

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1090-09-76	WISC 2024113	1

PLAN OF PROPOSED IMPROVEMENT

## IH 43 ROCK FREEWAY

STH 164 TO MOORLAND RD

IH 43

WAUKESHA

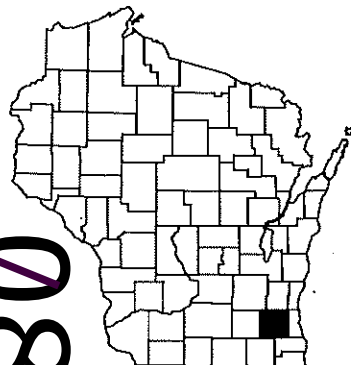
STATE PROJECT NUMBER
1090-09-76

ORDER OF SHEETS

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

TOTAL SHEETS = 562

PROJECT ID: 1090-09-76



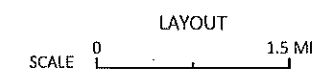
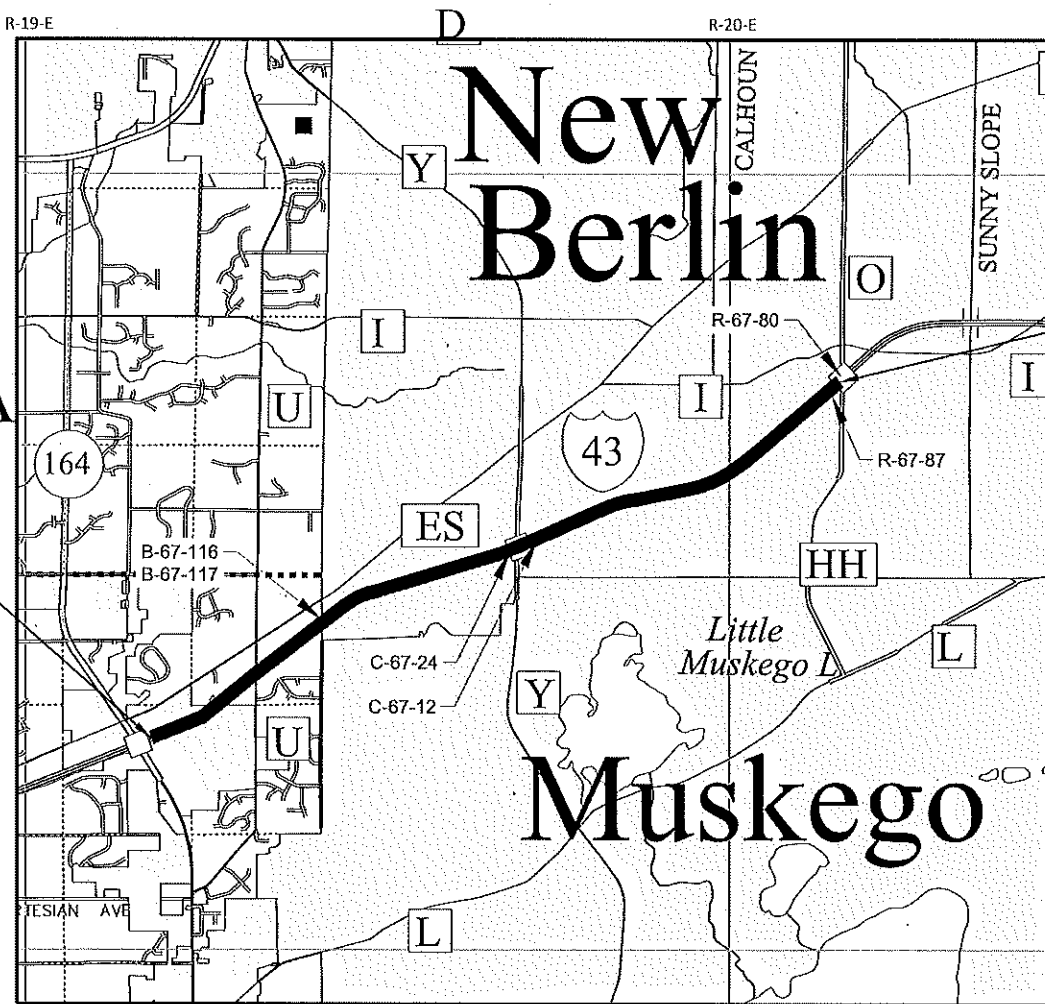
DESIGN DESIGNATION	IH 43 (AT CROWBAR RD)	IH 43 (CTH Y TO MOORLAND RD)
A.A.D.T. 2020	42,230	57,350
A.A.D.T. 2046	45,690	66,280
D.H.V.	=	=
D.D.	61/39	=
T.	6.2%	13.2%
DESIGN SPEED	70 MPH	70 MPH
ESALS	=	=

CONVENTIONAL SYMBOLS

<p><b>PLAN</b></p> <p>CORPORATE LIMITS </p> <p>PROPERTY LINE </p> <p>LOT LINE </p> <p>LIMITED HIGHWAY EASEMENT </p> <p>EXISTING RIGHT OF WAY </p> <p>PROPOSED OR NEW R/W LINE </p> <p>SLOPE INTERCEPT </p> <p>REFERENCE LINE </p> <p>EXISTING CULVERT </p> <p>PROPOSED CULVERT (Box or Pipe) </p> <p>COMBUSTIBLE FLUIDS </p> <p>MARSH AREA </p> <p>WOODED OR SHRUB AREA </p>	<p><b>PROFILE</b></p> <p>GRADE LINE </p> <p>ORIGINAL GROUND </p> <p>MARSH OR ROCK PROFILE (To be noted as such) </p> <p>SPECIAL DITCH </p> <p>GRADE ELEVATION </p> <p>CULVERT (Profile View) </p> <p><b>UTILITIES</b></p> <p>ELECTRIC </p> <p>FIBER OPTIC </p> <p>GAS </p> <p>SANITARY SEWER </p> <p>STORM SEWER </p> <p>TELEPHONE </p> <p>WATER </p> <p>UTILITY PEDESTAL </p> <p>POWER POLE </p> <p>TELEPHONE POLE </p>
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BEGIN PROJECT  
STA 467NB+35  
X = 688113.6448  
Y = 124908.6631

END PROJECT  
STA 781NB+14



TOTAL NET LENGTH OF CENTERLINE = 5.878 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WAUKESHA COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT/R.A. SMITH
Designer	WISDOT
Project Manager	EVAN LIMBERATOS, P.E.
Regional Examiner	
Regional Supervisor	WAFU ELQAO, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 10/1/23

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OTHER CONTACTS

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CONSTRUCTION COORDINATOR  
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www.DiggersHotline.com



STANDARD ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
ASPH	ASPHALTIC
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CMCP	CULVERT PIPE CORRUGATED METAL
CONC	CONCRETE
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
EB	EASTBOUND
FE	FIELD ENTRANCE
FL	FLOW LINE
HFST	HIGH FRICTION SURFACE TREATMENT
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LP	LOW POINT
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PGL	PROFILE GRADE LINE
PLE	PERMANENT LIMITED EASEMENT
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN REQUIRED
RO	RUN OFF LENGTH
RRSP	RAILROAD SPIKE
RT	RIGHT
SALV	SALVAGED
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
VCL	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT
WB	WESTBOUND

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. COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE, OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

DO NOT REMOVE ANY TREES OR SHRUBS WITHOUT APPROVAL OF THE ENGINEER.

CONVERSION TABLE (FDM 14-15-10.3.2)

MATERIAL	UNIT WEIGHT
HMA PAVEMENT	118 LB/SY/INCH
BASE AGGREGATE DENSE 3/4-INCH	2.1 TON/CY

CONTACT THE PROJECT ENGINEER AND SEWRPC AT LEAST TWO (2) WEEKS BEFORE WORKING NEAR ANY SECTION CORNER MONUMENT.

VERIFY EXISTING PAVEMENT ELEVATIONS AT ALL TIE-INS TO EXISTING PAVEMENT PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF A DISCREPANCY IS FOUND BETWEEN PROPOSED PLAN ELEVATIONS AND EXISTING PAVEMENT ELEVATIONS.

SAWCUT EXISTING ASPHALT AND CONCRETE PAVEMENT AT THE MATCHLINE AS INDICATED ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

PRIOR TO THE REPLACEMENT OF MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

RE-APPLY TOPSOIL ON GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FOURTEEN (14) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED AND MULCH WITHIN 4 DAYS OF THE INITIAL DISTURBANCE.

RE-APPLY TOPSOIL, SEED, FERTILIZE, AND MULCH/EROSION MAT TOP SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN THREE (3) CALENDAR DAYS OF INITIAL DISTURBANCE FOR COMPLETING THE FTMS FIBER INSTALLATION.

RESHAPE, RESTORE AND FINISH ALL PREVIOUSLY GRASSED AREAS DISTURBED BY OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT NO EXPENSE TO THE DEPARTMENT.

STOCKPILE EXCESS MATERIALS OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION WITHIN A TIME FRAME ACCEPTABLE TO THE ENGINEER. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, INSTALL TEMPORARY SEED AND MULCH OR OTHER TEMPORARY EROSION CONTROL MEASURES THE ENGINEER ORDERS WITHIN 4 DAYS OF THE INITIAL STOCKPILE PLACEMENT. SHOW THE PROPOSED STOCKPILE LOCATIONS IN THE ECIP.

EROSION CONTROL DEVICES ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR'S ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

ALL DEWATERING, INCLUDING TREATMENT TO REMOVE SUSPENDED SOLIDS, NOT COVERED UNDER BID ITEMS IS INCIDENTAL TO THE CONTRACT.

ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- CURB RAMP DETAILS
- SOIL BORING LOCATIONS
- REMOVAL PLAN
- PLAN DETAILS
- EROSION CONTROL
- CULVERT PIPES
- PERMANENT SIGNING
- FTMS PLANS
- PAVEMENT MARKING
- TRAFFIC CONTROL
- ALIGNMENT PLAN
- SURVEY CONTROL PLAN

STATE AGENCIES

WISCONSIN DEPARTMENT OF TRANSPORTATION

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WISCONSIN DEPARTMENT OF NATURAL RESOURCES

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craig.webster@wisconsin.gov

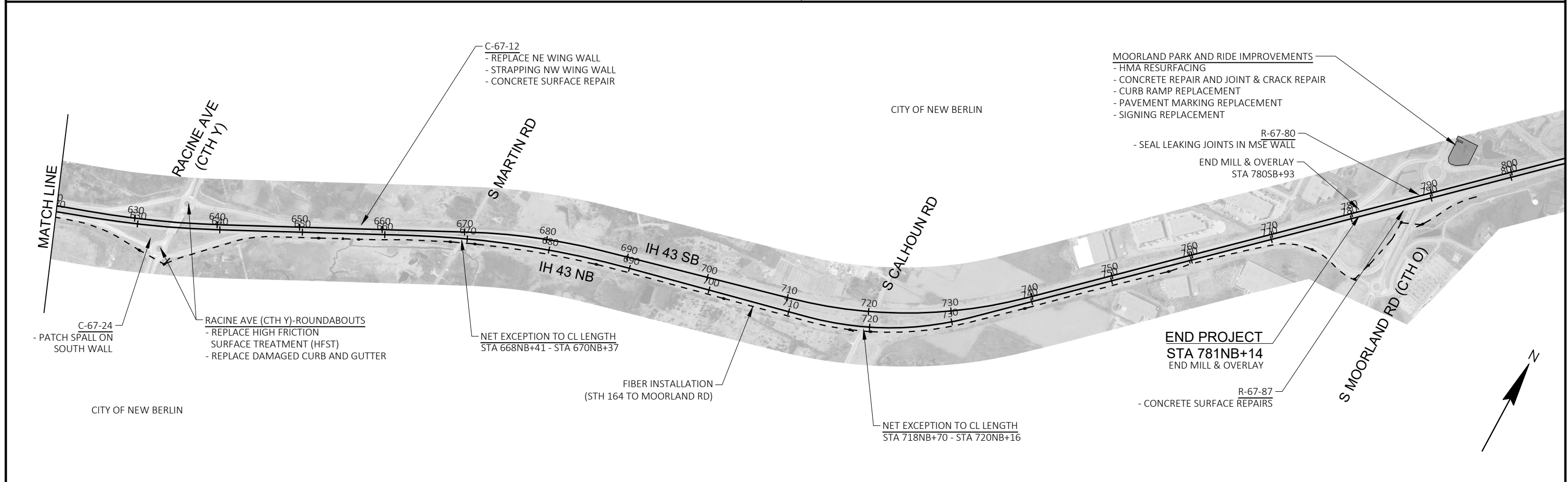
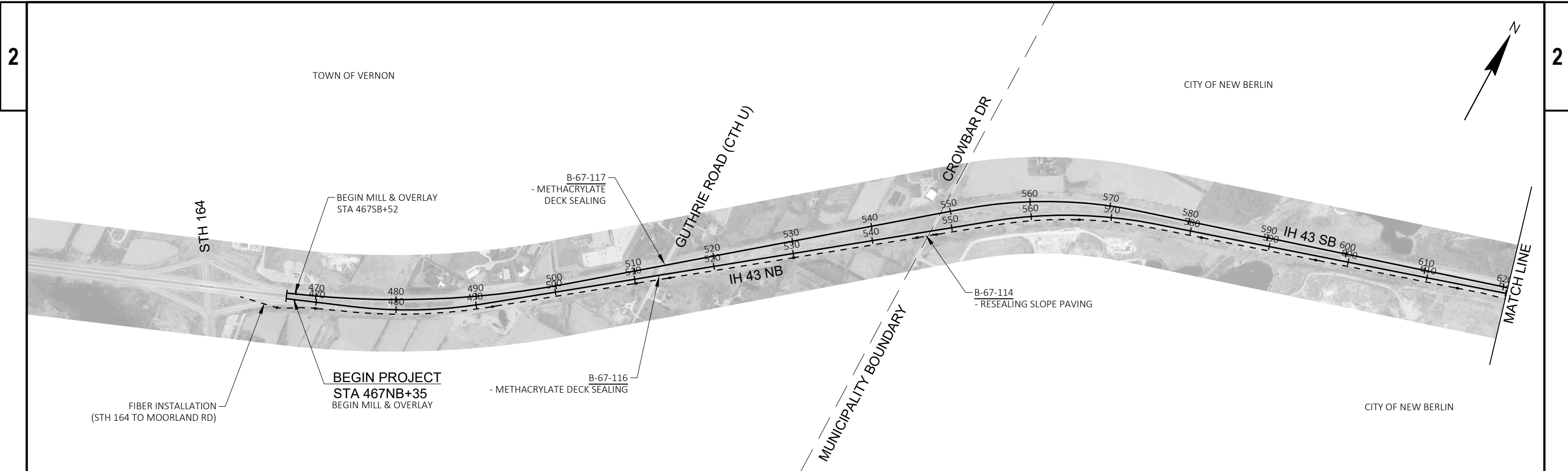
WISCONSIN DEPARTMENT OF TRANSPORTATION

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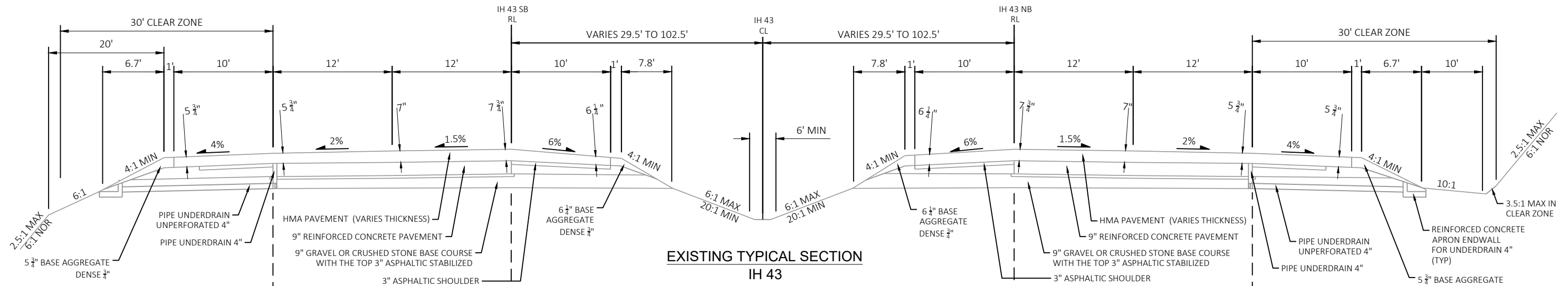


Dial 811 or (800)242-8511

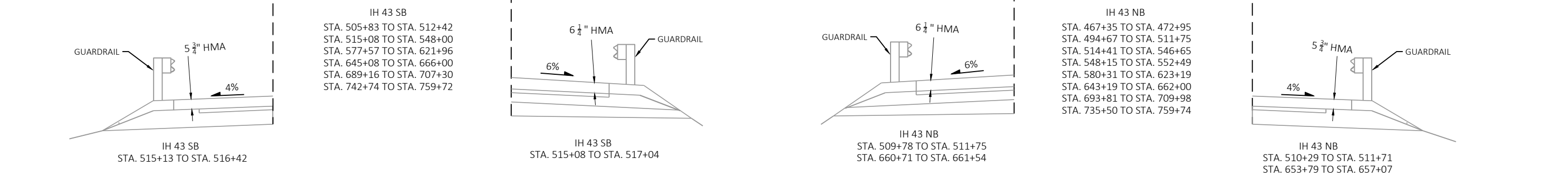
www.DiggersHotline.com



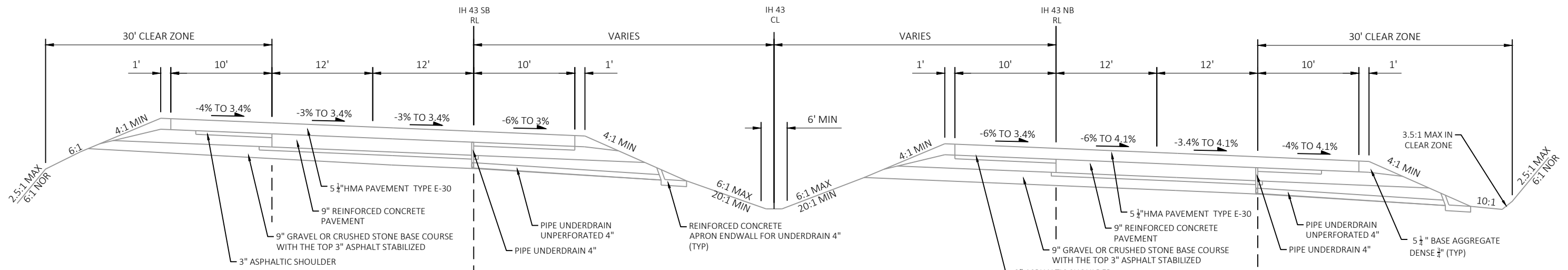
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	PROJECT OVERVIEW	SHEET	E
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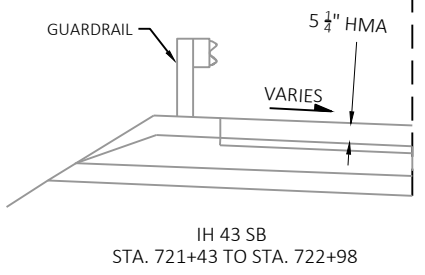
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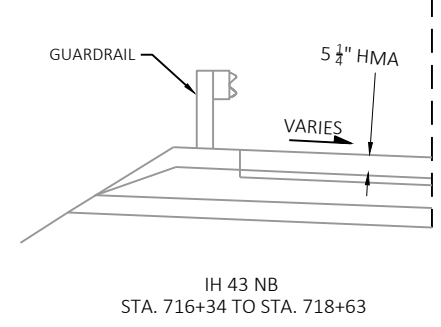
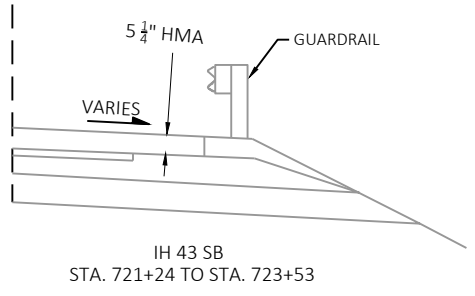
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IH 43  
UNDER CROWBAR DR STRUCTURE (B-67-114)



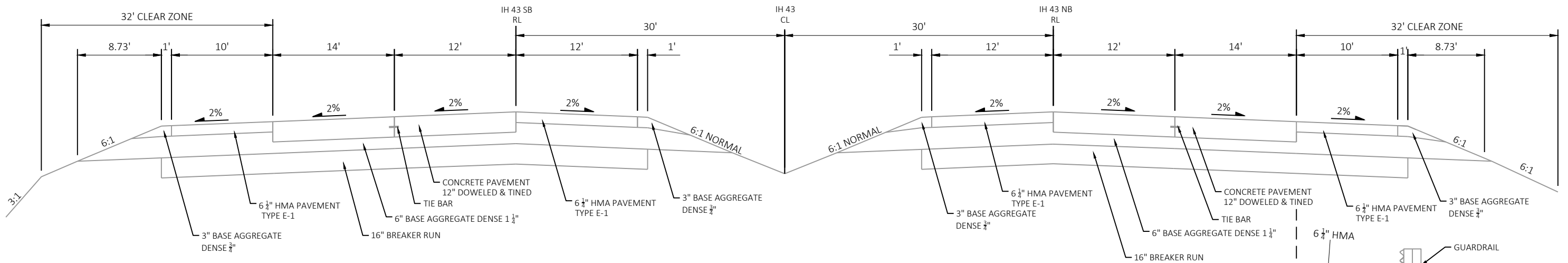
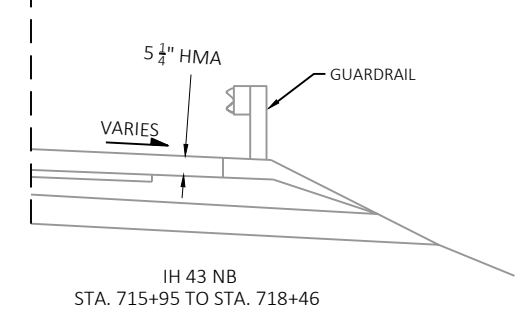
**EXISTING TYPICAL SECTION  
IH 43**



**IH 43 SB**  
 STA. 467+52 TO STA. 505+83  
 STA. 549+50 TO STA. 577+57  
 STA. 621+96 TO STA. 645+08  
 STA. 678+00 TO STA. 689+16  
 STA. 707+30 TO STA. 719+87  
 STA. 721+13 TO STA. 742+74



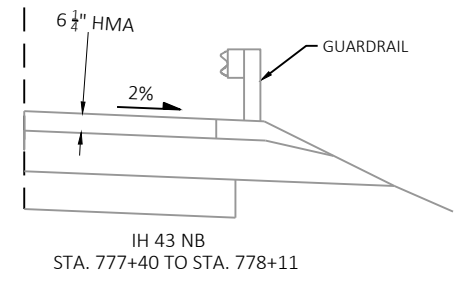
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 STA. 472+95 TO STA. 494+67  
 STA. 552+49 TO STA. 580+31  
 STA. 623+19 TO STA. 643+19  
 STA. 662+00 TO STA. 665+00  
 STA. 677+00 TO STA. 693+81  
 STA. 709+98 TO STA. 719+04  
 STA. 720+28 TO STA. 735+50

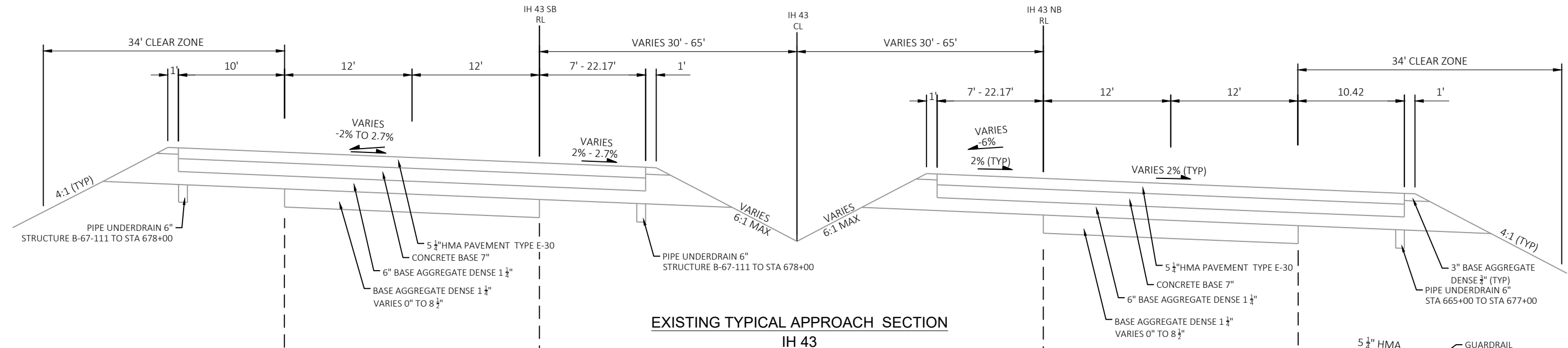


**EXISTING TYPICAL SECTION  
IH 43**

**IH 43 SB  
STA. 759+72 TO STA. 780+93**

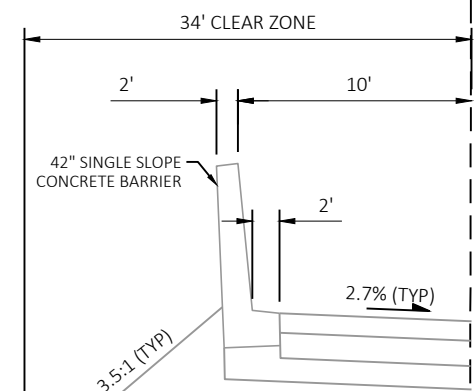
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STA. 759+74 TO STA. 780+00**



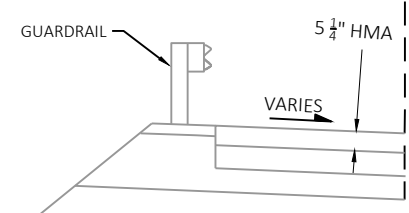


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STA. 666+00 TO STA. 669+21  
STA. 671+25 TO STA. 678+00

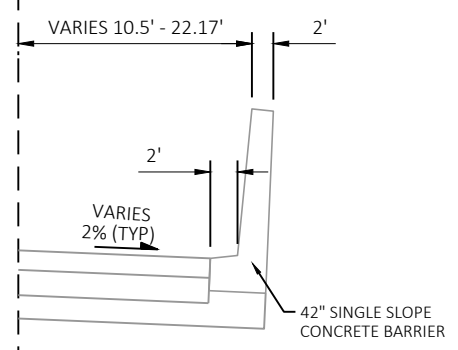
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STA. 665+00 TO STA. 668+41  
STA. 670+37 TO STA. 677+00



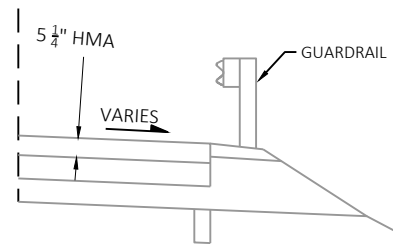
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STA. 671+25 TO STA. 674+98



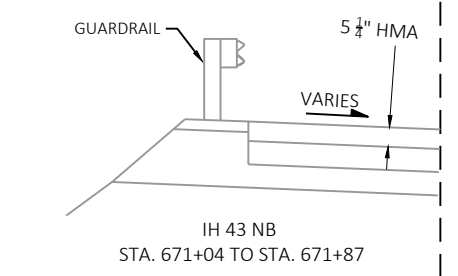
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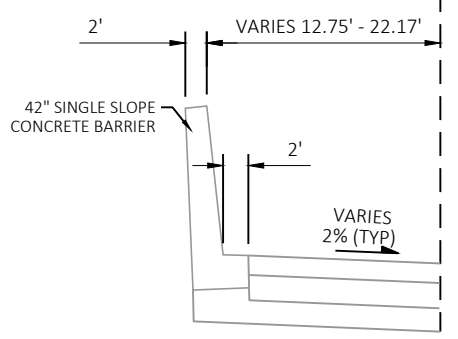
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STA. 661+89 TO STA. 669+21  
STA. 671+25 TO STA. 671+93



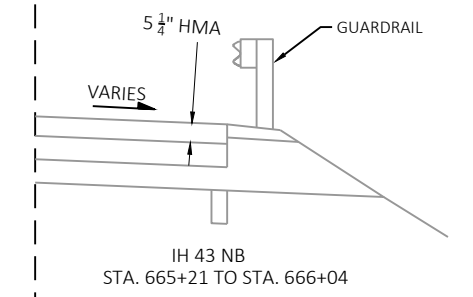
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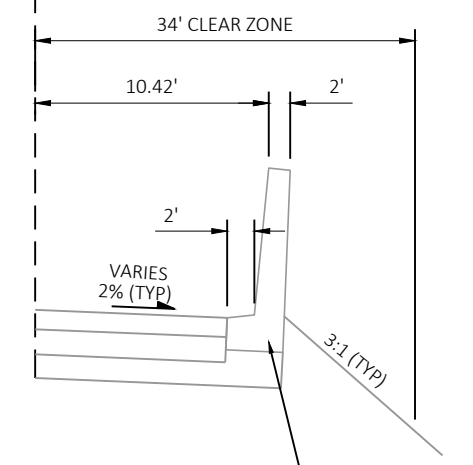
IH 43 NB  
STA. 671+04 TO STA. 671+87



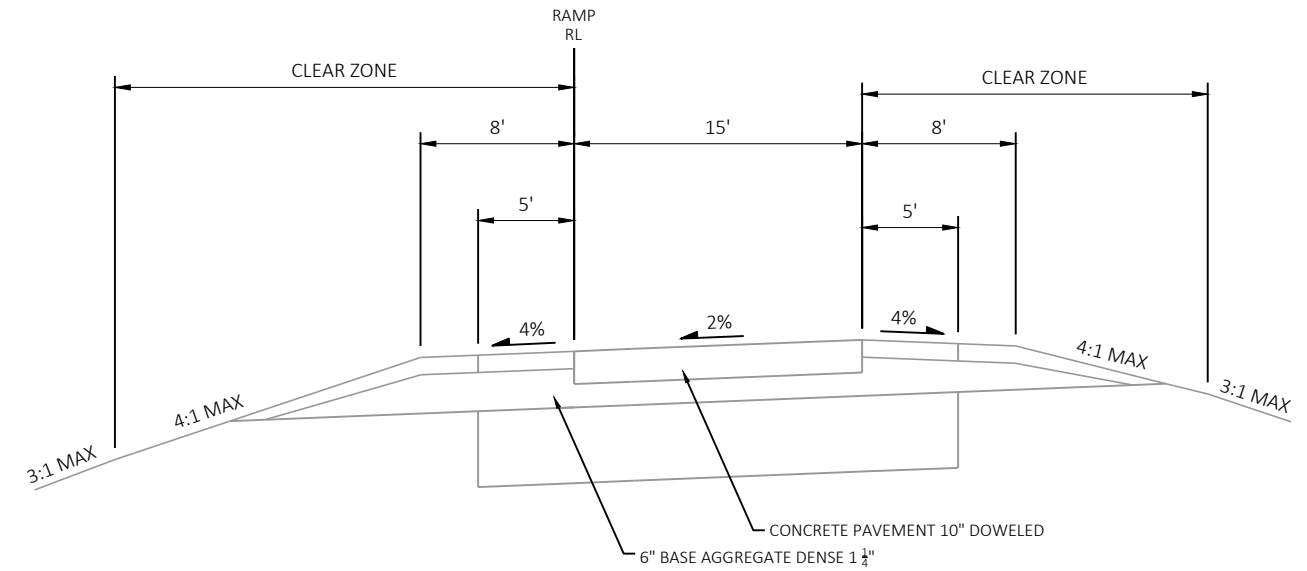
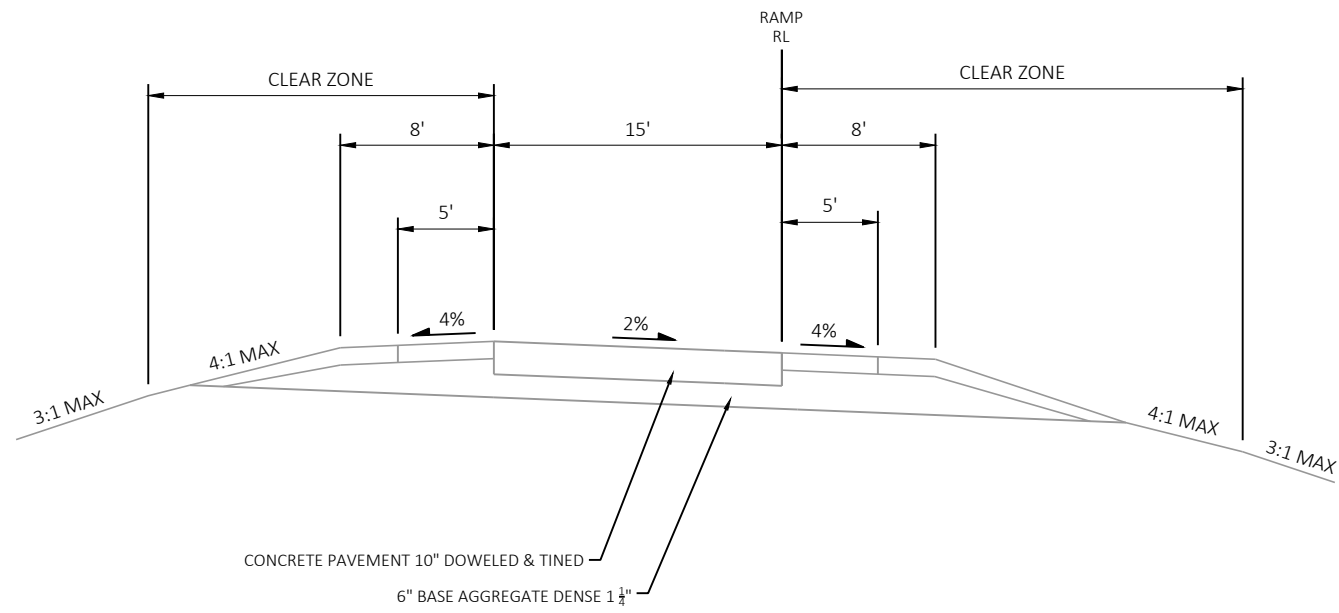
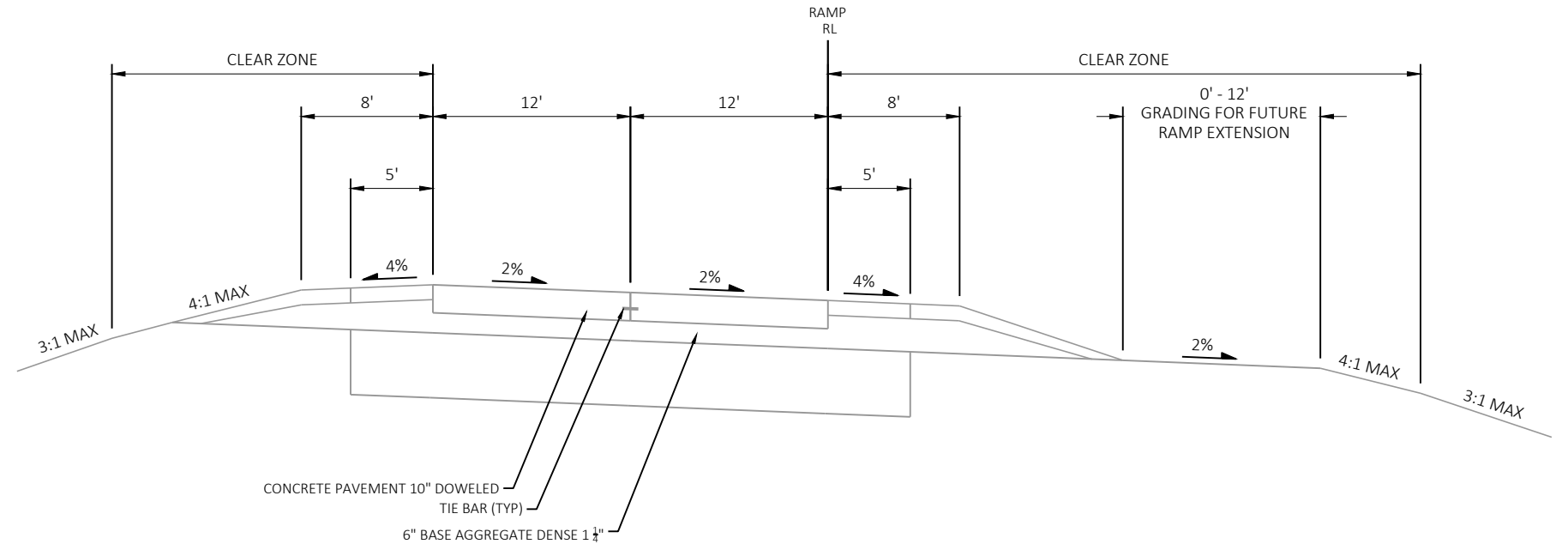
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STA. 661+54 TO STA. 668+41  
STA. 670+37 TO STA. 671+04



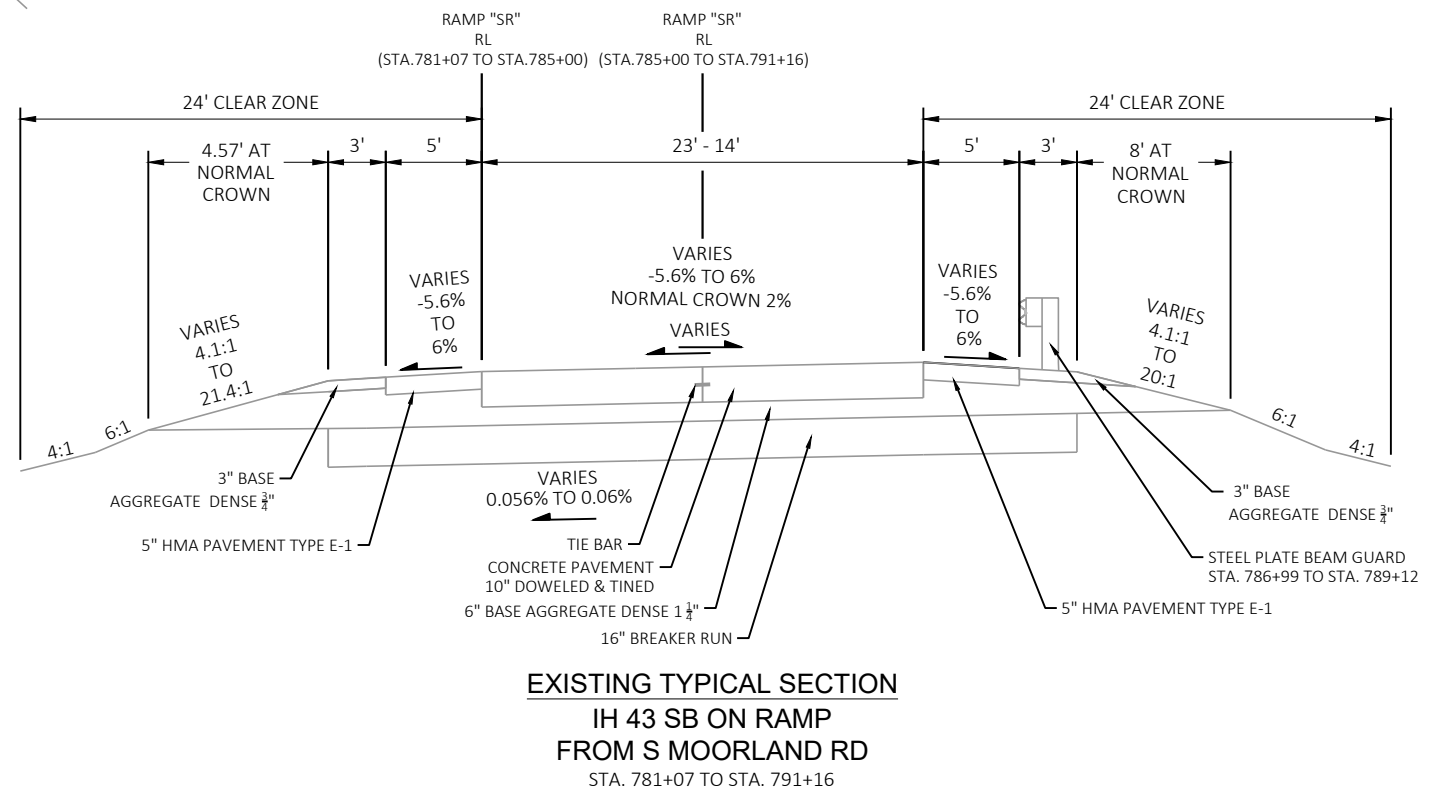
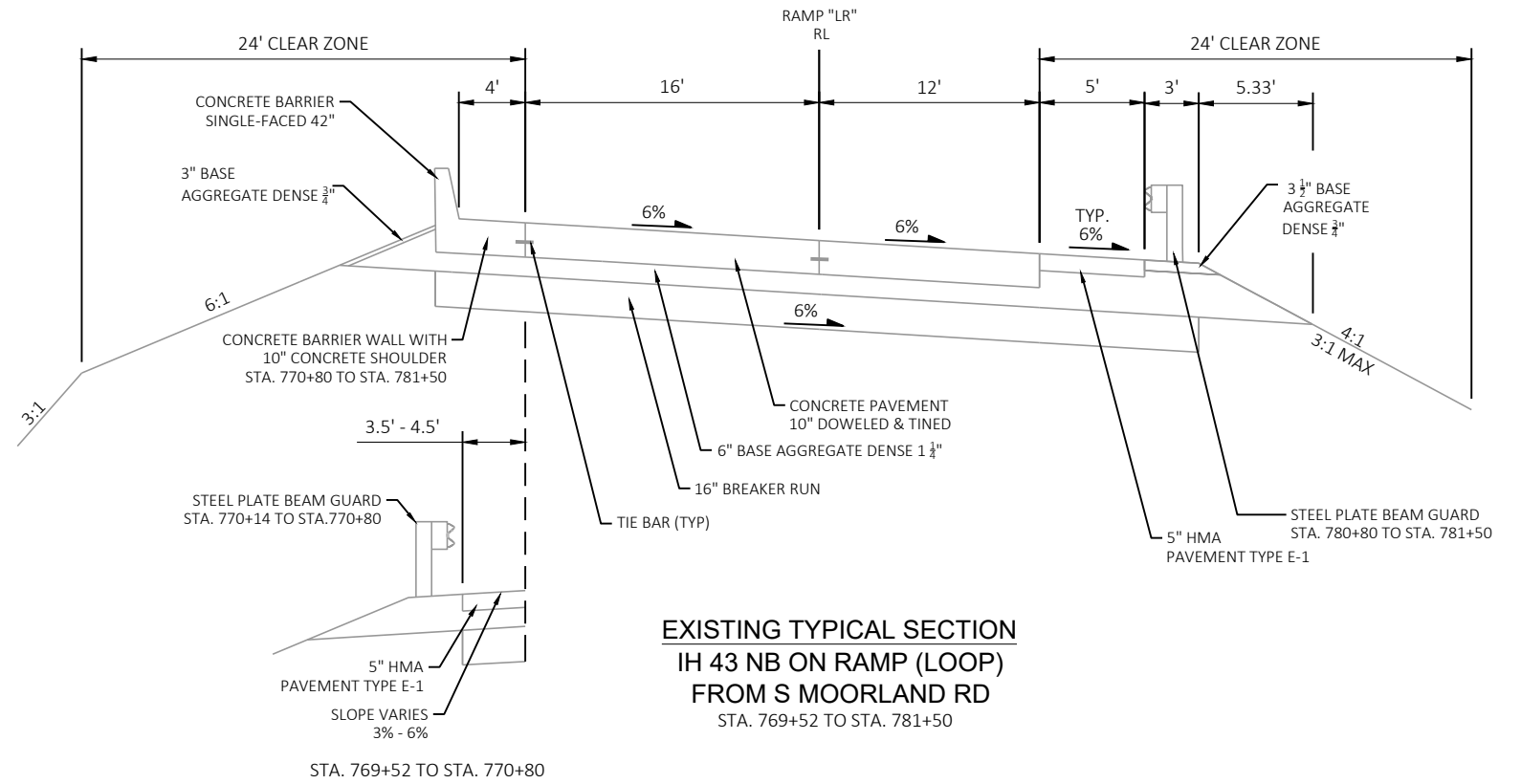
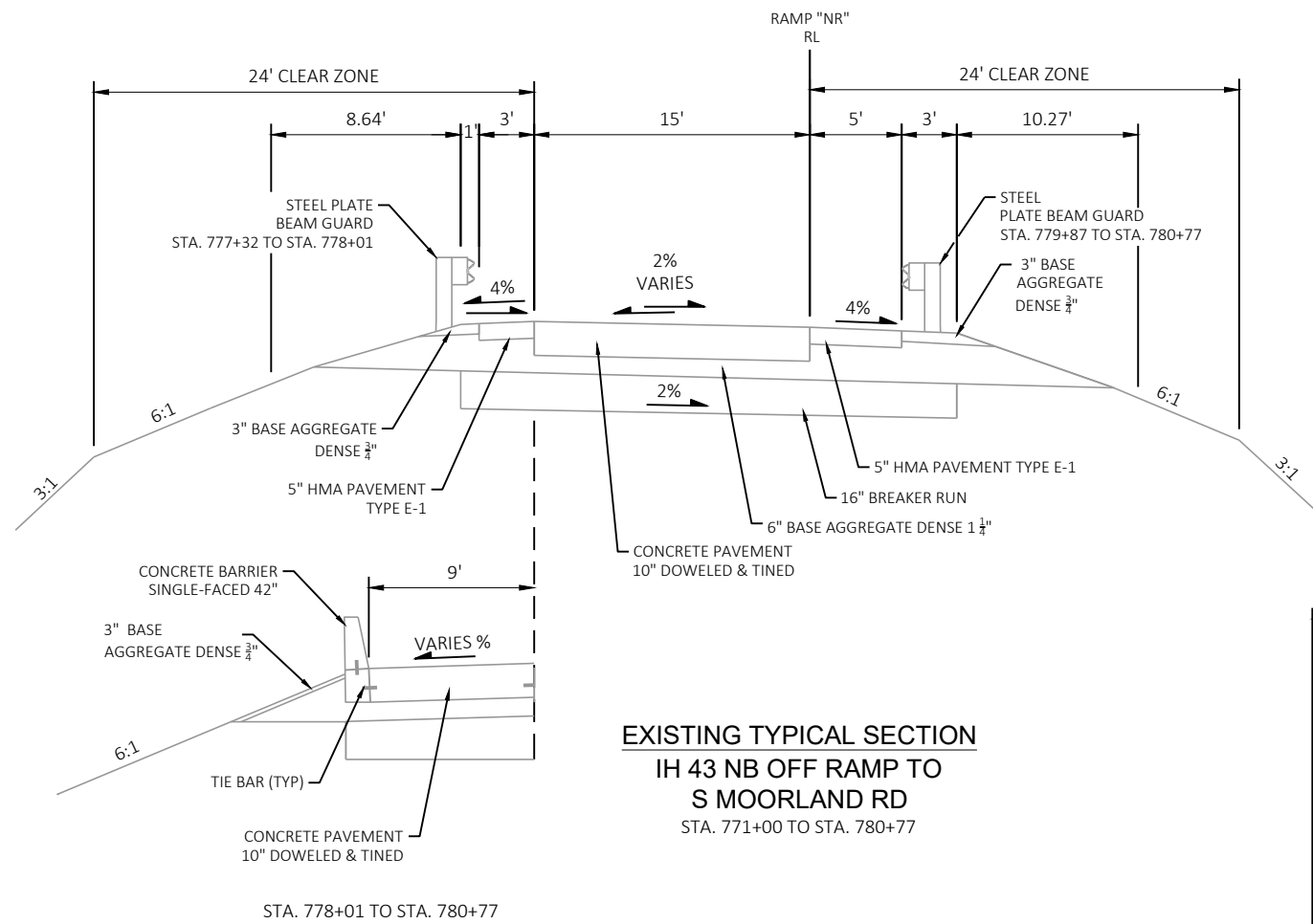
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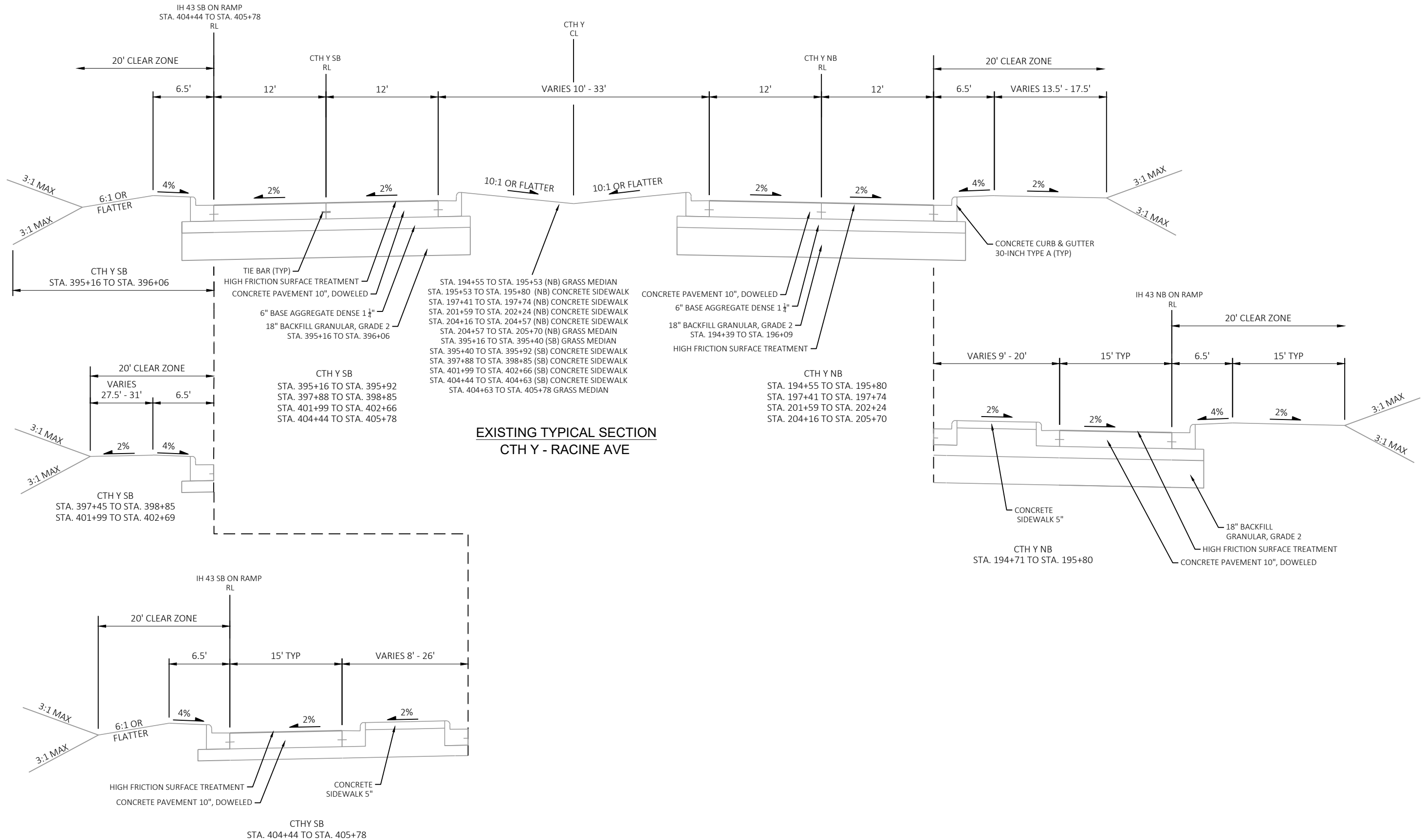


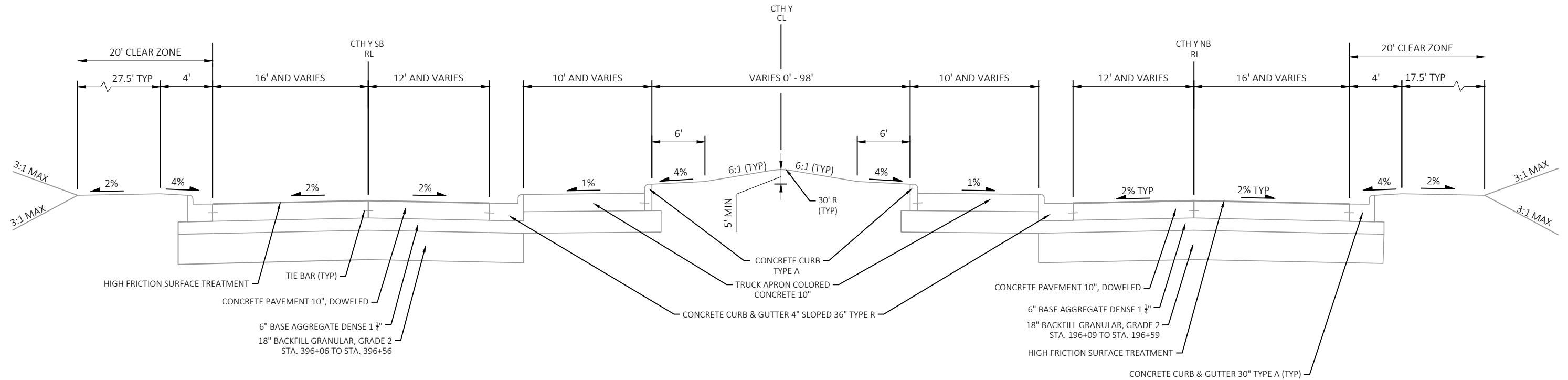
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STA. 666+04 TO STA. 668+41  
STA. 670+38 TO STA. 672+54







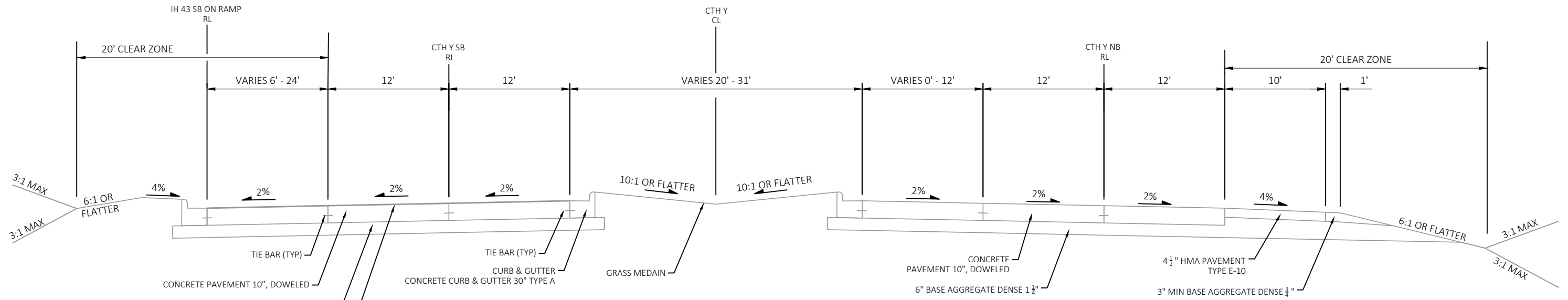




**EXISTING TYPICAL SECTION  
CTH Y - RACINE AVE**

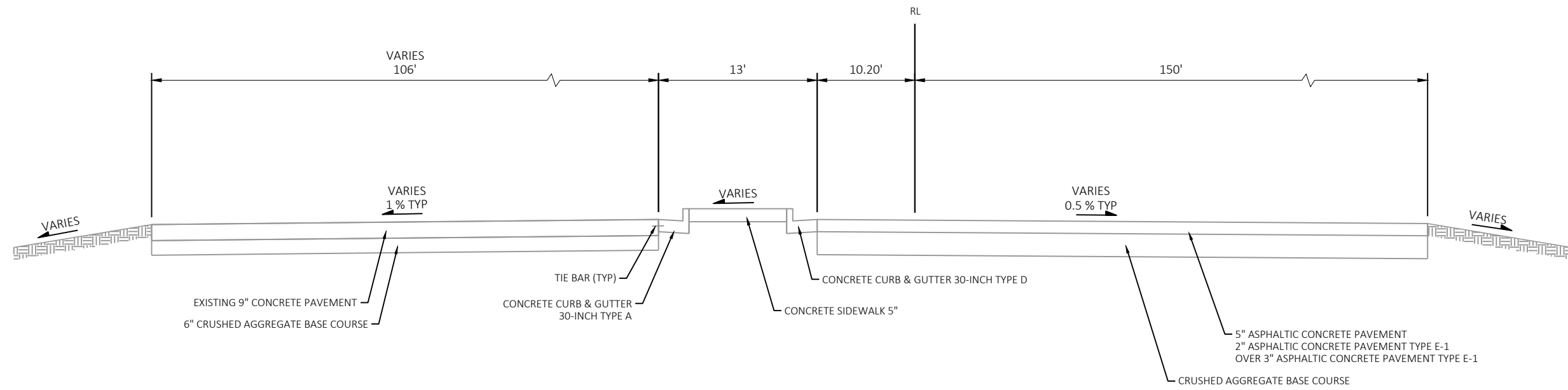
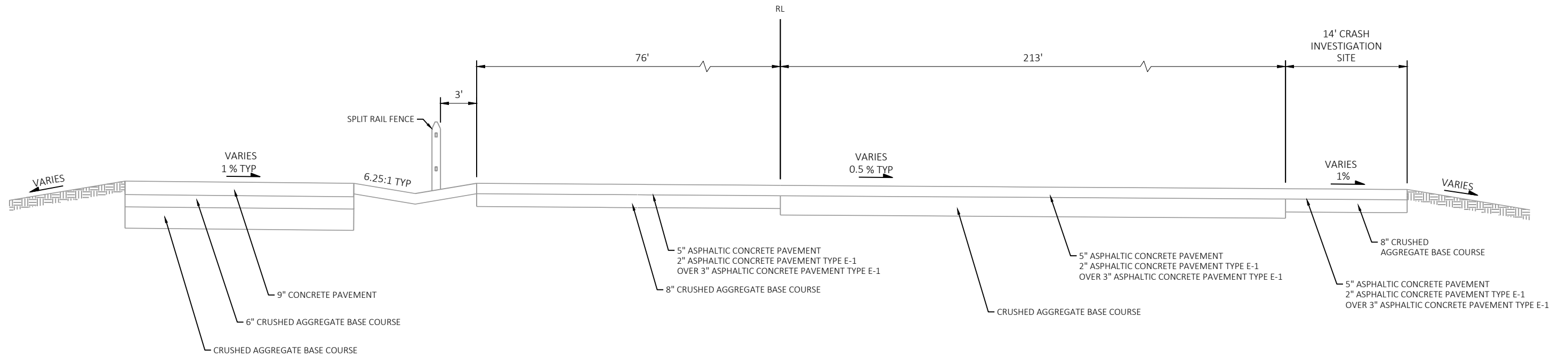
CTH Y SB  
STA. 395+92 TO STA. 397+88  
STA. 402+66 TO STA. 404+44

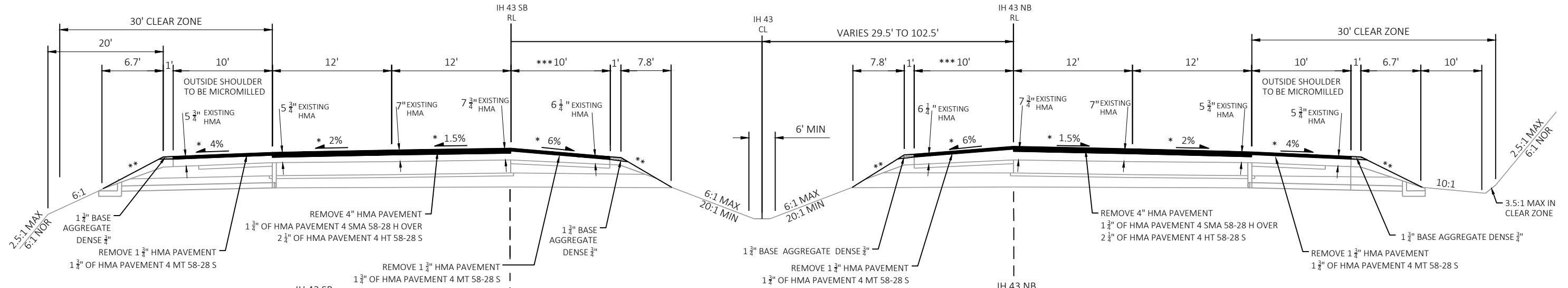
CTH Y NB  
STA. 195+80 TO STA. 197+41  
STA. 202+24 TO STA. 204+16



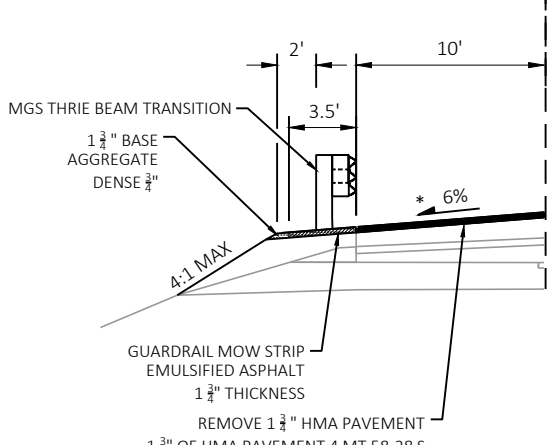
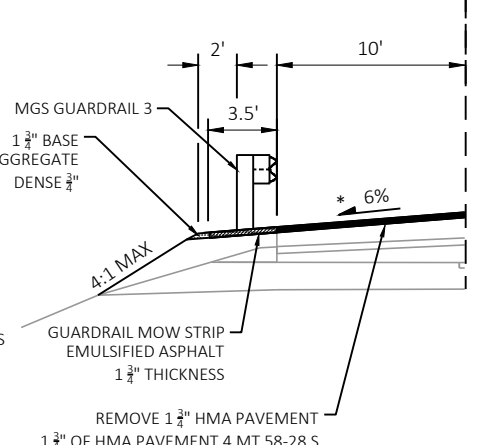
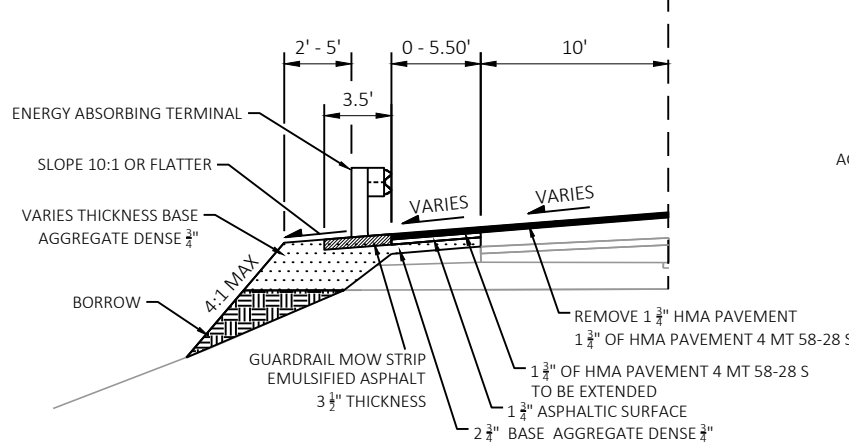
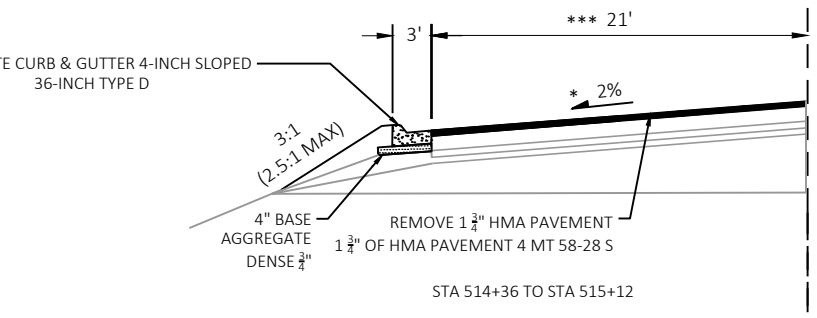
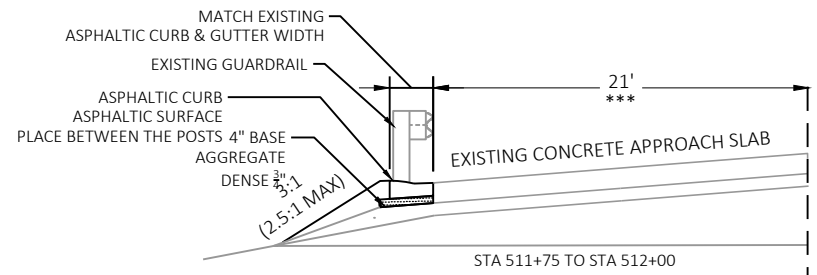
**EXISTING TYPICAL SECTION  
CTH Y - RACINE AVE**

CTH Y SB  
STA. 405+78 TO STA. 406+45



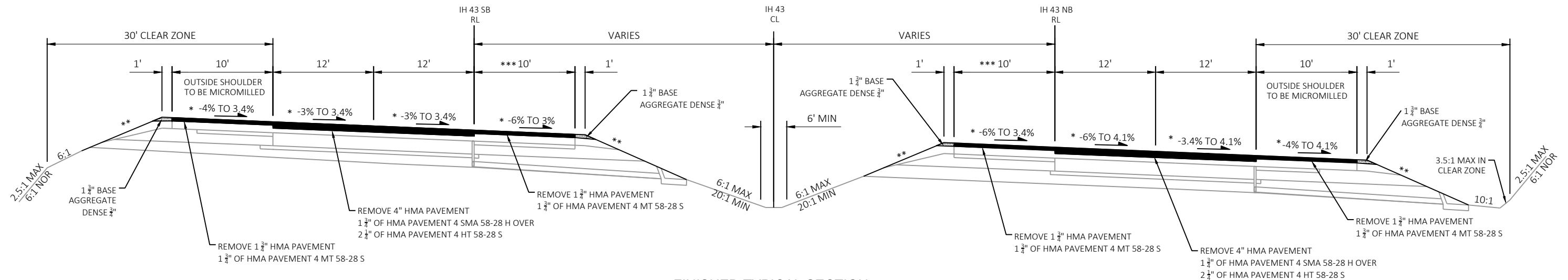


**FINISHED TYPICAL SECTION  
IH 43**



\* EXISTING CROSS SLOPES TO BE MAINTAINED    \*\* MAINTAIN EXISTING FORESLOPE (4:1 MAX)  
 \*\*\* INSIDE SHOULDERS WIDTH VARIES AT STRUCTURE OVER GUTHRIE DR (CTH U):  
 IH 43 NB - STA. 502+74 TO STA. 506+26 (10' - 21')  
 IH 43 NB - STA. 518+55 TO STA. 521+82 (21' - 10')  
 IH 43 SB - STA. 505+64 TO STA. 509+29 (10' - 21')  
 IH 43 SB - STA. 522+41 TO STA. 525+87 (21' - 10')  
 REFER TO PLAN DETAILS

INSIDE SHOULDERS WIDTH VARIES AT STRUCTURE OVER S MARTIN RD:  
 IH 43 NB - STA. 661+53 TO STA. 664+53 (14' - 23')  
 IH 43 NB - STA. 676+59 TO STA. 678+79 (22' - 10')  
 IH 43 SB - STA. 661+89 TO STA. 665+84 (10' - 23')  
 IH 43 SB - STA. 680+35 TO STA. 683+20 (21' - 10')  
 REFER TO PLAN DETAILS

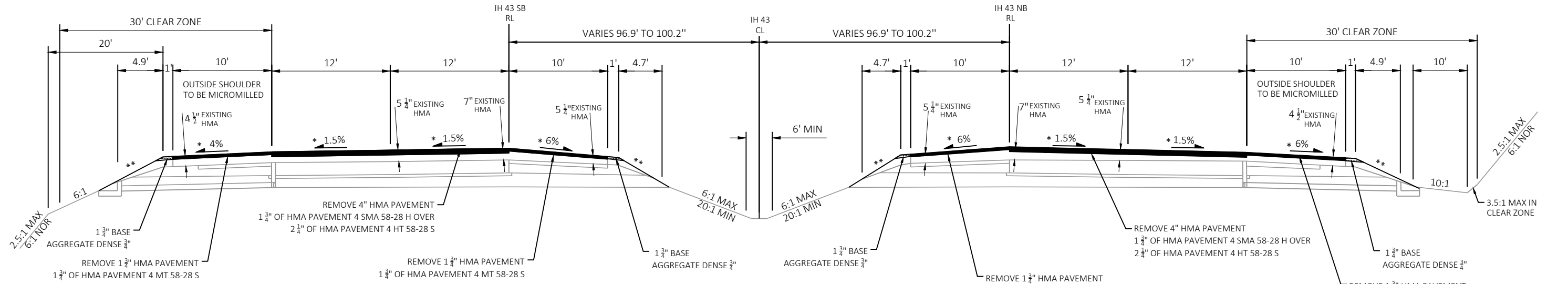


FINISHED TYPICAL SECTION

IH 43

IH 43 SB  
 STA. 467+52 TO STA. 505+83  
 STA. 549+50 TO STA. 577+57  
 STA. 621+96 TO STA. 645+08  
 STA. 678+00 TO STA. 689+16  
 STA. 707+30 TO STA. 719+87  
 STA. 721+13 TO STA. 742+74

IH 43 NB  
 STA. 472+95 TO STA. 494+67  
 STA. 552+49 TO STA. 580+31  
 STA. 623+19 TO STA. 643+19  
 STA. 662+00 TO STA. 665+00  
 STA. 677+00 TO STA. 693+81  
 STA. 709+98 TO STA. 719+04  
 STA. 720+28 TO STA. 735+50



FINISHED TYPICAL SECTION

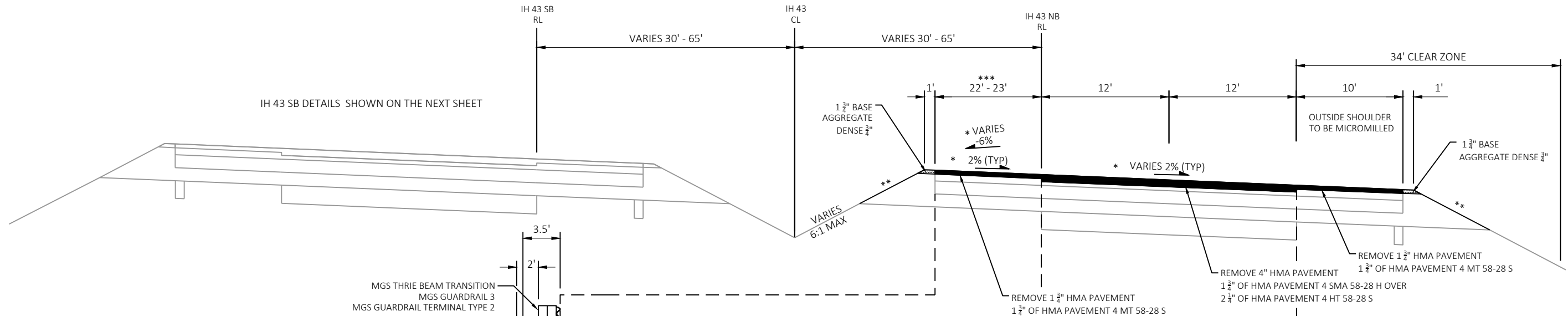
IH 43 UNDER CROWBAR DR STRUCTURE (B-67-114)

IH 43 SB  
 STA. 548+00 TO STA. 549+50

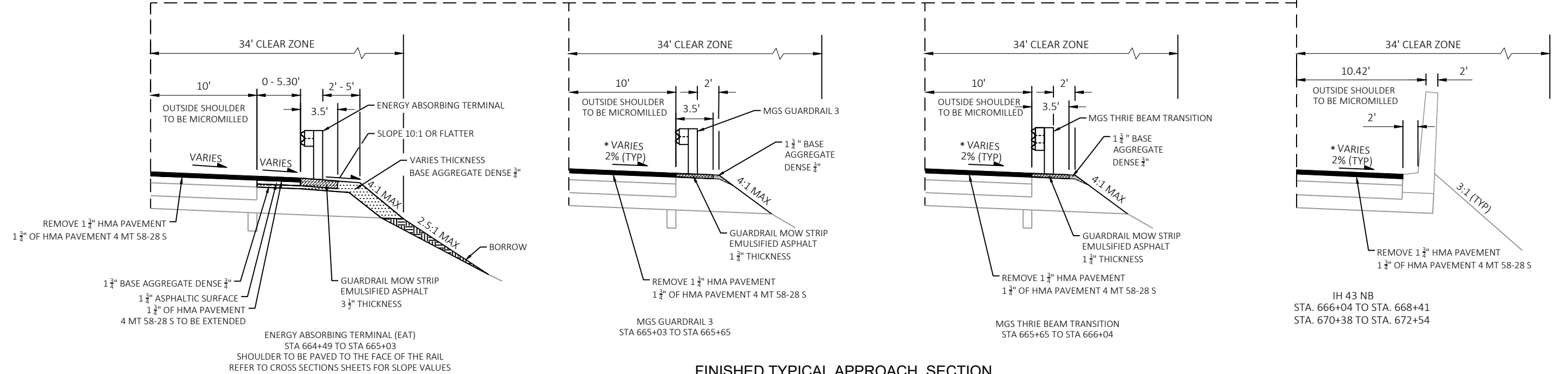
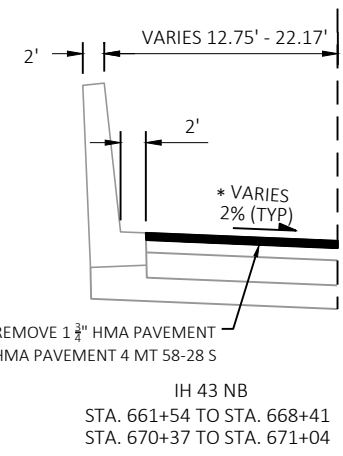
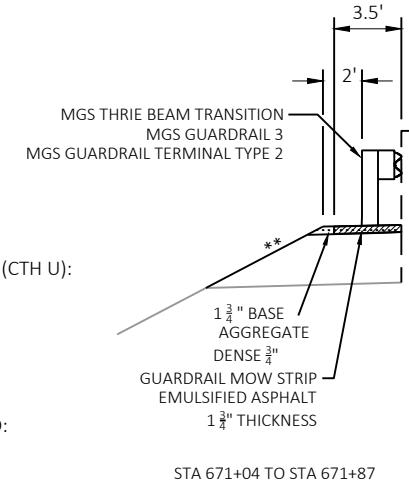
IH 43 NB  
 STA. 546+65 TO STA. 548+15

- \* EXISTING CROSS SLOPES TO BE MAINTAINED
- \*\* MAINTAIN EXISTING FORESLOPE (4:1 MAX)
- \*\*\* INSIDE SHOULDERS WIDTH VARIES AT STRUCTURE OVER GUTHRIE DR (CTH U):  
 IH 43 NB - STA. 502+74 TO STA. 506+26 (10' - 21')  
 IH 43 NB - STA. 518+55 TO STA. 521+82 (21' - 10')  
 IH 43 SB - STA. 505+64 TO STA. 509+29 (10' - 21')  
 IH 43 SB - STA. 522+41 TO STA. 525+87 (21' - 10')  
 REFER TO PLAN DETAILS
- INSIDE SHOULDERS WIDTH VARIES AT STRUCTURE OVER S MARTIN RD:  
 IH 43 NB - STA. 661+53 TO STA. 664+53 (14' - 23')  
 IH 43 NB - STA. 676+59 TO STA. 678+79 (22' - 10')  
 IH 43 SB - STA. 661+89 TO STA. 665+84 (10' - 23')  
 IH 43 SB - STA. 680+35 TO STA. 683+20 (21' - 10')  
 REFER TO PLAN DETAILS

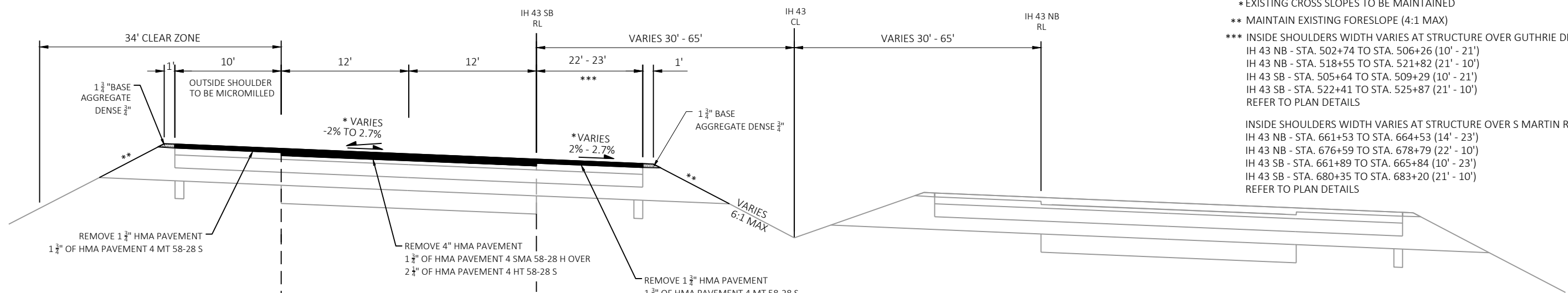




- \* EXISTING CROSS SLOPES TO BE MAINTAINED
- \*\* MAINTAIN EXISTING FORESLOPE (4:1 MAX)
- \*\*\* INSIDE SHOULDERS WIDTH VARIES AT STRUCTURE OVER GUTHRIE DR (CTH U):
  - IH 43 NB - STA. 502+74 TO STA. 506+26 (10' - 21')
  - IH 43 NB - STA. 518+55 TO STA. 521+82 (21' - 10')
  - IH 43 SB - STA. 505+64 TO STA. 509+29 (10' - 21')
  - IH 43 SB - STA. 522+41 TO STA. 525+87 (21' - 10')
 REFER TO PLAN DETAILS
- INSIDE SHOULDERS WIDTH VARIES AT STRUCTURE OVER S MARTIN RD:
  - IH 43 NB - STA. 661+53 TO STA. 664+53 (14' - 23')
  - IH 43 NB - STA. 676+59 TO STA. 678+79 (22' - 10')
  - IH 43 SB - STA. 661+89 TO STA. 665+84 (10' - 23')
  - IH 43 SB - STA. 680+35 TO STA. 683+20 (21' - 10')
 REFER TO PLAN DETAILS

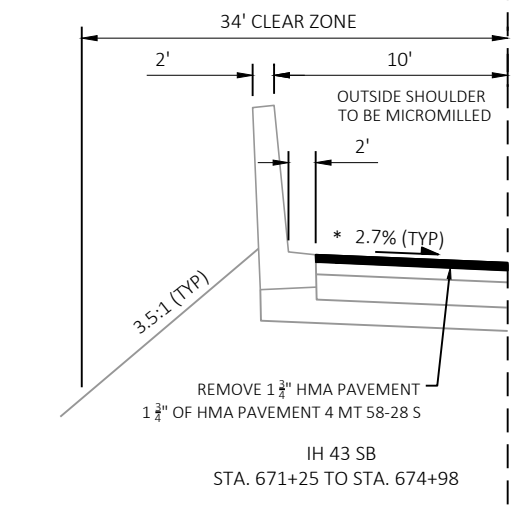


**FINISHED TYPICAL APPROACH SECTION**  
**IH 43**

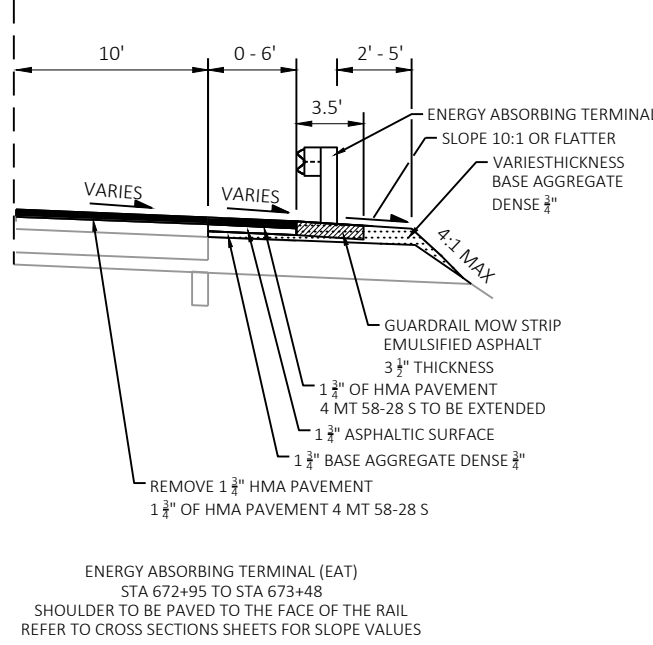
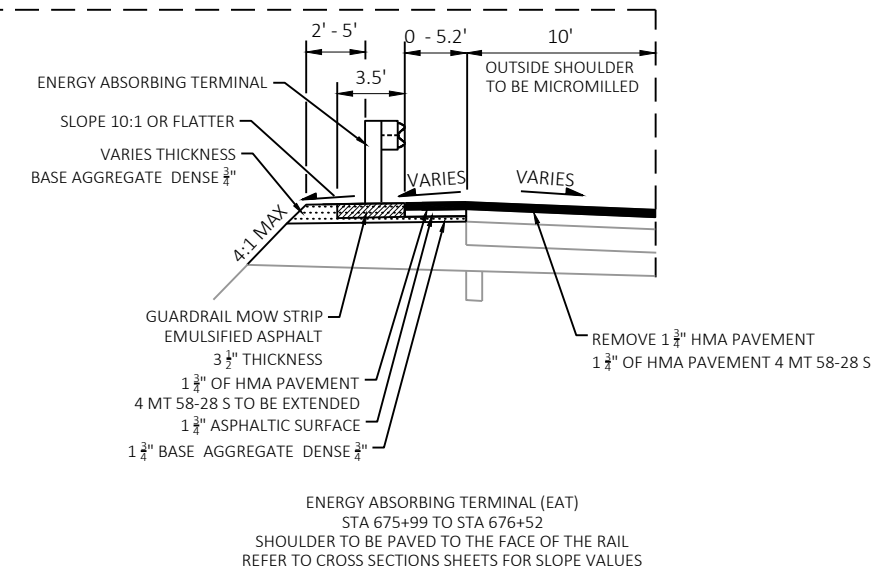
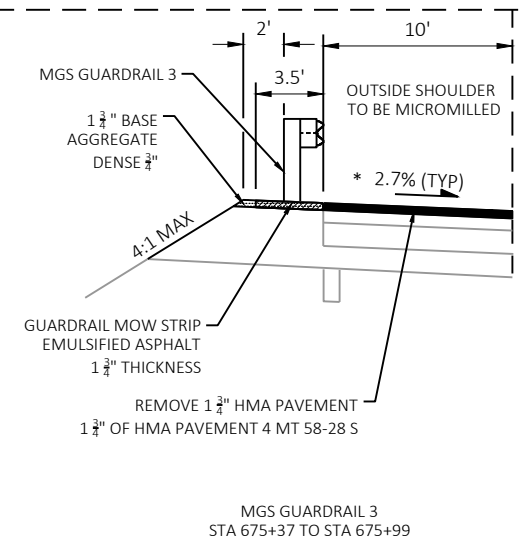
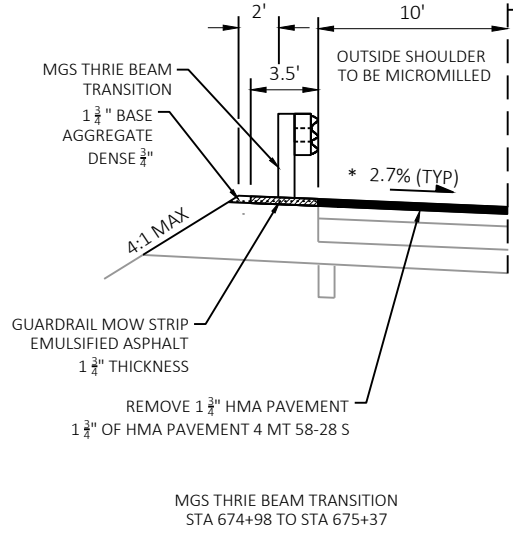
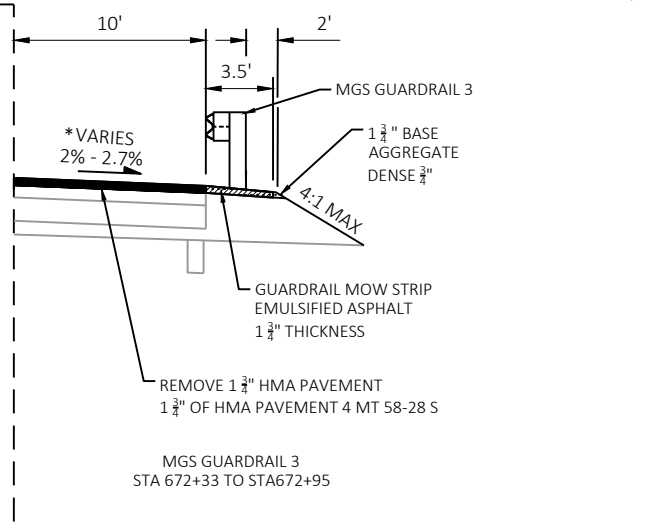
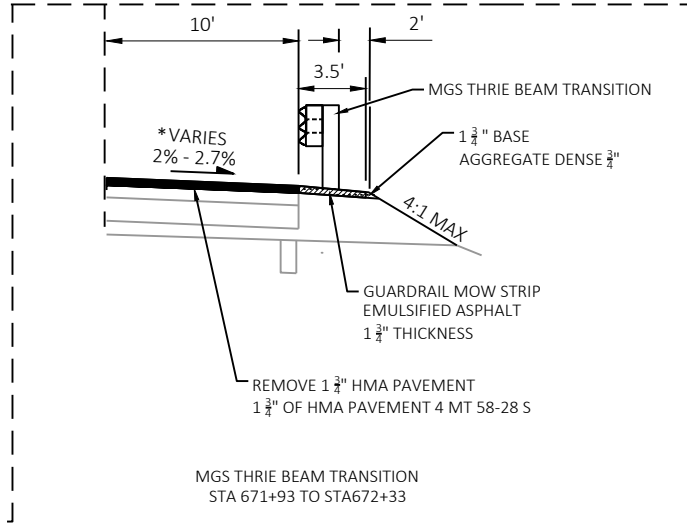
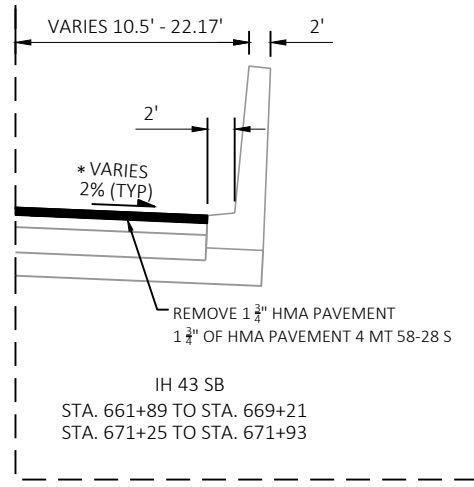


\* EXISTING CROSS SLOPES TO BE MAINTAINED  
 \*\* MAINTAIN EXISTING FORESLOPE (4:1 MAX)  
 \*\*\* INSIDE SHOULDERS WIDTH VARIES AT STRUCTURE OVER GUTHRIE DR (CTH U):  
 IH 43 NB - STA. 502+74 TO STA. 506+26 (10' - 21')  
 IH 43 NB - STA. 518+55 TO STA. 521+82 (21' - 10')  
 IH 43 SB - STA. 505+64 TO STA. 509+29 (10' - 21')  
 IH 43 SB - STA. 522+41 TO STA. 525+87 (21' - 10')  
 REFER TO PLAN DETAILS

INSIDE SHOULDERS WIDTH VARIES AT STRUCTURE OVER S MARTIN RD:  
 IH 43 NB - STA. 661+53 TO STA. 664+53 (14' - 23')  
 IH 43 NB - STA. 676+59 TO STA. 678+79 (22' - 10')  
 IH 43 SB - STA. 661+89 TO STA. 665+84 (10' - 23')  
 IH 43 SB - STA. 680+35 TO STA. 683+20 (21' - 10')  
 REFER TO PLAN DETAILS

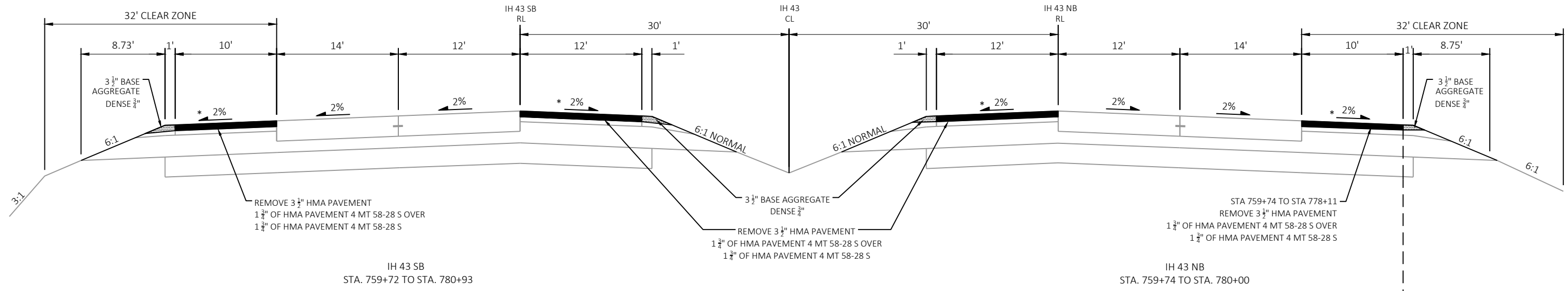


IH 43 SB  
 STA. 666+00 TO STA. 669+21  
 STA. 671+25 TO STA. 678+00



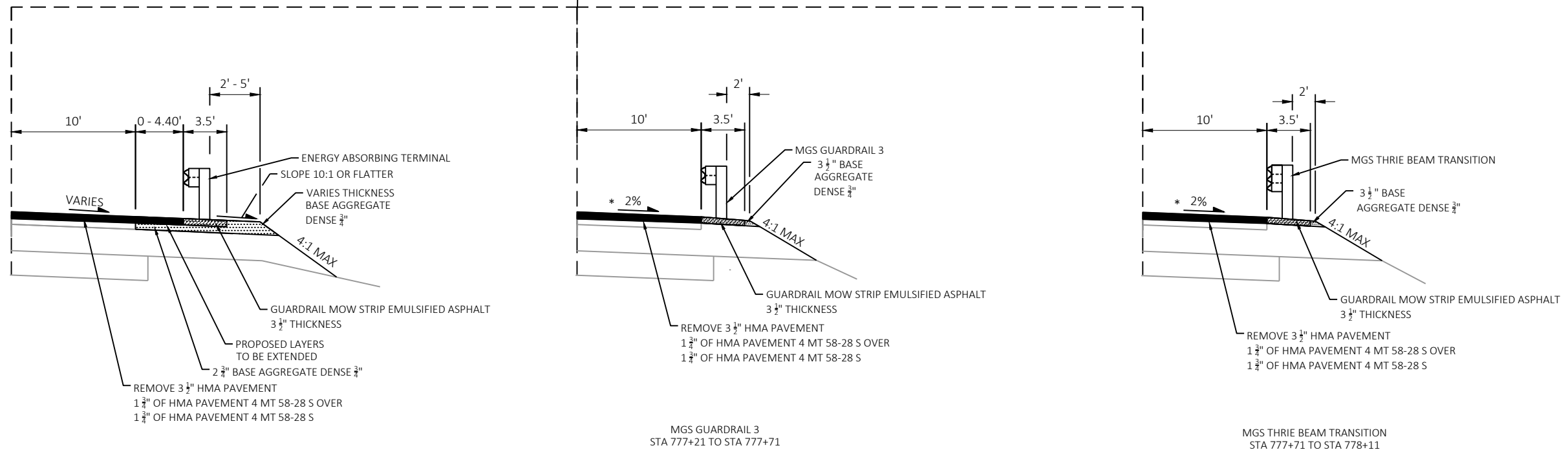
**FINISHED TYPICAL APPROACH SECTION**  
**IH 43**

\* EXISTING CROSS SLOPES TO BE MAINTAINED  
 \*\* MAINTAIN EXISTING FORESLOPE (4:1 MAX)



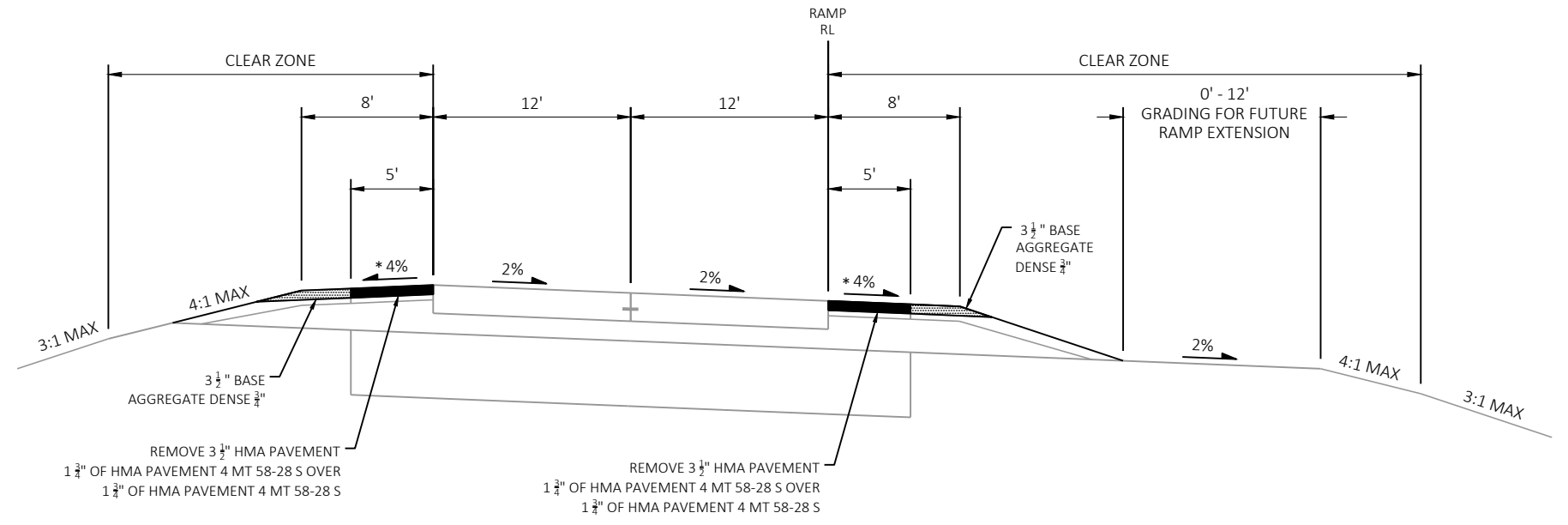
**FINISHED TYPICAL SECTION  
IH 43**

APPLIED SAME MILL AND OVERLAY AT GORE AREAS:  
 STA 767+78 TO STA 771+06 ALONG IH 43 NB  
 STA 778+40 TO STA 780+93 ALONG IH 43 SB

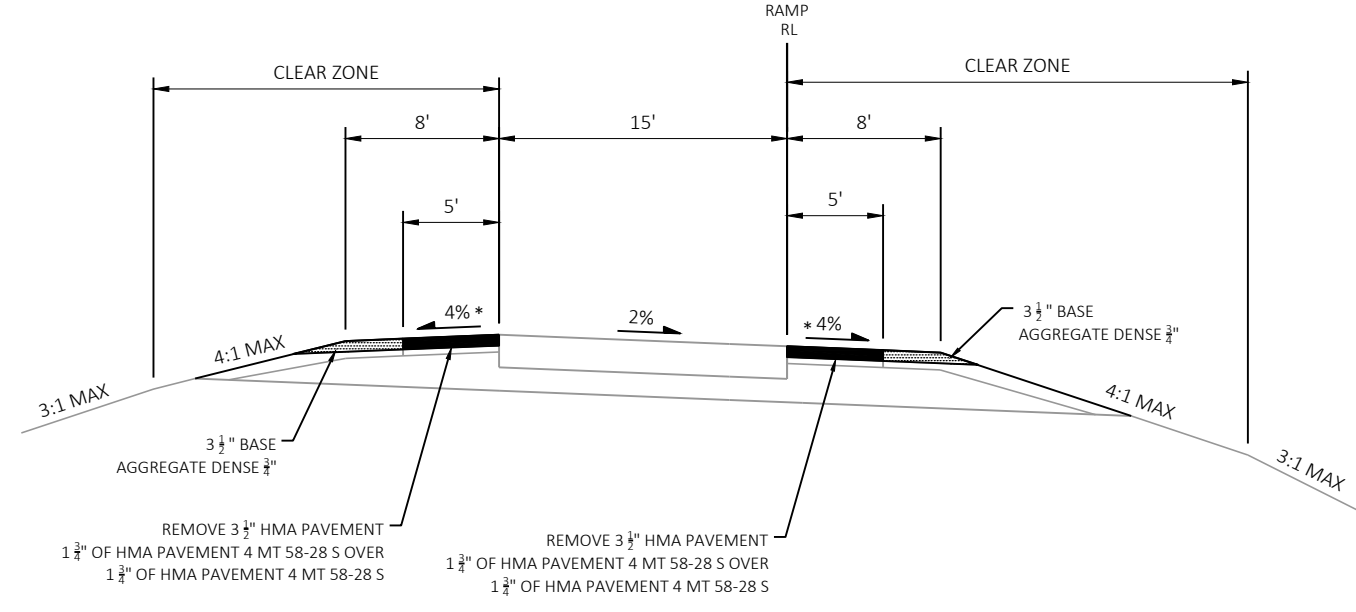


ENERGY ABSORBING TERMINAL (EAT)  
 STA 776+68 TO STA 777+21  
 SHOULDER TO BE PAVED TO THE FACE OF THE RAIL  
 REFER TO CROSS SECTIONS SHEETS FOR SLOPE VALUES

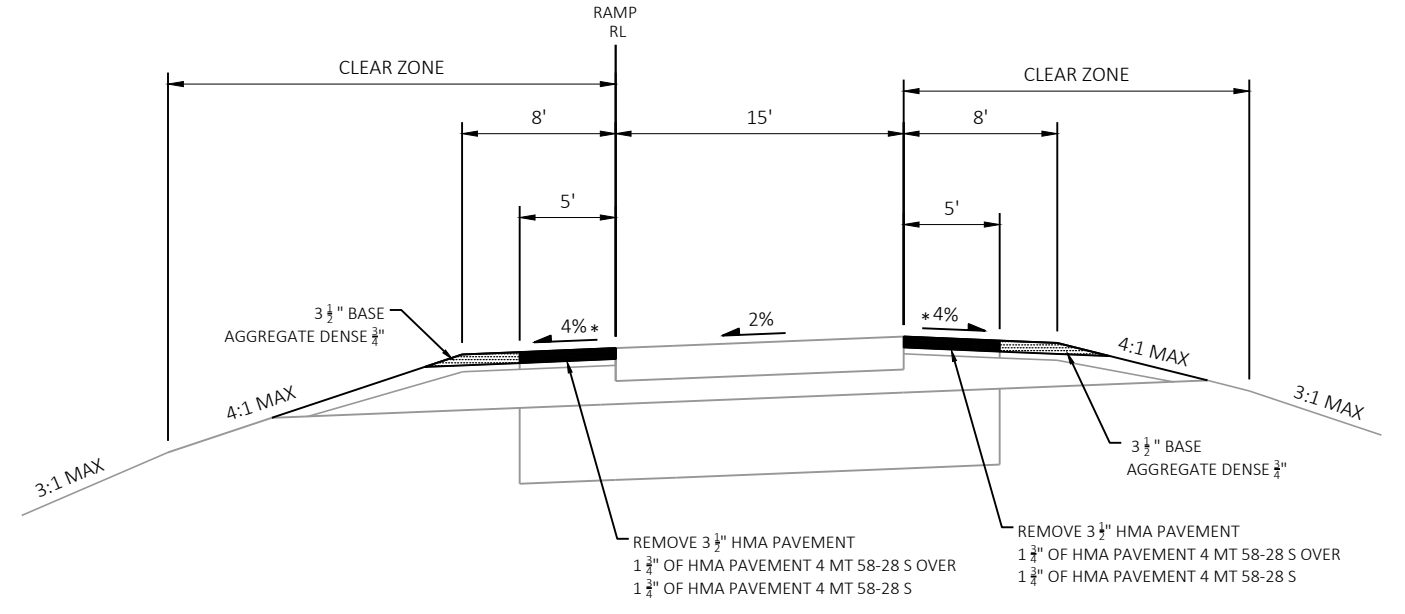
\* EXISTING CROSS SLOPES TO BE MAINTAINED



**FINISHED TYPICAL SECTION**  
**IH 33 NB ON RAMP FROM**  
**RACINE AVE (CTH Y)**  
 STA. 634+46 TO STA. 643+02 (RT)  
 STA. 635+08 TO STA. 643+01 (LT)



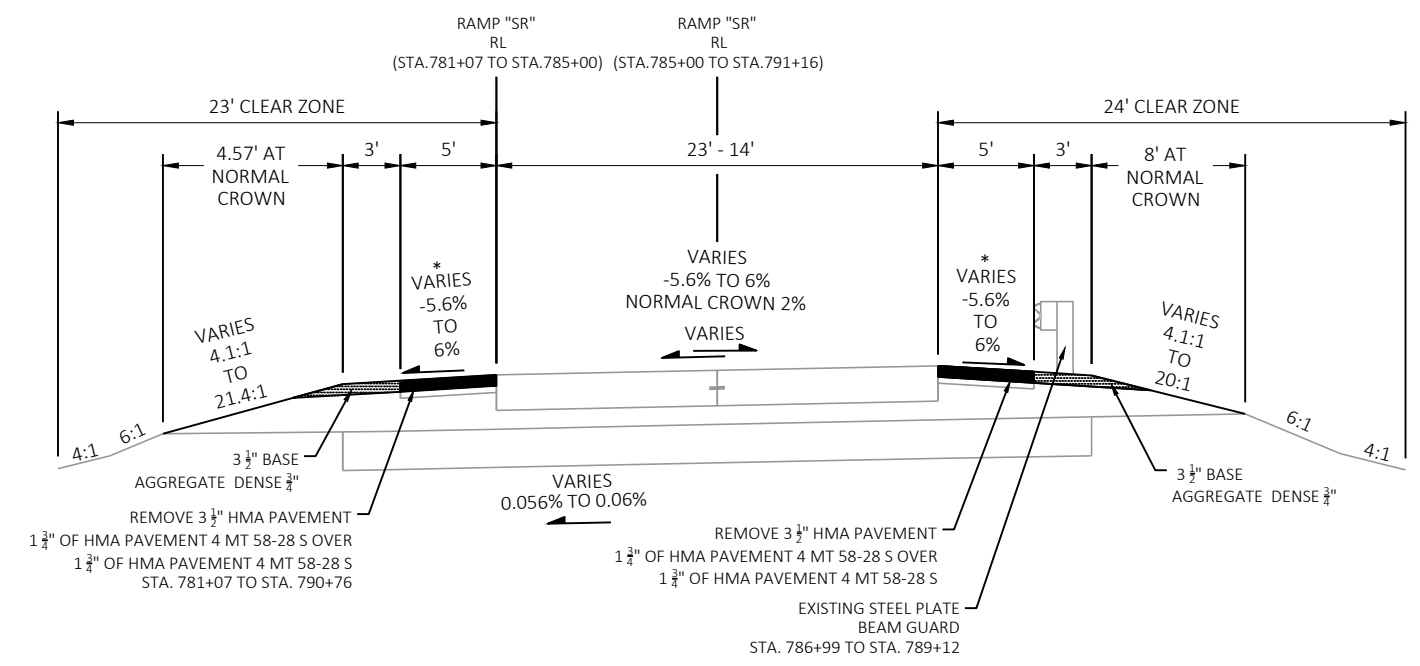
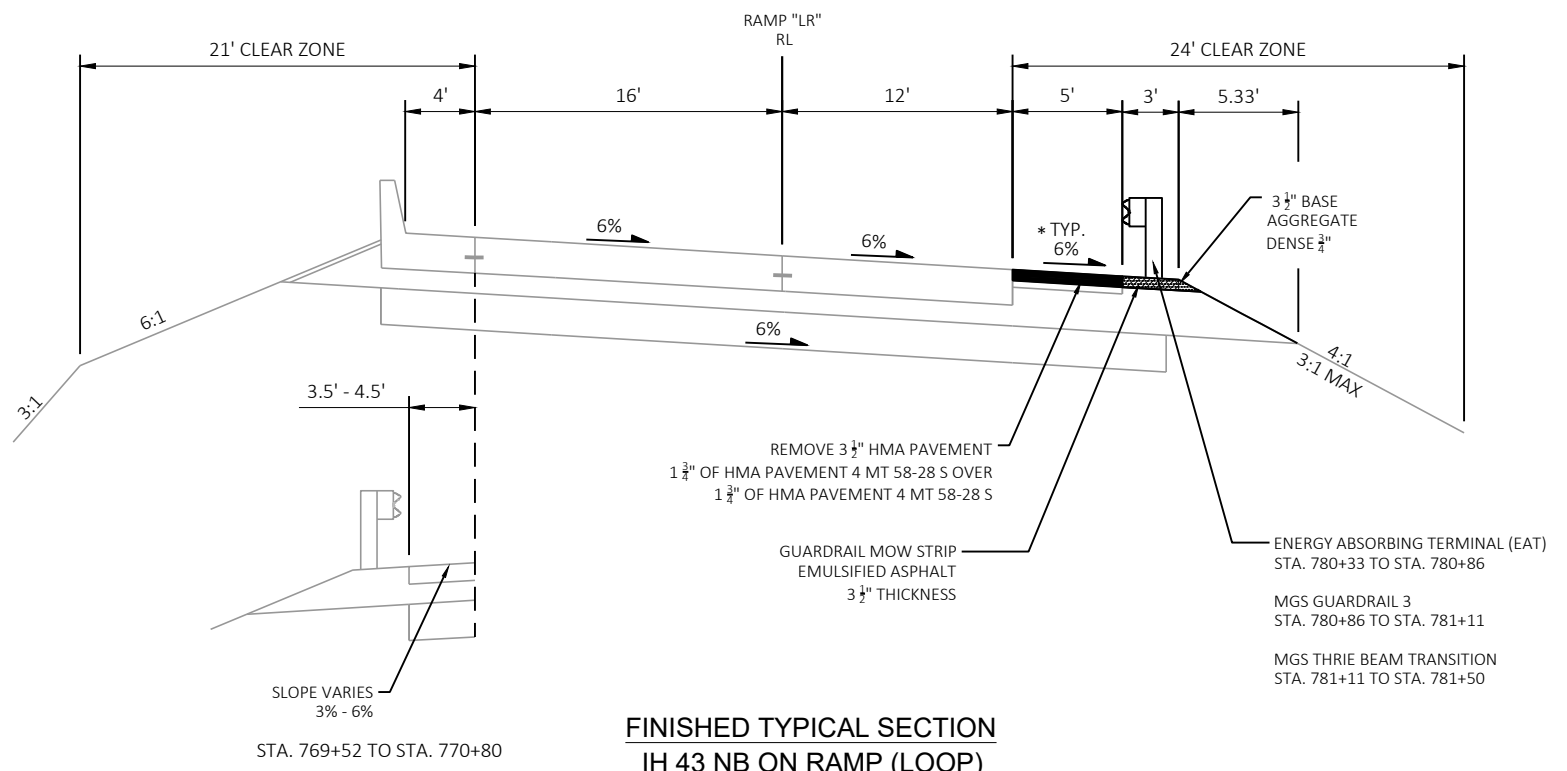
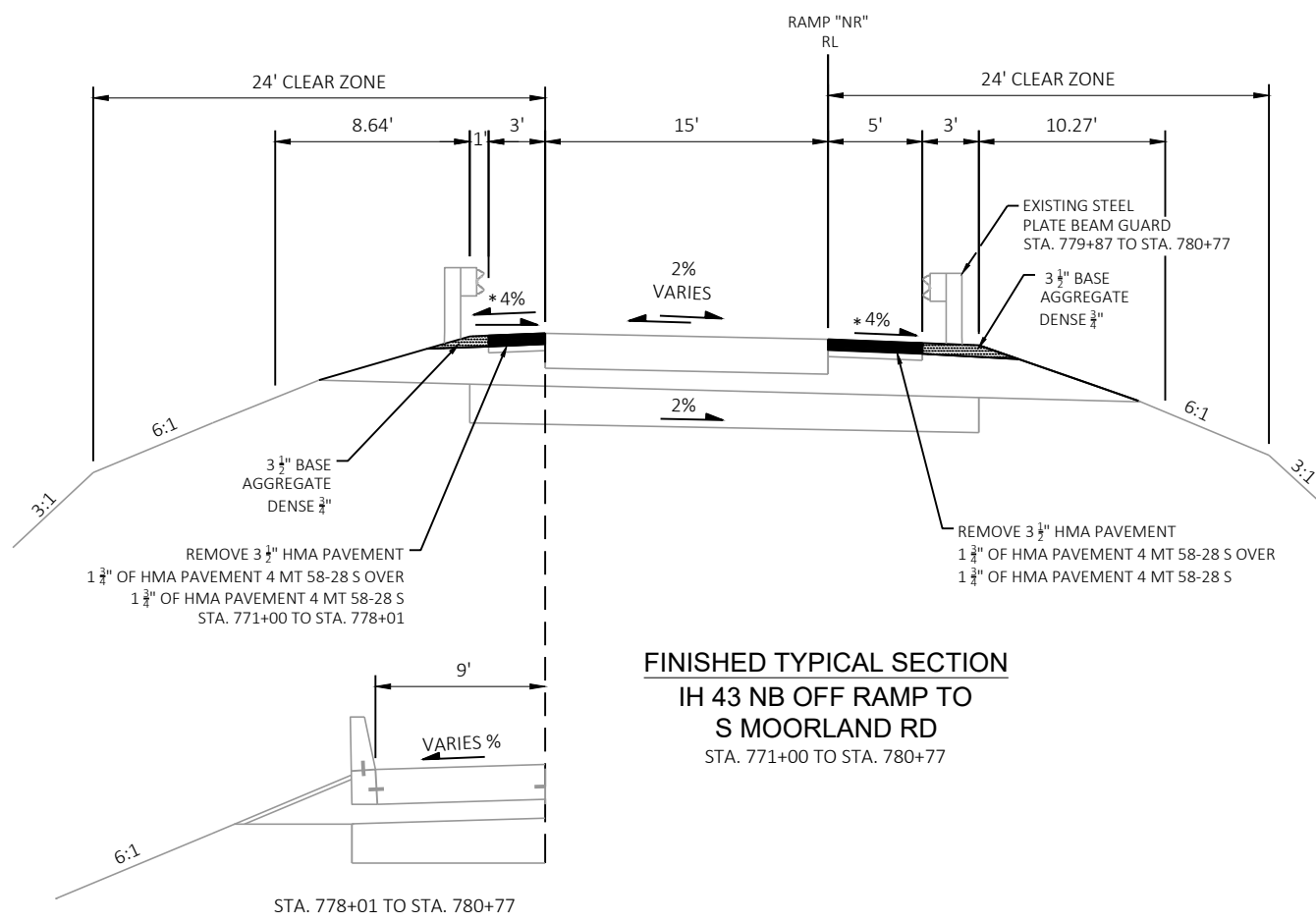
**FINISHED TYPICAL SECTION**  
**IH 33 NB OFF RAMP TO RACINE AVE (CTH Y)**  
 STA. 626+84 TO STA. 629+86 (LT)    STA. 626+50 TO STA. 629+67 (RT)



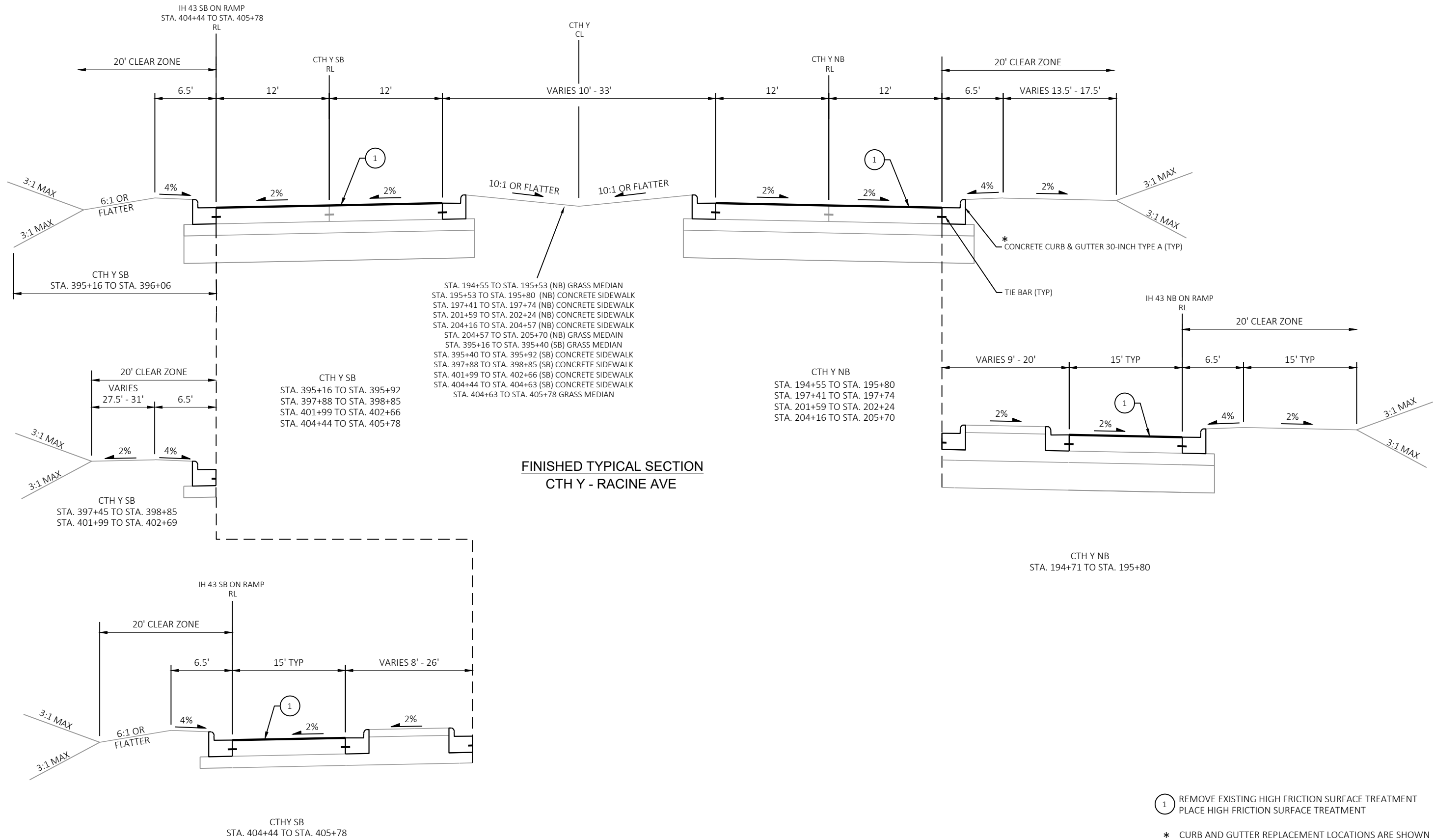
**FINISHED TYPICAL SECTION**  
**IH 33 SB ON RAMP FROM RACINE AVE (CTH Y)**  
 STA. 627+00 TO STA. 635+76 (LT)    STA. 627+74 TO STA. 635+86 (RT)  
**IH 33 SB OFF RAMP TO RACINE AVE (CTH Y)**  
 STA. 640+77 TO STA. 647+51 (LT)    STA. 640+04 TO STA. 647+50 (RT)

\* EXISTING CROSS SLOPES TO BE MAINTAINED

PROJECT NO: 1090-09-76	HWY: IH 33	COUNTY: WAUKESHA	FINISHED TYPICAL SECTIONS	SHEET	<b>E</b>
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\* EXISTING CROSS SLOPES TO BE MAINTAINED



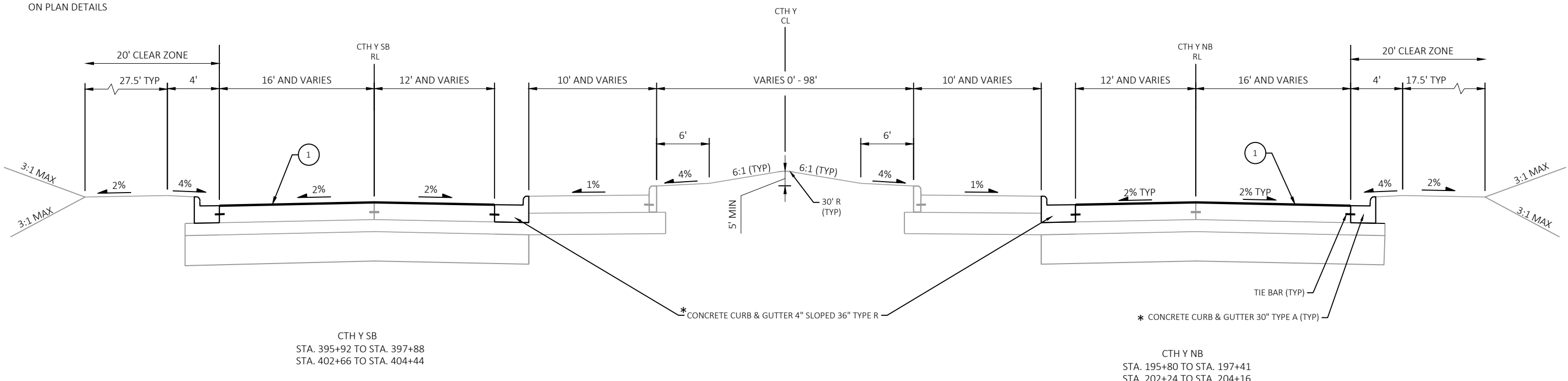
FINISHED TYPICAL SECTION  
CTH Y - RACINE AVE

- ① REMOVE EXISTING HIGH FRICTION SURFACE TREATMENT  
PLACE HIGH FRICTION SURFACE TREATMENT
- \* CURB AND GUTTER REPLACEMENT LOCATIONS ARE SHOWN  
ON PLAN DETAILS

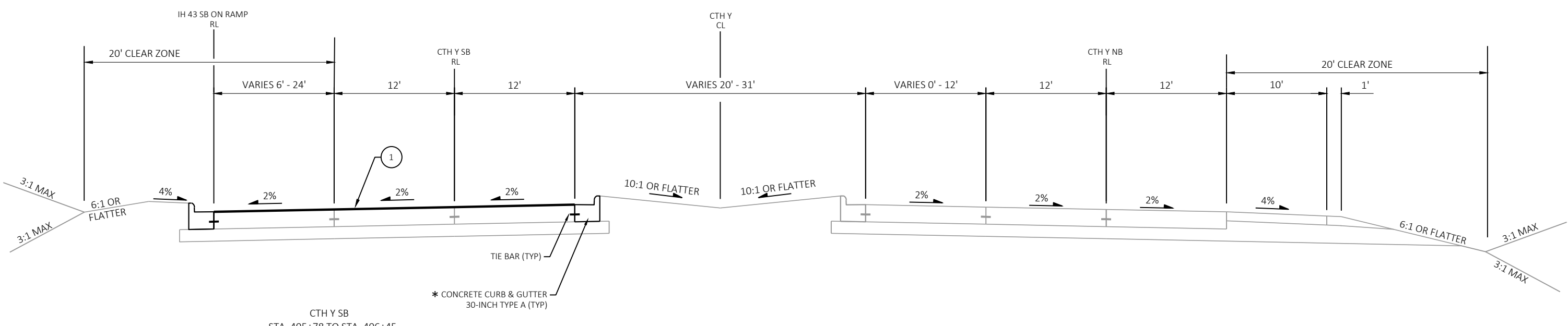


1 REMOVE EXISTING HIGH FRICTION SURFACE TREATMENT  
PLACE HIGH FRICTION SURFACE TREATMENT

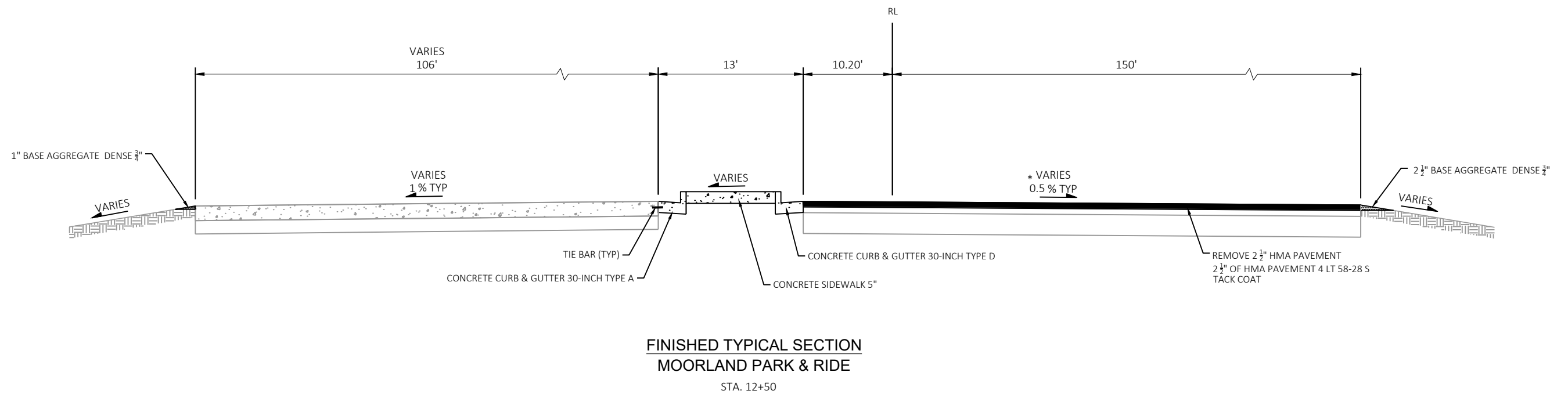
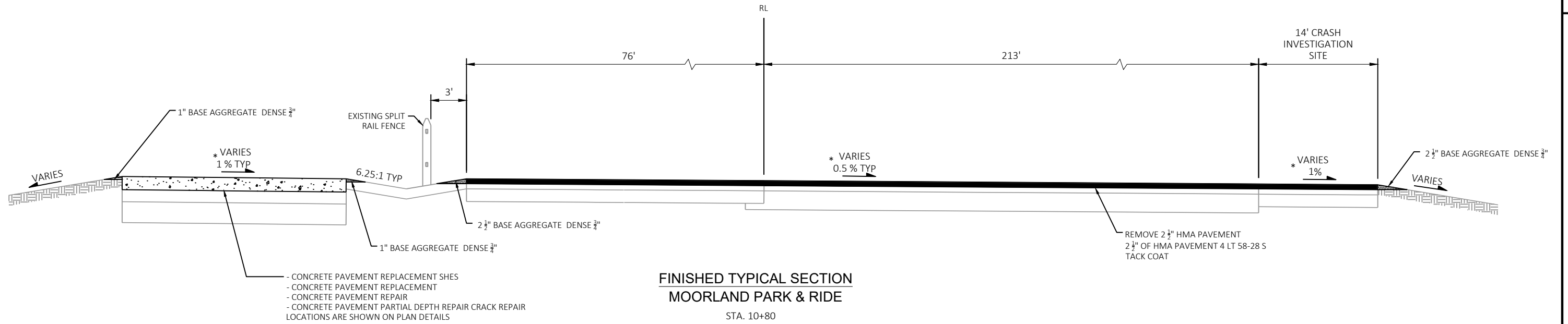
2 \* CURB AND GUTTER REPLACEMENT LOCATIONS ARE SHOWN ON PLAN DETAILS



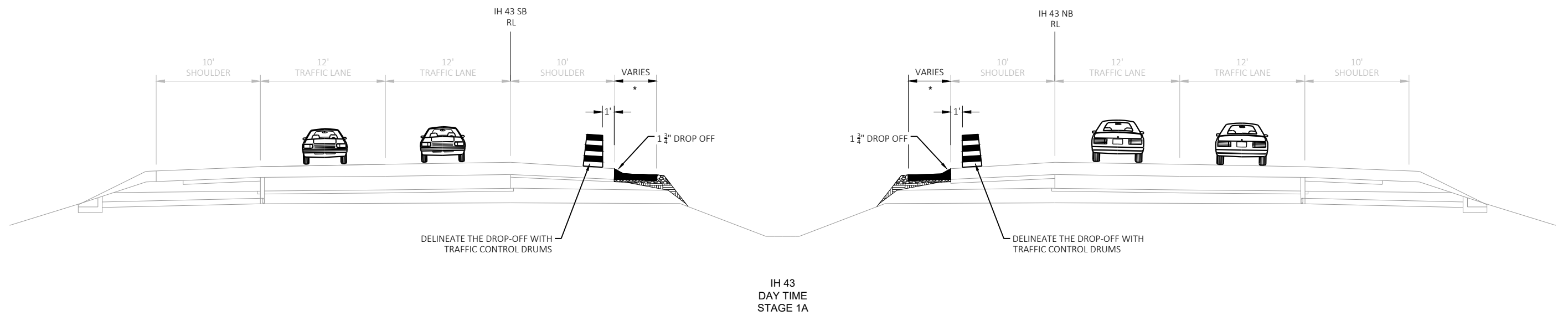
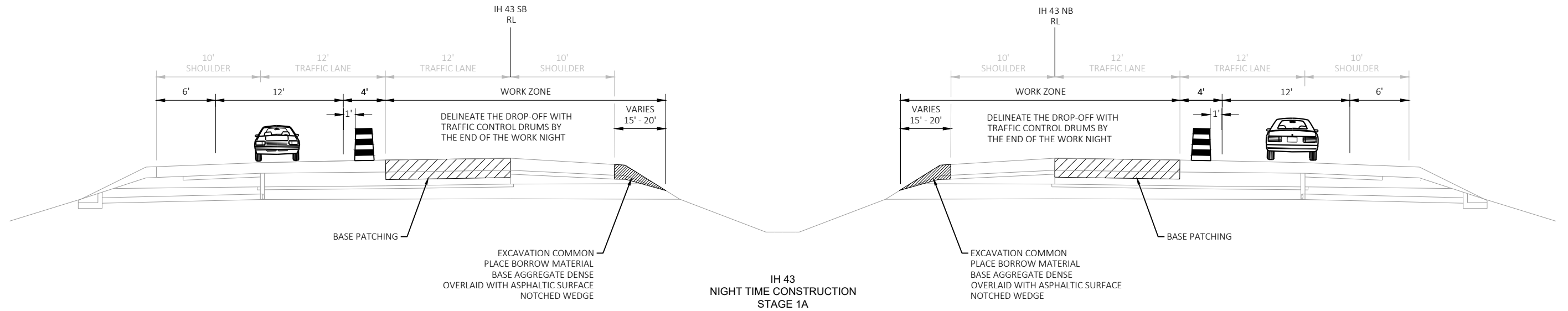
FINISHED TYPICAL SECTION  
CTH Y - RACINE AVE



FINISHED TYPICAL SECTION  
CTH Y - RACINE AVE

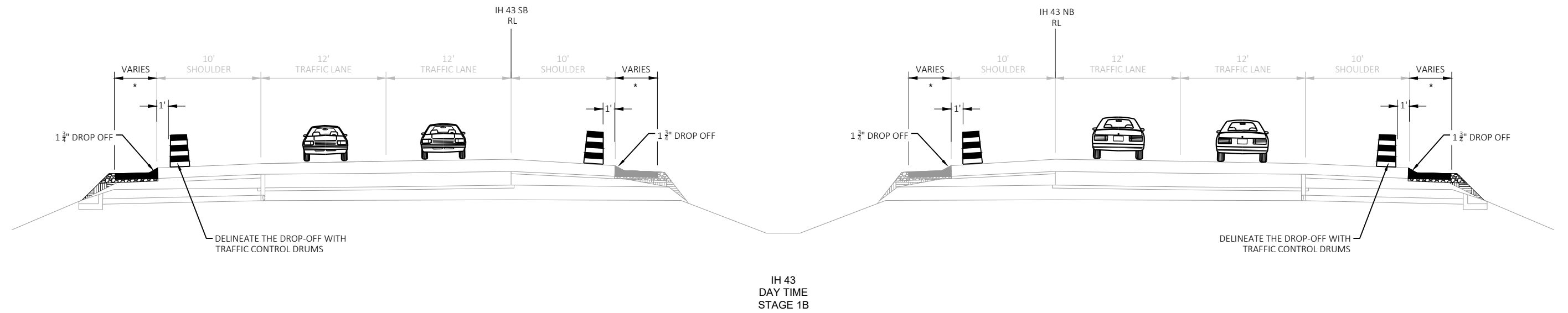
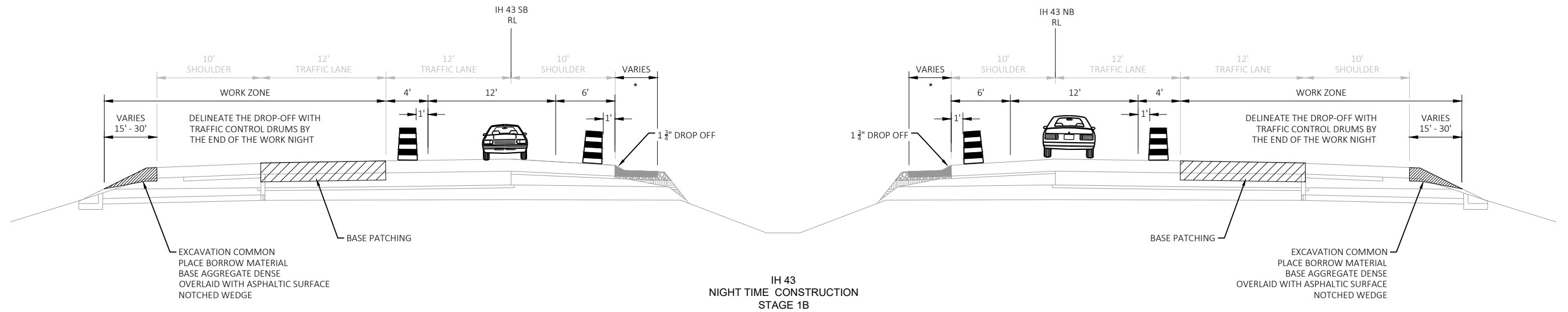


\* EXISTING CROSS SLOPES TO BE MAINTAINED



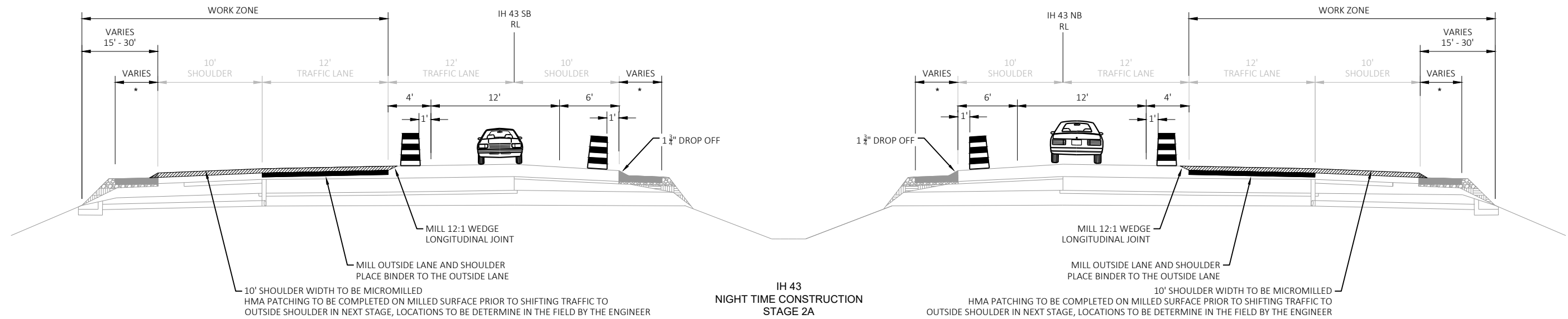
PAVING SEQUENCES

\* SHOULDERS TO BE EXTENDED ONLY AT THE PROPOSED EAT LOCATIONS.

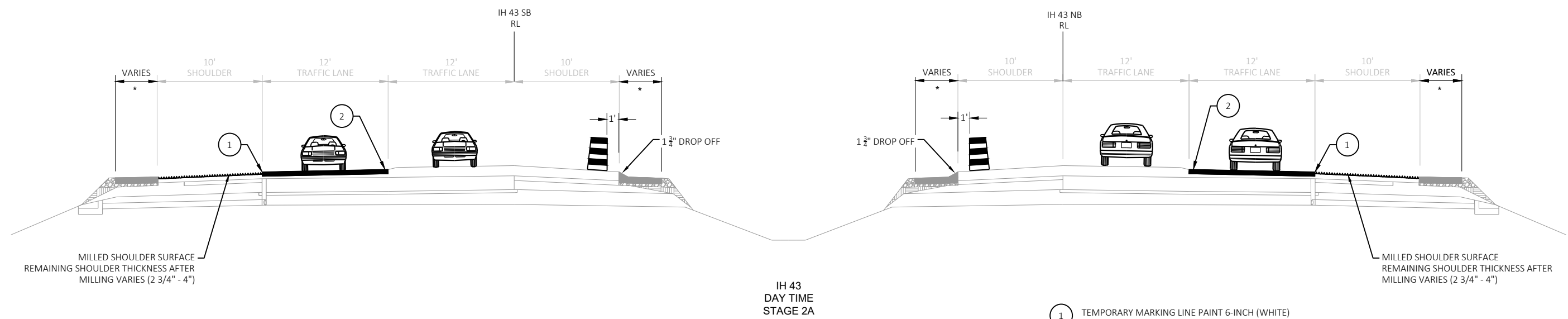


PAVING SEQUENCES

\* SHOULDERS TO BE EXTENDED ONLY AT THE PROPOSED EAT LOCATIONS.



IH 43 NIGHT TIME CONSTRUCTION STAGE 2A



IH 43 DAY TIME CONSTRUCTION STAGE 2A

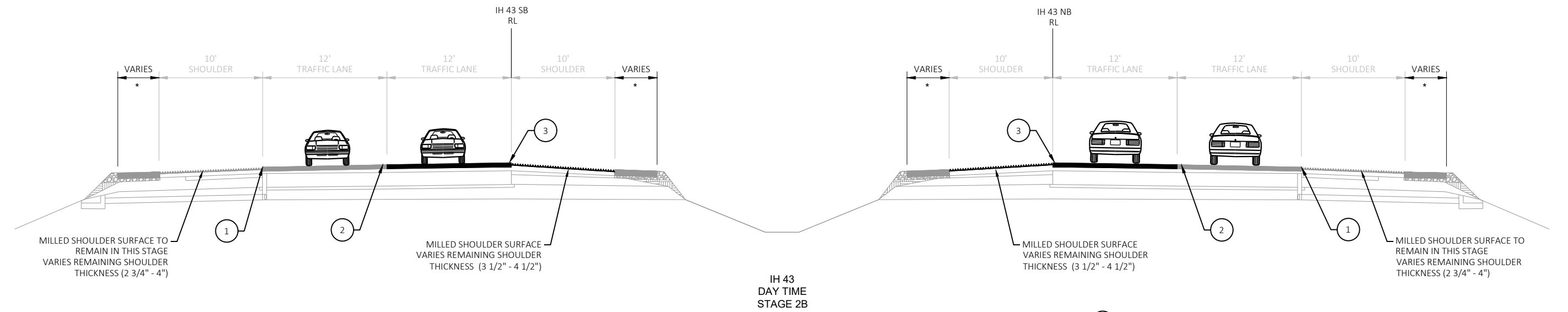
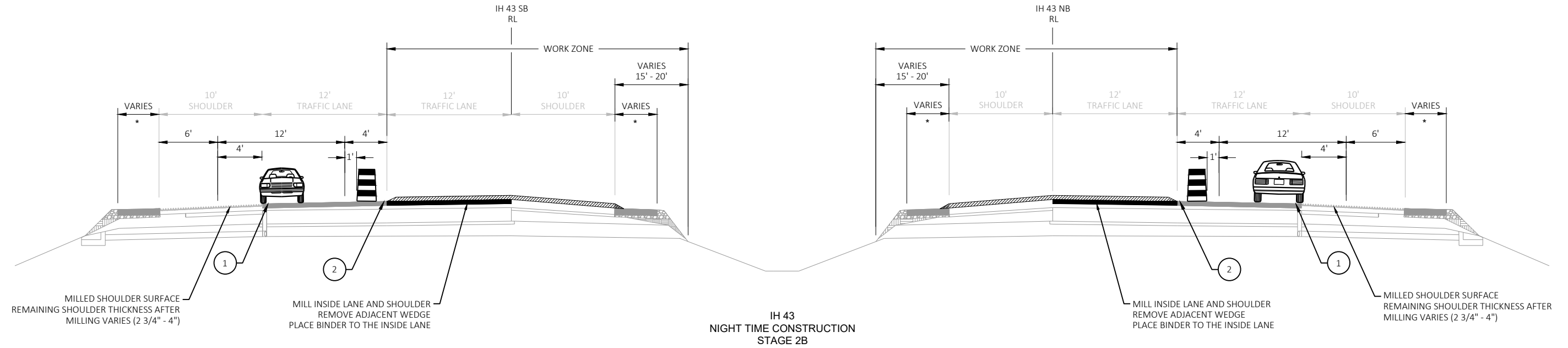
- 1 TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 2 TEMPORARY MARKING LINE PAINT 6-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)

PAVING SEQUENCES

NOTES:

- TEMPORARY PAVEMENT MARKING TO BE INSTALLED PRIOR TO OPENING TRAVEL LANES AT THE END OF EACH NIGHT.
- SEE TEMPORARY PAVEMENT MARKING ON THE DAYTIME SECTION.
- REFER TO CONSTRUCTION DETAILS:
  - "DAY END CONSTRUCTION - TRANSVERSE JOINT DETAIL"
  - "DAY END CONSTRUCTION - MILLED WEDGE LONGITUDINAL JOINT DETAIL"

\* SHOULDERS TO BE EXTENDED ONLY AT THE PROPOSED EAT LOCATIONS.



- 1 TEMPORARY MARKING LINE PAINT 6-INCH (WHITE) APPLIED IN PREVIOUS STAGE (OUTSIDE STAGE - PHASE 1)
- 2 TEMPORARY MARKING LINE PAINT 6-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP) APPLIED IN PREVIOUS STAGE (OUTSIDE STAGE - PHASE 1)
- 3 TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)

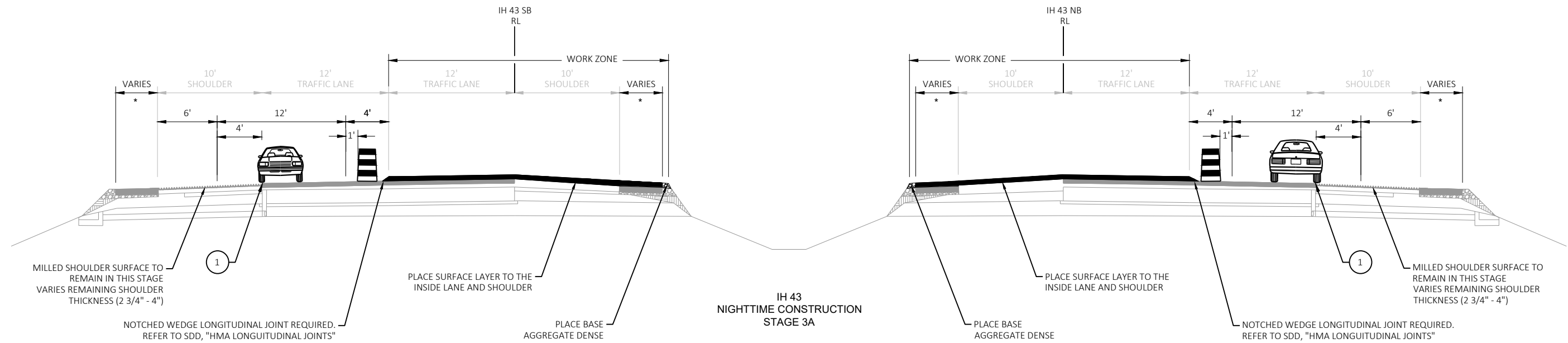
NOTES:

- TEMPORARY PAVEMENT MARKING TO BE INSTALLED PRIOR TO OPENING TRAVEL LANES AT THE END OF EACH NIGHT.
- SEE TEMPORARY PAVEMENT MARKING ON THE DAYTIME SECTION.
- REFER TO CONSTRUCTION DETAILS: "DAY END CONSTRUCTION - TRANSVERSE JOINT DETAIL" "DAY END CONSTRUCTION - MILLED WEDGE LONGITUDINAL JOINT DETAIL"

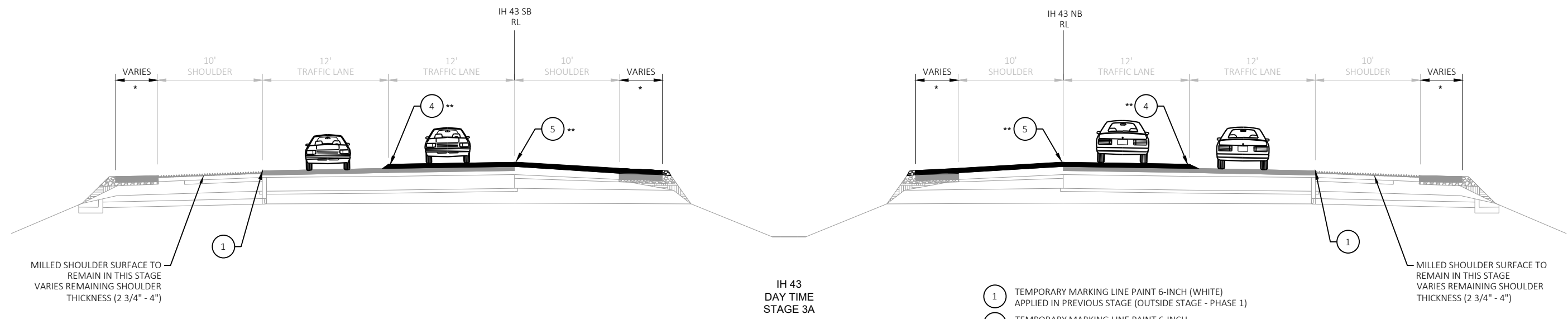
\* SHOULDERS TO BE EXTENDED ONLY AT THE PROPOSED EAT LOCATIONS.

PAVING SEQUENCES





IH 43 NIGHTTIME CONSTRUCTION STAGE 3A



IH 43 DAY TIME CONSTRUCTION STAGE 3A

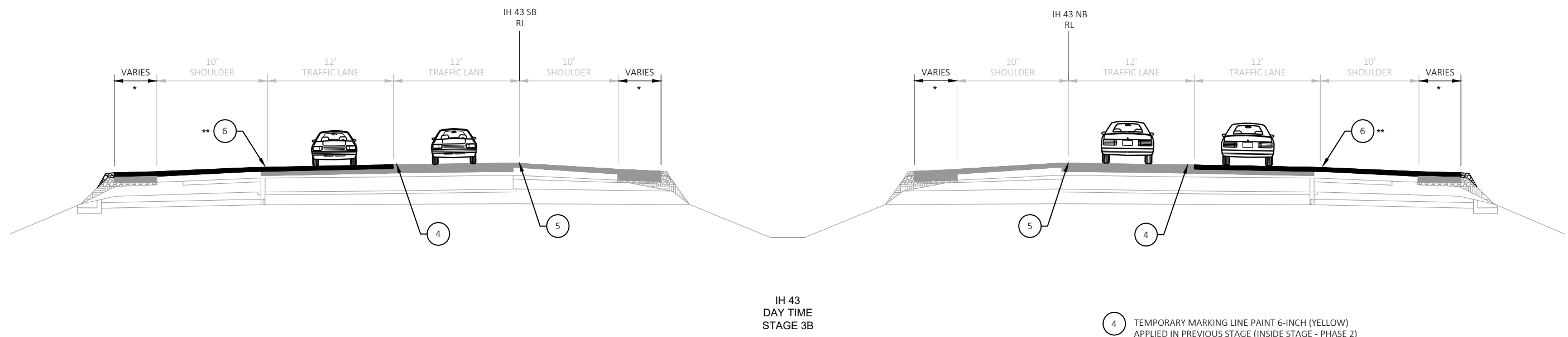
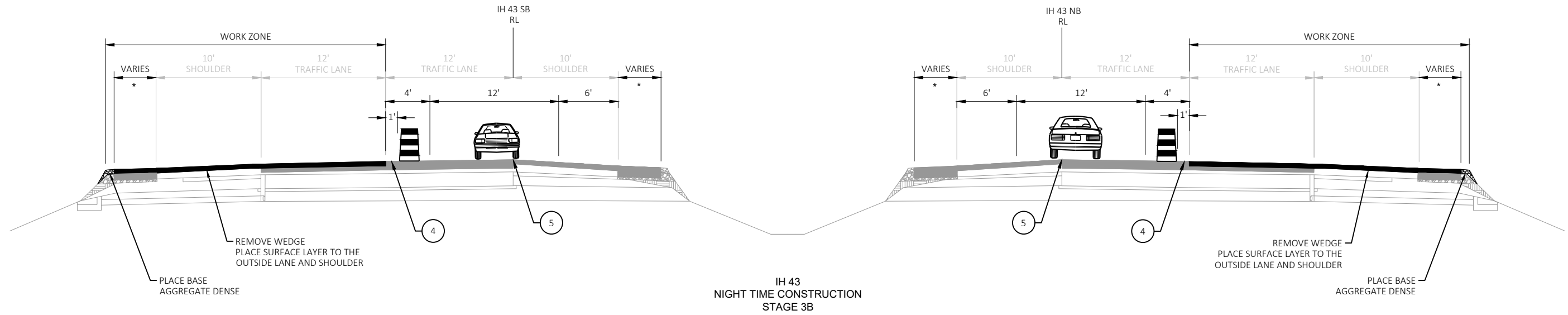
- 1 TEMPORARY MARKING LINE PAINT 6-INCH (WHITE) APPLIED IN PREVIOUS STAGE (OUTSIDE STAGE - PHASE 1)
- 4 TEMPORARY MARKING LINE PAINT 6-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
- 5 TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)

PAVING SEQUENCES

NOTES:

- TEMPORARY PAVEMENT MARKING TO BE INSTALLED PRIOR TO OPENING TRAVEL LANES AT THE END OF EACH NIGHT.
- SEE TEMPORARY PAVEMENT MARKING ON THE DAYTIME SECTION.
- REFER TO CONSTRUCTION DETAILS: "DAY END CONSTRUCTION - TRANSVERSE JOINT DETAIL" "DAY END CONSTRUCTION - MILLED WEDGE LONGITUDINAL JOINT DETAIL"

\* SHOULDERS TO BE EXTENDED ONLY AT THE PROPOSED EAT LOCATIONS.  
 \*\* TEMPORARY PAVEMENT MARKING SHALL BE PLACED SAME NIGHT AND SHALL BE PLACED IN EXACT CONFIGURATION WHERE PERMANENT MARKING WILL BE PLACED.



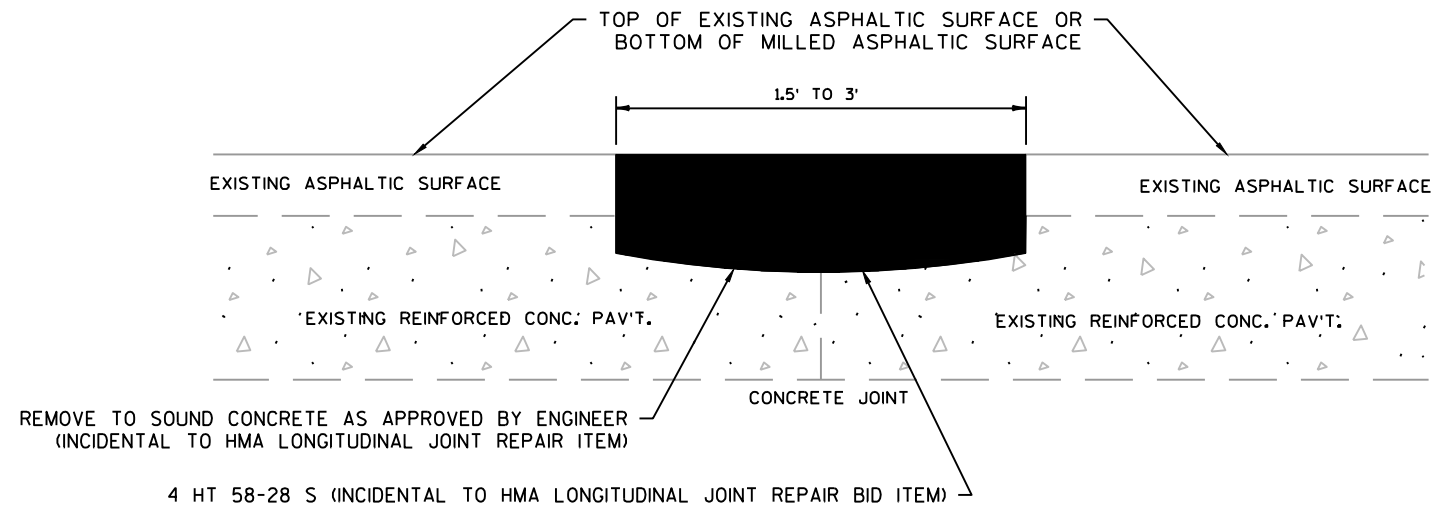
- 4 TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW) APPLIED IN PREVIOUS STAGE (INSIDE STAGE - PHASE 2)
- 5 TEMPORARY MARKING LINE PAINT 6-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP) APPLIED IN PREVIOUS STAGE (INSIDE STAGE - PHASE 2)
- 6 TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)

**NOTES:**

- TEMPORARY PAVEMENT MARKING TO BE INSTALLED PRIOR TO OPENING TRAVEL LANES AT THE END OF EACH NIGHT.
- SEE TEMPORARY PAVEMENT MARKING ON THE DAYTIME SECTION.
- REFER TO CONSTRUCTION DETAILS:  
"DAY END CONSTRUCTION - TRANSVERSE JOINT DETAIL"  
"DAY END CONSTRUCTION - MILLED WEDGE LONGITUDINAL JOINT DETAIL"

\* SHOULDERS TO BE EXTENDED ONLY AT THE PROPOSED EAT LOCATIONS.  
\*\* TEMPORARY PAVEMENT MARKING SHALL BE PLACED SAME NIGHT AND SHALL BE PLACED IN EXACT CONFIGURATION WHERE PERMANENT MARKING WILL BE PLACED.

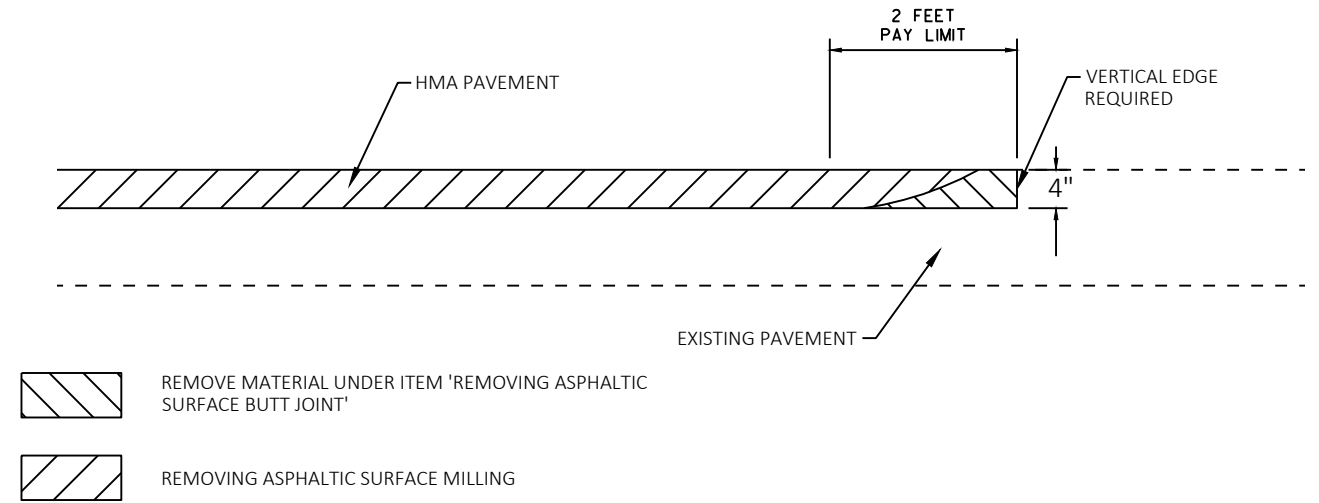
PAVING SEQUENCES



HMA LONGITUDINAL JOINT REPAIR DETAIL

NOTES:

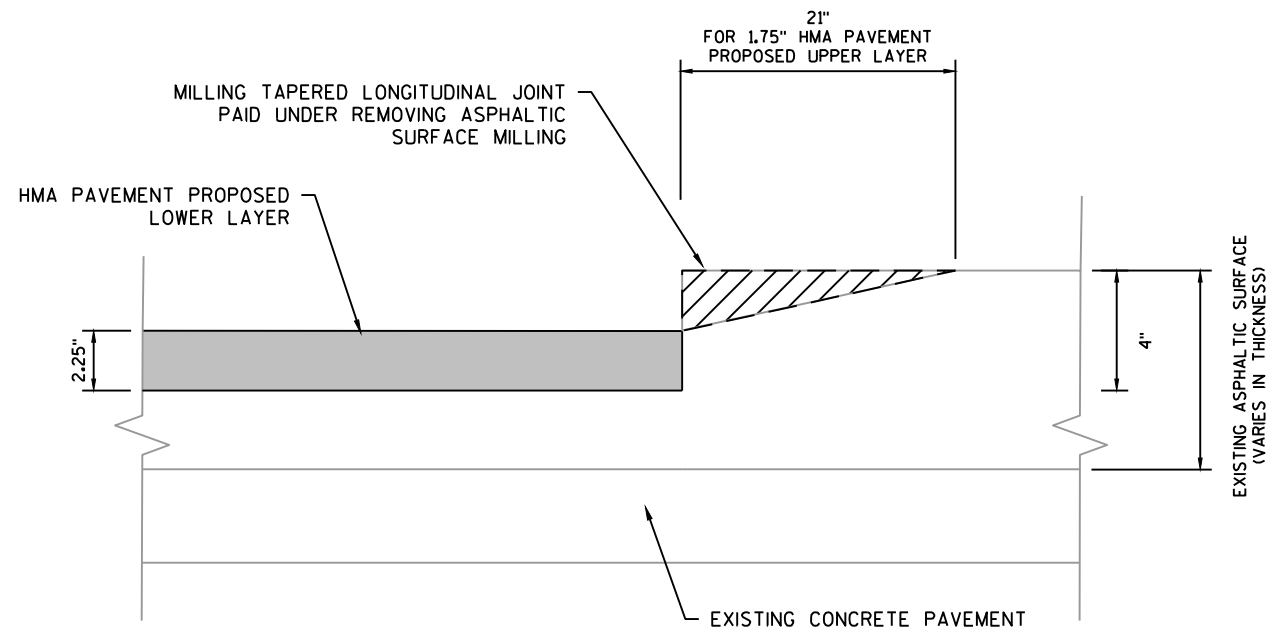
- IN ALL AREAS OF JOINT REPAIR, REMOVE ASPHALTIC MATERIAL AND/OR LOOSE, DETERIORATED CONCRETE. CLEAN AND REPLACE WITH HMA PAVEMENT AS DIRECTED BY THE ENGINEER.
- LOCATIONS FOR JOINT REPAIR TO BE APPROVED BY THE ENGINEER PRIOR TO THE START OF REPAIR WORK.
- ACTUAL WIDTH TO BE DETERMINED BY THE ENGINEER.



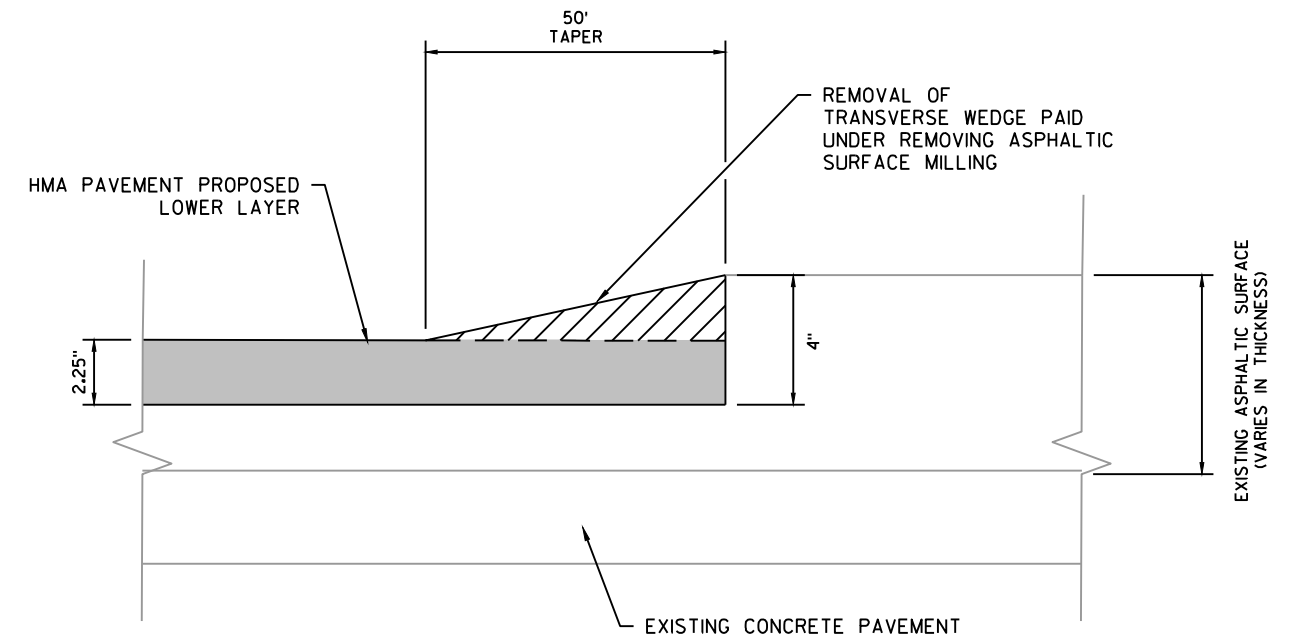
BUTT JOINT - NO CHANGE IN PROFILE

NOTES:

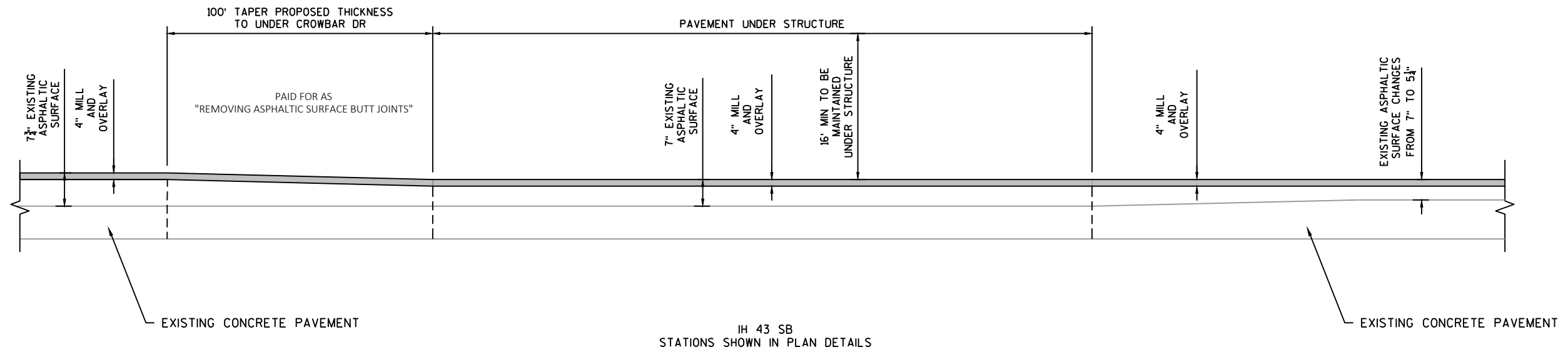
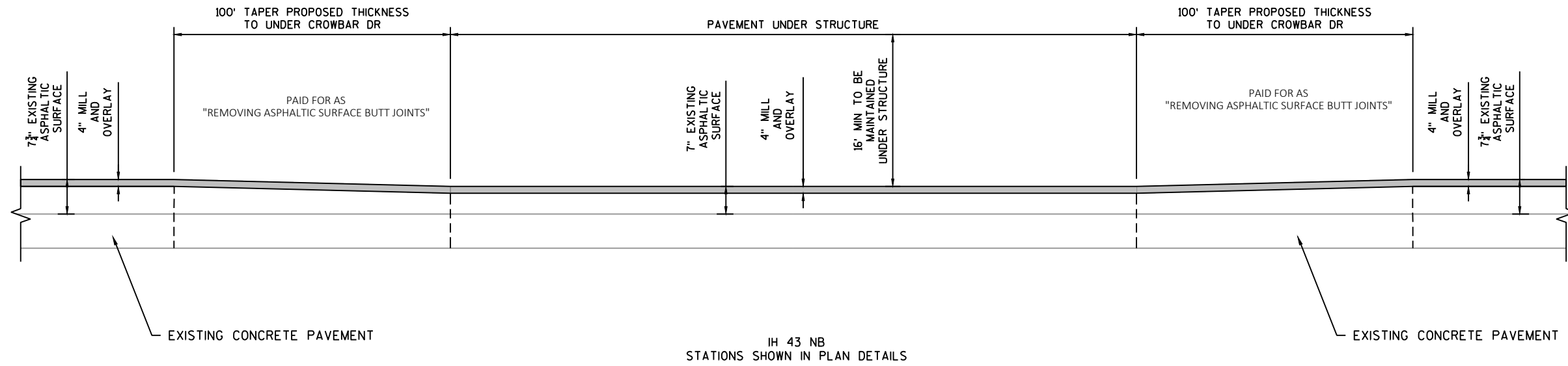
- A MILL IS TO BE USED TO CREATE THE VERTICAL EDGE.



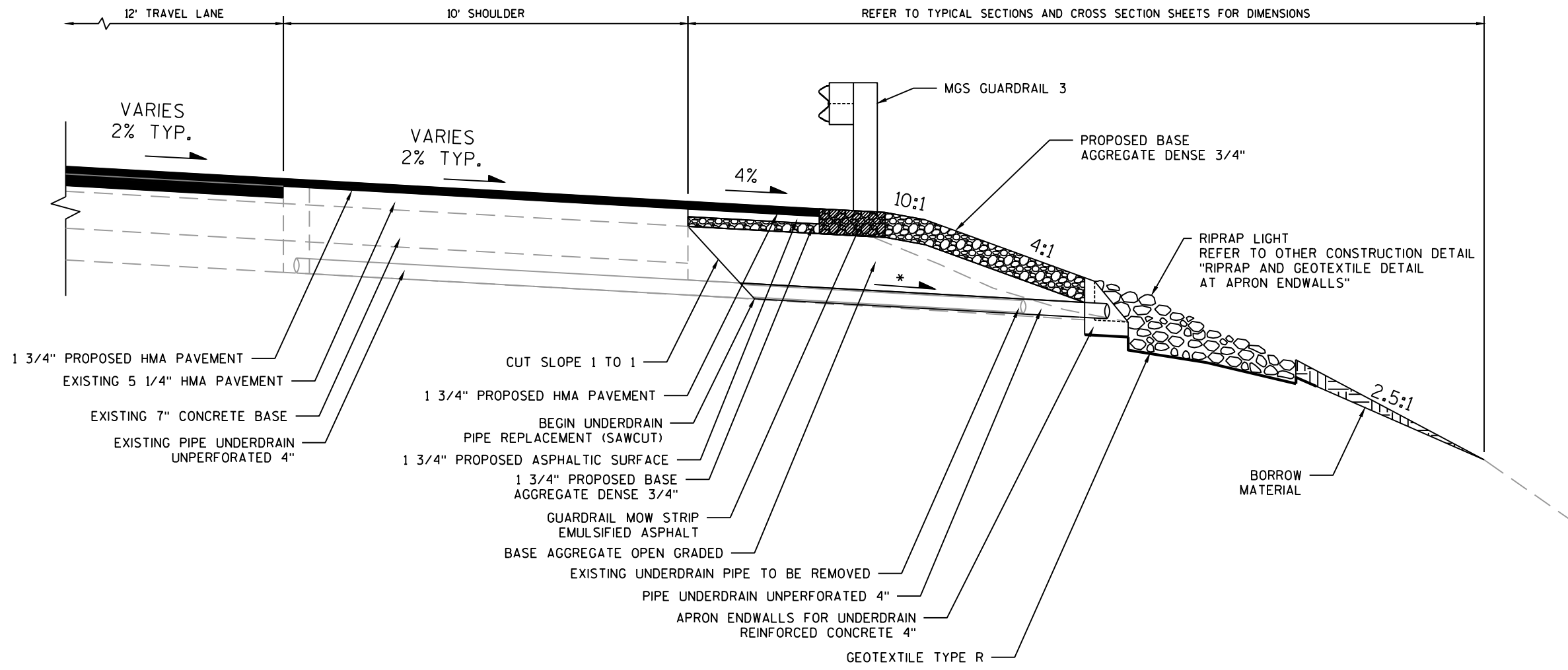
DAY END CONSTRUCTION - MILLED WEDGE LONGITUDINAL JOINT DETAIL



DAY END CONSTRUCTION - TRANSVERSE JOINT DETAIL



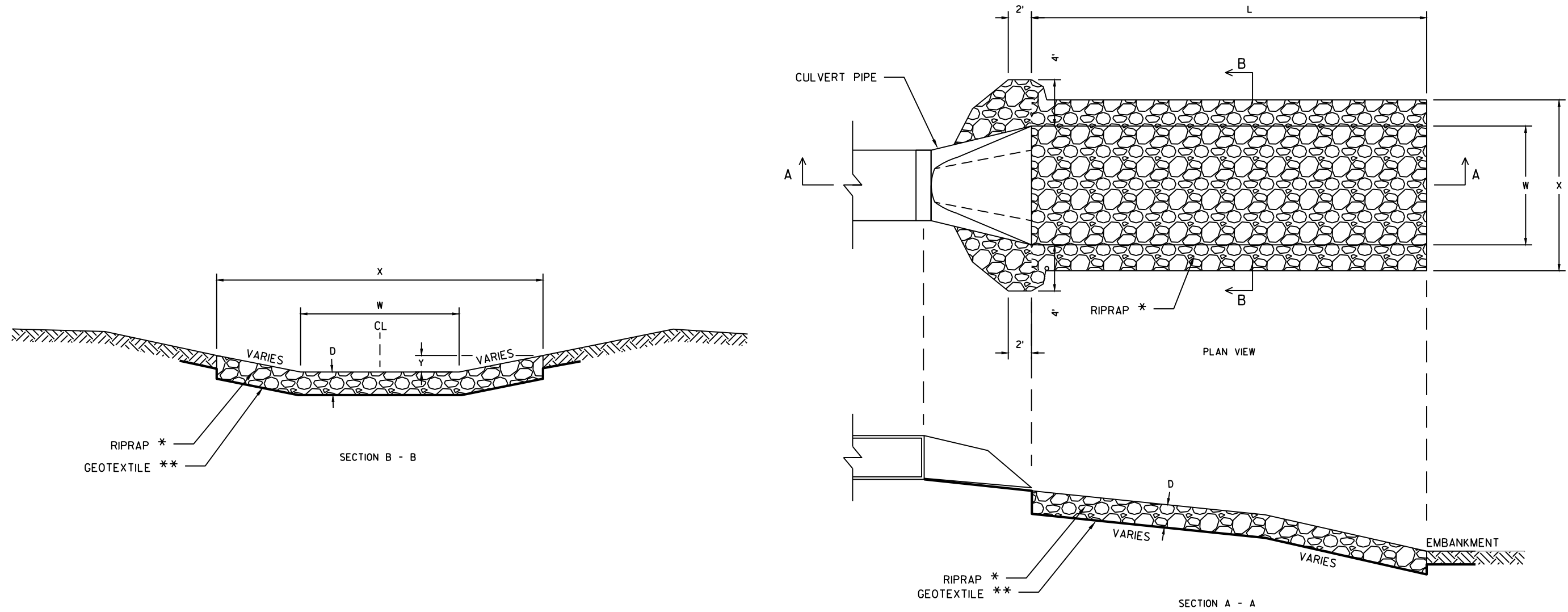
IH 43 PAVING DETAIL UNDER OVERHEAD STRUCTURE  
CROWBAR DR (B-67-114)



PIPE UNDERDRAIN EXTENSION NEAR POST 1 AT STA. 664NB+52  
IH 43 & S MARTIN RD INTERCHANGE

NOTES:

- FOR MORE DETAILS ABOUT THE PROPOSED WORK SHOWN, REFER TO CROSS SECTION SHEETS "BEAM GUARD - IH 43 NB (IH 43 & S MARTIN RD INTERCHANGE)" AND TYPICAL SECTIONS.
- WHEN PLACING BEAM GUARD POSTS, AVOID LOCATIONS WHERE PIPE UNDERDRAIN EXIST IN ORDER TO PREVENT PUNCTURING.
- BACKFILL TRENCH WITH OPEN GRADED BASE AGGREGATE.
- COORDINATE UNDERDRAIN PIPE EXTENSION WITH FTMS WORK, REFER TO FTMS PLANS.
- \* PIPE UNDERDRAIN TO FOLLOW THE EXISTING SUBGRADE SLOPE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



**RIPRAP AND GEOTEXTILE DETAIL  
AT APRON ENDWALLS**  
SEE EROSION CONTROL PLANS FOR LOCATIONS

- NOTES:
- GEOTEXTILE FABRIC SHALL EXTEND BENEATH THE APRON END SECTION. INSTALL ON PREPARED FOUNDATION GRADE PRIOR TO END WALL INSTALLATION.
  - GEOTEXTILE FABRIC MUST BE PLACED BENEATH THE RIPRAP TO PREVENT THE WASHOUT OF THE UNDERLYING SOIL.
  - COMPLETE GEOTEXTILE FABRIC AND RIPRAP SECTION INSTALLATION PRIOR TO STORM WATER FLOW.
  - THE FABRIC SHOULD BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
  - THE RIPRAP SHOULD BE PLACED TO FORM A WELL-GRADED INTERLOCKING MASS WITH MINIMUM OF VOIDS.
  - ROCKS SHOULD BE HARD, DURABLE, PREFERABLY ANGULAR IN SHAPE AND FREE FROM OVERBURDEN, SHALE AND ORGANIC MATERIAL.
  - THE ROCK SHOULD BE RESISTANT TO DISINTEGRATION FROM CHEMICAL AND PHYSICAL WEATHERING.

L = 3 X W (NOR) OR 10' MIN  
OR AS DIRECTED BY THE ENGINEER IN THE FIELD

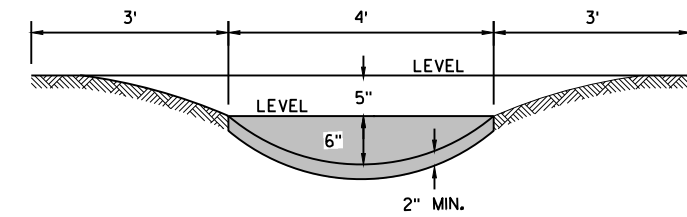
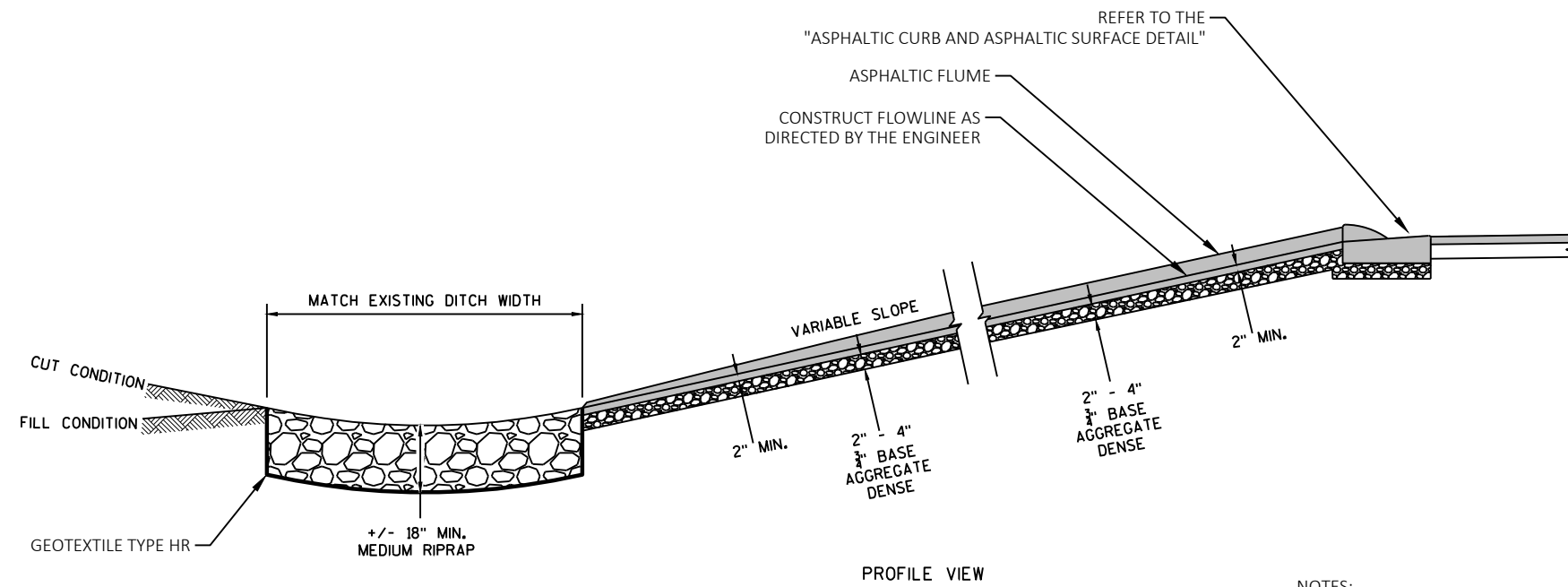
D = 12" FOR RIPRAP LIGHT  
18" FOR RIPRAP MEDIUM  
24" FOR RIPRAP HEAVY

X = W+2' FOR TYPICAL CULVERT DISCHARGE INTO DITCH  
= W+5' FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE

Y = 0' FOR TYPICAL CULVERT DISCHARGE INTO DITCH  
12" MIN. FOR RIPRAP LIGHT  
18" MIN. FOR RIPRAP MEDIUM  
24" FOR RIPRAP HEAVY

\* FOR 4" PIPE UNDERDRAIN UNPERFORATED USE LIGHT RIPRAP  
FOR 18" CULVERT PIPE REINFORCED CONCRETE USE RIPRAP MEDIUM  
FOR 30" CULVERT PIPE REINFORCED CONCRETE USE RIPRAP MEDIUM  
FOR 36" CULVERT PIPE REINFORCED CONCRETE USE RIPRAP HEAVY  
FOR 42" CULVERT PIPE REINFORCED CONCRETE USE RIPRAP HEAVY

\* \* TYPE R (FOR RIPRAP LIGHT ONLY)  
TYPE HR (FOR RIPRAP HEAVY AND MEDIUM ONLY)



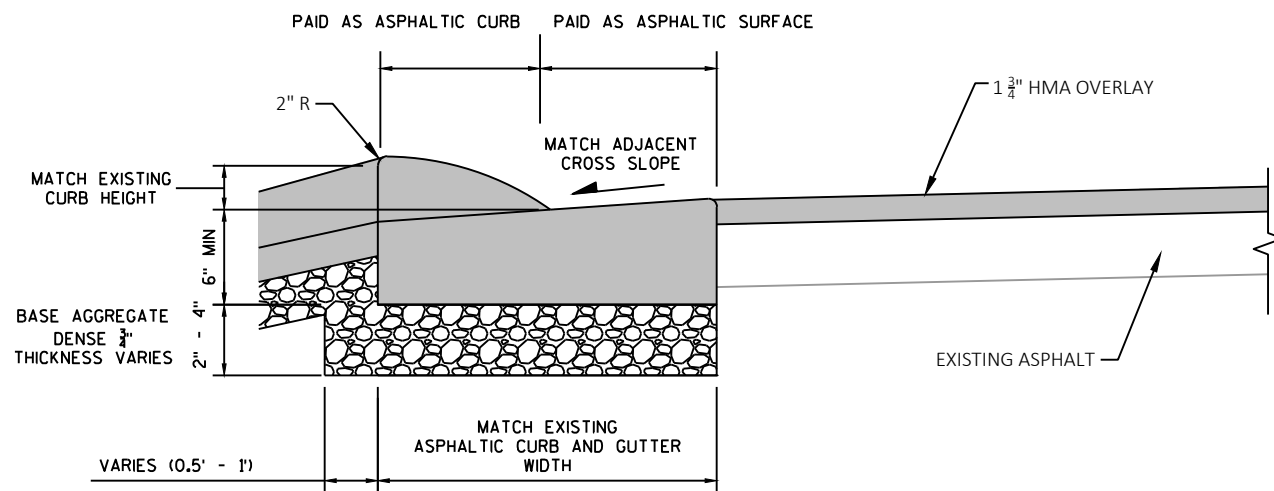
SECTION VIEW THRU THE ASPHALTIC FLUME

### ASPHALTIC FLUMES DETAIL

IH 43 & CTH U INTERCHANGE

NOTES:

- BASE AGGREGATE DENSE THICKNESS TO BE DETERMINED BY THE ENGINEER IN THE FIELD AFTER EXCAVATION.
- GEOTEXTILE TYPE "HR" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE MEDIUM RIPRAP.
- MEDIUM RIPRAP LENGTH AND WIDTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER TO BEST MATCH THE EXISTING DITCH.
- REFER PLAN DETAILS FOR EXACT LOCATIONS.

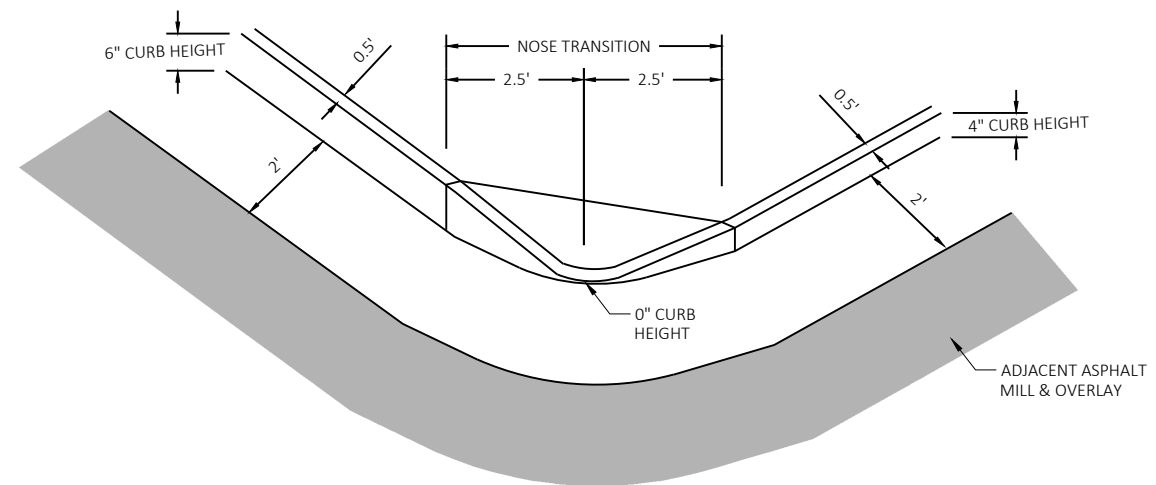
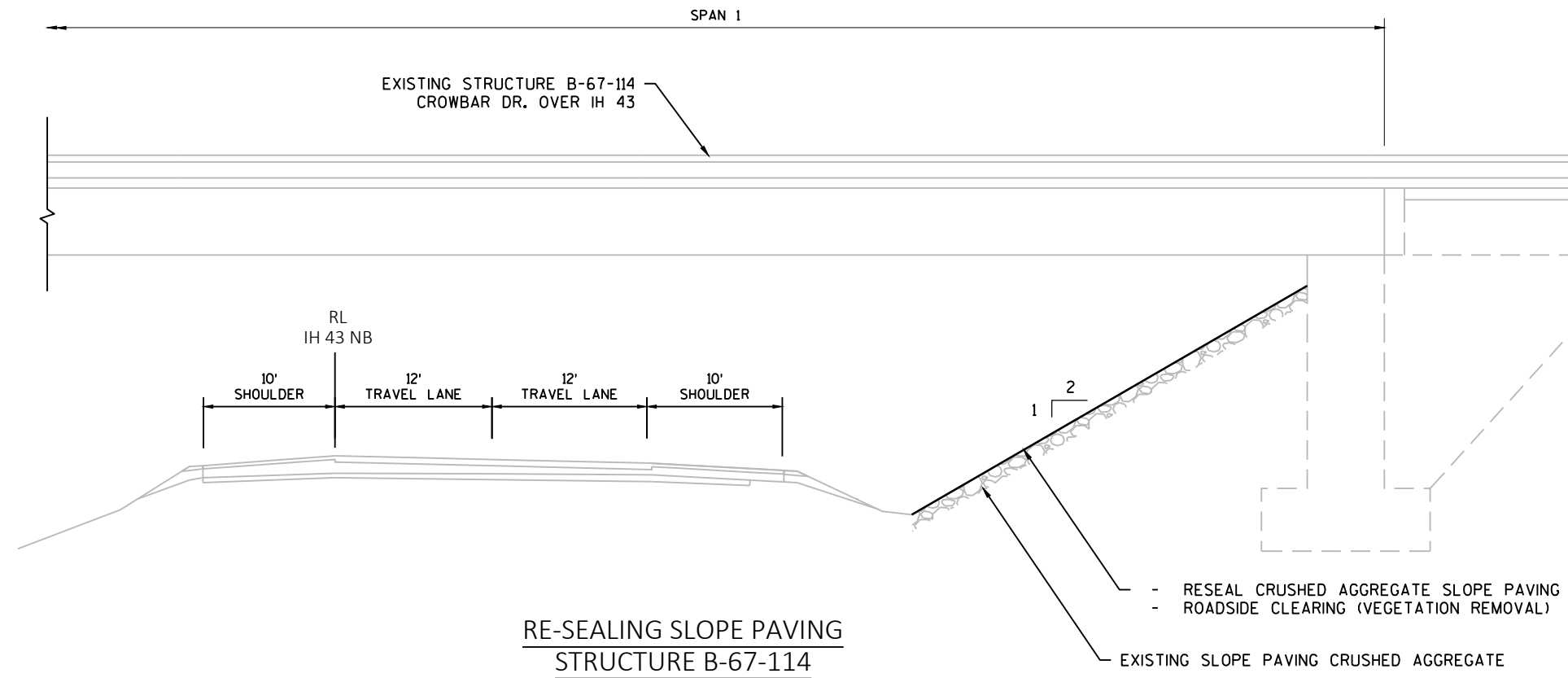


### ASPHALTIC CURB AND ASPHALTIC SURFACE DETAIL

IH 43 & CTH U INTERCHANGE

NOTES:

- ALIGN/MATCH THE PROPOSED FLOW LINE WITH THE ADJACENT EXISTING ASPHALTIC CURB & GUTTER FLOW LINE.
- ACTUAL WIDTH TO BE DETERMINED BY THE ENGINEER IN THE FIELD BASED ON THE ADJACENT EXISTING ASPHALTIC CURB & GUTTER WIDTH.
- BASE AGGREGATE DENSE THICKNESS TO BE DETERMINED BY THE ENGINEER IN THE FIELD AFTER EXCAVATION.
- ASPHALTIC CURB AND ASPHALTIC SURFACE TO BE CONSTRUCT AROUND THE EXISTING BEAM GUARD POSTS.
- REFER TO PLAN DETAILS AND CROSS SECTIONS FOR EXACT LOCATIONS.

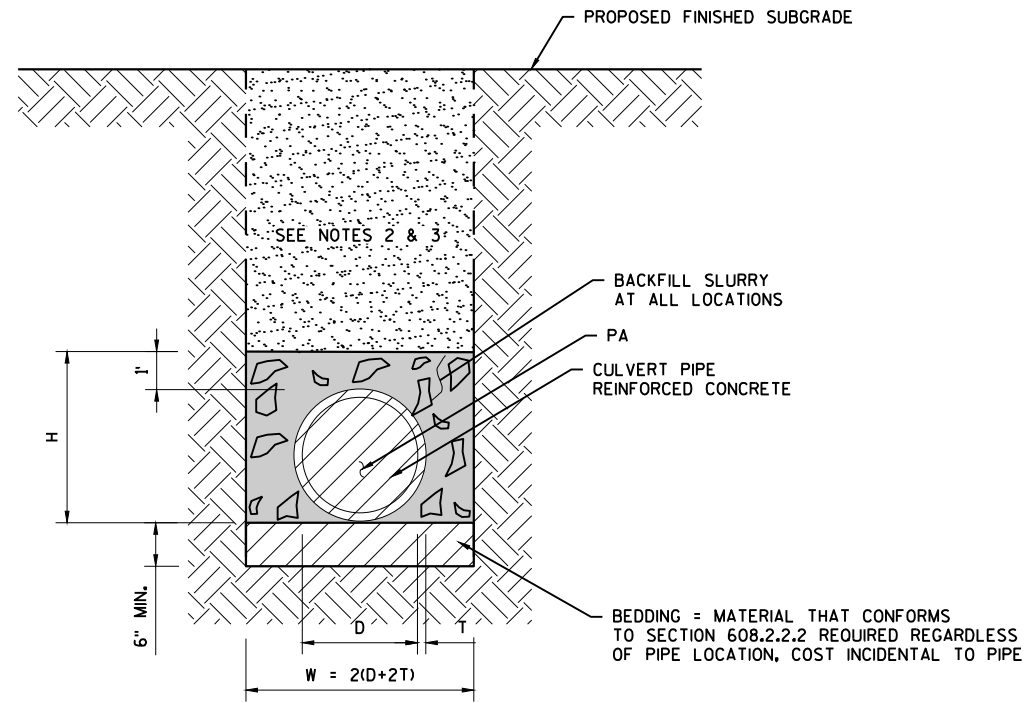


NOTE:

- THIS TRANSITION SHALL BE USED TO CONNECT CURBS OF DIFFERENT HEIGHTS AT THE CONCRETE SLOPED NOSE
- THE DESIRABLE NOSE TRANSITION LENGTH SHALL BE 2.5 FEET FROM 0" CURB HEIGHT TO 4" OR 6" CURB HEIGHT
- THE LOCATION OF THIS TRANSITION IS NOTED ON "CURB RAMP DETAILS - MOORLAND PARK & RIDE"

CONCRETE SLOPED NOSE TRANSITION  
ISOMETRIC VIEW





BACKFILL SLURRY DETAIL - CULVERT PIPE

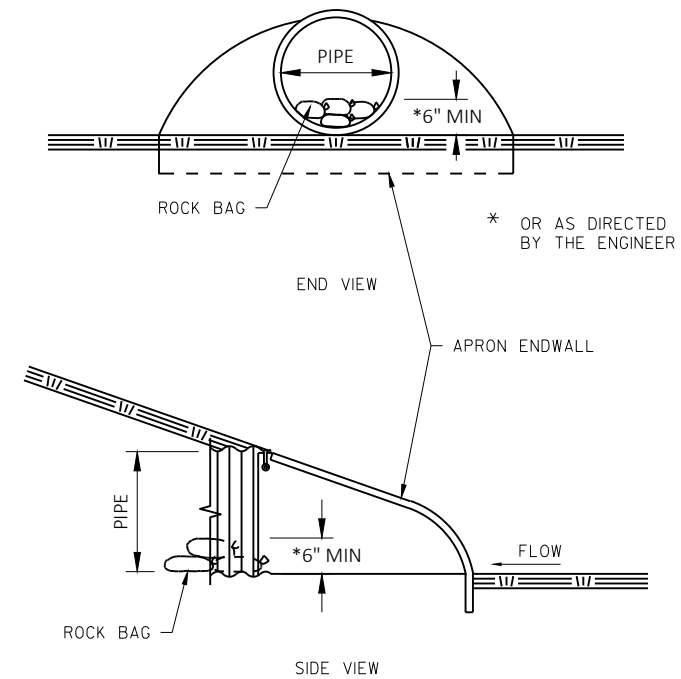
CULVERT PIPE BACKFILL SLURRY TRENCHES (FOR INFORMATION ONLY)

PIPE DIAMETER D INCHES	WALL THICKNESS T INCHES	TRENCH WIDTH W FT	HEIGHT OF PIPE ZONE (FROM PIPE BOTTOM TO 1' ABOVE TOP OF PIPE) H FT	AREA OF PIPE ZONE SF	AREA OF PIPE PA SF	BACKFILL SLURRY AREA SF
12	2.00	2.67	2.33	6.22	1.40	4.83
15	2.25	3.25	2.63	8.53	2.07	6.46
18	2.50	3.83	2.92	11.18	2.88	8.30
24	3.00	5.00	3.50	17.50	4.91	12.59
30	3.50	6.17	4.08	25.18	7.46	17.72
36	4.00	7.33	4.67	34.22	10.55	23.67
42	4.50	8.50	5.25	44.63	14.18	30.45
48	5.00	9.67	5.83	56.39	18.34	38.05
54	5.50	11.08	6.54	72.50	24.11	48.40
60	6.00	12.25	7.13	87.28	29.45	57.83
66	6.50	13.42	7.71	103.42	35.33	68.09

BACKFILL SLURRY VOLUME (CUBIC YARDS) =  $\frac{(\text{PIPE ZONE AREA} - \text{PIPE AREA}) \times \text{PIPE PLAN LENGTH}}{27}$

NOTES:

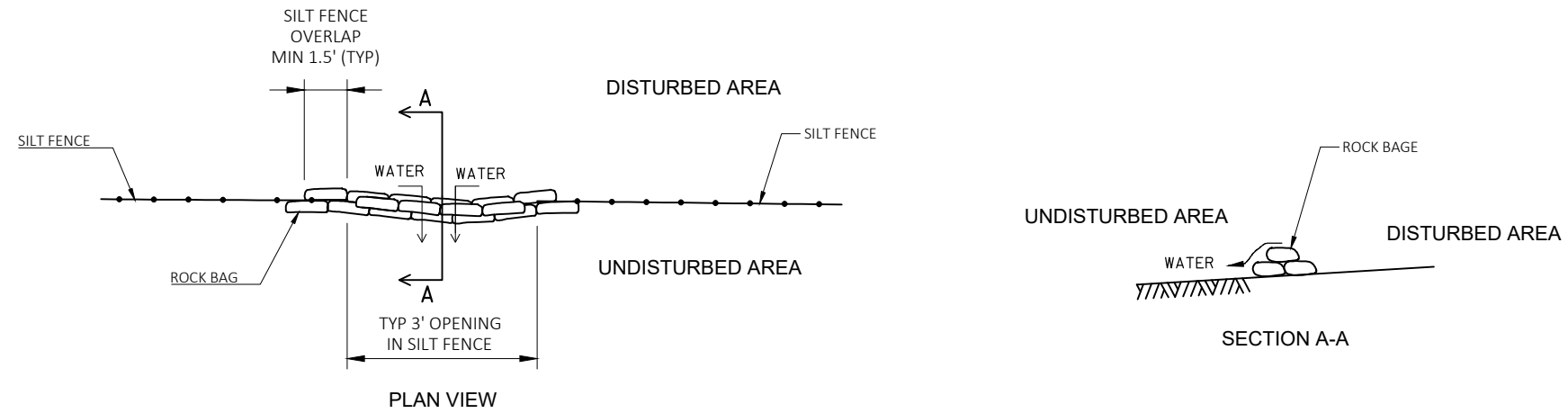
- FOR LOCATIONS, REFER TO "CULVERT PIPE - PLAN & PROFILE".
- IF THE PIPE IS OUTSIDE THE TRAVELED WAY INCLUSIVE OF SHOULDERS AND AUXILIARY LANES, NATIVE BACKFILL MAY BE USED ABOVE BACKFILL AND SHALL CONFORM TO SECTION 209.
- IF THE PIPE IS WITHIN THE TRAVELED WAY INCLUSIVE OF SHOULDERS AND AUXILIARY LANES, BACKFILL ABOVE BACKFILL SLURRY SHALL CONFORM TO SECTION 209.
- BACKFILL SLURRY IS CONSIDERED INCIDENTAL TO DRAINAGE PIPE. NO SEPARATE PAYMENTS WILL BE MADE.
- WHEN TEMPORARY SUBGRADE IS HIGHER THAN PROPOSED FINISHED GRADE, PROVIDE GRANULAR BACKFILL AT ALL LOCATIONS. COST FOR GRANULAR BACKFILL IS CONSIDERED INCIDENTAL TO CONSTRUCTION.
- H = 1' ABOVE THE TOP OF THE HIGHEST PIPE IN THE STRUCTURE.



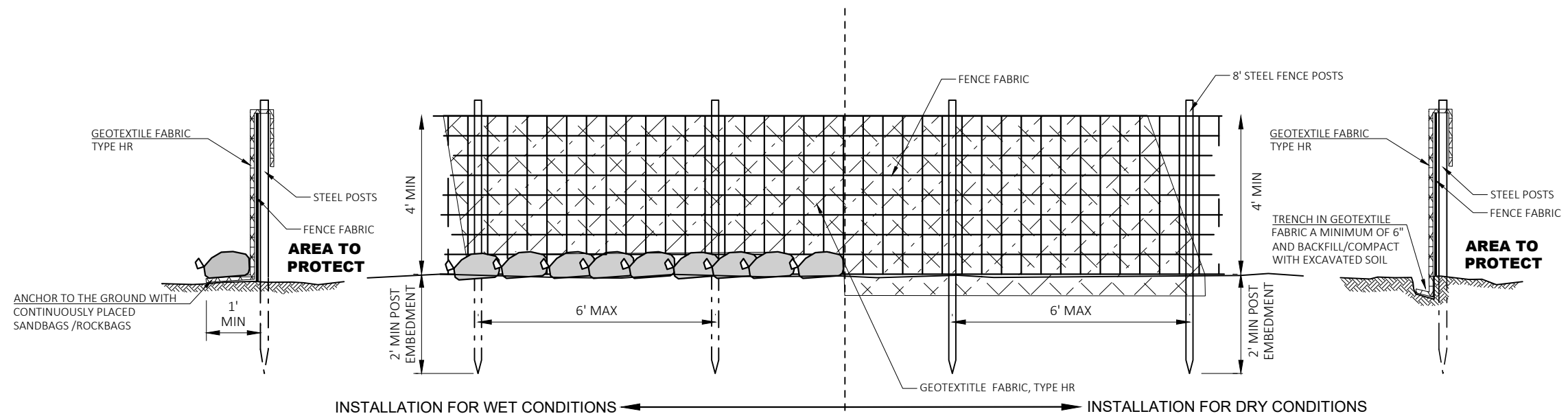
CULVERT PIPE CHECKS

(INSTALL ON INLET END ONLY)

ESTIMATED BAG SIZE = 18" X 12" X 6"	
PIPE SIZE	ESTIMATED NUMBER OF BAGS
12"	1
15"	2
18"	2
24"	3
30"	5
36"	7
42"	7
48"	10
54"	10
60"	13
66"	14
72"	16
17"X13"	2
30"X19"	5
38"X24"	7
45"X29"	10
53"X34"	10
60"X38"	13
76"X48"	18
27' WIDE BOX CULVERT	36

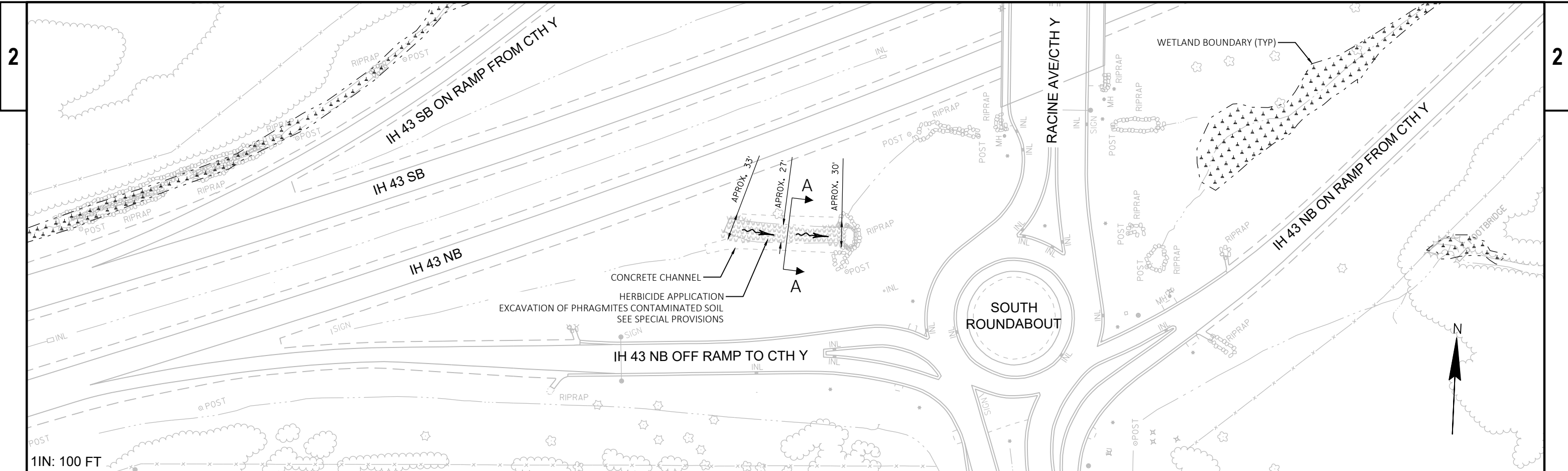


ROCK BAGS USED FOR SILT FENCE RELIEF POINT



SILT FENCE HEAVY DUTY

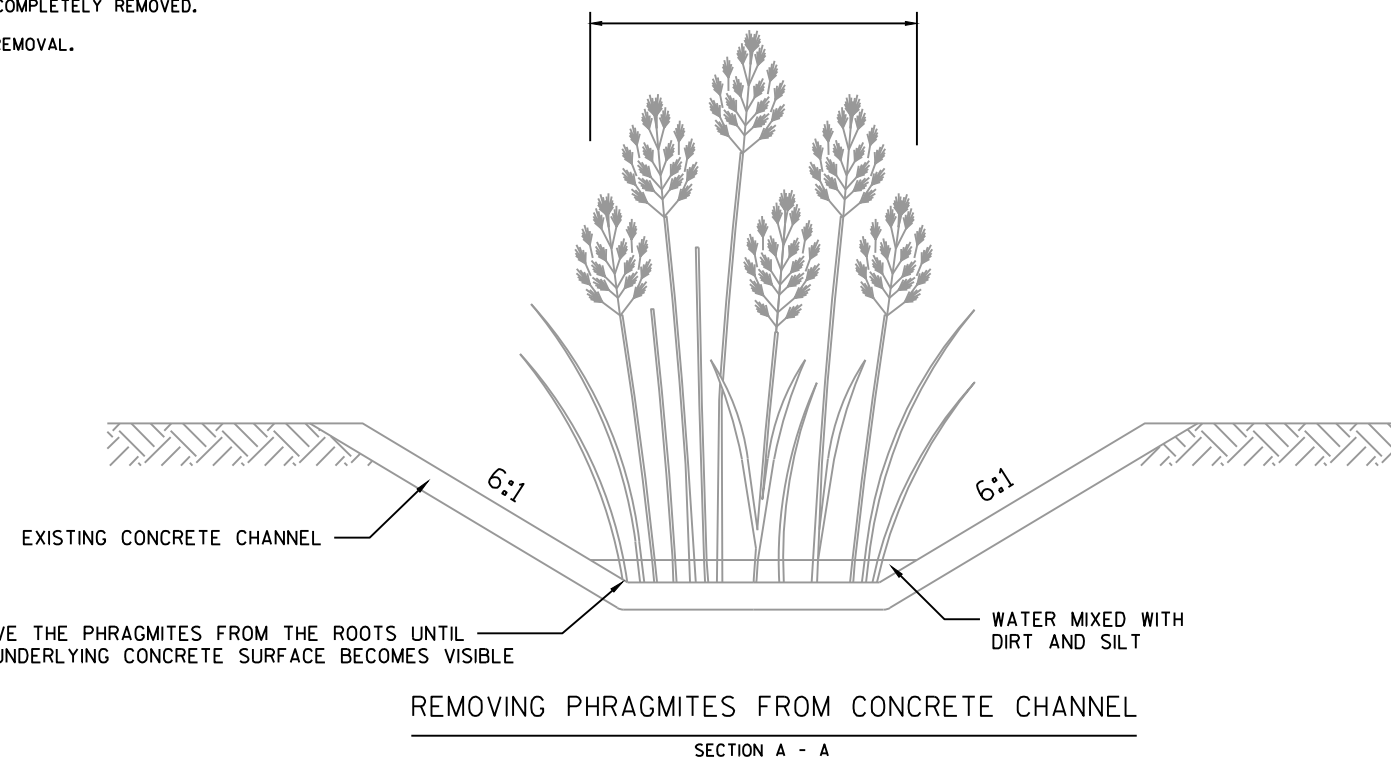
- NOTES:
- ATTACH FENCE FABRIC TO POSTS A MINIMUM OF 3 TIES PER POST (TOP, MIDDLE, BOTTOM)
  - ATTACH GEOTEXTILE FABRIC TO FENCE FABRIC AND/OR POSTS AT A MAXIMUM SPACING OF EVERY 2 FEET ALONG THE TOP AND ADDITIONALLY AS NECESSARY TO PREVENT DISPLACEMENT BY WIND AND WAVE ACTIONS.

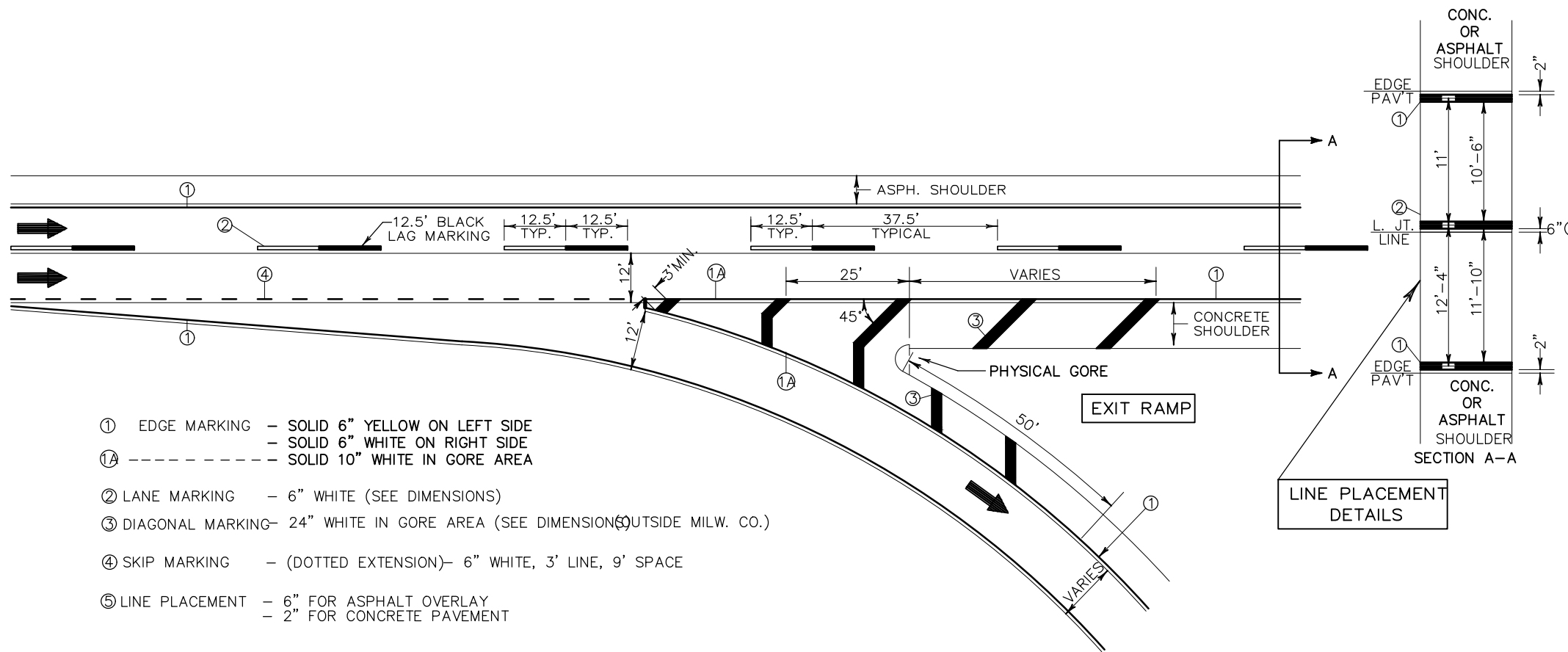


NOTES:

- ALL PHRAGMITES GROWN ON THE CONCRETE CHANNEL SURFACE AND THE SURROUNDING AREA (OUTSIDE THE CONCRETE CHANNEL) SHALL BE COMPLETELY REMOVED.
- HERBICIDE TREATMENT TO BE APPLIED TO THE SURROUNDING PHRAGMITES THAT ARE LOCATED OUTSIDE THE CONCRETE CHANNEL PRIOR TO REMOVAL.
- ENSURE REMOVAL IS PERFORMED CAREFULLY TO ELIMINATE ANY CHANCES OF REGROWTH.
- TAKE CARE NOT TO DISTURB THE CONCRETE SURFACE WHILE EXCAVATING THE CONTAMINATED SOIL.
- COLLECT AND DISPOSE OF THE REMOVED PHRAGMITES IN DESIGNATED WASTE CONTAINERS OR FOLLOW VEGETATION DISPOSAL GUIDELINES.
- ONCE ALL VEGETATION IS REMOVED, CLEAN THE CONCRETE CHANNEL SURFACE TO REMOVE ANY REMAINING DEBRIS AND DIRT.
- AFTER REMOVAL AND CLEANING PROCESS, RESTORE THE SURROUNDING AREA AS DIRECTED BY THE ENGINEER IN THE FIELD.

WIDTH VARIES  
APPROX. 33' UPSTREAM  
APPROX. 27' ALONG THE CONCRETE CHANNEL  
APPROX. 30' AROUND CULVERT ENTRANCE

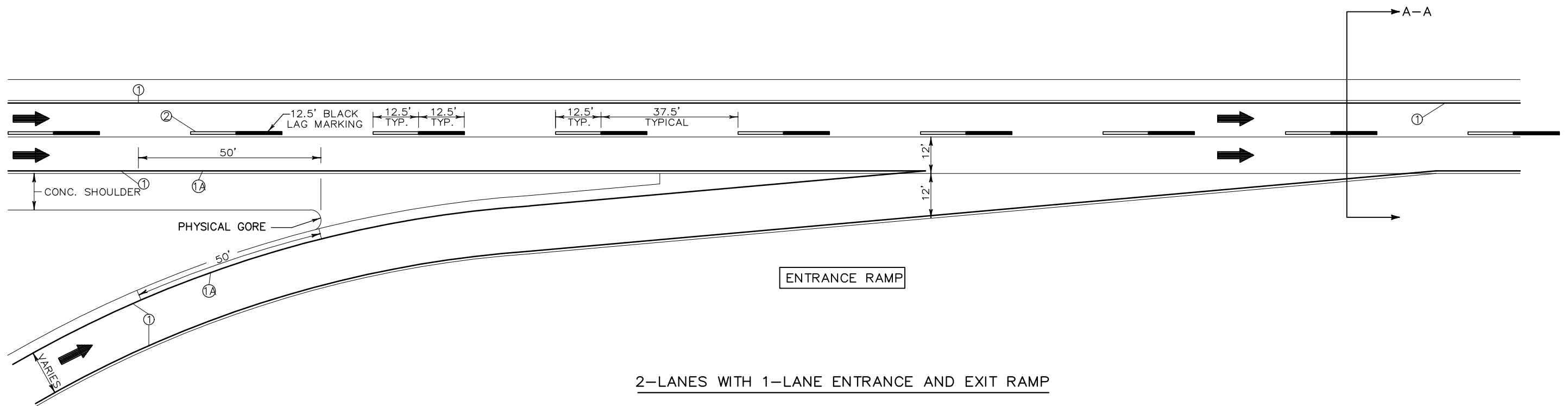
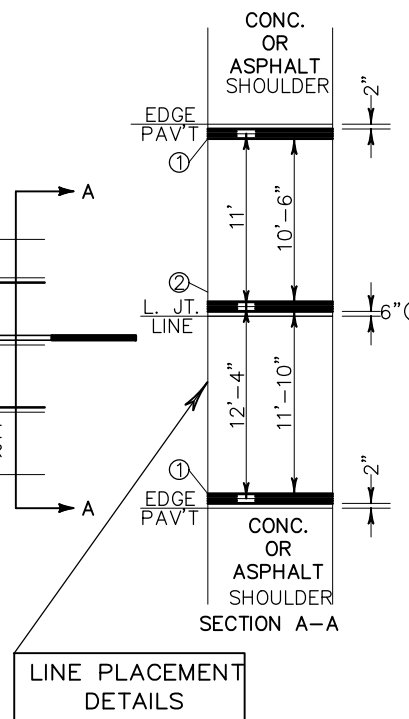




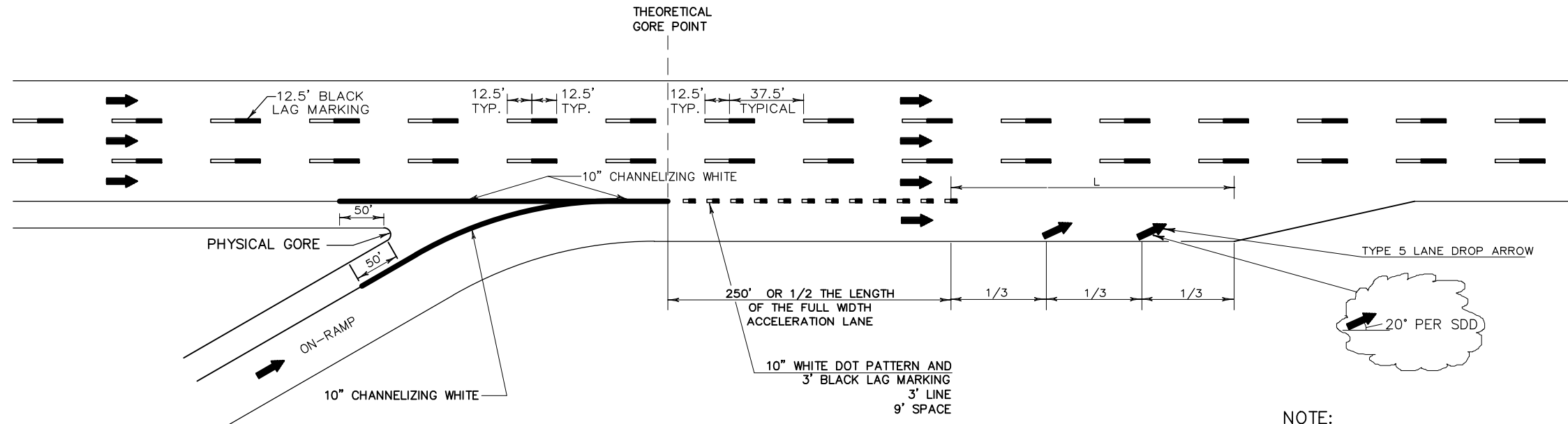
- ① EDGE MARKING - SOLID 6" YELLOW ON LEFT SIDE  
- SOLID 6" WHITE ON RIGHT SIDE
- ①A ----- SOLID 10" WHITE IN GORE AREA
- ② LANE MARKING - 6" WHITE (SEE DIMENSIONS)
- ③ DIAGONAL MARKING- 24" WHITE IN GORE AREA (SEE DIMENSIONS) (OUTSIDE MILW. CO.)
- ④ SKIP MARKING - (DOTTED EXTENSION)- 6" WHITE, 3' LINE, 9' SPACE
- ⑤ LINE PLACEMENT - 6" FOR ASPHALT OVERLAY  
- 2" FOR CONCRETE PAVEMENT

NOTES:

1. WHERE THE DOTTED EXTENSION OF THE RIGHT EDGE LINE IS SHOWN ON THE PLAN, IT SHALL BE 4" WIDE, WITH A LINE SKIP PATTERN CONSISTING OF A 3' LONG LINE AND A 9' SKIP.
2. PAVEMENT LANE MARKINGS SHALL BE LOCATED 6" OFF THE LONGITUDINAL JOINT OF THE UNDERLYING CONC. PAVEMENT.
3. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
4. SPOTTING FOR PAVEMENT LANE MARKINGS AND EDGE LINES SHALL BE 4"x4" PIECES OF REFLECTORIZED PAV'T MARKING TAPE SPACED AT 50' INTERVALS, INCIDENTAL TO PAV'T MARKING.

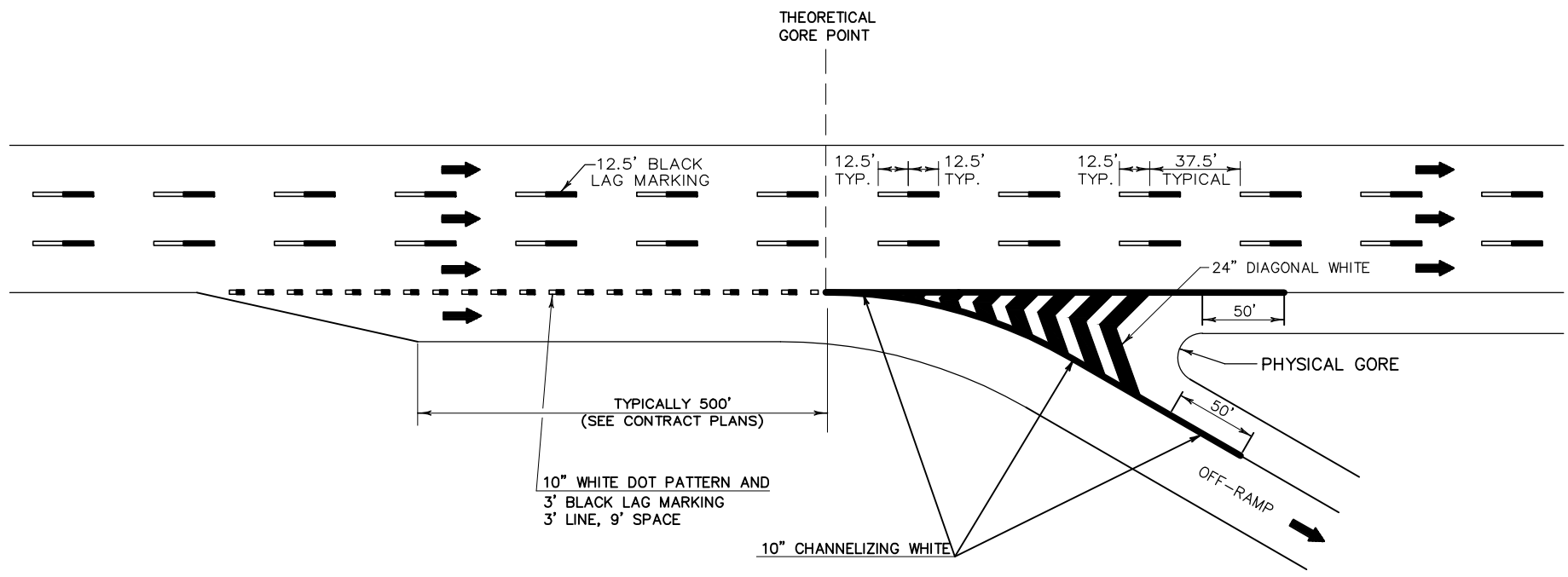


2-LANES WITH 1-LANE ENTRANCE AND EXIT RAMP



NOTE: ARROWS @ 1/3 POINTS

SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ON-RAMP



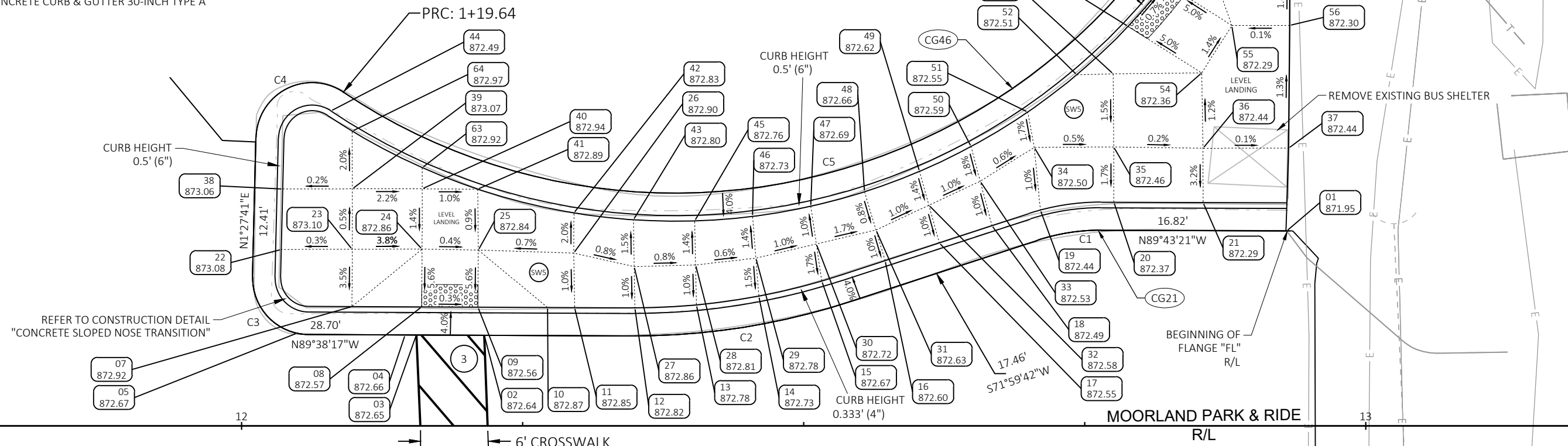
SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL OFF-RAMP

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
5. ALL STATION AND OFFSET INFORMATION REFERENCE MOORLAND PARK & RIDE R/L

LEGEND

- (X) CURB RAMP TYPE
- (SW5) CONCRETE SIDEWALK 5-INCH
- (XX  
YYY.YY) POINT NUMBER & ELEVATION
- (CG21) CONCRETE CURB & GUTTER 30-INCH TYPE D
- (CG46) CONCRETE CURB & GUTTER 30-INCH TYPE A



CURVE DATA:

C1	C2	C3	C4	C5	C6
PI STA = 0FL+19.71	PI STA = 0FL+50.05	PI STA = 0FL+93.69	PI STA = 1FL+18.06	PI STA = 1FL+83.25	PI STA = 2FL+15.41
Y = 140400.752	Y = 140391.362	Y = 140391.638	Y = 140418.247	Y = 140377.634	Y = 140438.603
X = 716398.349	X = 716369.456	X = 716325.640	X = 716326.319	X = 716386.648	X = 716413.217
DELTA = 18°16'56" LT	DELTA = 18°22'01" RT	DELTA = 91°05'59" RT	DELTA = 122°29'12" RT	DELTA = 100°24'04" LT	DELTA = 60°06'13" RT
D = 318°18'36"	D = 92°24'45"	D = 114°54'56"	D = 114°54'56"	D = 108°06'19"	D = 114°54'56"
T = 2.90'	T = 10.02'	T = 5.10'	T = 9.11'	T = 63.61'	T = 2.89'
L = 5.74'	L = 19.87'	L = 7.95'	L = 10.69'	L = 92.87'	L = 5.25'
R = 18.00'	R = 62.00'	R = 5.00'	R = 5.00'	R = 53.00'	R = 5.00'
PC STA = 0FL+16.82	PC STA = 0FL+40.02	PC STA = 0FL+88.59	PC STA = 1FL+08.95	PC STA = 1FL+19.64	PC STA = 2FL+12.51
Y = 140400.738	Y = 140394.460	Y = 140391.606	Y = 140409.139	Y = 140413.159	Y = 140435.951
X = 716401.245	X = 716378.989	X = 716330.737	X = 716326.087	X = 716333.877	X = 716412.062
PT STA = 0FL+22.56	PT STA = 0FL+59.90	PT STA = 0FL+96.54	PT STA = 1FL+19.64	PT STA = 2FL+12.51	PT STA = 2FL+17.76
Y = 140399.857	Y = 140391.425	Y = 140396.734	Y = 140413.159	Y = 140435.951	Y = 140438.923
X = 716395.594	X = 716359.433	X = 716325.770	X = 716333.877	X = 716412.062	X = 716416.092
DB = N89°43'21"W	DB = S71°59'42"W	DB = N89°38'17"W	DB = N01°27'41"E	DB = S56°03'07"E	DB = N23°32'49"E
DA = S71°59'42"W	DA = N89°38'17"W	DA = N01°27'41"E	DA = S56°03'07"E	DA = N23°32'49"E	DA = N83°39'02"E

POINTS ELEVATION DATA

P&R - CONCRETE PORK CHOP					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
01	12+92.96	17.35' LT	871.95	140400.66	716417.77
02	12+21.57	8.07' LT	872.64	140391.52	716346.37
03	12+15.54	8.09' LT	872.65	140391.55	716340.33
04	12+14.54	8.09' LT	872.66	140391.55	716339.33
05	12+04.91	8.24' LT	872.67	140391.72	716329.70
06	12+93.05	55.82' LT	871.88	140439.13	716417.93
07	12+09.81	10.61' LT	872.92	140394.08	716334.60
08	12+16.01	10.58' LT	872.57	140394.04	716340.80
09	12+21.01	10.56' LT	872.56	140394.01	716345.80
10	12+27.21	10.54' LT	872.87	140393.97	716352.00
11	12+29.62	10.52' LT	872.85	140393.96	716354.42

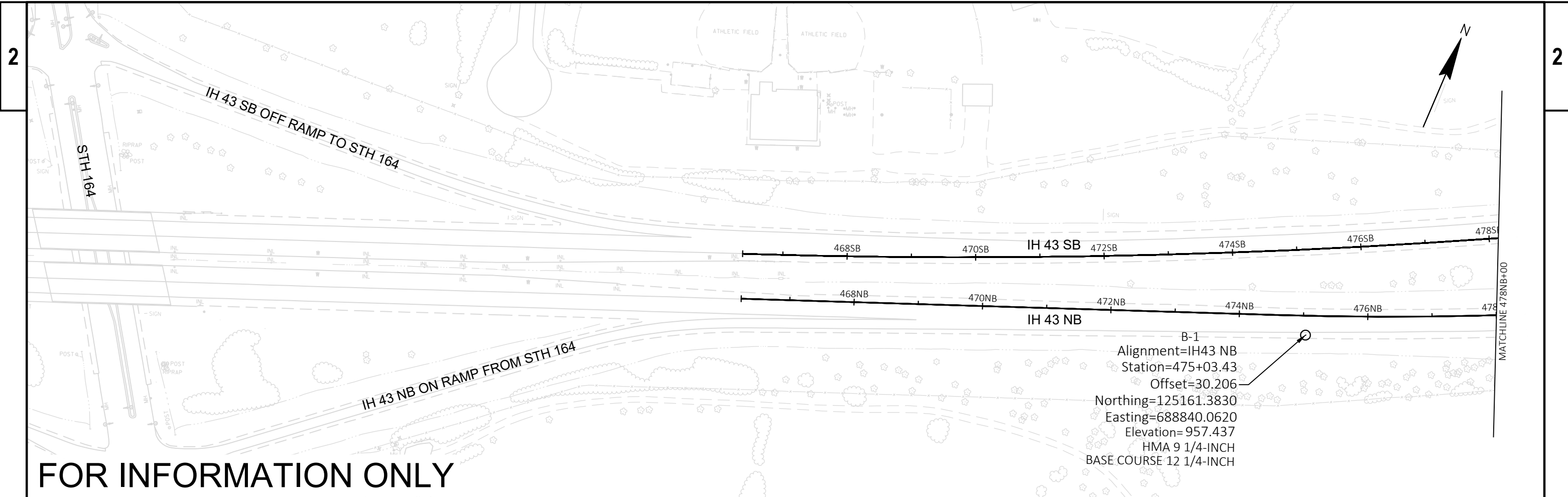
P&R - CONCRETE PORK CHOP					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
12	12+34.97	10.50' LT	872.82	140393.92	716359.77
13	12+40.45	10.76' LT	872.78	140394.17	716365.25
14	12+46.00	11.54' LT	872.73	140394.95	716370.80
15	12+51.60	12.89' LT	872.67	140396.28	716376.40
16	12+57.24	14.70' LT	872.60	140398.08	716382.04
17	12+62.06	16.28' LT	872.55	140399.65	716386.86
18	12+66.74	17.81' LT	872.49	140401.17	716391.55
19	12+71.05	19.19' LT	872.44	140402.54	716395.86
20	12+77.58	19.89' LT	872.37	140403.23	716402.40
21	12+85.52	19.87' LT	872.29	140403.19	716410.34
22	12+03.53	15.70' LT	873.08	140399.18	716328.33

P&R - CONCRETE PORK CHOP					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
23	12+09.83	15.72' LT	873.10	140399.19	716334.64
24	12+16.05	15.73' LT	872.86	140399.19	716340.86
25	12+21.05	15.64' LT	872.84	140399.09	716345.86
26	12+29.54	15.38' LT	872.90	140398.81	716354.34
27	12+34.91	14.17' LT	872.86	140397.59	716359.72
28	12+40.38	14.32' LT	872.81	140397.73	716365.18
29	12+45.74	14.92' LT	872.78	140398.32	716370.54
30	12+51.12	16.19' LT	872.72	140399.58	716375.93
31	12+56.42	17.43' LT	872.63	140400.81	716381.23
32	12+61.13	19.63' LT	872.58	140403.00	716385.94
33	12+65.70	21.77' LT	872.53	140405.13	716390.51

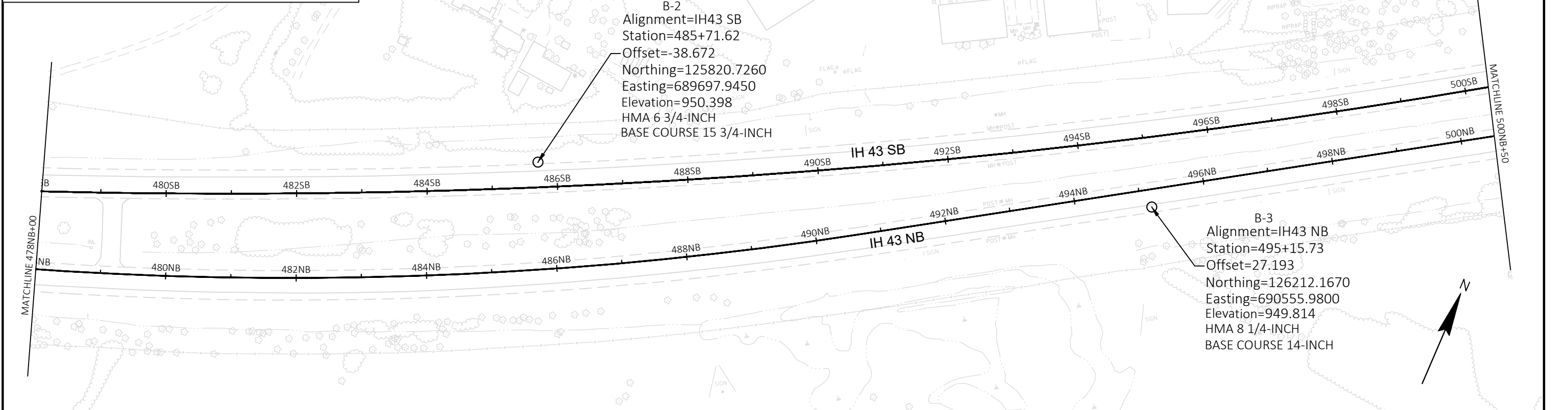
P&R - CONCRETE PORK CHOP					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
34	12+70.50	24.78' LT	872.50	140408.14	716395.33
35	12+77.57	24.82' LT	872.46	140408.16	716402.40
36	12+85.51	24.70' LT	872.44	140408.03	716410.34
37	12+93.13	24.71' LT	872.44	140408.02	716417.96
38	12+03.65	21.08' LT	873.06	140404.56	716328.47
39	12+09.84	21.09' LT	873.07	140404.56	716334.66
40	12+16.06	21.09' LT	872.94	140404.55	716340.87
41	12+21.00	21.06' LT	872.89	140404.51	716345.81
42	12+29.55	18.95' LT	872.83	140402.38	716354.37
43	12+34.85	18.33' LT	872.80	140401.76	716359.66
44	12+07.93	28.03' LT	872.49	140411.50	716332.76

P&R - CONCRETE PORK CHOP					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
45	12+40.29	18.24' LT	872.76	140401.65	716365.11
46	12+45.45	18.64' LT	872.73	140402.04	716370.26
47	12+50.63	19.54' LT	872.69	140402.93	716375.44
48	12+55.40	20.83' LT	872.66	140404.21	716380.22
49	12+60.30	22.65' LT	872.62	140406.02	716385.12
50	12+64.88	24.85' LT	872.59	140408.21	716389.71
51	12+69.92	27.93' LT	872.55	140411.28	716394.76
52	12+74.28	31.23' LT	872.51	140414.58	716399.11
53	12+77.52	31.32' LT	872.55	140414.66	716402.36
54	12+85.40	31.40' LT	872.36	140414.73	716410.24
55	12+88.08	35.62' LT	872.29	140418.94	716412.93

P&R - CONCRETE PORK CHOP					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
56	12+93.22	35.63' LT	872.30	140418.94	716418.06
57	12+78.85	35.54' LT	871.97	140418.88	716403.69
58	12+82.16	39.37' LT	871.94	140422.70	716407.01
59	12+85.23	43.68' LT	872.40	140427.01	716410.09
60	12+93.25	40.50' LT	872.23	140423.81	716418.11
61	12+93.24	46.34' LT	872.35	140429.65	716418.10
62	12+87.15	46.89' LT	872.38	140430.21	716412.01
63	12+16.05	22.98' LT	872.92	140406.43	716340.87
64	12+09.83	26.22' LT	872.97	140409.69	716334.66

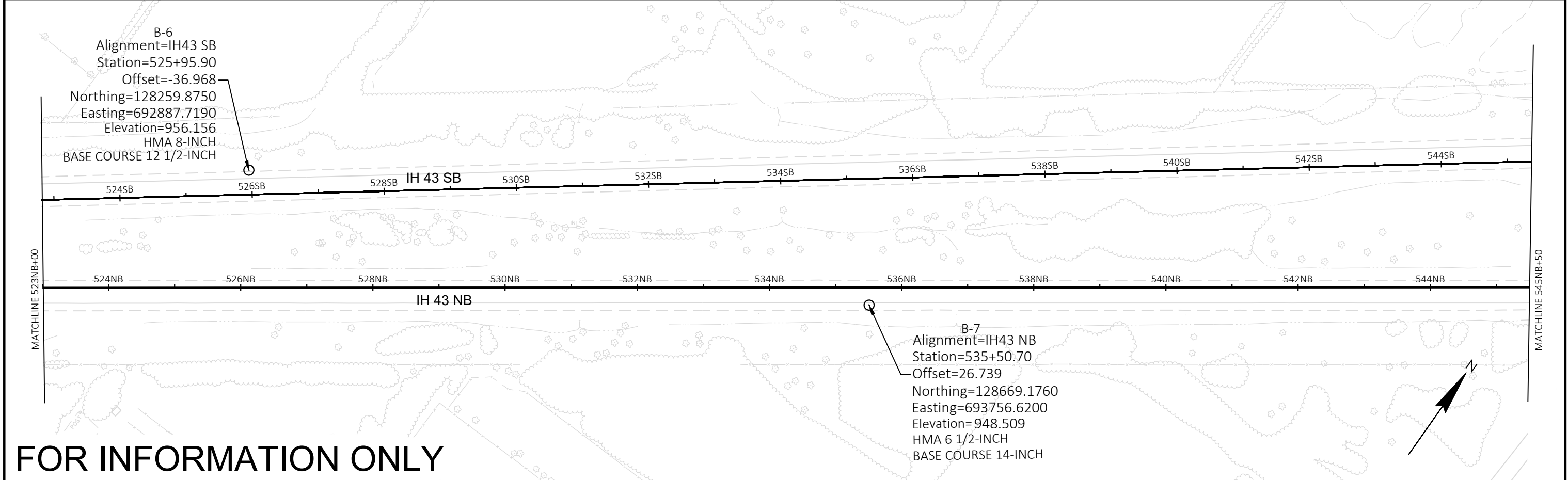
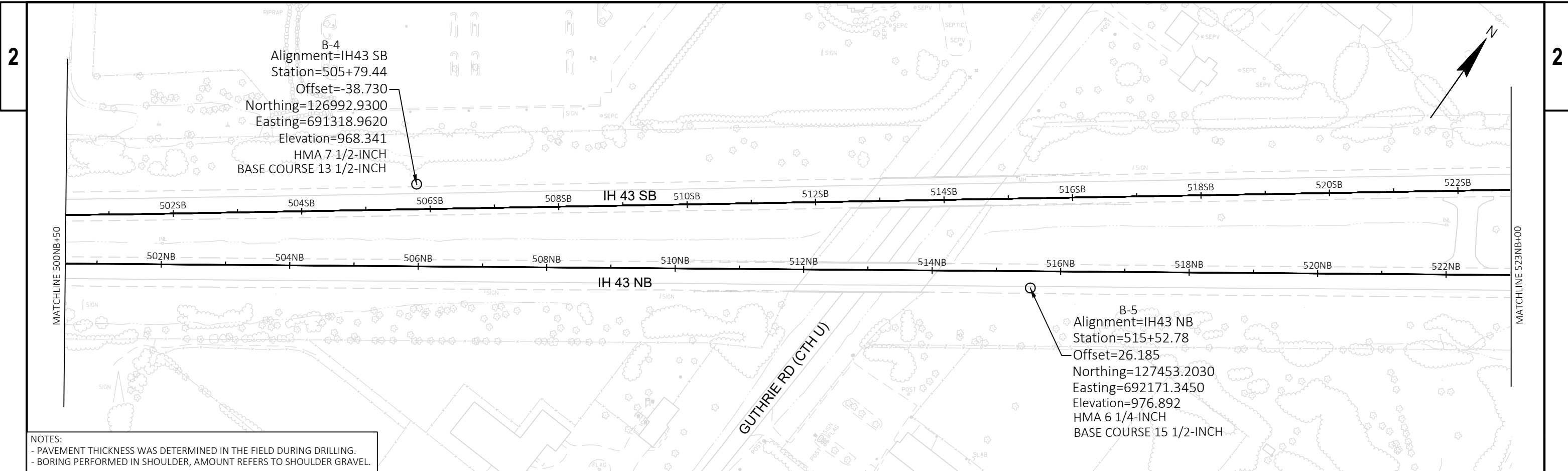


NOTES:  
- PAVEMENT THICKNESS WAS DETERMINED IN THE FIELD DURING DRILLING.  
- BORING PERFORMED IN SHOULDER, AMOUNT REFERS TO SHOULDER GRAVEL.



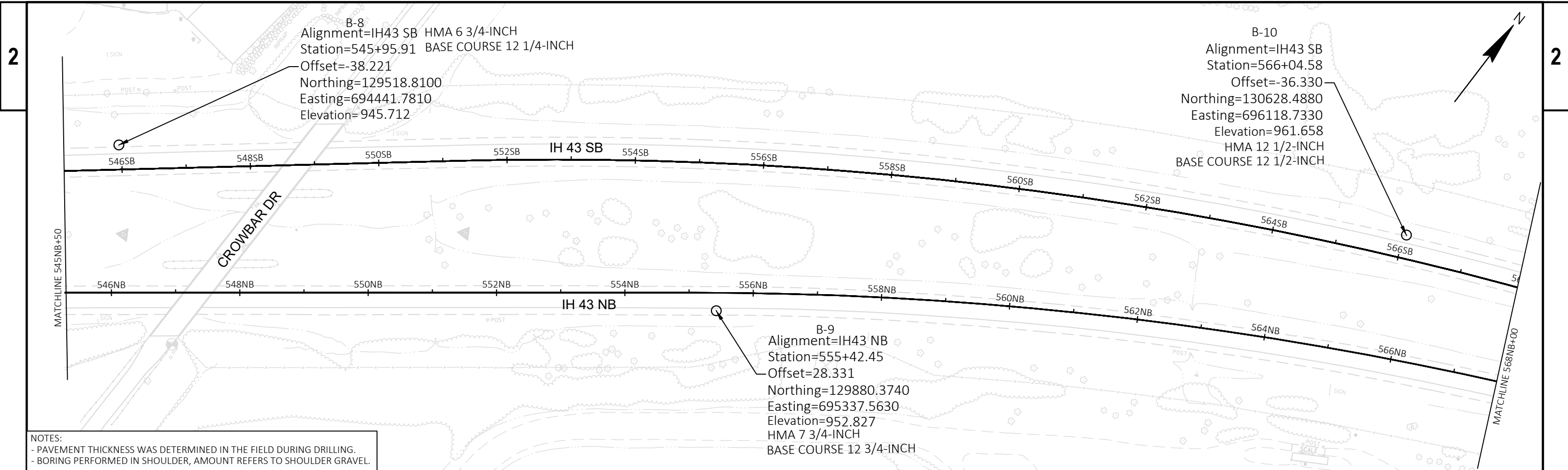
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	SOIL BORINGS LOCATIONS	SHEET	E
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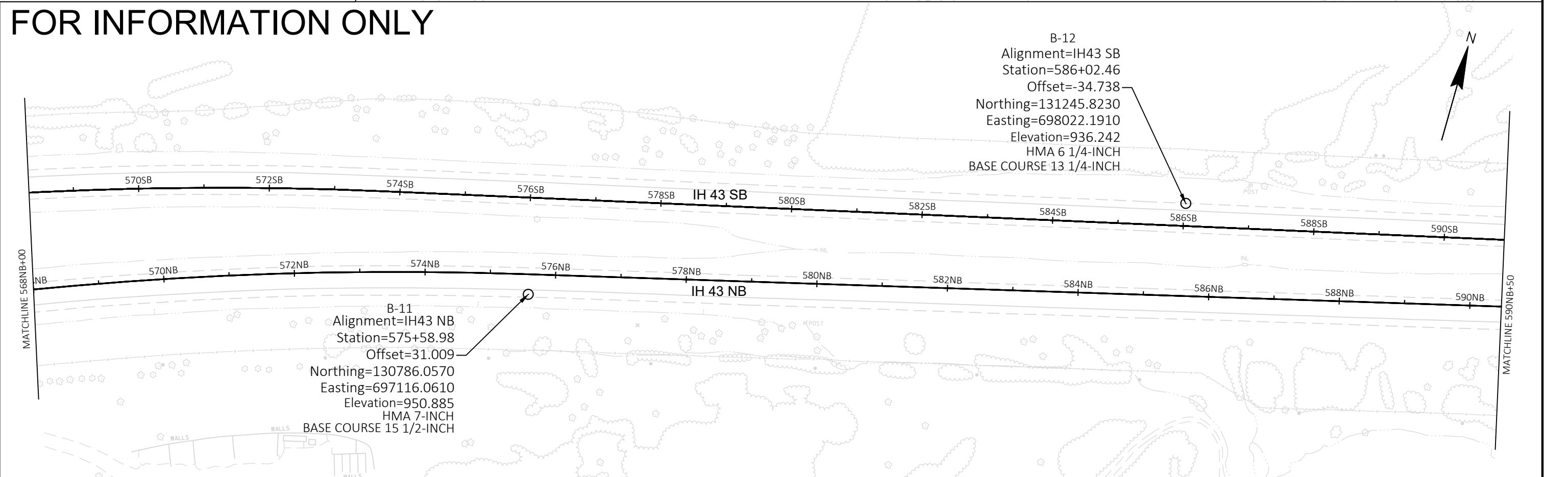


**FOR INFORMATION ONLY**

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	SOIL BORINGS LOCATIONS	SHEET	<b>E</b>
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# FOR INFORMATION ONLY



PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	SOIL BORINGS LOCATIONS	SHEET	<b>E</b>
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NOTES:  
 - PAVEMENT THICKNESS WAS DETERMINED IN THE FIELD DURING DRILLING.  
 - BORING PERFORMED IN SHOULDER, AMOUNT REFERS TO SHOULDER GRAVEL.

2

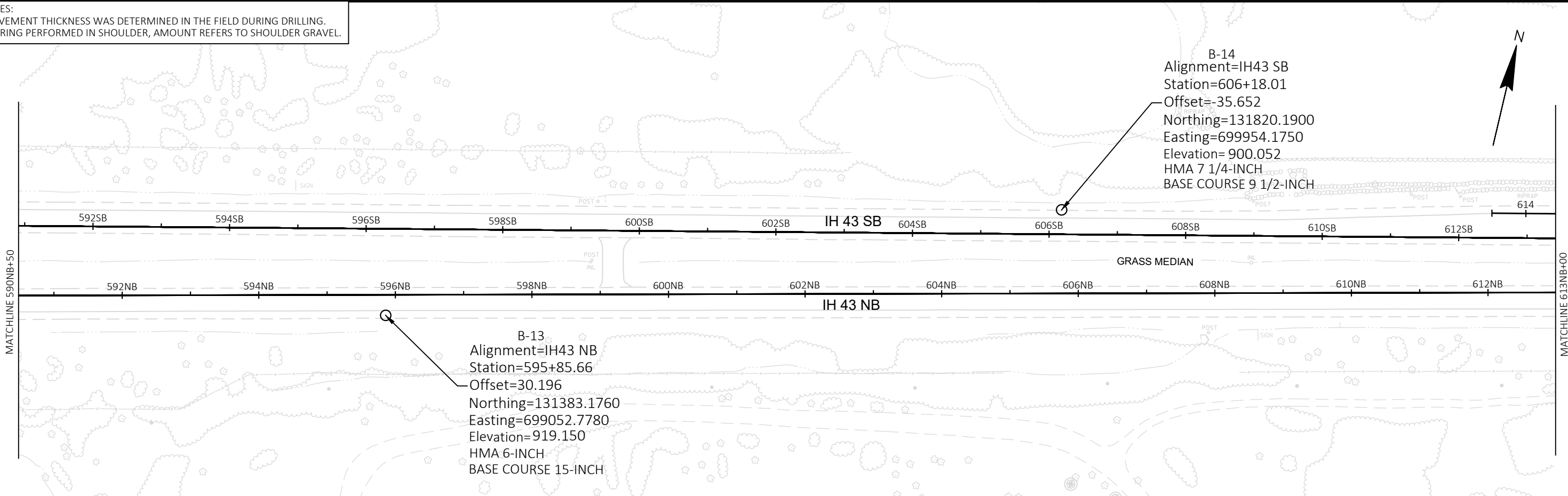
2

B-14  
 Alignment=IH43 SB  
 Station=606+18.01  
 Offset=-35.652  
 Northing=131820.1900  
 Easting=699954.1750  
 Elevation= 900.052  
 HMA 7 1/4-INCH  
 BASE COURSE 9 1/2-INCH



MATCHLINE 590NB+50

MATCHLINE 613NB+00



B-13  
 Alignment=IH43 NB  
 Station=595+85.66  
 Offset=30.196  
 Northing=131383.1760  
 Easting=699052.7780  
 Elevation=919.150  
 HMA 6-INCH  
 BASE COURSE 15-INCH

MATCHLINE 613NB+00

MATCHLINE 623NB+00



B-15  
 Alignment=IH43 NB  
 Station=615+84.32  
 Offset=32.625  
 Northing=131968.9520  
 Easting=700963.6740  
 Elevation= 882.773  
 HMA 9 3/4-INCH  
 BASE COURSE 10 1/4-INCH



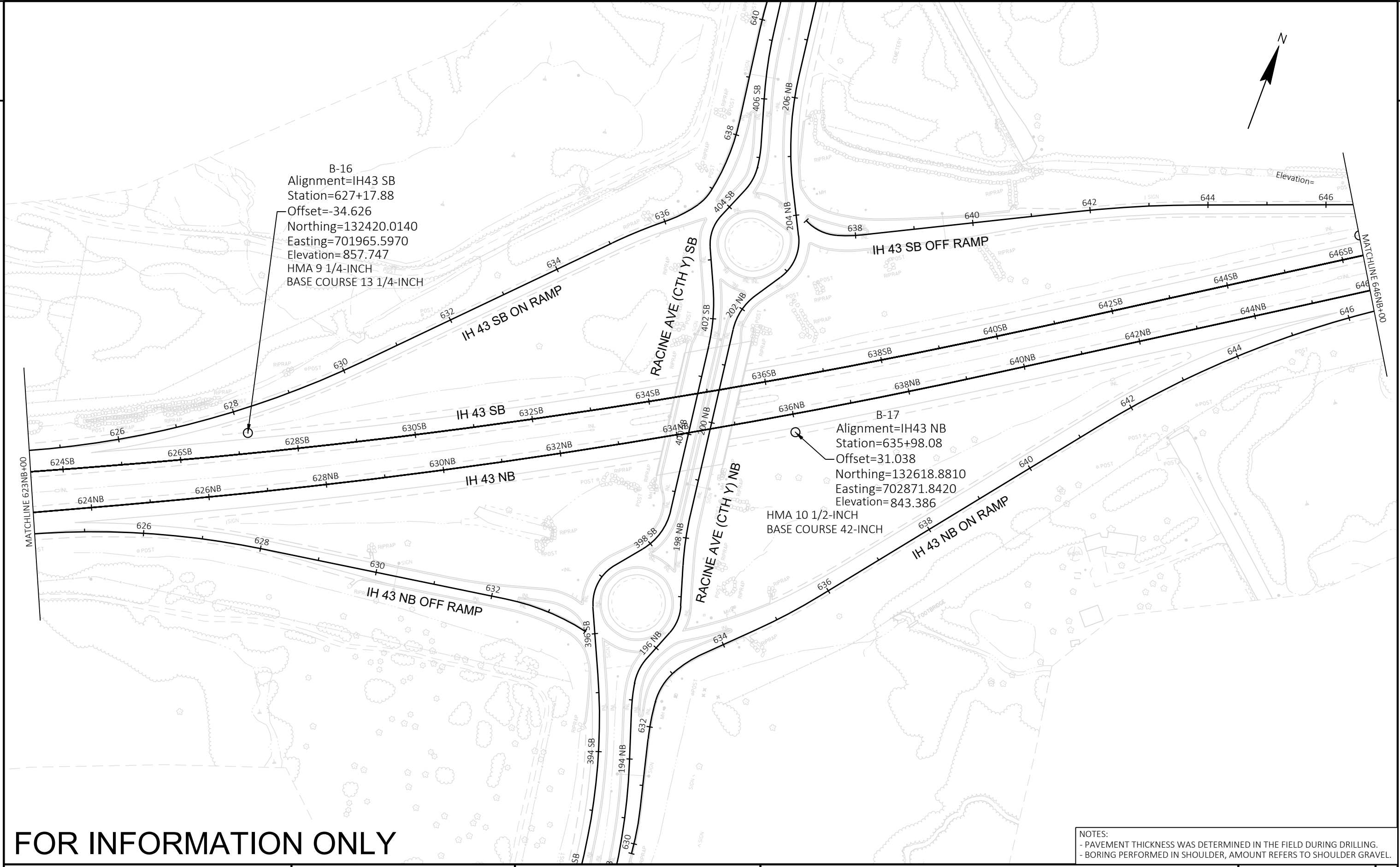
**FOR INFORMATION ONLY**

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	SOIL BORINGS LOCATIONS	SHEET	E
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B-16  
 Alignment=IH43 SB  
 Station=627+17.88  
 Offset=-34.626  
 Northing=132420.0140  
 Easting=701965.5970  
 Elevation=857.747  
 HMA 9 1/4-INCH  
 BASE COURSE 13 1/4-INCH

B-17  
 Alignment=IH43 NB  
 Station=635+98.08  
 Offset=31.038  
 Northing=132618.8810  
 Easting=702871.8420  
 Elevation=843.386  
 HMA 10 1/2-INCH  
 BASE COURSE 42-INCH



FOR INFORMATION ONLY

NOTES:  
 - PAVEMENT THICKNESS WAS DETERMINED IN THE FIELD DURING DRILLING.  
 - BORING PERFORMED IN SHOULDER, AMOUNT REFERS TO SHOULDER GRAVEL.

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	SOIL BORINGS LOCATIONS	SHEET	<b>E</b>
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B-18  
 Alignment=IH43 SB  
 Station=646+36.54  
 Offset=-34.542  
 Northing=133148.5830  
 Easting=703734.5060  
 Elevation=831.989  
 HMA 8 1/2-INCH  
 BASE COURSE 10 1/2-INCH

B-20  
 Alignment=IH43 SB  
 Station=666+40.70  
 Offset=-36.997  
 Northing=133990.4970  
 Easting=705553.2570  
 Elevation=838.448  
 HMA 6 1/4-INCH  
 PCC 6 1/4-INCH  
 BASE COURSE 8-INCH

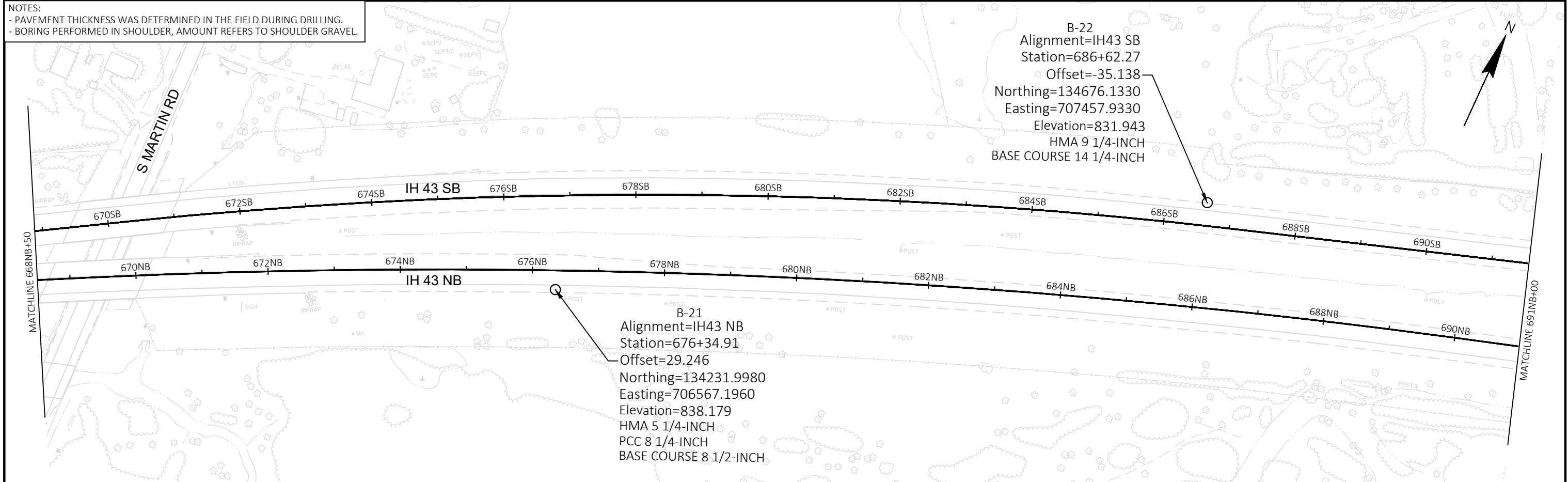
B-19  
 Alignment=IH43 NB  
 Station=659+22.80  
 Offset=36.907  
 Northing=133582.4530  
 Easting=704988.5440  
 Elevation=828.538  
 HMA 8 3/4-INCH  
 BASE COURSE 19 3/4-INCH

B-22  
 Alignment=IH43 SB  
 Station=686+62.27  
 Offset=-35.138  
 Northing=134676.1330  
 Easting=707457.9330  
 Elevation=831.943  
 HMA 9 1/4-INCH  
 BASE COURSE 14 1/4-INCH

B-21  
 Alignment=IH43 NB  
 Station=676+34.91  
 Offset=29.246  
 Northing=134231.9980  
 Easting=706567.1960  
 Elevation=838.179  
 HMA 5 1/4-INCH  
 PCC 8 1/4-INCH  
 BASE COURSE 8 1/2-INCH

# FOR INFORMATION ONLY

NOTES:  
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 - BORING PERFORMED IN SHOULDER, AMOUNT REFERS TO SHOULDER GRAVEL.



# FOR INFORMATION ONLY

2

2

B-24  
 Alignment=IH43 SB  
 Station=706+44.71  
 Offset=-35.397  
 Northing=135097.7310  
 Easting=709395.2160  
 Elevation=836.361  
 HMA 9 1/4-INCH  
 BASE COURSE 12 3/4-INCH

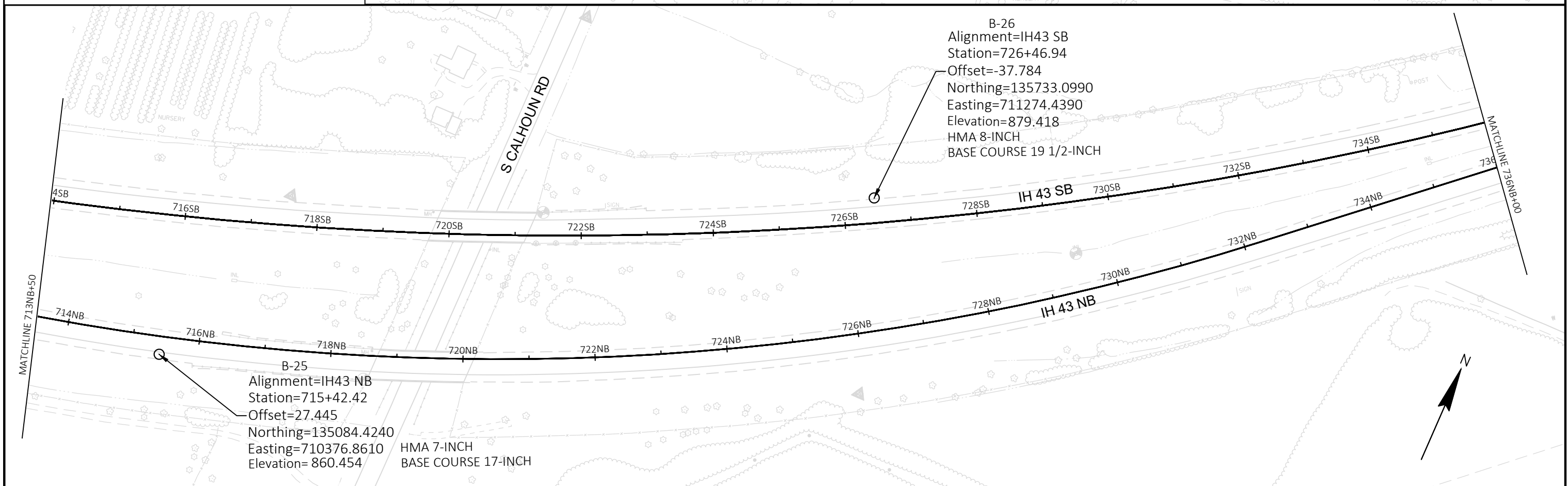
B-23  
 Alignment=IH43 NB  
 Station=696+37.01  
 Offset=28.256  
 Northing=134700.3260  
 Easting=708508.6020  
 Elevation=831.500  
 HMA 6 1/2-INCH  
 BASE COURSE 17-INCH

NOTES:  
 - PAVEMENT THICKNESS WAS DETERMINED IN THE FIELD DURING DRILLING.  
 - BORING PERFORMED IN SHOULDER, AMOUNT REFERS TO SHOULDER GRAVEL.

B-26  
 Alignment=IH43 SB  
 Station=726+46.94  
 Offset=-37.784  
 Northing=135733.0990  
 Easting=711274.4390  
 Elevation=879.418  
 HMA 8-INCH  
 BASE COURSE 19 1/2-INCH

B-25  
 Alignment=IH43 NB  
 Station=715+42.42  
 Offset=27.445  
 Northing=135084.4240  
 Easting=710376.8610  
 Elevation=860.454  
 HMA 7-INCH  
 BASE COURSE 17-INCH

S CALHOUN RD



PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	SOIL BORINGS LOCATIONS	SHEET	E
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# FOR INFORMATION ONLY

2

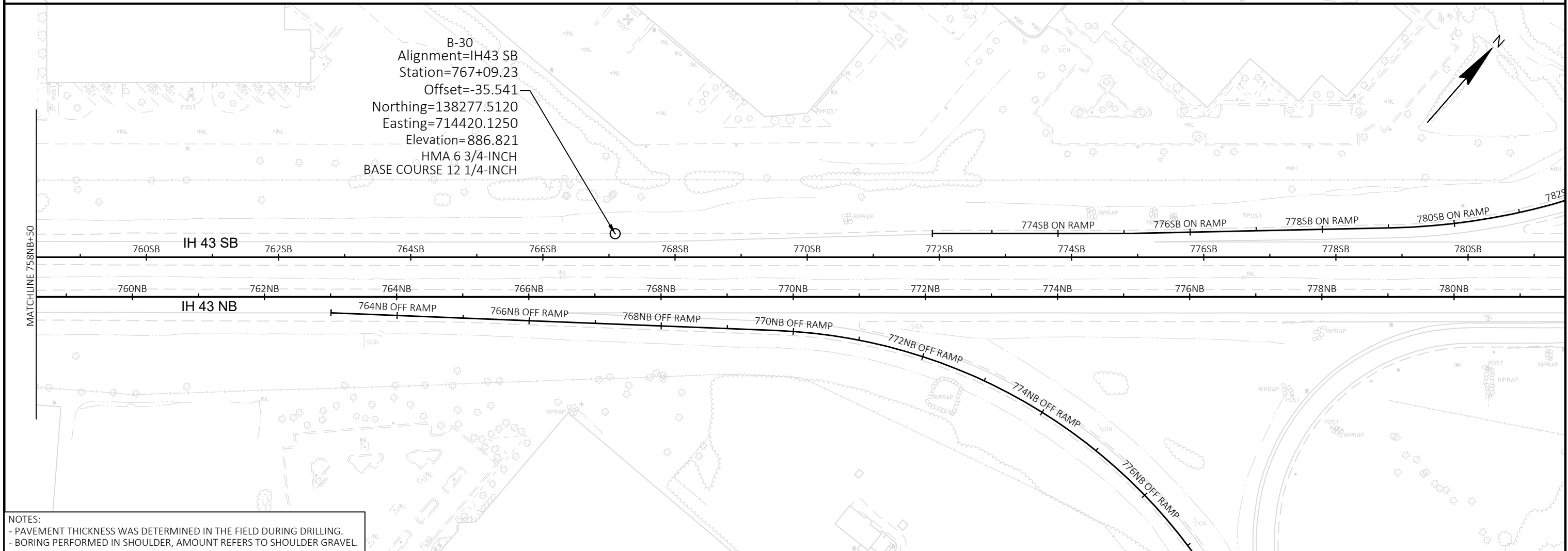
2

B-28  
 Alignment=IH43 SB  
 Station=747+13.29  
 Offset=-36.455  
 Northing=136968.8580  
 Easting=712913.0670  
 Elevation=905.473  
 HMA 8 1/4-INCH  
 BASE COURSE 14 1/4-INCH

B-27  
 Alignment=IH43 NB  
 Station=736+43.68  
 Offset=27.394  
 Northing=136159.7260  
 Easting=712170.9190  
 Elevation=900.133  
 HMA 6 3/4-INCH  
 BASE COURSE 10 1/2-INCH

B-29  
 Alignment=IH43 NB  
 Station=756+57.05  
 Offset=27.636  
 Northing=137480.3210  
 Easting=713690.6910  
 Elevation=898.219  
 HMA 7 1/2-INCH  
 BASE COURSE 14-INCH

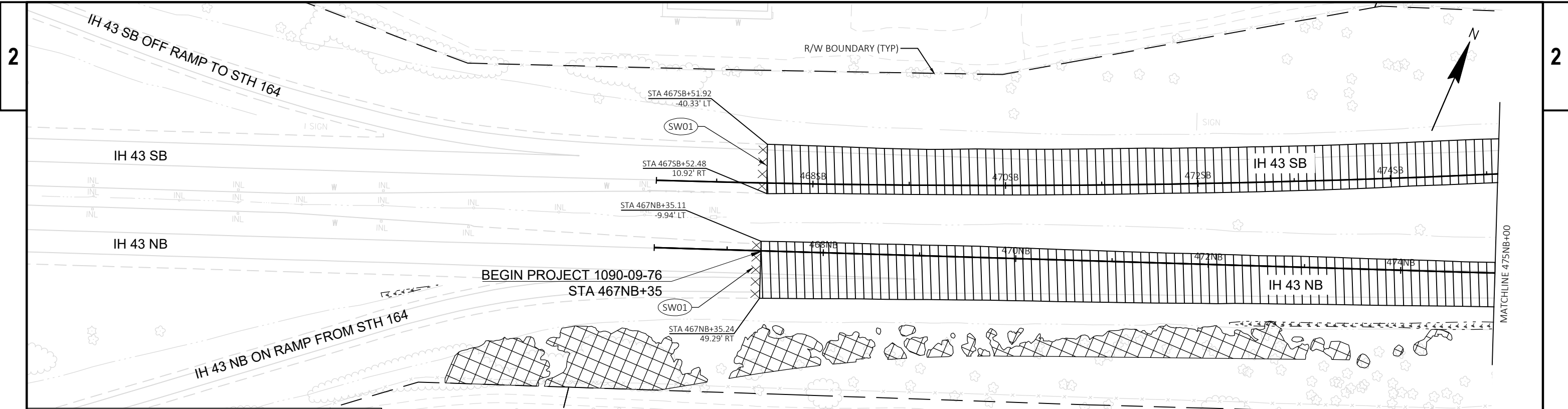
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 Alignment=IH43 SB  
 Station=767+09.23  
 Offset=-35.541  
 Northing=138277.5120  
 Easting=714420.1250  
 Elevation=886.821  
 HMA 6 3/4-INCH  
 BASE COURSE 12 1/4-INCH






NOTES:  
 - PAVEMENT THICKNESS WAS DETERMINED IN THE FIELD DURING DRILLING.  
 - BORING PERFORMED IN SHOULDER, AMOUNT REFERS TO SHOULDER GRAVEL.

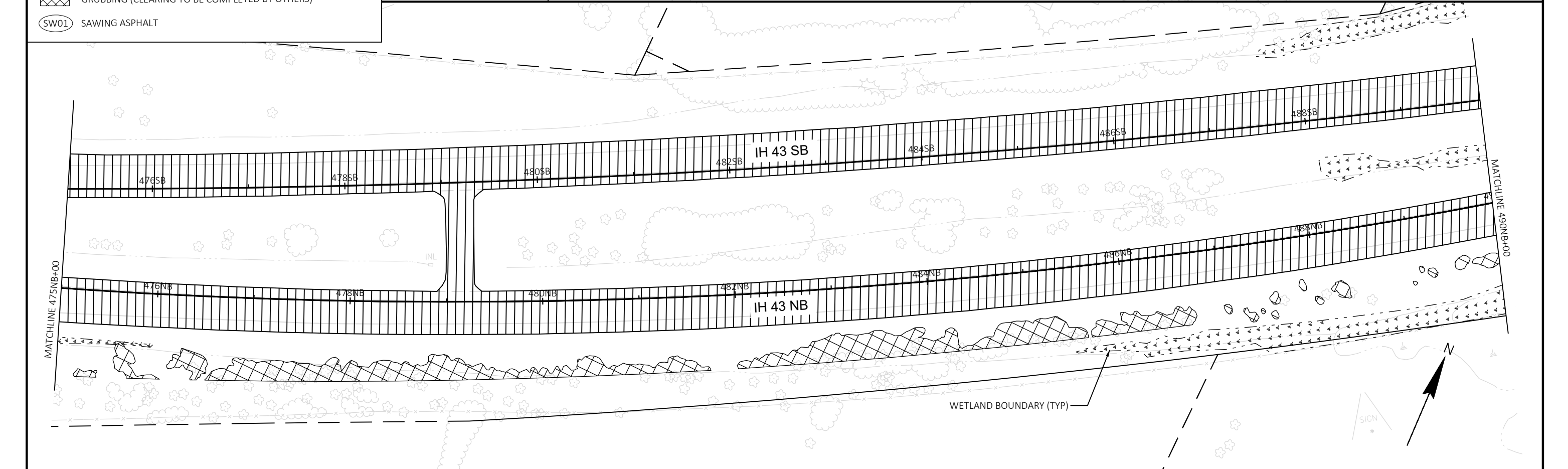
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	SOIL BORINGS LOCATIONS	SHEET	E
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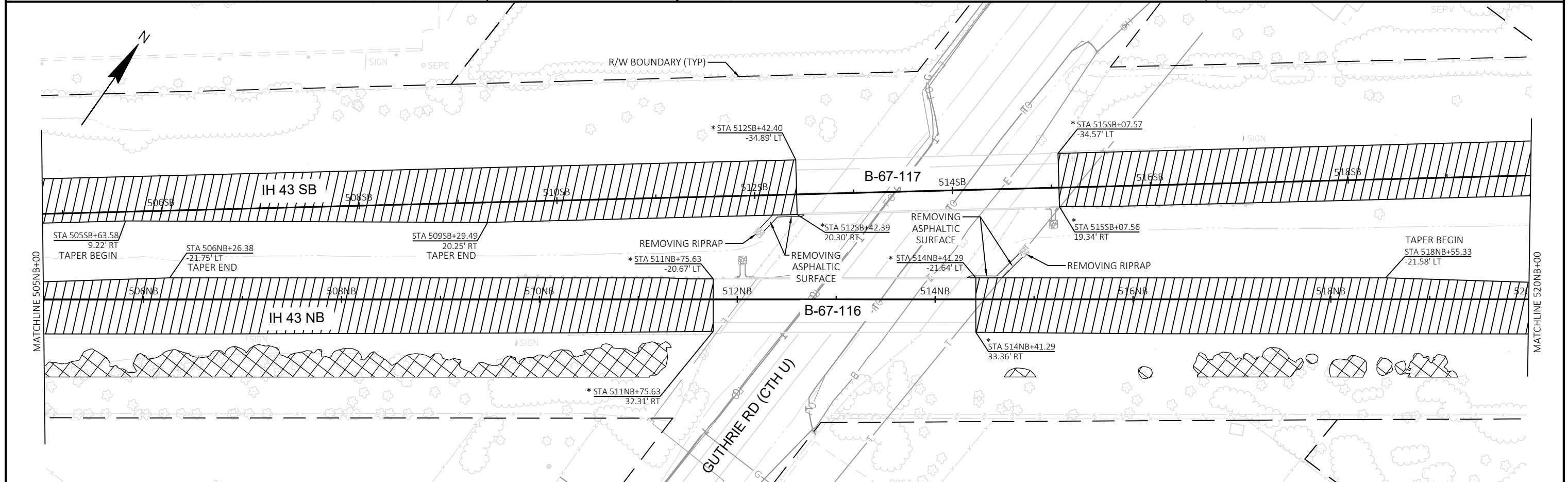
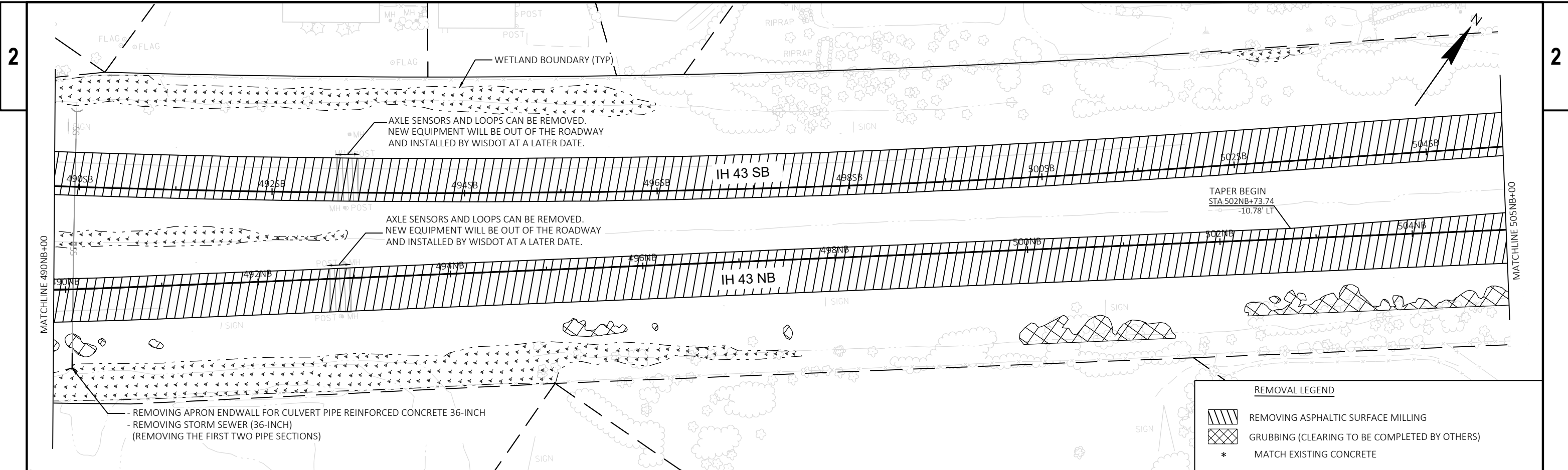
**REMOVAL LEGEND**

-  REMOVING ASPHALTIC SURFACE MILLING
-  GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)
-  SAWING ASPHALT





PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	REMOVAL PLAN	SHEET	<b>E</b>
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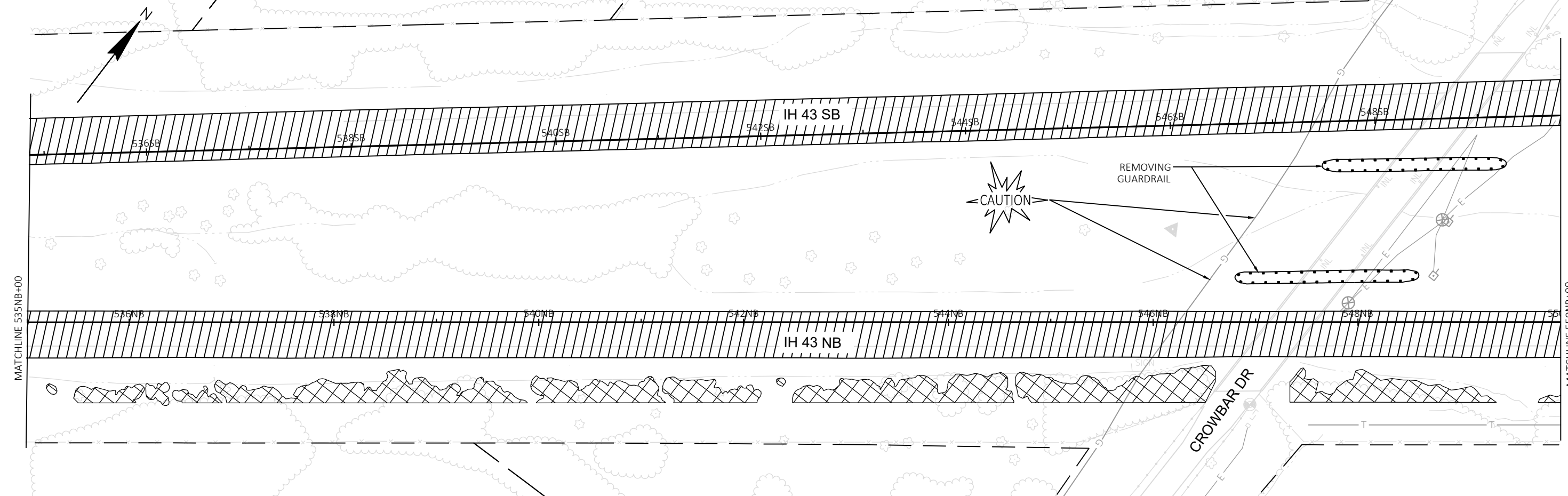
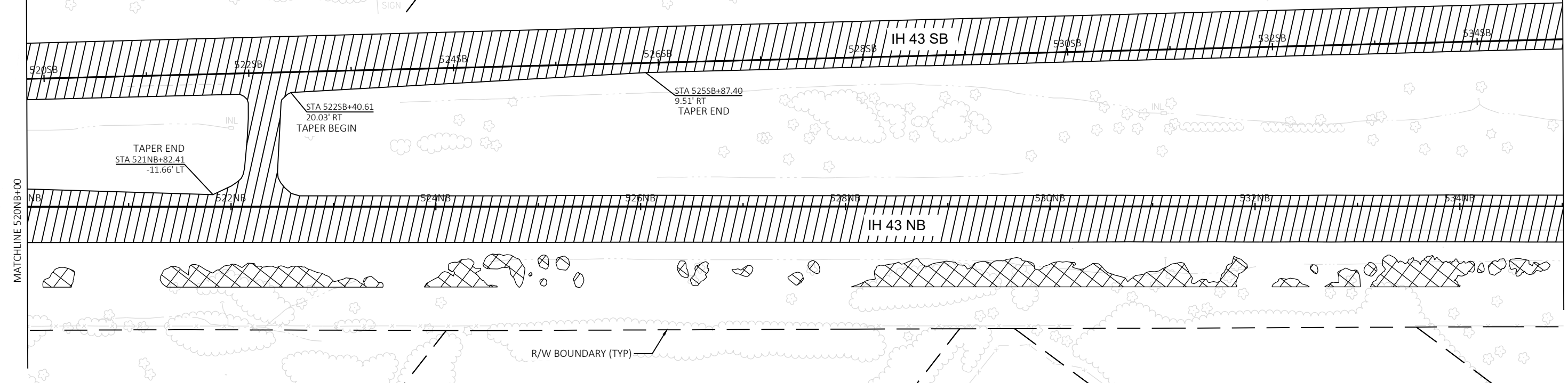
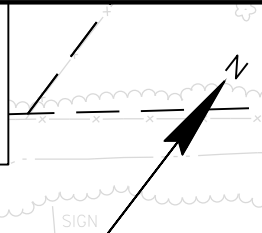


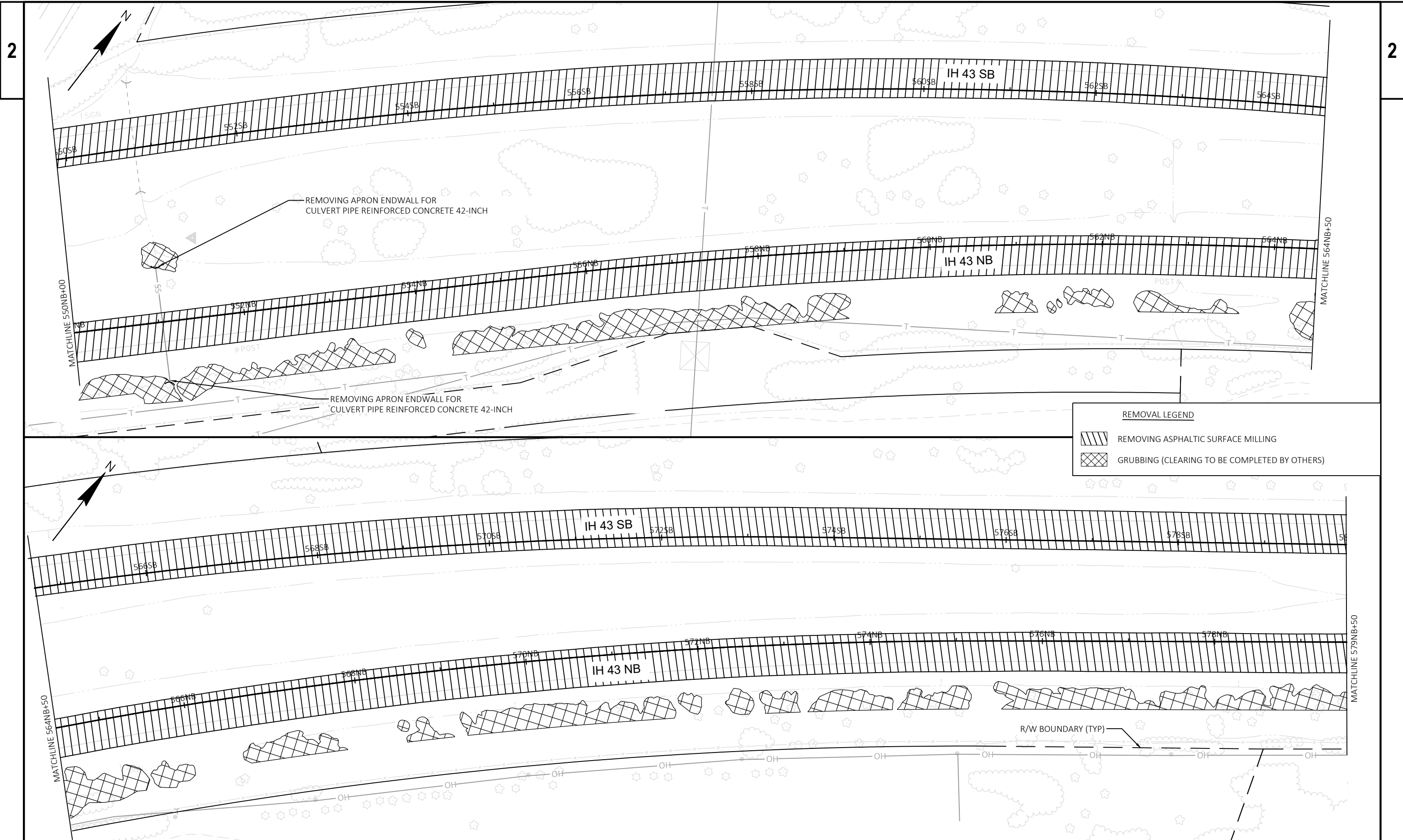


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	REMOVAL PLAN	SHEET	E
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REMOVAL LEGEND

-  REMOVING ASPHALTIC SURFACE MILLING
-  GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)





PROJECT NO: 1090-09-76

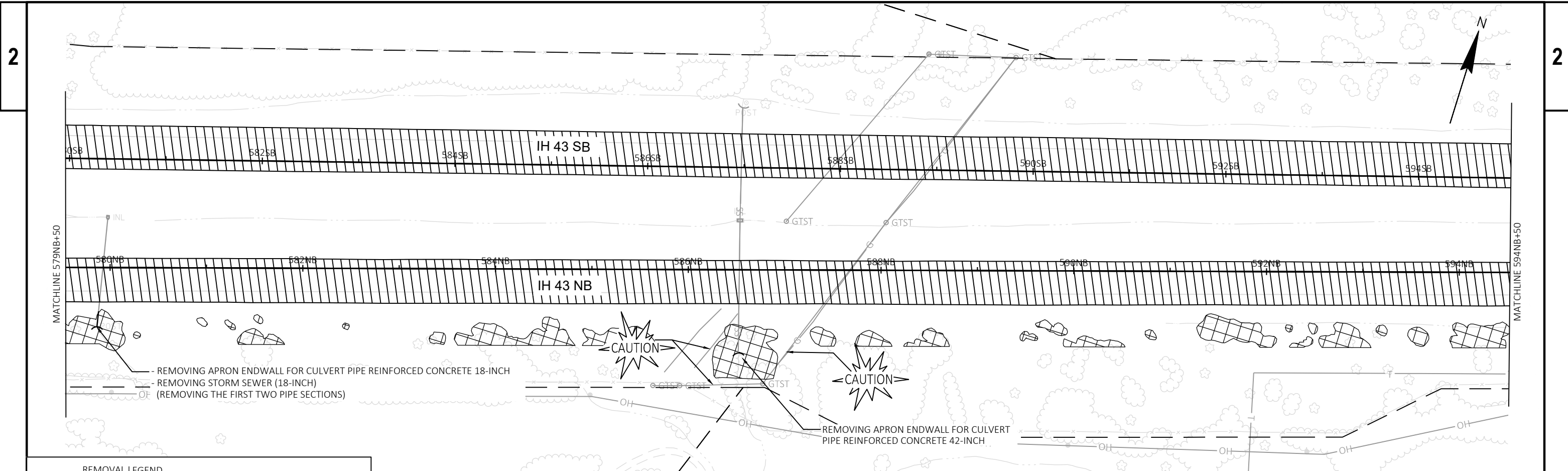
HWY: IH 43

COUNTY: WAUKESHA



REMOVAL PLAN

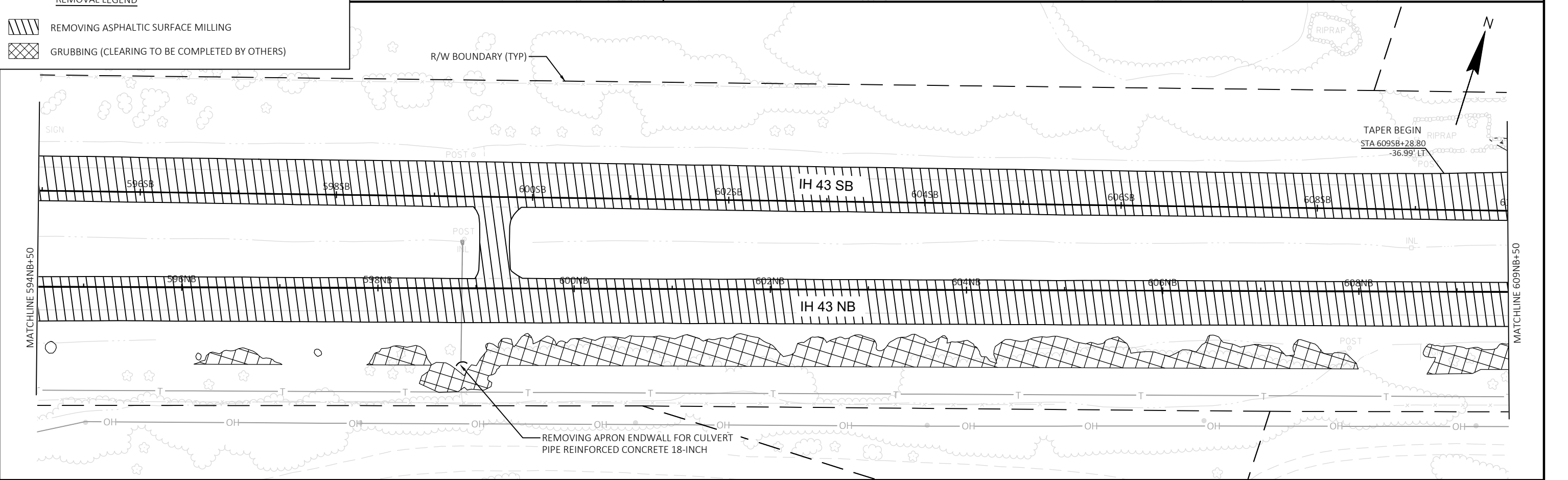
SHEET

E



**REMOVAL LEGEND**

-  REMOVING ASPHALTIC SURFACE MILLING
-  GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)





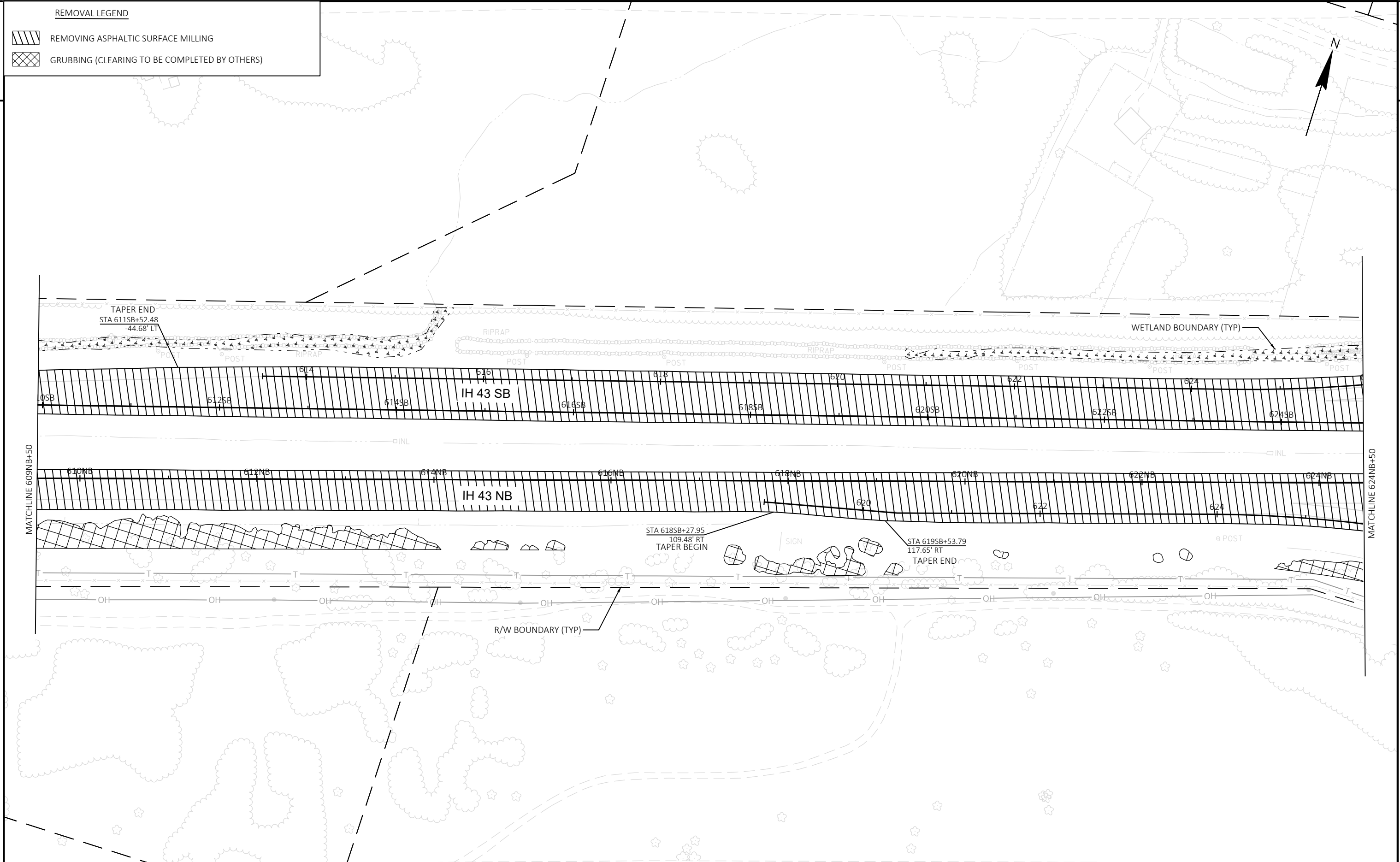
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	REMOVAL PLAN	SHEET	<b>E</b>
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2

2

REMOVAL LEGEND

-  REMOVING ASPHALTIC SURFACE MILLING
-  GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)



PROJECT NO: 1090-09-76

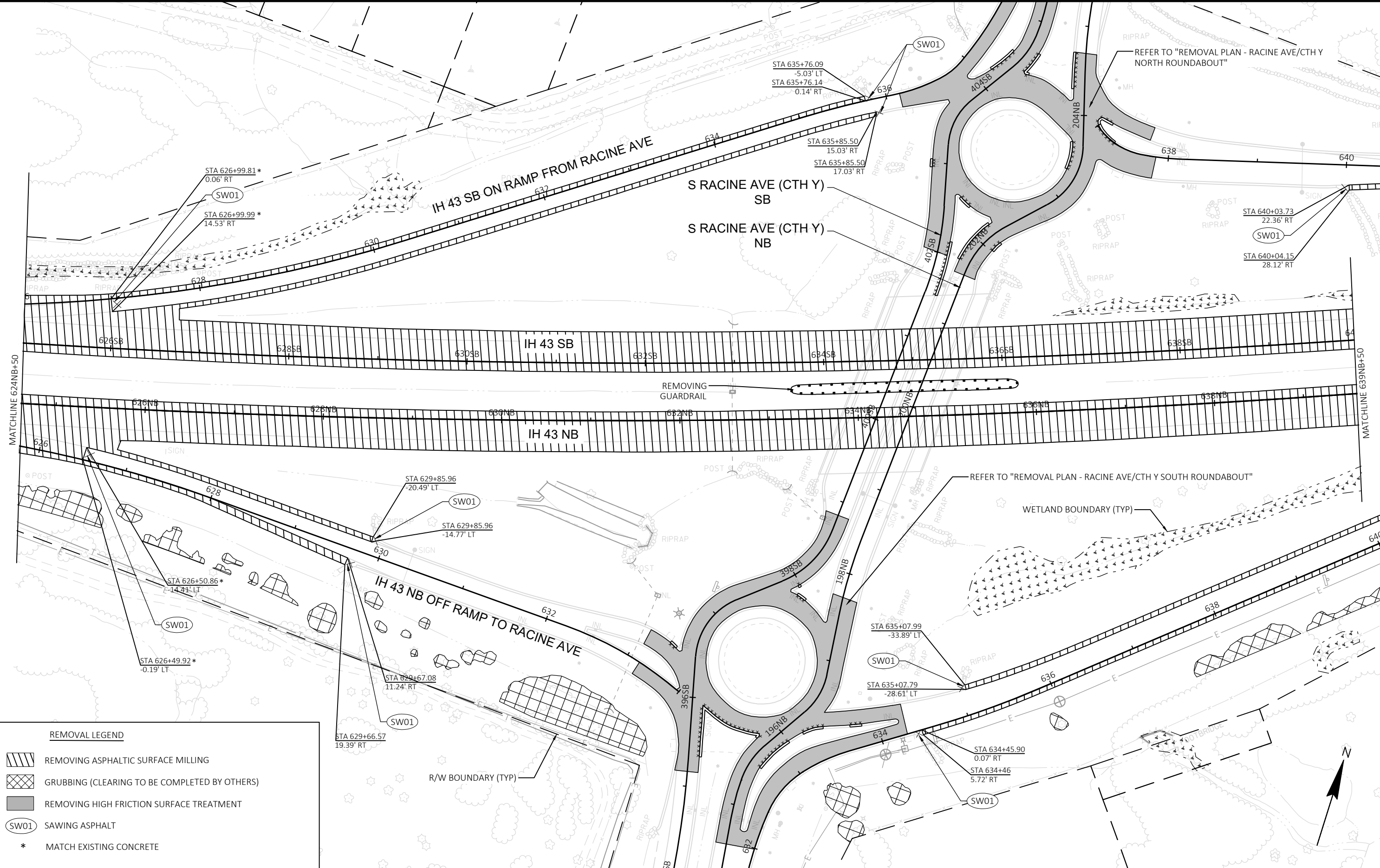
HWY: IH 43

COUNTY: WAUKESHA

REMOVAL PLAN

SHEET

E







REFER TO "REMOVAL PLAN - RACINE AVE/CTH Y NORTH ROUNDABOUT"

REFER TO "REMOVAL PLAN - RACINE AVE/CTH Y SOUTH ROUNDABOUT"

WETLAND BOUNDARY (TYP)

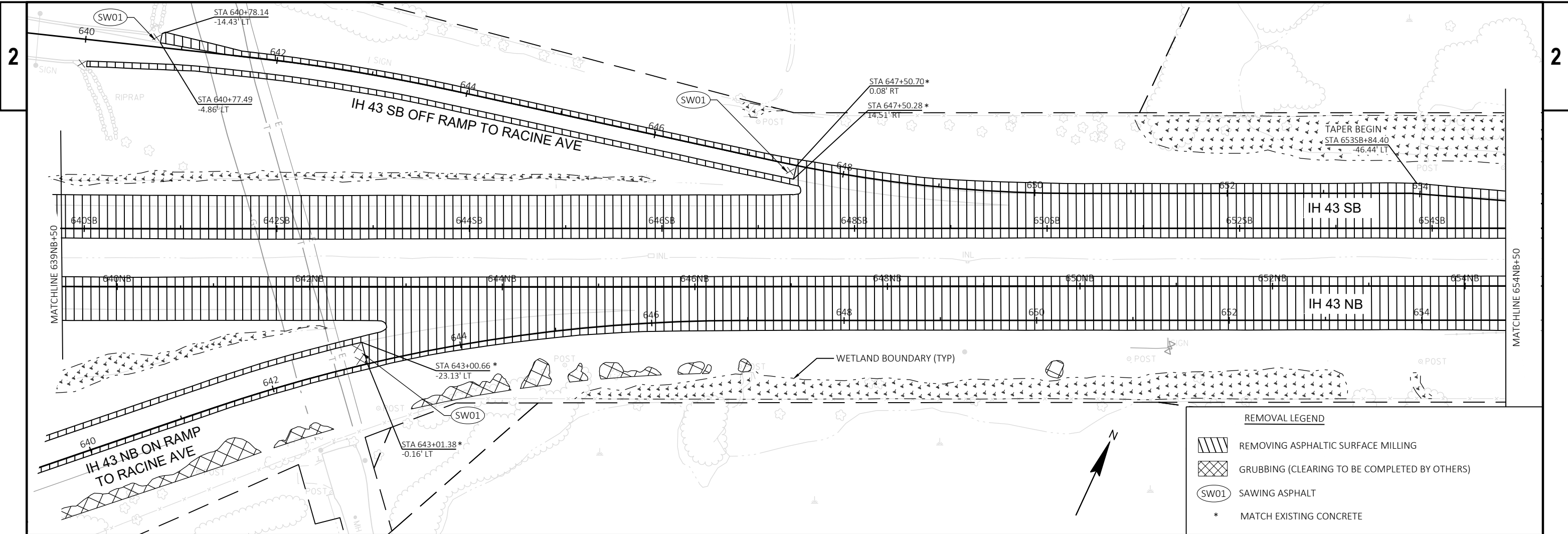
R/W BOUNDARY (TYP)

**REMOVAL LEGEND**

-  REMOVING ASPHALTIC SURFACE MILLING
-  GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)
-  REMOVING HIGH FRICTION SURFACE TREATMENT
-  SAWING ASPHALT
- \* MATCH EXISTING CONCRETE

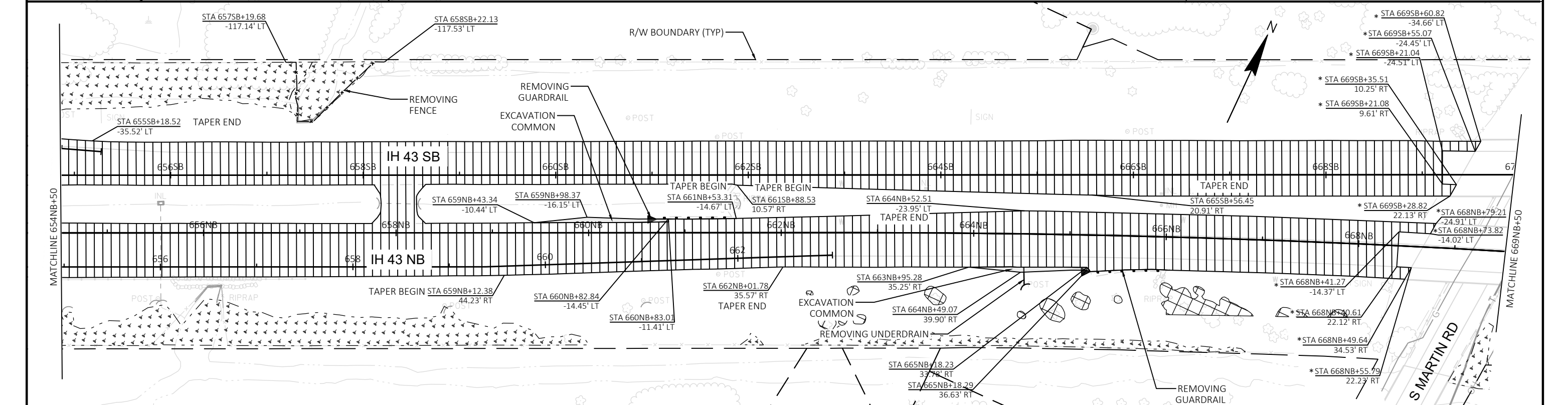




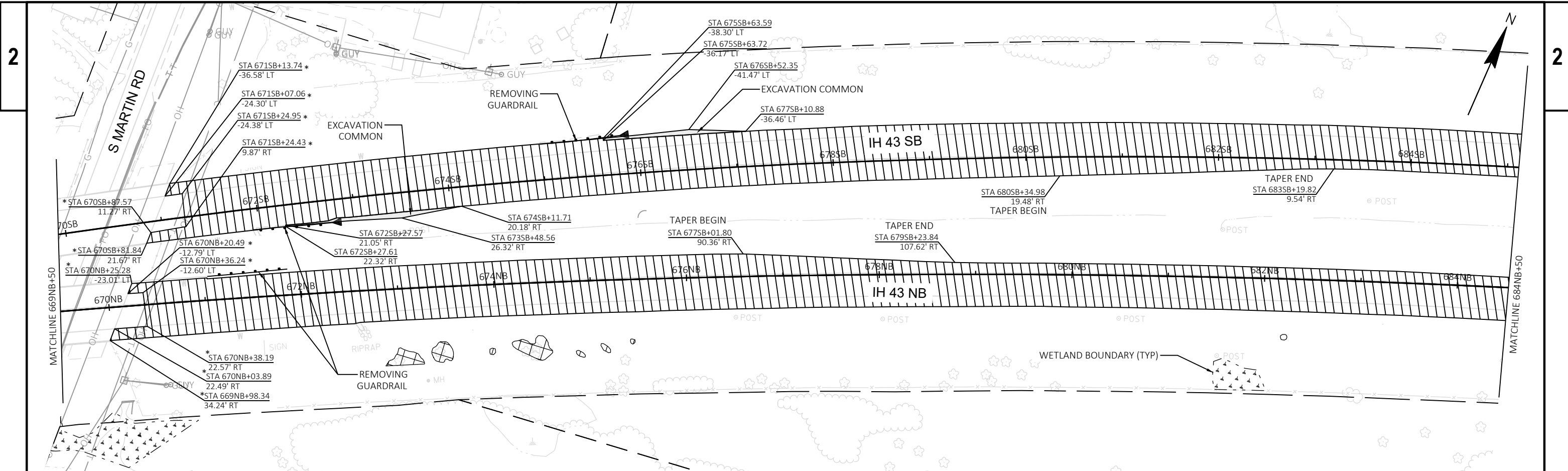


**REMOVAL LEGEND**




	REMOVING ASPHALTIC SURFACE MILLING
	GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)
	SAWING ASPHALT
*	MATCH EXISTING CONCRETE

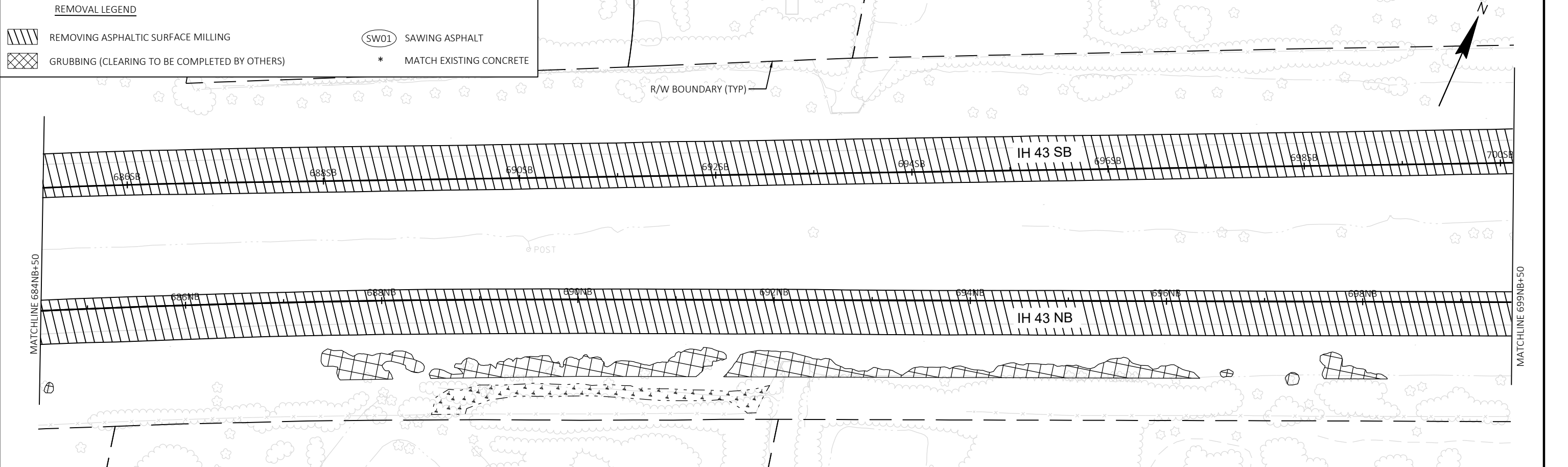


PROJECT NO: 1090-09-76      HWY: IH 33      COUNTY: WAUKESHA      REMOVAL PLAN      SHEET      E



**REMOVAL LEGEND**



	REMOVING ASPHALTIC SURFACE MILLING		SAWING ASPHALT
	GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)	*	MATCH EXISTING CONCRETE

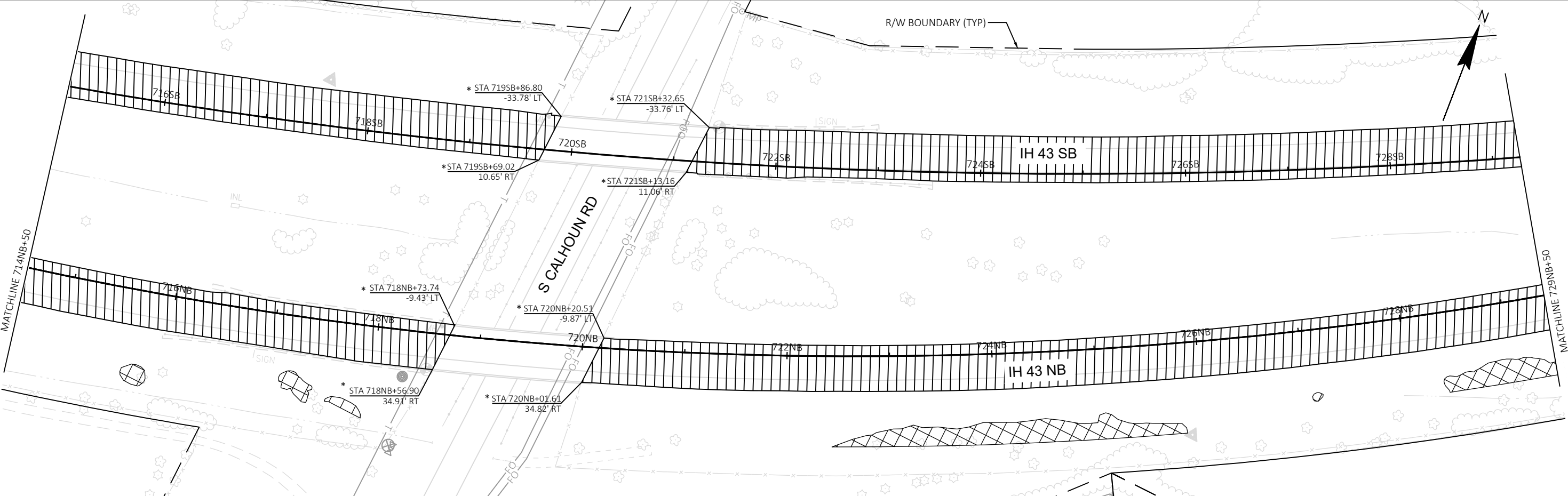
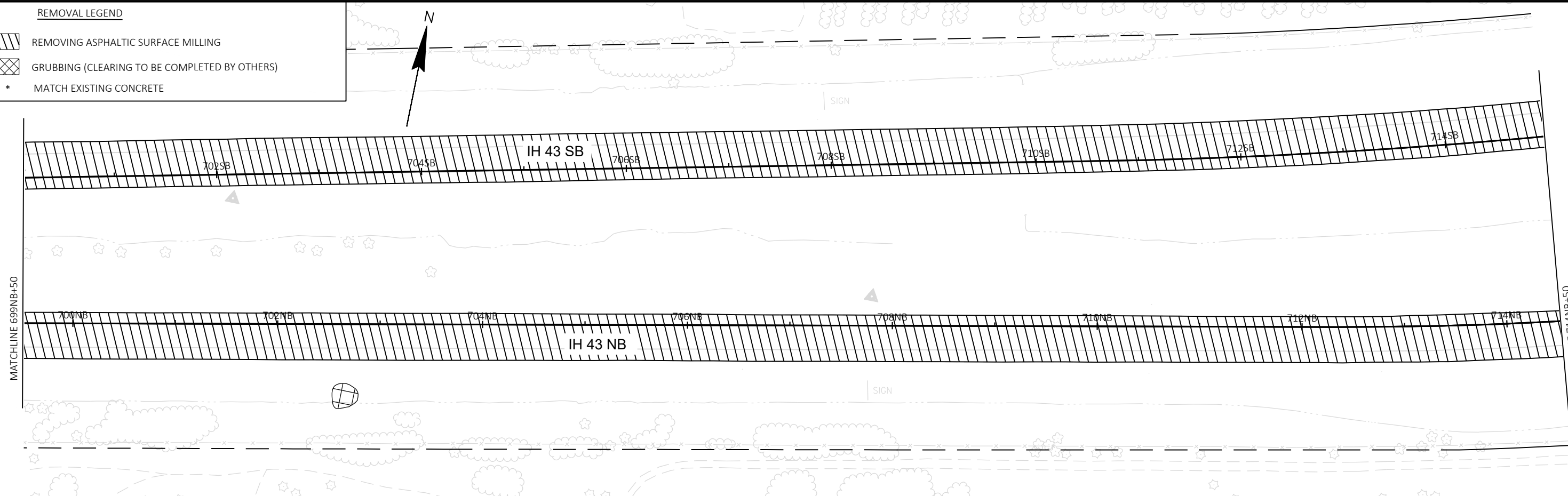


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	REMOVAL PLAN	SHEET	<b>E</b>
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REMOVAL LEGEND

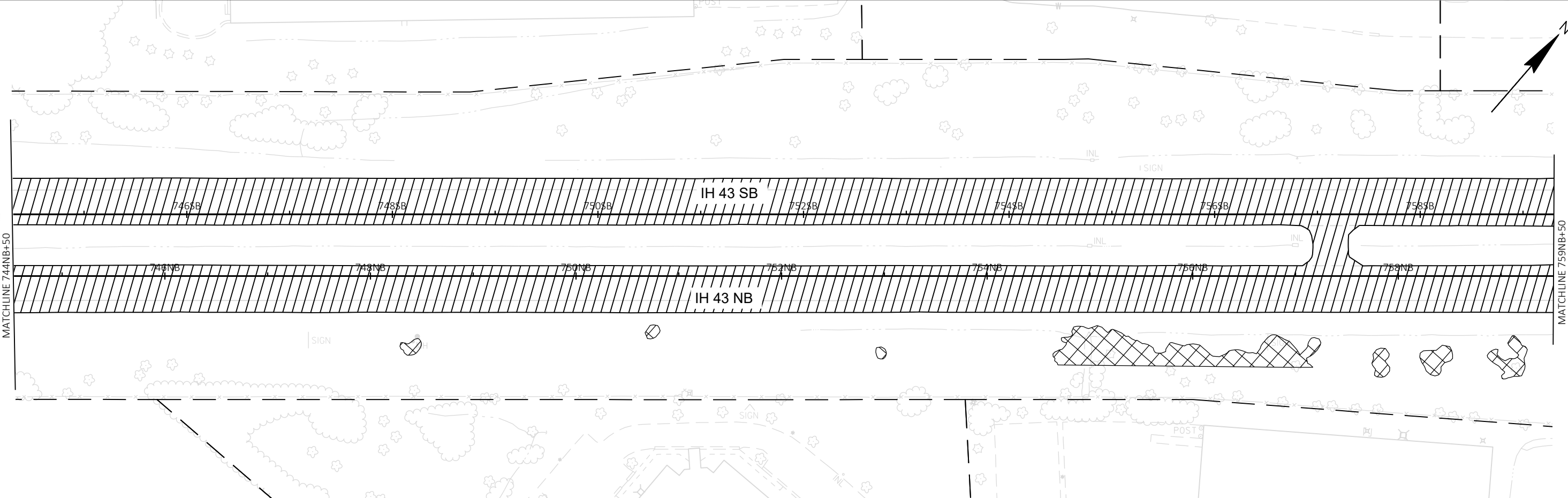
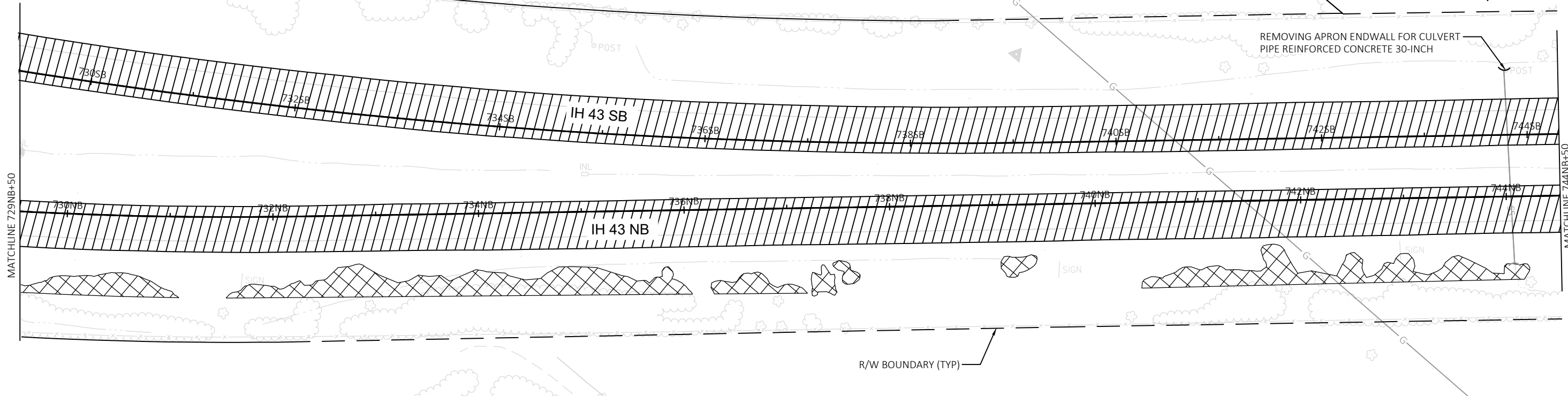
-  REMOVING ASPHALTIC SURFACE MILLING
-  GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)
- \* MATCH EXISTING CONCRETE



PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	REMOVAL PLAN	SHEET	<b>E</b>
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REMOVAL LEGEND

-  REMOVING ASPHALTIC SURFACE MILLING
-  GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)



PROJECT NO: 1090-09-76

HWY: IH 43





COUNTY: WAUKESHA

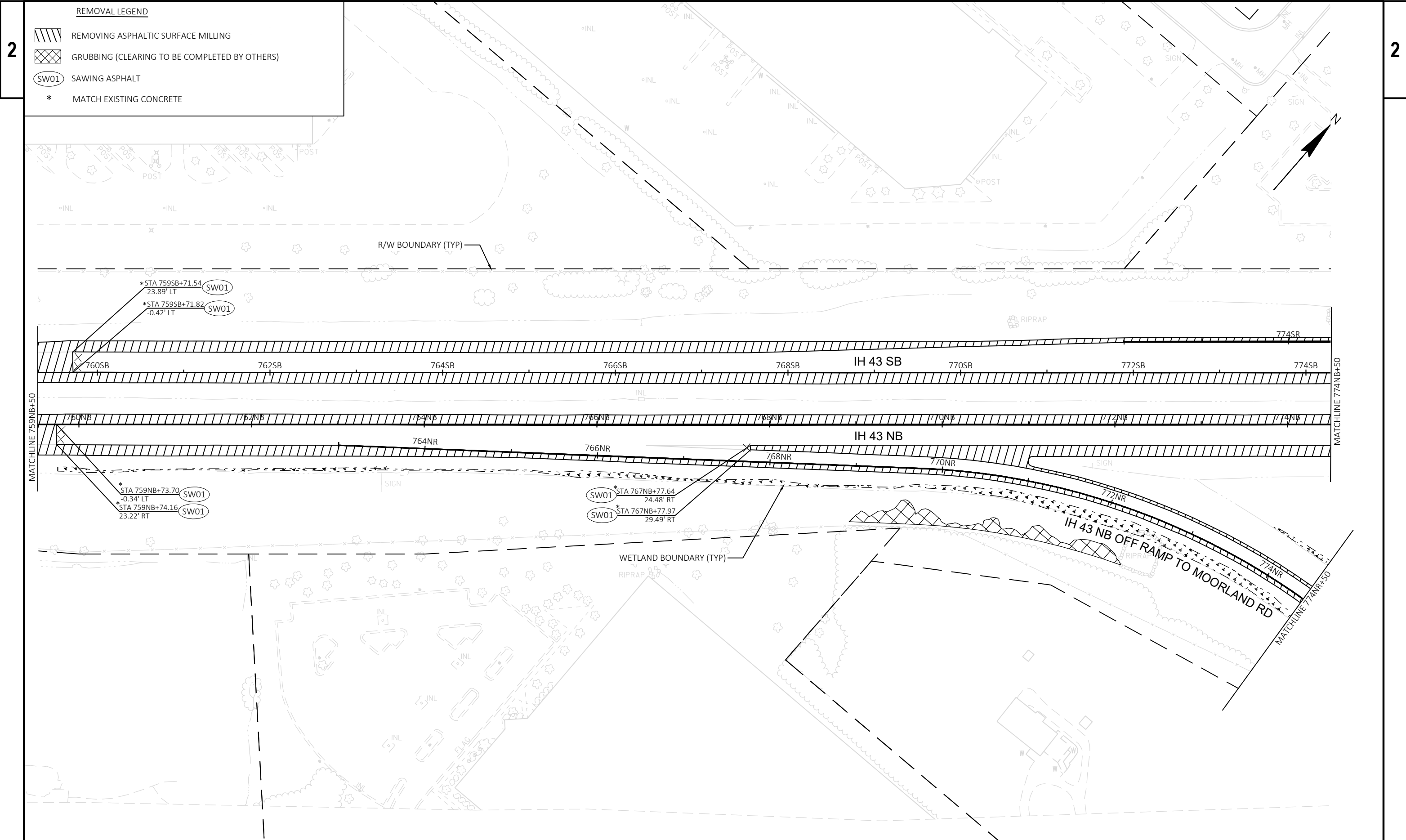
REMOVAL PLAN

SHEET

E

**REMOVAL LEGEND**

-  REMOVING ASPHALTIC SURFACE MILLING
-  GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)
-  SAWING ASPHALT
-  MATCH EXISTING CONCRETE



PROJECT NO: 1090-09-76

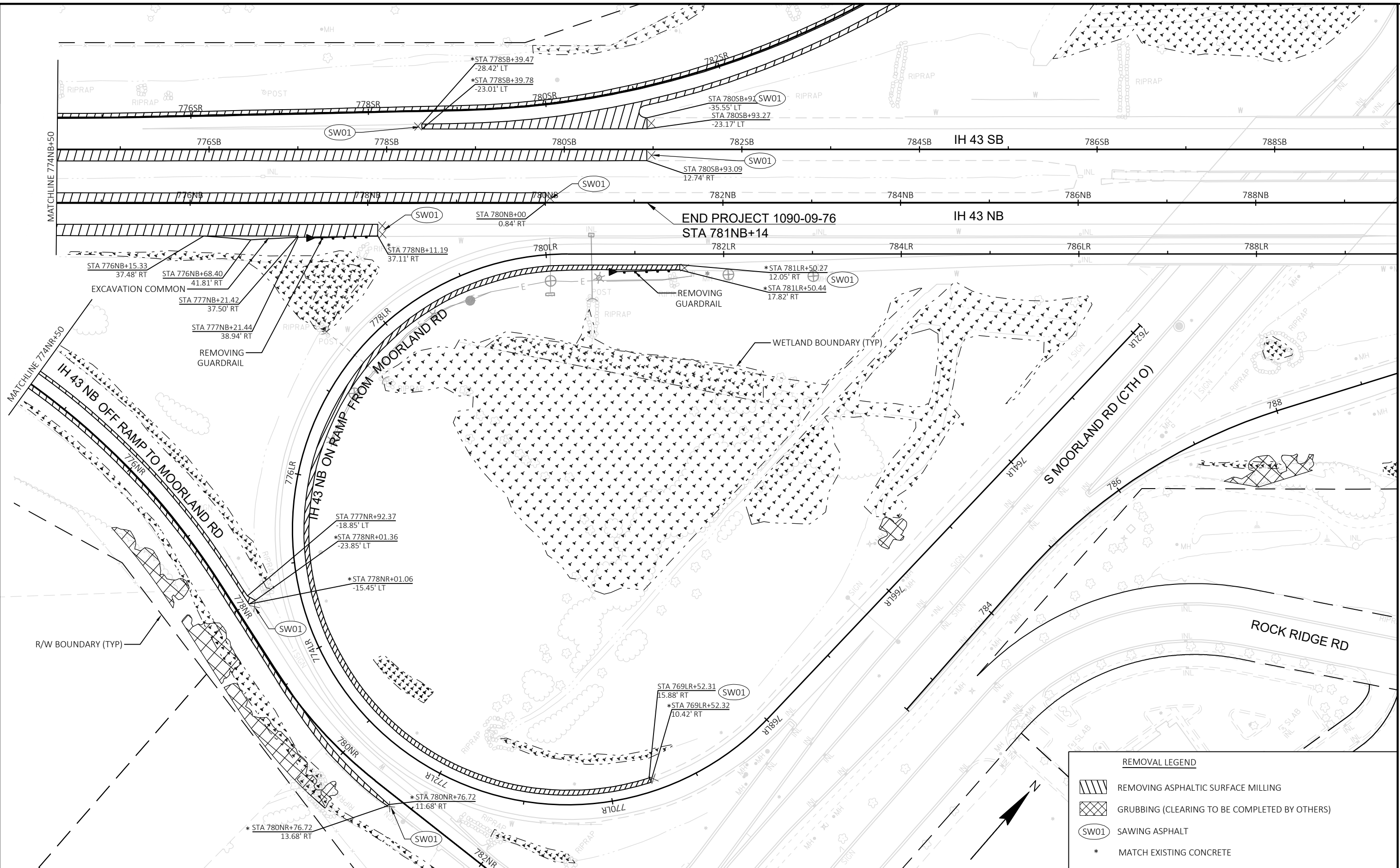
HWY: IH 43

COUNTY: WAUKESHA

REMOVAL PLAN

SHEET





E

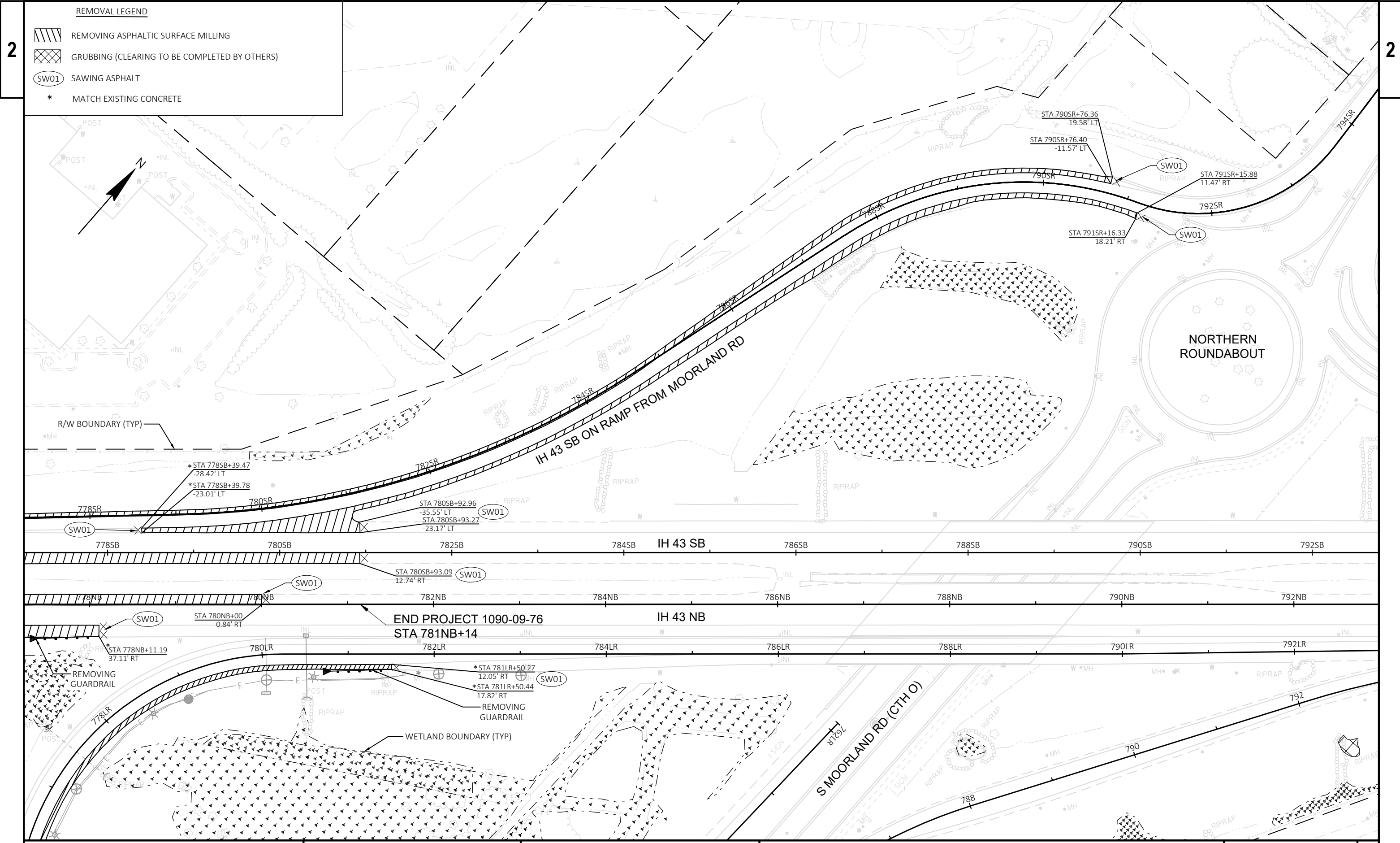


REMOVAL LEGEND	
	REMOVING ASPHALTIC SURFACE MILLING
	GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)
	SAWING ASPHALT
	MATCH EXISTING CONCRETE

PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      REMOVAL PLAN      SHEET      E




**REMOVAL LEGEND**

-  REMOVING ASPHALTIC SURFACE MILLING
-  GRUBBING (CLEARING TO BE COMPLETED BY OTHERS)
-  SAWING ASPHALT
-  MATCH EXISTING CONCRETE



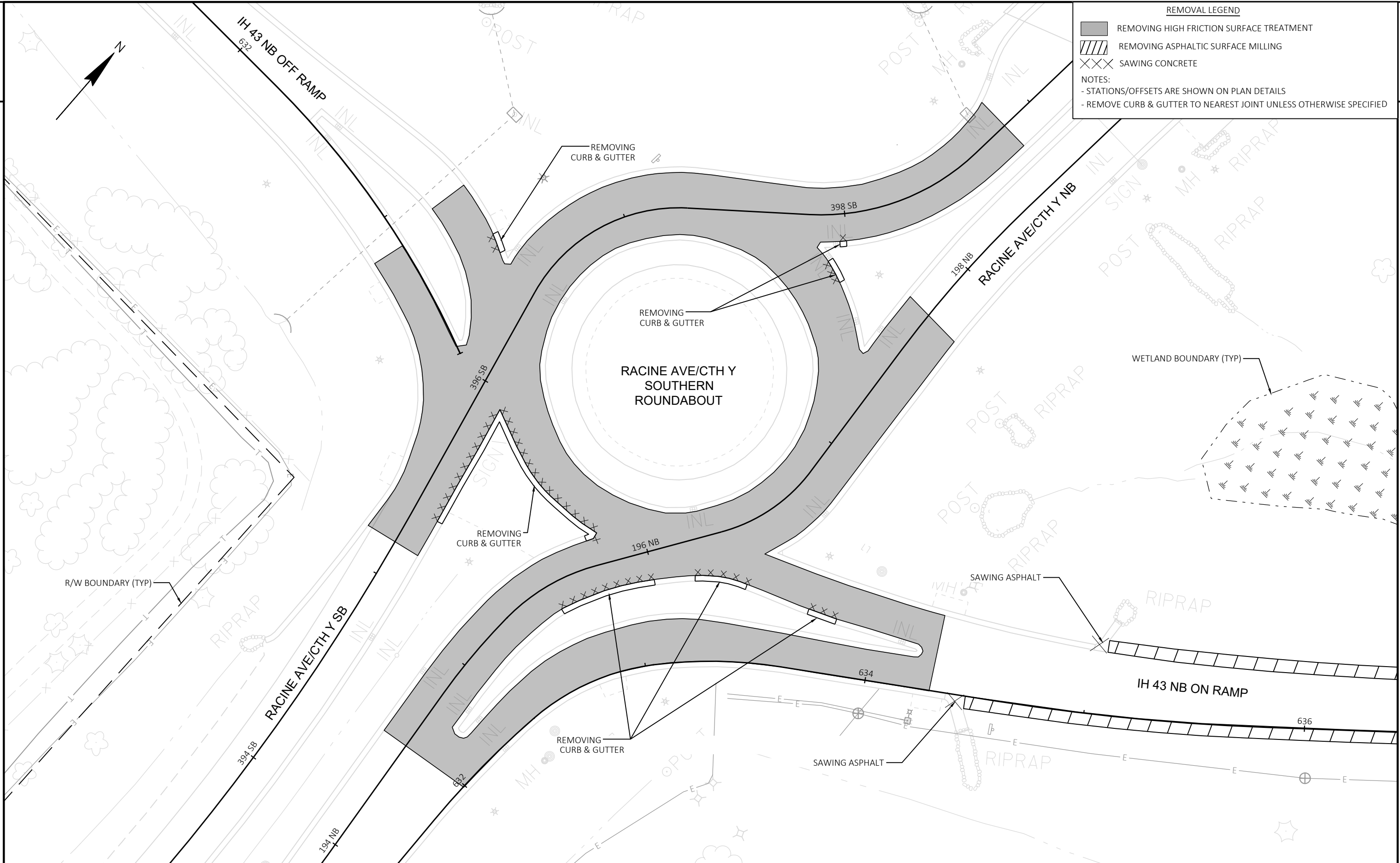
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	REMOVAL PLAN	SHEET	<b>E</b>
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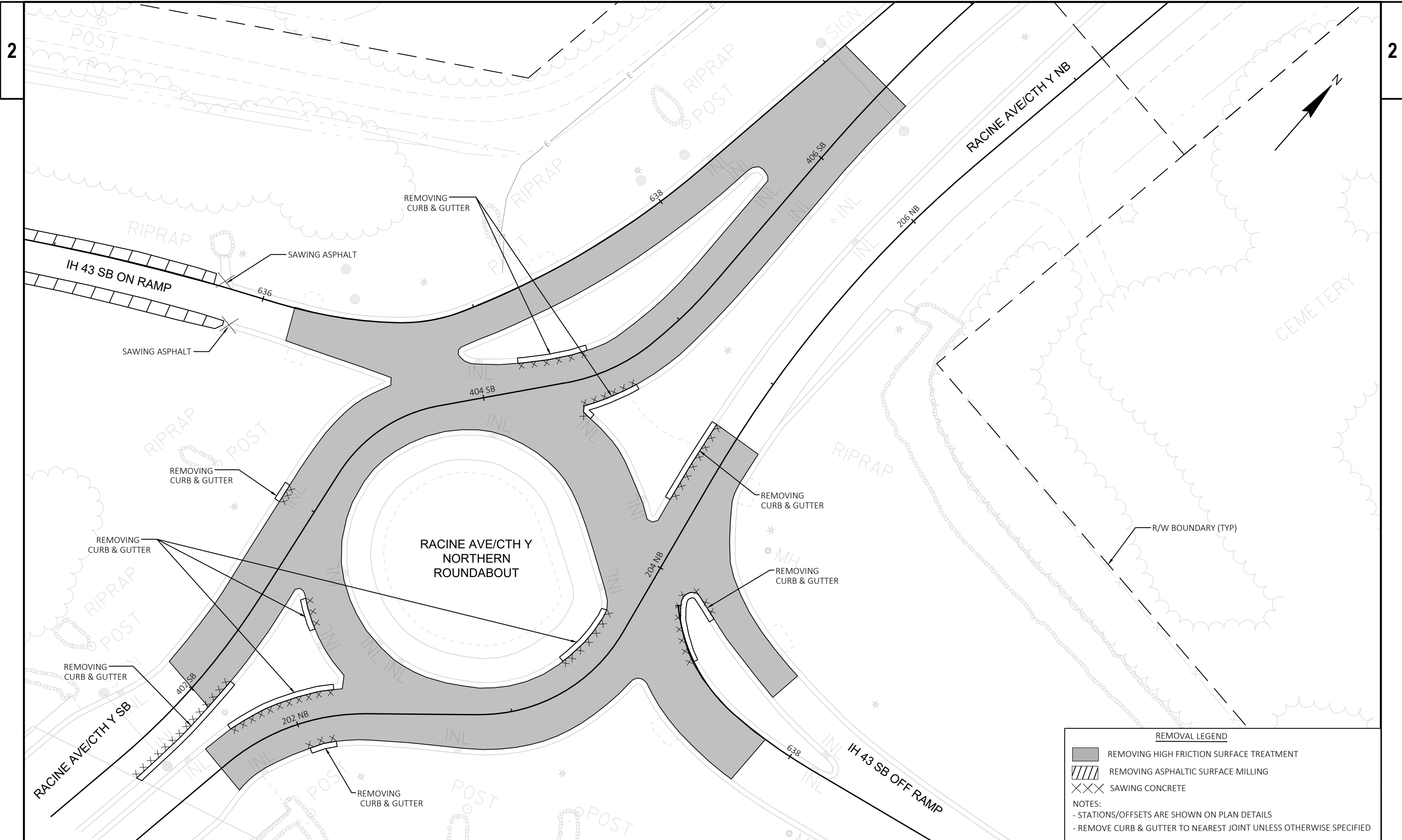
**REMOVAL LEGEND**

-  REMOVING HIGH FRICTION SURFACE TREATMENT
-  REMOVING ASPHALTIC SURFACE MILLING
-  SAWING CONCRETE

**NOTES:**

- STATIONS/OFFSETS ARE SHOWN ON PLAN DETAILS
- REMOVE CURB & GUTTER TO NEAREST JOINT UNLESS OTHERWISE SPECIFIED



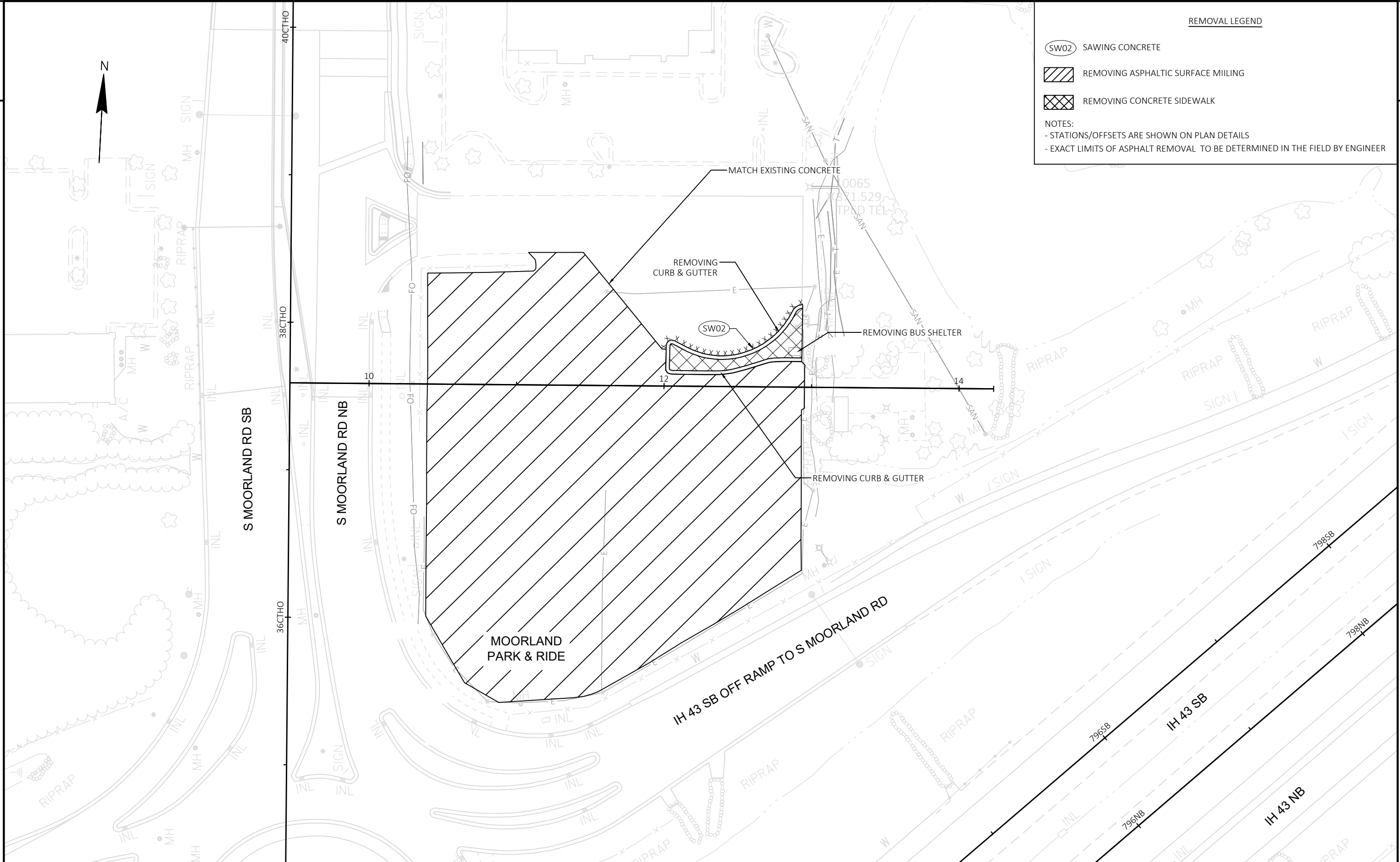


**REMOVAL LEGEND**

	REMOVING HIGH FRICTION SURFACE TREATMENT
	REMOVING ASPHALTIC SURFACE MILLING
XXX	SAWING CONCRETE

NOTES:  
 - STATIONS/OFFSETS ARE SHOWN ON PLAN DETAILS  
 - REMOVE CURB & GUTTER TO NEAREST JOINT UNLESS OTHERWISE SPECIFIED





**REMOVAL LEGEND**

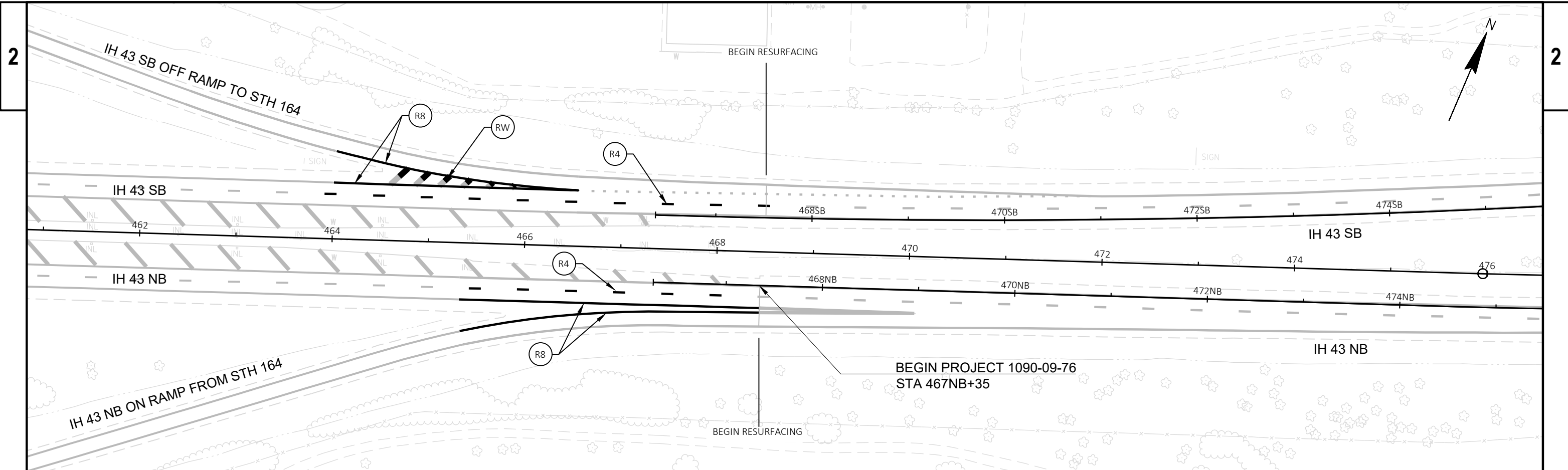
- (SW02) SAWING CONCRETE
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING CONCRETE SIDEWALK

**NOTES:**

- STATIONS/OFFSETS ARE SHOWN ON PLAN DETAILS
- EXACT LIMITS OF ASPHALT REMOVAL TO BE DETERMINED IN THE FIELD BY ENGINEER

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	REMOVAL PLAN - MOORLAND PARK & RIDE	SHEET	<b>E</b>
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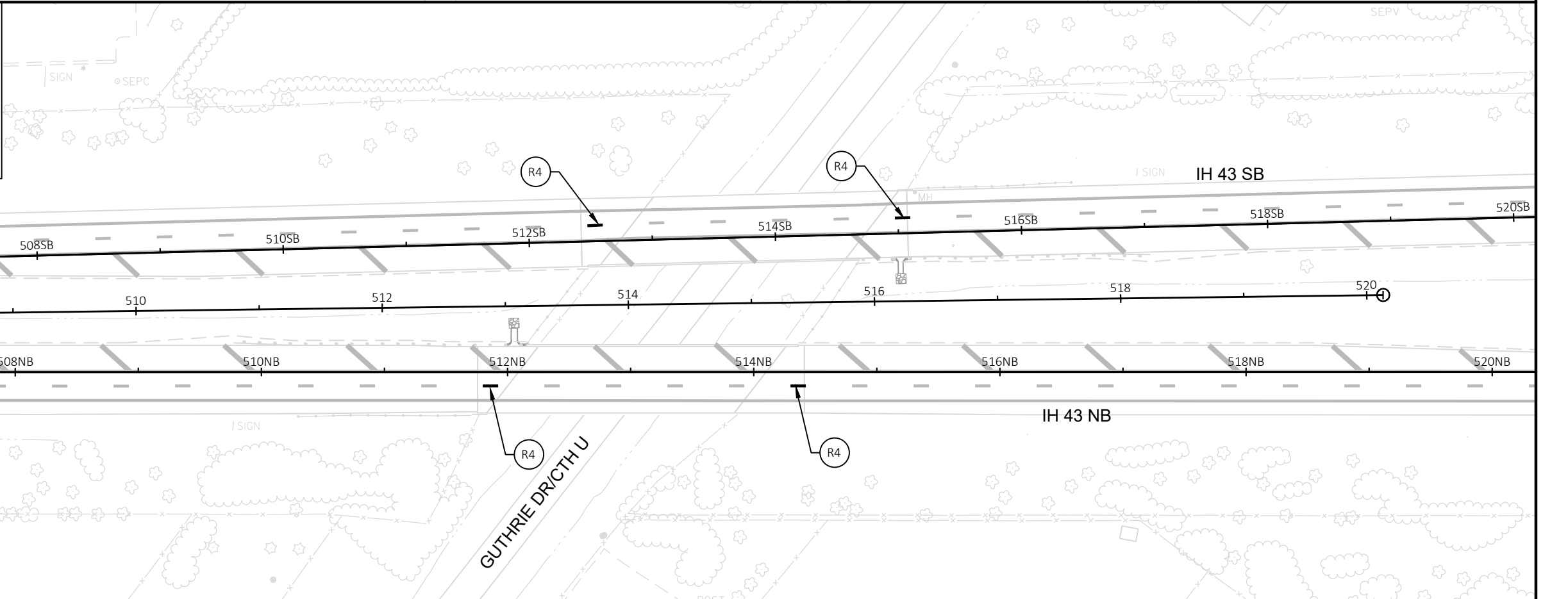




**PAVEMENT MARKING REMOVAL LEGEND**

	MARKING REMOVAL LINE GROOVED PERMANENT TAPE 4-INCH
	MARKING REMOVAL LINE GROOVED PERMANENT TAPE 8-INCH
	MARKING REMOVAL LINE WIDE

