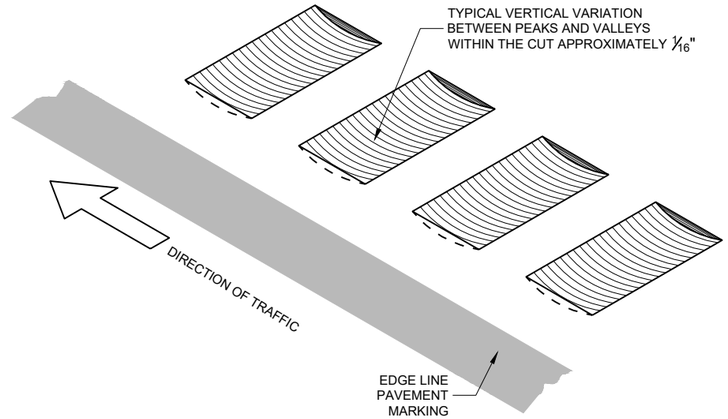
**PLACEMENT DETAIL FOR RUMBLE STRIP**

## GENERAL NOTES

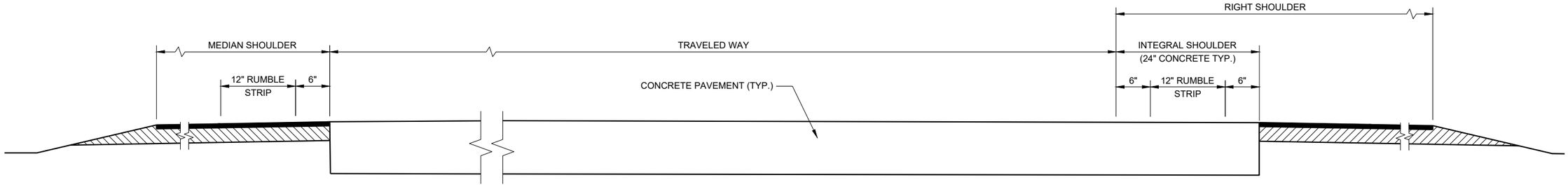
SDD 13A5, SHEET "b" SHOWS THE LOCATION OF THE RUMBLE STRIPS AT RAMP AND GORE LOCATIONS.

RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL AND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6 INCHES AWAY FROM TRANSVERSE JOINTS.




**ISOMETRIC**




**SECTION VIEW**

## TYPICAL SHOULDER RUMBLE STRIPS
**(ONE ROADWAY IS SHOWN)**

**SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY**

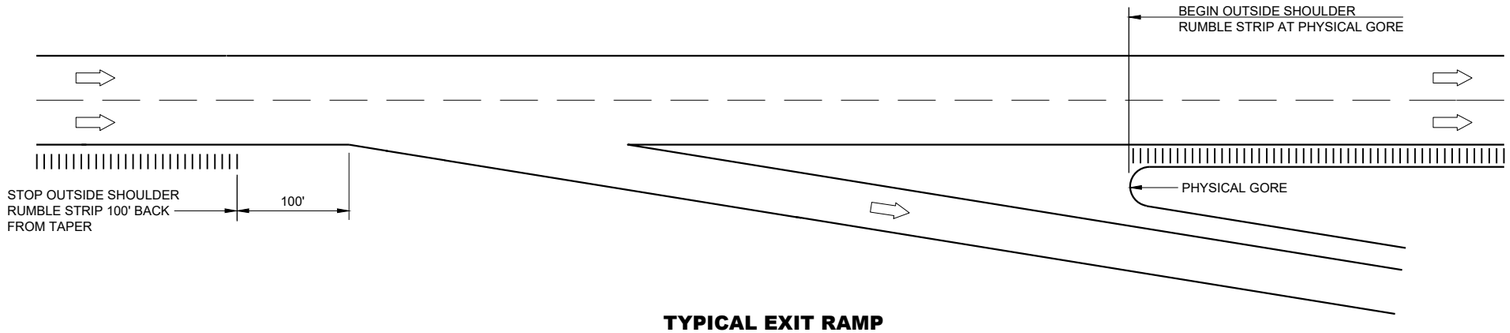
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6



SDD 13A05-06a




**TYPICAL EXIT RAMP**

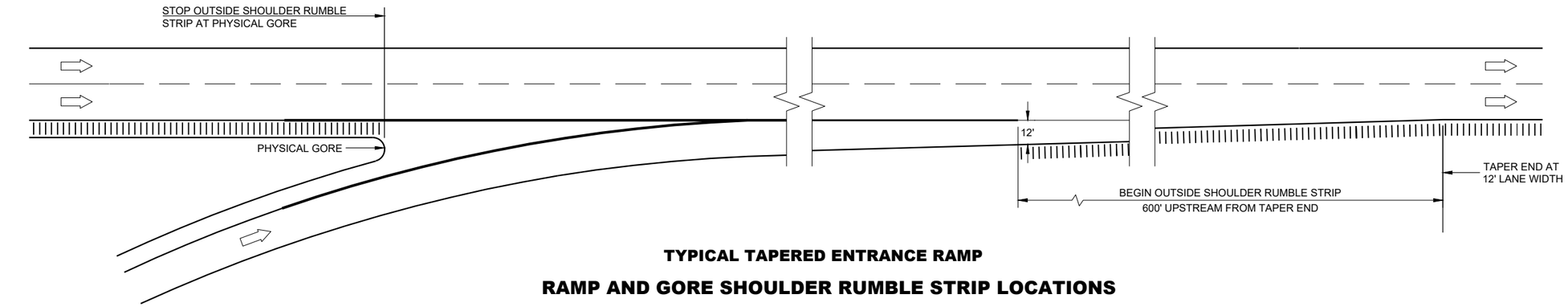
## GENERAL NOTES

NO RUMBLE STRIP ON EXIT, DIRECTIONAL OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIALAND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

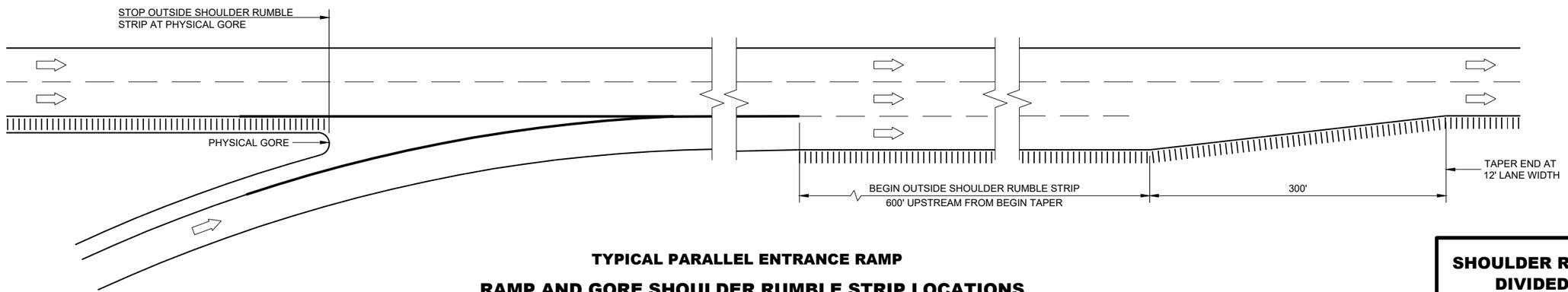
## LEGEND

DIRECTION OF TRAFFIC




**TYPICAL TAPERED ENTRANCE RAMP**

**RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS**




**TYPICAL PARALLEL ENTRANCE RAMP**

**RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS**

# SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY DESIGN STANI
UNIT SUPERVISOR

FHWA




6


SDD 13A05-06b

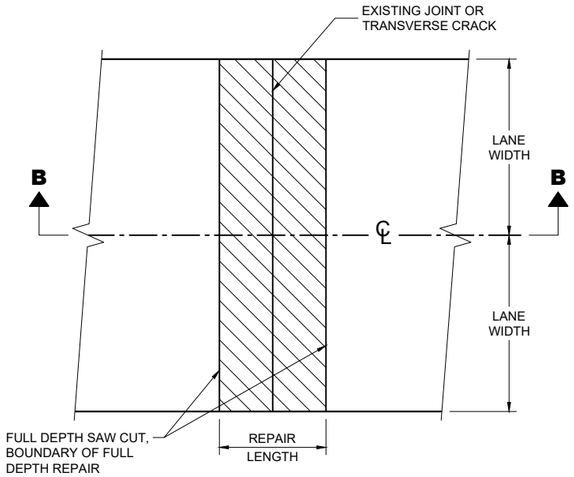
## GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

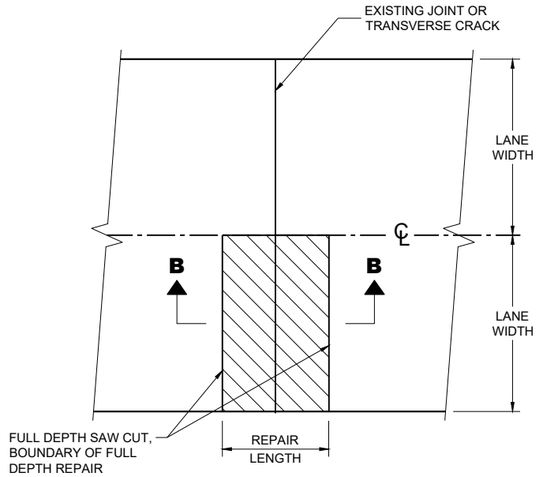
PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

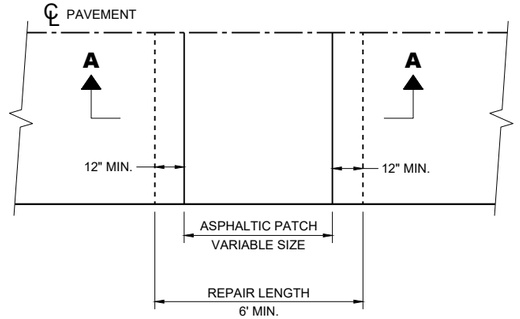
(1) DOWEL BARS MAY NOT BE PRESENT.




**PLAN VIEW**
**(DOUBLE LANE REPAIR)**

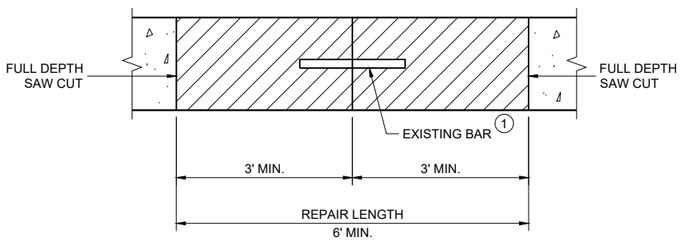



**PLAN VIEW**
**(SINGLE LANE REPAIR)**



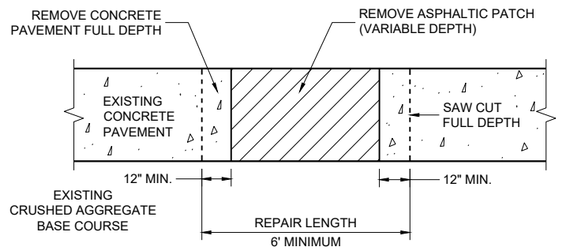

**PLAN VIEW**

## FULL DEPTH CONCRETE PAVEMENT REMOVAL




**SECTION B - B**

**CONCRETE REMOVAL**

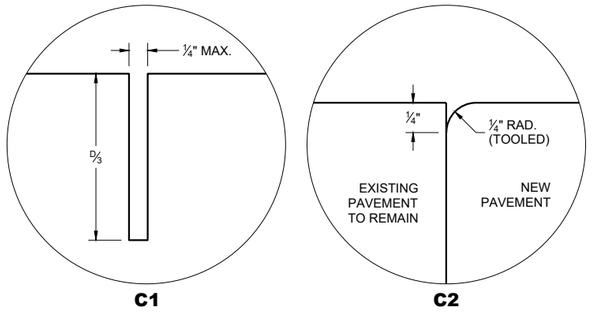



**SECTION A - A**

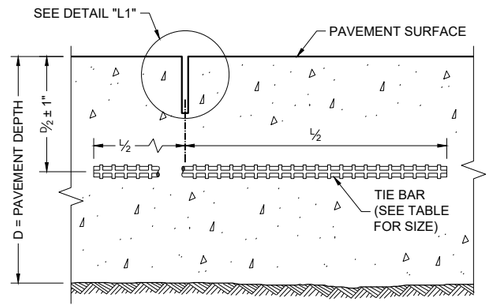
**HMA PATCH REMOVAL**

**CONCRETE PAVEMENT REPAIR AND REPLACEMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

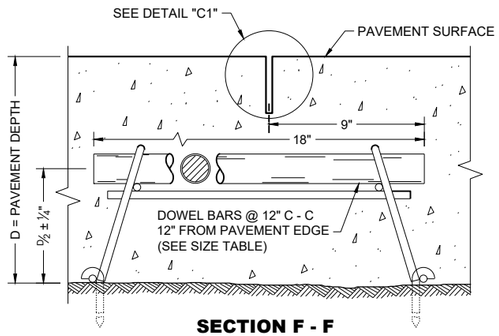



**TRANSVERSE JOINTS**




**SECTION C - C**

**SAWED LONGITUDINAL JOINT**




**SECTION F - F**

**DOWELED CONTRACTION JOINT**

## GENERAL NOTES

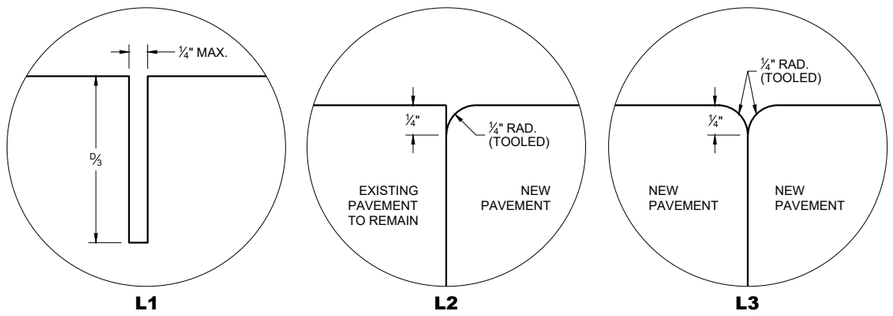
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

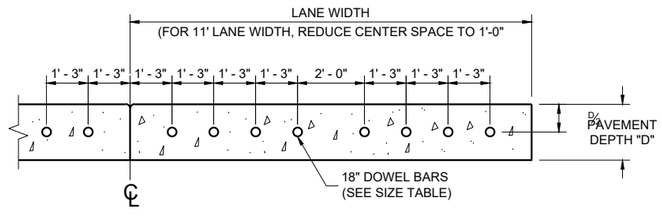
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

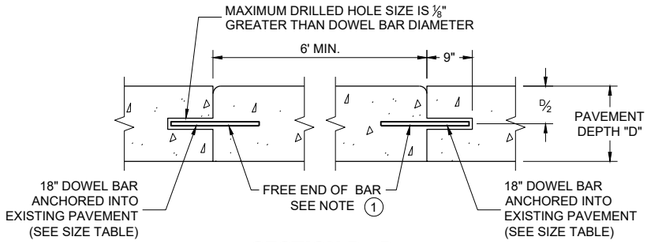



**LONGITUDINAL JOINTS**




**SECTION E - E**

**DRILLED DOWEL BAR CONSTRUCTION JOINT**




**SECTION D - D**

### TIE BAR TABLE

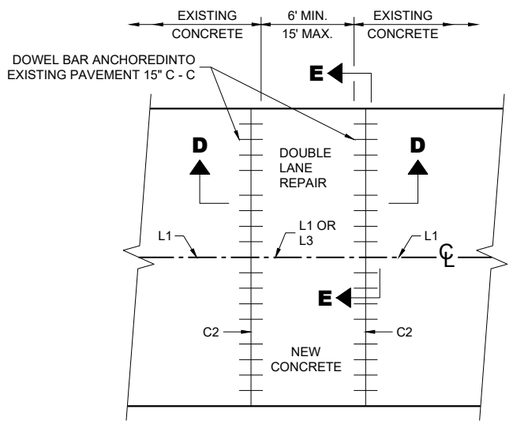
| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|---|---|---|---|
| < 10 ½" | NO. 4 | 30" | 36" |
| ≥ 10 ½" | NO. 5 | 36" | 36" |
| | NO. 4* | 30" | 24" ** |

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

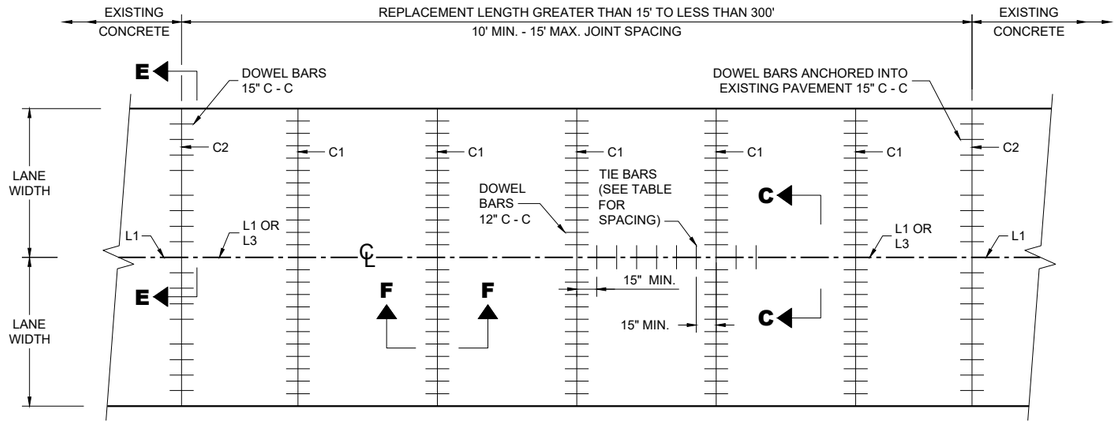
### PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

| PAVEMENT DEPTH (D) | DOWEL BAR DIAMETER | DRILLED DOWEL BAR DIAMETER | CONTRACTION JOINT SPACING |
|---|---|---|---|
| 6", 6 ½" | NONE | NONE | 12' |
| 7", 7 ½" | 1" | 1" | 14' |
| 8" & ABOVE | 1 ¼" | 1 ¼" | 15' |




**PLAN VIEW**

**MULTILANE CONCRETE PAVEMENT REPAIR**

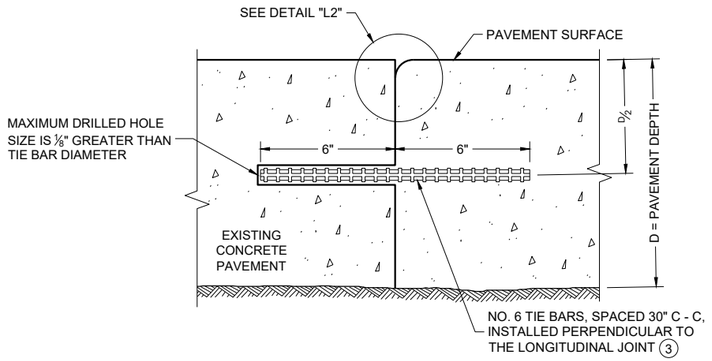



**PLAN VIEW**

**MULTILANE CONCRETE PAVEMENT REPLACEMENT**

**CONCRETE PAVEMENT REPAIR AND REPLACEMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

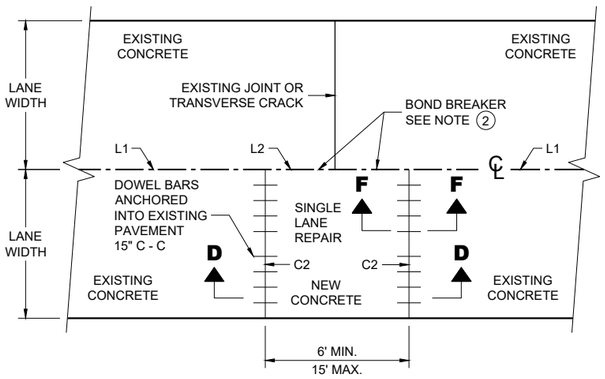



**SECTION G - G**

## TIE BARS ANCHORED INTO EXISTING PAVEMENT

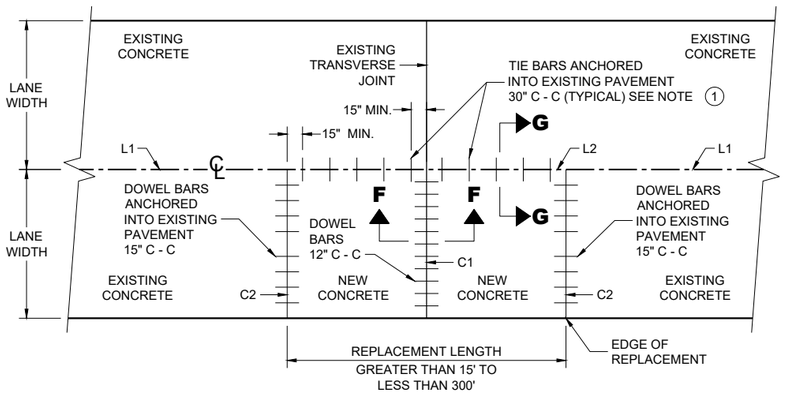
## GENERAL NOTES

1. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
2. USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.
3. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.




**PLAN VIEW**

## SINGLE LANE CONCRETE PAVEMENT REPAIR




**PLAN VIEW**

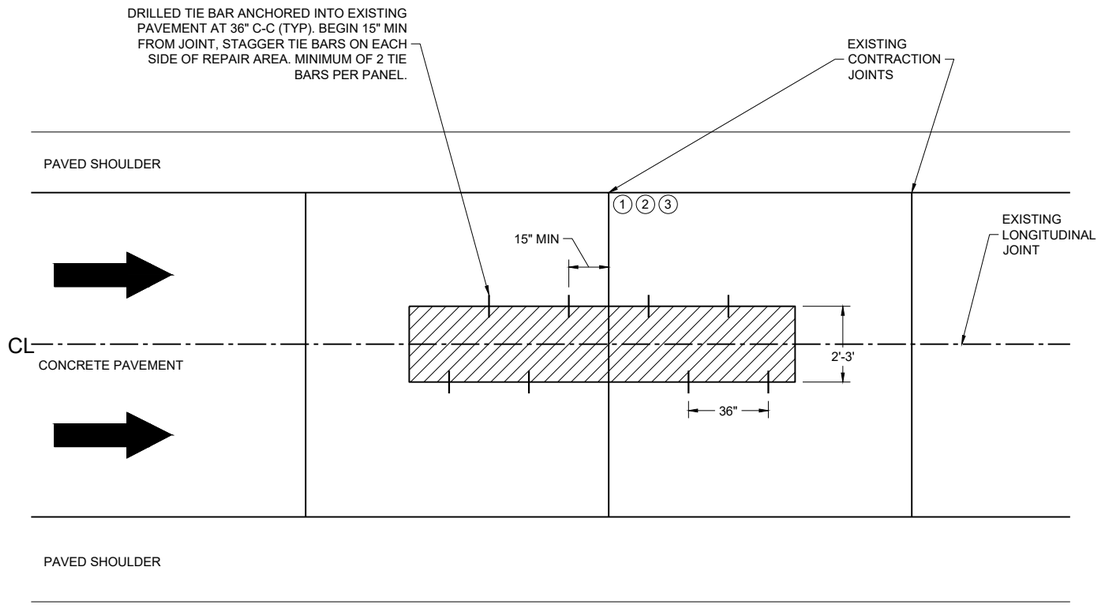
## SINGLE LANE CONCRETE PAVEMENT REPLACEMENT



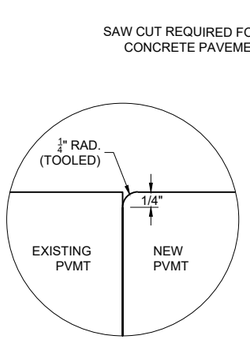
6
SDD 13C09-18c

**CONCRETE REPAIR AND REPLACEMENT**

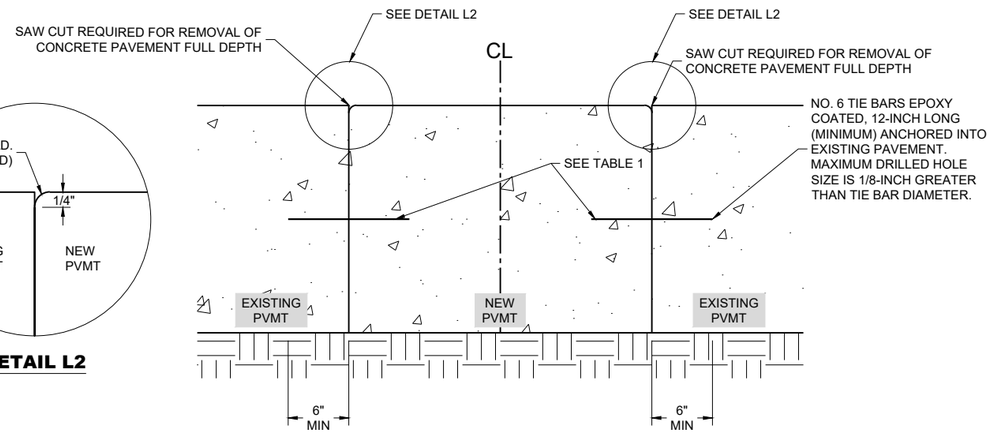
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




**PLAN VIEW**




**DETAIL L2**




**SECTION VIEW**

## GENERAL NOTES

1. TIE BARS MIN 15" FROM JOINT.
2. LOCATION AND WIDTH OF PATCH ARE VARIABLE DEPENDING ON FIELD CONDITION
3. PRESERVE OR REESTABLISH EXISTING CONTRACTION JOINTS, KEEPING PATCH MATERIALS OUT OF REMAINING CONTRACTION JOINT.

| TABLE 1 | |
|---|---|
| PATCH WIDTH | TIE BAR LENGTH |
| 24" | 12" |
| 36" | 18" |

**CONCRETE PAVEMENT CENTERLINE JOINT REPAIR**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
NOVEMBER 2025 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPERVISOR

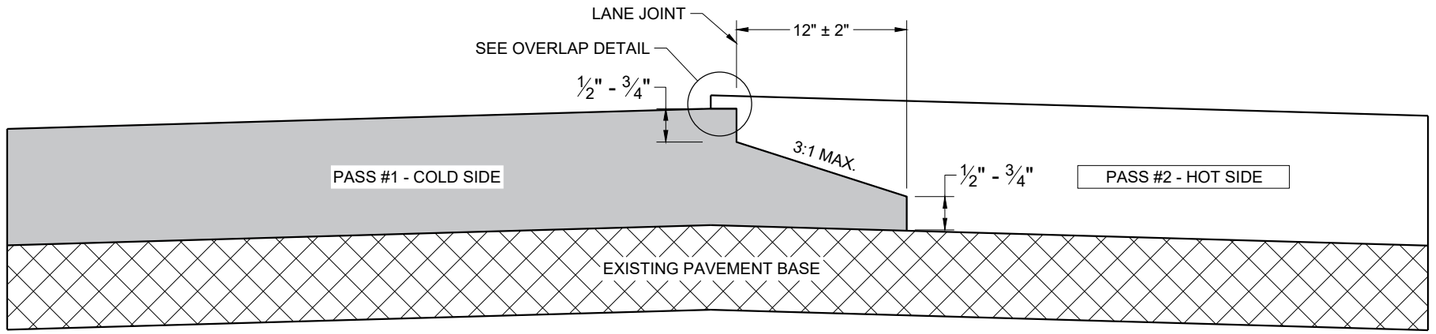
FHWA



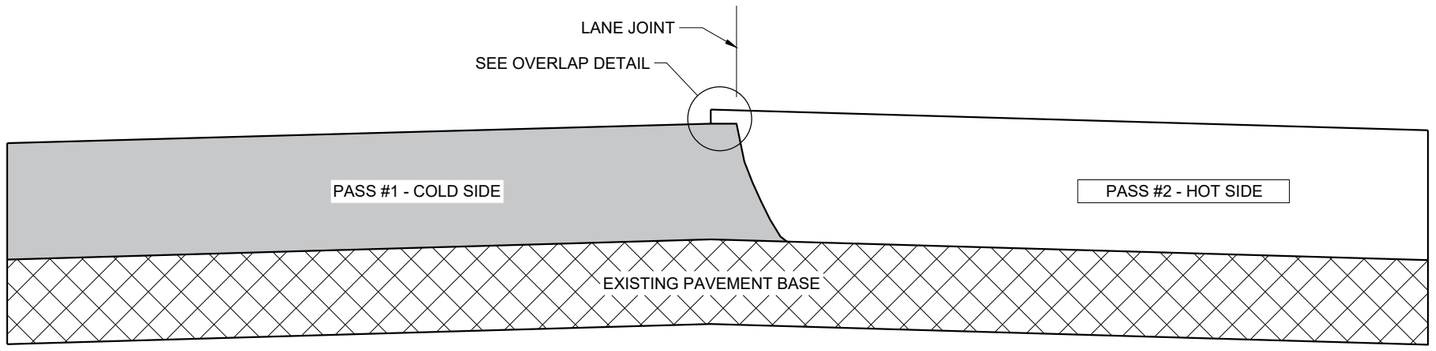
6

SDD 13C09-18d

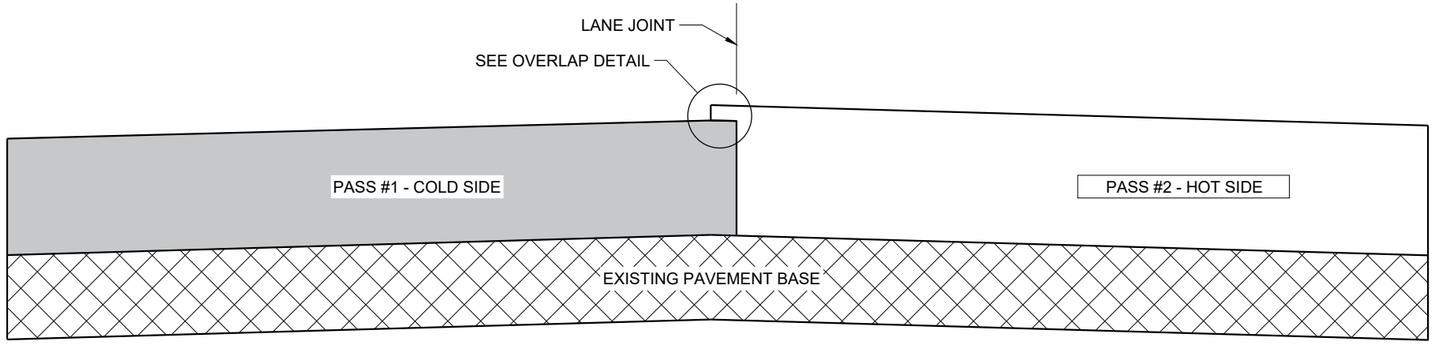
SDD 13C09-18d




**TYPICAL PAVEMENT CROSS SECTION**
**NOTCHED WEDGE JOINT**




**TYPICAL PAVEMENT CROSS SECTION**
**VERTICAL JOINT**




**TYPICAL PAVEMENT CROSS SECTION**
**VERTICAL JOINT (MILLED)**

## GENERAL NOTES

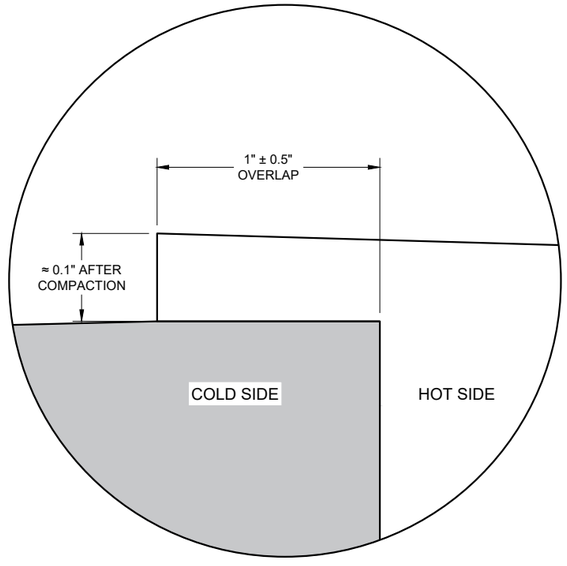
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)**

6

6

SDD 13C19 - 03

SDD 13C19 - 03

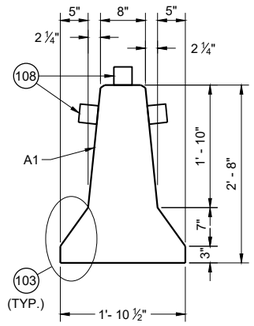
**HMA LONGITUDINAL JOINTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

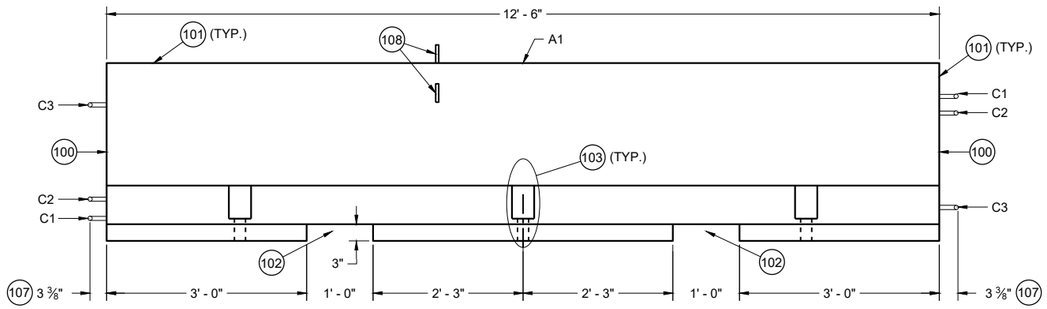
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA




**CROSS SECTION**




**PROFILE VIEW**

## GENERAL NOTES

PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

(100) PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:
- A. TYPE OF BARRIER: WI-CBTP
- B. MANUFACTURER
- C. DATE OF MANUFACTURE (MONTH AND YEAR)

(101) 1" OPTIONAL CHAMFER

(102) SEE LIFTING SLOT DETAIL

(103) SEE ANCHOR BLOCK DETAIL

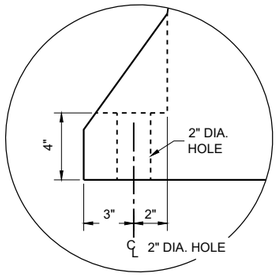
(104) 1 ¾" MIN. CLEAR COVER

(105) 2" MIN. CLEAR COVER

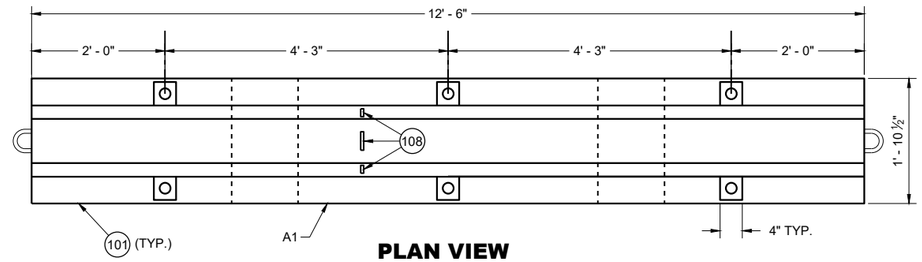
(106) 1" MIN. CLEAR COVER

(107) ± ⅛" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)

(108) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURERS INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED LEFT OF TRAFFIC AND WHITE WHEN BARRIER IS LOCATED RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART, PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO SIDE MOUNTED DELINEATORS ON BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAT 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

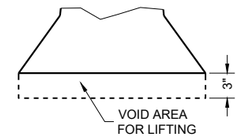



**ANCHOR BLOCK DETAIL**

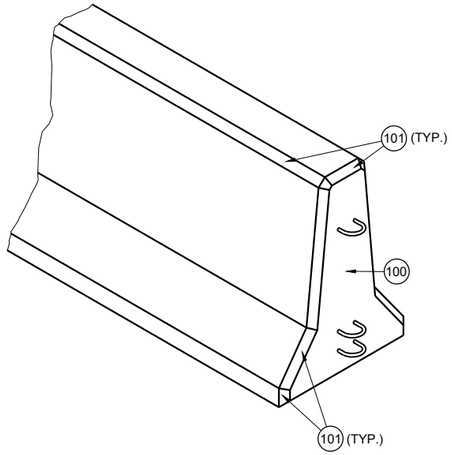


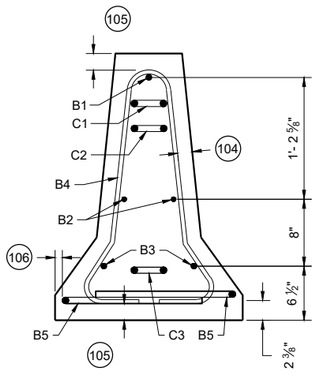

**PLAN VIEW**

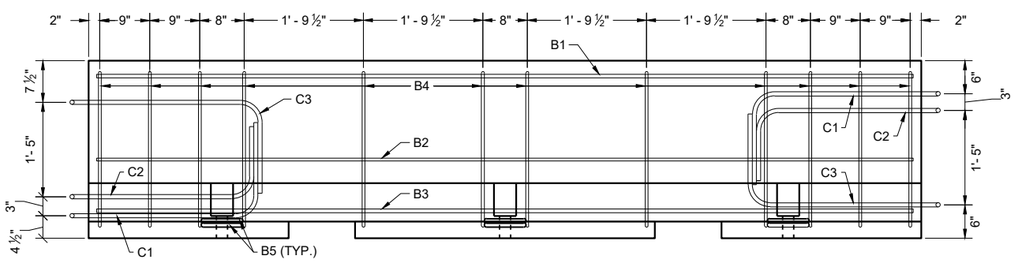
**TEMPORARY BARRIER**




**LIFTING SLOT DETAIL (TYP.)**




**PROFILE VIEW**

**TEMPORARY BARRIER REINFORCEMENT**

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

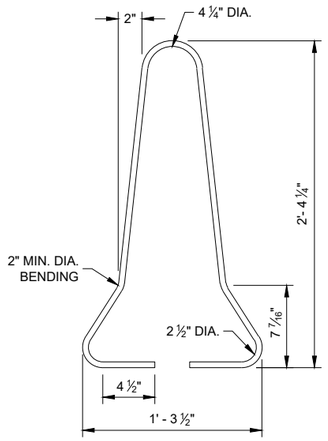
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

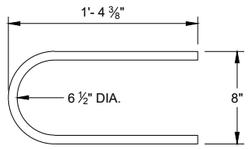
SDD 14B07-16a

6

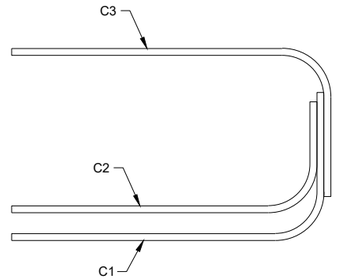
SDD 14B07-16a




**B4 BAR DETAIL**

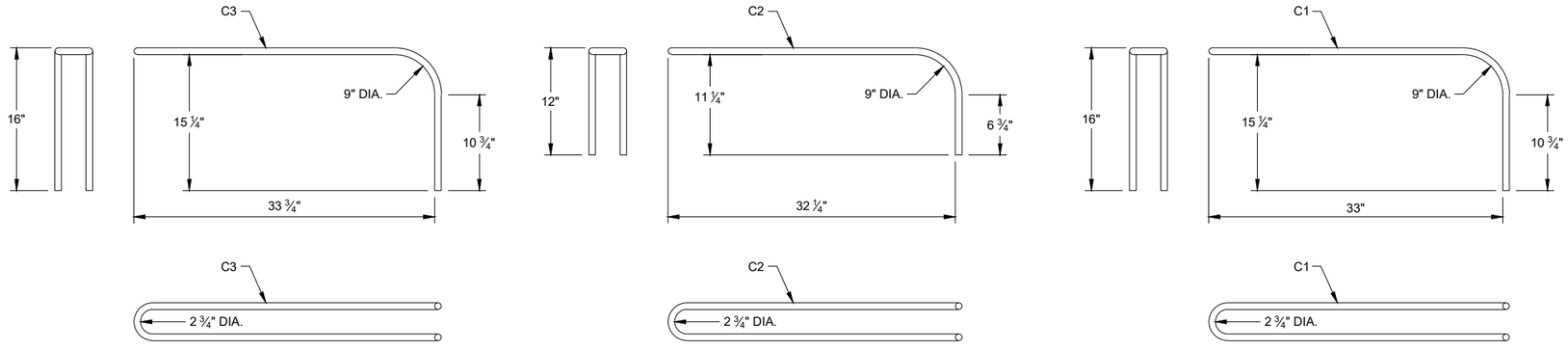



**B5 BAR DETAIL**




**PROFILE VIEW**

**LOOP BAR ASSEMBLY**




**C BAR DETAILS**

6

SDD 14B07-16b

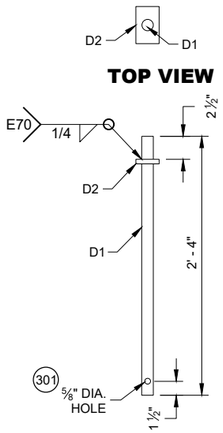
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



6

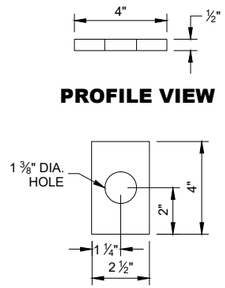
SDD 14B07-16b




**TOP VIEW**

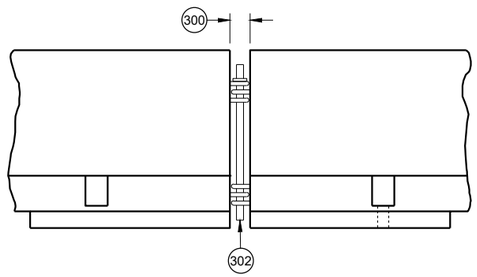
**PROFILE VIEW**

**CONNECTOR PIN ASSEMBLY**




**PROFILE VIEW**

**TOP VIEW D2**




**CONNECTING TEMPORARY BARRIER SECTIONS**

## GENERAL NOTES

300 SET WITH 3 ⅝" WOOD BLOCK.

301 HOLE IS OPTIONAL.

302 CONNECTOR PIN ASSEMBLY.

303 CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.

304 CONCRETE DECK.

305 DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.

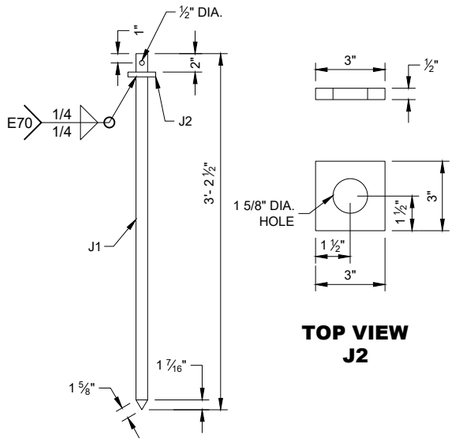
306 MINIMUM OF 2" OF ASPHALT.

307 ASPHALT ANCHOR PIN ASSEMBLY

308 IF DRILLING A PILOT HOLE, THE MAX, DIA. OF THE HOLE IS 3/4"

309 WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.

**TOP VIEW**



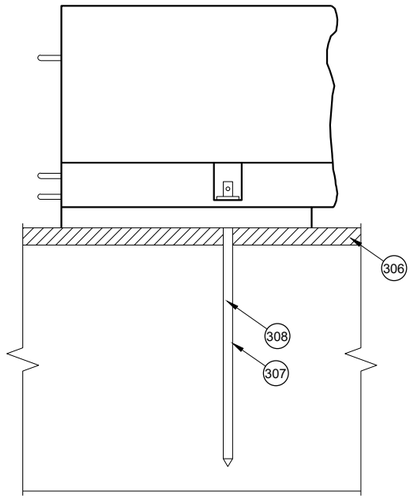




**TOP VIEW J2**

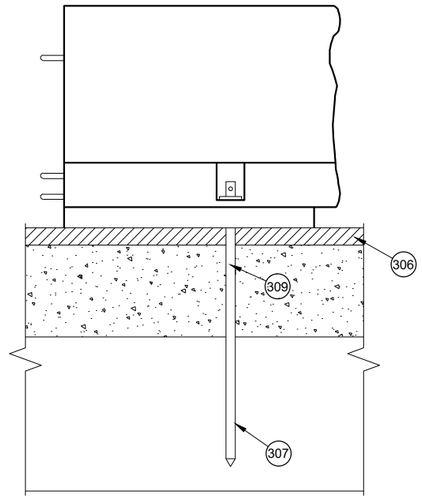
**PROFILE VIEW**

**ASPHALT ANCHOR PIN ASSEMBLY**



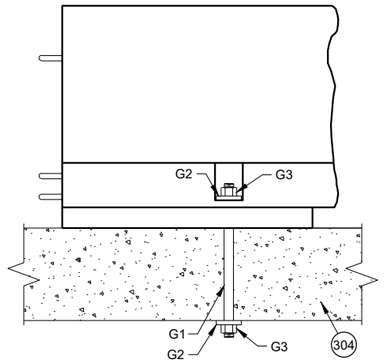

**SIDE VIEW**

**ASPHALT ANCHOR INSTALLATION THROUGH ASPHALT PAVEMENT**



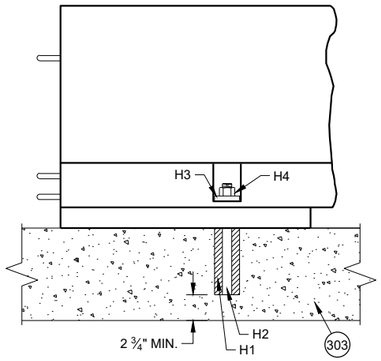

**SIDE VIEW**

**ASPHALT ANCHOR INSTALLATION THROUGH ASPHALT OVERLAY ON TOP OF CONCRETE PAVEMENT**




**SIDE VIEW**

**THROUGH BOLT ANCHOR INSTALLATION** (305)




**SIDE VIEW**

**ADHESIVE ANCHOR INSTALLATION** (305)

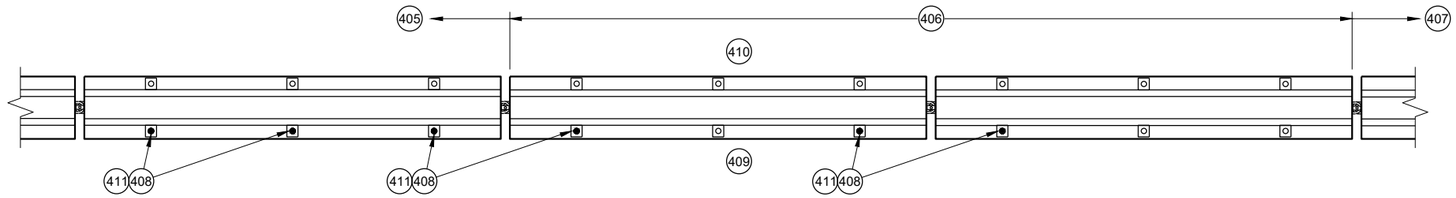
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



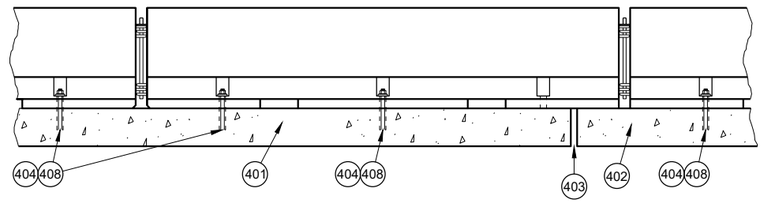


6
SDD 14B07-16c



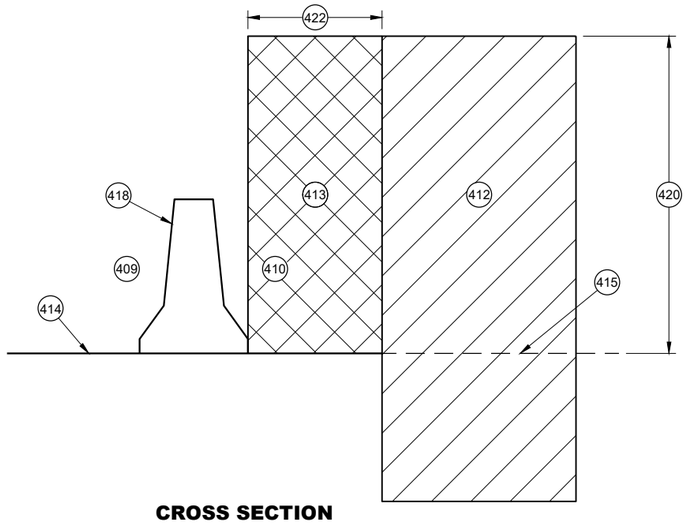

PLAN VIEW

## TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



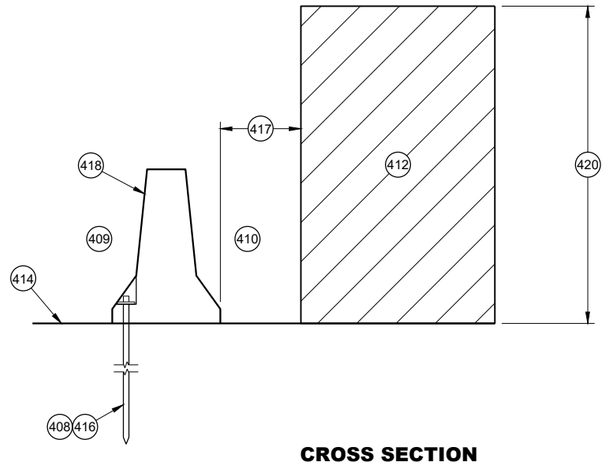

PROFILE VIEW

## ANCHORED BARRIER NEAR EXPANSION JOINT (400)



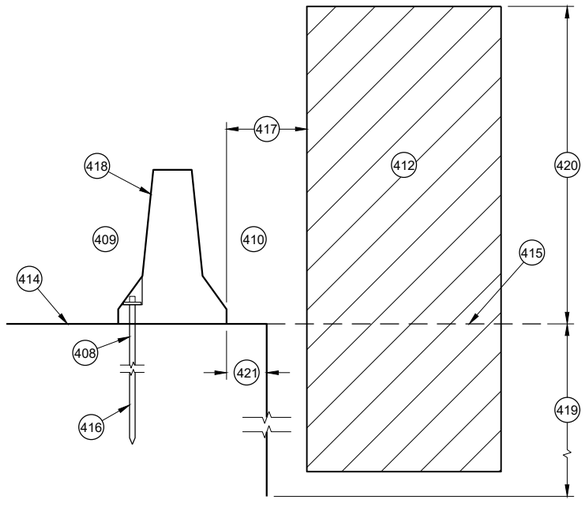

CROSS SECTION

## FREE STANDING BARRIER



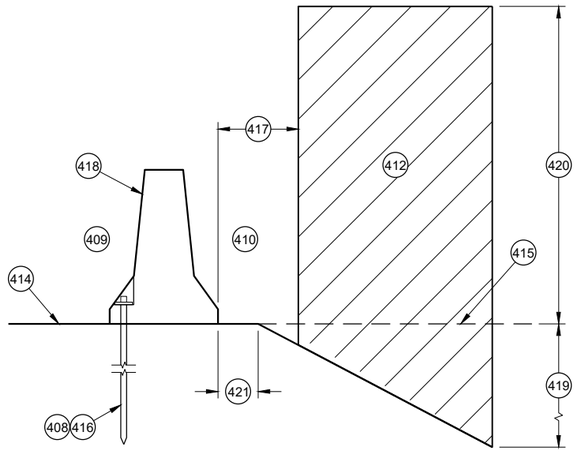

CROSS SECTION

## ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER




CROSS SECTION

## ANCHORED BARRIER NEAR VERTICAL DROP OFF




CROSS SECTION

## ANCHORED BARRIER NEAR A SLOPE

## GENERAL NOTES

(400) NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.

(401) CONCRETE DECK

(402) CONCRETE DECK OR APPROACH SLAB.

(403) EXPANSION JOINT

(404) ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.

(405) ANCHORED TEMPORARY BARRIER

(406) TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING

(407) FREE STANDING BARRIER

(408) REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(409) TRAFFIC SIDE

(410) NON-TRAFFIC SIDE

(411) ANCHOR LOCATION. SEE ANCHORING DETAILS.

(412) WORK AREA

(413) AREA FREE OF OBJECTS AND WORKERS

(414) GRADE LINE

(415) EXTENDED GRADE LINE

(416) ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.

(417) WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.

(418) OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.

(419) DEPTHS OF 3 FEET OR MORE.

(420) Y = 6.5'

(421) OFFSET FROM BACK OF BARRIER EDGE:

| | |
|---|---|
| CONCRETE PAVEMENT | 0.5' |
| ASPHALT | 0.5' |

(422) POSTED SPEED (MPH):

| | |
|---|---|
| 45 OR GREATER | 4.0' |
| 40 OR LOWER | 2.0' |

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION





6
SDD 14B07-16d

## GENERAL NOTES

(500) EXISTING RIGID BARRIERS (VARIES)

(501) TEMPORARY BARRIER

(502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).

(503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.

(504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

(505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.

(506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.

(507) VERTICAL BARRIER

(508) SAFETY SHAPE BARRIER

(509) SINGLE SLOPE BARRIER

(510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.

(511) BENT THRIE BEAM TO FIT.

(512) THRIE BEAM PIECES ARE OFFSET 15 ¼" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.

(513) TWO (2) P1, P2 AND P3 ARE REQUIRED

(514) FIVE (5) N1, N2 AND N3 ARE REQUIRED

(515) TWO (2) R1, R2 AND R3 ARE REQUIRED

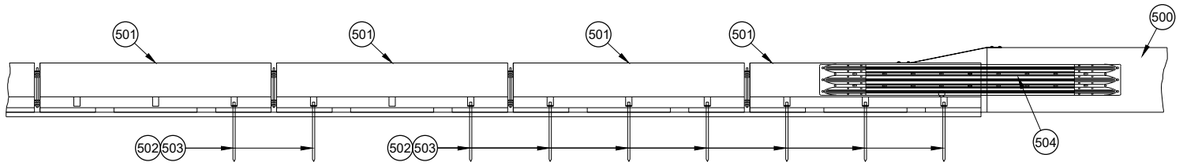
(516) CUT WOOD BLOCK TO FIT.

(517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.

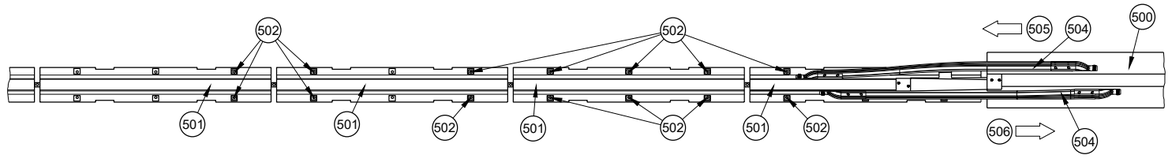
(518) CAP ASSEMBLY

(519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.

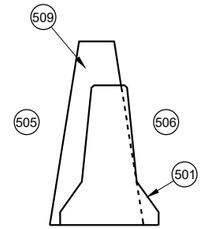
(520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



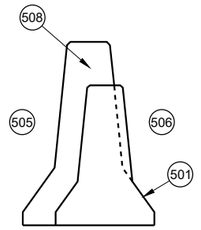

**PROFILE VIEW**



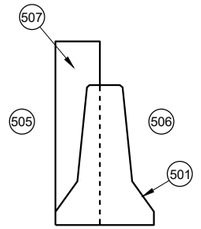

**PLAN VIEW**
**TRANSITION TO RIGID BARRIER**



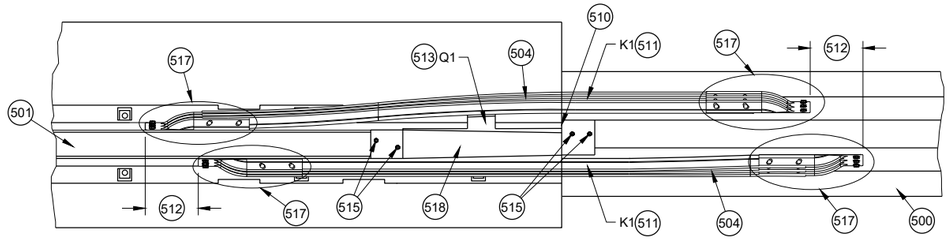

**CROSS SECTION TEMPORARY BARRIER PLACEMENT SINGLE SLOPE**



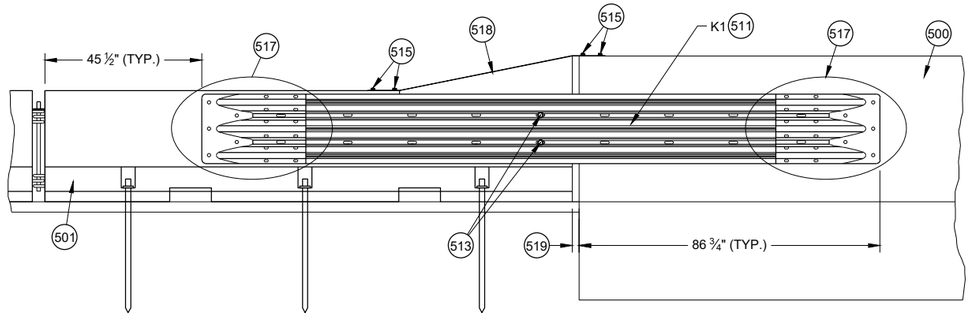

**CROSS SECTION TEMPORARY BARRIER PLACEMENT SAFETY SHAPE**



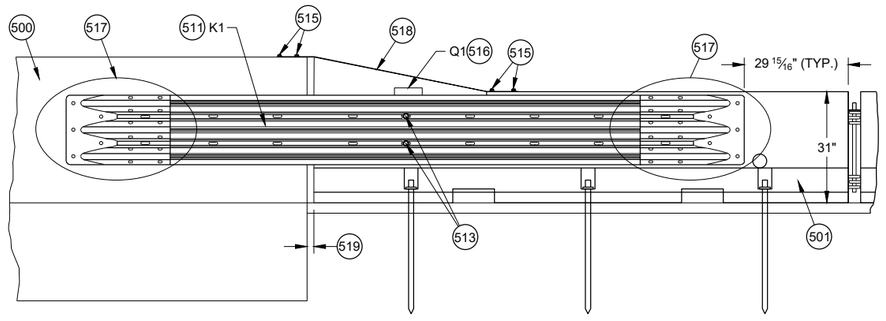

**CROSS SECTION TEMPORARY BARRIER PLACEMENT VERTICAL**



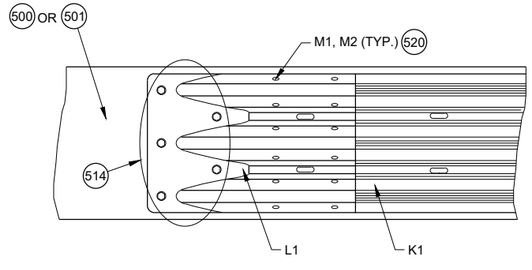

**PLAN DETAIL VIEW**
**TRANSITION TO RIGID BARRIER**




**FRONT DETAIL VIEW**
**TRANSITION TO RIGID BARRIER**




**BACK DETAIL VIEW**
**TRANSITION TO RIGID BARRIER**



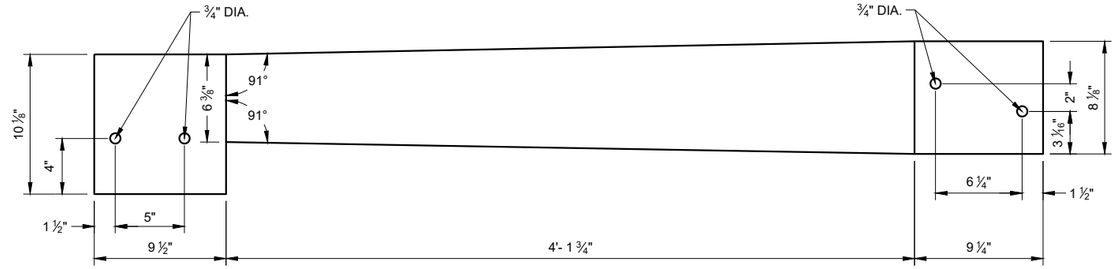

**(517) DETAIL PLAN VIEW**
**THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY**

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**



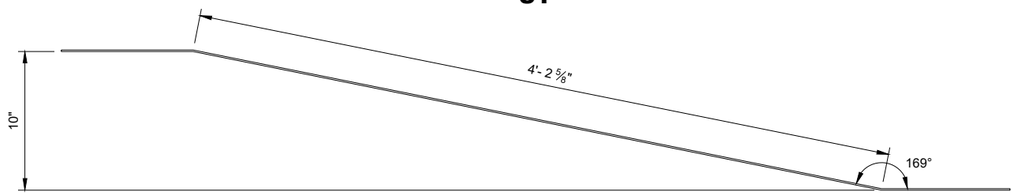

6

SDD 14B07-16e



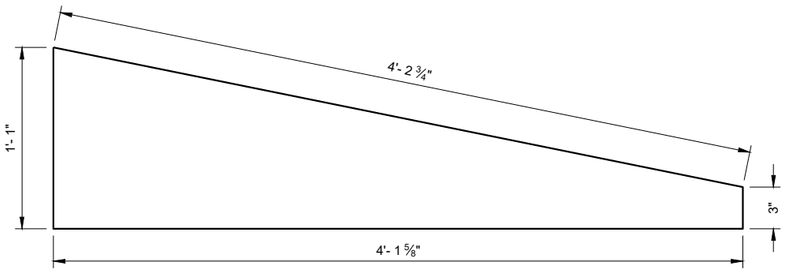

**TOP VIEW**

**S1**



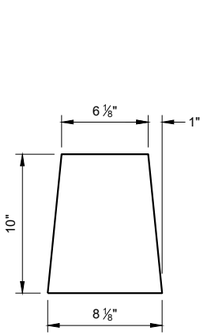

**ELEVATION VIEW**

**S1**

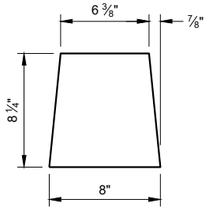



**SIDE VIEW**

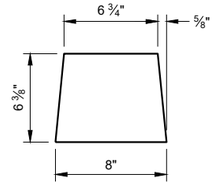
**S3**



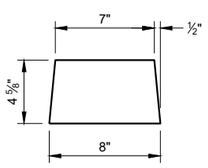

**S2**



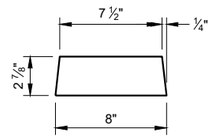

**S4**



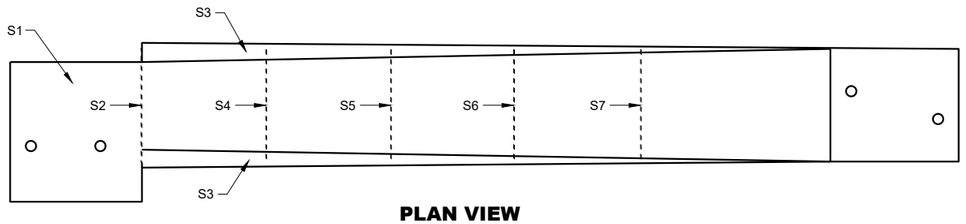

**S5**



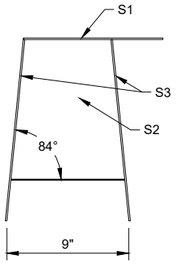

**S6**



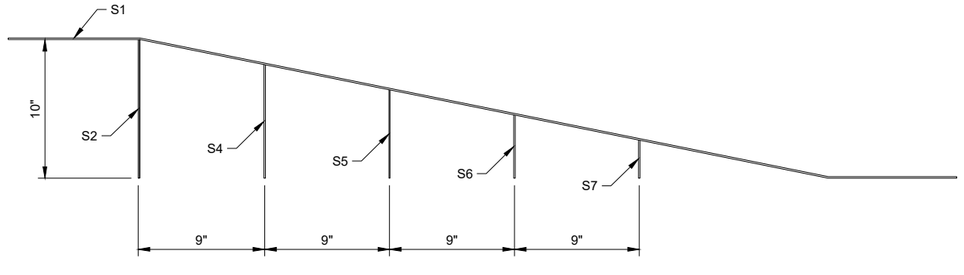

**S7**




**PLAN VIEW**




**BACK VIEW**




**SIDE VIEW** (600)

**42" TOP CAP ASSEMBLY**

**GENERAL NOTES**

STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

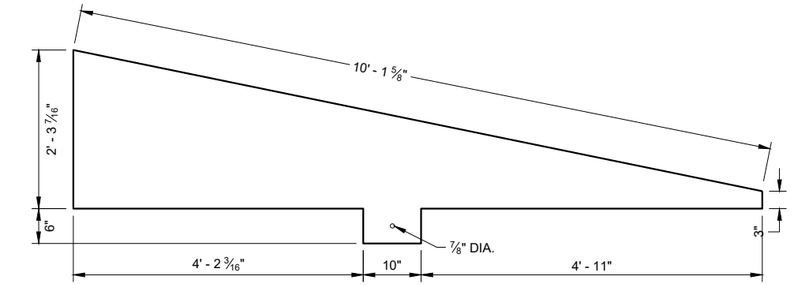




6

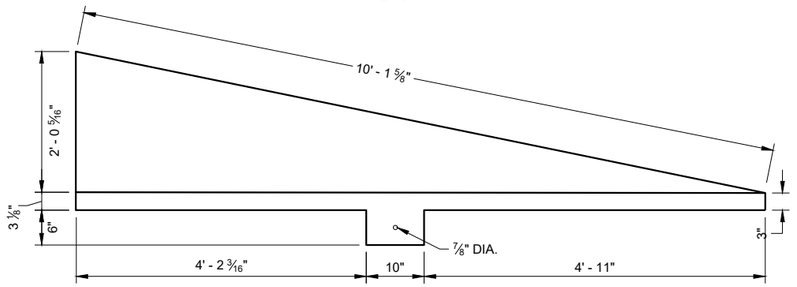


SDD 14B07-16f




**SIDE VIEW**
**T4**

**END VIEW**




**SIDE VIEW**
**T3**




**END VIEW**

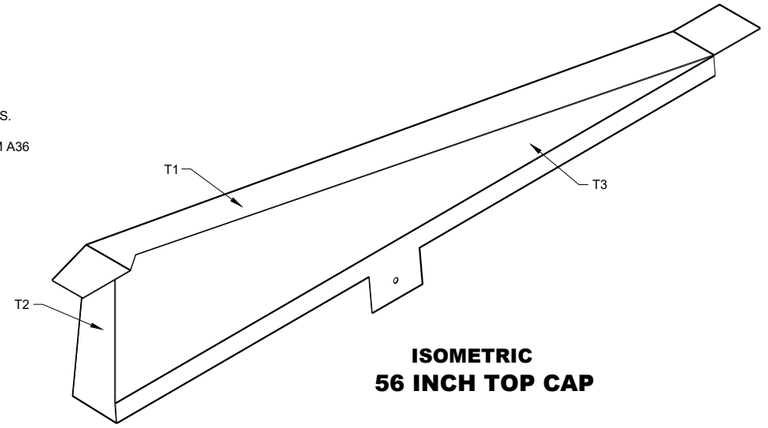
**GENERAL NOTES**

STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES

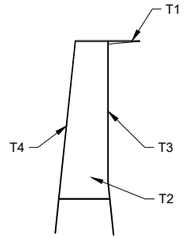
STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

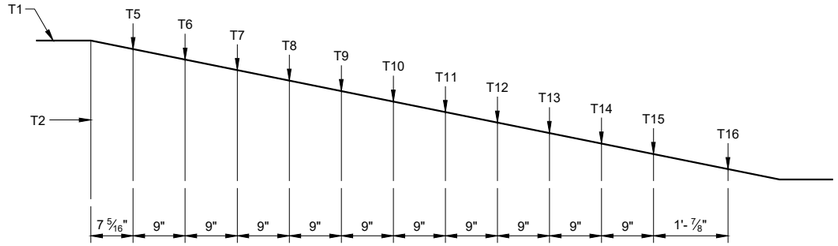
(700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



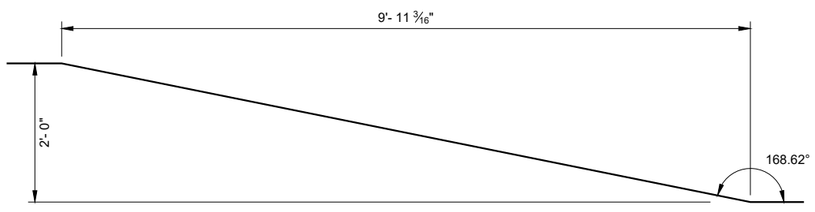

**ISOMETRIC**
**56 INCH TOP CAP**



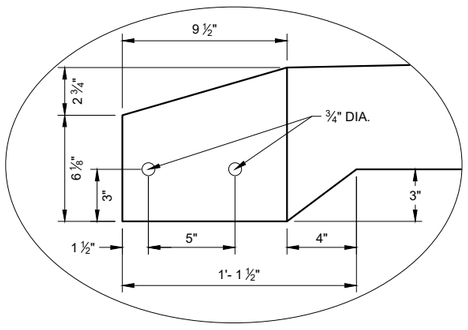

**END VIEW**
**56 INCH TOP CAP**



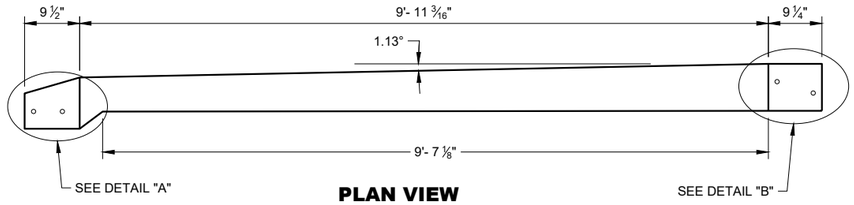

**SIDE VIEW** (700)
**56 INCH TOP CAP**



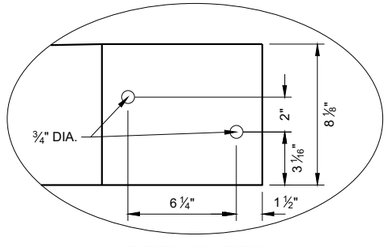

**SIDE VIEW**
**TOP PLATE T1**



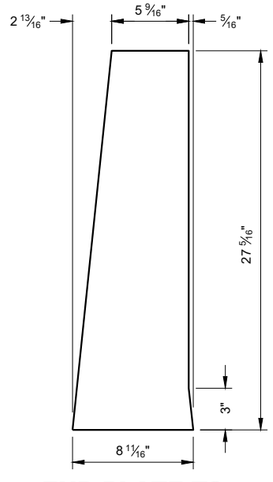

**DETAIL "A"**



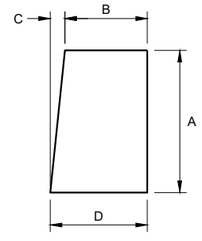

**PLAN VIEW**
**TOP PLATE T1**




**DETAIL "B"**




**END PLATE T2**




**GUSSET PLATES**
**T5 - T16**

| GUSSET DIMENSIONS | | | | |
|---|---|---|---|---|
| GUSSET NO. | A | B | C | D |
| T5 | 22 13/16" | 5 1/16" | 2 5/16" | 8 1/16" |
| T6 | 21" | 5 7/8" | 2 3/16" | 8 1/16" |
| T7 | 19 3/16" | 6 1/16" | 1 15/16" | 8 1/16" |
| T8 | 17 3/8" | 6 1/4" | 1 13/16" | 8 1/16" |
| T9 | 15 5/16" | 6 7/16" | 1 9/16" | 8 1/16" |
| T10 | 13 3/4" | 6 5/8" | 1 7/16" | 8 1/16" |
| T11 | 11 15/16" | 6 13/16" | 1 1/4" | 8 1/16" |
| T12 | 10 1/8" | 7" | 1 1/16" | 8 1/16" |
| T13 | 8 5/16" | 7 3/16" | 7/8" | 8 1/16" |
| T14 | 6 1/2" | 7 3/8" | 1 1/16" | 8 1/16" |
| T15 | 4 11/16" | 7 9/16" | 1/2" | 8" |
| T16 | 2 7/8" | 7 3/4" | 1/4" | 8" |

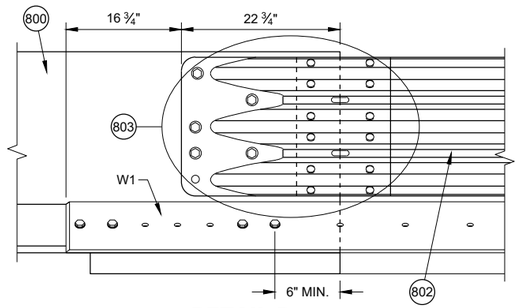
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

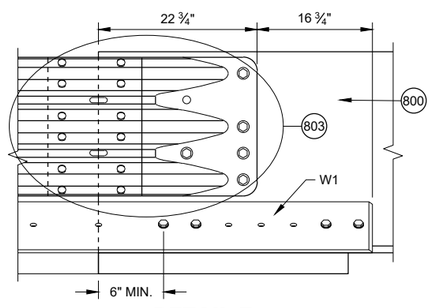



6

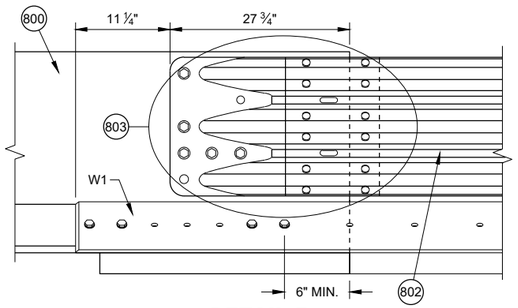

SDD 14B07-16g



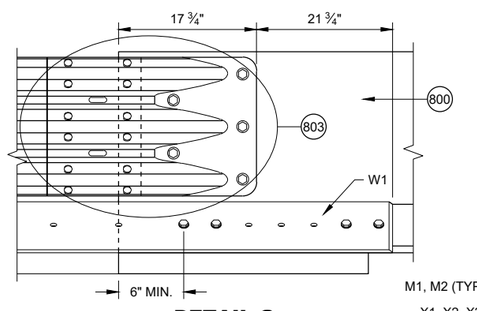

**DETAIL D**



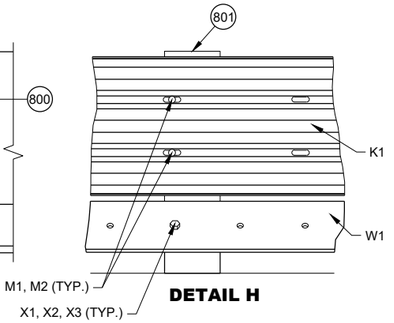

**DETAIL E**



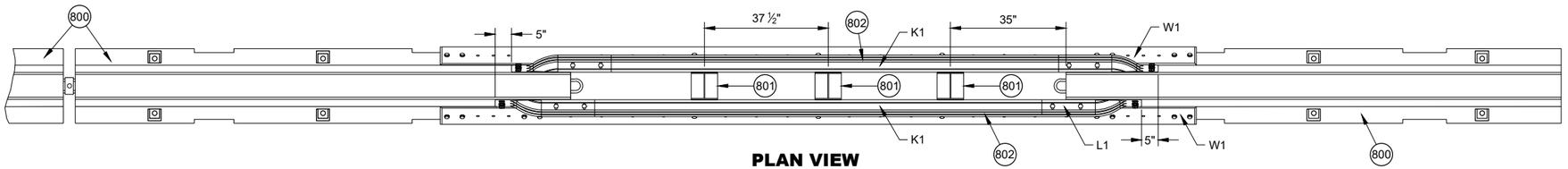

**DETAIL F**




**DETAIL G**




**DETAIL H**




**PLAN VIEW**

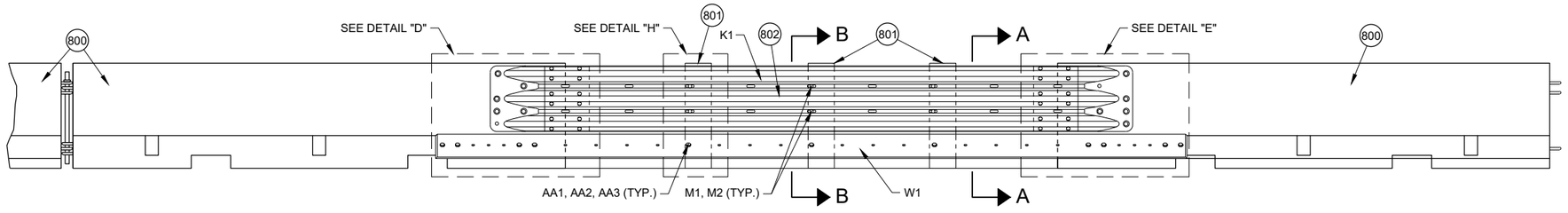
## GENERAL NOTES

(800) FREE STANDING TEMPORARY BARRIER

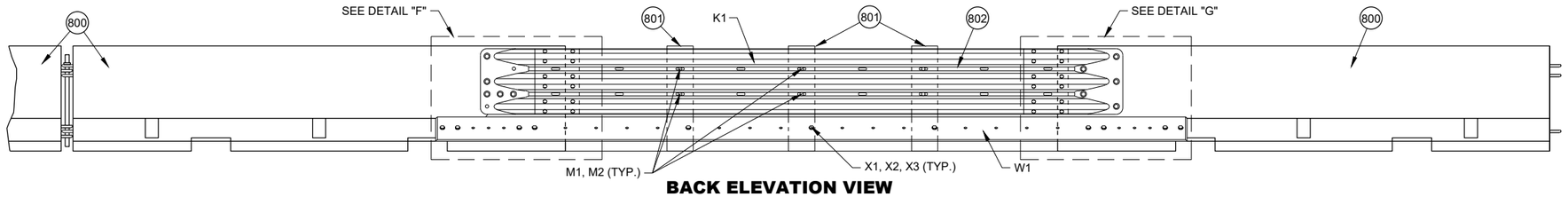
(801) GAP STIFFENER ASSEMBLY

(802) THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.

(803) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL




**FRONT ELEVATION VIEW**




**BACK ELEVATION VIEW**

**PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER**

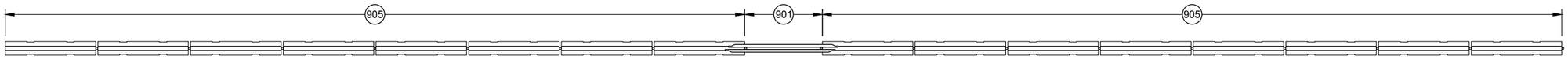
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

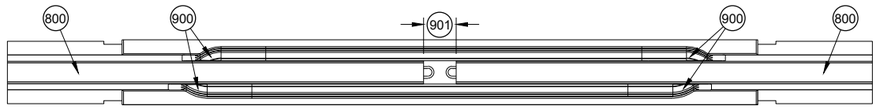




6
SDD 14B07-16h



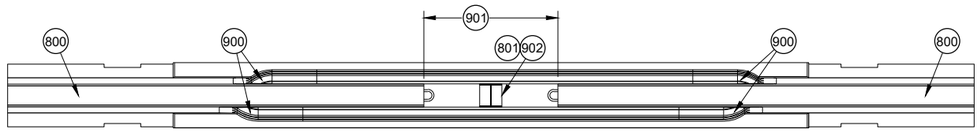

**PLAN VIEW**
**GAP WITHIN SPACING**



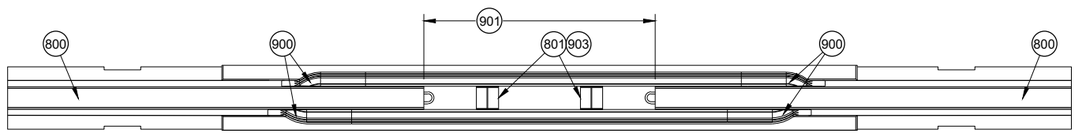

**PLAN VIEW**
**TEMPORARY BARRIER GAP OVER 4" TO 1' MAX.** (904)

## GENERAL NOTES

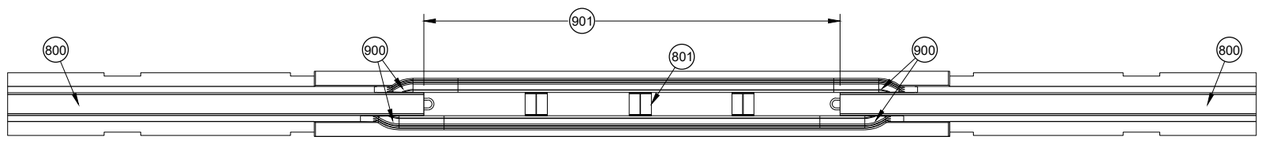
(900) SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
(901) TEMPORARY BARRIER GAP
(902) GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
(903) GAP STIFFENER ASSEMBLY IS OFFSET 18 ¾" FROM CENTER
(904) MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
(905) MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS




**PLAN VIEW**
**TEMPORARY BARRIER GAP OVER 1' TO 4' MAX.** (904)




**PLAN VIEW**
**TEMPORARY BARRIER GAP OVER 4' TO 7' MAX.** (904)



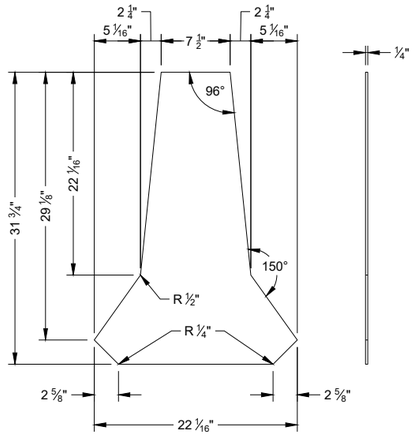

**PLAN VIEW**
**TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX.** (904)

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

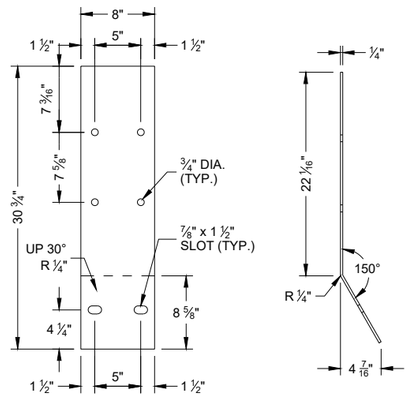



6
SDD 14B07-16i




PROFILE VIEW SIDE VIEW

**STIFFENER ASSEMBLY CENTER PANEL U1**

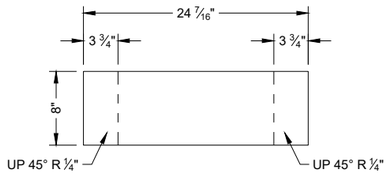




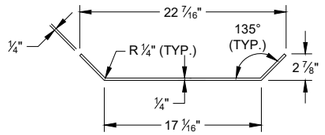


FLAT PATTERN SIDE VIEW

**STIFFENER ASSEMBLY SIDE PANEL U2**

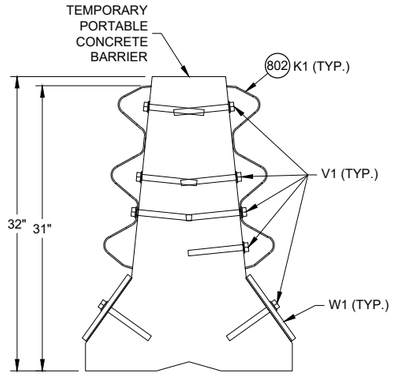



**FLAT PATTERN**

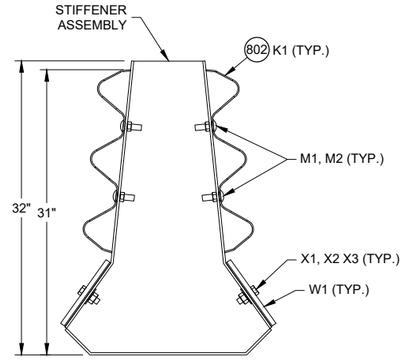



PROFILE VIEW

**STIFFENER ASSEMBLY BOTTOM PANEL U3**



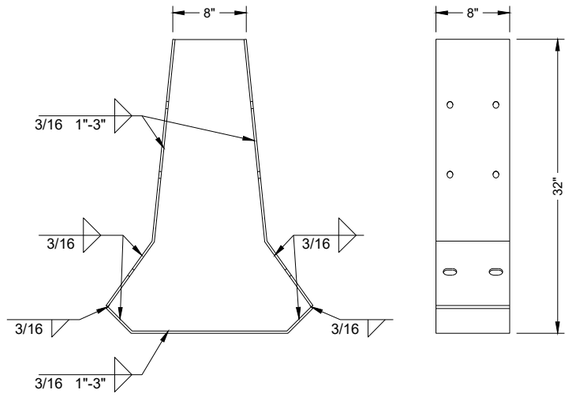

**SECTION A - A**




**SECTION B - B**



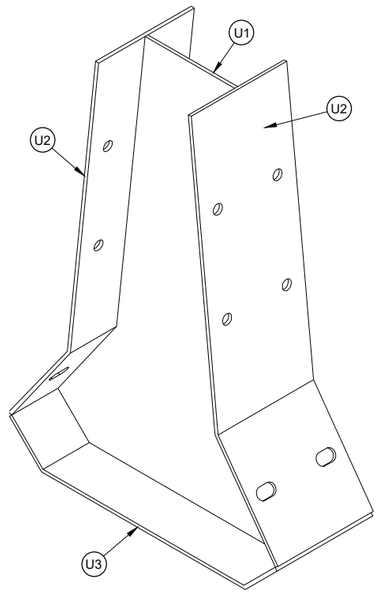

PLAN VIEW




PROFILE VIEW

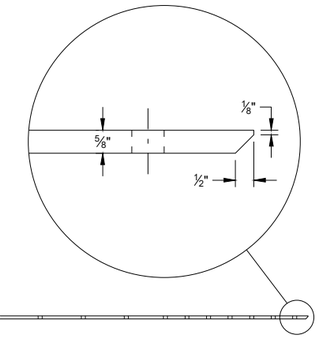



SIDE VIEW

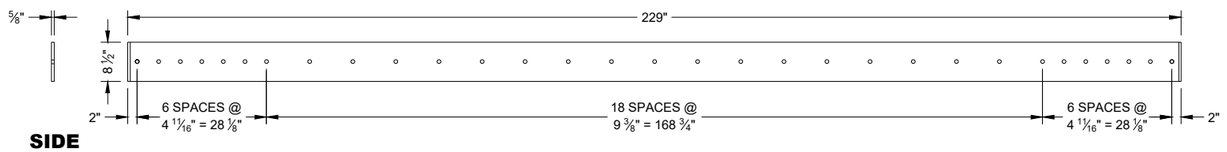



ISOMETRIC

**GAP STIFFENER ASSEMBLY**




PLAN VIEW




SIDE VIEW

ELEVATION VIEW

**W1 TOE PLATE**

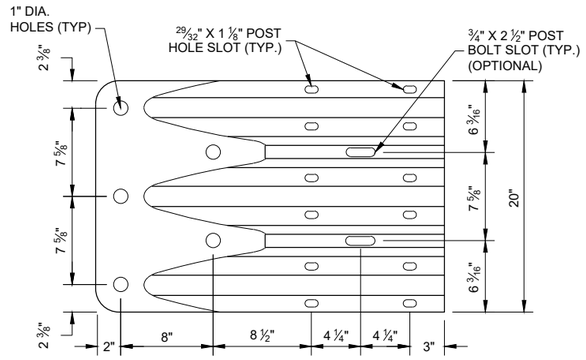
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



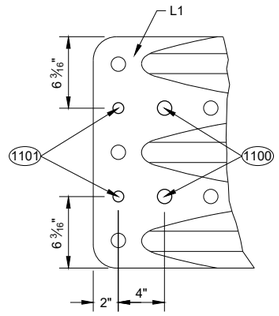


6
SDD 14B07-16j




**ELEVATION VIEW**

**THRIE BEAM TERMINAL CONNECTOR**




**ELEVATION VIEW**

**ADDITIONAL THRIE BEAM (1102) TERMINAL CONNECTOR HOLE DETAIL**

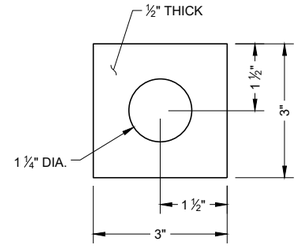


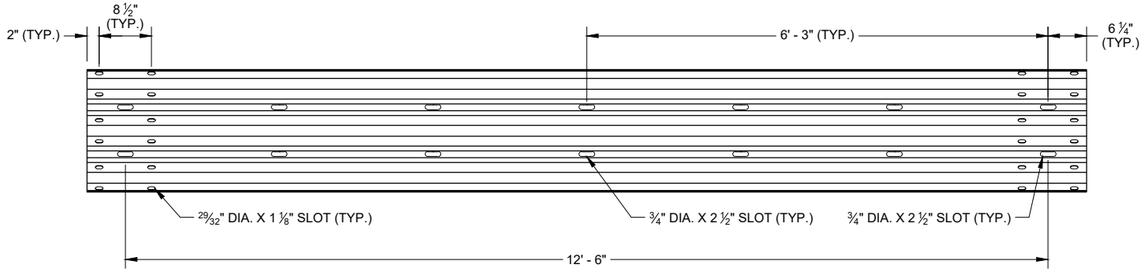

**PLATE WASHER DETAIL G2, H3**

## GENERAL NOTES

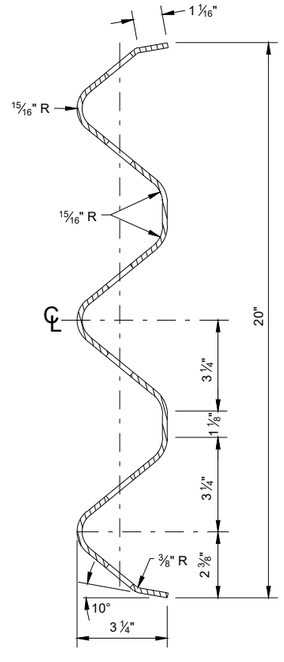
(1100) 1" DIA. HOLE

(1101) 3/4" DIA. HOLE

(1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.




**SLOTTED THRIE BEAM RAIL K1**




**SECTION THROUGH BEAM K1**

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

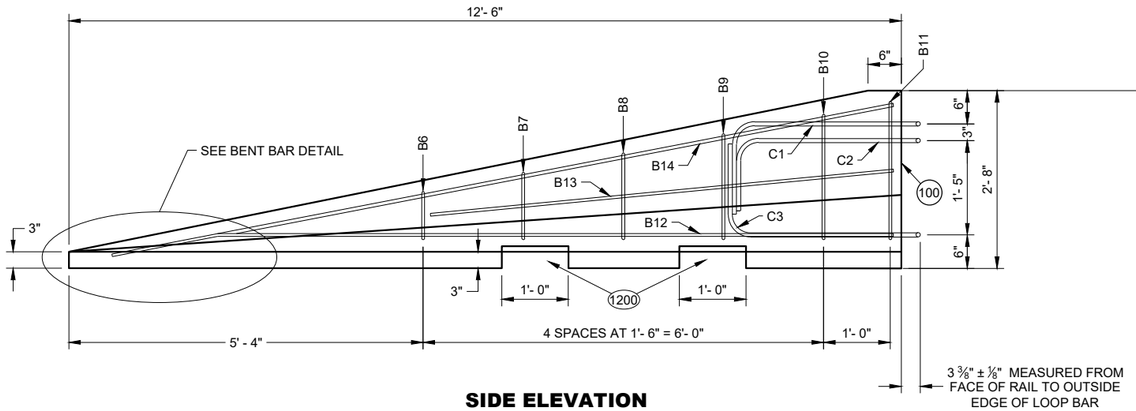
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



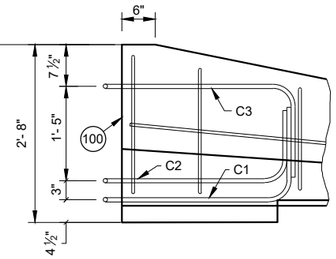


6

SDD 14B07-16k



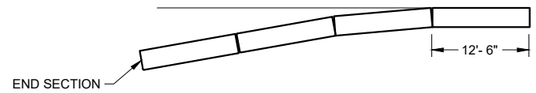

**SIDE ELEVATION**
(FOR CONNECTION TO LEFT END OF BARRIER)




**SIDE ELEVATION**
LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END
(FOR CONNECTION TO RIGHT END OF BARRIER)

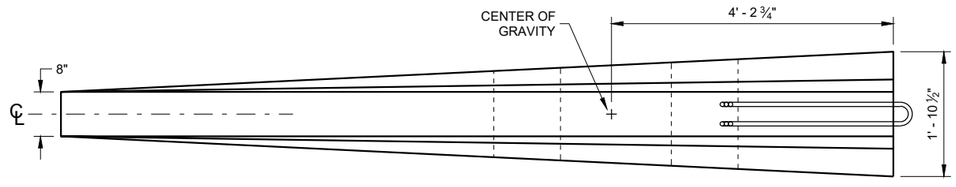
## GENERAL NOTES

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

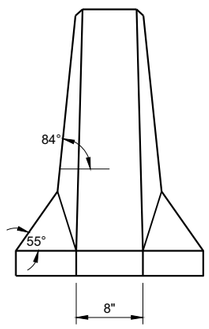



**FLARE AT BARRIER END**

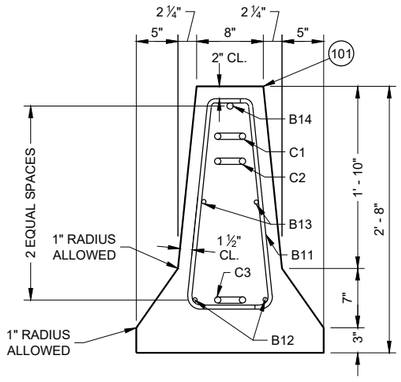
| POSTED SPEED, (MPH) | FLARE RATE |
|---|---|
| 40 OR LESS | 6:1 |
| 45 OR GREATER | 8:1 |



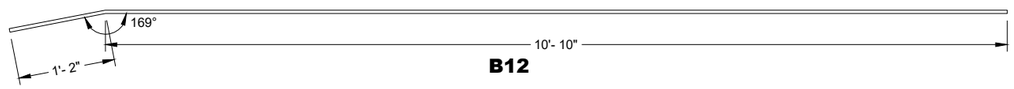

**PLAN VIEW**



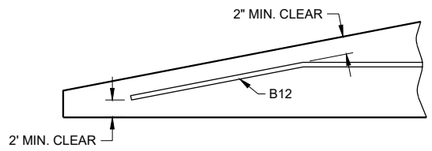

**FRONT ELEVATION**



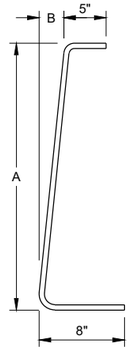

**END SECTION**




**B12**




**BENT BAR DETAIL**




| BAR | A | B |
|---|---|---|
| B6 | 10" | 1" |
| B7 | 1'- 1" | 1 ¼" |
| B8 | 1'- 5" | 1 ⅝" |
| B9 | 1'- 8" | 1 ⅞" |
| B10 | 2'- 0 ½" | 2 ⅜" |
| B11 | 2'- 3" | 2 ¾" |

**B BARS**
2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

## DETAILS OF BARRIER TAPER SECTION

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




6
SDD 14B07-16I

# BILL OF MATERIALS - CONCRETE BARRIER PRECAST

| PART | DESCRIPTION | MATERIALS SPECIFICATIONS | NOTES |
|---|---|---|---|
| A1 | PRECAST TEMPORARY BARRIER - CONCRETE | MIN. = f'c 5000 PSI | |
| B1 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #5 REBAR, LENGTH 12'-2" |
| B2 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 12'-2" |
| B3 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #5 REBAR, LENGTH 12'-2" |
| B4 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 6'-0" |
| B5 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #6 REBAR, LENGTH 2'-11" |
| B6 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 1'-11" |
| B7 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 2'-2" |
| B8 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 2'-6" |
| B9 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 2'-9" |
| B10 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 3'-2" |
| B11 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 3'-4" |
| B12 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 12'-0" |
| B13 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 7'-9" |
| B14 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #5 REBAR, LENGTH 11'-9" |
| C1 | LOOP BAR | ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED | ¾" DIA. |
| C2 | LOOP BAR | ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED | ¾" DIA. |
| C3 | LOOP BAR | ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED | ¾" DIA. |
| D1 | CONNECTION PIN - ROD | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | 1 ¼" DIA. |
| D2 | CONNECTION PIN - TOP PLATE | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | |
| G1 | BOLT THROUGH ANCHOR - THREADED ROD | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC | 1 ⅛" DIA. |
| G2 | BOLT THROUGH ANCHOR - WASHER, SQUARE | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | |
| G3 | BOLT THROUGH ANCHOR - NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| H1 | ADHESIVE ANCHOR - ADHESIVE | ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. BOND STRENGTH OF 1,650 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS. | |
| H2 | ADHESIVE ANCHOR - THREADED ROD | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC | 1 ⅛" DIA. |
| H3 | ADHESIVE ANCHOR - WASHER, SQUARE | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | |
| H4 | ADHESIVE ANCHOR - NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| J1 | ASPHALT ANCHOR PIN - ROD | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | 1 ½" DIA. |
| J2 | ASPHALT ANCHOR PIN - STOP PLATE | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | |
| K1 | THRIE BEAM RAIL | AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER | 12 GAUGE |
| L1 | THRIE BEAM RAIL - TERMINAL | AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER | 12 GAUGE |

| PART | DESCRIPTION | MATERIALS SPECIFICATIONS | NOTES |
|---|---|---|---|
| M1 | SPLICE BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36 | ⅝" DIA. |
| M2 | SPLICE BOLT - NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| N1 | THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | ¾" DIA. LENGTH 6" |
| N2 | THRIE BEAM RAIL TERMINAL - WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 | |
| N3 | THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR | MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS. | |
| P1 | THRIE BEAM RAIL CONNECTION 1-BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | ¾" DIA. |
| P2 | THRIE BEAM RAIL CONNECTION 1-WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 | |
| P3 | THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR | MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS. | |
| Q1 | BLOCK WOOD | SEE STANDARD SPEC. 614 | |
| R1 | CAP - BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | ⅝" DIA. |
| R2 | CAP- BOLT - WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 | |
| R3 | CAP - BOLT - MECHANICAL ANCHOR | MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS. | 12 GAUGE |
| S1 | CAP 42-INCH TOP PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S2 | CAP 42-INCH END PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S3 | CAP 42-INCH SIDE PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S4 | CAP 42-INCH GUSSET 1 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S5 | CAP 42-INCH GUSSET 2 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S6 | CAP 42-INCH GUSSET 3 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S7 | CAP 42-INCH GUSSET 4 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |

6

SDD 14B07-16m

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6

SDD 14B07-16m

## BILL OF MATERIALS - CONCRETE BARRIER PRECAST

| PART | DESCRIPTION | MATERIALS SPECIFICATIONS | NOTES |
|---|---|---|---|
| T1 | CAP 56-INCH TOP PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T2 | CAP 56-INCH END PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T3 | CAP 56-INCH SIDE PLATE 1 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T4 | CAP 56-INCH SIDE PLATE 2 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T5 | CAP 56-INCH GUSSET 1 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T6 | CAP 56-INCH GUSSET 2 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T7 | CAP 56-INCH GUSSET 3 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T8 | CAP 42-INCH GUSSET 4 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T9 | CAP 42-INCH GUSSET 5 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T10 | CAP 42-INCH GUSSET 6 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T11 | CAP 42-INCH GUSSET 7 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T12 | CAP 42-INCH GUSSET 8 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T13 | CAP 42-INCH GUSSET 9 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T14 | CAP 42-INCH GUSSET 10 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T15 | CAP 42-INCH GUSSET 11 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T16 | CAP 42-INCH GUSSET 12 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| U1 | GAP STIFFENER | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | |
| U2 | GAP STIFFENER - CONNECTOR PLATE 1 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | |
| U3 | GAP STIFFENER - CONNECTOR PLATE 2 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | |

| PART | DESCRIPTION | MATERIALS SPECIFICATIONS | NOTES |
|---|---|---|---|
| V1 | THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR | MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS. | ¾" DIA. |
| V2 | GAP STIFFENER - BOLT - NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| W1 | TOE PLATE | AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | |
| X1 | TOE PLATE - CONNECTION BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 HEAD, ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED. PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT. | ¾" DIA. |
| X2 | TOE PLATE - CONNECTION BOLT - WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 (HARDEN WASHER ONLY) | |
| X3 | TOE PLATE - CONNECTION BOLT - NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |

6

SDD 14B07-16n

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

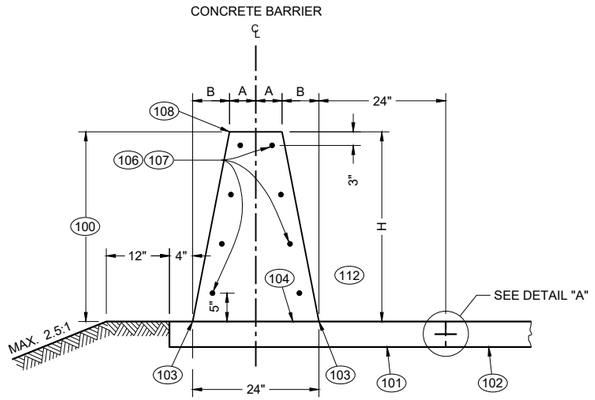
APPROVED
February 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA



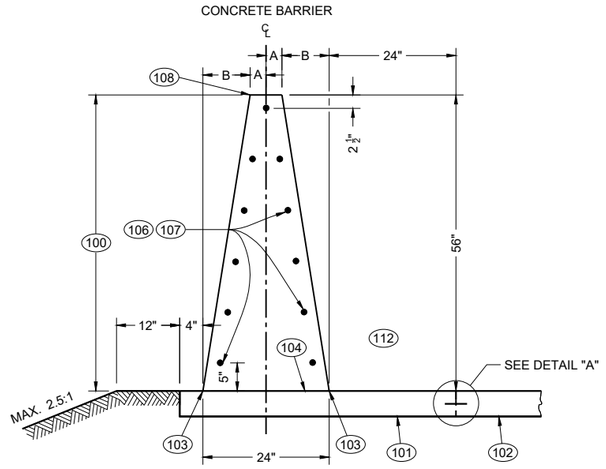
6

SDD 14B07-16n




## 32 - INCH, 36 - INCH OR 42 - INCH SINGLE SLOPE CONCRETE BARRIER

**(TYPE S32, TYPE S36, TYPE S42)**

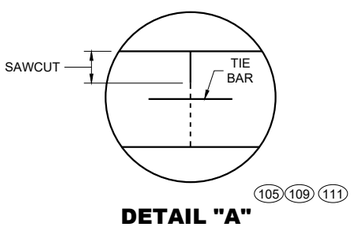



## 56 - INCH SINGLE SLOPE CONCRETE BARRIER

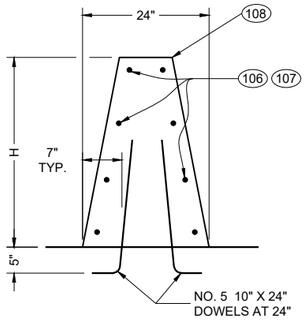
**(TYPE S56)**

### TABLE "A"

| BARRIER HEIGHT H INCHES | A INCHES | B INCHES | NUMBER OF NO. 5 BARS EACH |
|---|---|---|---|
| 32 | 7 | 5 | 8 |
| 36 | 6 ¼ | 5 ¾ | 8 |
| 42 | 5 ¼ | 6 ¾ | 10 |
| 56 | 3 | 9 | 11 |

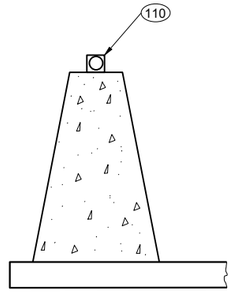



**DETAIL "A"**




## SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

**(NON OUTER PARAPET APPLICATION)**




**DELINEATION**

## GENERAL NOTES

WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.