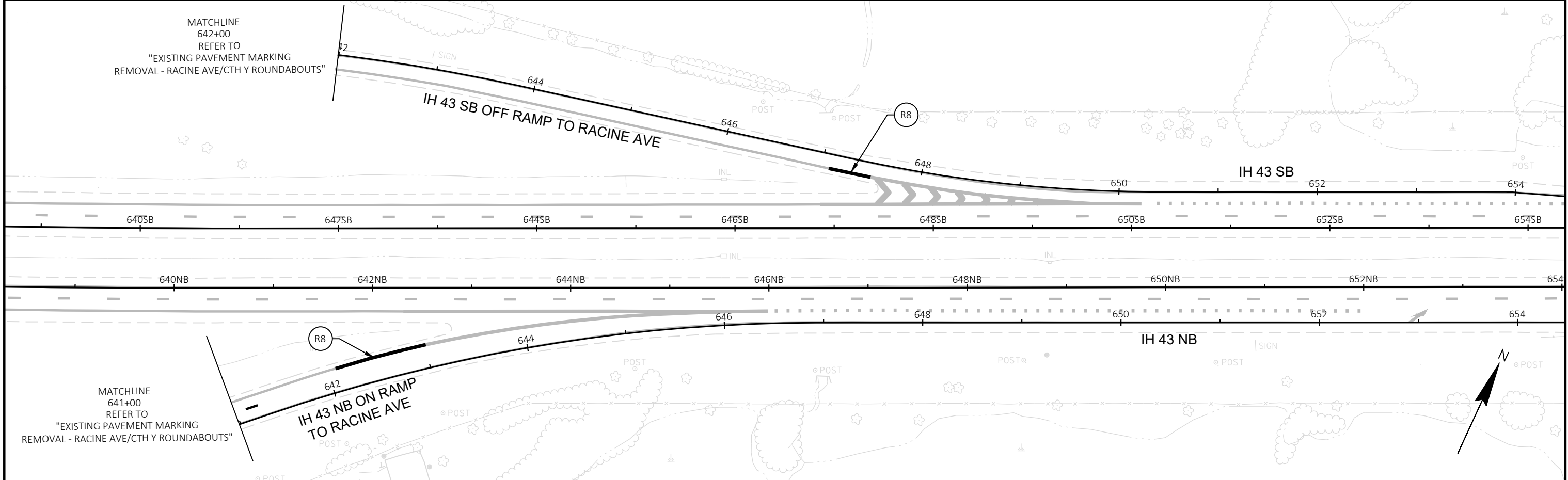
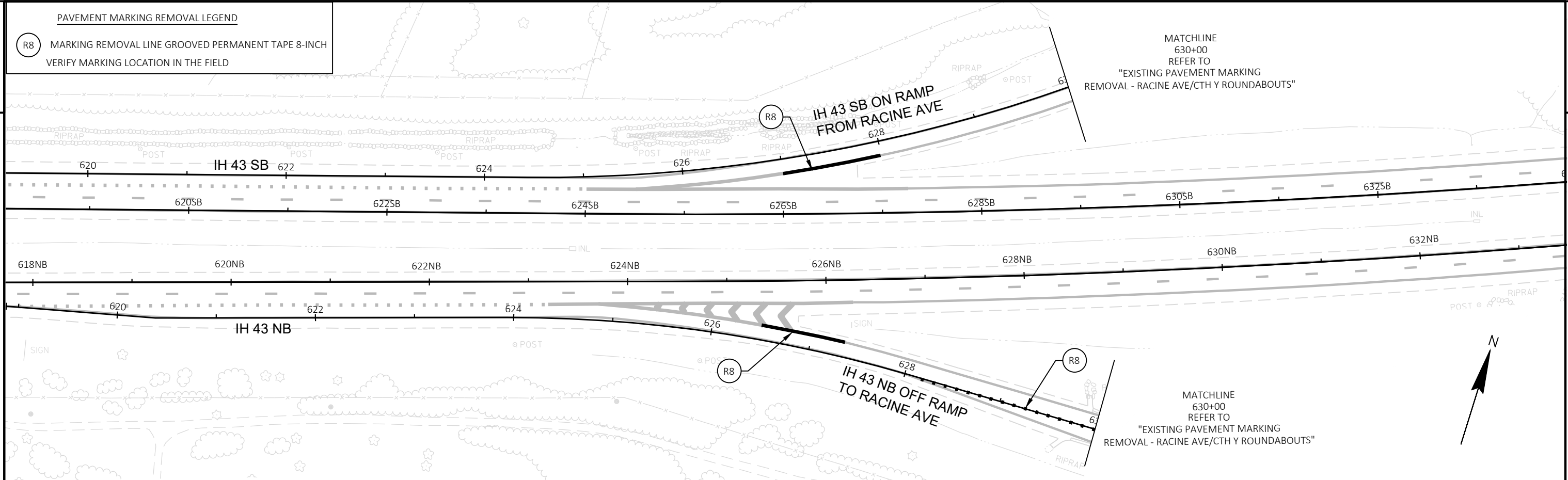
VERIFY MARKING LOCATION IN THE FIELD



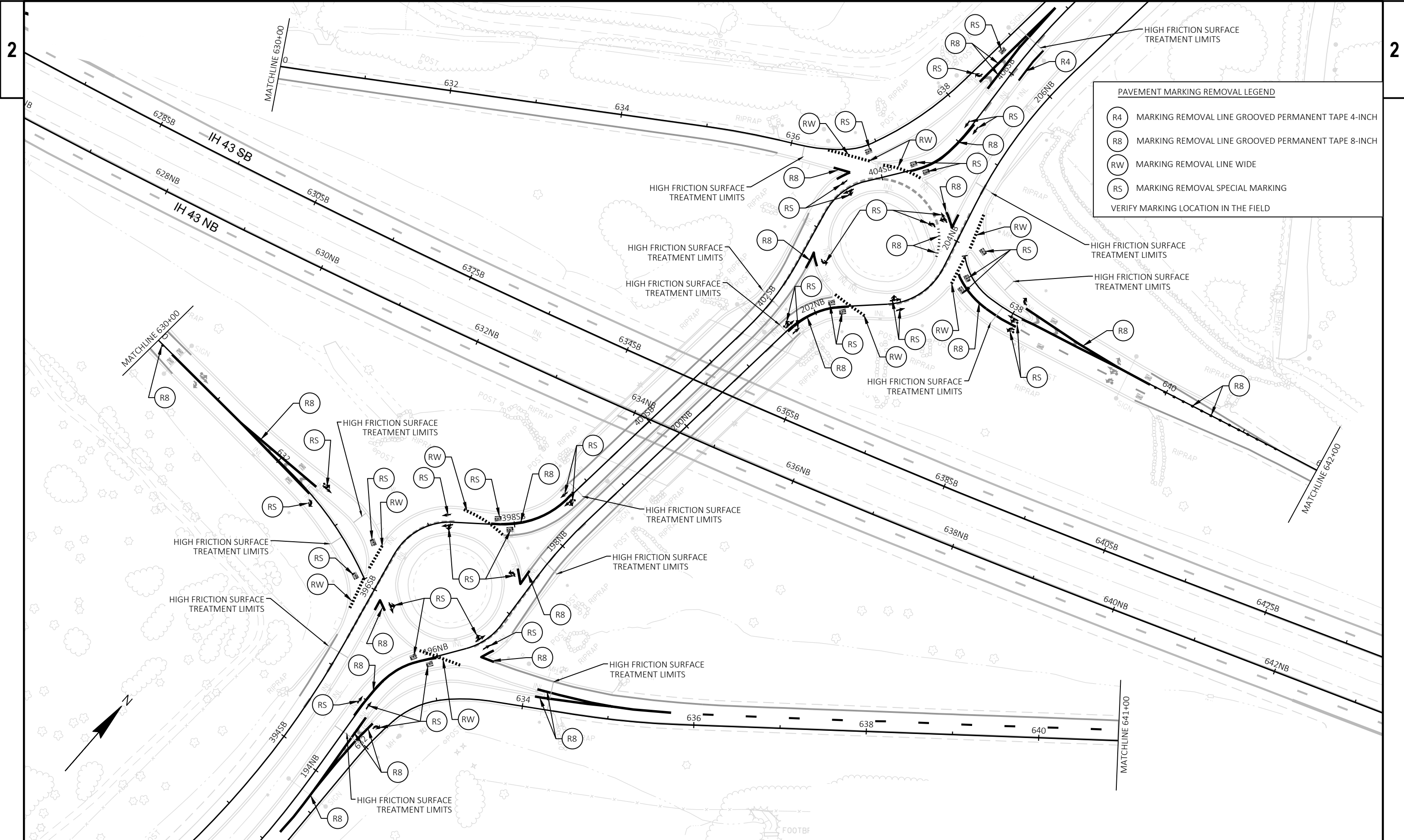
PAVEMENT MARKING REMOVAL LEGEND

(R8) MARKING REMOVAL LINE GROOVED PERMANENT TAPE 8-INCH  
VERIFY MARKING LOCATION IN THE FIELD

MATCHLINE  
630+00  
REFER TO  
"EXISTING PAVEMENT MARKING  
REMOVAL - RACINE AVE/CTH Y ROUNDABOUTS"



PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	EXISTING PAVEMENT MARKING REMOVAL	SHEET	E
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**PAVEMENT MARKING REMOVAL LEGEND**

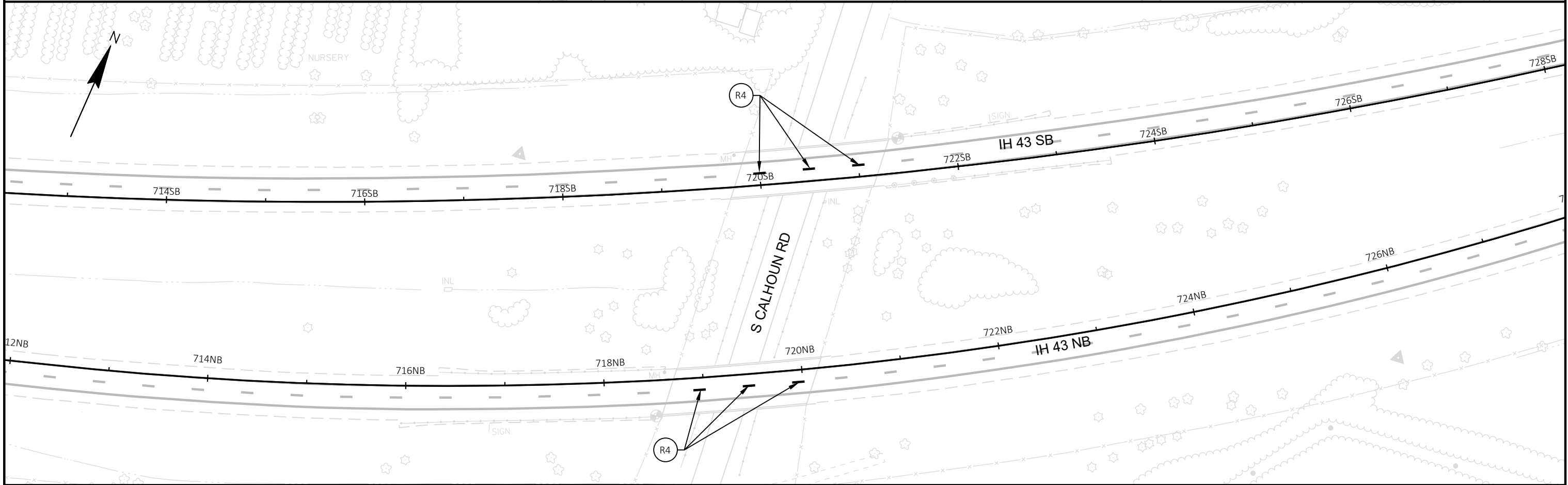
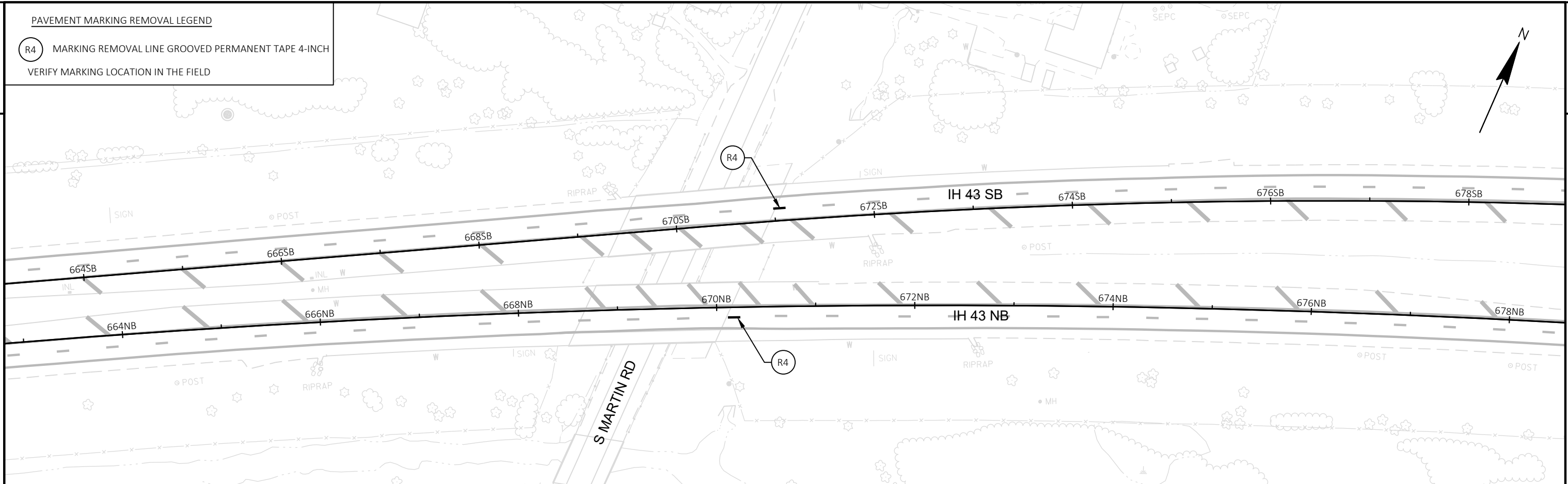
(R4)	MARKING REMOVAL LINE GROOVED PERMANENT TAPE 4-INCH
(R8)	MARKING REMOVAL LINE GROOVED PERMANENT TAPE 8-INCH
(RW)	MARKING REMOVAL LINE WIDE
(RS)	MARKING REMOVAL SPECIAL MARKING

VERIFY MARKING LOCATION IN THE FIELD

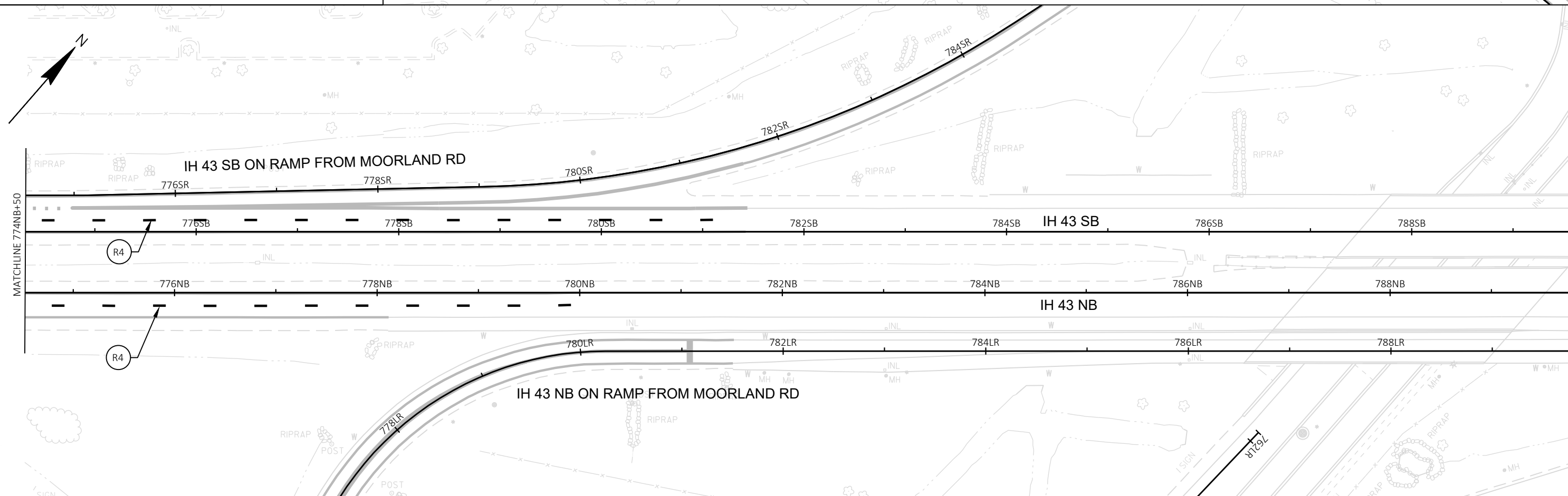
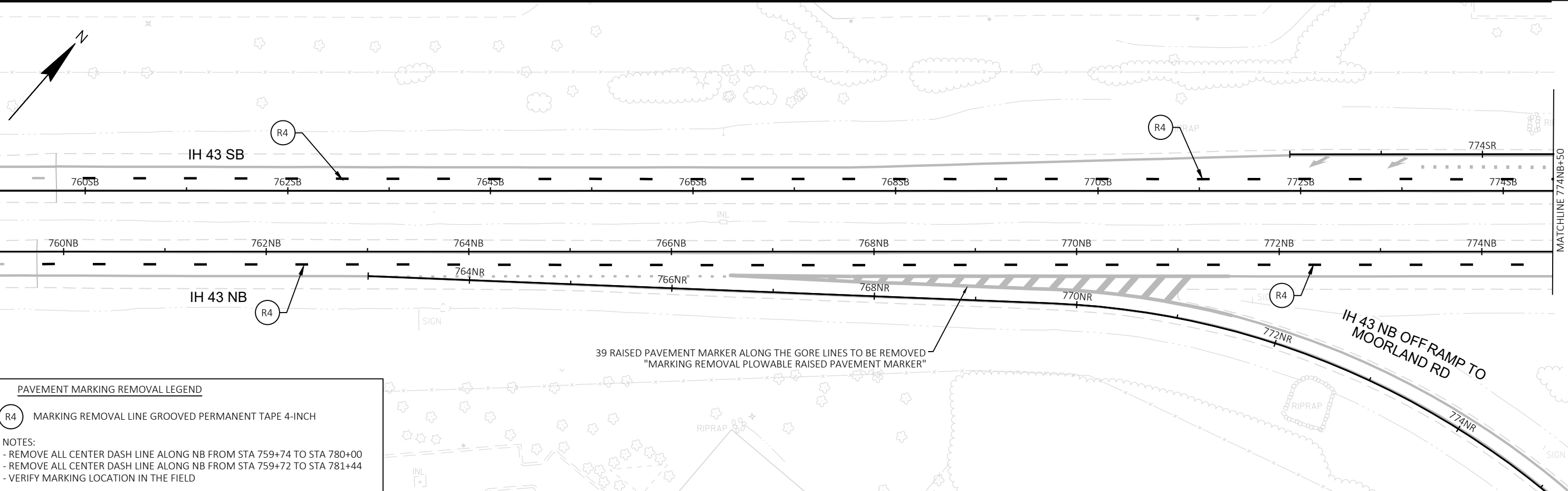
PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      EXISTING PAVEMENT MARKING REMOVAL - RACINE AVE/CTH Y ROUNDABOUTS      SHEET      **E**

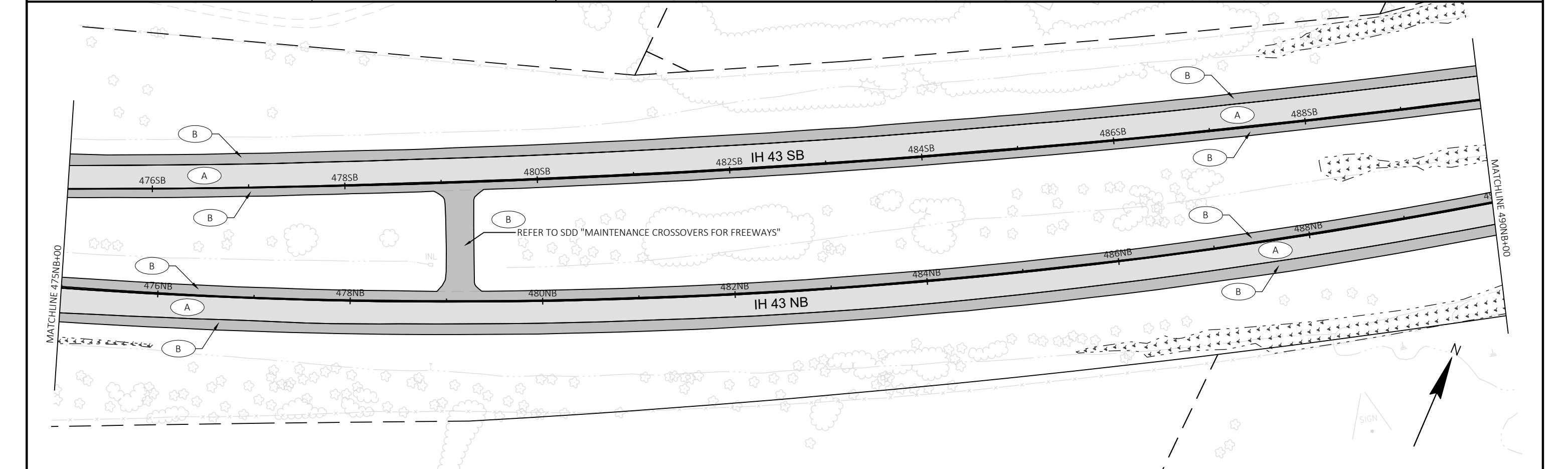
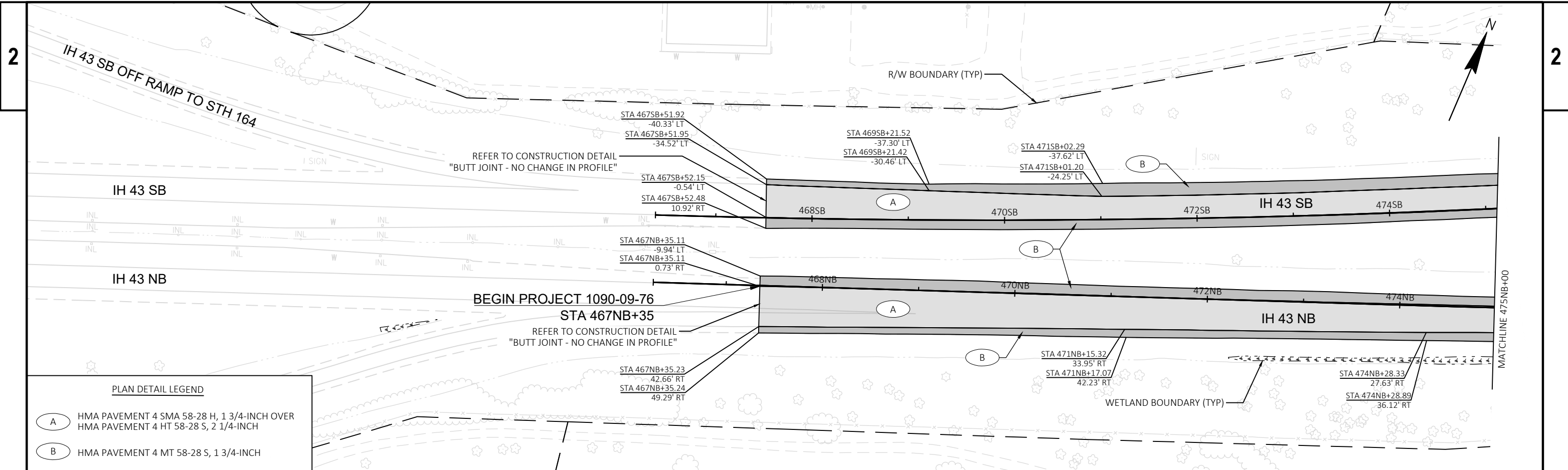
PAVEMENT MARKING REMOVAL LEGEND

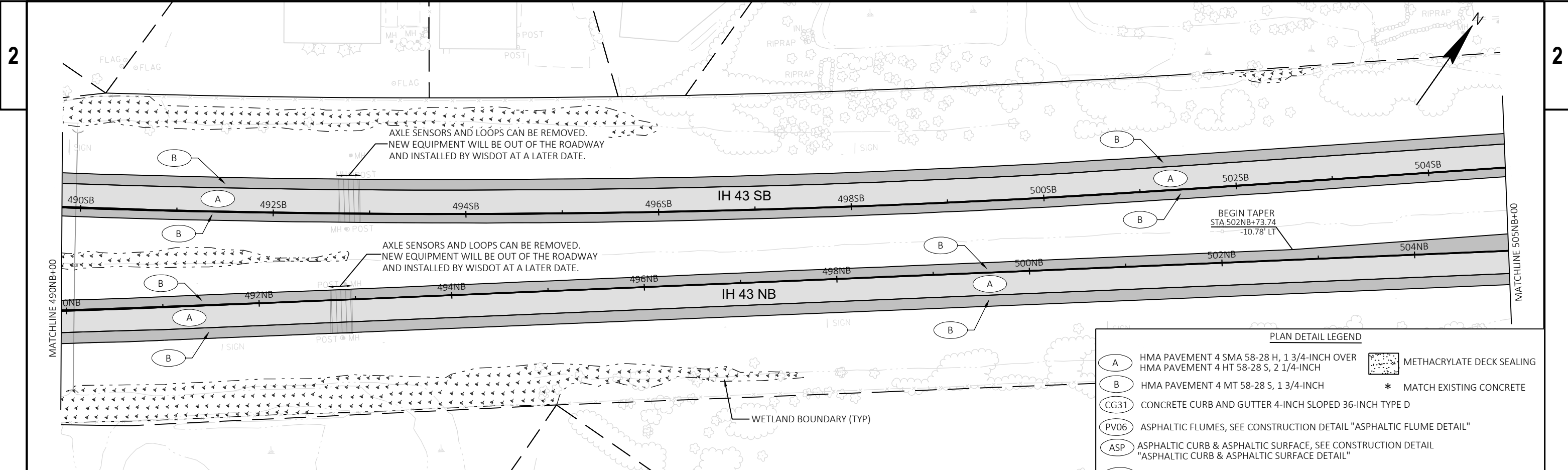
R4 MARKING REMOVAL LINE GROOVED PERMANENT TAPE 4-INCH  
VERIFY MARKING LOCATION IN THE FIELD



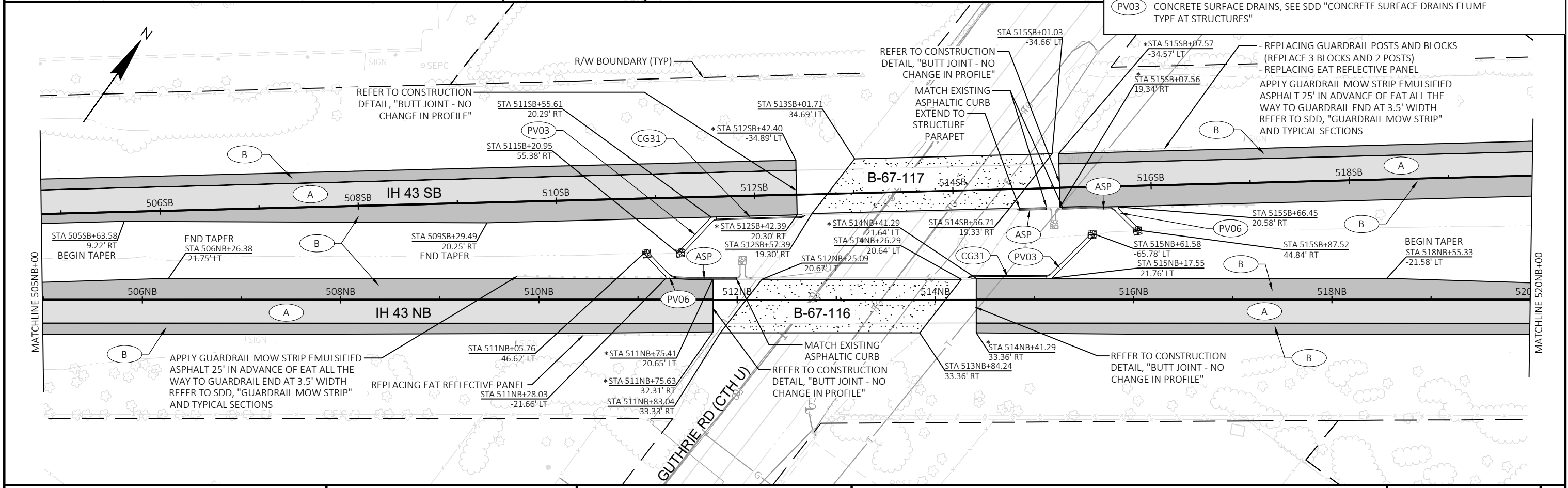
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	EXISTING PAVEMENT MARKING REMOVAL	SHEET	E
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- PLAN DETAIL LEGEND**
- (A) HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER  
HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH
  - (B) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
  - (CG31) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D
  - (PV06) ASPHALTIC FLUMES, SEE CONSTRUCTION DETAIL "ASPHALTIC FLUME DETAIL"
  - (ASP) ASPHALTIC CURB & ASPHALTIC SURFACE, SEE CONSTRUCTION DETAIL "ASPHALTIC CURB & ASPHALTIC SURFACE DETAIL"
  - (PV03) CONCRETE SURFACE DRAINS, SEE SDD "CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES"
  - (METHACRYLATE) METHACRYLATE DECK SEALING
  - (\*) MATCH EXISTING CONCRETE



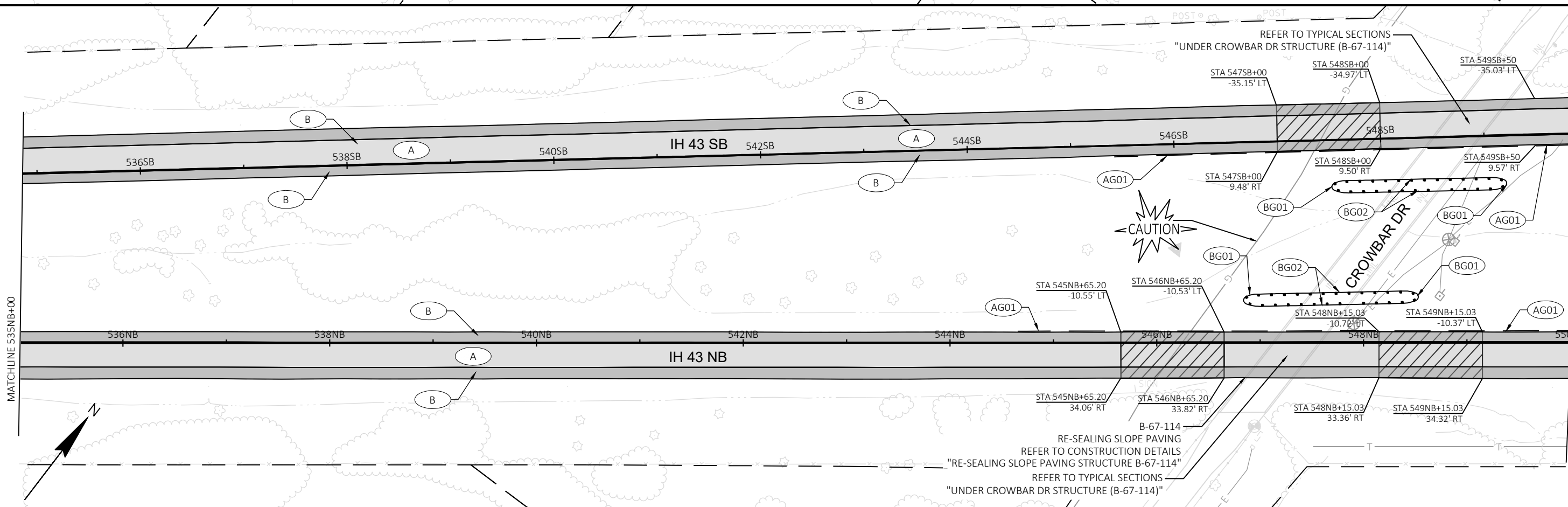
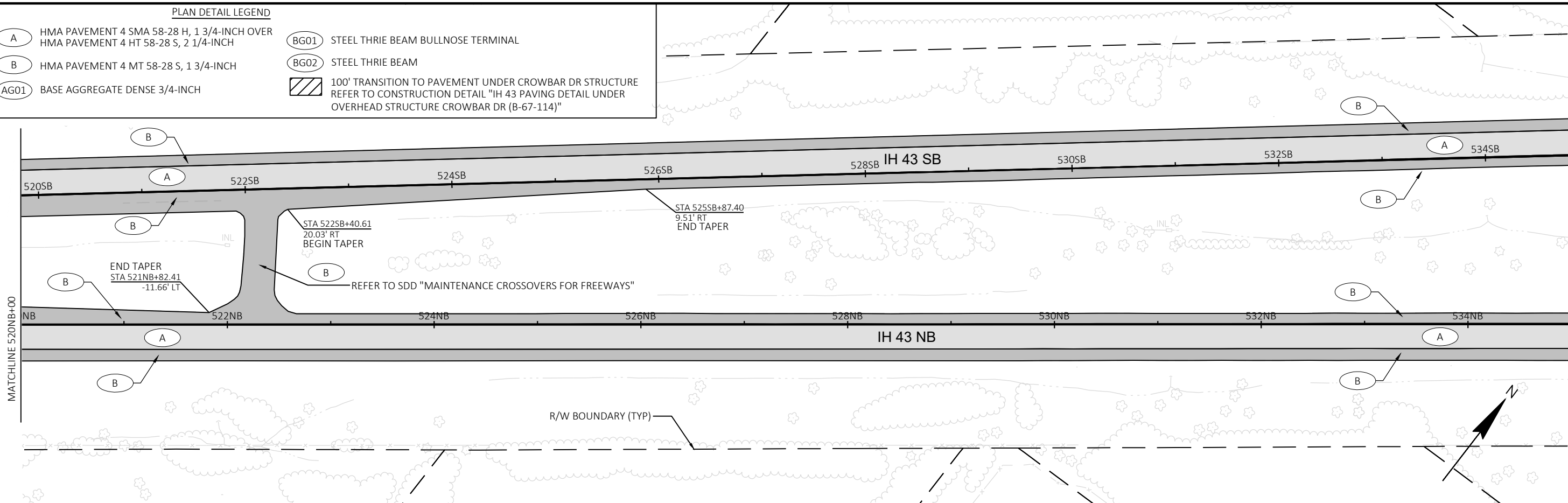


PLAN DETAIL LEGEND

- (A) HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER  
HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH
- (B) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
- (AG01) BASE AGGREGATE DENSE 3/4-INCH
- (BG01) STEEL THRIE BEAM BULLNOSE TERMINAL
- (BG02) STEEL THRIE BEAM
- 100' TRANSITION TO PAVEMENT UNDER CROWBAR DR STRUCTURE  
REFER TO CONSTRUCTION DETAIL "IH 43 PAVING DETAIL UNDER  
OVERHEAD STRUCTURE CROWBAR DR (B-67-114)"

2

2



PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

PLAN DETAILS

SHEET

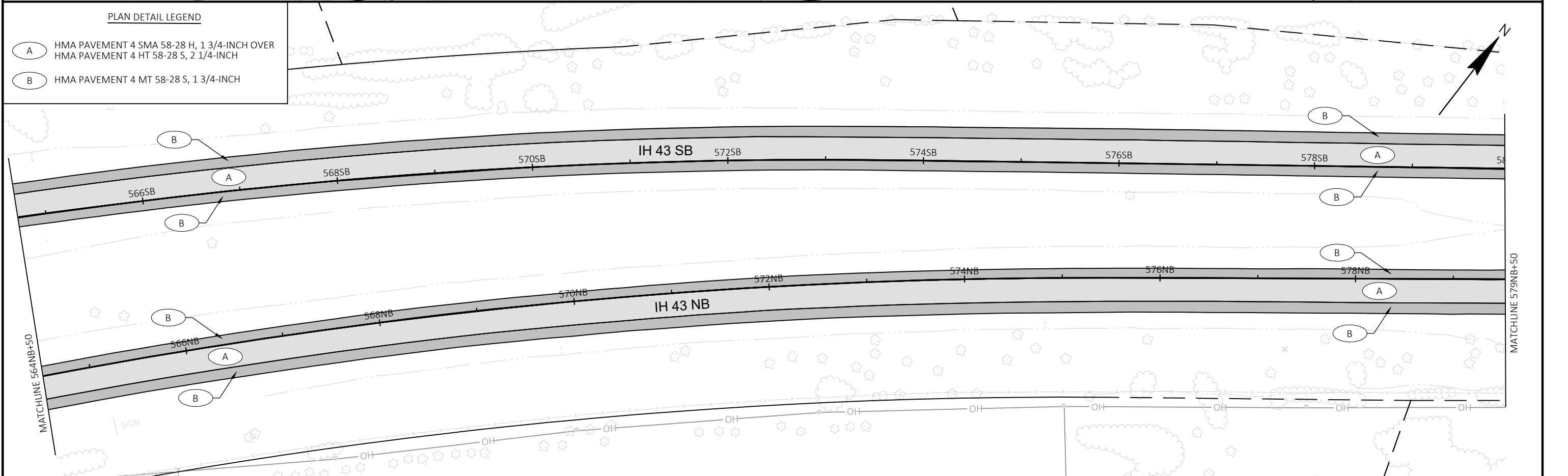
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**PLAN DETAIL LEGEND**

- (A) HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER  
HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH
- (B) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH



PROJECT NO: 1090-09-76

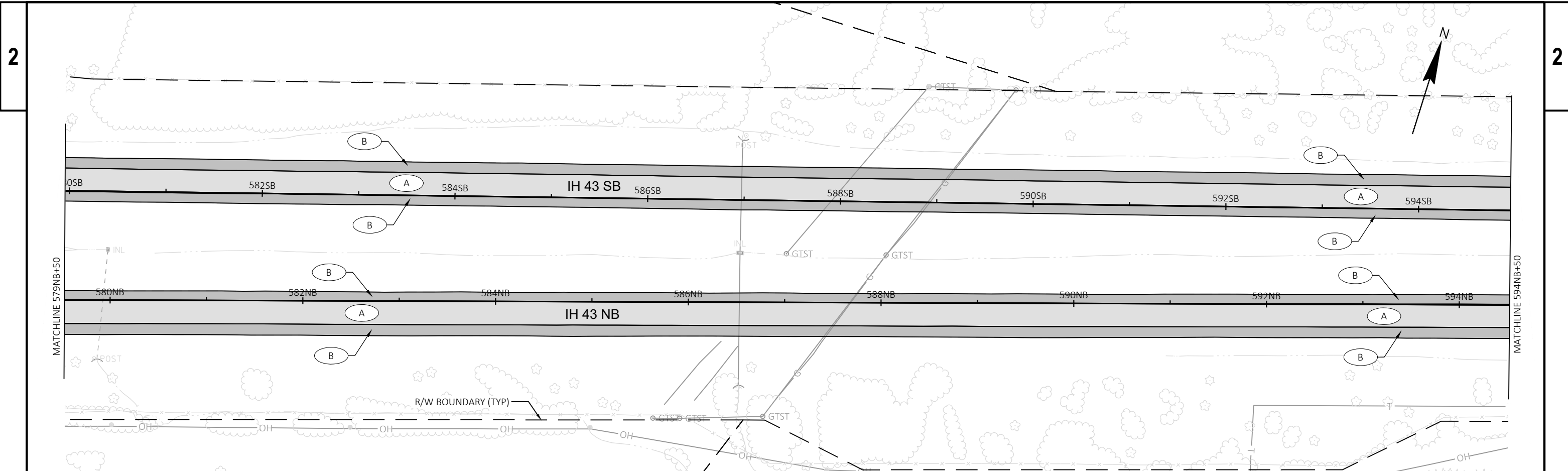
HWY: IH 43

COUNTY: WAUKESHA

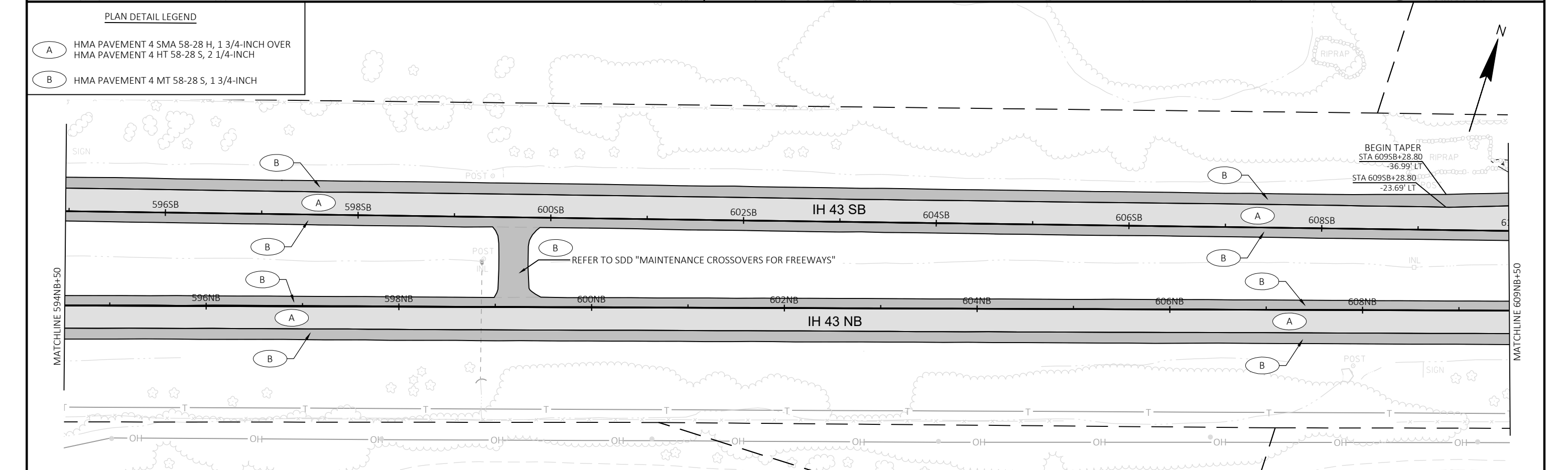
PLAN DETAILS

SHEET

E



- PLAN DETAIL LEGEND**
- (A) HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER  
HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH
  - (B) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH

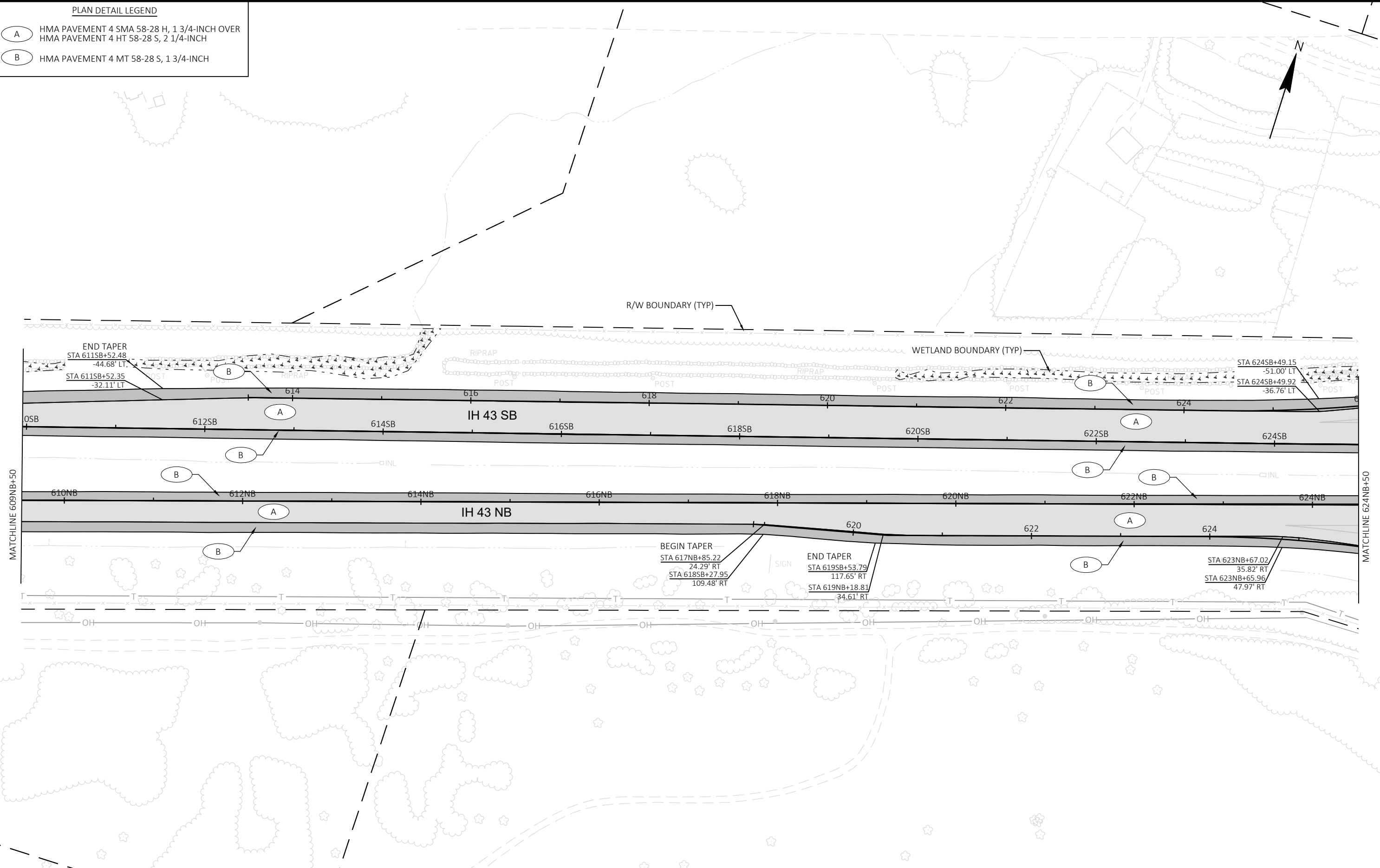


PLAN DETAIL LEGEND

- (A) HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER  
HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH
- (B) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH

2

2



PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

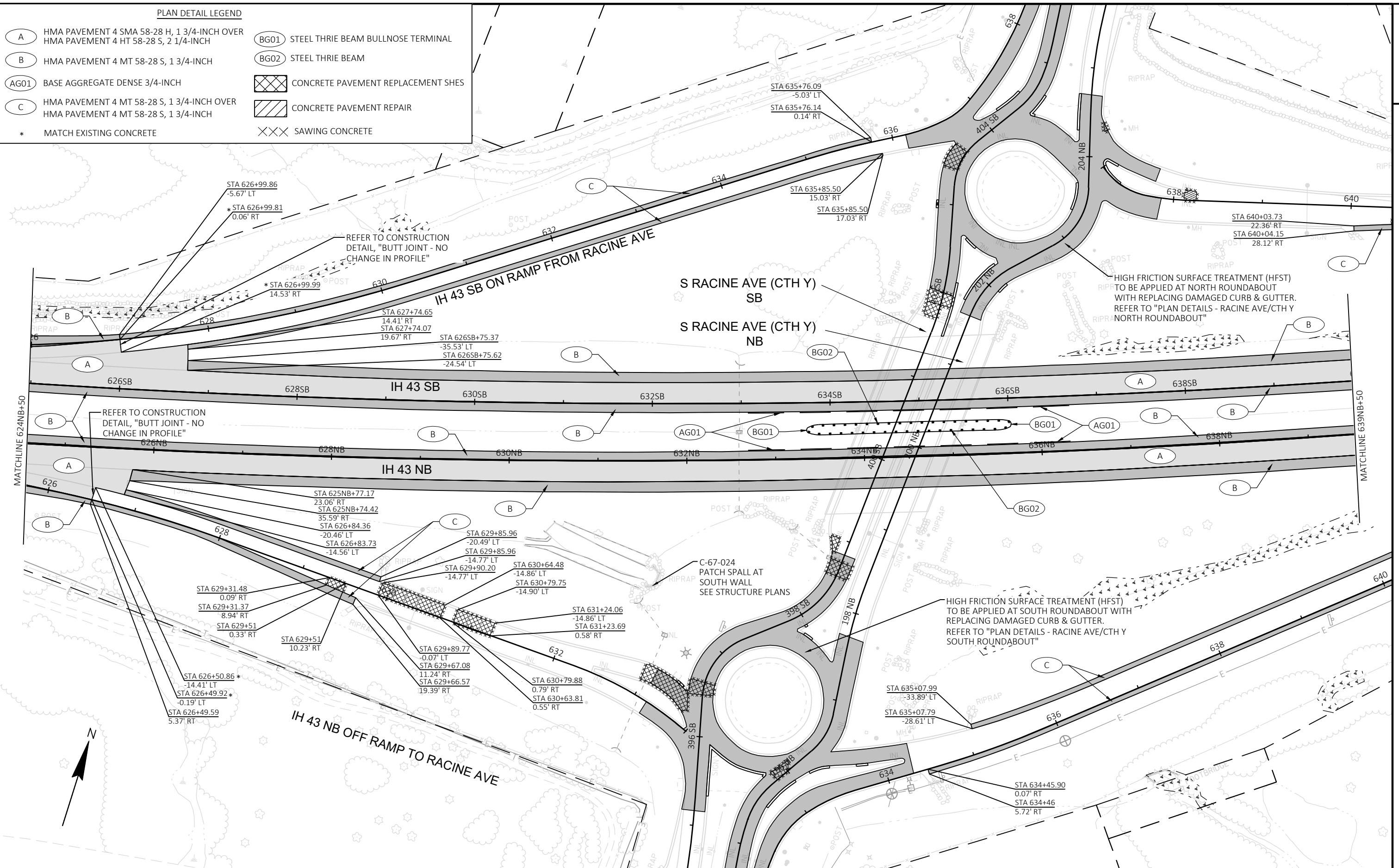
PLAN DETAILS

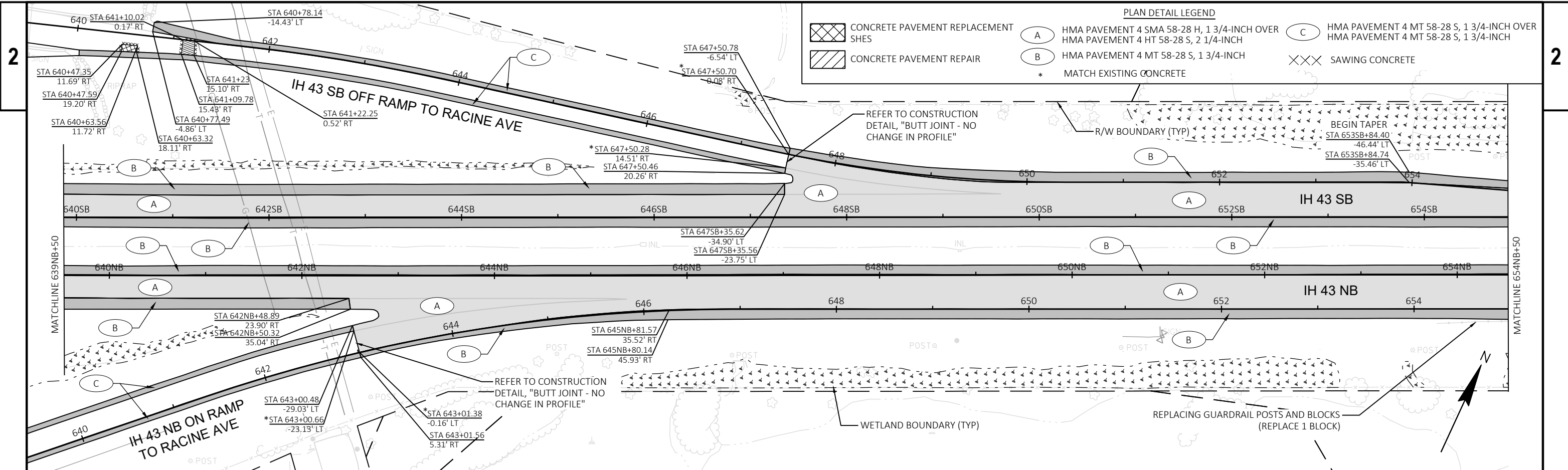
SHEET

E

PLAN DETAIL LEGEND

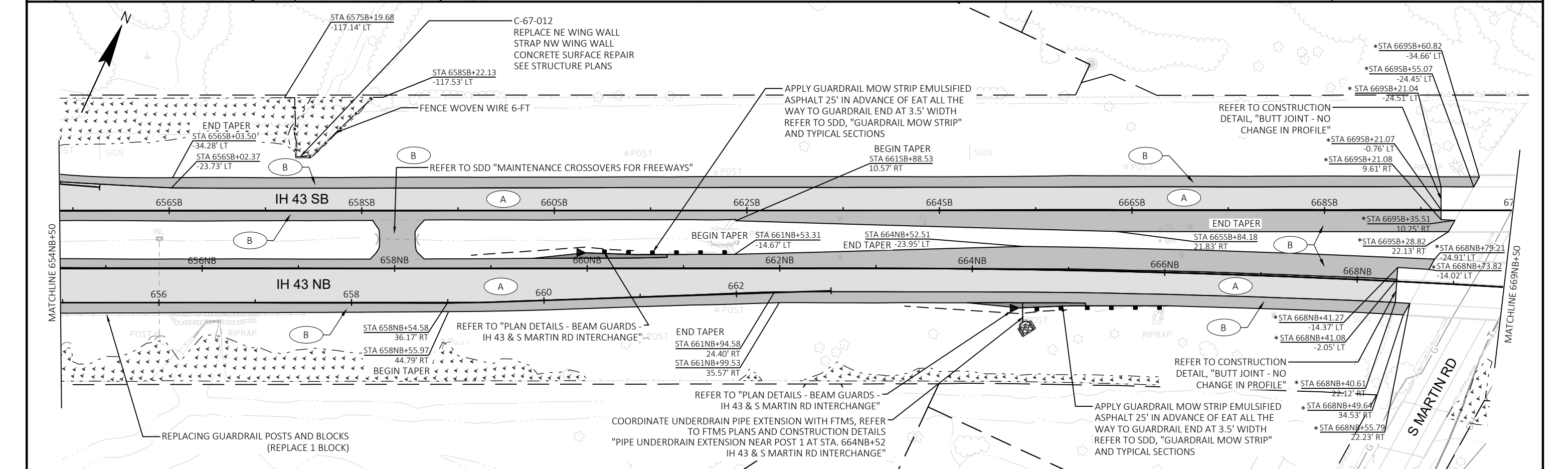
- (A) HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER  
HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH
- (B) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
- (AG01) BASE AGGREGATE DENSE 3/4-INCH
- (C) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH OVER  
HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
- \* MATCH EXISTING CONCRETE
- (BG01) STEEL THREE BEAM BULLNOSE TERMINAL
- (BG02) STEEL THREE BEAM
- (X) CONCRETE PAVEMENT REPLACEMENT SHES
- (/) CONCRETE PAVEMENT REPAIR
- (XXX) SAWING CONCRETE

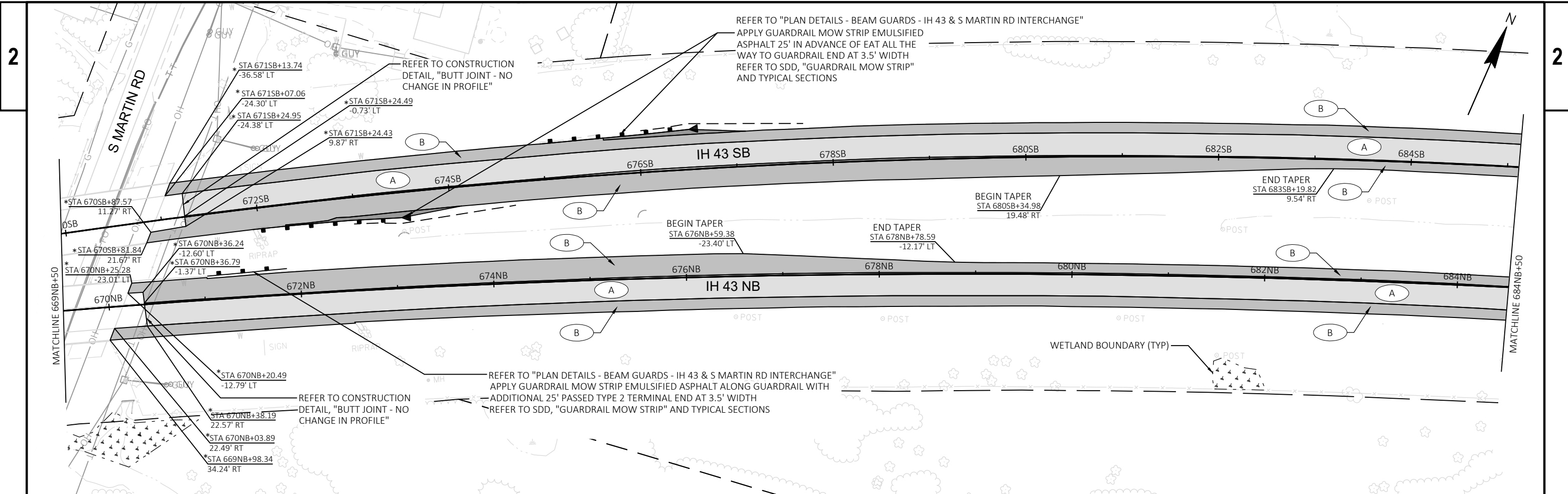




**PLAN DETAIL LEGEND**

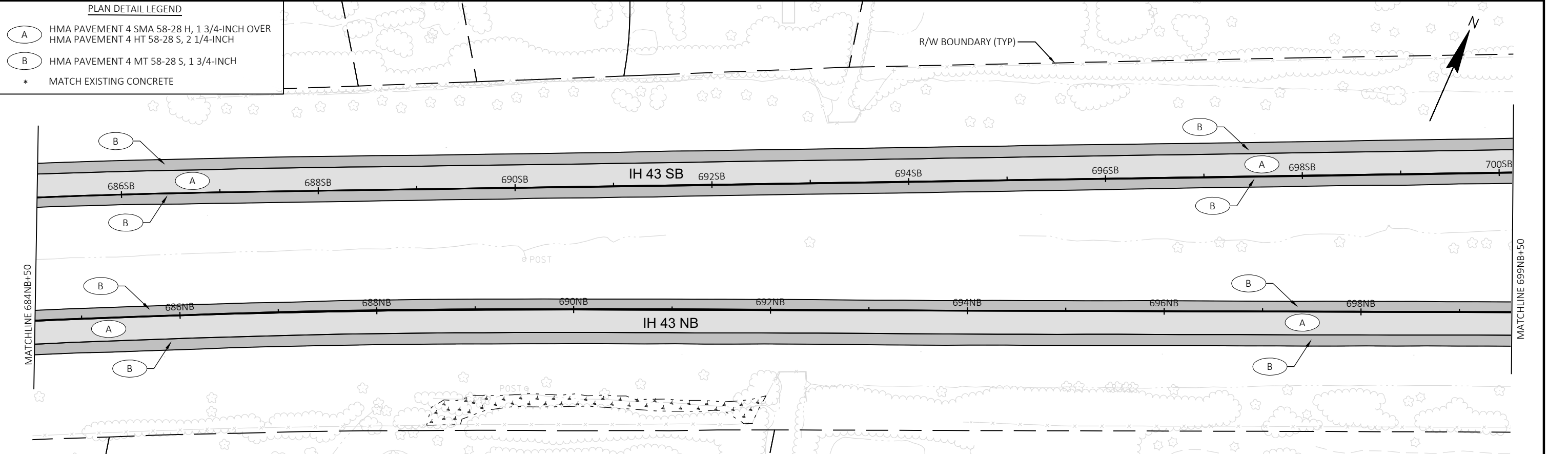
CONCRETE PAVEMENT REPLACEMENT SHES	HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH	HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH OVER HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
CONCRETE PAVEMENT REPAIR	HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH	SAWING CONCRETE
	* MATCH EXISTING CONCRETE	





**PLAN DETAIL LEGEND**

(A)	HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH
(B)	HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
*	MATCH EXISTING CONCRETE



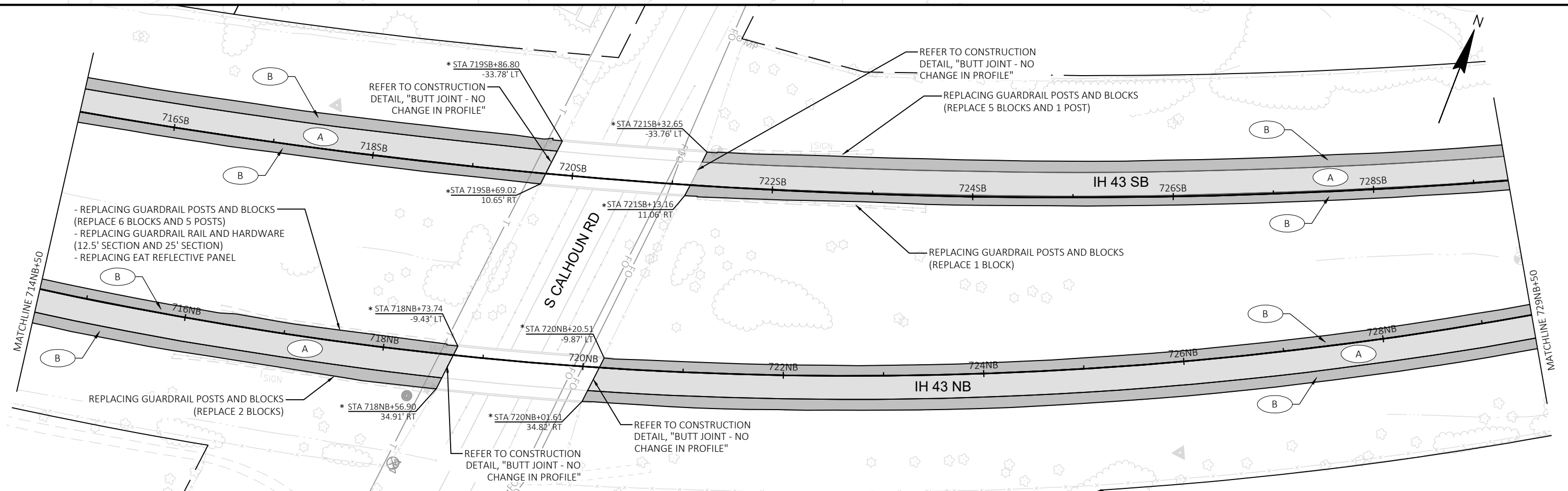
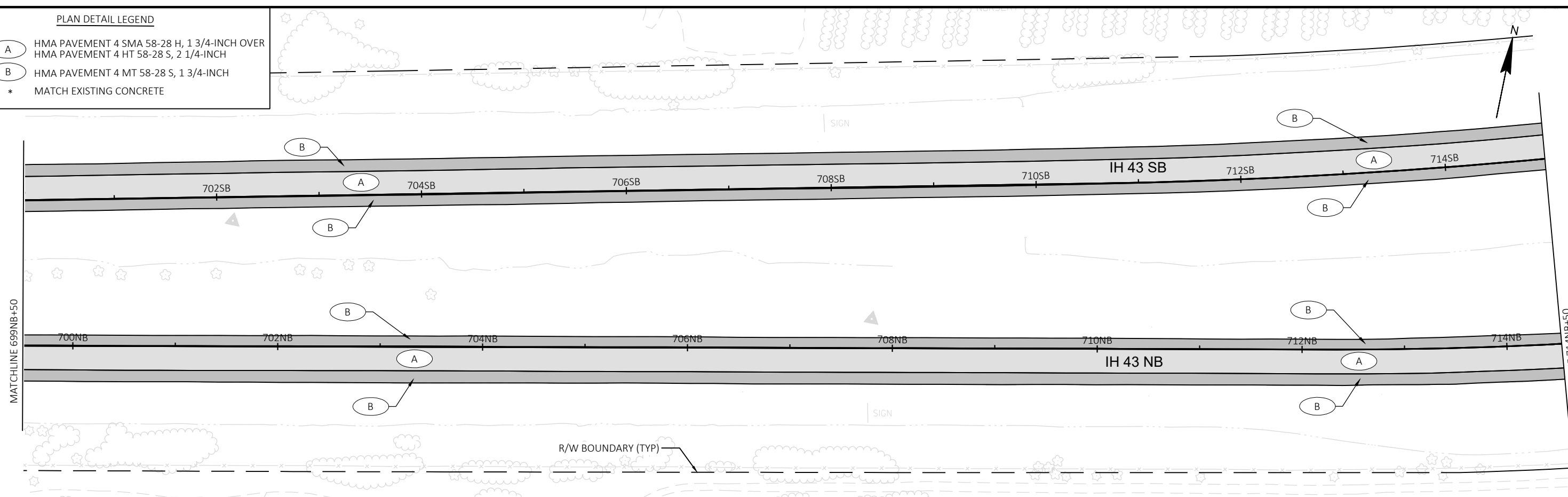


PLAN DETAIL LEGEND

- (A) HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER  
HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH
- (B) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
- \* MATCH EXISTING CONCRETE

2

2



PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

PLAN DETAILS

SHEET

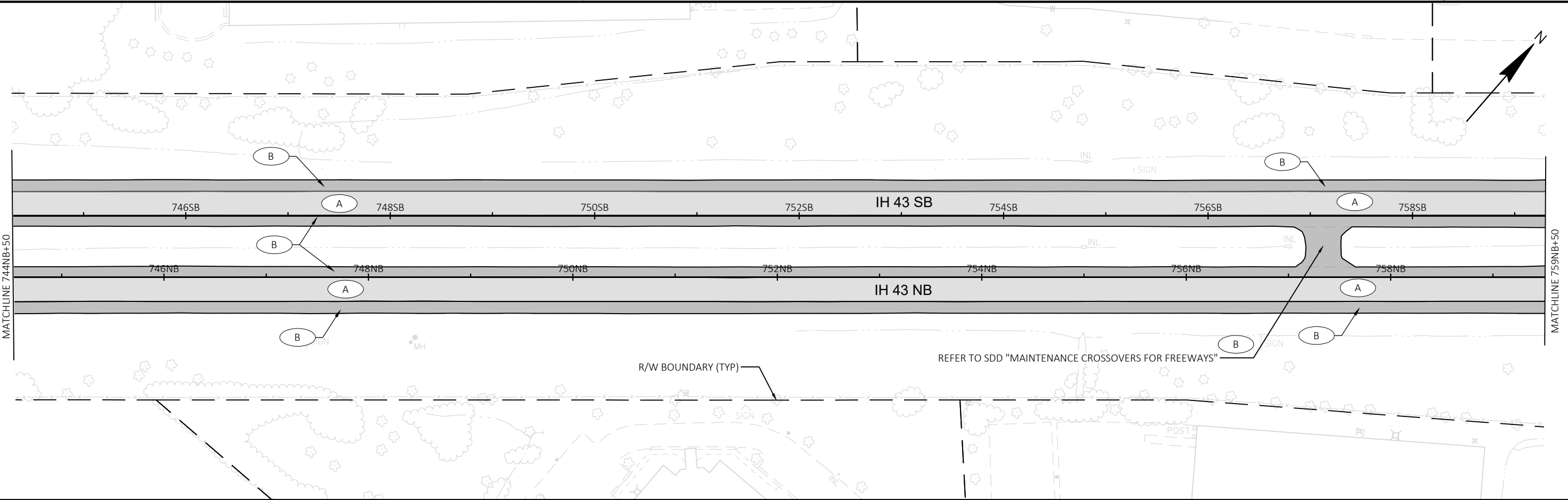
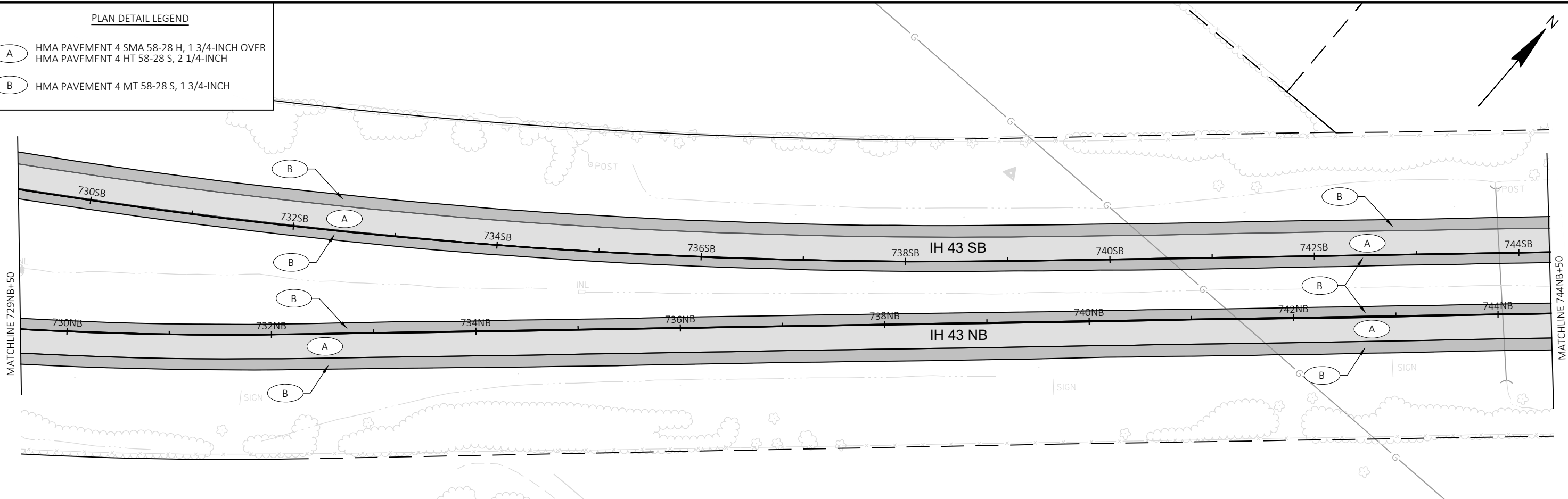
E

2

PLAN DETAIL LEGEND

- A HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER  
HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH
- B HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH

2



PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

PLAN DETAILS



SHEET

E

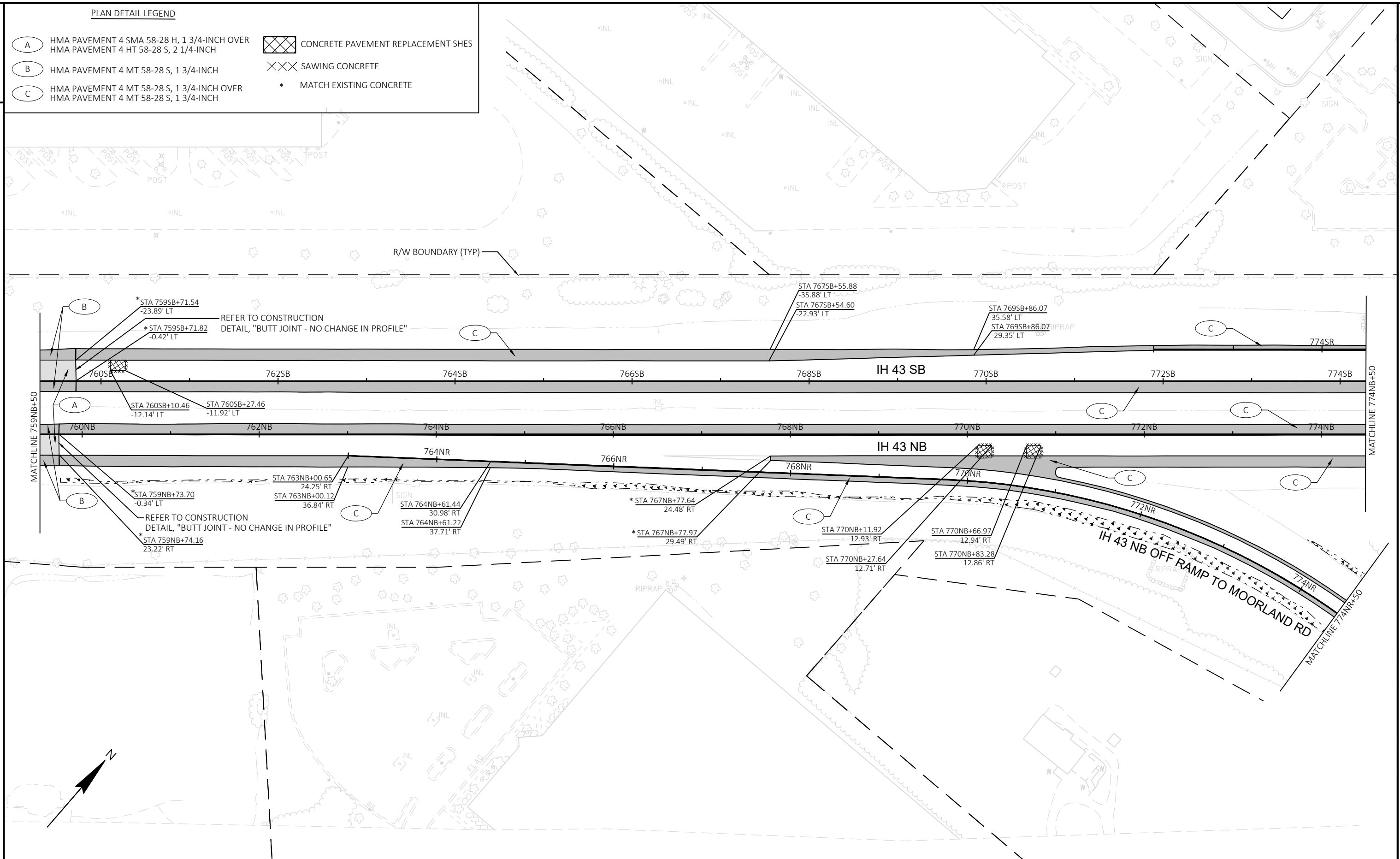


PLAN DETAIL LEGEND

2

- (A) HMA PAVEMENT 4 SMA 58-28 H, 1 3/4-INCH OVER  
HMA PAVEMENT 4 HT 58-28 S, 2 1/4-INCH
- (B) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
- (C) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH OVER  
HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
-  CONCRETE PAVEMENT REPLACEMENT SHES
-  SAWING CONCRETE
- \* MATCH EXISTING CONCRETE

2



PROJECT NO: 1090-09-76

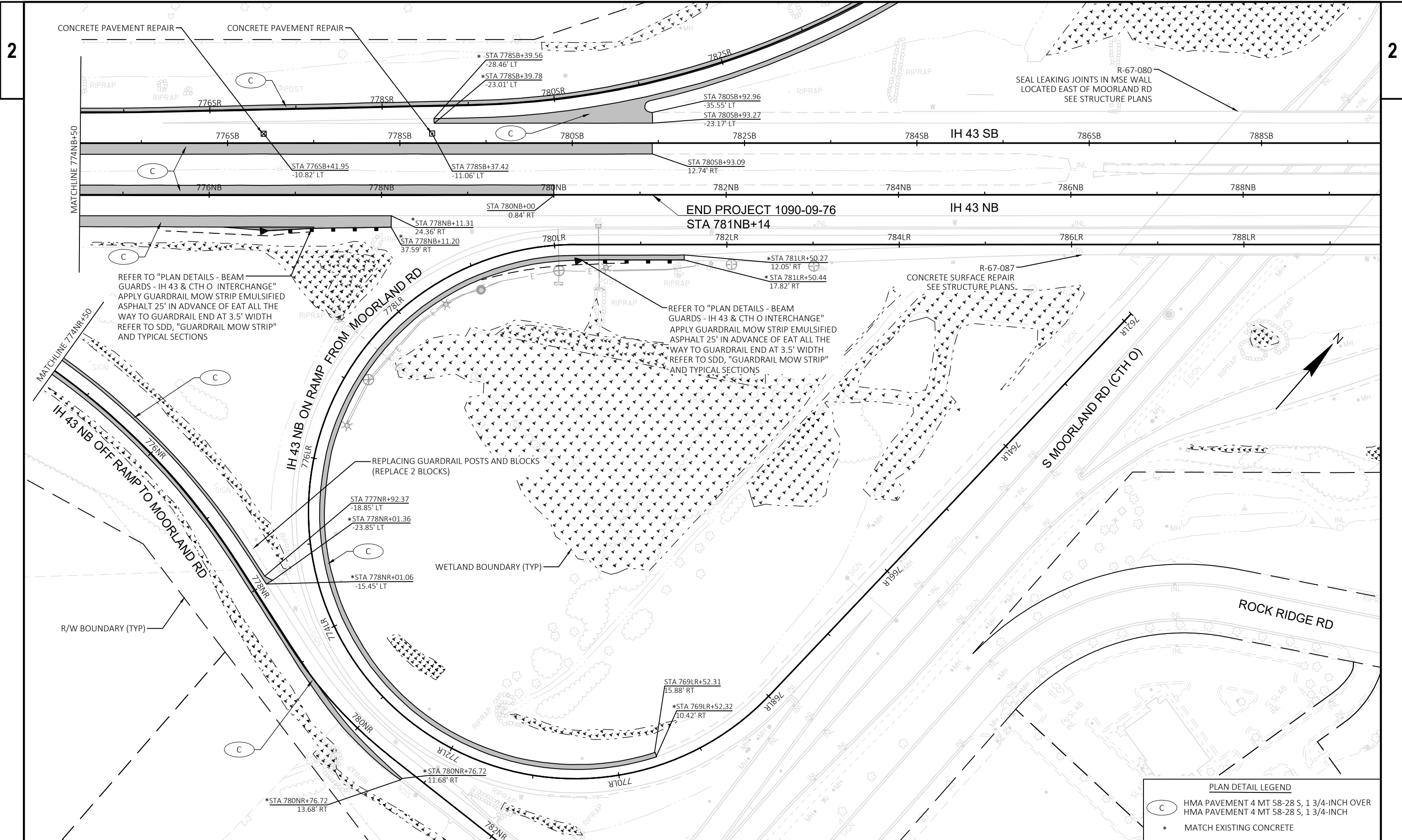
HWY: IH 43

COUNTY: WAUKESHA

PLAN DETAILS

SHEET

E



REFER TO "PLAN DETAILS - BEAM GUARDS - IH 43 & CTH O INTERCHANGE" APPLY GUARDRAIL MOW STRIP EMULSIFIED ASPHALT 25' IN ADVANCE OF EAT ALL THE WAY TO GUARDRAIL END AT 3.5' WIDTH REFER TO SDD, "GUARDRAIL MOW STRIP" AND TYPICAL SECTIONS

REFER TO "PLAN DETAILS - BEAM GUARDS - IH 43 & CTH O INTERCHANGE" APPLY GUARDRAIL MOW STRIP EMULSIFIED ASPHALT 25' IN ADVANCE OF EAT ALL THE WAY TO GUARDRAIL END AT 3.5' WIDTH REFER TO SDD, "GUARDRAIL MOW STRIP" AND TYPICAL SECTIONS

R-67-080 SEAL LEAKING JOINTS IN MSE WALL LOCATED EAST OF MOORLAND RD SEE STRUCTURE PLANS

R-67-087 CONCRETE SURFACE REPAIR SEE STRUCTURE PLANS

REPLACING GUARDRAIL POSTS AND BLOCKS (REPLACE 2 BLOCKS)

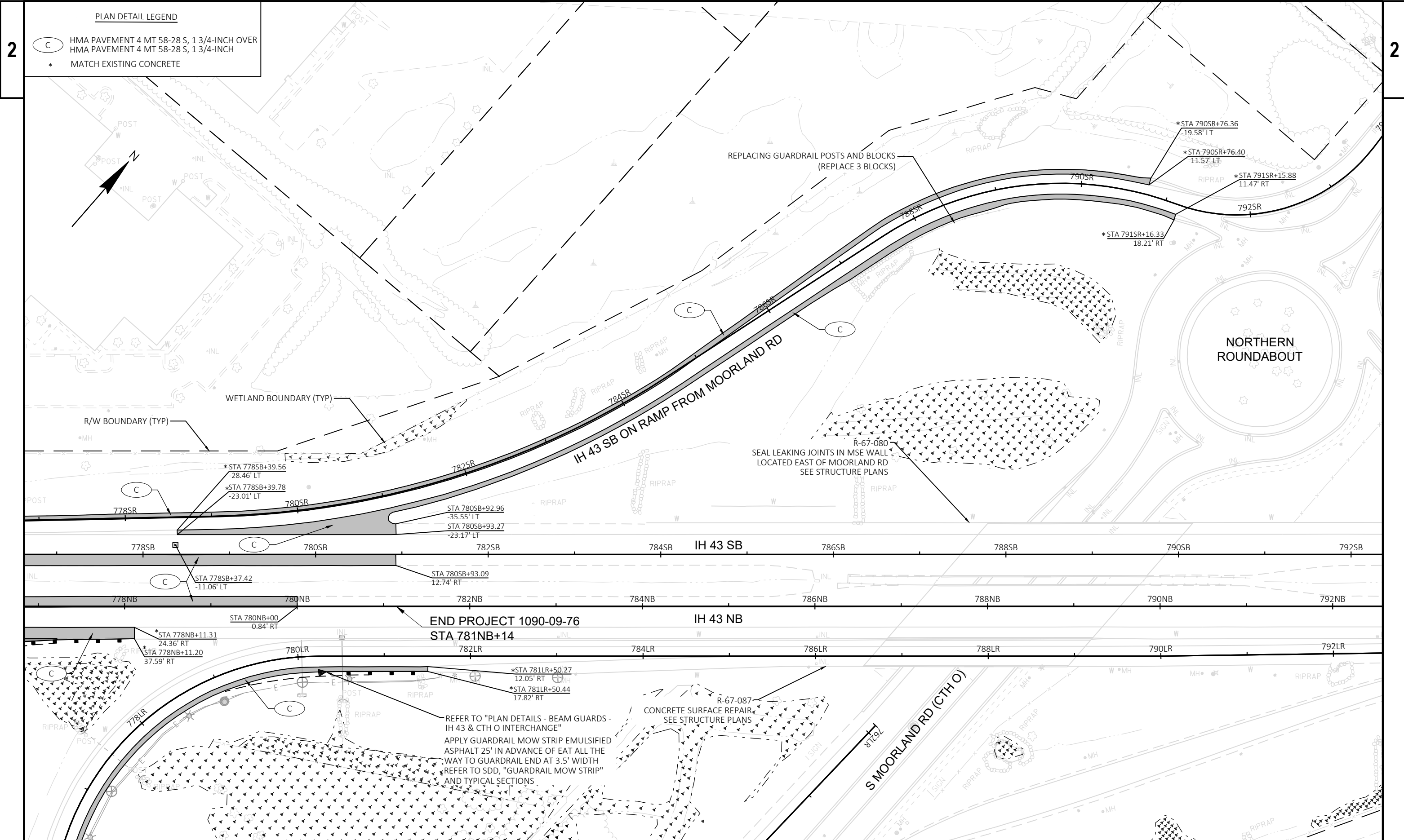
WETLAND BOUNDARY (TYP)

**PLAN DETAIL LEGEND**

	HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH OVER HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
*	MATCH EXISTING CONCRETE

PLAN DETAIL LEGEND

- (C) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH OVER HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH
- \* MATCH EXISTING CONCRETE



END PROJECT 1090-09-76  
 STA 781NB+14

REFER TO "PLAN DETAILS - BEAM GUARDS - IH 43 & CTH O INTERCHANGE"  
 APPLY GUARDRAIL MOW STRIP EMULSIFIED ASPHALT 25' IN ADVANCE OF EAT ALL THE WAY TO GUARDRAIL END AT 3.5' WIDTH REFER TO SDD, "GUARDRAIL MOW STRIP" AND TYPICAL SECTIONS

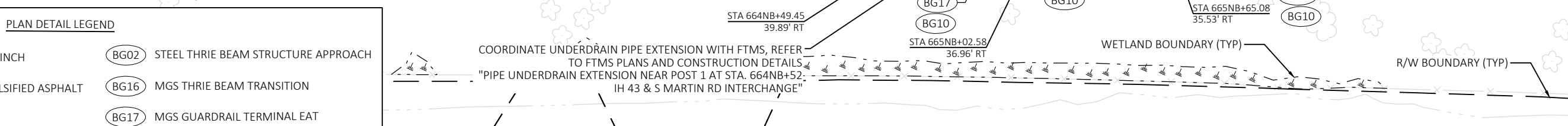
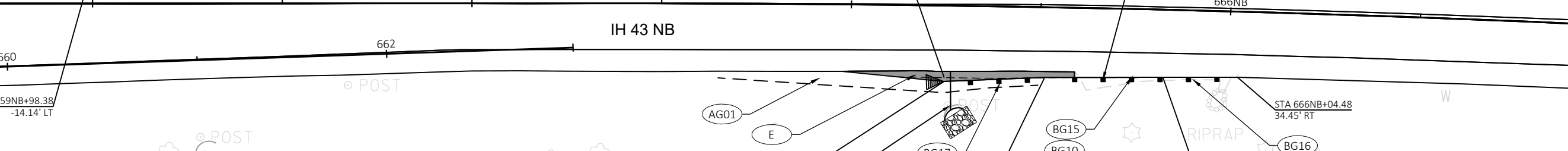
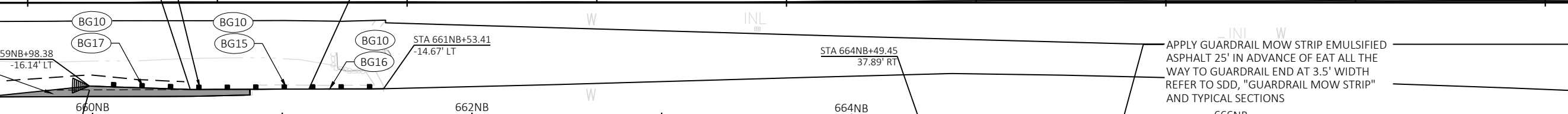
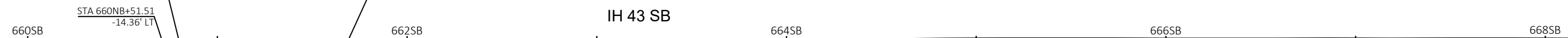
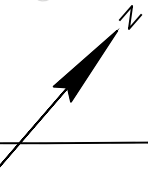
R-67-087  
 CONCRETE SURFACE REPAIR  
 SEE STRUCTURE PLANS

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	PLAN DETAILS	SHEET	E
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APPLY GUARDRAIL MOW STRIP EMULSIFIED ASPHALT 25' IN ADVANCE OF EAT ALL THE WAY TO GUARDRAIL END AT 3.5' WIDTH REFER TO SDD, "GUARDRAIL MOW STRIP" AND TYPICAL SECTIONS

SIGN

POST



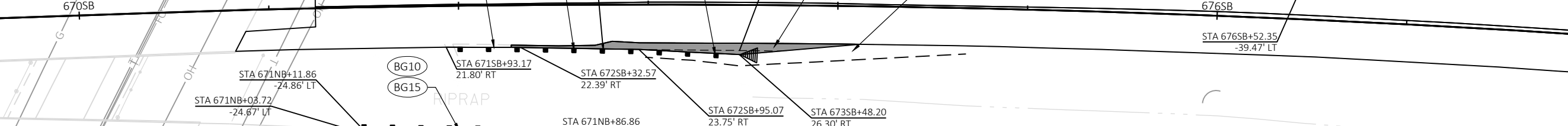
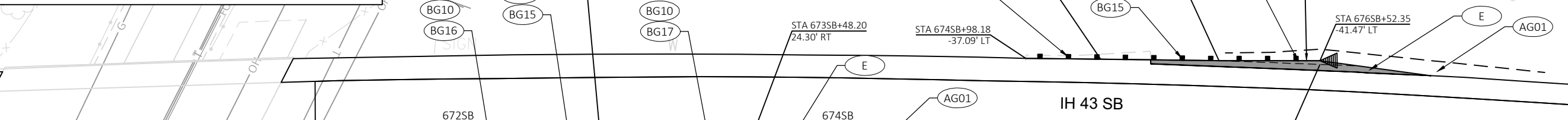
PLAN DETAIL LEGEND

- (AG01) BASE AGGREGATE DENSE 3/4-INCH
- (BG10) GUARDRAIL MOW STRIP EMULSIFIED ASPHALT
- (BG15) MGS GUARDRAIL 3
- (D) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH OVER ASPHALTIC SURFACE, 1 3/4-INCH OVER 3/4-INCH BASE AGGREGATE DENSE, 2 3/4-INCH
- (E) HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH OVER ASPHALTIC SURFACE, 1 3/4-INCH OVER 3/4-INCH BASE AGGREGATE DENSE, 1 3/4-INCH
- (BG02) STEEL THRIE BEAM STRUCTURE APPROACH
- (BG16) MGS THRIE BEAM TRANSITION
- (BG17) MGS GUARDRAIL TERMINAL EAT
- (BG18) MGS GUARDRAIL TERMINAL TYPE 2

COORDINATE UNDERDRAIN PIPE EXTENSION WITH FTMS, REFER TO FTMS PLANS AND CONSTRUCTION DETAILS "PIPE UNDERDRAIN EXTENSION NEAR POST 1 AT STA. 664NB+52. IH 43 & S MARTIN RD INTERCHANGE"

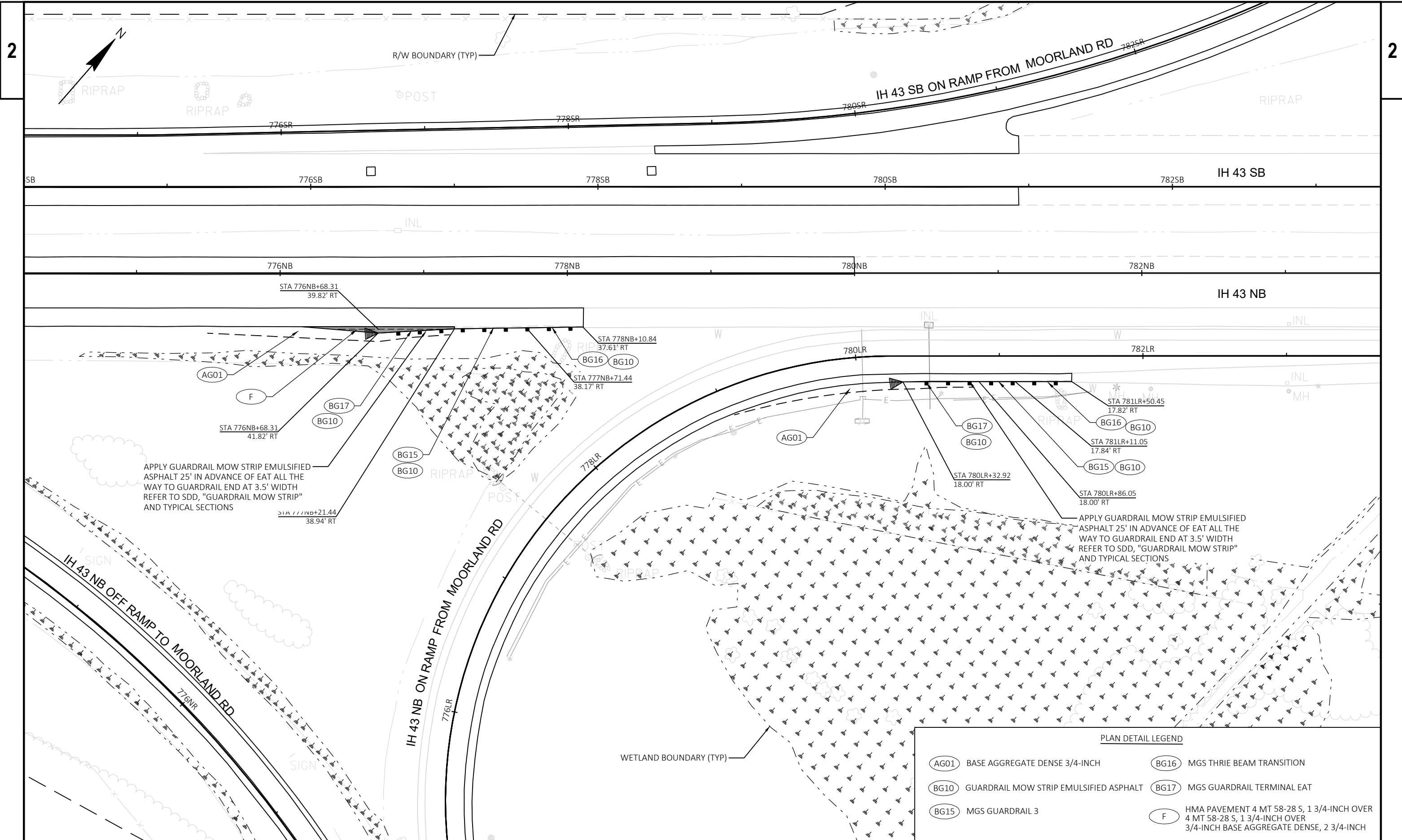
APPLY GUARDRAIL MOW STRIP EMULSIFIED ASPHALT 25' IN ADVANCE OF EAT ALL THE WAY TO GUARDRAIL END AT 3.5' WIDTH REFER TO SDD, "GUARDRAIL MOW STRIP" AND TYPICAL SECTIONS

APPLY GUARDRAIL MOW STRIP EMULSIFIED ASPHALT 25' IN ADVANCE OF EAT ALL THE WAY TO GUARDRAIL END AT 3.5' WIDTH REFER TO SDD, "GUARDRAIL MOW STRIP" AND TYPICAL SECTIONS



APPLY GUARDRAIL MOW STRIP EMULSIFIED ASPHALT ALONG GUARDRAIL WITH ADDITIONAL 25' PASSED TERMINAL TYPE 2 END AT 3.5' WIDTH REFER TO SDD, "GUARDRAIL MOW STRIP" AND TYPICAL SECTIONS

S MARTIN RD



PROJECT NO: 1090-09-76

HWY: IH 43

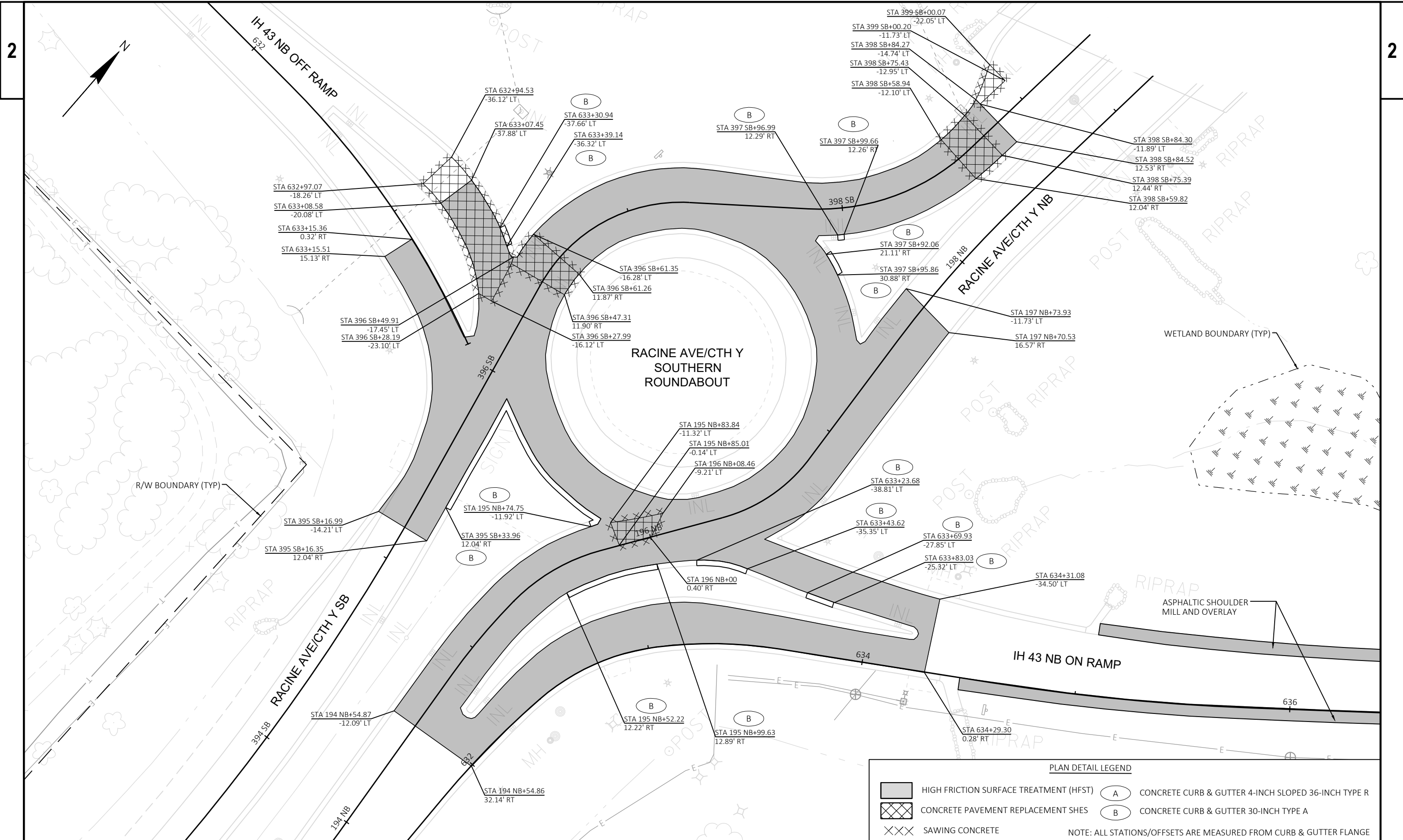
COUNTY: WAUKESHA

PLAN DETAILS - BEAM GUARDS - IH 43 & CTH O INTERCHANGE

SHEET

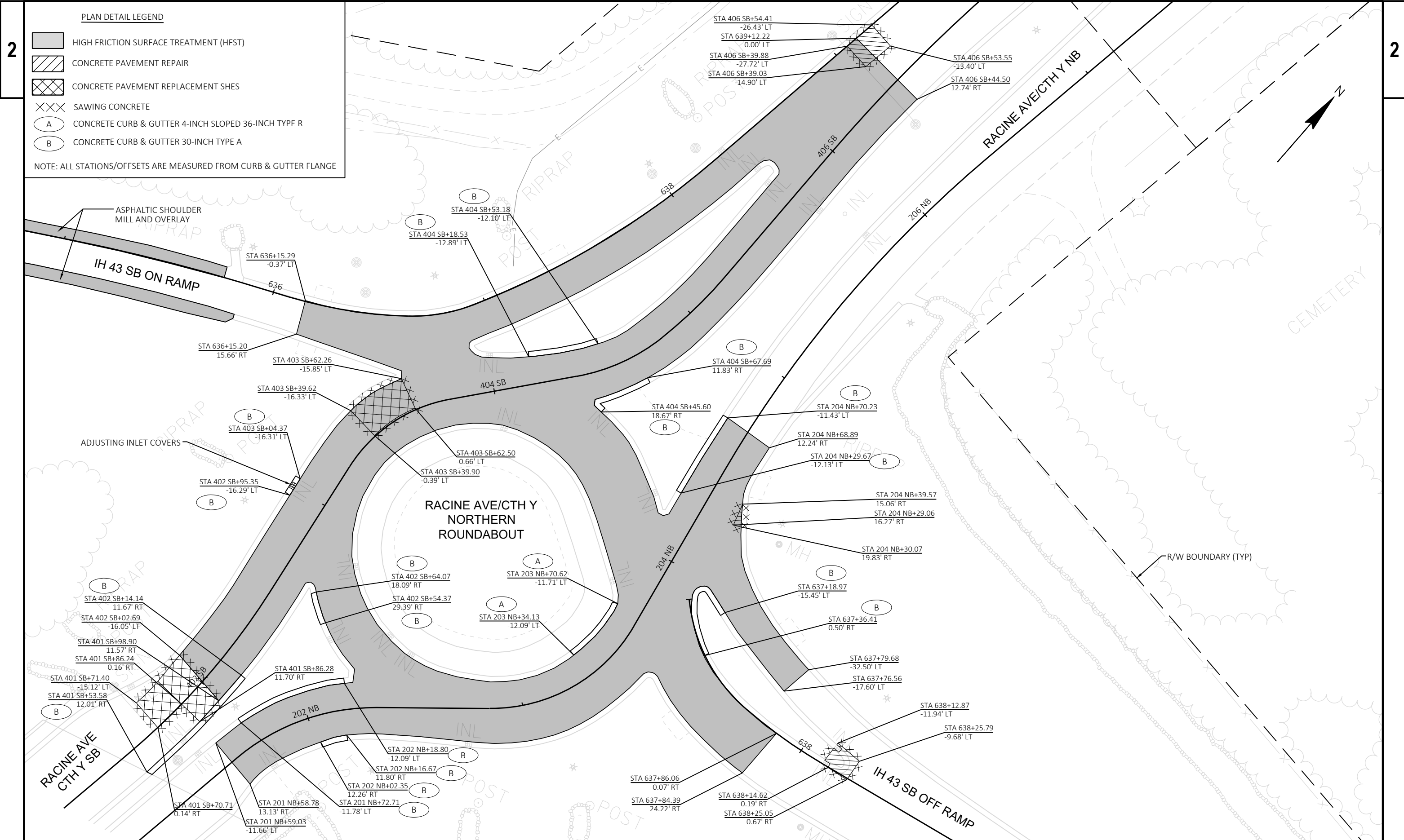
E





PLAN DETAIL LEGEND	
	HIGH FRICTION SURFACE TREATMENT (HFST)
	CONCRETE PAVEMENT REPLACEMENT SHES
	SAWING CONCRETE
	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R
	CONCRETE CURB & GUTTER 30-INCH TYPE A

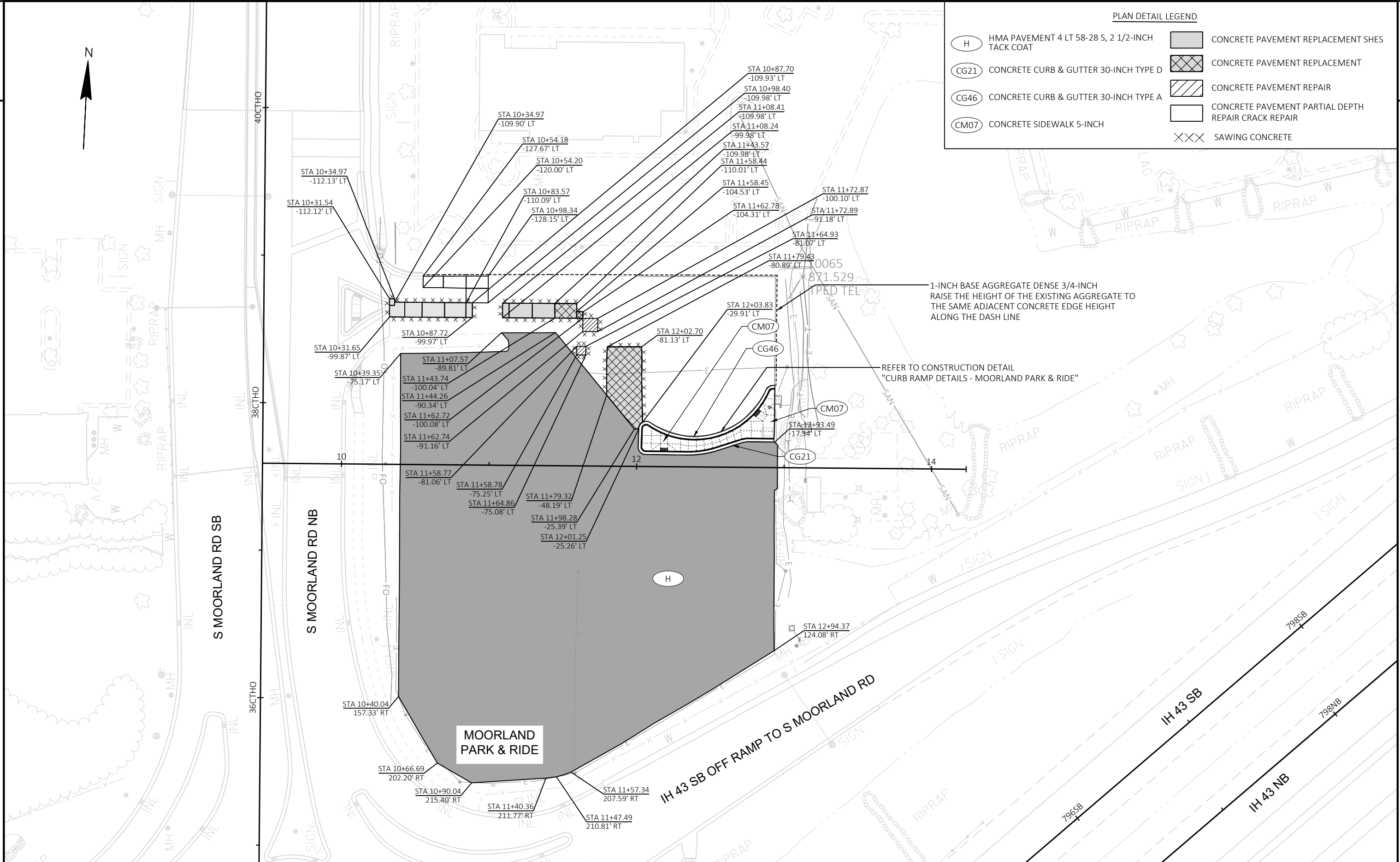
NOTE: ALL STATIONS/OFFSETS ARE MEASURED FROM CURB & GUTTER FLANGE





**PLAN DETAIL LEGEND**

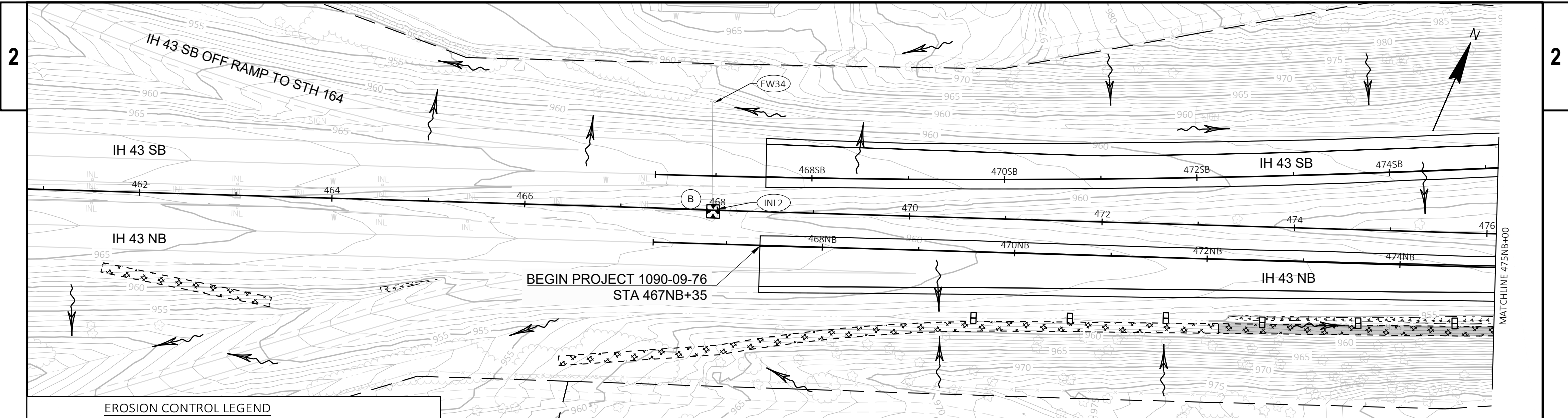
(H)	HMA PAVEMENT 4 LT 58-28 S, 2 1/2-INCH TACK COAT	[Solid Grey Box]	CONCRETE PAVEMENT REPLACEMENT SHES
(CG21)	CONCRETE CURB & GUTTER 30-INCH TYPE D	[Cross-hatched Box]	CONCRETE PAVEMENT REPLACEMENT
(CG46)	CONCRETE CURB & GUTTER 30-INCH TYPE A	[Diagonal-hatched Box]	CONCRETE PAVEMENT REPAIR
(CM07)	CONCRETE SIDEWALK 5-INCH	[White Box]	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR CRACK REPAIR
		[XXX Pattern]	SAWING CONCRETE



1-INCH BASE AGGREGATE DENSE 3/4-INCH  
RAISE THE HEIGHT OF THE EXISTING AGGREGATE TO  
THE SAME ADJACENT CONCRETE EDGE HEIGHT  
ALONG THE DASH LINE

REFER TO CONSTRUCTION DETAIL  
"CURB RAMP DETAILS - MOORLAND PARK & RIDE"



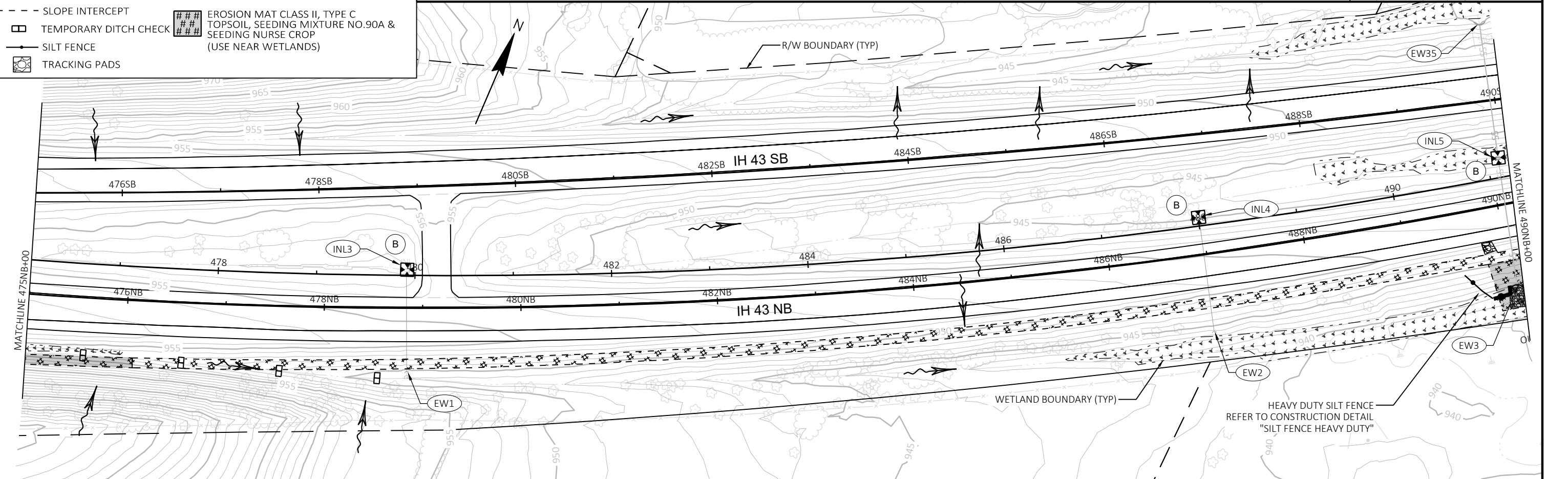


BEGIN PROJECT 1090-09-76  
STA 467NB+35

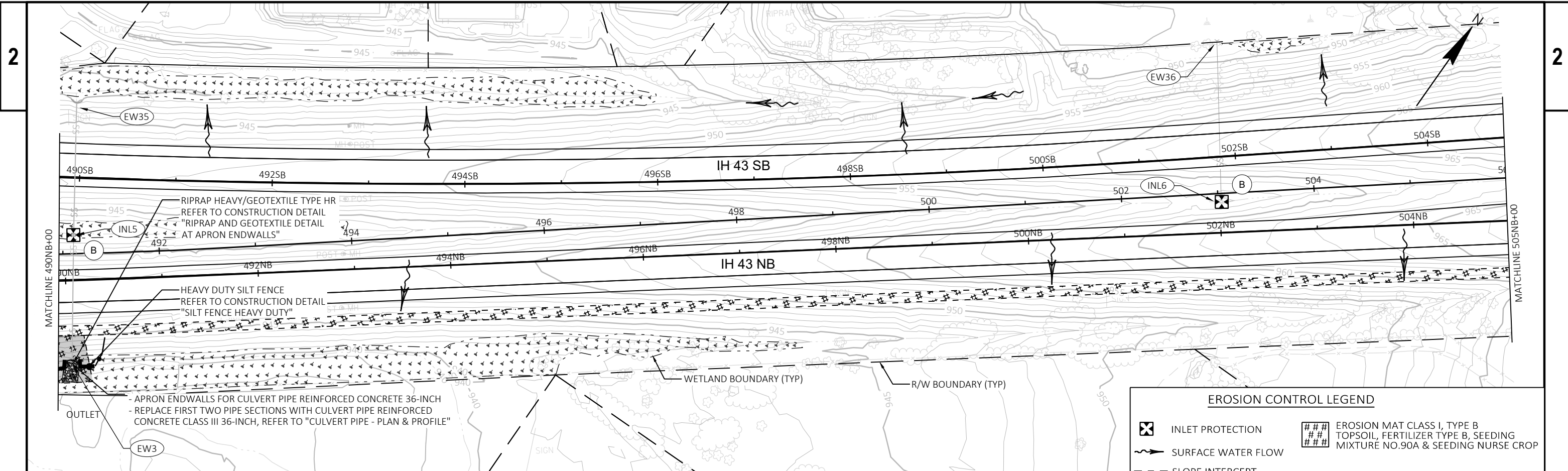
**EROSION CONTROL LEGEND**

- INLET PROTECTION
- SURFACE WATER FLOW
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- SILT FENCE
- TRACKING PADS
- EROSION MAT CLASS I, TYPE B  
TOPSOIL, FERTILIZER TYPE B, SEEDING  
MIXTURE NO.90A & SEEDING NURSE CROP
- EROSION MAT CLASS II, TYPE C  
TOPSOIL, SEEDING MIXTURE NO.90A &  
SEEDING NURSE CROP  
(USE NEAR WETLANDS)

**NOTES:**  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

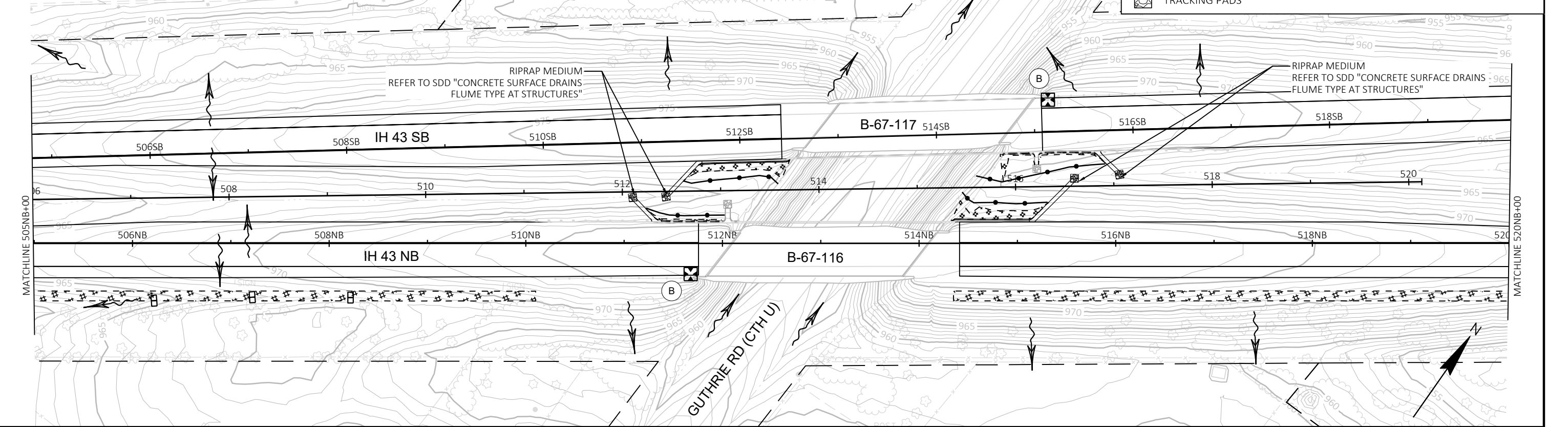


HEAVY DUTY SILT FENCE  
REFER TO CONSTRUCTION DETAIL  
"SILT FENCE HEAVY DUTY"



NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

EROSION CONTROL LEGEND	
	INLET PROTECTION
	SURFACE WATER FLOW
	SLOPE INTERCEPT
	TEMPORARY DITCH CHECK
	SILT FENCE
	TRACKING PADS
	EROSION MAT CLASS I, TYPE B TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE NO.90A & SEEDING NURSE CROP
	EROSION MAT CLASS II, TYPE C TOPSOIL, SEEDING MIXTURE NO.90A & SEEDING NURSE CROP (USE NEAR WETLANDS)

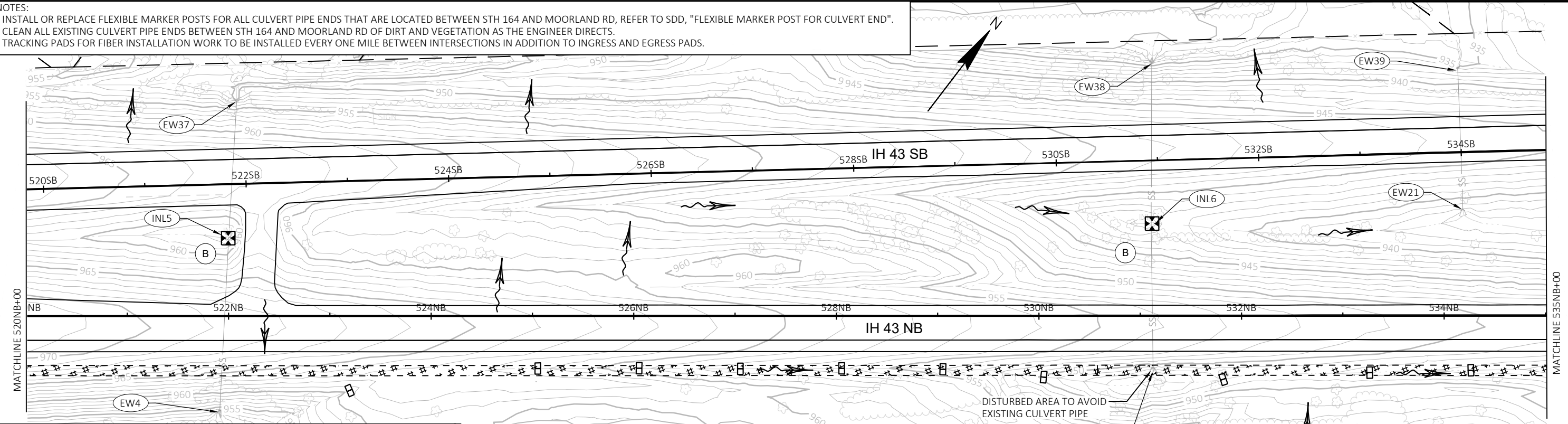


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	EROSION CONTROL	SHEET	E
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NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

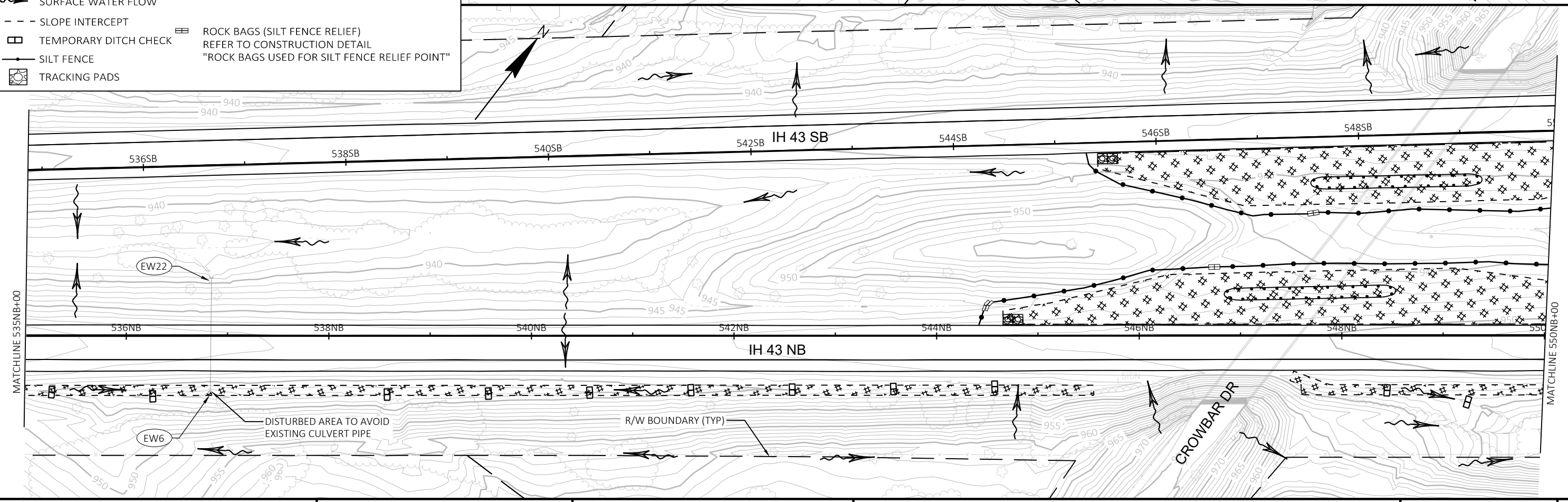
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**EROSION CONTROL LEGEND**

	INLET PROTECTION		EROSION MAT CLASS I, TYPE B TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE NO.90A & SEEDING NURSE CROP
	SURFACE WATER FLOW		ROCK BAGS (SILT FENCE RELIEF) REFER TO CONSTRUCTION DETAIL "ROCK BAGS USED FOR SILT FENCE RELIEF POINT"
	SLOPE INTERCEPT		TEMPORARY DITCH CHECK
	SILT FENCE		TRACKING PADS



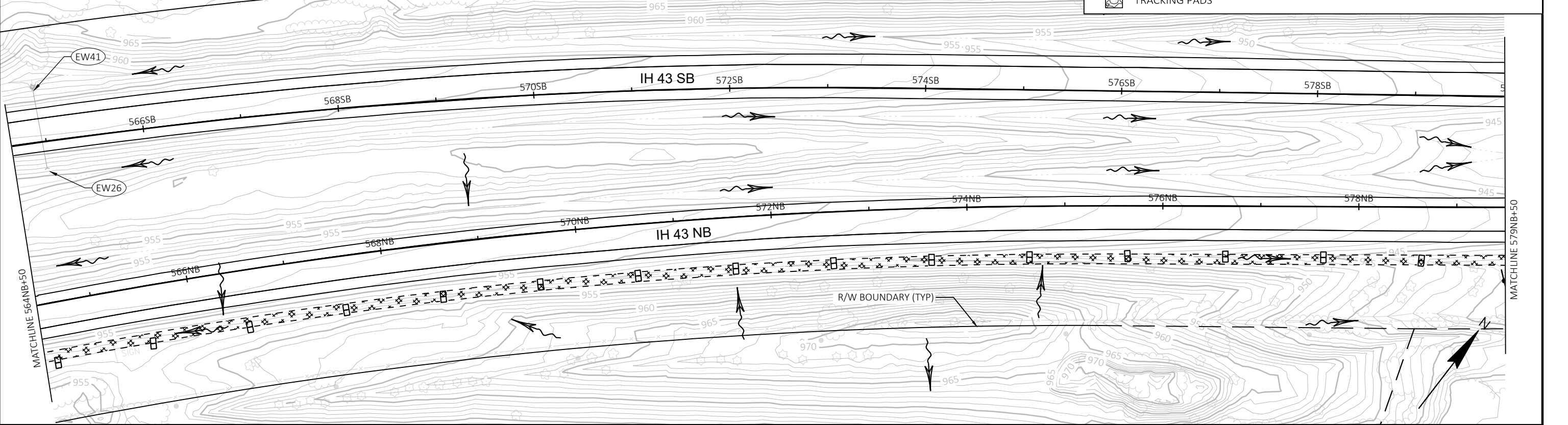
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	EROSION CONTROL	SHEET	E
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NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

EROSION CONTROL LEGEND	
	INLET PROTECTION
	SURFACE WATER FLOW
	SLOPE INTERCEPT
	TEMPORARY DITCH CHECK
	TRACKING PADS
	EROSION MAT CLASS I, TYPE B TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE NO.90A & SEEDING NURSE CROP
	CULVERT PIPE CHECKS REFER TO CONSTRUCTION DETAIL "CULVERT PIPE CHECKS"

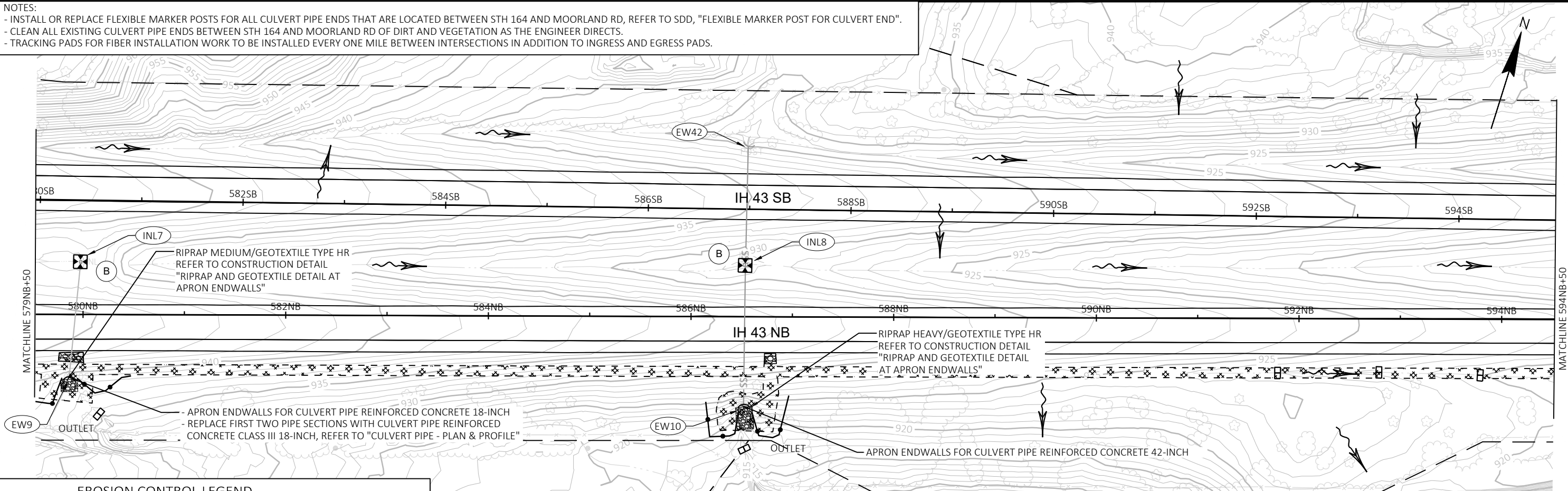


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	EROSION CONTROL	SHEET	E
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NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

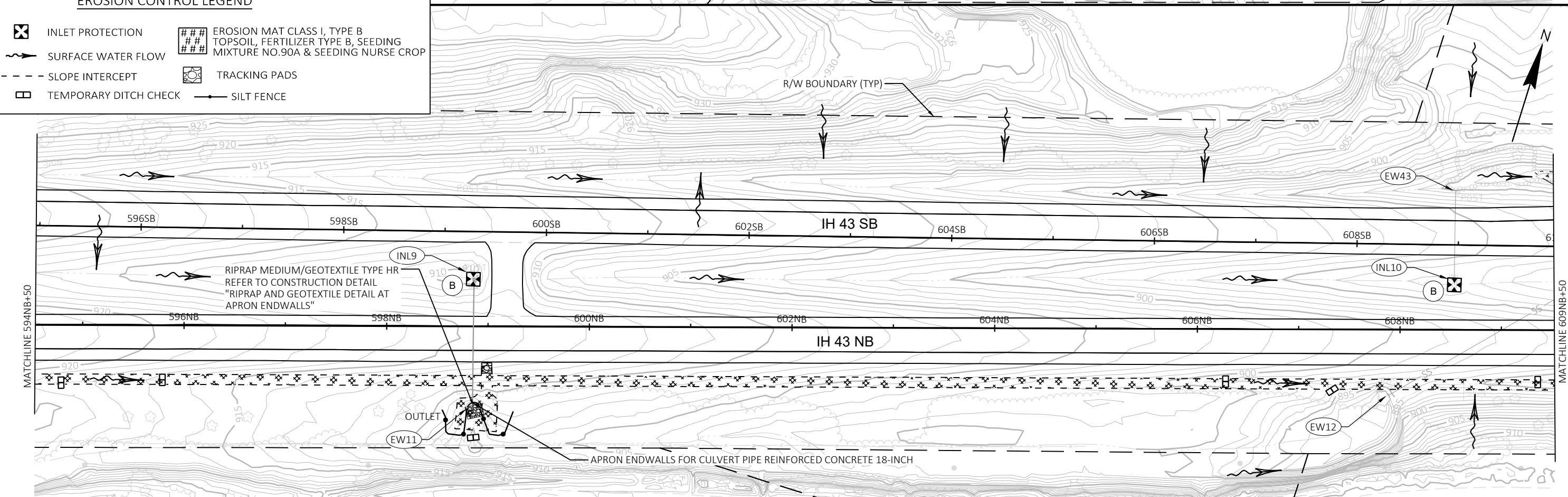
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





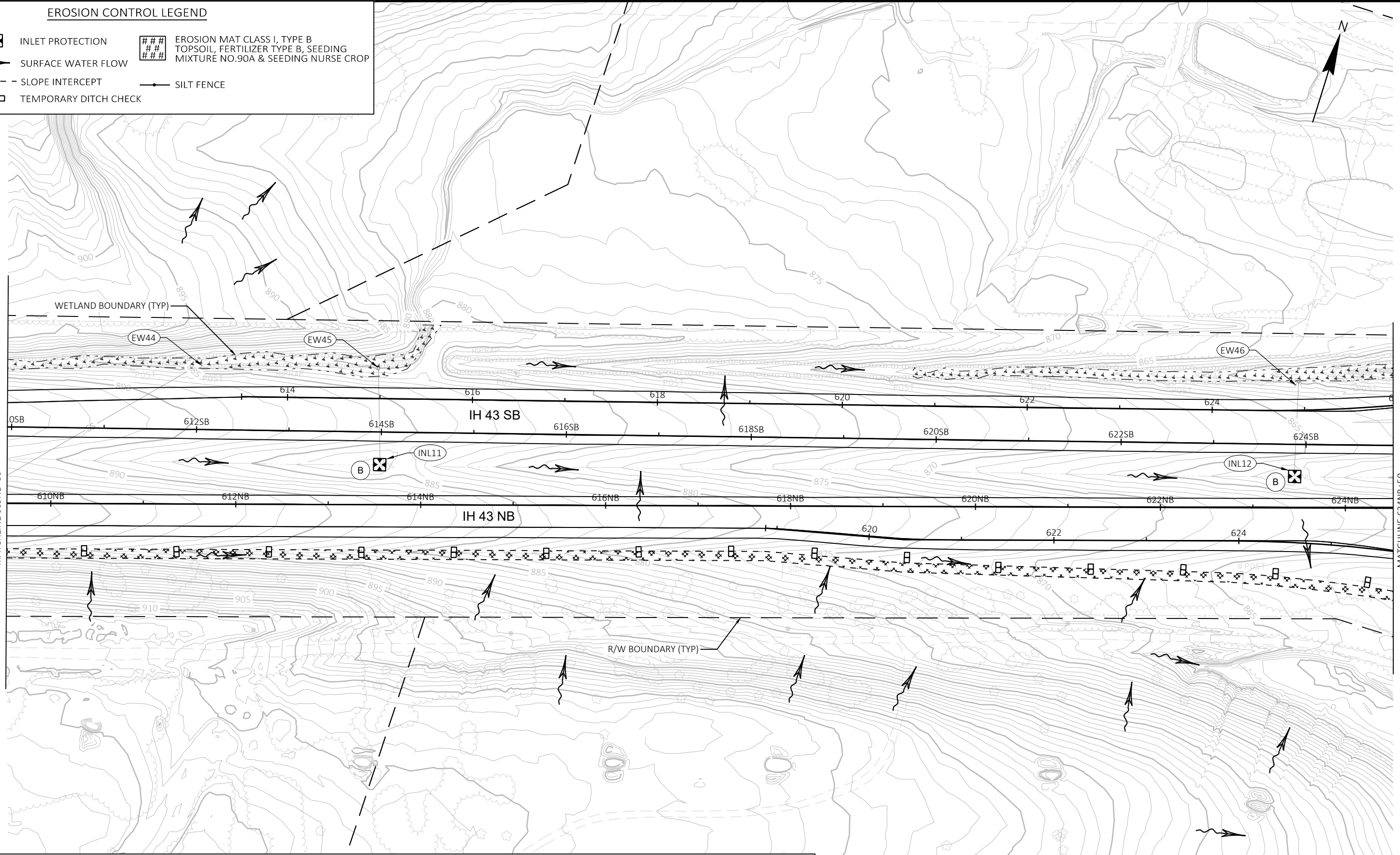
**EROSION CONTROL LEGEND**

	INLET PROTECTION		EROSION MAT CLASS I, TYPE B TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE NO.90A & SEEDING NURSE CROP
	SURFACE WATER FLOW		TRACKING PADS
	SLOPE INTERCEPT		TEMPORARY DITCH CHECK
	SILT FENCE		



EROSION CONTROL LEGEND

-  INLET PROTECTION
-  SURFACE WATER FLOW
-  SLOPE INTERCEPT
-  TEMPORARY DITCH CHECK
-  EROSION MAT CLASS I, TYPE B  
TOPSOIL, FERTILIZER TYPE B, SEEDING  
MIXTURE NO.90A & SEEDING NURSE CROP
-  SILT FENCE



NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

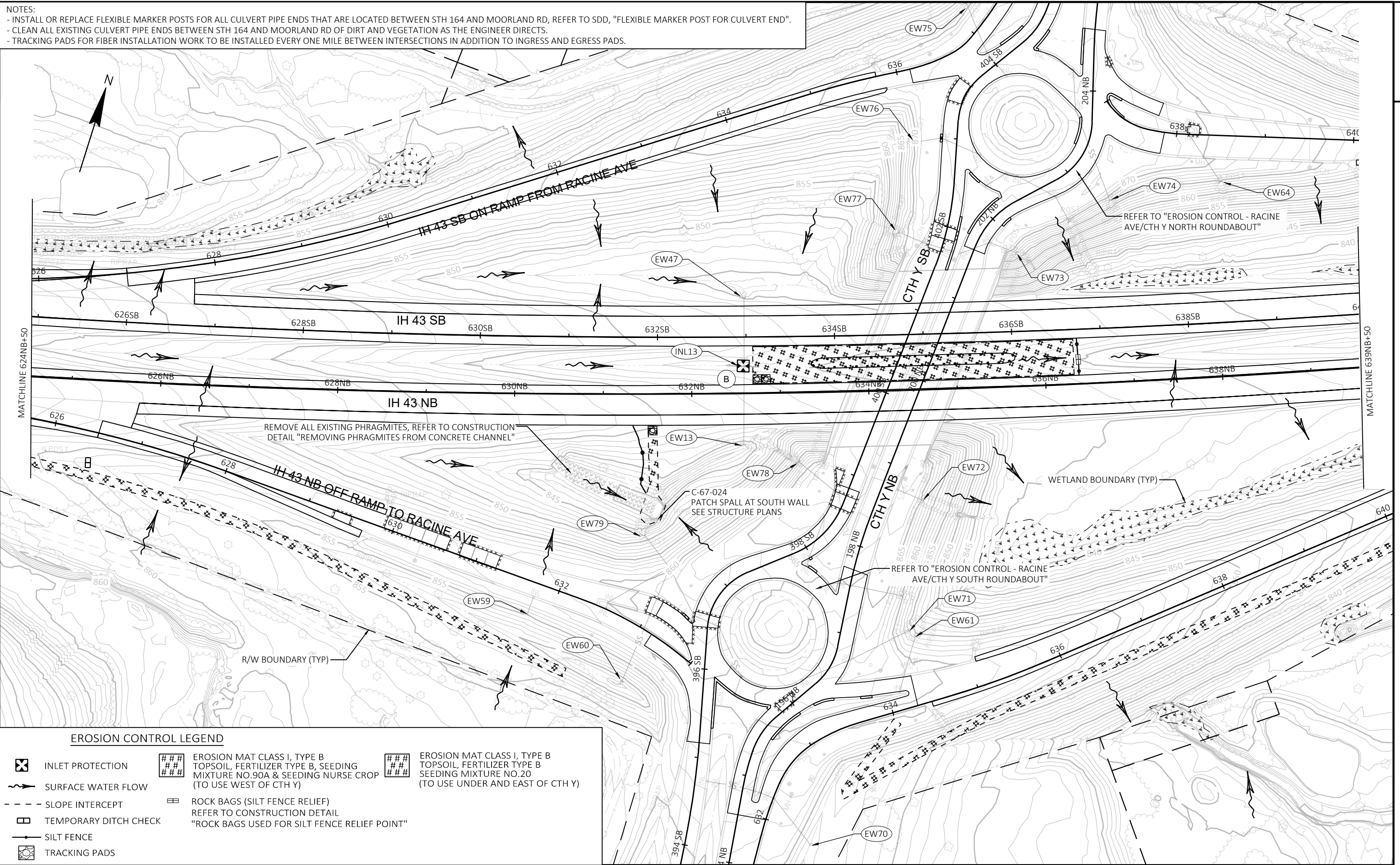
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	EROSION CONTROL
			SHEET <b>E</b>



NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

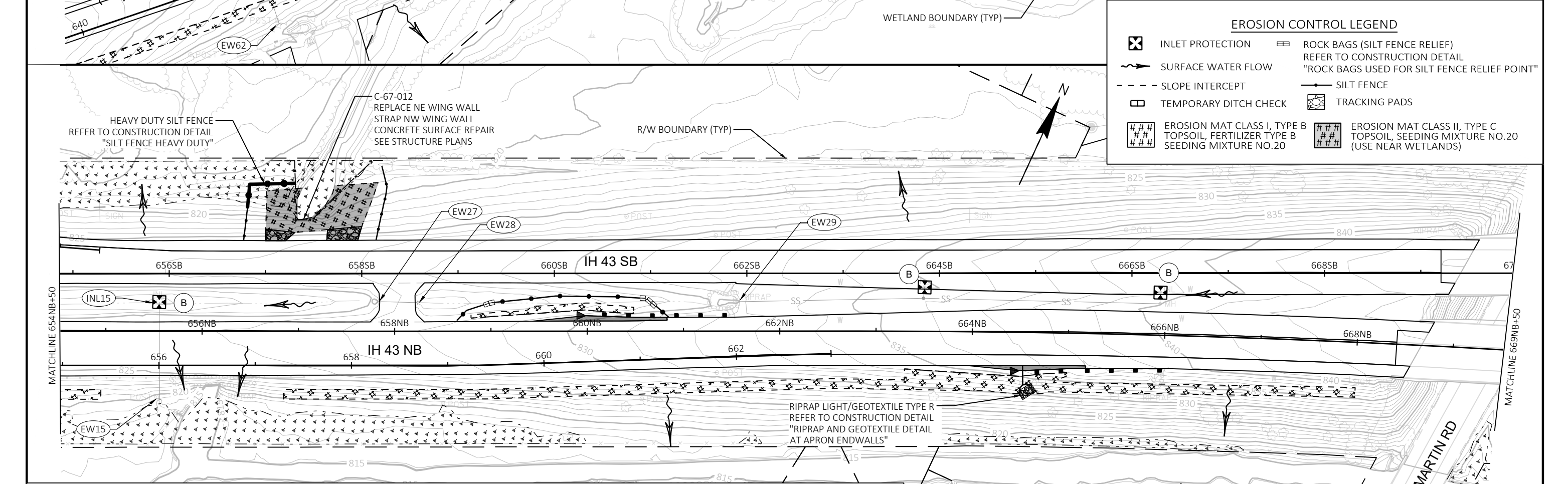
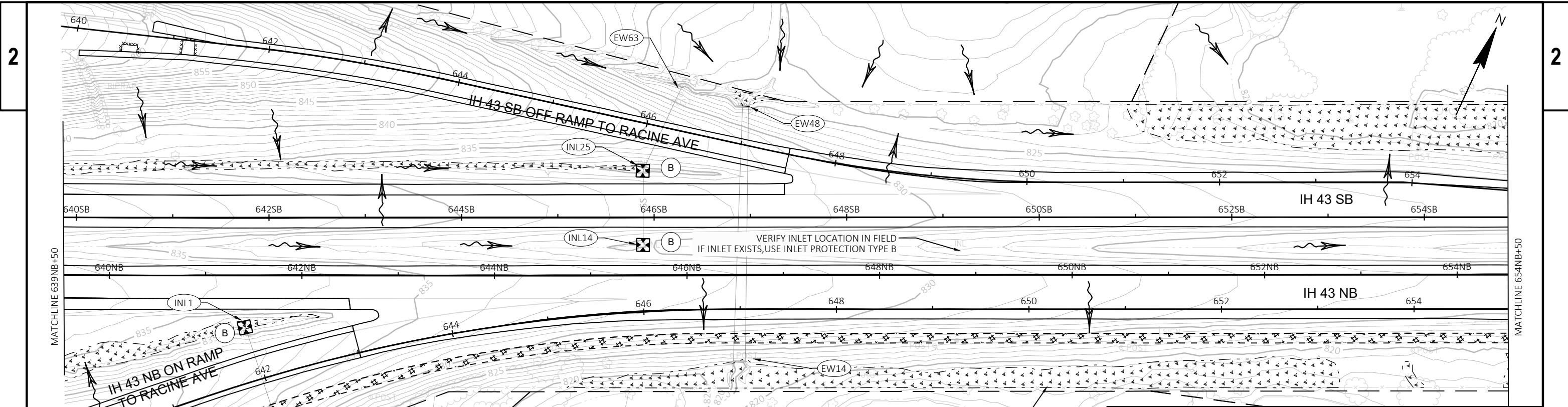
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PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      EROSION CONTROL      SHEET      E

FILE NAME : \\WKERTOV\FILP\I01\N3PUBLIC\PD\3\C3D\10900906\SHETSPLAN\022001\_EC.DWG      PLOT DATE : 9/26/2023 11:49 AM      PLOT BY : LIMBERATOS, EVAN P      PLOT NAME :      PLOT SCALE : 1 IN:100 FT      WISDOT/CADD SHEET 42



**EROSION CONTROL LEGEND**

	INLET PROTECTION		ROCK BAGS (SILT FENCE RELIEF) REFER TO CONSTRUCTION DETAIL "ROCK BAGS USED FOR SILT FENCE RELIEF POINT"
	SURFACE WATER FLOW		SILT FENCE
	SLOPE INTERCEPT		TEMPORARY DITCH CHECK
	EROSION MAT CLASS I, TYPE B TOPSOIL, FERTILIZER TYPE B SEEDING MIXTURE NO.20		TRACKING PADS
	EROSION MAT CLASS II, TYPE C TOPSOIL, SEEDING MIXTURE NO.20 (USE NEAR WETLANDS)		

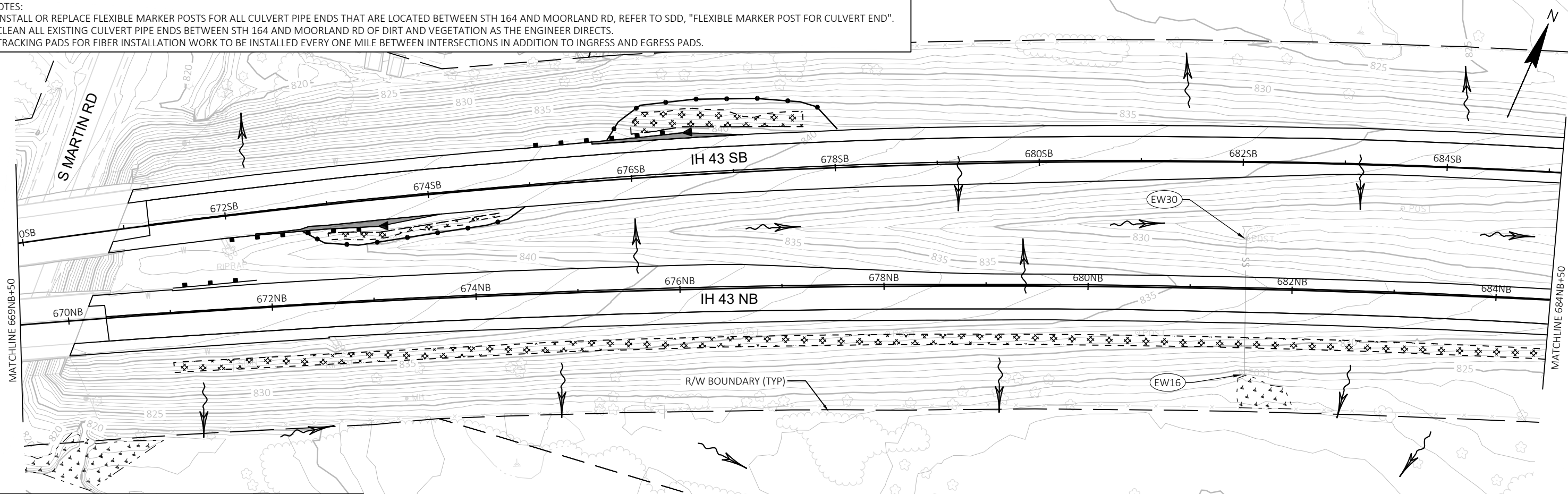
**NOTES:**  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.



NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

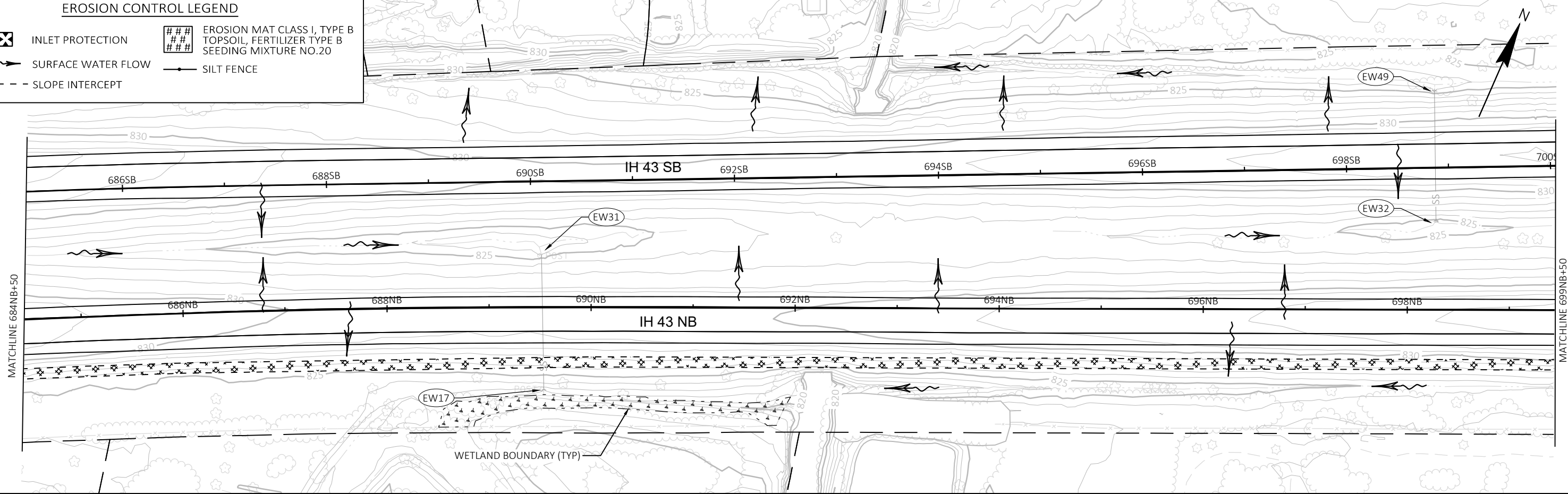
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






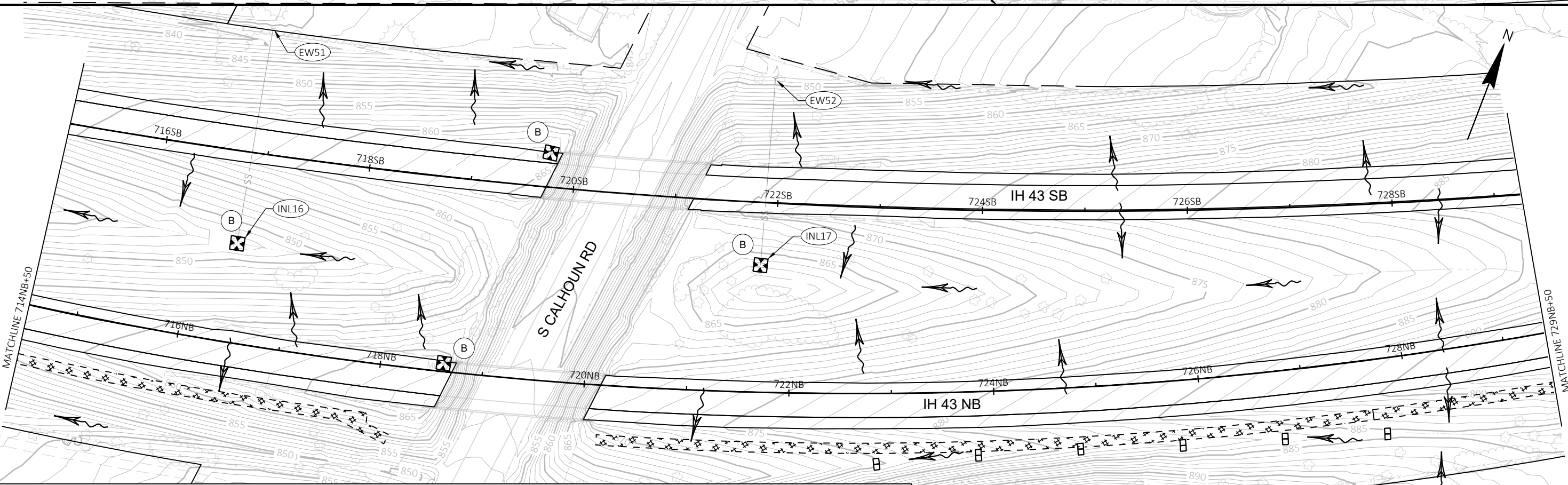
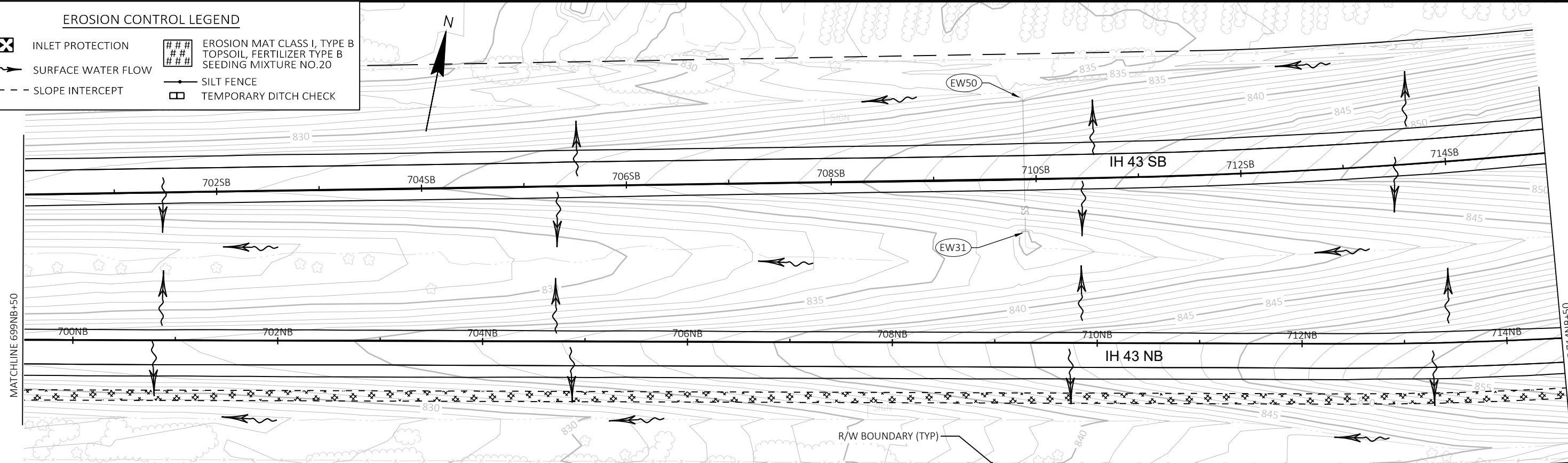
**EROSION CONTROL LEGEND**

- INLET PROTECTION
- SURFACE WATER FLOW
- SLOPE INTERCEPT
- EROSION MAT CLASS I, TYPE B  
TOPSOIL, FERTILIZER TYPE B  
SEEDING MIXTURE NO.20
- SILT FENCE



EROSION CONTROL LEGEND

-  INLET PROTECTION
-  SURFACE WATER FLOW
-  SLOPE INTERCEPT
-  EROSION MAT CLASS I, TYPE B
-  TOPSOIL, FERTILIZER TYPE B SEEDING MIXTURE NO. 20
-  SILT FENCE
-  TEMPORARY DITCH CHECK

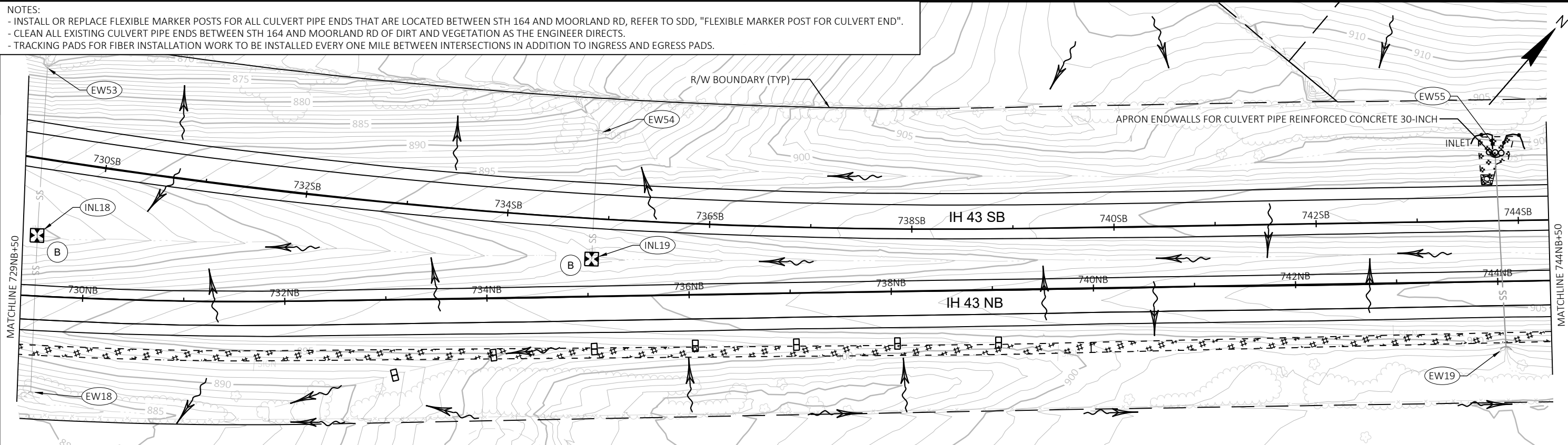


NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

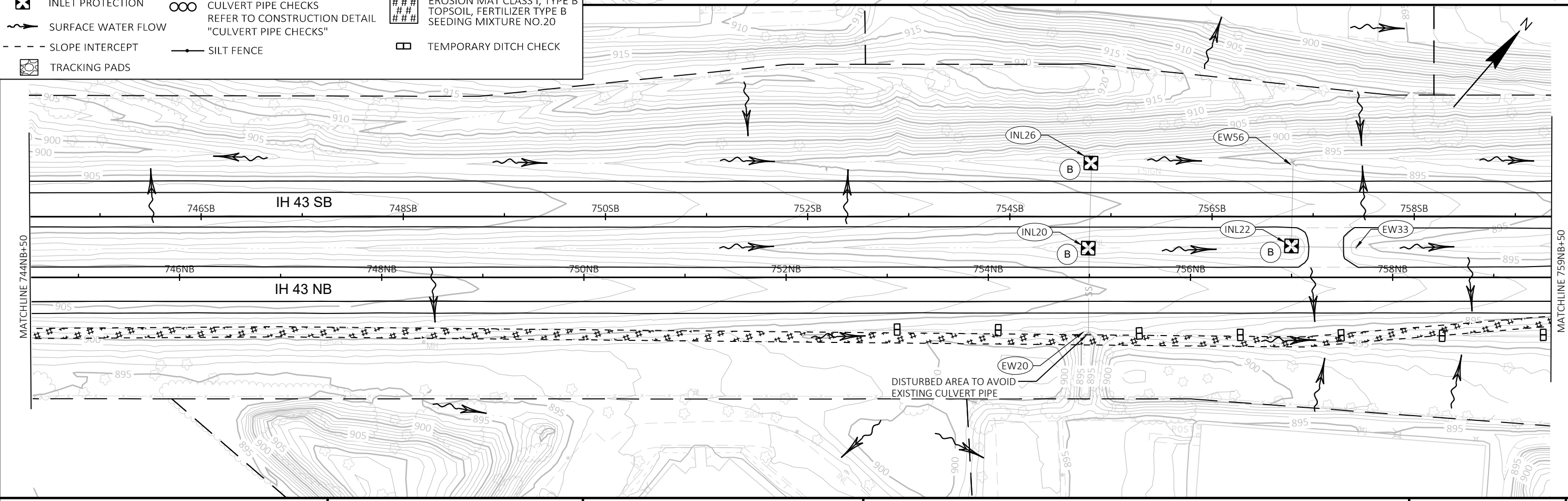
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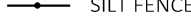




**EROSION CONTROL LEGEND**

- INLET PROTECTION
- SURFACE WATER FLOW
- SLOPE INTERCEPT
- TRACKING PADS
- CULVERT PIPE CHECKS  
REFER TO CONSTRUCTION DETAIL "CULVERT PIPE CHECKS"
- SILT FENCE
- EROSION MAT CLASS I, TYPE B  
TOPSOIL, FERTILIZER TYPE B  
SEEDING MIXTURE NO.20
- TEMPORARY DITCH CHECK

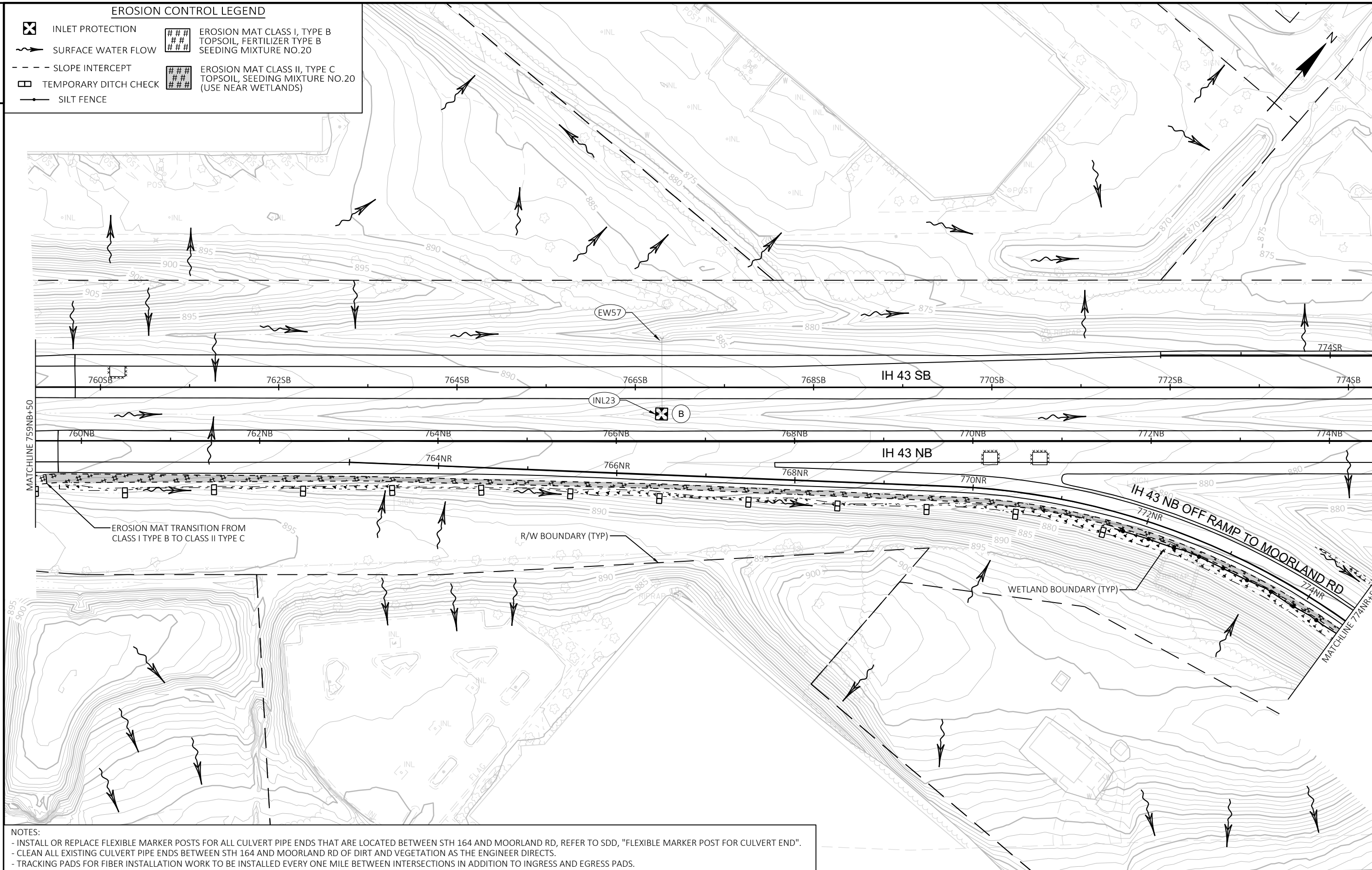


**EROSION CONTROL LEGEND**

-  INLET PROTECTION
-  SURFACE WATER FLOW
-  SLOPE INTERCEPT
-  TEMPORARY DITCH CHECK
-  SILT FENCE
-  EROSION MAT CLASS I, TYPE B  
TOPSOIL, FERTILIZER TYPE B  
SEEDING MIXTURE NO.20
-  EROSION MAT CLASS II, TYPE C  
TOPSOIL, SEEDING MIXTURE NO.20  
(USE NEAR WETLANDS)

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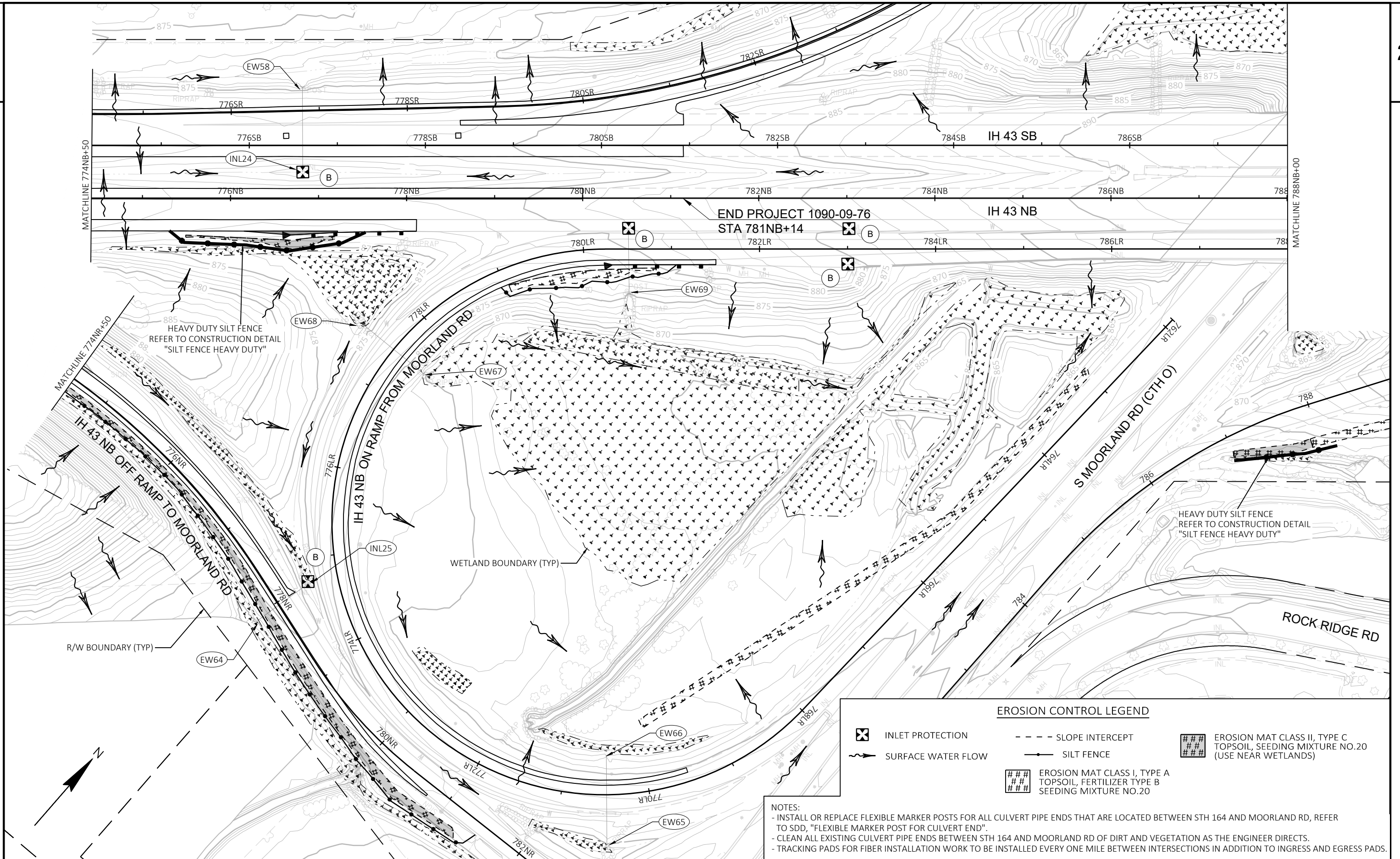
EROSION MAT TRANSITION FROM CLASS I TYPE B TO CLASS II TYPE C

R/W BOUNDARY (TYP)

WETLAND BOUNDARY (TYP)

NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.





END PROJECT 1090-09-76  
 STA 781NB+14

HEAVY DUTY SILT FENCE  
 REFER TO CONSTRUCTION DETAIL  
 "SILT FENCE HEAVY DUTY"

HEAVY DUTY SILT FENCE  
 REFER TO CONSTRUCTION DETAIL  
 "SILT FENCE HEAVY DUTY"

WETLAND BOUNDARY (TYP)







R/W BOUNDARY (TYP)

**EROSION CONTROL LEGEND**

- INLET PROTECTION
- SURFACE WATER FLOW
- SLOPE INTERCEPT
- SILT FENCE
- EROSION MAT CLASS I, TYPE A  
TOPSOIL, FERTILIZER TYPE B  
SEEDING MIXTURE NO.20
- EROSION MAT CLASS II, TYPE C  
TOPSOIL, SEEDING MIXTURE NO.20  
(USE NEAR WETLANDS)

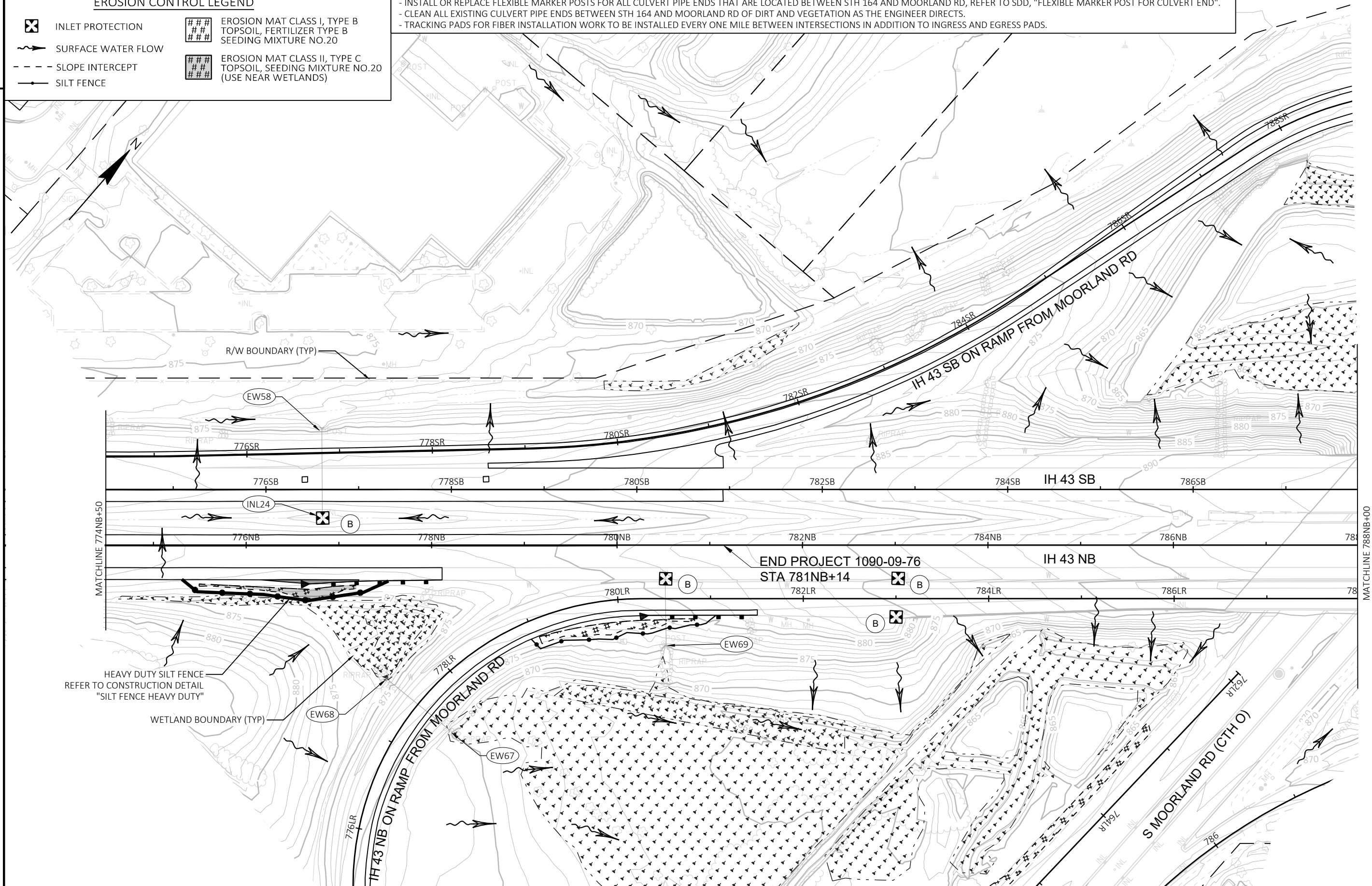
**NOTES:**  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.

EROSION CONTROL LEGEND

-  INLET PROTECTION
-  SURFACE WATER FLOW
-  SLOPE INTERCEPT
-  SILT FENCE
-  EROSION MAT CLASS I, TYPE B  
TOPSOIL, FERTILIZER TYPE B  
SEEDING MIXTURE NO.20
-  EROSION MAT CLASS II, TYPE C  
TOPSOIL, SEEDING MIXTURE NO.20  
(USE NEAR WETLANDS)

NOTES:

- INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".
- CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.
- TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.



PROJECT NO: 1090-09-76

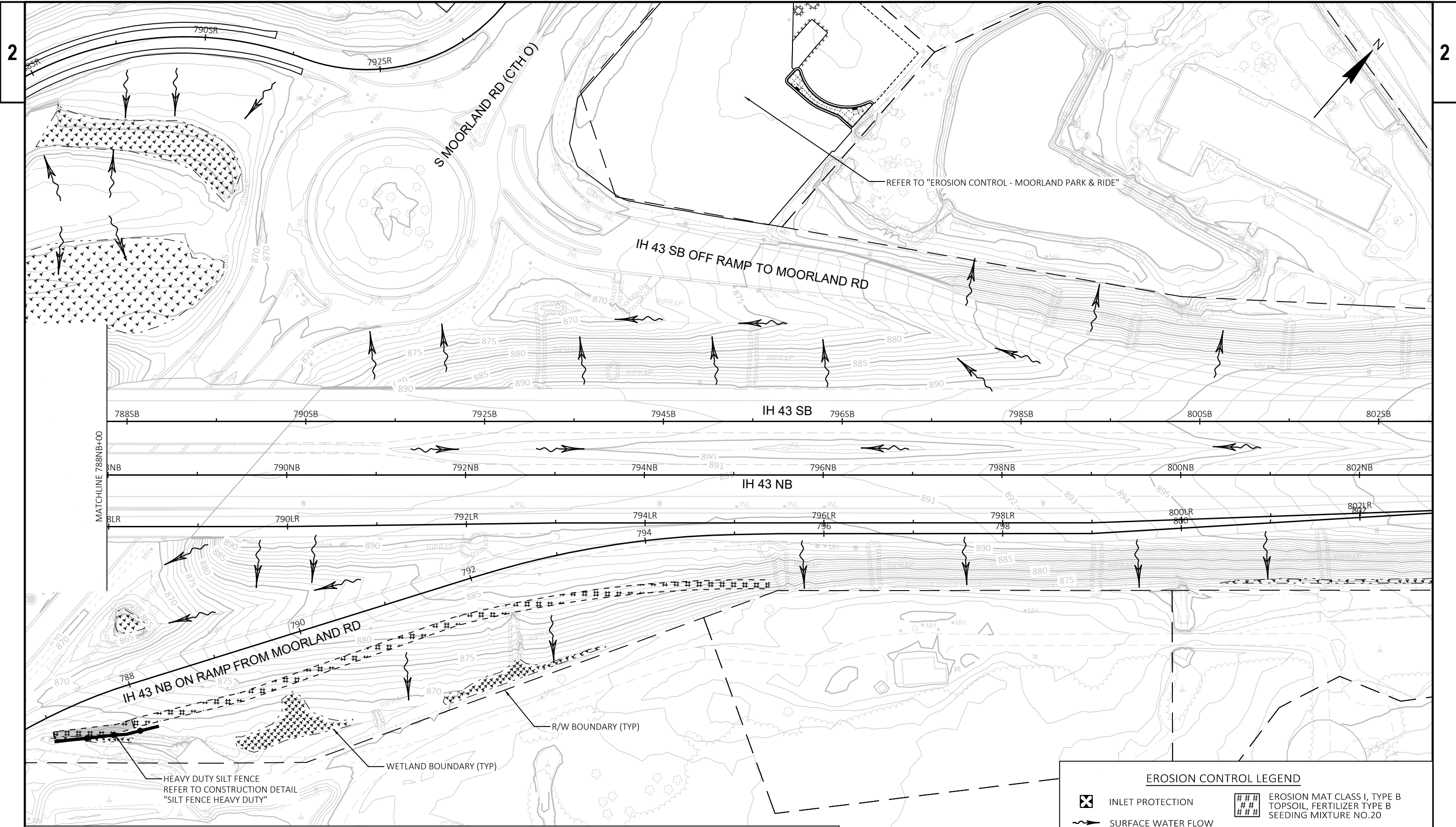
HWY: IH 43

COUNTY: WAUKESHA

EROSION CONTROL

SHEET

E

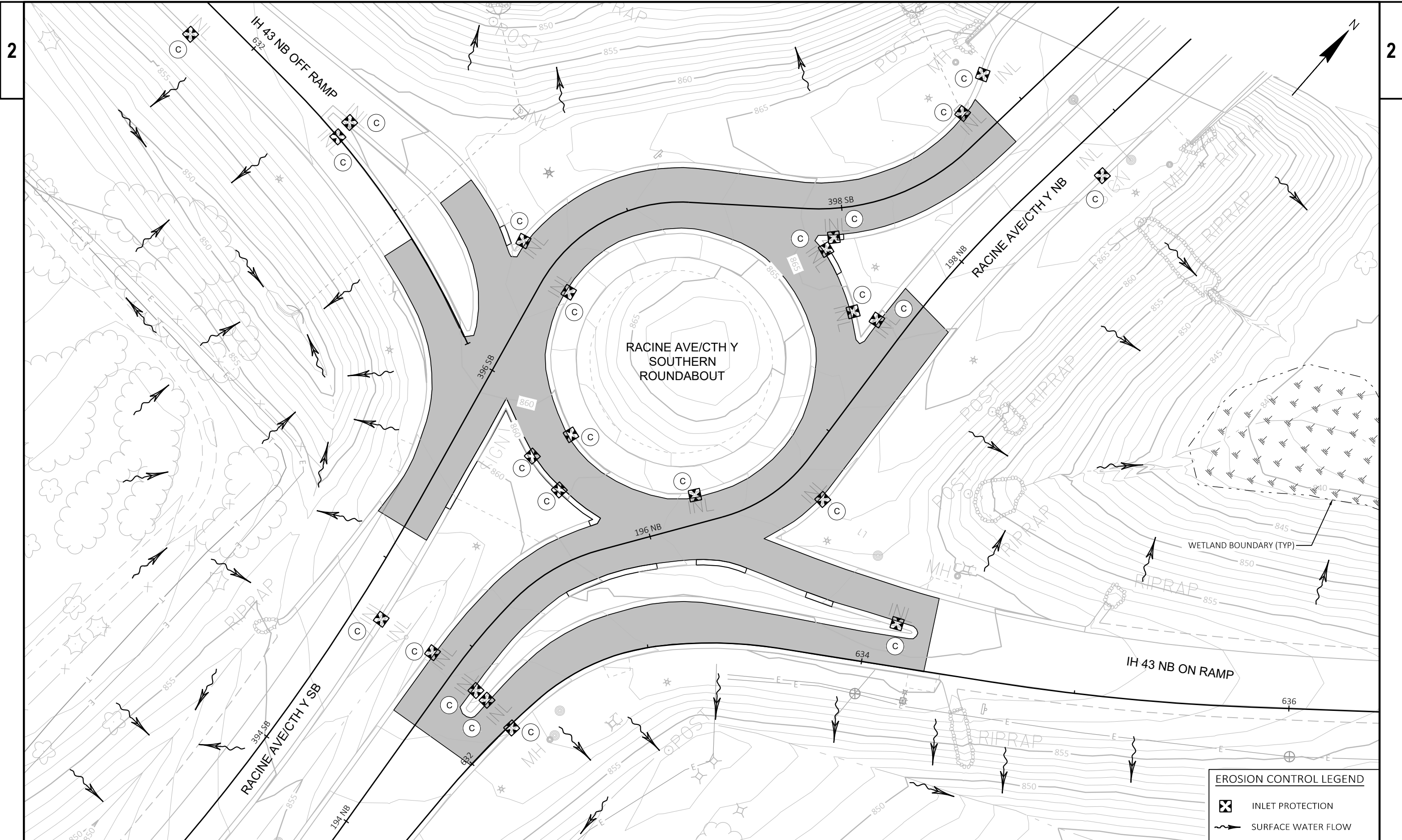


NOTES:  
 - INSTALL OR REPLACE FLEXIBLE MARKER POSTS FOR ALL CULVERT PIPE ENDS THAT ARE LOCATED BETWEEN STH 164 AND MOORLAND RD, REFER TO SDD, "FLEXIBLE MARKER POST FOR CULVERT END".  
 - CLEAN ALL EXISTING CULVERT PIPE ENDS BETWEEN STH 164 AND MOORLAND RD OF DIRT AND VEGETATION AS THE ENGINEER DIRECTS.  
 - TRACKING PADS FOR FIBER INSTALLATION WORK TO BE INSTALLED EVERY ONE MILE BETWEEN INTERSECTIONS IN ADDITION TO INGRESS AND EGRESS PADS.



EROSION CONTROL LEGEND	
	INLET PROTECTION
	SURFACE WATER FLOW
	SLOPE INTERCEPT
	SILT FENCE
	EROSION MAT CLASS I, TYPE B TOPSOIL, FERTILIZER TYPE B SEEDING MIXTURE NO.20
	EROSION MAT CLASS II, TYPE C TOPSOIL, SEEDING MIXTURE NO.20 (USE NEAR WETLANDS)

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	EROSION CONTROL	SHEET	E
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**EROSION CONTROL LEGEND**

-  INLET PROTECTION
-  SURFACE WATER FLOW

PROJECT NO: 1090-09-76

HWY: IH 43

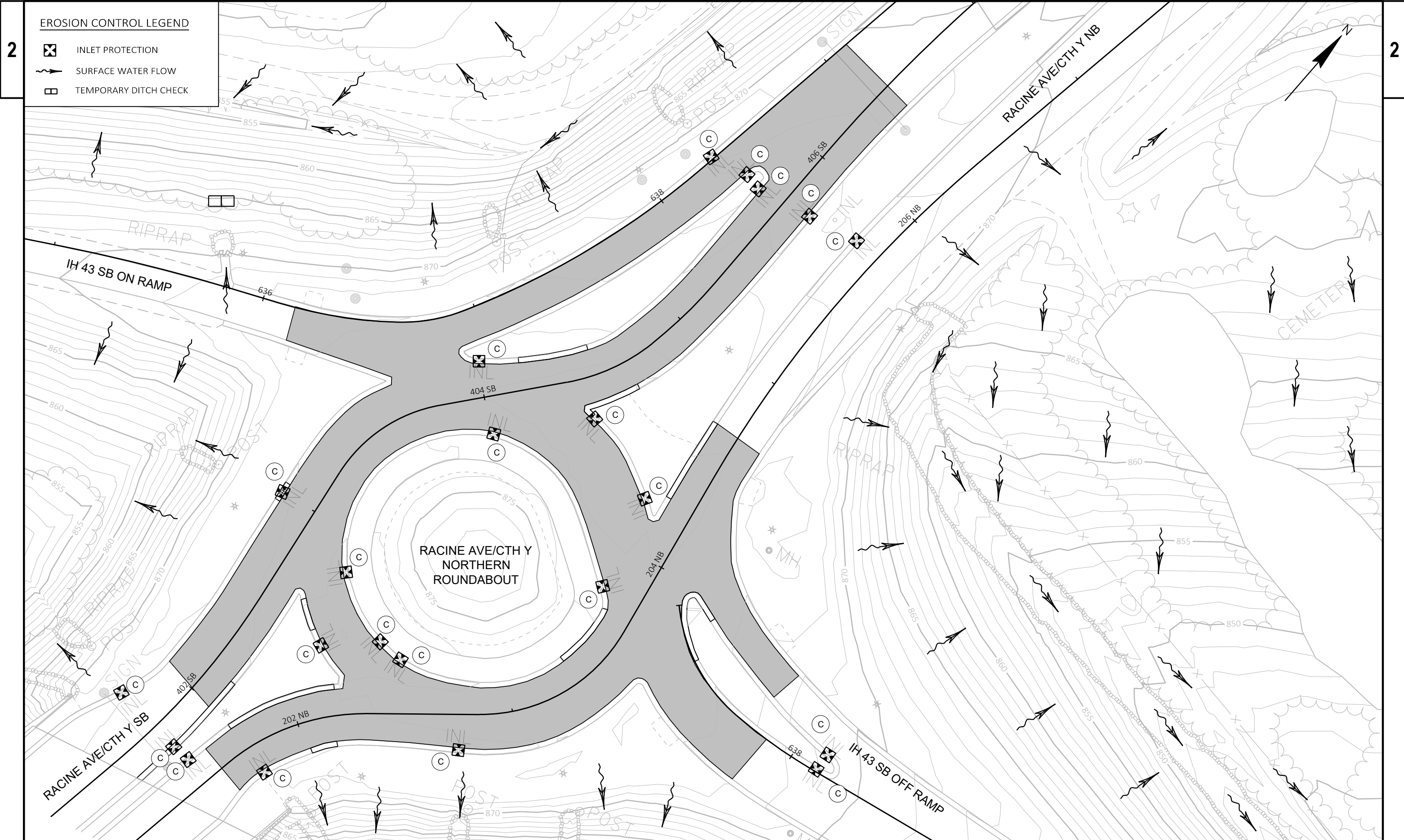
COUNTY: WAUKESHA

EROSION CONTROL - RACINE AVE/CTH Y SOUTH ROUNDABOUT




SHEET

**E**





**EROSION CONTROL LEGEND**

-  INLET PROTECTION
-  SURFACE WATER FLOW
-  TEMPORARY DITCH CHECK

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PROJECT NO: 1090-09-76

HWY: IH 43




COUNTY: WAUKESHA

EROSION CONTROL - RACINE AVE/CTH Y NORTH ROUNDABOUT

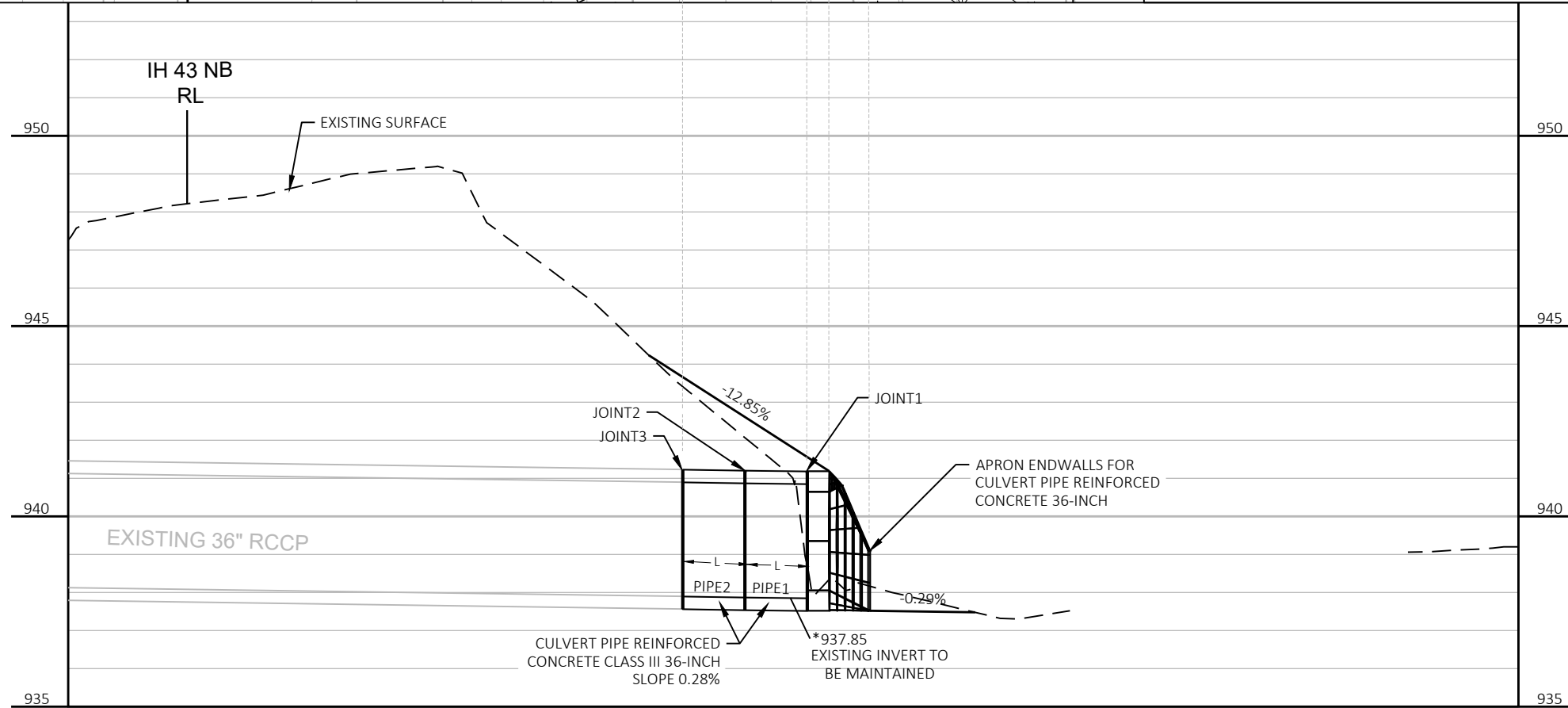
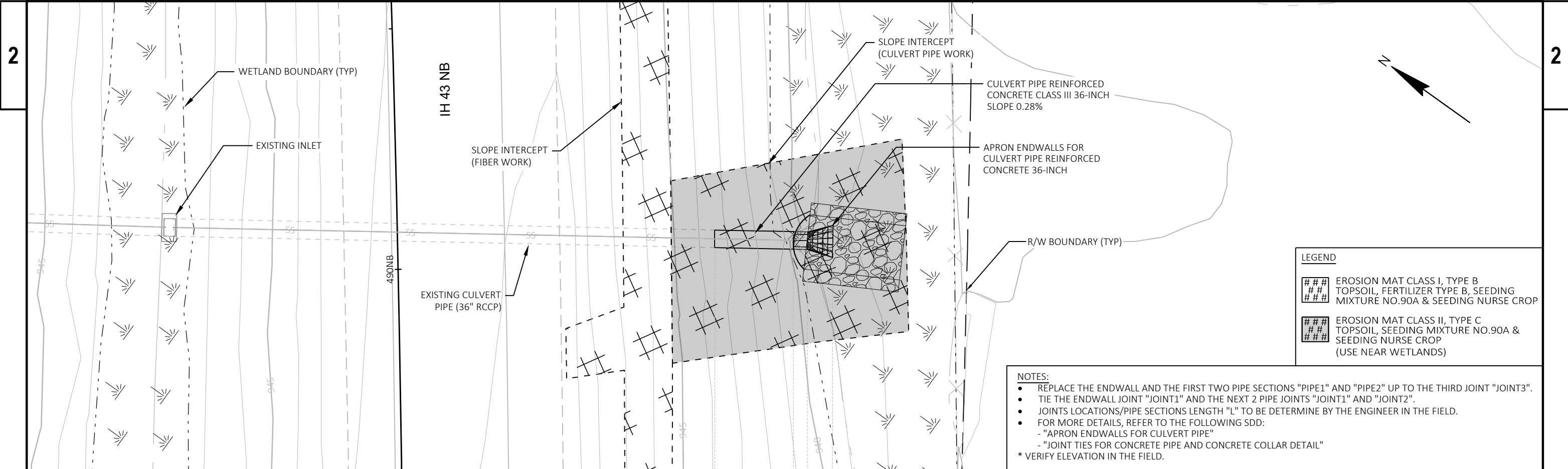
SHEET

E

**EROSION CONTROL LEGEND**

-  INLET PROTECTION
-  SURFACE WATER FLOW
-  SILT FENCE





PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

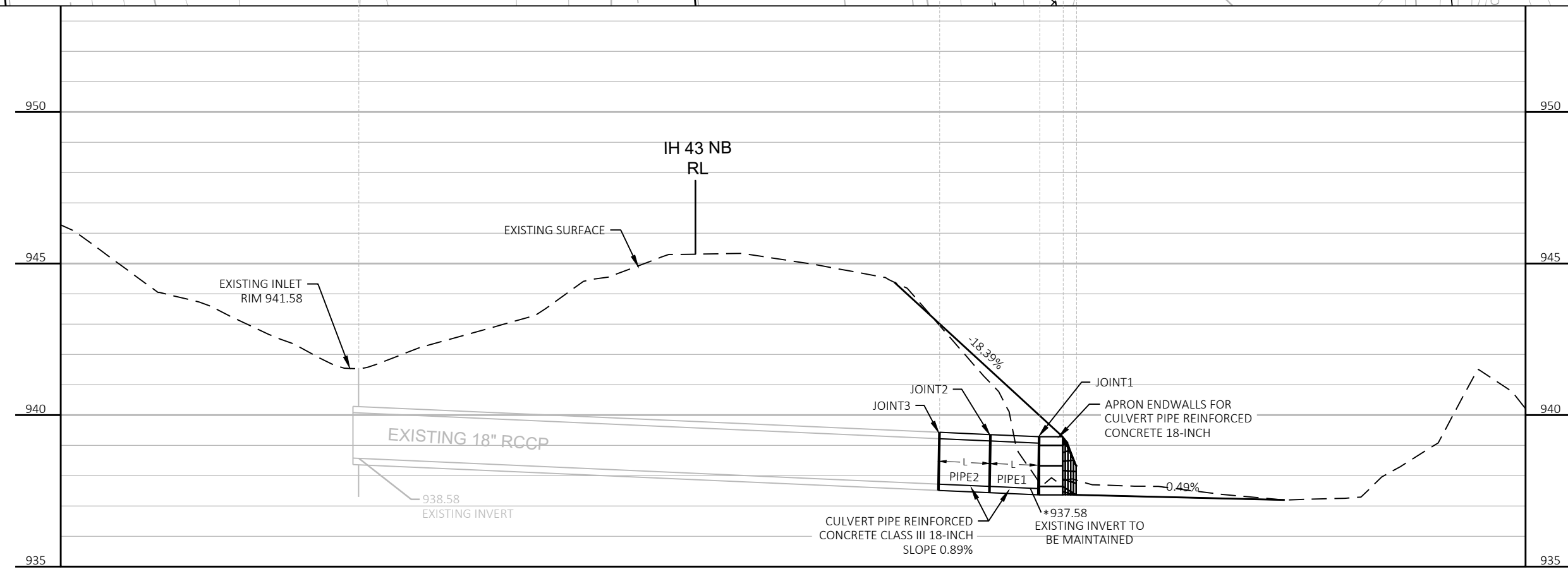
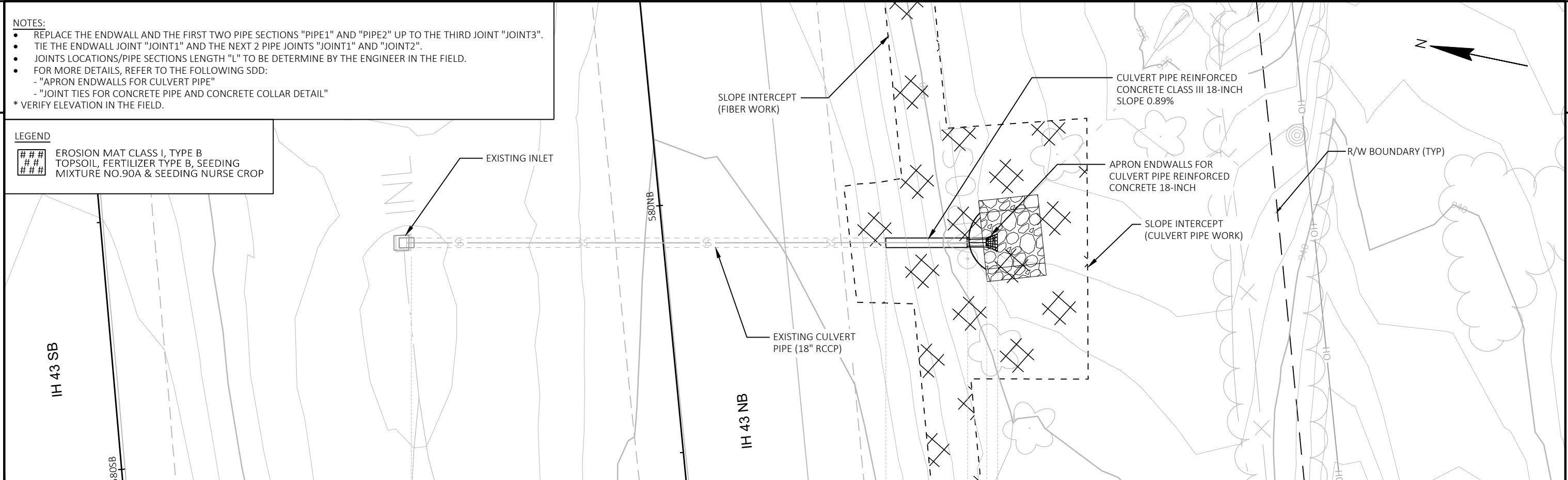
CULVERT PIPE - PLAN & PROFILE

SHEET

E

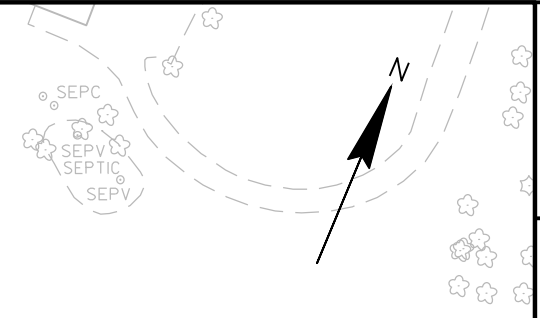
- 2**
- NOTES:**
- REPLACE THE ENDWALL AND THE FIRST TWO PIPE SECTIONS "PIPE1" AND "PIPE2" UP TO THE THIRD JOINT "JOINT3".
  - TIE THE ENDWALL JOINT "JOINT1" AND THE NEXT 2 PIPE JOINTS "JOINT1" AND "JOINT2".
  - JOINTS LOCATIONS/PIPE SECTIONS LENGTH "L" TO BE DETERMINE BY THE ENGINEER IN THE FIELD.
  - FOR MORE DETAILS, REFER TO THE FOLLOWING SDD:
    - "APRON ENDWALLS FOR CULVERT PIPE"
    - "JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL"
- \* VERIFY ELEVATION IN THE FIELD.

- LEGEND**
- ### EROSION MAT CLASS I, TYPE B
  - ### TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE NO.90A & SEEDING NURSE CROP



LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN
- YEAR - AGE OF SIGN



GAS-EXIT 50  
 FOOD-EXIT 50  
 (SIS)

TYPE I  
 WISC BUSINESS  
 LOGOS  
 608-579-1570  
 ESTR

IH-43

SLAB

SOUTH  
 43  
 MILE  
 50  
 .4  
 D10-5  
 ESTR

435

440

445

IH-43

TYPE II ALUMINUM SIGNS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE COUNTY SIGN SHOP. CONTACT THE FOLLOWING INDIVIDUAL AT THE SIGN SHOP FOR DISTRIBUTION COUNTY LOCATION.

SIGNING COORDINATOR	COUNTIES	PHONE #
JENNY BUCKETT	MILWAUKEE, KENOSHA, WASHINGTON, OZAUKEE	414-750-2427
CHUCK SALDIVAR	RACINE, WALWORTH, WAUKESHA	414-750-1682

SIGNS SHALL BE CAREFULLY REMOVED FROM SIGN SUPPORTS. THE SIGNS SHALL BE PALLETIZED FOR HANDLING WITH A FORKLIFT (SEE STANDARD SPEC 638.3.4). THE REGIONAL SIGN SHOP (414-266-1165) SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF THE SIGNS.

WHEN AN EXISTING STOP SIGN SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED, THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POST SIZES FOR TYPE II SIGNS ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (CITY, VILLAGE OR TOWN). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.

BOX OUT OR CORING OF CONCRETE SIGN POSTS IS INCIDENTAL TO THE POST

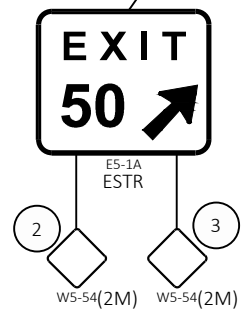
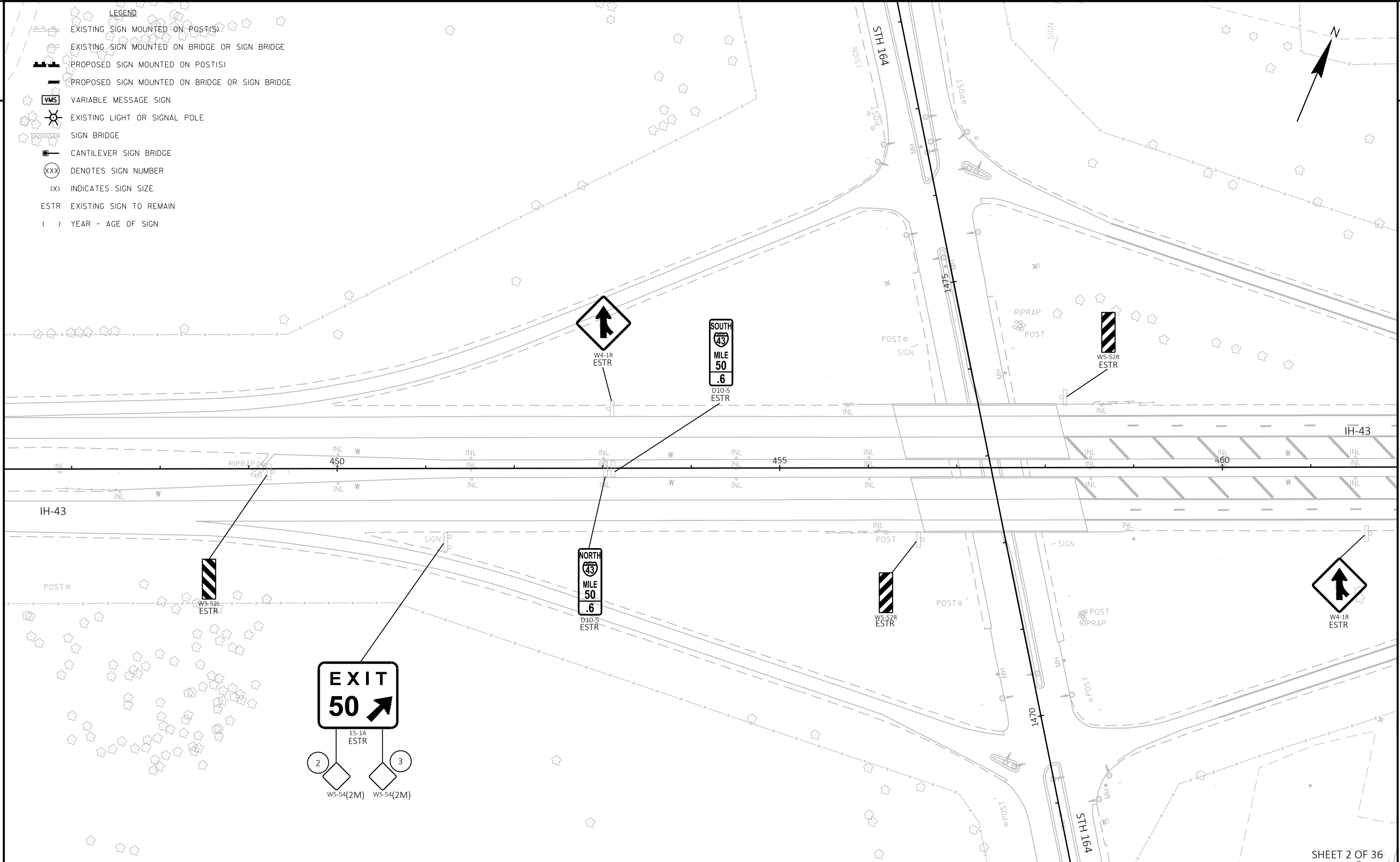
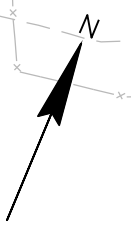


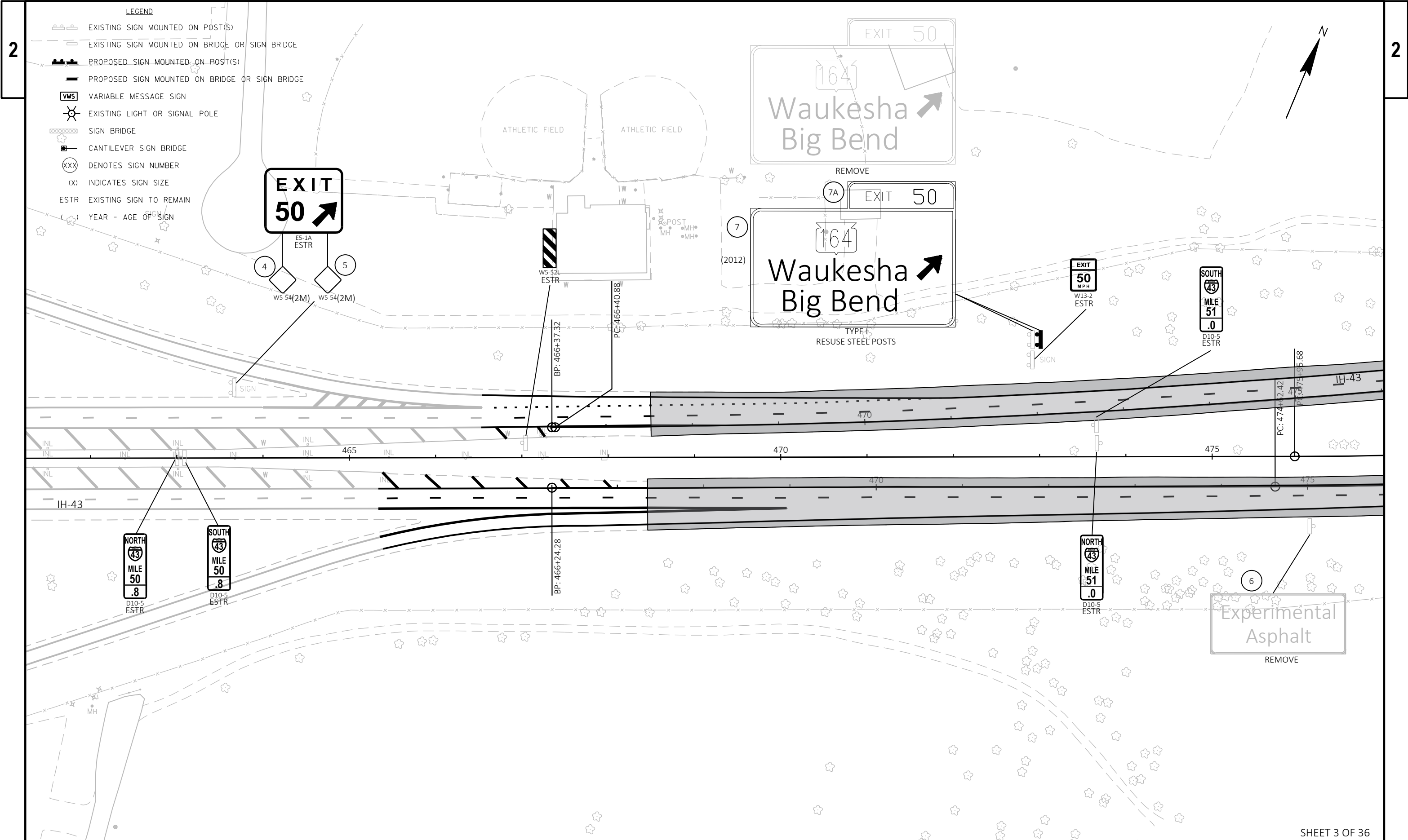
TYPE I  
 RESUSE STEEL POSTS

EXIT  
 50  
 MPH  
 W13-2  
 ESTR

NORTH  
 43  
 MILE  
 50  
 .4  
 D10-5  
 ESTR

- LEGEND**
- EXISTING SIGN MOUNTED ON POST(S)
  - EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - PROPOSED SIGN MOUNTED ON POST(S)
  - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - VARIABLE MESSAGE SIGN
  - EXISTING LIGHT OR SIGNAL POLE
  - SIGN BRIDGE
  - CANTILEVER SIGN BRIDGE
  - DENOTES SIGN NUMBER
  - INDICATES SIGN SIZE
  - EXISTING SIGN TO REMAIN
  - YEAR - AGE OF SIGN



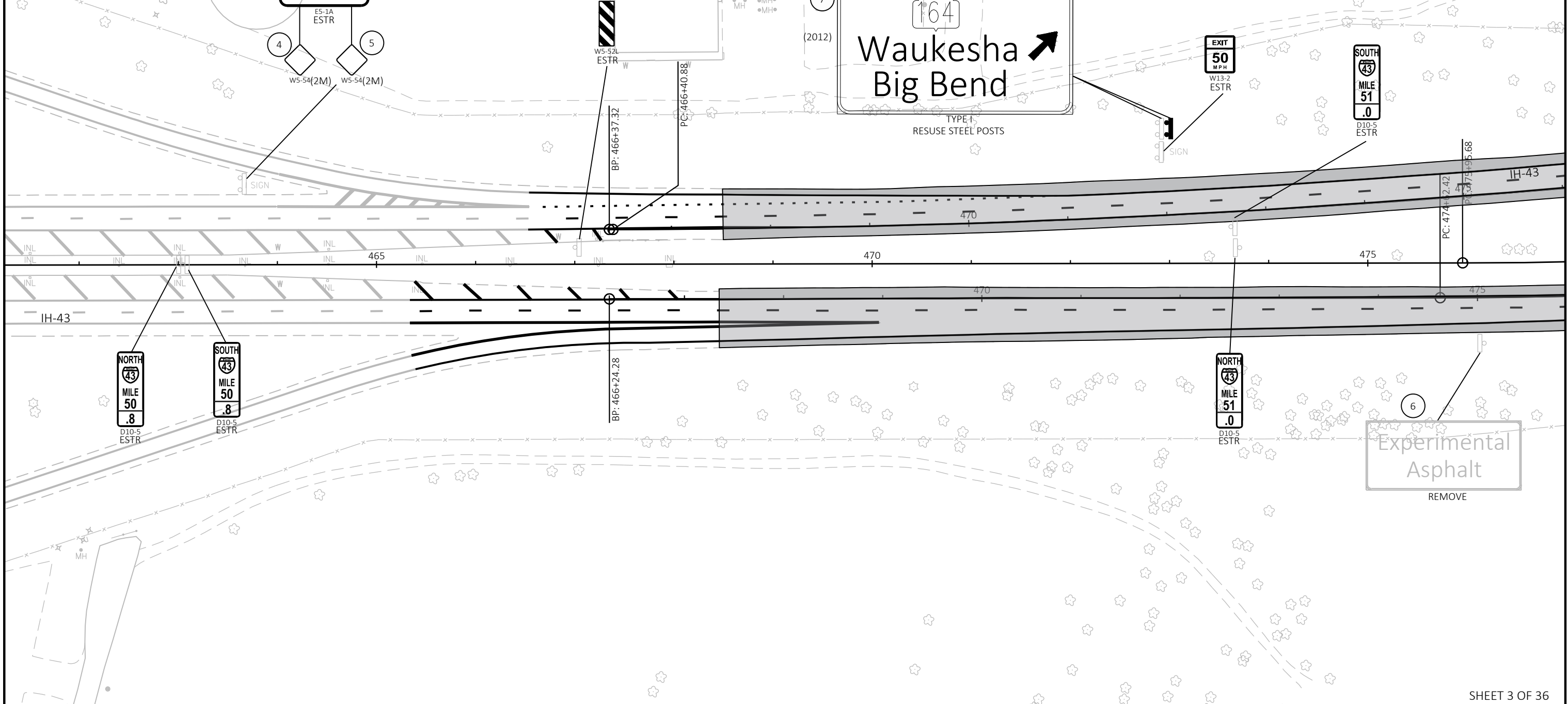


2

2

LEGEND

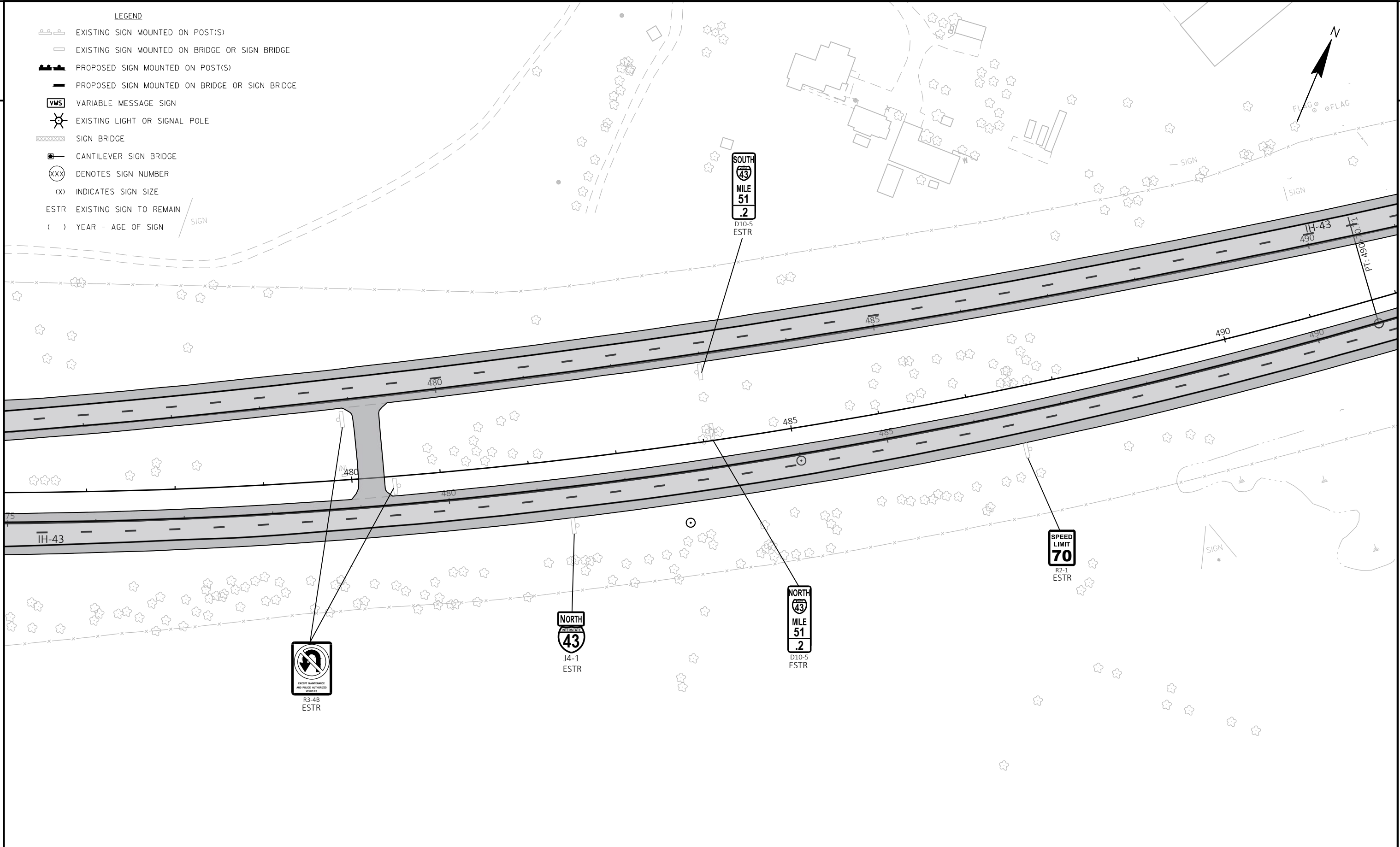
- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN
- ( ) YEAR - AGE OF SIGN





LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
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- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN
- YEAR - AGE OF SIGN



PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	PERMANENT SIGNING PLAN	SHEET <b>E</b>
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LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN
- YEAR - AGE OF SIGN

**GAS-EXIT 50  
FOOD-EXIT 50  
(SIS)**

**SOUTH  
43  
MILE  
51  
.4**  
D10-5  
ESTR

**Big Bend  
PARK & RIDE  
EXIT 50**

**REMOVE**  
**8**  
**Big Bend  
PARK & RIDE  
EXIT 50**

TYPE I  
REUSE STEEL POSTS  
(2012)

**SOUTH  
43  
MILE  
51  
.6**  
D10-5  
ESTR

**RIDESHARE  
INFO CALL  
1-800-455-POOL**  
D12-2A  
ESTR

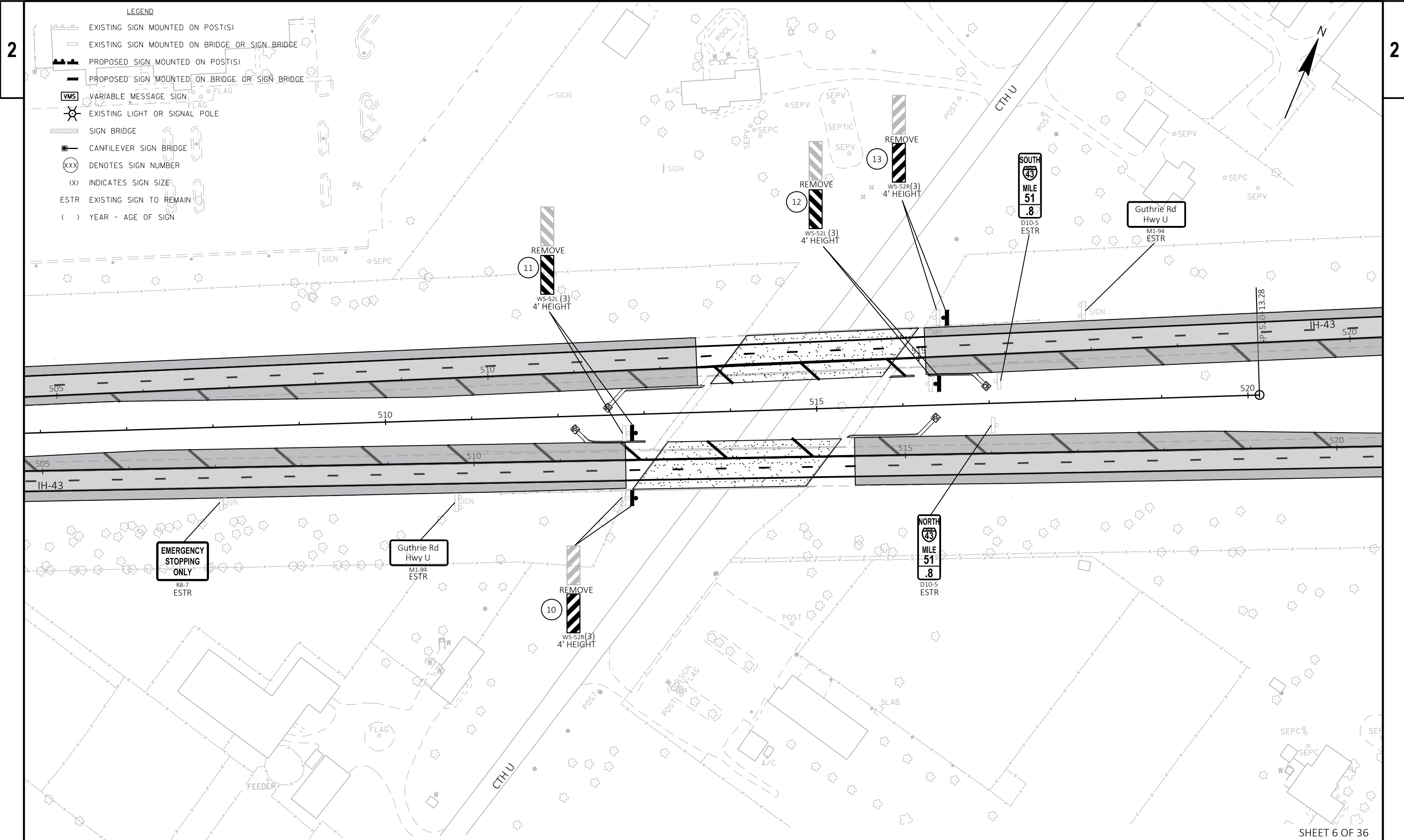
**NORTH  
43  
MILE  
51  
.4**  
D10-5  
ESTR

**Y 3  
Moorland Rd 6  
Milwaukee 21**

**9**  
**(2012)**  
**Y 3  
Moorland Rd 6  
Milwaukee 21**

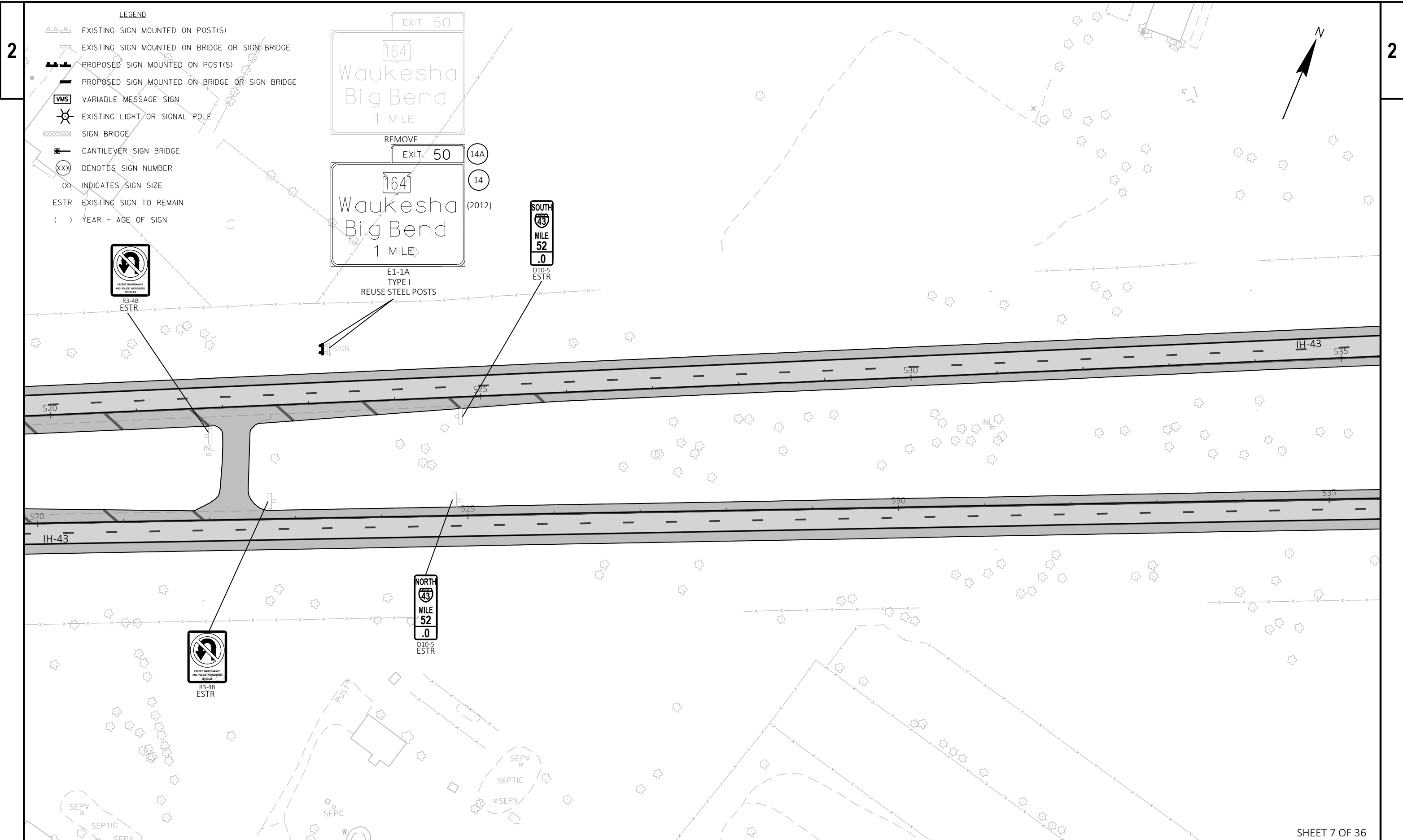
D2-3  
REPLACE TYPE I  
REUSE STEEL POSTS

**NORTH  
43  
MILE  
51  
.6**  
D10-5  
ESTR



LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN
- YEAR - AGE OF SIGN



PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

PERMANENT SIGNING PLAN

SHEET

E

FILE NAME : N:\PDS\C3D\CAD\10900906\SIGN\030201\_PS.DWG  
LAYOUT NAME - 07

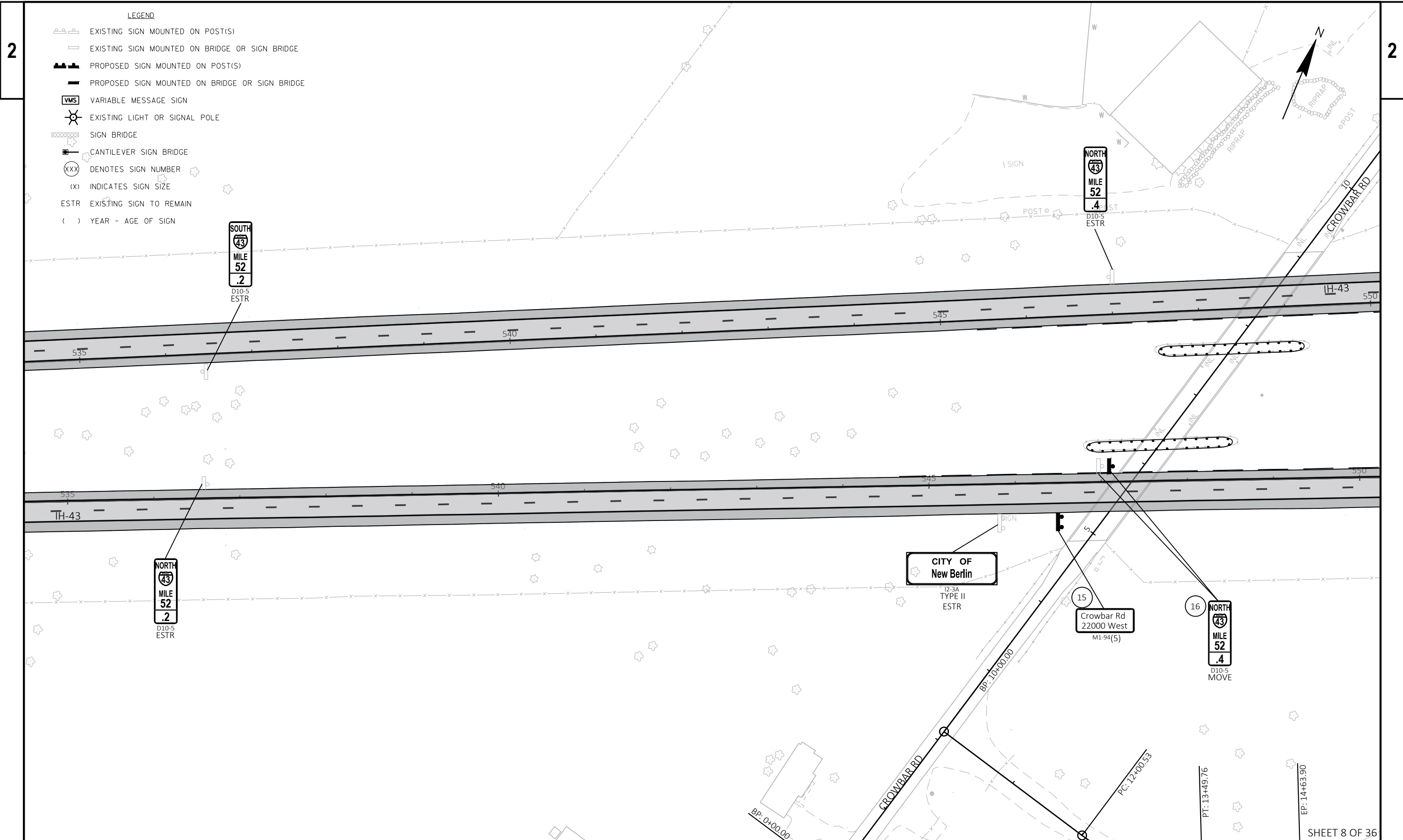
PLOT DATE : 6/12/2023 2:02 PM

PLOT BY : WAGNER, SCOTT H

PLOT NAME :

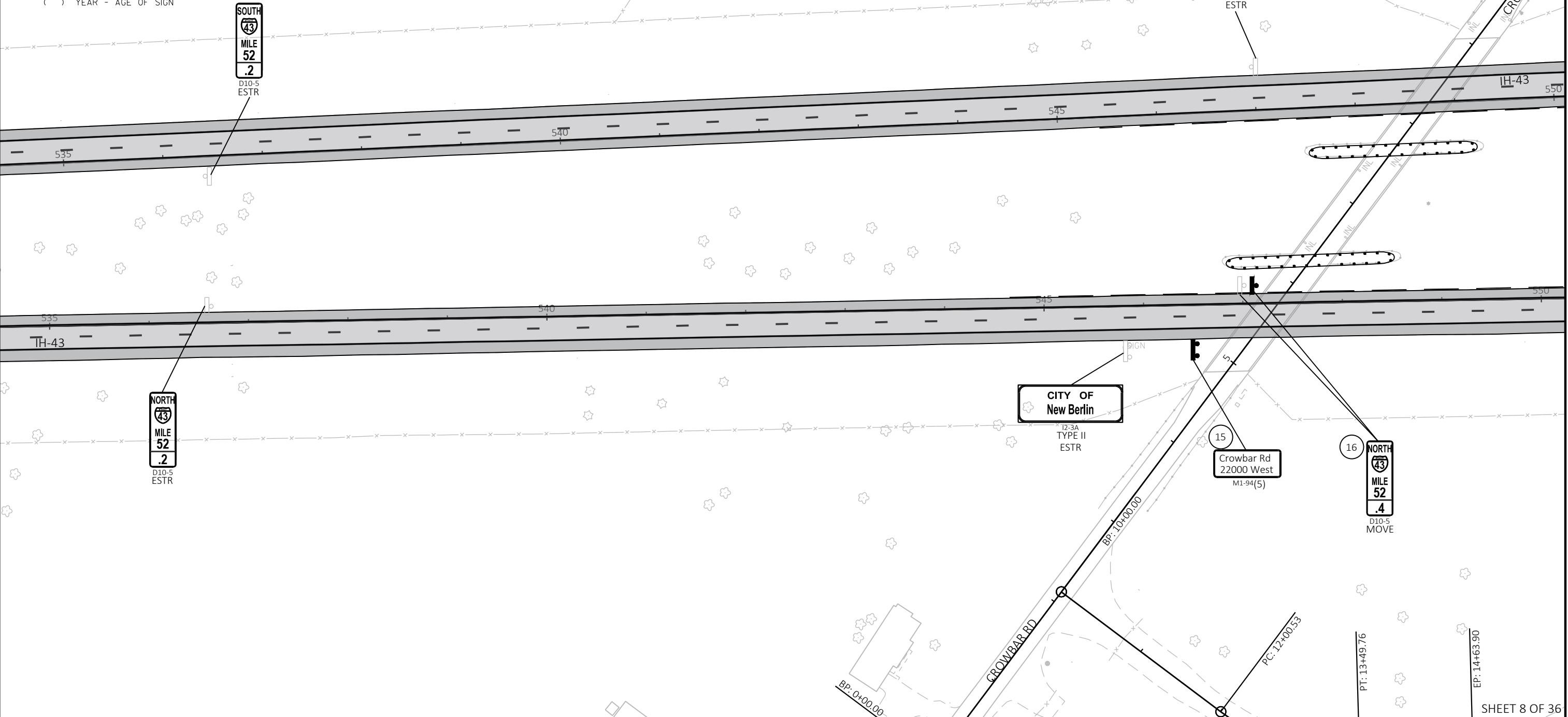
PLOT SCALE : 1 IN:100 FT

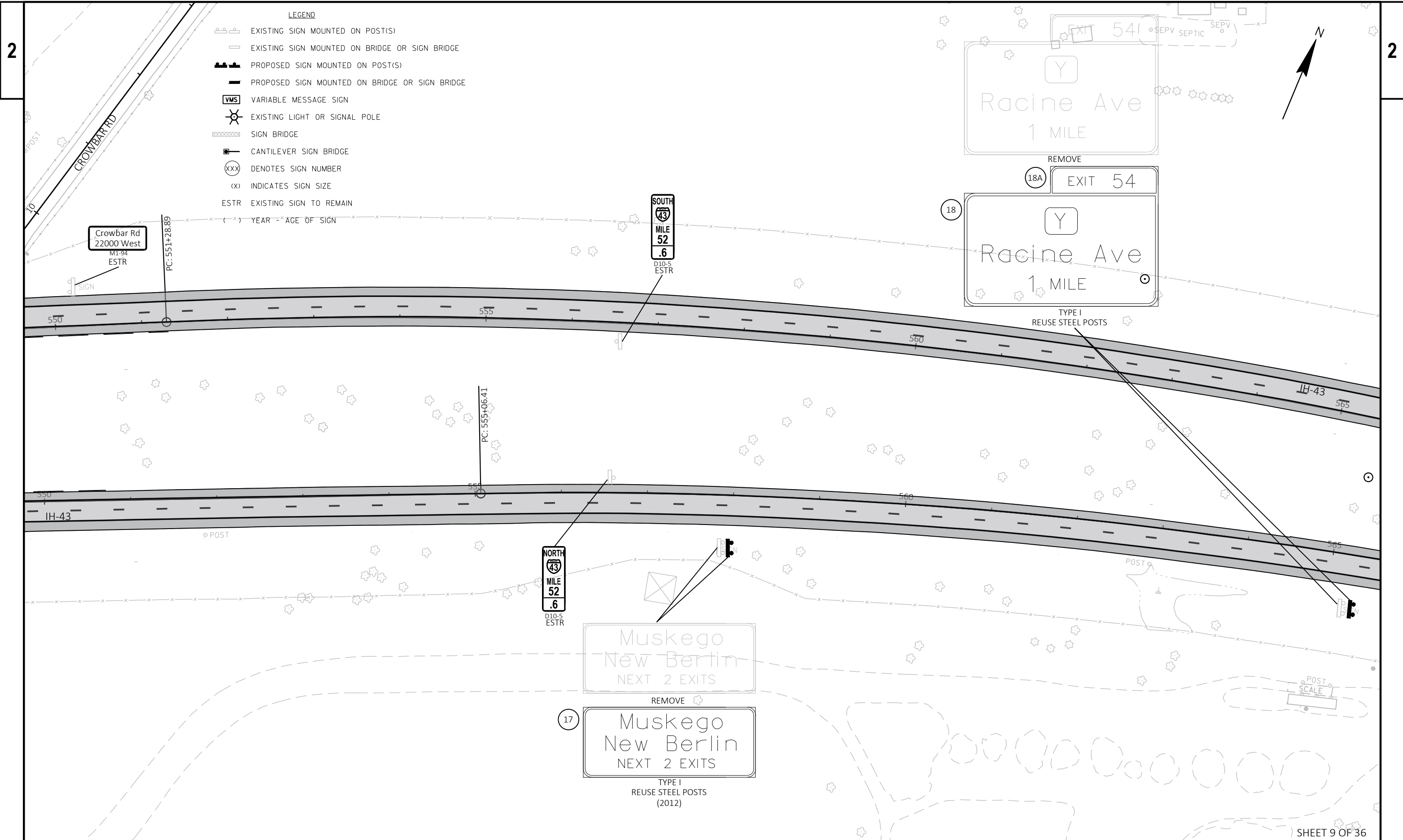
WISDOT/CADD SHEET 42



LEGEND













- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN
- YEAR - AGE OF SIGN

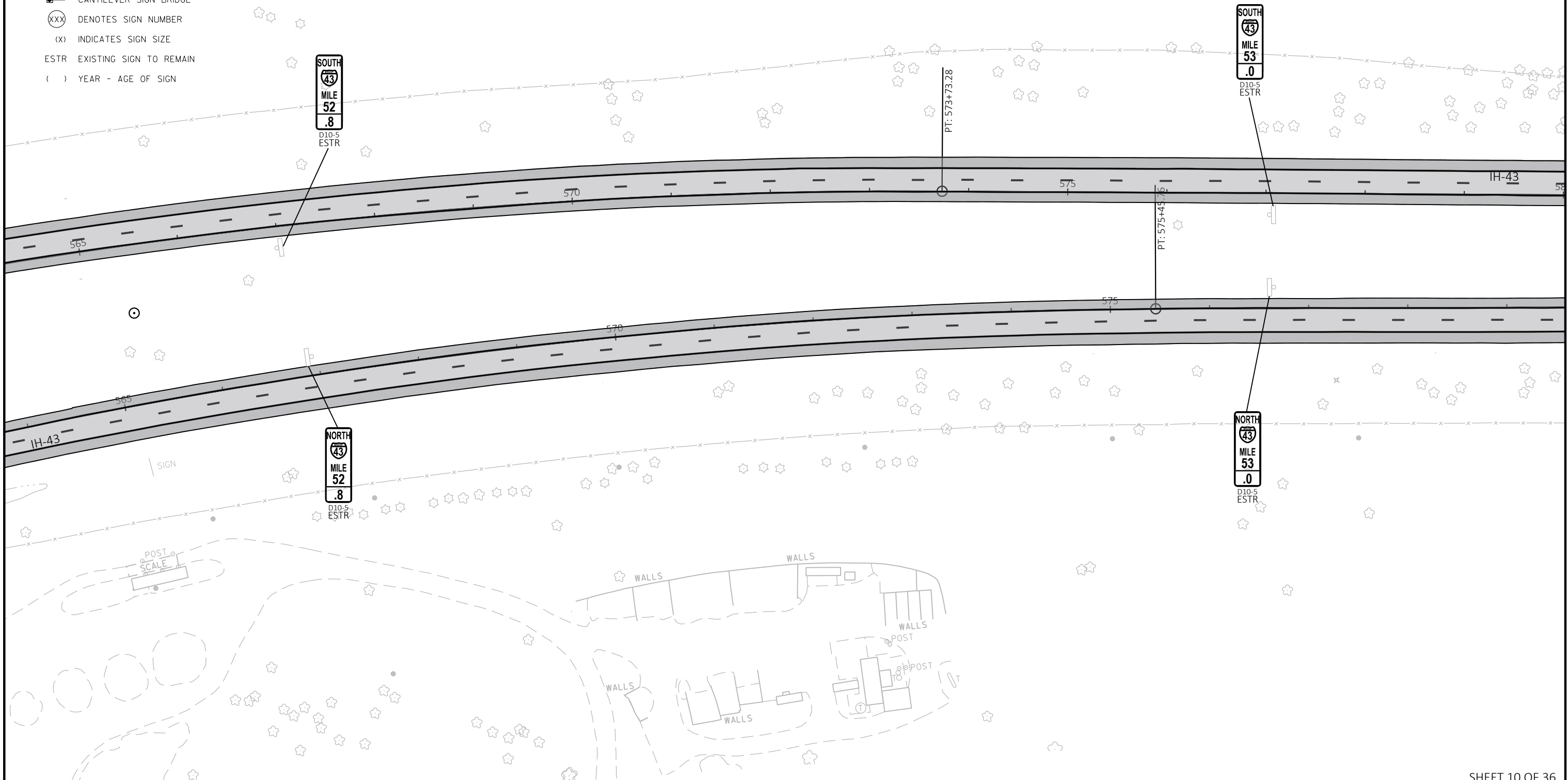


















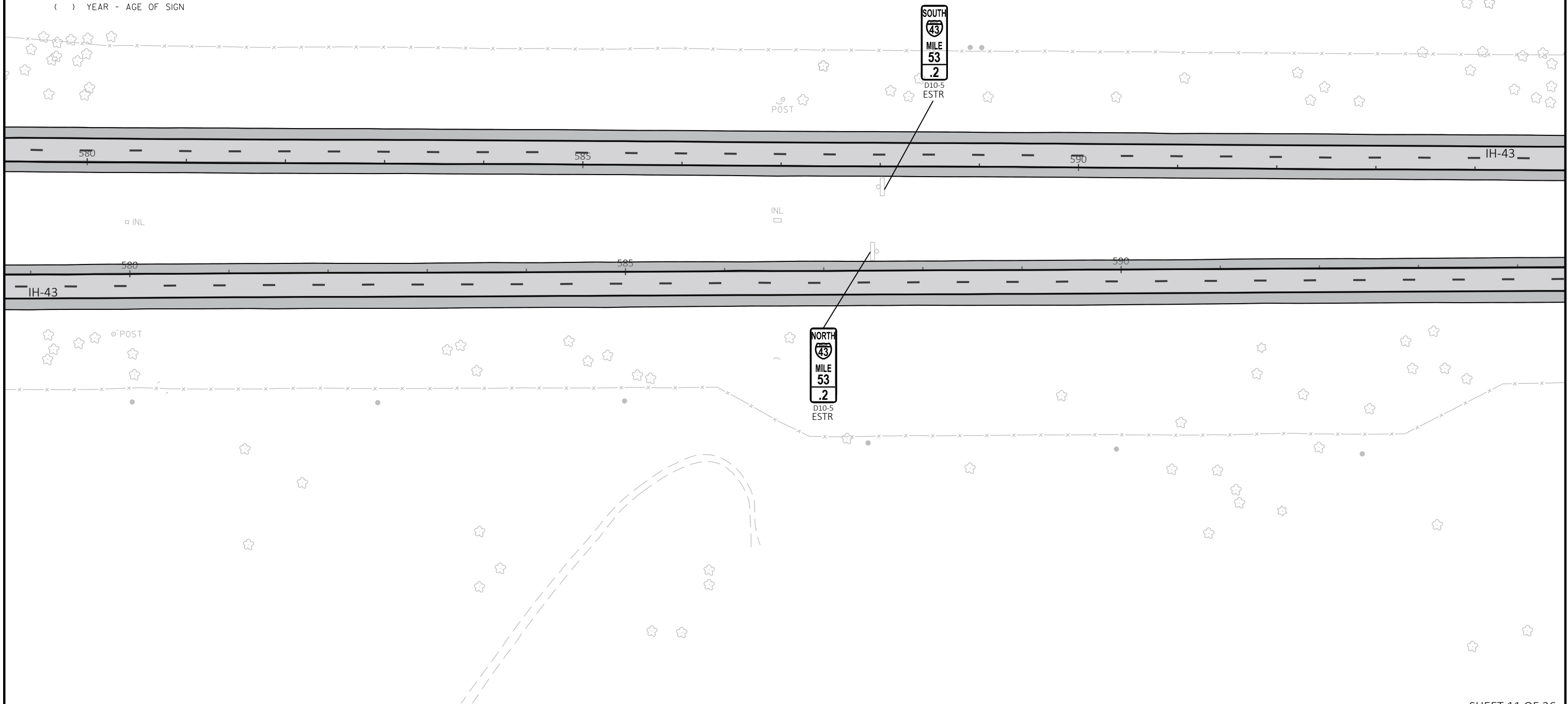
LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  VARIABLE MESSAGE SIGN
-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
-  (X) INDICATES SIGN SIZE
-  ESTR EXISTING SIGN TO REMAIN
-  ( ) YEAR - AGE OF SIGN

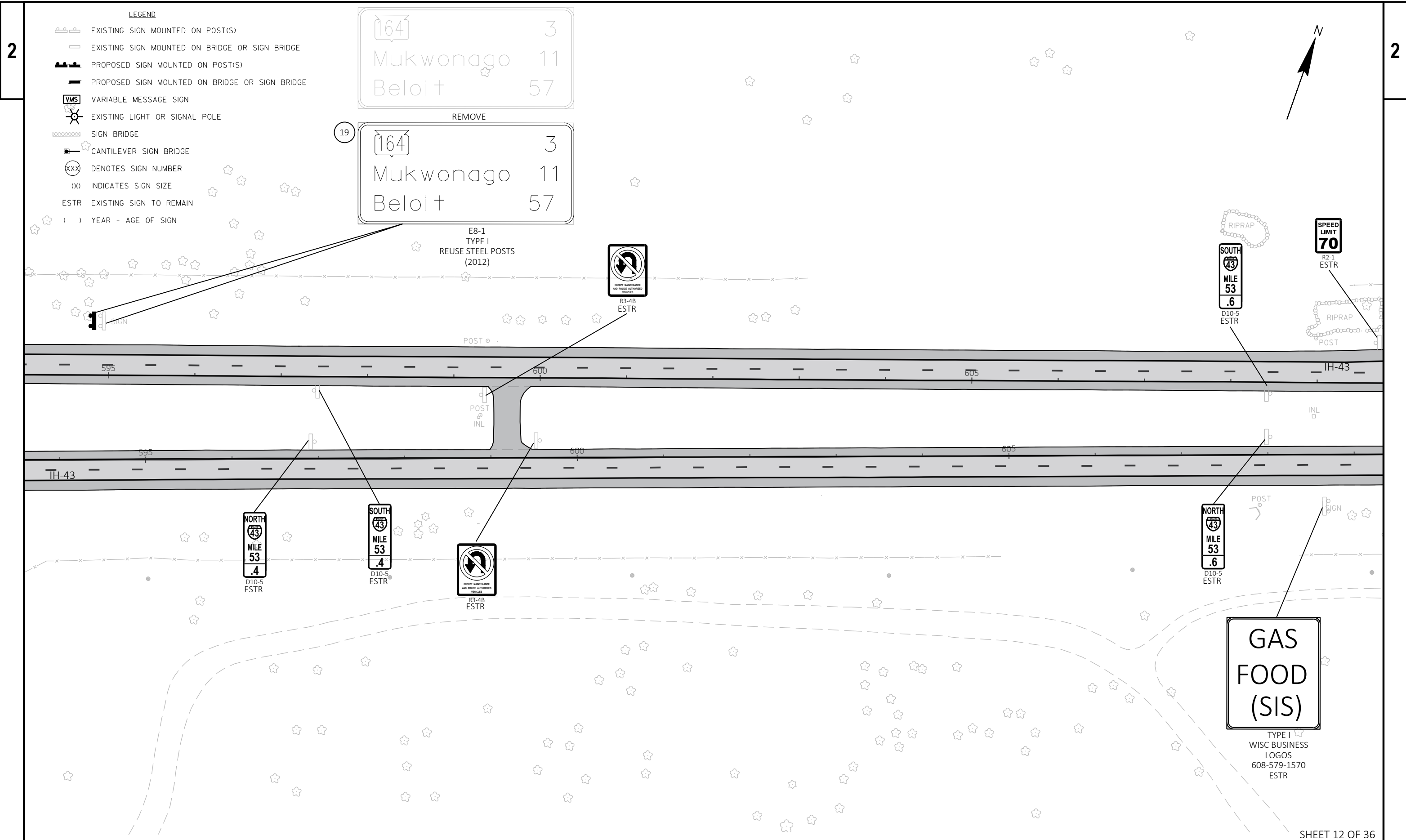


LEGEND

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-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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-  SIGN BRIDGE
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-  (x) INDICATES SIGN SIZE
-  ESTR EXISTING SIGN TO REMAIN
-  ( ) YEAR - AGE OF SIGN







LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN
- YEAR - AGE OF SIGN

164 3  
Mukwonago 11  
Beloit 57

REMOVE  
19 164 3  
Mukwonago 11  
Beloit 57

E8-1  
TYPE I  
REUSE STEEL POSTS  
(2012)

R3-4B  
ESTR

RIPRAP  
SOUTH  
43  
MILE  
53  
.6  
D10-5  
ESTR

SPEED  
LIMIT  
70  
R2-1  
ESTR

NORTH  
43  
MILE  
53  
.4  
D10-5  
ESTR

SOUTH  
43  
MILE  
53  
.4  
D10-5  
ESTR











R3-4B  
ESTR

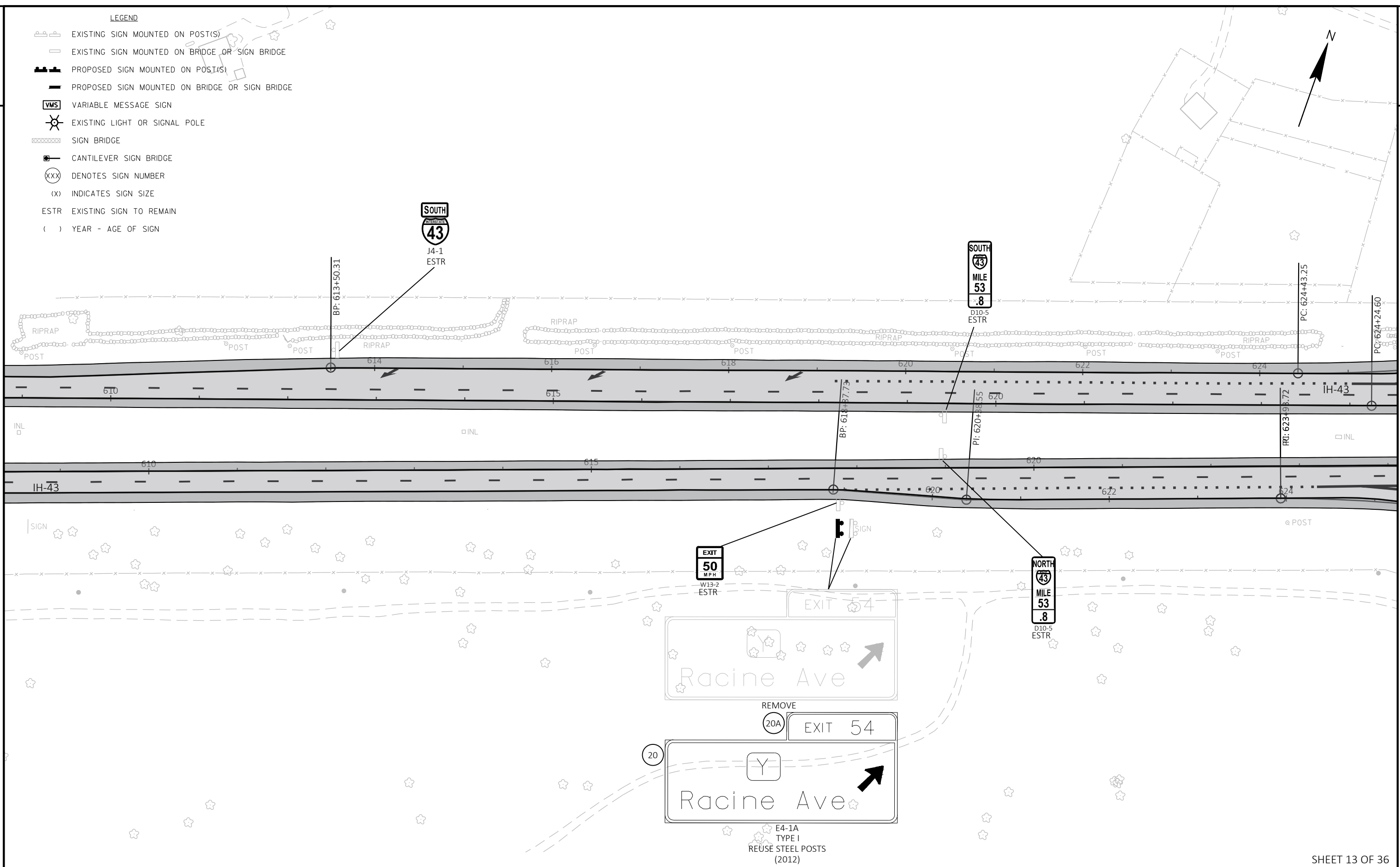
NORTH  
43  
MILE  
53  
.6  
D10-5  
ESTR

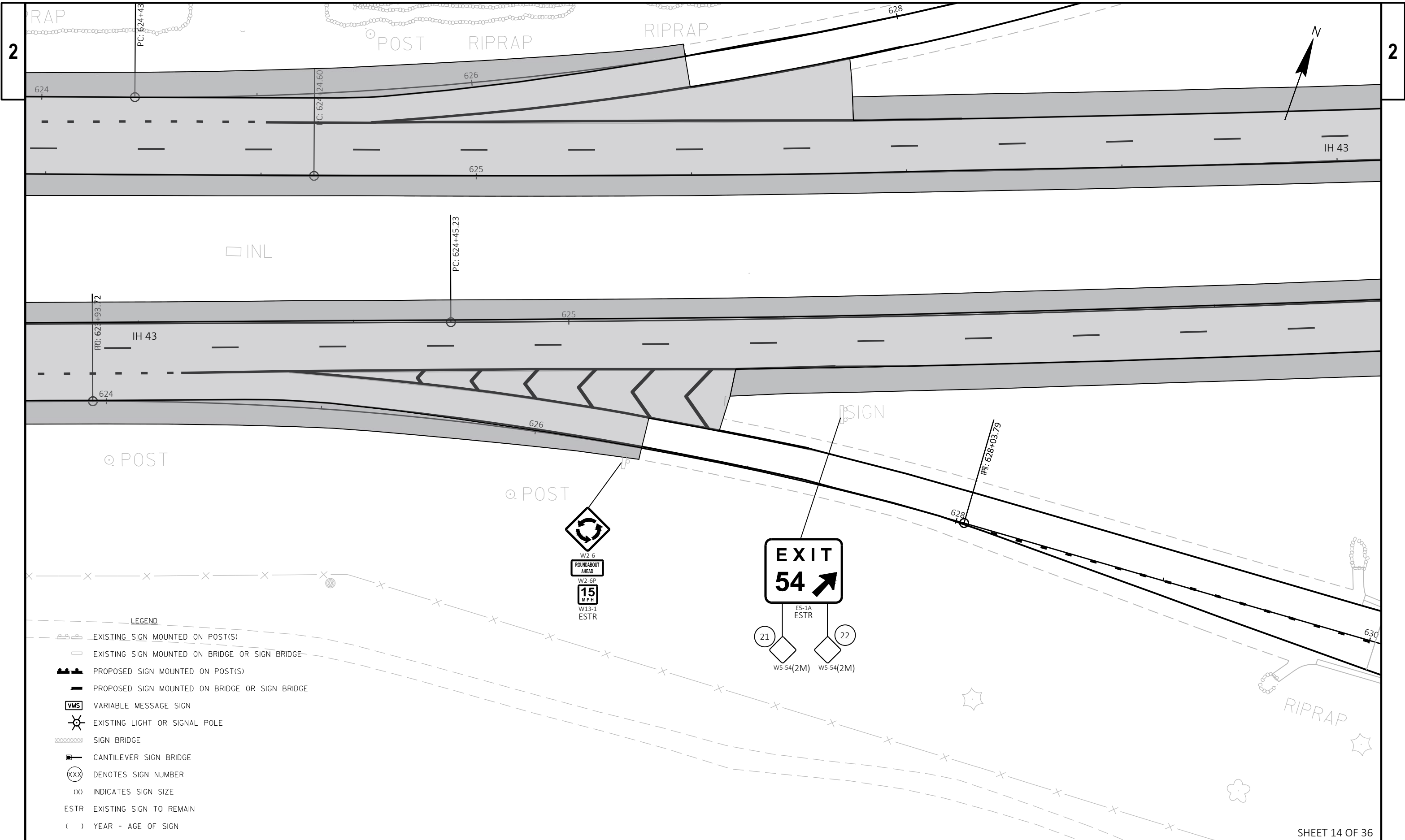
GAS  
FOOD  
(SIS)

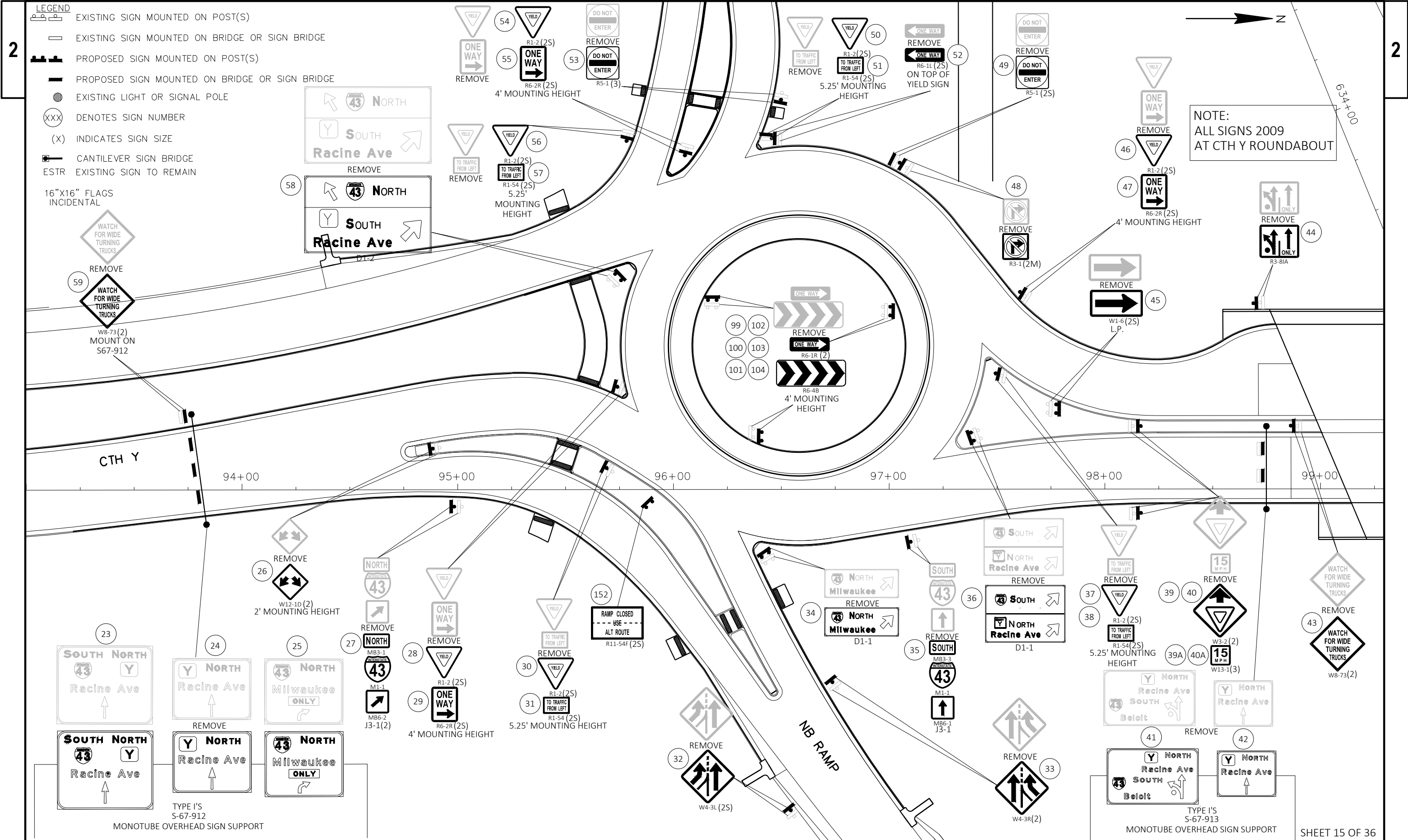
TYPE I  
WISC BUSINESS  
LOGOS  
608-579-1570  
ESTR

LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
-  (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN
- ( ) YEAR - AGE OF SIGN

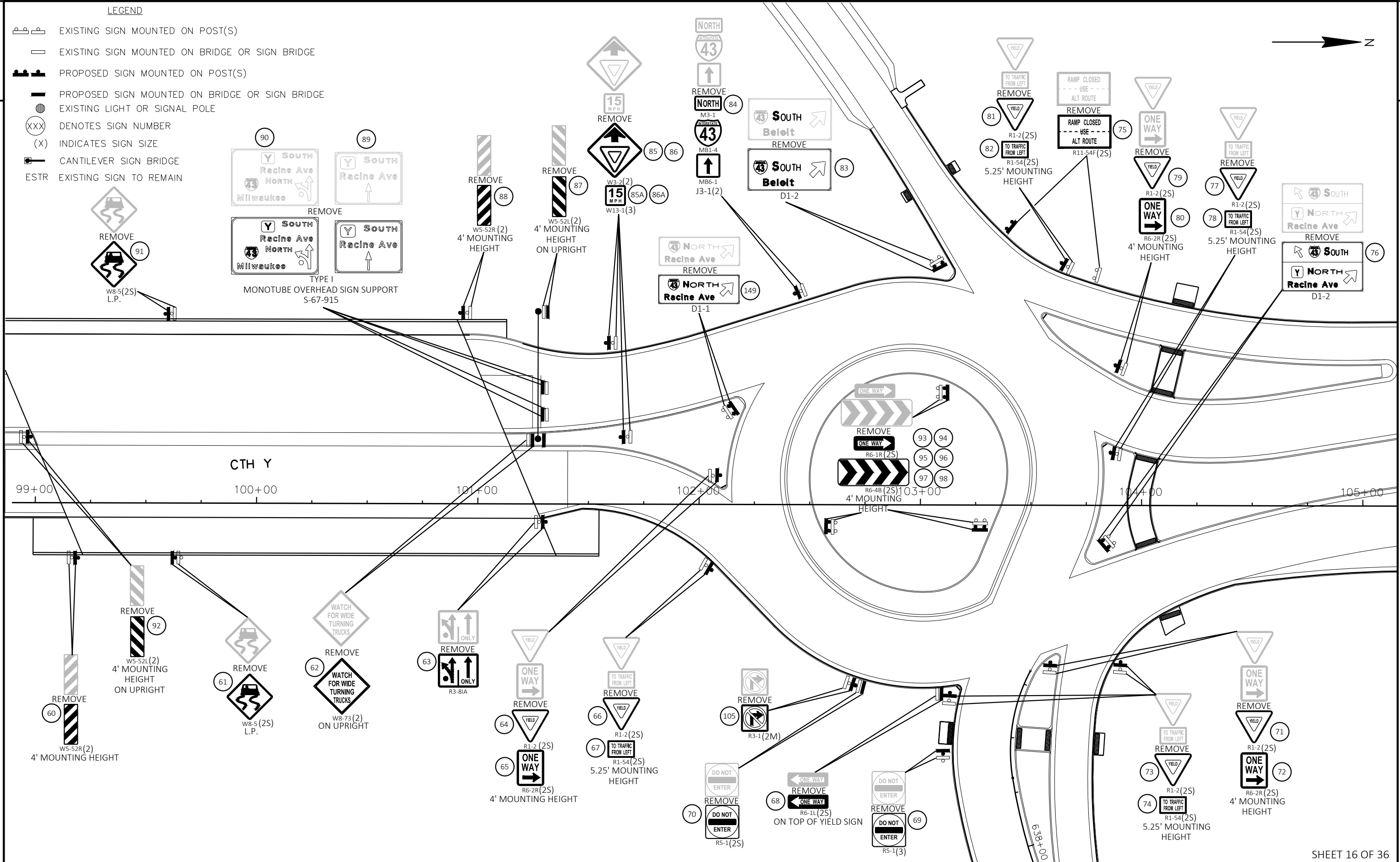






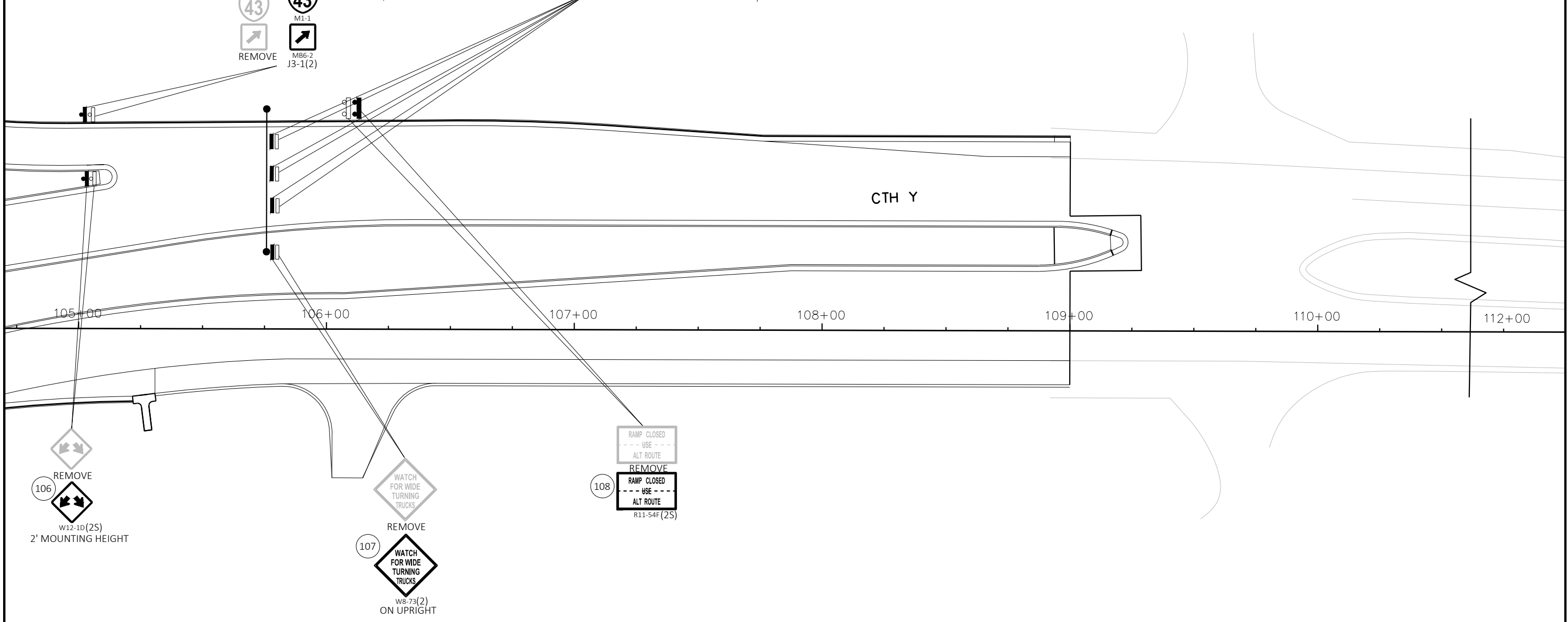
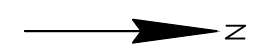
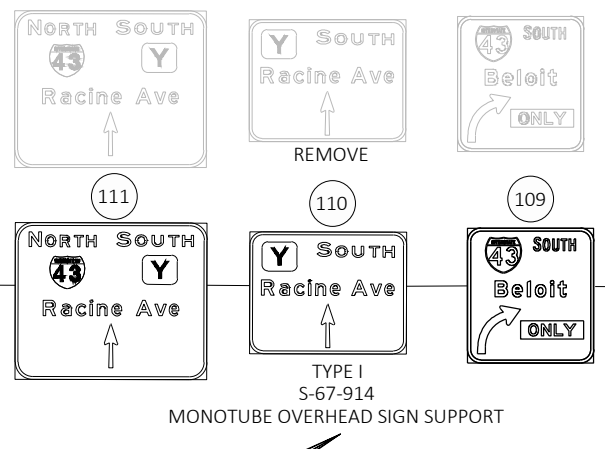
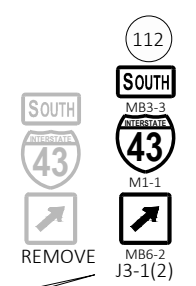
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- CANTILEVER SIGN BRIDGE
- EXISTING SIGN TO REMAIN



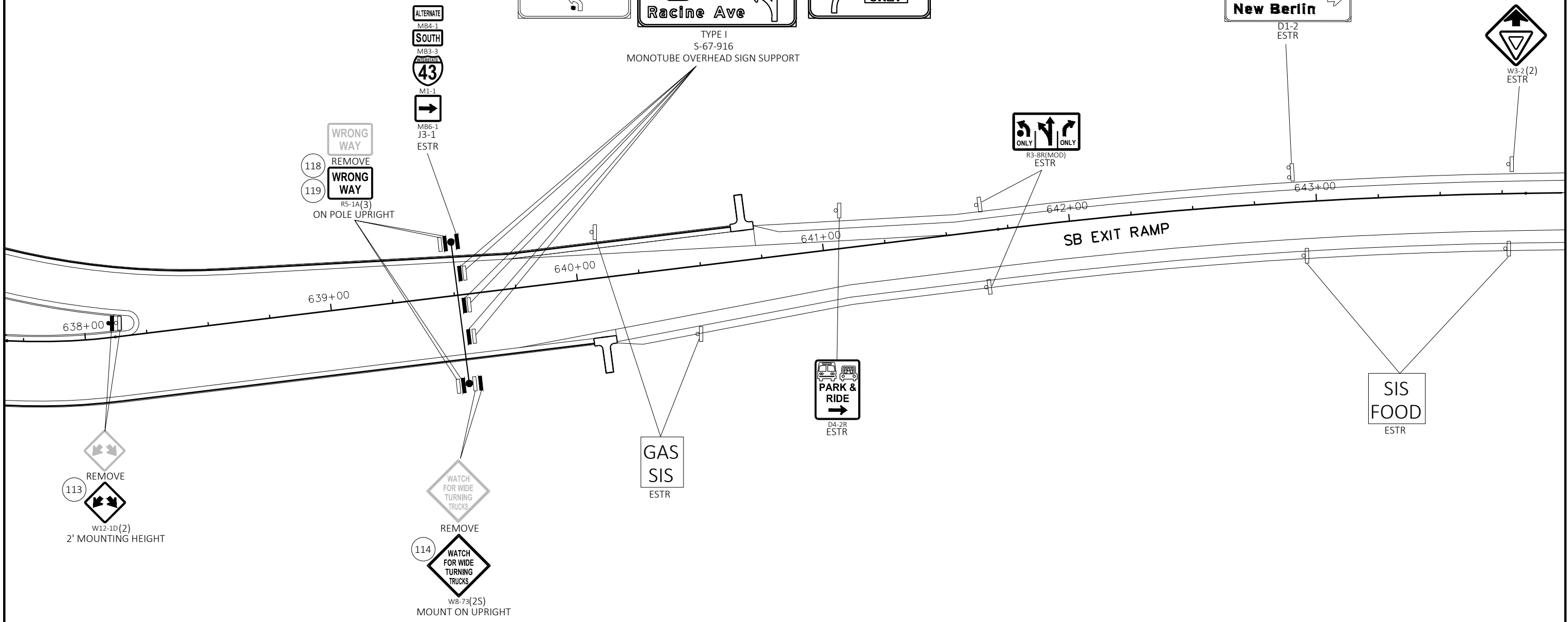
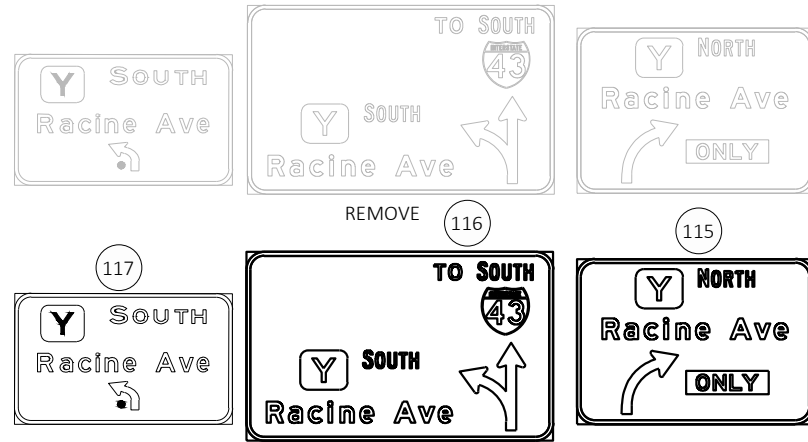
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
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- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- CANTILEVER SIGN BRIDGE
- EXISTING SIGN TO REMAIN











LEGEND

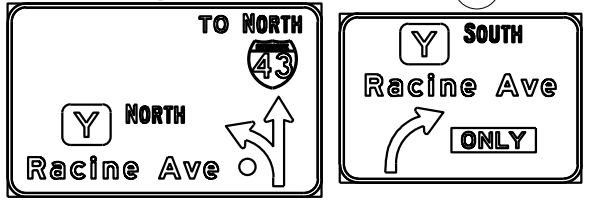
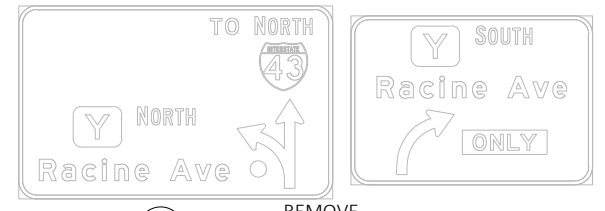
- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- CANTILEVER SIGN BRIDGE
- ESTR EXISTING SIGN TO REMAIN



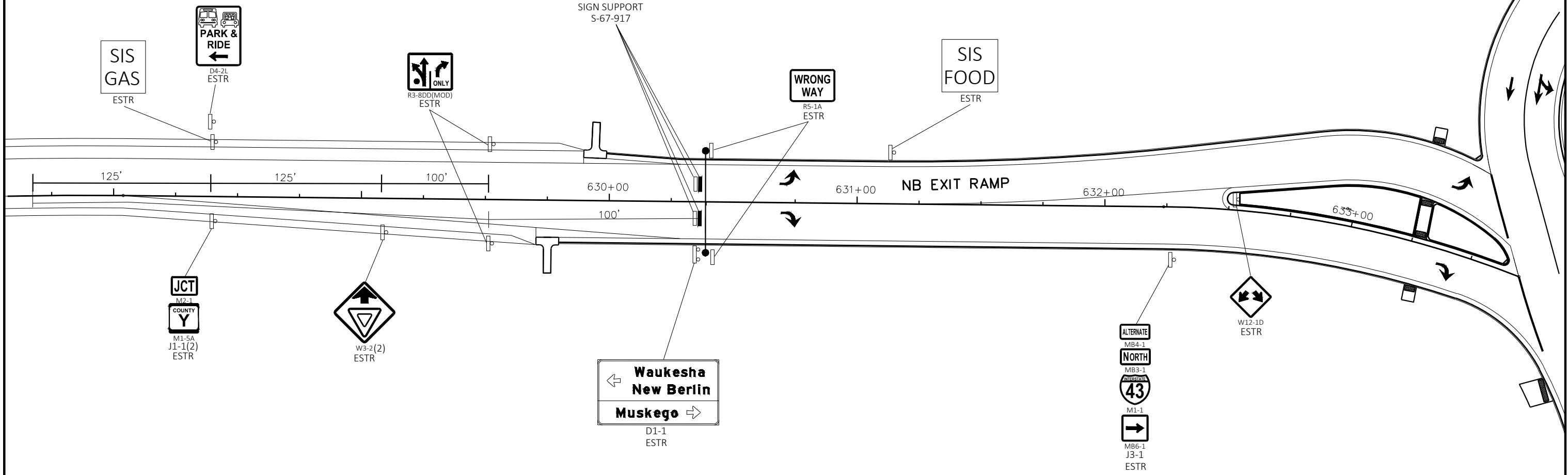


LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  EXISTING LIGHT OR SIGNAL POLE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE
-  CANTILEVER SIGN BRIDGE
- ESTR EXISTING SIGN TO REMAIN











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SIGN SUPPORT  
S-67-917

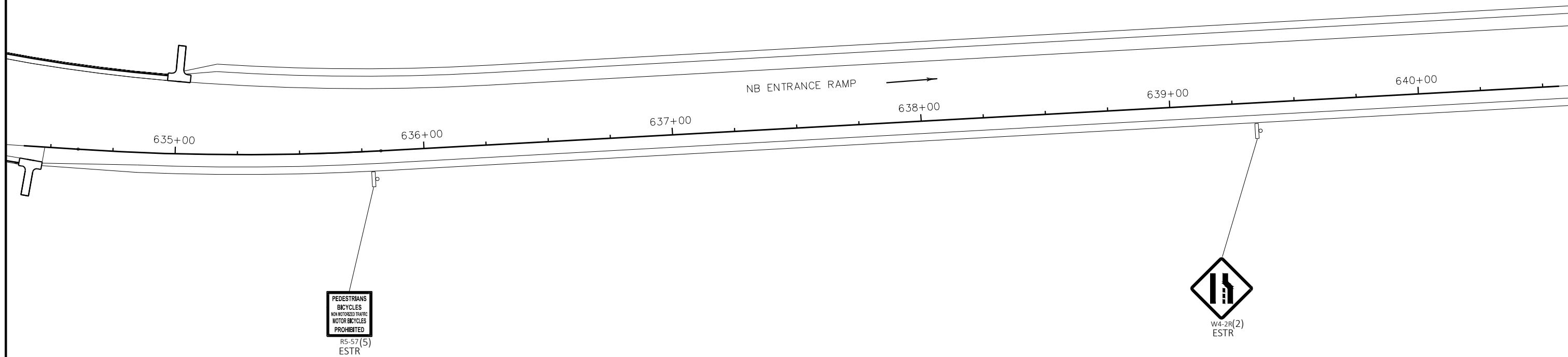
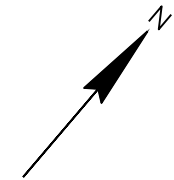


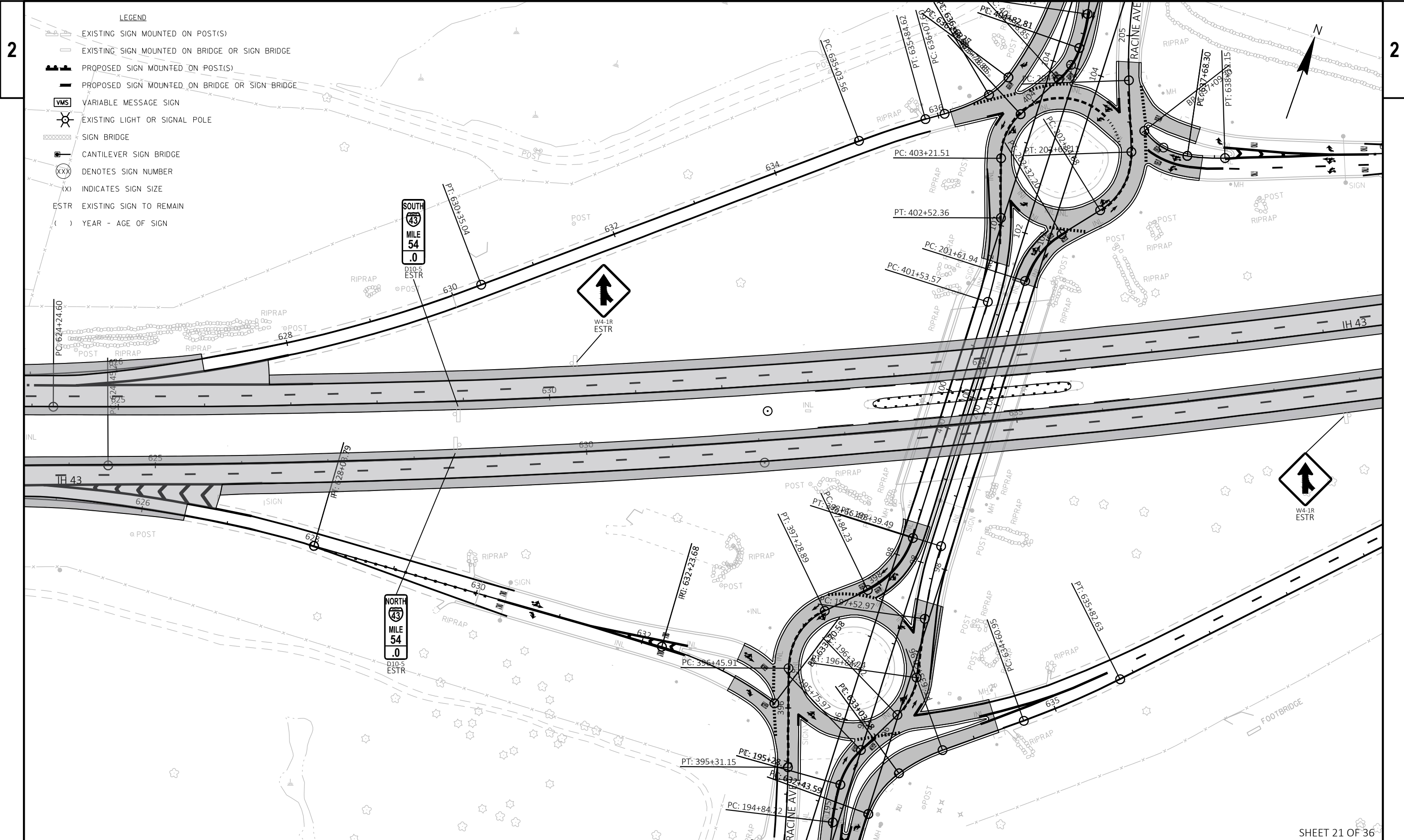
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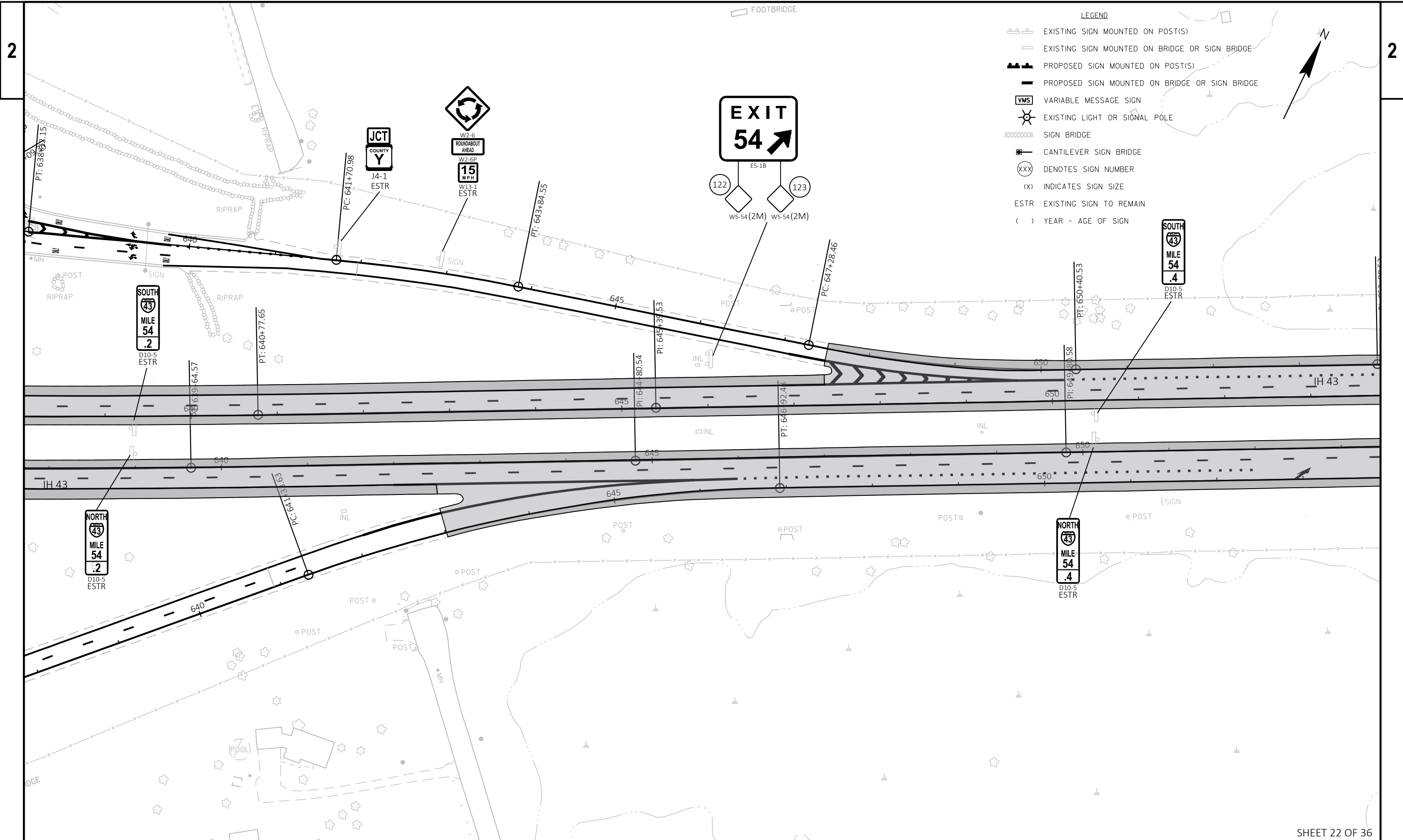
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LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  EXISTING LIGHT OR SIGNAL POLE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE
-  CANTILEVER SIGN BRIDGE
- ESTR EXISTING SIGN TO REMAIN







PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

PERMANENT SIGNING PLAN

SHEET

E

FILE NAME : N:\PDS\C3D\CAD\10900906\SIGN\030201\_PS.DWG  
LAYOUT NAME - 22

PLOT DATE : 6/12/2023 2:07 PM

PLOT BY : WAGNER, SCOTT H

PLOT NAME :

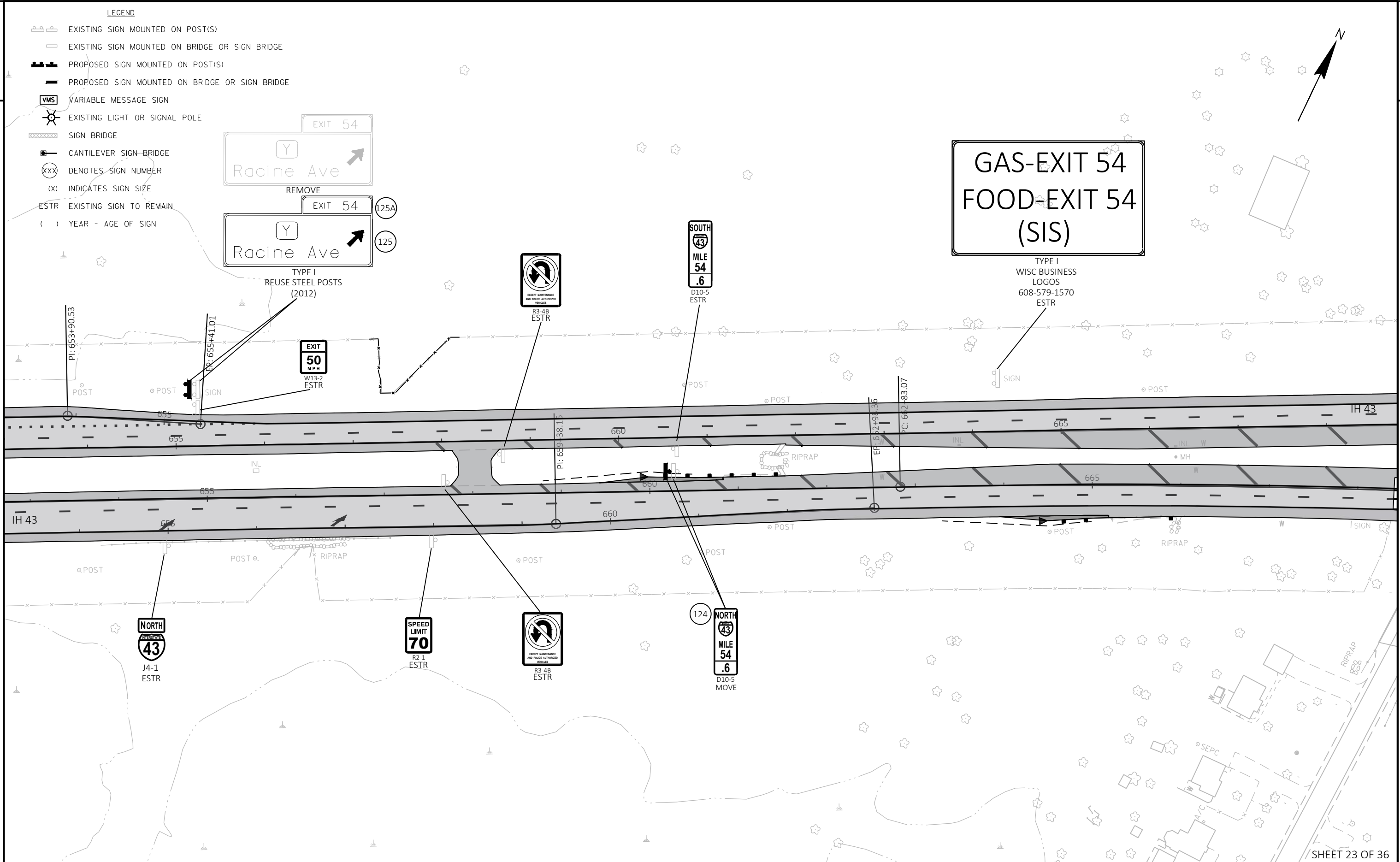
PLOT SCALE : 1 IN:100 FT

WISDOT/CADD SHEET 42

SHEET 22 OF 36

LEGEND

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- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN-BRIDGE
- DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN
- ( ) YEAR - AGE OF SIGN

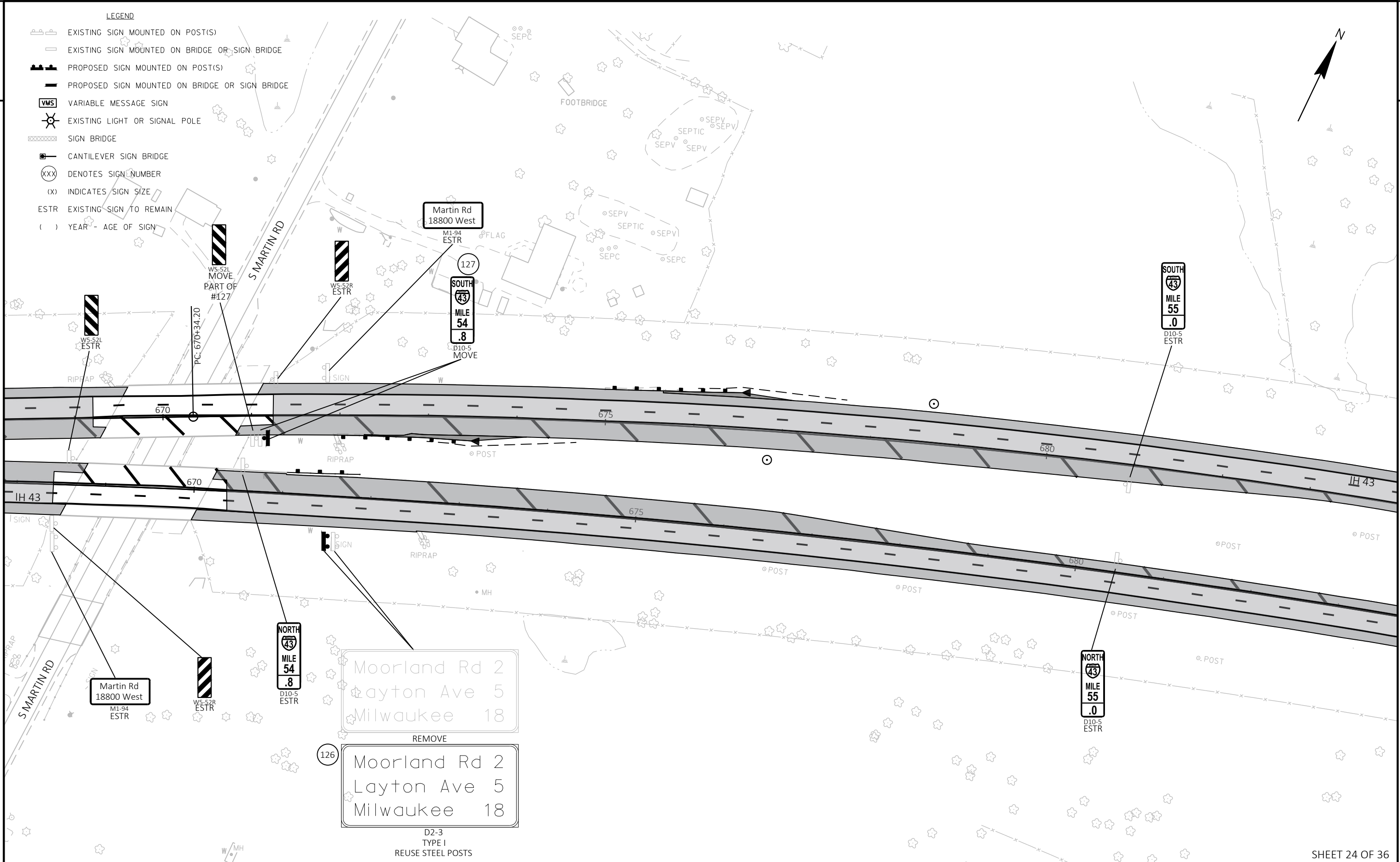


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	PERMANENT SIGNING PLAN	SHEET
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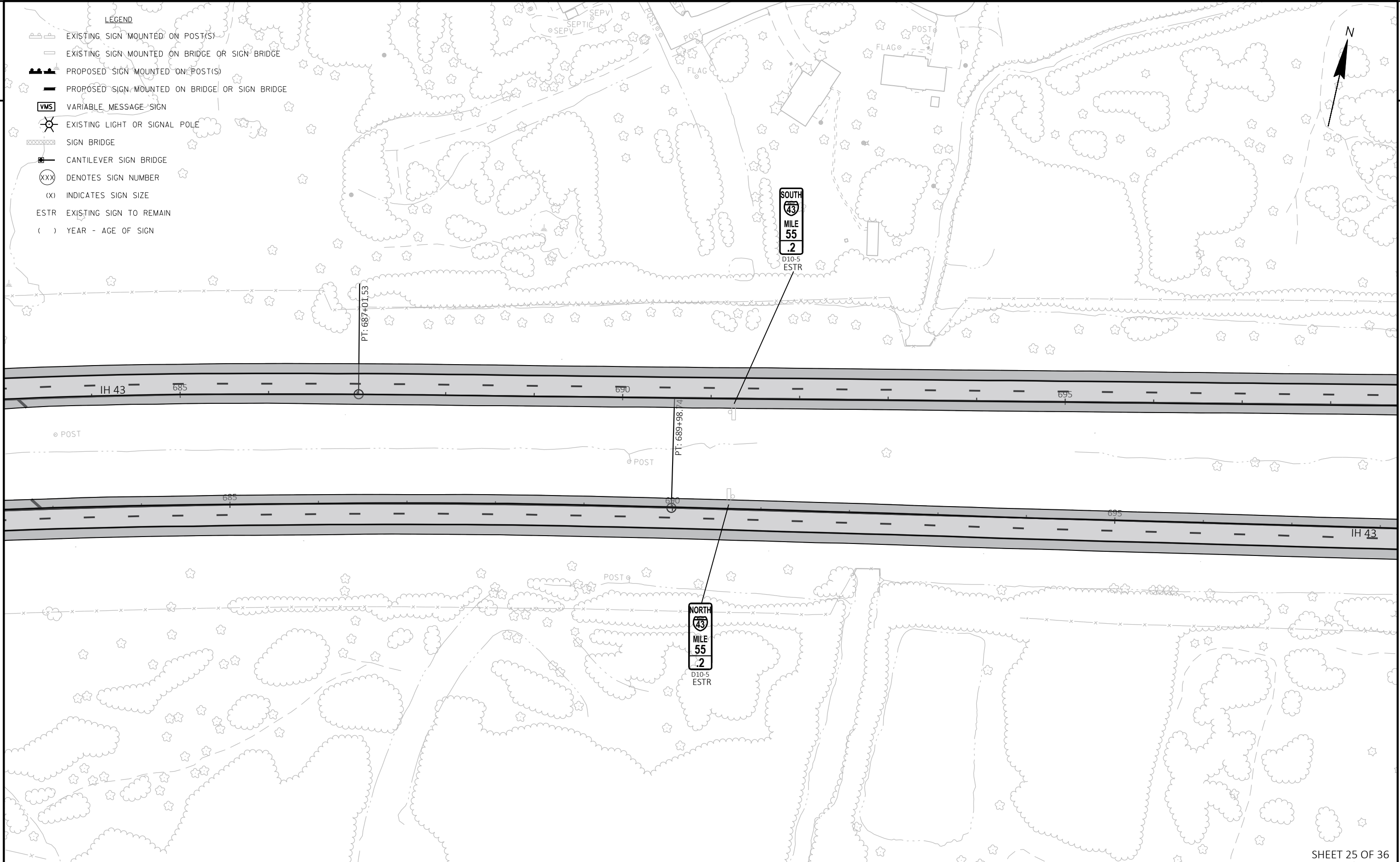


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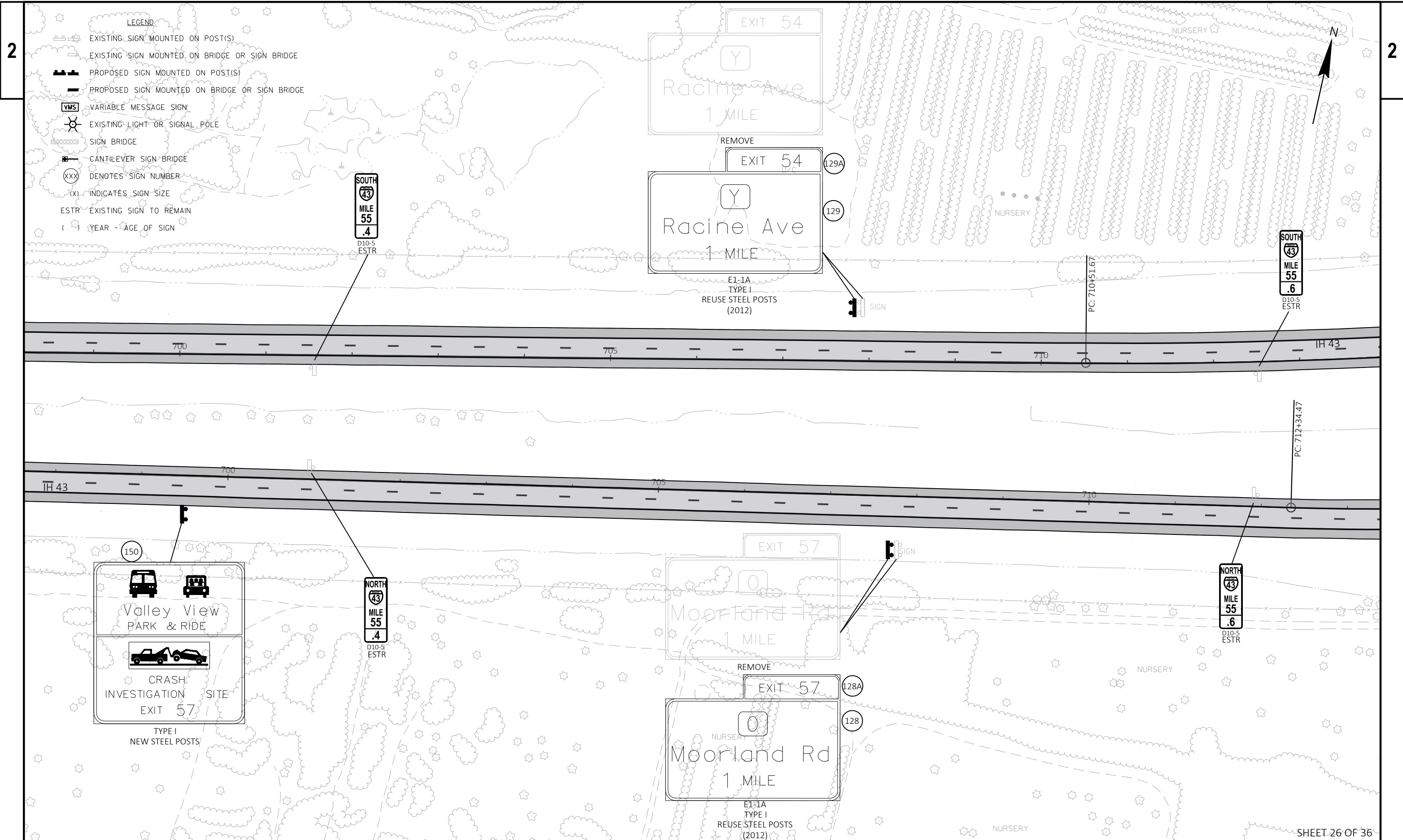
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- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN
- YEAR - AGE OF SIGN



- LEGEND**
- EXISTING SIGN MOUNTED ON POST(S)
  - EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - PROPOSED SIGN MOUNTED ON POST(S)
  - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - VARIABLE MESSAGE SIGN
  - EXISTING LIGHT OR SIGNAL POLE
  - SIGN BRIDGE
  - CANTILEVER SIGN BRIDGE
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  - INDICATES SIGN SIZE
  - EXISTING SIGN TO REMAIN
  - YEAR - AGE OF SIGN







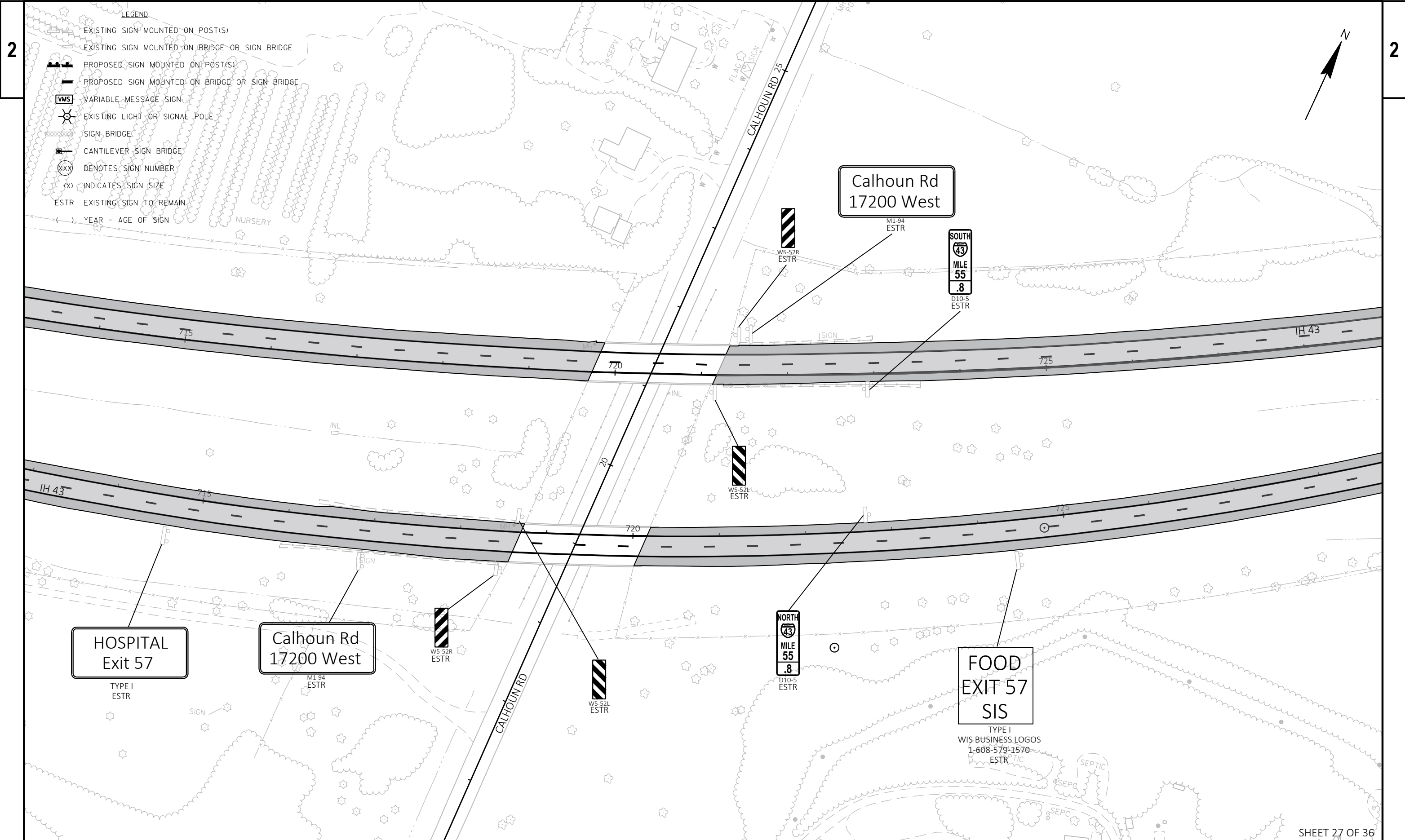
HWY: IH 43

COUNTY: WAUKESHA

PERMANENT SIGNING PLAN

SHEET

E



2

2



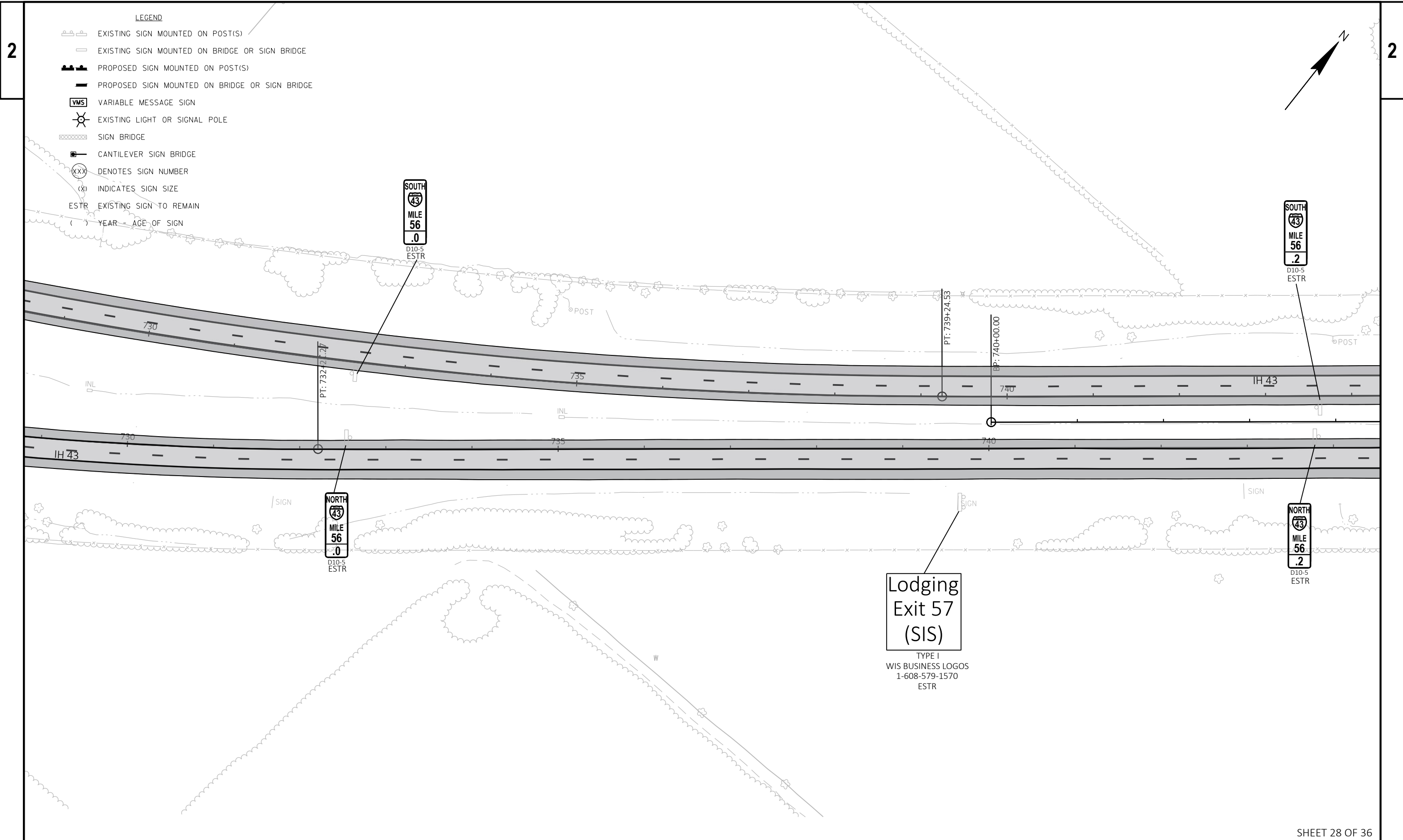
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  - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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  - EXISTING LIGHT OR SIGNAL POLE
  - SIGN BRIDGE
  - CANTILEVER SIGN BRIDGE
  - DENOTES SIGN NUMBER
  - INDICATES SIGN SIZE
  - EXSTR EXISTING SIGN TO REMAIN
  - YEAR - AGE OF SIGN

HOSPITAL  
Exit 57  
TYPE I  
ESTR

Calhoun Rd  
17200 West  
M1-94  
ESTR

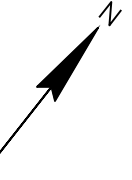
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EXIT 57  
SIS  
TYPE I  
WIS BUSINESS LOGOS  
1-608-579-1570  
ESTR

Calhoun Rd  
17200 West  
M1-94  
ESTR



LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN
- YEAR - AGE OF SIGN



2

2

SOUTH  
43  
MILE  
56  
.2  
D10-5  
ESTR

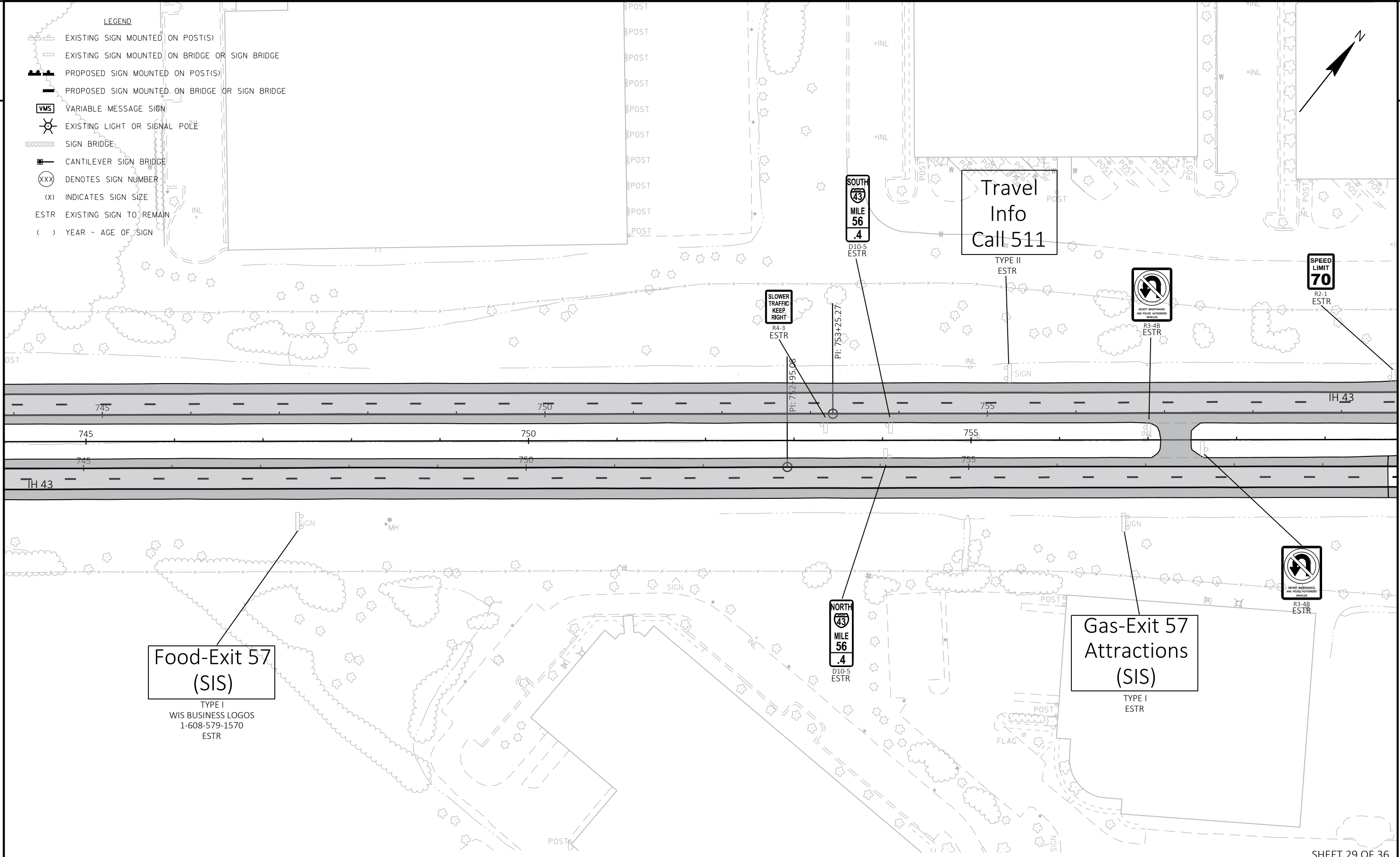
SOUTH  
43  
MILE  
56  
.0  
D10-5  
ESTR

NORTH  
43  
MILE  
56  
.0  
D10-5  
ESTR

NORTH  
43  
MILE  
56  
.2  
D10-5  
ESTR

Lodging  
Exit 57  
(SIS)  
TYPE I  
WIS BUSINESS LOGOS  
1-608-579-1570  
ESTR

- LEGEND**
- EXISTING SIGN MOUNTED ON POST(S)
  - EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - PROPOSED SIGN MOUNTED ON POST(S)
  - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - VARIABLE MESSAGE SIGN
  - EXISTING LIGHT OR SIGNAL POLE
  - SIGN BRIDGE
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  - INDICATES SIGN SIZE
  - EXISTING SIGN TO REMAIN
  - YEAR - AGE OF SIGN

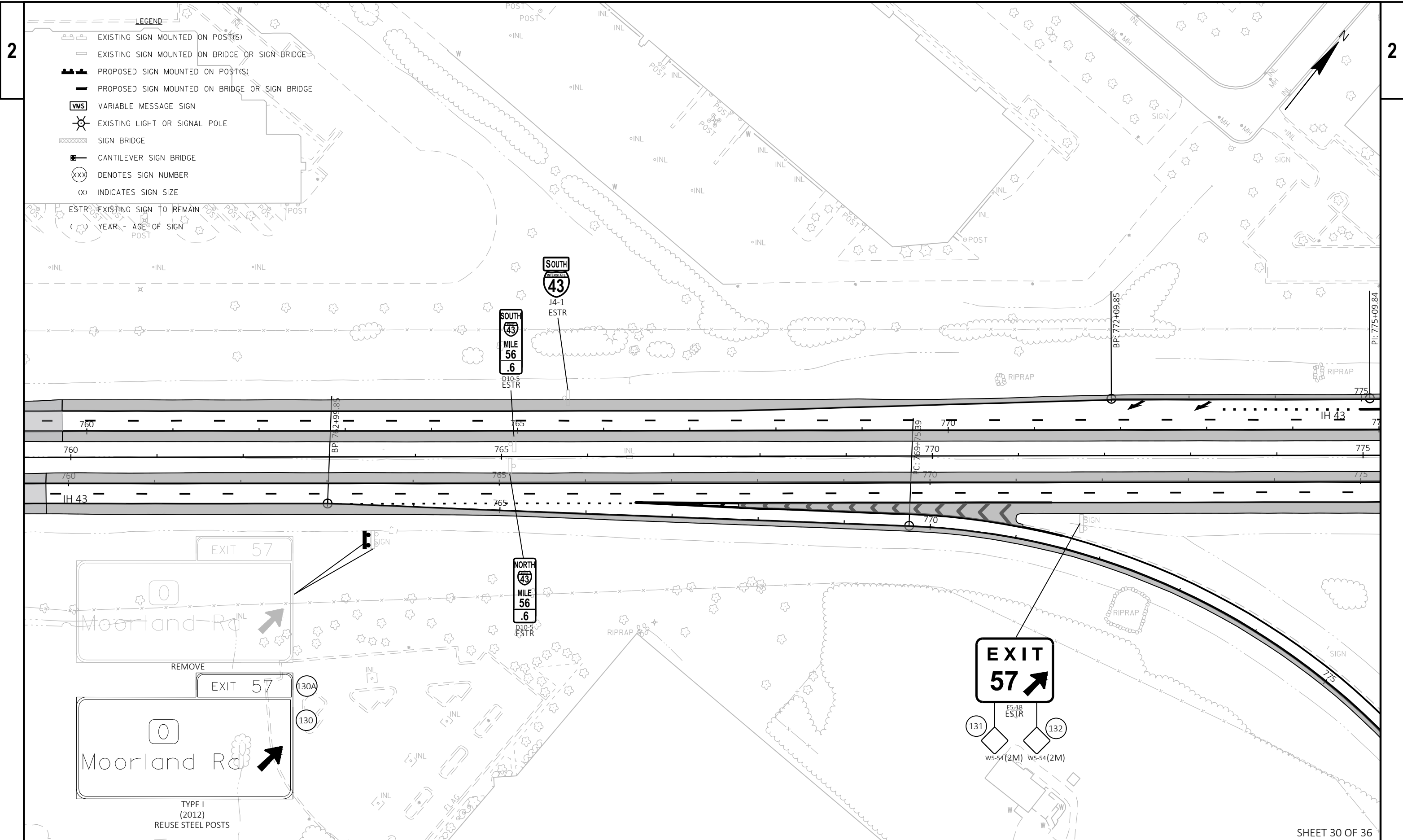


**Food-Exit 57  
(SIS)**  
TYPE I  
WIS BUSINESS LOGOS  
1-608-579-1570  
ESTR

**Travel  
Info  
Call 511**

**Gas-Exit 57  
Attractions  
(SIS)**  
TYPE I  
ESTR





PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

PERMANENT SIGNING PLAN

SHEET

E

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LAYOUT NAME - 30

PLOT DATE : 6/12/2023 2:12 PM

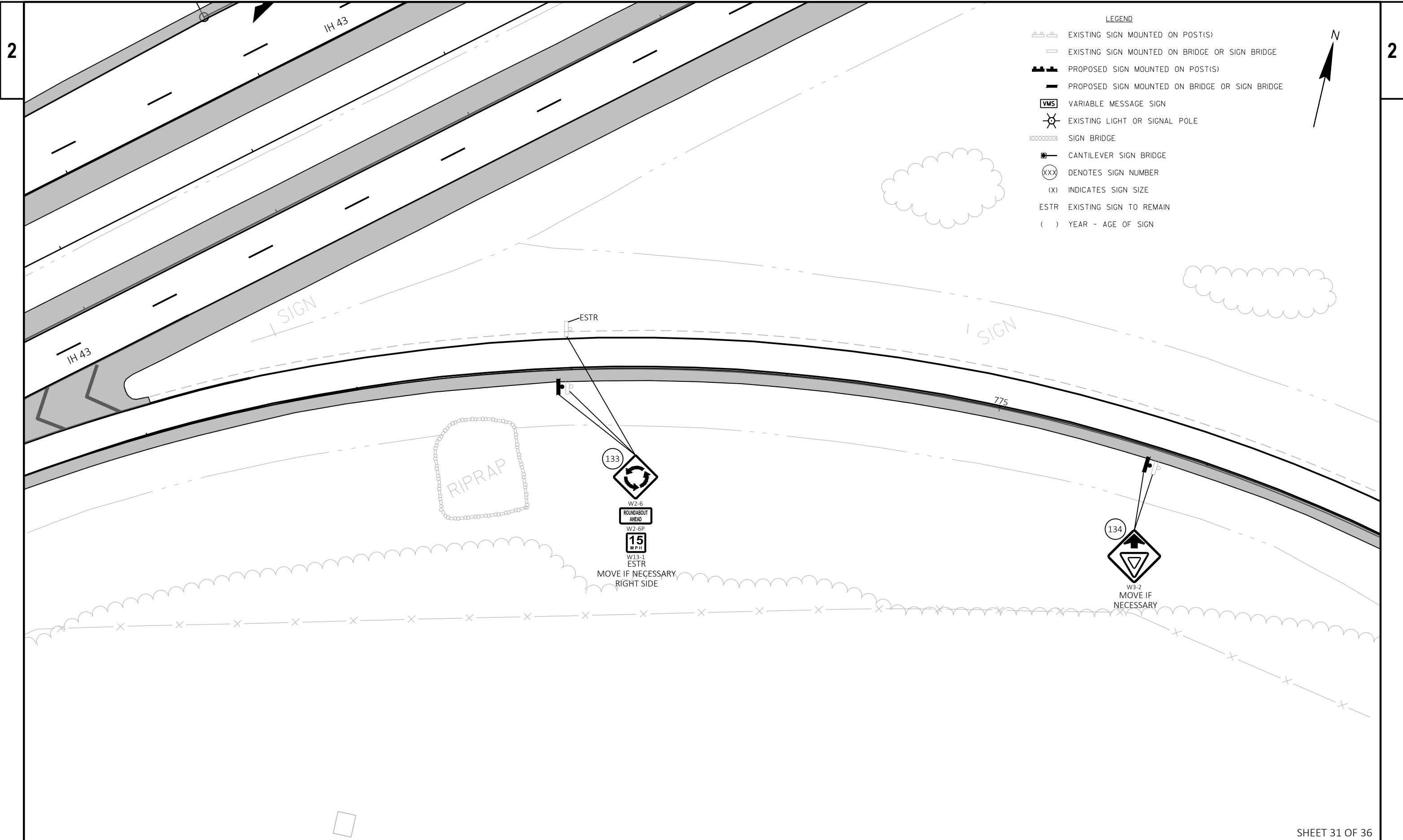
PLOT BY : WAGNER, SCOTT H

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADD SHEET 42

SHEET 30 OF 36

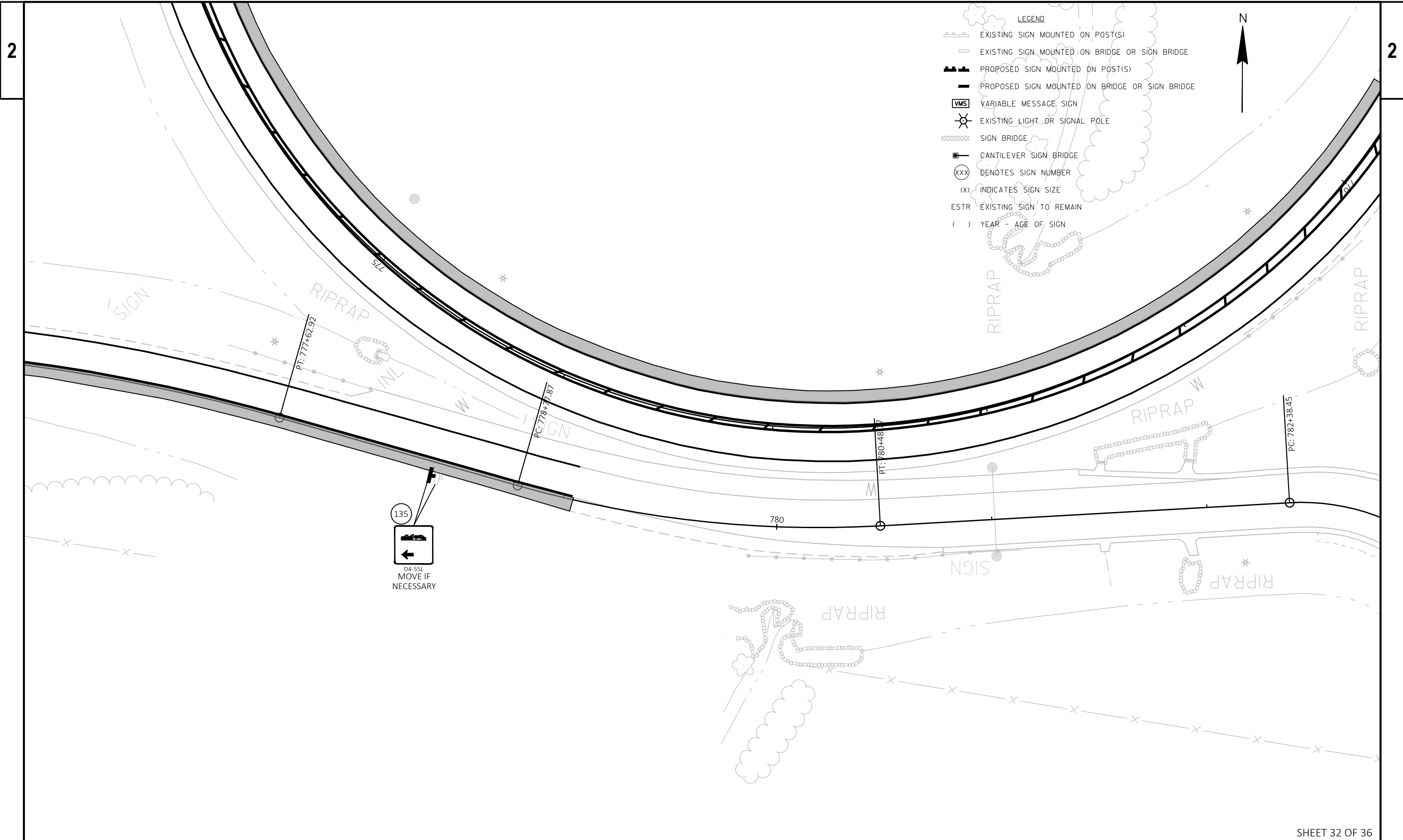


- LEGEND**
- EXISTING SIGN MOUNTED ON POST(S)
  - EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - PROPOSED SIGN MOUNTED ON POST(S)
  - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - VARIABLE MESSAGE SIGN
  - EXISTING LIGHT OR SIGNAL POLE
  - SIGN BRIDGE
  - CANTILEVER SIGN BRIDGE
  - DENOTES SIGN NUMBER
  - INDICATES SIGN SIZE
  - ESTR EXISTING SIGN TO REMAIN
  - ( ) YEAR - AGE OF SIGN



2

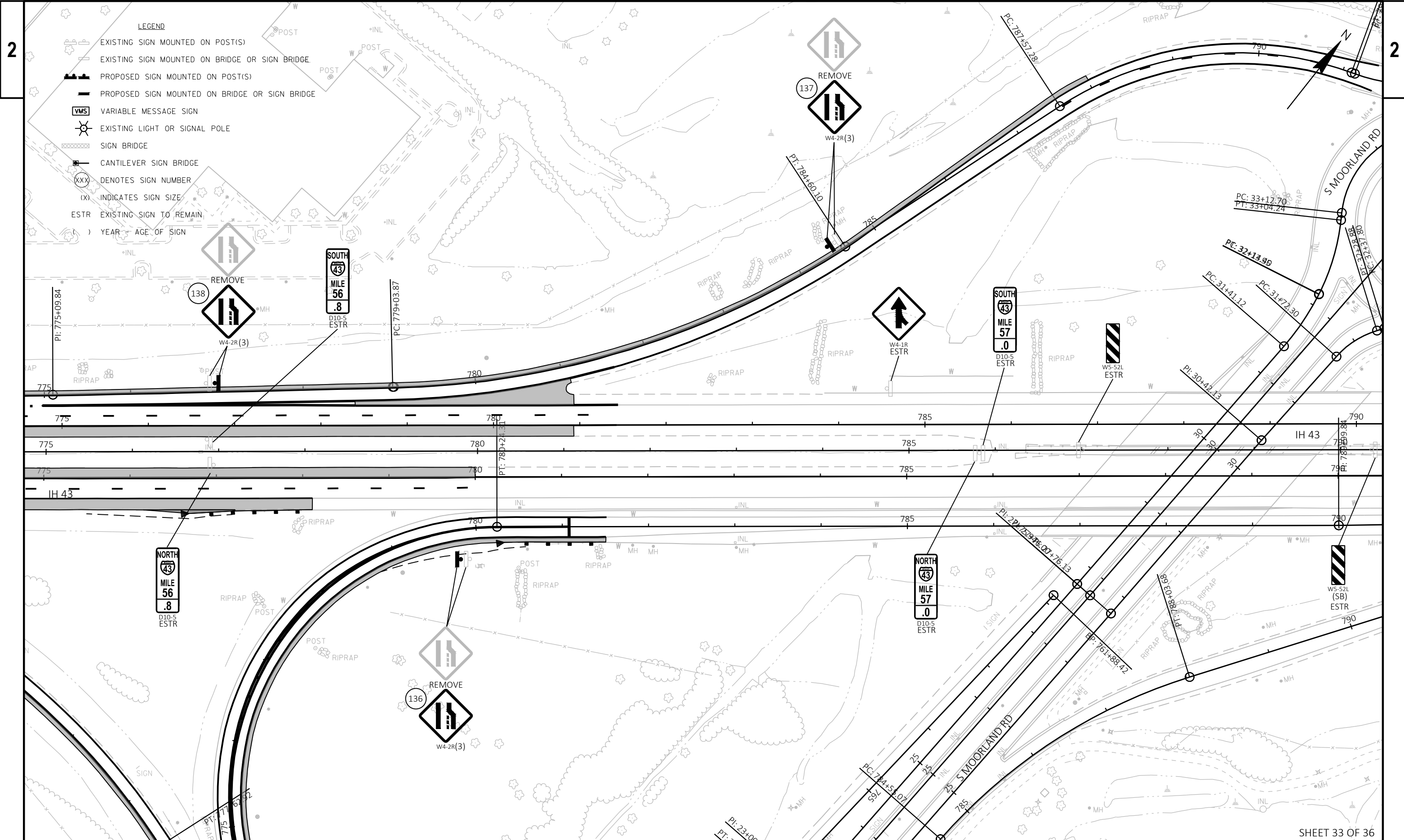
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- LEGEND**
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  - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - VARIABLE MESSAGE SIGN
  - EXISTING LIGHT OR SIGNAL POLE
  - SIGN BRIDGE
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  - INDICATES SIGN SIZE
  - EXISTING SIGN TO REMAIN
  - YEAR - AGE OF SIGN













135  
  
 D4-55L  
 MOVE IF  
 NECESSARY





**LEGEND**

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- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- EXISTING SIGN TO REMAIN
- YEAR AGE OF SIGN

- LEGEND**
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  -  SIGN BRIDGE
  -  CANTILEVER SIGN BRIDGE
  -  DENOTES SIGN NUMBER
  -  INDICATES SIGN SIZE
  -  EXISTING SIGN TO REMAIN
  -  YEAR - AGE OF SIGN

NO SIGNS  
THIS SHEET

PT. 784+60.10  
RIPRAP  
MH

RIPRAP

RIPRAP

RIPRAP

RIPRAP

W

IH 43

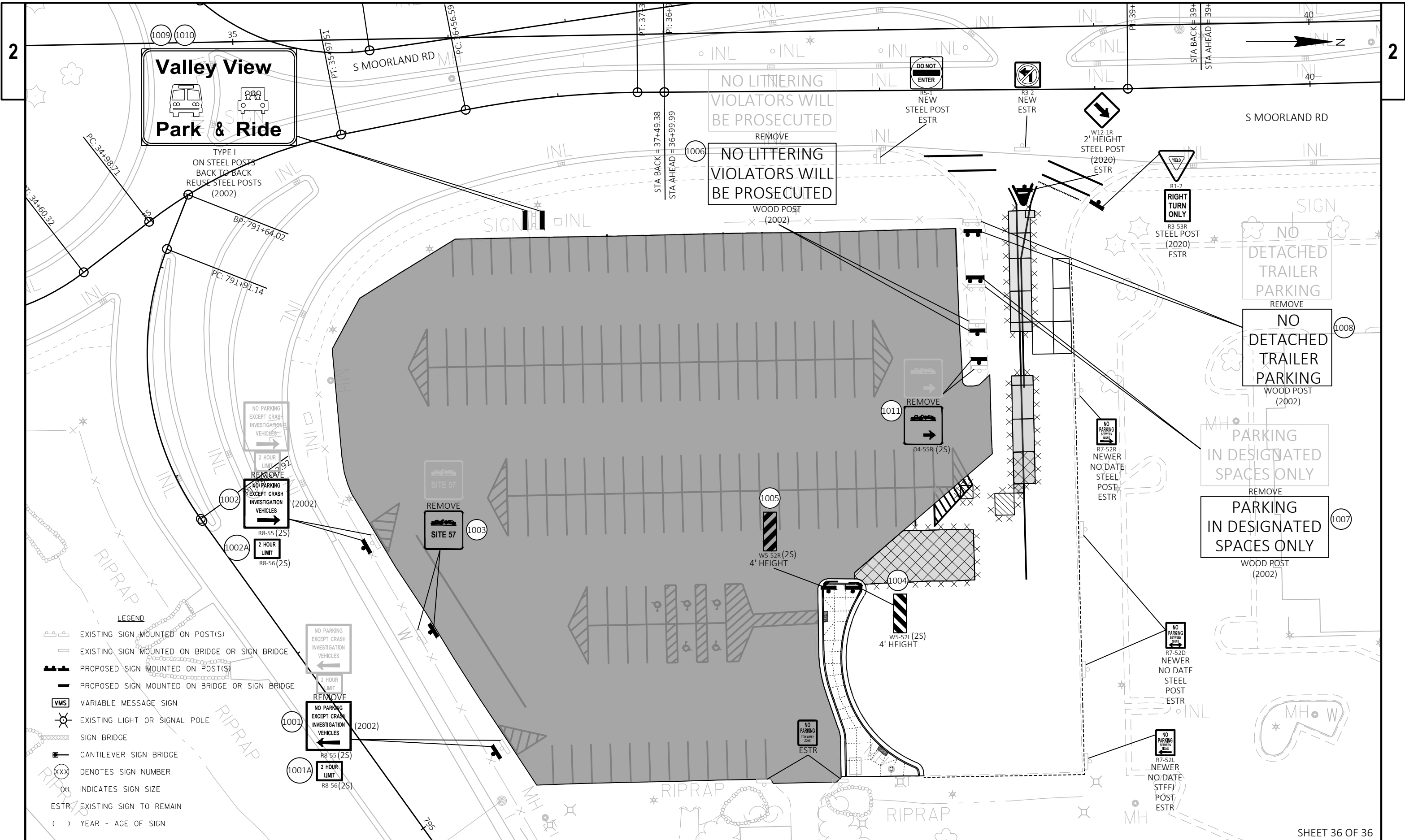
780

780

PC: 779+03.87

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  - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - VARIABLE MESSAGE SIGN
  - EXISTING LIGHT OR SIGNAL POLE
  - SIGN BRIDGE
  - CANTILEVER SIGN BRIDGE
  - DENOTES SIGN NUMBER
  - INDICATES SIGN SIZE
  - ESTR EXISTING SIGN TO REMAIN
  - ( ) YEAR - AGE OF SIGN





**Valley View  
Park & Ride**

TYPE I  
ON STEEL POSTS  
BACK TO BACK  
REUSE STEEL POSTS  
(2002)

NO LITTERING  
VIOLATORS WILL  
BE PROSECUTED  
REMOVE

NO LITTERING  
VIOLATORS WILL  
BE PROSECUTED  
WOOD POST  
- (2002) -












NO  
DETACHED  
TRAILER  
PARKING  
REMOVE

NO  
DETACHED  
TRAILER  
PARKING  
WOOD POST  
(2002)

PARKING  
IN DESIGNATED  
SPACES ONLY  
REMOVE

PARKING  
IN DESIGNATED  
SPACES ONLY  
WOOD POST  
(2002)

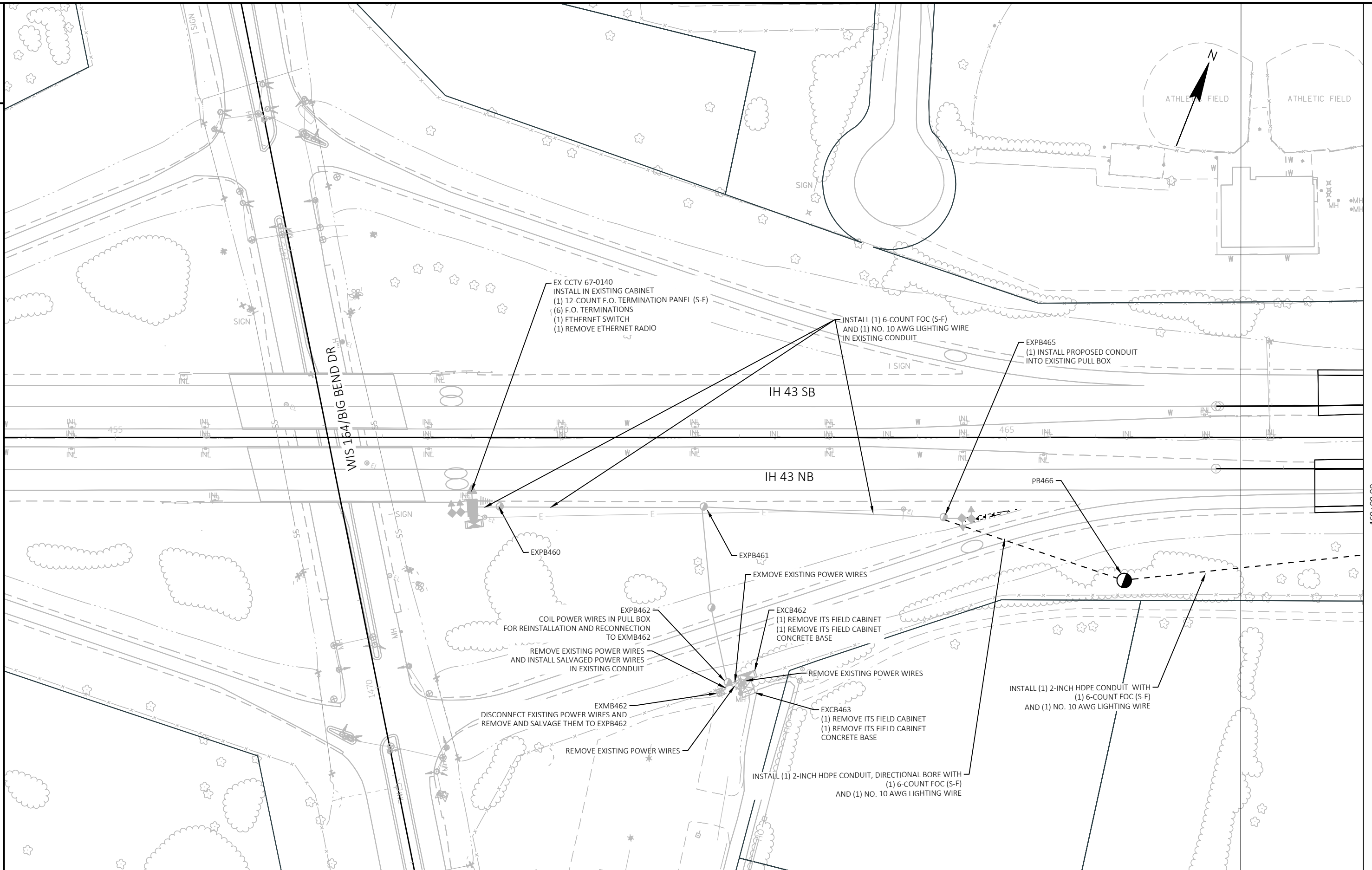
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  - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
  - VARIABLE MESSAGE SIGN
  - EXISTING LIGHT OR SIGNAL POLE
  - SIGN BRIDGE
  - CANTILEVER SIGN BRIDGE
  - DENOTES SIGN NUMBER
  - INDICATES SIGN SIZE
  - EXISTING SIGN TO REMAIN
  - YEAR - AGE OF SIGN

LEGEND	PROPOSED	EXISTING
FTMS CONVENTIONAL SYMBOLS		
POLE MOUNTED CABINET	_____	
METER BREAKER PEDESTAL	_____	
CSCP PULL BOX		
FTMS (ITS) CONDUIT	---	—
BREAKER DISCONNECT BOX	_____	
COMMUNICATIONS VAULT, TYPE 1		
CONCRETE BASE, POLE, AND MICROWAVE DETECTOR		
CCTV BASE, POLE, AND CAMERA	_____	
ITS FIELD CABINET AND CONCRETE BASE	_____	

1. THESE PLANS AND THE ASSOCIATED SPECIAL PROVISIONS REFLECT CONDITIONS KNOWN DURING THE DEVELOPMENT OF THE PLANS AND TECHNICAL SPECIAL PROVISIONS. ALL SCALES, DIMENSIONS AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE APPLICATION OF ALL WORK SHOWN IN THE PLANS TO THE ACTUAL PHYSICAL FIELD CONDITIONS TO PROVIDE A COMPLETE AND ACCEPTED PROJECT. IN THE EVENT THAT ACTUAL PHYSICAL FIELD CONDITIONS AFFECT OR PREVENT THE APPLICATION OR PROGRESSION OF ANY WORK SHOWN IN THE PLANS OR TECHNICAL SPECIAL PROVISIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND PRIOR TO ANY FURTHER WORK ACTIVITY. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY LOCATION CHANGES OTHER THAN MINOR ADJUSTMENTS.
2. BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.
3. BE AWARE THAT NO TEST BORINGS WERE MADE WHERE CONDUITS, PULLBOXES, POLES, CABINET FOUNDATIONS, OR OTHER EQUIPMENT IS TO BE INSTALLED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.
4. NO TREES (AND/OR SHRUBS) SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
5. AREAS WITHIN THE RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR FTMS CONSTRUCTION SHALL BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, SEED, AND EROSION MAT, AND SHALL BE INCLUDED IN THE COST OF INSTALLING FTMS ITEMS. RESTORATION FOR AREAS DISTURBED FOR OTHER CONSTRUCTION OPERATIONS BUT ALSO CONTAINING FTMS CONSTRUCTION SHALL BE DONE ACCORDING TO REQUIREMENTS AND PAYMENT PROVISIONS FOR THE OTHER CONSTRUCTION OPERATIONS.
6. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
7. DUE TO RAMP, LANE, SHOULDER CLOSURE RESTRICTIONS, AND WORK UNDER OTHER CONTRACTS, SOME WORK MAY BE REQUIRED TO BE PERFORMED AT NIGHT.
8. THE CONTRACTOR IS FULLY RESPONSIBLE FOR COORDINATING RAMP, LANE, SHOULDER, AND ROADWAY CLOSURES WITH OTHER CONTRACTS IN THE AREA.
9. THE CONTRACTOR SHALL CONTACT THE WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER AT (414)227-2166 FIVE (5) WORKING DAYS PRIOR TO ENTERING ANY EXISTING WISDOT FTMS OR ITS CABINET.
10. ALL LOOP DETECTORS ARE STATIONED TO CENTER OF LEADING EDGE AS APPROACHED BY NORMAL VEHICLE PATH.
11. HAND DIG TRENCHES CROSSING EXISTING CONDUIT CONTAINING FIBER OPTIC CABLE.
12. VISUALLY VERIFY DEPTHS OF EXISTING CONDUITS CONTAINING FIBER OPTIC CABLE PRIOR TO CROSSING BY DIRECTIONAL BORE OR SPECIAL METHOD.

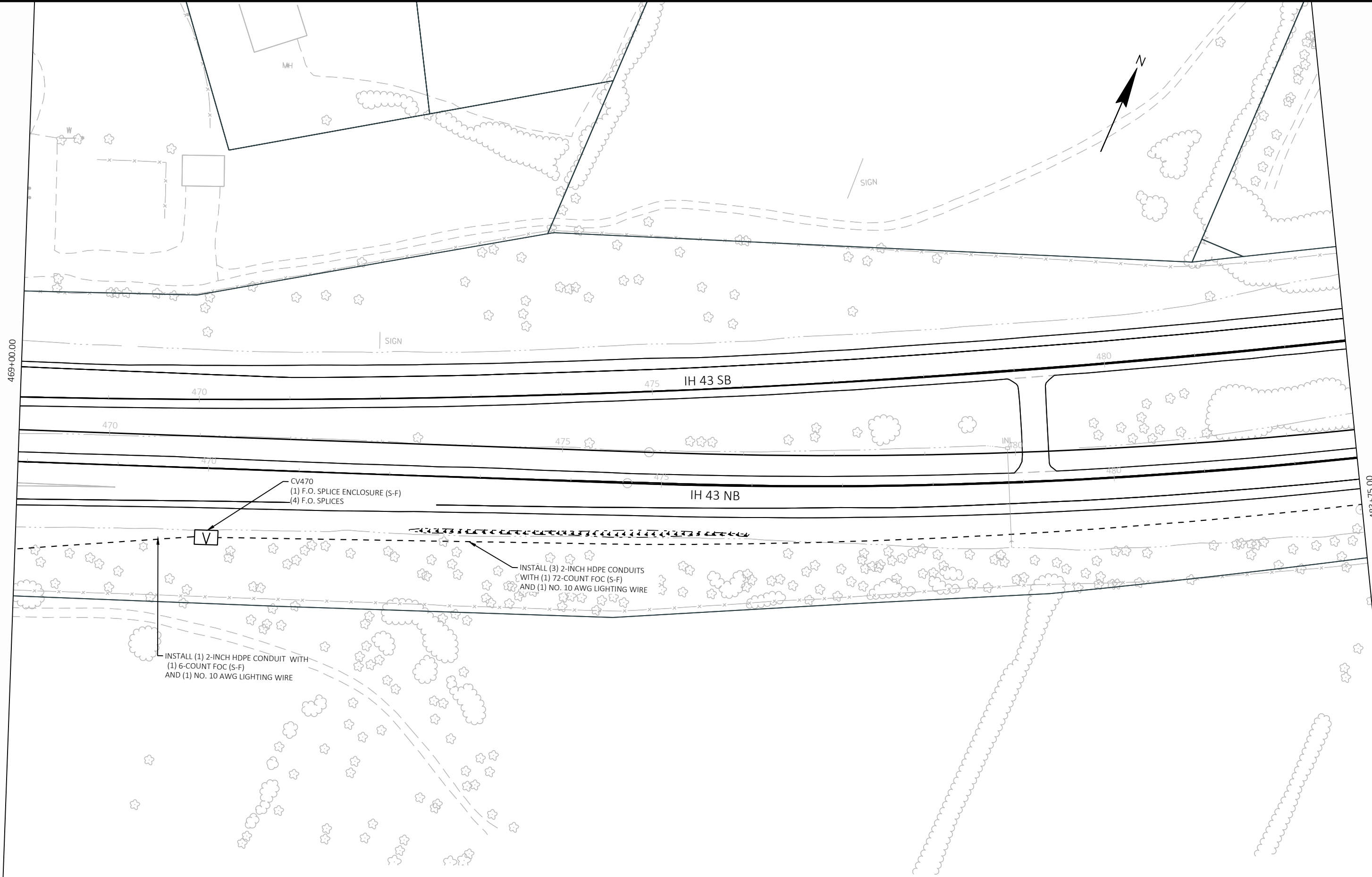
FTMS STANDARD ABBREVIATIONS

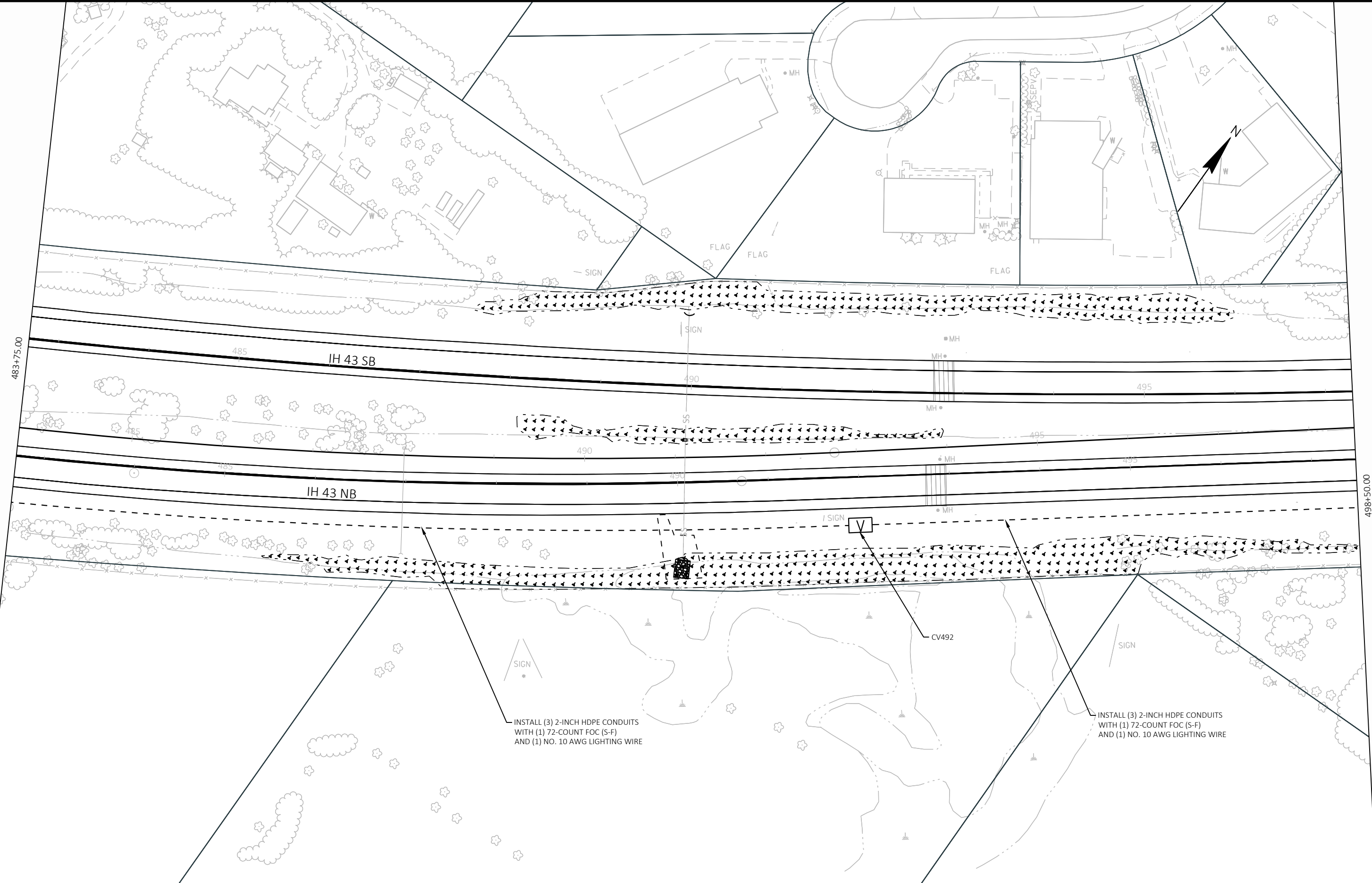
CB	CONTROLLER CABINET
CCTV	CLOSED CIRCUIT TELEVISION SITE
CV	COMMUNICATIONS VAULT
PB	PULL BOX
EX	EXISTING
FOC	FIBER OPTIC CABLE
F.O.	FIBER OPTIC
S-F	STATE-FURNISHED
DMS	DYNAMIC MESSAGE SIGN

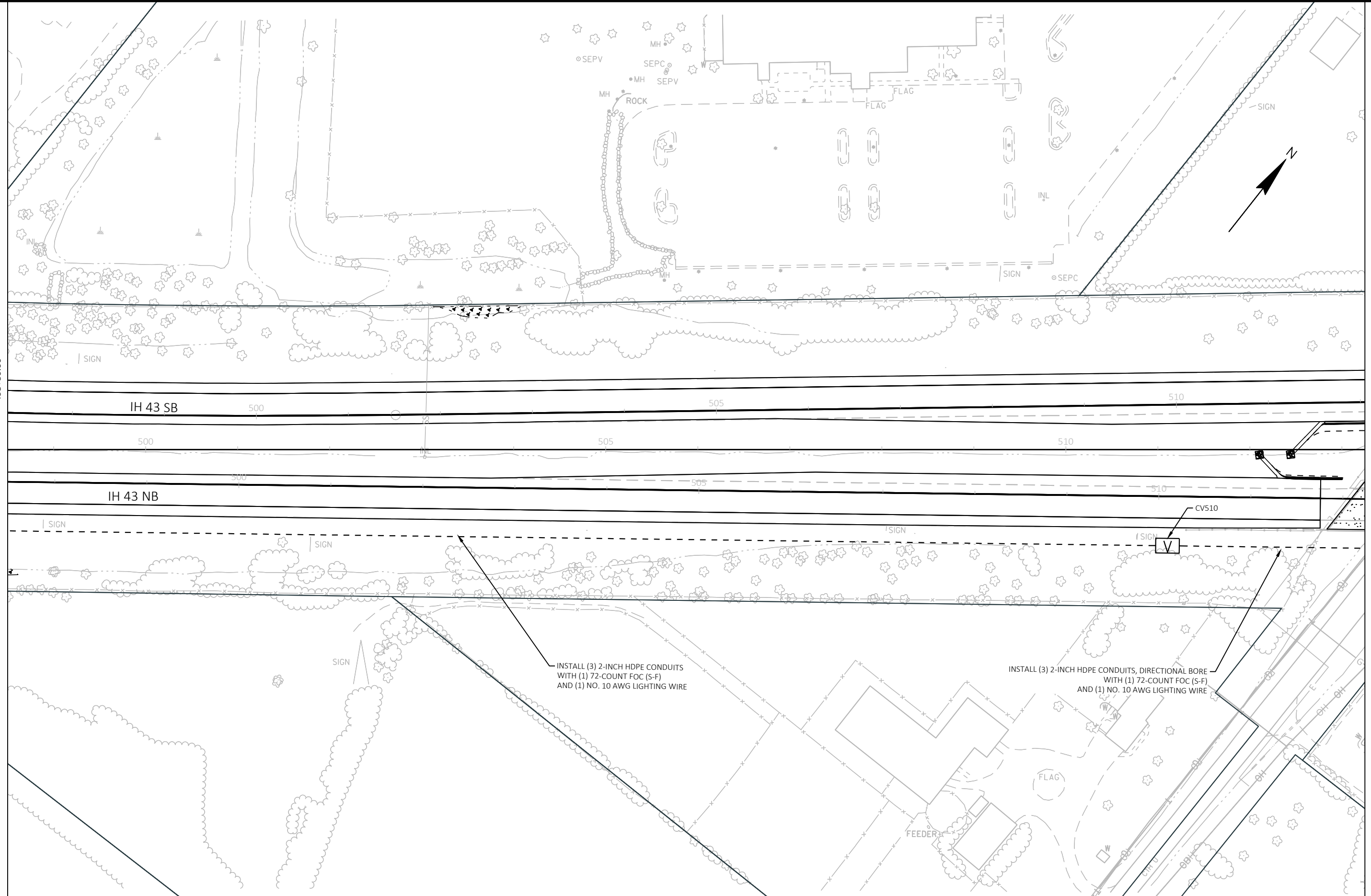


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	FTMS PLANS	SHEET	E
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PROJECT NO: 1090-09-76

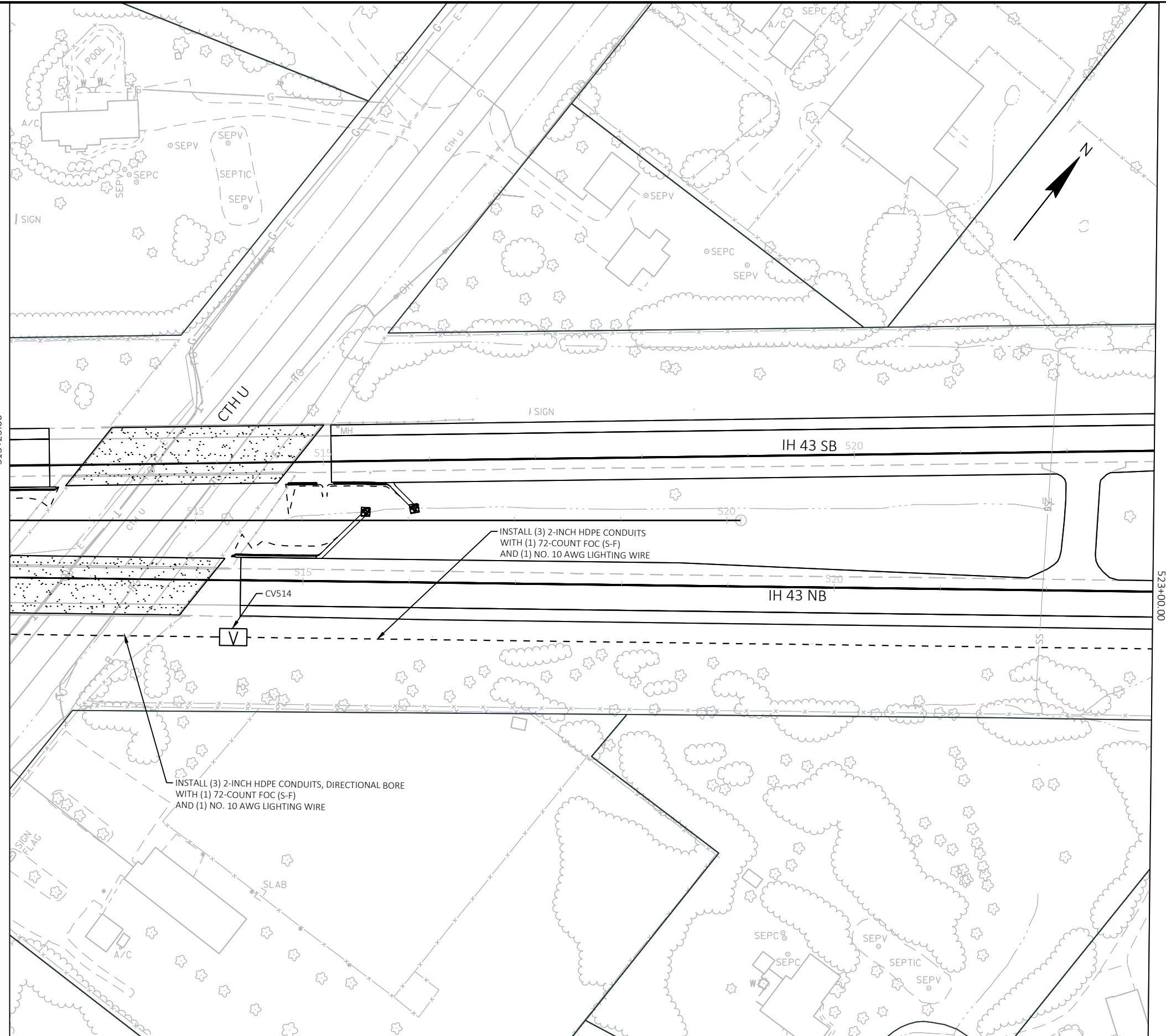
HWY: IH 43

COUNTY: WAUKESHA

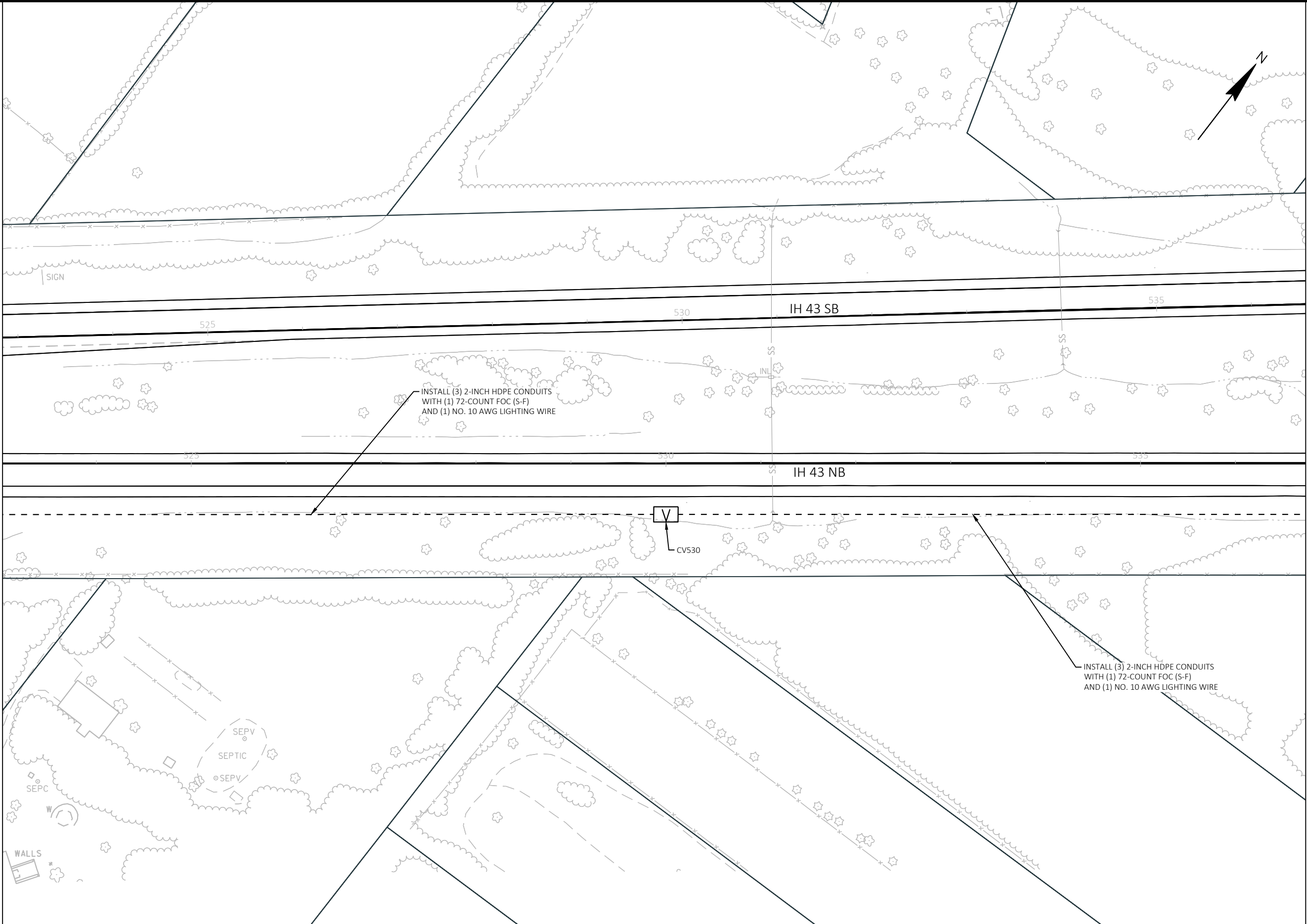
FTMS PLANS

SHEET

E







0000+00.00

536+74.00

PROJECT NO: 1090-09-76

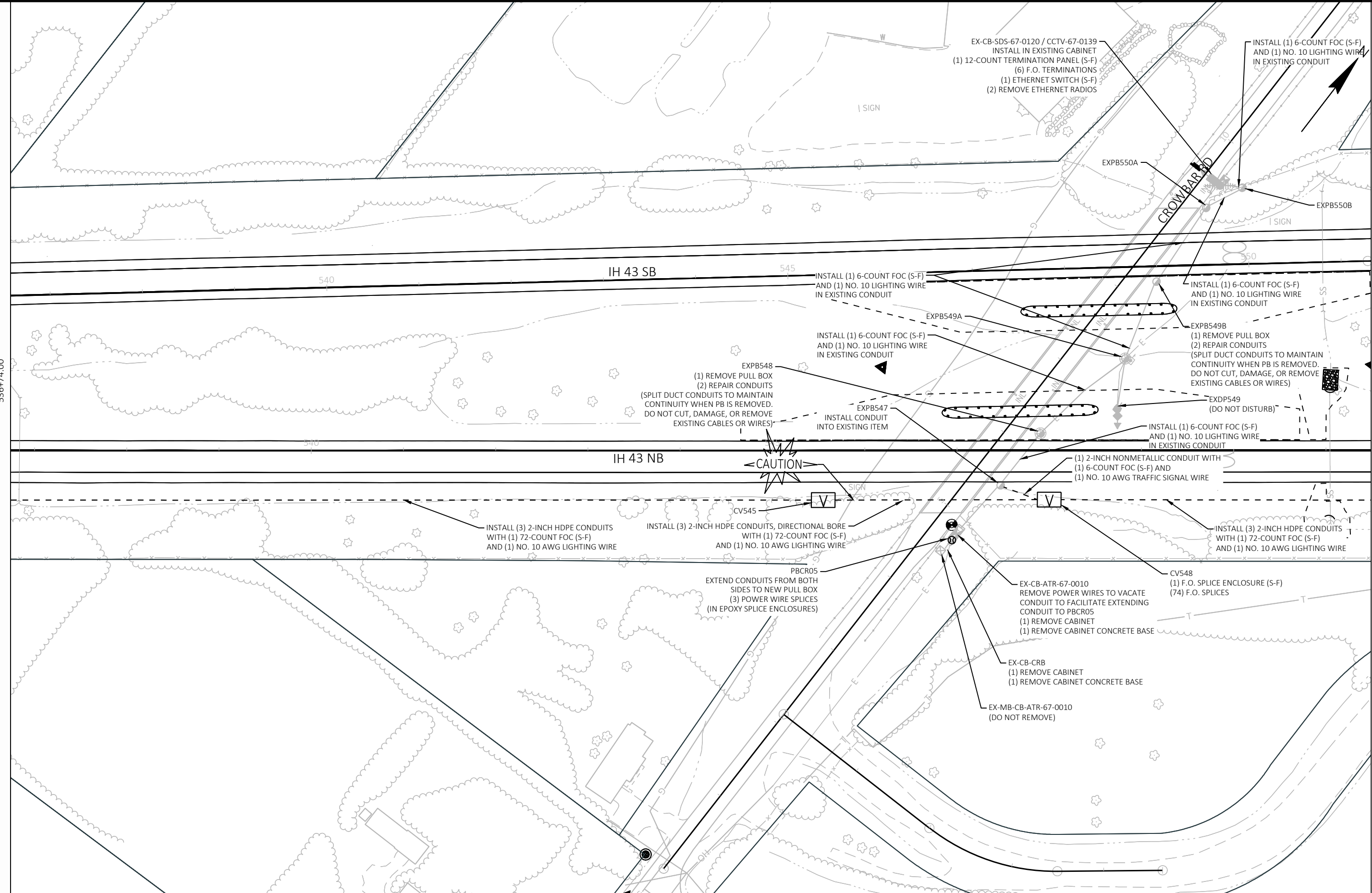
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COUNTY: WAUKESHA

FTMS PLANS

SHEET

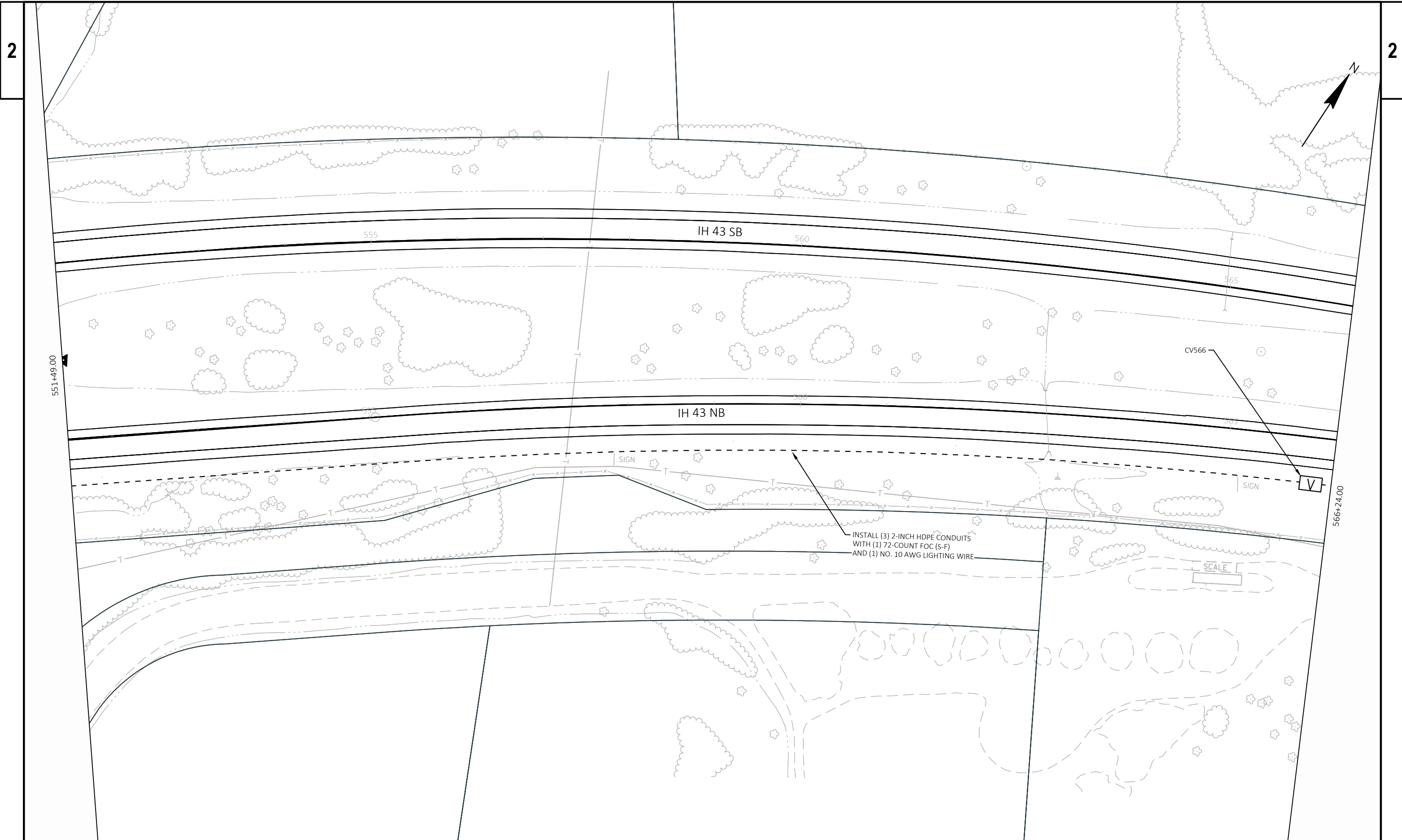
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536+74.00

551+49.00

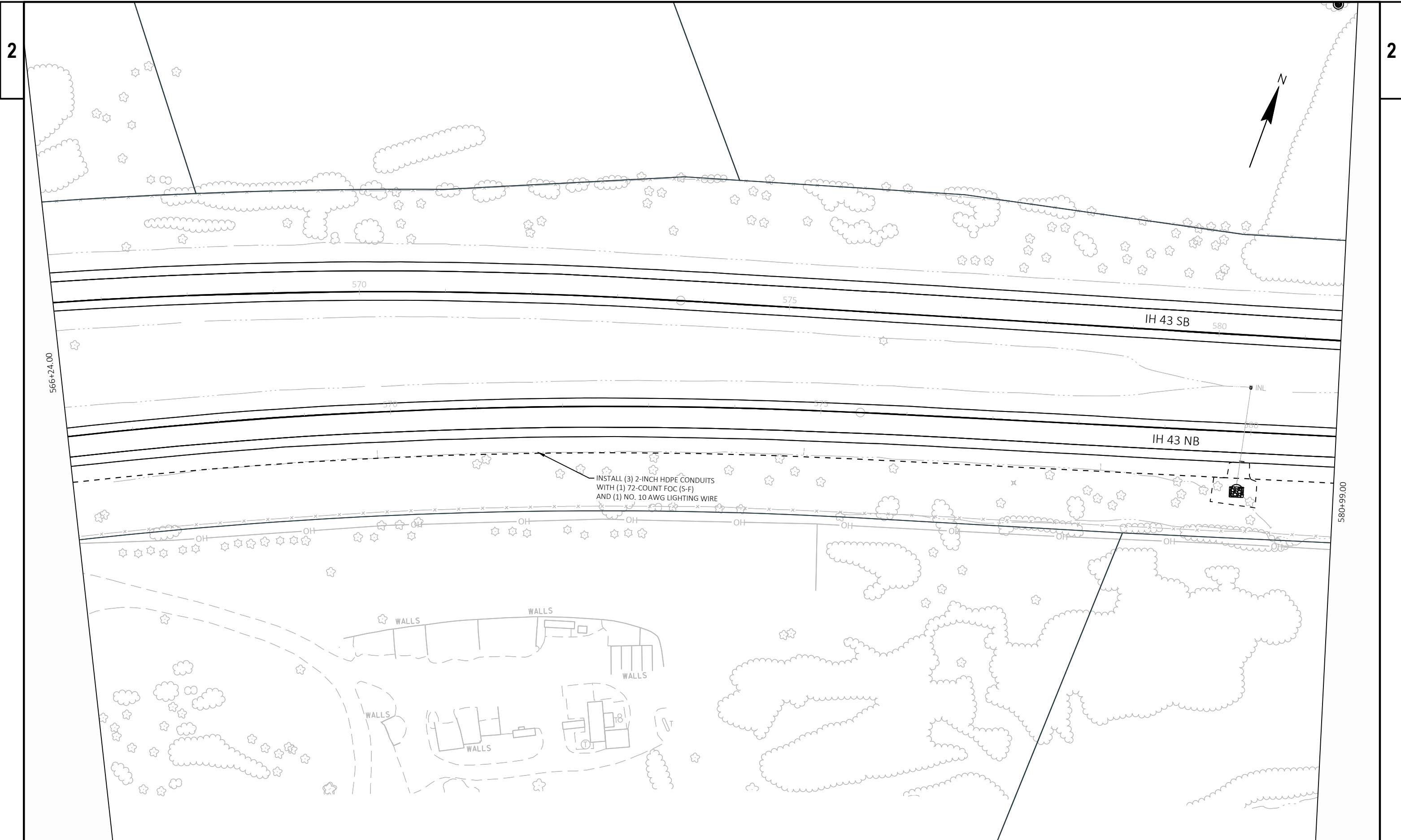




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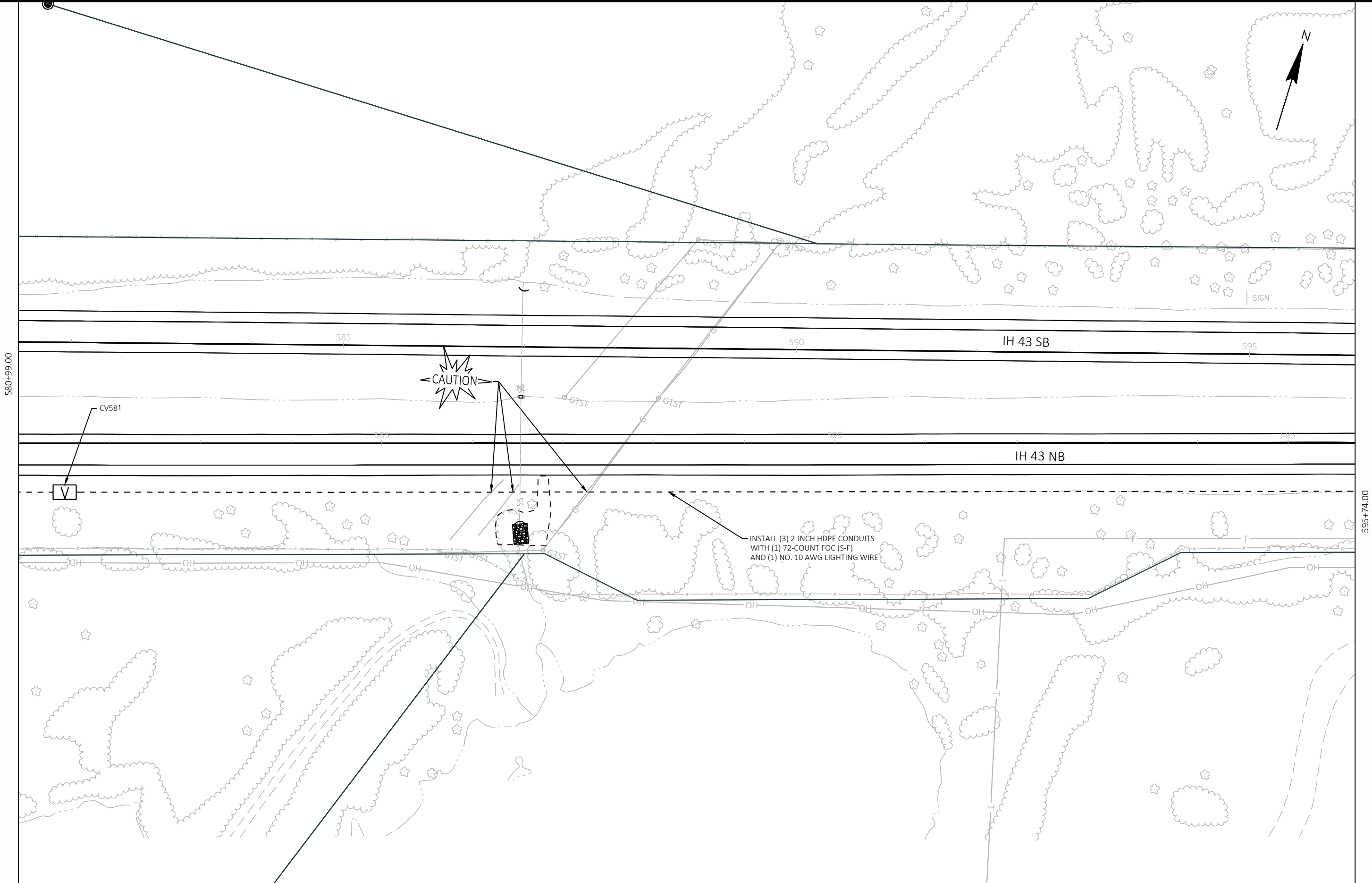
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	FTMS PLANS	SHEET	E
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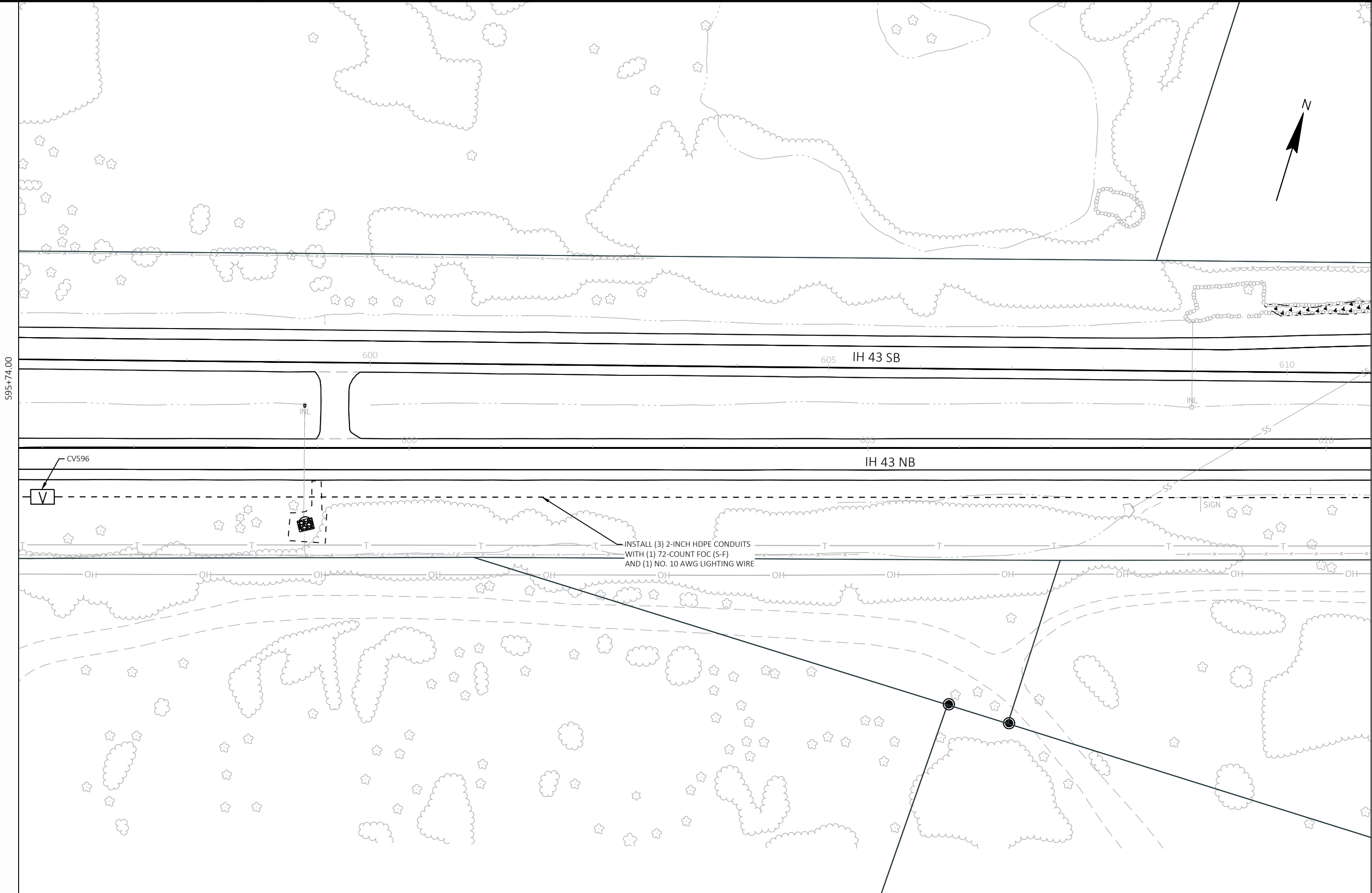
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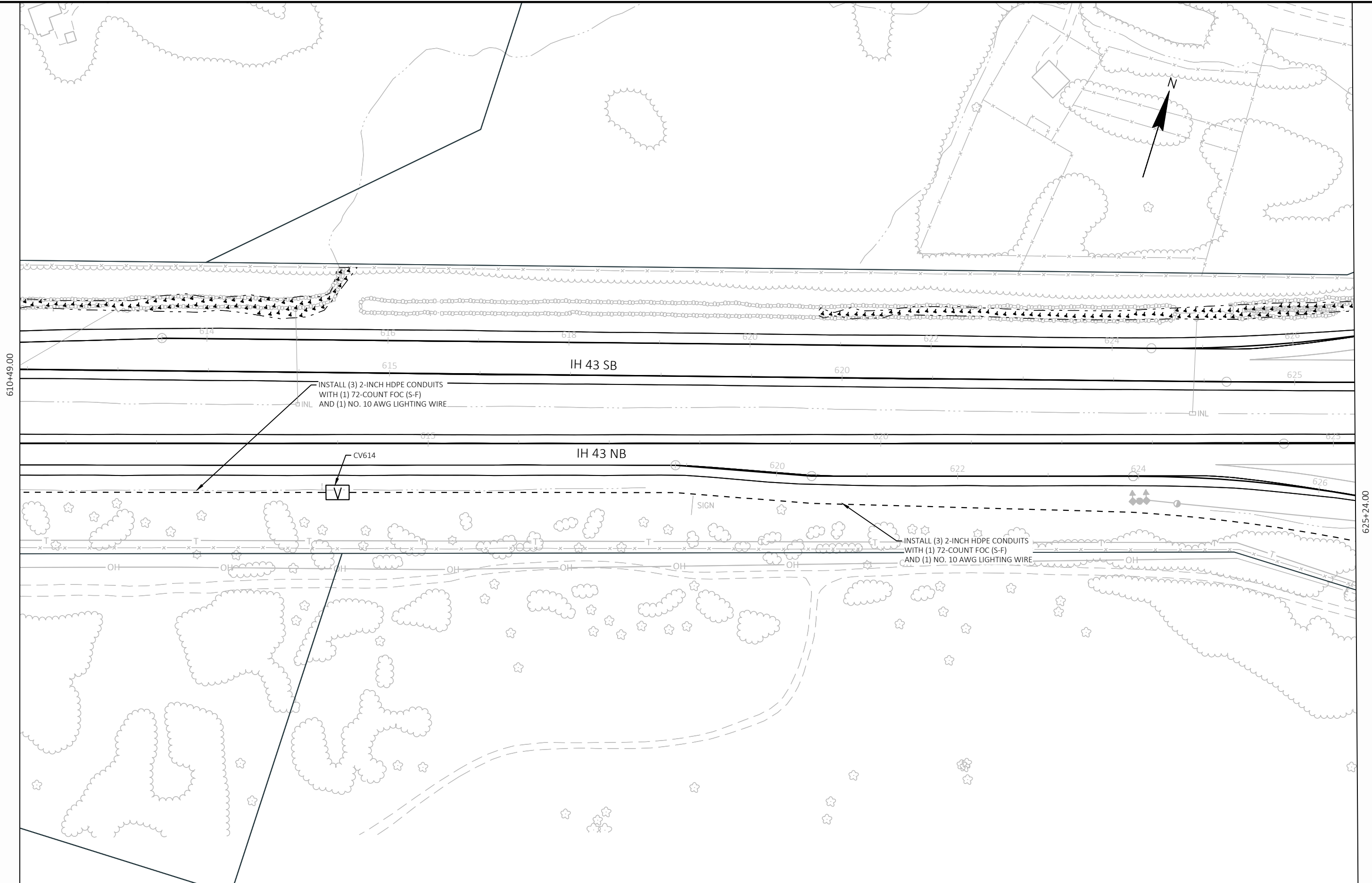
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PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	FTMS PLANS	SHEET	E
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PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	FTMS PLANS	SHEET	<b>E</b>
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PROJECT NO: 1090-09-76

HWY: IH 43

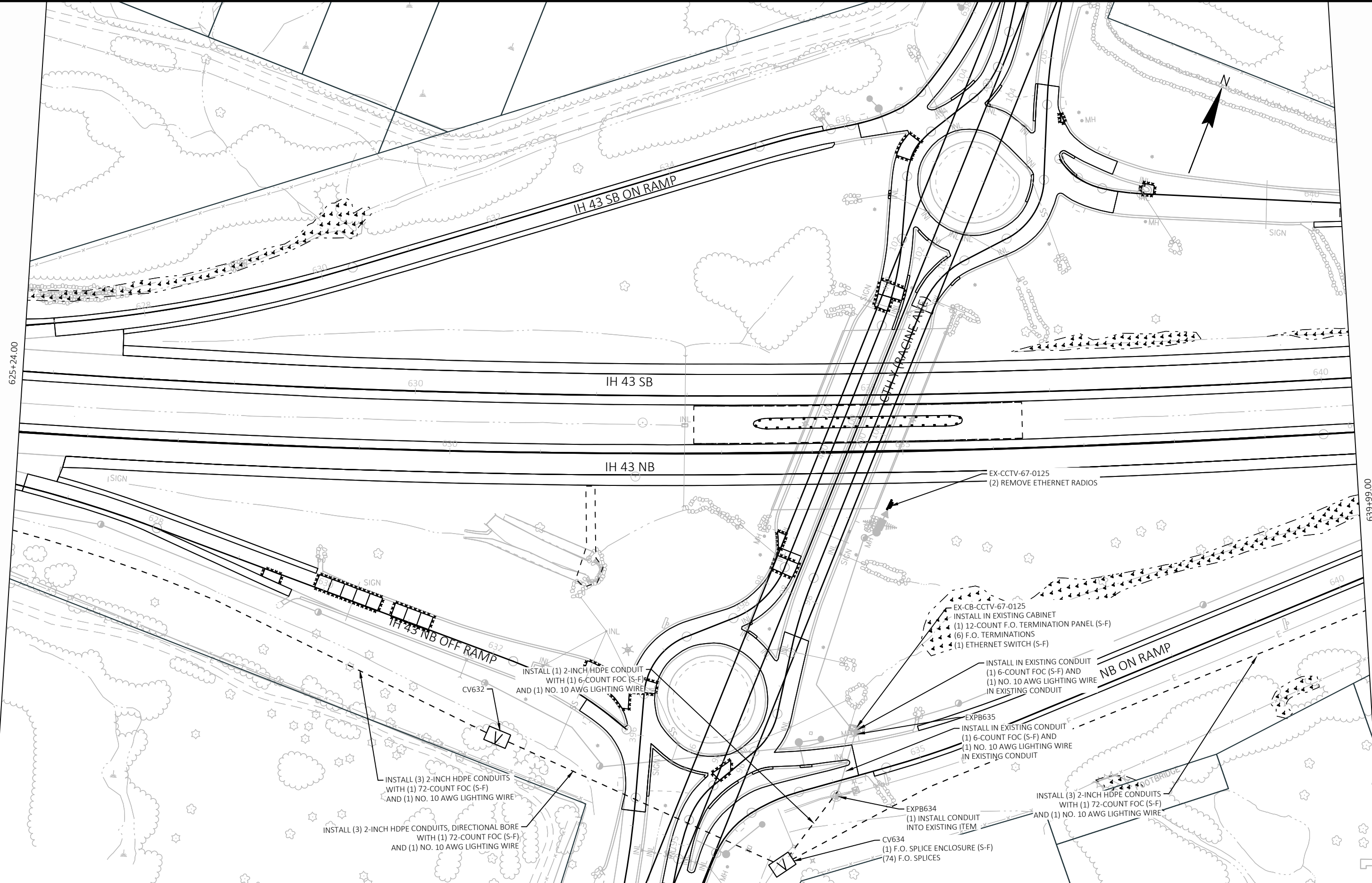
COUNTY: WAUKESHA

FTMS PLANS

SHEET

E





PROJECT NO: 1090-09-76

HWY: IH 43

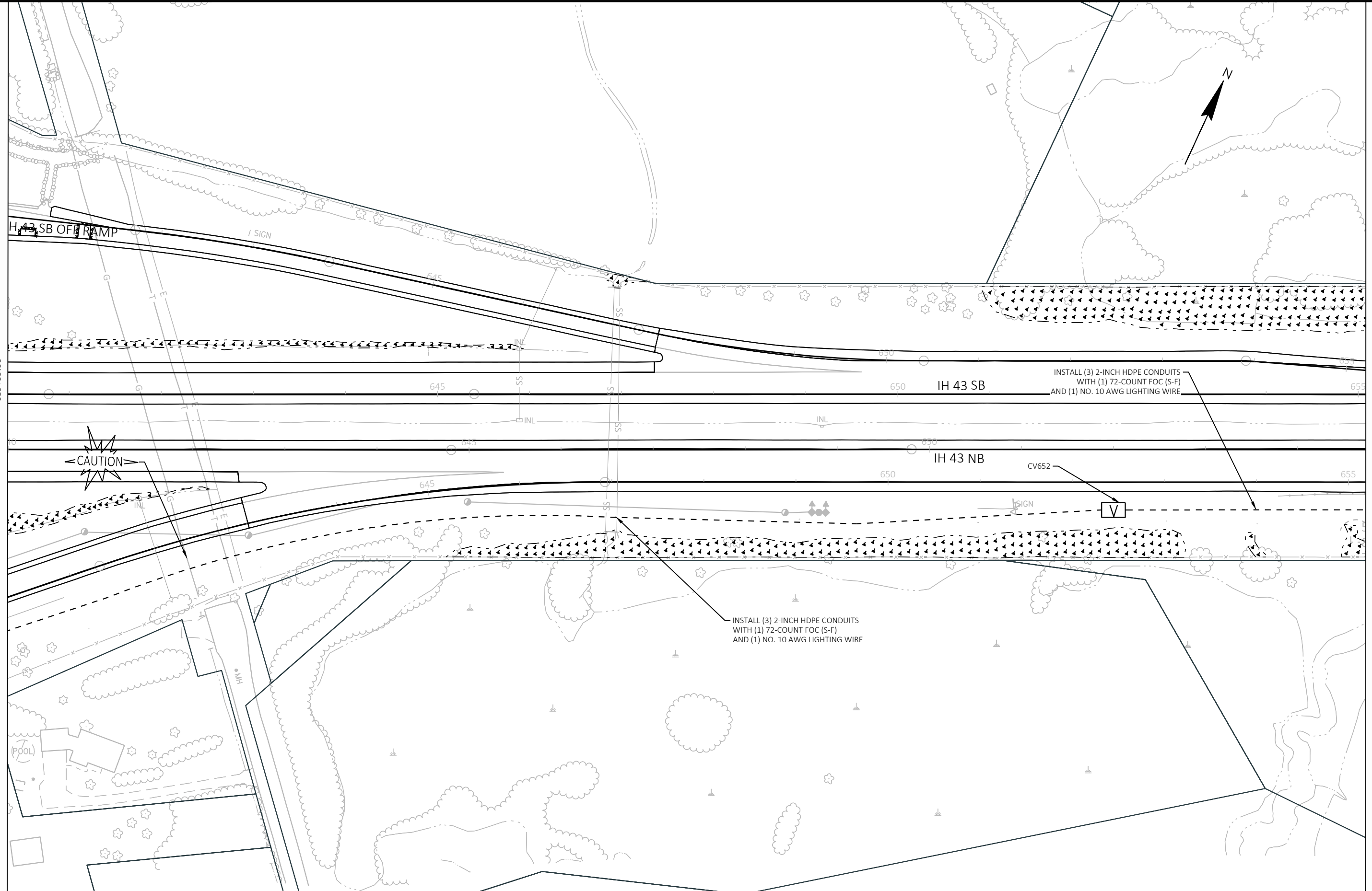
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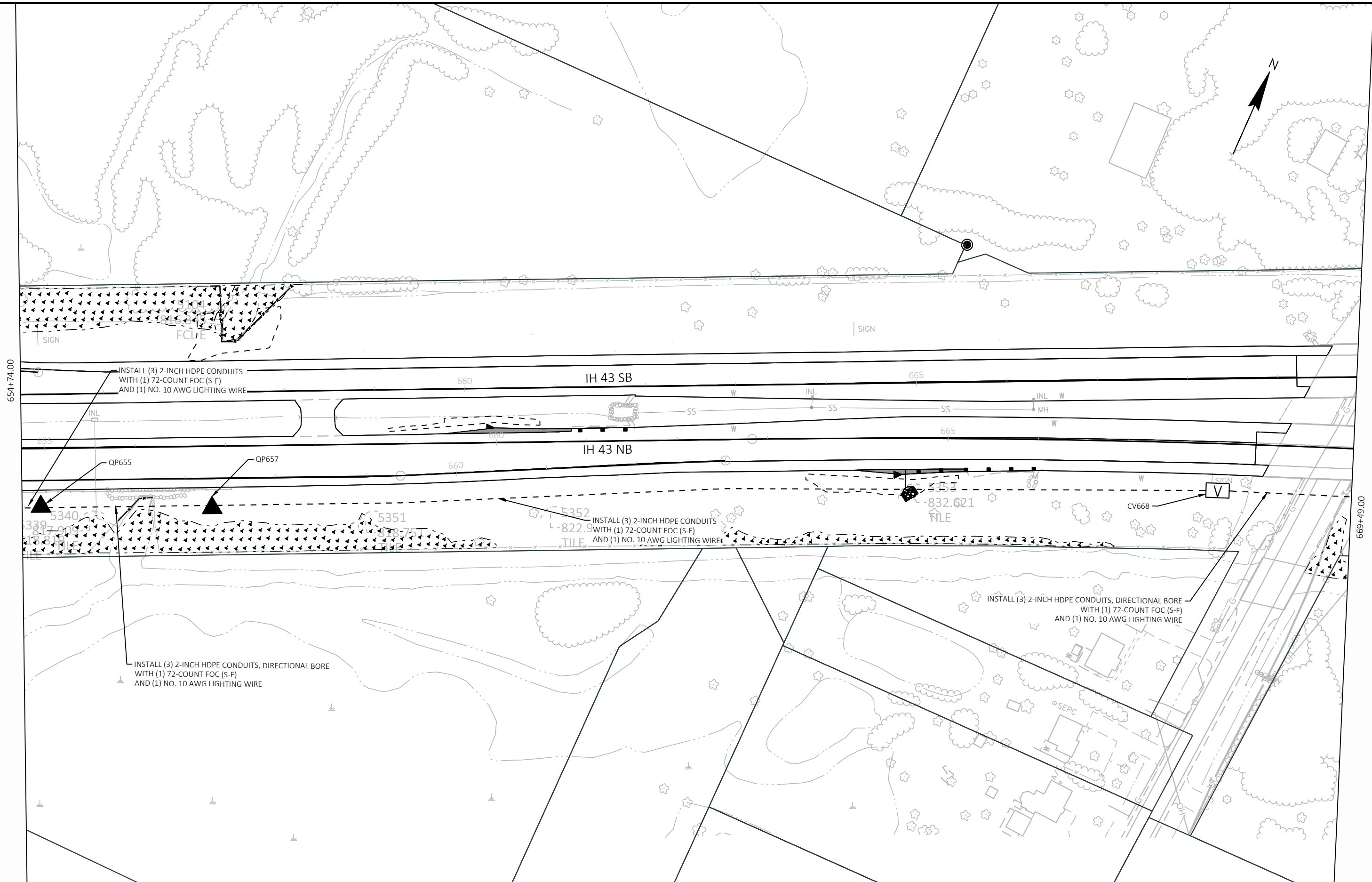
FTMS PLANS

SHEET

E







PROJECT NO: 1090-09-76

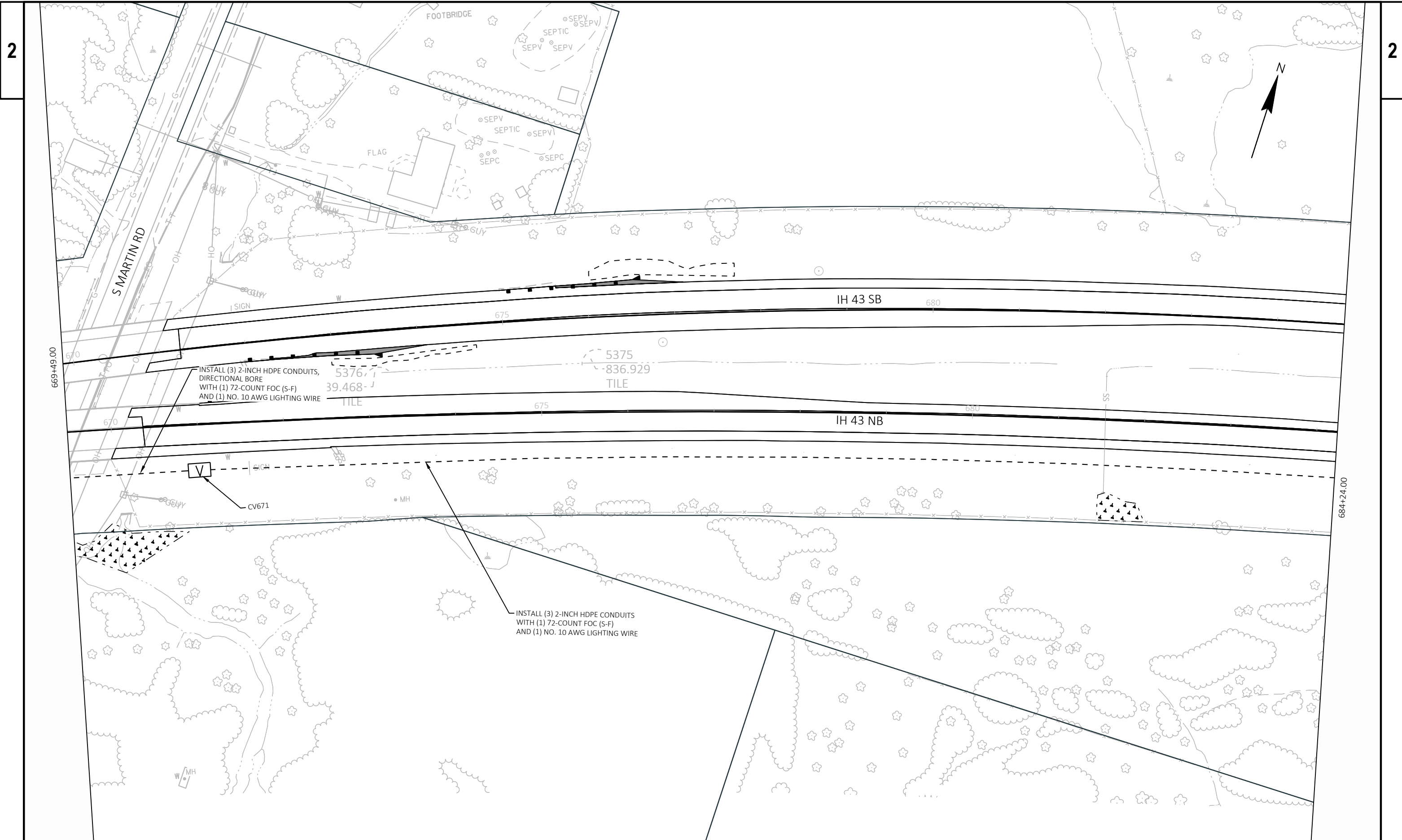
HWY: IH 43

COUNTY: WAUKESHA

FTMS PLANS

SHEET

E



2

2

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	FTMS PLANS	SHEET	E
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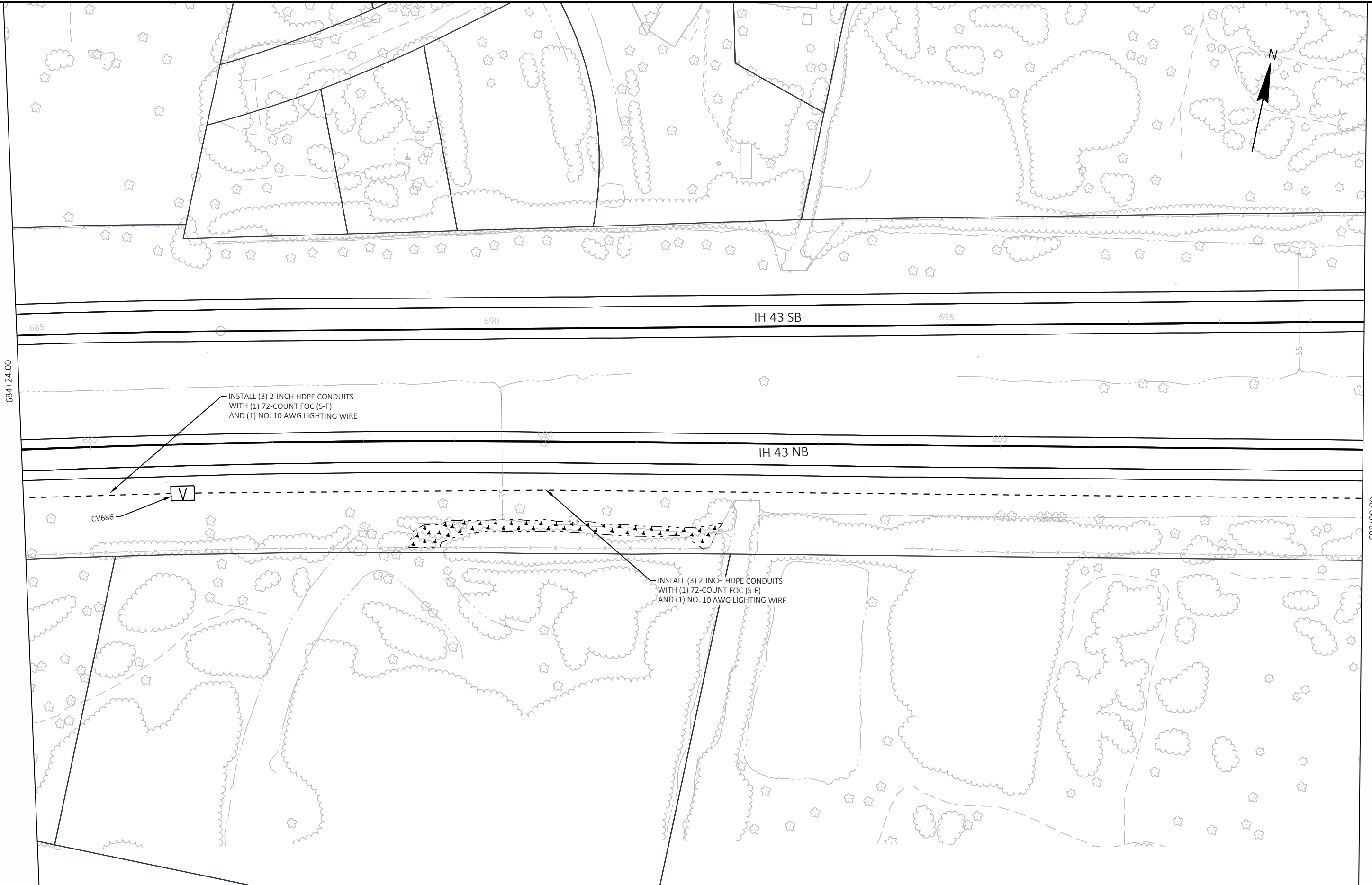
PLOT DATE : 9/26/2023 7:12 AM

PLOT BY : PAUL KUTZ

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADD SHEET 42



685 690 695

IH 43 SB

685 695

IH 43 NB

INSTALL (3) 2-INCH HDPE CONDUITS  
WITH (1) 72-COUNT FOC (S-F)  
AND (1) NO. 10 AWG LIGHTING WIRE

INSTALL (3) 2-INCH HDPE CONDUITS  
WITH (1) 72-COUNT FOC (S-F)  
AND (1) NO. 10 AWG LIGHTING WIRE

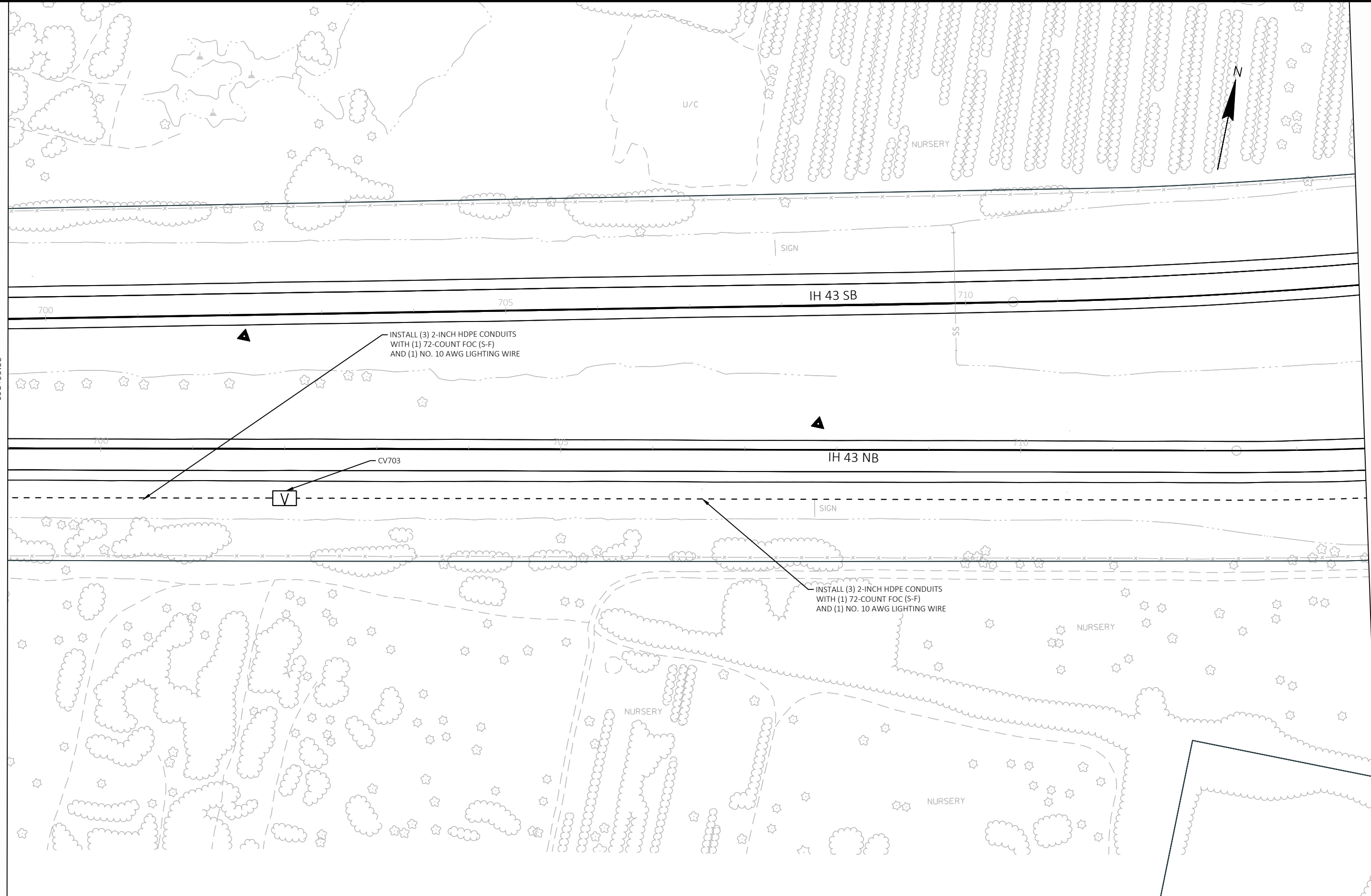
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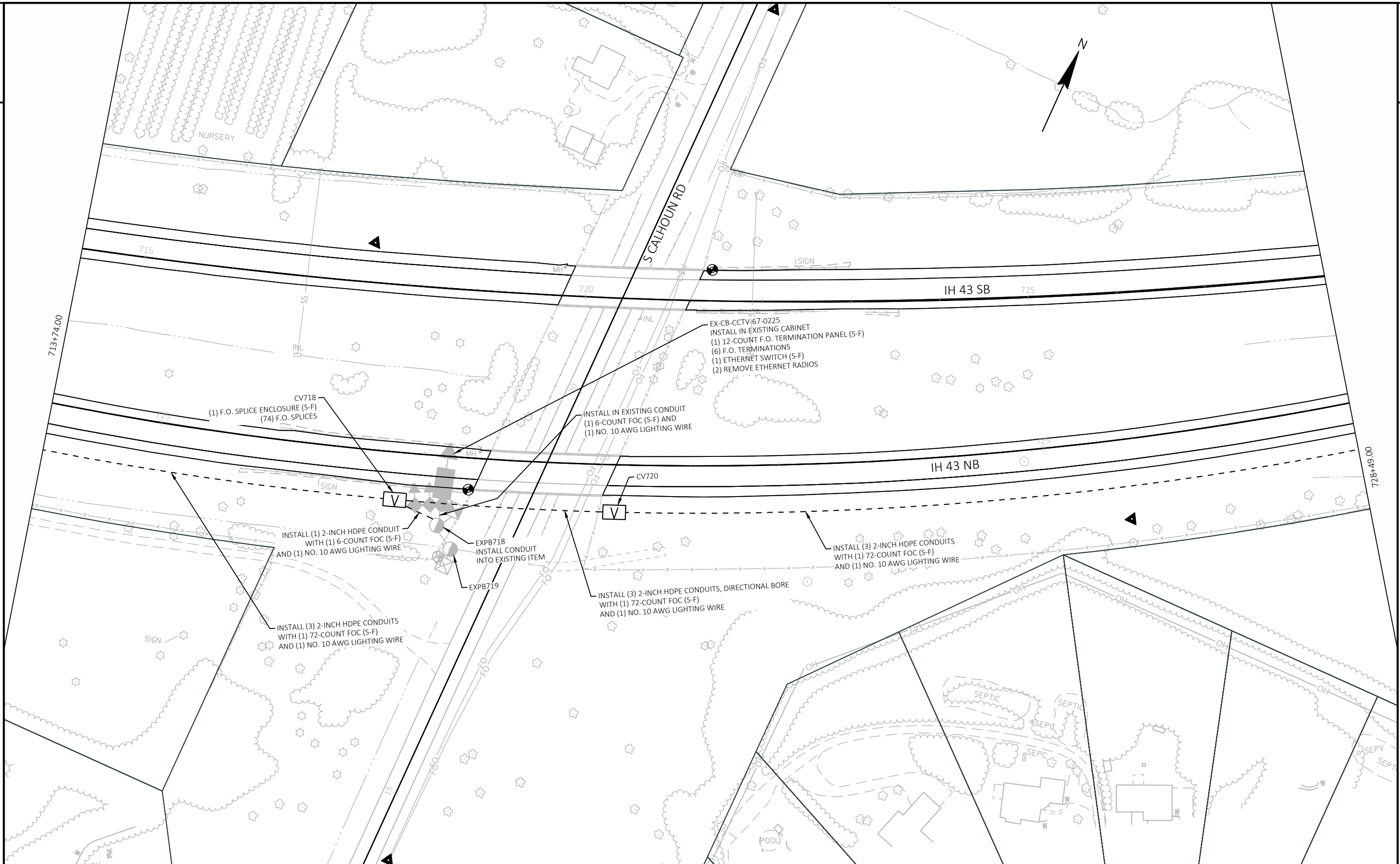
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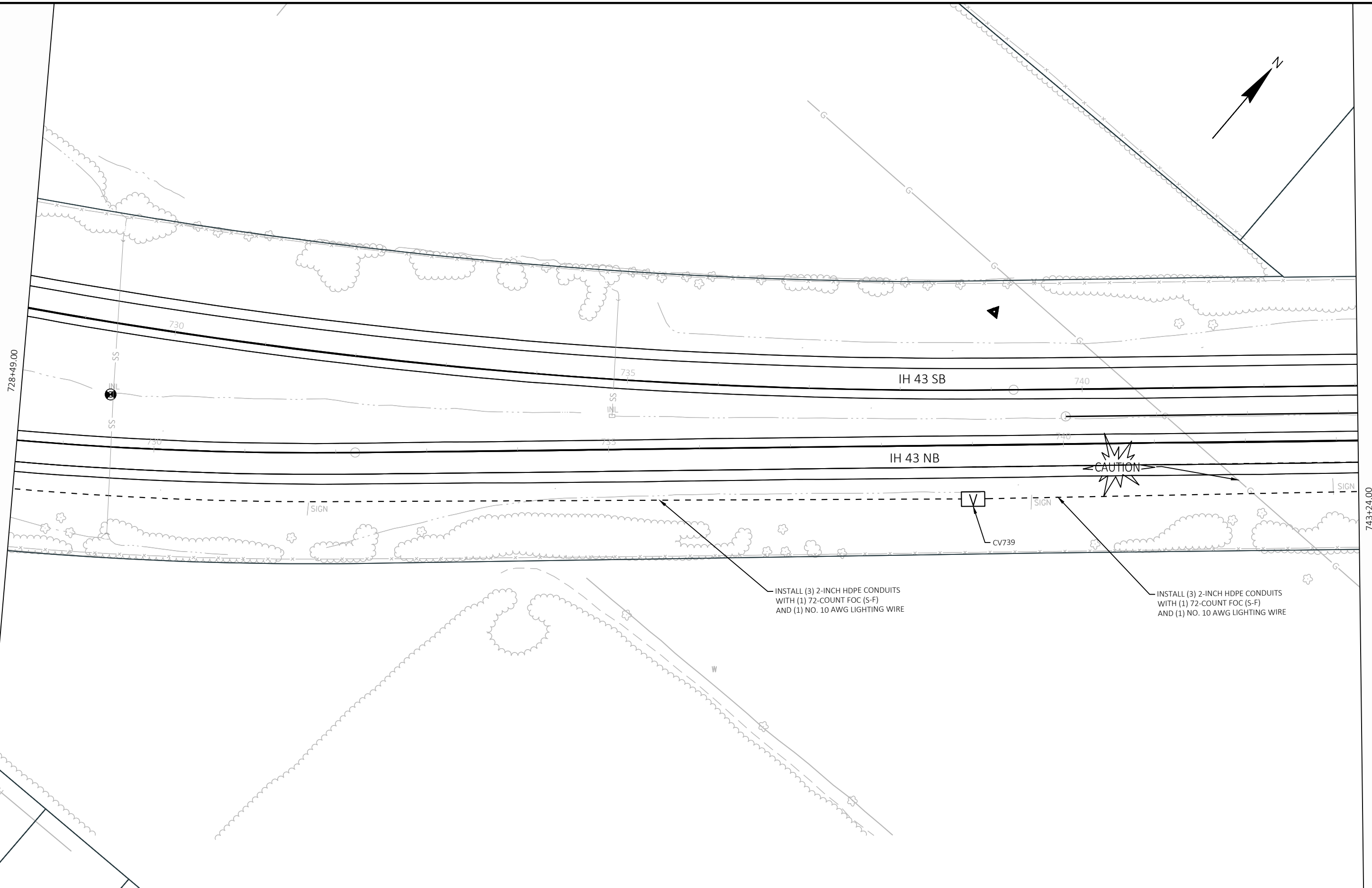


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	FTMS PLANS	SHEET	<b>E</b>
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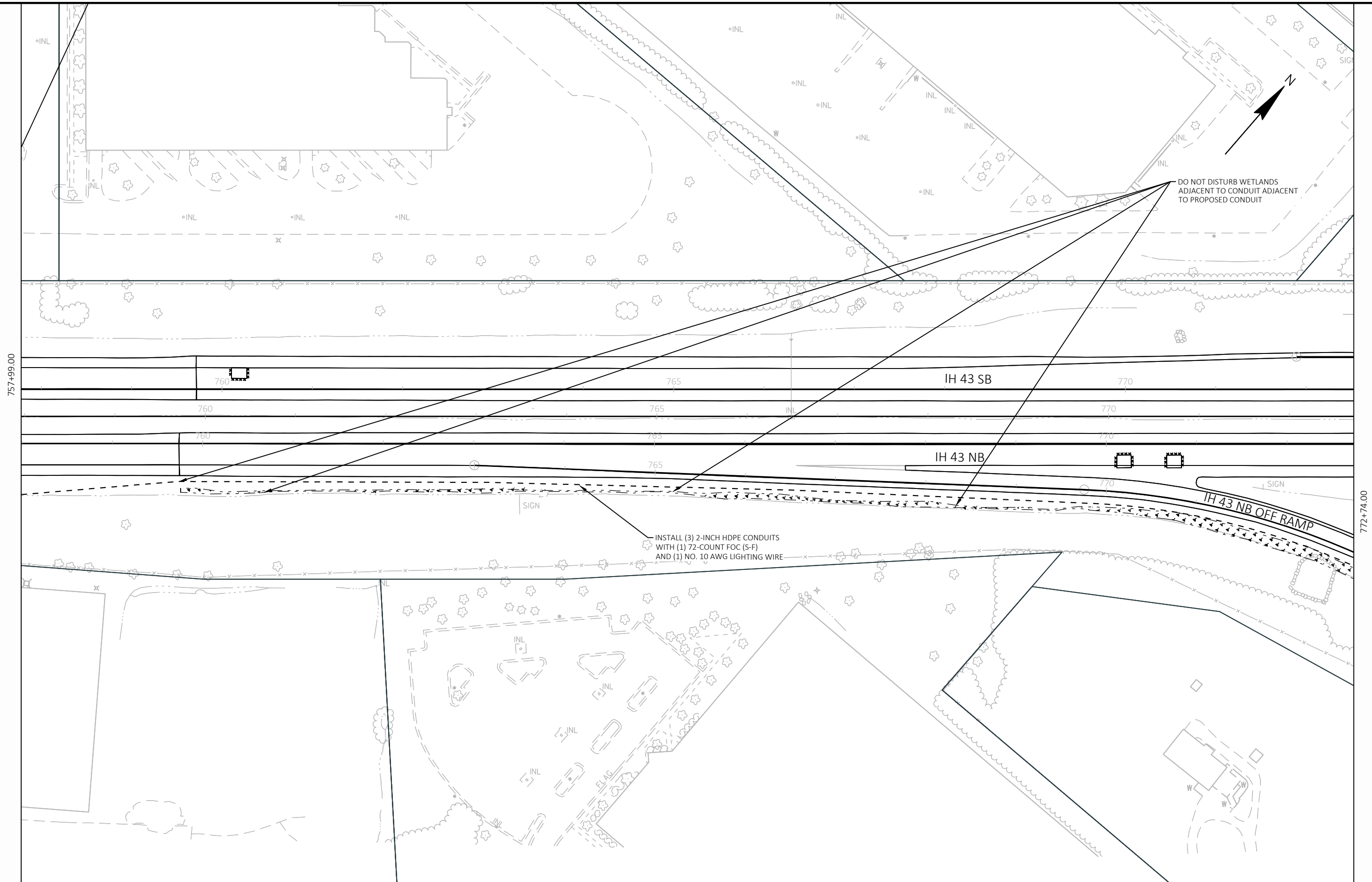


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	FTMS PLANS	SHEET	E
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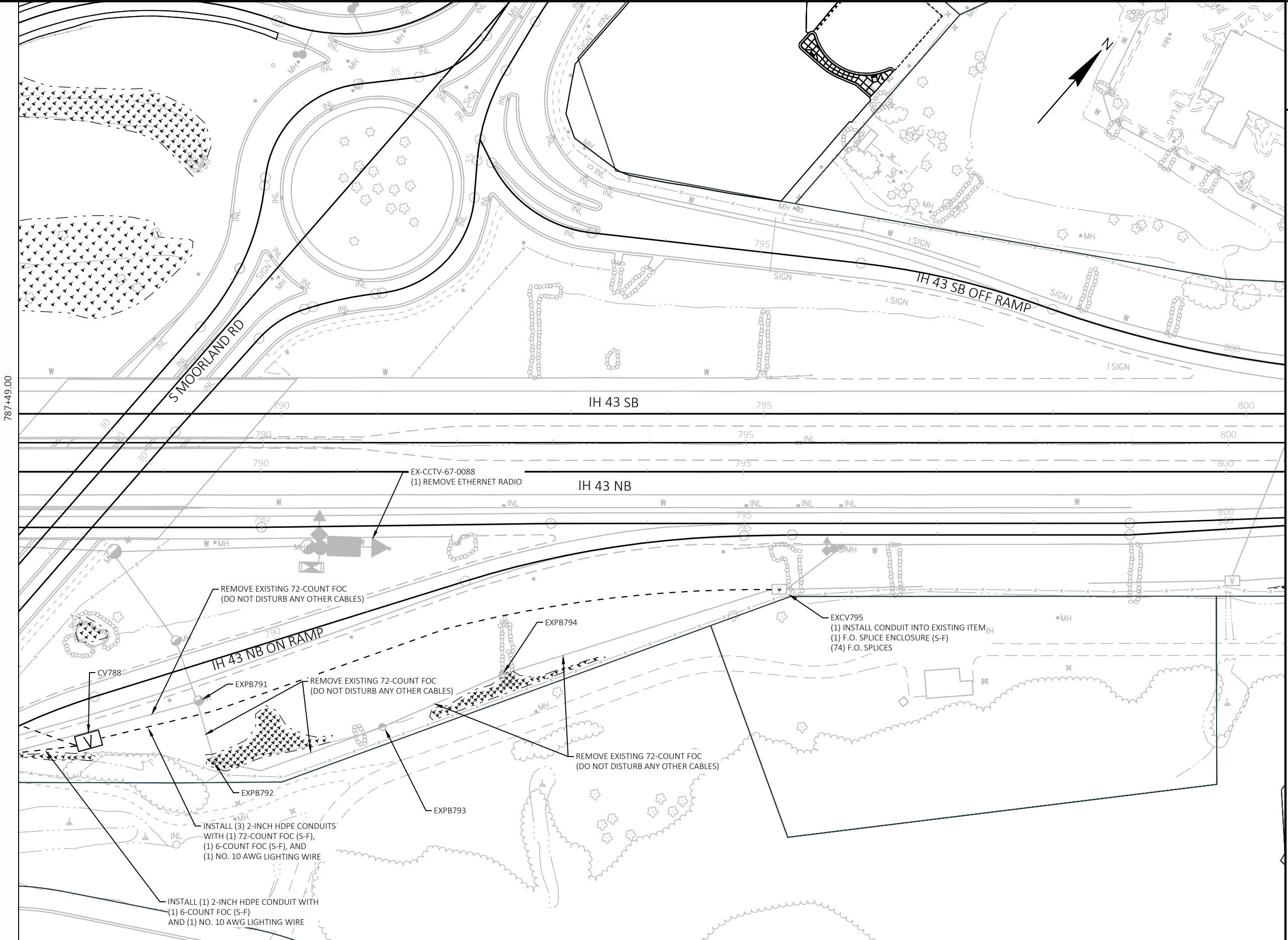




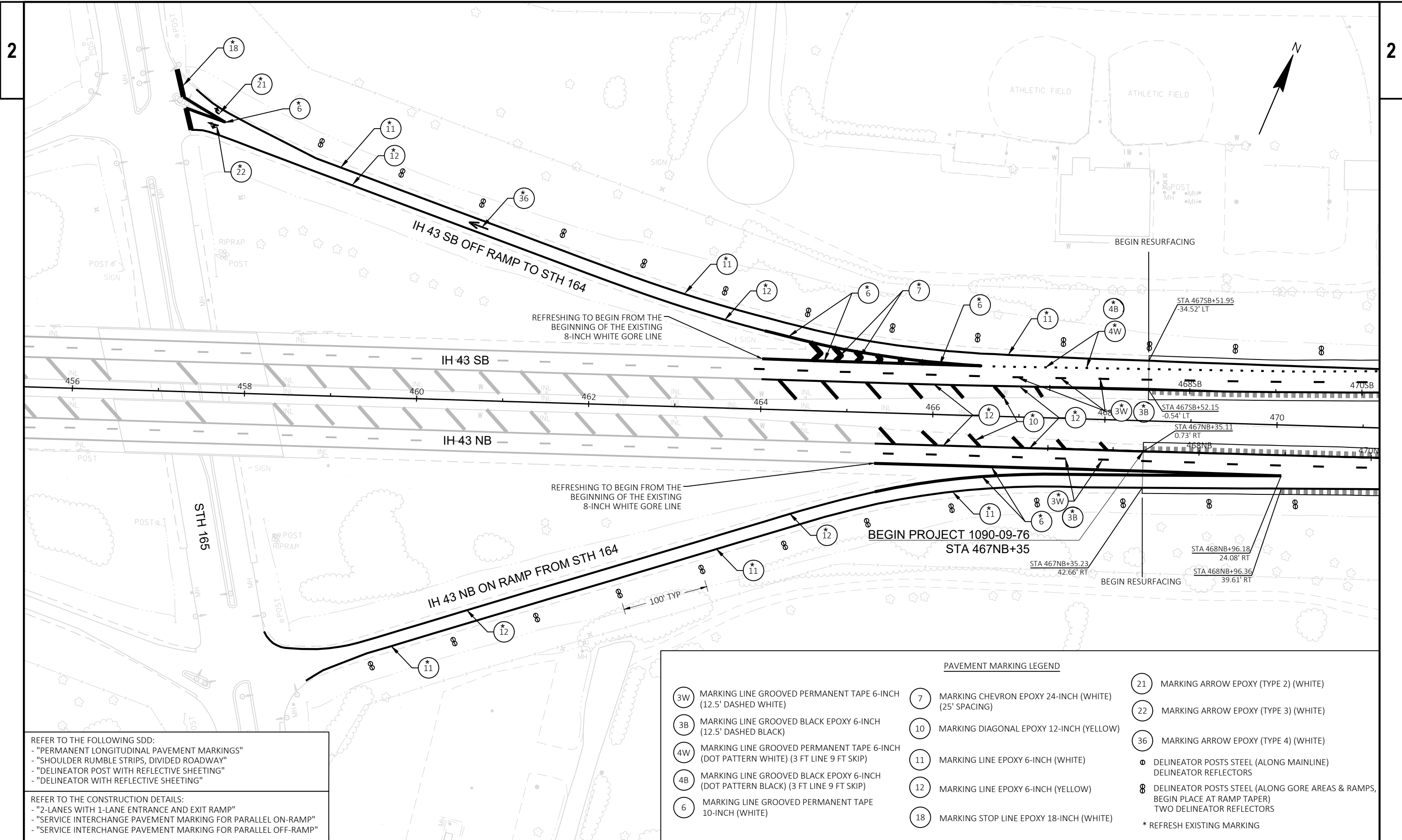
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	FTMS PLANS	SHEET	<b>E</b>
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PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	FTMS PLANS	SHEET	E
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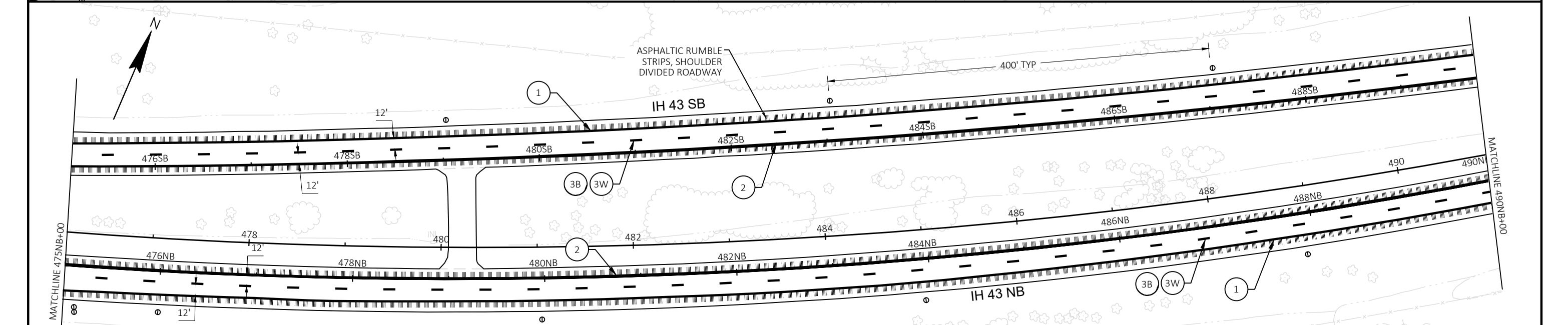
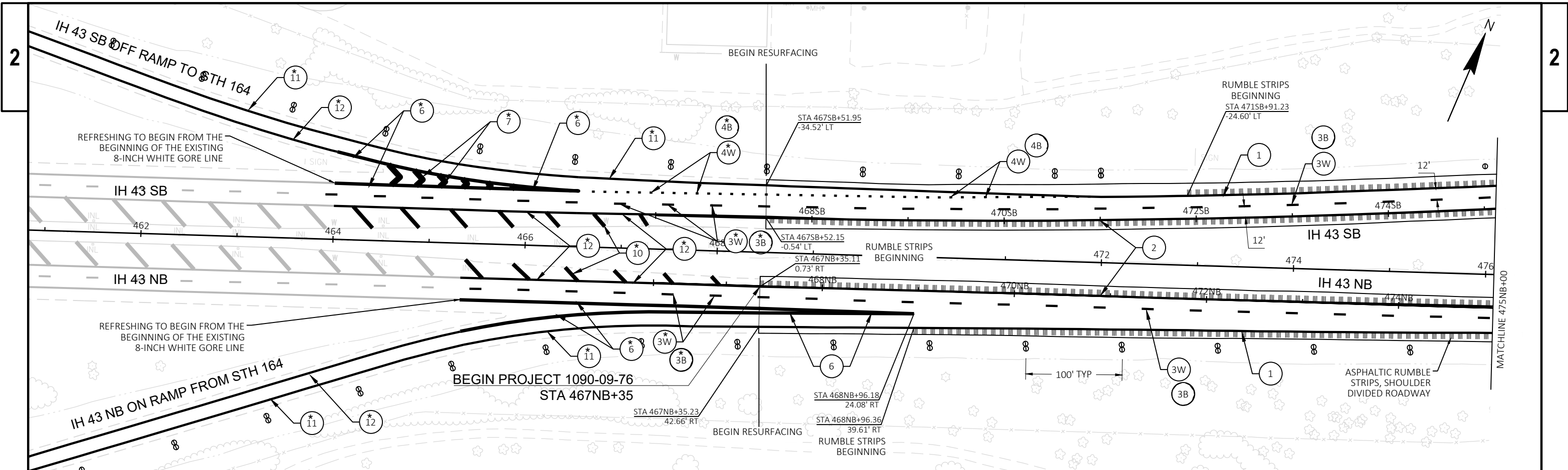


REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"

REFER TO THE CONSTRUCTION DETAILS:  
 - "2-LANES WITH 1-LANE ENTRANCE AND EXIT RAMP"  
 - "SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ON-RAMP"  
 - "SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL OFF-RAMP"

PAVEMENT MARKING LEGEND			
(3W)	MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)	(7)	MARKING CHEVRON EPOXY 24-INCH (WHITE) (25' SPACING)
(3B)	MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)	(10)	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
(4W)	MARKING LINE GROOVED PERMANENT TAPE 6-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)	(11)	MARKING LINE EPOXY 6-INCH (WHITE)
(4B)	MARKING LINE GROOVED BLACK EPOXY 6-INCH (DOT PATTERN BLACK) (3 FT LINE 9 FT SKIP)	(12)	MARKING LINE EPOXY 6-INCH (YELLOW)
(6)	MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)	(18)	MARKING STOP LINE EPOXY 18-INCH (WHITE)
(21)	MARKING ARROW EPOXY (TYPE 2) (WHITE)		
(22)	MARKING ARROW EPOXY (TYPE 3) (WHITE)		
(36)	MARKING ARROW EPOXY (TYPE 4) (WHITE)		
○	DELINEATOR POSTS STEEL (ALONG MAINLINE) DELINEATOR REFLECTORS		
⊗	DELINEATOR POSTS STEEL (ALONG GORE AREAS & RAMPS, BEGIN PLACE AT RAMP TAPER) TWO DELINEATOR REFLECTORS		
*	REFRESH EXISTING MARKING		





PAVEMENT MARKING LEGEND			
① MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	③B MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)	⑦ MARKING CHEVRON EPOXY 24-INCH (WHITE) (25' SPACING)	⊙ DELINEATOR POSTS STEEL (ALONG MAINLINE) DELINEATOR REFLECTORS
② MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	④W MARKING LINE GROOVED PERMANENT TAPE 6-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)	⑩ MARKING DIAGONAL EPOXY 12-INCH (YELLOW)	⊗ DELINEATOR POSTS STEEL (ALONG GORE AREAS & RAMP, BEGIN PLACE AT RAMP TAPER) TWO DELINEATOR REFLECTORS
③W MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)	④B MARKING LINE GROOVED BLACK EPOXY 6-INCH (DOT PATTERN BLACK) (3 FT LINE 9 FT SKIP)	⑪ MARKING LINE EPOXY 6-INCH (WHITE)	
* REFRESH EXISTING MARKING	⑥ MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)	⑫ MARKING LINE EPOXY 6-INCH (YELLOW)	

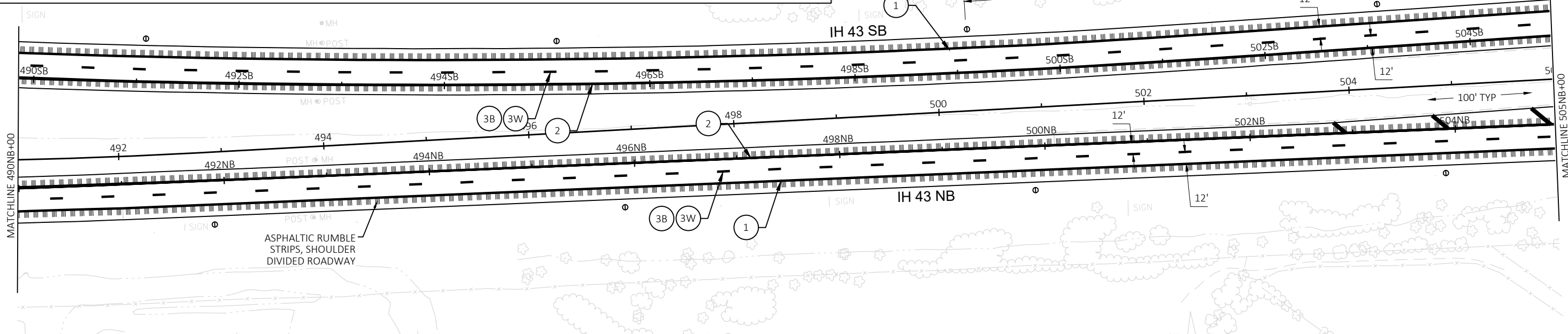
REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"

REFER TO THE CONSTRUCTION DETAILS:  
 - "2-LANES WITH 1-LANE ENTRANCE AND EXIT RAMP"  
 - "SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ON-RAMP"  
 - "SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL OFF-RAMP"

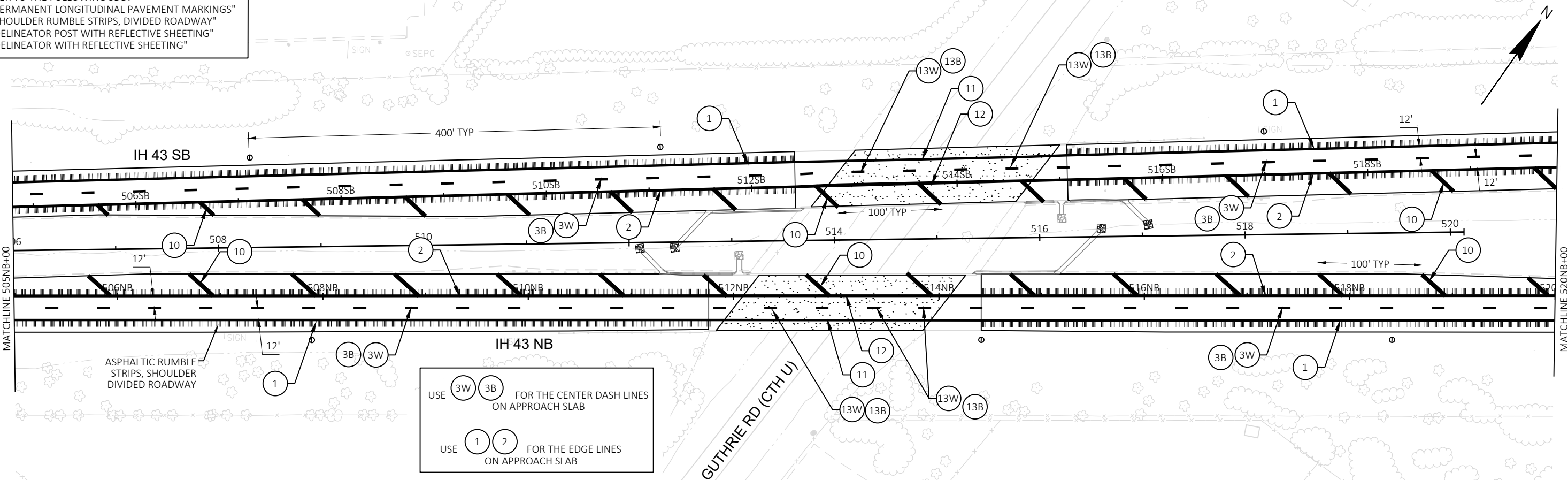
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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PAVEMENT MARKING LEGEND

- 1 MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- 2 MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- 3W MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)
- DELINEATOR POSTS STEEL (ALONG MAINLINE)  
DELINEATOR REFLECTORS
- 3B MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)
- 10 MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- 11 MARKING LINE EPOXY 6-INCH (WHITE)
- 12 MARKING LINE EPOXY 6-INCH (YELLOW)
- 13W MARKING LINE EPOXY 6-INCH (12.5' DASHED WHITE)
- 13B MARKING LINE BLACK EPOXY 6-INCH (12.5' DASHED BLACK)

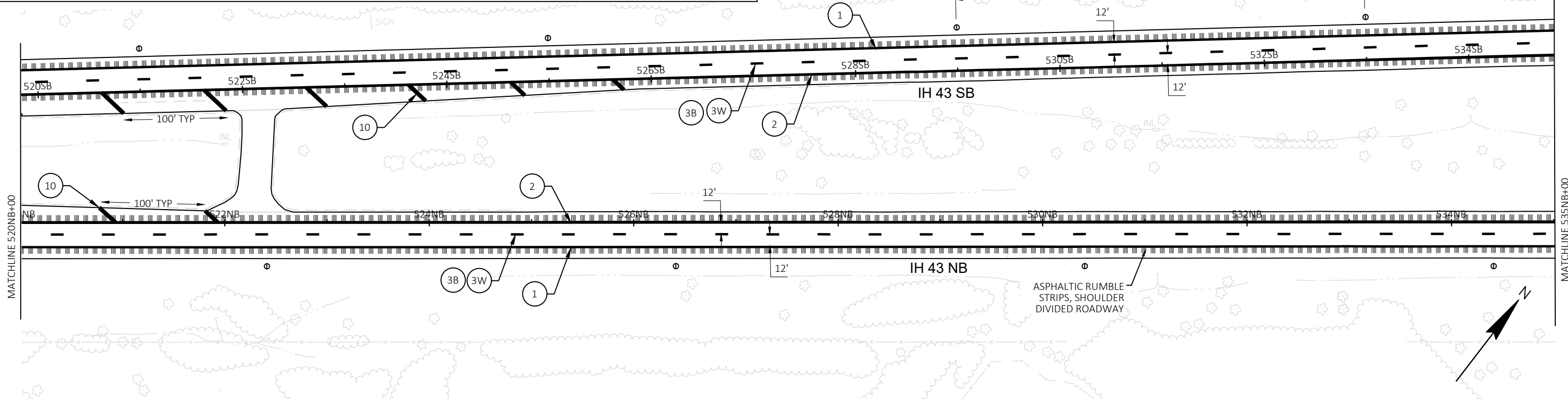


REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"

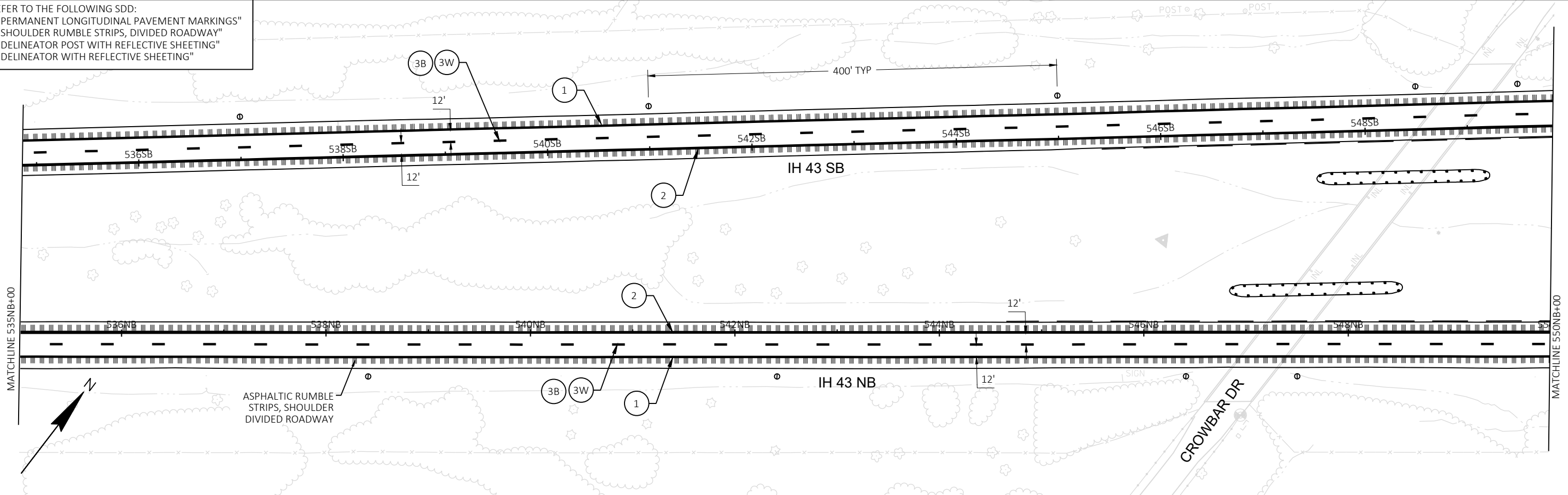


PAVEMENT MARKING LEGEND

- 1 MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- 2 MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- 3W MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)
- 3B MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)
- 10 MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- DELINEATOR POSTS STEEL (ALONG MAINLINE) DELINEATOR REFLECTORS



REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"



REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"

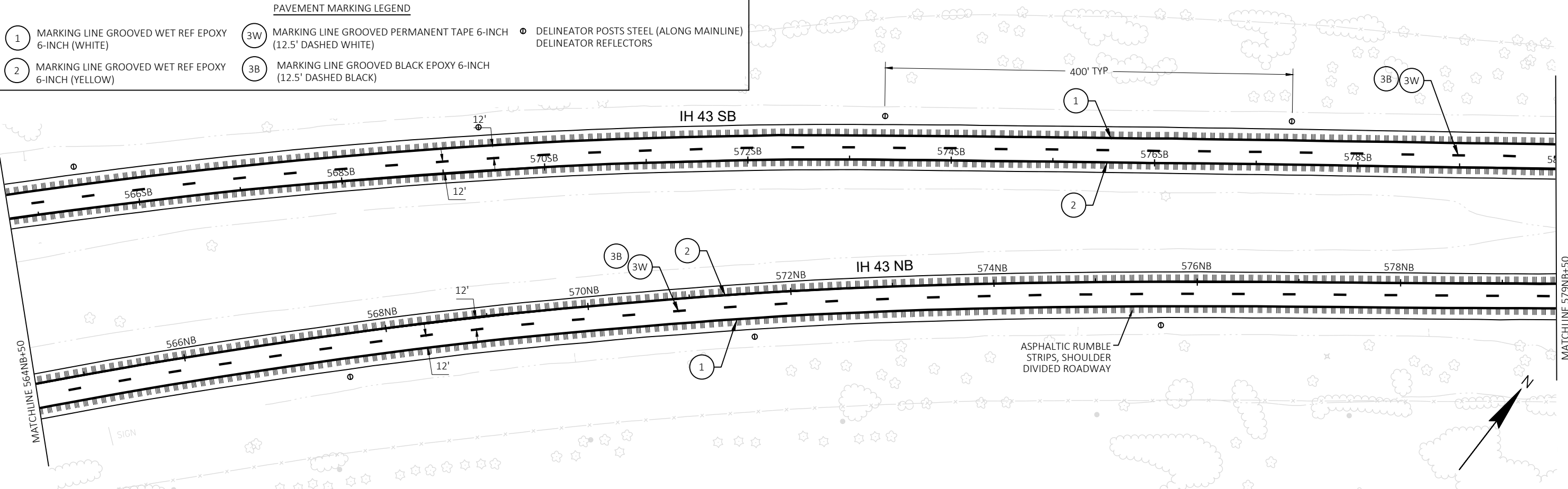
2

2



PAVEMENT MARKING LEGEND

- ① MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- ② MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- ③W MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)
- ③B MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)
- DELINEATOR POSTS STEEL (ALONG MAINLINE) DELINEATOR REFLECTORS



PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

PAVEMENT MARKING

SHEET

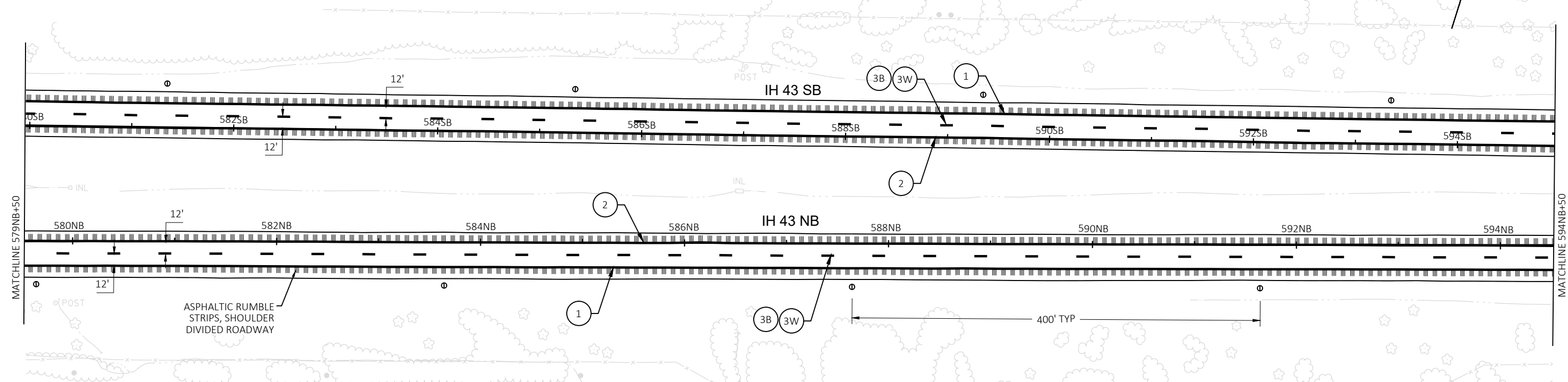
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PAVEMENT MARKING LEGEND

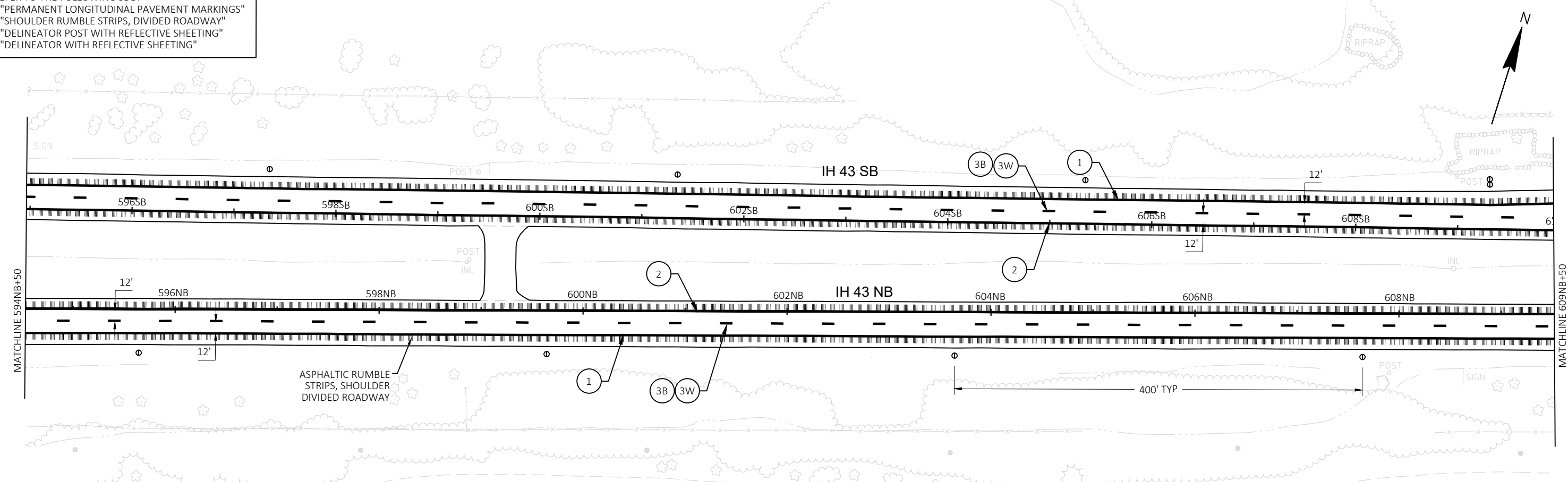
- 1 MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- 2 MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)

- 3W MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)
- 3B MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)

- o DELINEATOR POSTS STEEL (ALONG MAINLINE) DELINEATOR REFLECTORS
- 8 DELINEATOR POSTS STEEL (ALONG GORE AREAS & RAMPS, BEGIN PLACE AT RAMP TAPER) TWO DELINEATOR REFLECTORS



REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"



PROJECT NO: 1090-09-76

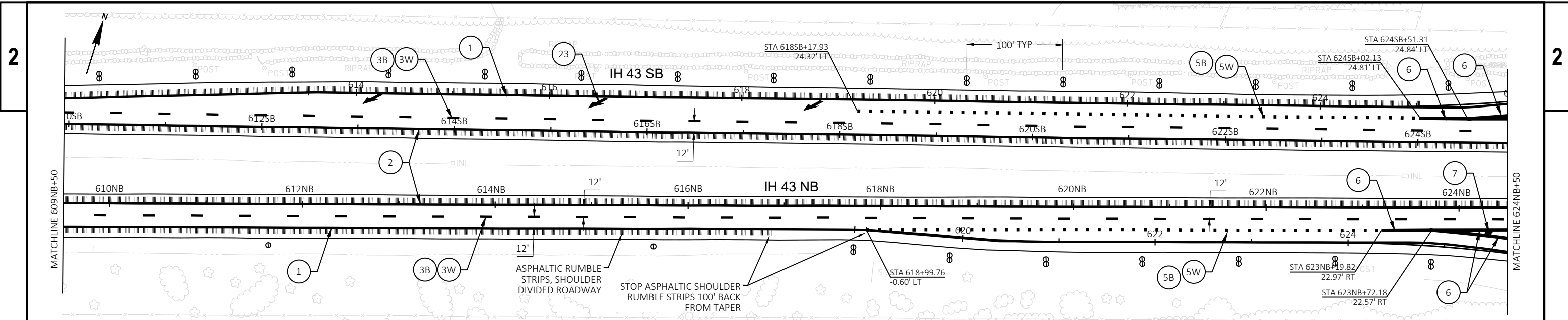
HWY: IH 43

COUNTY: WAUKESHA

PAVEMENT MARKING

SHEET

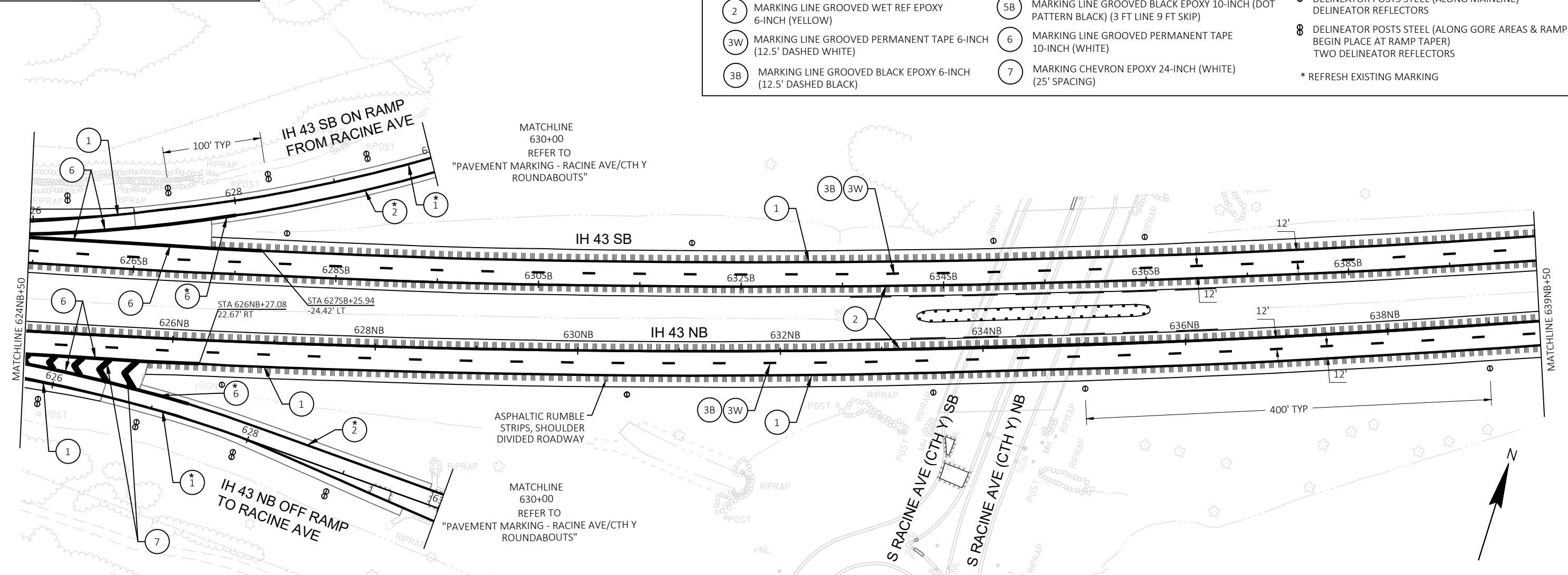
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REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"

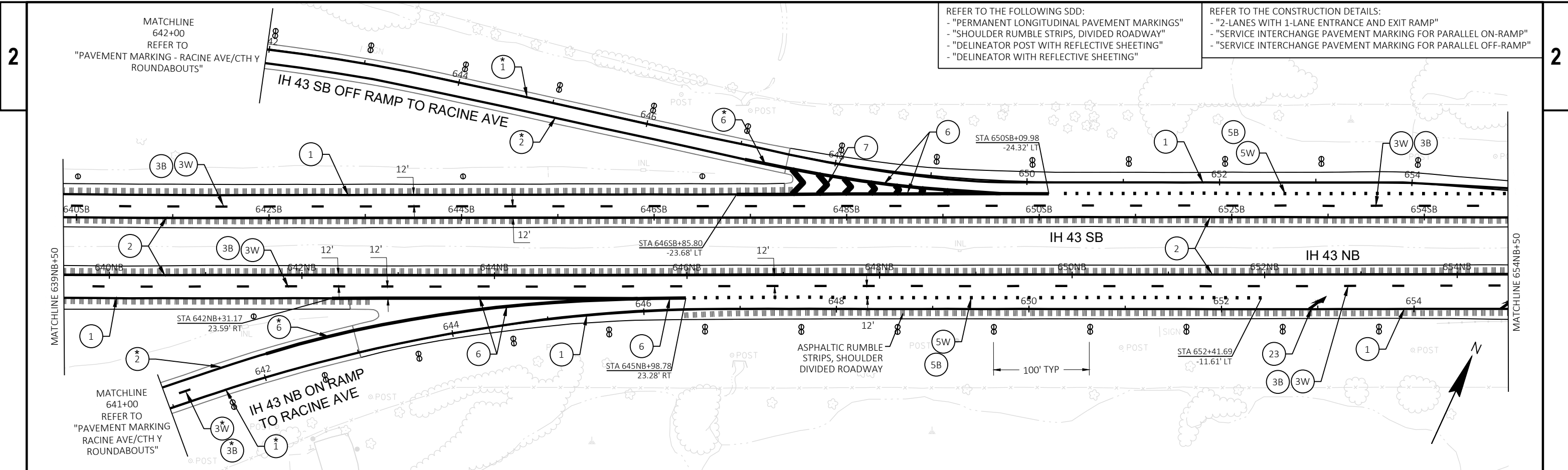
REFER TO THE CONSTRUCTION DETAILS:  
 - "2-LANES WITH 1-LANE ENTRANCE AND EXIT RAMP"  
 - "SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ON-RAMP"  
 - "SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL OFF-RAMP"

PAVEMENT MARKING LEGEND			
1	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	23	MARKING ARROW EPOXY (TYPE 5) (WHITE)
2	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	5W	MARKING LINE GROOVED PERMANENT TAPE 10-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
3W	MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)	5B	MARKING LINE GROOVED BLACK EPOXY 10-INCH (DOT PATTERN BLACK) (3 FT LINE 9 FT SKIP)
3B	MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)	6	MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
		7	MARKING CHEVRON EPOXY 24-INCH (WHITE) (25' SPACING)
		8	DELINEATOR POSTS STEEL (ALONG MAINLINE) DELINEATOR REFLECTORS
		8	DELINEATOR POSTS STEEL (ALONG GORE AREAS & RAMPS, BEGIN PLACE AT RAMP TAPER) TWO DELINEATOR REFLECTORS
			* REFRESH EXISTING MARKING



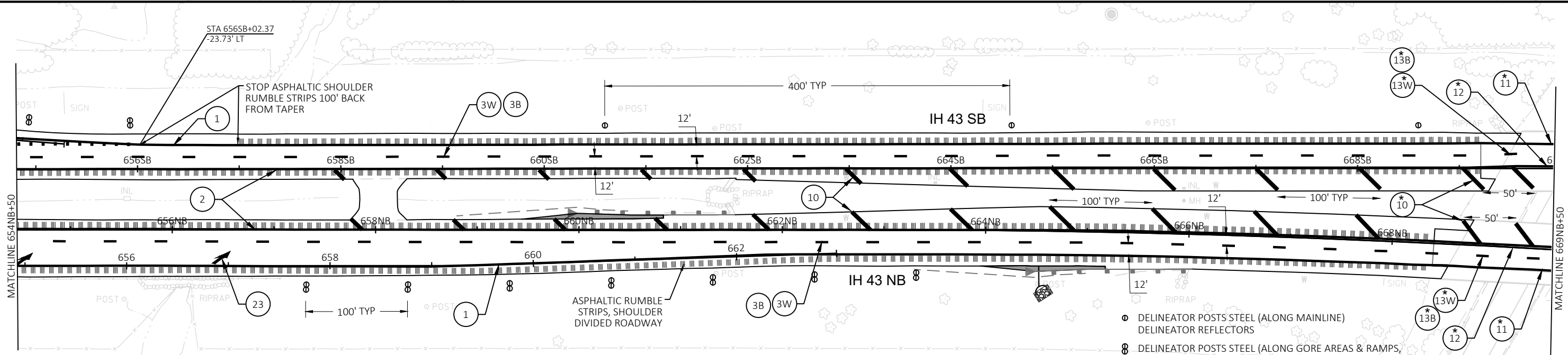
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"

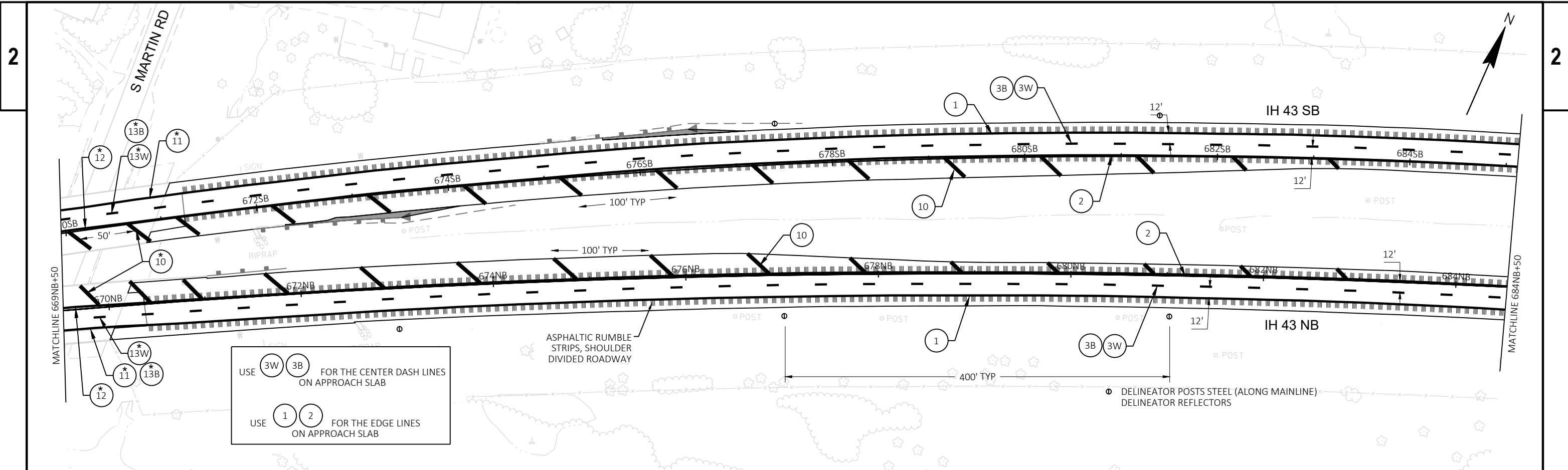
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 - "2-LANES WITH 1-LANE ENTRANCE AND EXIT RAMP"  
 - "SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ON-RAMP"  
 - "SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL OFF-RAMP"



* REFRESH EXISTING MARKING		PAVEMENT MARKING LEGEND	
1	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	6	MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
2	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	7	MARKING CHEVRON EPOXY 24-INCH (WHITE) (25' SPACING)
3W	MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)	10	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
3B	MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)	11	MARKING LINE EPOXY 6-INCH (WHITE)
5W	MARKING LINE GROOVED BLACK EPOXY 10-INCH (DOT PATTERN BLACK) (3 FT LINE 9 FT SKIP)	12	MARKING LINE EPOXY 6-INCH (YELLOW)
5B	MARKING LINE GROOVED PERMANENT TAPE 10-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)	13W	MARKING LINE EPOXY 6-INCH (12.5' DASHED WHITE)
		13B	MARKING LINE BLACK EPOXY 6-INCH (12.5' DASHED BLACK)
		23	MARKING ARROW EPOXY (TYPE 5) (WHITE)

USE 3W 3B FOR THE CENTER DASH LINES ON APPROACH SLAB

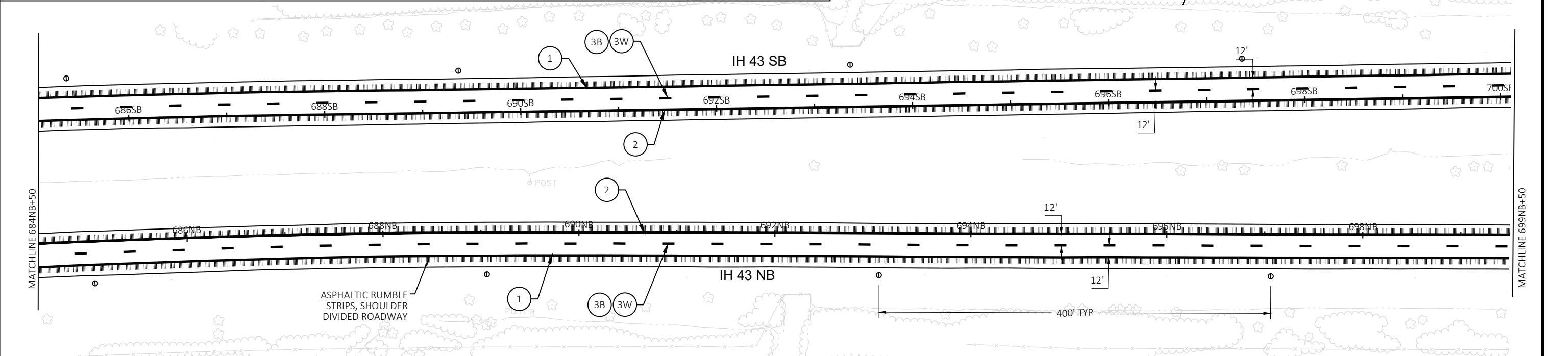
USE 1 2 FOR THE EDGE LINES ON APPROACH SLAB



\* REFRESH EXISTING MARKING

PAVEMENT MARKING LEGEND			
1	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	12	MARKING LINE EPOXY 6-INCH (YELLOW)
2	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	10	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
3W	MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)	11	MARKING LINE EPOXY 6-INCH (WHITE)
		13B	MARKING LINE BLACK EPOXY 6-INCH (12.5' DASHED BLACK)
		13W	MARKING LINE EPOXY 6-INCH (12.5' DASHED WHITE)
		3B	MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)

REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"



PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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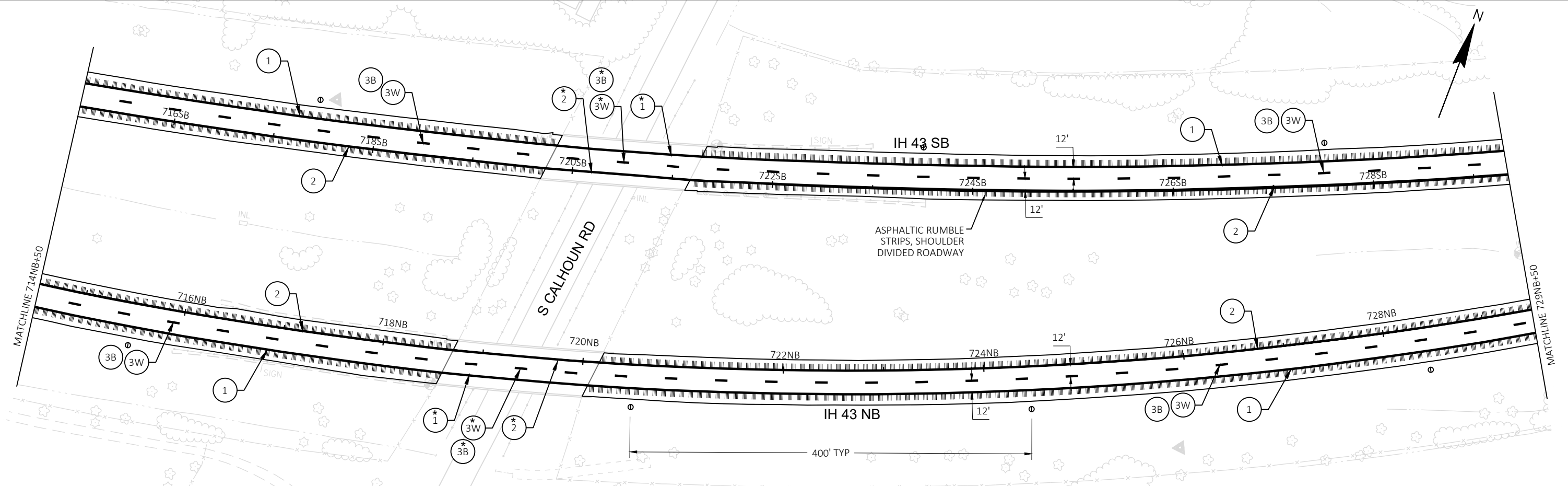
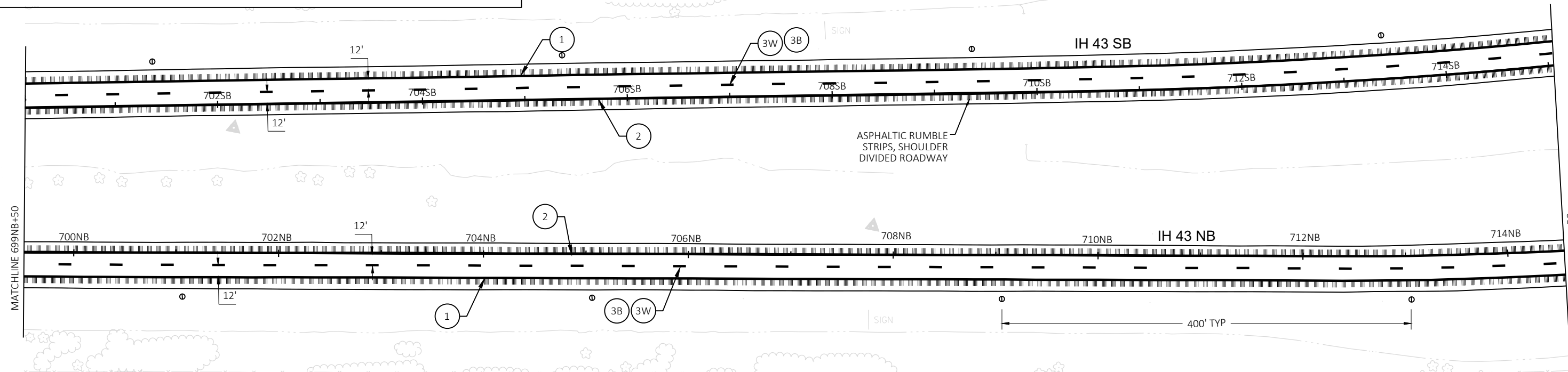
PAVEMENT MARKING LEGEND

- ① MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- ② MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- \* REFRESH EXISTING MARKING
- ③W MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)
- ③B MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)
- DELINEATOR POSTS STEEL (ALONG MAINLINE) DELINEATOR REFLECTORS

REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"

2

2



PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

PAVEMENT MARKING

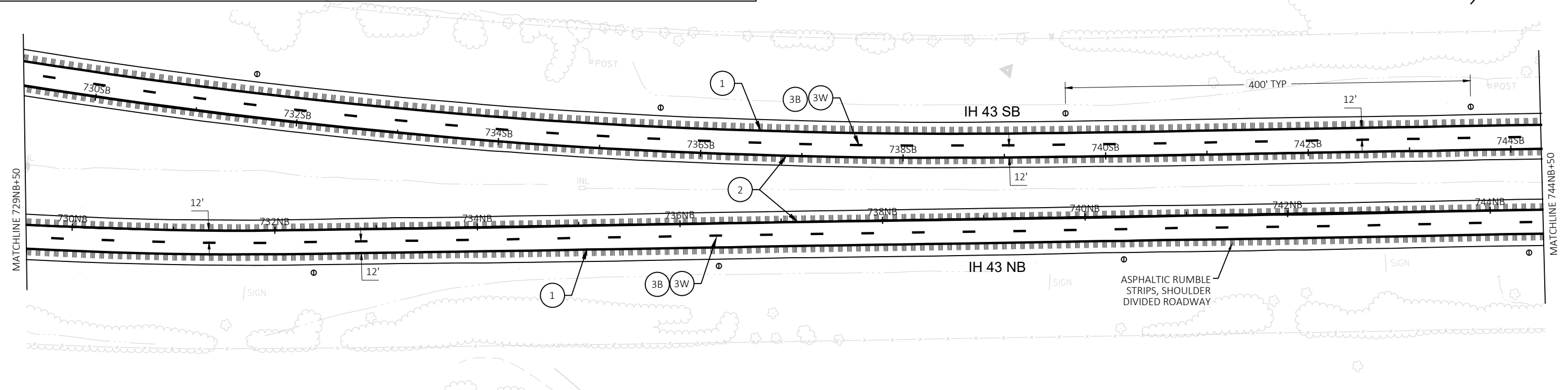
SHEET

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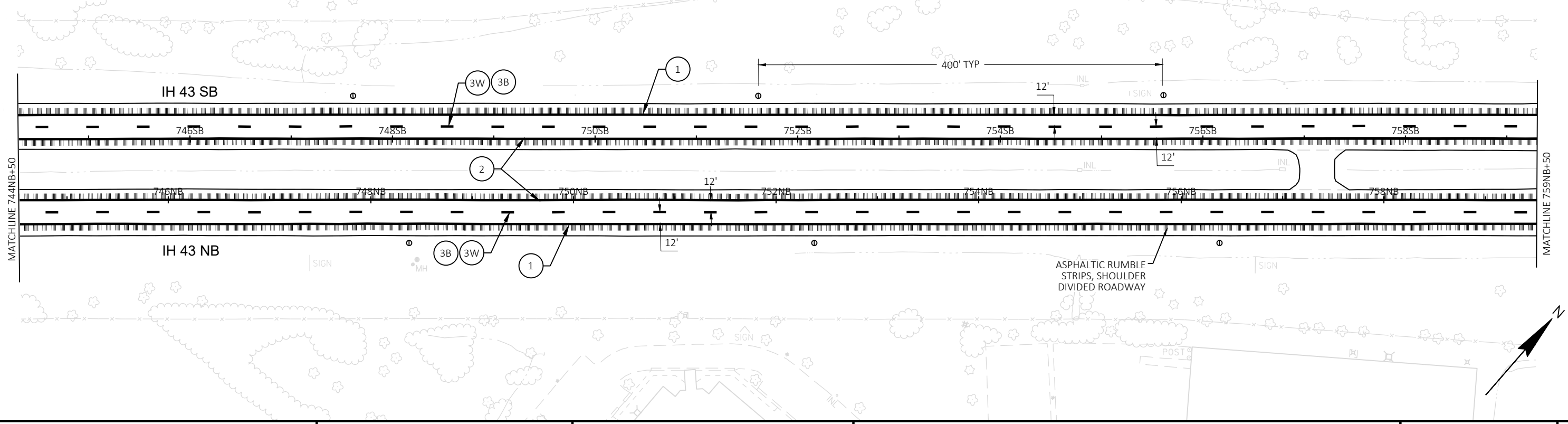
**PAVEMENT MARKING LEGEND**

1	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	3W	MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)	○	DELINEATOR POSTS STEEL (ALONG MAINLINE) DELINEATOR REFLECTORS
2	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	3B	MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)		

2

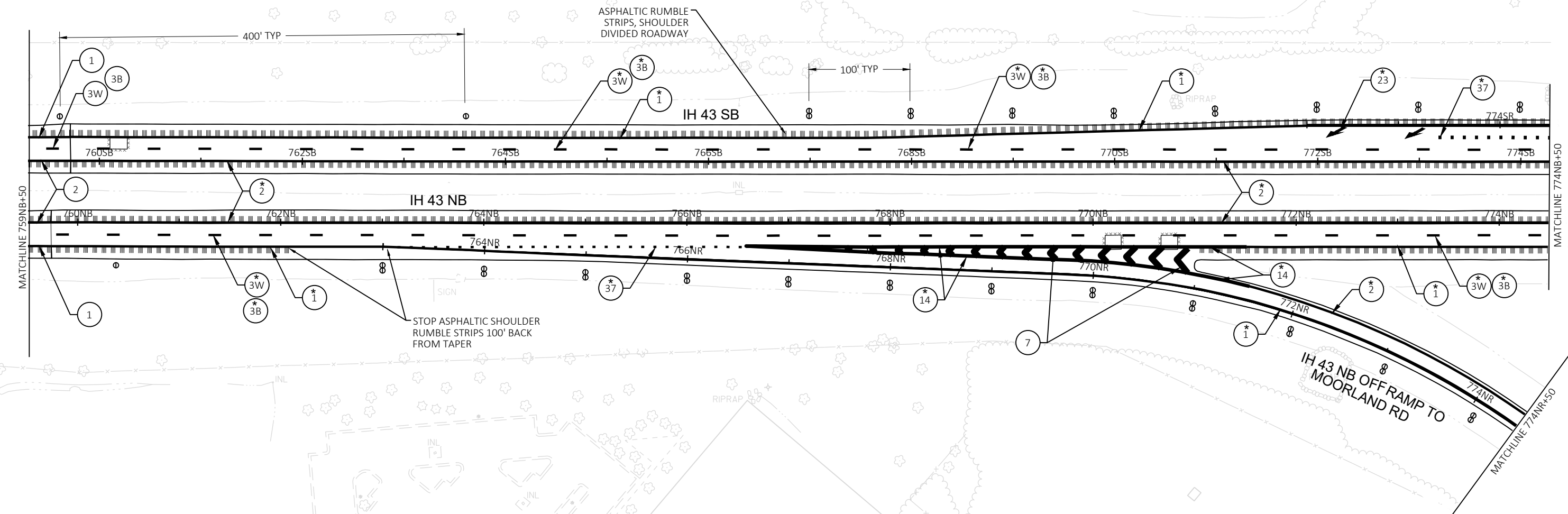


REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"

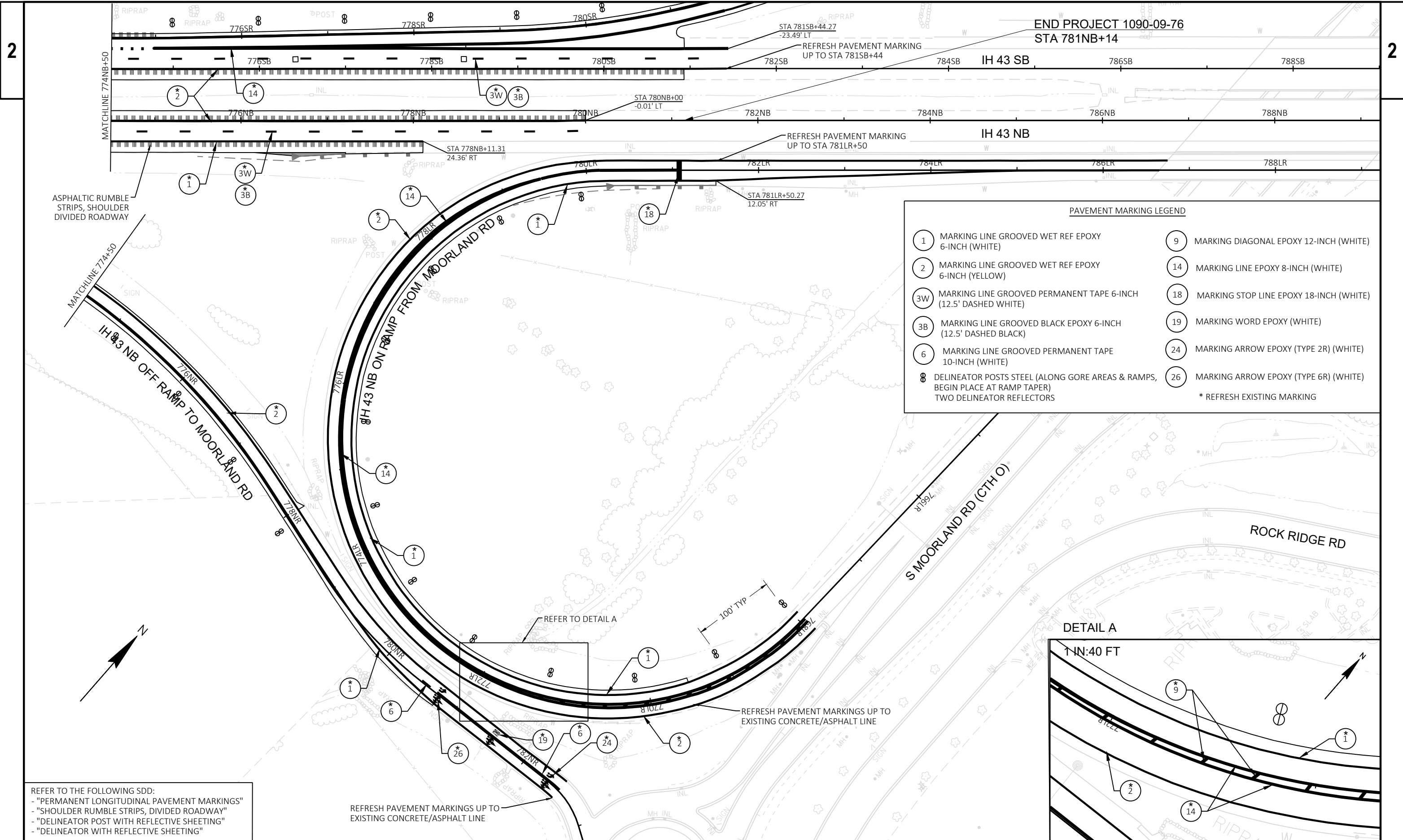


PAVEMENT MARKING LEGEND

- 1 MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- 2 MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- 3W MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)
- 3B MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)
- 7 MARKING CHEVRON EPOXY 24-INCH (WHITE) (25' SPACING)
- 14 MARKING LINE EPOXY 8-INCH (WHITE)
- 23 MARKING ARROW EPOXY (TYPE 5) (WHITE)
- 37 MARKING LINE EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
- DELINEATOR POSTS STEEL (ALONG MAINLINE) DELINEATOR REFLECTORS
- DELINEATOR POSTS STEEL (ALONG GORE AREAS & RAMPS, BEGIN PLACE AT RAMP TAPER) TWO DELINEATOR REFLECTORS
- \* REFRESH EXISTING MARKING



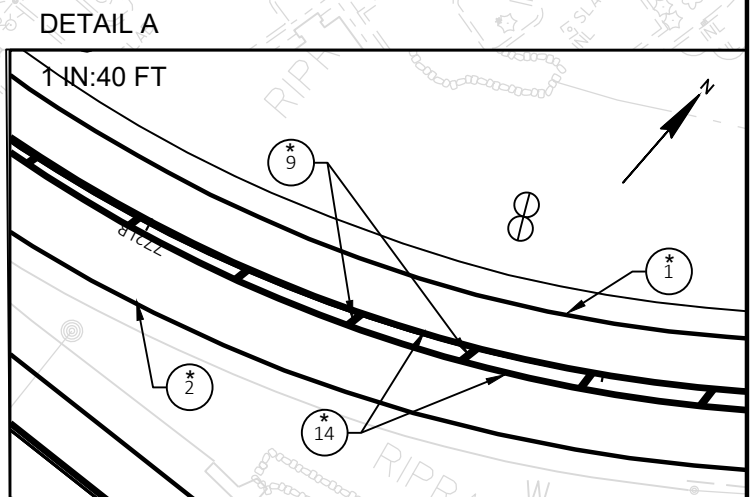
REFER TO THE FOLLOWING SDD:  
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 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"



END PROJECT 1090-09-76  
STA 781NB+14

IH 43 NB

PAVEMENT MARKING LEGEND	
1	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
2	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
3W	MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)
3B	MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)
6	MARKING LINE GROOVED PERMANENT TAPE 10-INCH (WHITE)
8	DELINEATOR POSTS STEEL (ALONG GORE AREAS & RAMPS, BEGIN PLACE AT RAMP TAPER) TWO DELINEATOR REFLECTORS
9	MARKING DIAGONAL EPOXY 12-INCH (WHITE)
14	MARKING LINE EPOXY 8-INCH (WHITE)
18	MARKING STOP LINE EPOXY 18-INCH (WHITE)
19	MARKING WORD EPOXY (WHITE)
24	MARKING ARROW EPOXY (TYPE 2R) (WHITE)
26	MARKING ARROW EPOXY (TYPE 6R) (WHITE)
* REFRESH EXISTING MARKING	



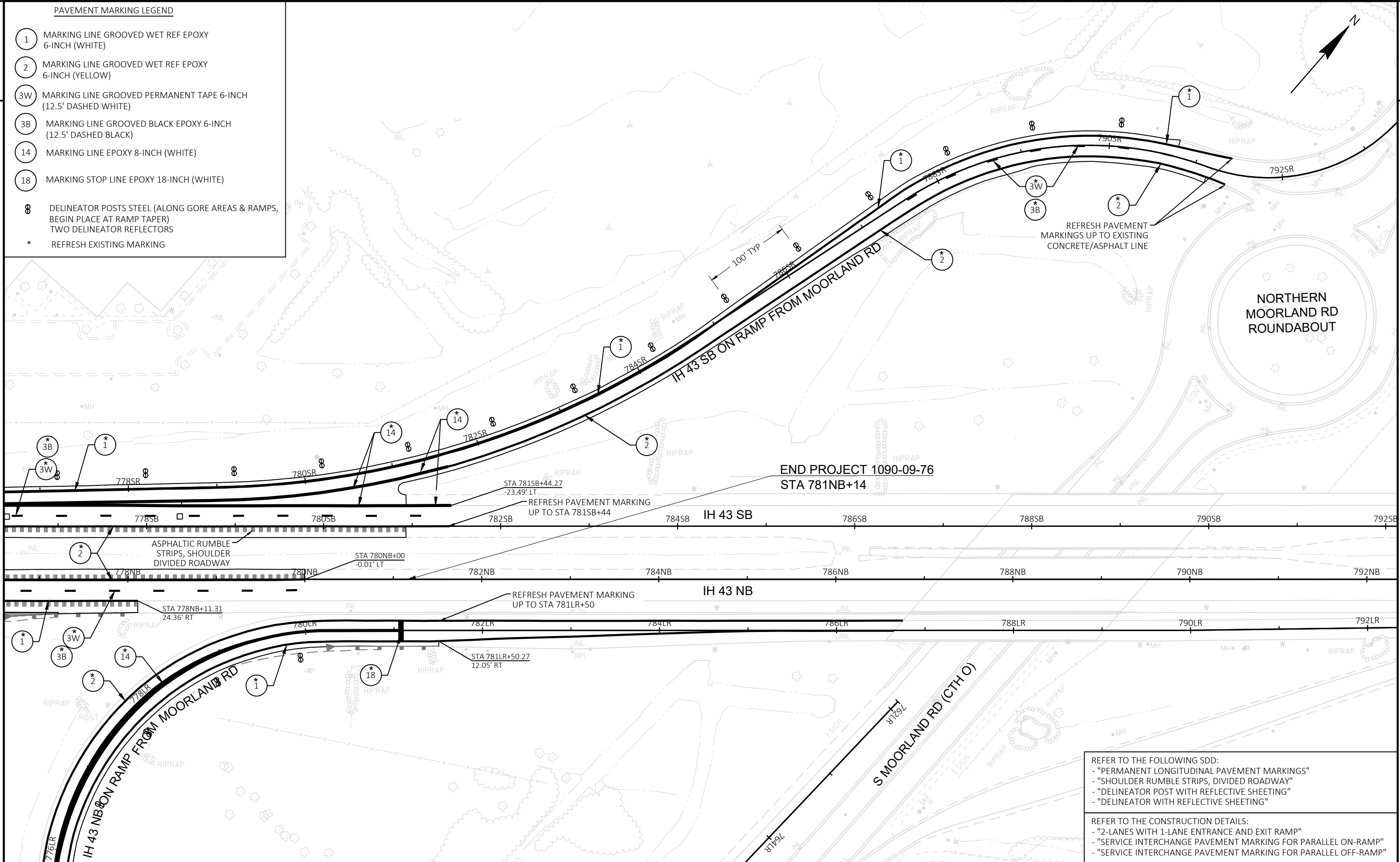
REFER TO THE FOLLOWING SDD:  
 - "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"  
 - "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"  
 - "DELINEATOR POST WITH REFLECTIVE SHEETING"  
 - "DELINEATOR WITH REFLECTIVE SHEETING"

REFRESH PAVEMENT MARKINGS UP TO EXISTING CONCRETE/ASPHALT LINE



PAVEMENT MARKING LEGEND

- ① MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- ② MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- ③W MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)
- ③B MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED BLACK)
- ⑭ MARKING LINE EPOXY 8-INCH (WHITE)
- ⑱ MARKING STOP LINE EPOXY 18-INCH (WHITE)
- ⊗ DELINEATOR POSTS STEEL (ALONG GORE AREAS & RAMPS, BEGIN PLACE AT RAMP TAPER) TWO DELINEATOR REFLECTORS
- \* REFRESH EXISTING MARKING



END PROJECT 1090-09-76  
STA 781NB+14

REFER TO THE FOLLOWING SDD:

- "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"
- "SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY"
- "DELINEATOR POST WITH REFLECTIVE SHEETING"
- "DELINEATOR WITH REFLECTIVE SHEETING"

REFER TO THE CONSTRUCTION DETAILS:

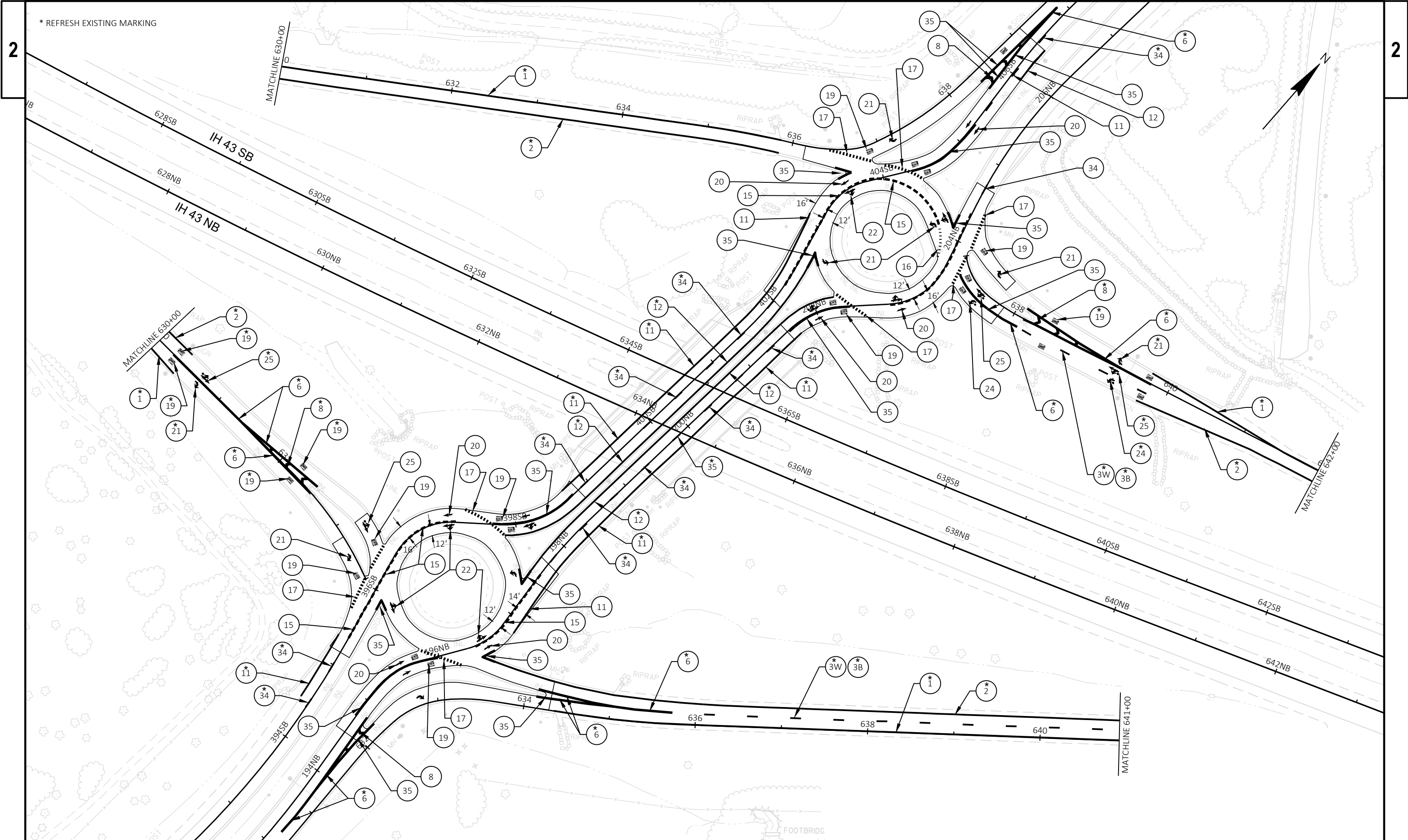
- "2-LANES WITH 1-LANE ENTRANCE AND EXIT RAMP"
- "SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ON-RAMP"
- "SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL OFF-RAMP"

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	<b>E</b>
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S RACINE AVE/CTH Y ROUNDABOUTS  
PAVEMENT MARKING LEGEND

- 1 MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- 2 MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- 3W MARKING LINE GROOVED PERMANENT TAPE 6-INCH (12.5' DASHED WHITE)
- 3B MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' DASHED WHITE)
- 6 MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
- 8 MARKING CHEVRON EPOXY 12-INCH (WHITE) (25' SPACING) (TO PAID FOR AS MARKING DIAGONAL EPOXY 12-INCH)
- 11 MARKING LINE EPOXY 6-INCH (WHITE)
- 12 MARKING LINE EPOXY 6-INCH (YELLOW)
- 15 MARKING LINE EPOXY 10-INCH (DASHED WHITE) (6 FT LINE 3 FT SKIP)
- 16 MARKING DOTTED EXTENSION EPOXY 10-INCH (DOT PATTERN WHITE) (1 FT LINE 3 FT SKIP)
- 17 MARKING DOTTED EXTENSION EPOXY 18-INCH (DOT PATTERN WHITE) (2 FT LINE 2 FT SKIP)
- 19 MARKING WORD EPOXY (WHITE)
- 20 MARKING ARROW EPOXY (TYPE 1) (WHITE)
- 21 MARKING ARROW EPOXY (TYPE 2) (WHITE)
- 22 MARKING ARROW EPOXY (TYPE 3) (WHITE)
- 24 MARKING ARROW EPOXY (TYPE 2R) (WHITE)
- 25 MARKING ARROW EPOXY (TYPE 3R) (WHITE)
- 34 MARKING LINE EPOXY 4-INCH (12.5' DASHED WHITE)
- 35 MARKING LINE EPOXY 10-INCH (WHITE)

\* REFRESH EXISTING MARKING



PROJECT NO: 1090-09-76

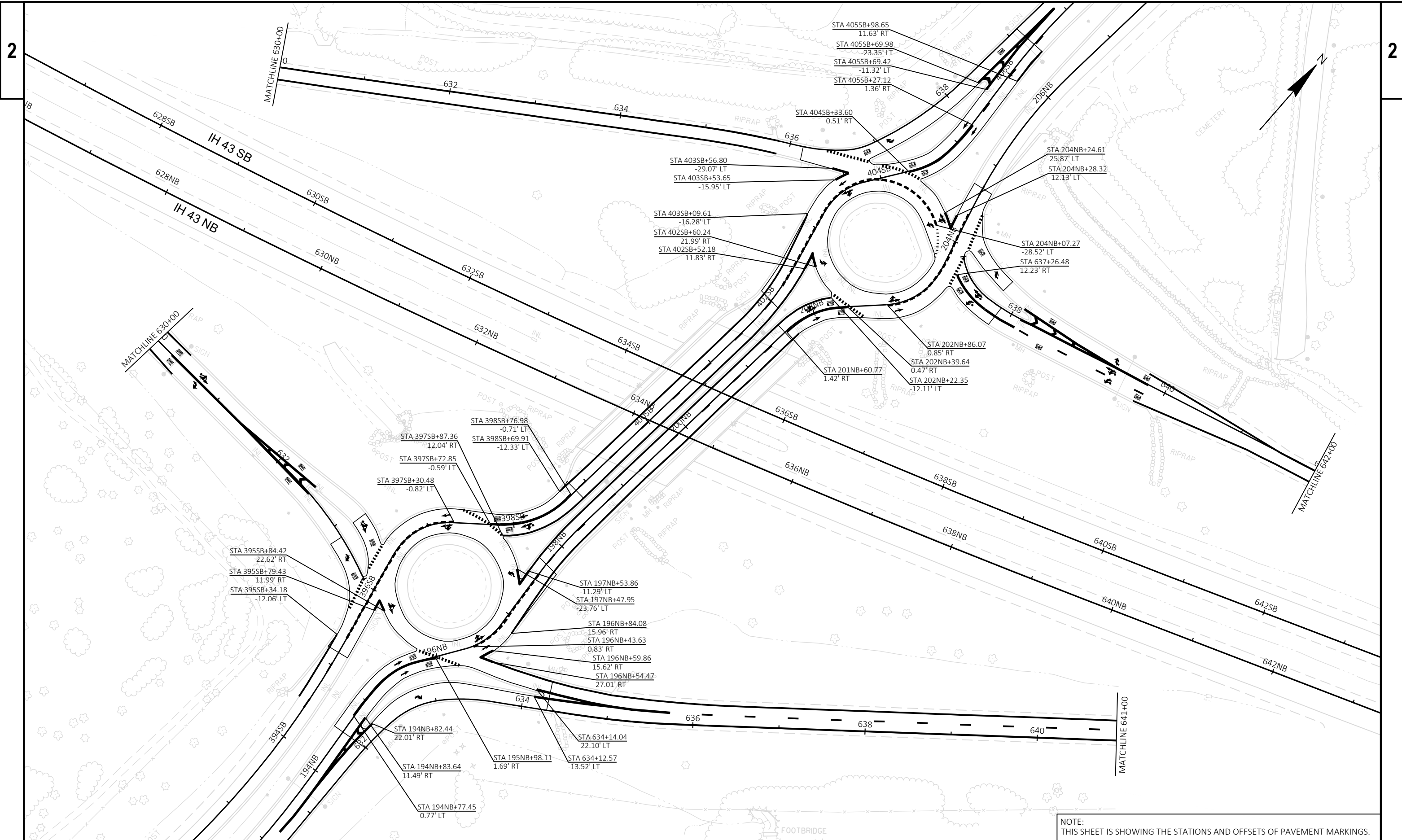
HWY: IH 43

COUNTY: WAUKESHA

PAVEMENT MARKING - RACINE AVE/CTH Y ROUNDABOUTS

SHEET

E



NOTE:  
THIS SHEET IS SHOWING THE STATIONS AND OFFSETS OF PAVEMENT MARKINGS.

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	PAVEMENT MARKING - RACINE AVE/CTH Y ROUNDABOUTS - STA/OFFSET	SHEET	<b>E</b>
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LAYOUT NAME - 15

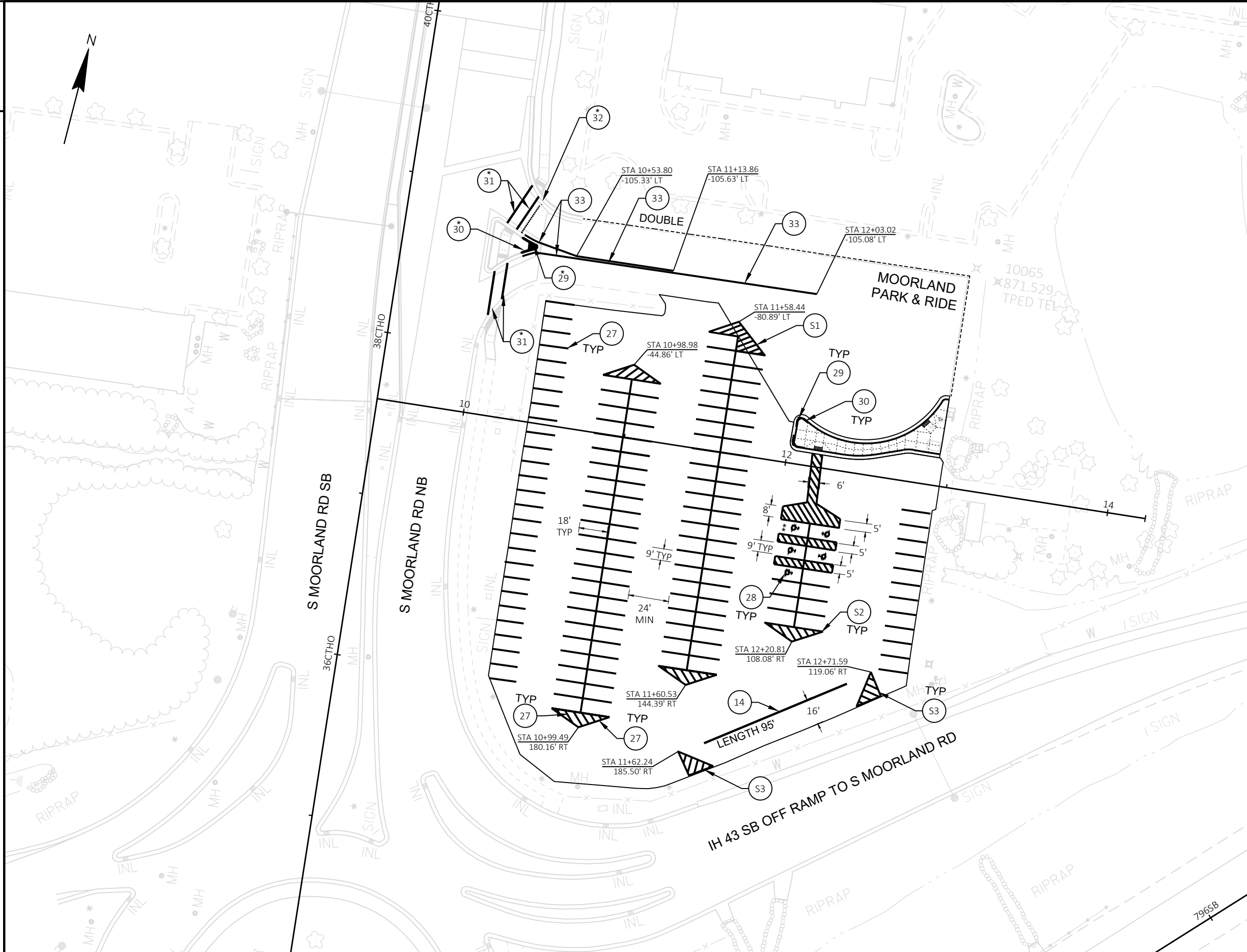
PLOT DATE : 9/30/2023 10:04 PM

PLOT BY : ABU AJWA, MUNTHERR J

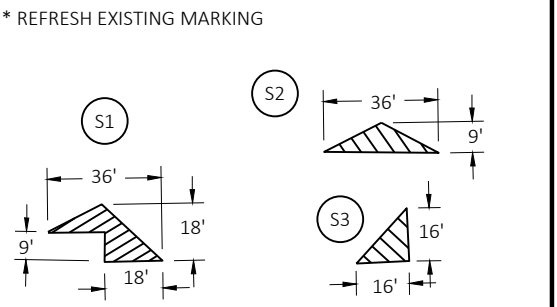
PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADD SHEET 42



- PAVEMENT MARKING LEGEND**
- 14 MARKING LINE EPOXY 8-INCH (WHITE)
  - 27 MARKING PARKING STALL EPOXY (4-INCH) (WHITE)
  - 28 MARKING SYMBOL EPOXY (WHITE)
  - 29 MARKING ISLAND NOSE EPOXY (YELLOW)
  - 30 MARKING CURB EPOXY (YELLOW)
  - 31 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
  - 32 MARKING YIELD LINE EPOXY 18-INCH (WHITE)
  - 33 MARKING LINE EPOXY 4-INCH (YELLOW)



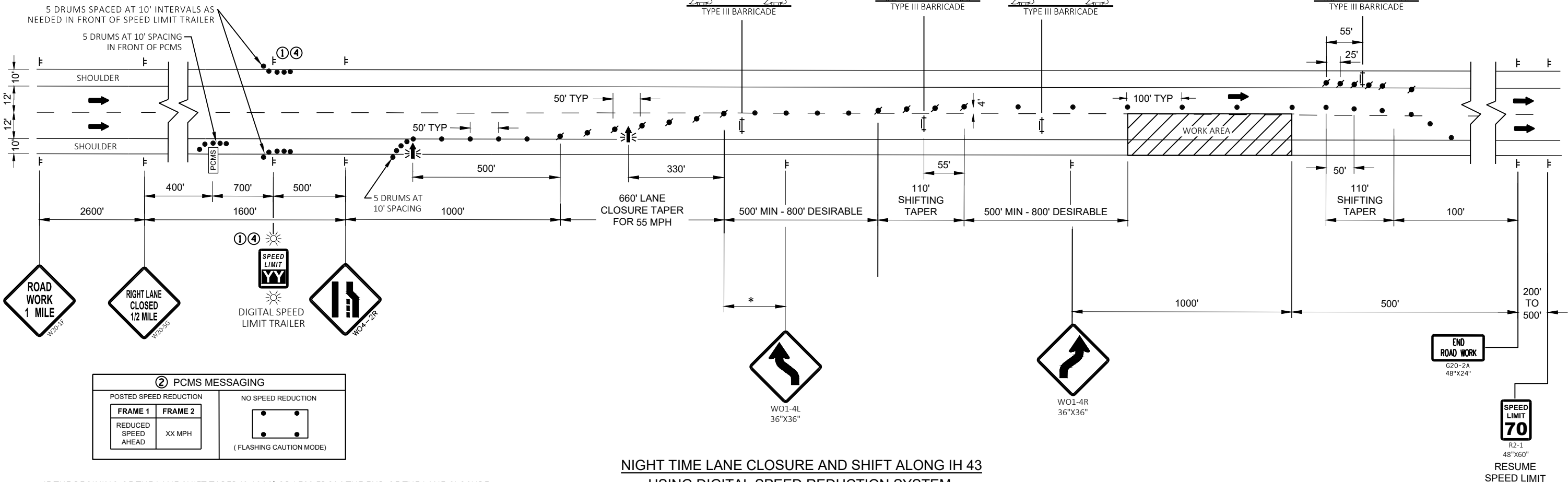
ALL DIAGONALS ARE 4 INCH AT 45 DEGREES, 3' SPACING CENTER TO CENTER  
 \*\* PARKING STALL TO BE DESIGNATED FOR VAN (HANDICAP)

**GENERAL NOTES**

- LOT TO HAVE 140 PARKING STALLS.
- 5 PARKING STALLS TO BE DESIGNATED FOR HANDICAP (ONE OF THEM TO BE FOR VAN ONLY).
- REFER TO SDD "PARKING STALL MARKING".

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ TRAFFIC CONTROL WITH TYPE "C" STEADY BURN LIGHT
- ⊥ TYPE III BARRICADE WITH TWO (2) TYPE "A" WARNING LIGHTS (FLASHING)
- ⊥ TYPE III BARRICADE WITH SIGN WITH TWO (2) TYPE "A" WARNING LIGHTS (FLASHING)
- ⊥ SIGN ON TEMPORARY SUPPORT
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- ⚡ FLASHING ARROW BOARD
- ➔ DIRECTION OF TRAFFIC



**NIGHT TIME LANE CLOSURE AND SHIFT ALONG IH 43  
USING DIGITAL SPEED REDUCTION SYSTEM**

INSIDE HALF STAGES: 1A, 2B, 3A AND 4A  
OUTSIDE HALF STAGES: 1B, 2A, 3B AND 4B

\* IF THE BEGINING OF THE LANE SHIFT TAPER IS 1200' OR LESS FROM THE END OF THE LANE CLOSURE TAPER, PLACE W01-4L SIGN 200' AFTER THE END OF THE LANE CLOSURE TAPER.

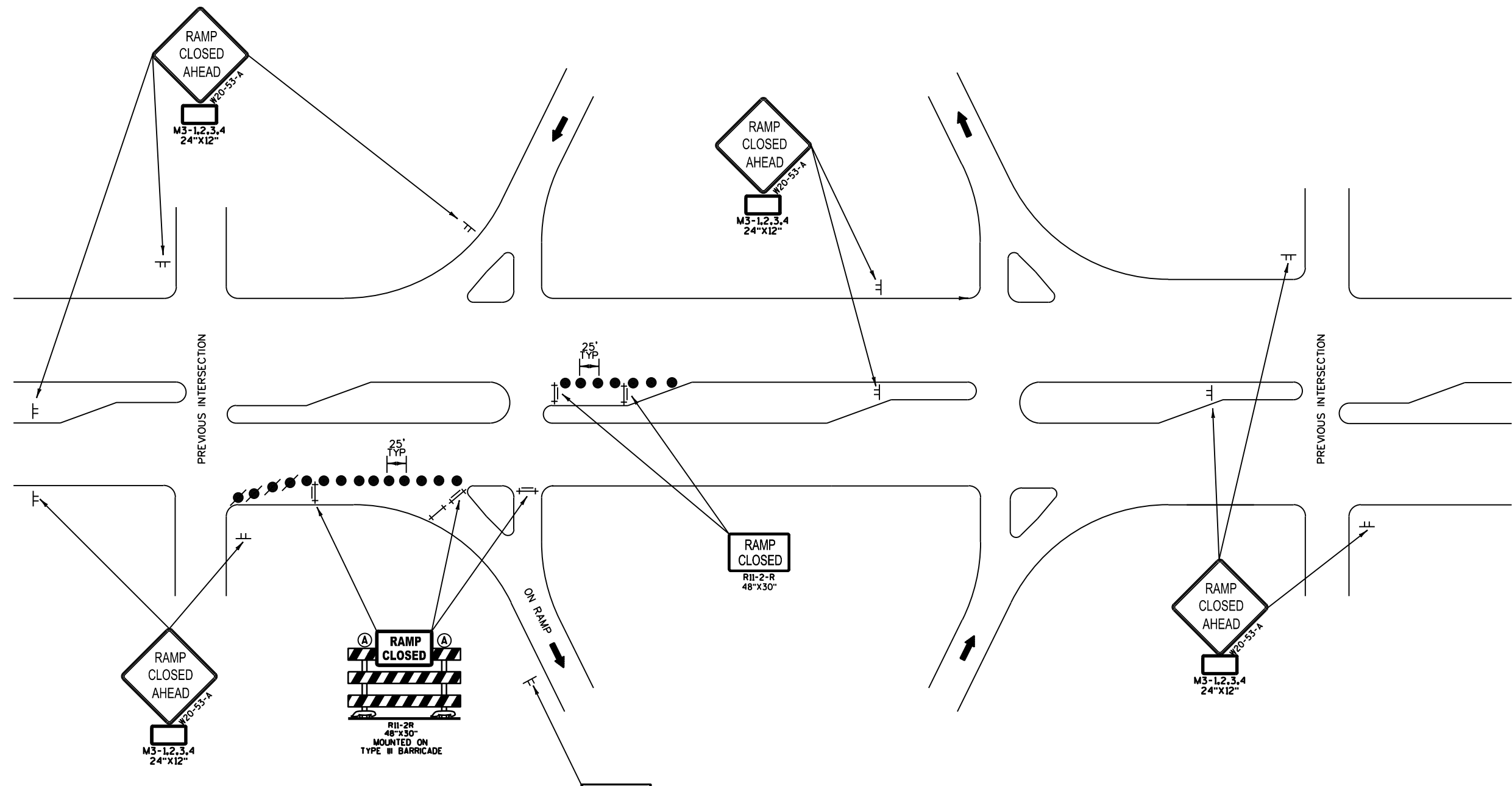
GENERAL NOTES

- THIS LANE CLOSURE AND LANE SHIFT IS TYPICAL FOR CLOSING THE RIGHT LANE. REVERSE FOR CLOSING LEFT LANE.
- NB DIRECTION SHOWN (MIRROR FOR SB DIRECTION).
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED 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.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- 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.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.
- 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.
- 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.
- USE BASIC QUEUE WARNING SYSTEM (BQWS) AS NEEDED OR AS DIRECTED BY THE ENGINEER IN THE FIELD, REFER TO SDD "TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM".

- ① EXISTING POST MOUNTED SPEED LIMIT SIGNS SHOULD BE COVERED OR REMOVED.
- ② PCMS SHALL FOLLOW ARROW BOARD STANDARDS WHEN DISPLAYING FLASHING FOUR CORNER CAUTION MODE.
- \*\* ③ PLACE A DIGITAL SPEED LIMIT TRAILER 700' FEET UPSTREAM OF EACH ACTIVE WORK AREA WHERE WORKERS ARE PRESENT.
- ④ A DIGITAL SPEED LIMIT TRAILER SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP.
- \*\* ⑤ IF WORK AREA STARTS LESS THAN 1,000 FEET FROM END OF LANE CLOSURE TAPER, OMIT DIGITAL SPEED LIMIT TRAILER AT THAT LOCATION.
- \*\* ⑥ PLACE A DIGITAL SPEED LIMIT TRAILER A MINIMUM OF EVERY ONE MILE. MODIFY PLACEMENT AS DIRECTED BY ENGINEER WHEN DIGITAL SPEED LIMIT TRAILER IS LOCATED IN CLOSE PROXIMITY TO AN ACCELERATION LANE OF AN ENTRANCE RAMP.
- \*\* ⑦ OMIT DRUM DELINEATION FOR DIGITAL SPEED LIMIT TRAILER WITHIN A CLOSURE.
- \*\* APPLIED WHEN THERE ARE MULTIPLE ACTIVE WORKING AREA ALONG THE CLOSURE.



- NORTH**  
M3-1  
24"x12"
- EAST**  
M3-2  
24"x12"
- SOUTH**  
M3-3  
24"x12"
- WEST**  
M3-4  
24"x12"



**LEGEND**

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL WITH TYPE "C" STEADY BURN LIGHT
- † TYPE III BARRICADE
- †† TYPE III BARRICADE WITH 2 TYPE "A" WARNING LIGHT (FLASHING)
- 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 FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

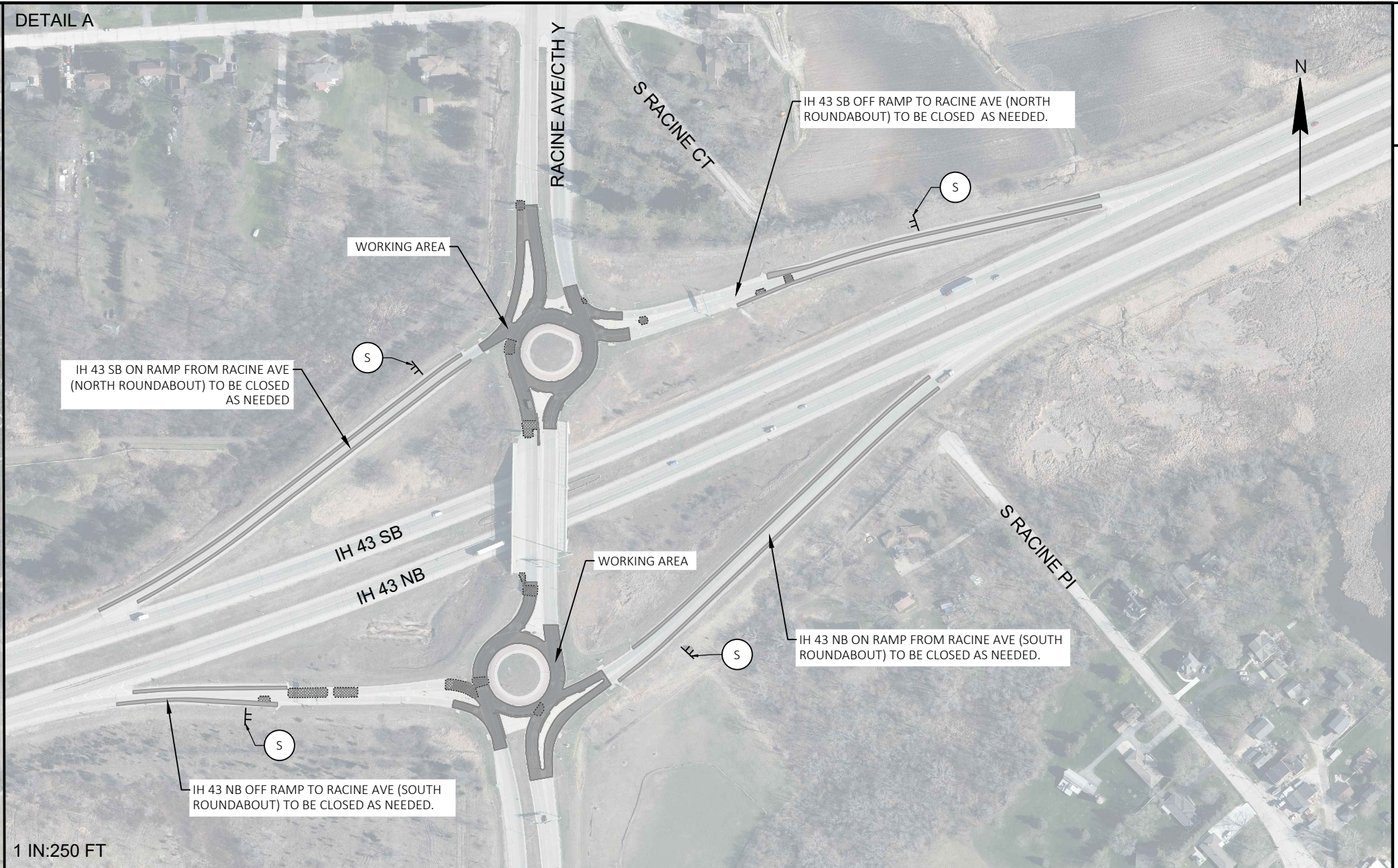
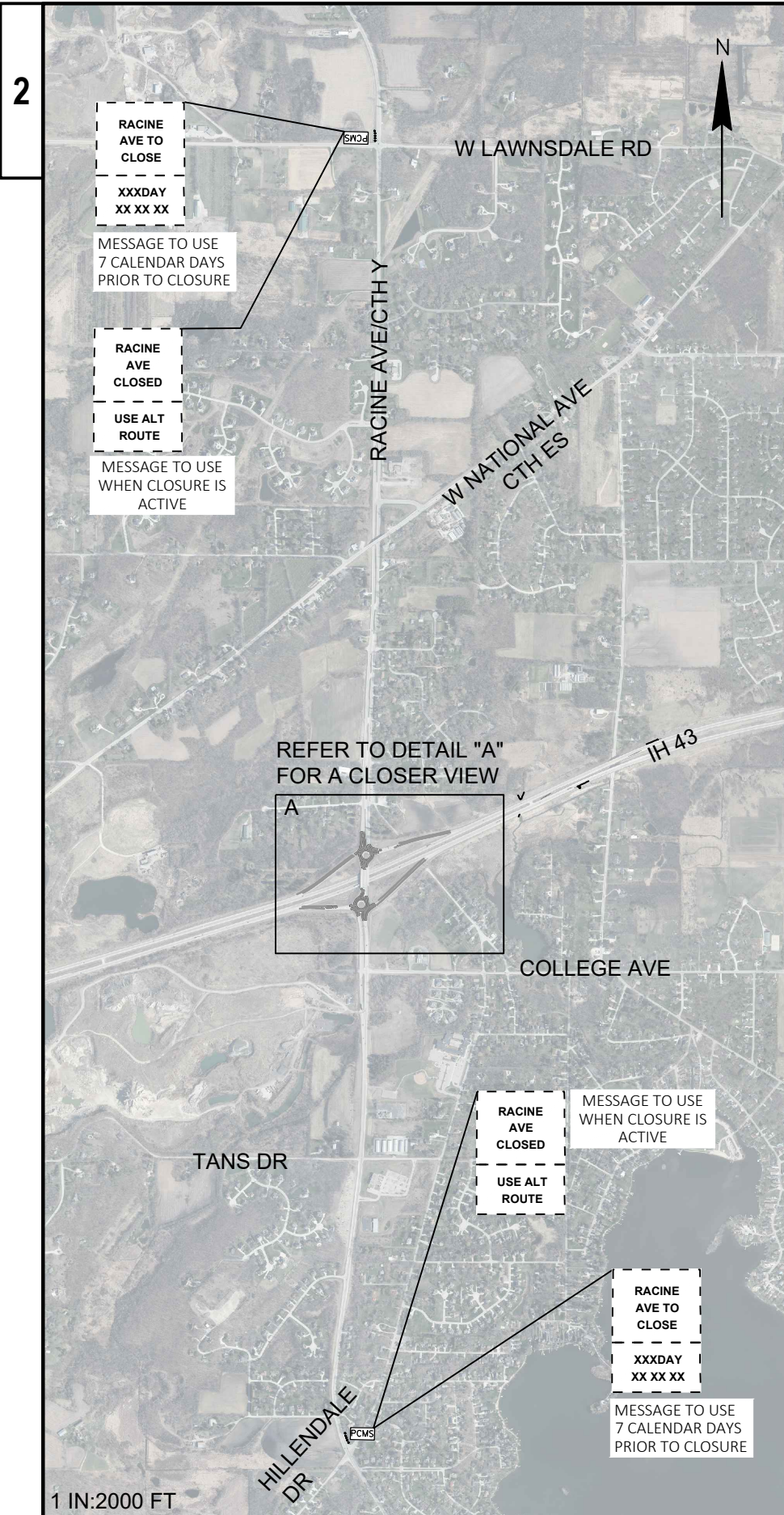
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

SHORT TERM DEFINED AS 7 DAYS/NIGHTS OR LESS. FOR NIGHT TIME OPERATIONS ALL DRUMS IN TAPERS SHALL HAVE WARNING LIGHT, TYPE C (STEADY BURN). MAY BE APPLIED TO ARTERIALS OR LOCAL ROADS.

**TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE**  
**SHORT TERM ONLY**





**GENERAL NOTES:**

- REFER TO THE FOLLOWING TRAFFIC CONTROL PLAN SHEETS:  
"TRAFFIC CONTROL - RACINE AVE FULL CLOSURE DETAILS"  
"TRAFFIC CONTROL - IH 43 NB OFF RAMP TO RACINE AVE CLOSURE DETAILS"  
"TRAFFIC CONTROL - IH 43 SB OFF RAMP TO RACINE AVE CLOSURE DETAILS"
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- ALL TRAFFIC CONTROL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED IN THE PLANS.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

**CONSTRUCTION ACTIVITIES:**

- CONCRETE PAVEMENT REPLACEMENT/REPAIRS
- REPLACE THE DAMAGED CURB AND GUTTER
- REMOVE EXISTING HIGH FRICTION SURFACE TREATMENT
- APPLY NEW HIGH FRICTION SURFACE TREATMENT
- MILL/OVERLAY ASPHALTIC SHOULDERS ALONG THE ON/OFF RAMPS
- INSTALL PERMANENT PAVEMENT MARKINGS AND SIGNS

ALL WORK TO BE COMPLETED DURING NIGHT TIME ONLY

**TRAFFIC MOVEMENT:**

- RACINE AVE/CTH Y WILL BE FULLY CLOSED BOTH DIRECTIONS (NB & SB) DURING THE NIGHT TIME ONLY.
- ALL THE FOLLOWING RAMPS TO BE CLOSED AS NEEDED:
  - IH 43 NB OFF RAMP TO RACINE AVE/CTH Y (SOUTH ROUNDABOUT)
  - IH 43 NB ON RAMP FROM RACINE AVE/CTH Y (SOUTH ROUNDABOUT)
  - IH 43 SB OFF RAMP TO RACINE AVE/CTH Y (NORTH ROUNDABOUT)
  - IH 43 SB ON RAMP FROM RACINE AVE/CTH Y (NORTH ROUNDABOUT)

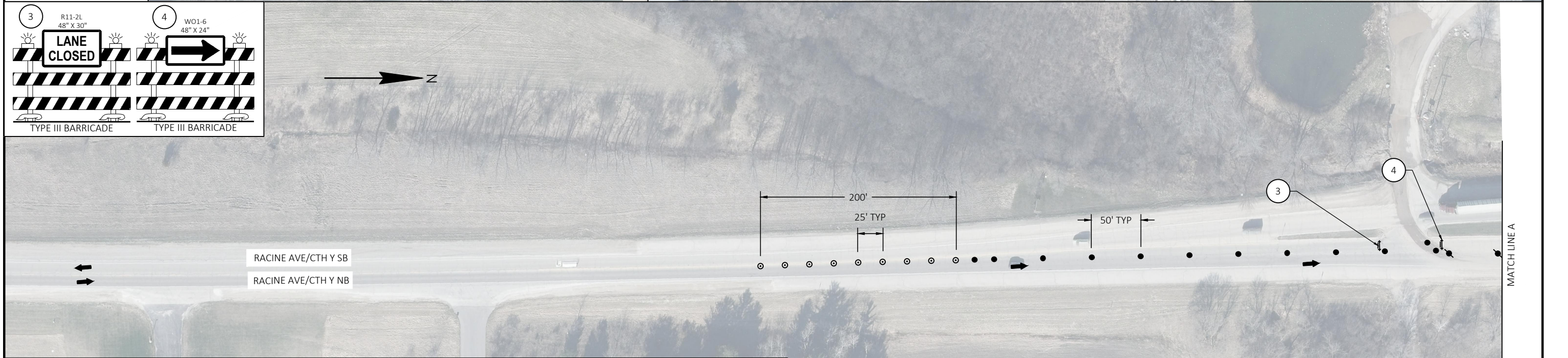
**TRAFFIC CONTROL LEGEND**

- SIGN ON TEMPORARY SUPPORT
- PORTABLE CHANGEABLE MESSAGE SIGN

PLACE SIGN SEVEN  
CALENDAR DAYS IN  
ADVANCE PRIOR  
TO CLOSURE

R11-51  
48"X48"





**GENERAL NOTES**  
- REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES".

**LEGEND**

⊥	SIGN ON TEMPORARY SUPPORT	●	TRAFFIC CONTROL DRUM	⊥	TYPE III BARRICADE WTH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
→	DIRECTION OF TRAFFIC	●	TRAFFIC CONTROL DRUM WITH TYPE C STEADY LIGHT	PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
○	TRAFFIC CONTROL FLEXIBLE DELINEATOR				



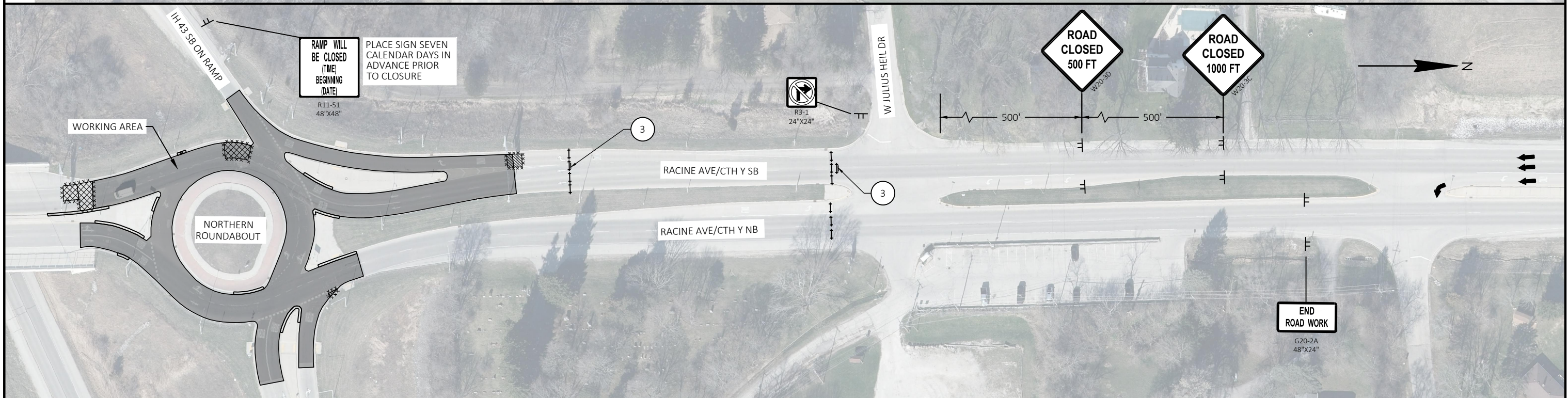
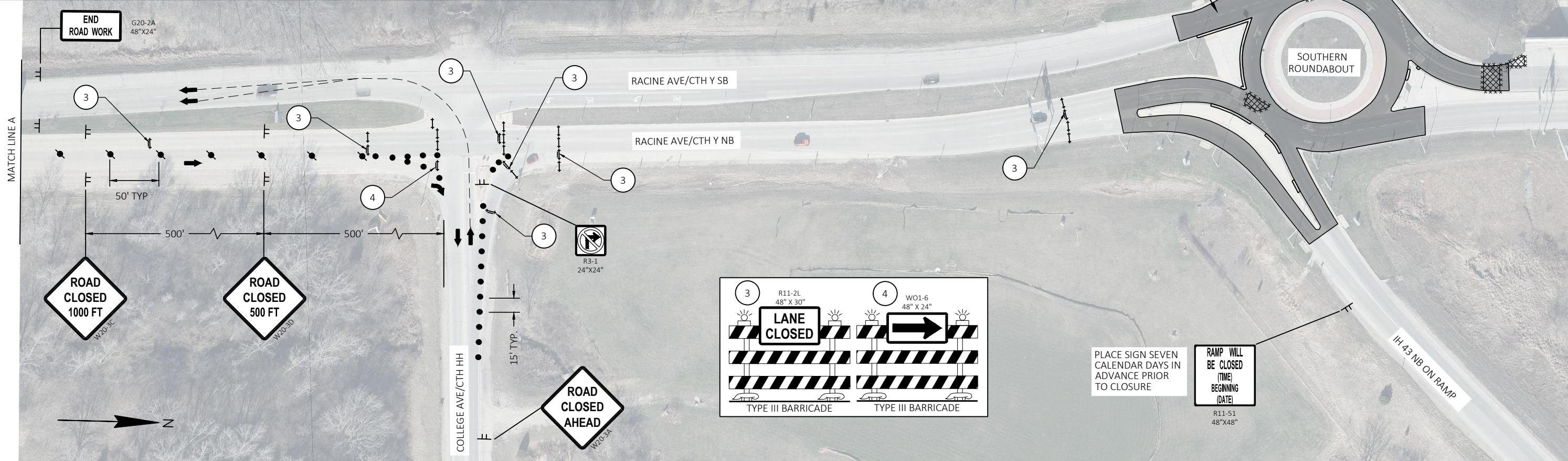
**GENERAL NOTES**  
 - REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES".

**LEGEND**

- TRAFFIC CONTROL DRUM
- ⬆ TYPE III BARRICADE WITH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- ⬆ TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- ➔ DIRECTION OF TRAFFIC
- ⬆ SIGN ON TEMPORARY SUPPORT

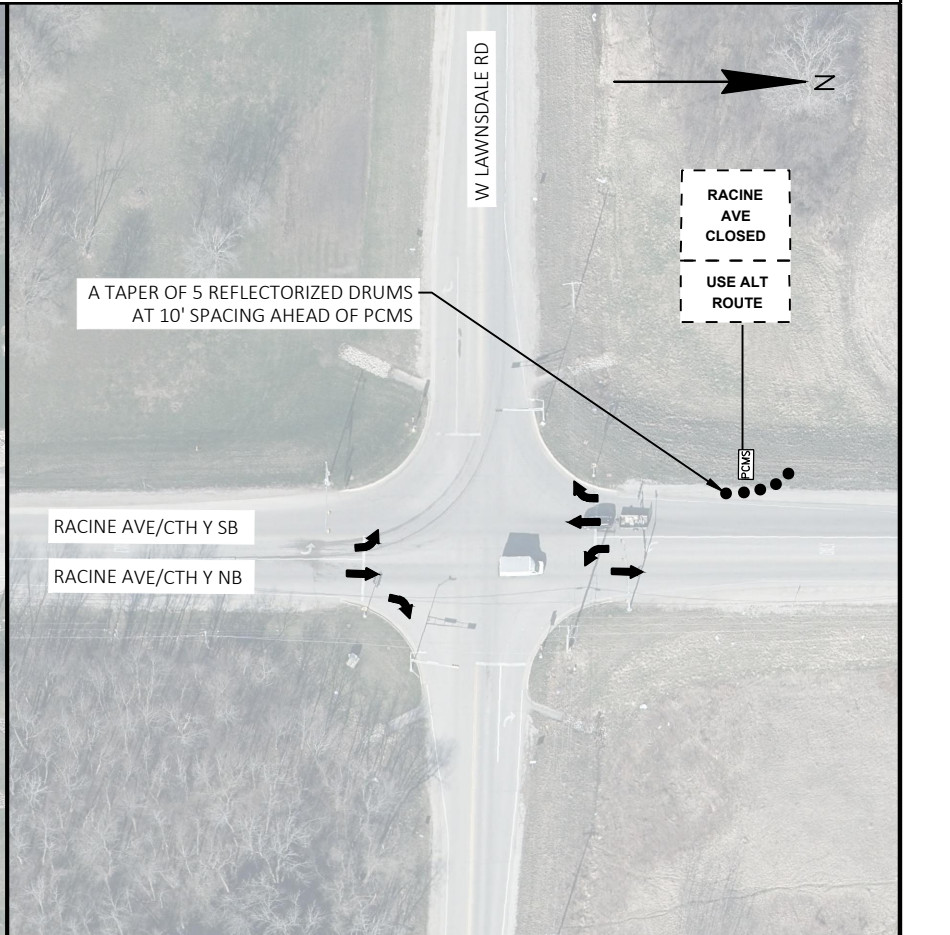
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PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      TRAFFIC CONTROL - RACINE AVE FULL CLOSURE DETAILS      SHEET      E







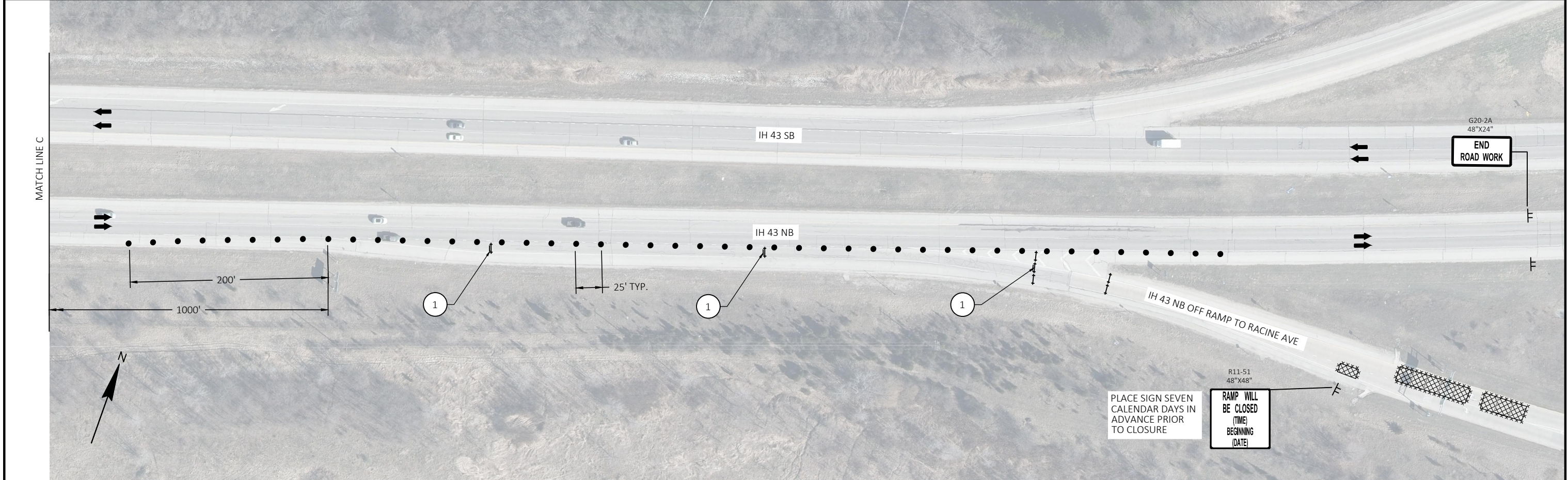
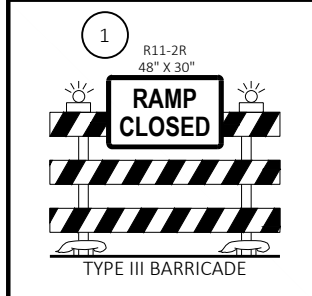
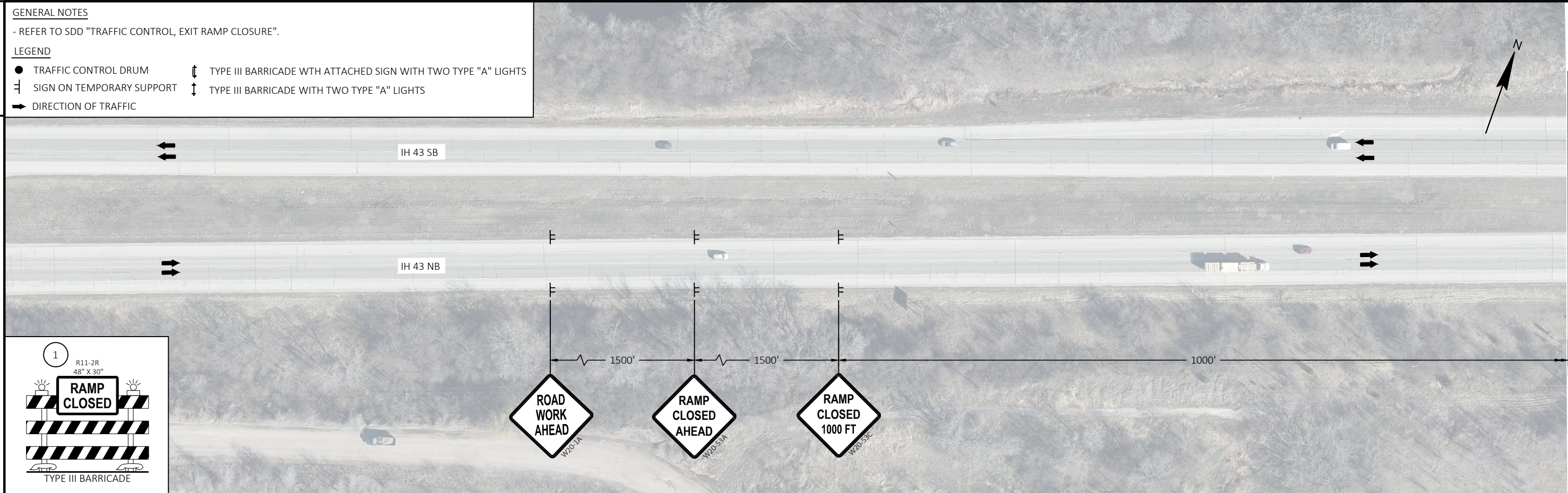
**GENERAL NOTES**  
 - REFER TO SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE".

**LEGEND**

- TRAFFIC CONTROL DRUM
- ⊥ TYPE III BARRICADE WTH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- ⊥ TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- ➔ DIRECTION OF TRAFFIC

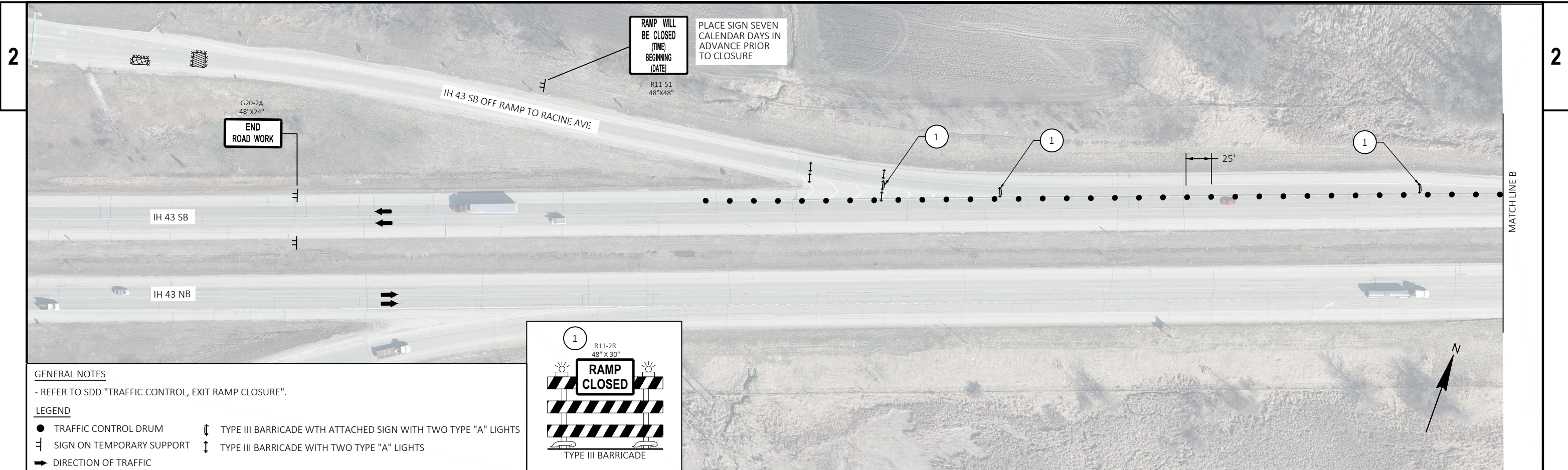
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2



PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	TRAFFIC CONTROL - IH 43 NB OFF RAMP TO RACINE AVE CLOSURE DETAILS	SHEET	<b>E</b>
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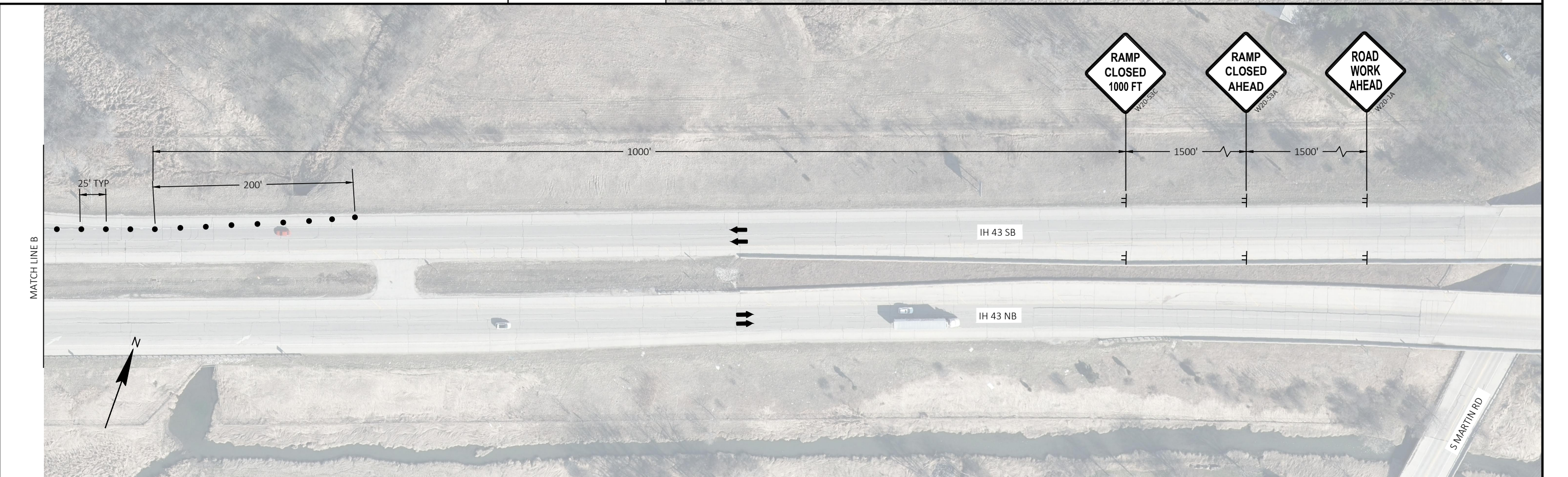
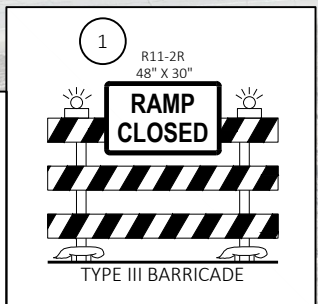


**GENERAL NOTES**

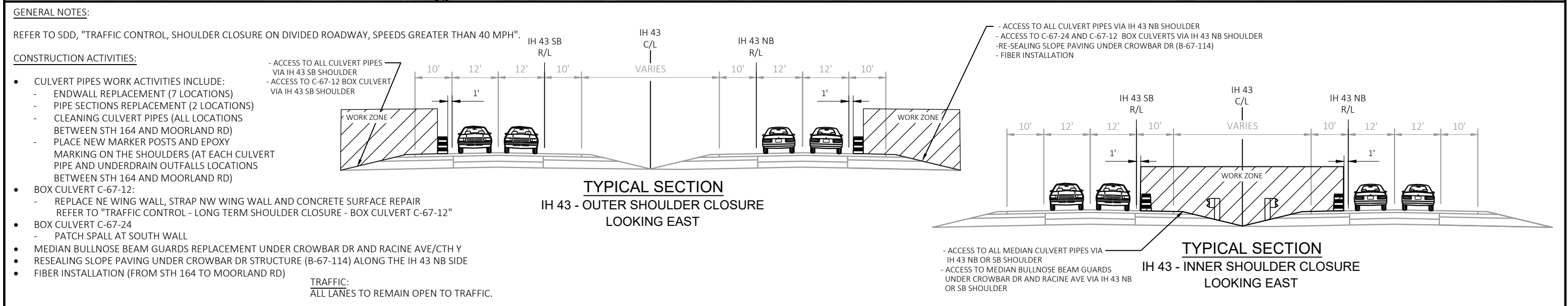
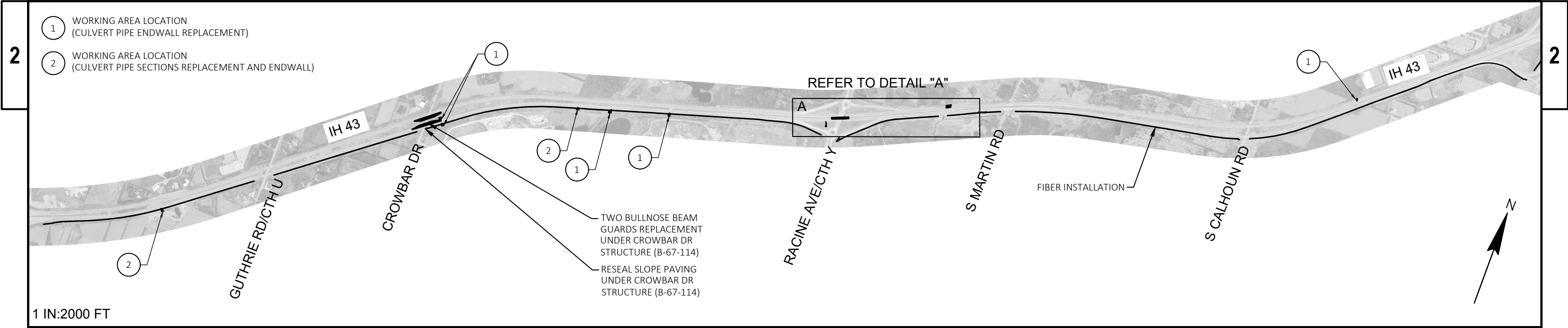
- REFER TO SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE".

**LEGEND**

- TRAFFIC CONTROL DRUM
- ⊥ SIGN ON TEMPORARY SUPPORT
- ➔ DIRECTION OF TRAFFIC
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- ⊥ TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS





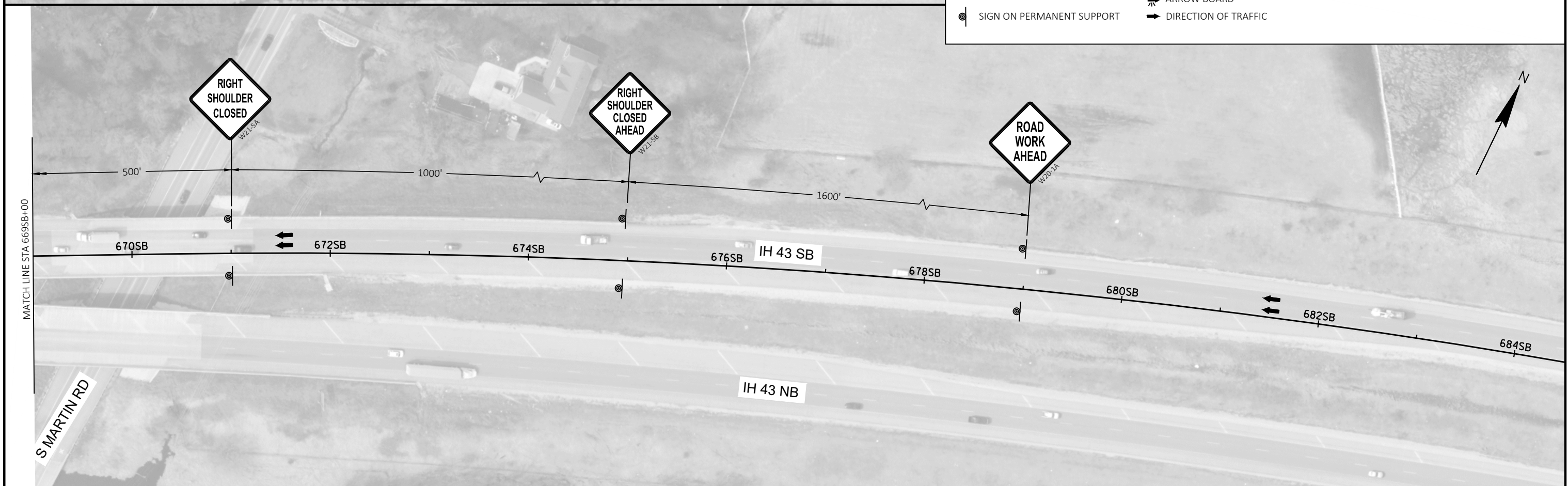




**GENERAL NOTES**  
 - REFER TO SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH".

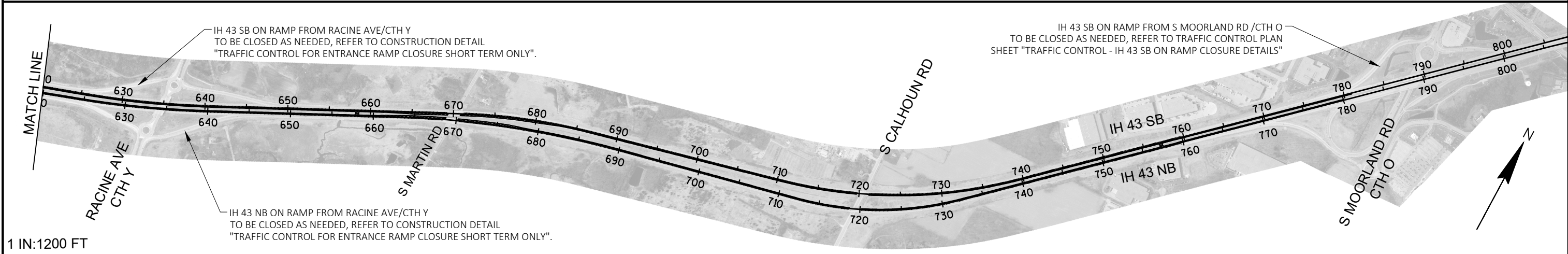
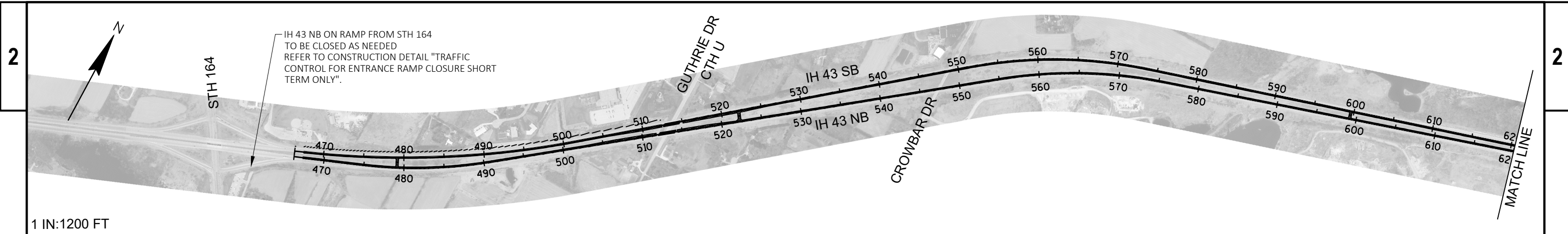
**LEGEND**

●	TRAFFIC CONTROL DRUM	➤	ARROW BOARD
⊙	SIGN ON PERMANENT SUPPORT	➡	DIRECTION OF TRAFFIC



PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	TRAFFIC CONTROL - LONG TERM SHOULDER CLOSURE - BOX CULVERT C-67-12	SHEET	<b>E</b>
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**GENERAL NOTES:**

REFER TO THE FOLLOWING CONSTRUCTION DETAILS:

- "PAVING SEQUENCES"
- "NIGHT TIME LANE CLOSURE AND SHIFT ALONG IH 43 USING DIGITAL SPEED REDUCTION SYSTEM"

**CONSTRUCTION ACTIVITIES:**

- STAGE 1A:
  - BASE PATCHING ON THE INSIDE LANE ON IH 43 NB AND SB.
  - CONCRETE PAVEMENT REPAIRS NEAR IH 43 & MOORLAND RD INTERCHANGE.
  - EXCAVATE AT THE DESIGNATED AREAS ALONG THE INSIDE SHOULDER ON IH 43 NB AND SB, PLACE BORROW MATERIAL, BASE AGGREGATE AND ASPHALTIC SURFACE.
- STAGE 2B:
  - MILL THE INSIDE LANE AND SHOULDER AND PLACE LOWER LAYER OF HMA ON THE INSIDE LANE OF IH 43 NB AND SB.
  - PLACE LOWER LAYER OF HMA ON INSIDE SHOULDER ON IH 43 NB BETWEEN STA 759+74 AND STA 780+00 AND ON IH 43 SB BETWEEN STA 759+72 AND STA 780+93
  - INSTALL ASPHALTIC CURB, CONCRETE CURB & GUTTER AND FLUMES ALONG THE INSIDE SHOULDERS NB AND SB AT IH 43 & GUTHRIE DR (CTH U) INTERSECTION.
  - PLACE TEMPORARY PAVEMENT MARKING ON INSIDE LANE LINE ON IH 43 NB AND SB.
- STAGE 3A:
  - PLACE UPPER LAYER OF HMA ON THE INSIDE LANE AND SHOULDER OF IH 43 NB AND SB.
  - PLACE TEMPORARY PAVEMENT MARKING ON THE INSIDE LANE LINE AND CENTERLINE ON IH 43 NB AND SB.
  - SEALING DECK ON INSIDE LANE AND SHOULDER ON B-67-116 & B-67-117.
- STAGE 4A:
  - REPLACE AND REPAIR BEAM GUARD ALONG THE INSIDE SHOULDER OF IH 43 NB AND SB.
  - INSTALL RUMBLE STRIPS ALONG THE INSIDE SHOULDER OF IH 43 NB AND SB.
  - INSTALL PERMANENT PAVEMENT MARKING ALONG THE INSIDE HALF OF IH 43 NB AND SB.

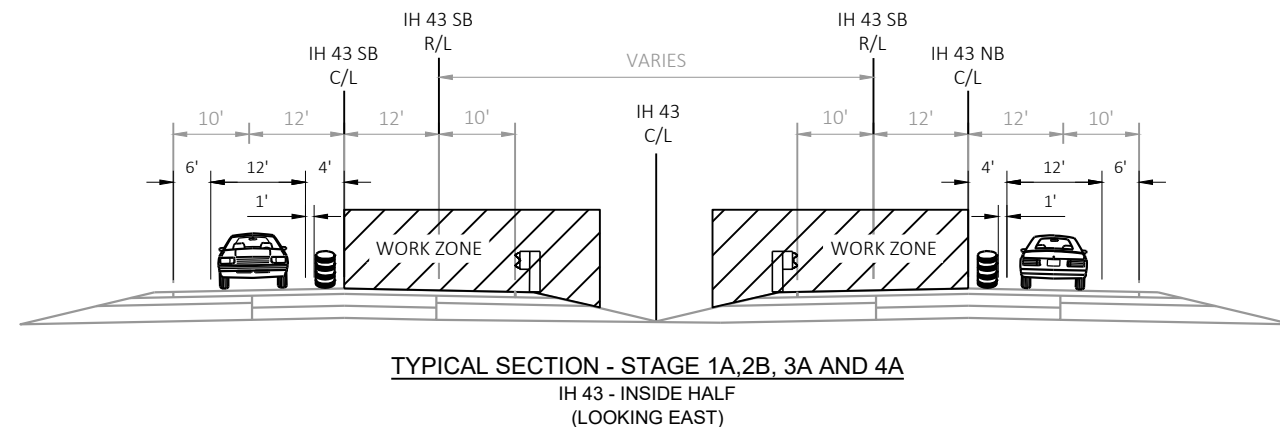
ALL WORK TO BE COMPLETED OVERNIGHT.

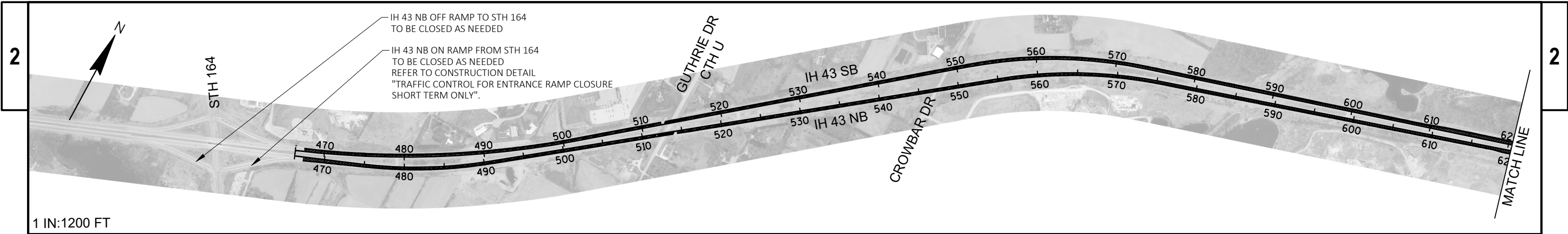
**TRAFFIC:**

IN THESE STAGES, THE INSIDE LANE AND SHOULDER ARE CLOSED AND THE OUTSIDE LANE IS OPEN TO TRAFFIC WITH 4' SHIFTING TOWARD THE OUTSIDE SHOULDER.

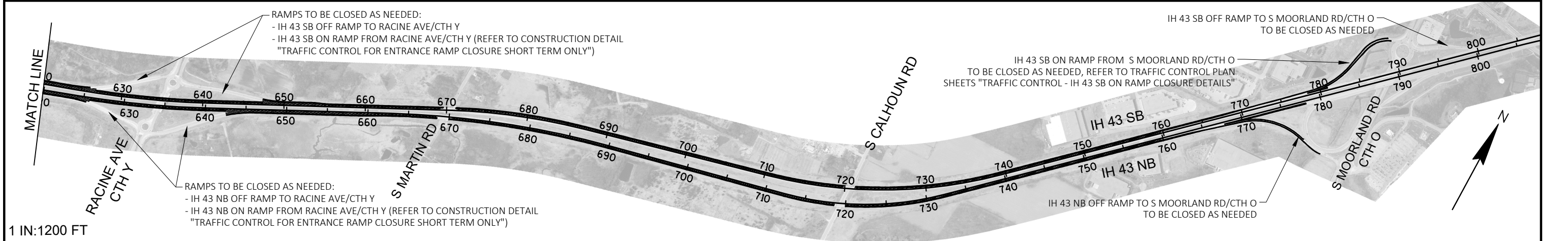
THE FOLLOWING RAMPS TO BE CLOSED AS NEEDED:

- IH 43 NB ON RAMP FROM STH 164
- IH 43 NB ON RAMP FROM RACINE AVE/CTH Y
- IH 43 SB ON RAMP FROM RACINE AVE/CTH Y
- IH 43 SB ON RAMP FROM MOORLAND RD/CTH O





1 IN:1200 FT



1 IN:1200 FT

**GENERAL NOTES:**

- REFER TO THE FOLLOWING CONSTRUCTION DETAILS:
- "PAVING SEQUENCES"
  - "NIGHT TIME LANE CLOSURE AND SHIFT ALONG IH 43 USING DIGITAL SPEED REDUCTION SYSTEM"

**CONSTRUCTION ACTIVITIES:**

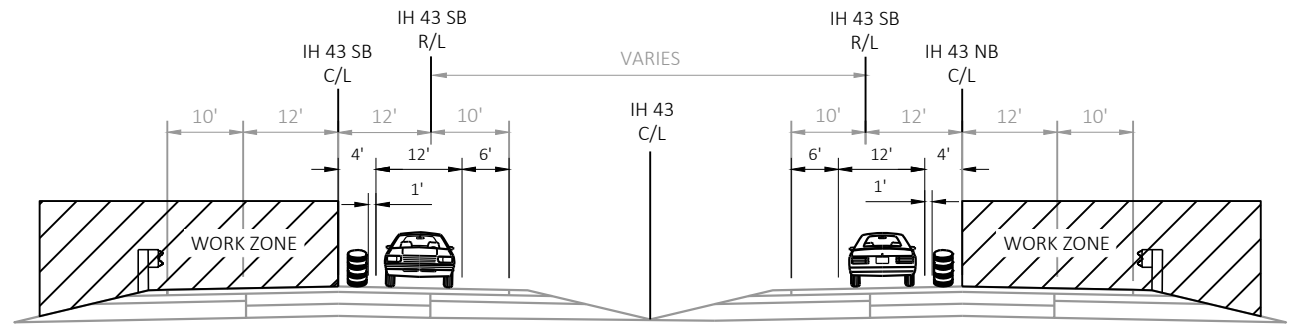
- STAGE 1B:
  - BASE PATCHING ON THE OUTSIDE LANE ON IH 43 NB AND SB.
  - CONCRETE PAVEMENT REPLACEMENT NEAR IH 43 & MOORLAND RD INTERCHANGE.
  - EXCAVATE AT THE DESIGNATED AREAS ALONG THE OUTSIDE SHOULDER ON IH 43 NB AND SB, PLACE BORROW MATERIAL, BASE AGGREGATE AND ASPHALTIC SURFACE.
- STAGE 2A:
  - MILL THE OUTSIDE LANE AND SHOULDER (MICROMILL THE OUTSIDE SHOULDER FROM THE BEGINNING OF THE PROJECT TO STA 759+74 ON NB AND STA 759+72 ON SB) AND PLACE LOWER LAYER OF HMA ON THE OUTSIDE LANE OF IH 43 NB AND SB.
  - PLACE LOWER LAYER OF HMA ON OUTSIDE SHOULDER ON IH 43 NB BETWEEN STA 759+74 AND STA 780+00 AND ON IH 43 SB BETWEEN STA 759+72 AND STA 780+93.
  - HMA PATCHING TO BE COMPLETED ON OUTSIDE SHOULDER ON IH 43 NB AND SB.
  - PLACE TEMPORARY PAVEMENT MARKING ON CENTERLINE AND OUTSIDE LANE LINE ON IH 43 NB AND SB.
- STAGE 3B:
  - PLACE UPPER LAYER OF HMA ON THE OUTSIDE LANE AND SHOULDER OF IH 43 NB AND SB.
  - PLACE TEMPORARY PAVEMENT MARKING ON THE OUTSIDE LANE LINE ON IH 43 NB AND SB.
  - SEALING DECK ON OUTSIDE LANE AND SHOULDER ON B-67-116 & B-67-117.
- STAGE 4B:
  - REPLACE AND REPAIR BEAM GUARD ALONG THE OUTSIDE SHOULDER OF IH 43 NB AND SB.
  - INSTALL RUMBLE STRIPS ALONG THE OUTSIDE SHOULDER OF IH 43 NB AND SB.
  - INSTALL PERMANENT PAVEMENT MARKING ALONG THE OUTSIDE HALF OF IH 43 NB AND SB.

ALL WORK TO BE COMPLETED OVERNIGHT.

**TRAFFIC:**

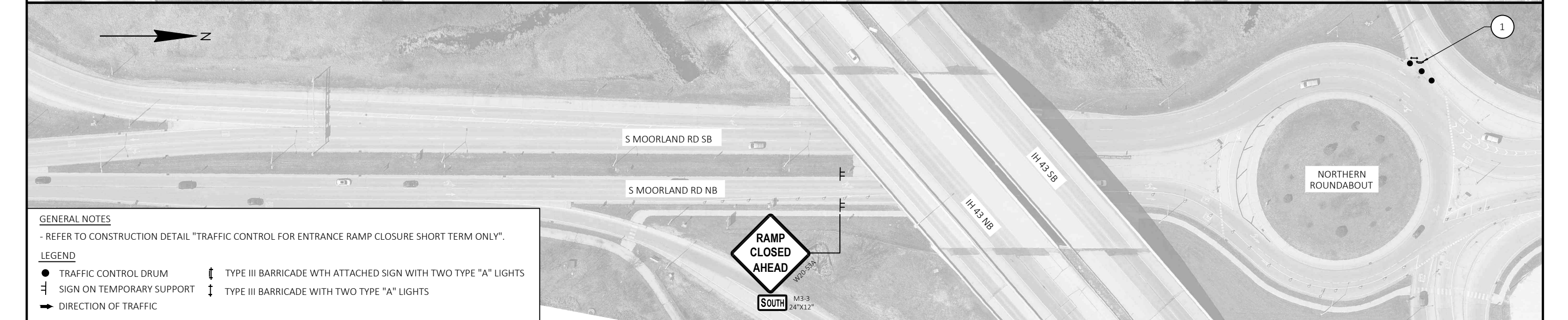
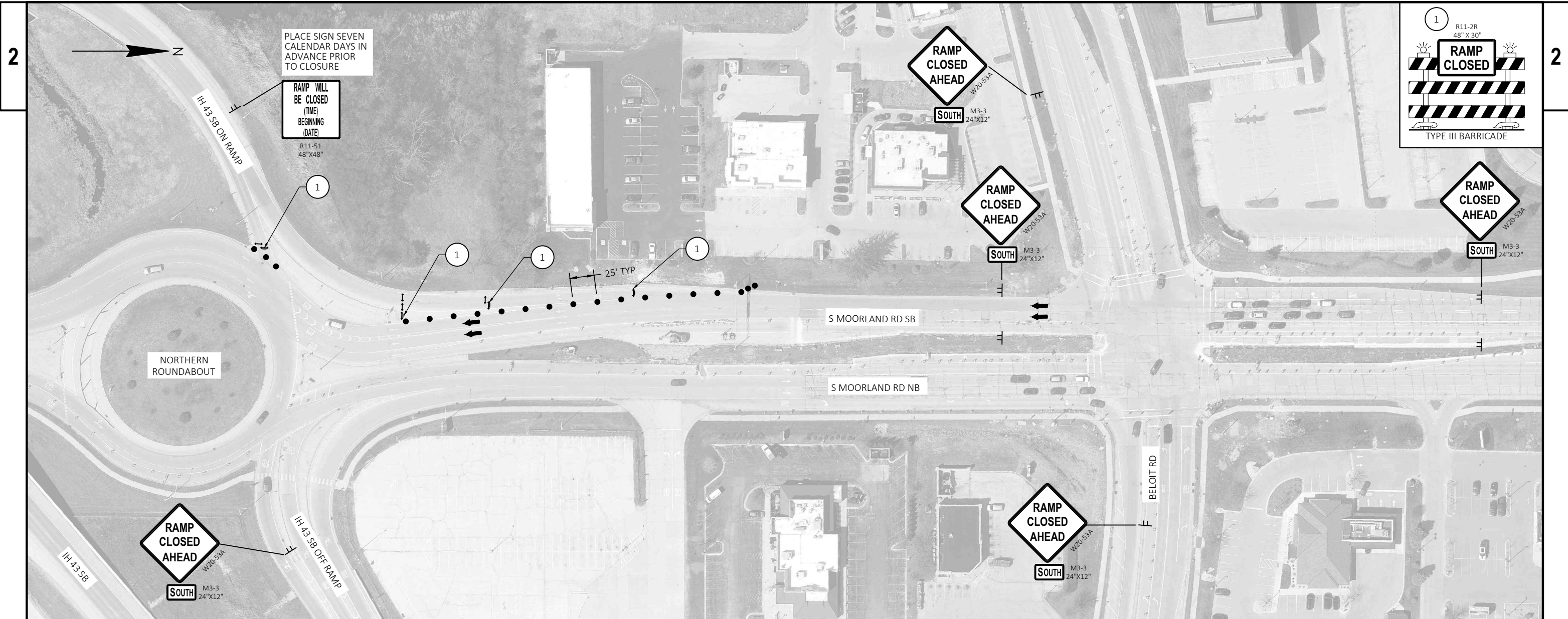
IN THIS STAGE, THE OUTSIDE LANES AND SHOULDERS ARE CLOSED AND THE INSIDE LANES ARE OPEN TO TRAFFIC WITH 4' SHIFTING TOWARD THE OUTSIDE SHOULDER.

- THE FOLLOWING RAMPS TO BE CLOSED AS NEEDED:
- IH 43 NB OFF RAMP TO STH 164
  - IH 43 NB ON RAMP FROM STH 164
  - IH 43 NB OFF RAMP TO RACINE AVE/CTH Y
  - IH 43 NB ON RAMP FROM RACINE AVE/CTH Y
  - IH 43 NB OFF RAMP TO S MOORLAND RD/CTH O
  - IH 43 SB ON RAMP FROM S MOORLAND RD/CTH O
  - IH 43 SB OFF RAMP TO S MOORLAND RD/CTH O
  - IH 43 SB OFF RAMP TO RACINE AVE/CTH Y
  - IH 43 SB ON RAMP FROM RACINE AVE/CTH Y



**TYPICAL SECTION - STAGE 1B, 2A, 3B AND 4B**  
IH 43 - OUTSIDE HALF  
(LOOKING EAST)

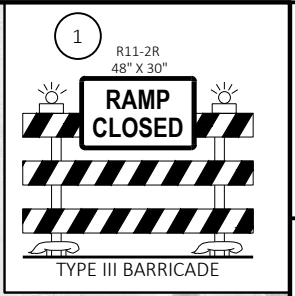


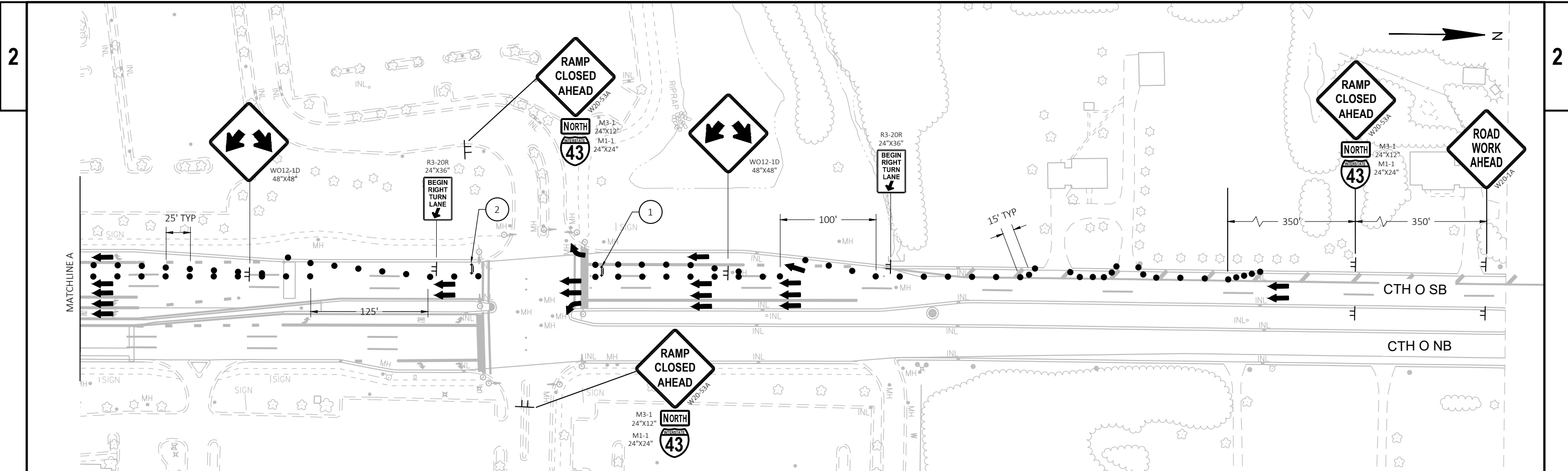


**GENERAL NOTES**  
 - REFER TO CONSTRUCTION DETAIL "TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE SHORT TERM ONLY".

**LEGEND**

- TRAFFIC CONTROL DRUM
- ⚡ TYPE III BARRICADE WITH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- ⚡ SIGN ON TEMPORARY SUPPORT
- ⚡ TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- ➔ DIRECTION OF TRAFFIC



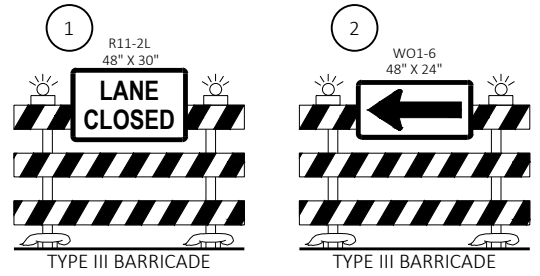


**GENERAL NOTES**

- REFER TO THE SDD, "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE".
- REFER TO CONSTRUCTION DETAIL "TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE SHORT TERM ONLY".

**LEGEND**

- † TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- †† TYPE III BARRICADE WITH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⊥ SIGN ON TEMPORARY SUPPORT
- ➔ DIRECTION OF TRAFFIC
- ➔ ARROW BOARD



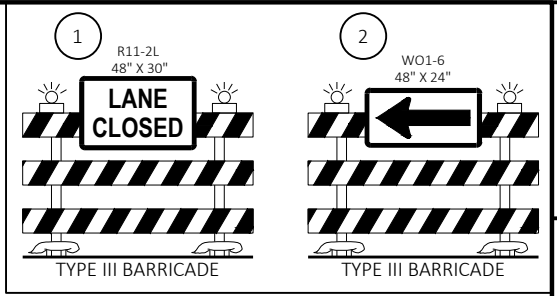
**2**

**GENERAL NOTES**

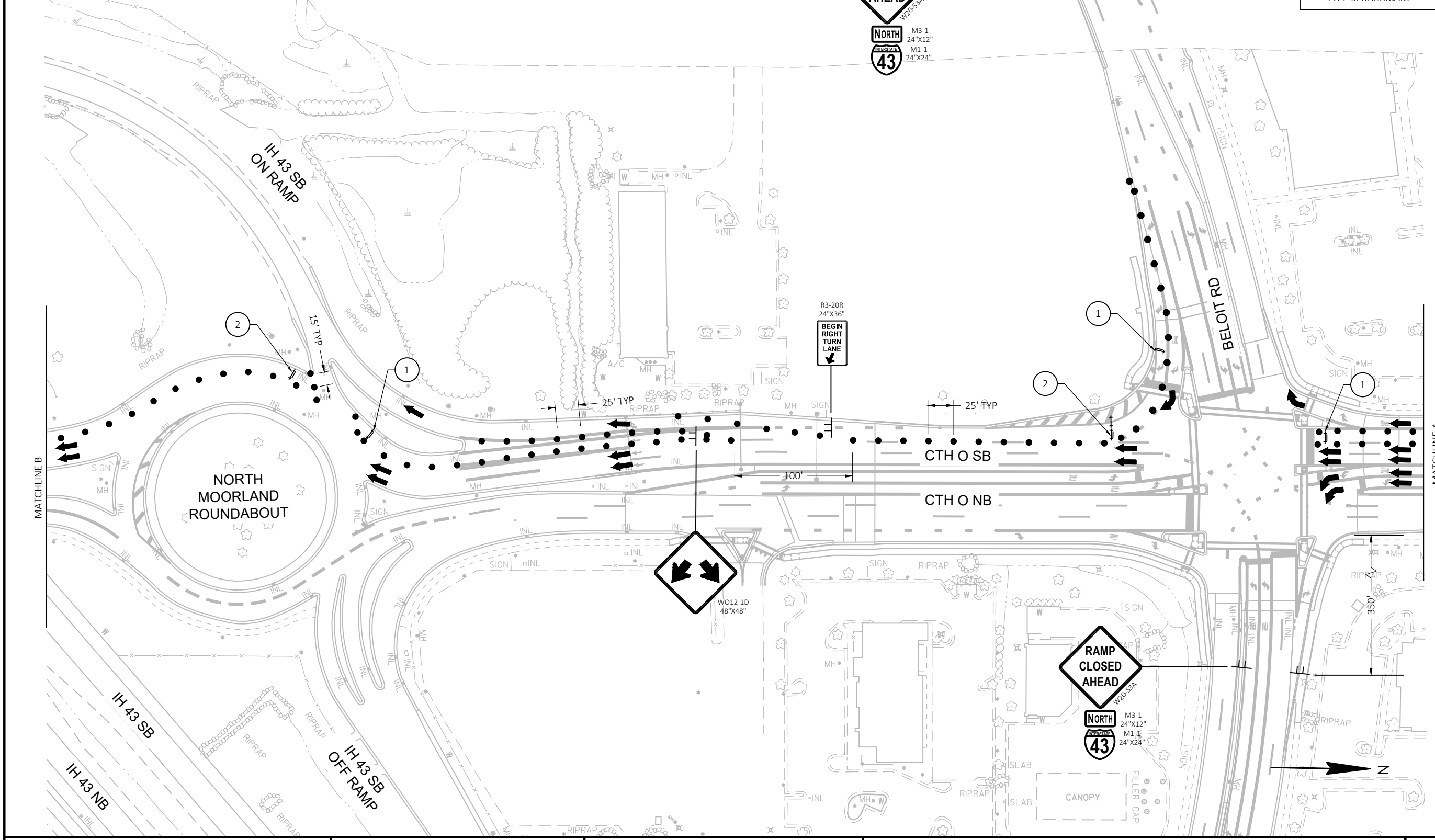
- REFER TO THE SDD, "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE".
- REFER TO CONSTRUCTION DETAIL "TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE SHORT TERM ONLY".

**LEGEND**

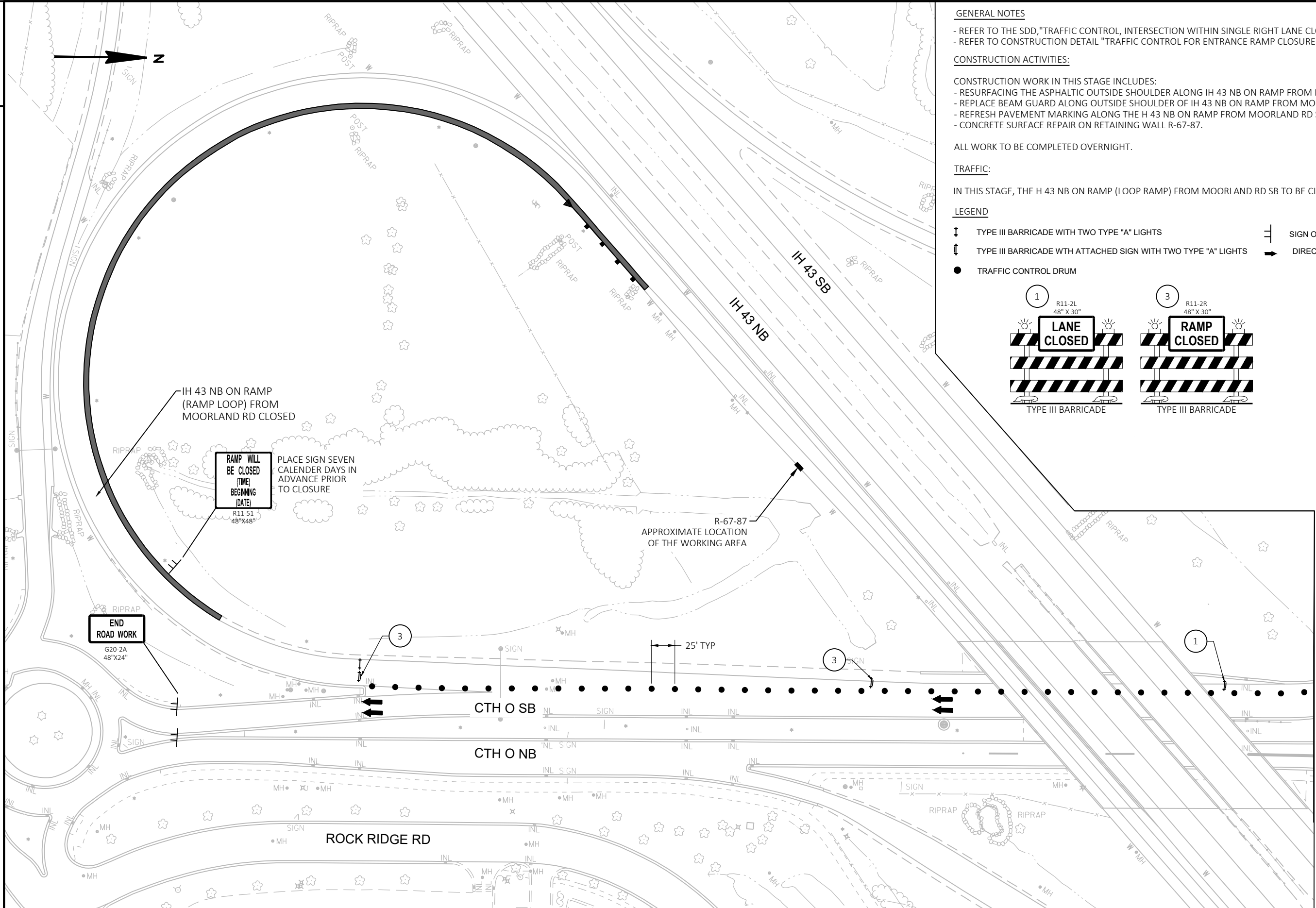
- † TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- † TYPE III BARRICADE WITH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC



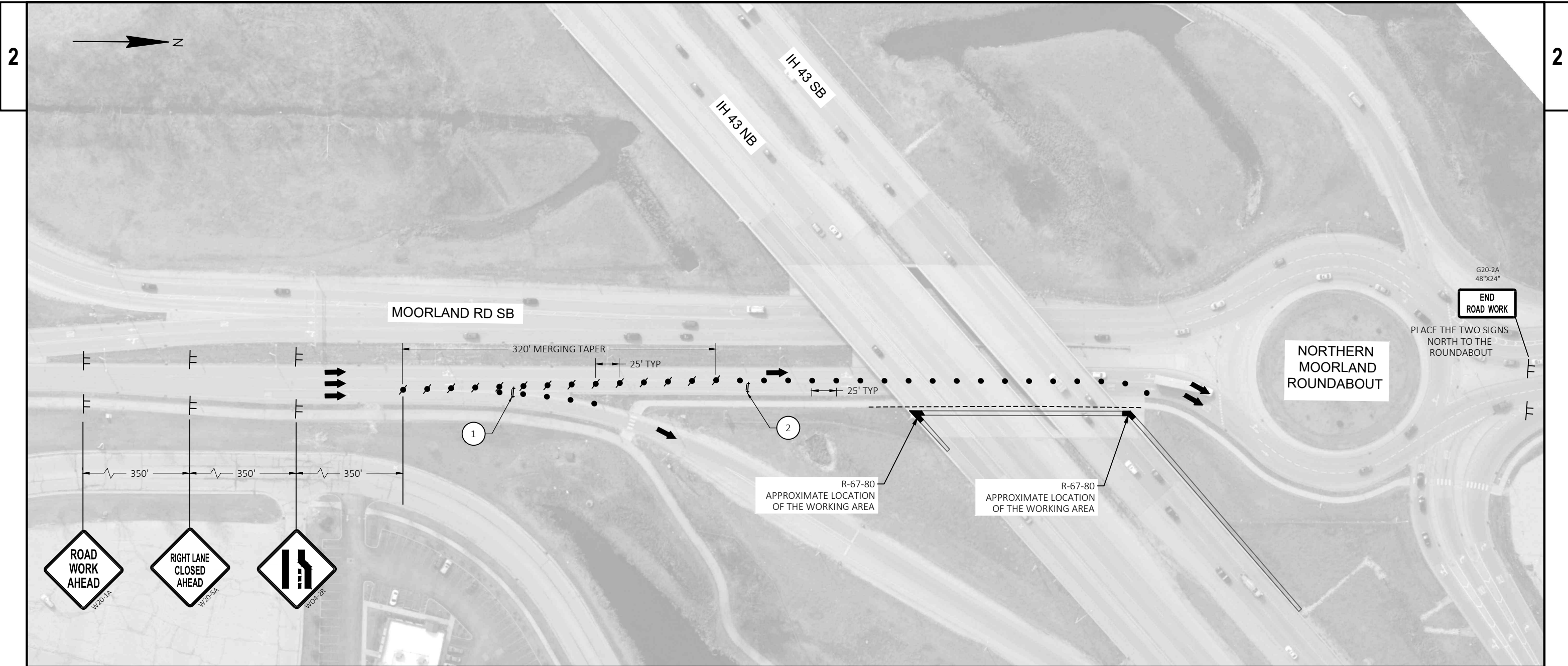
**2**



PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      TRAFFIC CONTROL - IH 43 NB ON RAMP FROM CTH O CLOSURE DETAILS - STAGE 5      SHEET      **E**







**GENERAL NOTES:**

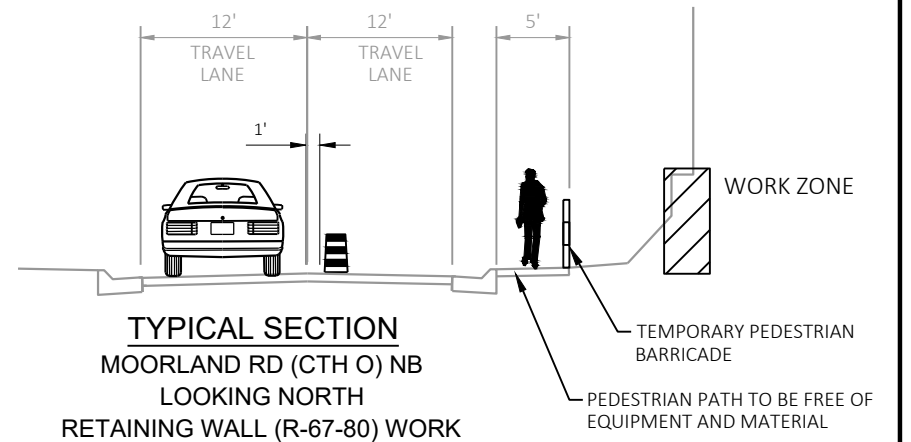
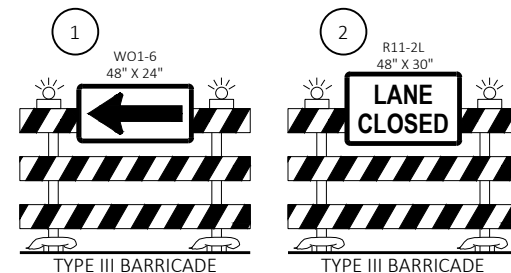
- WORK ON R-67-80 TO BE COMPLETED UTILIZING SINGLE LANE CLOSURE ALONG MOORLAND RD NB WITH USING TEMPORARY PEDESTRIAN BARRICADE TO PROTECT PEDESTRIAN WHEN CONSTRUCTION WORK IS ACTIVE.
- REFER TO SDD, "TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY".

**CONSTRUCTION ACTIVITIES:**

- RETAINING WALL R-67-80:
- SEAL LEAKING JOINTS IN MSE WALL

**LEGEND**

- † TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- †† TYPE III BARRICADE WITH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- - - TEMPORARY PEDESTRIAN BARRICADE







PCMS TO BE PLACED TWO WEEKS PRIOR TO CLOSURE WITH A TAPER OF 5 REFLECTORIZED DRUMS AT 10' SPACING AHEAD OF PCMS

PARKRIDE TO CLOSE  
XXXXDAY  
XX XX XX



S MOORLAND RD SB

S MOORLAND RD NB

IH 43 SB OFF RAMP TO S MOORLAND RD

IH 43 SB

IH 43 NB

CONSTRUCTION ACTIVITIES:

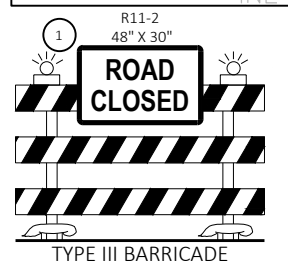
- CONSTRUCTION ACTIVITIES INCLUDE CONCRETE REPAIR AND JOINT & CRACK REPAIR.

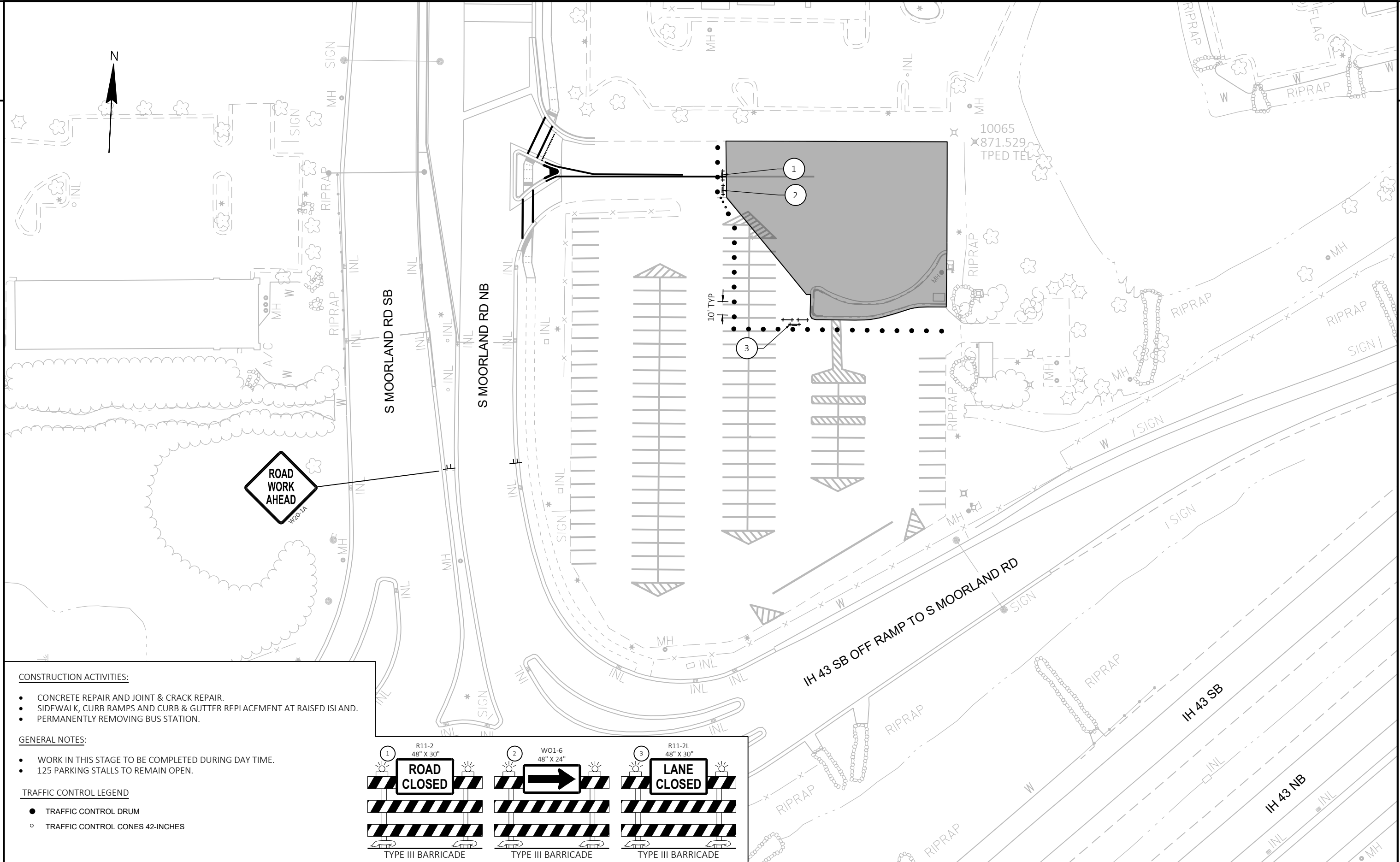
GENERAL NOTES:

- WORK IN THIS STAGE TO BE COMPLETED DURING NIGHT TIME ONLY.
- MOORLAND RD PARK AND RIDE TO BE CLOSED (FULL CLOSURE).
- WORK IN THIS STAGE IS AT THE PARK AND RIDE ENTRANCE ONLY.
- PUBLIC TO BE NOTIFIED IN ADVANCE ABOUT THE CLOSURE TIME AND DURATION.

TRAFFIC CONTROL LEGEND

- ↑ TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- ↑ TYPE III BARRICADE WITH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN ● TRAFFIC CONTROL DRUM





**CONSTRUCTION ACTIVITIES:**

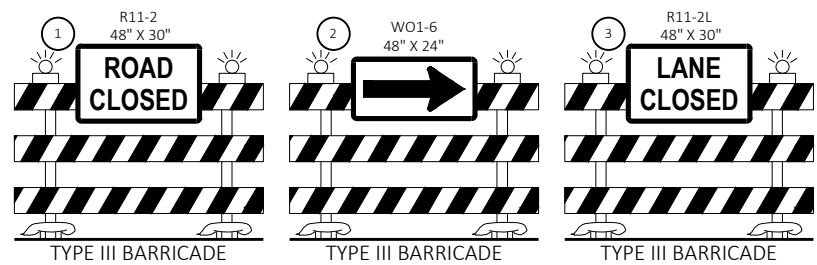
- CONCRETE REPAIR AND JOINT & CRACK REPAIR.
- SIDEWALK, CURB RAMPS AND CURB & GUTTER REPLACEMENT AT RAISED ISLAND.
- PERMANENTLY REMOVING BUS STATION.

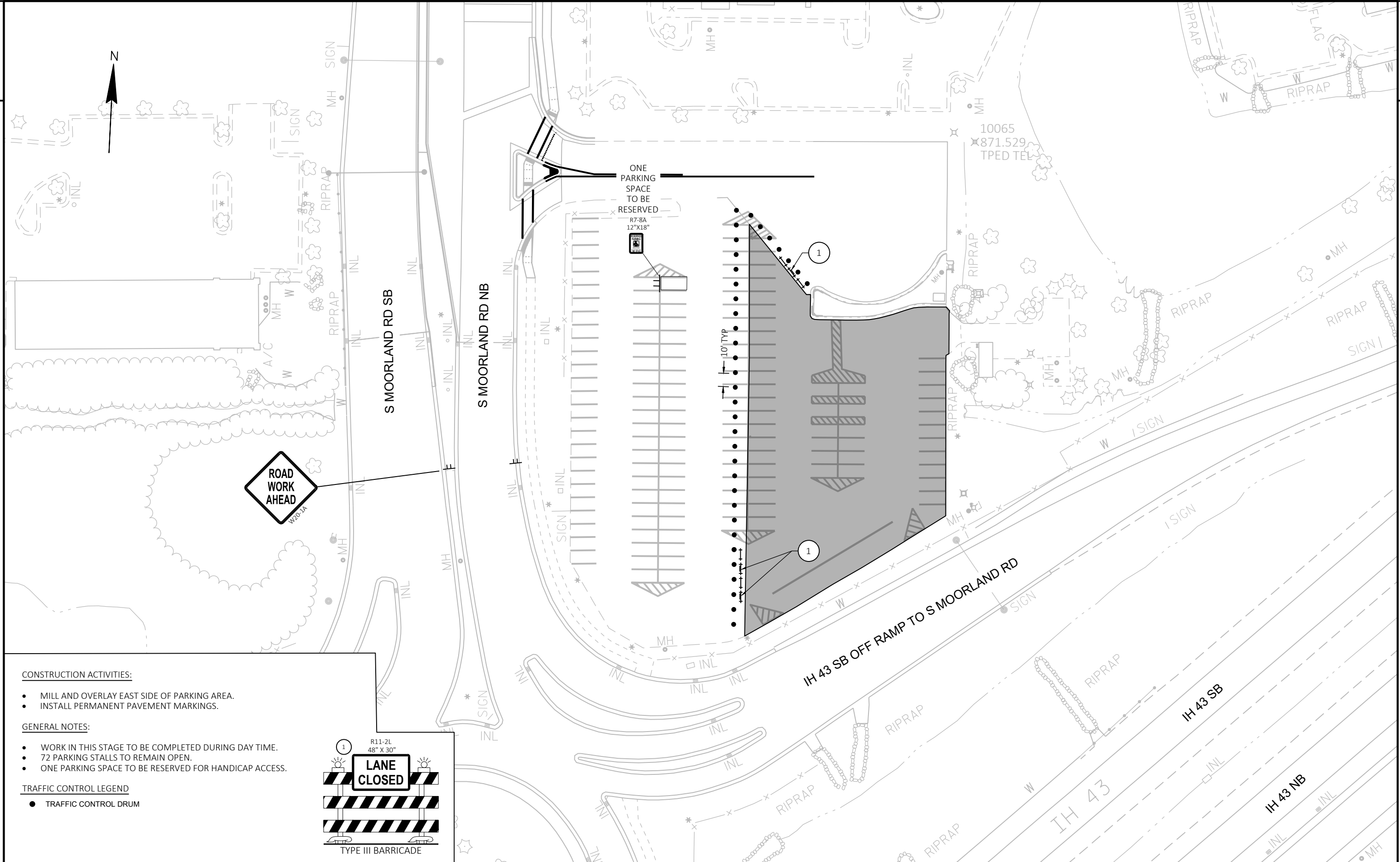
**GENERAL NOTES:**

- WORK IN THIS STAGE TO BE COMPLETED DURING DAY TIME.
- 125 PARKING STALLS TO REMAIN OPEN.

**TRAFFIC CONTROL LEGEND**

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL CONES 42-INCHES





ONE  
PARKING  
SPACE  
TO BE  
RESERVED  
R7-8A  
12"X18"

ROAD  
WORK  
AHEAD  
W20-2A

**CONSTRUCTION ACTIVITIES:**

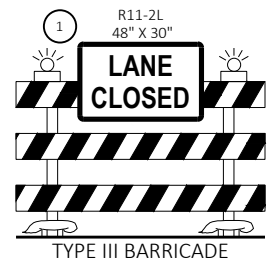
- MILL AND OVERLAY EAST SIDE OF PARKING AREA.
- INSTALL PERMANENT PAVEMENT MARKINGS.

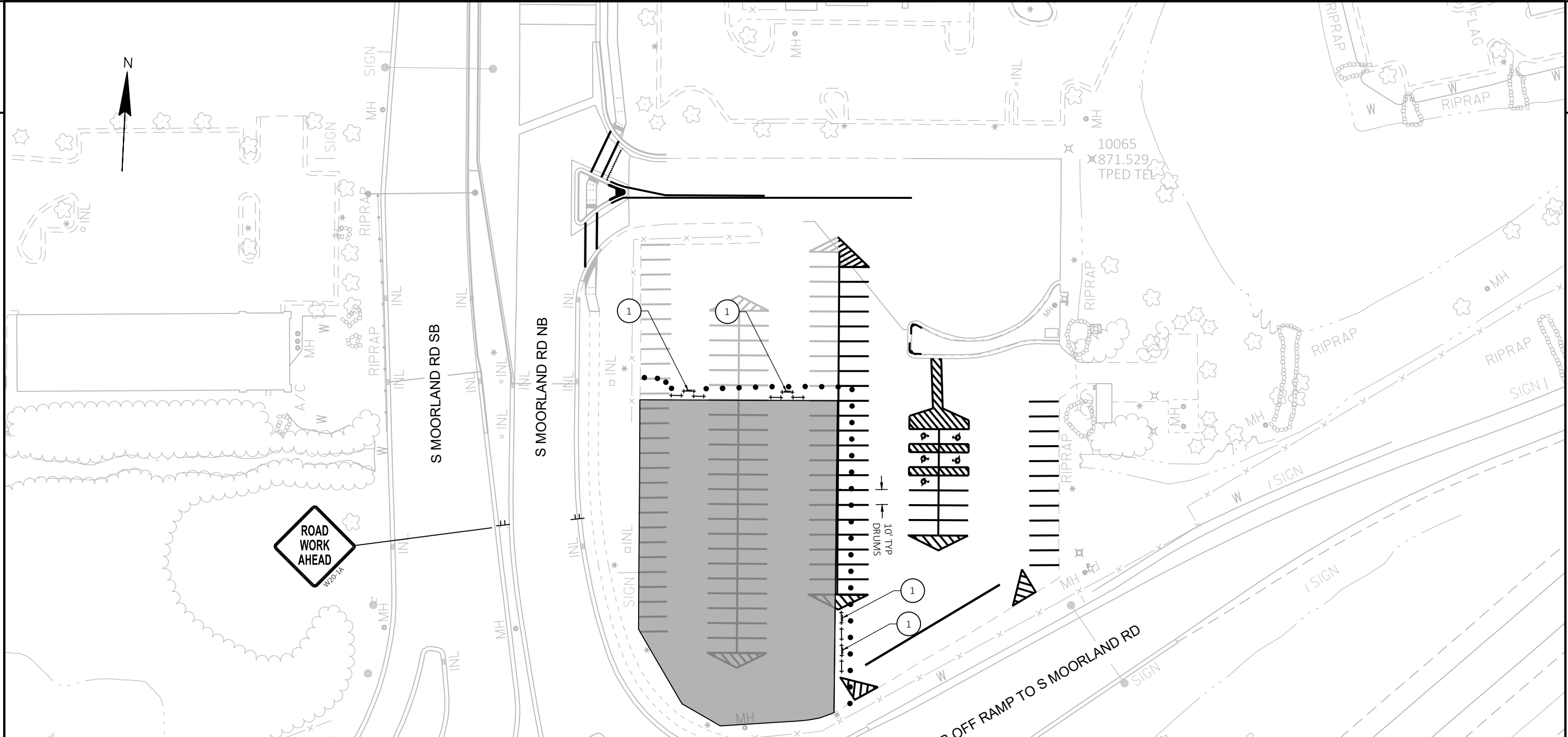
**GENERAL NOTES:**

- WORK IN THIS STAGE TO BE COMPLETED DURING DAY TIME.
- 72 PARKING STALLS TO REMAIN OPEN.
- ONE PARKING SPACE TO BE RESERVED FOR HANDICAP ACCESS.

**TRAFFIC CONTROL LEGEND**

- TRAFFIC CONTROL DRUM





**CONSTRUCTION ACTIVITIES:**

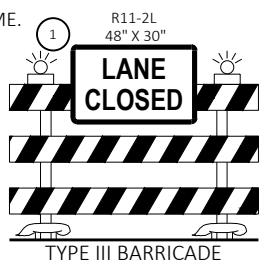
- MILL AND OVERLAY WEST-SOUTH SIDE OF PARKING AREA.
- INSTALL PERMANENT PAVEMENT MARKINGS.

**GENERAL NOTES:**

- WORK IN THIS STAGE TO BE COMPLETED DURING DAY TIME.
- 59 PARKING STALLS TO REMAIN OPEN.

**TRAFFIC CONTROL LEGEND**

- TRAFFIC CONTROL DRUM



PROJECT NO: 1090-09-76

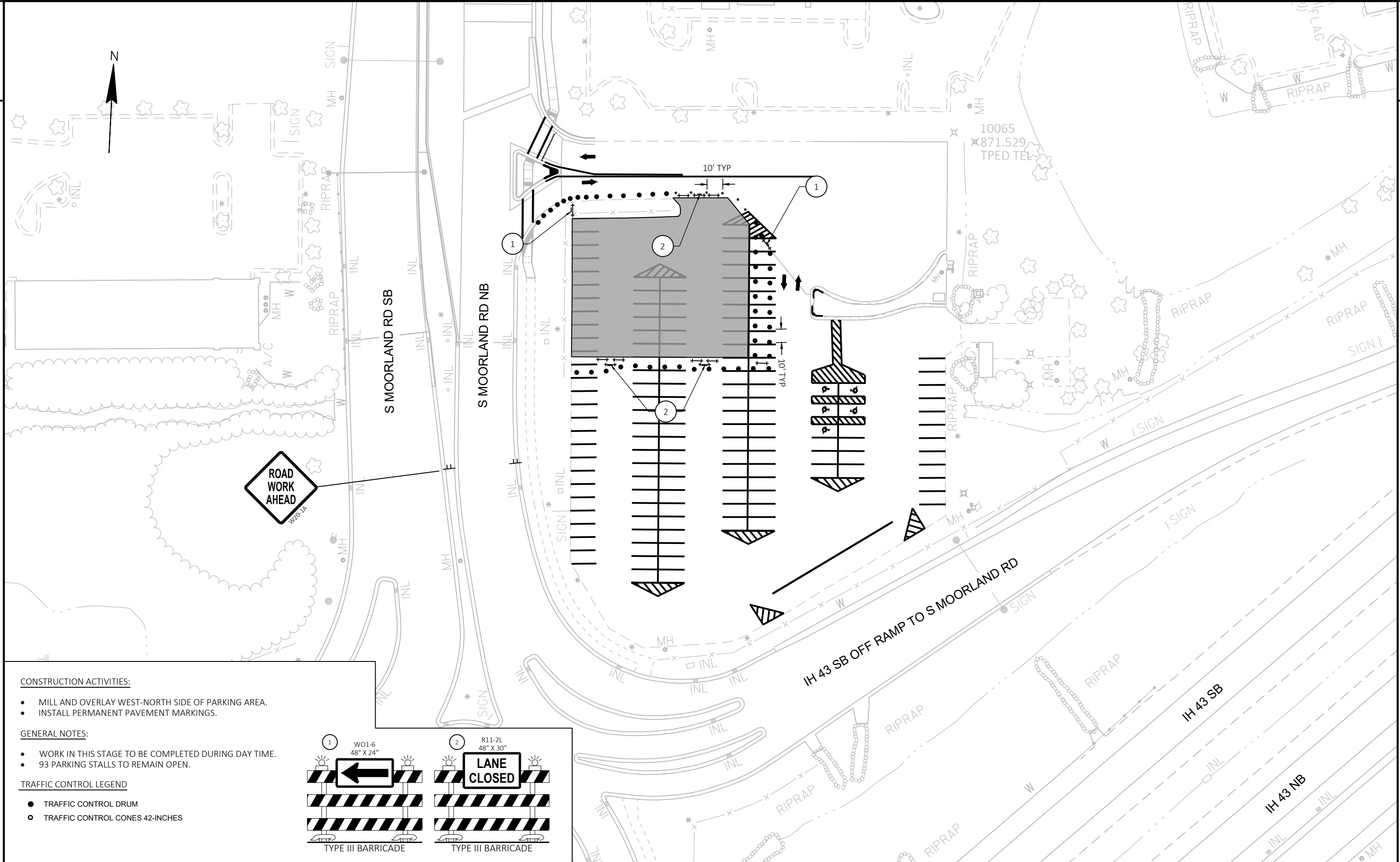
HWY: IH 43

COUNTY: WAUKESHA

TRAFFIC CONTROL - MOORLAND RD PARK & RIDE - STAGE 4 OVERVIEW

SHEET

E



**CONSTRUCTION ACTIVITIES:**

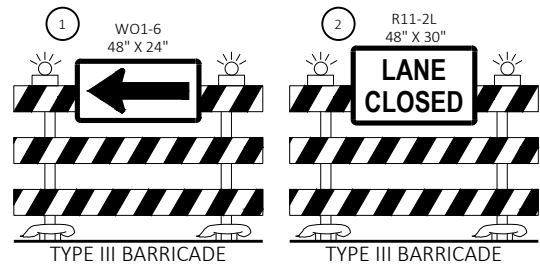
- MILL AND OVERLAY WEST-NORTH SIDE OF PARKING AREA.
- INSTALL PERMANENT PAVEMENT MARKINGS.

**GENERAL NOTES:**

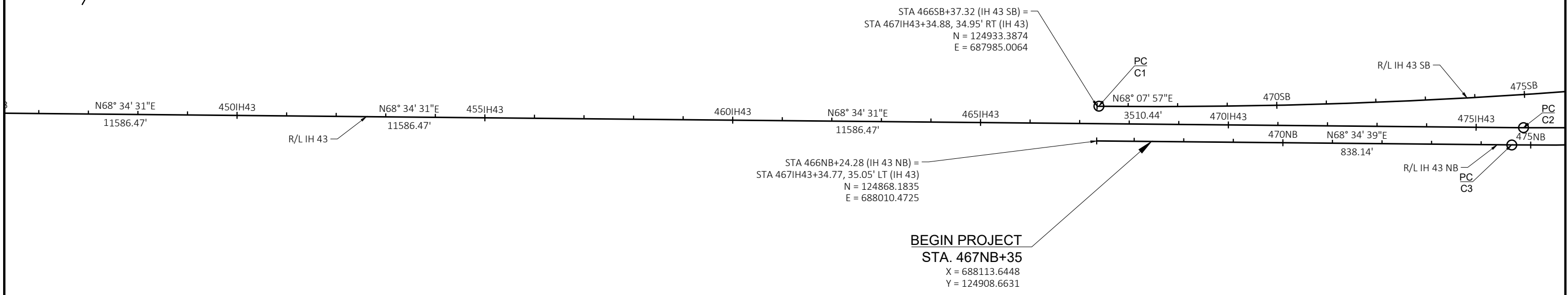
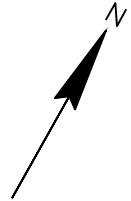
- WORK IN THIS STAGE TO BE COMPLETED DURING DAY TIME.
- 93 PARKING STALLS TO REMAIN OPEN.

**TRAFFIC CONTROL LEGEND**

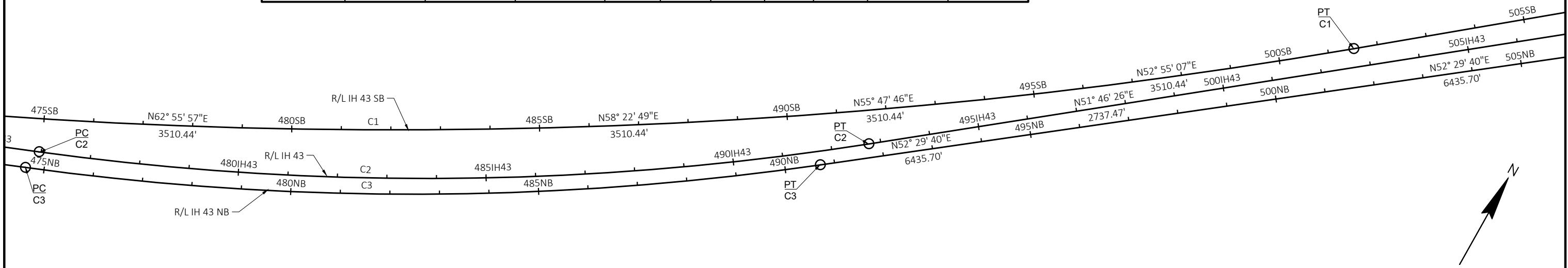
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL CONES 42-INCHES

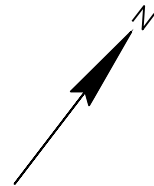
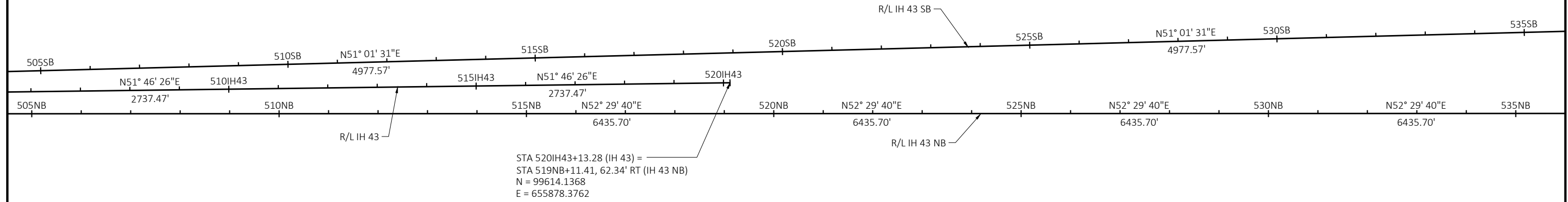




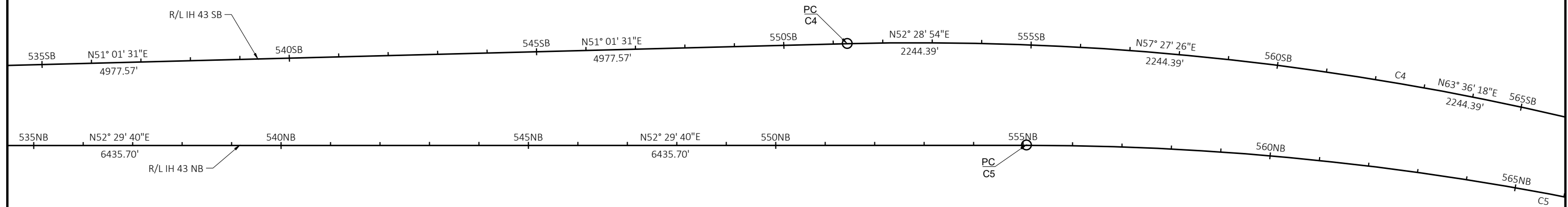


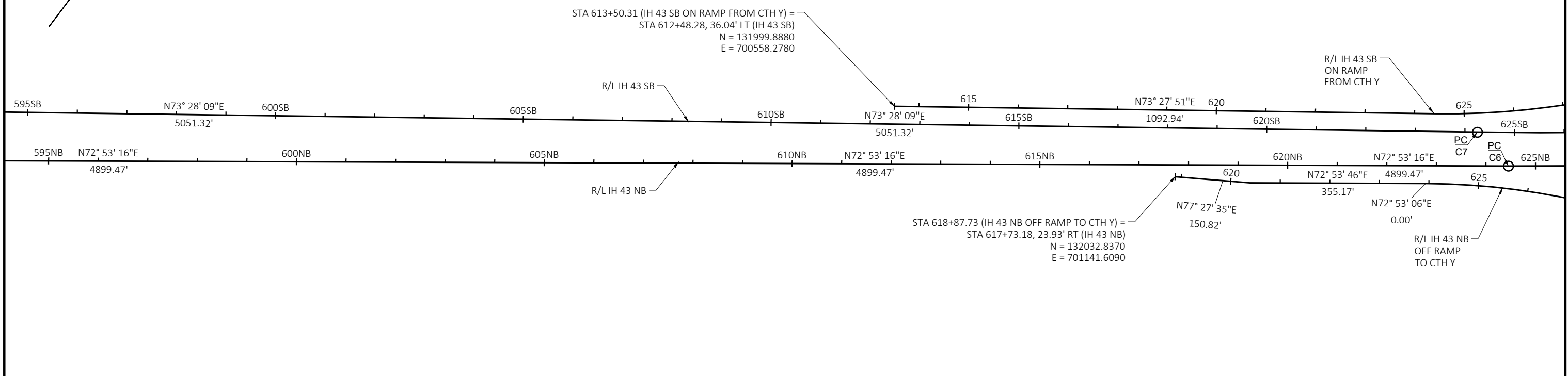
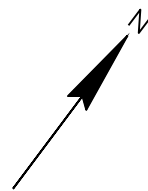
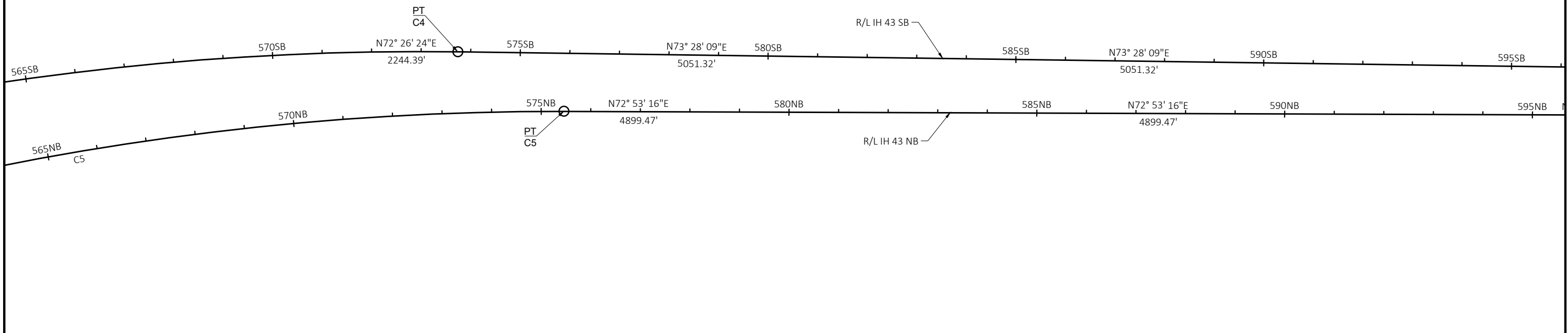
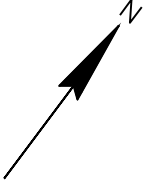
CURVE TABLE										
CURVE	PI	PI X COORDINATE	PI Y COORDINATE	Δ	D	T	L	R	PC	PT
C1	484SB+09.95	689635.17'	125580.83'	17°33'08"	0°30'00"	1769.076	3510.44	11459.14	466SB+40.88	501SB+51.32
C2	484IH43+41.82	689586.76'	125524.36'	16°48'05"	1°00'00"	846.140	1680.14	5729.57	475IH43+95.68	492IH43+75.82
C3	482NB+71.89	689544.25'	125469.96'	16°04'59"	1°00'00"	809.468	1608.29	5729.52	474NB+62.42	490NB+70.71





CURVE TABLE										
CURVE	PI	PI X COORDINATE	PI Y COORDINATE	Δ	D	T	L	R	PC	PT
C4	562SB+65.66	695763.92'	130539.33'	22°26'38"	1°00'00"	1136.768	2244.39	5729.58	551SB+28.89	573SB+73.28
C5	565NB+36.99	696109.34'	130508.56'	20°23'36"	1°00'00"	1030.575	2039.34	5729.62	555NB+06.41	575NB+45.76

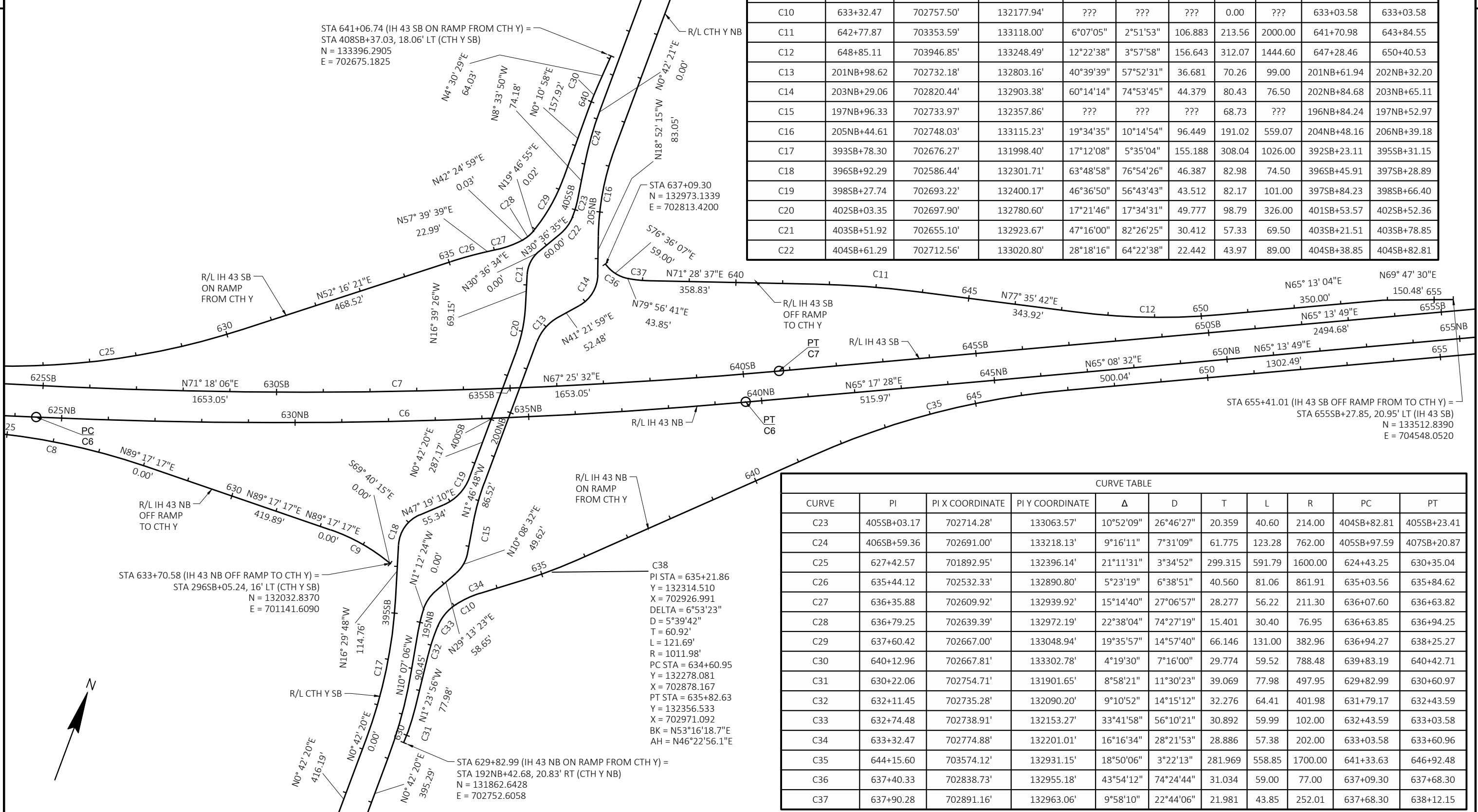




PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	ALIGNMENT PLAN	SHEET	<b>E</b>
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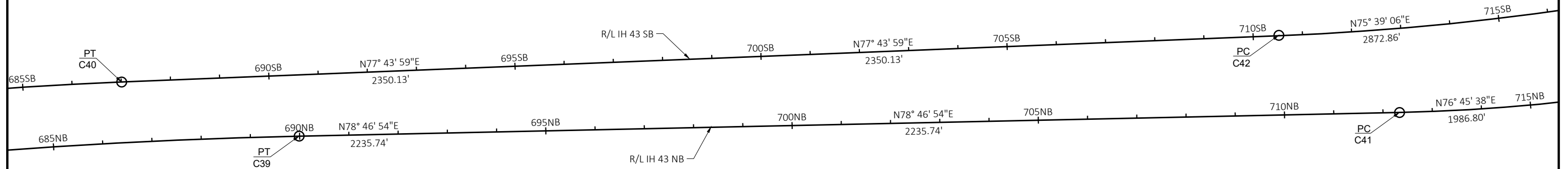
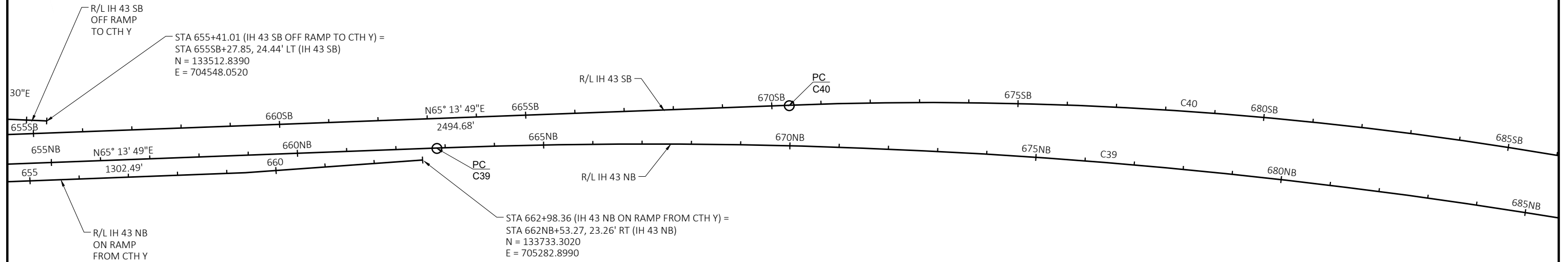
CURVE TABLE										
CURVE	PI	PI X COORDINATE	PI Y COORDINATE	Δ	D	T	L	R	PC	PT
C6	632NB+06.01	702503.97'	132477.31'	7°35'47"	0°30'00"	760.786	1519.34	11459.51	624NB+45.23	639NB+64.57
C7	632SB+52.56	702489.97'	132535.63'	8°15'55"	0°30'00"	827.960	1653.05	11459.04	624SB+24.60	640SB+77.65

CURVE TABLE										
CURVE	PI	PI X COORDINATE	PI Y COORDINATE	Δ	D	T	L	R	PC	PT
C8	626+00.17	701825.60'	132230.80'	16°24'11"	4°00'00"	206.450	410.08	1432.39	623+93.72	628+03.79
C9	632+97.97	702526.17'	132239.50'	21°02'28"	14°19'27"	74.283	146.89	400.00	632+23.68	633+70.58
C10	633+32.47	702757.50'	132177.94'	???	???	???	0.00	???	633+03.58	633+03.58
C11	642+77.87	703353.59'	133118.00'	6°07'05"	2°51'53"	106.883	213.56	2000.00	641+70.98	643+84.55
C12	648+85.11	703946.85'	133248.49'	12°22'38"	3°57'58"	156.643	312.07	1444.60	647+28.46	650+40.53
C13	201NB+98.62	702732.18'	132803.16'	40°39'39"	57°52'31"	36.681	70.26	99.00	201NB+61.94	202NB+32.20
C14	203NB+29.06	702820.44'	132903.38'	60°14'14"	74°53'45"	44.379	80.43	76.50	202NB+84.68	203NB+65.11
C15	197NB+96.33	702733.97'	132357.86'	???	???	???	68.73	???	196NB+84.24	197NB+52.97
C16	205NB+44.61	702748.03'	133115.23'	19°34'35"	10°14'54"	96.449	191.02	559.07	204NB+48.16	206NB+39.18
C17	393SB+78.30	702676.27'	131998.40'	17°12'08"	5°35'04"	155.188	308.04	1026.00	392SB+23.11	395SB+31.15
C18	396SB+92.29	702586.44'	132301.71'	63°48'58"	76°54'26"	46.387	82.98	74.50	396SB+45.91	397SB+28.89
C19	398SB+27.74	702693.22'	132400.17'	46°36'50"	56°43'43"	43.512	82.17	101.00	397SB+84.23	398SB+66.40
C20	402SB+03.35	702697.90'	132780.60'	17°21'46"	17°34'31"	49.777	98.79	326.00	401SB+53.57	402SB+52.36
C21	403SB+51.92	702655.10'	132923.67'	47°16'00"	82°26'25"	30.412	57.33	69.50	403SB+21.51	403SB+78.85
C22	404SB+61.29	702712.56'	133020.80'	28°18'16"	64°22'38"	22.442	43.97	89.00	404SB+38.85	404SB+82.81

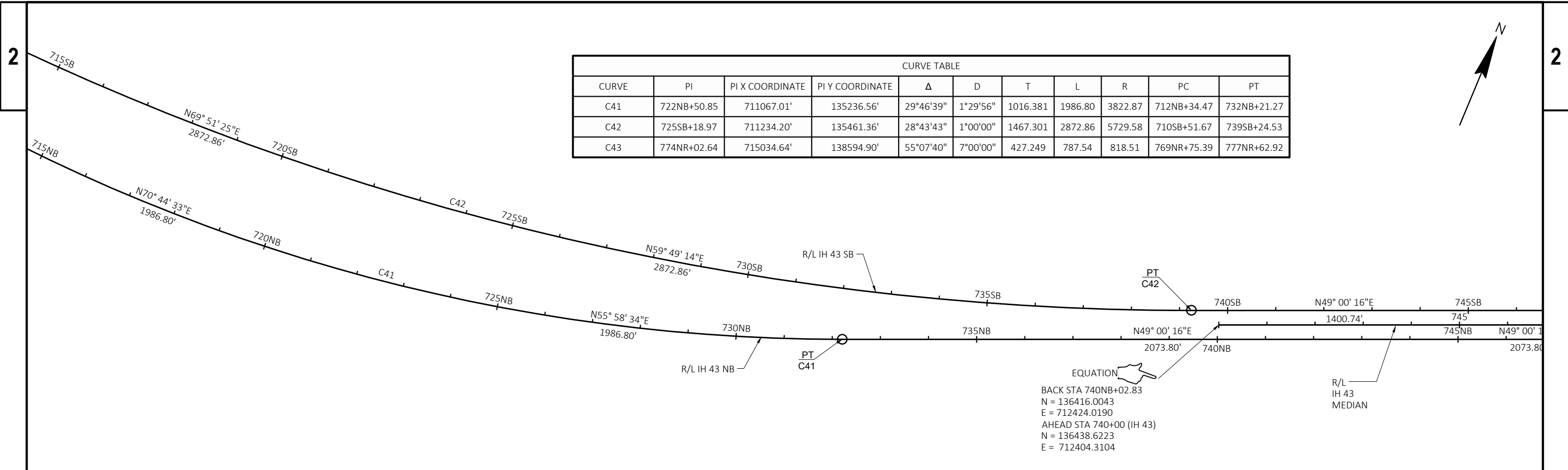


CURVE TABLE										
CURVE	PI	PI X COORDINATE	PI Y COORDINATE	Δ	D	T	L	R	PC	PT
C23	405SB+03.17	702714.28'	133063.57'	10°52'09"	26°46'27"	20.359	40.60	214.00	404SB+82.81	405SB+23.41
C24	406SB+59.36	702691.00'	133218.13'	9°16'11"	7°31'09"	61.775	123.28	762.00	405SB+97.59	407SB+20.87
C25	627+42.57	701892.95'	132396.14'	21°11'31"	3°34'52"	299.315	591.79	1600.00	624+43.25	630+35.04
C26	635+44.12	702532.33'	132890.80'	5°23'19"	6°38'51"	40.560	81.06	861.91	635+03.56	635+84.62
C27	636+35.88	702609.92'	132939.92'	15°14'40"	27°06'57"	28.277	56.22	211.30	636+07.60	636+63.82
C28	636+79.25	702639.39'	132972.19'	22°38'04"	74°27'19"	15.401	30.40	76.95	636+63.85	636+94.25
C29	637+60.42	702667.00'	133048.94'	19°35'57"	14°57'40"	66.146	131.00	382.96	636+94.27	638+25.27
C30	640+12.96	702667.81'	133302.78'	4°19'30"	7°16'00"	29.774	59.52	788.48	639+83.19	640+42.71
C31	630+22.06	702754.71'	131901.65'	8°58'21"	11°30'23"	39.069	77.98	497.95	629+82.99	630+60.97
C32	632+11.45	702735.28'	132090.20'	9°10'52"	14°15'12"	32.276	64.41	401.98	631+79.17	632+43.59
C33	632+74.48	702738.91'	132153.27'	33°41'58"	56°10'21"	30.892	59.99	102.00	632+43.59	633+03.58
C34	633+32.47	702774.88'	132201.01'	16°16'34"	28°21'53"	28.886	57.38	202.00	633+03.58	633+60.96
C35	644+15.60	703574.12'	132931.15'	18°50'06"	3°22'13"	281.969	558.85	1700.00	641+33.63	646+92.48
C36	637+40.33	702838.73'	132955.18'	43°54'12"	74°24'44"	31.034	59.00	77.00	637+09.30	637+68.30
C37	637+90.28	702891.16'	132963.06'	9°58'10"	22°44'06"	21.981	43.85	252.01	637+68.30	638+12.15

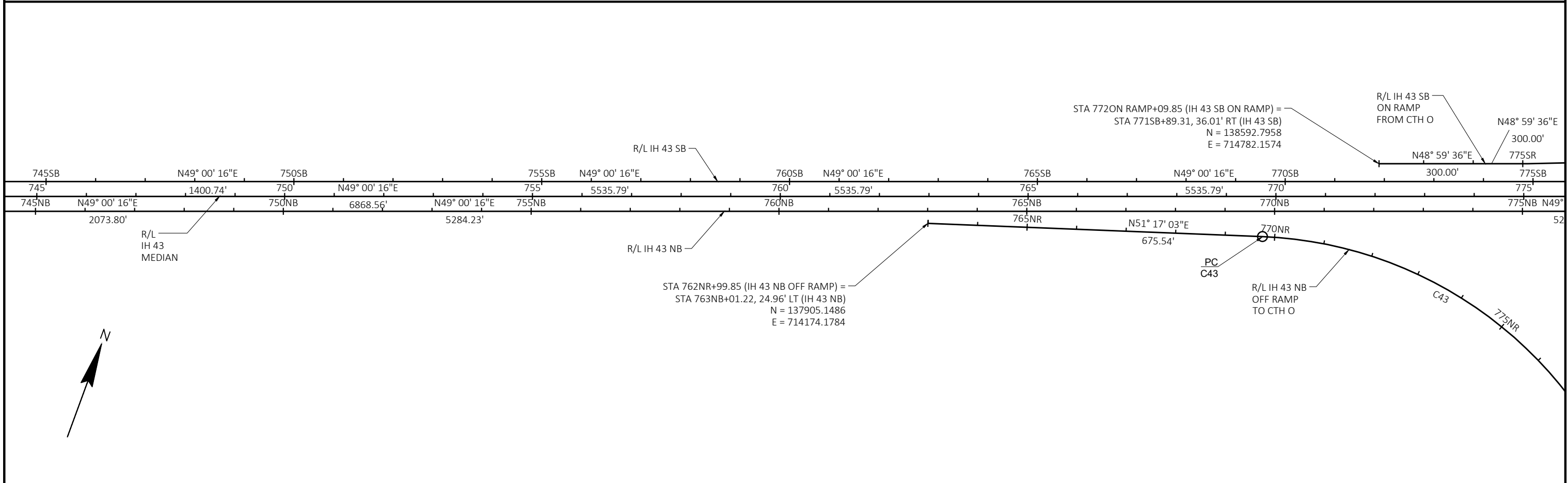
CURVE TABLE										
CURVE	PI	PI X COORDINATE	PI Y COORDINATE	Δ	D	T	L	R	PC	PT
C39	676NB+47.27	706538.90'	134338.47'	13°33'05"	0°29'56"	1364.200	2715.67	11481.85	662NB+83.07	689NB+98.74
C40	678SB+71.19	706686.05'	134472.44'	12°30'09"	0°44'59"	836.989	1667.33	7640.92	670SB+34.20	687SB+01.53

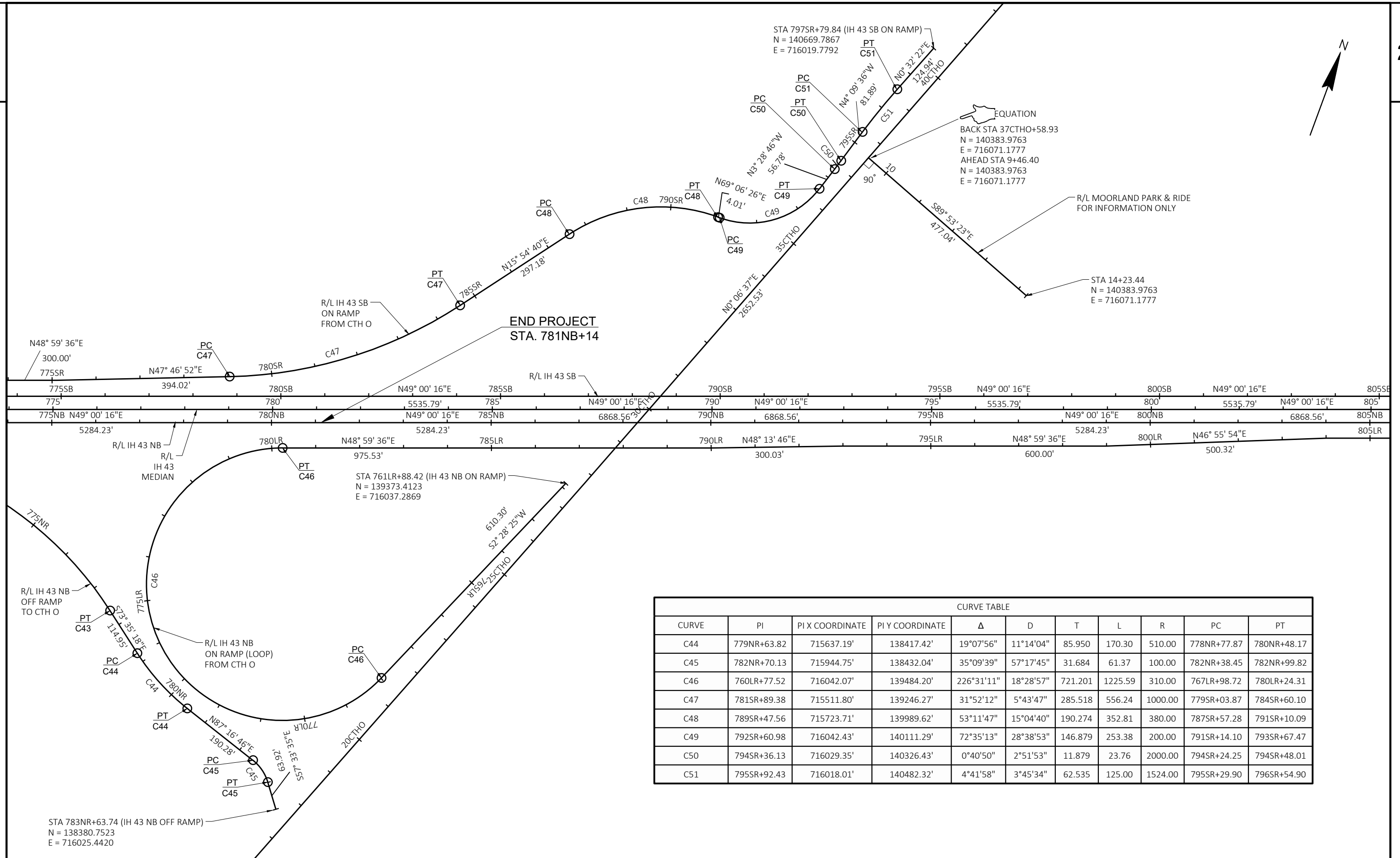




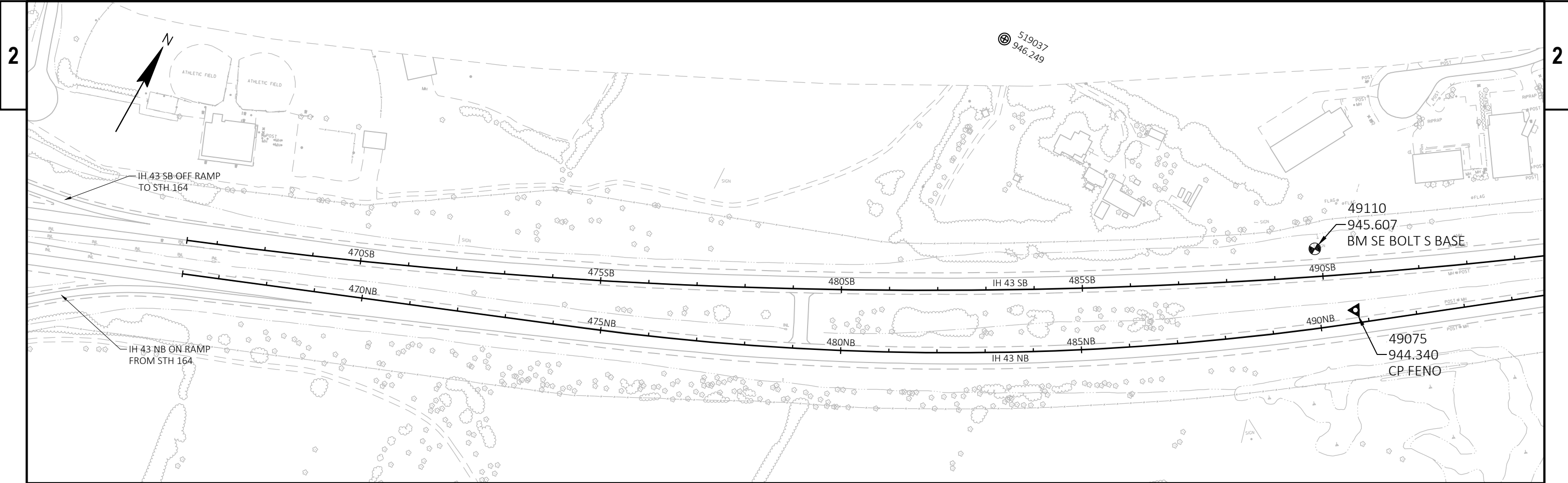


CURVE TABLE										
CURVE	PI	PI X COORDINATE	PI Y COORDINATE	Δ	D	T	L	R	PC	PT
C41	722NB+50.85	711067.01'	135236.56'	29°46'39"	1°29'56"	1016.381	1986.80	3822.87	712NB+34.47	732NB+21.27
C42	725SB+18.97	711234.20'	135461.36'	28°43'43"	1°00'00"	1467.301	2872.86	5729.58	710SB+51.67	739SB+24.53
C43	774NR+02.64	715034.64'	138594.90'	55°07'40"	7°00'00"	427.249	787.54	818.51	769NR+75.39	777NR+62.92





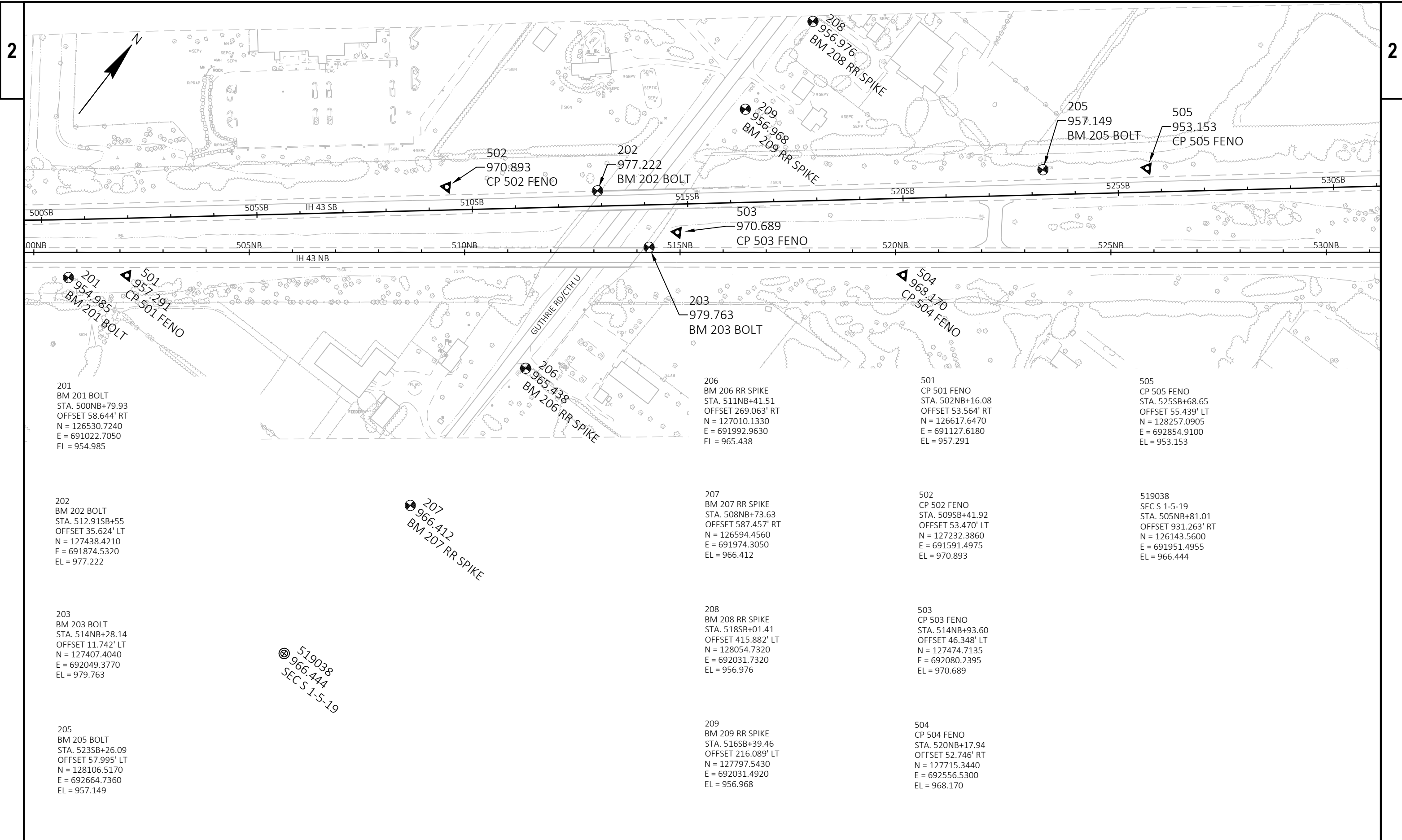
CURVE TABLE										
CURVE	PI	PI X COORDINATE	PI Y COORDINATE	Δ	D	T	L	R	PC	PT
C44	779NR+63.82	715637.19'	138417.42'	19°07'56"	11°14'04"	85.950	170.30	510.00	778NR+77.87	780NR+48.17
C45	782NR+70.13	715944.75'	138432.04'	35°09'39"	57°17'45"	31.684	61.37	100.00	782NR+38.45	782NR+99.82
C46	760LR+77.52	716042.07'	139484.20'	226°31'11"	18°28'57"	721.201	1225.59	310.00	767LR+98.72	780LR+24.31
C47	781SR+89.38	715511.80'	139246.27'	31°52'12"	5°43'47"	285.518	556.24	1000.00	779SR+03.87	784SR+60.10
C48	789SR+47.56	715723.71'	139989.62'	53°11'47"	15°04'40"	190.274	352.81	380.00	787SR+57.28	791SR+10.09
C49	792SR+60.98	716042.43'	140111.29'	72°35'13"	28°38'53"	146.879	253.38	200.00	791SR+14.10	793SR+67.47
C50	794SR+36.13	716029.35'	140326.43'	0°40'50"	2°51'53"	11.879	23.76	2000.00	794SR+24.25	794SR+48.01
C51	795SR+92.43	716018.01'	140482.32'	4°41'58"	3°45'34"	62.535	125.00	1524.00	795SR+29.90	796SR+54.90



49075  
CP FENO  
STA. 490NB+75.27  
OFFSET 26.829' LT  
N = 125986.8550  
E = 690173.6790  
EL = 944.340

49110  
BM SE BOLT S BASE  
STA. 489SB+86.87  
OFFSET 57.639' LT  
N = 126056.6000  
E = 690038.0780  
EL = 945.607

519037  
SEC SW 1-5-19  
STA. 483SB+45.87  
OFFSET 519.913' LT  
N = 126123.5810  
E = 689263.8395  
EL = 946.249



201  
BM 201 BOLT  
STA. 500NB+79.93  
OFFSET 58.644' RT  
N = 126530.7240  
E = 691022.7050  
EL = 954.985

202  
BM 202 BOLT  
STA. 512.91SB+55  
OFFSET 35.624' LT  
N = 127438.4210  
E = 691874.5320  
EL = 977.222

203  
BM 203 BOLT  
STA. 514NB+28.14  
OFFSET 11.742' LT  
N = 127407.4040  
E = 692049.3770  
EL = 979.763

205  
BM 205 BOLT  
STA. 523SB+26.09  
OFFSET 57.995' LT  
N = 128106.5170  
E = 692664.7360  
EL = 957.149

519038  
966.444  
SEC S 1-5-19

207  
966.412  
BM 207 RR SPIKE

206  
965.438  
BM 206 RR SPIKE

206  
BM 206 RR SPIKE  
STA. 511NB+41.51  
OFFSET 269.063' RT  
N = 127010.1330  
E = 691992.9630  
EL = 965.438

207  
BM 207 RR SPIKE  
STA. 508NB+73.63  
OFFSET 587.457' RT  
N = 126594.4560  
E = 691974.3050  
EL = 966.412

208  
BM 208 RR SPIKE  
STA. 518SB+01.41  
OFFSET 415.882' LT  
N = 128054.7320  
E = 692031.7320  
EL = 956.976

209  
BM 209 RR SPIKE  
STA. 516SB+39.46  
OFFSET 216.089' LT  
N = 127797.5430  
E = 692031.4920  
EL = 956.968

503  
970.689  
CP 503 FENO

203  
979.763  
BM 203 BOLT

206  
BM 206 RR SPIKE  
STA. 511NB+41.51  
OFFSET 269.063' RT  
N = 127010.1330  
E = 691992.9630  
EL = 965.438

207  
BM 207 RR SPIKE  
STA. 508NB+73.63  
OFFSET 587.457' RT  
N = 126594.4560  
E = 691974.3050  
EL = 966.412

208  
BM 208 RR SPIKE  
STA. 518SB+01.41  
OFFSET 415.882' LT  
N = 128054.7320  
E = 692031.7320  
EL = 956.976

209  
BM 209 RR SPIKE  
STA. 516SB+39.46  
OFFSET 216.089' LT  
N = 127797.5430  
E = 692031.4920  
EL = 956.968

501  
CP 501 FENO  
STA. 502NB+16.08  
OFFSET 53.564' RT  
N = 126617.6470  
E = 691127.6180  
EL = 957.291

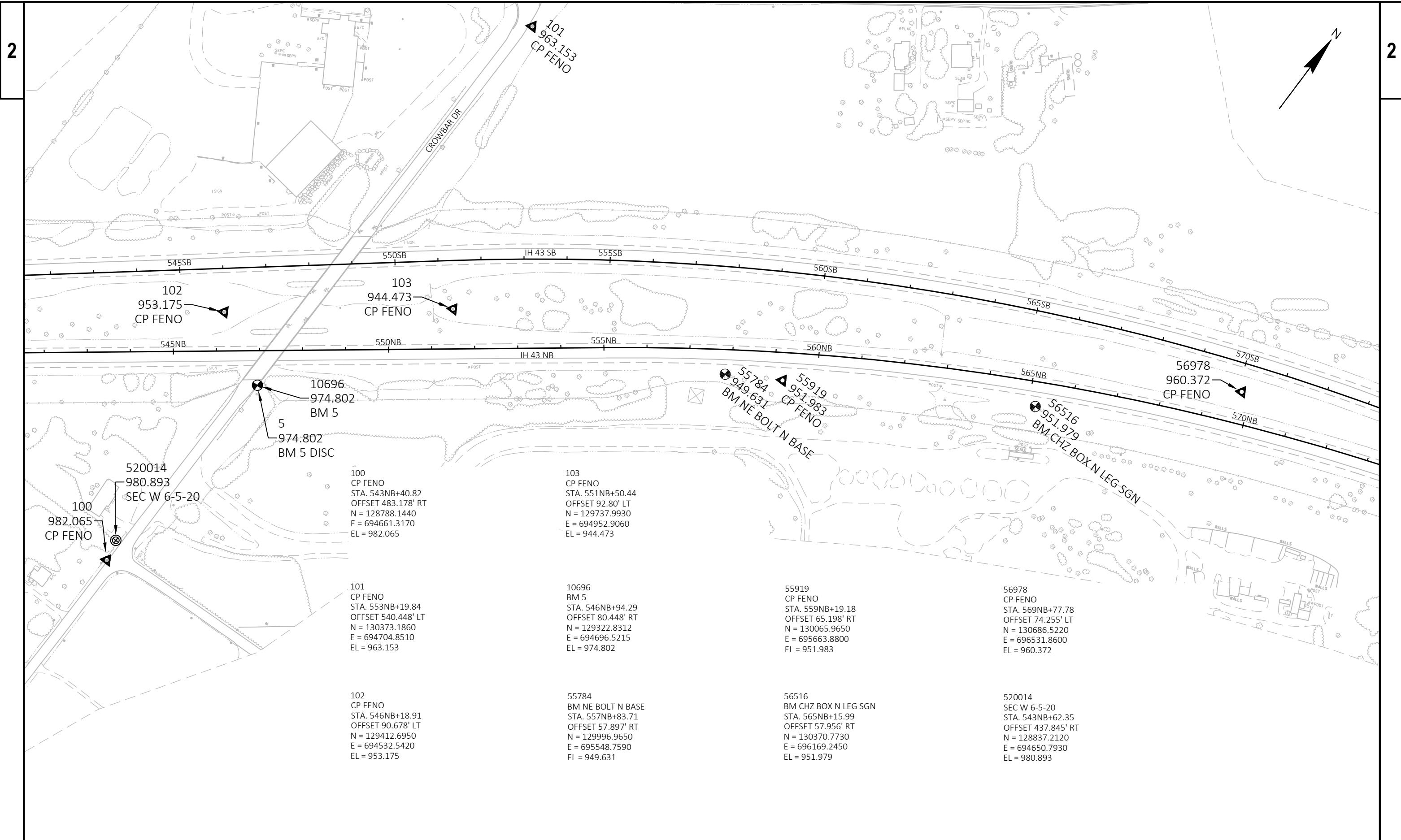
502  
CP 502 FENO  
STA. 509SB+41.92  
OFFSET 53.470' LT  
N = 127232.3860  
E = 691591.4975  
EL = 970.893

503  
CP 503 FENO  
STA. 514NB+93.60  
OFFSET 46.348' LT  
N = 127474.7135  
E = 692080.2395  
EL = 970.689

504  
CP 504 FENO  
STA. 520NB+17.94  
OFFSET 52.746' RT  
N = 127715.3440  
E = 692556.5300  
EL = 968.170

505  
CP 505 FENO  
STA. 525SB+68.65  
OFFSET 55.439' LT  
N = 128257.0905  
E = 692854.9100  
EL = 953.153

519038  
SEC S 1-5-19  
STA. 505NB+81.01  
OFFSET 931.263' RT  
N = 126143.5600  
E = 691951.4955  
EL = 966.444



PROJECT NO: 1090-09-76

HWY: IH 43

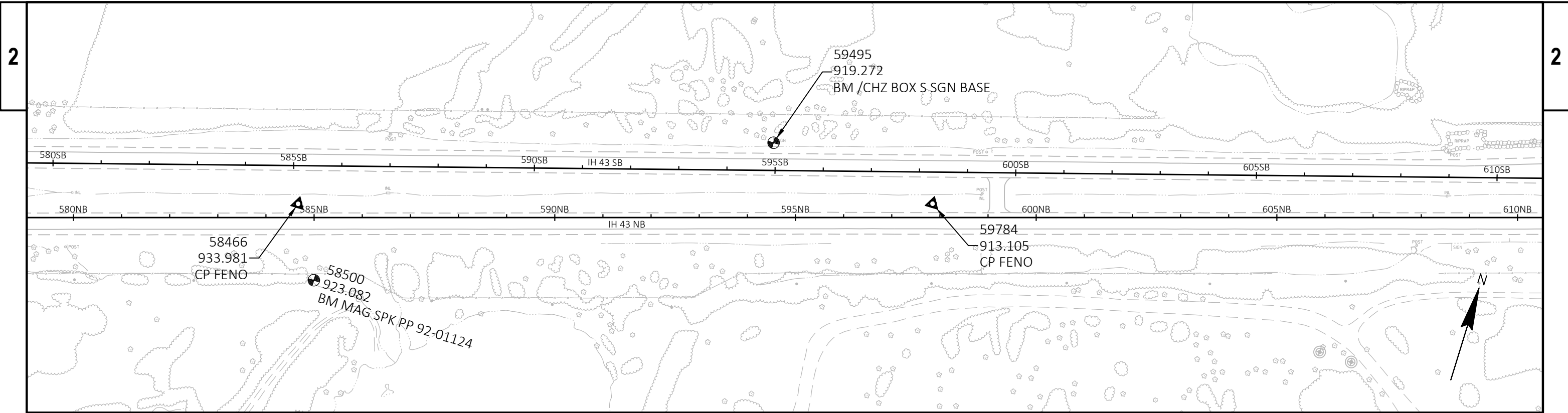
COUNTY: WAUKESHA

ALIGNMENT PLAN - SURVEY CONTROL

SHEET

E



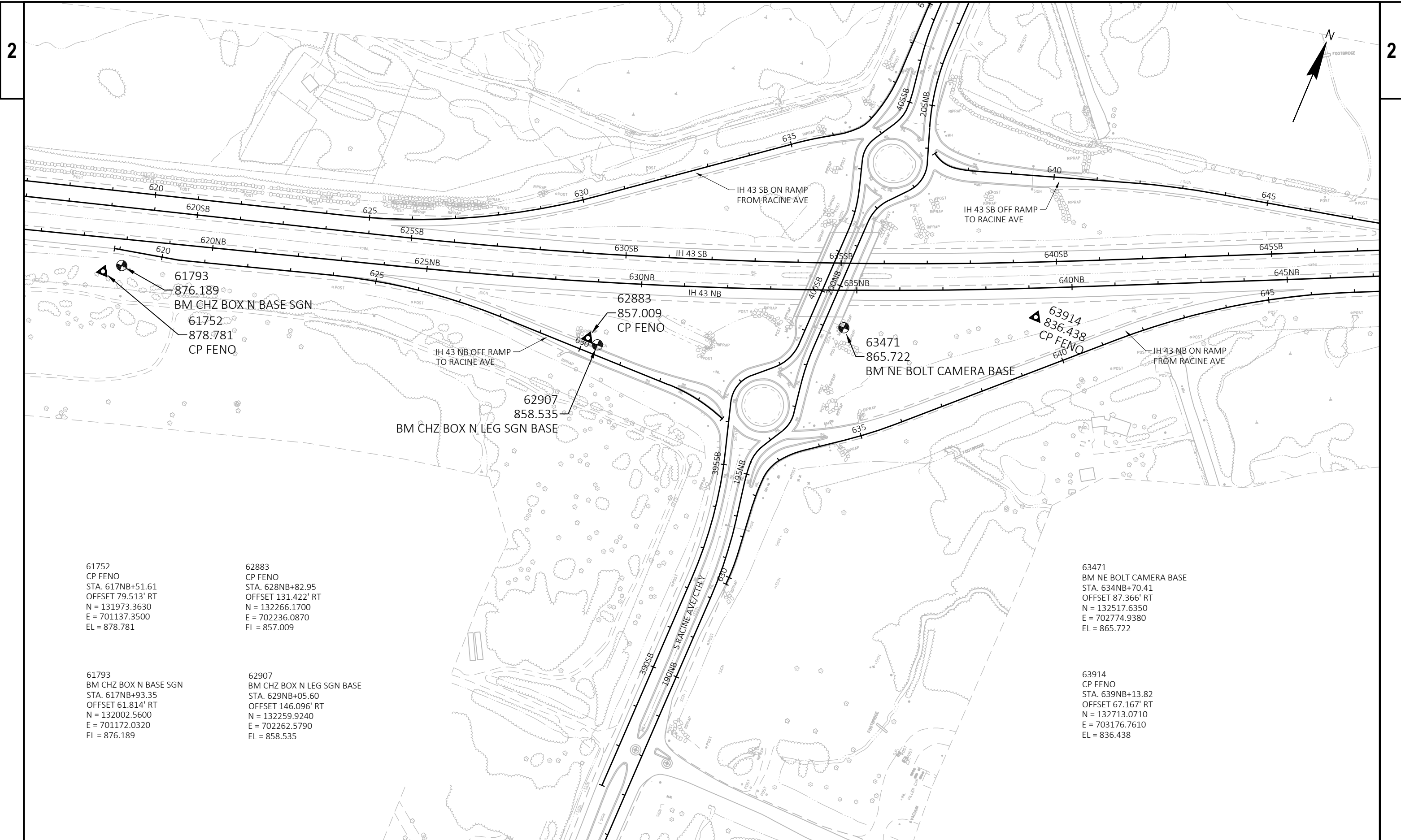


58466  
CP FENO  
STA. 584NB+66.44  
OFFSET 28.295' LT  
N = 131109.7500  
E = 697965.8910  
EL = 933.981

59495  
BM/CHZ BOX S SGN BASE  
STA. 594SB+96.16  
OFFSET 57.467' LT  
N = 131521.9000  
E = 698872.4880  
EL = 919.272

58500  
BM MAG SPK PP 92-01124  
STA. 584NB+99.20  
OFFSET 130.346' RT  
N = 130967.7740  
E = 698043.8880  
EL = 923.082

59784  
CP FENO  
STA. 597NB+84.41  
OFFSET 28.682' LT  
N = 131497.9300  
E = 699225.4090  
EL = 913.105



61793  
876.189  
BM CHZ BOX N BASE SGN  
61752  
878.781  
CP FENO

62907  
858.535  
BM CHZ BOX N LEG SGN BASE

62883  
857.009  
CP FENO

63471  
865.722  
BM NE BOLT CAMERA BASE

63914  
836.438  
CP FENO

61752  
CP FENO  
STA. 617NB+51.61  
OFFSET 79.513' RT  
N = 131973.3630  
E = 701137.3500  
EL = 878.781

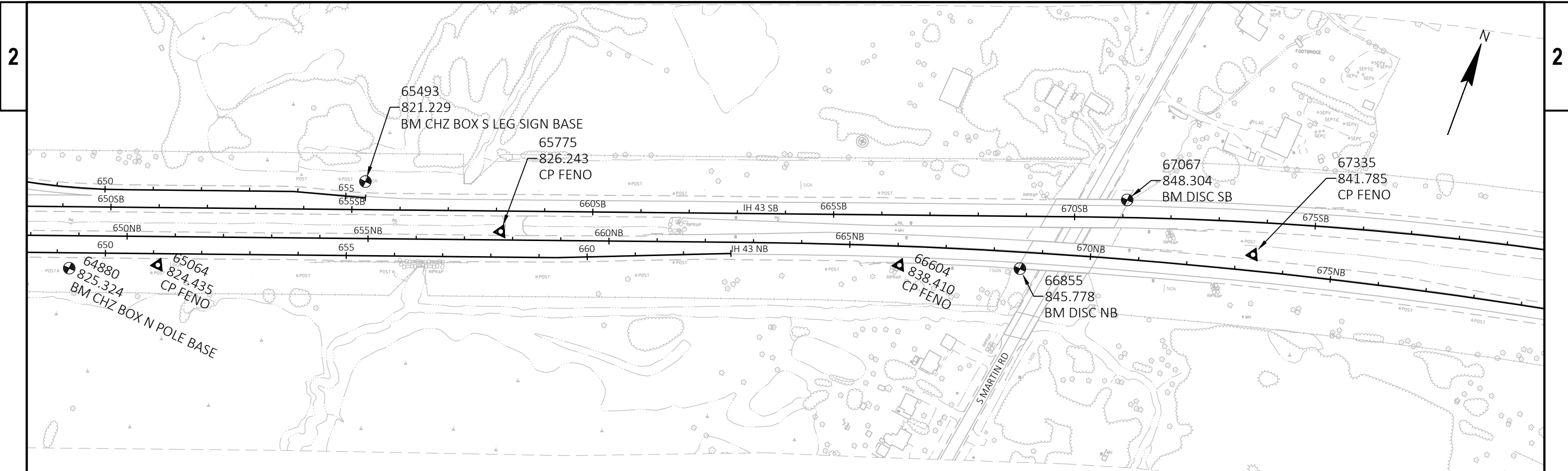
62883  
CP FENO  
STA. 628NB+82.95  
OFFSET 131.422' RT  
N = 132266.1700  
E = 702236.0870  
EL = 857.009

61793  
BM CHZ BOX N BASE SGN  
STA. 617NB+93.35  
OFFSET 61.814' RT  
N = 132002.5600  
E = 701172.0320  
EL = 876.189

62907  
BM CHZ BOX N LEG SGN BASE  
STA. 629NB+05.60  
OFFSET 146.096' RT  
N = 132259.9240  
E = 702262.5790  
EL = 858.535

63471  
BM NE BOLT CAMERA BASE  
STA. 634NB+70.41  
OFFSET 87.366' RT  
N = 132517.6350  
E = 702774.9380  
EL = 865.722

63914  
CP FENO  
STA. 639NB+13.82  
OFFSET 67.167' RT  
N = 132713.0710  
E = 703176.7610  
EL = 836.438



64880  
BM CHZ BOX N POLE BASE  
STA. 648NB+80.13  
OFFSET 67.479' RT  
N = 133117.7480  
E = 704054.7680  
EL = 825.324

65775  
CP FENO  
STA. 657NB+74.97  
OFFSET 17.362' LT  
N = 133569.7930  
E = 704831.5780  
EL = 826.243

67067  
BM DISC SB  
STA. 671SB+08.26  
OFFSET 36.353' LT  
N = 134185.6260  
E = 705978.5420  
EL = 848.304

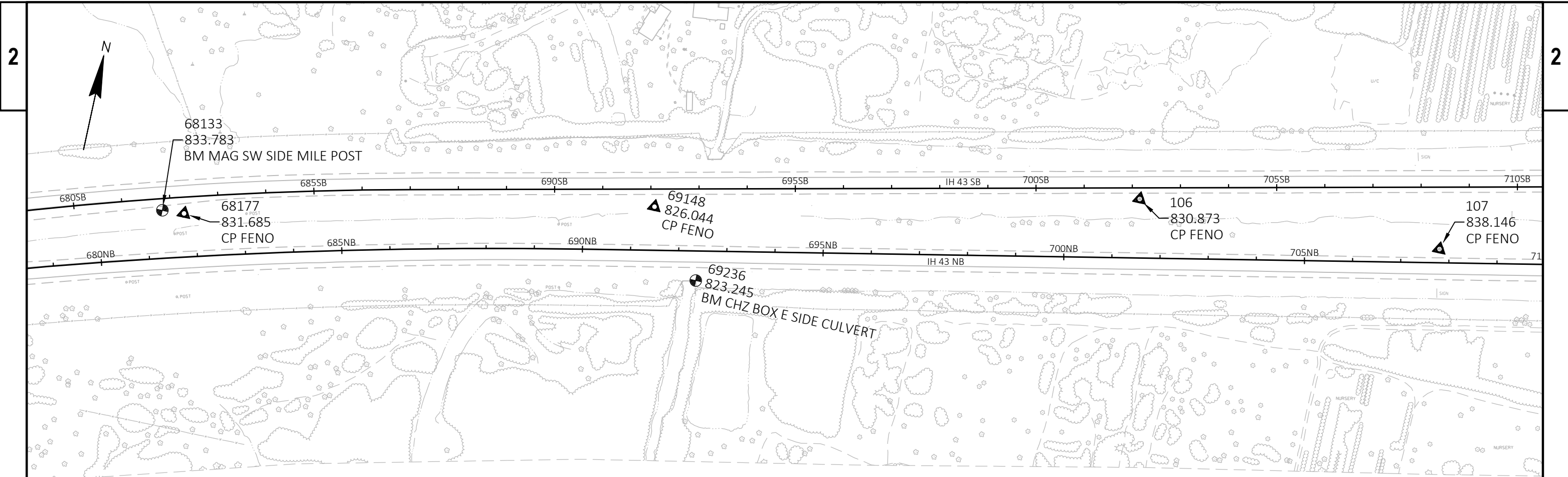
65064  
CP FENO  
STA. 650NB+64.25  
OFFSET 59.002' RT  
N = 133202.6820  
E = 704218.2370  
EL = 824.435

66604  
CP FENO  
STA. 666NB+04.14  
OFFSET 39.646' RT  
N = 133860.8850  
E = 705609.1780  
EL = 838.410

67335  
CP FENO  
STA. 673NB+35.13  
OFFSET 33.352' LT  
N = 134194.7760  
E = 706263.1750  
EL = 841.785

65493  
BM CHZ BOX S LEG SIGN BASE  
STA. 655SB+27.35  
OFFSET 58.254' LT  
N = 133543.3370  
E = 704533.4280  
EL = 821.229

66855  
BM DISC NB  
STA. 668NB+55.27  
OFFSET 34.611' RT  
N = 133961.4920  
E = 705838.4410  
EL = 845.778



106  
CP FENO  
STA. 702SB+15.37  
OFFSET 23.312' RT  
N = 134949.1410  
E = 708988.1530  
EL = 830.873

68133  
BM MAG SW SIDE MILE POST  
STA. 681SB+82.75  
OFFSET 24.389' RT  
N = 134499.5080  
E = 707007.9000  
EL = 833.783

69148  
CP FENO  
STA. 692SB+07.27  
OFFSET 36.830' RT  
N = 134721.7410  
E = 708005.9350  
EL = 826.044

107  
CP FENO  
STA. 707NB+79.84  
OFFSET 28.440' LT  
N = 134978.2740  
E = 709618.5760  
EL = 838.146

68177  
CP FENO  
STA. 682SB+27.61  
OFFSET 33.875' RT  
N = 134502.7000  
E = 707053.4750  
EL = 831.685

69236  
BM CHZ BOX E SIDE CULVERT  
STA. 692NB+36.11  
OFFSET 61.435' RT  
N = 134589.7870  
E = 708121.8170  
EL = 823.245

PROJECT NO: 1090-09-76

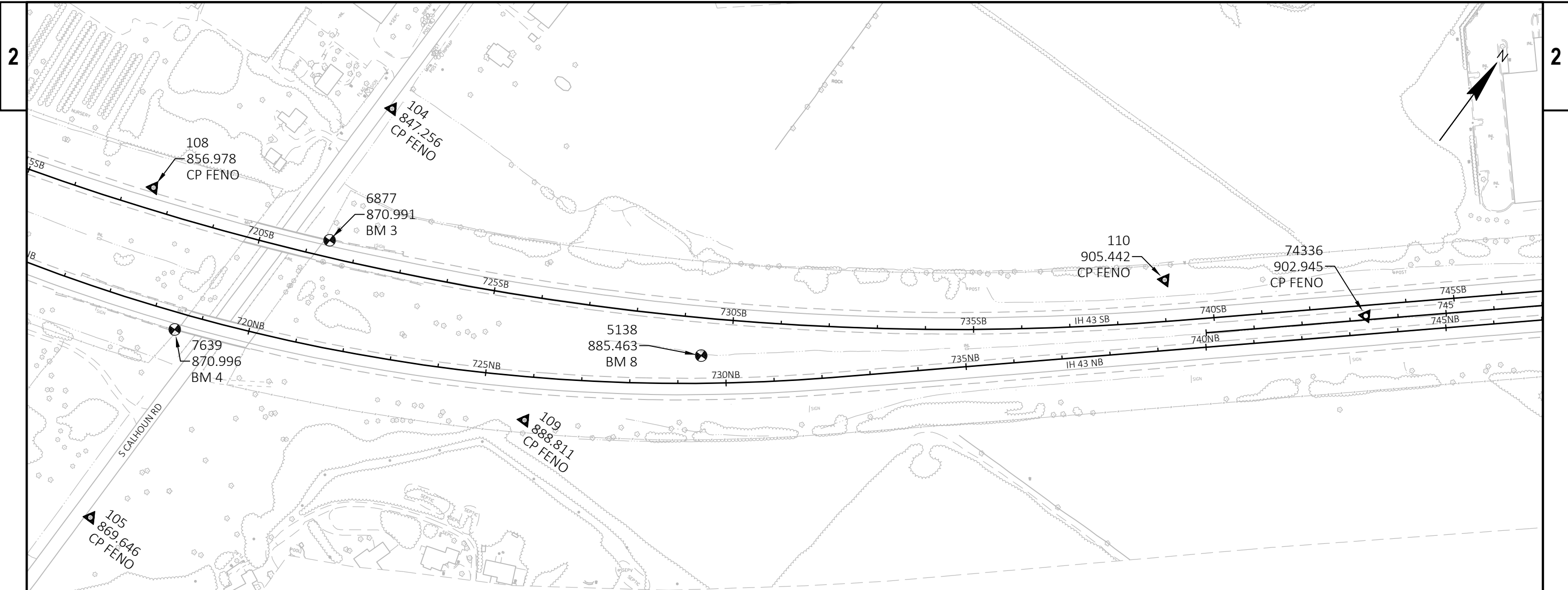
HWY: IH 43

COUNTY: WAUKESHA

ALIGNMENT PLAN - SURVEY CONTROL

SHEET

E



104  
CP FENO  
STA. 722SB+10.46  
OFFSET 330.193' LT  
N = 135810.2400  
E = 710766.6790  
EL = 847.256

108  
CP FENO  
STA. 717SB+57.99  
OFFSET 44.991' LT  
N = 135384.2430  
E = 710464.7210  
EL = 856.978

110  
CP FENO  
STA. 739SB+04.08  
OFFSET 86.083' LT  
N = 136475.7030  
E = 712269.9640  
EL = 905.442

6877  
BM 3  
STA. 721SB+42.36  
OFFSET 34.917' LT  
N = 135513.1830  
E = 710824.0290  
EL = 870.991

74336  
CP FENO  
STA. 743SB+14.49  
OFFSET 21.920' RT  
N = 136663.1870  
E = 712650.3650  
EL = 902.945

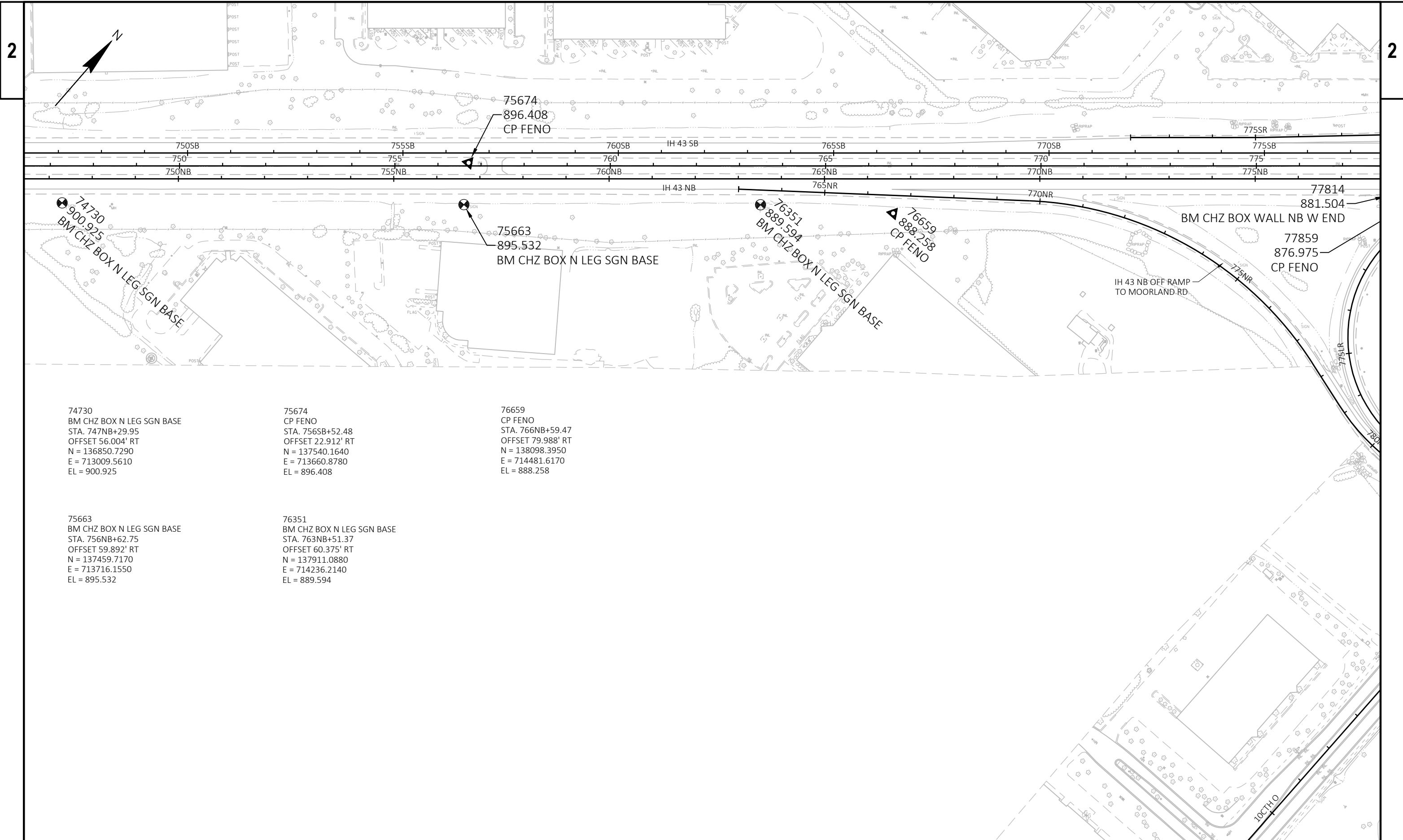
105  
CP FENO  
STA. 717NB+96.02  
OFFSET 459.937' RT  
N = 134754.8650  
E = 710765.4250  
EL = 869.646

109  
CP FENO  
STA. 725NB+88.54  
OFFSET 90.478' RT  
N = 135452.4170  
E = 711371.7670  
EL = 888.811

5138  
BM 8  
STA. 729NB+48.81  
OFFSET 57.554' LT  
N = 135778.0600  
E = 711587.7290  
EL = 885.463

7639  
BM 4  
STA. 718NB+50.98  
OFFSET 35.998' RT  
N = 135173.1720  
E = 710675.0920  
EL = 870.996





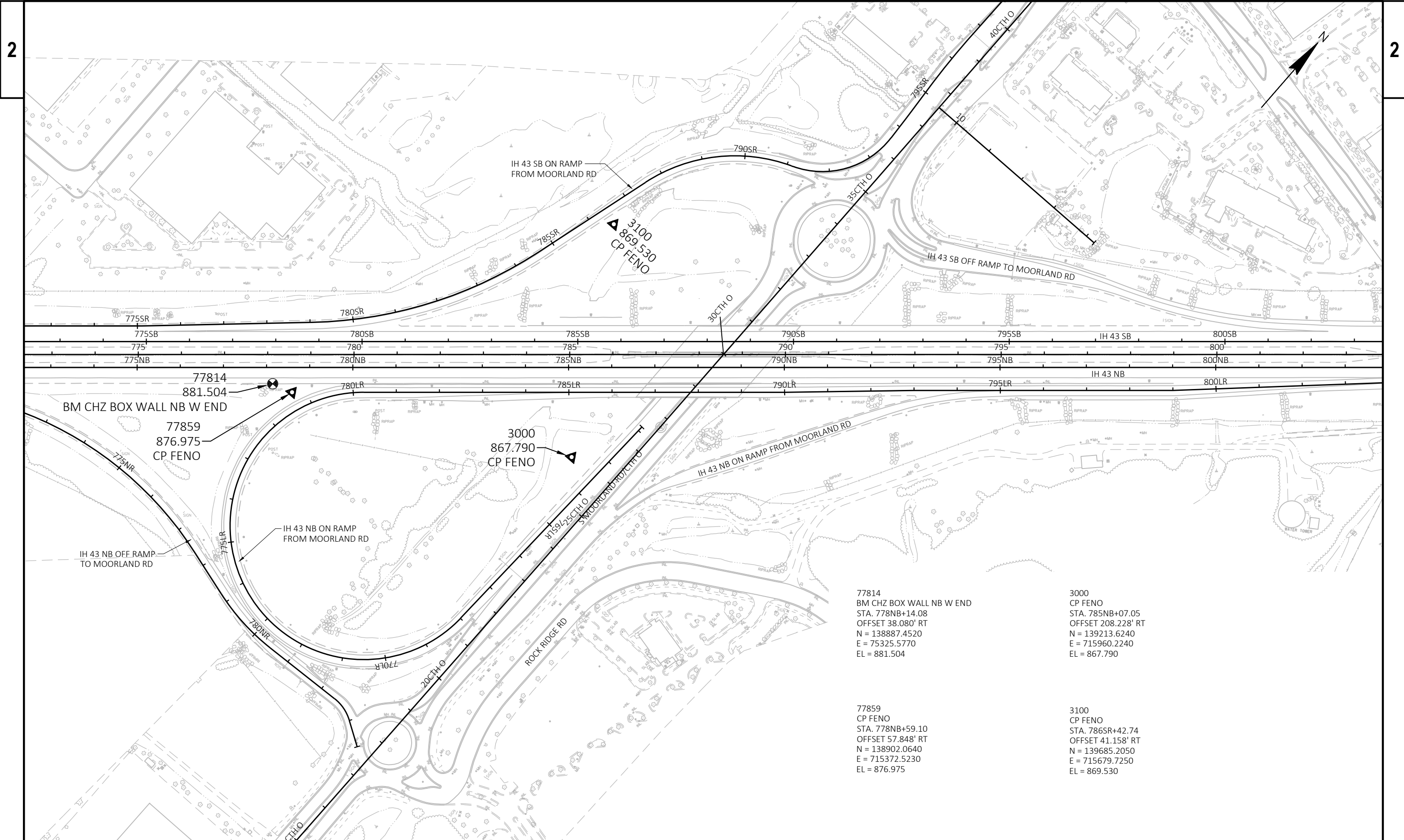
74730  
 BM CHZ BOX N LEG SGN BASE  
 STA. 747NB+29.95  
 OFFSET 56.004' RT  
 N = 136850.7290  
 E = 713009.5610  
 EL = 900.925

75674  
 CP FENO  
 STA. 756SB+52.48  
 OFFSET 22.912' RT  
 N = 137540.1640  
 E = 713660.8780  
 EL = 896.408

76659  
 CP FENO  
 STA. 766NB+59.47  
 OFFSET 79.988' RT  
 N = 138098.3950  
 E = 714481.6170  
 EL = 888.258

75663  
 BM CHZ BOX N LEG SGN BASE  
 STA. 756NB+62.75  
 OFFSET 59.892' RT  
 N = 137459.7170  
 E = 713716.1550  
 EL = 895.532

76351  
 BM CHZ BOX N LEG SGN BASE  
 STA. 763NB+51.37  
 OFFSET 60.375' RT  
 N = 137911.0880  
 E = 714236.2140  
 EL = 889.594



77814  
 BM CHZ BOX WALL NB W END  
 STA. 778NB+14.08  
 OFFSET 38.080' RT  
 N = 138887.4520  
 E = 75325.5770  
 EL = 881.504

3000  
 CP FENO  
 STA. 785NB+07.05  
 OFFSET 208.228' RT  
 N = 139213.6240  
 E = 715960.2240  
 EL = 867.790

77859  
 CP FENO  
 STA. 778NB+59.10  
 OFFSET 57.848' RT  
 N = 138902.0640  
 E = 715372.5230  
 EL = 876.975

3100  
 CP FENO  
 STA. 786SR+42.74  
 OFFSET 41.158' RT  
 N = 139685.2050  
 E = 715679.7250  
 EL = 869.530

Estimate Of Quantities

1090-09-76

Line	Item	Item Description	Unit	Total	Qty
0002	108.4400	CPM Progress Schedule	EACH	1.000	1.000
0004	201.0205	Grubbing	STA	279.000	279.000
0006	203.0220	Removing Structure (structure) 01. C-67-12	EACH	1.000	1.000
0008	204.0110	Removing Asphaltic Surface	SY	40.000	40.000
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,738.000	1,738.000
0012	204.0120	Removing Asphaltic Surface Milling	SY	257,258.000	257,258.000
0014	204.0126.S	Removing Asphaltic Longitudinal Notched Wedge Joint Milling	LF	57,236.000	57,236.000
0016	204.0150	Removing Curb & Gutter	LF	805.000	805.000
0018	204.0155	Removing Concrete Sidewalk	SY	124.000	124.000
0020	204.0165	Removing Guardrail	LF	1,815.000	1,815.000
0022	204.0170	Removing Fence	LF	188.000	188.000
0024	204.0245	Removing Storm Sewer (size) 01. 36-Inch	LF	16.000	16.000
0026	204.0245	Removing Storm Sewer (size) 02. 18-Inch	LF	16.000	16.000
0028	204.9035.S	Removing (item description) 01. RIPRAP	CY	7.000	7.000
0030	204.9060.S	Removing (item description) 01. APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	EACH	2.000	2.000
0032	204.9060.S	Removing (item description) 02. APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	EACH	1.000	1.000
0034	204.9060.S	Removing (item description) 03. APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	EACH	1.000	1.000
0036	204.9060.S	Removing (item description) 04. APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH	EACH	3.000	3.000
0038	204.9090.S	Removing (item description) 01. UNDERDRAIN	LF	18.000	18.000
0040	205.0100	Excavation Common	CY	431.000	431.000
0042	206.2001	Excavation for Structures Culverts (structure) 01. C-67-12	EACH	1.000	1.000
0044	206.5001	Cofferdams (structure) 01. C-67-12	EACH	1.000	1.000
0046	208.0100	Borrow	CY	414.000	414.000
0048	210.2500	Backfill Structure Type B	TON	130.000	130.000
0050	213.0100	Finishing Roadway (project) 01. 1090-09-76	EACH	1.000	1.000
0052	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,057.000	1,057.000
0054	390.0100	Removing Pavement for Base Patching	CY	13,444.000	13,444.000
0056	390.0405	Base Patching Concrete SHES	CY	13,444.000	13,444.000
0058	416.0610	Drilled Tie Bars	EACH	10,350.000	10,350.000
0060	416.0620	Drilled Dowel Bars	EACH	27,306.000	27,306.000
0062	416.0752.S	Concrete Pavement Partial Depth Repair Crack Repair	LF	62.000	62.000
0064	416.1710	Concrete Pavement Repair	SY	219.000	219.000
0066	416.1720	Concrete Pavement Replacement	SY	141.000	141.000
0068	416.1725	Concrete Pavement Replacement SHES	SY	903.000	903.000
0070	455.0605	Tack Coat	GAL	27,322.000	27,322.000
0072	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0074	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0076	460.0115.S	HMA Pavement Test Strip Volumetrics	EACH	1.000	1.000
0078	460.0120.S	HMA Pavement Test Strip Density	EACH	1.000	1.000
0080	460.2000	Incentive Density HMA Pavement	DOL	11,030.000	11,030.000
0082	460.2005	Incentive Density PWL HMA Pavement	DOL	21,420.000	21,420.000
0084	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	11,450.000	11,450.000
0086	460.2010	Incentive Air Voids HMA Pavement	DOL	40,020.000	40,020.000
0088	460.5224	HMA Pavement 4 LT 58-28 S	TON	978.000	978.000
0090	460.6224	HMA Pavement 4 MT 58-28 S	TON	18,591.000	18,591.000
0092	460.7224	HMA Pavement 4 HT 58-28 S	TON	21,415.000	21,415.000
0094	460.8424	HMA Pavement 4 SMA 58-28 H	TON	17,232.000	17,232.000