LOCATE EXPANSION JOINTS IN CONCRETE BARRIER SHALL AT ALL DECK AND PRINCIPAL WALL JOINTS. FILL EXPANSION JOINT WITH EXPANSION JOINT MATERIAL. SEAL THE EXPANSION JOINT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.

2" CLEAR COVER TYPICAL

ANCHORS ARE REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN IN THIS SDD OR DETAIL SHOWN ON SDD 14B33. ANCHORS INCIDENTAL TO CBSS.

PROVIDE A 1" DEEP CONTRACTION JOINT IN BARRIER PAD AND BARRIER. JOINT IS TO MATCH ADJACENT CONCRETE JOINTS. NO DOWEL BARS ARE REQUIRED FOR BARRIER PAD. IF ADJACENT TO ASPHALT, CONTRACTION JOINT IS REQUIRED EVERY 15'.

ALL REBAR SHALL BE EPOXY COATED M31 TYPE S. SEE STANDARD SPECIFICATION 505.

CONCRETE BARRIER, UPPER CONCRETE BARRIER, LOWER CONCRETE BARRIER, CONCRETE BARRIER PAD, AND FOOTINGS ARE TERMS USED TO DESCRIBE PARTS OF SINGLE SLOPE CONCRETE BARRIER BID ITEMS. THESE PARTS ARE INCIDENTAL TO THE SINGLE SLOPE CONCRETE BARRIER BID ITEMS.

(100) CONCRETE BARRIER

(101) CONCRETE BARRIER PAD

(102) PAVEMENT

(103) WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1 ½", USE TYPE A SINGLE SLOPE BARRIER.

(104) OPTIONAL CONSTRUCTION JOINT.

(105) CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAT 10'.

(106) STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL IS 2' BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.

(107) NO. 5 CONTINUOUS BARS EVENLY SPACED (SEE TABLE "A").

(108) USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.

(109) CONCRETE BARRIER PAD UNDER CBSS MAY BE PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED ⅓ DEPTH. CONCRETE BARRIER PAD AND SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE BARRIER PAD MINIMUM DEPTH IS 6", OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

(110) SEE SDD 15A04 FOR DELINEATOR DETAILS AND SPACING.

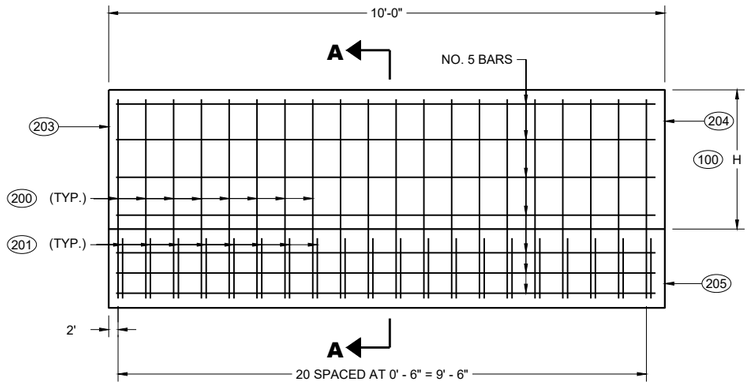
(111) SEE SDD 13C01 FOR DETAILS TYPING CONCRETE BARRIER TO ADJACENT CONCRETE

(112) TRAFFIC SIDE

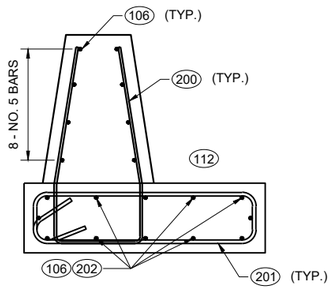
**CONCRETE BARRIER SINGLE SLOPE (CBSS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

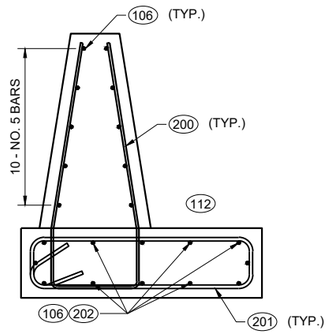

6
SDD 14B32-11a



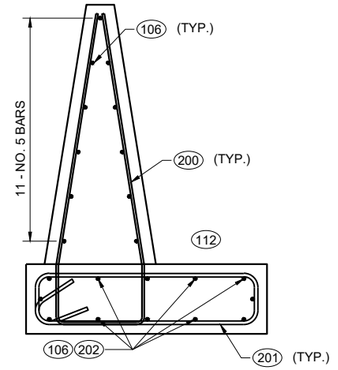

**END ANCHOR SINGLE**
**SLOPE CONCRETE BARRIER**



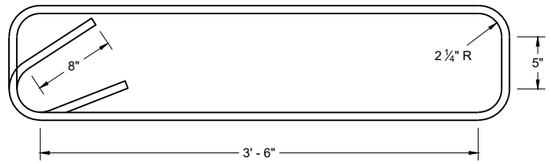

**32" AND 36" CBSS**



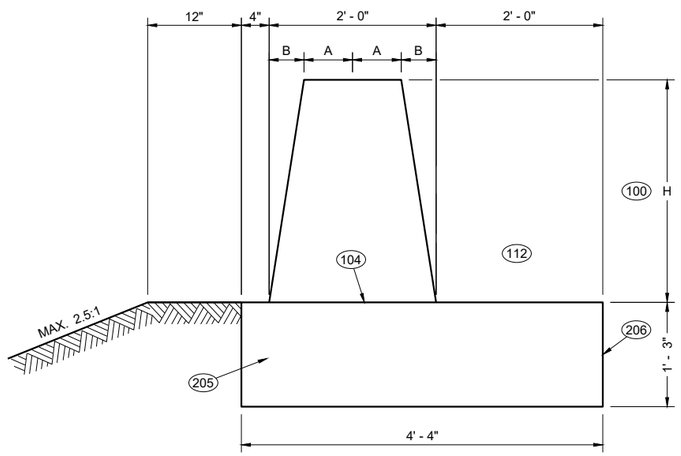

**42" CBSS**



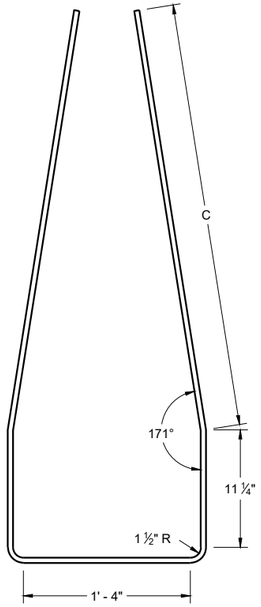

**56" CBSS**




**STIRRUP BAR**
**BENDING DETAIL**




**SECTION A - A**




**V1 BAR**
**BENDING DETAIL**

**TABLE "B"**

| BARRIER HEIGHT H INCHES | C INCHES |
|---|---|
| 32 | 2' - 6" |
| 36 | 2' - 11" |
| 42 | 3' - 4" |
| 56 | 4' - 6 ½" |

## GENERAL NOTES

(200) V1 BARS ARE NO. 5 BARS. (SEE BAR BENDING DETAIL)

(201) STIRRUPS ARE NO. 6 BARS. (SEE BAR BENDING DETAIL)

(202) TWELVE (12) NO. 5 BARS EVENLY SPACED

(203) END OF INSTALLATION OR EXPANSION JOINT.

(204) SEE COLD JOINT DETAIL TO CONNECT END ANCHOR SINGLE SLOPE CONCRETE BARRIER TO SINGLE SLOPE CONCRETE BARRIER.

(205) FOOTING

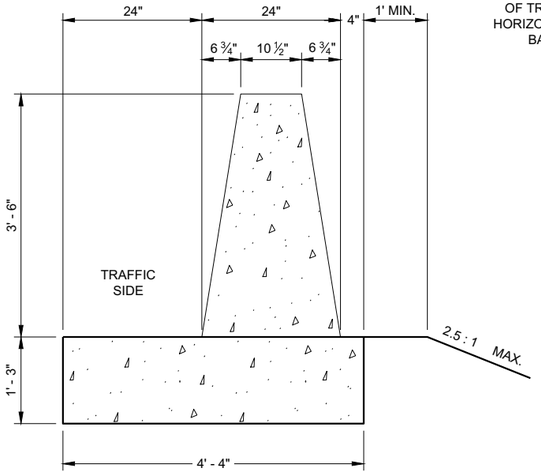
(206) DO NOT TIE TO FOOTING TO ADJACENT PAVEMENT.

6

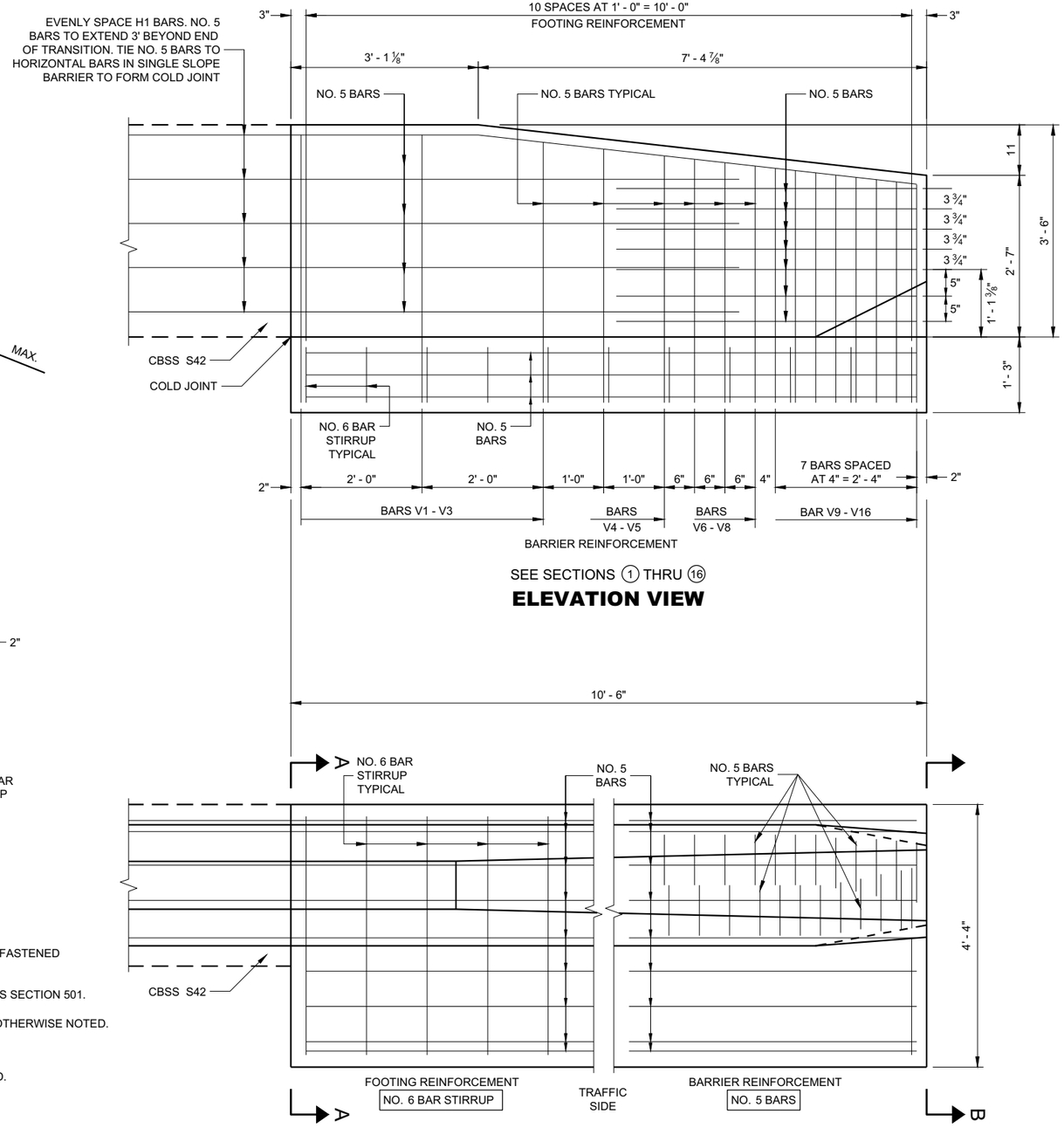
SDD 14B32-11b

**CONCRETE BARRIER**
**SINGLE SLOPE (CBSS)**

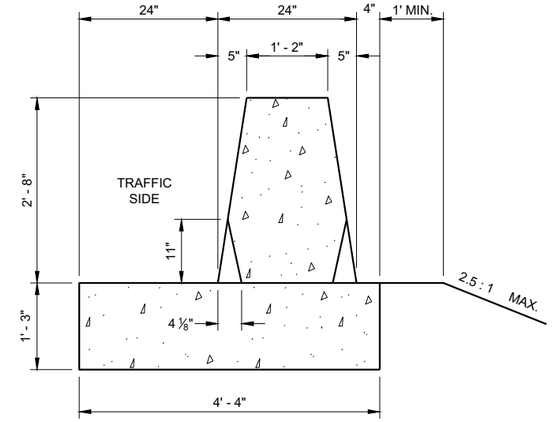
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



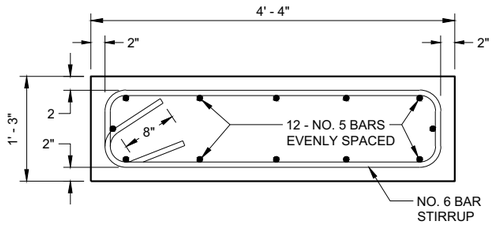

**SECTION A - A**




**ELEVATION VIEW**



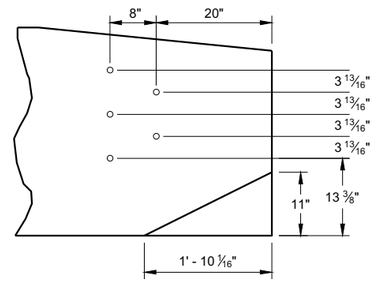

**SECTION B - B**




**TYPICAL FOOTING**




**PLAN VIEW**




**PVC PIPE LOCATIONS**

## GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS OTHERWISE NOTED.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE OF BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

**CONCRETE BARRIER**
**SINGLE SLOPE 42"**
**THRIE BEAM ANCHOR**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6

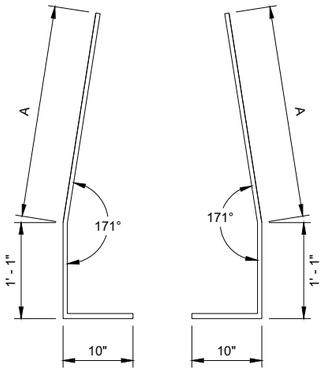
SDD 14B33 - 02g

6

SDD 14B33 - 02g

## BAR CHART
## BAR POSITIONS
## 1 - 11

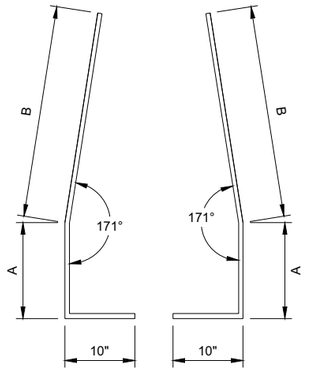
| BAR | A |
|---|---|
| V1 | 3' - 4 ½" |
| V2 | 3' - 4 ½" |
| V3 | 3' - 2 ½" |
| V4 | 3' - 1" |
| V5 | 2' - 11 ½" |
| V6 | 2' - 11" |
| V7 | 2' - 10 ½" |
| V8 | 2' - 9 ½" |
| V9 | 2' - 9" |
| V10 | 2' - 8 ½" |
| V11 | 2' - 8" |




**BAR BENDING DETAIL**
**SECTIONS V1 - V4**

## BAR CHART
## BAR POSITIONS
## 12 - 13

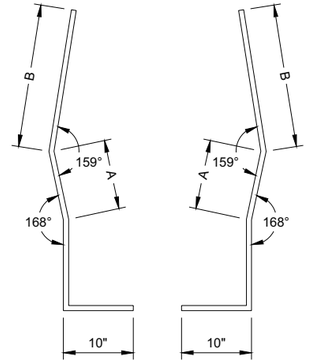
| BAR | A | B |
|---|---|---|
| V12 | 1' - 3" | 2' - 6" |
| V13 | 1' - 8" | 2' - 1 ½" |



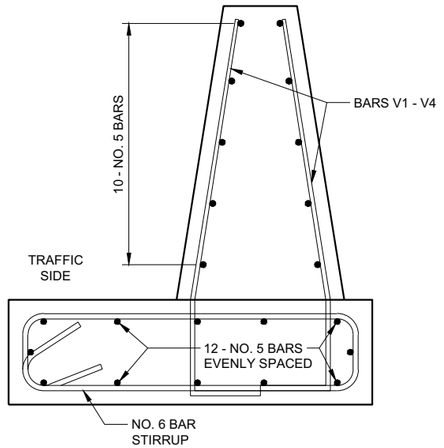

**BAR BENDING DETAIL**
**SECTIONS V12 - V13**

## BAR CHART
## BAR POSITIONS
## 14 - 16

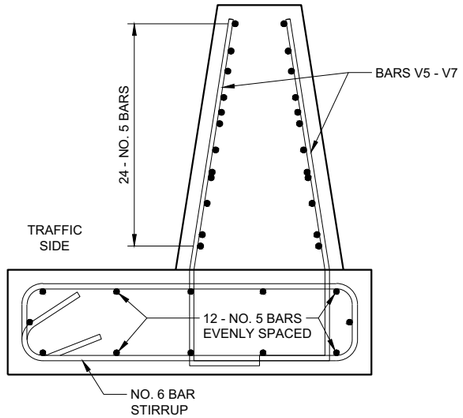
| BAR | A | B |
|---|---|---|
| V14 | 6" | 2' - 1" |
| V15 | 8" | 1' - 11" |
| V16 | 10" | 1' - 8 ½" |



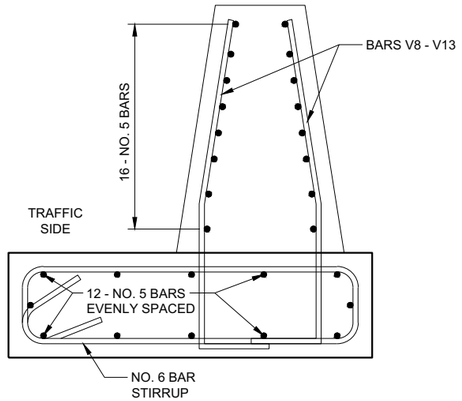

**BAR BENDING DETAIL**
**SECTIONS V14 - V16**



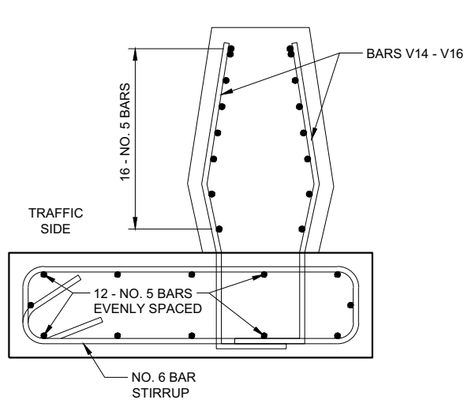

**BAR DETAIL**
**SECTIONS 1 - 4**



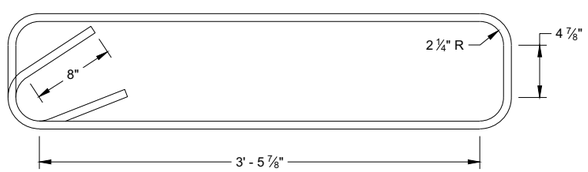

**BAR DETAIL**
**SECTIONS 5 - 7**




**BAR DETAIL**
**SECTIONS 8 - 13**




**BAR DETAIL**
**SECTIONS 14 - 16**




**STIRRUP BAR**
**BENDING DETAIL**

**CONCRETE BARRIER**
**SINGLE SLOPE 42"**
**THRIE BEAM ANCHOR**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA




6


SDD 14B33 - 02h

(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.

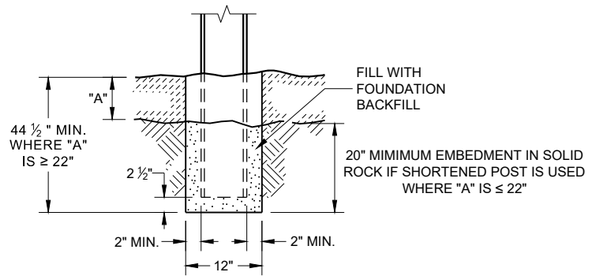
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

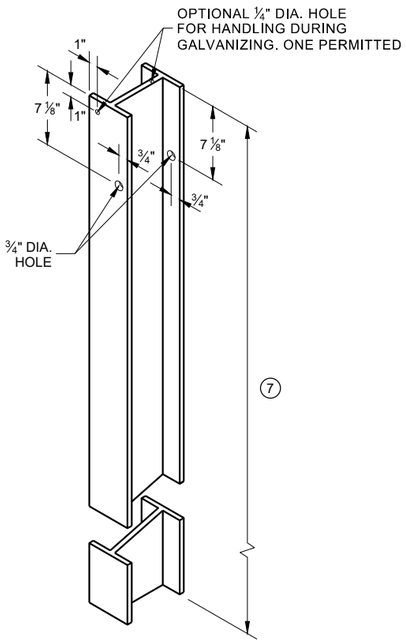
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

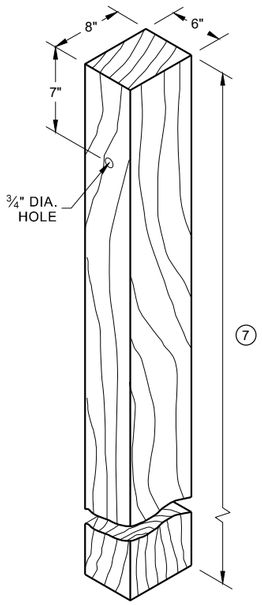
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



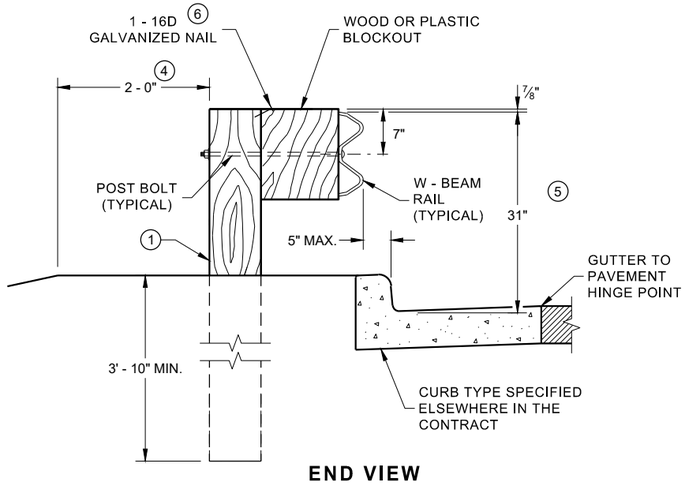

END VIEW
**SETTING STEEL OR WOOD POST IN ROCK** (3)



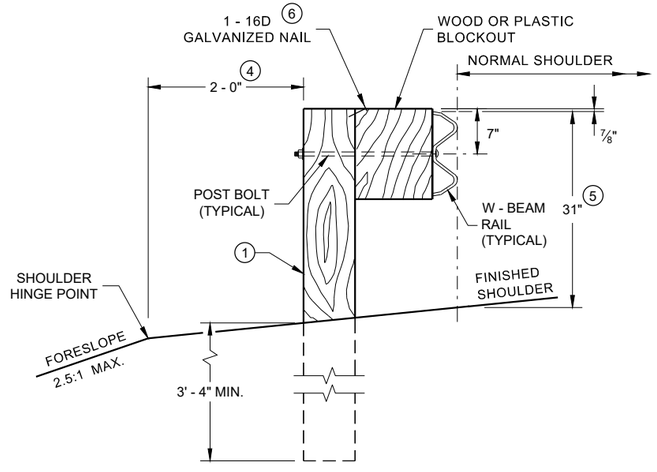

**STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)** (1)



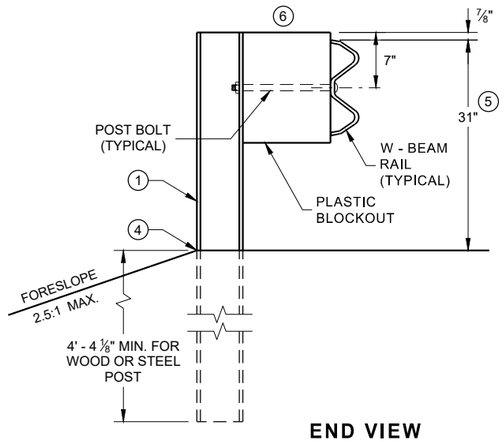

**WOOD POST (6" X 8") NOMINAL** (1)



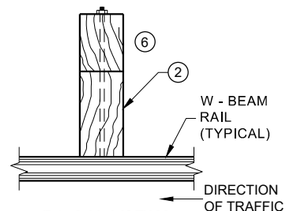

END VIEW
**LOCATED ALONG A CURBED ROADWAY**



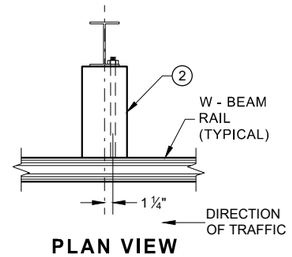

END VIEW
**LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION**



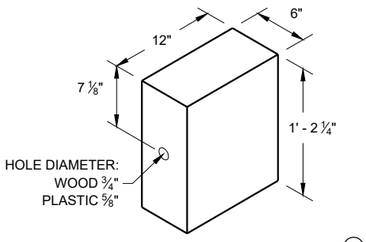

END VIEW
**MGS LONGER POST AT HALFPOST SPACING W BEAM (K)**




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

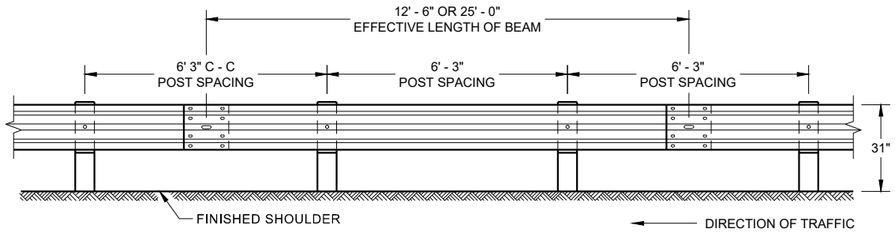


6

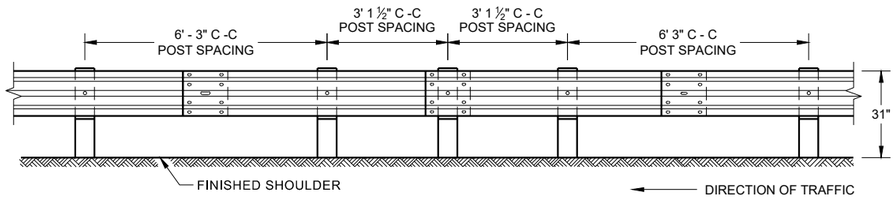
SDD 14B42 - 07a

6

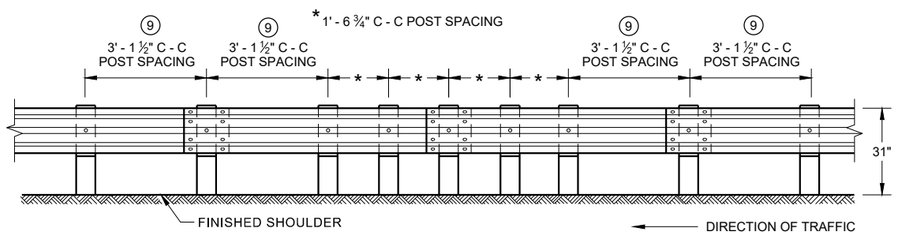
SDD 14B42 - 07a



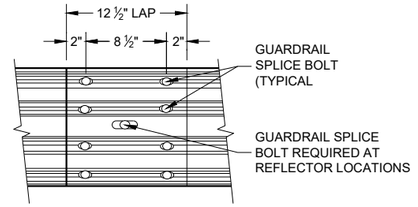

**FRONT VIEW**
## POST SPACING STANDARD INSTALLATION



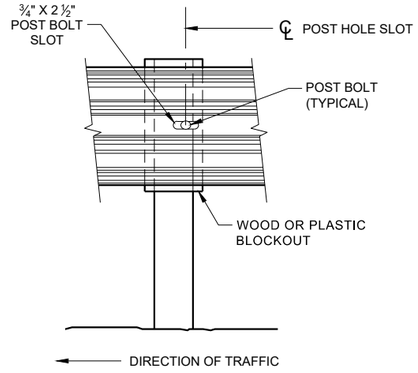

**FRONT VIEW**
## HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



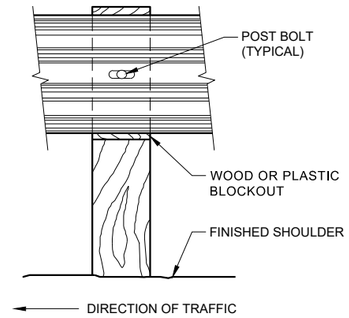

**FRONT VIEW**
## QUARTER POST SPACING (QS)



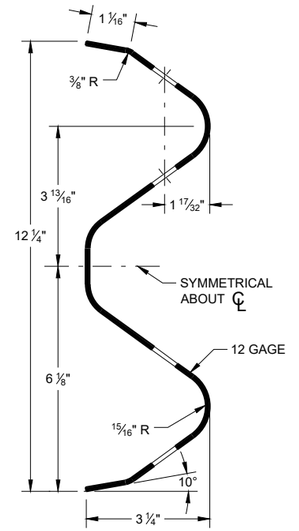

**FRONT VIEW**
## MID-SPAN BEAM SPLICE



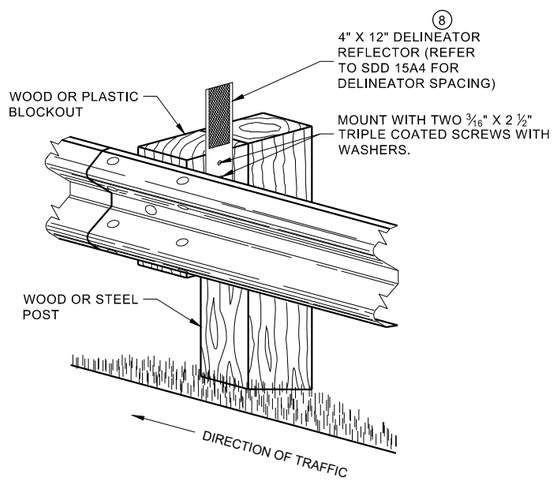

## FRONT VIEW AT STEEL POST




## 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.

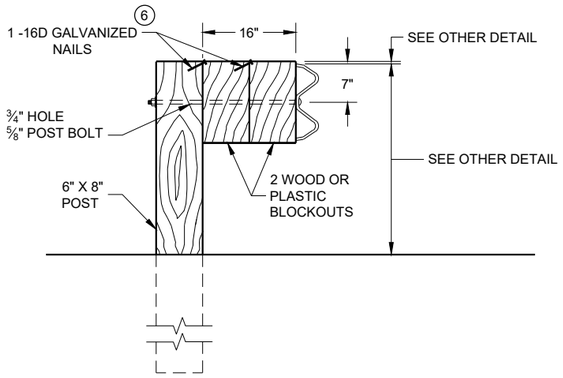
**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




6

SDD 14B42 - 07b
SDD 14B42 - 07b

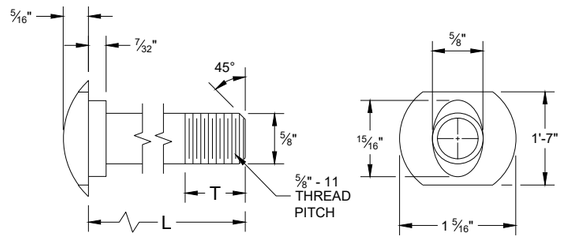



## DETAIL FOR 16" BLOCKOUT DEPTH

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.

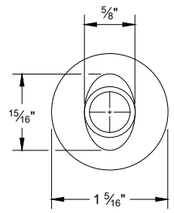
NOTE:

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.

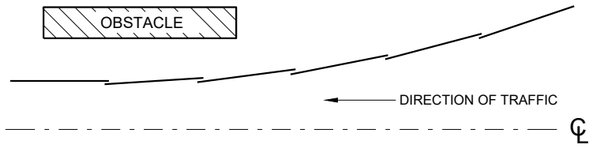



## POST BOLT TABLE

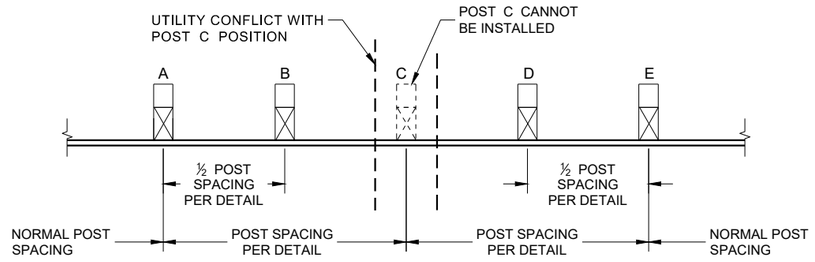
| L | T (MIN.) |
|---|---|
| 1 ¼" | 1 ⅛" |
| 2" | 1 ¾" |
| 10" | 4" |
| 14" | 4 1⁄16" |
| 18" | 4" |
| 21" | 4 1⁄16" |
| 25" | 4" |



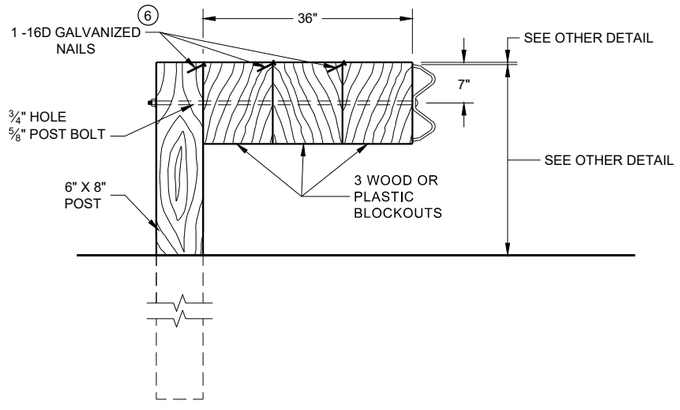

## ALTERNATE BOLT HEAD



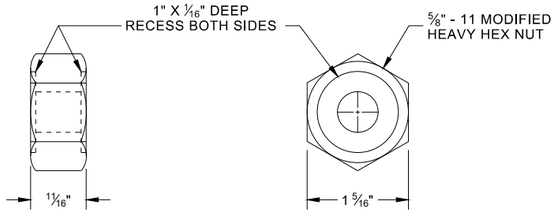

## PLAN VIEW
## BEAM LAPPING DETAIL



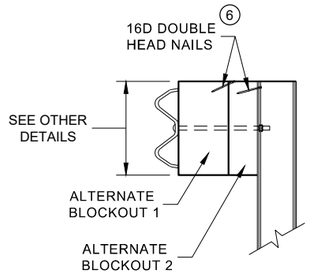

## POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



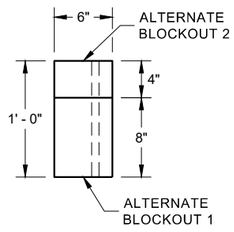

## DETAIL FOR 36" BLOCKOUT DEPTH




## POST BOLT, SPLICE BOLT AND RECESS NUT




SIDE VIEW




PLAN VIEW

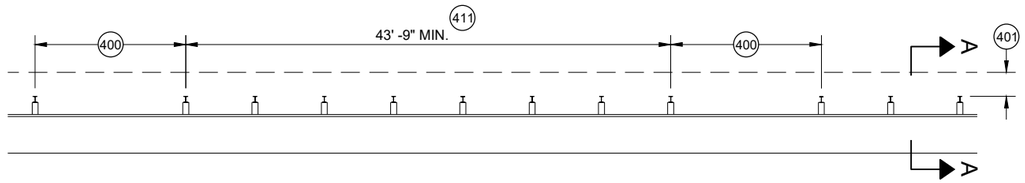
## ALTERNATE WOOD BLOCKOUT DETAIL

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.

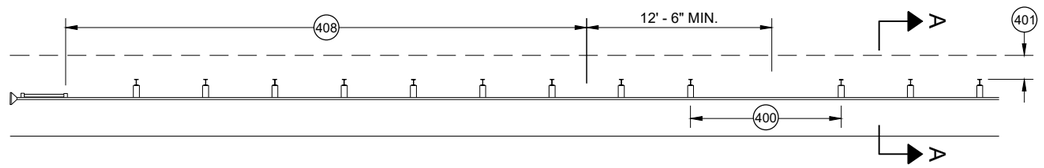
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

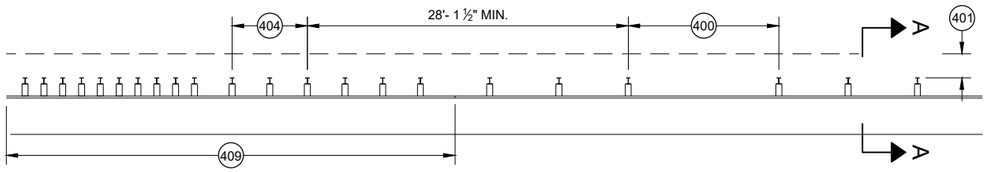
**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**



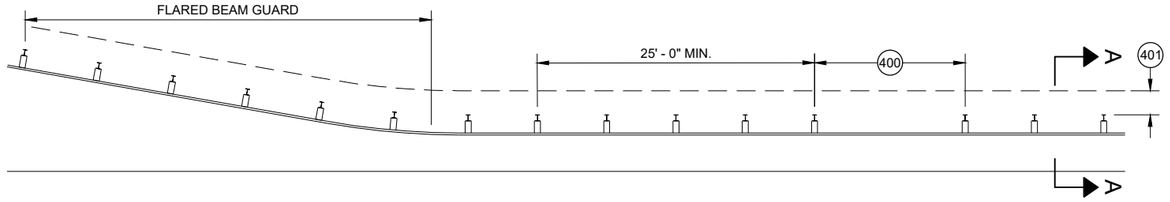

**MISSING POST IN MGS GUARDRAIL**



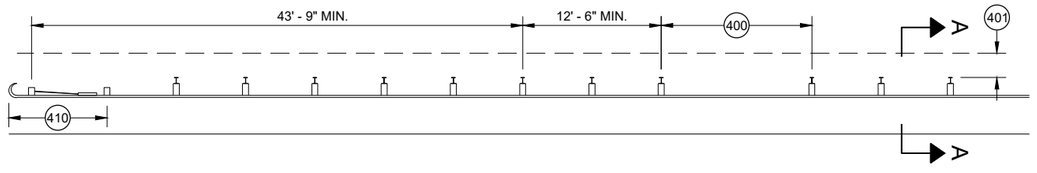

**MISSING POST IN MGS GUARDRAIL NEAR EAT**



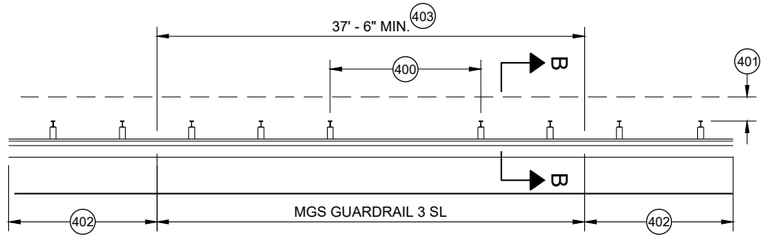

**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**




**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

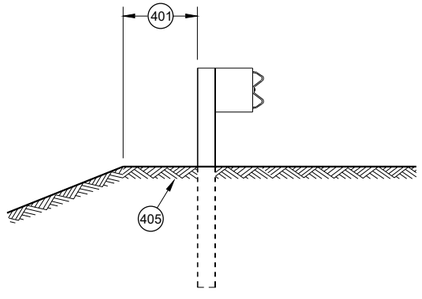



**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

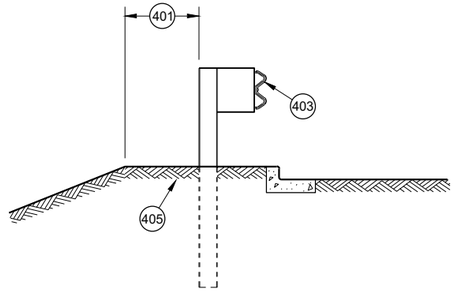



**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)** 407

(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




6


SDD 14B42 - 07d

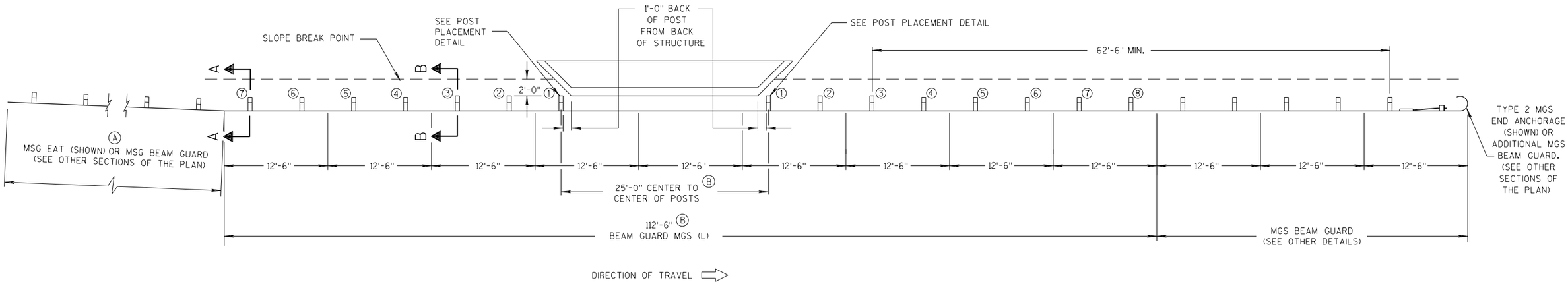
## GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

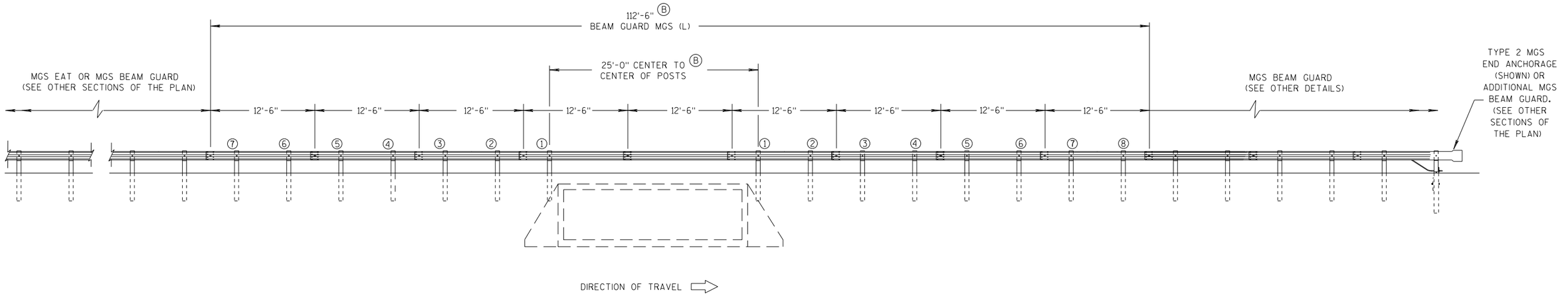
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.




**PLAN VIEW**



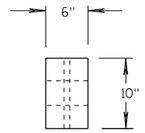

**ELEVATION VIEW**

# MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

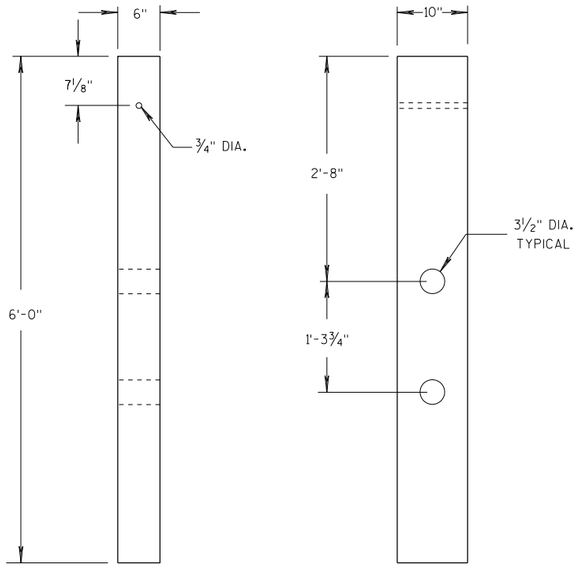
| MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) | |
|---|---|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | 194 |


6

S.D.D. 14 B 43-4b

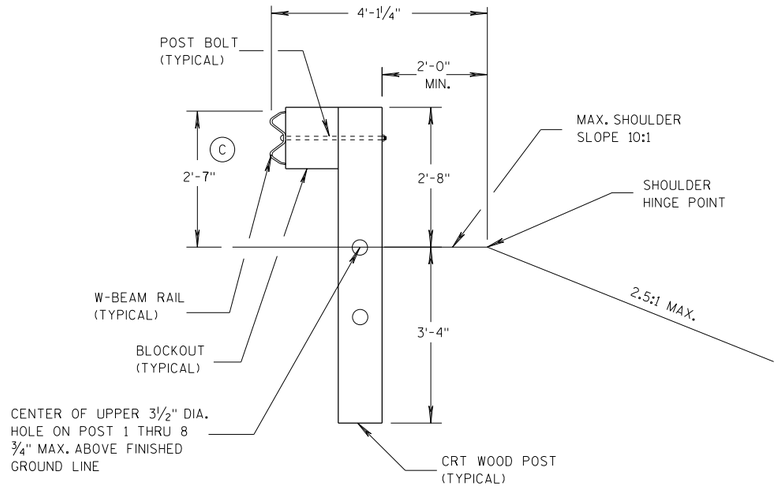



PLAN VIEW




FRONT VIEW SIDE VIEW

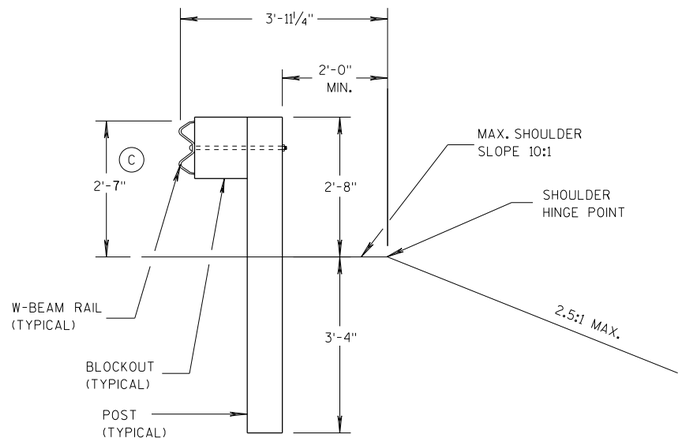
CRT WOOD POST




SECTION B-B

**POSTS NO. 1-3**

SEE OTHER DETAILS



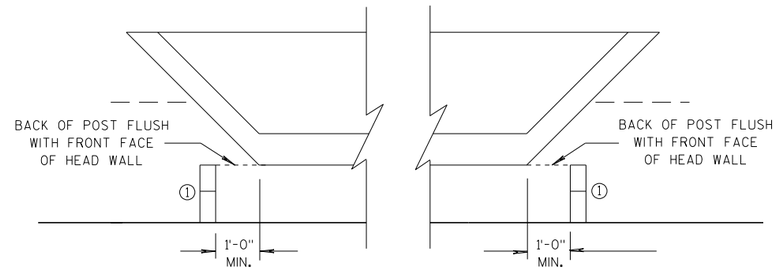

SECTION A-A

**POSTS NO. 4-8**

SEE OTHER DETAILS

## GENERAL NOTES

(C) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".




POST PLACEMENT DETAIL

**MIDWEST GUARDRAIL SYSTEM**
**LONG SPAN MGS (L)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER

195

6

S.D.D. 14 B 43-4c

6

S.D.D. 14 B 43-4c

## 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.

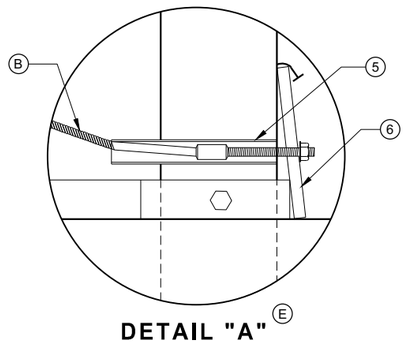
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

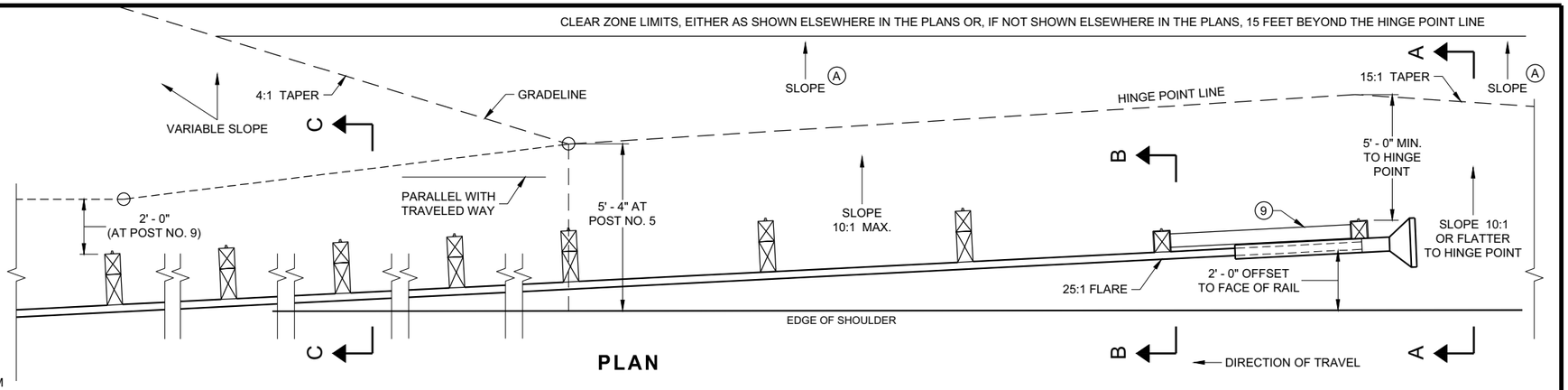
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

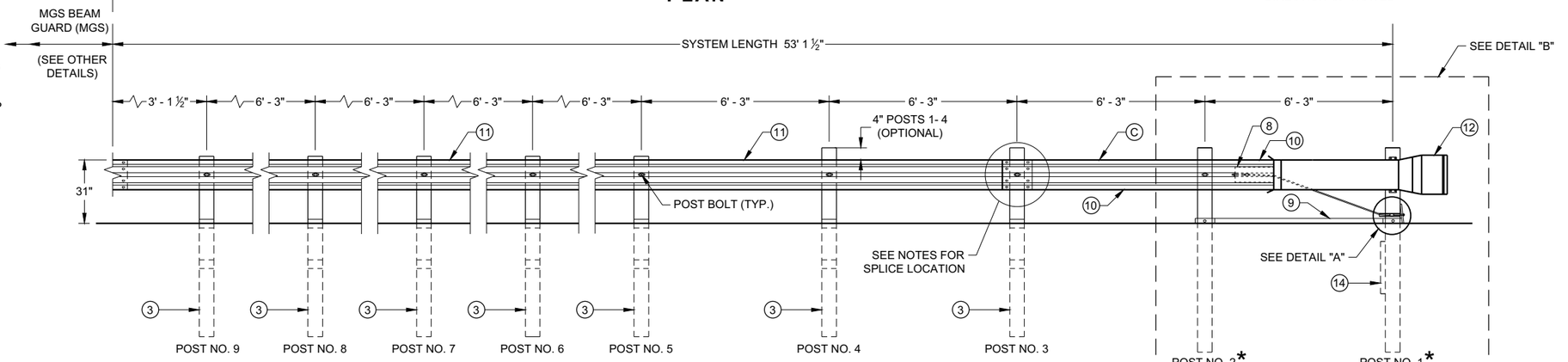
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

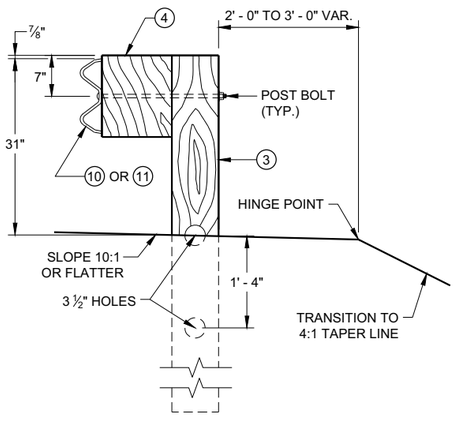
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



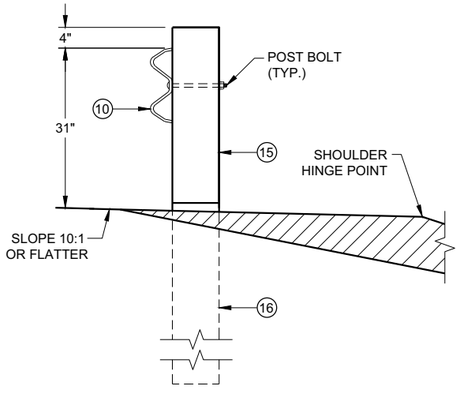

DETAIL "A" (E)



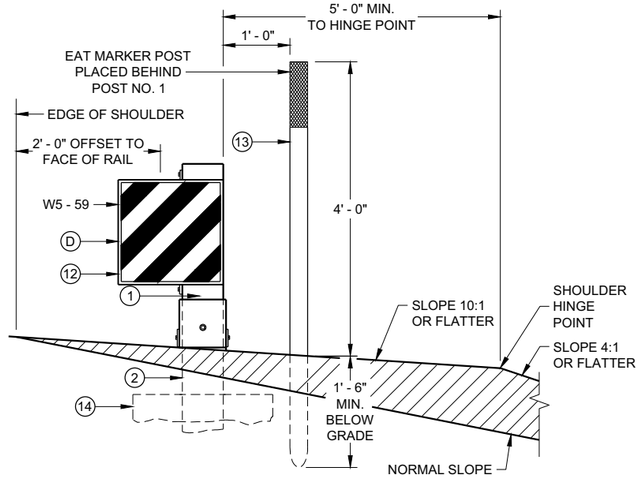



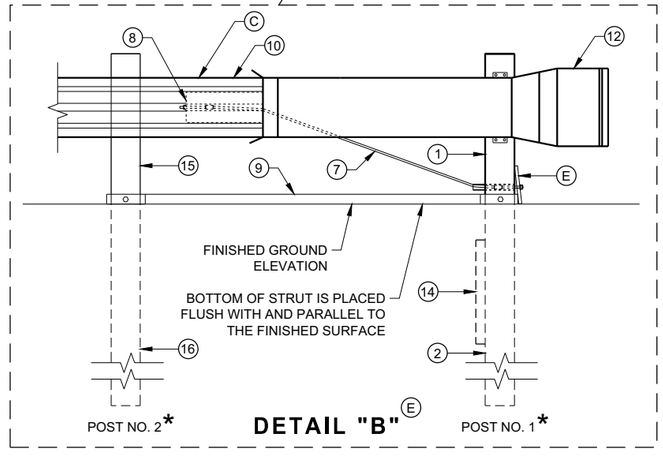

SECTION C - C
TYPICAL AT POST NOS. 3 - 9




SECTION B - B
TYPICAL AT POST NO. 2*




SECTION A - A
TYPICAL AT POST NO. 1*



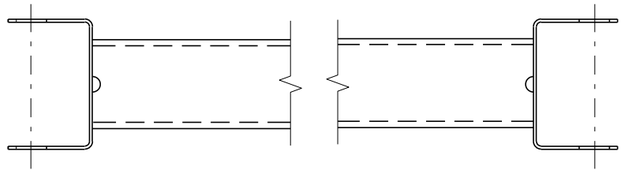

**MIDWEST GUARDRAIL SYSTEM**
**ENERGY ABSORBING TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a



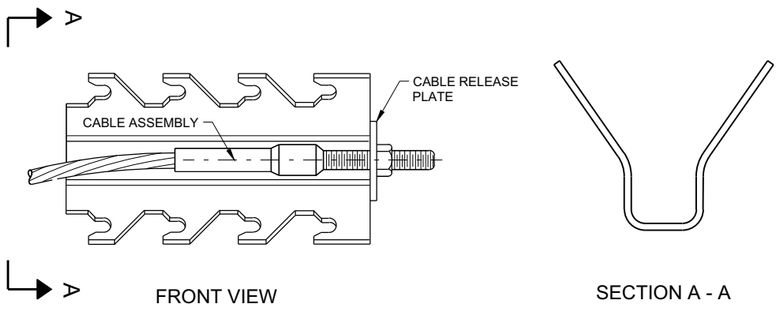
SDD 14B44 - 04a



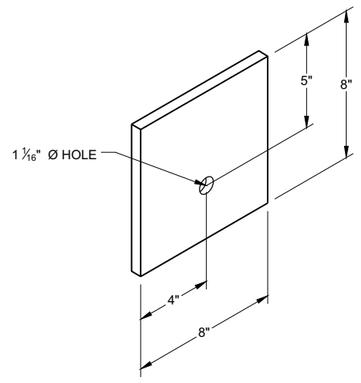
GENERIC GROUND STRUT (9) (E)

## 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 (9) (E)




BEARING PLATE (6) (E)

6

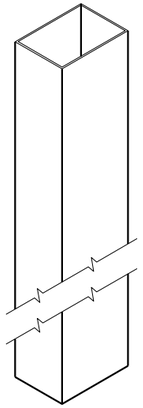
6

SDD 14B44 - 04b

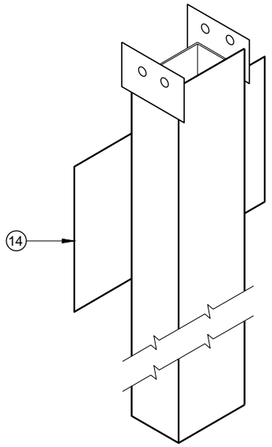
SDD 14B44 - 04b

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

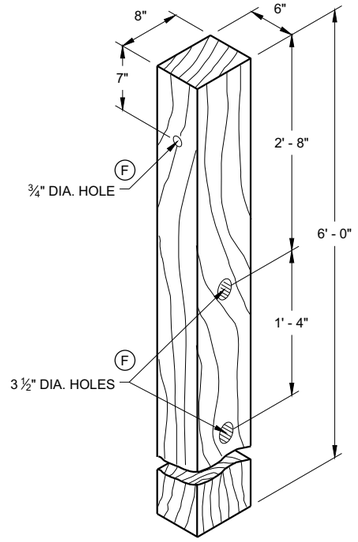
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



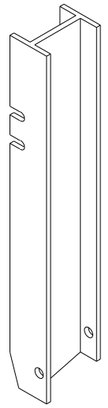
**UPPER POST NO. 1** (1) (E)



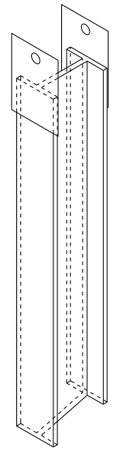

**LOWER POST NO. 1** (2) (E)



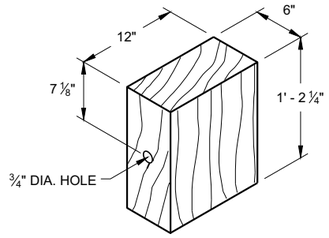

**WOOD CRT POST** (3) (E)
POSTS NUMBER 3-9



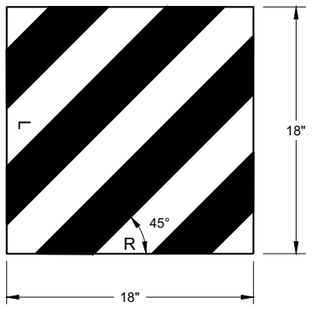
**UPPER POST NO. 2** (15) (E)



**LOWER POST NO. 2** (16) (E)

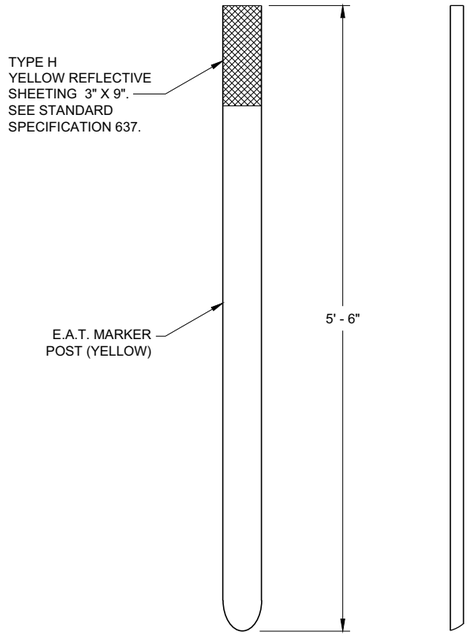



**WOOD BLOCKOUT** (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



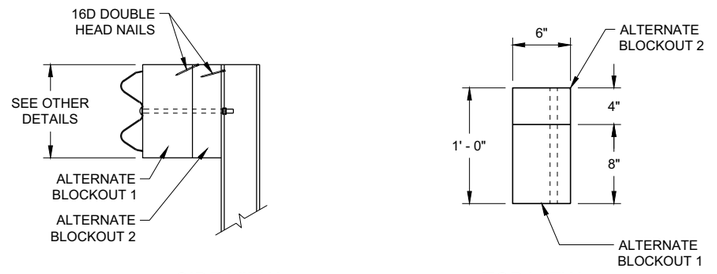

W5 - 59

**REFLECTIVE SHEETING DETAIL** (E)




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

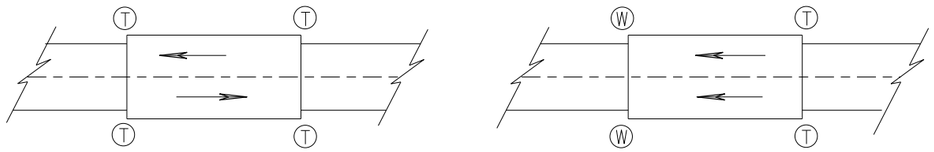
APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

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.

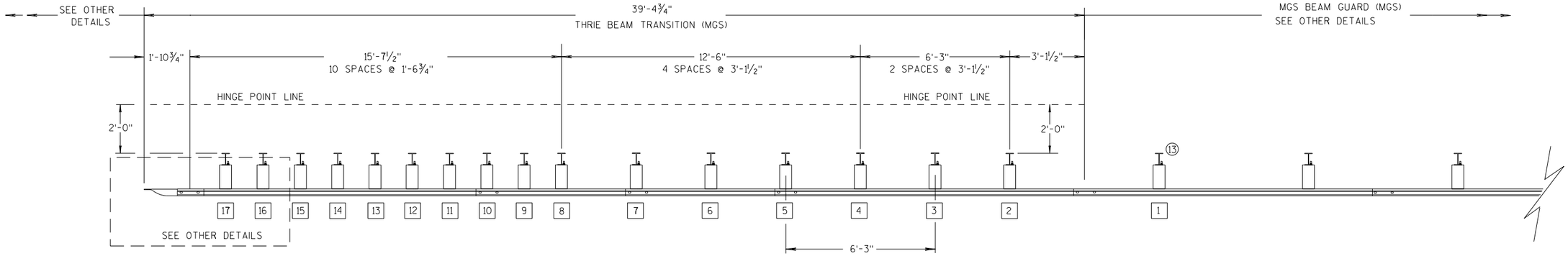
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

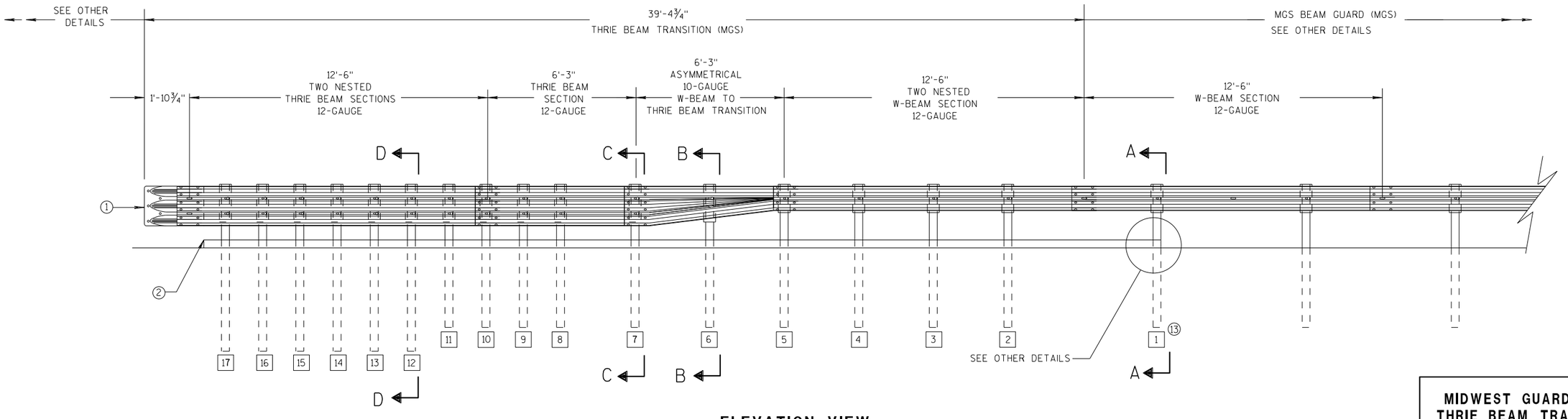
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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 199

6

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

6

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

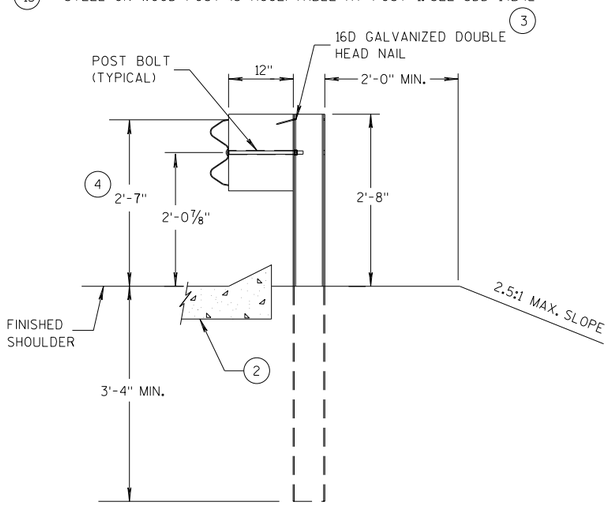
## GENERAL NOTES

(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.

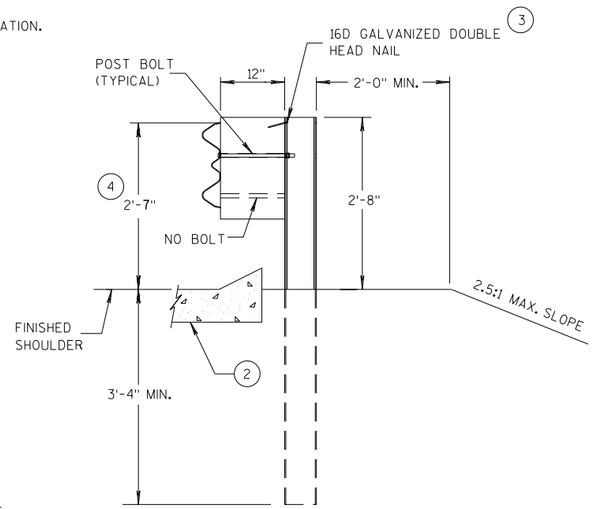
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



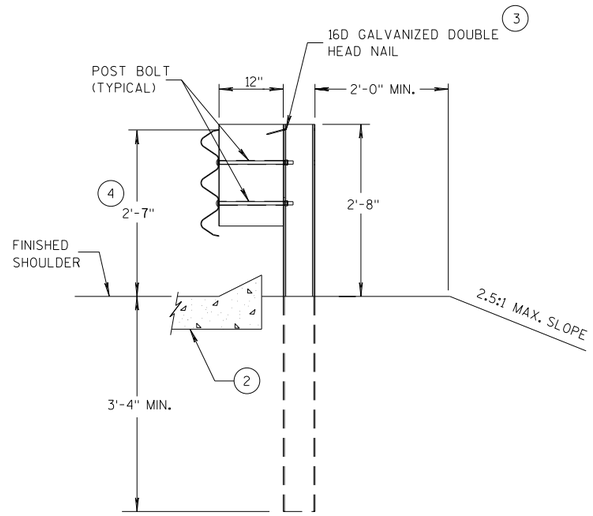

SECTION A-A (13)

**POSTS 1-5**



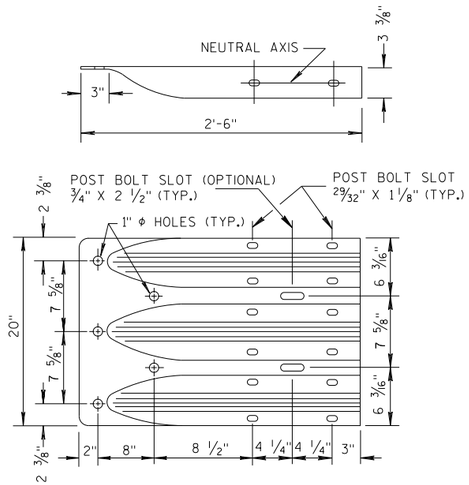

SECTION B-B

**POST 6**

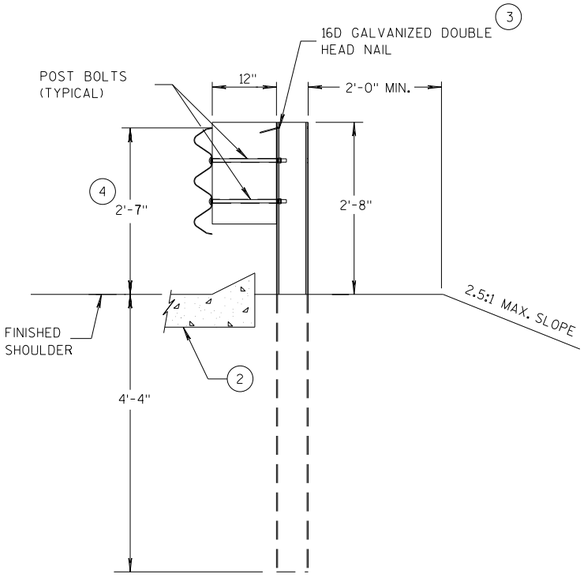



SECTION C-C

**POSTS 7-11**

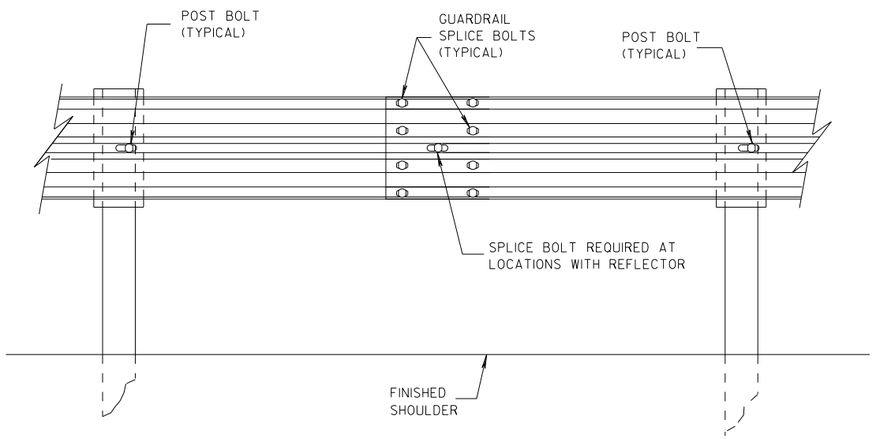



**THRIE BEAM TERMINAL CONNECTOR**




SECTION D-D

**POSTS 12-17**




**SPLICE DETAIL**

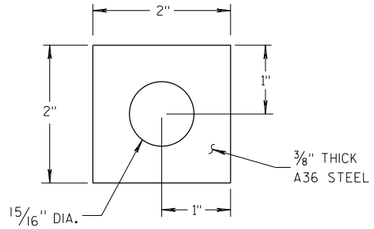
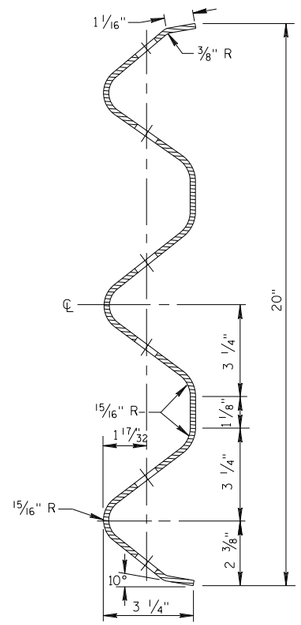



**PLATE WASHER DETAIL**




**SECTION THRU THRIE BEAM RAIL ELEMENT**

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

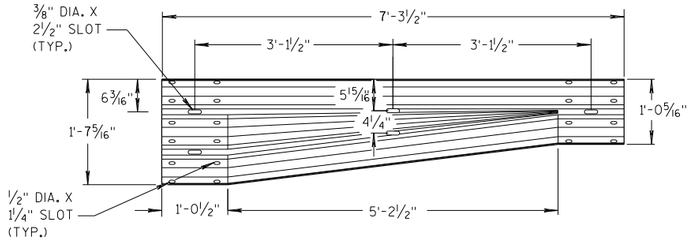
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF 200

6

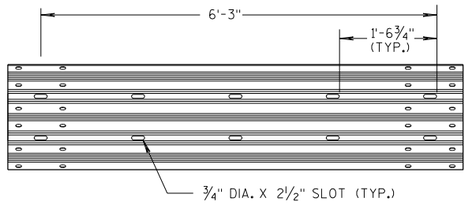
S.D.D. 14 B 45-5b

6

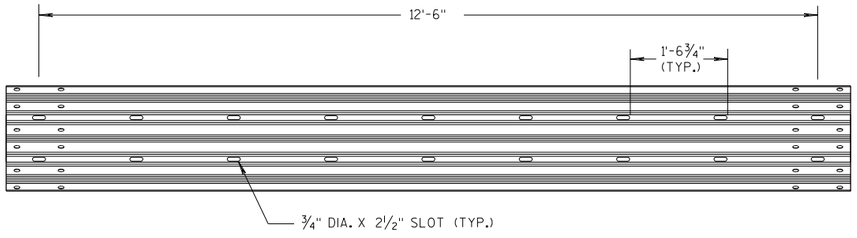
S.D.D. 14 B 45-5b



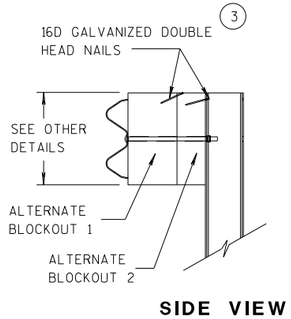

## W-BEAM TO THRIE BEAM TRANSITION SECTION



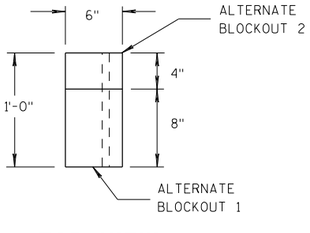

## 6'-3" THRIE BEAM SECTION




## 12'-6" THRIE BEAM SECTION

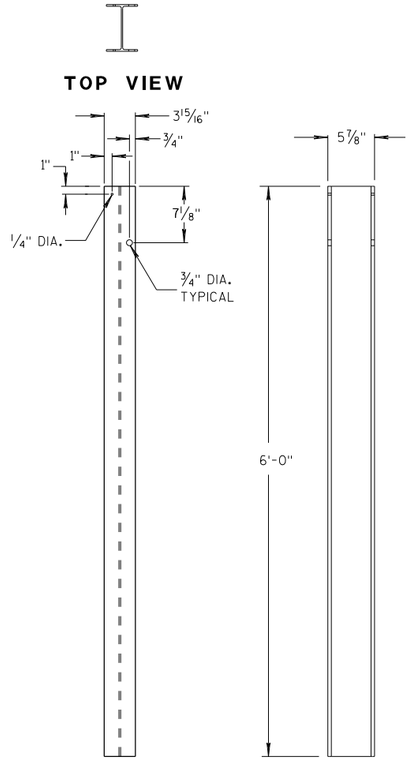



SIDE VIEW



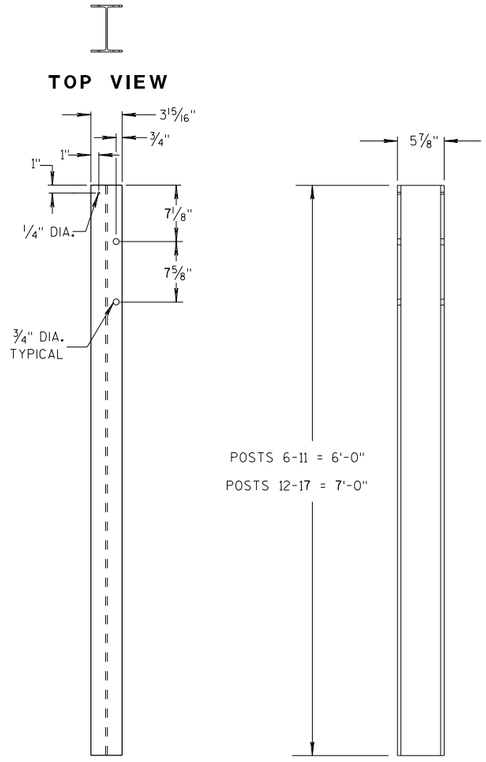

TOP VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL



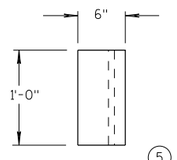

FRONT VIEW SIDE VIEW

## STEEL POSTS 1-5 (13)

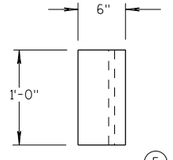



FRONT VIEW SIDE VIEW

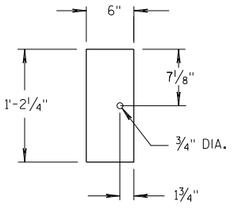
## STEEL POSTS 6-17




TOP VIEW (5)

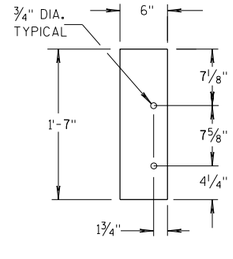



TOP VIEW (5)




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.

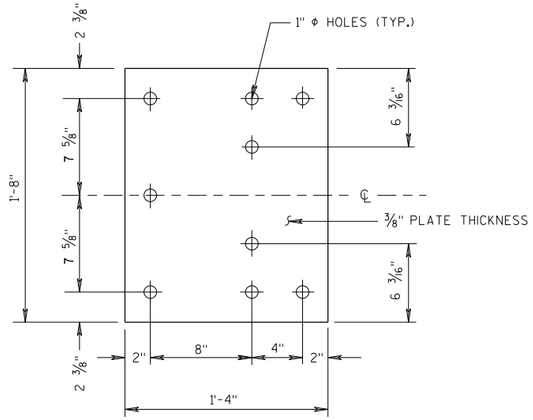
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

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

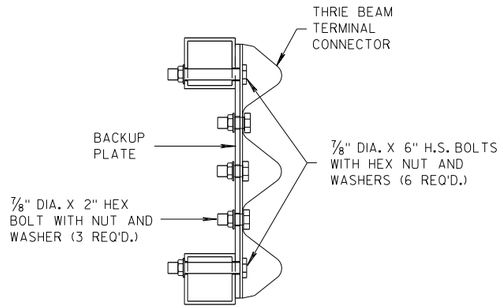
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 201



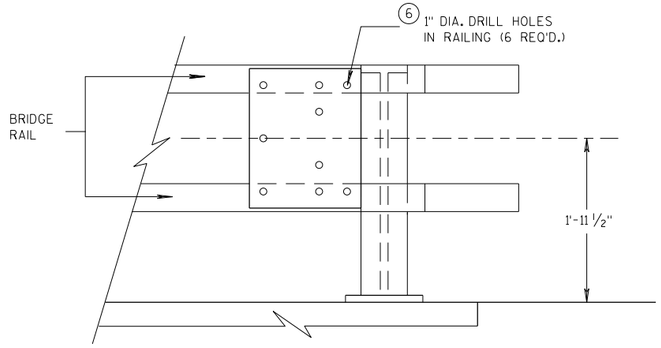
6
S.D.D. 14 B 45-5c




## BACK-UP PLATE DETAIL




## SECTION J-J

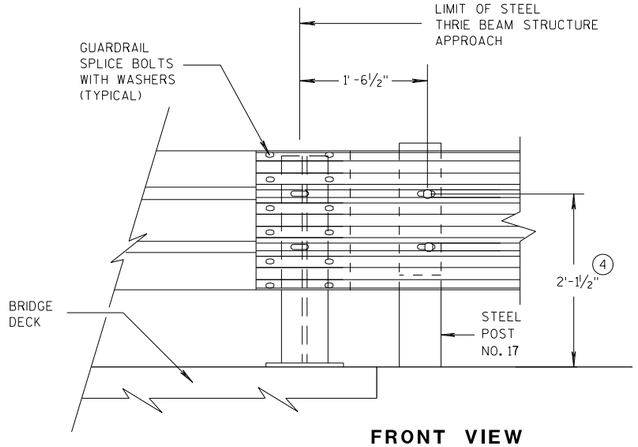



## BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

# GENERAL NOTES

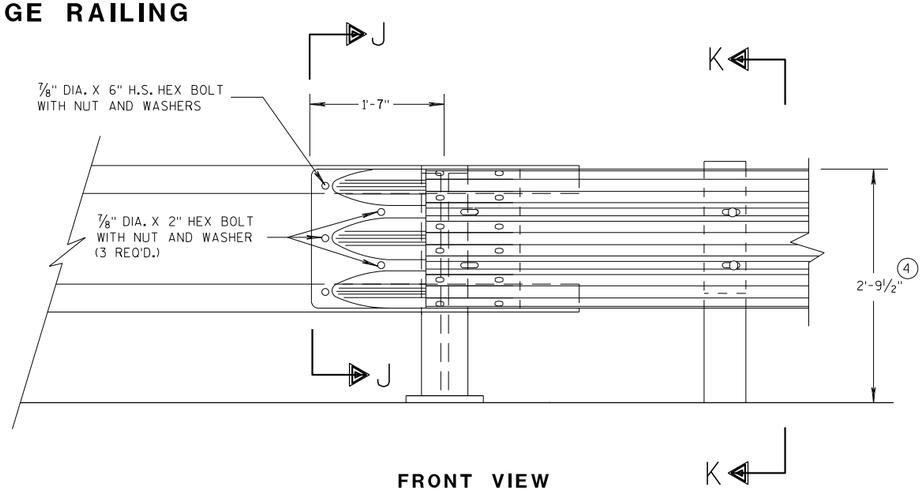
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

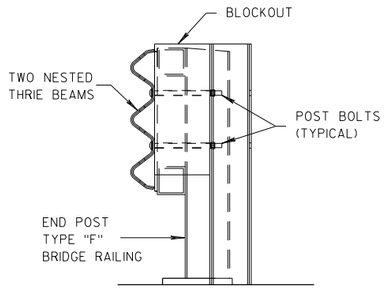



FRONT VIEW

## THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"




FRONT VIEW




SECTION K-K

## THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
FHWA

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

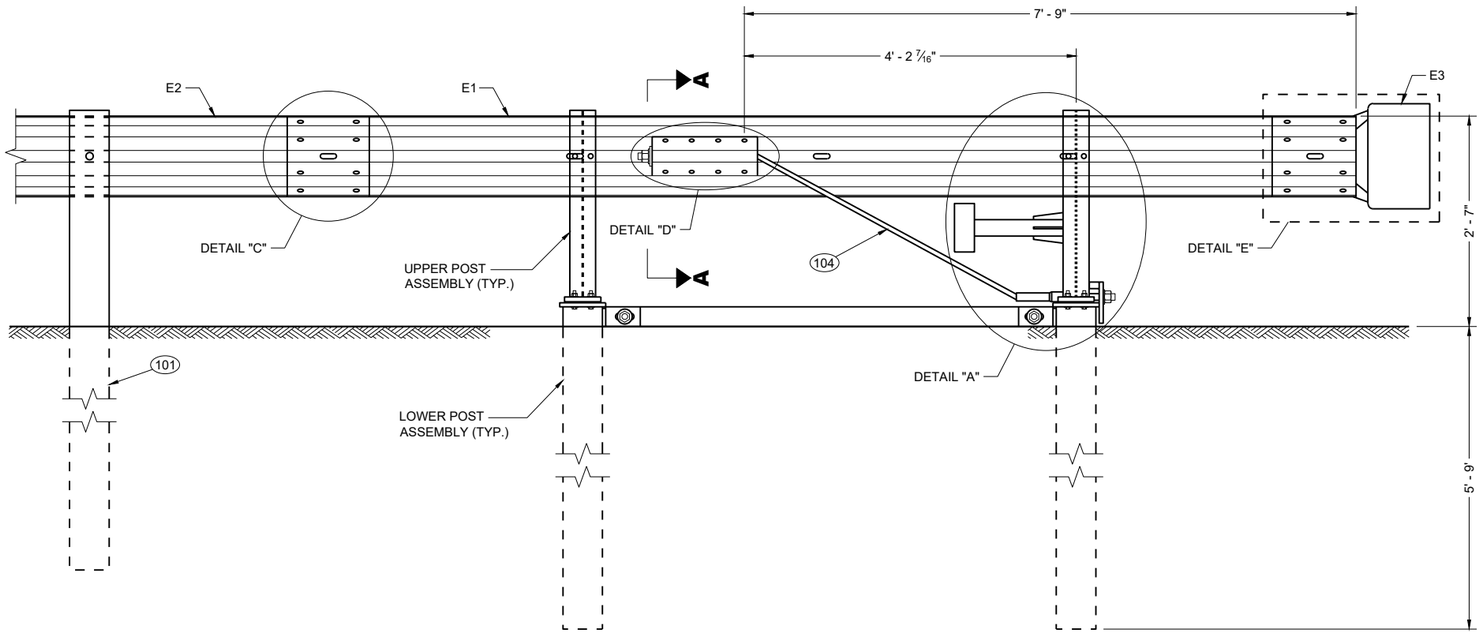
202

6

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

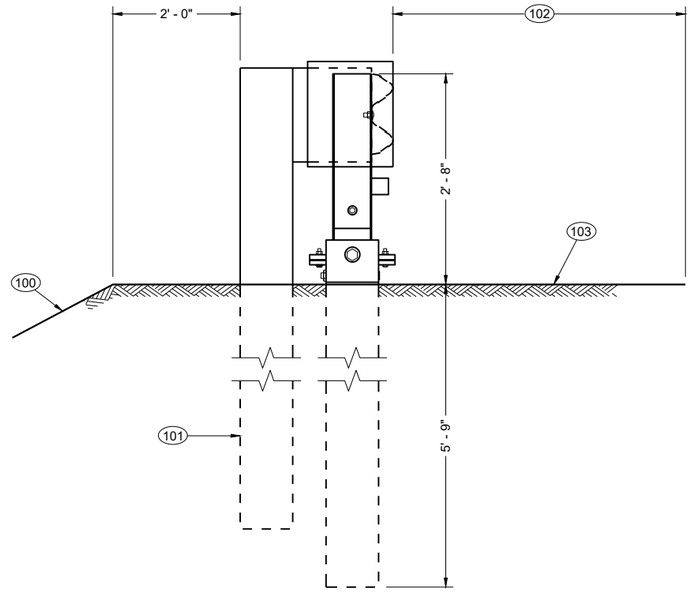
6

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



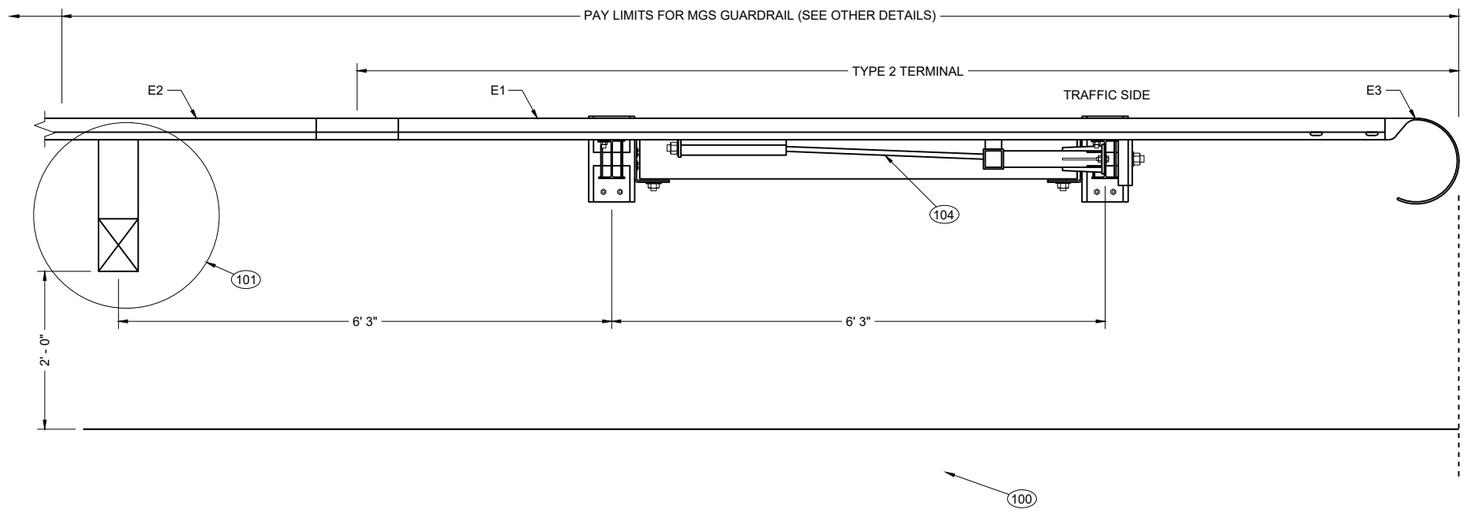

**BACK VIEW**

## TYPE 2 TERMINAL




**SIDE VIEW**

## TYPE 2 TERMINAL




**TOP VIEW**

## TYPE 2 TERMINAL

## GENERAL NOTES

SEE SDD 14B42 FOR MORE INFORMATION

(100) MAXIMUM SLOPE IS 2.5:1.

(101) SEE SDD 14B42 FOR MORE INFORMATION.

(102) SHOULDER

(103) MAXIMUM SLOPE IS 10:1.

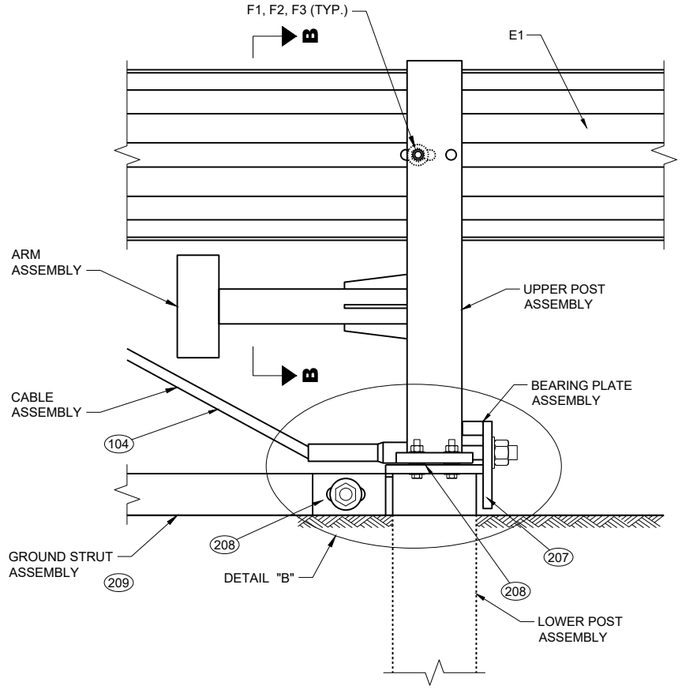
(104) AFTER ASSEMBLY, CABLE IS TO BE TIGHTENED WITHOUT TWISTING THE CABLE.

**MIDWEST GUARDRAIL SYSTEM (MGS)**
**TYPE 2 TERMINAL**

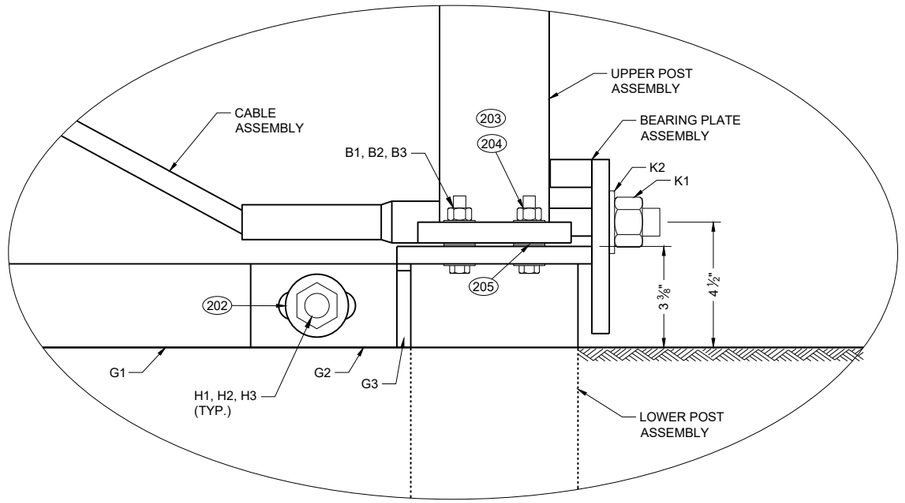
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

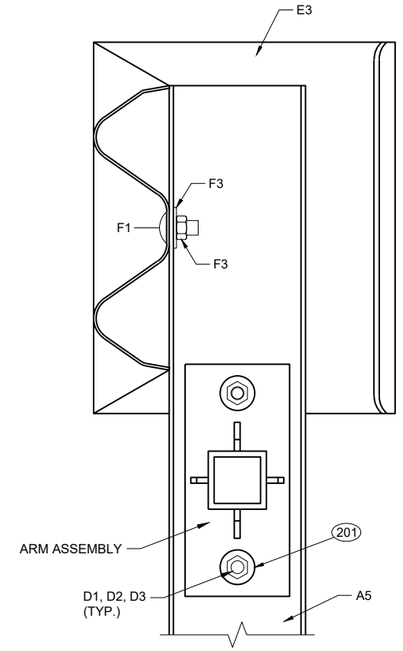
SDD 14B47-07a



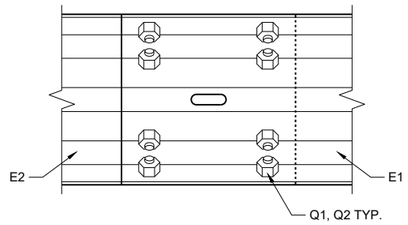

**DETAIL "A"**



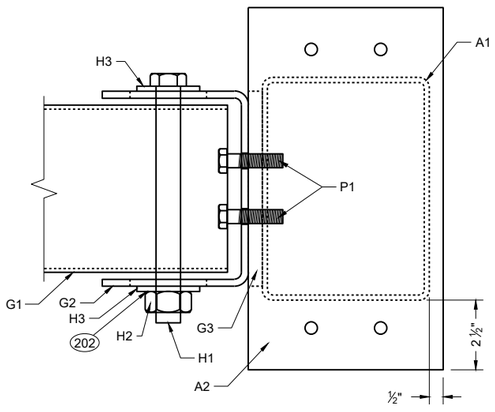

**DETAIL "B"**




**SECTION B - B**

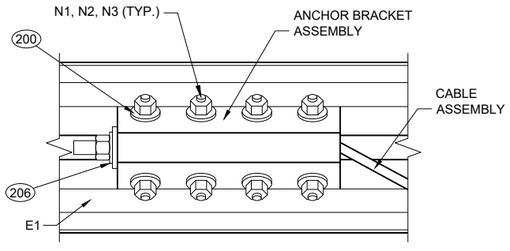



**DETAIL "C"**

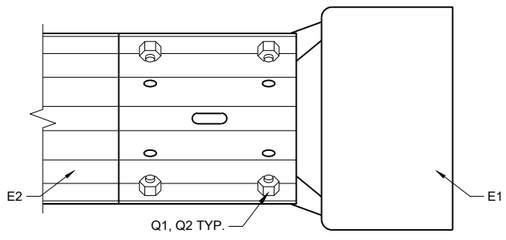



**TOP VIEW**

**GROUND STRUT CONNECTION DETAIL**




**DETAIL "D"**




**DETAIL "E"**

## GENERAL NOTES

200 INSTALL ONE WASHER UNDER BOLT HEAD AND RAIL AND ON WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

201 INSTALL ONE WASHER UNDER BOLT HEAD AND UPPER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND ARM PLATE.

202 INSTALL ONE WASHER UNDER BOLT HEAD AND GROUND STRUT CONNECTOR AND ONE WASHER BETWEEN NUT AND GROUND STRUT CONNECTOR.

203 INSTALL ONE WASHER UNDER BOLT HEAD AND LOWER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND UPPER POST ASSEMBLY.

204 TORQUE VALUE IS BETWEEN 60 - 75 FT-LB.

205 TWO WASHERS BETWEEN UPPER AND LOWER POST ASSEMBLY.

206 INSTALL ONE WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

207 NO MATERIAL IS TO BE PLACED AGAINST THE VERTICAL FACES OF BEARING PLATE.

208 PREVENT OR REMOVE MATERIALS THAT BLOCK ACCESS TO BOLTS FOR POST ASSEMBLIES AND GROUND STRUT.

209 PREVENT OR REMOVE MATERIALS THAT IMPEDE REMOVAL OF GROUND STRUT.

**MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL**

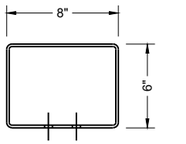
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION


6

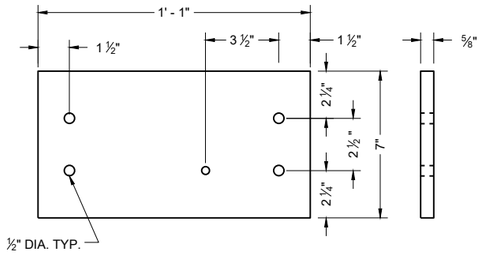
SDD 14B47-07b

## GENERAL NOTES

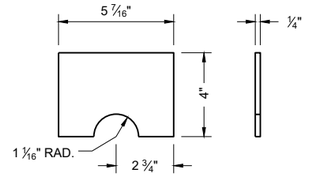
(300) TAP FOR 1/2" AFTER GALVANIZATION



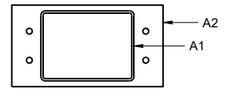

TOP VIEW



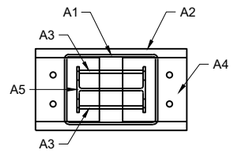

LOWER PLATE (A2)

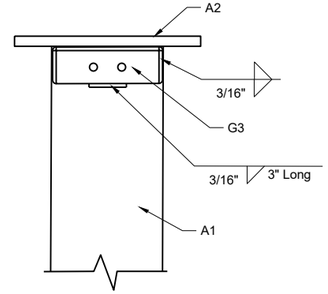



POST GUSSET (A3)

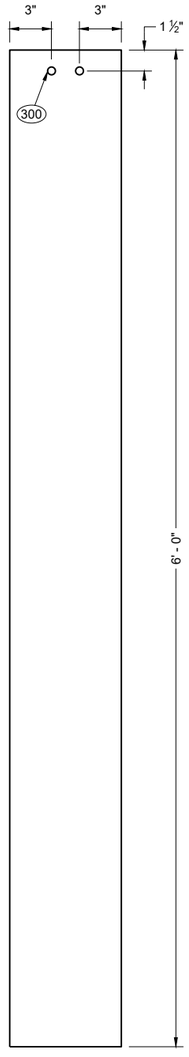



PLAN VIEW



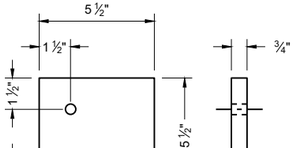




WELDING DETAIL
G3 AND A1

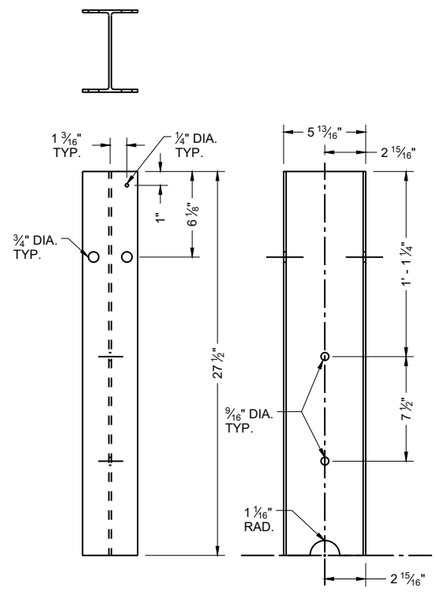



SIDE VIEW

FOUNDATION TUBE (A1)

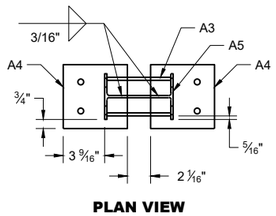



UPPER PLATE (A4)

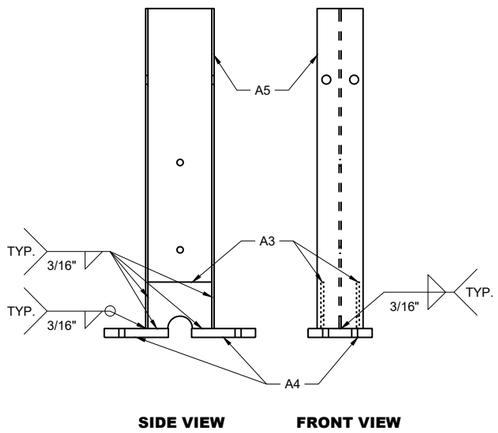



FRONT VIEW SIDE VIEW

TYPE 2 POST (A5)

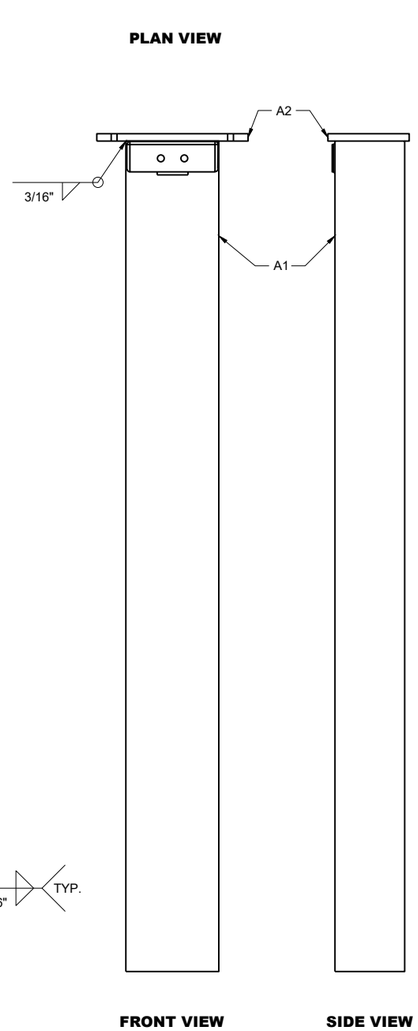



PLAN VIEW



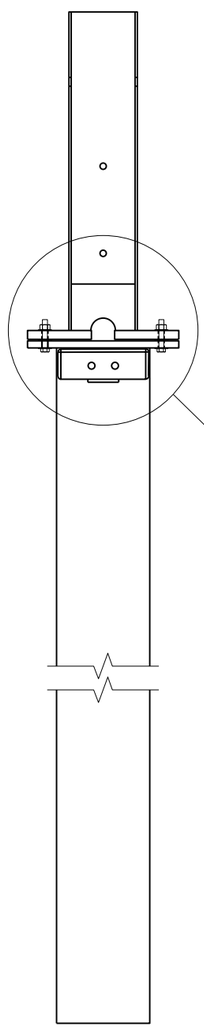

SIDE VIEW FRONT VIEW

UPPER POST ASSEMBLY

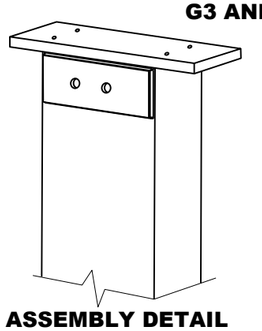



FRONT VIEW SIDE VIEW

LOWER POST ASSEMBLY

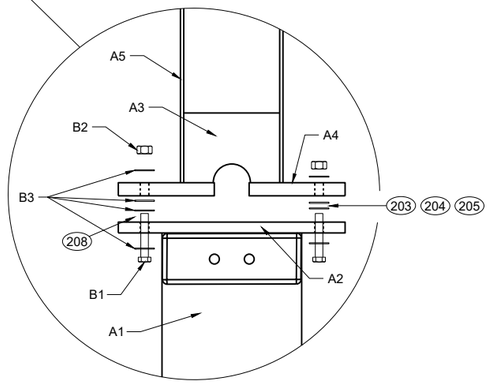


ASSEMBLED POST




ASSEMBLY DETAIL ISOMETRIC

A1




POST CONNECTION DETAIL

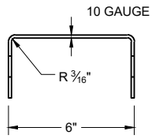
| | |
|---|---|
| MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |

6

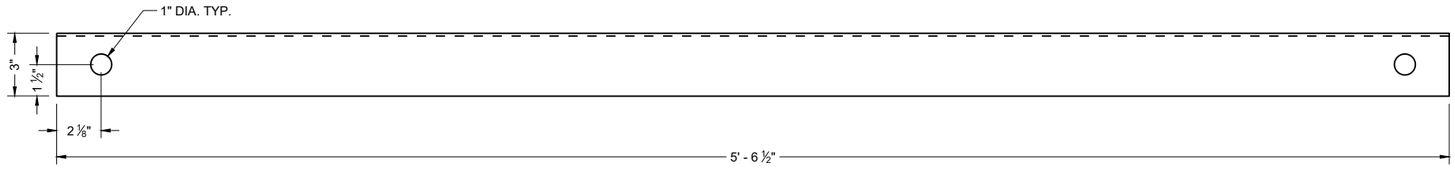
SDD 14B47-07c

6

SDD 14B47-07c

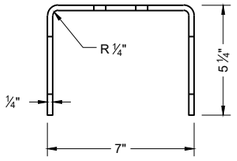



SIDE VIEW

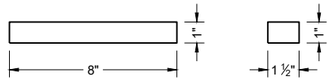



FRONT VIEW

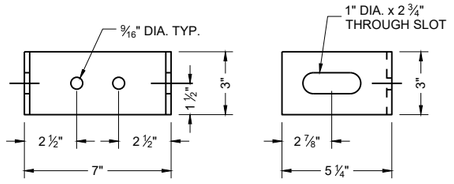
**GROUND STRUT CHANNEL (G1)**




TOP VIEW




**BEARING PLATE FLANGE (L2)**

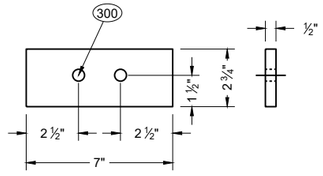



FRONT VIEW

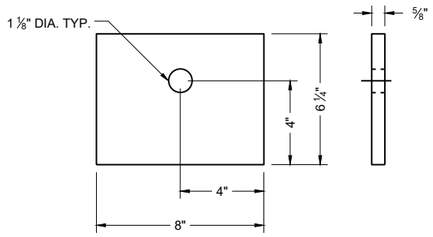



SIDE VIEW

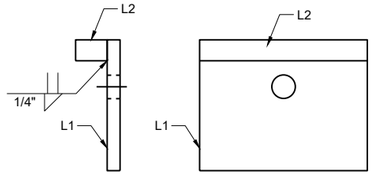
**GROUND STRUT CONNECTOR (G2)**




**GROUND STRUT PLATE (G3)**




**BEARING PLATE (L1)**

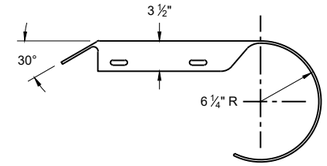



SIDE VIEW

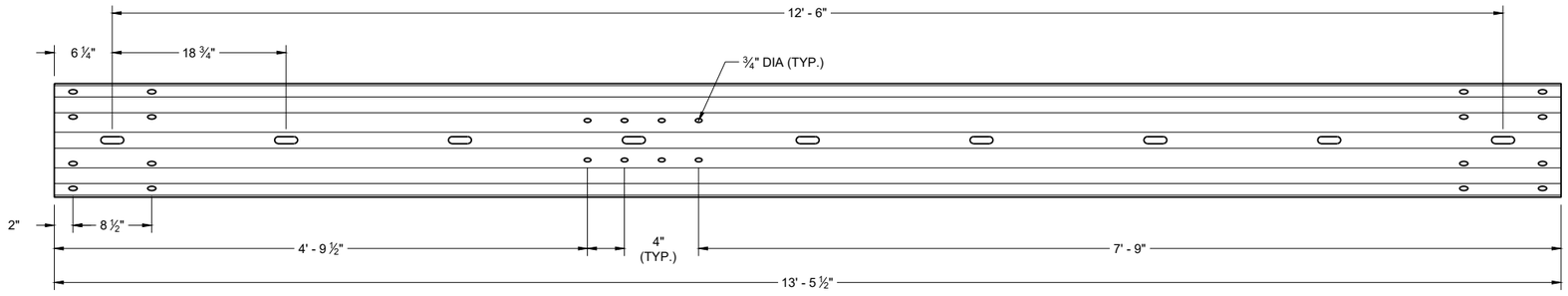



FRONT VIEW

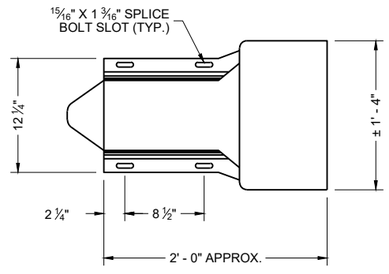
**BEARING PLATE ASSEMBLY**




PLAN VIEW

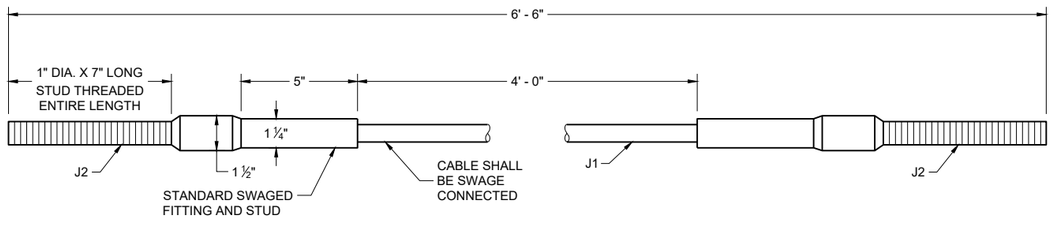



**TYPE 2 GUARDRAIL (E1)**




ELEVATION VIEW

**ROUNDED BUFFER END (E3)**




**CABLE ASSEMBLY**

**MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL**

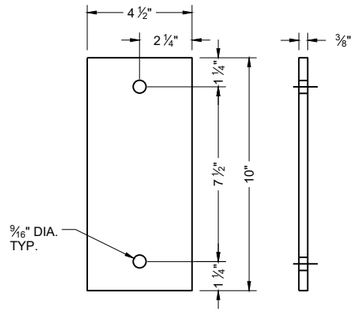
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



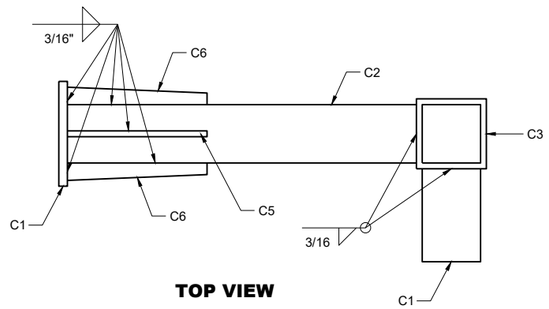


6

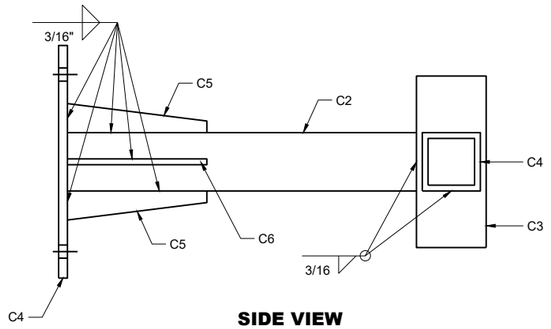
SDD 14B47-07d



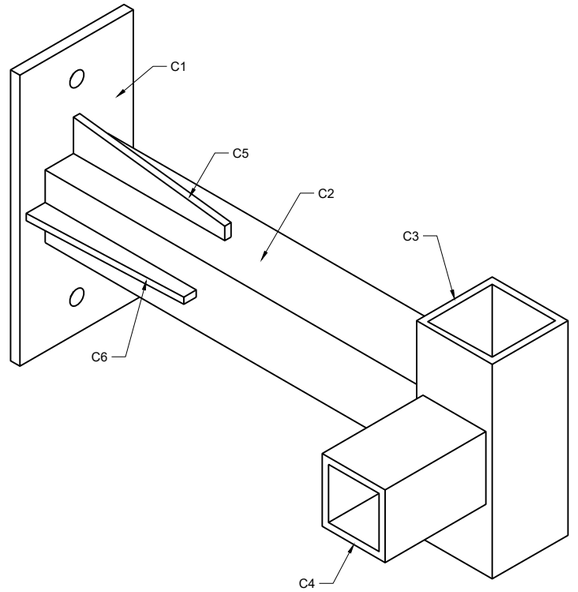

**ARM PLATE (C1)**



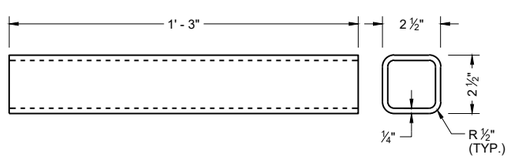

**TOP VIEW**
**ARM ASSEMBLY**



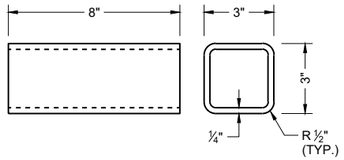

**SIDE VIEW**
**ARM ASSEMBLY**



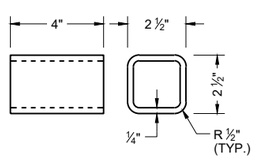

**ISOMETRIC VIEW**
**ARM ASSEMBLY**



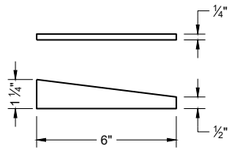

**ARM TUBE 1 (C2)**



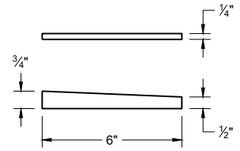

**ARM TUBE 2 (C3)**



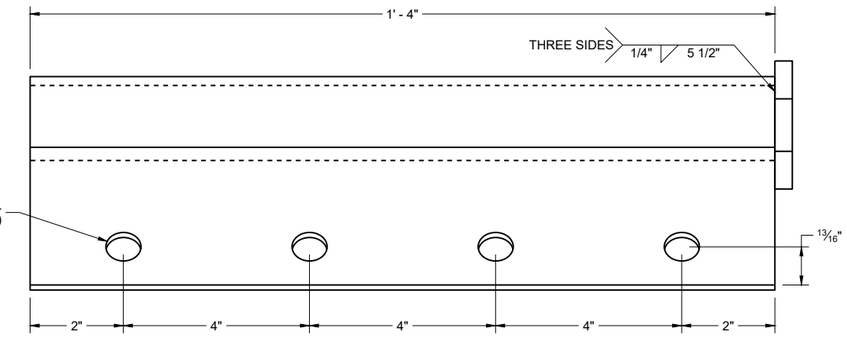

**ARM TUBE 3 (C4)**

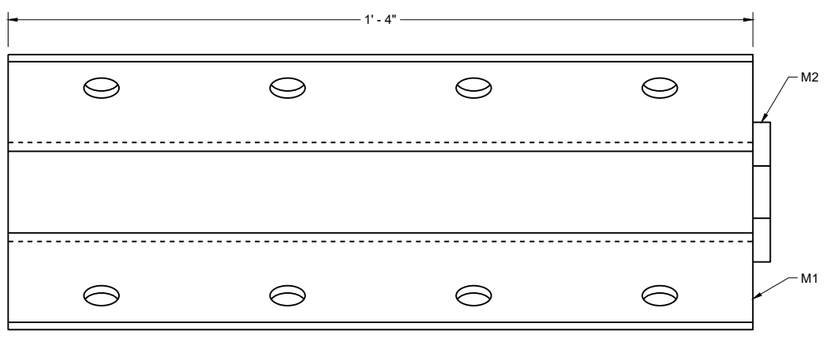



**ARM GUSSET PLATE 1 (C5)**

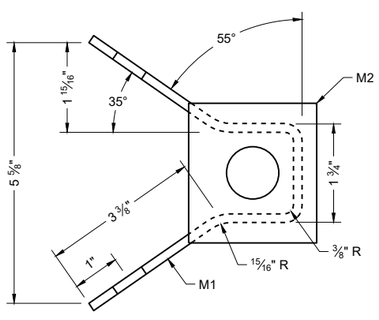


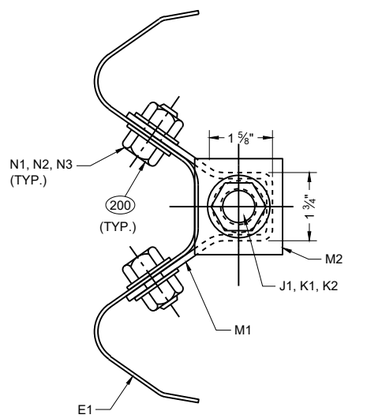

**ARM GUSSET PLATE 2 (C6)**

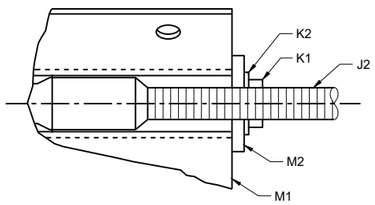


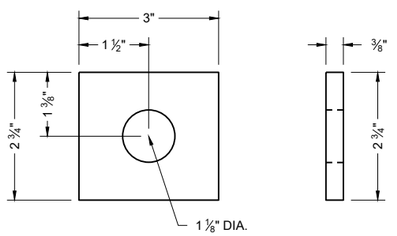

**ANCHOR BRACKET (M1, M2)**




**SECTION A - A**




**ANCHOR BRACKET BEARING PLATE (M2)**

**MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6
SDD 14B47-07e

## BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

| PART | DESCRIPTION | MATERIALS SPECIFICATIONS | NOTES |
|---|---|---|---|
| A1 | TYPE 2 FOUNDATION TUBE | AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501 | TS 8" x 6" x 3/16" |
| A2 | LOWER PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 5/8" THICKNESS |
| A3 | POST GUSSET | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 1/4" THICKNESS |
| A4 | UPPER PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 3/4" THICKNESS |
| A5 | TYPE 2 POST | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI, w6x9 or w6x8.5 | |
| B1 | BREAKAWAY BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED . PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT. | 7/16" DIA. |
| B2 | BREAKAWAY BOLT WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY) | 7/16" DIA. |
| B3 | BREAKAWAY BOLT NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| C1 | ARM ASSEMBLY PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 3/8" THICKNESS |
| C2 | ARM ASSEMBLY TUBE 1 | AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501 | TS 8" x 6" x 3/16" |
| C3 | ARM ASSEMBLY TUBE 2 | AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501 | TS 3" x 3" x 1/4" |
| C4 | ARM ASSEMBLY TUBE 3 | AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501 | TS 2 1/2" x 2 1/2" X 1/4" |
| C5 | ARM ASSEMBLY GUSSET PLATE 1 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 1/4" THICKNESS |
| C6 | ARM ASSEMBLY GUSSET PLATE 2 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 1/4" THICKNESS |
| D1 | ARM ASSEMBLY BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36 | 1/2" DIA. |
| D2 | ARM ASSEMBLY WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY) | 1/2" DIA. |
| D3 | ARM ASSEMBLY NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | 1/2" DIA. |
| E1 | TYPE 2 GUARD RAIL | AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER | |
| E2 | BEAM GUARD RAIL | AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER | |
| E3 | BEAM GUARD ROUNDED BUFFER END | AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER | |
| F1 | POST BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36 | 5/8" DIA. |
| F2 | POST BOLT WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY) | 5/8" DIA. |
| F3 | POST BOLT NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| G1 | GROUND STRUT CHANNEL | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 1/2" x 11 3/4" x 10 GAUGE |
| G2 | GROUND STRUT CONNECTOR | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 1/4" THICKNESS |
| G3 | GROUND STRUT PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 1/2" THICKNESS |





**MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6

SDD 14B47-07f

## BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

| PART | DESCRIPTION | MATERIALS SPECIFICATIONS | NOTES |
|---|---|---|---|
| H1 | GROUND STRUT BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36 | 7/8" DIA. |
| H2 | GROUND STRUT BOLT WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY) | 7/8" DIA. |
| H3 | GROUND STRUT BOLT NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36 | |
| J1 | BCT CABLE | AASHTO M30 / ASTM A741 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN. BREAKING STRENGTH OF 42.7 KIPS | 3/4" DIA. |
| J2 | BCT CABLE | UNC 1" ASTM A576 GRADE 1035 SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. MIN BREAKING STRENGTH OF 42.7 KIPS ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS." | |
| K1 | CABLE ASSEMBLY NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | 1" DIA. |
| K2 | CABLE ASSEMBLY WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 | 1" DIA. |
| L1 | BEARING PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 5/8" THICKNESS |
| L2 | BEARING PLATE FLANGE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 1" THICKNESS |
| M1 | BEAM GUARD ANCHOR BRACKET | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | |
| M2 | BEAM GUARD ANCHOR END PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI | 3/8" THICKNESS |
| N1 | ANCHOR BRACKET BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36 | 5/8" DIA. |
| N2 | ANCHOR BRACKET BOLT WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY) | 5/8" DIA. |
| N3 | ANCHOR BRACKET BOLT NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 /ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| P1 | FOUNDATION TUBE BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | 1/2" DIA. |
| Q1 | SPLICE BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36 | |
| Q2 | SPLICE NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | 5/8" DIA. |





**MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2025 — DATE
/S/ Rodney Taylor — <position>

FHWA



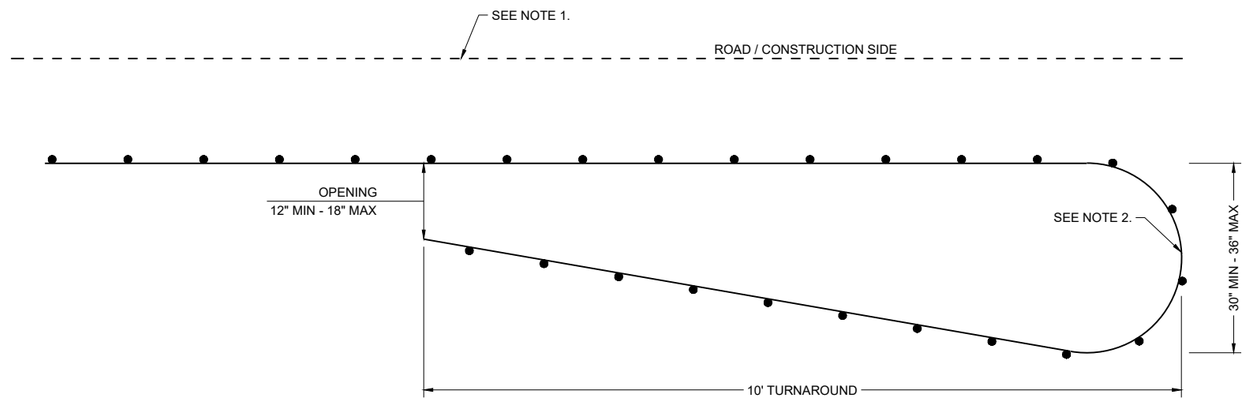
6

SDD 14B47-07g

## GENERAL NOTES:

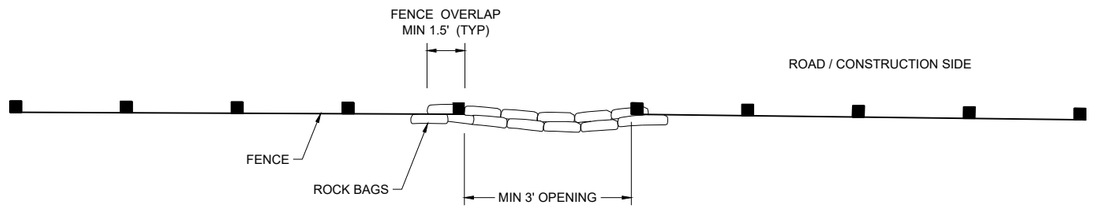
1. WHERE SILT FENCE IS REQUIRED, IT SHALL BE PLACED ON THE CONSTRUCTION SIDE OF THE EXCLUSION FENCING, OR COMBINED WITH THE EXCLUSION FENCING AS ALLOWED IN THE SPECIFICATIONS. STAKES ON THIS DETAIL ARE OPPOSITE OF STANDARD SILT FENCE FOR SEDIMENT CONTROL.
2. PLACE TURNAROUNDS AT ALL TERMINI ENDS OF THE EXCLUSION FENCING.
3. IF TEMPORARY ACCESS POINTS ARE NEEDED DURING CONSTRUCTION THAT REQUIRE OPENINGS IN THE EXCLUSION FENCING, ACCESS OPENINGS SHOULD BE TIGHTLY SECURED WITH BALES OF HAY OR STRAW WHENEVER CONSTRUCTION RELATED ACTIVITIES ARE NOT OCCURRING. REINSTALL EXCLUSION FENCING WHEN THE WORK REQUIRING THE TEMPORARY ACCESS OPENING IS COMPLETED.
4. THE FENCE CAP MAY BE A 6" UNDER DRAIN PIPE, SLIT DOWN THE CENTER AND PLACED OVER THE FENCE. COMMERCIALLY AVAILABLE SAFETY CAPS WITH A LIP MAY BE USED. OTHER DNR APPROVED METHODS TO PREVENT TURTLES FROM PASSING OVER THE TOP OF THE FENCE MAY BE USED.

   SECURELY FASTEN THE CAP TO PREVENT IT FROM BEING DISLODGED.

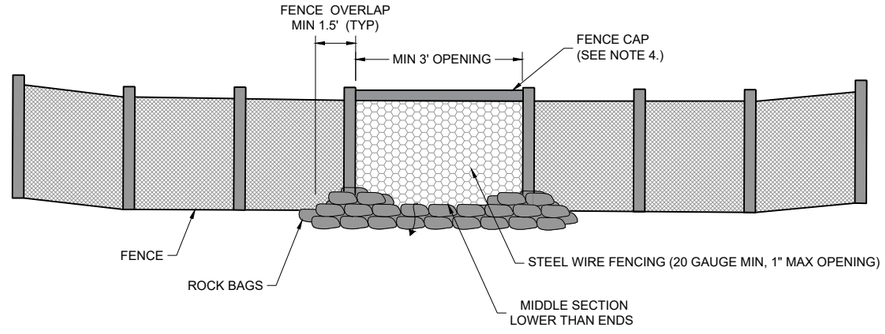



**PLAN VIEW**

## CLIMBING TURTLE EXCLUSION FENCE DETAIL




**PLAN VIEW**




**FRONT VIEW**

## CLIMBING TURTLE FENCE RELIEF DETAIL

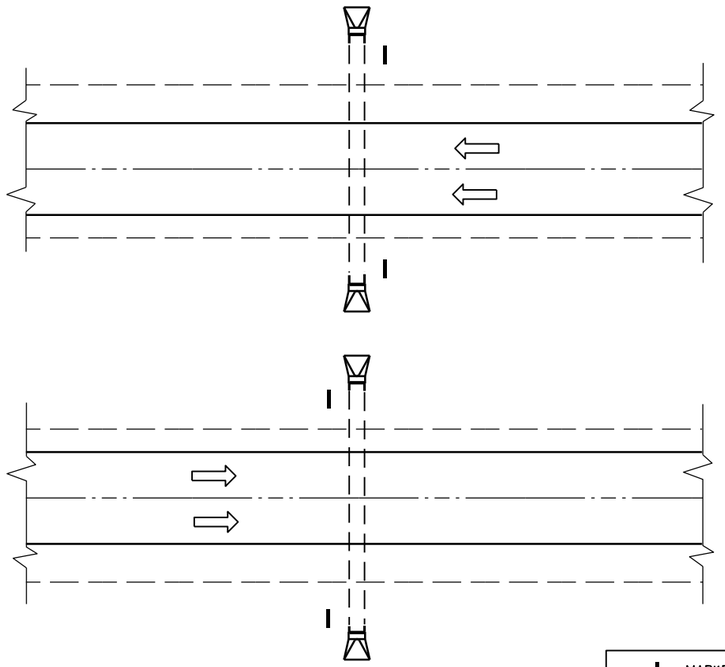
**TURTLE EXCLUSION FENCE**
**CLIMBING TURTLE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
AUGUST 2025
DATE

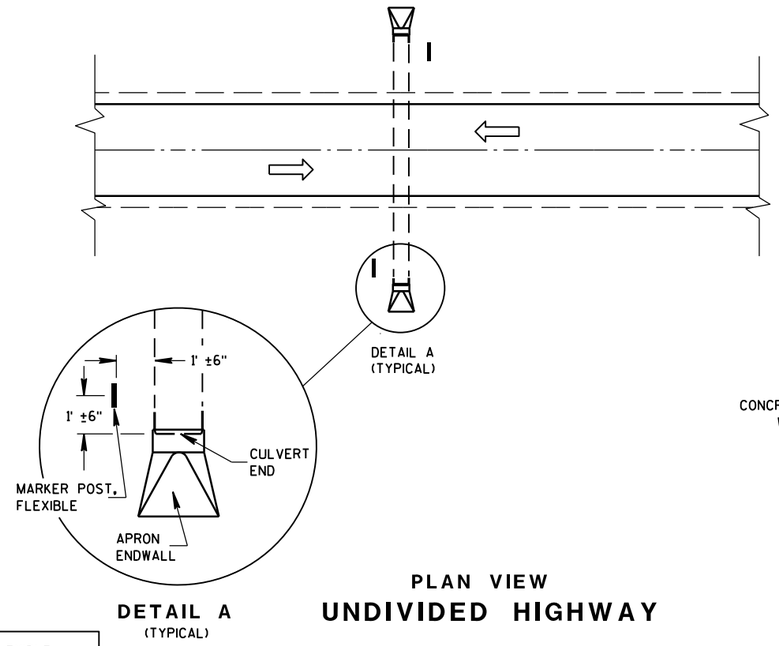
/S/ ALYSSA BARRETTE
CHIEF STATEWIDE ENVIRONMENTAL SERVICES
BUREAU OF TECHNICAL SER

FHWA



PLAN VIEW

## DIVIDED HIGHWAY




DETAIL A
(TYPICAL)

PLAN VIEW

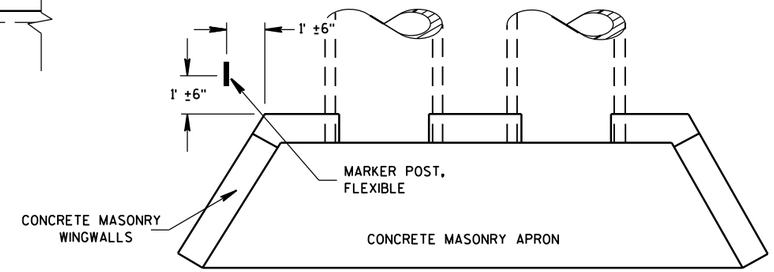
## UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

## GENERAL NOTES

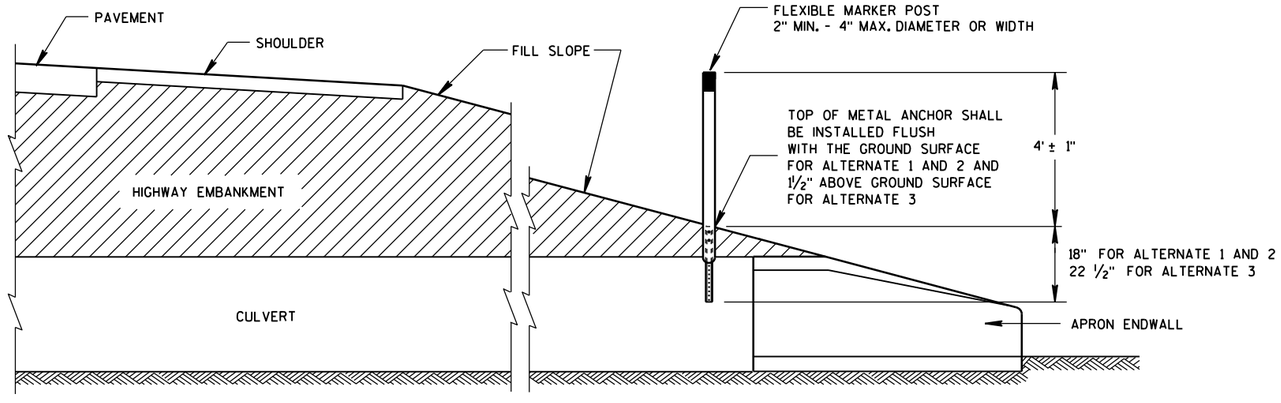
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.




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

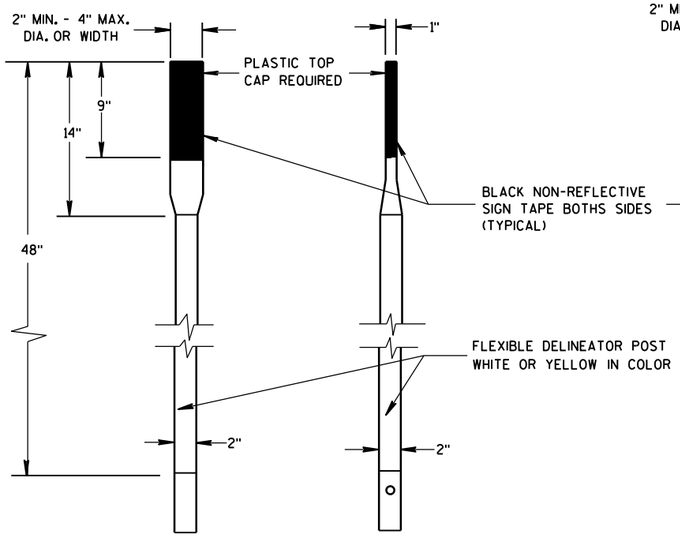


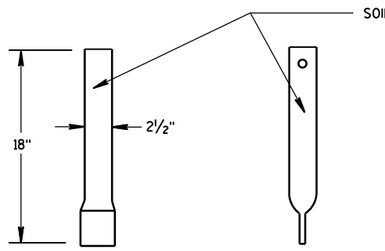
6

S.D.D. 15 A 3-2a

6

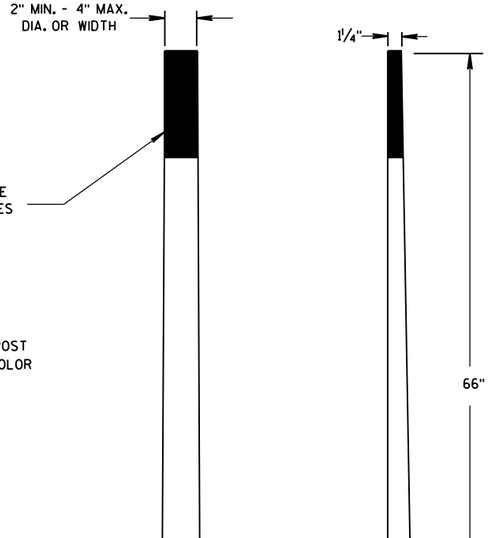
S.D.D. 15 A 3-2a



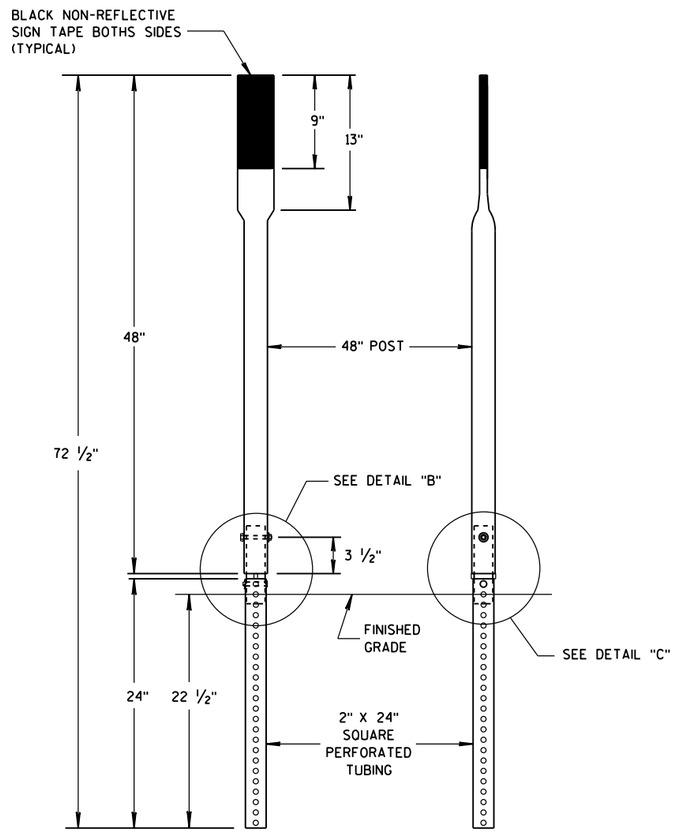

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

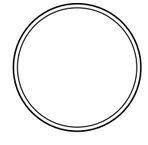
ALTERNATE 2



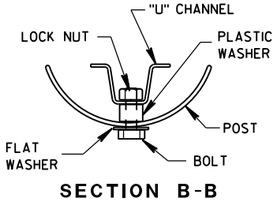

FRONT VIEW SIDE VIEW

ALTERNATE 3

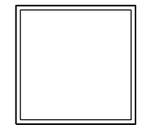
## FLEXIBLE MARKER POSTS



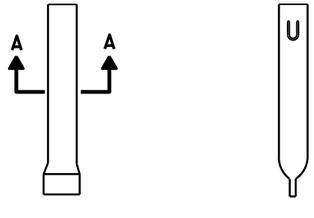
SECTION A-A




SECTION B-B

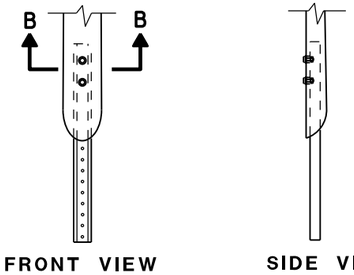


SECTION C-C



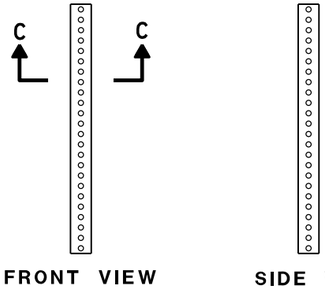

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

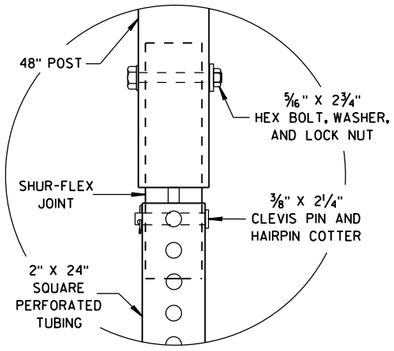
ALTERNATE 2



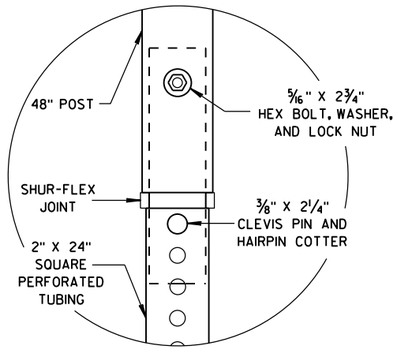

FRONT VIEW SIDE VIEW

ALTERNATE 3

## FLEXIBLE MARKER POST ANCHORS




DETAIL B




DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

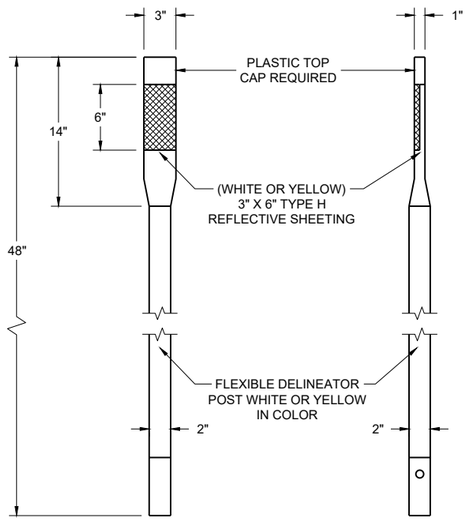
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

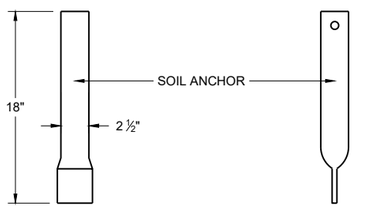
APPROVED
10/1/2012
DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER
FHWA





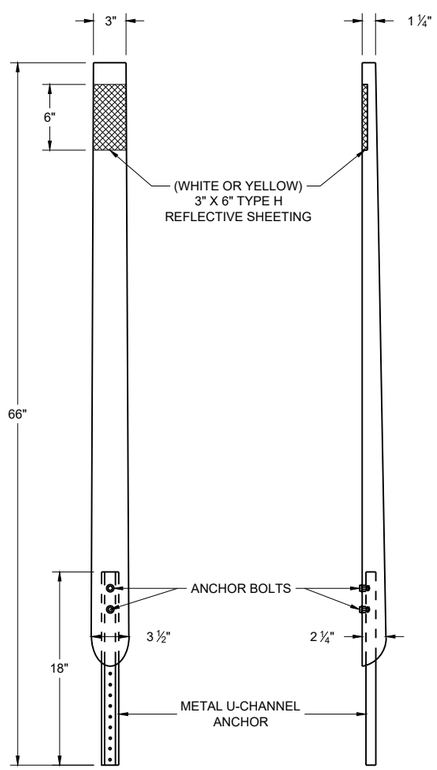
6
S.D.D. 15 A 3-2b




FRONT VIEW SIDE VIEW

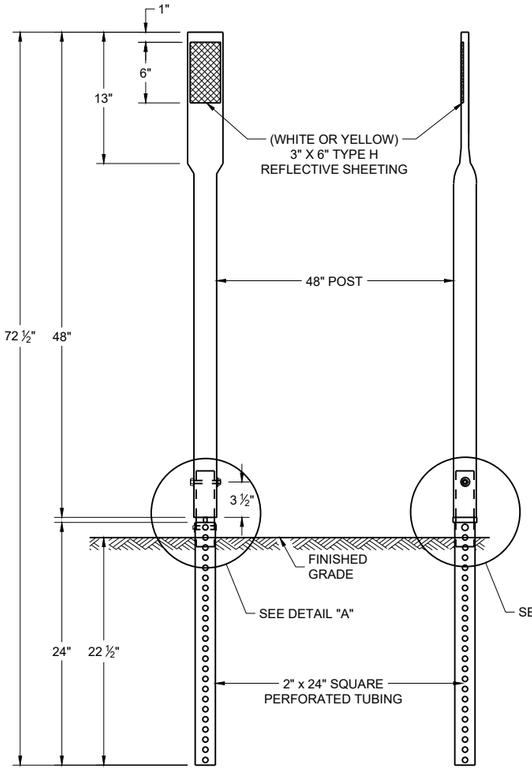
**ALTERNATE 1**




FRONT VIEW SIDE VIEW

**ALTERNATE 2**

**FLEXIBLE DELINEATOR POSTS**

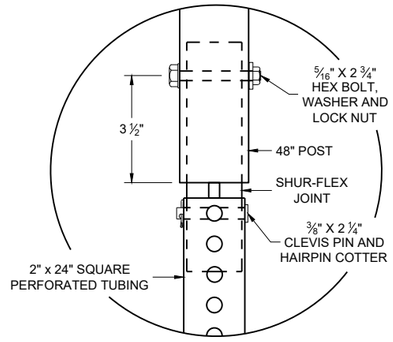



FRONT VIEW SIDE VIEW

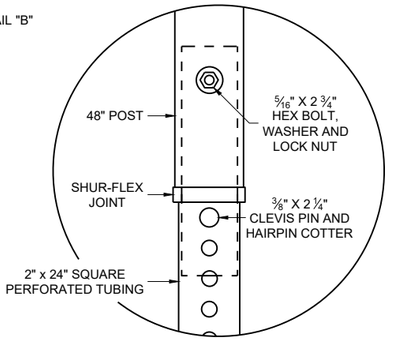
**ALTERNATE 3**

## GENERAL NOTES

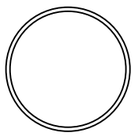
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



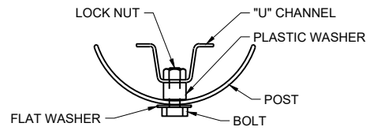

**DETAIL A**



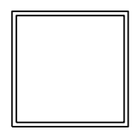

**DETAIL B**



**SECTION A - A**




**SECTION B - B**

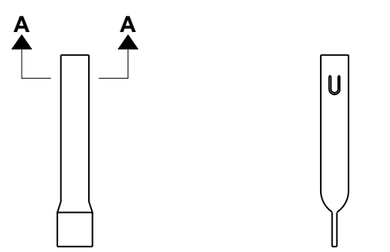


**SECTION C - C**

**REFLECTOR SPACING TABLE**

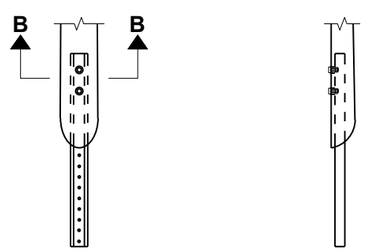
| REFLECTOR SPACING | LOCATION |
|---|---|
| * 100' C-C | RAMPS |
| 400' C-C | MAINLINE |

* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER




FRONT VIEW SIDE VIEW

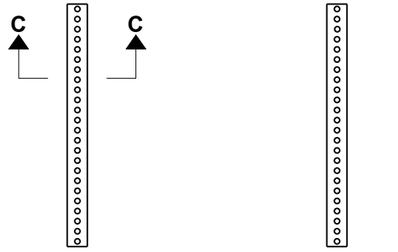
**ALTERNATE 1**




FRONT VIEW SIDE VIEW

**ALTERNATE 2**

**FLEXIBLE MARKER POST ANCHORS**




FRONT VIEW SIDE VIEW

**ALTERNATE 3**

**FLEXIBLE DELINEATOR POST**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

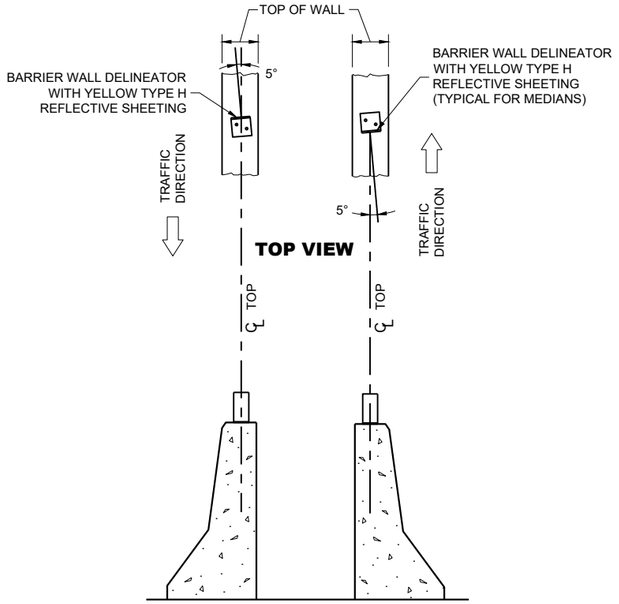
FHWA



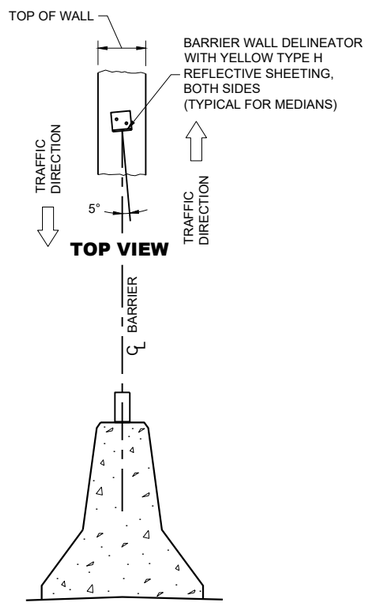
6

SDD 15A04-08a

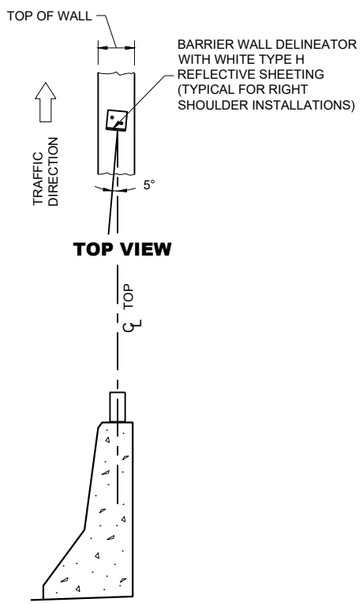
SDD 15A04-08a




**SIDE VIEW**
**DOUBLE BARRIERS IN MEDIAN**

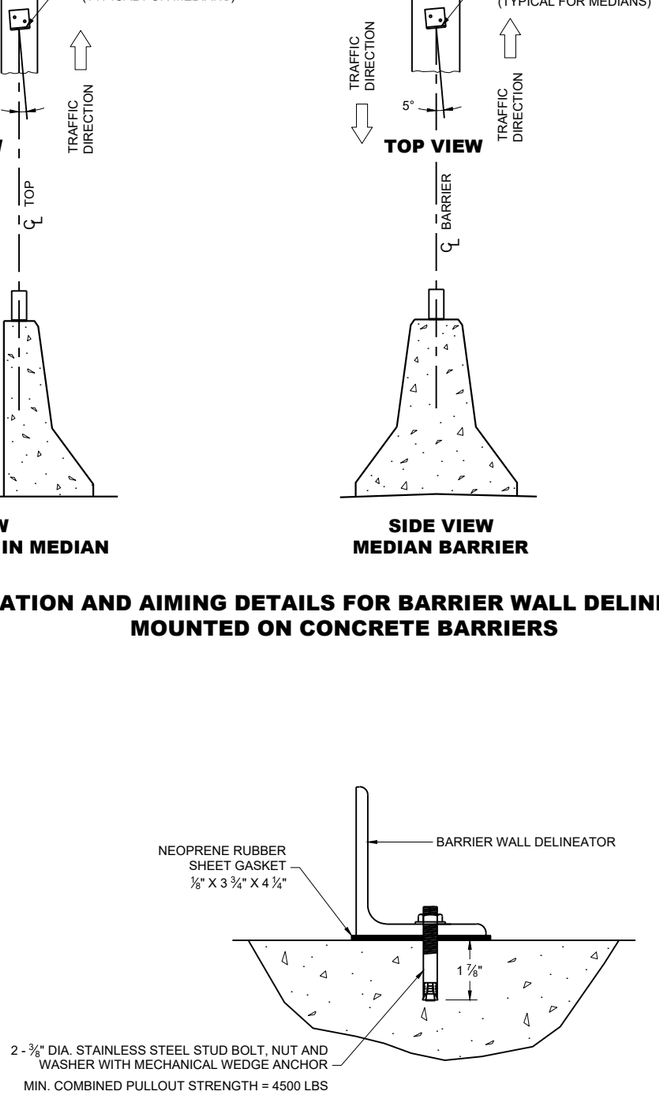



**SIDE VIEW**
**MEDIAN BARRIER**

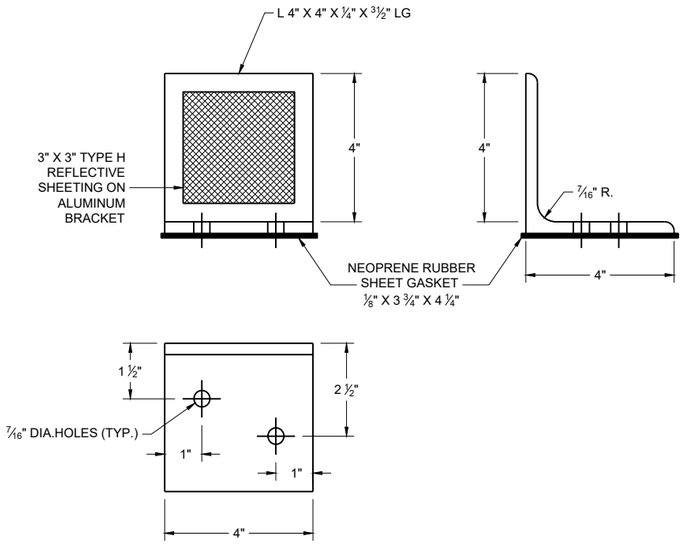



**SIDE VIEW**
**TO RIGHT OF TRAFFIC FLOW**

## LOCATION AND AIMING DETAILS FOR BARRIER WALL DELINEATOR MOUNTED ON CONCRETE BARRIERS




**BARRIER WALL DELINEATOR**
**MOUNTING DETAIL**




**BARRIER WALL DELINEATOR**

### REFLECTOR SPACING TABLE

| REFLECTOR SPACING | MINIMUM NUMBER OF REFLECTORS |
|---|---|
| 100' C-C | 3 |

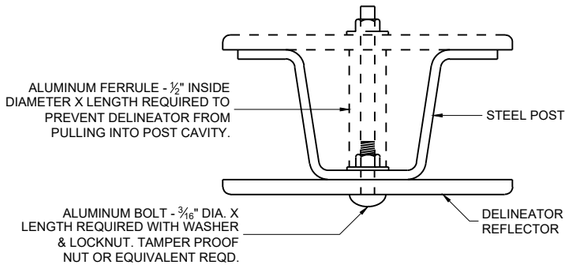
**BARRIER WALL DELINEATOR WITH REFLECTIVE SHEETING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

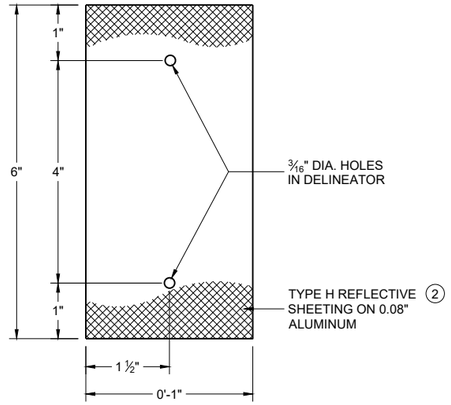
APPROVED
March 2024 — DATE
/S/ Jeannie Silver — Statewide Pavement Marking Engineer
FHWA



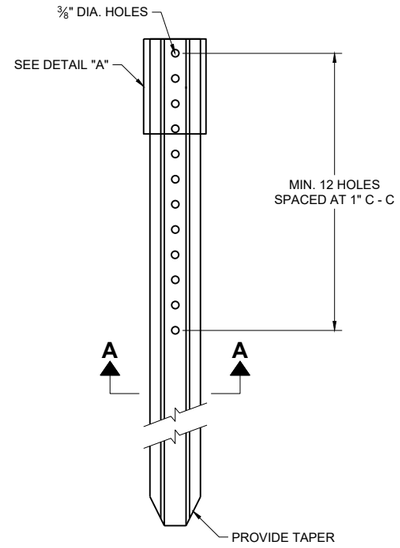

SDD 15A04-08b
6



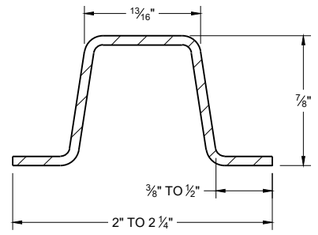

**MOUNTING DETAIL FOR DELINEATOR REFLECTOR**




**DETAIL "A" 3" X 6" DELINEATOR REFLECTOR**




**DELINEATOR POST**



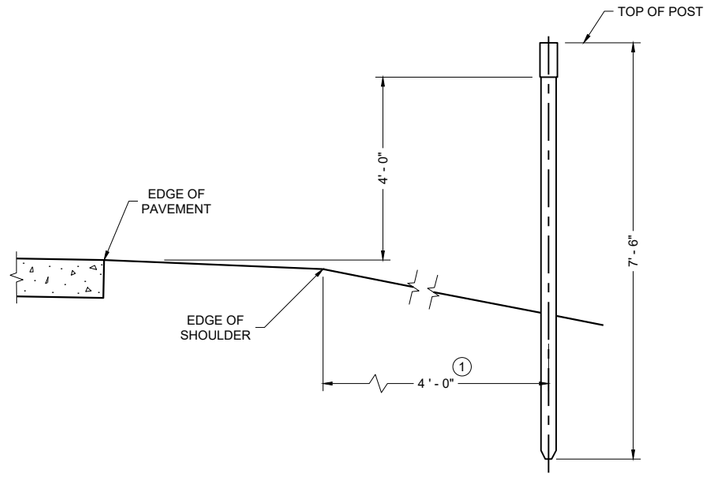

**SECTION A - A**

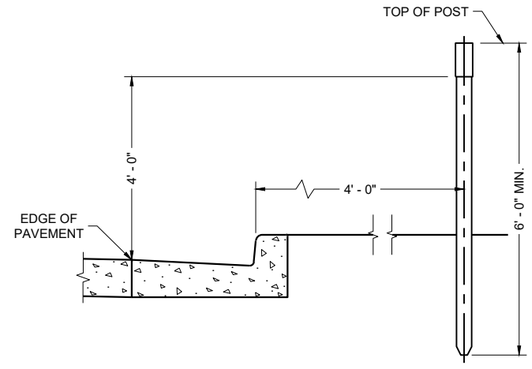
**WEIGHT 1.12 LBS PER FT. \ 0.1 LB.**

**REFLECTOR SPACING TABLE**

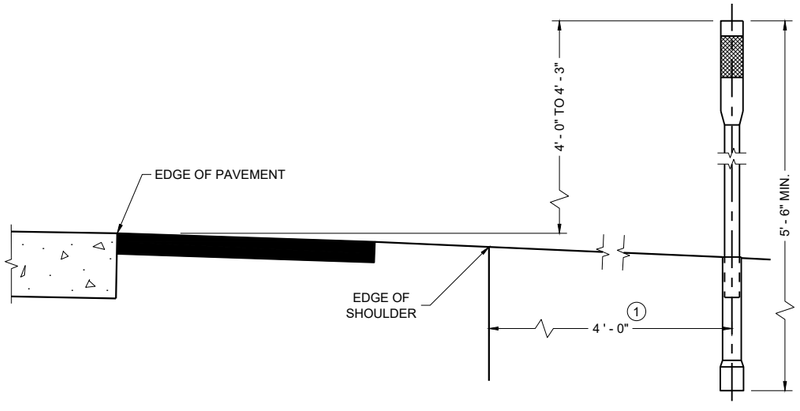
| REFLECTOR SPACING | LOCATION |
|---|---|
| * 100' C-C | RAMPS |
| 400' C-C | MAINLINE |

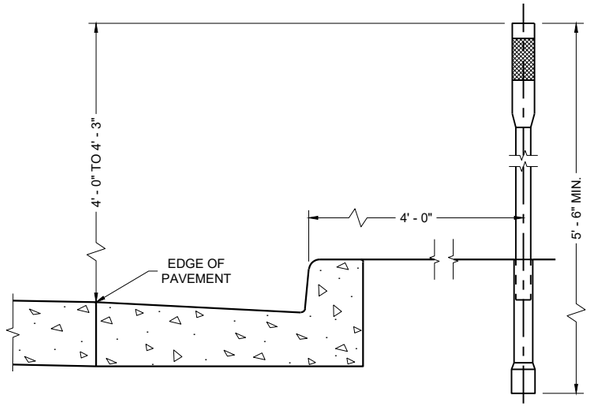
* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER




**TYPICAL INSTALLATIONS OF DELINEATOR POSTS**




**TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS**

## GENERAL NOTES

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

(1) DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.

(2) FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.

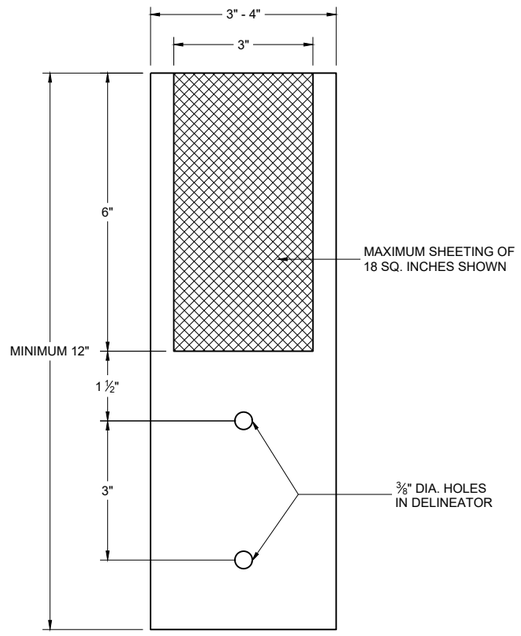
**DELINEATOR POST WITH REFLECTIVE SHEETING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA


6
SDD 15A04-08c




**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

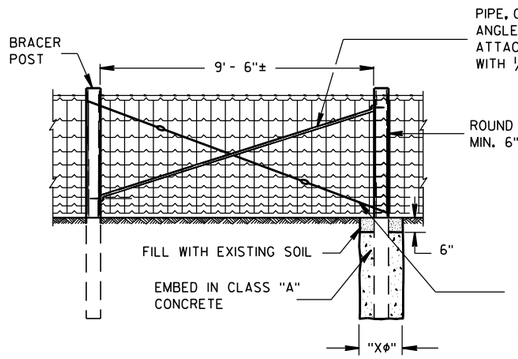
FHWA


6

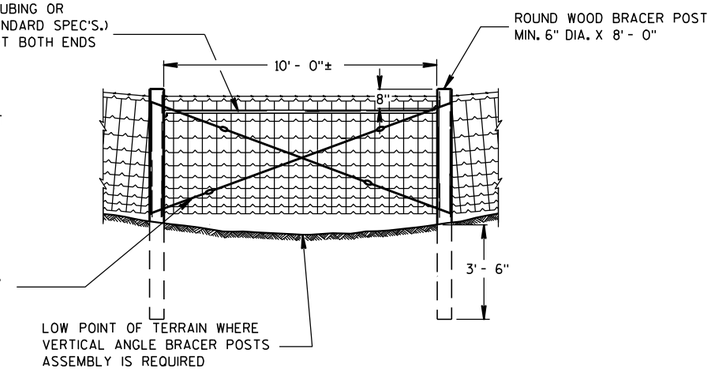
SDD 15A04-08e

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.




PULL OR STRETCHER POSTS ASSEMBLY




VERTICAL ANGLE BRACER POSTS ASSEMBLY

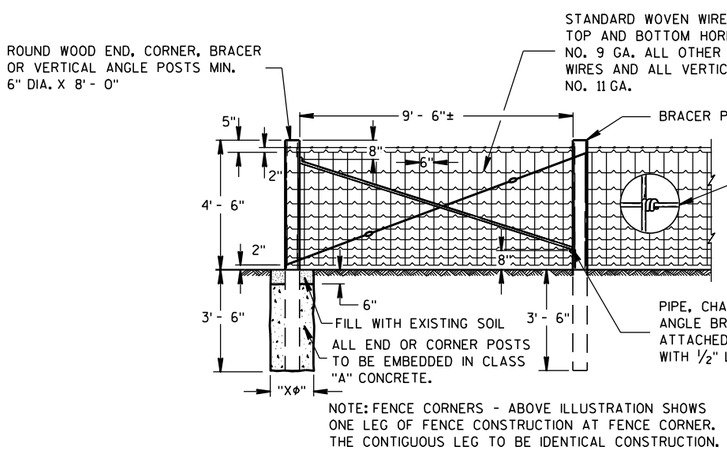
## GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

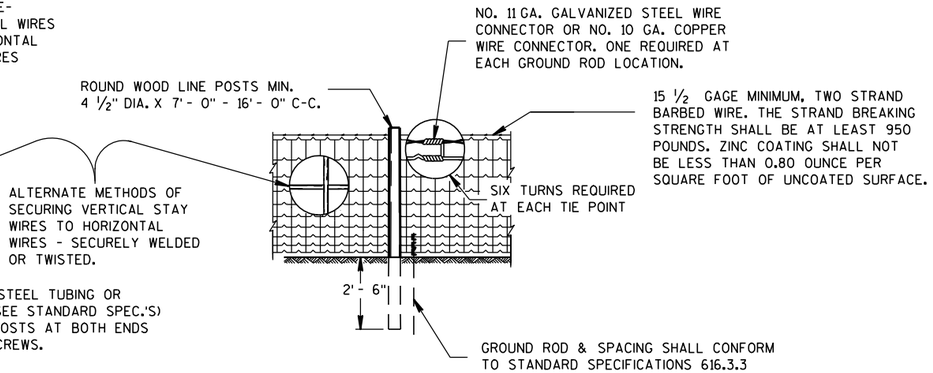
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



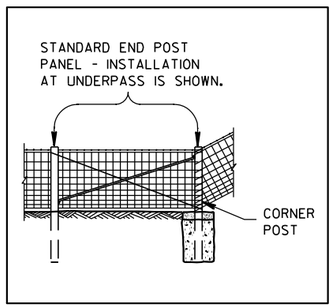

NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

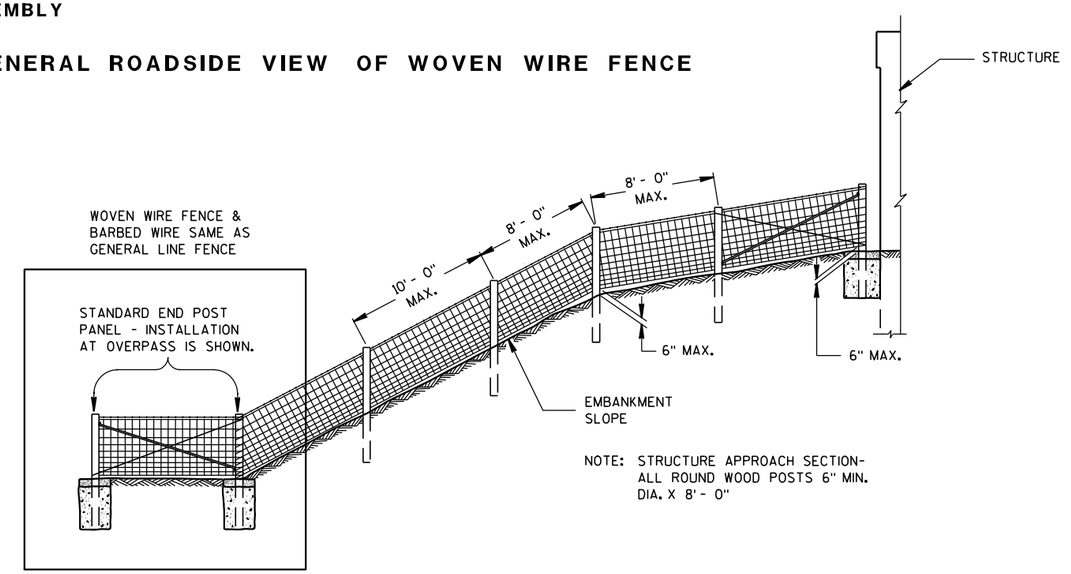



LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE




ALTERNATE FENCE DESIGN AT STRUCTURE




NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

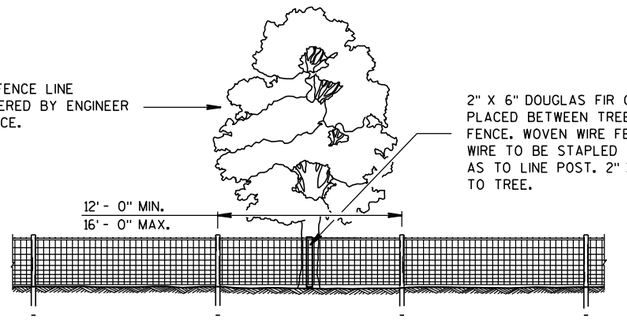



6

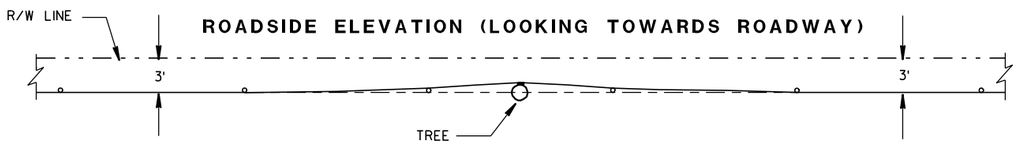
S.D.D. 15 B 1-8a

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.

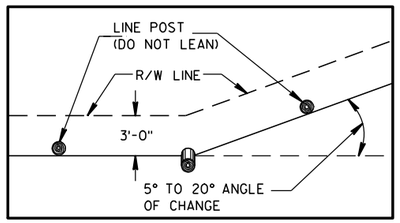



ROADSIDE ELEVATION (LOOKING TOWARDS ROADWAY)

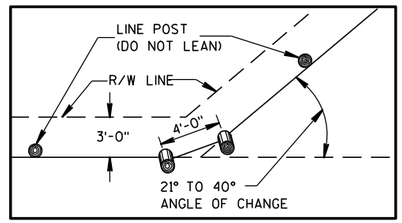



PLAN VIEW

## FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE




PLAN VIEW
SINGLE POST CORNER

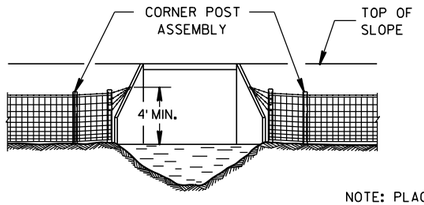



PLAN VIEW
DOUBLE POST CORNER

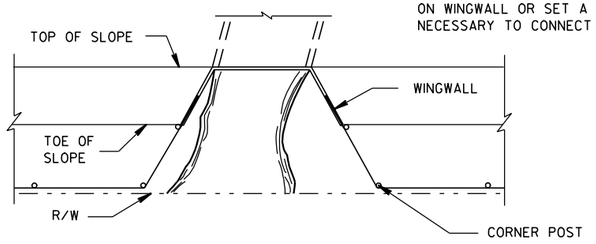
## RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

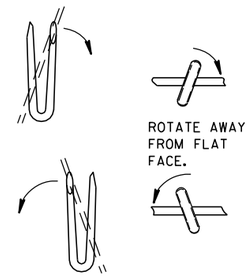
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



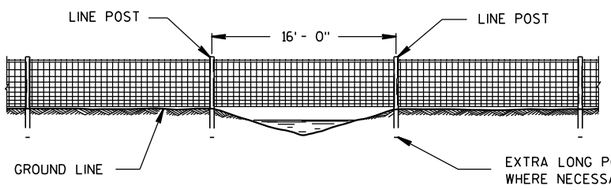

NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.




## FENCE INSTALLATION TO WINGWALLS

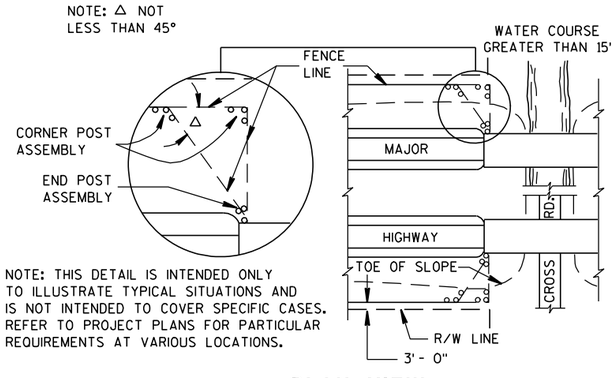



LINE POST



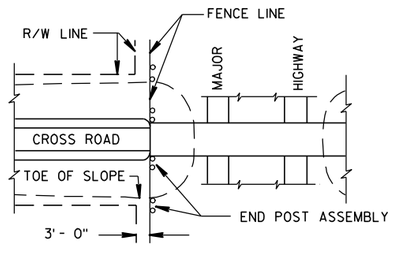

## FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH

NOTE: △ NOT LESS THAN 45°



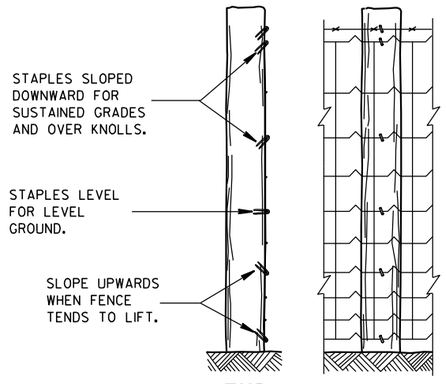

NOTE: THIS DETAIL IS INTENDED ONLY TO ILLUSTRATE TYPICAL SITUATIONS AND IS NOT INTENDED TO COVER SPECIFIC CASES. REFER TO PROJECT PLANS FOR PARTICULAR REQUIREMENTS AT VARIOUS LOCATIONS.

PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH




PLAN VIEW
MAJOR HIGHWAY UNDERPASS

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.




END ELEVATION

FARM SIDE ELEVATION

FENCE MOUNTING DETAIL

## FENCE LOCATION AT STRUCTURES

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible]
ENGINEER

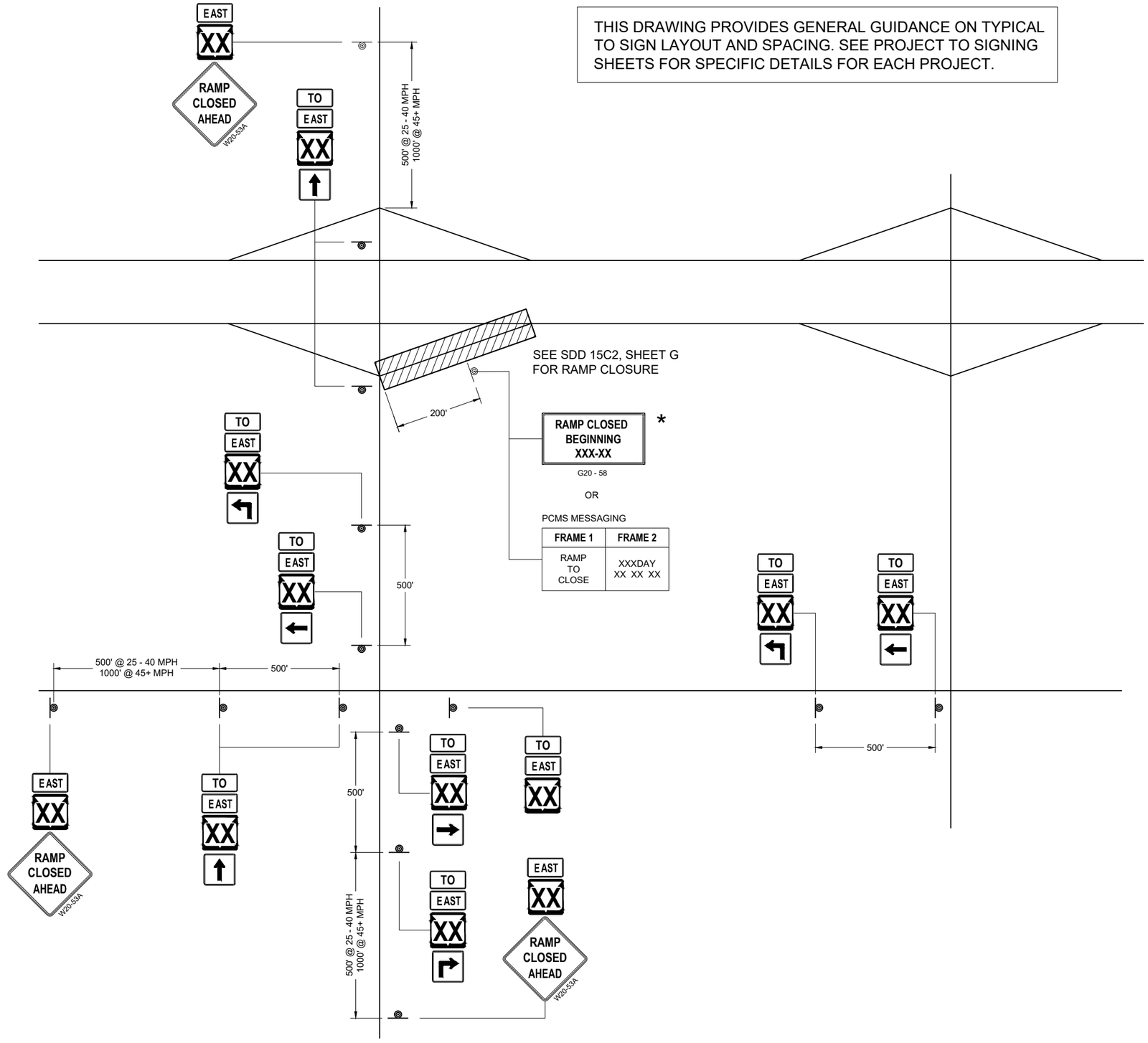
FHWA





6

S.D.D. 15 B 1-8b




THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL TO SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

## LEGEND

SIGN ON PERMANENT SUPPORT

TO / EAST — MO4 - 5; M3 - X

XX M1 - 6 OR XX M1 - 4 OR INTERSTATE XX M1 - 1

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 ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND TO 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 SHALL 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 FOLLOW:
- M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- W20 - 53A SHALL BE 48" X 48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

# ON RAMP LANE CLOSURE

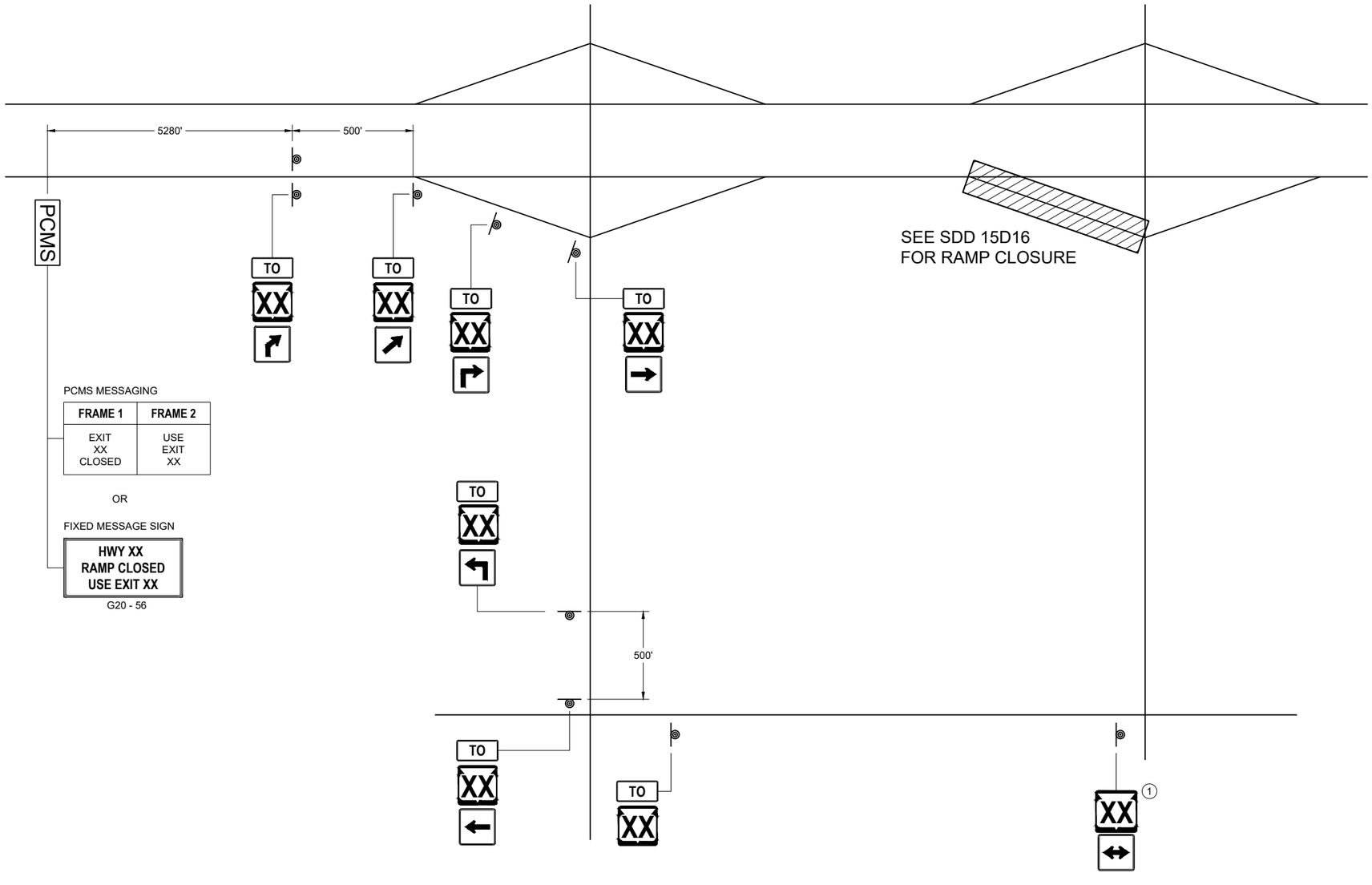
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA


6
SDD 15C02-10d

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.




PCMS MESSAGING

| FRAME 1 | FRAME 2 |
|---|---|
| EXIT XX CLOSED | USE EXIT XX |

OR

FIXED MESSAGE SIGN

**HWY XX**
**RAMP CLOSED**
**USE EXIT XX**

G20 - 56

## LEGEND

SIGN ON PERMANENT SUPPORT

PCMS PORTABLE CHANGEABLE MESSAGE SIGN

TO MO4 - 5

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

## GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 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 SHALL 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 FOLLOW:

MO4 - 5 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, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

(1) ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

# OFF RAMP LANE CLOSURE

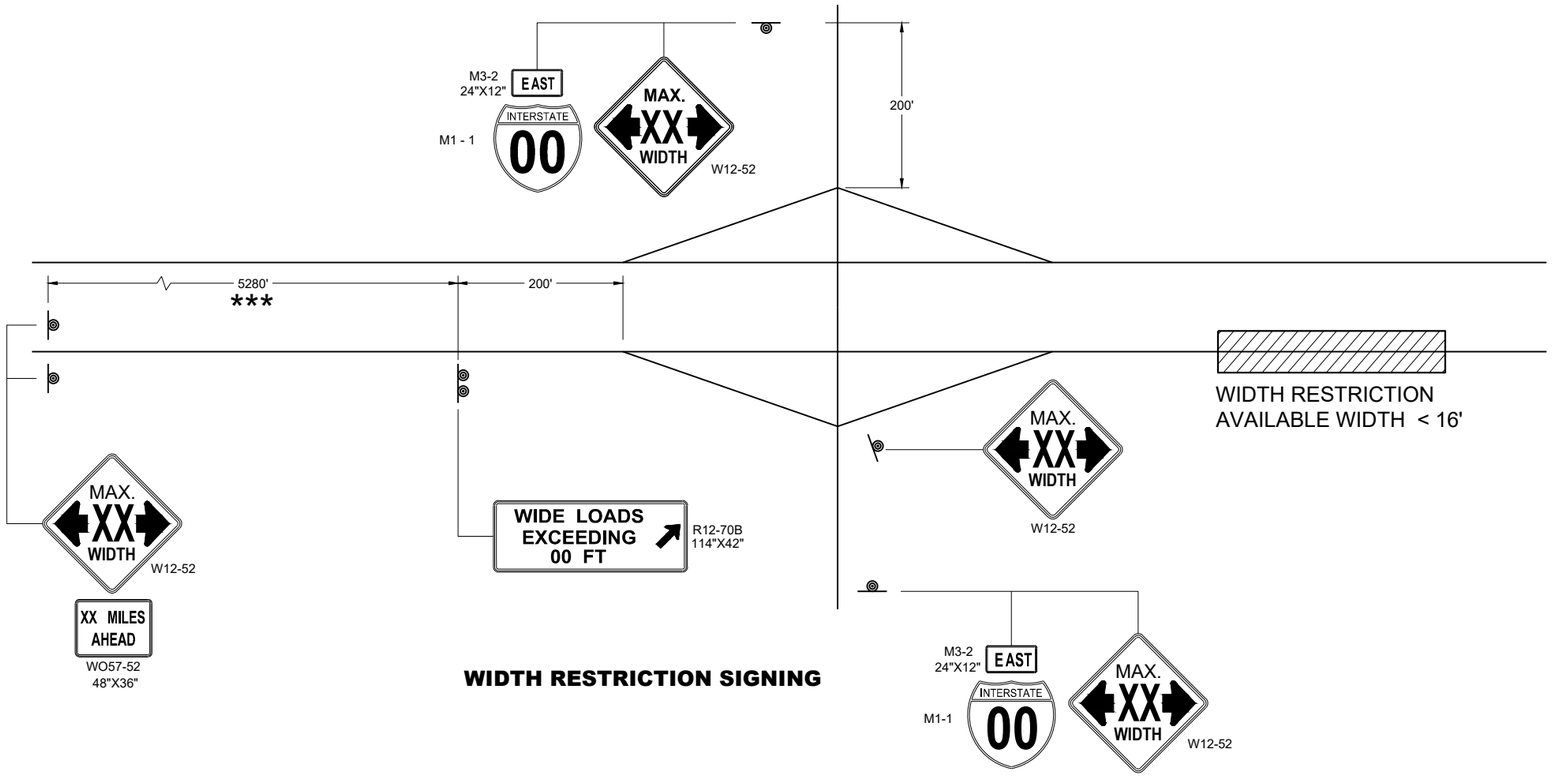
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA




6 SDD 15C02-10e




**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.

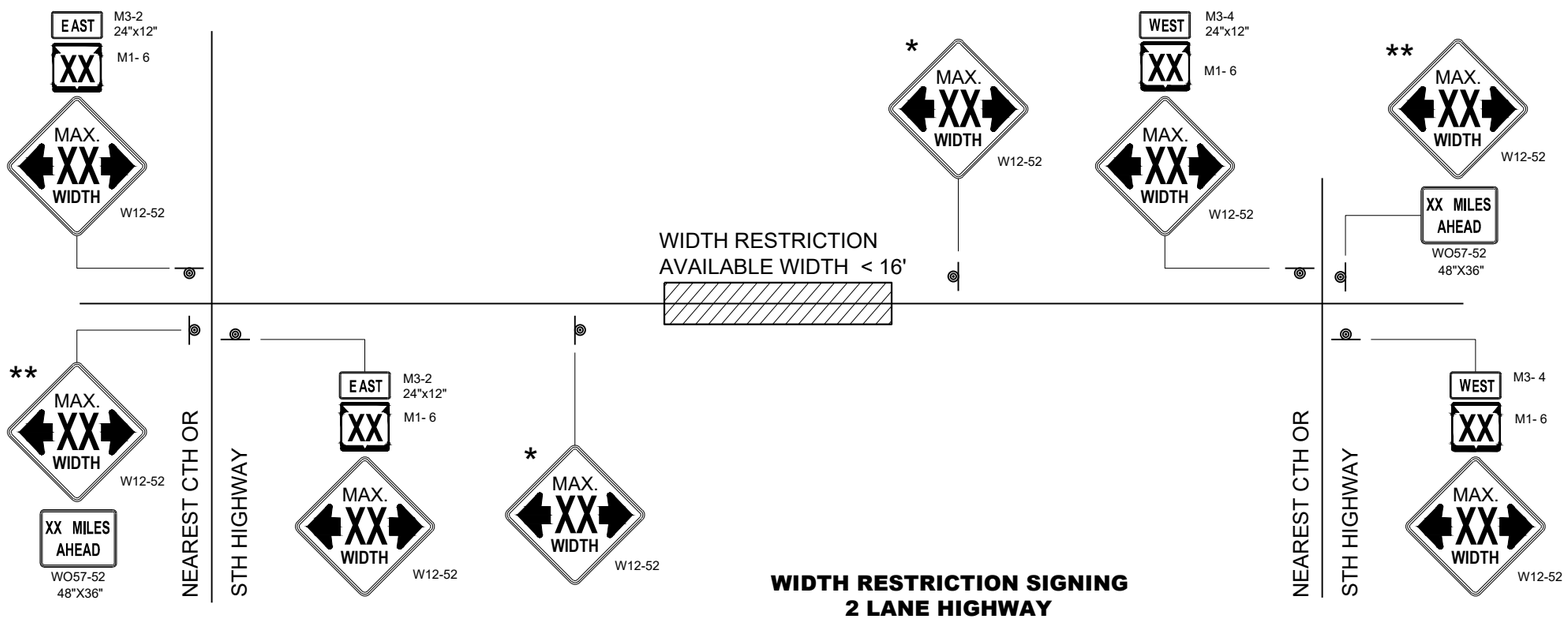
WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* 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

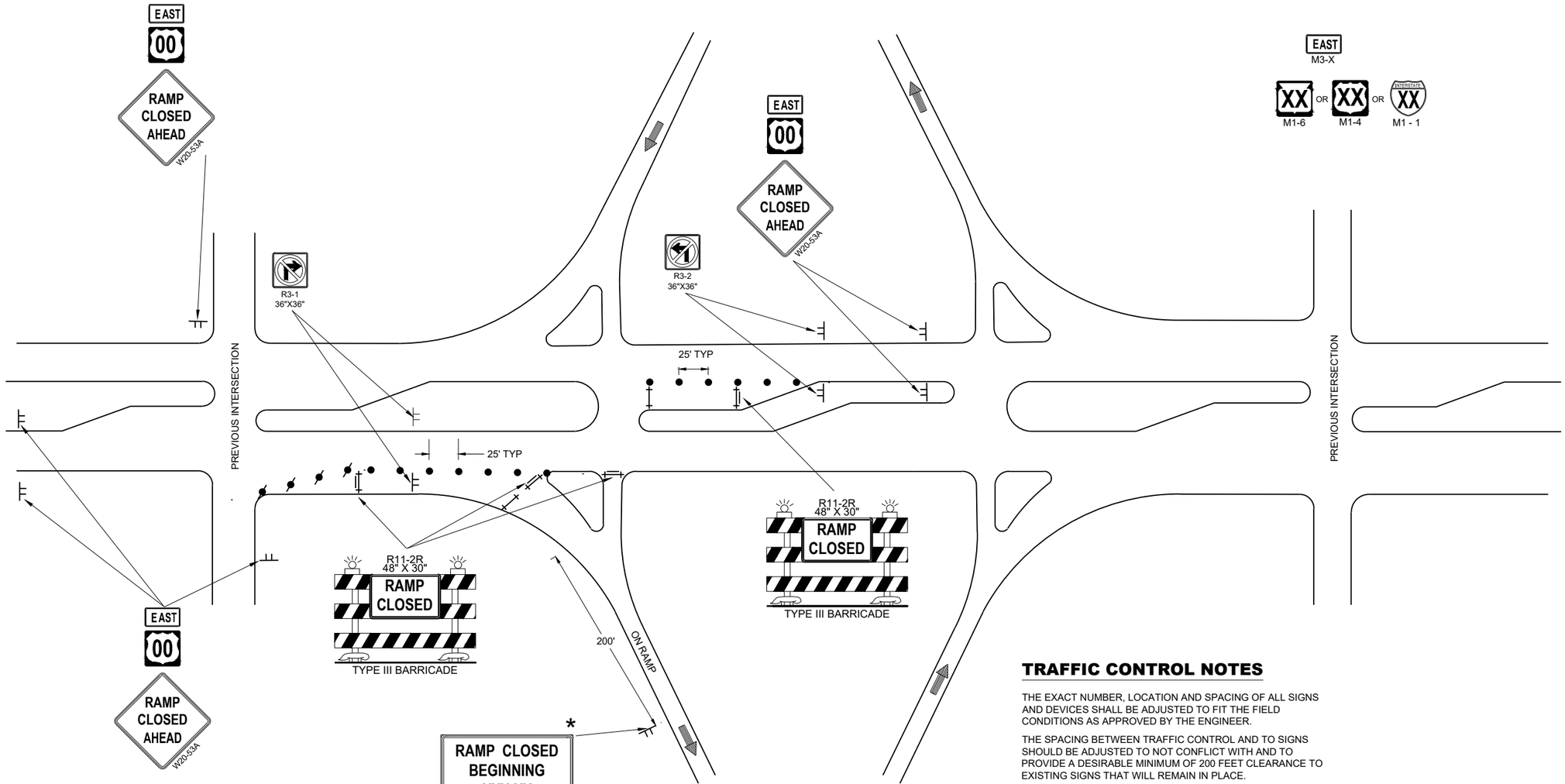
APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA





6




## LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC

## TRAFFIC CONTROL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL AND TO 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 THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT SHALL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24"x24" (36" x18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-1, M1-4, AND M1-6 SHALL BE 24"x24" (36"x36" IF NEEDED TO MATCH EXISTING SIGNS)
- W20-53A SHALL BE 48"X48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

## TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

**TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

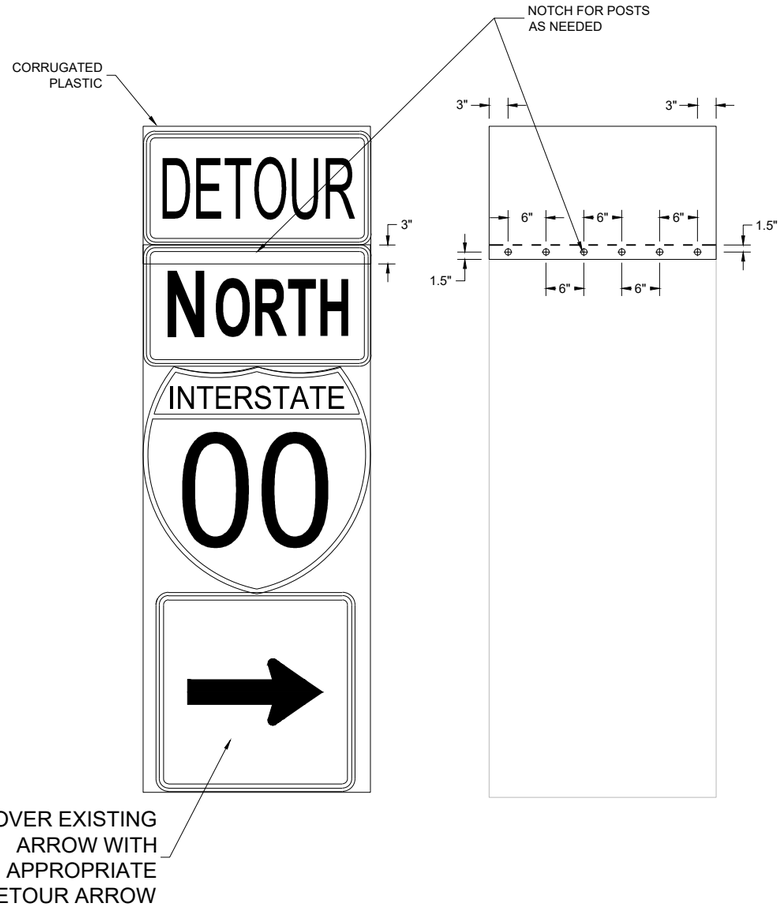


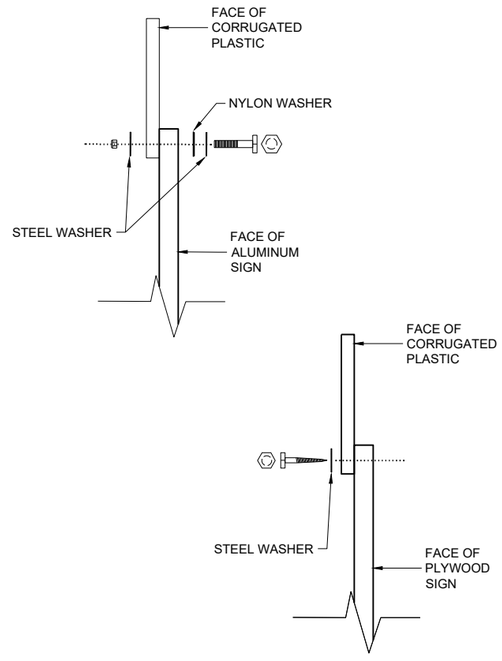
6



SDD 15C02-10g

**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

## 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.

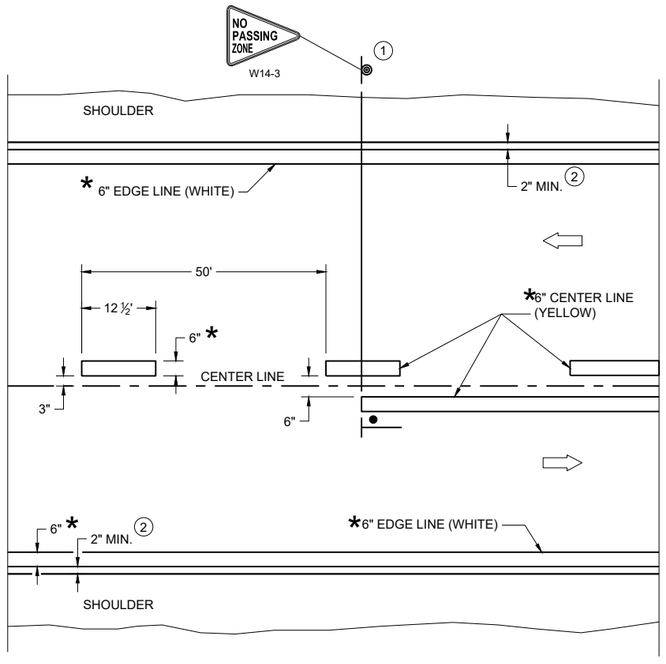
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

## LEGEND

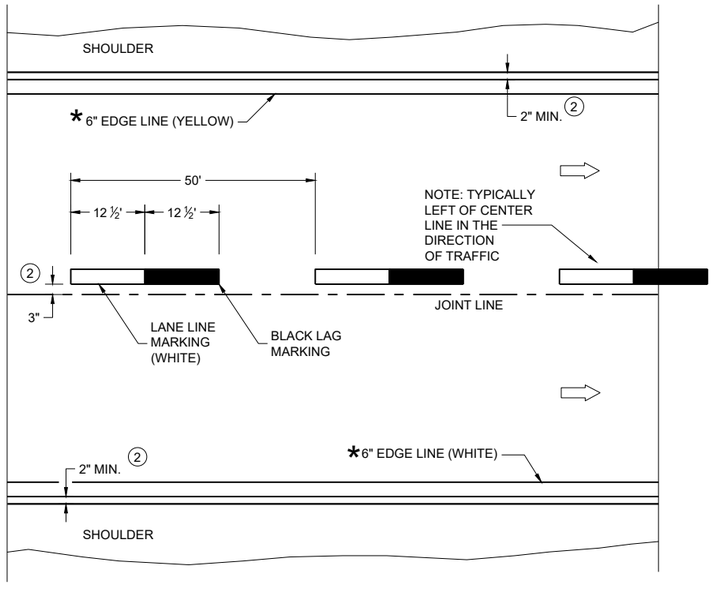
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC




TWO WAY TRAFFIC




ONE WAY TRAFFIC

**PERMANENT PAVEMENT MARKING**

6

SDD 15C08-24a

**PERMANENT LONGITUDINAL PAVEMENT MARKINGS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

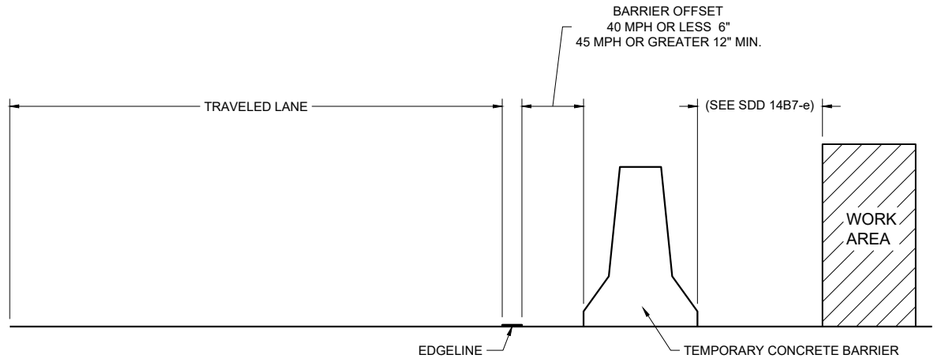
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA



6

SDD 15C08-24a




**TEMPORARY BARRIER OFFSET FROM EDGELINE**

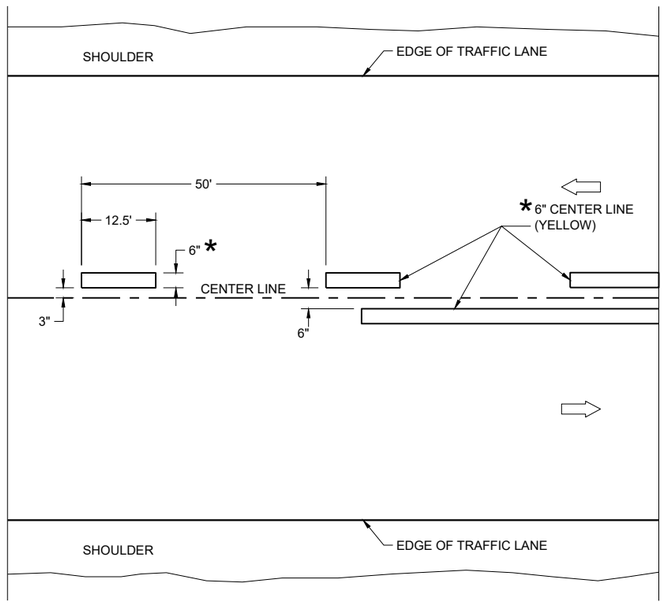
## GENERAL NOTES

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

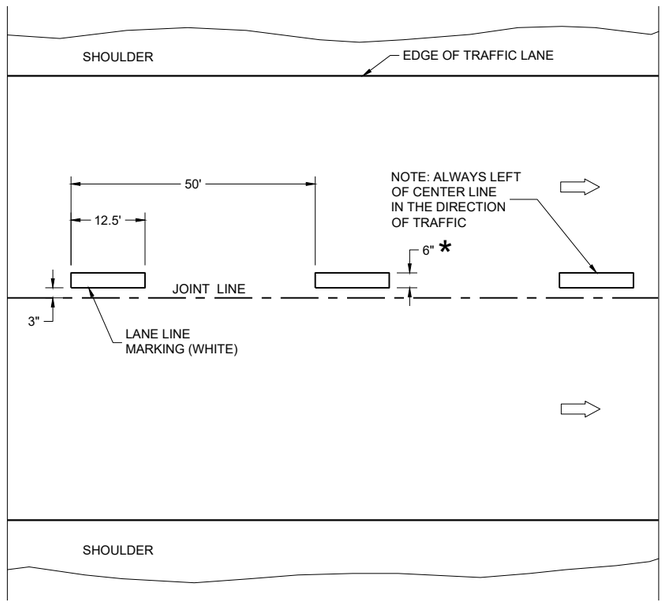
## LEGEND

DIRECTION OF TRAFFIC

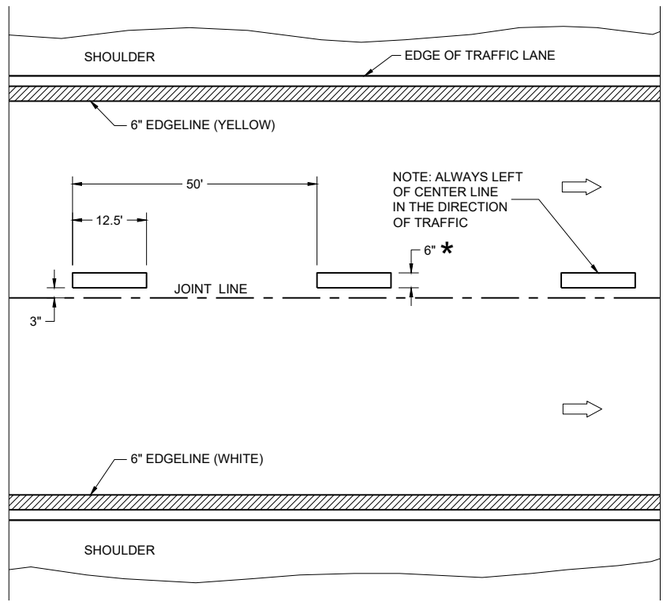
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES




**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

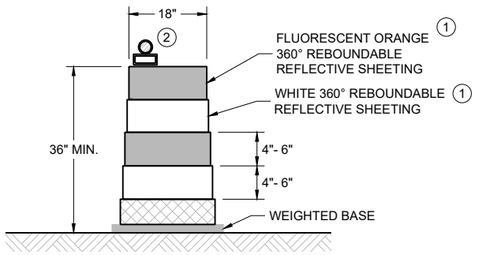
6

SDD 15C08-24b

## GENERAL NOTES

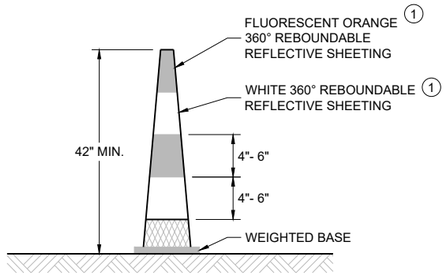
(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.