Estimate Of Quantities

1090-09-76

Line	Item	Item Description	Unit	Total	Qty
0096	460.9000.S	Material Transfer Vehicle	EACH	1.000	1.000
0098	465.0105	Asphaltic Surface	TON	128.000	128.000
0100	465.0110	Asphaltic Surface Patching	TON	433.000	433.000
0102	465.0310	Asphaltic Curb	LF	137.000	137.000
0104	465.0315	Asphaltic Flumes	SY	33.000	33.000
0106	465.0510	Asphaltic Rumble Strips, Shoulder Divided Roadway	LF	117,231.000	117,231.000
0108	502.4204	Adhesive Anchors No. 4 Bar	EACH	26.000	26.000
0110	504.0100	Concrete Masonry Culverts	CY	13.000	13.000
0112	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	1,260.000	1,260.000
0114	509.1500	Concrete Surface Repair	SF	425.000	425.000
0116	511.1200	Temporary Shoring (structure) 01. C-67-12	SF	270.000	270.000
0118	516.0500	Rubberized Membrane Waterproofing	SY	6.000	6.000
0120	520.8700	Cleaning Culvert Pipes	EACH	74.000	74.000
0122	522.0118	Culvert Pipe Reinforced Concrete Class III 18-Inch	LF	16.000	16.000
0124	522.0136	Culvert Pipe Reinforced Concrete Class III 36-Inch	LF	16.000	16.000
0126	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	2.000	2.000
0128	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	1.000	1.000
0130	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	1.000	1.000
0132	522.1042	Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	EACH	3.000	3.000
0134	531.1100	Concrete Masonry Ancillary Structures Type NS	CY	5.000	5.000
0136	531.1140	Steel Reinforcement HS Ancillary Structures Type NS	LB	580.000	580.000
0138	531.2024	Drilling Shaft 24-Inch	LF	20.000	20.000
0140	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	665.000	665.000
0142	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	109.000	109.000
0144	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	162.000	162.000
0146	601.0580	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type R	LF	32.000	32.000
0148	602.0410	Concrete Sidewalk 5-Inch	SF	1,119.000	1,119.000
0150	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	20.000	20.000
0152	602.3010	Concrete Surface Drains	CY	9.000	9.000
0154	604.9015.S	Reseal Crushed Aggregate Slope Paving	SY	189.000	189.000
0156	606.0100	Riprap Light	CY	3.000	3.000
0158	606.0200	Riprap Medium	CY	40.000	40.000
0160	606.0300	Riprap Heavy	CY	61.000	61.000
0162	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0164	612.0204	Pipe Underdrain Unperforated 4-Inch	LF	20.000	20.000
0166	612.0804	Apron Endwalls for Underdrain Reinforced Concrete 4-Inch	EACH	1.000	1.000
0168	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	6.000	6.000
0170	614.0230	Steel Thrie Beam	LF	491.000	491.000
0172	614.0396	Guardrail Mow Strip Asphalt	SY	601.000	601.000
0174	614.0950	Replacing Guardrail Posts and Blocks	EACH	39.000	39.000
0176	614.0951	Replacing Guardrail Rail and Hardware	LF	47.000	47.000
0178	614.0953	Replacing EAT Reflective Panel	EACH	4.000	4.000
0180	614.2300	MGS Guardrail 3	LF	400.000	400.000
0182	614.2500	MGS Thrie Beam Transition	LF	245.000	245.000
0184	614.2610	MGS Guardrail Terminal EAT	EACH	6.000	6.000
0186	614.2620	MGS Guardrail Terminal Type 2	EACH	1.000	1.000
0188	616.0100	Fence Woven Wire (height) 01. 6-FT	LF	188.000	188.000
0190	619.1000	Mobilization	EACH	1.000	1.000
0192	625.0100	Topsoil	SY	50,274.000	50,274.000
0194	628.1504	Silt Fence	LF	5,715.000	5,715.000

Estimate Of Quantities

1090-09-76

Line	Item	Item Description	Unit	Total	Qty
0196	628.1520	Silt Fence Maintenance	LF	5,715.000	5,715.000
0198	628.1530.S	Silt Fence Heavy Duty	LF	590.000	590.000
0200	628.1535.S	Silt Fence Heavy Duty Maintenance	LF	590.000	590.000
0202	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0204	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0206	628.2004	Erosion Mat Class I Type B	SY	53,674.000	53,674.000
0208	628.2027	Erosion Mat Class II Type C	SY	3,456.000	3,456.000
0210	628.7010	Inlet Protection Type B	EACH	48.000	48.000
0212	628.7015	Inlet Protection Type C	EACH	56.000	56.000
0214	628.7504	Temporary Ditch Checks	LF	14,303.000	14,303.000
0216	628.7555	Culvert Pipe Checks	EACH	15.000	15.000
0218	628.7560	Tracking Pads	EACH	36.000	36.000
0220	628.7570	Rock Bags	EACH	75.000	75.000
0222	629.0210	Fertilizer Type B	CWT	34.000	34.000
0224	630.0120	Seeding Mixture No. 20	LB	678.000	678.000
0226	630.0200	Seeding Temporary	LB	310.000	310.000
0228	630.0400	Seeding Nurse Crop	LB	230.000	230.000
0230	630.0500	Seed Water	MGAL	1,280.000	1,280.000
0232	633.0100	Delineator Posts Steel	EACH	368.000	368.000
0234	633.0500	Delineator Reflectors	EACH	571.000	571.000
0236	633.5200	Markers Culvert End	EACH	100.000	100.000
0238	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	92.000	92.000
0240	634.0622	Posts Wood 4x6-Inch X 22-FT	EACH	2.000	2.000
0242	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	4.000	4.000
0244	635.0200	Sign Supports Structural Steel HS	LB	2,800.000	2,800.000
0246	635.0300	Sign Supports Replacing Base Connection Bolts	EACH	32.000	32.000
0248	637.1220	Signs Type I Reflective SH	SF	4,154.500	4,154.500
0250	637.2210	Signs Type II Reflective H	SF	499.570	499.570
0252	637.2215	Signs Type II Reflective H Folding	SF	37.500	37.500
0254	637.2230	Signs Type II Reflective F	SF	247.500	247.500
0256	638.2101	Moving Signs Type I	EACH	4.000	4.000
0258	638.2102	Moving Signs Type II	EACH	7.000	7.000
0260	638.2601	Removing Signs Type I	EACH	32.000	32.000
0262	638.2602	Removing Signs Type II	EACH	76.000	76.000
0264	638.3000	Removing Small Sign Supports	EACH	90.000	90.000
0266	638.3100	Removing Structural Steel Sign Supports	EACH	4.000	4.000
0268	643.0300	Traffic Control Drums	DAY	39,085.000	39,085.000
0270	643.0420	Traffic Control Barricades Type III	DAY	7,475.000	7,475.000
0272	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	11.000	11.000
0274	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	11.000	11.000
0276	643.0705	Traffic Control Warning Lights Type A	DAY	14,951.000	14,951.000
0278	643.0715	Traffic Control Warning Lights Type C	DAY	5,128.000	5,128.000
0280	643.0800	Traffic Control Arrow Boards	DAY	504.000	504.000
0282	643.0900	Traffic Control Signs	DAY	18,467.000	18,467.000
0284	643.0920	Traffic Control Covering Signs Type II	EACH	199.000	199.000
0286	643.1050	Traffic Control Signs PCMS	DAY	227.000	227.000
0288	643.1070	Traffic Control Cones 42-Inch	DAY	15.000	15.000
0290	643.1205.S	Basic Traffic Queue Warning System	DAY	199.000	199.000
0292	643.1500	Traffic Control Speed Radar Trailer	DAY	398.000	398.000
0294	643.3165	Temporary Marking Line Paint 6-Inch	LF	262,698.000	262,698.000



Estimate Of Quantities

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Line	Item	Item Description	Unit	Total	Qty
0296	643.3265	Temporary Marking Line Paint 10-Inch	LF	6,189.000	6,189.000
0298	643.4100	Traffic Control Interim Lane Closure	EACH	199.000	199.000
0300	643.5000	Traffic Control	EACH	1.000	1.000
0302	644.1810	Temporary Pedestrian Barricade	LF	350.000	350.000
0304	645.0120	Geotextile Type HR	SY	313.000	313.000
0306	645.0130	Geotextile Type R	SY	13.000	13.000
0308	646.1020	Marking Line Epoxy 4-Inch	LF	540.000	540.000
0310	646.2020	Marking Line Epoxy 6-Inch	LF	7,804.000	7,804.000
0312	646.2025	Marking Line Grooved Black Epoxy 6-Inch	LF	26,232.000	26,232.000
0314	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	134,334.000	134,334.000
0316	646.2050	Marking Line Grooved Permanent Tape 6-Inch	LF	26,232.000	26,232.000
0318	646.3020	Marking Line Epoxy 8-Inch	LF	5,017.000	5,017.000
0320	646.4020	Marking Line Epoxy 10-Inch	LF	1,215.000	1,215.000
0322	646.4025	Marking Line Grooved Black Epoxy 10-Inch	LF	576.000	576.000
0324	646.4050	Marking Line Grooved Permanent Tape 10-Inch	LF	6,011.000	6,011.000
0326	646.5020	Marking Arrow Epoxy	EACH	49.000	49.000
0328	646.5120	Marking Word Epoxy	EACH	24.000	24.000
0330	646.5220	Marking Symbol Epoxy	EACH	5.000	5.000
0332	646.5520	Marking Outfall Epoxy	EACH	242.000	242.000
0334	646.6120	Marking Stop Line Epoxy 18-Inch	LF	82.000	82.000
0336	646.6220	Marking Yield Line Epoxy 18-Inch	EACH	11.000	11.000
0338	646.6320	Marking Dotted Extension Epoxy 18-Inch	LF	202.000	202.000
0340	646.6466	Cold Weather Marking Epoxy 6-Inch	LF	18,679.000	18,679.000
0342	646.6470	Cold Weather Marking Epoxy 10-Inch	LF	510.000	510.000
0344	646.7120	Marking Diagonal Epoxy 12-Inch	LF	3,130.000	3,130.000
0346	646.7220	Marking Chevron Epoxy 24-Inch	LF	588.000	588.000
0348	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	102.000	102.000
0350	646.8120	Marking Curb Epoxy	LF	30.000	30.000
0352	646.8220	Marking Island Nose Epoxy	EACH	3.000	3.000
0354	646.8320	Marking Parking Stall Epoxy	LF	4,279.000	4,279.000
0356	646.9050	Marking Removal Line Grooved Permanent Tape 4-Inch	LF	1,580.000	1,580.000
0358	646.9150	Marking Removal Line Grooved Permanent Tape 8-Inch	LF	3,483.000	3,483.000
0360	646.9200	Marking Removal Line Wide	LF	238.000	238.000
0362	646.9300	Marking Removal Special Marking	EACH	43.000	43.000
0364	646.9400	Marking Removal Plowable Raised Pavement Markers	EACH	39.000	39.000
0366	652.0700.S	Install Conduit into Existing Item	EACH	5.000	5.000
0368	653.0140	Pull Boxes Steel 24x42-Inch	EACH	2.000	2.000
0370	653.0905	Removing Pull Boxes	EACH	2.000	2.000
0372	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	35,380.000	35,380.000
0374	670.0101	Field System Integrator	EACH	1.000	1.000
0376	670.0201	ITS Documentation	EACH	1.000	1.000
0378	671.0112	Conduit HDPE 1-Duct 2-Inch	LF	205.000	205.000
0380	671.0132	Conduit HDPE 3-Duct 2-Inch	LF	31,030.000	31,030.000
0382	671.0212	Conduit HDPE Directional Bore 1-Duct 2-Inch	LF	215.000	215.000
0384	671.0232	Conduit HDPE Directional Bore 3-Duct 2-Inch	LF	2,255.000	2,255.000
0386	671.0300	Fiber Optic Cable Marker	EACH	107.000	107.000
0388	673.0105	Communication Vault Type 1	EACH	25.000	25.000
0390	673.0200	Tracer Wire Marker Posts	EACH	8.000	8.000
0392	674.0300	Remove Cable	LF	70.000	70.000
0394	674.0400	Reinstall Cable	LF	10.000	10.000

Estimate Of Quantities

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Line	Item	Item Description	Unit	Total	Qty
0396	678.0006	Install Fiber Optic Cable Outdoor Plant 6-CT	LF	3,510.000	3,510.000
0398	678.0072	Install Fiber Optic Cable Outdoor Plant 72-CT	LF	35,985.000	35,985.000
0400	678.0200	Fiber Optic Splice Enclosure	EACH	5.000	5.000
0402	678.0300	Fiber Optic Splice	EACH	300.000	300.000
0404	678.0400	Fiber Optic Termination	EACH	24.000	24.000
0406	678.0501	Communication System Testing	EACH	1.000	1.000
0408	678.0600	Install Ethernet Switches	EACH	3.000	3.000
0410	690.0150	Sawing Asphalt	LF	368.000	368.000
0412	690.0250	Sawing Concrete	LF	79,915.000	79,915.000
0414	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	6,300.000	6,300.000
0416	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	17,280.000	17,280.000
0418	SPV.0045	Special 01. Digital Speed Reduction System (DSRS)	DAY	199.000	199.000
0420	SPV.0060	Special 02. FIELD FACILITIES OFFICE SPACE	EACH	1.000	1.000
0422	SPV.0060	Special 03. TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP	EACH	84.000	84.000
0424	SPV.0060	Special 04. TRAFFIC CONTROL LOCAL ROAD LANE CLOSURE	EACH	36.000	36.000
0426	SPV.0060	Special 05. MOBILIZATIONS EMERGENCY PAVEMENT REPAIR	EACH	2.000	2.000
0428	SPV.0060	Special 06. SURVEY PROJECT 1090-09-76	EACH	1.000	1.000
0430	SPV.0060	Special 07. LOCATE AND CLEAN EXISTING UNDERDRAIN OUTFALLS	EACH	242.000	242.000
0432	SPV.0060	Special 08. REMOVING BUS SHELTER	EACH	1.000	1.000
0434	SPV.0060	Special 20. REPAIR CONDUIT	EACH	4.000	4.000
0436	SPV.0060	Special 21. POWER WIRE SPLICE	EACH	3.000	3.000
0438	SPV.0060	Special 22. REMOVE ETHERNET RADIO	EACH	8.000	8.000
0440	SPV.0060	Special 23. REMOVING CONTROLLER CABINET	EACH	4.000	4.000
0442	SPV.0060	Special 24. REMOVING CONTROLLER CABINET BASE	EACH	4.000	4.000
0444	SPV.0060	Special 25. EXPOSING EXISTING INFRASTRUCTURE PAVED AREA	EACH	5.000	5.000
0446	SPV.0060	Special 26. EXPOSING EXISTING INFRASTRUCTURE UNPAVED AREA	EACH	5.000	5.000
0448	SPV.0060	Special 40. Strapping C-67-12	EACH	1.000	1.000
0450	SPV.0075	Special 01. PAVEMENT CLEANUP PROJECT 1090-09-76	HRS	100.000	100.000
0452	SPV.0085	Special 01. Native Pollinator Seeding Mixture No. 90A	LB	71.000	71.000
0454	SPV.0090	Special 01. MARKING EPOXY 6-INCH BLACK NON GROOVED	LF	175.000	175.000
0456	SPV.0090	Special 40. Joint Sealing	LF	30.000	30.000
0458	SPV.0180	Special 01. EXCAVATION OF PHRAGMITES CONTAMINATED SOIL	SY	389.000	389.000
0460	SPV.0180	Special 02. HERBICIDE APPLICATION	SY	389.000	389.000
0462	SPV.0180	Special 03. REMOVING HIGH FRICTION SURFACE TREATMENT	SY	6,846.000	6,846.000
0464	SPV.0180	Special 04. RESIN BINDER HIGH FRICTION SURFACE TREATMENT	SY	6,846.000	6,846.000
0466	SPV.0180	Special 05. MICROMILLING	SY	73,435.000	73,435.000
0468	SPV.0180	Special 40. Methacrylate Flood Seal	SY	2,404.000	2,404.000
0470	SPV.0195	Special 01. HMA LONGITUDINAL JOINT REPAIR	TON	2,533.000	2,533.000
0472	SPV.0195	Special 02. HMA TRANSVERSE JOINT REPAIR	TON	405.000	405.000

GRUBBING

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	201.0205 GRUBBING STA
1000	IH 43 (MEDIAN)	465+00	-	467+36	RT	2
		466+24	-	491+00	RT	25
	IH 43 (NB)	495+00	-	496+00	RT	1
		500+00	-	511+50	RT	12
		514+50	-	546+50	RT	32
		547+50	-	559+00	RT	12
		561+00	-	595+00	RT	34
		596+00	-	615+50	RT	20
		662+00	-	668+00	RT	6
		673+00	-	675+00	RT	2
		687+50	-	698+00	RT	11
		715+50	-	718+00	RT	3
		722+00	-	726+00	RT	4
		728+00	-	744+00	RT	16
		754+50	-	759+00	RT	5
550+50	-	551+50	LT	1		
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	618+88	-	633+71	RT	15
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	633+00	-	636+00	RT	3
		637+50	-	647+00	RT	10
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	769+00	-	772+50	RT	4
		776+50	-	780+50	RT	4
1000	IH 43 NB ON RAMP FROM MOORLAND RD (RAMP)	787+00	-	788+00	RT	1
		792+00	-	795+50	RT	4
1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)	765+00	-	766+00	RT	1
UNDISTRIBUTED						56
TOTAL						279

REMOVING PAVEMENT

CATEGORY	ROADWAY (R/L)	STAGE	STATION	TO	STATION	LOCATION	204.0120	SPV.0180.05
							REMOVING ASPHALTIC SURFACE MILLING SY	MICROMILLING SY
1000	IH 43 (NB)	2A (OUTSIDE)	467+35	-	511+76	RT	6,951	5,208
			514+41	-	668+79	RT	25,489	22,184
			669+98	-	718+74	RT	6,545	6,006
			720+02	-	759+74	RT	5,458	5,034
1000	IH 43 (SB)	2A (OUTSIDE)	467+52	-	512+42	LT	6,158	5,384
			515+08	-	669+61	LT	23,953	18,737
			670+82	-	719+87	LT	6,162	6,110
			721+13	-	759+72	LT	5,017	4,772
1000	IH 43 & MOORLAND RD INTERCHANGE IH 43 (NB)	2A (OUTSIDE)	759+74	-	780+00	RT	2,509	-
1000	IH 43 & MOORLAND RD INTERCHANGE IH 43 (SB)	2A (OUTSIDE)	759+72	-	780+93	LT	2,446	-
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	2A (OUTSIDE)	770+98	-	778+01	LT	266	-
			770+98	-	780+77	RT	615	-
1000	IH 43 SB ON RAMP FROM MOORLAND RD (SR)	2A (OUTSIDE)	781+08	-	791+16	RT	686	-
			781+08	-	790+76	LT	643	-
STAGE 2A TOTAL							92,898	73,435
1000	IH 43 (NB)	2B (INSIDE)	467+35	-	511+76	RT/LT	11,869	-
			514+41	-	668+79	RT/LT	38,661	-
			669+98	-	718+74	RT/LT	12,736	-
			720+02	-	759+74	RT/LT	9,626	-
1000	IH 43 (SB)	2B (INSIDE)	467+52	-	512+42	RT/LT	11,726	-
			515+08	-	669+61	RT/LT	40,096	-
			670+82	-	719+87	RT/LT	13,626	-
			721+13	-	759+72	RT/LT	9,578	-
1000	IH 43 & MOORLAND RD INTERCHANGE IH 43 (NB)	2B (INSIDE)	759+74	-	780+00	LT	2,749	-
1000	IH 43 & MOORLAND RD INTERCHANGE IH 43 (SB)	2B (INSIDE)	759+72	-	780+93	RT	2,927	-
STAGE 2B TOTAL							153,593	0
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	RACINE AVE CLOSURE STAGE	626+50	-	629+67	RT	250	-
			626+84	-	629+86	LR	194	-
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	RACINE AVE CLOSURE STAGE	634+46	-	643+02	RT	530	-
			635+08	-	643+01	LT	488	-
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	RACINE AVE CLOSURE STAGE	640+04	-	647+50	RT	463	-
			640+77	-	647+51	LT	468	-
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	RACINE AVE CLOSURE STAGE	627+74	-	635+86	RT	499	-
			727+00	-	635+76	LT	550	-
RACINE AVE CLOSURE STAGE TOTAL							3,443	0
1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)	5 (LOOP RAMP)	769+52	-	781+50	RT	724	-
STAGE 5 TOTAL							724	0
1000 SUBTOTAL							250,659	73,435
1010	MOORLAND PARK & RIDE (MOORLAND RD PARK & RIDE)	STAGE 3	11+60	-	12+95	RT/LT	2,820	-
		STAGE 4	10+40	-	11+60	RT	2,463	-
		STAGE 5	10+40	-	11+60	RT/LT	1,315	-
1010 SUBTOTAL							6,599	0
TOTAL							257,257	73,435

3

REMOVING WEDGE

204.0126.S  
REMOVING  
ASPHALTIC  
LONGITUDINAL  
NOTCHED WEDGE  
JOINT MILLING

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	LF
1000	IH 43 (NB)	467+35	-	511+76	RT	4,444
		514+41	-	668+41	RT	15,396
		670+38	-	718+66	RT	4,828
		720+11	-	759+74	RT	3,966
1000	IH 43 (SB)	467+52	-	512+42	LT	4,487
		515+08	-	669+21	LT	15,416
		671+25	-	719+78	LT	4,854
		721+23	-	759+72	LT	3,845
TOTAL						57,236

REMOVING GUARDRAIL

204.0165  
REMOVING  
GUARDRAIL

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	LF
1000	IH 43 (NB)	546+75	-	548+50	LT	369
		633+25	-	636+00	LT	520
		660+75	-	661+53	LT	83
		665+18	-	666+00	RT	83
		671+00	-	672+00	LT	83
		777+50	-	778+11	RT	71
1000	IH 43 (SB)	547+50	-	549+25	RT	370
		672+00	-	672+75	RT	83
		675+00	-	675+90	LT	83
1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)	780+75	-	781+50	RT	70
TOTAL						1,815

REMOVING ASPHALTIC BUTT JOINT

204.0115  
REMOVING ASPHALTIC  
SURFACE BUTT JOINTS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	SY	REMARKS		
1000	IH 43 (NB)	467+35	-	467+35	RT/LT	13	AT THE PROJECT BEGIN LINE		
		511+76	-	511+76	RT/LT	12	IH 43 & GUTHRIE DR INTERSECTION		
		514+41	-	514+41	RT/LT	12	IH 43 & GUTHRIE DR INTERSECTION		
		545+65	-	546+65	RT/LT	489	UNDER CROWBAR DR		
		548+15	-	549+15	RT/LT	489	UNDER CROWBAR DR		
		625+32	-	625+69	RT/LT	12	IH 43 NB OFF RAMP TO RACINE AVE		
		642+52	-	642+61	RT/LT	8	IH 43 NB ON RAMP FROM RACINE AVE		
		668+50	-	668+79	RT/LT	24	IH 43 NB & MARTIN RD INTERSECTION		
		669+98	-	670+52	RT/LT	24	IH 43 NB & MARTIN RD INTERSECTION		
		718+57	-	718+74	RT/LT	11	IH 43 NB & CALHOUN RD INTERSECTION		
		720+02	-	720+21	RT/LT	11	IH 43 NB & CALHOUN RD INTERSECTION		
		759+74	-	759+74	LT	5	AT THE PROJECT END LINE		
		1000	IH 43 (SB)	467+52	-	567+52	RT/LT	11	AT THE PROJECT BEGIN LINE
				512+42	-	512+42	RT/LT	12	IH 43 & GUTHRIE DT INTERSECTION
				515+08	-	515+08	RT/LT	12	IH 43 & GUTHRIE DT INTERSECTION
547+00	-			548+00	RT/LT	489	UNDER CROWBAR DR		
625+97	-			626+74	RT/LT	21	IH 43 SB ON RAMP FROM RACINE AVE		
647+36	-			647+41	RT/LT	6	IH 43 SB OFF RAMP TO RACINE AVE		
669+29	-			669+61	RT/LT	24	IH 43 SB & MARTIN RD INTERSECTION		
670+82	-			671+14	RT/LT	26	IH 43 SB & MARTIN RD INTERSECTION		
719+69	-			719+87	RT/LT	11	IH 43 SB & CALHOUN RD INTERSECTION		
721+13	-			721+33	RT/LT	11	IH 43 SB & CALHOUN RD INTERSECTION		
759+72	-			759+72	RT	5	AT THE PROJECT END LINE		
TOTAL						1,738			

REMOVING SIDEWALK

204.0155  
REMOVING CONCRETE  
SIDEWALK

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	SY
1010	MOORLAND PARK & RIDE (MOORLAND RD PARK & RIDE)	12+00	-	12+90	LT	124
TOTAL						124

REMOVING FENCE

204.0170  
REMOVING FENCE

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	LF
1000	IH 43 (SB)	657+20	-	658+22	LT	188
TOTAL						188



REMOVING CURB & GUTTER

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	204.0150
						REMOVING CURB & GUTTER LF
1000	RACINE AVE NRAB (NB)	202+02	-	202+17	RT	13
		201+02	-	202+19	LT	52
		203+34	-	203+71	LT	32
		204+30	-	204+70	LT	41
1000	RACINE AVE NRAB (SB)	401+54	-	402+14	RT	63
		402+54	-	402+64	RT	15
		404+46	-	404+68	RT	34
		402+95	-	403+04	LT	9
		404+19	-	404+53	LT	33
1000	RACINE AVE SRAB (NB)	195+52	-	196+00	RT	44
1000	RACINE AVE SRAB (SB)	395+34	-	395+92	RT	137
		397+92	-	397+96	RT	11
		397+97	-	38+00	RT	3
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	633+24	-	633+44	LT	24
		633+70	-	633+83	LT	13
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	633+31	-	633+39	LT	9
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	637+36	-	637+19	LT	53
1000 SUBTOTAL						584
1010	MOORALND PARK & RIDE (MOORLAND RD PARK & RIDE)	12+00	-	12+90	LT	221
1010 SUBTOTAL						221
TOTAL						805

REMOVING ENDWALL&CULVERT PIPES

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	204.0245.01	204.0245.02	204.9060.S.01	204.9060.S.02	204.9060.S.03	204.9060.S.04
						REMOVING STORM SEWER (36-INCH)	REMOVING STORM SEWER (18-INCH)	REMOVING APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	REMOVING APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	REMOVING APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	REMOVING APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH EACH
1000	IH 43 (NB)	490+00	-	490+00	RT	16				1	
		551+00	-	551+00	RT/LT						2
		580+00	-	580+00	RT		16	1			
		586+50	-	586+50	RT						1
		598+90	-	598+90	RT			1			
1000	IH 43 (SB)	743+80	-	743+80	LT				1		
TOTAL						16	16	2	1	1	3

REMOVING ASPHALTIC FLUMES

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	204.0110	REMARKS
						REMOVING ASPHALTIC SURFACE SY	
1000	IH 43 (NB)	514+36	-	514+89	LT	24	NEAR IH 43 & GUTHRIE DR INTERSECTION
1000	IH 43 (SB)	512+05	-	512+47	RT	17	NEAR IH 43 & GUTHRIE DR INTERSECTION
TOTAL						40	

REMOVING RIPRAP

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	204.9035.S.01
						REMOVING RIPRAP CY
1000	IH 43 (NB)	514+89	-	514+89	LT	4
1000	IH 43 (SB)	512+03	-	512+03	RT	3
TOTAL						7

REMOVING UNDERDRAIN

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	204.9090.S.01	REMARKS
						REMOVING UNDERDRAIN LF	
1000	IH 43 (NB)	664+52	-	664+52	RT	18	NEAR IH 43 & MARTIN RD INTERSECTION
TOTAL						18	

EXCAVATION & BORROW

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	205.0100	REMARKS
						* EXCAVATION COMMON CY	
1000	IH 43 (NB)	490+00	-	490+00	RT	14	36-INCH RCCP CULVERT PIPE EXCAVATION
		580+00	-	580+00	RT	8	18-INCH RCCP CULVERT PIPE EXCAVATION
TOTAL						22	

\* ADDITIONAL QUANTITIES ARE SHOWN ELSEWHERE

BASE AGGREGATE DENSE

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	305.0110		REMARKS		
						BASE AGGREGATE	DENSE 3/4-INCH			
						TON				
1000	IH 43 (NB)	467+35	-	511+76	RT	22		ALONG SHOULDERS		
		514+41	-	668+50	RT	73		ALONG SHOULDERS		
		669+98	-	718+57	RT	23		ALONG SHOULDERS		
		720+02	-	759+74	RT	20		ALONG SHOULDERS		
		759+74	-	778+11	RT	19		ALONG SHOULDERS		
		664+49	-	666+04	RT	16		ALONG THE BEAM GUARD RAIL		
		776+68	-	778+11	RT	30		ALONG THE BEAM GUARD RAIL		
		663+95	-	665+18	RT	5		BASE LAYER UNDER SHOULDER EXTENSION		
		776+15	-	777+21	RT	5		BASE LAYER UNDER SHOULDER EXTENSION		
		467+35	-	511+76	LT	22		ALONG SHOULDERS		
		514+43	-	668+78	LT	71		ALONG SHOULDERS		
		670+27	-	718+74	LT	23		ALONG SHOULDERS		
		720+21	-	759+74	LT	19		ALONG SHOULDERS		
		759+74	-	780+00	LT	24		ALONG SHOULDERS		
		511+06	-	511+99	LT	7		BASE LAYER UNDER ASPHALTIC FLUME AND ASPHALTIC CURB		
		514+32	-	515+62	LT	12		BASE LAYER UNDER CONCRETE DRAIN AND CONCRETE CURB & GUTTER		
		659+98	-	661+53	LT	17		ALONG THE BEAM GUARD RAIL		
		671+04	-	671+87	LT	3		ALONG THE BEAM GUARD RAIL		
		659+43	-	660+83	LT	9		BASE LAYER UNDER SHOULDER EXTENSION		
		1000	IH 43 (SB)	467+52	-	512+42	RT	22		ALONG SHOULDERS
515+08	-			669+29	RT	73		ALONG SHOULDERS		
670+82	-			719+69	RT	22		ALONG SHOULDERS		
721+13	-			759+69	RT	19		ALONG SHOULDERS		
759+72	-			759+72	RT	25		ALONG SHOULDERS		
671+93	-			673+48	RT	19		ALONG THE BEAM GUARD RAIL		
511+21	-			512+51	RT	118		BASE LAYER UNDER CONCRETE DRAIN AND CONCRETE CURB & GUTTER		
514+64	-			514+94	RT	1		BASE LAYER UNDER ASPHALTIC CURB		
515+10	-			515+88	RT	6		BASE LAYER UNDER ASPHALTIC FLUME AND ASPHALTIC CURB		
672+28	-			674+12	RT	7		BASE LAYER UNDER SHOULDER EXTENSION		
467+52	-			512+42	LT	22		ALONG SHOULDERS		
515+08	-			669+61	LT	76		ALONG SHOULDERS		
671+14	-			719+87	LT	21		ALONG SHOULDERS		
721+33	-			759+71	LT	19		ALONG SHOULDERS		
759+71	-			780+85	LT	25		ALONG SHOULDERS		
674+98	-			676+52	LT	17		ALONG THE BEAM GUARD RAIL		
675+64	-			677+11	LT	5		BASE LAYER UNDER SHOULDER EXTENSION		
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)			770+98	-	780+77	RT	26		ALONG SHOULDERS
				770+98	-	778+01	LT	9		ALONG SHOULDERS
1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)			769+52	-	781+50	RT	24		ALONG SHOULDERS
		780+33	-	781+50	RT	22		ALONG THE BEAM GUARD RAIL		
1000	IH 43 SB ON RAMP FROM MOORLAND RD (SR)	781+08	-	791+16	RT	27		ALONG SHOULDERS		
		781+08	-	790+76	LT	26		ALONG SHOULDERS		
1000 SUBTOTAL						1,054				
1010	MOORALND PARK & RIDE (MOORLAND RD PARK & RIDE)	10+40	-	11+60	RT/LT	2		ALONG ASPHALT EDGE		
		10+40	-	11+60	LT	1		ALONG CONCRETE EDGE		
1010 SUBTOTAL						3				
TOTAL						1,057				

BASE PATCHING

CATEGORY	ROADWAY (R/L)	STAGE	STATION	TO	STATION	LOCATION	390.0100	390.0405
							REMOVING PAVEMENT FOR BASE PATCHING CY	BASE PATCHING CONCRETE SHES CY
1000	IH 43 (NB)	1A (INSIDE)	467+35	-	511+76	RT/LT	483	483
			514+41	-	668+79	RT/LT	1,671	1,671
			669+98	-	718+74	RT/LT	527	527
			720+02	-	759+74	RT/LT	413	413
1000	IH 43 (SB)	1A (INSIDE)	467+52	-	512+42	RT/LT	502	502
			515+08	-	669+61	RT/LT	1,728	1,728
			670+82	-	719+87	RT/LT	551	551
			721+13	-	759+72	RT/LT	425	425
TOTAL STAGE 1A							6,300	6,300
1000	IH 43 (NB)	1B (OUTSIDE)	467+35	-	511+76	RT	579	579
			514+41	-	668+79	RT	2,124	2,124
			669+98	-	718+74	RT	545	545
			720+02	-	759+74	RT	455	455
1000	IH 43 (SB)	1B (OUTSIDE)	467+52	-	512+42	LT	513	513
			515+08	-	669+61	LT	1,996	1,996
			670+82	-	719+87	LT	513	513
			721+13	-	759+72	LT	418	418
TOTAL STAGE 1B							7,144	7,144
TOTAL							13,444	13,444

TIE & DOWEL BARS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	416.0610	416.0620	REMARKS
						DRILLED TIE BARS	DRILLED DOWEL BARS	
						EACH	EACH	
1000	IH 43 (NB)	467+35	-	759+74	RT	4,894	13,539	BASE PATCHING
1000	IH 43 (SB)	467+52	-	759+72	LT	4,786	13,242	BASE PATCHING
1000	IH 43 (NB)	770+12	-	770+28	RT	7	22	CONCRETE PAVEMENT REPLACEMENT
1000	IH 43 (SB)	770+67	-	770+83	RT	7	22	CONCRETE PAVEMENT REPLACEMENT
1000	IH 43 (SB)	760+10	-	760+27	LT	7	19	CONCRETE PAVEMENT REPLACEMENT
1000	RACINE AVE NRAB (NB)	202+02	-	202+17	RT	4	-	CURB & GUTTER REPLACEMENT
		201+02	-	202+19	LT	17	-	CURB & GUTTER REPLACEMENT
		203+34	-	203+71	LT	10	-	CURB & GUTTER REPLACEMENT
		204+30	-	204+70	LT	13	-	CURB & GUTTER REPLACEMENT
		204+29	-	204+30	RT	-	3	CONCRETE PAVEMENT REPAIR
1000	RACINE AVE NRAB (SB)	401+54	-	402+14	RT	20	-	CURB & GUTTER REPLACEMENT
		402+54	-	402+64	RT	4	-	CURB & GUTTER REPLACEMENT
		404+46	-	404+68	RT	11	-	CURB & GUTTER REPLACEMENT
		402+95	-	403+04	LT	2	-	CURB & GUTTER REPLACEMENT
		404+19	-	404+53	LT	10	-	CURB & GUTTER REPLACEMENT
		401+71	-	401+71	LT	-	12	CONCRETE PAVEMENT REPAIR
		401+86	-	401+86	RT	-	9	CONCRETE PAVEMENT REPAIR
		401+99	-	402+03	RT/LT	-	22	CONCRETE PAVEMENT REPAIR
		403+40	-	403+40	LT	-	13	CONCRETE PAVEMENT REPAIR
		403+62	-	403+63	LT	-	12	CONCRETE PAVEMENT REPAIR
		406+39	-	406+40	LT	-	10	CONCRETE PAVEMENT REPAIR
		406+54	-	406+54	LT	-	10	CONCRETE PAVEMENT REPAIR
		401+86	-	401+99	RT	6	-	CONCRETE PAVEMENT REPLACEMENT
		401+71	-	401+86	RT/LT	6	-	CONCRETE PAVEMENT REPLACEMENT
		401+71	-	402+03	LT	13	-	CONCRETE PAVEMENT REPLACEMENT
		403+40	-	403+63	RT/LT	10	-	CONCRETE PAVEMENT REPLACEMENT
		403+40	-	403+62	LT	9	-	CONCRETE PAVEMENT REPLACEMENT
		406+39	-	406+54	LT	6	-	CONCRETE PAVEMENT REPLACEMENT
		406+40	-	406+54	LT	5	-	CONCRETE PAVEMENT REPLACEMENT
1000	RACINE AVE SRAB (NB)	195+52	-	196+00	RT	14	-	CURB & GUTTER REPLACEMENT
		195+84	-	195+85	LT	-	9	CONCRETE PAVEMENT REPAIR
		196+00	-	196+08	LT	-	7	CONCRETE PAVEMENT REPAIR
		195+85	-	196+00	RT/LT	6	-	CONCRETE PAVEMENT REPLACEMENT
		195+84	-	196+08	LT	10	-	CONCRETE PAVEMENT REPLACEMENT
1000	RACINE AVE SRAB (SB)	395+34	-	395+92	RT	45	-	CURB & GUTTER REPLACEMENT
		397+92	-	397+96	RT	3	-	CURB & GUTTER REPLACEMENT
		397+97	-	38+00	RT	1	-	CURB & GUTTER REPLACEMENT
		396+47	-	396+50	LT	-	23	CONCRETE PAVEMENT REPAIR
		396+61	-	396+61	LT	-	22	CONCRETE PAVEMENT REPAIR
		398+59	-	398+60	RT/LT	-	19	CONCRETE PAVEMENT REPAIR
		398+75	-	398+75	RT/LT	-	20	CONCRETE PAVEMENT REPAIR
		398+84	-	398+84	LT	-	2	CONCRETE PAVEMENT REPAIR
		399+00	-	399+00	LT	-	8	CONCRETE PAVEMENT REPAIR
		396+47	-	396+61	RT	6	-	CONCRETE PAVEMENT REPLACEMENT
		396+50	-	396+61	LT	5	-	CONCRETE PAVEMENT REPLACEMENT
		398+60	-	398+75	RT	6	-	CONCRETE PAVEMENT REPLACEMENT
		398+60	-	398+75	LT	6	-	CONCRETE PAVEMENT REPLACEMENT
		398+84	-	399+00	LT	7	-	CONCRETE PAVEMENT REPLACEMENT
		398+84	-	399+00	LT	7	-	CONCRETE PAVEMENT REPLACEMENT

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TIE & DOWEL BARS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	416.0610	416.0620	REMARKS
						DRILLED TIE BARS	DRILLED DOWEL BARS	
						EACH	EACH	
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	633+24	-	633+44	LT	8	-	CURB & GUTTER REPLACEMENT
		633+70	-	633+83	LT	4	-	
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	633+31	-	633+39	LT	3	-	CURB & GUTTER REPLACEMENT
		629+31	-	629+31	RT	-	7	CONCRETE PAVEMENT REPAIR
		629+51	-	629+51	RT	-	8	CONCRETE PAVEMENT REPAIR
		629+90	-	629+90	LT	-	12	CONCRETE PAVEMENT REPAIR
		630+64	-	630+64	LT	-	11	CONCRETE PAVEMENT REPAIR
		630+80	-	630+80	LT	-	11	CONCRETE PAVEMENT REPAIR
		631+24	-	631+24	LT	-	11	CONCRETE PAVEMENT REPAIR
		632+95	-	632+97	LT	-	14	CONCRETE PAVEMENT REPAIR
		633+45	-	633+52	LT	-	24	CONCRETE PAVEMENT REPAIR
		629+31	-	629+51	RT/LT	8	-	CONCRETE PAVEMENT REPLACEMENT
		629+90	-	630+64	RT/LT	30	-	CONCRETE PAVEMENT REPLACEMENT
		629+90	-	630+64	LT	30	-	CONCRETE PAVEMENT REPLACEMENT
		630+80	-	631+24	RT/LT	18	-	CONCRETE PAVEMENT REPLACEMENT
		630+80	-	631+24	LT	18	-	CONCRETE PAVEMENT REPLACEMENT
		632+95	-	633+45	LT	20	-	CONCRETE PAVEMENT REPLACEMENT
		632+97	-	633+52	LT	22	-	CONCRETE PAVEMENT REPLACEMENT
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	637+36	-	637+19	LT	17	-	CURB & GUTTER REPLACEMENT
		638+25	-	638+26	LT	-	7	CONCRETE PAVEMENT REPAIR
		640+47	-	640+48	RT	-	6	CONCRETE PAVEMENT REPAIR
		640+63	-	640+64	RT	-	5	CONCRETE PAVEMENT REPAIR
		641+10	-	641+10	RT	-	12	CONCRETE PAVEMENT REPAIR
		641+22	-	641+23	RT	-	12	CONCRETE PAVEMENT REPAIR
		640+47	-	640+64	RT	7	-	CONCRETE PAVEMENT REPLACEMENT
					1000 SUBTOTAL	10,148	27,185	
1010	MOORALND PARK & RIDE (MOORLAND RD PARK & RIDE)	10+32	-	10+88	LT	46	-	CONCRETE PAVEMENT REPLACEMENT
		11+08	-	11+63	LT	44	-	CONCRETE PAVEMENT REPLACEMENT
		11+79	-	12+03	LT	20	-	CONCRETE PAVEMENT REPLACEMENT
		12+00	-	12+90	LT	92	-	CONCRETE PAVEMENT REPLACEMENT
		10+32	-	10+32	LT	-	10	CONCRETE PAVEMENT REPAIR
		10+88	-	10+88	LT	-	8	CONCRETE PAVEMENT REPAIR
		11+08	-	11+08	LT	-	8	CONCRETE PAVEMENT REPAIR
		11+58	-	11+58	LT	-	4	CONCRETE PAVEMENT REPAIR
		11+63	-	11+63	LT	-	7	CONCRETE PAVEMENT REPAIR
		11+73	-	11+73	LT	-	7	CONCRETE PAVEMENT REPAIR
		11+59	-	11+59	LT	-	5	CONCRETE PAVEMENT REPAIR
		11+65	-	11+65	LT	-	5	CONCRETE PAVEMENT REPAIR
		11+79	-	11+79	LT	-	26	CONCRETE PAVEMENT REPAIR
		12+03	-	12+03	LT	-	41	CONCRETE PAVEMENT REPAIR
					1010 SUBTOTAL	202	121	
					TOTAL	10,350	27,306	

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CONCRETE PAVEMENT REPAIRS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	416.0752.S	416.1710	416.1720	416.1725
						CONCRETE PAVEMENT PARTIAL DEPTH REPAIR CRACK REPAIR	CONCRETE PAVEMENT REPAIR	CONCRETE PAVEMENT REPLACEMENT	CONCRETE PAVEMENT REPLACEMENT SHES
						LF	SY	SY	SY
1000	IH 43 (NB)	770+12	-	770+28	RT	-	-	-	25
		770+67	-	770+83	RT	-	-	-	25
1000	IH 43 (SB)	760+10	-	760+27	LT	-	-	-	22
		776+42	-	776+42	LT	-	4	-	-
		778+37	-	778+37	LT	-	4	-	-
1000	RACINE AVE NRAB (NB)	204+29	-	204+40	RT	-	2	-	-
1000	RACINE AVE NRAB (SB)	401+71	-	402+03	RT/LT	-	-	-	69
		403+40	-	403+63	LT	-	-	-	44
		406+39	-	406+54	LT	-	22	-	-
1000	RACINE AVE SRAB (NB)	195+84	-	196+08	LT	-	-	-	23
1000	RACINE AVE SRAB (SB)	396+47	-	396+61	RT/LT	-	-	-	45
		398+59	-	398+75	RT/LT	-	-	-	44
		398+84	-	399+00	LT	-	-	-	11
		UNDISRIBUTED OF THE NORTH & SOUTH RAB				-	137	-	137
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	629+31	-	629+51	RT	-	-	-	20
		629+90	-	630+64	LT	-	-	-	124
		630+80	-	631+24	LT	-	-	-	76
		632+95	-	633+57	LT	-	-	-	122
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	638+13	-	638+26	LT	-	15	-	-
		640+47	-	640+64	RT	-	-	-	12
		641+10	-	641+23	RT	-	21	-	-
		1000 SUBTOTAL				0	205	0	801
1010	MOORALND PARK & RIDE (MOORLAND RD PARK & RIDE)	10+32	-	10+88	LT	-	-	-	63
		10+54	-	10+98	LT	62	-	-	-
		11+08	-	11+44	LT	-	-	-	39
		11+44	-	11+63	LT	-	-	18	-
		11+59	-	11+65	LT	-	4	-	-
		11+63	-	11+73	LT	-	10	-	-
		11+70	-	12+04	LT	-	-	123	-
		1010 SUBTOTAL				62	14	141	102
		TOTAL				62	219	141	903

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ASPHALTIC ITEMS

CATEGORY	ROADWAY (R/L)	STAGE	STATION	TO	STATION	LOCATION	455.0605	460.5224	460.6224	460.7224	460.8424	REMARKS
							TACK COAT GAL	HMA PAVEMENT 4 LT 58-28 S TON	HMA PAVEMENT 4 MT 58-28 S TON	HMA PAVEMENT 4 HT 58-28 S TON	HMA PAVEMENT 4 SMA 58-28 H TON	
1000	IH 43 (NB)	2A (OUTSIDE - LOWER LAYER)	467+35	-	511+76	RT	487	-	-	923	-	
			514+41	-	668+79	RT	1,784	-	-	3,384	-	
			669+98	-	718+74	RT	458	-	-	869	-	
			720+02	-	759+74	RT	382	-	-	725	-	
1000	IH 43 (SB)	2A (OUTSIDE - LOWER LAYER)	467+52	-	512+42	LT	431	-	-	817	-	
			515+08	-	669+61	LT	1,677	-	-	3,180	-	
			670+82	-	719+87	LT	431	-	-	818	-	
			721+13	-	759+72	LT	351	-	-	666	-	
1000	IH 43 & MOORLAND RD INTERCHANGE IH 43 (NB)	2A (OUTSIDE - LOWER LAYER)	759+74	-	780+00	RT	176	-	259	-	-	
			776+15	-	777+21	RT	-	-	3	-	-	SHOULDER EXTENSION AT PROPOSED EAT
1000	IH 43 & MOORLAND RD INTERCHANGE IH 43 (SB)	2A (OUTSIDE - LOWER LAYER)	759+72	-	780+93	LT	171	-	253	-	-	
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	2A (OUTSIDE - LOWER LAYER)	770+98	-	778+01	LT	19	-	27	-	-	
			770+98	-	780+77	RT	43	-	63	-	-	
1000	IH 43 SB ON RAMP FROM MOORLAND RD (SR)	2A (OUTSIDE - LOWER LAYER)	781+08	-	791+16	RT	48	-	71	-	-	
			781+08	-	790+76	LT	45	-	66	-	-	
STAGE 2A TOTAL							6,503	0	743	11,381	0	
1000	IH 43 (NB)	2B (INSIDE - LOWER LAYER)	467+35	-	511+76	RT/LT	405	-	-	769	-	
			514+41	-	668+79	RT/LT	1,404	-	-	2,662	-	
			669+98	-	718+74	RT/LT	443	-	-	839	-	
			720+02	-	759+74	RT/LT	347	-	-	658	-	
1000	IH 43 (SB)	2B (INSIDE - LOWER LAYER)	467+52	-	512+42	RT/LT	422	-	-	800	-	
			515+08	-	669+61	RT/LT	1,452	-	-	2,753	-	
			670+82	-	719+87	RT/LT	462	-	-	877	-	
			721+13	-	759+72	RT/LT	357	-	-	677	-	
1000	IH 43 & MOORLAND RD INTERCHANGE IH 43 (NB)	2B (INSIDE - LOWER LAYER)	759+74	-	780+00	LT	1,732	-	284	-	-	
1000	IH 43 & MOORLAND RD INTERCHANGE IH 43 (SB)	2B (INSIDE - LOWER LAYER)	759+72	-	780+93	RT	1,844	-	302	-	-	
STAGE 2B TOTAL							8,867	0	586	10,034	0	
1000	IH 43 (NB)	3A (INSIDE - UPPER LAYER)	467+35	-	511+76	RT/LT	290	-	627	-	598	
			514+41	-	668+79	RT/LT	1,003	-	1,921	-	2,070	
			669+98	-	718+74	RT/LT	316	-	662	-	653	
			720+02	-	759+74	RT/LT	248	-	482	-	511	
			659+43	-	660+83	LT	3	-	6	-	-	
			467+35	-	759+74	RT	-	-	-	-	288	SHOULDER EXTENSION AT PROPOSED EAT COUNT FOR WDGE
			467+52	-	512+42	RT/LT	301	-	588	-	622	
1000	IH 43 (SB)	3A (INSIDE - UPPER LAYER)	515+08	-	669+61	RT/LT	1,037	-	1,999	-	2,141	
			670+82	-	719+87	RT/LT	330	-	725	-	682	
			721+13	-	759+72	RT/LT	255	-	463	-	526	
			672+28	-	674+12	RT	3	-	7	-	-	
			467+52	-	759+72	LT	-	-	-	-	288	SHOULDER EXTENSION AT PROPOSED EAT COUNT FOR WDGE
			759+74	-	780+00	LT	1,237	-	284	-	-	
			759+72	-	780+93	RT	1,317	-	302	-	-	
STAGE 3A TOTAL							6,339	0	8,067	0	8,380	

ASPHALTIC ITEMS

CATEGORY	ROADWAY (R/L)	STAGE	STATION	TO	STATION	LOCATION	455.0605	460.5224	460.6224	460.7224	460.8424	REMARKS
							TACK COAT GAL	HMA PAVEMENT 4 LT 58-28 S TON	HMA PAVEMENT 4 MT 58-28 S TON	HMA PAVEMENT 4 HT 58-28 S TON	HMA PAVEMENT 4 SMA 58-28 H TON	
1000	IH 43 (NB)	3B (OUTSIDE - UPPER LAYER)	467+35	-	511+76	RT	348	-	538	-	718	SHOULDER EXTENSION AT PROPOSED EAT
			514+41	-	668+79	RT	1,274	-	2,291	-	2,632	
			669+98	-	718+74	RT	327	-	620	-	676	
			720+02	-	759+74	RT	273	-	520	-	564	
			663+95	-	665+18	RT	2	-	5	-	-	
1000	IH 43 (SB)	3B (OUTSIDE - UPPER LAYER)	467+52	-	512+42	LT	308	-	556	-	636	SHOULDER EXTENSION AT PROPOSED EAT
			515+08	-	669+61	LT	1,198	-	1,935	-	2,473	
			670+82	-	719+87	LT	308	-	631	-	636	
			721+13	-	759+72	LT	251	-	493	-	518	
			675+64	-	677+11	LT	3	-	5	-	-	
1000	IH 43 & MOORLAND RD INTERCHANGE IH 43 (NB)	3B (OUTSIDE - UPPER LAYER)	759+74	-	780+00	RT	125	-	259	-	-	SHOULDER EXTENSION AT PROPOSED EAT
			776+15	-	777+21	RT	2	-	3	-	-	
1000	IH 43 & MOORLAND RD INTERCHANGE IH 43 (SB)	3B (OUTSIDE - UPPER LAYER)	759+72	-	780+93	LT	122	-	253	-	-	
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	3B (OUTSIDE - UPPER LAYER)	770+98	-	778+01	LT	13	-	27	-	-	
			770+98	-	780+77	RT	31	-	63	-	-	
1000	IH 43 SB ON RAMP FROM MOORLAND RD (SR)	3B (OUTSIDE - UPPER LAYER)	781+08	-	791+16	RT	34	-	71	-	-	
			781+08	-	790+76	LT	32	-	66	-	-	
STAGE 3B TOTAL							4,651	0	8,335	0	8,852	
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	RACINE AVE CLOSURE STAGE (LOWER LAYER)	626+50	-	629+67	RT	17.50	-	26	-	-	
		RACINE AVE CLOSURE STAGE (UPPER LAYER)	626+84	-	629+86	LT	13.61	-	20	-	-	
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	RACINE AVE CLOSURE STAGE (LOWER LAYER)	626+50	-	629+67	RT	12.50	-	26	-	-	
		RACINE AVE CLOSURE STAGE (UPPER LAYER)	626+84	-	629+86	LT	9.72	-	20	-	-	
		RACINE AVE CLOSURE STAGE (LOWER LAYER)	634+46	-	643+02	RT	37.10	-	55	-	-	
		RACINE AVE CLOSURE STAGE (UPPER LAYER)	635+08	-	643+01	LT	34.19	-	50	-	-	
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	RACINE AVE CLOSURE STAGE (UPPER LAYER)	634+46	-	643+02	RT	26.50	-	55	-	-	
		RACINE AVE CLOSURE STAGE (LOWER LAYER)	635+08	-	643+01	LT	24.42	-	50	-	-	
		RACINE AVE CLOSURE STAGE (UPPER LAYER)	640+04	-	647+50	RT	32.39	-	48	-	-	
		RACINE AVE CLOSURE STAGE (LOWER LAYER)	640+77	-	647+51	LT	32.79	-	48	-	-	
1000	IH 43 SB ON RAMP FROM RACINE AVE (RAMP)	RACINE AVE CLOSURE STAGE (UPPER LAYER)	640+04	-	647+50	RT	23.14	-	48	-	-	
		RACINE AVE CLOSURE STAGE (LOWER LAYER)	640+77	-	647+51	LT	23.42	-	48	-	-	
		RACINE AVE CLOSURE STAGE (UPPER LAYER)	627+74	-	635+86	RT	34.93	-	52	-	-	
		RACINE AVE CLOSURE STAGE (LOWER LAYER)	727+00	-	635+76	LT	38.53	-	57	-	-	
STAGE TOTAL							413	0	711	0	0	
1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)	5 (LOOP RAMP) LOWER LAYER	769+52	-	781+50	RT	51	-	75	-	-	
		UPPER LAYER					36	-	75	-	-	
STAGE 5 TOTAL							87	0	150	0	0	
1000 SUBTOTAL							26,860	0	18,591	21,415	17,232	
1010	MOORLAND PARK & RIDE (MOORLAND RD PARK & RIDE)	STAGE 3	11+60	-	12+95	RT/LT	197	416	-	-	-	
		STAGE 4	10+40	-	11+60	RT	172	363	-	-	-	
		STAGE 5	10+40	-	11+60	RT/LT	92	194	-	-	-	
			10+40	-	11+60	RT/LT	-	5	-	-	-	EXTRA AMOUNT TO COUNT FOR LEVELING THE SURFACE AFTER MILLING
1010 SUBTOTAL							462	978	0	0	0	
TOTAL							27,322	978	18,591	21,415	17,232	

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PWL ITEMS

CATEGORY	PROJECT	MIX TYPE	STATION	TO	STATION	LOCATION	460.0105.S	460.0110.S	
							HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS EACH	HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY EACH	
1000	1090-09-76	4 HT 58-28 S 4 MT 58-28 S	PROJECT BEGIN	-	PROJECT END	RT/LT	1	1	
							TOTAL	1	1

MATERIAL VEHICLE

CATEGORY	PROJECT	460.9000.S
		MATERIAL TRANSFER VEHICLE EACH
1000	1090-09-76	1
TOTAL		1

SMA ITEMS

CATEGORY	PROJECT	MIX TYPE	STATION	TO	STATION	LOCATION	460.0115.S	460.0120.S	
							HMA PAVEMENT TEST STRIP VOLUMETRICS EACH	HMA PAVEMENT TEST STRIP DENSITY EACH	
1000	1090-09-76	4 SMA 58-28 H	PROJECT BEGIN	-	PROJECT END	RT/LT	1	1	
							TOTAL	1	1

ASPHALTIC & CONCRETE FLUMES

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	465.0105	465.0310	465.0315	602.3010	606.0200	645.0120	SPV.0060.05	REMARKS	
						ASPHALTIC SURFACE TON	ASPHALTIC CURB LF	ASPHALTIC FLUMES SY	CONCRETE SURFACE DRAINS CY	* RIPRAP MEDIUM CY	* GEOTEXTILE TYPE HR SY	MOBILIZATIONS EMERGENCY PAVEMENT REPAIR EACH		
1000	IH 43 (NB)	511+06	-	511+38	LT	0	0	17	0	4	16		IH 43 & GUTHRIE DR INTERSECTION	
		511+38	-	511+99	LT	2	61	0	0	0	0		IH 43 & GUTHRIE DR INTERSECTION	
		515+12	-	515+62	LT	0	0	0	5	4	16		IH 43 & GUTHRIE DR INTERSECTION	
		659+43	-	660+83	LT	6	-	-	-	-	-	-		SHOULDER EXTENSION AT PROPOSED EAT
		663+95	-	665+18	RT	5	-	-	-	-	-	-		SHOULDER EXTENSION AT PROPOSED EAT
1000	IH 43 (SB)	511+21	-	511+61		0	0	0	4	4	16		IH 43 & GUTHRIE DR INTERSECTION	
		514+67	-	514+94	RT	1	27	0	0	0	0		IH 43 & GUTHRIE DR INTERSECTION	
		515+10	-	515+59	RT	2	49	0	0	0	0		IH 43 & GUTHRIE DR INTERSECTION	
		515+59	-	515+88	RT	0	0	16	0	4	16		IH 43 & GUTHRIE DR INTERSECTION	
		672+28	-	674+12	RT	7	-	-	-	-	-	-		SHOULDER EXTENSION AT PROPOSED EAT
		675+64	-	677+11	LT	5	-	-	-	-	-	-		SHOULDER EXTENSION AT PROPOSED EAT
						TOTAL	128	137	33	9	18	64	2	UNDISTRIBUTED QUANTITY FOR MOBILIZATIONS EMERGENCY PAVEMENT REPAIR FOR STAGES 2A AND 2B

\* ADDITIONAL QUANTITIES ARE SHOWN ELSEWHERE



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JOINT REPAIR

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	465.0110	SPV.0195.01	SPV.0195.02	REMARKS
						ASPHALTIC SURFACE PATCHING TON	HMA LONGITUDINAL JOINT REPAIR TON	HMA TRANSVERSE JOINT REPAIR TON	
1000	IH 43 (NB)	467+35	-	511+76	RT	-	197	31	ALONG IH 43 NB OUTSIDE SHOULDER
		514+41	-	668+41	RT	-	681	109	
		670+38	-	718+66	RT	-	214	34	
		720+11	-	759+74	RT	-	176	28	
		467+35	-	759+74	RT	227			
1000	IH 43 (SB)	467+52	-	512+42	LT	-	199	32	ALONG IH 43 SB OUTSIDE SHOULDER
		515+08	-	669+21	LT	-	682	109	
		671+25	-	719+78	LT	-	215	34	
		721+23	-	759+72	LT	-	170	27	
		467+52	-	759+72	LT	207			
TOTAL						433	2,533	405	

RUMBLE STRIPS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	465.0510
						ASPHALTIC RUMBLE STRIPS, SHOULDER DIVIDED ROADWAY LF
1000	IH 43 (NB)	468+96	-	511+77	RT	4,281
		514+41	-	616+87	RT	10,246
		625+77	-	642+70	RT	1,693
		645+97	-	668+34	RT	2,237
		670+40	-	718+59	RT	4,819
		720+09	-	762+08	RT	4,199
		467+35	-	511+76	LT	4,441
		514+41	-	668+35	LT	15,394
		670+39	-	718+35	LT	4,796
		720+19	-	780+00	LT	5,981
1000	IH 43 (SB)	467+57	-	512+42	RT	4,485
		515+08	-	669+20	RT	15,412
		671+25	-	719+70	RT	4,845
		721+22	-	780+93	RT	5,971
		471+91	-	512+42	LT	4,051
		515+09	-	624+01	LT	10,892
		626+76	-	647+44	LT	2,068
		657+00	-	669+19	LT	1,219
		671+27	-	719+80	LT	4,853
		721+29	-	774+77	LT	5,348
TOTAL						117,231

CULVERT PIPES MARKERS

CATEGORY	CULVERT/INLET NUMBER	ROADWAY (R/L)	STATION	LOCATION	520.8700	633.5200	REMARKS
					CLEANING CULVERT PIPES EACH	MARKERS CULVERT END EACH	
							REFER TO EROSION CONTROL PLANS TO SEE LOCATIONS
1000	EW1	IH 43 (NB)	478+90	RT	1	1	
	EW2	IH 43 (NB)	487+00	RT	1	1	
	EW3	IH 43 (NB)	490+00	RT	1	1	
	EW4	IH 43 (NB)	522+00	RT	1	1	
	EW5	IH 43 (NB)	531+10	RT	1	1	
	EW6	IH 43 (NB)	536+85	RT	1	1	
	EW7	IH 43 (NB)	551+00	RT	1	1	
	EW8	IH 43 (NB)	562+85	RT	1	1	
	EW9	IH 43 (NB)	579+90	RT	1	1	
	EW10	IH 43 (NB)	586+50	RT	1	1	
	EW11	IH 43 (NB)	598+85	RT	1	1	
	EW12	IH 43 (NB)	608+00	RT	1	1	
	EW13	IH 43 (NB)	632+50	RT	1	1	
	EW14	IH 43 (NB)	646+50	RT	1	1	
	EW15	IH 43 (NB)	655+50	RT	1	1	
	EW16	IH 43 (NB)	681+50	RT	1	1	
	EW17	IH 43 (NB)	689+50	RT	1	1	
	EW18	IH 43 (NB)	729+60	RT	1	1	
	EW19	IH 43 (NB)	744+00	RT	1	1	
	EW20	IH 43 (NB)	755+00	RT	1	1	
	EW22	IH 43 (NB)	536+85	LT	-	1	
	EW23	IH 43 (NB)	551+00	LT	-	1	
	EW25	IH 43 (NB)	562+75	LT	-	1	
	EW27	IH 43 (NB)	657+80	LT	1	1	
	EW28	IH 43 (NB)	658+20	LT	-	1	
	EW29	IH 43 (NB)	661+50	LT	1	1	
	EW30	IH 43 (NB)	681+50	LT	-	1	
	EW31	IH 43 (NB)	689+50	LT	-	1	
	EW33	IH 43 (NB)	757+50	LT	1	1	
1000	EW21	IH 43 (SB)	534+00	RT	1	1	
	EW24	IH 43 (SB)	550+80	RT	1	1	
	EW26	IH 43 (SB)	565+00	RT	1	1	
	EW32	IH 43 (SB)	698+90	RT	1	1	
	EW31	IH 43 (SB)	709+90	RT	1	1	
	EW34	IH 43 (SB)	467+00	LT	1	1	
	EW35	IH 43 (SB)	490+00	LT	-	1	
	EW36	IH 43 (SB)	501+90	LT	1	1	
	EW37	IH 43 (SB)	522+00	LT	-	1	
	EW38	IH 43 (SB)	531+00	LT	-	1	
	EW39	IH 43 (SB)	534+00	LT	-	1	
	EW40	IH 43 (SB)	550+75	LT	-	1	
	EW41	IH 43 (SB)	564+95	LT	-	1	
	EW42	IH 43 (SB)	587+00	LT	-	1	
	EW43	IH 43 (SB)	609+00	LT	1	1	
	EW44	IH 43 (SB)	612+00	LT	-	1	
	EW45	IH 43 (SB)	614+00	LT	1	1	
	EW46	IH 43 (SB)	623+90	LT	1	1	
	EW47	IH 43 (SB)	633+00	LT	-	1	
	EW49	IH 43 (SB)	698+85	LT	-	1	
	EW50	IH 43 (SB)	709+90	LT	-	1	

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CULVERT PIPES MARKERS

CATEGORY	CULVERT/INLET NUMBER	ROADWAY (R/L)	STATION	LOCATION	520.8700	633.5200	REMARKS
					CLEANING CULVERT PIPES EACH	MARKERS CULVERT END EACH	
	EW51	IH 43 (SB)	716+80	LT	1	1	REFER TO EROSION CONTROL PLANS TO SEE LOCATIONS
	EW52	IH 43 (SB)	722+00	LT	1	1	
	EW53	IH 43 (SB)	729+50	LT	-	1	
	EW54	IH 43 (SB)	734+80	LT	1	1	
	EW55	IH 43 (SB)	743+80	LT	-	1	
	EW56	IH 43 (SB)	756+80	LT	1	1	
	EW57	IH 43 (SB)	766+30	LT	1	1	
	EW58	IH 43 (SB)	776+60	LT	1	1	
1000	EW70	RACINE AVE (NB)	194+50	RT	1	1	
	EW71	RACINE AVE (NB)	197+30	RT	1	1	
	EW72	RACINE AVE (NB)	198+70	RT	1	1	
	EW73	RACINE AVE (NB)	201+80	RT	1	1	
	EW74	RACINE AVE (NB)	203+00	RT	1	1	
	EW79	RACINE AVE (SB)	397+00	LT	1	1	
	EW78	RACINE AVE (SB)	399+00	LT	1	1	
	EW77	RACINE AVE (SB)	401+70	LT	1	1	
	EW76	RACINE AVE (SB)	403+00	LT	1	1	
	EW75	RACINE AVE (SB)	404+50	LT	1	1	
1000	EW59	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	631+70	RT	1	1	
	EW60	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	633+10	RT	1	1	
1000	EW61	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	634+40	LT	1	1	
	EW62	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	642+00	RT	1	1	
1000	EW64	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	638+50	RT	1	1	
	EW63	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	646+30	LT	1	1	
1000	EW64	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	778+05	RT	1	1	
1000	EW66	IH 43 NB ON RAMP FROM MOORLAND RD,	770+50	RT	1	1	
	EW65	LOOP RAMP (LR)	770+50	LT	-	1	
	EW67	IH 43 NB ON RAMP FROM MOORLAND RD,	777+50	RT	1	1	
	EW68	LOOP RAMP (LR)	777+50	LT	-	1	
	EW69	IH 43 NB ON RAMP FROM MOORLAND RD,	780+50	RT	1	1	
				UNDISTRIBUTED	15	20	
				TOTAL	74	100	

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CULVERT PIPES

CATEGORY	ROADWAY (R/L)	STATION	LOCATION	522.0118	522.0136	522.1018	522.1030	522.1036	522.1042	606.0200	606.0300	645.0120
				CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH	CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH EACH	* RIPRAP MEDIUM	RIPRAP HEAVY	* GEOTEXTILE TYPE HR
				LF	LF	EACH	EACH	EACH	EACH	CY	CY	SY
1000	IH 43 (NB)	490+00	RT	-	16	-	-	1	-	-	14	42
		551+00	RT/LT	-	-	-	-	-	2	-	31	94
		580+00	RT	16	-	1	-	-	-	6	-	17
		586+50	RT	-	-	-	-	-	1	-	16	47
		598+90	RT	-	-	1	-	-	-	6	-	17
1000	IH 43 (SB)	743+80	LT	-	-	-	1	-	-	-	32	
TOTAL				16	16	2	1	1	3	22	61	249

\* ADDITIONAL QUANTITIES ARE SHOWN ELSEWHERE

CONCRETE CURB & GUTTER

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	601.0409	601.0411	601.0553	601.0580
						CONCRETE CURB & GUTTER 30-INCH TYPE A	CONCRETE CURB & GUTTER 30-INCH TYPE D	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R
						LF	LF	LF	LF
1000	IH 43 (NB)	514+36	-	515+12	LT	0	0	76	0
1000	IH 43 (SB)	511+61	-	512+47	RT	0	0	86	0
1000	RACINE AVE NRAB (NB)	202+02	-	202+17	RT	13	0	0	0
		201+02	-	202+19	LT	52	0	0	0
		203+34	-	203+71	LT	0	0	0	32
		204+30	-	204+70	LT	41	0	0	0
1000	RACINE AVE NRAB (SB)	401+54	-	402+14	RT	63	0	0	0
		402+54	-	402+64	RT	15	0	0	0
		404+46	-	404+68	RT	34	0	0	0
		402+95	-	403+04	LT	9	0	0	0
		404+19	-	404+53	LT	33	0	0	0
1000	RACINE AVE SRAB (NB)	195+52	-	196+00	RT	44	0	0	0
1000	RACINE AVE SRAB (SB)	395+34	-	395+92	RT	137	0	0	0
		397+92	-	397+96	RT	11	0	0	0
		397+97	-	38+00	RT	3	0	0	0
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	633+24	-	633+44	LT	24	0	0	0
		633+70	-	633+83	LT	13	0	0	0
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	633+31	-	633+39	LT	9	0	0	0
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	637+36	-	637+19	LT	53	0	0	0
1000 SUBTOTAL						552	0	162	32
1010	MOORALND PARK & RIDE (MOORLAND RD PARK & RIDE)	12+00	-	12+90	LT	113	109	0	0
1010 SUBTOTAL						113	109	0	0
TOTAL						665	109	162	32

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RESEAL SLOPE PAVING

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	604.9015.S RESEAL CRUSHED AGGREGATE SLOPE PAVING SY	REMARKS
2000	IH 43 (NB)	546+00	-	548+00	RT	189	B-67-114
TOTAL						189	

CONCRETE SIDEWALK

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF
1010	MOORALND PARK & RIDE (MOORLAND RD PARK & RIDE)	12+00	-	12+90	LT	1,119	20
TOTAL						1,119	20

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PIPE UNDERDRAIN

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	606.0100 RIPRAP LIGHT CY	612.0204 PIPE UNDERDRAIN UNPERFORATED 4- INCH LF	612.0804 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 4-INCH EACH	645.0130 GEOTEXTILE TYPE R SY	REMARKS
1000	IH 43 (NB)	664+52	-	664+52	RT	3	20	1	13	NEAR IH 43 & MARTIN RD INTERSECTION
TOTAL						3	20	1	13	

ADJUSTING INLET COVER

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	611.8115 ADJUSTING INLET COVERS EACH	REMARKS
1000	RACINE AVE (SB)	402+95	-	403+04	LT	1	LOCATED ON THE SB OF THE NORTHERN ROUNDABOUT
TOTAL						1	



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GUARDRAIL

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	614.0220	614.0230	614.0396	614.2300	614.2500	614.2610	614.2620	REMARKS
						STEEL THRIE BEAM BULLNOSE TERMINAL EACH	STEEL THRIE BEAM LF	GUARDRAIL MOW STRIP ASPHALT SY	MGS GUARDRAIL 3 LF	MGS THRIE BEAM TRANSITION LF	MGS GUARDRAIL TERMINAL EAT EACH	MGS GUARDRAIL TERMINAL TYPE 2 EACH	
1000	IH 43 (NB)	509+53	-	512+15	LT	-	-	102	-	-	-	-	APPLY GUARDRAIL MOW STRIP EMULSIFIED ASPHALT ALONG EXISTING GUARDRAIL
		546+80	-	548+50	LT	2	123	-	-	-	-	-	
		633+50	-	635+80	LT	2	245	-	-	-	-	-	
		659+98	-	661+53	LT	-	-	70	63	39	1	-	
		664+49	-	666+04	RT	-	-	70	63	39	1	-	
		671+04	-	671+87	LT	-	-	42	75	8	-	1	
		776+68	-	778+11	RT	-	-	65	50	39	1	-	
1000	IH 43 (SB)	514+67	-	517+29	RT	-	-	102	-	-	-	-	APPLY GUARDRAIL MOW STRIP EMULSIFIED ASPHALT ALONG EXISTING GUARDRAIL
		547+50	-	549+30	RT	2	123	-	-	-	-	-	
		671+93	-	673+48	RT	-	-	70	63	39	1	-	
		674+98	-	676+52	LT	-	-	70	63	39	1	-	
1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)	780+33	-	781+50	RT	-	-	10	25	39	1	-	
TOTAL						6	491	601	400	245	6	1	

GUARDRAIL REPAIRS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	614.0950	614.0951	614.0953	REMARKS
						REPLACING GUARDRAIL POSTS AND BLOCKS EACH	REPLACING GUARDRAIL RAIL AND HARDWARE LF	REPLACING EAT REFLECTIVE PANEL EACH	
1000	IH 43 (NB)	510+25	-	511+76	RT	-	-	1	IH 43 NB OUTSIDE AT GUTHRIE DR
		654+20	-	657+50	RT	1	-	-	
		716+00	-	718+60	RT	2	-	-	
1000	IH 43 (SB)	716+20	-	718+70	LT	11	38	1	IH 43 NB INSIDE AT CALHOUN RD IH 43 SB OUTSIDE AT GUTHRIE DR IH 43 SB INSIDE AT CALHOUN RD IH 43 SB OUTSIDE AT CALHOUN RD
		515+08	-	516+50	LT	5	-	1	
		721+13	-	723+50	RT	1	-	-	
		721+33	-	723+00	LT	6	-	-	
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	777+30	-	778+01	LT	2	-	-	
1000	IH 43 SB ON RAMP FROM MOORLAND RD (SR)	787+00	-	789+00	RT	3	-	-	
UNDISTRIBUTED						8	9	1	
TOTAL						39	47	4	

FENCE WOVEN WIRE

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	616.0100.01 FENCE WOVEN WIRE 6-FEET LF
1000	IH 43 (SB)	657+20	-	658+22	LT	188
TOTAL						188

MOBILIZATION

CATEGORY	PROJECT	619.1000 MOBILIZATION EACH
1000	1090-09-76	1
TOTAL		1

RESTORATION ITEMS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0400 SEEDING NURSE CROP LB	630.0500 SEED WATER MGAL	SPV.0085.01 NATIVE POLLINATOR SEEDING MIXTURE NO.90A LB
1000	IH 43 (NB)	467+35	-	780+00	RT	20,218	12	306	-	64	453	20
		467+35	-	780+00	LT	5,141	3	47	-	24	115	7
1000	IH 43 (SB)	467+52	-	780+93	RT	3,292	2	3	-	23	74	7
		467+52	-	780+93	LT	915	0.3	25	-	-	20	-
1000	COMBINATION IH 43 (NB) IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	547+49	-	617+72								
		618+89	-	632+40	RT	10,131	6	-	-	73	227	22
1000	COMBINATION IH 43 (NB) IH 43 NB OFF RAMP TO MOORLAND RD (NR)	759+60	-	763+00								
		763+00	-	781+31	RT	1,510	-	41	-	-	34	-
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	632+85	-	656+49	RT	2,710	2	73	-	-	61	-
1000	IH 43 NB ON RAMP FROM MOORLAND RD, LOOP RAMP (LR)	762+94	-	769+95	RT	724	0.5	20	-	-	16	-
		779+05	-	780+83	RT	148	0.1	4	-	-	3	-
1000	IH 43 NB ON RAMP FROM MOORLAND RD (RAMP)	786+96	-	787+90	RT	100	-	3	-	-	2	-
		787+90	-	795+38	RT	815	1	22	-	-	18	-
UNDISTRIBUTED						4,570	7	136	310	46	256	14
TOTAL						50,274	34	678	310	230	1,280	71

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EROSION CONTROL MATS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	628.2004	628.2027
						EROSION MAT CLASS I TYPE B SY	EROSION MAT CLASS II TYPE C SY
1000	IH 43 (NB)	467+35	-	780+00	RT	19,568	650
		467+35	-	780+00	LT	5,141	-
1000	IH 43 (SB)	467+52	-	780+93	RT	3,292	-
		467+52	-	780+93	LT	410	505
1000	COMBINATION IH 43 (NB) IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	547+49	-	617+72	RT	10,131	-
		618+89	-	632+40			
1000	COMBINATION IH 43 (NB) IH 43 NB OFF RAMP TO MOORLAND RD (RAMP)	759+60	-	763+00	RT	-	1,510
		763+00	-	781+31			
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	632+85	-	656+49	RT	2,710	-
1000	IH 43 NB ON RAMP FROM MOORLAND RD, LOOP RAMP (LR)	762+94	-	769+95	RT	724	-
		779+05	-	780+83	RT	148	-
1000	IH 43 NB ON RAMP FROM MOORLAND RD (RAMP)	786+96	-	787+90	RT	-	100
		787+90	-	795+38	RT	815	-
UNDISTRIBUTED						10,735	691
TOTAL						53,674	3,456

INLET PROTECTION

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	628.7010	628.7015	REMARKS
						INLET PROTECTION TYPE B EACH	INLET PROTECTION TYPE C EACH	
REFER TO EROSION CONTROL PLAN SHEETS TO SEE EXACT LOCATIONS								
1000	IH 43 (NB)	467+35	-	780+00	RT	3	-	
		467+35	-	780+00	LT	16	-	
1000	IH 43 (SB)	467+52	-	780+93	RT	10	-	
		467+52	-	780+93	LT	2	-	
1000	RACINE AVE NORTHERN RAB (NB) NORTHERN RAB (SB)	201+59	-	204+70	RT/LT	-	22	
		401+54	-	406+45				
1000	RACINE AVE SOUTHERN RAB (NB) SOUTHERN RAB (SB)	194+55	-	197+74	RT/LT	-	23	
		395+16	-	398+85				
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	641+00	-	643+00	LT	1	-	
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	645+00	-	647+00	RT	1	-	
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	771+00	-	778+01	LT	1	-	
1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)	769+52	-	784+00	RT	1	-	
		UNDISTRIBUTED						
1000 SUBTOTAL						44	56	
1010	MOORLAND PARK & RIDE (MOORLAND RD PARK & RIDE)	10+20	-	11+20	RT	3	-	
		UNDISTRIBUTED			1	0		
1010 SUBTOTAL						4	0	
TOTAL						48	56	

EROSION CONTROL DEVICES

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	628.1504	628.1520	628.1530.S	628.1535.S	628.1905	628.1910	628.7504	628.7555	628.7560	628.7570
						SILT FENCE	SILT FENCE MAINTENANCE	SILT FENCE HEAVY DUTY	SILT FENCE HEAVY DUTY MAINTENANCE	MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL	TEMPORARY DITCH CHECKS	CULVERT PIPE CHECKS	TRACKING PADS	ROCK BAGS
						LF	LF	LF	LF	EACH	EACH	LF	EACH	EACH	EACH
1000	IH 43 (NB)	467+35	-	780+00	RT	580	580	281	281	-	-	10,466	7	22	-
		467+35	-	780+00	LT	1,134	1,134	-	-	-	-	70	-	3	50
1000	IH 43 (SB)	467+52	-	780+93	RT	1,122	1,122	-	-	-	-	-	-	1	10
		467+52	-	780+93	LT	480	480	72	72	-	-	-	5	3	-
1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)	769+52	-	781+50	RT	211	211	-	-	-	-	-	-	-	-
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	763+00	-	781+50	RT	995	995	-	-	-	-	866	-	-	-
1000	IH 43 NB ON RAMP FROM MOORALND RD (RAMP)	786+95	-	788+20	RT	-	-	118	118	-	-	-	-	-	-
1000	IH 43 SB ON RAMP FROM RACINE AVE (RAMP)	635+76	-	635+76	LT	-	-	-	-	-	-	40	-	-	-
UNDISTRIBUTED						1131	1131	118	118	2	2	2861	3	7	15
1000 SUBTOTAL						5654	5654	590	590	2	2	14303	15	36	75
1010	MOORALND PARK & RIDE (MOORLAND RD PARK & RIDE)	10+39	-	12+93	LT	49	49	-	-	-	-	-	-	-	-
UNDISTRIBUTED						12	12	0	0	0	0	0	0	0	0
1010 SUBTOTAL						61	61	0	0	0	0	0	0	0	0
TOTAL						5,715	5,715	590	590	2	2	14,303	15	36	75

DELINEATORS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	633.0100	633.0500	REMARKS
						DELINEATOR POSTS STEEL EACH	DELINEATOR REFLECTORS EACH	
1000	IH 43 (NB)	475+00	-	513+00	RT	9	9	STH 164 TO GUTHRIE DR (CTH U)
		513+00	-	547+00	RT	9	9	GUTHRIE DR (CTH U) TO CROWBAR DR
		547+00	-	634+00	RT	21	21	CROWBAR DR TO RACINE AVE (CTH Y)
		634+00	-	669+00	RT	3	3	RACINE AVE (CTH Y) TO MARTIN RD
		669+00	-	719+00	RT	12	12	MARTIN RD TO CALHOUN RD
		719+00	-	762+00	RT	11	11	CALHOUN RD TO MOORLAND RD (CTH O)
1000	IH 43 (SB)	471+00	-	514+00	LT	10	10	STH 164 TO GUTHRIE DR (CTH U)
		514+00	-	549+00	LT	9	9	GUTHRIE DR (CTH U) TO CROWBAR DR
		549+00	-	635+00	LT	18	18	CROWBAR DR TO RACINE AVE (CTH Y)
		635+00	-	670+00	LT	7	7	RACINE AVE (CTH Y) TO MARTIN RD
		670+00	-	720+00	LT	11	11	MARTIN RD TO CALHOUN RD
		720+00	-	764+00	LT	11	11	CALHOUN RD TO MOORLAND RD (CTH O)
1000	IH 43 NB ON RAMP FROM STH 164 (NB)	RAMP ENTRANCE	-	475+00	RT	18	36	
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	619+00	-	630+00	RT	11	22	
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	634+00	-	662+98	RT	27	54	
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	763+00	-	779+00	RT	16	32	
1000	IH 43 NB ON RAMP FROM MOORLAND RD, LOOP RAMP	768+00	-	780+00	RT	12	24	
1000	IH 43 SB OFF RAMP TO STH 164 (SB)	RAMP END TERMINAL	-	471+00	LT	15	30	
1000	IH 43 SB ON RAMP FROM RACINE AVE (RAMP)	613+50	-	636+00	LT	25	50	
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	642+00	-	655+41	LT	15	30	
1000	IH 43 NB ON RAMP MOORLAND RD (SR)	772+10	-	791+00	LT	24	48	
UNDISTRIBUTED						74	114	
TOTAL						368	571	



TRAFFIC CONTROL ITEMS

CATEGORY	STAGE	ROADWAY	643.0300	643.0420	643.0500	643.0600	643.0705	643.0715	643.0800	643.0900	643.1050	643.1070	643.1500	644.1810	SPV.0045.01
			TRAFFIC CONTROL DRUMS	TRAFFIC CONTROL BARRICADES TYPE III	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL WARNING LIGHTS TYPE C	TRAFFIC CONTROL ARROW BOARDS	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL SIGNS PCMS	TRAFFIC CONTROL CONES 42-INCH	TRAFFIC CONTROL SPEED RADAR TRAILER	TEMPORARY PEDESTRIAN BARRICADE	DIGITAL SPEED REDUCTION SYSTEM (DSRS)
			DAY	DAY	EACH	EACH	DAY	DAY	DAY	DAY	DAY	DAY	DAY	LF	DAY
1000	1A	IH 43 INSIDE HALF	5,880	1,029	0	0	2,058	1,050	84	2,604	42	0	84	0	42
	1B	IH 43 OUTSIDE HALF	6,720	1,176	0	0	2,352	1,200	96	2,976	48	0	96	0	48
	2A	IH 43 OUTSIDE HALF	1,962	405	0	0	810	225	18	1,017	9	0	18	0	9
	2B	IH 43 INSIDE HALF	1,744	360	0	0	720	200	16	904	8	0	16	0	8
	3A	IH 43 INSIDE HALF	2,616	540	0	0	1,080	300	24	1,356	12	0	24	0	12
	3B	IH 43 OUTSIDE HALF	2,616	540	0	0	1,080	300	24	1,356	12	0	24	0	12
	4A	IH 43 INSIDE HALF	2,834	585	0	0	1,170	325	26	1,469	13	0	26	0	13
	4B	IH 43 OUTSIDE HALF	3,270	675	0	0	1,350	375	30	1,695	15	0	30	0	15
	5	IH 43 NB ON RAMP FROM MOORLAND RD (LOOP RAMP)	970	60	0	0	120	0	0	235	0	0	0	0	0
		SHOULDER CLOSURE (MISC. WORK)	468	0	0	0	0	0	18	144	0	0	0	0	0
		SHOULDER CLOSURE (FIBER WORK)	74	0	0	0	0	0	35	280	0	0	0	0	0
		SHOULDER CLOSURE (C-67-12 NORTH END WORK)	270	0	0	0	0	0	10	80	0	0	0	0	0
		RACINE AVE CLOSURE (HFST WORK)	1,595	561	9	9	1,122	99	22	605	22	0	0	0	0
		MOORLAND RD LANE CLOSURE (R-67-80 WORK)	74	4	0	0	8	28	0	20	0	0	0	280	0
UNDISTRIBUTED			7,773	1,484	2	2	2,968	1,026	101	3,685	45	0	80	70	40
1000 SUBTOTAL			38,866	7,419	11	11	14,838	5,128	504	18,426	226	0	398	350	199
1010	STAGE 1	MOORLAND PARK & RIDE	5	6	0	0	12	0	0	4	1	0	0	0	0
	STAGE 2	MOORLAND PARK & RIDE	54	10	0	0	20	0	0	10	0	6	0	0	0
	STAGE 3	MOORLAND PARK & RIDE	36	7	0	0	14	0	0	6	0	0	0	0	0
	STAGE 4	MOORLAND PARK & RIDE	33	10	0	0	20	0	0	6	0	0	0	0	0
	STAGE 5	MOORLAND PARK & RIDE	47	12	0	0	24	0	0	7	0	6	0	0	0
UNDISTRIBUTED			44	11	0	0	23	0	0	8	0	3	0	0	0
1010 SUBTOTAL			219	56	0	0	113	0	0	41	1	15	0	0	0
TOTAL			39,085	7,475	11	11	14,950	5,128	504	18,468	228	15	398	350	199

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COVERING SIGNS

CATEGORY	STAGE	NUMBER OF NIGHTS	NUMBER OF CYCLES	NUMBER OF SIGNS	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH
1000	1A (IH 43 INSIDE HALF)	21	21	2	42
	1B (IH 43 OUTSIDE HALF)	24	24	2	48
	2A (IH 43 OUTSIDE HALF)	9	9	1	9
	2B (IH 43 INSIDE HALF)	8	8	1	8
	3A (IH 43 INSIDE HALF)	12	12	1	12
	3B (IH 43 OUTSIDE HALF)	12	12	1	12
	4A (IH 43 INSIDE HALF)	13	13	1	13
	4B (IH 43 OUTSIDE HALF)	15	15	1	15
UNDISTRIBUTED					40
					199

TRAFFIC CONTROL CLOSURES

CATEGORY	STAGE	NUMBER OF NIGHTS	643.1205.S BASIC TRAFFIC QUEUE WARNING SYSTEM DAY	643.4100 TRAFFIC CONTROL INTERIM LANE CLOSURE EACH	SPV.0060.03 TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP EACH	SPV.0060.04 TRAFFIC CONTROL LOCAL ROAD LANE CLOSURE EACH
1000	1A (IH 43 INSIDE HALF)	21	42	42		-
	1B (IH 43 OUTSIDE HALF)	24	48	48		-
	2A (IH 43 OUTSIDE HALF)	9	9	9		-
	2B (IH 43 INSIDE HALF)	8	8	8	40	-
	3A (IH 43 INSIDE HALF)	12	12	12		-
	3B (IH 43 OUTSIDE HALF)	12	12	12		-
	4A (IH 43 INSIDE HALF)	13	13	13		-
	4B (IH 43 OUTSIDE HALF)	15	15	15		-
	5 (LOOP RAMP CLOSURE)	5	-	-	5	5
1000	RACINE AVE CLOSURE (HFST WORK)	11	-	-	22	22
1000	MOORLAND RD LANE CLOSURE (R-67-80 WORK)	2	-	-	-	2
UNDISTRIBUTED			40	40	17	7
TOTAL			199	199	84	36

3

TEMPORARY PAVEMENT MARKINGS

CATEGORY	ROADWAY (R/L)	STAGE	STATION	TO	STATION	LOCATION	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH LF	643.3265 TEMPORARY MARKING LINE PAINT 10-INCH LF
1000	IH 43 (NB)	2A (OUTSIDE HALF)	467+35	-	759+74	OUTER HALF	72,891	3,095
		2B (INSIDE HALF)				INSIDE HALF	58,458	-
	IH 43 (SB)	3A (INSIDE HALF)	467+52	-	759+72	INSIDE HALF	73,083	-
		3B (OUTSIDE HALF)				OUTER HALF	58,266	3,095
TOTAL							262,698	6,189

TRAFFIC CONTROL

CATEGORY	PROJECT	643.5000 TRAFFIC CONTROL EACH
1000	1090-09-76	1
TOTAL		1

REMOVING PAVEMENT MARKINGS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	646.9050	646.9150	646.9200	646.9300	646.9400
						MARKING REMOVAL LINE GROOVED PERMANENT TAPE 4-INCH LF	MARKING REMOVAL LINE GROOVED PERMANENT TAPE 8-INCH LF	MARKING REMOVAL LINE WIDE LF	MARKING REMOVAL SPECIAL MARKING EACH	MARKING REMOVAL PLOWABLE RAISED PAVEMENT MARKERS EACH
1000	IH 43 (MEDIAN)	464+00	-	468+46	RT LT	75 125	625 509	- 42	- -	- -
1000	IH 43 (NB)	511+60	-	514+59	RT	25	-	-	-	-
		670+05	-	670+45	RT	13	-	-	-	-
		718+60	-	720+13	RT	38	-	-	-	-
		759+74	-	780+00	RT	513	-	-	-	-
		766+00	-	772+00	RT	-	-	-	-	39
1000	IH 43 (SB)	512+40	-	515+22	LT	25	-	-	-	-
		670+90	-	671+31	LT	13	-	-	-	-
		719+81	-	721+26	LT	38	-	-	-	-
		759+72	-	781+44	LT	538	-	-	-	-
1000	RACINE AVE (NB)	193+18	-	204+41	RT LT	- -	299 82	40 -	7 9	- -
1000	RACINE AVE (SB)	395+67	-	406+90	RT/LR RT LT RT/LT	- 42 - -	199 63 282 50	46 - 60 50	- 8 9 -	- - - -
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	626+48	-	633+70	RT LT RT/LT	- - -	- 201 269	- - -	2 - 2	- - -
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	634+12	-	643+10	RT LT RT/LT	- 138 -	- 342 -	- - -	- - -	- - -
1000	IH 43 SB ON RAMP FROM RACINE AVE (RAMP)	627+00	-	635+87	RT LT RT/LT	- - -	100 - -	- - -	- - -	- - -
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	637+09	-	641+96	RT LT RT/LT	- - -	135 128 200	- - -	4 2 -	- - -
TOTAL						1,580	3,483	238	43	39

PAVEMENT MARKINGS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	646.1020	646.2020	646.2025	646.2040	646.2050	646.3020	646.4020	646.4025	REMARKS	
						* MARKING LINE EPOXY 4-INCH	MARKING LINE EPOXY 6-INCH	MARKING LINE GROOVED BLACK EPOXY 6-INCH	MARKING LINE GROOVED WET REF EPOXY 6-INCH	MARKING LINE GROOVED PERMANENT TAPE 6-INCH	* Marking Line Epoxy 8-Inch	MARKING LINE EPOXY 10-INCH	MARKING LINE GROOVED BLACK EPOXY 10-INCH		
						LF	LF	LF	LF	LF	LF	LF	LF		
1000	IH 43 (MEDIAN) IH 43 (NB)	465+33	-	468+46	RT	-	621	75	-	75	-	-	-	BEGIN REFRESH TO PROJECT BEGIN RESURFACING	
		467+35	-	512+11	RT	-	-	1,125	8,942	1,125	-	-	-	PROJECT BEGIN RESURFACING TO GUTHRIE DR	
		512+11	-	514+10	RT	-	445	-	-	-	-	-	-	IH 43 NB OVER GUTHRIE DR (STRUCTURE)	
		514+10	-	668+69	RT	-	-	3,875	28,211	3,875	-	-	285	GUTHRIE DR TO MARTIN RD	
		668+69	-	670+15	RT	-	389	-	-	-	-	-	-	IH 43 NB OVER MARTIN RD (STRUCTURE)	
		670+15	-	718+70	RT	-	-	1,213	9,656	1,213	-	-	-	MARTIN TO CALHOUN RD	
		718+70	-	720+17	RT	-	-	38	292	38	-	-	-	IH 43 NB OVER CALHOUN RD (STRUCTURE)	
	720+17	-	779+91	RT	-	-	1,500	11,752	1,500	1,031	-	-	-	CALHOUN RD TO PROJECT END RESURFACING	
	1000	IH 43 (MEDIAN) IH 43 (SB)	464+00	-	468+50	RT	-	-	-	-	-	-	-	-	BEGIN REFRESH TO PROJECT BEGIN RESURFACING
			467+52	-	512+95	RT	-	-	-	-	-	-	-	-	PROJECT BEGIN RESURFACING TO GUTHRIE DR
			512+95	-	514+91	RT	-	-	-	-	-	-	-	-	IH 43 SB OVER GUTHRIE DR (STRUCTURE)
			514+91	-	669+55	RT	-	-	-	-	-	-	-	-	GUTHRIE DR TO MARTIN RD
			669+55	-	671+10	RT	-	-	-	-	-	-	-	-	IH 43 SB OVER MARTIN RD (STRUCTURE)
			671+10	-	719+83	RT	-	-	-	-	-	-	-	-	MARTIN TO CALHOUN RD
719+83			-	721+30	RT	-	-	-	-	-	-	-	-	IH 43 SB OVER CALHOUN RD (STRUCTURE)	
721+30	-	781+44	RT	-	-	-	-	-	-	-	-	-	CALHOUN RD TO PROJECT END RESURFACING		
1000	IH 43 (MEDIAN) IH 43 (SB)	464+00	-	468+50	LT	-	700	158	-	158	-	-	-	BEGIN REFRESH TO PROJECT BEGIN RESURFACING	
		467+52	-	512+95	LT	-	-	11,337	9,066	11,337	-	-	-	PROJECT BEGIN RESURFACING TO GUTHRIE DR	
		512+95	-	514+91	LT	-	437	-	-	-	-	-	-	IH 43 SB OVER GUTHRIE DR (STRUCTURE)	
		514+91	-	669+55	LT	-	-	3,875	30,759	3,875	-	-	291	GUTHRIE DR TO MARTIN RD	
		669+55	-	671+10	LT	-	341	-	-	-	-	-	-	IH 43 SB OVER MARTIN RD (STRUCTURE)	
		671+10	-	719+83	LT	-	-	1,225	9,754	1,225	-	-	-	MARTIN TO CALHOUN RD	
		719+83	-	721+30	LT	-	-	38	290	38	-	-	-	IH 43 SB OVER CALHOUN RD (STRUCTURE)	
721+30	-	781+44	LT	-	-	1,500	11,978	1,500	1,319	-	-	-	CALHOUN RD TO PROJECT END RESURFACING		

\* ADDITIONAL QUANTITIES ARE SHOWN ELSEWHERE

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3

PAVEMENT MARKINGS

646.1020	646.2020	646.2025	646.2040	646.2050	646.3020	646.4020	646.4025
* MARKING LINE EPOXY 4-INCH	MARKING LINE EPOXY 6-INCH	MARKING LINE GROOVED BLACK EPOXY 6-INCH	MARKING LINE GROOVED WET REF EPOXY 6-INCH	MARKING LINE GROOVED PERMANENT TAPE 6-INCH	* Marking Line Epoxy 8-Inch	MARKING LINE EPOXY 10-INCH	MARKING LINE GROOVED BLACK EPOXY 10-INCH

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	LF	LF	LF	LF	LF	LF	LF	LF	REMARKS
1000	RACINE AVE (NB)	193+18	-	204+41	RT/LT	113	962	-	-	-	-	367	-	
1000	RACINE AVE (SB)	394+40	-	406+90	RT/LT	150	1,044	-	-	-	-	764	-	
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	626+50	-	633+70	RT/LT	-	-	-	700	-	-	-	-	
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	633+48	-	643+01	RT/LT	-	-	138	1,713	138	-	17	-	
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	647+50	-	655+41	RT/LT	-	-	50	1,513	50	-	66	-	
1000	IH 43 SB ON RAMP FROM RACINE AVE (RAMP)	627+00	-	636+67	RT/LT	-	-	-	1,675	-	-	-	-	
1000	IH 43 NB ON RAMP FROM STH 164					-	1,439	-	-	-	0	-	-	
1000	IH 43 SB OFF RAMP TO STH 164					-	1,426	-	-	-	0	-	-	
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	771+06	-	782+54	RT/LT	-	-	-	2,256	-	48	-	-	
1000	IH 43 SB ON RAMP FROM MOORLAND RD (SR)	781+08	-	791+39	RT/LT	-	-	88	2,011	88	52	-	-	
1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)	769+52	-	781+50	RT/LT	-	-	-	3,765	-	2,473	-	-	
					TOTAL	263	7,804	26,232	134,334	26,232	4,922	1,215	576	

\* ADDITIONAL QUANTITIES ARE SHOWN ELSEWHERE



PAVEMENT MARKINGS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	646.4050	646.5020	646.5120	646.6120	646.6320	646.7120	646.7220	SPV.0090.01	REMARKS	
						MARKING LINE GROOVED PERMANENT TAPE 10-INCH	MARKING ARROW EPOXY	MARKING WORD EPOXY	MARKING STOP LINE EPOXY 18-INCH	MARKING DOTTED EXTENSION EPOXY 18-INCH	MARKING DIAGONAL EPOXY 12-INCH	MARKING CHEVRON EPOXY 24-INCH	MARKING EPOXY 6-INCH BLACK NON GROOVED		
						LF	EACH	EACH	LF	LF	LF	LF	LF		
1000	IH 43 (MEDIAN)	465+33	-	468+46	RT	625	-	-	-	-	-	-	-	BEGIN REFRESH TO PROJECT BEGIN RESURFACING	
		467+35	-	512+11	RT	322	-	-	-	-	-	-	-	PROJECT BEGIN RESURFACING TO GUTHRIE DR	
	IH 43 (NB)	512+11	-	514+10	RT	-	-	-	-	-	-	-	50	IH 43 NB OVER GUTHRIE DR (STRUCTURE)	
		514+10	-	668+69	RT	1,459	3	-	-	-	-	127	-	GUTHRIE DR TO MARTIN RD	
	668+69	-	670+15	RT	-	-	-	-	-	-	-	38	IH 43 NB OVER MARTIN RD (STRUCTURE)		
	670+15	-	718+70	RT	-	-	-	-	-	-	-	-	-	MARTIN TO CALHOUN RD	
	718+70	-	720+17	RT	-	-	-	-	-	-	-	-	-	IH 43 NB OVER CALHOUN RD (STRUCTURE)	
	720+17	-	779+91	RT	-	-	-	-	-	-	-	235	-	CALHOUN RD TO PROJECT END RESURFACING	
	1000	IH 43 (MEDIAN)	465+33	-	468+46	LT	-	-	-	-	-	114	-	-	BEGIN REFRESH TO PROJECT BEGIN RESURFACING
			467+35	-	512+11	LT	-	-	-	-	-	279	-	-	PROJECT BEGIN RESURFACING TO GUTHRIE DR
			512+11	-	514+10	LT	-	-	-	-	-	64	-	-	IH 43 NB OVER GUTHRIE DR (STRUCTURE)
			514+10	-	668+69	LT	-	-	-	-	-	491	-	-	GUTHRIE DR TO MARTIN RD
			668+69	-	670+15	LT	-	-	-	-	-	84	-	-	IH 43 NB OVER MARTIN RD (STRUCTURE)
			670+15	-	718+70	LT	-	-	-	-	-	348	-	-	MARTIN TO CALHOUN RD
718+70			-	720+17	LT	-	-	-	-	-	-	-	-	-	IH 43 NB OVER CALHOUN RD (STRUCTURE)
720+17			-	779+91	LT	-	-	-	-	-	-	-	-	-	CALHOUN RD TO PROJECT END RESURFACING
1000	IH 43 (MEDIAN)	464+00	-	468+50	RT	-	-	-	-	-	158	-	-	BEGIN REFRESH TO PROJECT BEGIN RESURFACING	
		467+52	-	512+95	RT	-	-	-	-	-	205	-	-	PROJECT BEGIN RESURFACING TO GUTHRIE DR	
	IH 43 (SB)	512+95	-	514+91	RT	-	-	-	-	-	61	-	-	IH 43 SB OVER GUTHRIE DR (STRUCTURE)	
		514+91	-	669+55	RT	-	-	-	-	-	560	-	-	GUTHRIE DR TO MARTIN RD	
	669+55	-	671+10	RT	-	-	-	-	-	90	-	-	IH 43 SB OVER MARTIN RD (STRUCTURE)		
	671+10	-	719+83	RT	-	-	-	-	-	359	-	-	MARTIN TO CALHOUN RD		
	719+83	-	721+30	RT	-	-	-	-	-	-	-	-	-	IH 43 SB OVER CALHOUN RD (STRUCTURE)	
	721+30	-	781+44	RT	-	-	-	-	-	-	-	-	-	CALHOUN RD TO PROJECT END RESURFACING	
	1000	IH 43 (MEDIAN)	464+00	-	468+50	LT	509	-	-	-	-	-	97	-	BEGIN REFRESH TO PROJECT BEGIN RESURFACING
			467+52	-	512+95	LT	-	-	-	-	-	-	-	-	PROJECT BEGIN RESURFACING TO GUTHRIE DR
			512+95	-	514+91	LT	-	-	-	-	-	-	-	50	IH 43 SB OVER GUTHRIE DR (STRUCTURE)
			514+91	-	669+55	LT	1,313	3	-	-	-	-	129	-	GUTHRIE DR TO MARTIN RD
			669+55	-	671+10	LT	-	-	-	-	-	-	-	38	IH 43 SB OVER MARTIN RD (STRUCTURE)
			671+10	-	719+83	LT	-	-	-	-	-	-	-	-	-
719+83			-	721+30	LT	-	-	-	-	-	-	-	-	-	IH 43 SB OVER CALHOUN RD (STRUCTURE)
721+30			-	781+44	LT	-	2	-	-	-	-	-	-	-	CALHOUN RD TO PROJECT END RESURFACING

PAVEMENT MARKINGS

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	PAVEMENT MARKINGS								REMARKS
						646.4050 MARKING LINE GROOVED PERMANENT TAPE 10-INCH	646.5020 MARKING ARROW EPOXY	646.5120 MARKING WORD EPOXY	646.6120 MARKING STOP LINE EPOXY 18-INCH	646.6320 MARKING DOTTED EXTENSION EPOXY 18-INCH	646.7120 MARKING DIAGONAL EPOXY 12-INCH	646.7220 MARKING CHEVRON EPOXY 24- INCH	SPV.0090.01 MARKING EPOXY 6-INCH BLACK NON GROOVED	
						LF	EACH	EACH	LF	LF	LF	LF	LF	
1000	RACINE AVE (NB)	193+18	-	204+41	RT/LT	214	12	4	-	88	19	-	-	
1000	RACINE AVE (SB)	394+40	-	406+90	RT/LT	90	11	6	-	114	32	-	-	
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	626+50	-	633+70	RT/LT	391	4	6	-	-	32	-	-	
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	633+48	-	643+01	RT/LT	325	-	-	-	-	-	-	-	
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	647+50	-	655+41	RT/LT	364	6	7	-	-	35	-	-	
1000	IH 43 SB ON RAMP FROM RACINE AVE (RAMP)	627+00	-	636+67	RT/LT	100	-	-	-	-	-	-	-	
1000	IH 43 NB ON RAMP FROM STH 164					-	-	-	-	-	-	-	-	
1000	IH 43 SB OFF RAMP TO STH 164					103	3	-	59	-	-	-	-	
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	771+06	-	782+54	RT/LT	194	5	1	-	-	-	-	-	
1000	IH 43 SB ON RAMP FROM MOORLAND RD (SR)	781+08	-	791+39	RT/LT	-	-	-	-	-	-	-	-	
1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)	769+52	-	781+50	RT/LT	-	-	-	23	-	200	-	-	
TOTAL						6,011	49	24	82	202	3,130	588	175	

PAVEMENT MARKINGS PARK & RIDE

CATEGORY	ROADWAY (R/L)	LOCATION	646.1020 * MARKING LINE EPOXY 4-INCH LF	646.3020 * MARKING LINE EPOXY 8- INCH LF	646.5220 MARKING SYMBOL EPOXY EACH	646.6220 MARKING YIELD LINE EPOXY 18- INCH EACH	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	646.8120 MARKING CURB EPOXY LF	646.8220 MARKING ISLAND NOSE EPOXY EACH	646.8320 MARKING PARKING STALL EPOXY LF
1010	MOORALND PARK & RIDE (MOORLAND PARK&RIDE)	RT/LT	277	95	5	11	102	30	3	4,279
TOTAL			277	95	5	11	102	30	3	4,279

\* ADDITIONAL QUANTITES ARE SHOWN ELSEWHERE

COLD WEATHER PAVEMENT MARKINGS

CATEGORY	ROADWAY	646.6466 COLD WEATHER MARKING EPOXY 6- INCH LF	646.6470 COLD WEATHER MARKING EPOXY 10-INCH LF	REMARKS
1000	IH 43 (NB&SB) IH 43 ON/OFF RAMPS	18,679	510	10% OF PAVEMENT MARKING 6-INCH AND 10-INCH EXCLUDING RACINE AVE
TOTAL		18,679	510	



PIPE UNDERDRAIN MARKING

646.5520 SPV.0060.07  
 MARKING LOCATE AND  
 OUTFALL EPOXY CLEAN EXISTING  
 UNDERDRAIN  
 OUTFALLS

646.5520 SPV.0060.07  
 MARKING LOCATE AND  
 OUTFALL CLEAN  
 EPOXY EXISTING  
 UNDERDRAIN  
 OUTFALLS

646.5520 SPV.0060.07  
 MARKING LOCATE AND  
 OUTFALL CLEAN EXISTING  
 EPOXY UNDERDRAIN  
 OUTFALLS

CATEGORY	ROADWAY (R/L)	STATION	LOCATION	EACH	EACH	CATEGORY	ROADWAY (R/L)	STATION	LOCATION	EACH	EACH	CATEGORY	ROADWAY (R/L)	STATION	LOCATION	EACH	EACH
1000	IH 43 (SB)	458+50	LT	1	1	1000	IH 43 (SB)	590+00	LT	1	1	1000	IH 43 (SB)	729+50	LT	1	1
		462+50	LT	1	1			593+50	LT	1	1			732+00	LT	1	1
		464+00	LT	1	1			597+00	LT	1	1			734+50	LT	1	1
		465+50	LT	1	1			600+50	LT	1	1			737+00	LT	1	1
		467+50	LT	1	1			604+00	LT	1	1			739+50 AH	LT	1	1
		470+00	LT	1	1			607+50	LT	1	1			741+50	LT	1	1
		472+50	LT	1	1			611+00	LT	1	1			743+50	LT	1	1
		475+00	LT	1	1			615+00	LT	1	1			747+50	LT	1	1
		477+50	LT	1	1			619+00	LT	1	1			750+00	LT	1	1
		480+00	LT	1	1			623+00	LT	1	1			753+50	LT	1	1
		482+50	LT	1	1			627+00	LT	1	1			757+00	LT	1	1
		485+00	LT	1	1			627+50	LT	1	1			760+50	LT	1	1
		487+50	LT	1	1			631+00	LT	1	1			764+00	LT	1	1
		490+00	LT	1	1			634+50	LT	1	1			767+50	LT	1	1
		492+00	LT	1	1			638+00	LT	1	1			771+00	LT	1	1
		494+00	LT	1	1			640+75 BK	LT	1	1			774+50	LT	1	1
		496+50	LT	1	1			642+50 AHD	LT	1	1			776+50	LT	1	1
		499+00	LT	1	1			645+00	LT	1	1			778+50	LT	1	1
		502+50	LT	1	1			647+50	LT	1	1			781+00	LT	1	1
		506+00	LT	1	1			648+50	LT	1	1			781+50	LT	1	1
		508+50	LT	1	1			650+50	LT	1	1			783+00	LT	1	1
		511+00	LT	1	1			653+00	LT	1	1			783+50	LT	1	1
		B-67-117						655+00	LT	1	1			B-67-107	LT	1	1
		519+50	LT	1	1			657+00	LT	1	1					1	1
		523+00	LT	1	1			659+00	LT	1	1						
		526+50	LT	1	1			662+50	LT	1	1						
		530+00	LT	1	1			666+00	LT	1	1						
		533+00	LT	1	1			B-67-111									
		536+00	LT	1	1			674+00	RT	1	1						
		638+00	LT	1	1			676+50	RT	1	1						
		54+00	LT	1	1			679+00	RT	1	1						
		541+50	LT	1	1			681+50	RT	1	1						
		544+50	LT	1	1			684+00	RT	1	1						
		547+00	LT	1	1			687+00	RT	1	1						
		549+50	LT	1	1			698+50	RT/LT	2	2						
		552+00	RT	1	1			691+00	LT	1	1						
		554+50	RT	1	1			692+50	LT	1	1						
		557+00	RT	1	1			695+00	LT	1	1						
		559+50	RT	1	1			697+50	LT	1	1						
		562+00	RT	1	1			700+00	LT	1	1						
		564+50	RT	1	1			702+50	LT	1	1						
		569+00	RT	1	1			705+00	LT	1	1						
		571+50	RT	1	1			708+00	LT	1	1						
		574+00	RT	1	1			712+00	LT	1	1						
		576+50	RT/LT	2	2			716+00	LT	1	1						
		579+50	LT	1	1			B-67-109									
		583+00	LT	1	1			721+50	LT	1	1						
		586+50	LT	1	1			725+50	LT	1	1						
IH 43 (SB) TOTAL				48	48	IH 43 (SB) TOTAL				47	47	IH 43 (SB) TOTAL				24	24
TOTAL				242	242												



SAWING

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	690.0150	690.0250	REMARKS		
						SAWING ASPHALT	SAWING CONCRETE			
						LF	LF			
1000	IH 43 (NB)	467+35	-	467+35	RT/LT	59	-	RESURFACING		
		759+74	-	759+74	RT	23	-	RESURFACING		
		767+78	-	767+78	RT	5	-	RESURFACING		
		778+11	-	778+11	RT	13	-	RESURFACING		
		780+00	-	780+00	LT	12	-	RESURFACING		
		770+12	-	770+28	RT	-	44	CONCRETE PAVEMENT REPLACEMENT		
		770+67	-	770+83	RT	-	44	CONCRETE PAVEMENT REPLACEMENT		
		467+35	-	759+74	RT/LT	-	39,150	BASE PATCHING CONCRETE SAW CUT		
1000	IH 43 (SB)	467+52	-	467+52	RT/LT	51	-	RESURFACING		
		759+72	-	759+72	LT	23	-	RESURFACING		
		778+39	-	778+39	LT	5	-	RESURFACING		
		780+93	-	780+93	RT	13	-	RESURFACING		
		780+93	-	780+93	LT	12	-	RESURFACING		
		760+10	-	760+27	LT	-	41	CONCRETE PAVEMENT REPLACEMENT		
		776+42	-	776+42	LT	-	24	CONCRETE PAVEMENT REPAIR		
		778+37	-	778+37	LT	-	24	CONCRETE PAVEMENT REPAIR		
		467+52	-	759+72	RT/LT	-	38,289	BASE PATCHING CONCRETE SAW CUT		
		1000	IH 43 NB ON RAMP FROM MOORLAND RD LOOP RAMP (LR)	769+52	-	769+52	RT	5	-	RESURFACING
				781+50	-	781+50	RT	6	-	RESURFACING
1000	IH 43 NB OFF RAMP TO MOORLAND RD (NR)	778+01	-	778+01	LT	8	-	RESURFACING		
		780+77	-	780+77	RT	2	-	RESURFACING		
1000	IH 43 SB ON RAMP FROM MOORLAND RD (SR)	790+76	-	790+76	LT	8	-	RESURFACING		
		791+16	-	791+16	RT	7	-	RESURFACING		
1000	RACINE AVE NRAB (NB)	202+02	-	202+17	RT	-	13	CURB & GUTTER REMOVAL		
		201+02	-	202+19	LT	-	52	CURB & GUTTER REMOVAL		
		203+34	-	203+71	LT	-	32	CURB & GUTTER REMOVAL		
		204+30	-	204+70	LT	-	41	CURB & GUTTER REMOVAL		
		204+29	-	204+40	RT	-	25	CONCRETE PAVEMENT REPAIR		
1000	RACINE AVE NRAB (SB)	401+54	-	402+14	RT	-	63	CURB & GUTTER REMOVAL		
		402+54	-	402+64	RT	-	15	CURB & GUTTER REMOVAL		
		404+46	-	404+68	RT	-	34	CURB & GUTTER REMOVAL		
		402+95	-	403+04	LT	-	9	CURB & GUTTER REMOVAL		
		404+19	-	404+53	LT	-	33	CURB & GUTTER REMOVAL		
		401+71	-	402+03	RT/LT	-	113	CONCRETE PAVEMENT REPLACEMENT		
		403+40	-	403+63	LT	-	82	CONCRETE PAVEMENT REPLACEMENT		
406+39	-	406+54	LT	-	56	CONCRETE PAVEMENT REPAIR				
1000	RACINE AVE SRAB (NB)	195+52	-	196+00	RT	-	44	CURB & GUTTER REMOVAL		
		195+84	-	196+08	LT	-	64	CONCRETE PAVEMENT REPLACEMENT		
1000	RACINE AVE SRAB (SB)	395+34	-	395+92	RT	-	137	CURB & GUTTER REMOVAL		
		397+92	-	397+96	RT	-	11	CURB & GUTTER REMOVAL		
		397+97	-	38+00	RT	-	3	CURB & GUTTER REMOVAL		
		396+47	-	396+61	RT/LT	-	86	CONCRETE PAVEMENT REPLACEMENT		
		398+59	-	398+75	RT/LT	-	82	CONCRETE PAVEMENT REPLACEMENT		
		398+84	-	399+00	LT	-	47	CONCRETE PAVEMENT REPLACEMENT		

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SAWING

CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	690.0150	690.0250	REMARKS
						SAWING ASPHALT	SAWING CONCRETE	
						LF	LF	
1000	IH 43 NB ON RAMP FROM RACINE AVE (RAMP)	633+24	-	633+44	LT	-	24	CURB & GUTTER REMOVAL
		633+70	-	633+83	LT	-	13	CURB & GUTTER REMOVAL
		634+46	-	634+46	RT	6	-	RESURFACING
		635+08	-	635+08	LT	5	-	RESURFACING
		643+01	-	643+01	RT	23	-	RESURFACING
1000	IH 43 NB OFF RAMP TO RACINE AVE (RAMP)	633+31	-	633+39	LT	-	9	CURB & GUTTER REMOVAL
		626+50	-	626+50	LT	14	-	RESURFACING
		629+67	-	629+67	RT	8	-	RESURFACING
		629+86	-	629+86	LT	6	-	RESURFACING
		629+31	-	629+51	RT	-	38	CONCRETE PAVEMENT REPLACEMENT
		629+90	-	630+64	LT	-	178	CONCRETE PAVEMENT REPLACEMENT
		630+80	-	631+24	LT	-	135	CONCRETE PAVEMENT REPLACEMENT
		632+95	-	633+57	LT	-	135	CONCRETE PAVEMENT REPLACEMENT
1000	IH 43 SB OFF RAMP TO RACINE AVE (RAMP)	637+36	-	637+19	LT	-	53	CURB & GUTTER REMOVAL
		647+50	-	647+51	RT	14	-	RESURFACING
		640+04	-	640+04	RT	6	-	RESURFACING
		640+77	-	640+78	LT	10	-	RESURFACING
		638+13	-	638+26	LT	-	55	CONCRETE PAVEMENT REPAIR
		640+47	-	640+64	RT	-	30	CONCRETE PAVEMENT REPLACEMENT
		641+10	-	641+23	RT	-	42	CONCRETE PAVEMENT REPAIR
1000	IH 43 SB ON RAMP FROM RACINE AVE (RAMP)	627+00	-	627+00	RT	14	-	RESURFACING
		635+76	-	635+76	LT	5	-	RESURFACING
		635+86	-	635+86	RT	2	-	RESURFACING
1000 SUBTOTAL						368	79,367	
1010	MOORLAND PARK & RIDE (MOORLAND RD PARK & RIDE)	10+32	-	10+88	LT	-	137	CONCRETE PAVEMENT REPAIR/REPLACEMENT
		11+08	-	11+63	LT	-	129	CONCRETE PAVEMENT REPAIR/REPLACEMENT
		11+59	-	11+65	LT	-	24	CONCRETE PAVEMENT REPAIR/REPLACEMENT
		11+63	-	11+73	LT	-	38	CONCRETE PAVEMENT REPAIR/REPLACEMENT
		11+79	-	12+04	LT	-	107	CONCRETE PAVEMENT REPAIR/REPLACEMENT
		12+00	-	12+90	LT	-	113	CURB & GUTTER REMOVAL
1010 SUBTOTAL						0	548	
TOTAL						368	79,915	

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FIELD OFFICE

SPV.0060.02 FIELD FACILITIES OFFICE SPACE		
CATEGORY	PROJECT	EACH
1000	1090-09-76	1
TOTAL		1

PROJECT SURVEY

SPV.0060.06 SURVEY PROJECT 1090-09-76		
CATEGORY	PROJECT	EACH
1000	1090-09-76	1
TOTAL		1

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REMOVING BUS SHELTER

SPV.0060.08 REMOVING BUS SHELTER							
CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	EACH	REMARKS
1010	MOORALND PARK & RIDE (MOORLAND RD PARK & RIDE)	12+86	-	12+93	LT	1	LOCATED AT MOORLAND PARK & RIDE
TOTAL						1	

PROJECT PAVEMENT CLEANUP

SPV.0075.01 PAVEMENT CLEANUP PROJECT 1090-09-76		
CATEGORY	PROJECT	HRS
1000	1090-09-76	100
TOTAL		100

EXCAVATE PHRAGMITES

SPV.0180.01 EXCAVATION OF PHRAGMITES CONTAMINATED SOIL								SPV.0180.02 HERBICIDE APPLICATION	
CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	SY	SY	SY	SY
1000	IH 43 (NB)	630+00	-	632+00	RT	389	389		
TOTAL						389	389		

REMOVING HFST

SPV.0180.03 REMOVING HIGH FRICTION SURFACE TREATMENT						
CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	SY
1000	RACINE AVE NORTH RB (NB)	201+59	-	204+70	RT/LT	3,604
	RACINE AVE NORTH RB (SB)	401+99	-	406+45	RT/LT	
1000	RACINE AVE SOUTH RB (NB)	194+55	-	197+74	RT/LT	3,242
	RACINE AVE SOUTH RB (SB)	395+16	-	398+85	RT/LT	
TOTAL						6,846

HIGH FRICTION SURFACE TREATMENT

SPV.0180.04 RESIN BINDER HIGH FRICTION SURFACE TREATMENT						
CATEGORY	ROADWAY (R/L)	STATION	TO	STATION	LOCATION	SY
1000	RACINE AVE NORTH RB (NB)	201+59	-	204+70	RT/LT	3,604
	RACINE AVE NORTH RB (SB)	401+99	-	406+45	RT/LT	
1000	RACINE AVE SOUTH RB (NB)	194+55	-	197+74	RT/LT	3,242
	RACINE AVE SOUTH RB (SB)	395+16	-	398+85	RT/LT	
TOTAL						6,846

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LOCATION	FROM/TO STATION	STAGE	205.0100 COMMON EXCAVATION (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (6)	MASS ORDINATE +/- (7)	WASTE	208.0100 BORROW	COMMENT
			CUT (2)	EBS EXCAVATION (3)				FACTOR 1.10				
IH 43 & CTH U - ASPHALTIC CURB/FLUMES/C&G												
ASPHCR NB LT	511+38.79/511+75.48	2B	0	0	4	-4	19	21	-25	0	25	
C&G NB LT	514+41.98/515+12.19	2B	3	0	7	-4	88	97	-101	0	101	
C&G SB RT	511+61.91/512+41.87	2B	8	0	8	0	83	91	-91	0	91	
ASPHCR SB RT (1)	514+66.83/514+93.69	2B	0	0	0	0	36	40	-40	0	40	
ASPHCR SB RT (2)	515+10.04/515+58.72	2B	5	0	5	0	18	20	-20	0	20	
SUBTOTAL			16	0	24	-8	244	268	-276	0	276	
IH 43 - BULLNOSE BEAM GUARDS												
STA548NB+00 CR BN	544+65.50/550+71.53	SHOULDER CLOSURE	145	0	35	110	31	34	76	76	0	
STA548SB+00 CR BN	545+42.05/551+30.75	SHOULDER CLOSURE	80	0	34	46	41	45	1	1	0	
STA634NB+00 Y BN	632+69.47/636+32.55	SHOULDER CLOSURE	23	0	15	8	30	33	-25	0	25	
SUBTOTAL			248	0	84	164	102	112	52	77	25	
IH 43 - BEAM GUARDS												
STA660NB+50 LT BG	658+79.39/660+48.37	4A	20	0	9	11	20	22	-11	0	11	
STA665NB+50 RT BG	663+29.58/664+99.24	4B	20	0	9	11	51	56	-45	0	45	
STA673SB+00 RT BG	672+98.45/674+68.04	4A	35	0	20	15	8	9	6	6	0	
STA676SB+00 LT BG	676+02.44/677+70.35	4B	18	0	9	9	58	64	-55	0	55	
STA777NB+00 RT BG	775+49.22/777+18.33	4B	30	0	18	12	12	13	-1	0	1	
SUBTOTAL			123	0	65	58	149	164	-106	6	112	
IH 43 NB ON RAMP (LOOP) FROM CTH O - BEAM GUARD												
STA780LR+45 RT BG	779+04.97/780+82.69	5	22	0	10	12	0	0	12	12	0	
SUBTOTAL			22	0	10	12	0	0	12	12	0	
GRAND TOTAL			409	0	183	226	495	545	-319	95	414	
TOTAL COMMON EXC			* 409									

NOTES:

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (3) EBS EXCAVATION TO BE BACKFILLED WITH PIT RUN SAND OR EQUIVALENT SUBSTITUTION AS SPECIFIED IN THE STANDARD SPECIFICATIONS, ENSURING PROPER COMPACTION AND EFFECTIVE DRAINAGE.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (6) EXPANDED FILL FACTOR = 1.10
- DEPENDENT ON SELECTIONS:
  - EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH - REDUCED EBS) \* FILL FACTOR
  - OR
  - EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED EBS) \* FILL FACTOR
  - OR
  - EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH) \* FILL FACTOR
  - OR
  - EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK) \* FILL FACTOR
- (7) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- (8) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

\* ADDITIONAL QUANTITIES ARE SHOWN ELSEWHERE.

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HMA QUALITY MANAGEMENT PROGRAM SUMMARY TABLE

ROADWAY	LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR	
								MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
IH 43 NB	MAINLINE (LANE 1)	467NB+35 TO 759NB+74	UPPER LAYER	4 HT 58-28 S	4 SMA 58-28 H	3832	1.75"	QMP AS PER SS 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
	MAINLINE (LANE 1)	467NB+35 TO 759NB+74	LOWER LAYER	MILLED SURFACE	4 HT 58-28 S	4928	2.25"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
IH 43 NB	MAINLINE (LANE 2)	467NB+35 TO 759NB+74	UPPER LAYER	4 HT 58-28 S	4 SMA 58-28 H	4590	1.75"	QMP AS PER SS 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
	MAINLINE (LANE 2)	467NB+35 TO 759NB+74	LOWER LAYER	MILLED SURFACE	4 HT 58-28 S	5901	2.25"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
IH 43 NB	INSIDE SHOULDER	467NB+35 TO 759NB+74	UPPER LAYER	MILLED SURFACE	4 MT 58-28 S	3692	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
	OUTSIDE SHOULDER	467NB+35 TO 759NB+74	UPPER LAYER	MILLED SURFACE	4 MT 58-28 S	3969	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
IH 43 NB & MOORLAND RD INTERCHANGE	INSIDE SHOULDER	759NB+74 TO 780NB+00	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	284	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
		759NB+74 TO 780NB+00	LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	284	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
	OUTSIDE SHOULDER	759NB+74 TO 778NB+11	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	259	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
		759NB+74 TO 778NB+11	LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	259	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
IH 43 SB	MAINLINE (LANE 1)	467SB+52 TO 759SB+72	UPPER LAYER	4 HT 58-28 S	4 SMA 58-28 H	3971	1.75"	QMP AS PER SS 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
	MAINLINE (LANE 1)	467SB+52 TO 759SB+72	LOWER LAYER	MILLED SURFACE	4 HT 58-28 S	5107	2.25"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
IH 43 SB	MAINLINE (LANE 2)	467SB+52 TO 759SB+72	UPPER LAYER	4 HT 58-28 S	4 SMA 58-28 H	4263	1.75"	QMP AS PER SS 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
	MAINLINE (LANE 2)	467SB+52 TO 759SB+72	LOWER LAYER	MILLED SURFACE	4 HT 58-28 S	5481	2.25"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
IH 43 SB	INSIDE SHOULDER	467SB+52 TO 759SB+72	UPPER LAYER	MILLED SURFACE	4 MT 58-28 S	3775	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
	OUTSIDE SHOULDER	467SB+52 TO 759SB+72	UPPER LAYER	MILLED SURFACE	4 MT 58-28 S	3615	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
IH 43 SB & MOORLAND RD INTERCHANGE	INSIDE SHOULDER	759SB+72 TO 780SB+93	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	302	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
			LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	302	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
	OUTSIDE SHOULDER	759SB+72 TO 780SB+93	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	253	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
			LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	253	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE

NOTES

- LANE 1 REFERS TO INSIDE LANE AND LANE 2 REFERS TO OUTSIDE LANE
- 4 MT 58-28 S UPPER LAYER TONNAGE USED ON EXTENDING SHOULDERS NEXT TO BEAM GUARDS EAT IS NOT INCLUDED ON THIS TABLE, BUT IT SHOWN ON ASPHALTIC ITEMS ON MISCELLANEOUS QUANTITIES
- TOTAL TONNAGE OF EACH MIX TYPE USED TO DETERMINE THE ELIGIBILITY FOR PWL

HMA QUALITY MANAGEMENT PROGRAM SUMMARY TABLE

RAMPS	LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR	
								MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
IH 43 NB OFF RAMP TO MOORLAND RD	INSIDE SHOULDER	770NR+98 TO 778NR+01	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	27	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
			LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	27	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
	OUTSIDE SHOULDER	770NR+98 TO 780NR+77	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	63	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
			LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	63	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
IH 43 NB ON RAMP FROM MOORLAND RD (LOOP RAMP)	OUTSIDE SHOULDER	769LR+52 TO 781LR+50	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	75	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
			LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	75	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
IH 43 SB ON RAMP FROM MOORLAND RD	INSIDE SHOULDER	781SR+08 TO 791SR+16	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	71	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
			LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	71	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
	OUTSIDE SHOULDER	781SR+08 TO 790SR+76	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	66	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
			LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	66	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE

**NOTES**

- TOTAL TONNAGE OF EACH MIX TYPE USED TO DETERMINE THE ELIGIBILITY FOR PWL



FTMS EACH REMOVALS

CATEGORY	ROADWAY	ITEM ID.	653.0905 REMOVING PULL BOXES EACH	SPV.0060.20 REPAIR CONDUIT EACH	SPV.0060.22 REMOVE ETHERNET RADIO EACH	SPV.0060.23 REMOVING CONTROLLER CABINET EACH	SPV.0060.24 REMOVING CONTROLLER CABINET BASE EACH
1300	IH 43	EXCB462	--	--	--	1	1
		EXCB463	--	--	--	1	1
		EX-CCTV-67-0140	--	--	1	--	--
		EX-CCTV-67-0139	--	--	2	--	--
		EXCBRB	--	--	--	1	1
		EXPB548	1	2	--	--	--
		EXPB549B	1	2	--	--	--
		EX-CB-ATR-67-0010	--	--	--	1	1
		EX-CCTV-67-0125	--	--	2	--	--
		EX-CCTV-67-0225	--	--	2	--	--
		EX-CCTV-67-0088	--	--	1	--	--
<b>TOTALS</b>			<b>2</b>	<b>4</b>	<b>8</b>	<b>4</b>	<b>4</b>

FTMS CABLE REMOVALS

CATEGORY	ROADWAY	ITEM ID	674.0300 REMOVE CABLE LF
1300	IH 43	EXMB462 - EXPB462	10
		EXCB463 - EXPB462	20
		EXCB462 - EXPB462	15
		EX-CB-ATR-67-0010 - EX-CB-CRB	25
<b>TOTAL</b>			<b>70</b>

MISCELLANEOUS ITEMS

CATEGORY	ROADWAY	670.0101 FIELD SYSTEM INTEGRATOR EACH	670.0201 ITS DOCUMENTATION EACH	678.0501 COMMUNICATION SYSTEM TESTING EACH
1300	IH 43 PROJECT	1	1	1
<b>TOTALS</b>		<b>1</b>	<b>1</b>	<b>1</b>

FTMS PULL BOXES AND VAULTS

CATEGORY	ROADWAY	ITEM ID.	LOCATION		652.0700.S	653.0140	673.0105	673.0200	678.0200	678.0300	678.0400	678.0600	SPV.0060.21	SPV.0060.25	SPV.0060.26		
			STATION	OFFSET	INSTALL CONDUIT INTO EXISTING ITEM EACH	PULL BOXES STEEL 24 X 42 - INCH EACH	COMMUNICATION VAULT TYPE 1 EACH	TRACER WIRE MARKER POSTS EACH	FIBER OPTIC SPLICE ENCLOSURE EACH	FIBER OPTIC SPLICE EACH	FIBER OPTIC TERMINATION EACH	INSTALL ETHERNET SWITCHES EACH	POWER WIRE SPLICE EACH	EXPOSING EXISTING INFRASTRUCTURE PAVED AREA EACH	EXPOSING EXISTING INFRASTRUCTURE UNPAVED AREA EACH		
1300	IH 43	EXPB462	--	--	--	--	--	1	--	--	--	--	--	--	--		
		EX-CCTV-67-0140	--	--	--	--	--	--	--	--	6	1	--	--	--		
		EXPB465	--	--	1	--	--	--	--	--	--	--	--	--	--		
		PB466	466+31	161' RT	--	1	--	--	--	--	--	--	--	--	--		
		CV470	470NB+00	76' RT	--	--	1	1	1	4	--	--	--	--	--		
		CV492	492NB+00	52' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV510	510NB+10	53' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV514	514NB+35	54' RT	--	--	1	1	--	--	--	--	--	--	--		
		CV530	530NB+00	53' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV545	545NB+55	83' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV548	548NB+00	52' RT	--	--	1	1	1	74	--	--	--	--	--		
		EX-CB-SDS-67-0120	--	--	--	--	--	--	--	--	6	1	--	--	--		
		PBCR05	--	--	--	1	--	--	--	--	--	--	3	--	--		
		EXPB547	--	--	1	--	--	--	--	--	--	--	--	--	--		
		CV566	566NB+00	54' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV581	581NB+52	52' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV596	596NB+00	53' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV614	614NB+00	84' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV632	632NBOFFY+41	83' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV634	633NBONY+00	65' RT	--	--	1	1	1	74	--	--	--	--	--		
		EXPB634	--	--	1	--	--	--	--	--	--	--	--	--	--		
		EX-CB-CCTV-67-0125	--	--	--	--	--	--	--	--	6	1	--	--	--		
		CV652	652NB+00	66' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV668	668NB+00	51' RT	--	--	1	1	--	--	--	--	--	--	--		
		CV671	671NB+00	52' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV686	686NB+00	53' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV703	702NB+00	51' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV718	717NB+71	53' RT	--	--	1	1	1	74	--	--	--	--	--		
		EXPB718	--	--	1	--	--	--	--	--	--	--	--	--	--		
		CV720	720NB+15	54' RT	--	--	--	--	--	--	--	--	--	--	--		
		EX-CCTV-67-0225	--	--	--	--	--	--	--	--	6	1	--	--	--		
		CV739	739NB+00	62' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV757	757NB+00	65' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV775	775NBOFFMR+00	13' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV782	781NBOFFMR+32	724' RT	--	--	1	--	--	--	--	--	--	--	--		
		CV783	26SBMR+40	50' LT	--	--	1	1	--	--	--	--	--	--	--		
		CV788	787NBONMR+85	41' RT	--	--	1	--	--	--	--	--	--	--	--		
		EXCV795	--	--	1	--	--	1	1	74	--	--	--	--	--		
		EX-CB-RM-67-0132	--	--	--	--	--	--	--	--	6	--	--	--	--		
		UNDISTRIBUTED	--	--	--	--	--	--	--	--	--	--	--	5	5		
TOTALS							5	2	25	8	5	300	24	3	3	5	5

FTMS CONDUIT AND WIRE

CATEGORY	ROADWAY	ITEM ID	LINEAR DISTANCE	655.0515	671.0112	671.0132	671.0212	671.0232	671.0300	674.0400	678.0006	678.0072
				ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF	CONDUIT HDPE 2-INCH LF	CONDUIT HDPE 2-INCH LF	CONDUIT HDPE DIRECTIONAL BORE 2-INCH LF	CONDUIT HDPE DIRECTIONAL BORE 2-INCH LF	FIBER OPTIC CABLE MARKER EACH	REINSTALL CABLE LF	INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT LF	INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 72-CT LF
1300	IH 43	EXMB462 - EXPB462	10	--	--	--	--	--	--	10	--	--
		EX-CCTV-67-0140 - EXPB460	25	25	--	--	--	--	--	--	50	--
		EXPB460 - EXPB461	230	230	--	--	--	--	--	--	230	--
		EXPB461 - EXPB465	270	270	--	--	--	--	--	--	270	--
		EXPB465 - PB466	215	215	--	--	215	--	--	--	215	--
		PB466 - CV470	480	480	--	--	--	--	--	--	480	--
		CV470	--	--	--	--	--	--	--	--	100	100
		CV470 - CV492	2,220	2,220	--	2,220	--	--	2	--	--	2,220
		CV492	--	--	--	--	--	--	1	--	--	100
		CV492 - CV510	1,810	1,810	--	1,810	--	--	2	--	--	1,810
		CV510	--	--	--	--	--	--	1	--	--	100
		CV510 - CV514	425	425	--	--	--	425	2	--	--	425
		CV514	--	--	--	--	--	--	1	--	--	100
		CV514 - CV530	1,565	1,565	--	1,565	--	--	2	--	--	1,565
		CV530	--	--	--	--	--	--	1	--	--	100
		CV530 - CV545	1,560	1,560	--	1,560	--	--	2	--	--	1,560
		CV545	--	--	--	--	--	--	1	--	--	100
		CV545 - CV548	245	245	--	--	--	245	2	--	--	245
		CV548	--	--	--	--	--	--	--	--	100	100
		CV548 - EXPB547	55	55	55	--	--	--	--	--	55	--
		EXPB547 - EXPB549A	190	190	--	--	--	--	1	--	190	--
		EXPB549A - EXPB550A	190	190	--	--	--	--	1	--	190	--
		EXPB550A - EXPB550B	45	45	--	--	--	--	--	--	45	--
		EXPB550B - EX-CB-SDS-67-0120	25	25	--	--	--	--	--	--	50	--
		CV548 - CV566	1,790	1,790	--	1,790	--	--	4	--	--	1,790
		CV566	--	--	--	--	--	--	1	--	--	100
		CV566 - CV581	1,550	1,550	--	1,550	--	--	4	--	--	1,550
		CV581	--	--	--	--	--	--	1	--	--	100
		CV581 - CV596	1,450	1,450	--	1,450	--	--	4	--	--	1,450
		CV596	--	--	--	--	--	--	1	--	--	100
		CV596 - CV614	1,800	1,800	--	1,800	--	--	4	--	--	1,800
		CV614	--	--	--	--	--	--	1	--	--	100
		CV614 - CV632	1,715	1,715	--	1,715	--	--	4	--	--	1,715
		CV632	--	--	--	--	--	--	1	--	--	100
		CV632 - CV634	345	345	--	--	--	345	2	--	--	345
		CV634	--	--	--	--	--	--	--	--	100	100
		CV634 - EXPB634	95	95	--	--	--	--	1	--	95	--
		EXPB634 - EXPB635	75	75	--	--	--	--	1	--	75	--
		EXPB635 - EX-CB-CCTV-67-0125	15	15	--	--	--	--	1	--	40	--
		CV634 - CV652	1,925	1,925	--	1,925	--	--	4	--	--	1,925
		CV652	--	--	--	--	--	--	--	--	--	100
		CV652 - QP655	295	295	--	295	--	--	1	--	--	295
		QP655 - QP657	190	190	--	--	--	190	2	--	--	190
		QP657 - CV668	1,115	1,115	--	1,115	--	--	1	--	--	1,115
		CV668	--	--	--	--	--	--	1	--	--	100
		CV668 - CV671	300	300	--	--	--	300	2	--	--	300
		CV671	--	--	--	--	--	--	1	--	--	100
		CV671 - CV686	1,495	1,495	--	1,495	--	--	4	--	--	1,495
		CV686	--	--	--	--	--	--	1	--	--	100
		CV686 - CV703	1,625	1,625	--	1,625	--	--	4	--	--	1,625
		SUBTOTALS		25,330	55	21,915	215	1,505	70	10	2,285	25,120

FTMS CONDUIT AND WIRE (CONTINUED)

CATEGORY	ROADWAY	ITEM ID	LINEAR DISTANCE	655.0515	671.0112	671.0132	671.0212	671.0232	671.0300	674.0400	678.0006	678.0072
				ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF	CONDUIT HDPE 2-INCH LF	CONDUIT HDPE 3-INCH LF	CONDUIT HDPE DIRECTIONAL BORE 1-DUCT 2-INCH LF	CONDUIT HDPE DIRECTIONAL BORE 3-DUCT 2-INCH LF	FIBER OPTIC CABLE MARKER EACH	REINSTALL CABLE LF	INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT LF	INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 72-CT LF
		CV703	--	--	--	--	--	--	1	--	--	100
		CV703 - CV718	1,580	1,580	--	1,580	--	--	4	--	--	1,580
		CV718	--	--	--	--	--	--	--	--	100	100
		CV718 - EXPB718	60	60	60	--	--	--	1	--	60	--
		EXPB718 - EX-CB-CCTV-67-0225	25	25	--	--	--	--	--	--	50	--
		CV718 - CV720	250	250	--	--	--	250	2	--	--	250
		CV720	--	--	--	--	--	--	1	--	--	100
		CV720 - CV739	1,905	1,905	--	1,905	--	--	4	--	--	1,905
		CV739	--	--	--	--	--	--	1	--	--	100
		CV739 - CV757	1,800	1,800	--	1,800	--	--	4	--	--	1,800
		CV757	--	--	--	--	--	--	1	--	--	100
		CV757 - CV775	1,795	1,795	--	1,795	--	--	4	--	--	1,795
		CV775	--	--	--	--	--	--	1	--	--	100
		CV775 - CV782	640	640	--	640	--	--	2	--	--	640
		CV782	--	--	--	--	--	--	1	--	--	100
		CV782 - QP769	240	240	--	--	--	240	2	--	--	240
		QP769 - CV783	655	655	--	655	--	--	2	--	--	655
		CV783	--	--	--	--	--	--	--	--	--	100
		CV783 - CV788	260	260	--	--	--	260	2	--	--	260
		CV788 - EXPB787	90	90	90	--	--	--	1	--	90	--
		EXPB787 - EX-CB-CCTV-67-0088	10	10	--	--	--	--	--	--	35	--
		CV788 - EXCV795	740	740	--	740	--	--	2	--	740	740
		CV788	--	--	--	--	--	--	1	--	50	100
		EXCV795	--	--	--	--	--	--	--	--	100	100
		<b>SUBTOTALS</b>		10,050	150	9,115	--	750	37	--	1,225	10,865
		<b>TOTALS</b>		35,380	205	31,030	215	2,255	107	10	3,510	35,985

3

TYPE I & II PERMANENT SIGNING

1090-09-76

CATEGORY CODE 1000

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2215	637.2230	638.2102	638.2602	638.3000	634.0618	634.0622	634.0814	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	638.2101	638.2601	635.0300	638.3100	531.2024	531.1140 (EST)	531.1100 (EST)	635.0200 (EST)
			W [IN.]	X [IN.]	H [IN.]	REFLECTIVE H [SF]	SIGNS TYPE II REFLECTIVE H FOLDING SF	SIGNS TYPE II REFLECTIVE F [SF]	MOVING SIGNS TYPE II [EA]	REMOVING SIGNS TYPE II [EA]	REM SMALL SIGN SUP [EA]	POSTS WOOD [EA]	POSTS WOOD [EA]	POSTS TUBULAR STEEL [EA]			W [FT.]	X [FT.]	H [FT.]	SIGNS TYPE I REFLECTIVE SH [SF]	MOVING SIGNS TYPE I [EA]	REMOVING SIGNS TYPE I [EA]	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS (EA)	REMOVING STRUCTURAL STEEL SIGN SUPPORTS (EA)	DRILLING SHAFT 24 INCH LF (EST)	STEEL REINFORCEMENT HS ANCILLARY STRUCTURES TYPE NS - LBS	CONCRETE MASONRY ANCILLARY STRUCTURES TYPE NS - CY	SIGN SUPPORTS STEEL HS LBS
1	E4-1A	164 WALKESHA , BIG BEND TILT ARROW RIGHT													REUSE STEEL POSTS	19	X	11	209.00		1	2						
1A	E1-5P	EXIT 50												1	MOUNT ON EXISTING E5-1A SIGN	9	X	2.5	22.50									
2	W5-54(2M)		18	X	18			2.250							MOUNT ON EXISTING E5-1A SIGN													
3	W5-54(2M)		18	X	18			2.250							MOUNT ON EXISTING E5-1A SIGN													
4	W5-54(2M)		18	X	18			2.250							MOUNT ON EXISTING E5-1A SIGN													
5	W5-54(2M)		18	X	18			2.250							MOUNT ON EXISTING E5-1A SIGN													
6	NONE	EXPERIMENTAL ASPHALT																										
7	E4-1A	164, WALKESHA, BIG BEND TILT ARROW RIGHT								1	1				REUSE STEEL POSTS	19	X	11	209.00		1	2						
7A	E1-5P	EXIT 50												7		9	X	2.5	22.50									
8	E3-1	BIG BEND PARK AND RIDE EXIT 50													REUSE STEEL POSTS	12	X	10	120.00		1	2						
9	D2-3	Y -3 MOORLAND RD 6 MILWAUKEE 21													REUSE STEEL POSTS	16	X	7.5	120.00		1	2						
10	W5-52R(3)		18	X	54			6.750		1	1	1			4 FOOT MOUNTING HEIGHT													
11	W5-52L(3)		18	X	54			6.750		1	1	1			4 FOOT MOUNTING HEIGHT													
12	W5-52L(3)		18	X	54			6.750		1	1	1			4 FOOT MOUNTING HEIGHT													
13	W5-52R(3)		18	X	54			6.750		1	1	1			4 FOOT MOUNTING HEIGHT													
14	E1-1A	164 WALKESHA BIG BEND 1 MILE													REUSE STEEL POSTS	16	X	13.5	216.00		1	2						
14A	E1-5P	EXIT 50												14		9	X	2.5	22.50									
15	M1-94(5)	CROWBAR RD	84	X	30	17.500							2															
16	D10-5	22000 WEST							1		1	1																
17	E3-1	NORTH 43, MILE 52.4 MUSKEGO NEW BERLIN NEXT 2 EXITS													REUSE STEEL POSTS	12	X	6.5	78.00		1	2						
18	E1-1A	Y RACINE AVE 1 MILE													REUSE STEEL POSTS	18	X	10	180.00		1	2						
18A	E1-5P	EXIT 54												18		9	X	2.5	22.50									
19	D2-3	164 -3 MUKWONAGO 11													REUSE STEEL POSTS	16	X	7.5	120.00		1	2						
20	E4-1A	BELOIT 57 Y RACINE AVE TILT ARROW RIGHT													REUSE STEEL POSTS	20	X	7.5	150.00		1	2						
20A	E1-5P	EXIT 54												20		9	X	2.5	22.50									
21	W5-54(2M)		18	X	18			2.250							MOUNT ON EXISTING E5-1A SIGN													
22	W5-54(2M)		18	X	18			2.250							MOUNT ON EXISTING E5-1A SIGN													
23	E6-54A	SOUTH 43, NORTH Y RACINE AVE (AHEAD ARROW)													MOUNT ON S-67-912, PROVIDE NEW I BEAMS INCIDENTAL TO SIGN. NEW SIGN IS SHORTER IN HEIGHT AND LENGTH	9	X	8.5	76.50		1							
24	E6-54A	Y NORTH													MOUNT ON S-67-912, REUSE I BEAMS	9	X	7	63.00									
25	E6-54R	RACINE AVE (AHEAD ARROW) 43 NORTH MILWAUKEE ARROW ONLY													MOUNT ON S-67-912. REUSE I BEAMS	9	X	7.5	67.50		1							
26	W12-1D(2)		24	X	24										2 FOOT MOUNTING HEIGHT													
27	J3-1(2)		24	X	57	9.500		4.000																				
28	MB3-1 M1-1 MB6-2	IH 43	24	X	12																							
28	R1-2(2S)		21	X	21																							
28	R1-2(2S)		36	X	31	3.880			1	1	1				6.5 FEET TO BOTTOM OF YIELD SIGN													
29	R6-2R(2S)		24	X	30	5.000									4 FEET TO BOTTOM OF SIGN													
30	R1-2(2S)		36	X	31	3.880			1	1	1				6.5 FEET TO BOTTOM OF YIELD SIGN													

3

SHEET: 1 OF 6

3

TYPE I & II PERMANENT SIGNING

1090-09-76

CATEGORY CODE 1000

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2215	637.2230	638.2102	638.2602	638.3000	634.0618	634.0622	634.0814	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	638.2101	638.2601	635.0300	638.3100	531.2024	531.1140	531.1100	635.0200
			W [IN.]	x	H [IN.]	REFLECTIVE H [SF]	SIGNS TYPE II REFLECTIVE H FOLDING SF	SIGNS TYPE II REFLECTIVE F [SF]	MOVING SIGNS TYPE II [EA]	REMOVING SIGNS TYPE II [EA]	REM SMALL SIGN SUP [EA]	POSTS WOOD 4" X 6" X 18' [EA]	POSTS WOOD 4" X 6" X 22' [EA]	POSTS TUBULAR STEEL 2 X 2 INCH X 14 FT [EA]			W [FT.]	x	H [FT.]	SIGNS TYPE I REFLECTIVE SH [SF]	MOVING SIGNS TYPE I [EA]	REMOVING SIGNS TYPE I [EA]	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS (EA)	REMOVING STRUCTURAL STEEL SIGN SUPPORTS (EA)	DRILLING SHAFT 24 INCH LF (EST)	STEEL REINFORCEMENT HS ANCILLARY STRUCTURES TYPE NS - LBS	CONCRETE MASONRY ANCILLARY STRUCTURES TYPE NS - CY	SIGN SUPPORTS STRUCTURAL STEEL HS LBS
31	R1-54(2S)		24	X	15	2.500								30	5.25 FEET TO BOTTOM OF SIGN													
32	W4-3R(2S)		36	X	36			9.000																				
33	W4-3R(2S)		36	X	36			9.000																				
34	D1-1	43 NORTH MILWAUKEE (TILT ARROW RIGHT)	78	X	30	16.250																						
35	J3-1(2)		24	X	57	9.500																						
	MB3-3		24	X	12																							
	M1-1	IH 43	24	X	24																							
36	MB6-1		21	X	21																							
	D1-1	43 SOUTH																										
		Y NORTH RACINE AVE (TILT ARROW RIGHT)	78	X	48	26.000																						
37	R1-2(2S)		36	X	31	3.880									6.5 FEET TO BOTTOM OF YIELD SIGN													
38	R1-54(2S)		24	X	15	2.500								37	5.25 FEET TO BOTTOM OF SIGN													
39	W3-2(2)		36	X	36			9.000																				
39A	W13-1(3)	15 MPH	24	X	24			4.000																				
40	W3-2(2)		36	X	36			9.000																				
40A	W13-1(3)	15 MPH	24	X	24			4.000																				
41	E6-52	Y NORTH RACINE AVE 43 SOUTH BELOIT													MOUNT ON S-67-913, NEW I BEAMS INCIDENTAL TO SIGN	12	X	8.5	102.00			1						
		(COMBINATION AHEAD LEFT ARROW)																										
42	E6-54A	Y NORTH RACINE AVE (AHEAD ARROW)													MOUNT ON S-67-913, REUSE I BEAMS	9	X	7	63.00			1						
43	W8-73(2)		36	X	36			9.000																				
44	R3-8 1A		30	X	36		7.500																					
45	W1-6(2S)		48	X	24			8.000																				
46	R1-2(2)		36	X	31	3.880									MOUNT ON LIGHT POLE													
47	R6-2R(2S)		24	X	30	5.000								46	6.5 FOOT TO BOTTOM OF YIELD SIGN 4 FOOT MOUNTING HEIGHT													
48	R3-1(2M)		36	X	36	9.000																						
49	R5-1(2S)		30	X	30	6.250									48	REMOVAL IS PART OF SIGN # 48												
50	R1-2(2S)		36	X	31	3.880									49	6.5 FOOT MOUNTING HEIGHT TO BOTTOM OF YIELD SIGN												
51	R1-54(2S)		24	X	15	2.500									50	5.25 FOOT MOUNTING HEIGHT												
52	R6-1L(2S)		36	X	12	3.000									51	MOUNT ON TOP OF YIELD SIGN. REMOVAL INCIDENTAL TO # 51												
53	R5-1(3)		36	X	36	9.000																						
54	R1-2(2S)		36	X	31	3.880									54	6.5 FOOT MOUNTING HEIGHT TO BOTTOM OF YIELD SIGN												
55	R6-2R(2S)		24	X	30	5.000									55	4 FOOT MOUNTING HEIGHT BELOW YIELD SIGN												
56	R1-2(2S)		36	X	31	3.880									56	6.5 FOOT MOUNTING HEIGHT TO BOTTOM OF YIELD SIGN												
57	R1-54(2S)		24	X	15	2.500									57	5.25 FOOT MOUNTING HEIGHT												
58	D1-2	43 NORTH (TILT ARROW LEFT)	78	X	48	26.000																						
		Y SOUTH RACINE AVE (TILT ARROW RIGHT)																										
59	W8-73(2)		36	X	36			9.000							MOUNT ON S-67-912													
60	W5-52R(2)		12	X	36			3.000							4 FOOT MOUNTING HEIGHT													

3



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TYPE I & II PERMANENT SIGNING

1090-09-76

CATEGORY CODE 1000

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2215	637.2230	638.2102	638.2602	638.3000	634.0618	634.0622	634.0814	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	638.2101	638.2601	635.0300	638.3100	531.2024	531.1140	531.1100	635.0200
			W [IN.]	x	H [IN.]	REFLECTIVE H [SF]	SIGNS TYPE II REFLECTIVE H FOLDING SF	SIGNS TYPE II REFLECTIVE F [SF]	MOVING SIGNS TYPE II [EA]	REMOVING SIGNS TYPE II [EA]	REM SMALL SIGN SUP [EA]	POSTS WOOD 4" X 6" X 18' [EA]	POSTS WOOD 4" X 6" X 22' [EA]	POSTS TUBULAR STEEL 2 X 2 INCH X 14 FT [EA]			W [FT.]	x	H [FT.]	SIGNS TYPE I REFLECTIVE SH [SF]	MOVING SIGNS TYPE I [EA]	REMOVING SIGNS TYPE I [EA]	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS (EA)	REMOVING STRUCTURAL STEEL SIGN SUPPORTS (EA)	DRILLING SHAFT 24 INCH LF (EST)	STEEL REINFORCEMENT HS ANCILLARY STRUCTURES TYPE NS - LBS	CONCRETE MASONRY ANCILLARY STRUCTURES TYPE NS - CY	SIGN SUPPORTS STRUCTURAL STEEL HS LBS
61	W8-5(2S)		36	X	36																							
62	W8-73(2)		36	X	36																							
63	R3-81A		30	X	36	7.500																						
64	R1-2(2S)		36	X	31	3.880																						
65	R6-2R(2S)		24	X	30	5.000																						
66	R1-2(2S)		36	X	31	3.880																						
67	R1-54(2S)		24	X	15	2.500																						
68	R6-1L(2S)		36	X	12	3.000																						
69	R5-1(3)		36	X	36	9.000																						
70	R5-1(2S)		30	X	30	6.250																						
71	R1-2(2S)		36	X	31	3.880																						
72	R6-2R(2S)		24	X	30	5.000																						
73	R1-2(2S)		36	X	31	3.880																						
74	R1-54(2S)		24	X	15	2.500																						
75	R11-54(2S)		48	X	30		10.000																					
76	D1-2	43 SOUTH (TILT ARROW LEFT)	78	X	48	26.000																						
77	R1-2(2S)	Y NORTH RACINE AVE (TILT ARROW RIGHT)	36	X	31	3.880																						
78	R1-54(2S)		24	X	15	2.500																						
79	R1-2(2S)		36	X	31	3.880																						
80	R6-2R(2S)		24	X	30	5.000																						
81	R1-2(2S)		36	X	31	3.880																						
82	R1-54(2S)		24	X	15	2.500																						
83	D1-2	43 SOUTH BELOIT (TILT ARROW RIGHT)	66	X	30	13.750																						
84	J3-1(2) MB3-1 M1-1 MB6-1	IH 43	24 24 24 21	X	57 12 24 21	9.500																						
85	W3-2(2S)		36	X	36																							
85A	W13-1(3)	15 MPH	24	X	24																							
86	W3-2(2S)		36	X	36																							
86A	W13-1(3)	15 MPH	24	X	24																							
87	W5-52L(2S)		12	X	36																							
88	W5-52R(2S)		12	X	36																							
89	E6-54A	Y SOUTH RACINE AVE (AHEAD ARROW)																										
90	E6-52	Y SOUTH RACINE AVE 43 NORTH																										
91	W8-5(2S)	MILWAUKEE (COMBINATION AHEAD LEFT ARROW)	36	X	36																							

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TYPE I & II PERMANENT SIGNING

1090-09-76

CATEGORY CODE 1000

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2215	637.2230	638.2102	638.2602	638.3000	634.0618	634.0622	634.0814	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	638.2101	638.2601	635.0300	638.3100	531.2024	531.1140	531.1100	635.0200
			W [IN.]	x	H [IN.]	REFLECTIVE H [SF]	SIGNS TYPE II REFLECTIVE H FOLDING SF	SIGNS TYPE II REFLECTIVE F [SF]	MOVING SIGNS TYPE II [EA]	REMOVING SIGNS TYPE II [EA]	REM SMALL SIGN SUP [EA]	POSTS WOOD 4" X 6" X 18' [EA]	POSTS WOOD 4" X 6" X 22' [EA]	POSTS TUBULAR STEEL 2 X 2 INCH X 14 FT [EA]			W [FT.]	x	H [FT.]	SIGNS TYPE I REFLECTIVE SH [SF]	MOVING SIGNS TYPE I [EA]	REMOVING SIGNS TYPE I [EA]	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS (EA)	REMOVING STRUCTURAL STEEL SIGN SUPPORTS (EA)	DRILLING SHAFT 24 INCH LF (EST)	STEEL REINFORCEMENT HS ANCILLARY STRUCTURES TYPE NS - LBS	CONCRETE MASONRY ANCILLARY STRUCTURES TYPE NS - CY	SIGN SUPPORTS STRUCTURAL STEEL HS LBS
92	W5-52L(2S)		12	X	36			3.000		1	1	1			4 FOOT MOUNTING HEIGHT													
93	R6-1R(2S)		12	X	36	3.000				1	2	2		96														
94	R6-1R(2S)		12	X	36	3.000				1	2	2		97														
95	R6-1R(2S)		12	X	36	3.000				1	2	2		98														
96	R6-4B(2S)		60	X	24	10.000								93	4 FOOT MOUNTING HEIGHT. REMOVAL PART OF SIGN # 93													
97	R6-4B(2S)		60	X	24	10.000								94	4 FOOT MOUNTING HEIGHT. REMOVAL PART OF SIGN # 94													
98	R6-4B(2S)		60	X	24	10.000								95	4 FOOT MOUNTING HEIGHT. REMOVAL PART OF SIGN # 95													
99	R6-1R(2S)		12	X	36	3.000				1	2	2		102	SHEET 15													
100	R6-1R(2S)		12	X	36	3.000				1	2	2		103	SHEET 15													
101	R6-1R(2S)		12	X	36	3.000				1	2	2		104	SHEET 15													
102	R6-4B(2S)		60	X	24	10.000								99	4 FOOT MOUNTING HEIGHT. REMOVAL PART OF SIGN # 99													
103	R6-4B(2S)		60	X	24	10.000								100	4 FOOT MOUNTING HEIGHT. REMOVAL PART OF SIGN # 100													
104	R6-4B(2S)		60	X	24	10.000								101	4 FOOT MOUNTING HEIGHT. REMOVAL PART OF SIGN # 101													
105	R3-1(2M)		36	X	36	9.000								70	REMOVAL PART OF # 70. SHEET 16													
106	W12-1(2S)		24	X	24			4.000		1	1	1			4 FOOT MOUNTING HEIGHT													
107	W8-73(2)		36	X	36			9.000		1					MOUNT ON UPRIGHT OF S-67-914													
108	R11-54F(2S)		48	X	30		10.000			2	2	2																
109	E6-54R	43 SOUTH BELOIT ARROW ONLY													MOUNT ON S-67-914, PROVIDE NEW I BEAMS INCIDENTAL TO SIGN	7	X	7.5	52.50			1						
110	E6-54A	Y SOUTH													MOUNT ON S-67-914, REUSE I BEAMS	9	X	7	63.00			1						
111	E6-54A	RACINE AVE AHEAD ARROW NORTH 43, SOUTH Y RACINE AVE AHEAD ARROW													MOUNT ON S-67-914, TRIM I BEAMS TO 8.5 FEET HIGH, INCIDENTAL TO SIGN	9	X	8.5	76.50			1						
112	J3-1(2) MB3-3 M1-1 MB6-1	IH 43	24	X	57	9.500				1	1	1																
113	W12-1D(2)		24	X	24			4.000		1	1	1			4 FOOT MOUNTING HEIGHT													
114	W8-73(2S)		36	X	24			9.000		1					MOUNT ON UPRIGHT OF S-67-916													
115	E6-54R	Y NORTH RACINE AVE													MOUNT ON S-67-916, TRIM I BEAMS TO 7 FOOT HEIGHT INCIDENTAL TO SIGN	10	X	7	70.00			1						
116	E6-52	ARROW ONLY TO SOUTH 43 Y SOUTH RACINE AVE (COMBINATION AHEAD LEFT ARROW)													MOUNT ON S-67-916, NEW I BEAMS INCIDENTAL	13	X	8	104.00			1						
117	E6-54	Y SOUTH RACINE AVE ARROW LEFT													MOUNT ON S-67-916, NEW I BEAMS INCIDENTAL TO SIGN	10	X	7	70.00			1						
118	R5-1A(3)		42	X	30	8.750				1					MOUNT ON UPRIGHT OF S-67-916													
119	R5-1A(3)		42	X	30	8.750				1					MOUNT ON UPRIGHT OF S-67-916													
120	E6-52	TO NORTH 43 Y NORTH RACINE AVE (COMBINATION AHEAD LEFT ARROW)													MOUNT ON S-67-917, PROVIDE NEW I BEAMS INCIDENTAL TO SIGN	13	X	8	104.00			1						

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TYPE I & II PERMANENT SIGNING

1090-09-76

CATEGORY CODE 1000

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2215	637.2230	638.2102	638.2602	638.3000	634.0618	634.0622	634.0814	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	638.2101	638.2601	635.0300	638.3100	531.2024	531.1140 (EST)	531.1100 (EST)	635.0200 (EST)	
			W [IN.]	X [IN.]	H [IN.]	SIGNS REFLECTIVE H [SF]	SIGNS TYPE II REFLECTIVE H FOLDING SF	SIGNS TYPE II REFLECTIVE F [SF]	MOVING SIGNS TYPE II [EA]	REMOVING SIGNS TYPE II [EA]	REM SMALL SIGN SUP [EA]	POSTS WOOD 4" X 6" X 18' [EA]	POSTS WOOD 4" X 6" X 22' [EA]	POSTS TUBULAR STEEL 2 X 2 INCH X 14 FT [EA]			W [FT.]	X [FT.]	H [FT.]	SIGNS TYPE I REFLECTIVE SH [SF]	MOVING SIGNS TYPE I [EA]	REMOVING SIGNS TYPE I [EA]	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS (EA)	REMOVING STRUCTURAL STEEL SIGN SUPPORTS (EA)	DRILLING SHAFT 24 INCH LF (EST)	STEEL REINFORCEMENT HS ANCILLARY STRUCTURES TYPE NS - LBS	CONCRETE MASONRY ANCILLARY STRUCTURES TYPE NS - CY	SIGN SUPPORTS STEEL HS LBS	
121	E6-54R	Y SOUTH RACINE AVE ARROW ONLY													MOUNT ON S-67-917, TRIM 1 BEAMS TO 7 FEET, INCIDENTAL TO SIGN	10	X	7	70.00		1								
122	W5-54(2M)		18	X	18			2.250							MOUNT UNDER EXISTING E5-1A SIGN														
123	W5-54(2M)		18	X	18			2.250							MOUNT UNDER EXISTING E5-1A SIGN														
124	D10-5	NORTH 43, MILE 54.6							1		1	1																	
125	E4-1A	Y, RACINE AVE TILT ARROW RIGHT													REUSE 1 BEAMS	20	X	7.5	150.00		1	2							
125A	E1-5P	EXIT 54												125	REUSE 1 BEAMS	9	X	2.5	22.50										
126	D2-3	MOORLAND RD 2 LAYTON AVE 5 MILWAUKEE 18													REUSE 1 BEAMS	16	X	7	112.00		1	2							
127	D10-5	SOUTH 43, MILE 54.8							1		1	1																	
128	E1-1A	O MOORLAND RD 1 MILE													REUSE 1 BEAMS	19	X	10	190.00		1	2							
128A	E1-5P	EXIT 57												128	REUSE 1 BEAMS	9	X	2.5	22.50										
129	E1-1A	Y RACINE AVE 1 MILE													REUSE 1 BEAMS	18	X	10	180.00		1	2							
129A	E1-5P	EXIT 54												129	REUSE 1 BEAMS	9	X	2.5	22.50										
130	E4-1A	O MOORLAND RD													REUSE 1 BEAMS	22	X	7.5	165.00		1	2							
130A	E1-5P	TILT ARROW RIGHT EXIT 57												130	REUSE 1 BEAMS	9	X	2.5	22.50										
131	W5-54(2M)		18	X	18			2.250							MOUNT ON EXISTING E5-1A SIGN														
132	W5-54(2M)		18	X	18			2.250							MOUNT ON EXISTING E5-1A SIGN														
133	W2-6								1		1	1			MOVE IF NECESSARY														
134	W3-2								1		1	1			MOVE IF NECESSARY														
135	D4-55L								1		1	1			MOVE IF NECESSARY														
136	W4-2R(3)		36	X	36			9.000			1	1			MOVE IF NECESSARY														
137	W4-2R(3)		36	X	36			9.000			1	1			MOVE IF NECESSARY														
138	W4-2R(3)		36	X	36			9.000			1	1			MOVE IF NECESSARY														
139	NOT USED																												
139A	NOT USED																												
140	NOT USED																												
140A	NOT USED																												
141	NOT USED																												
142	NOT USED																												
143	NOT USED																												
144	NOT USED																												
145	NOT USED																												
146	NOT USED																												
147	NOT USED																												
148	NOT USED																												
149	D1-1	43 NORTH RACINE AVE (TILT ARROW RIGHT)	78	X	30	16.250				1	2	2		SHEET 16															
150	E3-1	VALLEY VIEW PARK AND RIDE CRASH INVESTIGATION SITE EXIT 57													W12 X 26 I BEAMS	11	X	16.5	181.50					20	360	2.40	1600		

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TYPE I & II PERMANENT SIGNING

1090-09-76

CATEGORY CODE 1000

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2215	637.2230	638.2102	638.2602	638.3000	634.0618	634.0622	634.0814	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	638.2101	638.2601	635.0300	638.3100	531.2024	531.1140 (EST)	531.1100 (EST)	635.0200 (EST)
			W [IN.]	x [IN.]	H [IN.]	SIGNS TYPE II REFLECTIVE H [SF]	SIGNS TYPE II REFLECTIVE F [SF]	MOVING SIGNS TYPE II [EA]	REMOVING SIGNS TYPE II [EA]	REM SMALL SIGN SUP [EA]	POSTS WOOD 4" X 6" X 18' [EA]	POSTS WOOD 4" X 6" X 22' [EA]	POSTS TUBULAR STEEL 2 X 2 INCH X 14 FT [EA]	TYPE I SIGN SIZE W [FT.] x H [FT.]			SIGNS TYPE I REFLECTIVE SH [SF]	MOVING SIGNS TYPE I [EA]	REMOVING SIGNS TYPE I [EA]	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS [EA]	REMOVING STRUCTURAL STEEL SIGN SUPPORTS [EA]	DRILLING SHAFT 24 INCH LF (EST)	STEEL REINFORCEMENT HS ANCILLARY STRUCTURES TYPE NS - LBS	CONCRETE MASONRY ANCILLARY STRUCTURES TYPE NS - CY	SIGN SUPPORTS STRUCTURAL STEEL HS LBS			
151	NOT USED																											
152	R11-54F(2S)		48	X	30		10.000				2				SHEET 15													
153	NOT USED																											
UNDISTRIBUTED													2							2			4	20	220	2.40	1200	
TOTALS						441.570	37.500	241.500	6	69	82	82	2	2	--	--				3946.500	2	30	30	4	20	580	5	2800

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TYPE I & II PERMANENT SIGNING

1090-09-76

CATEGORY CODE 1010

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE		637.2210	637.2215	637.2230	638.2102	638.2602	638.3000	634.0618	634.0814	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I	637.1220	638.2101	638.2601	635.0300	
			W [IN.]	x H [IN.]	SIGNS TYPE II REFLECTIVE H [SF]	SIGNS TYPE II REFLECTIVE H FOLDING SF	SIGNS TYPE II REFLECTIVE F [SF]	MOVING SIGNS TYPE II [EA]	REMOVING SIGNS TYPE II [EA]	REM SMALL SIGN SUP [EA]	POSTS WOOD 4" X 6" X 18' [EA]	POSTS TUBULAR STEEL 2 X 2 INCH X 14 FT [EA]			SIGN SIZE W [FT.] x H [FT.]	SIGNS TYPE I REFLECTIVE SH [SF]	MOVING SIGNS TYPE I [EA]	REMOVING SIGNS TYPE I [EA]	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS (EA)	
1001	R8-55(2S)		42	X 36	10.500				1	1	1									
1001A	R8-56(2S)		24	X 18	3.000								1001	REMOVAL PART OF # 1001.						
1002	R8-55(2S)		42	X 36	10.500				1	1	1									
1002A	R8-56(2S)		24	X 18	3.000								1002	REMOVAL PART OF #1002						
1003	NONE	SIT 57	36	X 30	7.500				1	1	1									
1004	W5-52L(2S)		12	X 36					3.000		1			4 FOOT MOUNTING HEIGHT						
1005	W5-52R(2S)		12	X 36					3.000		1			4 FOOT MOUNTING HEIGHT						
1006	NONE	NO LITTERING VIOLATORS WILL BE PROSECUTED	36	X 18	4.500				1	1	1									
1007	NONE	PARKING IN DESIGNATED SPACES ONLY	30	X 18	3.750				1	2	2									
1008	NONE	NO DETACHED TRAILER PARKING	30	X 30	6.250				1	1	1									
1009	E3-1	VALLEY VIEW PARK AND RIDE												REUSE STEEL POSTS	13	X 8	104.00		1	2
1010	E3-1	VALLEY VIEW PARK AND RIDE												MOUNT BACK TO BACK WITH # 1009	13	X 8	104.00		1	
1011	D4-55R	CIS (ARROW RIGHT)	36	X 36	9.000				1	1	1									
UNDISTRIBUTED								1				2					2			
TOTALS					58.000	0.000	6.000	1	7	8	10	2	--	--		208.000	2	2	2	

ALL SIGNS ON THIS QTY TABLE ARE ON SHEET 36 OF 36

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## Standard Detail Drawing List

08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-20A	CURB RAMPS TYPES 1 AND 1-A
08D05-20B	CURB RAMPS TYPES 2 AND 3
08D05-20C	CURB RAMPS TYPES 4A AND 4A1
08D05-20D	CURB RAMPS TYPE 4B AND 4B1
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
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
08E14-01	TRACKING PAD
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
09B02-10	CONDUIT
09B04-12	PULL BOX
09H09-02	COMMUNICATION VAULT TYPE 1
11A01-06	MAINTENANCE CROSSOVER FOR FREEWAYS
13A05-06A	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A05-06B	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A07-02	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C08-02	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR
13C09-17A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-17B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-17C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B20-12A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-12B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-12C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-12D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-12E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-12F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-12G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-12H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B26-05A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05F	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05G	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05H	STEEL THRIE BEAM BULLNOSE TERMINAL
14B28-04A	GUARDRAIL MOW STRIP
14B28-04B	GUARDRAIL MOW STRIP
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

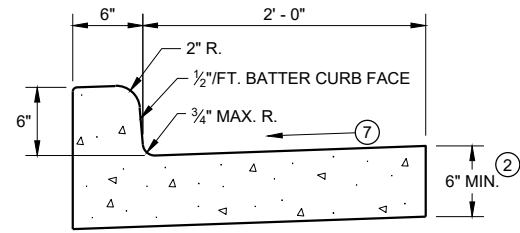


## Standard Detail Drawing List

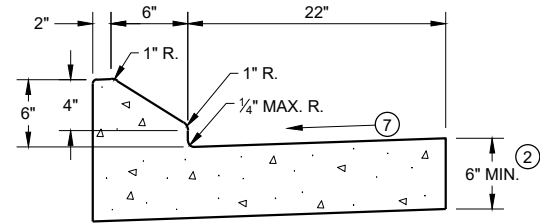
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-05A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05D	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05E	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05F	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05G	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B50-01A	THRIE BEAM APPROACH RETROFIT INSTALLATION OF MISSING POST
14B50-01B	THRIE BEAM APPROACH RETROFIT INSTALLATION OF MISSING POST
14B50-01C	THRIE BEAM APPROACH RETROFIT INSTALLATION OF MISSING POST
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A04-07A	FLEXIBLE DELINEATOR POST
15A04-07C	DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A04-07D	CHANNELIZING DEVICES, PERMANENT FLEXIBLE TUBULAR MARKER POST
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09G	TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-15A	PAVEMENT MARKING SYMBOLS
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C07-15D	ROUNDAABOUT ARROWS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-23C	PAVEMENT MARKING (TURN LANES)
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C18-08A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C18-08B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C18-08C	MEDIAN PAVEMENT MARKINGS DOUBLE ARROW WARNING SIGN PLACEMENT
15C20-02	YIELD MARKING
15C31-05A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-05C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15C31-05D	PAVEMENT MARKING LANE DROP AND LANE REDUCTION
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C36-01	PARKING STALL MARKING
15D12-11A	TRAFFIC CONTROL, LANE CLOSURE
15D12-11B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D12-11D	TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM
15D15-07A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-06	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-07A	TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

## Standard Detail Drawing List

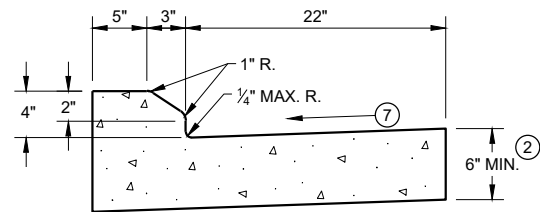
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D29-06	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D30-09A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D40-05D	TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D47-03B	TRAFFIC CONTROL, INGRESS/EGRESS WITHOUT BARRIER



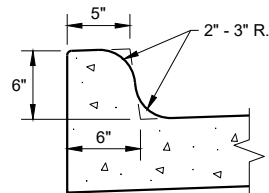
**TYPES A<sup>①</sup> & D**



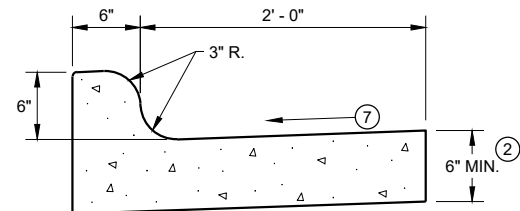
**6" SLOPED CURB TYPES G<sup>①</sup> & J**



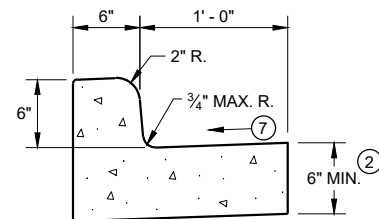
**4" SLOPED CURB TYPES G<sup>①</sup> & J**



**TYPES K<sup>①</sup> & L**  
(OPTIONAL CURB SHAPE)

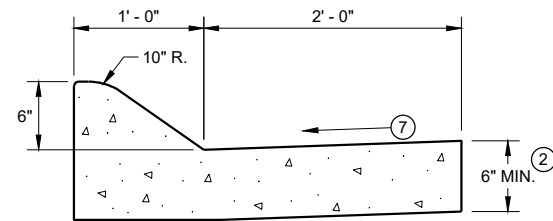


**TYPES K<sup>①</sup> & L**  
**CONCRETE CURB AND GUTTER 30"**

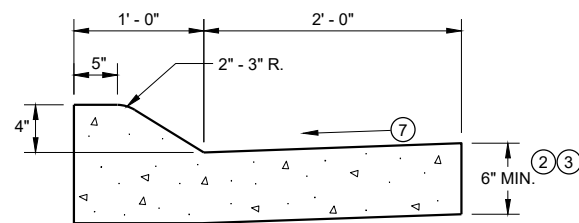


**TYPES A<sup>①</sup> & D**

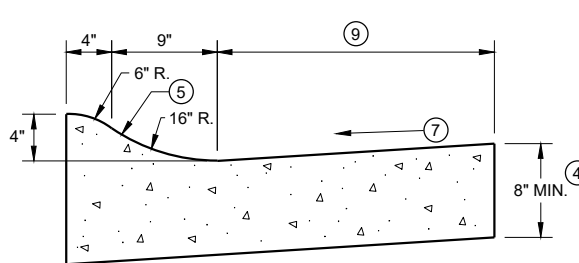
**CONCRETE CURB AND GUTTER 18"**



**6" SLOPED CURB TYPES A<sup>①</sup> & D**

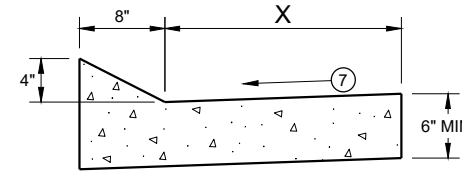


**4" SLOPED CURB TYPES A<sup>①</sup> & D**  
**CONCRETE CURB AND GUTTER 36"**



**4" SLOPED CURB TYPES R<sup>①</sup> & T**

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

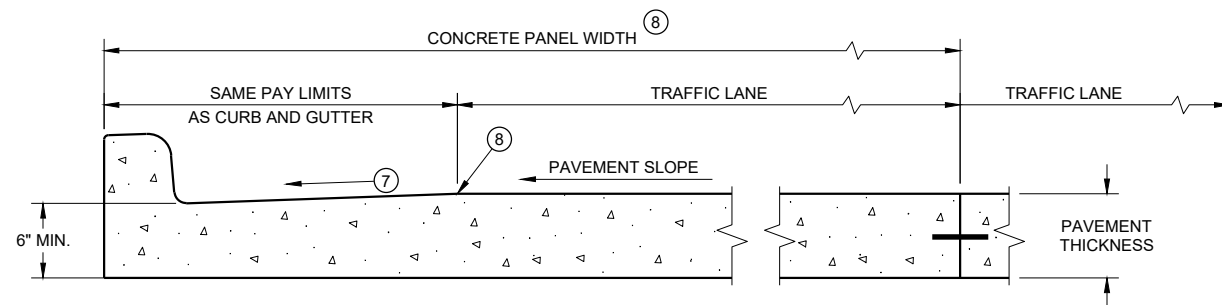


**TYPES TBT & TBTT<sup>①</sup>**

**CONCRETE CURB AND GUTTER**

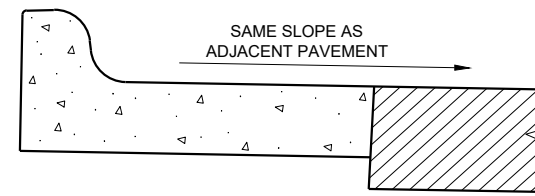
**PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE**

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<sup>⑥</sup>**  
(TYPICAL FOR ALL CURB & GUTTER TYPES)

**GENERAL NOTES**

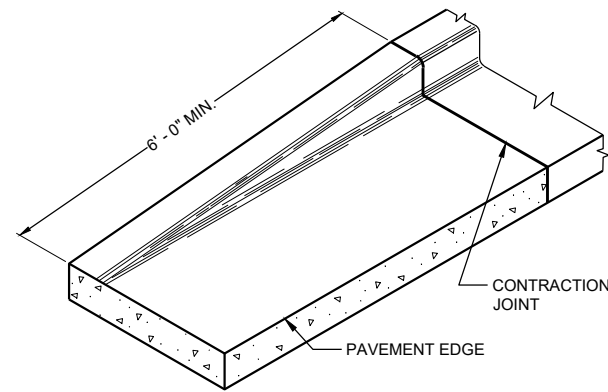
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

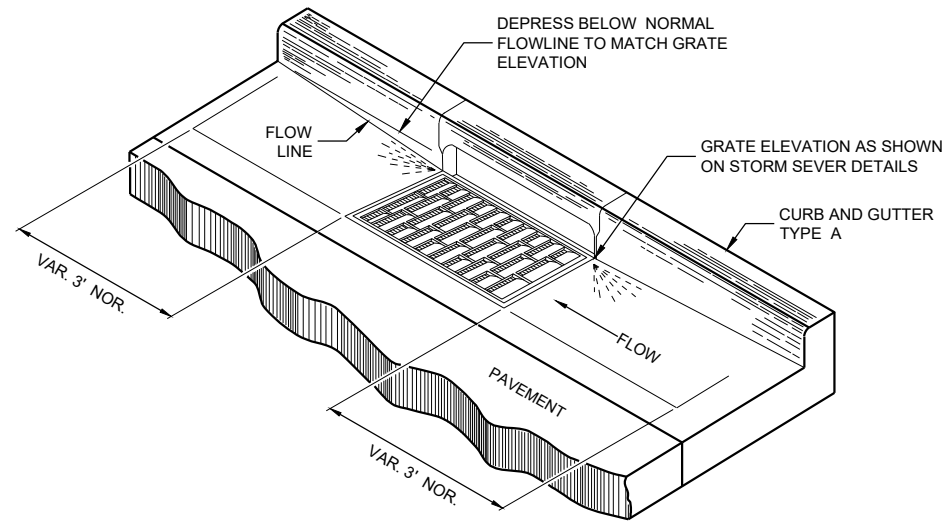
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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 CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES  
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



**END SECTION CURB AND GUTTER**



**DETAIL OF CURB AND GUTTER AT INLETS**

(TYPICAL H INLET COVER SHOWN)

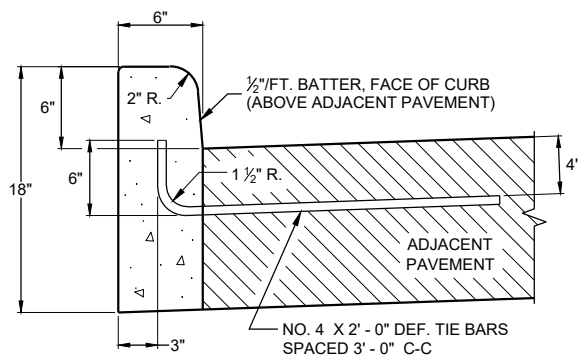
**GENERAL NOTES**

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

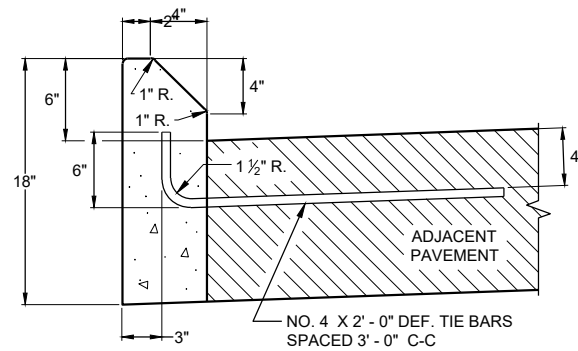
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

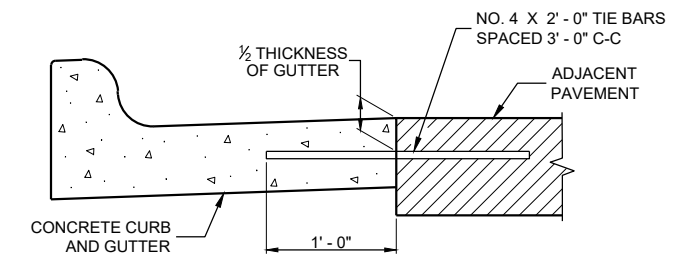
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL 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.



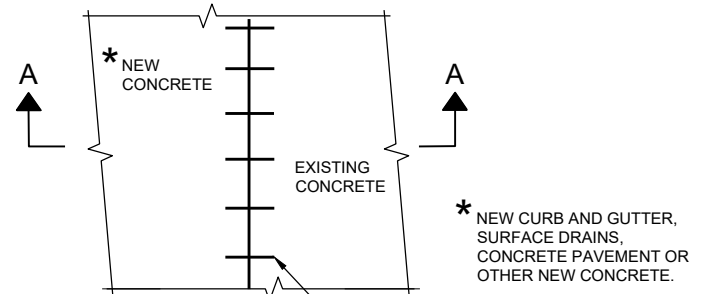
**TYPES A<sup>①</sup> & D**



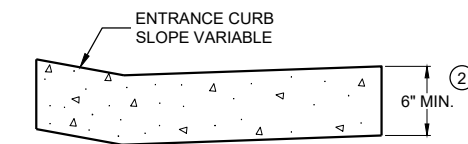
**TYPES G<sup>①</sup> & J  
CONCRETE CURB**



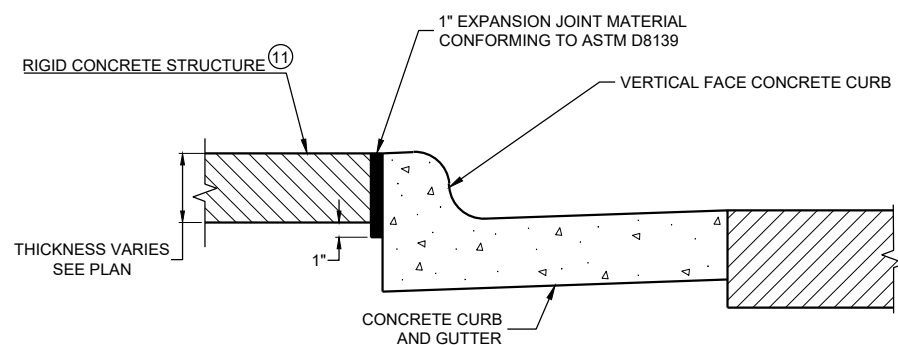
**TYPICAL TIE BAR LOCATION<sup>①</sup>**



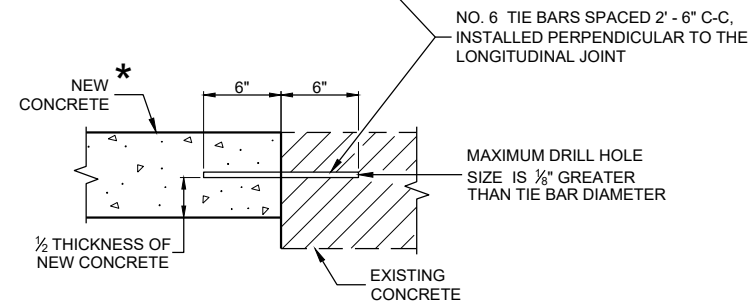
**PLAN VIEW**



**DRIVEWAY ENTRANCE CURB<sup>⑩</sup>  
(WHEN DIRECTED BY THE ENGINEER)**



**EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE<sup>⑪</sup>**



**SECTION A - A  
TIE BARS DRILLED INTO EXISTING PAVEMENT**

6

6

SDD08D01 - 23b

SDD08D01 - 23b

<b>CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
<small>FHWA</small>	

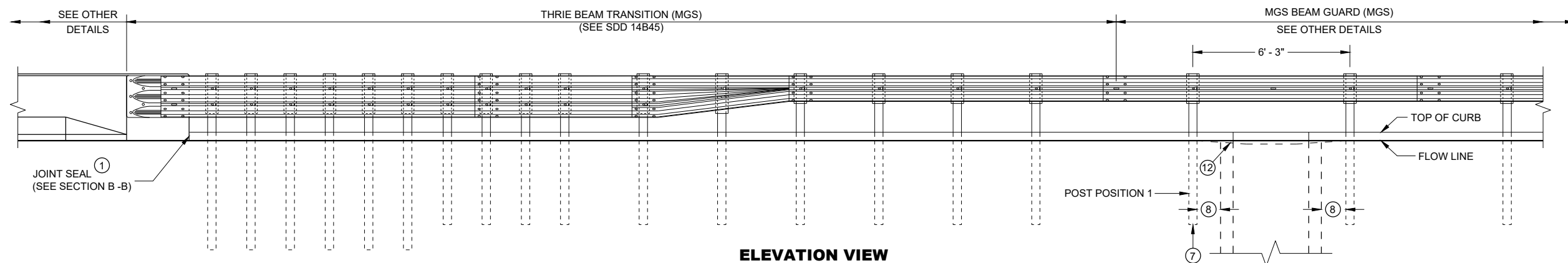
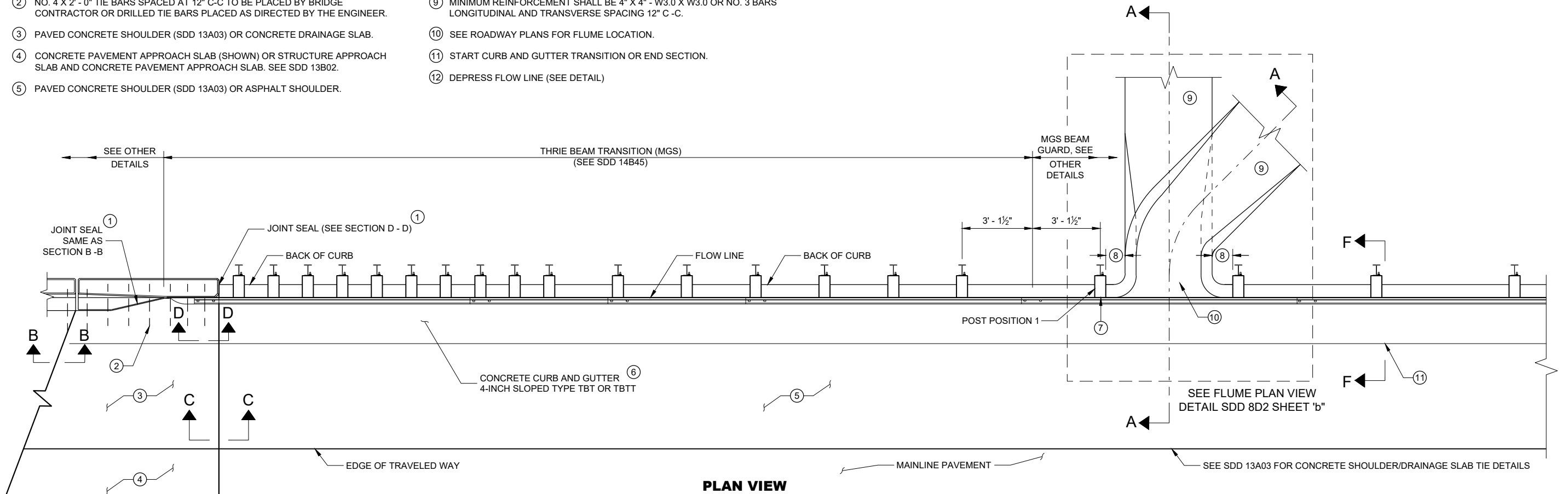
**GENERAL NOTES**

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 FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)



**CONCRETE SURFACE  
DRAINS FLUME TYPE  
AT STRUCTURES**

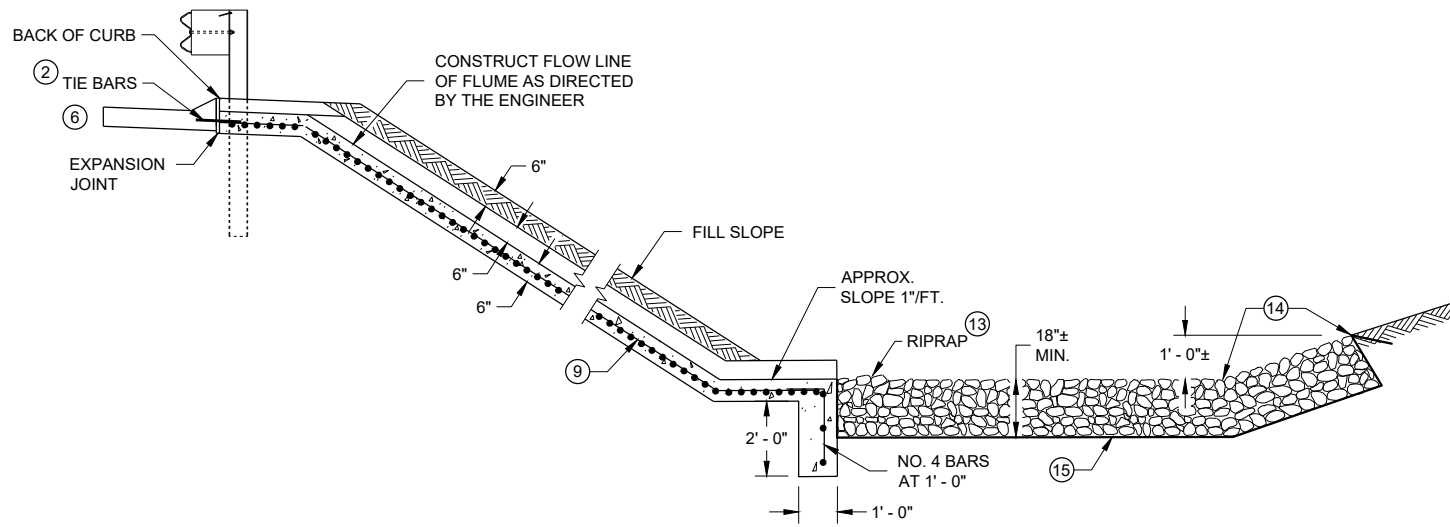
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

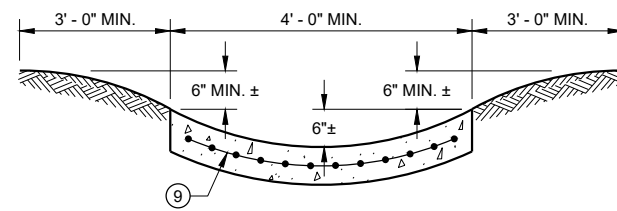
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SDD 08D02 - 08a

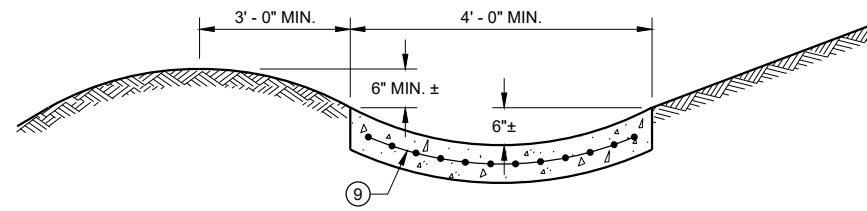
SDD 08D02 - 08a



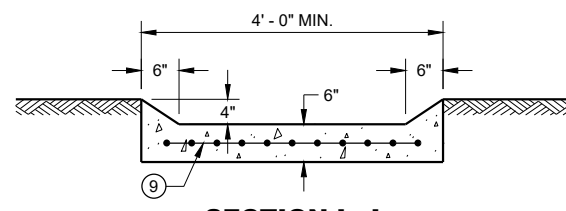
**SECTION A - A**



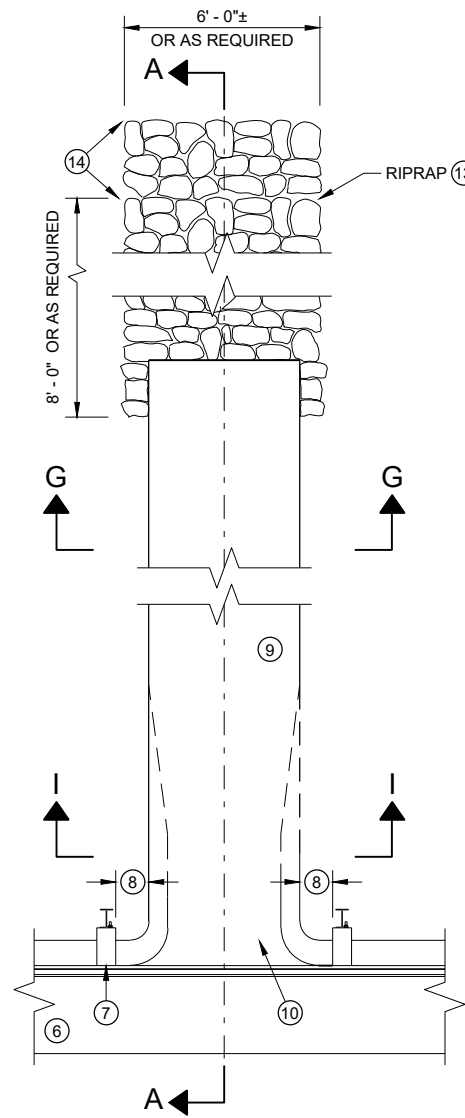
**SECTION G - G**



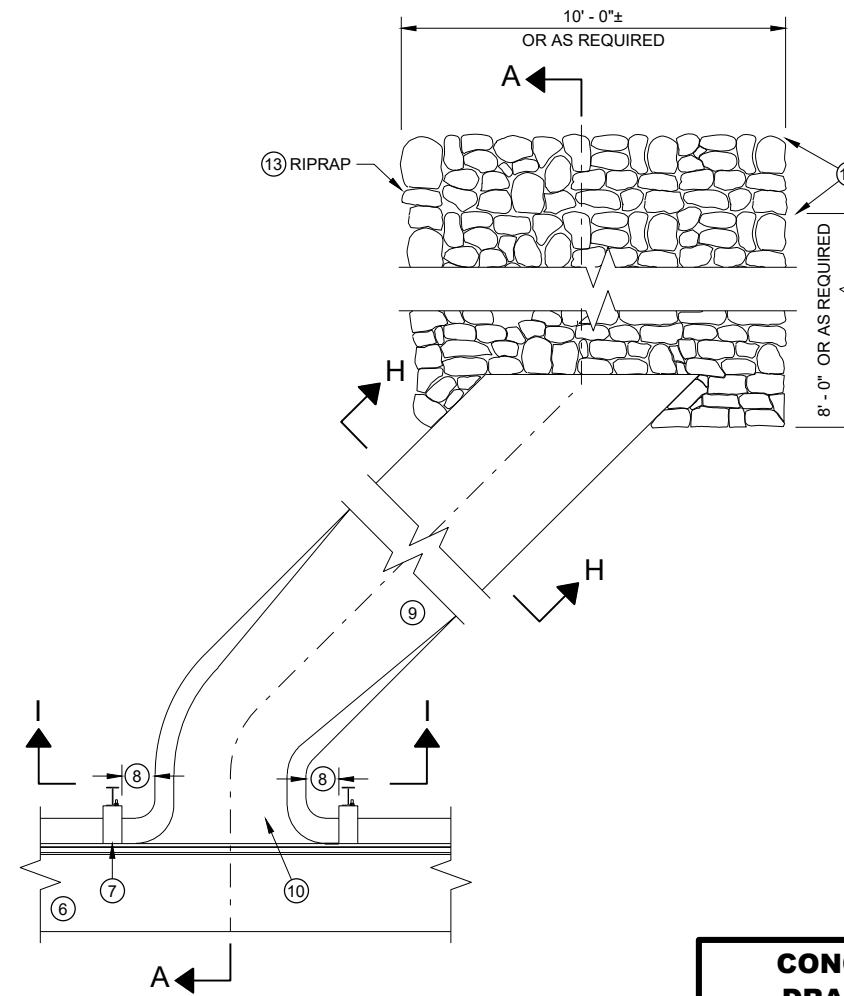
**SECTION H - H**



**SECTION I - I**



**PLAN VIEW  
PERPENDICULAR FLUME**



**PLAN VIEW  
SKEWED FLUME**

**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 FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.

6

6

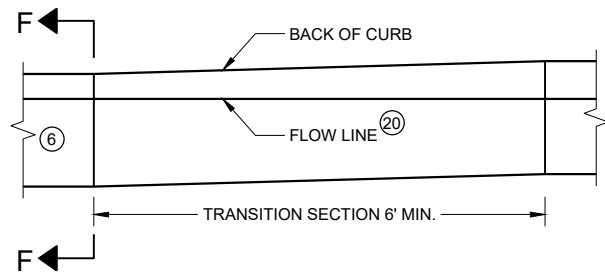
SDD 08D02 - 08b

SDD 08D02 - 08b

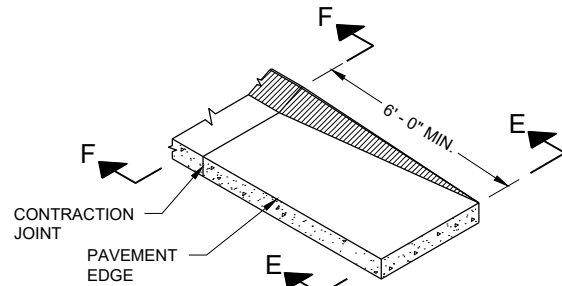
**CONCRETE SURFACE  
DRAINS FLUME TYPE  
AT STRUCTURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

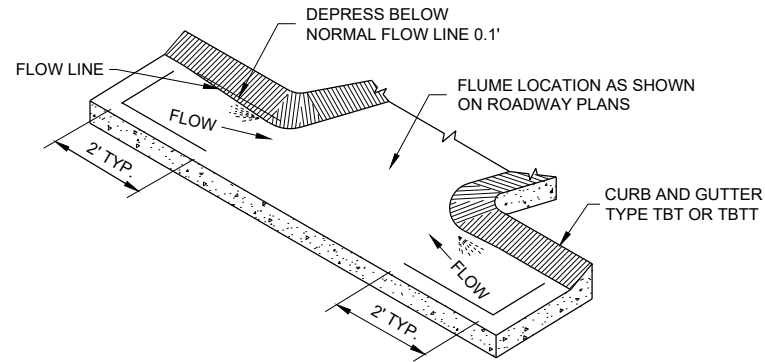




**CURB AND GUTTER TRANSITION SECTION  
CONCRETE CURB AND GUTTER 4-INCH SLOPED  
36 INCH TYPE TBT OR TBTT**



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



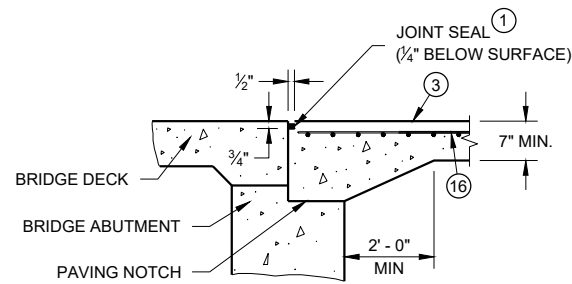
**CURB AND GUTTER FLOW LINE DEPRESSION  
AT FLUMES CONCRETE CURB AND GUTTER  
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

**GENERAL NOTES**

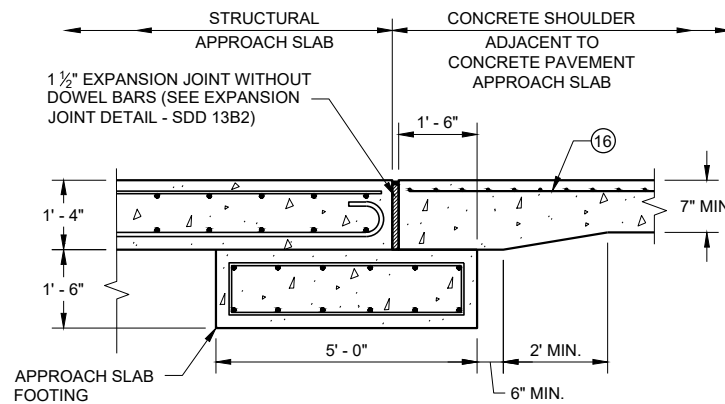
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

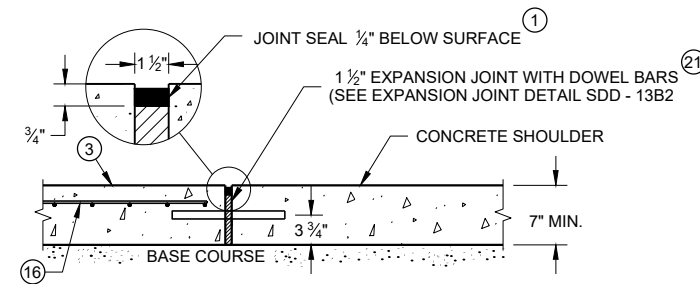
- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH 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 FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.
- ⑯ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑰ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.
- ⑱ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.
- ⑲ ALIGN FACE OF POST BLOCK WITH FLOW LINE.
- ⑳ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.
- ㉑ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



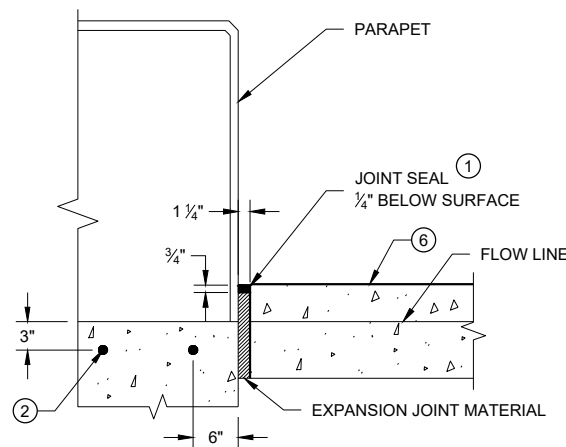
**SECTION B-B**



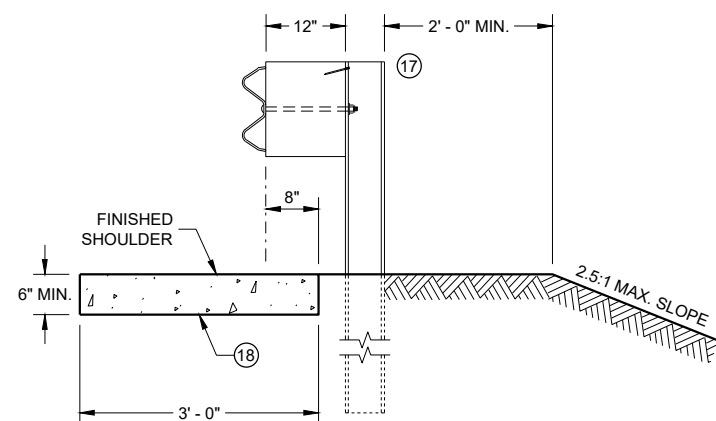
**SECTION C - C  
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL  
APPROACH SLAB AND CONCRETE APPROACH SLAB**



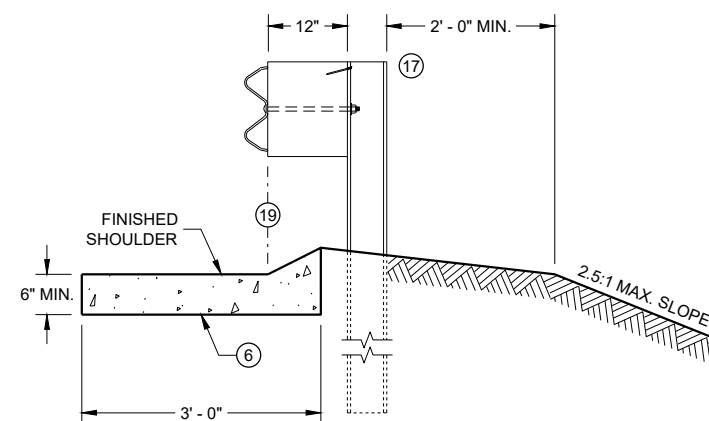
**SECTION C - C  
JOINT DETAIL FOR BRIDGE APPROACH  
WITH CONCRETE SHOULDERS**



**SECTION D - D**



**SECTION E - E**



**SECTION F - F**

6

6

SDD08D02 - 08C

SDD08D02 - 08C

**CONCRETE SURFACE  
DRAINS FLUME TYPE  
AT STRUCTURES**

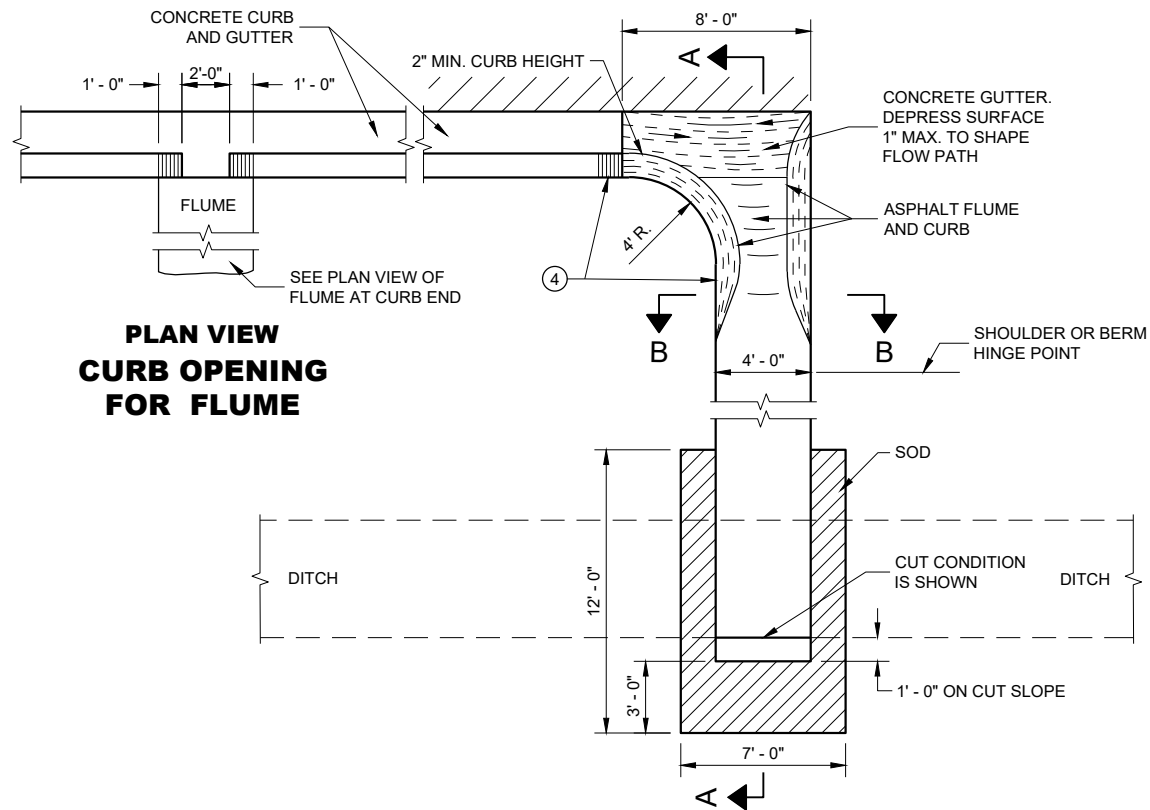
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

FHWA

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

### ASPHALTIC FLUME



**PLAN VIEW  
CURB OPENING  
FOR FLUME**

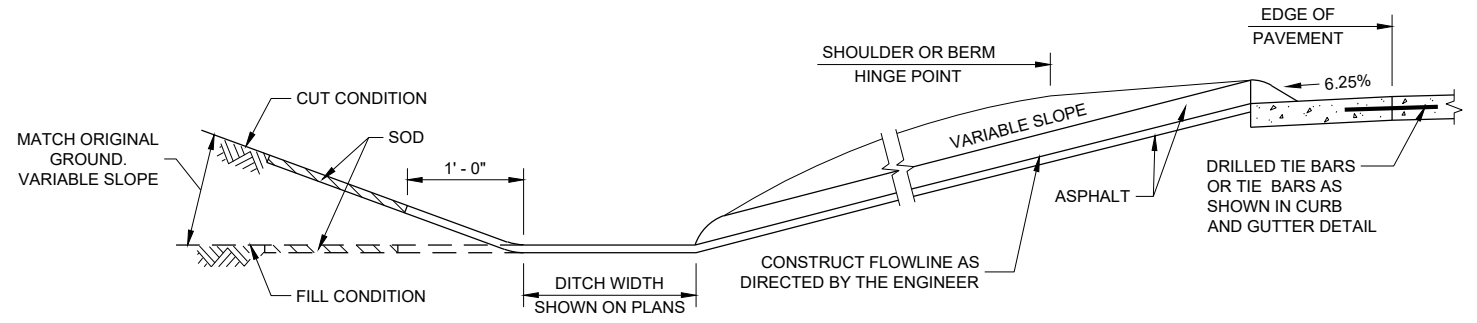
**PLAN VIEW  
FLUME AT CURB END**

### GENERAL NOTES

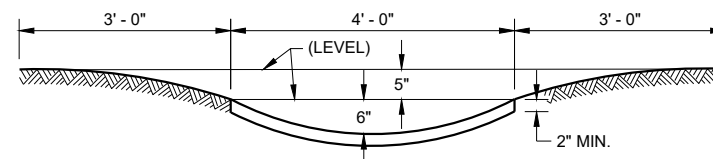
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

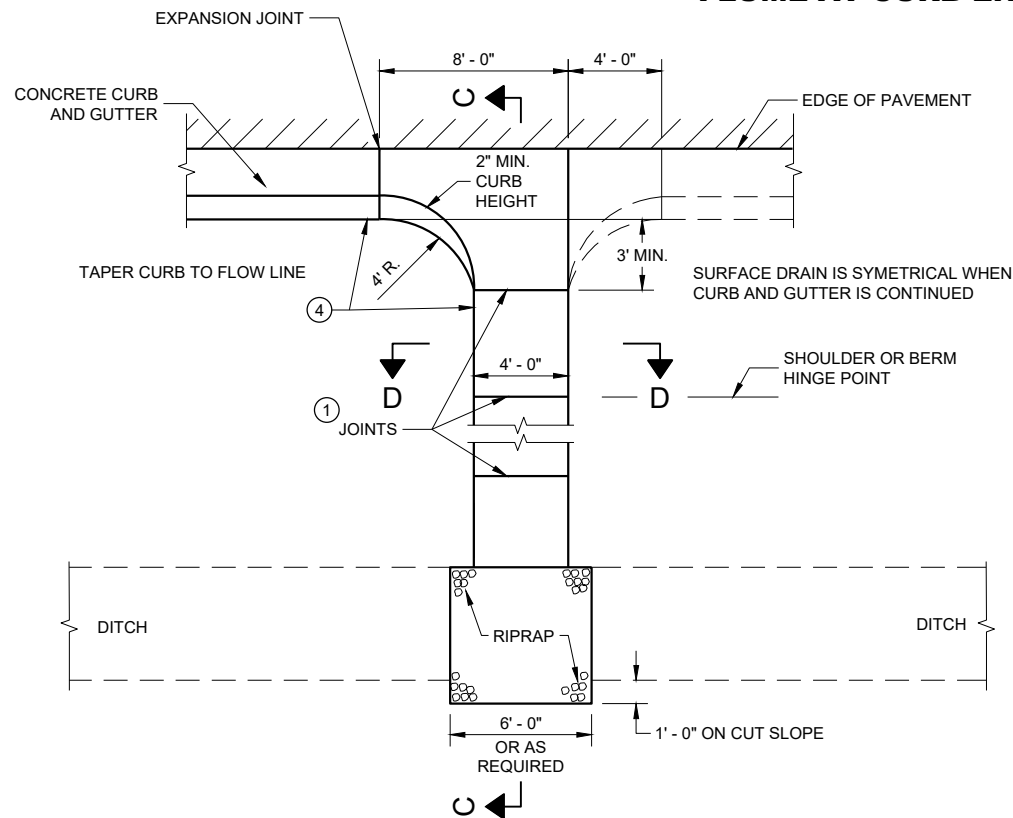
- ① JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- 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.



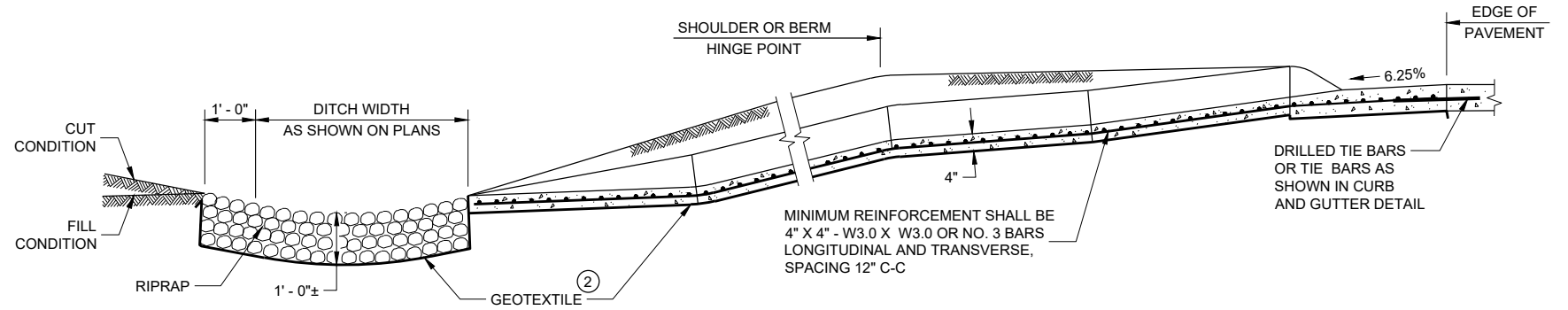
**SECTION A - A**



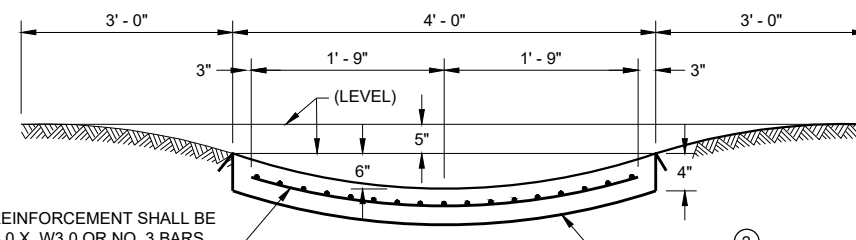
**SECTION B - B**



**PLAN VIEW  
CONCRETE SURFACE DRAIN**



**SECTION C - C**



**SECTION D - D**

MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE, SPACING 12" C-C

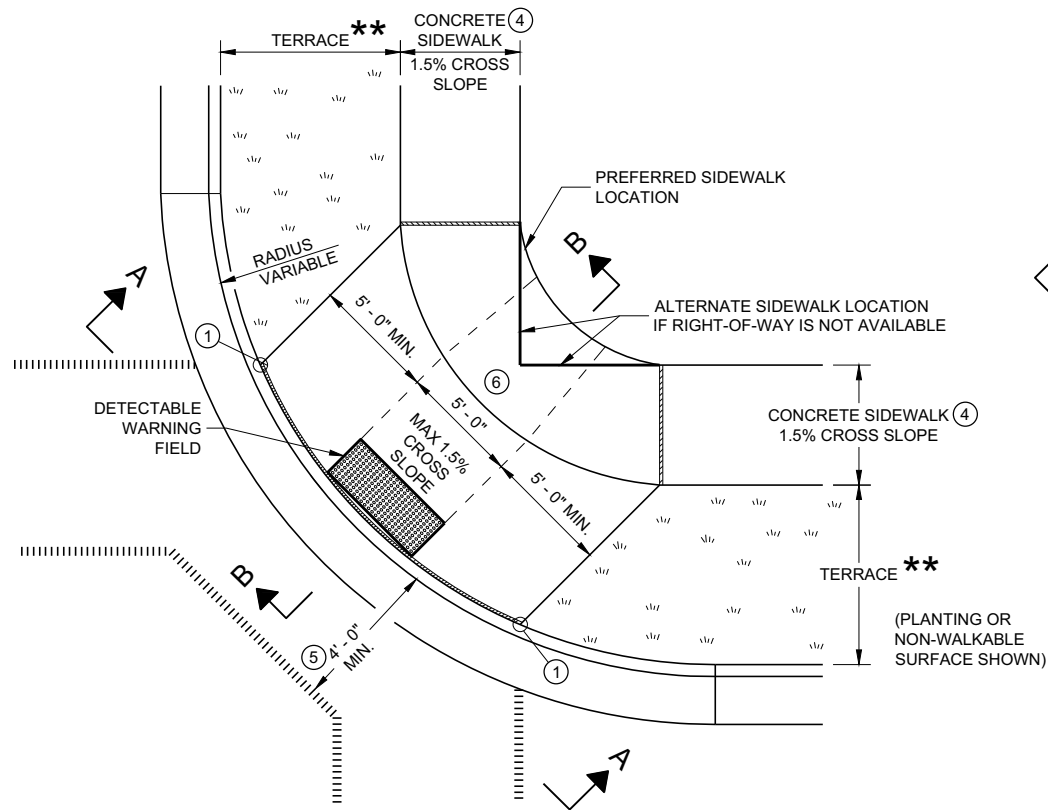
MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE, SPACING 12" C-C

### CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

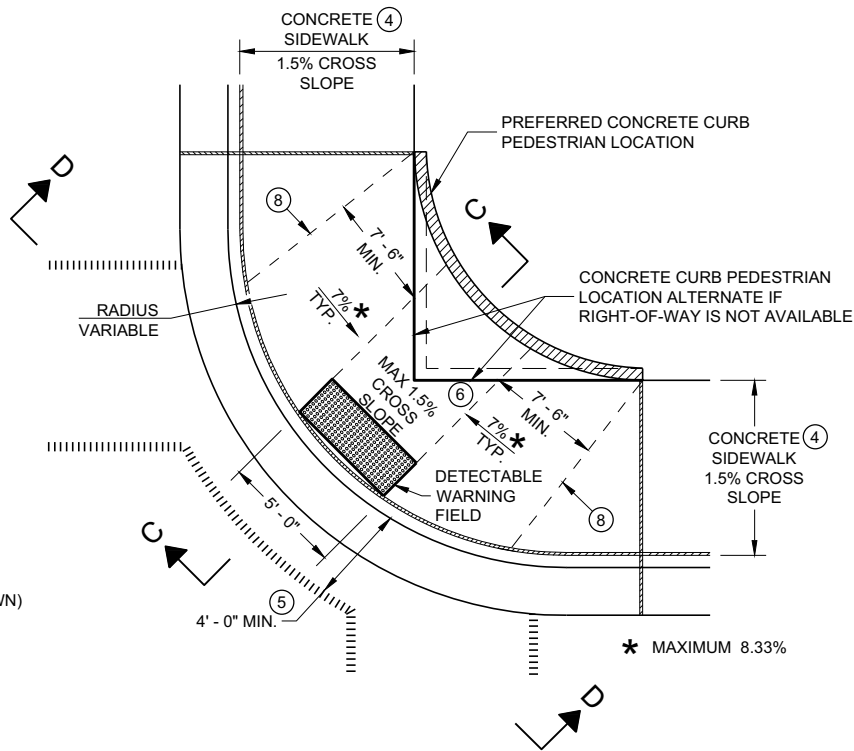
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE May 2023 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

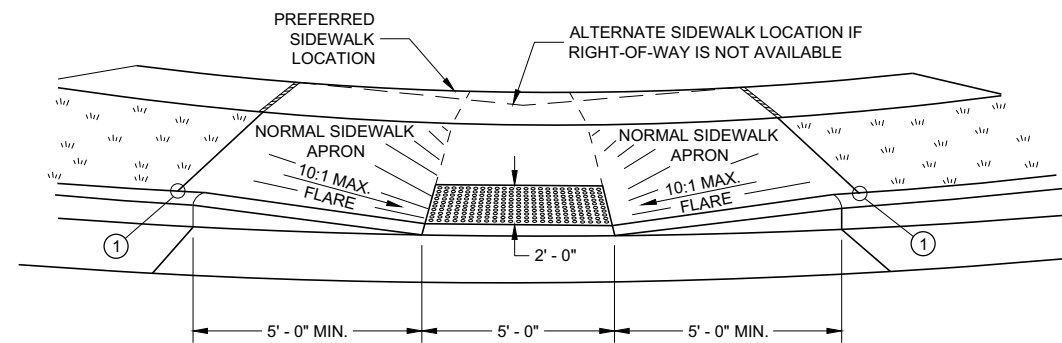
FHWA



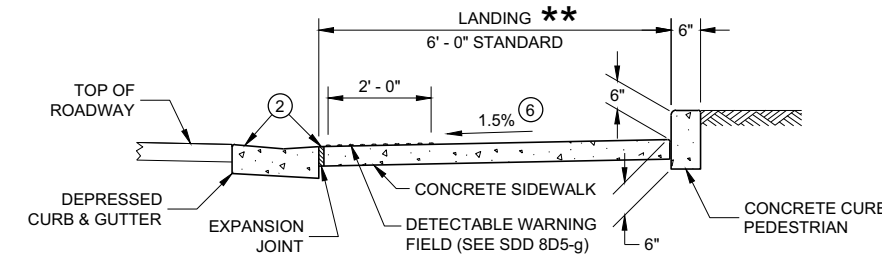
**PLAN VIEW  
CURB RAMP TYPE 1  
(CENTER OF CORNER RADIUS)**



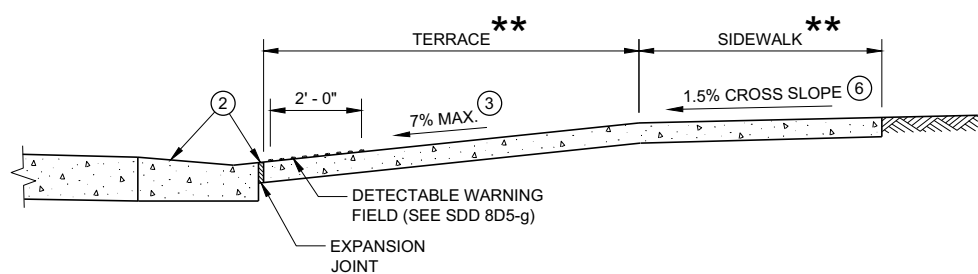
**PLAN VIEW  
CURB RAMP TYPE 1 - A  
(NO TERRACE)**



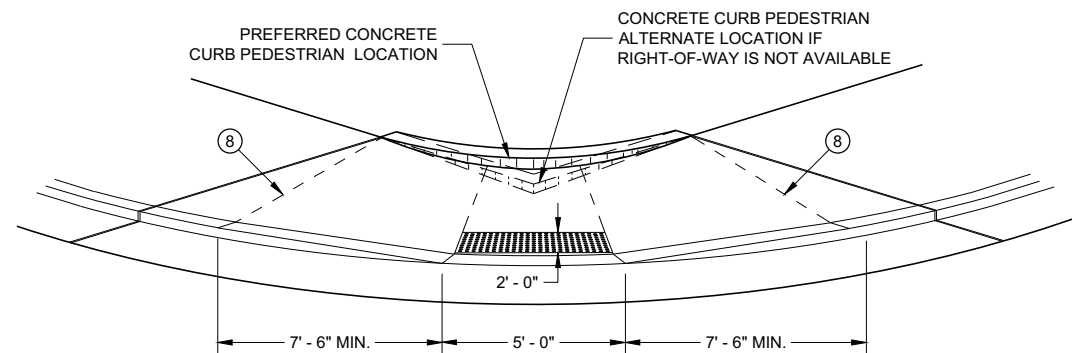
**VIEW A - A FOR TYPE 1**



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



**SECTION B - B FOR TYPE 1**



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

**GENERAL NOTES**

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.  
 DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.  
 TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

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

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

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

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

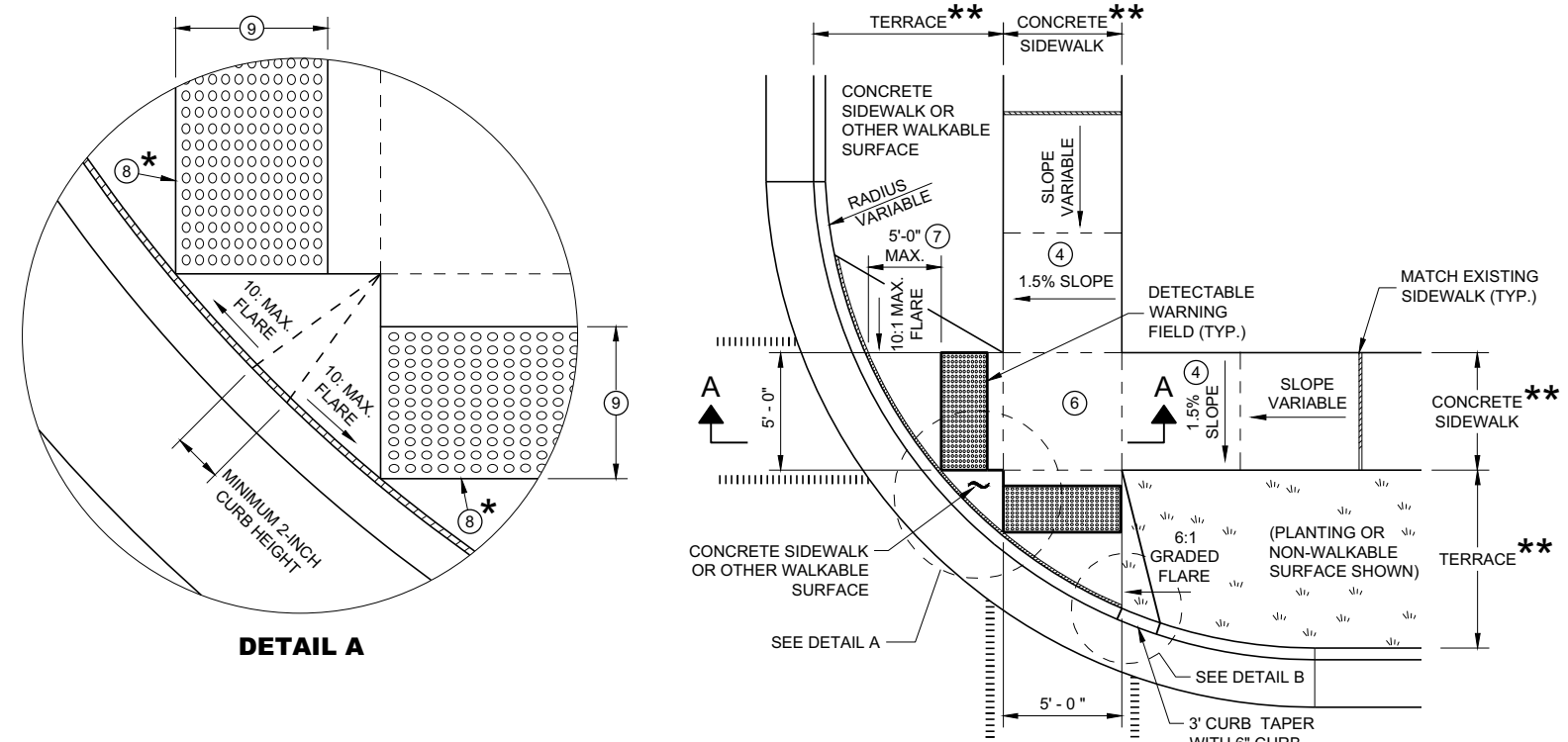
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

**LEGEND**

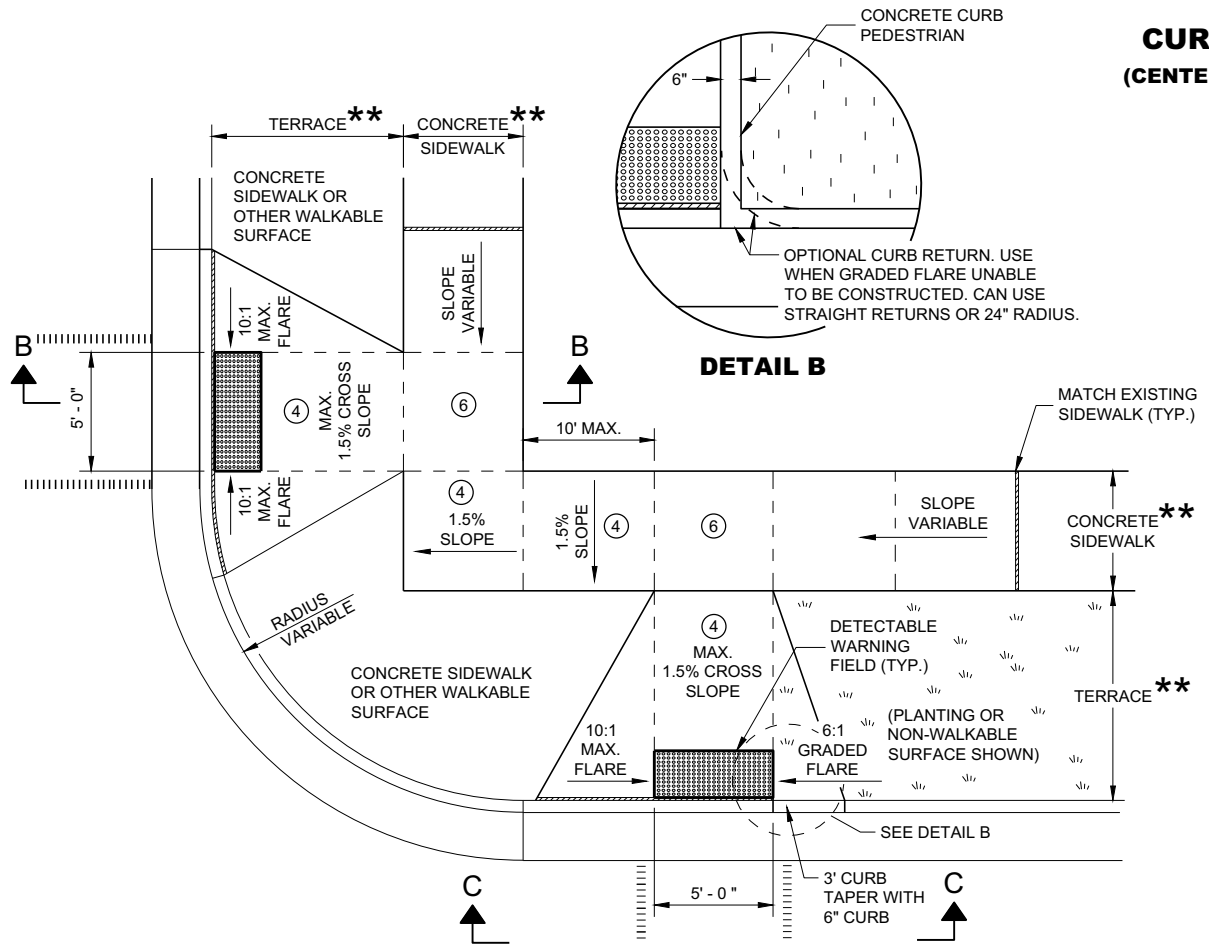
- 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



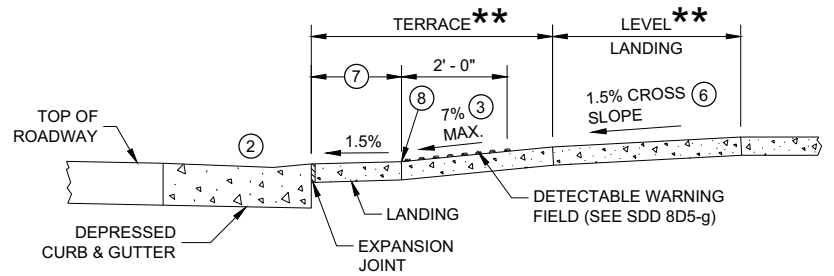
**PLAN VIEW CURB RAMP TYPE 2 (CENTER OF CORNER RADIUS)**



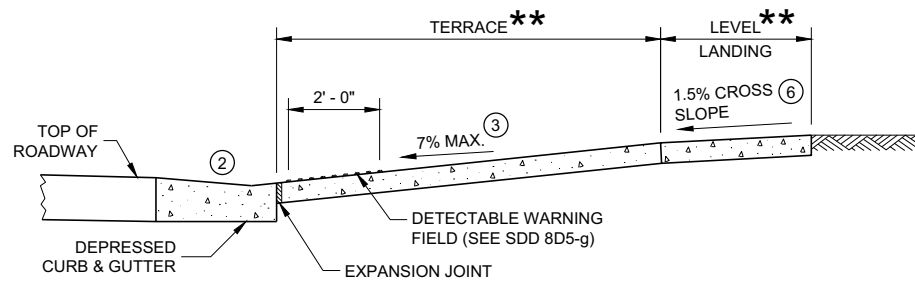
**PLAN VIEW CURB RAMP TYPE 3 (OUTSIDE OF CROSSWALK AREA)**

**GENERAL NOTES**

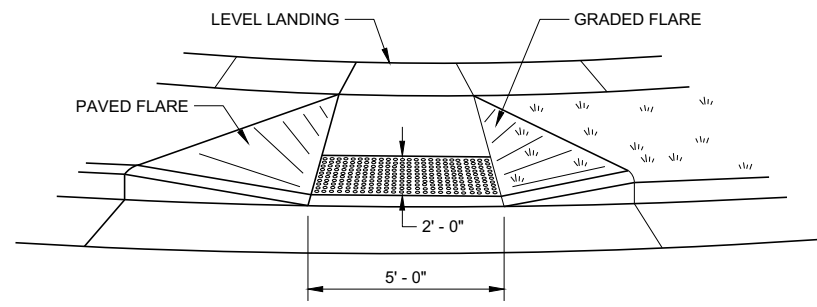
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑨ WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.



**SECTION A - A FOR TYPE 2**



**SECTION B - B FOR TYPE 3**



**VIEW C - C FOR TYPE 3**

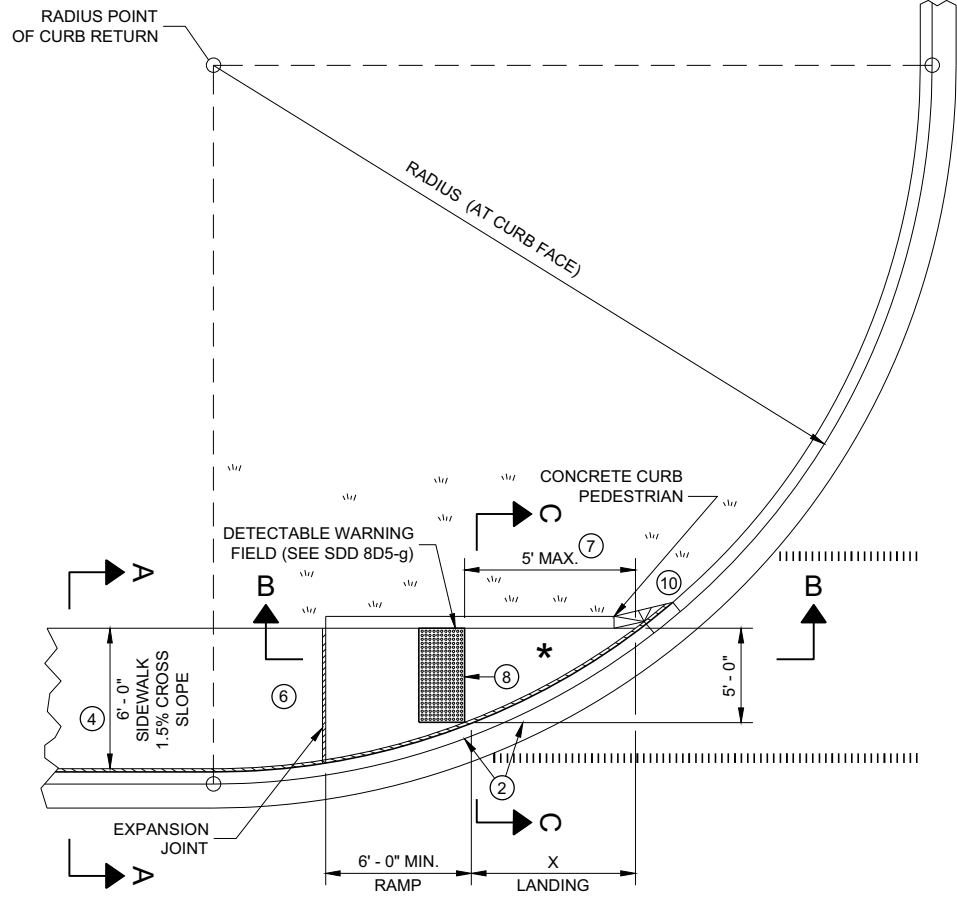
- \* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- \*\* WIDTH SHOWN ELSEWHERE IN THE PLANS

**LEGEND**

- 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS TYPE 2 AND 3**

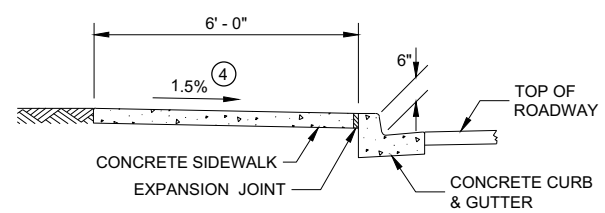
STATE OF WISCONSIN  
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**PLAN VIEW  
CURB RAMP TYPE 4A**

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"
15 FEET	6' - 5 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



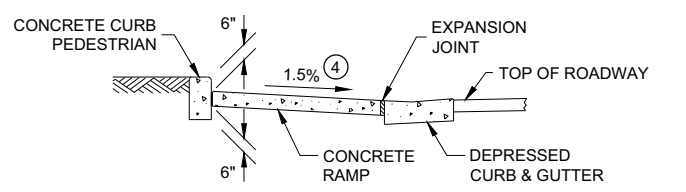
**SECTION A - A FOR TYPE 4A**

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

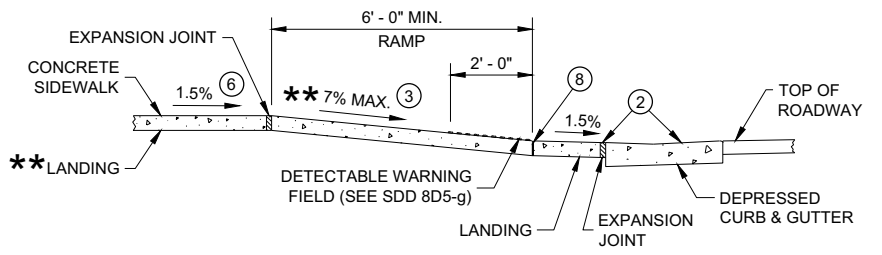
**LEGEND**

- 1/2" EXPANSION JOINT SIDEWALK
- - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)



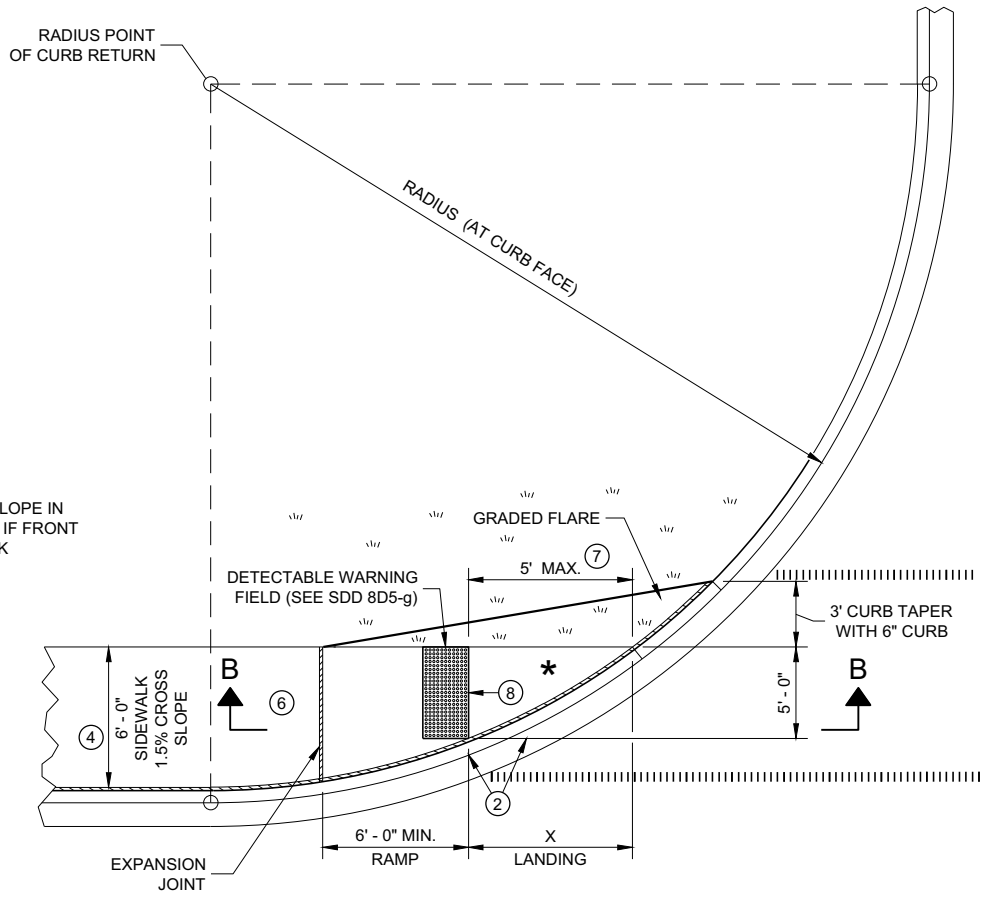
**SECTION C - C FOR TYPE 4A**

\* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

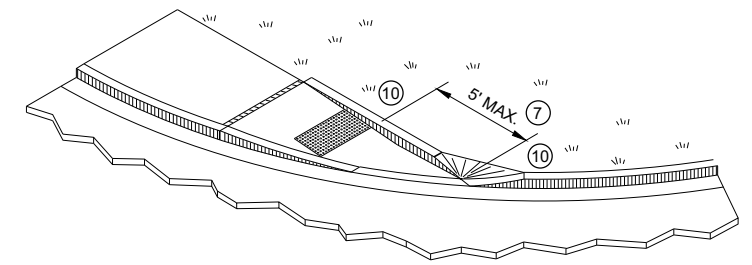


**SECTION B - B FOR  
TYPE 4A AND TYPE 4A1**

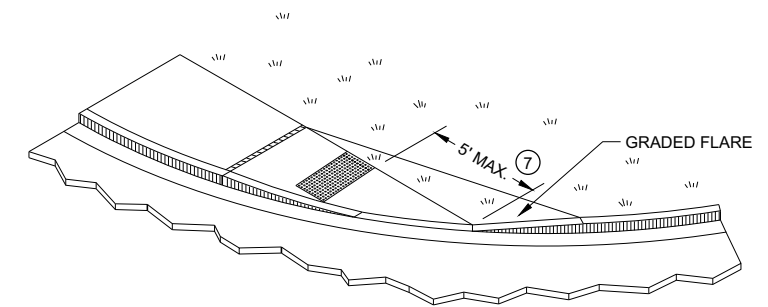
\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



**PLAN VIEW  
CURB RAMP TYPE 4A1**



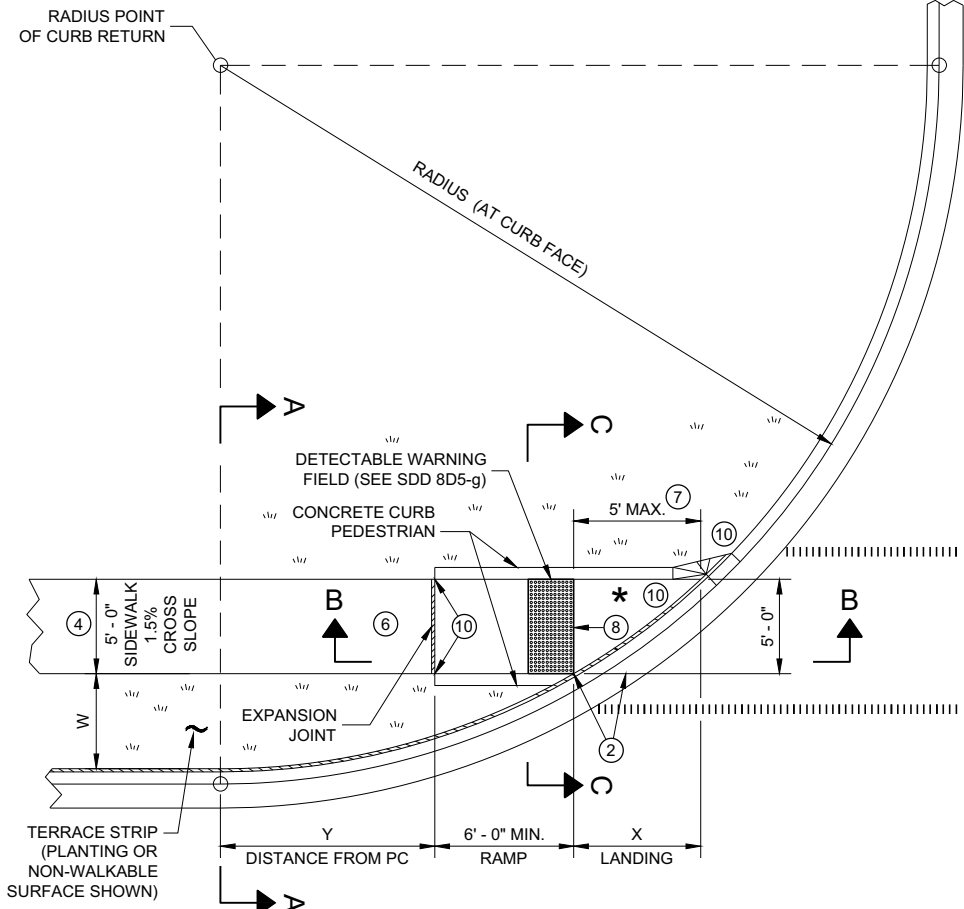
**ISOMETRIC VIEW FOR TYPE 4A**



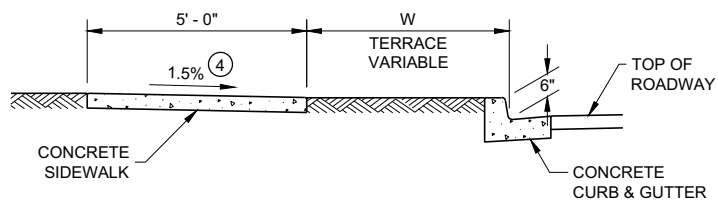
**ISOMETRIC VIEW FOR TYPE 4A1**

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

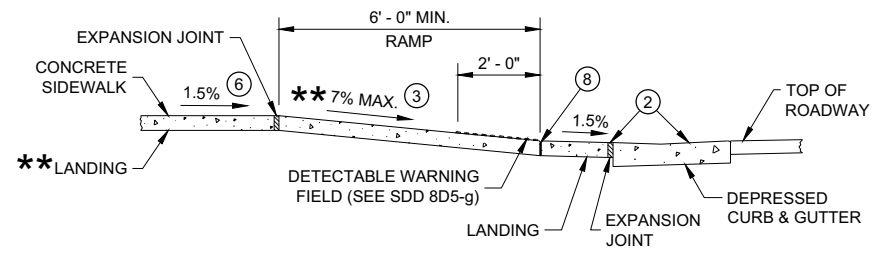
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**PLAN VIEW CURB RAMP TYPE 4B**



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

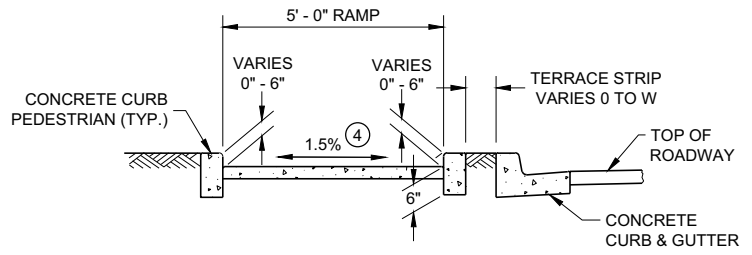


**SECTION B - B FOR TYPE 4B AND TYPE 4B1**

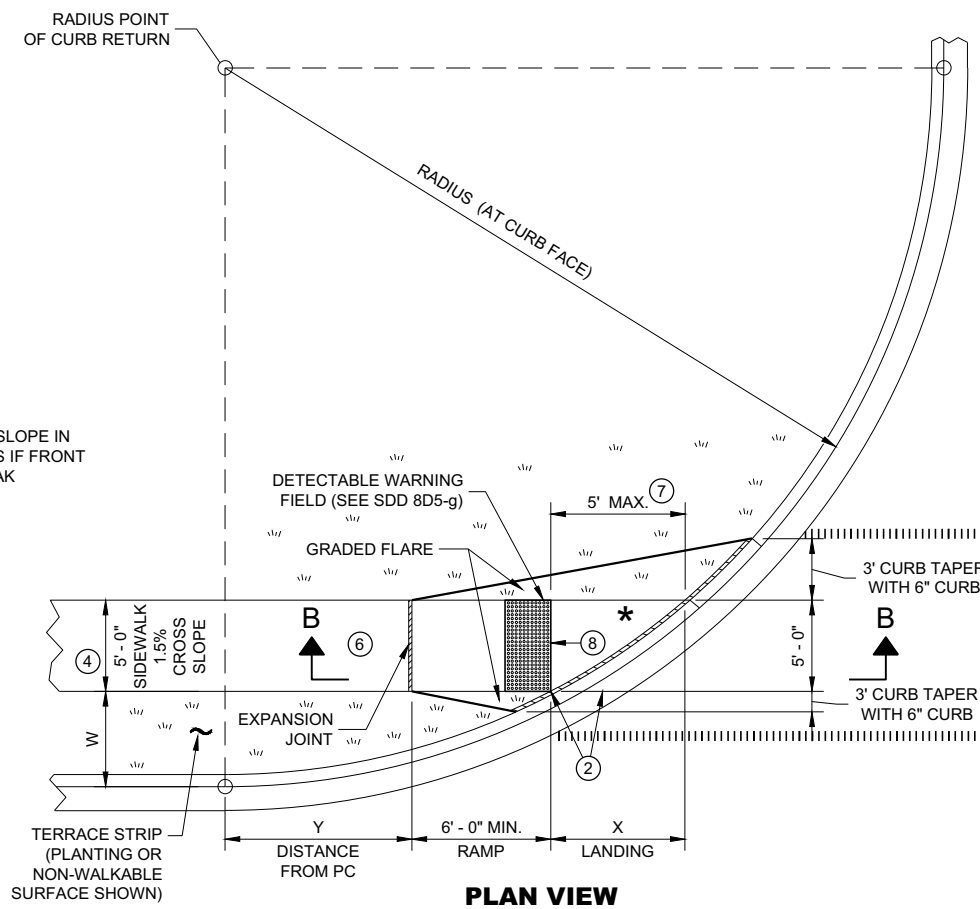
\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 1/4"	0' - 5"	2' - 1"	1' - 4 1/2"	1' - 5"	2' - 1"	0' - 10"	2' - 7 1/2"	0' - 3 1/4"	3' - 0 1/4"						
15 FEET	4' - 6 3/4"	2' - 1 3/4"	3' - 9"	3' - 5 3/4"	3' - 1 1/4"	4' - 6"	2' - 6 3/4"	5' - 4 1/2"	2' - 1"	6' - 1"	1' - 8"	6' - 8 1/2"	1' - 3 1/4"	7' - 2 1/2"	0' - 10 3/4"	7' - 7 1/4"
20 FEET	5' - 9 3/4"	3' - 6 1/2"	4' - 11 1/2"	5' - 1 3/4"	4' - 3 1/4"	6' - 5 1/2"	3' - 8 3/4"	7' - 7"	3' - 3"	8' - 6 1/2"	2' - 10"	9' - 4 1/2"	2' - 5 1/2"	10' - 1 1/4"	2' - 1 1/4"	10' - 9"
30 FEET			6' - 9 1/4"	7' - 11 1/4"	6' - 0 1/4"	9' - 8"	5' - 5"	11' - 1 3/4"	4' - 10 3/4"	12' - 5 3/4"	4' - 5 1/2"	13' - 7 3/4"	4' - 0 3/4"	14' - 8 1/2"	3' - 8 1/2"	15' - 8 1/4"
40 FEET									6' - 1 3/4"	15' - 8 1/2"	5' - 8"	17' - 2"	5' - 3"	18' - 5 3/4"	4' - 10 3/4"	19' - 8 1/4"
50 FEET															5' - 10 1/4"	23' - 2"

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



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



**PLAN VIEW CURB RAMP TYPE 4B1**

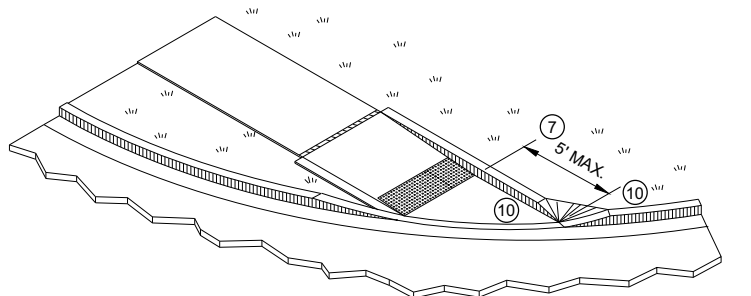
\* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

**LEGEND**

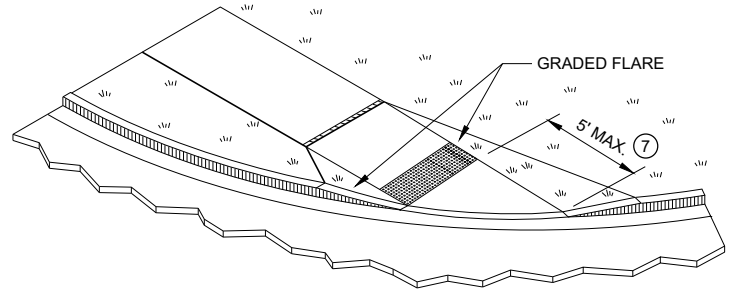
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/2 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



**ISOMETRIC VIEW FOR TYPE 4B**



**ISOMETRIC VIEW FOR TYPE 4B1**

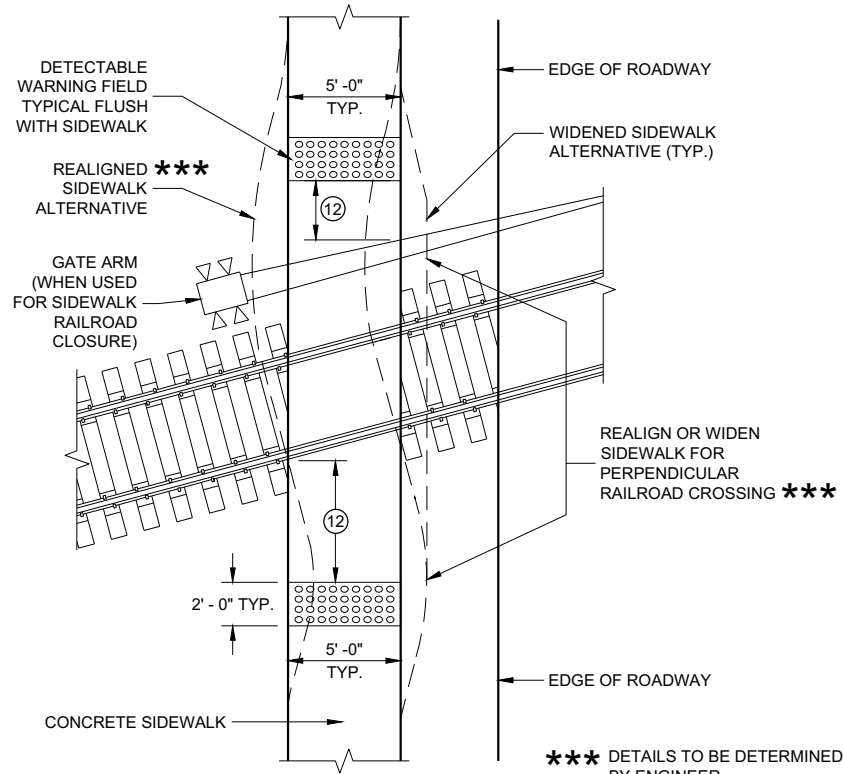
**CURB RAMPS TYPE 4B AND 4B1**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

SDD08D05 - 20d

SDD08D05 - 20d

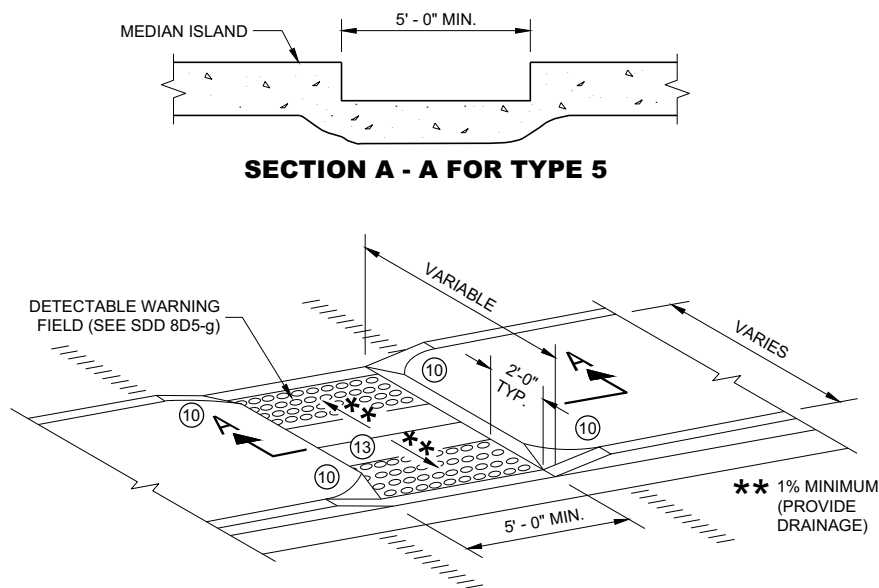




**CURB RAMP TYPE 8**

**DETECTABLE WARNINGS AT RAILROAD CROSSING**

\*\*\* DETAILS TO BE DETERMINED BY ENGINEER



**CURB RAMP TYPE 5**  
**MEDIAN ISLAND**  
**NON-ELEVATED PEDESTRIAN CROSSING**

**GENERAL NOTES**

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

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

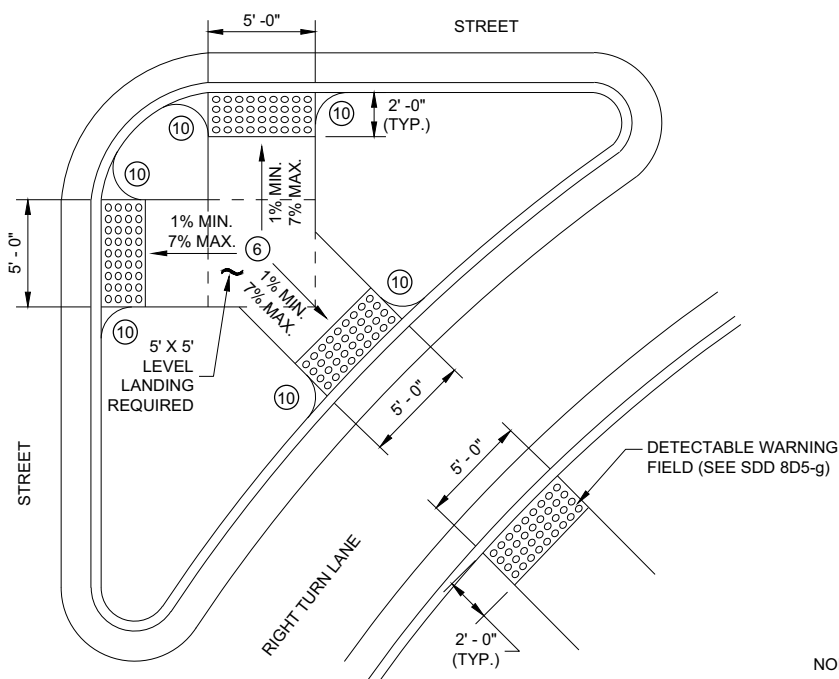
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- ⑪ SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ⑫ THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- ⑬ DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

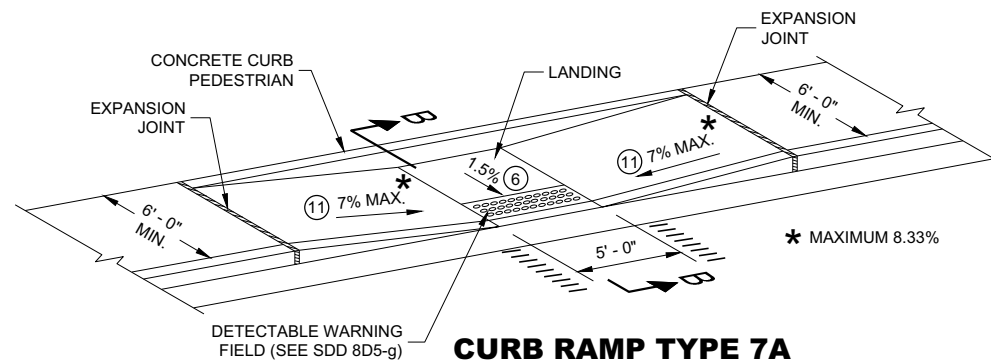
**LEGEND**

- ===== 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

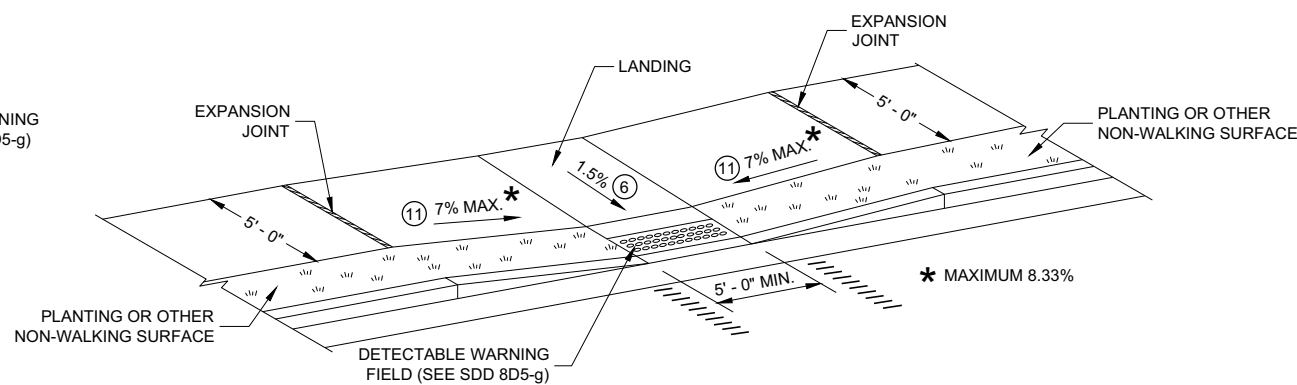


**CURB RAMP TYPE 6**  
**DETECTABLE WARNING AT ISLANDS**

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

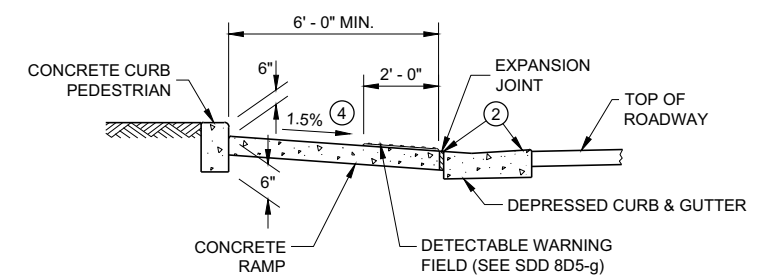


**CURB RAMP TYPE 7A**  
**MID BLOCK CROSSING**



**CURB RAMP TYPE 7B**  
**MID BLOCK CROSSING**

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

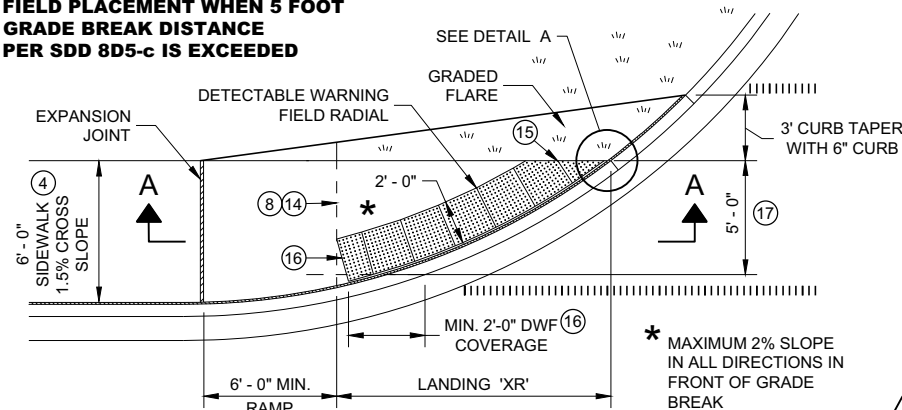


**SECTION B - B FOR TYPE 7A**

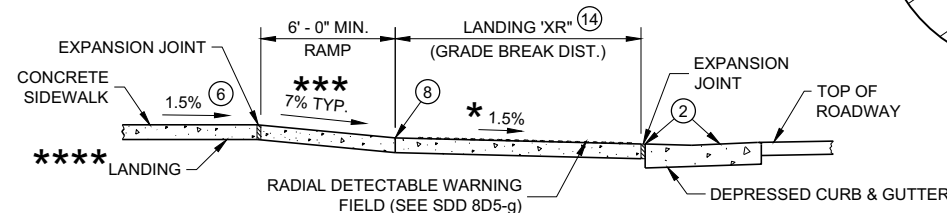
**CURB RAMPS**  
**TYPE 5, 6, 7A, 7B & 8**

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



**PLAN VIEW CURB RAMP TYPE 4A1 (GRADE BREAK DISTANCE GREATER THAN 5 FEET)**

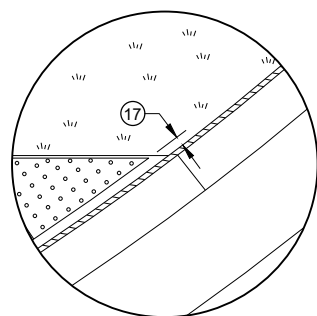


**SECTION A - A FOR TYPE 4A1**

\*\*\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

\*\*\* MAXIMUM 8.33%

- LEGEND**
- 1/2" EXPANSION JOINT SIDEWALK
  - - - CONTRACTION JOINT SIDEWALK
  - ||||| PAVEMENT MARKING CROSSWALK (WHITE)

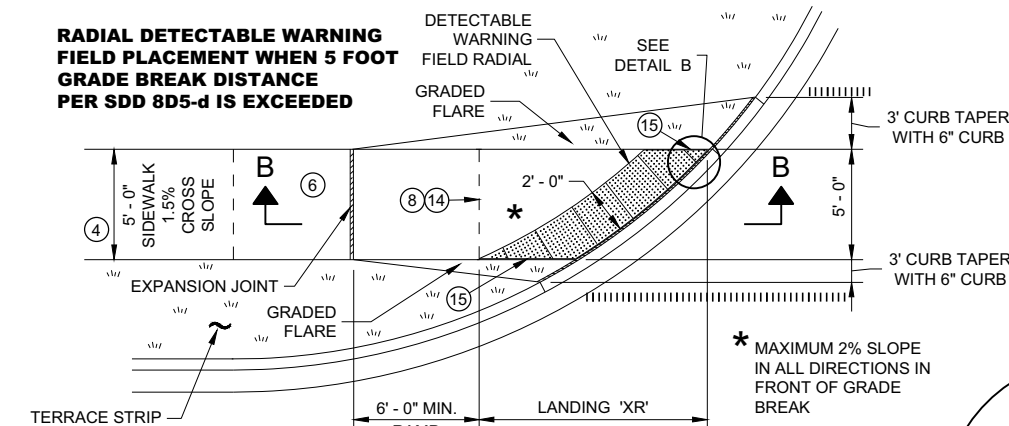


**DETAIL A**

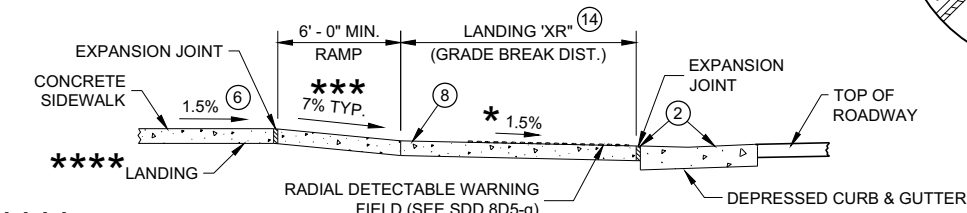
**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B RAMPS ARE NOT SHOWN.
- REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.
- FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.
- DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
- 2 GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- 3 AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- 4 ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- 6 PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.
- 8 PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- 14 CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
- 15 FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
- 16 USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
- 17 A MAXIMUM 3 INCH CONCRETE BORDER WITH IS ALLOWABLE IN FROM OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

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



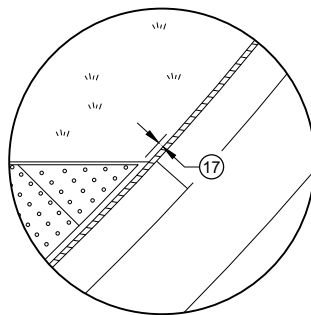
**PLAN VIEW CURB RAMP TYPE 4B1 (GRADE BREAK DISTANCE GREATER THAN 5 FEET)**



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

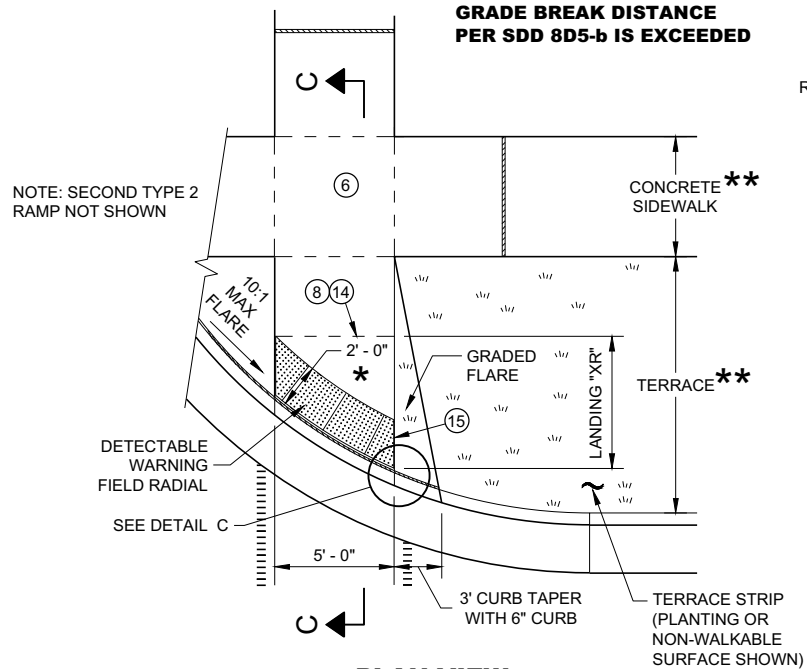
\*\*\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

\*\*\* MAXIMUM 8.33%



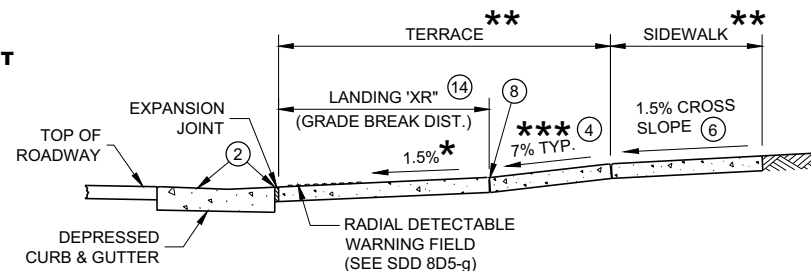
**DETAIL B**

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



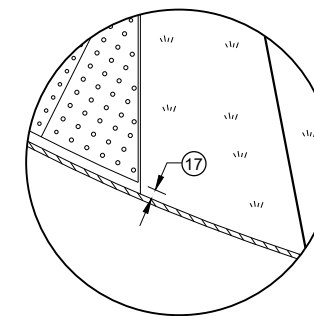
**PLAN VIEW CURB RAMP TYPE 2 (GRADE BREAK DISTANCE GREATER THAN 5 FEET) (ON LINE WITH SIDEWALK)**

NOTE: SECOND TYPE 2 RAMP NOT SHOWN



**SECTION C - C FOR TYPE 2**

- \* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- \*\* WIDTH SHOWN ELSEWHERE IN THE PLANS
- \*\*\* MAXIMUM 8.33%



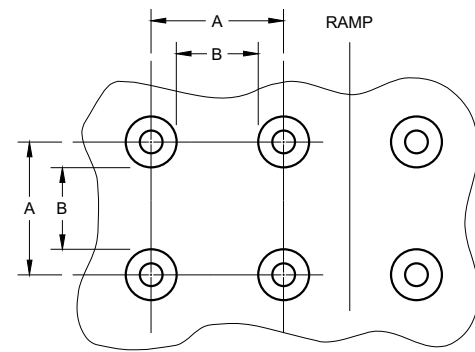
**DETAIL C**

**CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS**

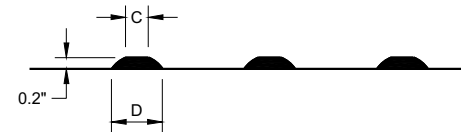
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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

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

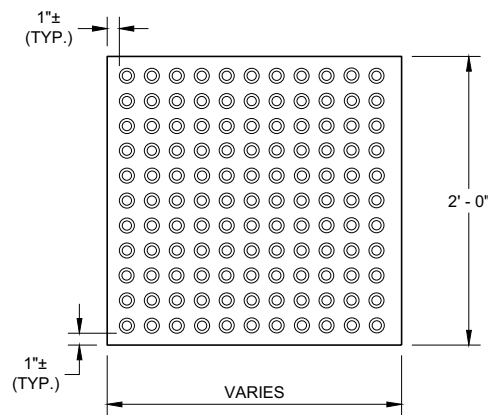


**PLAN VIEW**

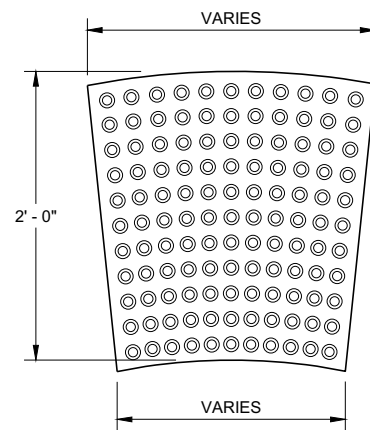


**ELEVATION VIEW**

**TRUNCATED DOMES  
DETECTABLE WARNING PATTERN DETAIL**

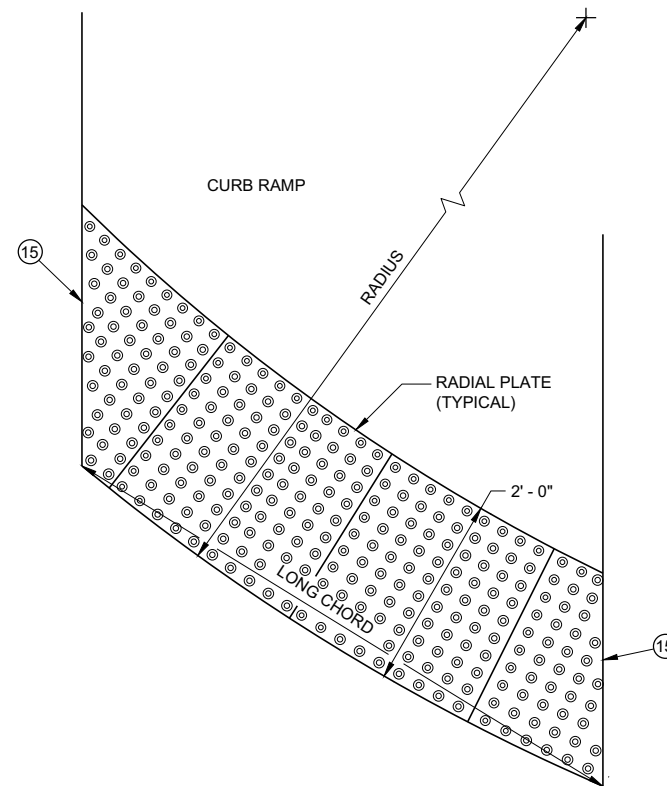


**RECTANGULAR  
PLATES**

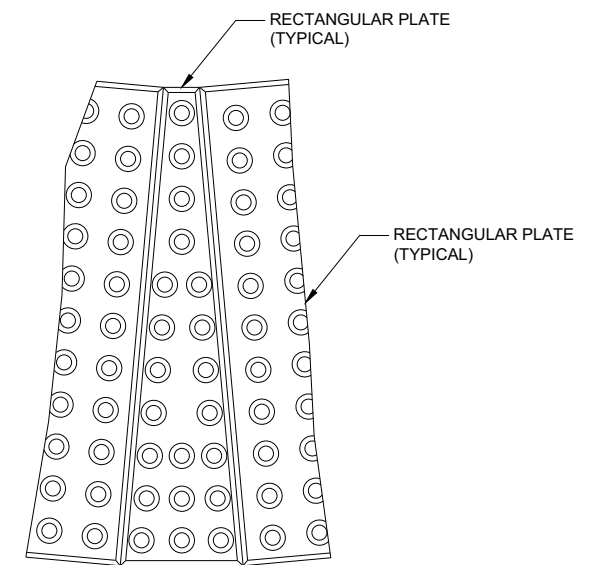


**RADIAL  
PLATES**

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



**PLAN VIEW  
RADIAL DETECTABLE  
WARNING FIELD ATTRIBUTES**



**PLAN VIEW  
RADIAL WEDGE PLATE  
CONNECTION DETAIL**

**GENERAL NOTES**

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

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

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

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

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

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

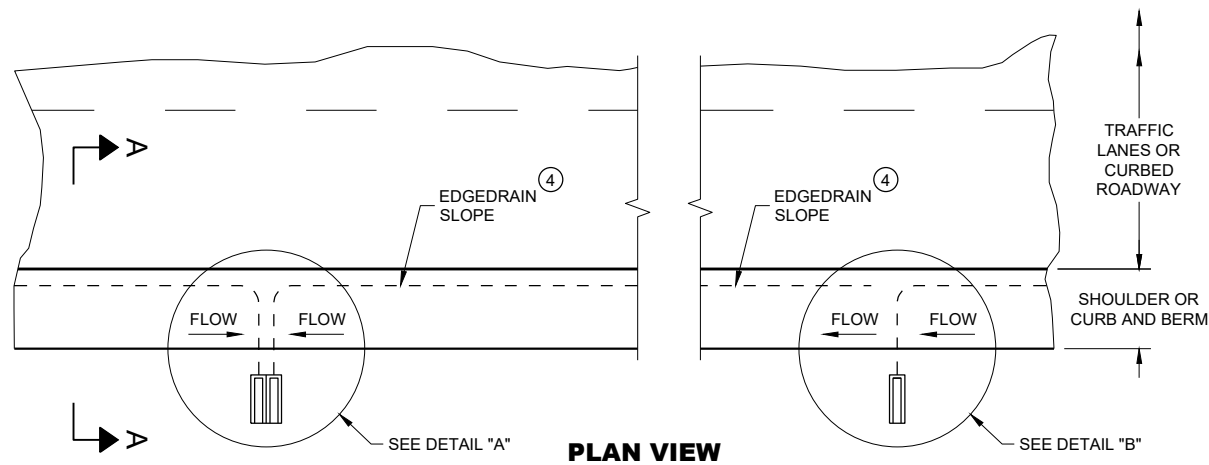
DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

15 FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

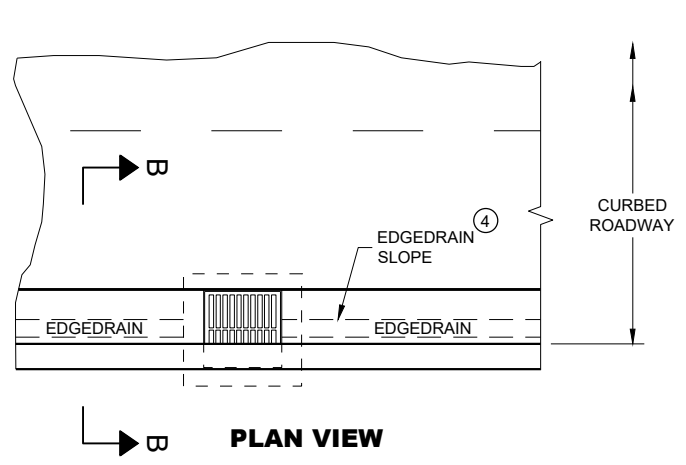
**CURB RAMPS  
RECTANGULAR AND RADIAL  
DETECTABLE WARNING PLATES**

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DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2019 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR



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

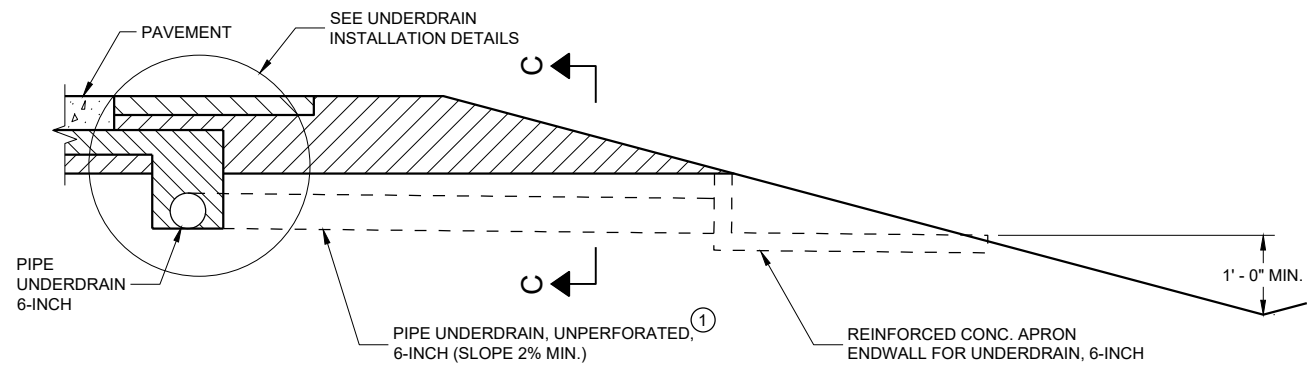


**ROADWAY WITH CURBS  
(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)**

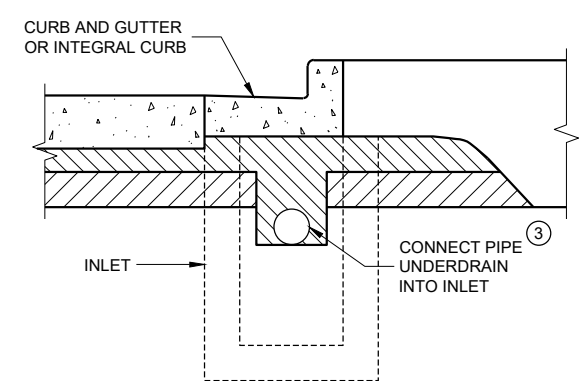
**GENERAL NOTES**

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.

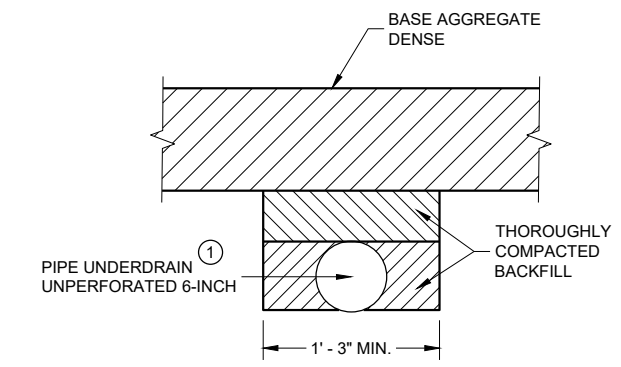
- ① UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:  
  
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.  
  
TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE 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.



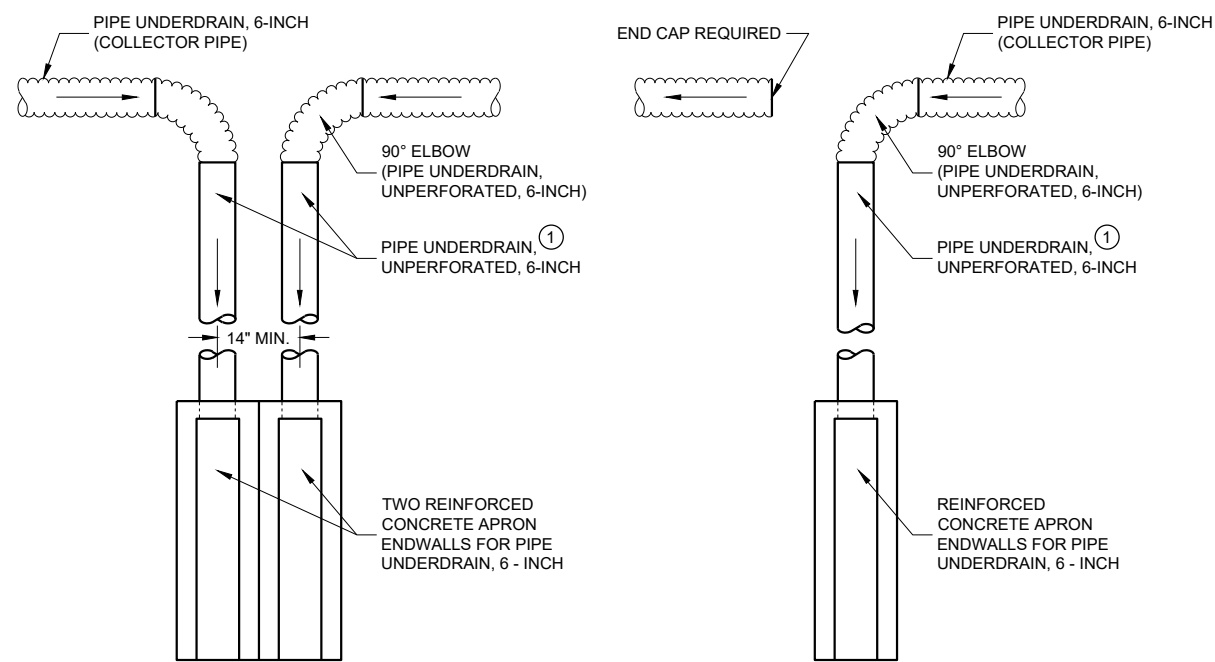
**SECTION A - A  
RURAL CROSS SECTION**



**SECTION B - B  
URBAN CROSS SECTION**



**SECTION C - C  
TRENCH FOR OUTFALL PIPE**



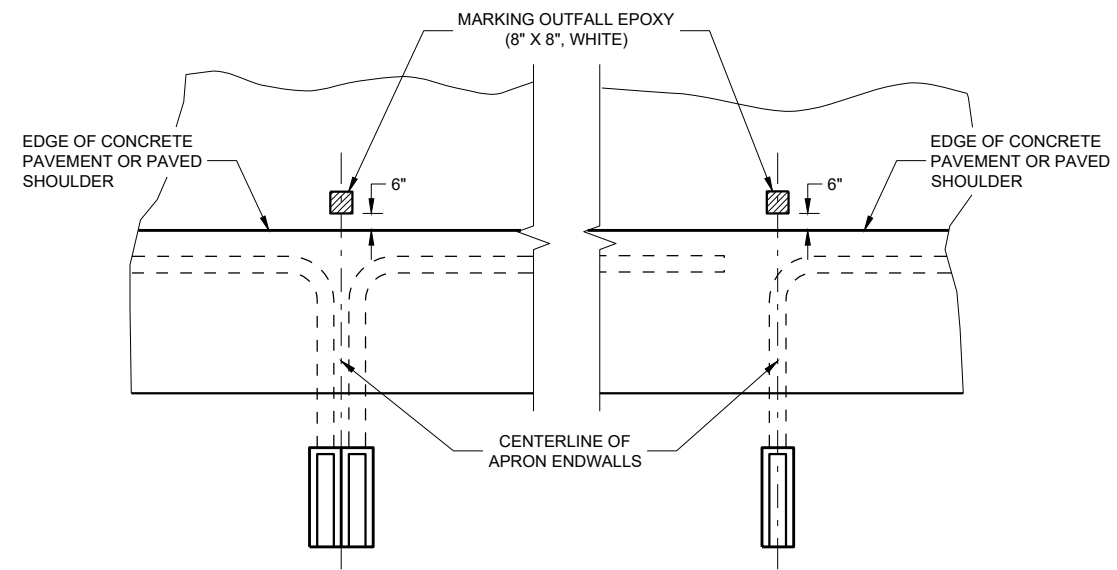
**DETAIL "A"**

TO BE USED AT LOW POINT LOCATIONS

**DETAIL "B"**

TO BE USED AT INTERMEDIATE LOCATIONS

**TYPICAL DRAIN OUT DETAILS**



LOW POINT LOCATIONS

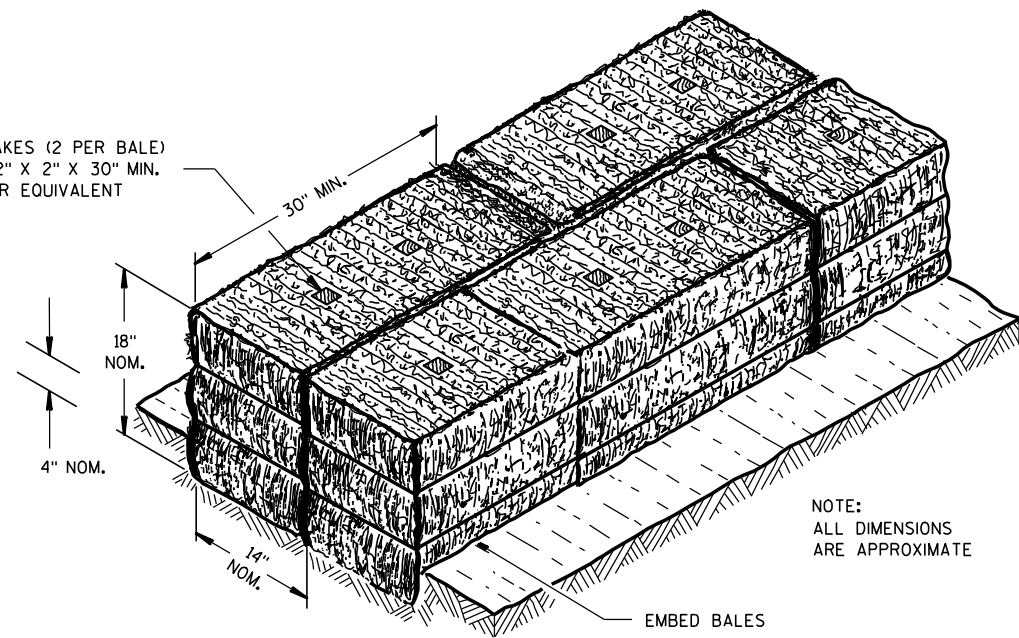
INTERMEDIATE LOCATIONS

**PAVEMENT MARKINGS FOR OUTFALL MARKERS**

**EDGEDRAIN OUTLET  
AND OUTFALL MARKERS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

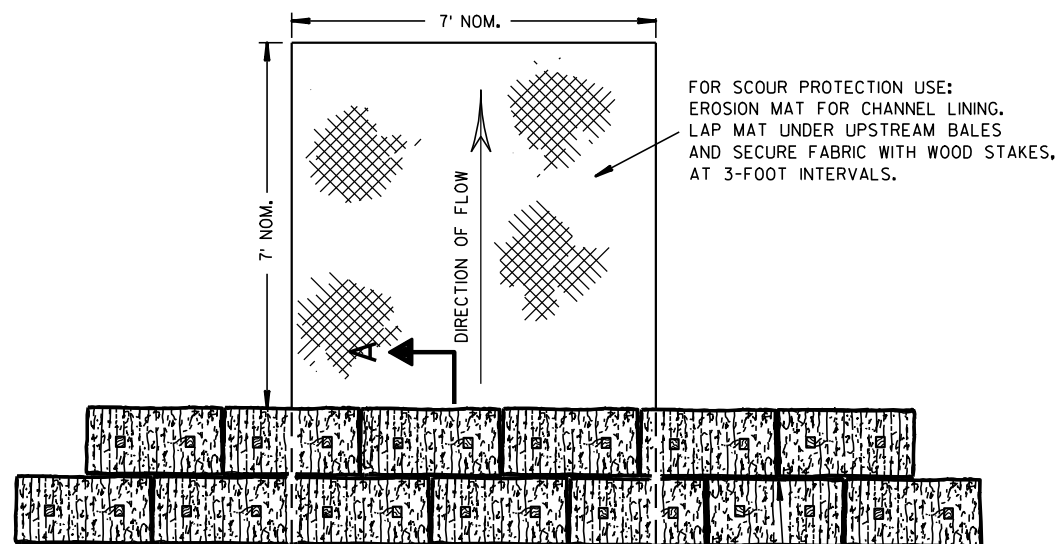
WOOD STAKES (2 PER BALE)  
NOMINAL 2" X 2" X 30" MIN.  
LENGTH OR EQUIVALENT



NOTE:  
ALL DIMENSIONS  
ARE APPROXIMATE

EMBED BALES

SECTION A-A

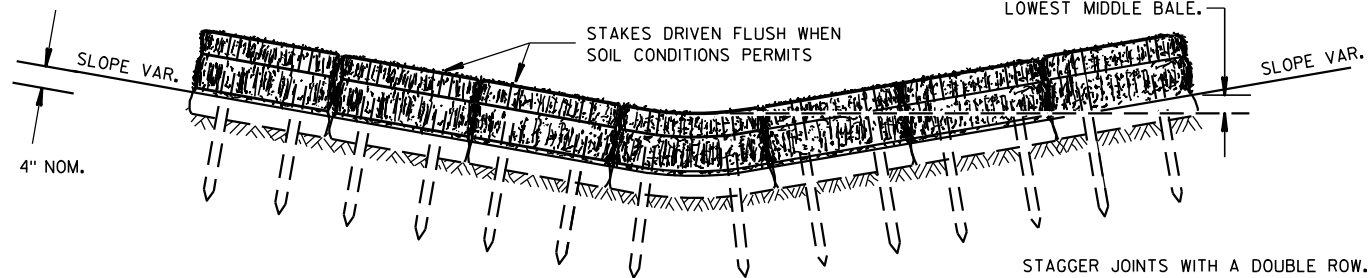


FOR SCOUR PROTECTION USE:  
EROSION MAT FOR CHANNEL LINING.  
LAP MAT UNDER UPSTREAM BALES  
AND SECURE FABRIC WITH WOOD STAKES,  
AT 3-FOOT INTERVALS.

STAGGER JOINTS BETWEEN ADJACENT  
ROWS OF BALES.

PLAN VIEW

BOTTOM ELEVATION OF END BALE SHALL  
BE EQUAL TO OR GREATER THAN TOP OF  
LOWEST MIDDLE BALE.



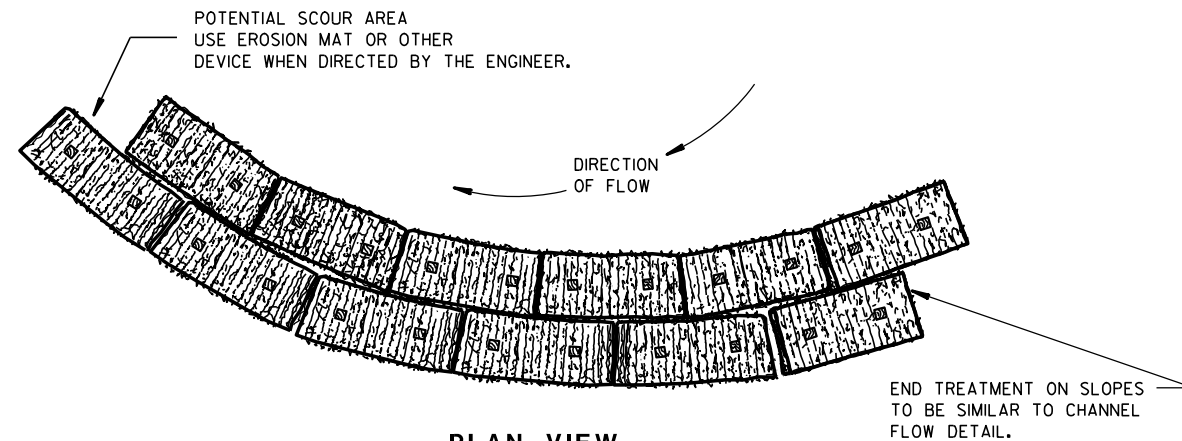
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

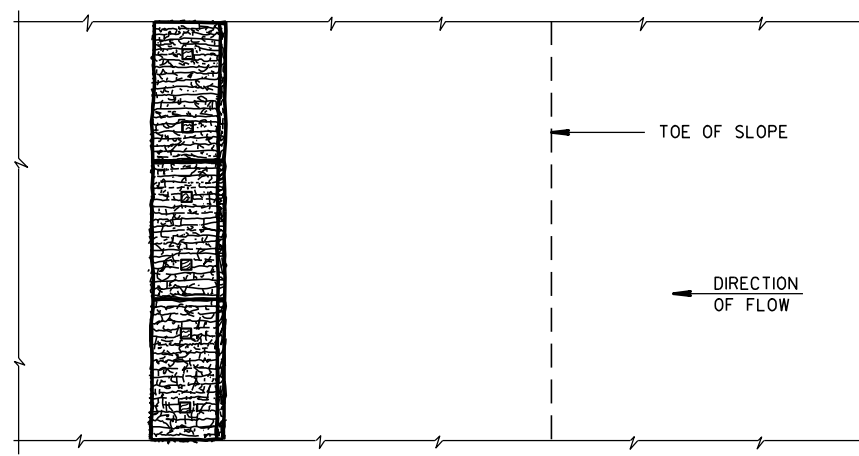
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

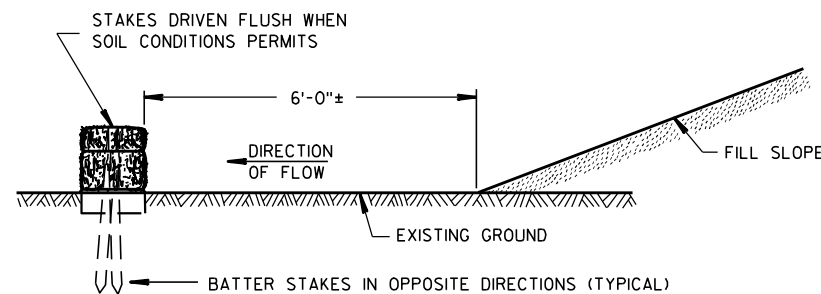


PLAN VIEW

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 /S/ Beth Canestra  
 DATE CHIEF ROADWAY DEVELOPMENT ENGINEER  
 FHWA



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

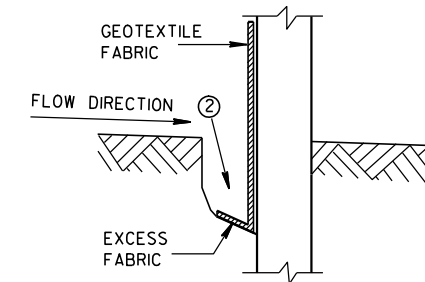


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

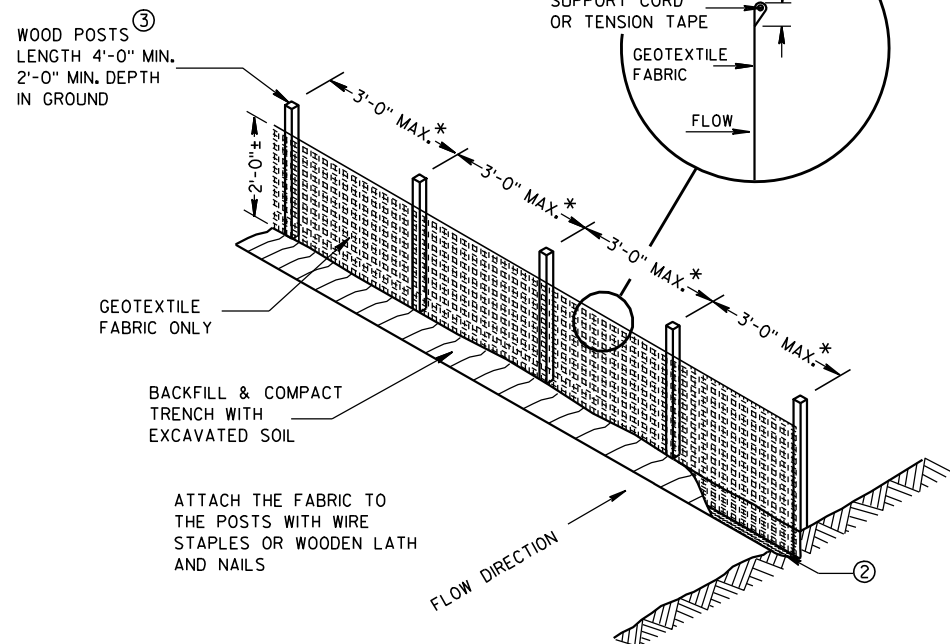
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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 1 1/8" X 1 1/8" 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.

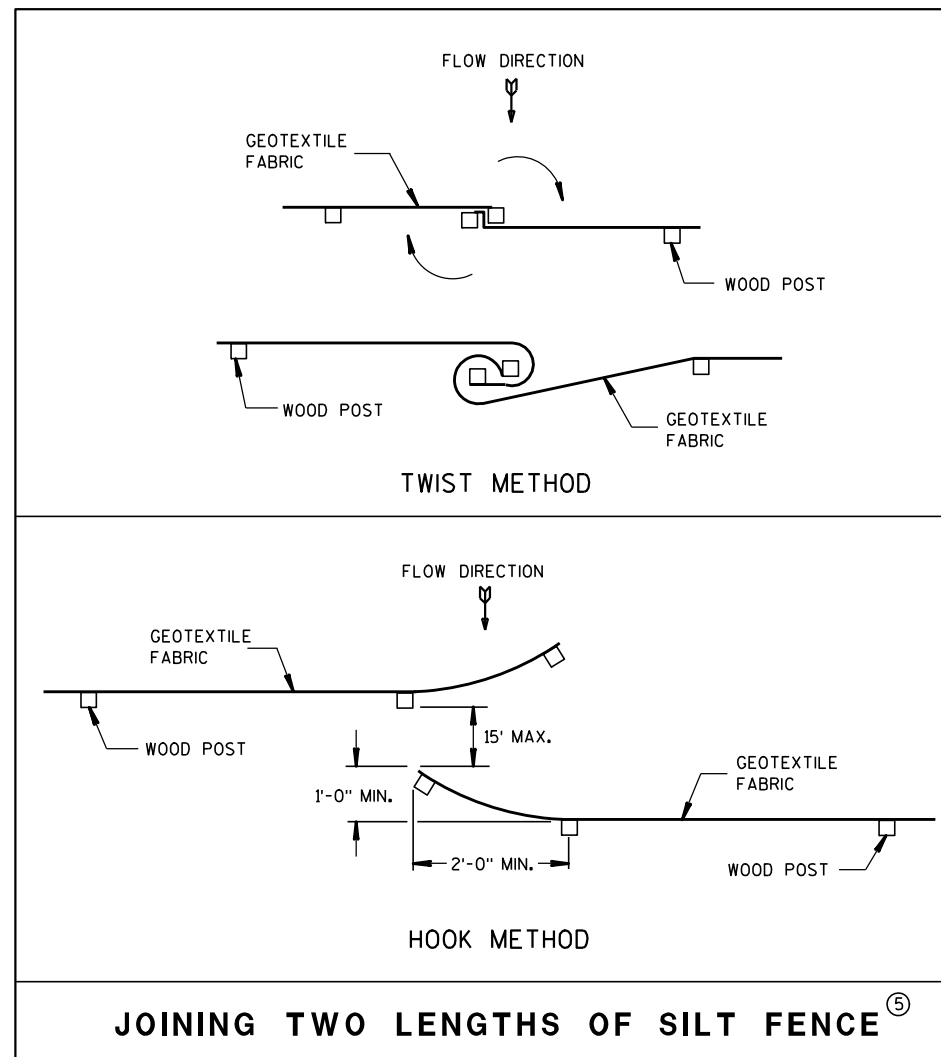


TRENCH DETAIL

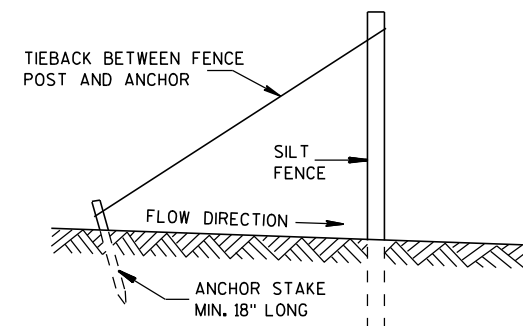
NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE ⑤



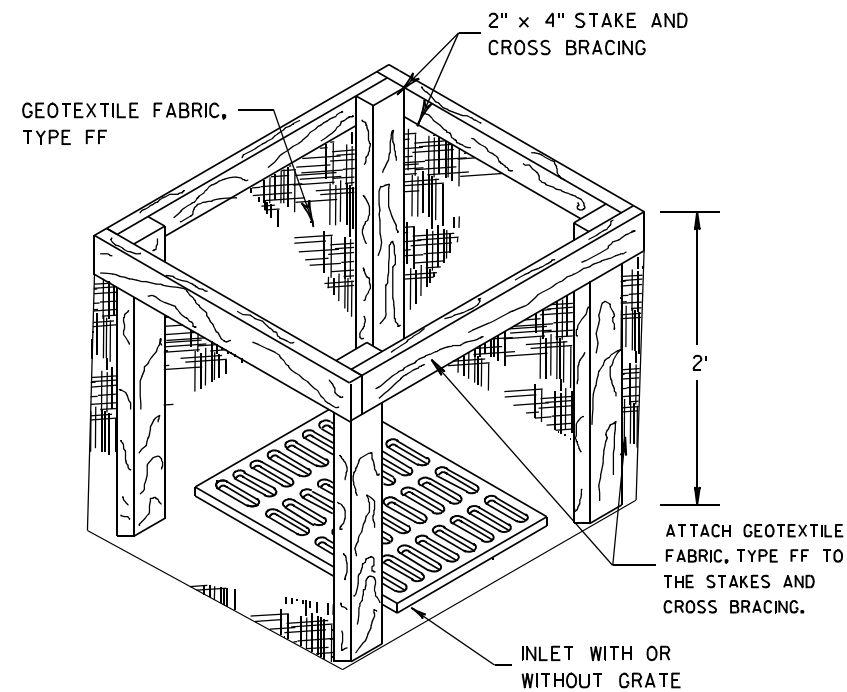
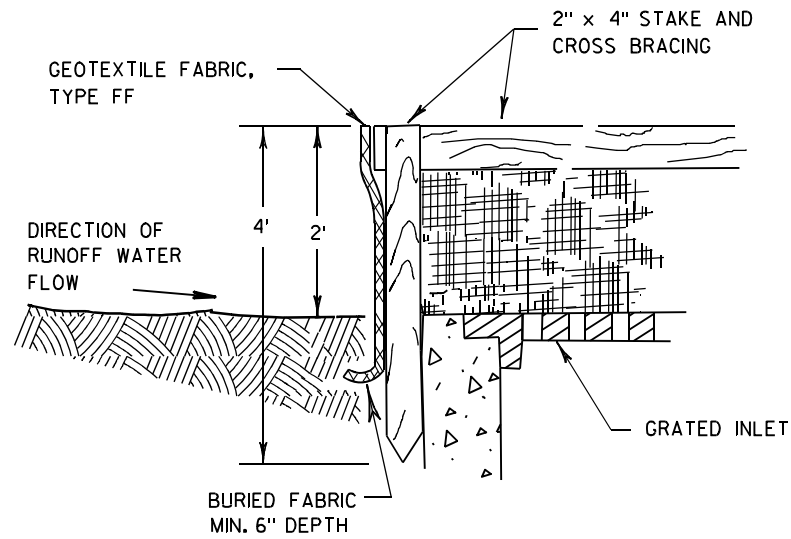
SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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





**INLET PROTECTION, TYPE A**

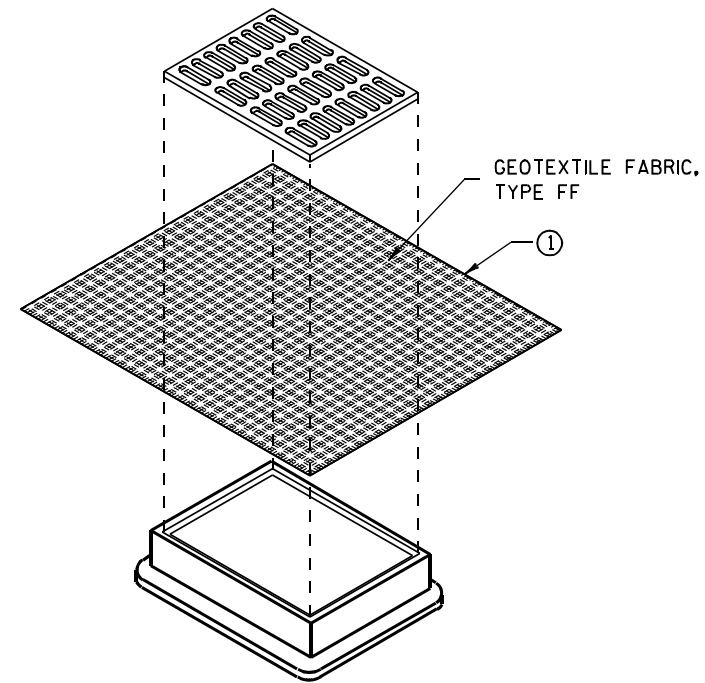
**GENERAL NOTES**

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.

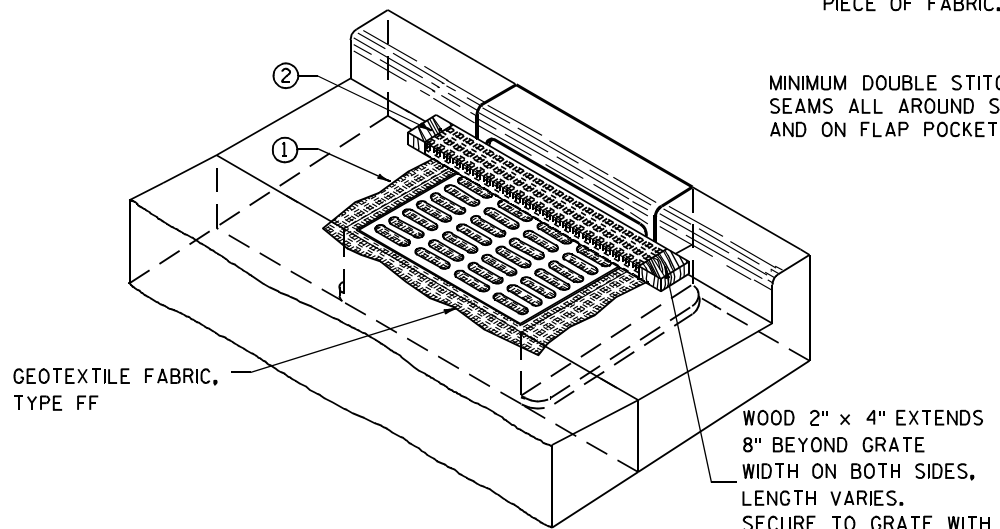
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



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

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



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

**INSTALLATION NOTES**

**TYPE B & C**

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

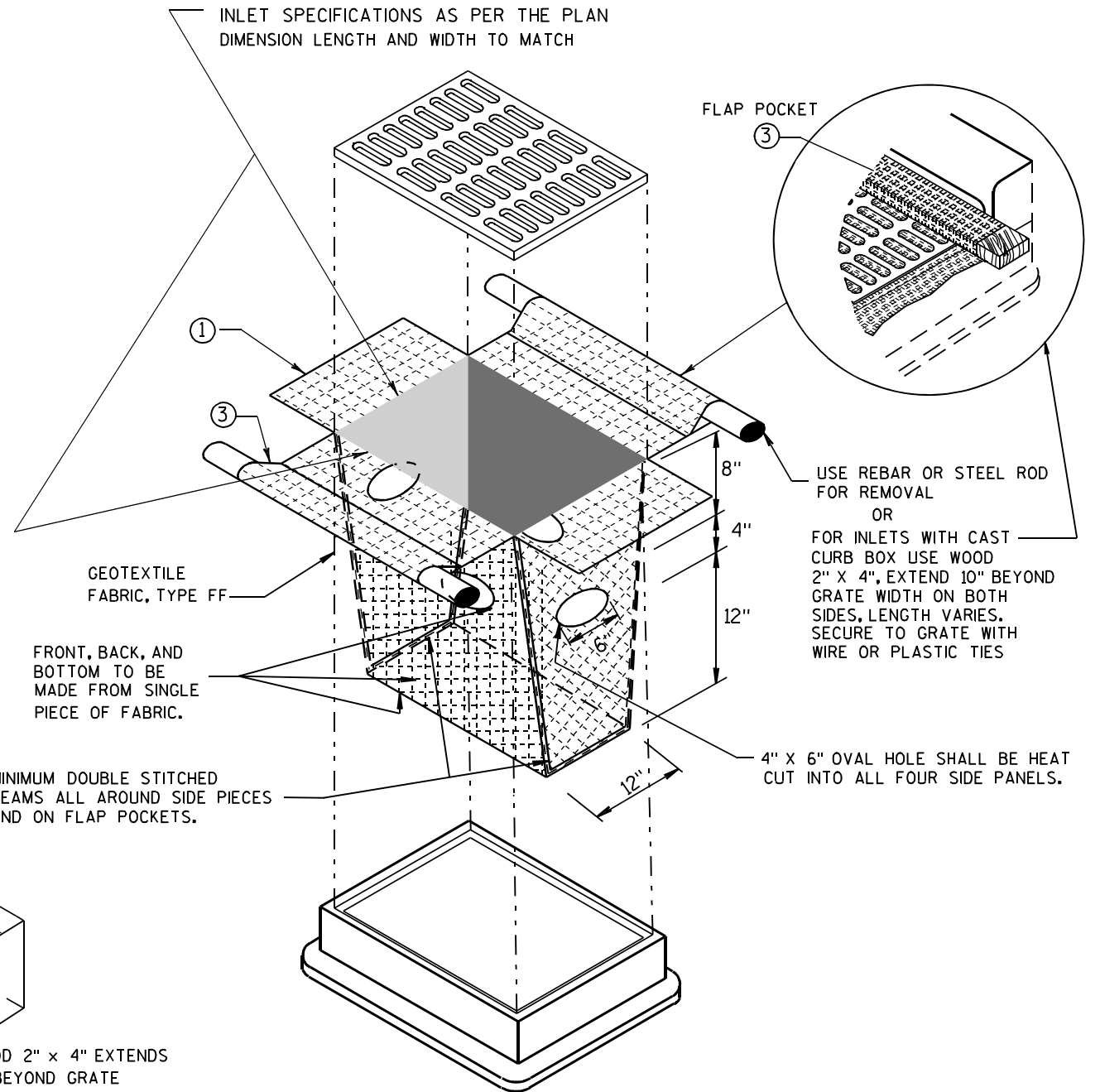
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**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 D**

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

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

**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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

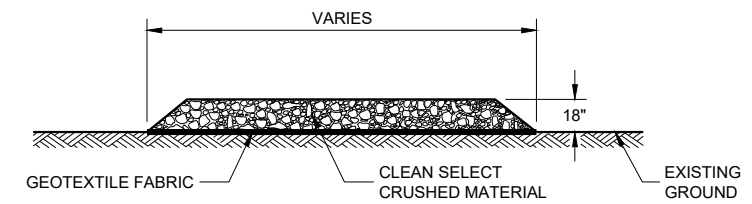
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

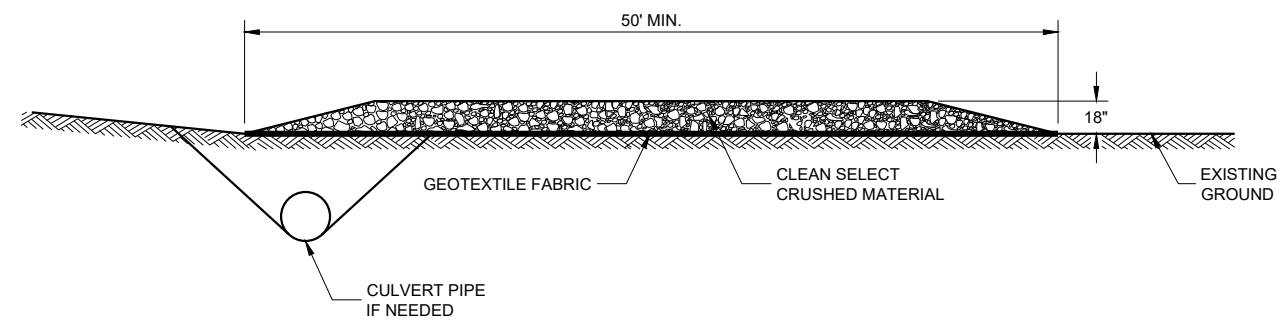
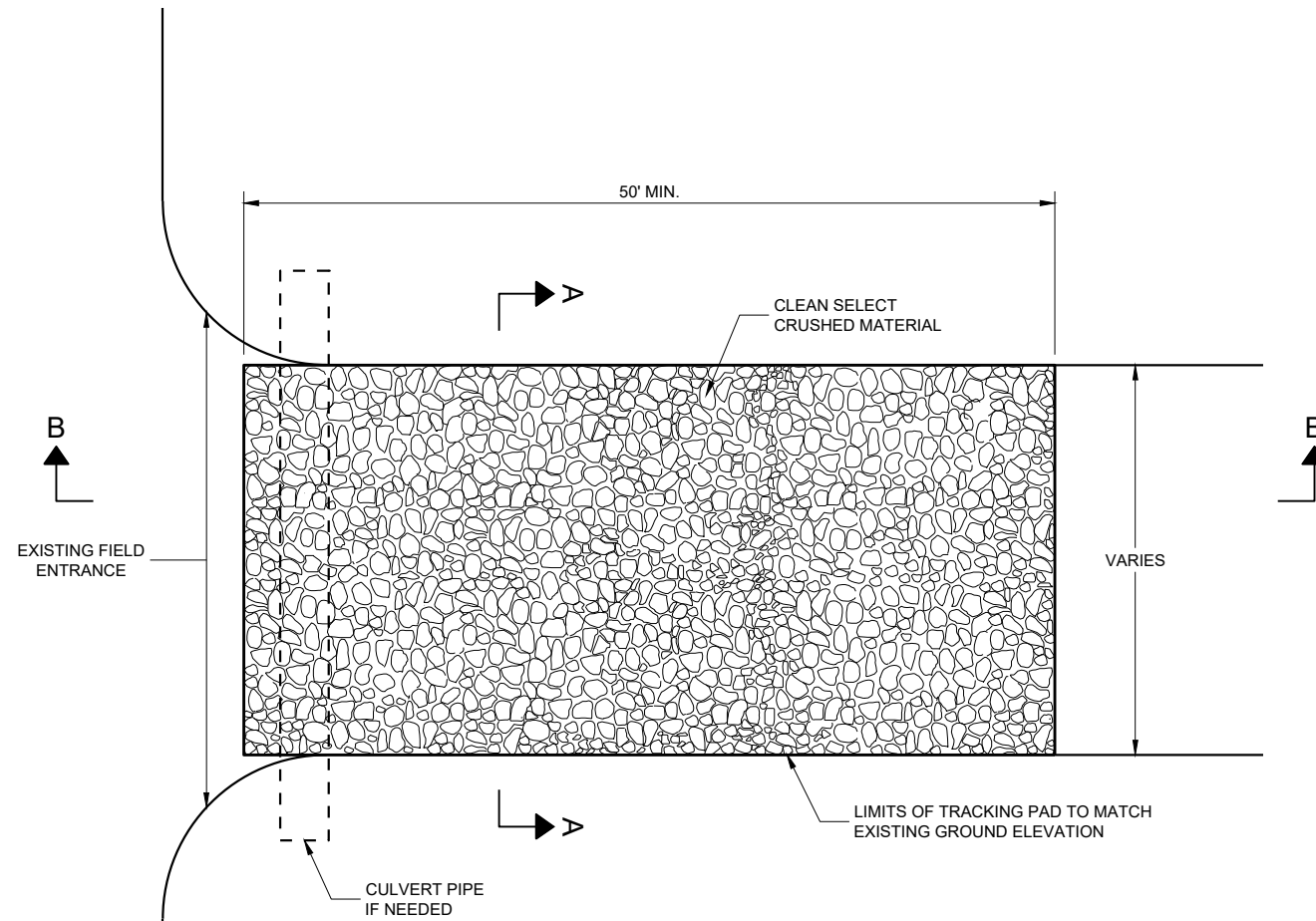
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



**SECTION A - A**



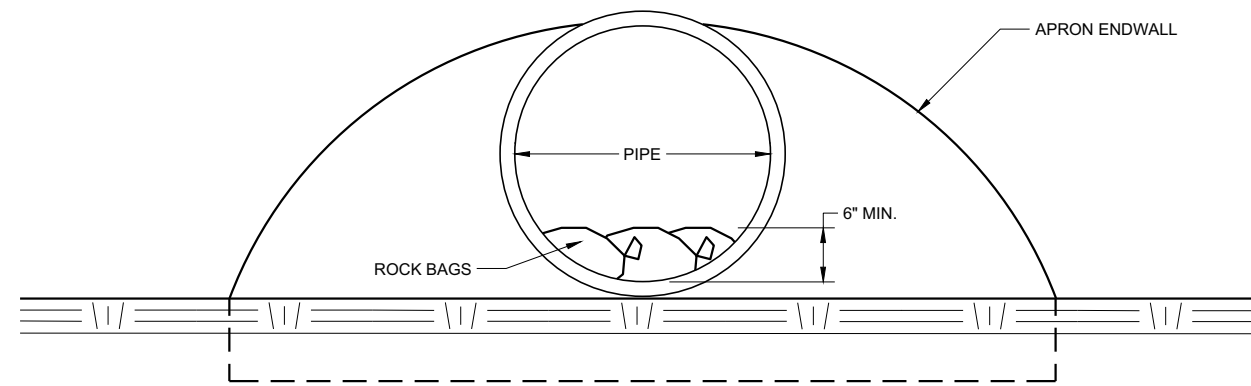
**SECTION B - B**

**TRACKING PAD**

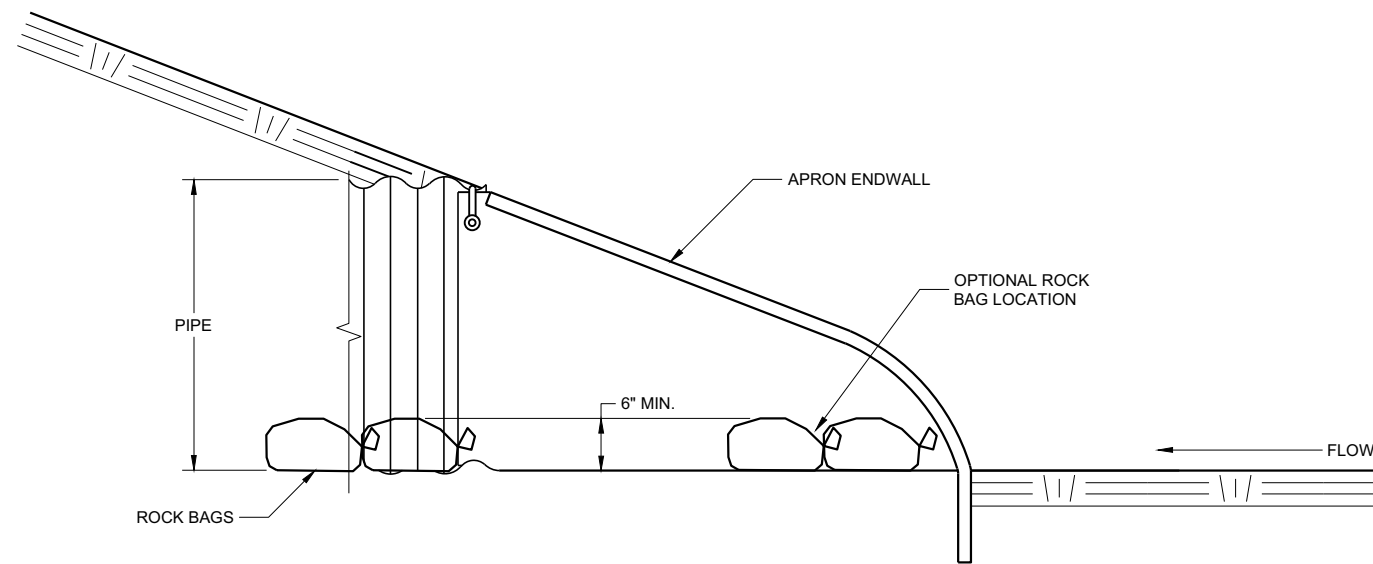
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
3/24/2011 DATE /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



**END VIEW**



**SIDE VIEW**

**CULVERT PIPE CHECK**  
(INSTALL ON INLET END ONLY)

6

6

SDD 08E15 - 01

SDD 08E15 - 01

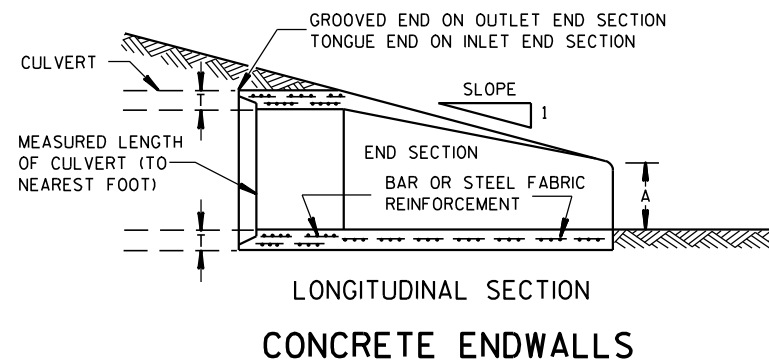
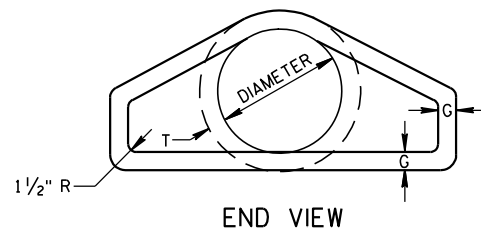
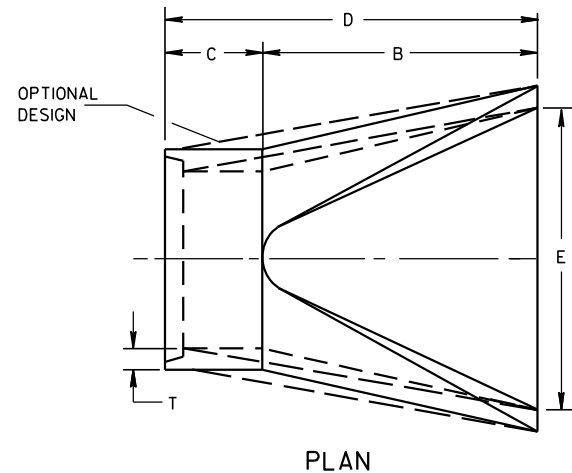
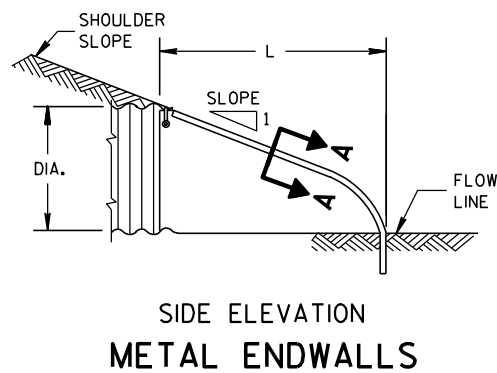
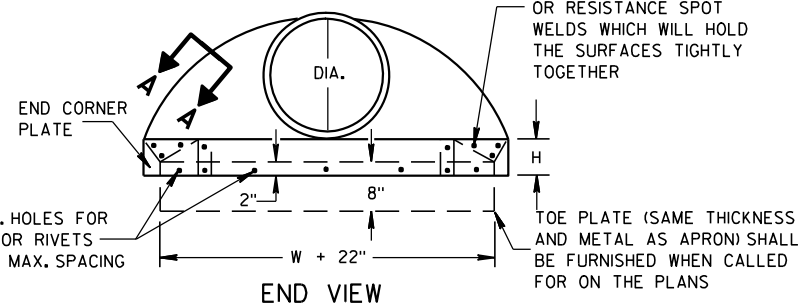
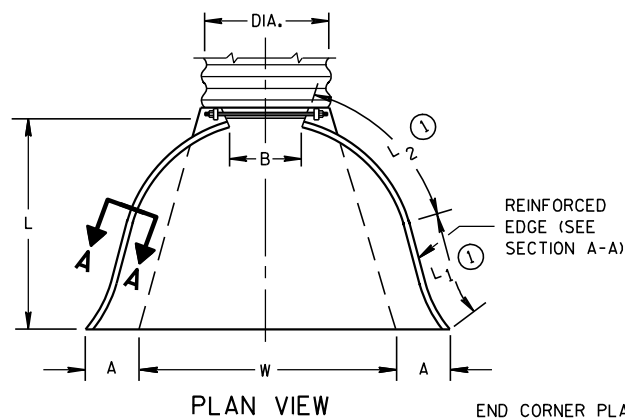
<b>CULVERT PIPE CHECK</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGINEER
<small>FHWA</small>	

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1	L2	W (±2")		
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	.109x	.105x	18	33	12	87	—	114	—	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	120	—	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	126	—	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	132	—	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	138	—	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	144	—	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	150	—	1 1/2 to 1	3 Pc.

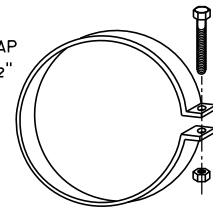
\* EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	48 1/8	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 1/2 to 1	
60	6	30-35	60	39	99	96	5	2 to 1	
66	6 1/2	30-35	72-78	21-27	99	102	5 1/2	2 to 1	
72	7	30-35	78	21	99	108	6	2 to 1	
78	7 1/2	30-35	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	

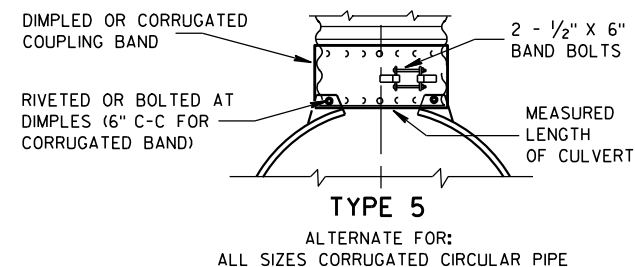
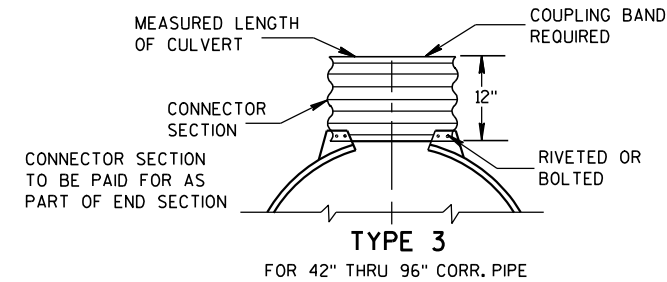
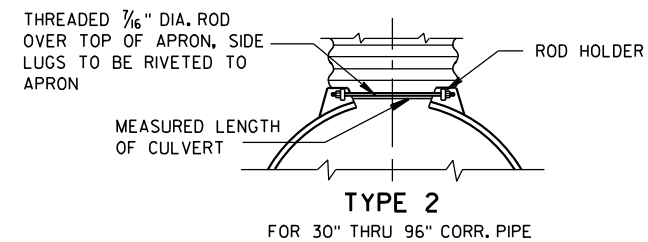
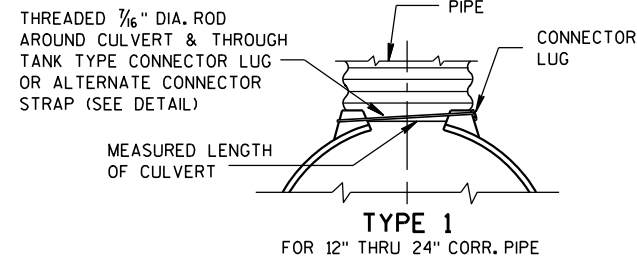
\* MINIMUM  
\*\* MAXIMUM



1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



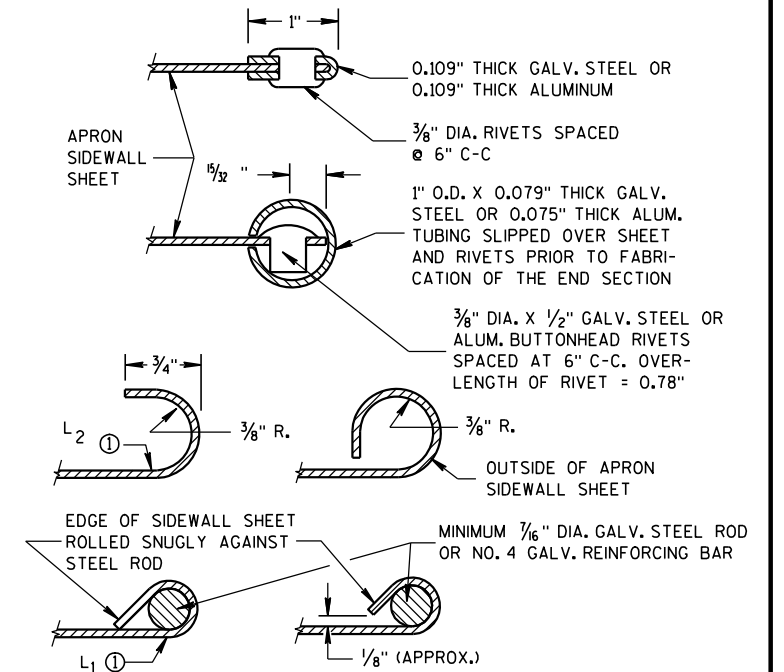
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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 VICE 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.