### DRUM

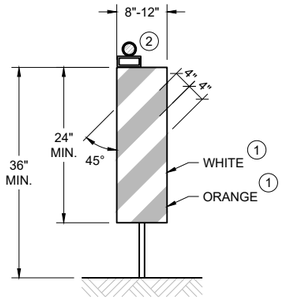
BALLAST WIDTHS
RANGE FROM 24"-36"




### 42" CONE

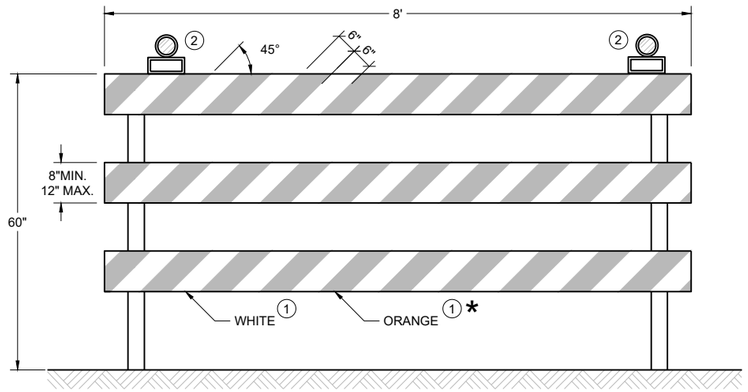
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

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.

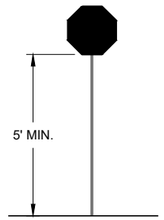
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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.



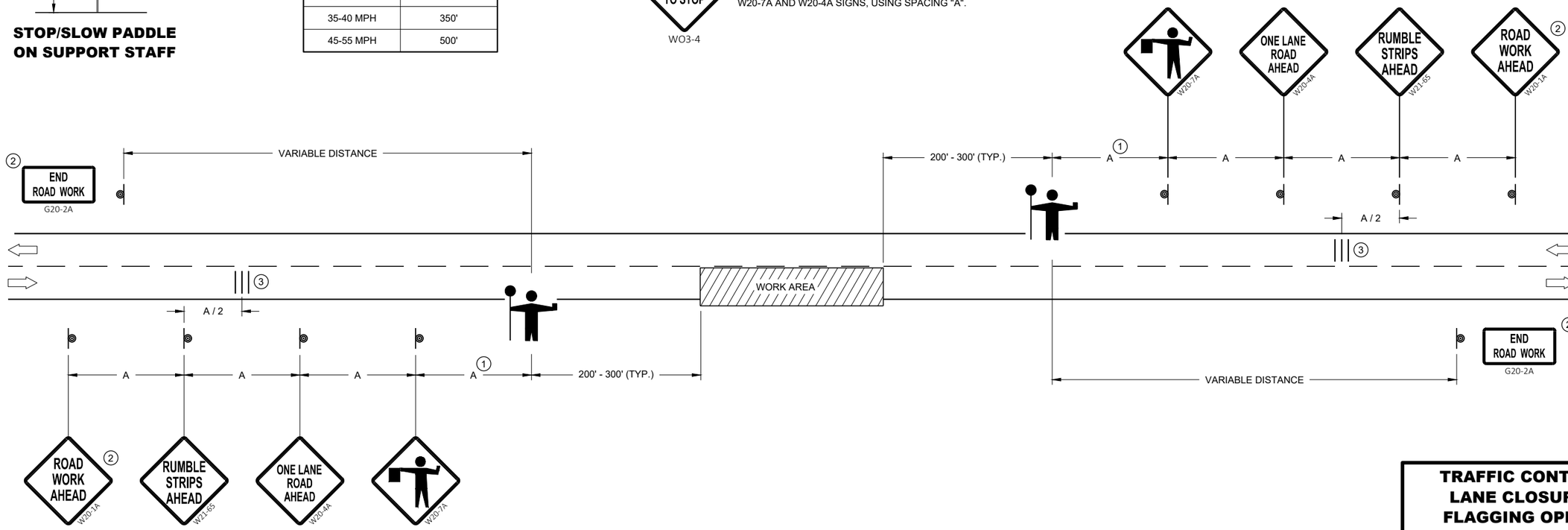

**STOP/SLOW PADDLE ON SUPPORT STAFF**

## 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

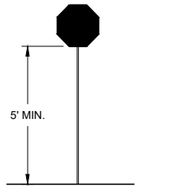
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

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.

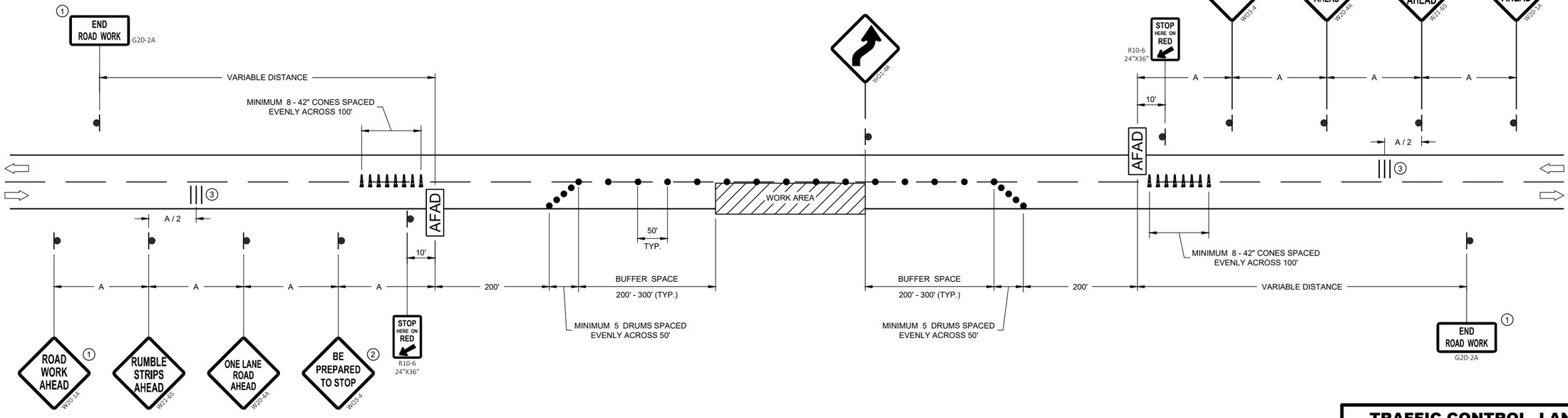
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.




**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

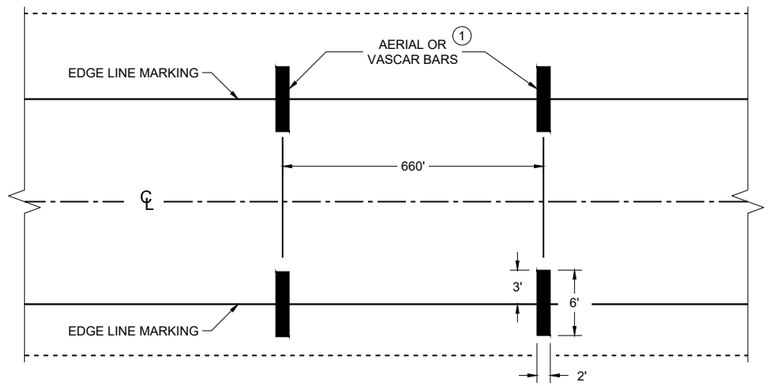


SDD 15C12 - 09b

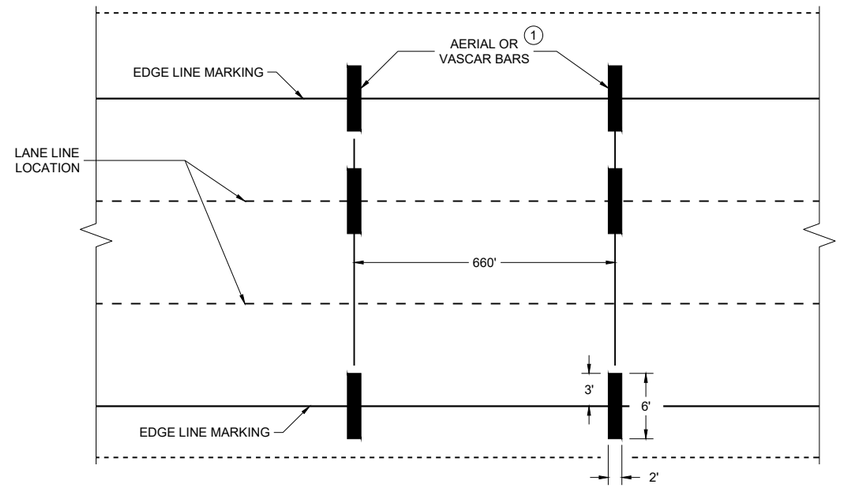
SDD 15C12 - 09b

## GENERAL NOTES

(1) PLACE TWO TO FIVE AERIAL OR VASCAR BARS AT 660 FOOT SPACING.




**TYPICAL FOR TWO WAY OR ONE WAY TRAFFIC**




**TYPICAL FOR MULTILANE TRAFFIC**

SPEED ENFORCEMENT ZONE WITH AERIAL OR VASCAR BARS

**AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

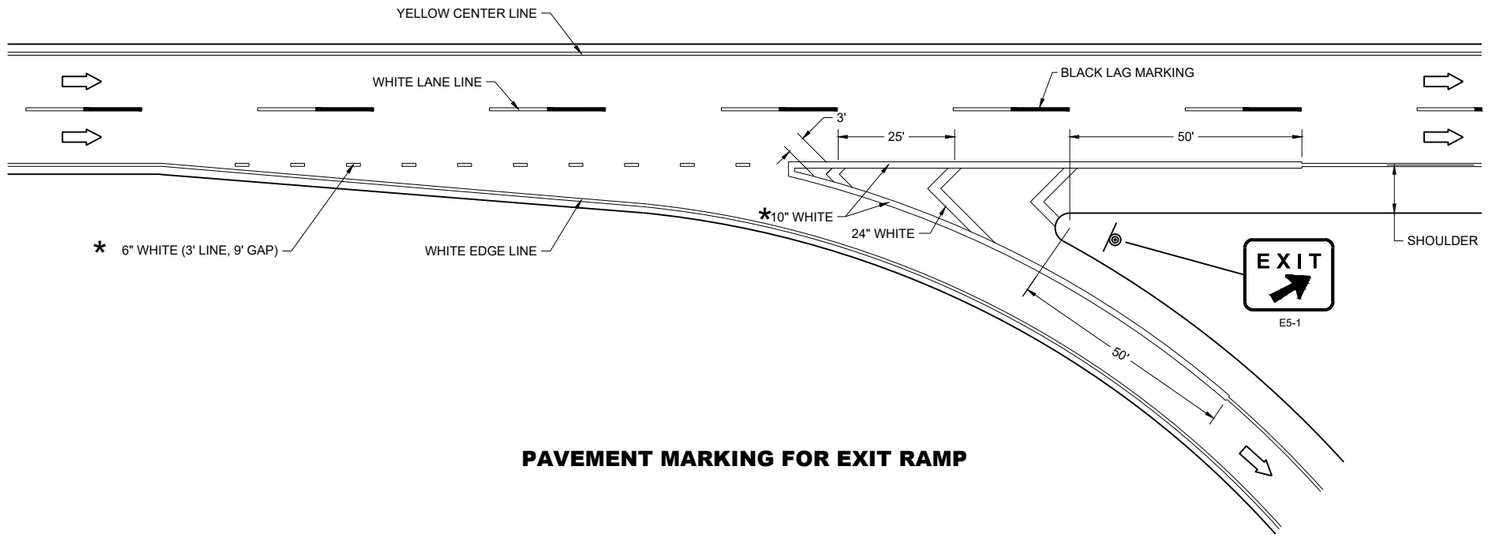


6

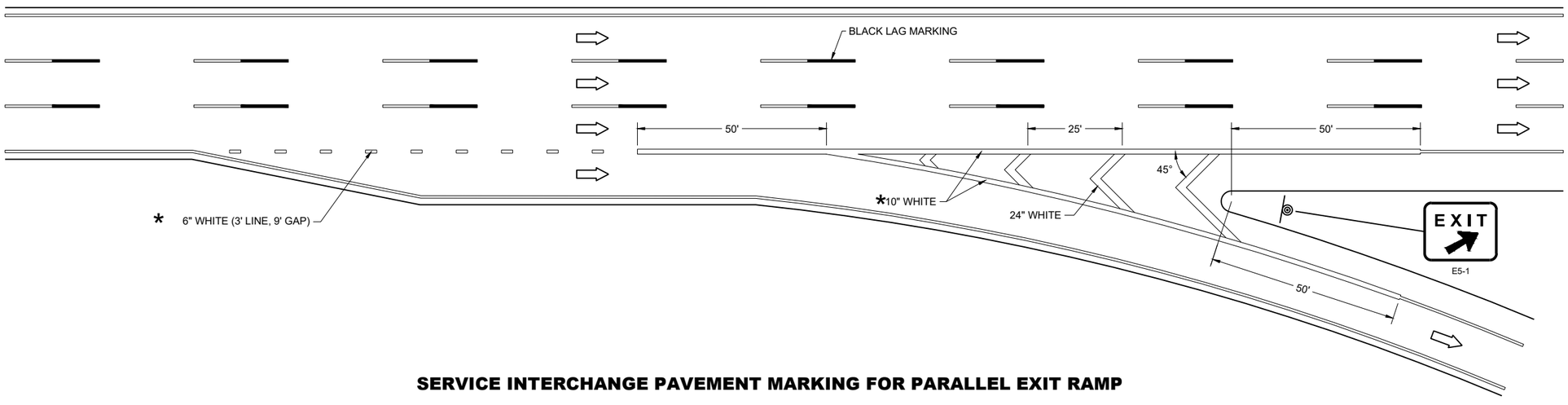
SDD 15C14-05

6

SDD 15C14-05




**PAVEMENT MARKING FOR EXIT RAMP**




**SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP**

## GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

## LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAVEL

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

**PAVEMENT MARKING, EXIT RAMP AND PARALLEL EXIT RAMP**

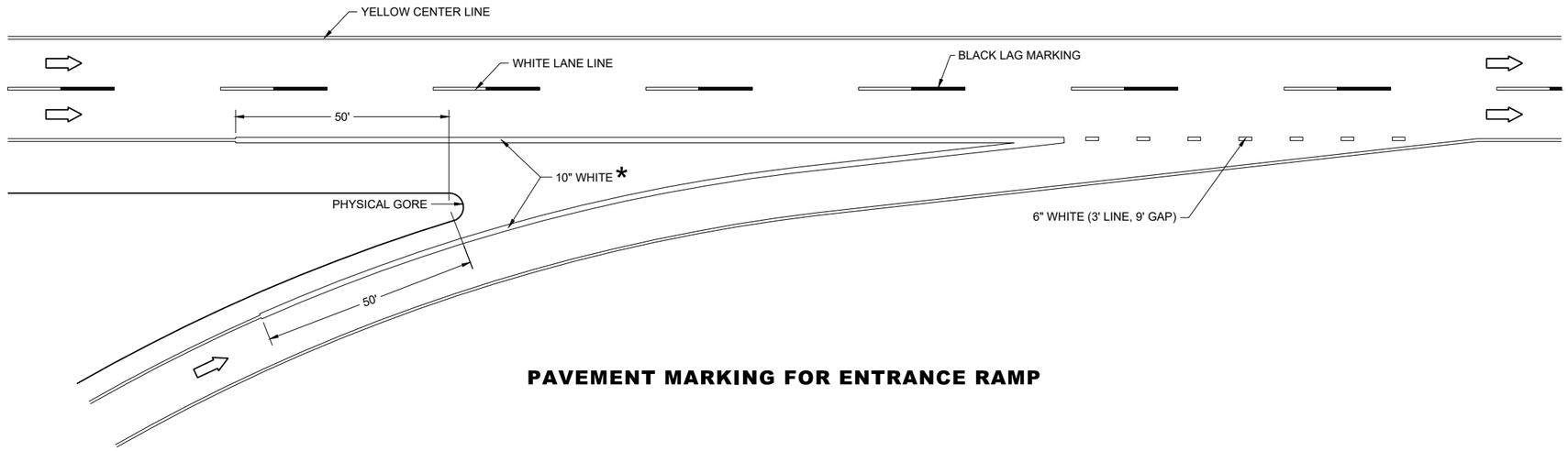
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6
SDD 15C31-08a

## GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

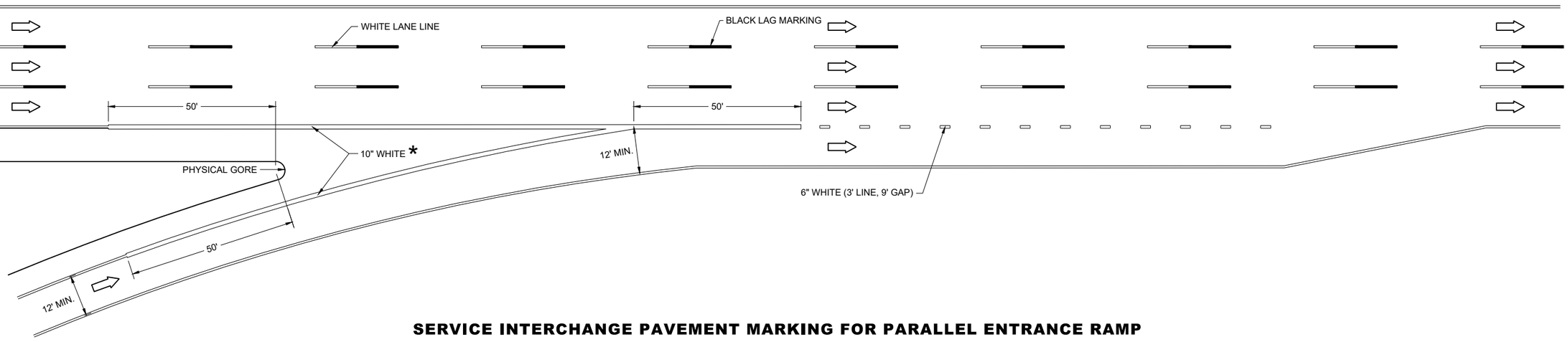



**PAVEMENT MARKING FOR ENTRANCE RAMP**

## LEGEND

DIRECTION OF TRAVEL

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES




**SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP**

6

SDD 15C31-08c

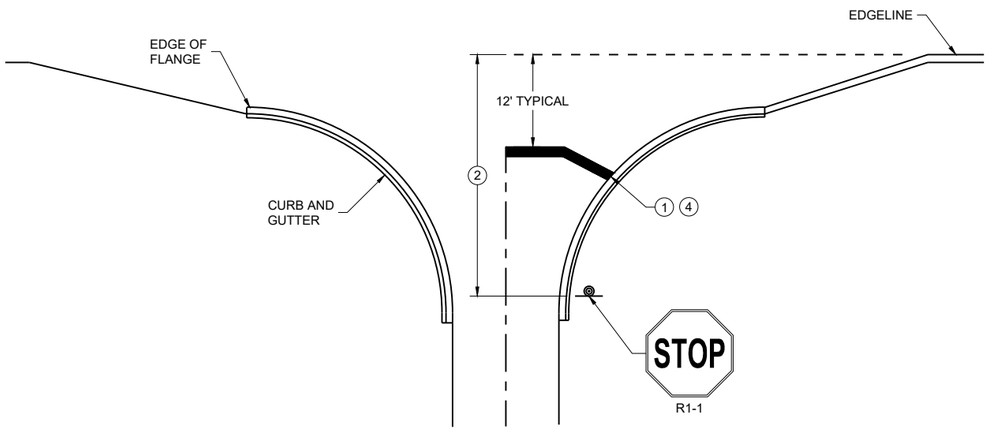
**PAVEMENT MARKING, ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

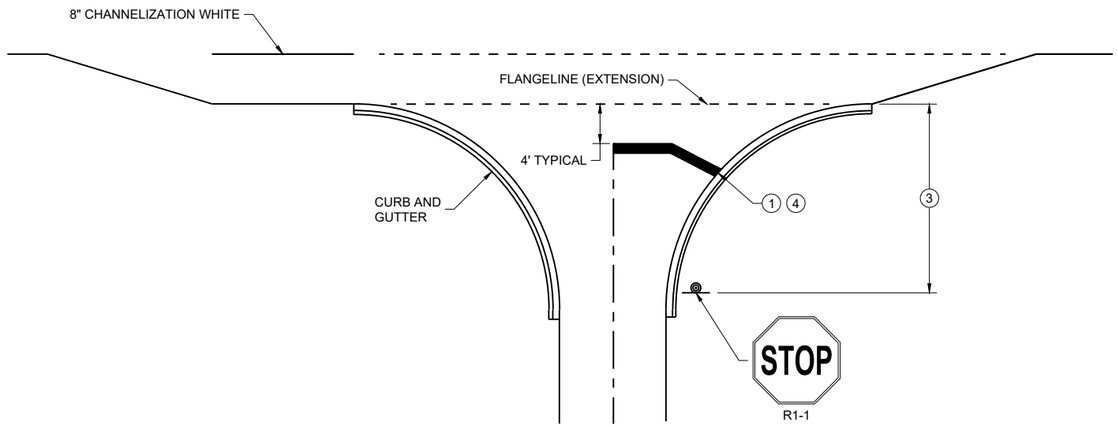
## GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

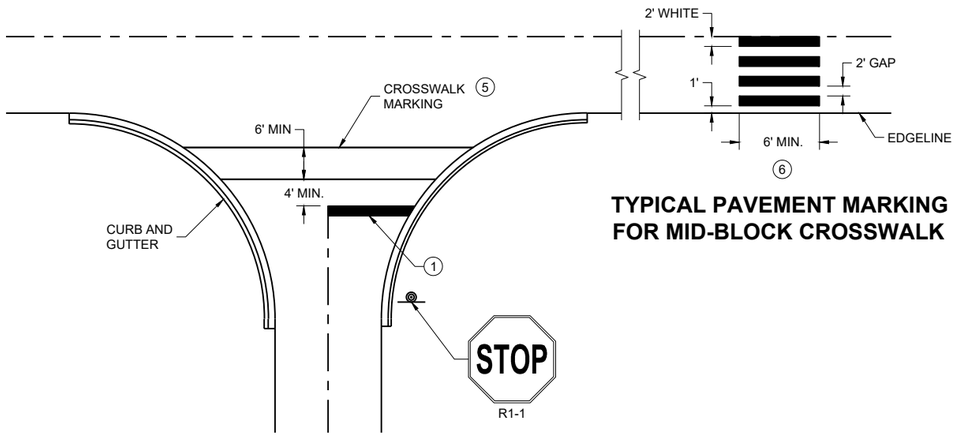
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE 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**

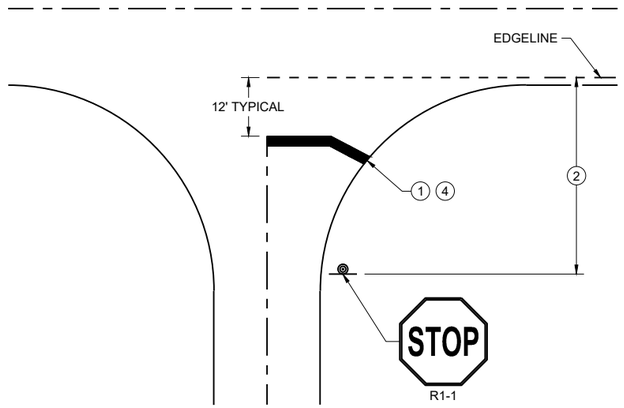



**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE**




**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

## 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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

"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 OR AS APPROVED BY THE ENGINEER.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

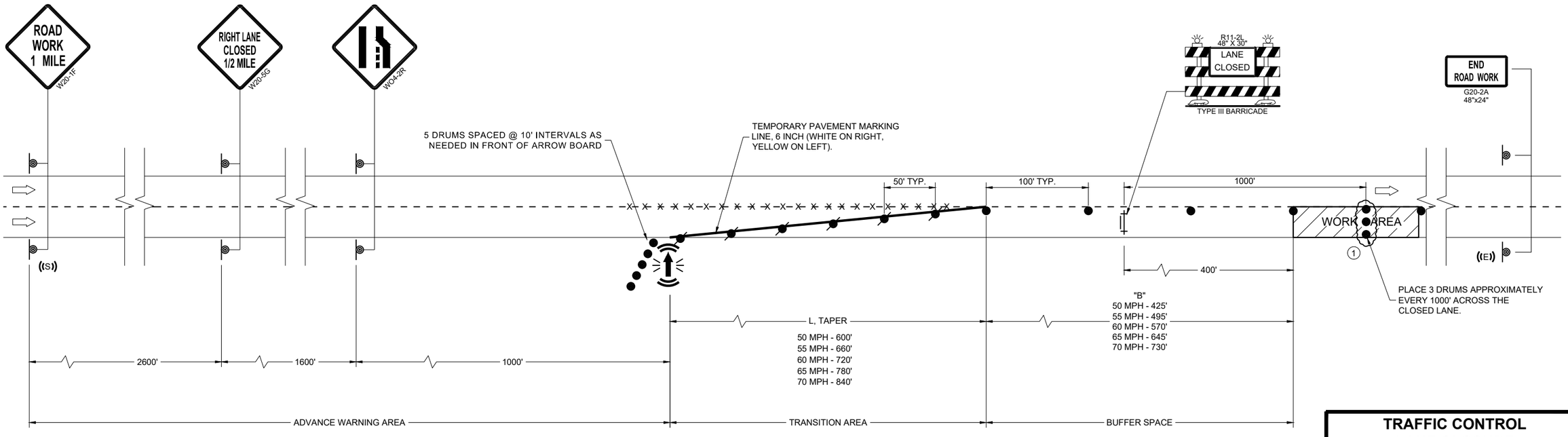
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

(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.

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER




# TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA



6

SDD 15D12-16a

6

SDD 15D12-16a

## 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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

IF THE SPEED LIMIT WILL CHANGE BASED ON THE PRESENCE OF WORKERS, USE THE TAPER LENGTH THAT MATCHES THE HIGHER OF THE TWO SPEEDS FOR A CONTINUOUS LANE CLOSURE.

EXISTING POST MOUNTED SPEED LIMIT SIGNS SHOULD BE COVERED OR REMOVED.

(1) POST NON-CONSTRUCTION SPEED LIMIT.

(2) IF THE LANE CLOSURE MOVES DOWNSTREAM, LEAVE DSLT IN PLACE.

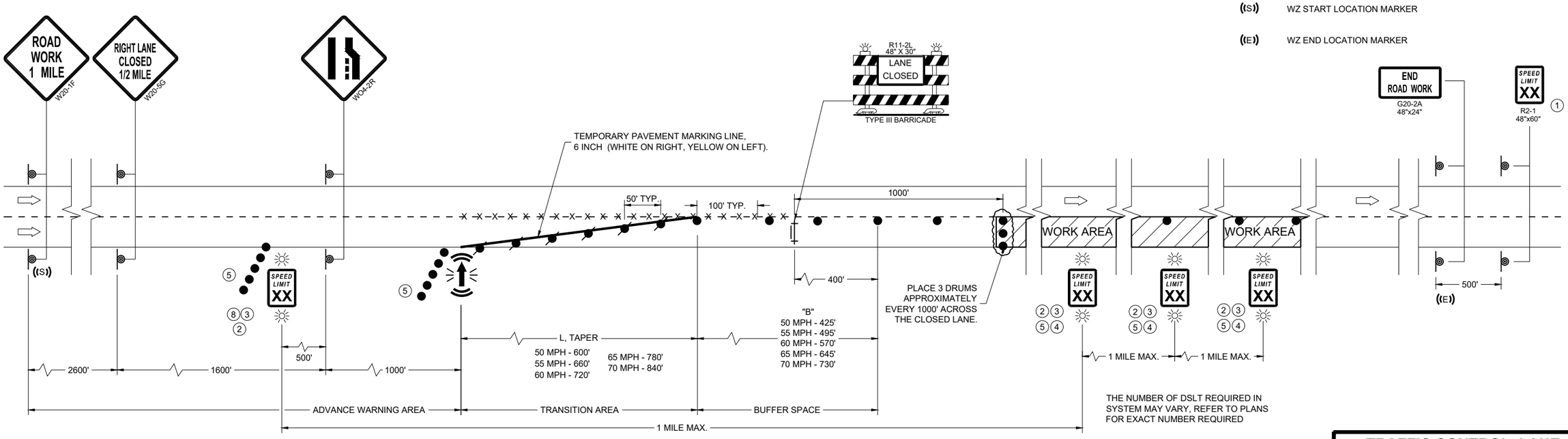
(3) PLACE DSLT AT EXISTING POST MOUNTED SPEED LIMIT SIGN AFTER THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. IF THERE IS NOT AN EXISTING SIGN, PLACE 1,500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP

(4) FOR LEFT LANE CLOSURES, DSLT REMAINS ON RIGHT SHOULDER.

(5) 5 DRUMS SPACED @ 10' INTERVALS AS NEEDED.

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- DIGITAL SPEED LIMIT TRAILER (DSLT)
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER




# TRAFFIC CONTROL, LANE CLOSURE, DIGITAL SPEED REDUCTION SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA





6

SDD 15D12-16g

## LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

DIRECTION OF TRAFFIC

## GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH 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.

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.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

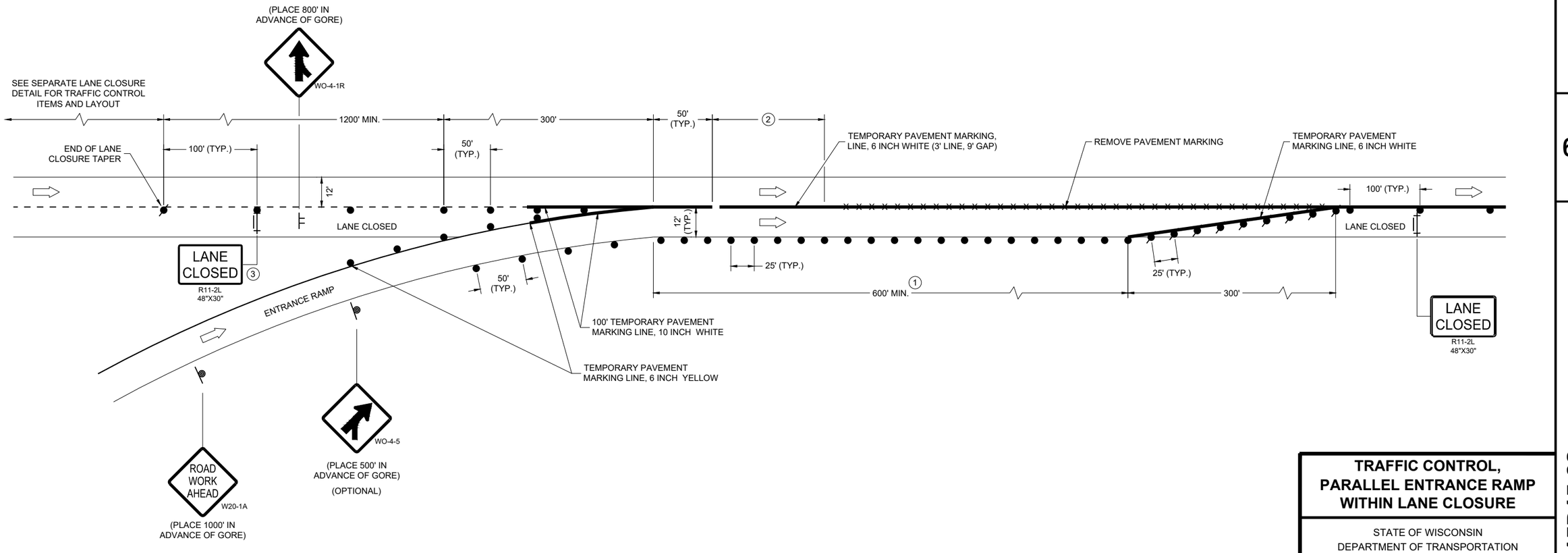
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) EXTEND THE LENGTH OF THE MERGE ARE IF THE ENTERING (DESIGN) SPEED IS LESS THAN 50MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY PAVEMENT MARKING LINE AT 1/2 THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

(3) IF LOCATED AFTER INITIAL LANE CLOSURE BARRICADE AND "LANE CLOSED" SIGN, USE 3 DRUMS IN PLACE OF BARRICADE AND SIGN.




# TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2025
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA




6


SDD 15D15-08a

## LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

## GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH 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.

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.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

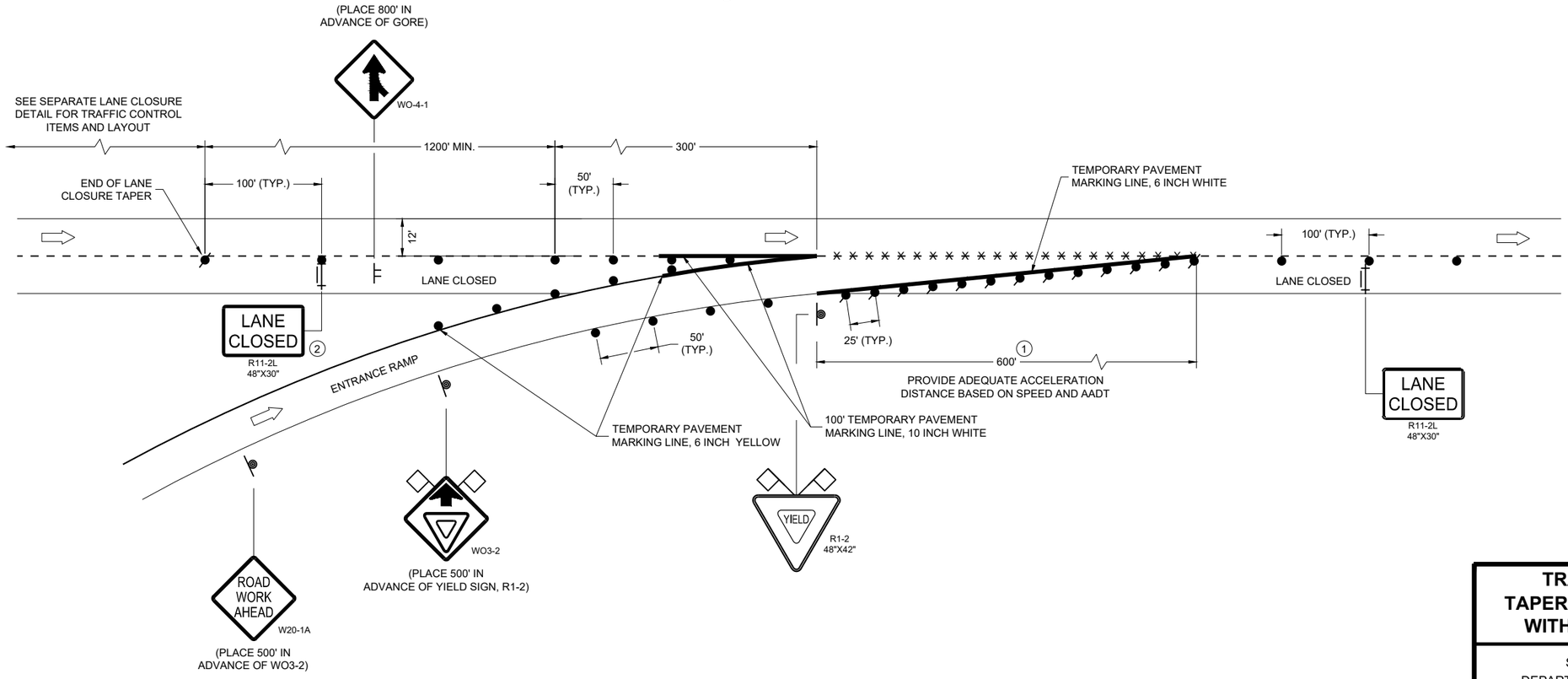
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.

(2) IF LOCATED AFTER INITIAL LANE CLOSURE BARRICADE AND "LANE CLOSED" SIGN, USE 3 DRUMS IN PLACE OF BARRICADE AND SIGN.




**TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Andrew Heidtke — <position>
FHWA



6
SDD 15D15-08c

## LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

## GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH 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.

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.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

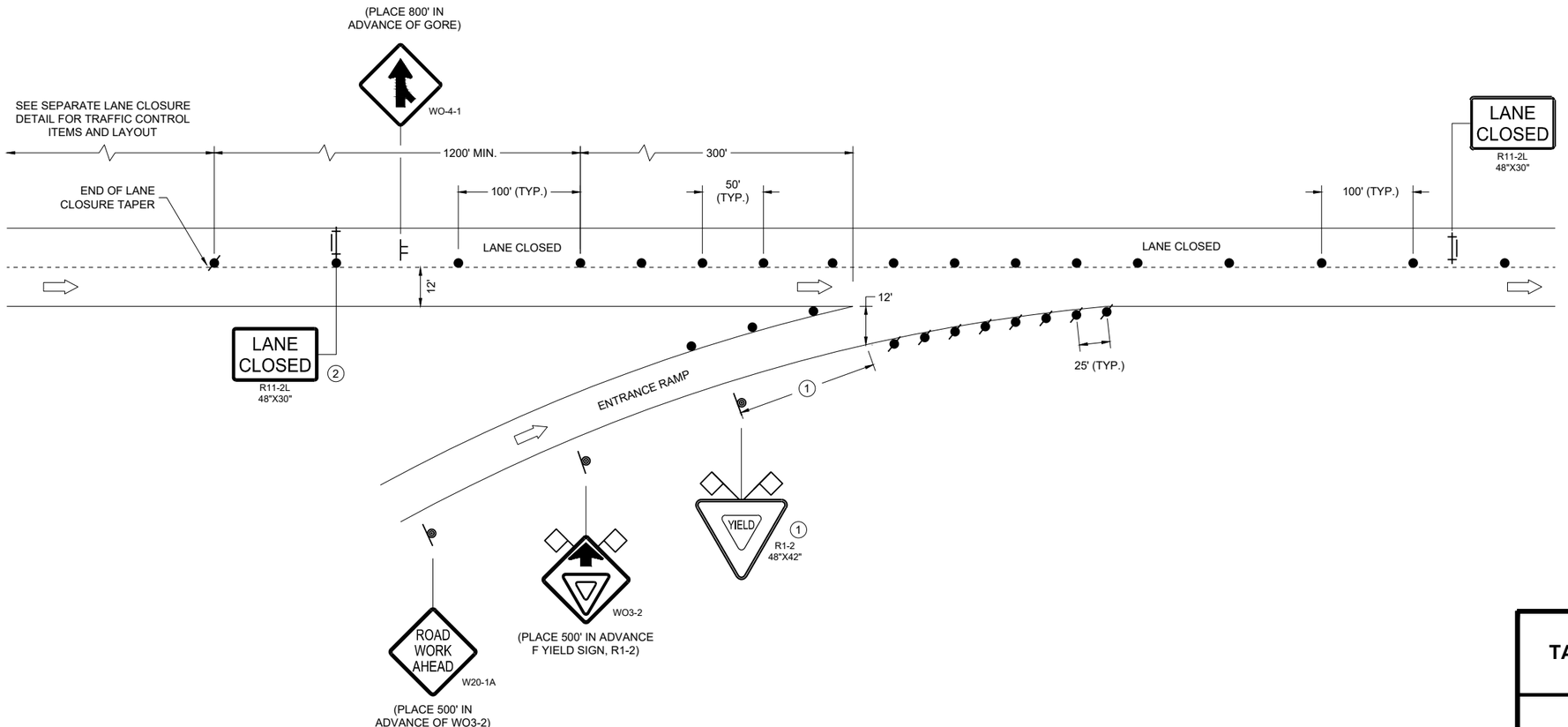
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.

(2) IF LOCATED AFTER INITIAL LANE CLOSURE BARRICADE AND "LANE CLOSED" SIGN, USE 3 DRUMS IN PLACE OF BARRICADE AND SIGN.




**TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA



6

SDD 15D15-08d

6

SDD 15D15-08d

## LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

DIRECTION OF TRAFFIC

## GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH 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.

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.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

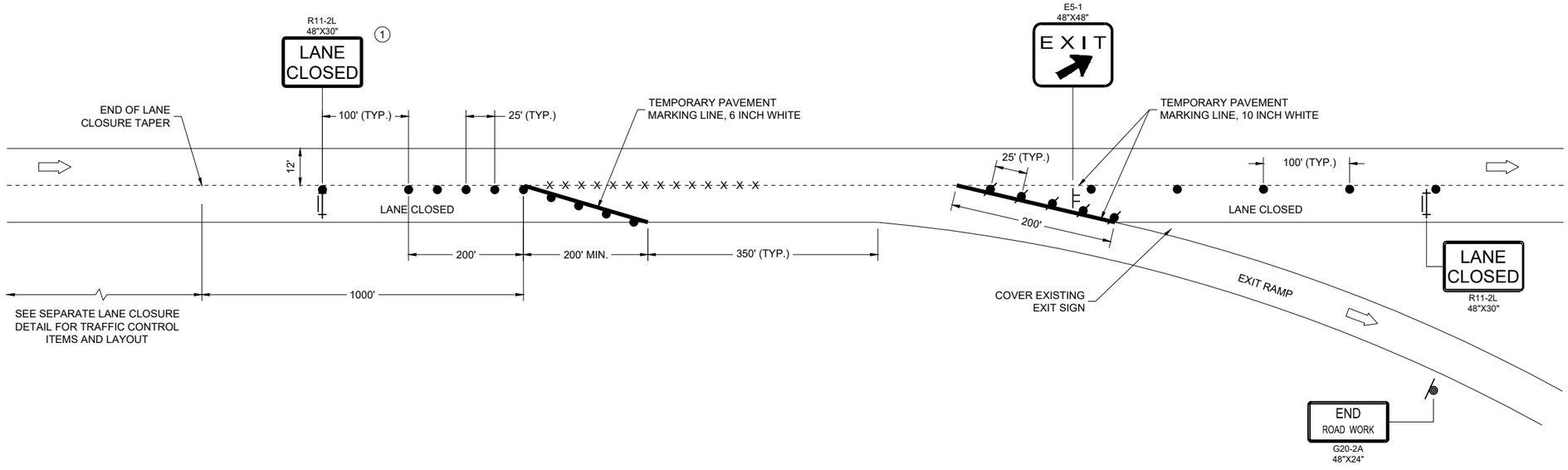
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) IF LOCATED AFTER INITIAL LANE CLOSURE BARRICADE AND "LANE CLOSED" SIGN, USE 3 DRUMS IN PLACE OF BARRICADE AND SIGN.




**TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2025 — DATE

/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA





6 SDD 15D15-08e

## LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

## GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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 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 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

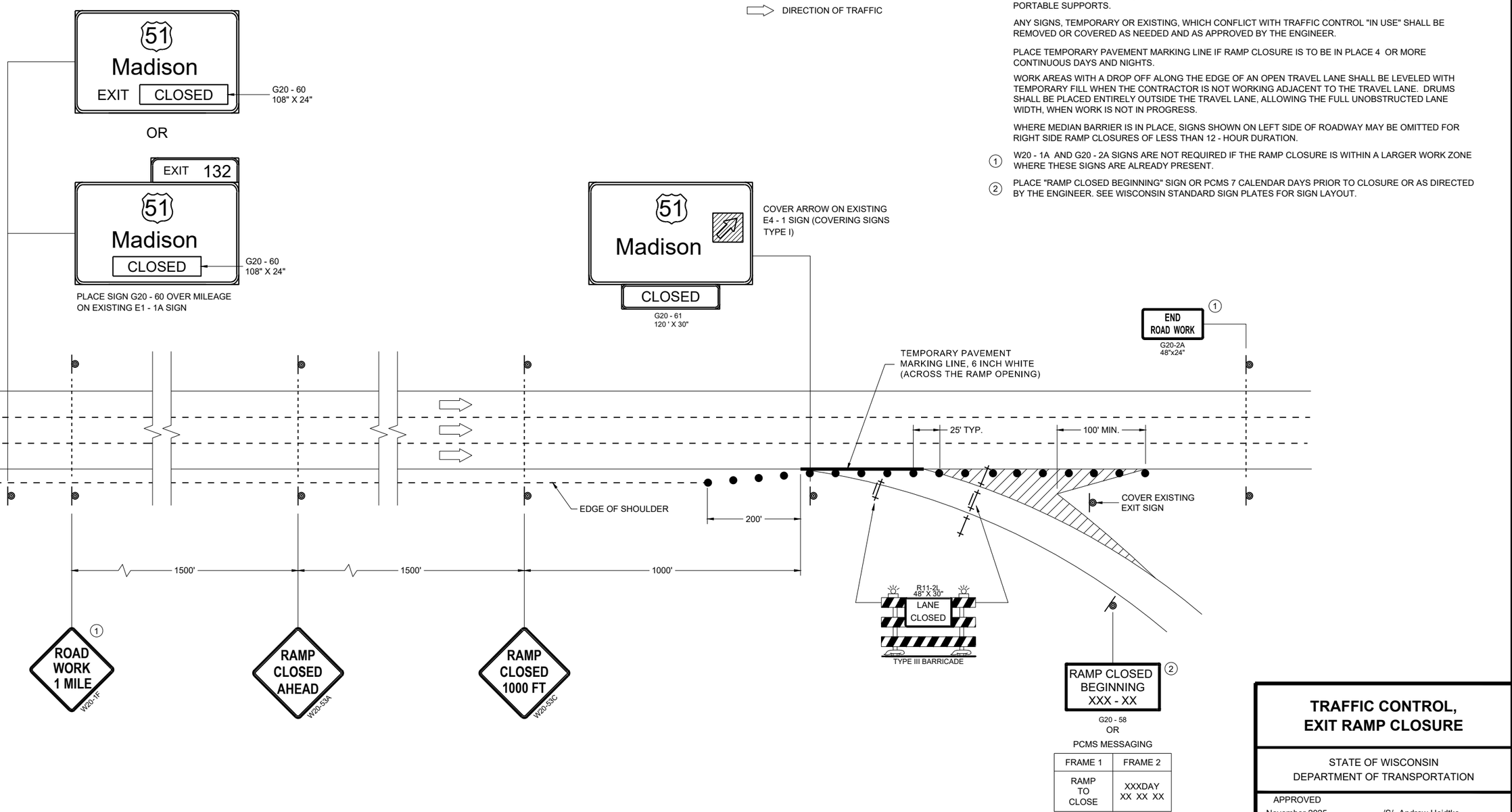
PLACE TEMPORARY PAVEMENT MARKING LINE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

(1) W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

(2) PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.




## TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025
DATE
/S/ Andrew Heidtke
<position>
FHWA



6
SDD 15D16-07

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- CONNECTED ARROW BOARD
- WORK AREA
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER

## GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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.

WHEN A RAMP OR SIDE ROAD INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

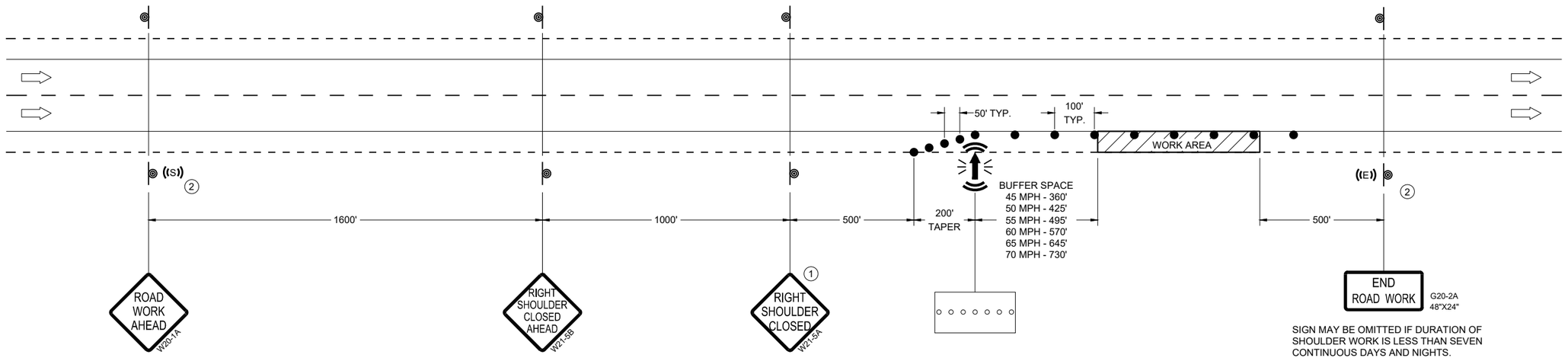
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

(1) FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR THE W21-5A SIGN MAY BE OMITTED.

(2) IF ALREADY PRESENT WITHIN PROJECT , DO NOT INCLUDE ADDITIONAL DEVICE.




SIGN MAY BE OMITTED IF DURATION OF SHOULDER WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.

# TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Noveber 2025
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA




6
SDD 15D27-05

## 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.

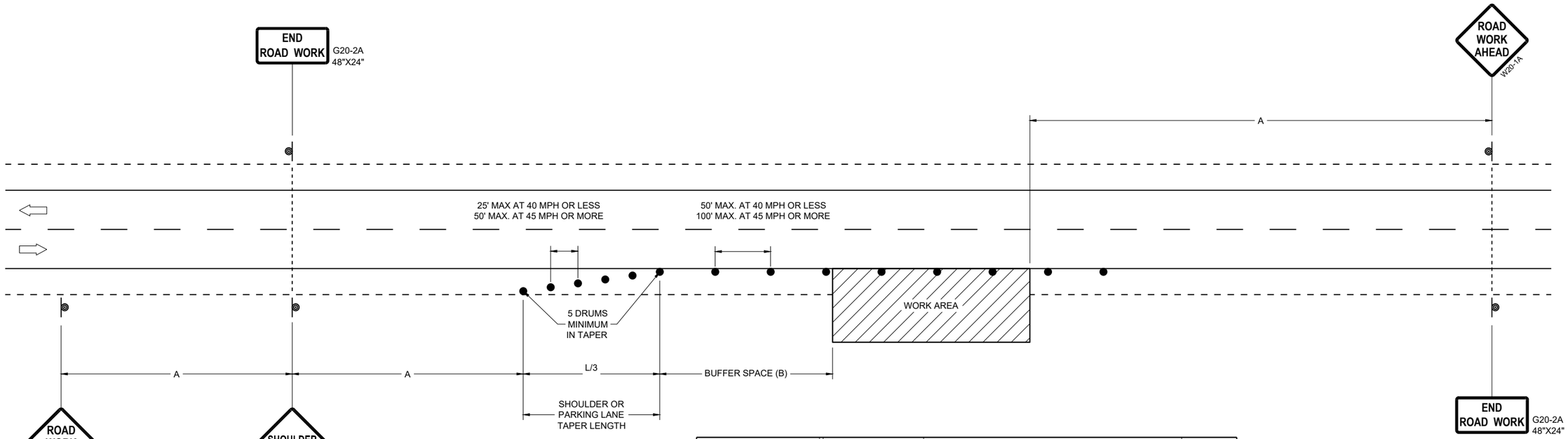
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.




| 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
November 2025
DATE

/S/ ANDREW HEIDTKE
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

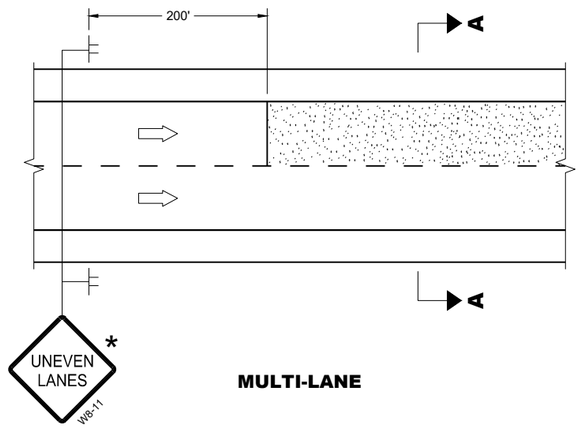


6

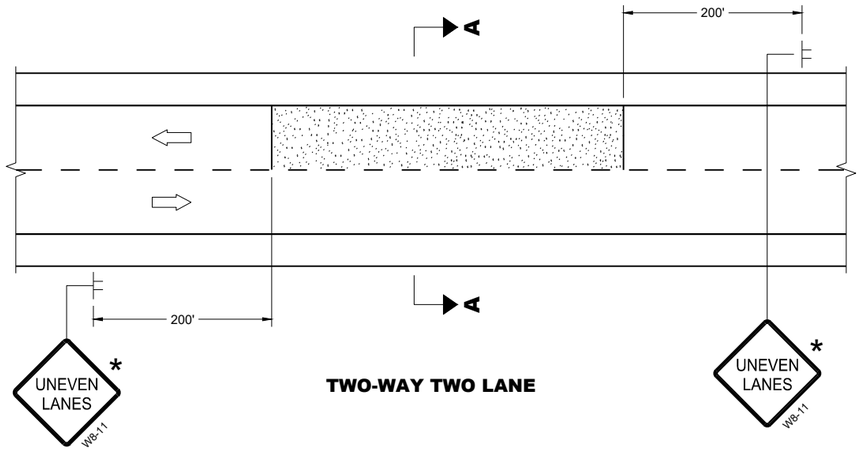
SDD 15D28-05

6

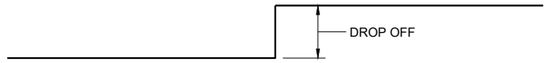
SDD 15D28-05




**MULTI-LANE**

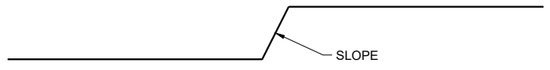



**TWO-WAY TWO LANE**

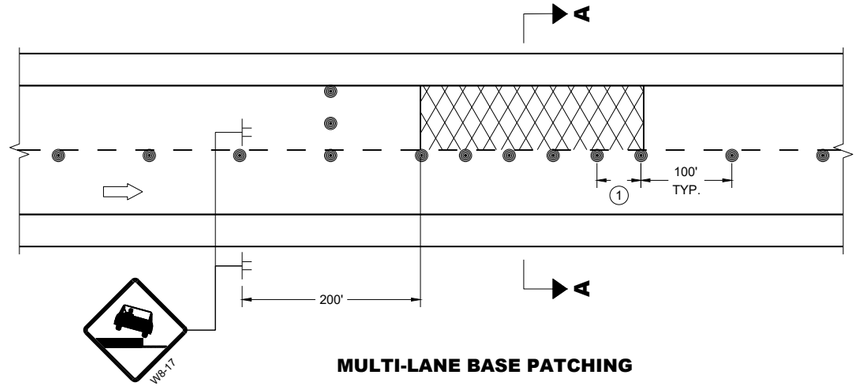



**SECTION A - A**

**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.

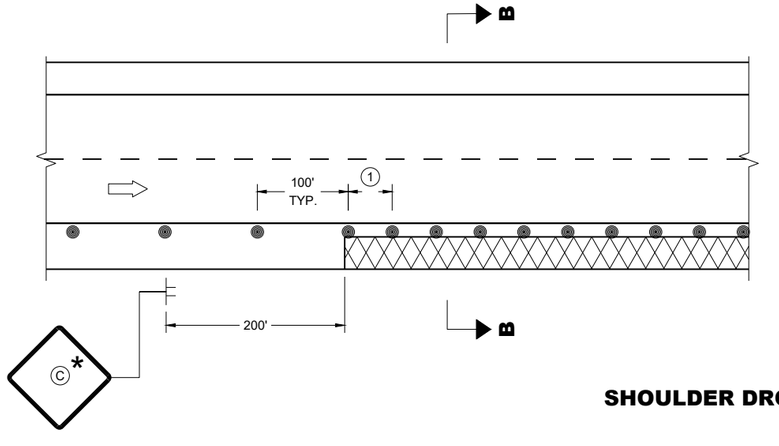
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

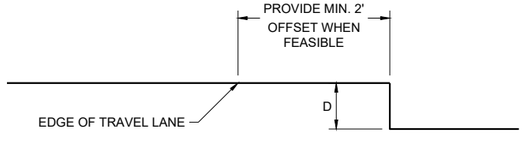
(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

## 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<br>WO8-9 |
| 2" < 6" WITH A SLOPE STEEPER THAN 3:1 | SHOULDER DROP - OFF<br>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

## 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
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- CONCRETE BARRIER TEMPORARY PRECAST

| POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH) | SHIFTING TAPER L/2 W, LATERAL OFFSET (FT) | | | | | BUFFER SPACE (B) FEET |
|---|---|---|---|---|---|---|
| | 10 | 11 | 12 | 13 | 14 | |
| 50 | 250 | 275 | 300 | 325 | 350 | 425 |
| 55 | 275 | 303 | 330 | 358 | 385 | 495 |
| 60 | 300 | 330 | 360 | 390 | 420 | 570 |
| 65 | 325 | 358 | 390 | 423 | 455 | 645 |
| 70 | 350 | 385 | 420 | 455 | 490 | 730 |

## 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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"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. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

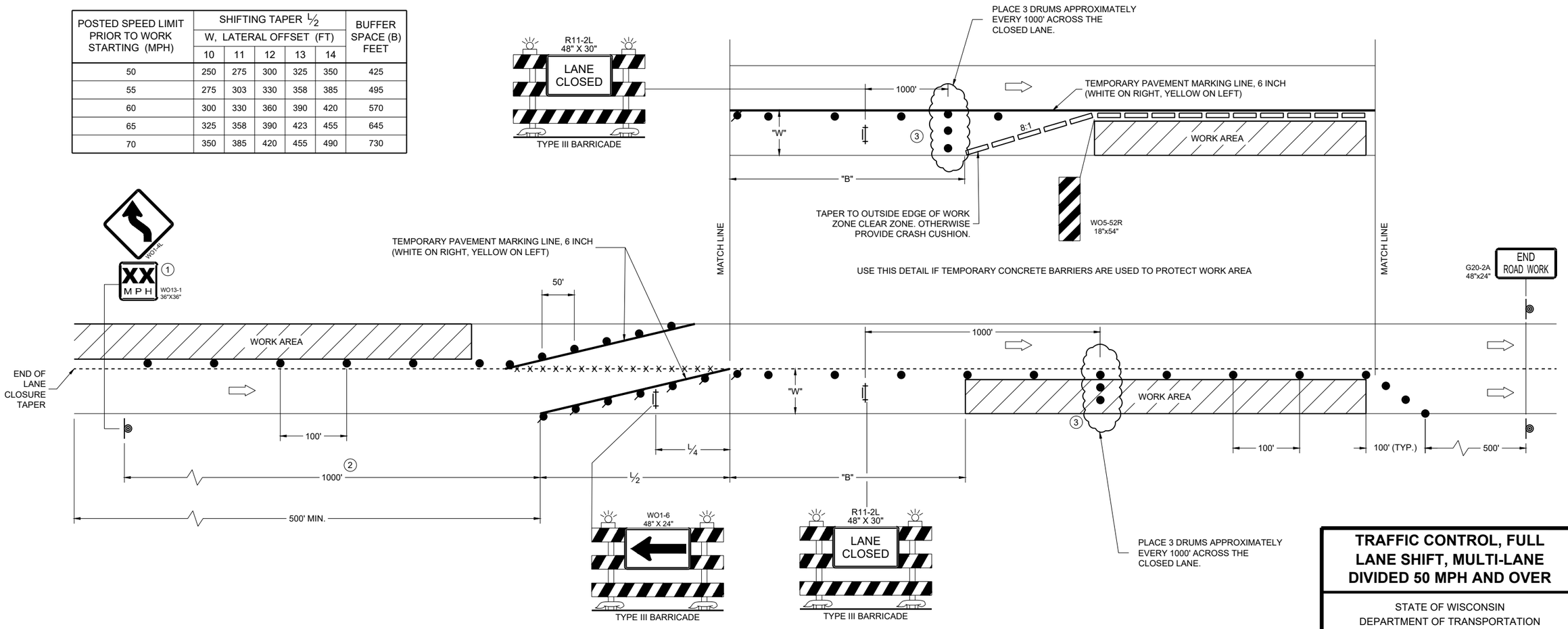
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE THE LENGTH OF ½ THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

(1) USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

(2) IF BEGINNING OF LANE SHIFT IS 1200' OF LESS FROM THE END OF THE LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE LANE CLOSURE TAPER.

(3) 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, FULL LANE SHIFT, MULTI-LANE DIVIDED 50 MPH AND OVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA



6
SDD 15D40-07b

## 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
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- CONCRETE BARRIER TEMPORARY PRECAST

## 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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"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. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

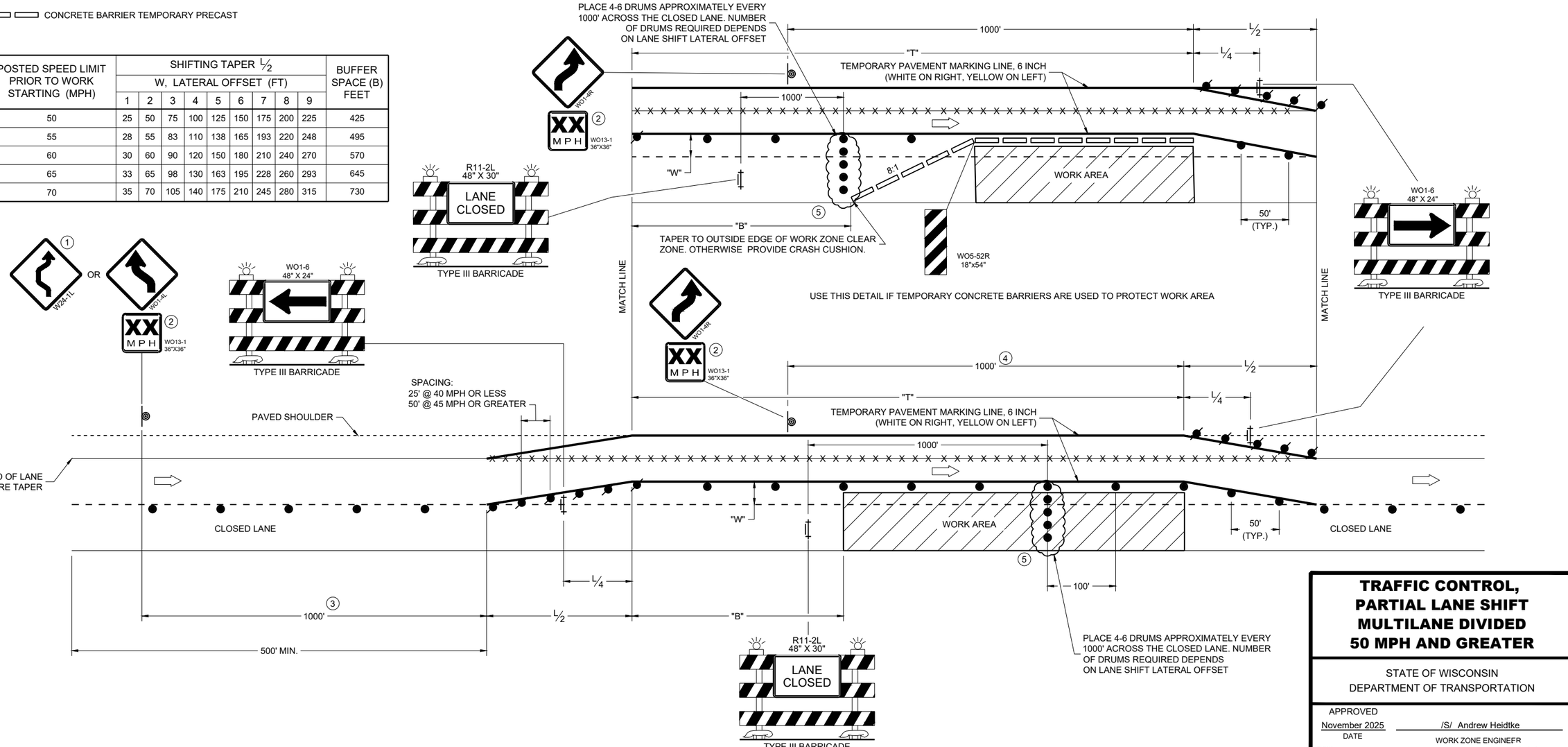
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

1. USE ONLY WHEN T<600', OMIT WO1-4R.
2. IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
3. IF THE BEGINNING OF LANE SHIFT TAPER IS 1200 FEET OR LESS FROM END OF LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE LANE CLOSURE TAPER.
4. IF THE BEGINNING OF THE SECOND LANE SHIFT TAPER IS 1200 FEET OR LESS FROM END OF THE FIRST LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE FIRST LANE CLOSURE TAPER.
5. 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.

| POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH) | SHIFTING TAPER 1/2 W, LATERAL OFFSET (FT) | | | | | | | | | BUFFER SPACE (B) FEET |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 50 | 25 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 225 | 425 |
| 55 | 28 | 55 | 83 | 110 | 138 | 165 | 193 | 220 | 248 | 495 |
| 60 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 570 |
| 65 | 33 | 65 | 98 | 130 | 163 | 195 | 228 | 260 | 293 | 645 |
| 70 | 35 | 70 | 105 | 140 | 175 | 210 | 245 | 280 | 315 | 730 |




## TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

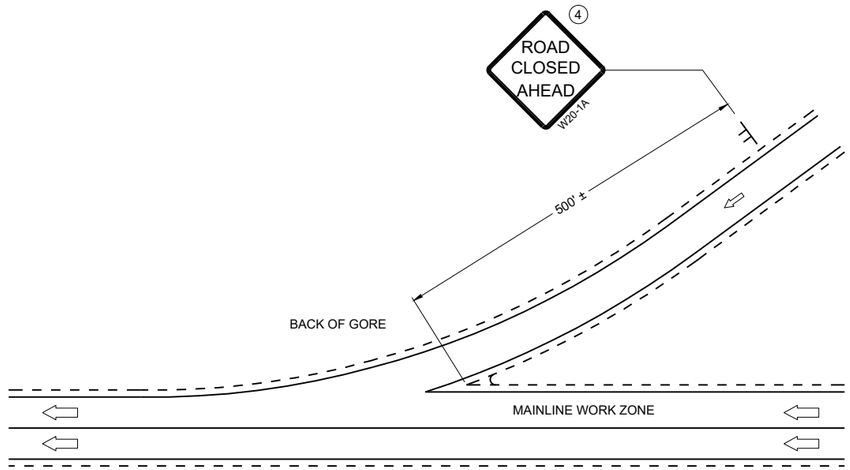
FHWA



6
SDD 15D40-07d

## LEGEND

- V1 SHADOW VEHICLE 1
- V2 SHADOW VEHICLE 2
- V3 ADVANCE WARNING TRUCK
- ● TRAFFIC CONTROL DRUM
- TRUCK MOUNTED ATTENUATOR (TMA)
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW PANEL (MERGE)
- FLASHING ARROW PANEL (CAUTION)
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- WORK AREA




## GENERAL NOTES

SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.

MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

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. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

WHEN WORK ACTIVITY BLOCKS THE RIGHT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

(1) DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO 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 AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

(2) DRUMS ARE TO BE USED FOR BRIDGE DECK SEALING AND OTHER PROJECTS THAT REQUIRE DELINEATION.

(3) WITHIN 5 MILES, RELOCATE SIGNS AS WORK PROGRESSES AND NECESSARY OR AS DIRECTED BY THE ENGINEER.

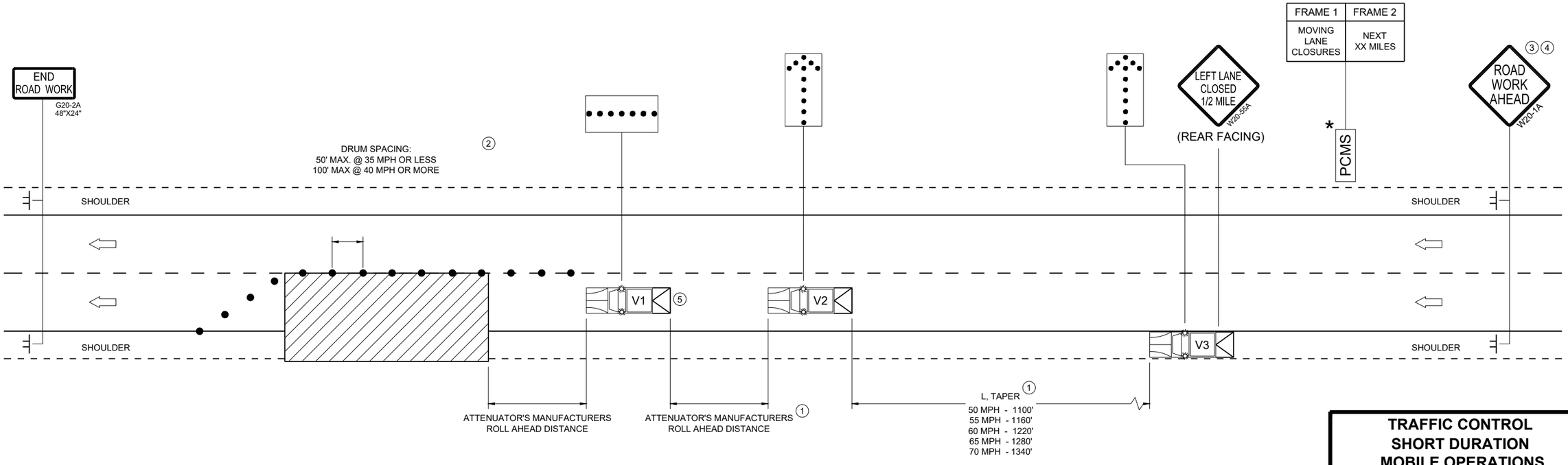
(4) SIGN NOT REQUIRED IF MOVING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(5) SHADOW VEHICLE 1 (V1) IS OPTIONAL

* PCMS OPTIONAL

PCMS MESSAGING

| FRAME 1 | FRAME 2 |
|---|---|
| MOVING LANE CLOSURES | NEXT XX MILES |




# TRAFFIC CONTROL SHORT DURATION MOBILE OPERATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA



6
SDD 15D43-03

## LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- DELINEATOR, FLEXIBLE TUBULAR MARKER
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- CONSTRUCTION TRAFFIC
- WORK AREA
- CC — CRASH CUSHION TEMPORARY
- EXISTING CONCRETE BARRIER TEMPORARY PRECAST

## GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"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.

WORK ZONE INGRESS/EGRESS LOCATIONS SHALL BE APPROVED BY THE ENGINEER. LOCATIONS FOR WORK ZONE ACCESS TO/FROM THE FREEWAY SHALL NOT BE USED FOR INGRESS AND EGRESS AT THE SAME TIME.

THIS ACCESS DETAIL IS TYPICAL FOR LEFT LANE ACCESS, FOR RIGHT LANE ACCESS, REVERSE THE TRAFFIC CONTROL

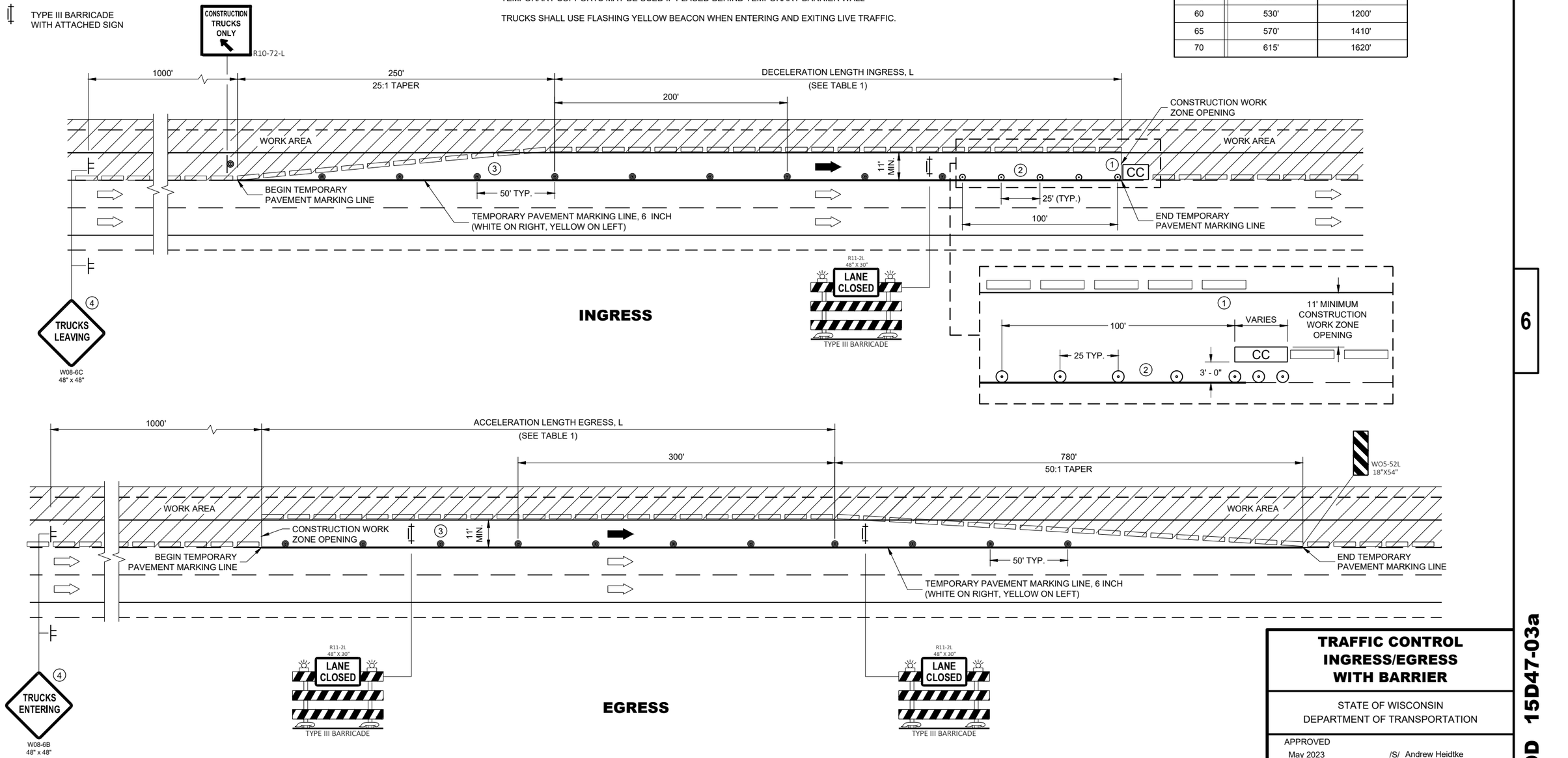
TEMPORARY SUPPORTS MAY BE USED IF PLACED BEHIND TEMPORARY BARRIER WALL

TRUCKS SHALL USE FLASHING YELLOW BEACON WHEN ENTERING AND EXITING LIVE TRAFFIC.

1. WIDEN BARRIER AS NECESSARY TO ACCOMMODATE CRASH CUSHION WIDTH.
2. USE TUBULAR MARKERS TO HELP DELINEATE TEMPORARY CRASH CUSHION.
3. REMOVE DRUMS / BARRICADES WHEN INGRESS / EGRESS ARE IN USE.
4. REMOVE OR COVER WHEN ACCESS IS NOT NEEDED.

### TABLE 1

| S (MPH) | INGRESS, L | EGRESS, L |
|---|---|---|
| 50 | 435' | 720' |
| 55 | 480' | 960' |
| 60 | 530' | 1200' |
| 65 | 570' | 1410' |
| 70 | 615' | 1620' |




**TRAFFIC CONTROL INGRESS/EGRESS WITH BARRIER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA



6

SDD 15D47-03a

6

SDD 15D47-03a

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- CONSTRUCTION TRAFFIC
- WORK AREA

## TABLE 1

| S (MPH) | INGRESS, L | EGRESS, L |
|---|---|---|
| 50 | 435' | 720' |
| 55 | 480' | 960' |
| 60 | 530' | 1200' |
| 65 | 570' | 1410' |
| 70 | 615' | 1620' |

## LEGEND

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"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.

WORK ZONE INGRESS/EGRESS LOCATIONS SHALL BE APPROVED BY THE ENGINEER. LOCATIONS FOR WORK ZONE ACCESS TO/FROM THE FREEWAY SHALL NOT BE USED FOR INGRESS AND EGRESS AT THE SAME TIME.

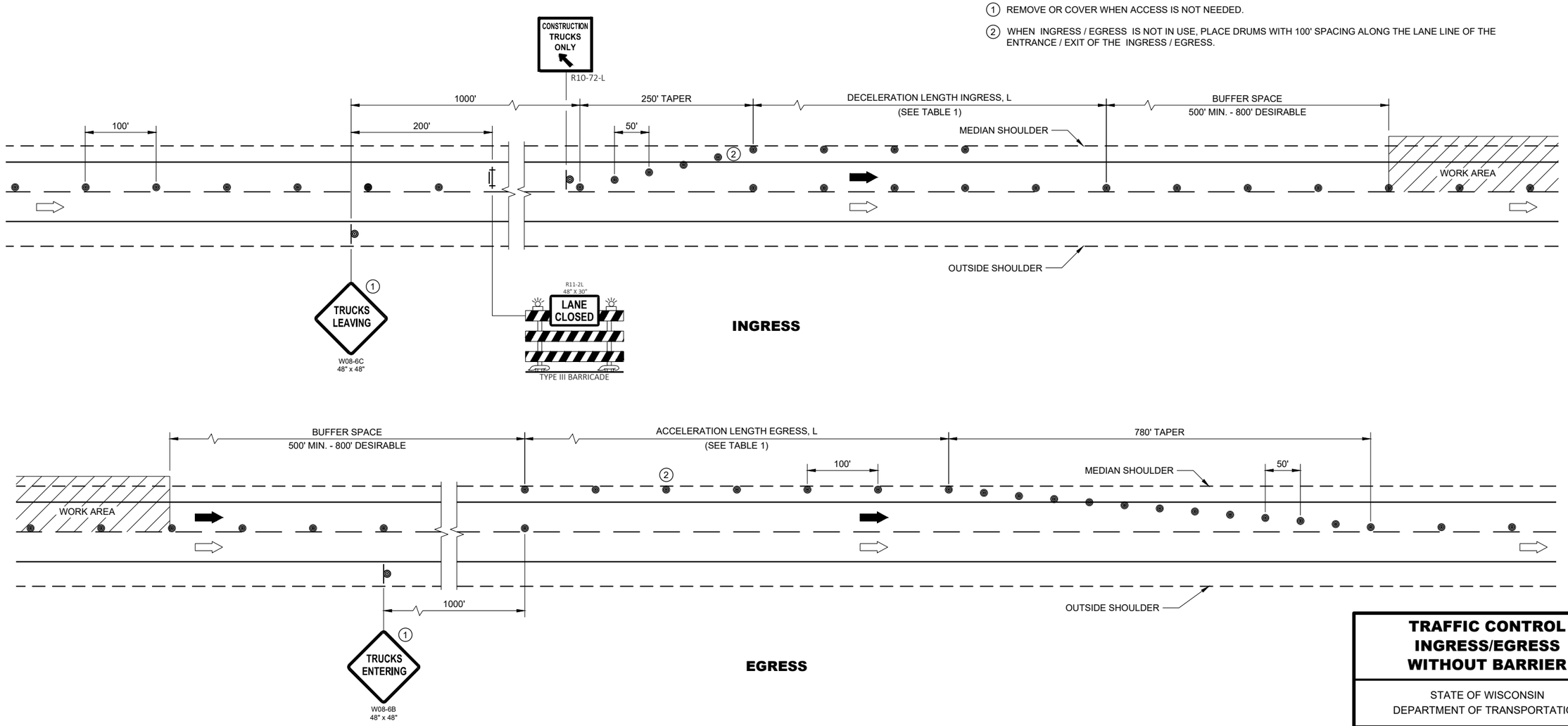
THIS ACCESS DETAIL IS TYPICAL FOR LEFT LANE ACCESS, FOR RIGHT LANE ACCESS, REVERSE THE TRAFFIC CONTROL

TEMPORARY SUPPORTS MAY BE USED IF PLACED BEHIND TEMPORARY BARRIER WALL

TRUCKS SHALL USE FLASHING YELLOW BEACON WHEN ENTERING AND EXITING LIVE TRAFFIC.

(1) REMOVE OR COVER WHEN ACCESS IS NOT NEEDED.

(2) WHEN INGRESS / EGRESS IS NOT IN USE, PLACE DRUMS WITH 100' SPACING ALONG THE LANE LINE OF THE ENTRANCE / EXIT OF THE INGRESS / EGRESS.




# TRAFFIC CONTROL INGRESS/EGRESS WITHOUT BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



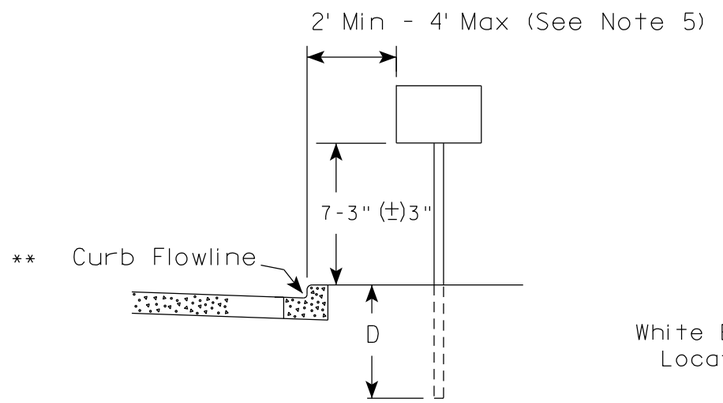
6

SDD 15D47-03b

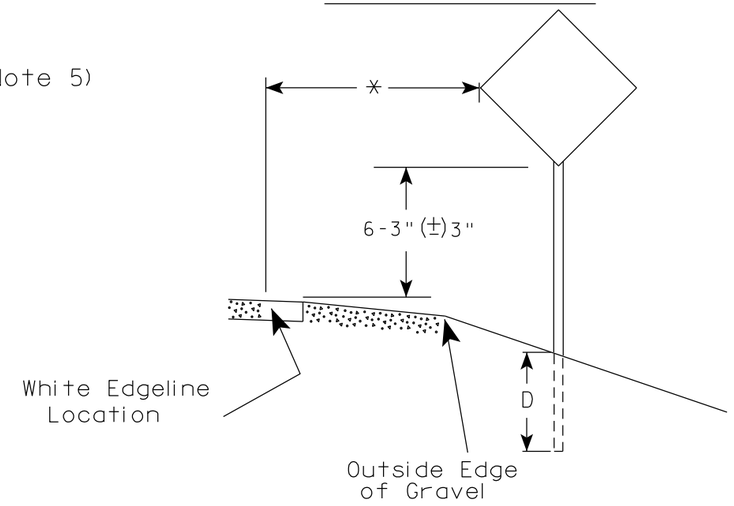
6

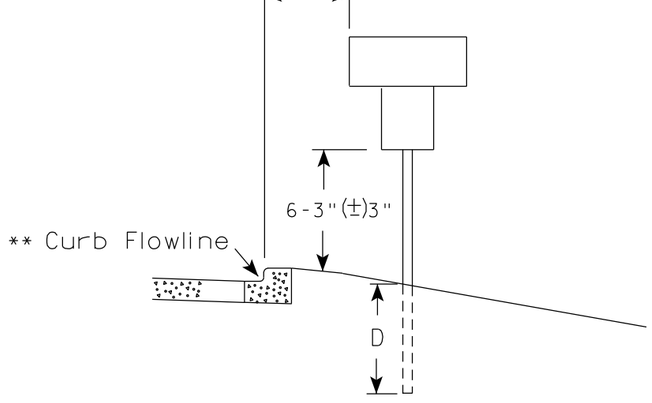
SDD 15D47-03b

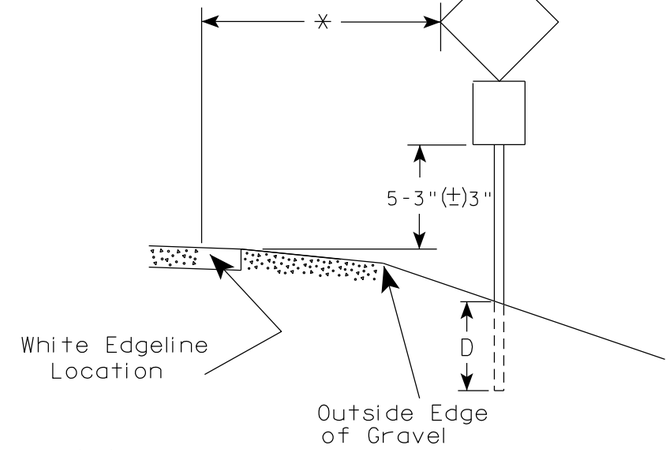
## URBAN AREA




## 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.

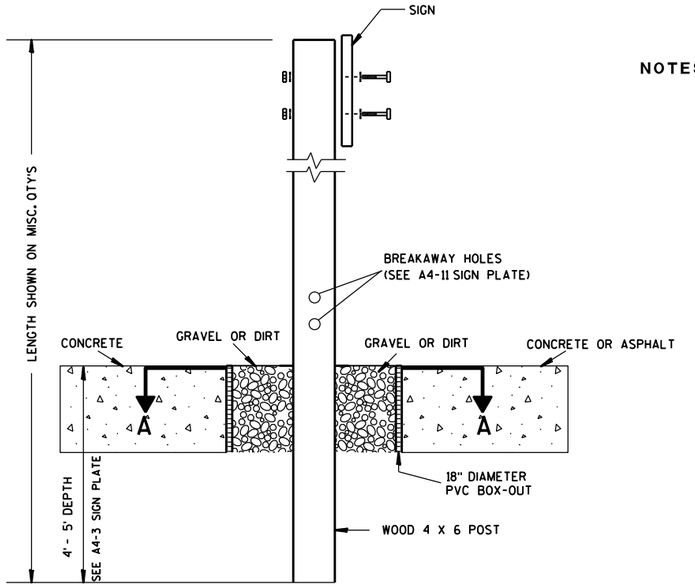
# TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

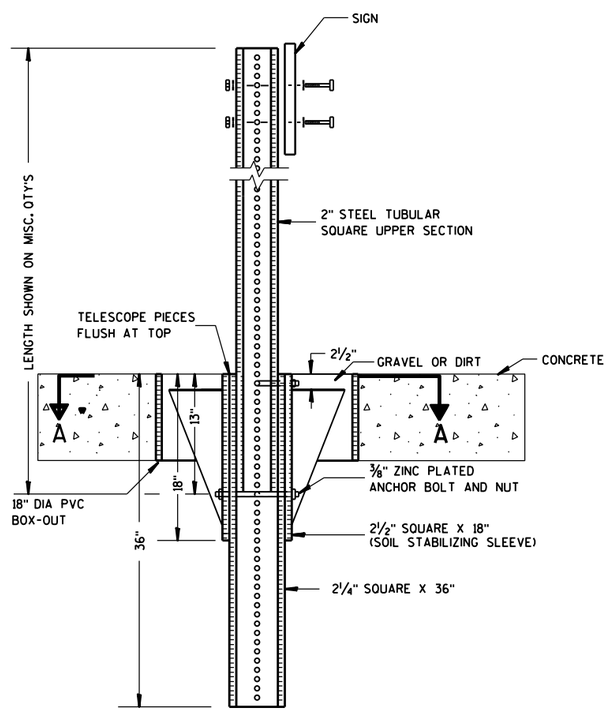
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 248 | E |
|---|---|---|---|---|---|




**ELEVATION VIEW**

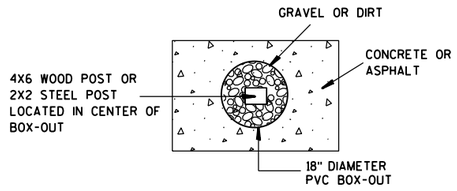
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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

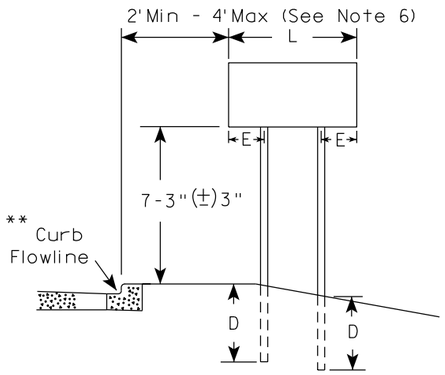
DATE 1/27/14 PLATE NO. A4-3B.1



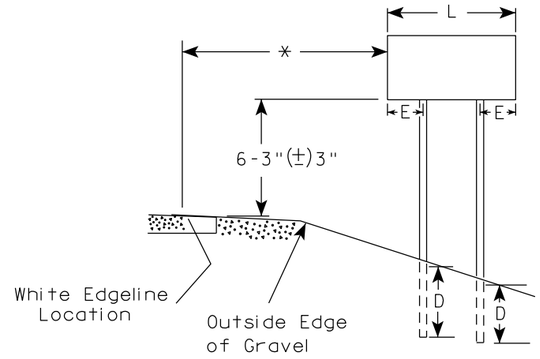
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

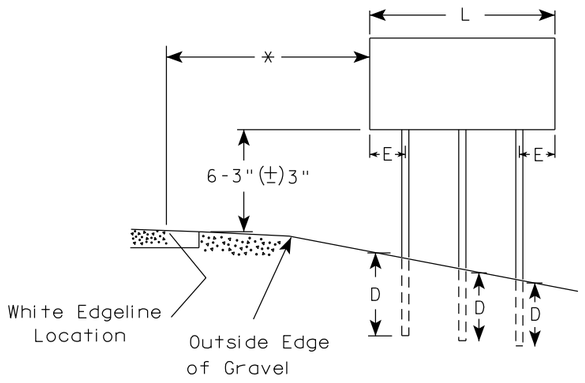
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

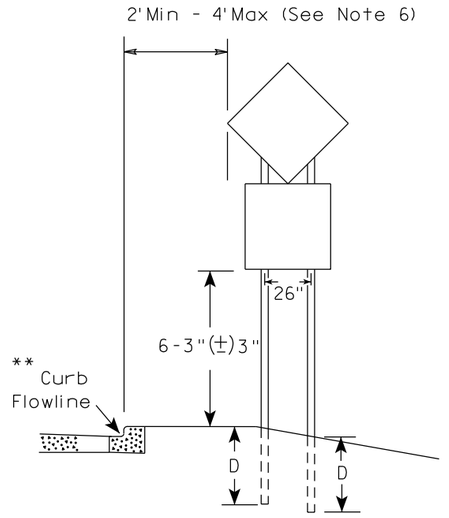
## URBAN AREA



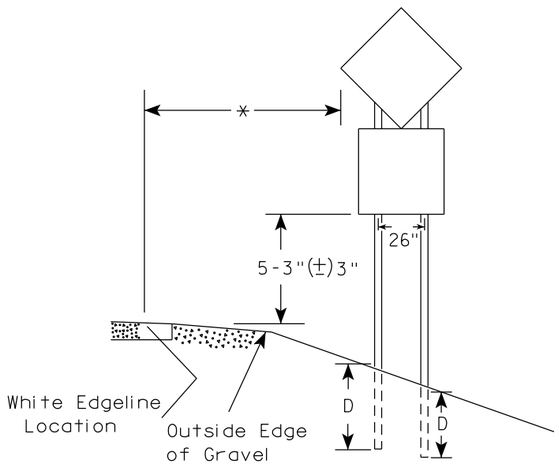

## RURAL AREA (See Note 3)




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' |

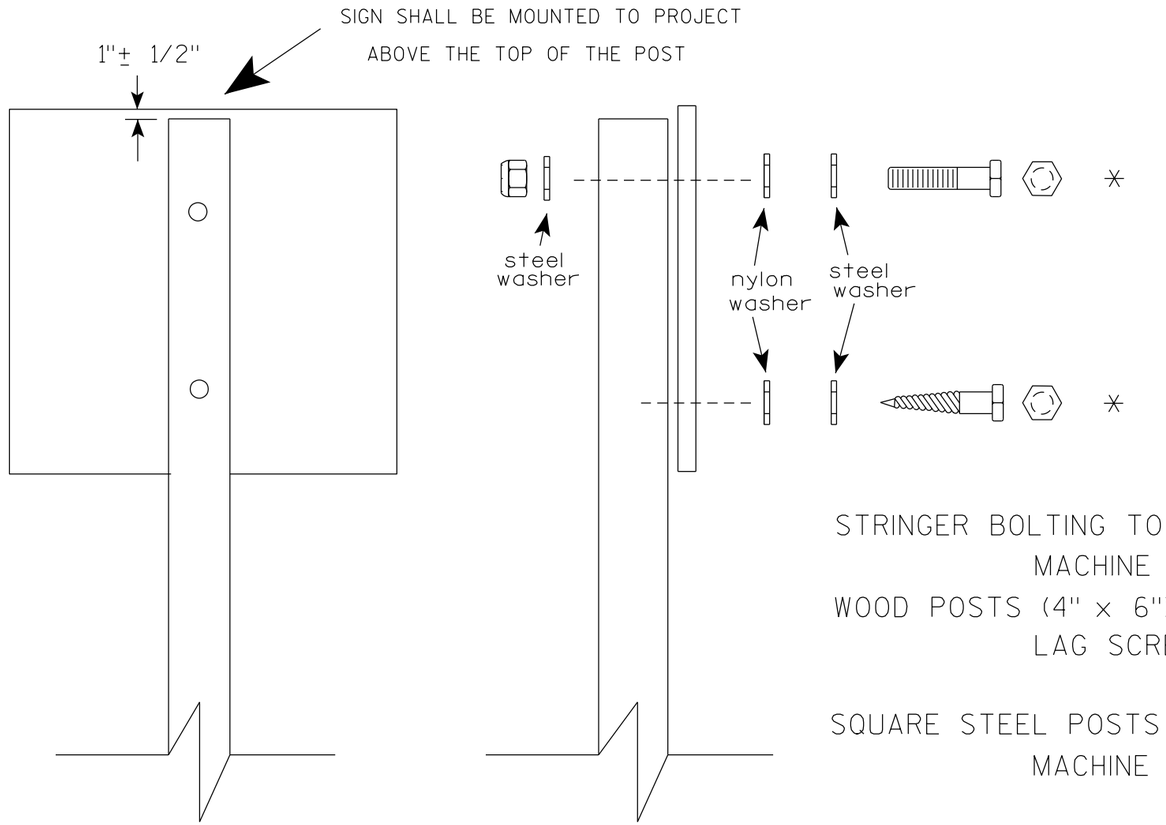
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

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: 250 | 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

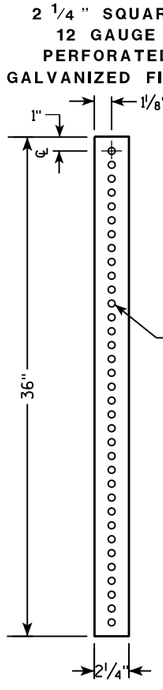
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

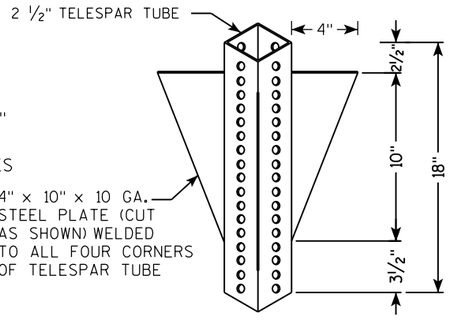
SHEET NO: 251 E

## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

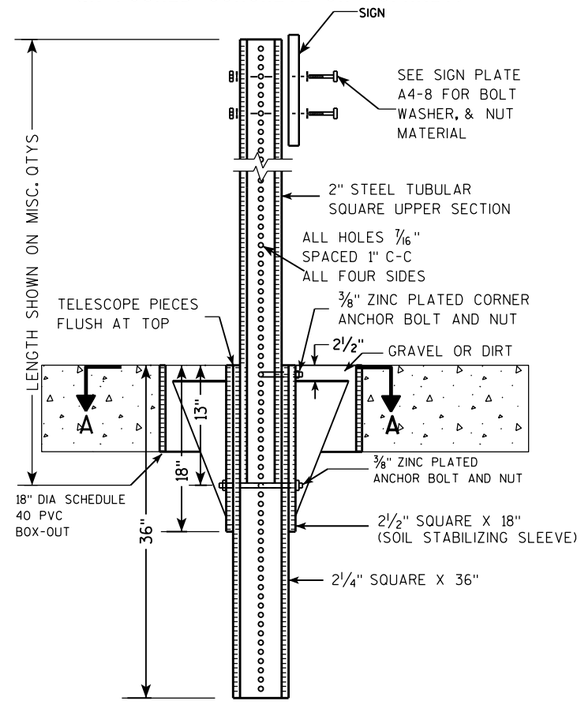
**2 1/4 " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



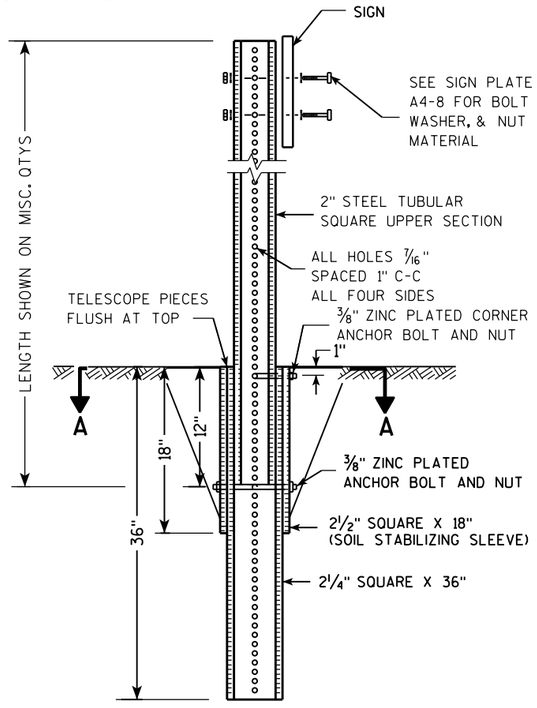

**2 1/2 " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

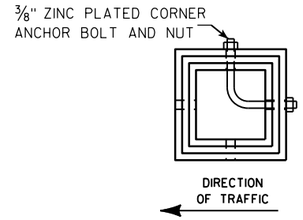



## DETAIL OF TUBULAR STEEL SIGN POST
**(IN POURED CONCRETE OR ASPHALT)**




## 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).**

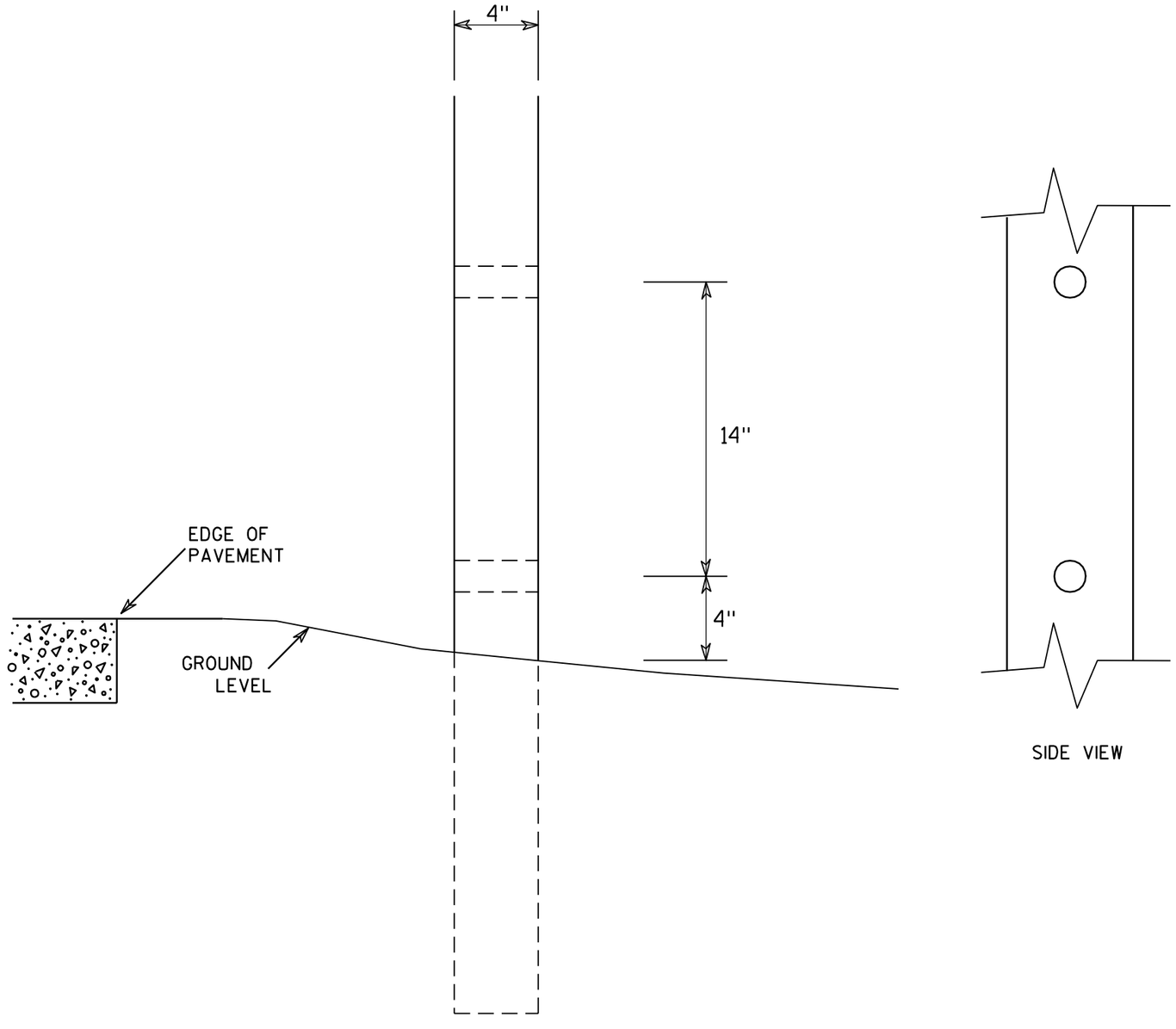
TUBULAR STEEL
SIGN POST
A4-9

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 2/05/15 PLATE 252 A4-9.9

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|






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.