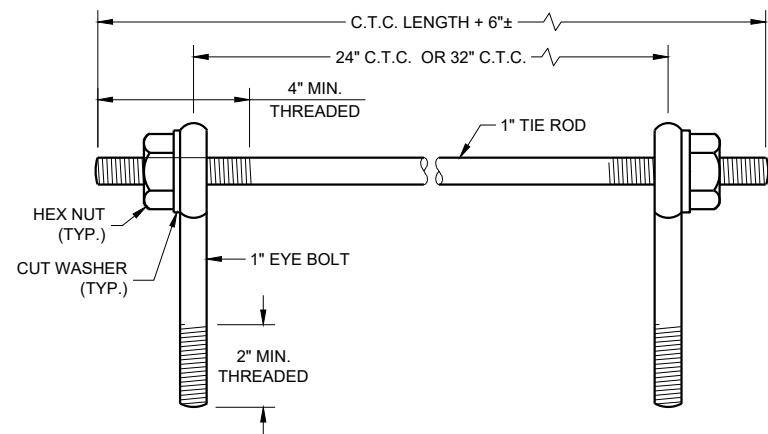
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

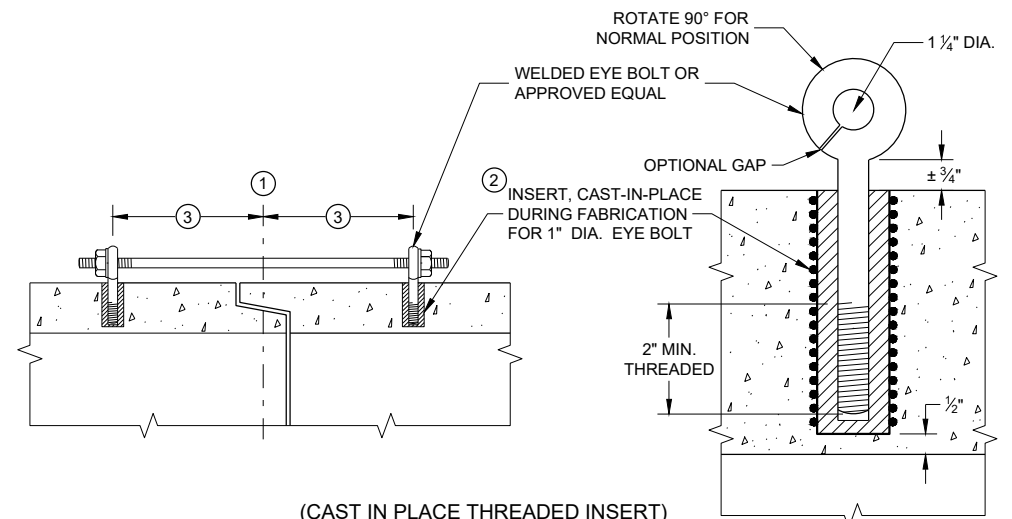
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**EYE BOLTS AND TIE ROD**

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



(CAST IN PLACE THREADED INSERT)  
**LONGITUDINAL SECTIONS**

**GENERAL NOTES**

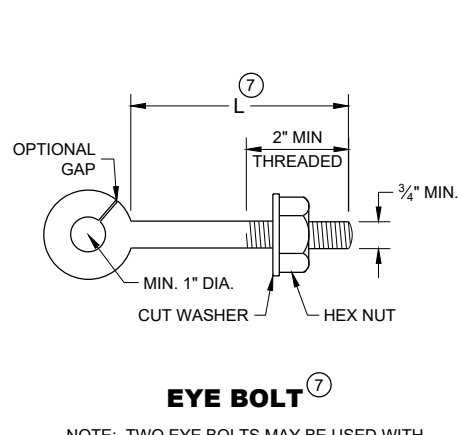
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

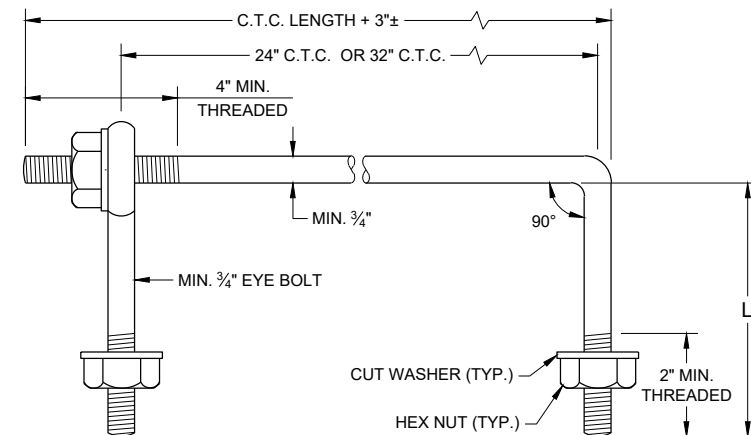
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 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 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- ⑦ EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

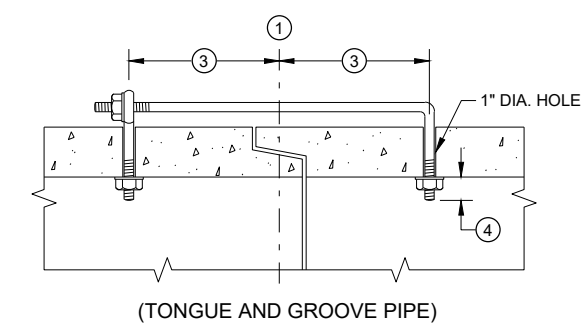


**EYE BOLT** ⑦

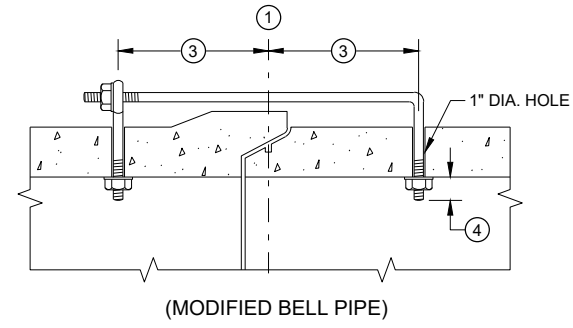
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30\"/>



**EYE BOLT AND TIE ROD**



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

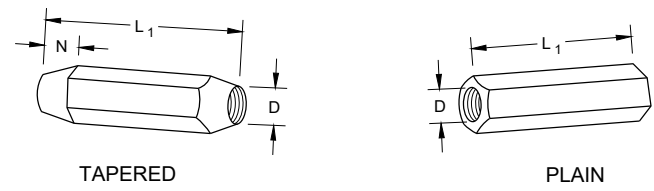
**LONGITUDINAL SECTION**  
(JOINT TIES FOR 18\"/>

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

**ADJUSTABLE TIE ROD TABLE**

PIPE DIAMETER	TIE ROD DIAMETER	D	L <sub>1</sub>	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

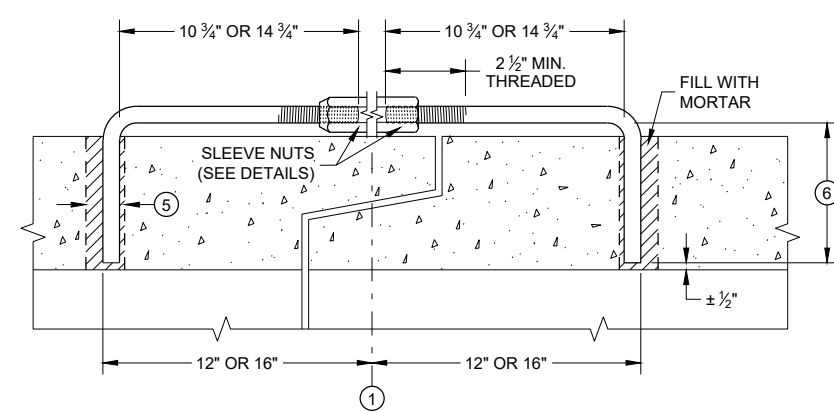
DIMENSIONS SHOWN ARE IN INCHES



TAPERED

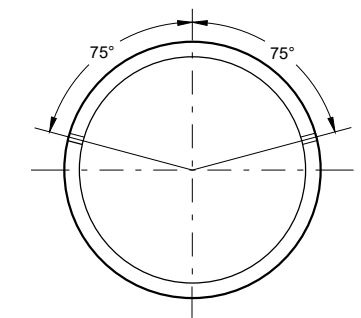
PLAIN

**RIGHT AND LEFT THREADS SLEEVE NUTS**



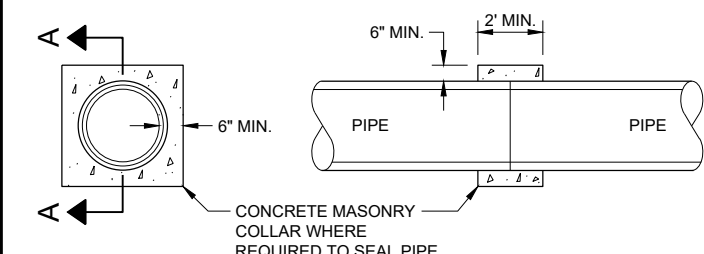
**LONGITUDINAL SECTION**

**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 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

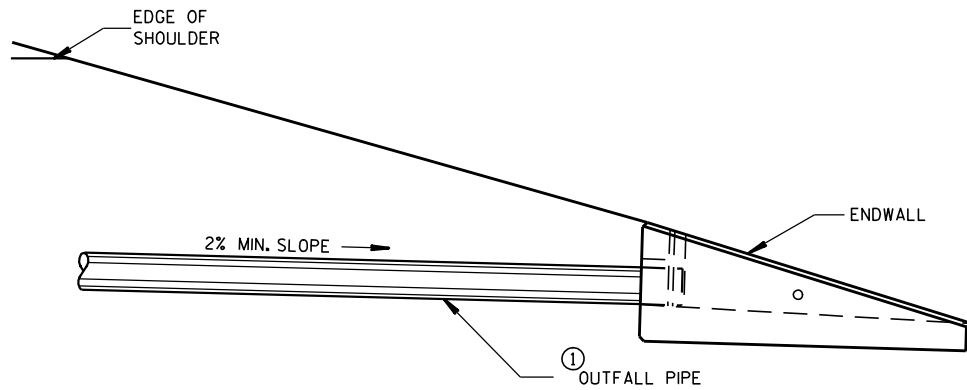
FHWA

SDD 08F04 - 08

SDD 08F04 - 08

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

\*\* APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION 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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

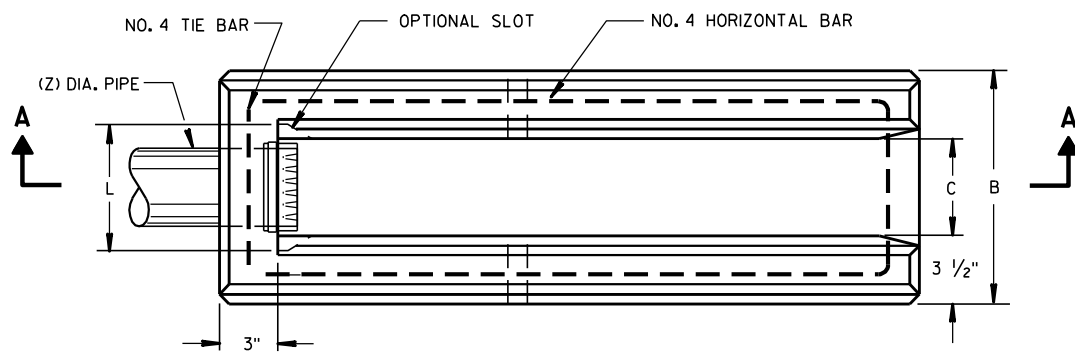
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

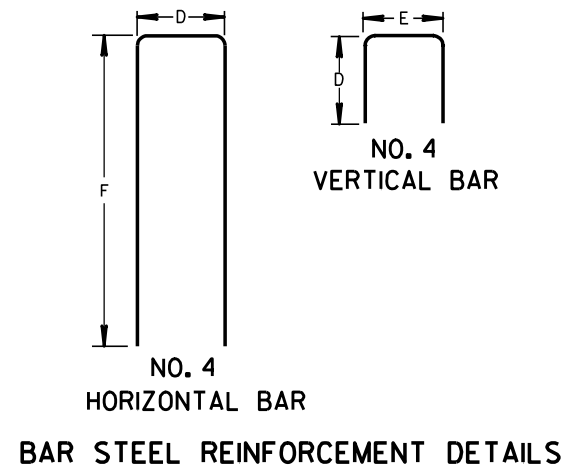
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

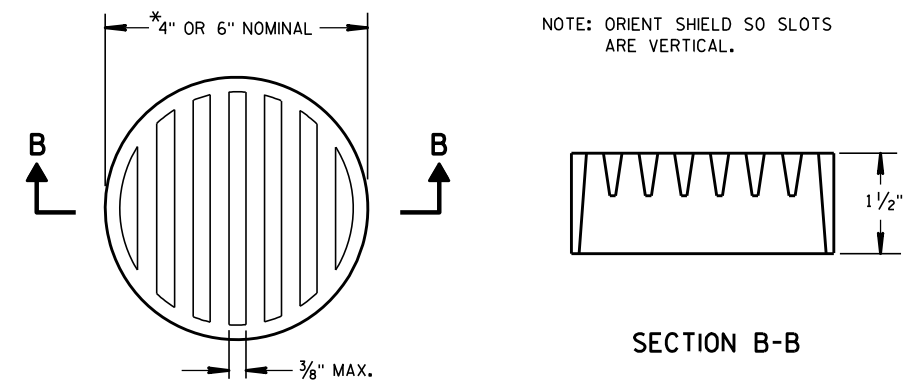
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



PLAN VIEW

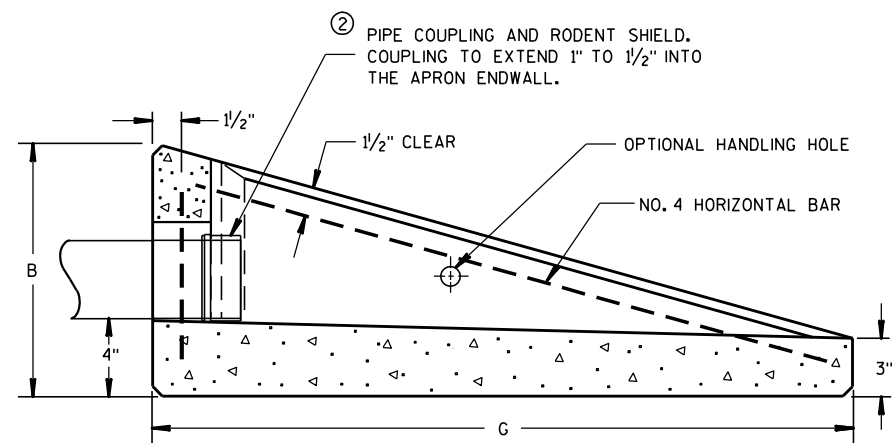


BAR STEEL REINFORCEMENT DETAILS



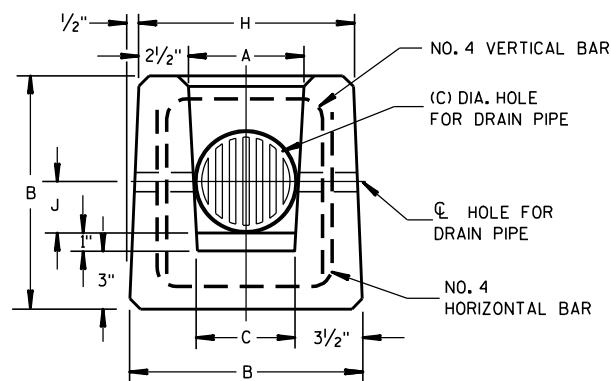
② RODENT SHIELD

\*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A

CONCRETE APRON ENDWALL FOR UNDERDRAIN



END VIEW

**REINFORCED  
CONCRETE APRON ENDWALL  
FOR PIPE UNDERDRAIN**

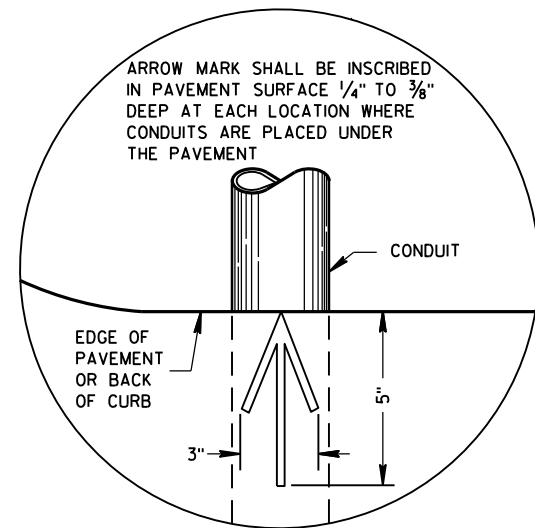
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

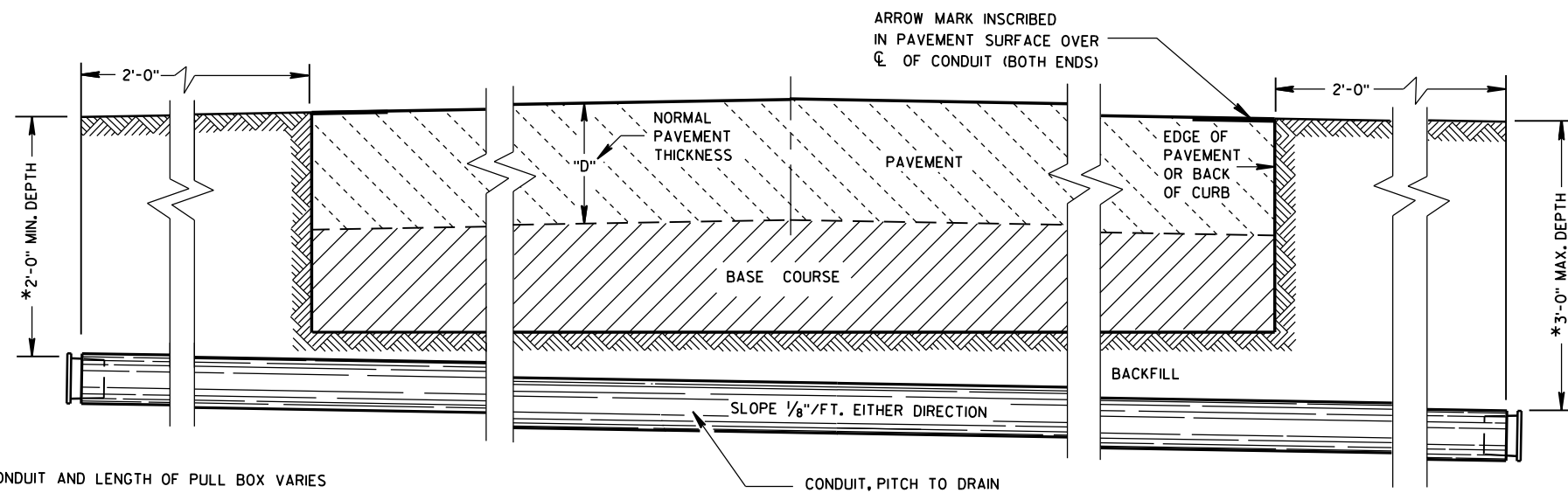
3/10/98 /S/ Rory L. Rhinesmith  
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA





**PLAN VIEW  
ARROW MARK**



**SIDE ELEVATION  
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS**

\*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

**GENERAL NOTES**

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSON TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

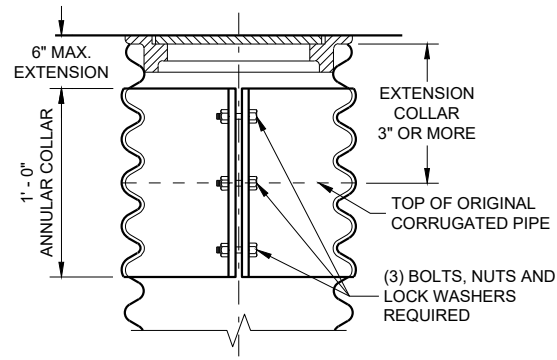
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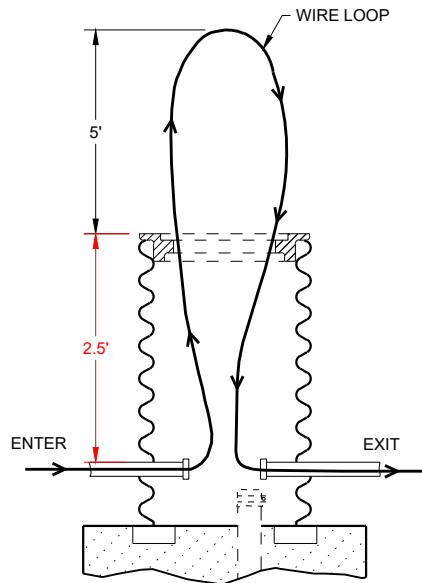
S.D.D. 9 B 2-10

S.D.D. 9 B 2-10

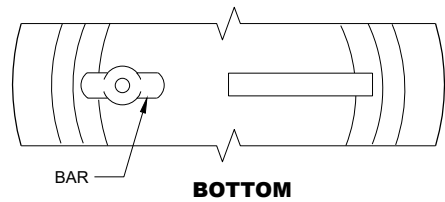
<b>CONDUIT</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March, 2017 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	



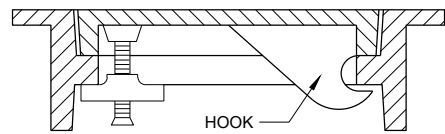
**CORRUGATED PIPE EXTENDER**



**MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX**



**BOTTOM**



**SECTION**

**ALTERNATE COVER (LOCKING)  
TIGHTENING BAR TYPE**

**GENERAL NOTES**

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

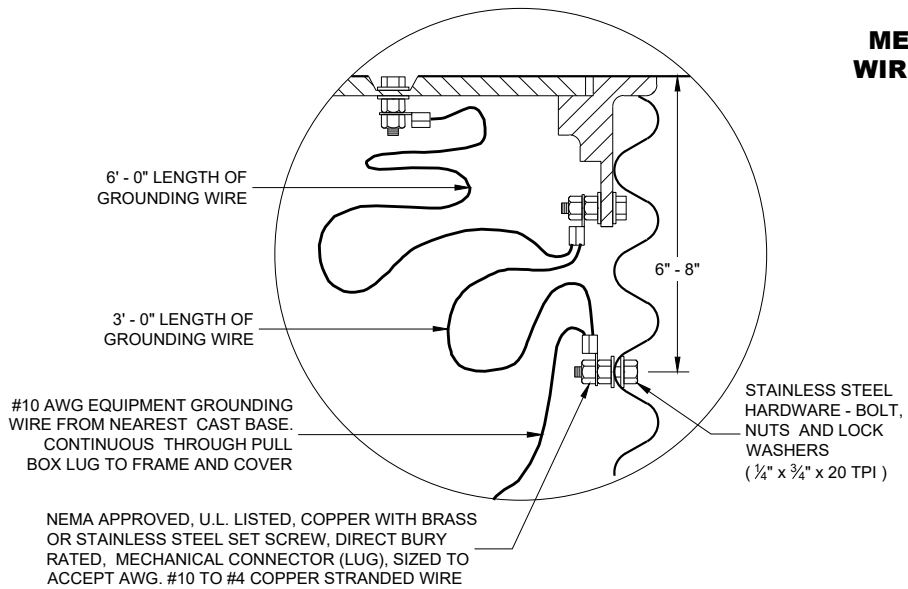
WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

**TABLE OF NOMINAL DIMENSIONS AND WEIGHTS**

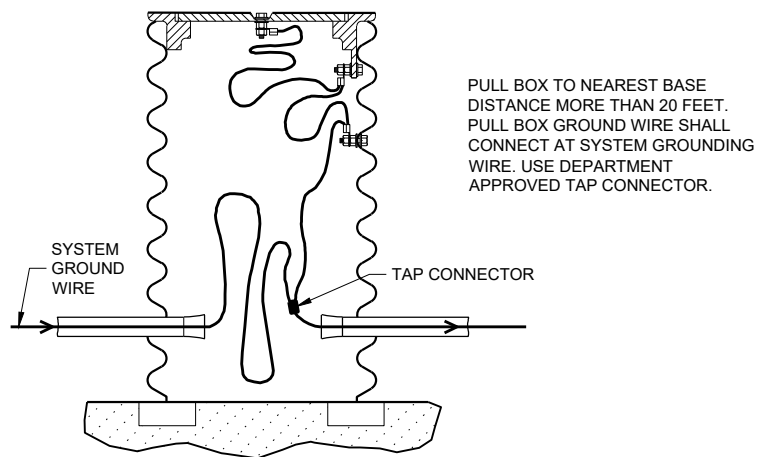
DIMENSION IN INCHES	CORRUGATED STEEL PIPE									
	PIPE DIAMETER (INSIDE)	12	12	12	18	18	18	24	24	24
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH**	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS*										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

\* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

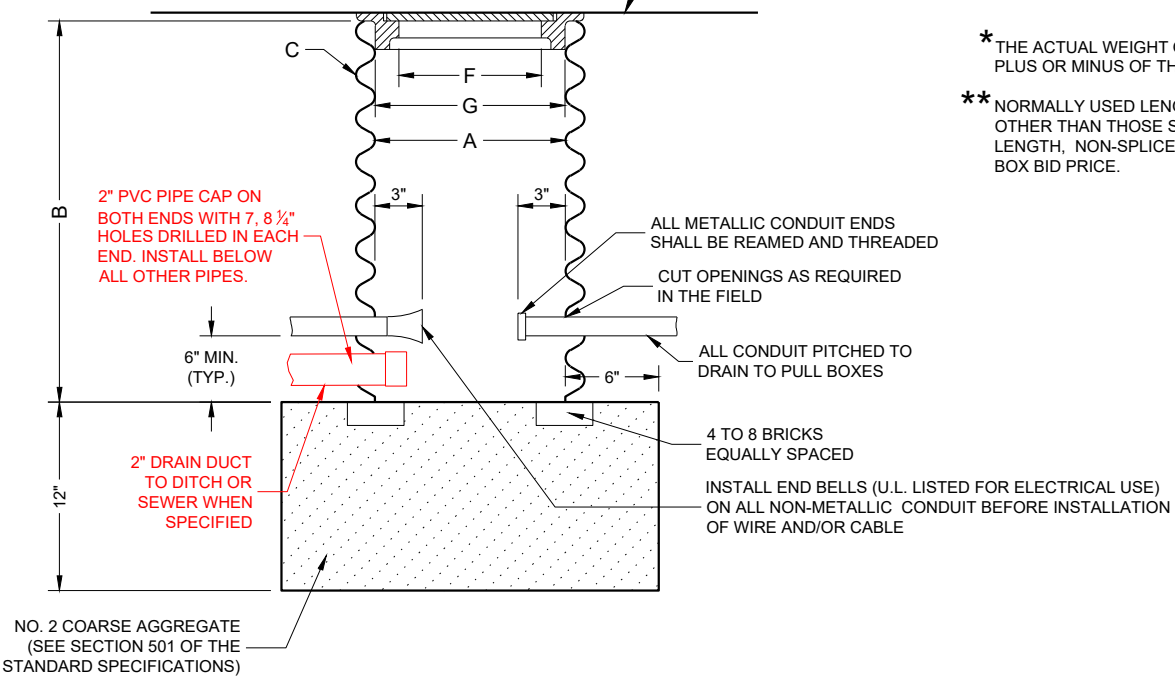
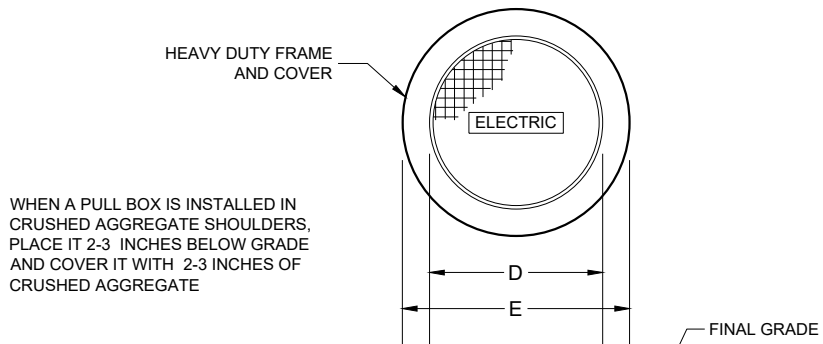
\*\* NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



**EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES**



**EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES**



**PULL BOX**

**PULL BOX**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2022 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER

FHWA

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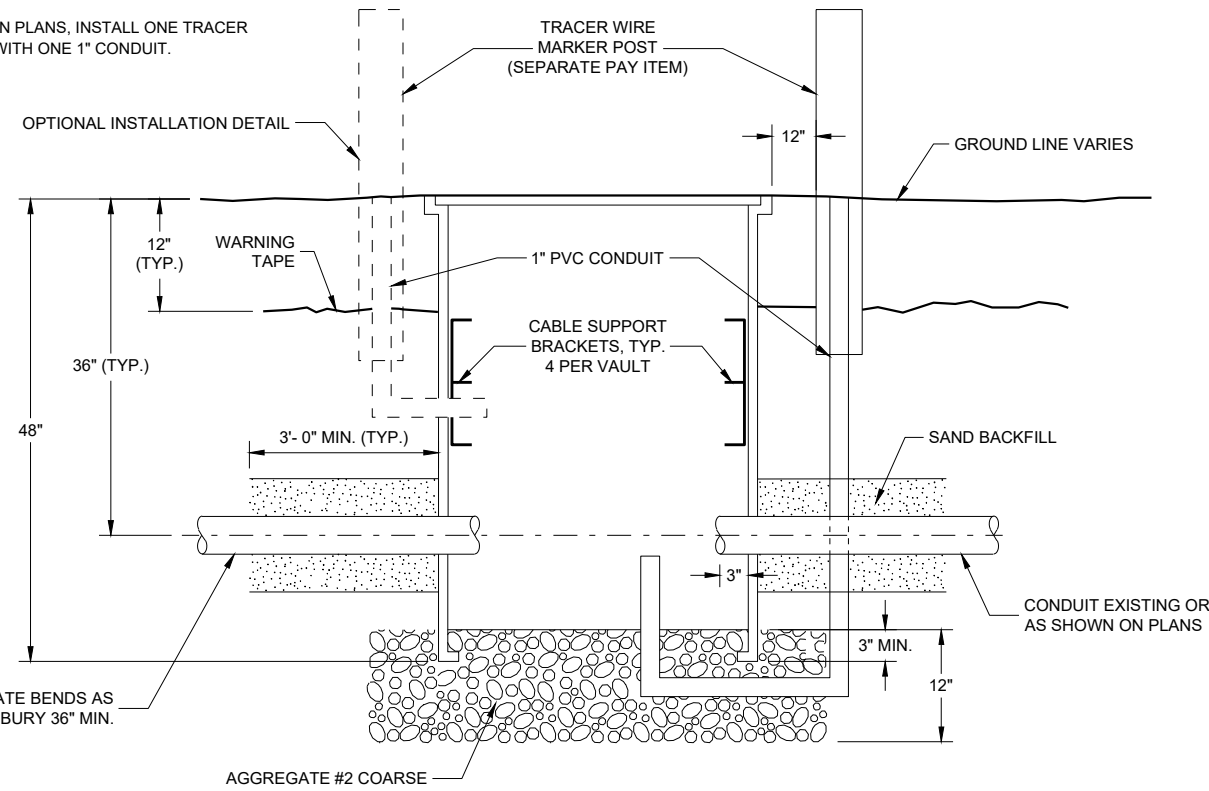
SDD 09B04 -12

SDD 09B04 -12

**GENERAL NOTES**

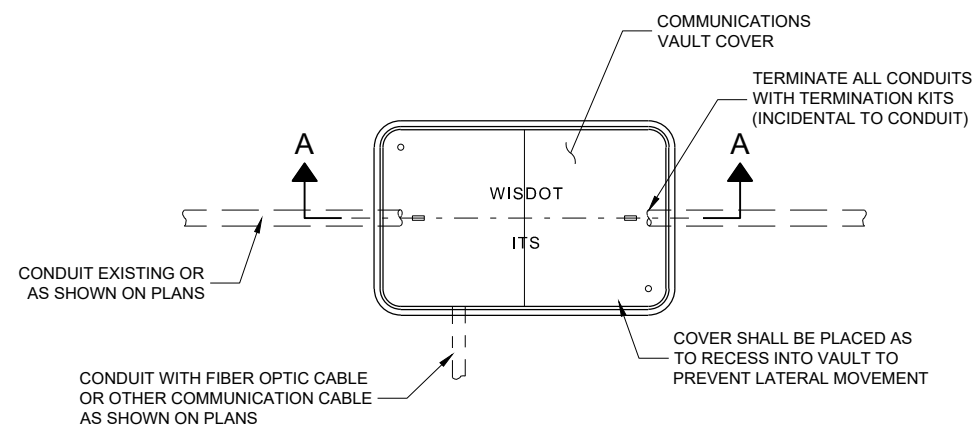
- PROVIDE VAULT WITH OPEN BASE.
- COVER SHALL HAVE A MINIMUM DESIGN LOAD OF 15,000 LBS AND SHALL LOCK.
- ALL OPENINGS IN STRUCTURE MUST BE MACHINED AT TIME OF FABRICATION, OR PUNCH DRIVEN AT TIME OF PLACEMENT.
- VAULTS SHALL BE OF ONE-PIECE CONSTRUCTION. TWO-PIECE/STACKABLE VAULTS WILL NOT BE PERMITTED.
- FIELD PLACEMENT OF COMMUNICATIONS VAULTS SHALL BE AS DIRECTED BY THE ENGINEER.
- FIBER TRACER MARKER POSTS SHALL BE CONSTRUCTED WITH HIGH-IMPACT PLASTIC MATERIAL WHICH IS FADE RESISTANT AND UV STABLE. ALL HARDWARE SHALL BE STAINLESS STEEL AND CONTAIN A MINIMUM OF FIVE STANDARD TERMINALS.

NOTE:  
WHEN NOTED ON PLANS, INSTALL ONE TRACER  
MARKER POST WITH ONE 1" CONDUIT.

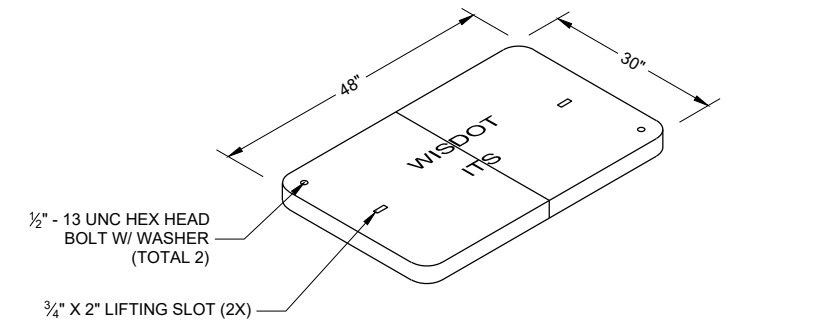


ROUTE CONDUIT WITH APPROPRIATE BENDS AS DIRECTED BY THE ENGINEER TO BURY 36" MIN.

**SECTION A - A**



**PLAN VIEW  
COMMUNICATIONS VAULT TYPE 1**



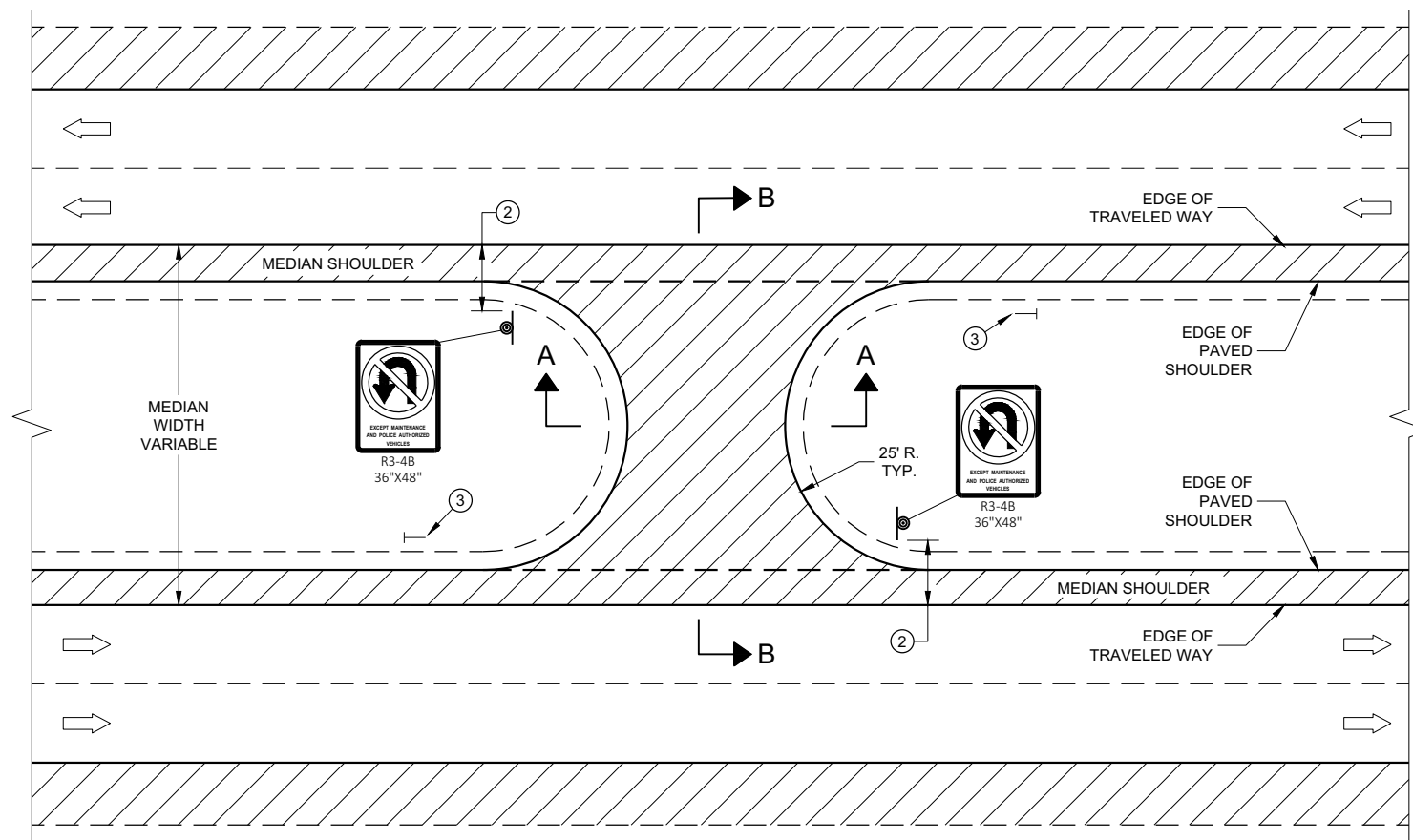
**ISOMETRIC VIEW**

**COMMUNICATION VAULT  
TYPE 1**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: May 2017 /S/ Ahmet Demirelek  
STATE ELECTRICAL ENGINEER

FHWA



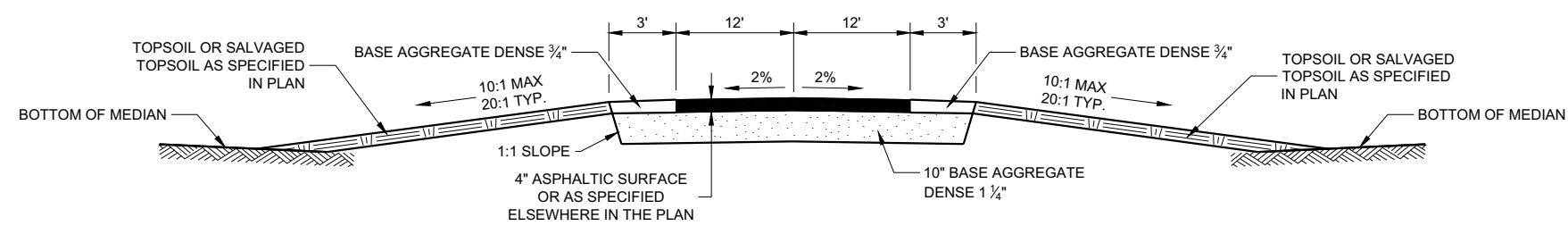
PLAN VIEW

**GENERAL NOTES**

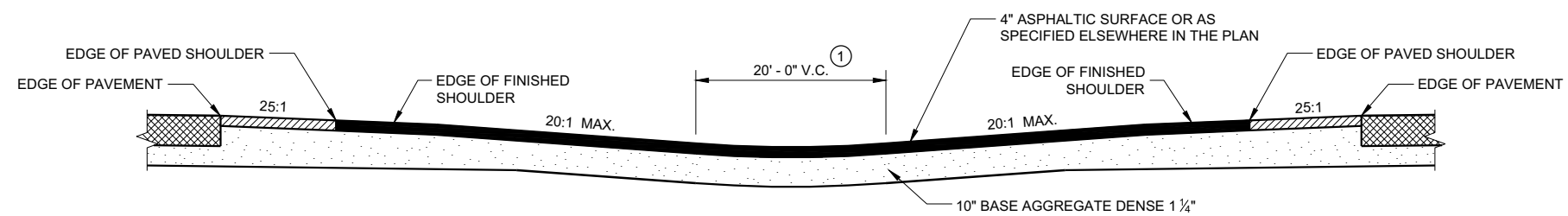
- ① ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.
- ② SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.
- ③ INSTALL DELINEATOR. SEE STANDARD DETAIL DRAWING 15A4.

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- DELINEATOR
- DIRECTION OF TRAFFIC



SECTION A-A



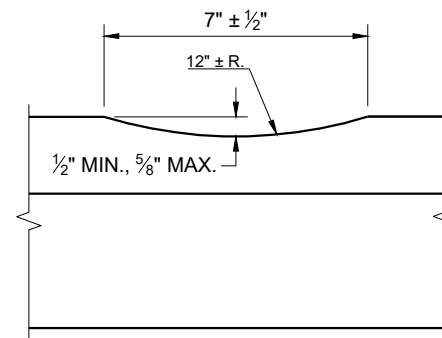
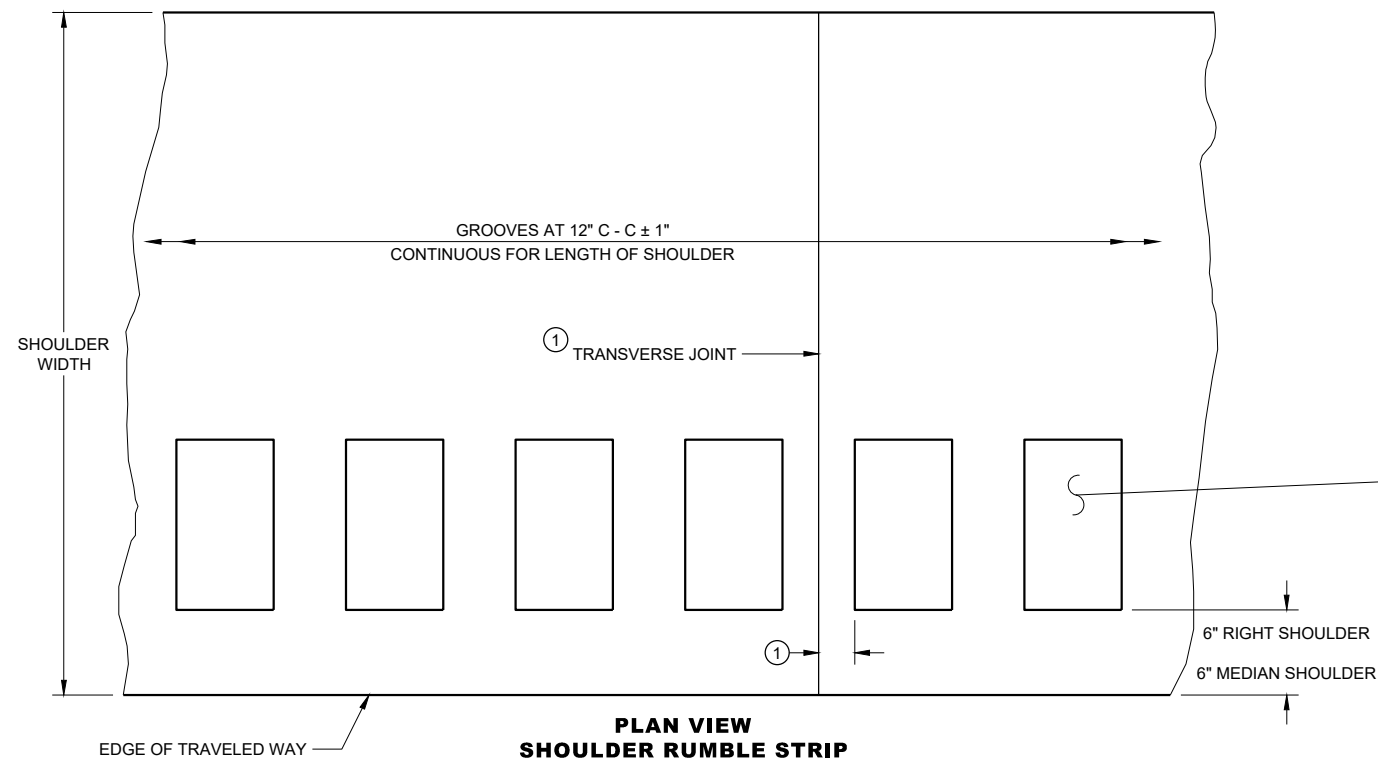
SECTION B-B

**MAINTENANCE CROSSOVER  
FOR FREEWAYS**

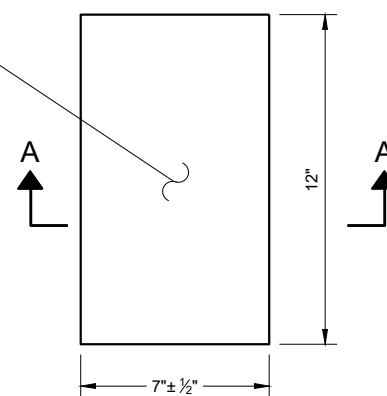
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2019 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

FHWA



**SECTION A - A**

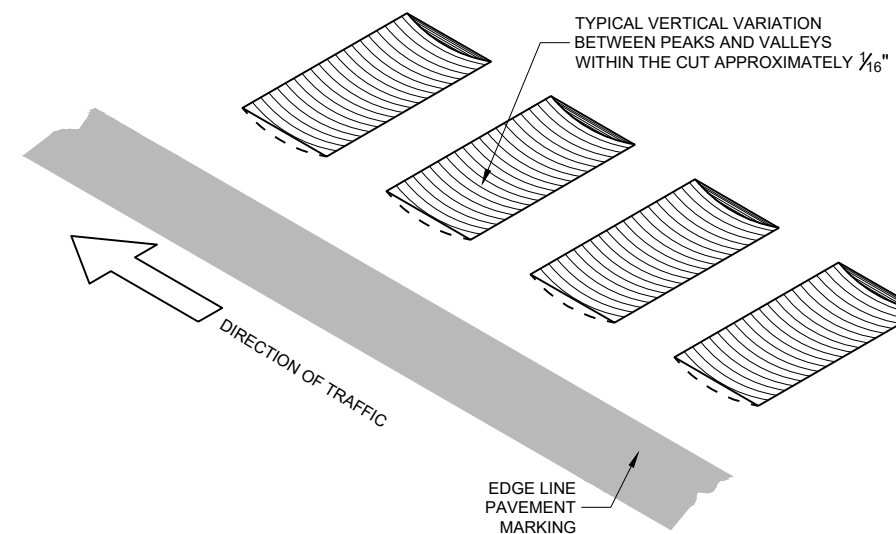


**GENERAL NOTES**

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

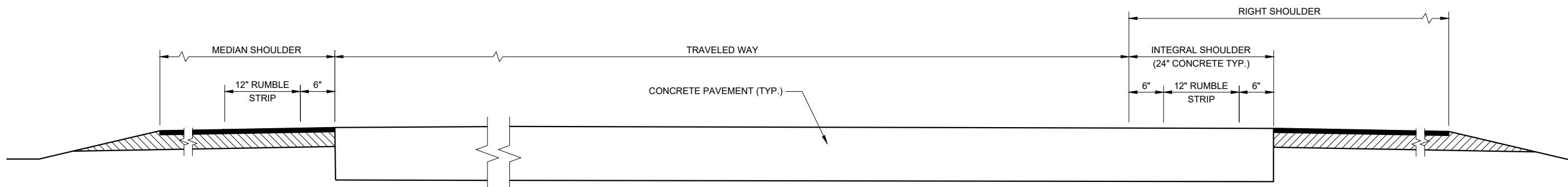
**RUMBLE STRIPS ON EXPRESSWAYS:**  
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL AND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD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

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



**ISOMETRIC**

**PLACEMENT DETAIL FOR RUMBLE STRIP**

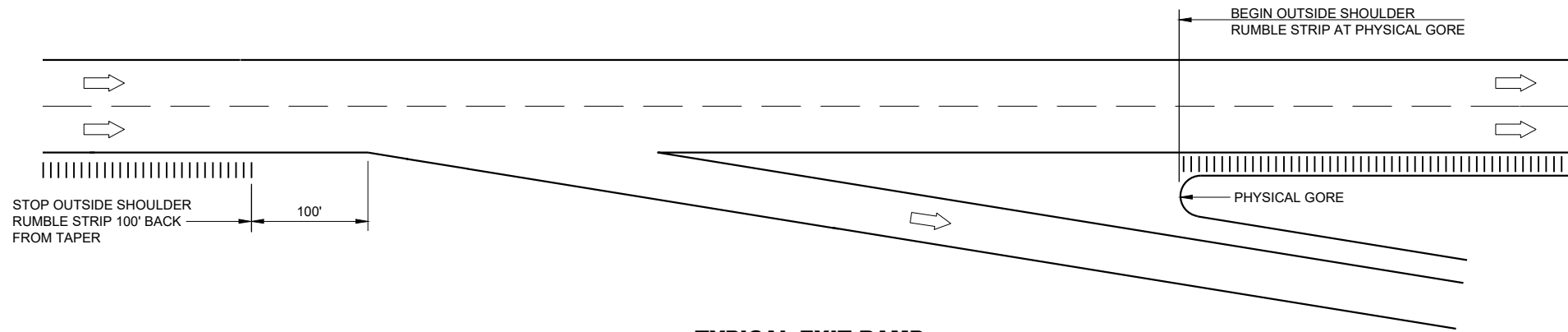


**SECTION VIEW**

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

**SHOULDER RUMBLE STRIPS,  
DIVIDED ROADWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**TYPICAL EXIT RAMP**

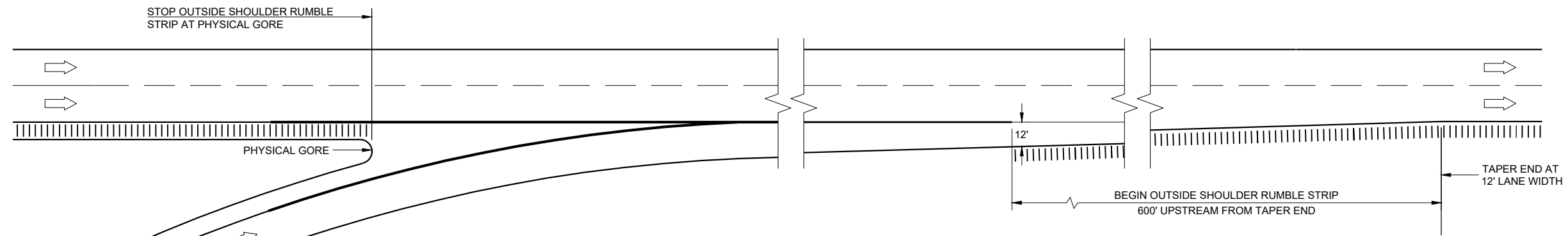
**GENERAL NOTES**

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

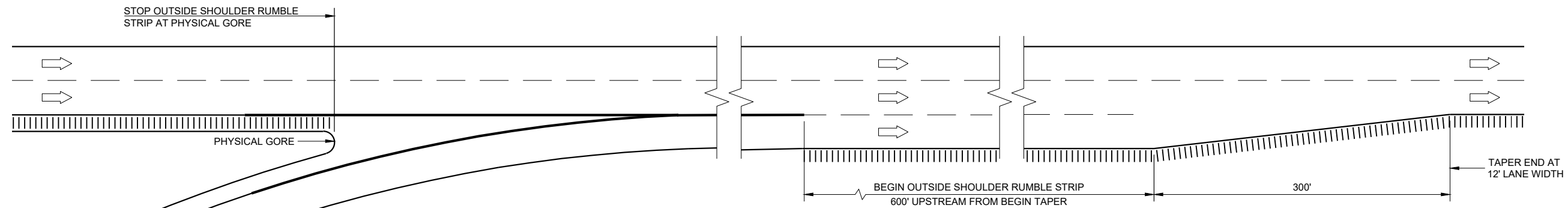
RUMBLE STRIPS ON EXPRESSWAYS:  
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL AND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD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

**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**

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SDD 13A05-06b

SDD 13A05-06b

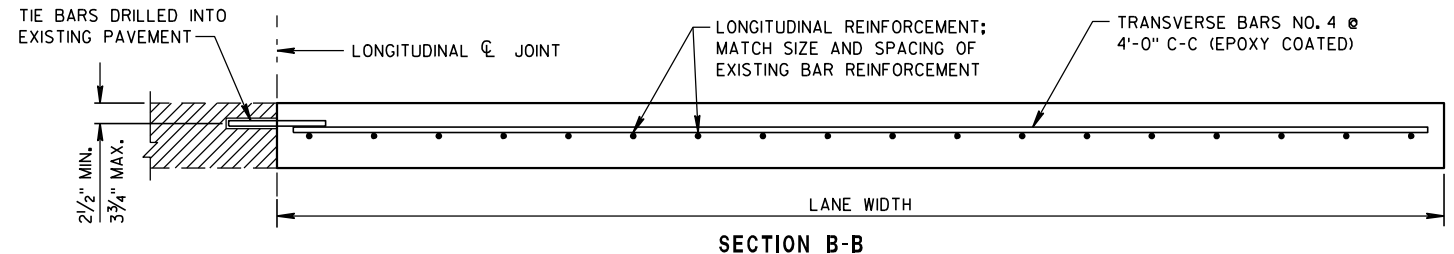
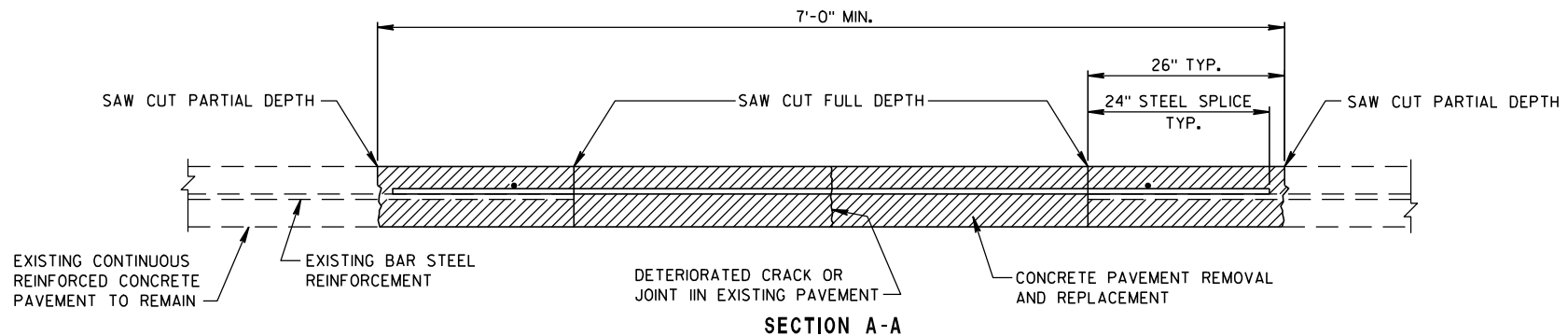
**SHOULDER RUMBLE STRIPS,  
DIVIDED ROADWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: May 2023 /S/ Rodney Taylor  
ROADWAY DESIGN STANDARDS  
UNIT SUPERVISOR

FHWA





**GENERAL NOTES**

PLACE ALL BAR STEEL REINFORCEMENT AT MID PAVEMENT DEPTH UNLESS OTHERWISE NOTED.

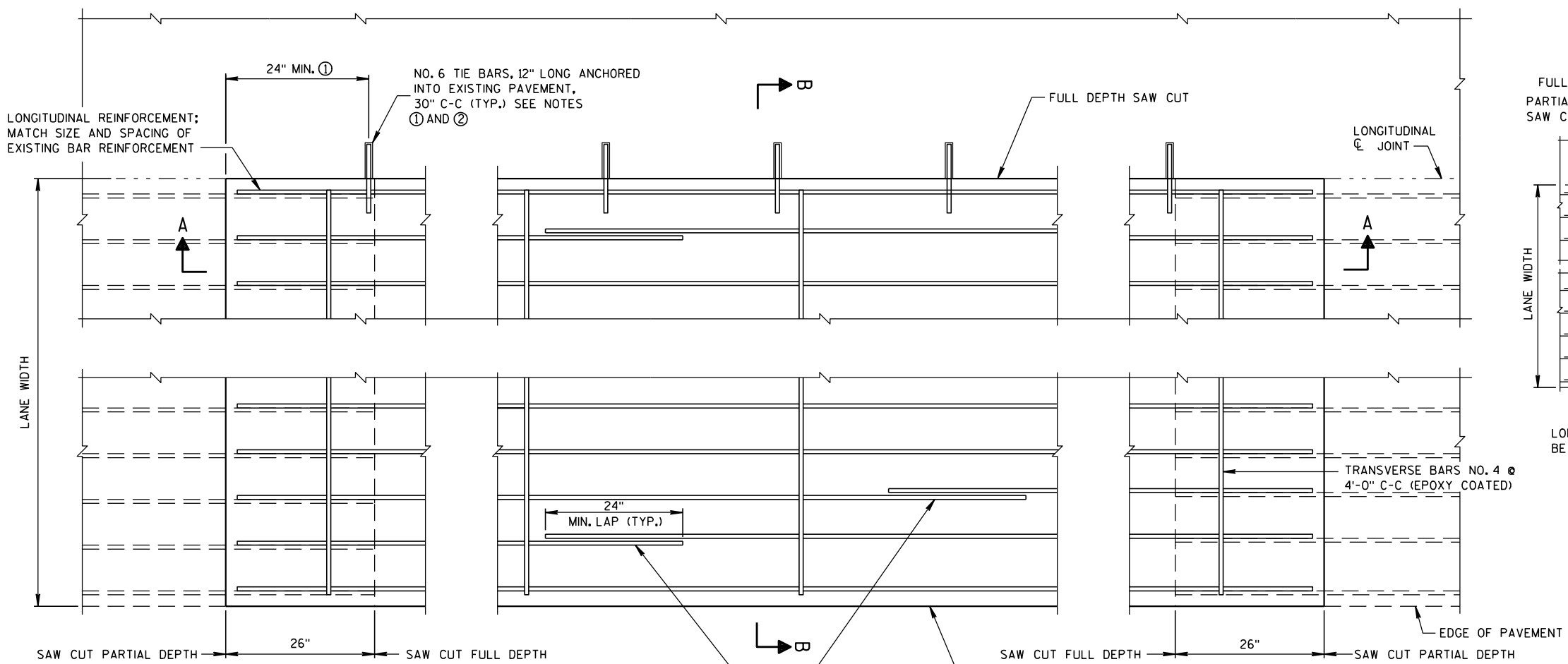
PAY FOR THE TRANSVERSE AND LONGITUDINAL JOINT SAW CUT AS LINEAR FEET OF "SAWING CONCRETE".

WHEN THE PASSING AND TRAVELING LANES ARE TO BE REPLACED, REPLACE THE PASSING LANE FIRST.

ADD TRANSVERSE STEEL BARS TO REPAIRS GREATER THAN 6' IN LENGTH, USE NO. 4 BARS PLACED TRANSVERSELY AND SPACED 4' C-C. PAYMENT SHALL BE INCIDENTAL TO "CONCRETE PAVEMENT CONTINUOUS REINFORCEMENT".

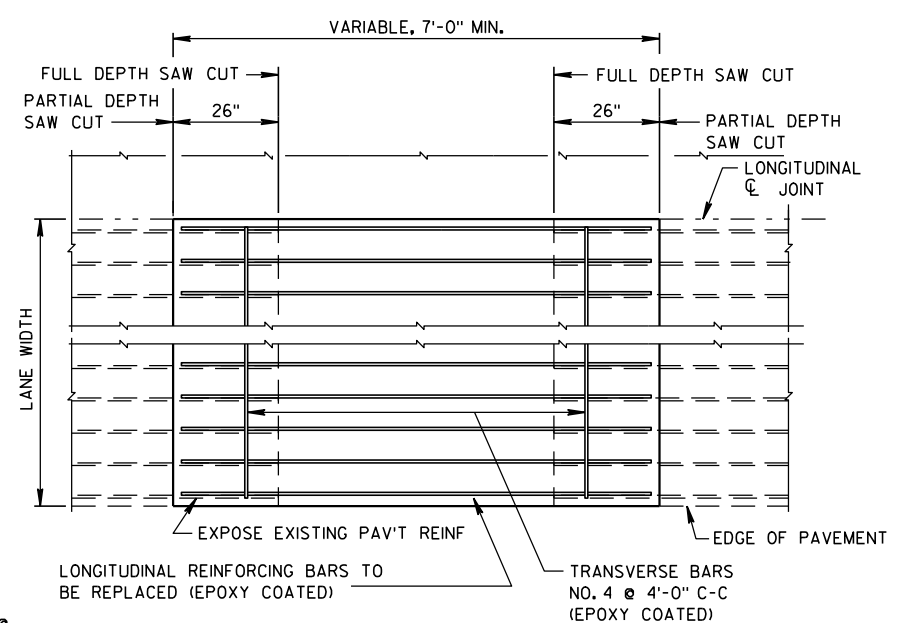
TIE ALL CONCRETE PAVEMENT REPAIRS WHICH ARE GREATER THAN 15' IN LENGTH, AND ARE ADJACENT TO EXISTING CONCRETE PAVEMENT, TO THE EXISTING PAVEMENT USING TIE BARS. DETAILS FOR TIE BAR CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND STANDARD DETAIL DRAWINGS.

- ① PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.
- ② ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ③ SAW CUT THE LONGITUDINAL EDGE JOINT IF THE ADJACENT SHOULDER IS CONCRETE.



NOT MORE THAN FOUR LONGITUDINAL STEEL SPLICES SHALL BE USED AT ANY ONE TRANSVERSE LOCATION WITHIN THE TOTAL WIDTH OF PAVEMENT. A MINIMUM OF 5' SHALL SEPARATE ANY TWO ADJACENT SPLICES.

**REINFORCEMENT STEEL PLACEMENT IN CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPLACEMENT**



**LONGITUDINAL STEEL PLACEMENT IN CRCP REPAIRS**  
PLAN VIEW

**CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

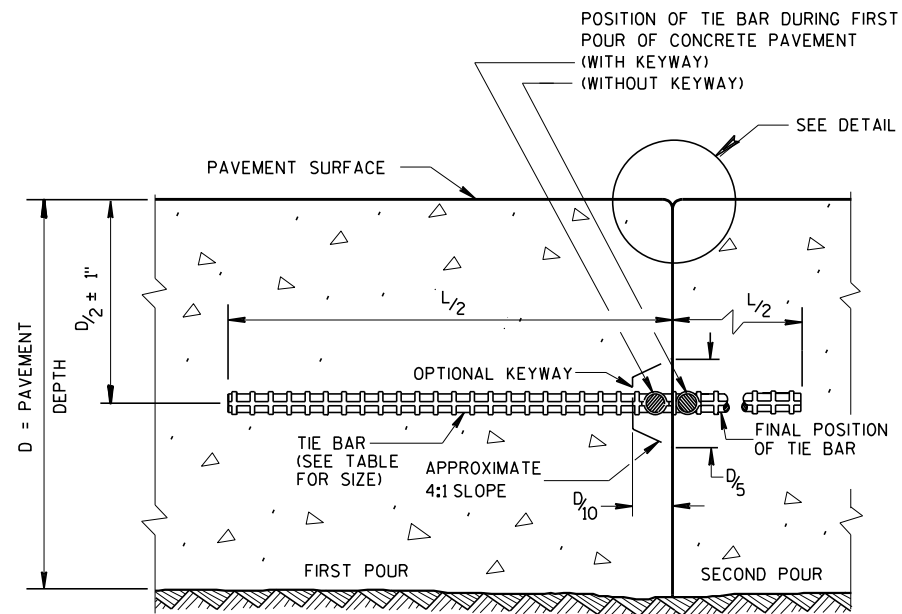
APPROVED  
DATE 11/1/2011 /S/ Deb Bischoff  
PAVEMENT POLICY & DESIGN ENGINEER  
FHWA

6

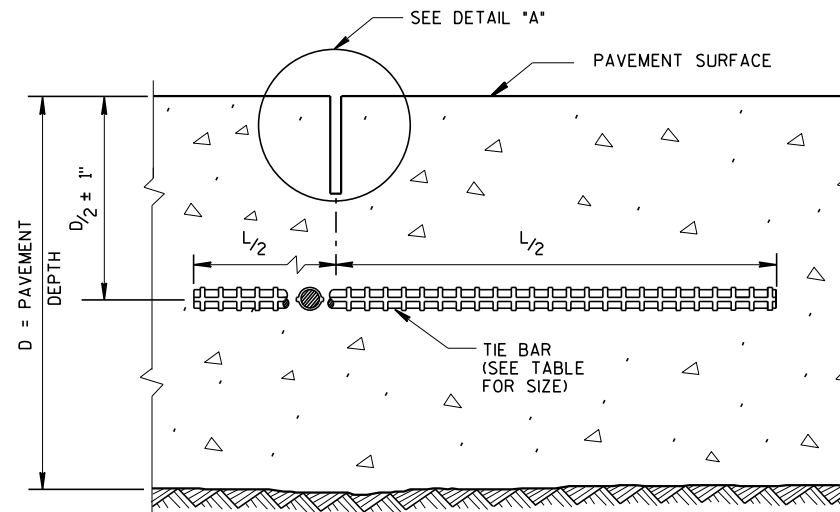
6

S.D.D. 13 A 7-2

S.D.D. 13 A 7-2



**CONSTRUCTION JOINT**



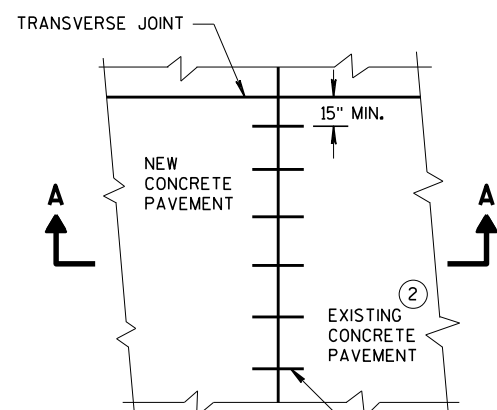
**SAWED JOINT**

**GENERAL NOTES**

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

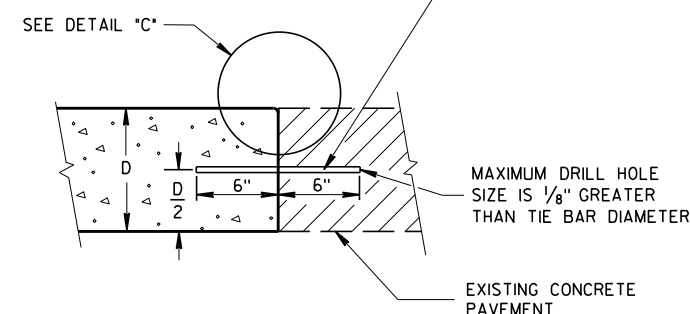
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

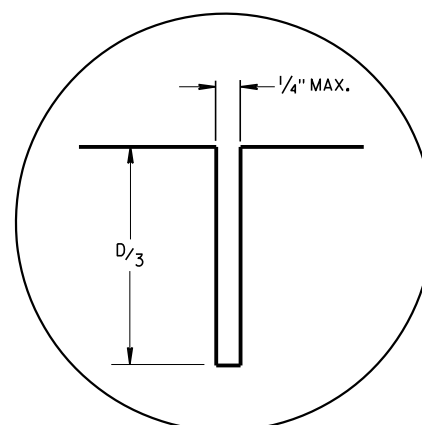


**PLAN VIEW**

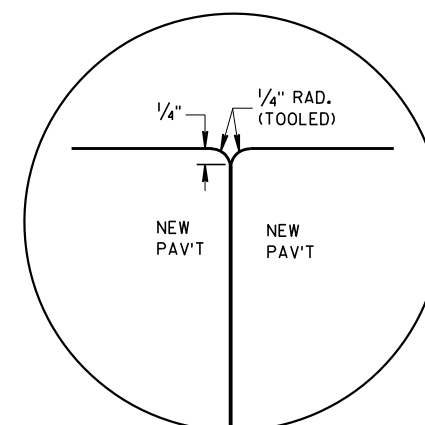
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



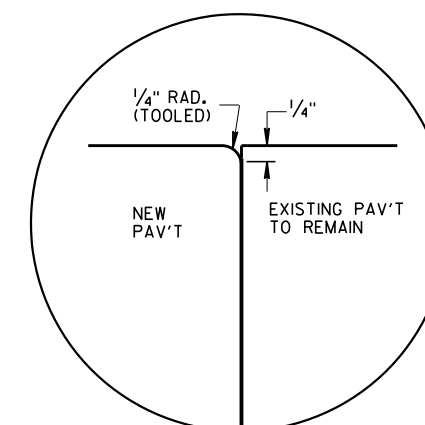
**SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT**



**DETAIL "A"**



**DETAIL "B"**



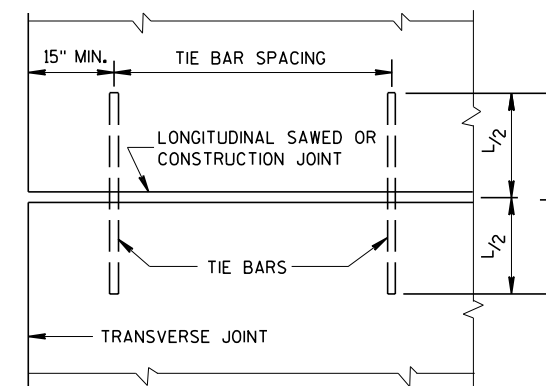
**DETAIL "C"**

**TIE BAR TABLE**

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

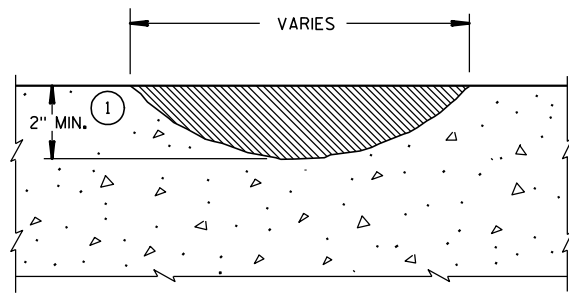
\* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

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

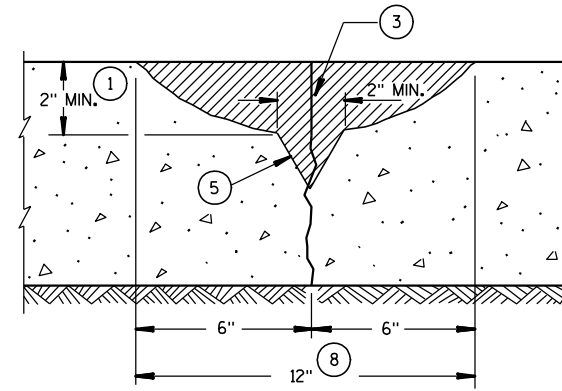


**PLAN VIEW  
SHOWING LOCATION OF TIE BARS**

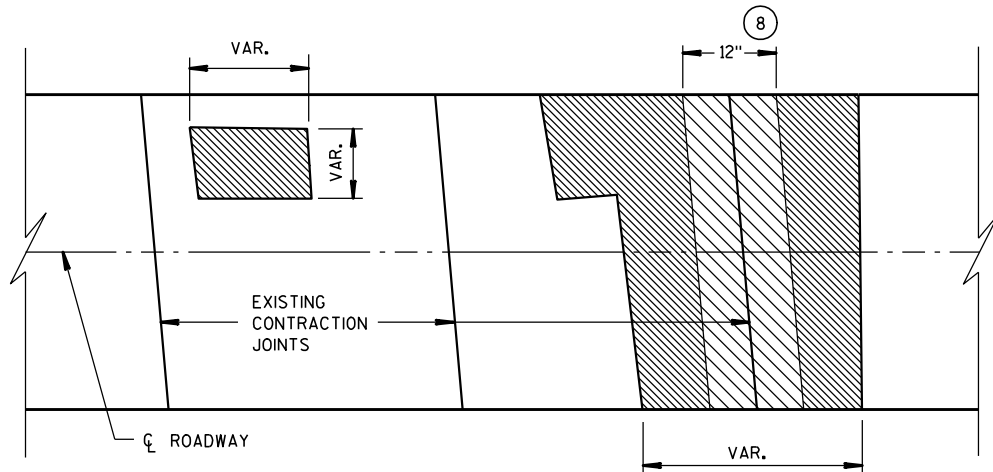
<b>CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2018 DATE	/s/ Peter Kemp, P.E. PAVEMENT SUPERVISOR
FHWA	



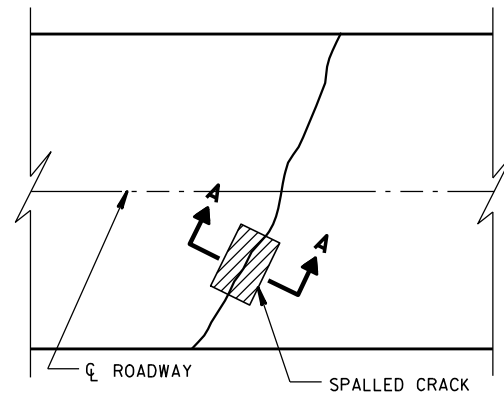
PROFILE VIEW



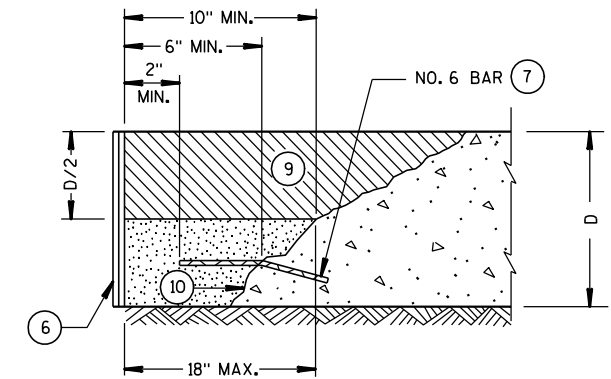
SECTION A-A



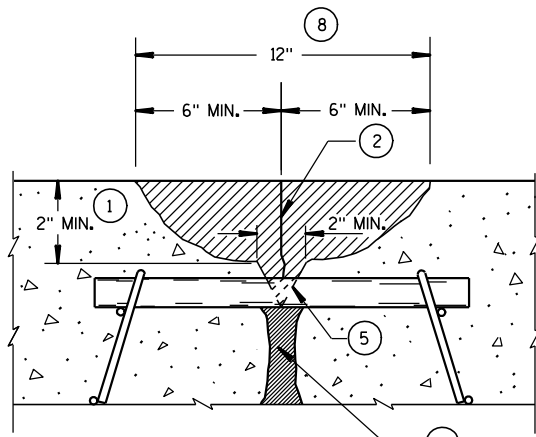
PLAN VIEW  
SURFACE REPAIR



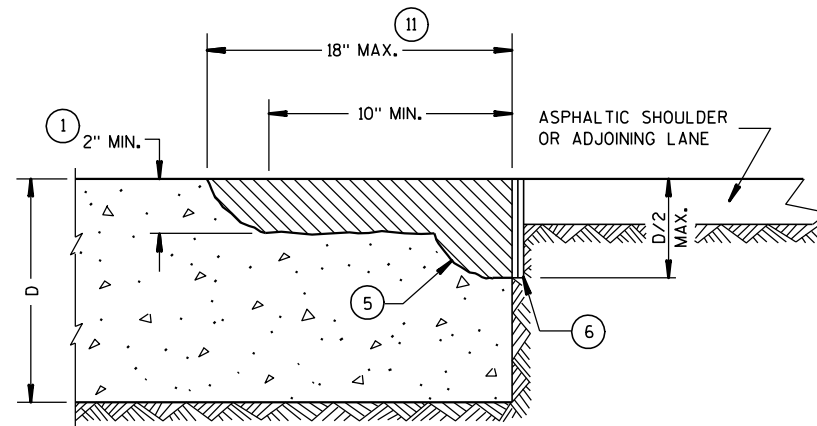
PLAN VIEW  
CRACK REPAIR



PROFILE VIEW

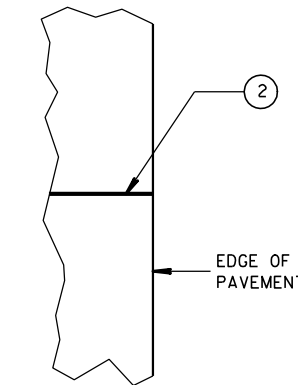


PROFILE VIEW  
JOINT REPAIR

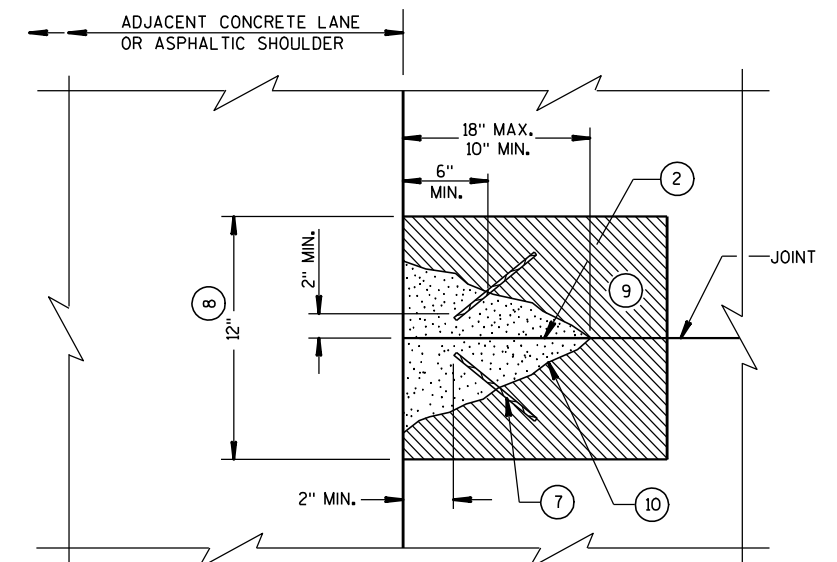


PROFILE VIEW

EDGE REPAIR



PLAN VIEW



PLAN VIEW  
FULL DEPTH REPAIR ADJUSTMENT

**GENERAL NOTES**

- ① REMOVE ALL CONCRETE, TO LIMITS SHOWN, TO A MAXIMUM OF 1/2 THE PAVEMENT DEPTH OR TOP OF DOWELS.
- ② IF REPAIR IS DEEPER THAN ANTICIPATED SAWCUT, COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK (1/4"). THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
- ③ COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK (1/4"). THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
- ④ CLEAN, DRY SAND WHEN NECESSARY.
- ⑤ REMOVE UNSOUND MATERIAL BY CHIPPING AT 1:1 SLOPE.
- ⑥ 1/4" MINIMUM PREFORMED JOINT FILLER IF ADJACENT TO CONCRETE. EDGING REQUIRED. FULLY FORMED EDGE IF ADJACENT TO SHOULDER.
- ⑦ PAVEMENT TIES AS SHOWN. ALL EMBEDMENTS 6" MINIMUM AND INSTALLED WITH GROUT.
- ⑧ OVER 12" (NOMINAL WIDTH) WILL BE PAID AS SURFACE REPAIR.
- ⑨ PAID AS JOINT OR CRACK REPAIR.
- ⑩ FULL-DEPTH ADJUSTMENT SHALL BE CHIPPED TO BOTTOM OF PCC PAVEMENT AT 1:1 SLOPE.
- ⑪ BEYOND 18" WILL BE PAID AS SURFACE REPAIR.

**CONCRETE PAVEMENT  
PARTIAL DEPTH REPAIR**

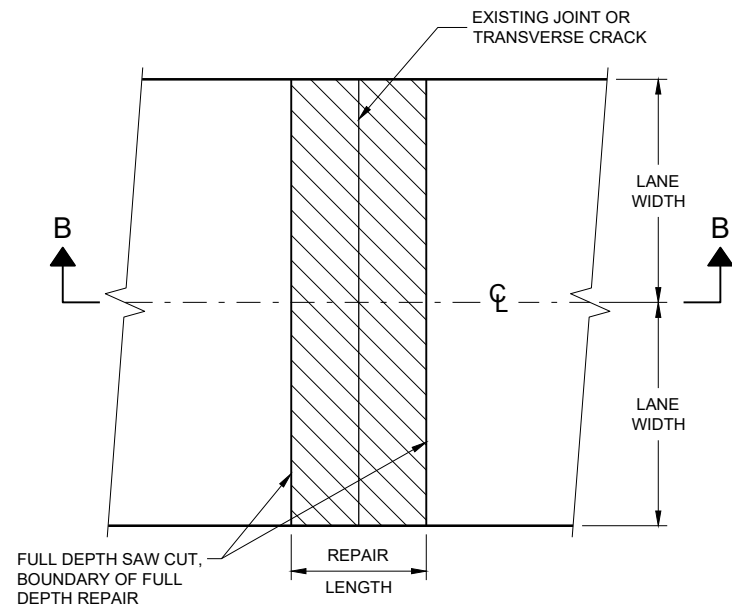
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

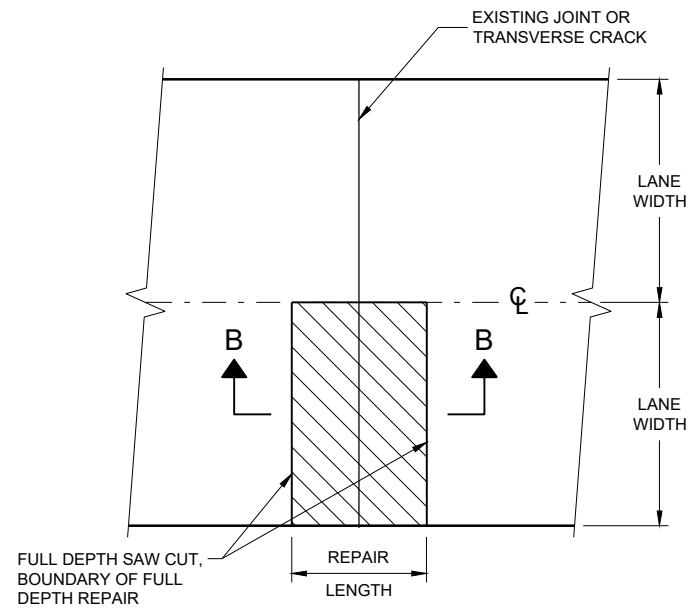
3/21/03  
DATE

FHWA

/S/ Bill Ducker  
PAVEMENT ENGINEER

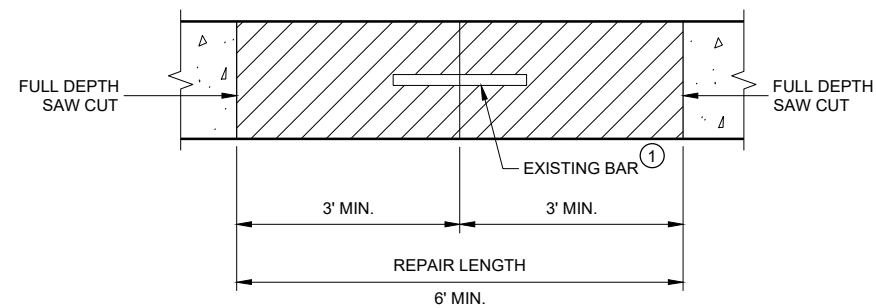


**PLAN VIEW  
(DOUBLE LANE REPAIR)**



**PLAN VIEW  
(SINGLE LANE REPAIR)**

**FULL DEPTH CONCRETE PAVEMENT REMOVAL**



**SECTION B - B  
CONCRETE REMOVAL**

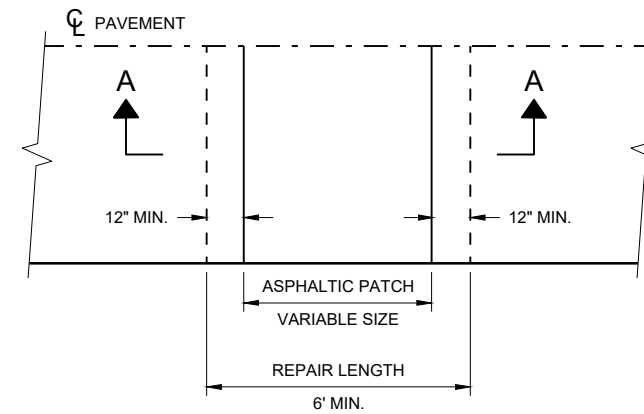
**GENERAL NOTES**

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.

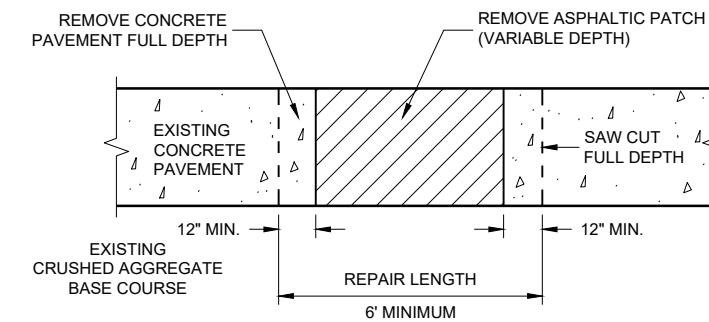
PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

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**

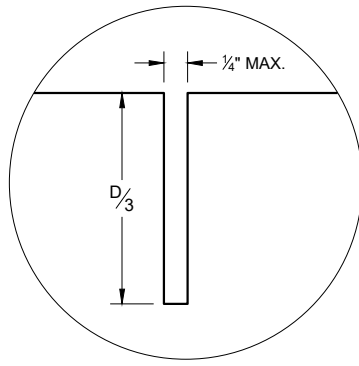


**SECTION A - A**

**HMA PATCH REMOVAL**

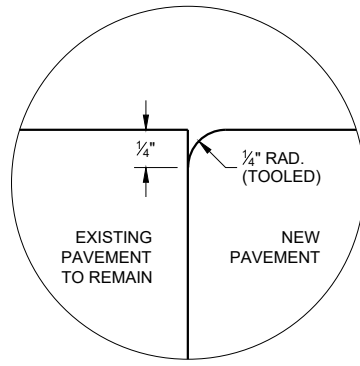
**CONCRETE PAVEMENT  
REPAIR AND REPLACEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

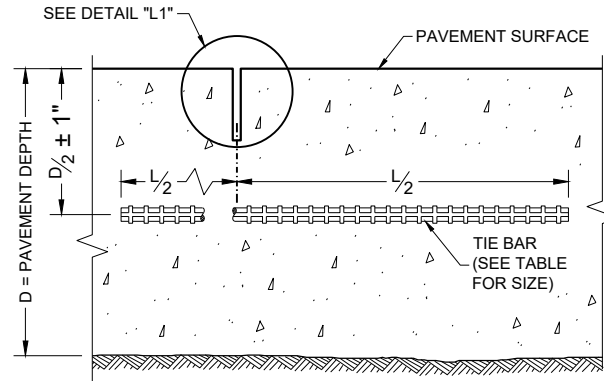


C1

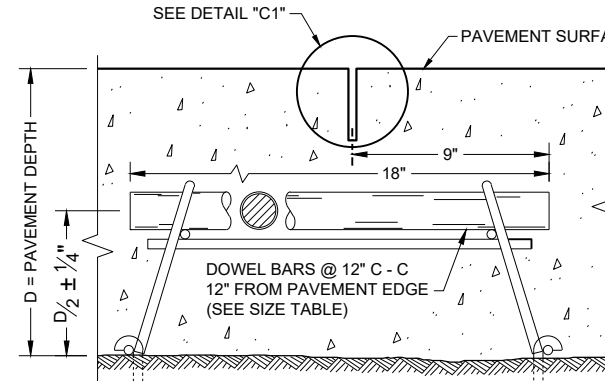
**TRANSVERSE JOINTS**



C2



**SECTION C - C  
SAWED LONGITUDINAL JOINT**



**SECTION F - F  
DOWELED CONTRACTION JOINT**

**GENERAL NOTES**

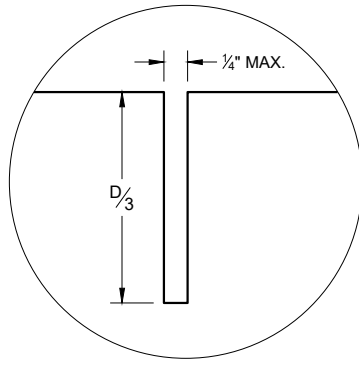
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

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

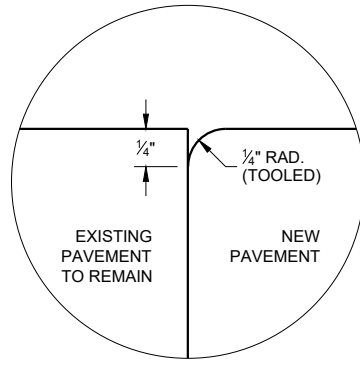
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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.

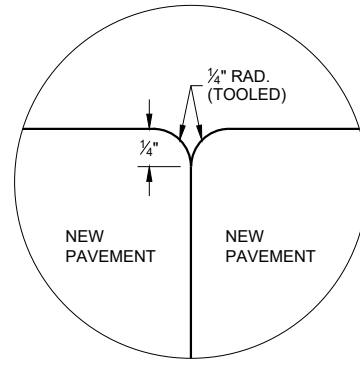


L1

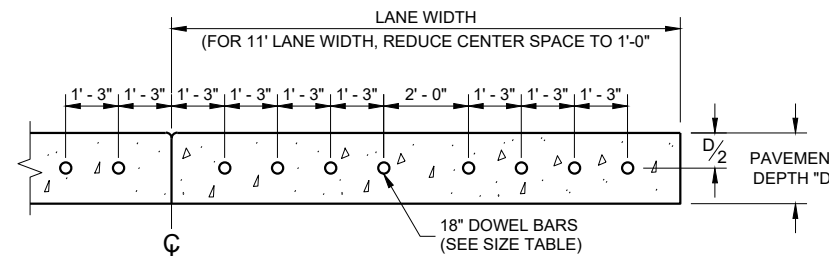


L2

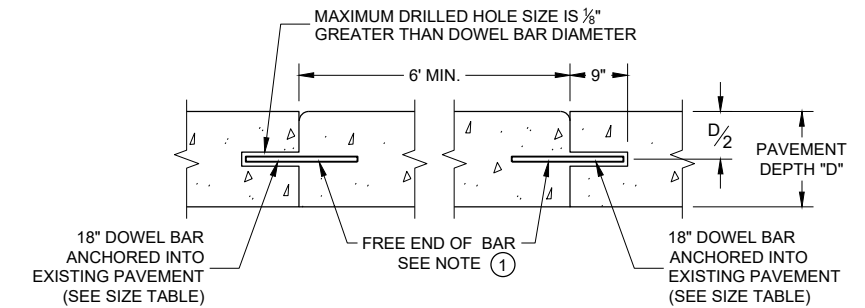
**LONGITUDINAL JOINTS**



L3



**SECTION E - E  
DRILLED DOWEL BAR CONSTRUCTION JOINT**



**SECTION D - D**

**TIE BAR TABLE**

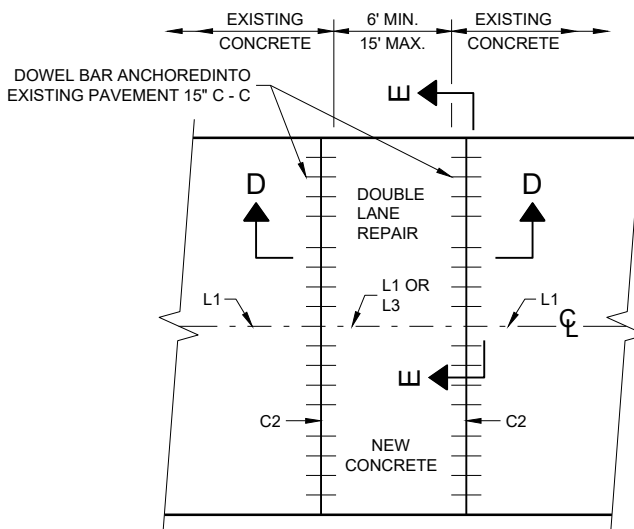
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24" **

\* 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.

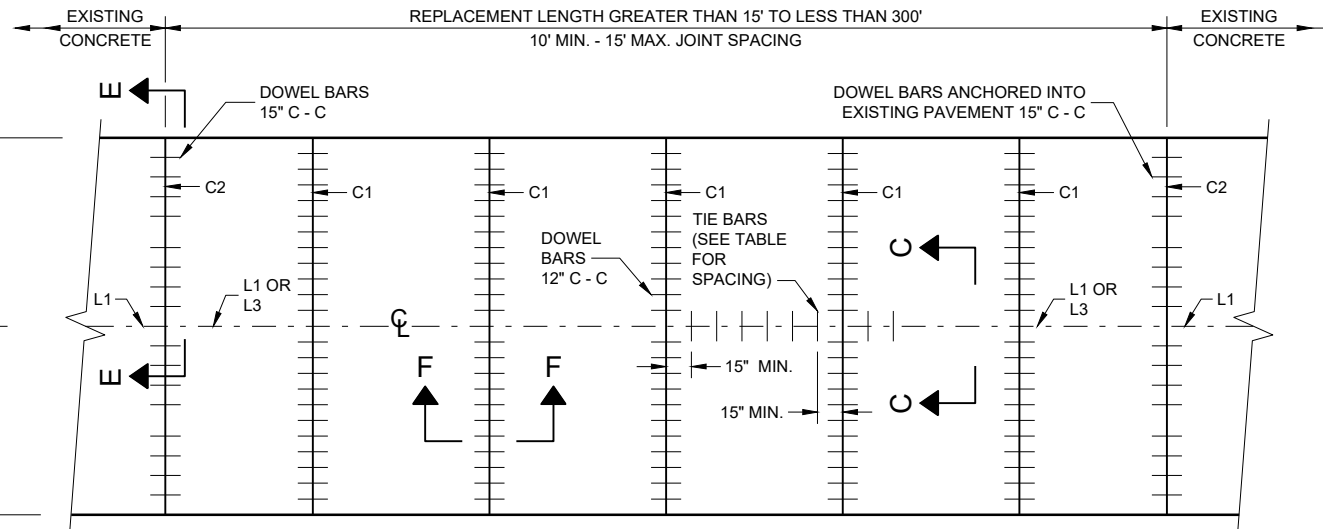
**PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE**

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 1/2"	NONE	NONE	12'
7", 7 1/2"	1"	1"	14'
8" & ABOVE	1 1/4"	1 1/4"	15'



**PLAN VIEW**

**MULTILANE CONCRETE PAVEMENT REPAIR**

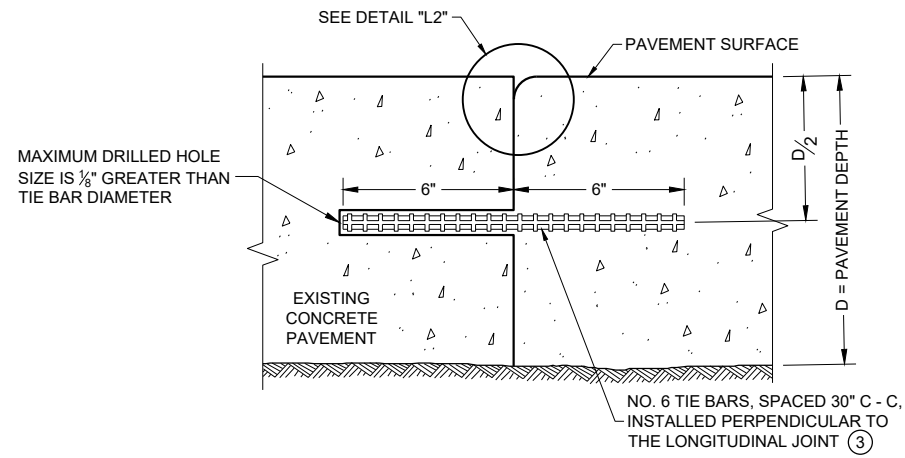


**PLAN VIEW**

**MULTILANE CONCRETE PAVEMENT REPLACEMENT**

**CONCRETE PAVEMENT  
REPAIR AND REPLACEMENT**

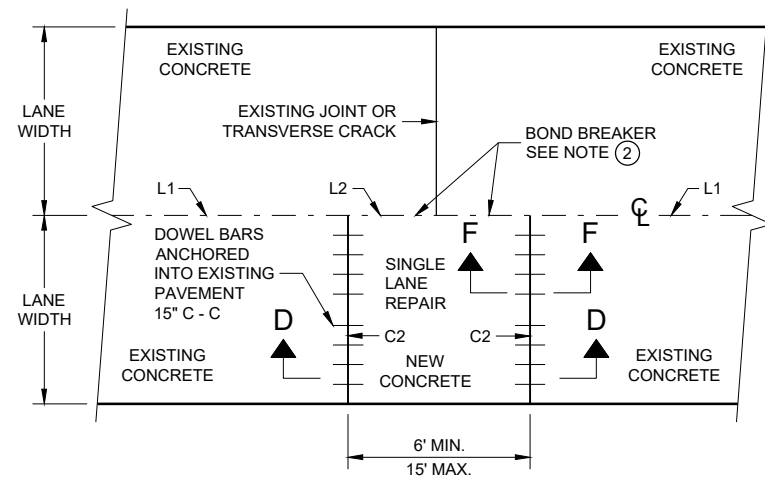
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



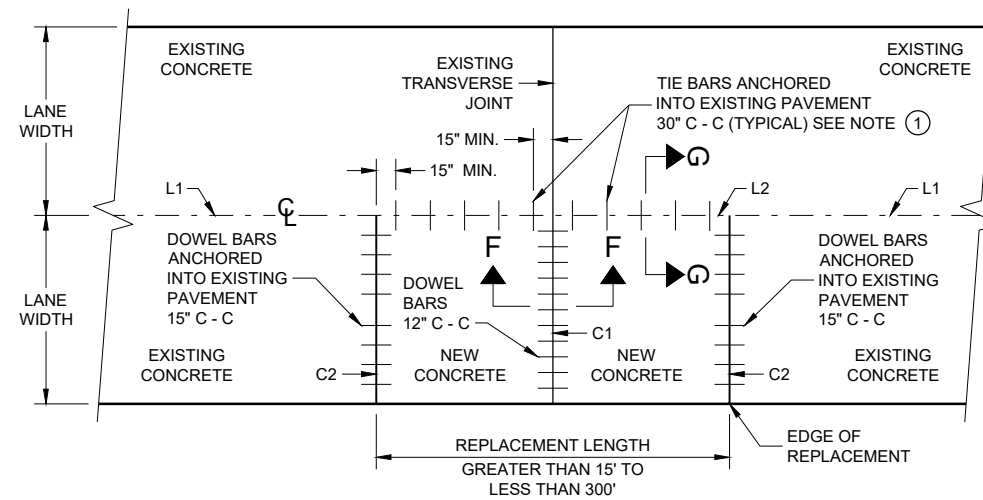
**SECTION G - G**  
**TIE BARS ANCHORED INTO EXISTING PAVEMENT**

**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**

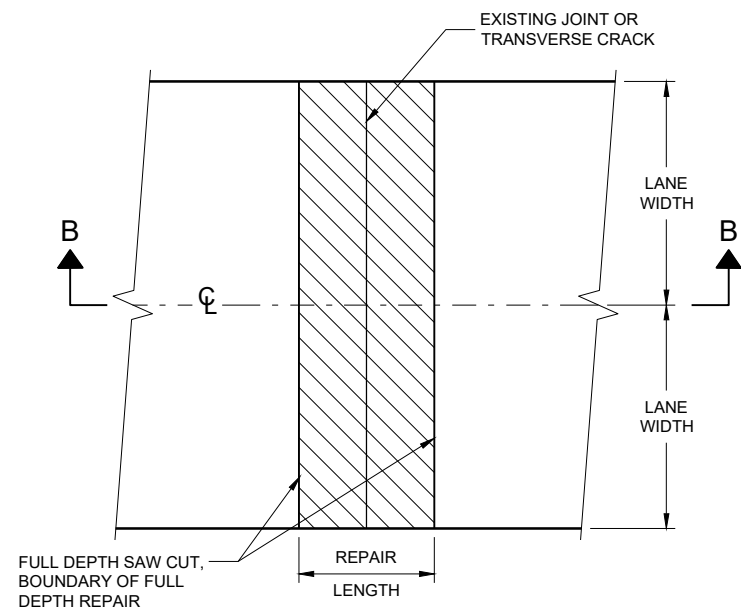
**CONCRETE REPAIR AND REPLACEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

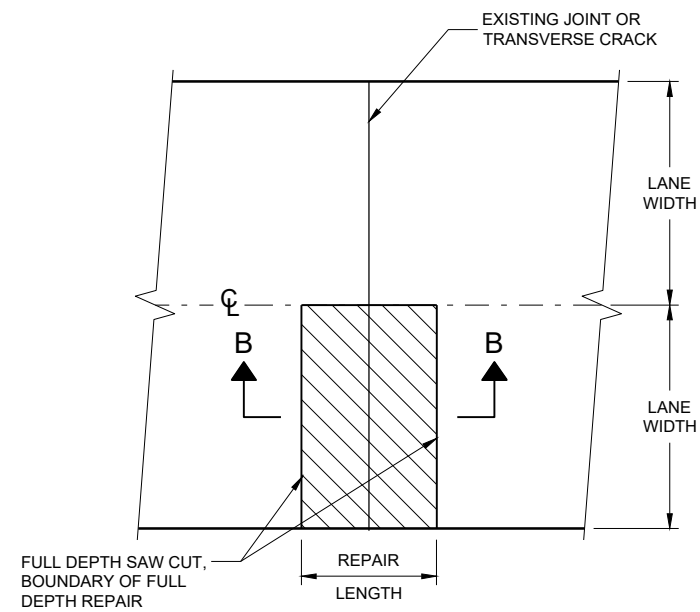
APPROVED  
November 2022 /S/ Peter Kemp P.E.  
DATE PAVEMENT SUPERVISOR

FHWA



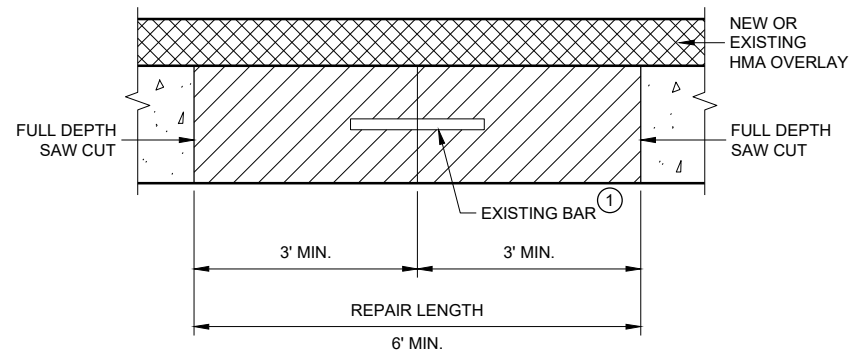


**PLAN VIEW  
DOUBLE LANE REPAIR**



**PLAN VIEW  
SINGLE LANE REPAIR**

**FULL DEPTH CONCRETE PAVEMENT REMOVAL**



**SECTION B - B  
CONCRETE REMOVAL**

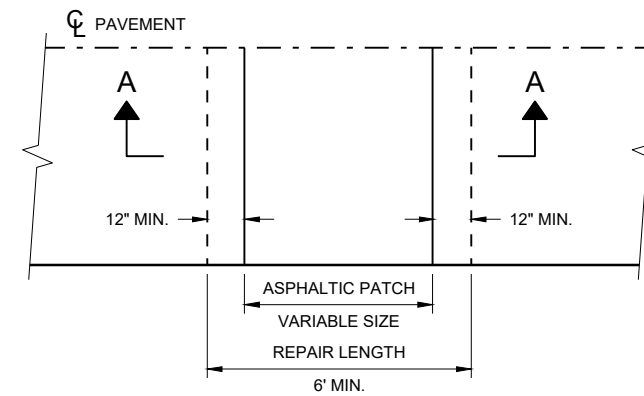
**GENERAL NOTES**

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.

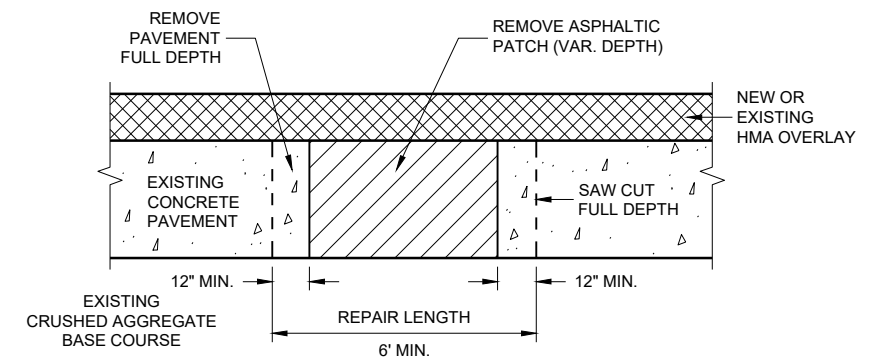
PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

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**

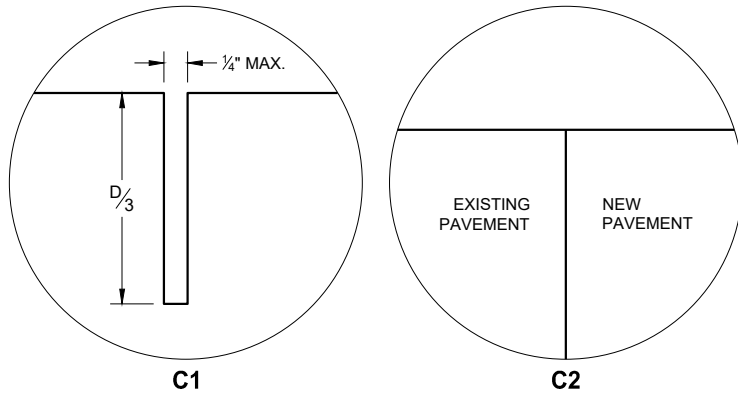


**SECTION A - A**

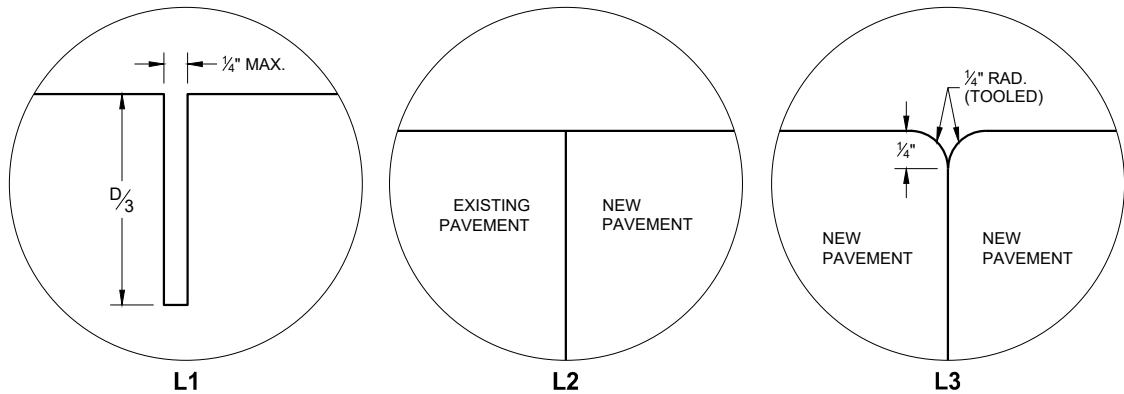
**HMA PATCH REMOVAL**

**BASE PATCHING CONCRETE**

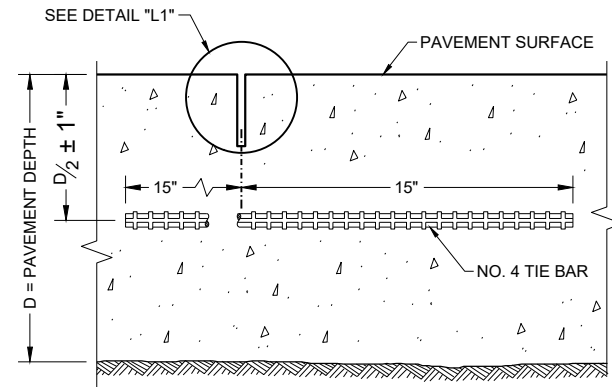
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



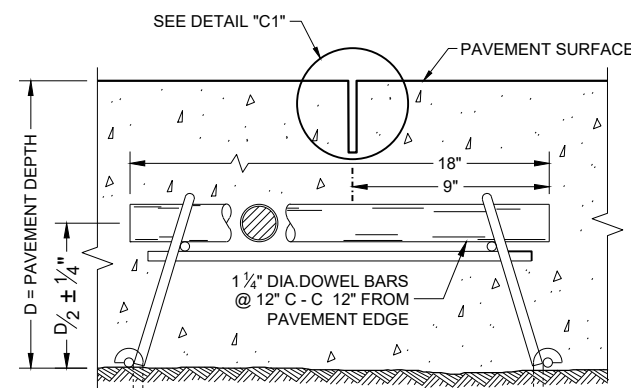
**TRANSVERSE JOINTS**



**LONGITUDINAL JOINTS**



**SECTION C - C  
SAWED LONGITUDINAL JOINT**



**SECTION F - F  
CONTRACTION JOINT**

**GENERAL NOTES**

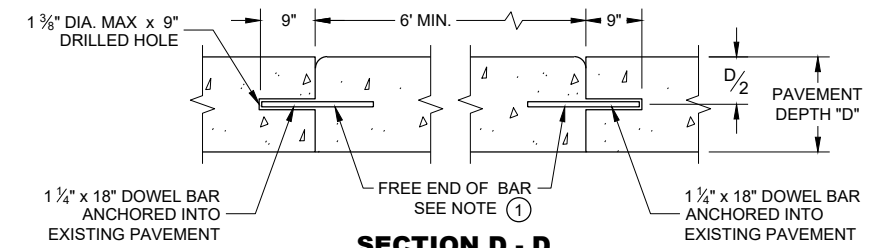
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

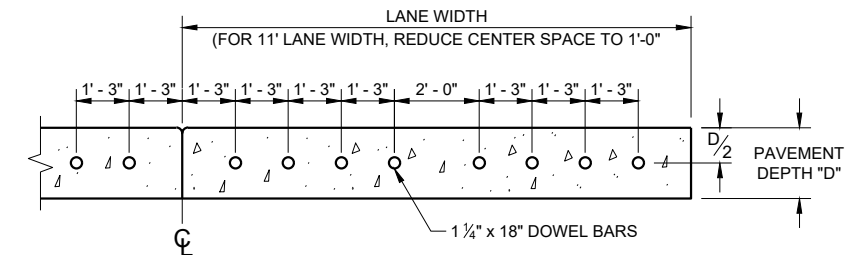
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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.

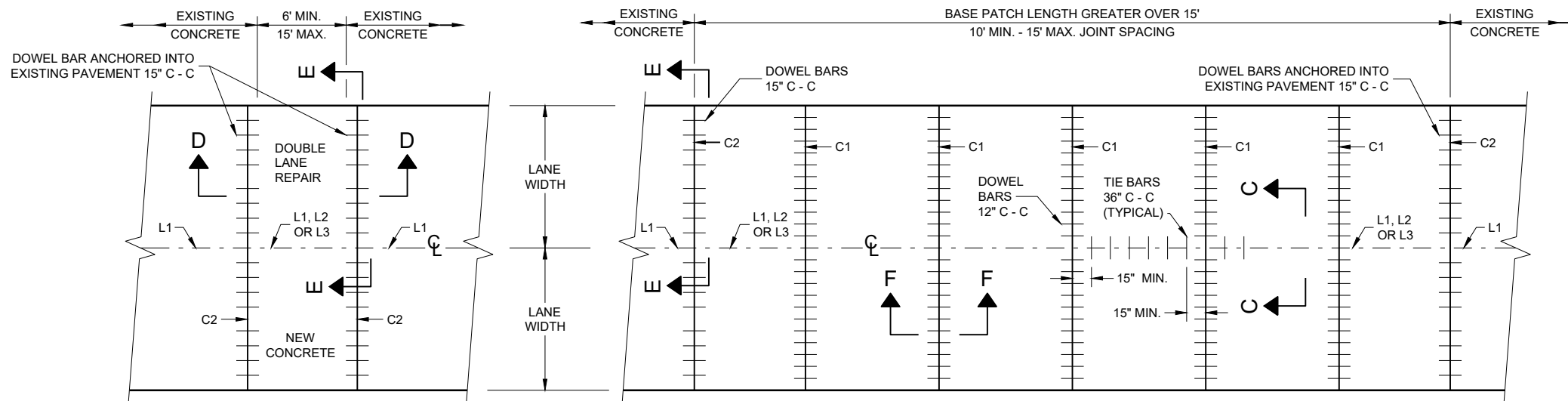
- ① APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



**SECTION D - D**



**SECTION E - E  
SPACING OF DOWEL BARS  
ANCHORED INTO EXISTING PAVEMENT**

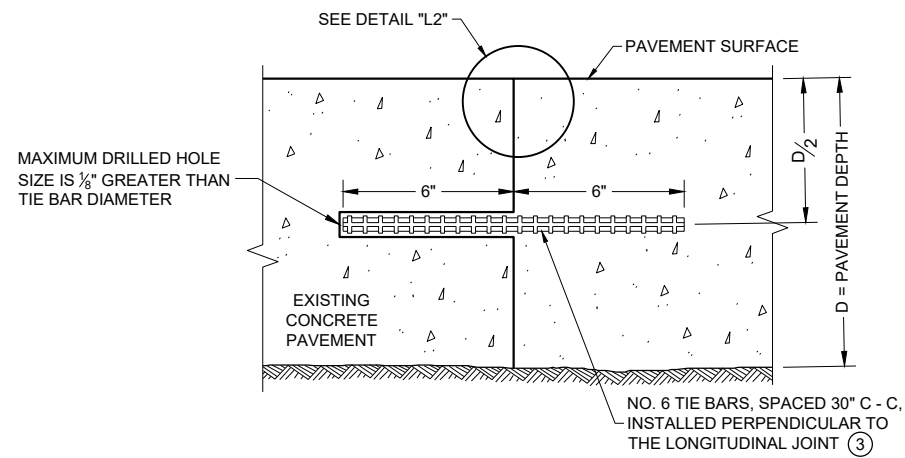


**PLAN VIEW  
MULTILANE CONCRETE BASE PATCH  
15' MAXIMUM LENGTH**

**PLAN VIEW  
MULTILANE CONCRETE BASE PATCH  
GREATER THAN 15' IN LENGTH**

**BASE PATCHING CONCRETE**

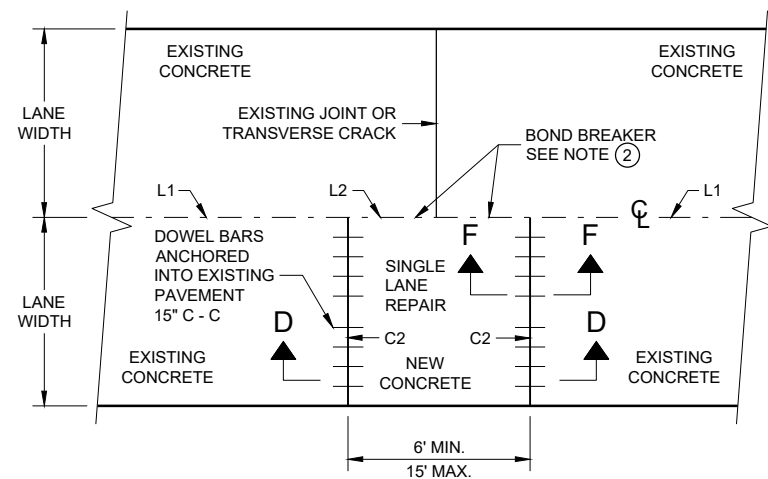
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



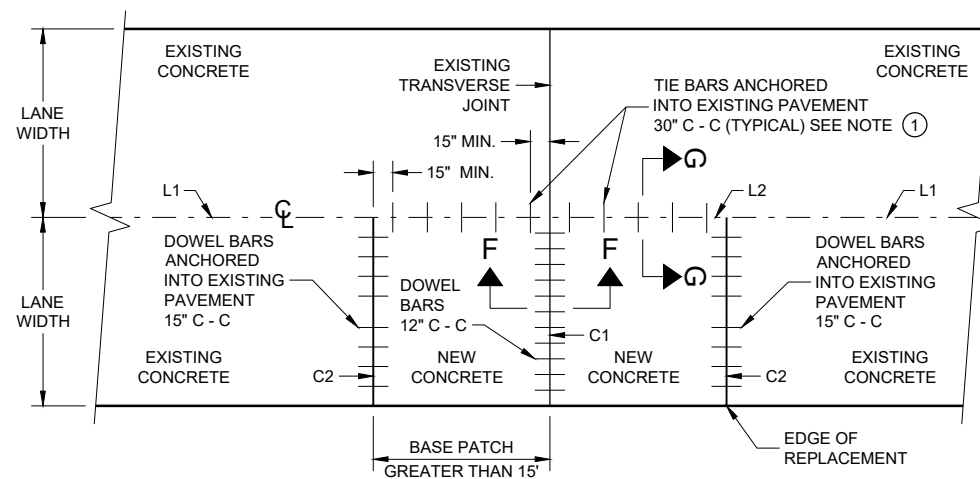
**SECTION G - G**  
**TIE BARS ANCHORED INTO EXISTING PAVEMENT**

**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 HOES WITH AN EPOXY.



**PLAN VIEW**  
**SINGLE LANE CONCRETE BASE PATCH**  
**15' MAXIMUM LENGTH**



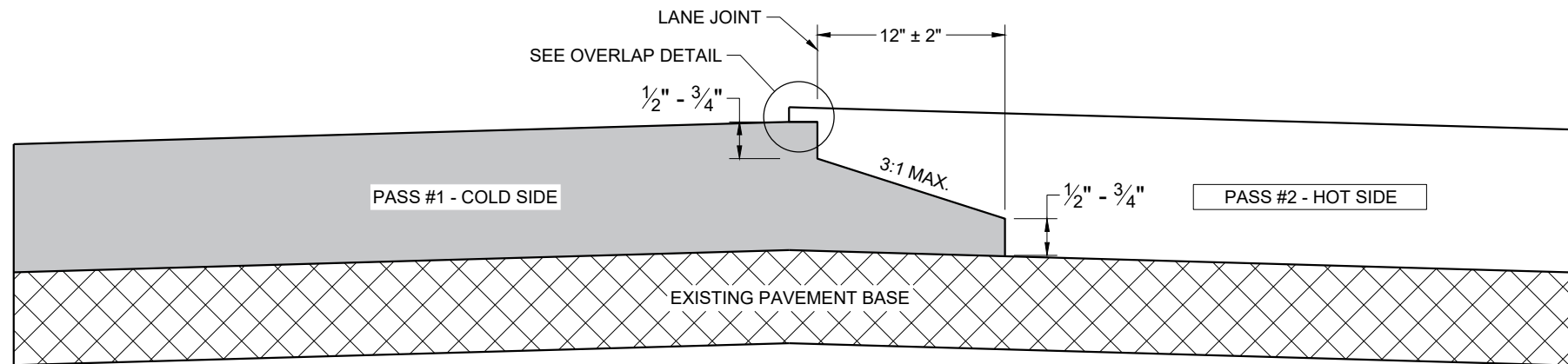
**PLAN VIEW**  
**SINGLE LANE CONCRETE BASE PATCH**  
**GREATER THAN 15' LENGTH**

**BASE PATCHING CONCRETE**

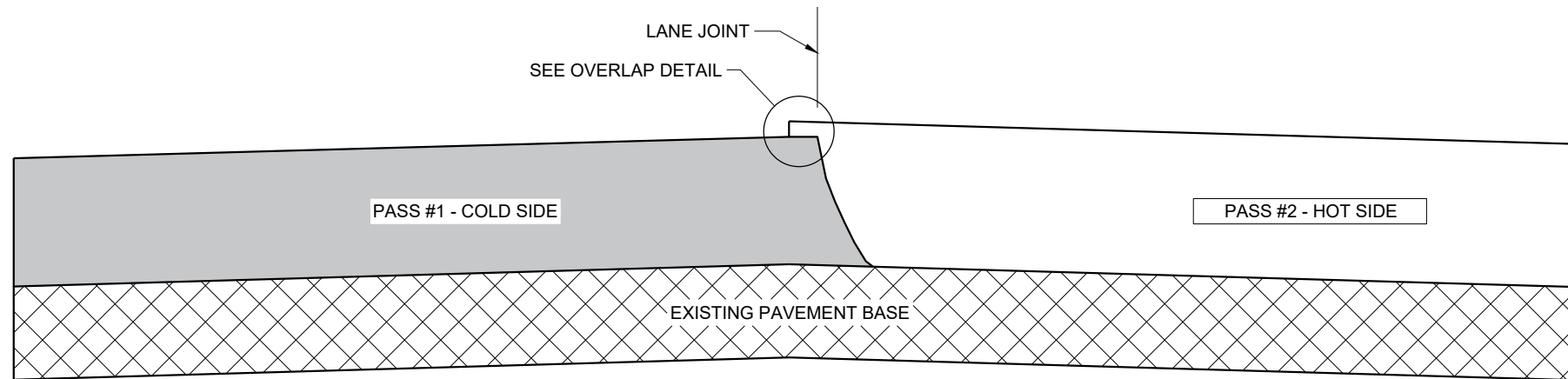
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
March 2018 /S/ Peter Kemp, P.E.  
DATE PAVEMENT SUPERVISOR

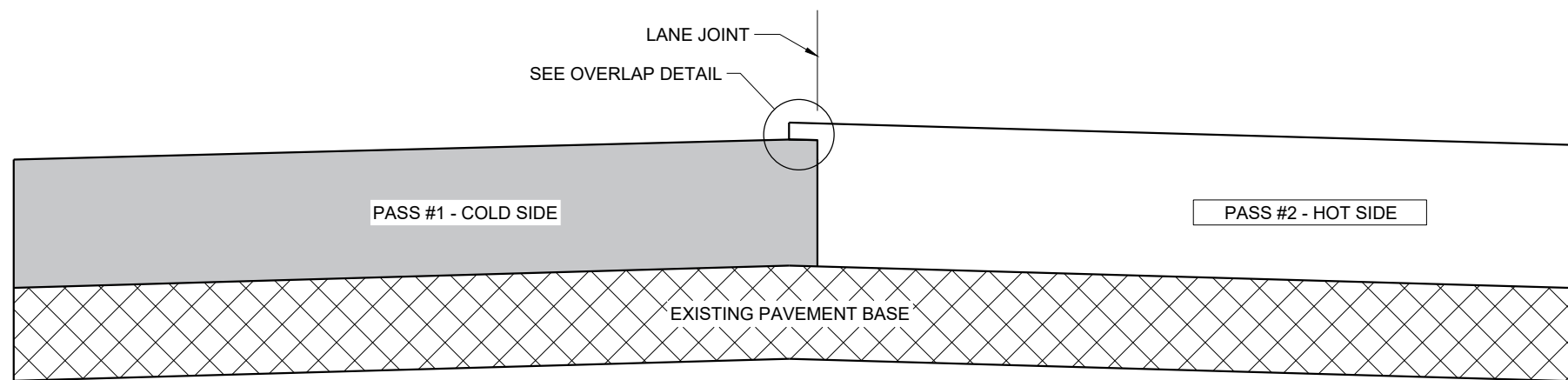
FHWA



**TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT**



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

**GENERAL NOTES**

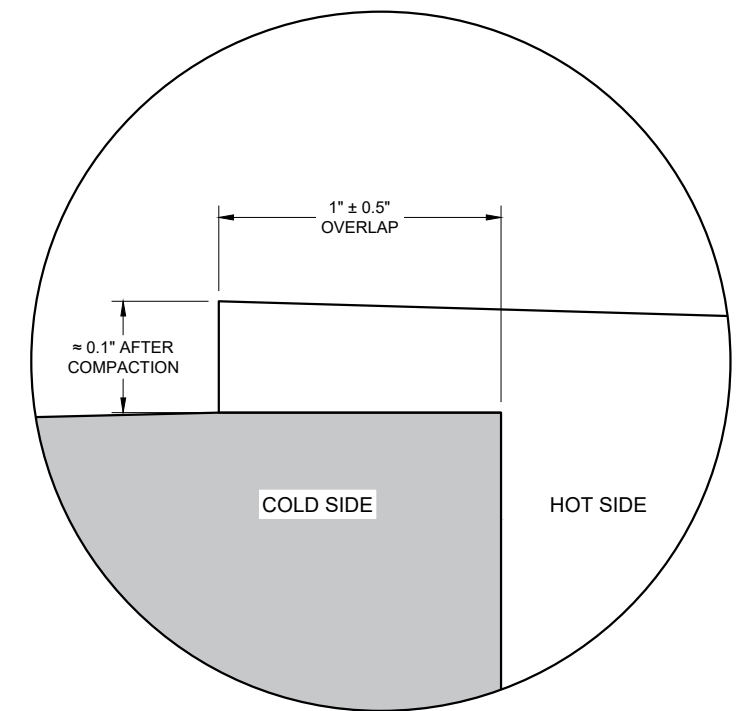
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY  $1" \pm 0.5"$  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

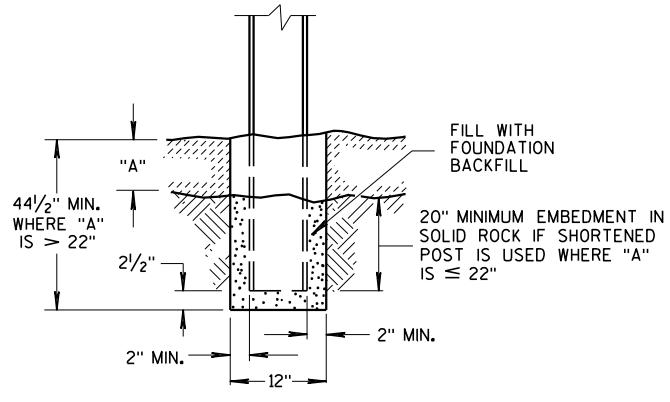
**HMA LONGITUDINAL JOINTS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

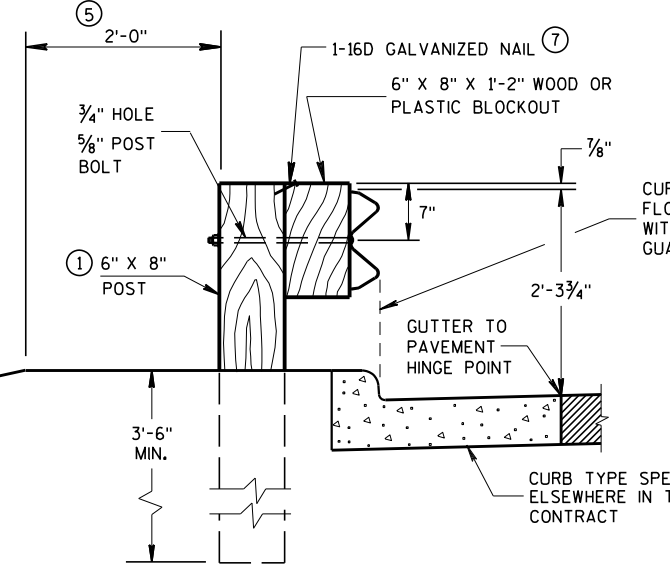
APPROVED  
November 2020 DATE /S/ Steven Hefel  
HMA PAVEMENT ENGINEER  
FHWA

**GENERAL NOTES**

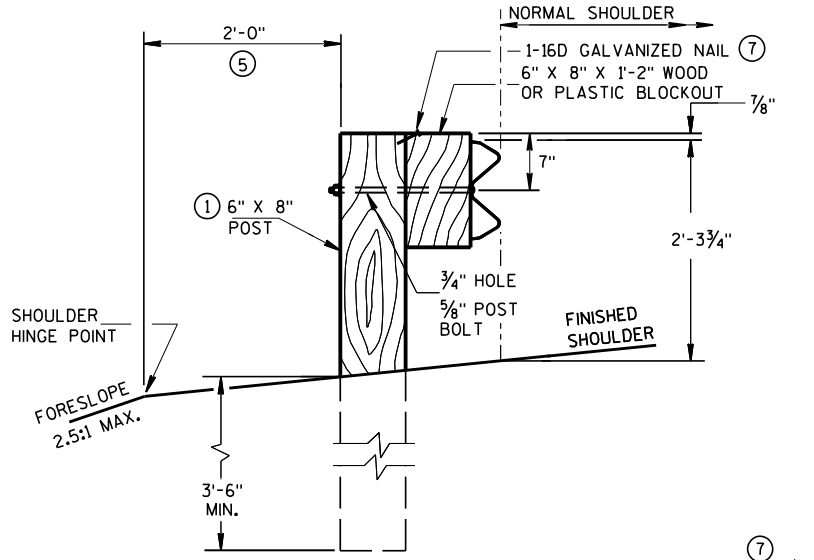
- ① W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.
  - ② USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.
  - ③ INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
  - ④ USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
  - ⑤ IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
  - ⑥ IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2 INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN THE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATELY.
  - ⑦ 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.
- INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



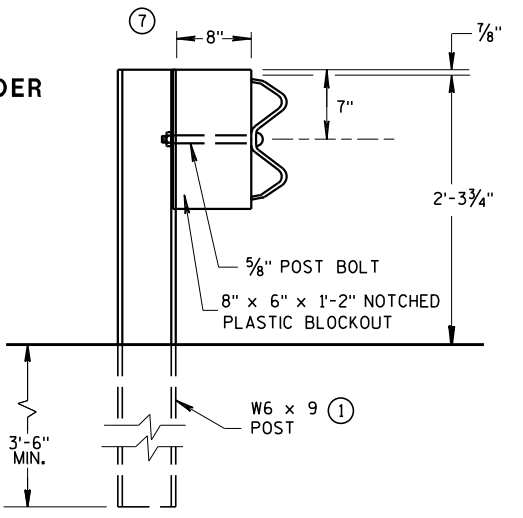
**END VIEW SETTING STEEL OR WOOD POST IN ROCK** ⑥



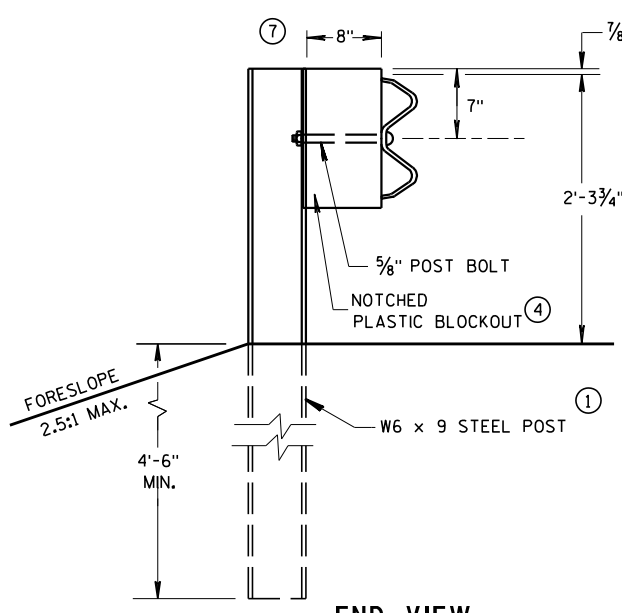
**END VIEW LOCATED ALONG A CURBED ROADWAY**



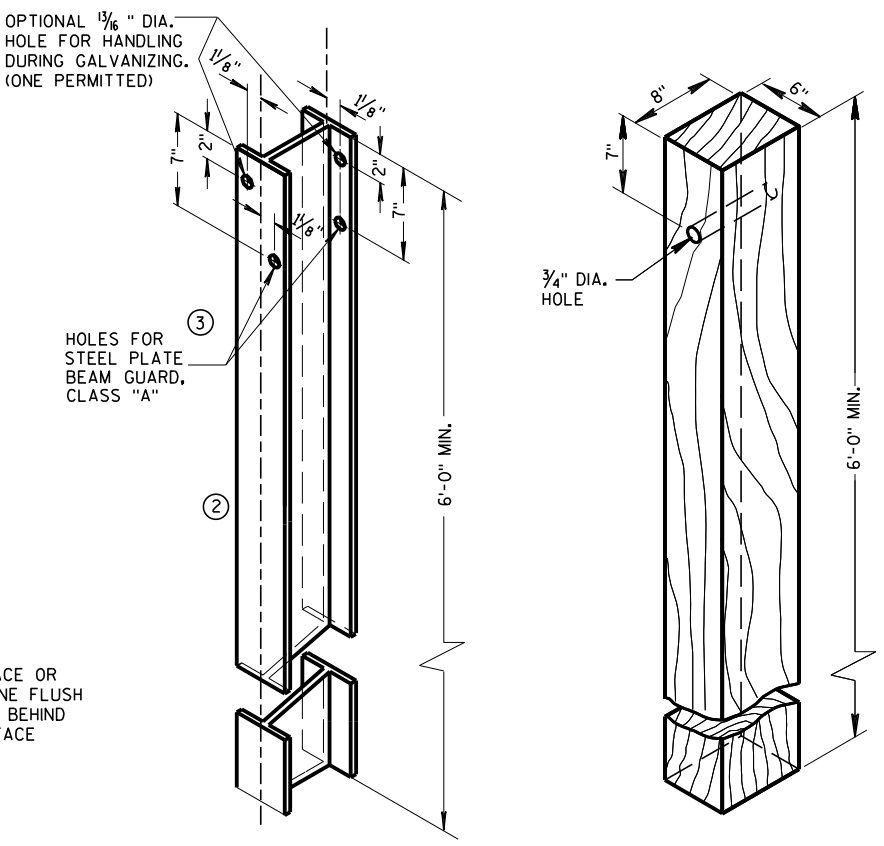
**END VIEW LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION**



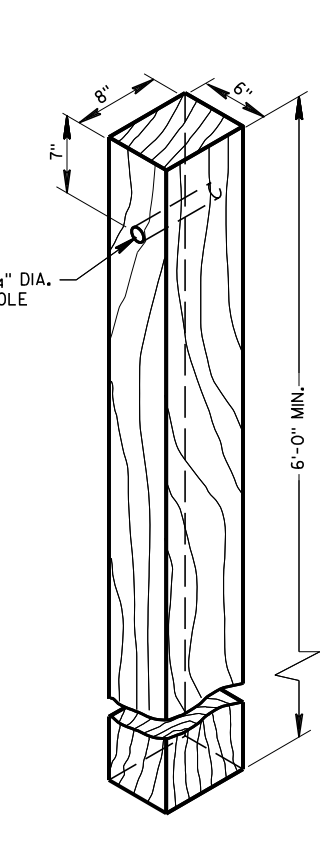
**END VIEW STEEL POST & NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION**



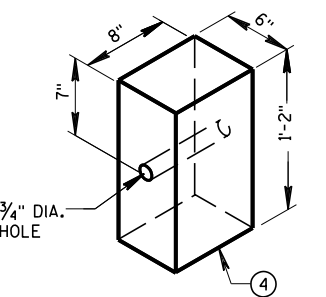
**END VIEW LONGER POST AT HALF POST SPACING W BEAM (LHW)**



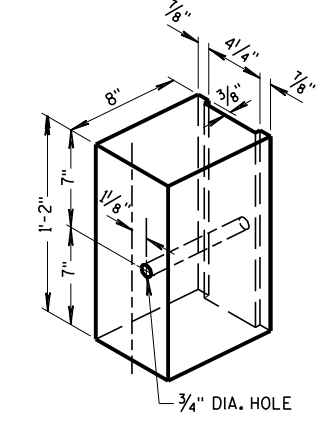
**STEEL POST & HOLE PUNCHING DETAIL (W6 X 9)** ①  
ALL HOLES 3/8" DIAMETER EXCEPT AS NOTED



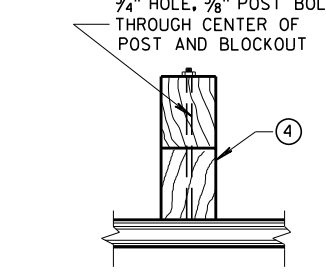
**WOOD POST (6" X 8") NOMINAL**



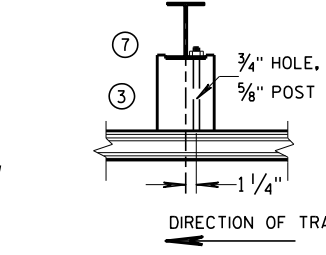
**WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS**



**TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS** ①



**PLAN VIEW WOOD POST, BLOCKOUT & BEAM**



**PLAN VIEW STEEL POST, NOTCHED PLASTIC BLOCKOUT & BEAM**

**STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS**

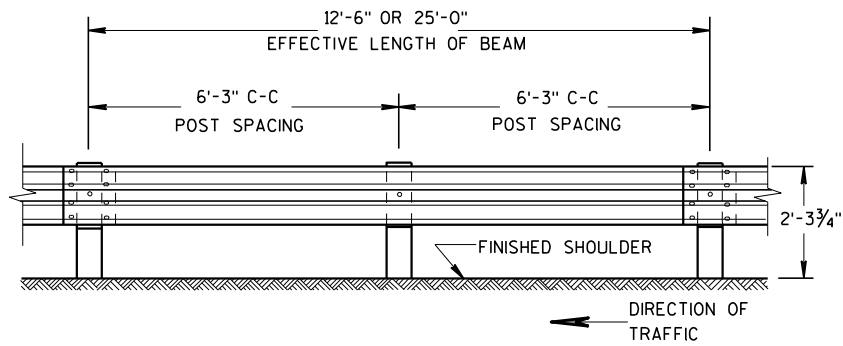
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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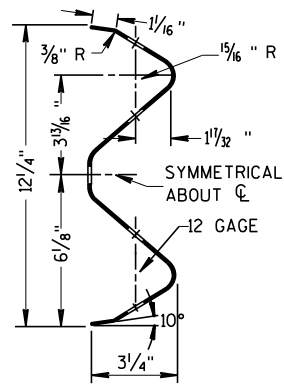
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S.D.D. 14 B 15-11a

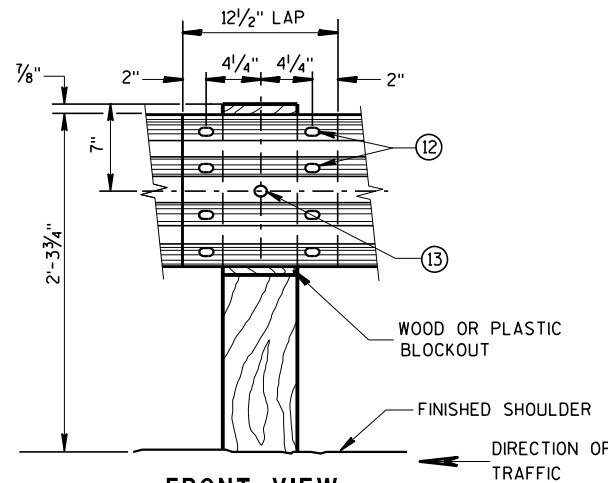
S.D.D. 14 B 15-11a



**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



**SECTION THRU W BEAM**

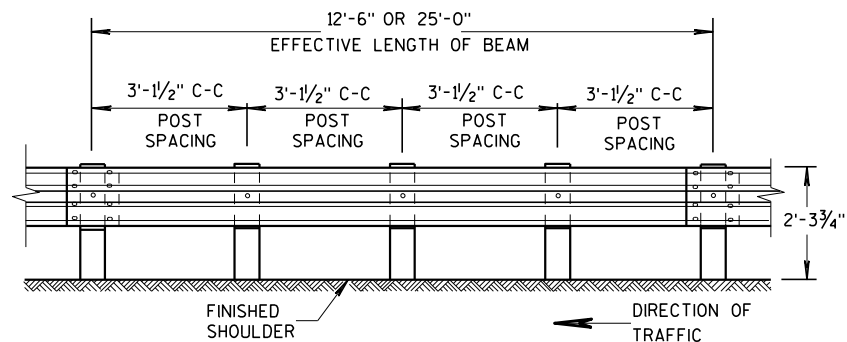


**FRONT VIEW  
BEAM SPLICE AT WOOD POST  
AND POST MOUNTING DETAIL**

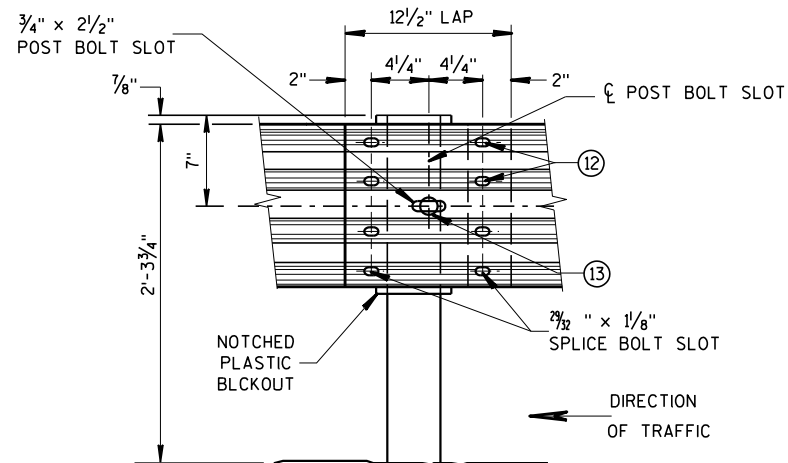
**GENERAL NOTES**

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

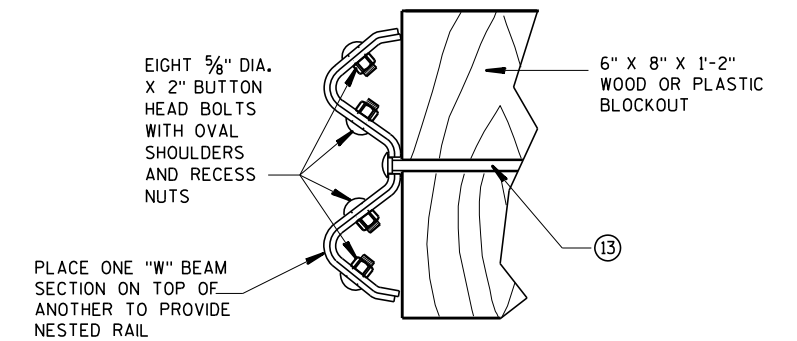
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
- ⑫ 8 - 5/8"  $\phi$  X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



**FRONT VIEW  
POST SPACING FOR LONGER POST  
AT HALF POST SPACING W BEAM (LHW)**



**FRONT VIEW  
BEAM SPLICE AT STEEL POST  
TYPICAL SPlicing DETAILS  
OF STEEL PLATE BEAM GUARD**

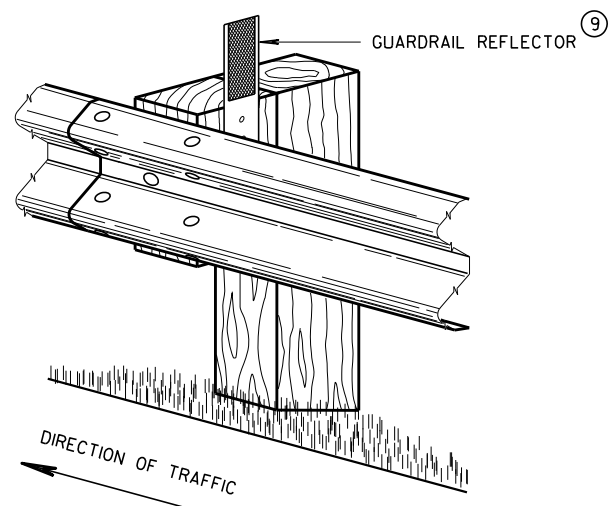


**NESTED W BEAM (NW)  
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR  
CONSTRUCTING NESTED W BEAM (NW)**

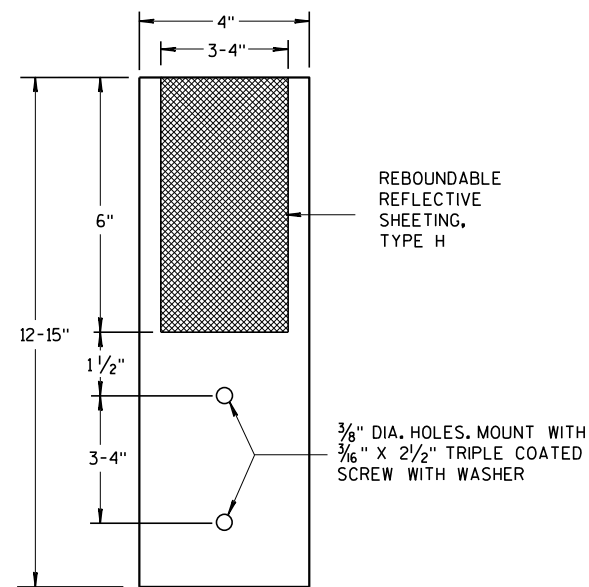
6

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\* USE DOUBLE SIDED WHITE GUARDRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



**4" X 12" GUARDRAIL REFLECTOR DETAIL  
AND TYPICAL INSTALLATION \***

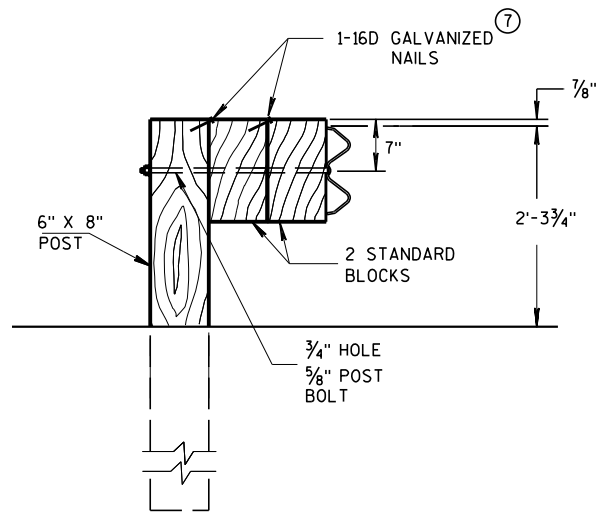


**4" X 12" GUARDRAIL REFLECTOR**

**STEEL PLATE BEAM GUARD,  
CLASS "A",  
INSTALLATION & ELEMENTS**

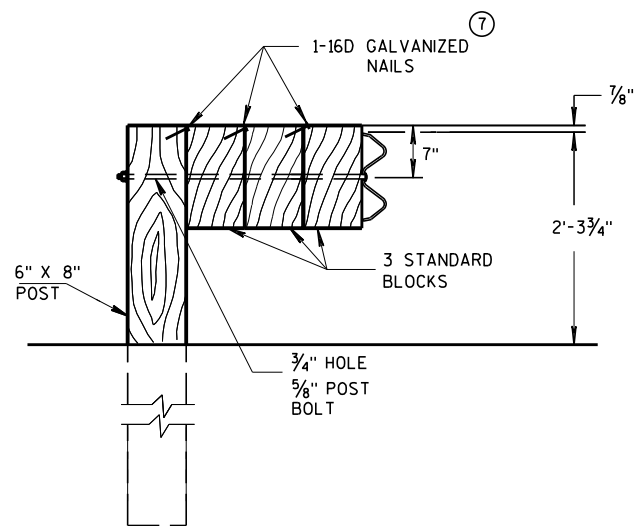
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





**DETAIL FOR DOUBLE BLOCKS**

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

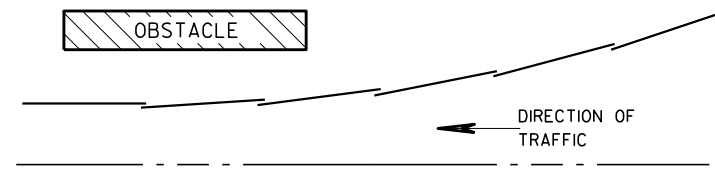


**DETAIL FOR TRIPLE BLOCKS**

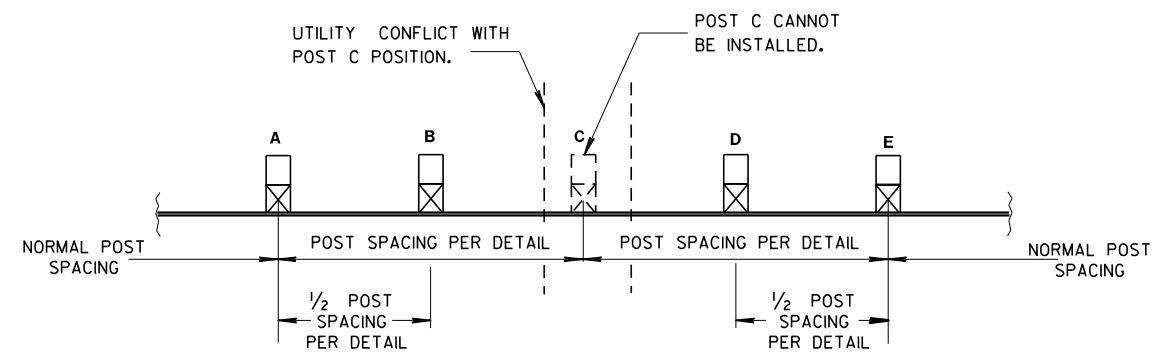
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

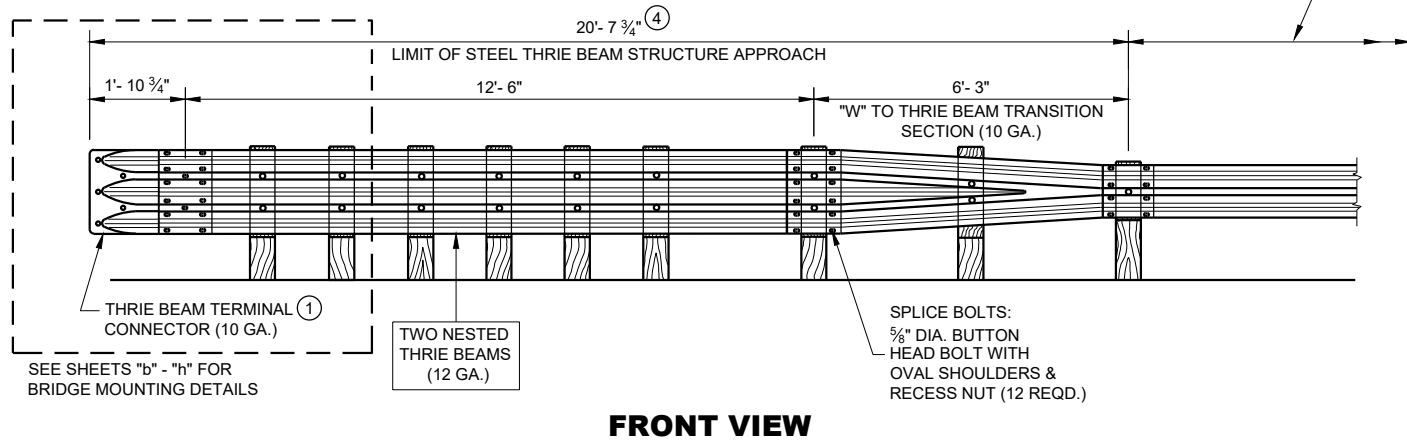
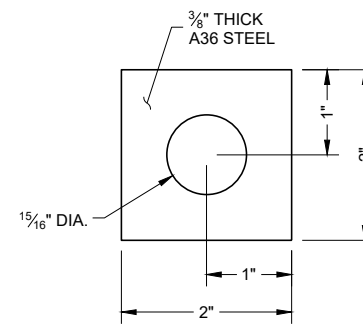
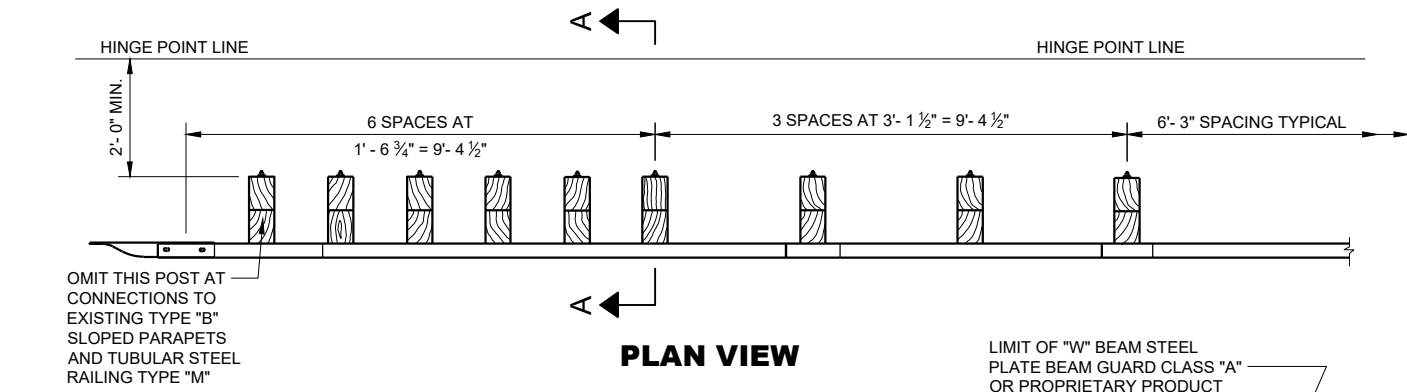


**PLAN VIEW  
BEAM LAPPING DETAIL**



**POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION**

<b>STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION &amp; ELEMENTS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/s/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	



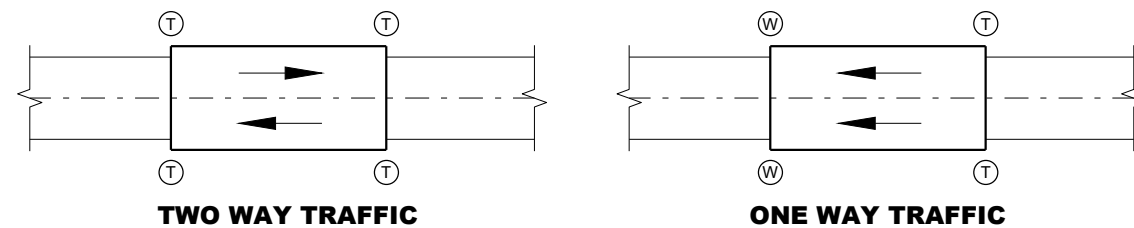
**GENERAL NOTES**

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

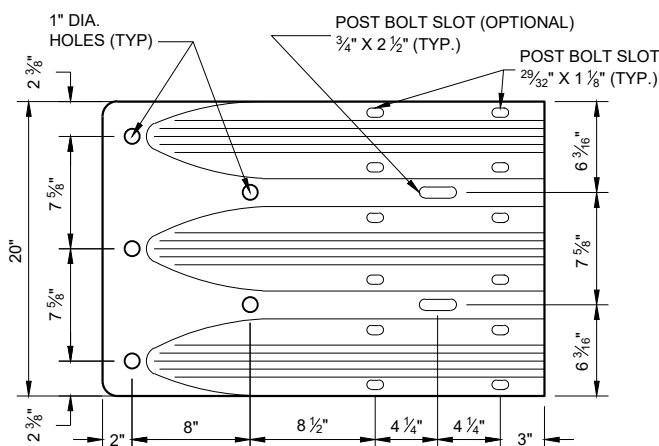
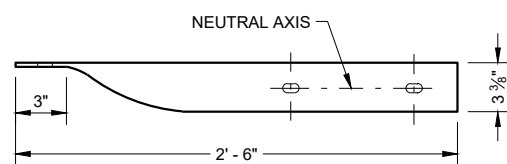
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② MINIMUM EMBEDMENT SHALL BE 4'-0".
- ③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.
- ④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.

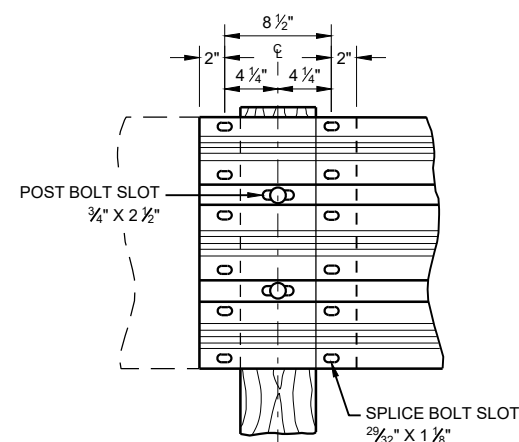


- (T) THRIE BEAM CONNECTION
- (W) W-BEAM CONNECTION WHEN REQUIRED

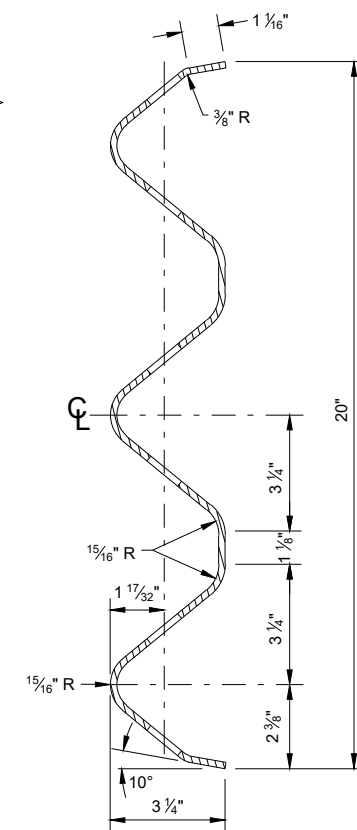
**TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE**



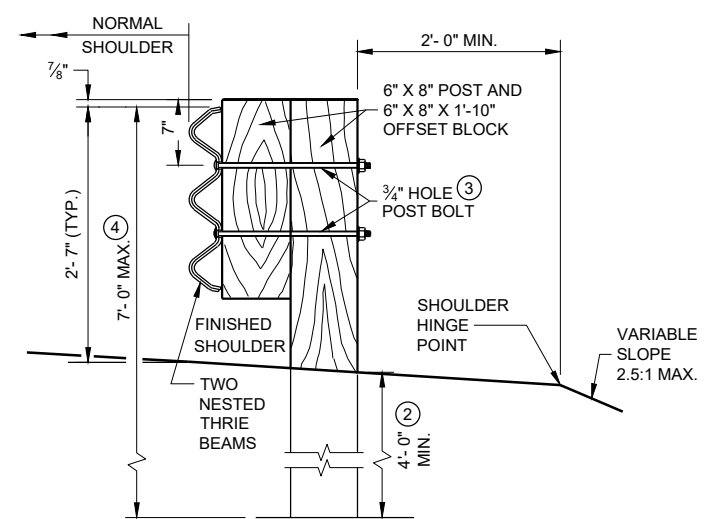
**THRIE BEAM TERMINAL CONNECTOR**



**THRIE BEAM SPLICE**



**SECTION THRU BEAM RAIL ELEMENT**



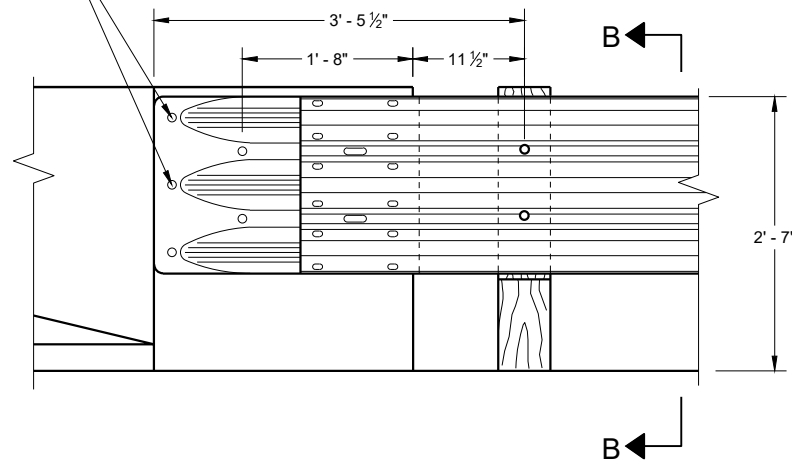
**SECTION A-A**

**STEEL THRIE BEAM STRUCTURE APPROACH**

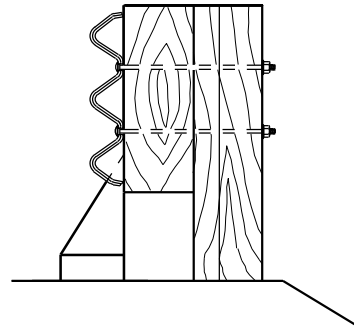
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2022 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

- ① ② 7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER  
7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED  
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D)



**FRONT VIEW**



**SECTION B - B**

**THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS**

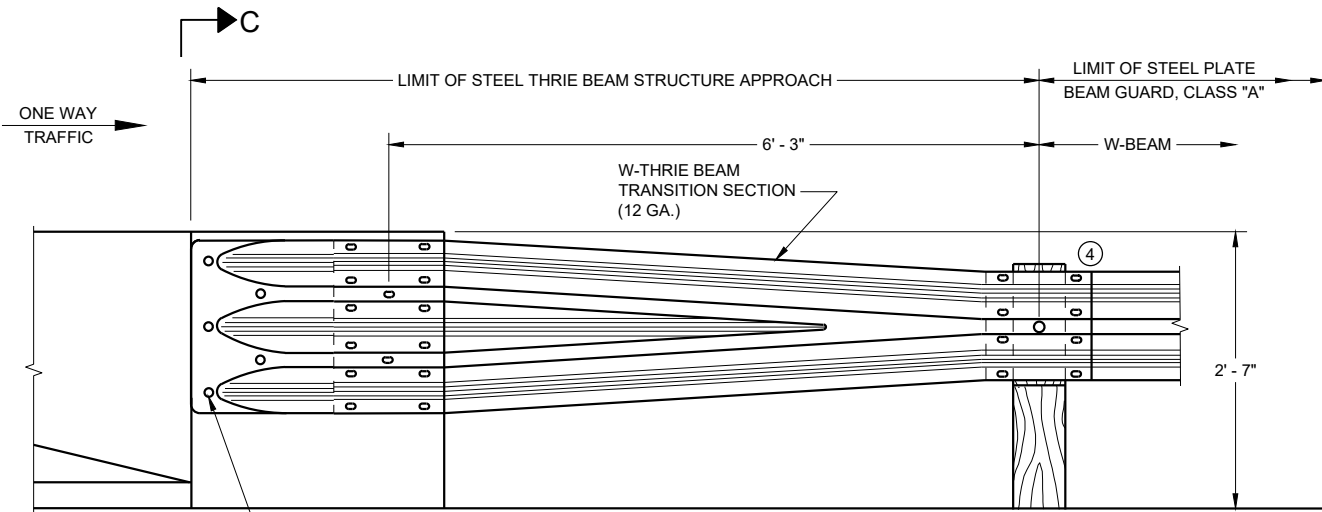
**GENERAL NOTES**

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- ④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

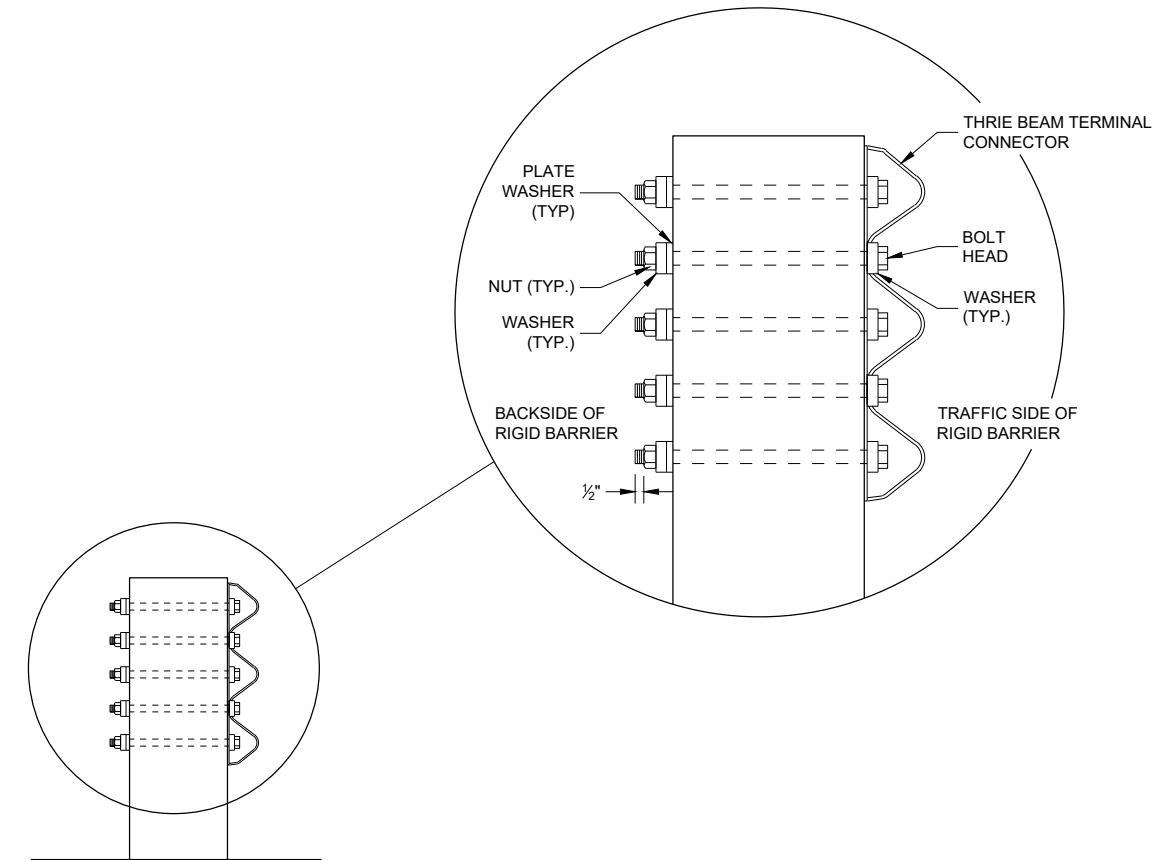
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



- ① ② 7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE). WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER 7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED.  
1" DIA. HOLES DRILLED THRU PARAPET. (5 REQ'D.)

**FRONT VIEW**

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



**SECTION C - C**

**STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2022 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

**GENERAL NOTES**

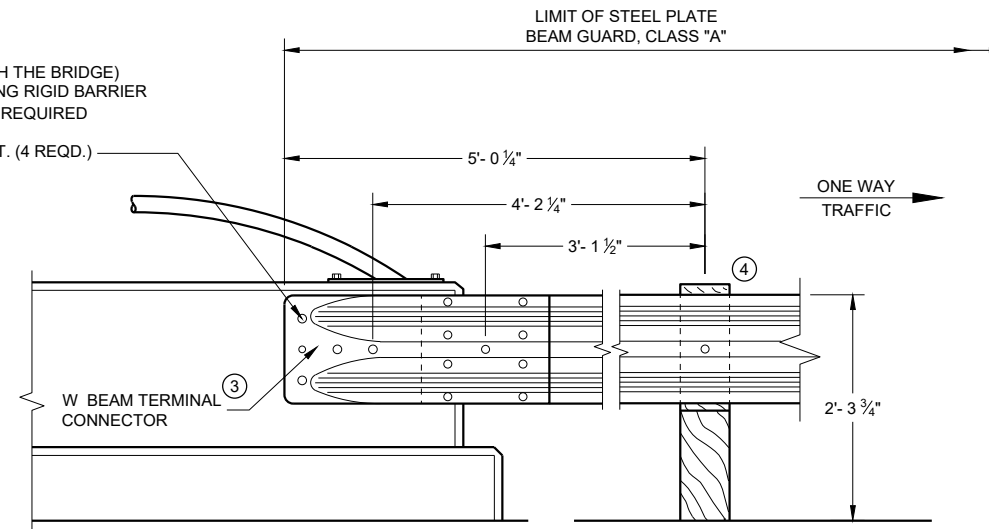
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- ④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.
- ⑤ BOLT, NUT AND WASHERS NO REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PARAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE THE EDGE OF PARAPET.

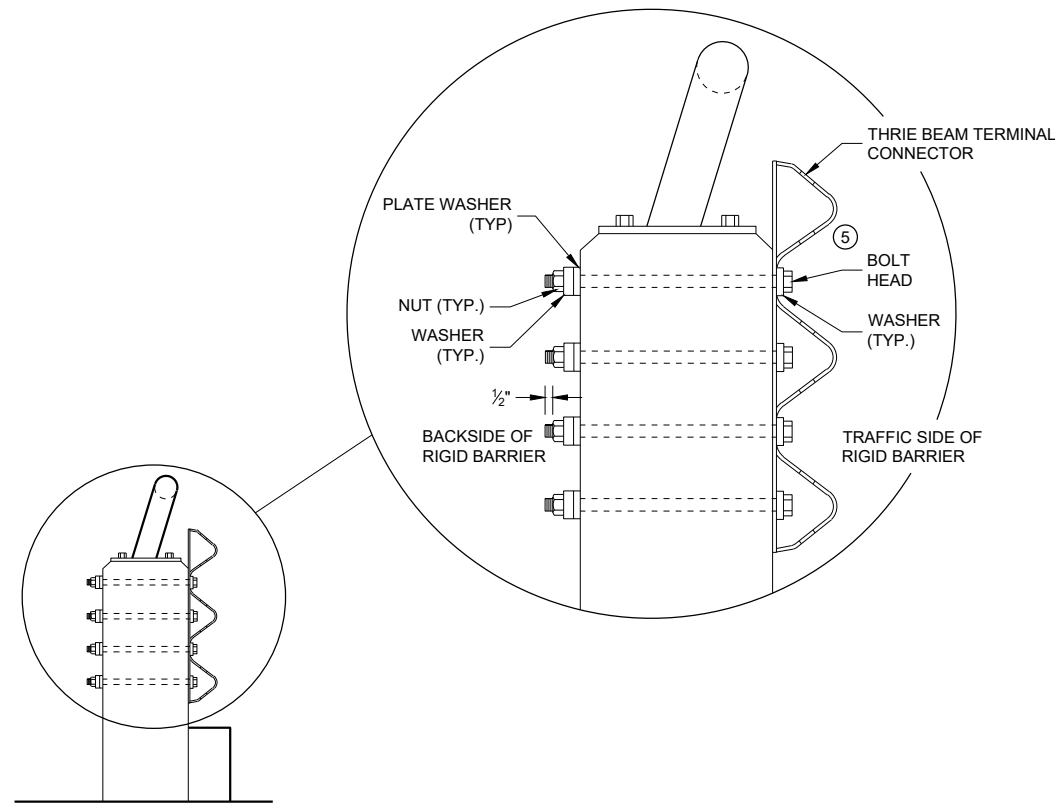
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

- ①② 7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER 7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
- 1" DIA. HOLES DRILLED THRU PARAPET. (4 REQD.)

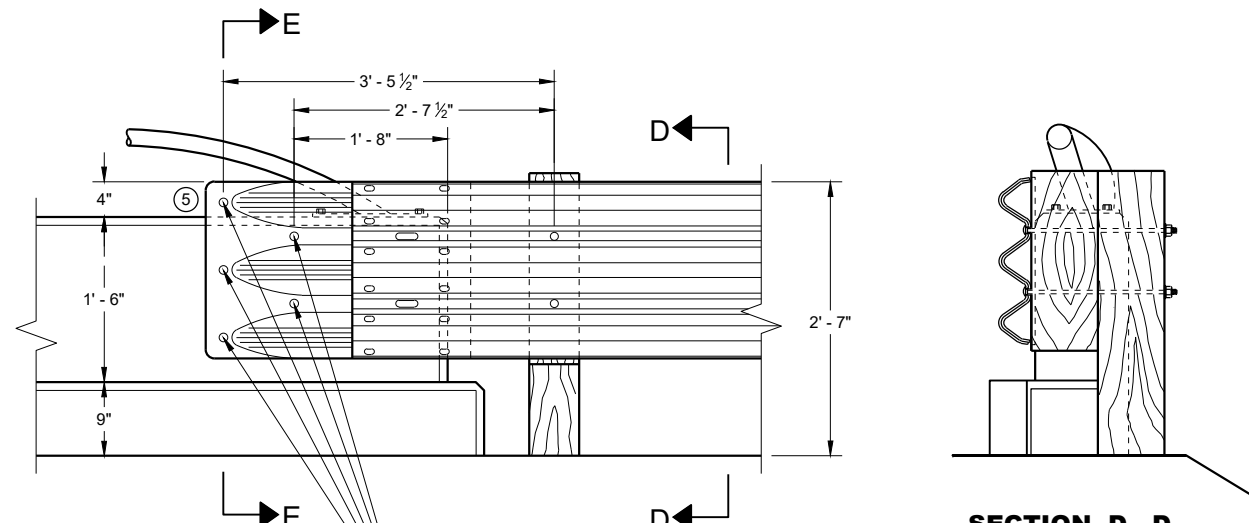


**FRONT VIEW**

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



**SECTION E - E**



**FRONT VIEW**

**SECTION D - D**

- ①② 7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER 7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED.
- 1" DIA. HOLES DRILLED THRU PARAPET. (4 REQD.)

**THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS**

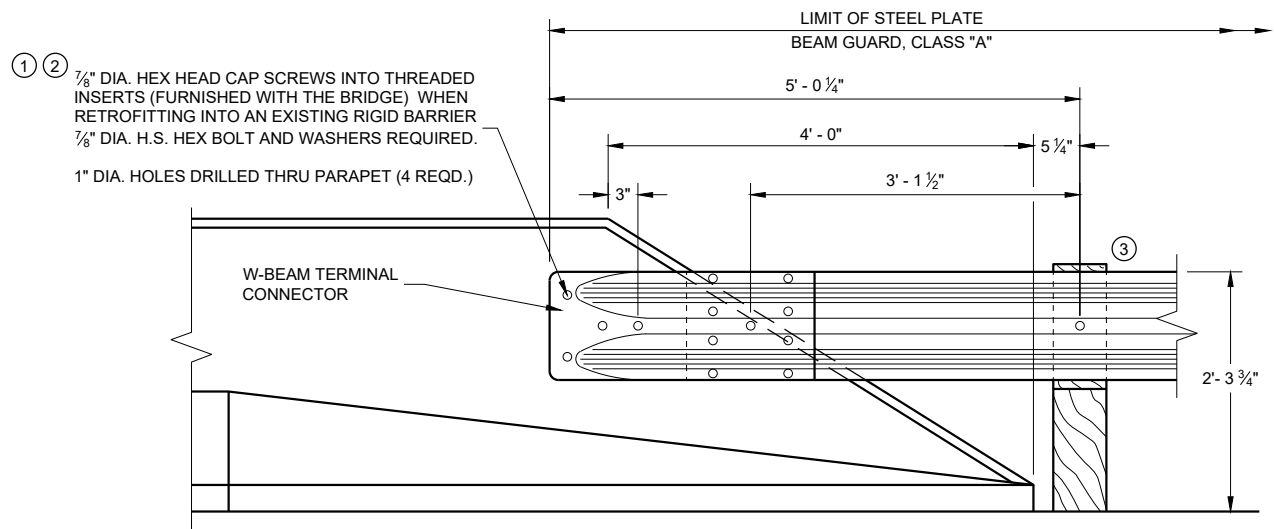
**STEEL THRIE BEAM STRUCTURE  
APPROACH, CONNECTION TO  
VERTICAL FACED PARAPETS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2022 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

FHWA

ONE WAY TRAFFIC →



**FRONT VIEW**

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

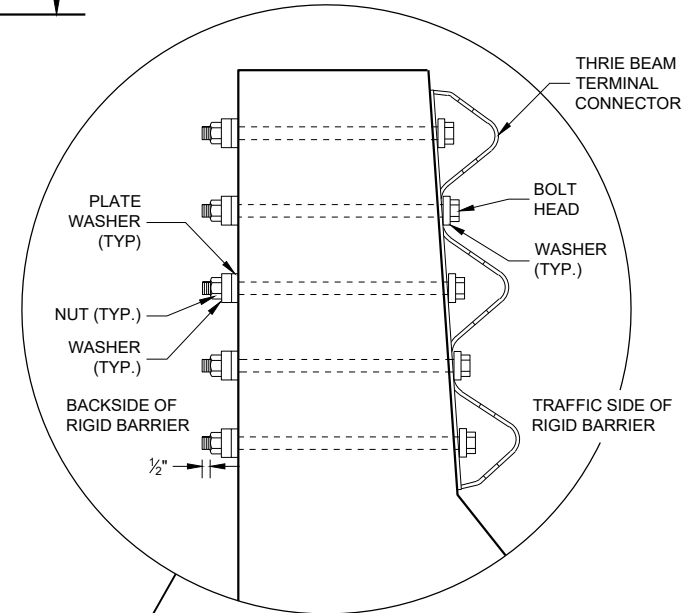
**GENERAL NOTES**

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

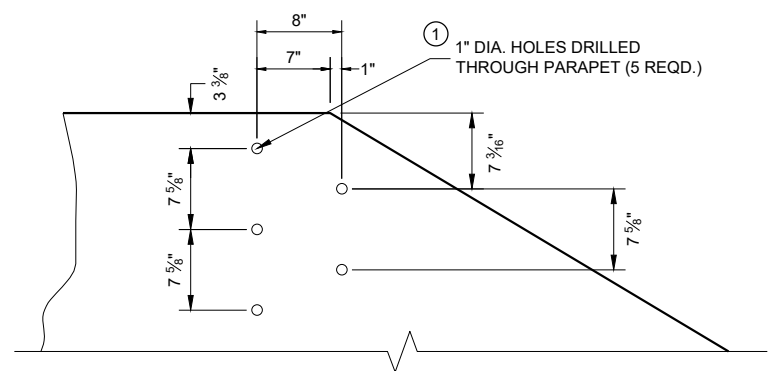
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

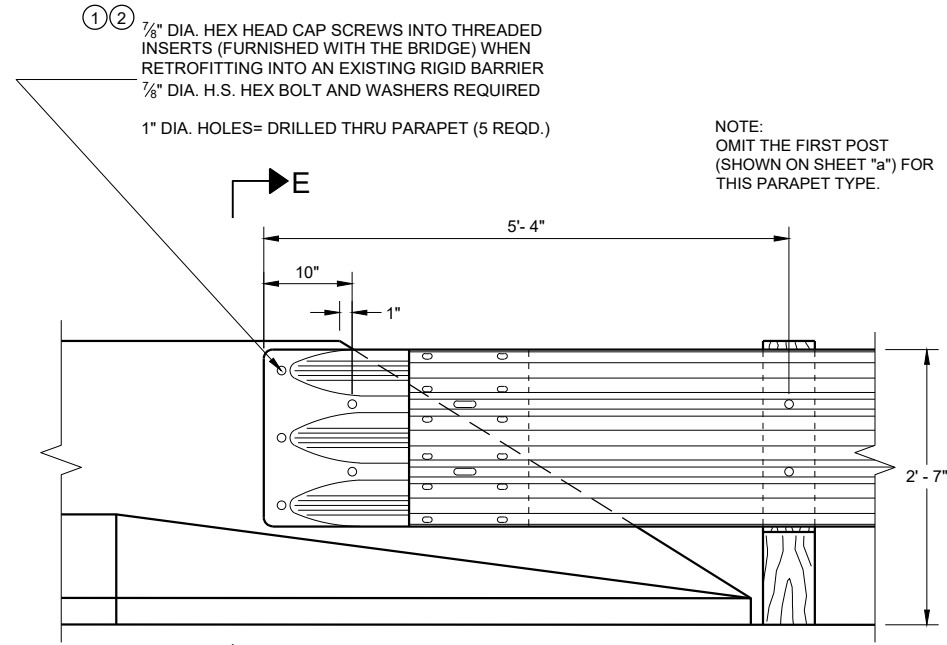
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



**SECTION E - E**



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



**FRONT VIEW**

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

NOTE:  
OMIT THE FIRST POST (SHOWN ON SHEET "a") FOR THIS PARAPET TYPE.

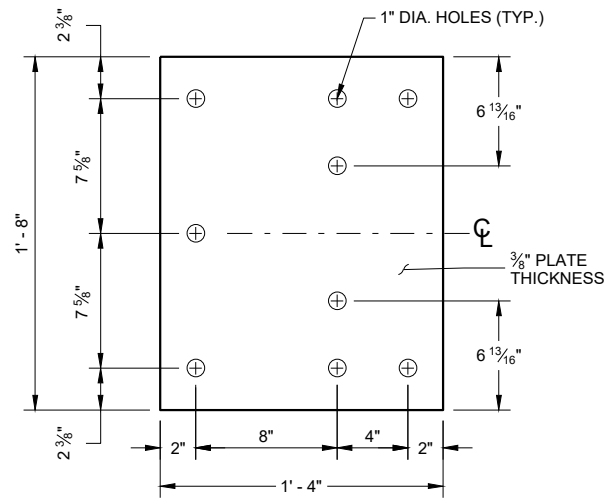
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6

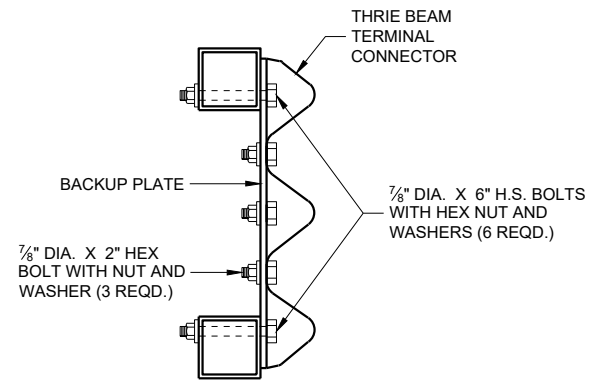
SDD 14B20 - 12d

SDD 14B20 - 12d

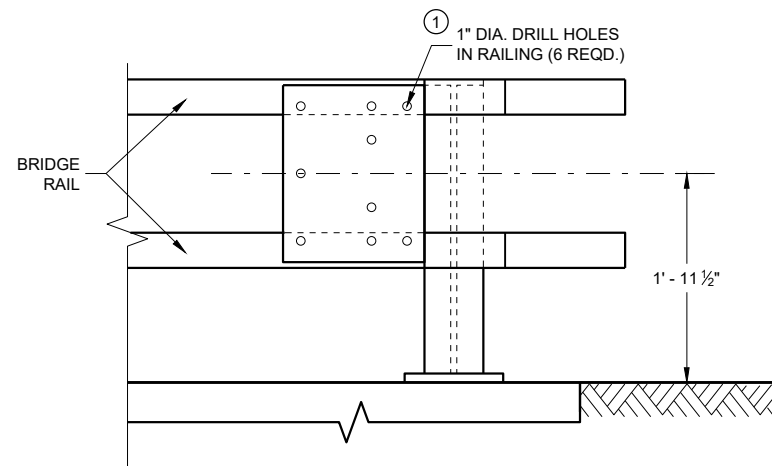
<b>STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



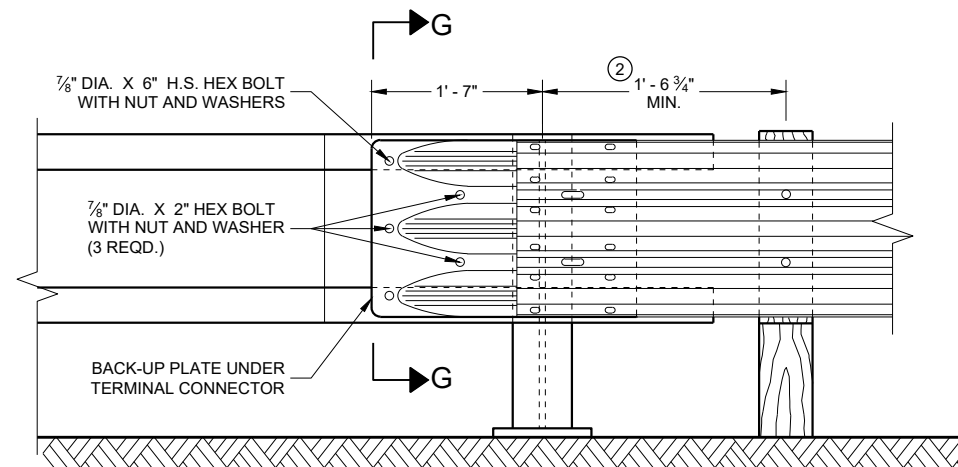
**BACK-UP PLATE DETAIL**



**SECTION G - G**

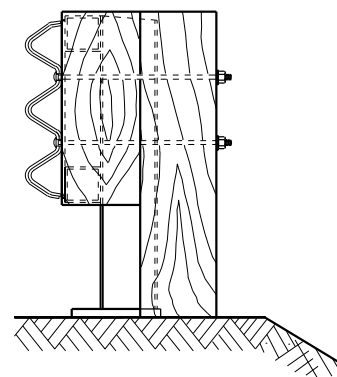


**BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING**

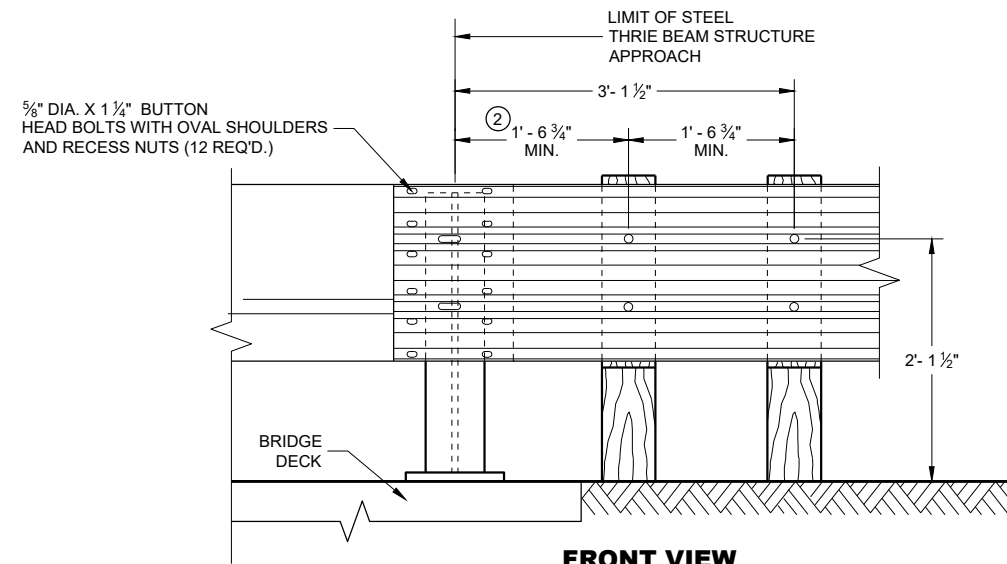


**FRONT VIEW**

**THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"**



**END VIEW**



**FRONT VIEW**

**THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"**

**GENERAL NOTES**

BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.

**STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" & "W"**

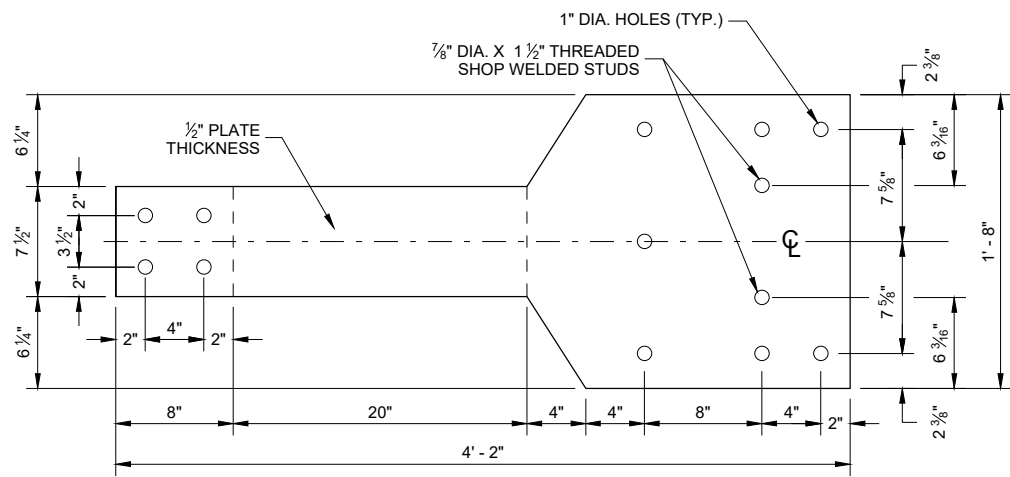
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DEPARTMENT OF TRANSPORTATION

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November 2022 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

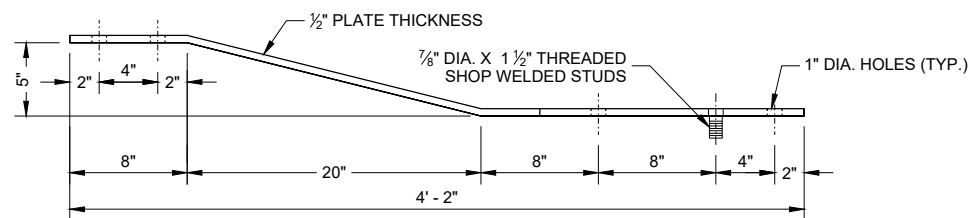


**GENERAL NOTES**

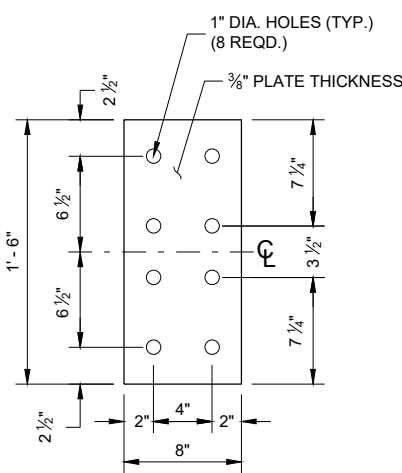
- ① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AN ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.



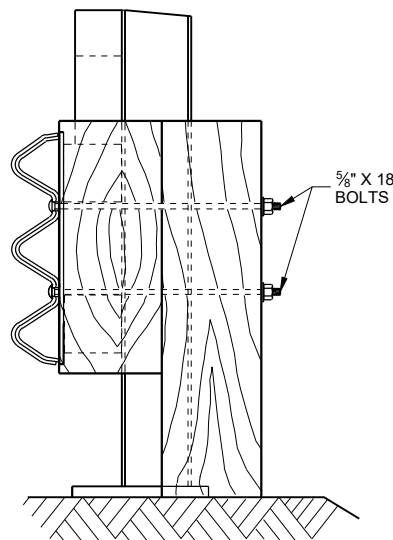
**FRONT VIEW**



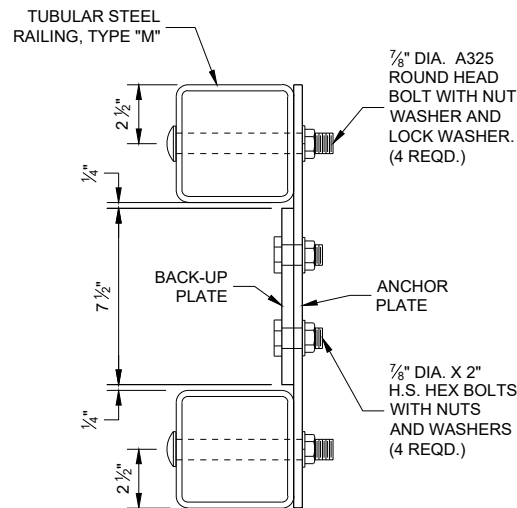
**PLAN VIEW  
BACK-UP PLATE DETAIL, TYPE "M"**



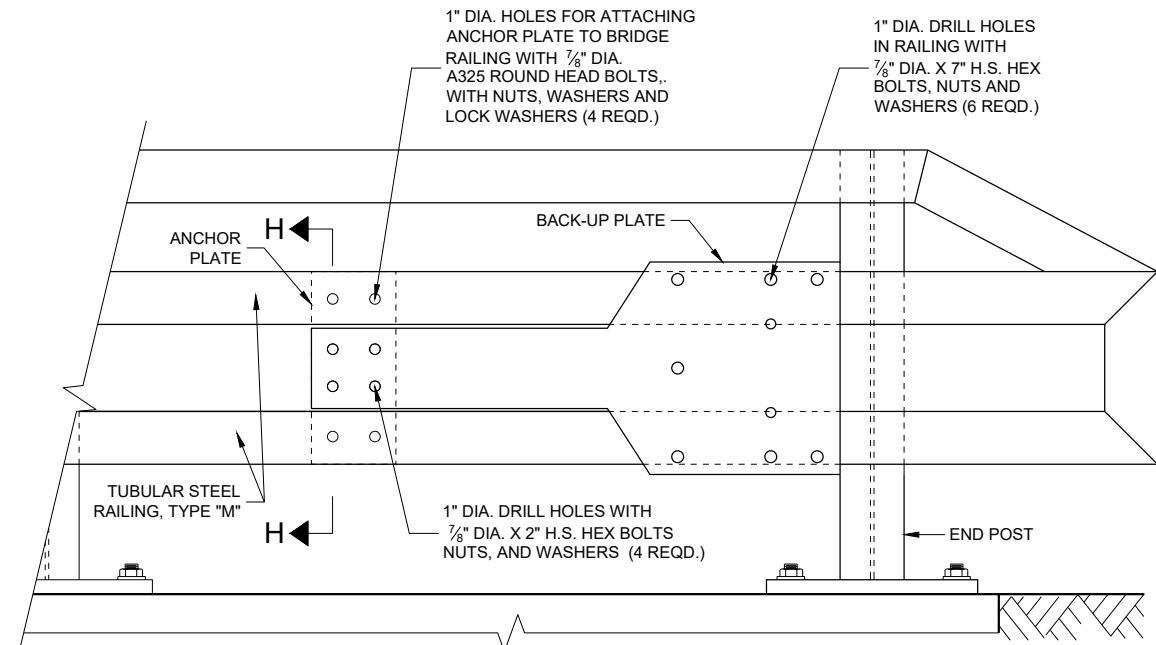
**PLAN VIEW  
ANCHOR PLATE DETAIL,  
TYPE "M"**



**SECTION I - I**

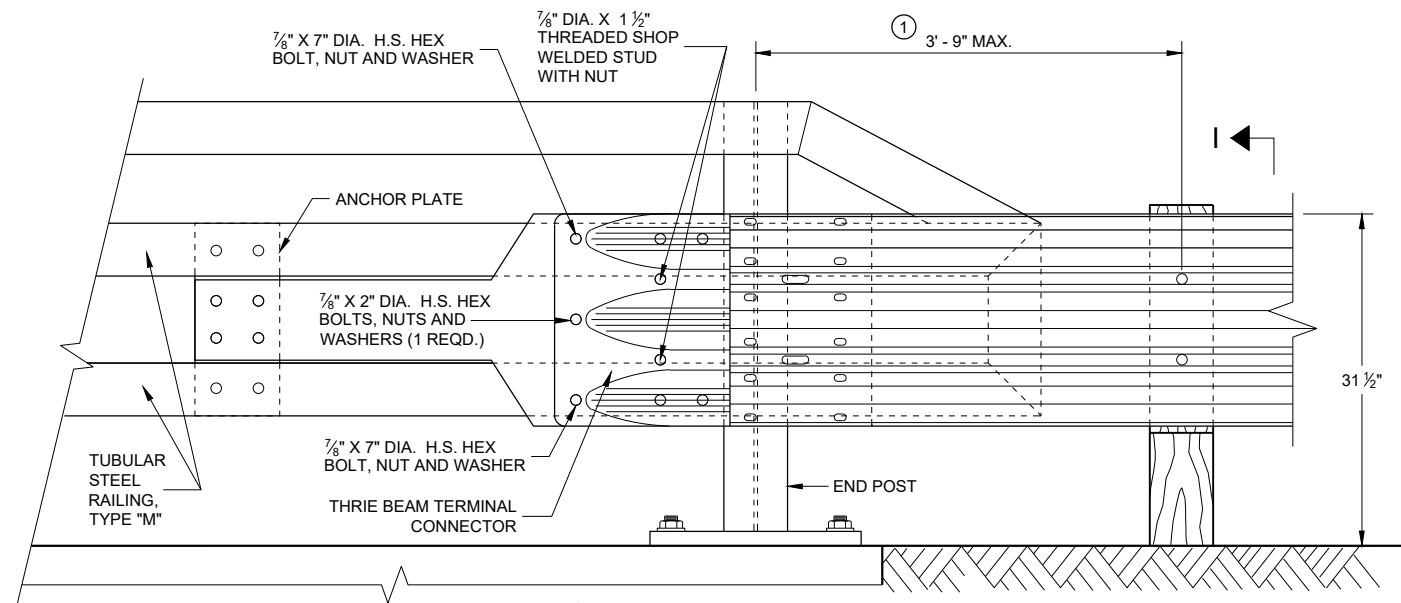


**SECTION H - H**

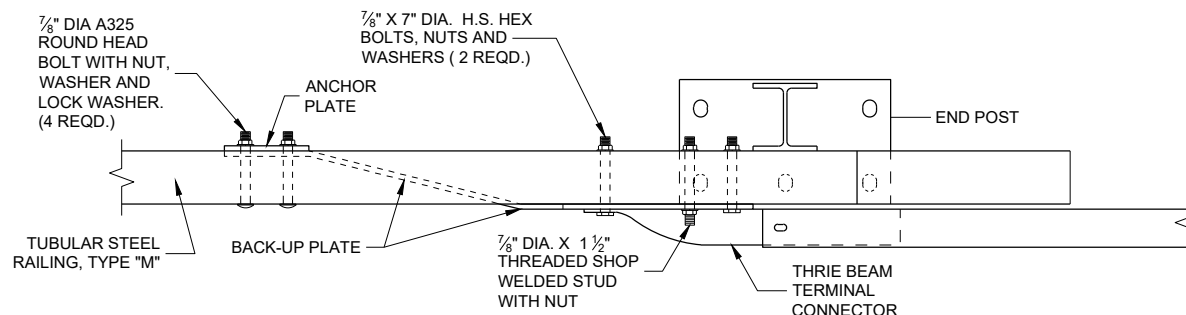


**FRONT VIEW**

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



**FRONT VIEW**



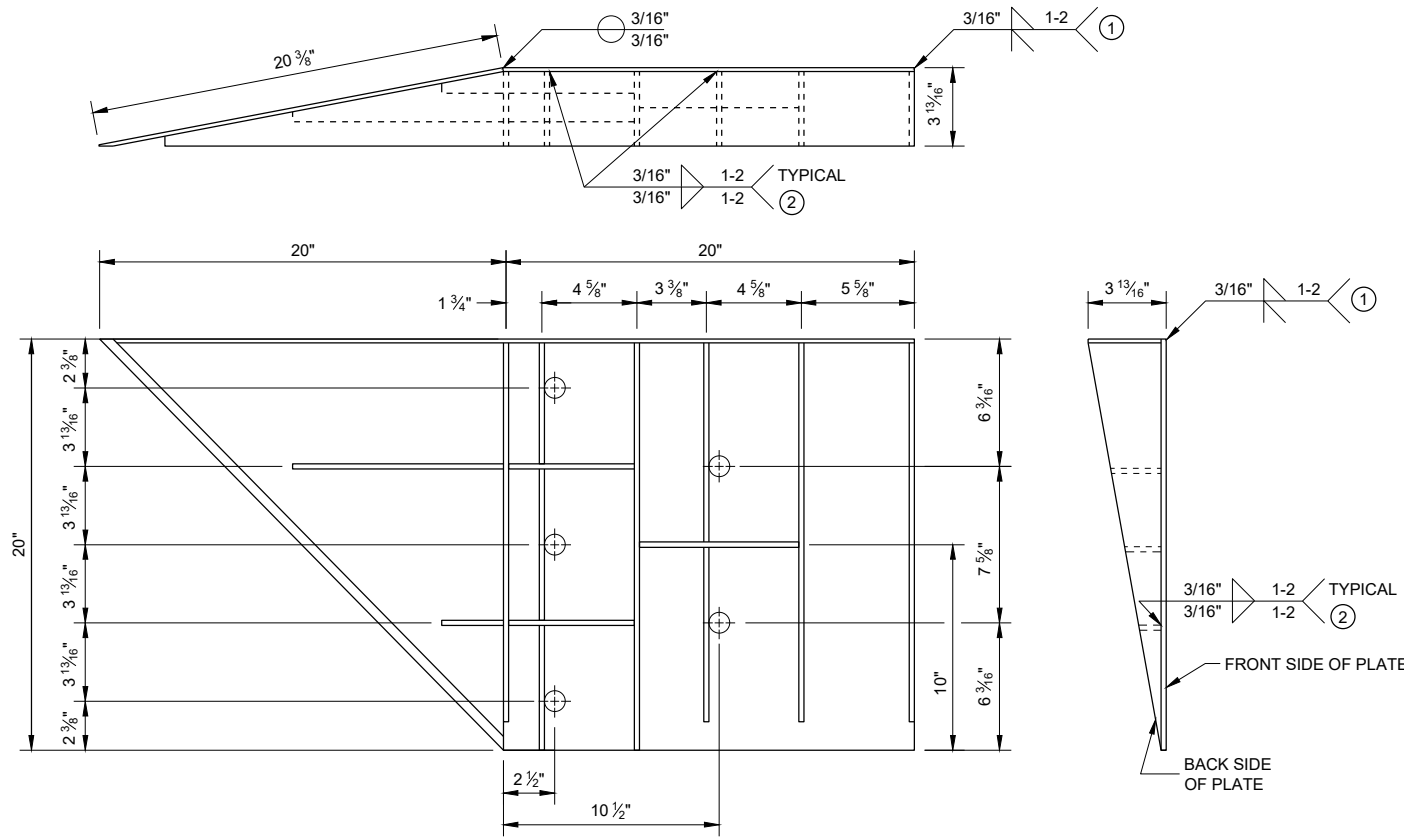
**PLAN VIEW  
THREE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"**

**STEEL THREE BEAM STRUCTURE  
APPROACH, CONNECTION TO  
BRIDGE RAILING TYPE "M"**

STATE OF WISCONSIN  
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ENGINEER

FHWA

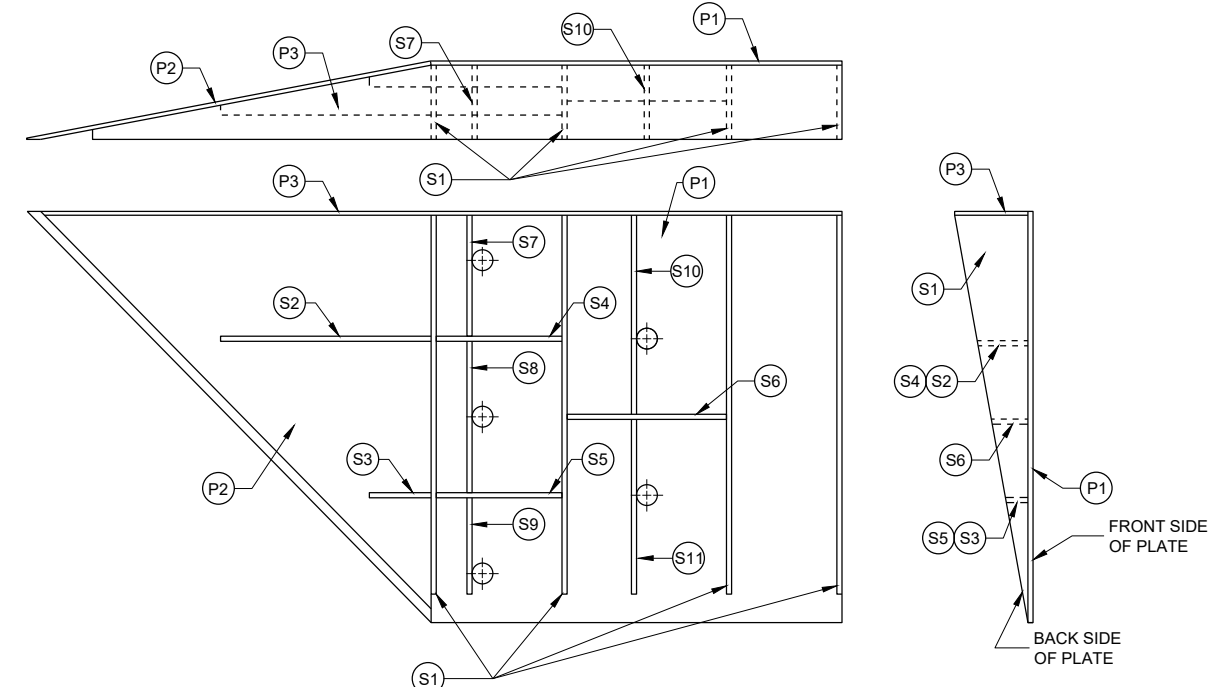


**GENERAL NOTES**

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

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

**WELDING INSTRUCTION  
 (VIEWED FROM BACK SIDE OF PLATE)**



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

CONNECTOR PLATED DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 3/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

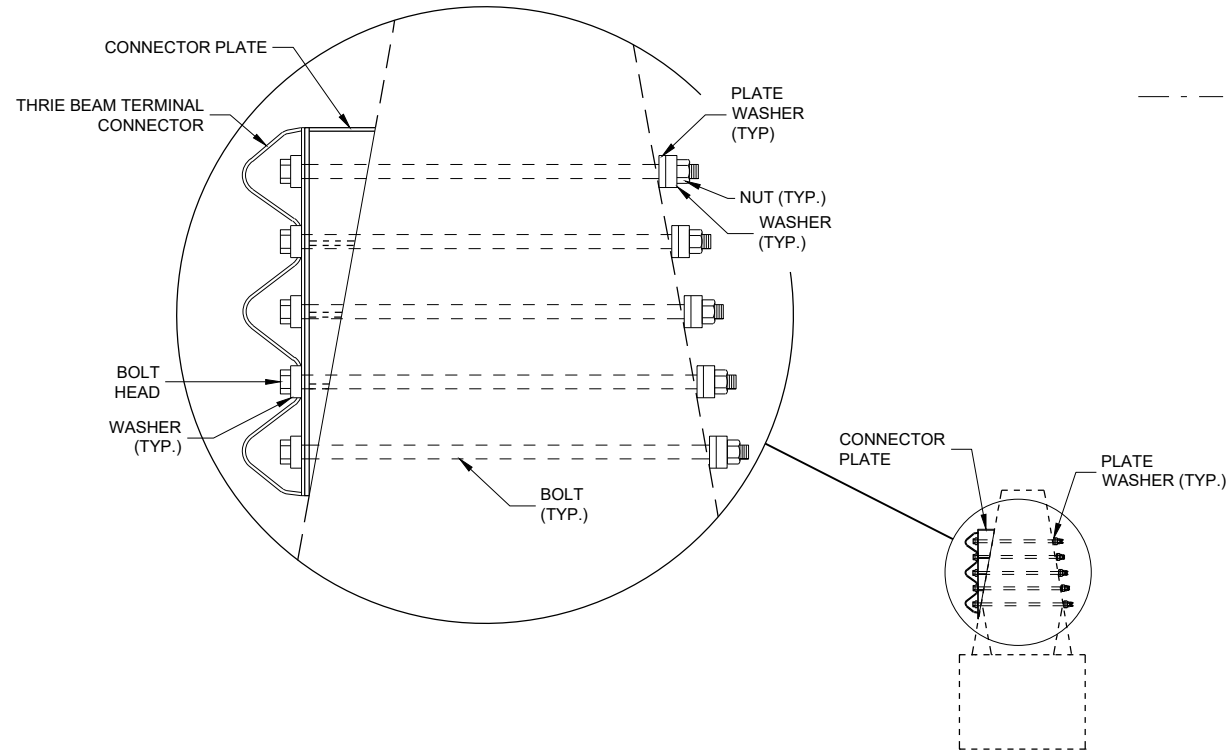
**STEEL THRIE BEAM STRUCTURE APPROACH**

**STEEL THRIE BEAM  
 STRUCTURE APPROACH,  
 CONNECTOR PLATE DETAIL**

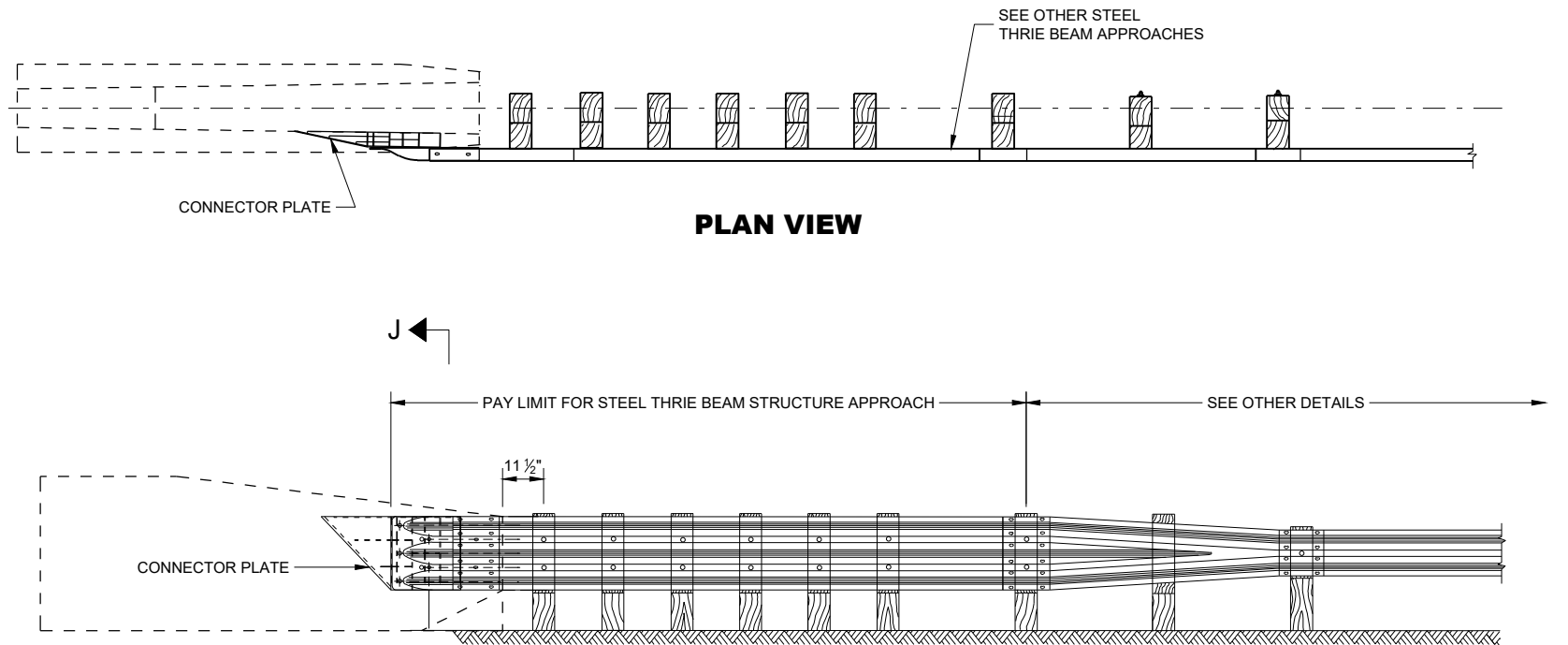
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 ENGINEER

FHWA



**SECTION J - J**



**PLAN VIEW**

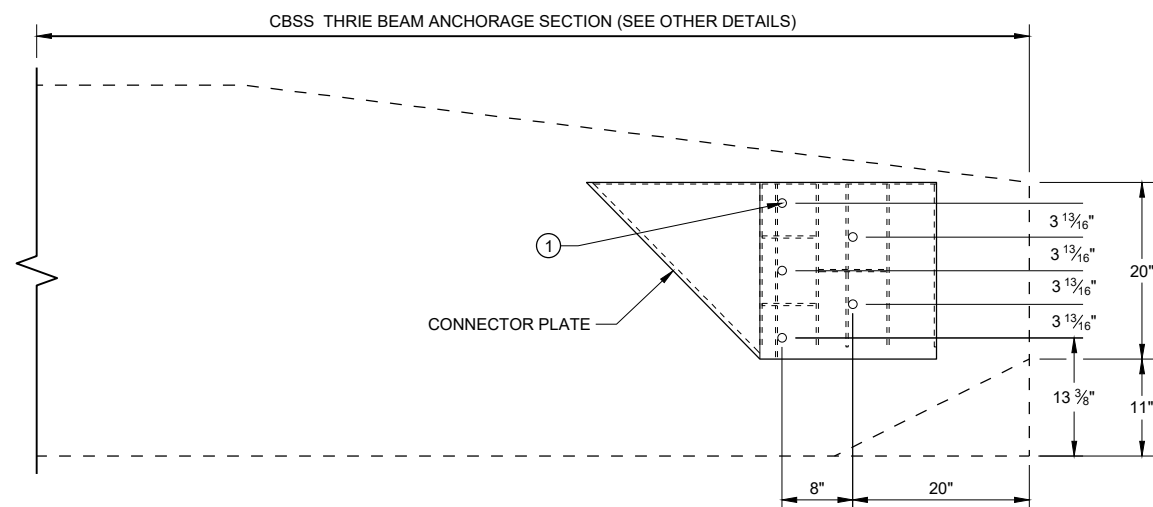
**FRONT VIEW**

**GENERAL NOTES**

CONSTRUCT PER STANDARD SPECIFICATION 614.

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

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



**CONNECTOR PLATE PLACEMENT**

**STEEL THRIE BEAM STRUCTURE APPROACH**

<b>MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

**BILL OF MATERIALS**

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5 1/2" X 7 1/2" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 1/2" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6 1/2"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

**GENERAL NOTES**

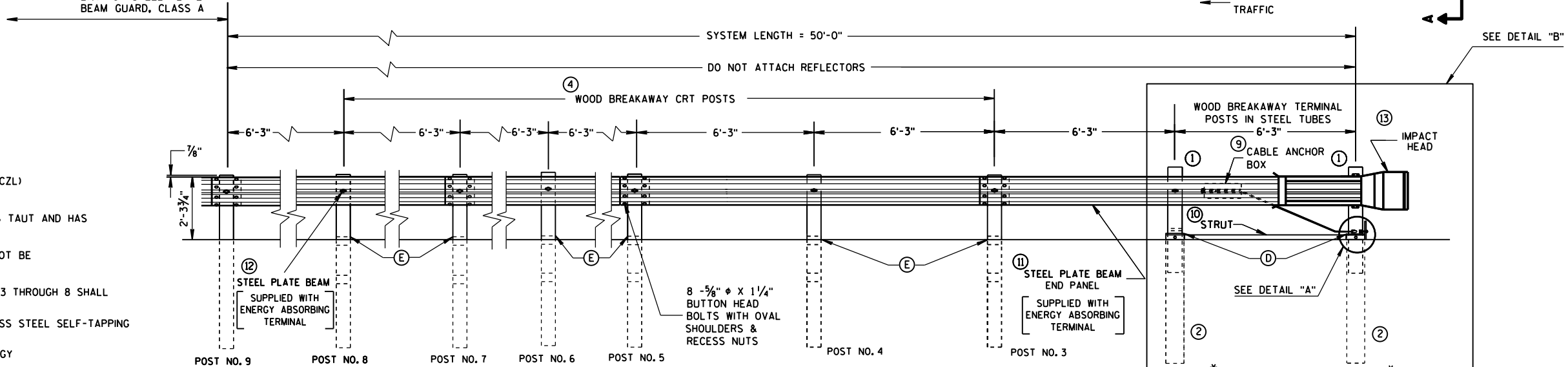
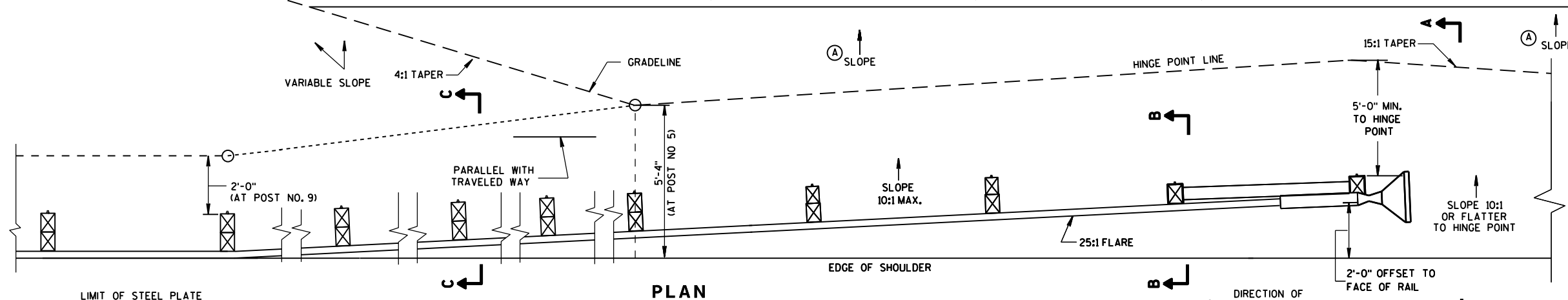
FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

- (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.
- (D) THE TOP OF THE STEEL TUBE ON POSTS 1 AND 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE 3/4" ABOVE THE FINISHED GROUND LINE.
- (F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.

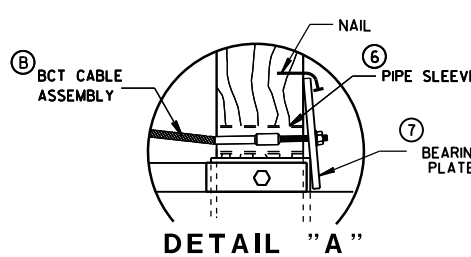
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.  
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

\*DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

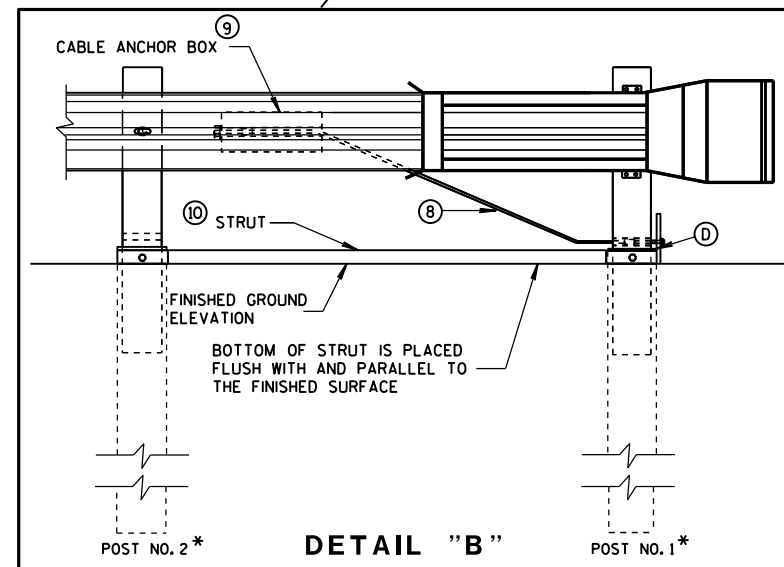
CLEAR ZONE LIMITS, EITHER AS SHOWN ELSEWHERE IN THE PLANS OR, IF NOT SHOWN ELSEWHERE IN THE PLANS, 15 FEET BEYOND THE HINGE POINT LINE



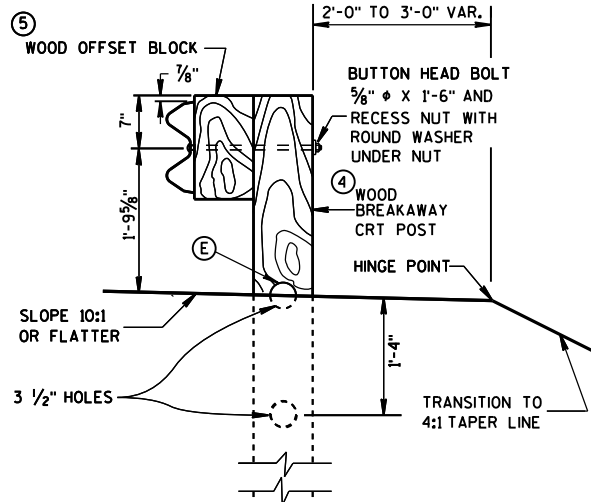
**ELEVATION**



**DETAIL "A"**

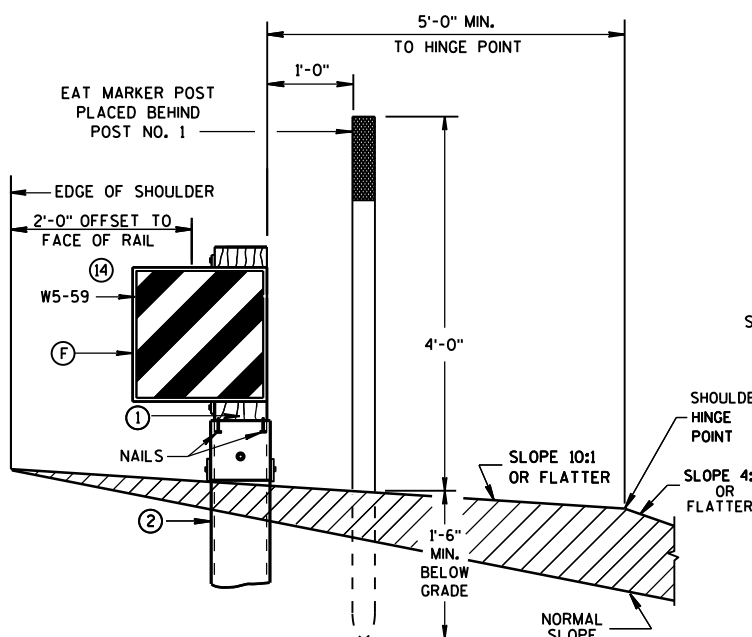


**DETAIL "B"**



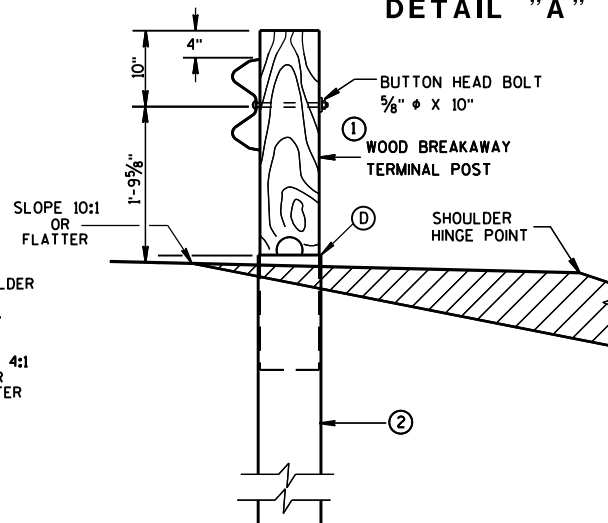
**SECTION C-C**

TYPICAL AT POST NOS. 6, 8



**SECTION A-A**

TYPICAL AT POST NO. 1\*

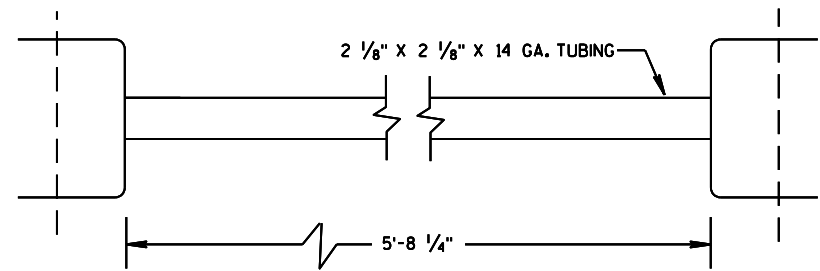


**SECTION B-B**

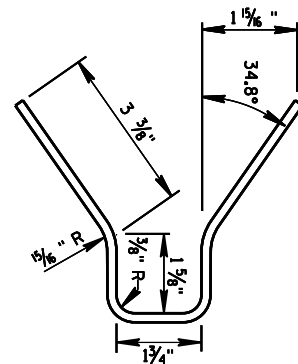
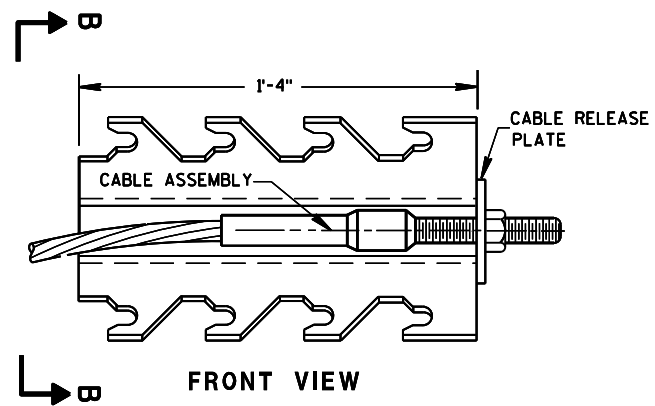
TYPICAL AT POST NO. 2\*

**STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL**

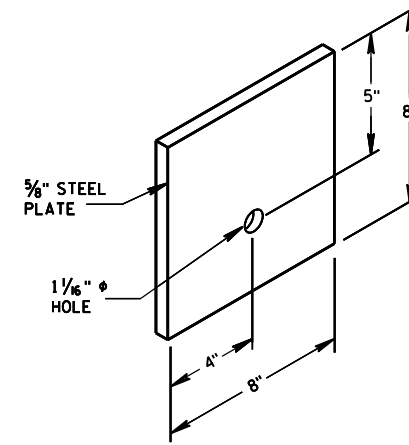
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⑩ STRUT DETAIL



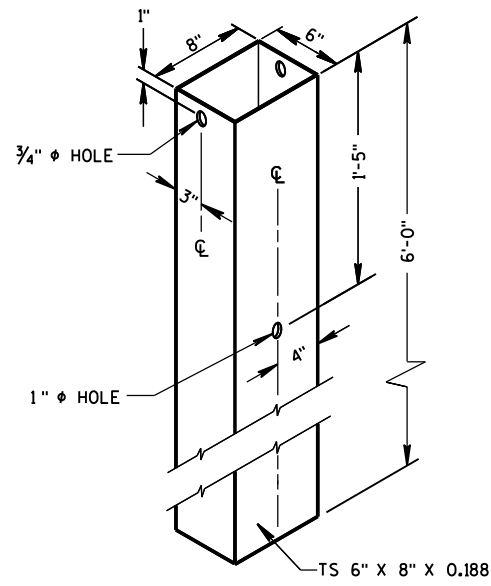
⑨ CABLE ANCHOR BOX



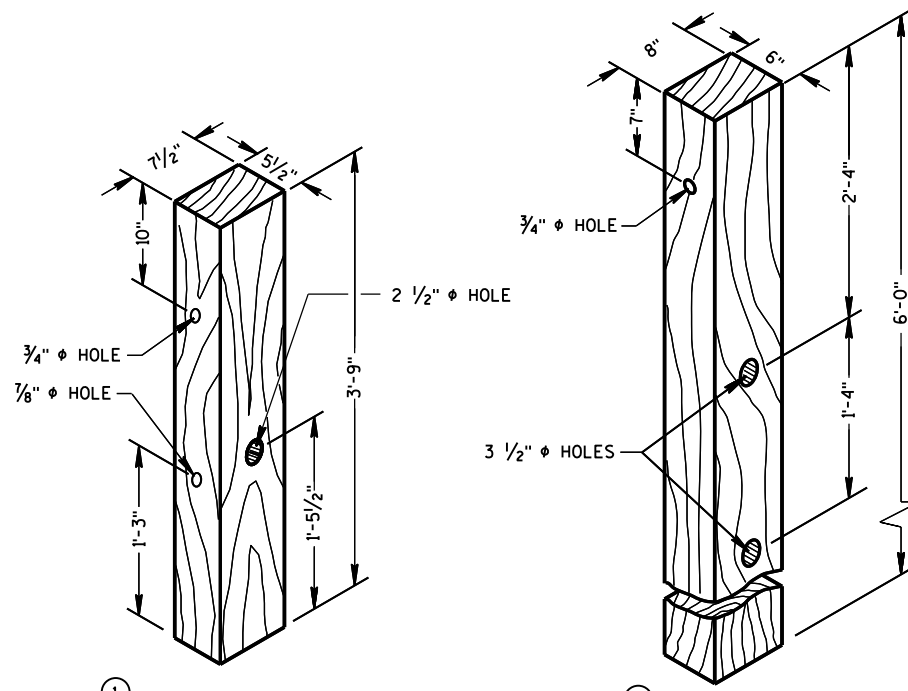
⑦ STEEL BEARING PLATE

6

6



② 72" STEEL TUBE  
(POSTS NO. 1-2)



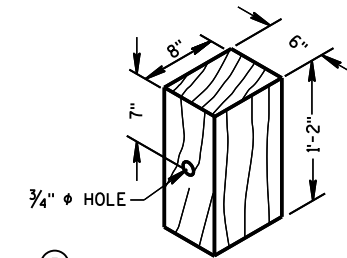
① TERMINAL POST

④ CRT POST  
(POSTS NO'S 5-8)

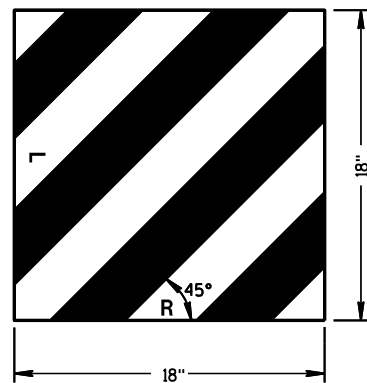
WOOD BREAKAWAY POSTS

GENERAL NOTES

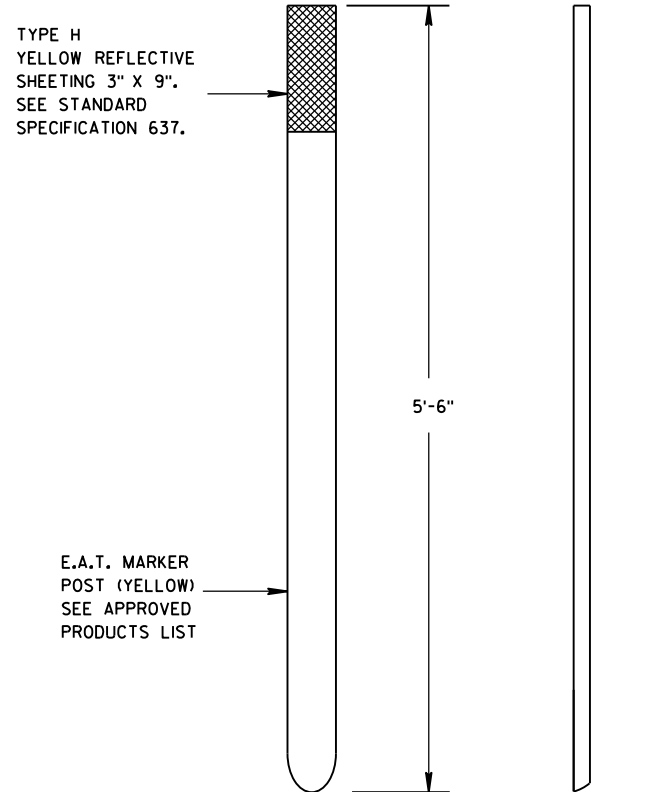
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



⑤ WOOD OFFSET BLOCK  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



⑭ REFLECTIVE SHEETING DETAILS



FRONT VIEW      SIDE VIEW

E.A.T. MARKER POST

STEEL PLATE BEAM GUARD  
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June 2017 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR



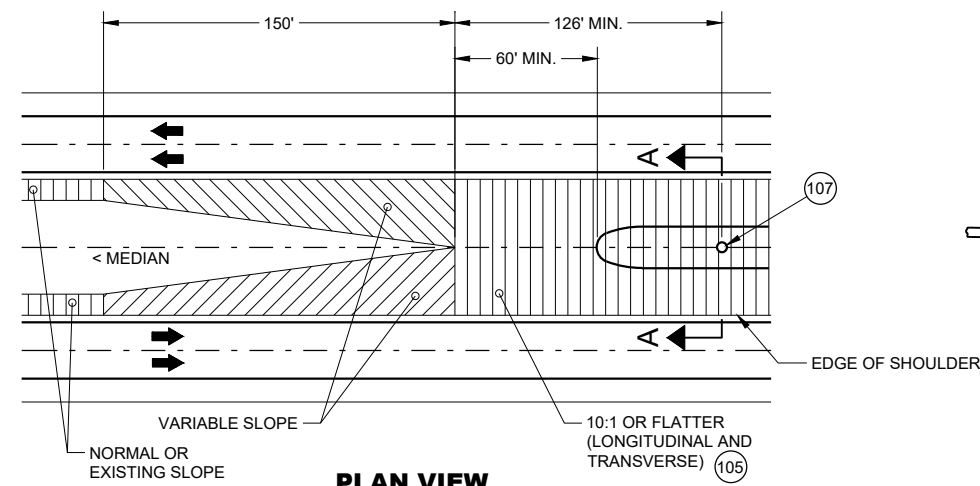
**GENERAL NOTES**

THRIE BEAM RAILS MAY NEED TO BE FIELD BENT TO FIT THE LOCATION.

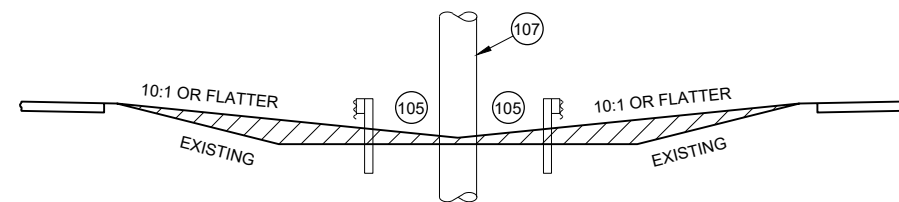
SEE STANDARD DETAIL DRAWINGS 14B26 SHEETS a-h.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2". MINIMUM DIAMETER OF THE ROCK REMOVAL IS 12" DIAMETER

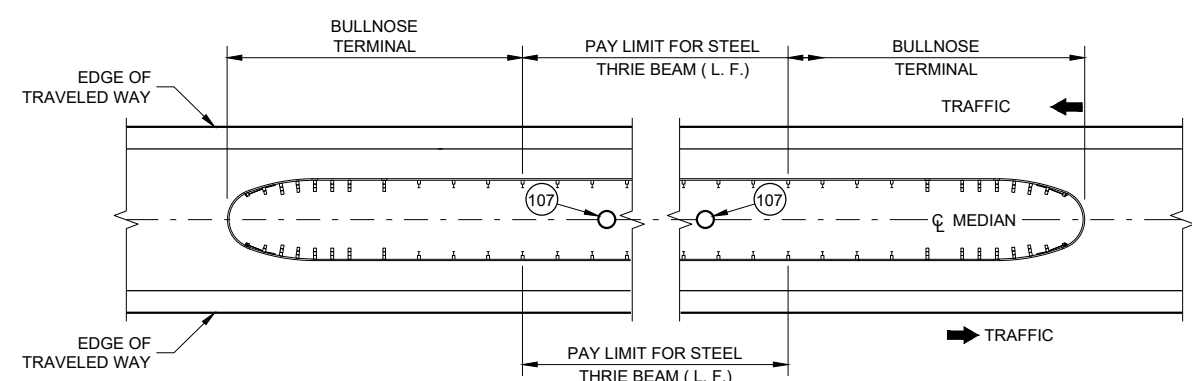
- [E1] UNBENT STANDARD THRIE BEAM RAIL B1 (POST 8 TO POST 10 AND POST 10 TO POST 12)
- [E2] SLOTTED THRIE BEAM RAIL E1 (POST 1 TO POST 1)
- [E3] SLOTTED THRIE BEAM RAIL B3 (POST 5 TO POST 8)
- [E4] SLOTTED THRIE BEAM RAIL E4 (POST 1 TO POST 5)
- [5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.
- (100) DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
- (101) U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- (102) NOSE CABLE WITH SWAGGED END BUTTONS.
- (103) NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- (104) THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
- (105) MINIMUM WORKING WIDTH 4' - 2".
- (106) MAX. WIDTH OF SYSTEM IS 14' - 2 1/2" MEASURED FROM THE BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.
- (107) FIXED OBJECT OR OTHER HAZARD.
- (108) PLAN IS TO PROVIDE STATION OFFSET TO CENTER OF POST 5 IN PLANS.



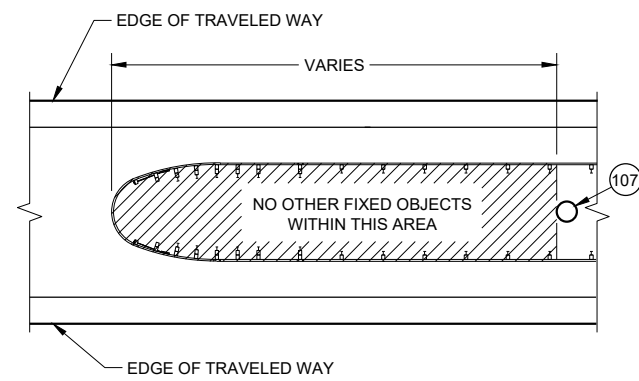
**PLAN VIEW GRADING AT BULLNOSE**  
(ALL INSTALLATIONS)



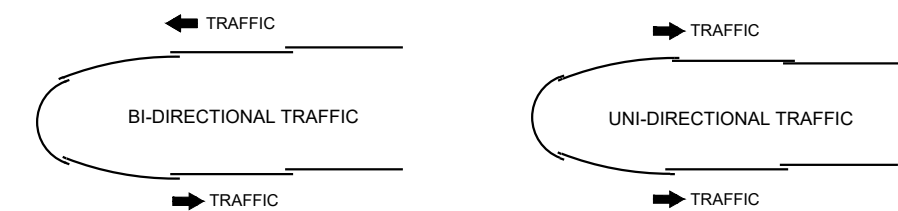
**SECTION A - A MEDIAN GRADING**  
(ALL INSTALLATIONS)



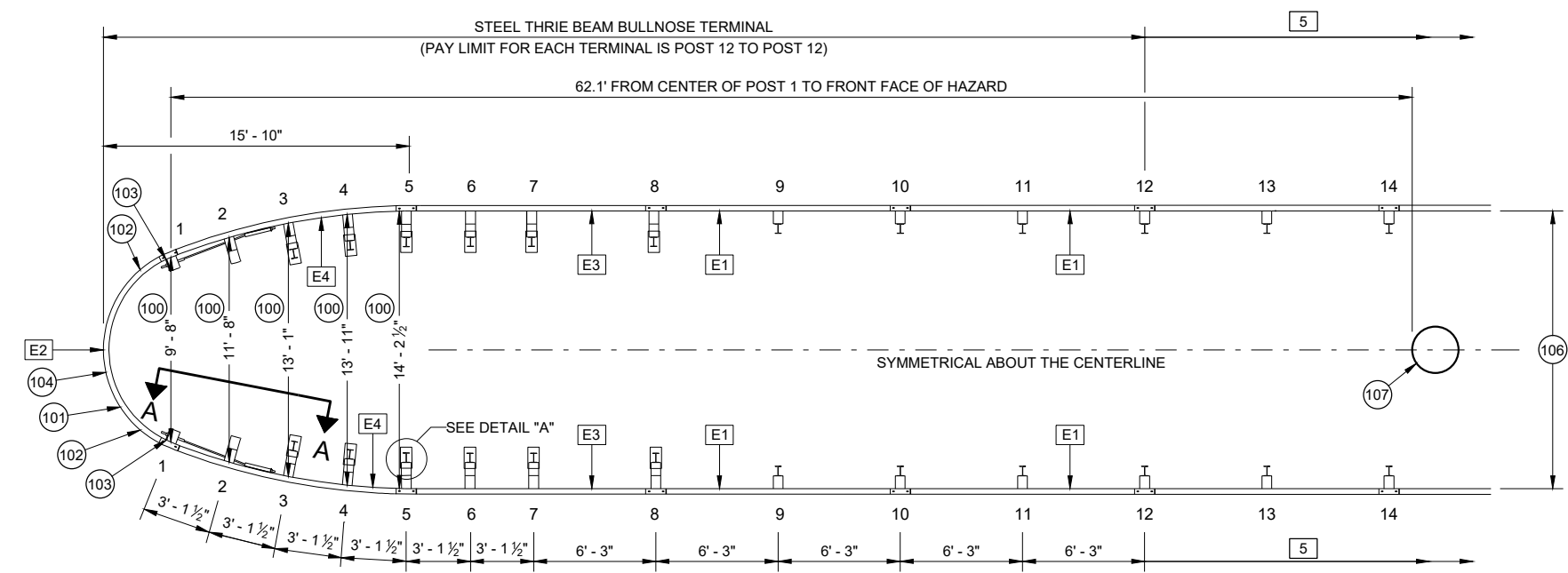
**MEDIAN HAZARD PROTECTION PAY LIMITS**



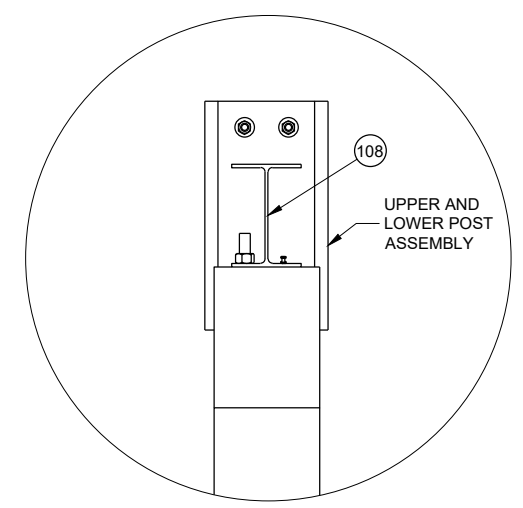
**HAZARD FREE AREA INSIDE BULLNOSE**



**LAPPING DETAIL**

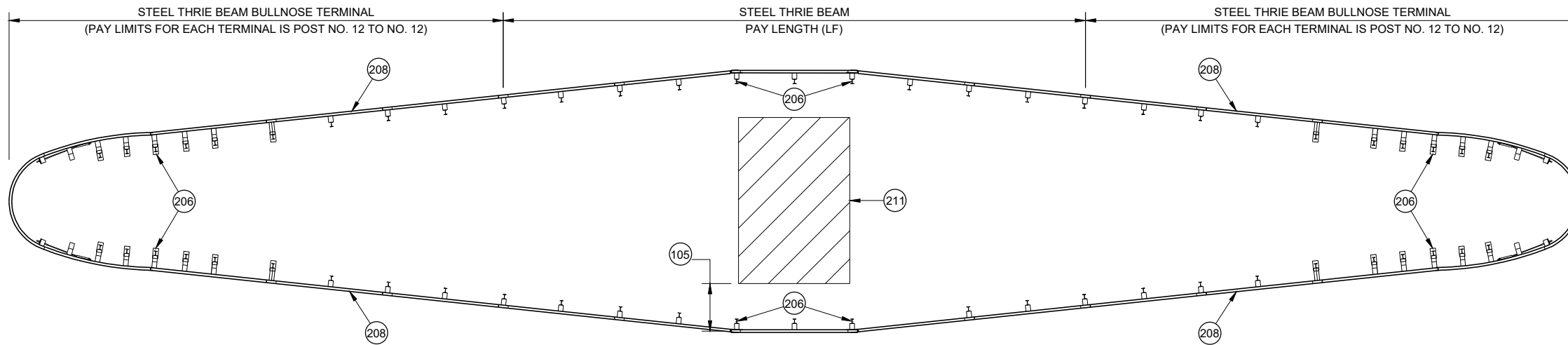


**PLAN VIEW TYPICAL BULLNOSE LAYOUT**



**DETAIL "A"**

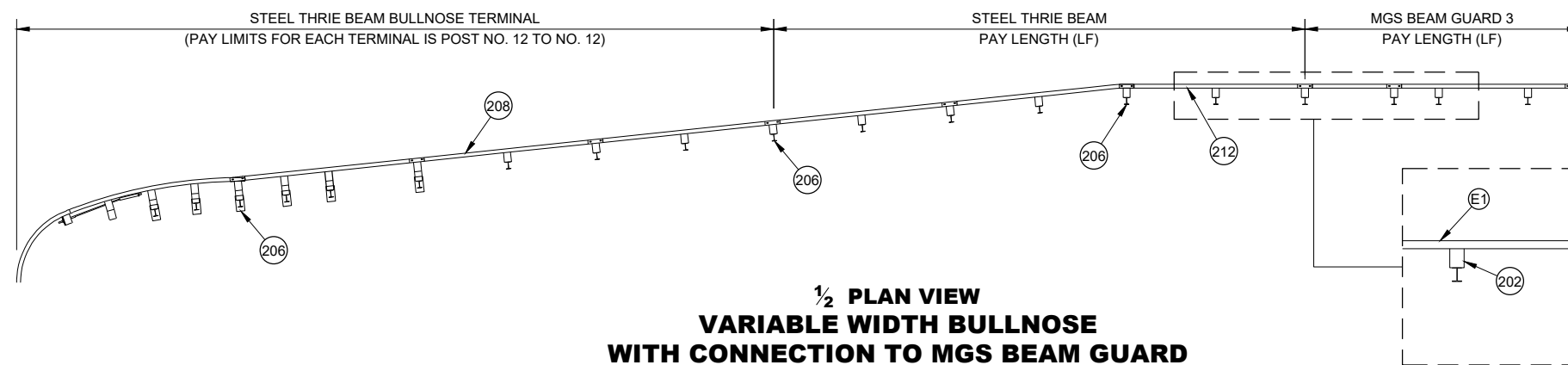
**STEEL THRIE BEAM BULLNOSE TERMINAL**  
  
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



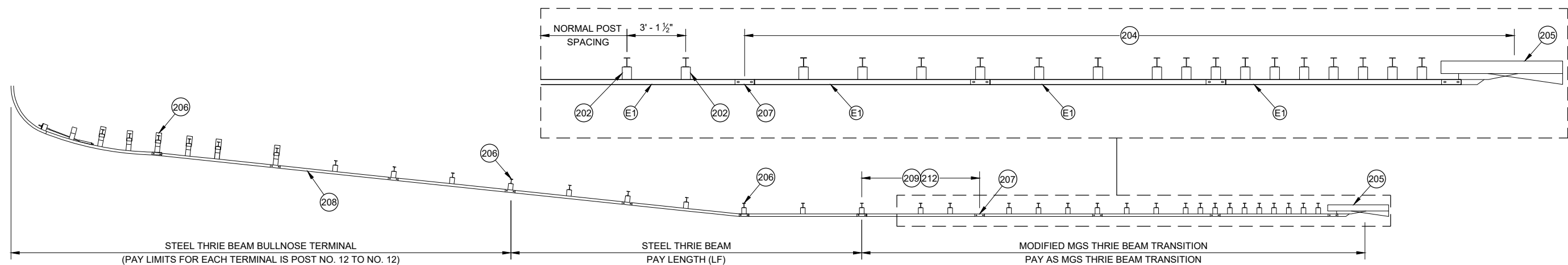
**VARIABLE WIDTH BULLNOSE**

**GENERAL NOTES**

- 200 6' - 3" ASYMMETRICAL 10-GAUGE W-BEAM TO THRIE BEAM GUARD TRANSITION. SEE SDD 14B45 FOR MORE INFORMATION.
- 201 W-BEAM RAIL. SEE SDD 14B42 FOR MORE INFORMATION.
- 202 SEE POST NO. 9 AND ALL STEEL THRIE BEAM POST BEYOND DETAIL.
- 203 SEE SDD 14B42 FOR INSTALLATION INFORMATION.
- 204 SEE SDD 14B45 FOR INSTALLATION DETAILS. REPLACE ASYMMETRICAL W-BEAM TO THRIE BEAM TRANSITION AND W-BEAM RAIL WITH E1. PAY FOR MODIFIED THRIE BEAM TRANSITION.
- 205 CONCRETE BARRIER OR BRIDGE RAIL.
- 206 SEE PLAN FOR STATION AND OFFSET TO CENTER OF POST.
- 207 SEE PLAN FOR STATION AND OFFSET TO CENTER OF SPLICE.
- 208 SEE PLAN FOR FLARE RATE.
- 209 A MINIMUM OF 25 FT OF THRIE BEAM TANGENT BEFORE TRANSITIONING TO BEAM GUARD OR THRIE BEAM TRANSITION.
- 210 NOT ALL BULLNOSE HARDWARE SHOWN. SEE OTHER SHEETS IN 14B26.
- 211 WIDER HAZARD TO BE SHIELDED.
- 212 TRANSITION RAIL HEIGHT TO 31" OVER THE LENGTH OF A 12' - 6" BEAM SECTION.



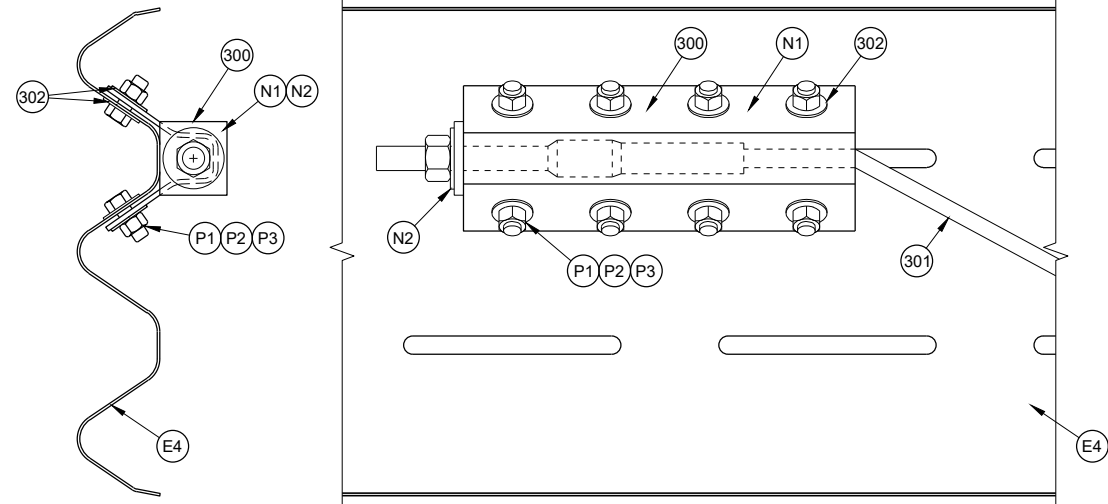
**1/2 PLAN VIEW  
VARIABLE WIDTH BULLNOSE  
WITH CONNECTION TO MGS BEAM GUARD**



**1/2 PLAN VIEW  
VARIABLE WIDTH BULLNOSE  
WITH CONNECTION TO RIGID BARRIER**

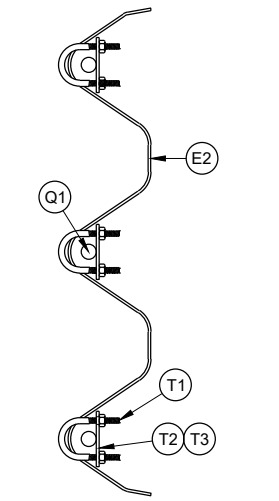
**STEEL THRIE BEAM  
BULLNOSE TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

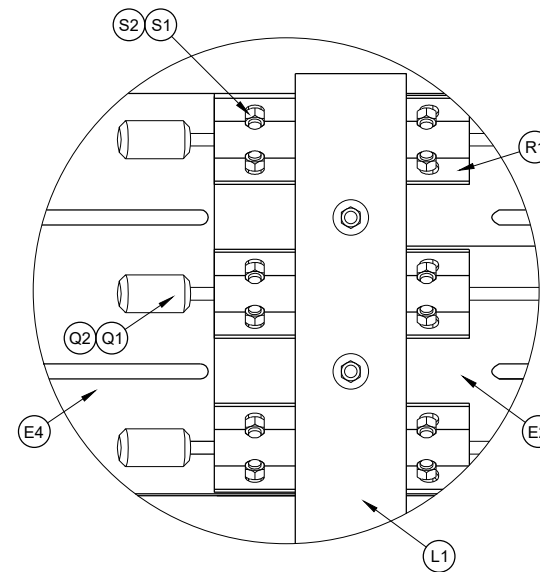


**PROFILE VIEW  
CABLE ANCHOR  
ASSEMBLY CONNECTION**

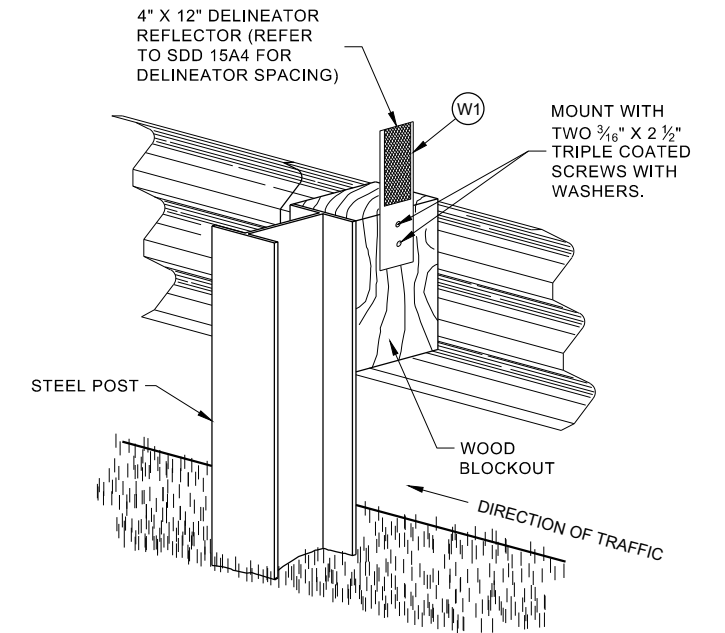
**CABLE ANCHOR ASSEMBLY**



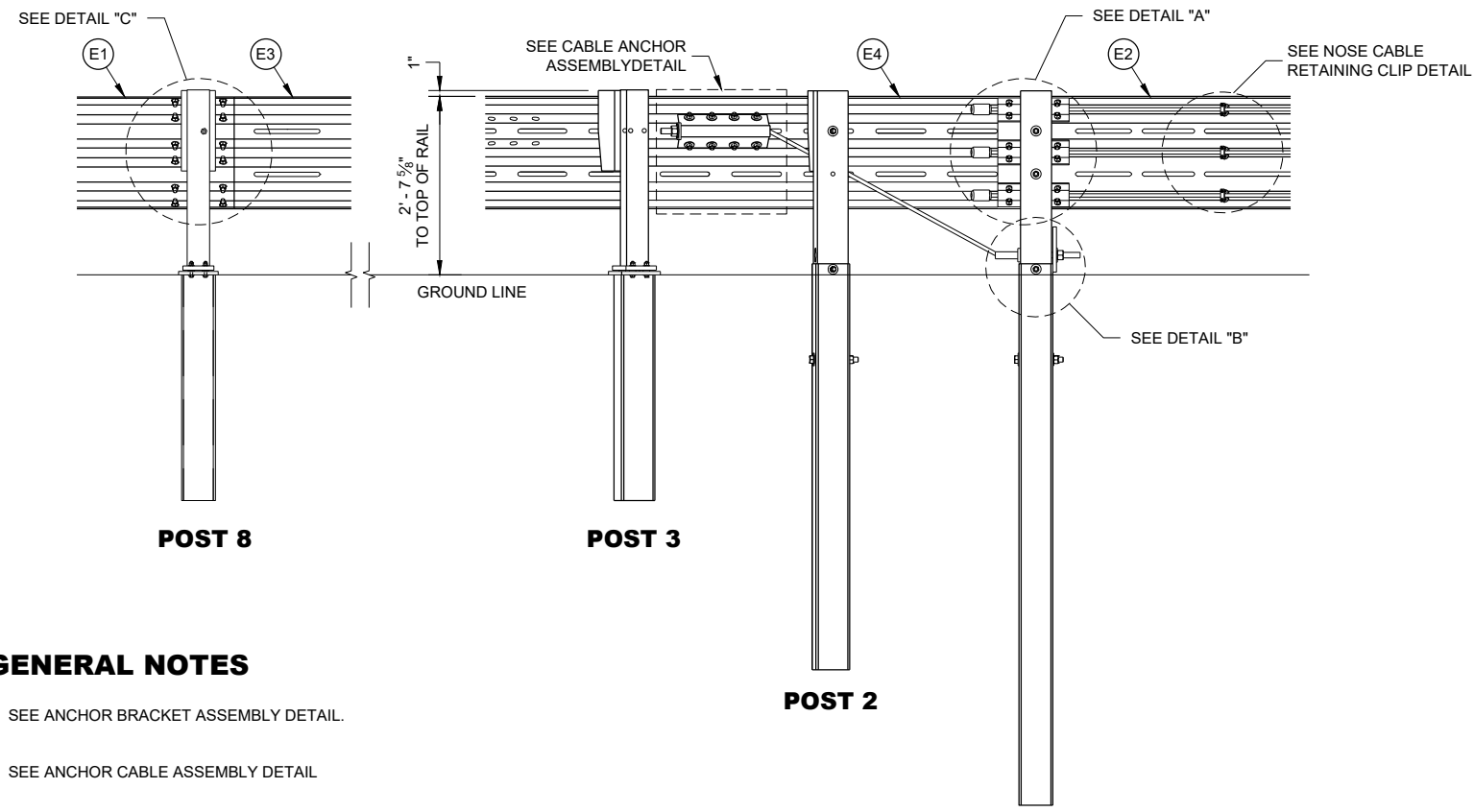
**NOSE CABLE  
RETAINING CLIP**



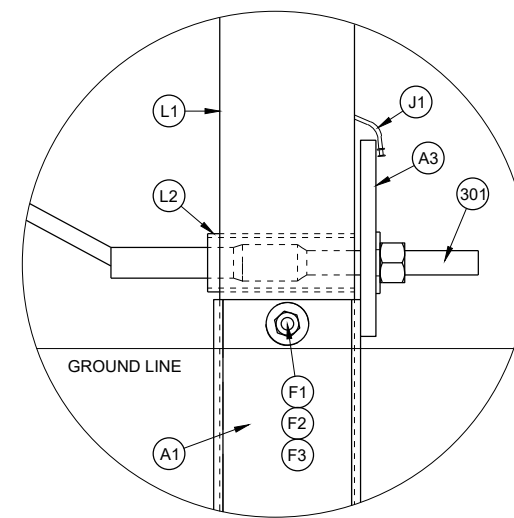
**DETAIL "A"**



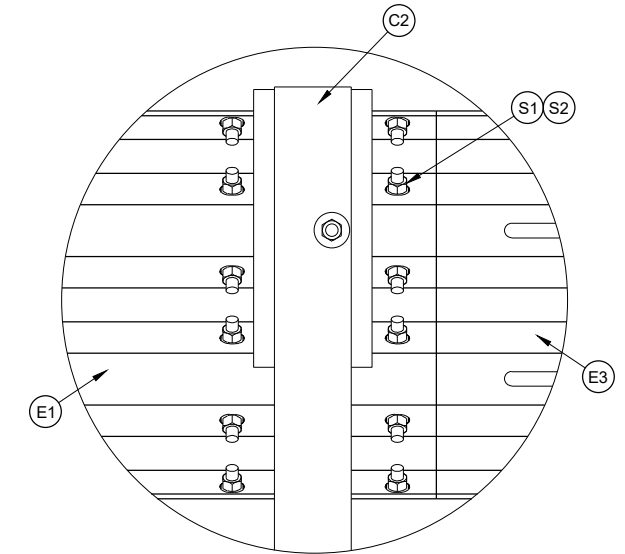
**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**



**CROSS SECTION A - A**



**DETAIL "B"**



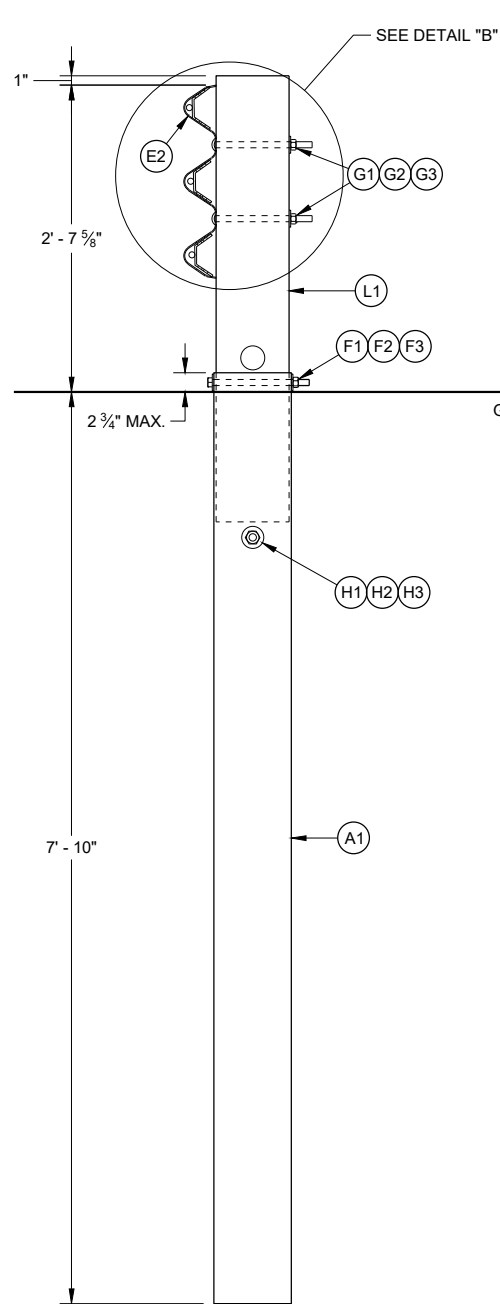
**DETAIL "C"  
THRIE BEAM SPLICE**

**GENERAL NOTES**

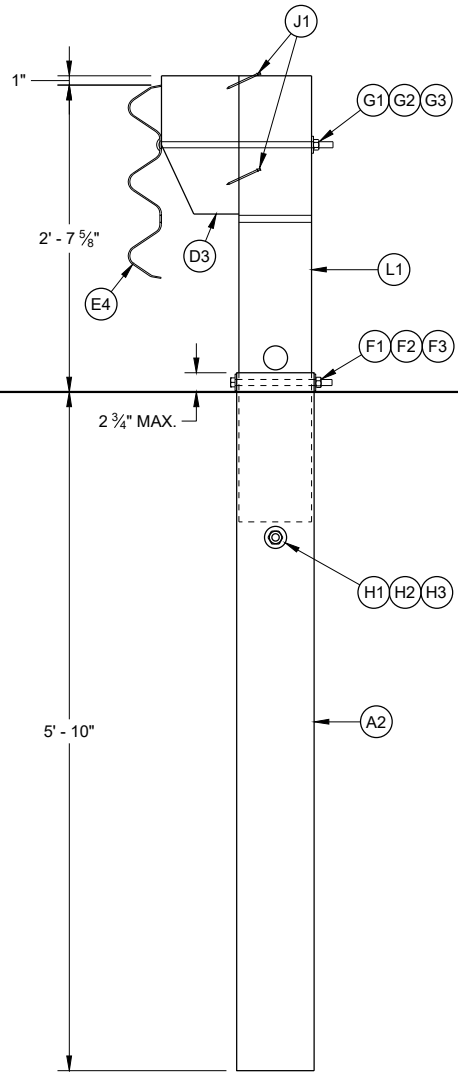
- 300 SEE ANCHOR BRACKET ASSEMBLY DETAIL.
- 301 SEE ANCHOR CABLE ASSEMBLY DETAIL
- 302 ONE WASHER BETWEEN BOLT HEAD AND RAIL AND BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.
- 303 ONE WASHER BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

**STEEL THRIE BEAM  
BULLNOSE TERMINAL**

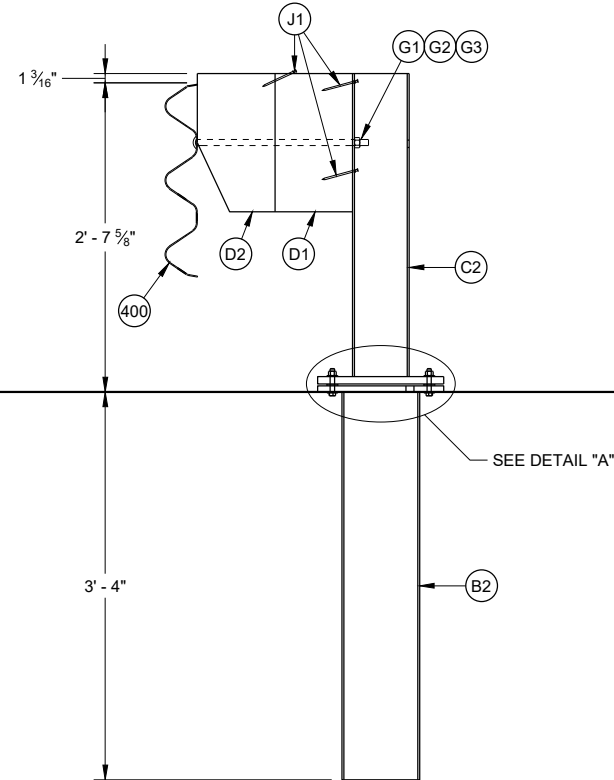
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



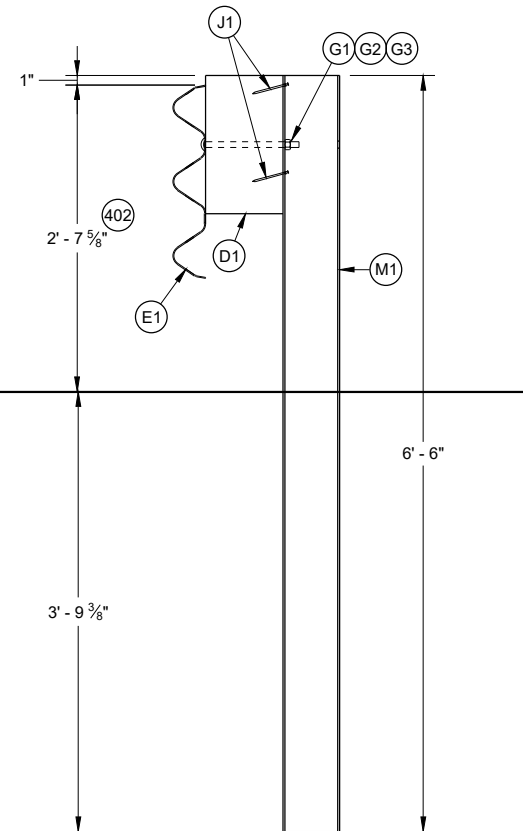
**POST NO. 1**



**POST NO. 2**



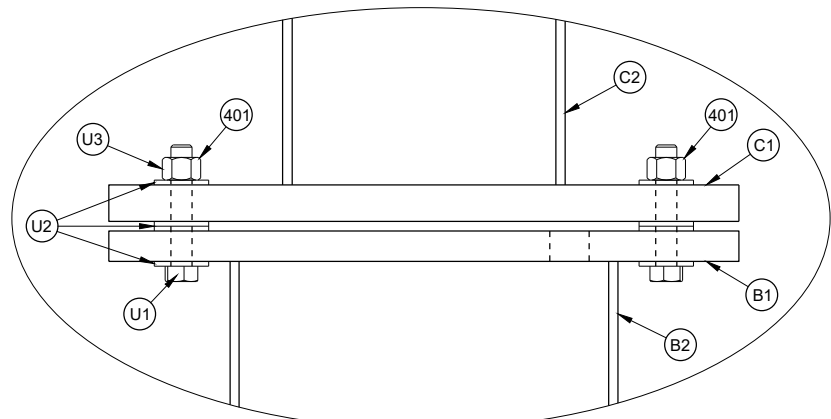
**POST NOS. 3-8**



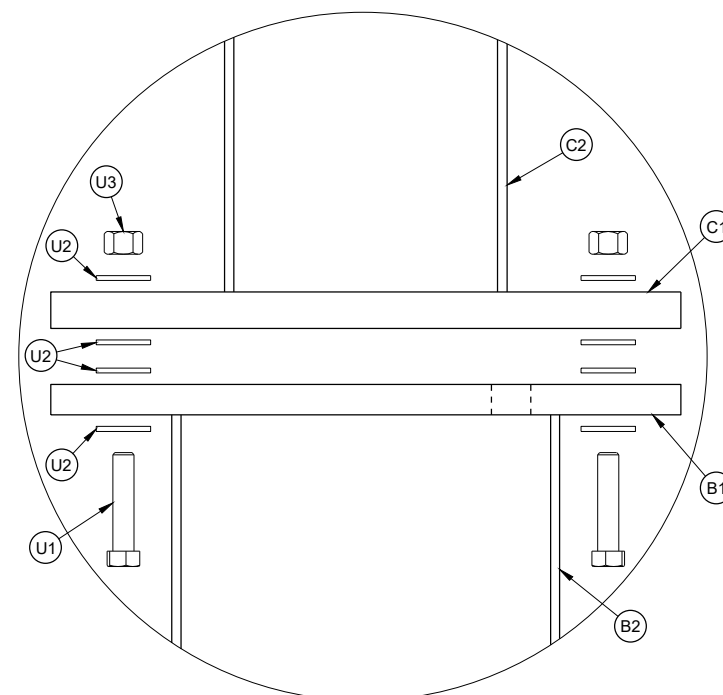
**POST NOS. 9 AND ALL STEEL THRIE BEAM POSTS BEYOND**

**GENERAL NOTES**

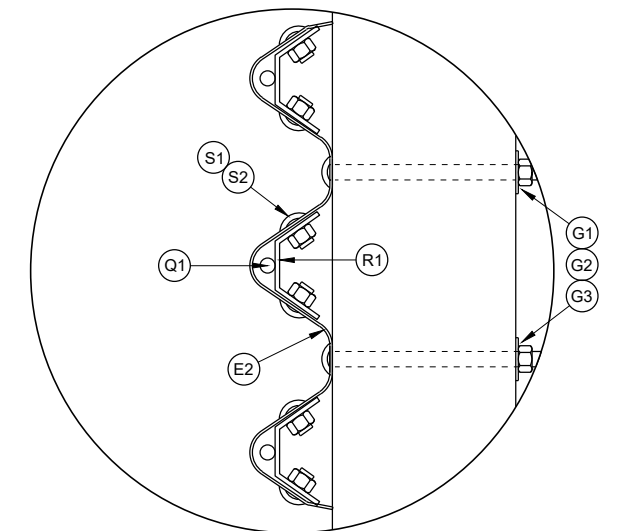
- (400) RAIL CAN BE E3 OR E4 DEPENDING ON POST LOCATION.
- (401) TORQUE BOLD BETWEEN 60-75 FT-LB
- (402) HEIGHT WILL VARY WITHIN HEIGHT TRANSITION TO OTHER HARDWARE. SEE NOTE 213, SHEET "b".



**DETAIL "A"**



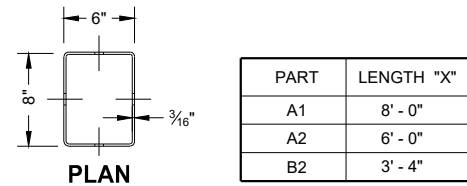
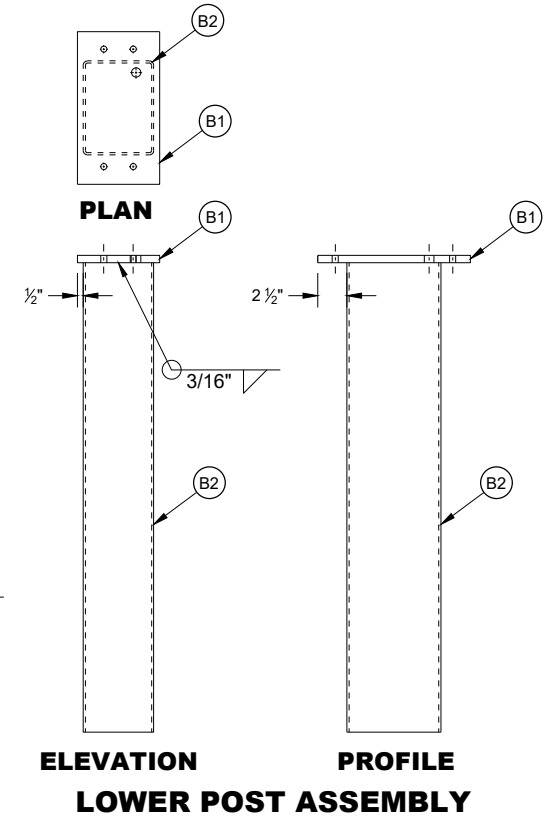
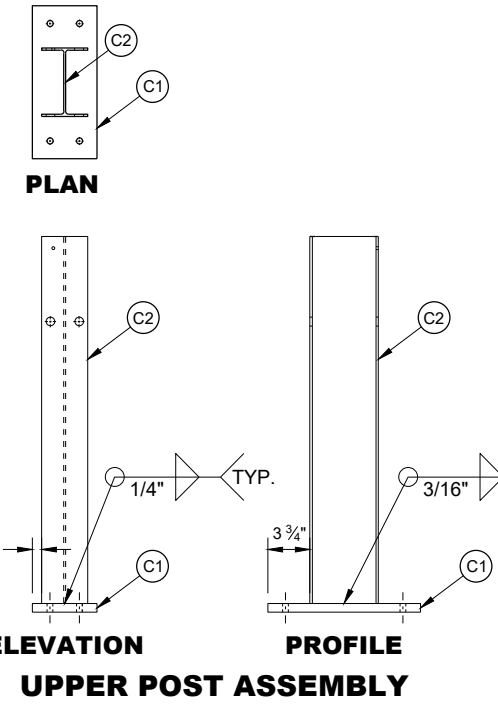
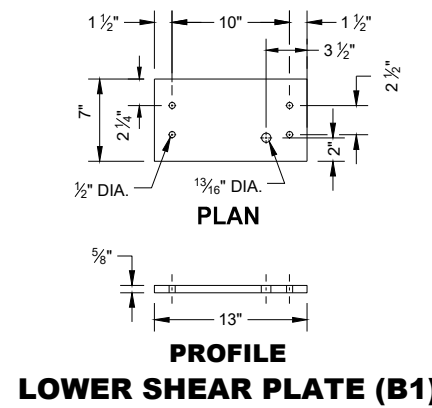
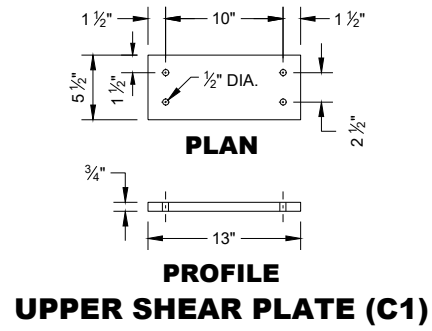
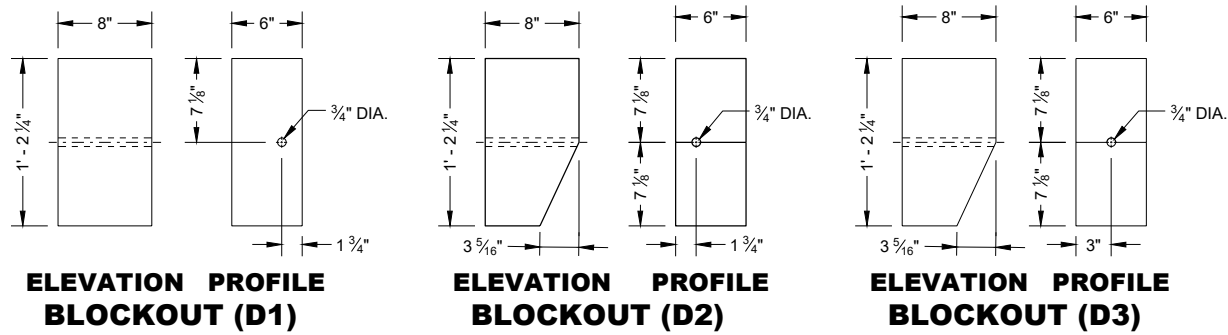
**EXPLODED VIEW  
DETAIL "A"**



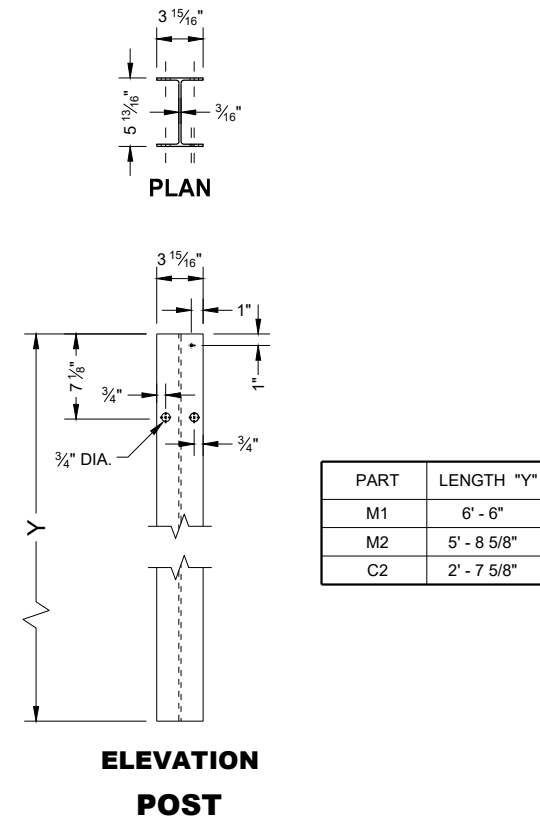
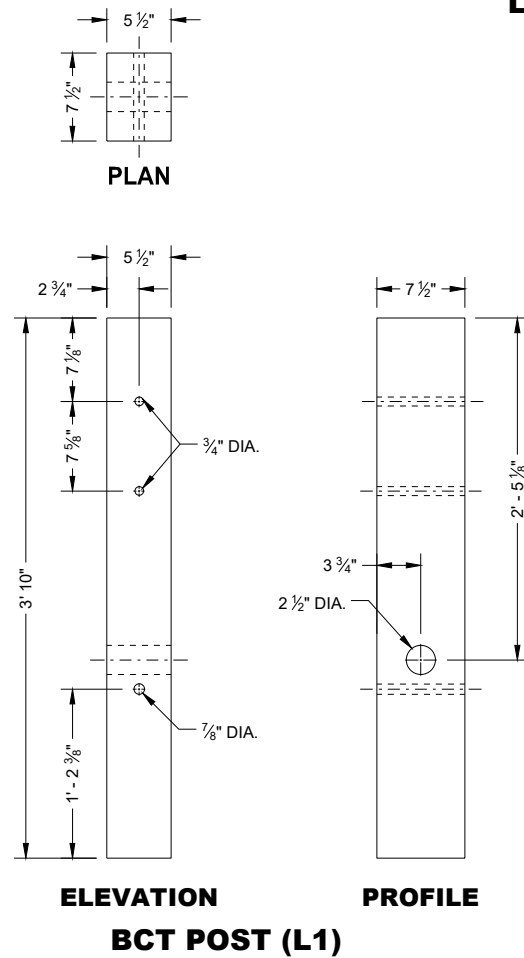
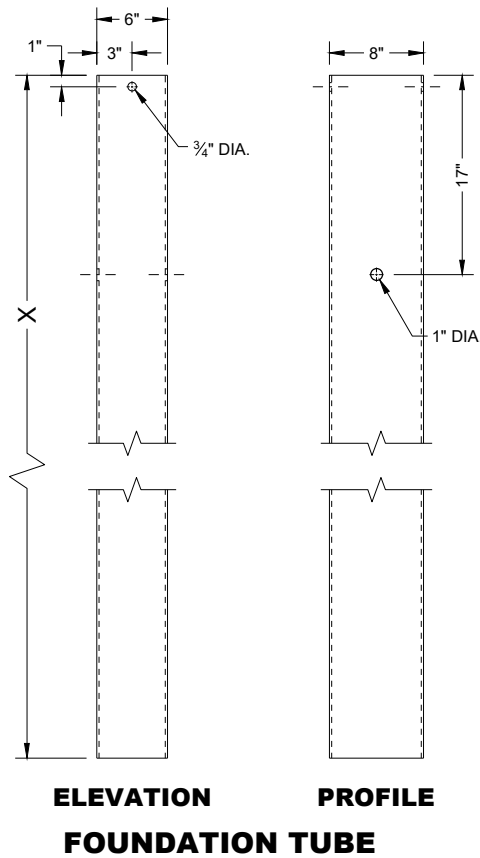
**DETAIL "B"**

**STEEL THRIE BEAM  
BULLNOSE TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



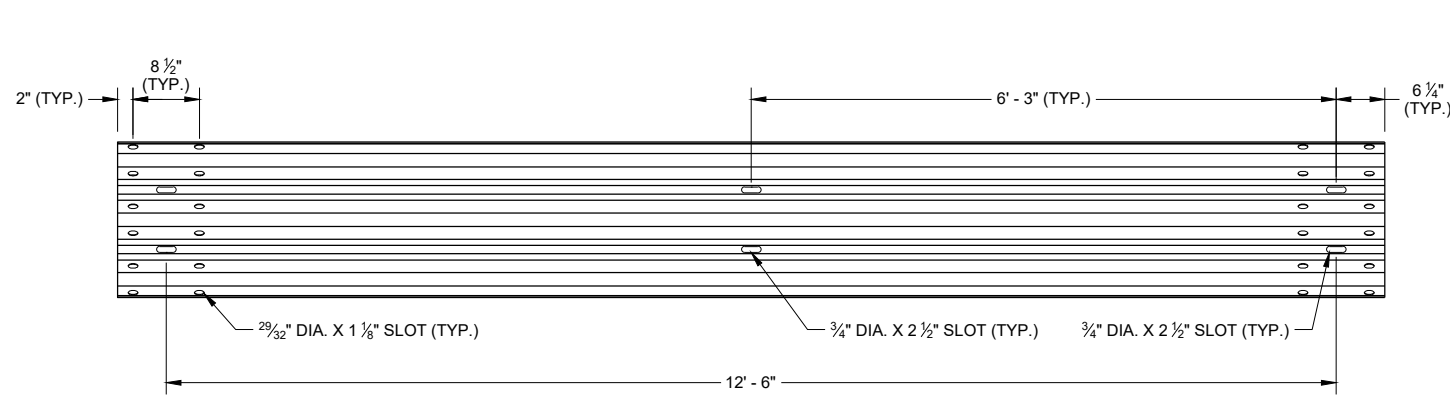
PART	LENGTH "X"
A1	8' - 0"
A2	6' - 0"
B2	3' - 4"



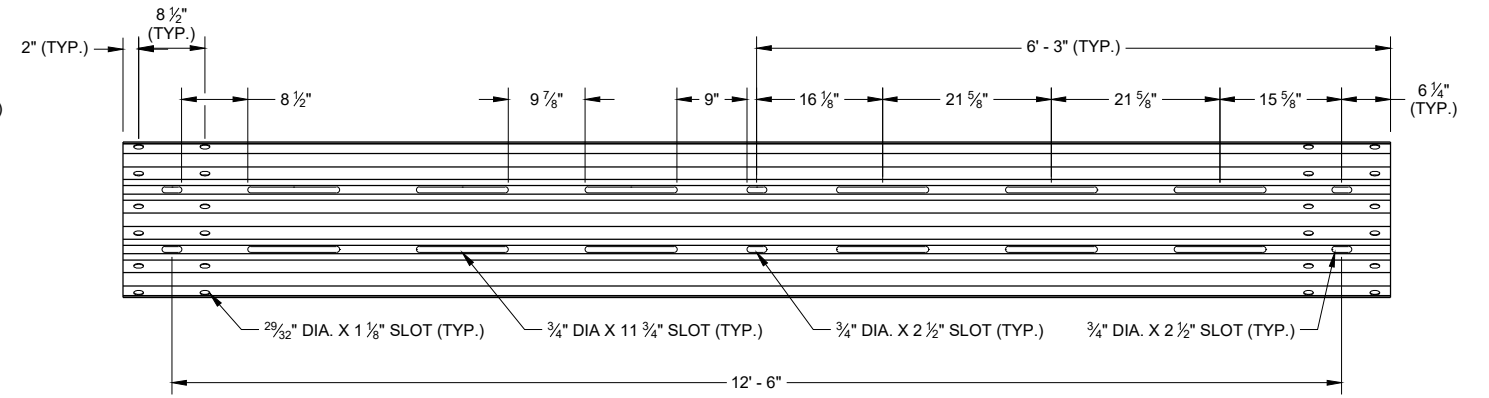
PART	LENGTH "Y"
M1	6' - 6"
M2	5' - 8 5/8"
C2	2' - 7 5/8"

**STEEL THRIE BEAM  
BULLNOSE TERMINAL**

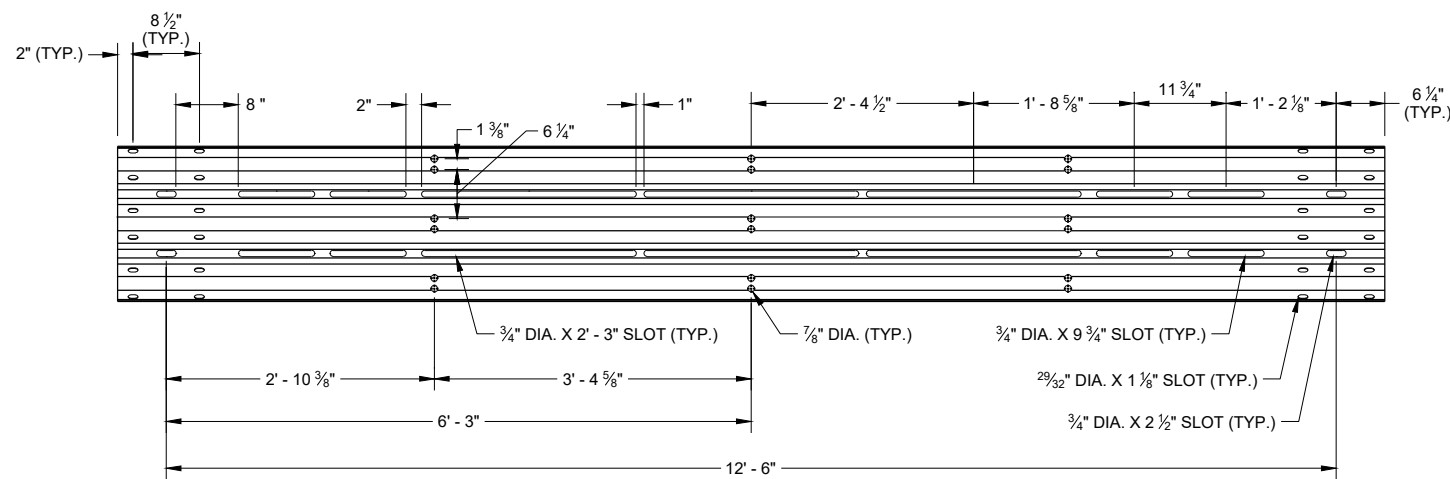
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



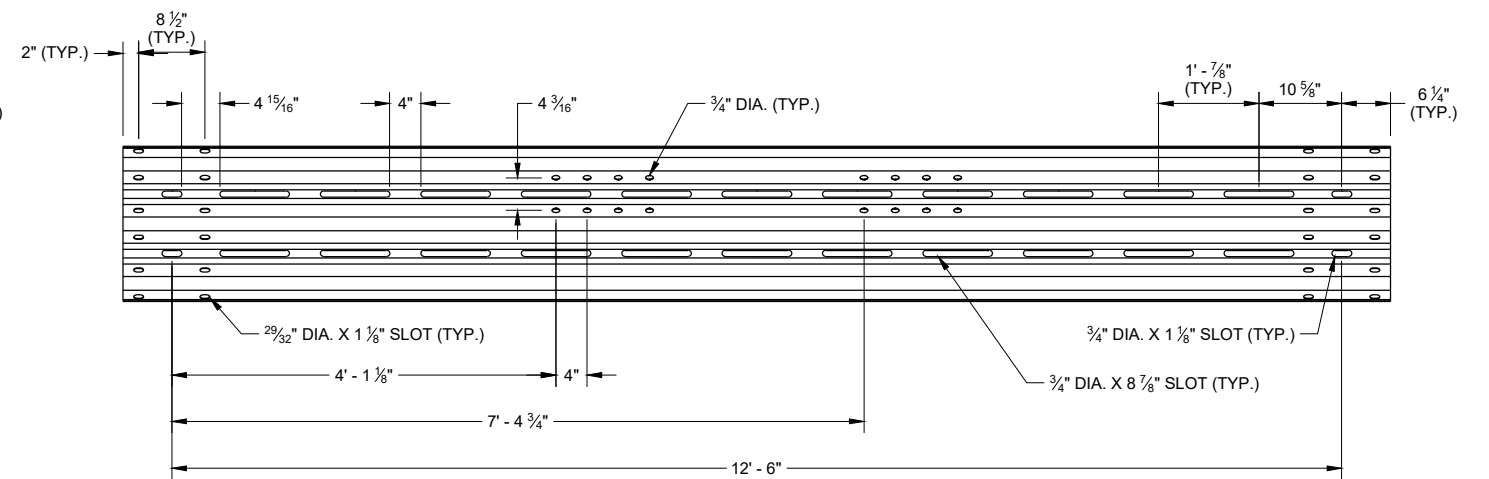
**SLOTTED THRIE BEAM RAIL E1**



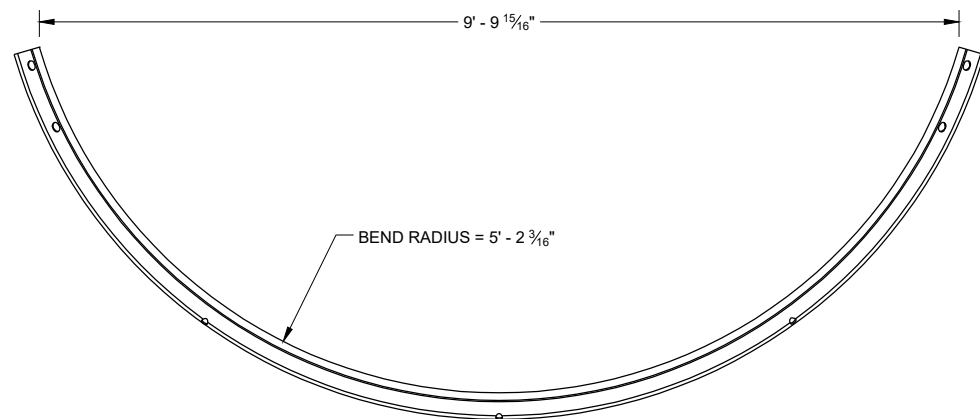
**SLOTTED THRIE BEAM RAIL E3**



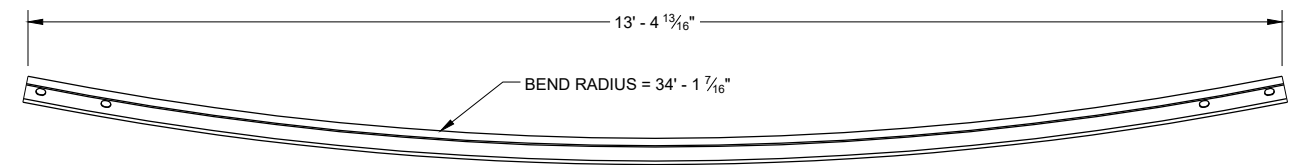
**ELEVATION VIEW NON - RADIUSED  
SLOTTED THRIE BEAM RAIL E2**



**ELEVATION VIEW NON - RADIUSED  
SLOTTED THRIE BEAM RAIL E4**



**PLAN VIEW  
SLOTTED THRIE BEAM RAIL E2**

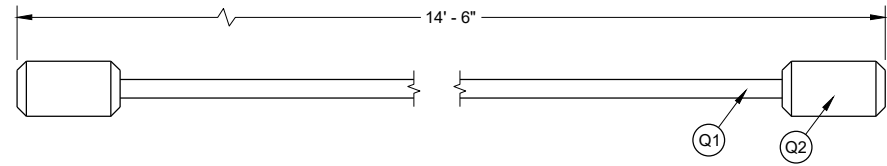


**PLAN VIEW  
SLOTTED THRIE BEAM RAIL E4**

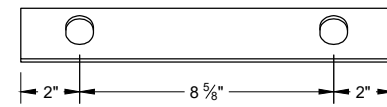
**STEEL THRIE BEAM  
BULLNOSE TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

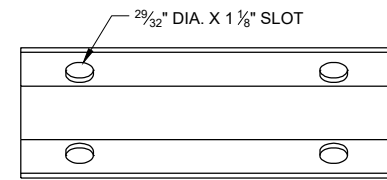




**NOSE CABLE AND SWAGE BUTTON**

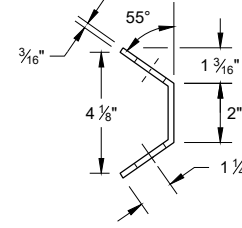


**PLAN VIEW**

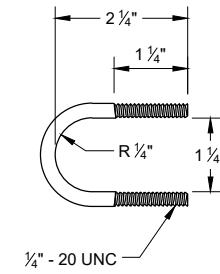


**ELEVATION VIEW**

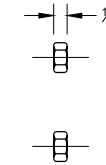
**NOSE CABLE ANCHOR (R1)**



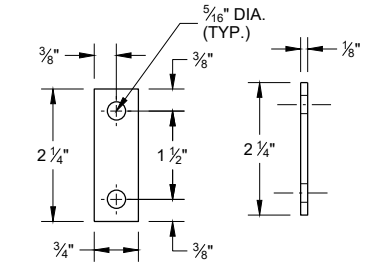
**PROFILE VIEW**



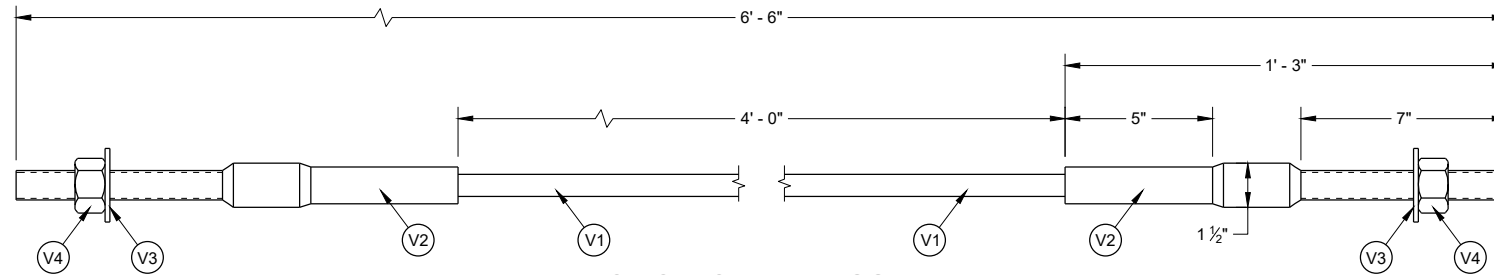
**U - BOLT (T1)**



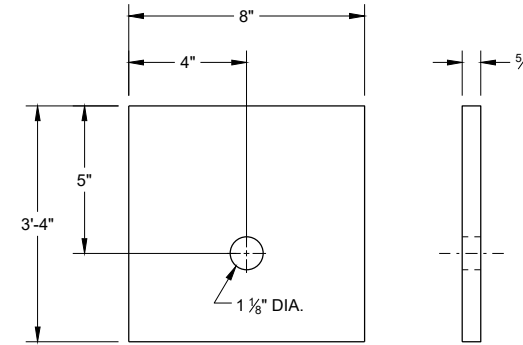
**U - BOLT NUT (T3)**



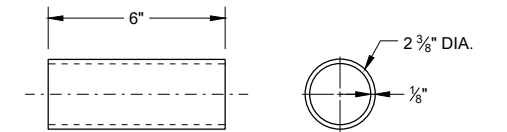
**ELEVATION VIEW PROFILE VIEW  
U - BOLT PLATE WASHER (T2)**



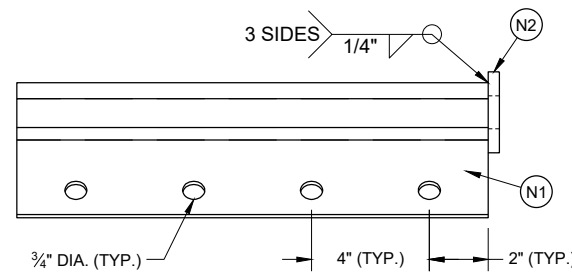
**ANCHOR CABLE ASSEMBLY**



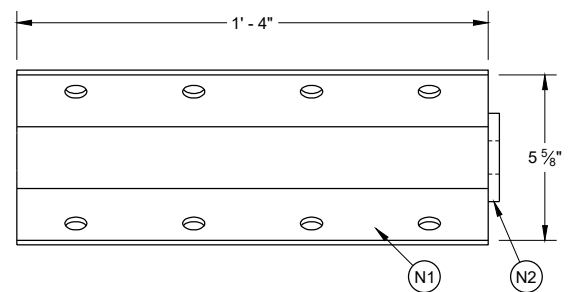
**ELEVATION VIEW PROFILE VIEW  
BCT BEARING PLATE (A3)**



**ELEVATION VIEW PROFILE VIEW  
BCT POST SLEEVE (L2)**

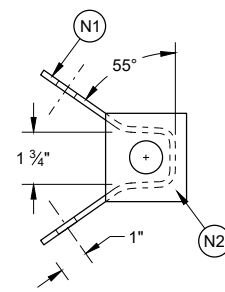


**PLAN VIEW**

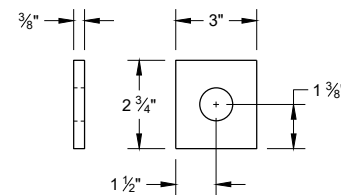


**ELEVATION VIEW**

**ANCHOR BRACKET ASSEMBLY (N1)**



**PROFILE VIEW**



**ANCHOR BRACKET END PLATE (N2)**

6

6

SDD 14B26 - 05g

SDD 14B26 - 05g

**STEEL THRIE BEAM  
BULLNOSE TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

## BILL OF MATERIALS LIST

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
A1	LONG FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A2	FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A3	BEARING PLATE AT 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
B1	LOWER SLIP POST 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
B2	LOWER SLIP POST ASSEMBLY - TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
C1	UPPER SLIP POST 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
C2	UPPER SLIP POST ASSEMBLY - POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 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
D1	BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D2	TAPERED BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D3	TAPERED BLOCK FOR BCT POST - WOOD	WISDOT SPEC. 614
E1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E2	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
E3	THRIE BEAM RAIL - PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E4	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
F1	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE 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
F2	5/8" DIA. GROUND STRUT AND YOKE 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)
F3	GROUND STRUT AND YOKE 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
G1	5/8" DIA. 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 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G2	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 TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G3	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
H1	7/8" DIA. SOIL 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 7/8" ASTM A563DH OR SAE J995 GRADE 5
H2	SOIL TUBE 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 7/8" ASTM F844 TYPE 1 (HARDEN WASHER ONLY)
H3	SOIL TUBE 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 7/8" ASTM A563DH OR SAE J995 GRADE 5
J1	16D DOUBLE HEAD NAIL	ASTM A153 HOT DIPPED CLASS D DOUBLE HEAD ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)
L1	BCT TIMBER POST	WISDOT SPEC. 614 S4S FINISH ON 4 SIDE
L2	BCT POST SLEEVE	AASHTO M111/ASTM A123 2 3/8" OD ASTM 53 GRADE B
M1	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 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	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 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
N1	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
N2	ANCHOR BRACKET - 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

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
P1	5/8" DIA. 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 HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
P2	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)
P3	SOIL TUBE 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
Q1	5/8" DIA. NOSE CABLE	6X19 AASHTO M30 / ASTM A741 XIPS INDEPENDENT WIRE CORE (IWRC) PR 6X25 XIPS, IWRC NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
Q2	NOSE CABLE-SWAGE BUTTON	COLD TUFF BUTTON, S-409 SIZE NO. 12 STOCK NUMBER 1040395 OR ANY OTHER SIMILAR SIZED WAGED-GRIP-BUTTON FERRULES. ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FIELD SWAGED PER MANUFACTURERS RECOMMENDATION. NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
R1	NOSE CABLE 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
S1	5/8" DIA. SPLICE BOLT - 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
S2	SPLICE - 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 5/8" ASTM A563DH OR SAE J995 GRADE 5
T1	1/4" DIA. NOSE CABLE - U 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
T2	U-BOLT - PLATE 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)
T3	U-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
U1	7/16" DIA. SLIP POST ASSEMBLY - BREAKAWAY BOLT	ASTM A153 OR B695 CLASS 55 OR F2329 UNC FULLY THREADED HEX HEAD TAP BOLT ASTM A449 OR SAE J429 GRADE 5
U2	7/16" DIA. SLIP POST ASSEMBLY - BREAKAWAY BOLT - WASHER	ASTM F436 TYPE I (HARDEN TYPICALLY USED WITH STEEL) GALV. AASHTO M111/ASTM A 123 OR GALV. HOT DIP. TO POST BOLT CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 55, F2329
U3	SLIP POST ASSEMBLY - 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 / STM 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
V1	3/4" DIA. BCT CABLE	AASHTO M30 / ASTM A741 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN BREAKING STRENGTH OF 42.7 KIPS
V2	ANCHOR CABLE-SWAGE FITTING	UNC ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FACTORY SWAGED. 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."
V3	1" DIA. ANCHOR CABLE-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)
V4	1" DIA. ANCHOR CABLE-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
W1	REFLECTOR	SEE SDD 15A4

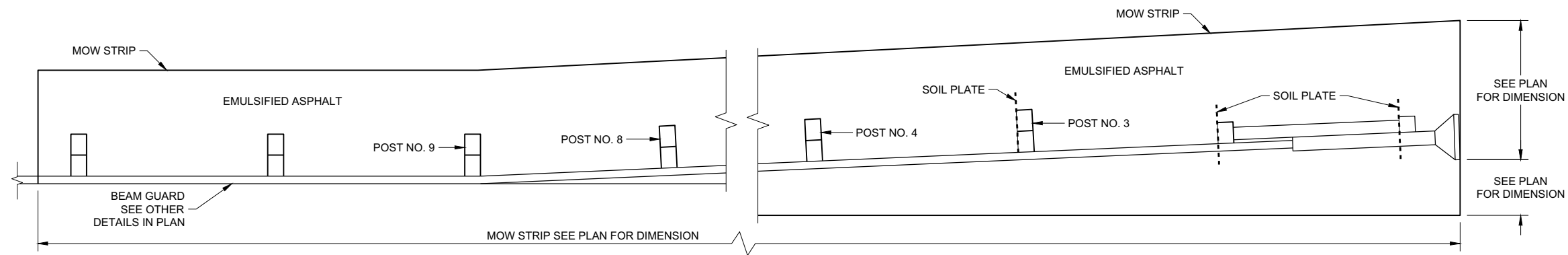
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SDD 14B26 - 05h

SDD 14B26 - 05h

<b>STEEL THRIE BEAM BULLNOSE TERMINAL</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

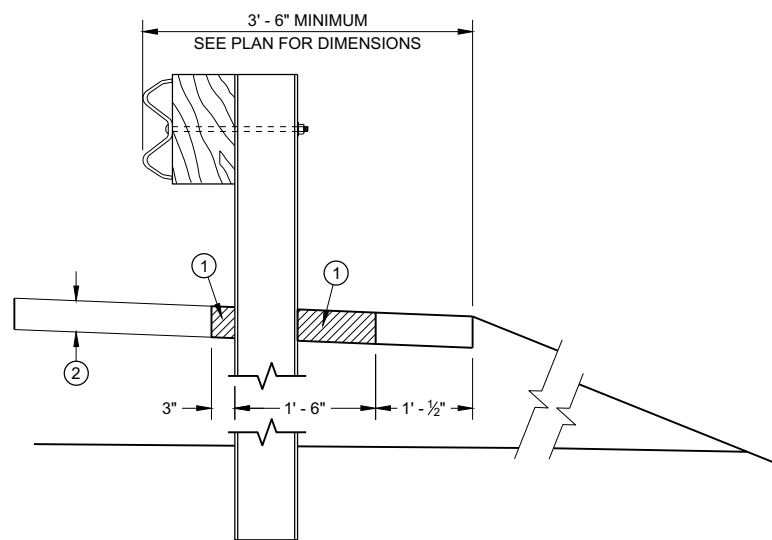


**PLAN VIEW**  
**MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL**

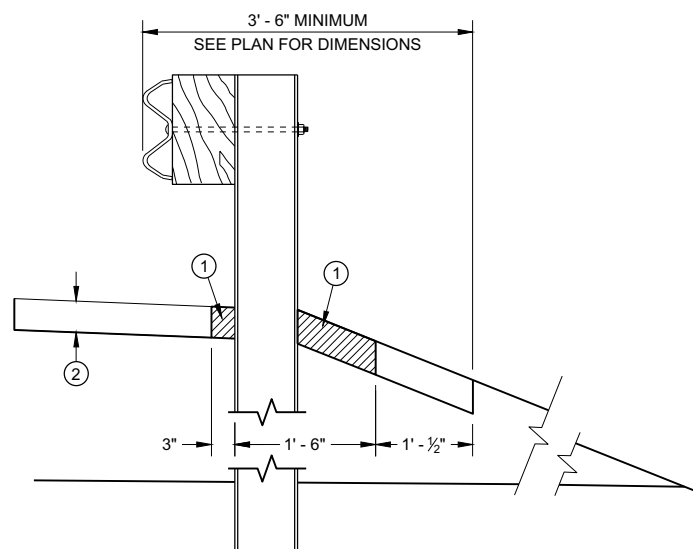
**GENERAL NOTES**

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

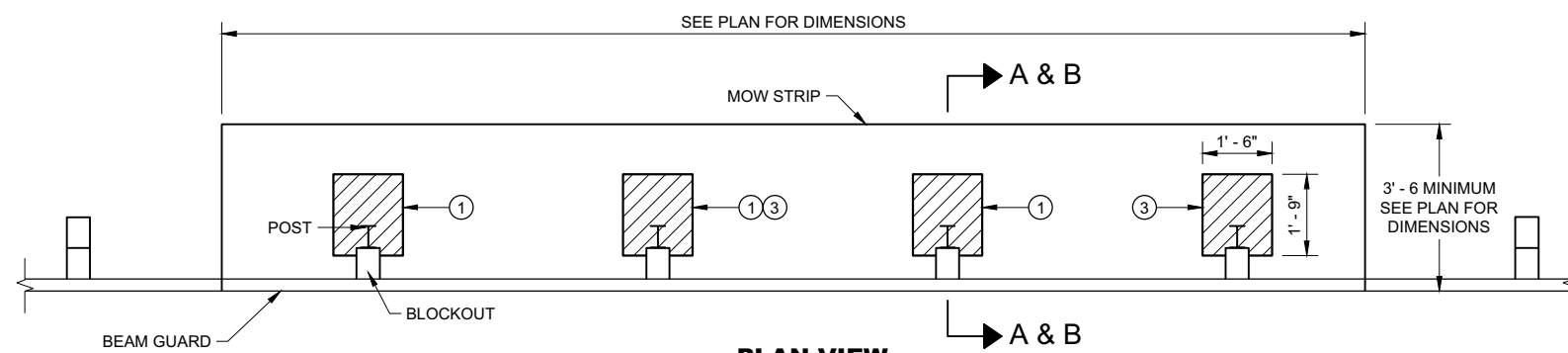
- ① CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
- ② DEPTH OF MOW STRIP:  
ASPHALT - 4"  
CONCRETE - 4"  
EMULSIFIED ASPHALT - 1" OR LESS
- ③ FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)



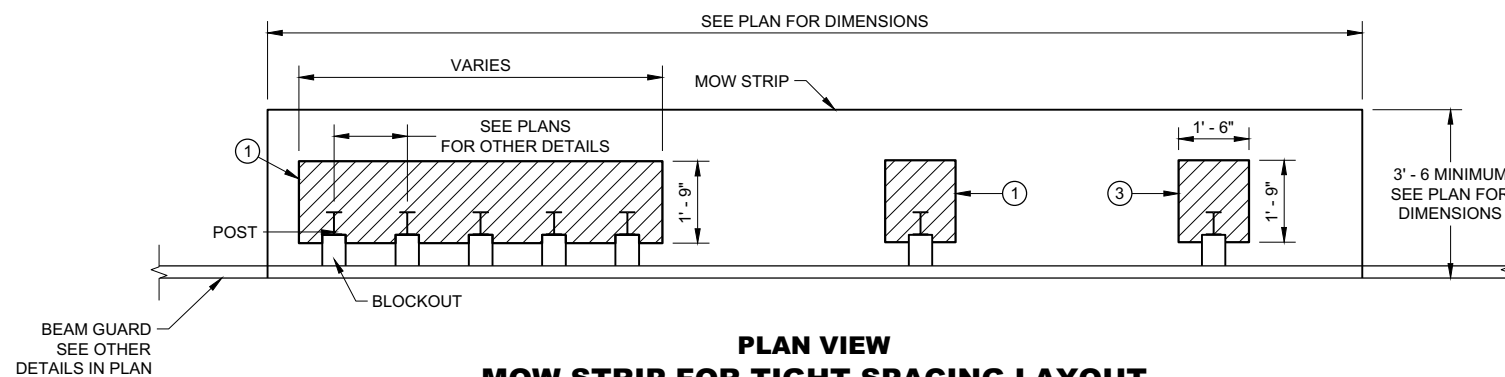
**SECTION A - A**



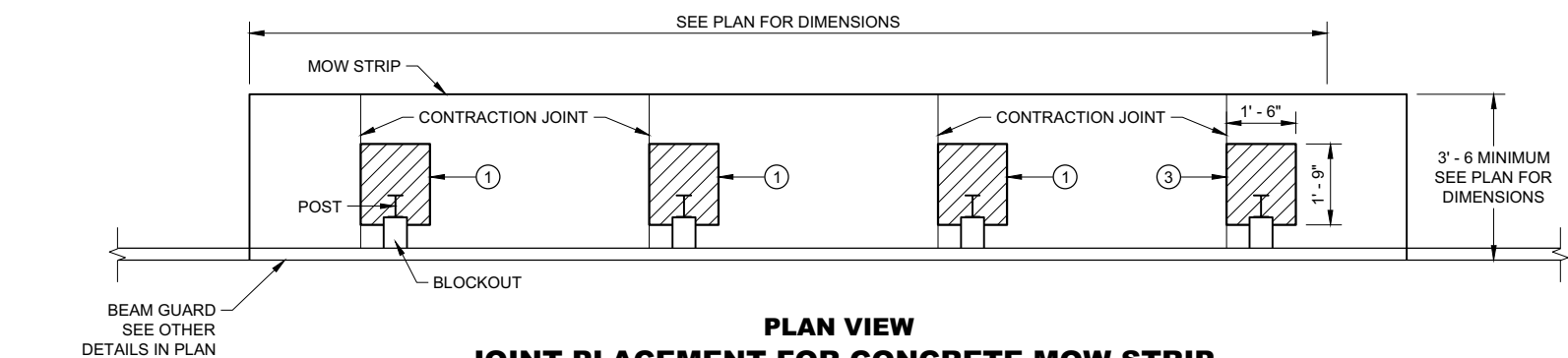
**SECTION B - B**



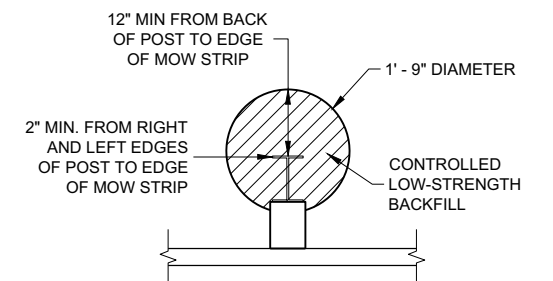
**PLAN VIEW**  
**MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT**



**PLAN VIEW**  
**MOW STRIP FOR TIGHT SPACING LAYOUT**



**PLAN VIEW**  
**JOINT PLACEMENT FOR CONCRETE MOW STRIP**



**ALTERNATIVE HMA**  
**MOW STRIP DESIGN**

**GUARDRAIL MOW STRIP**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

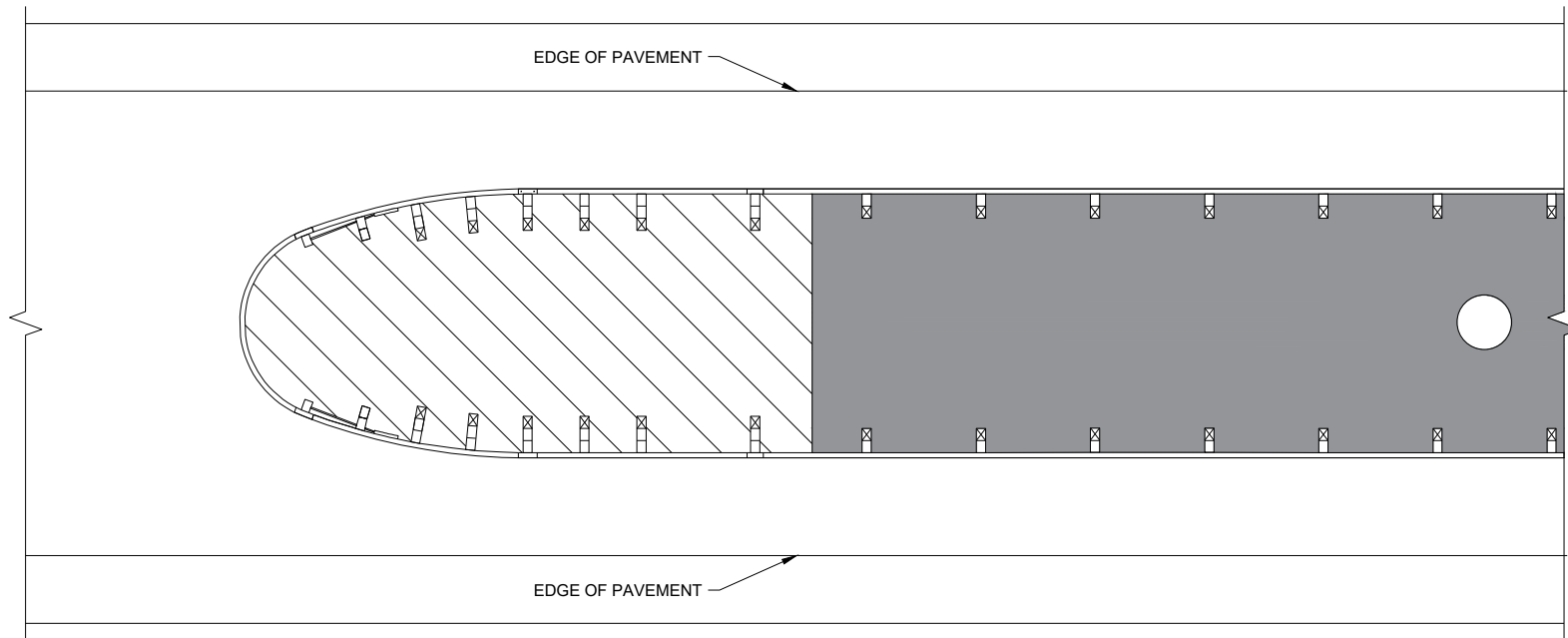
**LEGEND**

 CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

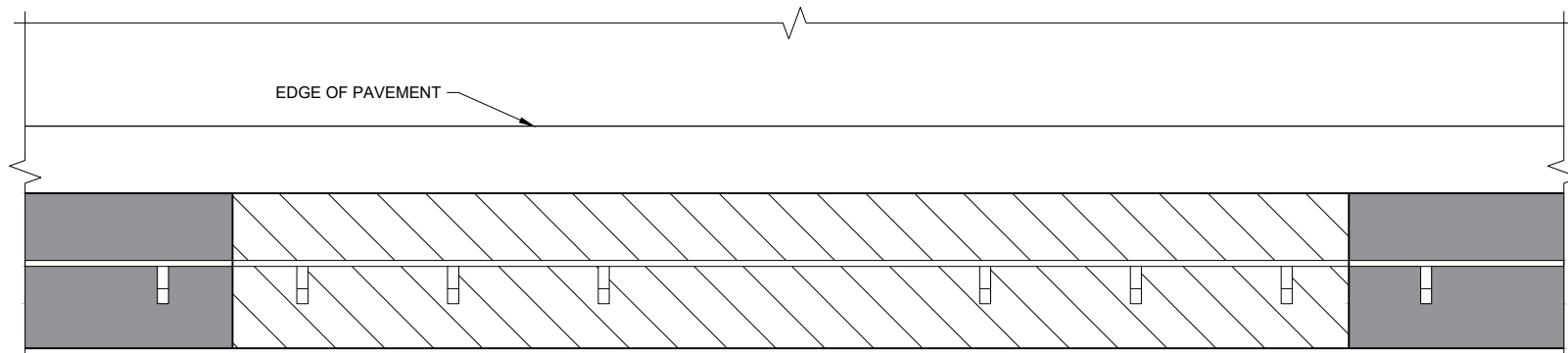
 EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

**GENERAL NOTES**

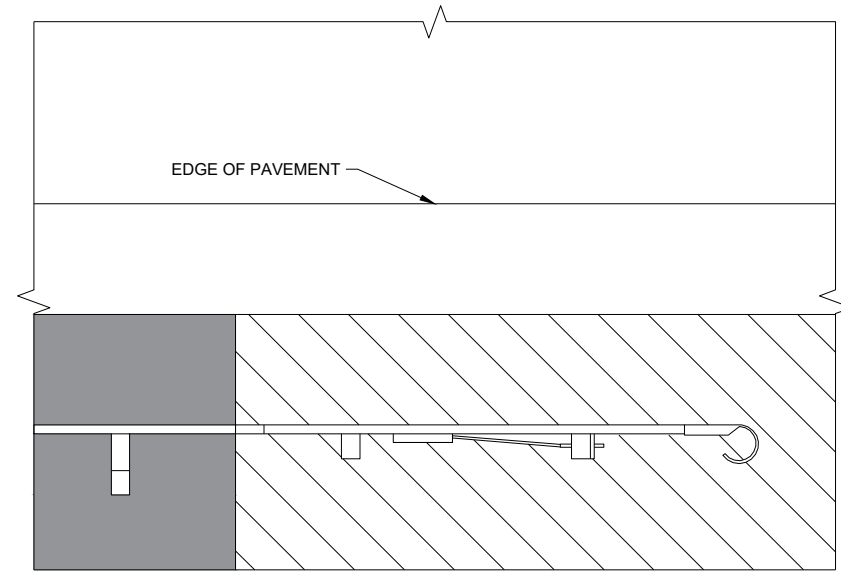
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



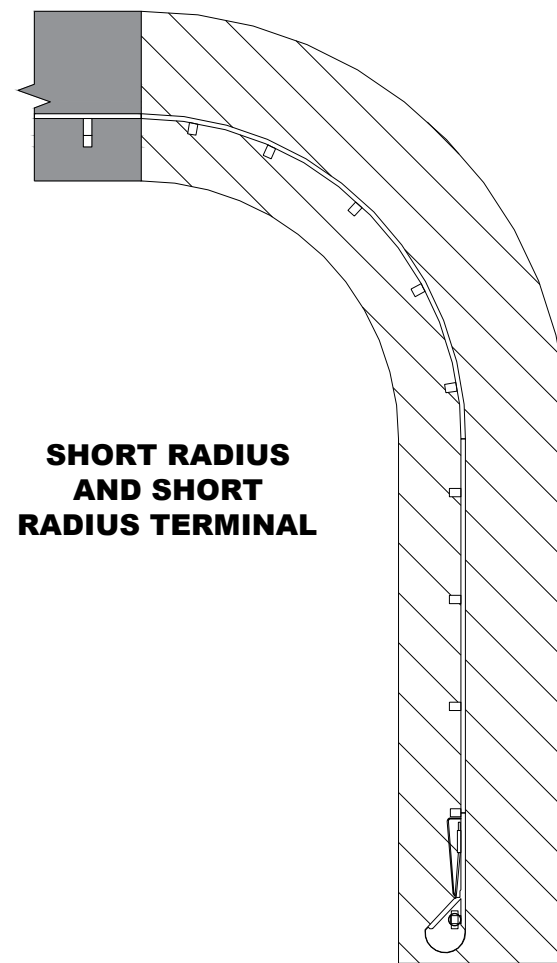
**THRIE BEAM BULLNOSE**



**LONG - SPAN**



**TYPE 2 TERMINAL**



**SHORT RADIUS  
AND SHORT  
RADIUS TERMINAL**

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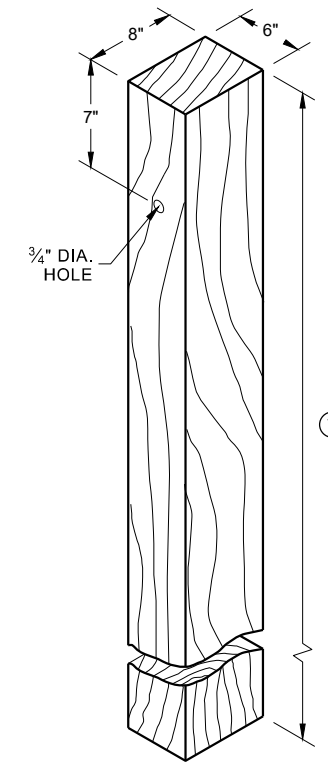
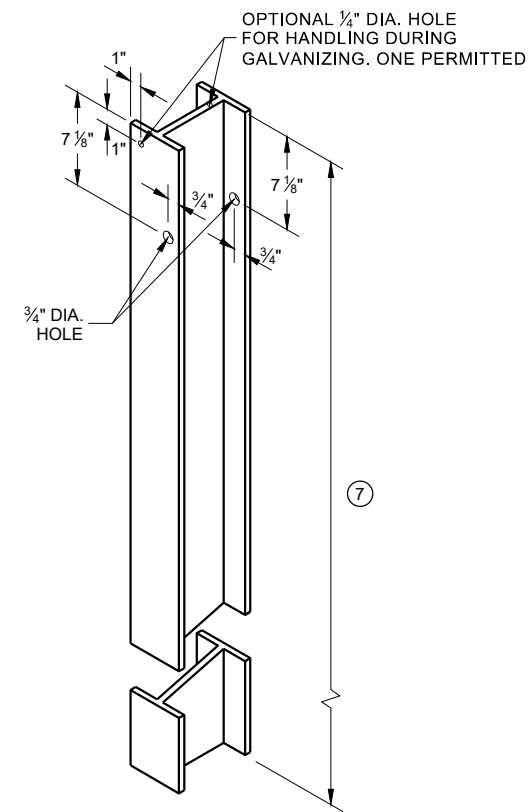
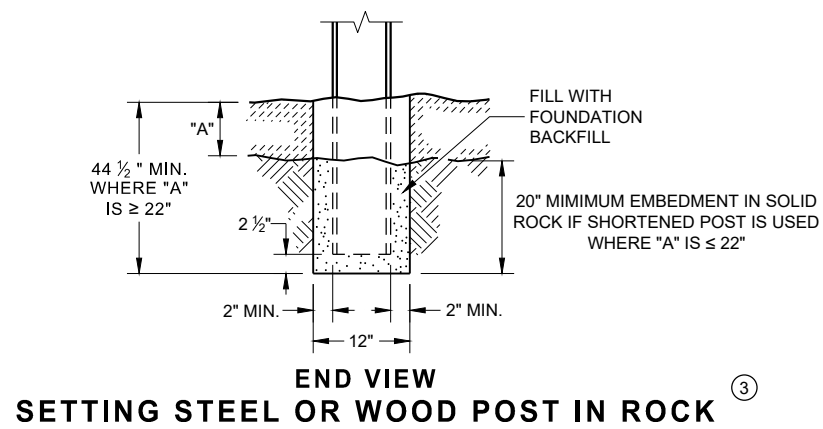
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SDD 14B28 - 04b

SDD 14B28 - 04b

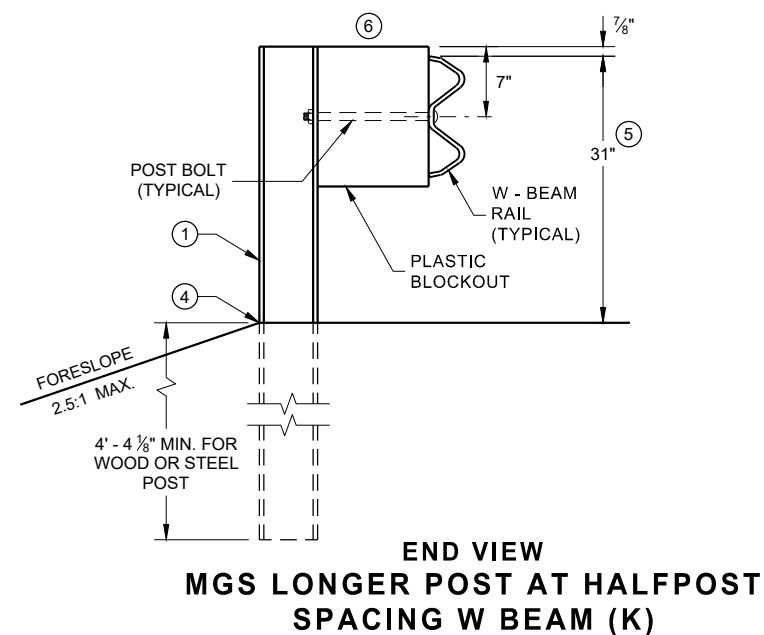
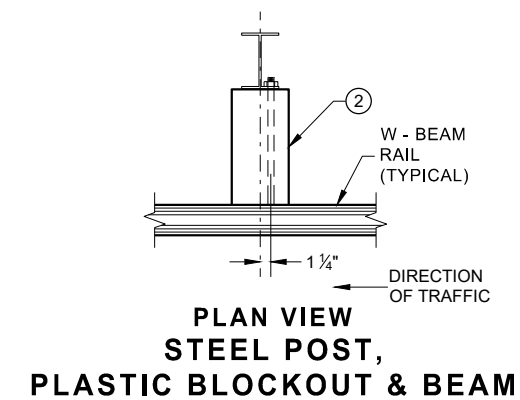
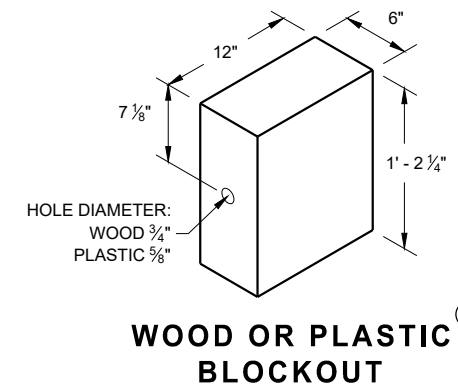
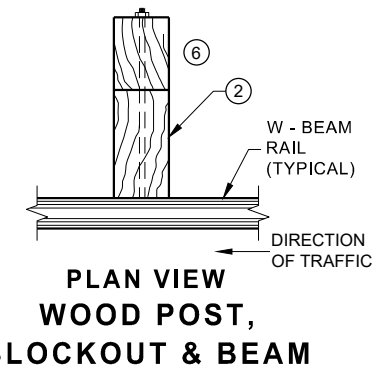
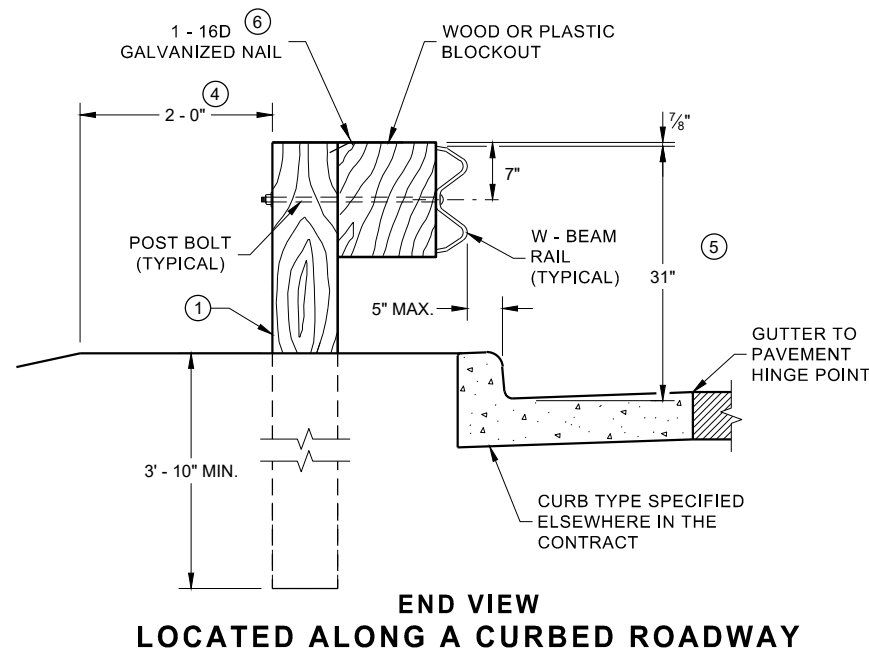
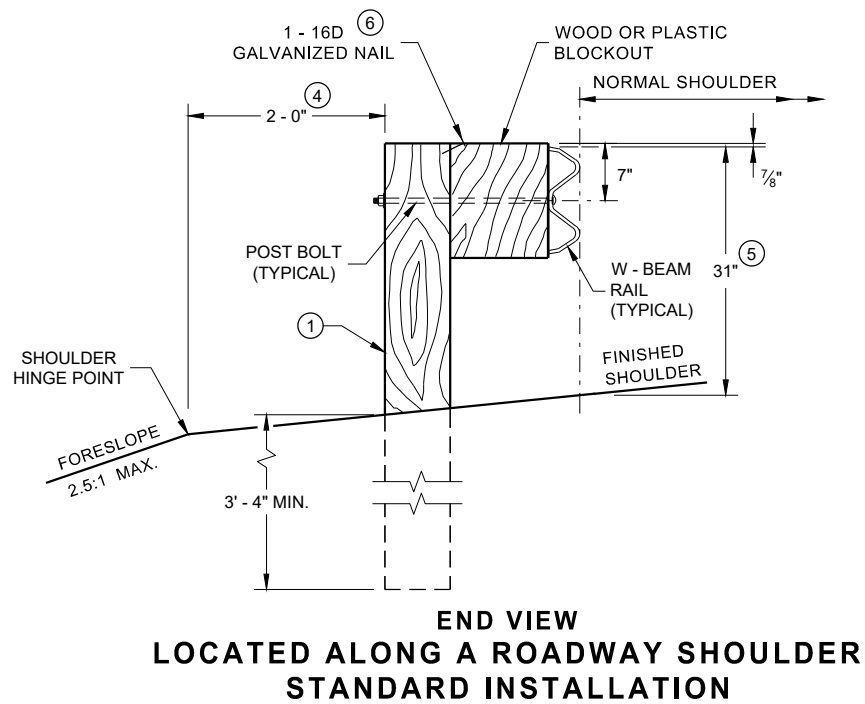
<b>GUARDRAIL MOW STRIP</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2020 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
<small>FHWA</small>	

- 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 AND 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  $\pm 1"$ . FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" 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".



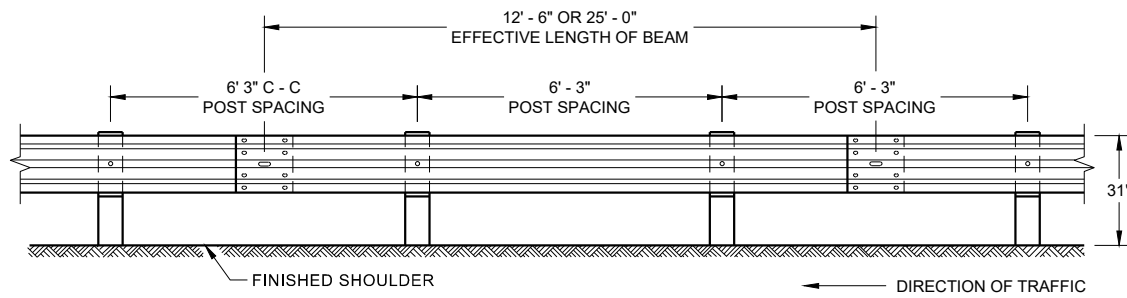
**STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)**

**WOOD POST (6" X 8") NOMINAL**

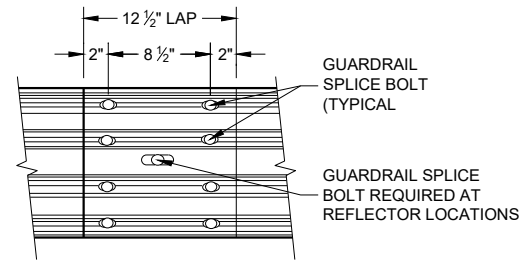


**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



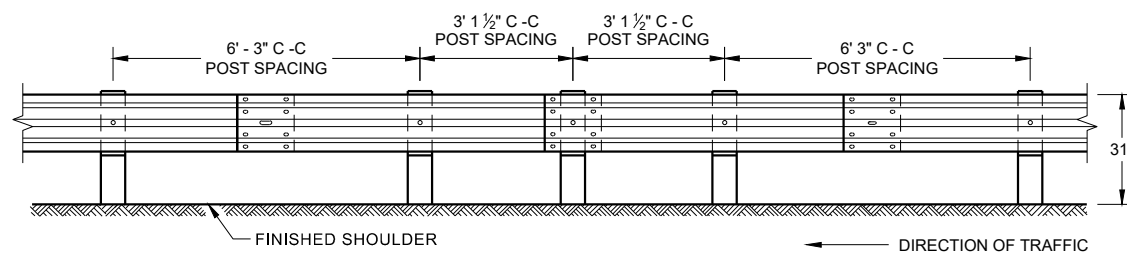
**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



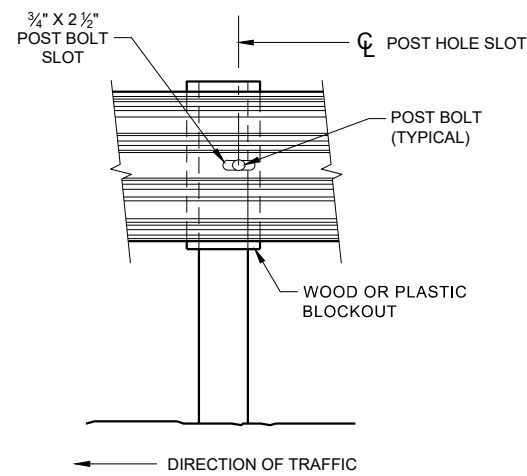
**FRONT VIEW  
MID-SPAN BEAM SPLICE**

**GENERAL NOTES**

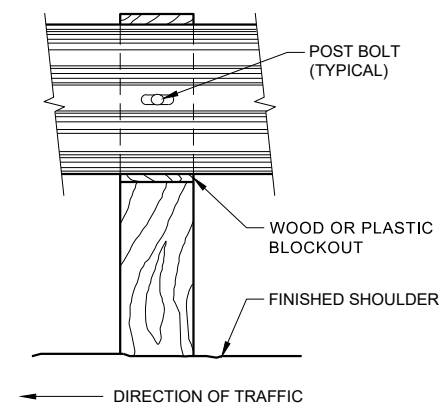
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
  - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER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



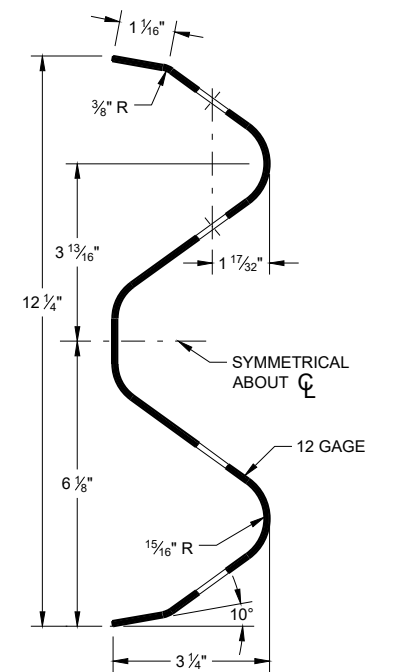
**FRONT VIEW  
HALF POST SPACING (HS) AND  
HALF POST SPACING WITH LONGER POSTS (K)**



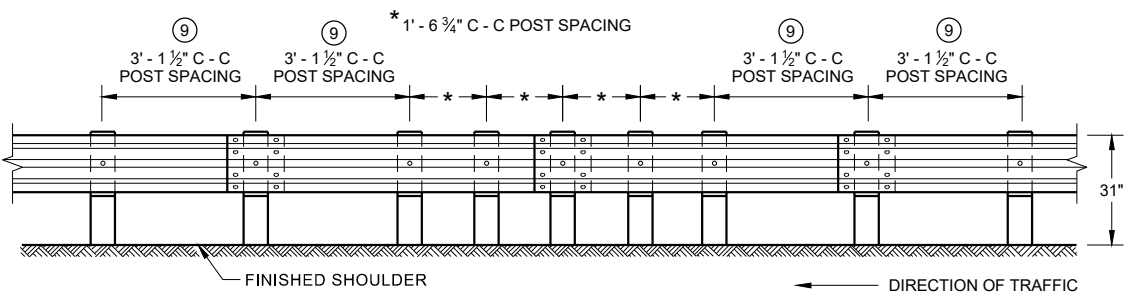
**FRONT VIEW AT STEEL POST**



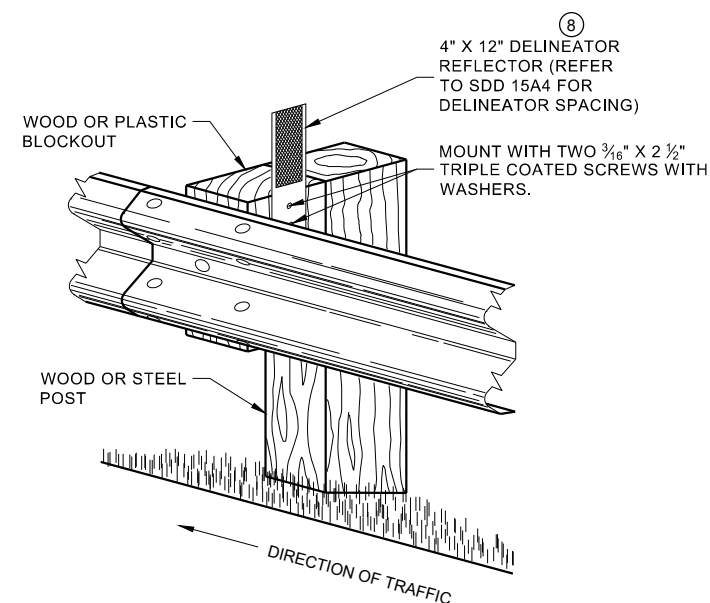
**FRONT VIEW AT WOOD POST**



**SECTION THRU W-BEAM RAIL**



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



**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

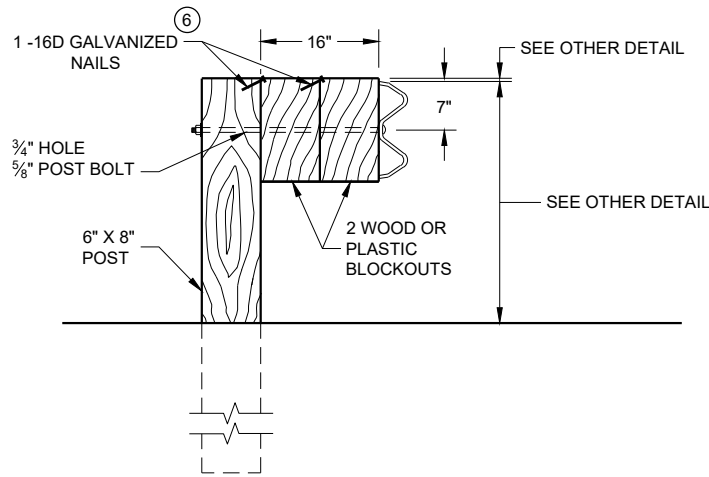
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SDD 14B42 - 07b

SDD 14B42 - 07b

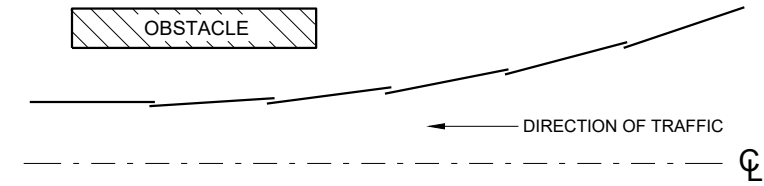
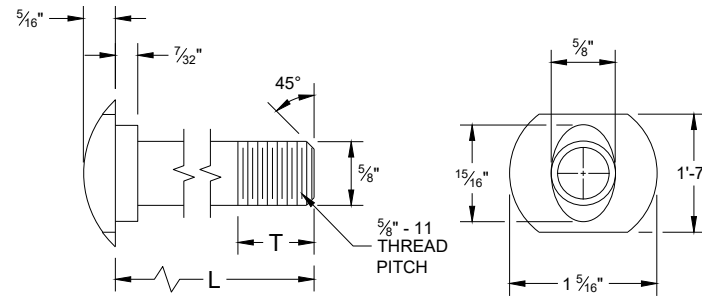




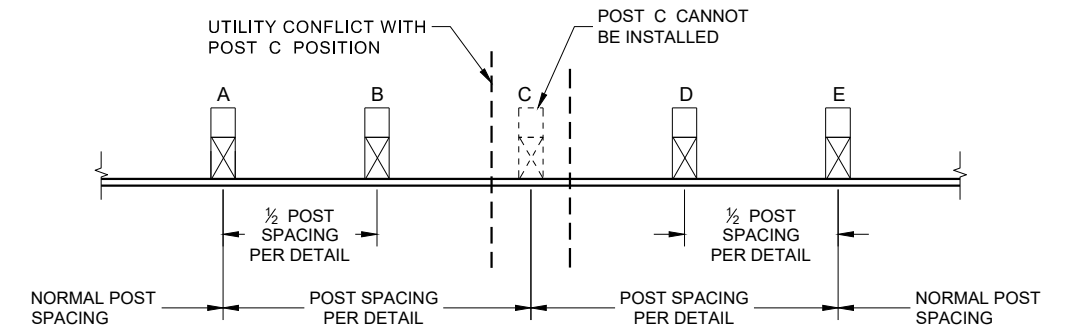
**DETAIL FOR 16" BLOCKOUT DEPTH**

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.

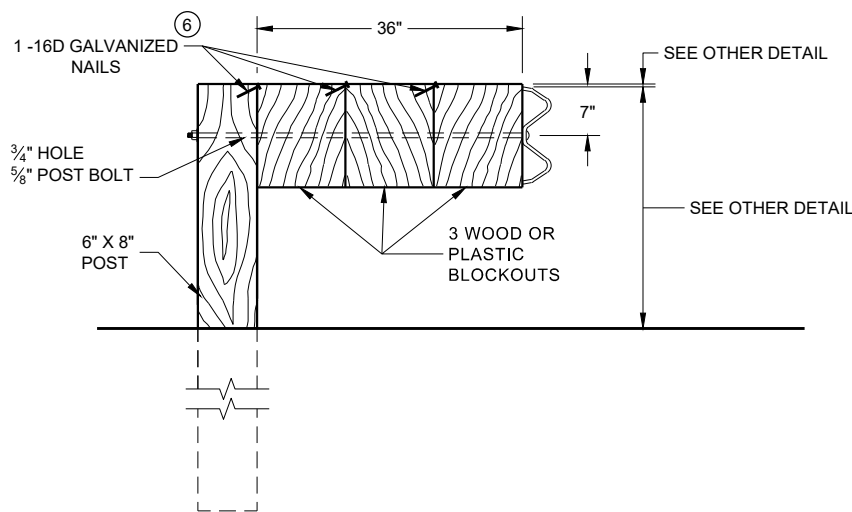
- NOTE:
1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
  2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.