# 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

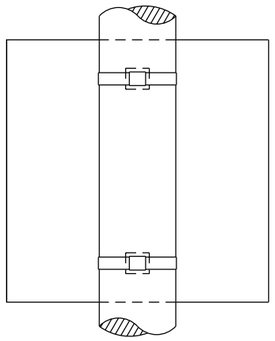
APPROVED Chester J Spang for State Traffic Engineer

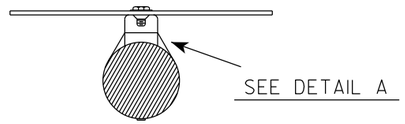
DATE 3/27/97 PLATE NO. A4-11.2

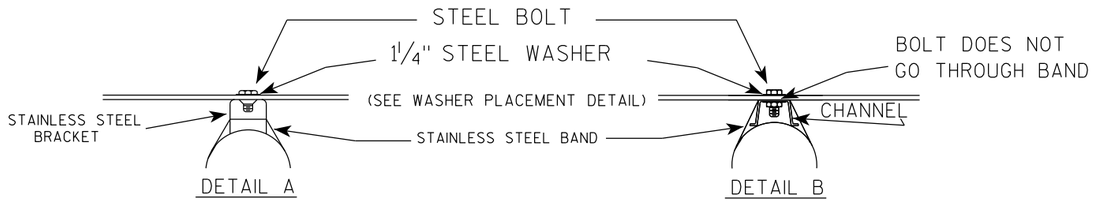
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 253 | E |
|---|---|---|---|---|---|

# BANDING

SINGLE SIGN



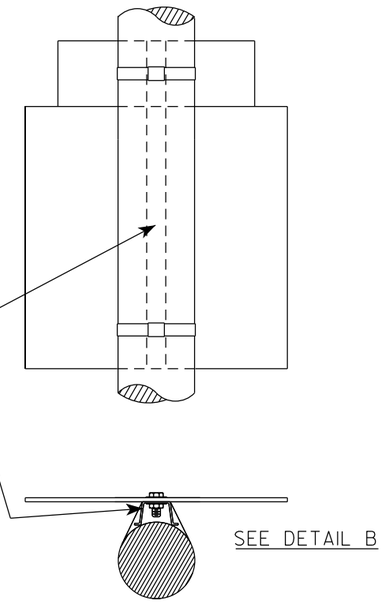


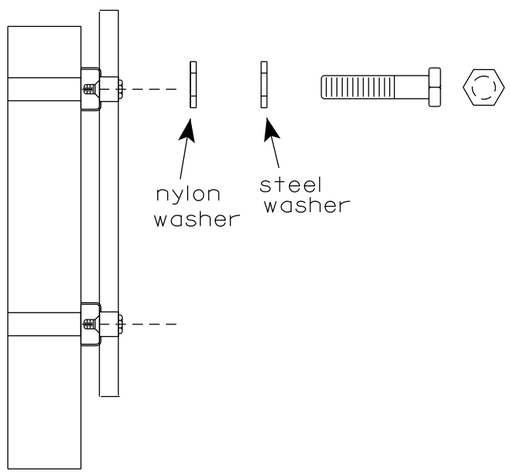

## GENERAL NOTES

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




WASHER PLACEMENT




WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" 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

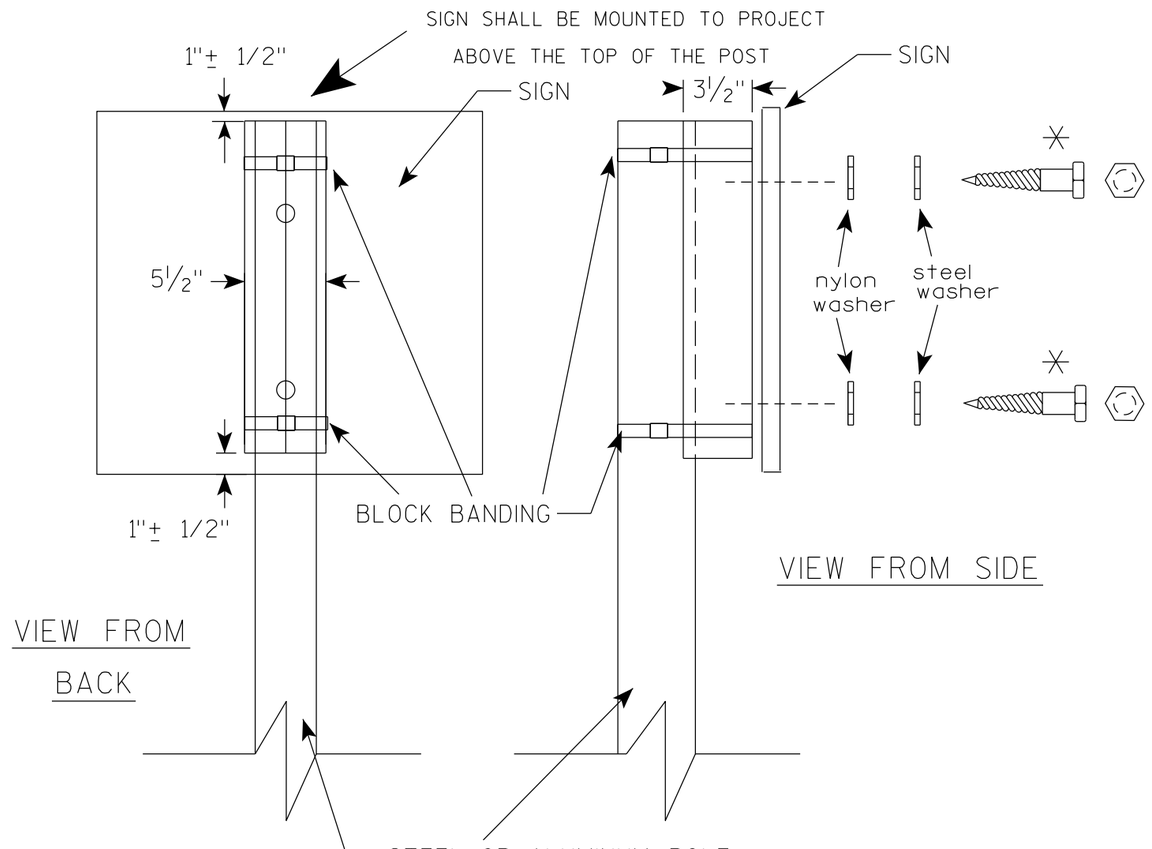
DATE 6/10/19 PLATE NO. A5-9.4

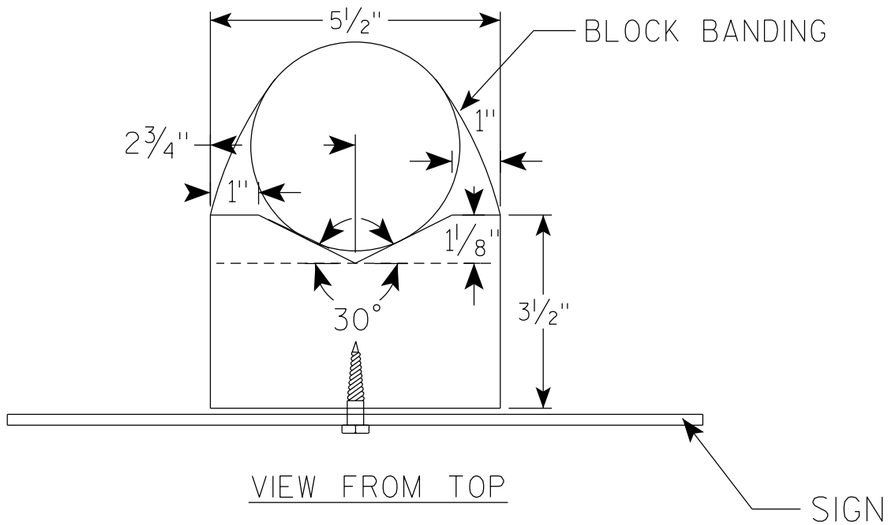
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 254 | E |
|---|---|---|---|---|---|

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 )

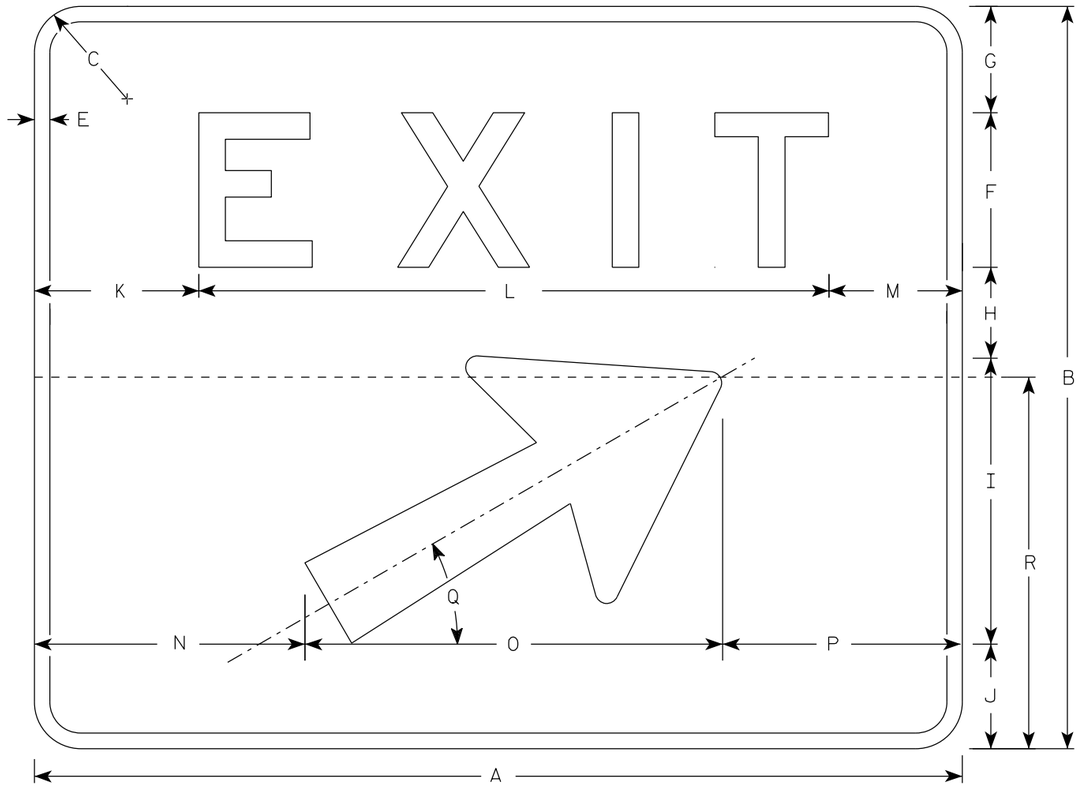
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 255 E




E5-1

NOTES

1. Sign is Type II - Type H reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E
4. Sign shall be split into two seperate pieces as shown on the detail by the dashed line (----------) for sizes 4 & 5.
5. Arrow is Type "A" from sign plate A1-1.
6. As per the Standard Spec's, this sign shall not have a vertical joint.
7. Size 3 E5-1 shall only be used in a Work Zone application with a Temporary Sign Support

| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2M | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 48 | 48 | 3 | | 1 | 10 | 6 7/8 | 5 7/8 | 18 1/2 | 6 3/4 | 8 1/2 | 31 1/8 | 8 3/8 | 11 1/2 | 27 | 9 1/2 | 30° | 30 | | | | | | | | | 16.0 |
| 4 | 60 | 48 | 3 | | 1 | 10 | 6 7/8 | 5 7/8 | 18 1/2 | 6 3/4 | 10 5/8 | 40 3/4 | 8 5/8 | 17 1/2 | 27 | 15 1/2 | 30° | 30 | | | | | | | | | 20.0 |
| 5 | 72 | 60 | 3 | | 1 | 12 | 9 3/4 | 10 | 18 1/2 | 9 3/4 | 13 1/4 | 48 1/2 | 10 1/4 | 23 1/2 | 27 | 21 1/2 | 30° | 30 | | | | | | | | | 30.0 |

STANDARD SIGN

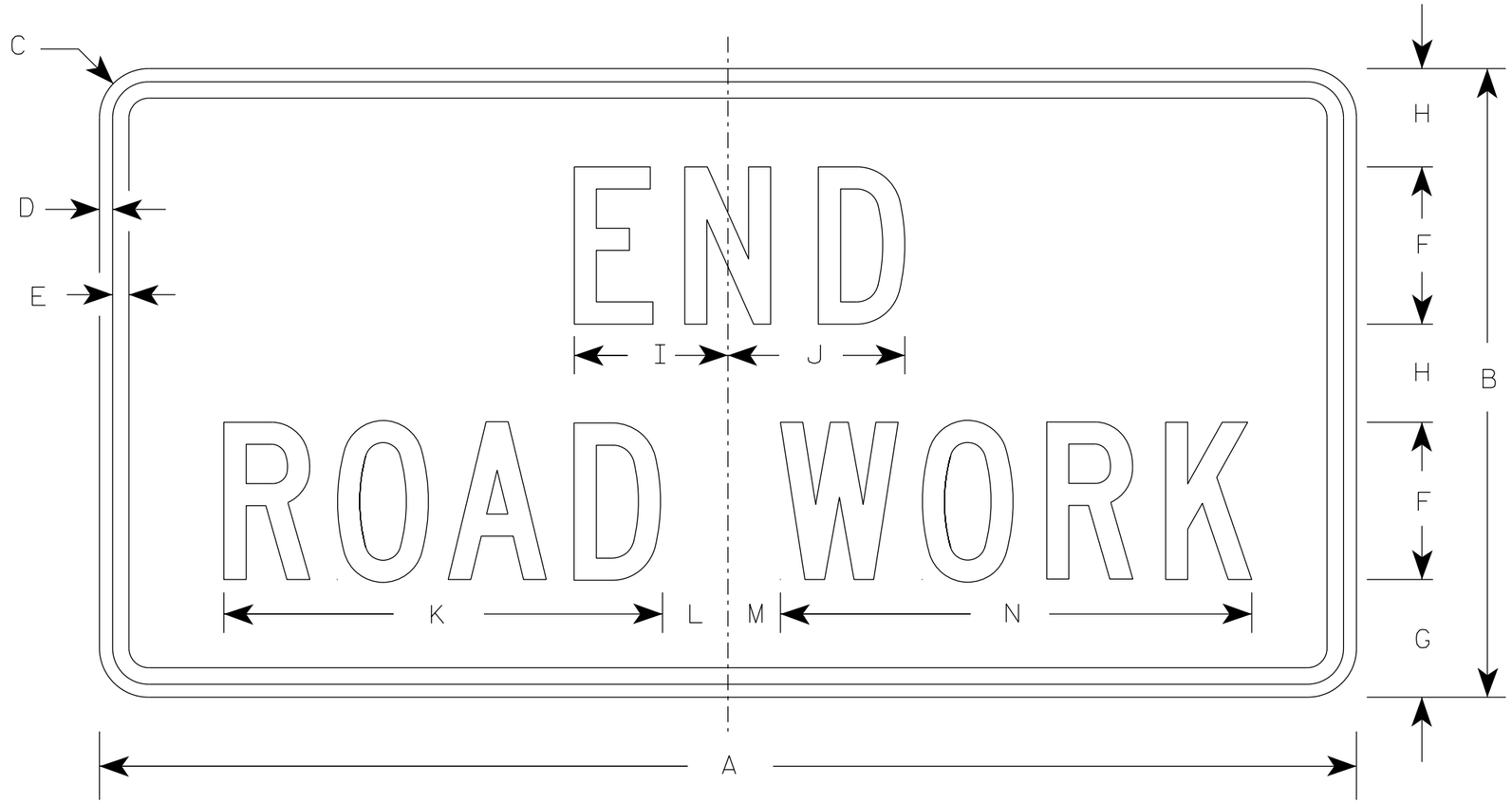
E5-1

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. E5-1.12

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 256 | 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

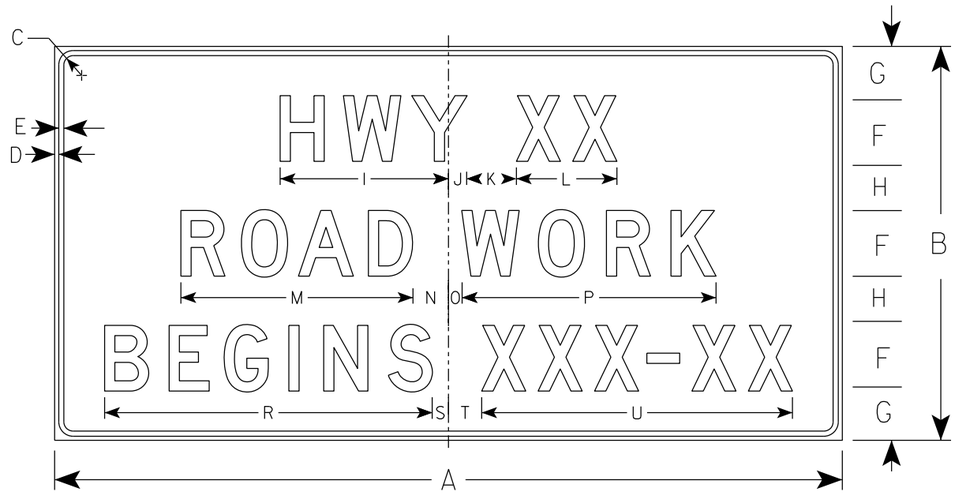
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 257 E




7

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.




G20-57

| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 72 | 36 | 1 1/8 | 1/2 | 5/8 | 6 | 5 | 4 | 15 5/8 | 1 5/8 | 5 | 9 1/4 | 21 1/4 | 3 1/2 | 1 1/2 | 23 1/4 | | 29 7/8 | 1 3/4 | 3 1/4 | 28 1/2 | | | | | | 18.0 |
| 4 | 96 | 48 | 2 1/4 | 3/4 | 1 | 8 | 6 1/2 | 5 1/2 | 20 5/8 | 2 1/4 | 6 | 12 1/4 | 28 1/4 | 4 3/8 | 1 5/8 | 31 | | 39 1/4 | 2 | 4 | 37 7/8 | | | | | | 32.0 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

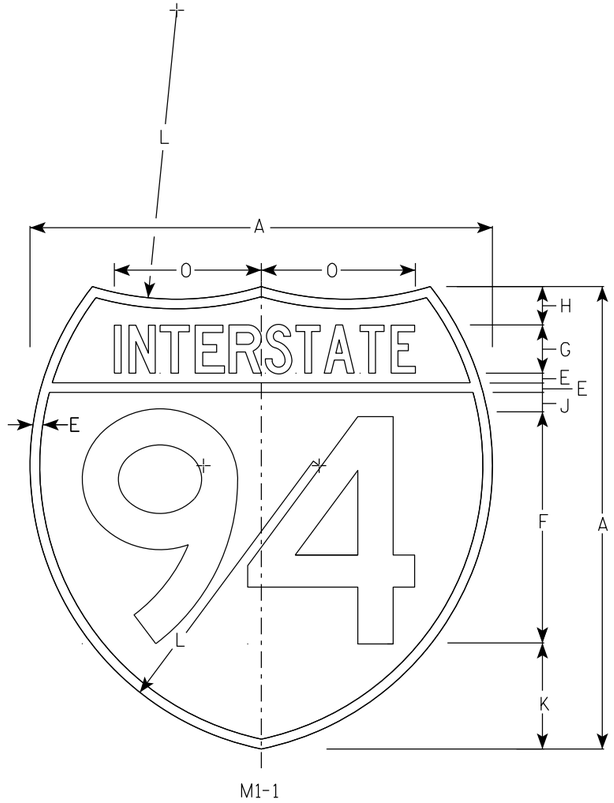
STANDARD SIGN
G20-57

WISCONSIN DEPT OF TRANSPORTATION

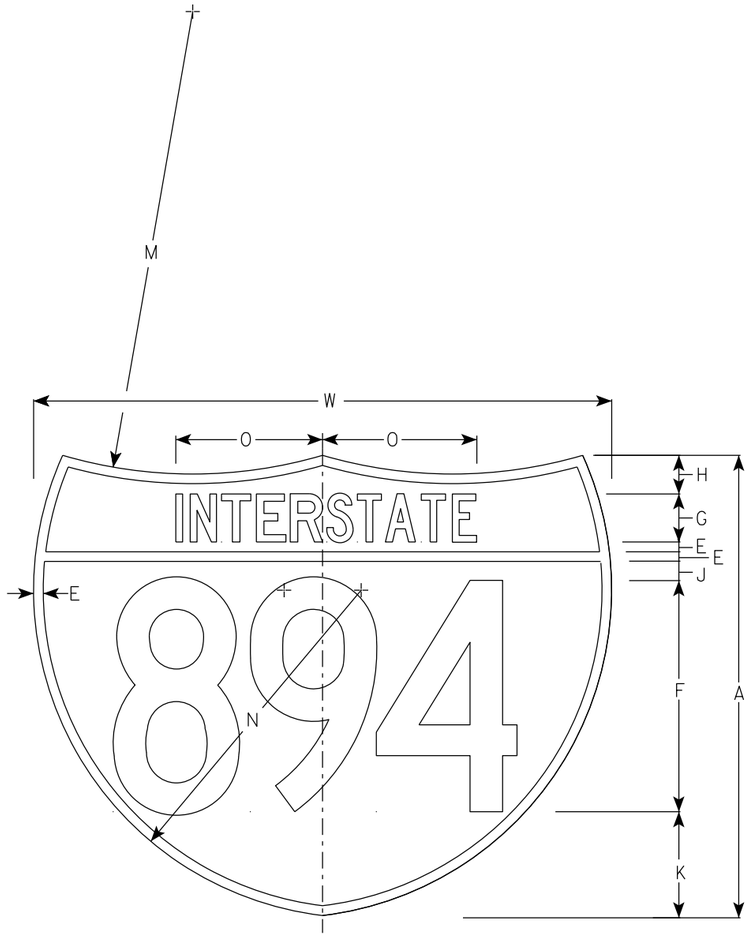
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/22/19 PLATE NO. G20-57.3

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 258 | E |
|---|---|---|---|---|---|




M1-1




M1-1A

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - Top Red - Bottom Blue
   Message - White
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - 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 | M1-1 Area sq. ft. | M1-1A Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | | | | 1/2 | 12 | 2 1/2 | 2 | | 1 | 5 1/2 | 15 | 24 | 17 | 7 7/8 | | | | | | | | 30 | | | 3.13 | 3.91 |
| 2M | 24 | | | | 1/2 | 12 | 2 1/2 | 2 | | 1 | 5 1/2 | 15 | 24 | 17 | 7 7/8 | | | | | | | | 30 | | | 3.13 | 3.91 |
| 3 | 36 | | | | 3/4 | 18 | 3 3/4 | 3 | | 1 1/2 | 8 1/4 | 22 1/2 | 36 | 25 1/2 | 11 3/4 | | | | | | | | 45 | | | 7.03 | 8.79 |
| 4 | 36 | | | | 3/4 | 18 | 3 3/4 | 3 | | 1 1/2 | 8 1/4 | 22 1/2 | 36 | 25 1/2 | 11 3/4 | | | | | | | | 45 | | | 7.03 | 8.79 |
| 5 | 36 | | | | 3/4 | 18 | 3 3/4 | 3 | | 1 1/2 | 8 1/4 | 22 1/2 | 36 | 25 1/2 | 11 3/4 | | | | | | | | 45 | | | 7.03 | 8.79 |

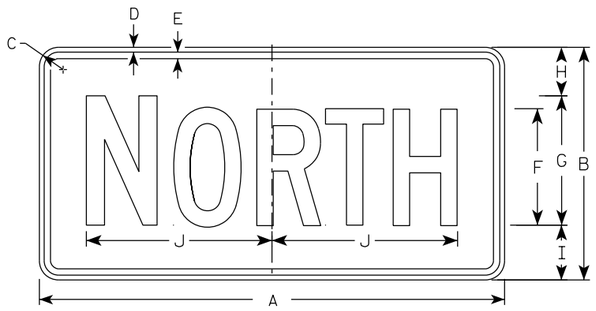
# INTERSTATE ROUTE MARKER M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

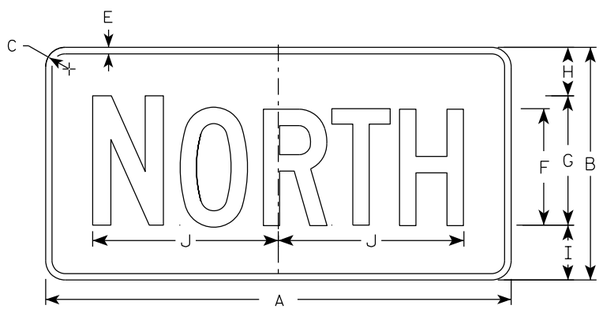
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 11/7/2022 PLATE NO. M1-1.9

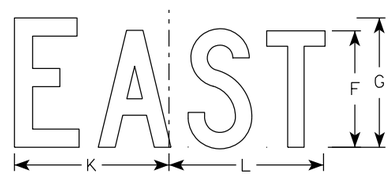
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 259 | E




M3-1
MM3-1
MP3-1

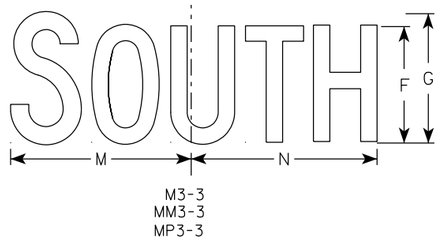



MB3-1
MK3-1
MN3-1

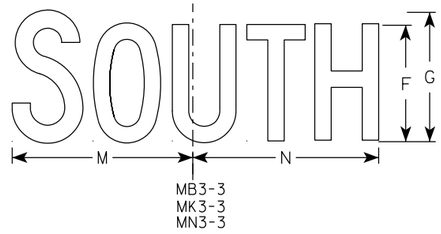



M3-2
MM3-2
MP3-2

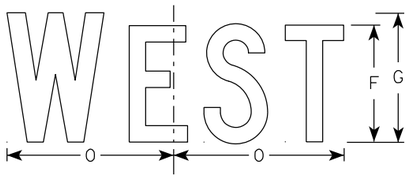
MB3-2
MK3-2
MN3-2



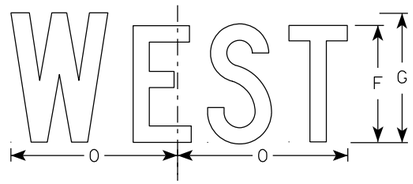

M3-3
MM3-3
MP3-3




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 |

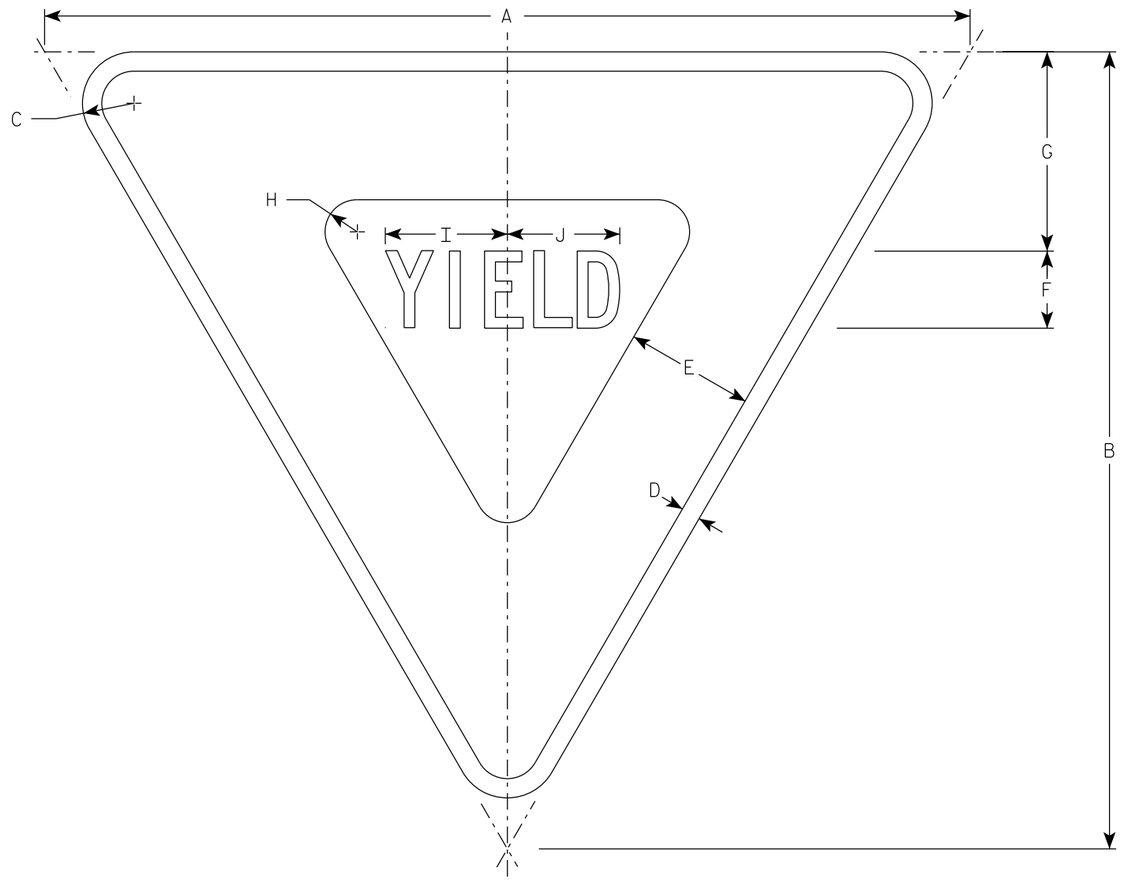
STANDARD SIGNS
M3-1 THRU M3-4
SERIES

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: 260 | E




R1-2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - See note 4
3. Message Series - C
4. The border strip and word message are reflectorized red.

| 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 | 26 | 2 | 5/8 | 4 | 2 1/2 | 6 3/8 | 7/8 | 4 | 3 5/8 | | | | | | | | | | | | | | | | | 2.71 |
| 2S | 36 | 31 | 2 | 3/4 | 5 | 3 | 7 3/4 | 1 1/4 | 4 3/4 | 4 3/8 | | | | | | | | | | | | | | | | | 3.88 |
| 2M | 48 | 42 | 3 | 1 | 6 | 4 | 9 3/4 | 2 | 6 1/4 | 5 7/8 | | | | | | | | | | | | | | | | | 7.00 |
| 3 | 48 | 42 | 3 | 1 | 6 | 4 | 9 3/4 | 2 | 6 1/4 | 5 7/8 | | | | | | | | | | | | | | | | | 7.00 |
| 4 | 48 | 42 | 3 | 1 | 6 | 4 | 9 3/4 | 2 | 6 1/4 | 5 7/8 | | | | | | | | | | | | | | | | | 7.00 |
| 5 | 60 | 52 | 3 | 1 1/2 | 8 | 5 | 13 | 2 1/2 | 7 7/8 | 7 1/4 | | | | | | | | | | | | | | | | | 10.83 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 18 | 15 1/2 | 1 | 3/8 | 2 1/2 | 1 1/2 | 3 7/8 | 5/8 | 2 3/8 | 2 1/4 | | | | | | | | | | | | | | | | | 0.97 |

STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

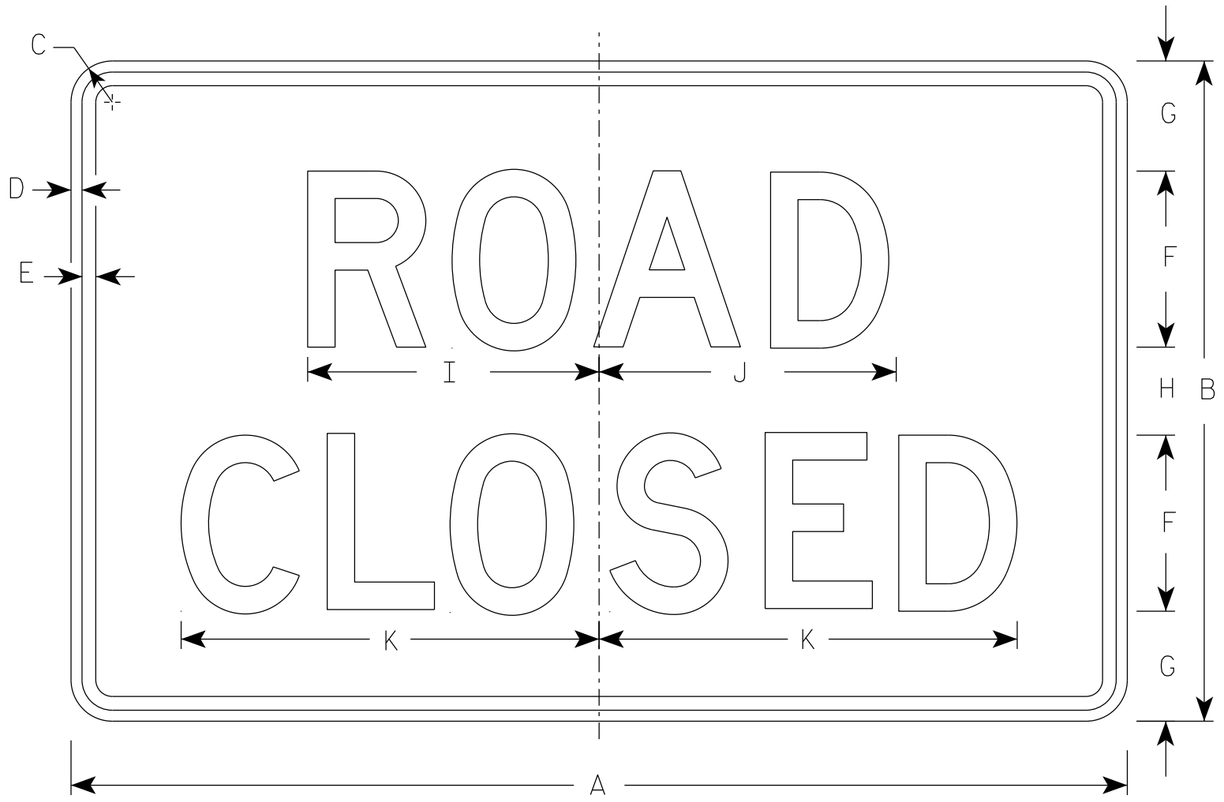
DATE 9/10/2024 PLATE NO. R1-2.13

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 261 | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R12.dgn PLOT DATE : 10-SEPT 2024 3:11 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

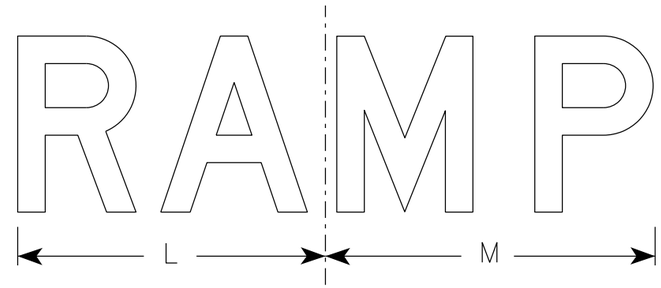
7



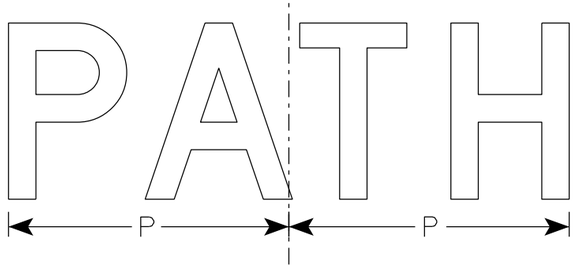

R11-2

NOTES

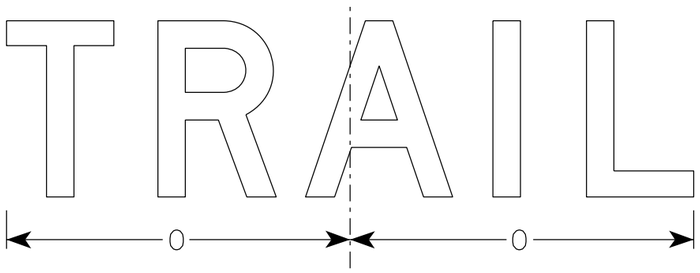
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



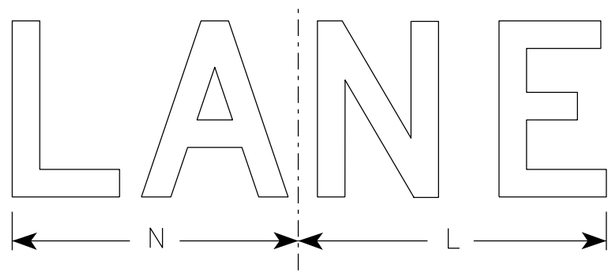

R11-2R




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

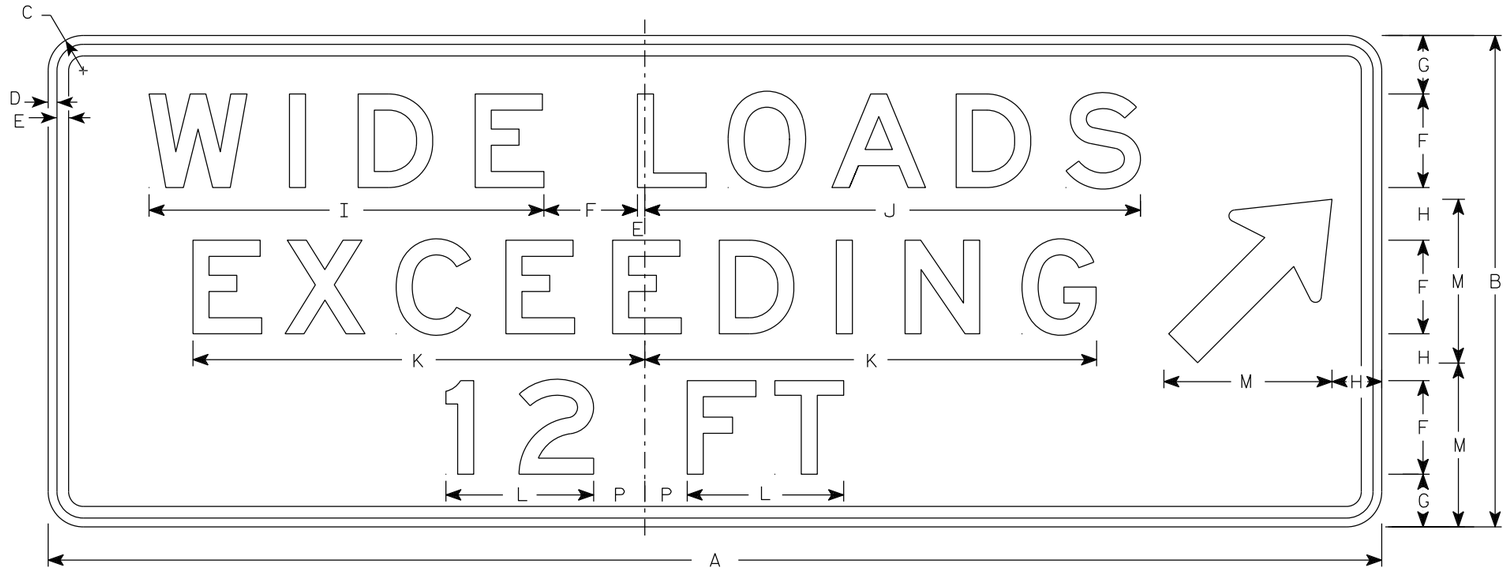
DATE 2/3/26 PLATE NO. R11-2.13

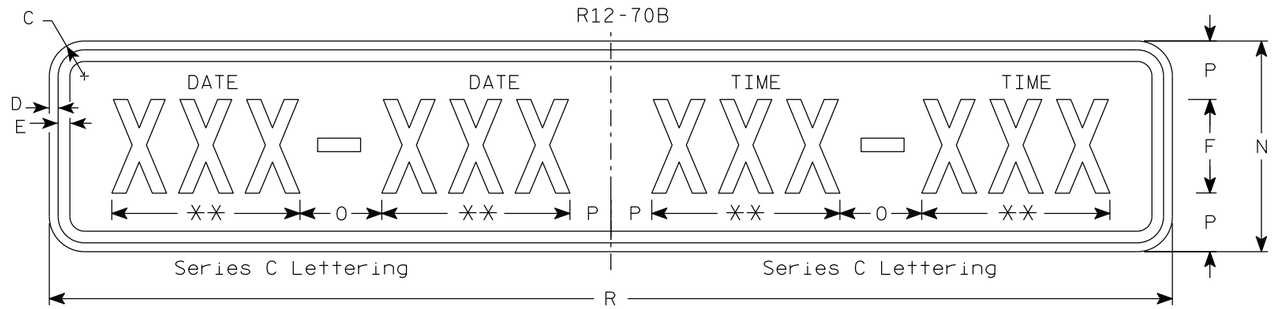
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - E except as noted
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.

** Substitute appropriate message, optically center message




R12-70C

| 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 | R12-70 Area sq. ft. | R12-70C Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 90 | 36 | 3 | 1/2 | 5/8 | 6 | 4 | 5 | 20 7/8 | 28 3/8 | 24 5/8 | 8 1/8 | 12 | 12 | 6 | 3 | | 66 | | | | | | | | | 22.5 | 5.5 |
| 2M | 90 | 36 | 3 | 1/2 | 5/8 | 6 | 4 | 5 | 20 7/8 | 28 3/8 | 24 5/8 | 8 1/8 | 12 | 12 | 6 | 3 | | 66 | | | | | | | | | 22.5 | 5.5 |
| 3 | 90 | 36 | 3 | 1/2 | 5/8 | 6 | 4 | 5 | 20 7/8 | 28 3/8 | 24 5/8 | 8 1/8 | 12 | 12 | 6 | 3 | | 66 | | | | | | | | | 22.5 | 5.5 |
| 4 | 114 | 42 | 3 | 3/4 | 1 | 8 | 5 | 4 | 34 | 42 | 39 | 13 | 14 | 18 | 7 | 3 1/2 | | 96 | | | | | | | | | 36.75 | 12.0 |
| 5 | 114 | 42 | 3 | 3/4 | 1 | 8 | 5 | 4 | 34 | 42 | 39 | 13 | 14 | 18 | 7 | 3 1/2 | | 96 | | | | | | | | | 36.75 | 12.0 |

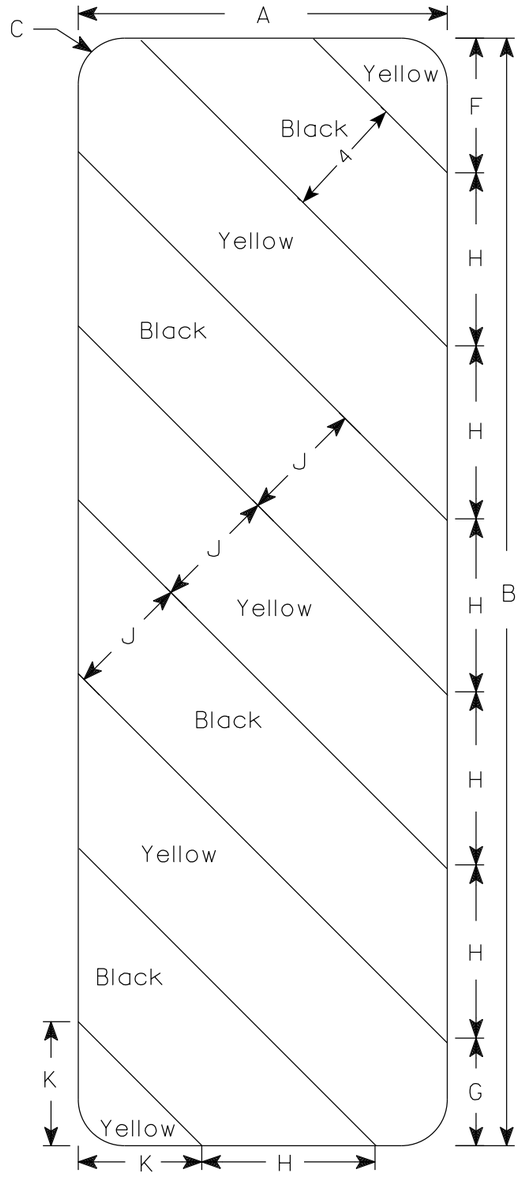
TYPICAL SIGN
R12-70B

WISCONSIN DEPT OF TRANSPORTATION

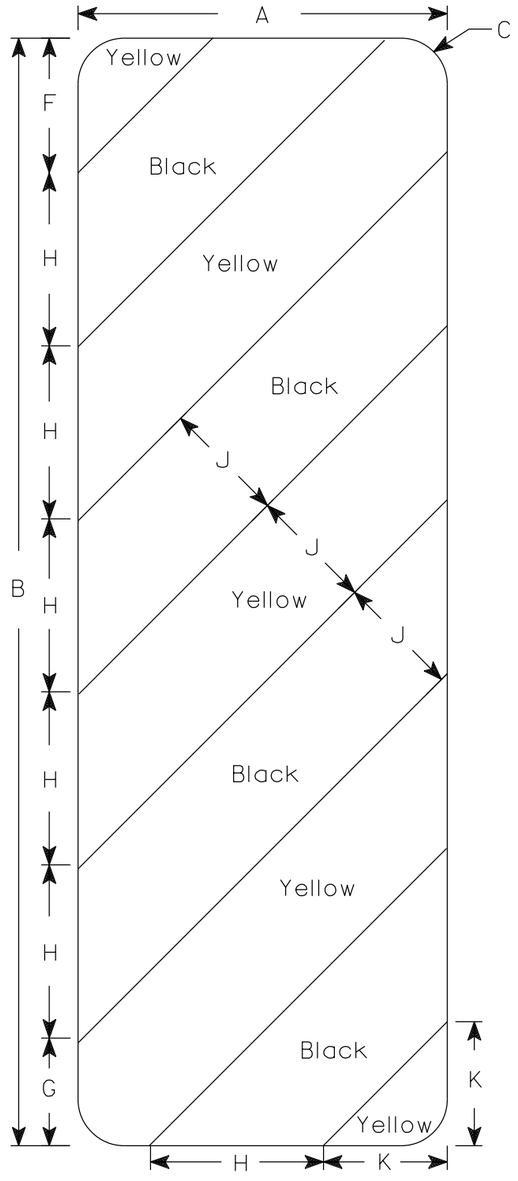
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/24 PLATE NO. R12-70B.4

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 263 | E |
|---|---|---|---|---|---|




W5-52L




W5-52R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Alternate colors of stripes as shown.

| 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 | 12 | 36 | 1 1/2 | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 2M | 12 | 36 | 1 1/2 | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 3 | 18 | 54 | 1 1/2 | | | 6 | 5 1/2 | 8 1/2 | 45° | 6 | 6 9/16 | | | | | | | | | | | | | | | | 6.75 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN

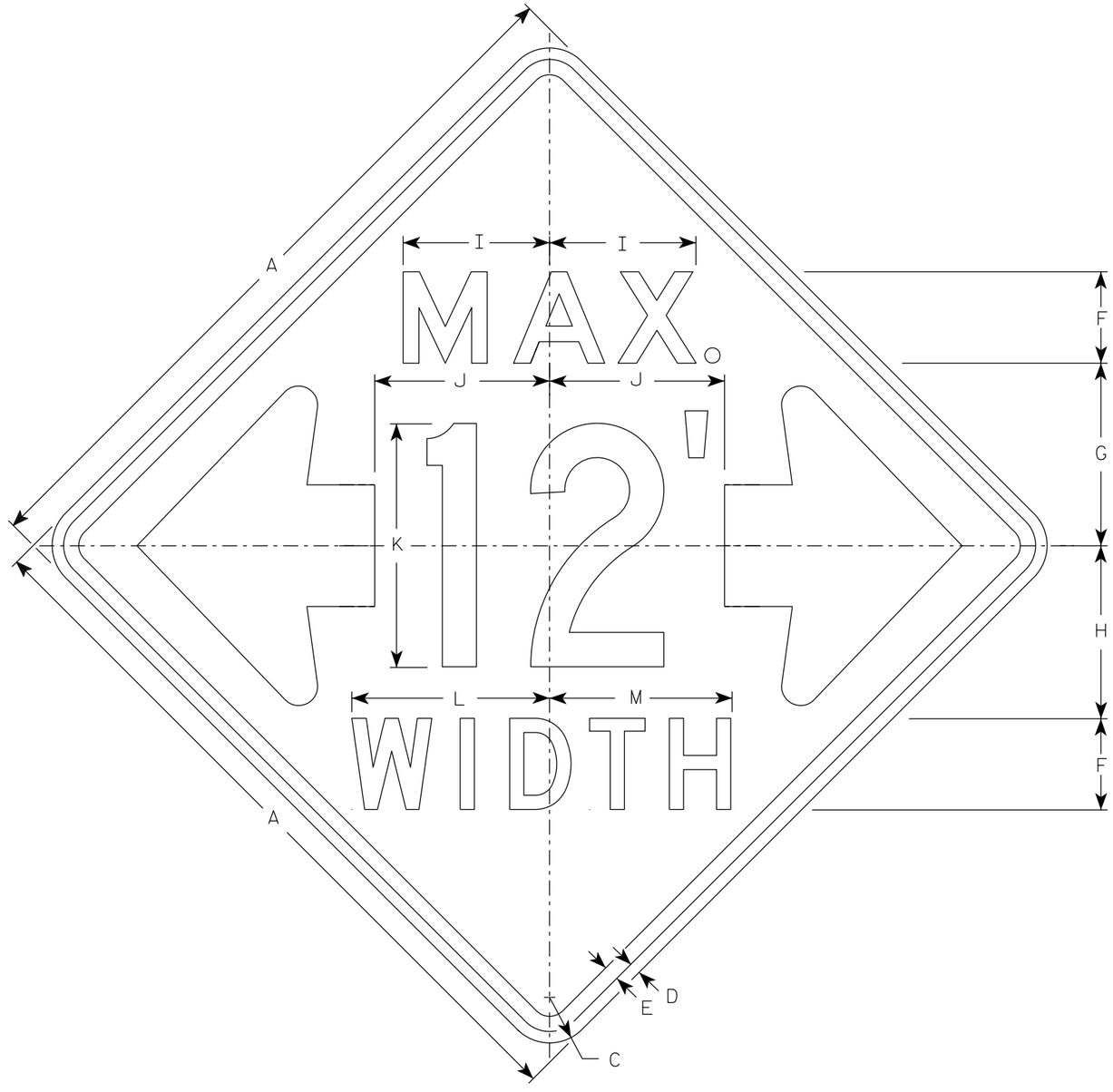
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10

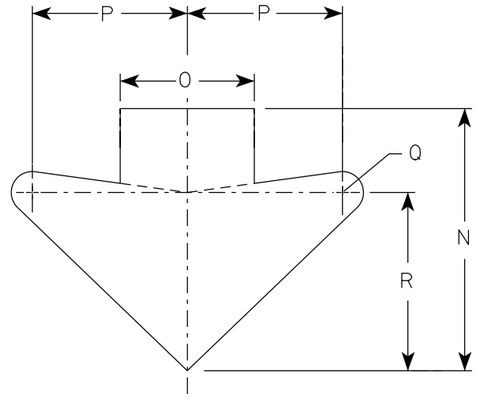
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 264 E




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 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

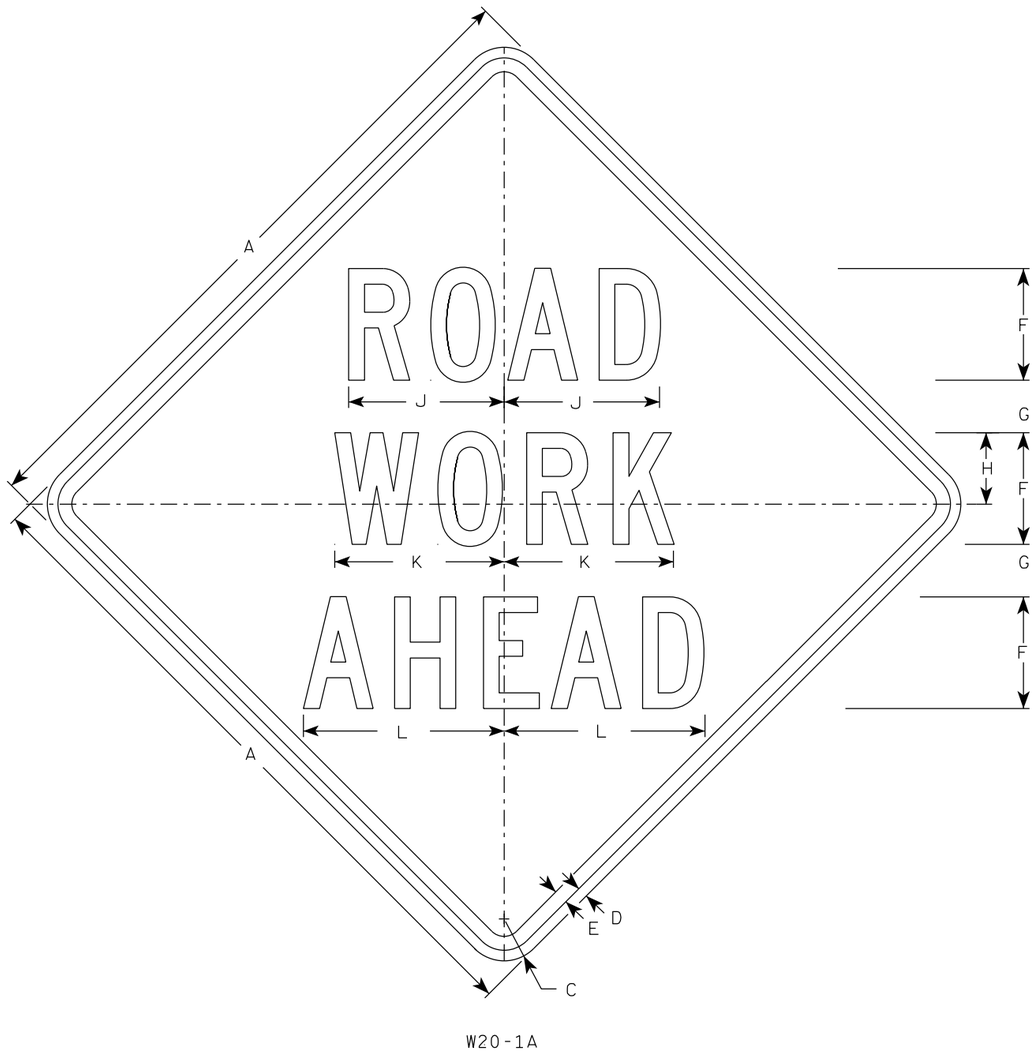
STANDARD SIGN
W12-52

*WISCONSIN DEPT OF TRANSPORTATION*

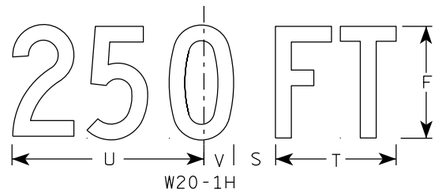
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/10/2024 PLATE NO. W12-52.8

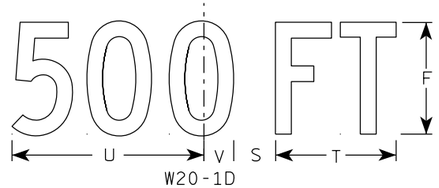
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 265 E




W20-1A

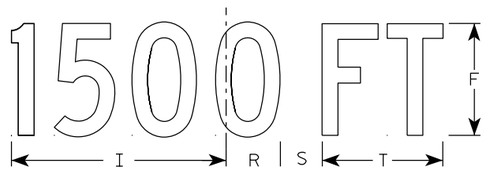



W20-1H




W20-1D

W20-1C

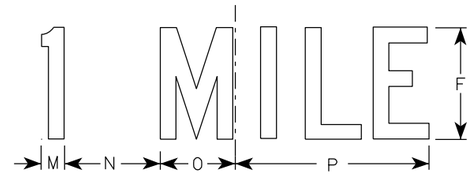



W20-1B

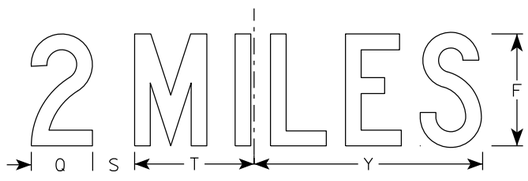
NOTES

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.

W20-1G




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: E

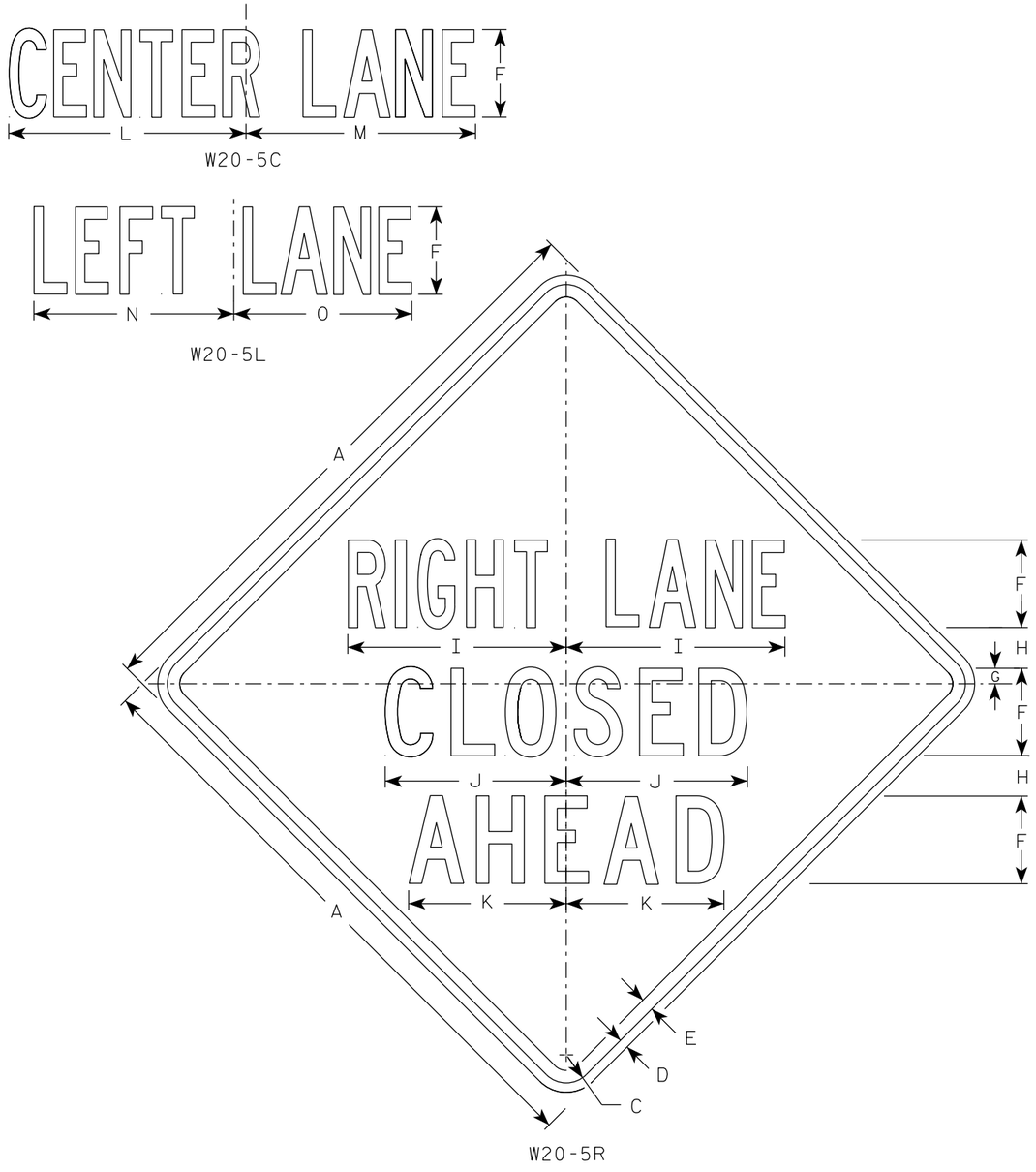


FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 10-JAN 2024 11:16 PLOT BY : dotc4c

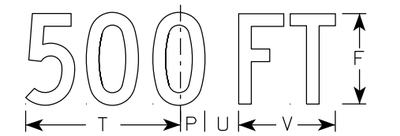
WISDOT/CADDS SHEET 42

7

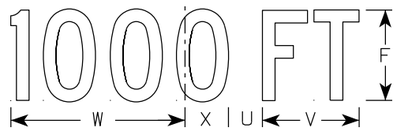
7



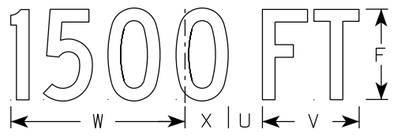

W20-5R



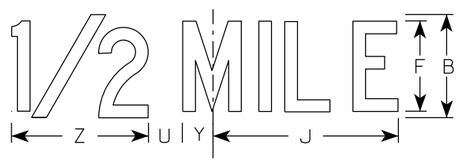

W20-5CD
W20-5LD
W20-5RD



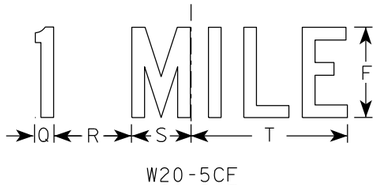

W20-5CE
W20-5LE
W20-5RE




W20-5CB
W20-5LB
W20-5RB




W20-5CG
W20-5LG
W20-5RG




W20-5CF
W20-5LF
W20-5RF

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. " _____ LANE" is Series B.
   All other copy is 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 | 36 | 6 | 2 1/4 | 5/8 | 3/4 | 5 | 7/8 | 2 1/2 | 13 1/8 | 10 3/4 | 9 1/2 | 14 1/4 | 13 5/8 | 12 | 12 | 1 3/8 | 1 1/8 | 4 1/2 | 3 1/2 | 9 | 1 7/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 3/4 | 8 | 9.0 |
| 2S | 48 | 8 | 3 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 2M | 48 | 8 | 3 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 3 | 48 | 8 | 3 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 4 | 48 | 8 | 3 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 5 | 48 | 8 | 3 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |

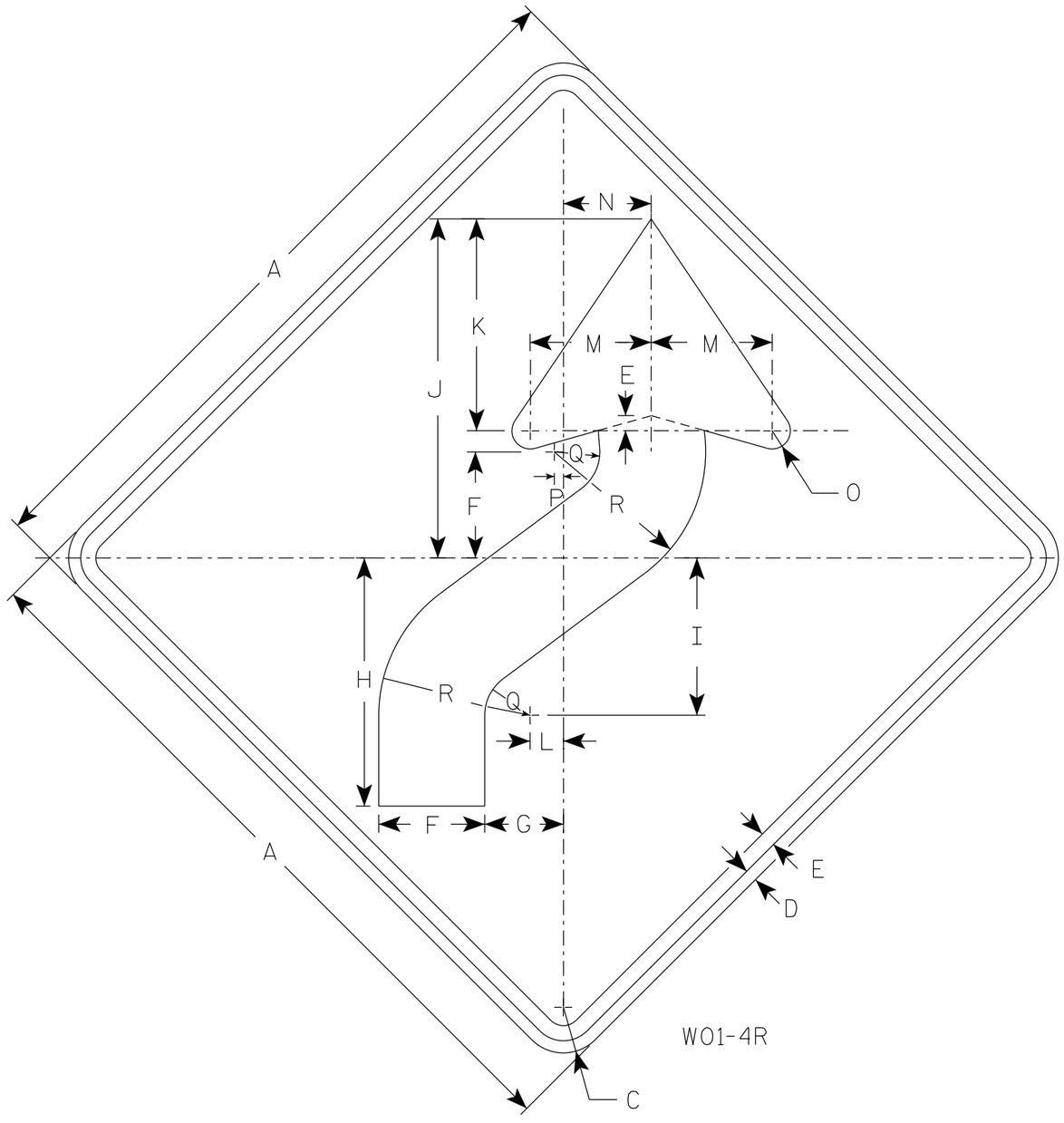
STANDARD SIGN
W20-5C,L,R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/26 PLATE NO. W20-5.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 267 E




WO1-4R

## 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. WO1-4L is the same as WO1-4R 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 |

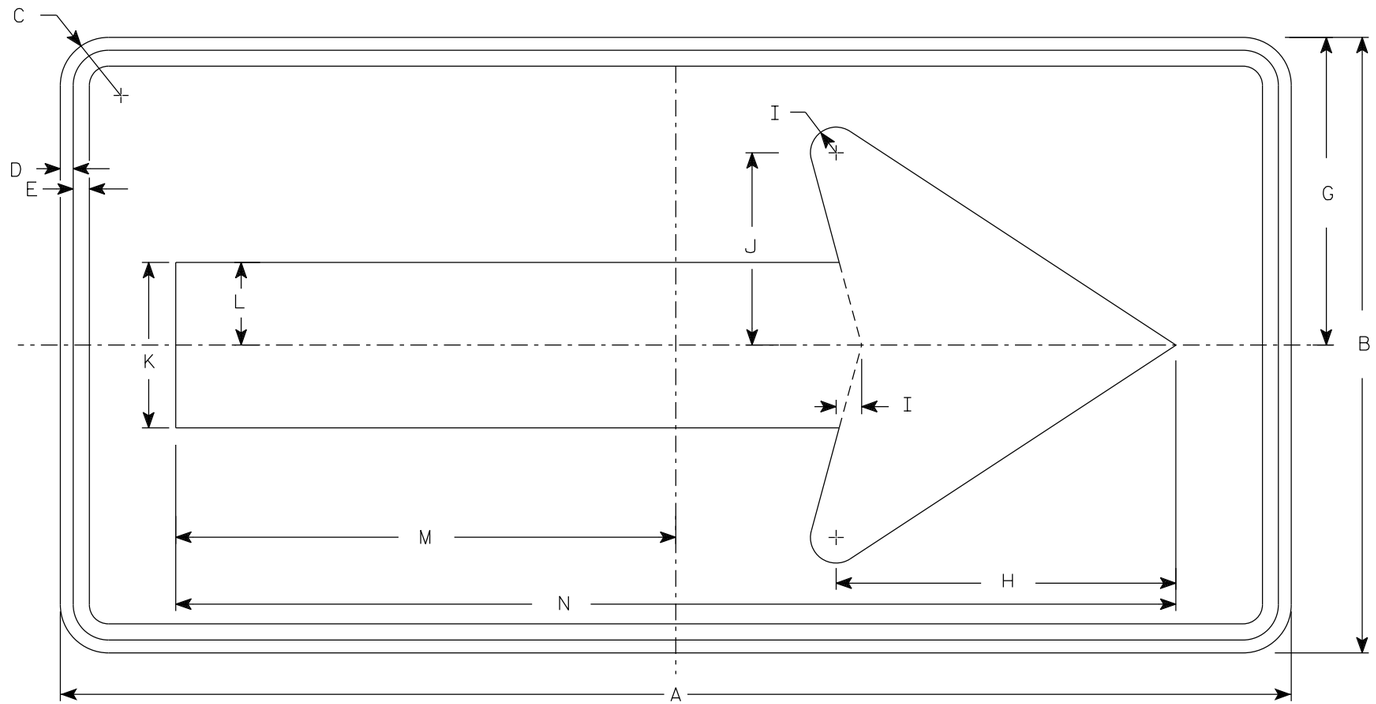
# STANDARD SIGN
# WO1-4

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
*For* State Traffic Engineer

DATE 1/24/2024 PLATE NO. WO1-4.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 268 | 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 |

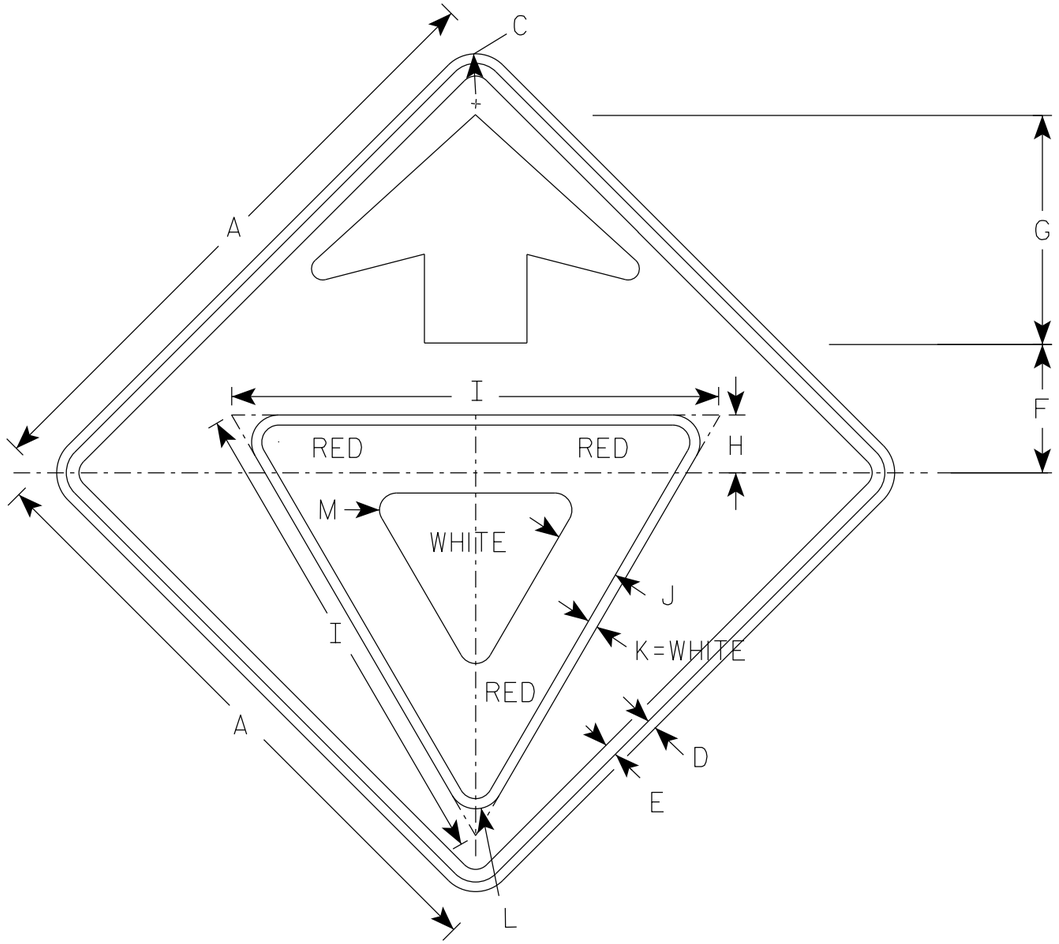
STANDARD SIGN
WO1-6

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 1/24/2024 PLATE NO. WO1-6.2

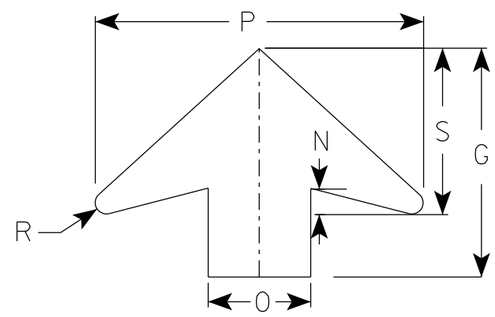
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E




W03-2

NOTES

1. All Signs Type II - Type F Reflective
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Yield Symbol - WHITE BORDER ON RED BACKGROUND




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 | 36 | | 2 1/4 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 3/8 | 28 | 3 3/4 | 5/8 | 1 1/2 | 1 | 1 5/8 | 6 | 19 1/4 | | 5/8 | 9 3/4 | | | | | | | | 9.0 |
| 2S | 48 | | 3 | 3/4 | 1 | 10 | 17 7/8 | 4 1/2 | 38 | 5 | 3/4 | 2 1/8 | 1 3/8 | 2 | 8 | 25 5/8 | | 7/8 | 13 | | | | | | | | 16.0 |
| 2M | 48 | | 3 | 3/4 | 1 | 10 | 17 7/8 | 4 1/2 | 38 | 5 | 3/4 | 2 1/8 | 1 3/8 | 2 | 8 | 25 5/8 | | 7/8 | 13 | | | | | | | | 16.0 |
| 3 | 48 | | 3 | 3/4 | 1 | 10 | 17 7/8 | 4 1/2 | 38 | 5 | 3/4 | 2 1/8 | 1 3/8 | 2 | 8 | 25 5/8 | | 7/8 | 13 | | | | | | | | 16.0 |
| 4 | 48 | | 3 | 3/4 | 1 | 10 | 17 7/8 | 4 1/2 | 38 | 5 | 3/4 | 2 1/8 | 1 3/8 | 2 | 8 | 25 5/8 | | 7/8 | 13 | | | | | | | | 16.0 |
| 5 | 48 | | 3 | 3/4 | 1 | 10 | 17 7/8 | 4 1/2 | 38 | 5 | 3/4 | 2 1/8 | 1 3/8 | 2 | 8 | 25 5/8 | | 7/8 | 13 | | | | | | | | 16.0 |

STANDARD SIGN
W03-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

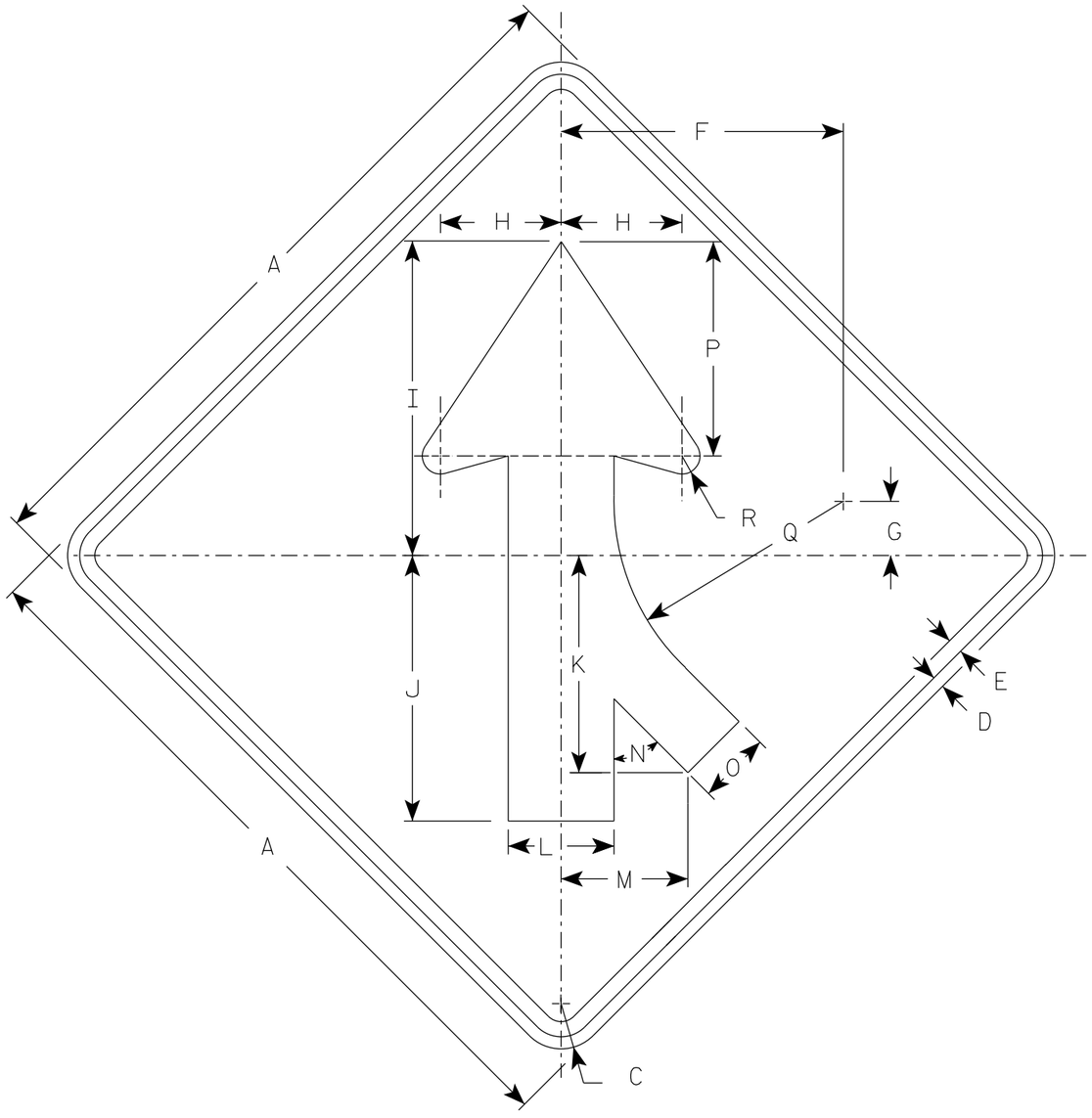
DATE 1/24/2024 PLATE NO. W03-2.2

PROJECT NO:

SHEET NO: E



FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W032.DGN
PLOT DATE : 24-JAN 2024 1:55
PLOT BY : dotc4c
WISDOT/CADDS SHEET 42




W04-1R

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. W04-1L is the same as W04-1R 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 | 14 | 2 3/4 | 6 | 15 3/4 | 13 1/4 | 10 1/4 | 5 1/4 | 6 3/8 | 45° | 3 5/8 | 10 5/8 | 11 3/8 | 7/8 | | | | | | | | | 9.0 |
| 2S | 48 | | 3 | 3/4 | 1 | 18 3/4 | 3 5/8 | 8 | 20 1/2 | 17 1/2 | 14 3/8 | 7 | 8 3/8 | 45° | 4 3/4 | 14 1/4 | 15 1/4 | 1 1/4 | | | | | | | | | 16.0 |
| 2M | 48 | | 3 | 3/4 | 1 | 18 3/4 | 3 5/8 | 8 | 20 1/2 | 17 1/2 | 14 3/8 | 7 | 8 3/8 | 45° | 4 3/4 | 14 1/4 | 15 1/4 | 1 1/4 | | | | | | | | | 16.0 |
| 3 | 48 | | 3 | 3/4 | 1 | 18 3/4 | 3 5/8 | 8 | 20 1/2 | 17 1/2 | 14 3/8 | 7 | 8 3/8 | 45° | 4 3/4 | 14 1/4 | 15 1/4 | 1 1/4 | | | | | | | | | 16.0 |
| 4 | 48 | | 3 | 3/4 | 1 | 18 3/4 | 3 5/8 | 8 | 20 1/2 | 17 1/2 | 14 3/8 | 7 | 8 3/8 | 45° | 4 3/4 | 14 1/4 | 15 1/4 | 1 1/4 | | | | | | | | | 16.0 |
| 5 | 48 | | 3 | 3/4 | 1 | 18 3/4 | 3 5/8 | 8 | 20 1/2 | 17 1/2 | 14 3/8 | 7 | 8 3/8 | 45° | 4 3/4 | 14 1/4 | 15 1/4 | 1 1/4 | | | | | | | | | 16.0 |

STANDARD SIGN

W04-1

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/25/2024 PLATE NO. W04-1.3

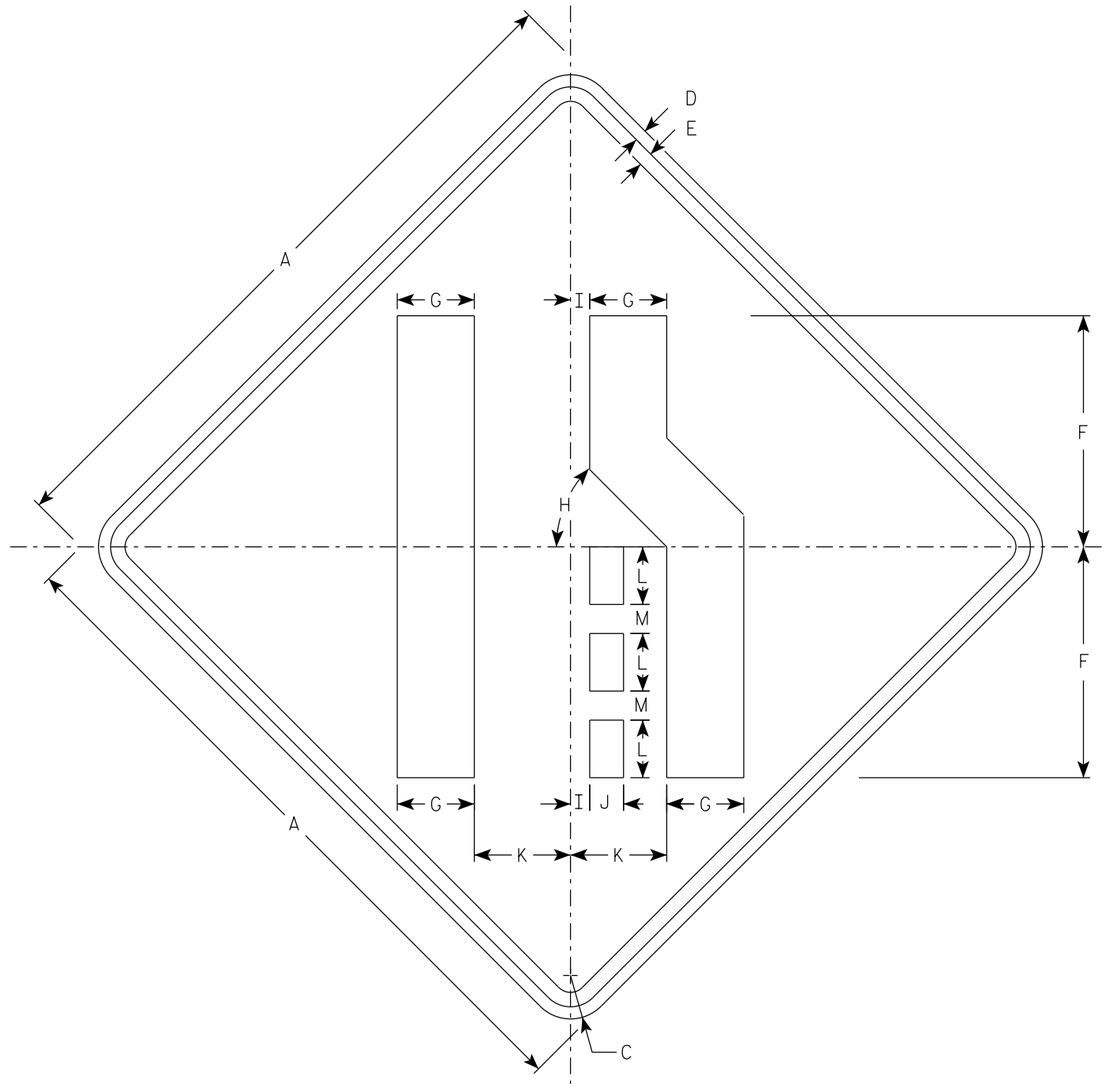
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 271 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W041.dgn PLOT DATE : 25-JAN 2024 8:20 PLOT BY : dotc4c PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

7

7




W04-2R

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. W04-2L is the same as W04-2R except the symbol 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 | 12 | 4 | 45° | 1 | 1 3/4 | 5 | 3 | 1 1/2 | | | | | | | | | | | | | | 9.0 |
| 2S | 48 | | 3 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 2M | 48 | | 3 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 3 | 48 | | 3 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 4 | 48 | | 3 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 3 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |

STANDARD SIGN
W04-2

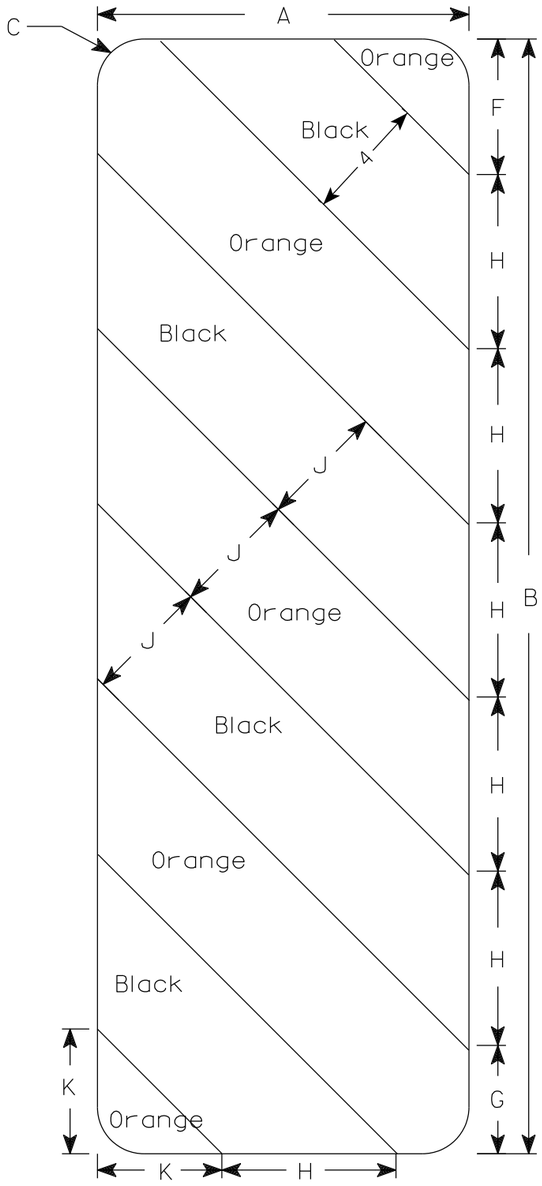
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

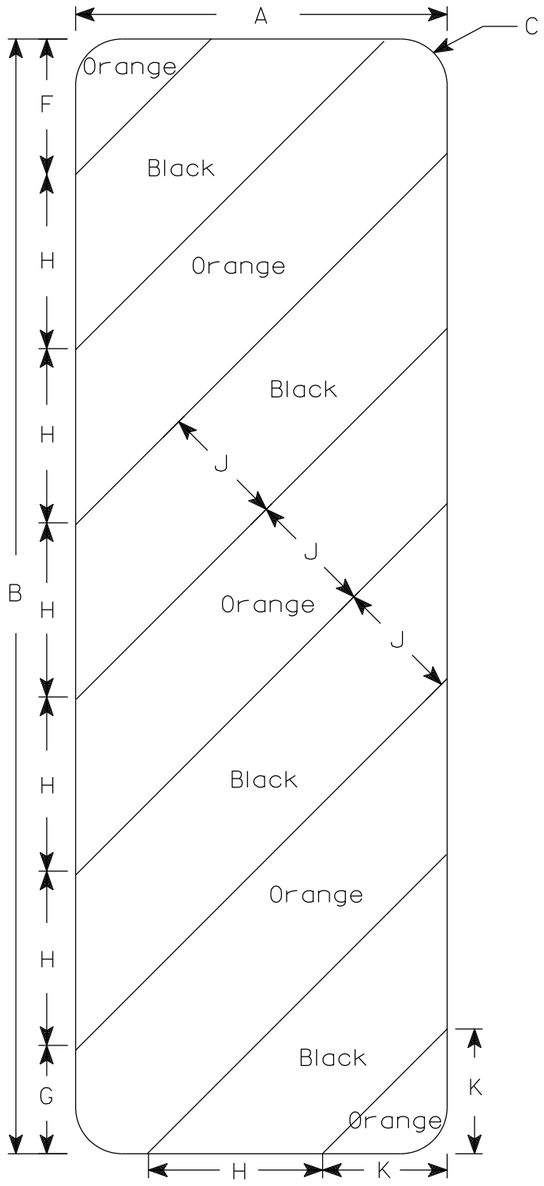
DATE 1/25/2024 PLATE NO. W04-2.2

PROJECT NO:

SHEET NO: 272 E




W05-52L




W05-52R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
4. Alternate colors of stripes as shown.

| 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 | 12 | 36 | 1 1/2 | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 2M | 12 | 36 | 1 1/2 | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 3 | 18 | 54 | 1 1/2 | | | 6 | 5 1/2 | 8 1/2 | 45° | 6 | 6 9/16 | | | | | | | | | | | | | | | | 6.75 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN

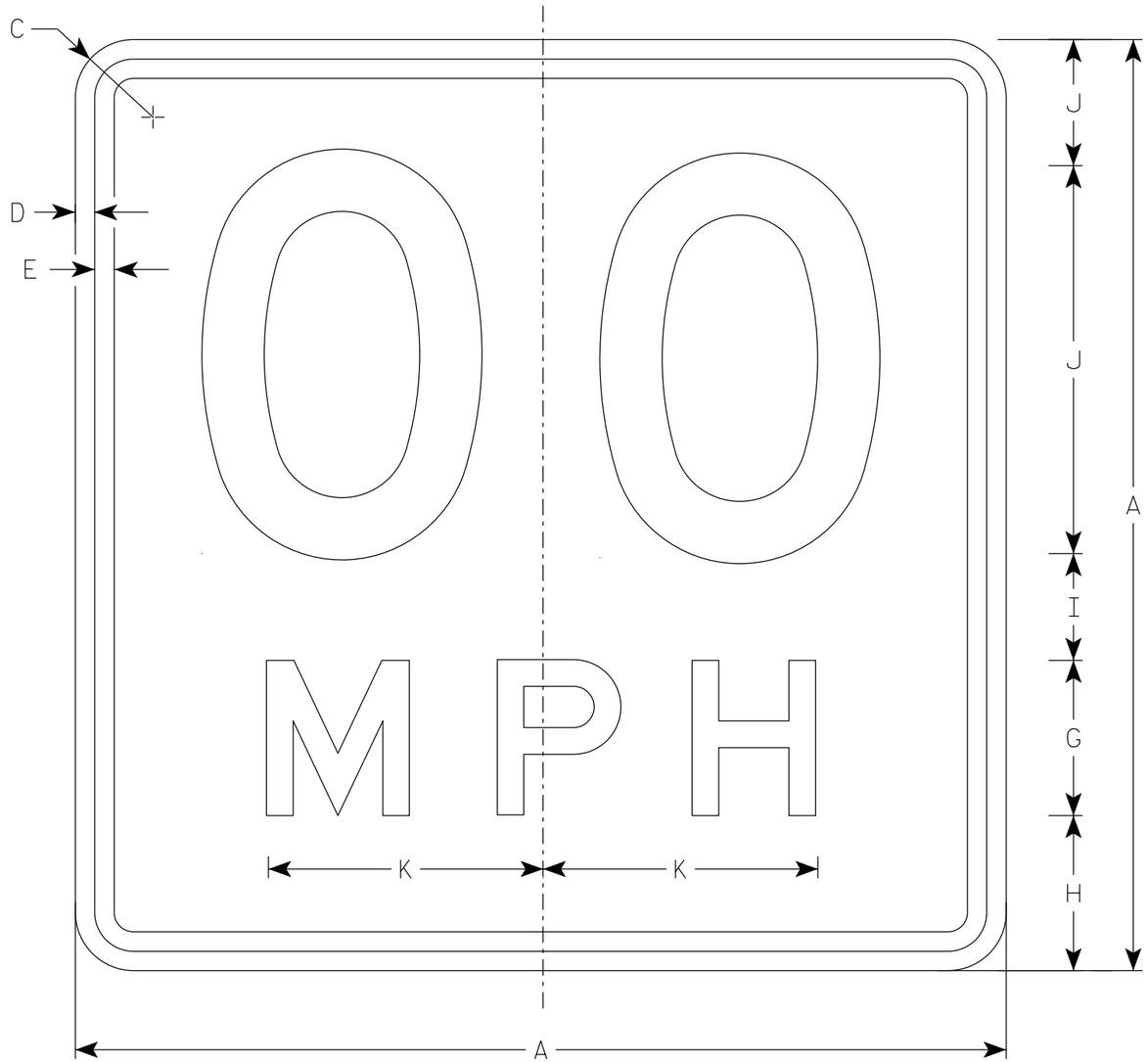
W05-52L & W05-52R

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/2024 PLATE NO. W05-52.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 273 | E




W013-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 6
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 and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

| 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 | 24 | | 1 1/2 | 3/8 | 1/2 | 10 | 4 | 4 | 2 3/4 | 3 1/4 | 7 1/8 | | | | | | | | | | | | | | | | 4.0 |
| 2S | 36 | | 2 1/4 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4 | 4 1/2 | 10 5/8 | | | | | | | | | | | | | | | | 9.0 |
| 2M | 36 | | 2 1/4 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4 | 4 1/2 | 10 5/8 | | | | | | | | | | | | | | | | 9.0 |
| 3 | 36 | | 2 1/4 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4 | 4 1/2 | 10 5/8 | | | | | | | | | | | | | | | | 9.0 |
| 4 | 36 | | 2 1/4 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4 | 4 1/2 | 10 5/8 | | | | | | | | | | | | | | | | 9.0 |
| 5 | 36 | | 2 1/4 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4 | 4 1/2 | 10 5/8 | | | | | | | | | | | | | | | | 9.0 |

STANDARD SIGN

W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W013-1.2

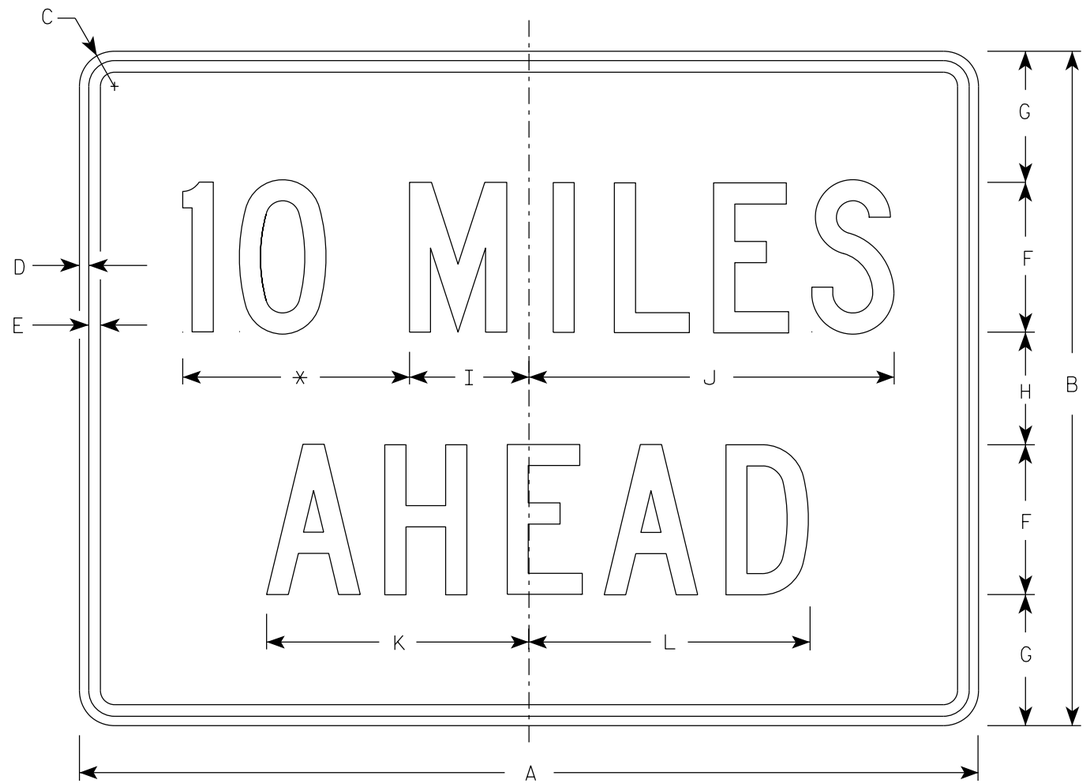
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



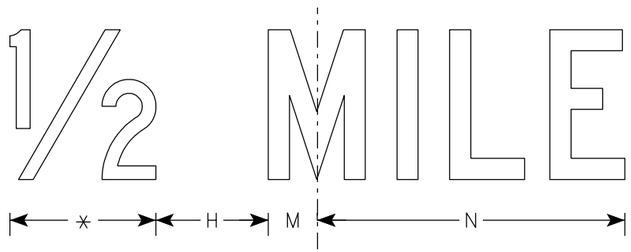
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W0131.dgn PLOT DATE : 1-FEB 2024 9:56 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7




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 |

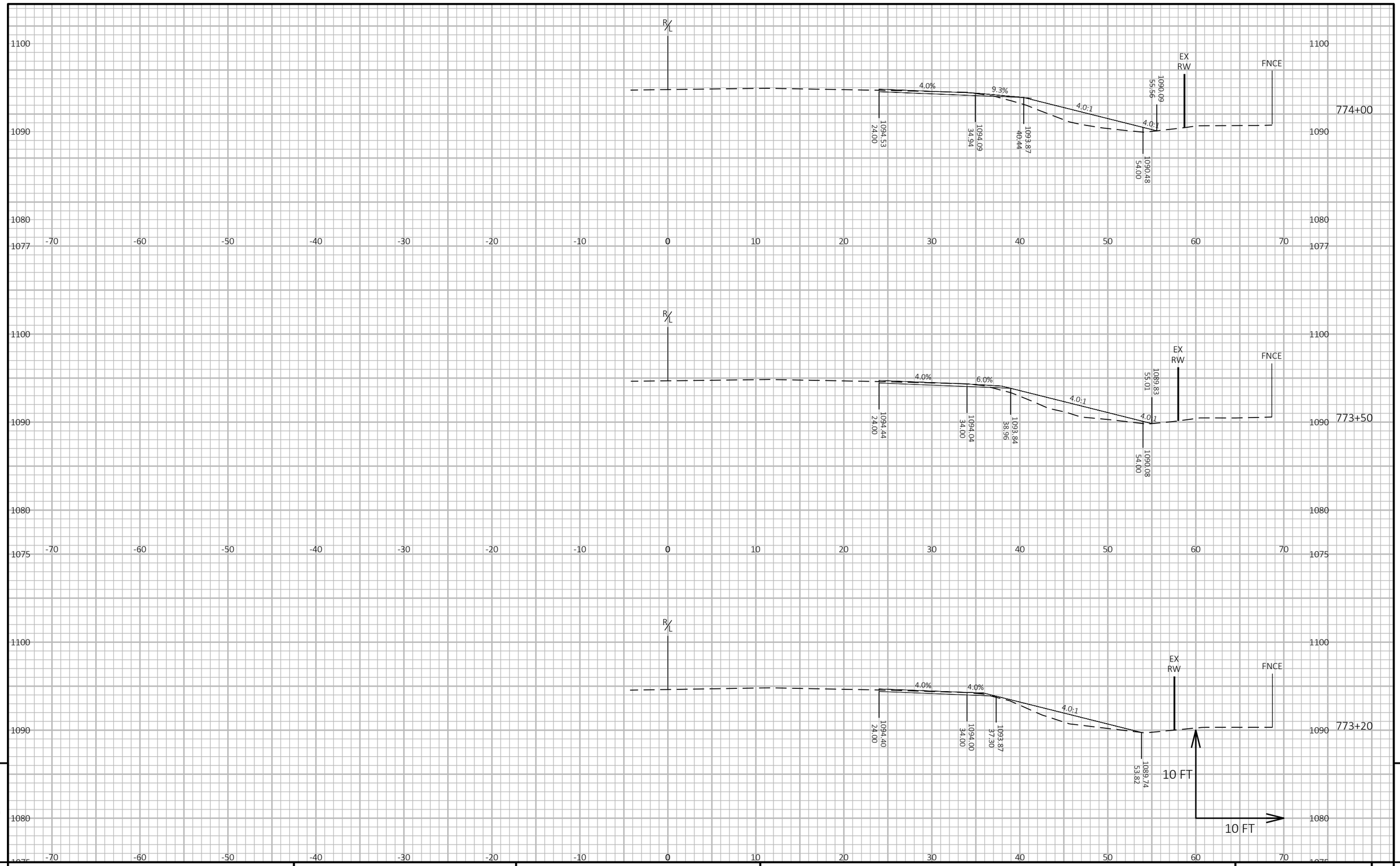
STANDARD SIGN
W057-52

*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: 275 E




9

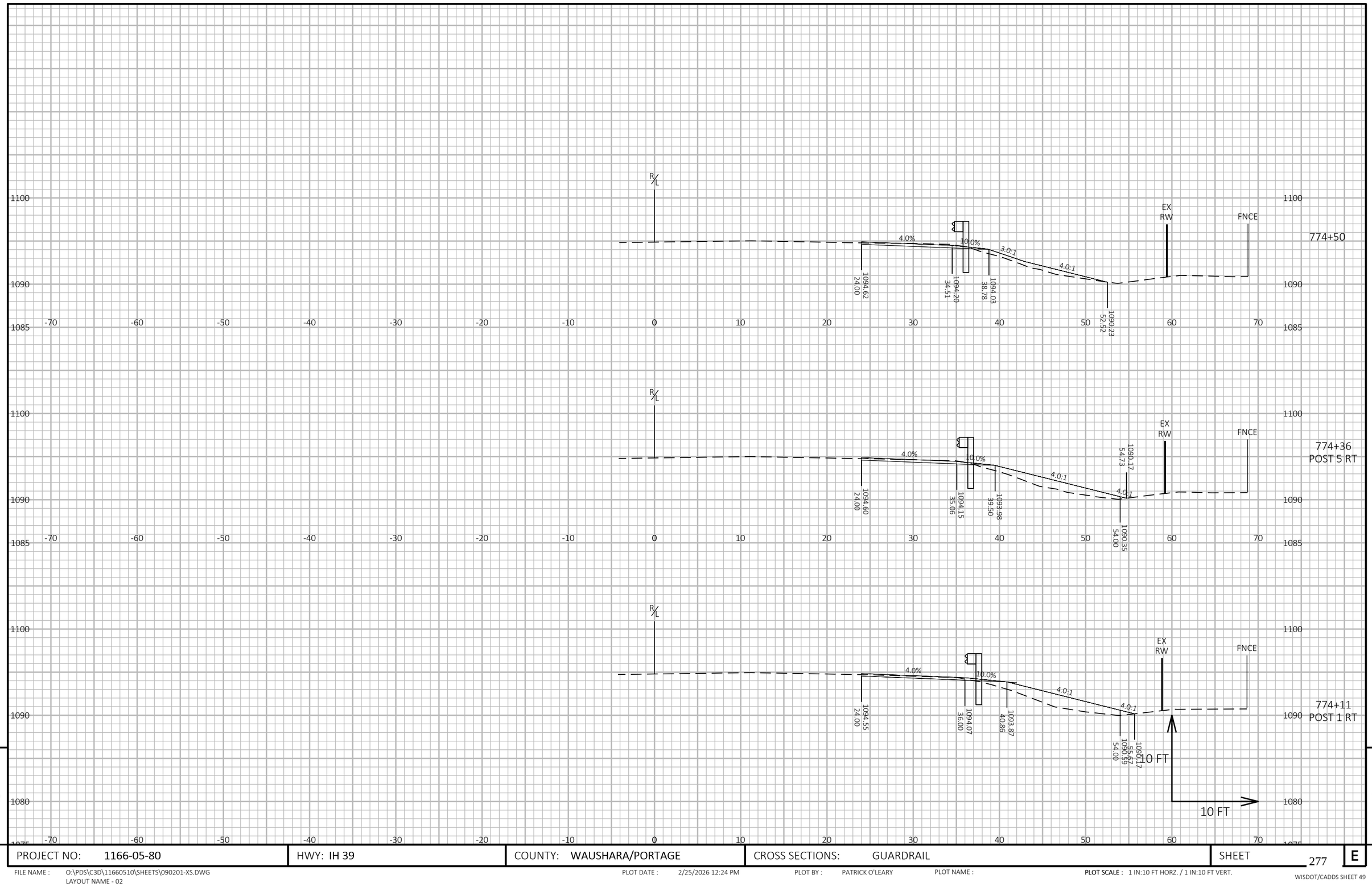
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 276 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

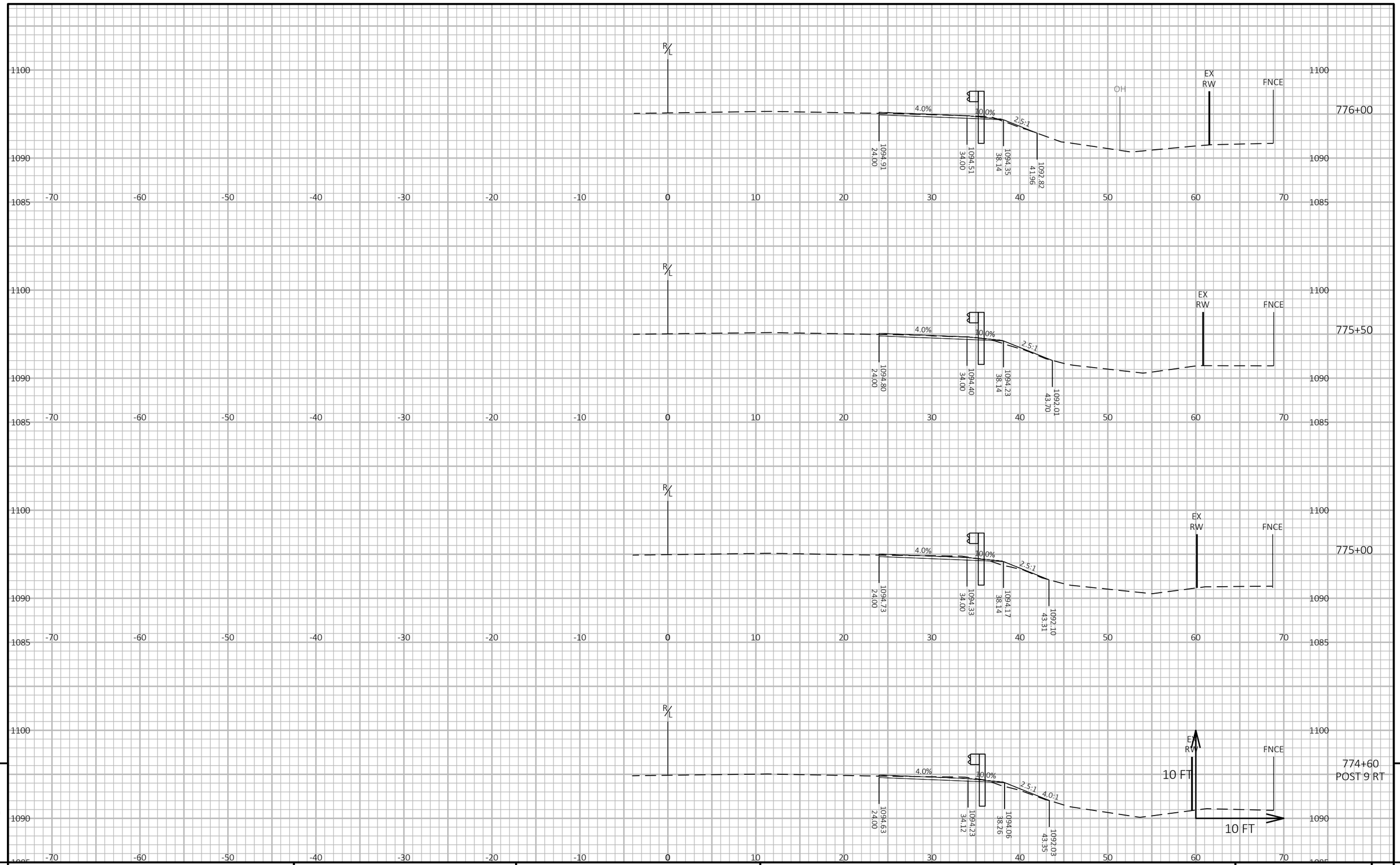
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 277 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 02

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

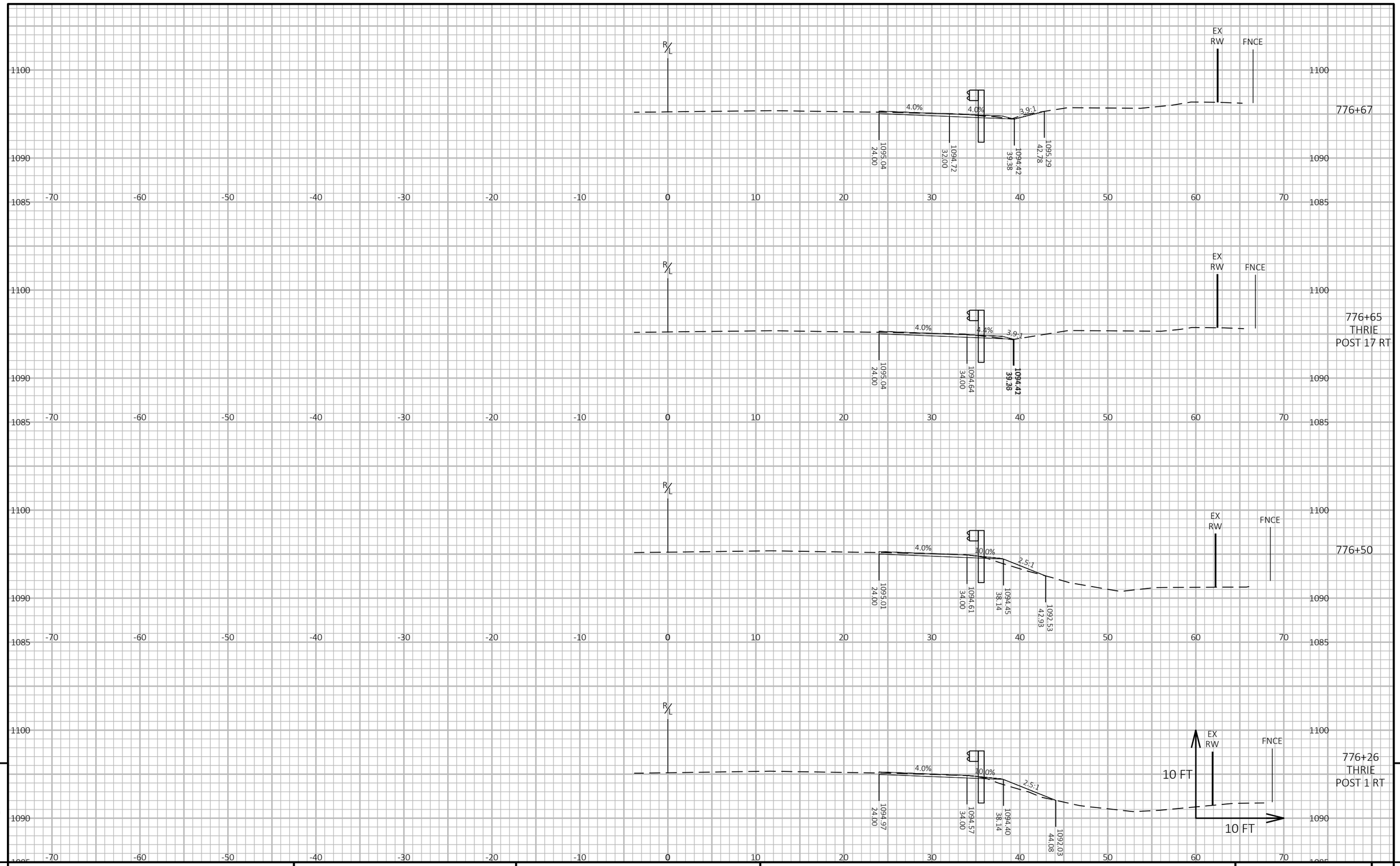
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 278 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



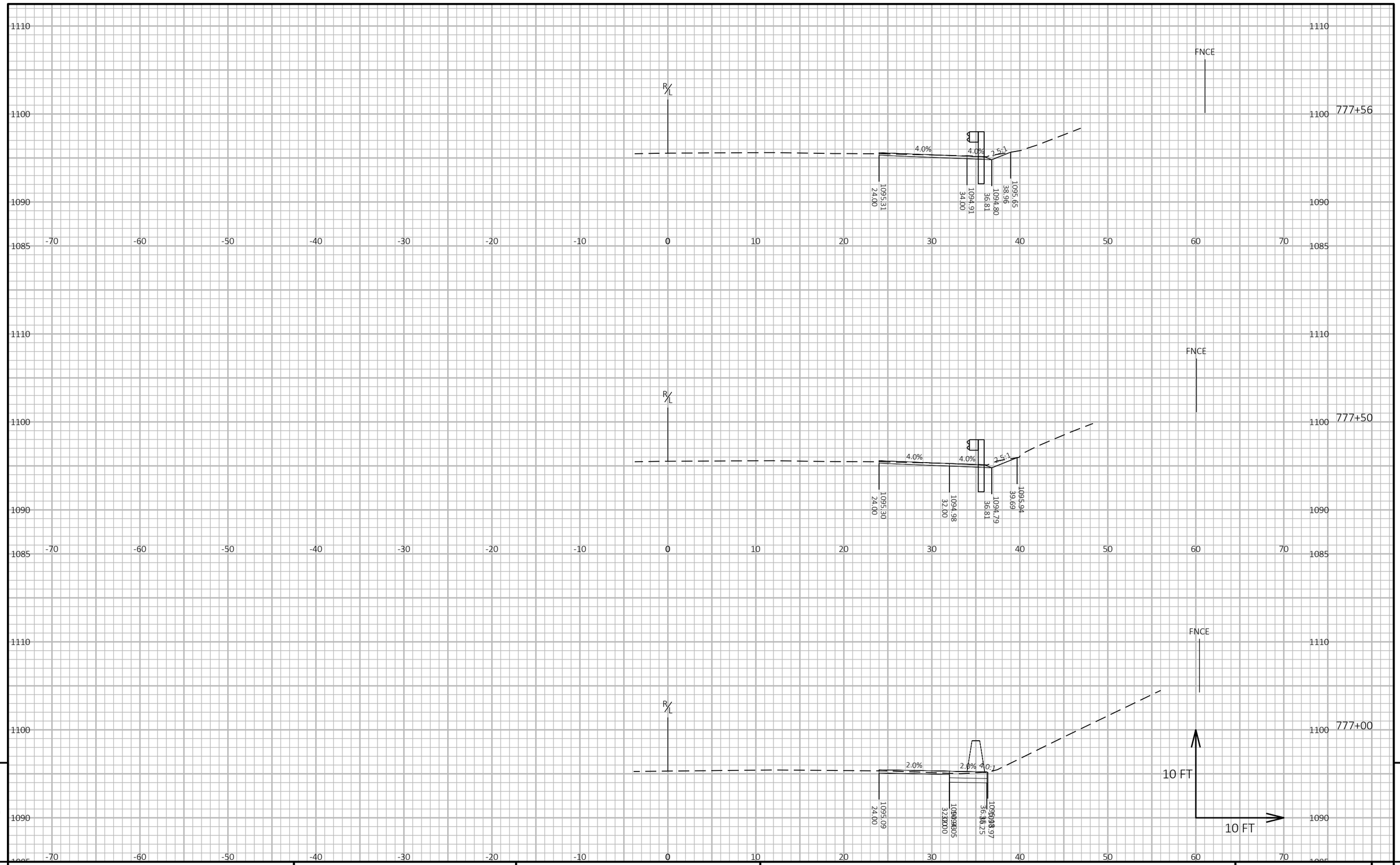

9 9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 279 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 04

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

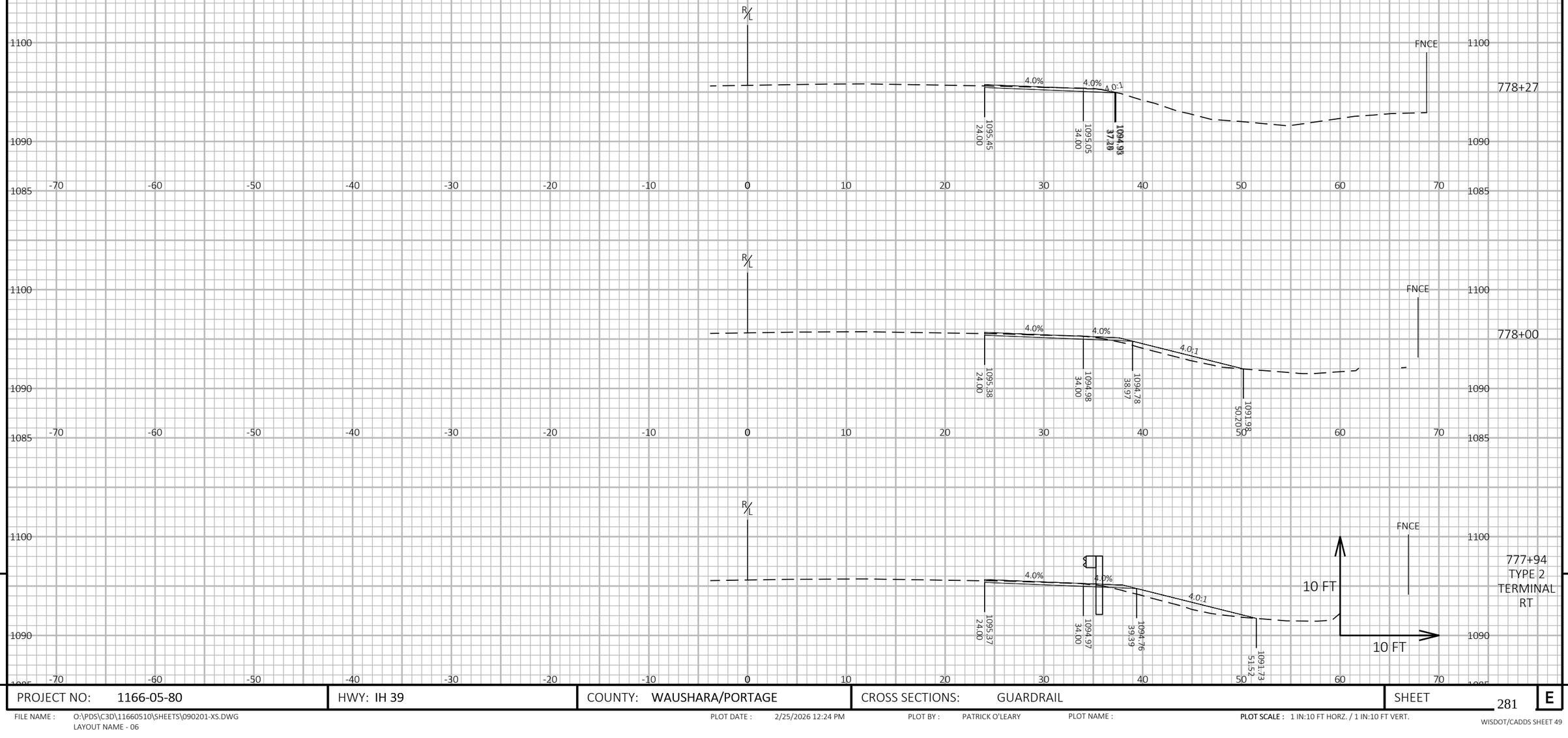
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 280 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 05

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

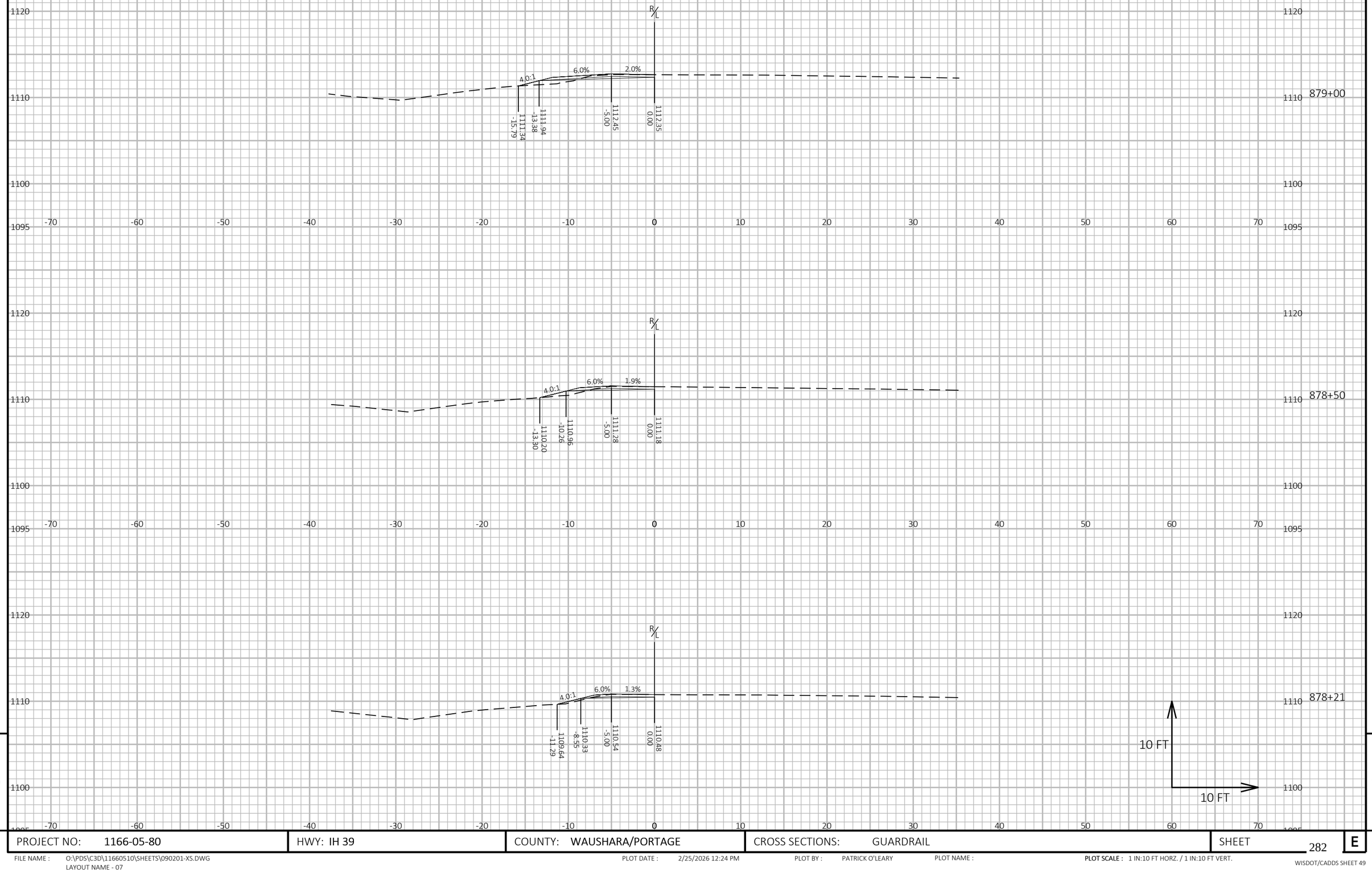
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 281 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 06

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

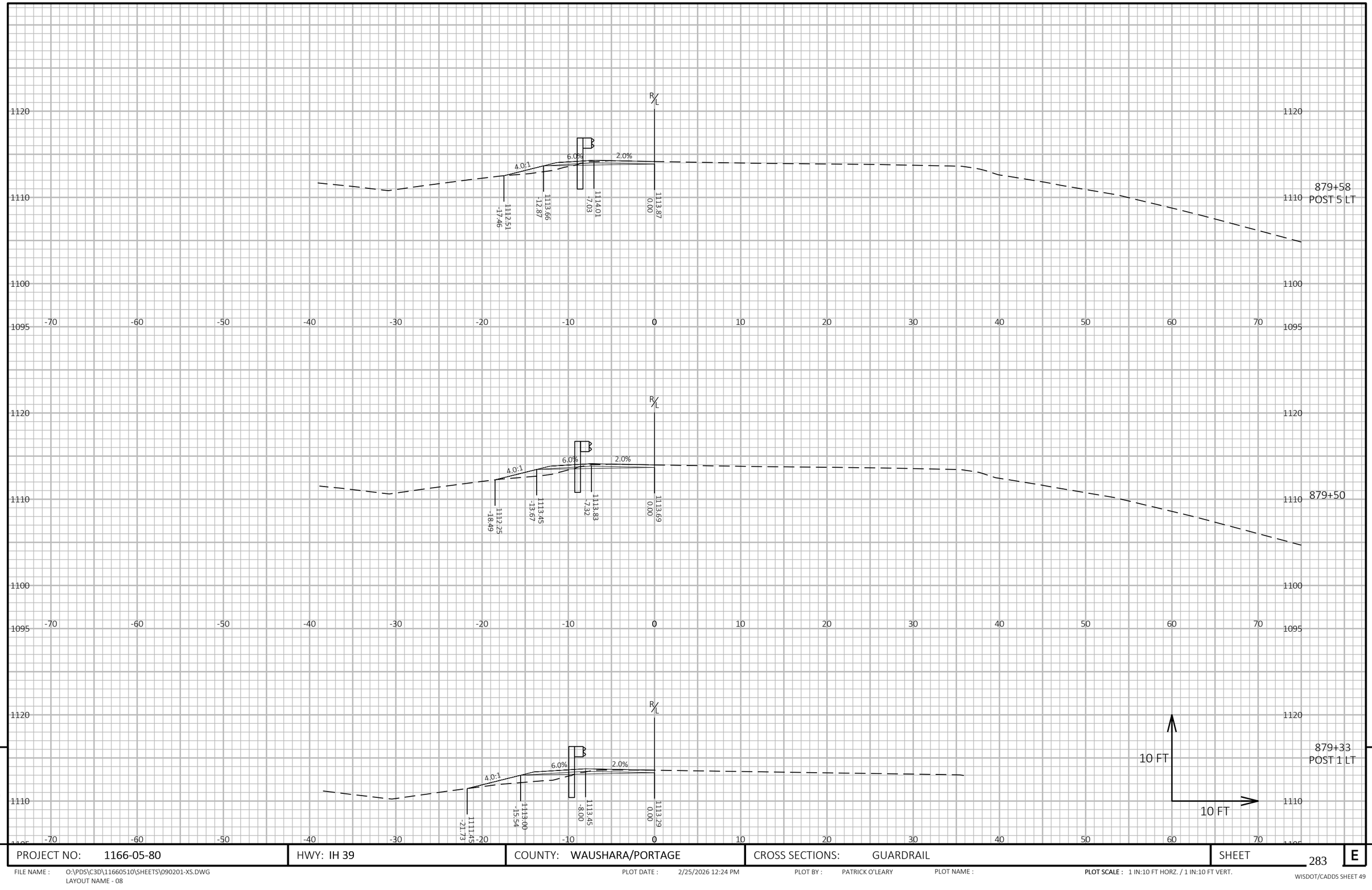
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 282 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 07

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

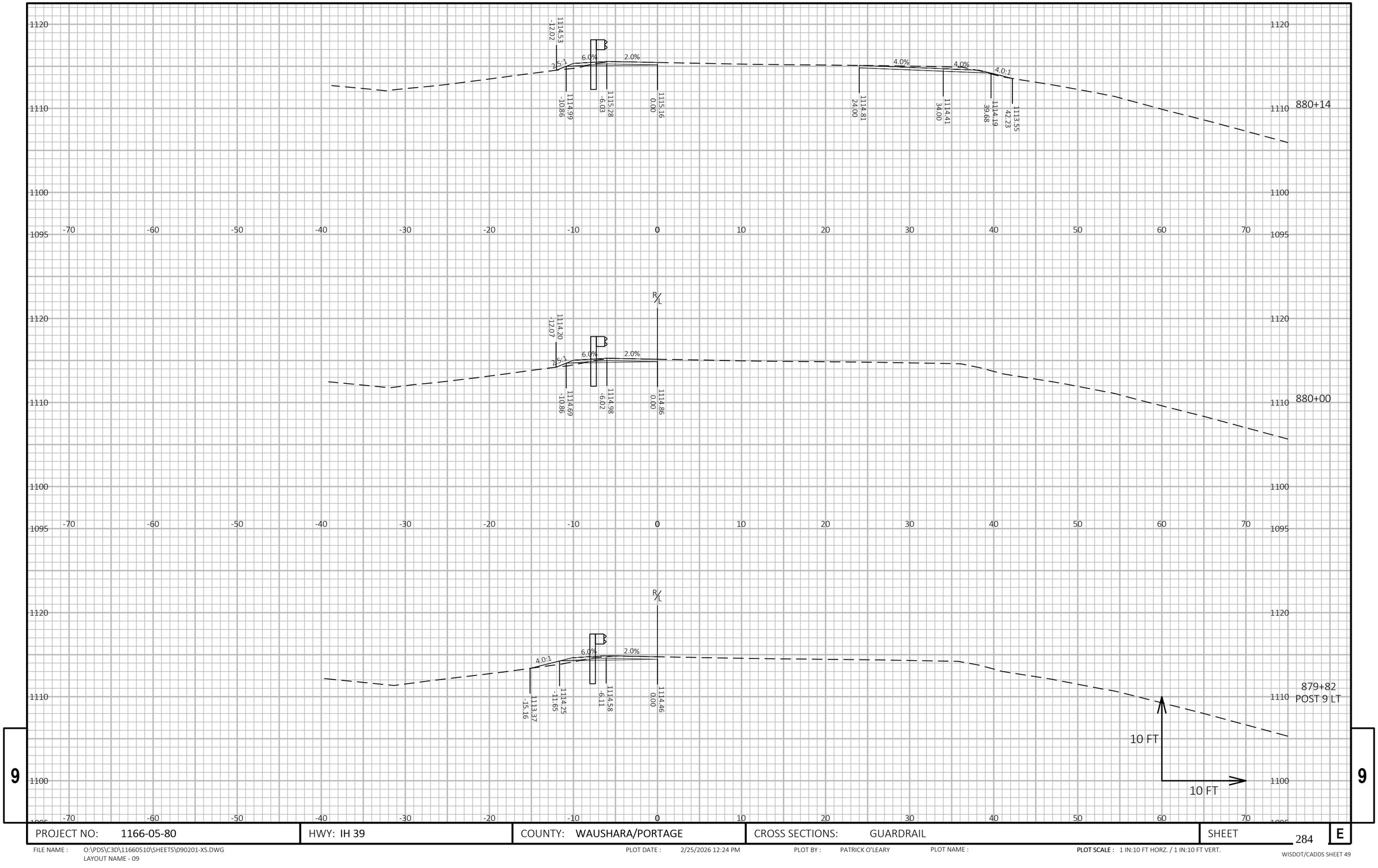
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 283 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 08

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

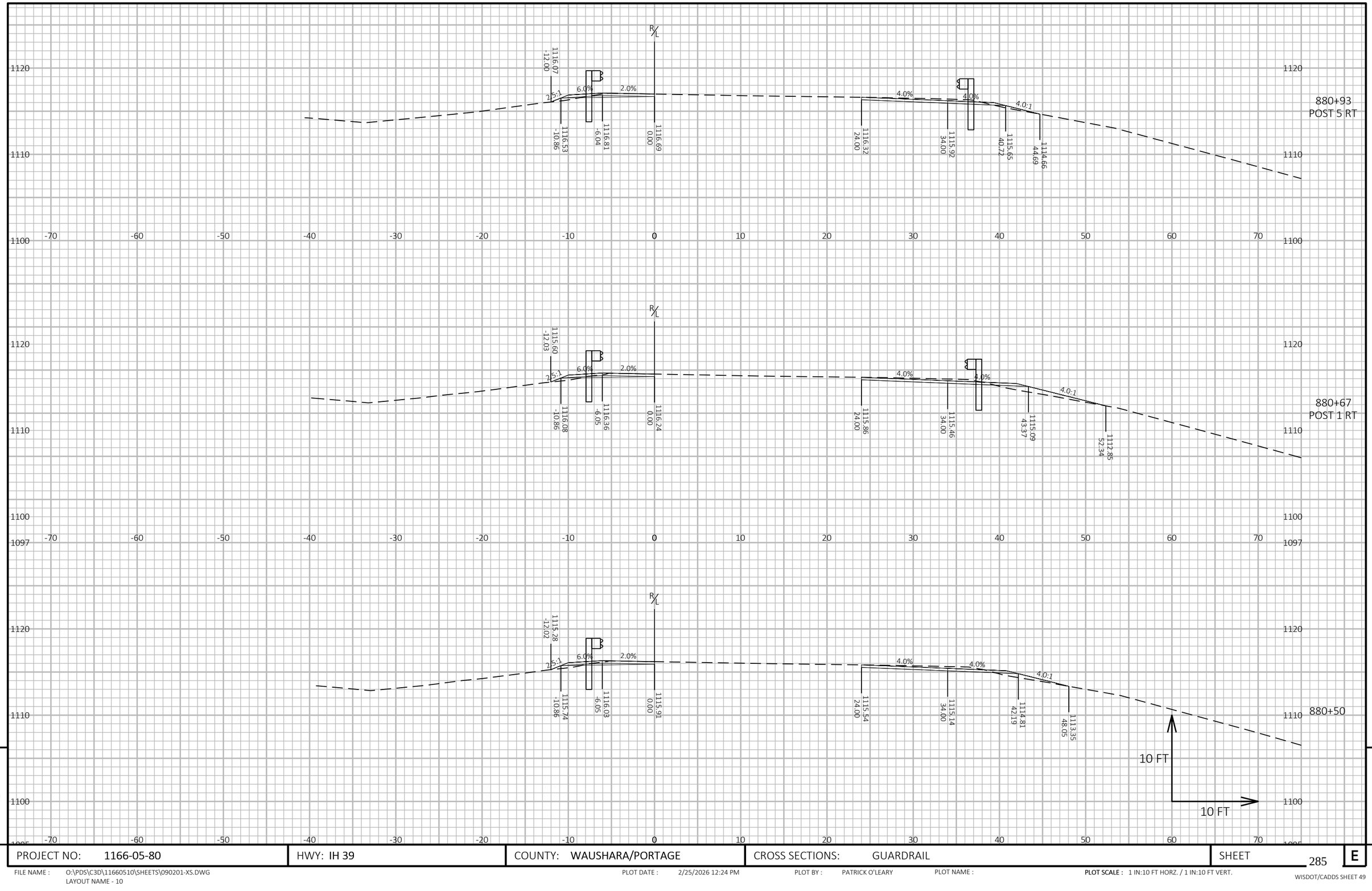
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 284 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 09

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

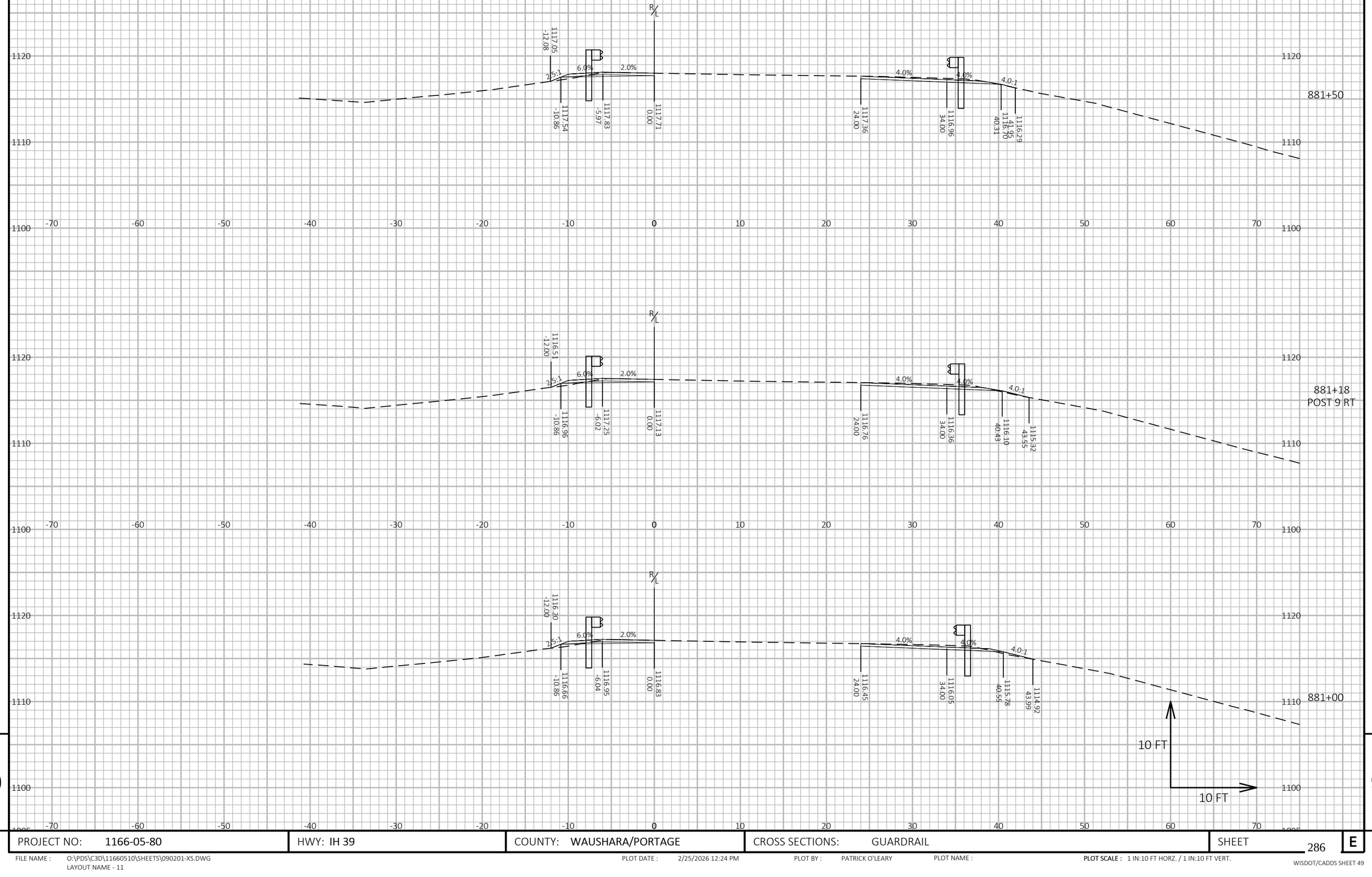
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 285 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 10

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

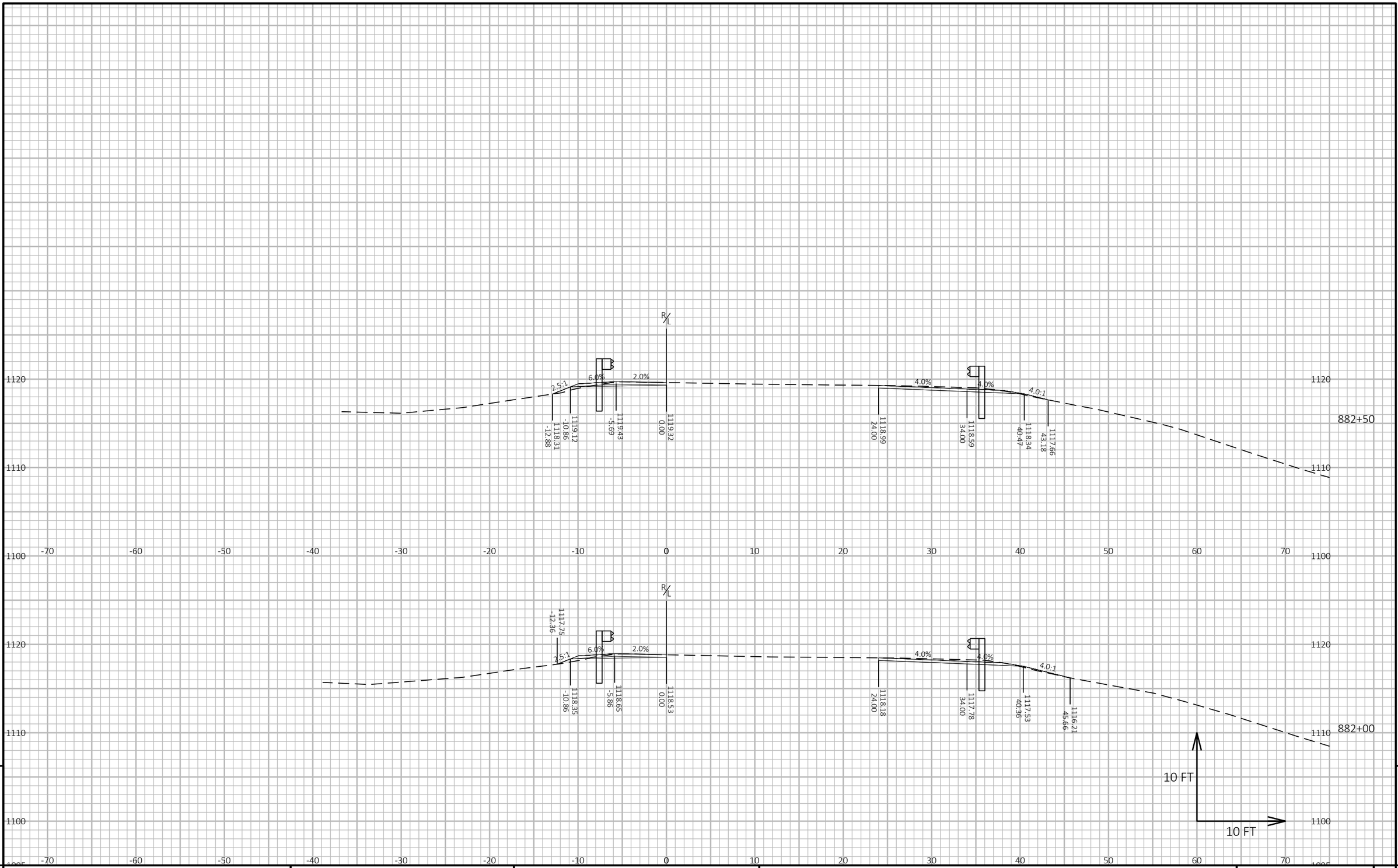
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 286 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 11

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

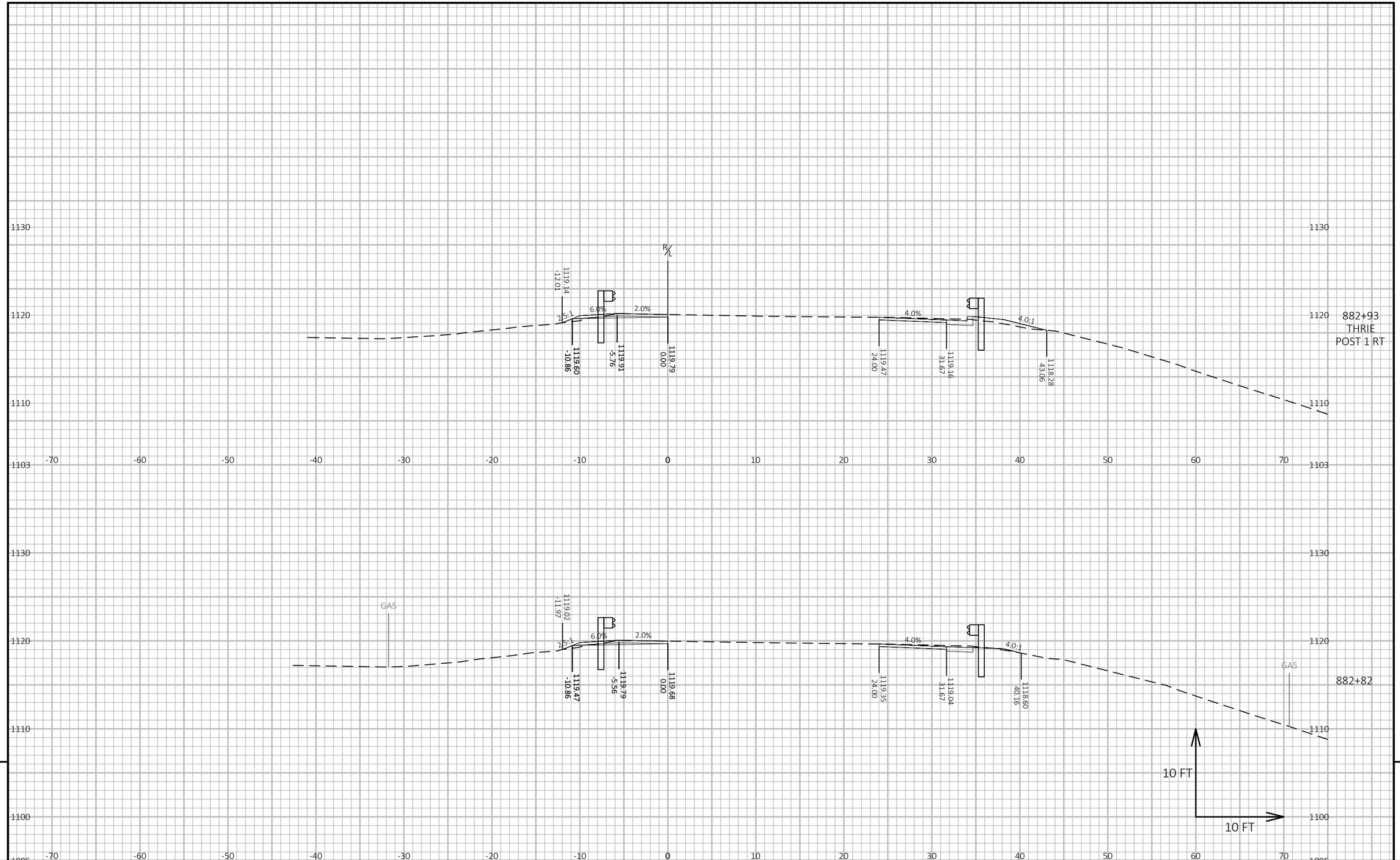
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 287 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 12

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

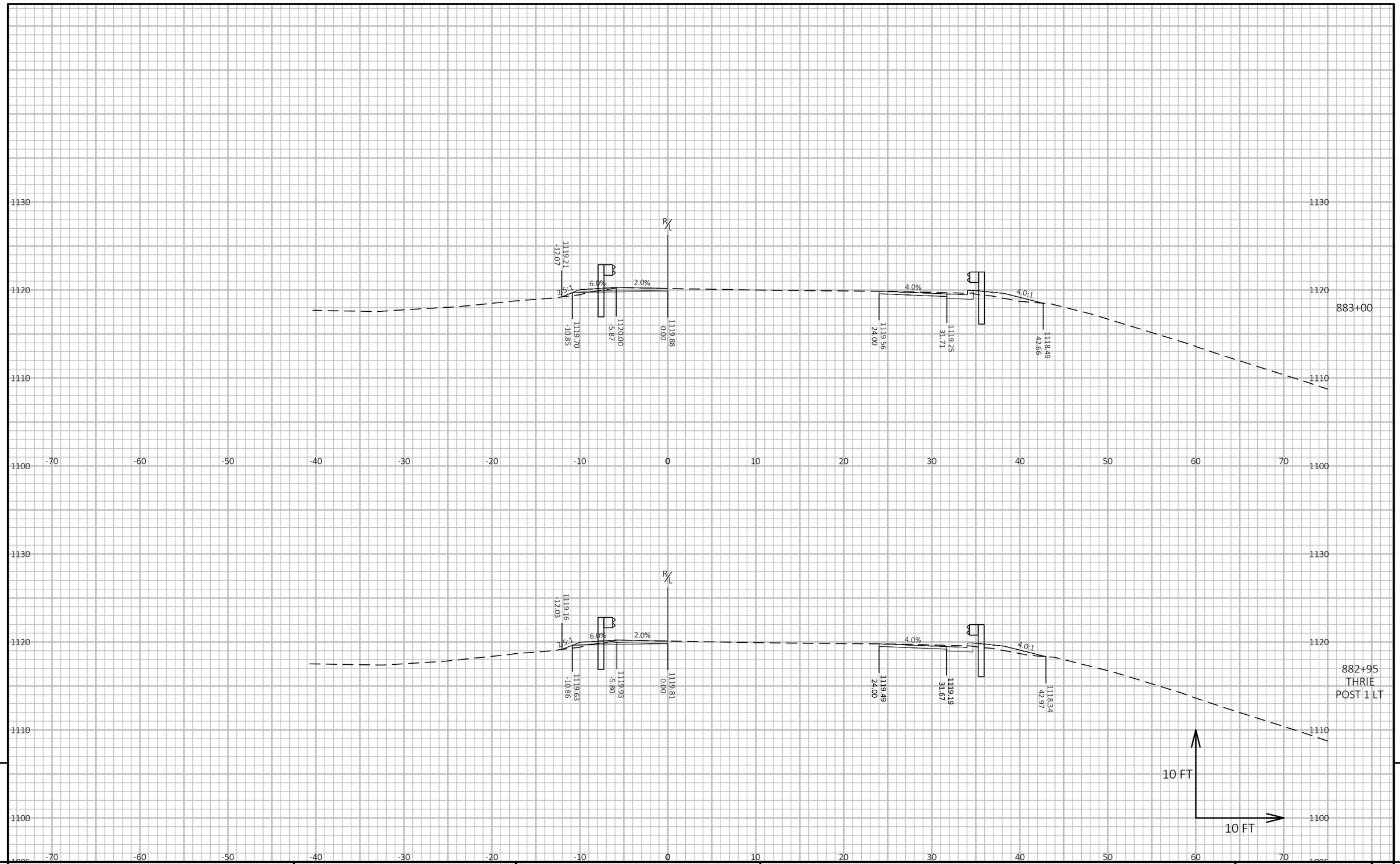
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 288 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 13

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

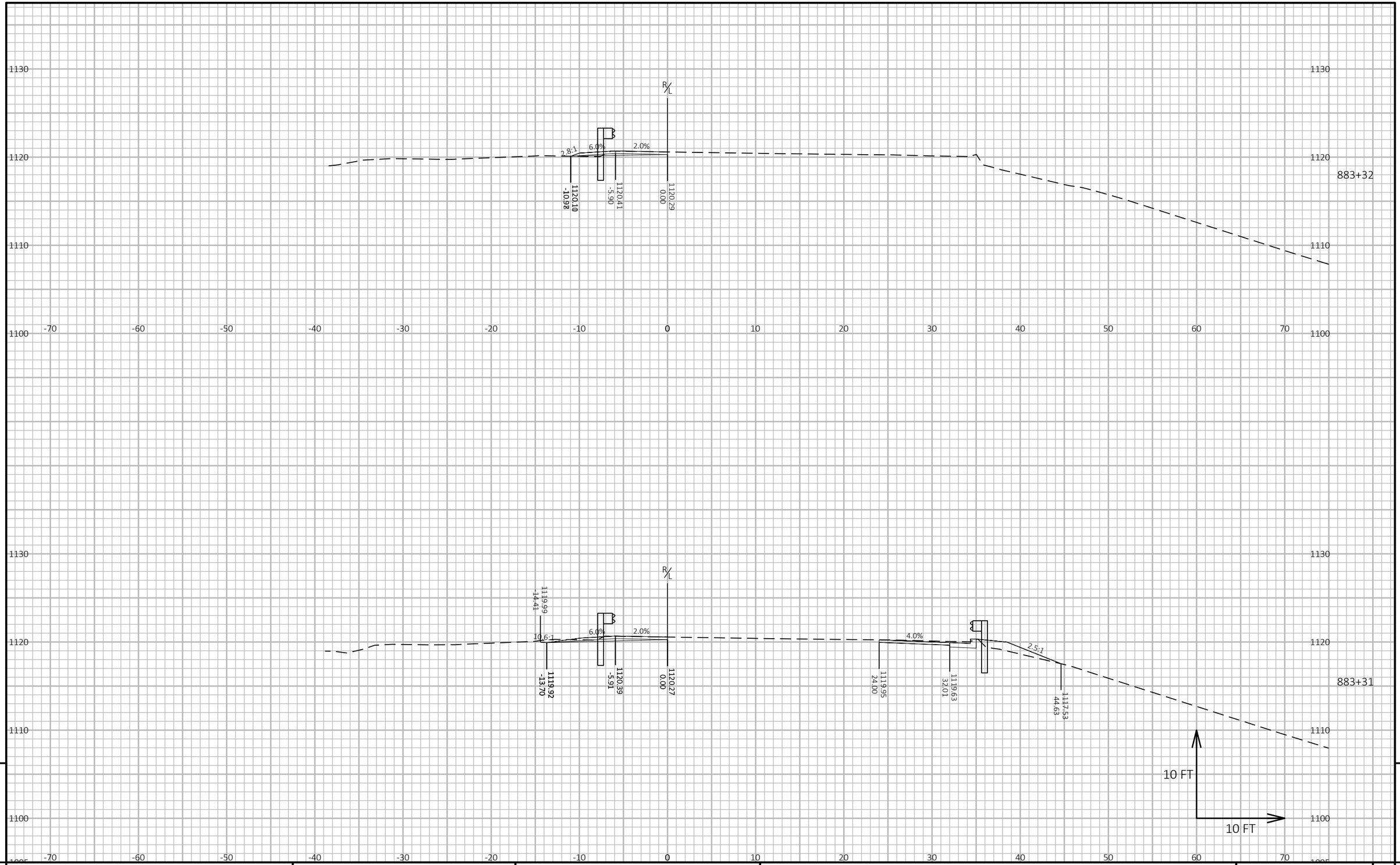
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 289 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 14

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

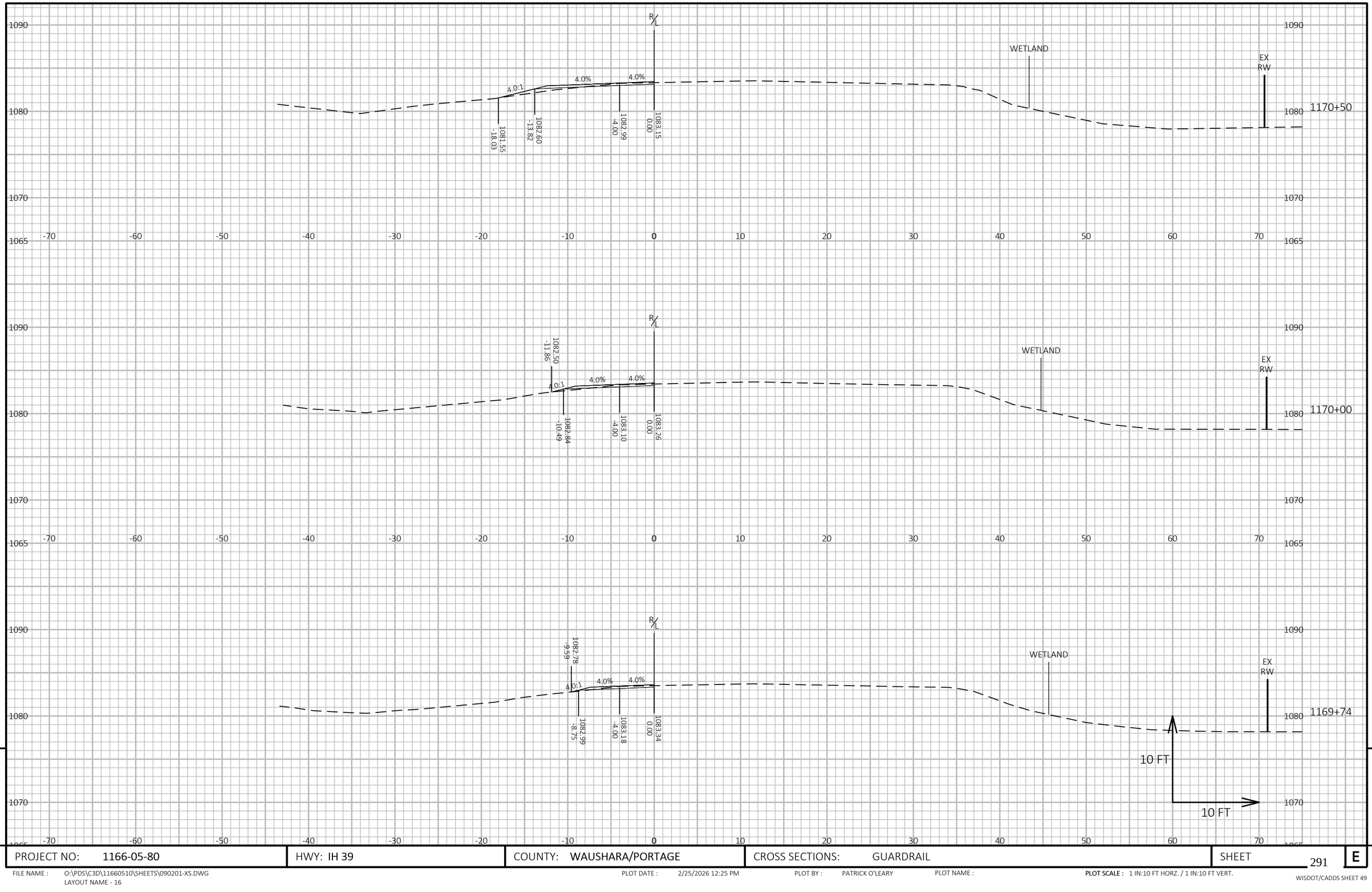
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 290 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 15

PLOT DATE : 2/25/2026 12:24 PM PLOT BY : PATRICK O'LEARY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

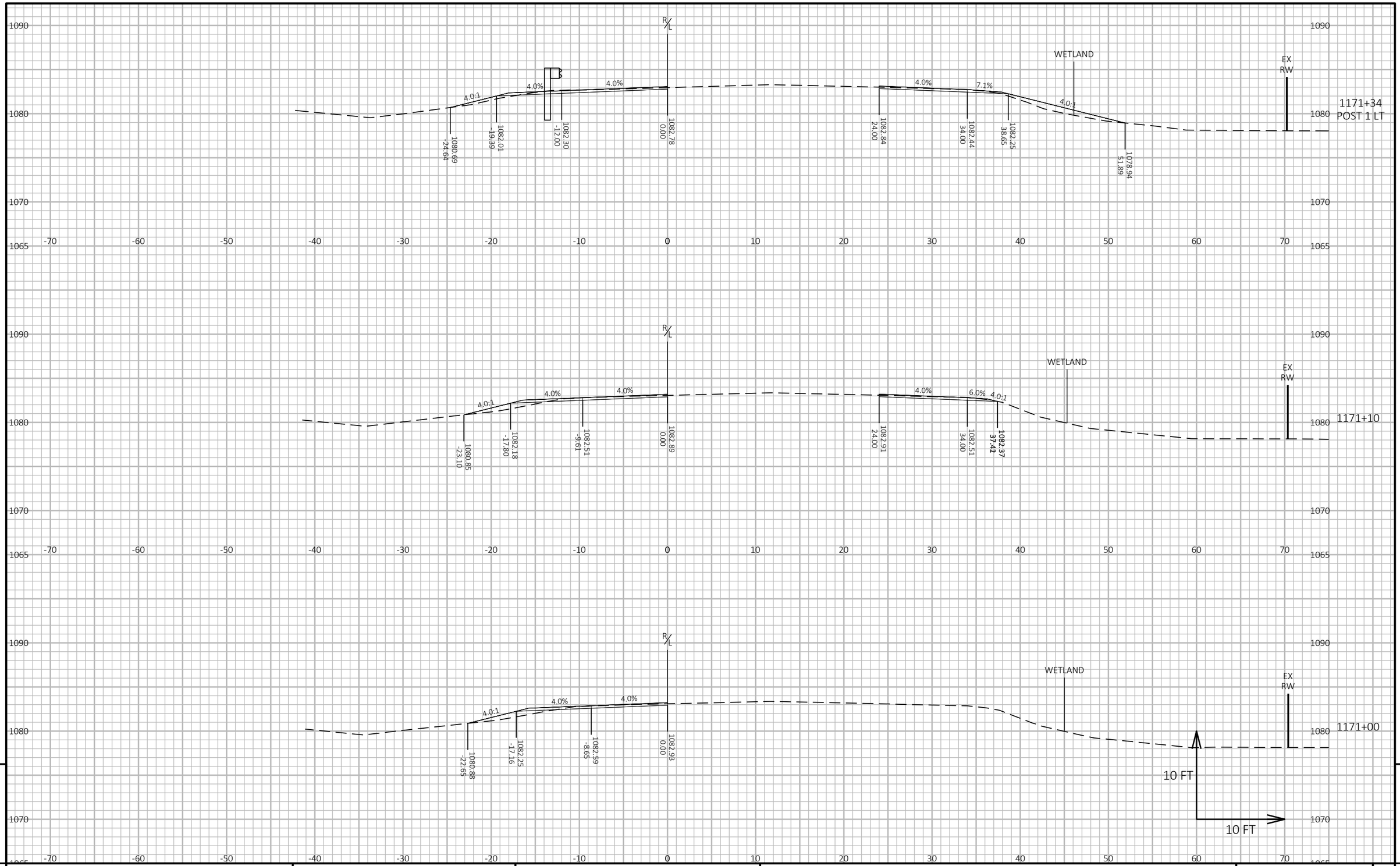



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 291 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 16

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

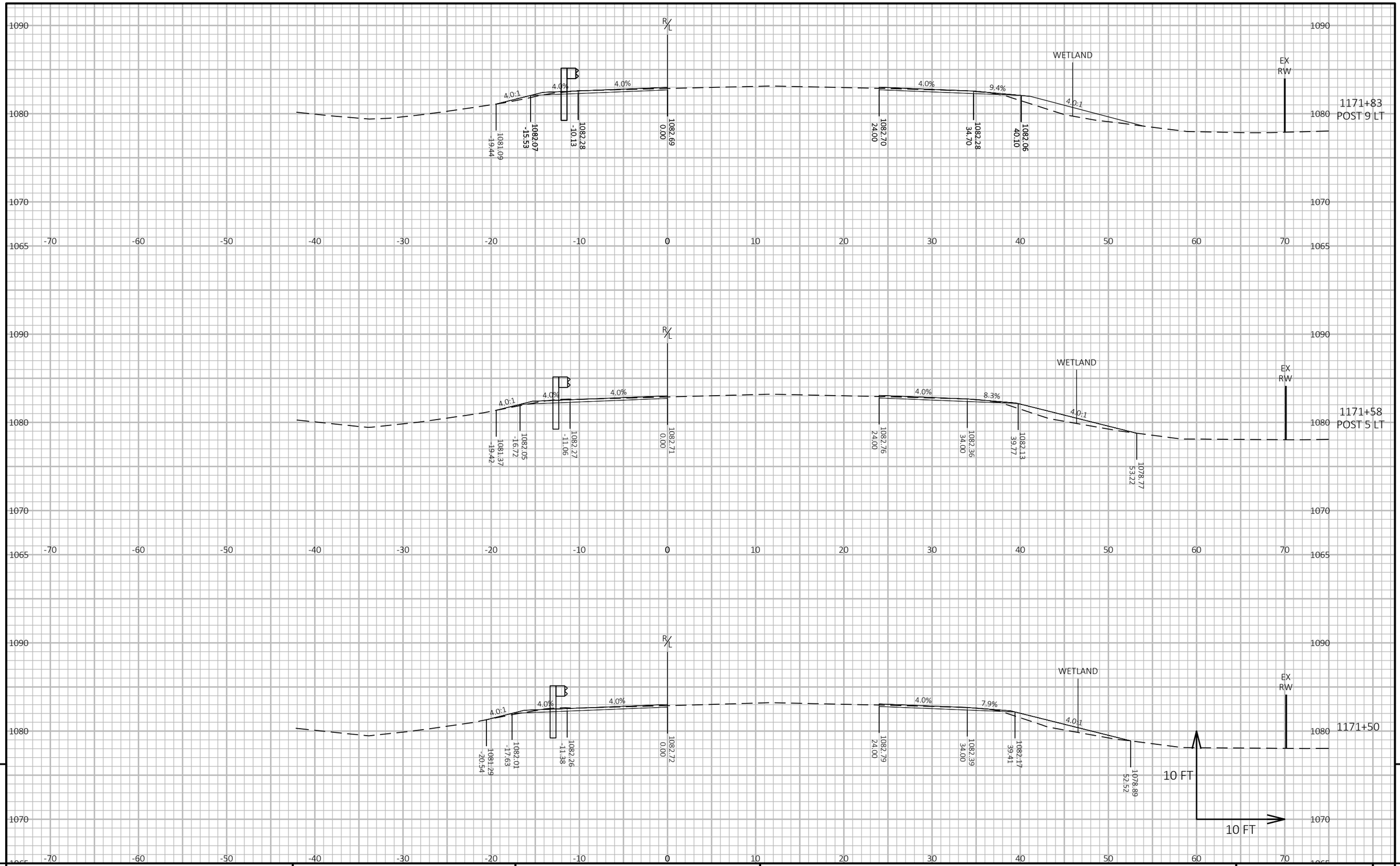
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 292 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 17

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 293 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 18

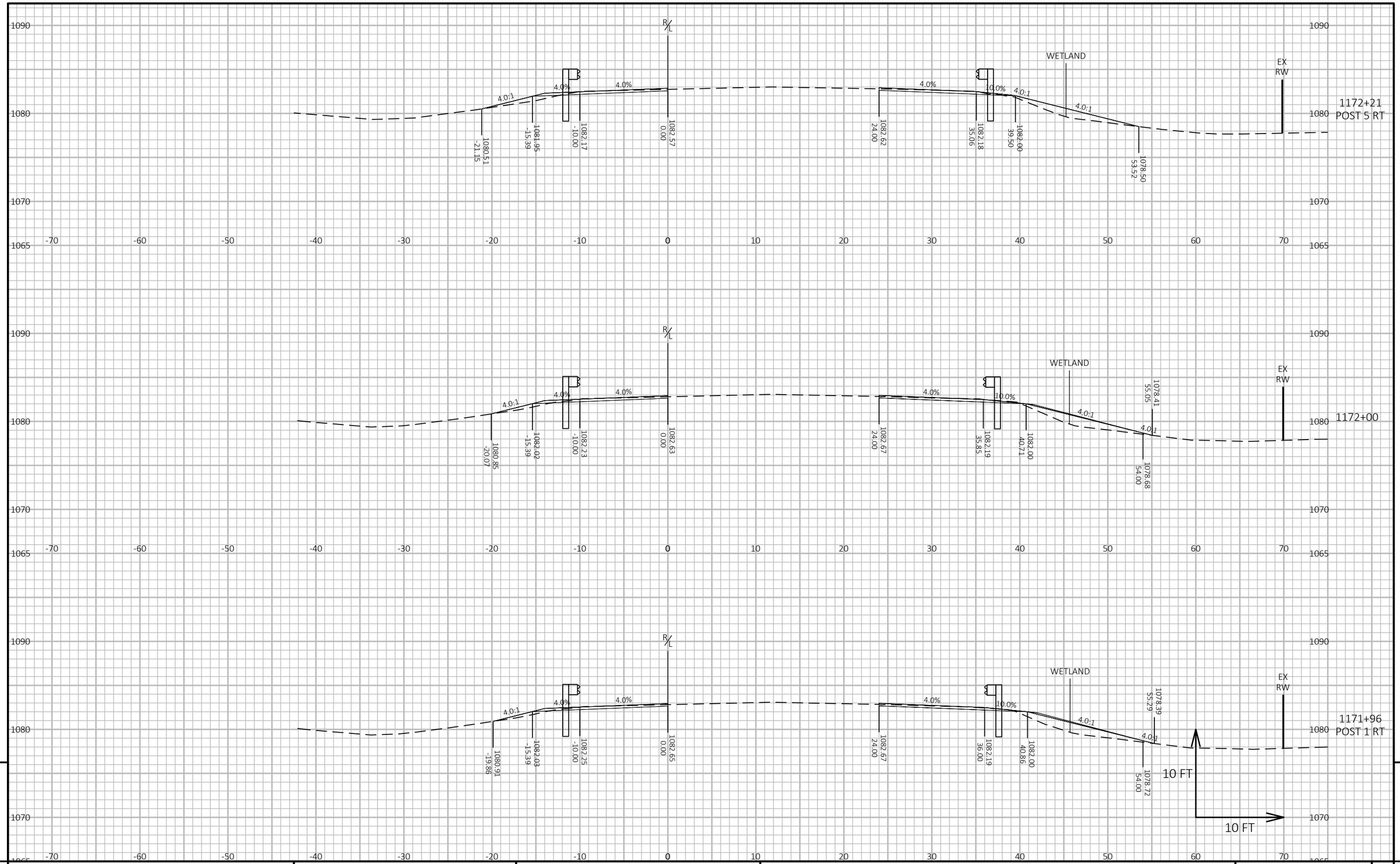
PLOT DATE : 2/25/2026 12:25 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

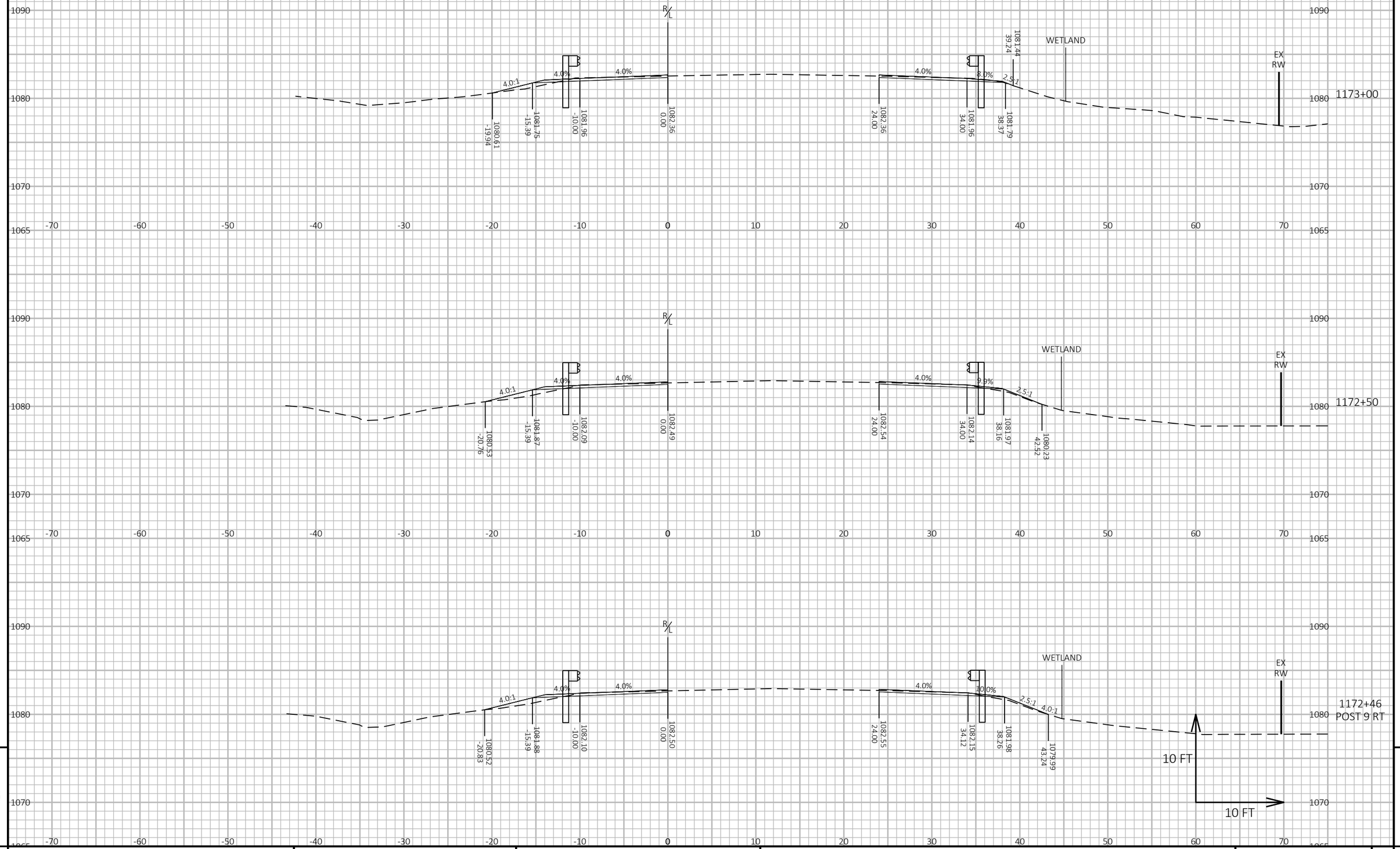
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 294 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 19

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

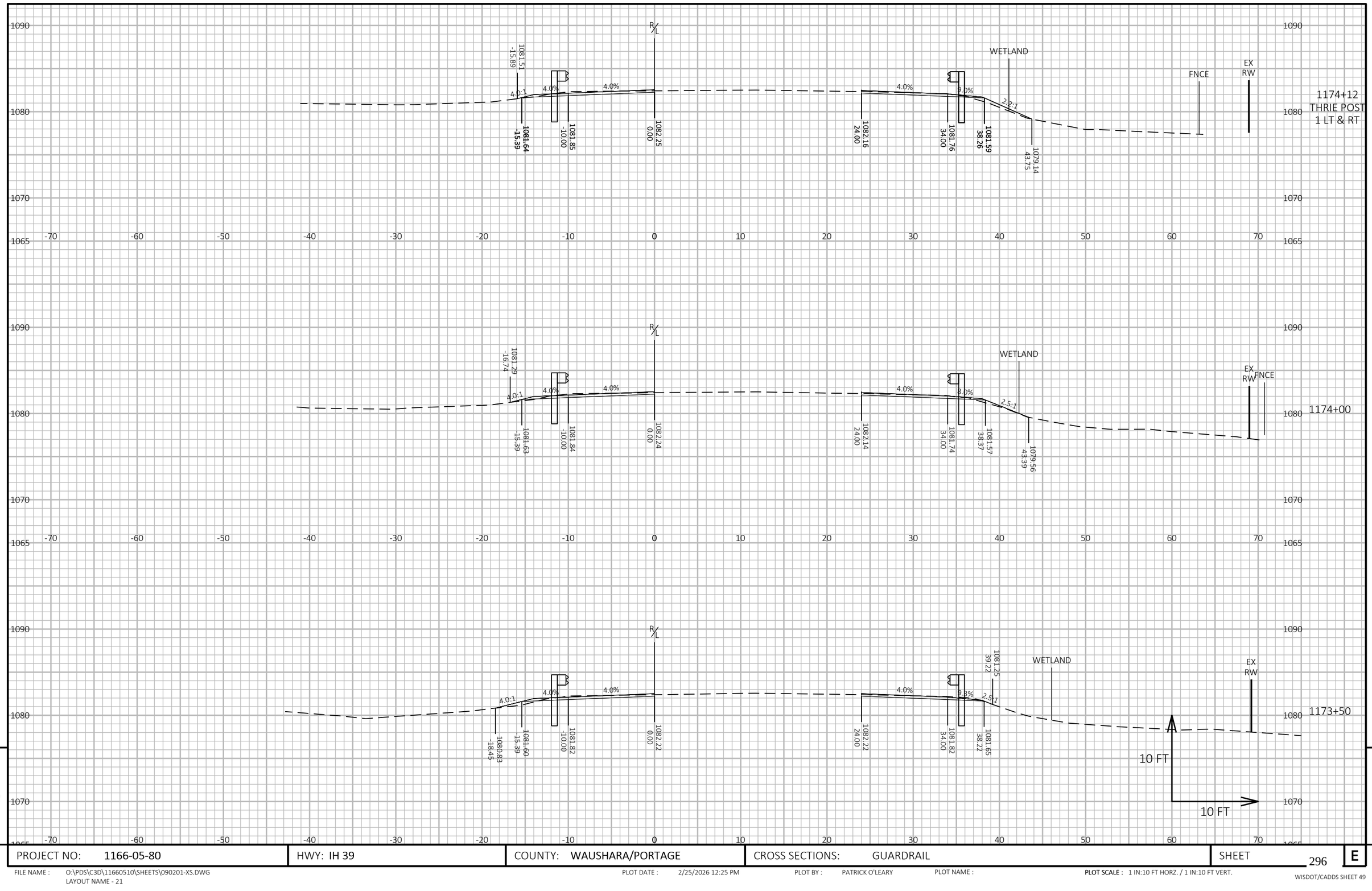



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 295 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 20

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

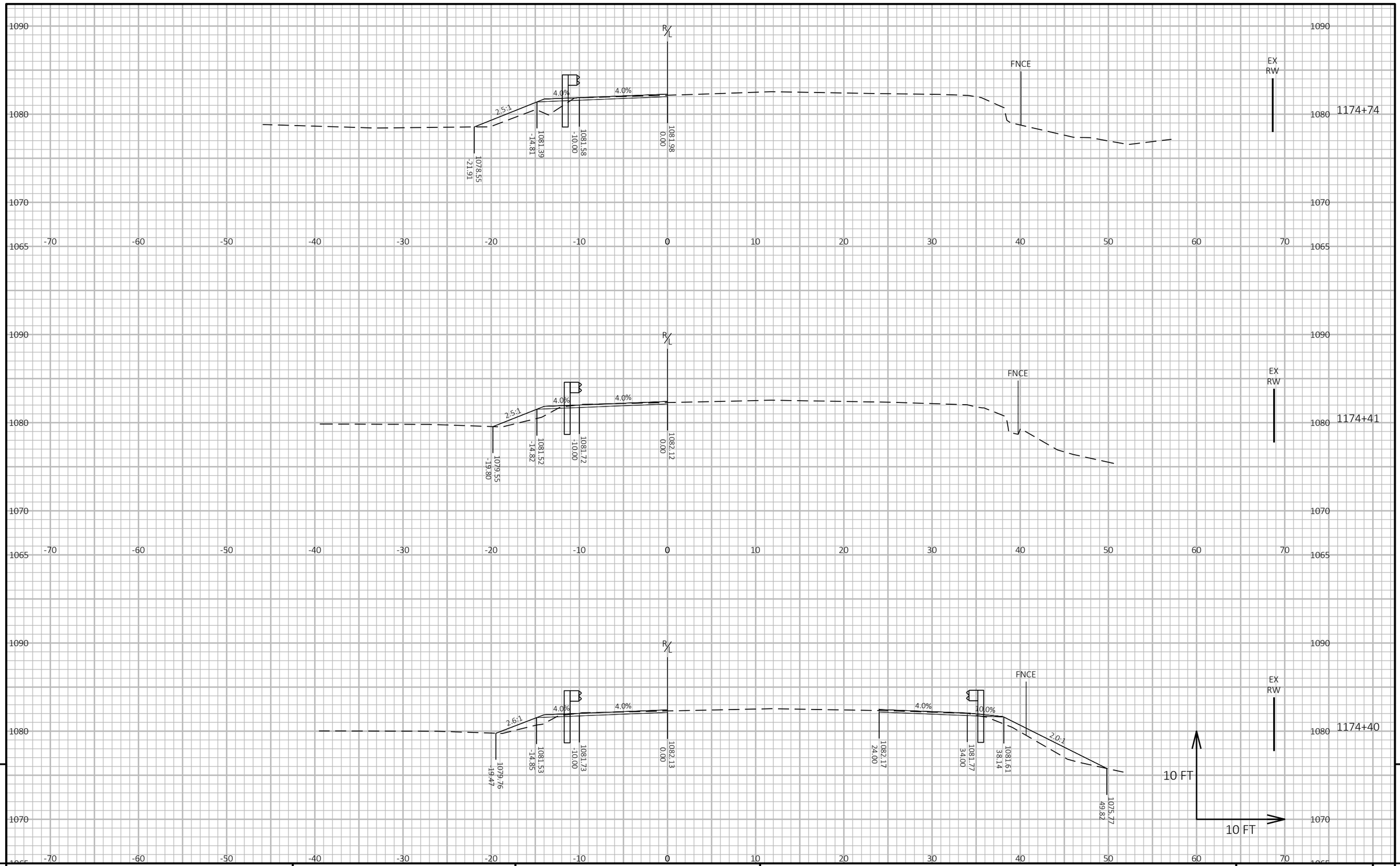
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 296 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 21

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

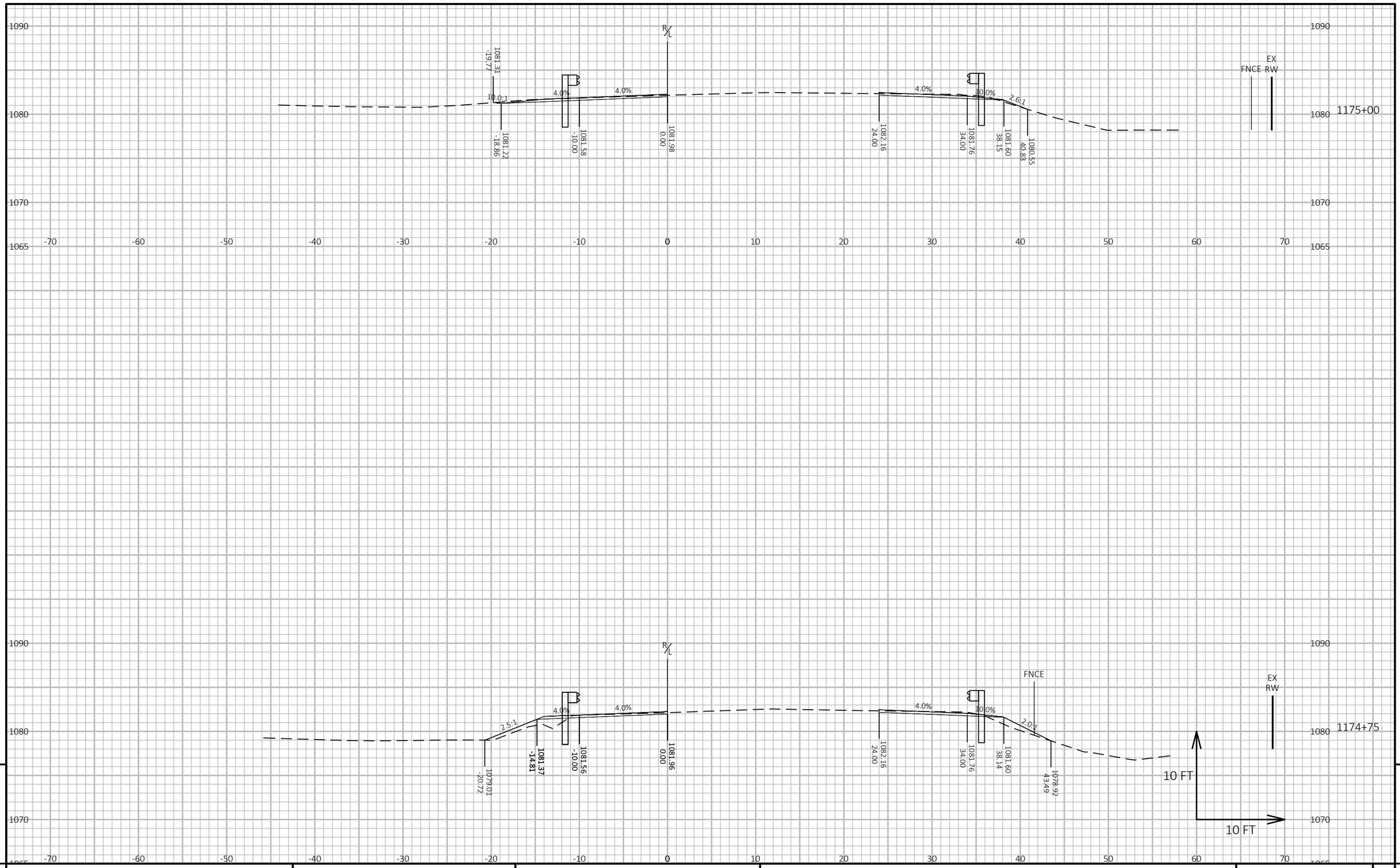
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 297 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 22

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

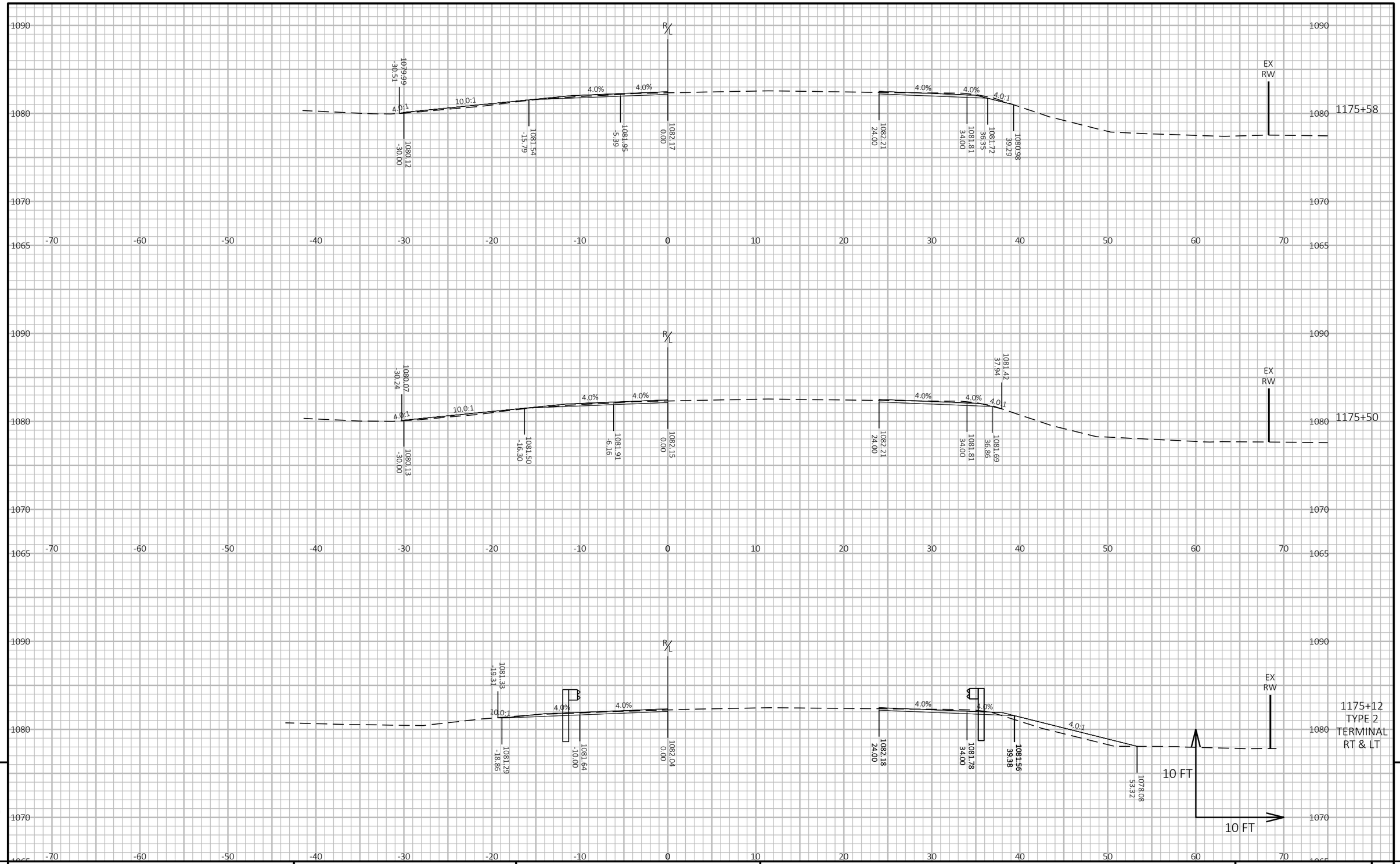
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 298 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 23

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

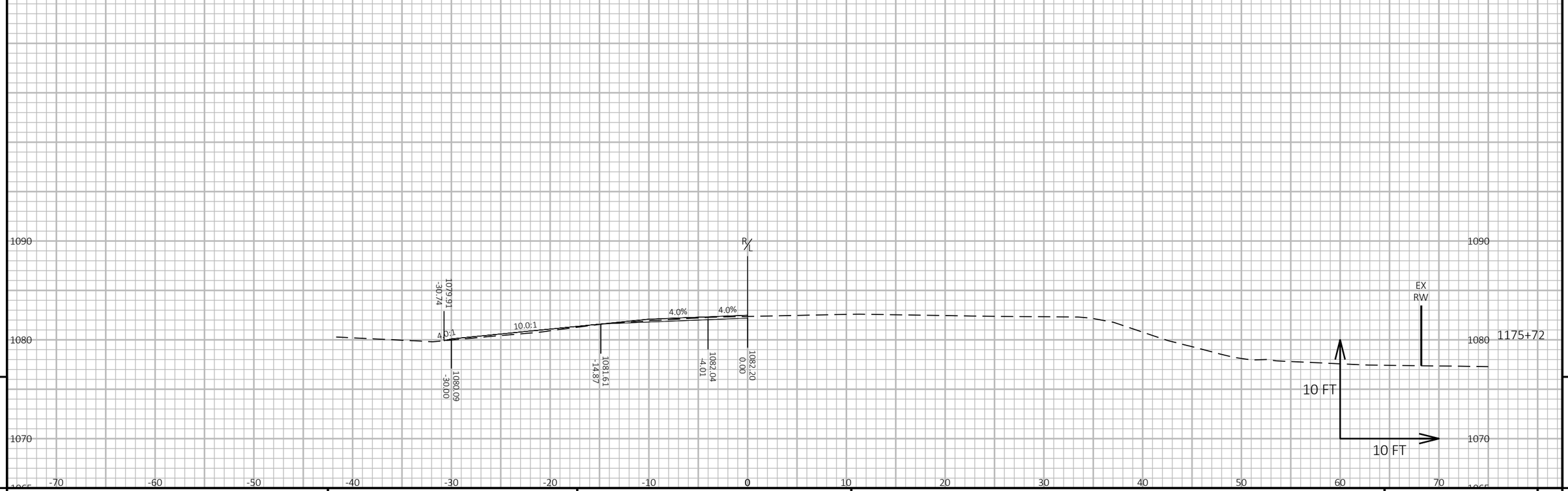
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 299 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 24

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

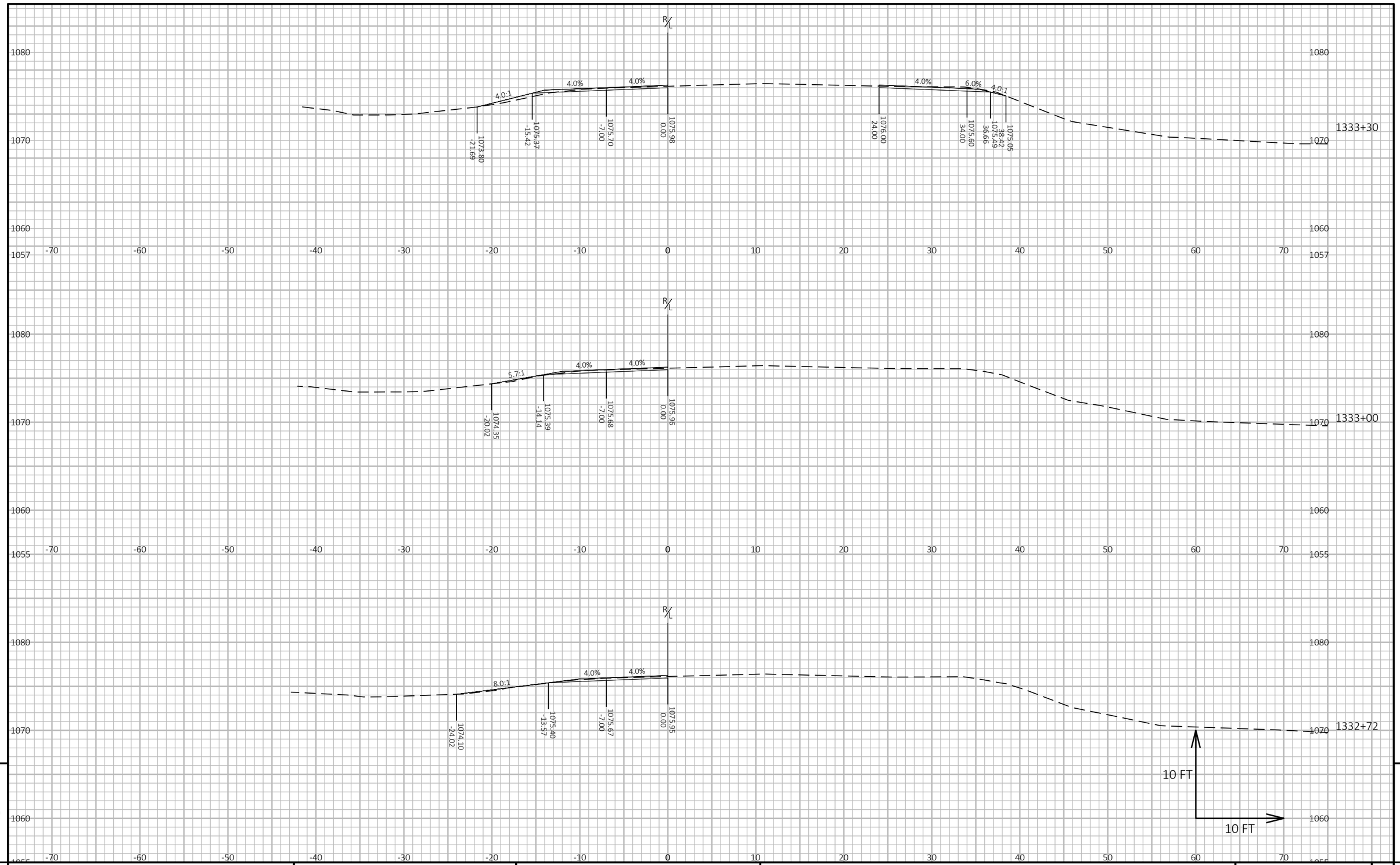
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 300 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 25