**PLAN VIEW  
BEAM LAPPING DETAIL**



**POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION**

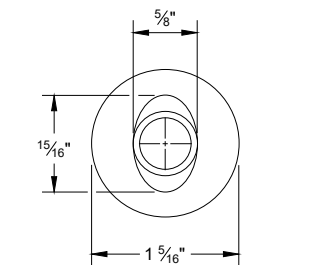


**DETAIL FOR 36" BLOCKOUT DEPTH**

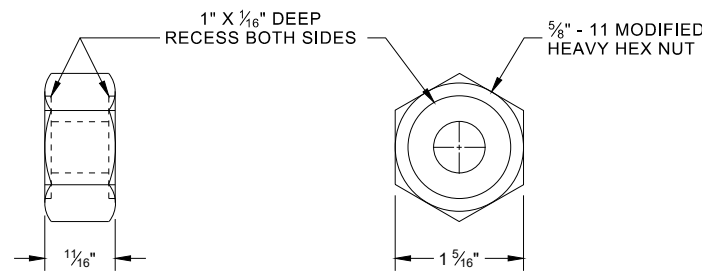
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.  
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE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

**POST BOLT TABLE**

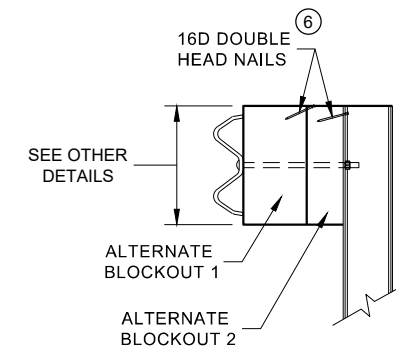
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



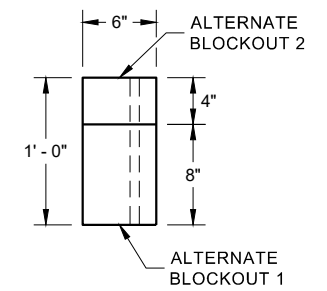
**ALTERNATE BOLT HEAD**



**POST BOLT, SPLICE BOLT  
AND RECESS NUT**



**SIDE VIEW**



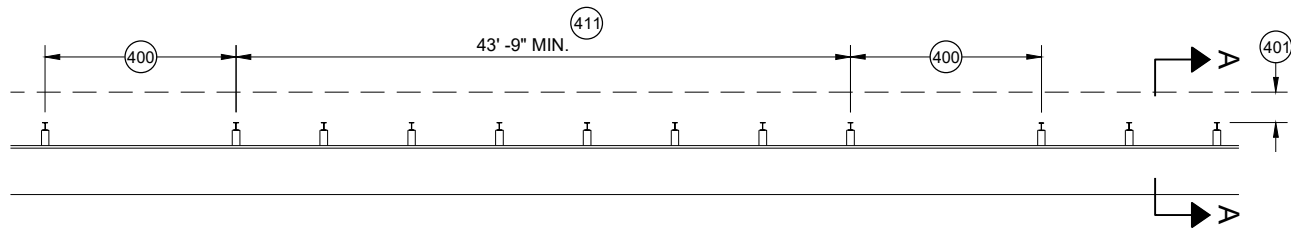
**PLAN VIEW**

**ALTERNATE WOOD  
BLOCKOUT DETAIL**

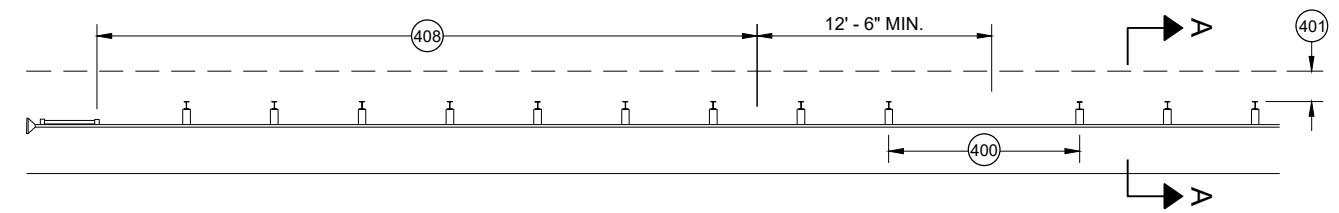
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

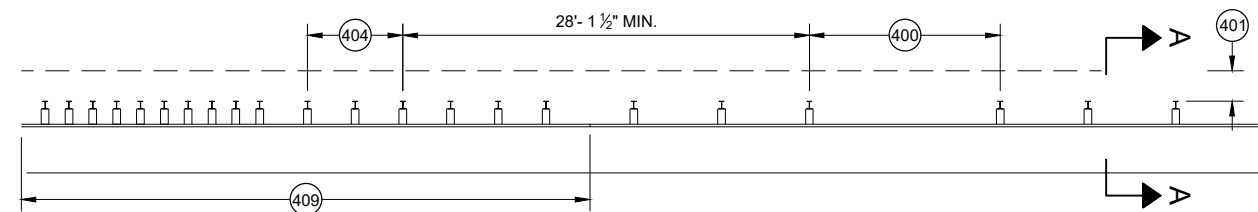
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



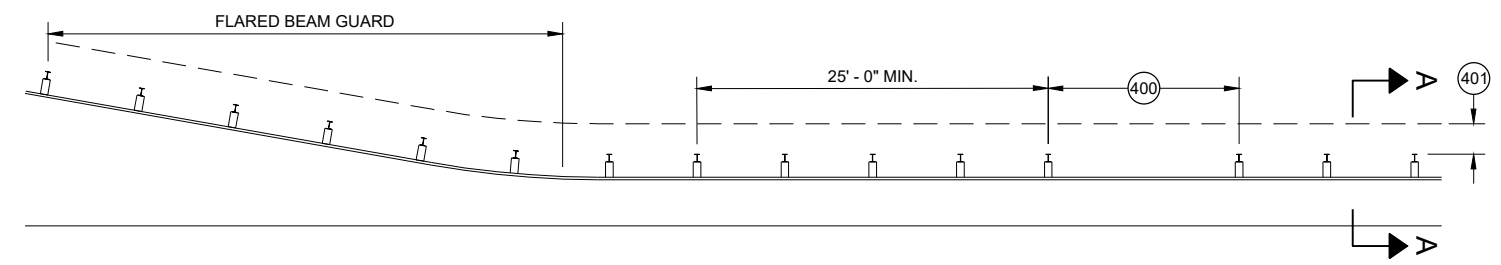
**MISSING POST IN MGS GUARDRAIL**



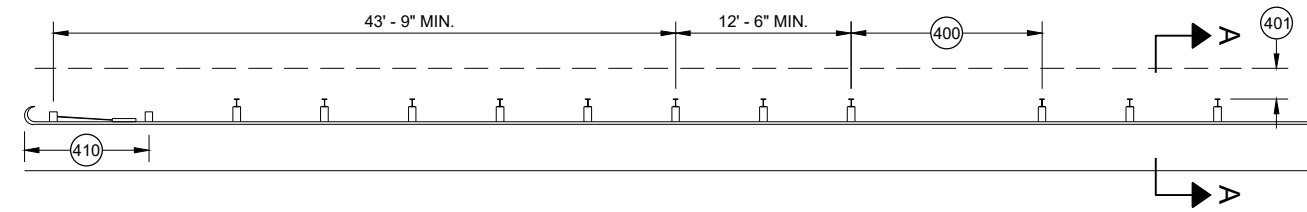
**MISSING POST IN MGS GUARDRAIL NEAR EAT**



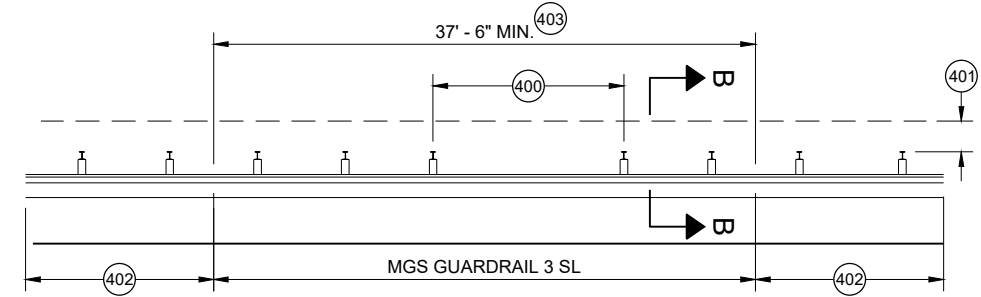
**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**



**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

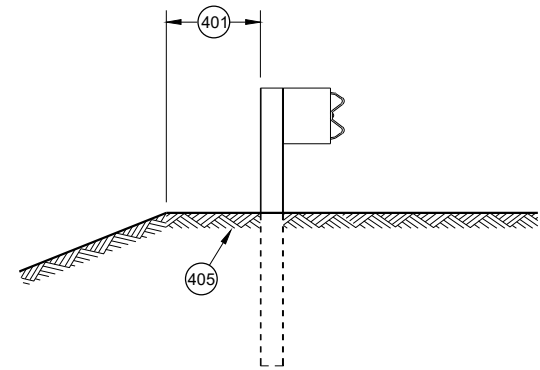


**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

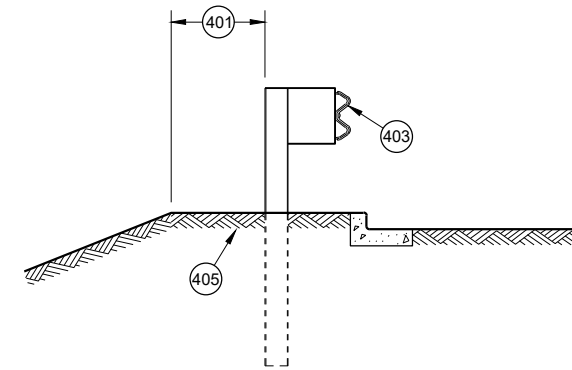


**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)**

- 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**



**SECTION B - B**

<b>MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2021 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

**GENERAL NOTES**

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

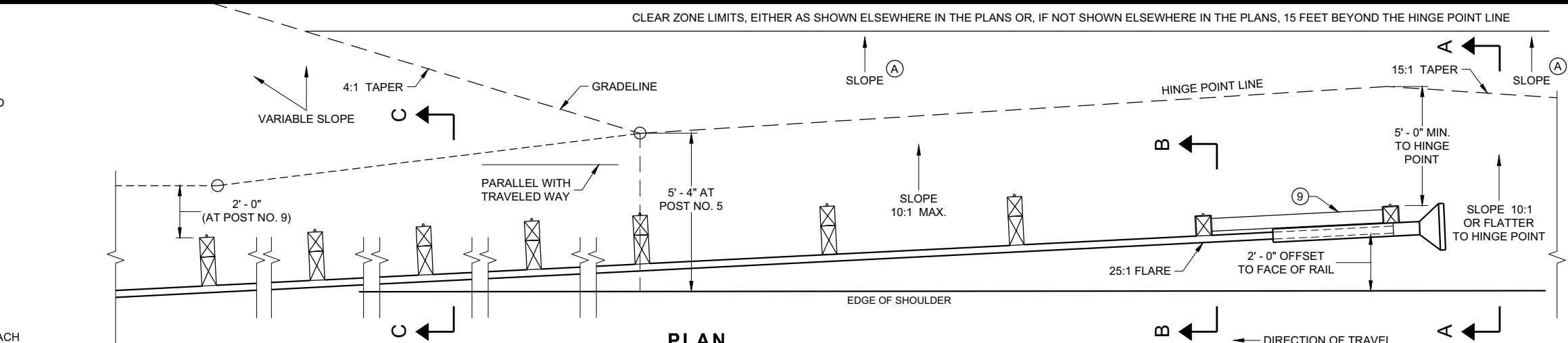
SEE SDD 14B42 FOR MORE INFORMATION.

\* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

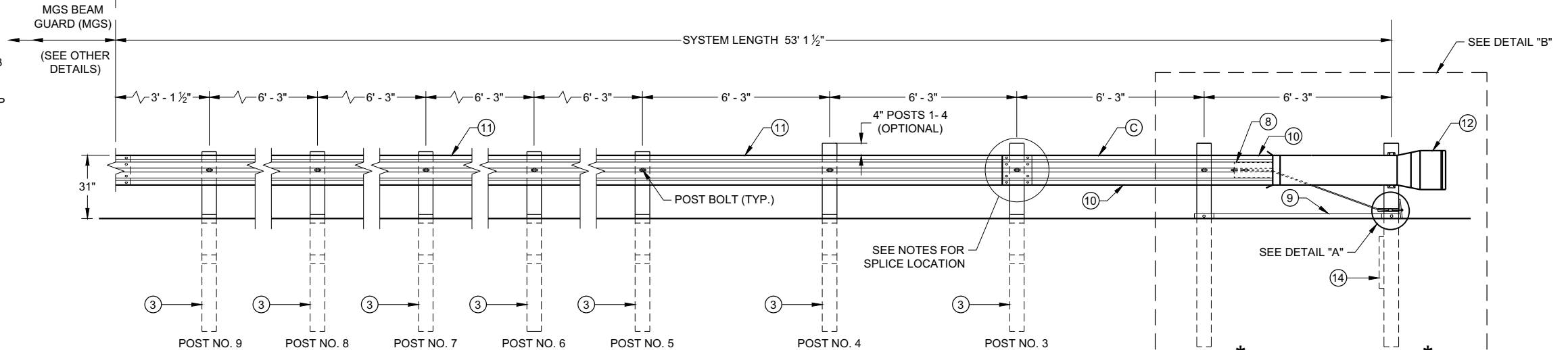
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

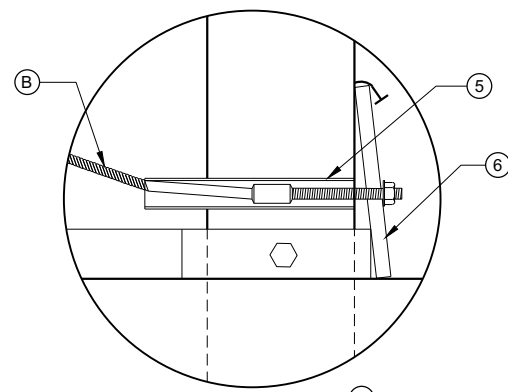
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



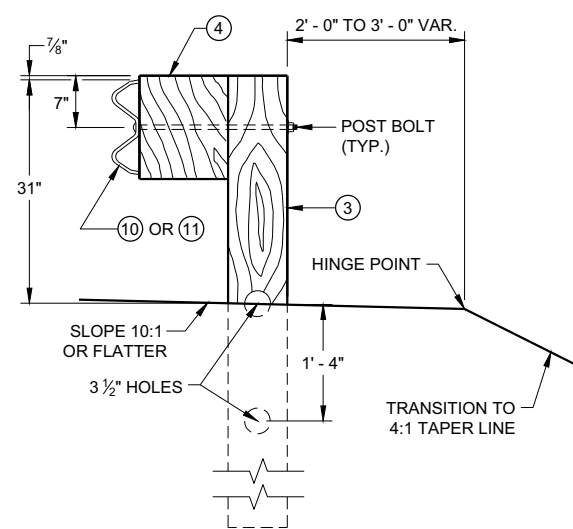
**PLAN**



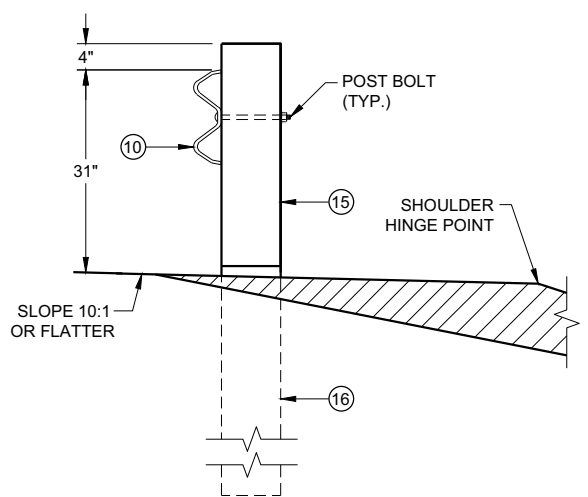
**ELEVATION**



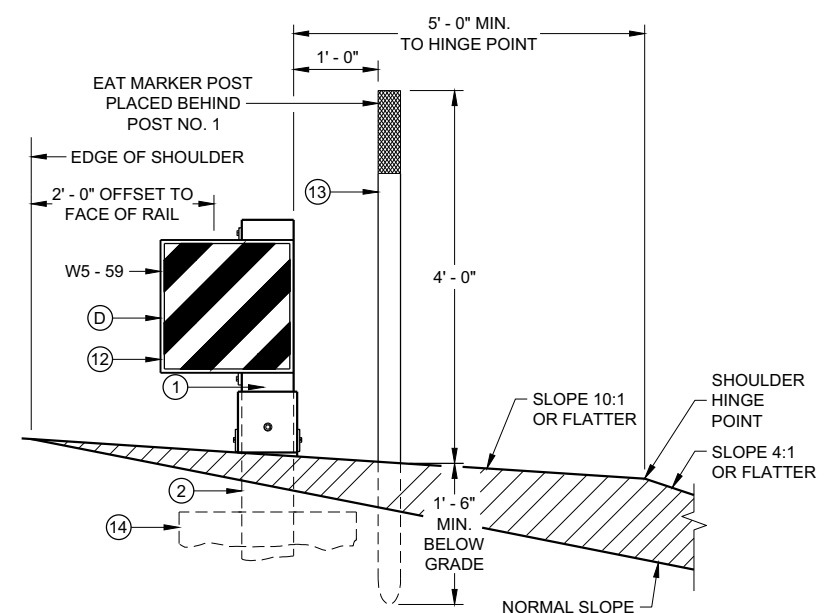
**DETAIL "A"**



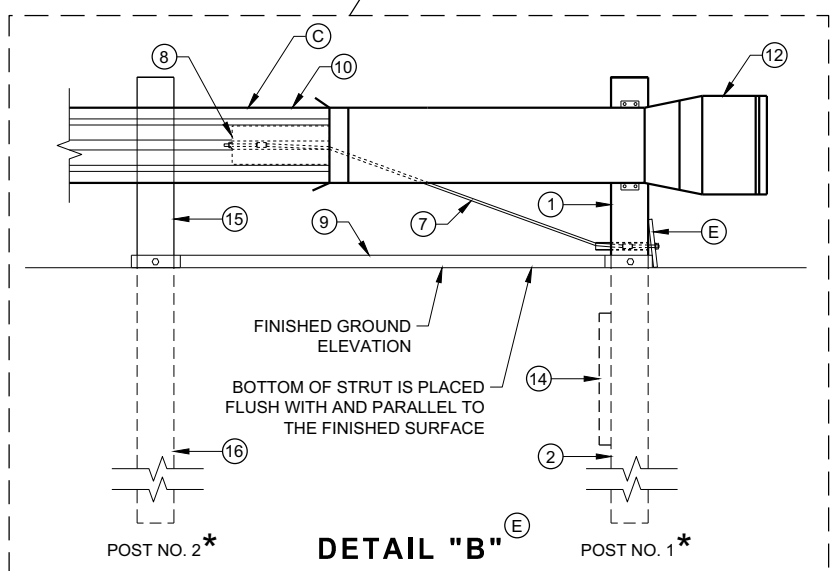
**SECTION C - C  
TYPICAL AT POST NOS. 3 - 9**



**SECTION B - B  
TYPICAL AT POST NO. 2\***



**SECTION A - A  
TYPICAL AT POST NO. 1\***



**DETAIL "B"**

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

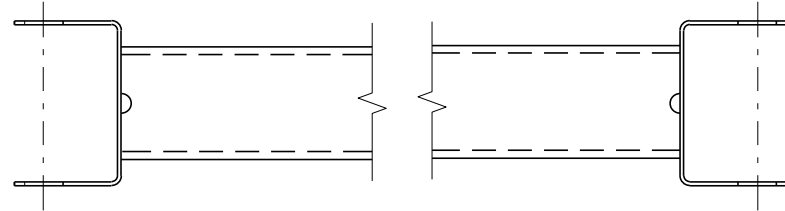
6

SDD 14B44 - 04a

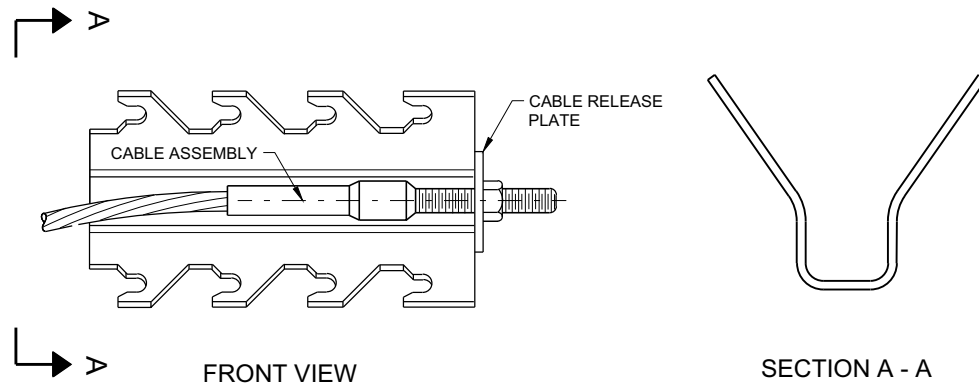
SDD 14B44 - 04a

**BILL OF MATERIALS**

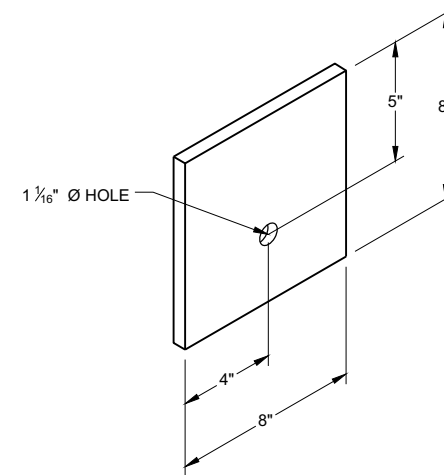
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL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



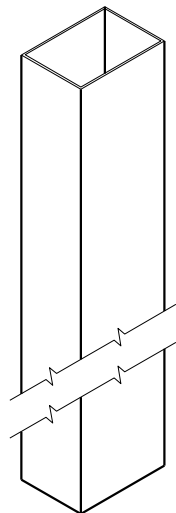
**GENERIC GROUND STRUT** ⑨ ⑤



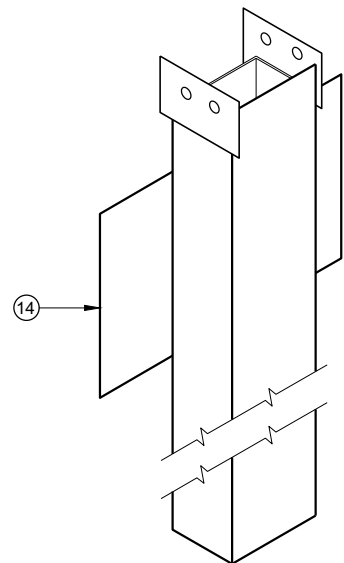
**GENERIC ANCHOR CABLE BOX** ⑨ ⑤



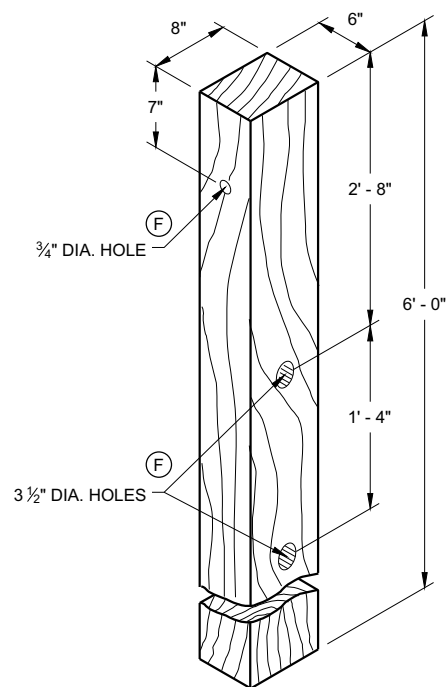
**BEARING PLATE** ⑥ ⑤



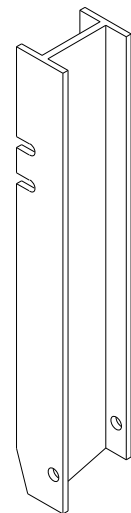
UPPER POST NO. 1 <sup>(1)</sup> (E)



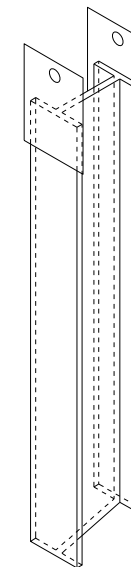
LOWER POST NO. 1 <sup>(2)</sup> (E)



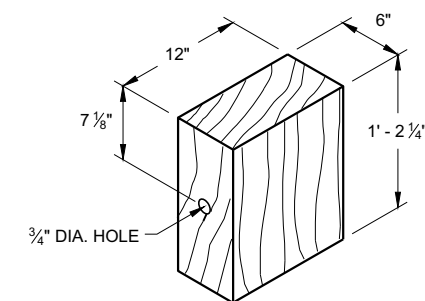
WOOD CRT POST <sup>(3)</sup> (E)  
POSTS NUMBER 3-9



UPPER POST NO. 2 <sup>(15)</sup> (E)

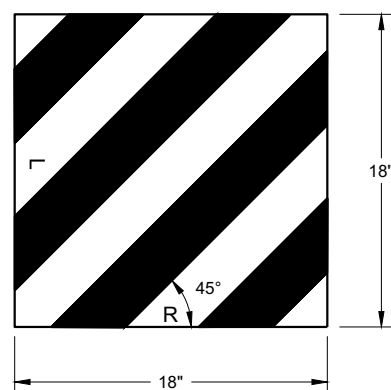


LOWER POST NO. 2 <sup>(16)</sup> (E)



WOOD BLOCKOUT <sup>(4)</sup>  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

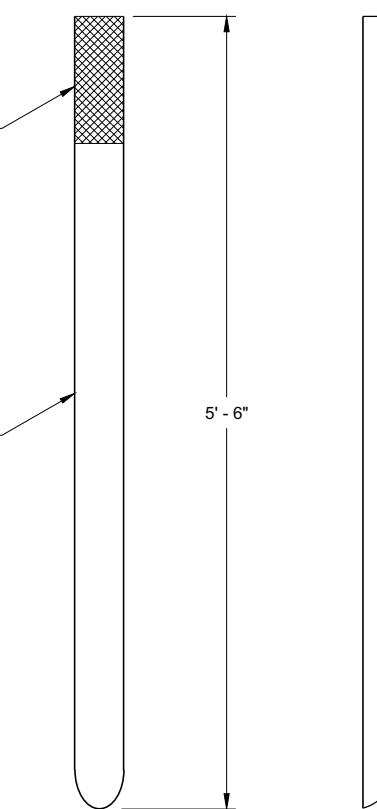
6



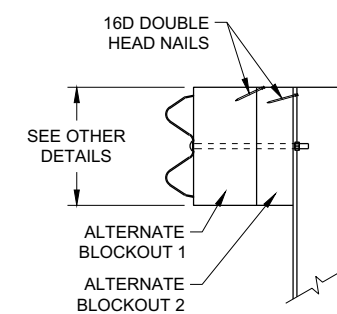
W5 - 59  
REFLECTIVE SHEETING DETAIL <sup>(E)</sup>

TYPE H  
YELLOW REFLECTIVE  
SHEETING 3" X 9".  
SEE STANDARD  
SPECIFICATION 637.

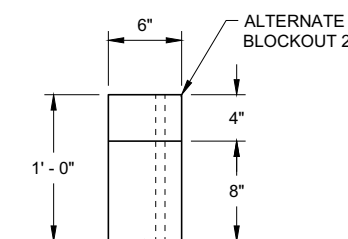
E.A.T. MARKER  
POST (YELLOW)



FRONT VIEW SIDE VIEW  
E.A.T. MARKER POST <sup>(13)</sup>



SIDE VIEW



TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

6

SDD 14B44 - 04c

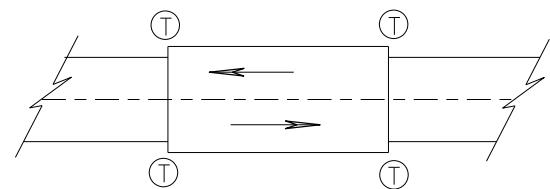
SDD 14B44 - 04c

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

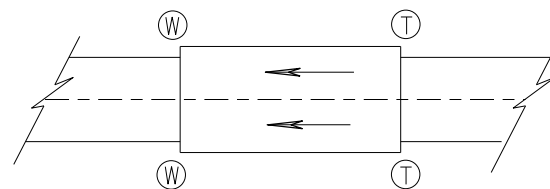
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

**GENERAL NOTES**

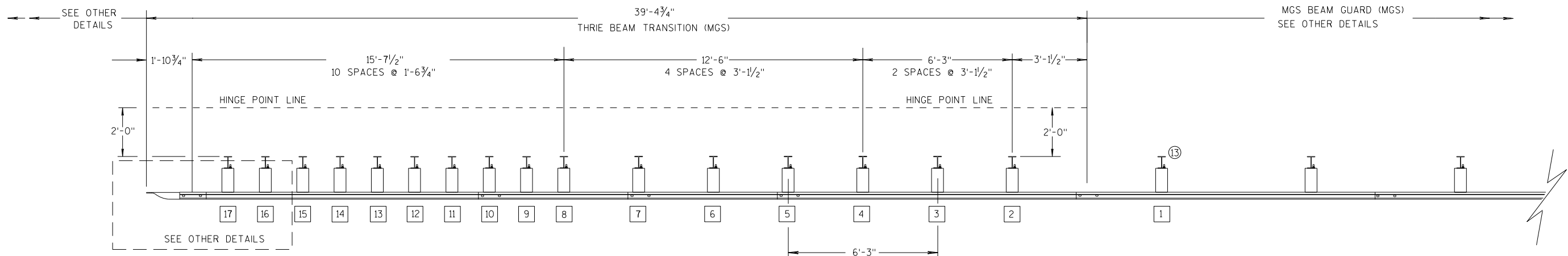
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

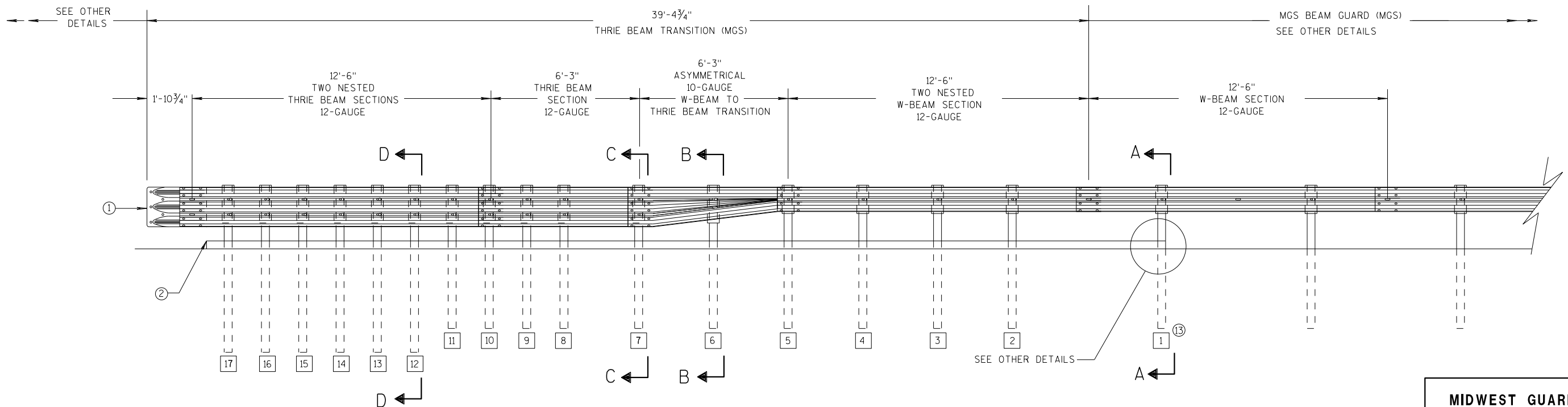
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

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



**PLAN VIEW**



**ELEVATION VIEW**

**MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION**

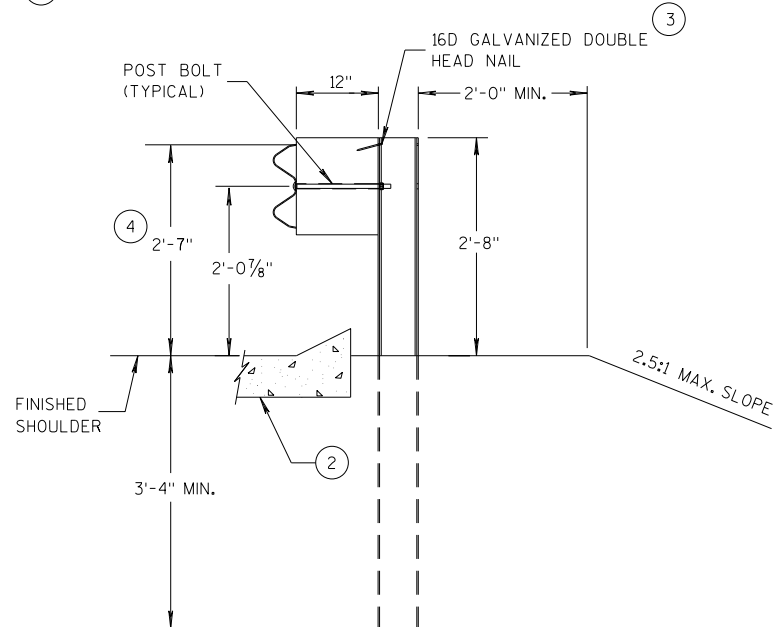
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

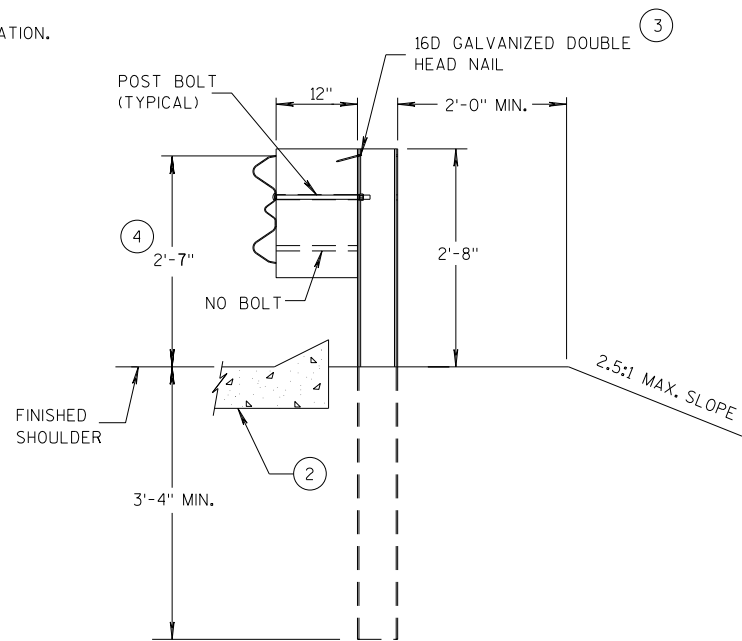


**GENERAL NOTES**

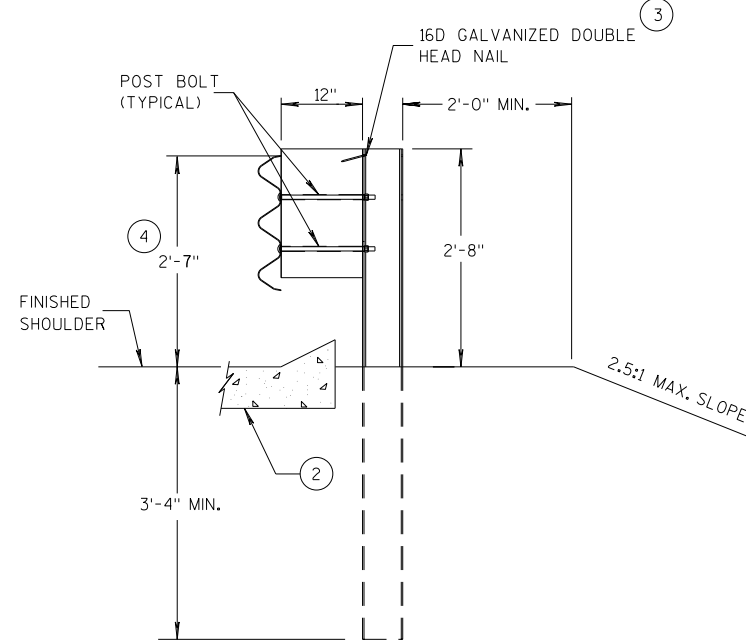
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".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



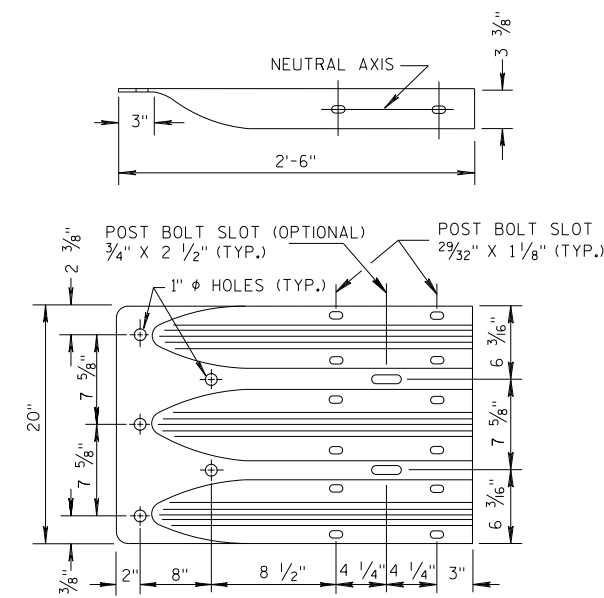
**SECTION A-A  
POSTS 1-5**



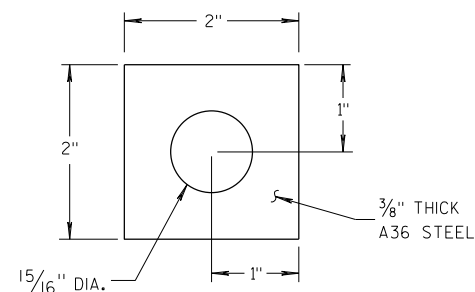
**SECTION B-B  
POST 6**



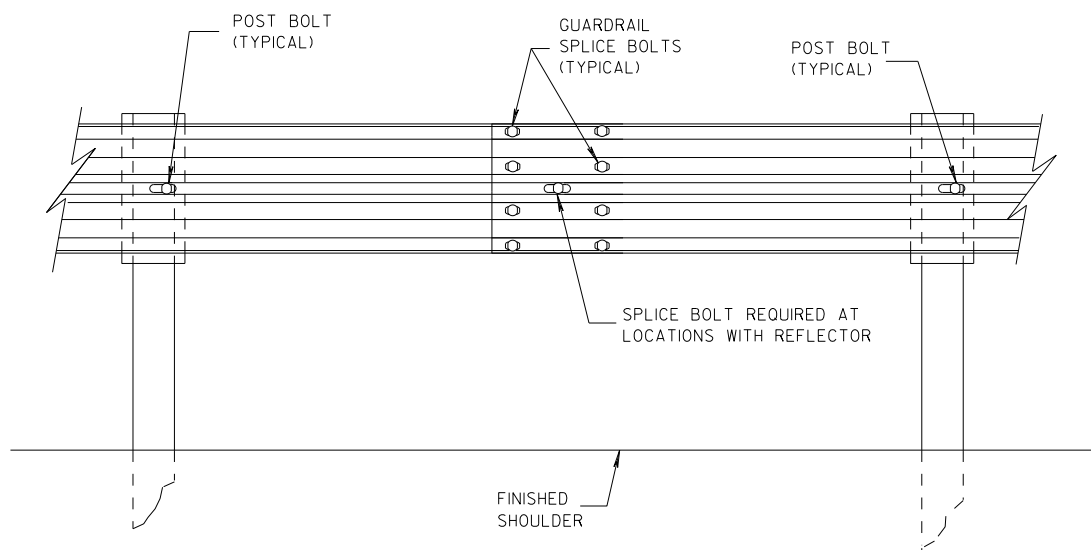
**SECTION C-C  
POSTS 7-11**



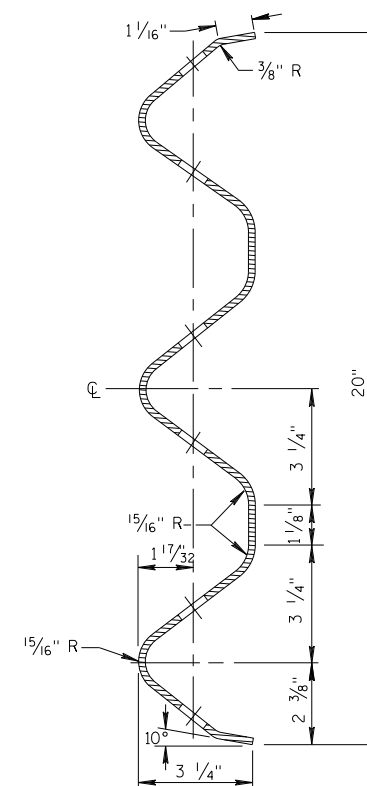
**THRIE BEAM  
TERMINAL CONNECTOR**



**PLATE WASHER DETAIL**



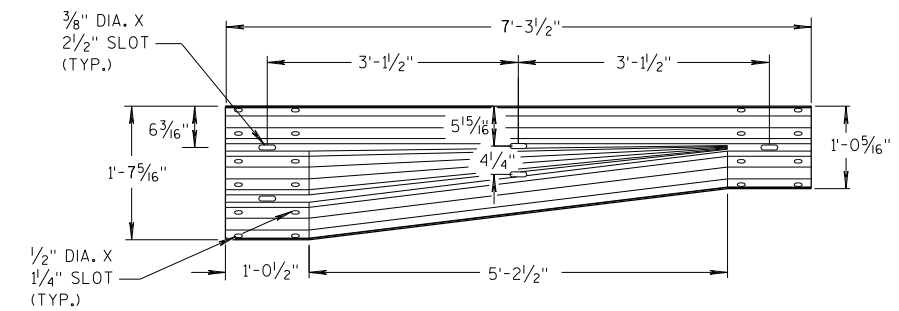
**SPLICE DETAIL**



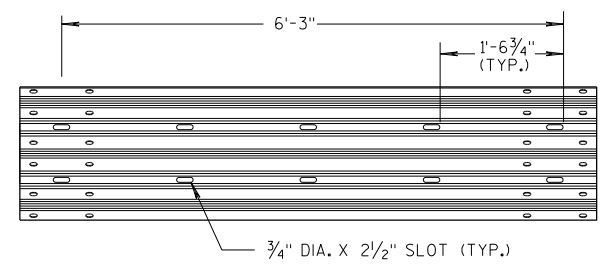
**SECTION THRU THRIE  
BEAM RAIL ELEMENT**

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

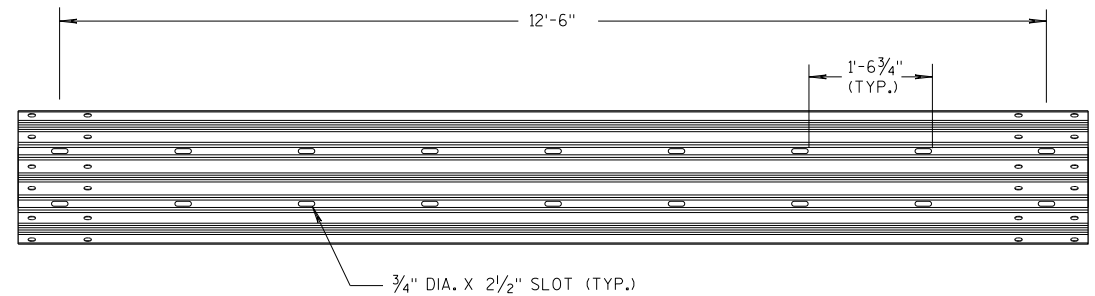
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



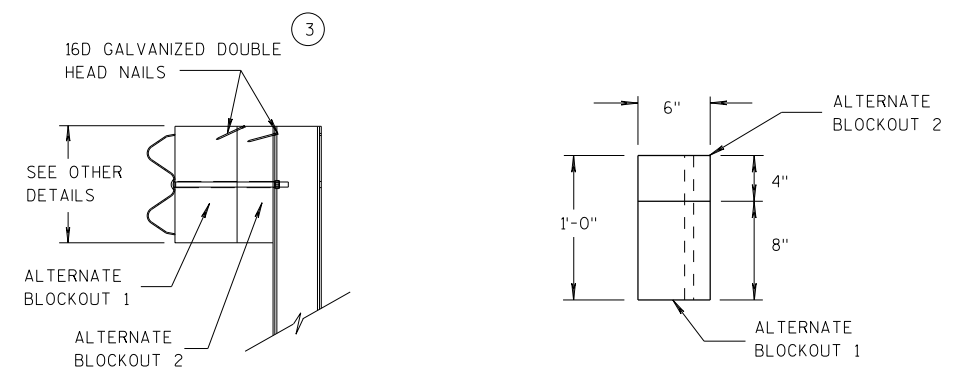
**W-BEAM TO THRIE BEAM TRANSITION SECTION**



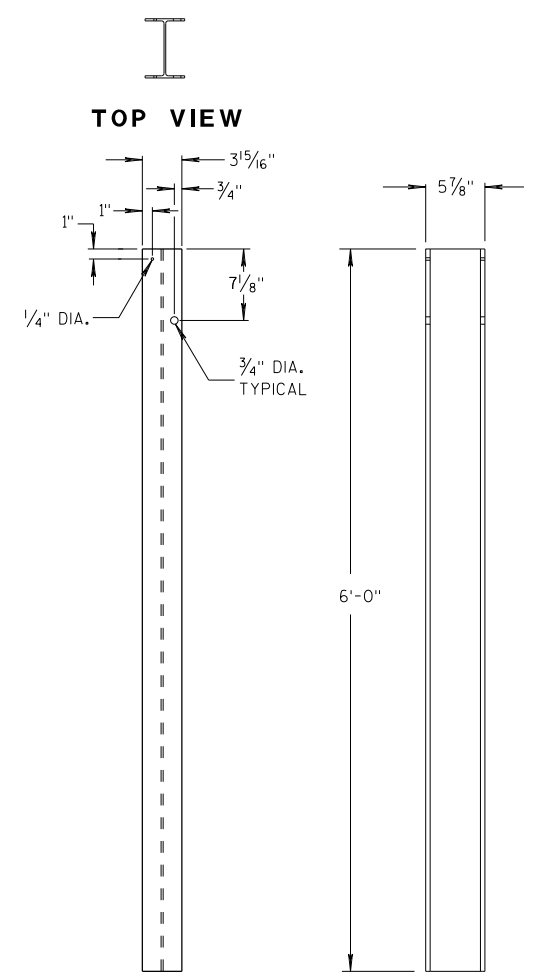
**6'-3\"/>**



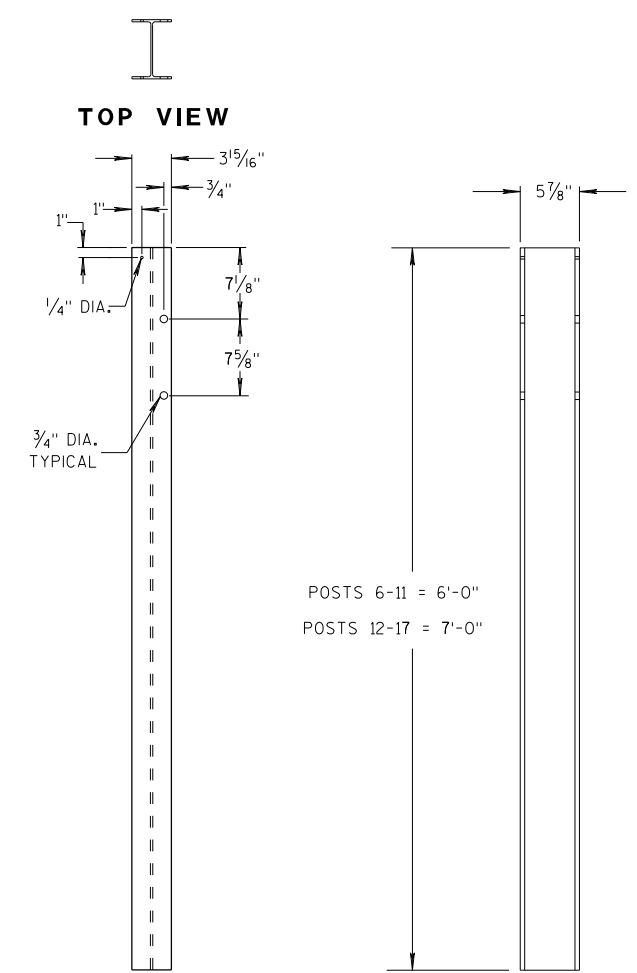
**12'-6\"/>**



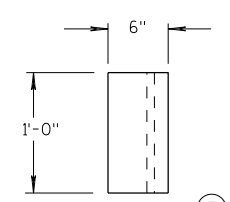
**ALTERNATE WOOD BLOCKOUT DETAIL**



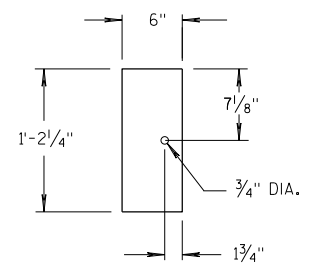
**STEEL POSTS 1-5**



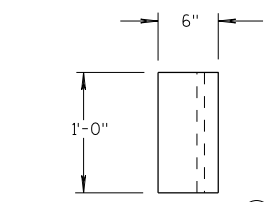
**STEEL POSTS 6-17**



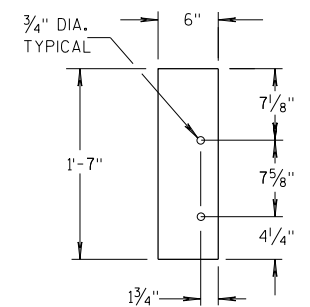
**TOP VIEW**



**FRONT VIEW  
BLOCKOUT  
POSTS 1-5**



**TOP VIEW**



**FRONT VIEW  
BLOCKOUT  
POSTS 6-17**

**GENERAL NOTES**

- STEEL POSTS ARE W6X9 OR W6X8.5.
- BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.
- (3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- (5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.
- (13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

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

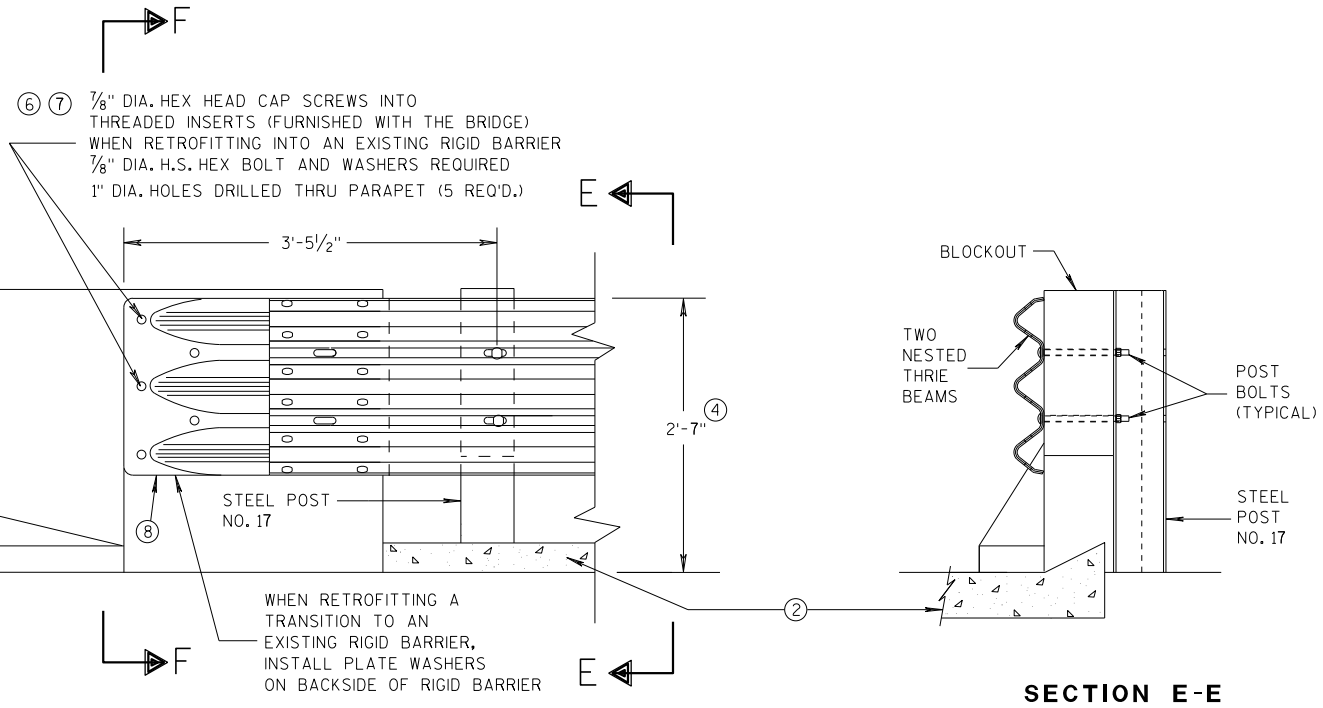
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

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

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



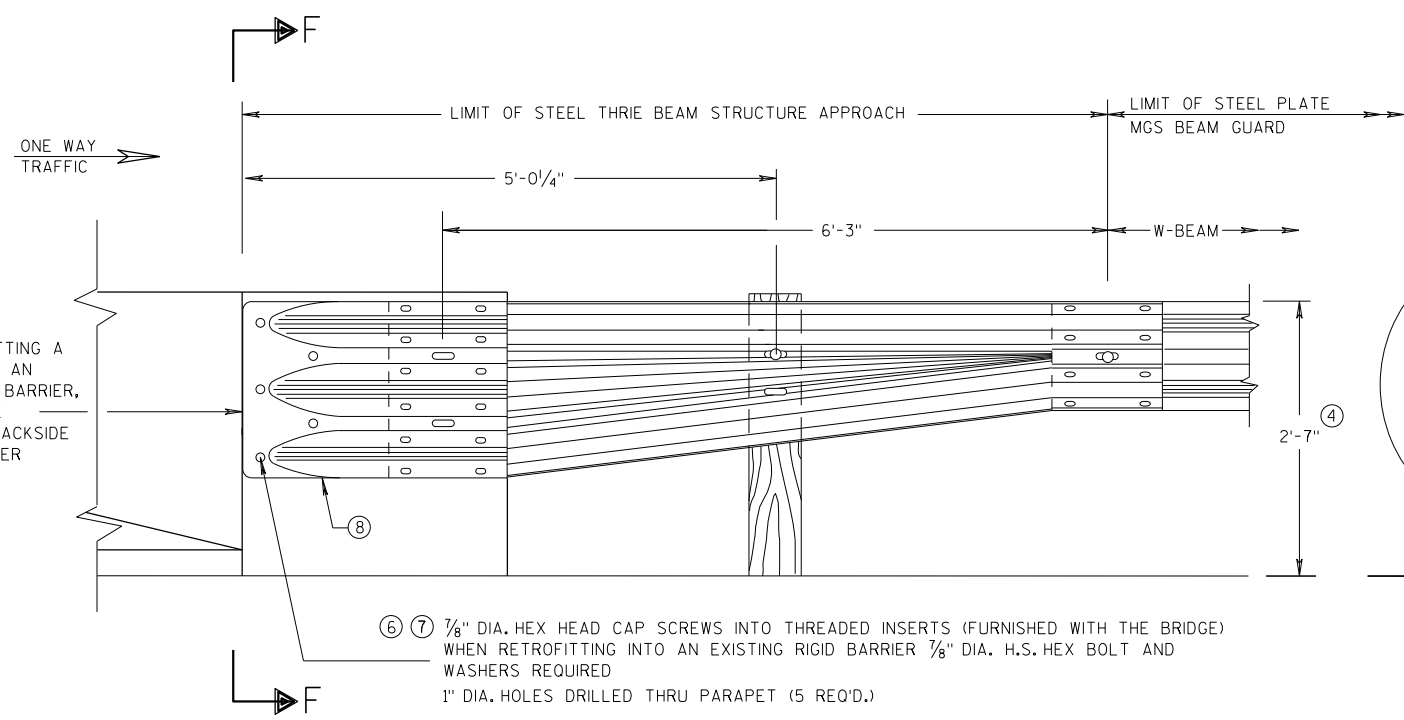
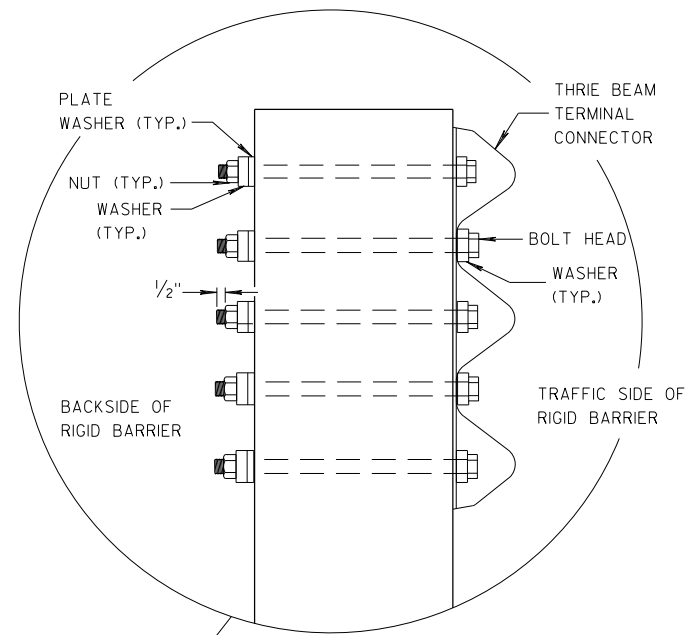
FRONT VIEW

**THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS**

SECTION E-E

**GENERAL NOTES**

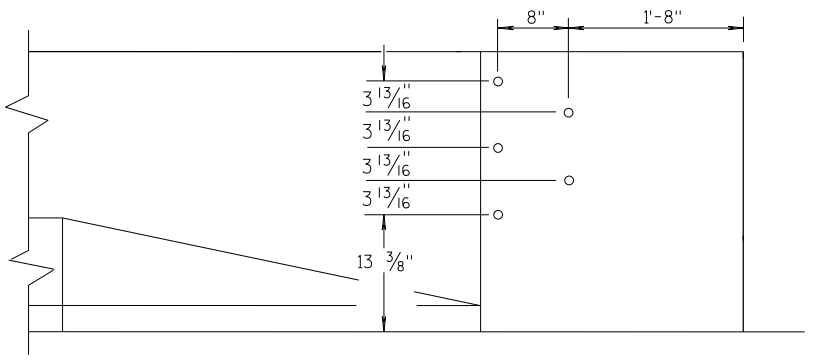
- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- (2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
  - (4) TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
  - (6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
  - (7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
  - (8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



FRONT VIEW

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

SECTION F-F



DRILL HOLE LOCATION

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

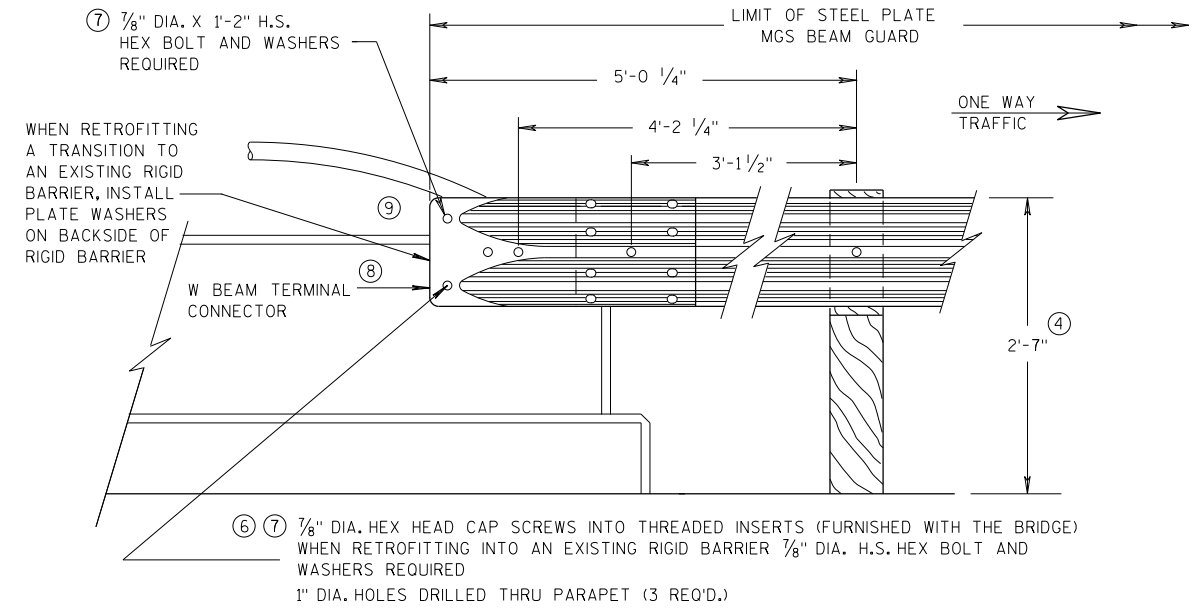
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

## GENERAL NOTES

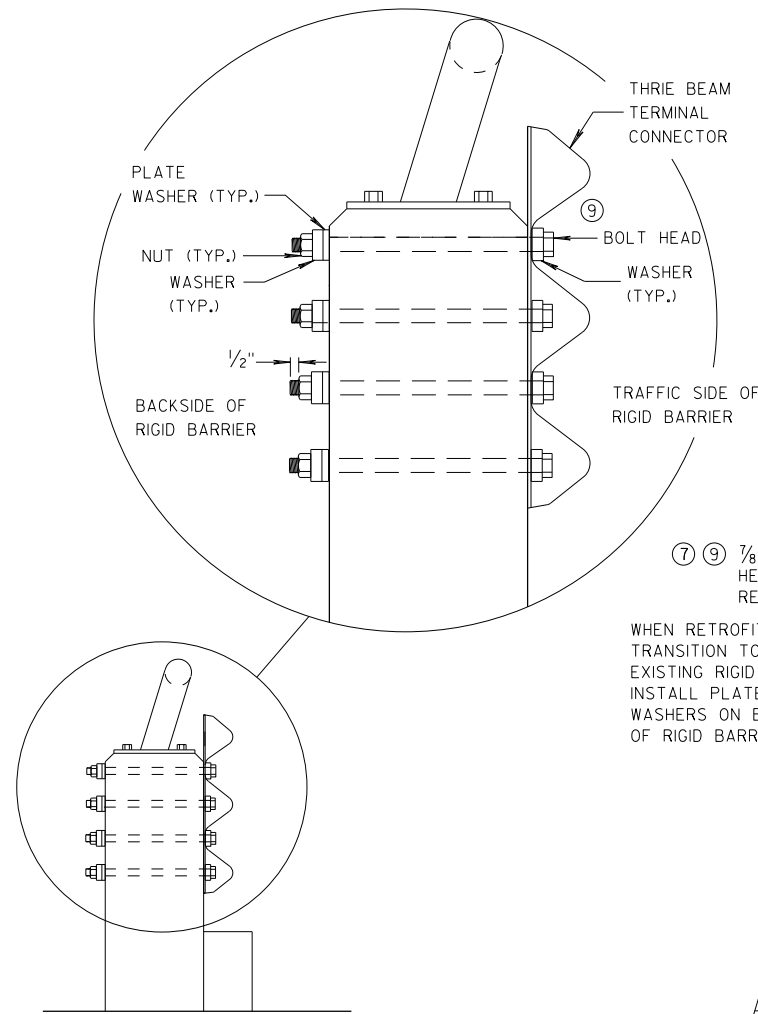
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X  $\frac{5}{32}"$  THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3  $\frac{1}{2}"$ .
- ⑨ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

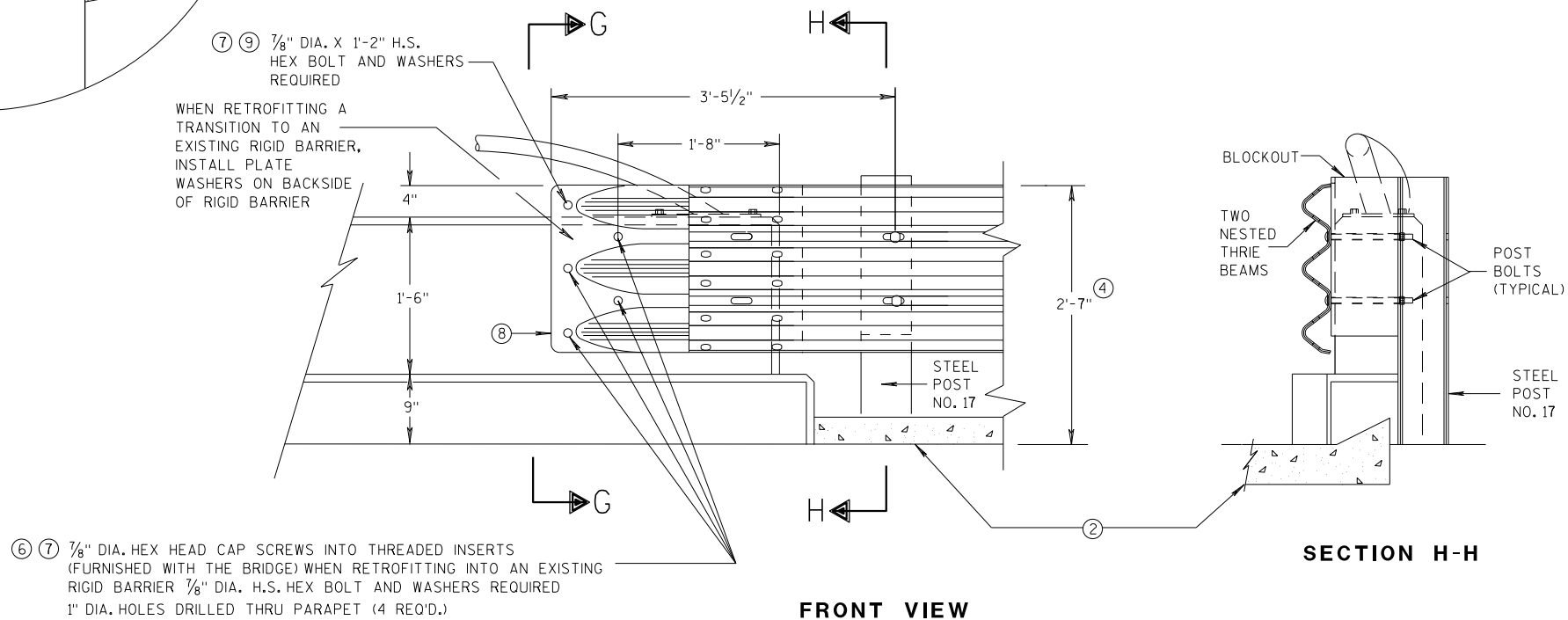


FRONT VIEW

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

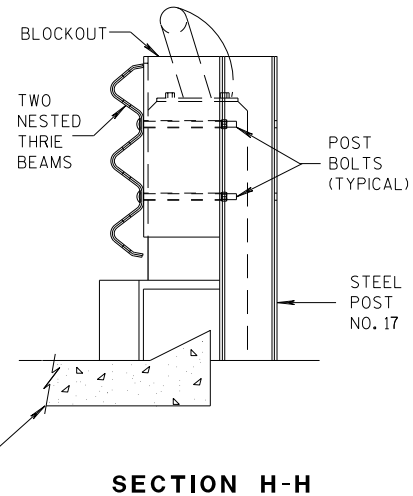


SECTION G-G



FRONT VIEW

### THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



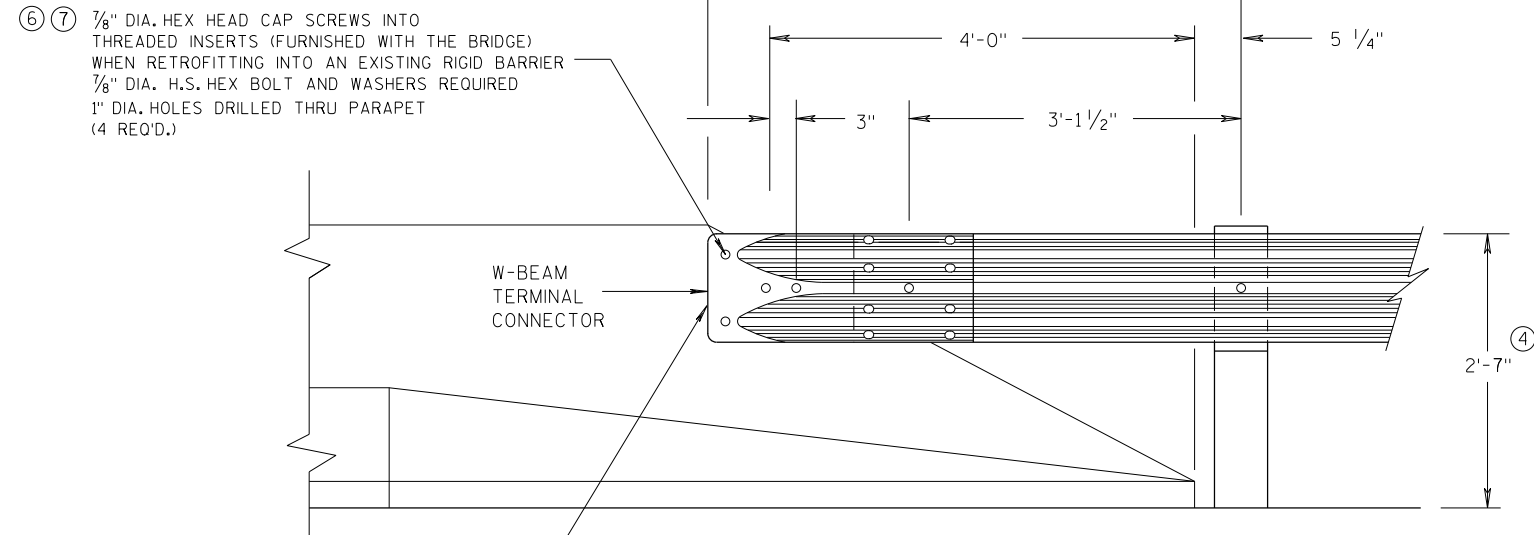
SECTION H-H

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

ONE WAY  
TRAFFIC



WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL PLATE WASHERS ON BACKSIDE OF RIGID BARRIER.

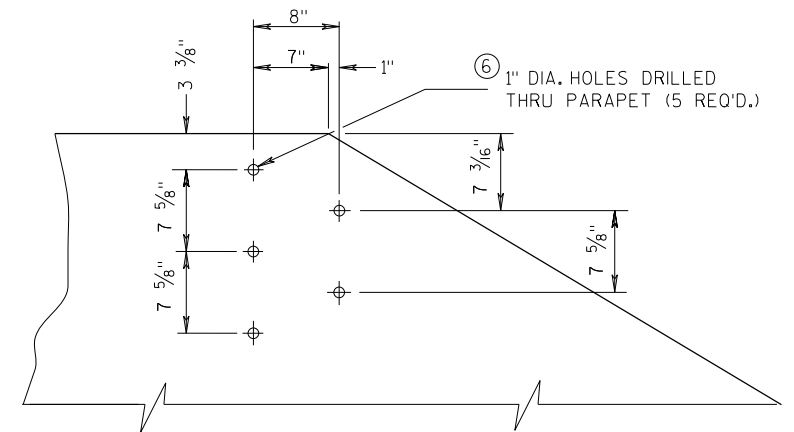
FRONT VIEW

**W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS**

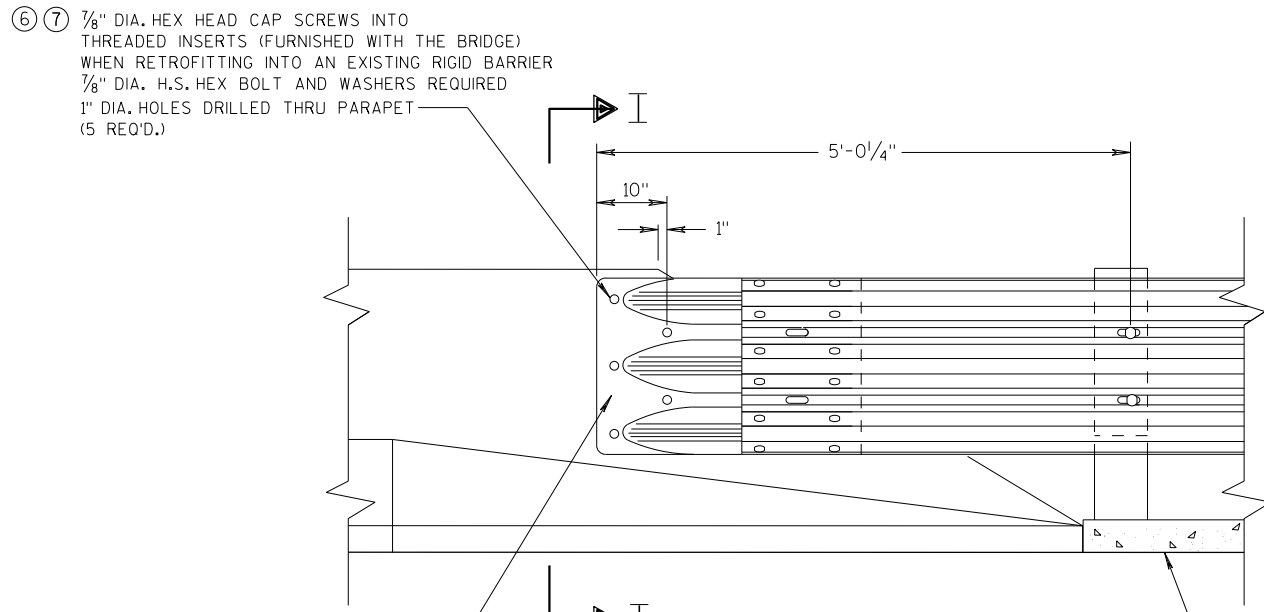
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

**GENERAL NOTES**

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



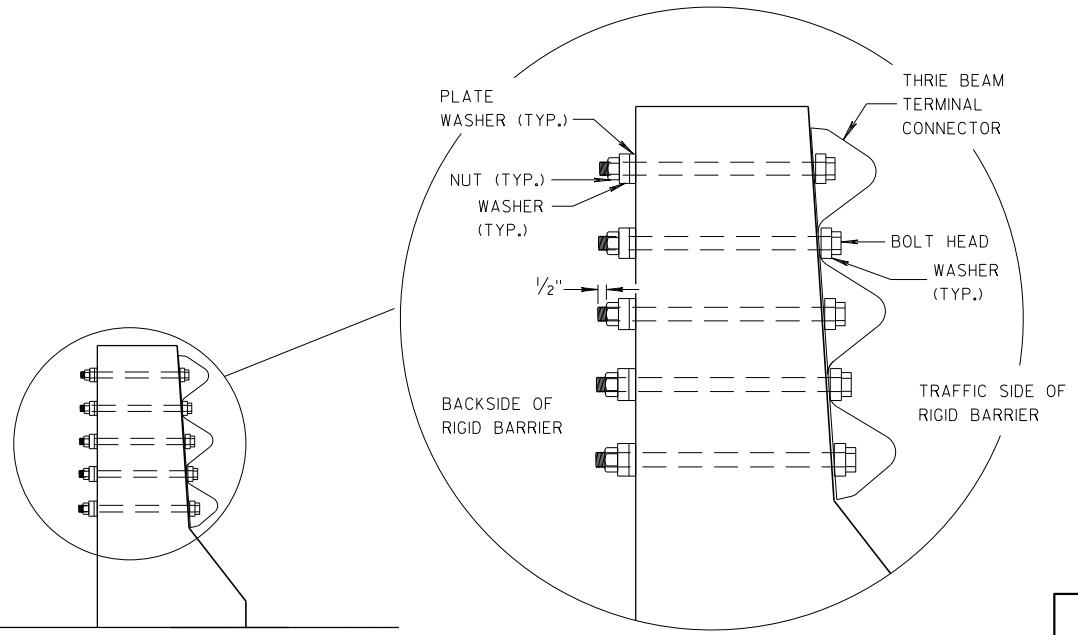
**DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION**



WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL PLATE WASHERS ON BACKSIDE OF RIGID BARRIER.

FRONT VIEW

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

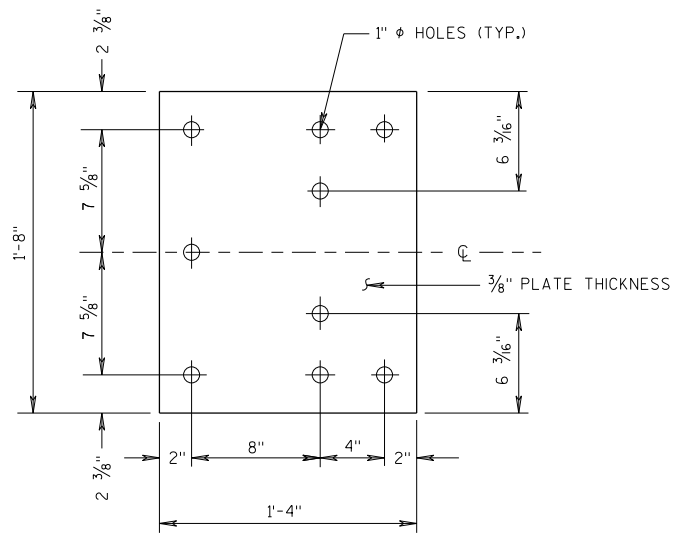


SECTION I-I

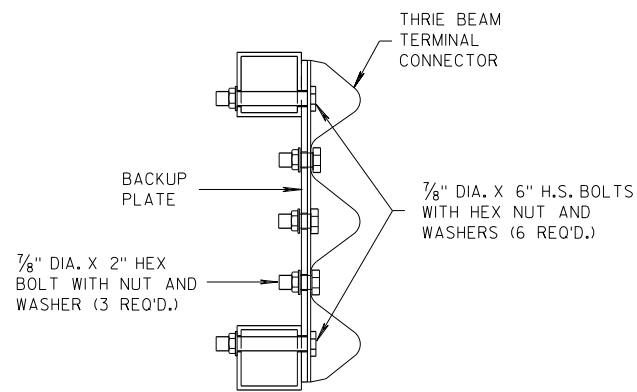
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

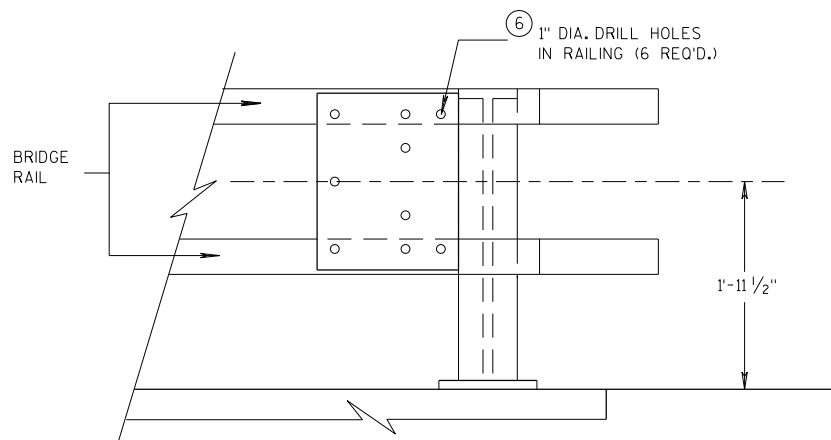
APPROVED  
DATE 07/2018 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR  
FHWA



**BACK-UP PLATE DETAIL**



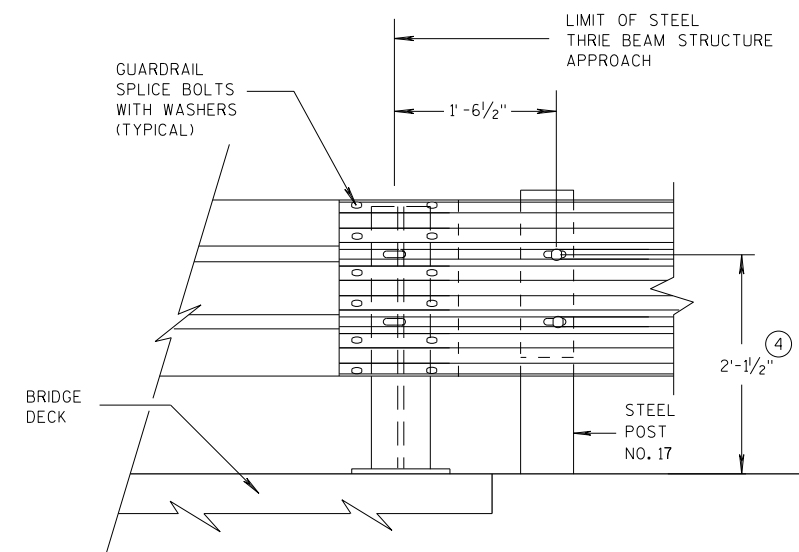
**SECTION J-J**



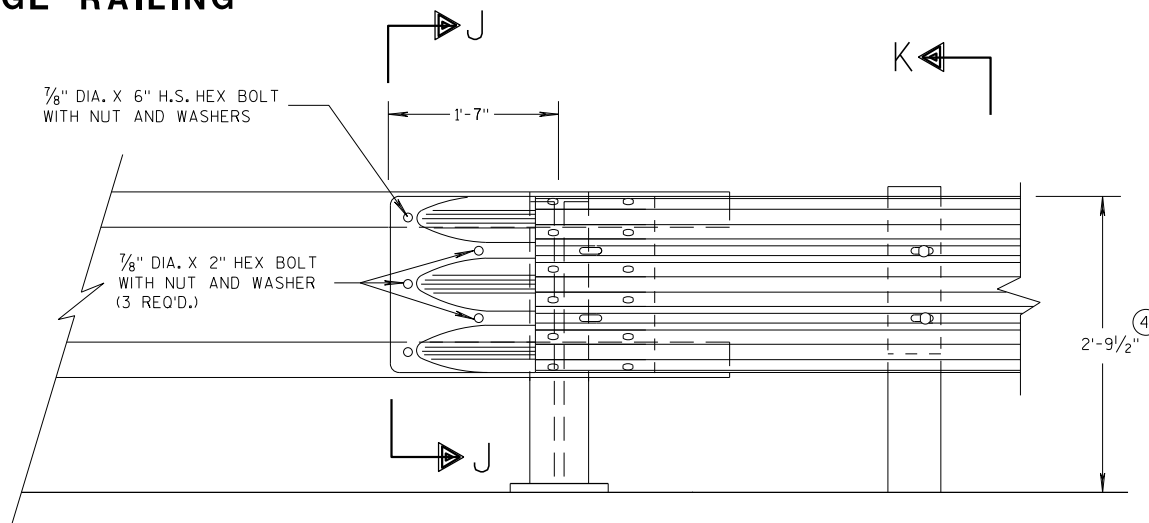
**BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING**

**GENERAL NOTES**

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

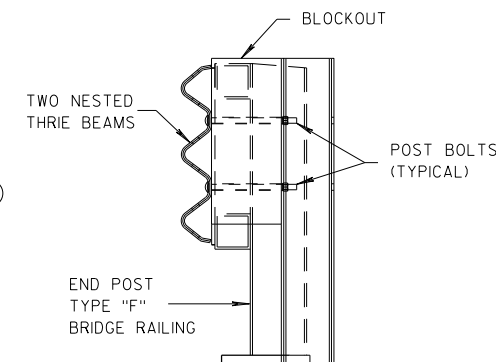


**FRONT VIEW  
THRIE BEAM CONNECTION TO  
STEEL RAILING TYPE "W"**



**FRONT VIEW**

**THRIE BEAM CONNECTION TO  
TUBULAR RAILING TYPE "F"**



**SECTION K-K**

<b>MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

6

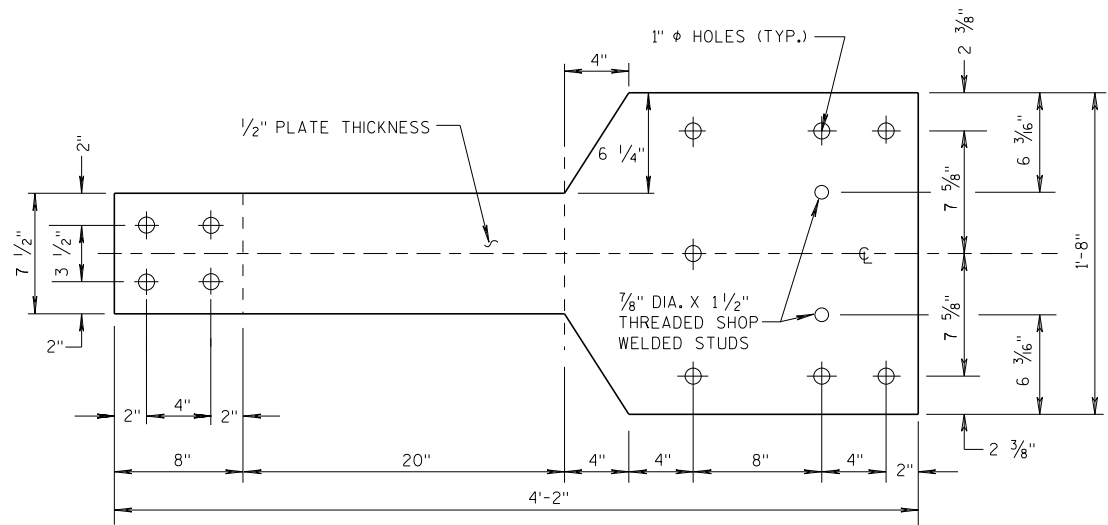
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S.D.D. 14 B 45-59

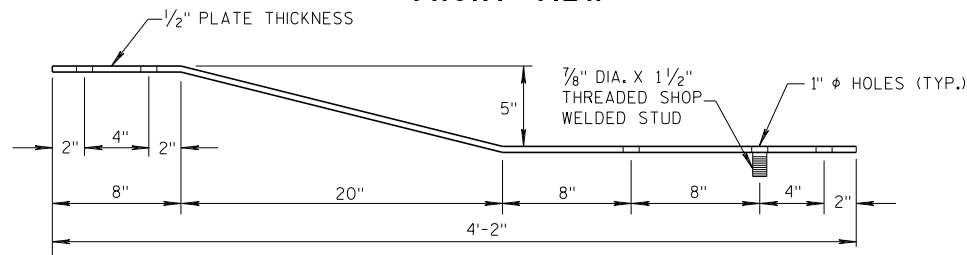
S.D.D. 14 B 45-59

**GENERAL NOTES**

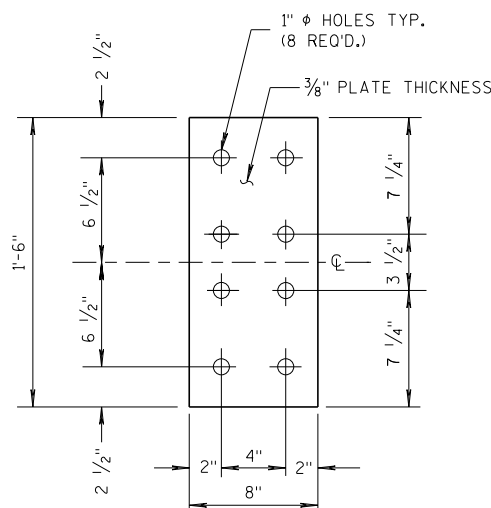
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



**FRONT VIEW**

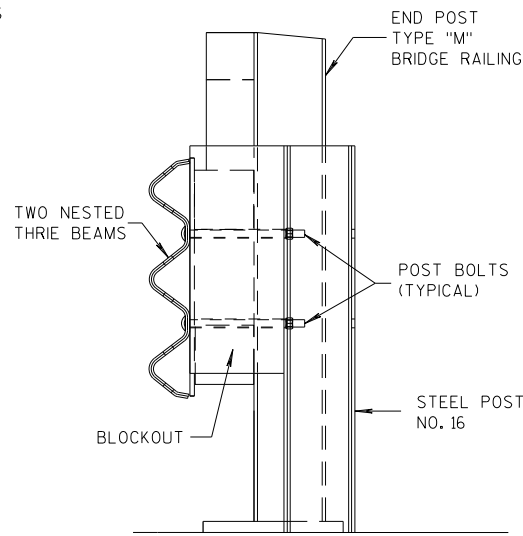


**PLAN VIEW  
BACK-UP PLATE DETAIL, TYPE "M"**

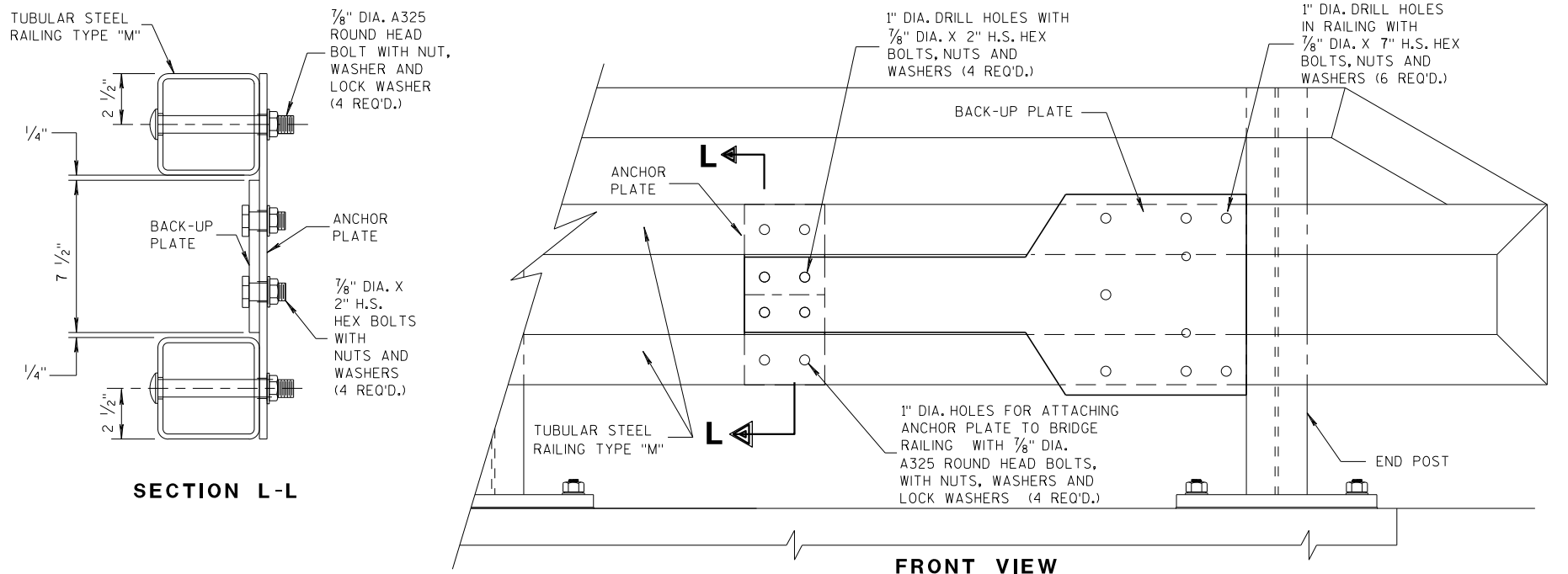


**FRONT VIEW**

**ANCHOR  
PLATE DETAIL,  
TYPE "M"**



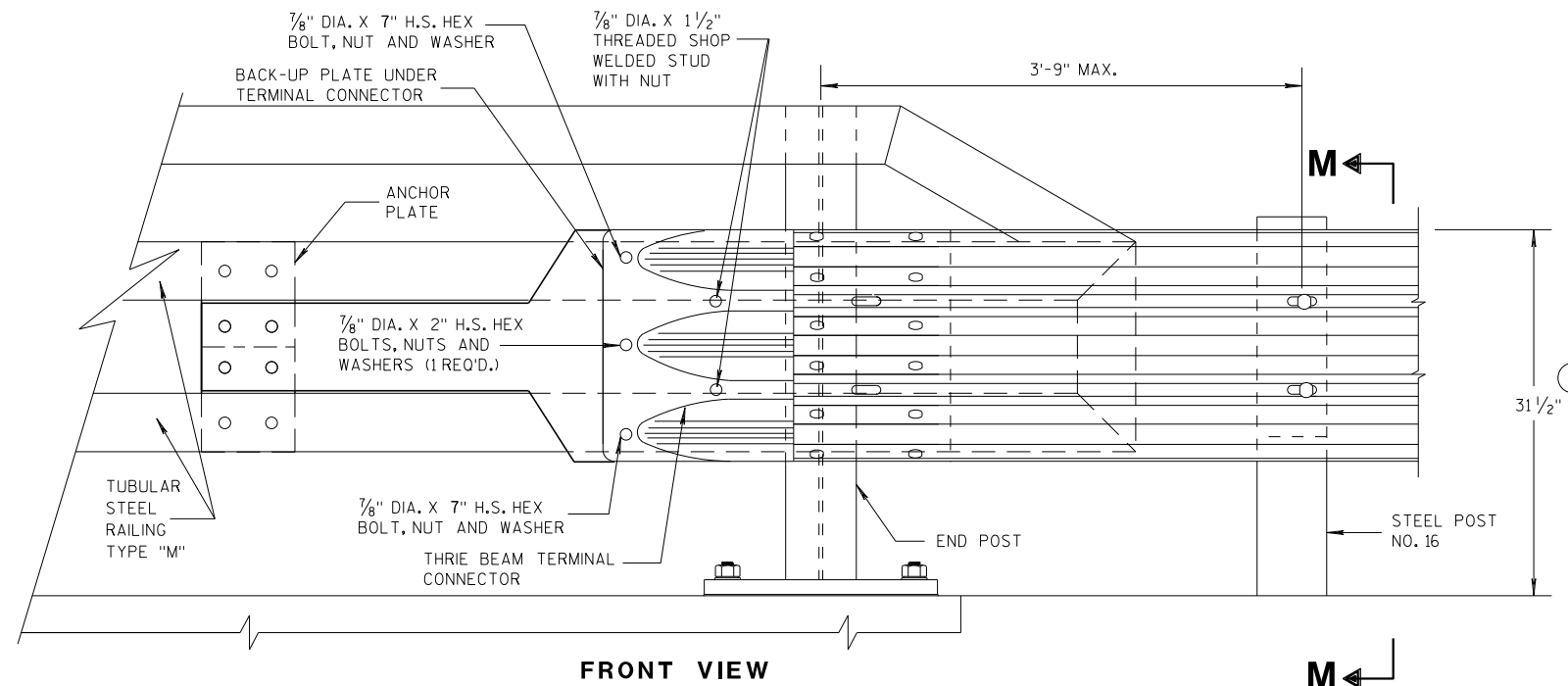
**SECTION M-M**



**SECTION L-L**

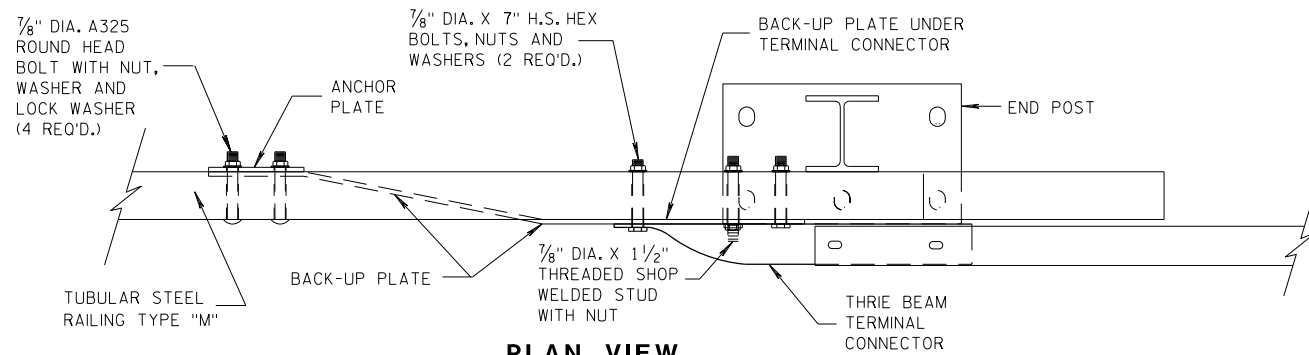
**FRONT VIEW**

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



**FRONT VIEW**

**M**



**PLAN VIEW**

**THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"**

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

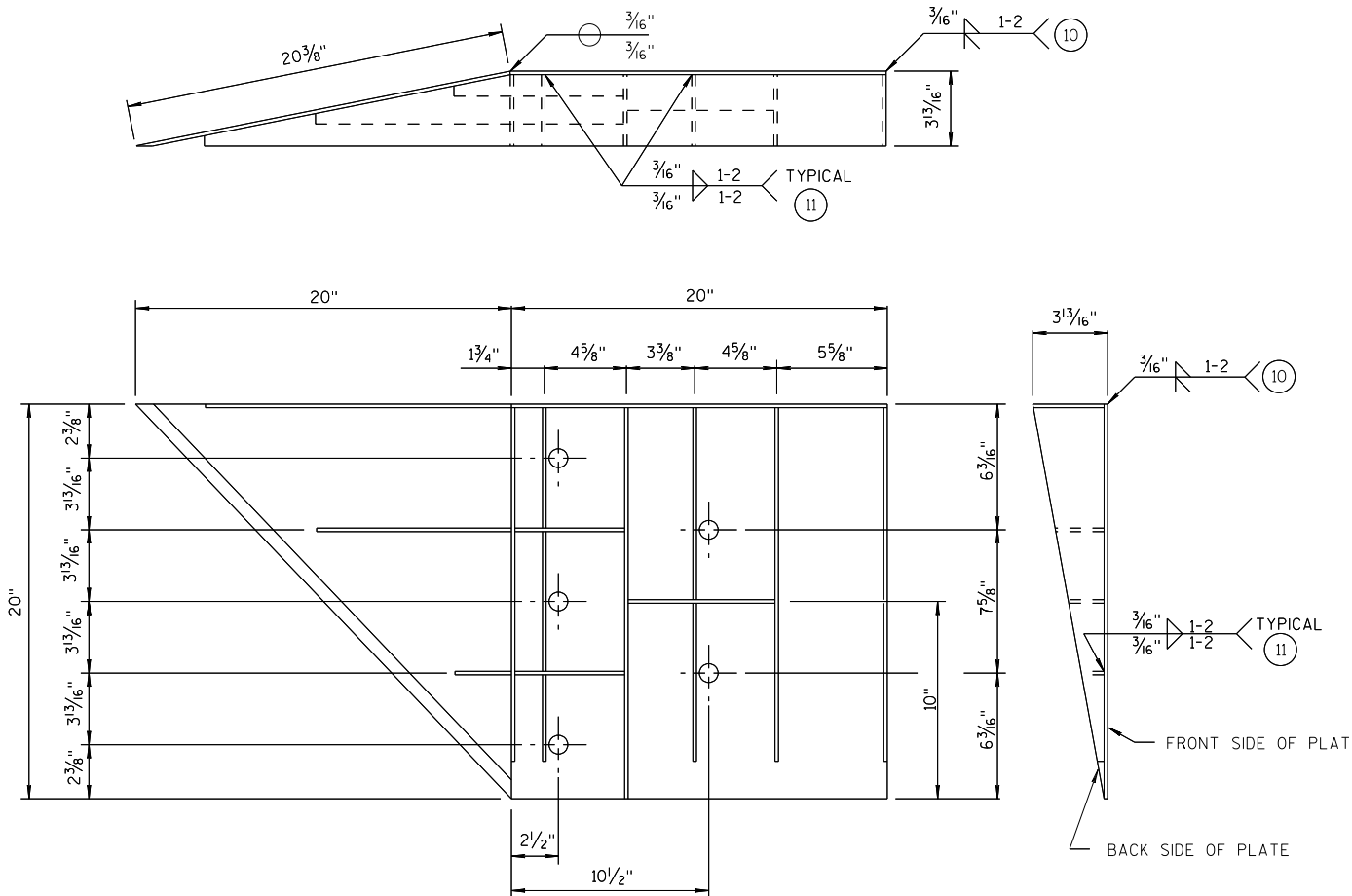
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DATE 07/2018 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA



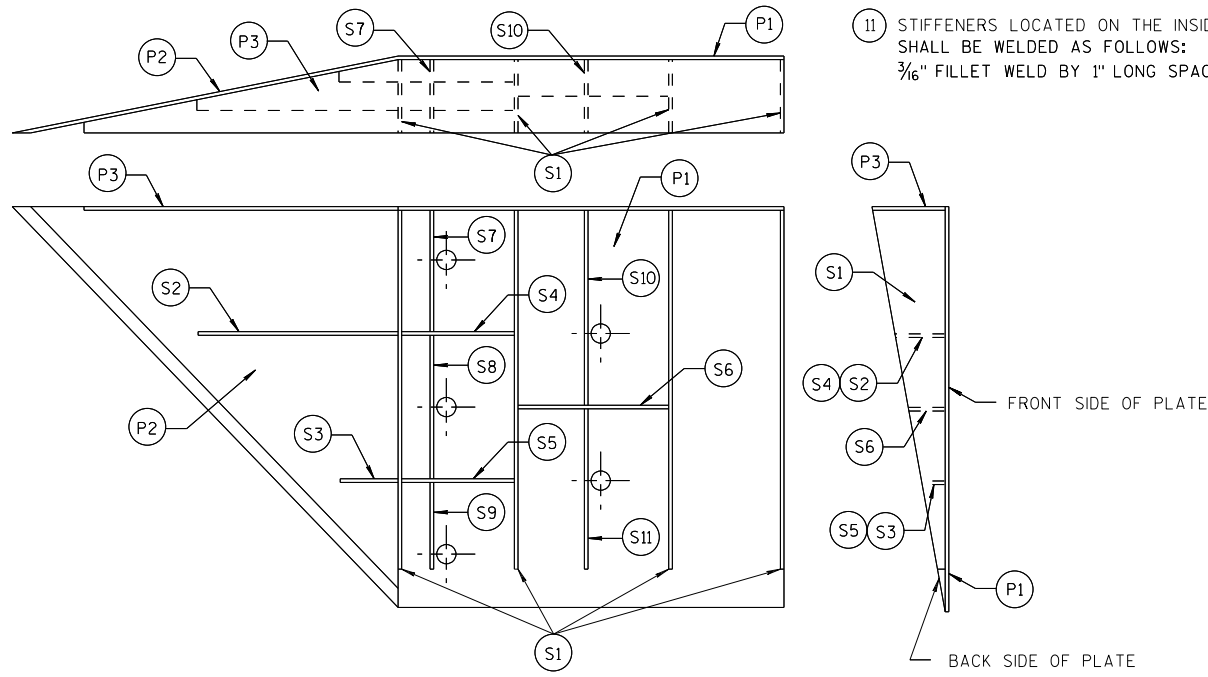
**GENERAL NOTES**

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

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



**WELDING INSTRUCTION**  
(VIEWED FROM BACK SIDE OF PLATE)



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

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

**SINGLE SLOPE CONNECTION PLATE**

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018  
DATE

/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

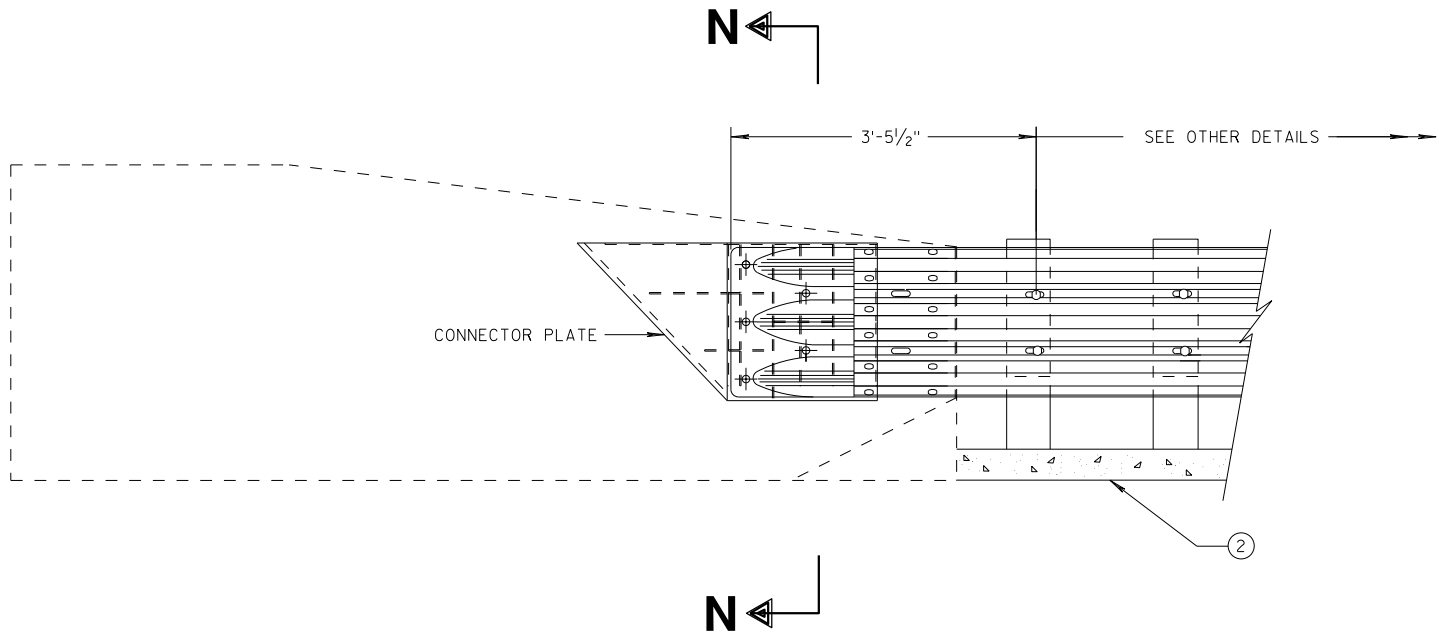
FHWA

**GENERAL NOTES**

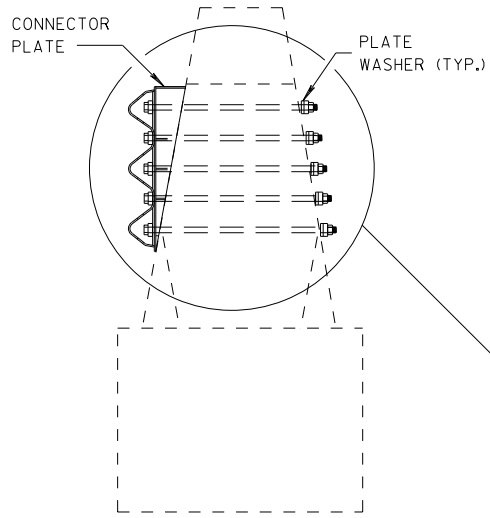
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

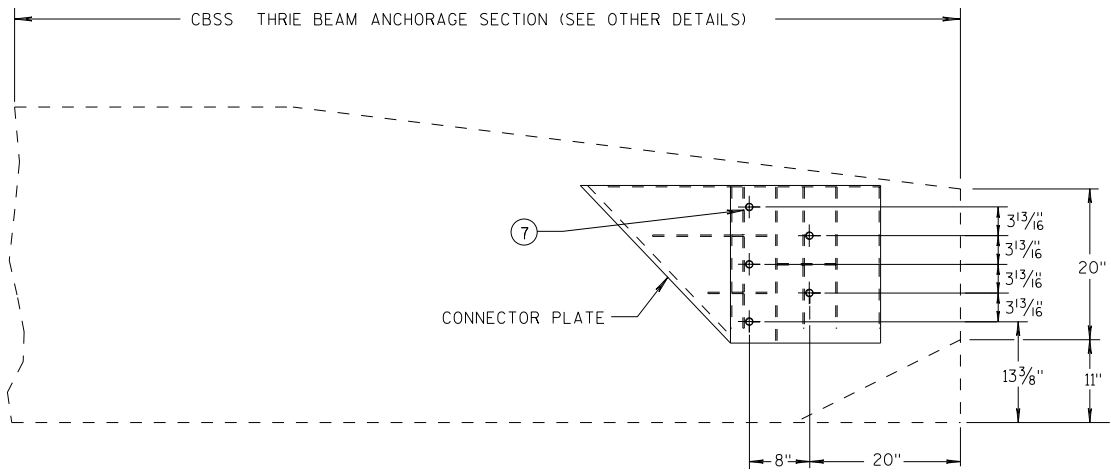
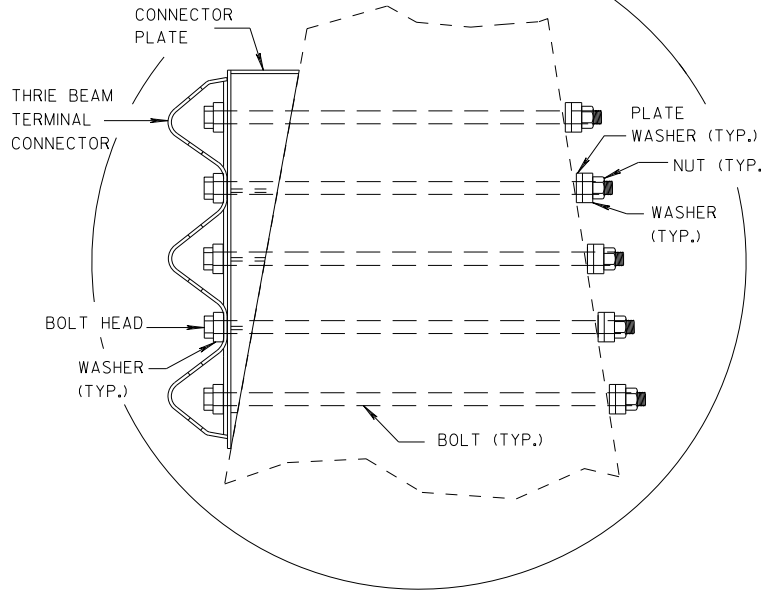
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTION PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



**THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER**



**SECTION N-N**

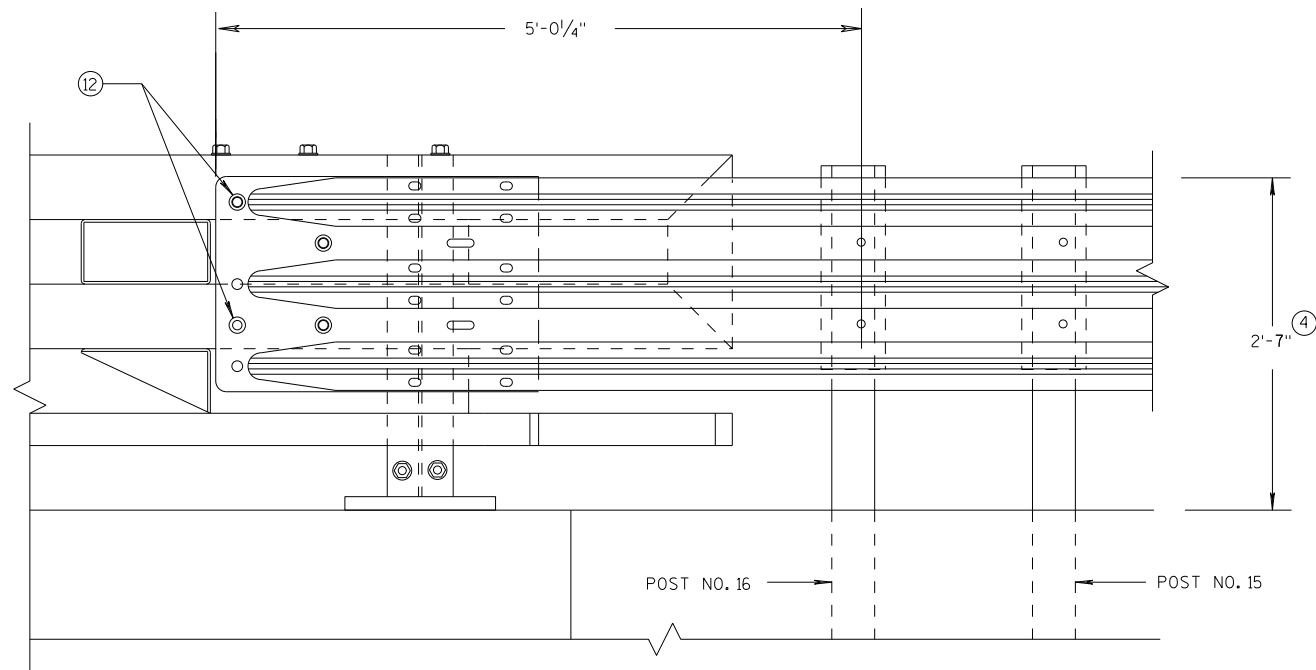


**SINGLE SLOPE CONNECTION PLATE PLACEMENT**

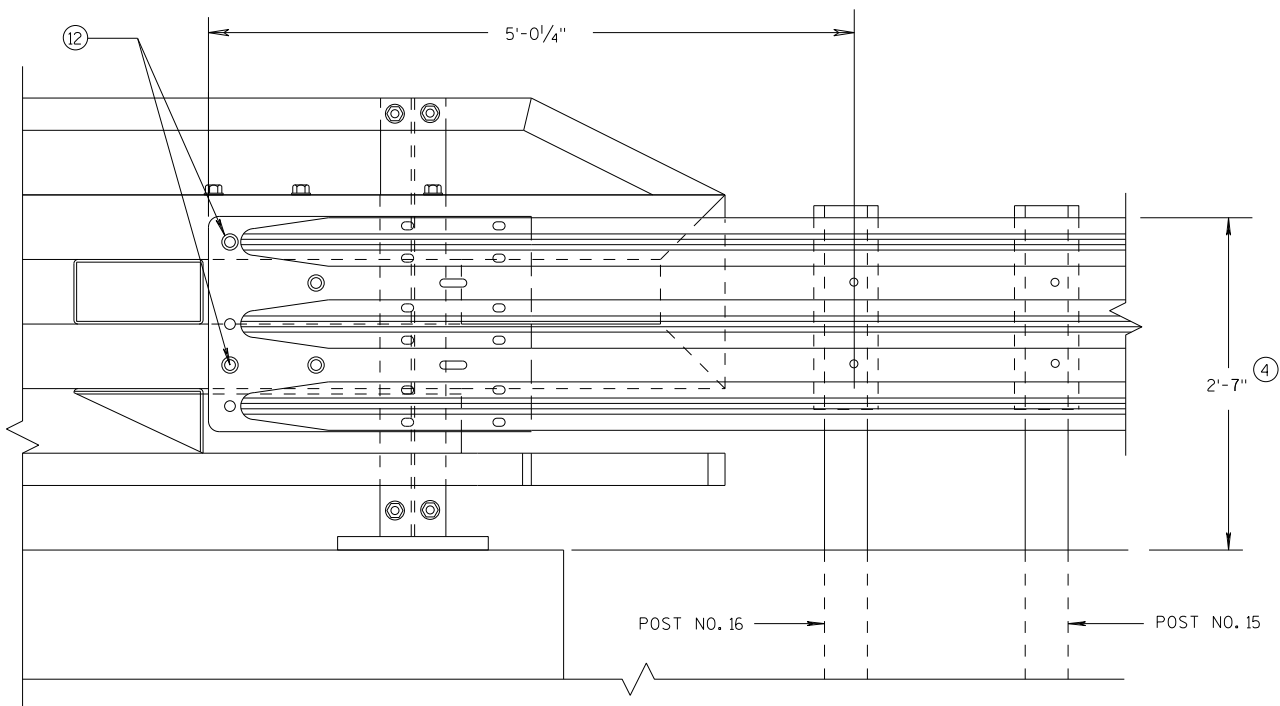
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**ELEVATION OF DETAIL AT NY3 END POST  
THRIE BEAM RAIL ATTACHMENT**



**ELEVATION OF DETAIL AT NY4 END POST  
THRIE BEAM RAIL ATTACHMENT**

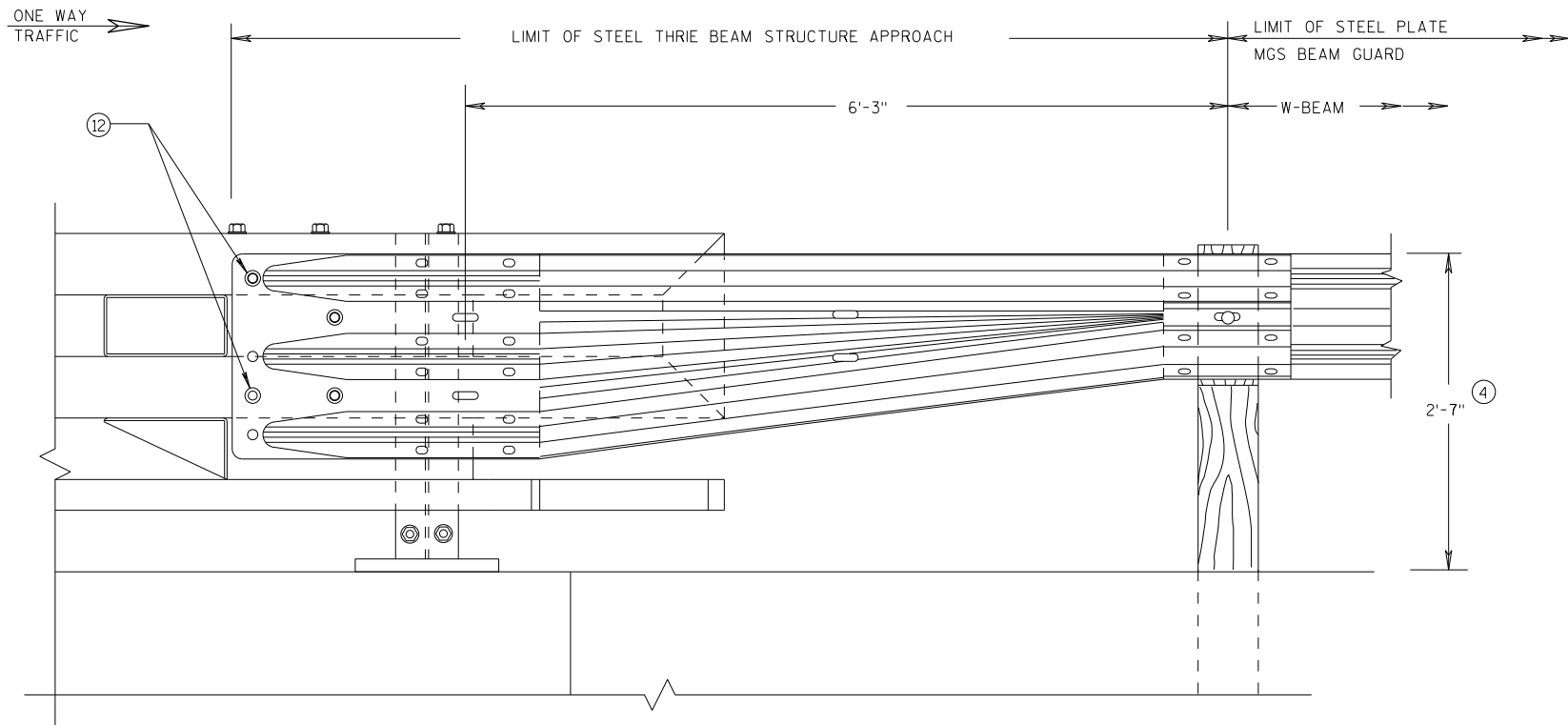
**GENERAL NOTES**

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

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

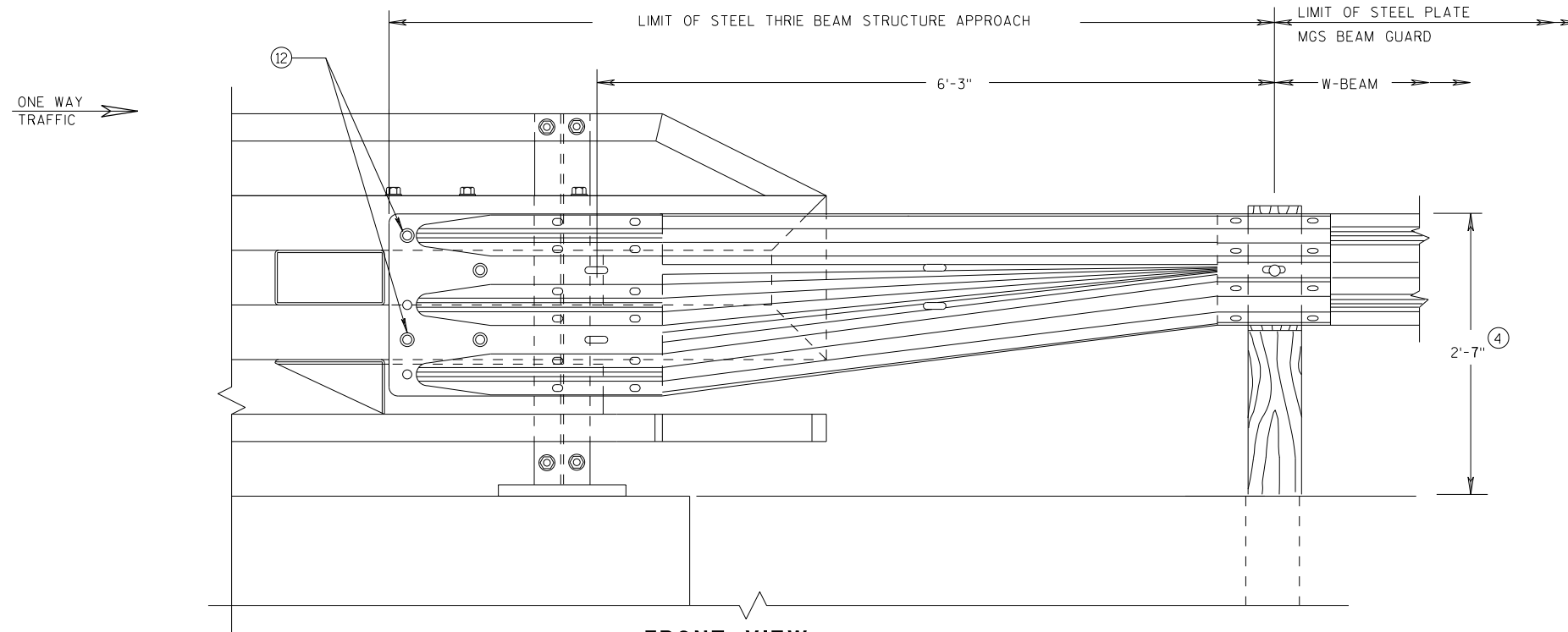
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ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA



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

**GENERAL NOTES**

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

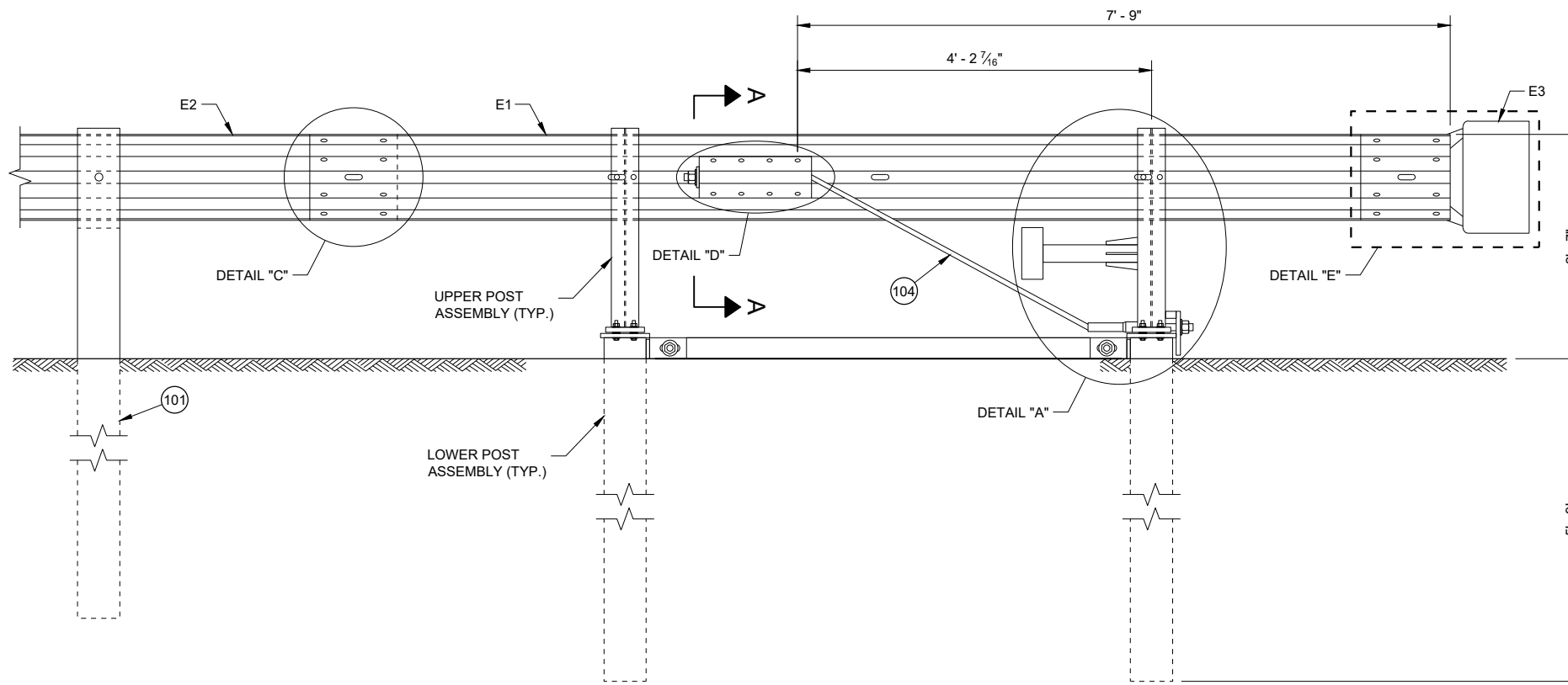


**FRONT VIEW**  
**W BEAM TRANSITION AND**  
**CONNECTION TO BRIDGE RAILING TYPE "NY4"**  
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

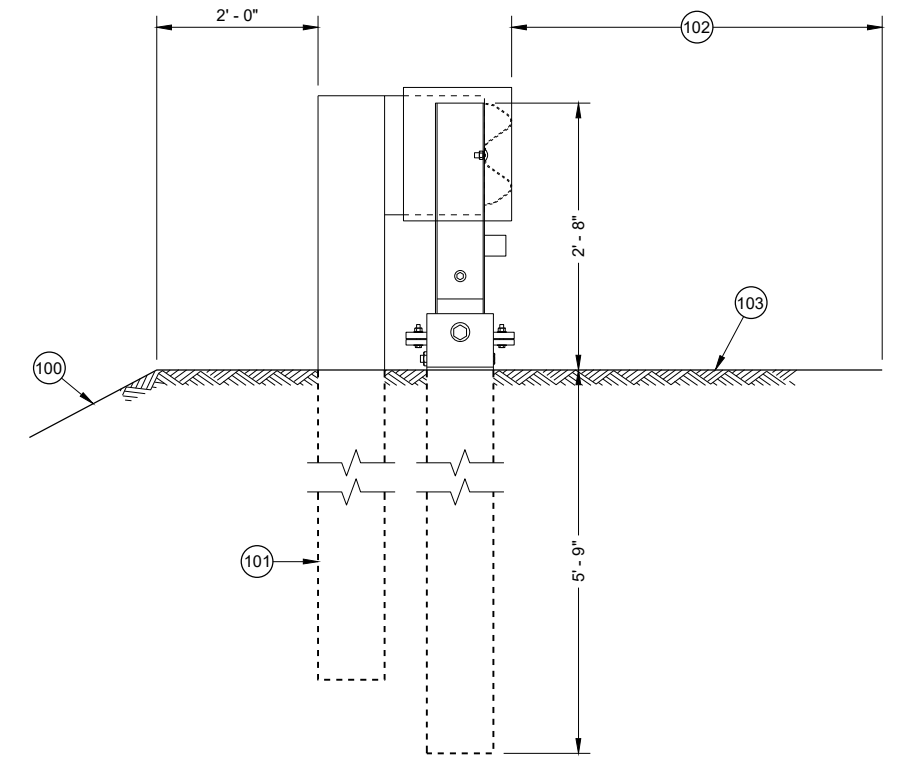
**MIDWEST GUARDRAIL SYSTEM**  
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

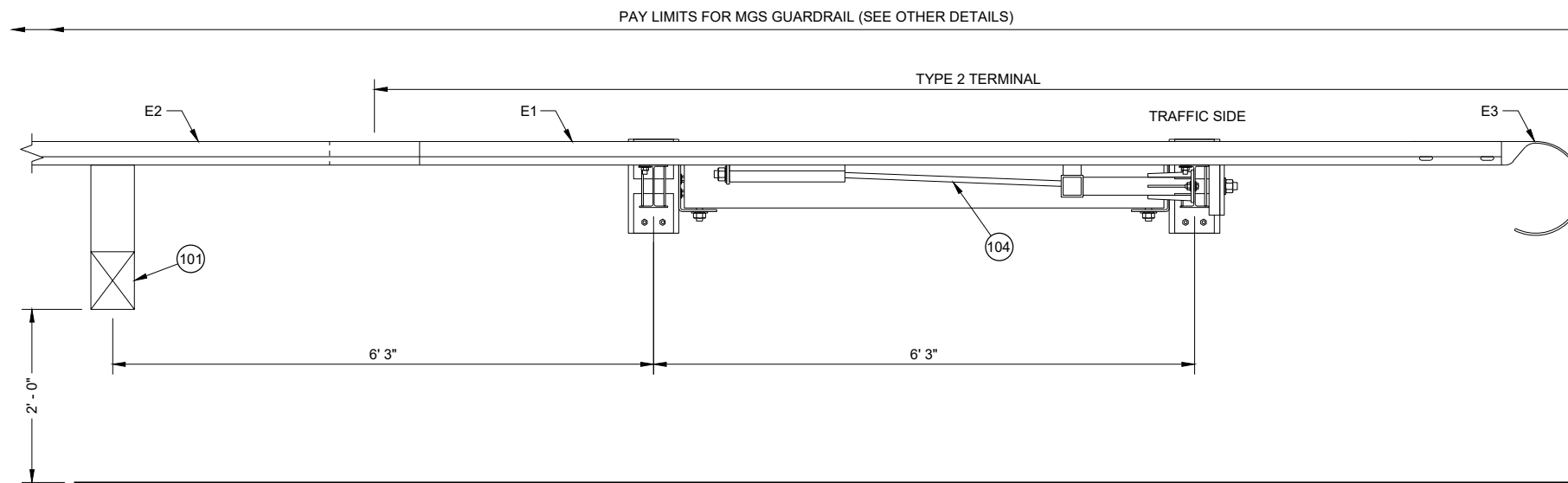
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 UNIT SUPERVISOR  
 FHWA



**BACK VIEW  
TYPE 2 TERMINAL**



**SIDE VIEW  
TYPE 2 TERMINAL**



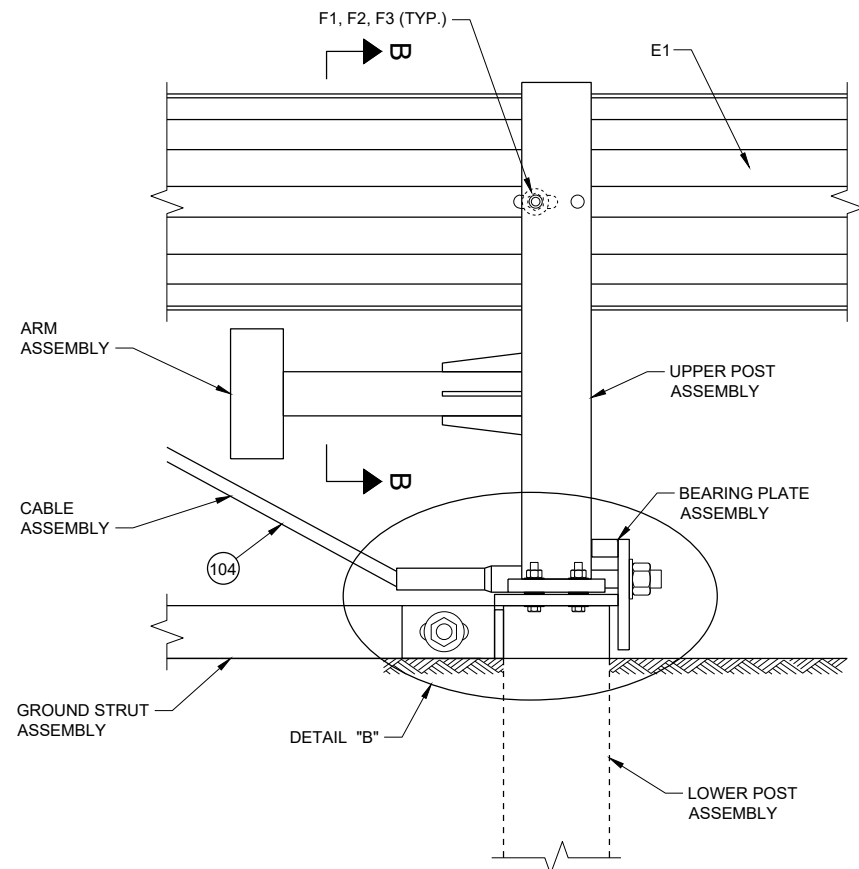
**TOP VIEW  
TYPE 2 TERMINAL**

**GENERAL NOTES**

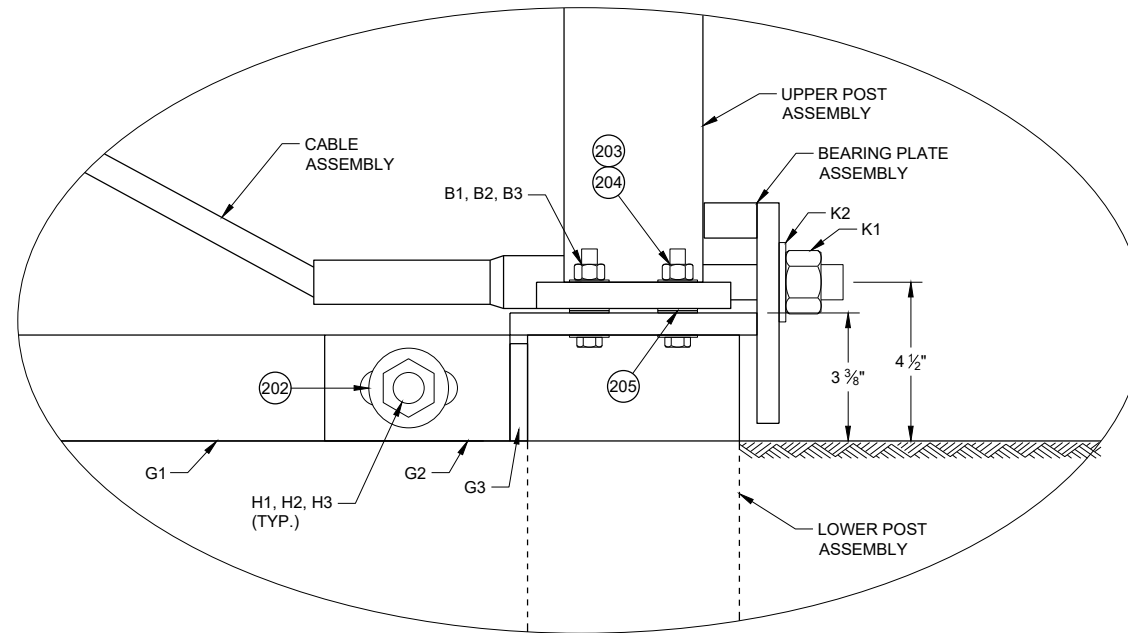
- (100) MAXIMUM SLOPE IS 2.5:1.
- (101) SEE SDD 14B42 FOR MORE INFORMATION.
- (102) SHOULDER
- (103) MAXIMUM SLOPE IS 10:1.
- (104) AFTER ASSEMBLY, CABLE IS TO BE TIGHTENED WITHOUT TWISTING THE CABLE.

**MIDWEST GUARDRAIL  
SYSTEM (MGS)  
TYPE 2 TERMINAL**

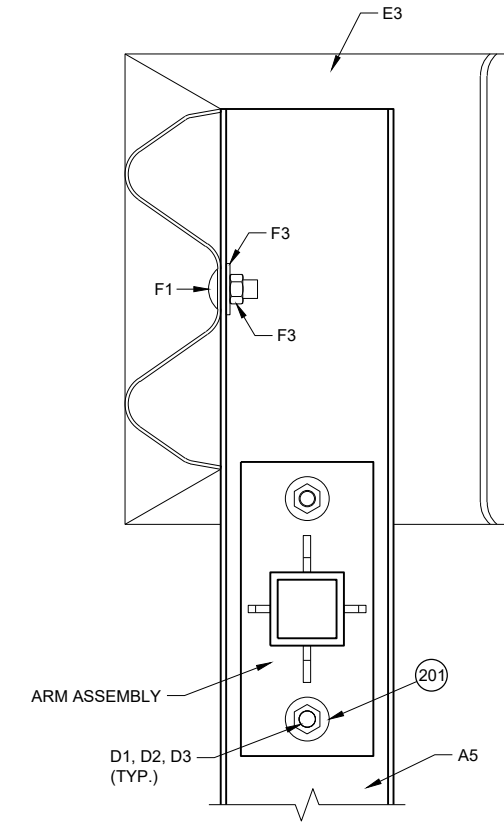
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



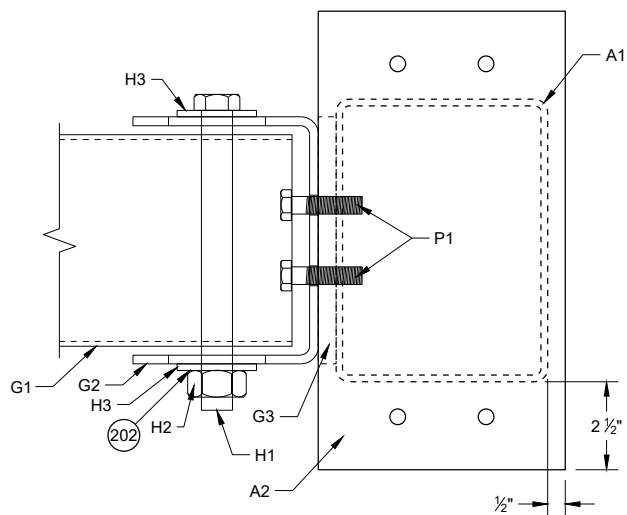
**DETAIL "A"**



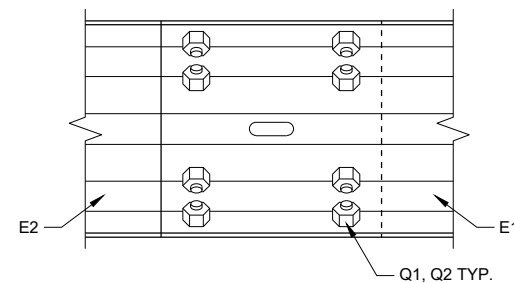
**DETAIL "B"**



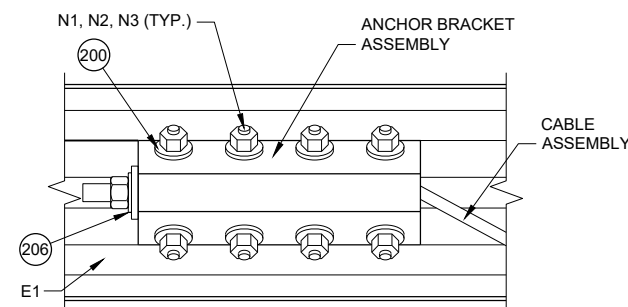
**SECTION B - B**



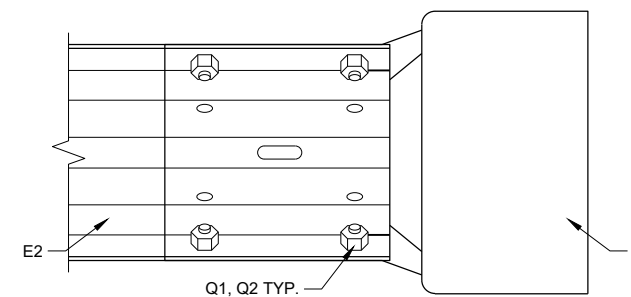
**TOP VIEW  
GROUND STRUT  
CONNECTION DETAIL**



**DETAIL "C"**



**DETAIL "D"**



**DETAIL "E"**

**GENERAL NOTES**

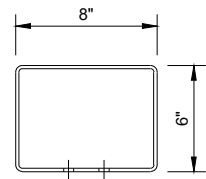
- 200 INSTALL ONE WASHER UNDER BOLT HEAD AND RAIL AND ON WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.
- 201 INSTALL ONE WASHER UNDER BOLT HEAD AND UPPER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND ARM PLATE.
- 202 INSTALL ONE WASHER UNDER BOLT HEAD AND GROUND STRUT CONNECTOR AND ONE WASHER BETWEEN 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.

**MIDWEST GUARDRAIL  
SYSTEM (MGS)  
TYPE 2 TERMINAL**

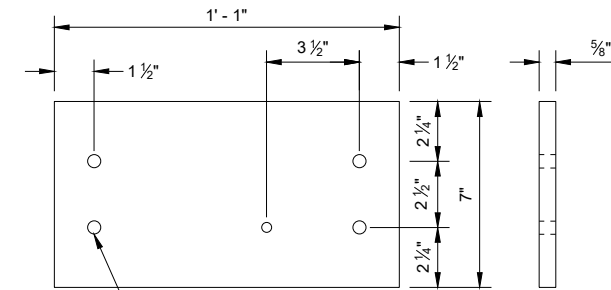
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

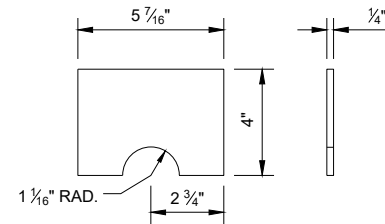
(300) TAP FOR 1/2" AFTER GALVANIZATION



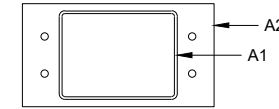
**TOP VIEW**



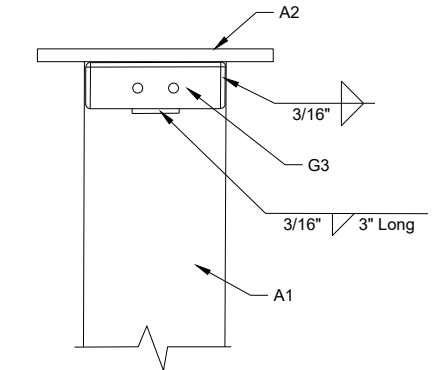
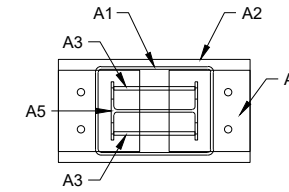
**LOWER PLATE (A2)**



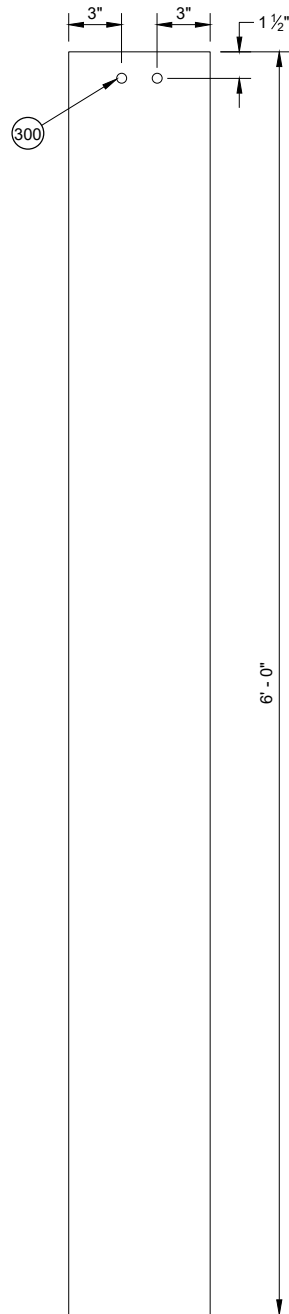
**POST GUSSET (A3)**



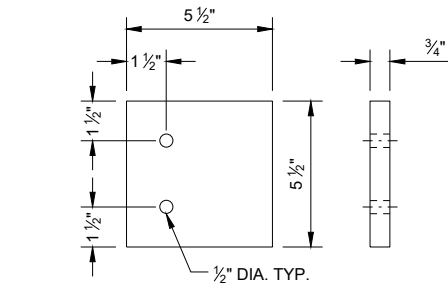
**PLAN VIEW**



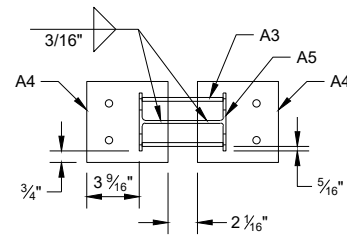
**WELDING DETAIL G3 AND A1**



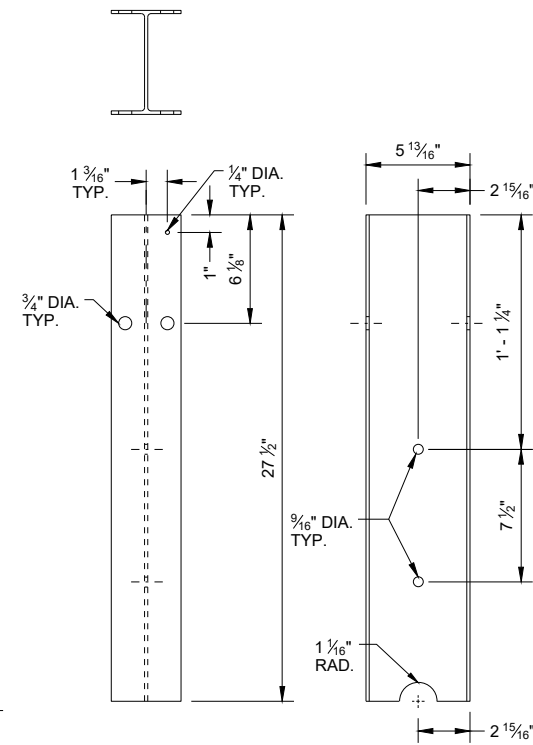
**FOUNDATION TUBE (A1)**



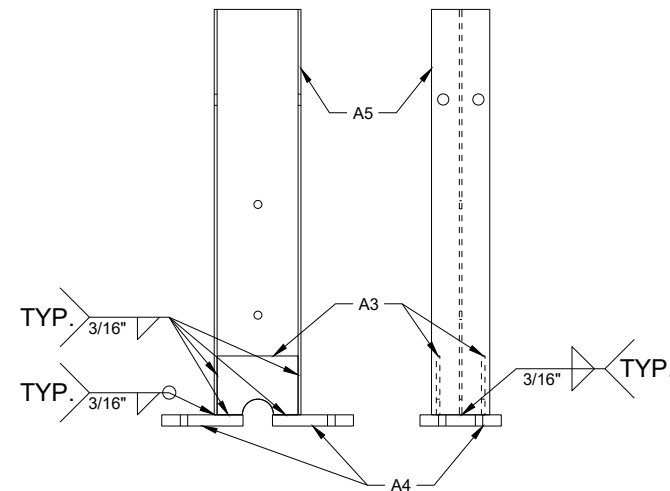
**UPPER PLATE (A4)**



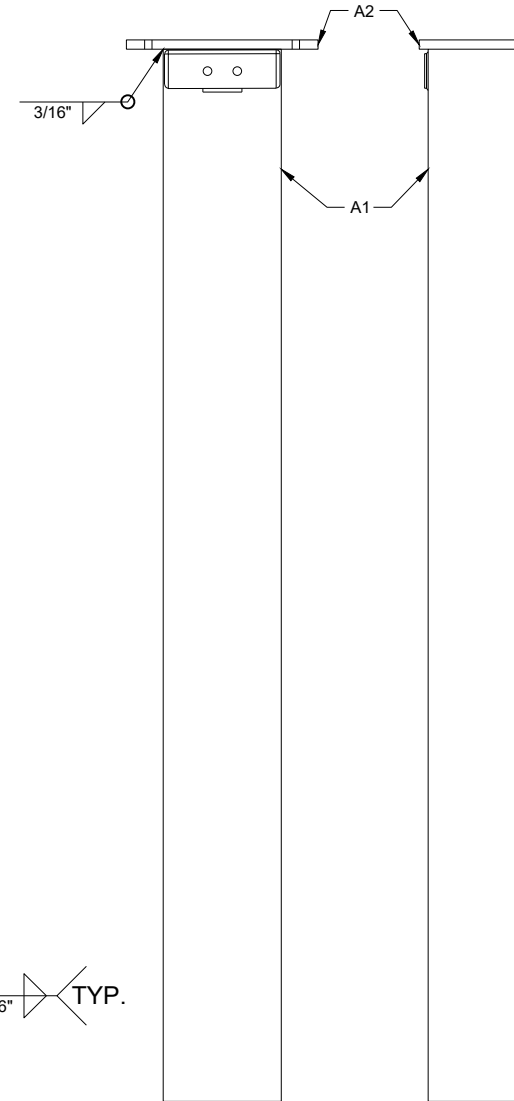
**PLAN VIEW**



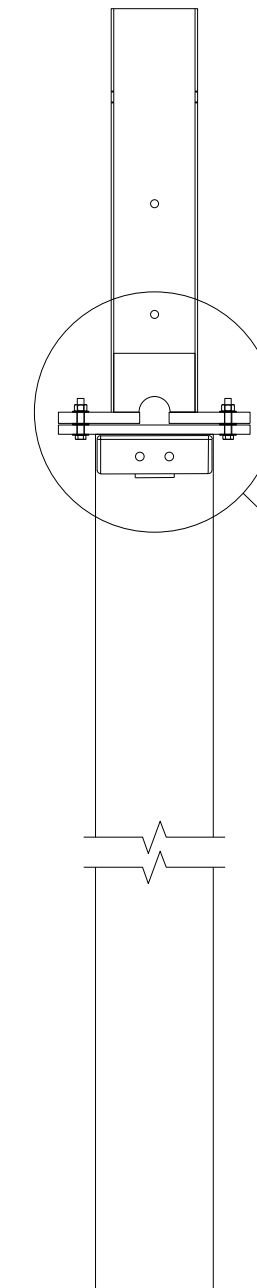
**TYPE 2 POST (A5)**



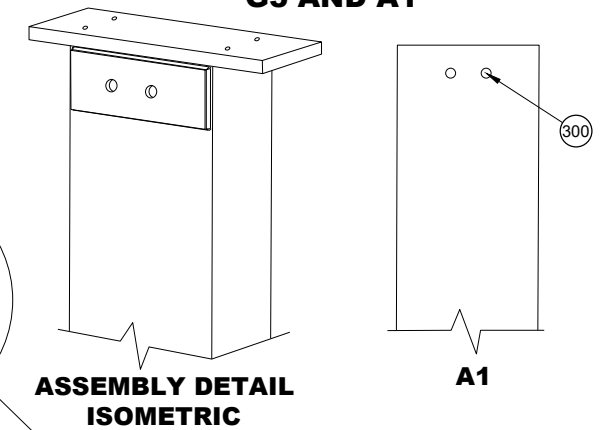
**UPPER POST ASSEMBLY**



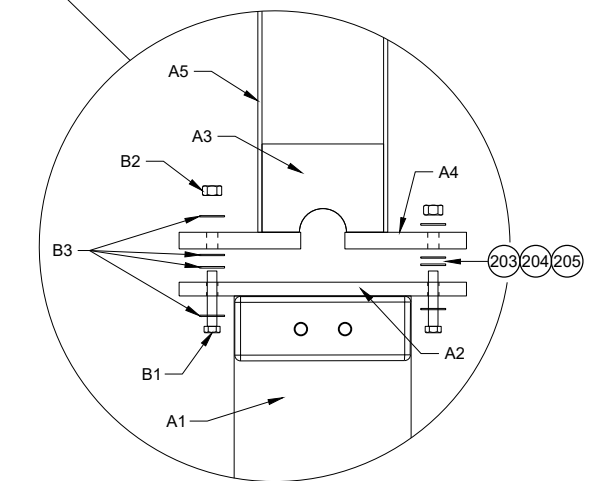
**LOWER POST ASSEMBLY**



**ASSEMBLED POST**



**ASSEMBLY DETAIL ISOMETRIC**

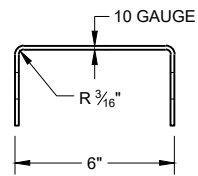


**POST CONNECTION DETAIL**

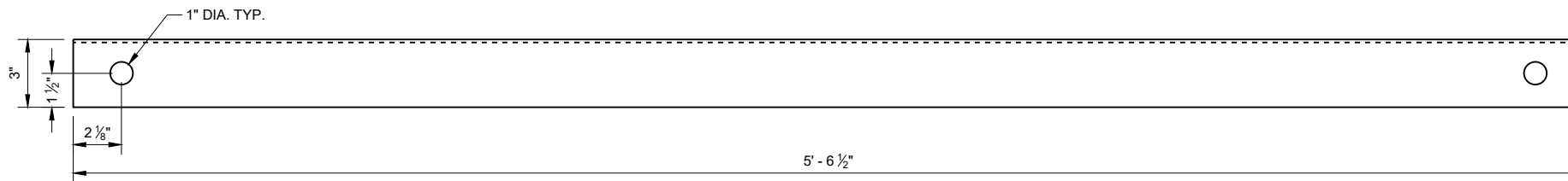
**MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



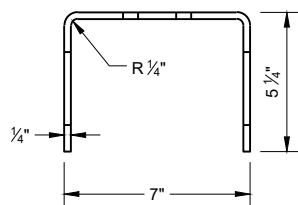


**SIDE VIEW**

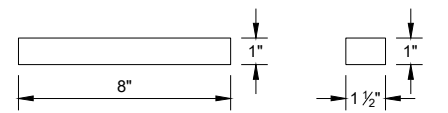


**FRONT VIEW**

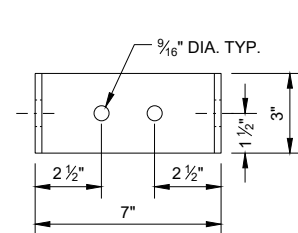
**GROUND STRUT CHANNEL (G1)**



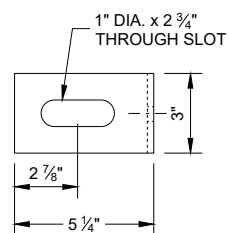
**TOP VIEW**



**BEARING PLATE FLANGE (L2)**

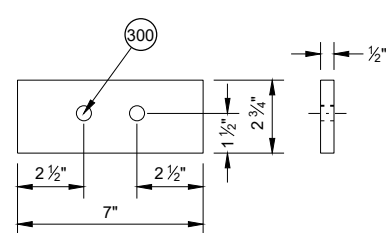


**FRONT VIEW**

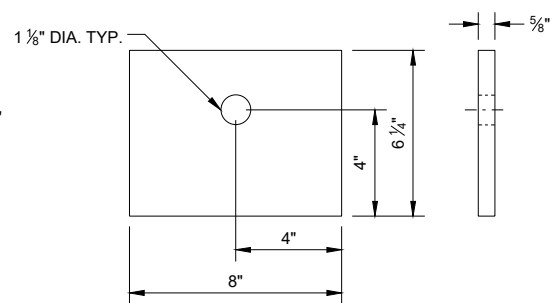


**SIDE VIEW**

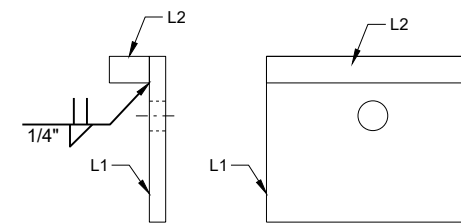
**GROUND STRUT CONNECTOR (G2)**



**GROUND STRUT PLATE (G3)**



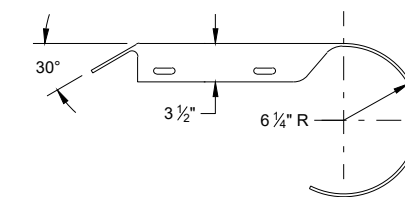
**BEARING PLATE (L1)**



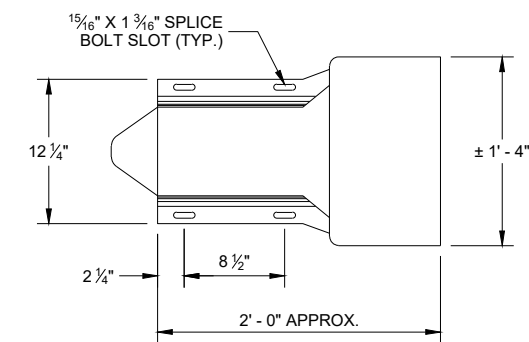
**SIDE VIEW**

**FRONT VIEW**

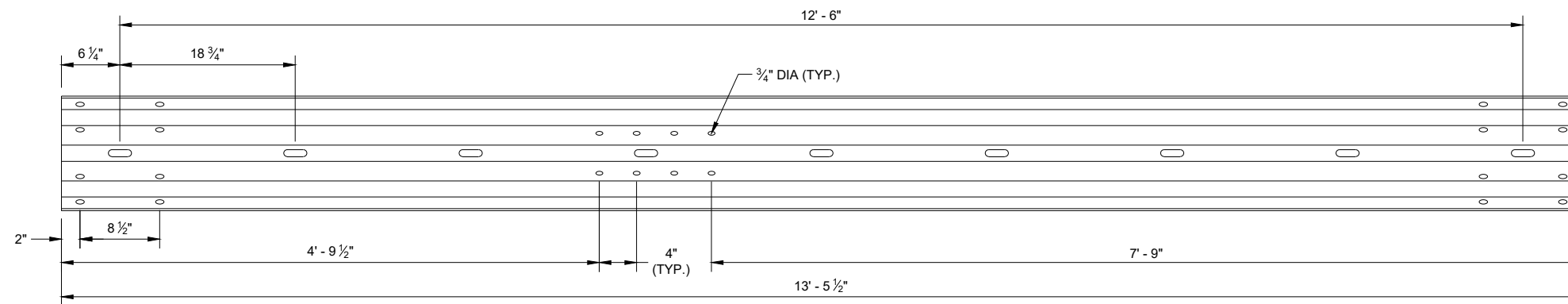
**BEARING PLATE ASSEMBLY**



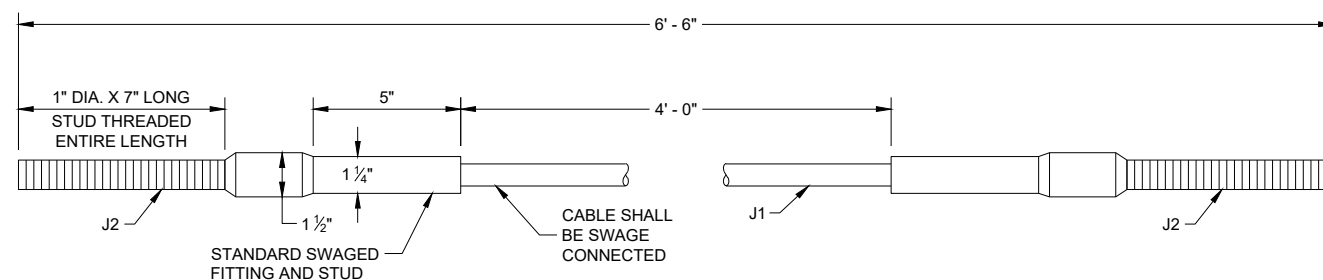
**PLAN VIEW**



**ELEVATION VIEW  
ROUNDED BUFFER END (E3)**



**TYPE 2 GUARDRAIL (E1)**



**CABLE ASSEMBLY**

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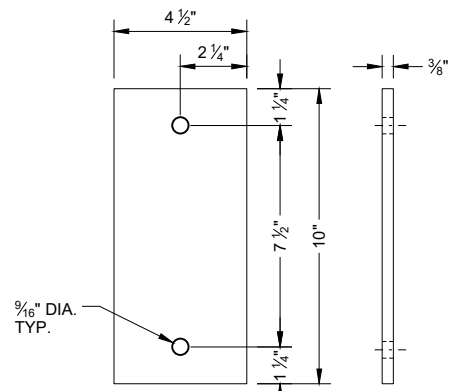
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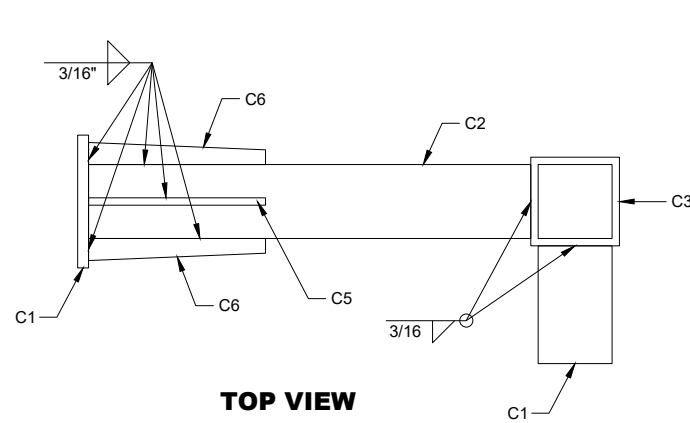
SDD 14B47 - 05d

**MIDWEST GUARDRAIL  
SYSTEM (MGS)  
TYPE 2 TERMINAL**

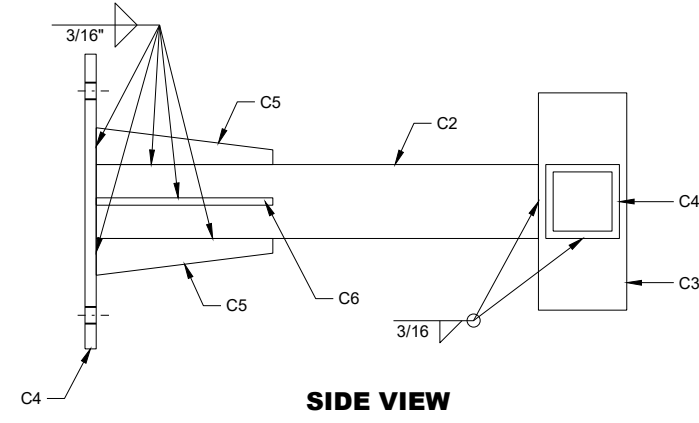
STATE OF WISCONSIN  
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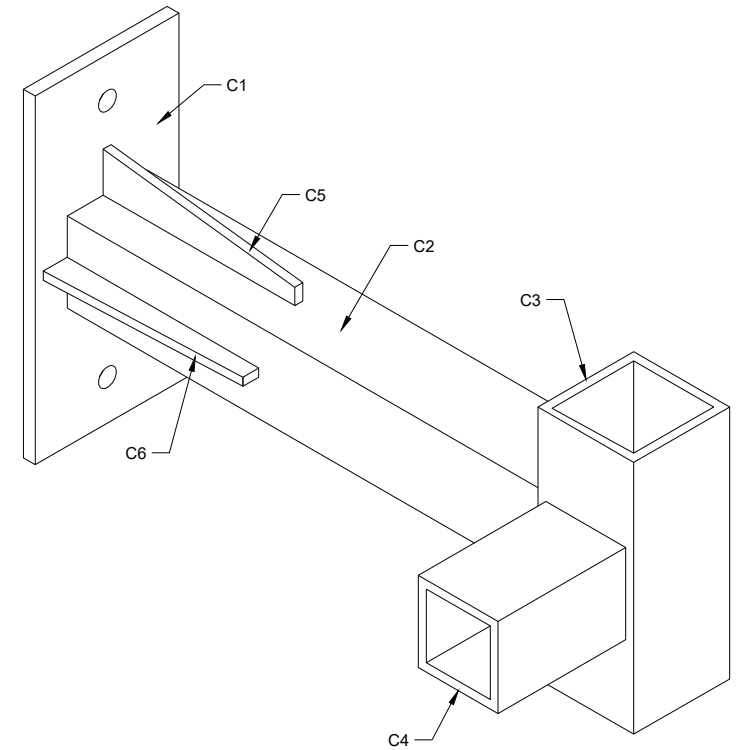
**ARM PLATE (C1)**



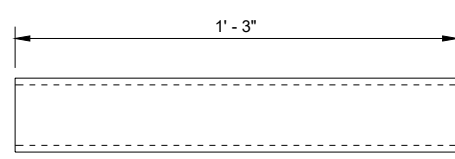
**TOP VIEW  
ARM ASSEMBLY**



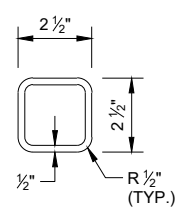
**SIDE VIEW  
ARM ASSEMBLY**



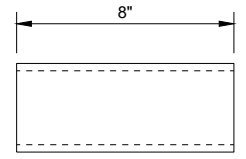
**ISOMETRIC VIEW  
ARM ASSEMBLY**



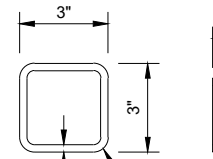
**ARM TUBE 1 (C2)**



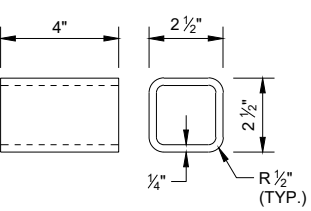
**ARM TUBE 2 (C3)**



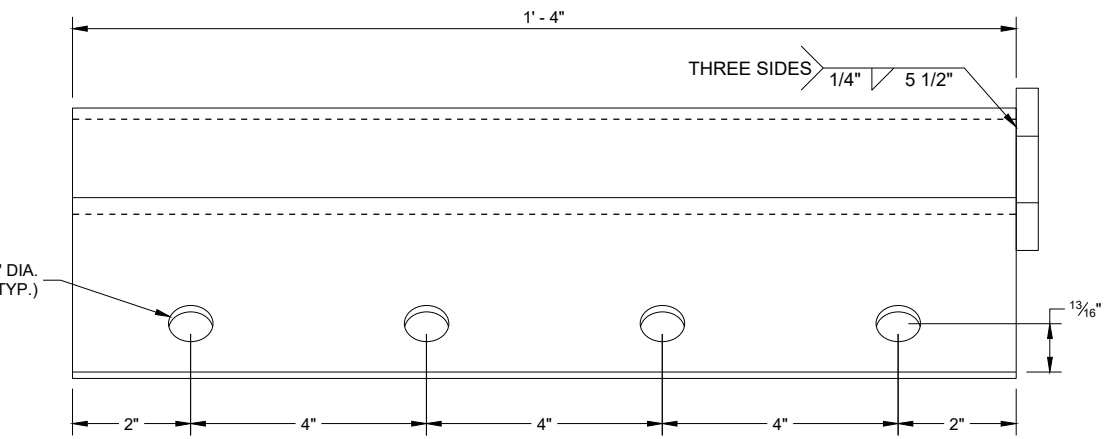
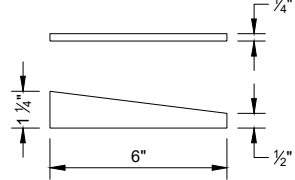
**ARM TUBE 3 (C4)**



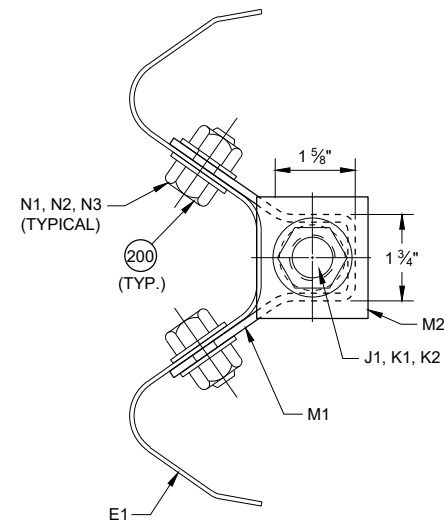
**ARM GUSSET  
PLATE 1 (C5)**



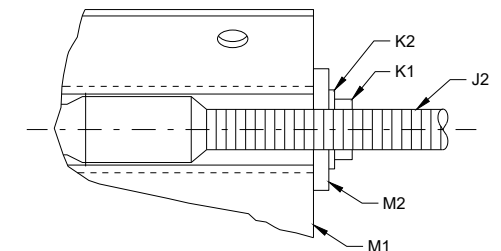
**ARM GUSSET  
PLATE 2 (C6)**



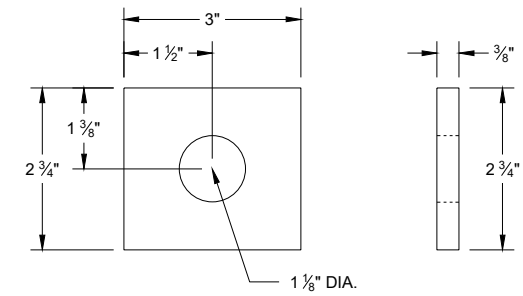
**ANCHOR BRACKET (M1, M2)**



**ANCHOR BRACKET BEARING PLATE (M2)**



**SECTION A - A**



**MIDWEST GUARDRAIL  
SYSTEM (MGS)  
TYPE 2 TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**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	5/8" 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 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

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**MIDWEST GUARDRAIL  
SYSTEM (MGS)  
TYPE 2 TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**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.

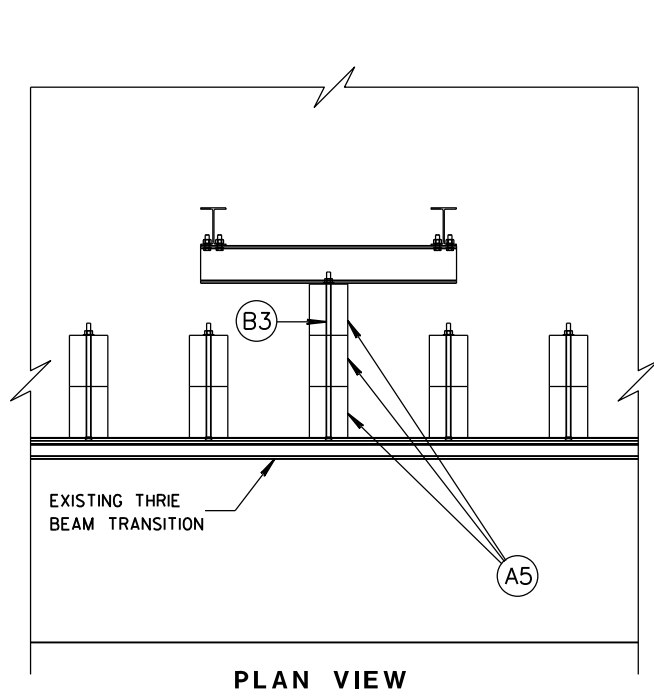
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6

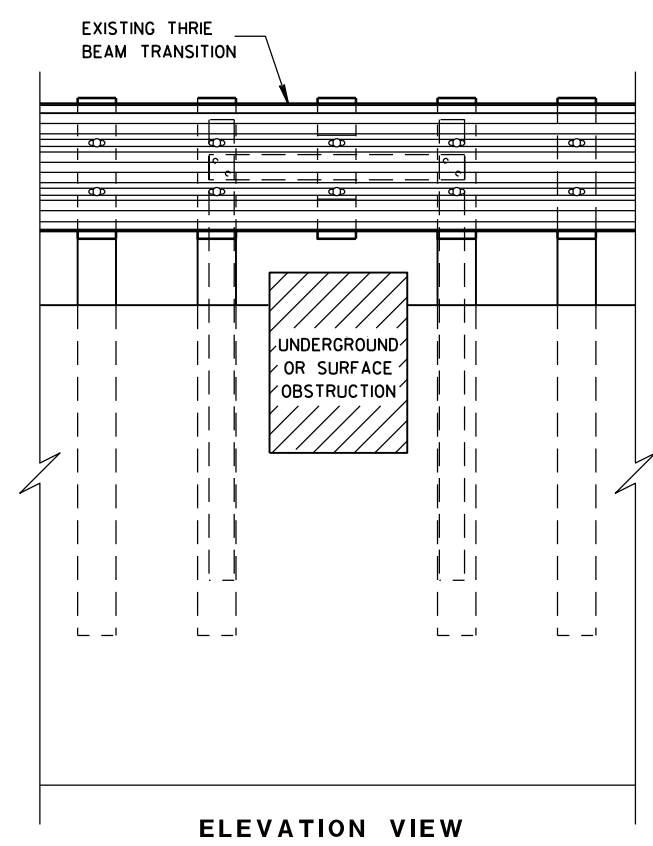
SDD 14B47 - 05g

SDD 14B47 - 05g

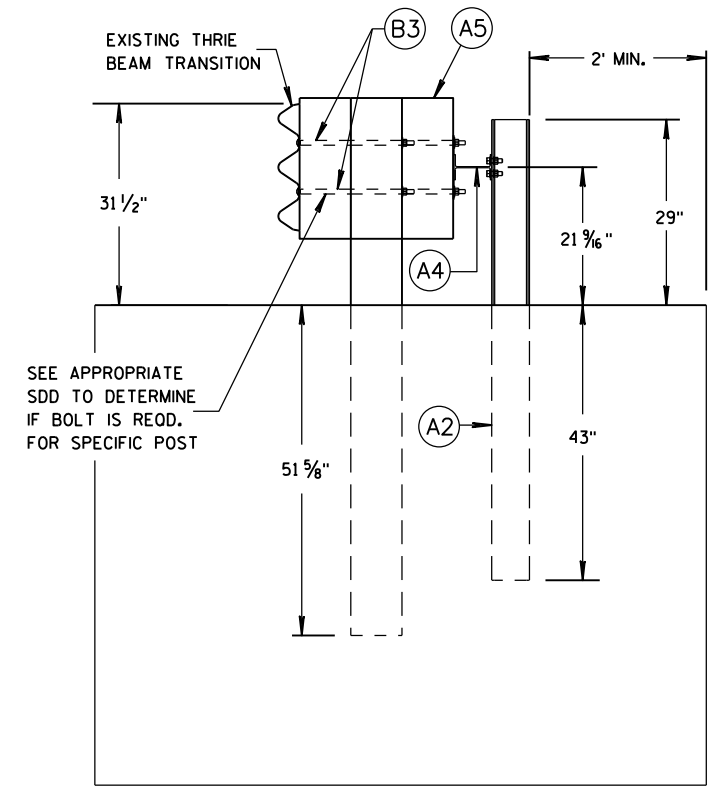
<b>MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



PLAN VIEW



ELEVATION VIEW



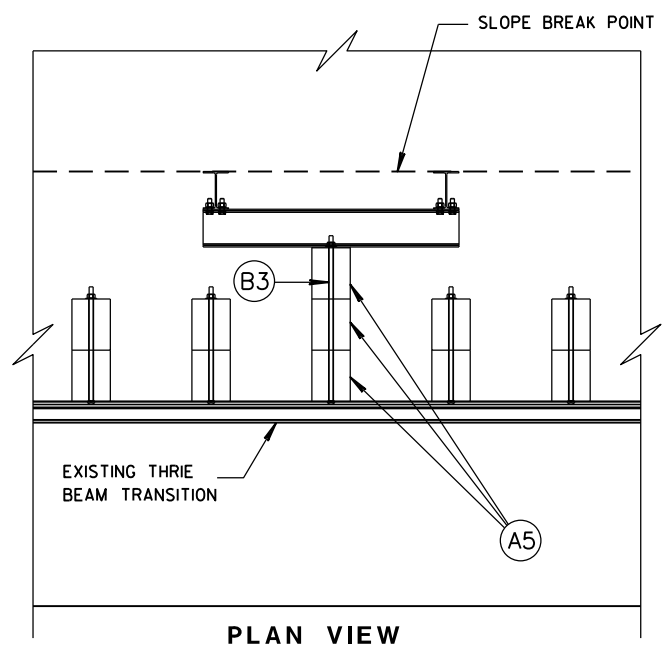
SIDE VIEW

72" MISSING POST CROSS-BEAM

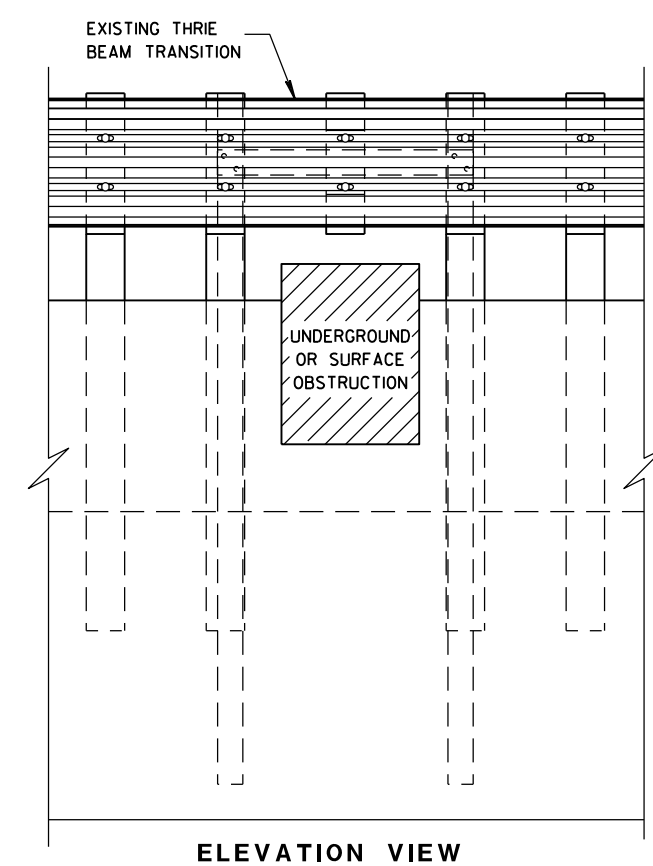
GENERAL NOTES

- ONLY ONE SUCH POST RETROFIT PER SYSTEM.
- SEE SDD 14B20 FOR MORE INFORMATION ON THE THRIE BEAM TRANSITIONS.
- IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2-INCHES AND 12-INCHES IN DIAMETER AROUND POST. SEE SDD 14B20 OR 14B45 FOR MORE DETAILS.
- ONLY STEEL POST CAN BE USED.
- BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN ALL HARDWARE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH.
- ONLY ONE WASHER AND ONE NUT CAN BE INSTALLED AT A CONNECTION. CUT THREADING OF BOLTS SO THAT NO MORE THAN 1/4-INCH TO 1/2-INCH OF THREADING IS BEYOND THE NUT.
- WHEN USING APPROACH RETROFIT POST BID ITEM, REVIEW SDD 14B20 INSTALL POST INFORMATION AND LOCATION, BLOCK AND HARDWARE.

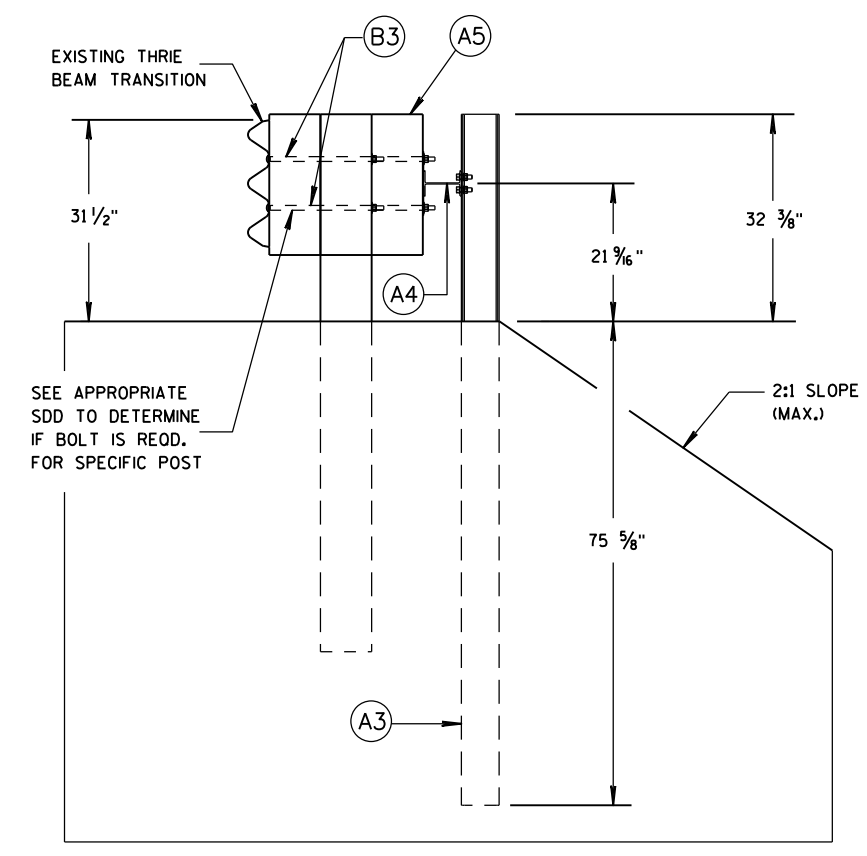
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PLAN VIEW



ELEVATION VIEW



SIDE VIEW

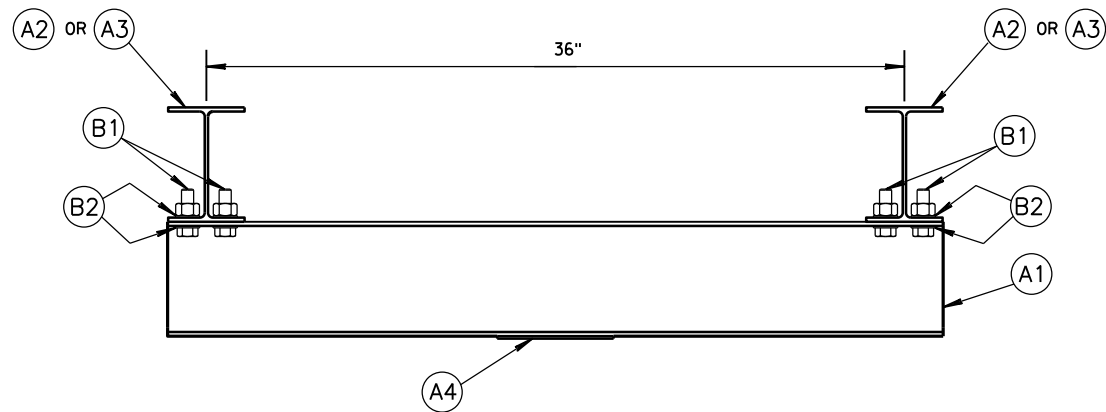
108" MISSING POST CROSS-BEAM

THRIE BEAM APPROACH  
RETROFIT INSTALLATION  
OF MISSING POST

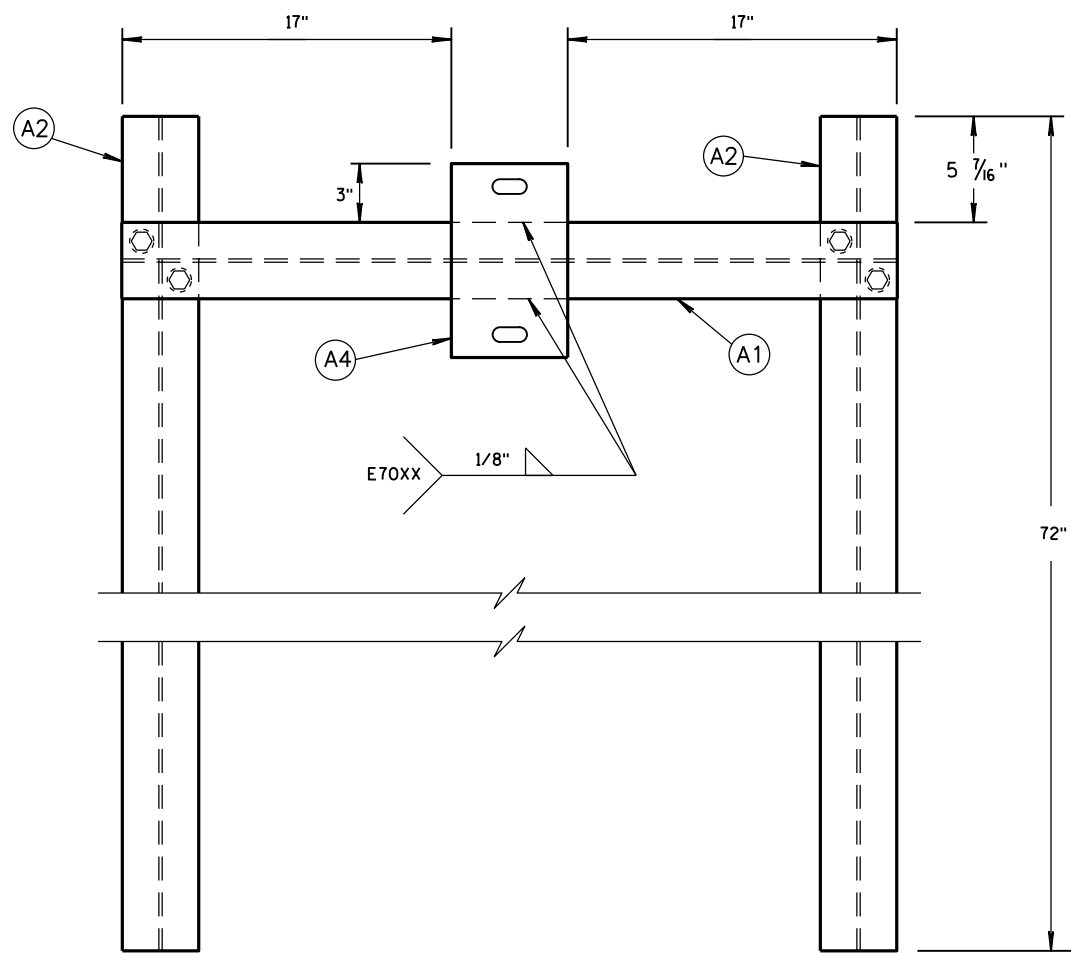
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

S.D.D. 14 B 50-1a

S.D.D. 14 B 50-1a

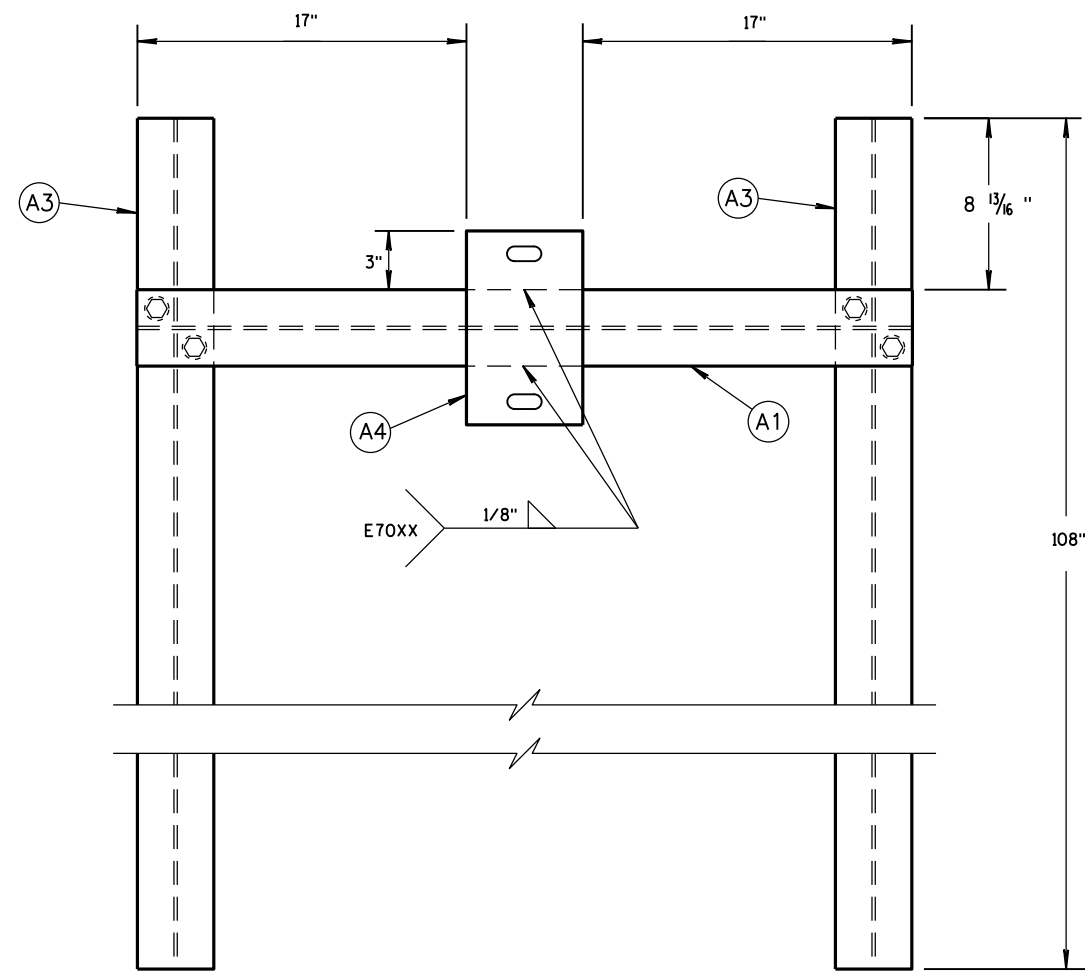


PLAN VIEW



ELEVATION VIEW

72" POST



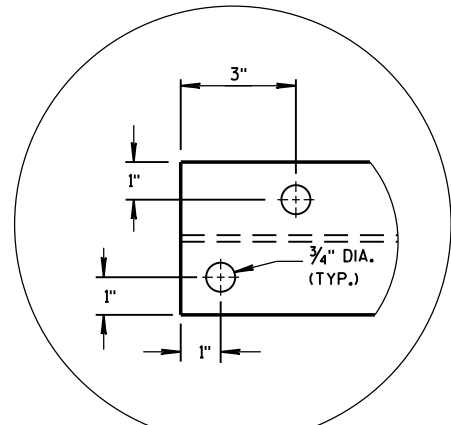
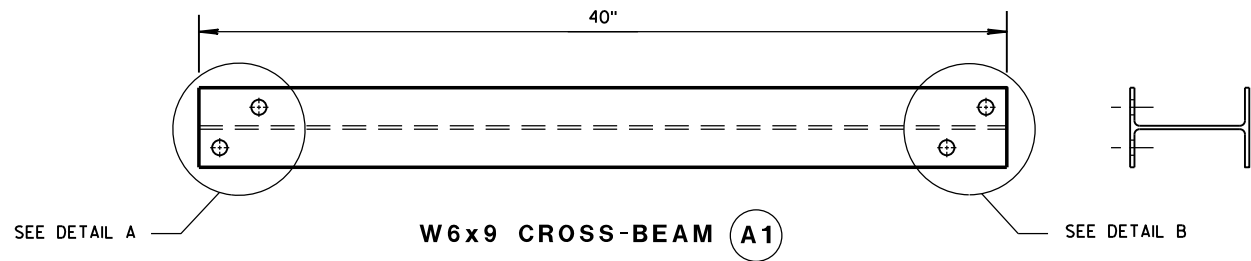
ELEVATION VIEW

108" POST

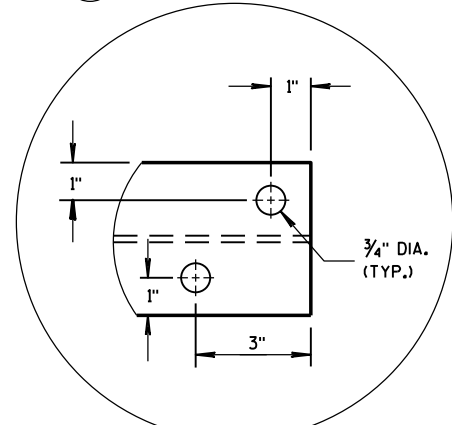
MISSING POST CROSS-BEAM DETAIL

THREE BEAM APPROACH  
RETROFIT INSTALLATION  
OF MISSING POST

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

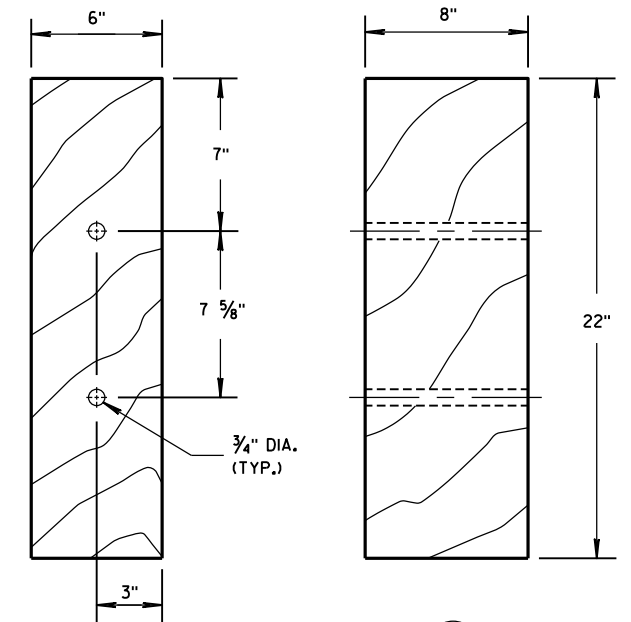


**DETAIL A**

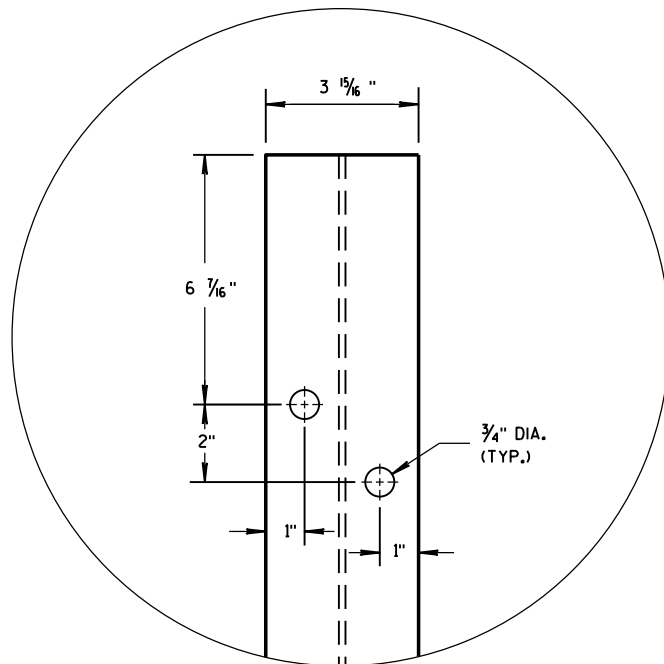
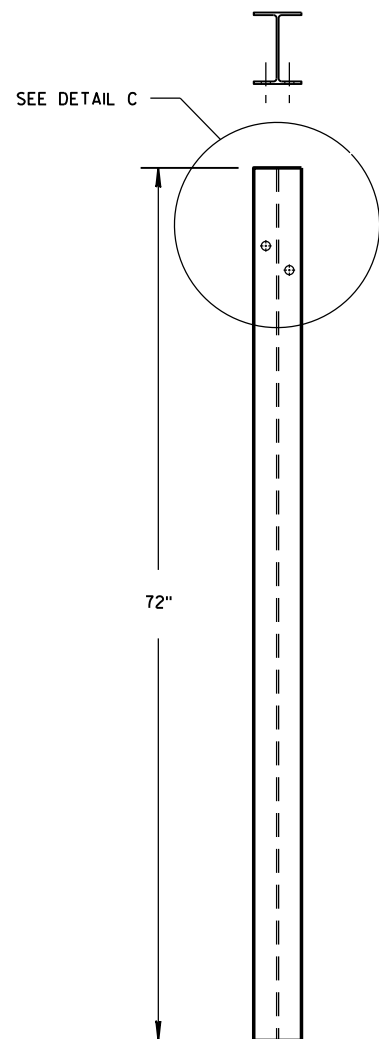


**DETAIL B**

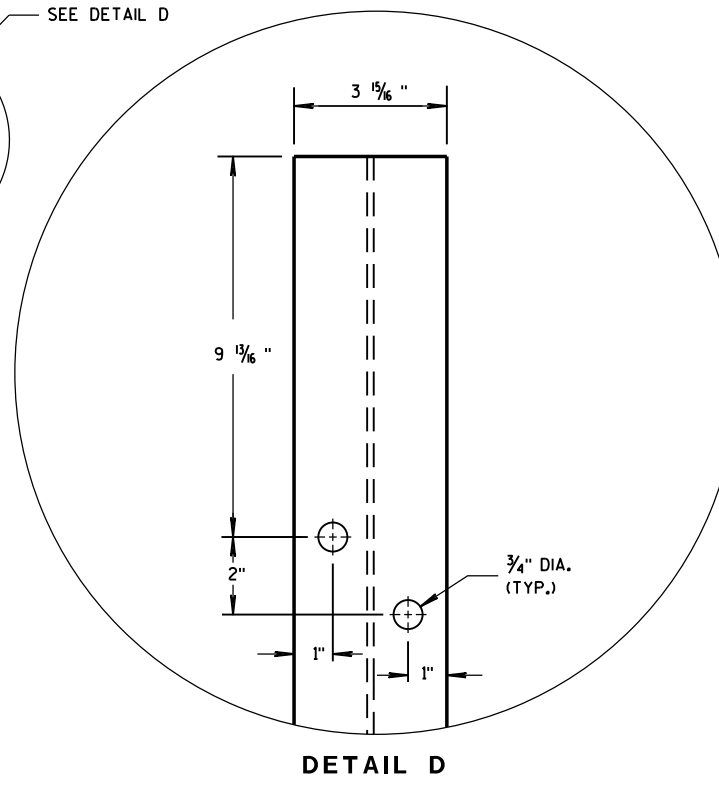
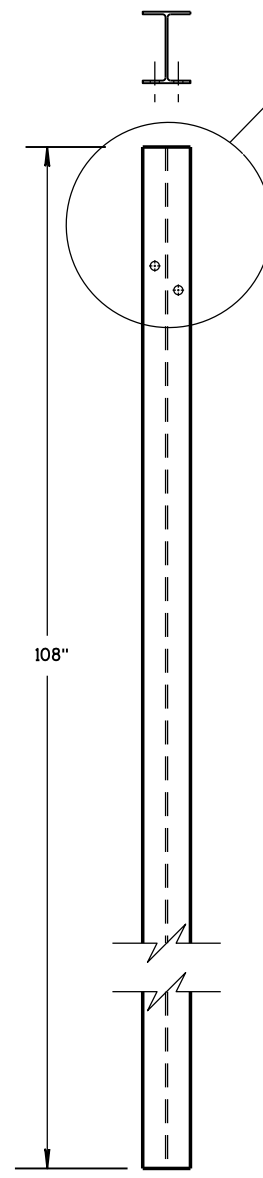
BILL OF MATERIALS			
ITEM NO.	QTY.	DESCRIPTION	MATERIAL SPECIFICATION
(A1)	1	40" LONG W6x9 CROSS-BEAM	ASTM A992 GR. 50 OR ASTM A36
(A2)	2	72" LONG W6x9 POST	ASTM A992 GR. 50 OR ASTM A36
(A3)	2	108" LONG W6x9 POST	ASTM A992 GR. 50 OR ASTM A36
(A4)	1	6" x 10" x 1/8" BACKUP PLATE	ASTM A992 GR. 50 OR ASTM A36
(A5)	3	6" x 8" x 22" BLOCKOUT	
(B1)	4	5/8" DIA. - HEX HEAD BOLT	BOLT: HEAVY HEX HEAD ASTM A307 OR SAE J429 GRADE 2 NUT: HEAVY HEX HEAD ASTM A563 A
(B2)	8	5/8" DIA. NARROW FLAT WASHER	ASTM F436
(B3)	2	LONG, 5/8" DIA. - POST BOLT AND NUT	BOLT: SAE J429 GRADE 2 OR ASTM A307 GRADE C OR ASTM F1554 GRADE 36 NUT: 5/8" DIA. ASTM A563 A DOUBLE RECESSED (DR) HEAVY HEX HEAD
(B4)	2	5/8" DIA. PLAIN ROUND WASHER	ASTM F844



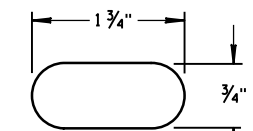
**BLOCKOUT (A5)**



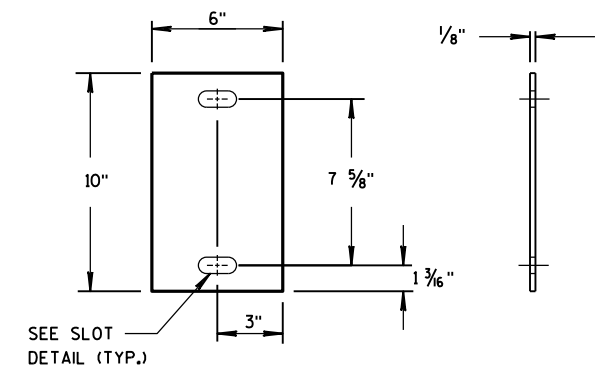
**DETAIL C**



**DETAIL D**



**SLOT DETAIL**



**BACKUP PLATE (A4)**

6

6

S.D.D. 14 B 50-1c

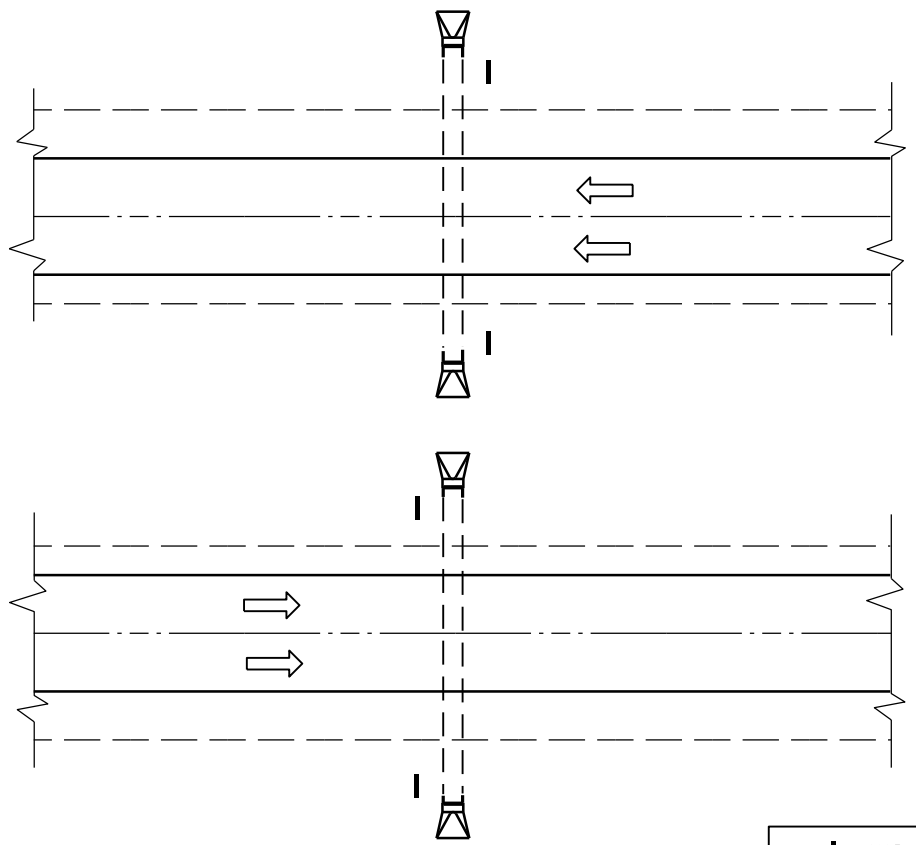
S.D.D. 14 B 50-1c

**THREE BEAM APPROACH  
RETROFIT INSTALLATION  
OF MISSING POST**

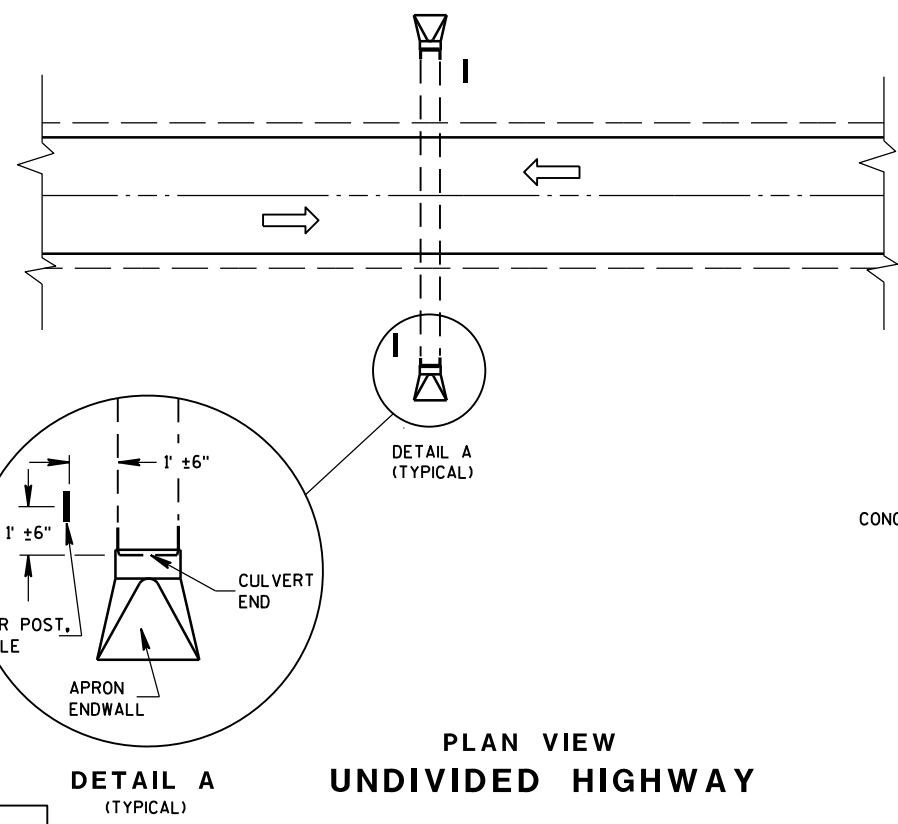
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June 2014 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA ENGINEER





PLAN VIEW  
DIVIDED HIGHWAY



PLAN VIEW  
UNDIVIDED HIGHWAY

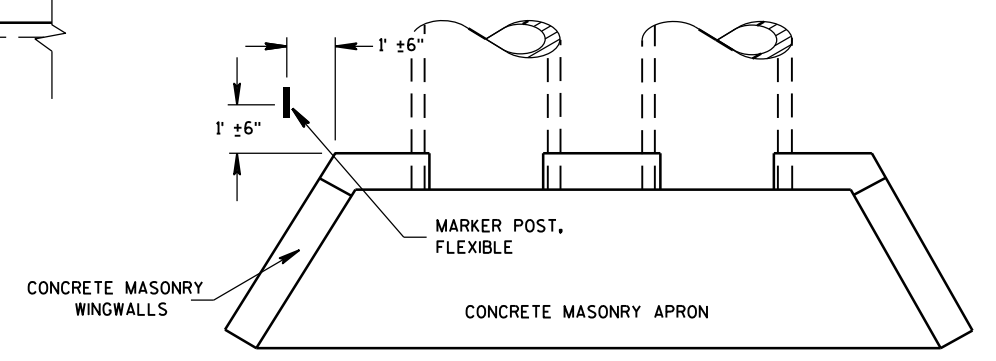
MARKER POST, FLEXIBLE  
DIRECTION OF TRAFFIC FLOW

DETAIL A  
(TYPICAL)

FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

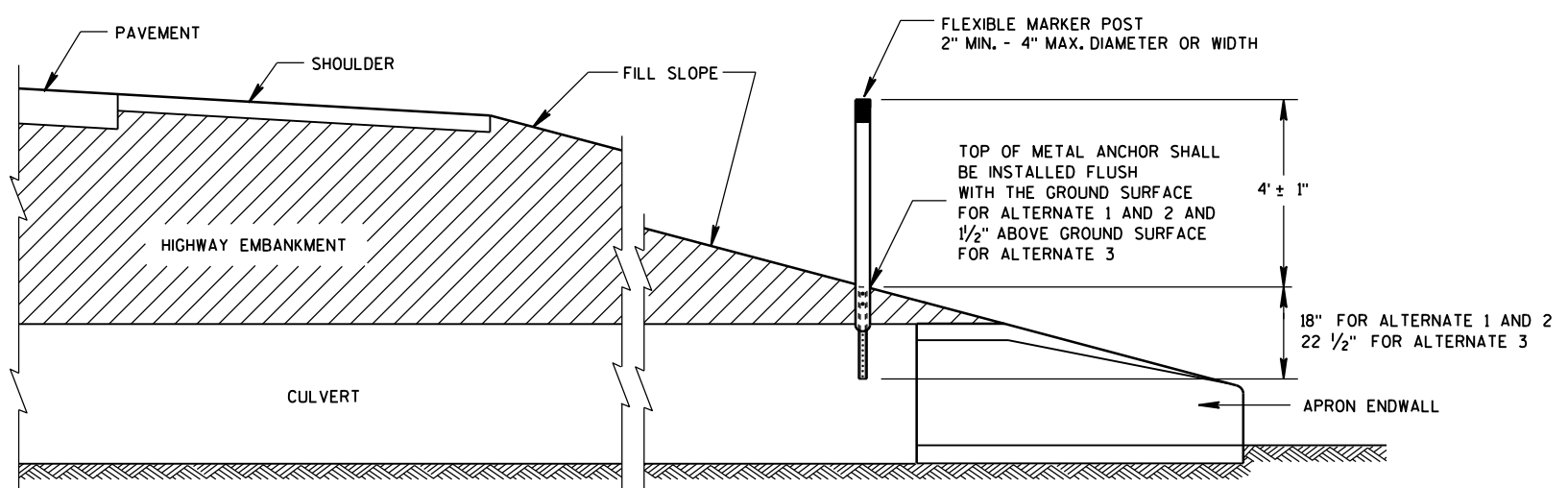
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH

6

6



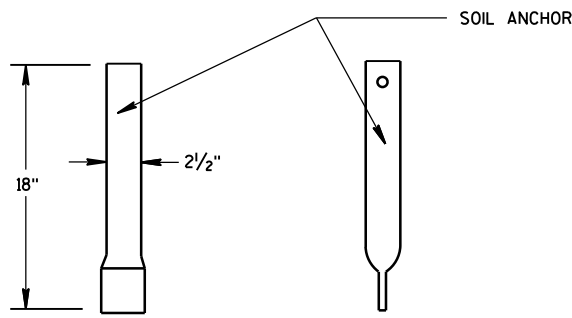
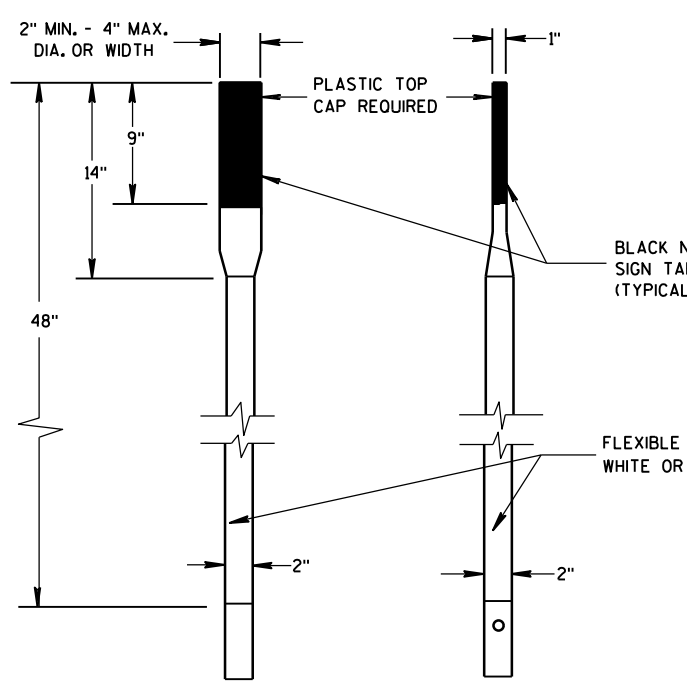
CROSS SECTION  
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST  
FOR CULVERT END

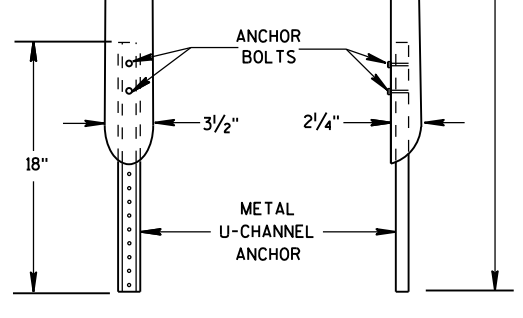
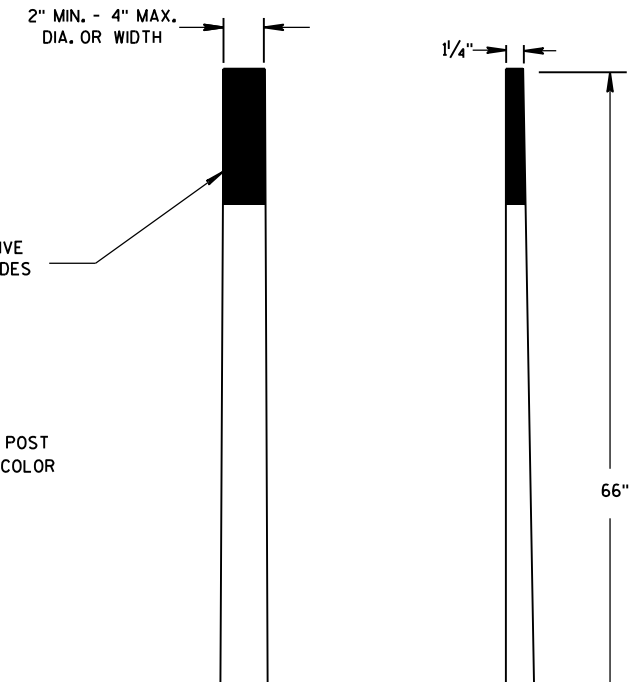
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

S.D.D. 15 A 3-2a

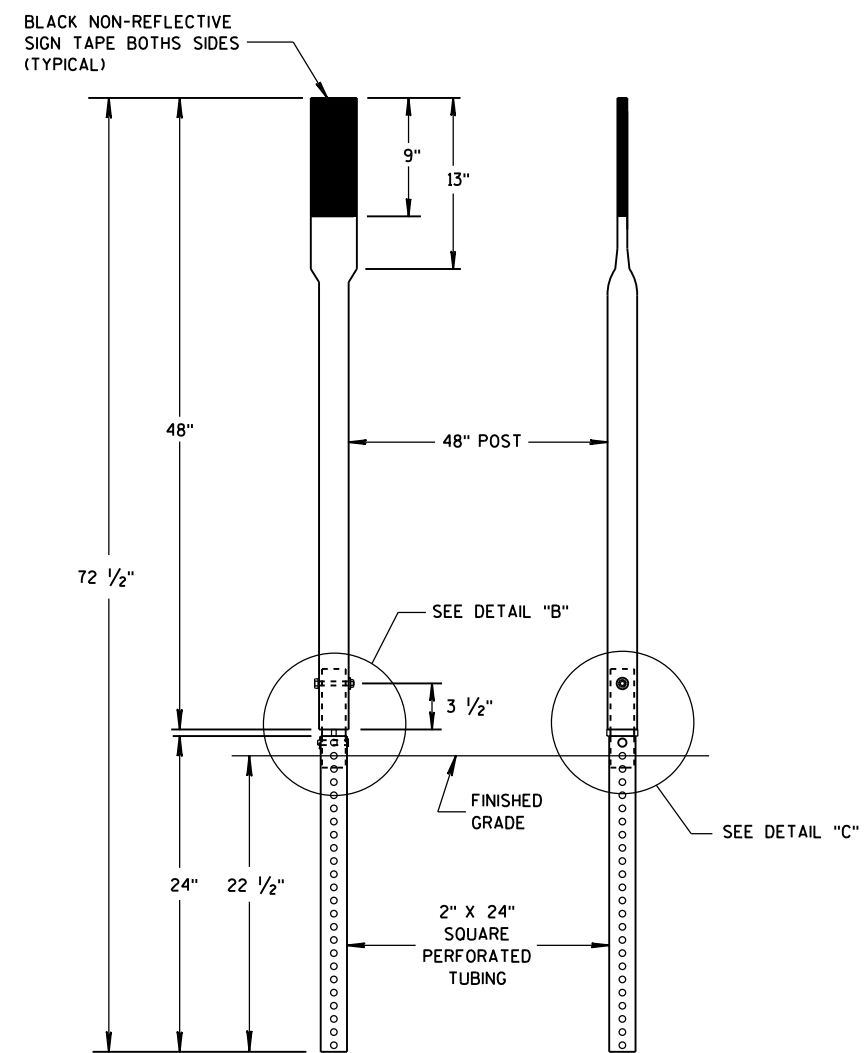
S.D.D. 15 A 3-2a



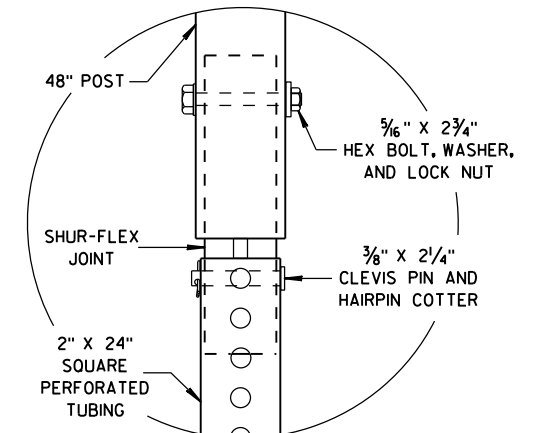
FRONT VIEW SIDE VIEW  
ALTERNATE 1



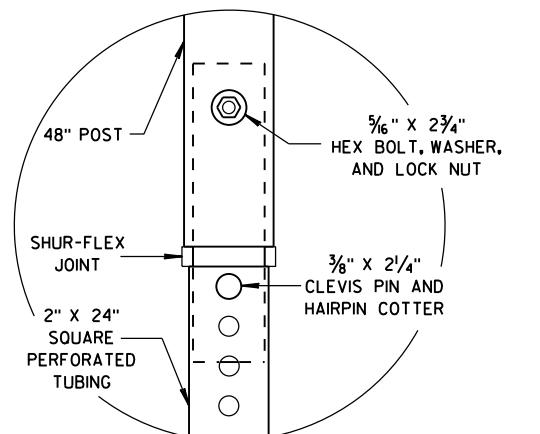
FRONT VIEW SIDE VIEW  
ALTERNATE 2



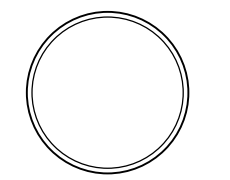
FRONT VIEW SIDE VIEW  
ALTERNATE 3



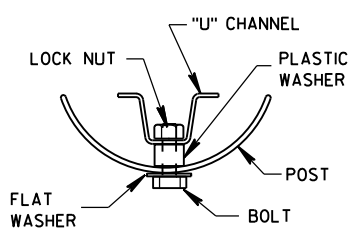
DETAIL B



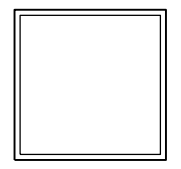
DETAIL C



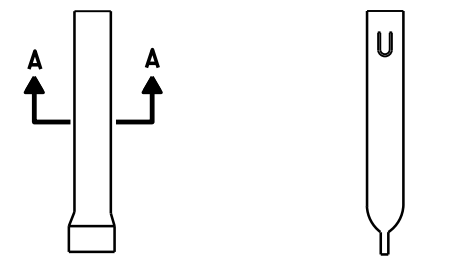
SECTION A-A



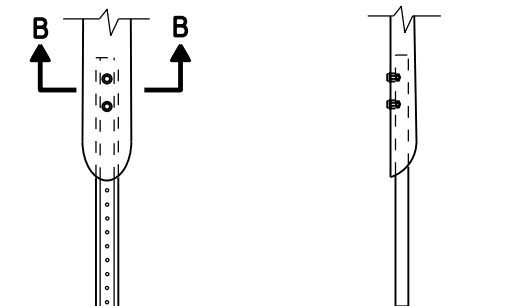
SECTION B-B



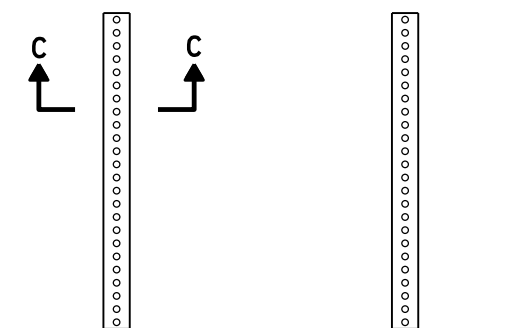
SECTION C-C



FRONT VIEW SIDE VIEW  
ALTERNATE 1



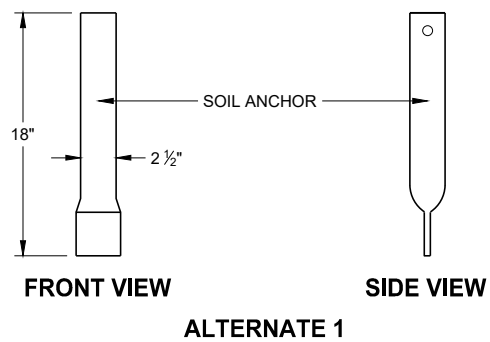
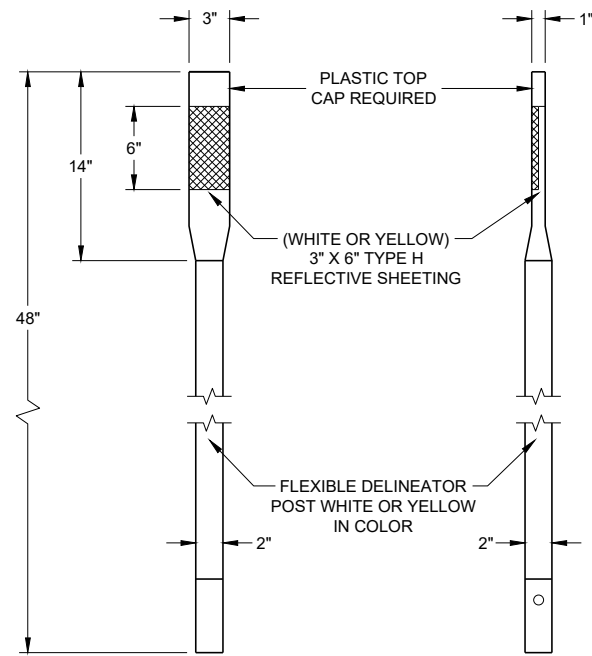
FRONT VIEW SIDE VIEW  
ALTERNATE 2



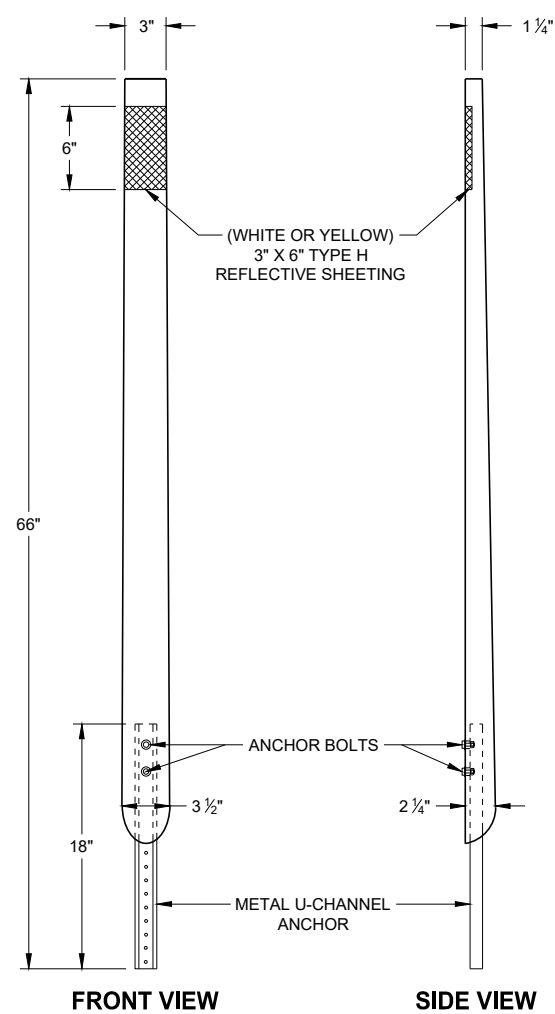
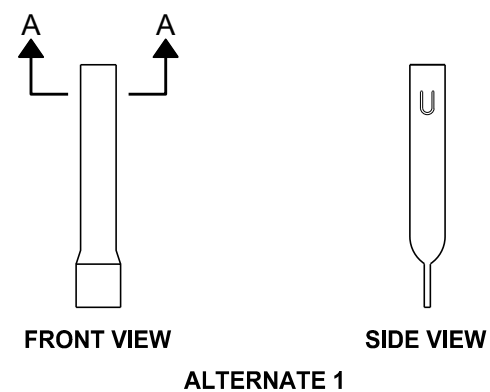
FRONT VIEW SIDE VIEW  
ALTERNATE 3

**FLEXIBLE MARKER POST ANCHORS**

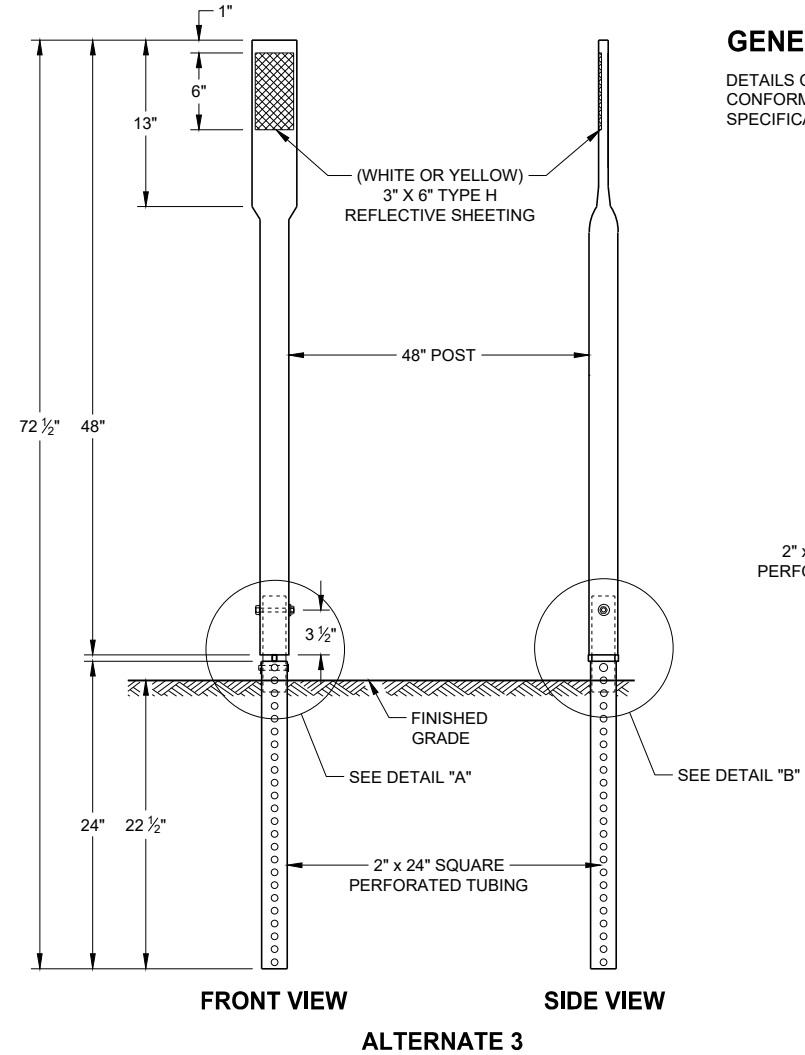
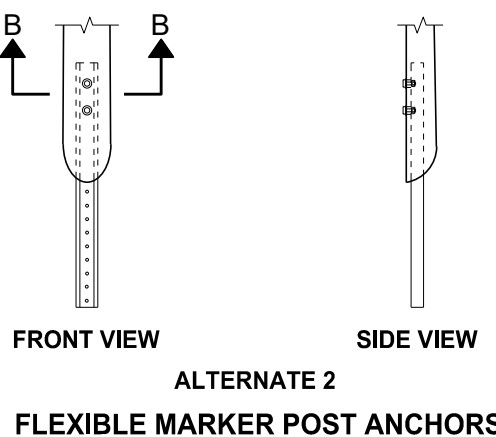
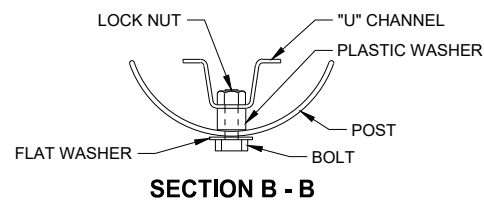
<b>FLEXIBLE MARKER POST FOR CULVERT END</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



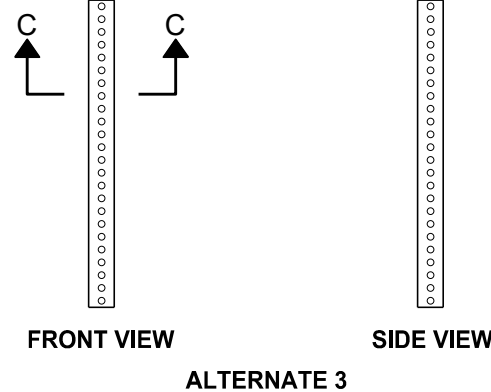
SECTION A - A



FLEXIBLE DELINEATOR POSTS

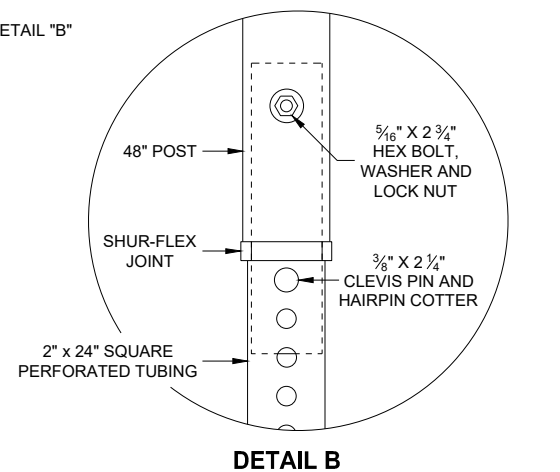
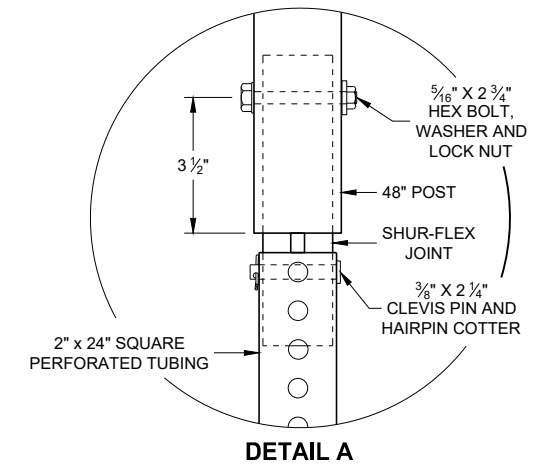


SECTION C - C



**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.



**REFLECTOR SPACING TABLE**

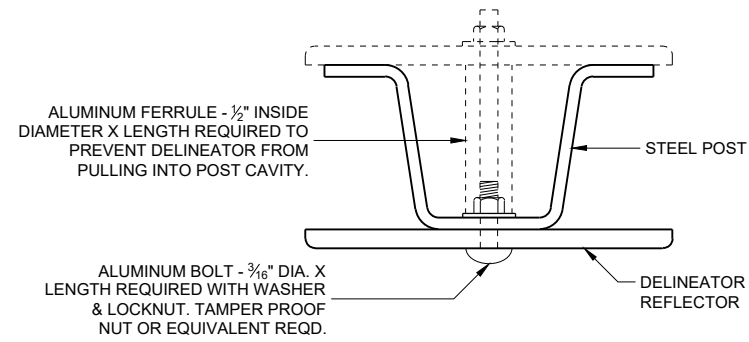
REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

\* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER

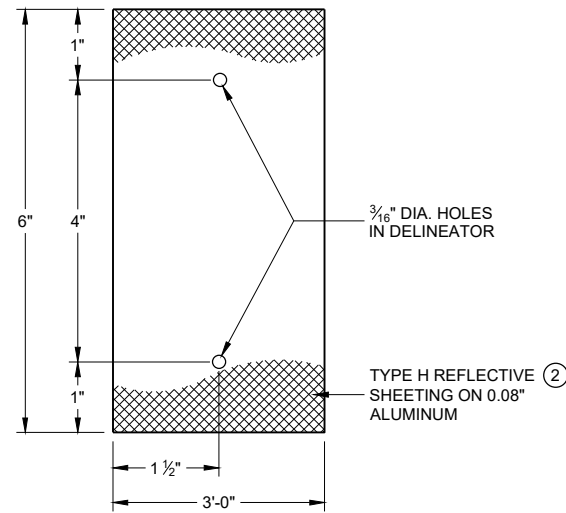
**FLEXIBLE DELINEATOR POST**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

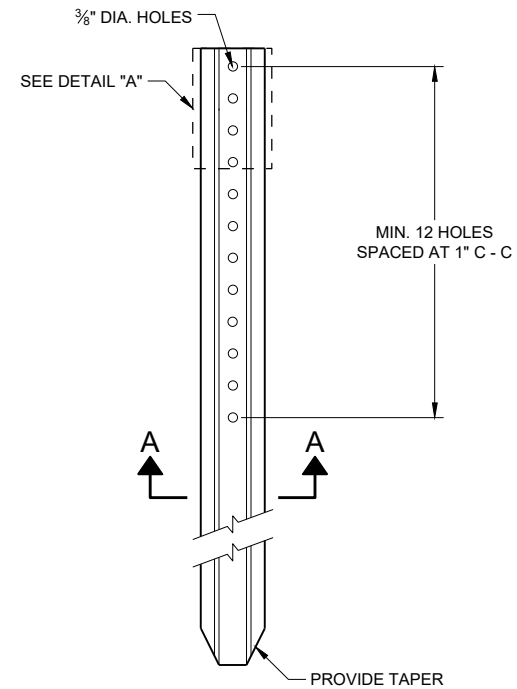
APPROVED  
November 2021 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING  
ENGINEER  
FHWA



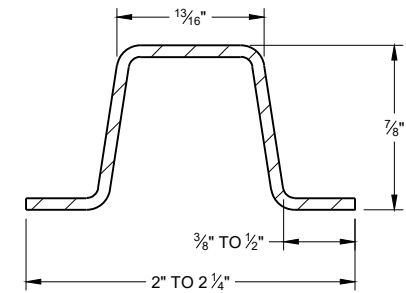
**MOUNTING DETAIL FOR DELINEATOR REFLECTOR**



**DETAIL "A" 3" X 6" DELINEATOR REFLECTOR**



**DELINEATOR POST**



**SECTION A - A**  
WEIGHT 1.12 LBS PER FT. \ 0.1 LB.

**REFLECTOR SPACING TABLE**

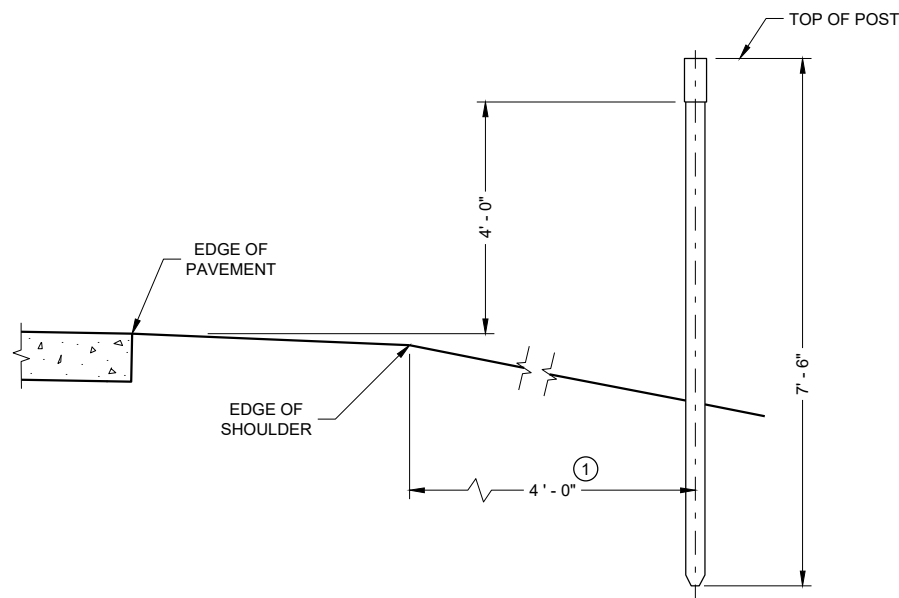
REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

\* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER

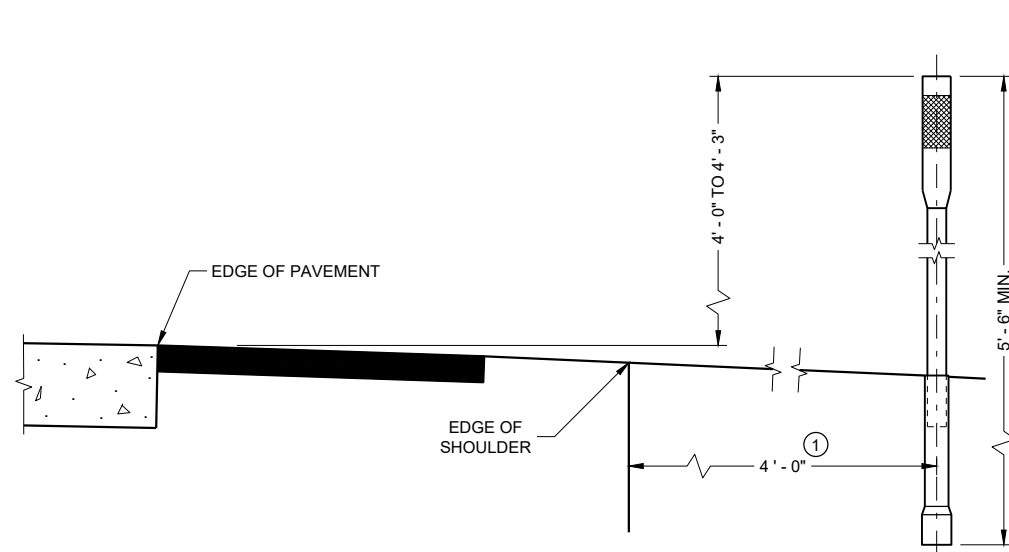
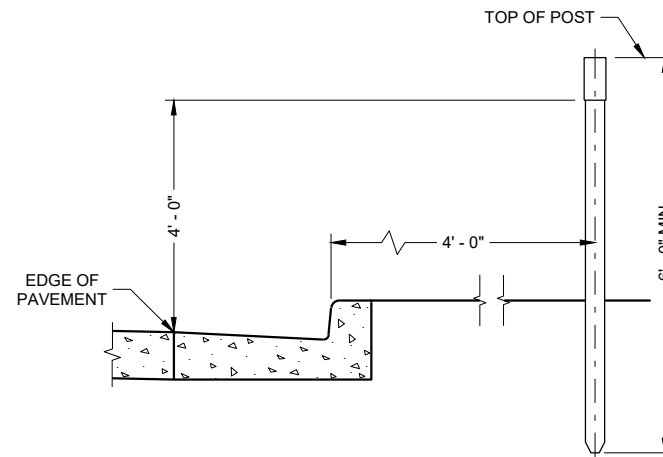
**GENERAL NOTES**

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

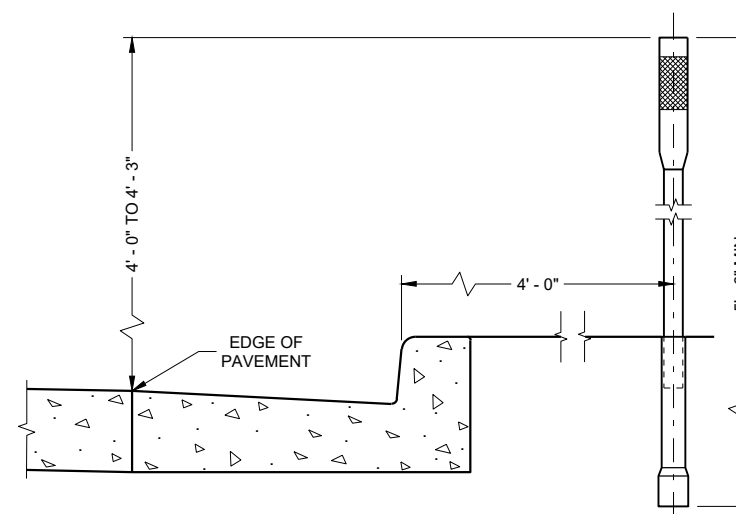
- ① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.
- ② FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.



**TYPICAL INSTALLATIONS OF DELINEATOR POSTS**



**TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS**

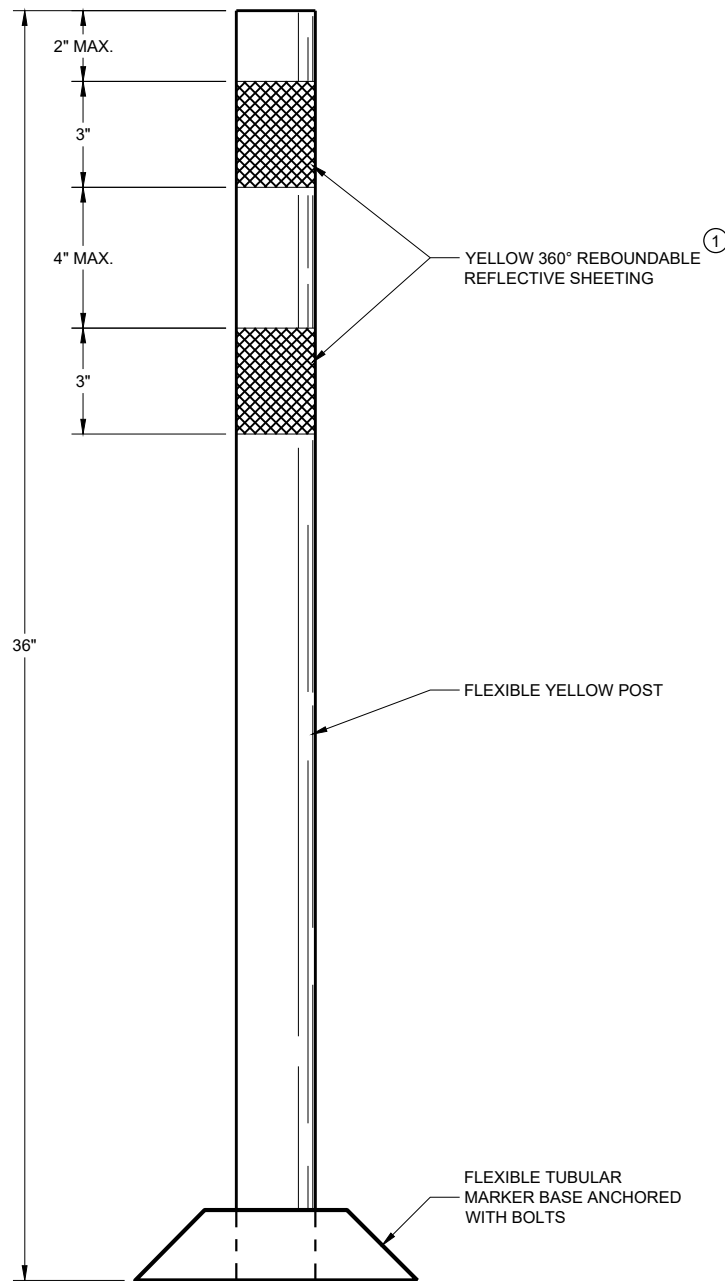


**DELINEATOR POST WITH REFLECTIVE SHEETING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



PERMANENT FLEXIBLE TUBULAR MARKER POST

**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.

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

**CHANNELIZING DEVICES  
PERMANENT FLEXIBLE  
TUBULAR MARKER POST**

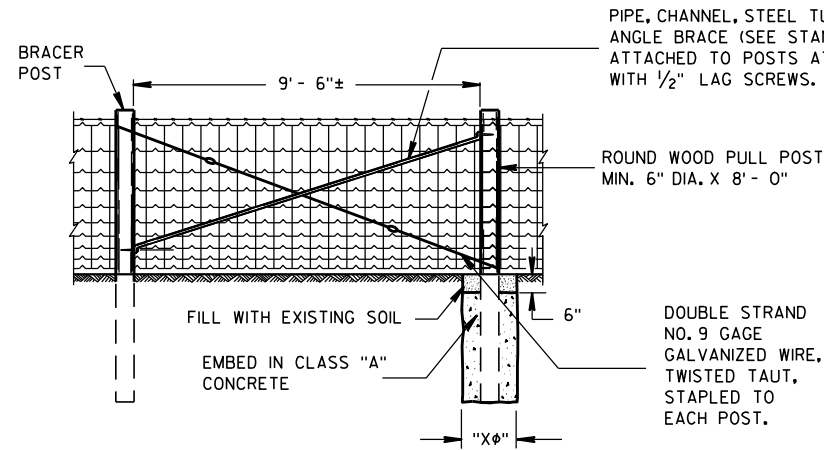
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING  
ENGINEER

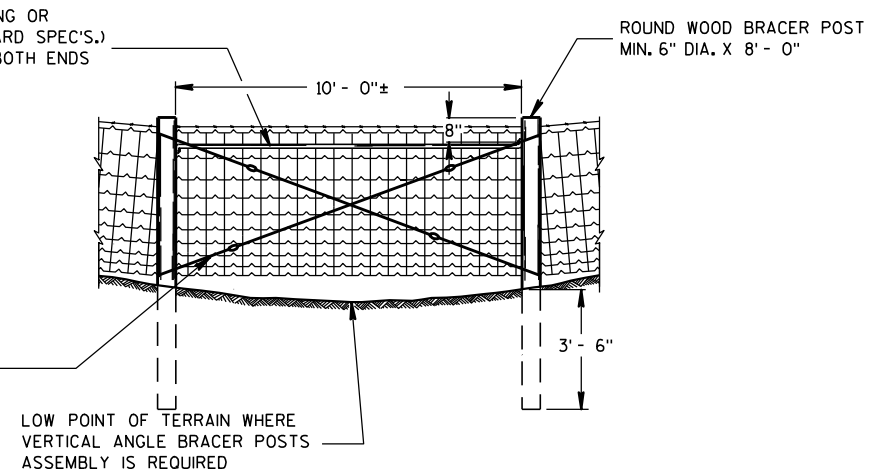
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NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES 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**

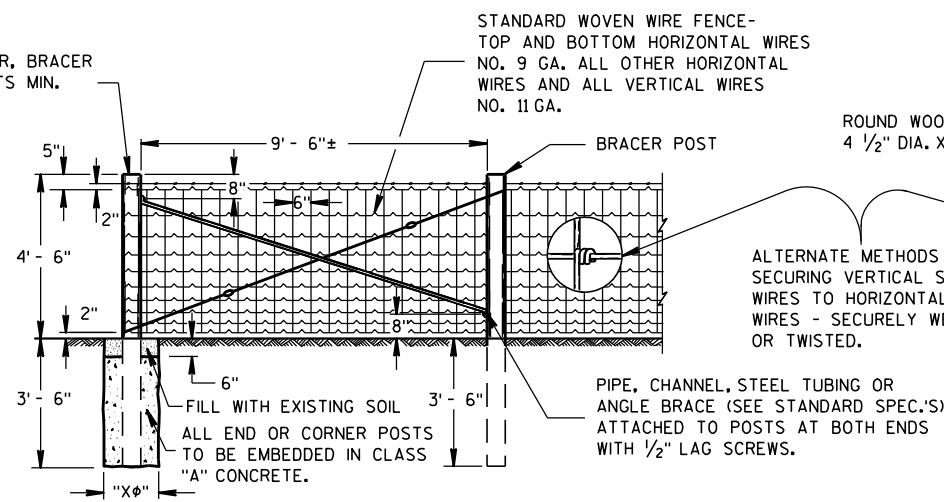
"Xφ" = DIAMETER OF THE POST PLUS 12".

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.

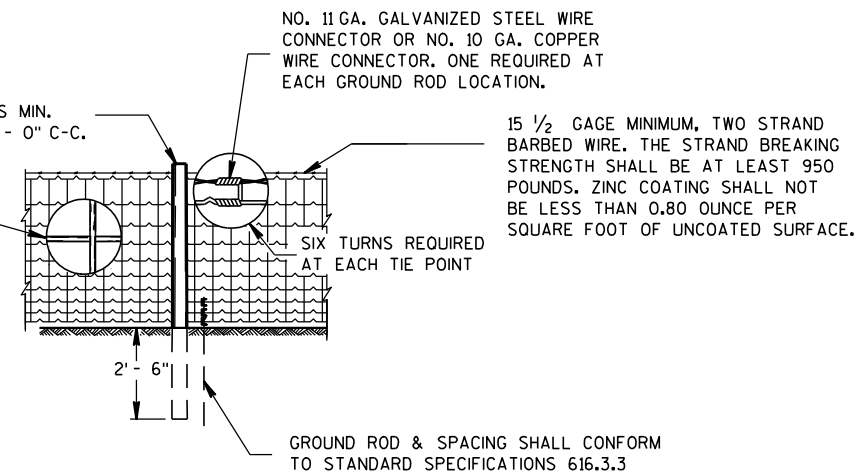
FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.

ROUND WOOD END, CORNER, BRACER OR VERTICAL ANGLE POSTS MIN. 6" DIA. X 8'-0"



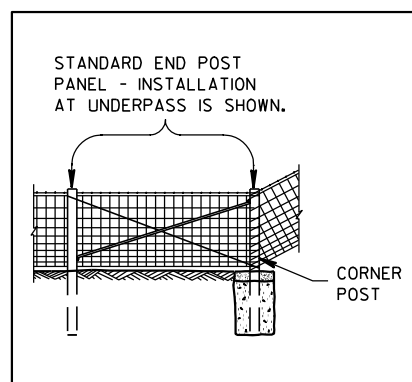
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

**END OR CORNER POSTS ASSEMBLY**

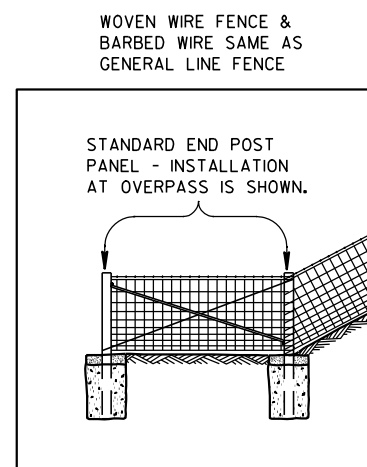


**LINE FENCE CONSTRUCTION**

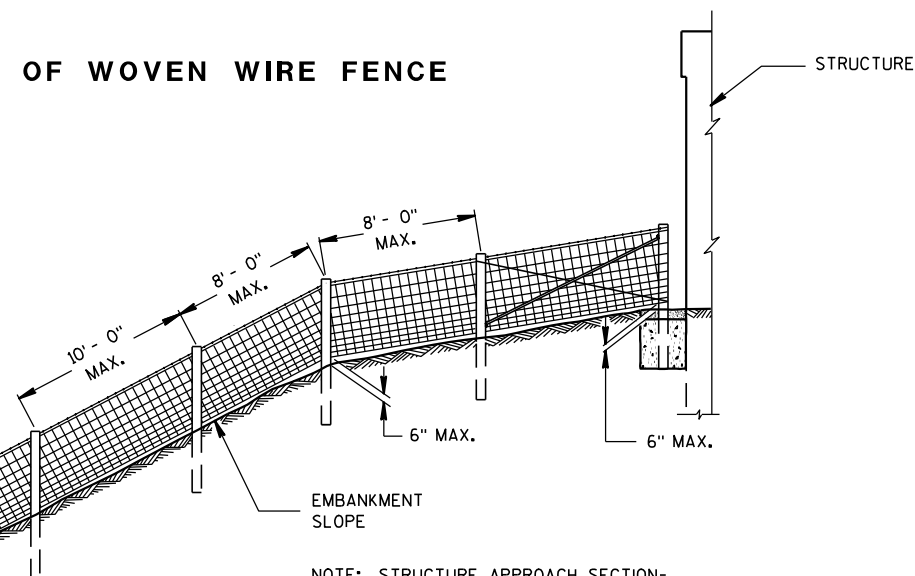
**GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE**



**ALTERNATE FENCE DESIGN AT STRUCTURE**



**FENCE DESIGN AT STRUCTURE APPROACH**

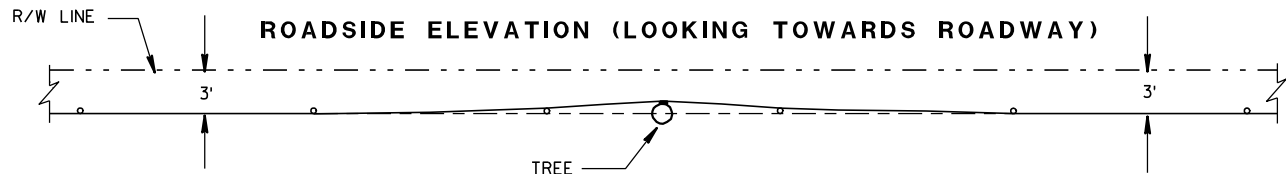
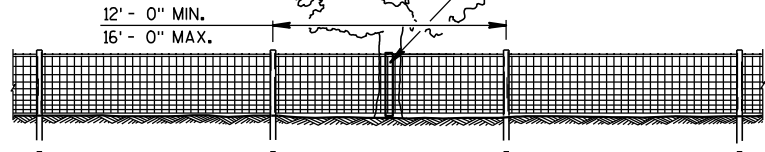


**FENCE WOVEN WIRE**

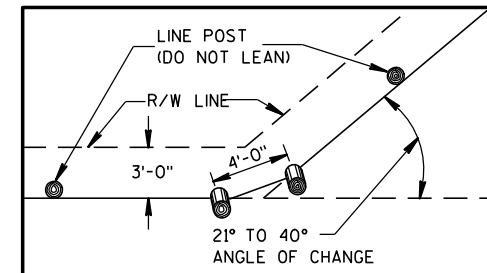
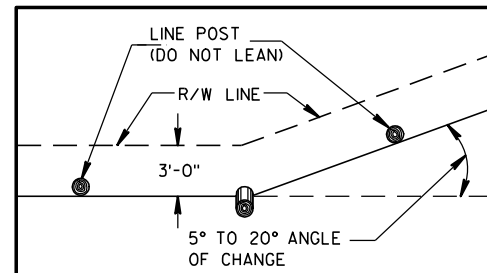
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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.



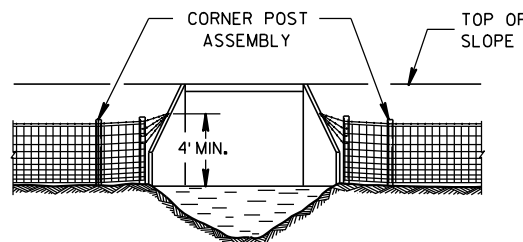
PLAN VIEW  
FENCE DESIGN AT TREES REMAINING  
IN NORMAL FENCE LINE



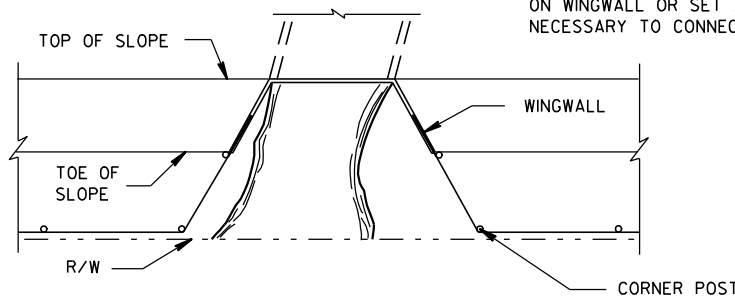
PLAN VIEW  
SINGLE POST CORNER  
PLAN VIEW  
DOUBLE POST CORNER  
RIGHT OF WAY LINE CHANGE 40° AND LESS

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.

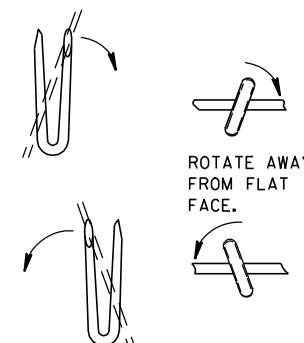
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



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.

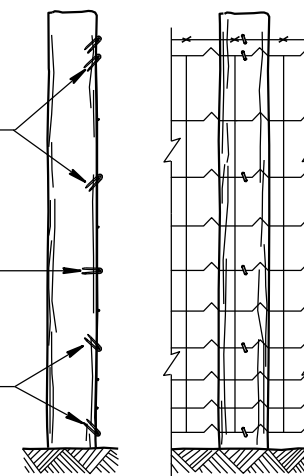


FENCE INSTALLATION TO WINGWALLS

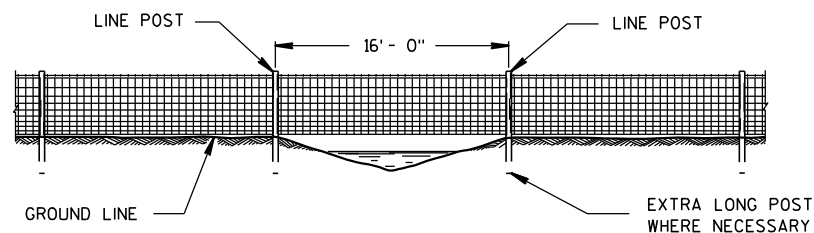


LINE POST

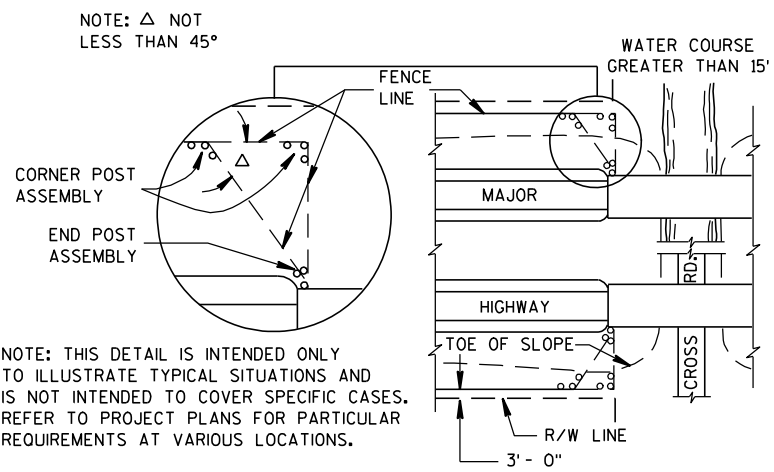
NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



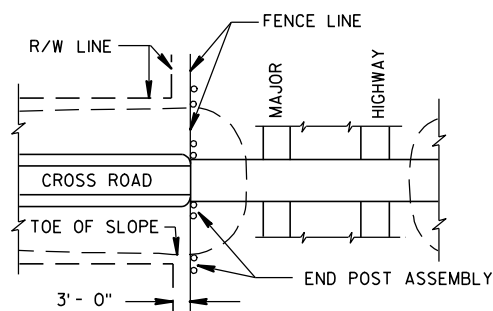
END ELEVATION  
FARM SIDE ELEVATION  
FENCE MOUNTING DETAIL



FENCE CONSTRUCTION OVER STREAM  
COURSES OF 15 FT. OR LESS IN WIDTH



PLAN VIEW  
MAJOR HIGHWAY OVERPASS OR STREAM COURSE  
CROSSING OF GREATER THAN 15 FT. IN WIDTH



PLAN VIEW  
MAJOR HIGHWAY UNDERPASS

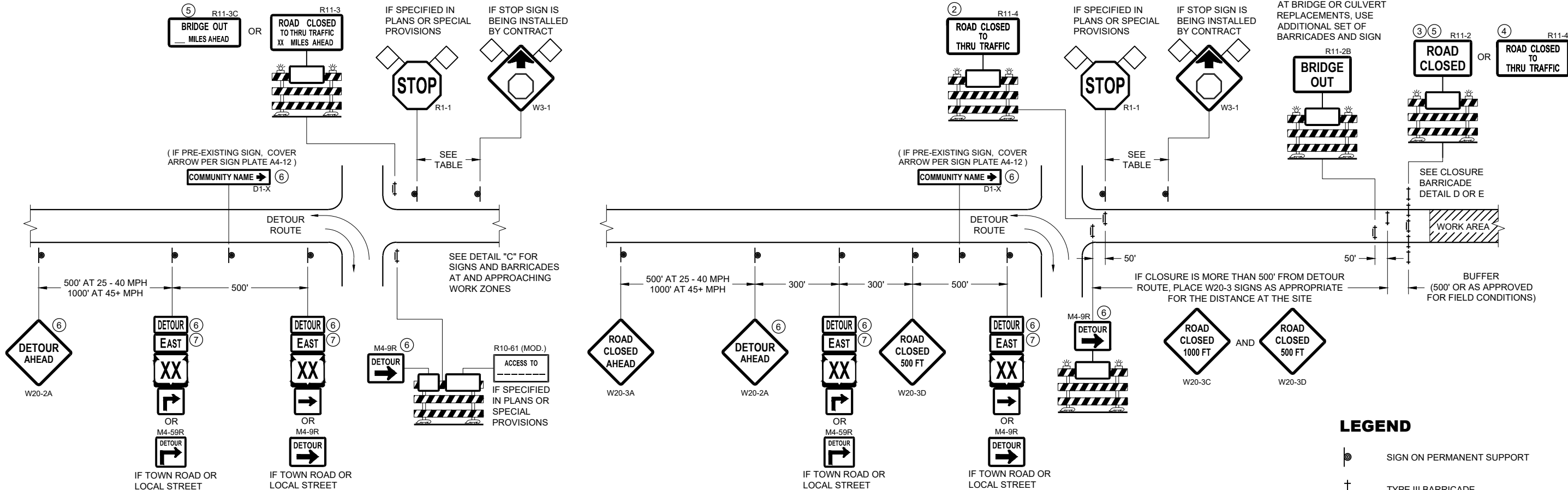
FENCE LOCATION AT STRUCTURES

FENCE WOVEN WIRE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
4/4/2008 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA





**DETAIL A  
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**DETAIL B  
MAINLINE CLOSURE WITH POSTED DETOUR**

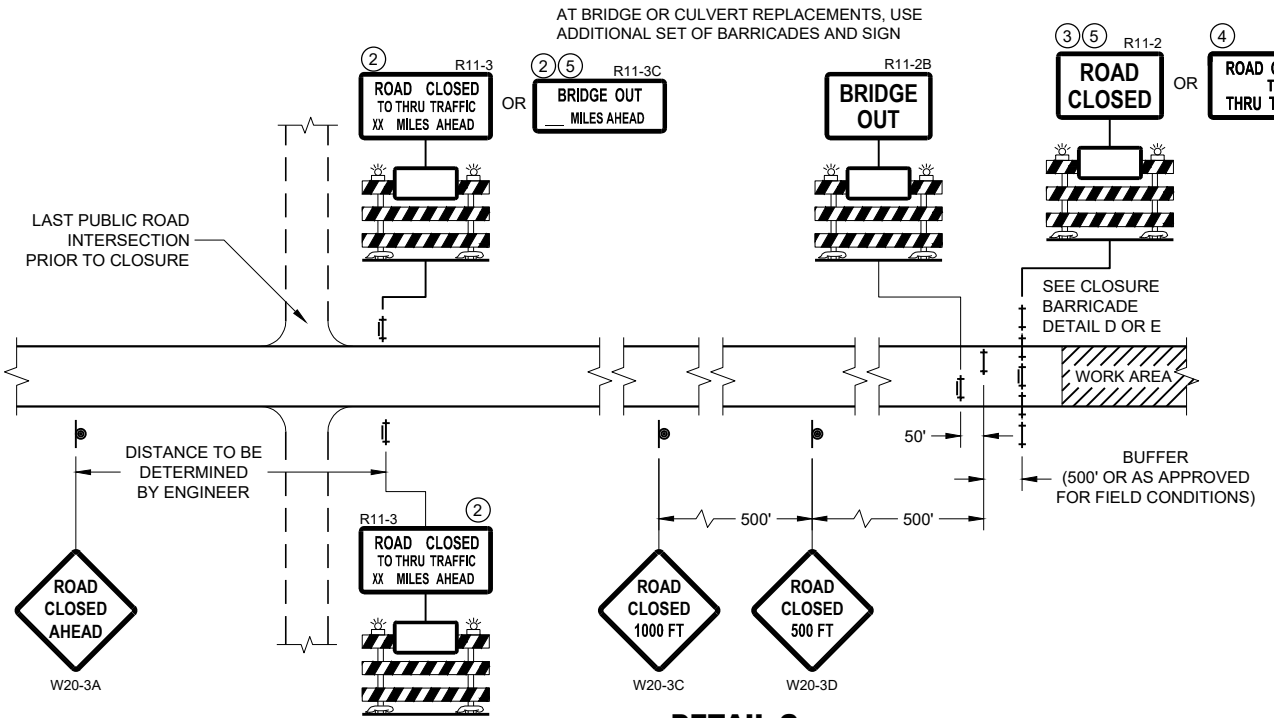
WORK ZONE LESS THAN 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- M4 - 8
- M3 - X
- M1 - 4 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M06 - 1

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"  
FOR GENERAL NOTES  
AND FOOTNOTES ① THROUGH ⑦

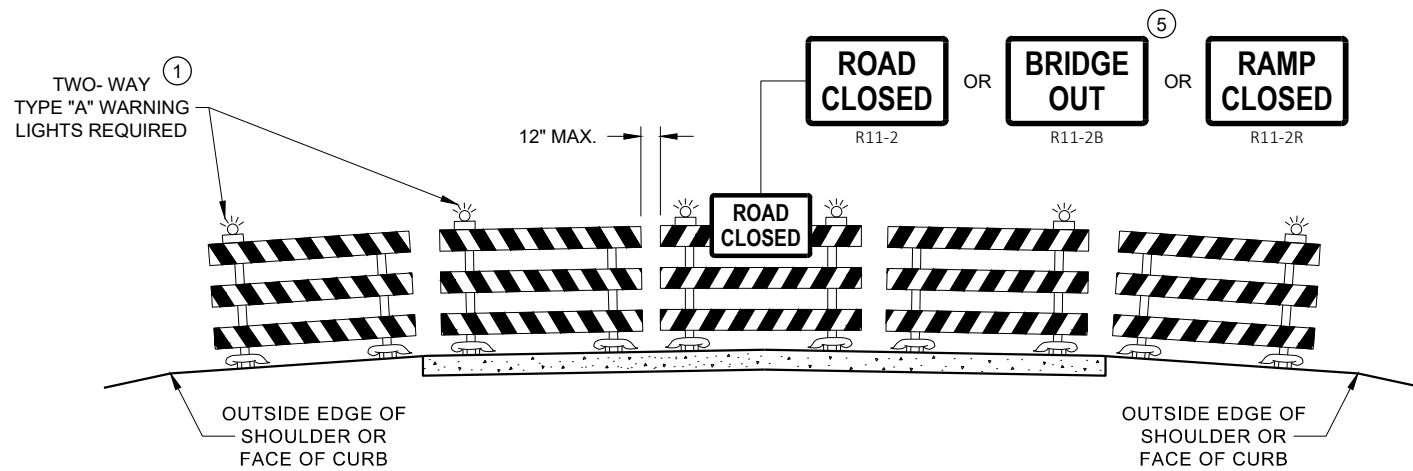


**DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR**

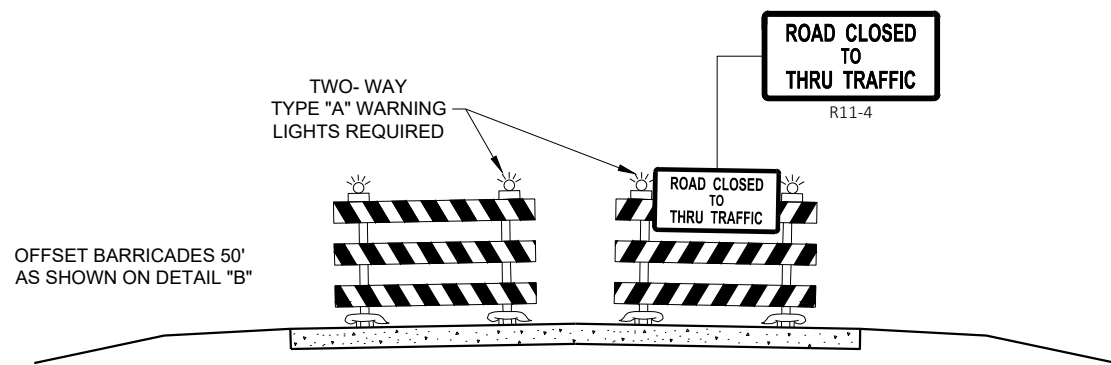
**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE DATE WORK ZONE ENGINEER  
FHWA



**DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW**



**DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

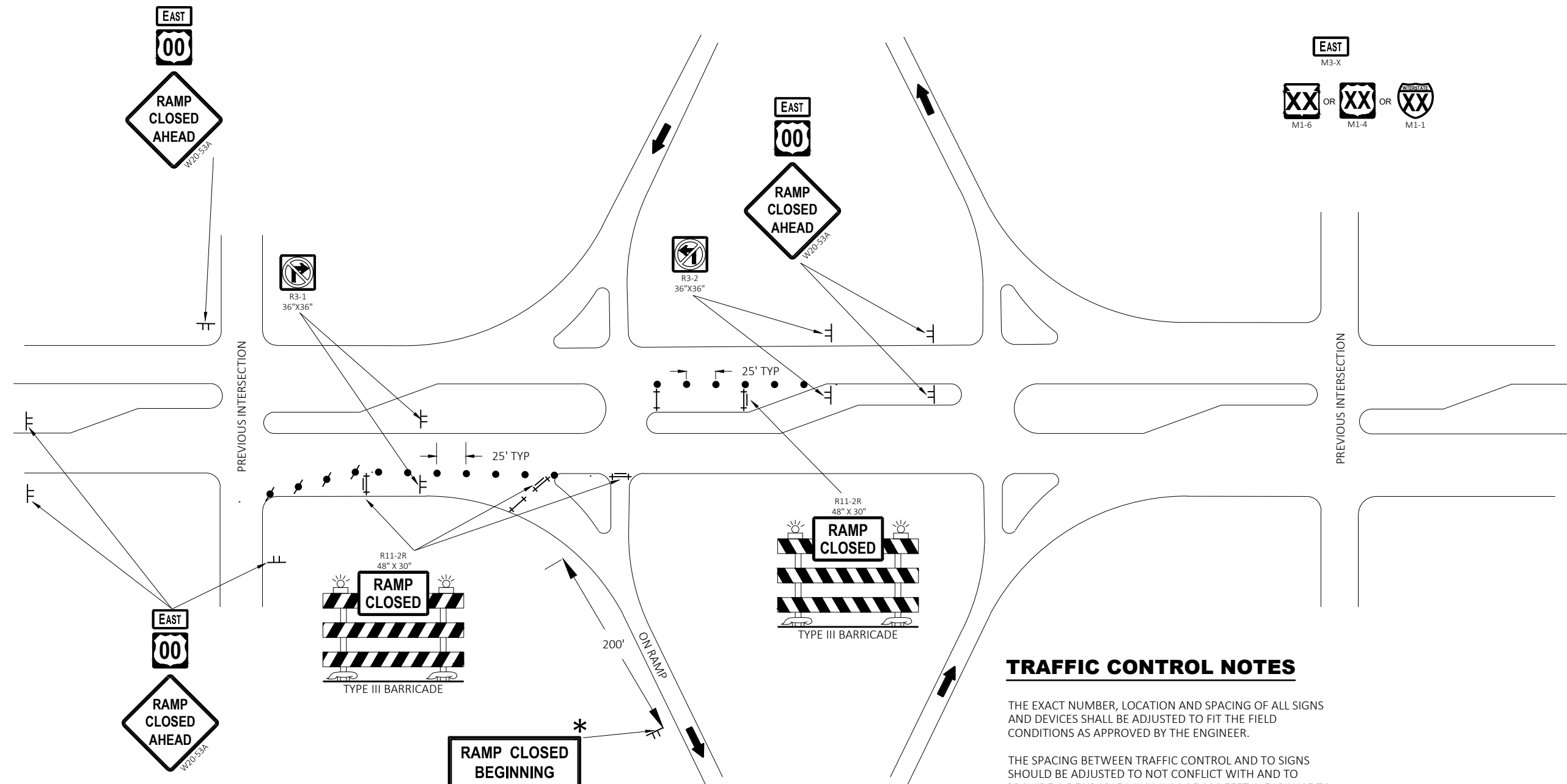
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER



**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

**RAMP CLOSED BEGINNING  
XXX-XX**  
G20-58

OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXX DAY XX XX XX

**TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE**

**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**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

**GENERAL NOTES**

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.




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

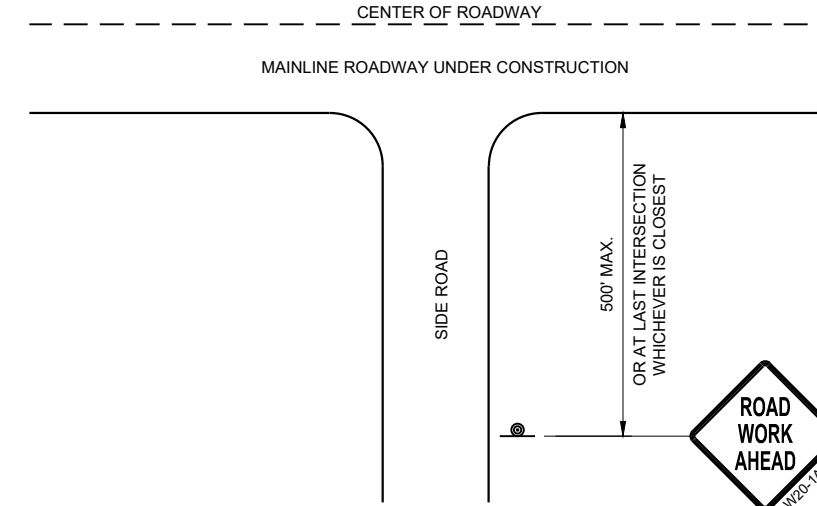
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

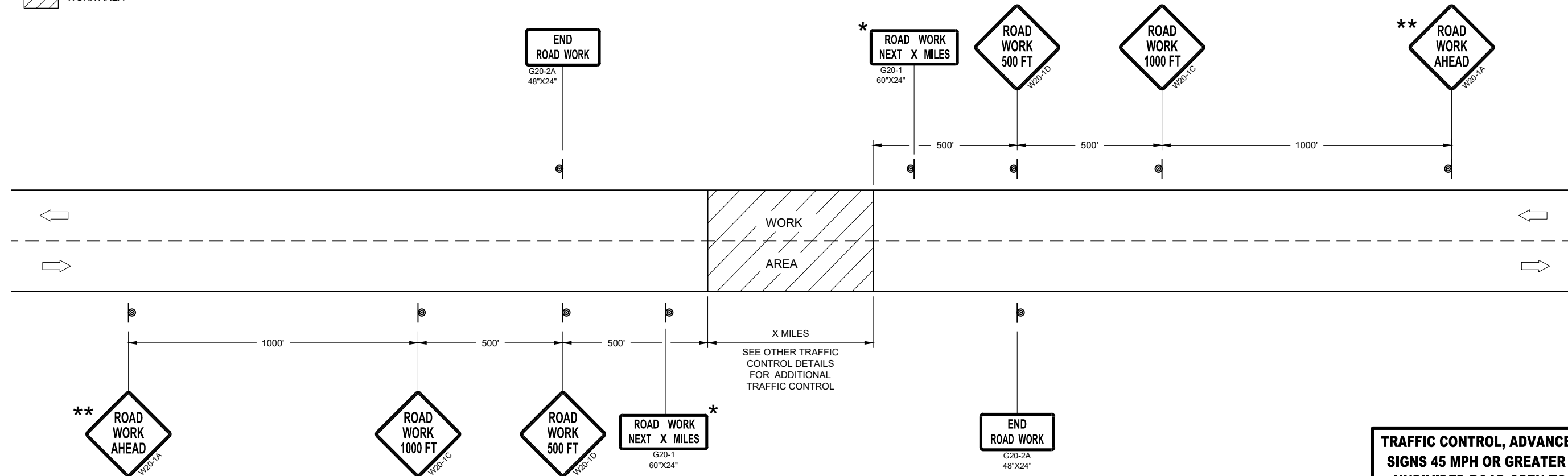
- \* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- \*\* PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



**TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL**



**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER**

**TRAFFIC CONTROL, ADVANCE WARNING  
SIGNS 45 MPH OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED \_\_\_\_\_ /S/ Andrew Heidtke  
DATE July 2018 WORK ZONE ENGINEER

FHWA

**GENERAL NOTES**

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

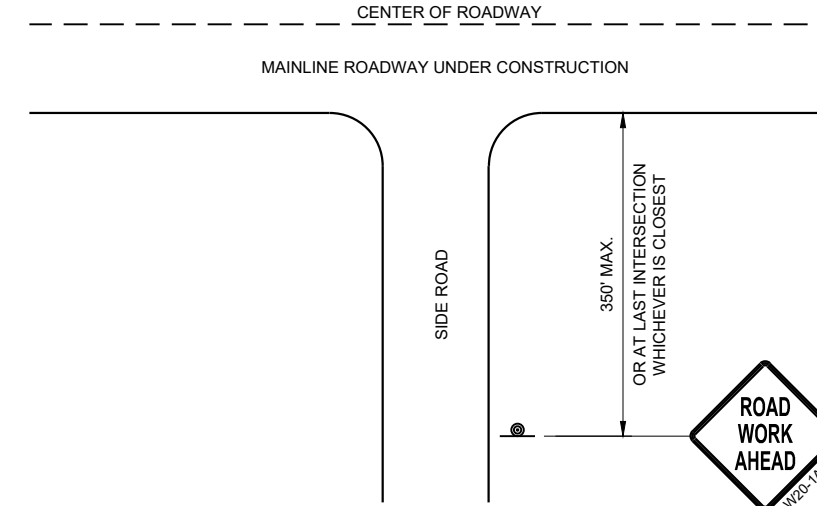
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

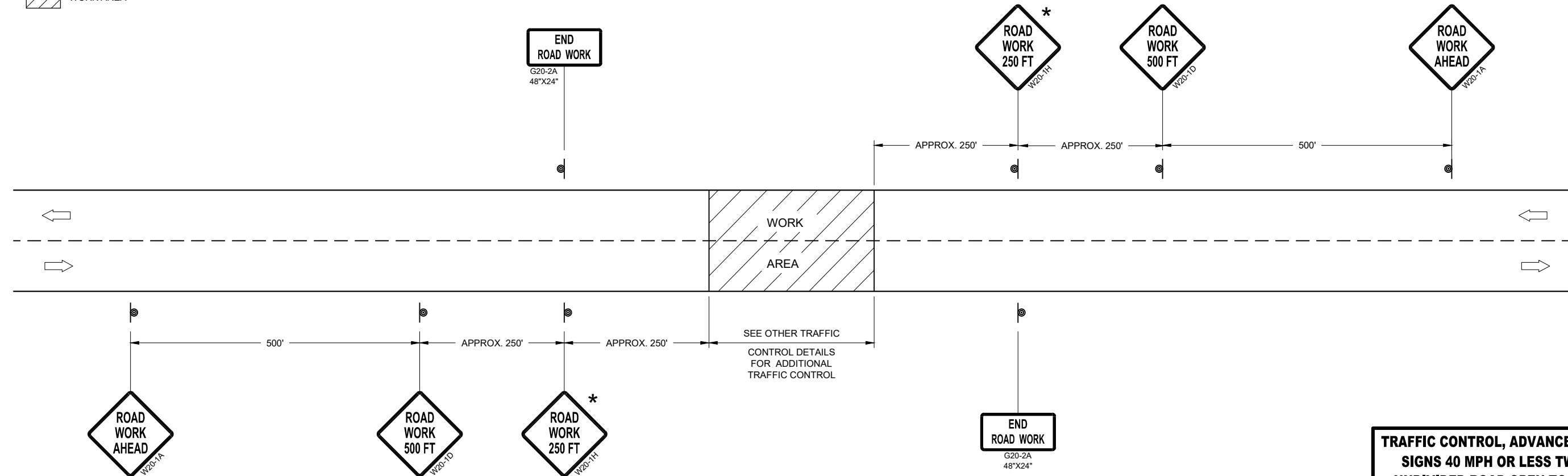
\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



**TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL**

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA



**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS**

**TRAFFIC CONTROL, ADVANCE WARNING  
SIGNS 40 MPH OR LESS TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC**

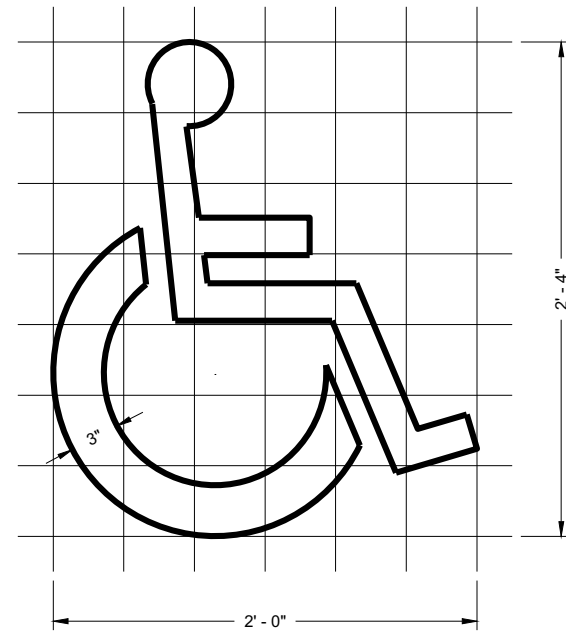
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DATE July 2018 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

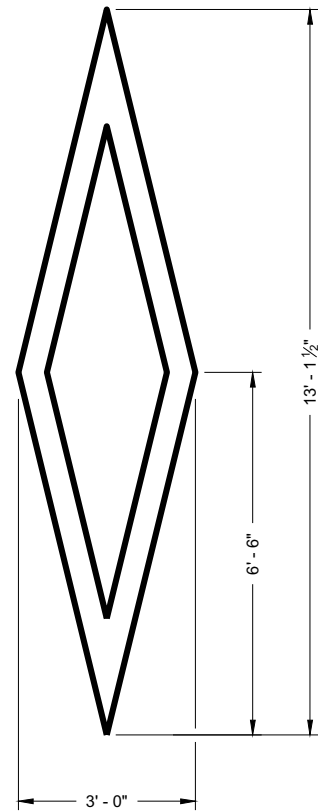
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**GENERAL NOTES**

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



**HANDICAP SYMBOL**

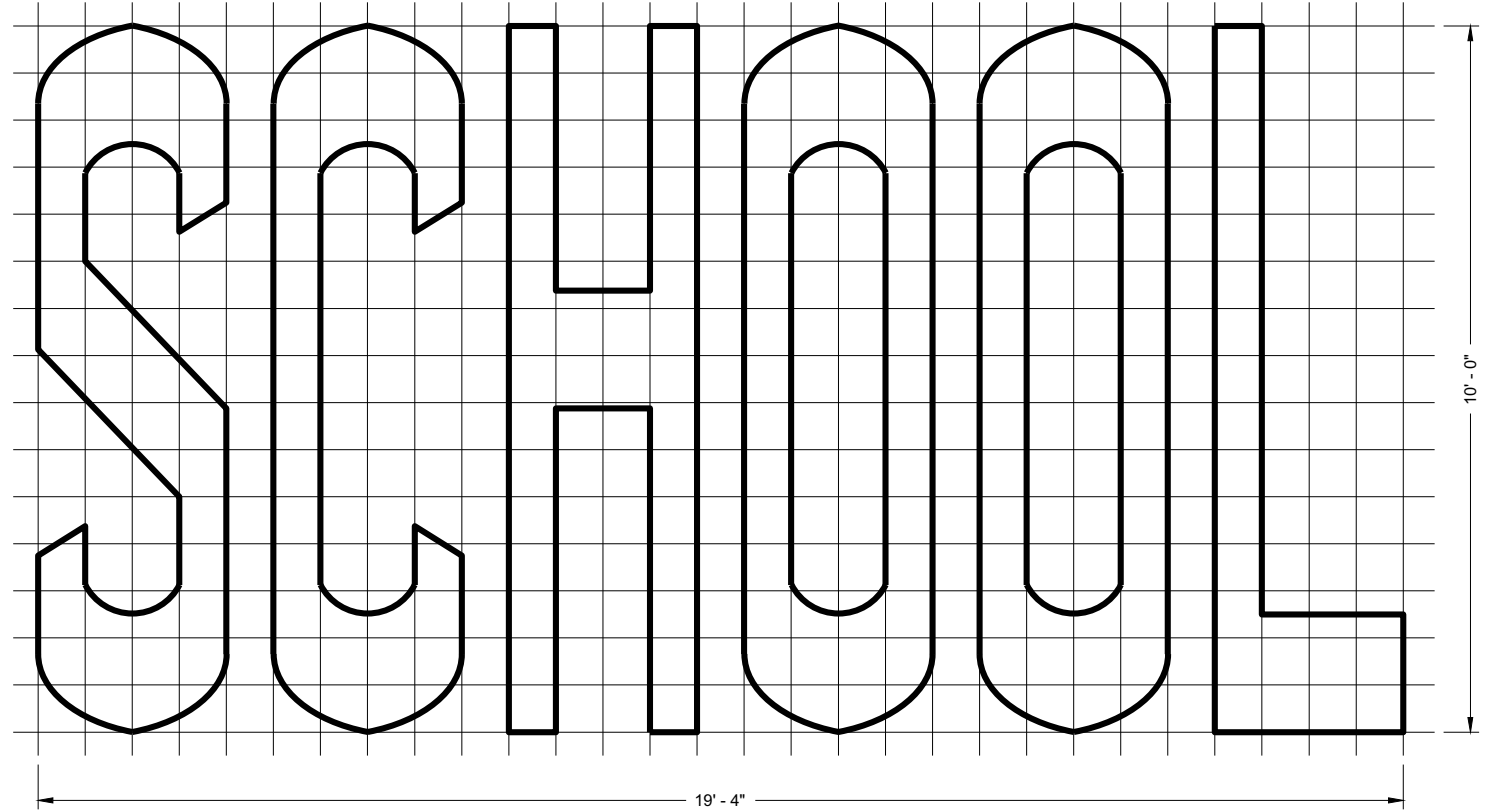
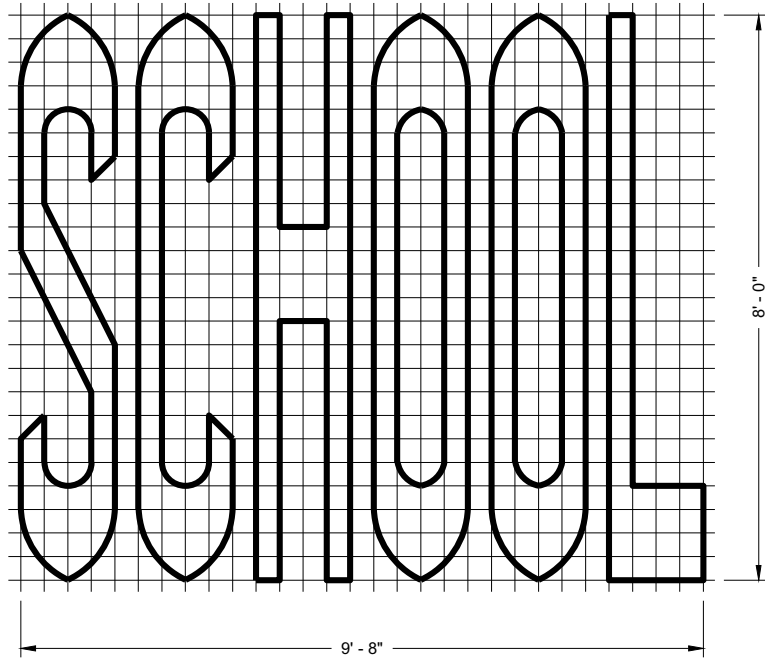
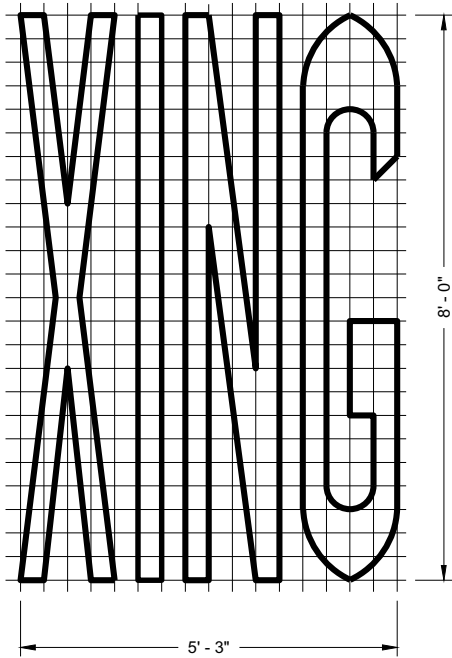
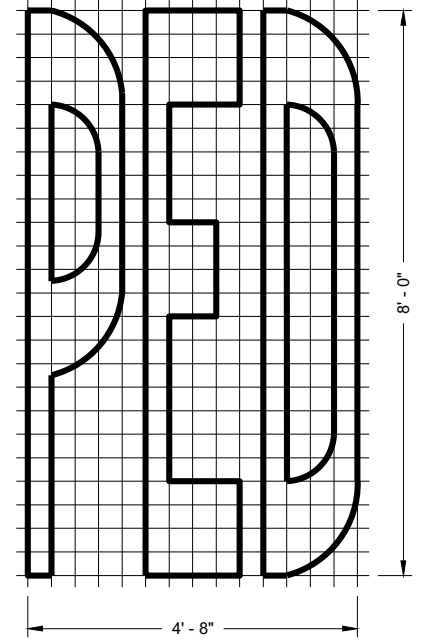
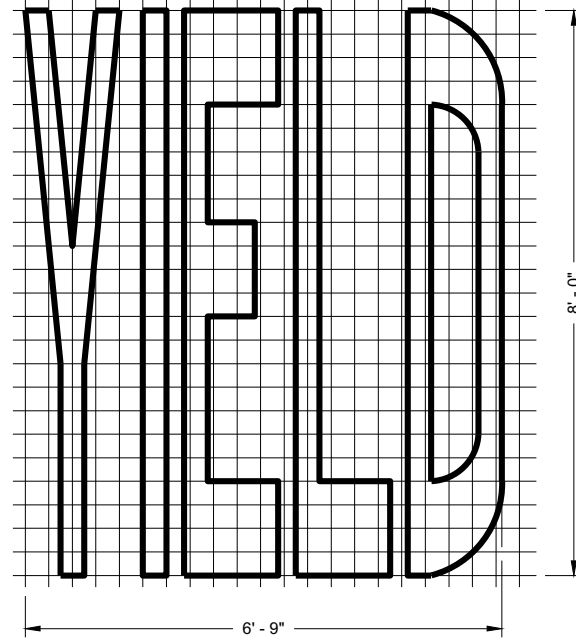
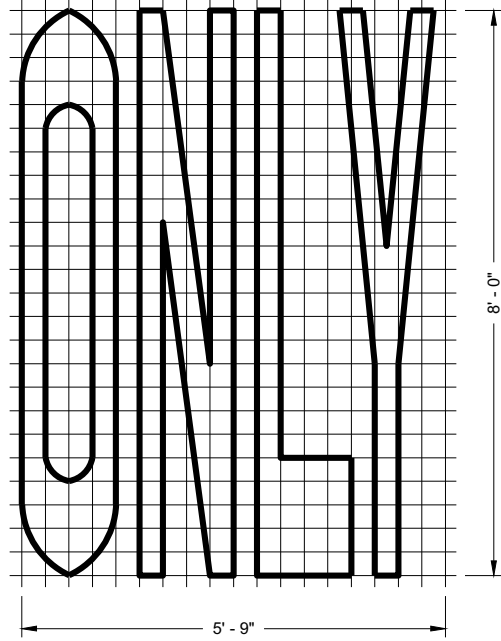
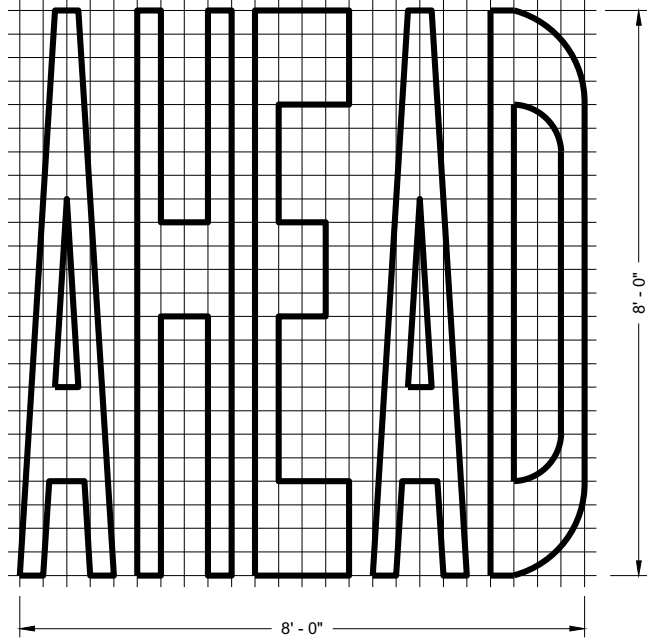
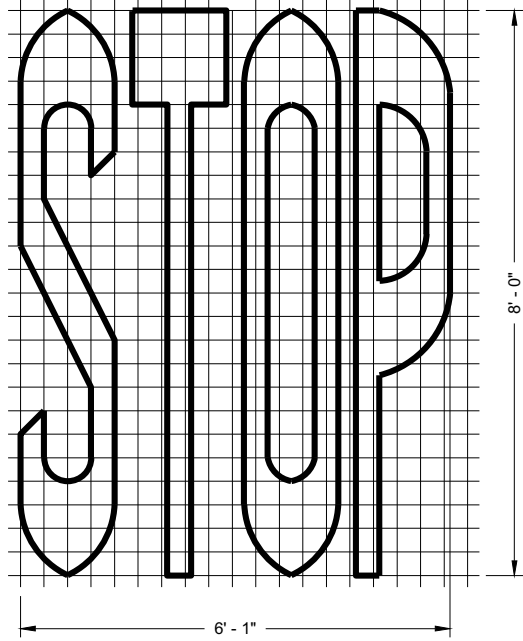


**PREFERENTIAL LANE SYMBOL**

**PAVEMENT MARKING SYMBOLS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2019 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING  
ENGINEER



SINGLE LANE

TWO - LANE

**GENERAL NOTES**

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

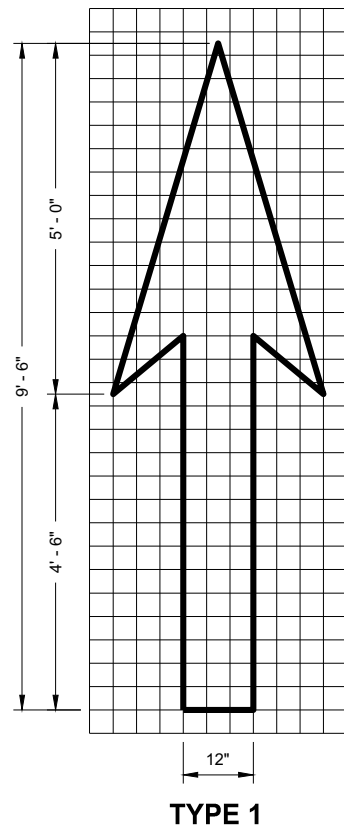
**PAVEMENT MARKING WORDS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

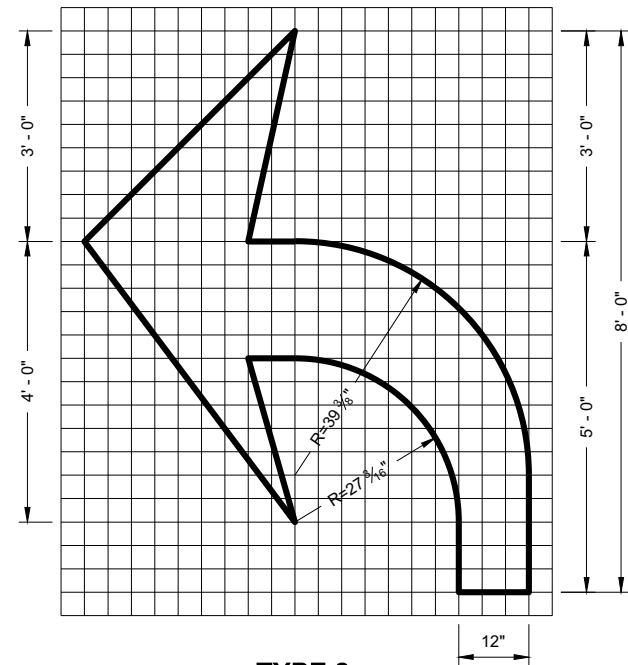
APPROVED  
November 2019 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING  
ENGINEER

FHWA

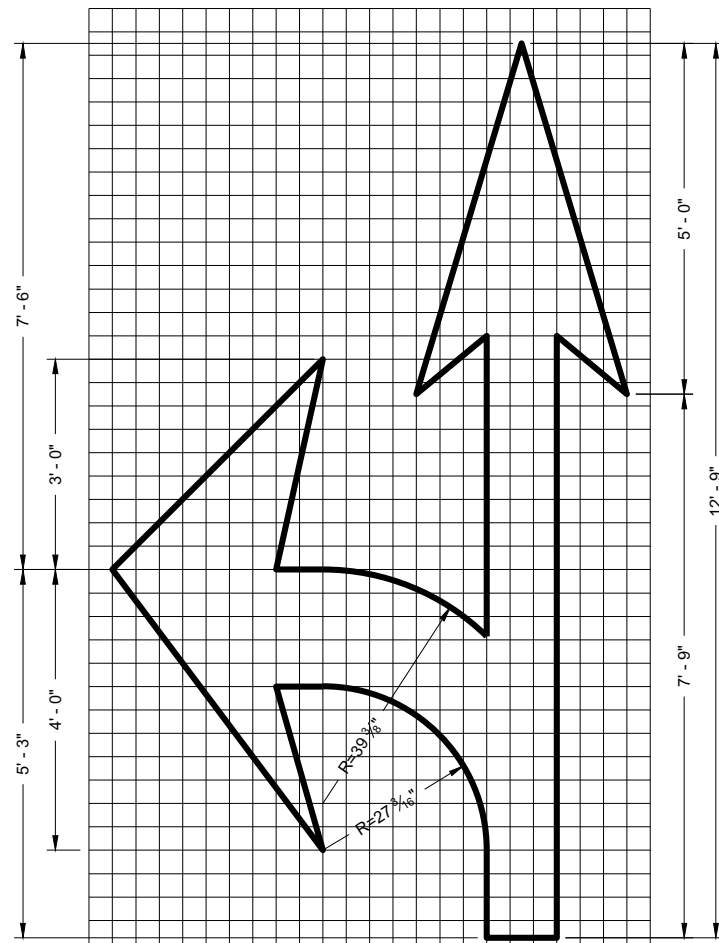




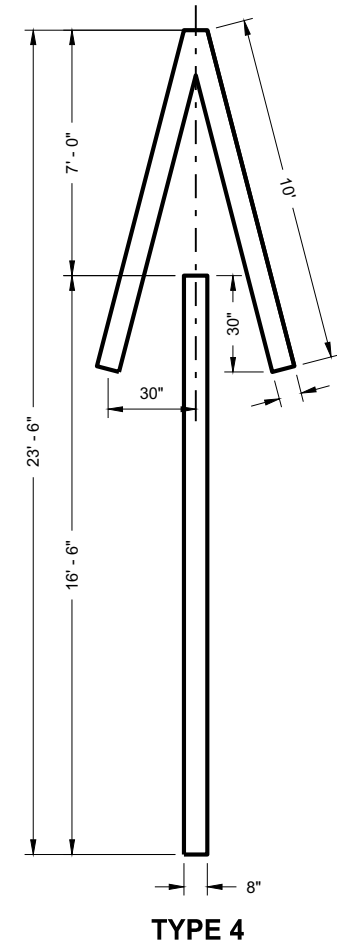
TYPE 1



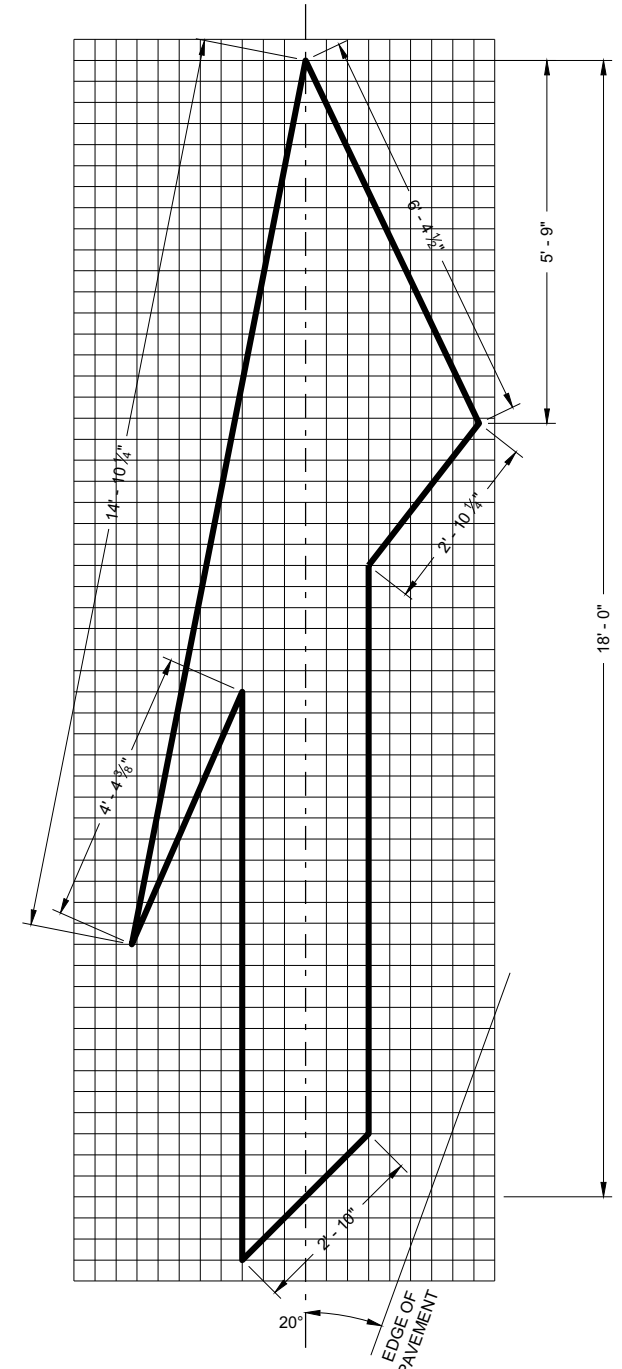
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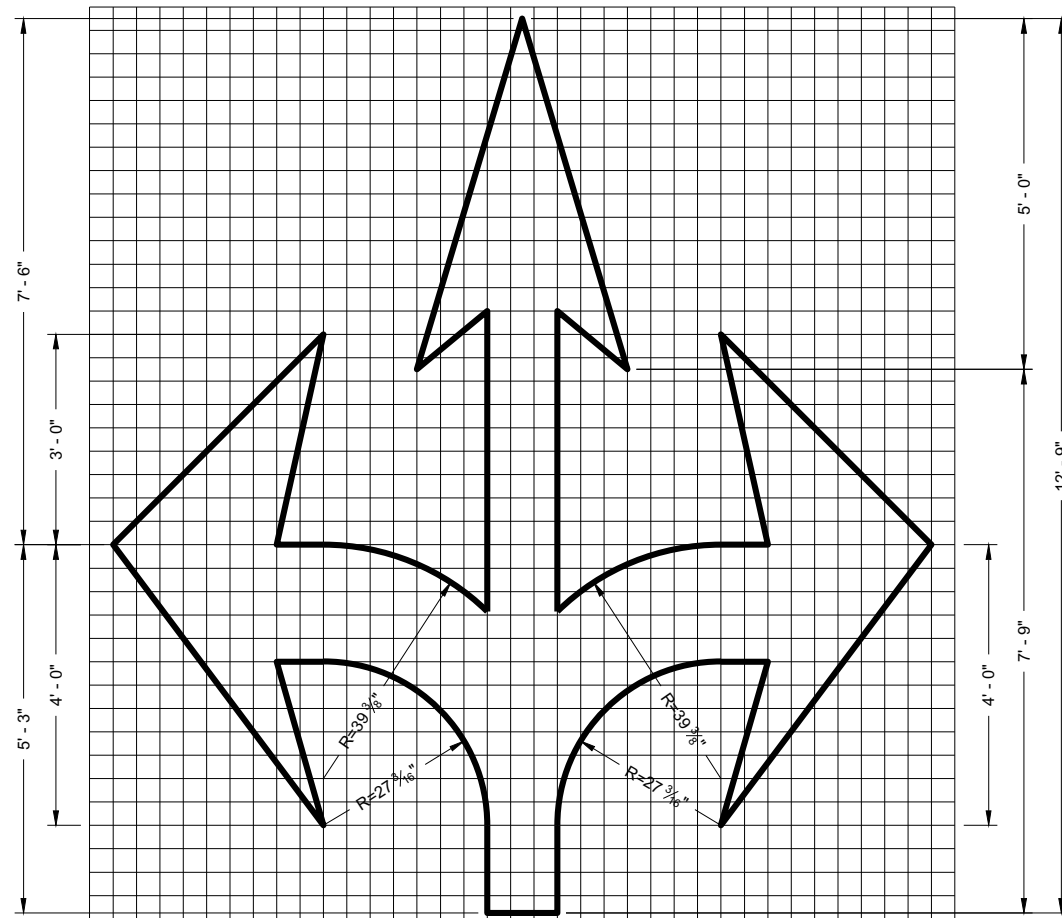
TYPE 3



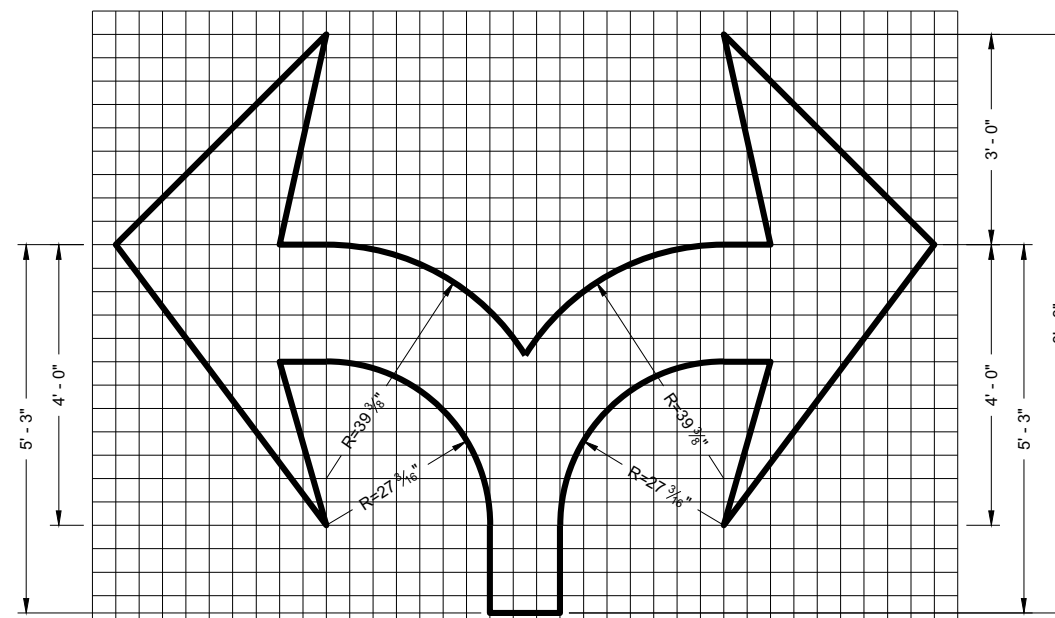
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

GENERAL NOTES

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

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2019

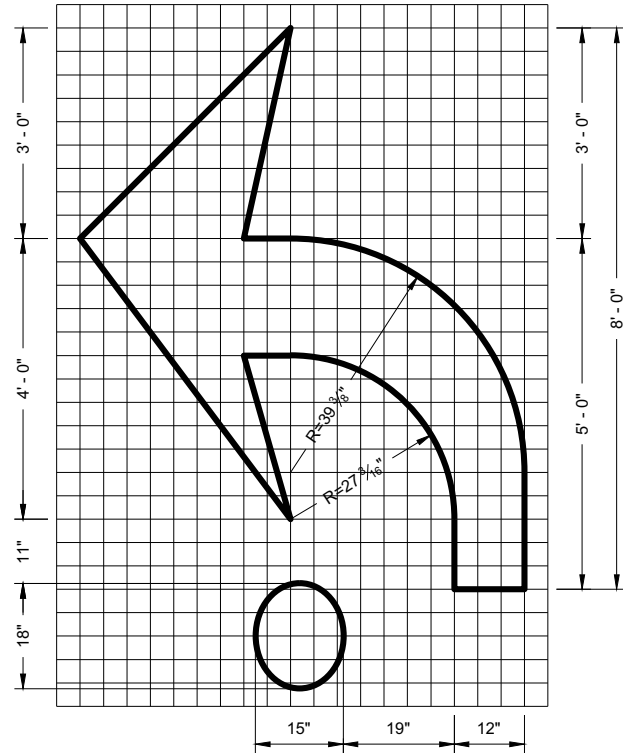
DATE

FHWA

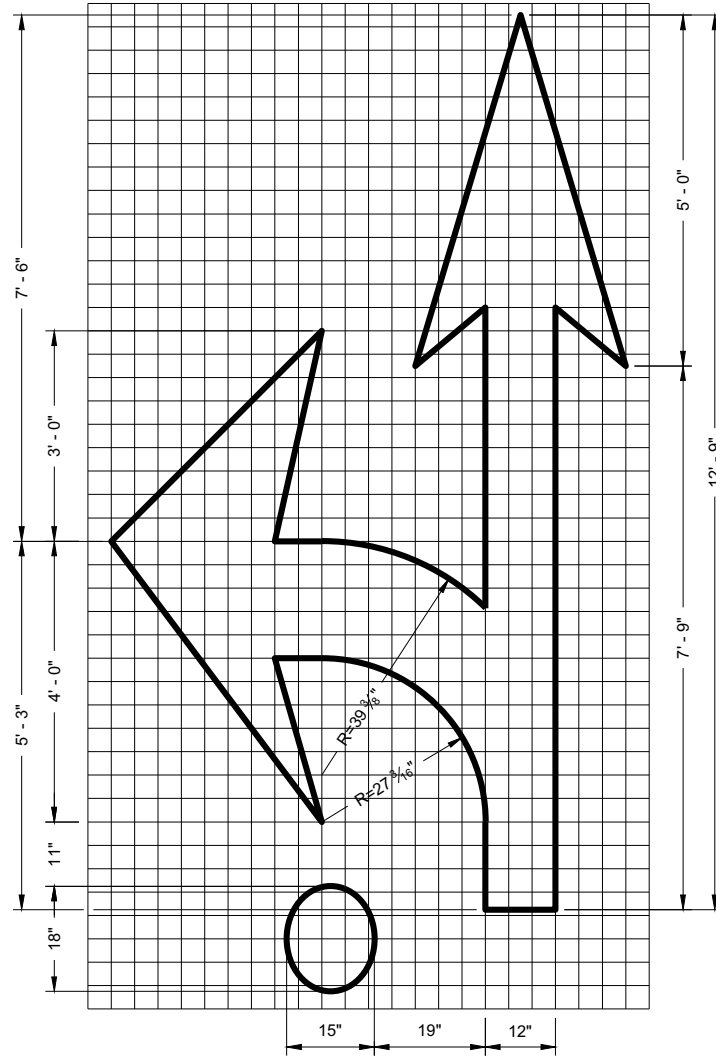
/s/ Matthew Rauch  
STATE SIGNING AND MARKING  
ENGINEER

**GENERAL NOTES**

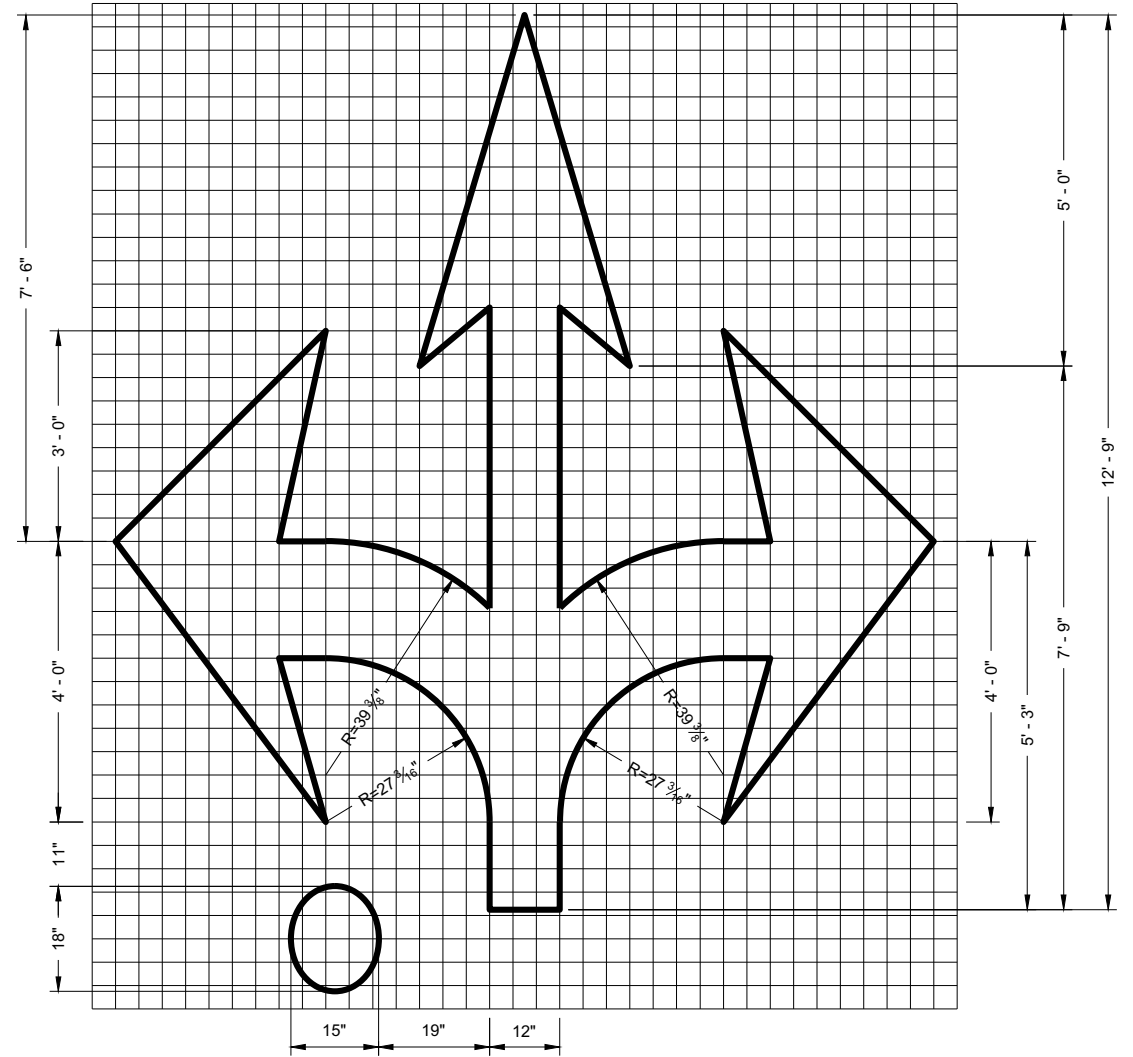
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



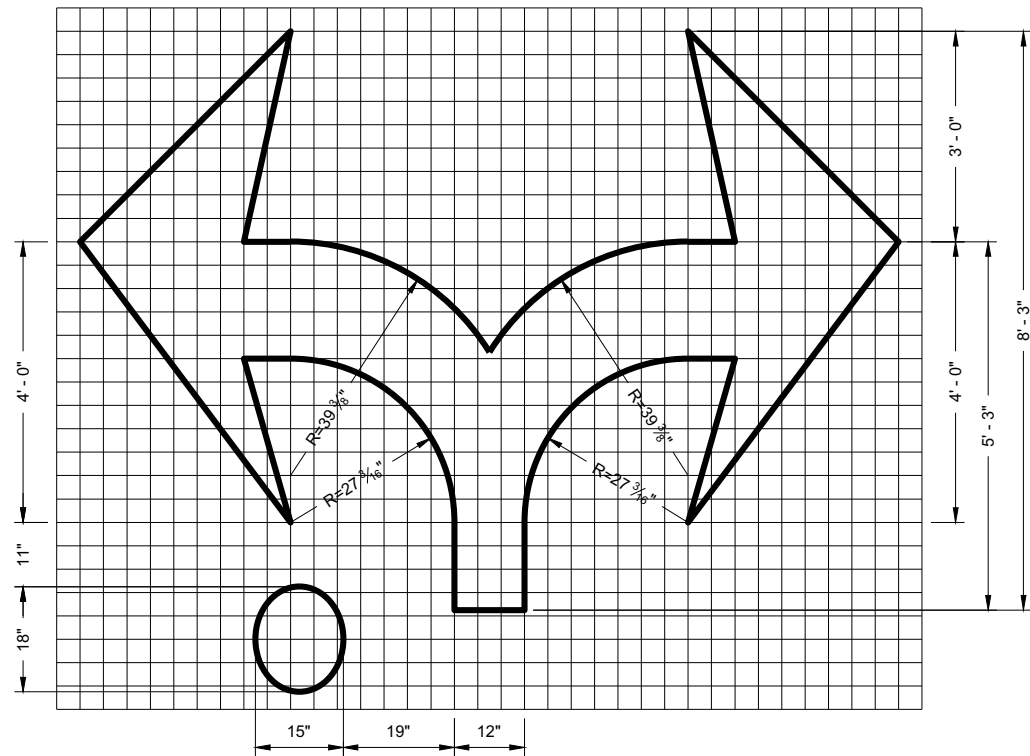
**TYPE 2R**



**TYPE 3R**



**TYPE 6R**



**TYPE 7R**

**ROUNDBOUT  
MARKING ARROWS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2019 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING  
ENGINEER

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**GENERAL NOTES**

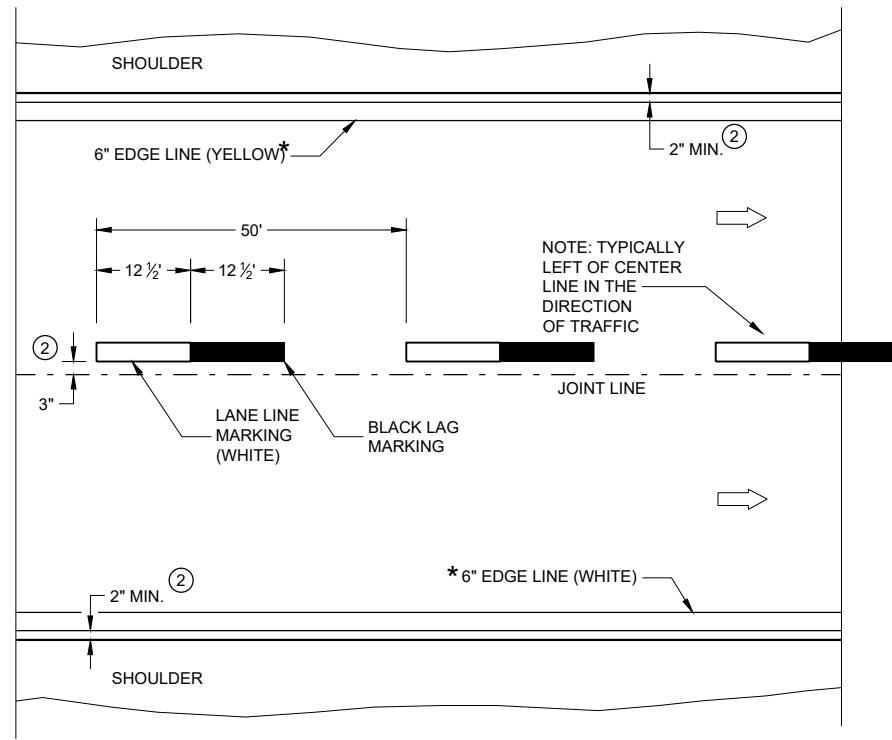
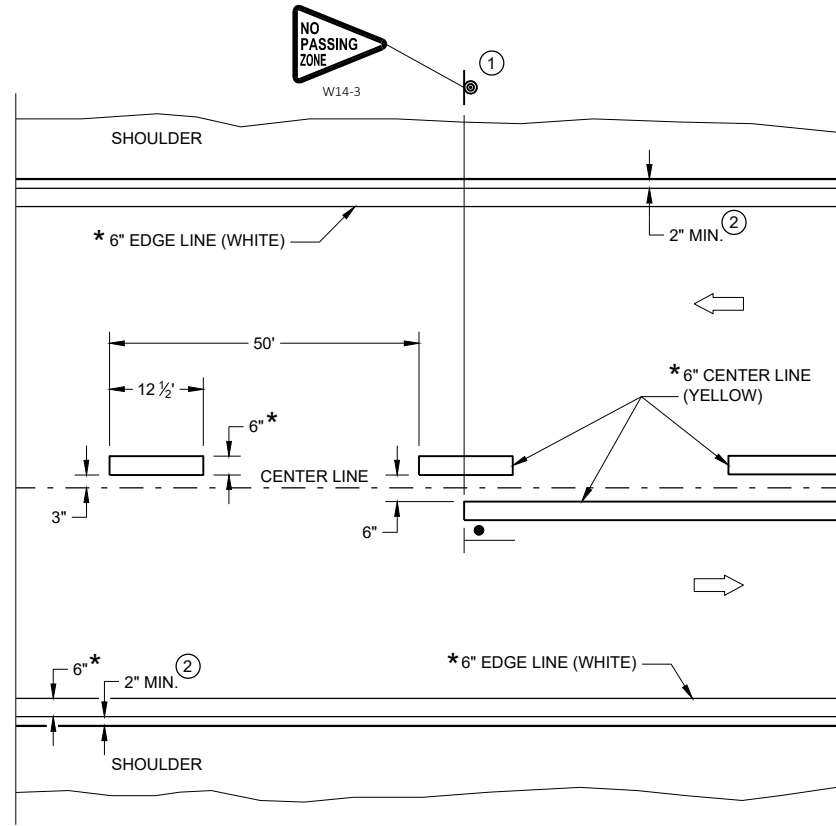
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

**LEGEND**

- ⊥ "T" MARKING
- ⊙ SIGN ON PERMANENT SUPPORT
- ➔ DIRECTION OF TRAFFIC

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



**TWO WAY TRAFFIC**

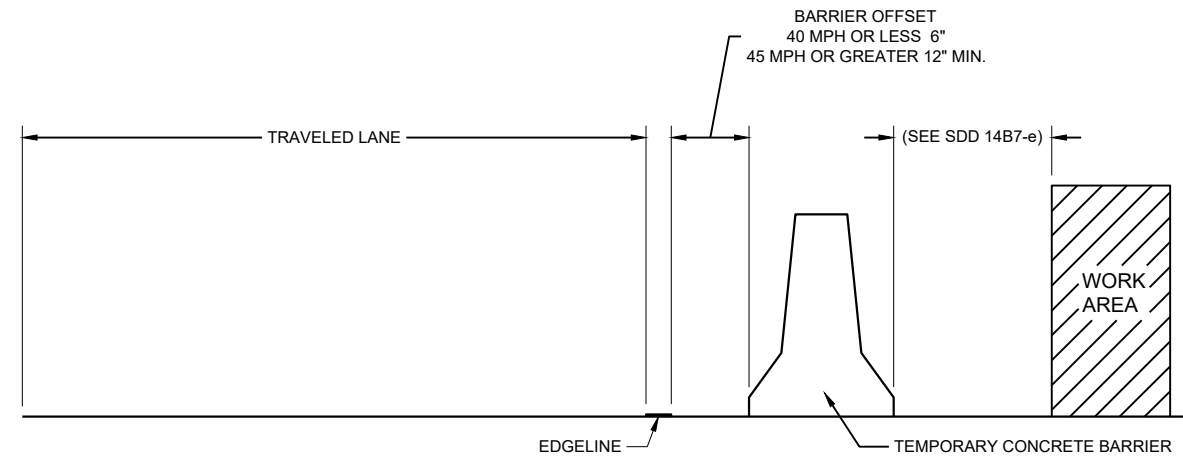
**ONE WAY TRAFFIC**

**PERMANENT PAVEMENT MARKING**

**PERMANENT LONGITUDINAL PAVEMENT MARKINGS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Jeannie Silver  
DATE STATEWIDE SIGNING AND MARKING ENGINEER



**TEMPORARY BARRIER OFFSET FROM EDGELINE**

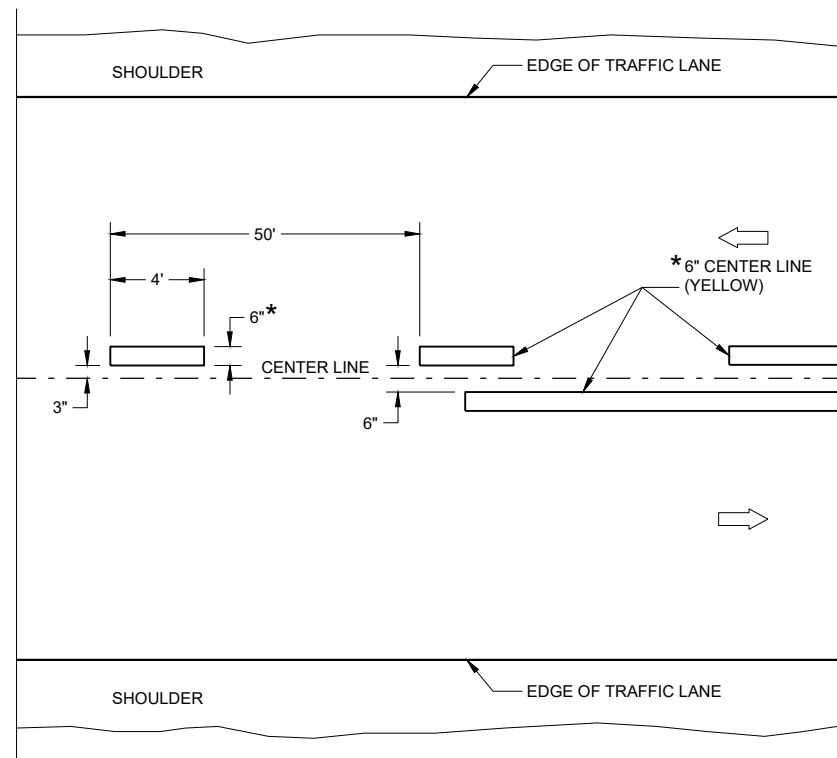
**GENERAL NOTES**

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

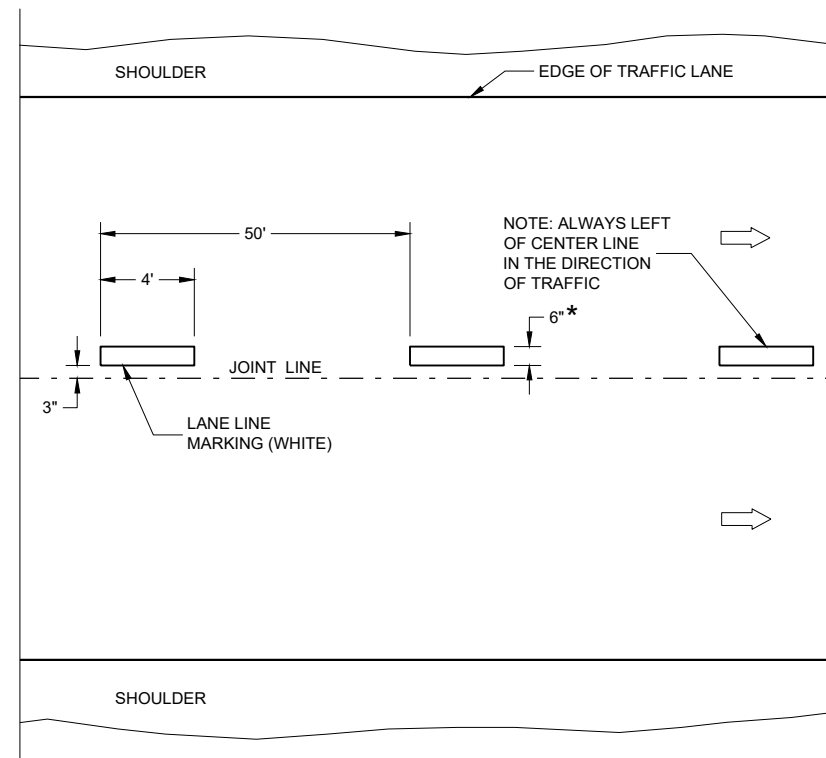
**LEGEND**

➡ DIRECTION OF TRAFFIC

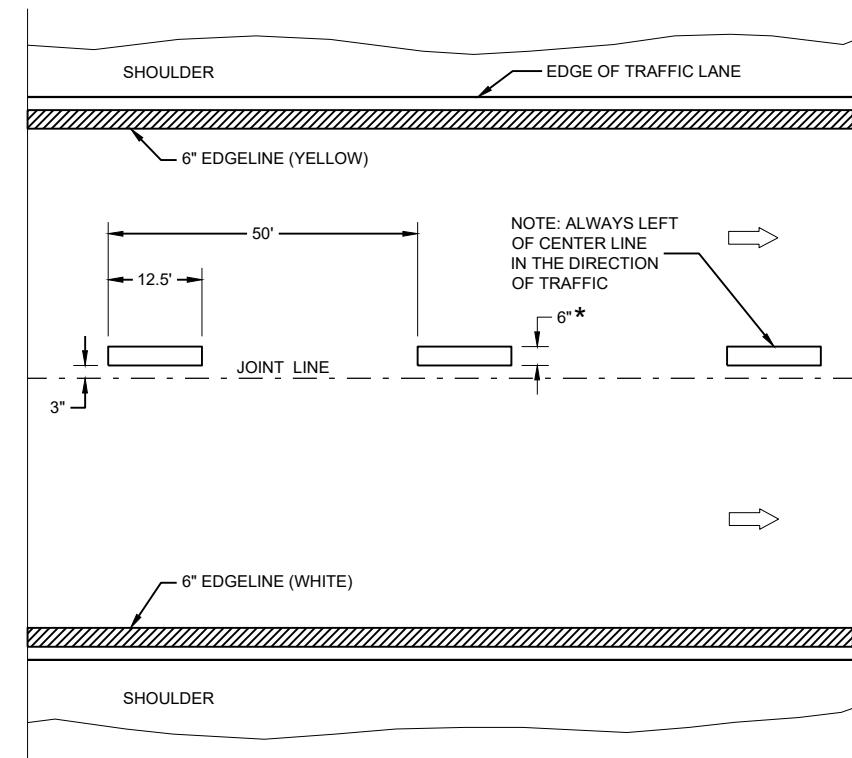
\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**



**FREEWAYS AND EXPRESSWAYS**

**TEMPORARY PAVEMENT MARKING**

**TEMPORARY LONGITUDINAL PAVEMENT MARKING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Jeannie Silver  
DATE STATEWIDE SIGNING AND MARKING ENGINEER

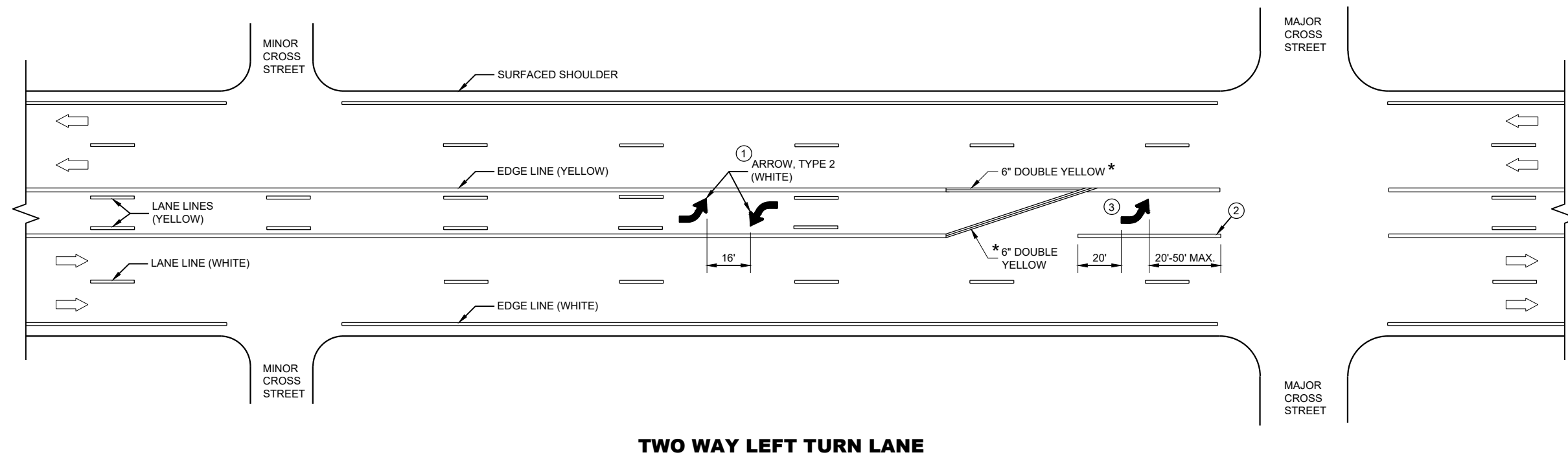
FHWA

**GENERAL NOTES**

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 10" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

➡ DIRECTION OF TRAFFIC

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



6

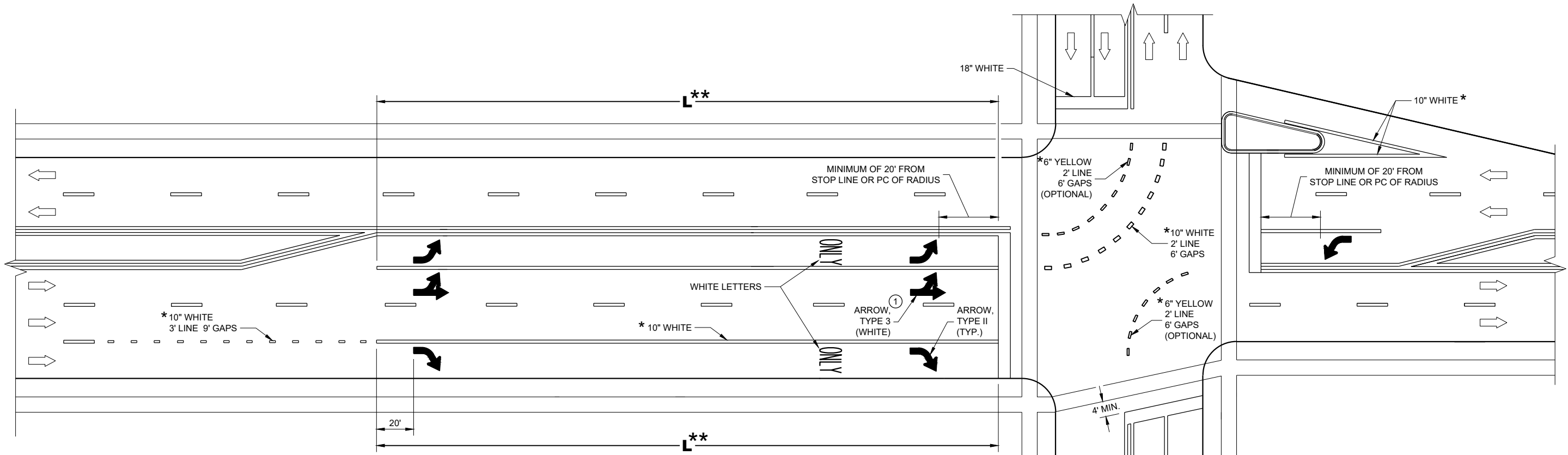
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SDD 15C08-23c

SDD 15C08-23c

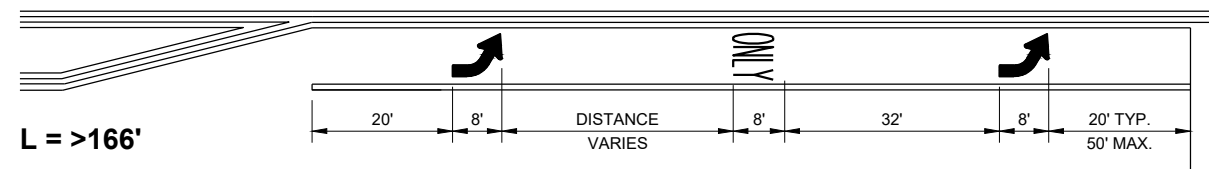
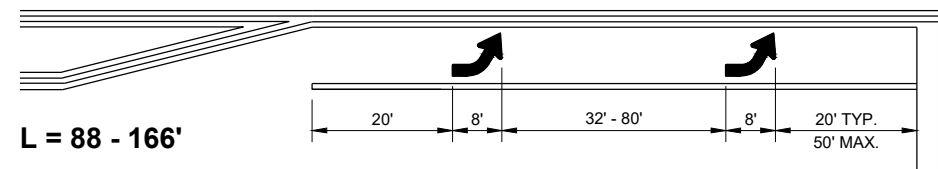
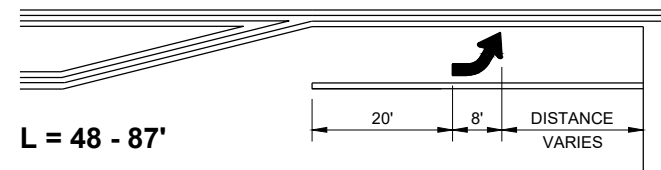
**PAVEMENT MARKING  
(TURN LANES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**TURN LANE OPTIONS**

LENGTH OF TURN BAY ( **L** ) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



\*\* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

**GENERAL NOTES**

① QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

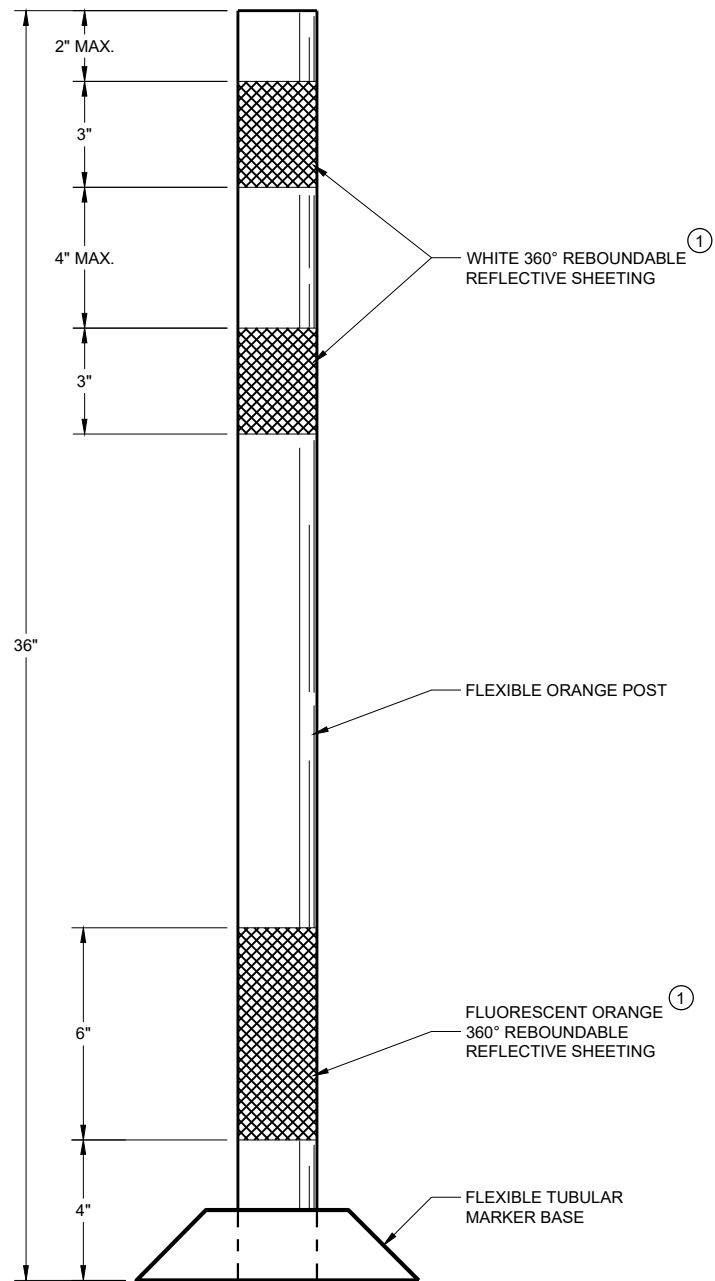
➡ DIRECTION OF TRAFFIC

**L** = LENGTH OF TURN BAY

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

**PAVEMENT MARKING (TURN LANES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



FLEXIBLE TUBULAR MARKER POST WORK ZONE

**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.

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

**CHANNELIZING DEVICES  
FLEXIBLE TUBULAR  
MARKER POST**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

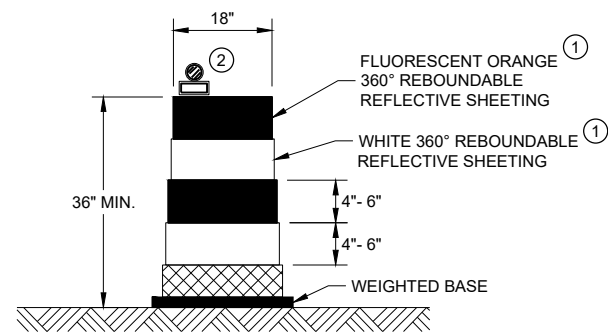
APPROVED  
November 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



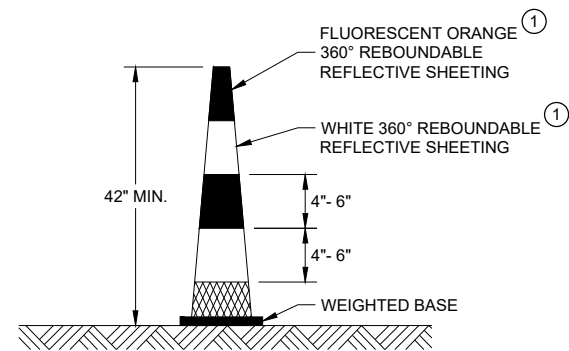
**GENERAL NOTES**

- 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.



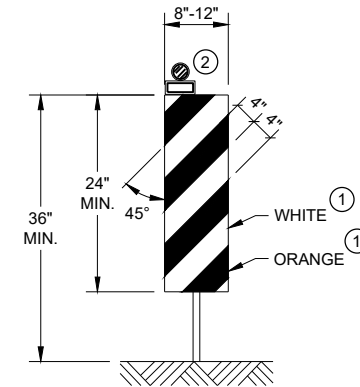
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



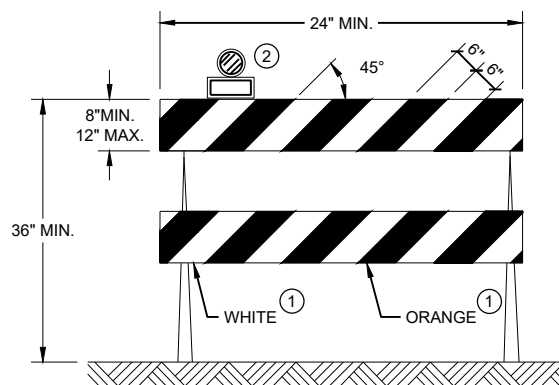
**42" CONE**

DO NOT USE IN TAPERS  
½ SPACING OF DRUMS  
BALLAST WIDTHS  
RANGE FROM 14"-20"



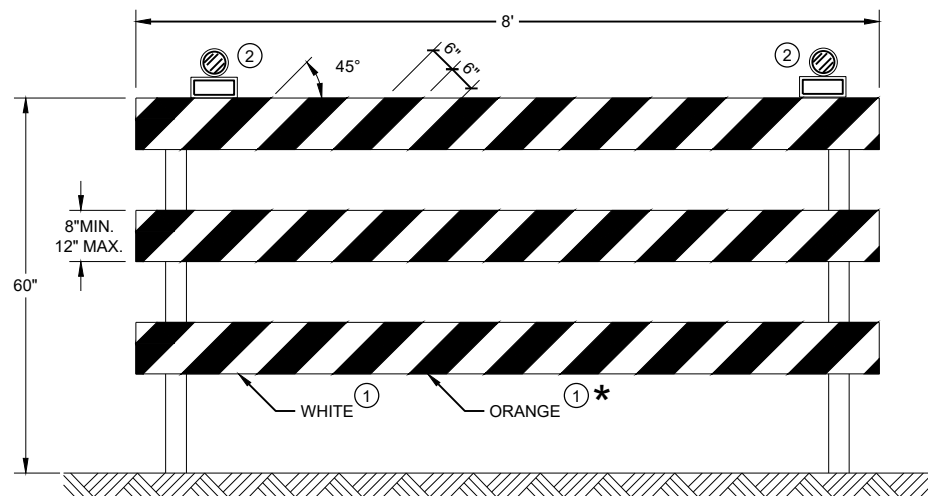
**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO  
THE TRAFFIC SIDE FOR CHANNELIZATION.



**TYPE II BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES  
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD  
TO THE TRAFFIC SIDE FOR CHANNELIZATION.

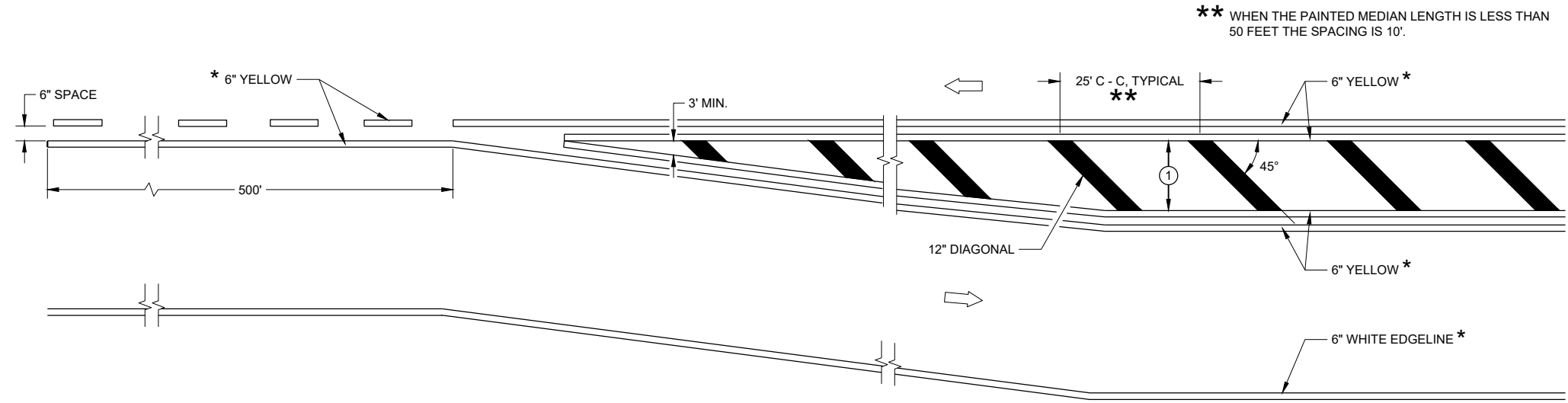


**TYPE III BARRICADE**

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.

<b>CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



**MEDIAN ISLAND DETAIL**

**\*\*** WHEN THE PAINTED MEDIAN LENGTH IS LESS THAN 50 FEET THE SPACING IS 10'.

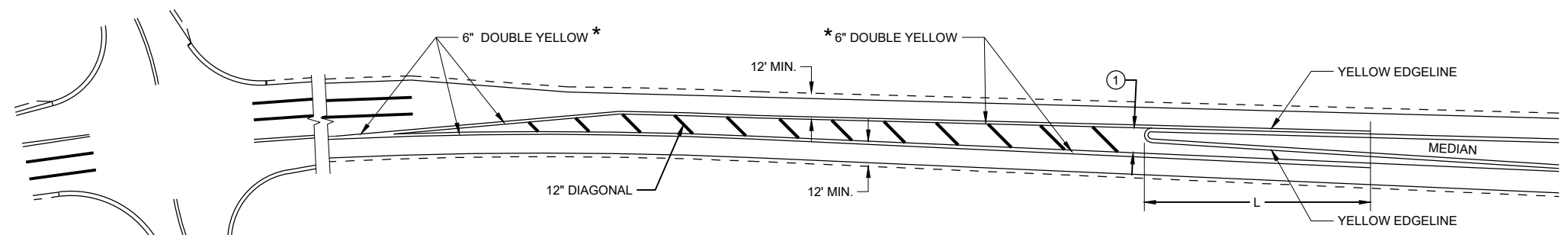
**GENERAL NOTES**

① DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

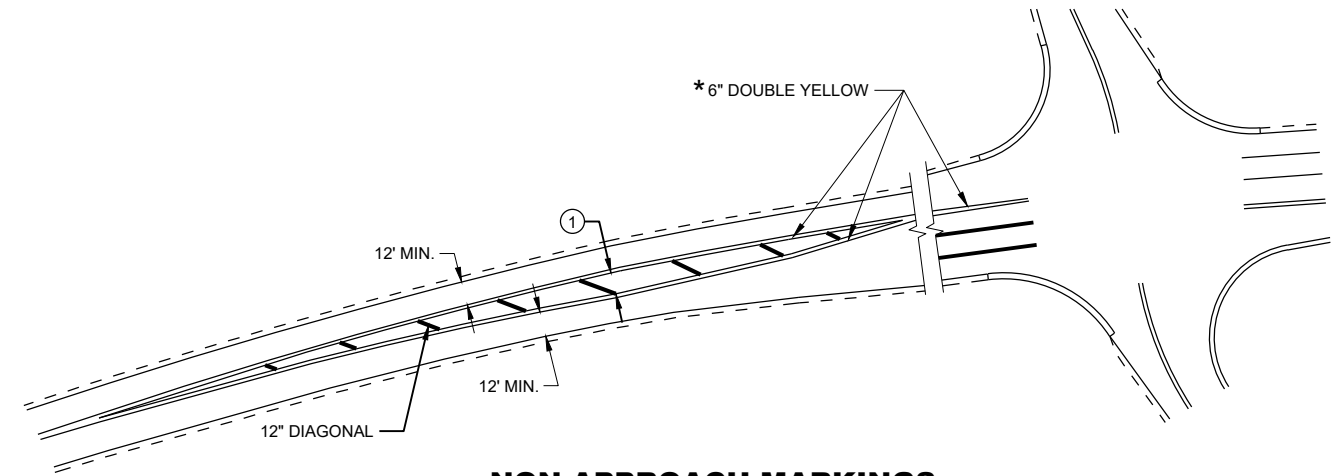
➔ DIRECTION OF TRAVEL

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

SPEED LIMIT	L
<35 MPH	5'
35> MPH	50'



**APPROACH MARKINGS FOR OTHER MEDIAN TYPES**



**NON-APPROACH MARKINGS**

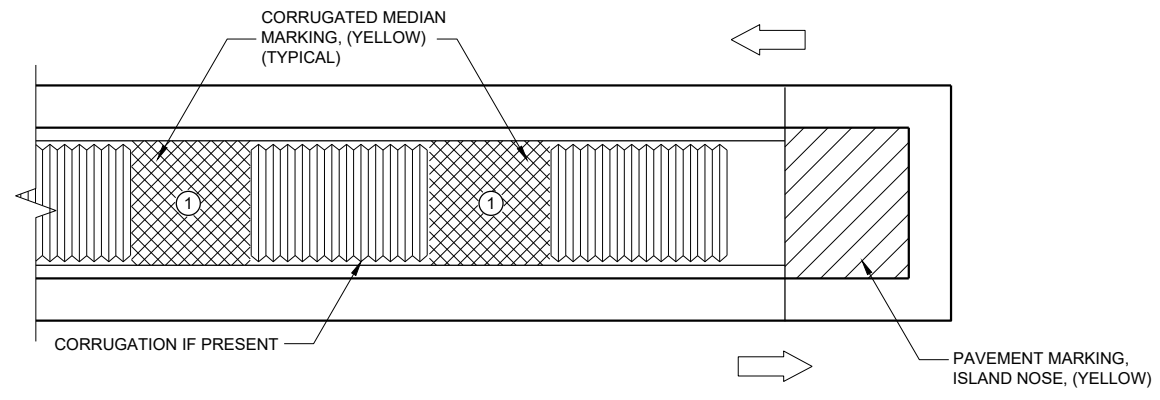
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6

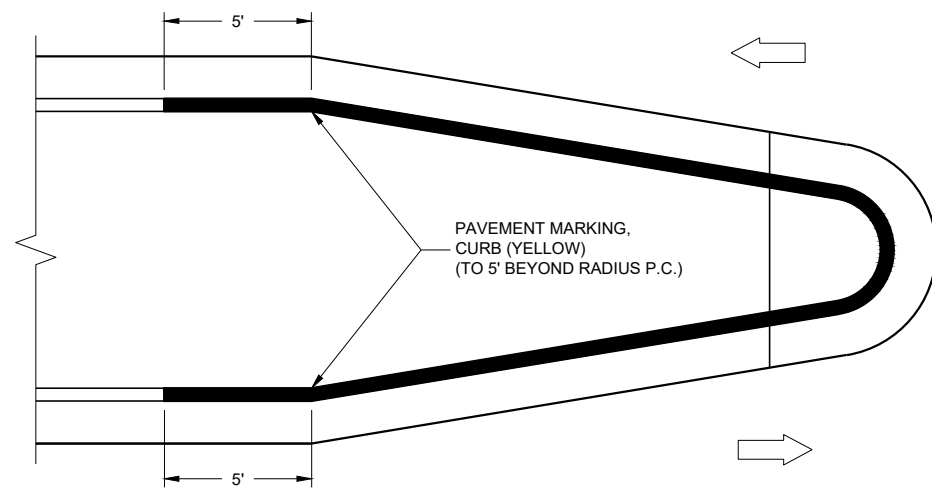
SDD 15C18-08a

SDD 15C18-08a

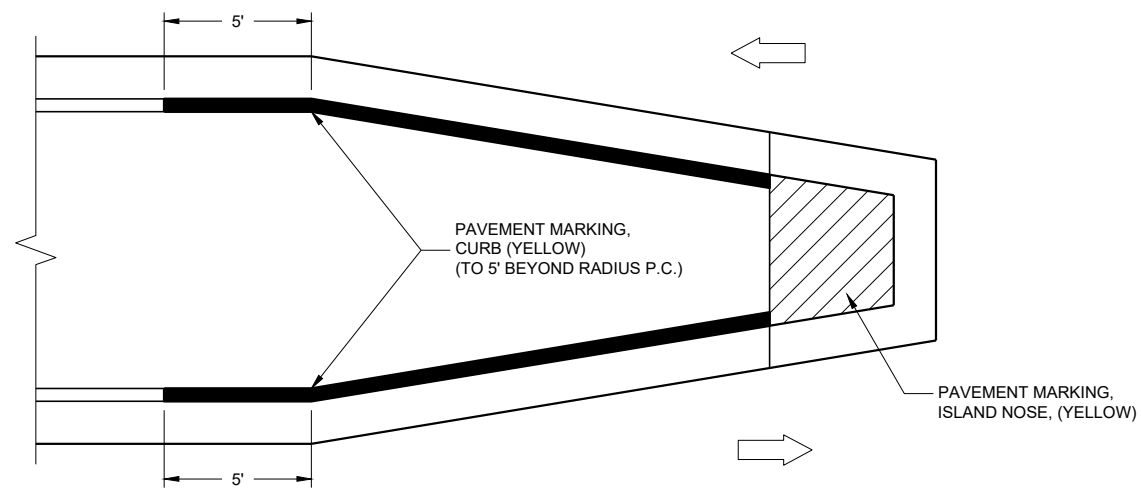
<b>MEDIAN ISLAND PAVEMENT MARKINGS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver STATE SIGNING AND MARKING ENGINEER
FHWA	



**MEDIAN ISLAND WITH SQUARE BLUNT NOSE**



**MEDIAN ISLAND WITH ROUND BLUNT NOSE**







**MEDIAN ISLAND WITH SLOPED NOSE**

**TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS**

**GENERAL NOTES**

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

- ① APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

-  ISLAND NOSE MARKING
-  CURB MARKING
-  CORRUGATED MEDIAN MARKING
-  DIRECTION OF TRAVEL

**PAVEMENT MARKINGS,  
MEDIAN ISLAND NOSE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

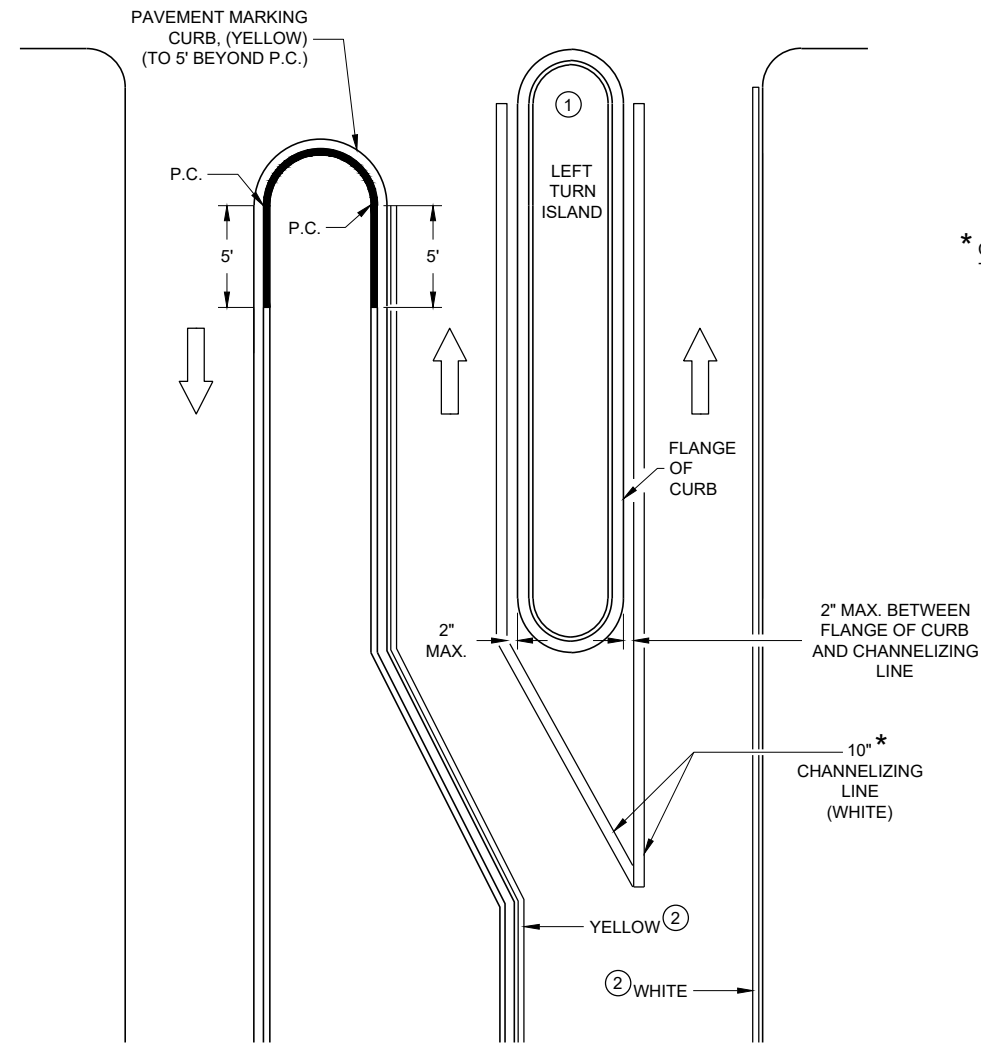
APPROVED  
May 2023 /S/ Jeannie Silver  
DATE STATE SIGNING AND MARKING  
ENGINEER

REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED

**GENERAL NOTES**

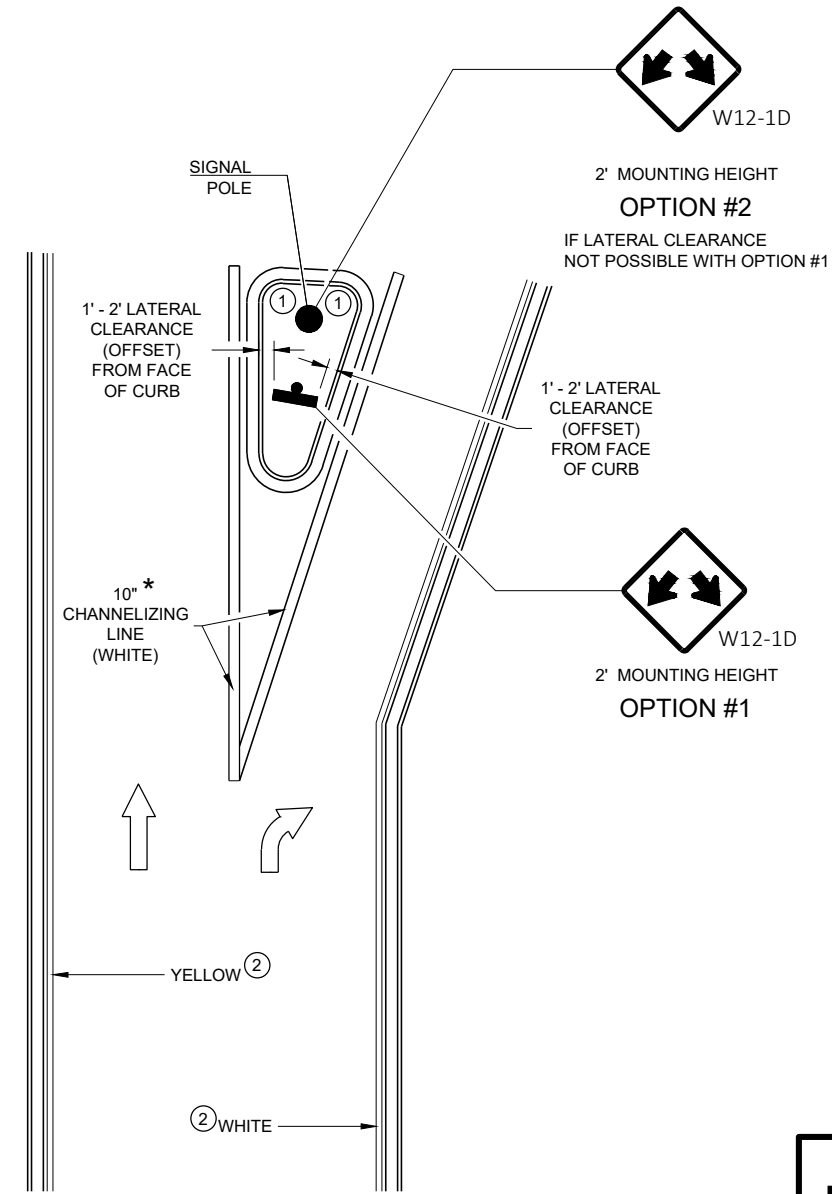
APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.  
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

- ① MARK CURB NOSES YELLOW.
- ② MARK ACCORDING TO TABLE.



\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

**LEFT TURN & MEDIAN ISLAND**



**RIGHT TURN ISLAND**

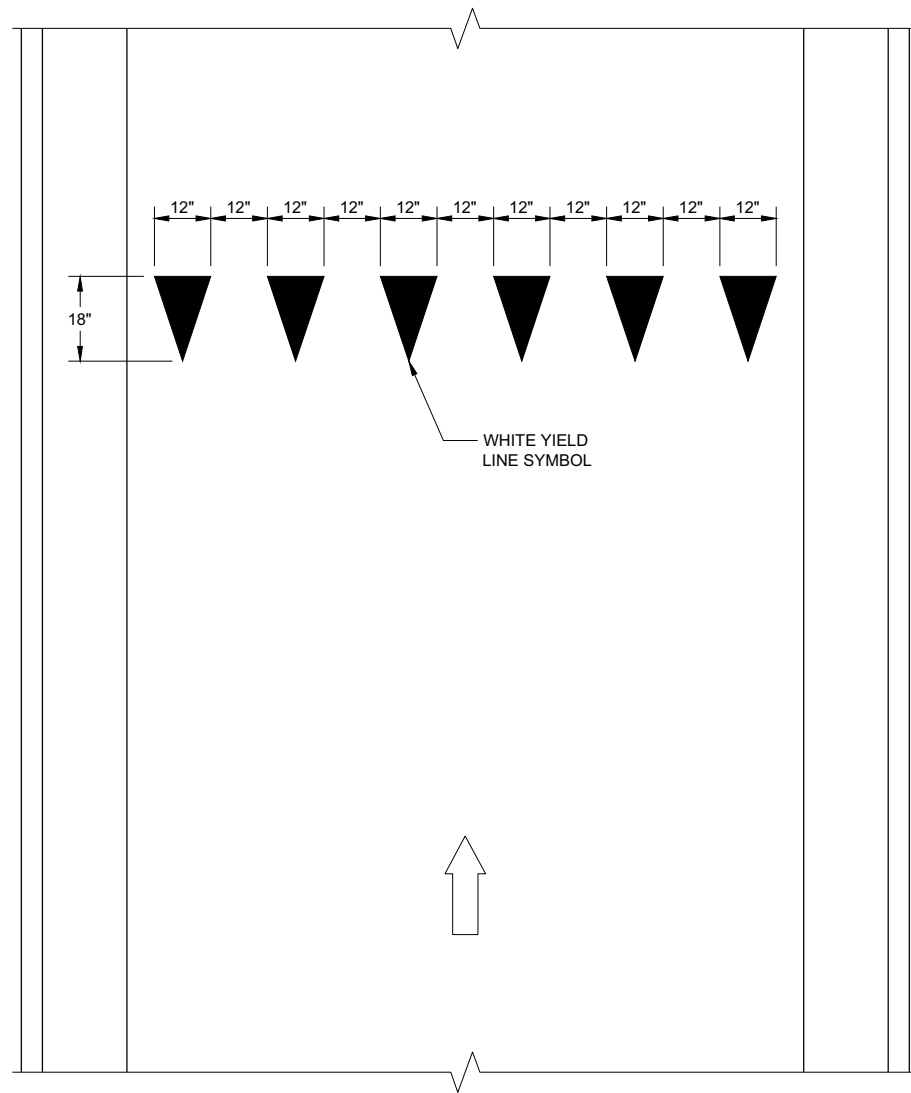
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SDD 15C18-08C


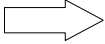
SDD 15C18-08C

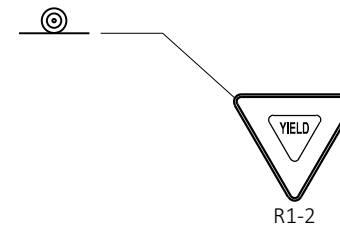
<b>MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver STATE SIGNING AND MARKING ENGINEER
FHWA	



YIELD LINE

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAVEL





<b>YIELD MARKINGS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-81-2016 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
<small>FHWA</small>	

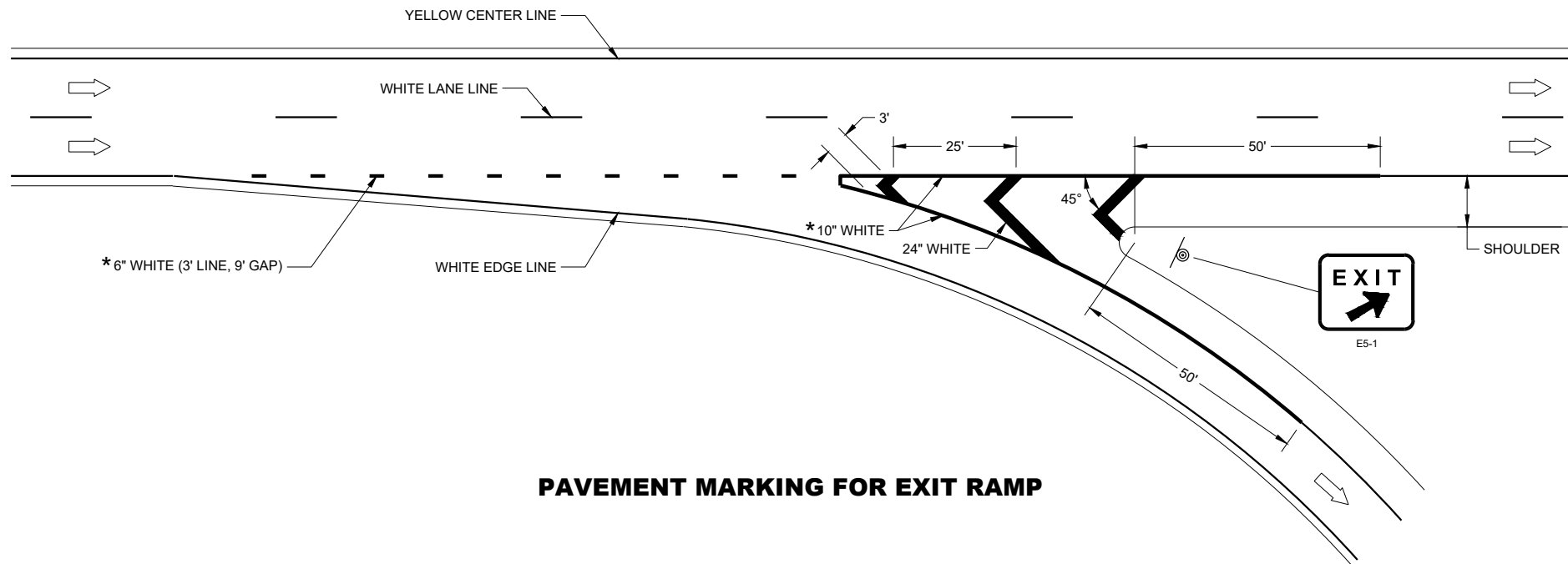
**GENERAL NOTES**

PLACE GROOVE 3 INCHES LEFT OF JOINT.

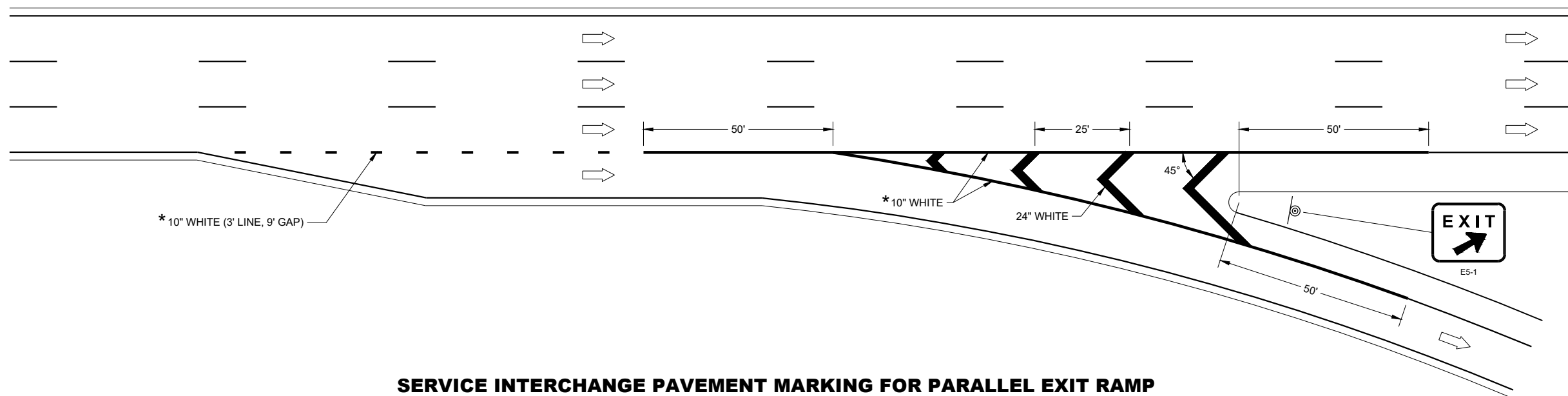
**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAVEL

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



**PAVEMENT MARKING FOR EXIT RAMP**



**SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP**

6

6

SDD 15C31-05a

SDD 15C31-05a

**PAVEMENT MARKING,  
EXIT RAMP AND  
PARALLEL EXIT RAMP**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

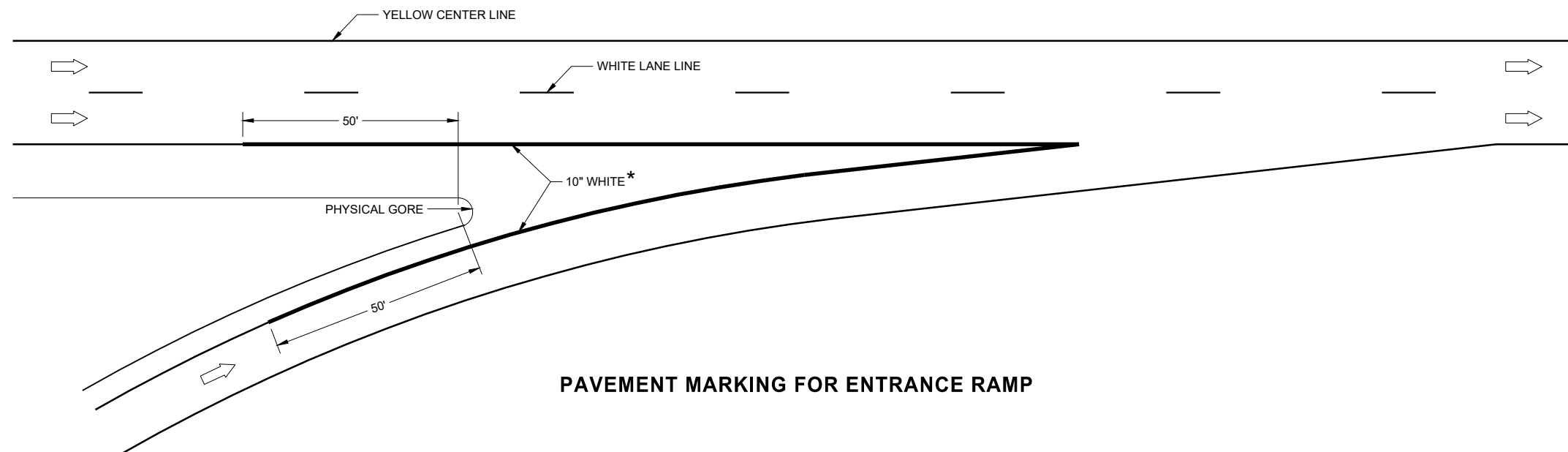
PLACE GROOVE 3 INCHES LEFT OF JOINT.

① ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

**LEGEND**

➡ DIRECTION OF TRAVEL

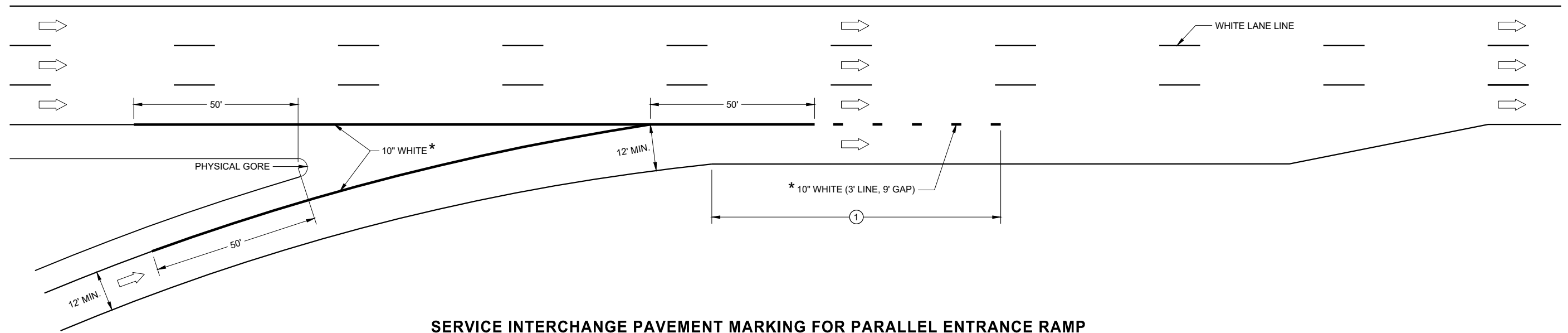
\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



**PAVEMENT MARKING FOR ENTRANCE RAMP**

6

6



**SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP**

SDD 15C31-05c

SDD 15C31-05c

**PAVEMENT MARKING,  
ENTRANCE RAMP AND  
PARALLEL ENTRANCE RAMP**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



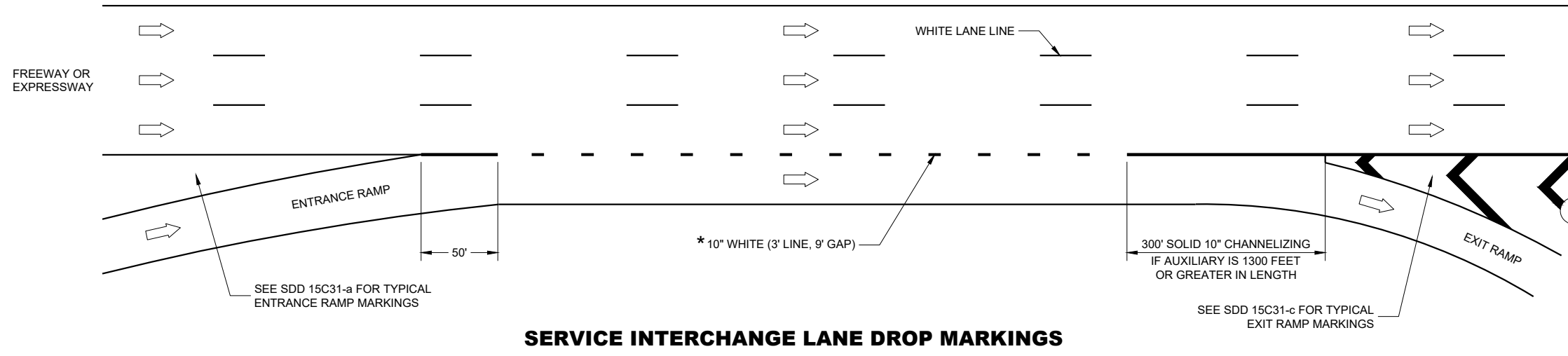
**LEGEND**

➡ DIRECTION OF TRAVEL

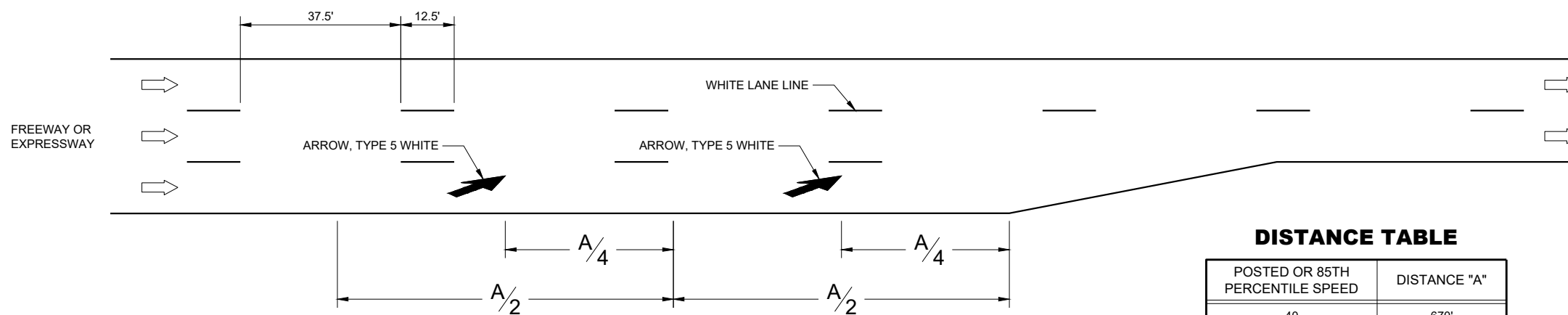
\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

**GENERAL NOTES**

PLACE GROOVE 3 INCHES LEFT OF JOINT.



**SERVICE INTERCHANGE LANE DROP MARKINGS**



**LANE REDUCTION MARKINGS**

**DISTANCE TABLE**

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
40	670'
45	775'
50	885'
55	990'
60	1100'
65	1200'
70	1250'

6

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SDD 15C31-05d

SDD 15C31-05d

**PAVEMENT MARKING, LANE DROP AND LANE REDUCTION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023  
DATE

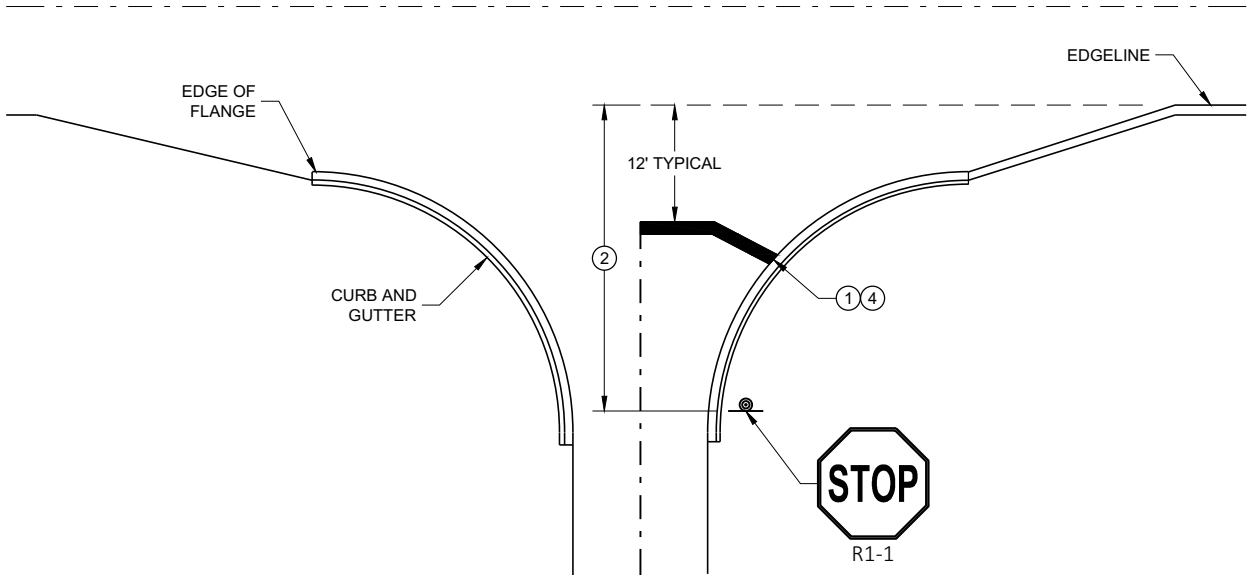
/s/ Matthew Rauch  
STATE MARKING AND SIGNING  
ENGINEER

FHWA

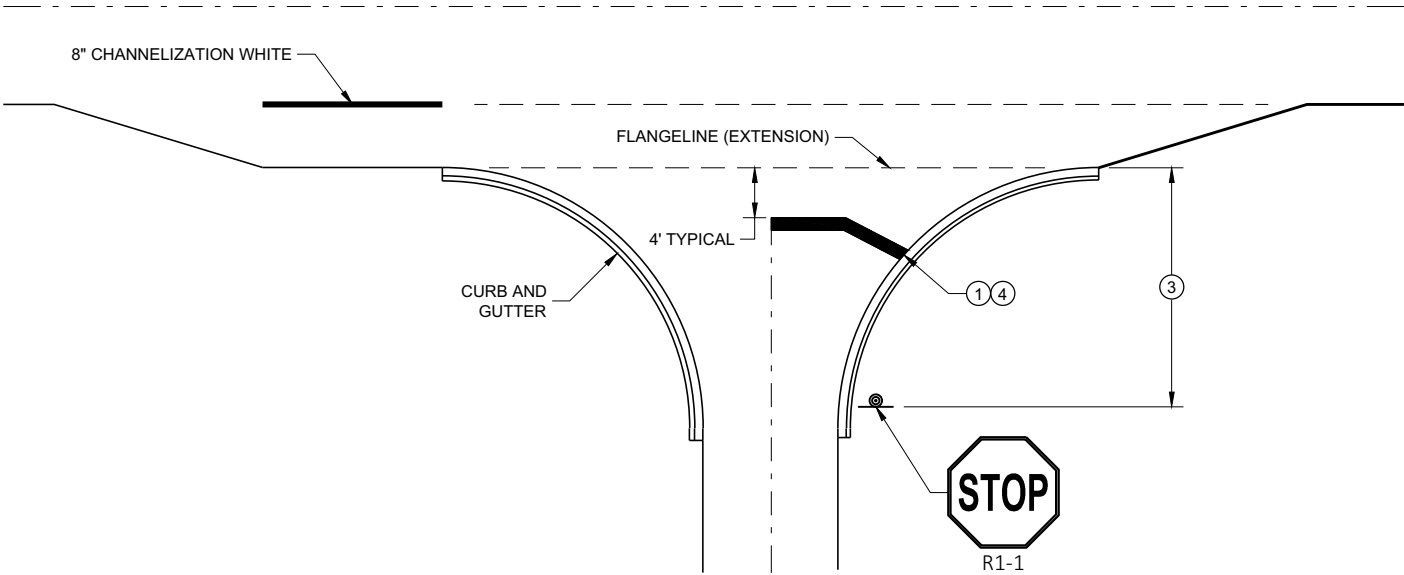
**GENERAL NOTES**

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

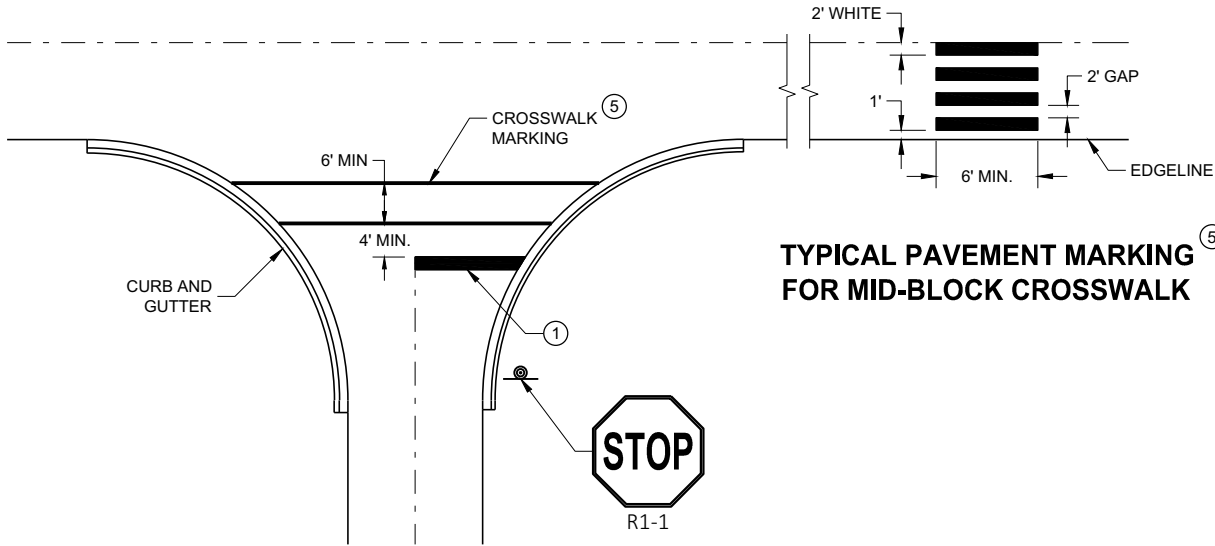
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE 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 INSTEAD.



**TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER**

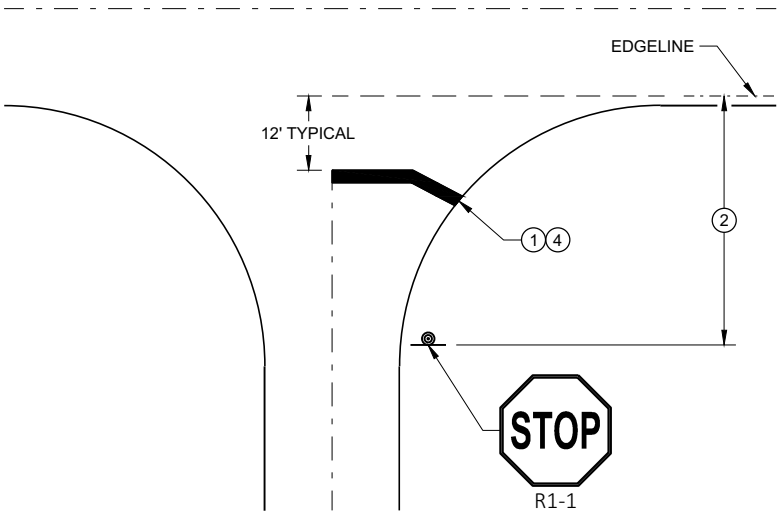


**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE**



**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING**

**TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK**



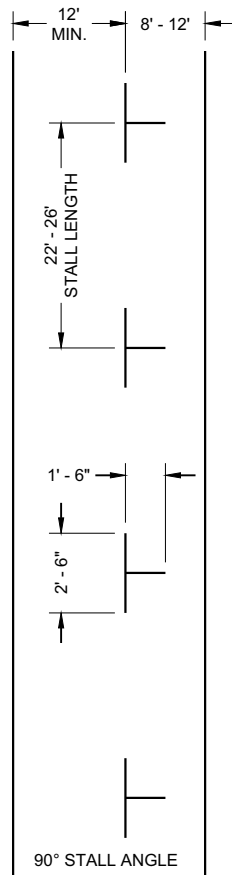
**TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER**

**STOP LINE AND CROSSWALK PAVEMENT MARKING**

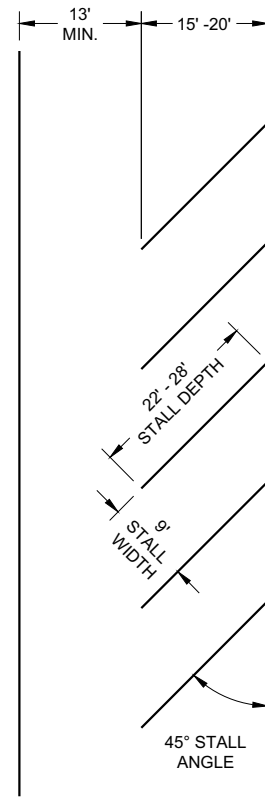
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2019 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING ENGINEER

FHWA

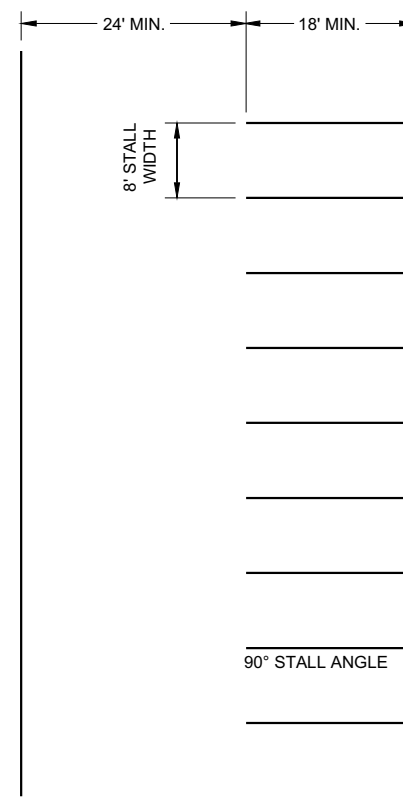
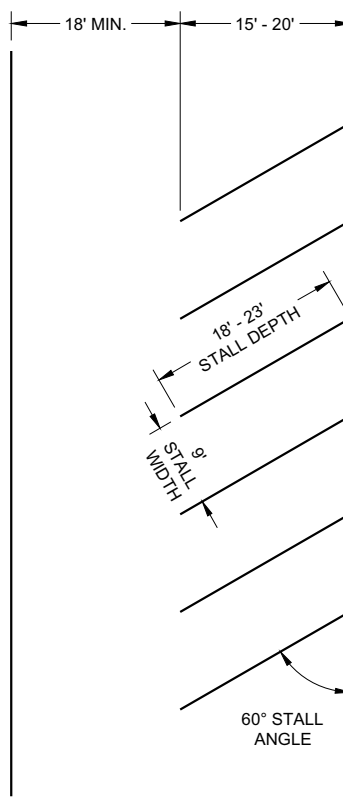


**PARALLEL PARKING**



**ANGLED PARKING**

(ANGLED PARKING IS NOT ALLOWED ON STATE HIGHWAYS UNLESS A DESIGN JUSTIFICATION HAS BEEN COMPLETED.)



**PARKING LOTS**

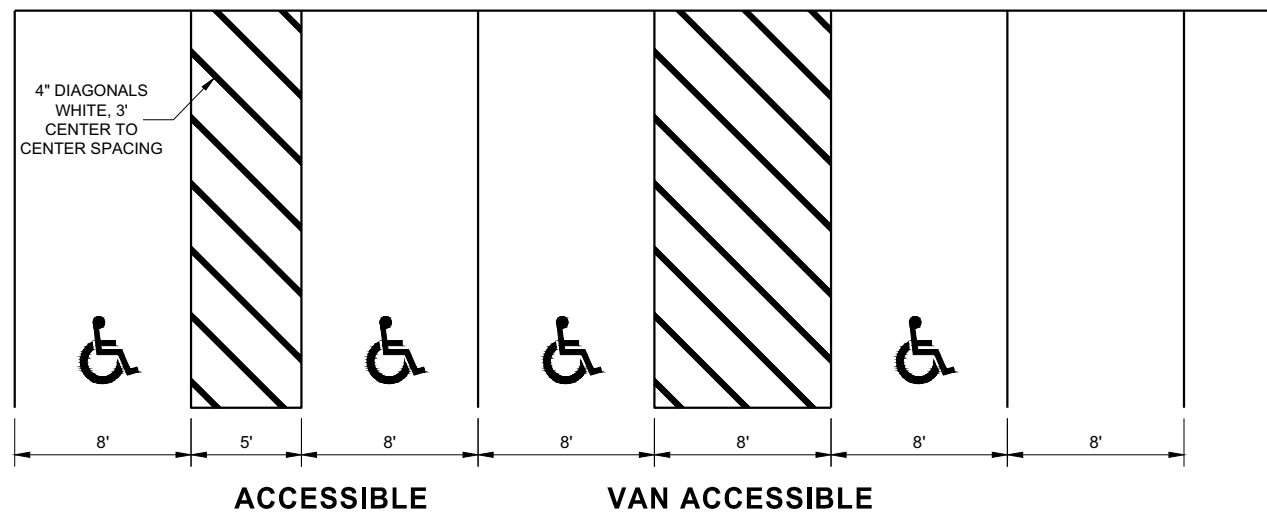
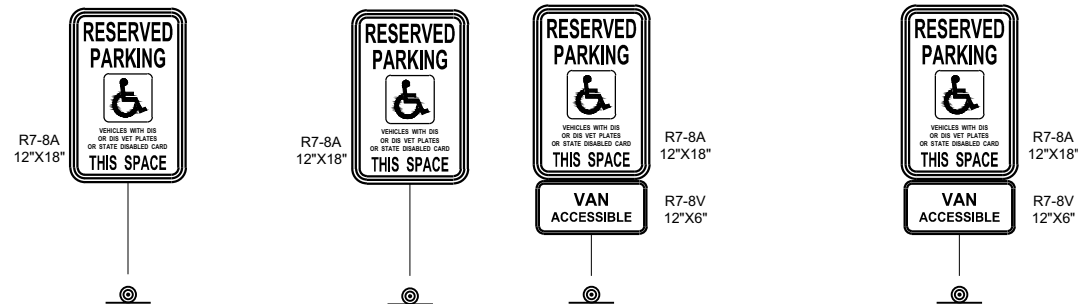
**GENERAL NOTES**

ALL LINES 4" WHITE (UNLESS OTHERWISE NOTED)

LAST PARKING STALL IS A MINIMUM OF 15' FROM THE CROSSWALK.

**LEGEND**

⊙ SIGN ON PERMANENT SUPPORT



**ACCESSIBLE**

**VAN ACCESSIBLE**

<b>PARKING STALL MARKING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2019 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
<small>FHWA</small>	

## 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.

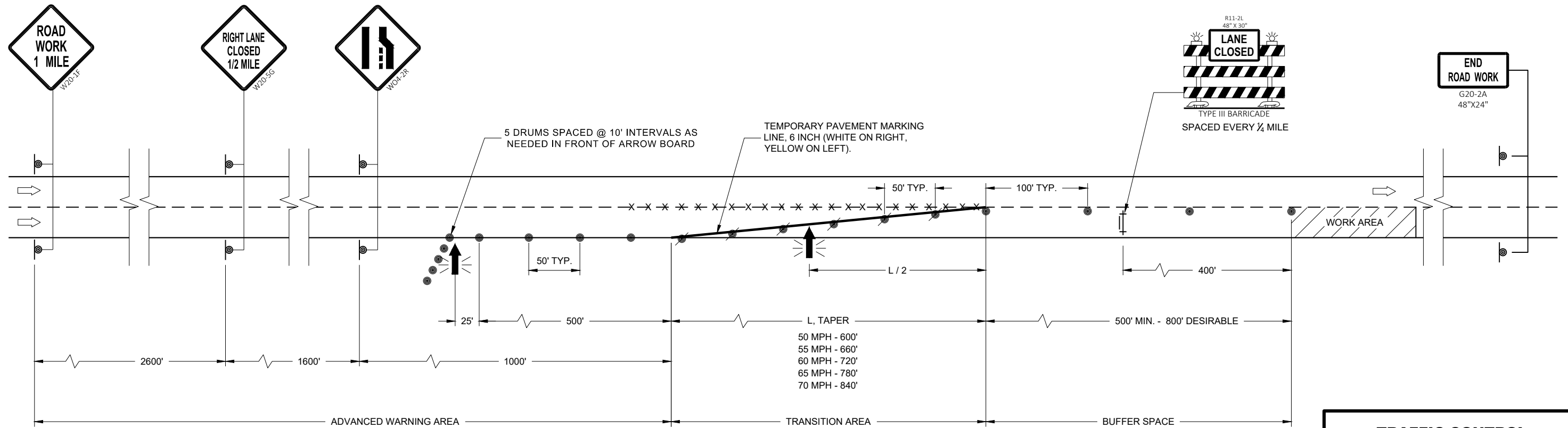
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

## 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)
-  -X-X-X- REMOVING PAVEMENT MARKINGS
-   DIRECTION OF TRAFFIC
-  WORK AREA
-  FLASHING ARROW BOARD

6

SDD 15D12 - 11a



6

SDD 15D12 - 11a

<b>TRAFFIC CONTROL LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE 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" 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.

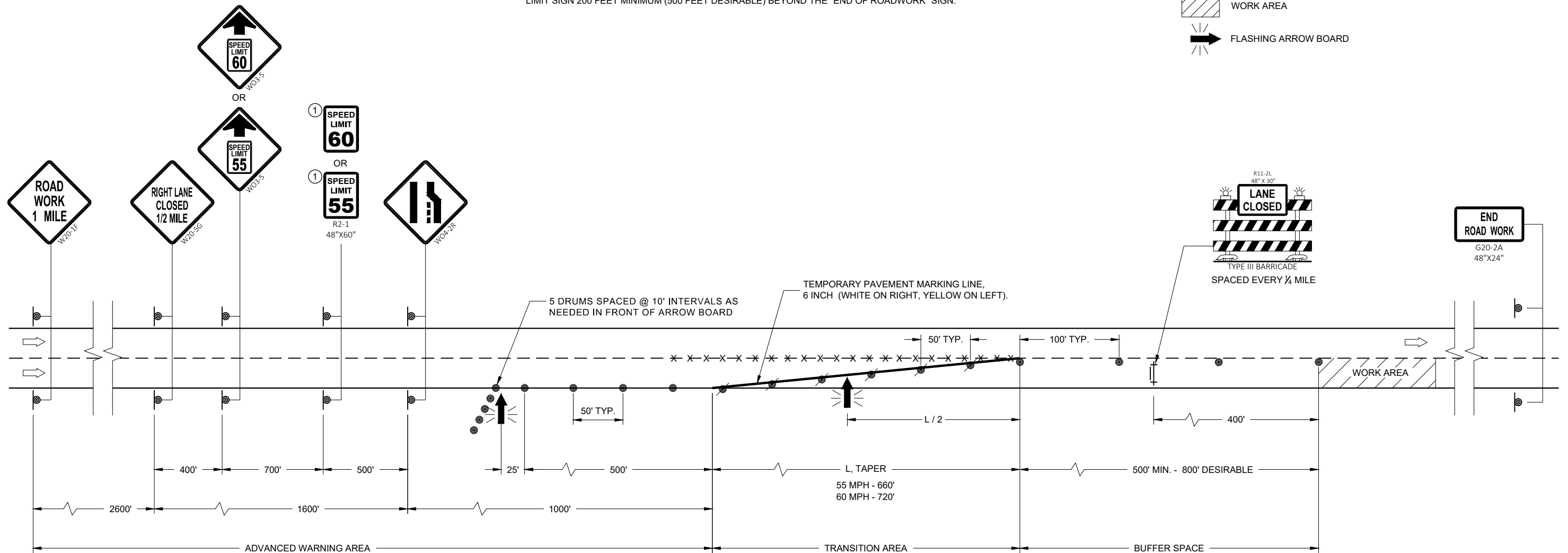
① A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

### 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
-  FLASHING ARROW BOARD

6

SDD 15D12 - 11b














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SDD 15D12 - 11b

<b>TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**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
-  FLASHING ARROW BOARD
-  PORTABLE TRAFFIC SENSOR (PTS)
-  FLASHING BEACON SIGN

**GENERAL NOTES**

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS, INCLUDING FBS 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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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.

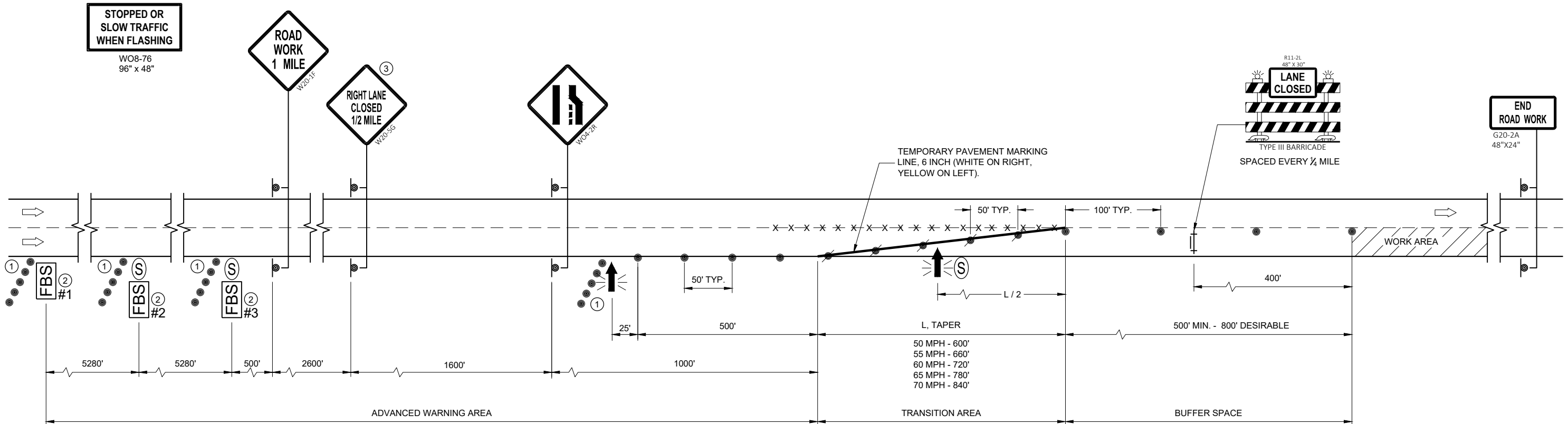
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON THE FBS, ARROW BOARD OR OTHER TRAILER DEVICES.

- ① 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
- ② IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE FBS ON BOTH SIDES OF THE ROADWAY.
- ③ IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.

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SDD 15D12 - 11d

SDD 15D12 - 11d

**TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Erin Schwark  
DATE WORK ZONE ENGINEER

FHWA

**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.

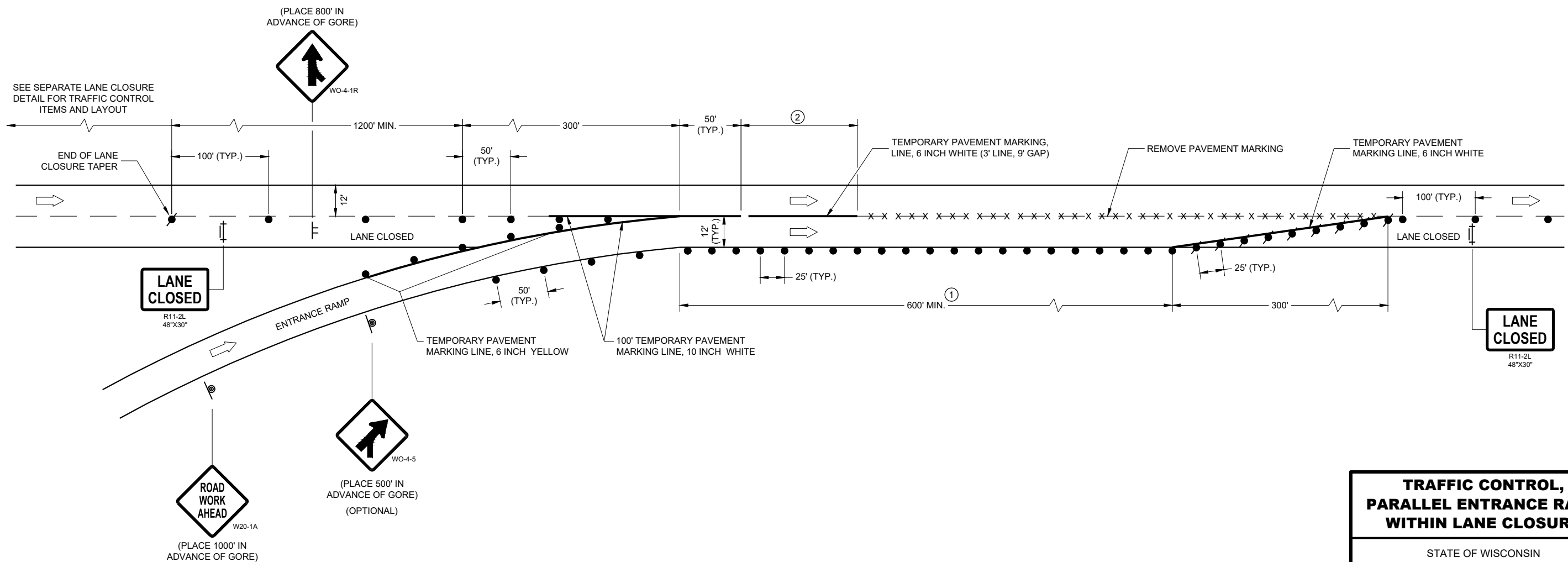
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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 ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.










<b>TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

SDD 15D15-07a

SDD 15D15-07a



**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 /OR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

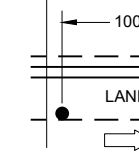
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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 EXTEND THE LENGTH OF THE MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.
- ② END TEMPORARY PAVEMENT MARKING LINE AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

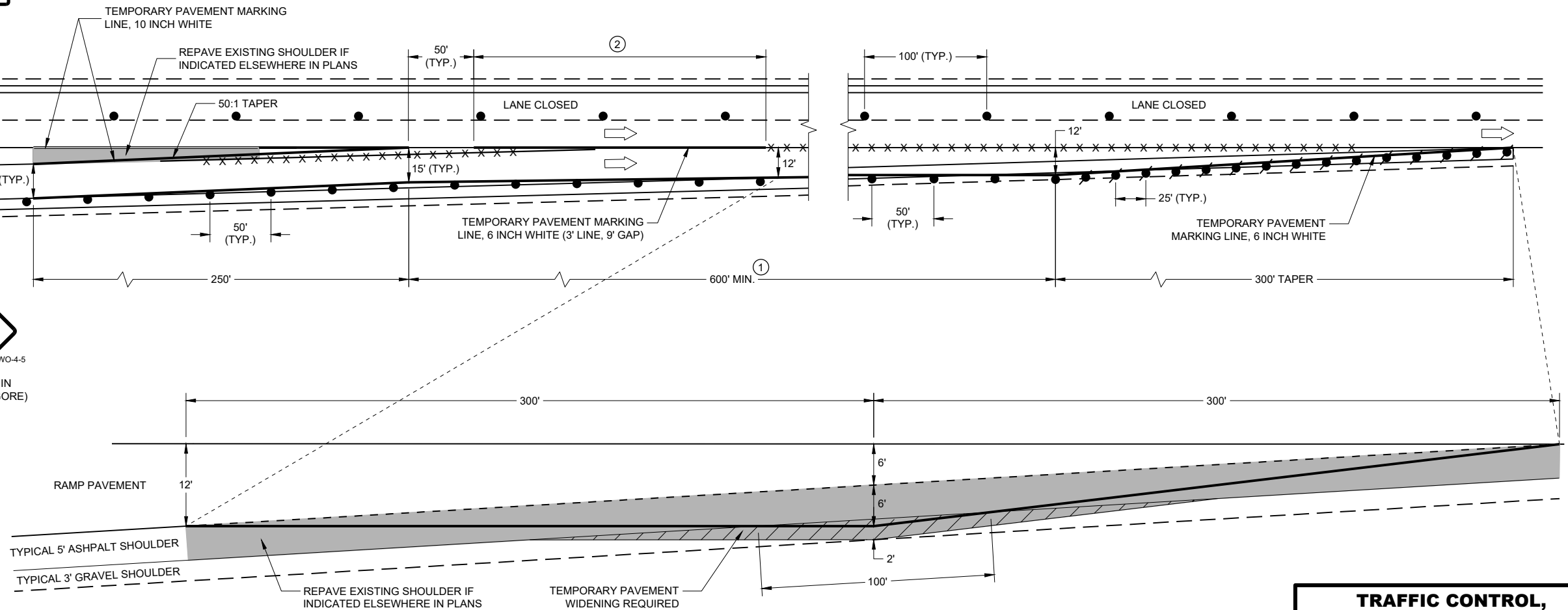
(PLACE 800' IN ADVANCE OF GORE)



(PLACE 1000' IN ADVANCE OF WO3-2)



(PLACE 500' IN ADVANCE OF GORE)



**TEMPORARY PAVEMENT DETAIL**

(EXISTING RAMP DIMENSIONS MAY VARY, ADJUST TEMPORARY PAVEMENT ACCORDINGLY)

**TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION









APPROVED  
DATE: May 2023 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA

SDD 15D15-07b

SDD 15D15-07b

**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.

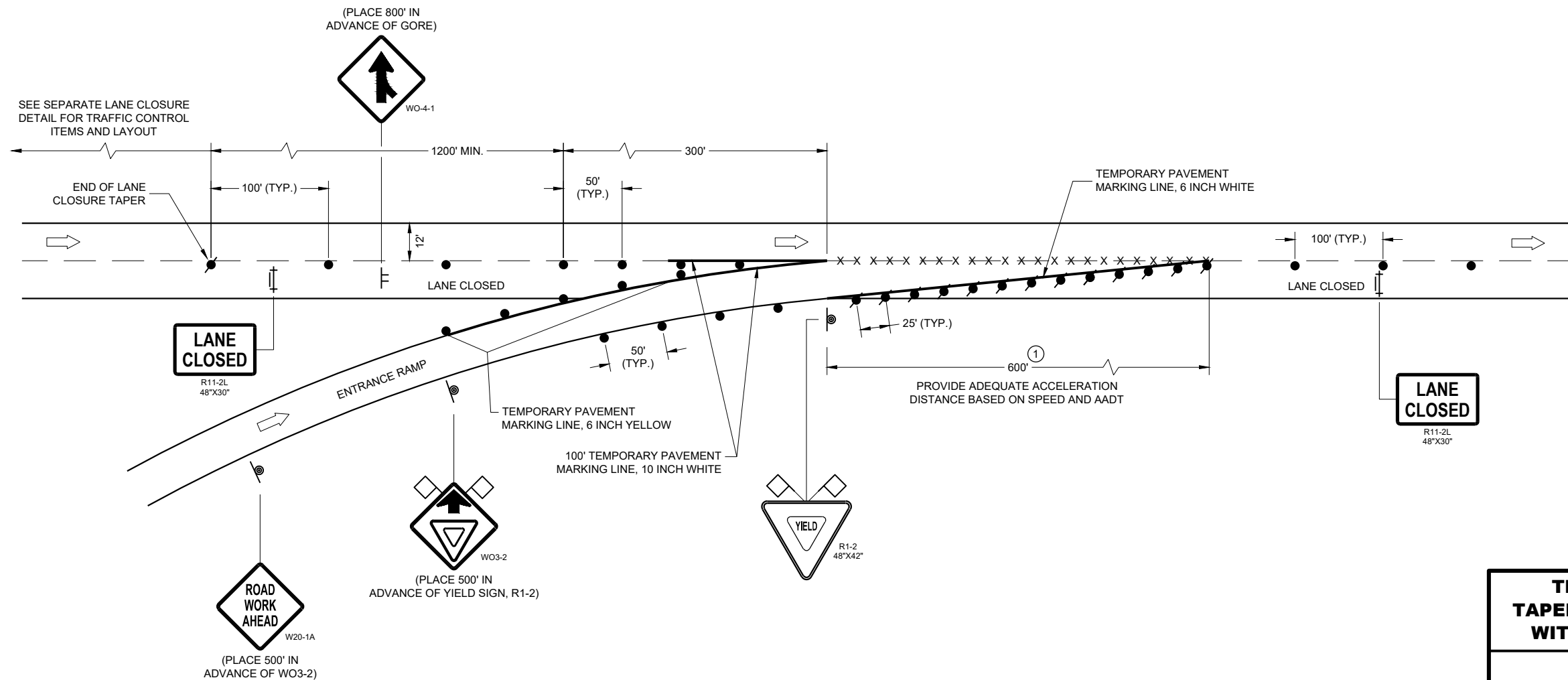
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.



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SDD 15D15-07c

SDD 15D15-07c








**TRAFFIC CONTROL,  
TAPERED ENTRANCE RAMP  
WITHIN LANE CLOSURE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: May 2023 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA

**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.

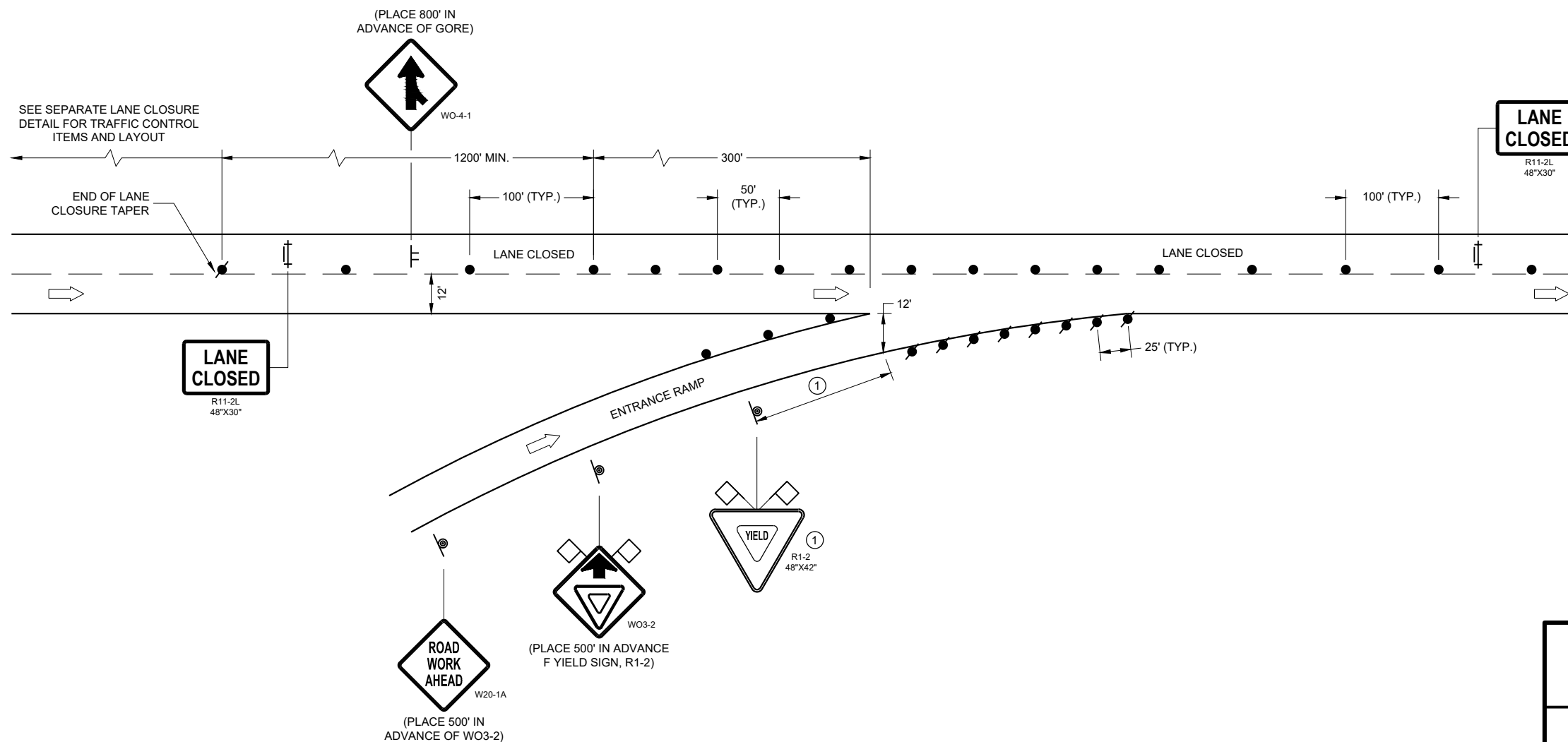
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

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.



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SDD 15D15-07d

SDD 15D15-07d

<b>TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**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.

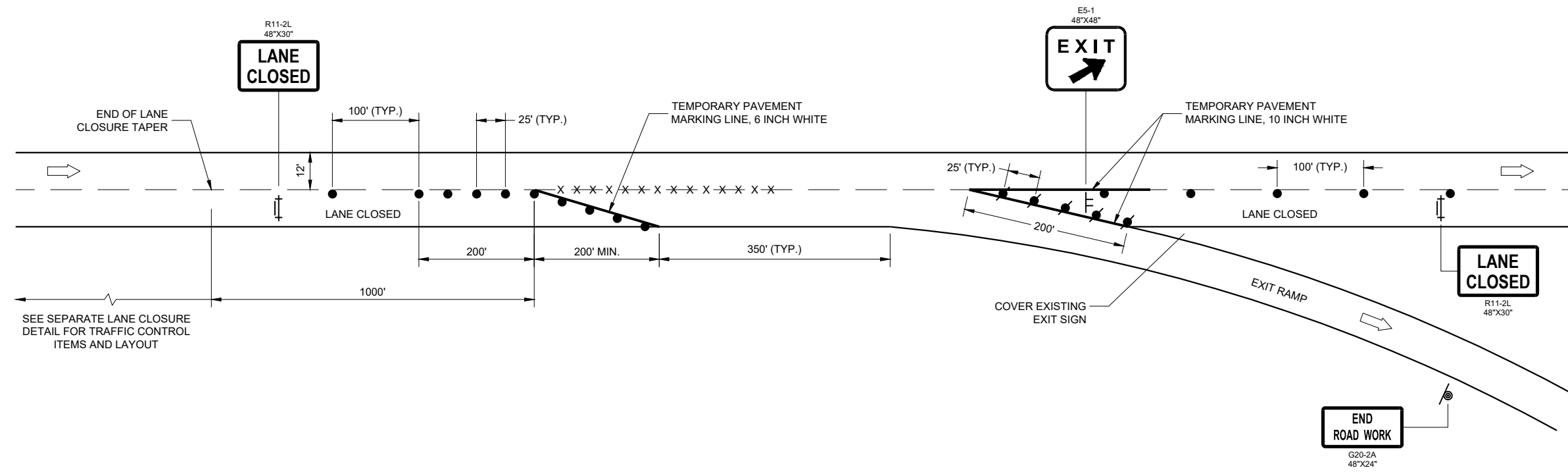
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.



6

6

SDD 15D15-07e

SDD 15D15-07e

<b>TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**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.

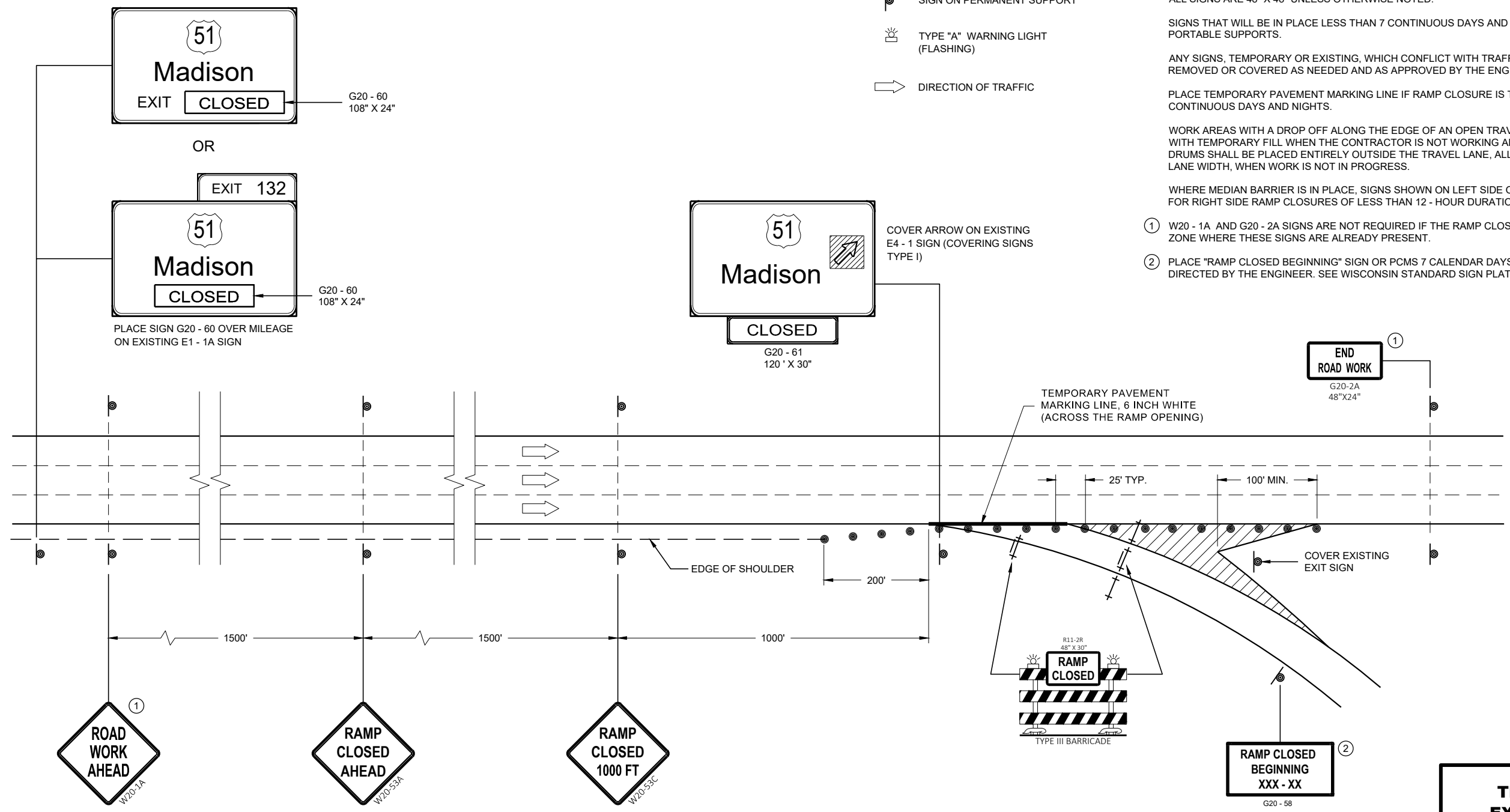
PLACE TEMPORARY PAVEMENT MARKING LINE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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.



**RAMP CLOSED BEGINNING**  
G20 - 58  
OR  
PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX










**TRAFFIC CONTROL,  
EXIT RAMP CLOSURE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE May 2023 /S/ Andrew Heidtke  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

**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)
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

**GENERAL NOTES**

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 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. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

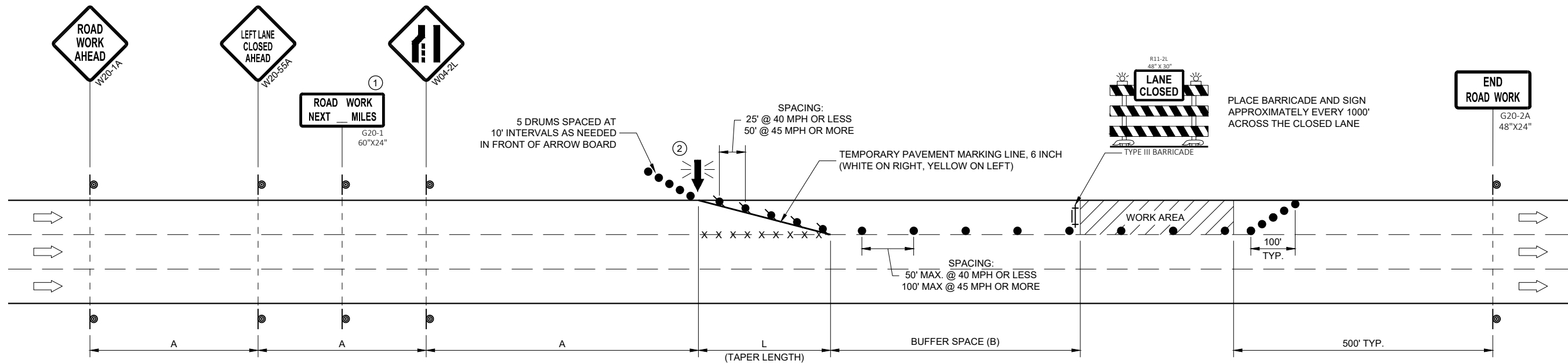
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.



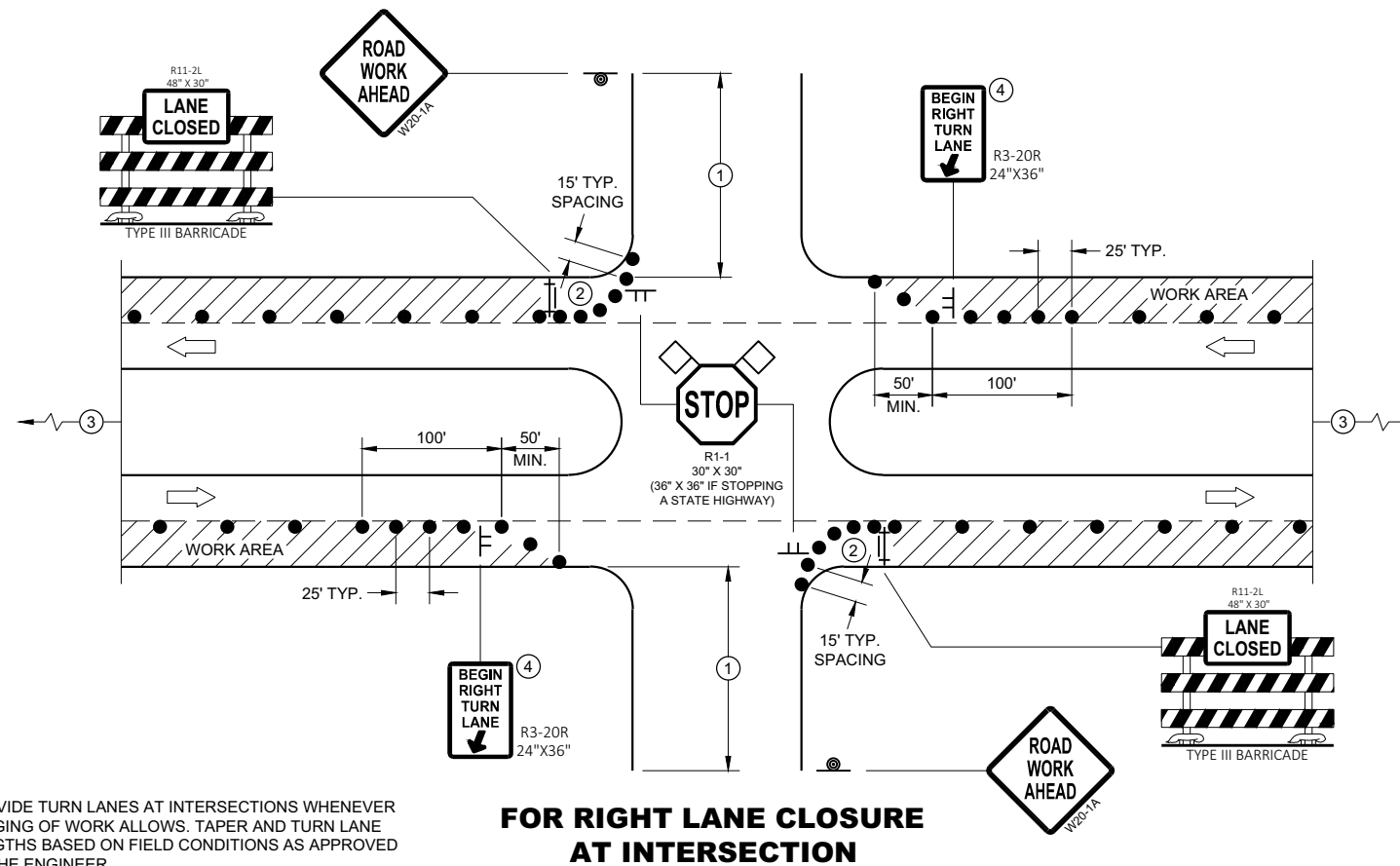
POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'

**TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

### GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

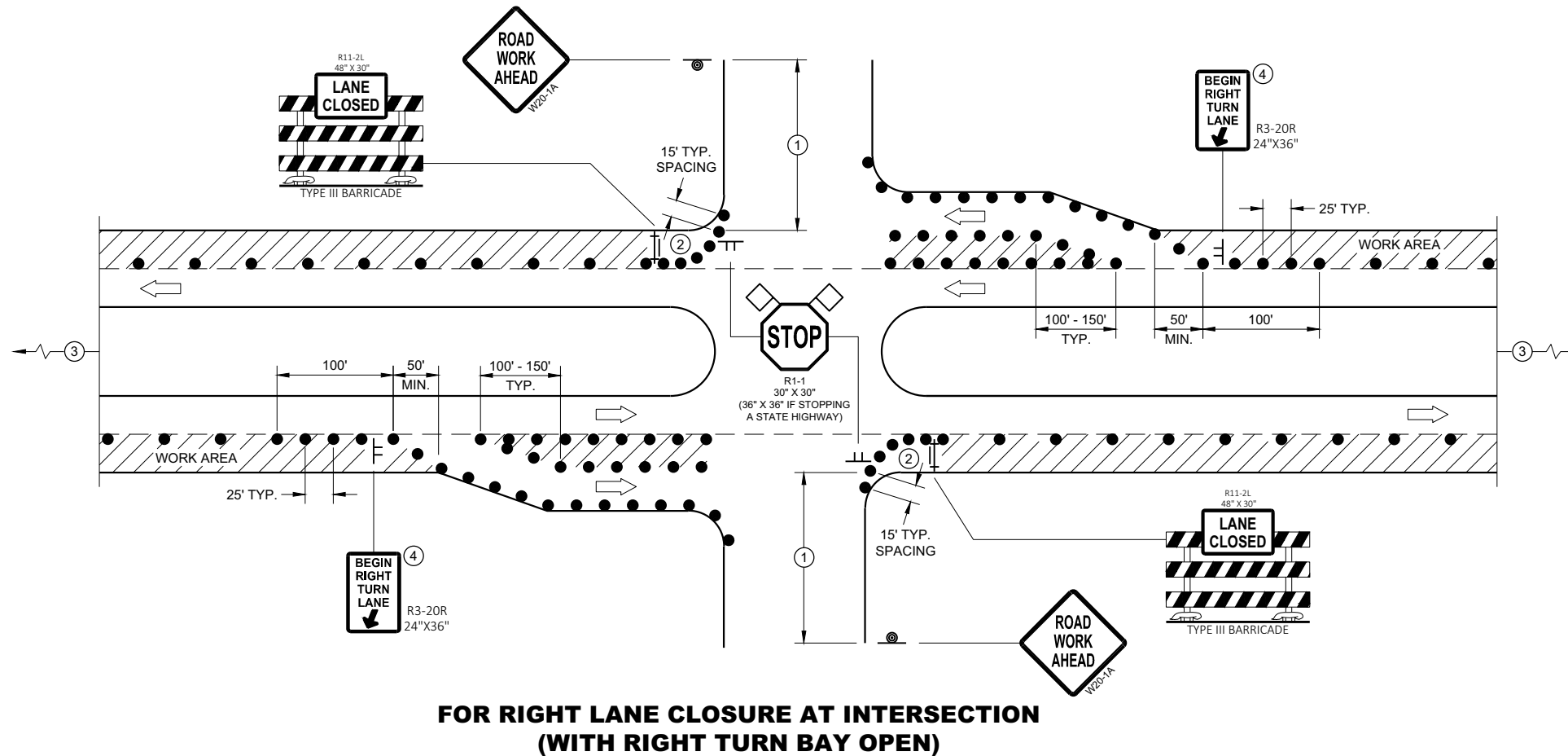
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.  
350' IF 35 - 40 MPH.  
200' IF 25 - 30 MPH.
- ② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



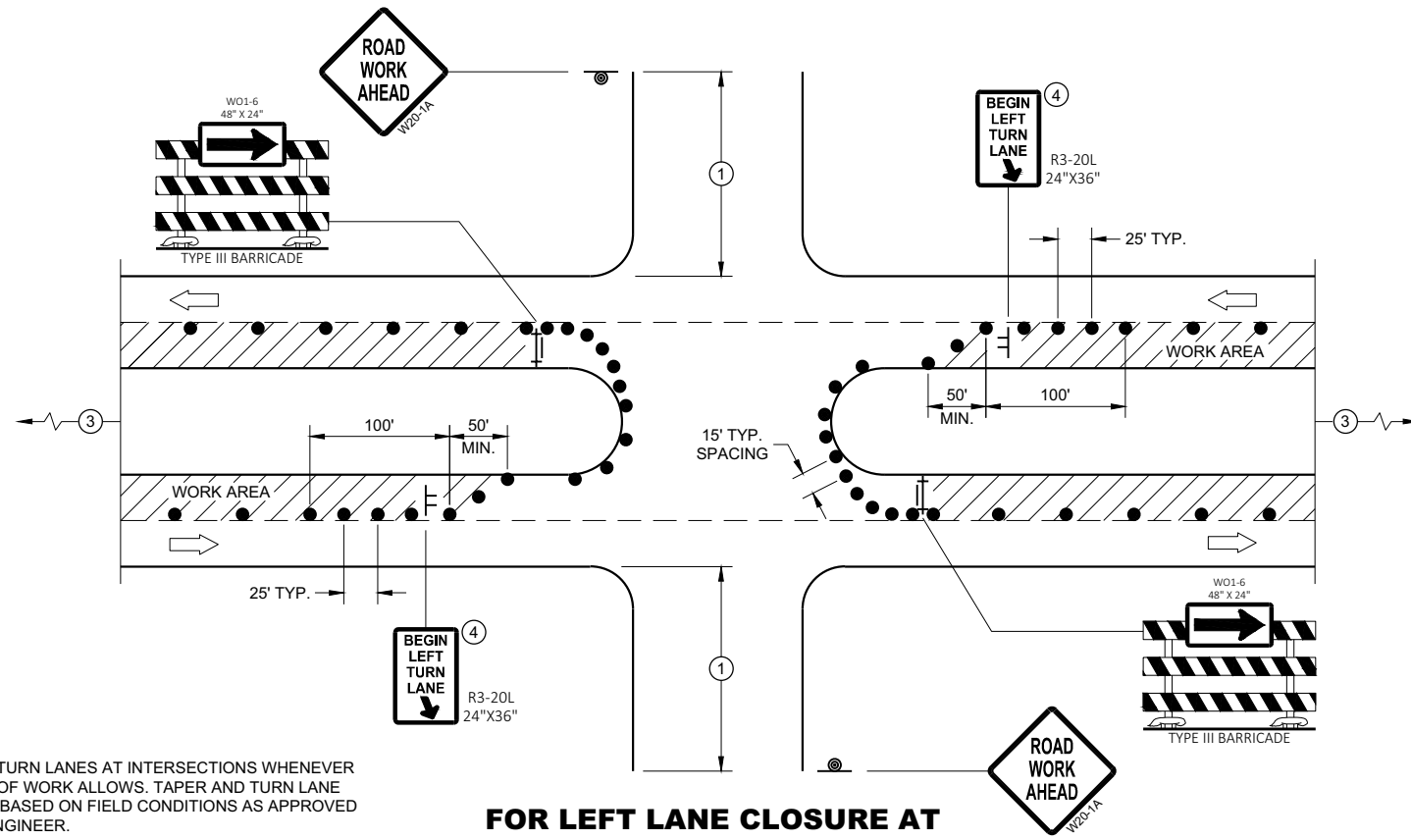
### LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

### TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

**FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING**

**GENERAL NOTES**

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

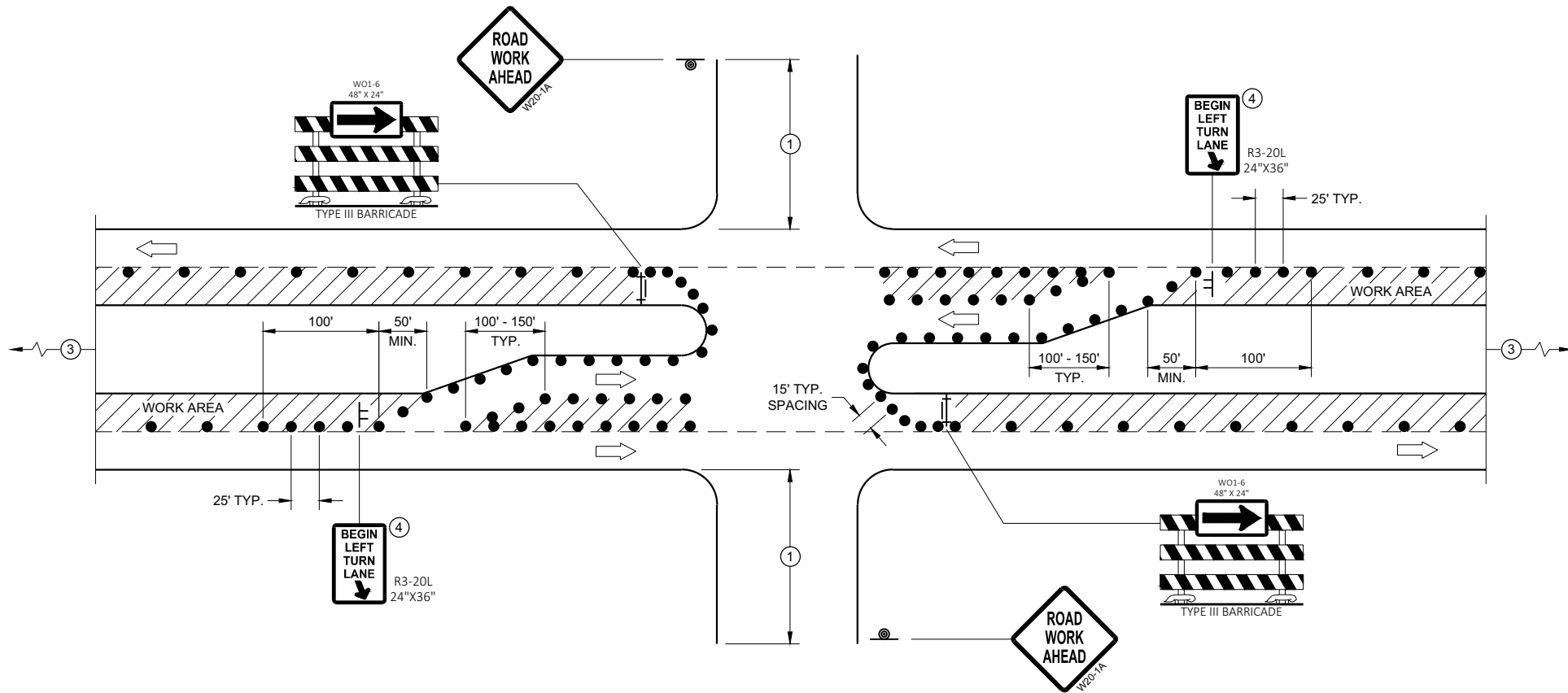
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.  
350' IF 35 - 40 MPH.  
200' IF 25 - 30 MPH.
- ② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



**FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)**

**LEGEND**

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

**TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
August 2020 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

### 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.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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.

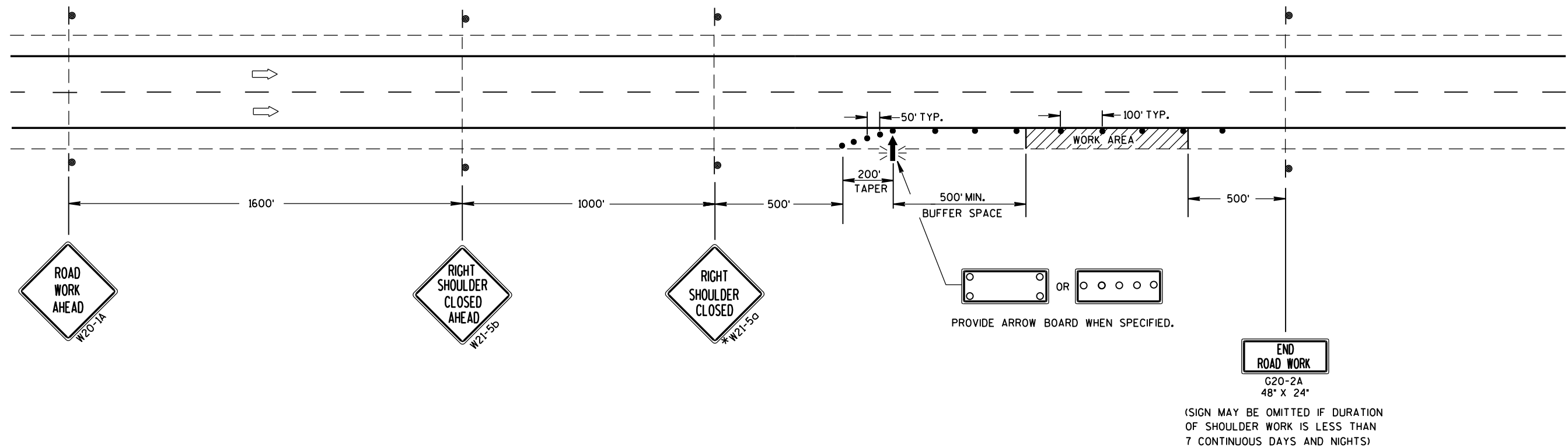
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A 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.

\*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-50 SIGN MAY BE OMITTED.





### LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA



<b>TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2016 DATE	/s/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

**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.

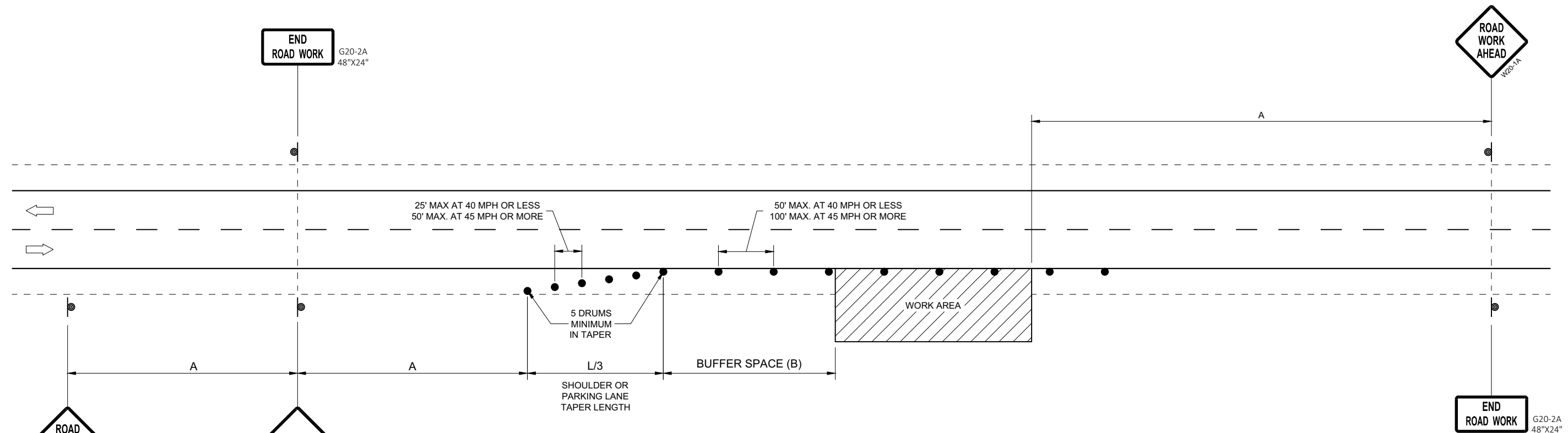
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

6

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OR  
IF TRAFFIC CONTROL DEVICES  
ENCROACH ONTO TRAVELED WAY, USE

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	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

**TRAFFIC CONTROL, WORK ON  
SHOULDER OR PARKING LANE,  
UNDIVIDED ROADWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION








APPROVED  
May 2020 /S/ Andrew Heidtke  
DATE STATEWIDE WORK ZONE TRAFFIC  
SAFETY ENGINEER

FHWA

SDD 15D28 - 04

SDD 15D28 - 04

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

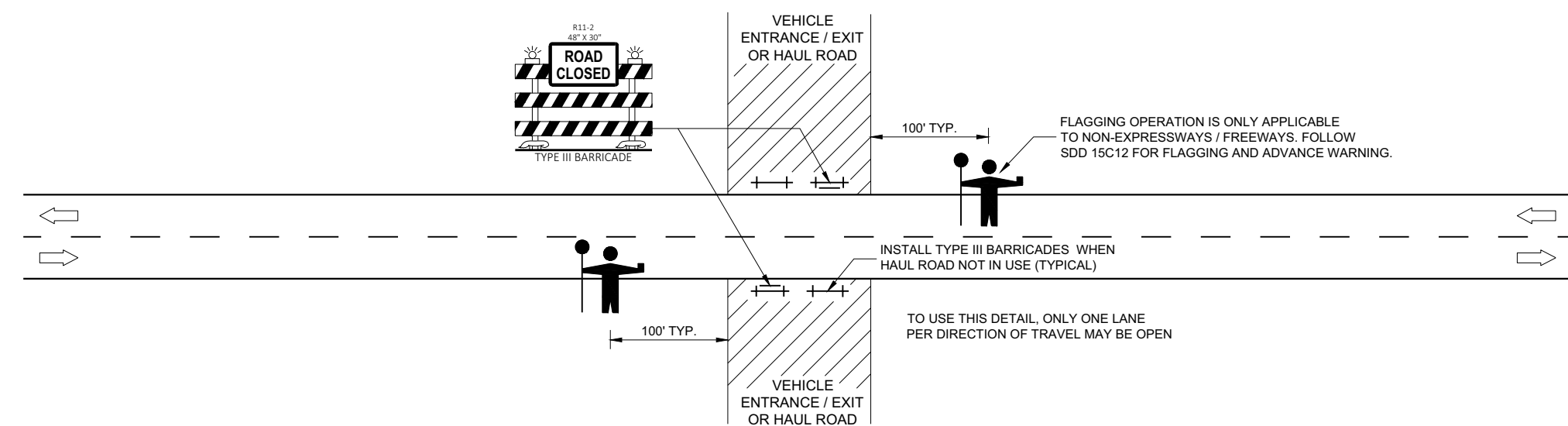
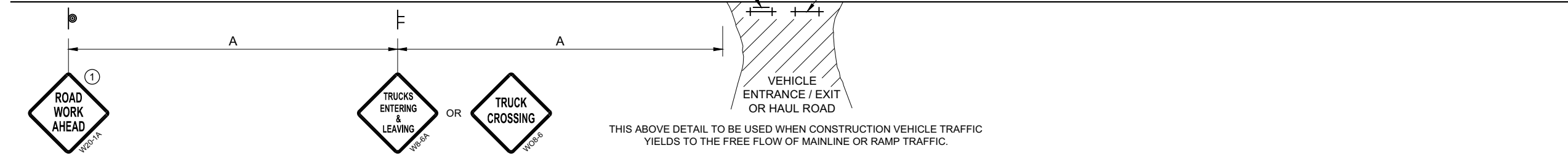
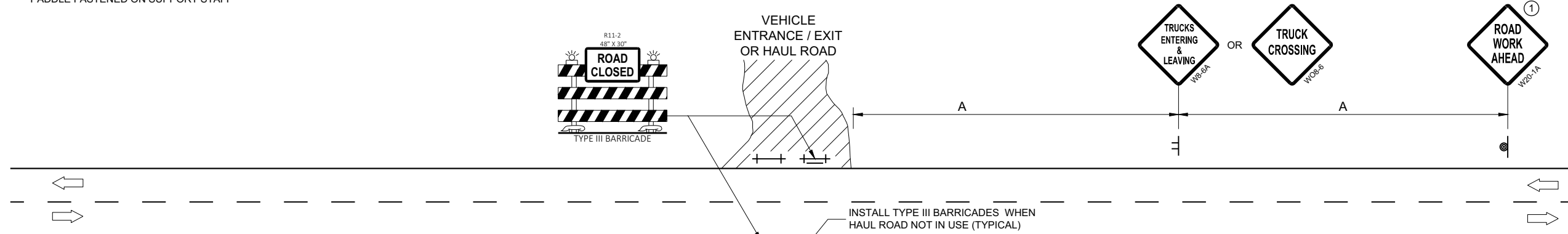
POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET
0-30	200'
35-40	350'
45-55	500'

**GENERAL NOTES**

- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
- "WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- WARNING SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.
- WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND / OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.
- PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.
- ① THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE ENTRANCE / EXIT CONDITIONS ARE SEPARATED BY MORE THAN TWO MILES FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

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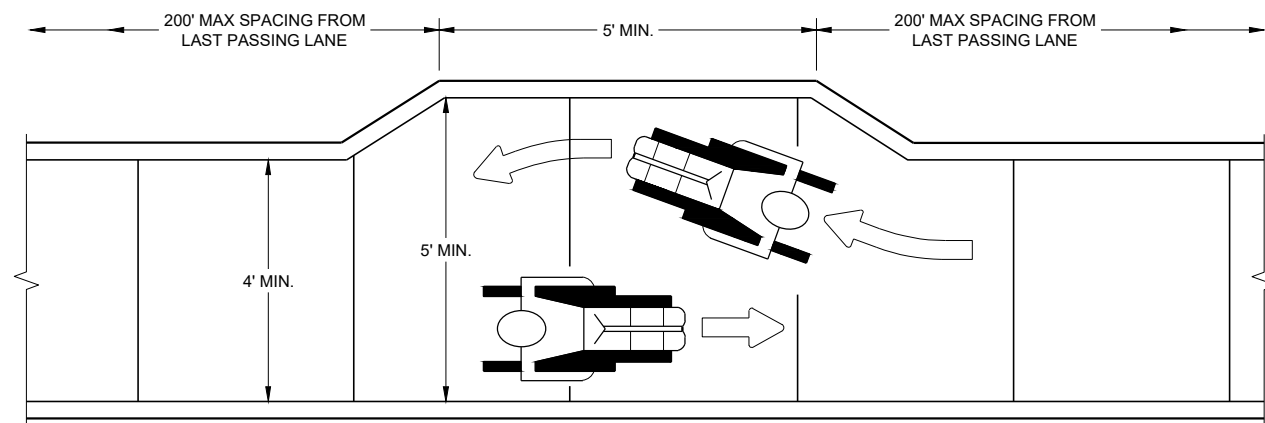
THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

FLAGGING OPERATION IS ONLY APPLICABLE TO NON-EXPRESSWAYS / FREEWAYS. FOLLOW SDD 15C12 FOR FLAGGING AND ADVANCE WARNING.

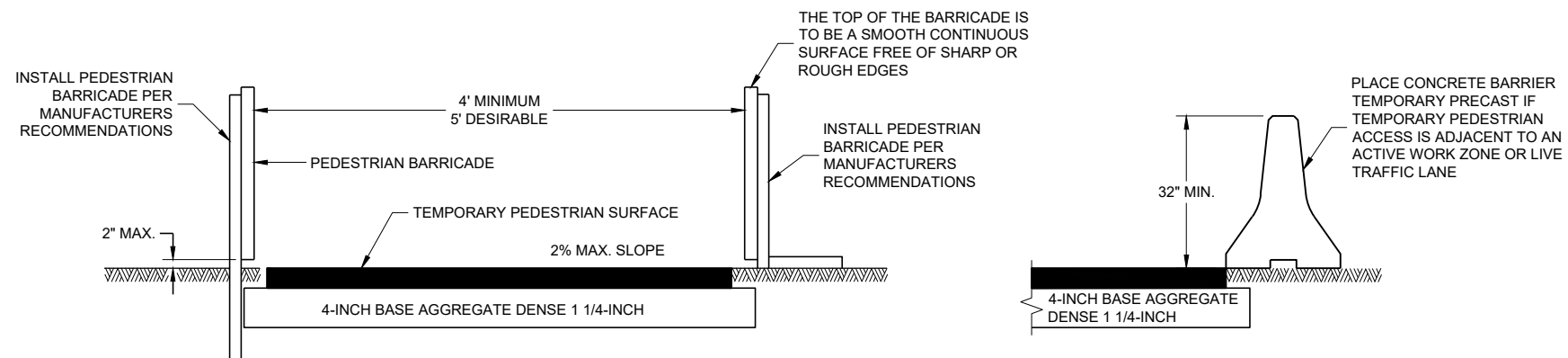
SDD 15D29 - 06

SDD 15D29 - 06

<b>TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2020 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



**NARROW SIDEWALK PASSING DETAIL**



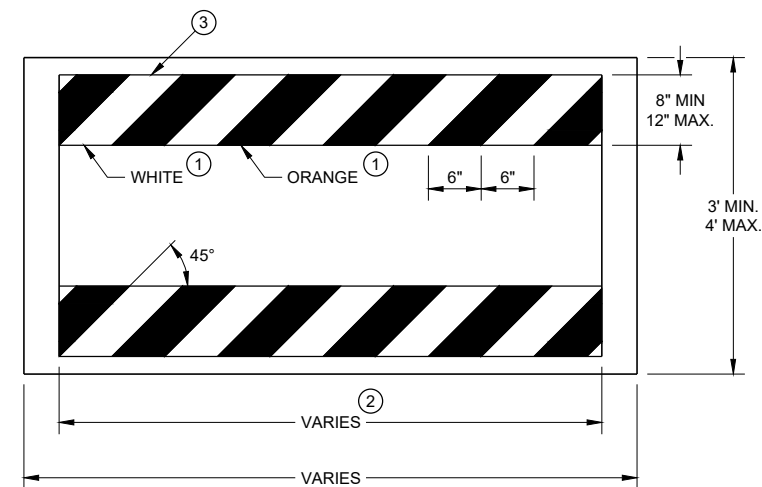
**TEMPORARY PEDESTRIAN ACCESS**

**GENERAL NOTES**

BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.
- ③ PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

\* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.

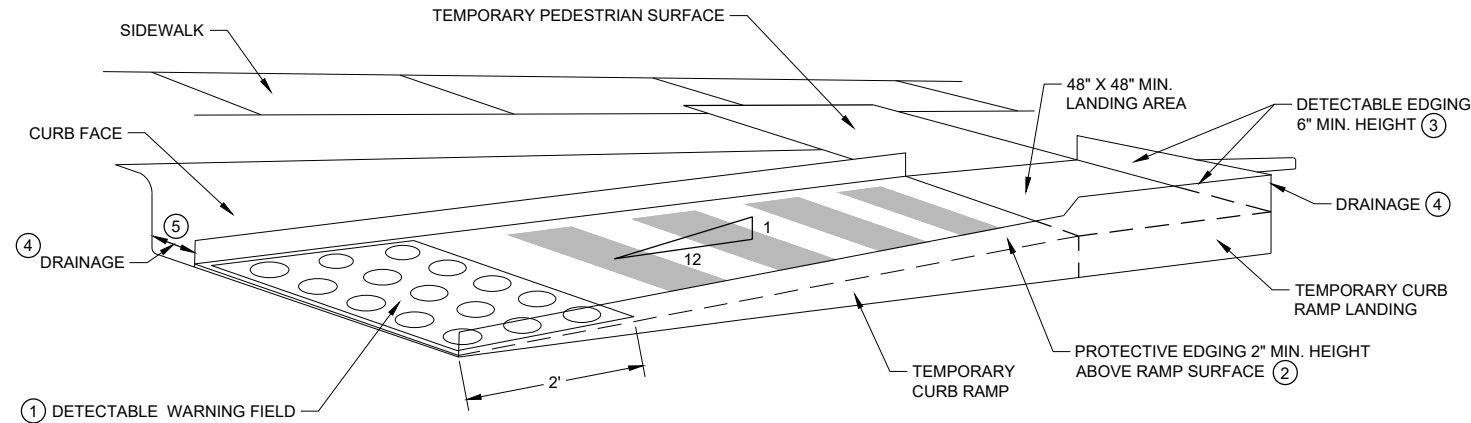


**TEMPORARY PEDESTRIAN BARRICADE\***

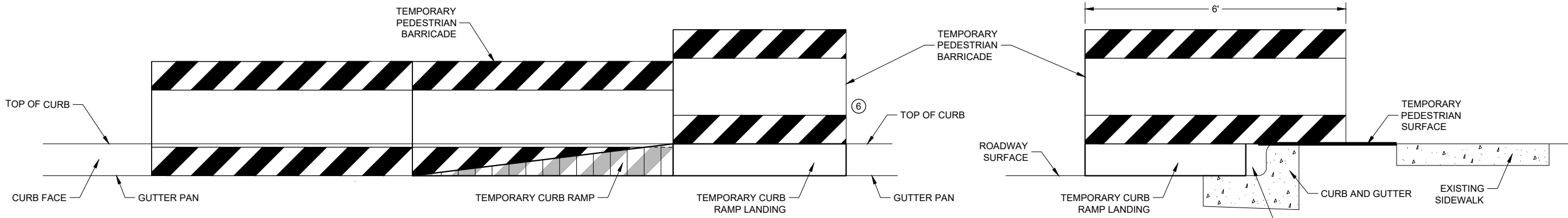
**GENERAL NOTES**

CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.  
 CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.  
 CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.  
 LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.  
 CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑤ ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.
- ⑥ IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



**PERSPECTIVE VIEW**

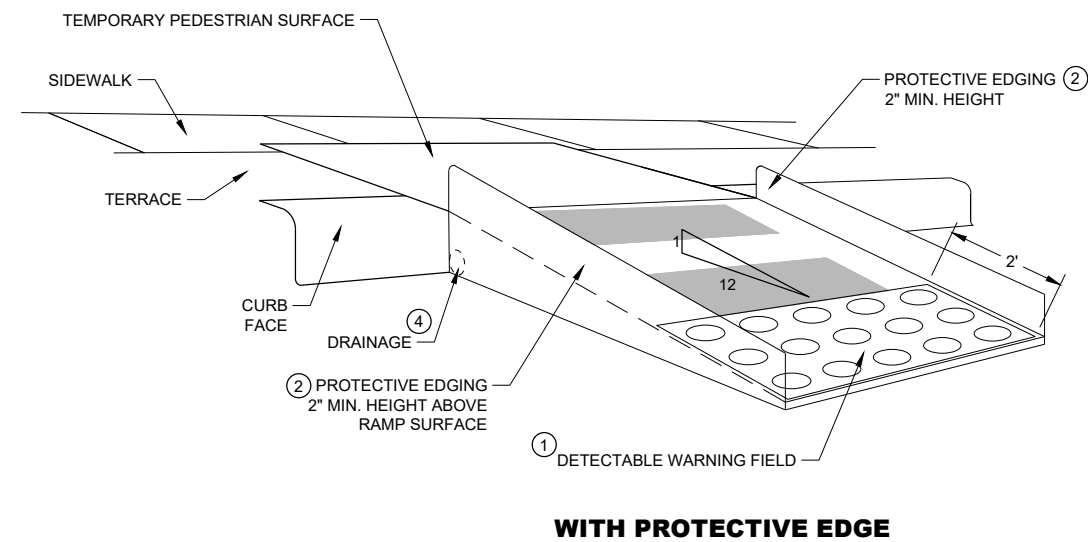
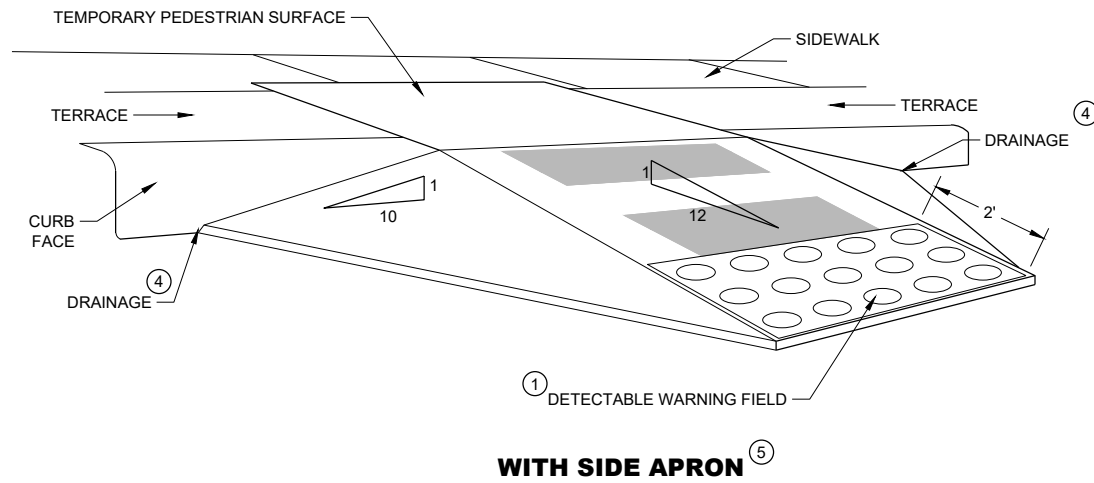


**FRONT VIEW**

**SIDE VIEW**

**TEMPORARY CURB RAMP PARALLEL TO CURB**

<p><b>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</b></p>
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>



**TEMPORARY CURB RAMP PERPENDICULAR TO CURB**

**GENERAL NOTES**

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

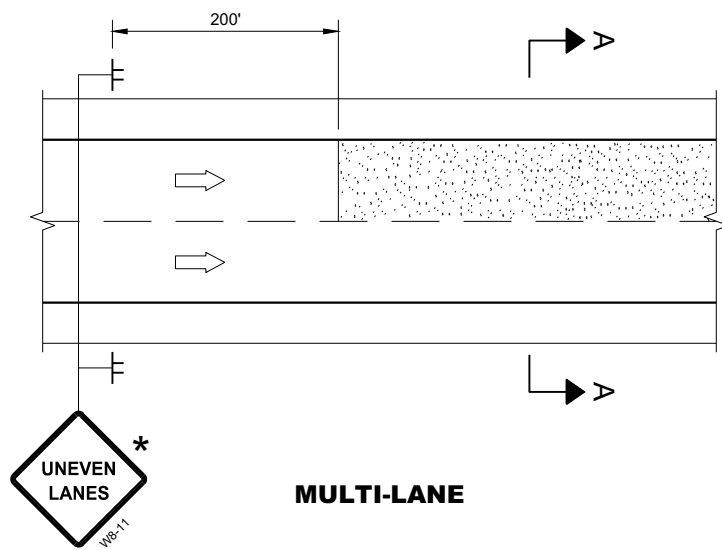
CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

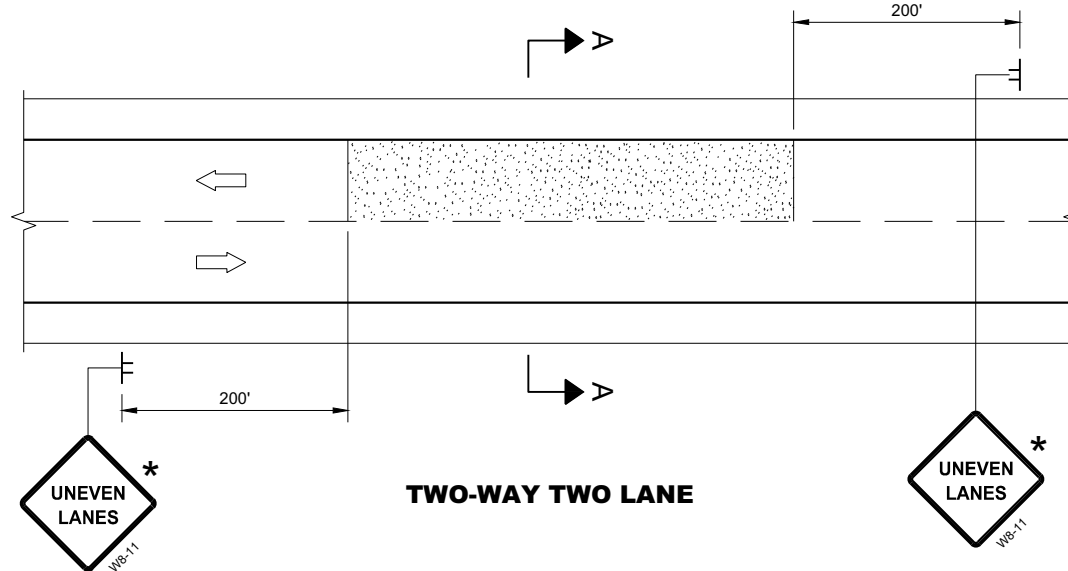
CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑤ CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

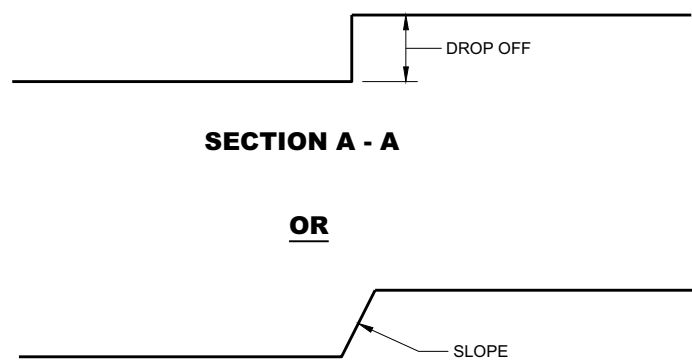




**MULTI-LANE**



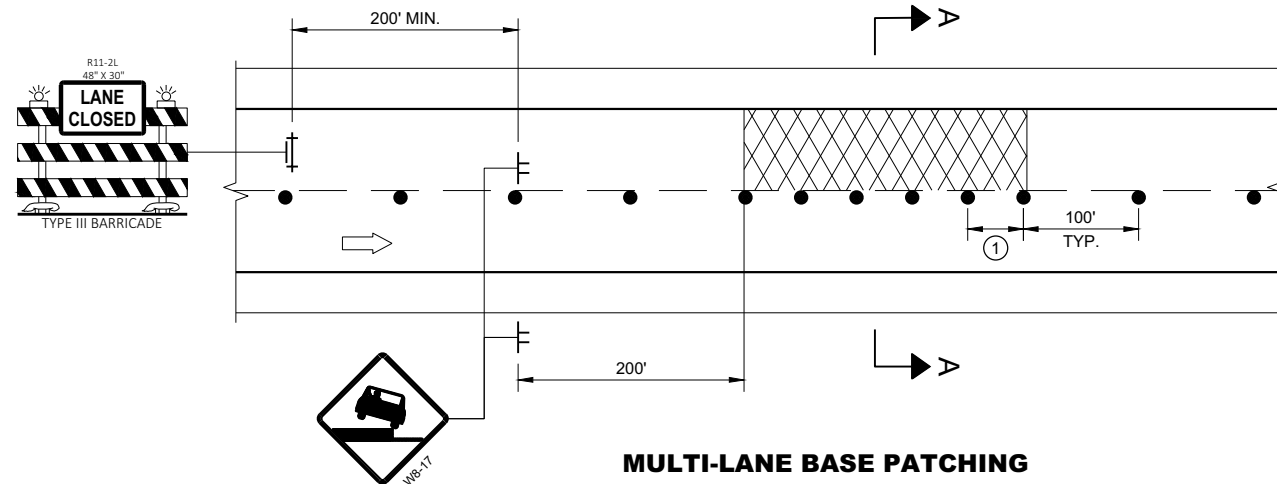
**TWO-WAY TWO LANE**



**SECTION A - A**

**OR**

**SECTION A - A**



**MULTI-LANE BASE PATCHING**

**ADJACENT LANE DROP-OFFS**

**GENERAL NOTES**

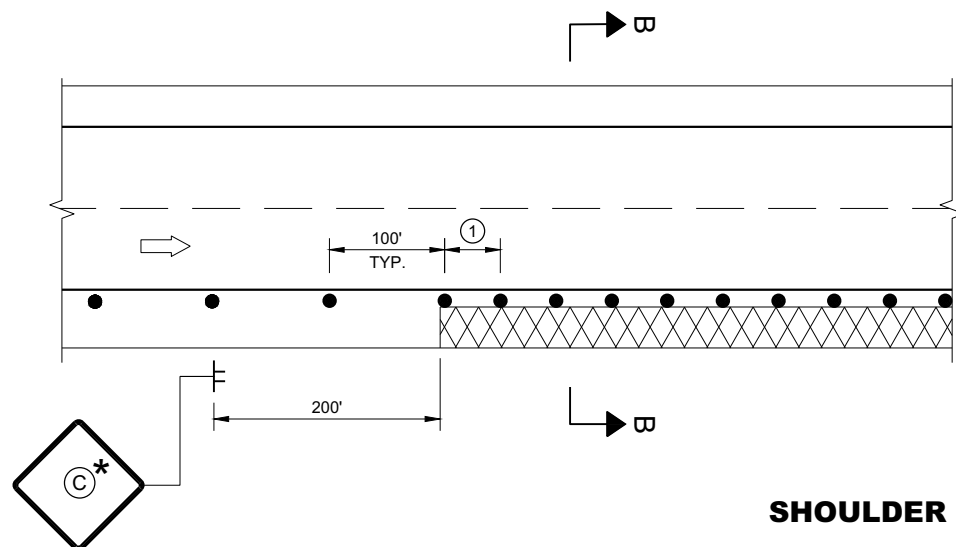
- FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.
- \* IF THE DROP-OFF 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**

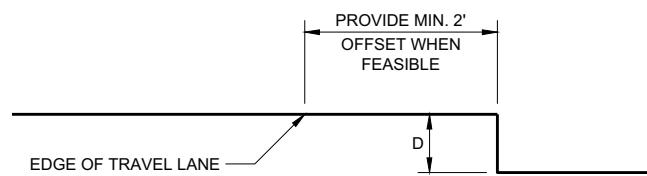
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

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**SHOULDER DROP-OFFS**



**SECTION B - B**

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

SDD 15D39 - 02

SDD 15D39 - 02










**TRAFFIC CONTROL,  
DROP-OFF SIGNING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
March 2018 /S/ Andrew Heidtke  
DATE DATE WORK ZONE ENGINEER

FHWA

**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.

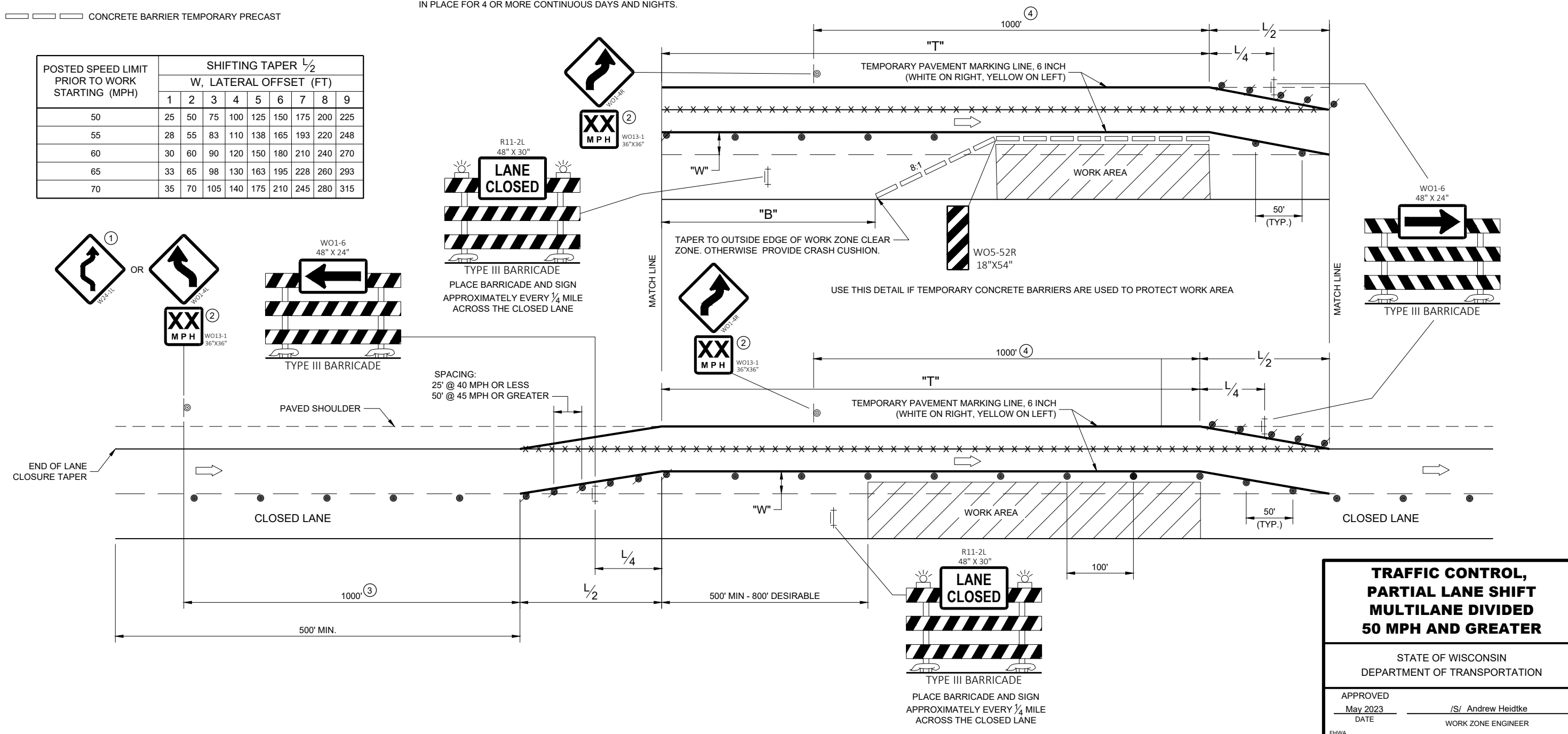
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER 1/2 W, LATERAL OFFSET (FT)								
	1	2	3	4	5	6	7	8	9
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315



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SDD 15D40-05d

SDD 15D40-05d

**TRAFFIC CONTROL,  
PARTIAL LANE SHIFT  
MULTILANE DIVIDED  
50 MPH AND GREATER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED \_\_\_\_\_  
DATE May 2023 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA

**GENERAL NOTES**

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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



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

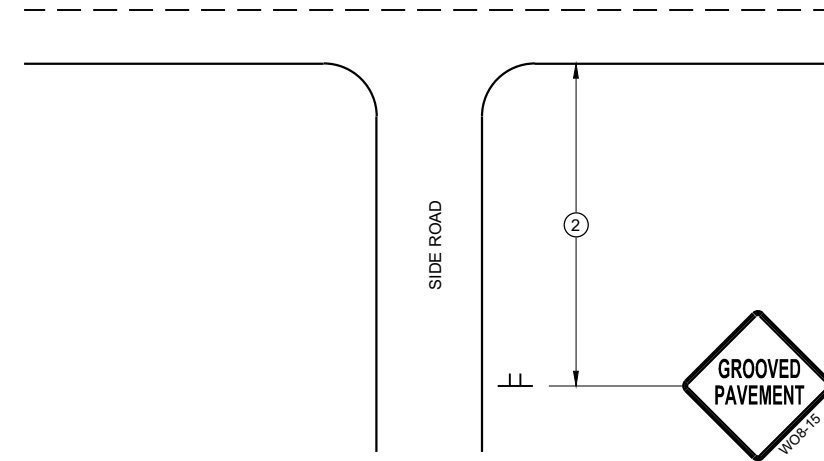
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

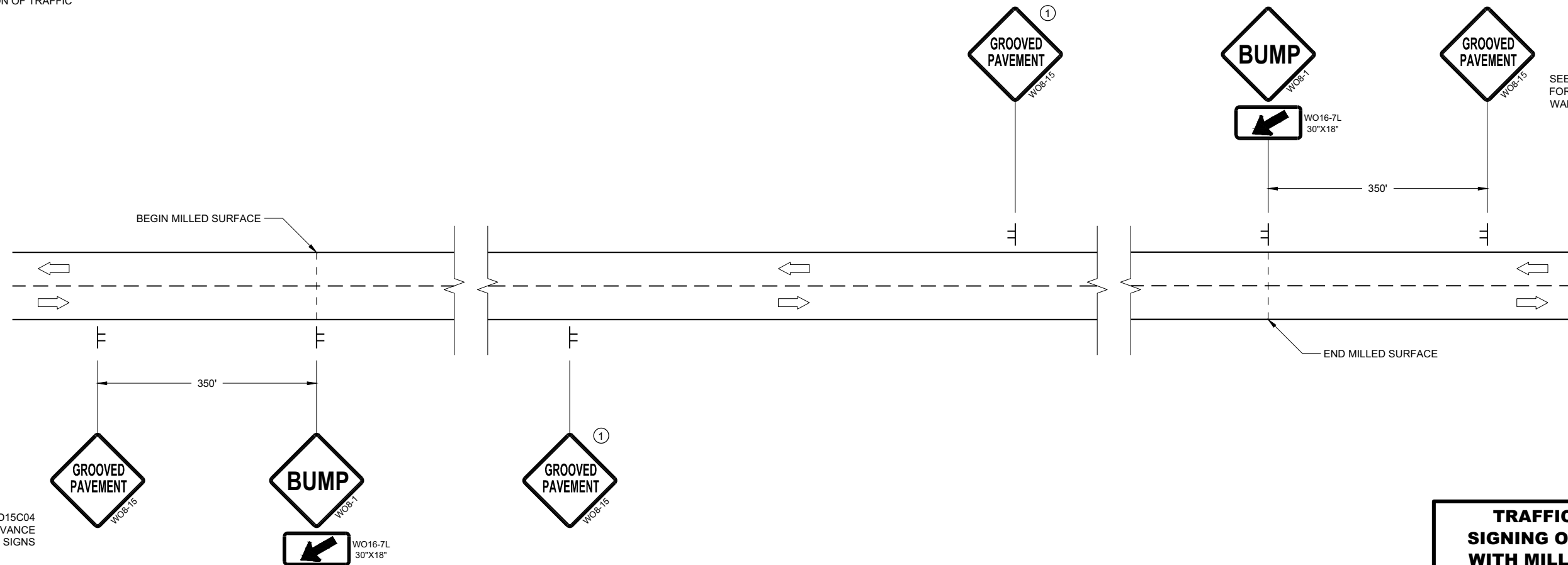
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



**TYPICAL SIDE ROAD APPROACH SIGN DETAIL**



**DETAIL FOR SIGNING ON MILLED SURFACES**

<b>TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2020 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	








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SDD 15D44 - 02

SDD 15D44 - 02

**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.

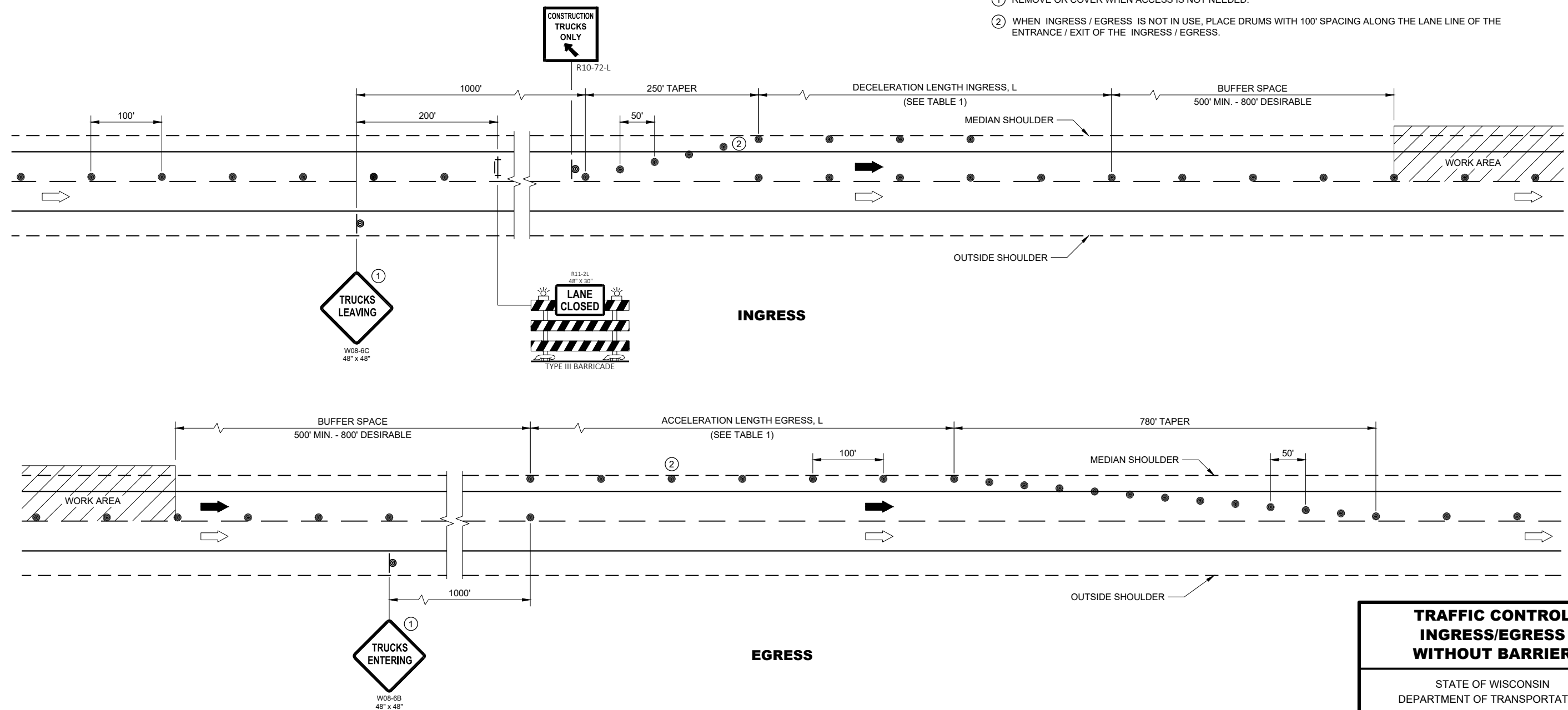
THIS ACCESS DETAIL IS TYPICAL FOR LEFT LANE ACCESS, FOR RIGHT LANE ACCESS, REVERSE THE TRAFFIC CONTROL

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.



6

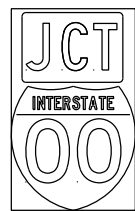
6

SDD 15D47-03b

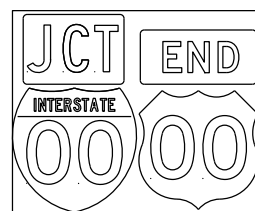
SDD 15D47-03b

<b>TRAFFIC CONTROL INGRESS/EGRESS WITHOUT BARRIER</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

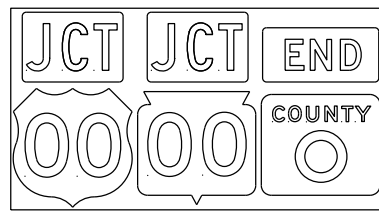
# TYPICAL ASSEMBLIES



J1-1



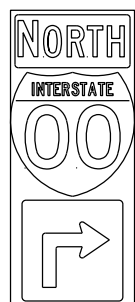
J1-2



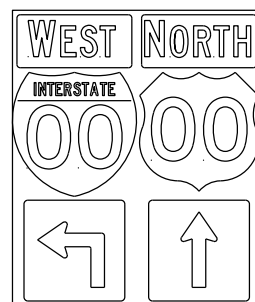
J1-3



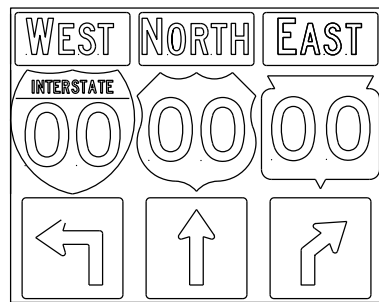
JR1-1



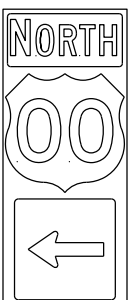
J2-1



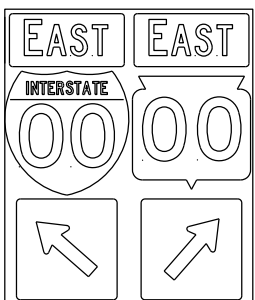
J2-2



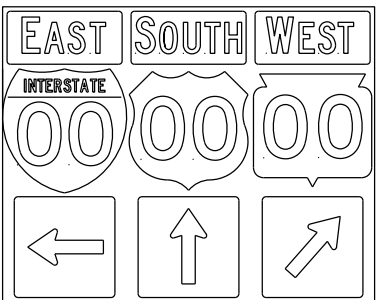
J2-3



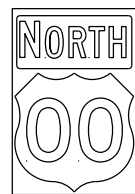
J3-1



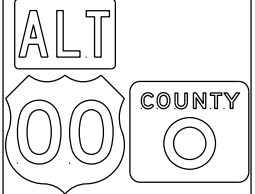
J3-2



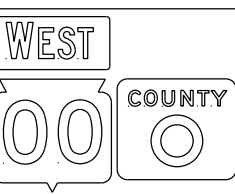
J3-3



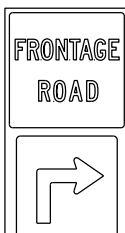
J4-1



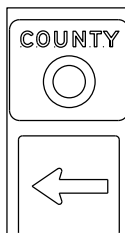
J4-2



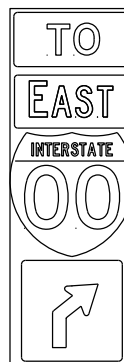
J4-2



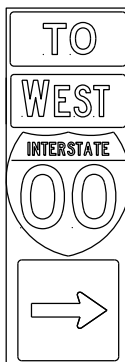
J12-1



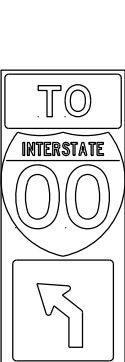
J13-1



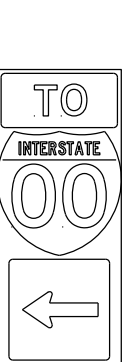
J32-1



J33-1



J22-1



J23-1



JR13-1



JR23-1

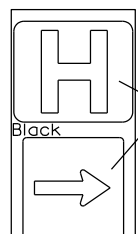


JR99-1



JV

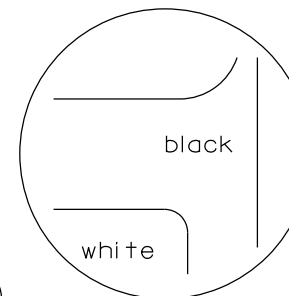
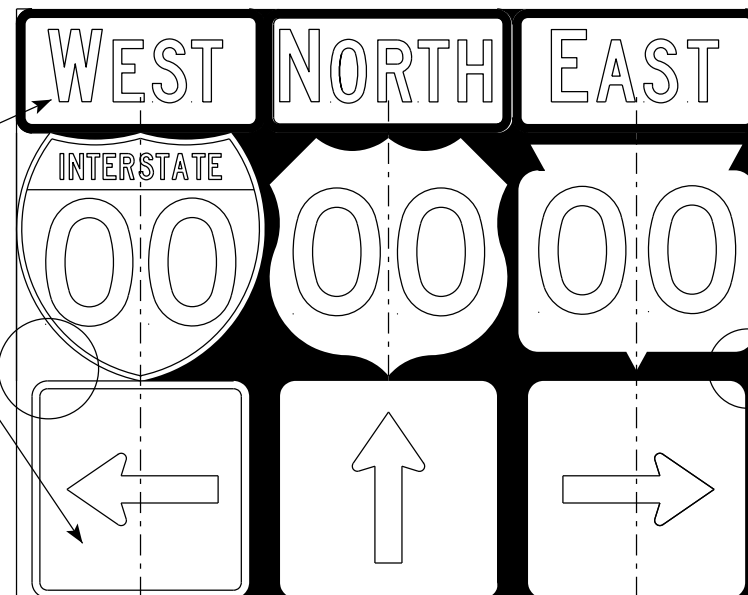
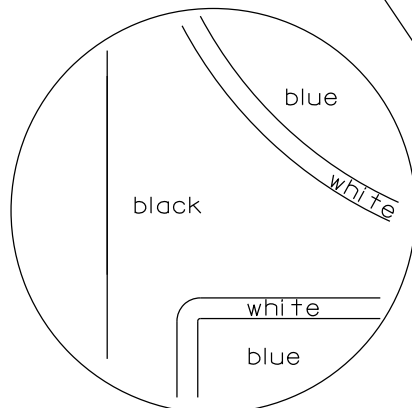
(Typical Vertical J-Assembly See Note 10 and 11)



JH-1

Blue Background

blue background with interstate



black background

## NOTES

- Signs are Type II - Type H Reflective
- Color:
  - Background - Black Non-reflective
  - Message - see Note 5
- Message Series - See Note 5
- Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
- The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
- Certain marker heads require the component pieces to be the same color. As an example, all the components used with an MI-1 Interstate marker shall be blue.
- Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
- Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
- Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
- All Vertical J Assemblies are given a Sign Code of JV
- For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

7

7

ROUTE MARKERS & COMPONENTS  
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

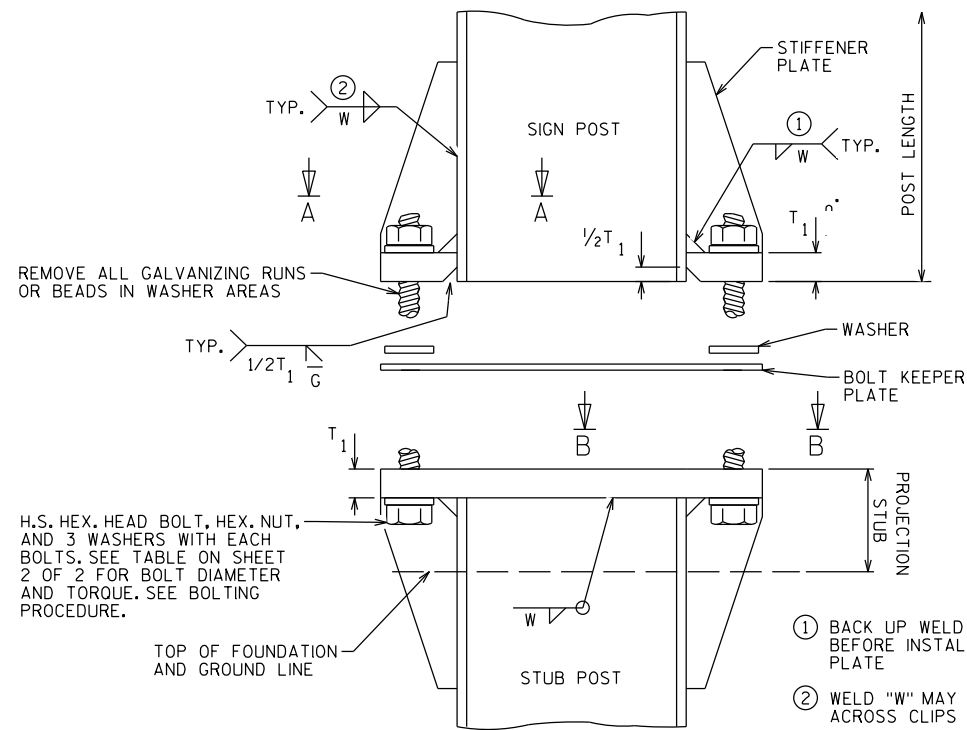
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/18/21 PLATE NO. A2-1S.9

PROJECT NO:

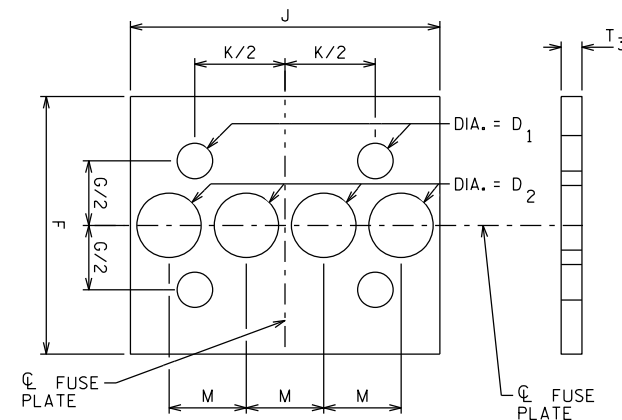
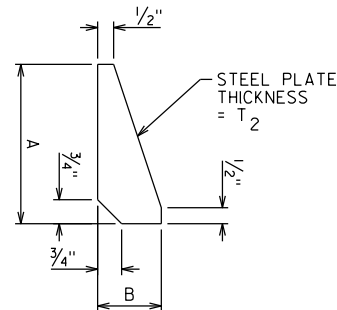
SHEET NO:

E



SIGN POST & STUB POST ELEVATION

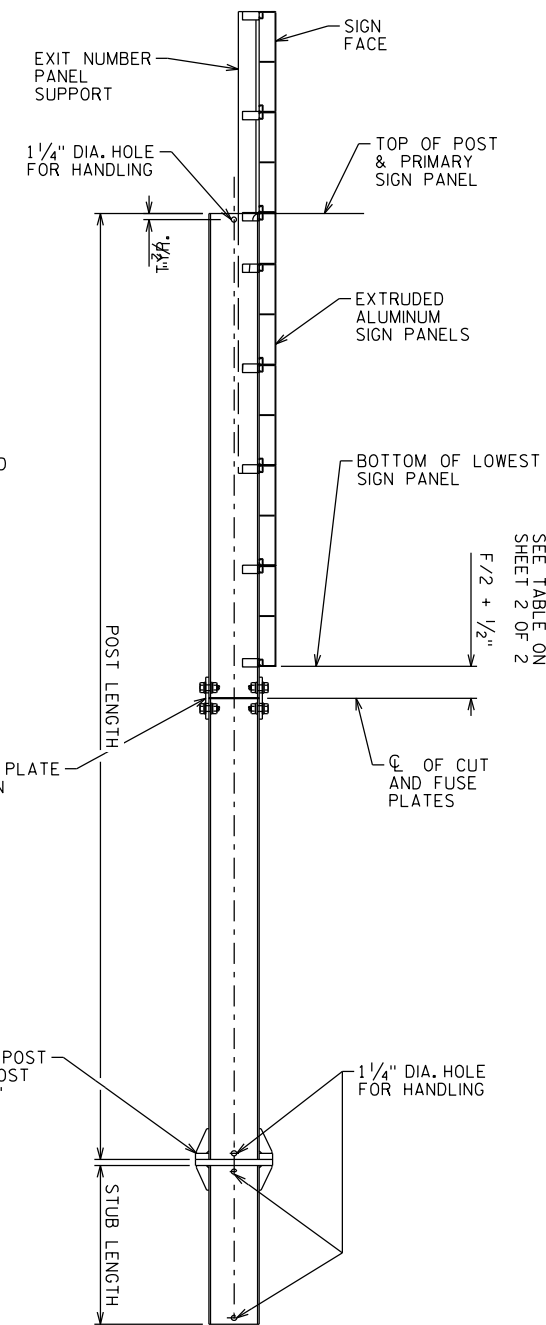
STIFFENER PLATE DETAIL  
(REFER TO TABLE ON SHEET 2 OF 2 FOR DIMENSIONS)



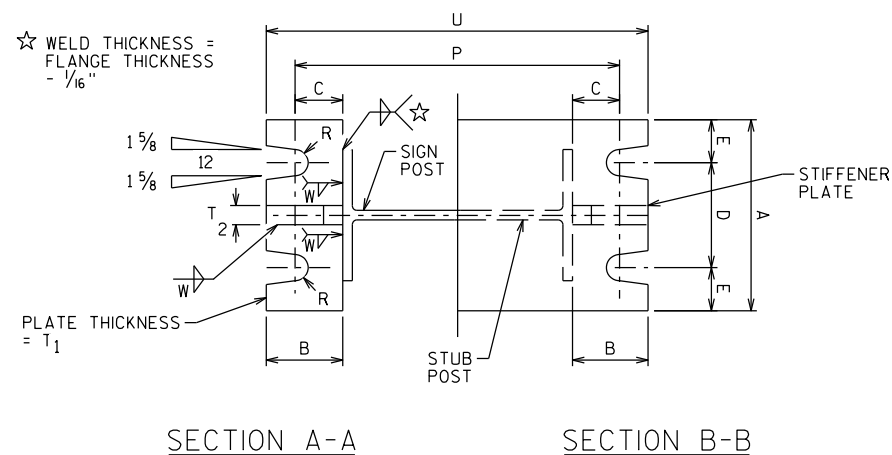
PERFORATED FUSE PLATE DETAIL

USE H.S. HEX HEAD BOLTS, HEX HEAD NUT AND FLAT WASHER UNDER NUT. INSTALL BOLTS PER THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION SECTION 506.3.12.3.

ALL HOLES SHALL BE DRILLED, SUB-PUNCHED AND REAMED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS. HOWEVER, FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE PERMITTED. STEEL FUSE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36, ASTM A572 GRADE 50 OR ASTM A588 MAY BE SUBSTITUTED FOR A36 AT THE OPTION OF THE FABRICATOR. MILL TEST REPORTS SHALL BE SUBMITTED FOR FUSE PLATES. STEEL USED SHALL HAVE AN ULTIMATE TENSILE STRENGTH NOT TO EXCEED 80 KSI.

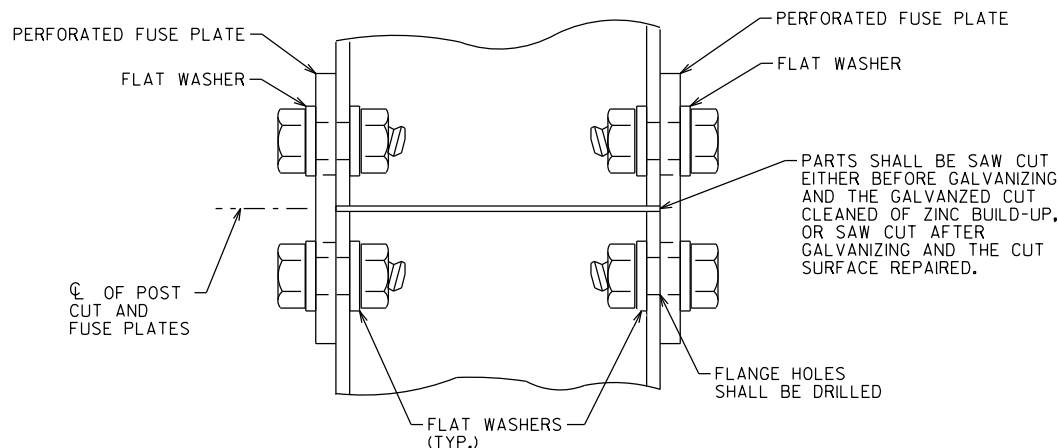


POST DETAIL

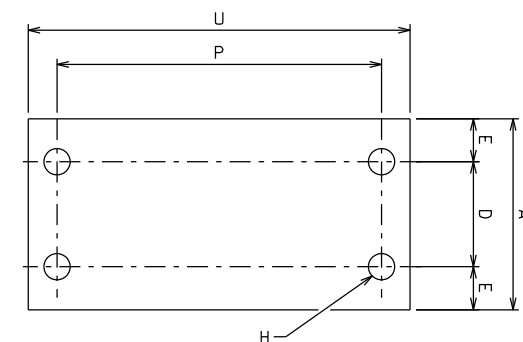


SECTION A-A

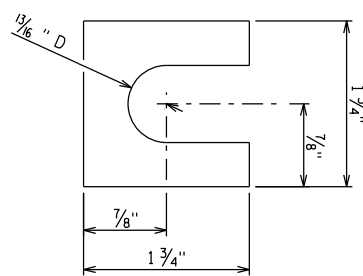
SECTION B-B



FUSE PLATE CONNECTION DETAIL



BOLT KEEPER PLATE DETAIL  
30 GA GALVANIZED SHEET STEEL



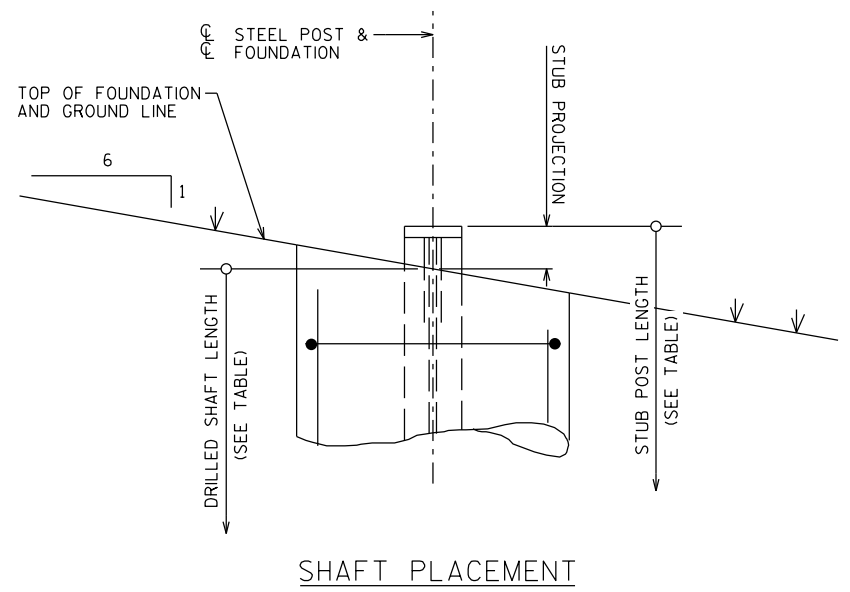
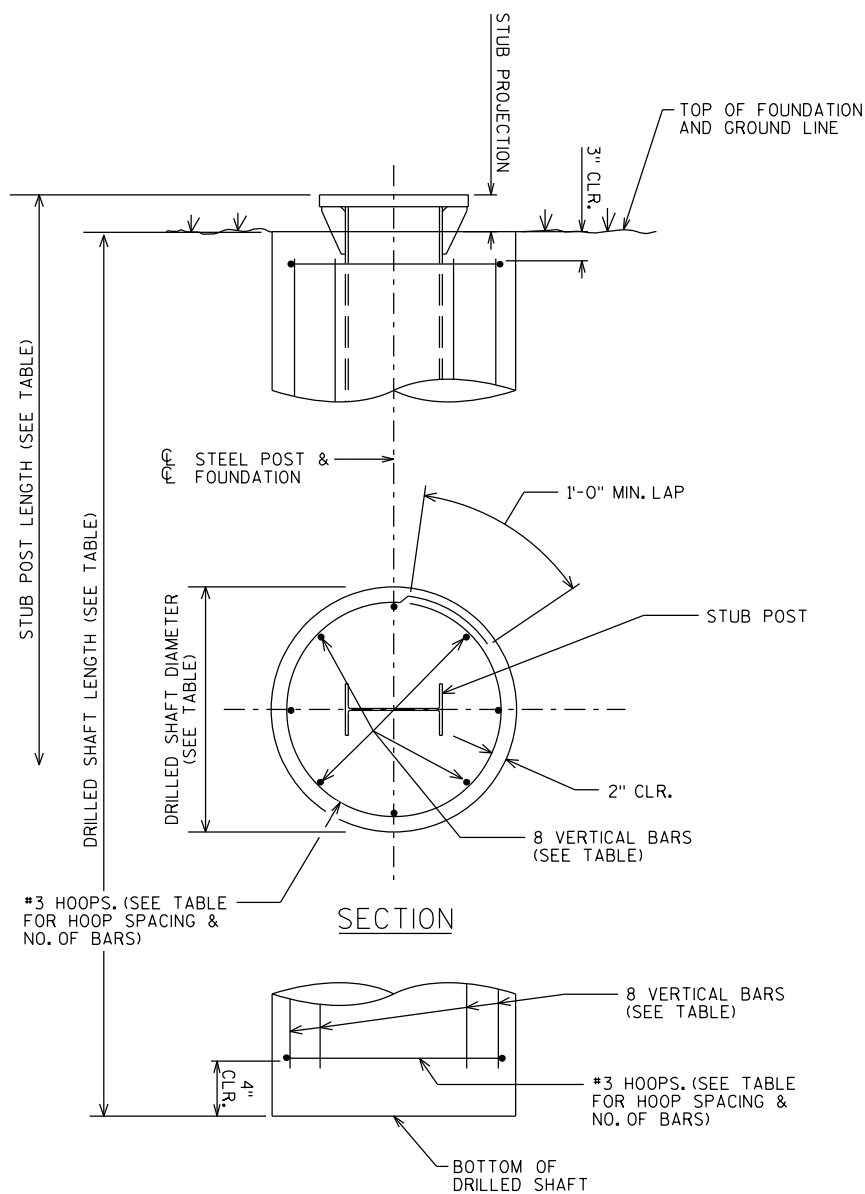
SHIM DETAIL

FURNISH TWO .012"± THICK AND TWO .032"± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM B36.

BOLTING PROCEDURE FOR BASE CONNECTION

1. ASSEMBLE SIGN POST, BOLT KEEPER PLATE, AND STUB POST WITH BOLTS AND THREE FLAT WASHERS PER BOLT AS SHOWN.
2. SHIM AS REQUIRED TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING, LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS.
5. LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PERSCRIBED TORQUE. (SEE TABLE FOR PERSCRIBED TORQUE). DO NOT OVER-TIGHTEN.
6. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE BTO TYPE I SIGNS			
		DRAWN BY	PLANS CK'D.
CONNECTION & FOUNDATION DETAILS 1 OF 2			SHEET A3-120



**FOUNDATION DATA TABLE**

POST SHAPE	STUB LENGTH	STUB PROJECTION	DRILLED SHAFT DIAMETER	DRILLED SHAFT LENGTH	VERTICAL BARS		HOOPS		CONCRETE VOLUME	TOTAL REINF. WEIGHT
					SIZE	LENGTH	MAX SPA.	NO.		
W6X15	2'-6"	3"	24"	6'-6"	#5	5'-11"	10"	9	0.8 CY	71 LB
W8X18	2'-6"	3"	24"	7'-6"	#6	6'-11"	12"	8	0.9 CY	102 LB
W8X21	3'-0"	2 1/2"	24"	8'-0"	#6	7'-5"	12"	9	1.0 CY	110 LB
W10X22	3'-0"	2 1/2"	24"	8'-6"	#7	7'-11"	12"	9	1.0 CY	151 LB
W12X26	3'-0"	2 1/2"	24"	10'-0"	#7	9'-5"	12"	11	1.2 CY	180 LB

◆ QUANTITIES SHOWN ARE FOR ONE DRILLED SHAFT

**BASE CONNECTION & FUSE PLATE DATA TABLE**

POST SHAPE	WEIGHT PER FOOT	BOLT SIZE & TORQUE	BASE CONNECTION DATA										BOLT KEEPER PLATE DATA		PERFORATED FUSE PLATE DATA										BOLT LENGTH	V
			A	B	C	D	E	T1	T2	W	R	P	U	F	G	J	K	M	D1	D2	T3	BOLT DIA.	WGT. EA. LBS			
W6X15	15 LB	5/8" DIA. X 4"	5"	2"	1 1/4"	2 3/4"	1 1/8"	1 1/4"	1/2"	1/4"	1 1/32"	8 1/2"	10"	5"	2 1/2"	6"	3 1/2"	1 1/2"	1 1/16"	1 1/4"	3 3/8"	5 3/8"	2.4	2	73.0 LB	
W8X18	18 LB	3/4" DIA. X 4"	5"	2"	1 1/4"	2 3/4"	1 1/8"	1 1/4"	1/2"	1/4"	1 1/32"	10 5/8"	12 1/8"	5"	2 1/2"	5 1/4"	2 3/4"	1 1/4"	1 1/16"	1 1/16"	3 3/8"	5 3/8"	2.0	2	83.0 LB	
W8X21	21 LB	3/4" DIA. X 4 3/4"	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1 1/2"	3/4"	5/16"	1 1/32"	11"	12 3/4"	5 1/2"	2 1/2"	5 1/4"	2 3/4"	1 1/4"	1 1/16"	1"	1 1/2"	3 3/4"	3.1	2 1/4"	124.0 LB	
W10X22	22 LB	3/4" DIA. X 4 3/4"	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1 1/2"	3/4"	5/16"	1 1/32"	12 7/8"	14 5/8"	6"	3"	5 3/4"	2 3/4"	1 3/8"	1 1/16"	1 1/8"	1 1/2"	3 3/4"	3.9	2 1/4"	134.0 LB	
W12X26	26 LB	3/4" DIA. X 4 3/4"	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1 1/2"	3/4"	5/16"	1 1/32"	15"	16 3/4"	6"	3"	6 1/2"	3 1/2"	1 5/8"	1 1/16"	1 1/2"	3 3/4"	4.5	2 1/4"	152.0 LB		

◆ TOTAL STRUCTURAL CARBON STEEL WEIGHT FOR ONE POST = V + (POST LENGTH X POST WEIGHT PER FOOT)

"V" INCLUDES STUB POST, BASE PLATES, STIFFENER PLATES, PERFORATED FUSE PLATES, BOLTS, NUTS, AND WASHERS.

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED

MATERIALS SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506, UNLESS NOTED OTHERWISE.

FABRICATION SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506.

ALL POST, POST STUBS & ATTACHMENTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123.

THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST, FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.

H.S. BOLTS, WASHERS, & NUTS SHALL BE A325 GALVANIZED.

**FOUNDATION MATERIAL PROPERTIES**

CONCRETE MASONRY F'C = 3,500 P.S.I.

BAR STEEL REINFORCEMENT (UNCOATED), GRADE 60 F<sub>y</sub> = 60,000 P.S.I.

**DESIGN DATA**

DESIGN CONFORMS TO AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS 1ST EDITION 2015 (WITH 2017 & 2018 INTERIM REVISIONS).

- DEAD LOADS (DL):**
- STEEL POST SELF WEIGHT
  - SIGN PANEL WEIGHT = 3 PSF
- WIND LOADS (WL):**
- WIND LOADS WERE APPLIED TO THE PROJECTED AREAS OF THE SIGN PANELS AND THE STEEL SIGN POSTS.
- BASIC WIND SPEED = 76 MPH
  - MEAN RECURRENCE INTERVAL (MRI) = 10 YEARS
  - HEIGHT & EXPOSURE FACTOR = 1.00
  - DIRECTIONALITY FACTOR = 0.85
  - GUST EFFECT FACTOR = 1.14
- WIND LOAD CASES:**
- WL CASE 1: 1.0 X NORMAL WIND
  - WL CASE 2: 1.0 X TRANSVERSE WIND
  - WL CASE 3: 0.75 X NORMAL WIND + 0.75 X TRANSVERSE WIND

**LOAD COMBINATIONS:**

LOAD COMBINATION	TYPE	DL FACTOR	WL FACTOR
STRENGTH I	GRAVITY	1.25	-
EXTREME I	WIND	1.10	1.0
		0.9	1.0
SERVICE I	DEFLECTION	1.0	1.0

**FOUNDATION DESIGN DATA**

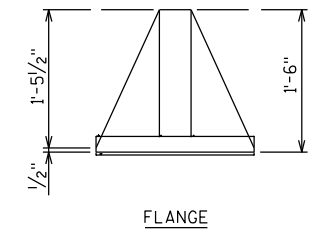
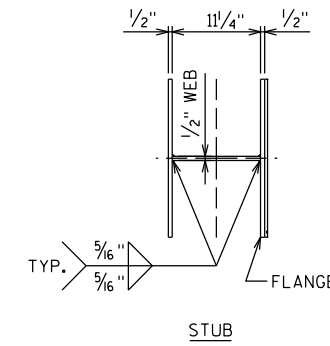
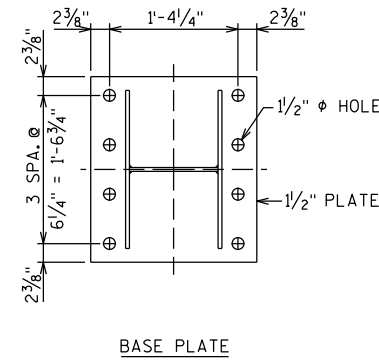
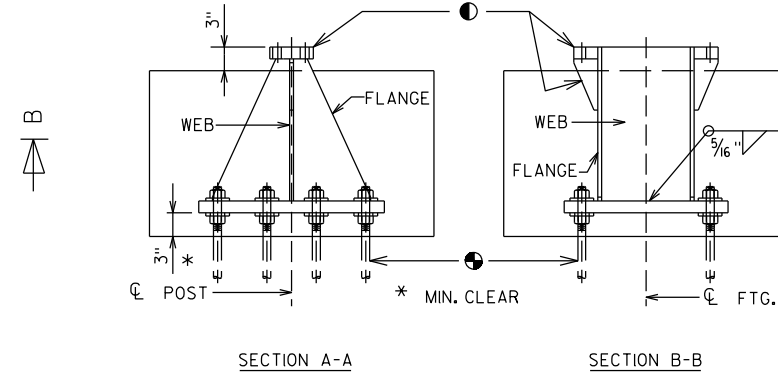
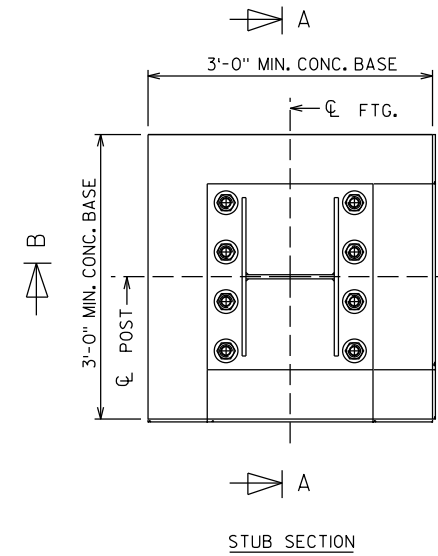
THE FOUNDATION DESIGN ASSUMED COHESIONLESS SOILS (LOOSE SAND) ABOVE THE WATER TABLE WITH THE FOLLOWING PROPERTIES:

- SOIL UNIT WEIGHT = 115 PCF
- ANGLE OF INTERNAL FRICTION = 24 DEGREES
- SOIL MODULUS PARAMETER = 25 LB/IN<sup>3</sup>

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE BTO TYPE I SIGNS			
DRAWN BY		PLANS CK'D.	
CONNECTION & FOUNDATION DETAILS 2 OF 2		SHEET A3-1.20	



### STUB AND ADHESIVE ANCHOR DETAILS



- SEE BASE CONNECTION DETAILS ON "CONNECTIONS & FOUNDATION DETAILS" SHEETS.
- ADHESIVE ANCHORS 1/4"-INCHES. ALLOWABLE PULL OUT CAPACITY = 15 KIPS. EMBED 1'-3" INTO ROCK.

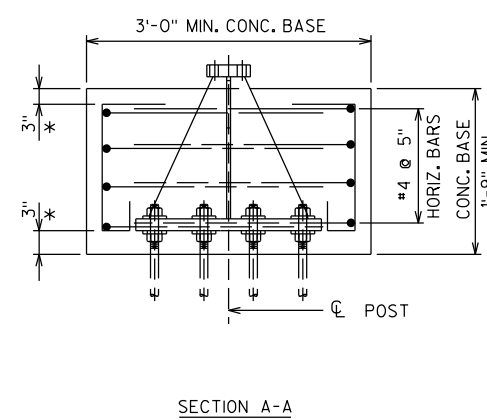
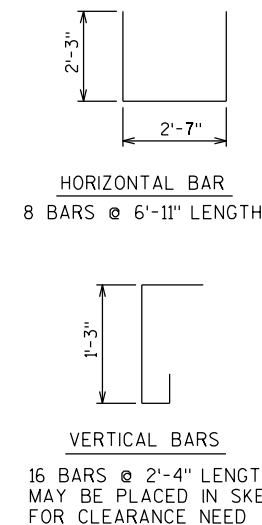
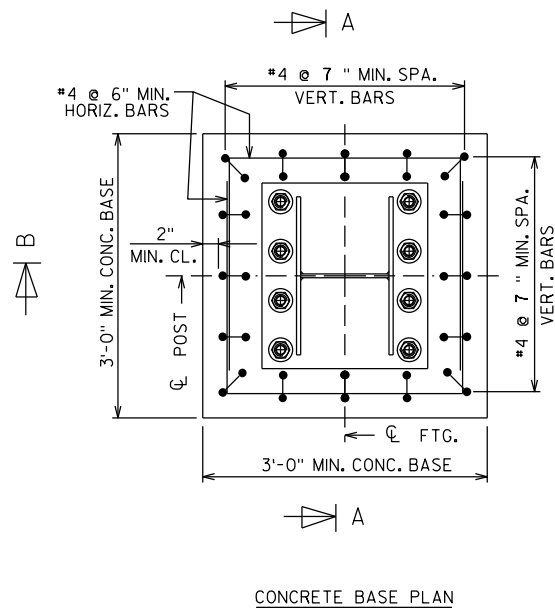
### GENERAL NOTES:

QUANTITIES PER BASE:  
 REINFORCING STEEL = 62 LB  
 CONCRETE = 0.6 CY  
 STRUCTURAL STEEL = 335 LB

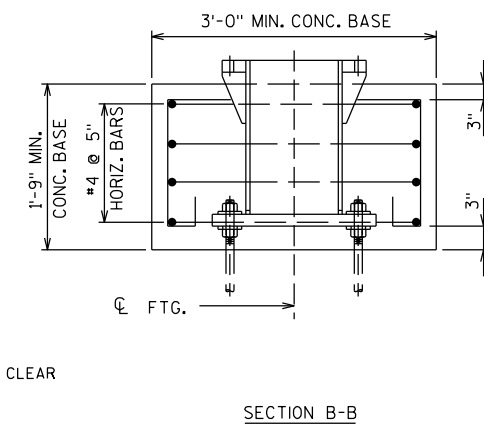
ALL MATERIALS, EXCEPT FOR ANCHOR ROD, NUTS, AND WASHERS, SHALL BE ASTM A709 GRADE 50. ALL MATERIALS TO BE GALVANIZED AFTER FABRICATION.

IF ROCK IS ENCOUNTERED PRIOR TO REACHING THE MINIMUM DRILLED SHAFT EMBEDMENT DEPTH DEFINED ON THE FOUNDATION DATA TABLE OF THE "CONNECTIONS & FOUNDATION DETAILS 2 OF 2" SHEET, THE CONTRACTOR SHALL INSTALL A TEST ADHESIVE ANCHOR AND DETERMINE THE PULL-OUT CAPACITY. IF THE FIELD TEST RESULTS IN A PULL-OUT CAPACITY GREATER THAN OR EQUAL TO 15 KIPS, THE CONTRACTOR MAY INSTALL THE ALTERNATE CONCRETE BASE AND BREAK-WAY STUB PER THE DETAILS ON THIS SHEET.

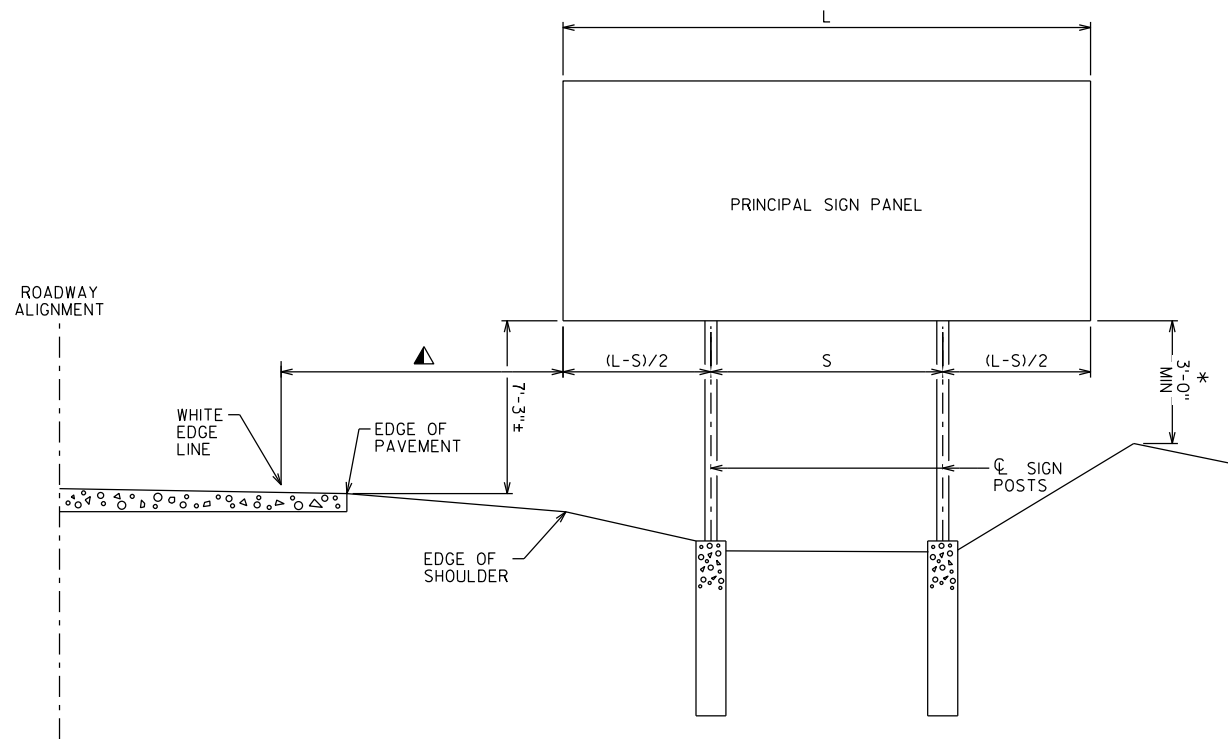
### CONCRETE BASE DETAILS



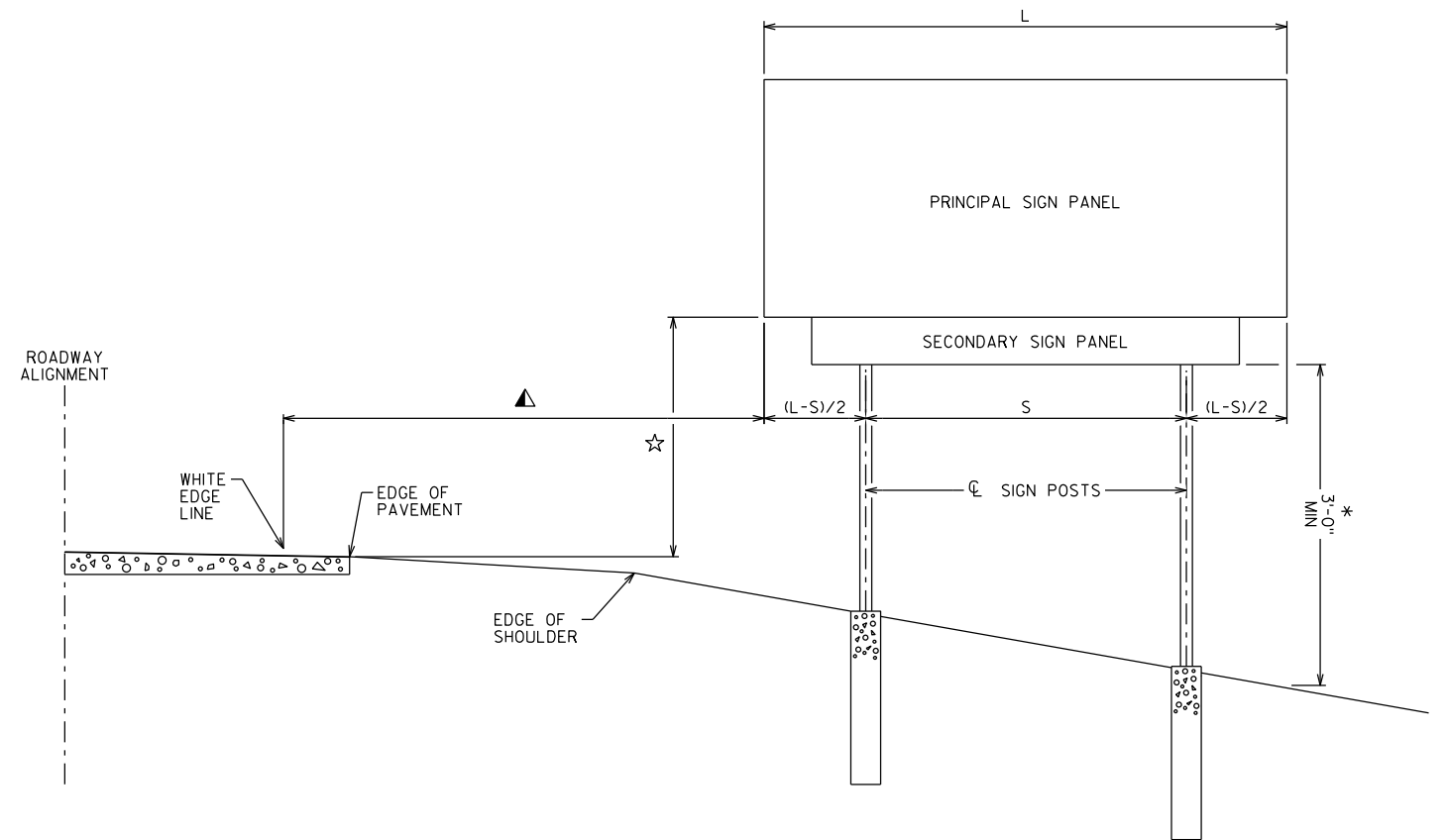
\* MIN. CLEAR



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE BTO TYPE I SIGNS			
		DRAWN BY	PLANS CK'D.
ALTERNATE BREAK-AWAY BASE ON ROCK			SHEET A3-1M.2



INSTALLATION WITHOUT SECONDARY SIGN



INSTALLATION WITH SECONDARY SIGN

TYPE 1 SIGN INSTALLATION NOTES:

FOR A 2-POST INSTALLATION, "S" EQUALS  $3L/5$ , BUT SHALL NOT BE LESS THAN 6'-0".

FOR A 3-POST INSTALLATION, "S" EQUALS  $5L/7$ , BUT SHALL NOT BE LESS THAN 12'-0". THE SPACING BETWEEN ANY TWO POSTS SHALL NOT BE LESS THAN 6'-0".

▲ UNLESS NOTED IN THE PLANS, THE SIGN OFFSET DISTANCE SHALL BE A MINIMUM OF 17'-6" FROM THE WHITE EDGE LINE, DESIRABLE 30'-0".

THE ± TOLERANCE SHOWN ON THIS SHEETS IS 3".

THE VERTICAL SIGN HEIGHT CLEARANCES SHOWN ON THIS SHEET ARE MEASURED FROM THE BOTTOM OF THE SIGN PANEL TO THE NEAR EDGE OF PAVEMENT.

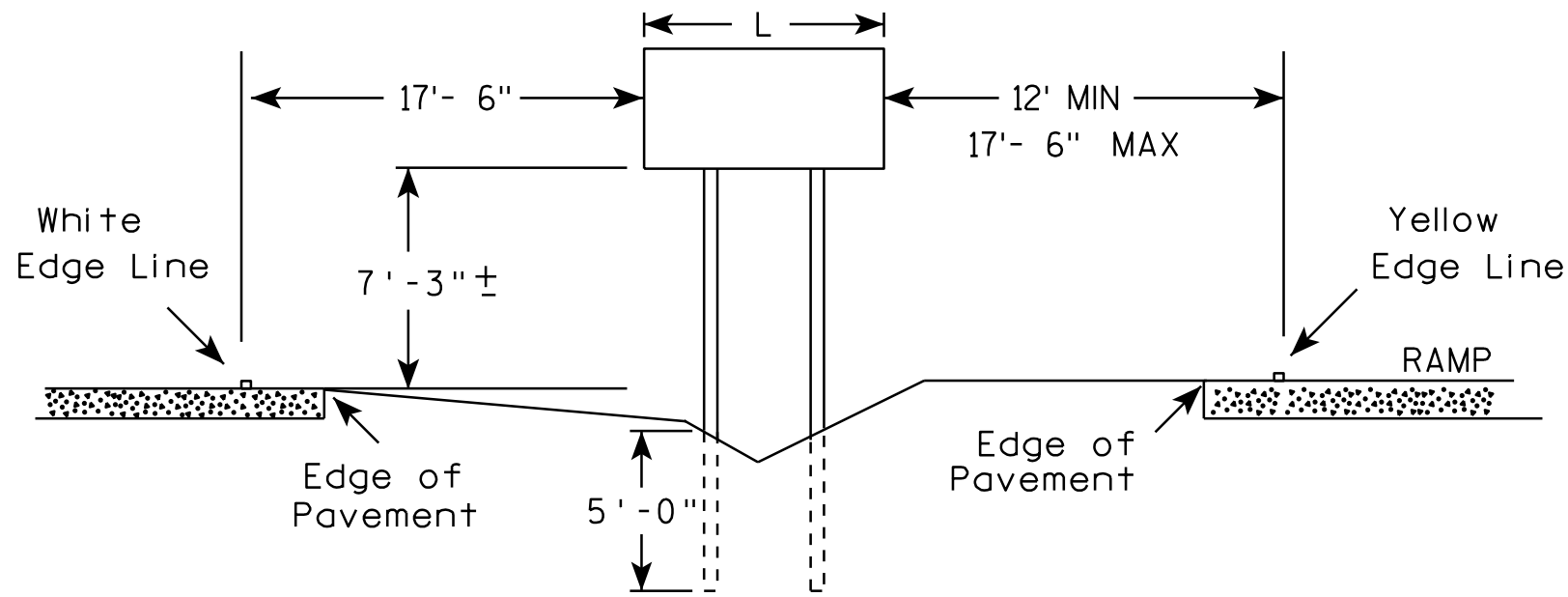
☆ THE VERTICAL CLEARANCE SHALL BE 8'-3"± WHEN THE SECONDARY SIGN HEIGHT IS 3'-0" OR LESS, FOR SECONDARY SIGN HEIGHTS LARGER THAN 3'-0", THE VERTICAL CLEARANCE TO THE BOTTOM OF THE SECONDARY SIGN PANEL SHALL BE 5'-3"±.

\* THE VERTICAL SIGN GROUND CLEARANCE ON RIGHT END OF SIGN SHALL BE A MINIMUM OF 3'-0"±.

POST LENGTHS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE ESTIMATED LENGTHS. THE CONTRACTOR SHALL VERIFY POST LENGTHS AT THE TIME OF FINAL GRADING.

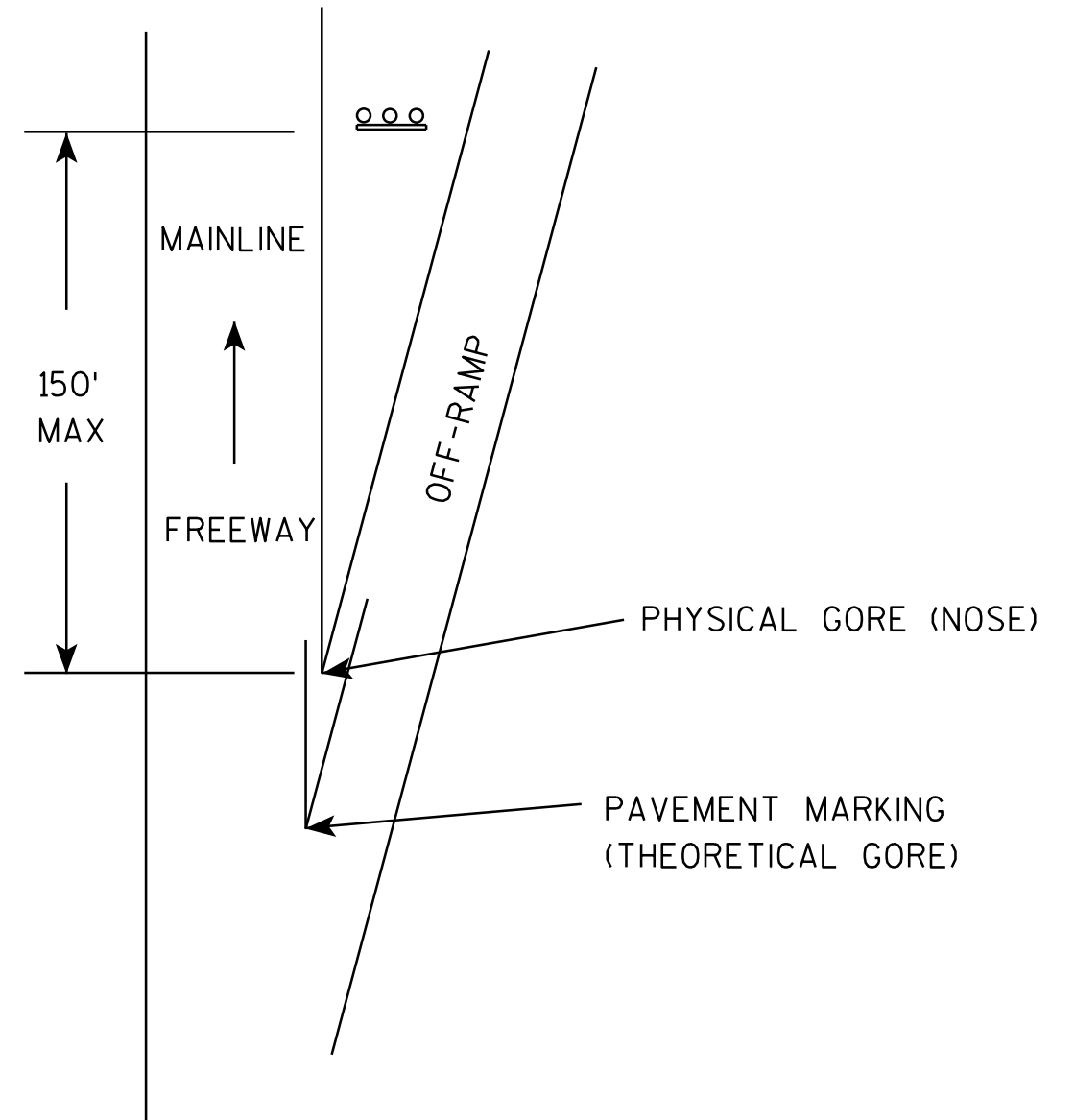
REFER TO THE TRAFFIC ENGINEERING OPERATIONS AND SAFETY MANUAL FOR FURTHER GUIDANCE ON MINIMUM VERTICAL CLEARANCE REQUIREMENTS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE BTO TYPE I SIGNS			
DRAWN BY		PLANS CK'D.	
TYPICAL TYPE I SIGN INSTALLATION			SHEET A4-1.10



GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The ( $\bar{\pm}$ ) tolerance for the mounting height is 3 inches.



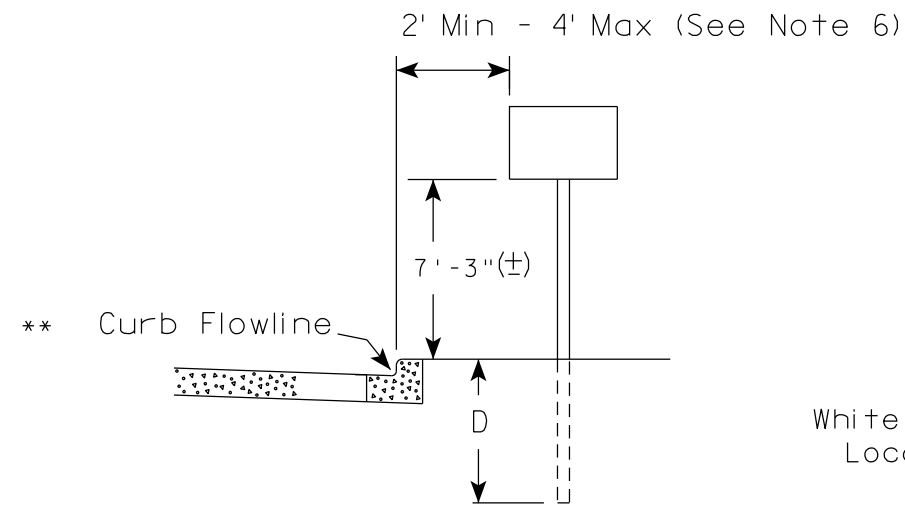
7

7

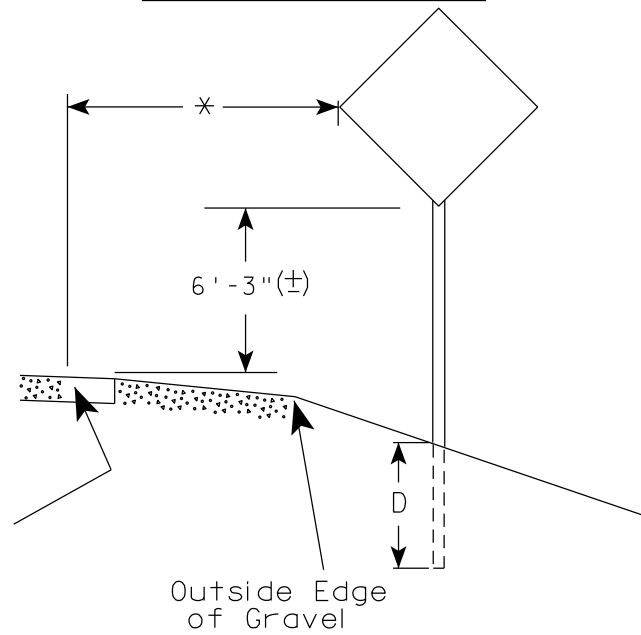
TYPICAL INSTALLATION OF TYPE II SIGNS ON WOOD POSTS IN GORE	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Raub</i> for State Traffic Engineer
DATE 2/06/14	PLATE NO. A4-2.3

URBAN AREA

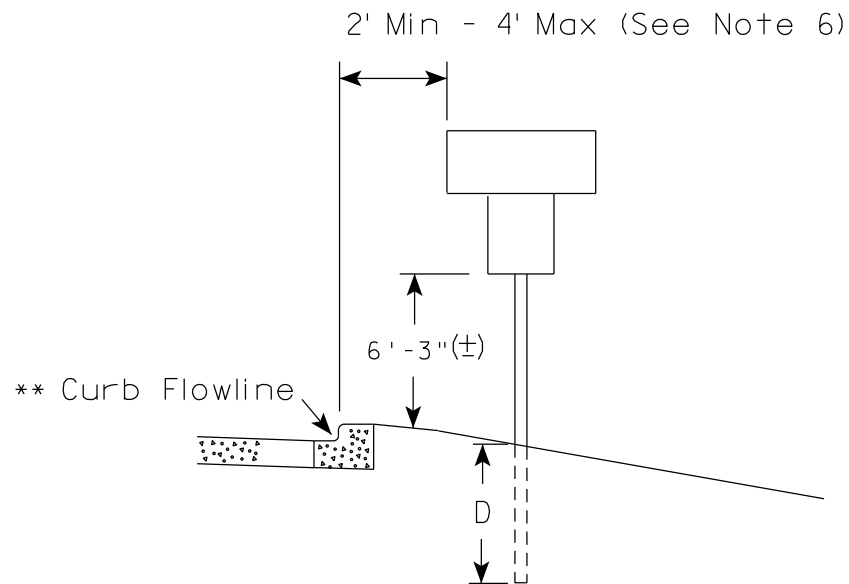
RURAL AREA (See Note 2)



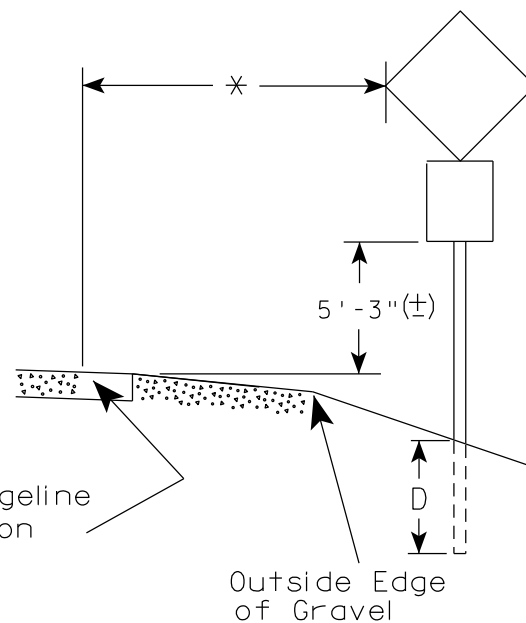
White Edgeline Location



Outside Edge of Gravel



White Edgeline Location



Outside Edge of Gravel

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" (±). 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. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the 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.

\* 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.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22



**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**

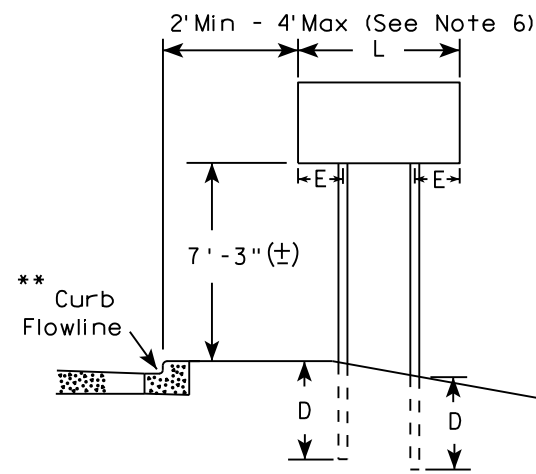
**FOR NEW CONCRETE/ ASPHALT INSTALLATIONS**

<b>SIGN POST BOX-OUTS A4-3B</b>	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R. Rauch</i> <small>for State Traffic Engineer</small>	
<small>DATE 1/27/14</small>	<small>PLATE NO. A4-3B.1</small>

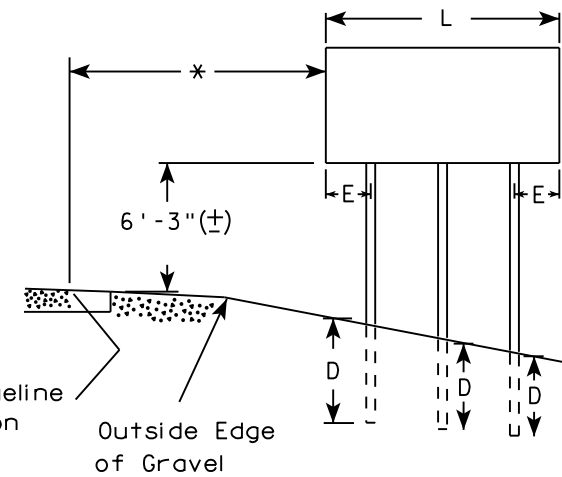
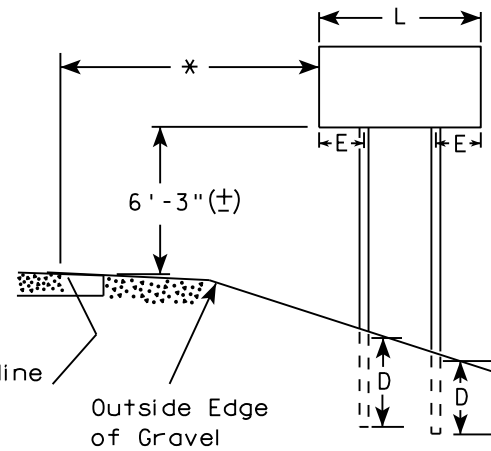
**GENERAL NOTES**

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" (±) or 6'-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" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-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" (±).

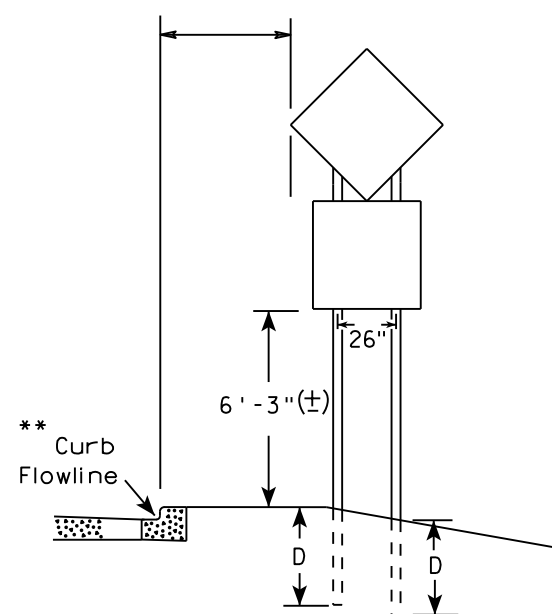
**URBAN AREA**



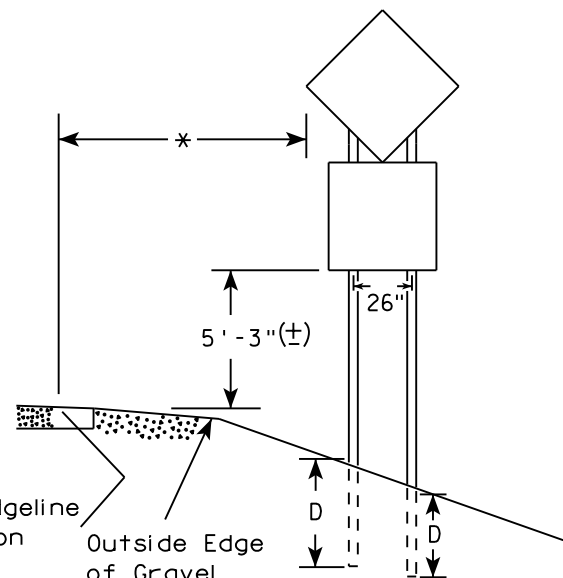
**RURAL AREA (See Note 3)**



2' Min - 4' Max (See Note 6)



**48" DIAMOND WARNING SIGN**



**48" DIAMOND WARNING SIGN**

\* 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.

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"

**POST EMBEDMENT DEPTH**

Area of Sign Installation ( Sq. Ft. )	D ( Min )
20 or Less	4'
Greater than 20	5'

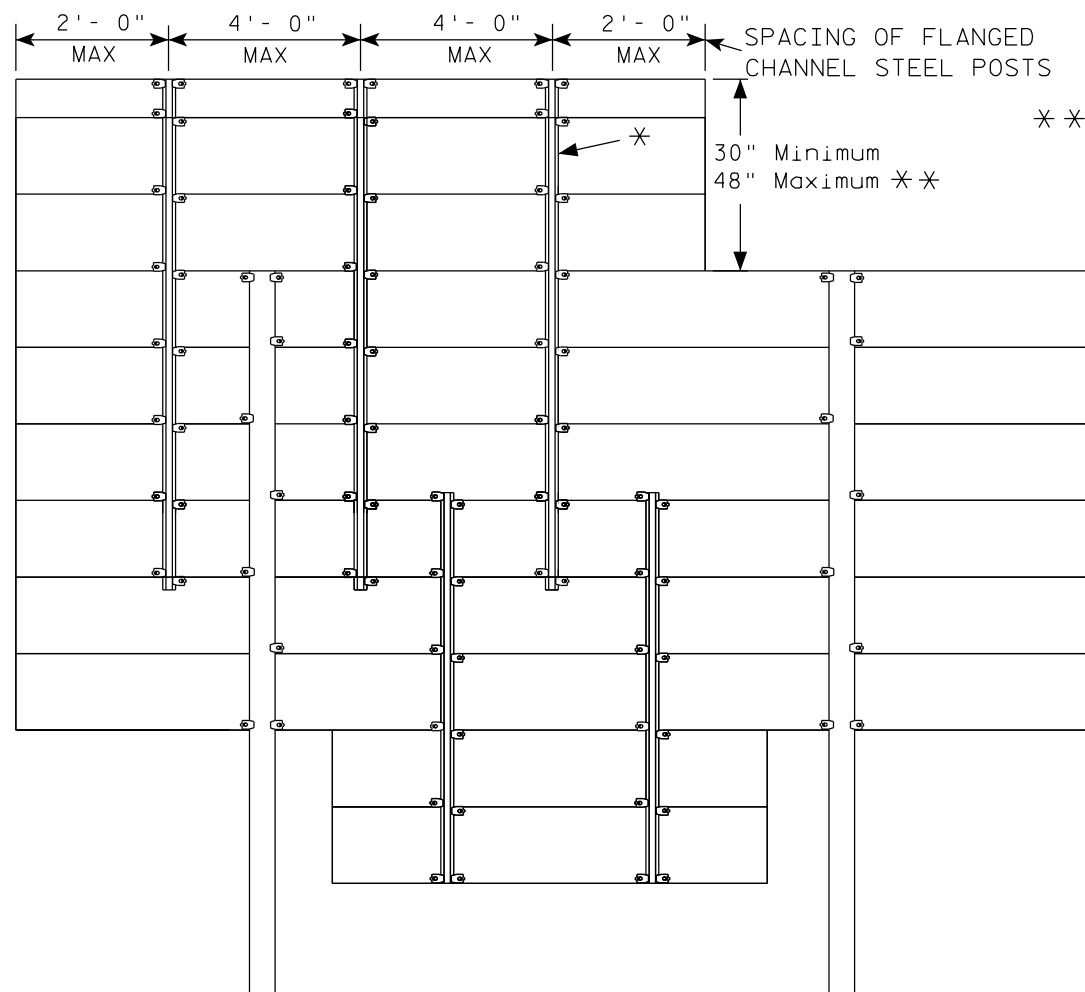
**TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

GROUND MOUNTED SIGN



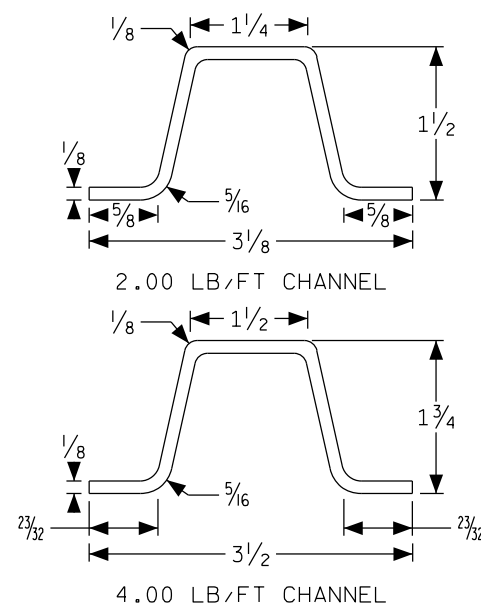
\* = 2.00 lb/ft AND 4.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

\*\* = FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

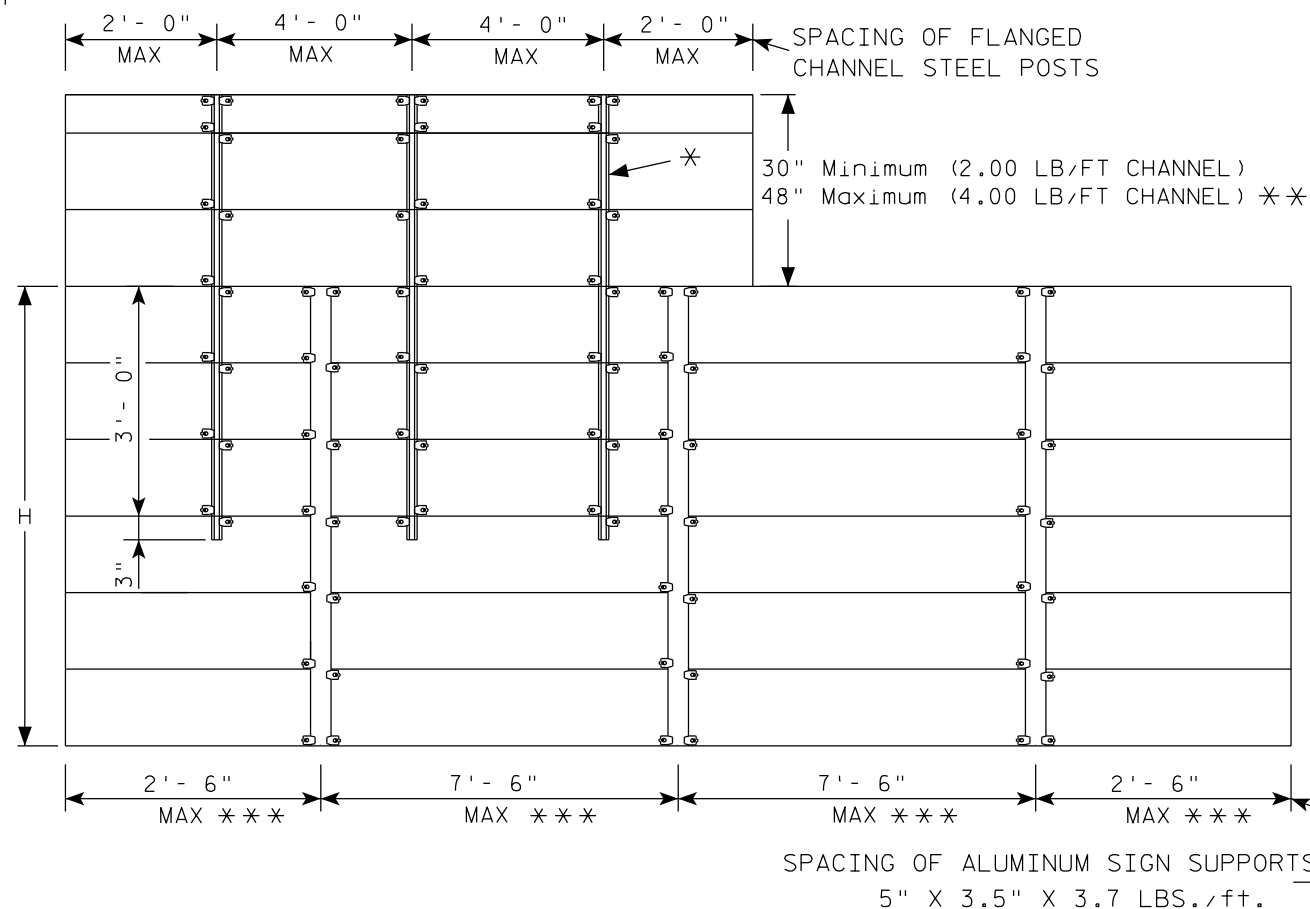
\*\*\* THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 15 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 15 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAILS

NOT TO SCALE



SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:  
 PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS  
 PANEL LENGTH 9'-0" - 12'-0" = 3 CHANNELS  
 PANEL LENGTH 13'-0" OR MORE = 4 CHANNELS  
 If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.

3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
 For State Traffic Engineer

DATE 1/07/20 PLATE NO. A4-6.12

PROJECT NO:

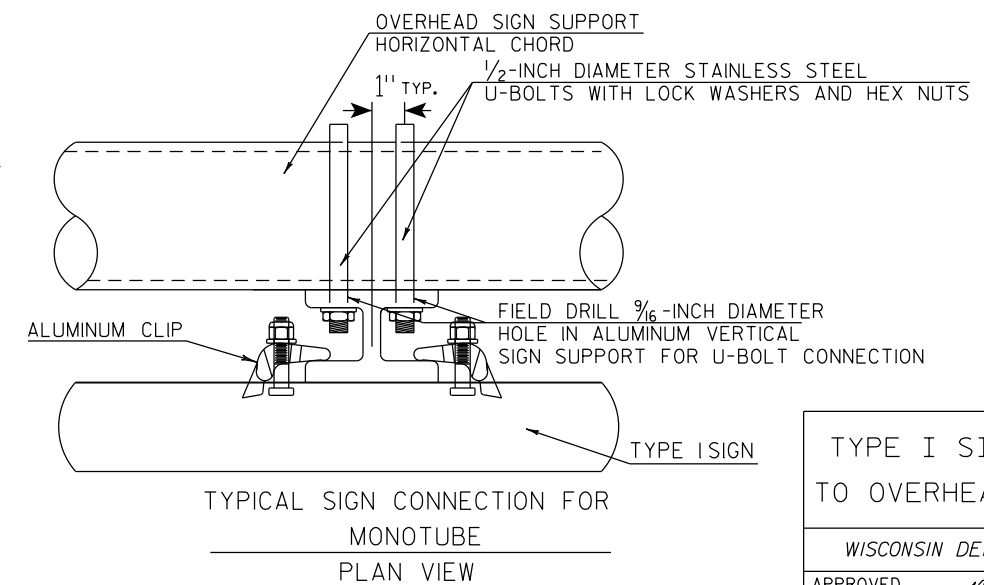
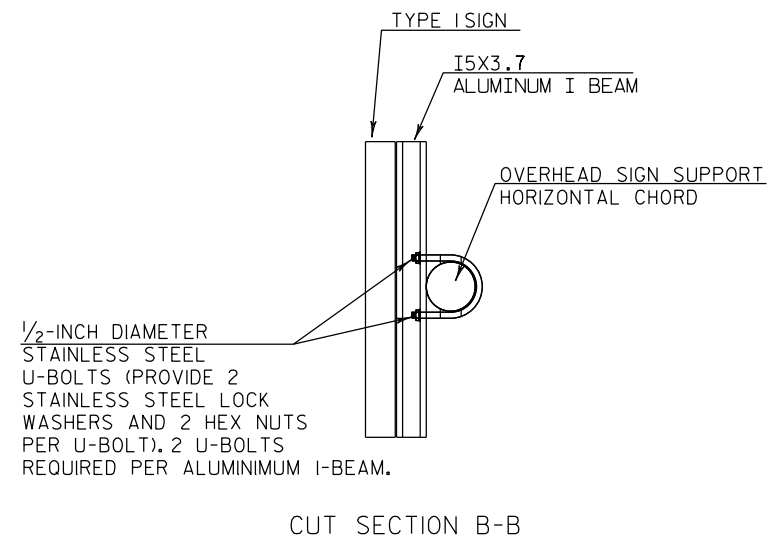
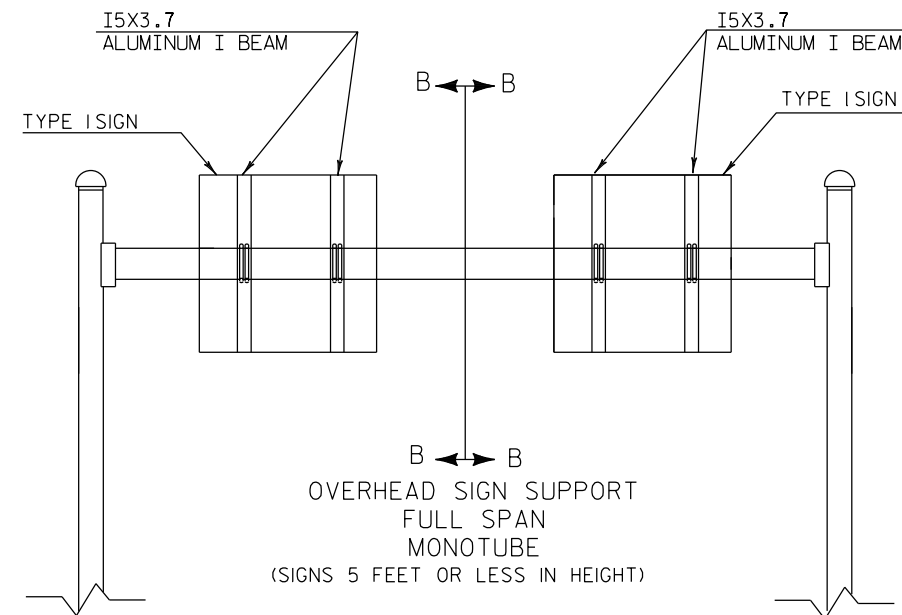
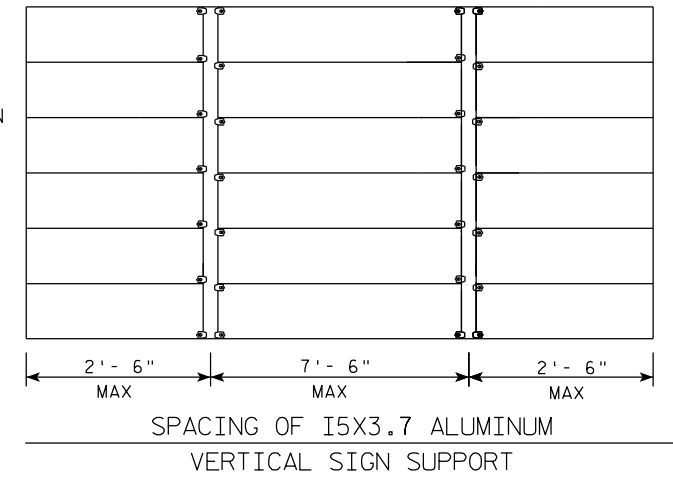
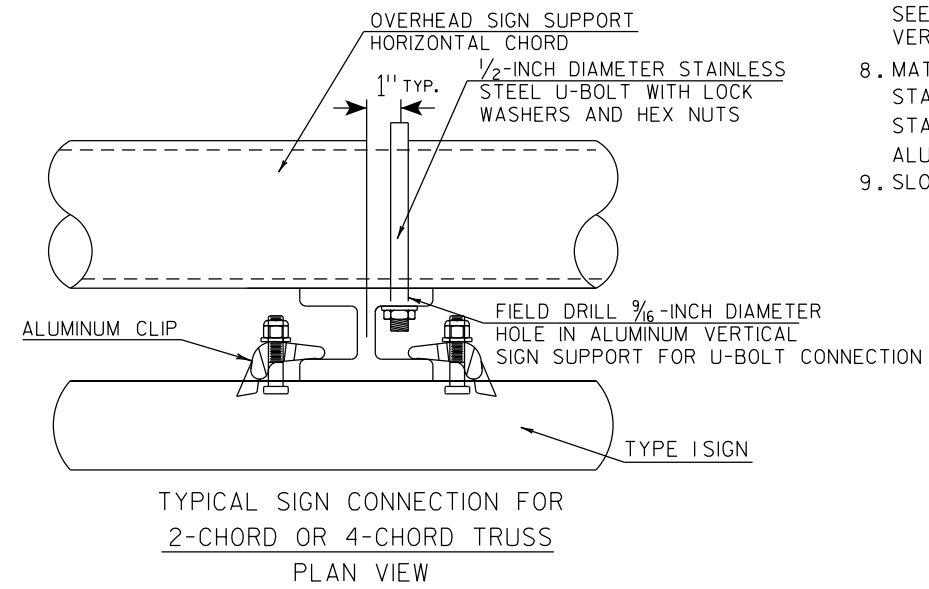
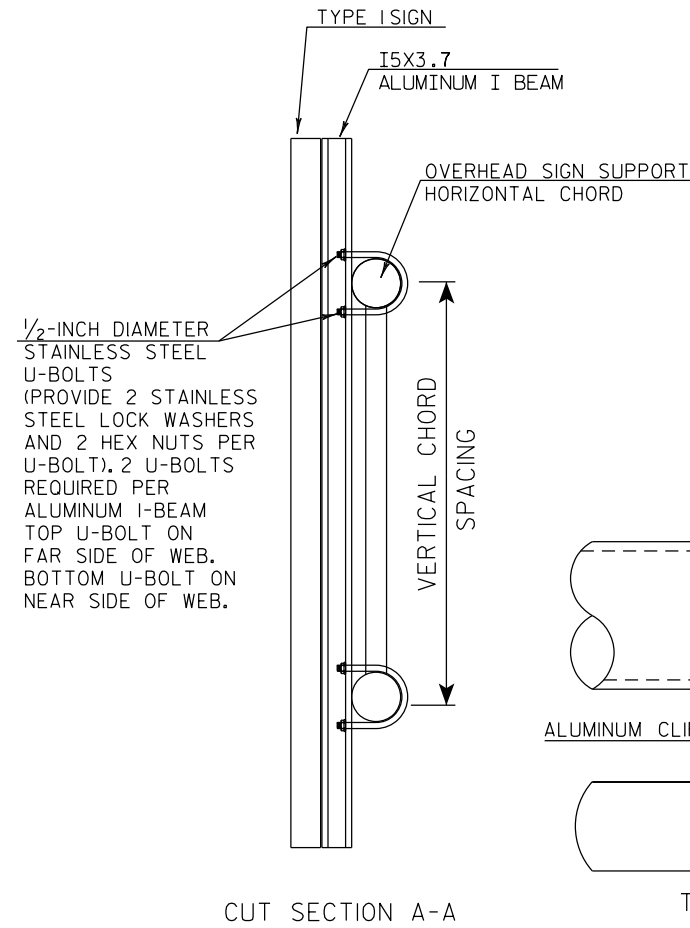
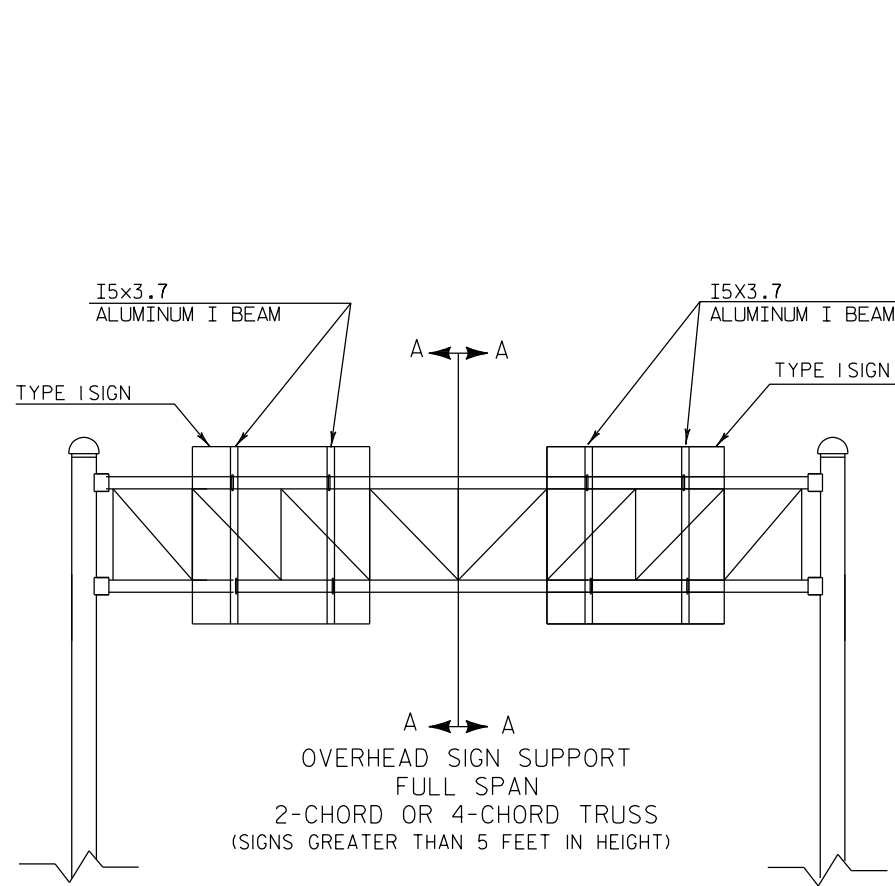
SHEET NO:

E



GENERAL NOTES

1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:  
STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.  
STAINLESS STEEL HEX NUTS ASTM A276.  
ALUMINUM I-BEAMS ARE 6061-T6.
9. SLOTTED HOLES IN I-BEAMS ARE NOT ALLOWED

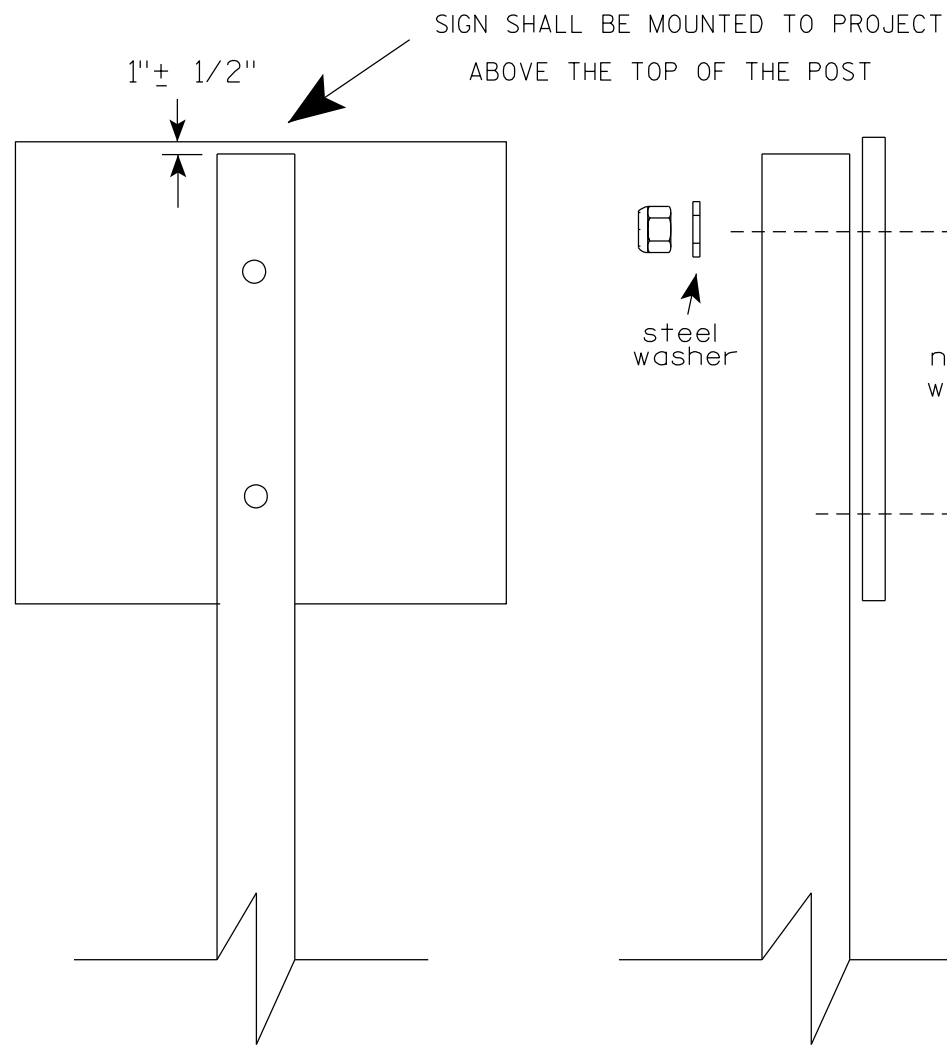


TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
State Traffic Engineer

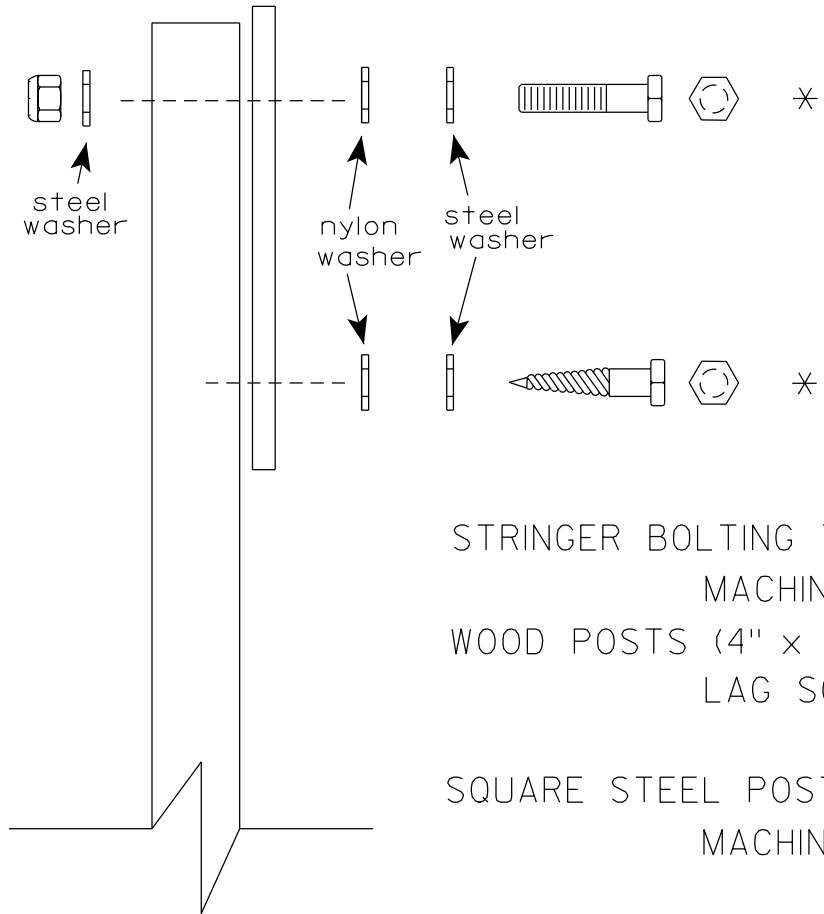
DATE 1/07/20 PLATE NO. A4-7A.1



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) -

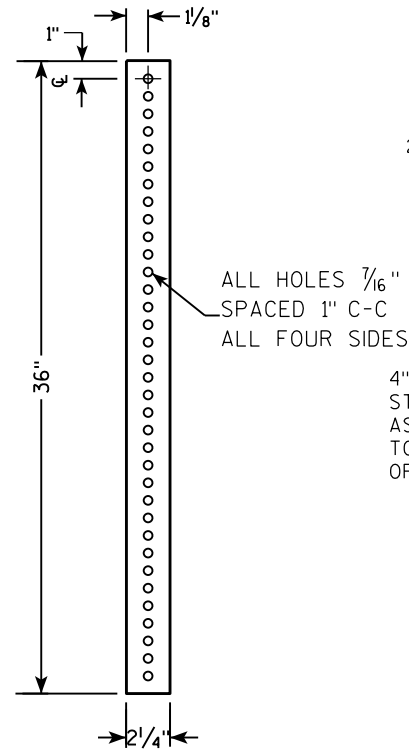
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON

\* 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.

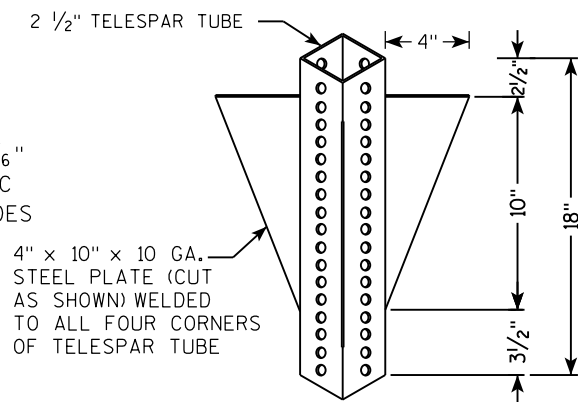
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

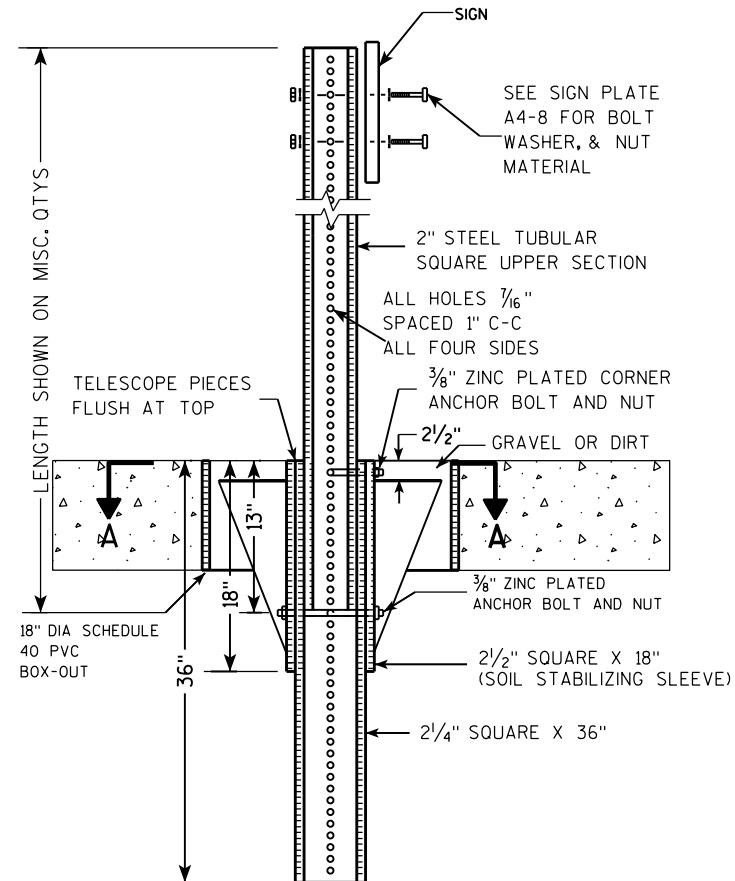
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



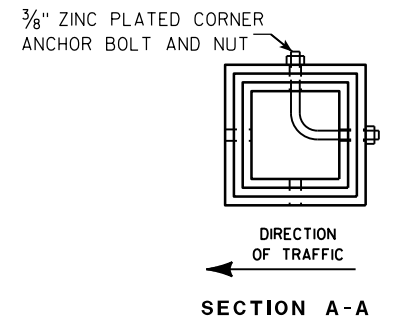
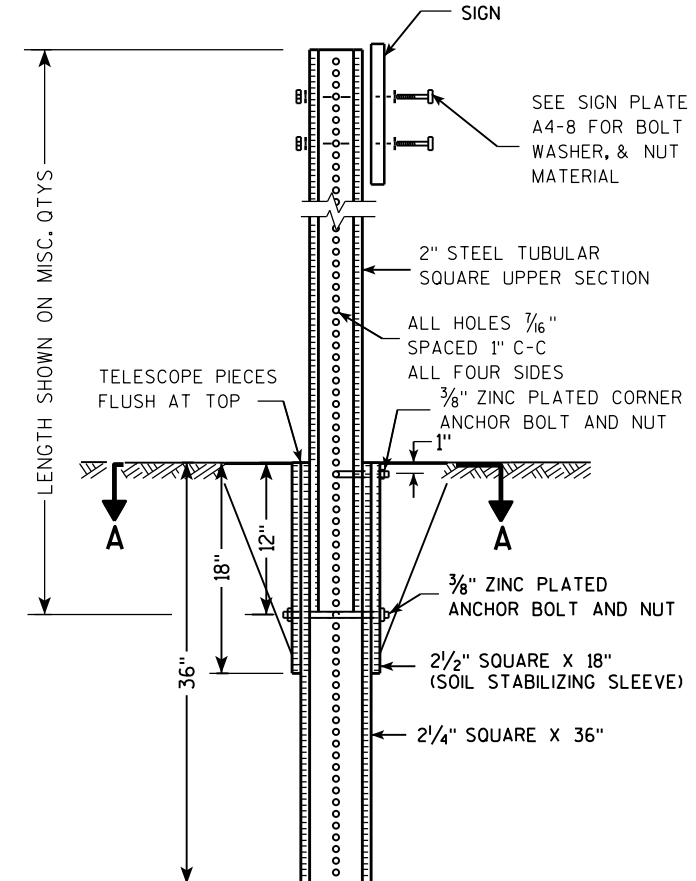
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



**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)**



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

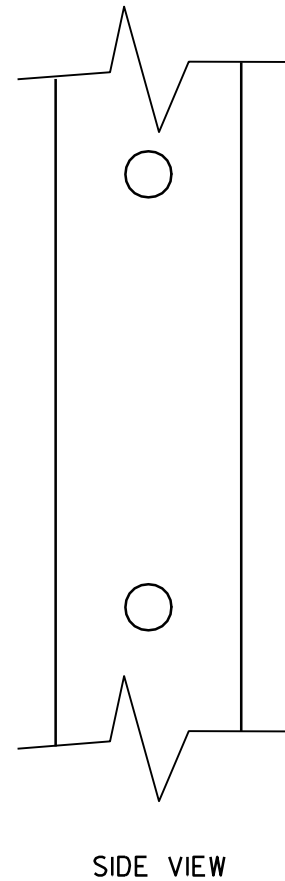
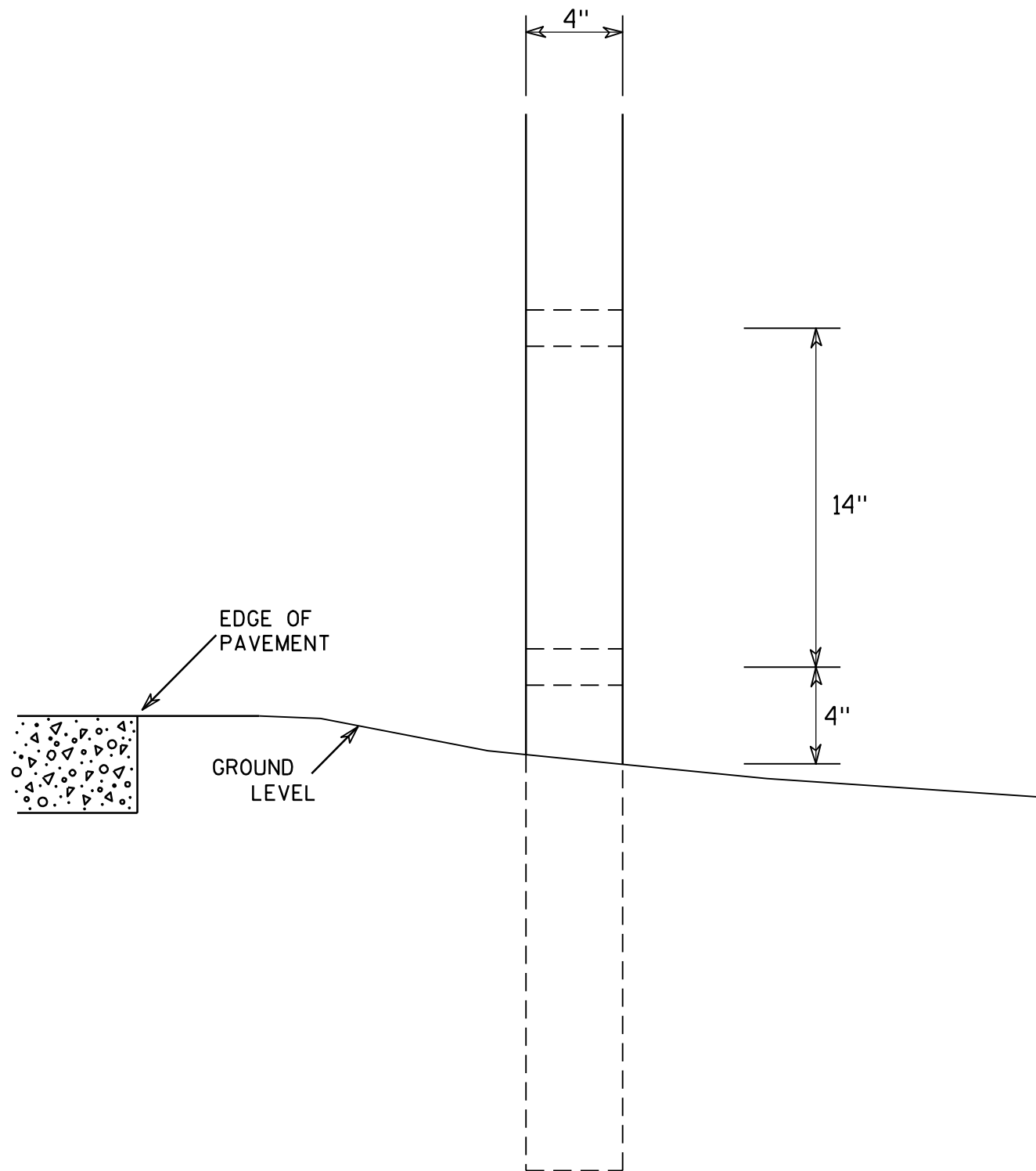
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9



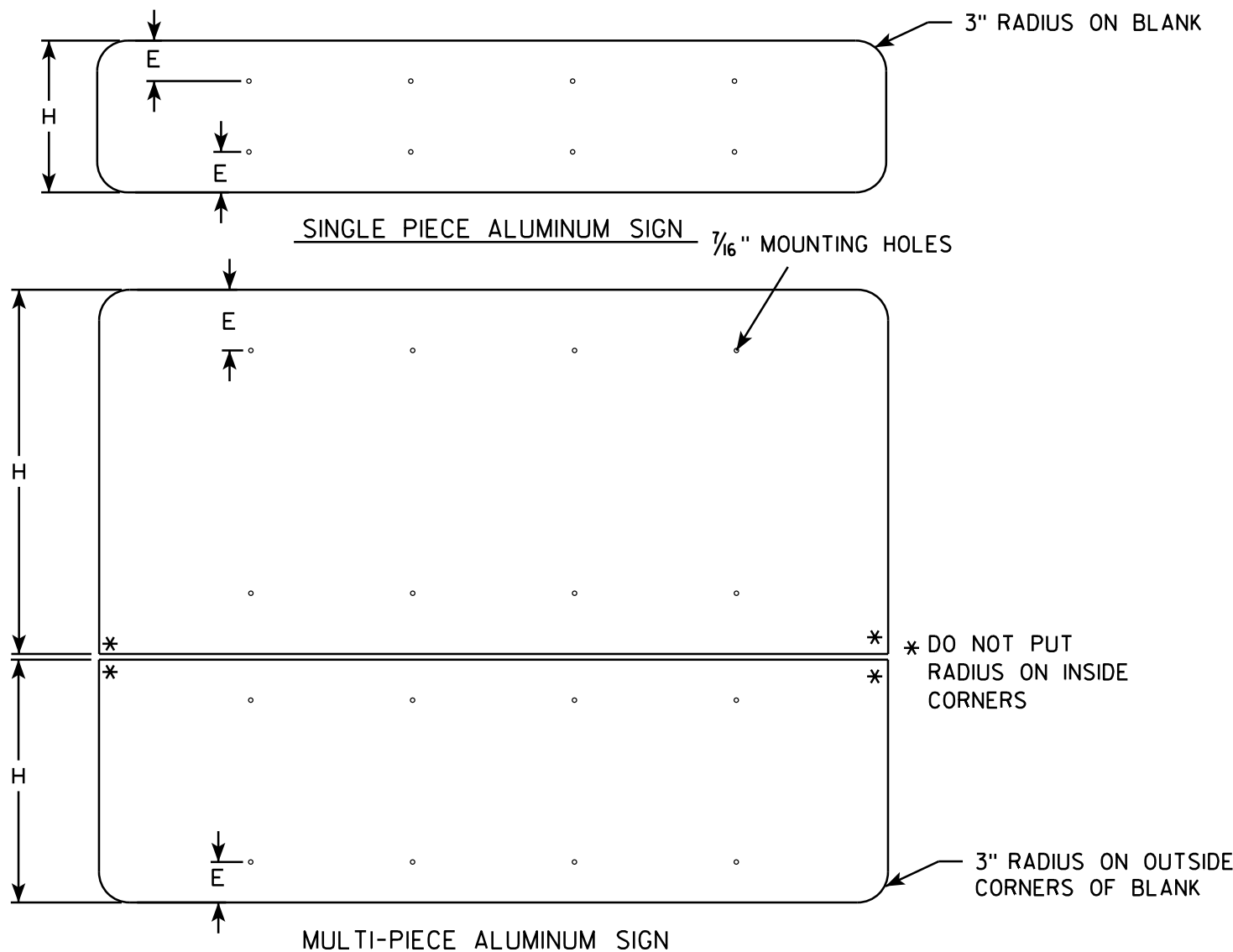
GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

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<b>4 X 6 WOOD POST MODIFICATIONS</b>	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

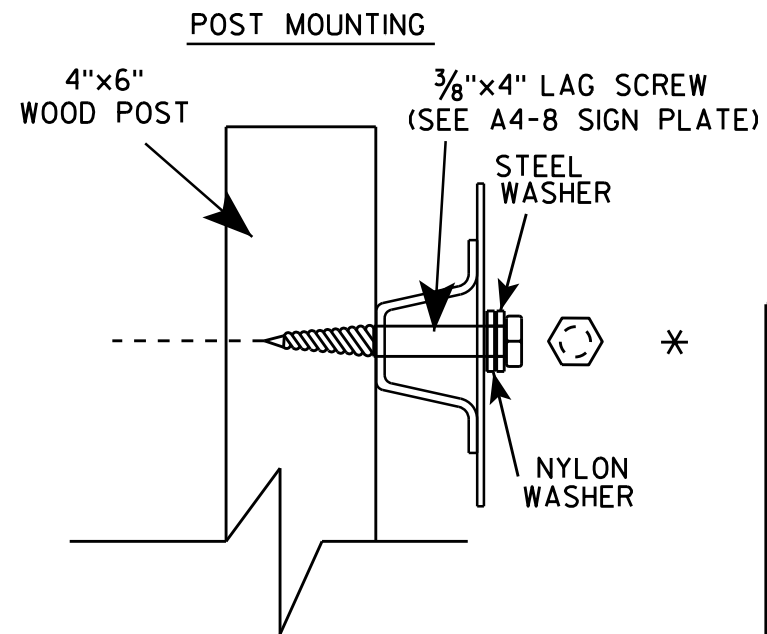
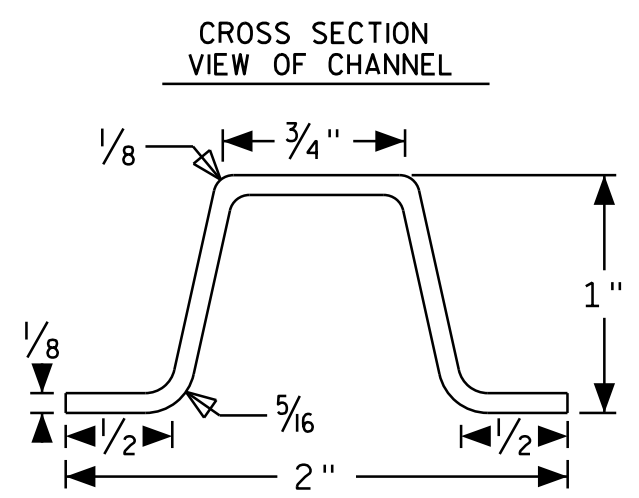
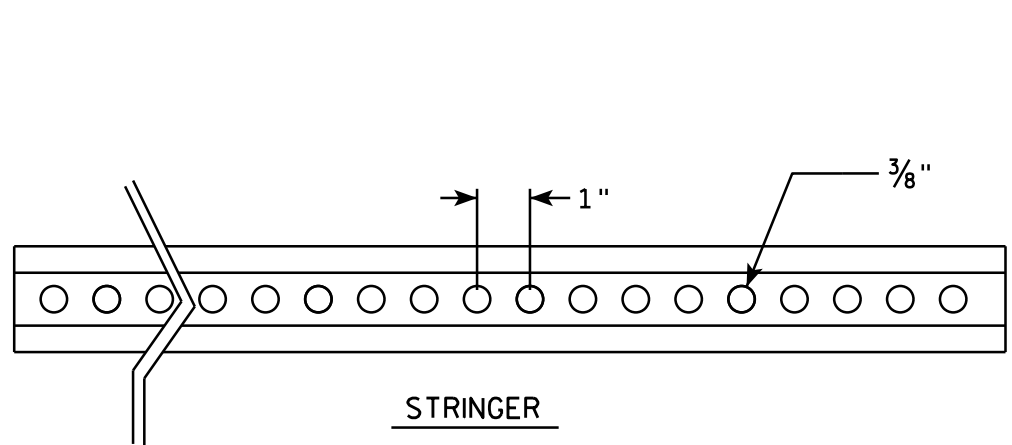


### GENERAL NOTES

- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE  $\frac{7}{16}$ " DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16 $\frac{1}{2}$ " 33 $\frac{1}{2}$ " 50 $\frac{1}{2}$ " 67 $\frac{1}{2}$ "
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19 $\frac{1}{2}$ " 38 $\frac{1}{2}$ " 57 $\frac{1}{2}$ " 76 $\frac{1}{2}$ "
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22 $\frac{1}{2}$ " 43 $\frac{1}{2}$ " 64 $\frac{1}{2}$ " 85 $\frac{1}{2}$ "
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

7



7

**SIGN STRINGER MOUNTING REQUIREMENTS**

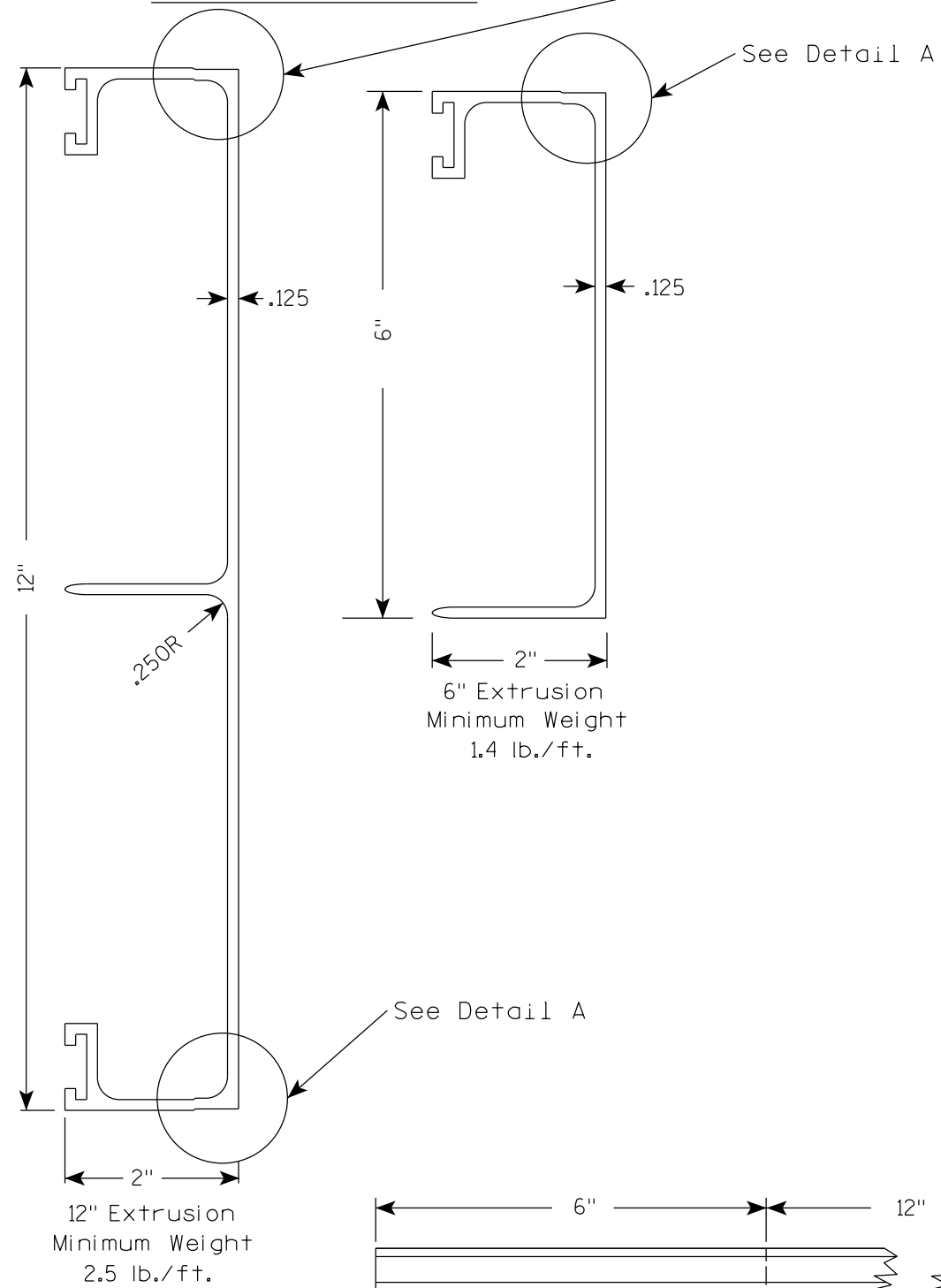
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/26/16 PLATE NO. A4-18.1

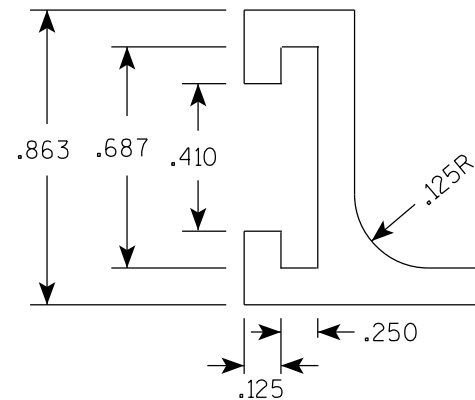
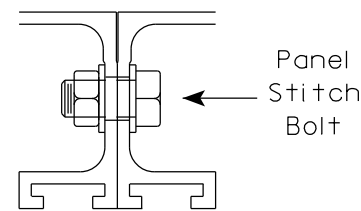
Extruded Shape

Hardware



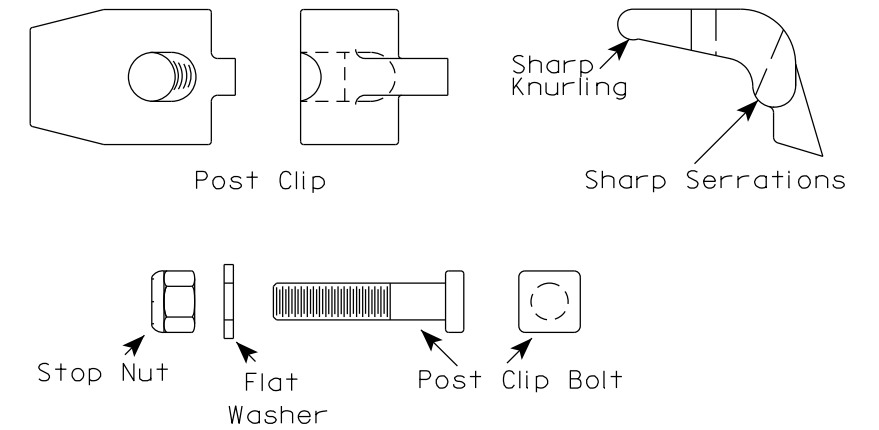
STITCH BOLT, WASHER & NUT

The hardware includes:  
 3/8" - 16 X 3/4" Economy Bolt 2024-T4 alloy  
 3/8" - Stainless steel stop nut  
 3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



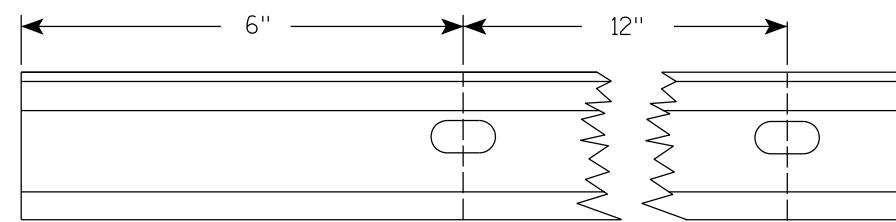
POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6  
 Post Clip Bolt shall be Stainless Steel.  
 Flat washer shall be 3/8" X .091, Stainless Steel.  
 Stop nut shall be stainless steel.

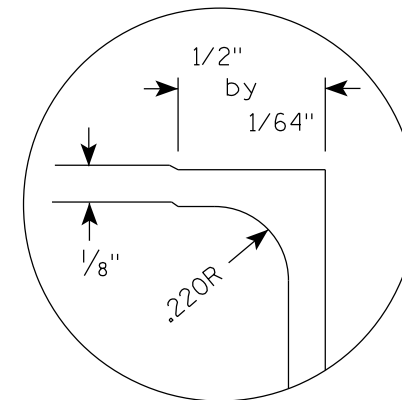


NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.



Punch 7/16" x 7/8" ovalholes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.



DETAIL A (EDGE WRAP JOINT)

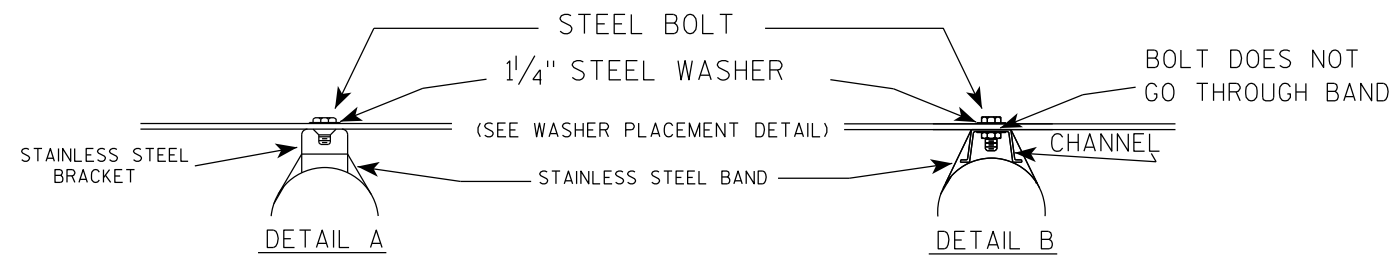
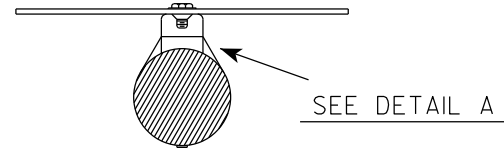
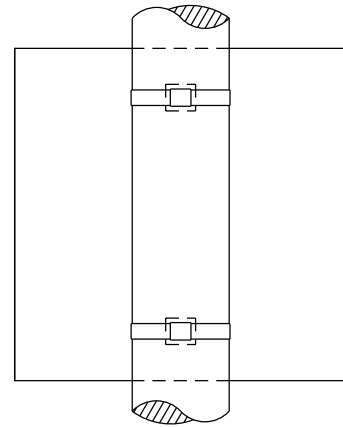
ALUMINUM EXTRUSIONS FOR  
TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
 For State Traffic Engineer  
 DATE 1/07/20 PLATE NO. A5-2.10

# BANDING

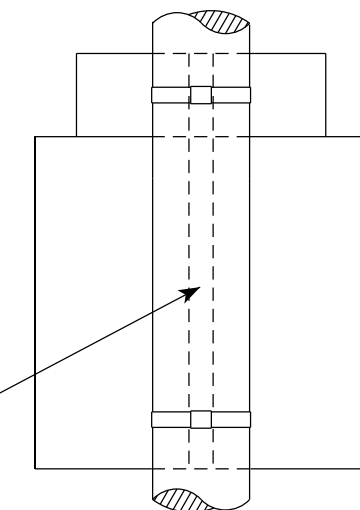
SINGLE SIGN



## 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 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

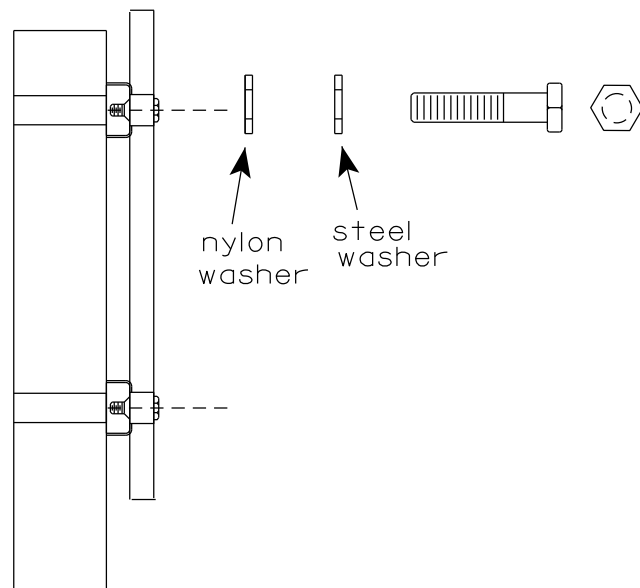
"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



WASHER PLACEMENT



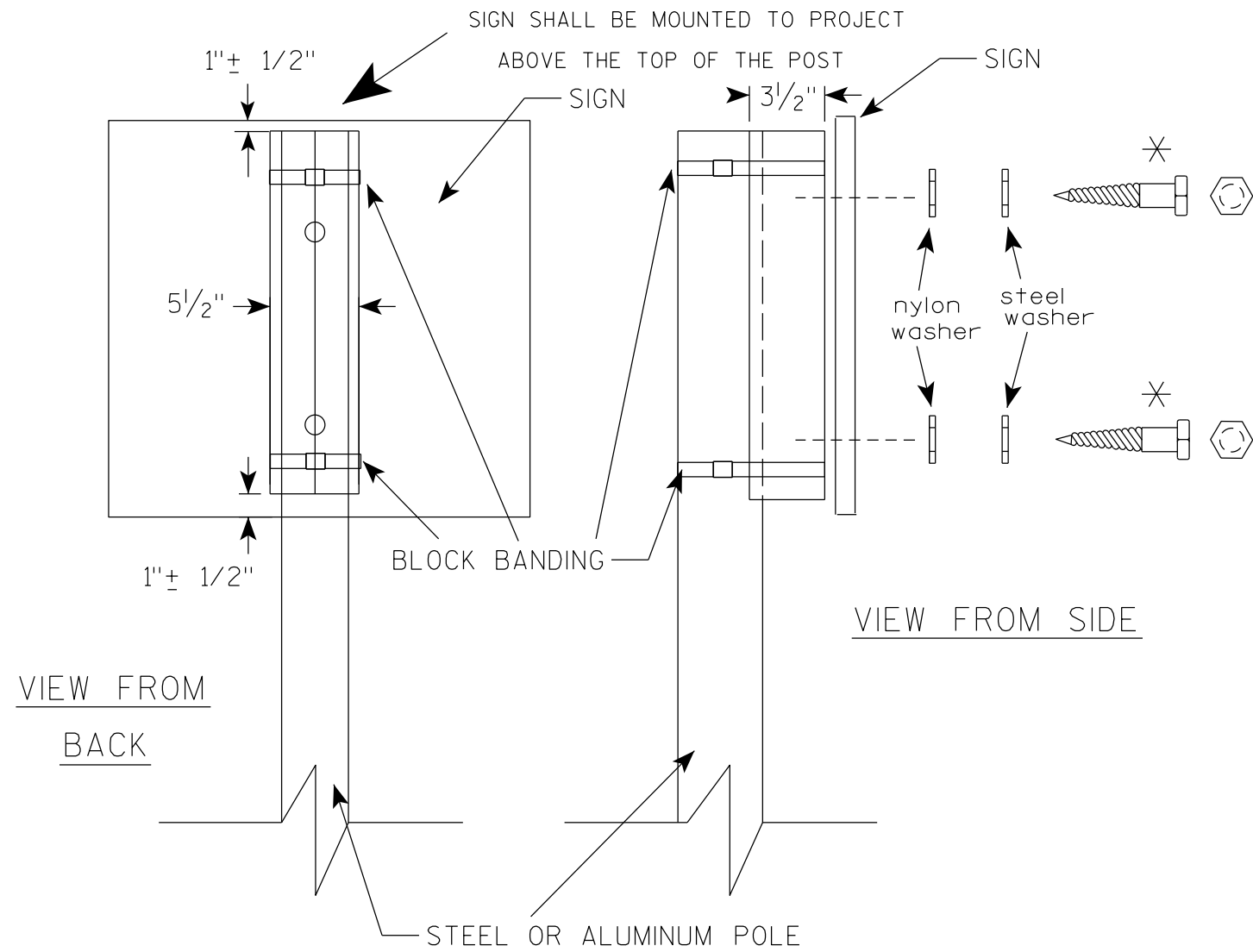
WASHERS (ALL POSTS) -  
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

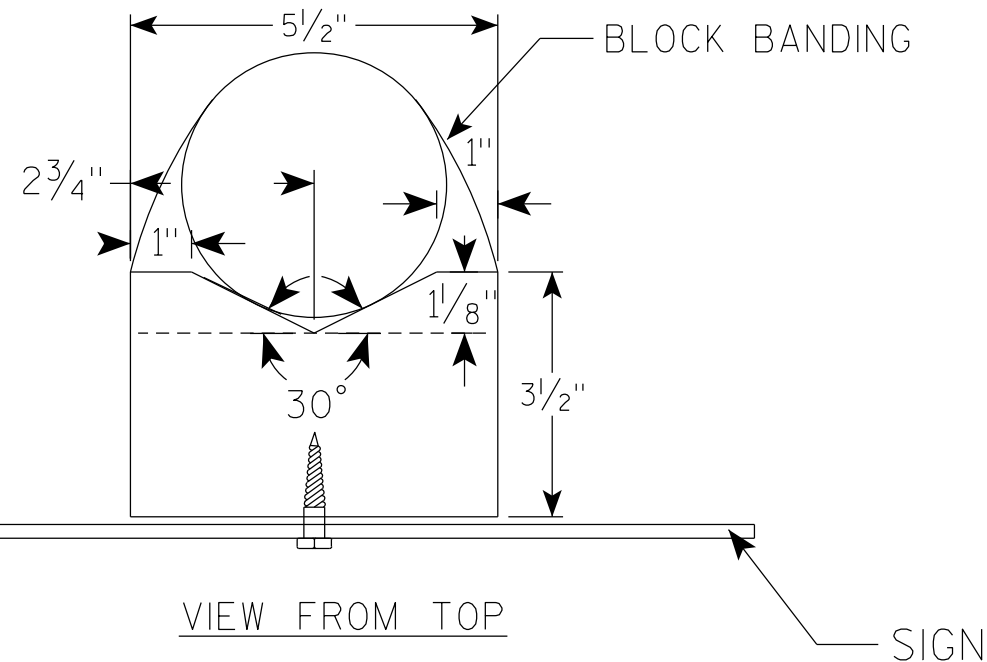
DATE 6/10/19 PLATE NO. A5-9.4



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, 3/4" 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 NORMALLY 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 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

\* LAG BOLTS SHALL BE 3/8" X 2 1/2"



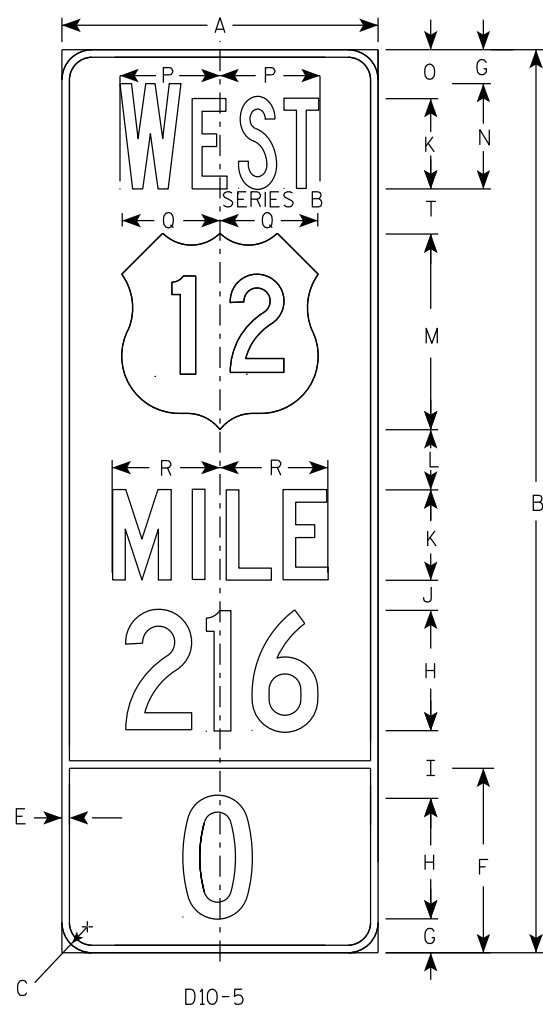
BLOCK BANDING DETAIL  
( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

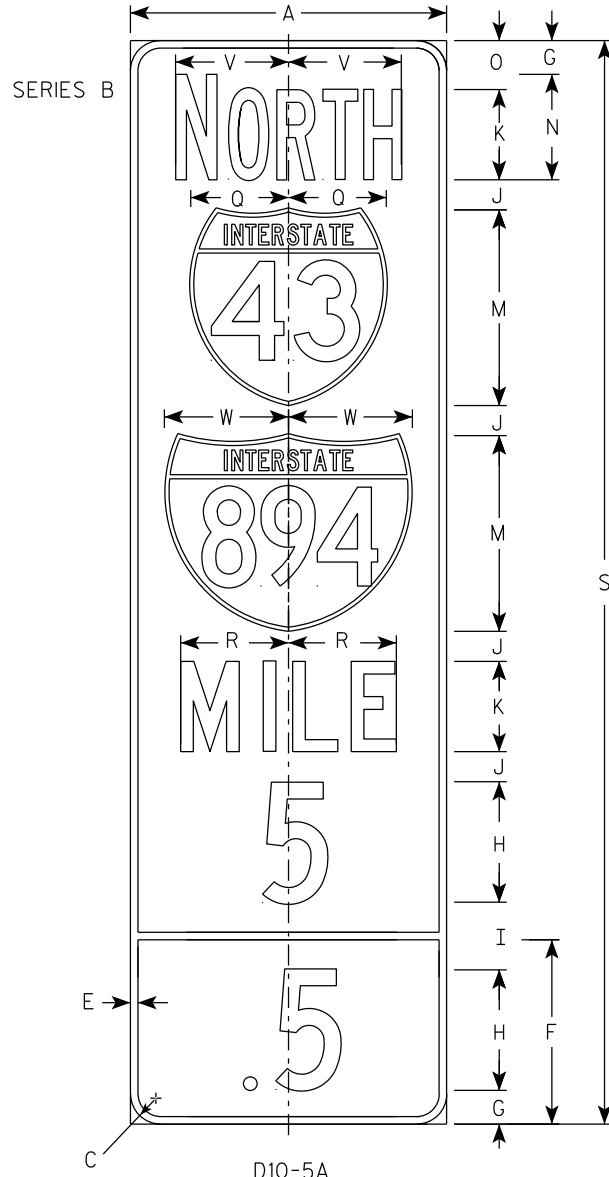
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

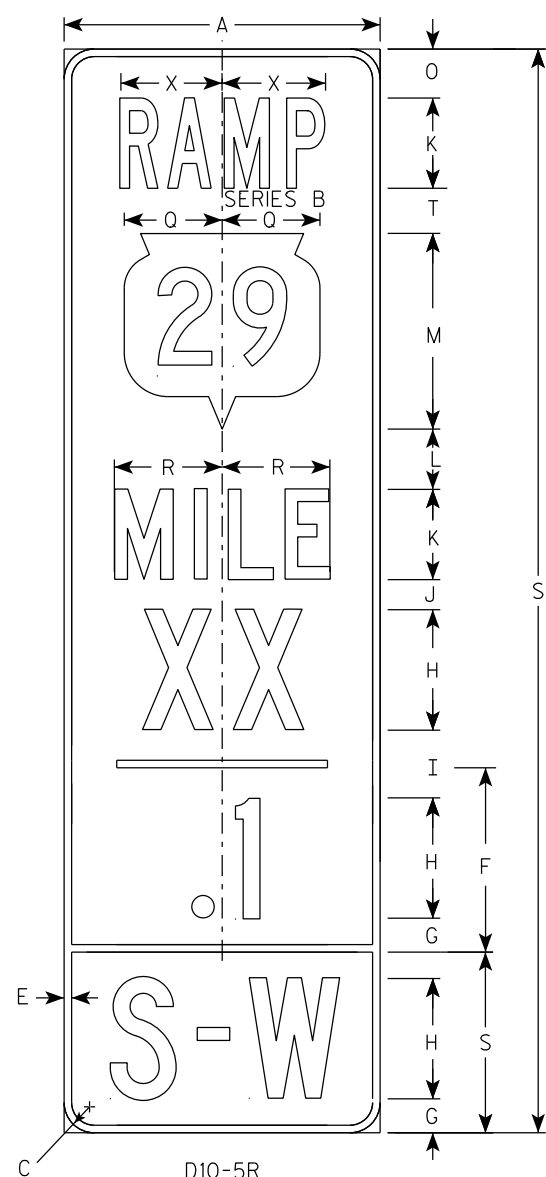




D10-5



D10-5A



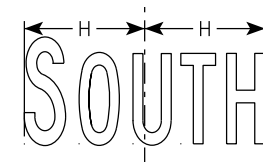
D10-5R

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - BLUE  
Message - WHITE
3. Interstate Shield Color  
Background - Top Red  
- Bottom Blue  
Message - White
4. Message Series - C or as noted on the Sign.
5. The decimal point is required for all digits except "0".
6. Optically adjust mileage numbers about the centerline of the sign to achieve proper balance.
7. Optically adjust Ramp direction letters about the centerline of the sign to achieve proper balance.



SERIES B



SERIES B

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	D10-5 Area sq. ft.	D10-5A Area sq. ft.	D10-5R Area sq. ft.
1																													
2																													
3																													
4	21	60	1 1/2		1/2	12 1/4	2 1/4	8	4 1/2	2	6	4	13	6 5/8	3 1/4	7	6 1/2	7 1/8	72	3		7 1/2	8 1/4	6 3/4			8.75	10.5	10.5
5	21	60	1 1/2		1/2	12 1/4	2 1/4	8	4 1/2	2	6	4	13	6 5/8	3 1/4	7	6 1/2	7 1/8	72	3		7 1/2	8 1/4	6 3/4			8.75	10.5	10.5

STANDARD SIGN  
D10-5

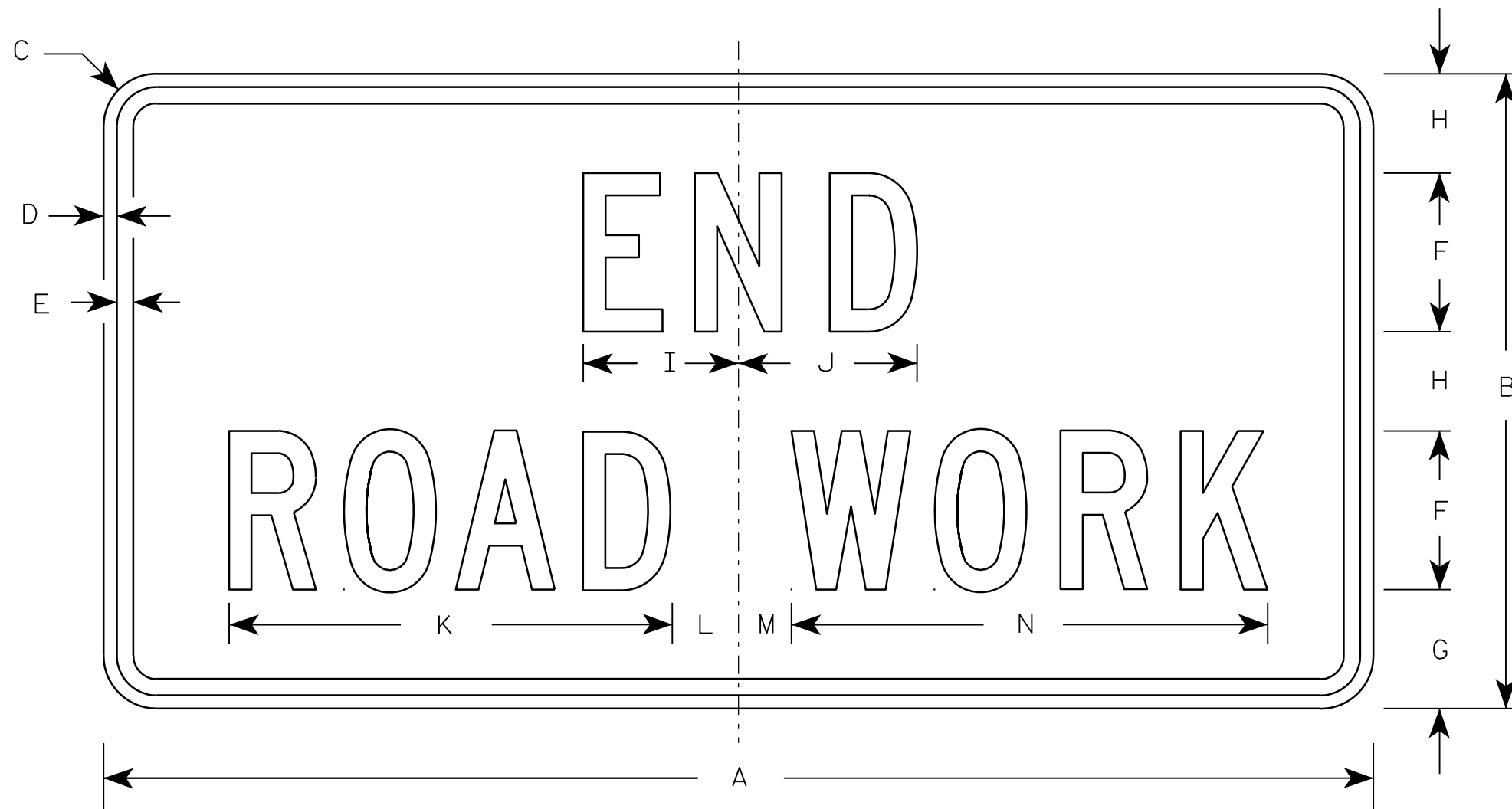
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 7/11/18 PLATE NO. D10-5.3

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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.



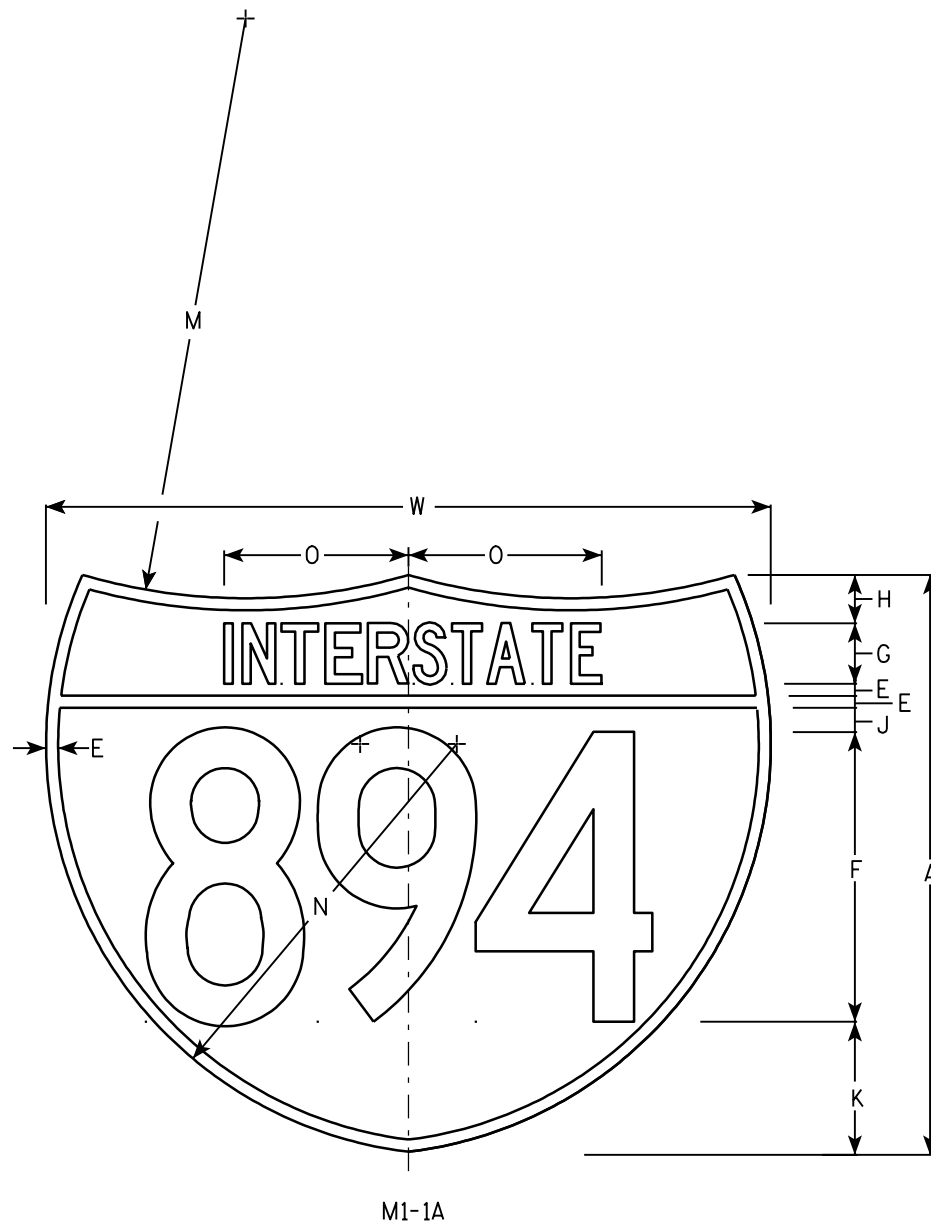
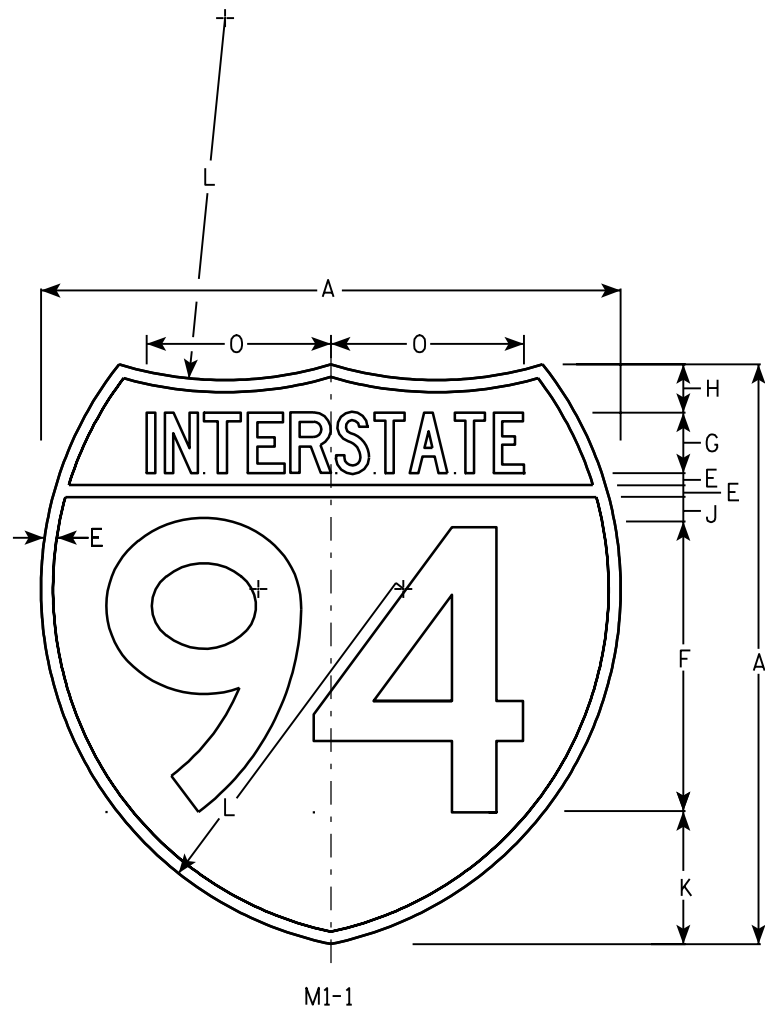
G20-2A

Metric equivalent  
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

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.	Area sq.
1	36	18	1 1/8	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	0.41
2	48	24	1 1/2	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	0.72
3	48	24	1 1/2	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	0.72
4	48	24	1 1/2	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	0.72
5	48	24	1 1/2	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	0.72

STANDARD SIGN G20-2A	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/30/09	PLATE NO. G20-2A.8



NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Top Red - Bottom Blue (See Note 6)  
Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & adjust spacing as per plate A10-1.
5. M1-1 - Numerals - D  
Interstate - C  
M1-1A - All copy - C
6. Permanent Signs  
Message - Type H Reflective  
Detour or other temporary signs  
Background - Reflective  
Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

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.	M1-1 Area m <sup>2</sup>	M1-1A Area m <sup>2</sup>	
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	.36	.46
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	.81	1.05
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	.81	1.05
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	.81	1.05

INTERSTATE ROUTE MARKER  
M1-1 FOR ASSEMBLIES

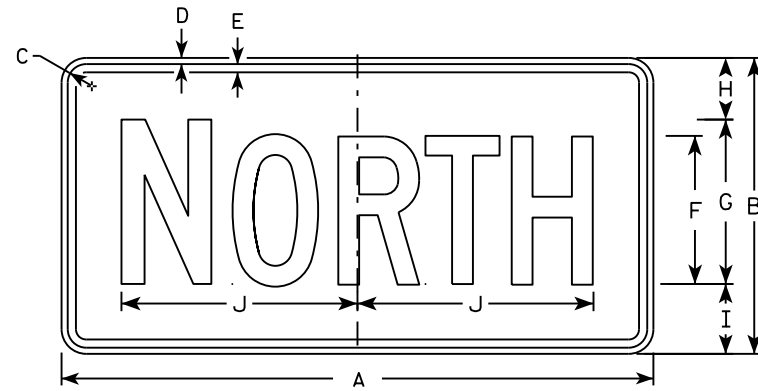
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
for State Traffic Engineer

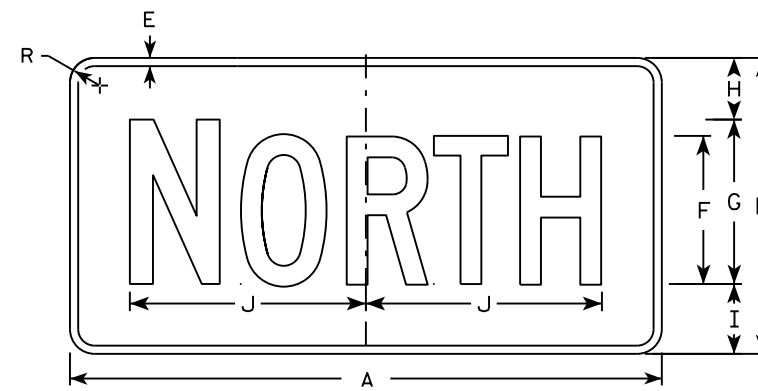
DATE 08/23/05 PLATE NO. M1-1.8

NOTES

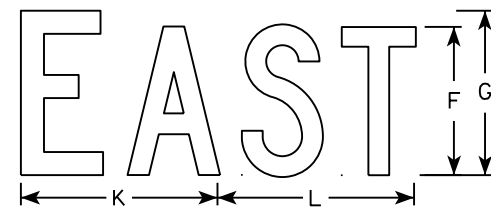
- All Signs Type II - Type H
- Color:
  - Background - See note 5
  - Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M3-1 thru M3-4 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
- Note the first letter of each direction is larger than the remainder of the message.



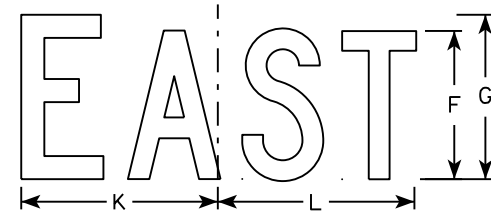
M3-1  
MM3-1  
MP3-1



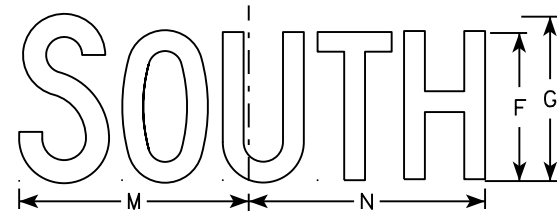
MB3-1  
MK3-1  
MN3-1



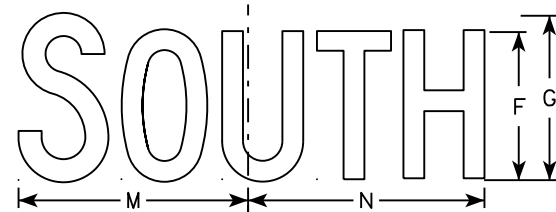
M3-2  
MM3-2  
MP3-2



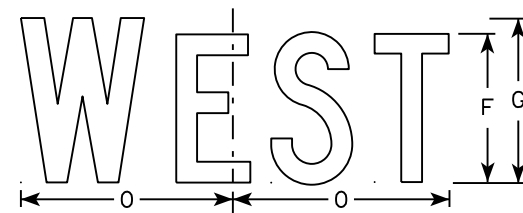
MB3-2  
MK3-2  
MN3-2



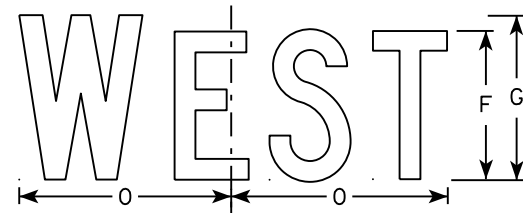
M3-3  
MM3-3  
MP3-3



MB3-3  
MK3-3  
MN3-3



M3-4  
MM3-4  
MP3-4



MB3-4  
MK3-4  
MN3-4

7

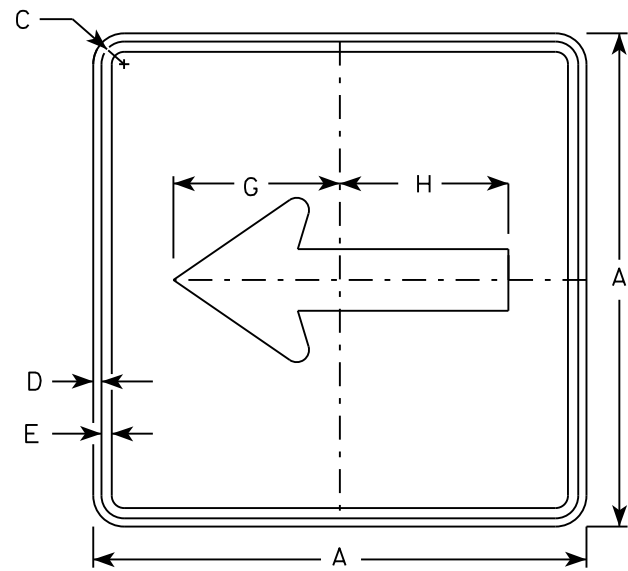
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS  
M3-1 thru M3-4  
SERIES

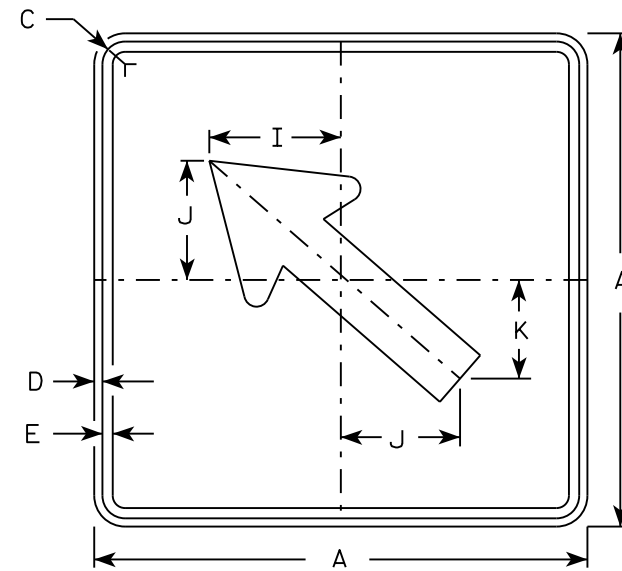
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

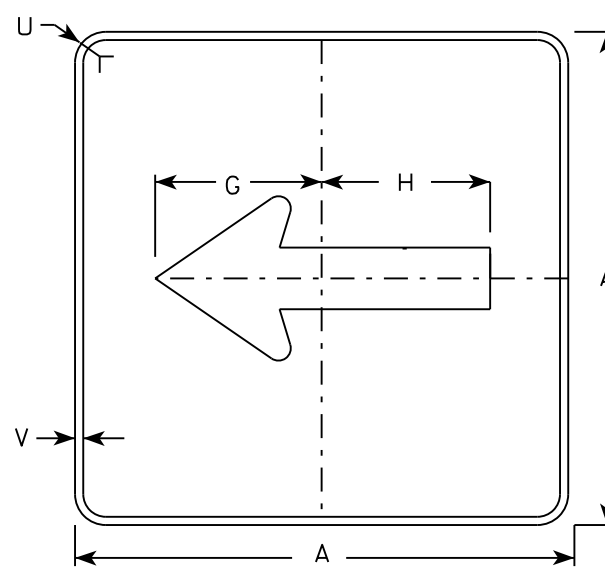
DATE 10/15/15 PLATE NO. M3-1.14



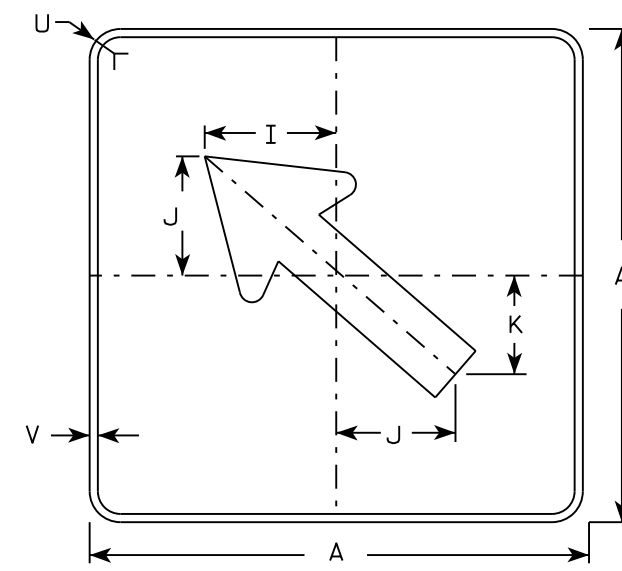
M6-1  
MM6-1  
M06-1  
MP6-1



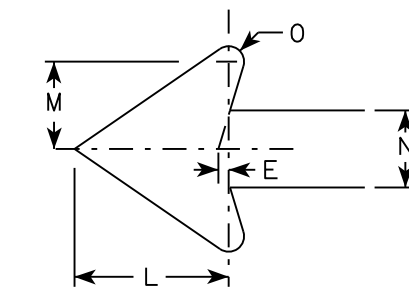
M6-2  
MM6-2  
M06-2  
MP6-2



MB6-1  
MK6-1  
MN6-1  
MR6-1



MB6-2  
MK6-2  
MN6-2  
MR6-2



NOTES

- Signs are Type II - Type H except as Shown
- Color:  
Background - See note 4  
Message - See note 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.
- M6-1 and M6-2 Background - White  
Message - Black  
MB6-1 and MB6-2 Background - Blue  
Message - White  
MK6-1 and MK6-2 Background - Green  
Message - White  
MM6-1 and MM6-2 Background - White  
Message - Green  
MN6-1 and MN6-2 Background - Brown  
Message - White  
M06-1 and M06-2 Background - Orange - Type F Reflective  
Message - Black  
MP6-1 and MP6-2 Background - White  
Message - Blue  
MR6-1 and MR6-2 Background - Brown  
Message - Yellow

7

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	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1 1/2	1/2				3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1 7/8	1/2				6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1 7/8	1/2				6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1 7/8	1/2				6.25

STANDARD SIGN  
M6-1 & M6-2  
SERIES

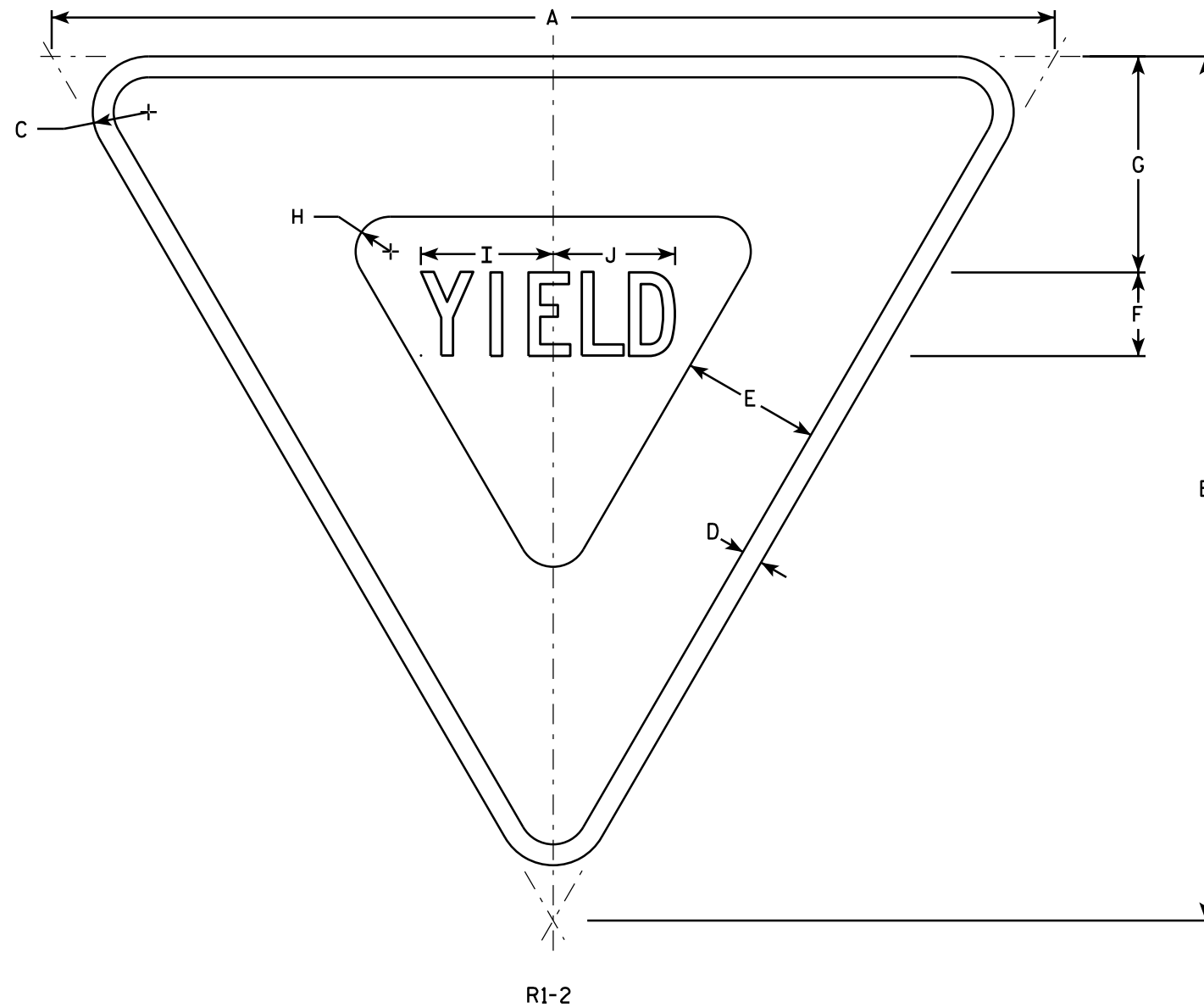
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
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. The border strip and word message are reflectorized red.



7

7

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	1 1/2	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

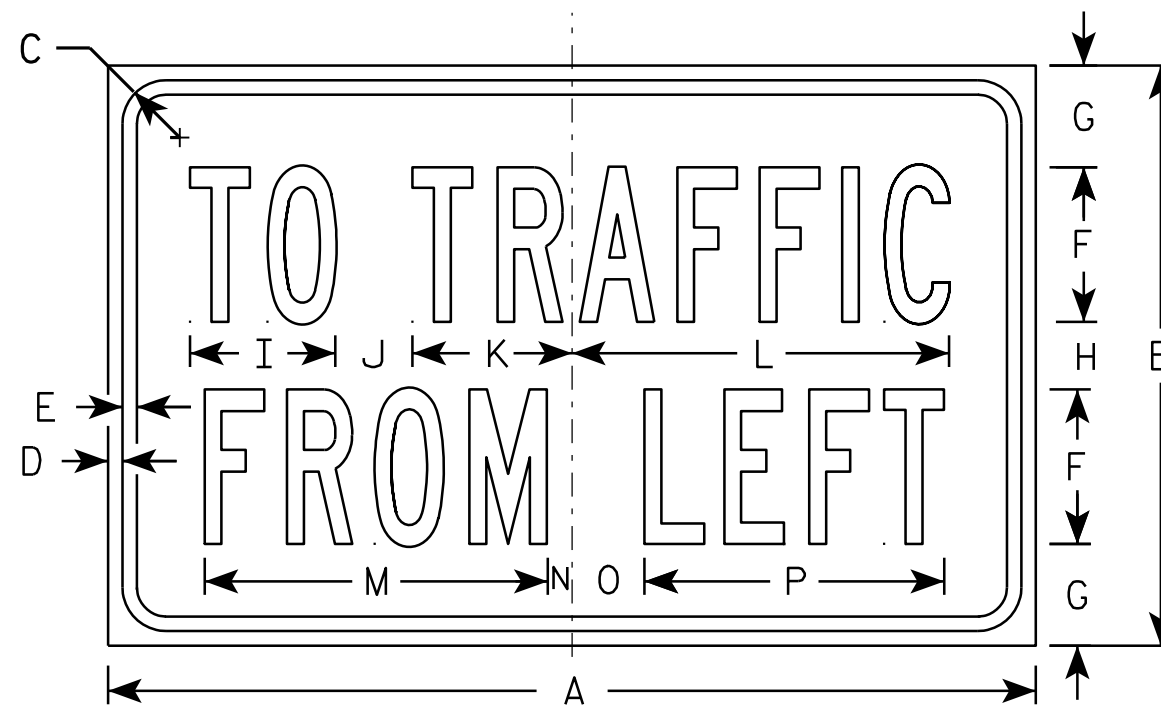
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/13/14 PLATE NO. R1-2.12

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - B



R1-54

7

7

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	15	1 1/8	3/8	3/8	4	2 5/8	1 3/4	3 3/4	2	4 1/8	9 3/4	8 7/8	5/8	1 7/8	7 3/4											2.5
2M	24	15	1 1/8	3/8	3/8	4	2 5/8	1 3/4	3 3/4	2	4 1/8	9 3/4	8 7/8	5/8	1 7/8	7 3/4											2.5
3																											
4																											
5																											

STANDARD SIGN  
R1-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-54.2

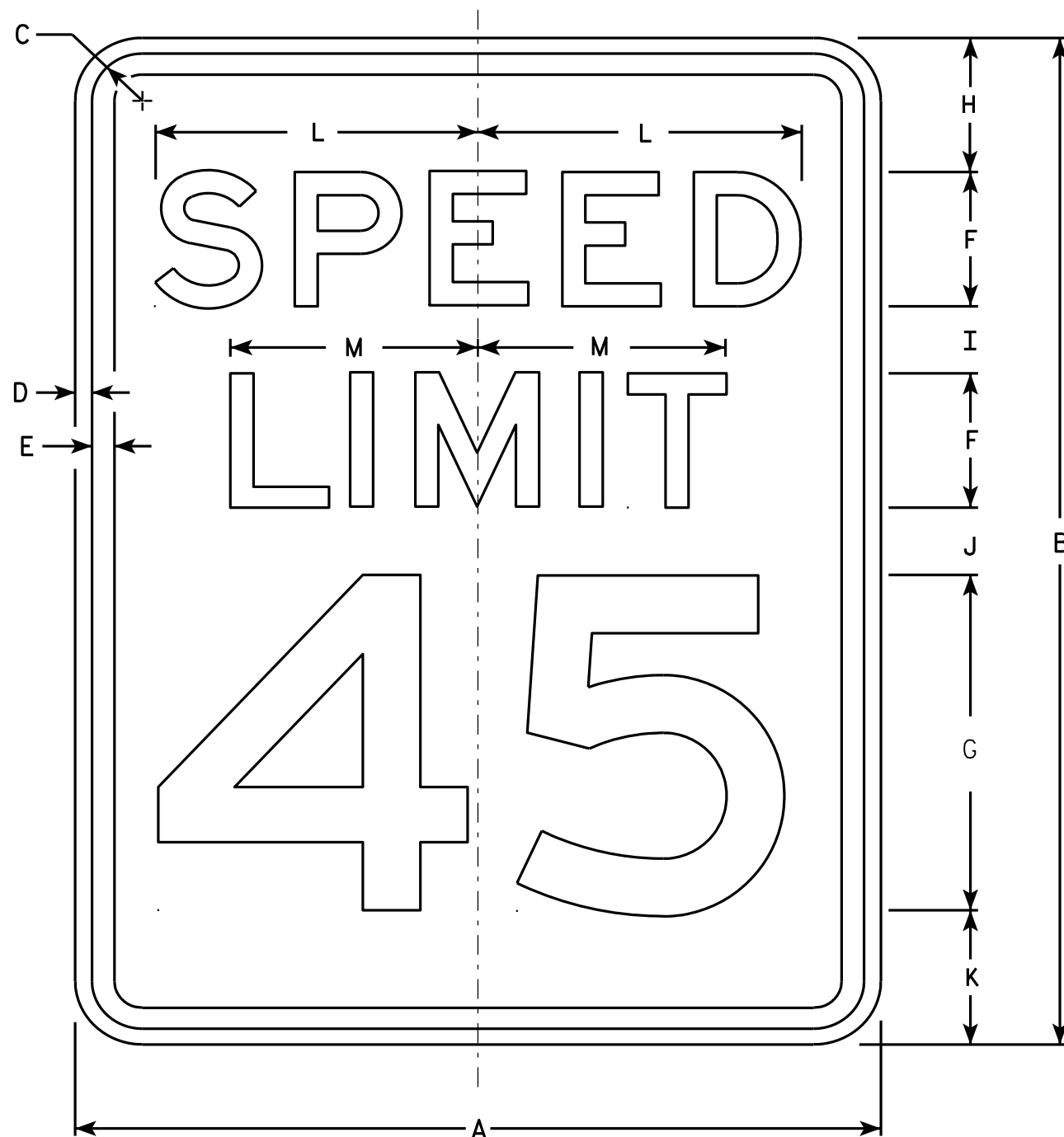
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - E
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 adjust spacing to achieve proper balance.