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

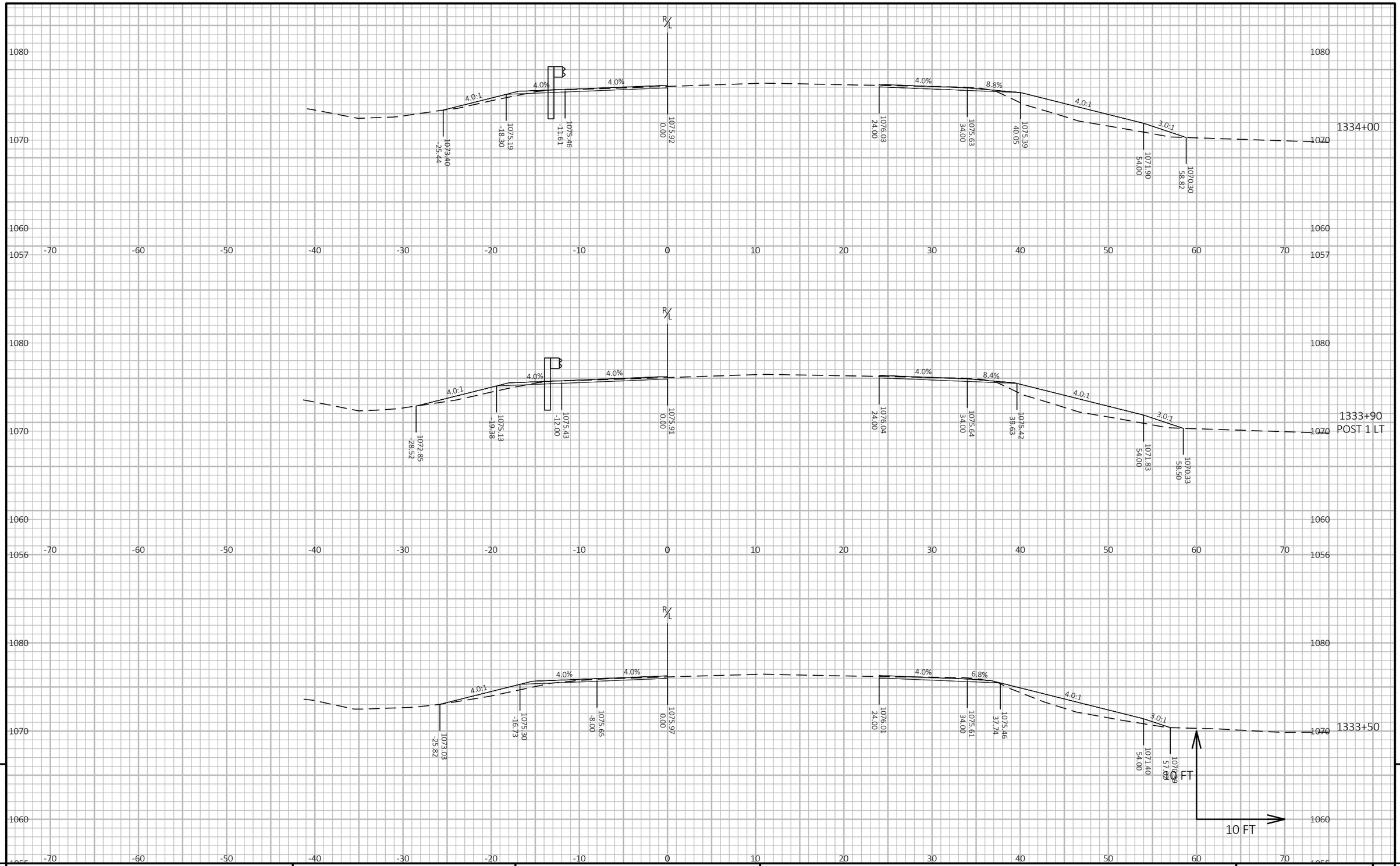
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 301 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 26

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



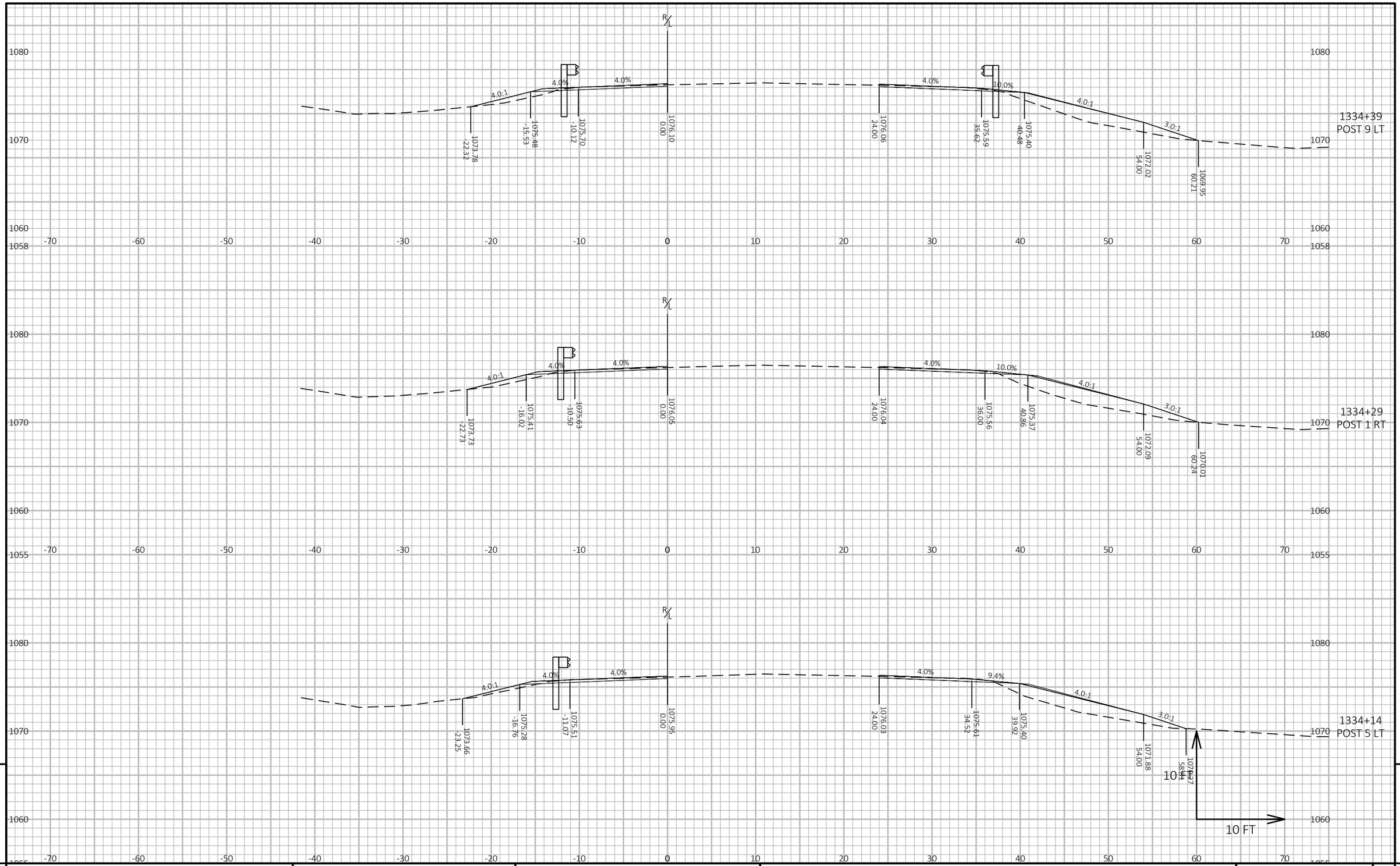

9 9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 302 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 27

PLOT DATE : 2/25/2026 12:25 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

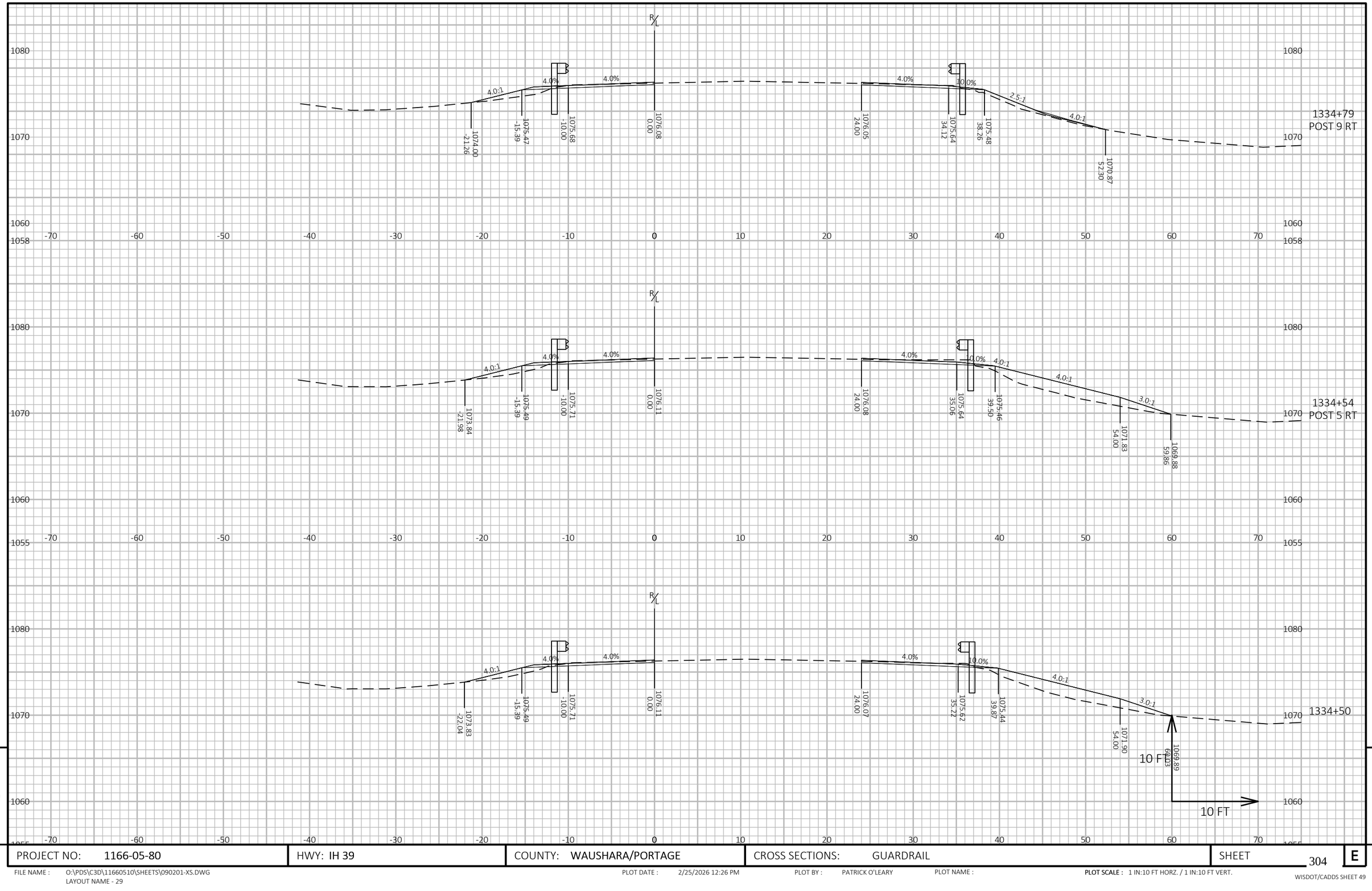
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 303 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 28

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

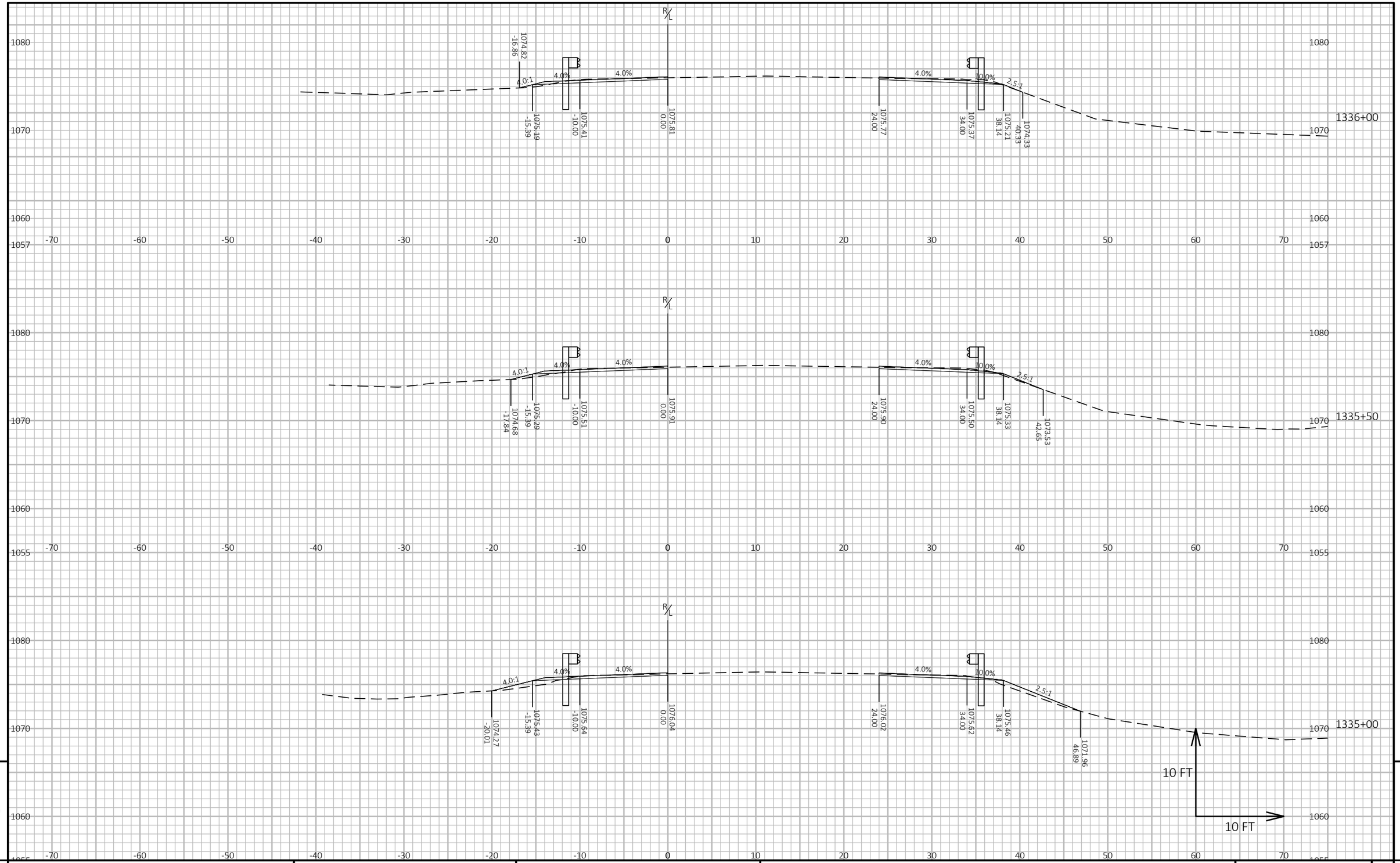
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 304 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 29

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

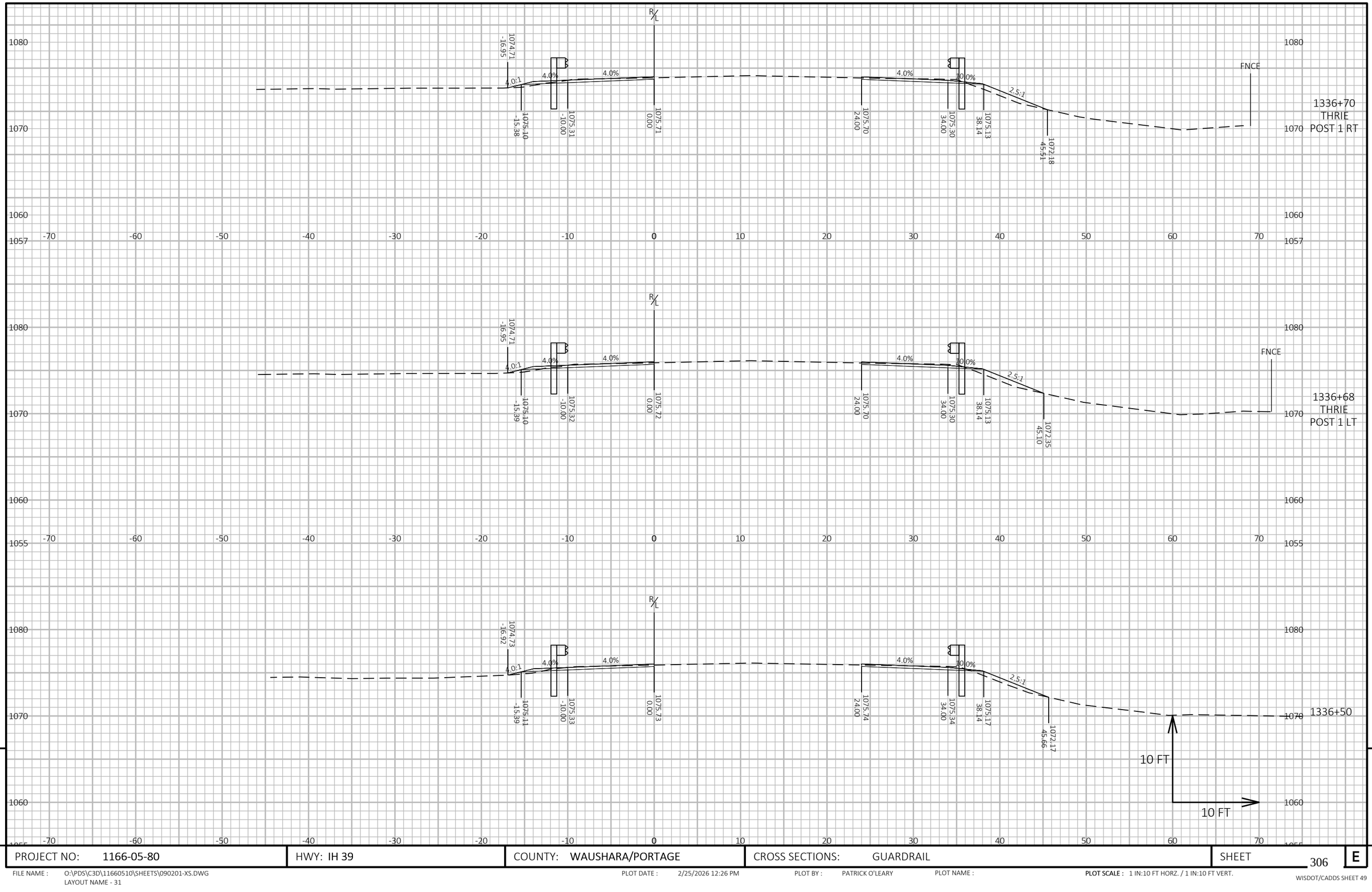
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 305 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 30

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

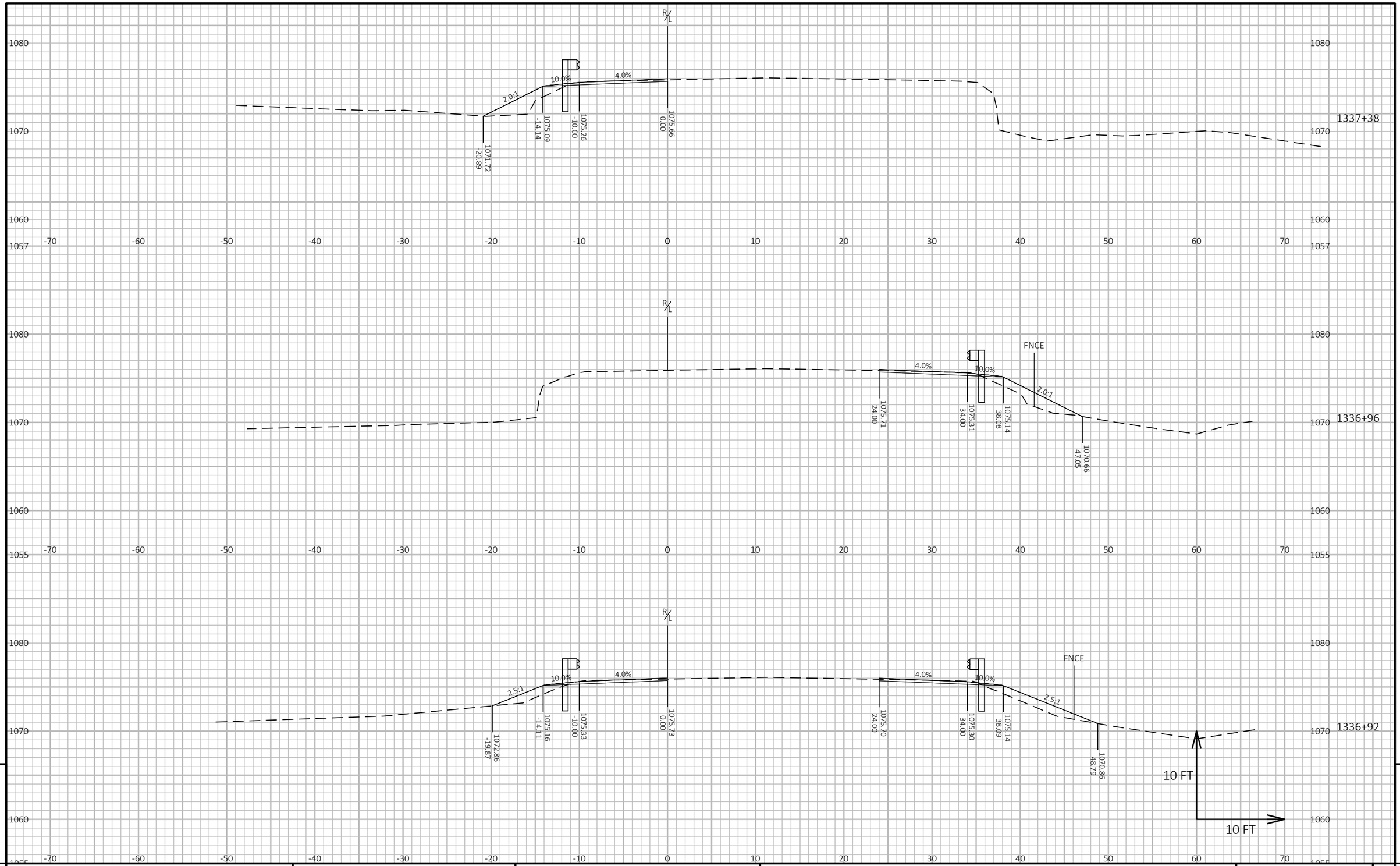
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 306 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 31

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

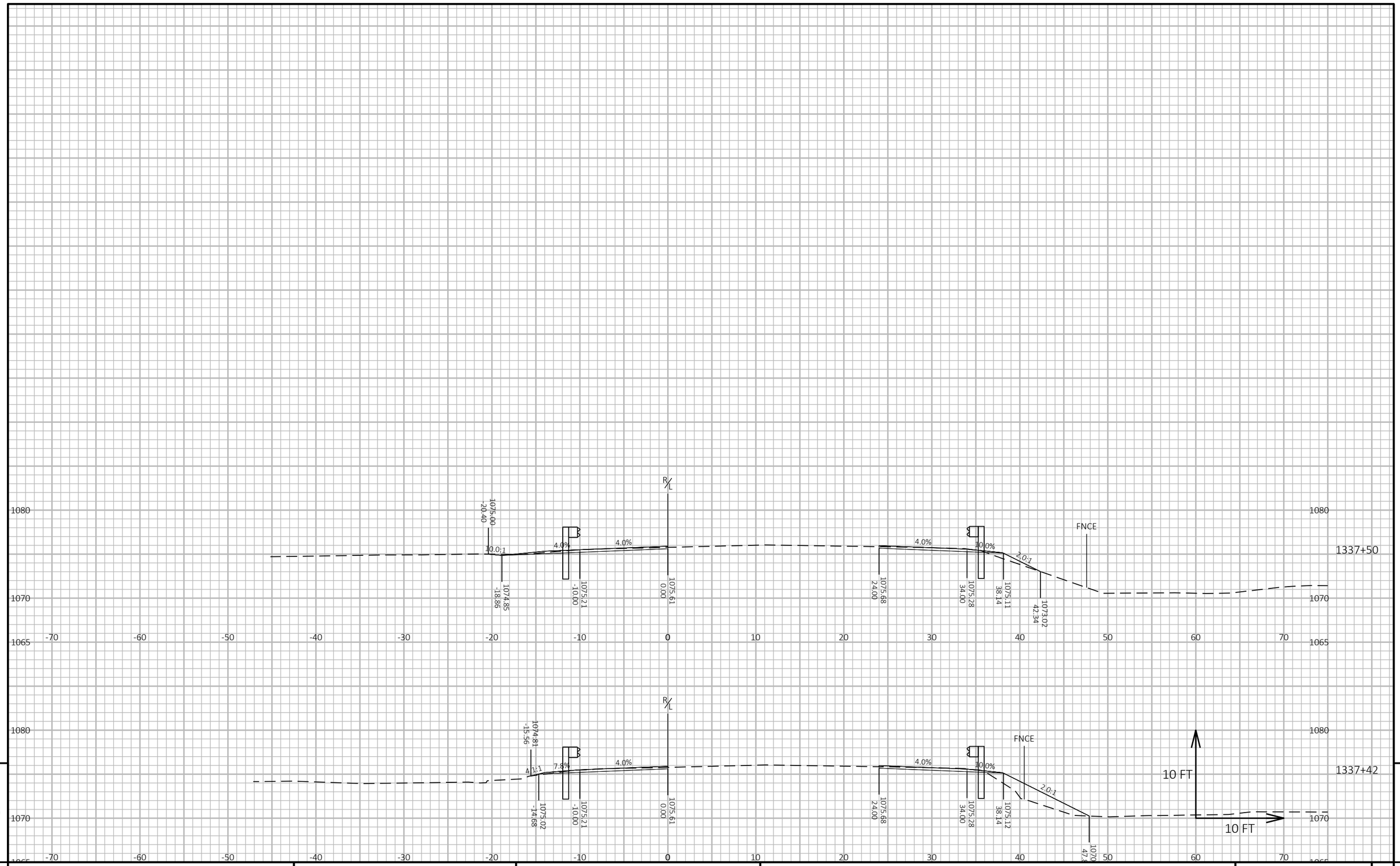
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 307 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 32

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 308 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 33

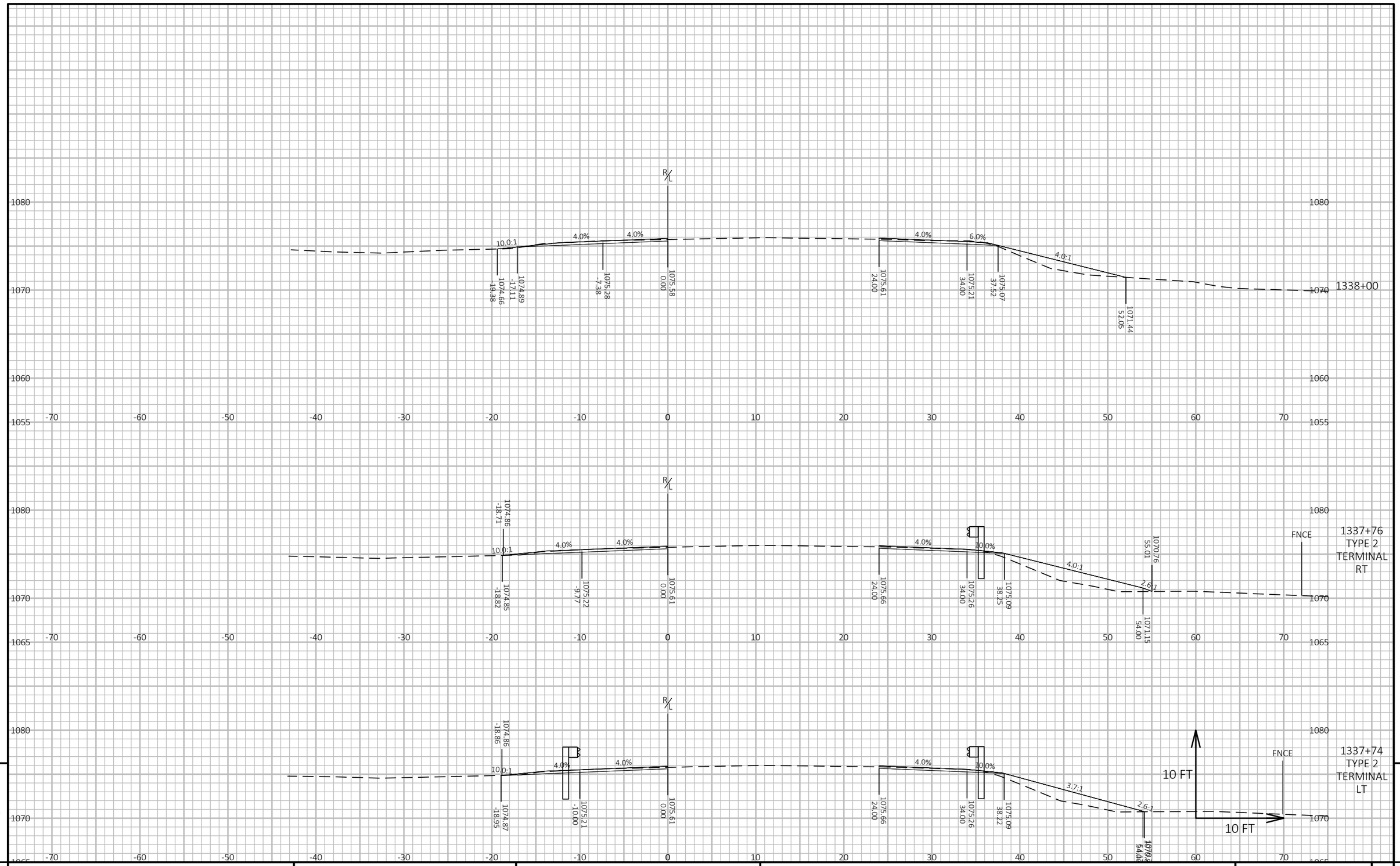
PLOT DATE : 2/25/2026 12:26 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

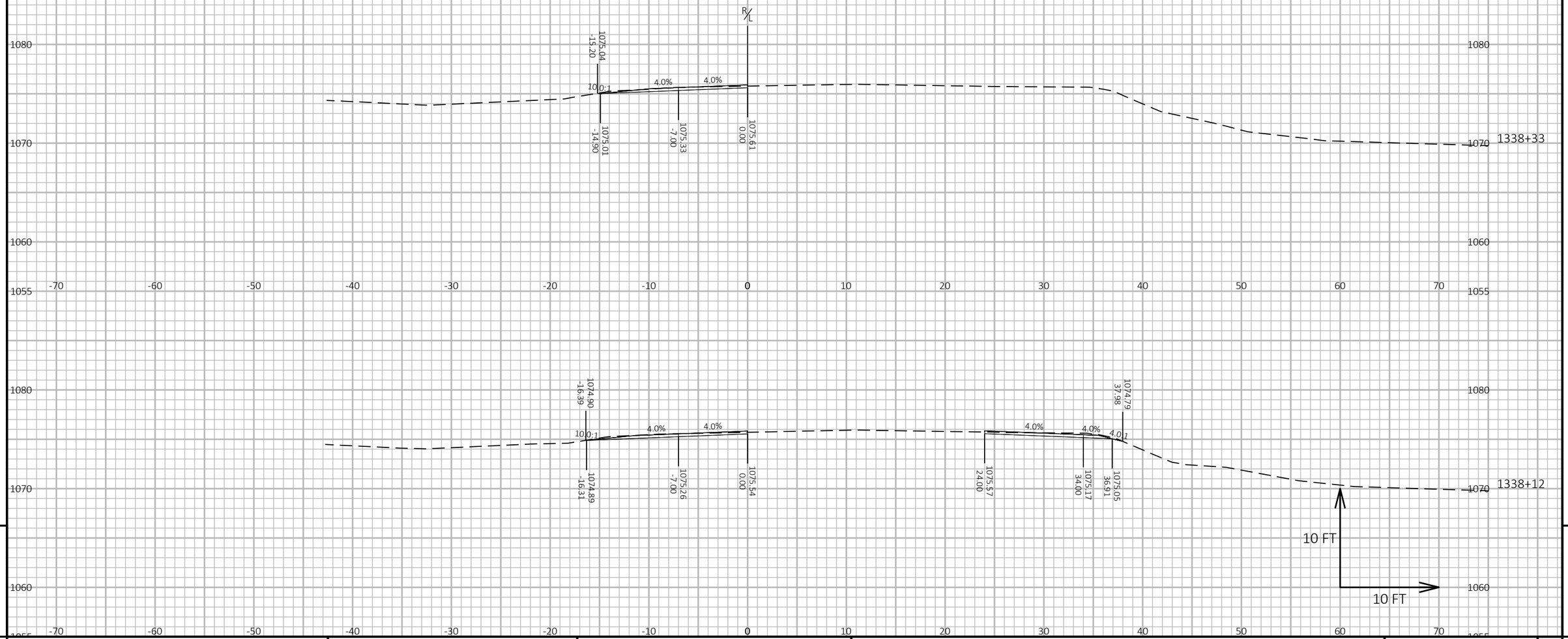
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 309 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 34

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

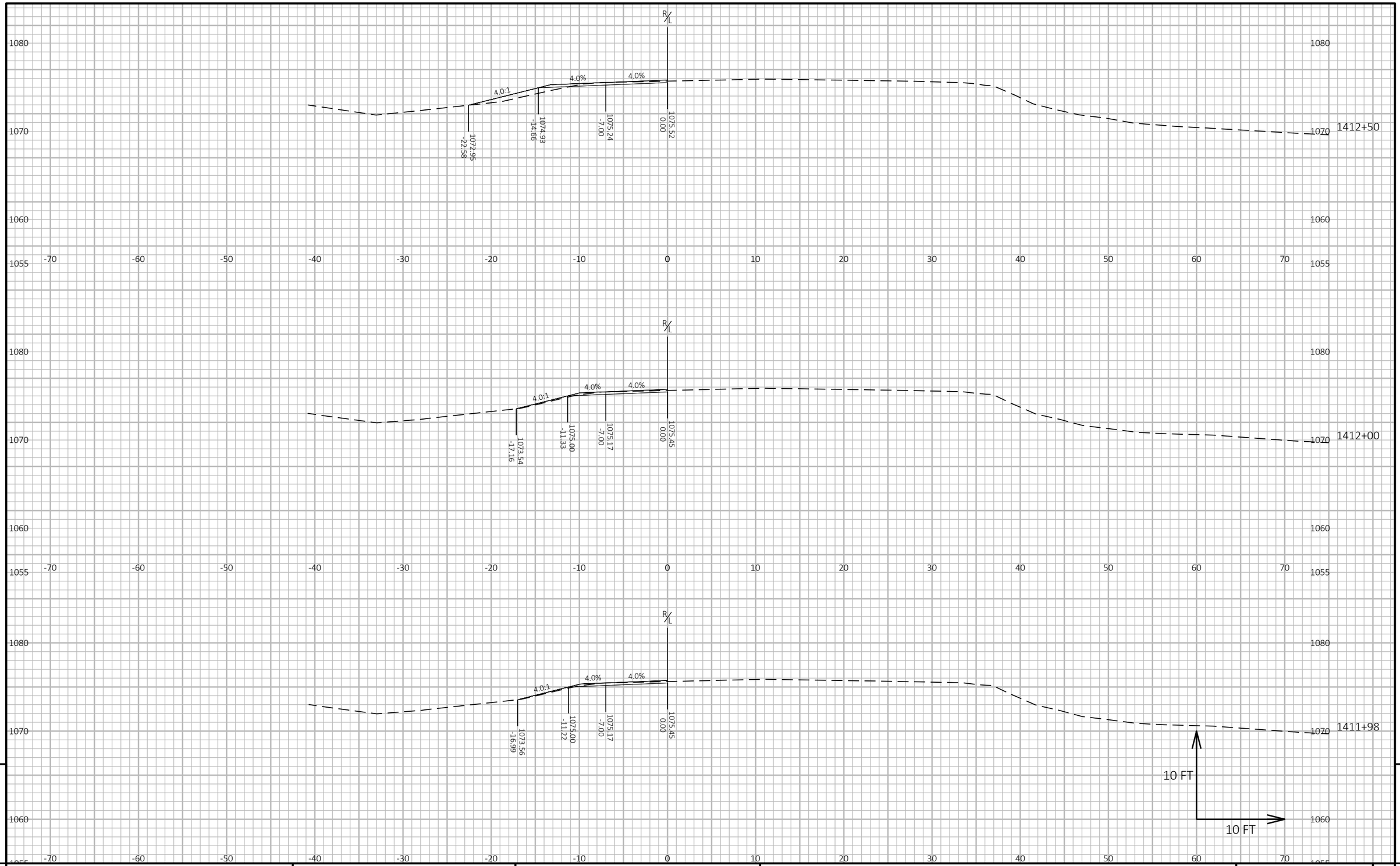
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 310 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 35

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 311 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 36

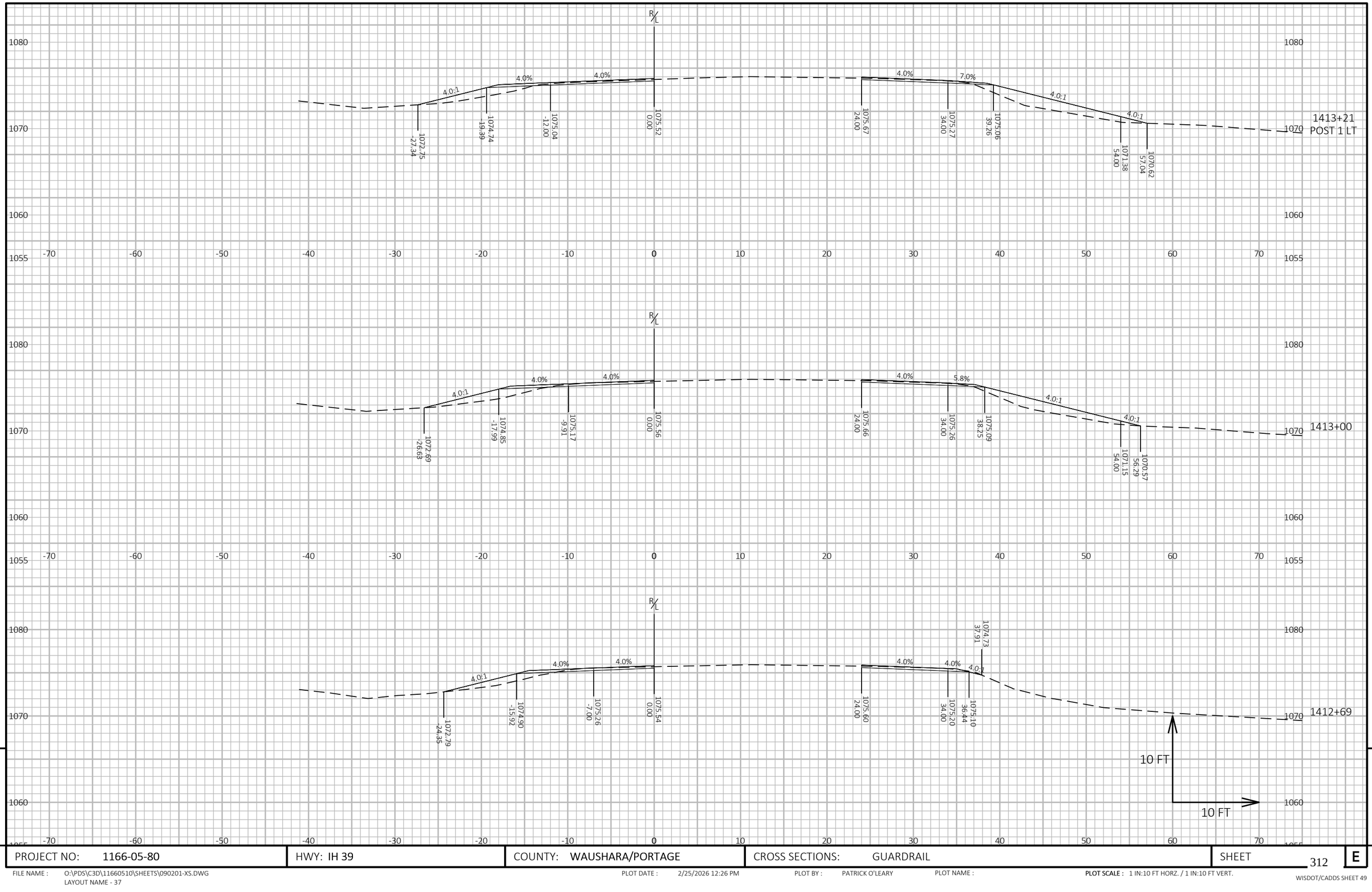
PLOT DATE : 2/25/2026 12:26 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

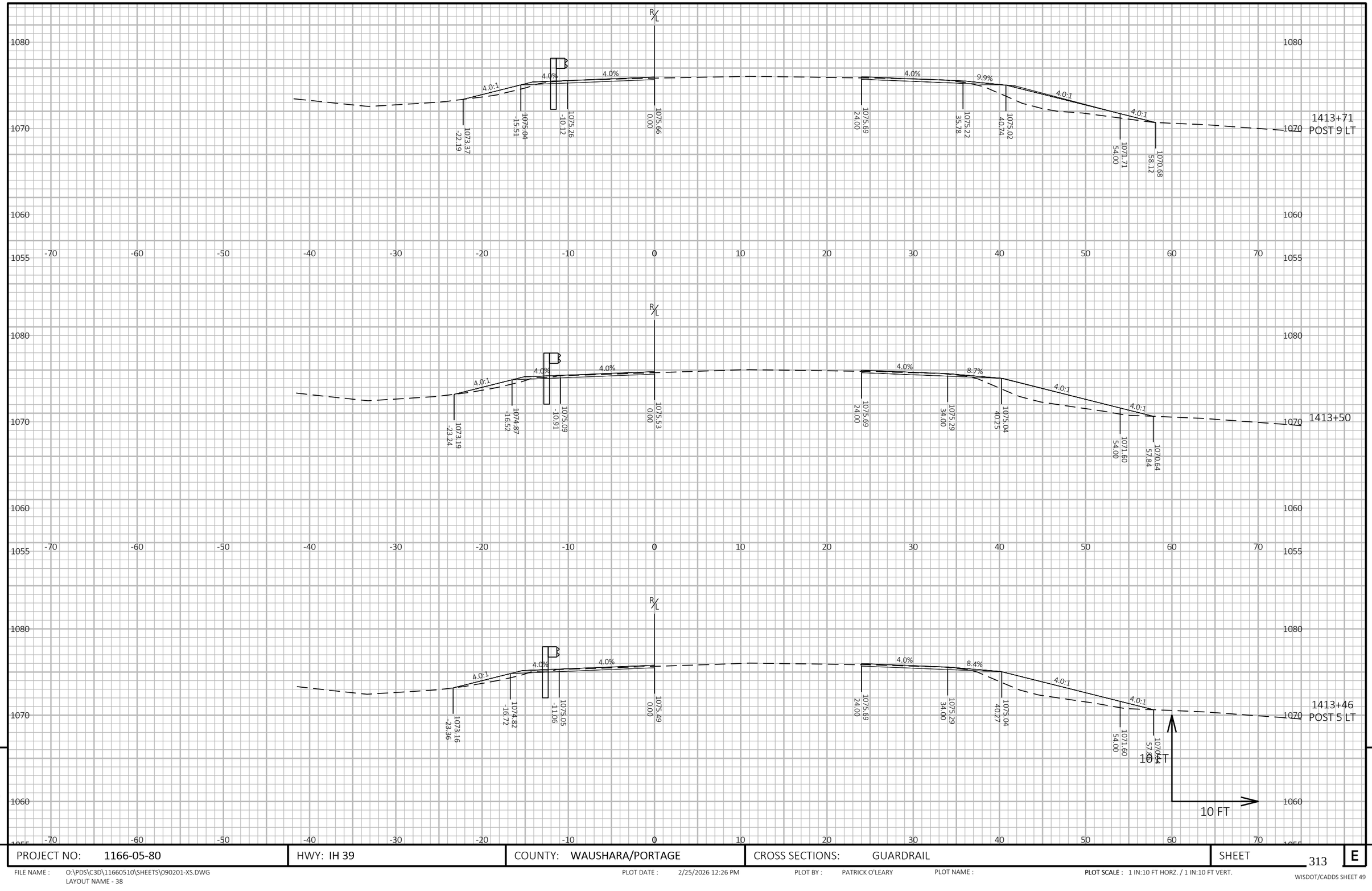



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 312 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 37

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

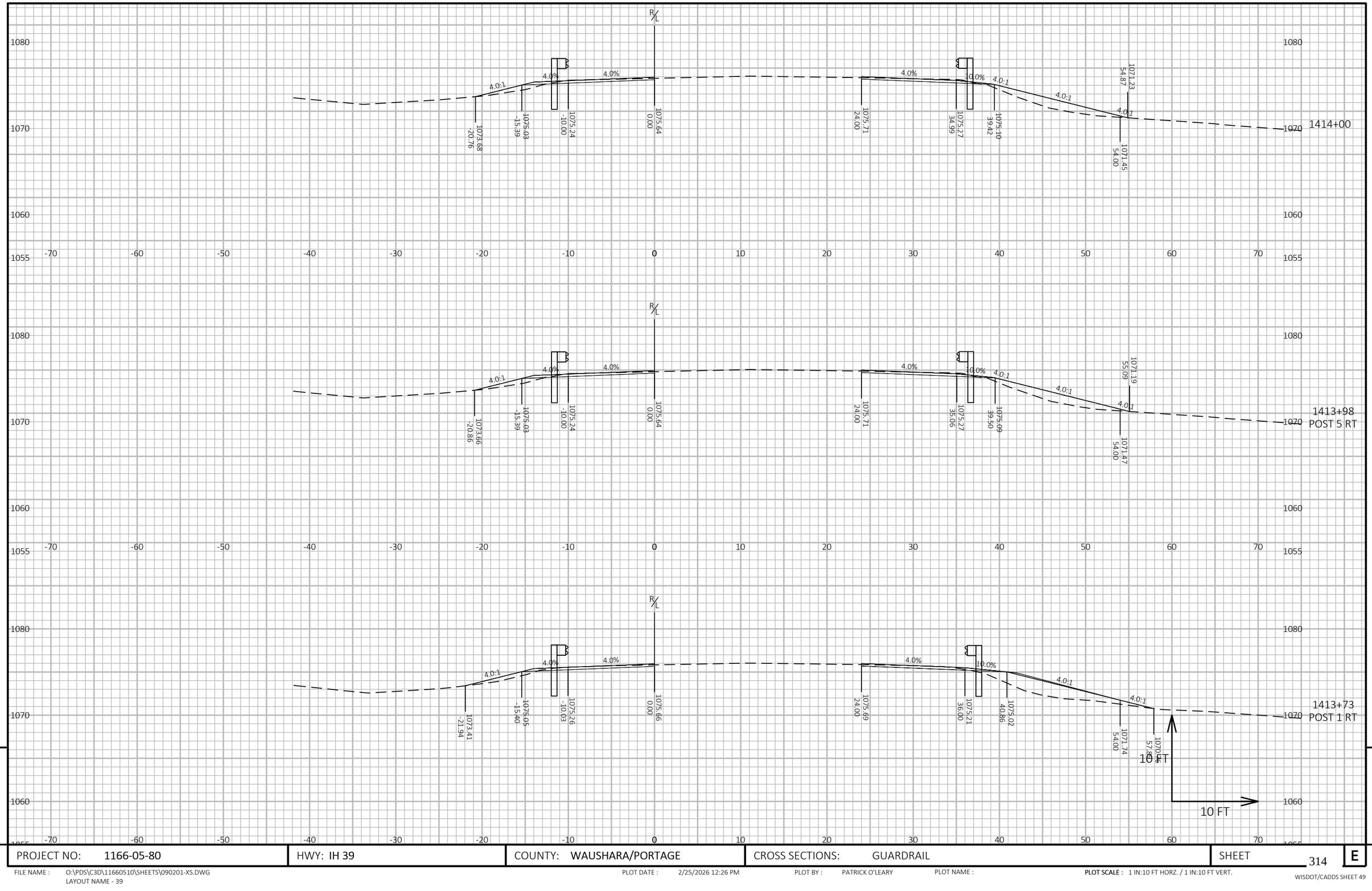



| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 313 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 38

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



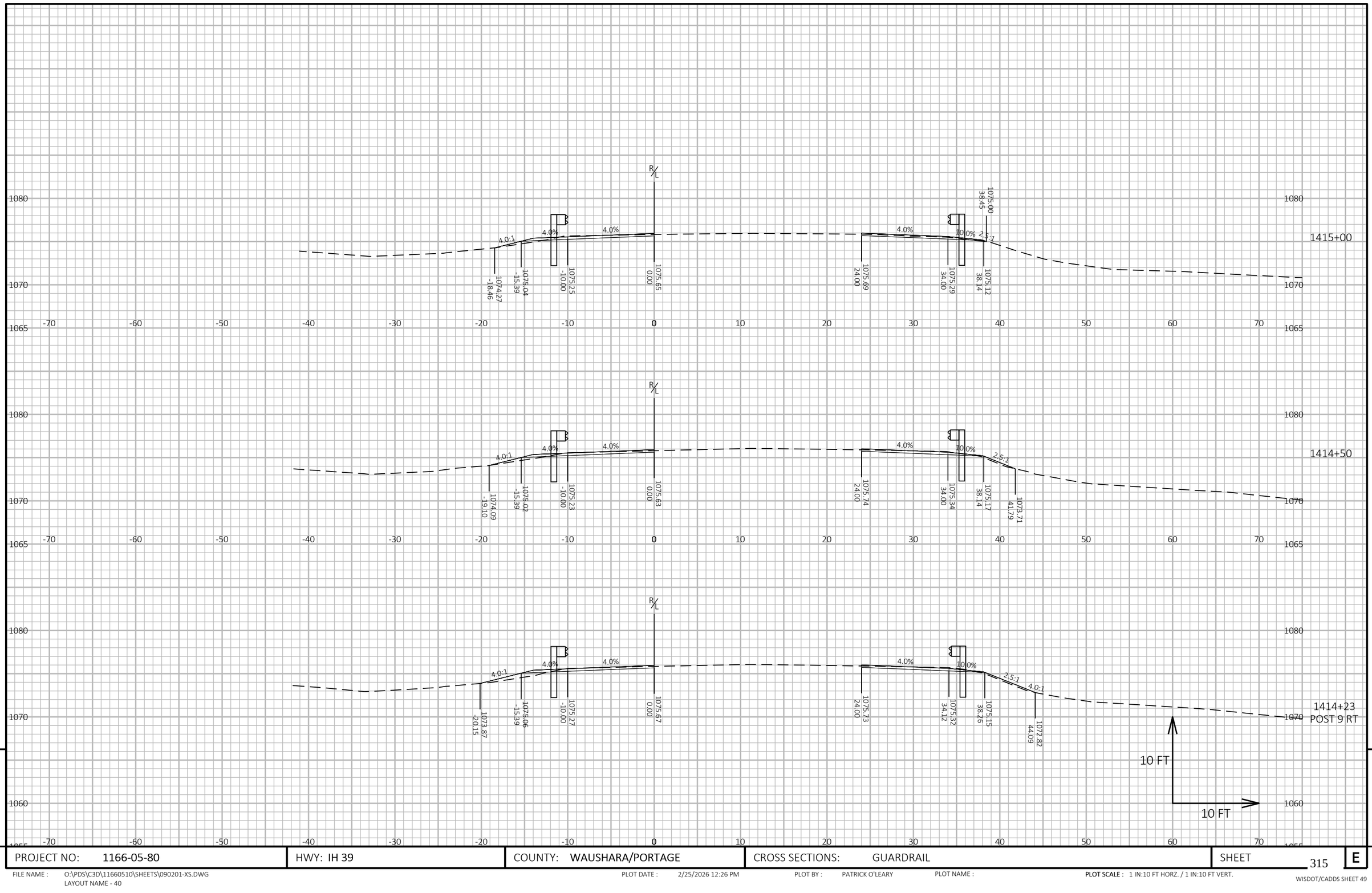

9 9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 314 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 39

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

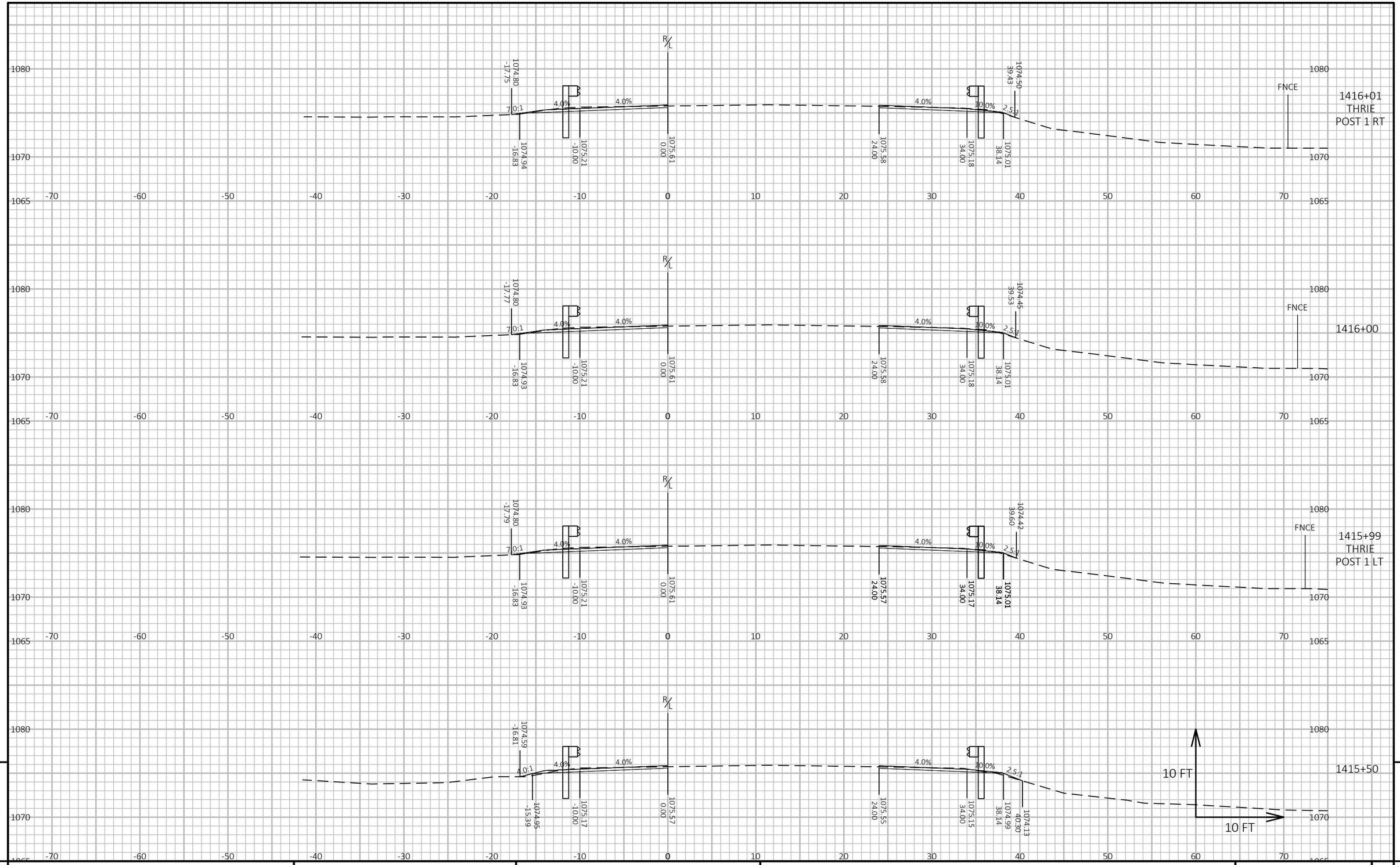
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 315 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 40

PLOT DATE : 2/25/2026 12:26 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

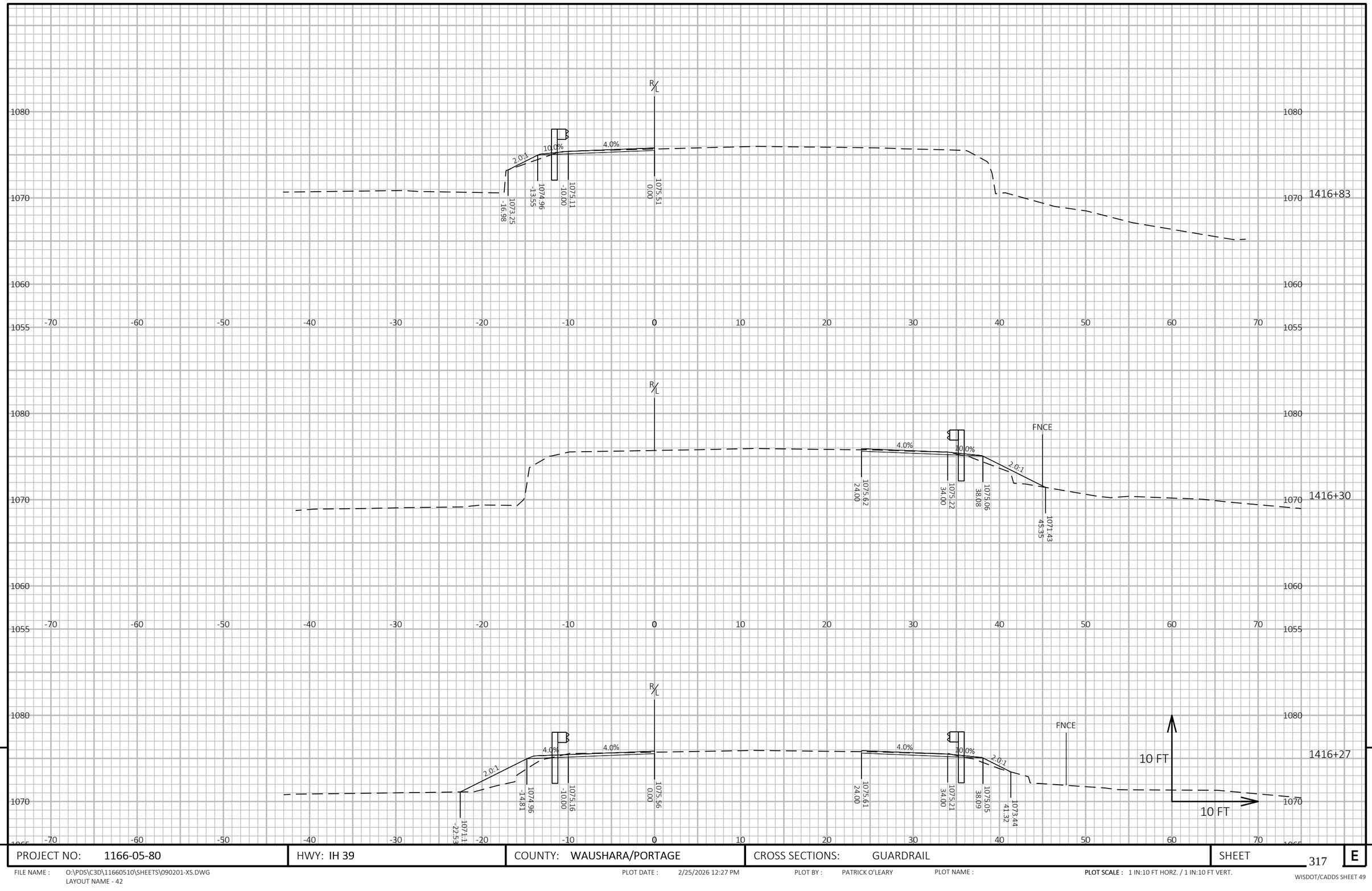
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 316 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 41

PLOT DATE : 2/25/2026 12:27 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

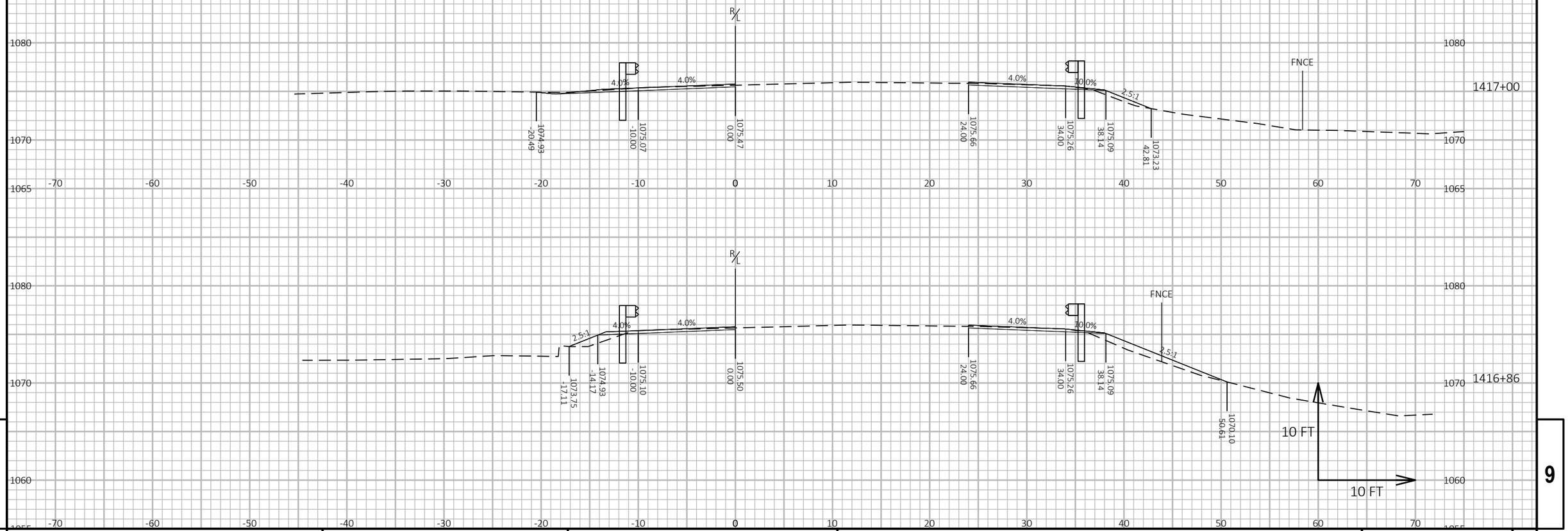
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 317 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 42

PLOT DATE : 2/25/2026 12:27 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

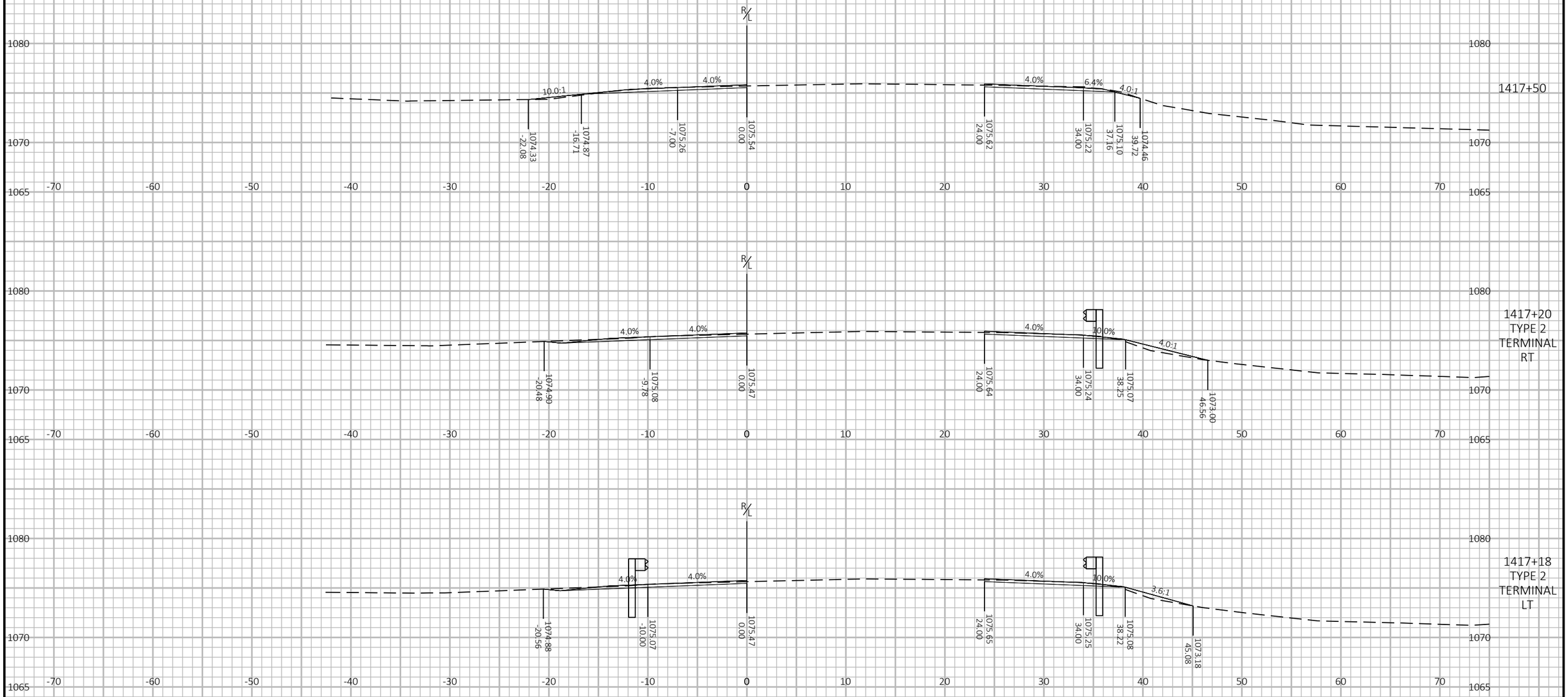
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 318 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 43

PLOT DATE : 2/25/2026 12:27 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

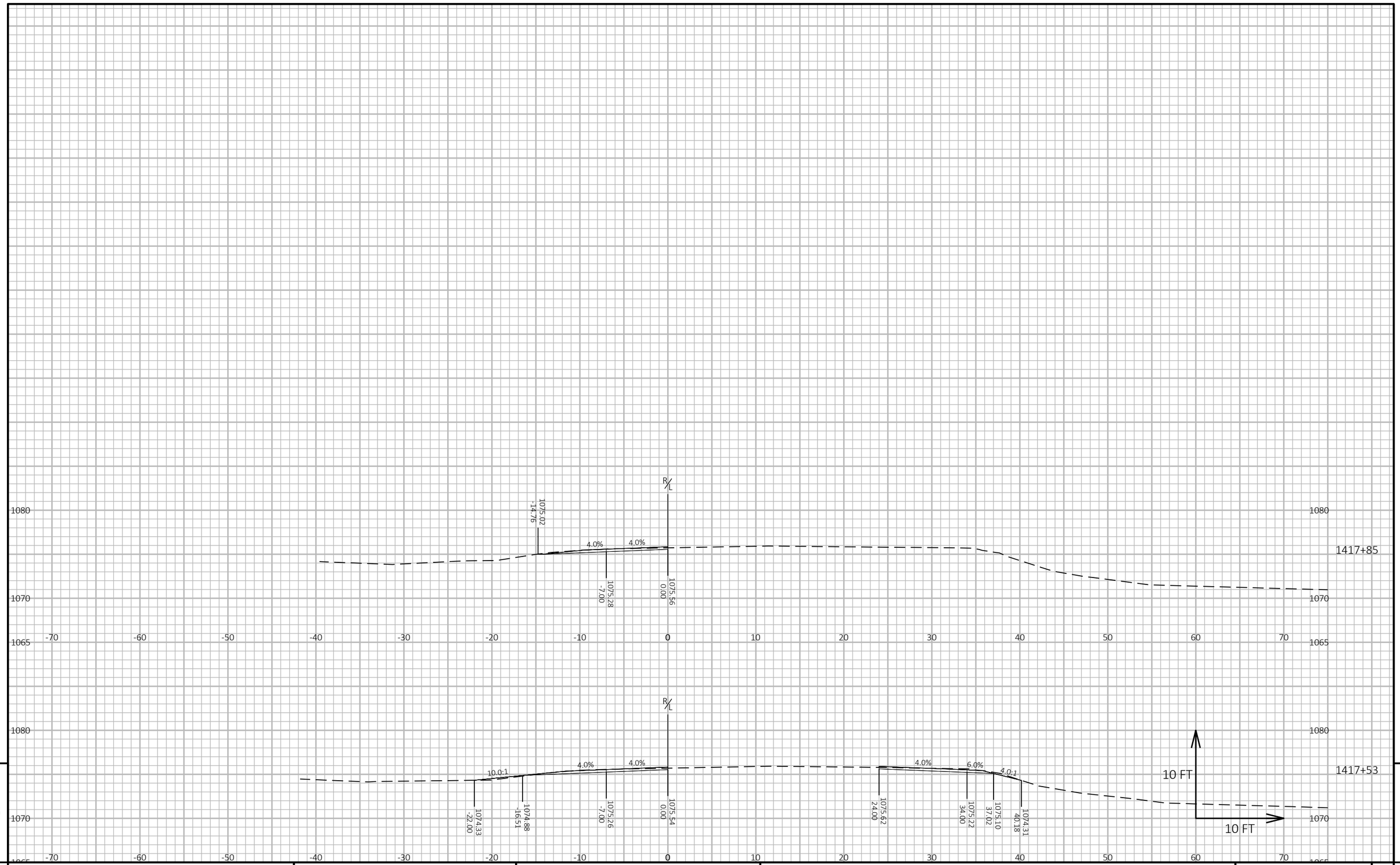
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 319 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 44

PLOT DATE : 2/25/2026 12:27 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 320 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 45

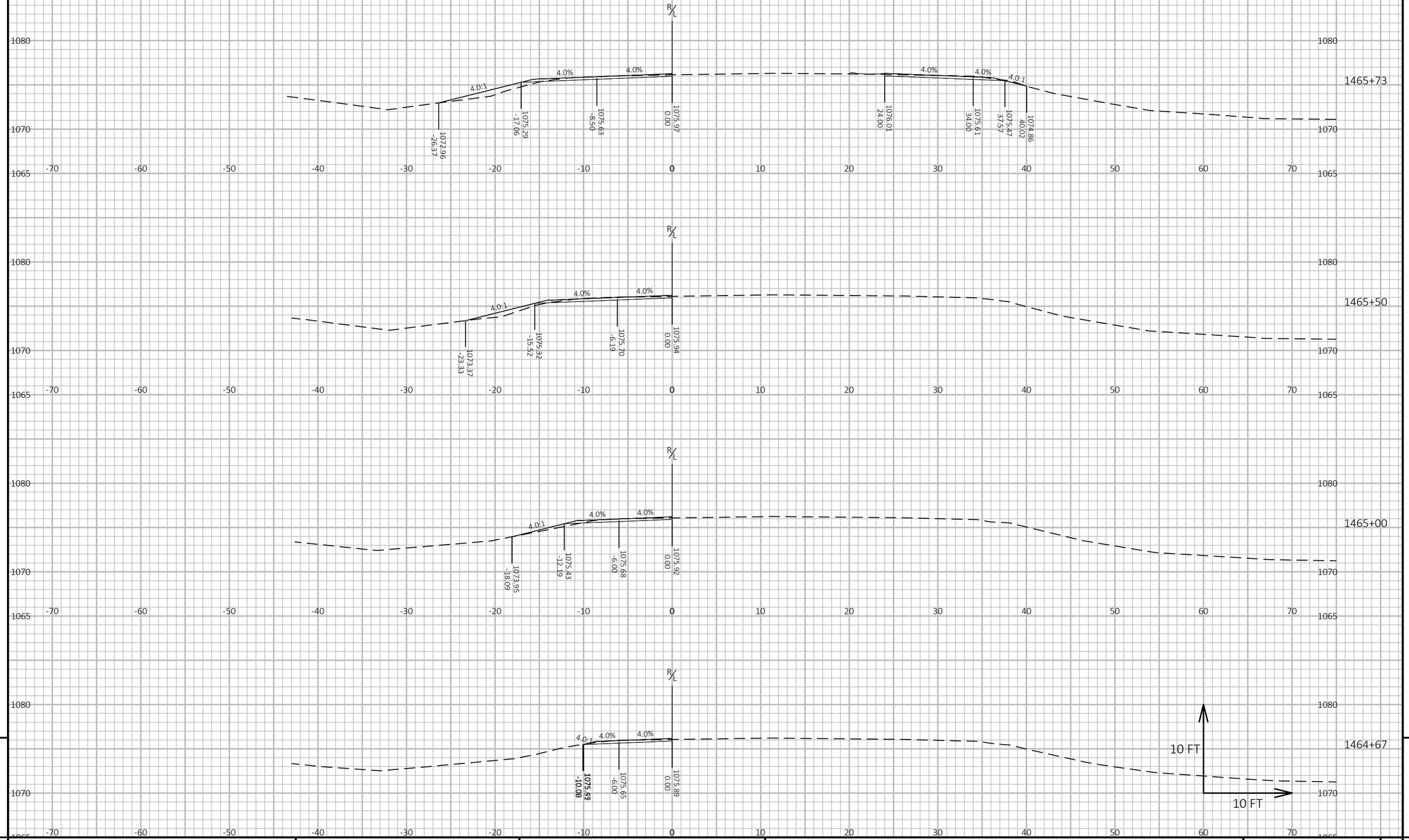
PLOT DATE : 2/25/2026 12:27 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 321 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 46

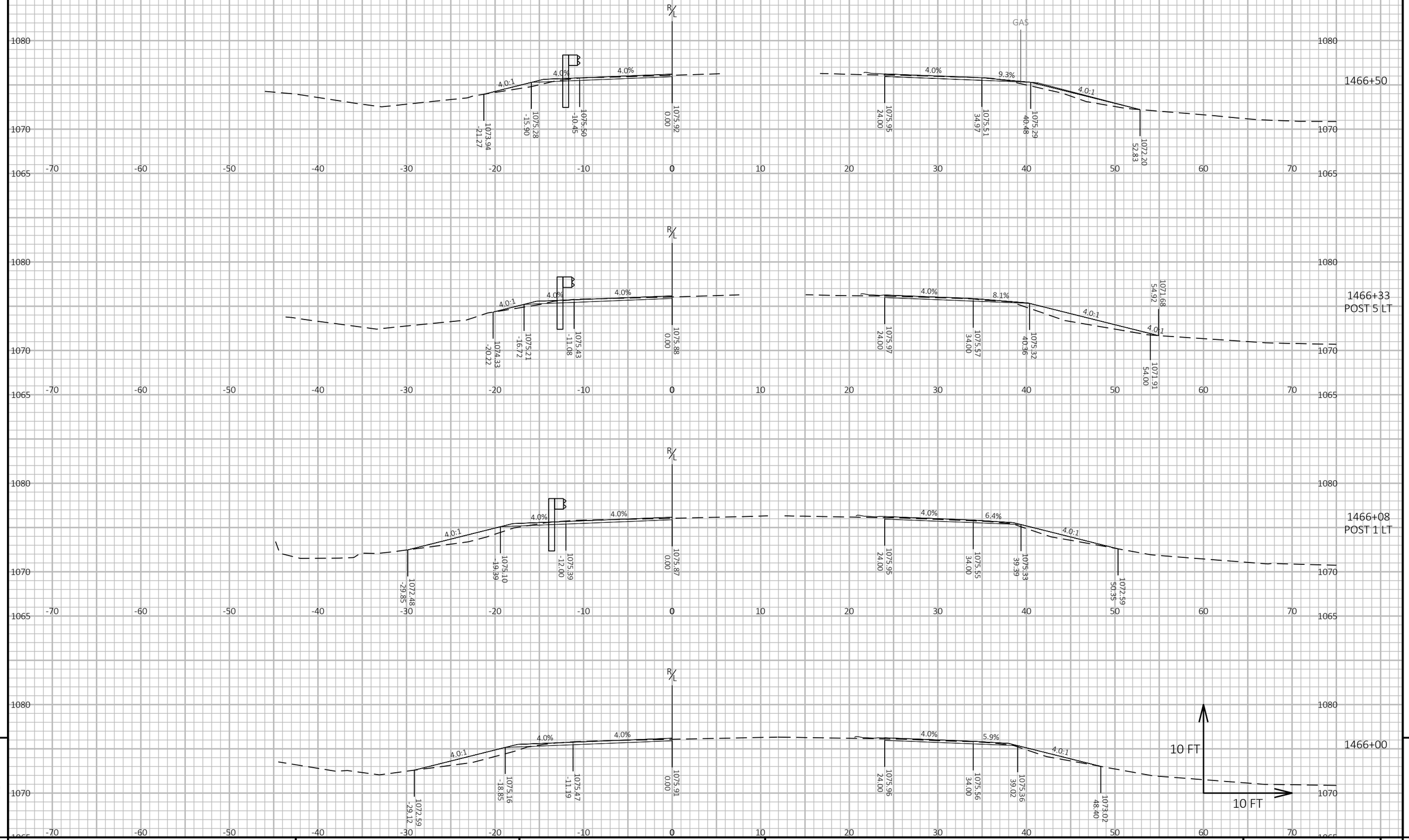
PLOT DATE : 2/25/2026 12:27 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

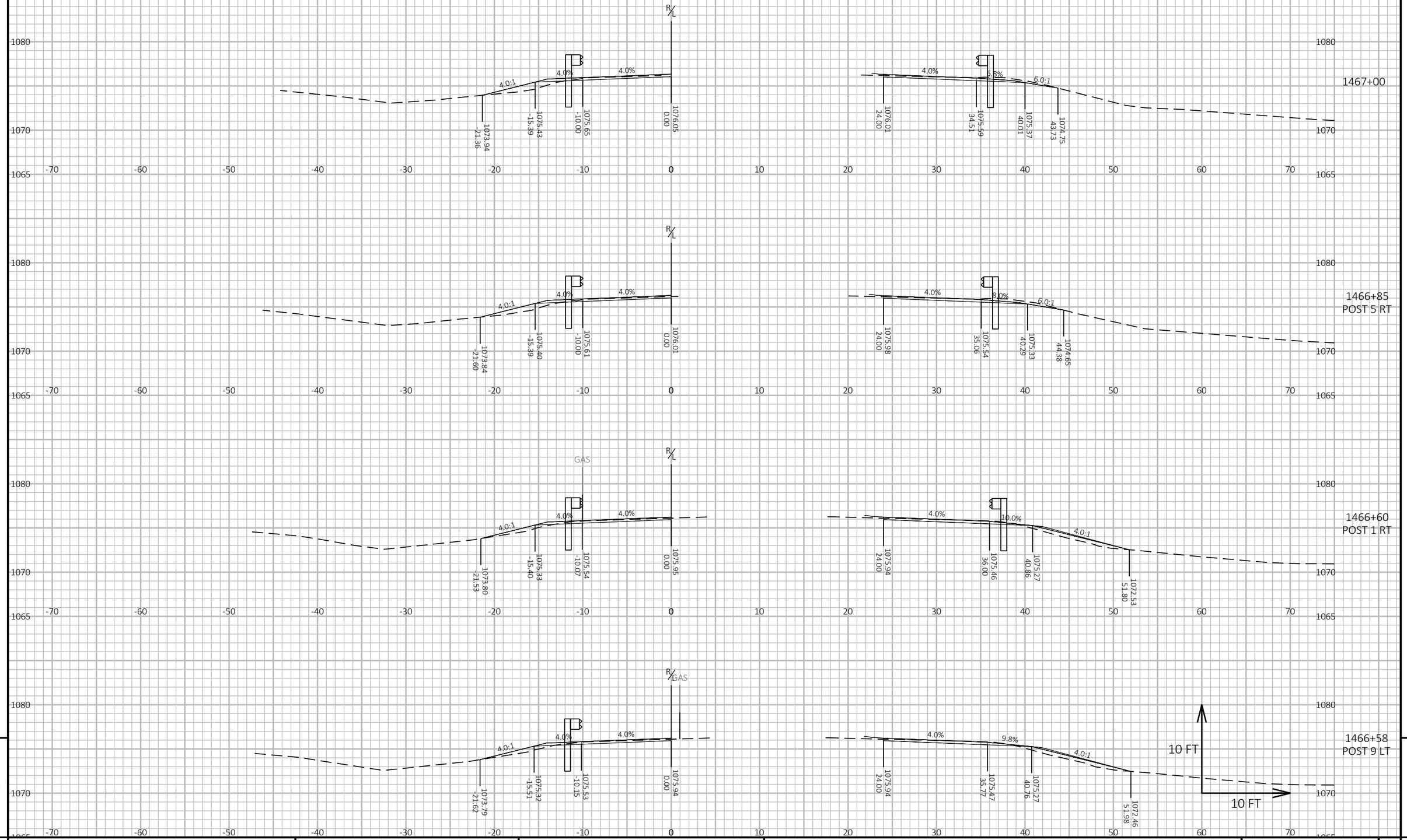
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 322 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 47

PLOT DATE : 2/25/2026 12:27 PM PLOT BY : PATRICK O'LEARY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 323 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 48

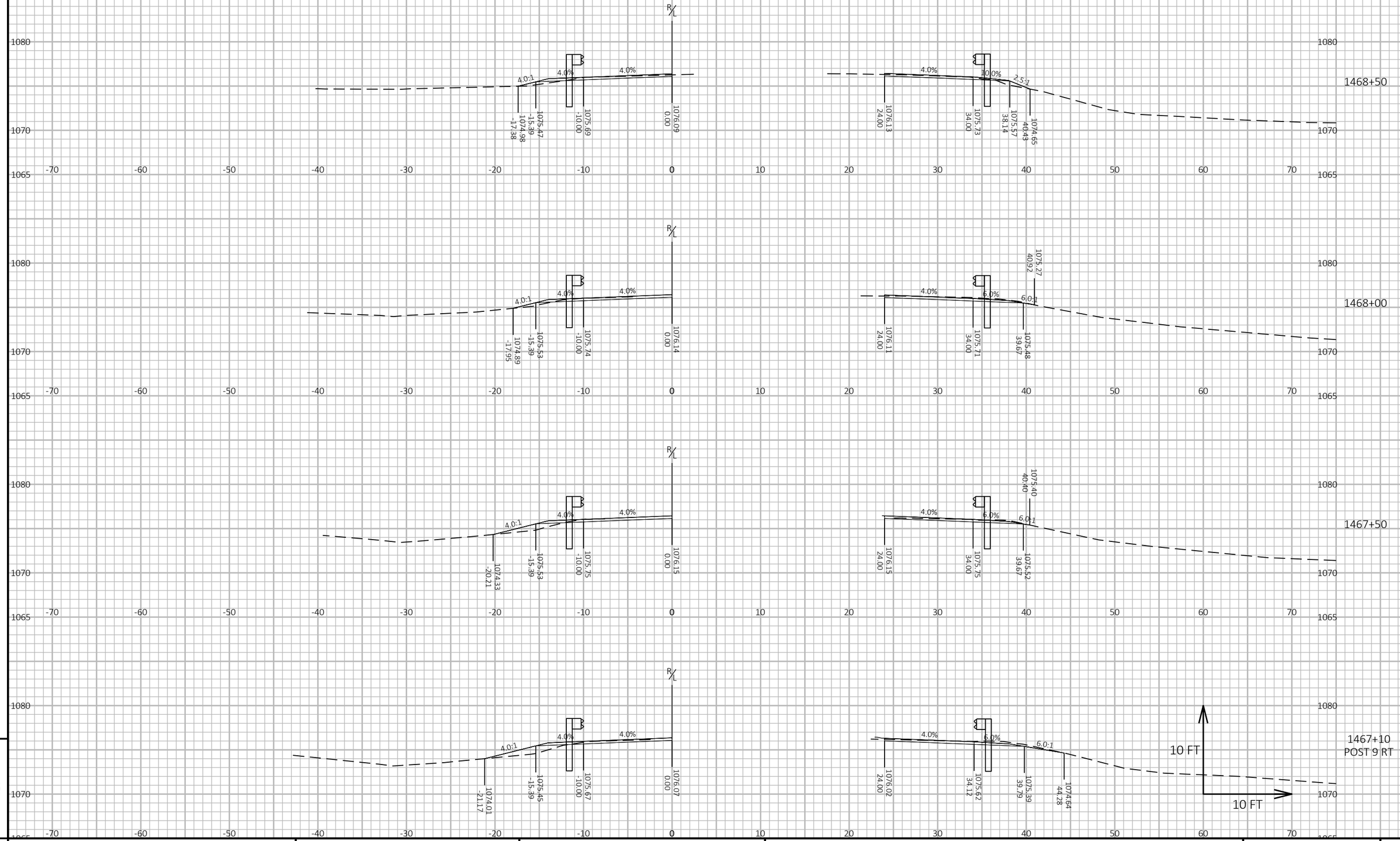
PLOT DATE : 2/25/2026 12:27 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 324 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 49

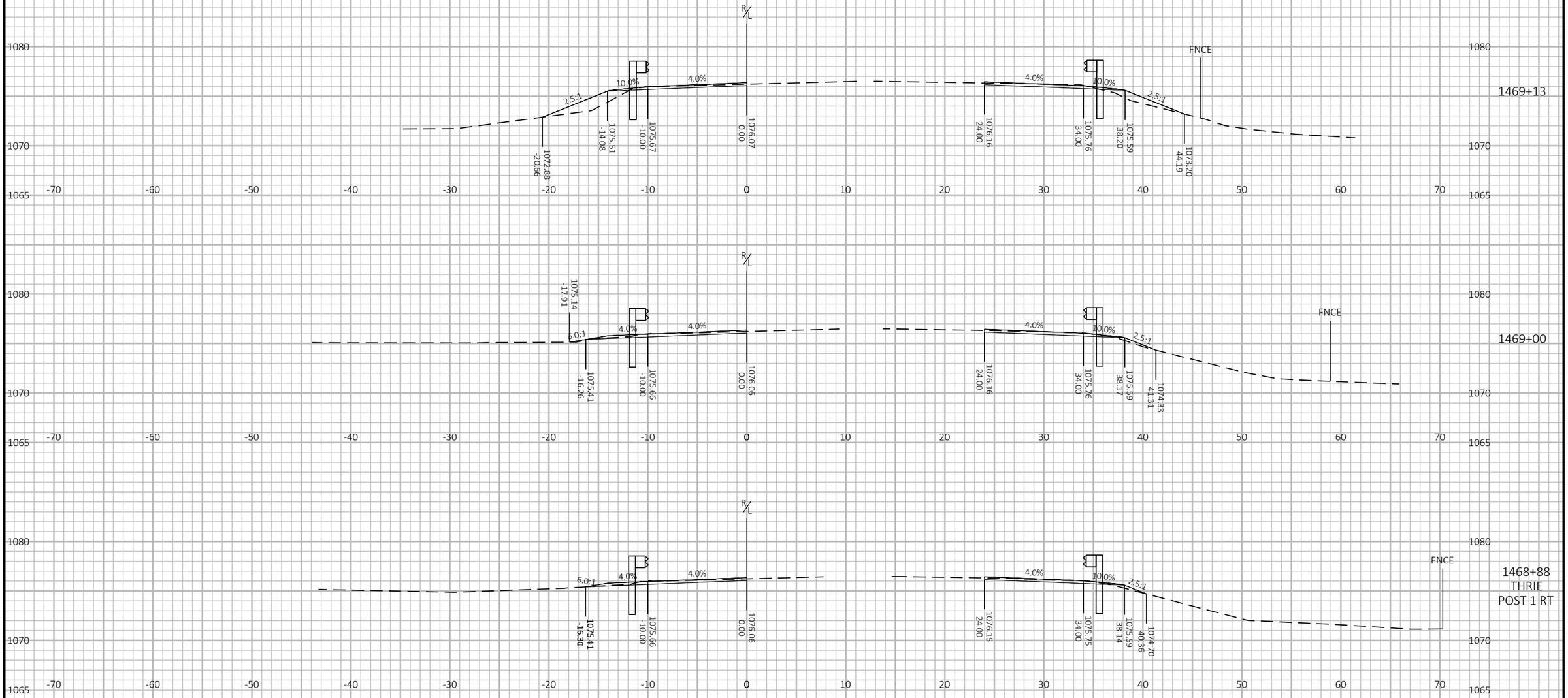
PLOT DATE : 2/25/2026 12:27 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 325 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 50

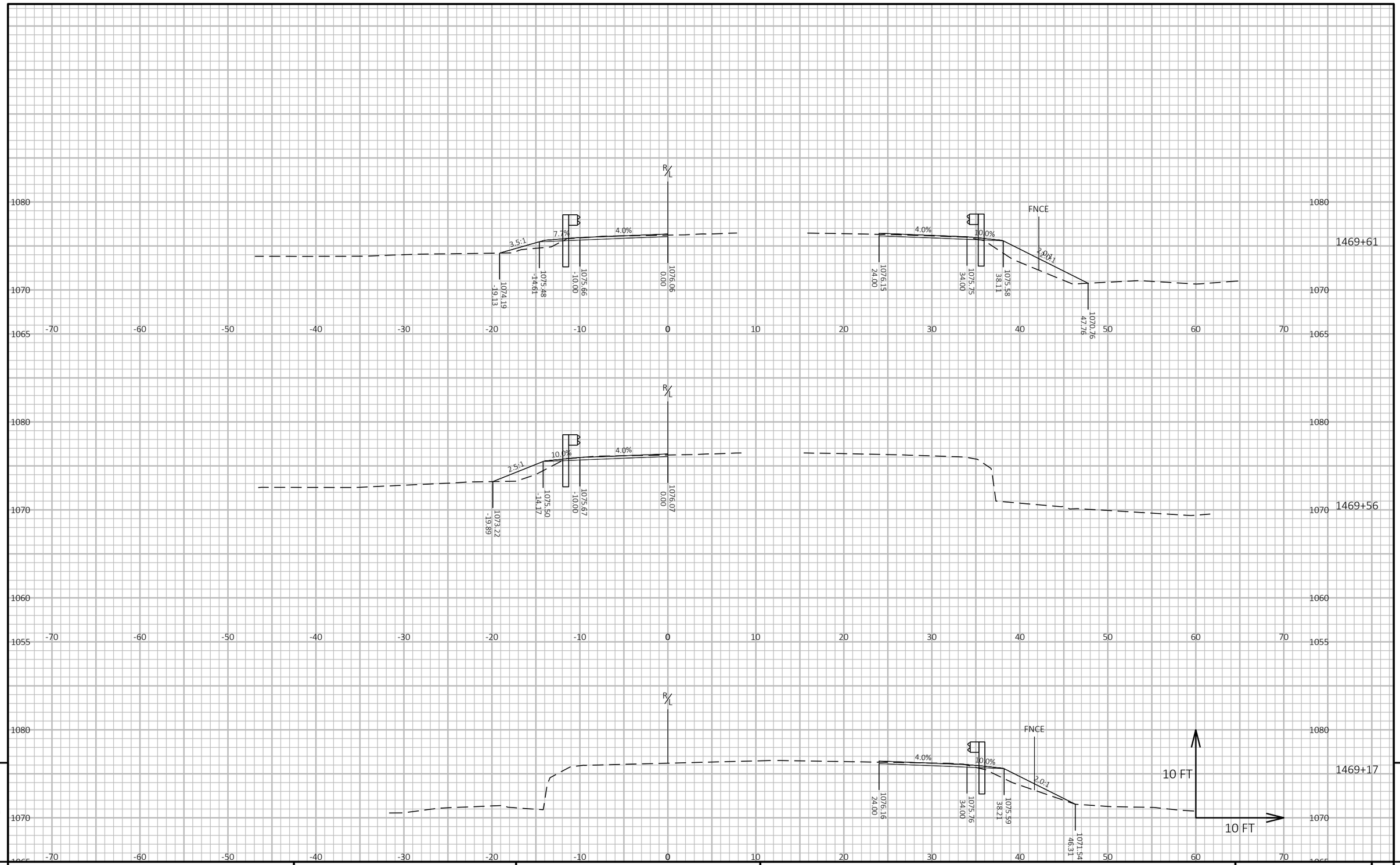
PLOT DATE : 2/25/2026 12:27 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 326 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 51

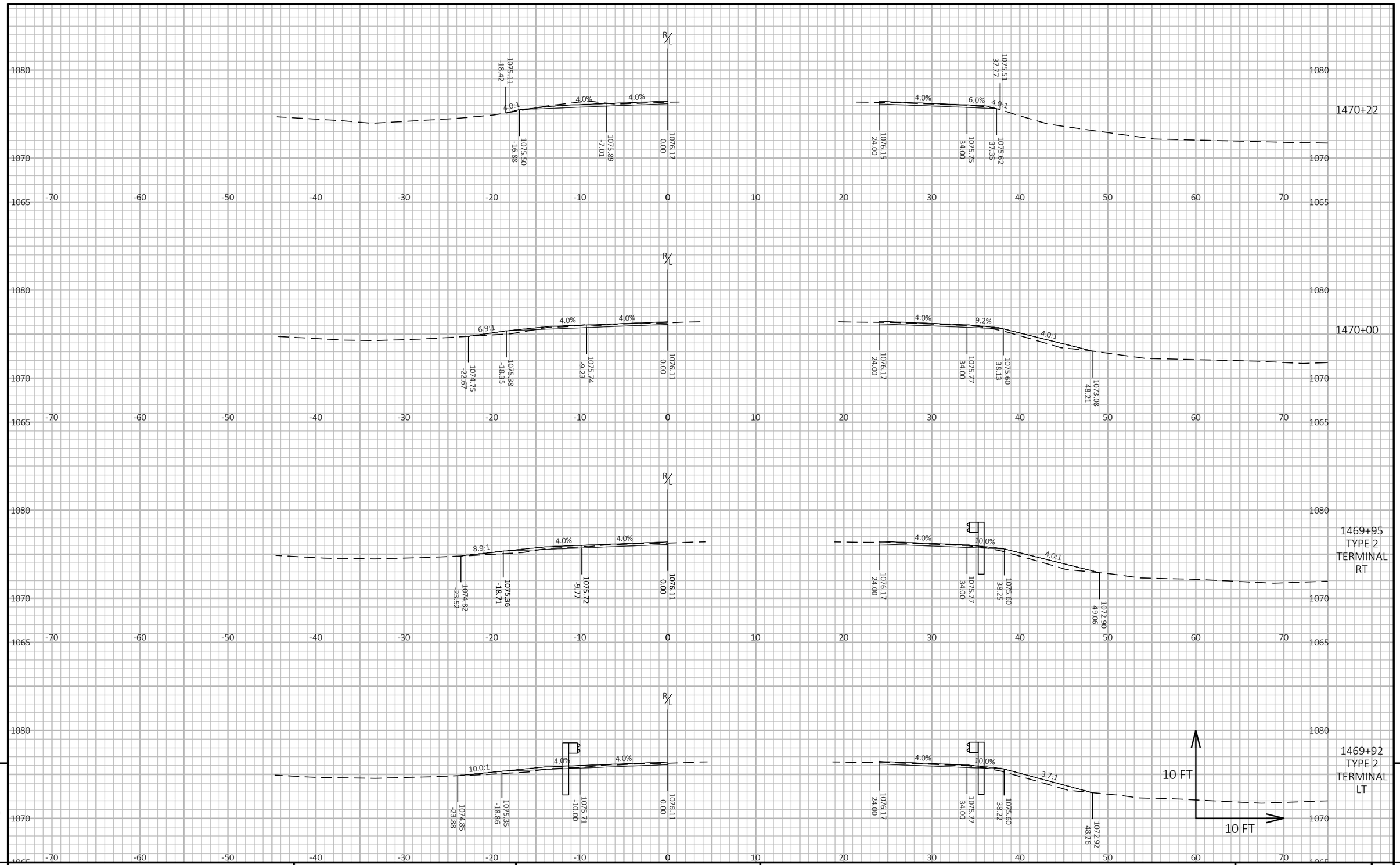
PLOT DATE : 2/25/2026 12:27 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9 9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 327 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 52

PLOT DATE : 2/25/2026 12:27 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 328 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 53

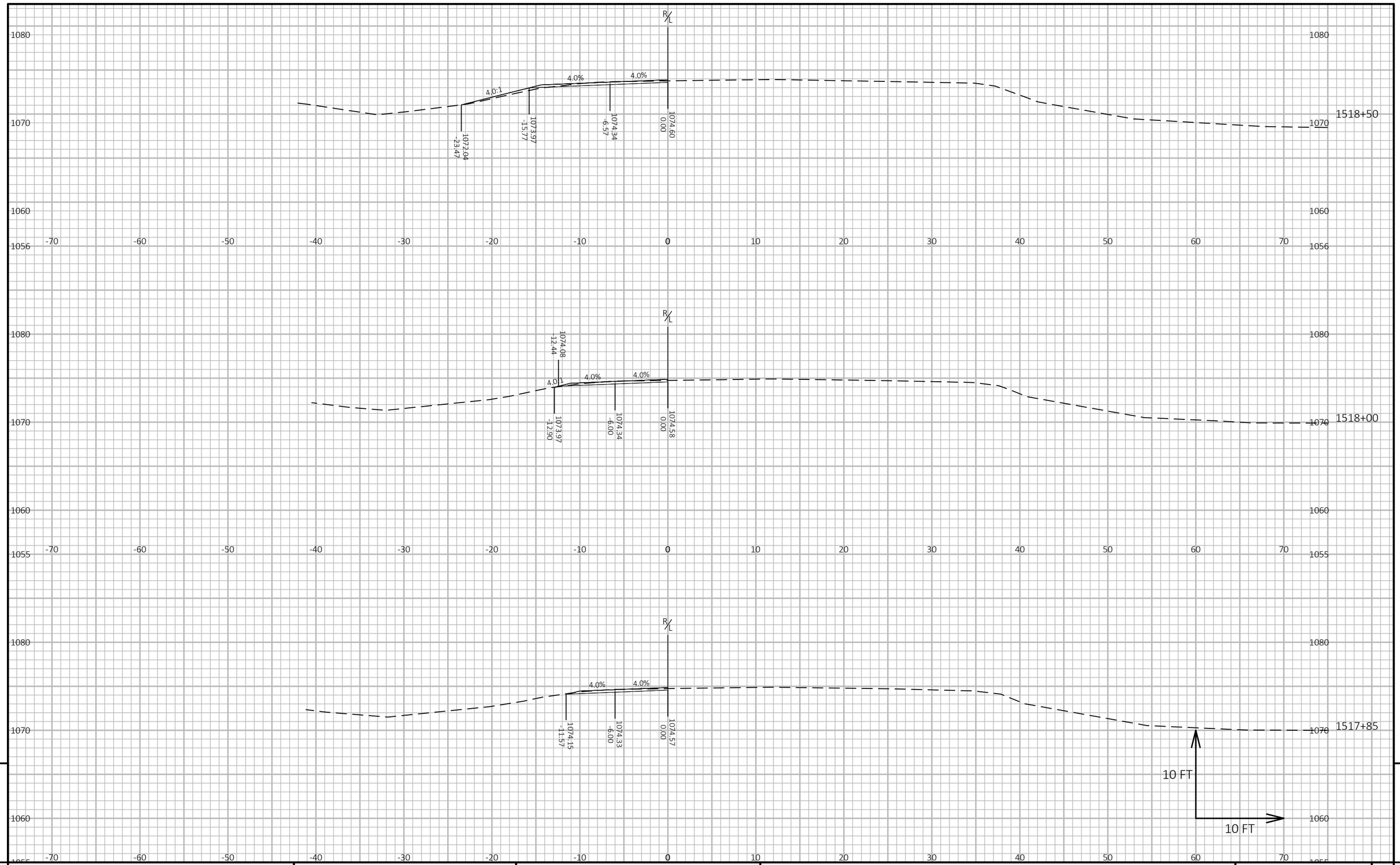
PLOT DATE : 2/25/2026 12:27 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

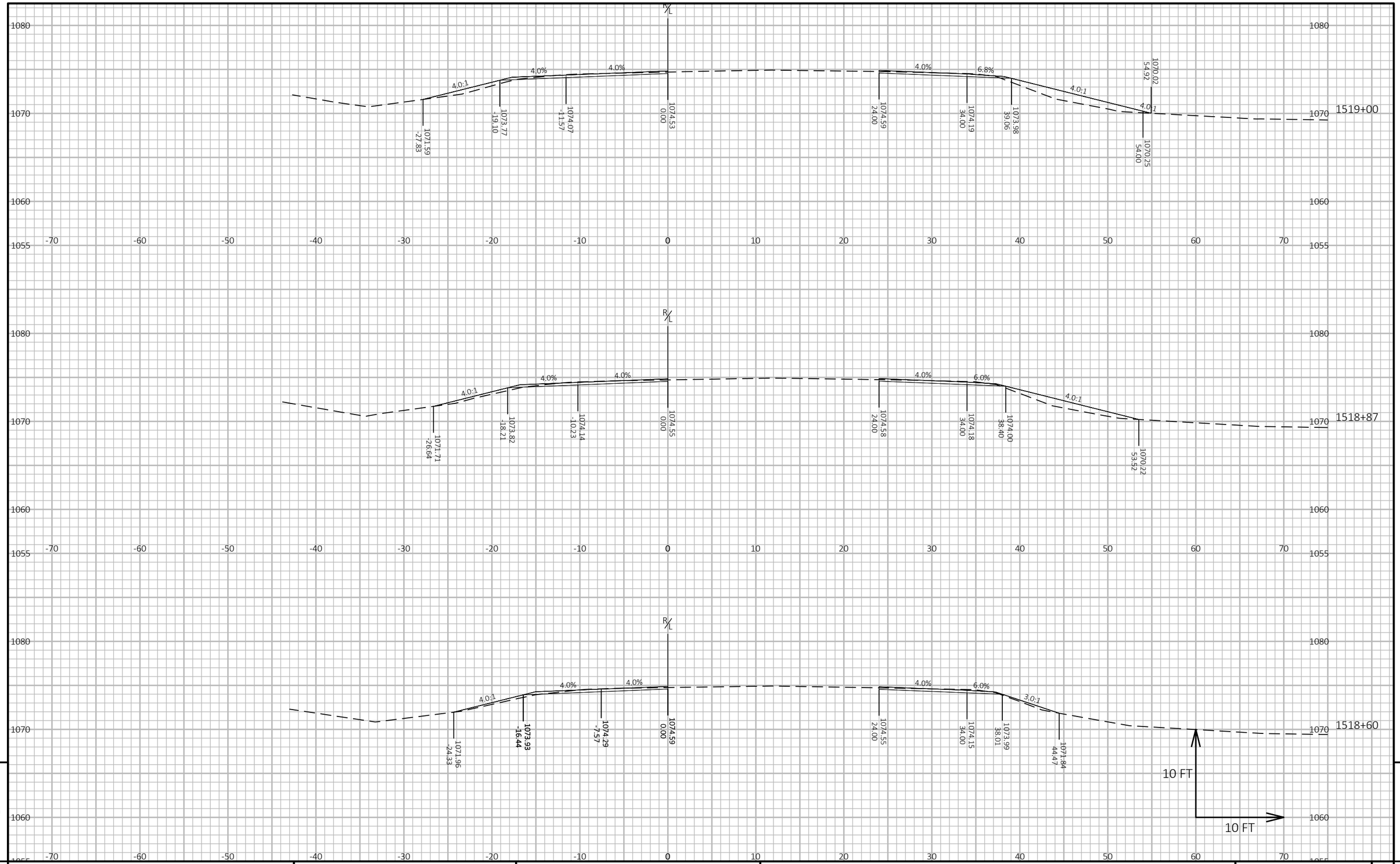
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 329 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 54

PLOT DATE : 2/25/2026 12:27 PM PLOT BY : PATRICK O'LEARY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

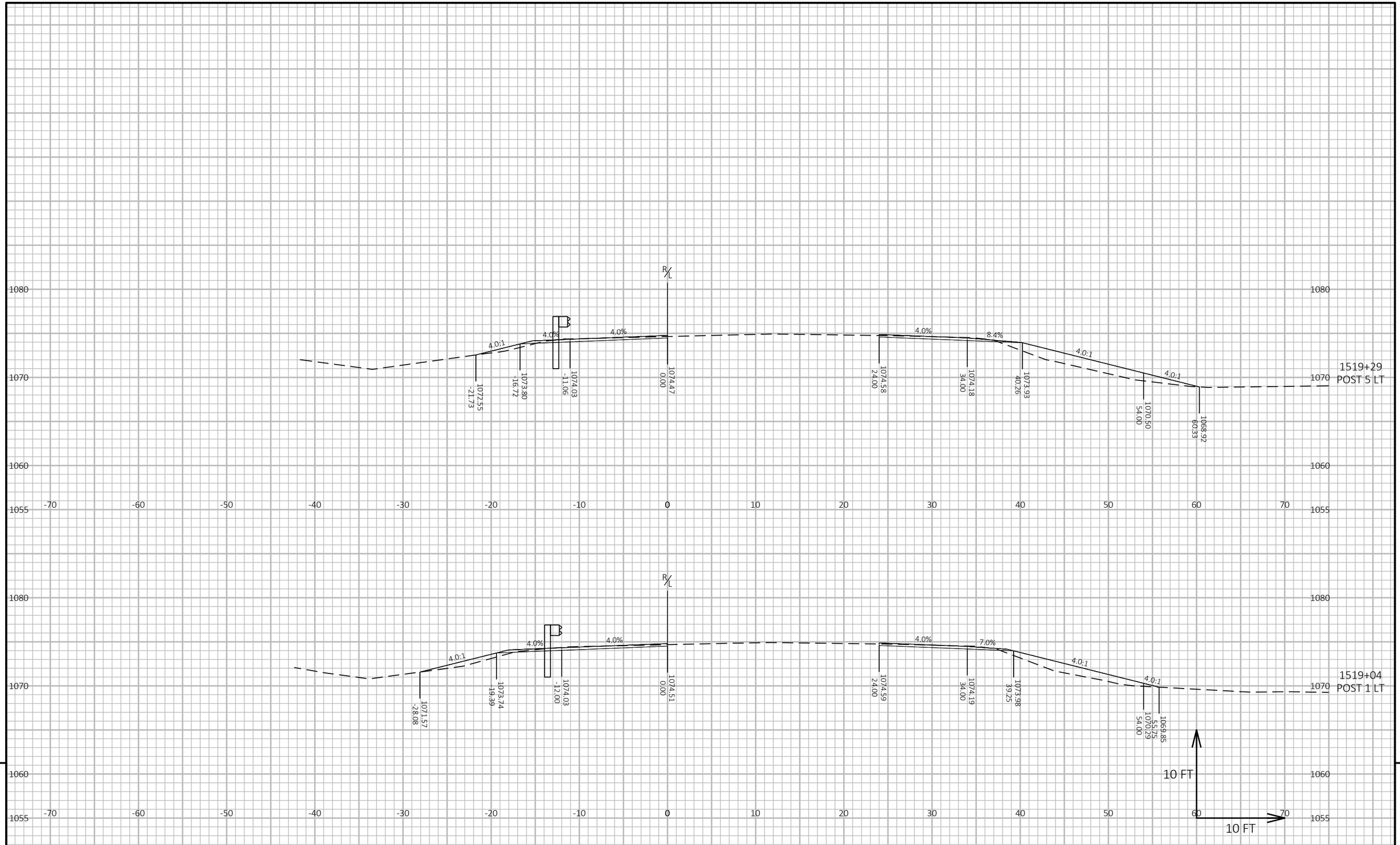
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 330 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 55

PLOT DATE : 2/25/2026 12:28 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

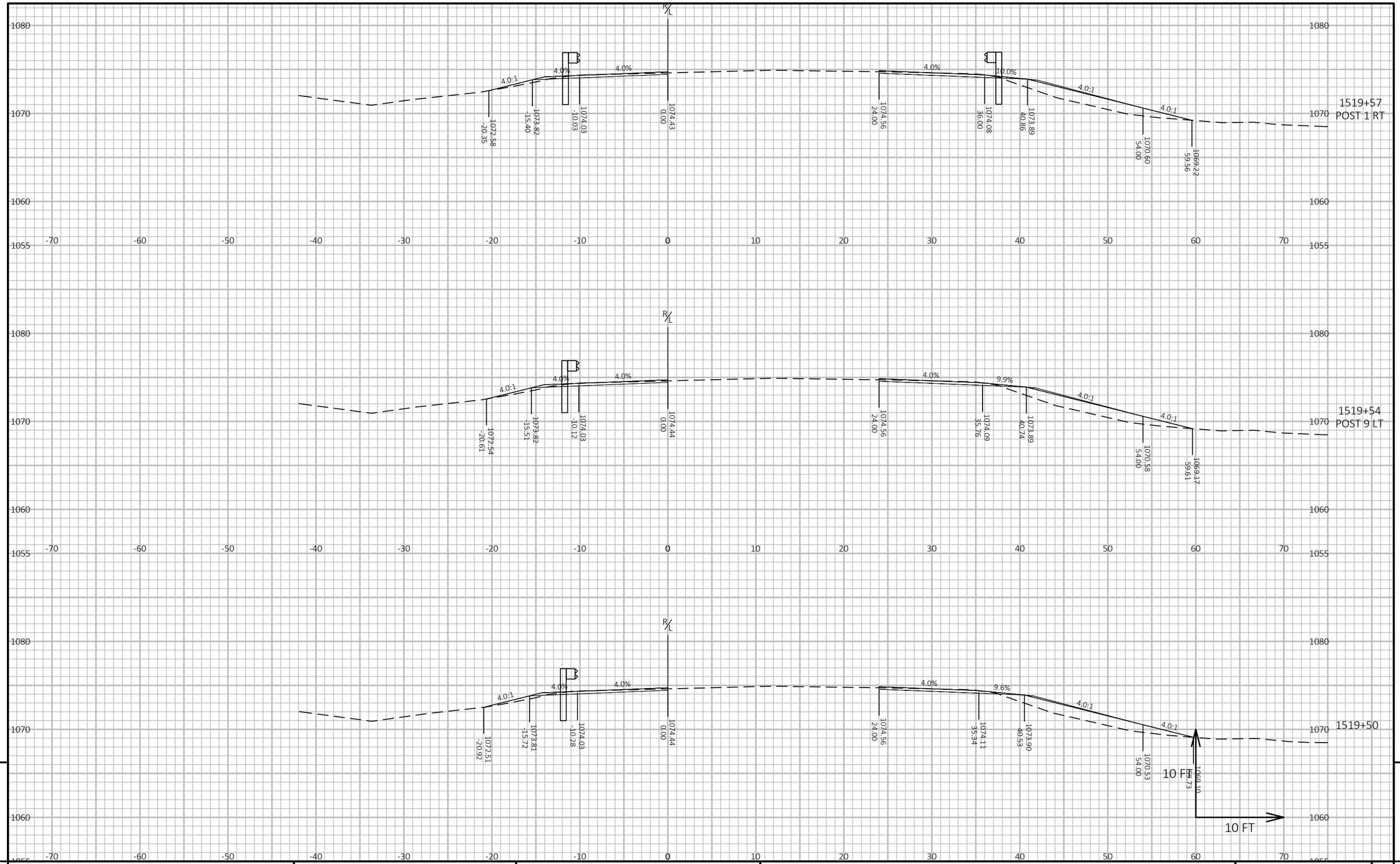
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 331 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 56

PLOT DATE : 2/25/2026 12:28 PM PLOT BY : PATRICK O'LEARY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



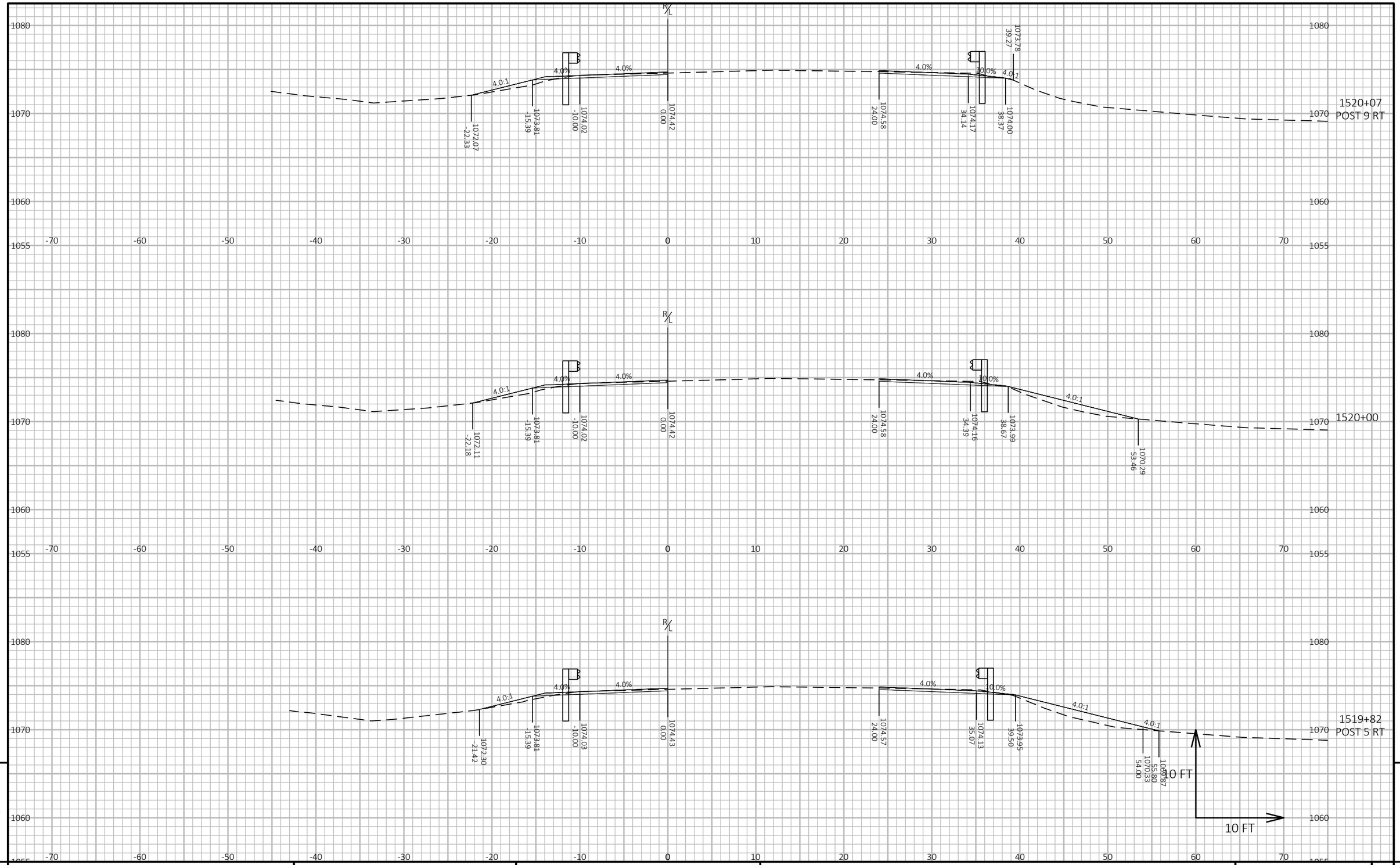

9 9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 332 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 57

PLOT DATE : 2/25/2026 12:28 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

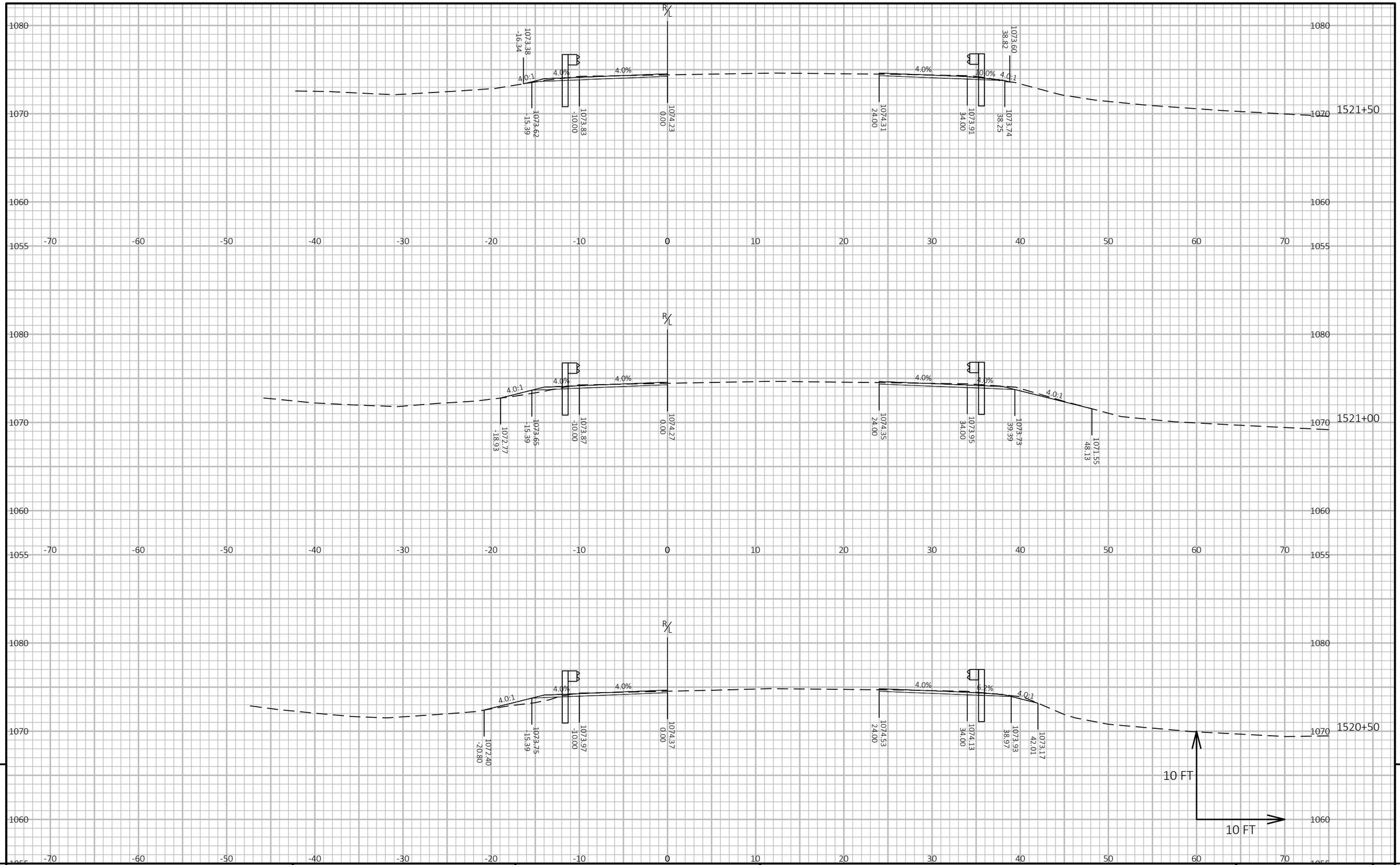
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 333 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 58

PLOT DATE : 2/25/2026 12:28 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



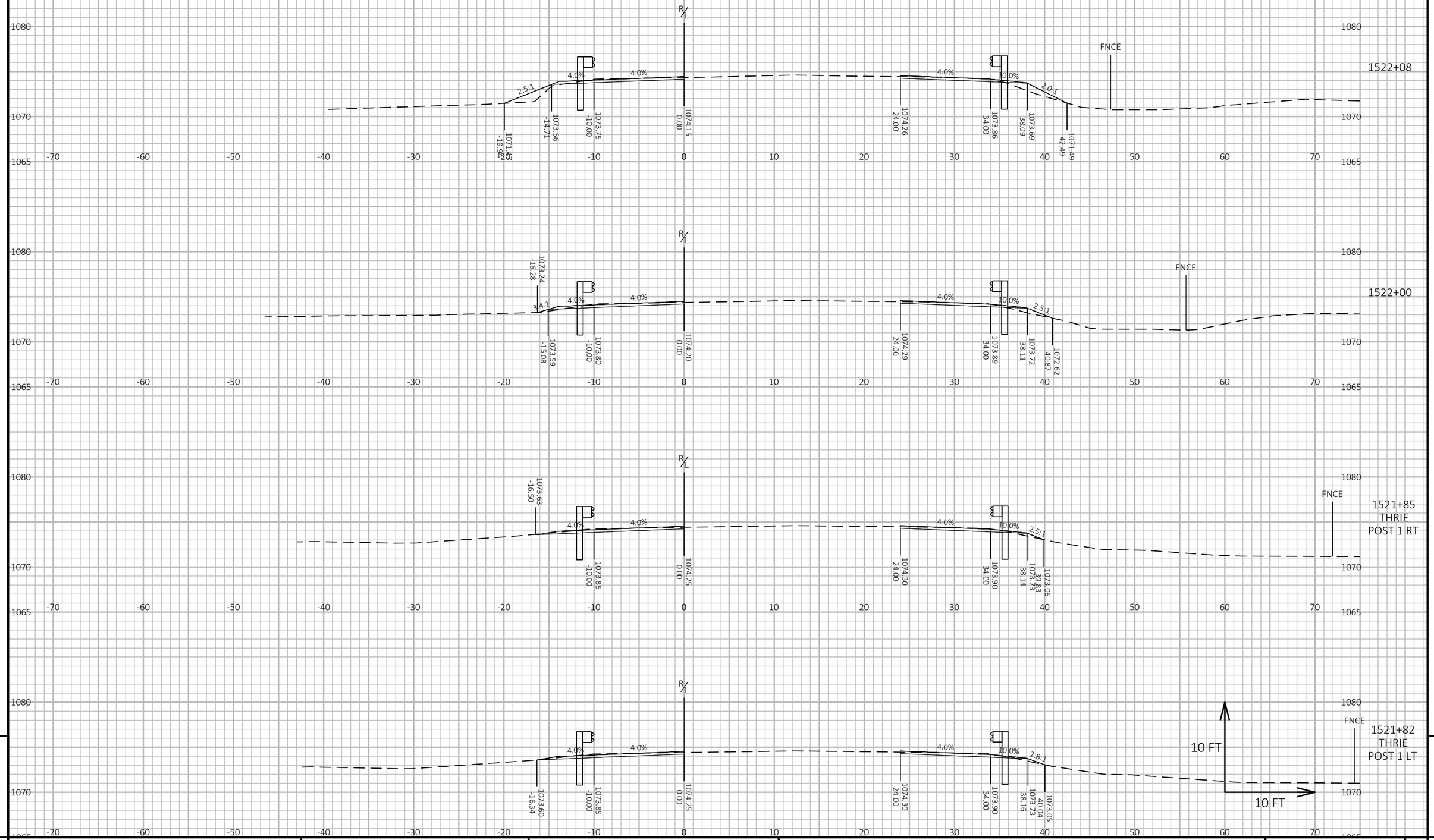

| | | | | | |
|---|---|---|---|---|---|
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 334 | E |

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 59

PLOT DATE : 2/25/2026 12:28 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

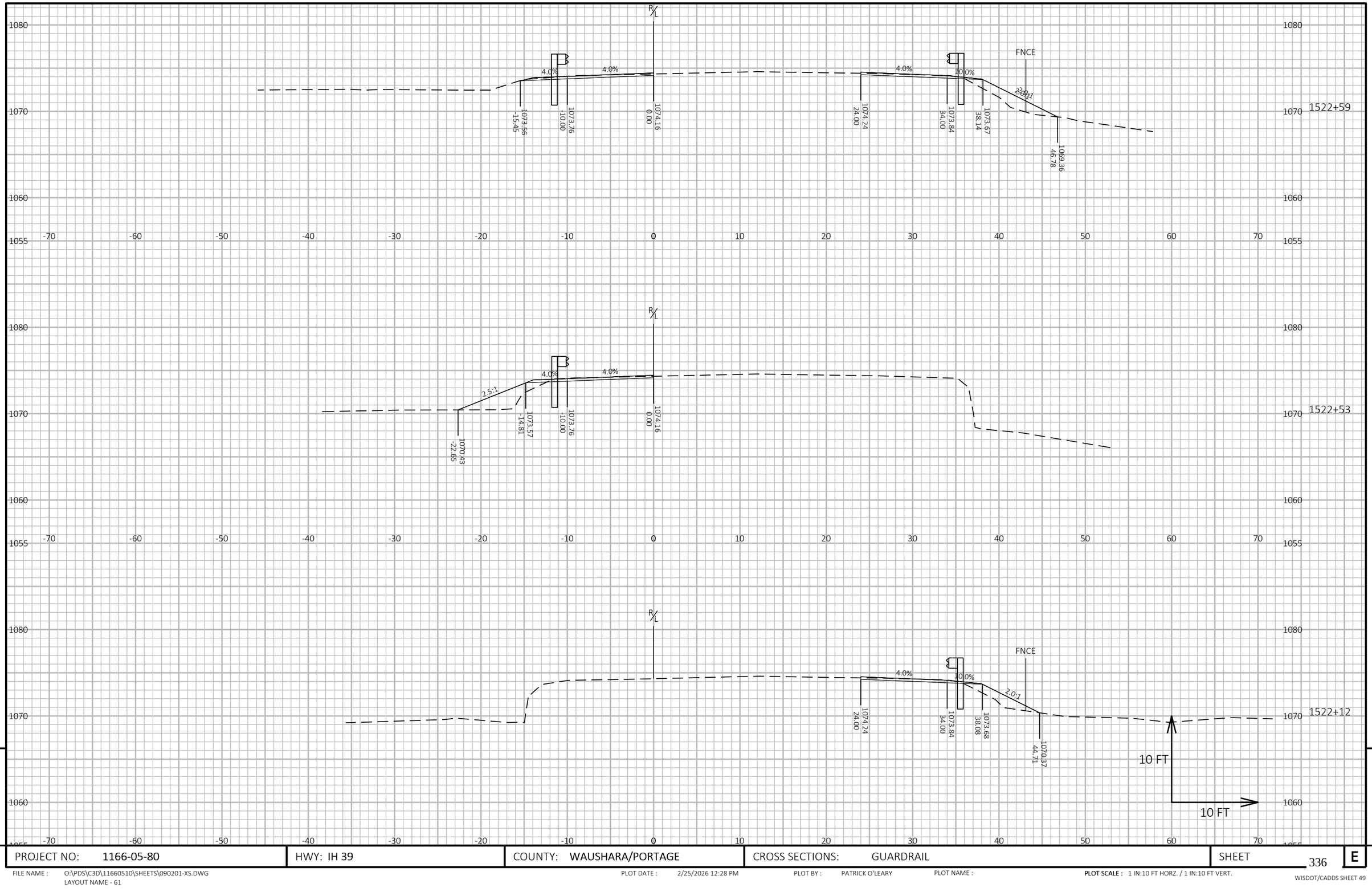
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 335 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 60

PLOT DATE : 2/25/2026 12:28 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



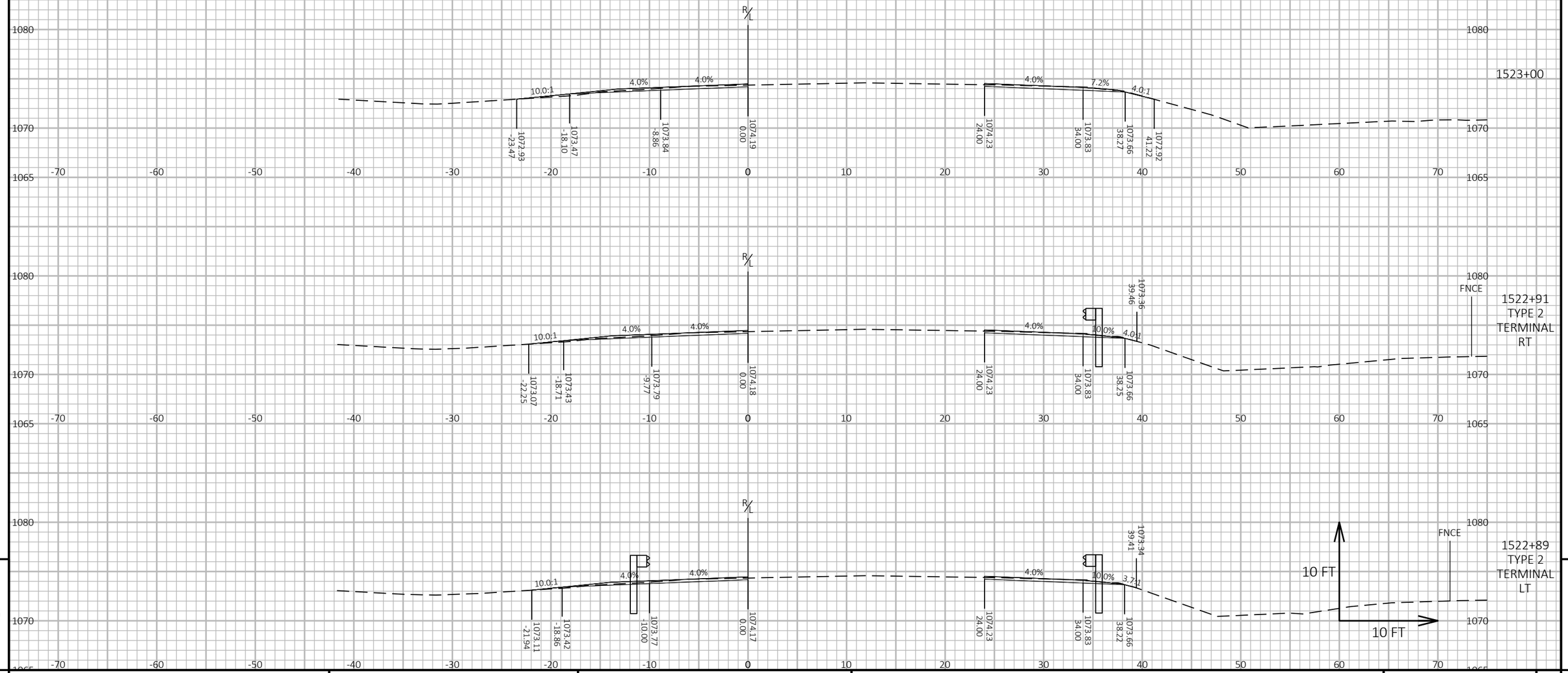

9 9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 336 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 61

PLOT DATE : 2/25/2026 12:28 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

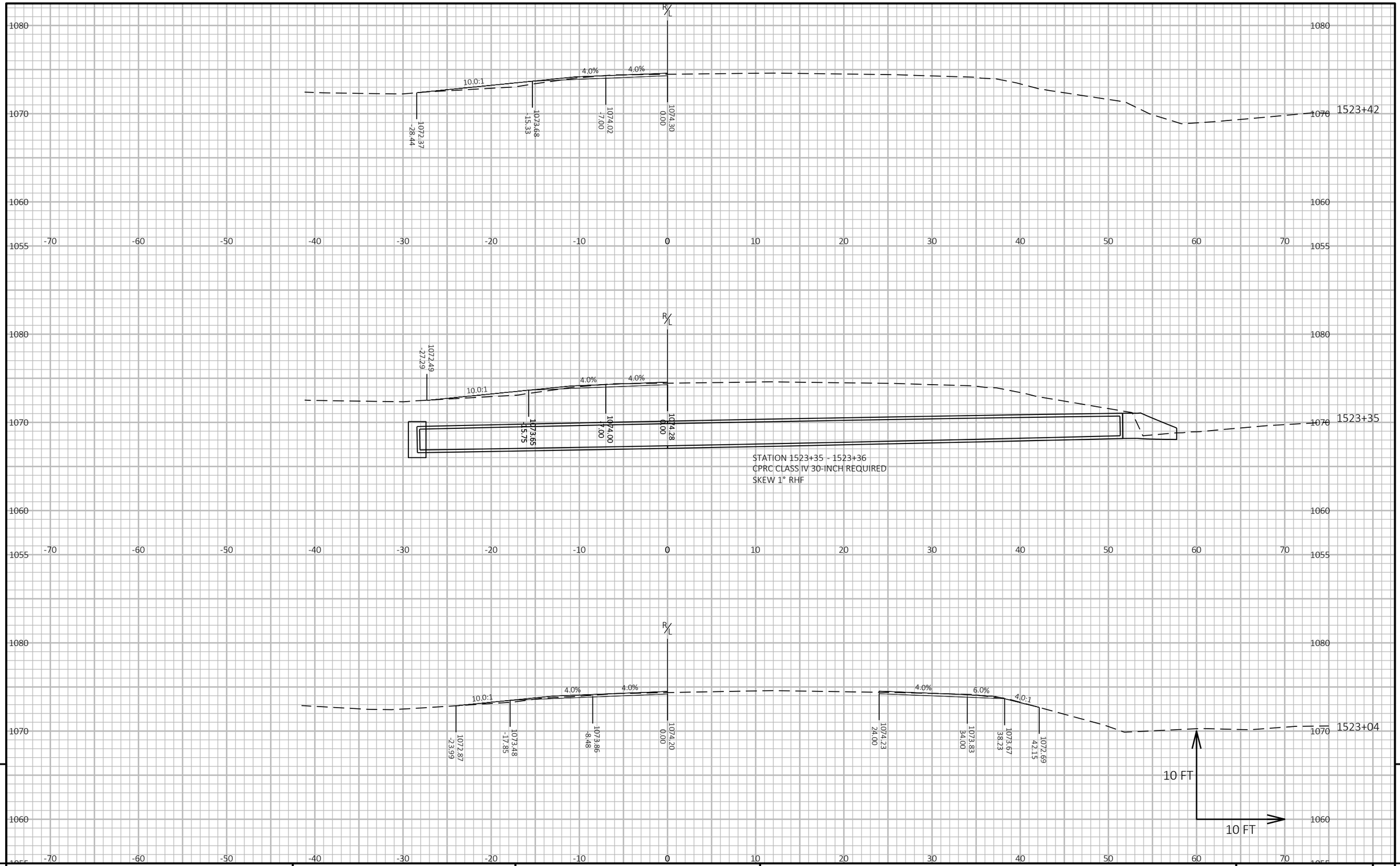
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 337 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 62

PLOT DATE : 2/25/2026 12:28 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

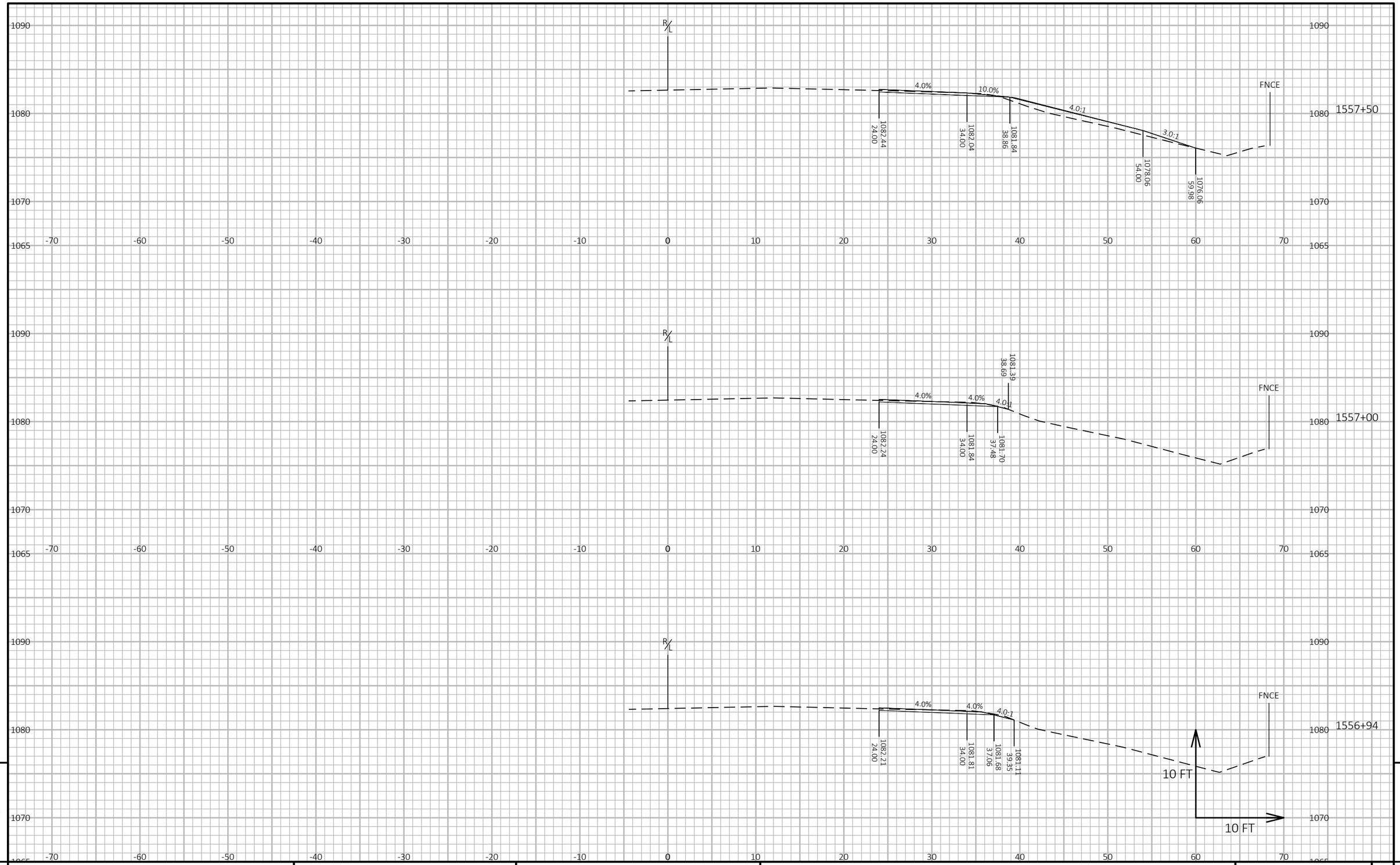
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 338 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 63

PLOT DATE : 2/25/2026 12:28 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



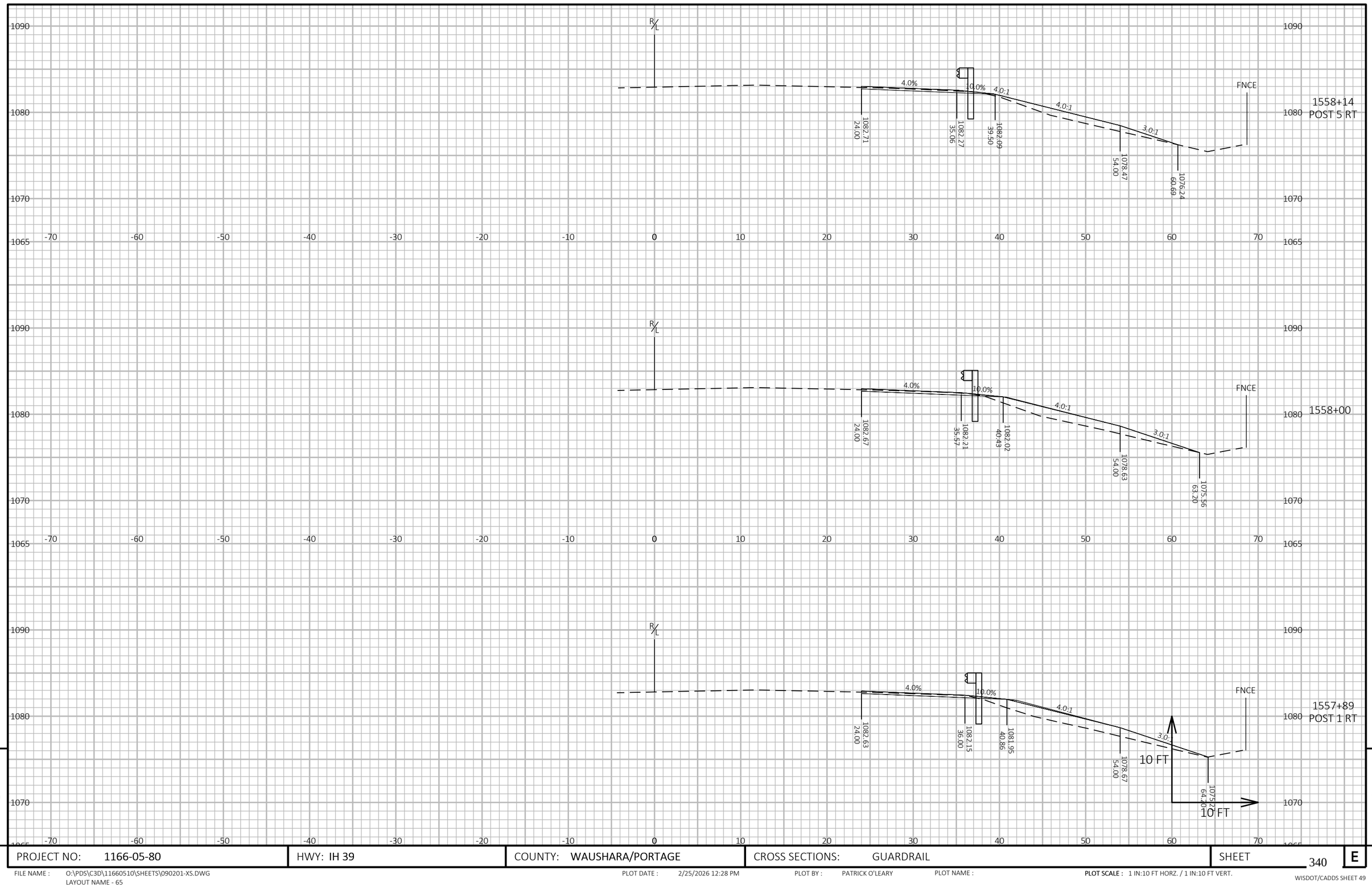

| | | | | | |
|---|---|---|---|---|---|
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 339 | E |

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 64

PLOT DATE : 2/25/2026 12:28 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 340 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 65

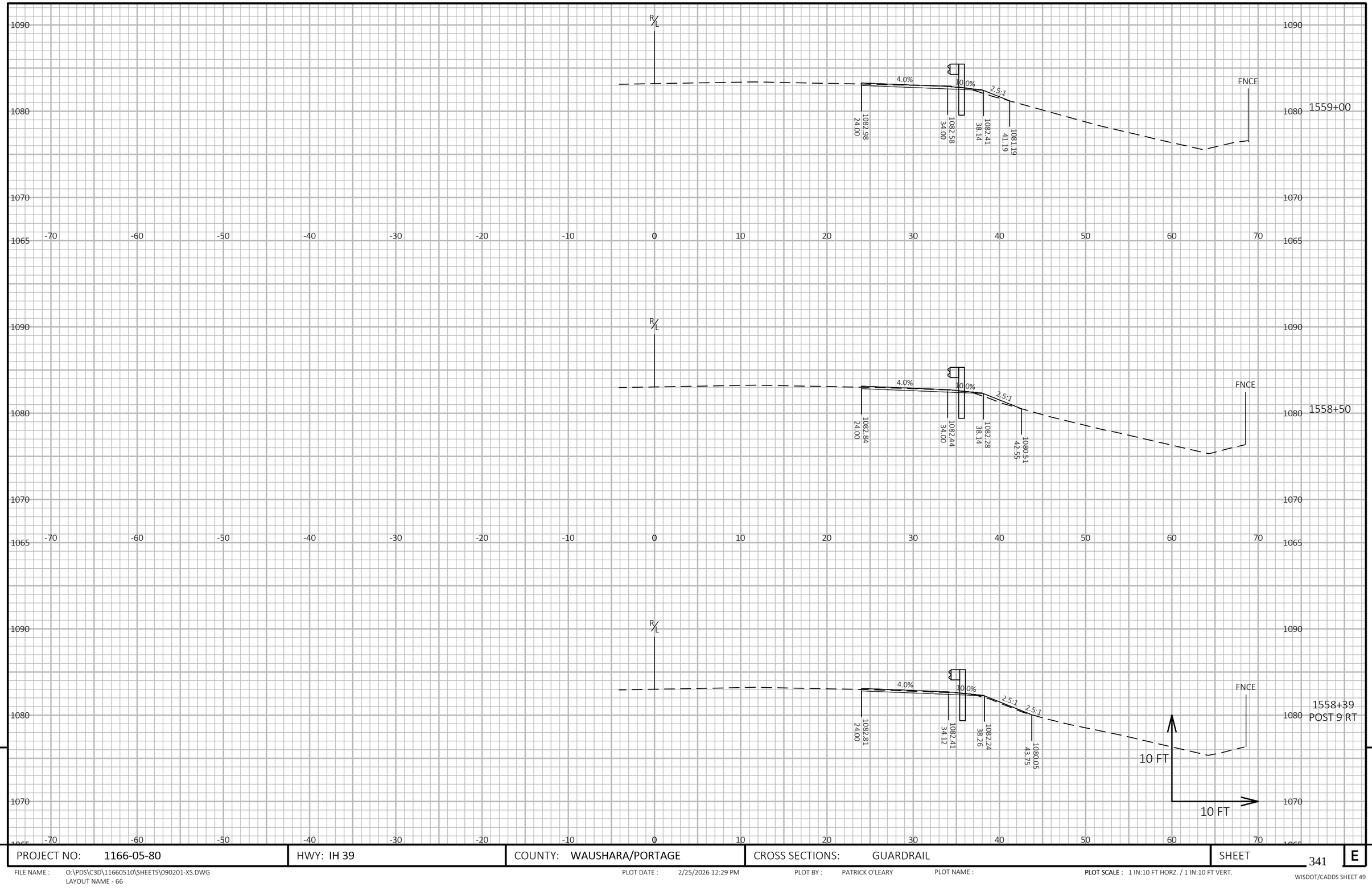
PLOT DATE : 2/25/2026 12:28 PM

PLOT BY : PATRICK O'LEARY

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

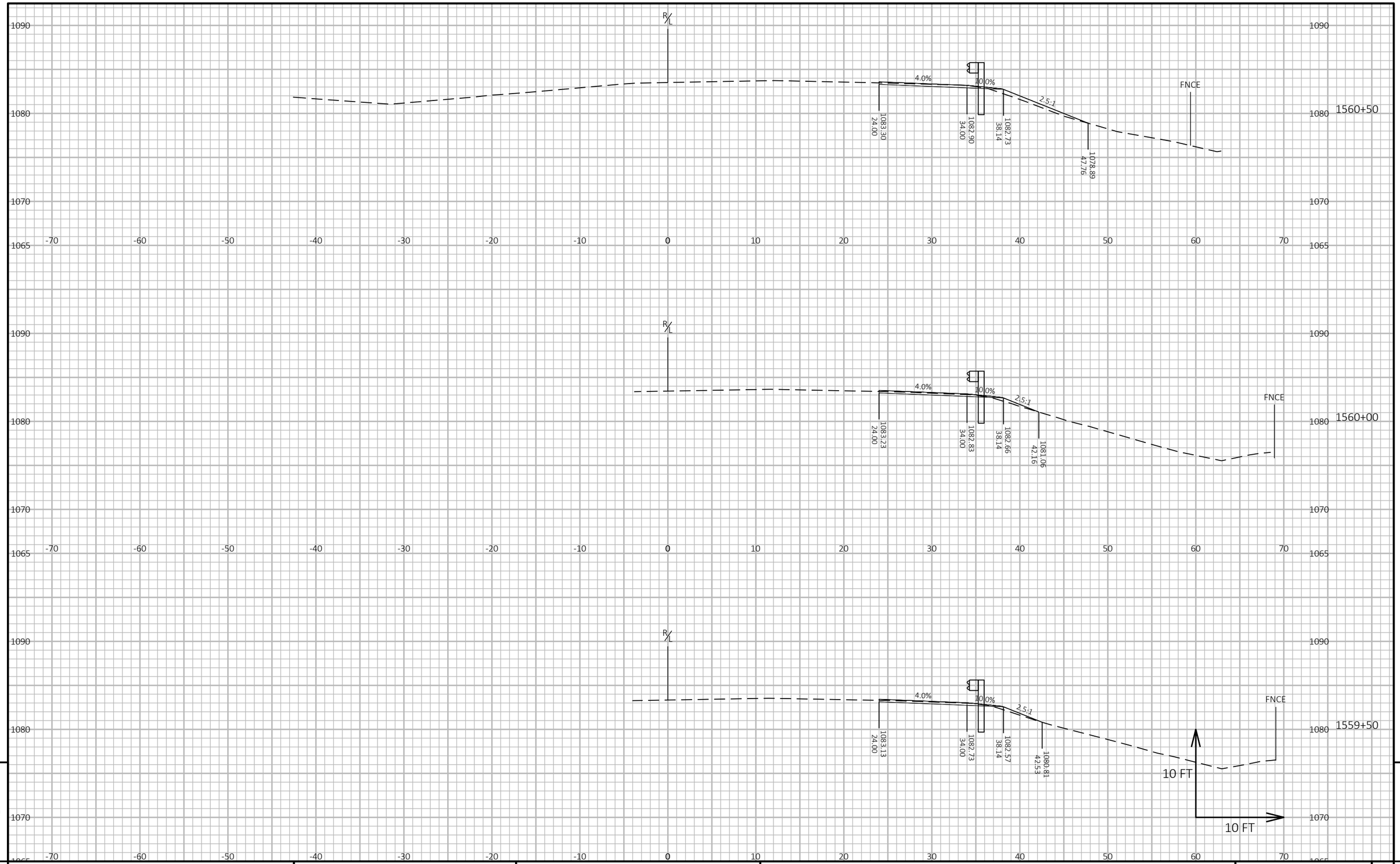
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 341 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 66

PLOT DATE : 2/25/2026 12:29 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

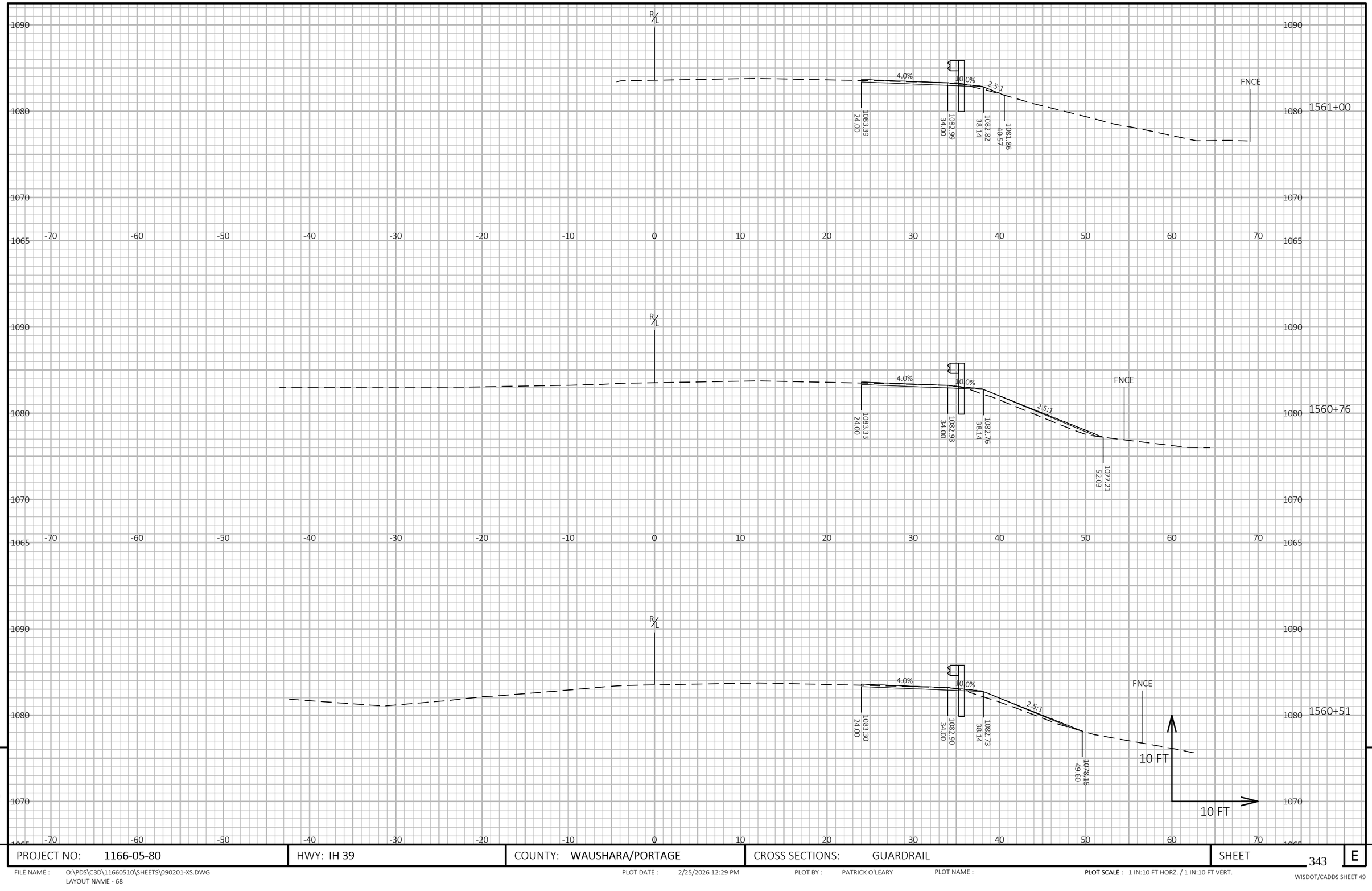
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 342 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 67

PLOT DATE : 2/25/2026 12:29 PM PLOT BY : PATRICK O'LEARY PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

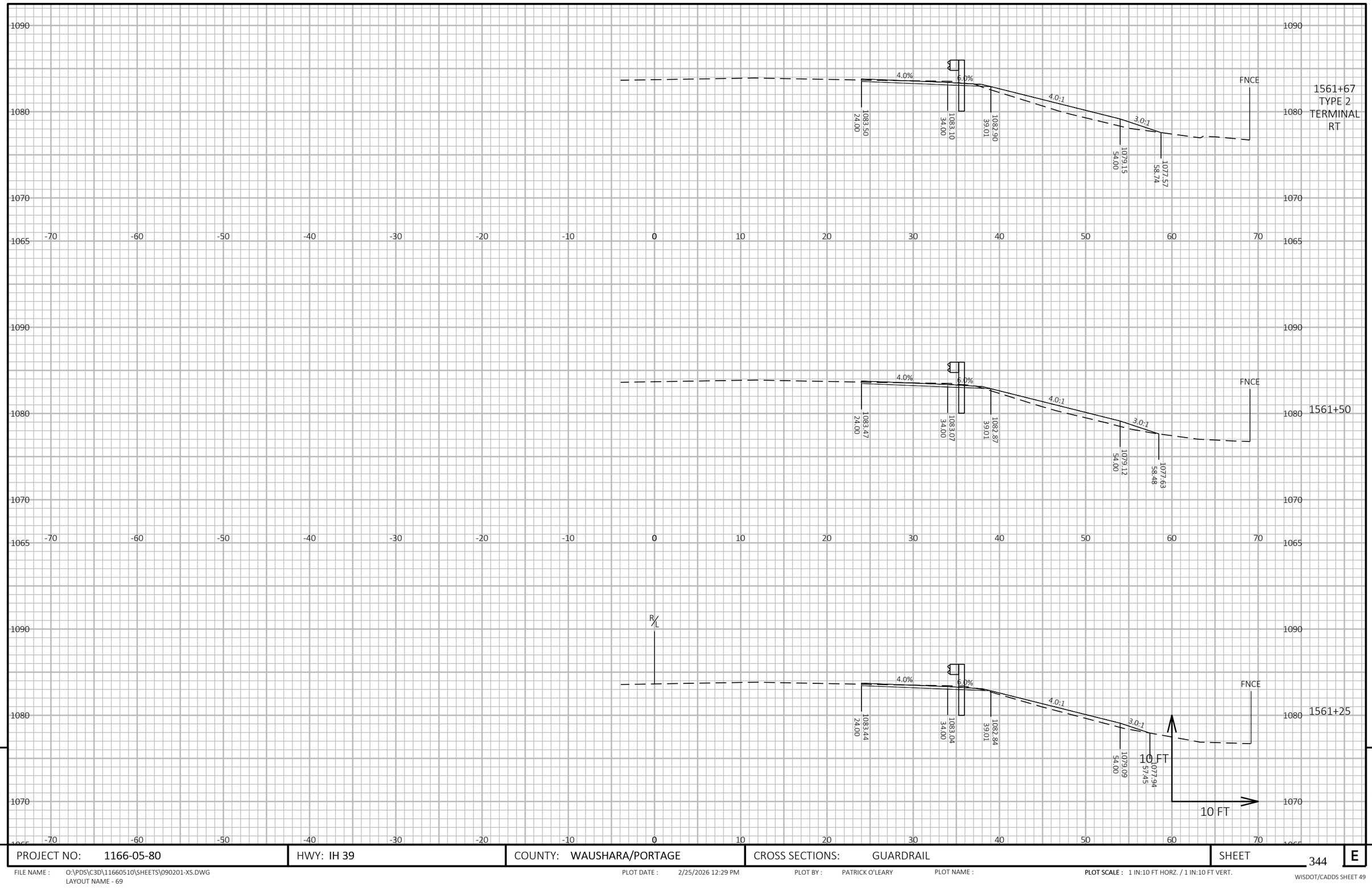
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 343 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 68

PLOT DATE : 2/25/2026 12:29 PM PLOT BY : PATRICK O'LEARY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

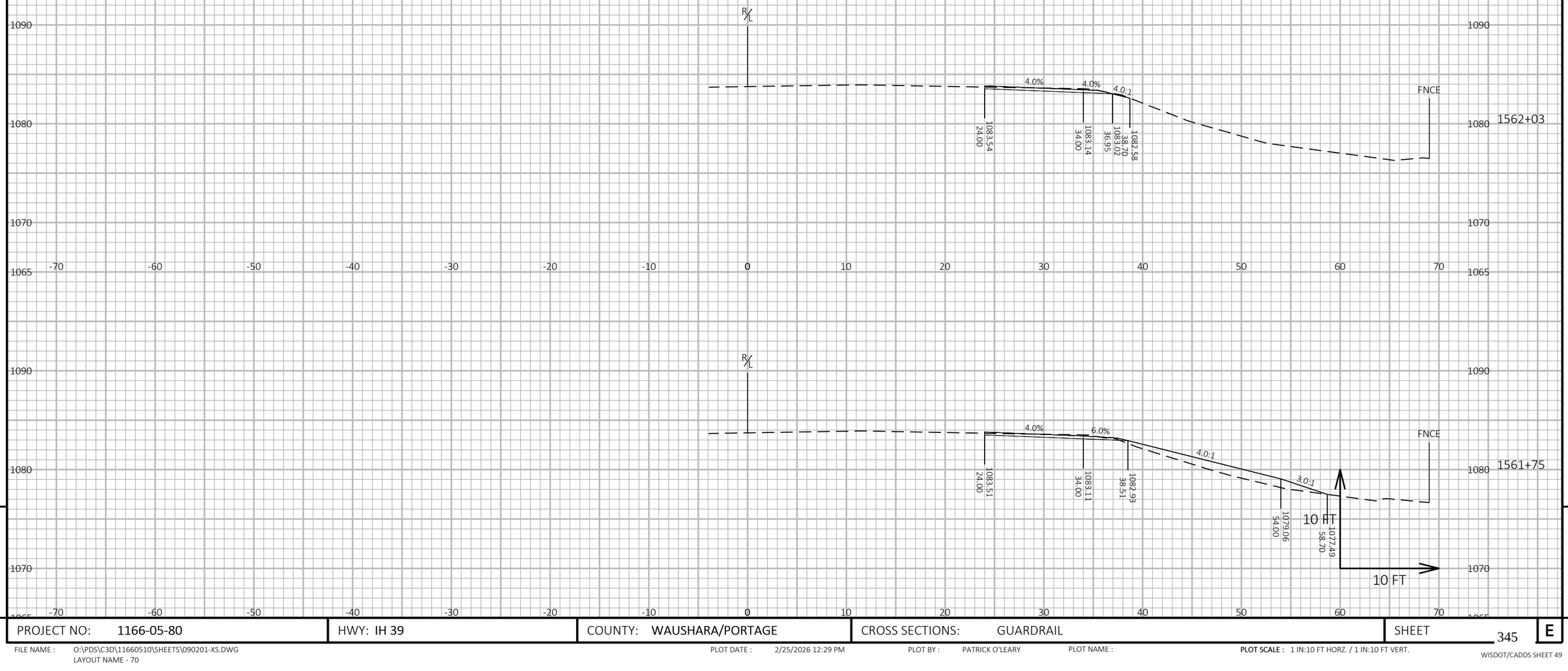
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 344 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 69

PLOT DATE : 2/25/2026 12:29 PM PLOT BY : PATRICK O'LEARY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

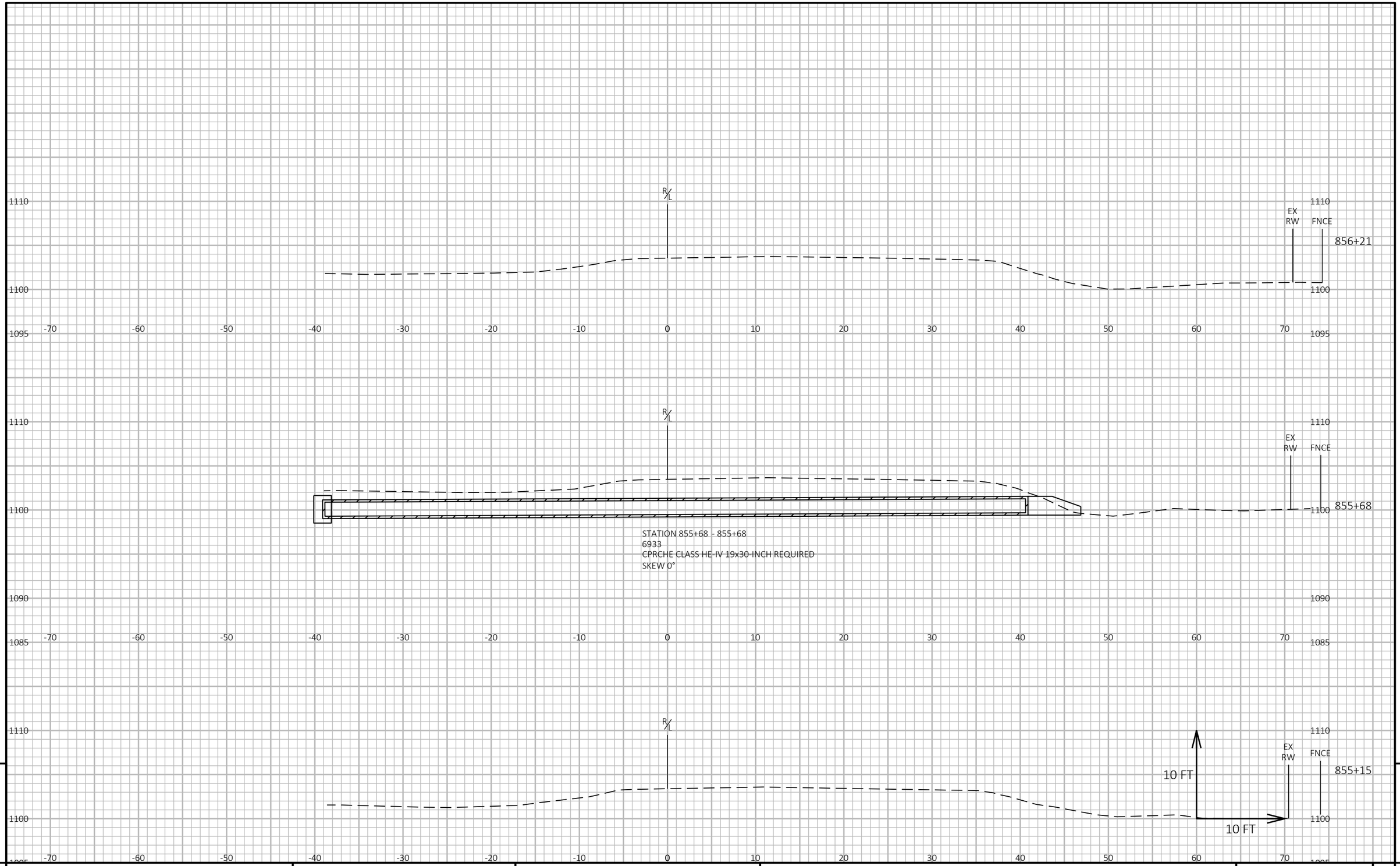
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: GUARDRAIL | SHEET 345 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090201-XS.DWG
LAYOUT NAME - 70

PLOT DATE : 2/25/2026 12:29 PM PLOT BY : PATRICK O'LEARY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

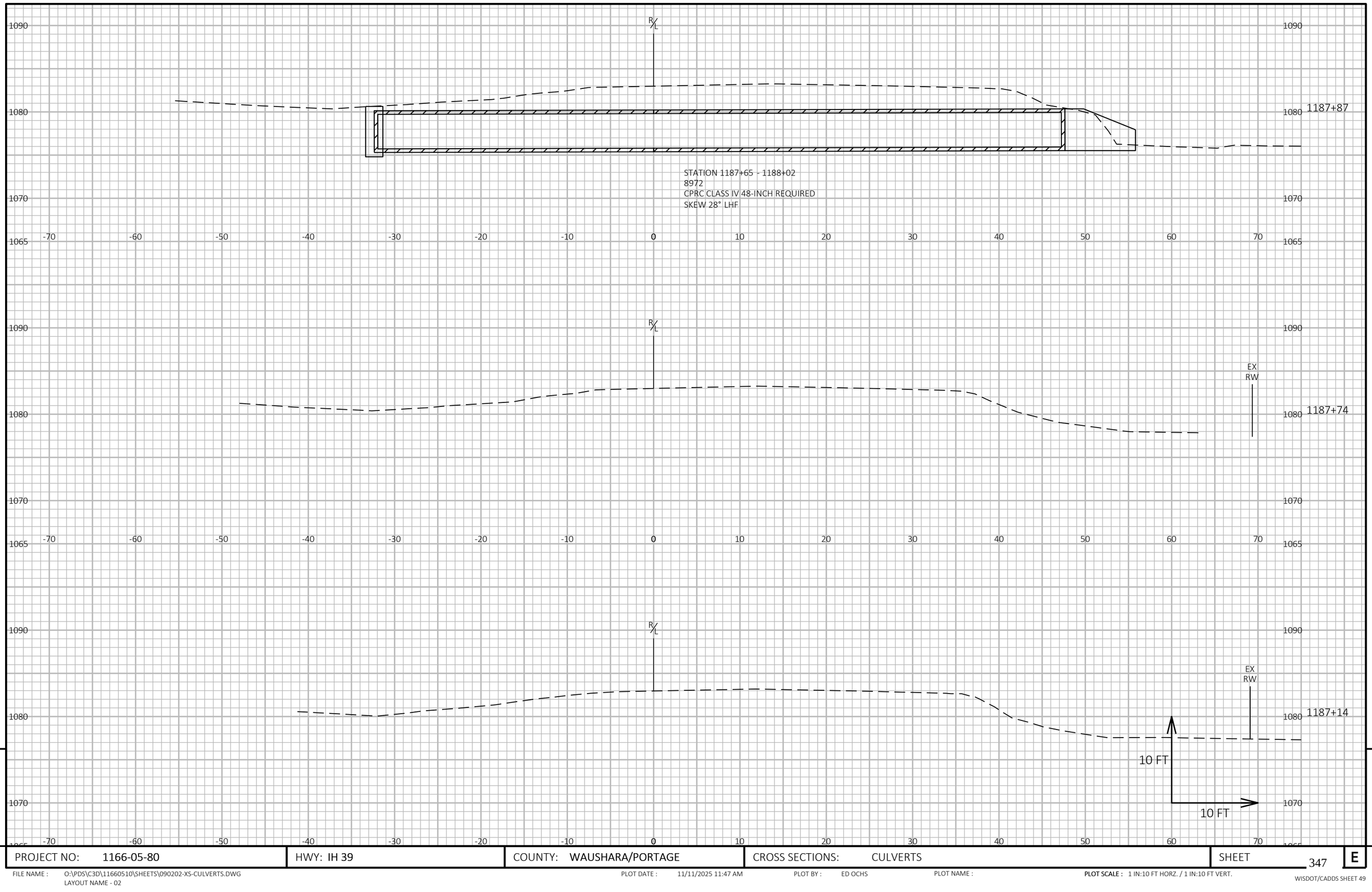
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 346 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 01

PLOT DATE : 11/11/2025 11:47 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



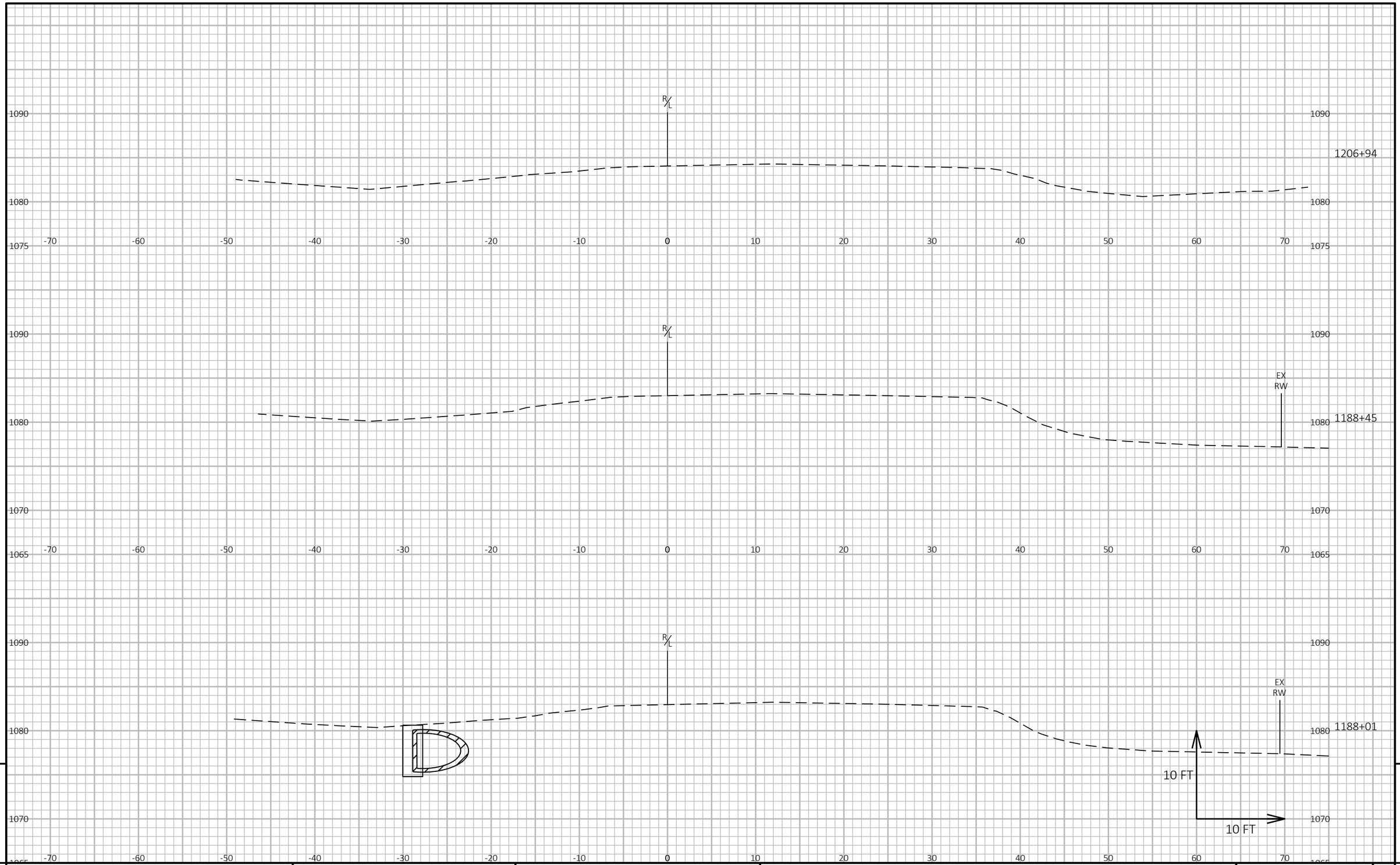

| | | | | |
|---|---|---|---|---|
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 347 E |

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 02

PLOT DATE : 11/11/2025 11:47 AM PLOT BY : ED OCHS PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

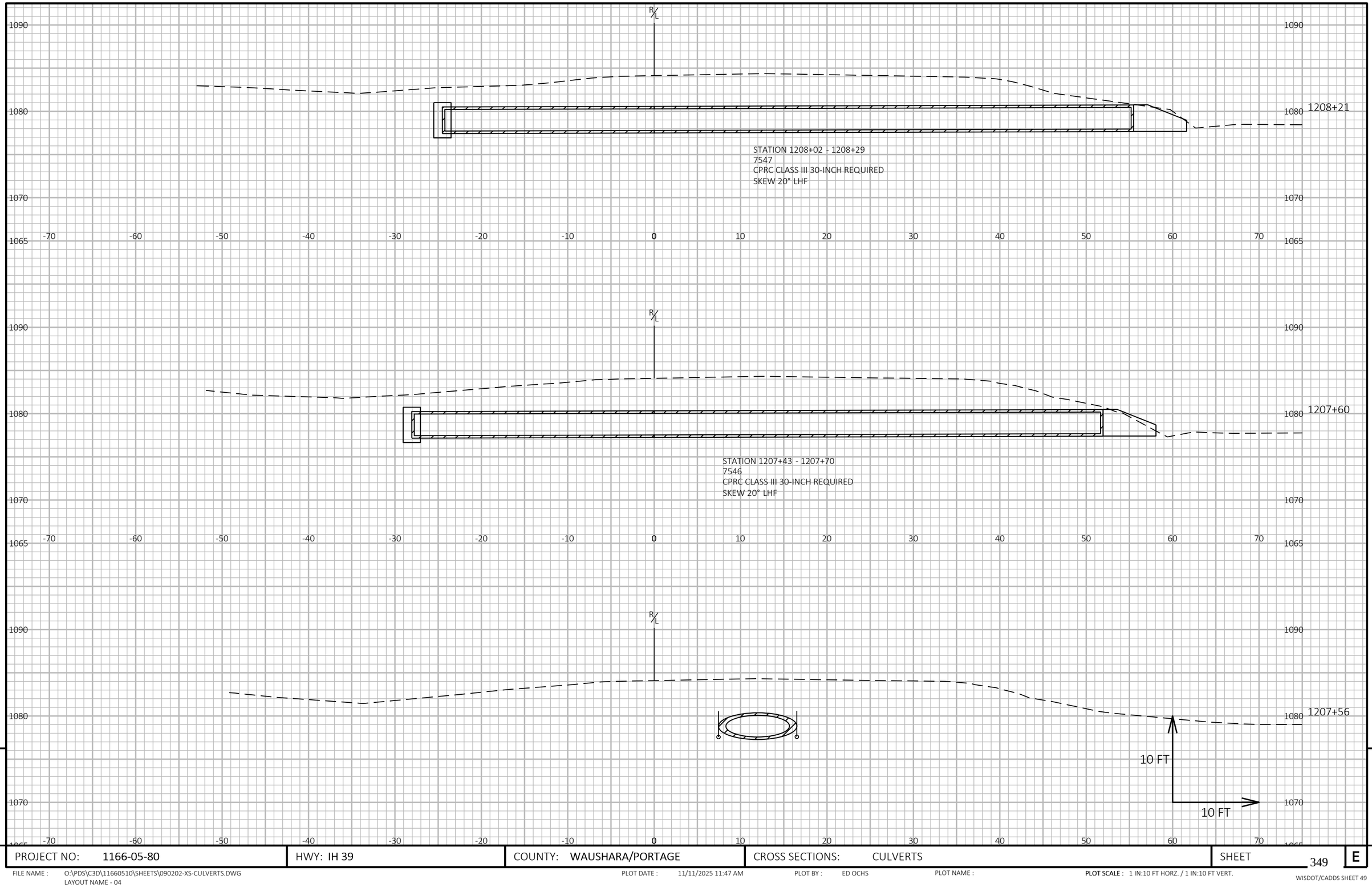
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 348 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 03

PLOT DATE : 11/11/2025 11:47 AM PLOT BY : ED OCHS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

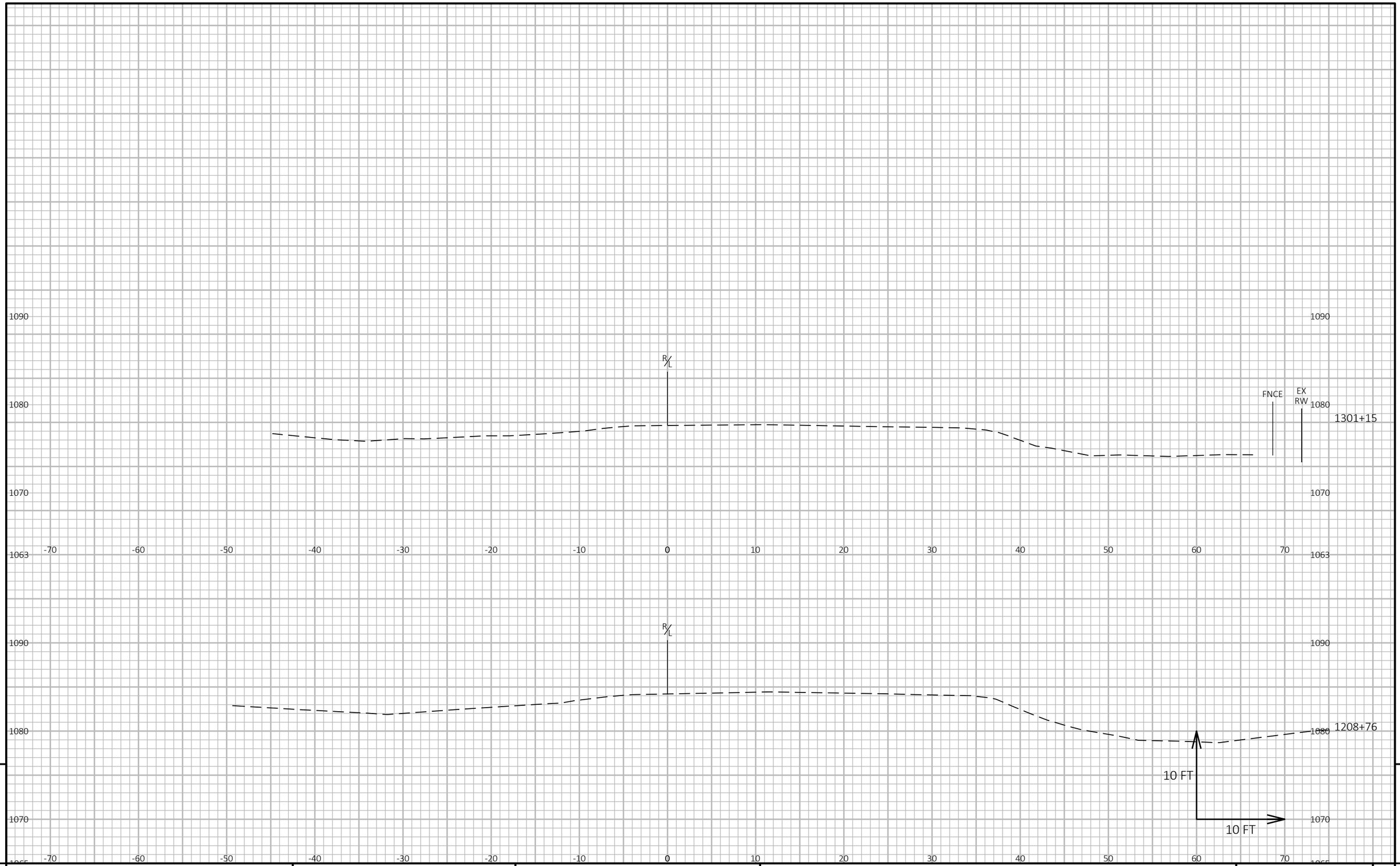
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 349 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 04

PLOT DATE : 11/11/2025 11:47 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 350 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 05

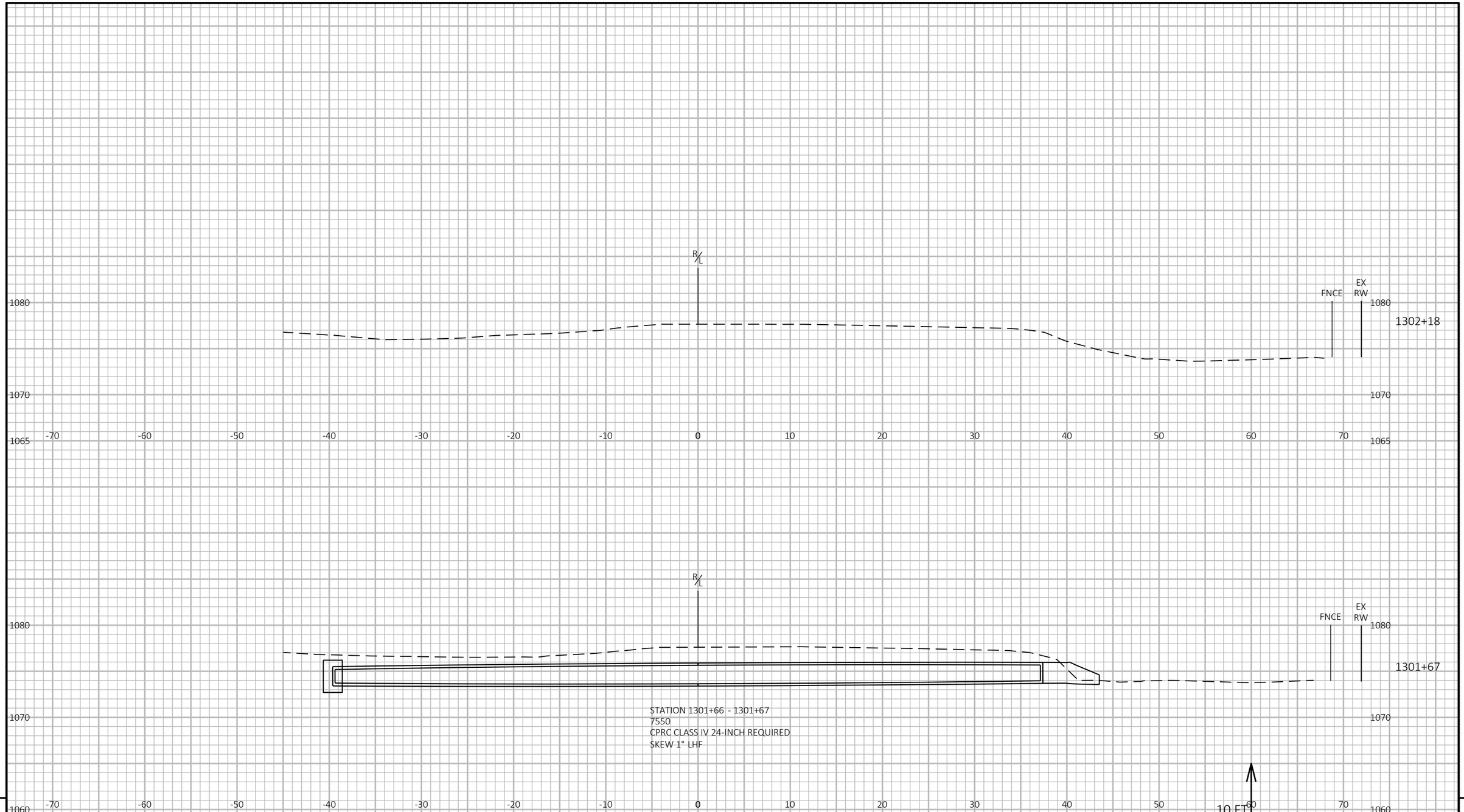
PLOT DATE : 11/11/2025 11:48 AM

PLOT BY : ED OCHS

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

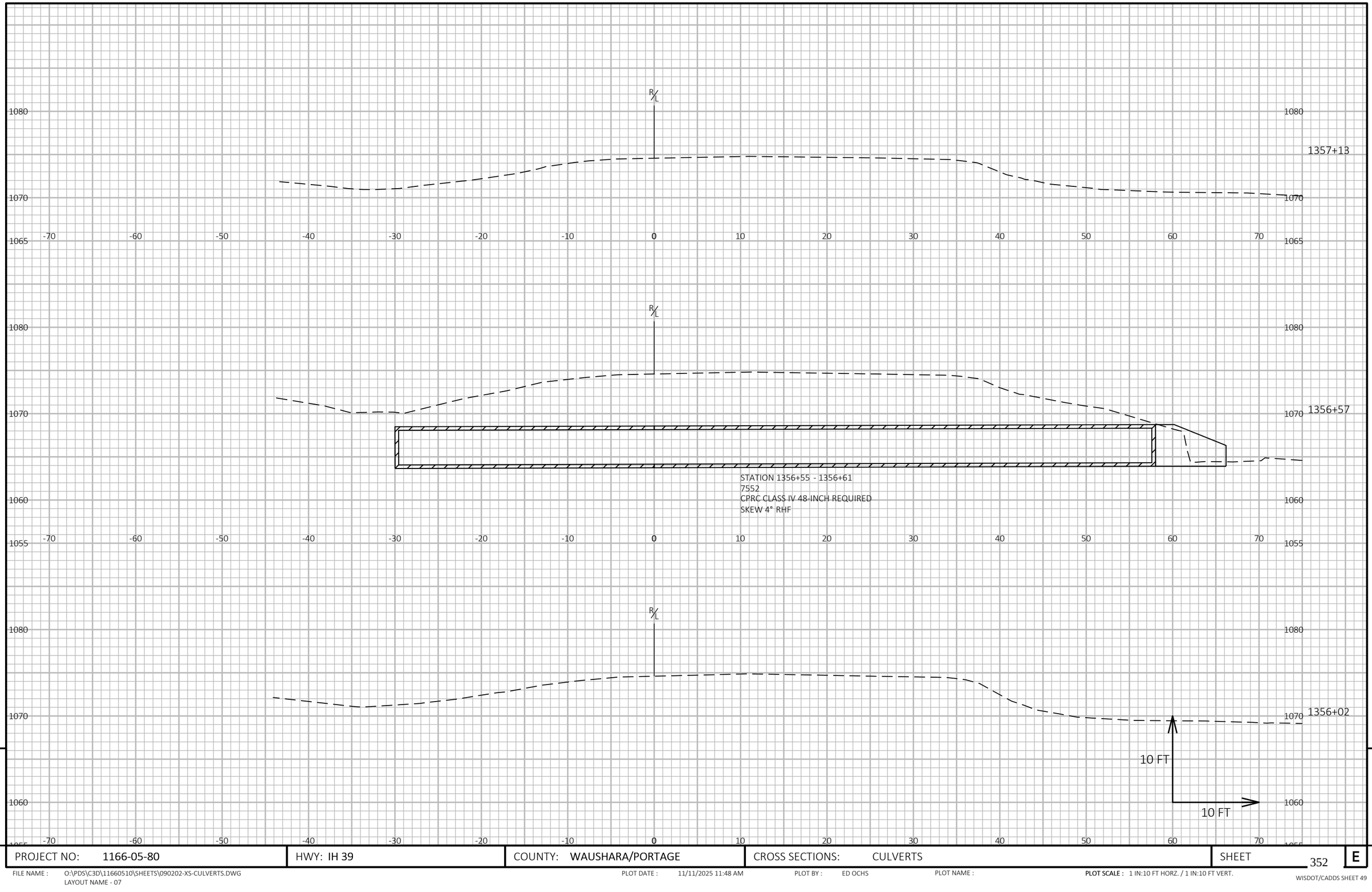
| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 351 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 06

PLOT DATE : 11/11/2025 11:48 AM PLOT BY : ED OCHS PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

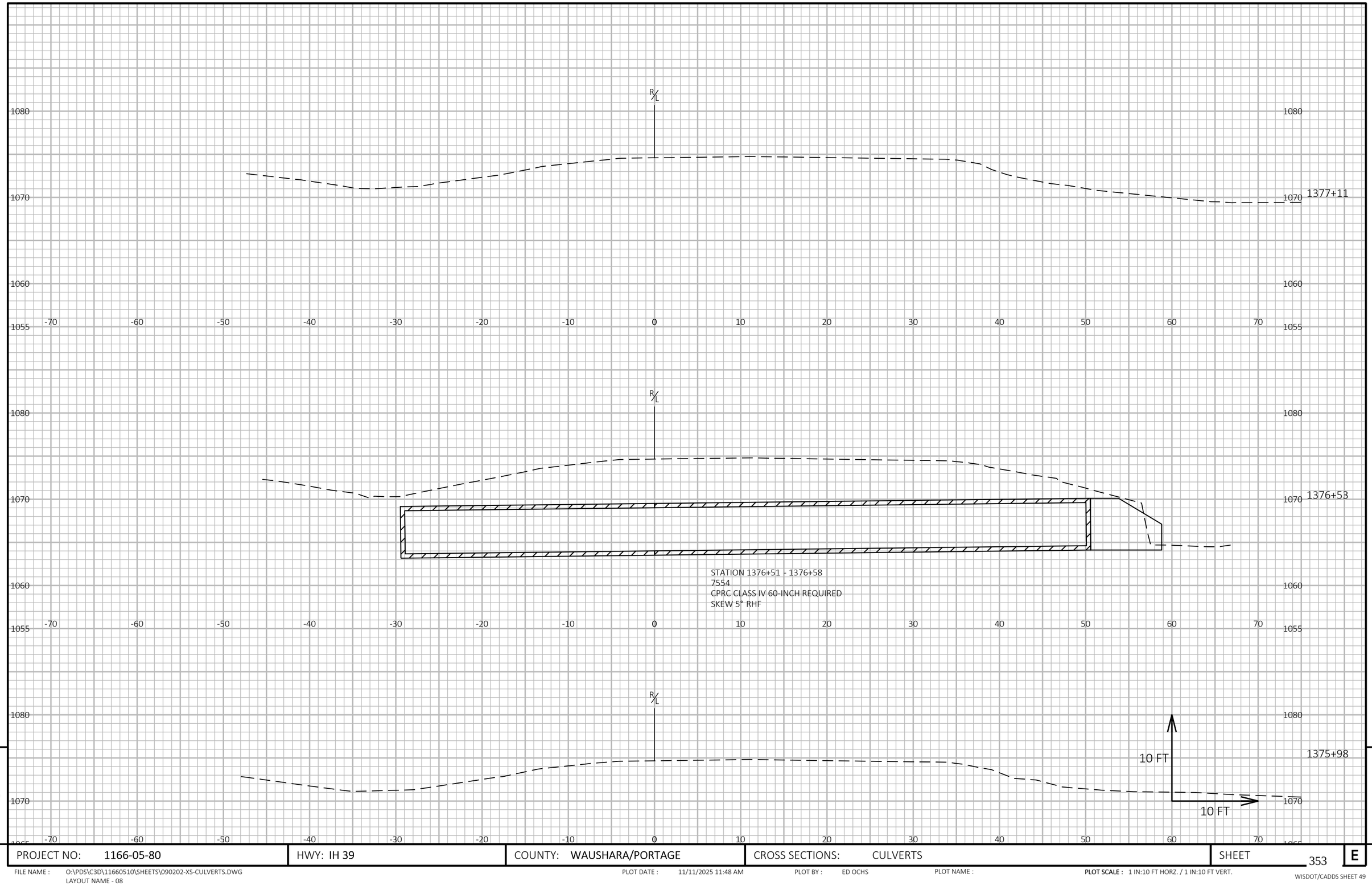
WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 352 | E |
|---|---|---|---|---|---|




9

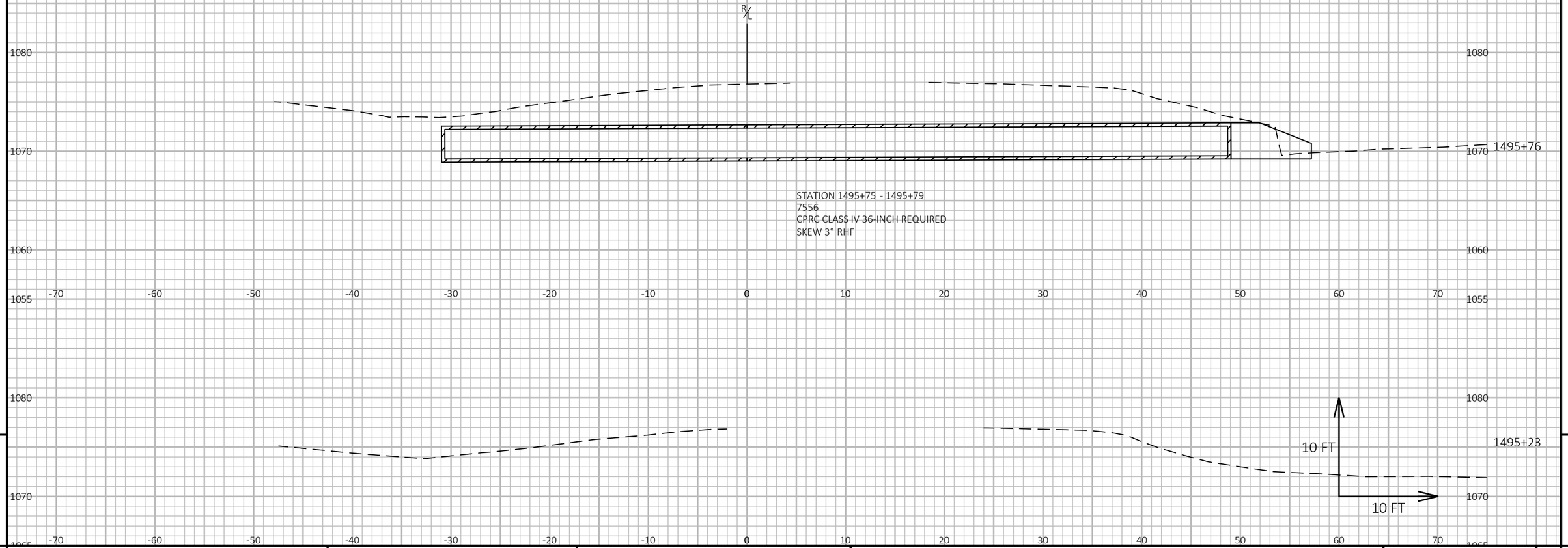
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 353 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 08

PLOT DATE : 11/11/2025 11:48 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

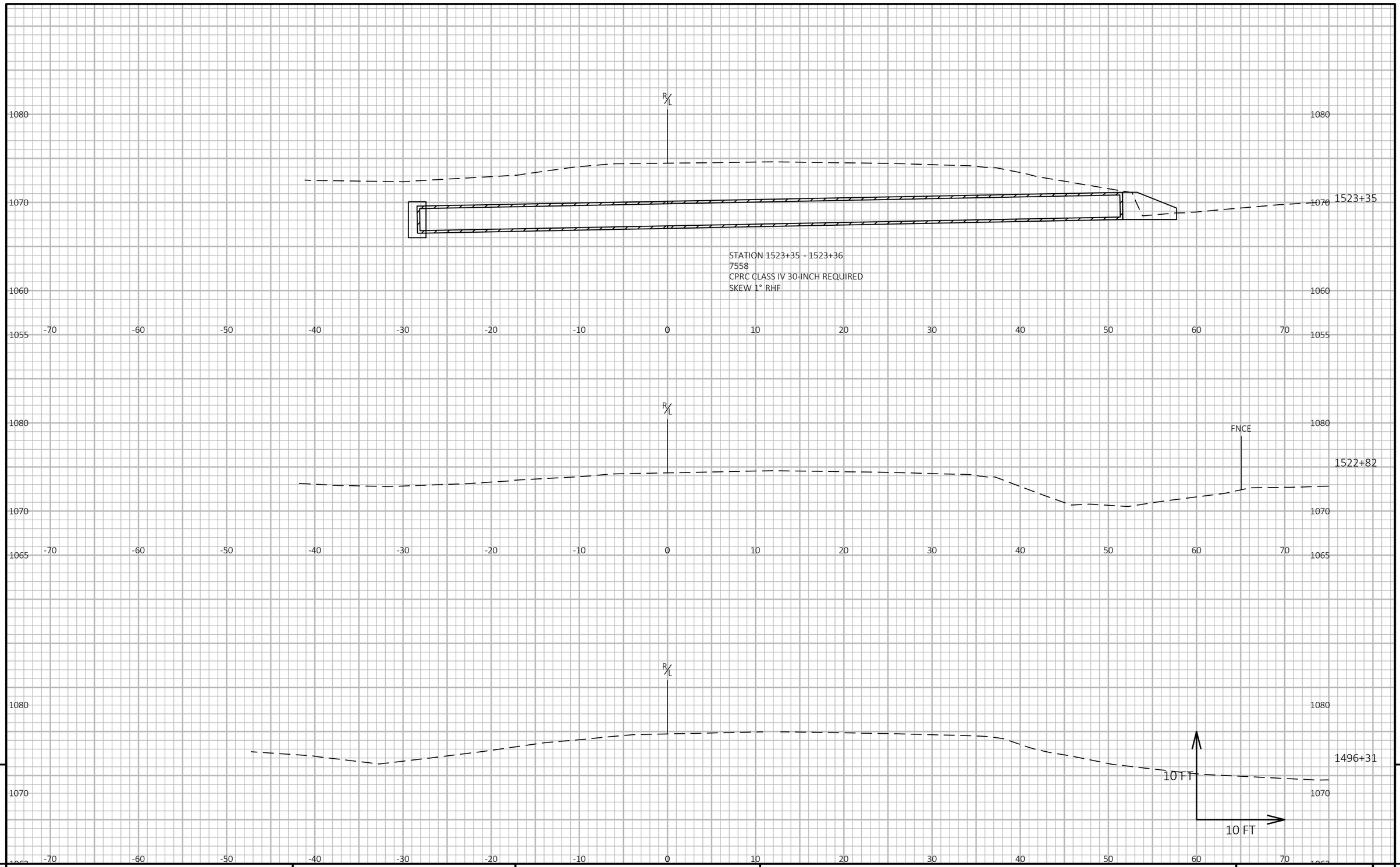
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 354 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 09

PLOT DATE : 11/11/2025 11:48 AM PLOT BY : ED OCHS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

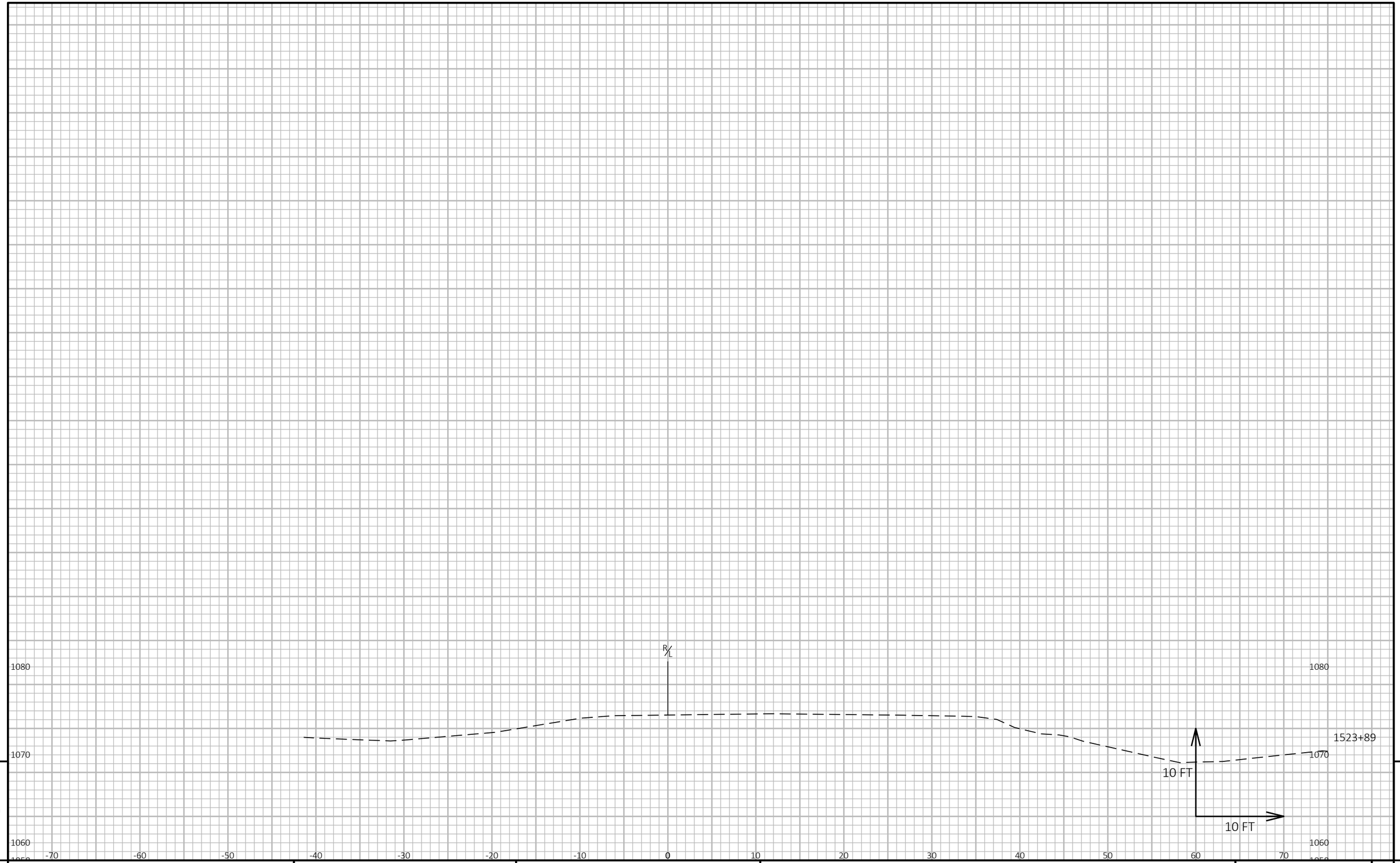
9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 355 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 10

PLOT DATE : 11/11/2025 11:48 AM PLOT BY : ED OCHS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 1166-05-80 | HWY: IH 39 | COUNTY: WAUSHARA/PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 356 | E |
|---|---|---|---|---|---|

FILE NAME : O:\PDS\C3D\11660510\SHEETS\090202-XS-CULVERTS.DWG
LAYOUT NAME - 11

PLOT DATE : 11/11/2025 11:48 AM PLOT BY : ED OCHS 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