7

7

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	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN  
R2-1

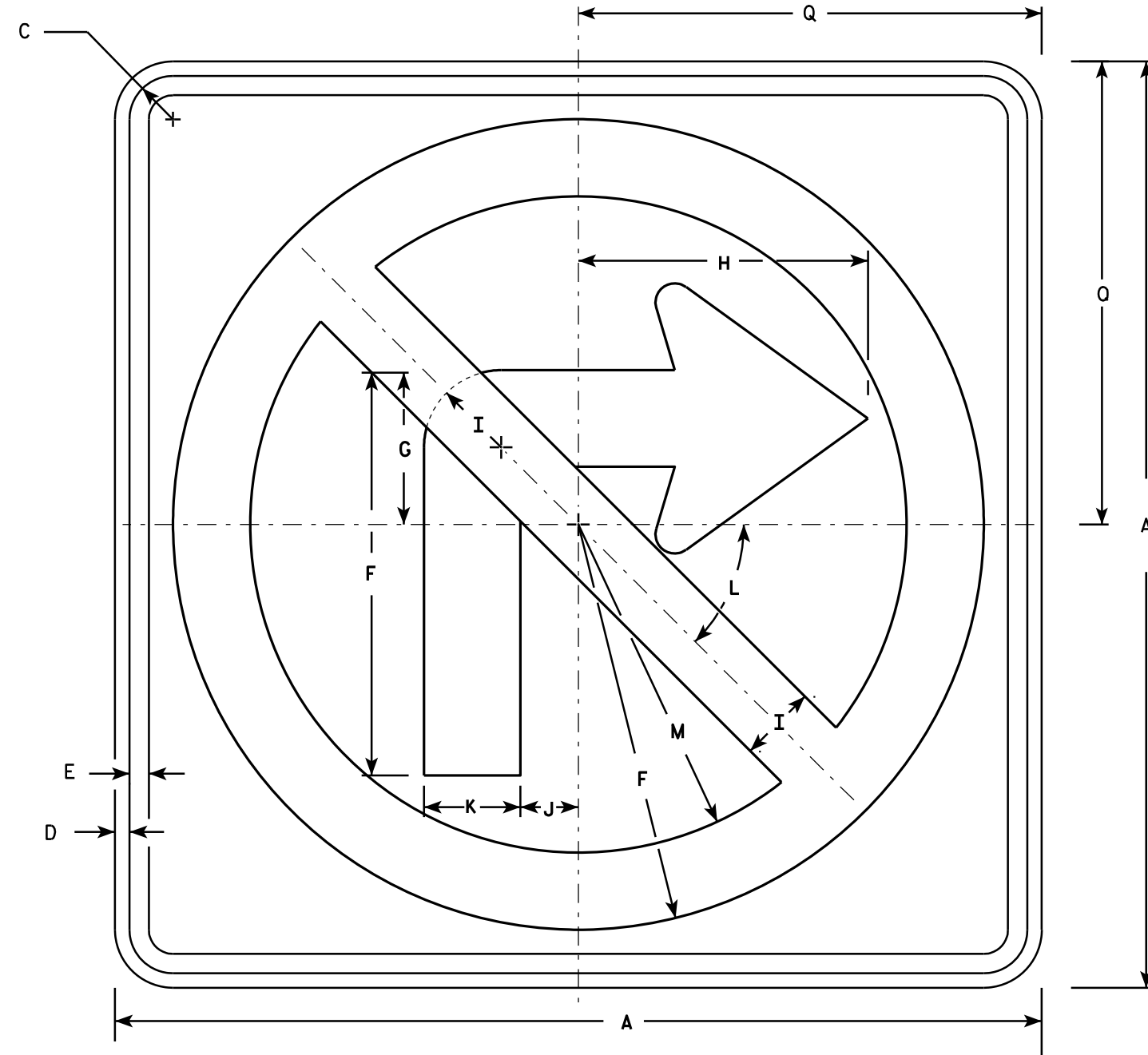
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

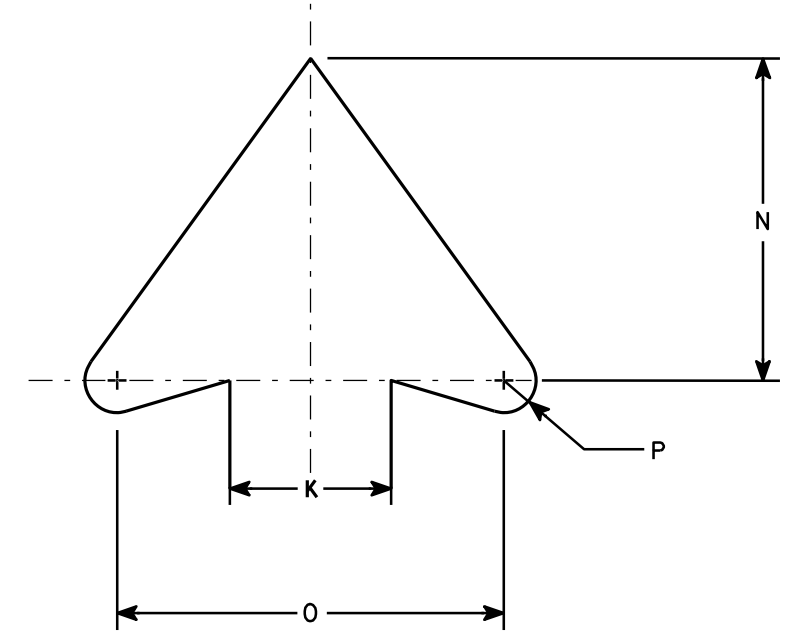




R3-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



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	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

**STANDARD SIGN**  
**R3-1**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sigs are Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D
4. Use appropriate Letter for Sign Code  
Each letter added makes sign wider. Example R3-8EAR
5. Square footage of sign varies by letters

1 Letter = 3.75 sq ft for Size 2  
6.0 sq ft for Size 3  
10.0 sq ft for Size 4 or 5

2 Letters = 7.5 sq ft for Size 2  
12.0 sq ft for Size 3  
20.0 sq ft for Size 4 or 5

3 Letters = 11.25 sq ft for Size 2  
18.0 sq ft for Size 3  
30.0 sq ft for Size 4 or 5

4 Letters = 15.0 sq ft for Size 2  
24.0 sq ft for Size 3  
40.0 sq ft for Size 4 or 5

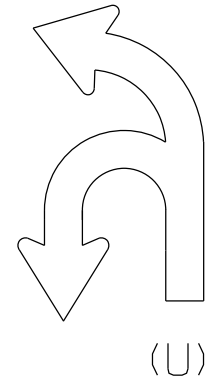
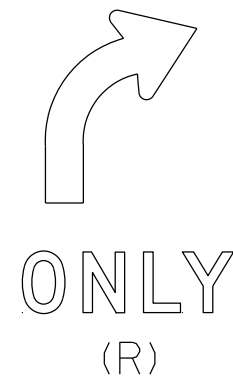
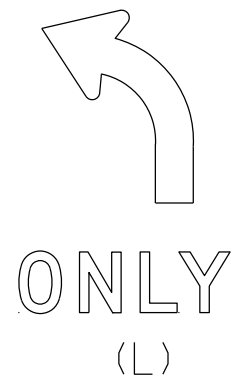
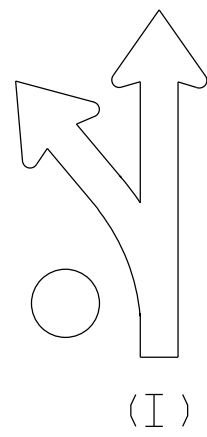
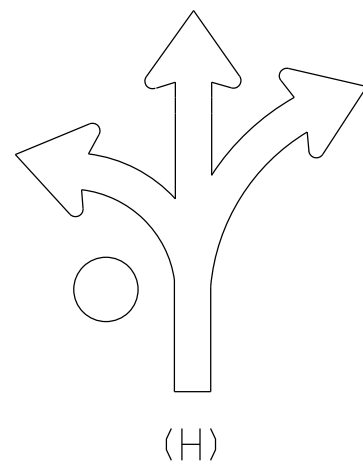
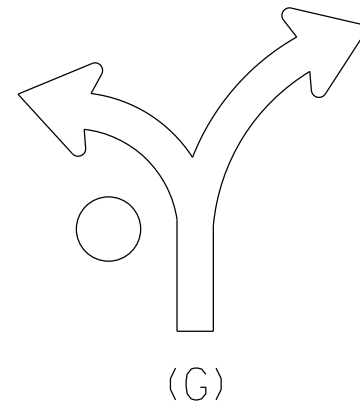
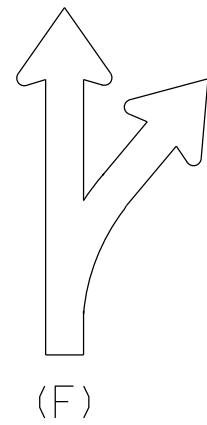
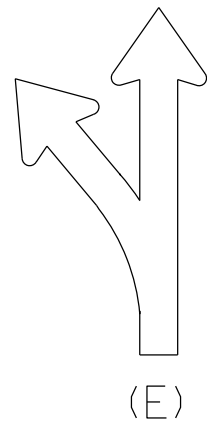
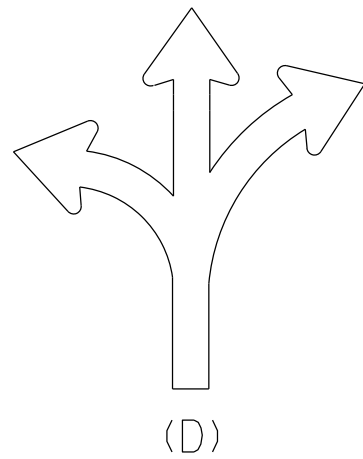
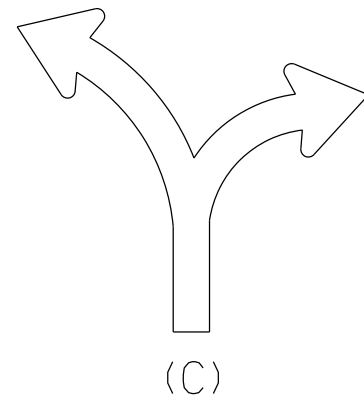
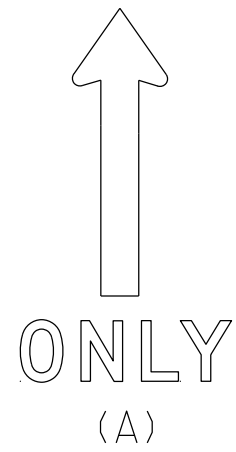
5 Letters = 18.75 sq ft for Size 2  
30.0 sq ft for Size 3  
50.0 sq ft for Size 4 or 5

6 Letters = 22.5 sq ft for Size 2  
36.0 sq ft for Size 3  
60.0 sq ft for Size 4 or 5

6. When letters C,D,G,H are used on the Left or Right end of the sign the Sq.Ft. changes.

Add the amounts when these letters are used:

1.25 sq ft for Size 2  
1.5 sq ft for Size 3  
2.0 sq ft for Size 4 or 5



STANDARD SIGN  
R3-8 Series

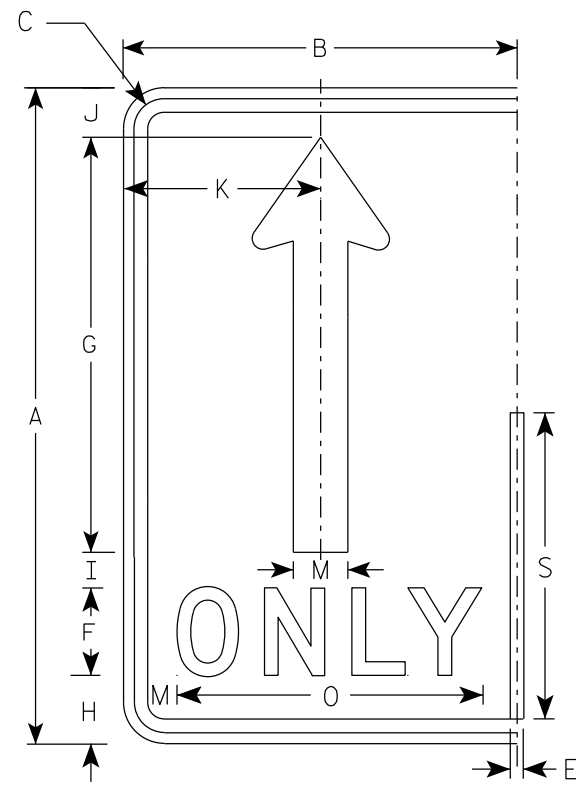
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

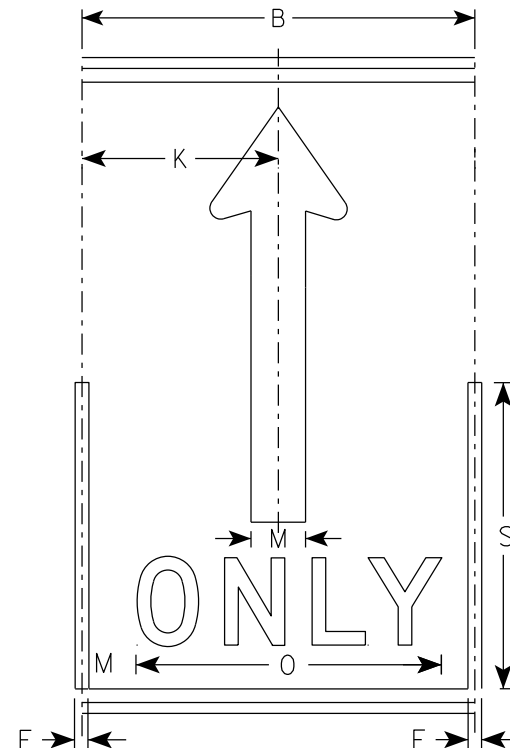
DATE 5/21/19 PLATE NO. R3-8.1

NOTES

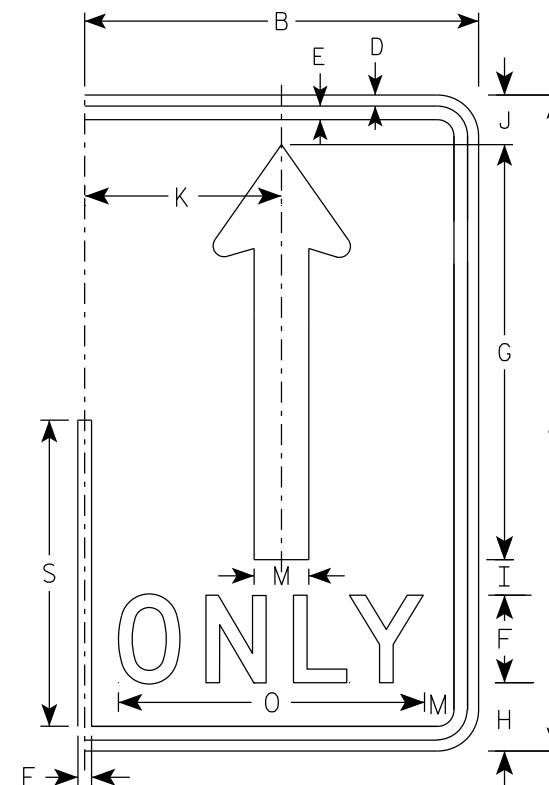
1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D



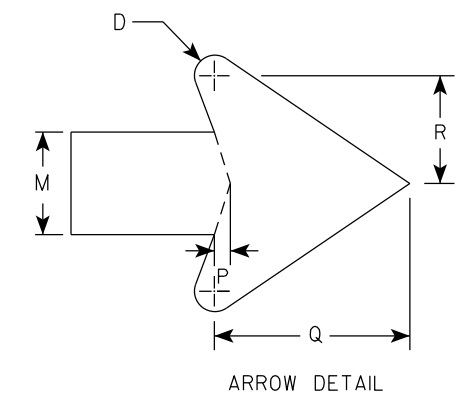
(A)



(A)



(A)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8	5	22 3/4	3 3/4	1 3/4	2 3/4	12		3		17 5/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN  
R3-8 (A) Arrow

WISCONSIN DEPT OF TRANSPORTATION

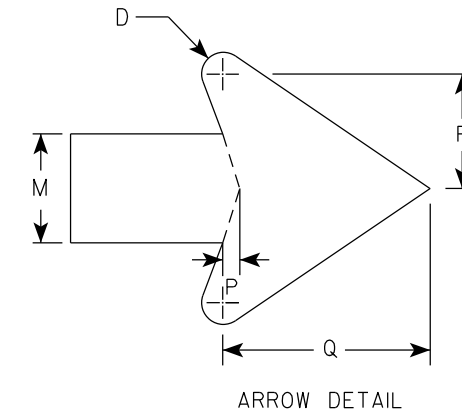
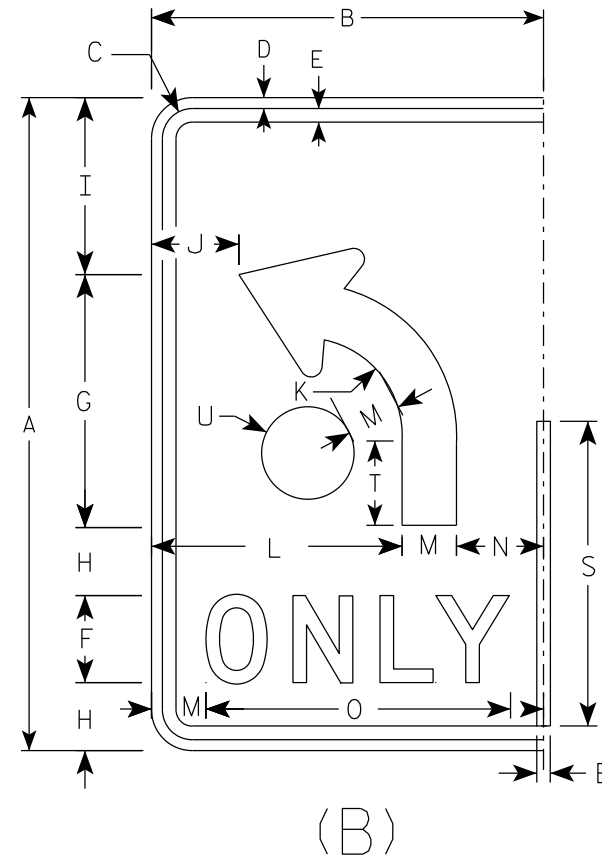
APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
  - Background - White
  - Message - Black
  - Message Series - D



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8	2 1/2						6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0

STANDARD SIGN  
R3-8 (B) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

SHEET NO:

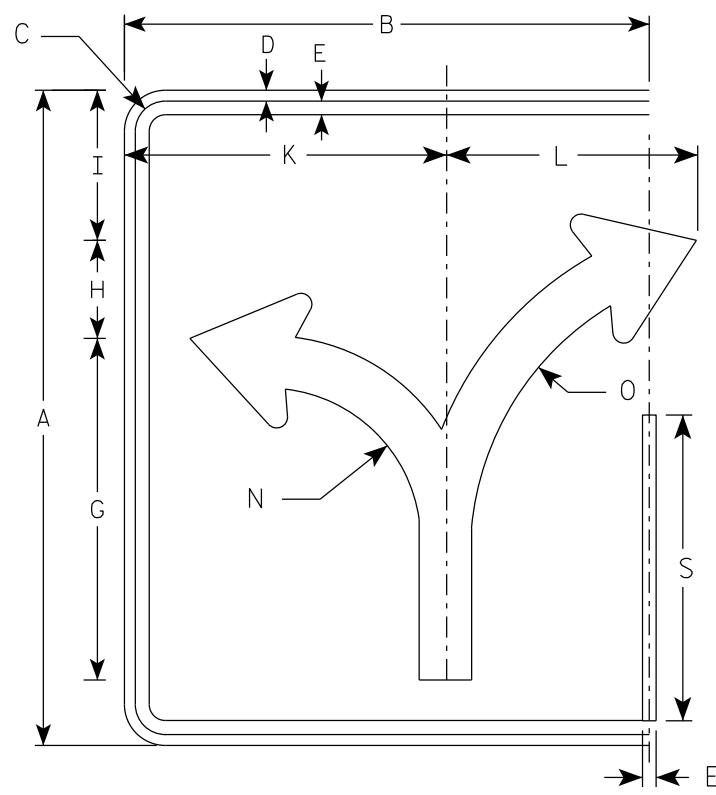
E

7

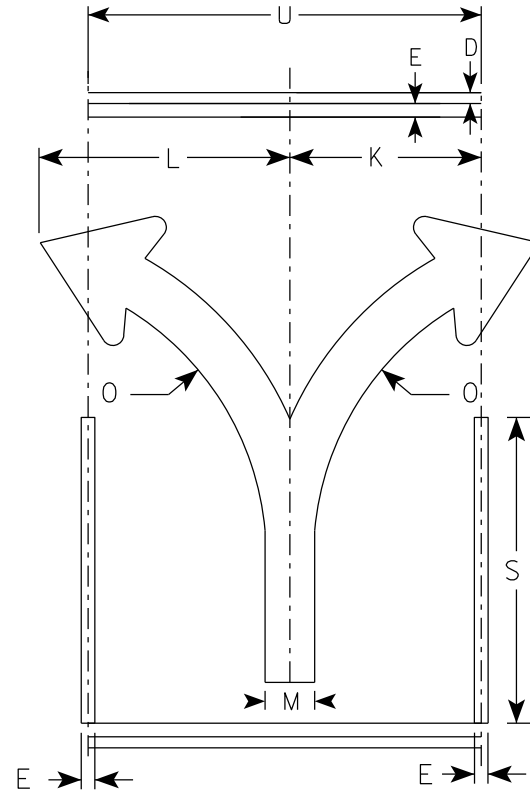
7

NOTES

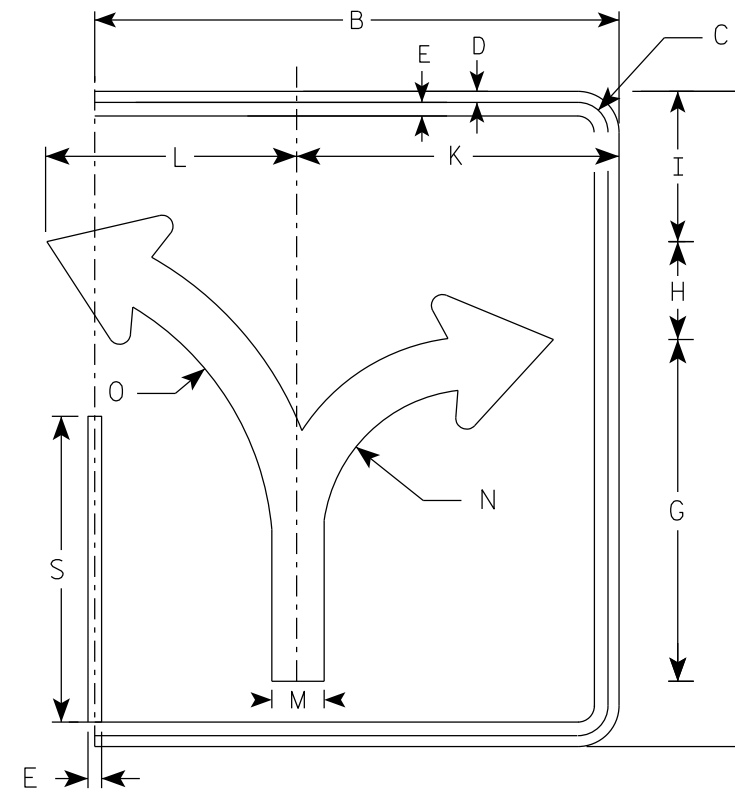
1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



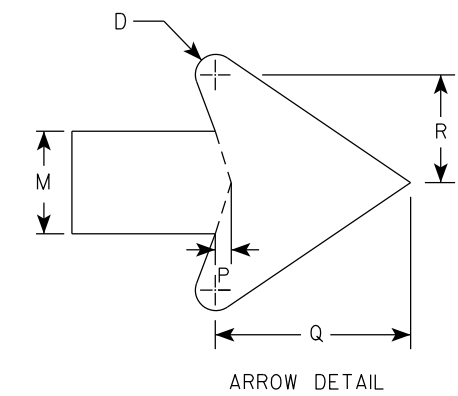
(C)



(C)



(C)



7

7

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	ENDS	MIDDLE
																											Area sq. ft.	Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

STANDARD SIGN  
R3-8 (C) Arrow

WISCONSIN DEPT OF TRANSPORTATION

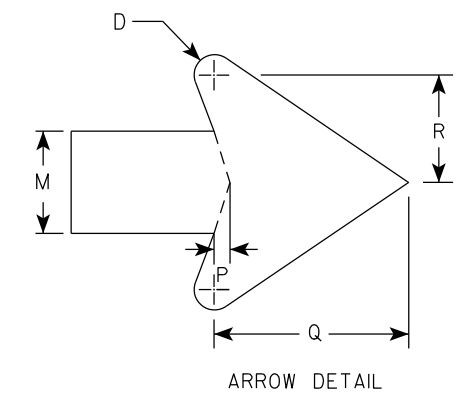
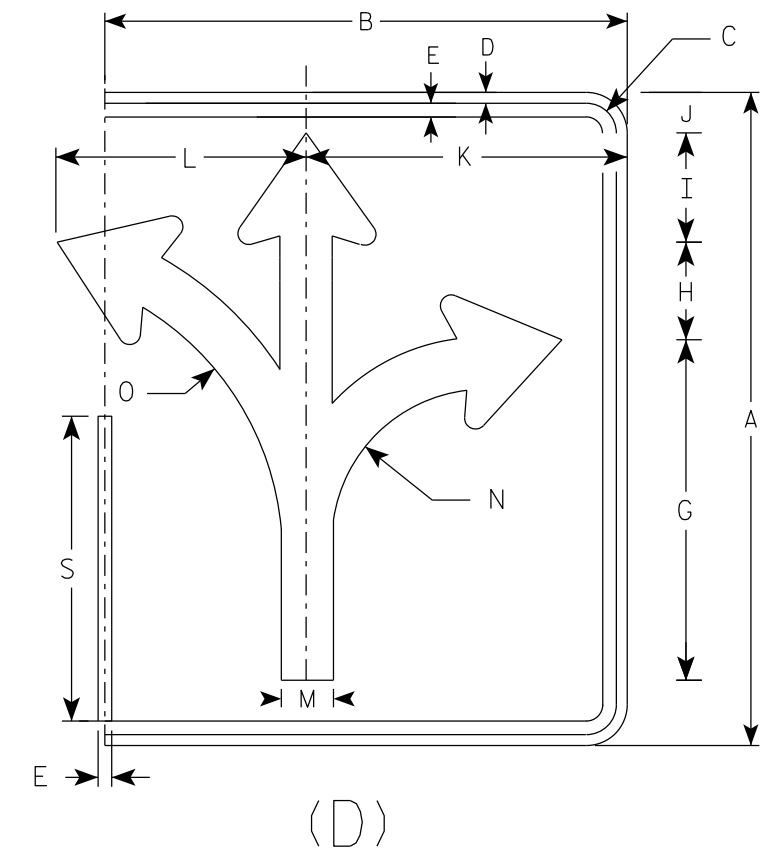
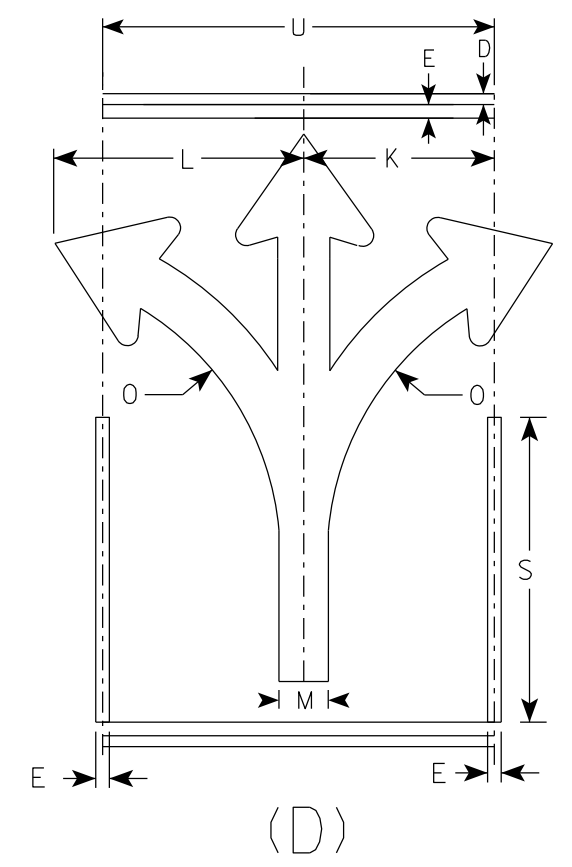
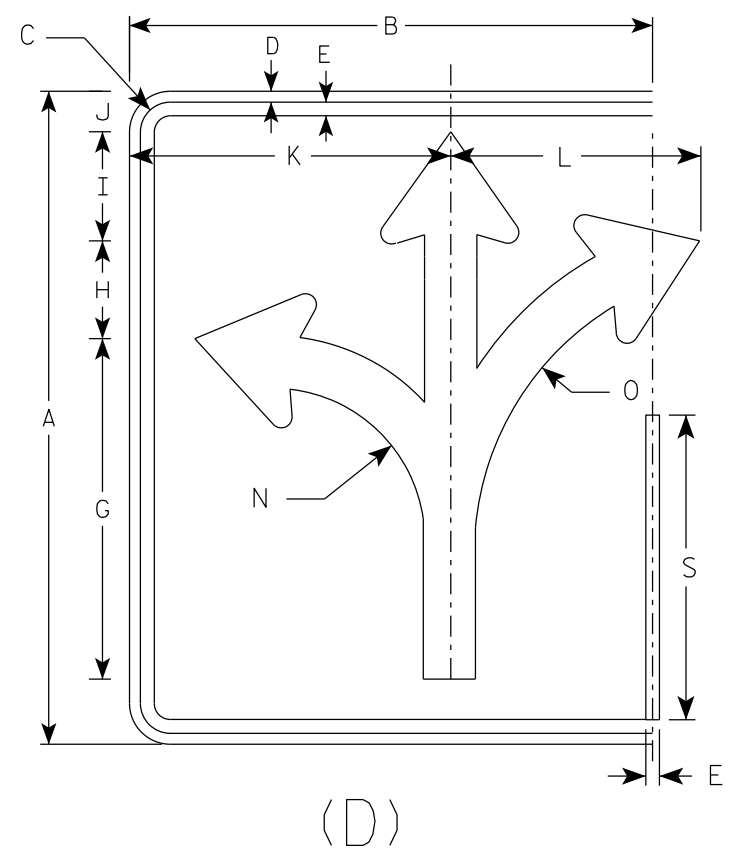
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

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 - None



7

7

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	ENDS	MIDDLE
																											Area sq. ft.	Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18					5.0	3.75	
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	2 1/4	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24					7.5	6.0	
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30					12.0	10.0	
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30					12.0	10.0	

STANDARD SIGN  
R3-8 (D) Arrow

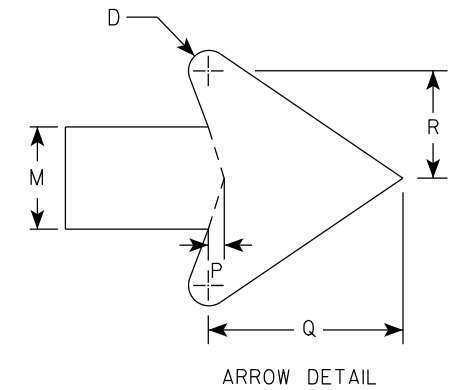
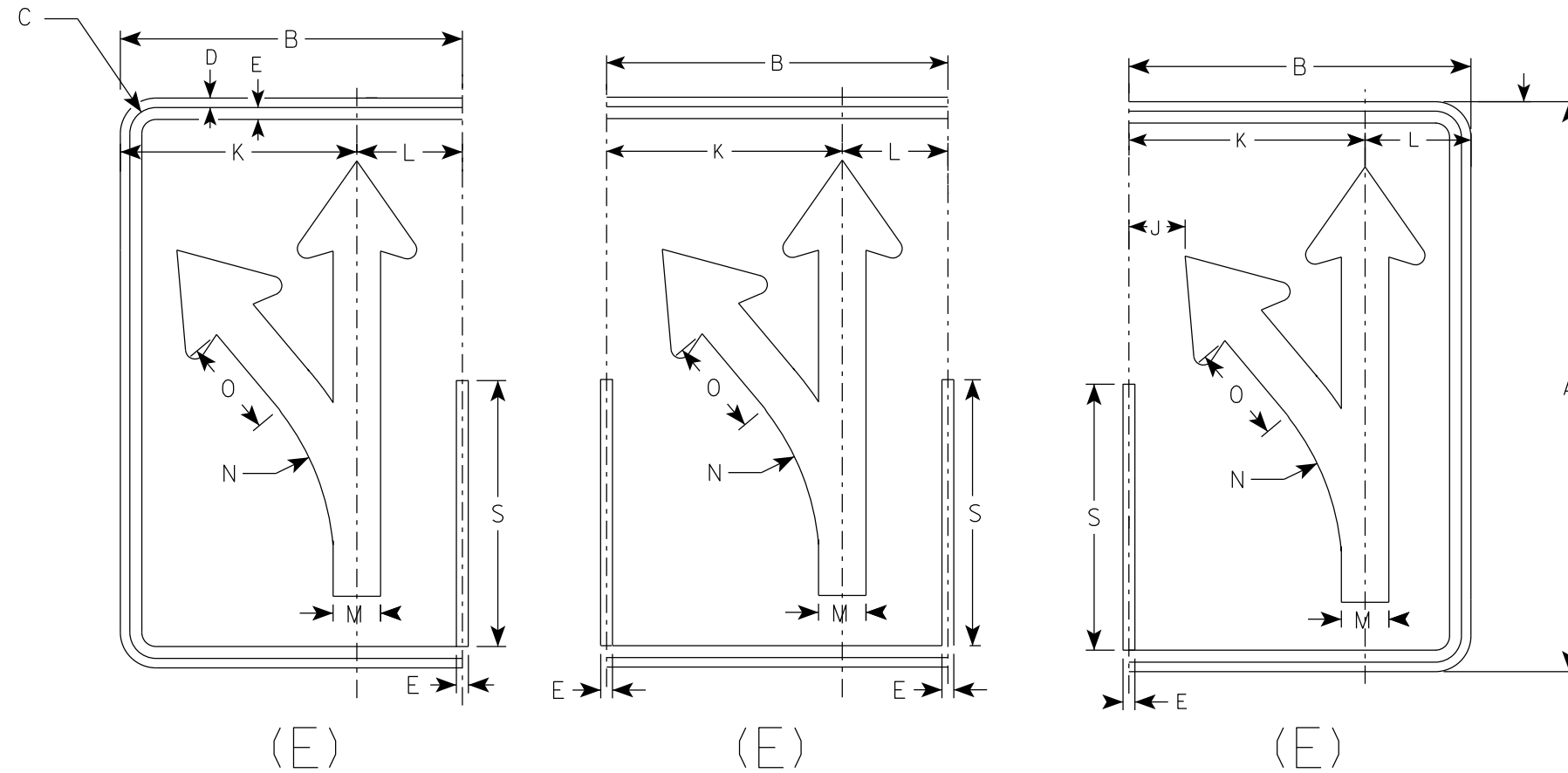
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN  
R3-8 (E) Arrow

WISCONSIN DEPT OF TRANSPORTATION

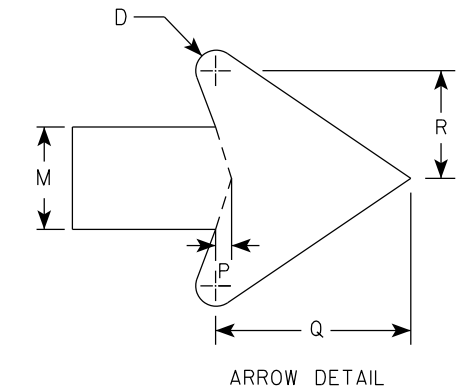
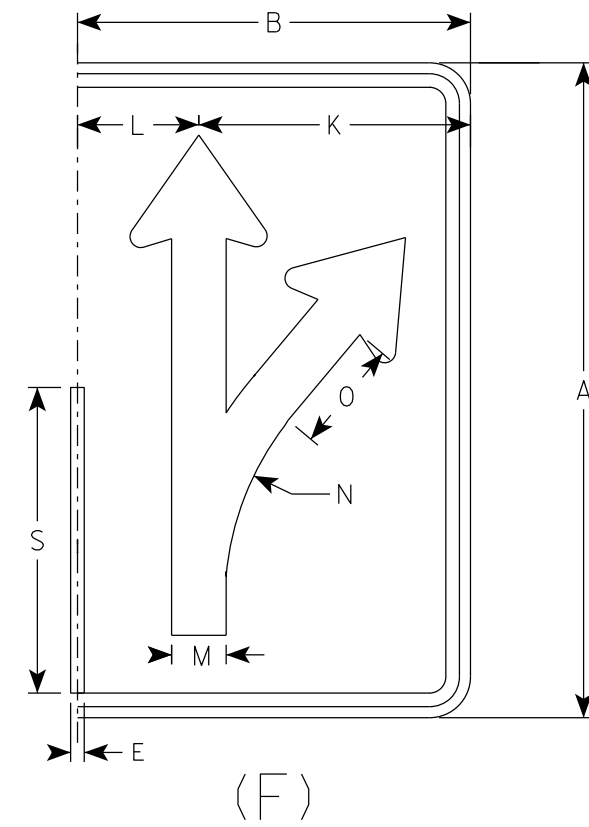
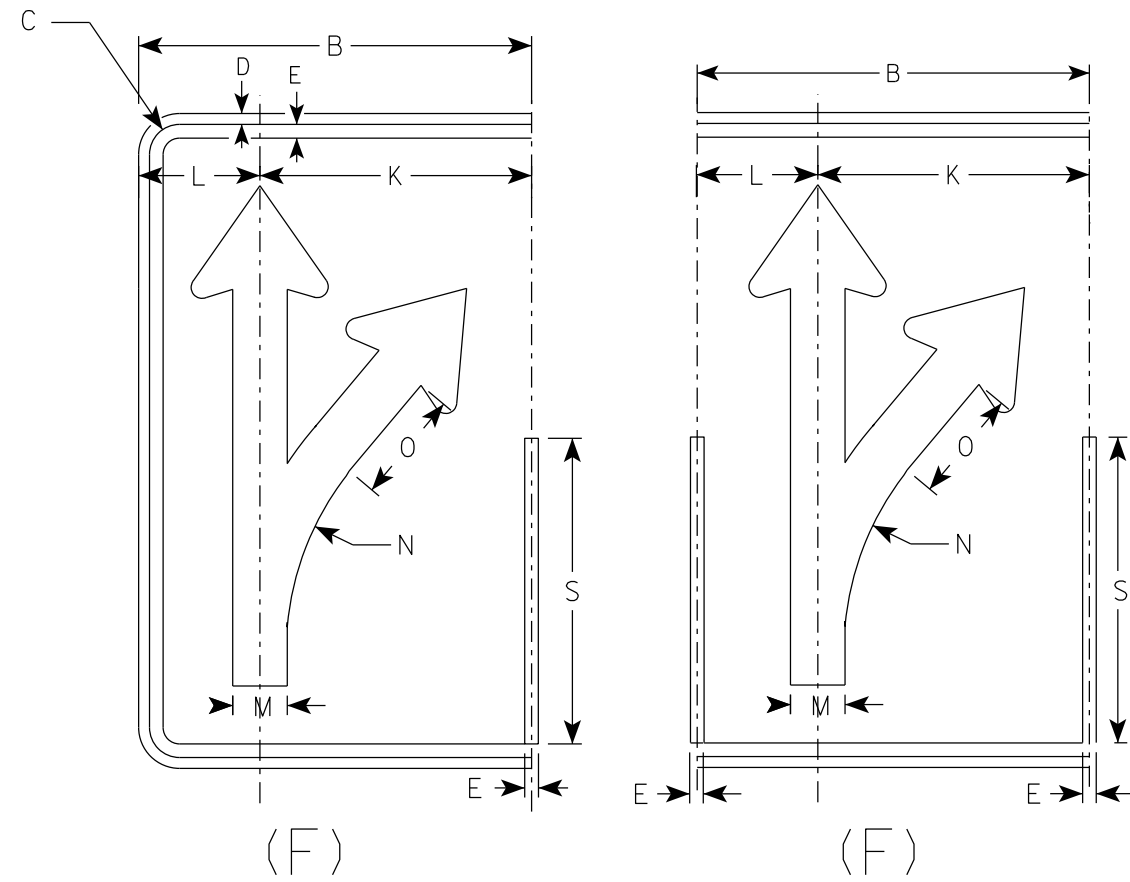
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

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 - None



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN  
R3-8 (F) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

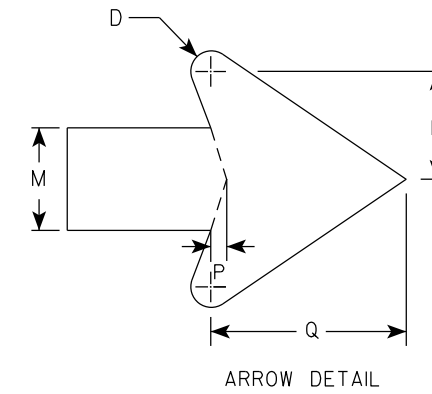
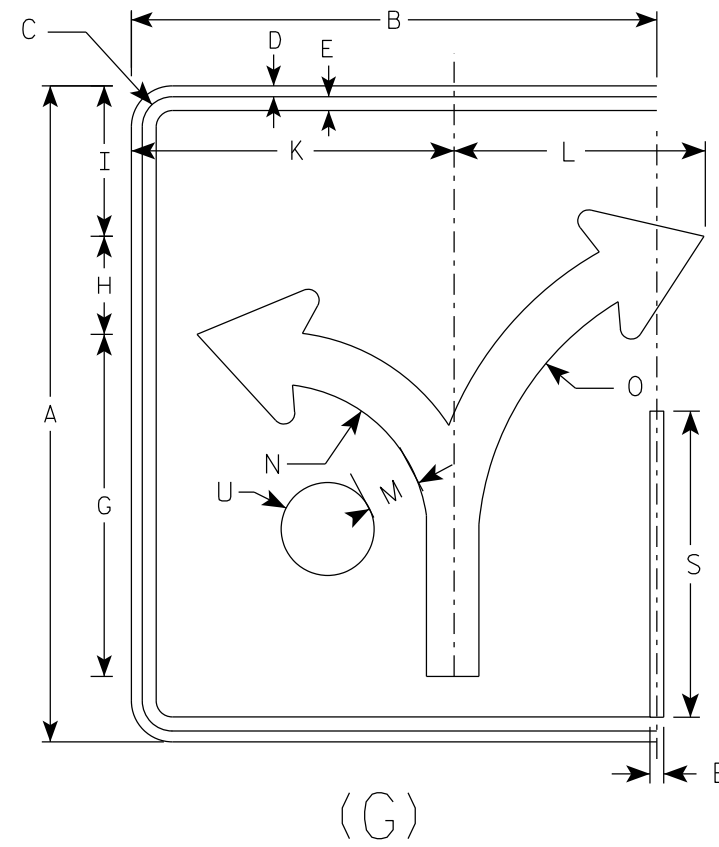
DATE 5/21/19 PLATE NO. R3-8.1

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 - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN  
R3-8 (G) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

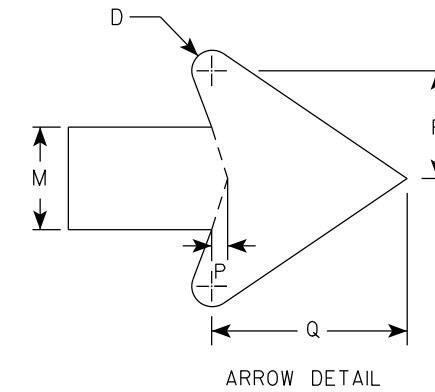
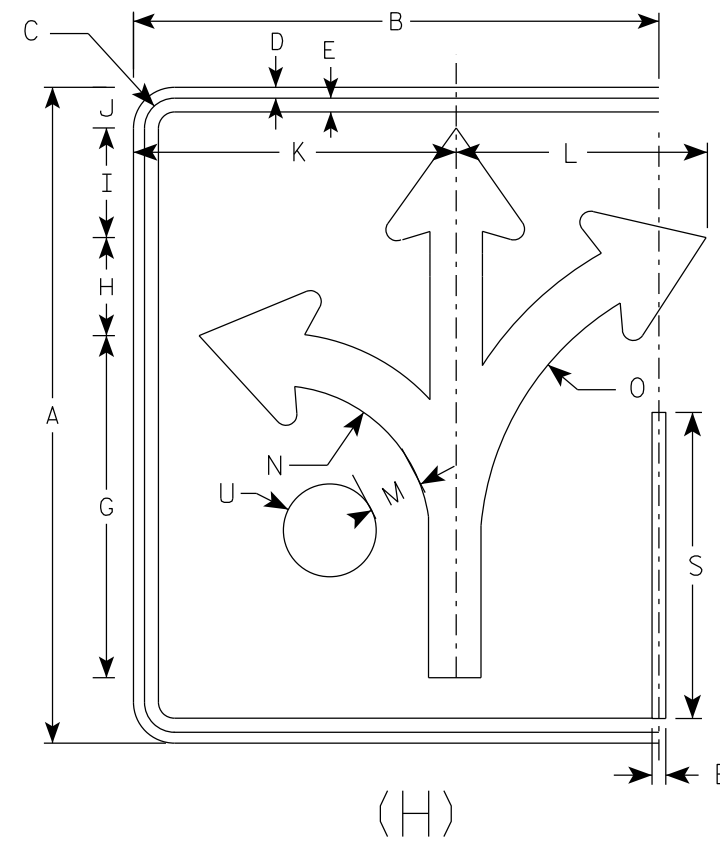
DATE 5/21/19 PLATE NO. R3-8.1

7

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NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	3 1/8	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN  
R3-8 (H) Arrow

WISCONSIN DEPT OF TRANSPORTATION

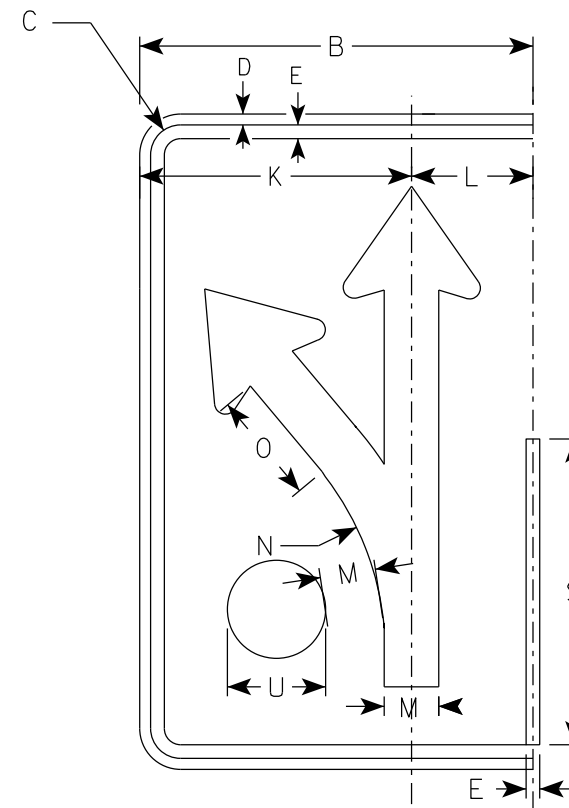
APPROVED *Matthew R Rauch*  
For State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

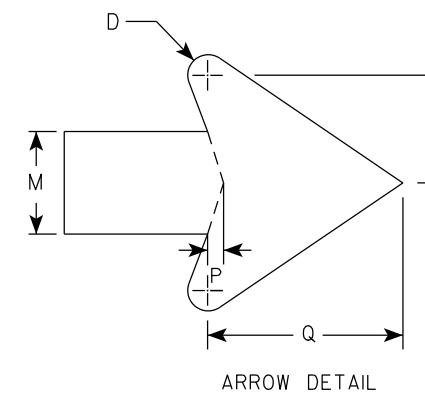
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



( I )



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4		2 1/2						6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0

STANDARD SIGN  
R3-8 (I) Arrow

WISCONSIN DEPT OF TRANSPORTATION

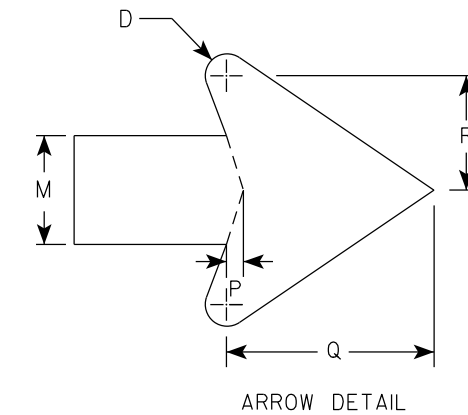
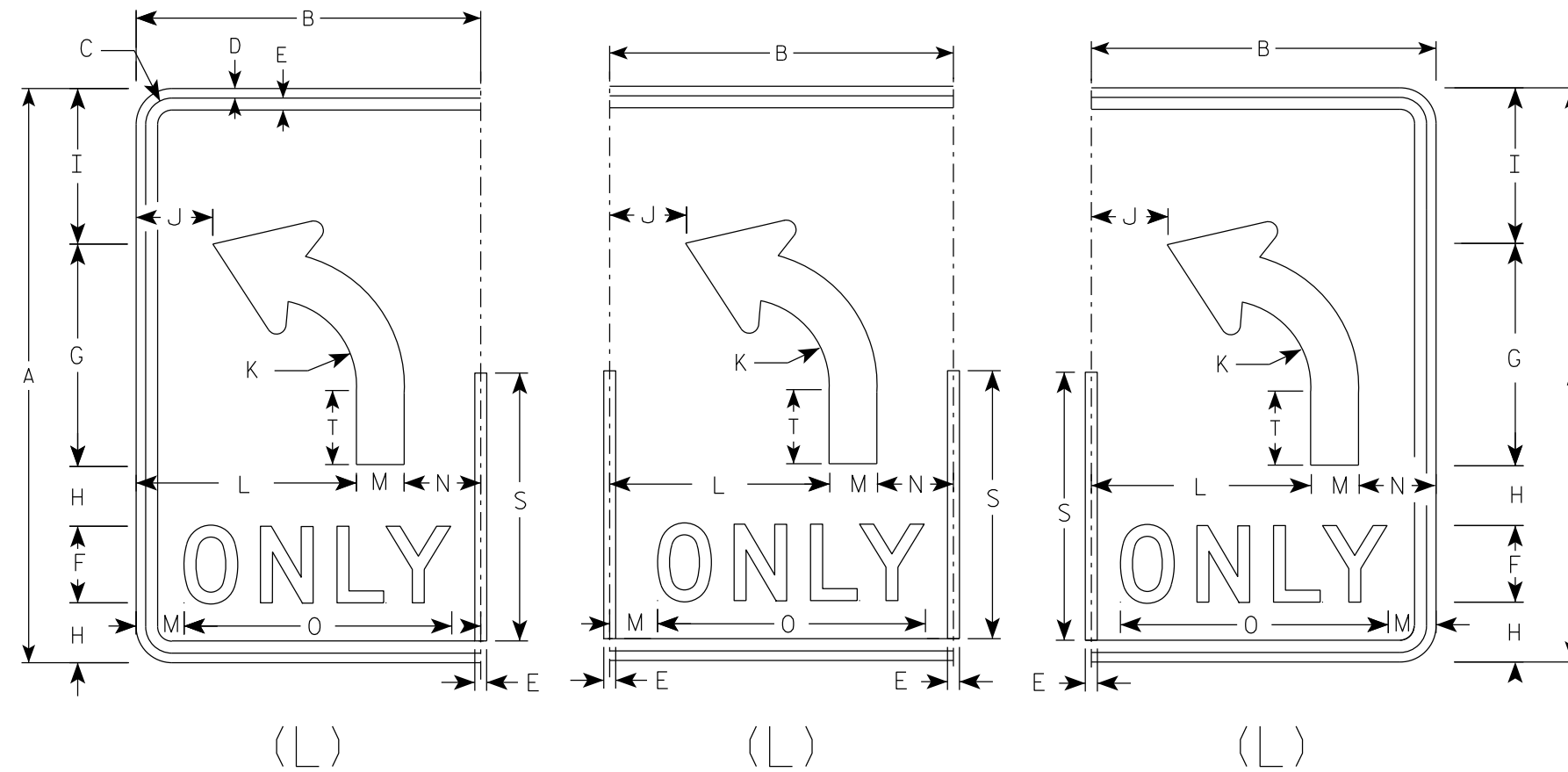
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

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 - D



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4		5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN  
R3-8 (L) Arrow

WISCONSIN DEPT OF TRANSPORTATION

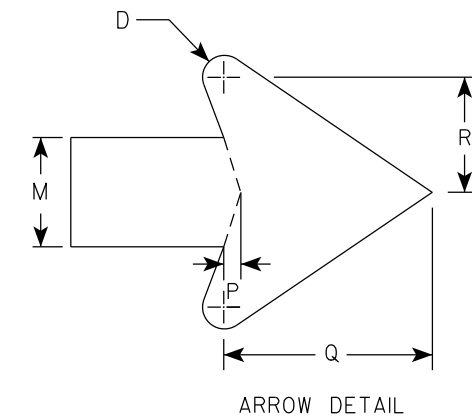
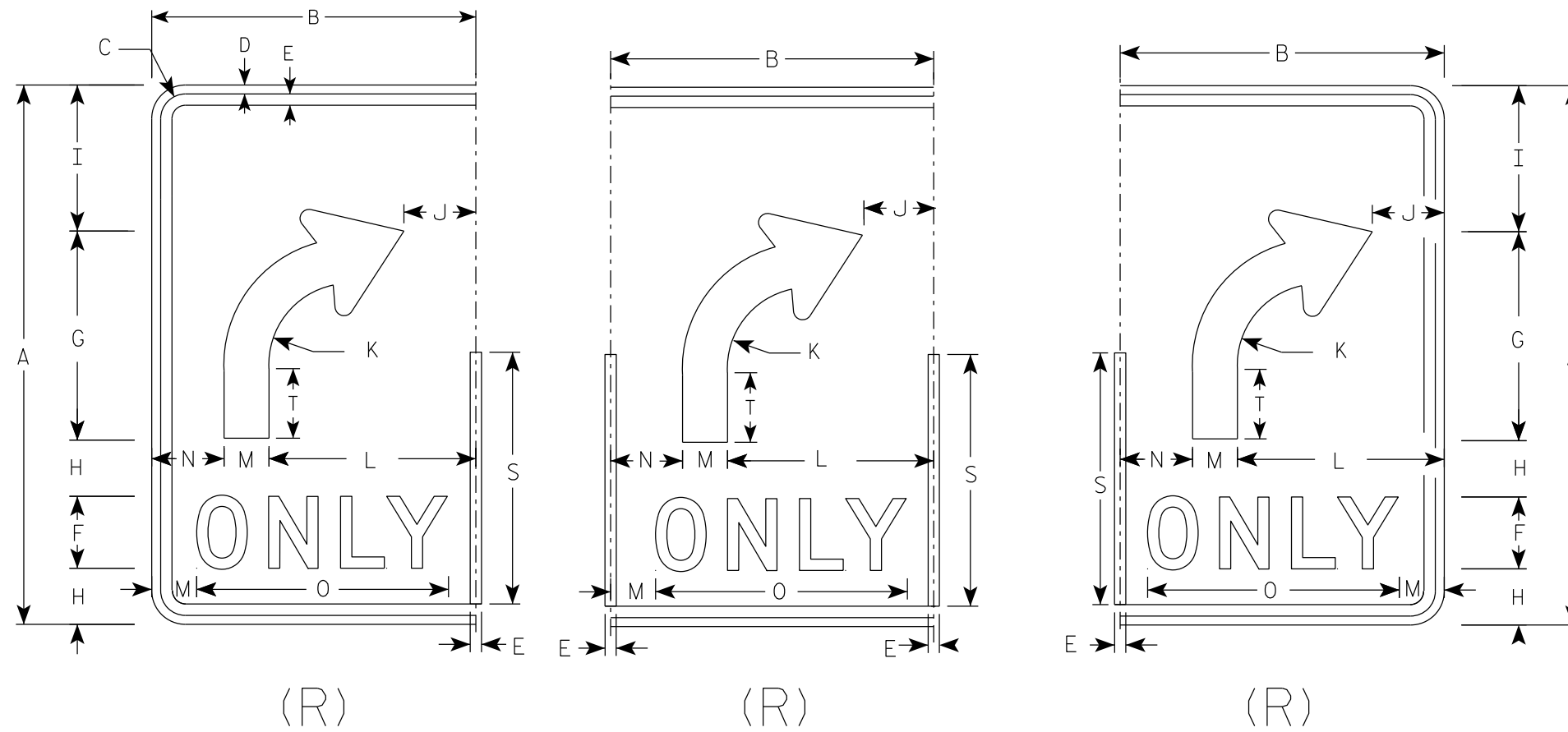
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: SHEET NO: E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN  
R3-8 (R) Arrow

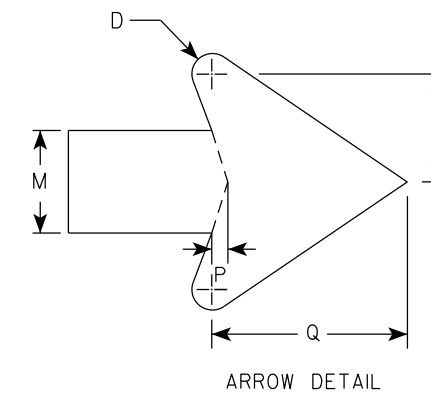
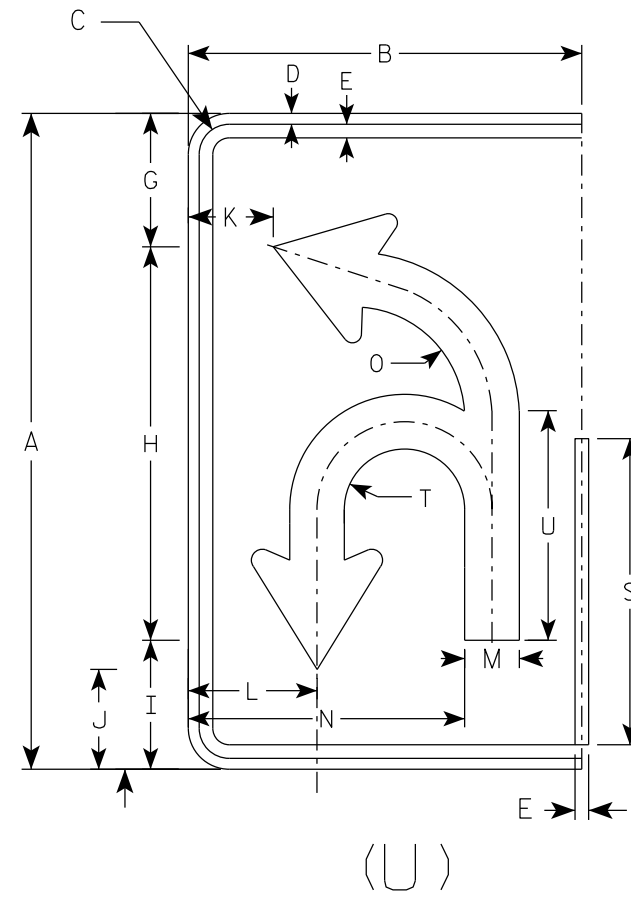
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
2M	30	18	1 3/8	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	21 5/8	7 1/8	5 1/2	5 7/8	8 1/4	3	16 3/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4	3 1/4	12 5/8						6.0
4	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0
5	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0

STANDARD SIGN  
R3-8 (U) Arrow

WISCONSIN DEPT OF TRANSPORTATION

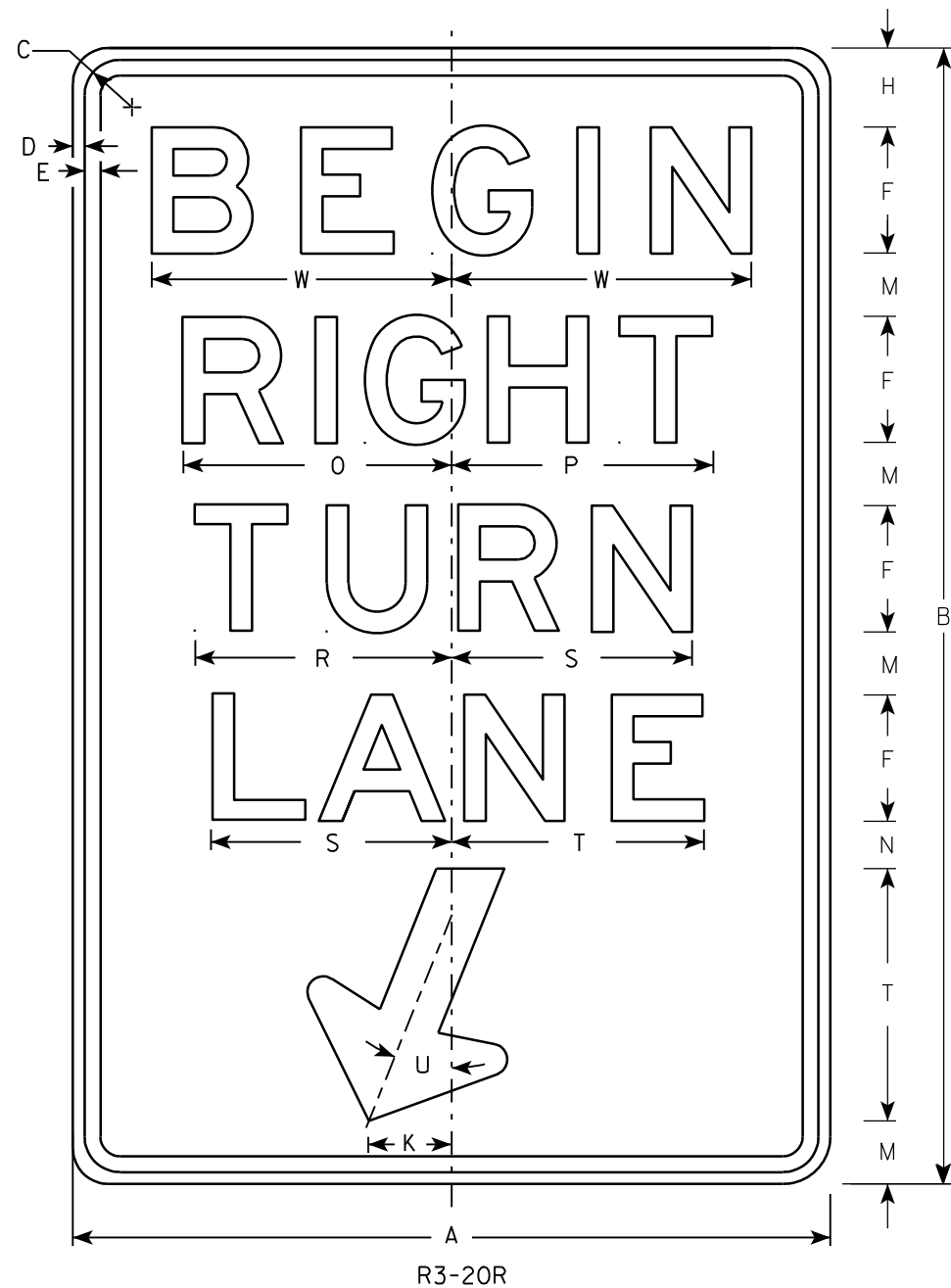
APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

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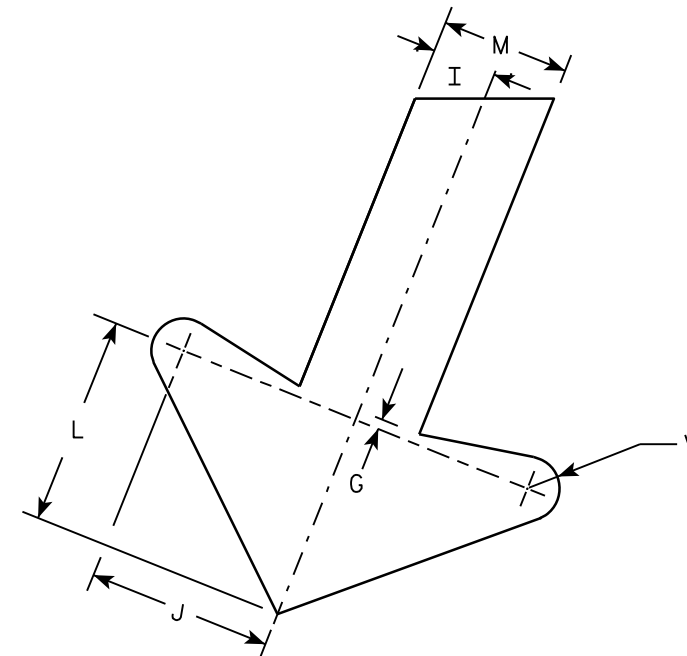
7



R3-20R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - E
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.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	
1																												
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0	
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0	
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5	
4																												
5																												

STANDARD SIGN  
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

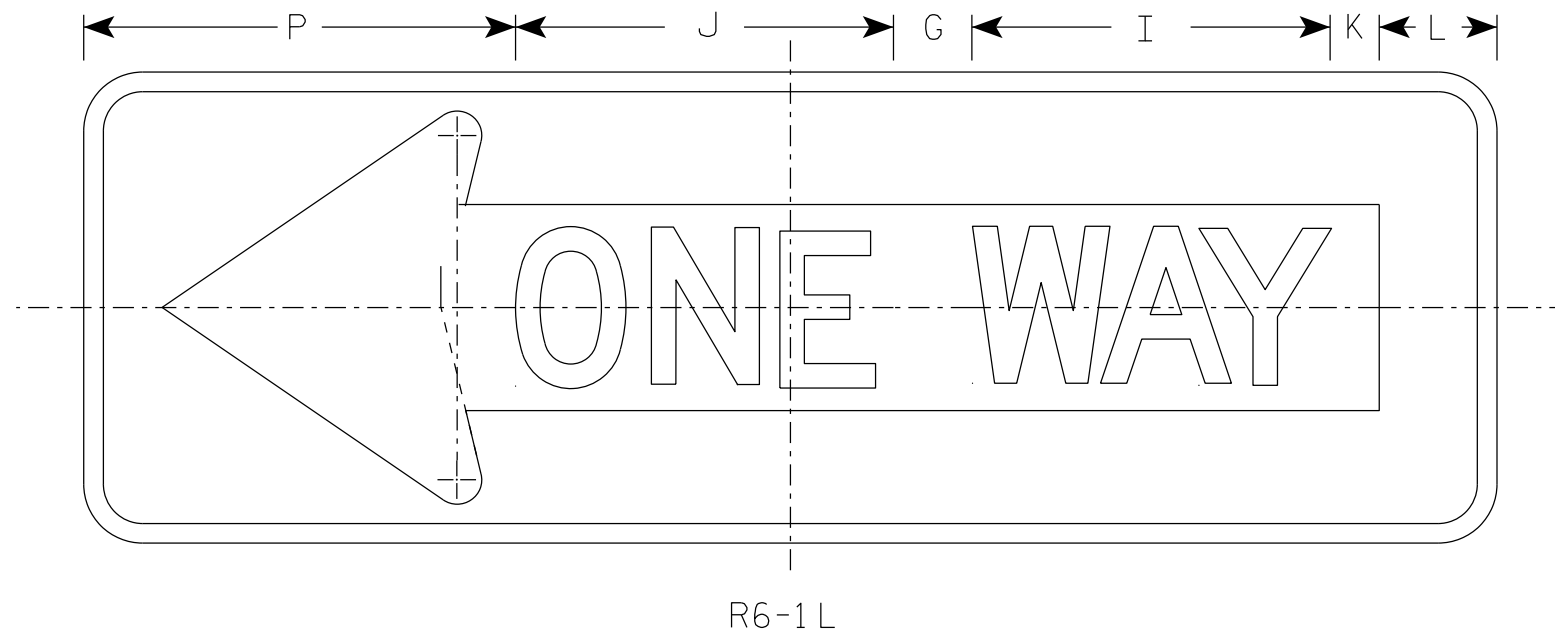
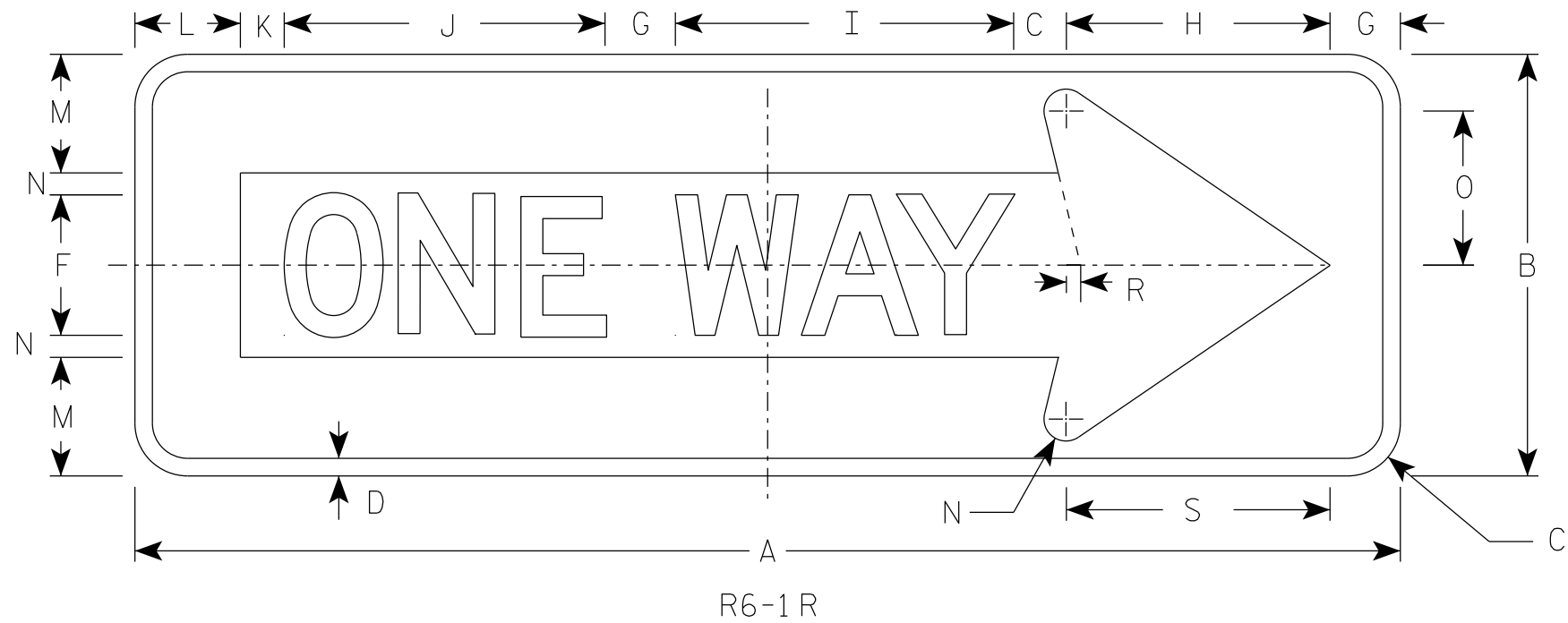
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - BLACK  
Message - BLACK LEGEND & WHITE ARROW & BORDER
3. Message Series - D



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	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2								3.0
2M	54	18	2 1/4	3/4		6	3	11 1/4	13 5/8	14 1/2	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
3	54	18	2 1/4	3/4		6	3	11 1/4	13 5/8	14 1/2	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
4	54	18	2 1/4	3/4		6	3	11 1/4	13 5/8	14 1/2	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
5																											

STANDARD SIGN  
R6-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

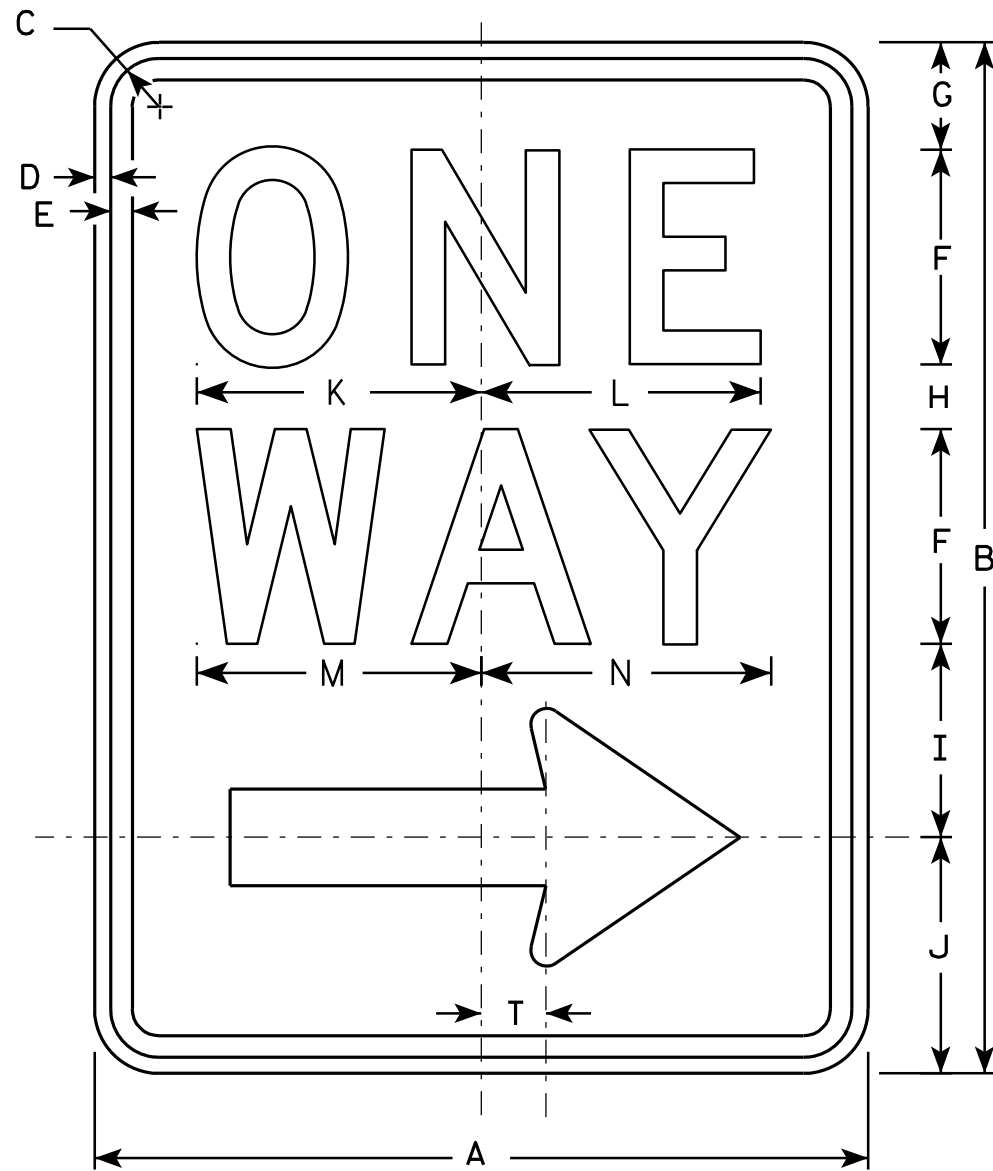
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 07/11/18 PLATE NO. R6-1.3

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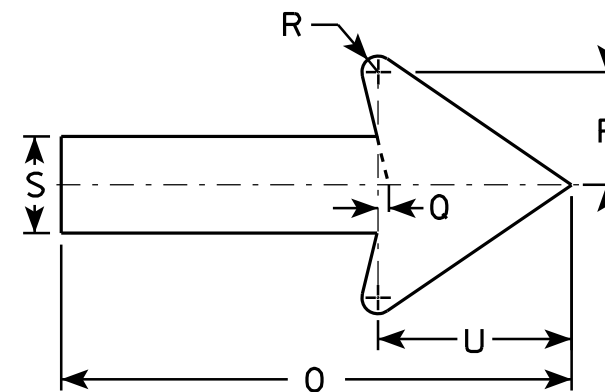




R6-2R

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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. R6-2L same as R6-2R except arrow points to the left.



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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
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

**STANDARD SIGN**  
**R6-2 R&L**

*WISCONSIN DEPT OF TRANSPORTATION*

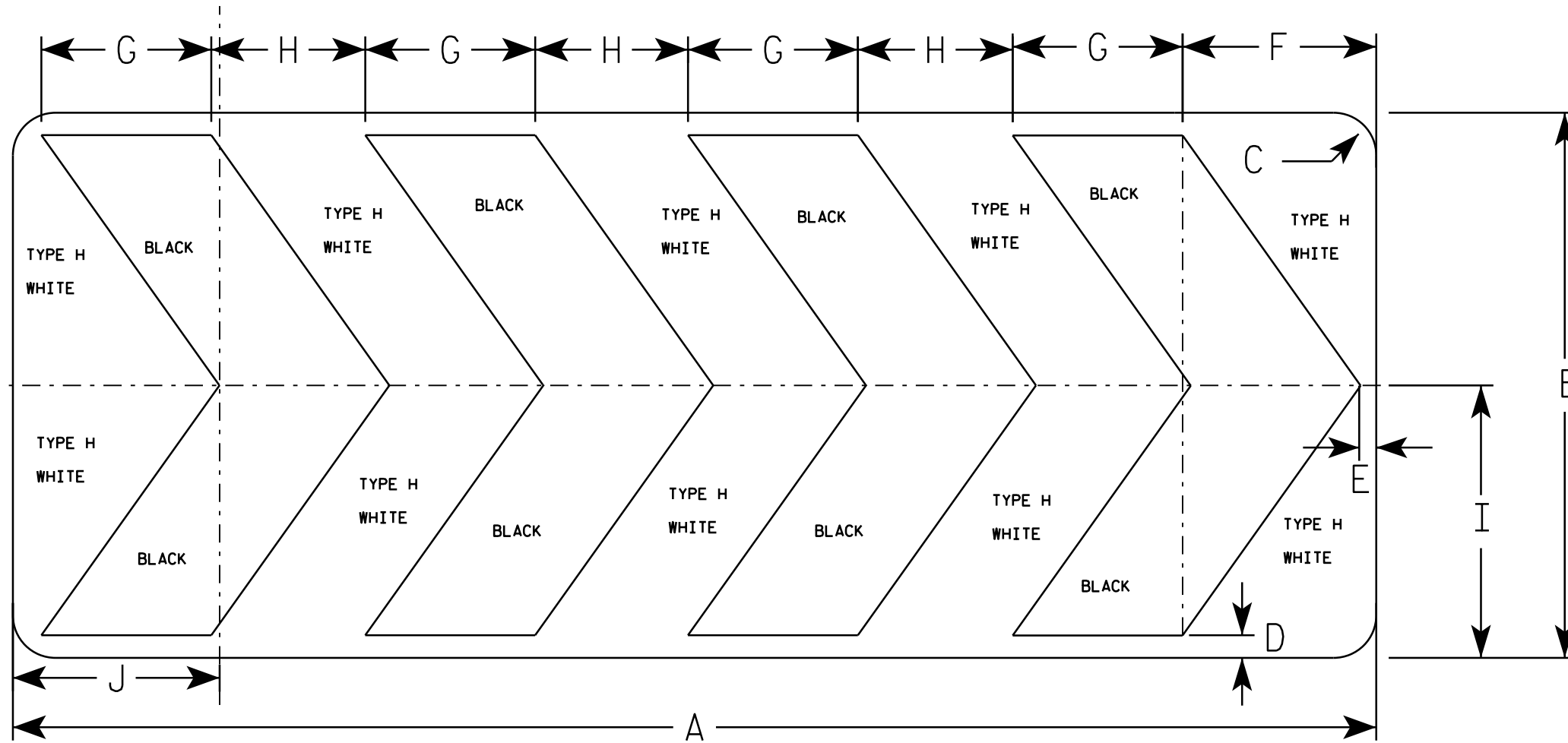
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**

**NOTES**

1. Sign is Type II - Type H Reflective
2. Color:  
Background - WHITE  
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.



R6-4B

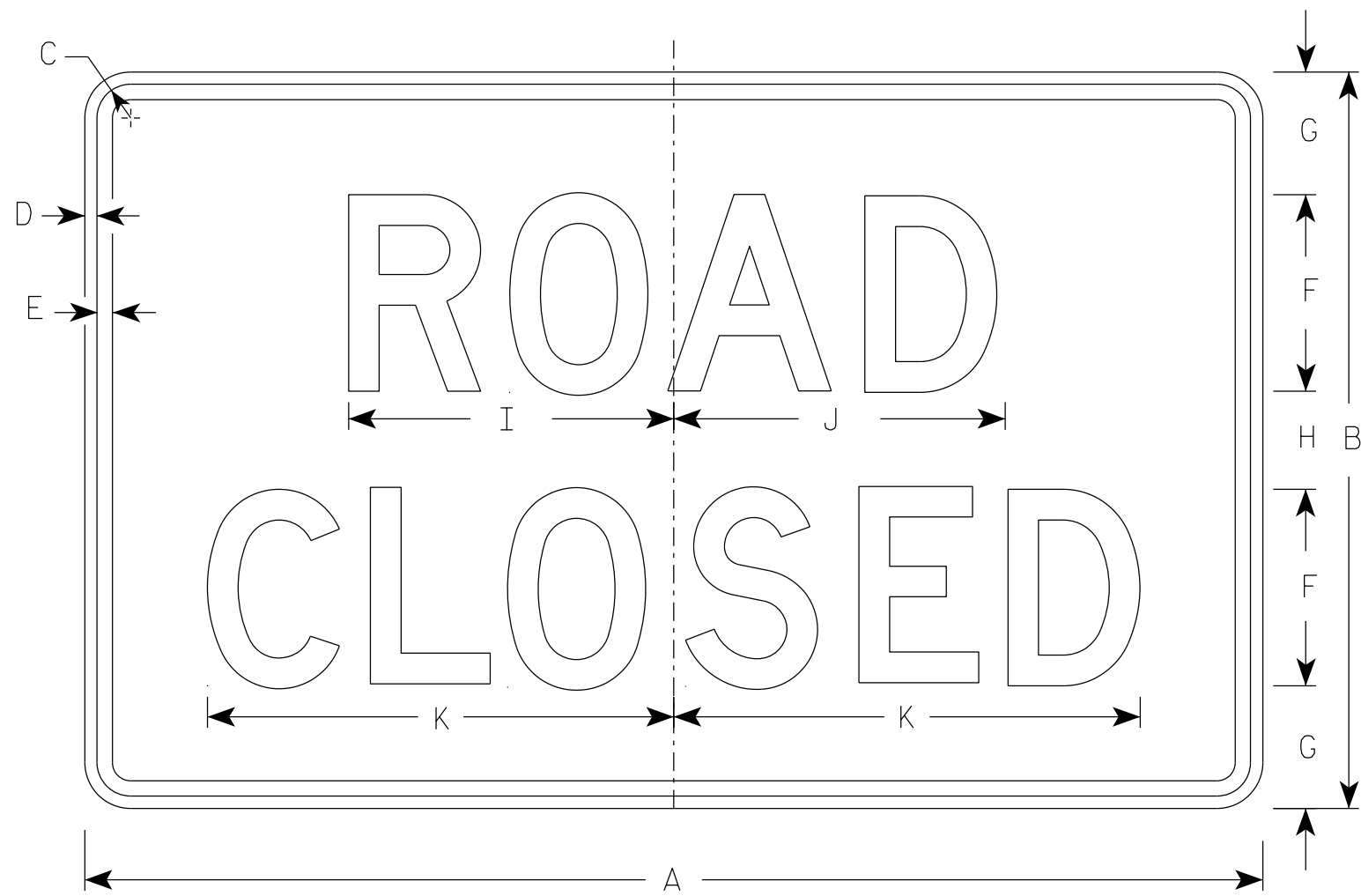
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	24	1 7/8	1	3/4	8 1/2	7 1/2	6 3/4	12	9 1/8																	10.0
2M	60	24	1 7/8	1	3/4	8 1/2	7 1/2	6 3/4	12	9 1/8																	10.0
3																											
4																											
5																											

**STANDARD SIGN**  
**R6-4B**

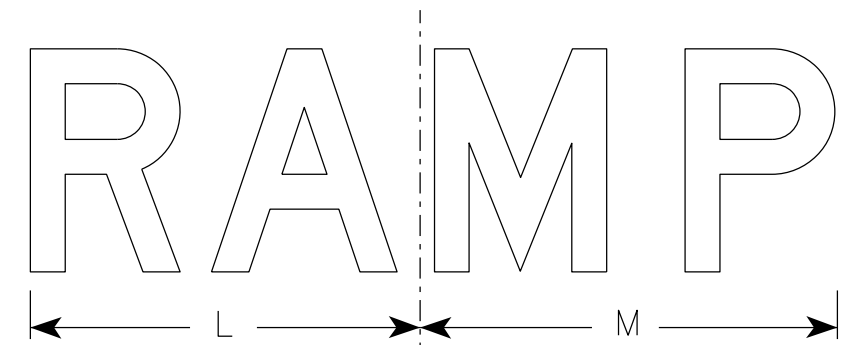
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

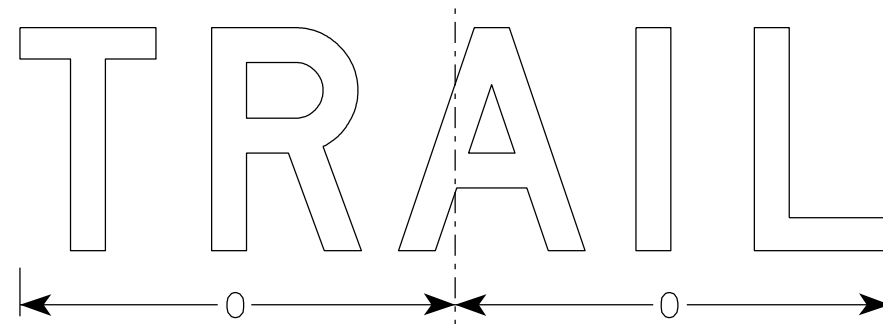
DATE 8/21/14 PLATE NO. R6-4.3



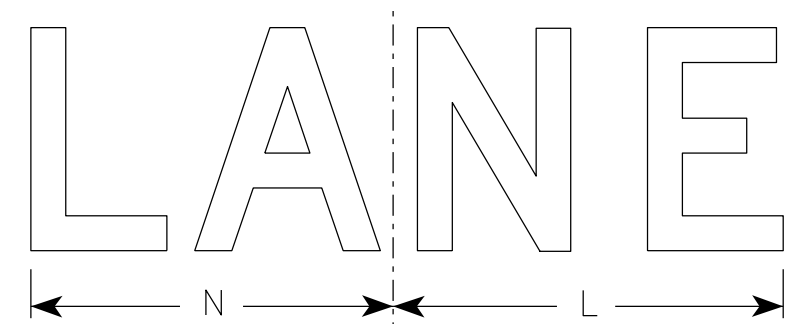
R11-2



R11-2R



R11-2T



R11-2L

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.

7

7

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 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN  
R11-2

WISCONSIN DEPT OF TRANSPORTATION

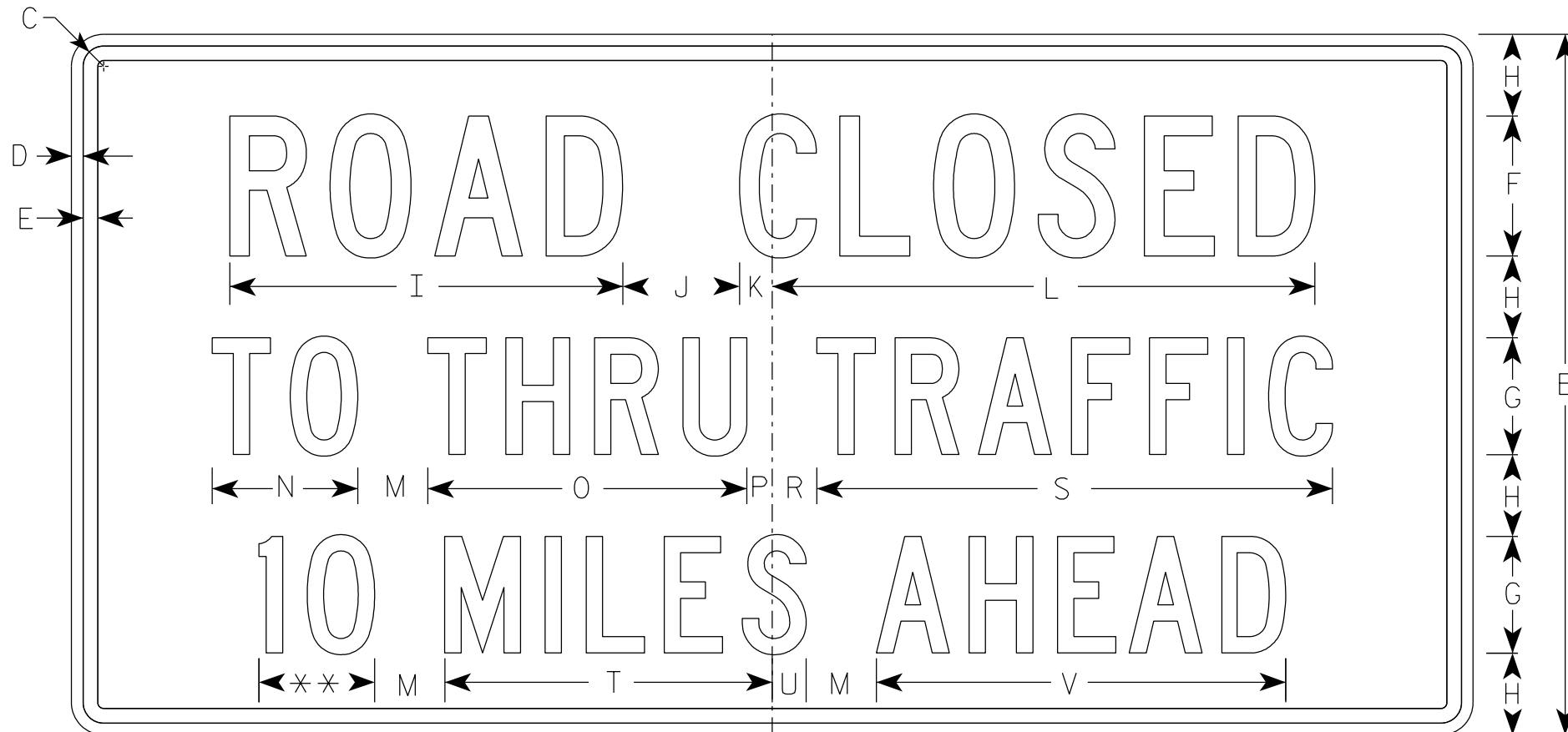
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

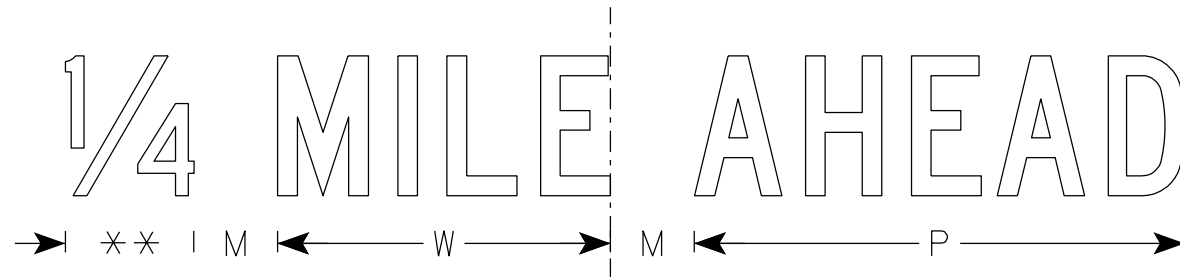
NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

\*\* See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/4	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8			4.5	
2S	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8			12.5	
2M	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8			12.5	
3																											
4																											
5																											

STANDARD SIGN  
R11-3

WISCONSIN DEPT OF TRANSPORTATION

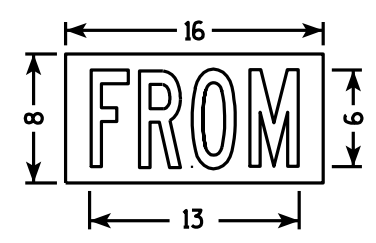
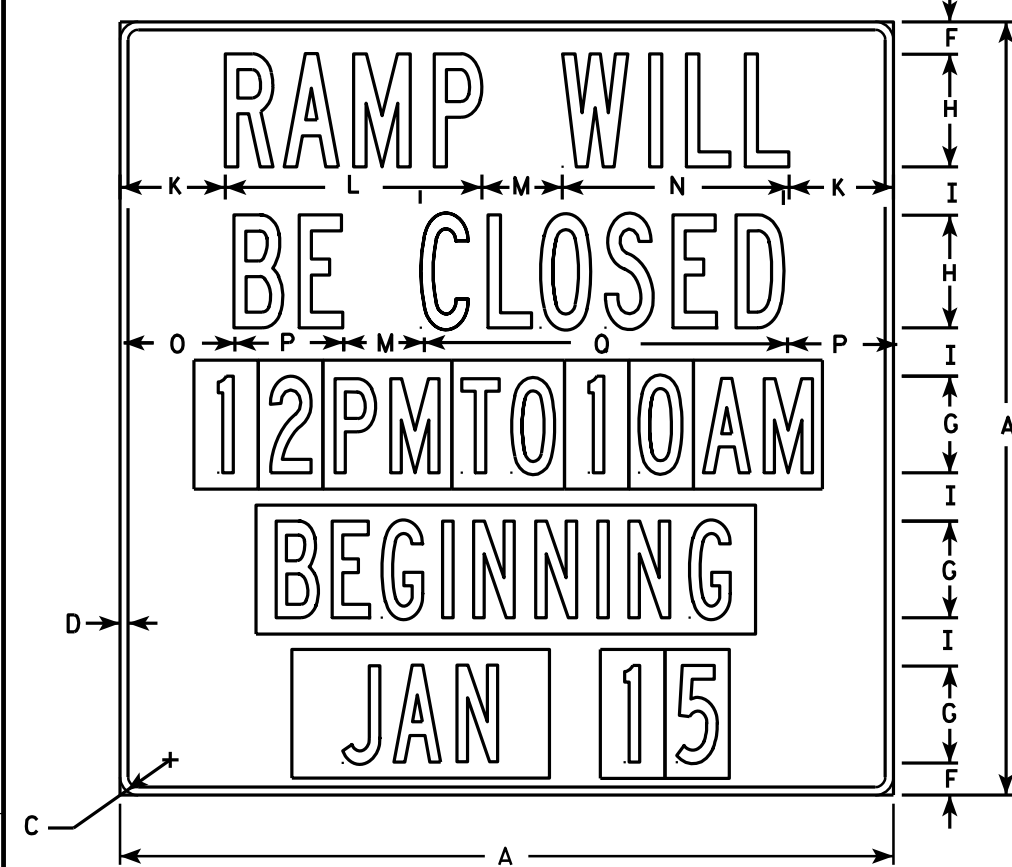
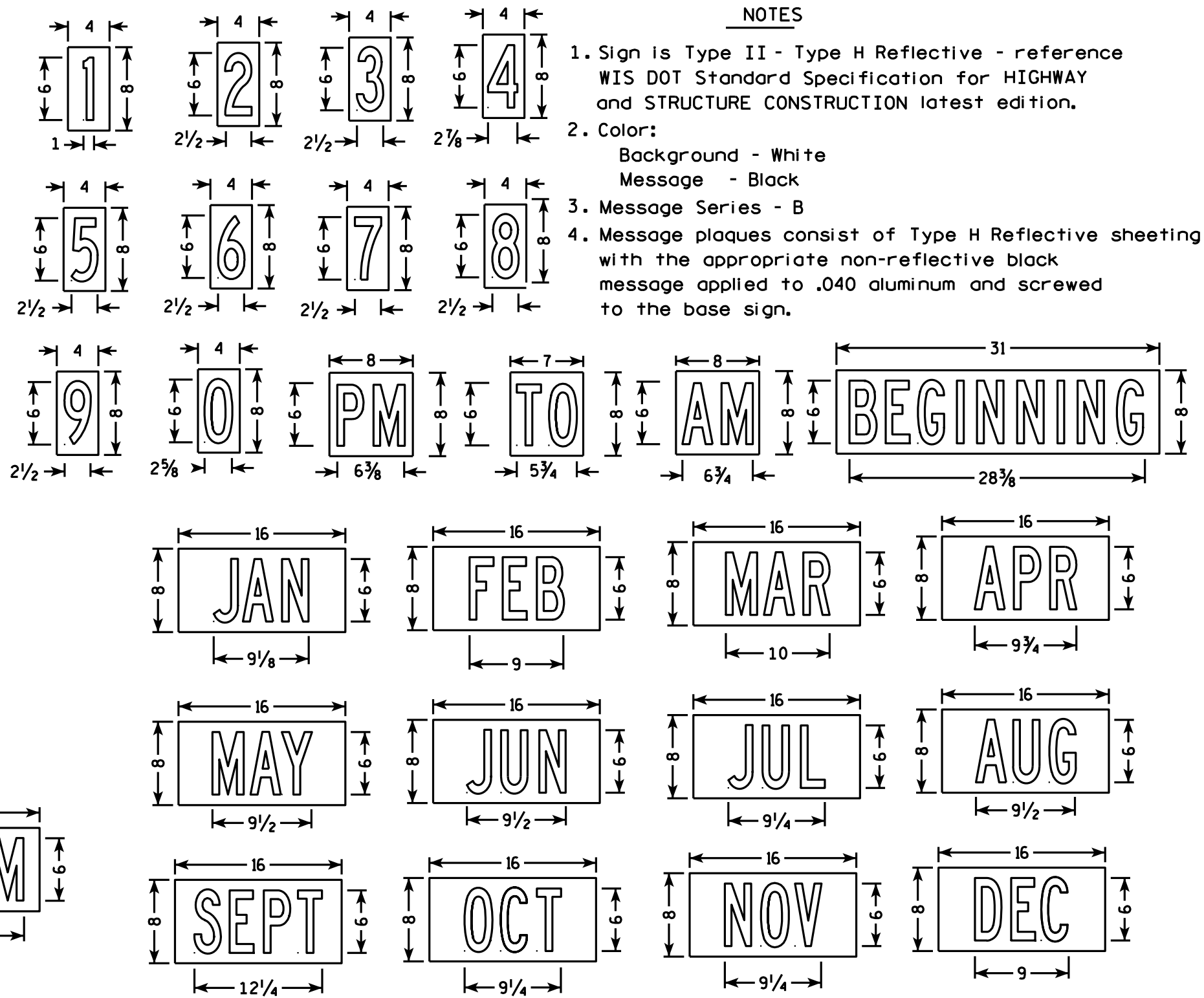
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/14/2021 PLATE NO. R11-3.9

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - B
4. Message plaques consist of Type H Reflective sheeting with the appropriate non-reflective black message applied to .040 aluminum and screwed to the base sign.



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		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
2M	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
3																											
4																											
5																											

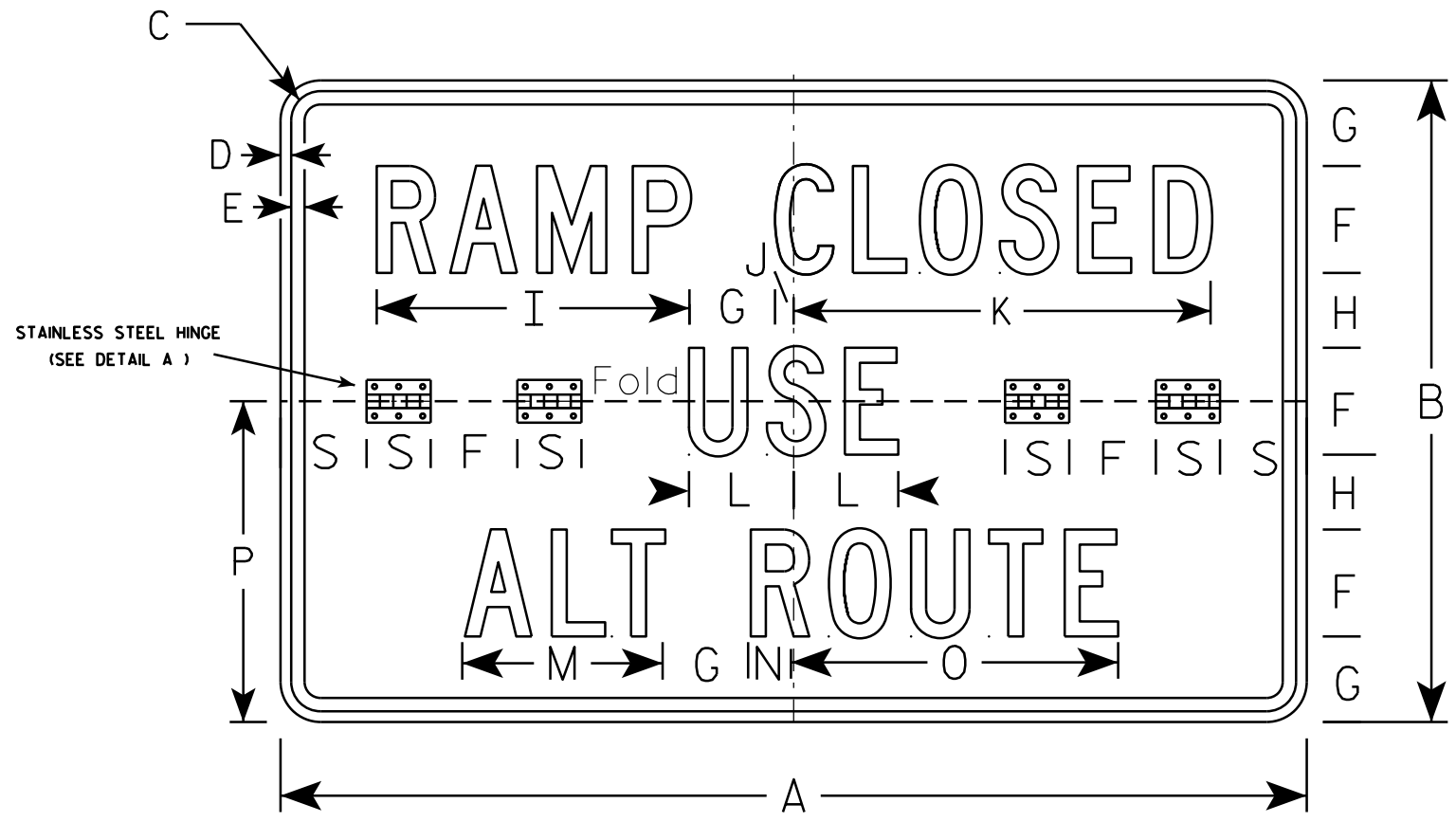
**STANDARD SIGN**  
R11-51

*WISCONSIN DEPT OF TRANSPORTATION*

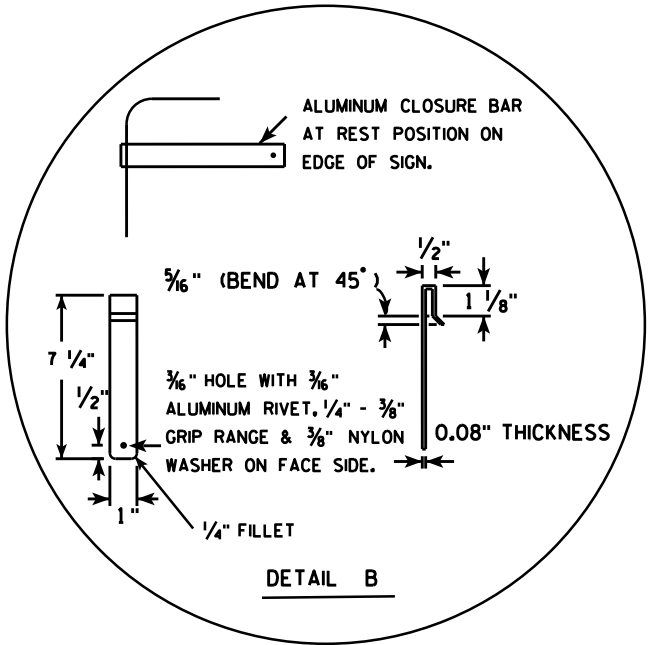
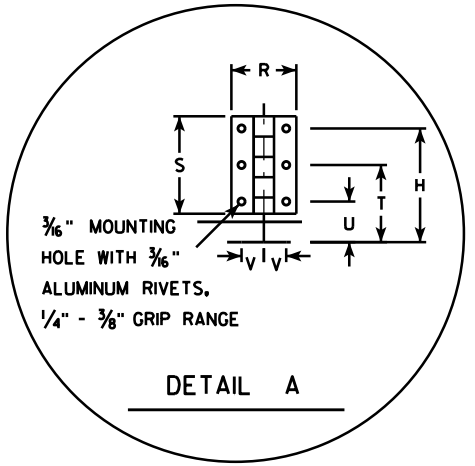
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-51.4

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**

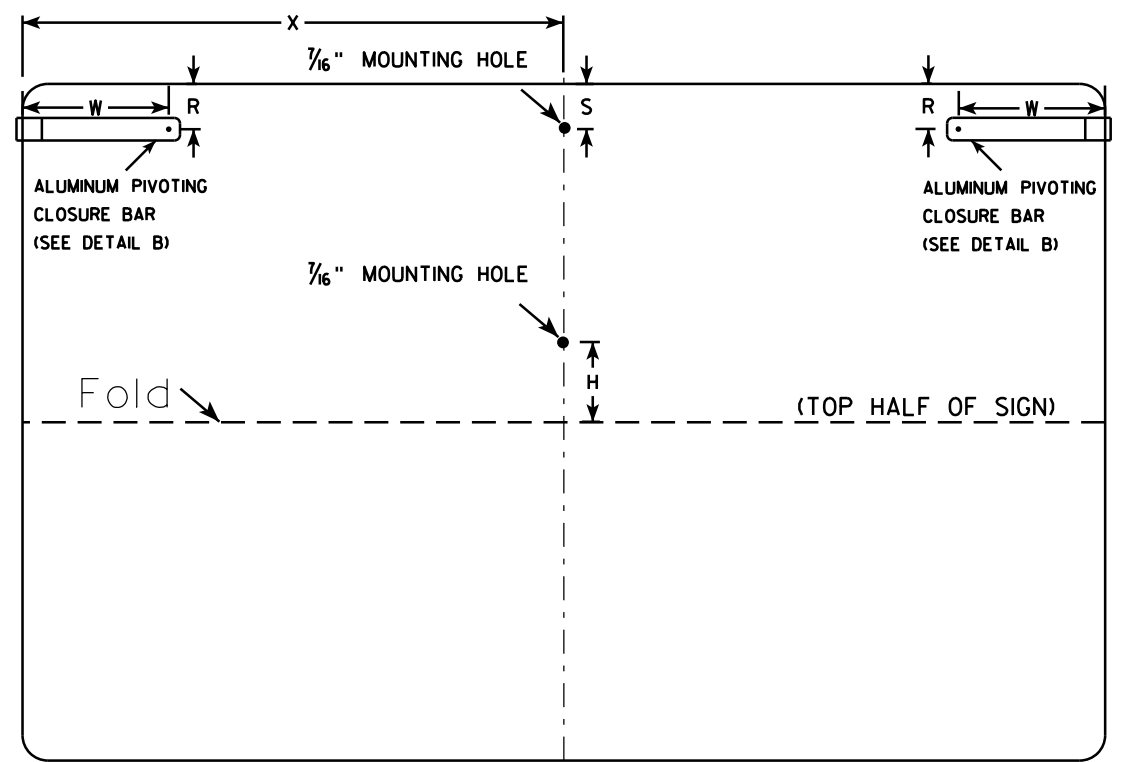


R11-54F



**NOTES**

1. Sign is Type II - Type H Reflective
2. Color:  
Background - WHITE  
Message - BLACK
3. Message Series - C
4. Sign Base Material shall be aluminum, corners and borders shall be rounded.
5. All hardware used on the folding sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.
6. Refer to plate A5-3A for sign blank layout.



(BACK VIEW)

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 3/8	1/2	5/8	5	4	3 1/2	14 5/8	7/8	19 1/2	4 7/8	9 3/8	2	15 1/4	15		2	3	2 5/8	1 1/4	11/16	6 1/2	24			10.0
2M	48	30	1 3/8	1/2	5/8	5	4	3 1/2	14 5/8	7/8	19 1/2	4 7/8	9 3/8	2	15 1/4	15		2	3	2 5/8	1 1/4	11/16	6 1/2	24			10.0
3																											
4																											
5																											

**STANDARD SIGN**  
R11-54F

WISCONSIN DEPT OF TRANSPORTATION

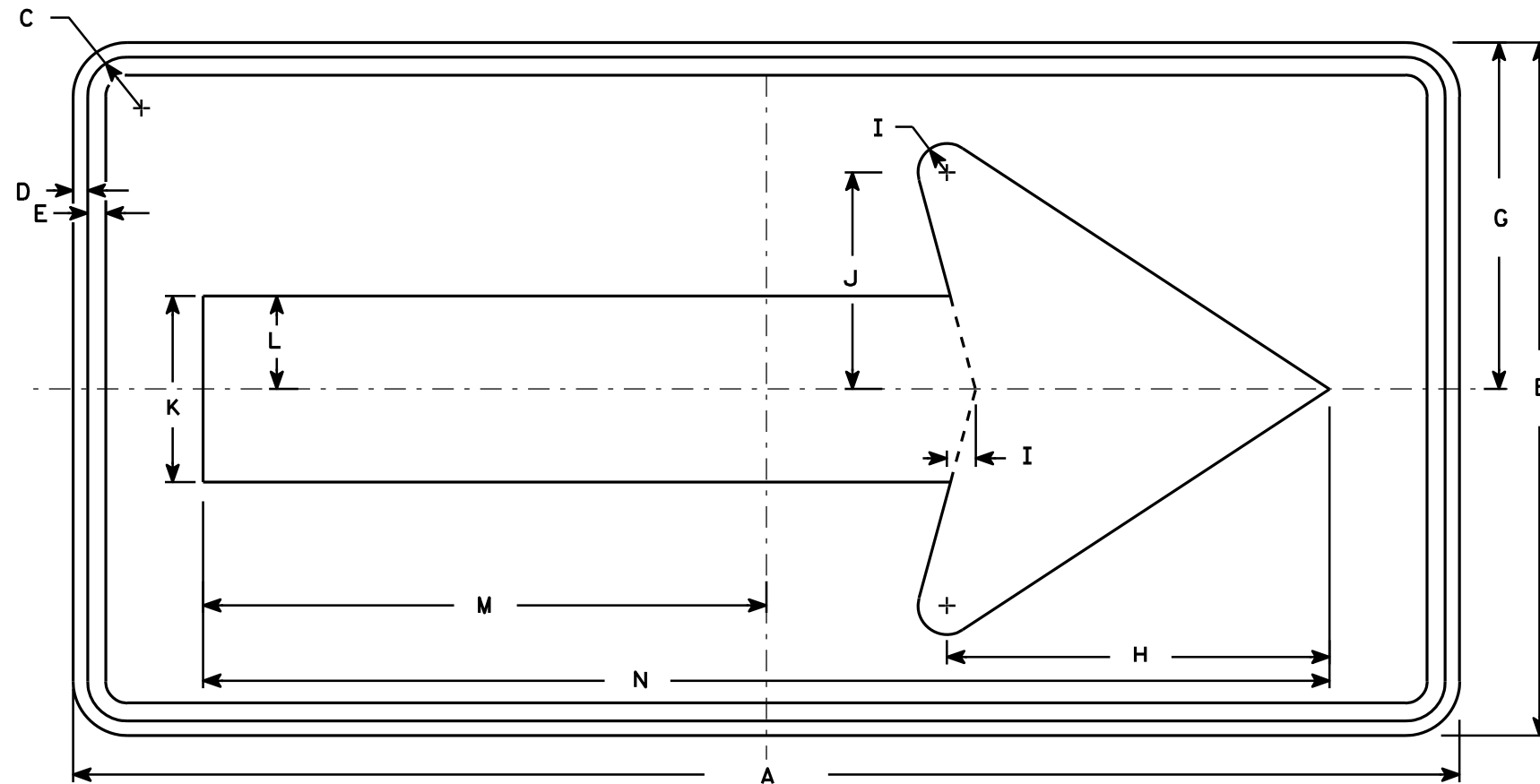
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/28/14 PLATE NO. R11-54F.3

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
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.



W1-6

7

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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 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	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 3/8	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 3/8	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 3/8	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	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

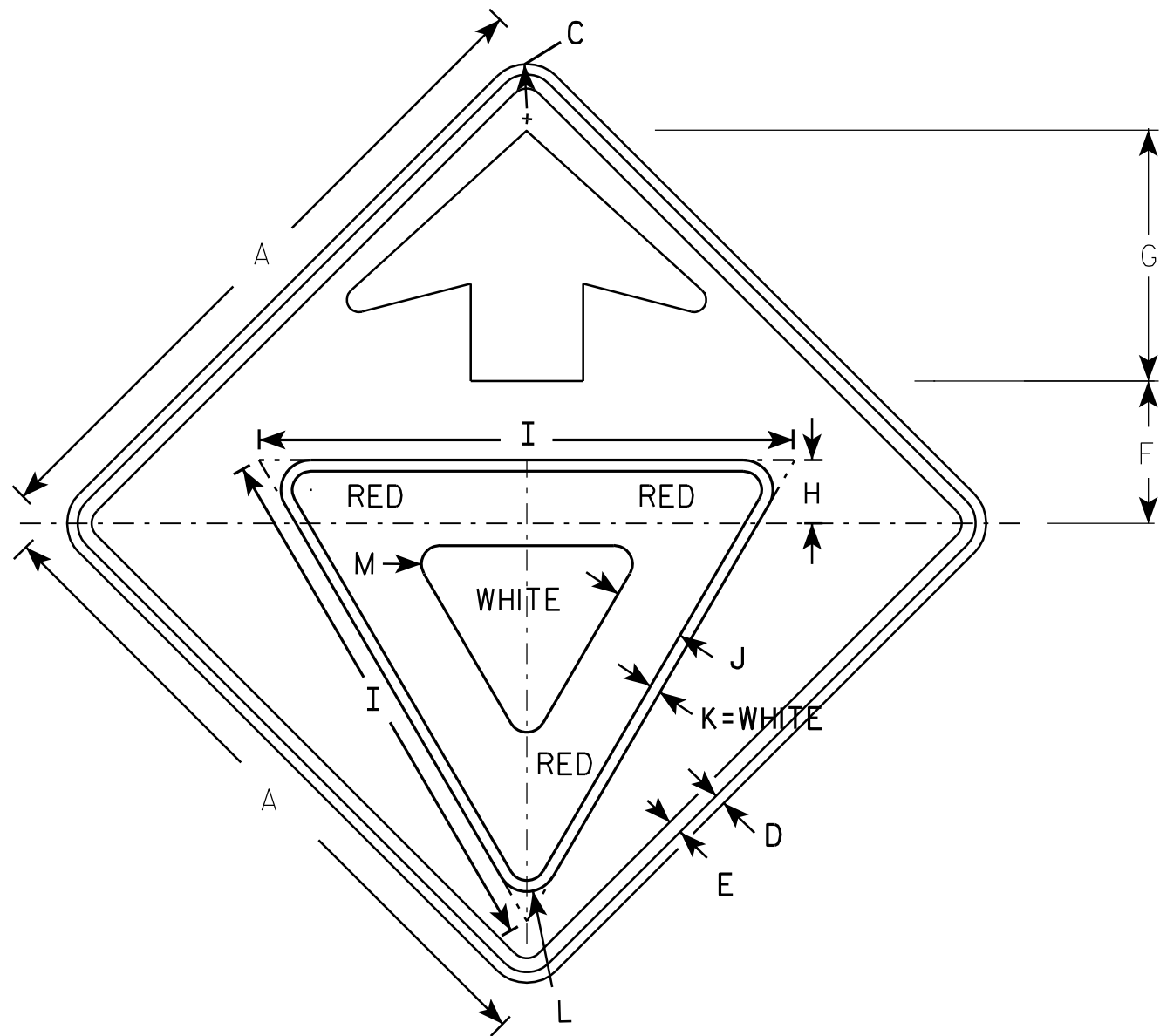
STANDARD SIGN  
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

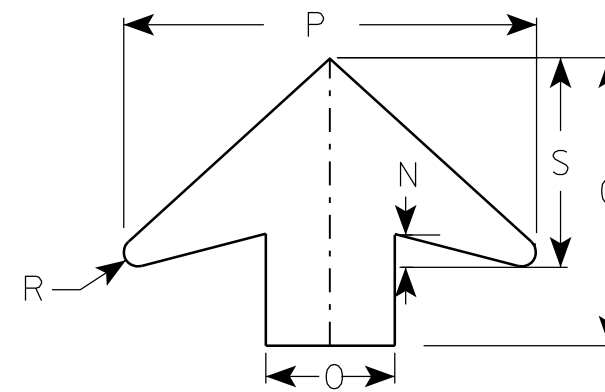
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_



W3-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
 Background - YELLOW  
 Arrow & Border - BLACK  
 Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

7

7

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		1 3/8	1/2	5/8	6 1/4	11 1/4	3	25	3 3/8	1/2	1 3/8	7/8	1 1/4	5	16		1/2	8								6.25
2S	36		1 5/8	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
2M	36		1 5/8	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
3	36		1 5/8	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
4	48		2 1/4	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		2 1/4	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**  
W3-2

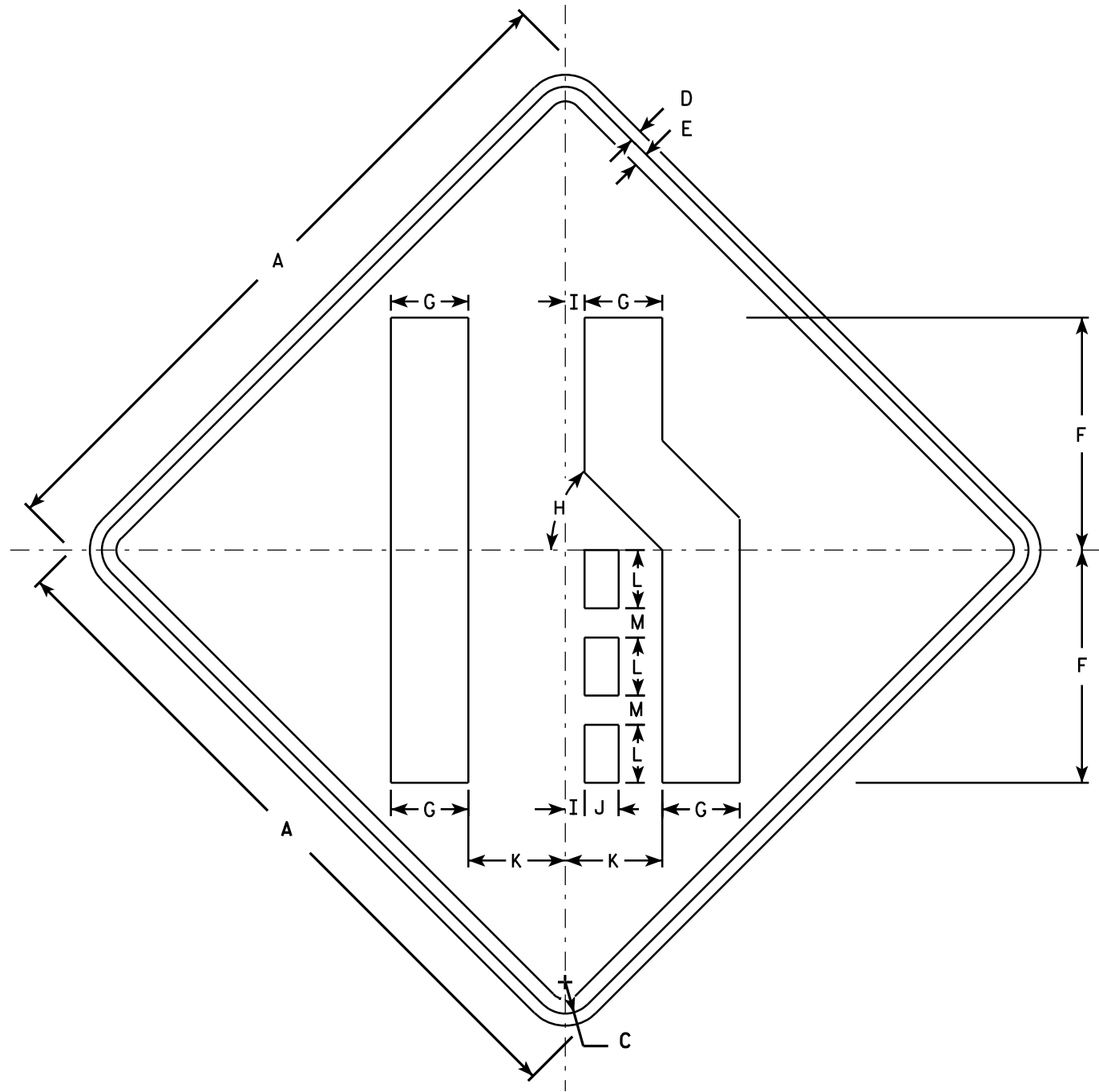
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-2..9

PROJECT NO: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E





W4-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
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. W4-2L is the same as W4-2R except the symbols reversed along the vertical centerline.

7

7

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		1 3/8	1/2	5/8	10	3 3/8	45°	7/8	1 1/2	4 1/4	2 1/2	1 1/4														6.25
2S	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2M	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
3	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

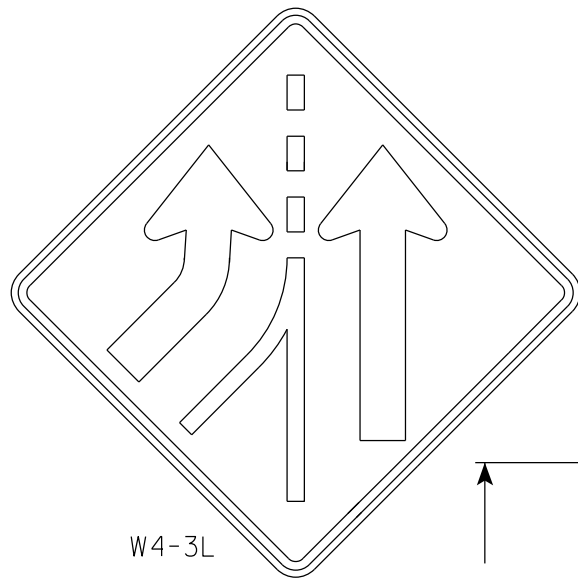
**STANDARD SIGN**  
**W4-2**

WISCONSIN DEPT OF TRANSPORTATION

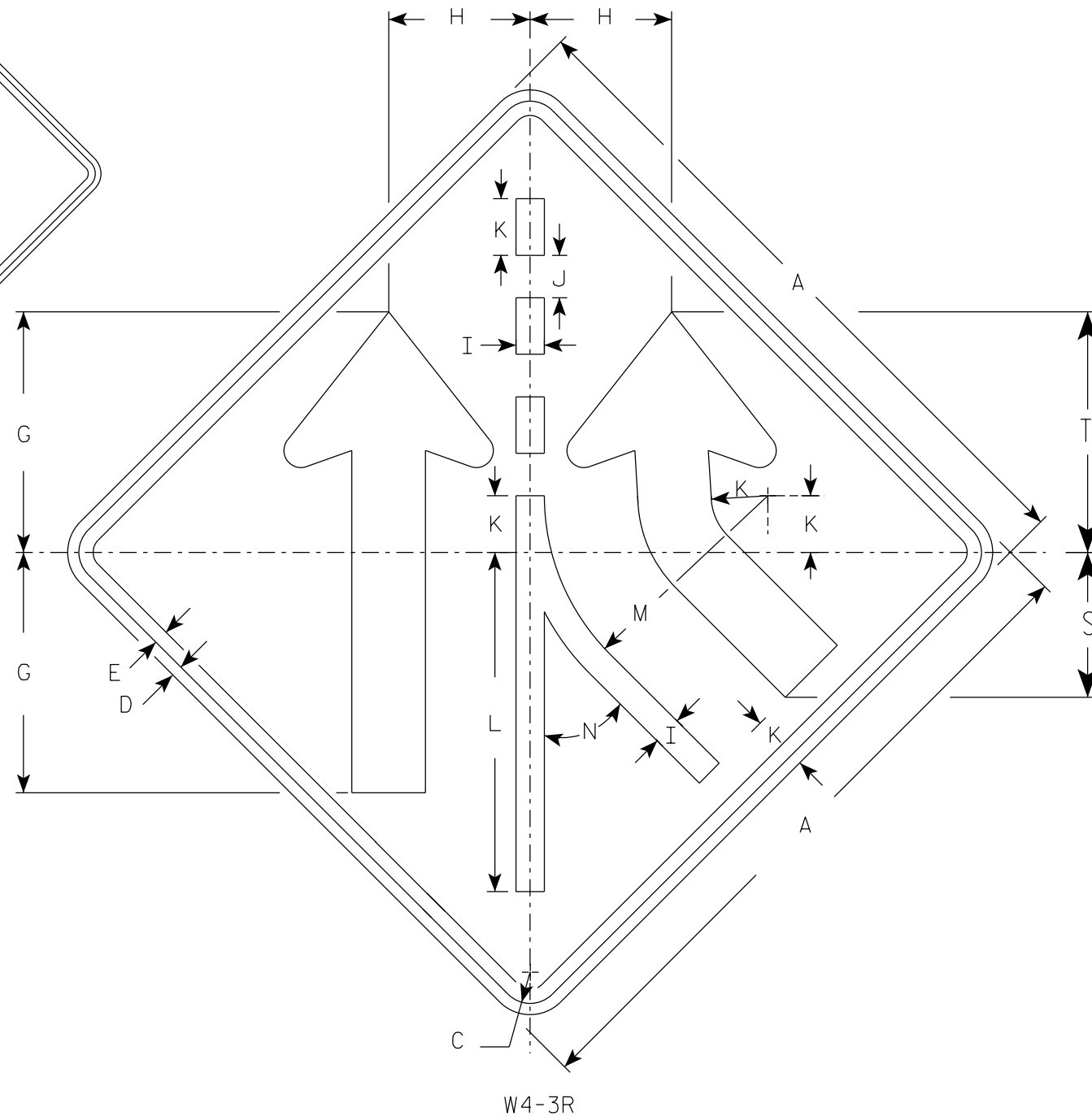
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/12/13 PLATE NO. W4-2.14

PROJECT NO: \_\_\_\_\_ SHEET NO: **E**



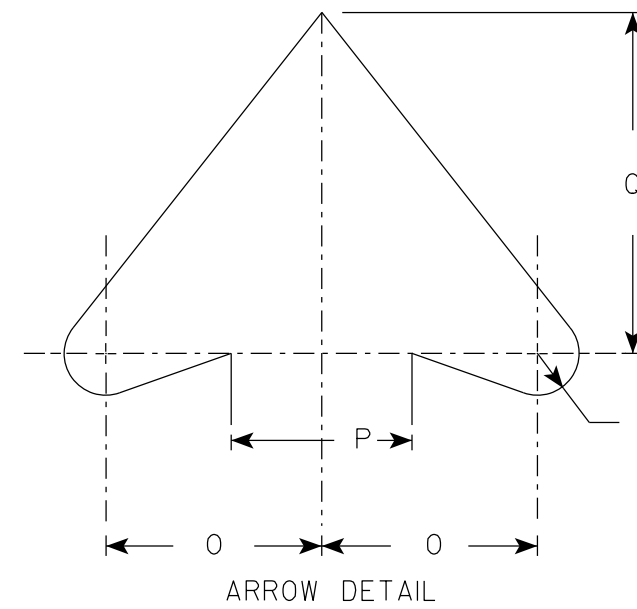
W4-3L



W4-3R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Yellow  
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. W4-3 L is the same as W4-3 R except the arrow is reversed along the vertical centerline.



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	30		1 3/8	1/2	5/8		10 5/8	6 1/4	1 1/4	1 7/8	2 1/2	15	9 7/8	45°	3 7/8	3 1/4	6 1/8	3/4	6 3/8	10 5/8							6.25
2S	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
2M	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
3	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
4	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
5	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0

STANDARD SIGN  
W4-3

WISCONSIN DEPT OF TRANSPORTATION

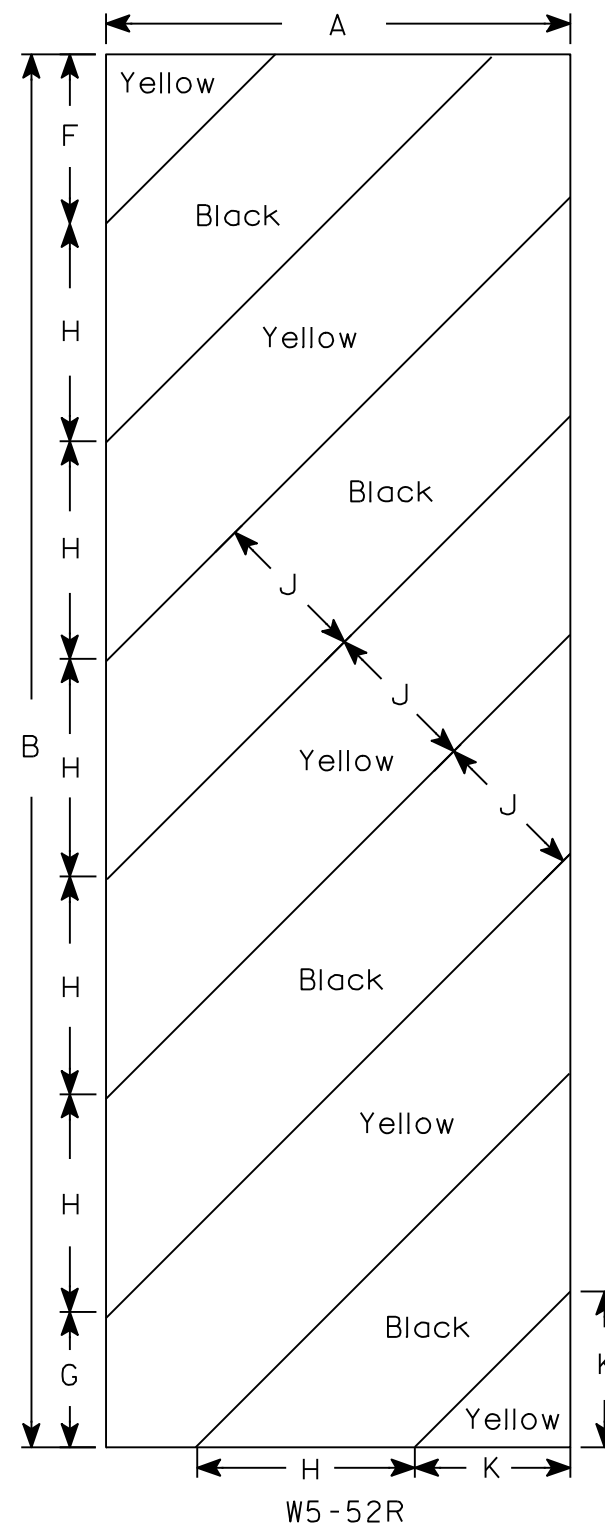
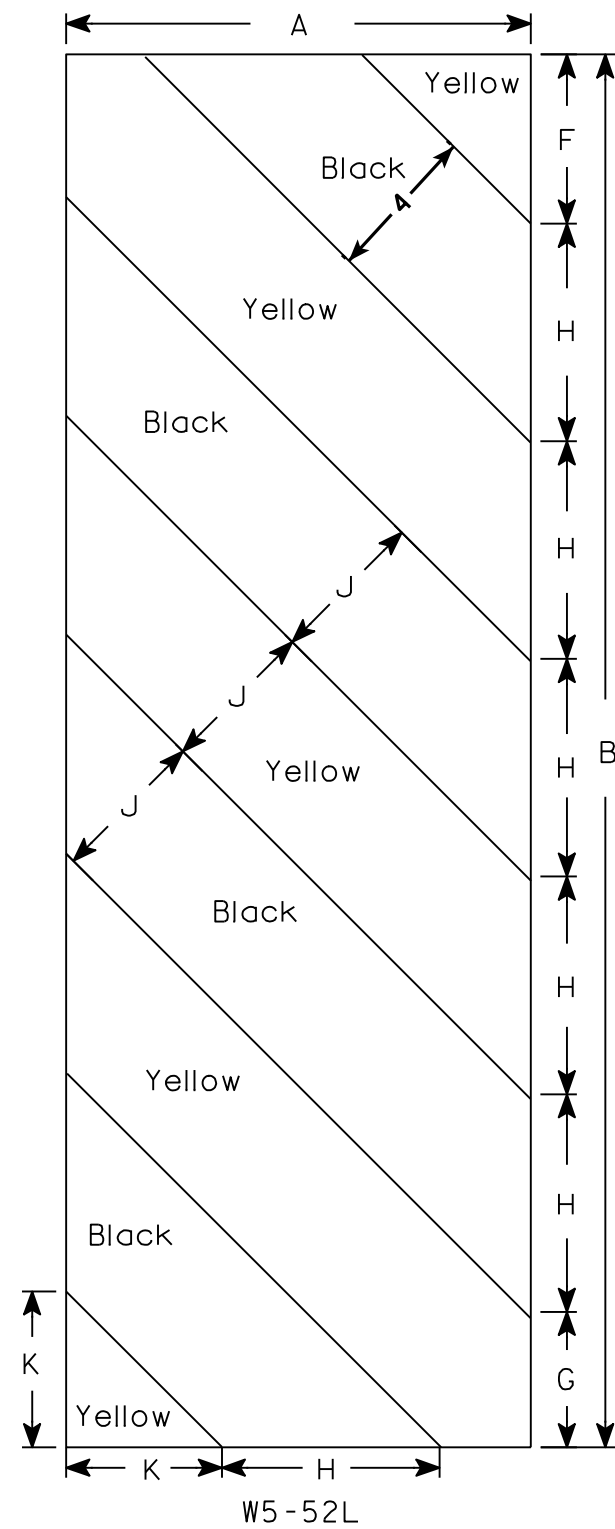
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/06/2021 PLATE NO. W4-3.9

PROJECT NO:

SHEET NO:

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
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. Alternate colors of stripes as shown.

7

7

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				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				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

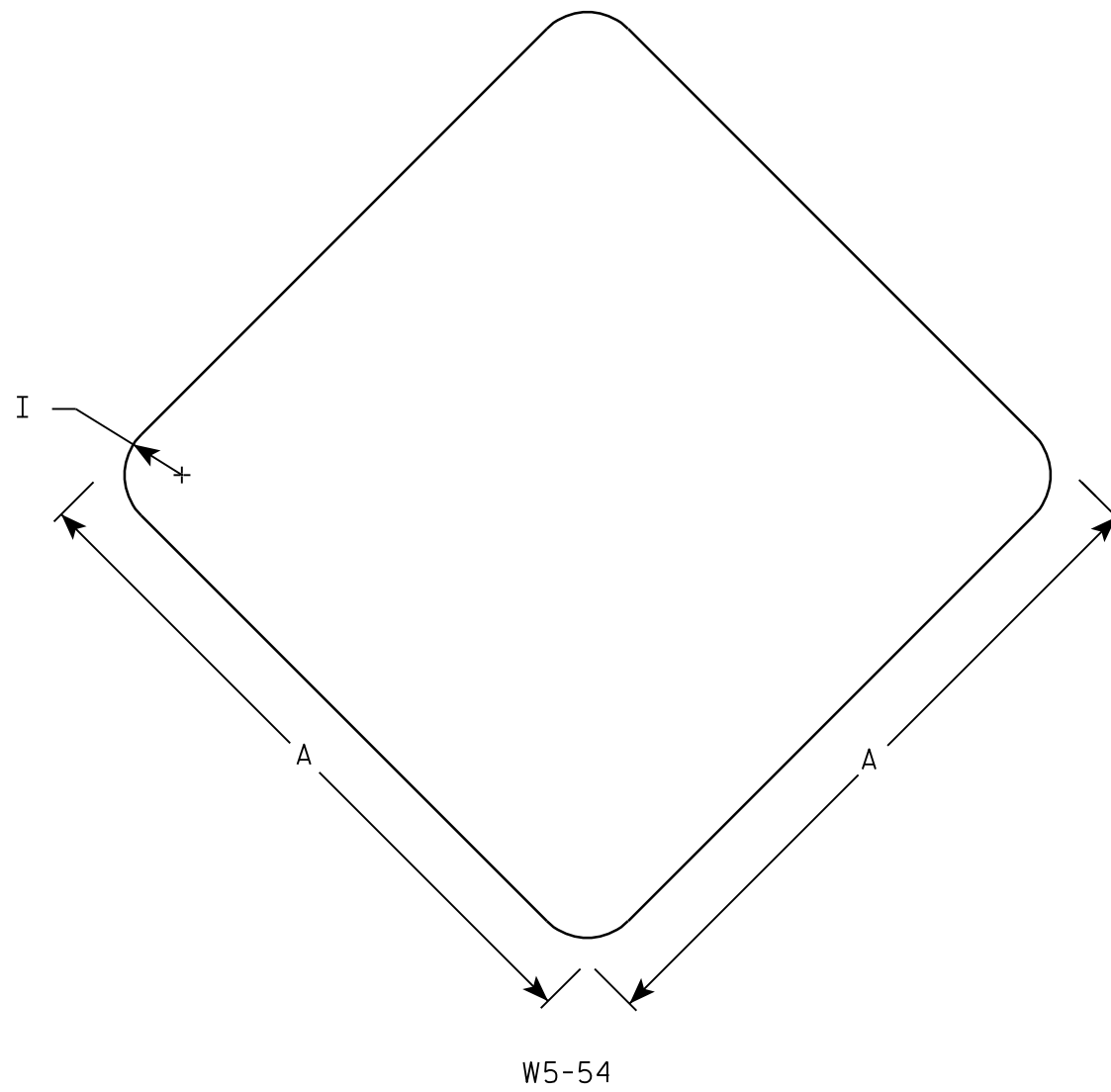
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow
3. Corners may be square or rounded when base material is plywood. When base material is metal the corners shall be rounded.



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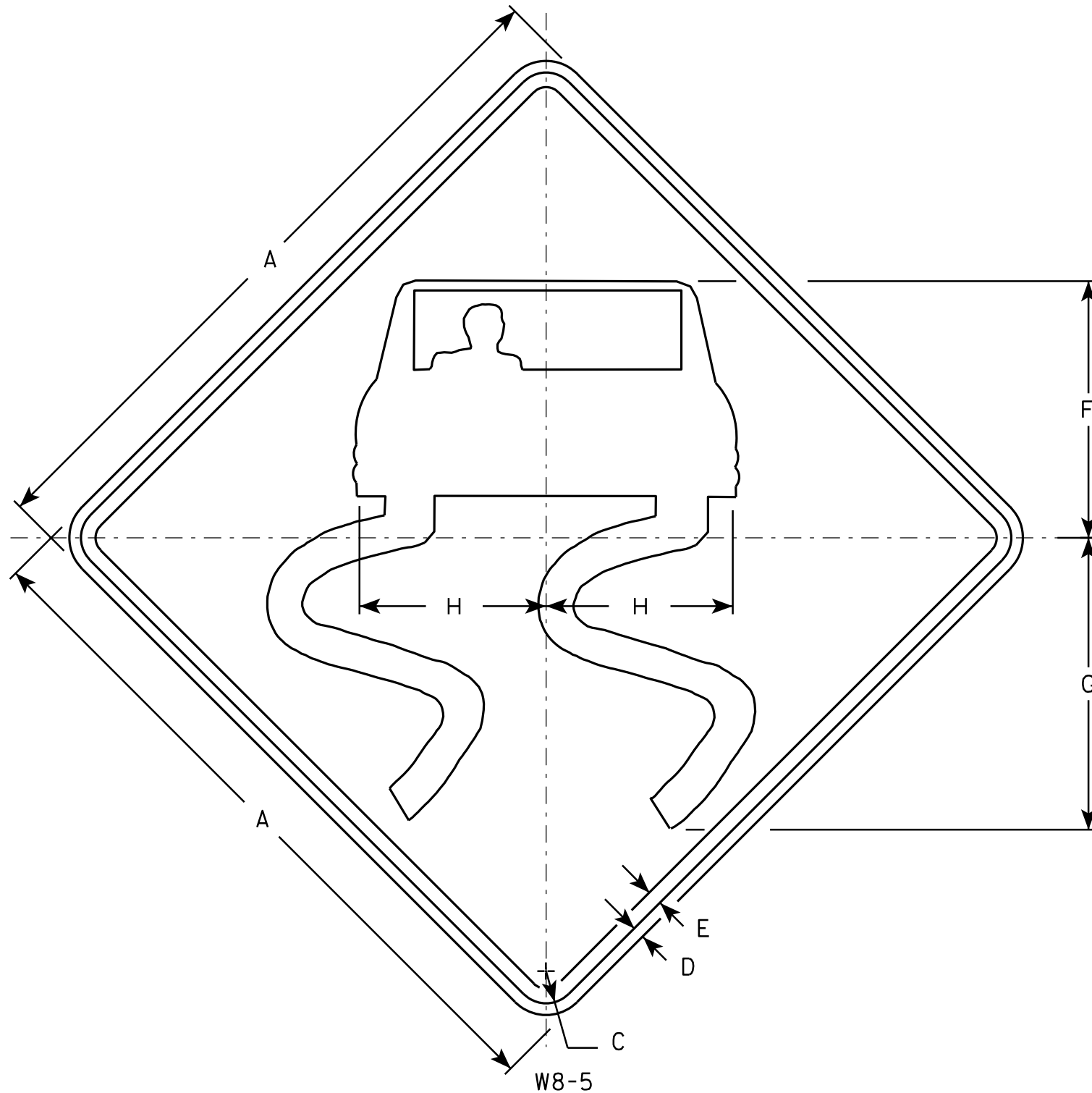
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12								1																		1.0
2S	18								1 1/2																		2.25
2M	18								1 1/2																		2.25
3																											
4																											
5																											

STANDARD SIGN W5-54	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 11/3/10	PLATE NO. W5-54.8

PROJECT NO:	HWY:	COUNTY:	SHEET NO: <b>E</b>
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NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
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.



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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 1/8	3/8	1/2	8 3/4	9 7/8	6 3/8																			4.0
2S	30		1 3/8	1/2	5/8	11	12 1/2	8																			6.25
2M	36		1 5/8	5/8	3/4	13	14 7/8	9 1/2																			9.0
3	36		1 5/8	5/8	3/4	13	14 7/8	9 1/2																			9.0
4	36		1 5/8	5/8	3/4	13	14 7/8	9 1/2																			9.0
5	48		2 1/4	3/4	1	17 3/8	19 3/4	12 5/8																			16.0

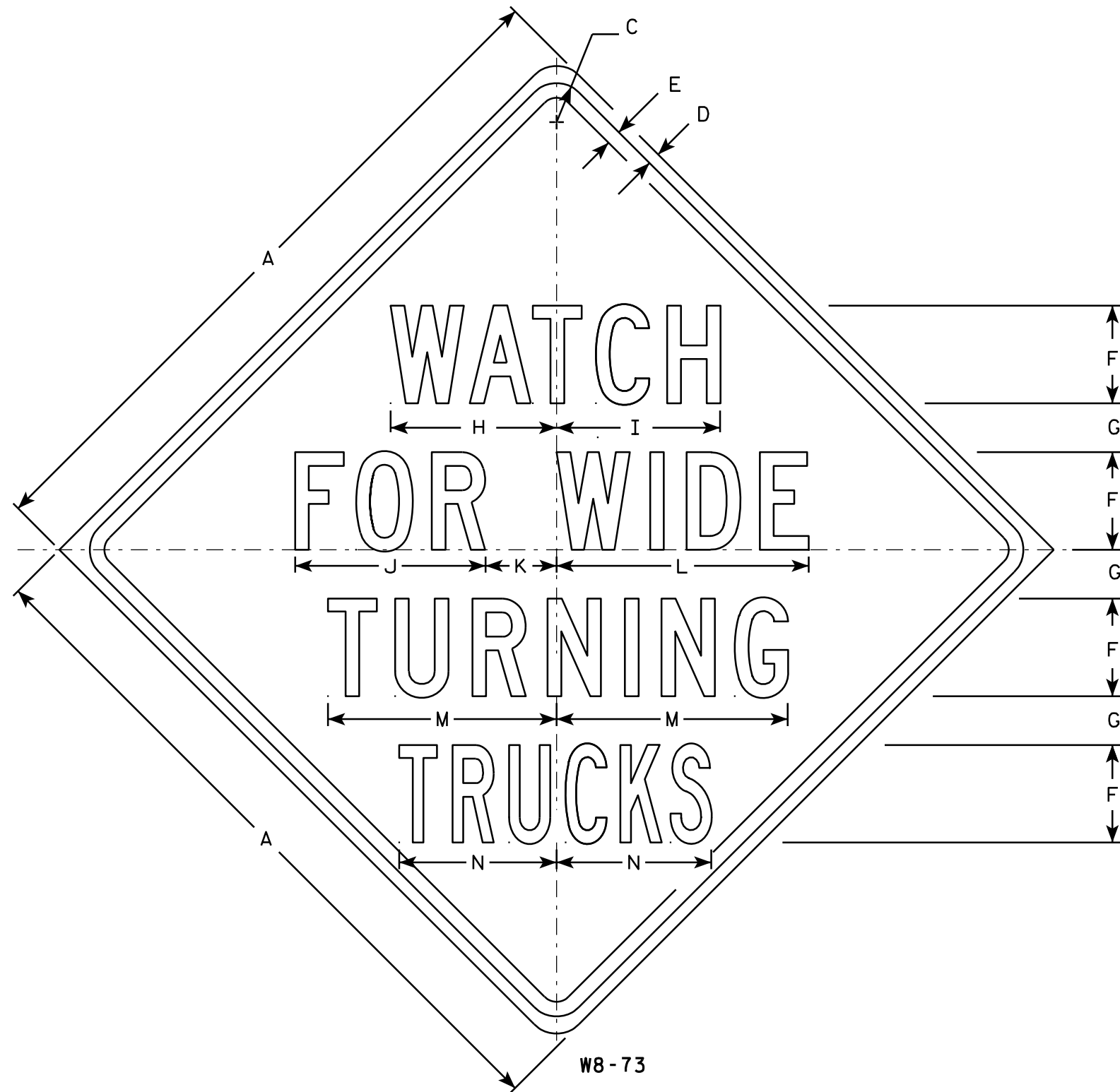
**STANDARD SIGN**  
**W8-5**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 03/14/13 PLATE NO. W8-5.12

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - C except line 4 Series B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 3/8	1/2	5/8	4	2	6 7/8	6 3/4	7 7/8	3	10 3/8	9 1/2	6 1/2													6.25
2M	36		1 5/8	5/8	3/4	5	2 1/2	8 1/2	8 3/8	9 3/4	3 5/8	12 7/8	11 3/4	8													9.0
3	36		1 5/8	5/8	3/4	5	2 1/2	8 1/2	8 3/8	9 3/4	3 5/8	12 7/8	11 3/4	8													9.0
4																											
5																											

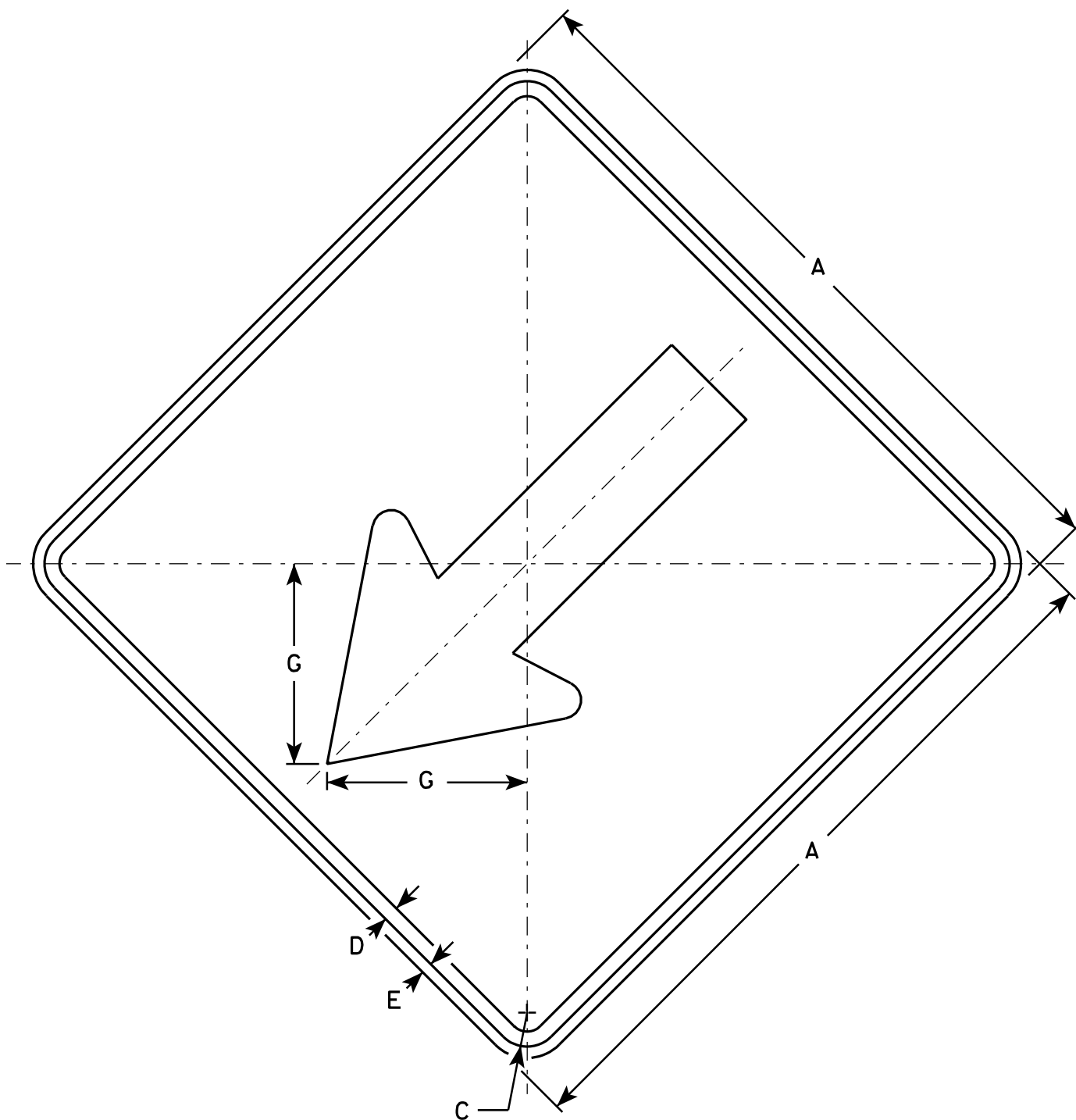
**STANDARD SIGN**  
**W8-73**

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 03/18/13 PLATE NO. W8-73.3

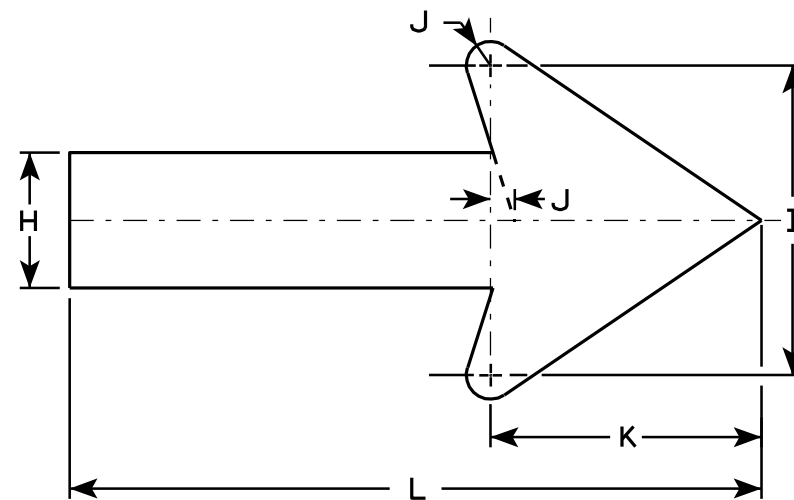
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



W12-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
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.



ARROW DETAIL

7

7

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		1 1/8	1/2	3/8		6 5/8	3 1/2	8	5/8	7	18															4
2M	24		1 1/8	1/2	3/8		6 5/8	3 1/2	8	5/8	7	18															4
3	30		1 3/8	5/8	1/2		8 1/4	4 3/8	10	3/4	8 3/4	22 3/8															6.25
4	36		1 3/4	3/4	5/8		10 3/8	5 1/2	12 1/2	1	11	27 7/8															9.0
5	48		2 1/4	3/4	1		12 1/2	6 5/8	15	1 1/4	13 1/4	33 1/2															16

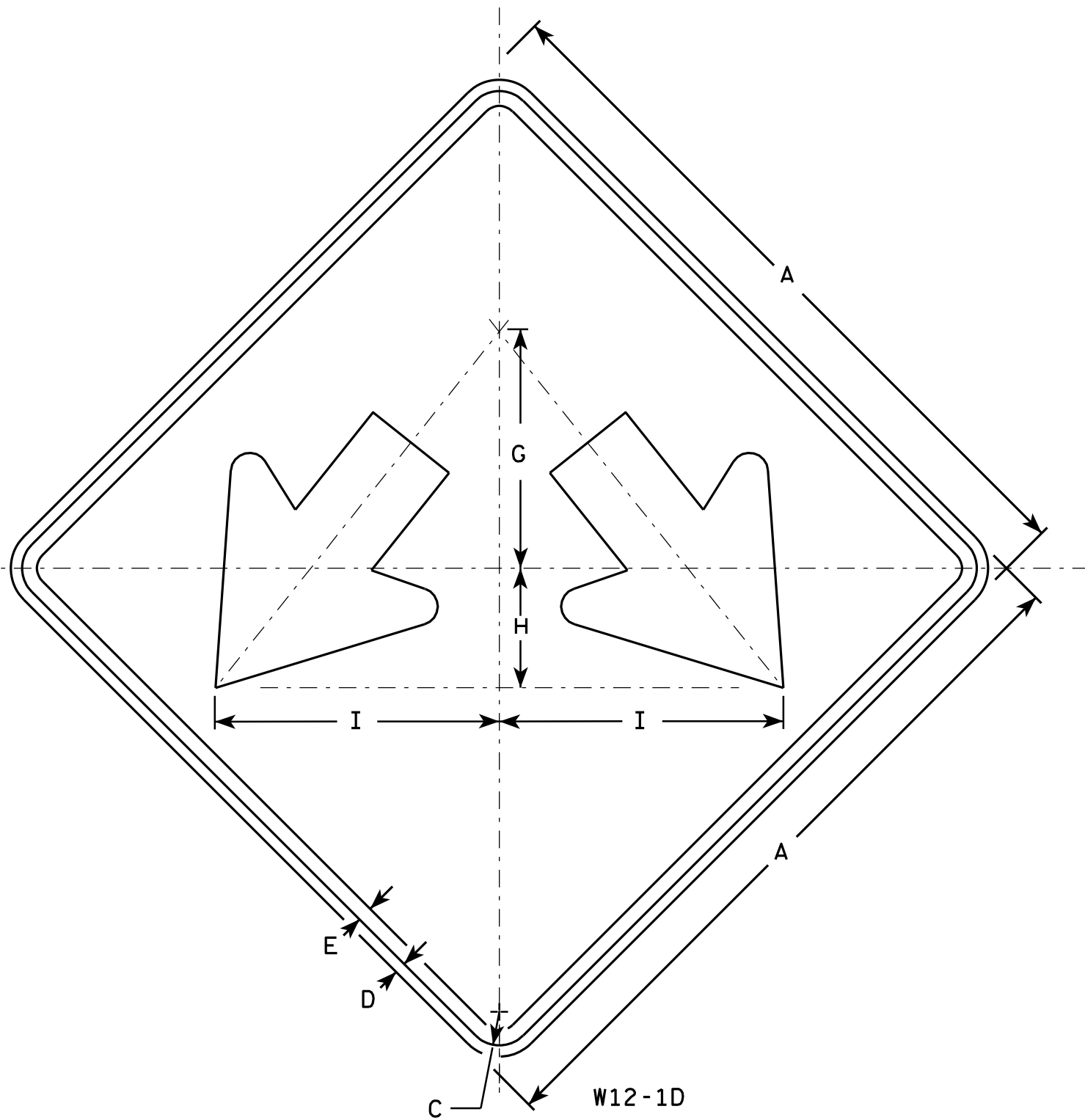
**STANDARD SIGN**  
W12-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

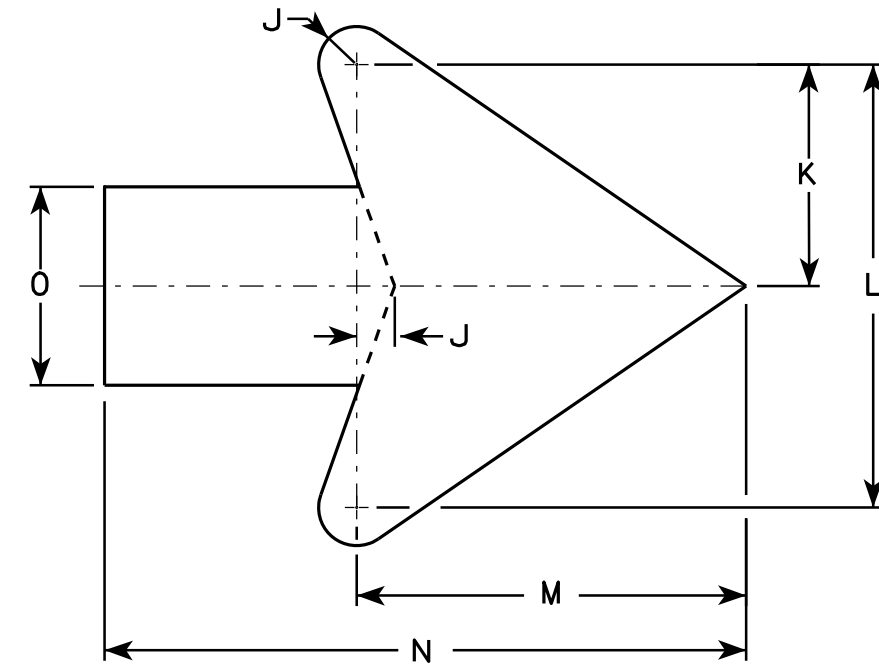
DATE 3/13/13 PLATE NO. W12-1.12

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
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.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

**STANDARD SIGN**  
**W12-1D**

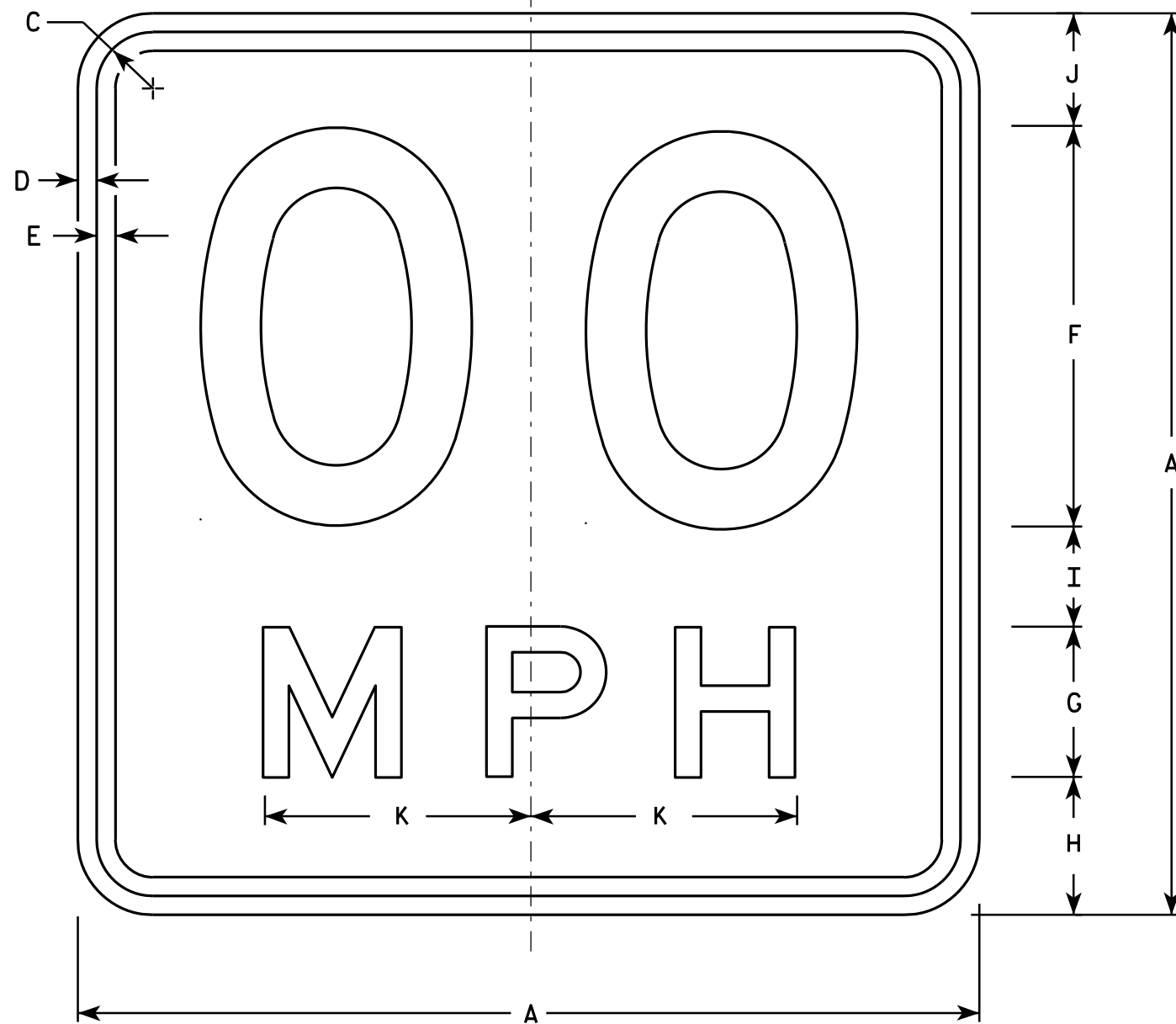
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**





**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
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

W13-1

\* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.  
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

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	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25	
* 2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25	
* 2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25	
3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8															4.00	
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8															9.00	
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8															9.00	

STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO:

HWY:

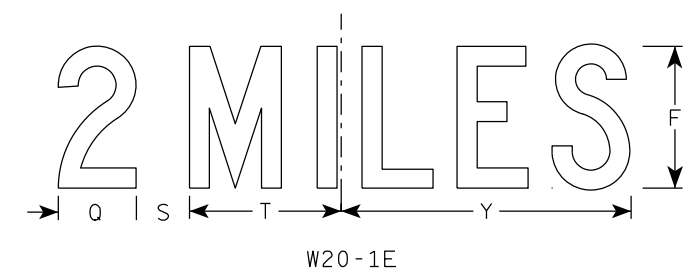
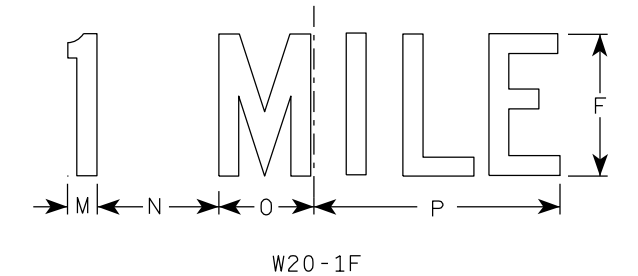
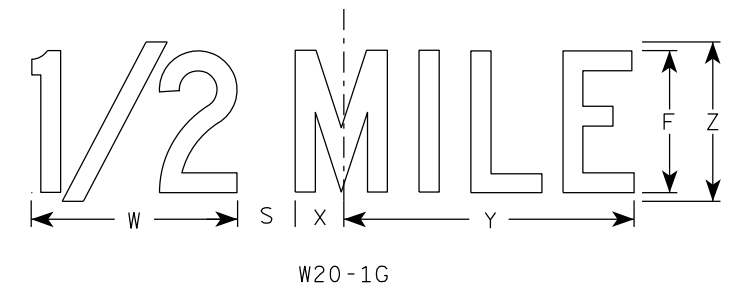
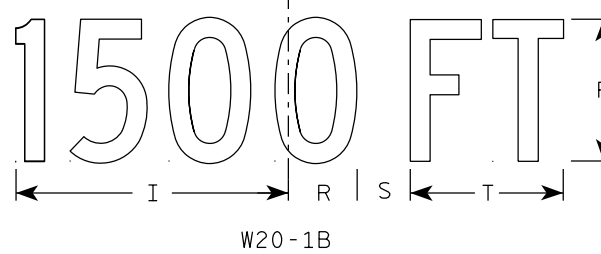
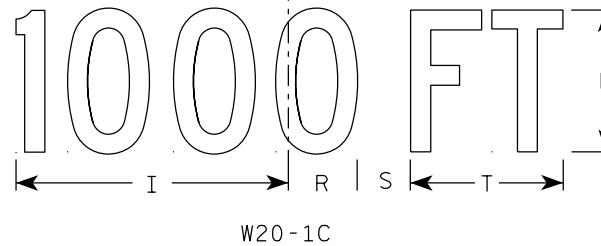
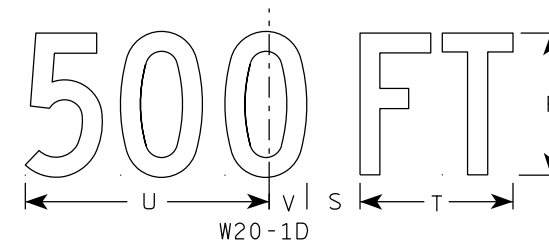
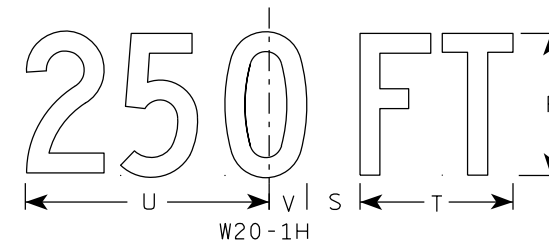
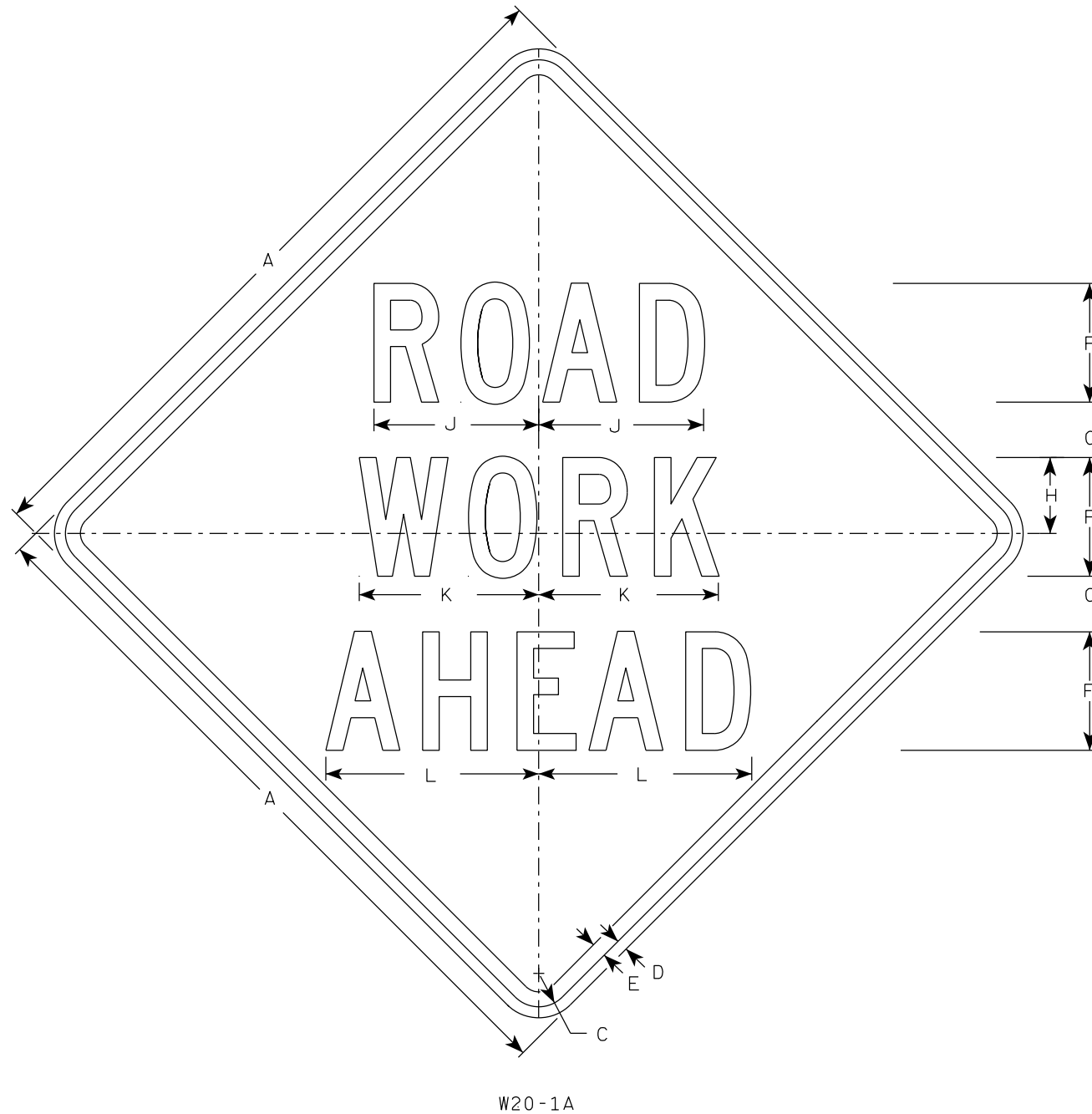
COUNTY:

SHEET NO:

E

**NOTES**

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1A

W20-1C

W20-1B

W20-1G

W20-1F

W20-1E

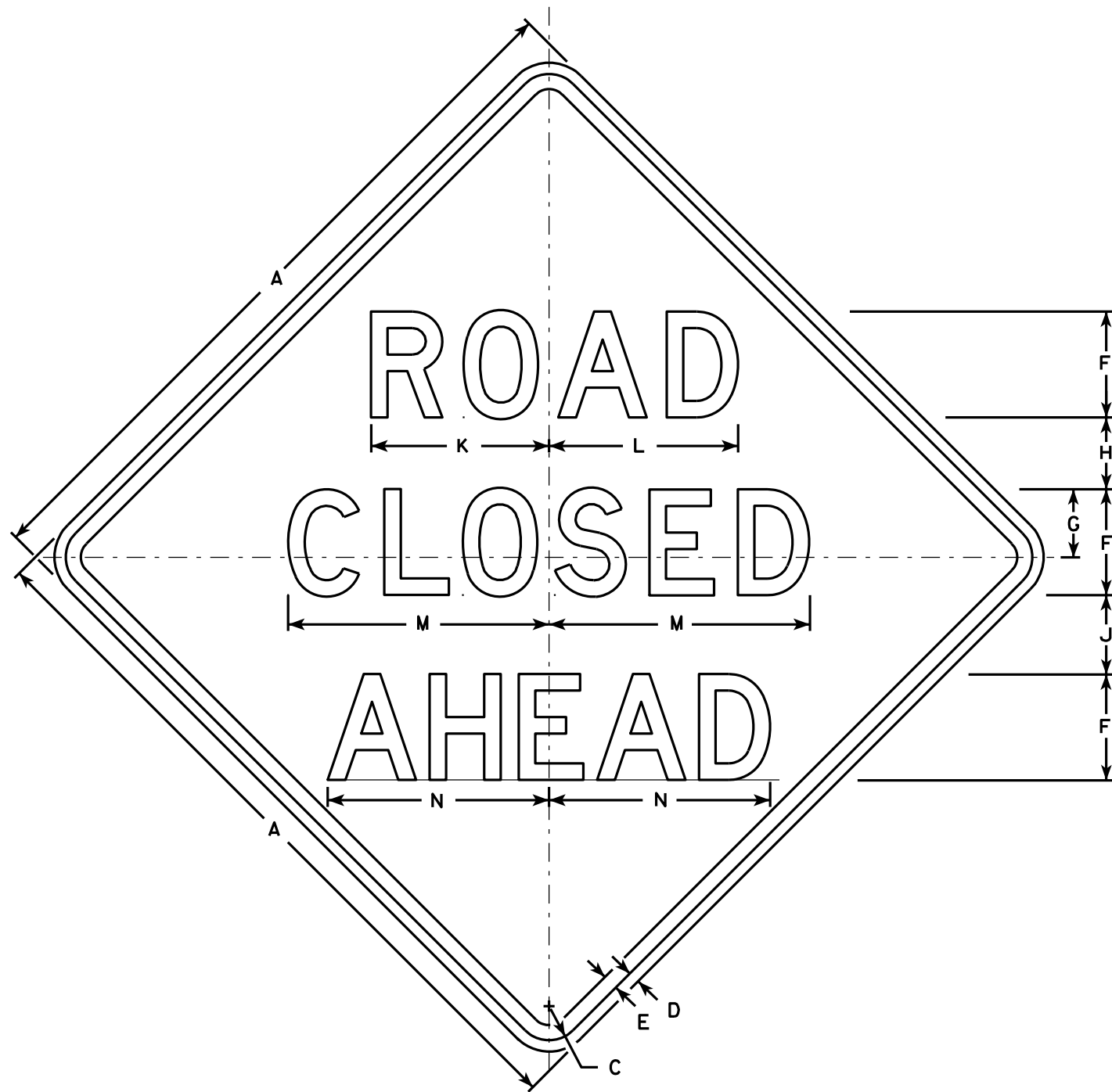
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	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		2 1/4	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		2 1/4	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		2 1/4	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

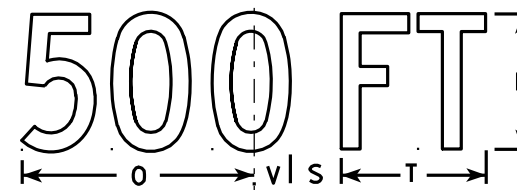
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

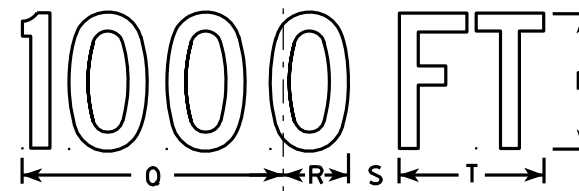
DATE 3/25/2020 PLATE NO. W20-1.11



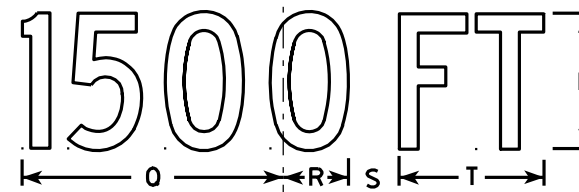
W20-3A



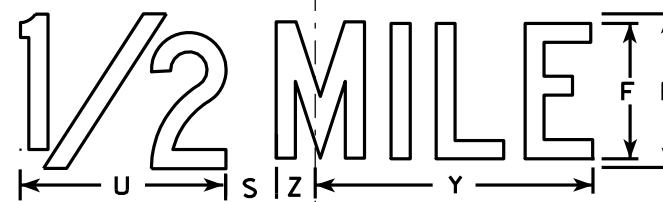
W20-3D



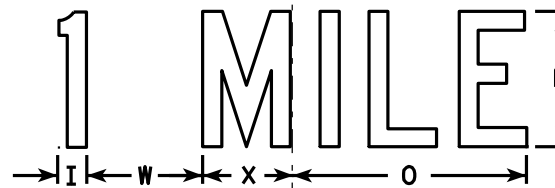
W20-3C



W20-3B



W20-3G



W20-3F

**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.  
Line 3 is Series D for AHEAD and Series C for all other distances.

7

7

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		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

**STANDARD SIGN**  
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

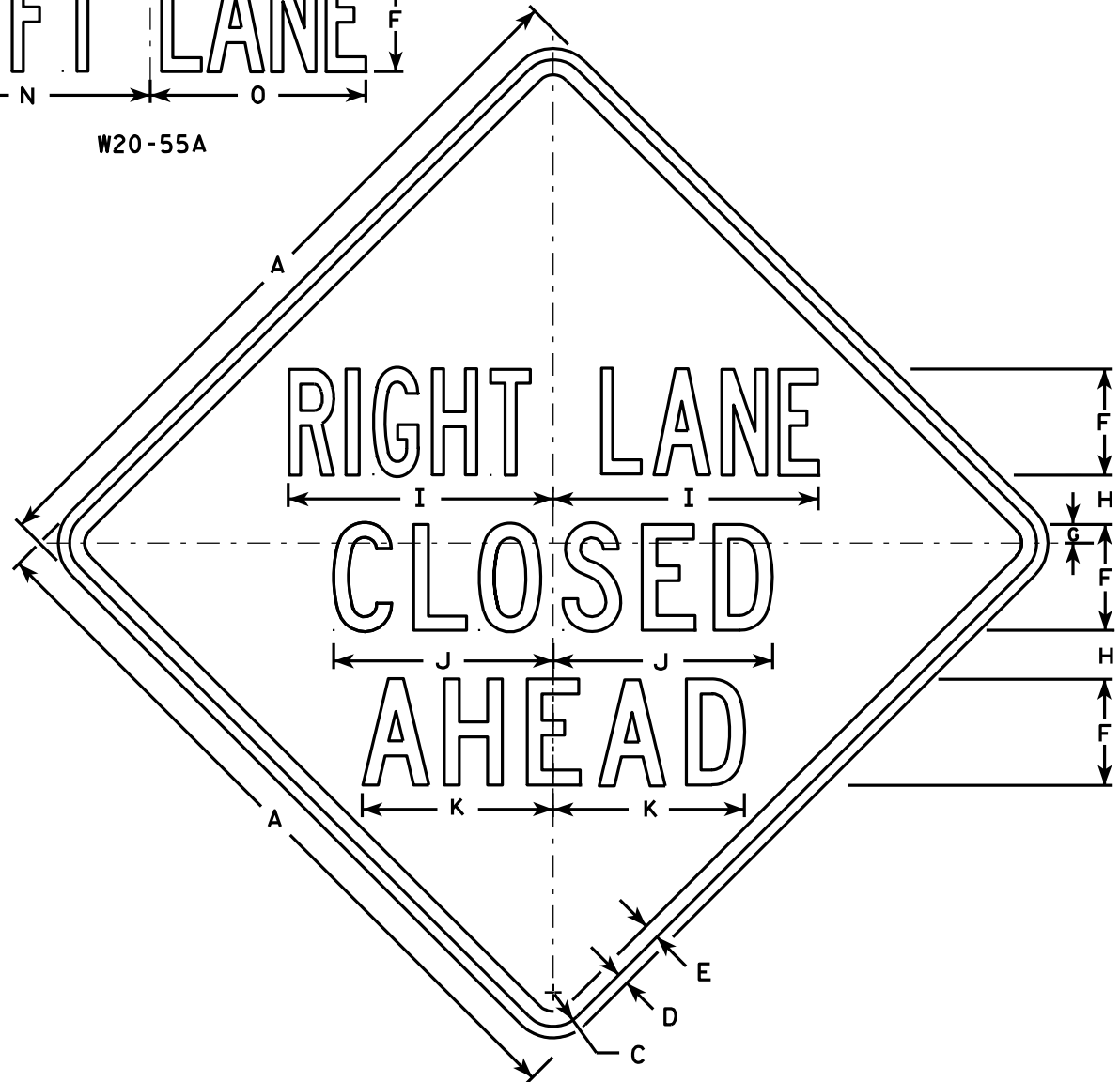
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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.

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

7

7

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	1 5/8	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	2 1/4	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	2 1/4	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	2 1/4	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	2 1/4	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	2 1/4	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

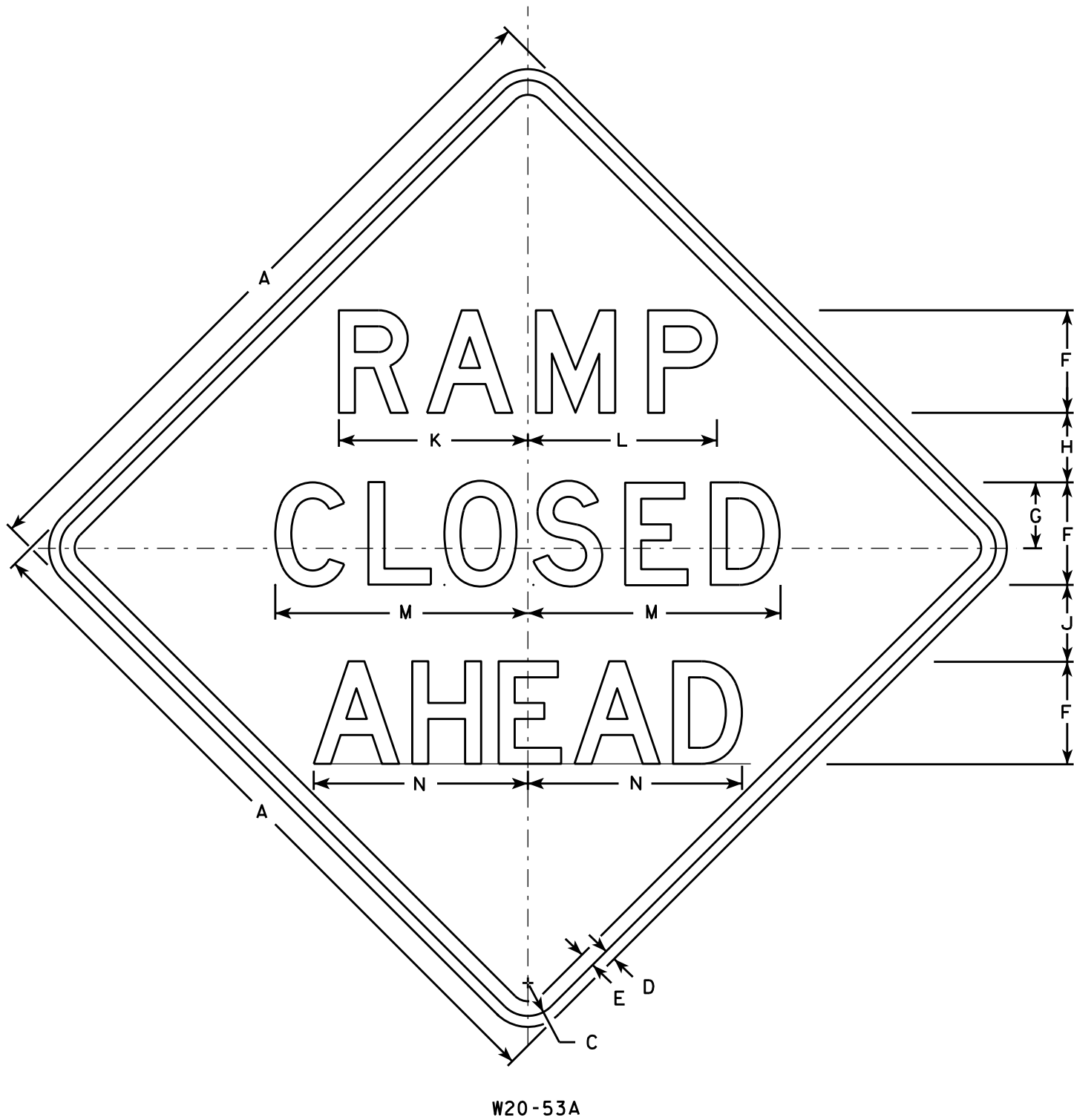
STANDARD SIGN  
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

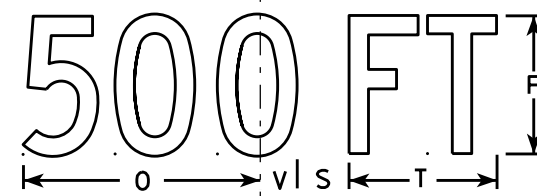
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

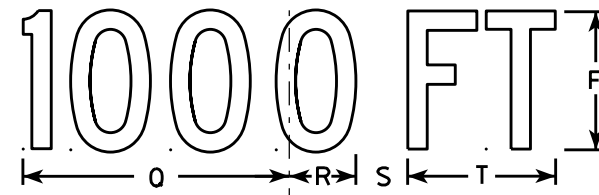
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



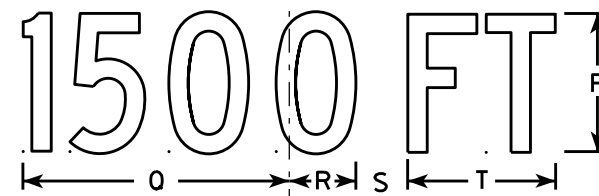
W20-53A



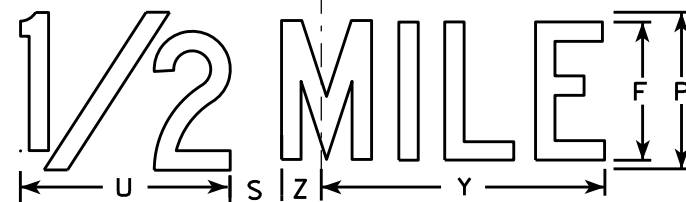
W20-53D



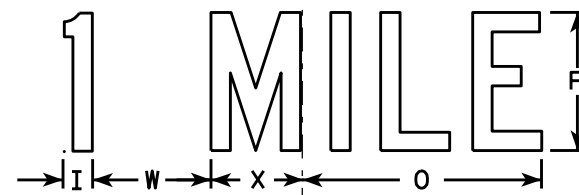
W20-53C



W20-53B



W20-53G



W20-53F

**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.  
Line 3 is Series D for AHEAD and Series C for all other distances.

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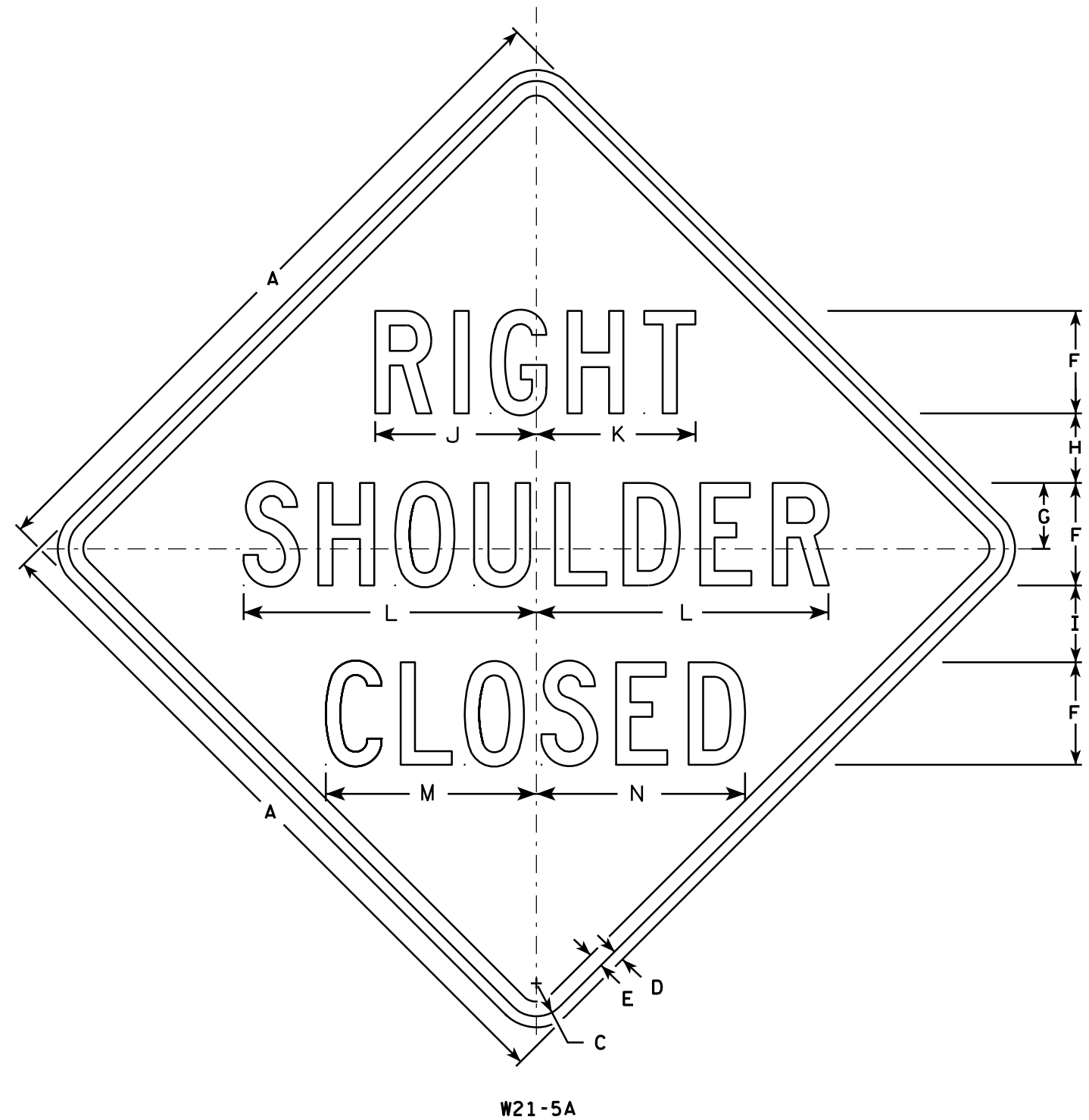
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	9 1/4	9 1/4	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN  
W20-53A,B,C,D,F,G

WISCONSIN DEPT OF TRANSPORTATION

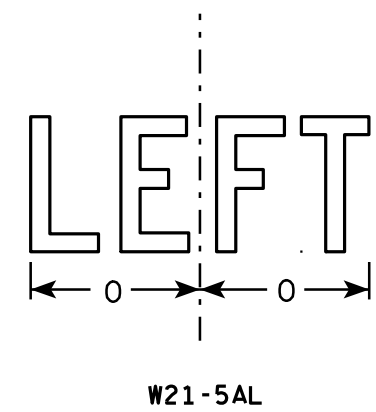
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/27/15 PLATE NO. W20-53.1



**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



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W21-5A

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		1 5/8	5/8	3/4	5	3 3/8	3 1/2	4	7 7/8	7 3/4	14 1/4	10 1/4	10 1/8	6 1/4												9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0

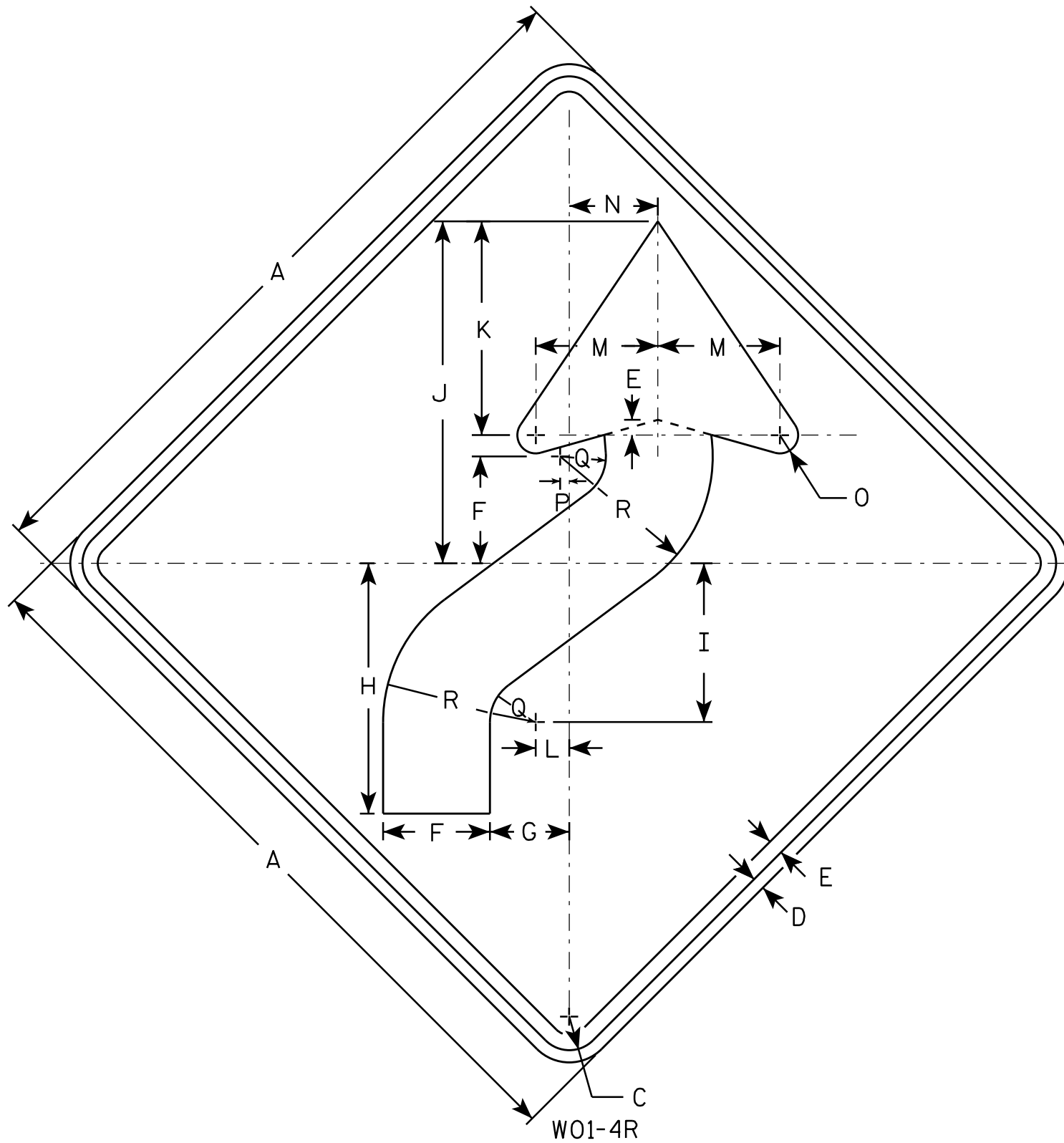
**STANDARD SIGN**  
**W21-5A**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5A.3

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

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W01-4R

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		1 5/8	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		2 1/4	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		2 1/4	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		2 1/4	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		2 1/4	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		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN  
W01-4

WISCONSIN DEPT OF TRANSPORTATION

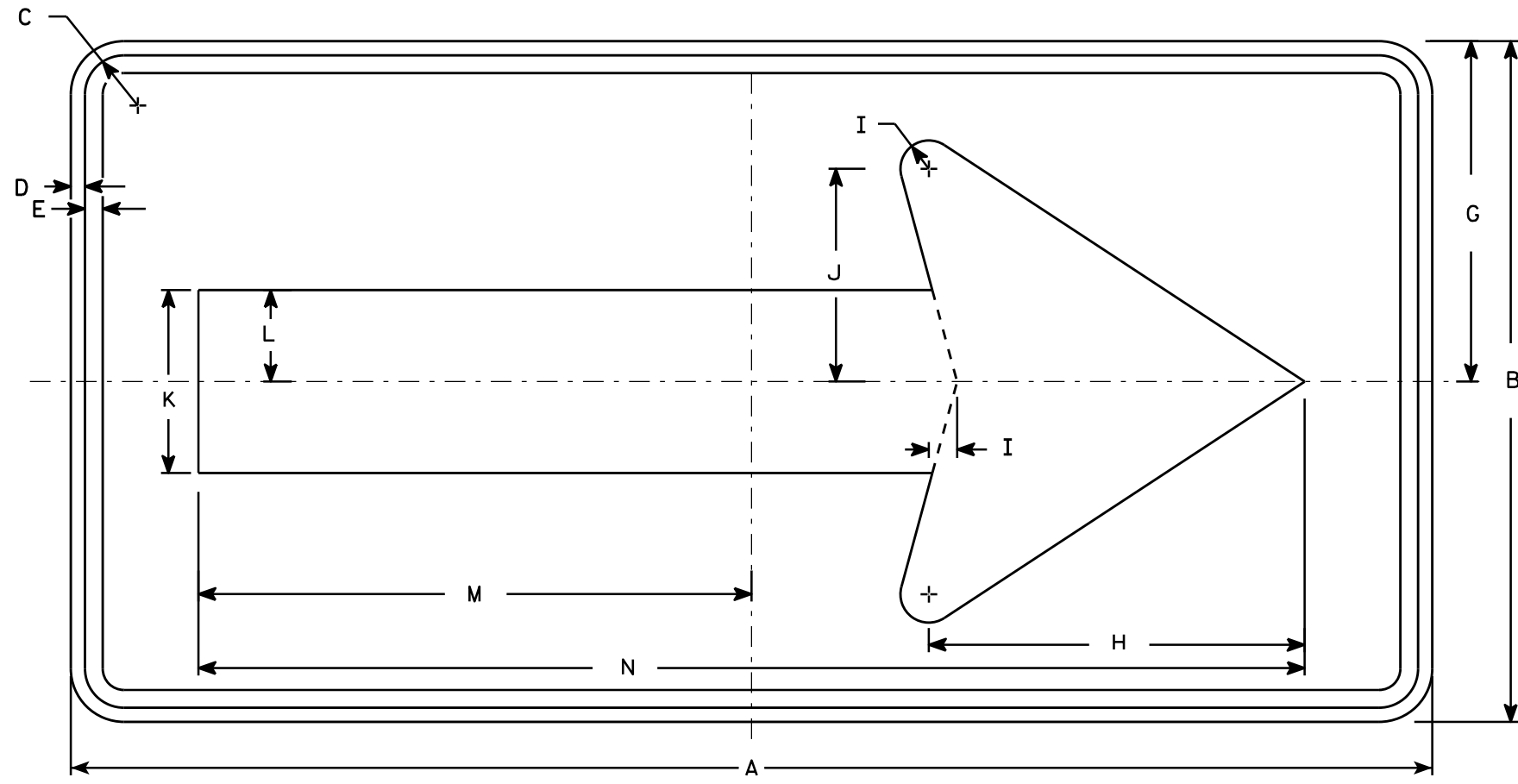
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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.



W01-6

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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 3/8	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 3/8	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 3/8	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 3/8	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 3/8	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**  
**W01-6**

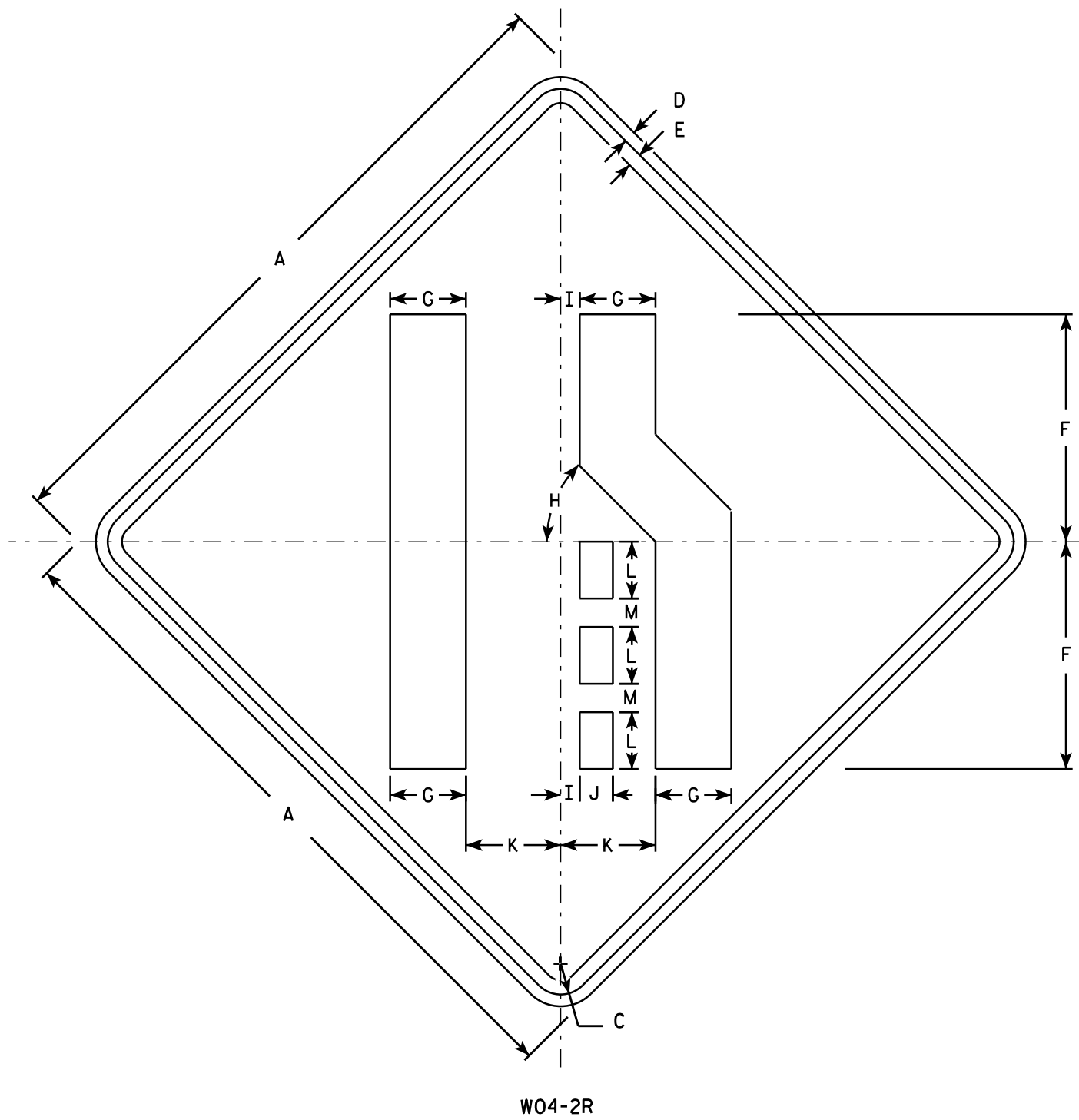
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**





**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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.

W04-2R

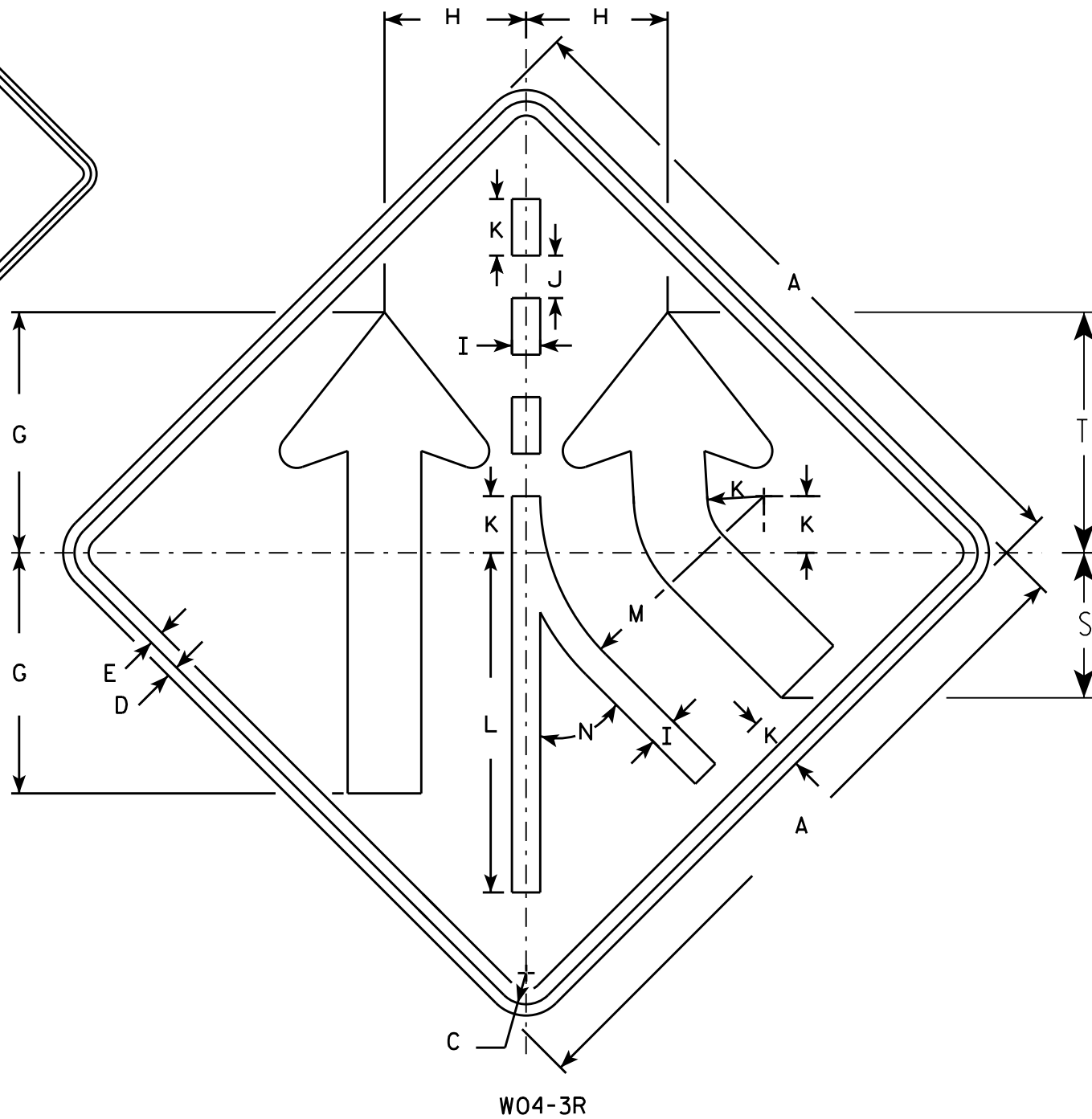
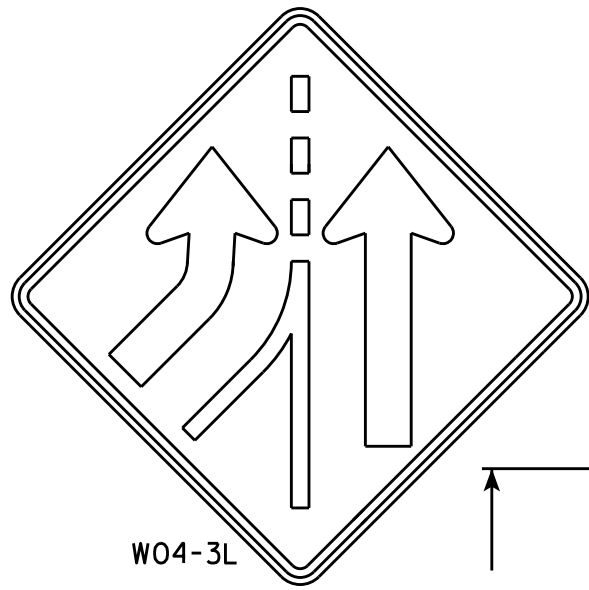
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	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

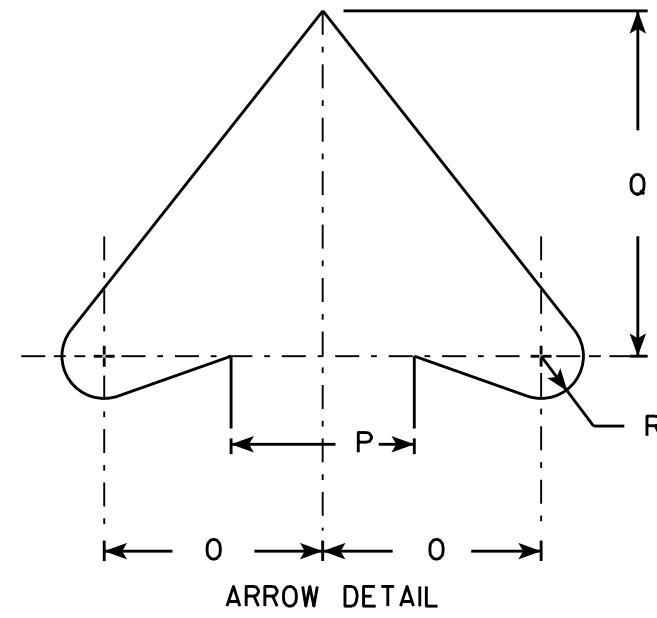
DATE 11/20/13 PLATE NO. W04-2.1



W04-3R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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. W04-3 L is the same as W04-3 R except the arrow is reversed along the vertical centerline.



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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		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
2S	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
2M	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
3	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
4	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
5	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0

**STANDARD SIGN**  
**W0433**

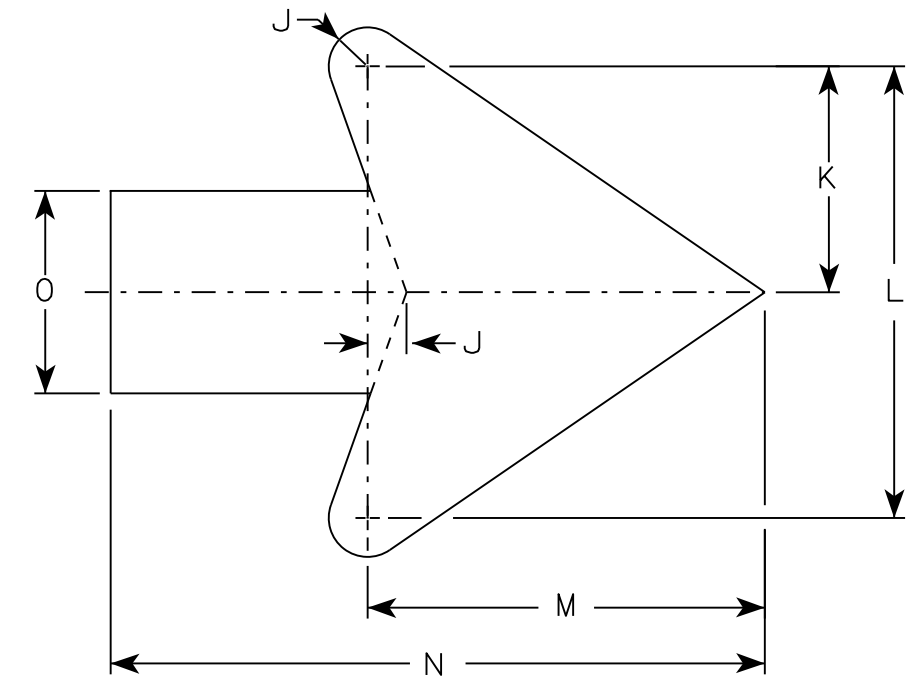
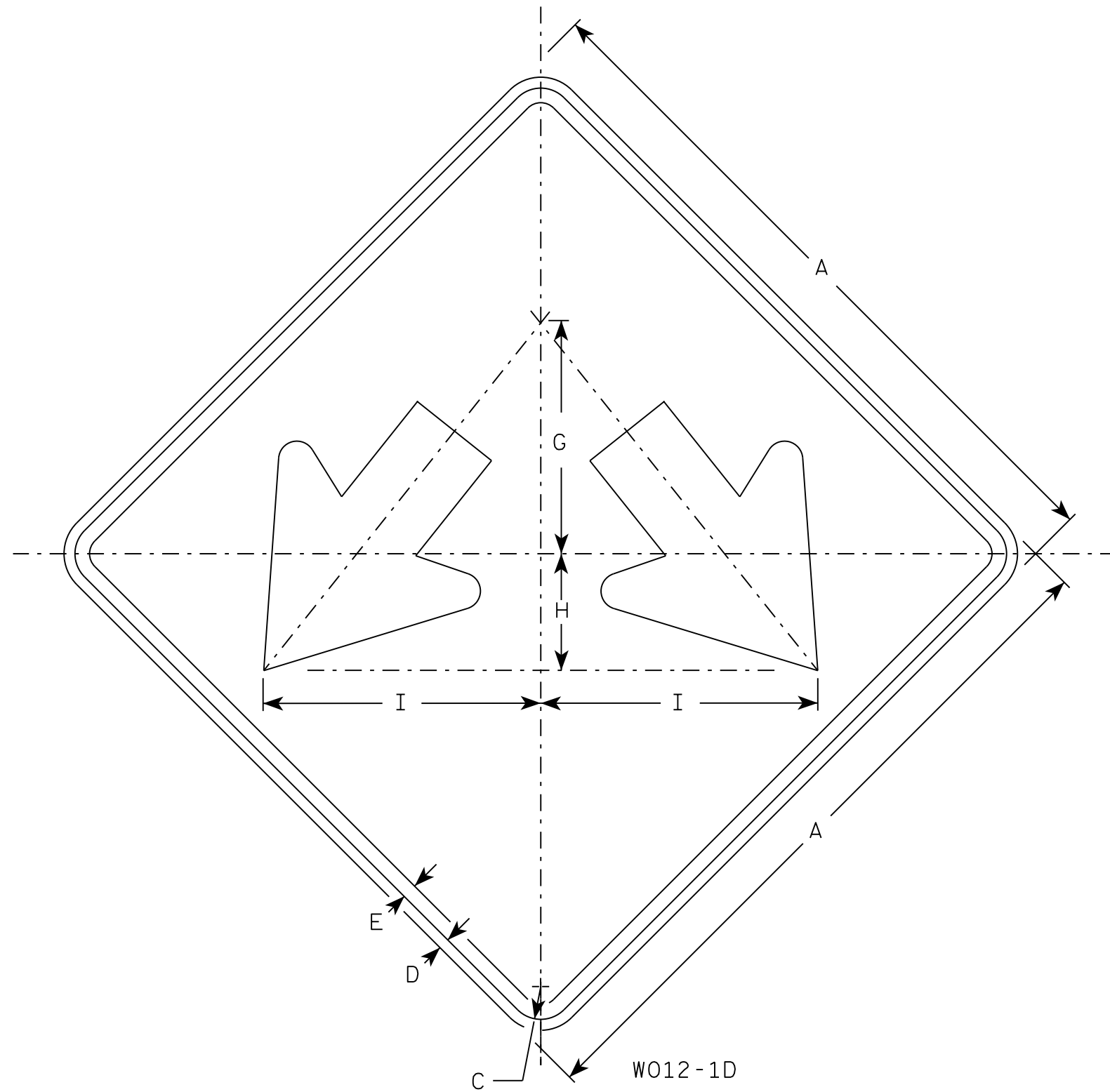
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-3.1

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.



Arrow Detail

7

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 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0

STANDARD SIGN  
W012-1D

WISCONSIN DEPT OF TRANSPORTATION

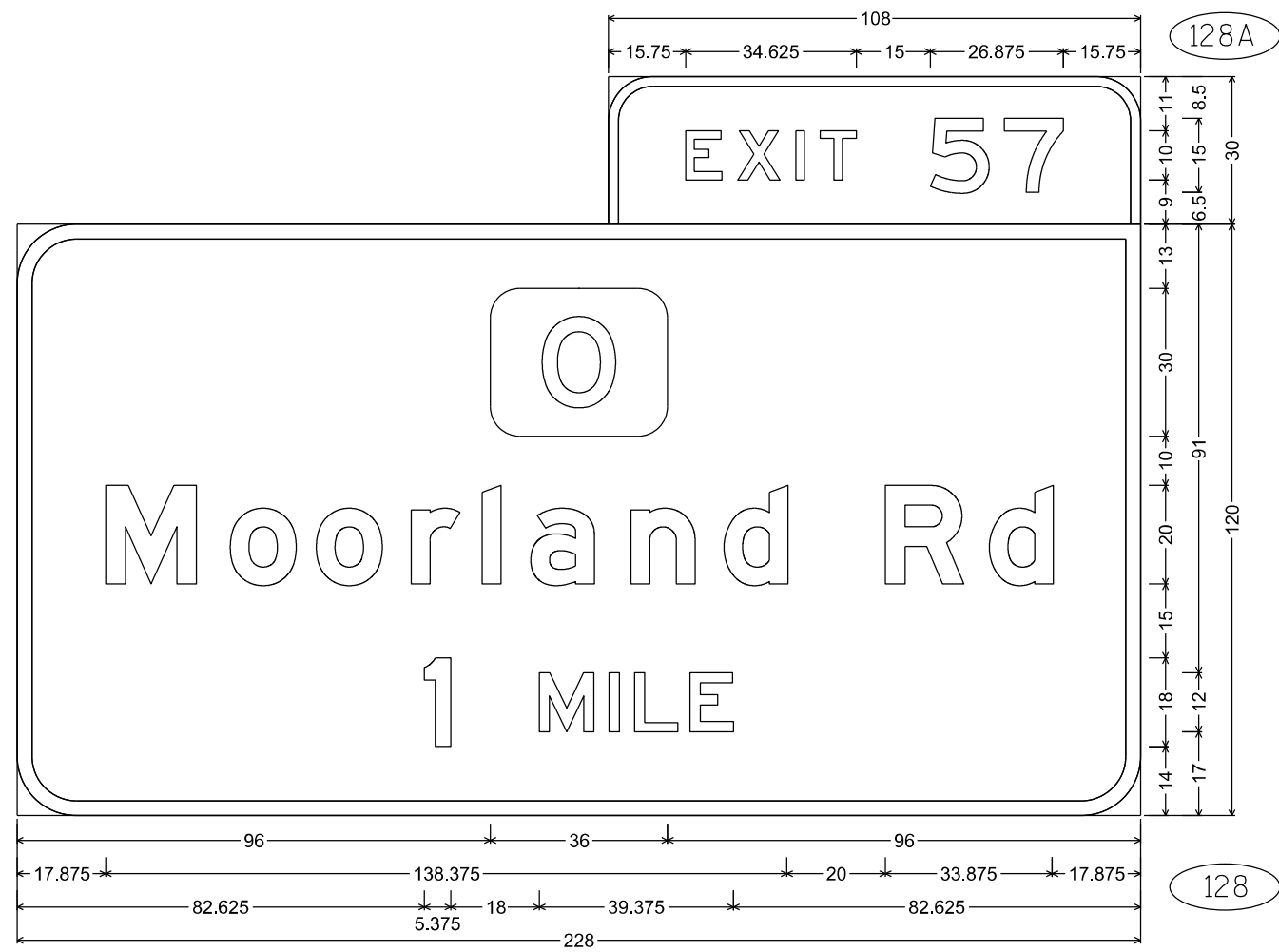
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 7/28/16 PLATE NO. W012-1D.2

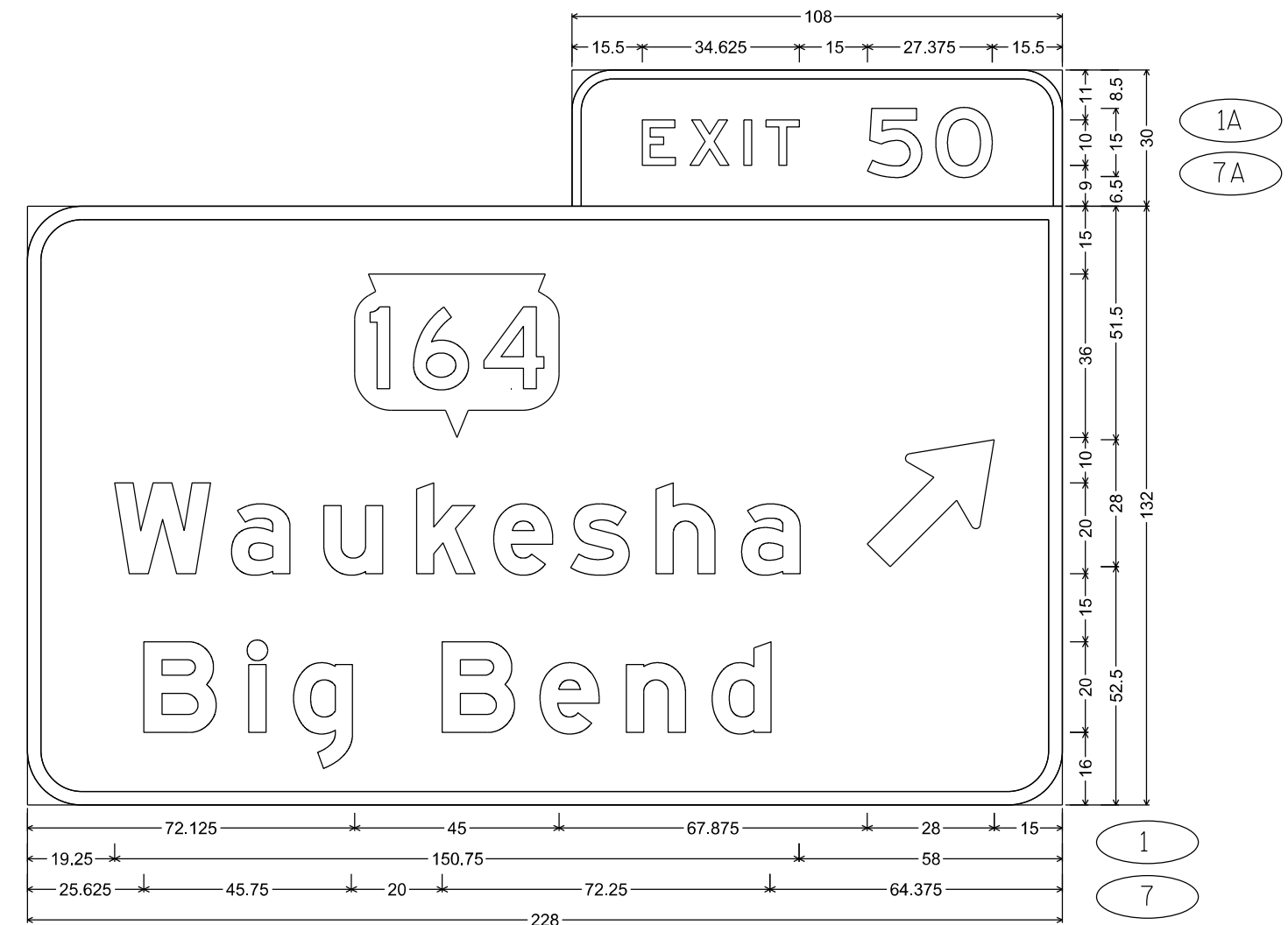
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

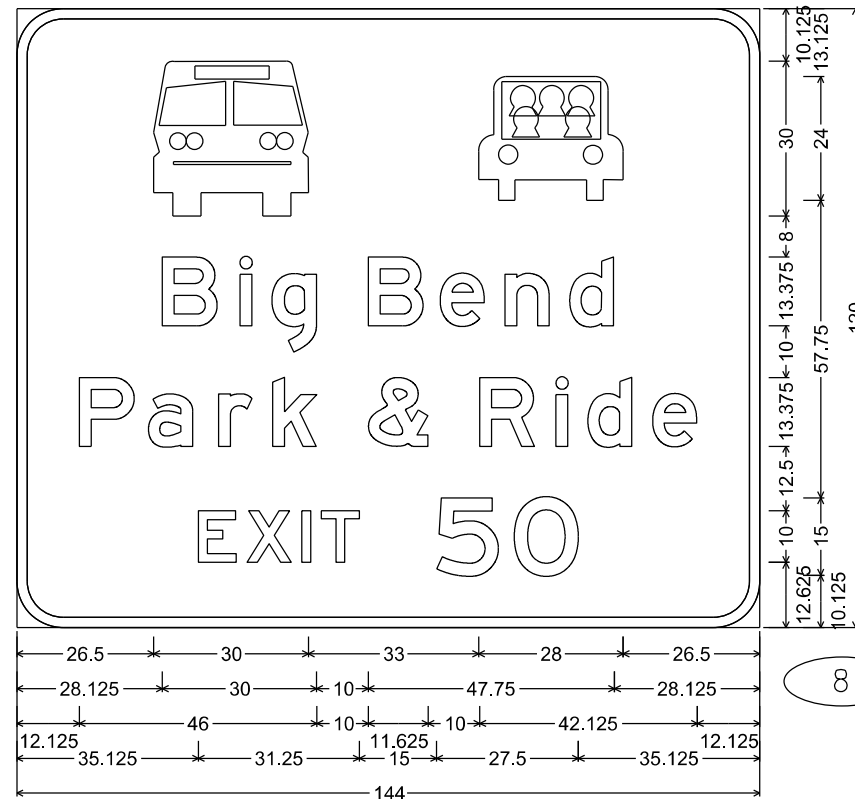
1. All Signs Type I - Type SH Reflective
2. Color:  
Background - Green  
Message - White
3. Message Series - E Modified except all CAP words Series E



E1-5P; 9.000" Radius, 2.000" Border  
E1-1A; 12.000" Radius, 3.000" Border



E1-5P; 9.000" Radius, 2.000" Border  
E4-1A; 12.000" Radius, 3.000" Border



E3-1; 9.000" Radius, 2.000" Border  
 "Big", E; "Bend", E; "Park", E; "&", E;  
 "Ride", E; "EXIT", E; "50", E;

8

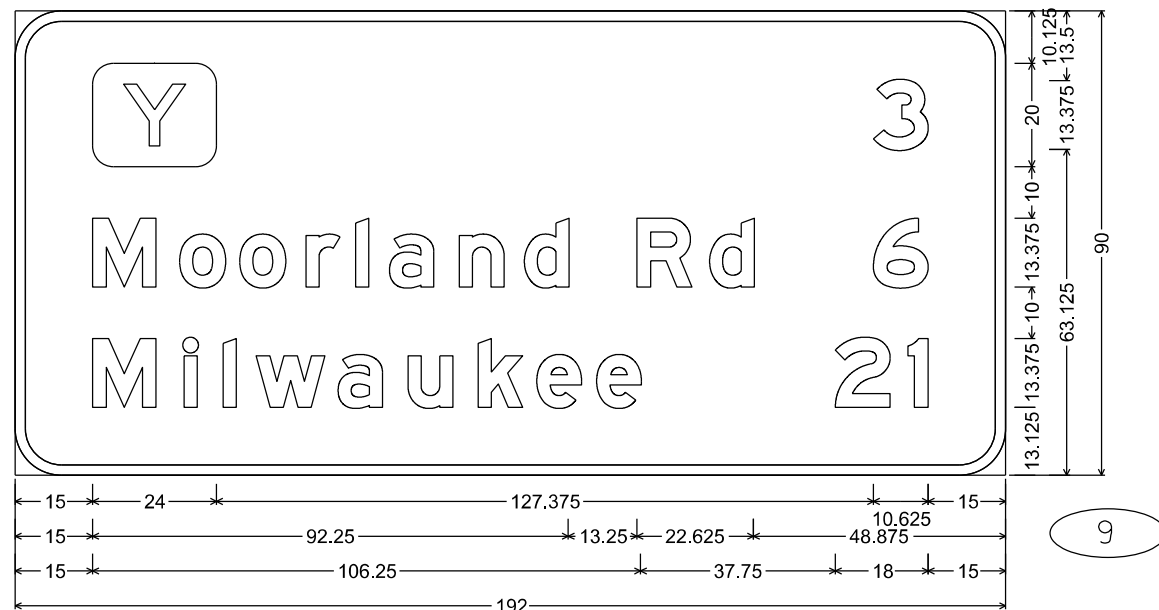
NOTES

1. All Signs Type I - Type SH Reflective
2. Color:  
 Background - Green  
 Message - White
3. Message Series - E Modified except all CAP words Series E



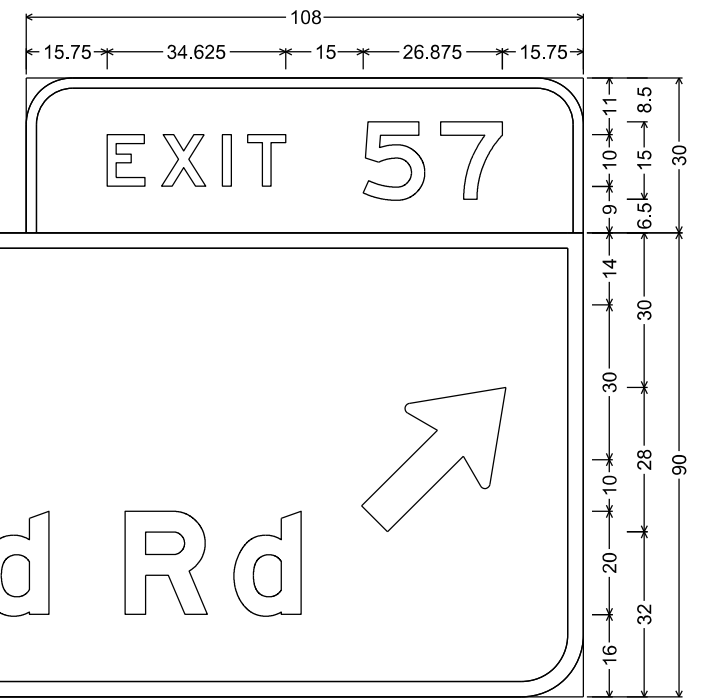
E3-1; 9.000" Radius, 2.000" Border

17



D2-3; 9.000" Radius, 2.000" Border

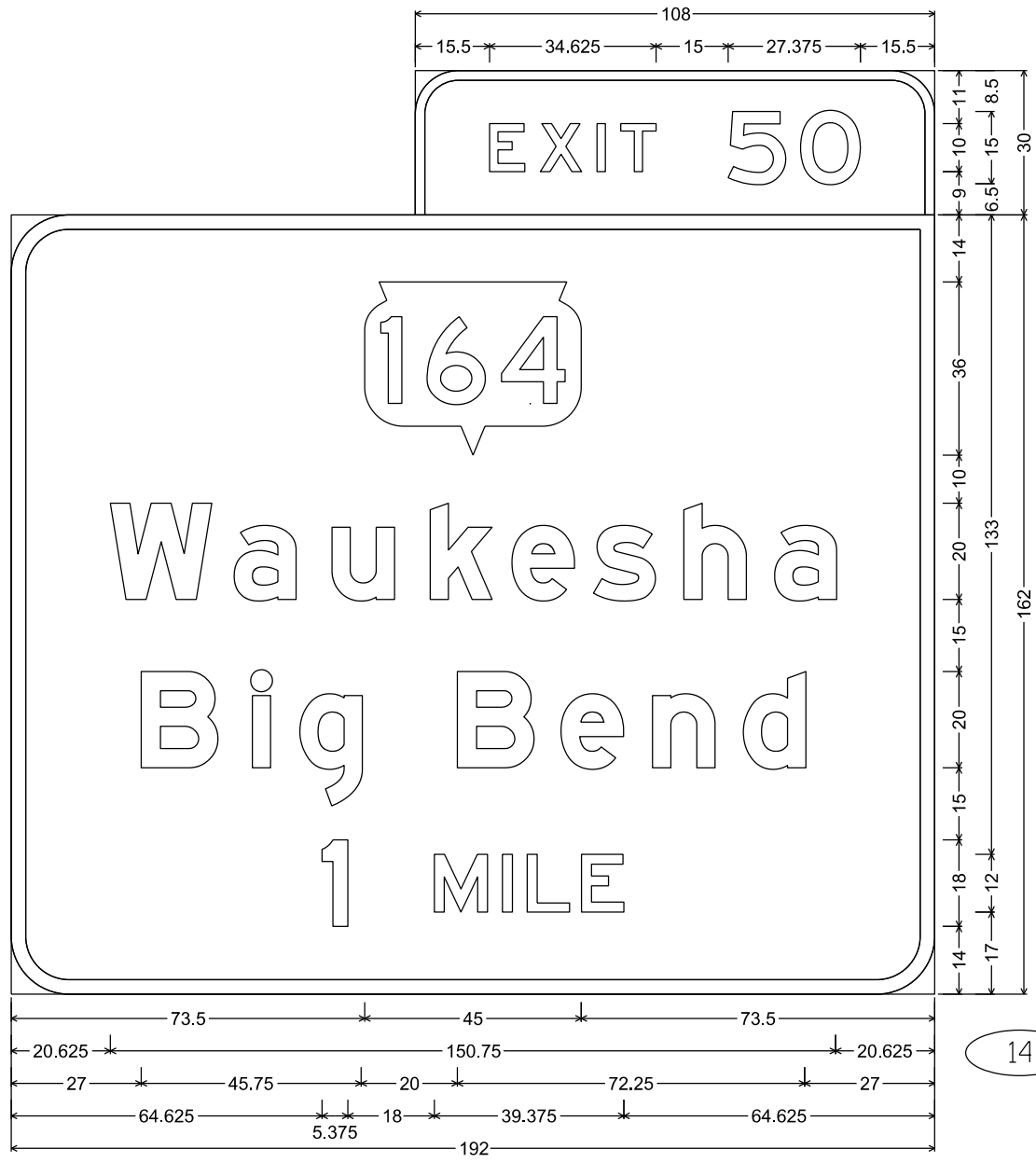
9



130A

130

E1-5P; 9.000" Radius, 2.000" Border  
 E4-1A; 12.000" Radius, 3.000" Border



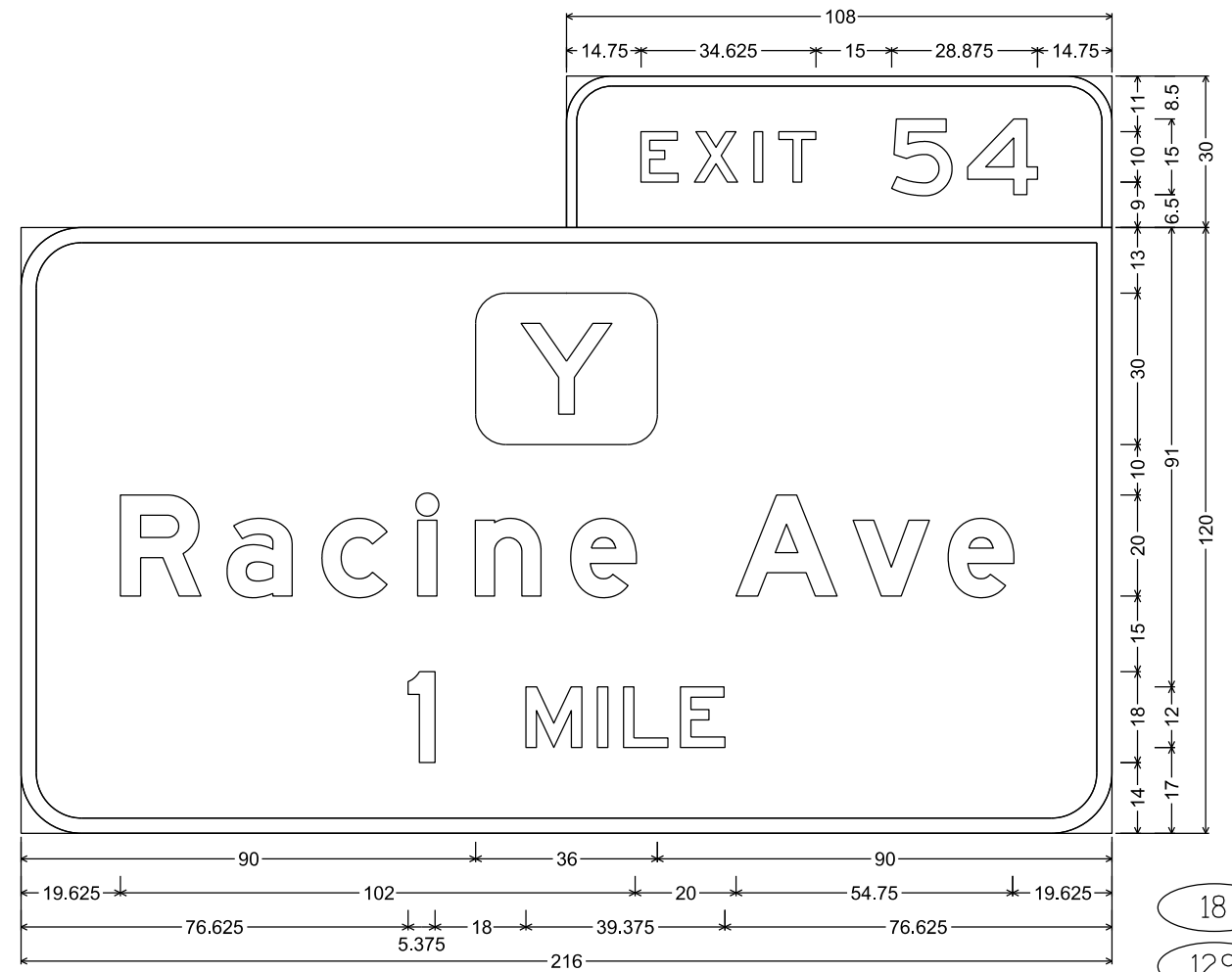
14A

E1-5P; 9.000" Radius, 2.000" Border  
 E1-1A; 12.000" Radius, 3.000" Border

14

NOTES

1. All Signs Type I - Type SH Reflective
2. Color:  
 Background - Green  
 Message - White
3. Message Series - E Modified except all CAP words Series E



18A

129A

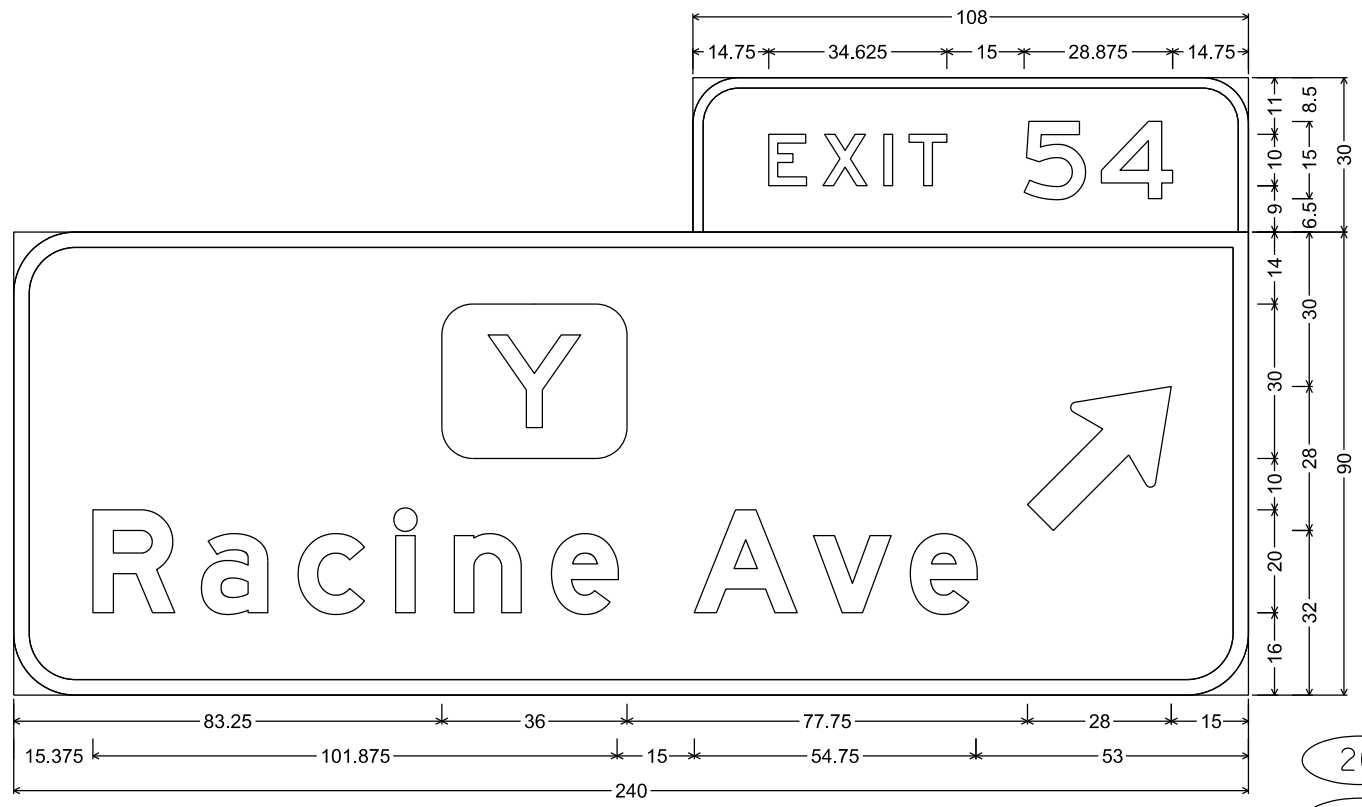
18

129

E1-5P; 9.000" Radius, 2.000" Border  
 E1-1A; 12.000" Radius, 3.000" Border

7

7

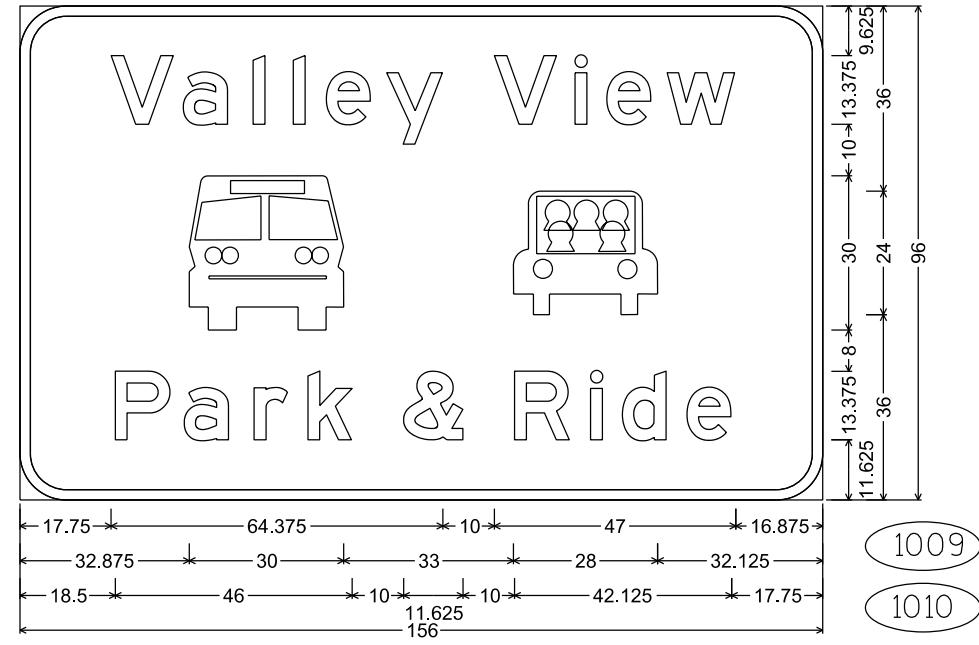


E1-5P; 9.000" Radius, 2.000" Border  
 E4-1A; 12.000" Radius, 3.000" Border,

20A  
 125A  
 20  
 125

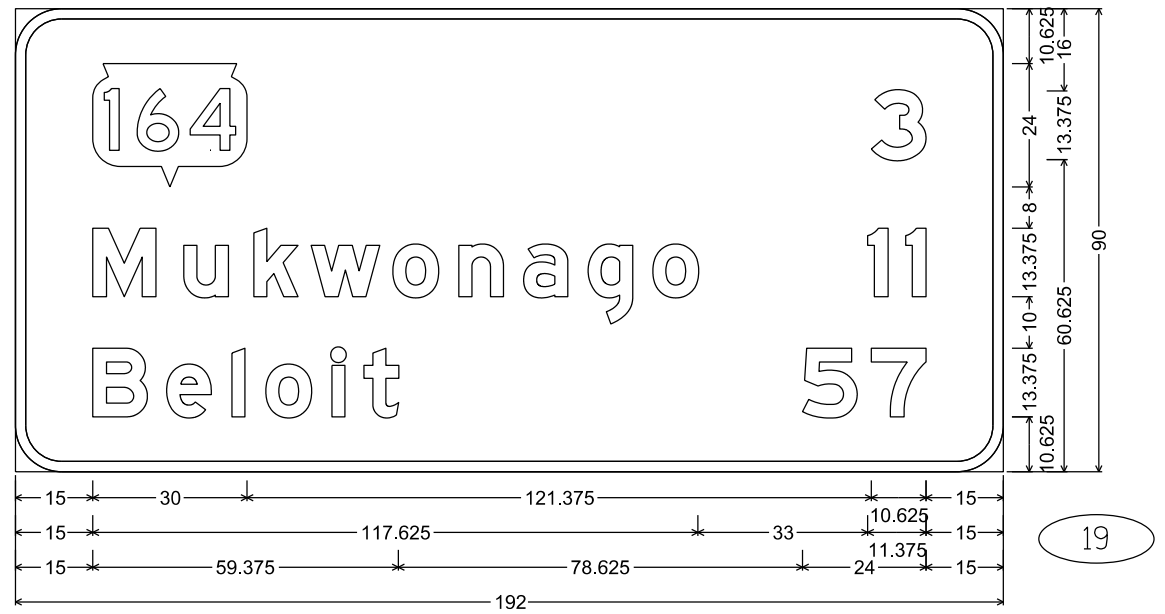
NOTES

1. All Signs Type I - Type SH Reflective
2. Color:  
 Background - Green  
 Message - White
3. Message Series - E Modified except all CAP words Series E



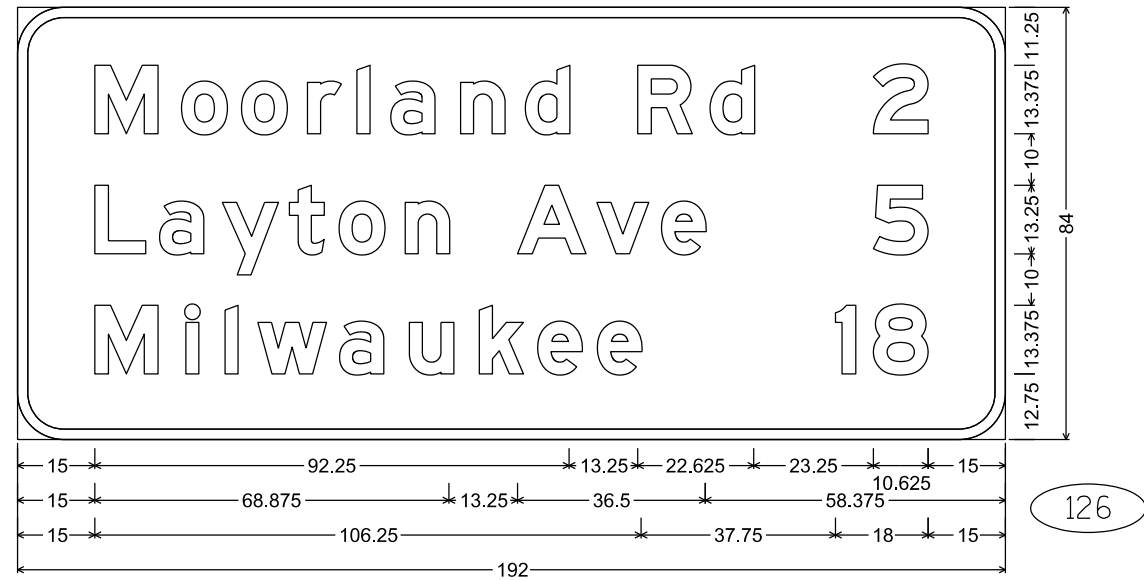
E3-1; 9.000" Radius, 2.000" Border  
 "Valley", E; "View", E; "Park", E; "&", E; "Ride", E

1009  
 1010



D2-3; 9.000" Radius, 2.000" Border

19

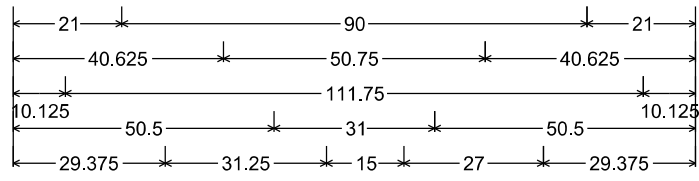
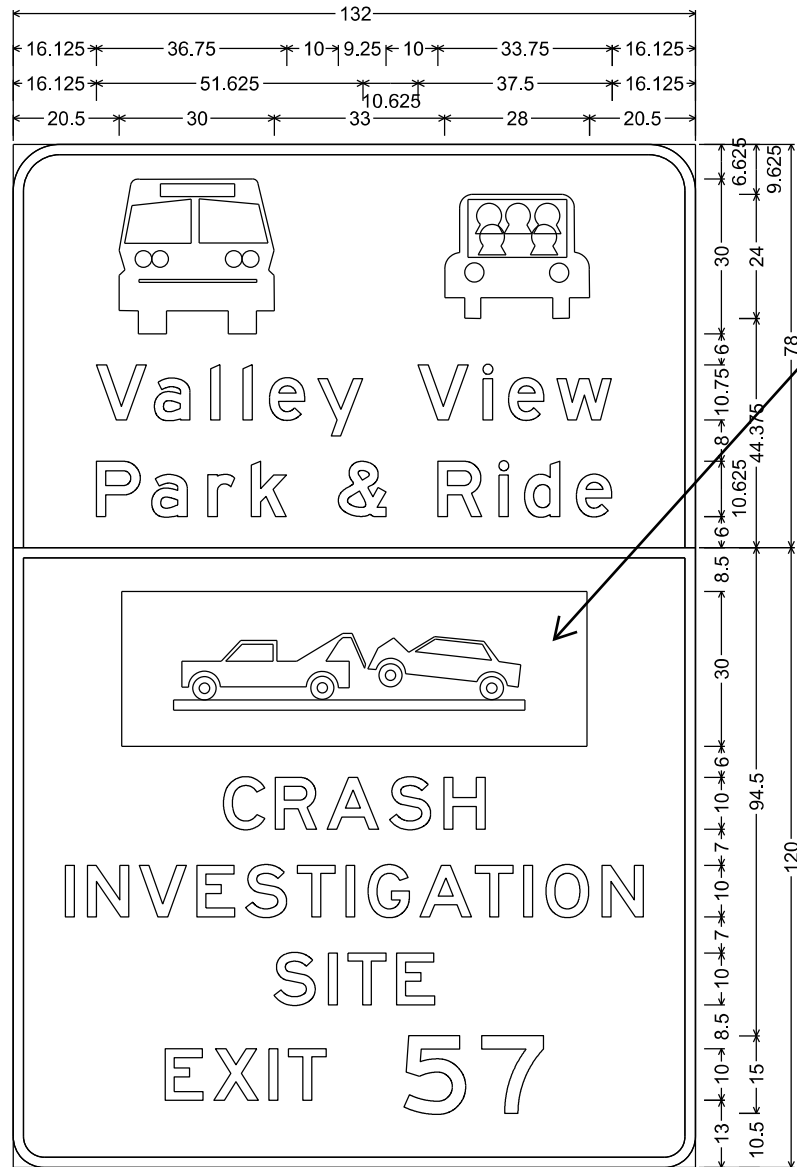


D2-3; 9.000" Radius, 2.000" Border

126

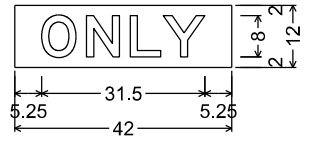
7

7

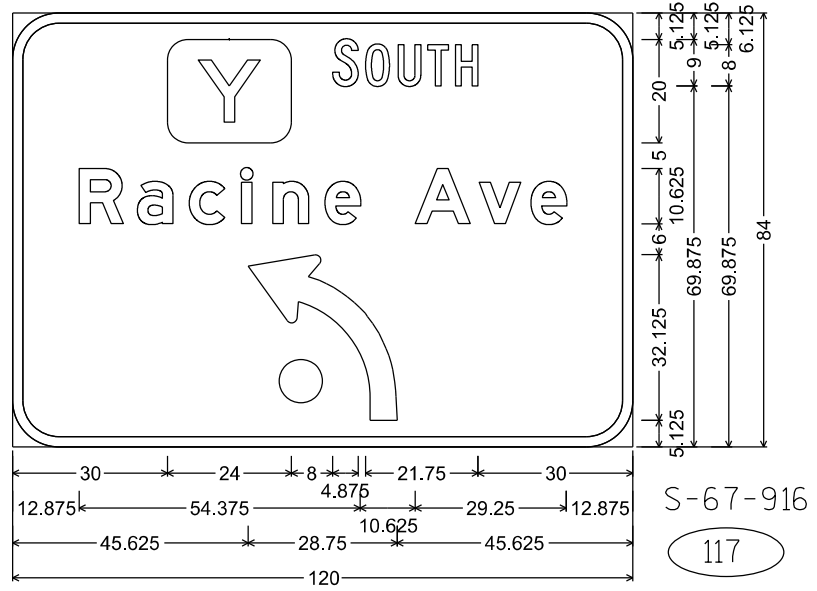


E3-1; 9.000" Radius, 2.000" Border  
 "Valley", E; "View", E; "Park", E; "&", E; "Ride", E  
 E3-1; 9.000" Radius, 2.000" Border  
 "CRASH", E; "INVESTIGATION", E; "SITE", E; "EXIT", E; "57", E

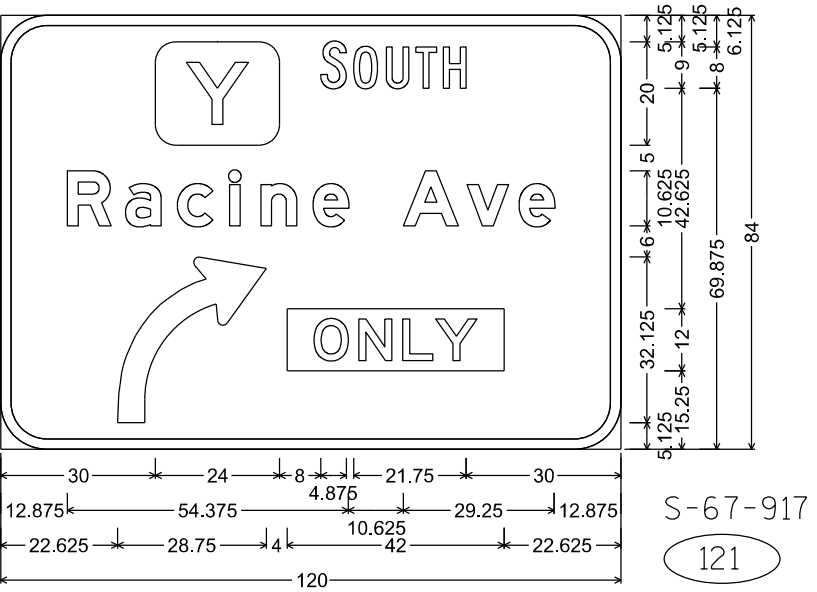
See Standard Sign Detail  
 D4-52 for design



No border, Black on Fluorescent yellow;  
 "ONLY", E



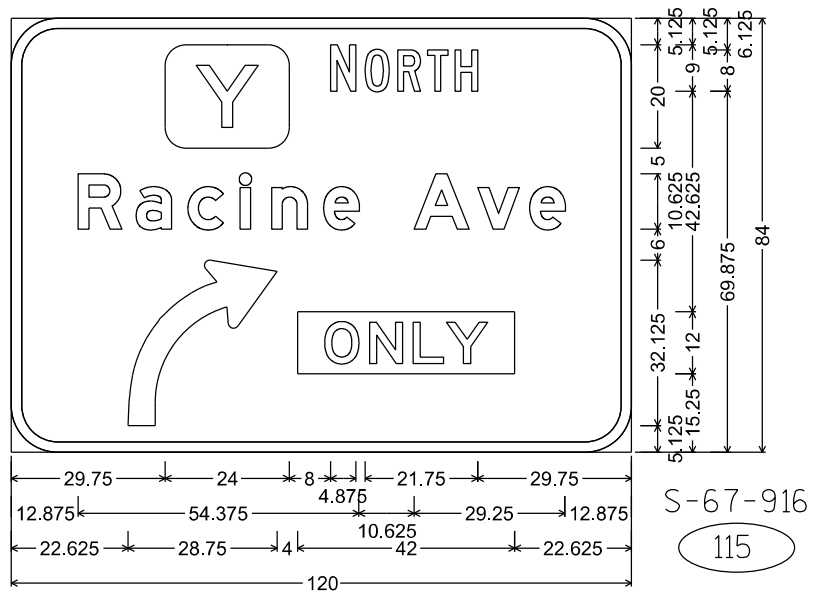
E6-54; 9.000" Radius, 2.000" Border  
 "SOUTH", C; "Racine", E Mod



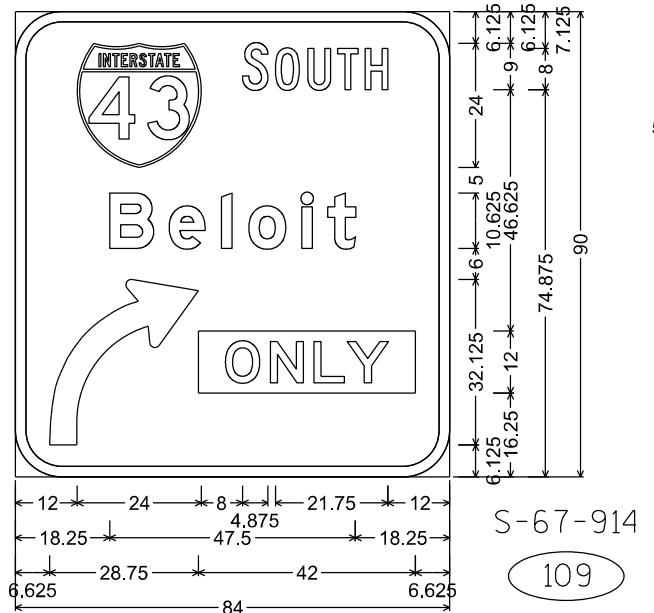
E6-54R; 9.000" Radius, 2.000" Border  
 "SOUTH", C; "Racine", E Mod

NOTES

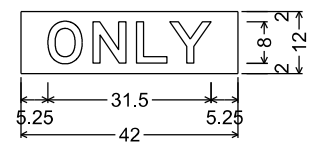
1. All Signs Type I - Type SH Reflective
2. Color:  
 Background - Green  
 Message - White
3. Message Series - E Modified except all CAP words Series E
4. ONLY Plaque background on Yellow Type F Reflective  
 Sheeting with Black Non-Reflective Message



E6-54R; 9.000" Radius, 2.000" Border  
 "NORTH", C; "Racine", E Mod



E6-54R; 9.000" Radius, 2.000" Border  
 "SOUTH", C; "Beloit", E Mod;

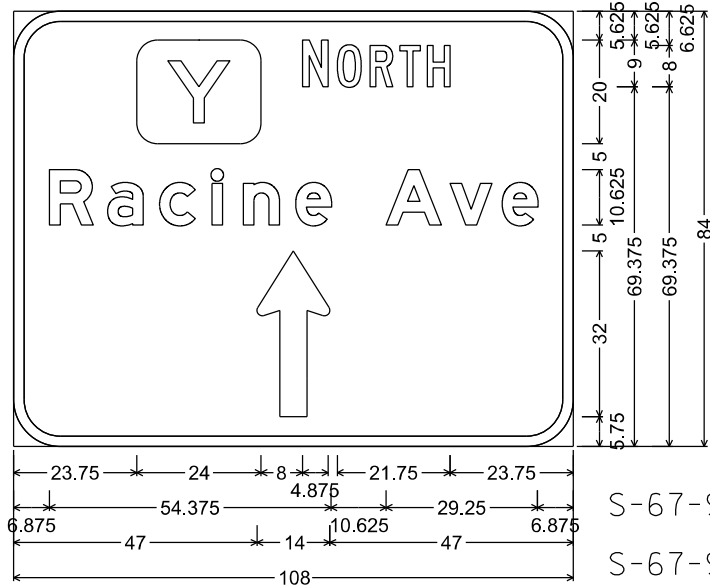


No border, Black on Fluorescent yellow;  
 "ONLY", E

7

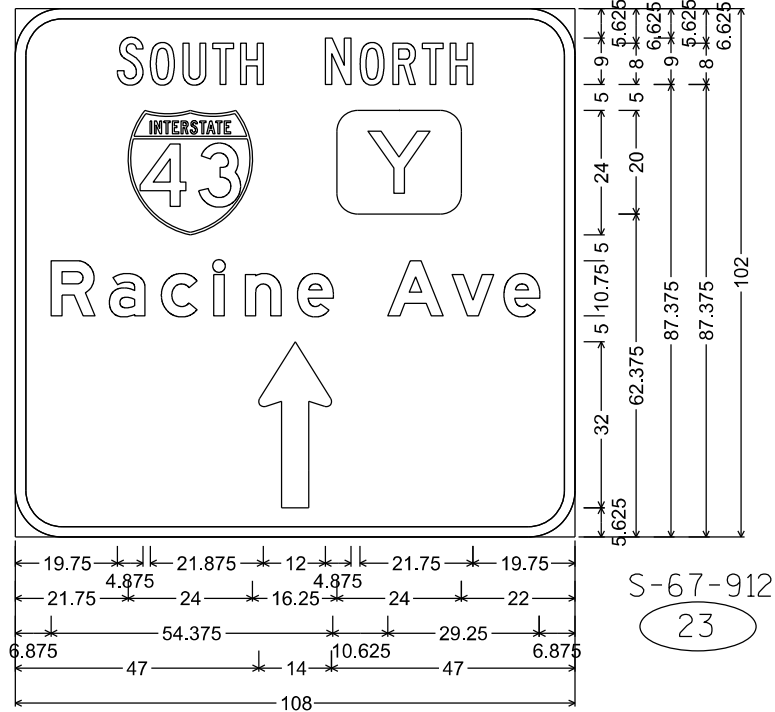
7





E6-54A; 9.000" Radius, 2.000" Border  
 "NORTH", C; "Racine", E Mod; "Ave", E Mod

S-67-912 (24)  
 S-67-913 (42)

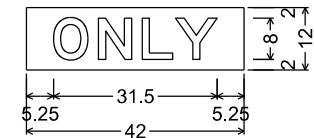


E6-54A; 9.000" Radius, 2.000" Border  
 "SOUTH", C; "NORTH", C  
 "Racine", E Mod; "Ave", E Mod

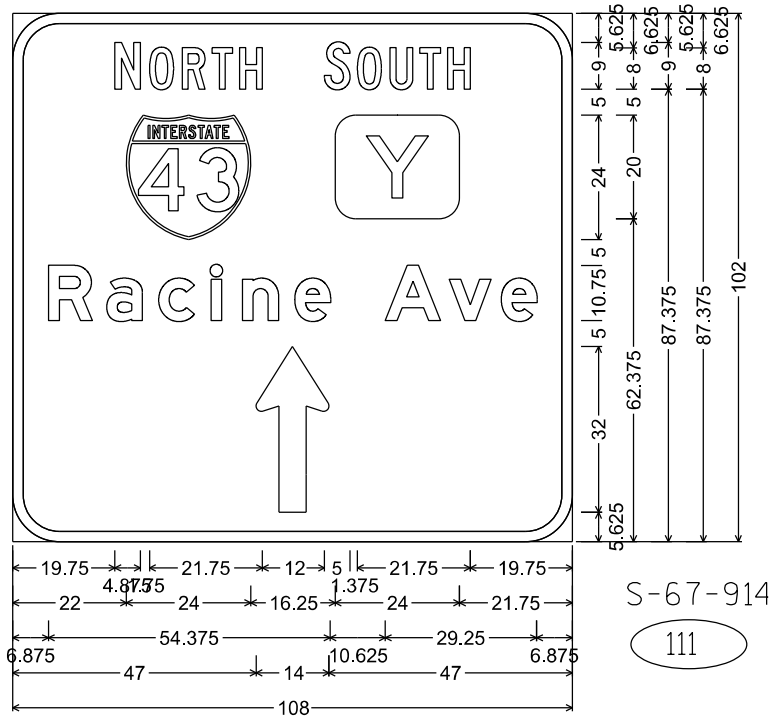
S-67-912 (23)

NOTES

1. All Signs Type I - Type SH Reflective
2. Color:  
 Background - Green  
 Message - White
3. Message Series - E Modified except all CAP words Series E
4. ONLY Plaque background on Yellow Type F Reflective Sheeting with Black Non-Reflective Message

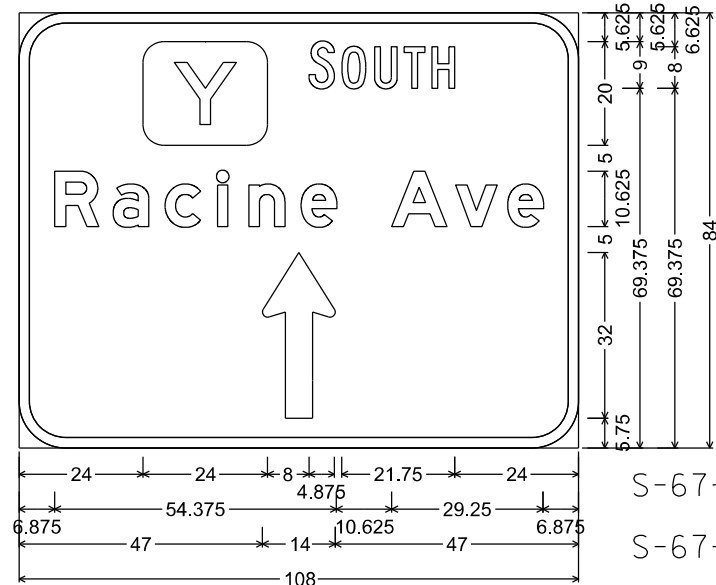


No border, Black on Fluorescent yellow;  
 "ONLY", E



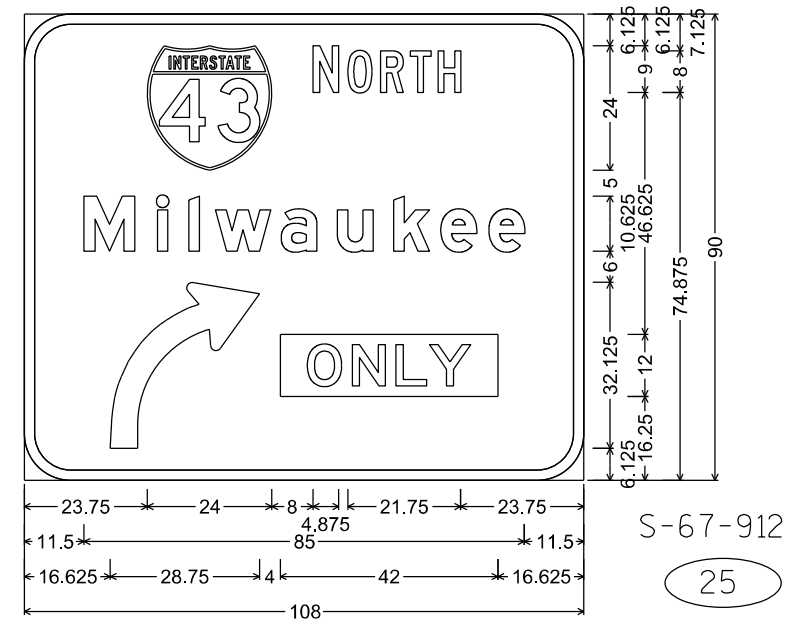
E6-54A;  
 9.000" Radius, 2.000" Border, White on Green;  
 "NORTH", C; "SOUTH", C; Square County Y M1-55-1;  
 "Racine", E Mod; "Ave", E Mod;  
 R3-6L left double headed arrow ir=14.5, s=3.5;

S-67-914 (111)



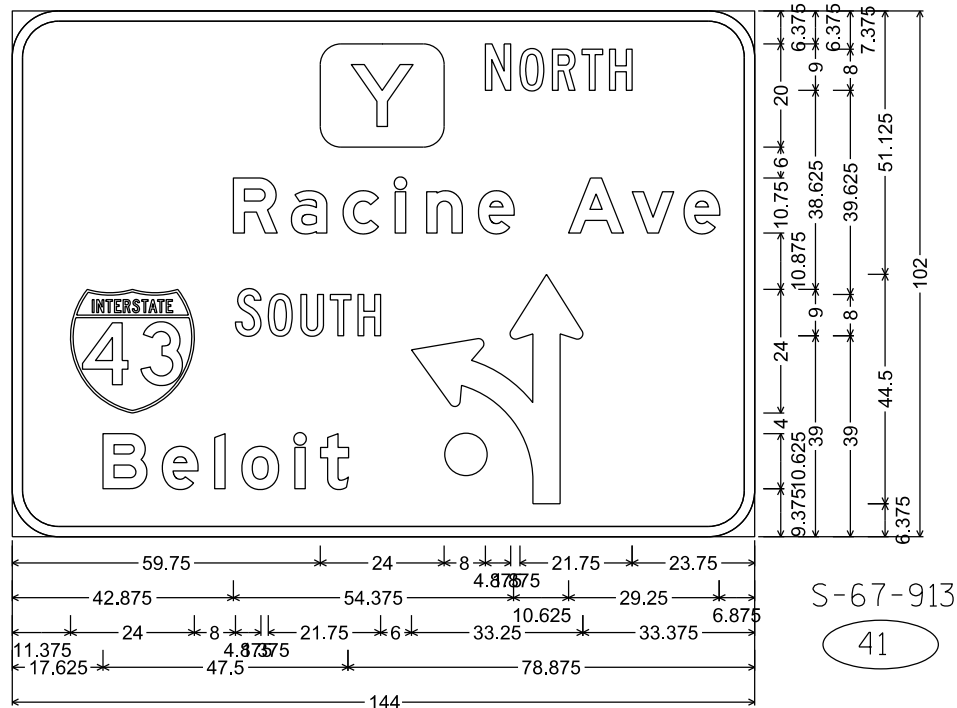
E6-54A; 9.000" Radius, 2.000" Border  
 "SOUTH", C; "Racine", E Mod; "Ave", E Mod

S-67-914 (110)  
 S-67-915 (89)

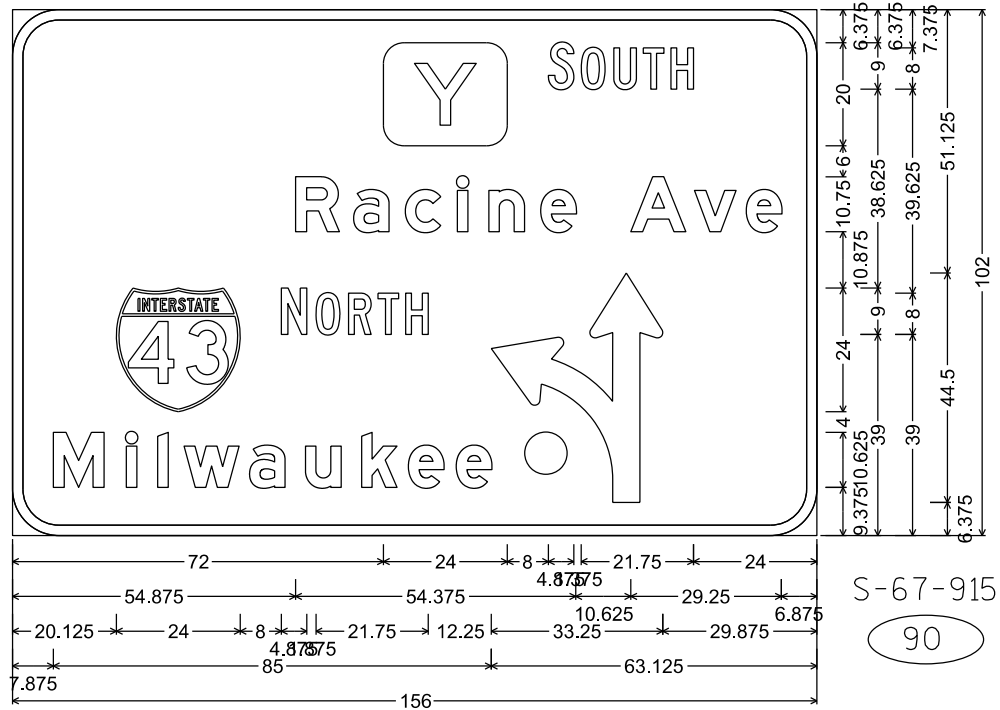


E6-54R; 9.000" Radius, 2.000" Border  
 "NORTH", C; "Milwaukee", E Mod

S-67-912 (25)



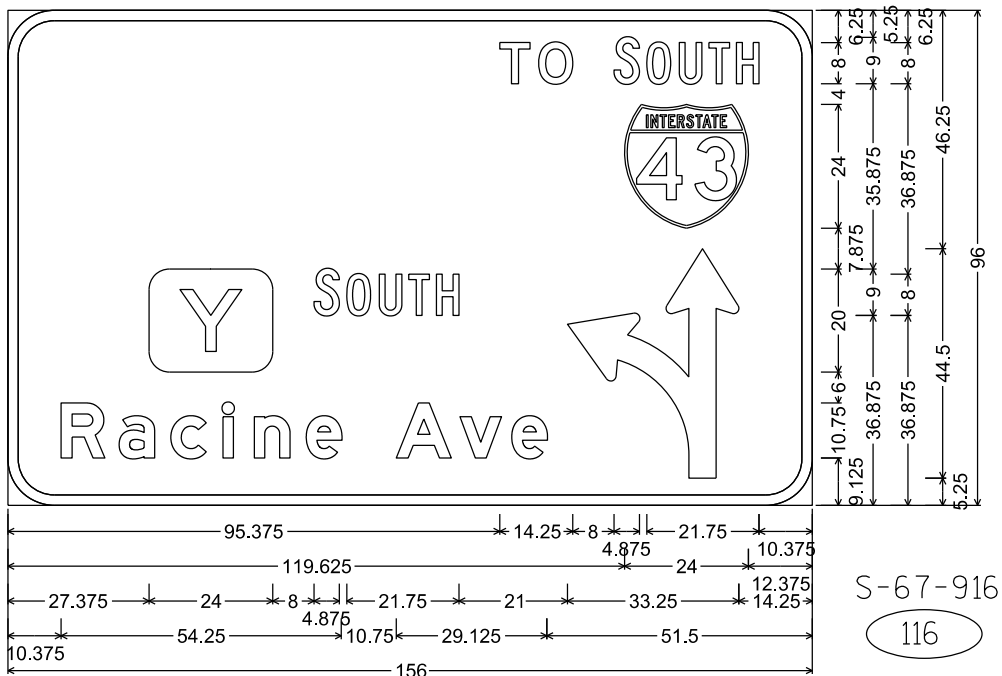
E6-52; 9.000" Radius, 2.000" Border  
 "NORTH", C; "Racine Ave", E Mod; "SOUTH", C; "Beloit", E Mod



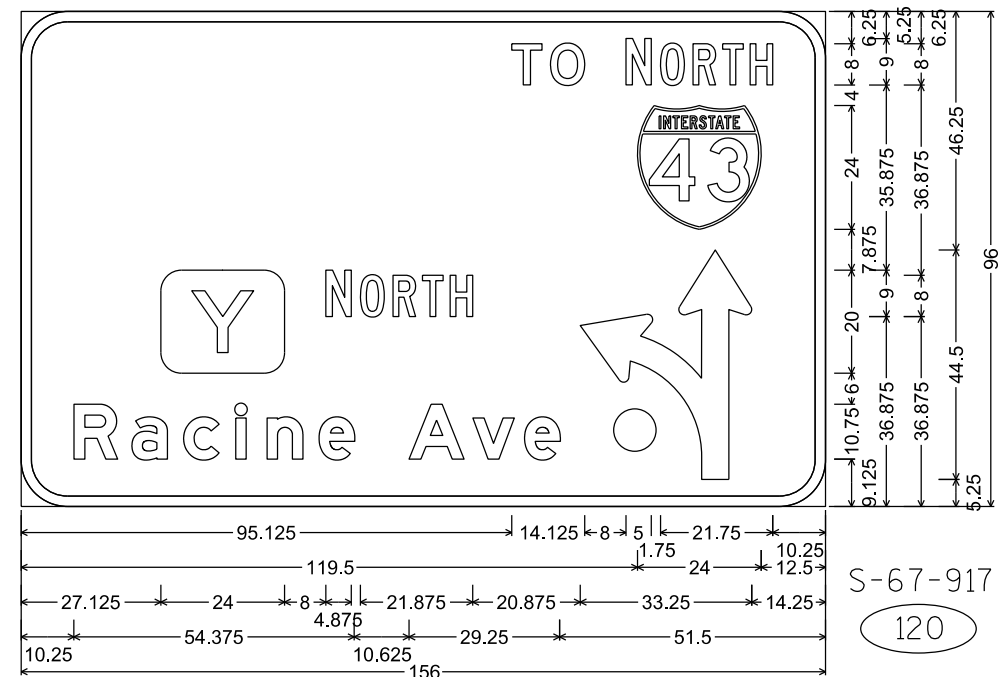
E6-52; 9.000" Radius, 2.000" Border  
 "SOUTH", C; "Racine Ave", E Mod; "NORTH", C; "Milwaukee", E Mod

NOTES

1. All Signs Type I - Type SH Reflective
2. Color:  
Background - Green  
Message - White
3. Message Series - E Modified, except all CAP words Series E



E6-52; 9.000" Radius, 2.000" Border  
 "TO", E; "SOUTH", C; "SOUTH", C; "Racine Ave", E Mod



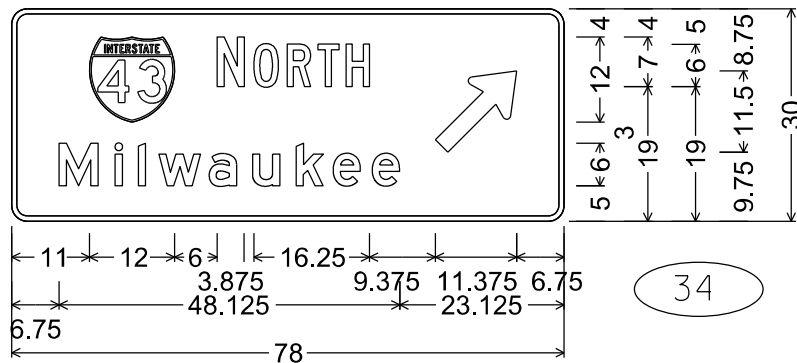
E6-52; 9.000" Radius, 2.000" Border  
 "TO", E; "NORTH", C; "NORTH", C; "Racine Ave", E Mod

7

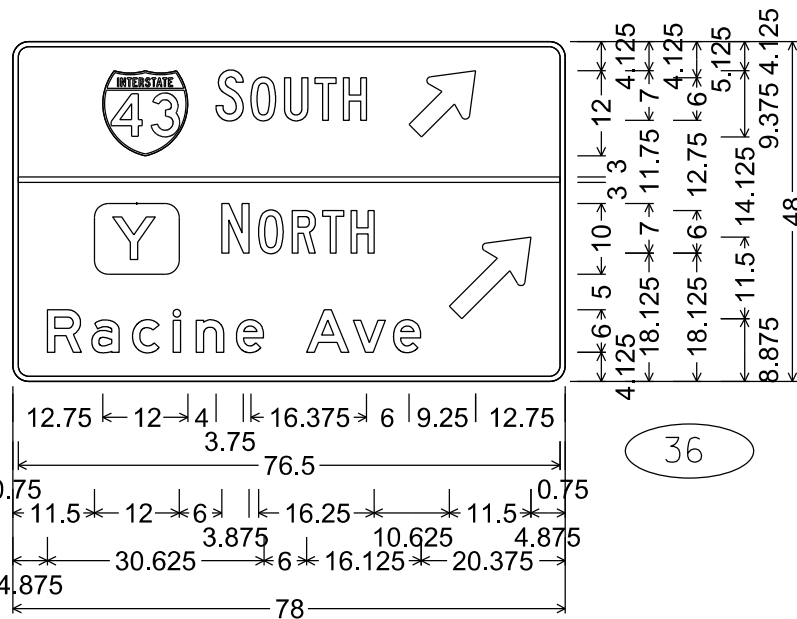
7

NOTES

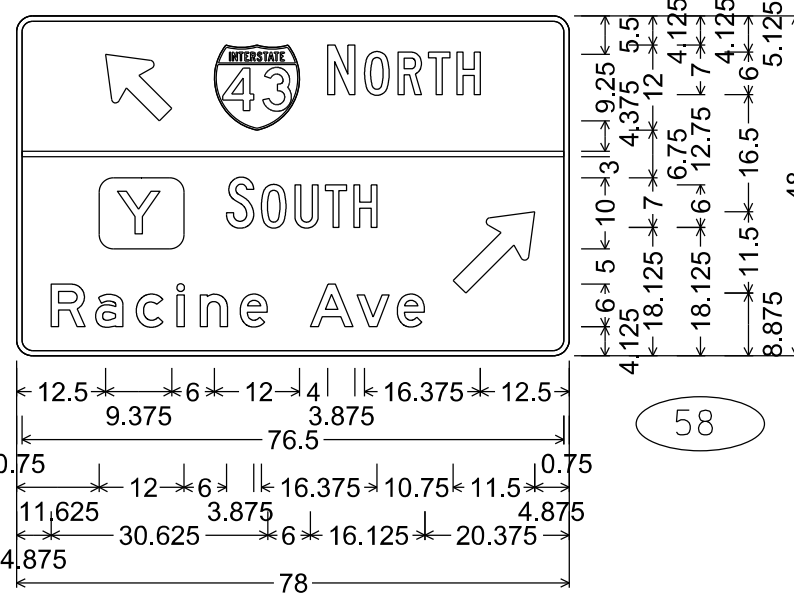
1. All Signs Type II - Type H Reflective
2. Color:  
Background - Green  
Message - White
3. Message Series - E except as noted



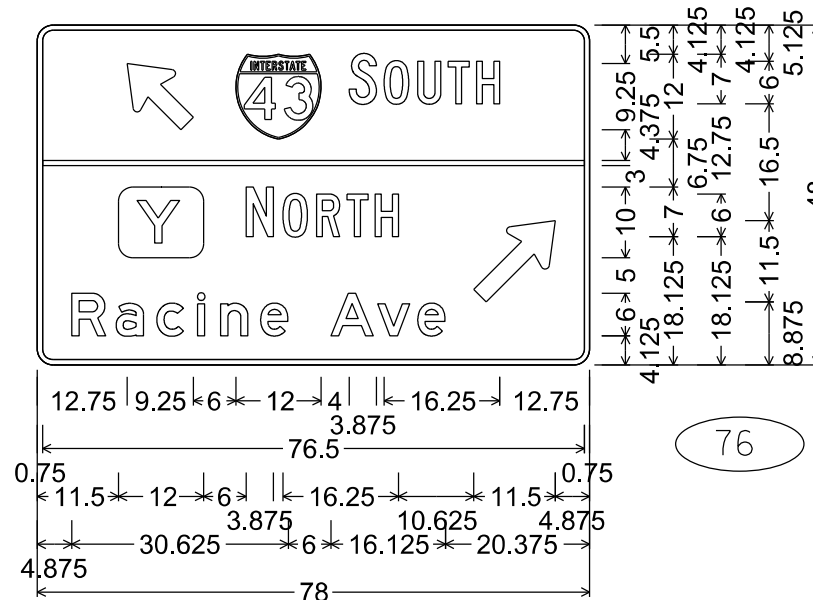
D1-2; 2.250" Radius, 0.750" Border  
"NORTH", C; "Milwaukee", E



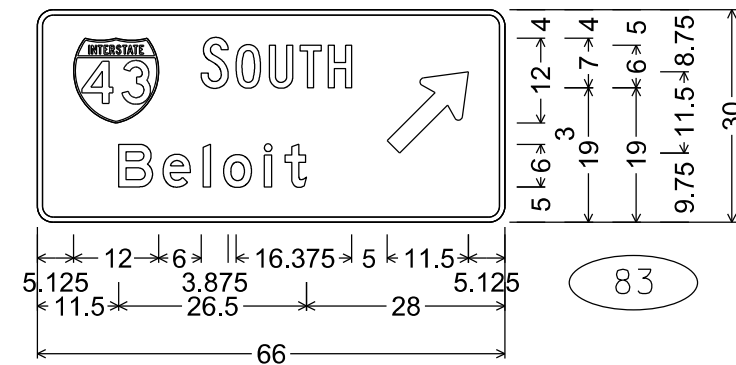
D1-2; 2.250" Radius, 0.750" Border  
"SOUTH", C; "NORTH", C; "Racine", E; "Ave", E



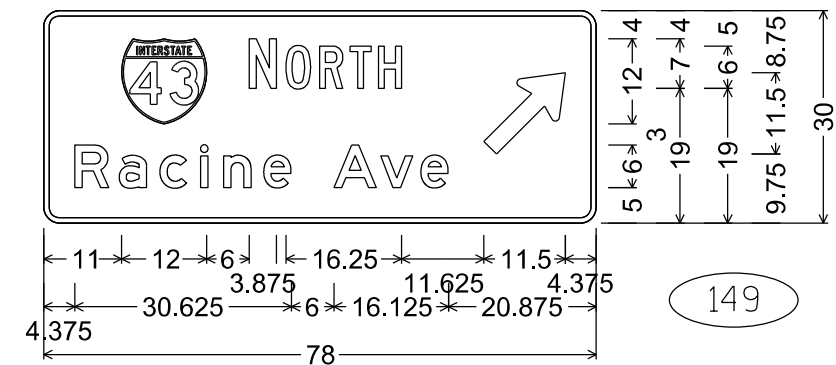
D1-2; 2.250" Radius, 0.750" Border  
"NORTH", C; "SOUTH", C;  
"Racine", E; "Ave", E



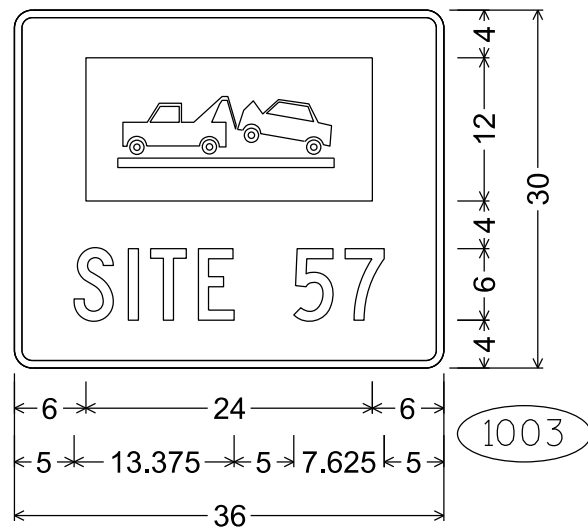
D1-2; 2.250" Radius, 0.750" Border  
"SOUTH", C; "NORTH", C;  
"Racine", E; "Ave", E



D1-2; 2.250" Radius, 0.750" Border  
"SOUTH", C; "Beloit", E

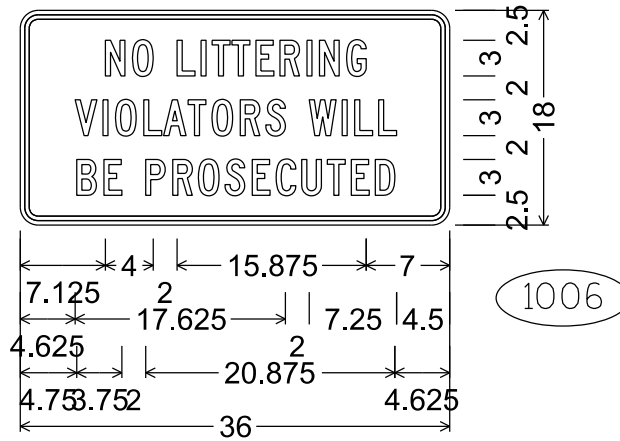


D1-2; 2.250" Radius, 0.750" Border  
"NORTH", C; "Racine", E; "Ave", E



1.500" Radius, 0.625" Border, White on Blue;  
 "SITE", C; "57", C

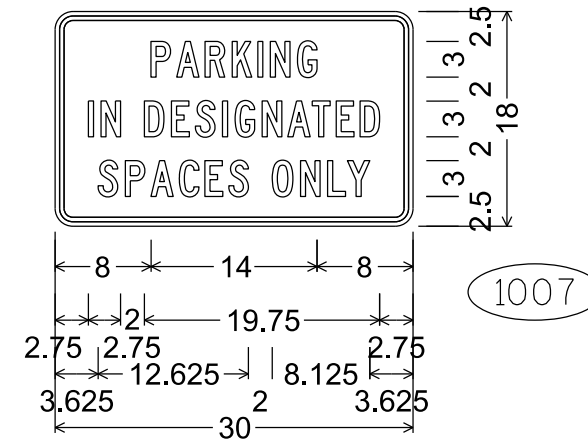
1003



1.500" Radius, 0.375" Border, 0.375" Indent, Black on White;  
 "NO", C; "LITTERING", C; "VIOLATORS", C;  
 "WILL", C; "BE", C; "PROSECUTED", C

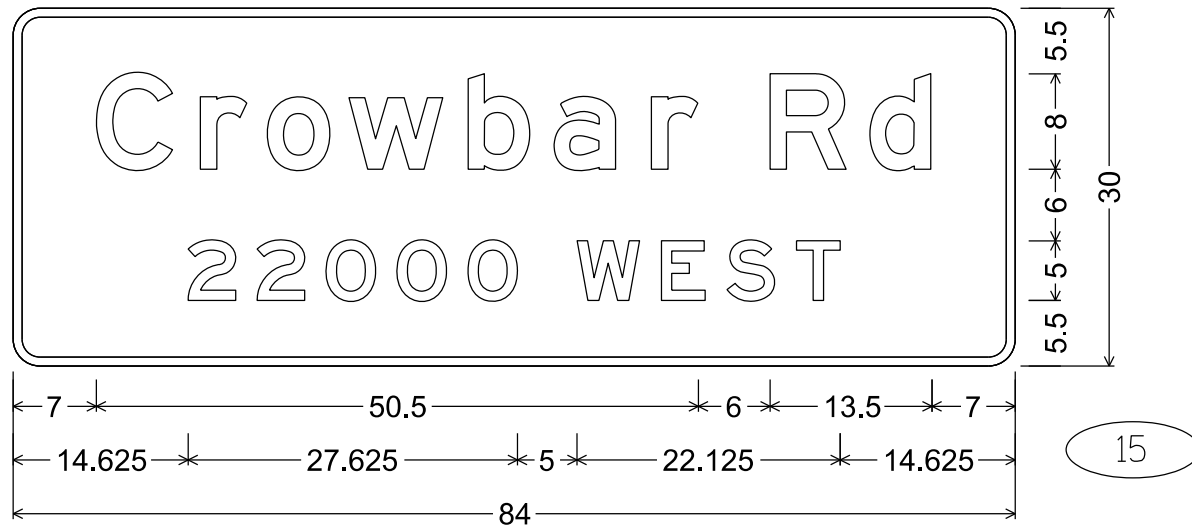
1006

- NOTES
1. All Signs Type II - Type H Reflective
  2. Color:  
 Background - White or as noted  
 Message - Black or as noted
  3. Message Series - C or as noted



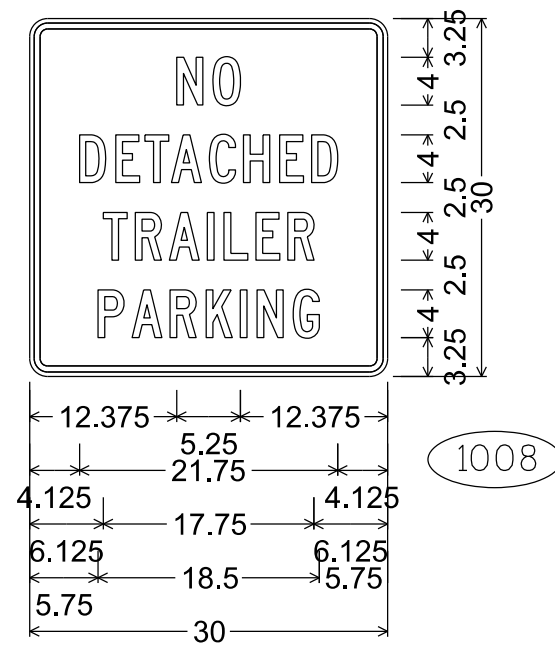
1.500" Radius, 0.375" Border, 0.375" Indent, Black on White;  
 "PARKING", C; "IN", C; "DESIGNATED", C;  
 "SPACES", C; "ONLY", C

1007



2.250" Radius, 0.750" Border, White on Green;  
 "Crowbar", E; "Rd", E; "22000", E; "WEST", E

15



1.500" Radius, 0.500" Border, 0.375" Indent, Black on White  
 "NO", C; "DETACHED", C; "TRAILER", C; "PARKING", C

1008

7

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**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING STRUCTURE PLANS.

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "METHACRYLATE FLOOD SEAL".

TRAFFIC WILL BE STAGED TO PERFORM OVERLAY.

**LIVELOAD:**

TAKEN FROM HSI: 5/11/2023  
 DESIGN RATING: HS20  
 INVENTORY RATING: HS19  
 OPERATING RATING: HS33  
 WISCONSIN STANDARD PERMIT VEHICLE: 240 KIPS

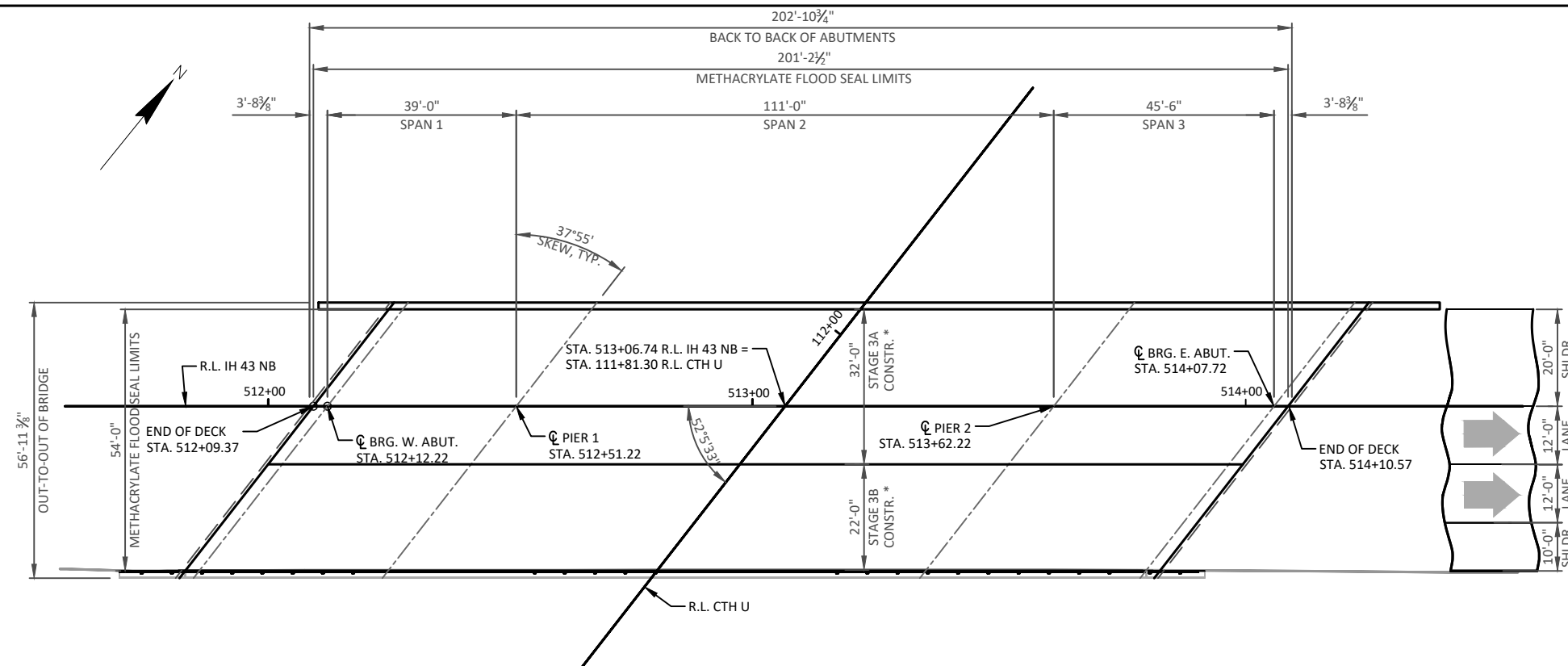
**TRAFFIC DATA**

IH 43  
 AADT (2046) \_\_\_\_\_ 45,690  
 DESIGN SPEED \_\_\_\_\_ 70 MPH

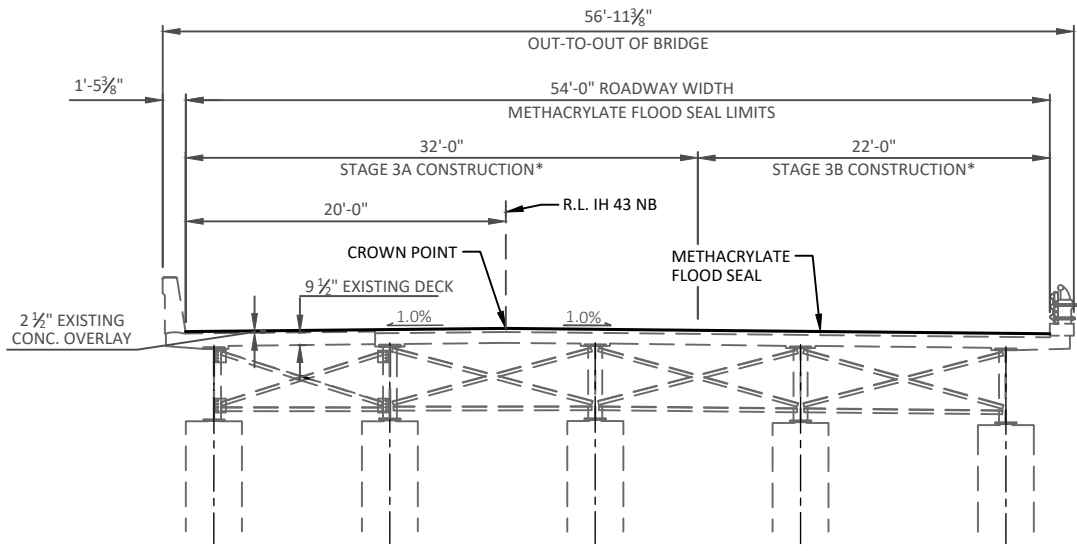
CTH U  
 AADT (2046) \_\_\_\_\_ 2,050  
 DESIGN SPEED \_\_\_\_\_ 50 MPH

**LIST OF DRAWINGS:**

- 1. GENERAL PLAN



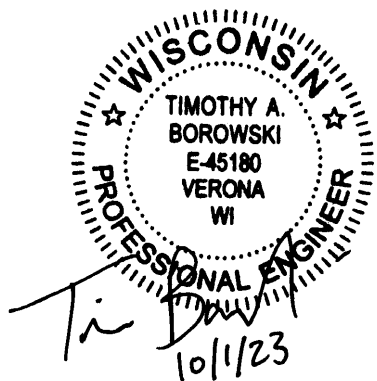
**PLAN**  
(3 SPAN STEEL PLATE GIRDER)



**CROSS SECTION**  
(LOOKING EAST)

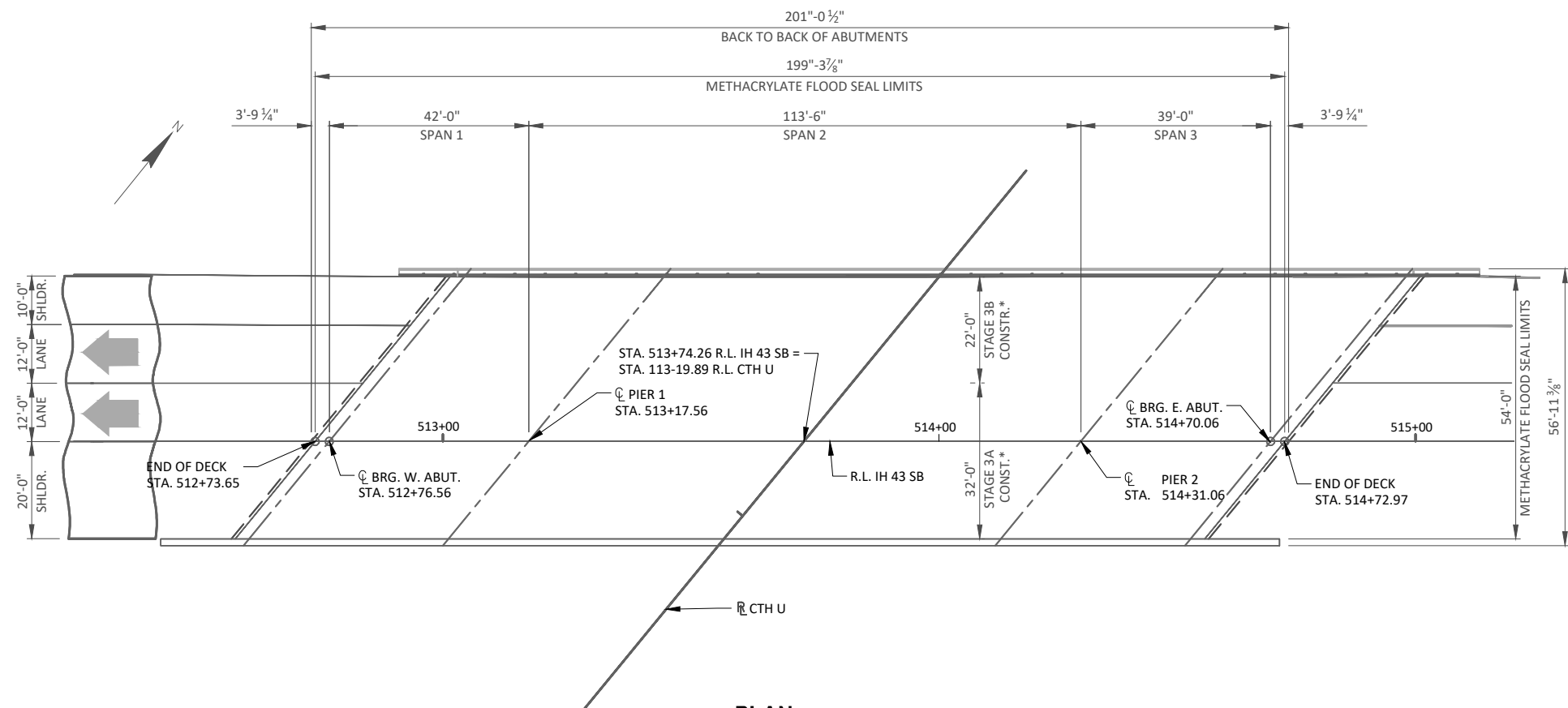
\* SEE ROADWAY PLANS FOR CONSTRUCTION STAGING DETAILS.

TOTAL ESTIMATED QUANTITIES			
ITEM NUMBER	BID ITEM	UNIT	SPV.0180
SPV.0180	METHACRYLATE FLOOD SEAL	SY	1,208

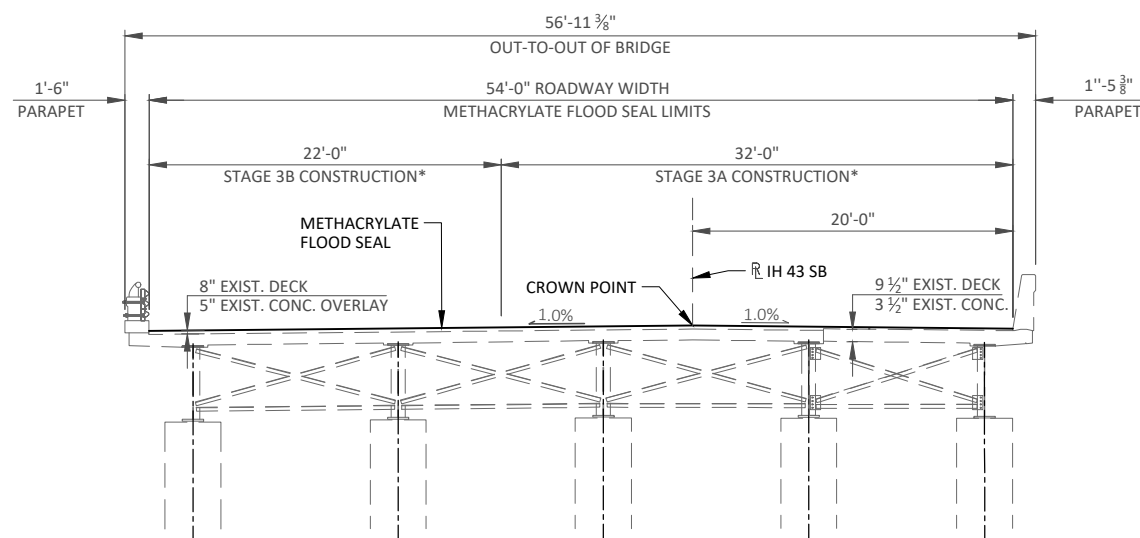


DESIGN CONSULTANT: MITCHELL COMER (414) 225-9817  
 BRIDGE OFFICE CONTACT: AARON BONK, PE (608) 261-0261

NO.	DATE	REVISION	BY
<p>DAAR ENGINEERING, INC.                  www.daarcorp.com                  Milwaukee, WI 53202                  414-225-9817</p>			
ACCEPTED			11/01/23
<p>TIMOTHY A. BOROWSKI                  CHIEF STRUCTURES DESIGN ENGINEER</p>			DATE
<b>STRUCTURE B-67-116</b>			
IH 43 NB OVER CTH U			
COUNTY WAUKESHA		TOWN/CPV/VILLAGE VERNON	
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	MC	DESIGN CK'D. TAB	DRAWN BY MC PLANS CK'D. TAB
<b>GENERAL PLAN</b>			SHEET 1 OF 1



**PLAN**  
(3 SPAN STEEL PLATE GIRDER)



\* SEE ROADWAY PLANS FOR CONSTRUCTION STAGING DETAILS.

**CROSS SECTION**  
(LOOKING EAST)

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING STRUCTURE PLANS.

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "METHACRYLATE FLOOD SEAL".

TRAFFIC WILL BE STAGED TO PERFORM THE OVERLAY.

**LIVELOAD:**

TAKEN FROM HSI: 5/11/2023  
DESIGN RATING: HS20  
INVENTORY RATING: HS15  
OPERATING RATING: HS26  
WISCONSIN STANDARD PERMIT VEHICLE: 210 KIPS

**TRAFFIC DATA**

IH 43  
AADT (2046) \_\_\_\_\_ 45,690  
DESIGN SPEED \_\_\_\_\_ 70 MPH

CTH U  
AADT (2046) \_\_\_\_\_ 2,050  
DESIGN SPEED \_\_\_\_\_ 50 MPH

**LIST OF DRAWINGS:**

1. GENERAL PLAN

8

8

CATEGORY 2020			
TOTAL ESTIMATED QUANTITIES			
ITEM NUMBER	BID ITEM	UNIT	TOTAL
SPV.0180	METHACRYLATE FLOOD SEAL	SY	1,196



DESIGN CONSULTANT  
MITCHELL COMER  
(414) 225-9817

BRIDGE OFFICE CONTACT  
AARON BONK, PE  
(608) 261-0261

NO.	DATE	REVISION	BY
 www.daarcorp.com Milwaukee, WI 53202 414-225-9817			
ACCEPTED		 SDR CHIEF STRUCTURES DESIGN ENGINEER	11/01/23 DATE
<b>STRUCTURE B-67-117</b>			
IH 43 NB OVER CTH U			
COUNTY	WAUKESHA	TOWN/CPV/VILLAGE	VERNON
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	MC	DESIGN CK'D. TR	DRAWN BY MC PLANS CK'D. TR
<b>GENERAL PLAN</b>			SHEET 1 OF 1

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

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

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPE I, II, OR III, OR A.A.S.H.T.O. DESIGNATION M213.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-67-12" SHALL BE THE EXISTING GROUND LINE. WITHIN THE LENGTH OF THE WING ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW WING SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TO THE ELEVATION AND SECTION EXISTING PRIOR TO EXCAVATION WITHIN THE LENGTH OF THE NEW WING.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT THE ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE B" REQUIRED FOR 3 FEET BEHIND WING WALL FOOTING. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

SEE ROADWAY PLANS FOR EXISTING & PROPOSED UTILITY LOCATIONS.

THE EXISTING STRUCTURE IS A SINGLE-CELL 12' x 8' CONCRETE BOX CULVERT WITH AN OVERALL LENGTH OF 196'-3".

THE PROPOSED REHABILITATION INCLUDES REPLACEMENT OF WING 1, STRAPPING OF WING 2 AND CONCRETE SURFACE REPAIR.

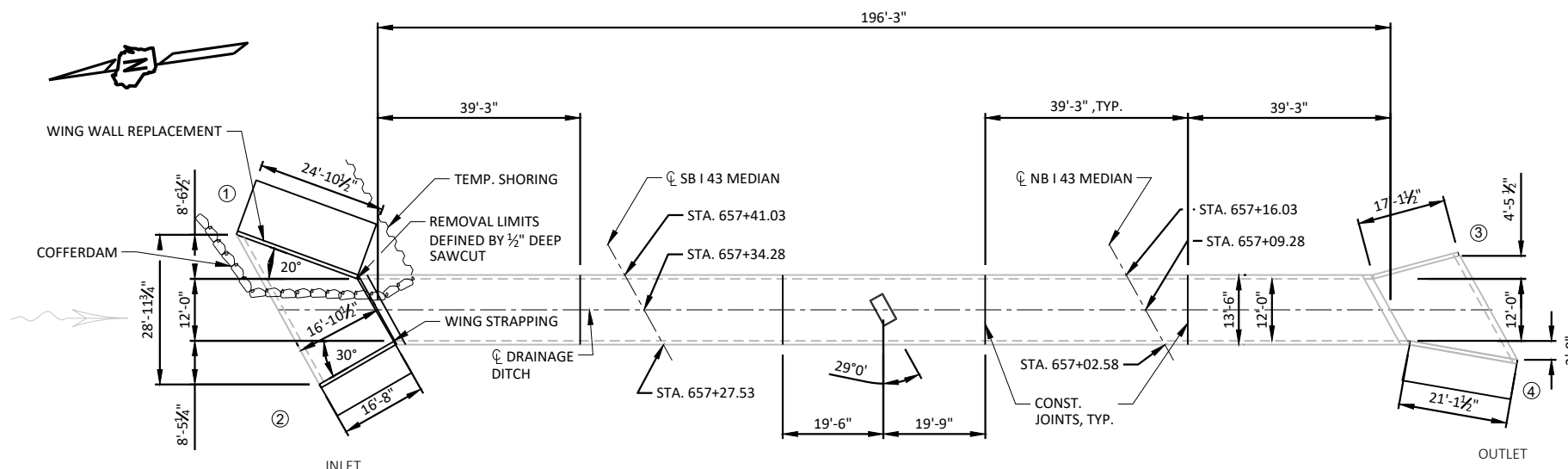
UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTENDED 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR.

"COFFERDAMS C-67-12" SHALL INCLUDE SANDBAGS OR OTHER METHOD APPROVED BY THE ENGINEER FOR ALL DEWATERING NEEDED FOR RECONSTRUCTION OF WING 1.

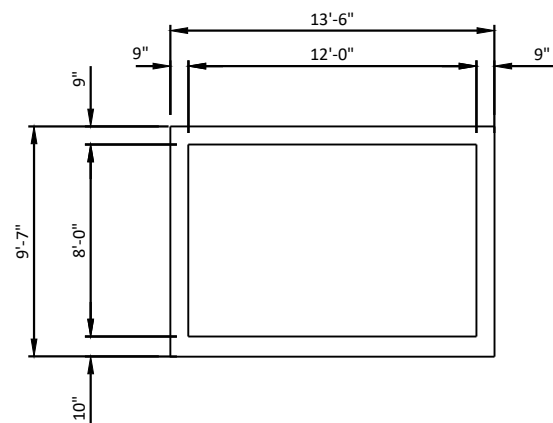
ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1/2" INCH DEEP SAW CUT.

LIMITS OF CONCRETE SURFACE REPAIR ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

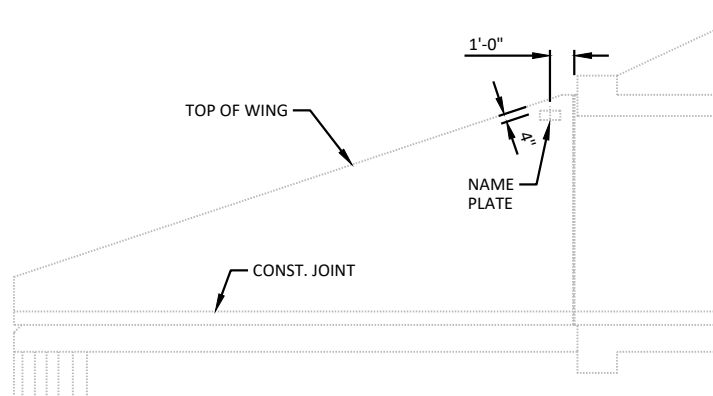


⊗ - INDICATES WING WALL NUMBER

**PLAN**  
(SINGLE CELL BOX CULVERT)



**SECTION THRU BARREL**



**ELEVATION VIEW**  
WING WALL 4  
(NAME PLATE REPLACEMENT)

**LIVELOAD**

INVENTORY RATING: HS16  
OPERATING RATING: HS27  
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 170 kips  
LOAD RATINGS PER WBM 45.8.3.1

**MATERIAL PROPERTIES**

CONCRETE MASONRY CULVERTS  $f_c = 3,500$  P.S.I.  
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60  $f_y = 60,000$  P.S.I.

CATEGORY 4000

**TOTAL ESTIMATED QUANTITIES**

ITEM NUMBER	BID ITEM	UNIT	TOTAL
203.0220	REMOVING STRUCTURE C-67-12	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-67-12	EACH	1
206.5001	COFFERDAMS C-67-12	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	130
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	26
504.0100	CONCRETE MASONRY CULVERTS	CY	13
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1260
509.1500	CONCRETE SURFACE REPAIR	SF	110
511.1200	TEMPORARY SHORING C-67-12	SF	270
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6
SPV.0060.001	STRAPPING C-67-12	EACH	1

**TRAFFIC DATA**

IH 43  
AADT (2046) 66,280  
DESIGN SPEED 70 MPH

**LIST OF DRAWINGS:**

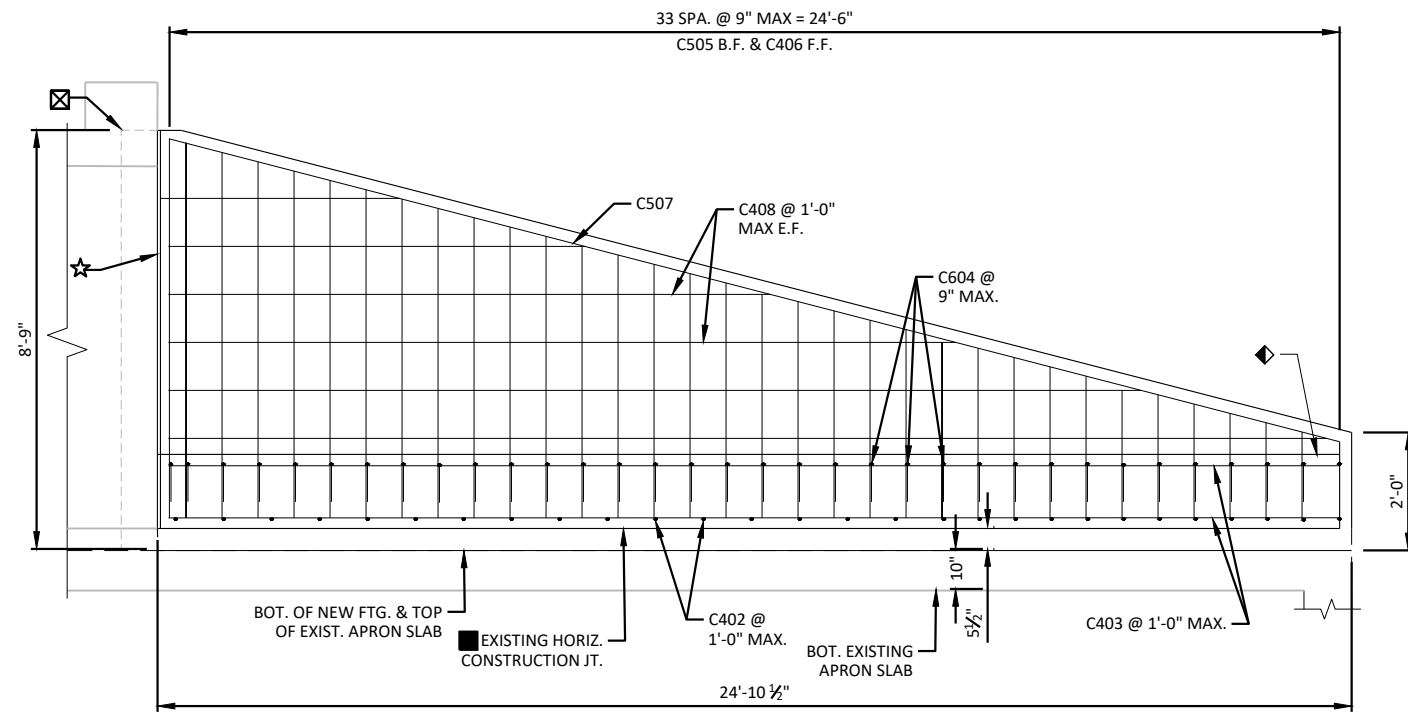
1. GENERAL PLAN
2. WING 1 DETAILS
3. WING 2 STRAPPING DETAILS



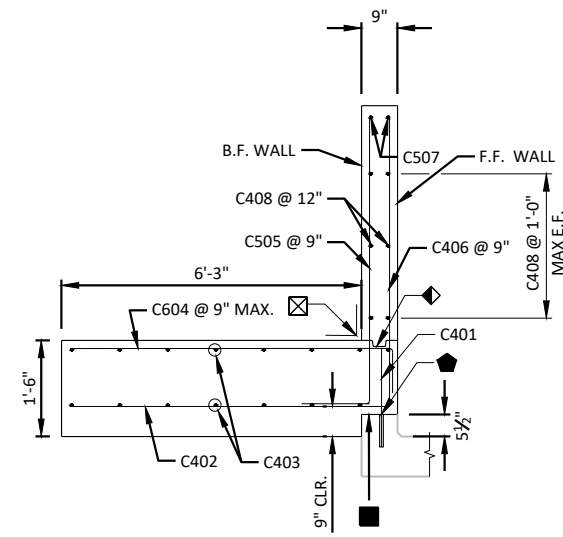
DESIGN CONSULTANT  
MITCHELL COMER  
(414) 225-9817

BRIDGE OFFICE CONTACT  
AARON BONK, PE  
(608) 261-0261

NO.	DATE	REVISION	BY
 www.daarcorp.com Milwaukee, WI 53202 414-225-9817			
ACCEPTED			11/27/23 DATE
<b>STRUCTURE C-67-12</b> I-43 OVER DRAINAGE DITCH COUNTY WAUKESHA TOWN/CITY/VILLAGE NEW BERLIN DESIGN SPEC. REHABILITATION N/A DESIGNED BY MC DESIGN CK'D. TAB DRAWN BY MC PLANS CK'D. TAB			
<b>GENERAL PLAN</b>			SHEET 1 OF 3



**WINGWALL 1 ELEVATION**  
(LOOKING WEST AT B.F. OF WING WALL)



**WING 1 TYPICAL SECTION**

**BILL OF BARS**

MARK	NUMBER	LENGTH	COATED	BENT	BAR SERIES	LOCATION
C401	26	2-0	X			WING 1 - HORIZ. CONST. JOINT DOWEL
C402	26	6-8	X			WING 1 - FOOTING BOT. -TRANS.
C403	16	24-6	X			WING 1 - FOOTING TOP & BOT. - LONGIT.
C604	34	7-4	X	X		WING 1 - FOOTING TOP - TRANS.
C505	34	5-5	X	X	*	WING 1 - B.F. - VERT.
C406	34	4-8	X		*	WING 1 - F.F. - VERT.
C507	2	25-5	X			WING 1 - TOP
C408	12	14-4	X		*	WING 1 - B.F. & F.F. - HORIZ.

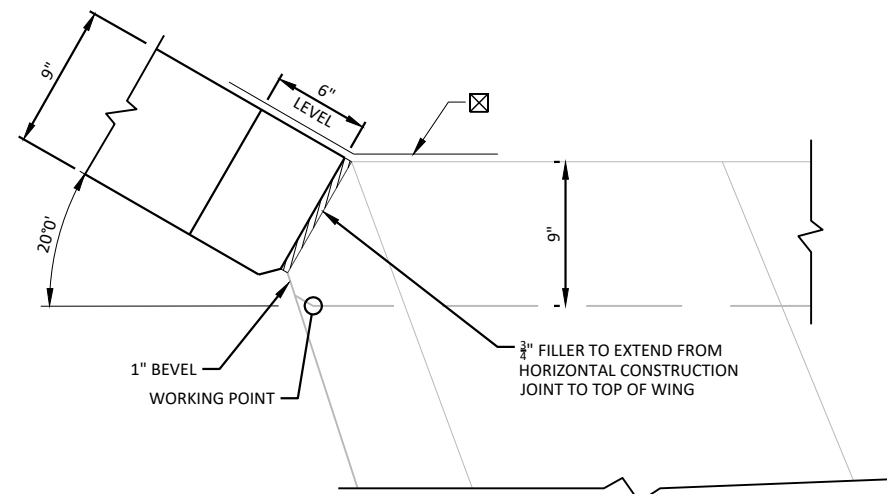
\* LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

**BAR SERIES TABLE**

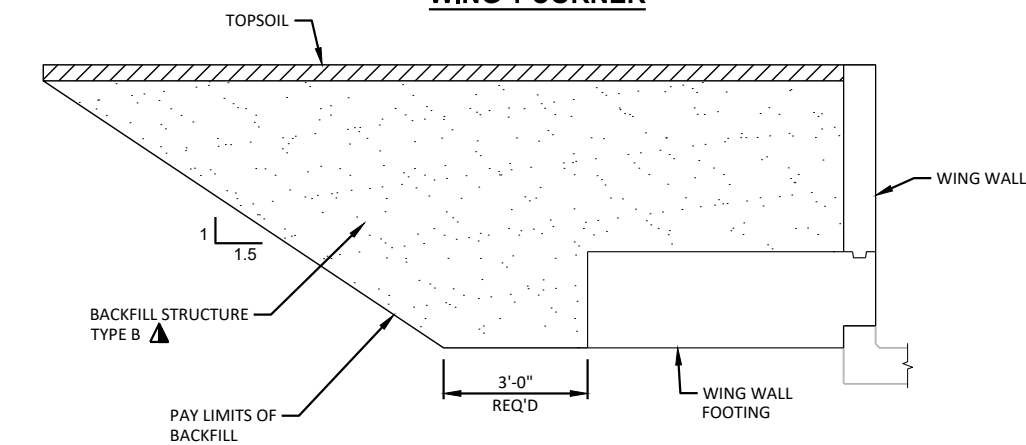
MARK	NO. REQUIRED	LENGTH
C505	1 SERIES OF 34	2'-0" TO 8'-9"
C406	1 SERIES OF 34	1'-3" TO 8'-0"
C408	2 SERIES OF 6	4'-1" TO 24'-6"

**LEGEND**

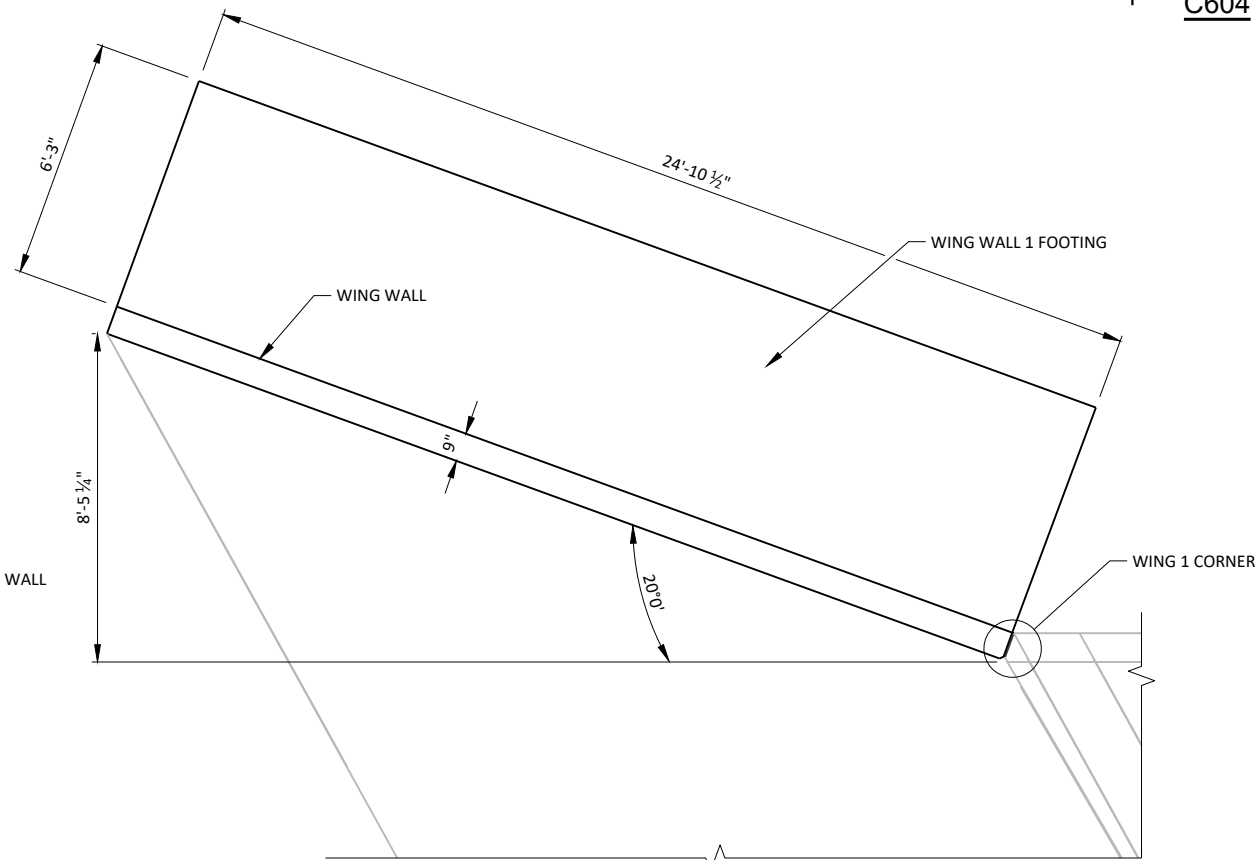
- - INDICATES WING NUMBER
- F.F. - FRONT FACE
- B.F. - BACK FACE
- E.F. - EACH FACE
- CL. - CLEAR
- O.C. - ON CENTER
- ☒ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING ALONG HORIZ. AND VERT. CONSTR. JT. IN WING
- ◆ HORIZ. CONST. JOINT WITH KEYWAY USING BEVELED 2x4.
- ◆ C401 ADHESIVE ANCHORS. EMBED 9" INTO SOUND CONCRETE & SPACE 1'-0" O.C. MAX. PAID FOR UNDER BID ITEM "ADHESIVE ANCHORS NO. 4 BAR".
- ☆ 3/4" FILLER TO EXTEND FROM HORIZONTAL CONSTRUCTION JOINT TO TOP OF WING.
- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS INCLUDING BACK FILL BEHIND WING WALLS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- EXISTING WINGWALL 1 TO BE REMOVED AT EXISTING HORIZONTAL CONSTRUCTION JOINT. DEFINED BY A 1/2" INCH DEEP SAW CUT.



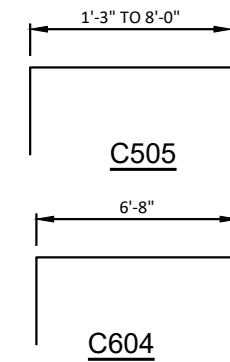
**WING 1 CORNER**



**WING WALL BACKFILL DETAIL**



**WING 1 PLAN VIEW**



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE C-67-12</b>			
DRAWN BY MC		PLANS CKD TAB	
<b>WING 1 DETAILS</b>			SHEET 2 OF 3



**NOTES**

BID ITEM SHALL BE "STRAPPING C-67-12" WHICH INCLUDES ALL ITEMS SHOWN. STRAPPING IS FOR WING 2 ONLY.

ALL PROVIDED STEEL MATERIAL SHALL CONFORM TO ASTM A36.

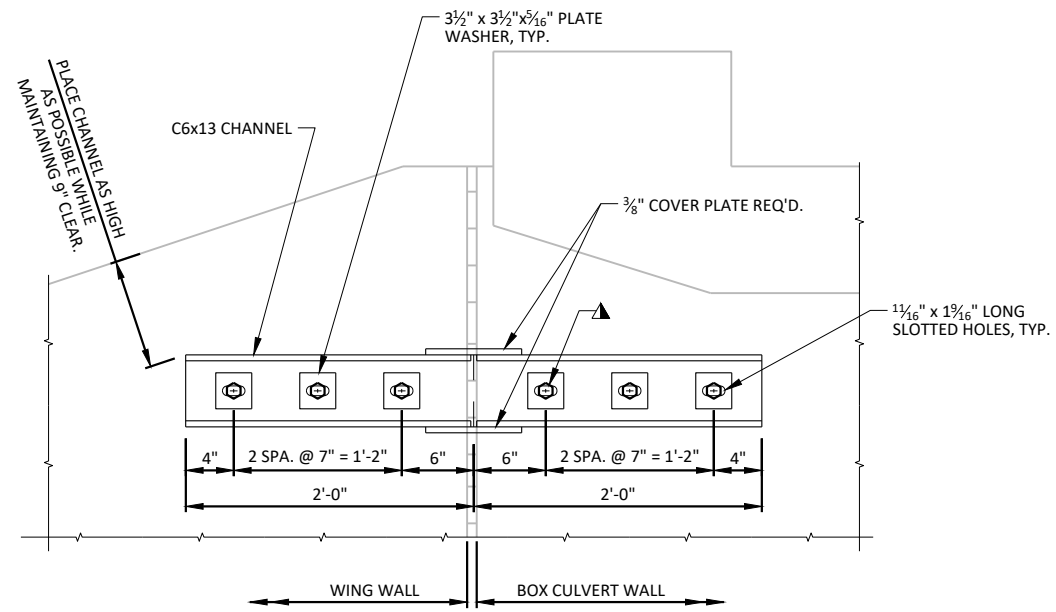
ALL STRUCTURAL STEEL SHOWN SHALL BE GALVANIZED. THREADED RODS, MASONRY ANCHORS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C.

CUTTING AND DRILLING OF CHANNEL SHALL BE DONE IN FABRICATION SHOP, PRIOR TO GALVANIZING.

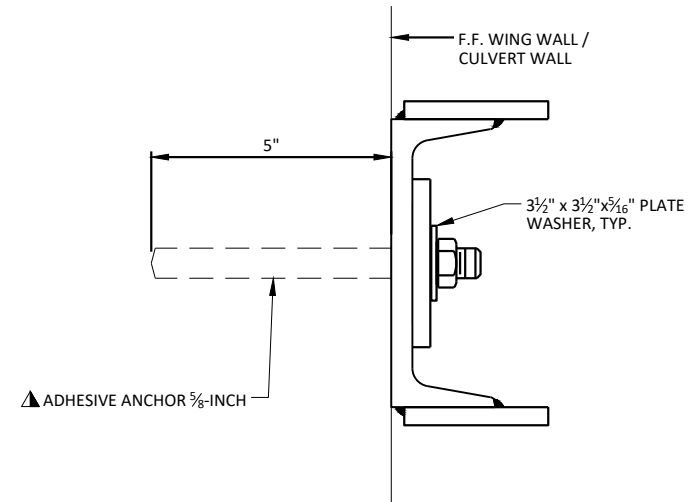
IF WELDING COVER PLATE IN FIELD, PRIOR TO WELDING, REMOVE GALVANIZING FROM AREA TO BE WELDED. TOUCH UP WITH PAINT ALL AREAS LACKING GALVANIZING WHEN COMPLETE.

CAULK AROUND PERIMETER OF CHANNEL AND FILL PORTION OF HOLE AROUND ANCHOR BOLT AND SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

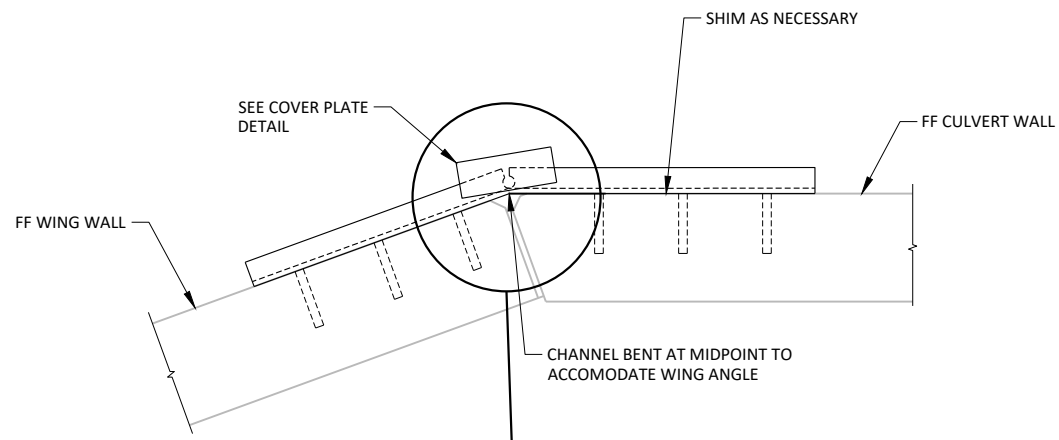
▲ ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.



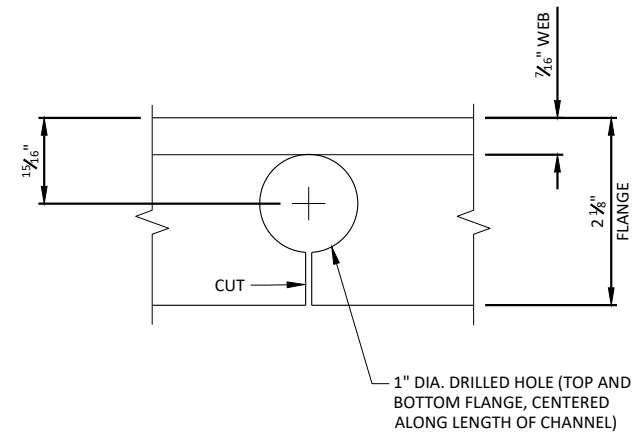
**ELEVATION**



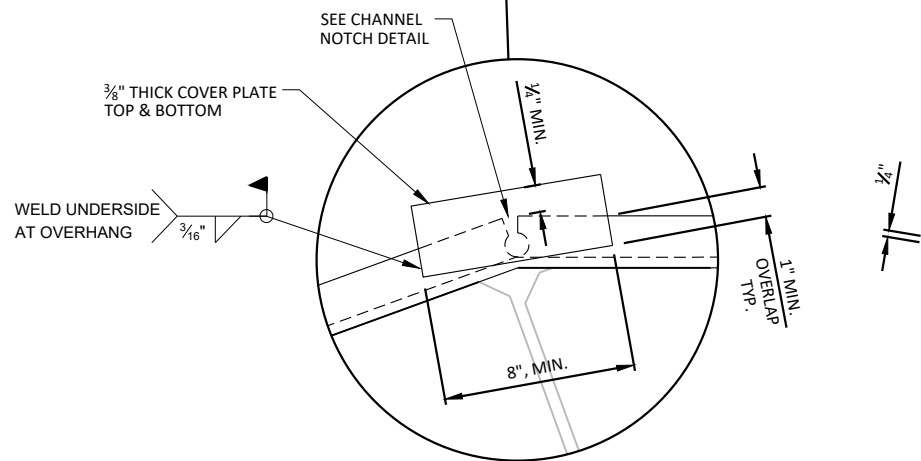
**ADHESIVE ANCHOR DETAIL**



**PLAN**

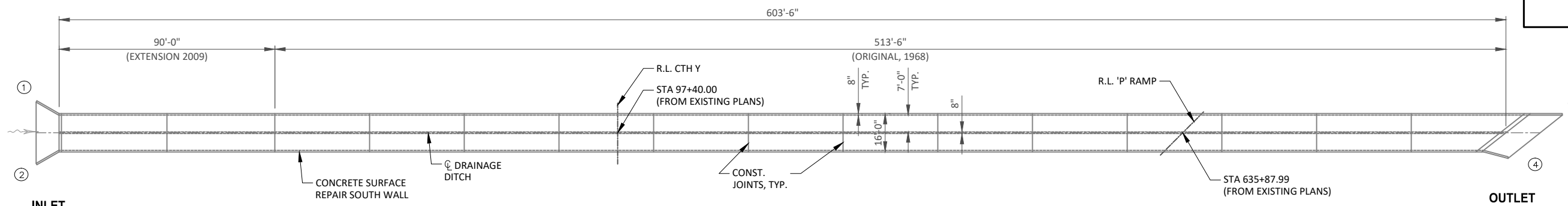


**CHANNEL NOTCH DETAIL**



**COVER PLATE DETAIL**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE C-67-12</b>			
DRAWN BY MC		PLANS CKD TAB	
<b>WING 2 STRAPPING DETAILS</b>			SHEET 3 OF 3



**PLAN**  
(TWO CELL BOX CULVERT)

**LIVELOAD**

INVENTORY RATING: HS16  
 OPERATING RATING: HS27  
 WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 170 kips  
 LOAD RATINGS PER WBM 45.8.3.1

**MATERIAL PROPERTIES**

CONCRETE MASONRY CULVERTS  $f_c = 3,500$  P.S.I.

**GENERAL NOTES**

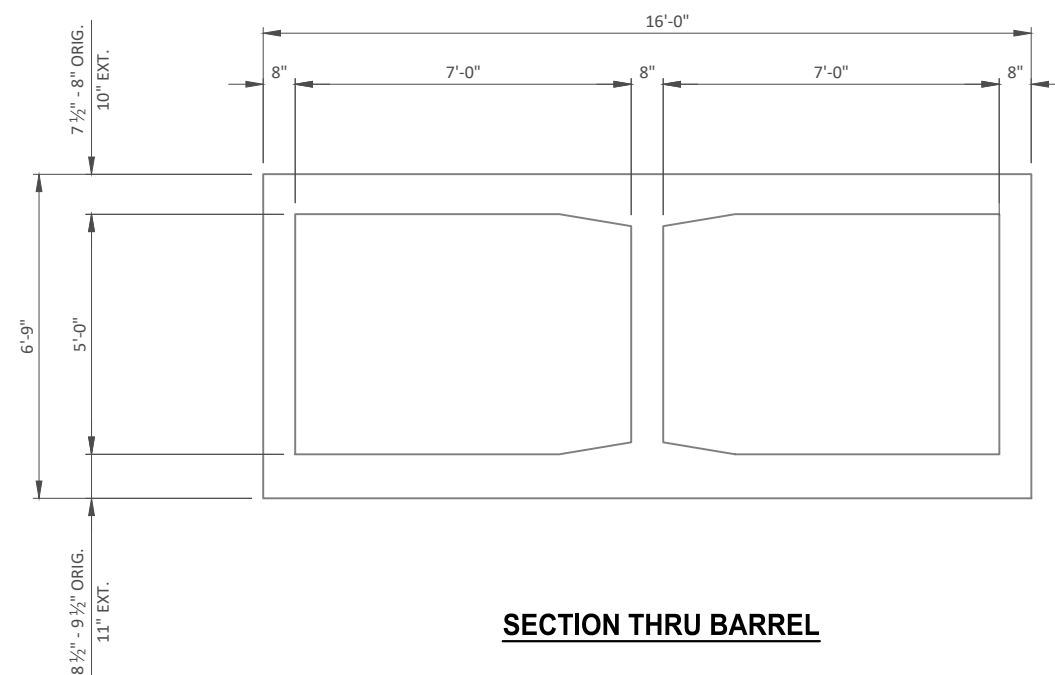
- DRAWINGS SHALL NOT BE SCALED.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- ALL STATIONS AND ELEVATIONS ARE IN FEET.
- SEE ROADWAY PLANS FOR EXISTING & PROPOSED UTILITY LOCATIONS.
- THE EXISTING STRUCTURE IS A TWO-CELL (2x7' Wx5'H) CONCRETE BOX CULVERT WITH AN OVERALL LENGTH OF 603'-6".
- REPAIRS SHOULD LIMIT DAMAGING SOUND CONCRETE AND THE EXISTING REINFORCEMENT.
- ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1/2" DEEP SAW CUT, UNLESS SPECIFIED.
- THE PROPOSED REHABILITATION INCLUDES CONCRETE SURFACE REPAIR.
- LIMITS OF CONCRETE SURFACE REPAIR ARE TO BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.
- CONCRETE SURFACE REPAIR ON SPALLS FOUND IN BOTH CELLS FINAL LOCATIONS TO BE DETERMINED BY ENGINEER IN THE FIELD.

**TRAFFIC DATA**

CTH Y  
 AADT (2022) 18,300  
 DESIGN SPEED 40 MPH

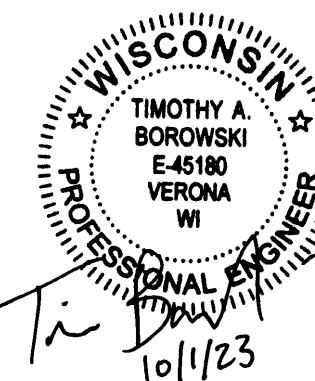
**LIST OF DRAWINGS:**

- GENERAL PLAN



**SECTION THRU BARREL**

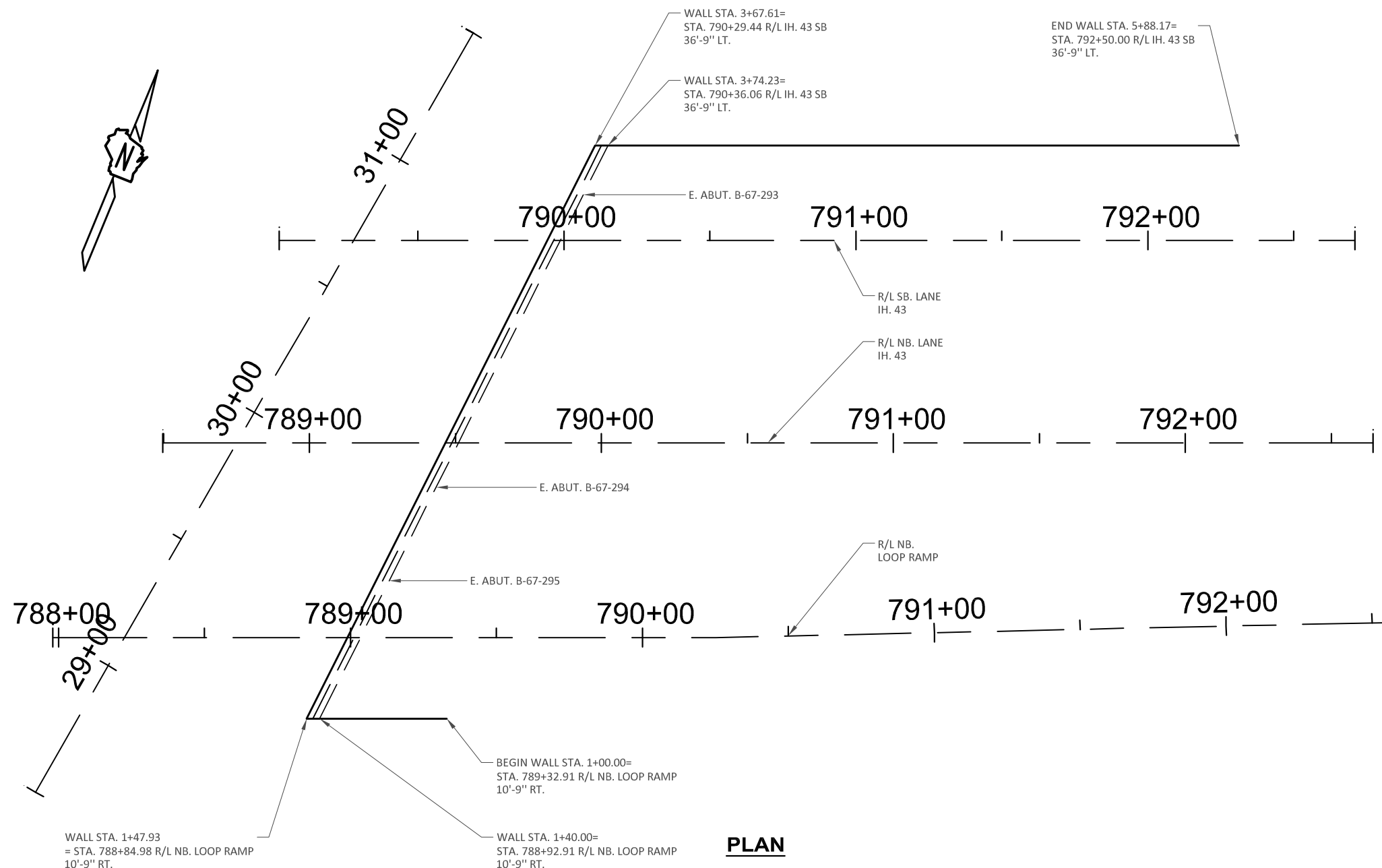
TOTAL ESTIMATED QUANTITIES			
ITEM NUMBER	BID ITEM	UNIT	TOTAL
509.1500	CONCRETE SURFACE REPAIR	SF	310



DESIGN CONSULTANT  
 MITCHELL COMER  
 (414) 225-9817

BRIDGE OFFICE CONTACT  
 AARON BONK, PE  
 (608) 261-0261

NO.	DATE	REVISION	BY
 www.daarcorp.com Milwaukee, WI 53202 414-225-9817			
ACCEPTED		 SDR CHIEF STRUCTURES DESIGN ENGINEER	11/01/23 DATE
<b>STRUCTURE C-67-24</b>			
RAMP TO NB IH 43 AND CTH Y OVER DRAINAGE WAY			
COUNTY WAUKESHA		TOWN/CITY/VILLAGE NEW BERLIN	
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	DESIGN CK'D.	TAB	DRAWN BY MC PLANS CK'D. TAB
<b>GENERAL PLAN</b>			SHEET 1 OF 1



**PLAN**

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

THE PROPOSED REHABILITATION INCLUDES SEALING OF MECHANICALLY STABILIZED EARTH (MSE) JOINTS

SEE ROADWAY PLANS FOR EXISTING UTILITY LOCATIONS.

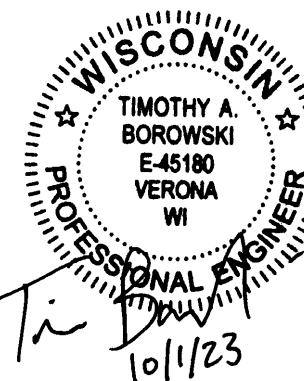
REPAIRS SHOULD LIMIT DAMAGING SOUND CONCRETE AND THE EXISTING REINFORCEMENT.

**TRAFFIC DATA**

IH 43  
AADT (2022) — 56,975  
DESIGN SPEED — 70 MPH

**LIST OF DRAWINGS:**

1. GENERAL PLAN
2. ELEVATION VIEW

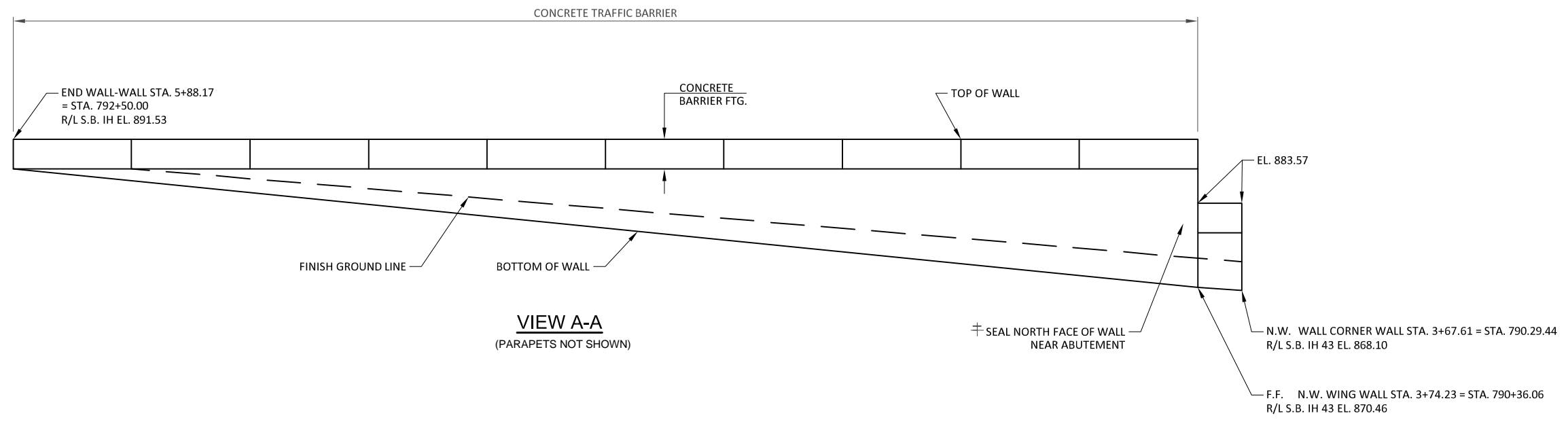
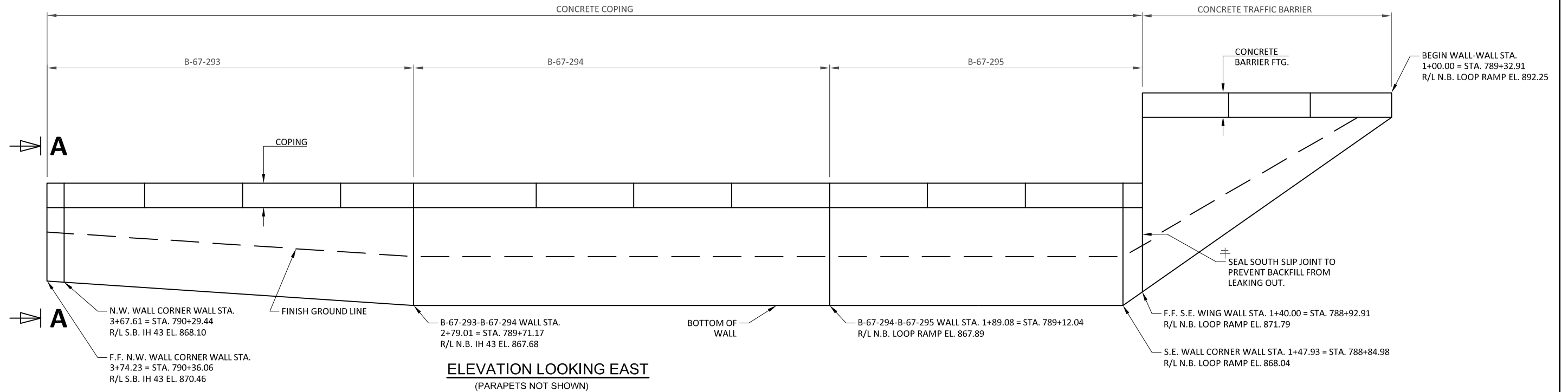


CATEGORY 3000			
TOTAL ESTIMATED QUANTITIES			
ITEM NUMBER	BID ITEM	UNIT	TOTAL
SPV.0090	JOINT SEALING	LF	30

NO.	DATE	REVISION	BY
 www.daarcorp.com Milwaukee, WI 53202 414-225-9817			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	 CHIEF STRUCTURES DESIGN ENGINEER		11/01/23 DATE
<b>STRUCTURE R-67-80</b>			
IH 43 OVER MOORLAND RD (EAST)			
COUNTY	WAUKESHA	TOWN/CITY/VILLAGE	NEW BERLIN
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	MC	DESIGN CK'D. TR	DRAWN BY MC PLANS CK'D. TR
<b>GENERAL PLAN</b>			SHEET 1 OF 2

DESIGN CONSULTANT  
MITCHELL COMER  
(414) 255-9817

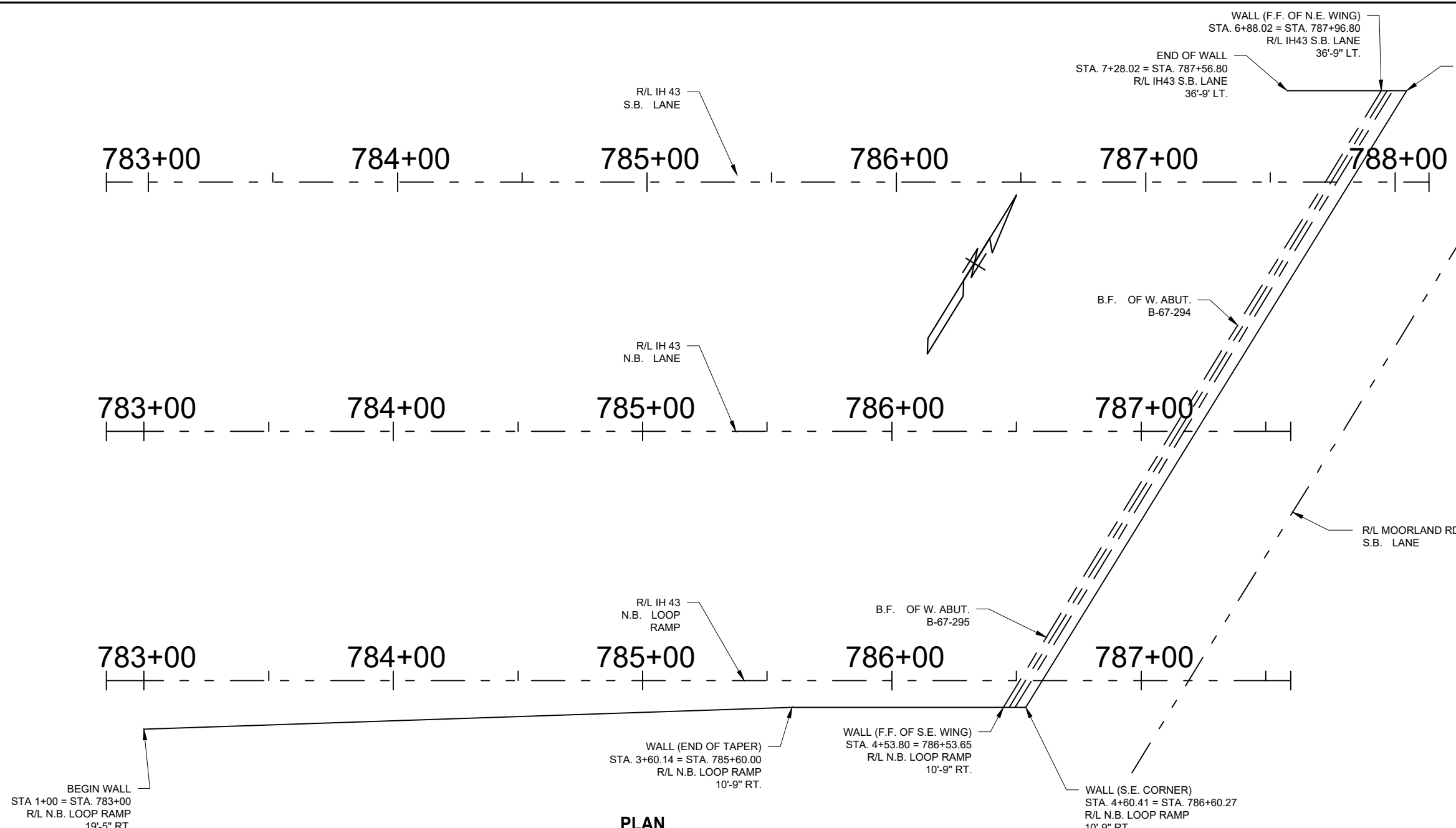
BRIDGE OFFICE CONTACT  
AARON BONK, PE  
(608) 261-0261



**LEGEND**

± SEAL ALL HORIZONTAL AND VERTICAL JOINTS THAT ARE LEAKING BACKFILL WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BEHIND SURFACE OF CONCRETE). COLOR TO MATCH EXISTING CONCRETE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE R-67-80</b>			
DRAWN BY		MC	PLANS CK'D. TAB
<b>ELEVATION VIEW</b>			SHEET 2 OF 2



**GENERAL NOTES**

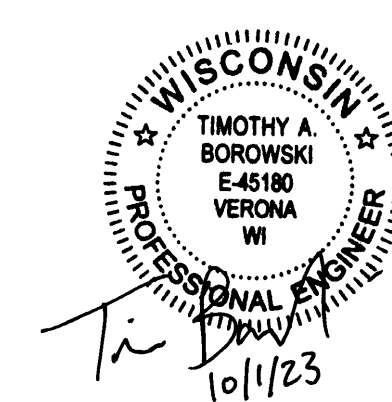
DRAWINGS SHALL NOT BE SCALED.  
 DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.  
 ALL STATIONS, OFFSET, AND ELEVATIONS ARE IN FEET.  
 SEE ROADWAY PLANS FOR EXISTING & PROPOSED UTILITY LOCATIONS.  
 REPAIRS SHOULD LIMIT DAMAGING SOUND CONCRETE AND THE EXISTING REINFORCEMENT.  
 THE PROPOSED REHABILITATION INCLUDES CONCRETE SURFACE REPAIR OF THE RETAINING WALL PARAPET AND COPING.

**PLAN**

**LIST OF DRAWINGS**

1. GENERAL PLAN
2. ELEVATION VIEW

TOTAL ESTIMATED QUANTITIES			
ITEM NUMBER	BID ITEM	UNIT	TOTAL
509.1500	CONCRETE SURFACE REPAIR	SF	5



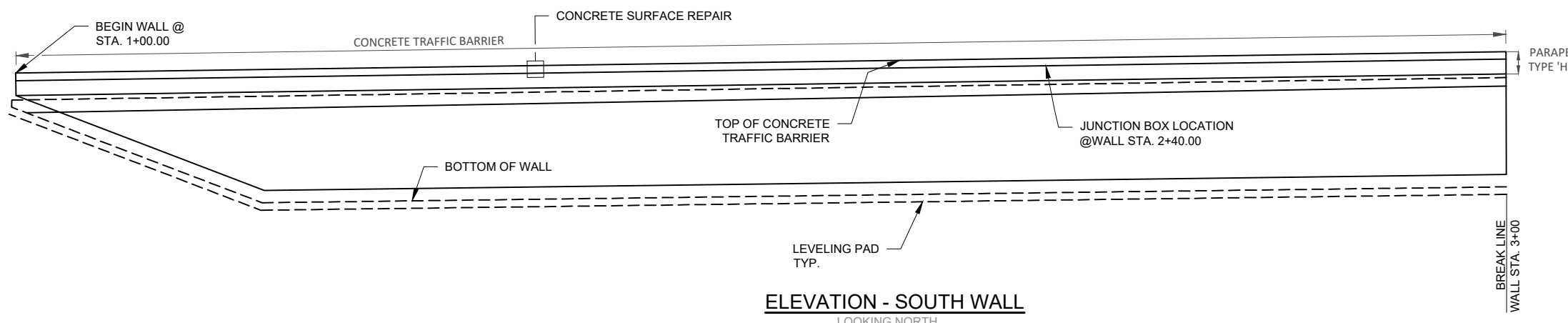
NO.	DATE	REVISION	BY
 www.daarcorp.com Milwaukee, WI 53202 414-225-9817			
ACCEPTED		 SDR CHIEF STRUCTURES DESIGN ENGINEER	11/01/23 DATE
<b>STRUCTURE R-67-87</b>			
IH 43 OVER MOORLAND RD. (WEST) CONCRETE SURFACE REPAIR			
COUNTY WAUKESHA		TOWN/CITY/VILLAGE NEW BERLIN	
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	MC	DESIGN CK'D. TAB	DRAWN BY MC PLANS CK'D. TAB
<b>GENERAL PLAN</b>			SHEET 1 OF 2

DESIGN CONSULTANT

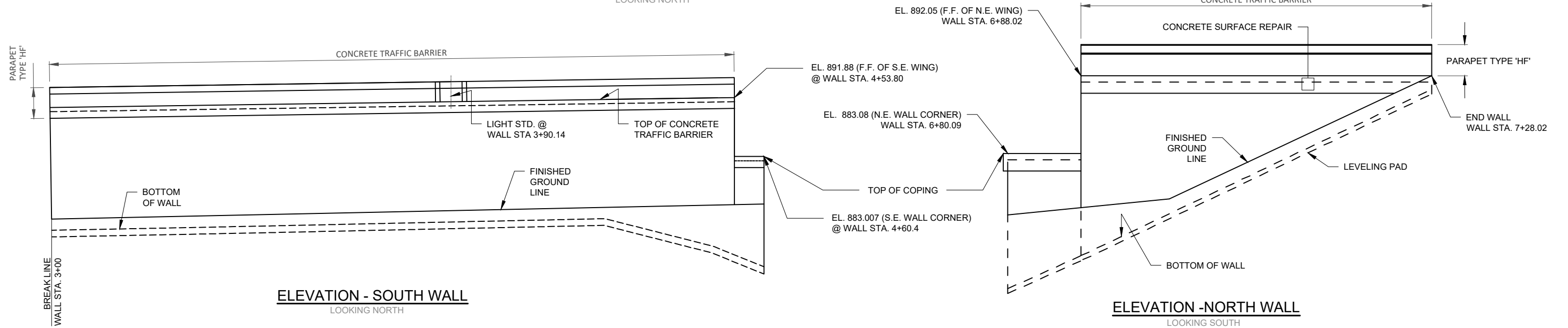
MITCHELL COMER  
 (414) 225-9817

BRIDGE OFFICE CONTACT

AARON BONK, PE  
 (608) 261-0261

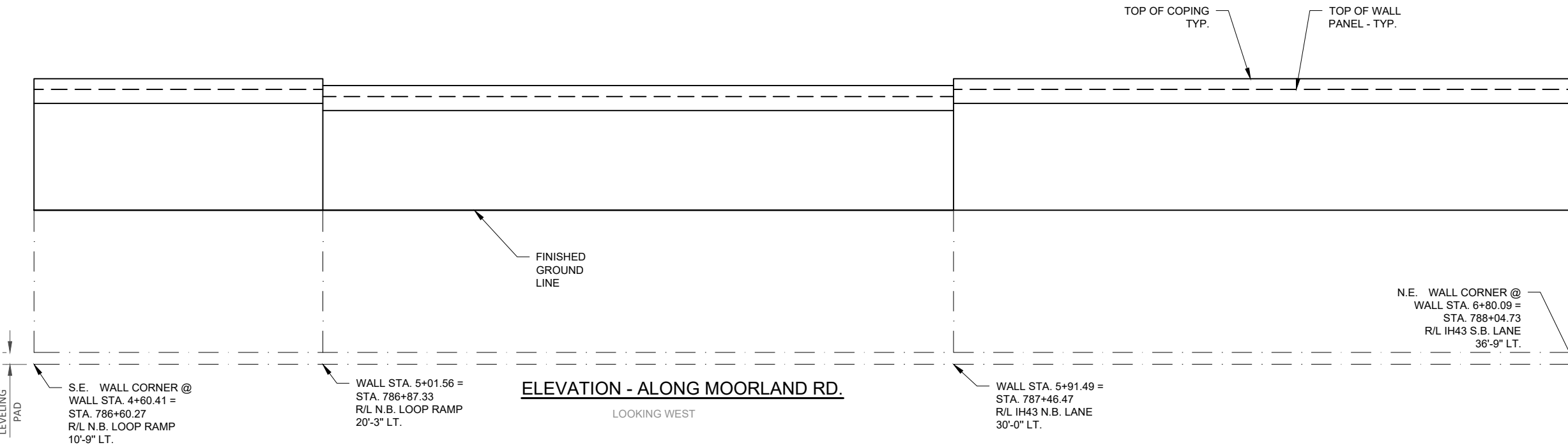


**ELEVATION - SOUTH WALL**  
LOOKING NORTH



**ELEVATION - SOUTH WALL**  
LOOKING NORTH

**ELEVATION - NORTH WALL**  
LOOKING SOUTH



**ELEVATION - ALONG MOORLAND RD.**  
LOOKING WEST

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE R-67-87</b>			
DRAWN BY		MC	PLANS CK'D. TAB
<b>ELEVATION VIEW</b>			SHEET 2 OF 2

ASPHALTIC CURB AND ASPHALTIC FLUME - IH 43 NB (INSIDE SHOULDER) - IH 43 & GUTHRIE DR (CTH U) INTERSECTION

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
511+38.79	51138.79	0.00	1.18	3.06	13.51	0	0	0	0	0	0
511+48.78	51148.78	9.99	0.57	3.06	13.81	0	1	5	0	6	-7
511+58.78	51158.78	10.00	0.72	3.06	13.40	0	1	5	0	11	-13
511+68.78	51168.78	10.00	0.81	3.06	14.27	0	1	5	0	17	-20
511+75.48	51175.48	6.70	1.01	3.06	14.52	0	1	4	0	21	-25

CONCRETE CURB & GUTTER AND CONCRETE FLUME - IH 43 NB (INSIDE SHOULDER) - IH 43 & GUTHRIE DR (CTH U) INTERSECTION

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
514+41.98	51441.98	0.00	1.98	3.06	49.75	0	0	0	0	0	0
514+51.94	51451.94	9.96	2.11	3.06	26.78	1	1	14	1	15	-15
514+61.94	51461.94	10.00	1.50	3.06	41.73	1	1	13	2	30	-30
514+71.94	51471.94	10.00	1.26	3.06	35.73	1	1	14	3	45	-45
514+81.94	51481.94	10.00	1.13	3.06	31.17	0	1	12	3	58	-59
514+91.94	51491.94	10.00	0.79	3.06	32.32	0	1	12	3	72	-74
515+01.94	51501.94	10.00	0.93	3.06	31.19	0	1	12	3	85	-88
515+12.19	51512.19	10.25	1.11	3.06	25.74	0	1	11	3	97	-101

CONCRETE CURB & GUTTER AND CONCRETE FLUME - IH 43 SB (INSIDE SHOULDER) - IH 43 & GUTHRIE DR (CTH U) INTERSECTION

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
511+61.91	51161.91	0.00	2.10	3.06	19.26	0	0	0	0	0	0
511+71.91	51171.91	10.00	1.76	3.06	22.27	1	1	8	1	9	-9
511+81.91	51181.91	10.00	1.74	3.06	24.37	1	1	9	2	19	-19
511+91.91	51191.91	10.00	1.52	3.06	24.90	1	1	9	3	29	-29
512+01.91	51201.91	10.00	1.37	3.06	26.45	1	1	10	4	40	-40
512+11.91	51211.91	10.00	1.58	3.06	27.36	1	1	10	5	51	-51
512+21.91	51221.91	10.00	2.05	3.06	27.08	1	1	10	6	62	-62
512+31.91	51231.91	10.00	2.14	3.06	30.52	1	1	11	7	74	-74
512+41.87	51241.87	9.96	2.02	3.06	56.14	1	1	16	8	91	-91

ASPHALTIC CURB AND ASPHALTIC FLUME - IH 43 SB (INSIDE SHOULDER) - IH 43 & GUTHRIE DR (CTH U) INTERSECTION - STA 514SB+66 TO STA 514SB+94

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
514+66.83	51466.83	0.00	0.98	0.00	93.90	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 8	NOTE 8
514+76.00	51476.00	9.17	0.82	0.00	32.22	0	0	21	0	23	-23
514+84.00	51484.00	8.00	1.00	0.00	30.83	0	0	9	0	33	-33
514+93.69	51493.69	9.69	0.00	0.00	3.28	0	0	6	0	40	-40

ASPHALTIC CURB AND ASPHALTIC FLUME - IH 43 SB (INSIDE SHOULDER) - IH 43 & GUTHRIE DR (CTH U) INTERSECTION - STA 515SB+10 TO STA 515SB+59

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
515+10.04	51510.04	0.00	2.34	3.06	8.16	0	0	0	0	0	0
515+18.71	51518.71	8.67	2.23	3.06	8.31	1	1	3	1	3	-3
515+28.71	51528.71	10.00	2.17	3.06	9.05	1	1	3	2	7	-7
515+38.71	51538.71	10.00	1.99	3.06	9.90	1	1	4	3	11	-11
515+48.71	51548.71	10.00	1.93	3.06	10.86	1	1	4	4	15	-15
515+58.72	51558.72	10.01	1.89	3.06	11.49	1	1	4	5	20	-20

9

9

BULLNOSE BEAM GUARD - IH 43 NB (MEDIAN) UNDER CROWBAR DR

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.10	MASS ORDINATE
544+65.50	54465.50	0.00	0.00	1.46	0.00	0	0	0	0	0	0
545+15.50	54515.50	50.00	12.00	1.46	0.01	11	3	0	11	0	8
545+65.50	54565.50	50.00	16.94	1.46	0.00	27	3	0	38	0	32
546+15.50	54615.50	50.00	2.70	1.46	0.00	18	3	0	56	0	47
546+22.98	54622.98	7.48	1.77	1.46	0.12	1	0	0	57	0	48
546+65.50	54665.50	42.52	1.71	1.46	4.02	3	2	3	60	3	46
546+87.21	54687.21	21.71	2.08	1.46	0.82	2	1	2	62	6	45
546+99.71	54699.71	12.50	1.96	1.46	2.14	1	1	1	63	7	43
547+15.50	54715.50	15.79	2.94	1.46	1.93	1	1	1	64	8	42
547+51.79	54751.79	36.29	2.81	1.46	0.73	4	2	2	68	10	42
547+65.60	54765.60	13.81	2.07	1.46	2.78	1	1	1	69	11	41
547+84.78	54784.78	19.18	1.90	1.46	3.81	1	1	2	70	13	39
548+15.50	54815.50	30.72	2.03	1.46	2.65	2	2	4	72	18	34
548+37.04	54837.04	21.54	1.30	1.46	1.11	1	1	2	73	20	32
548+49.60	54849.60	12.56	1.42	1.46	0.51	1	1	0	74	20	32
548+65.50	54865.50	15.90	1.05	1.46	3.65	1	1	1	75	21	31
549+13.16	54913.16	47.66	1.23	1.46	1.47	2	3	5	77	26	25
549+15.50	54915.50	2.34	1.33	1.46	0.90	0	0	0	77	26	25
549+65.50	54965.50	50.00	15.64	1.46	1.19	16	3	2	93	29	35
550+15.50	55015.50	50.00	20.14	1.46	1.35	33	3	2	126	31	63
550+65.50	55065.50	50.00	0.74	1.46	2.10	19	3	3	145	34	76
550+71.53	55071.53	6.03	0.80	1.46	0.81	0	0	0	145	34	76

BULLNOSE BEAM GUARD - IH 43 SB (MEDIAN) UNDER CROWBAR DR

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.10	MASS ORDINATE
545+42.05	54542.05	0.00	1.14	1.46	0.09	0	0	0	0	0	0
545+92.05	54592.05	50.00	6.33	1.46	0.00	7	3	0	7	0	4
546+42.05	54642.05	50.00	5.33	1.46	1.00	11	3	1	18	1	11
546+90.84	54690.84	48.79	1.66	1.46	1.04	6	3	2	24	3	12
546+92.05	54692.05	1.21	1.70	1.46	1.03	0	0	0	24	3	12
547+42.05	54742.05	50.00	1.98	1.46	3.99	3	3	3	27	7	8
547+54.97	54754.97	12.92	1.50	1.46	4.59	1	1	2	28	9	6
547+67.84	54767.84	12.87	1.40	1.46	2.54	1	1	2	29	11	4
547+92.05	54792.05	24.21	2.49	1.46	0.92	2	1	2	31	13	3
548+19.55	54819.55	27.50	1.90	1.46	0.43	2	1	1	33	14	3
548+42.05	54842.05	22.50	1.70	1.46	1.58	1	1	1	34	15	2
548+52.55	54852.55	10.50	1.64	1.46	2.41	1	1	1	35	17	0
548+92.05	54892.05	39.50	2.04	1.46	0.32	3	2	2	38	19	-1
549+04.95	54904.95	12.90	2.30	1.46	0.24	1	1	0	39	19	-1
549+17.44	54917.44	12.49	2.23	1.46	0.10	1	1	0	40	19	-1
549+42.05	54942.05	24.61	1.41	1.46	1.51	2	1	1	42	20	-1
549+79.47	54979.47	37.42	1.79	1.46	0.79	2	2	2	44	22	-3
549+92.05	54992.05	12.58	4.52	1.46	0.16	1	1	0	45	22	-3
550+42.05	55042.05	50.00	14.96	1.46	0.10	18	3	0	63	22	12
550+92.05	55092.05	50.00	2.07	1.46	12.37	16	3	12	79	35	12
551+30.75	55130.75	38.70	0.00	1.46	0.00	1	2	9	80	45	1



BULLNOSE BEAM GUARD - IH 43 NB (MEDIAN) UNDER RACINE AVE (CTH Y)

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.10	MASS ORDINATE
632+69.47	63269.47	0.00	3.15	1.56	0.00	0	0	0	0	0	0
633+19.47	63319.47	50.00	3.53	1.46	2.07	6	3	2	6	2	1
633+39.20	63339.20	19.73	2.59	1.46	1.18	2	1	1	8	3	1
633+51.55	63351.55	12.35	2.57	1.46	1.53	1	1	1	9	4	0
633+69.47	63369.47	17.92	1.85	1.46	2.41	1	1	1	10	6	-2
634+03.14	63403.14	33.67	0.12	0.00	3.63	1	1	4	11	10	-6
634+19.47	63419.47	16.33	0.26	0.00	3.16	0	0	2	11	12	-8
634+69.47	63469.47	50.00	0.42	0.00	3.86	1	0	7	12	20	-15
635+00.21	63500.21	30.74	0.78	0.00	2.90	1	0	4	13	24	-18
635+19.47	63519.47	19.26	1.23	1.46	2.26	1	1	2	14	26	-20
635+51.62	63551.62	32.15	1.63	1.46	2.48	2	2	3	16	30	-24
635+63.86	63563.86	12.24	2.16	1.46	1.42	1	1	1	17	31	-25
635+69.47	63569.47	5.61	2.49	1.46	0.69	0	0	0	17	31	-25
636+19.47	63619.47	50.00	2.78	1.46	0.44	5	3	1	22	32	-24
636+32.55	63632.55	13.08	2.54	1.46	3.99	1	1	1	23	33	-25

BEAM GUARD EAT - IH 43 NB (INSIDE SHOULDER) - STA 659+98

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
658+79.39	65879.39	0.00	1.26	1.46	0.66	0	0	0	0	0	0
659+29.39	65929.39	50.00	1.84	1.46	1.35	3	3	2	3	2	-2
659+79.39	65979.39	50.00	4.15	1.46	6.38	6	3	7	9	10	-7
659+98.41	65998.41	19.02	4.79	1.46	6.02	3	1	4	12	14	-9
660+23.39	66023.39	24.98	4.27	1.46	3.56	4	1	4	16	19	-11
660+29.39	66029.39	6.00	3.86	1.46	3.47	1	0	1	17	20	-11
660+48.37	66048.37	18.98	4.53	1.46	1.67	3	1	2	20	22	-11

BEAM GUARD EAT - IH 43 NB (OUTSIDE SHOULDER) - STA 664+49

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
663+29.58	66329.58	0.00	2.21	1.46	2.24	0	0	0	0	0	0
663+79.58	66379.58	50.00	2.33	1.46	8.53	4	3	10	4	11	-10
664+29.58	66429.58	50.00	3.49	1.46	15.64	5	3	22	9	35	-32
664+49.10	66449.10	19.52	4.32	1.46	10.36	3	1	9	12	45	-40
664+74.10	66474.10	25.00	3.87	1.46	6.03	4	1	8	16	54	-46
664+79.58	66479.58	5.48	4.51	1.46	1.83	1	0	1	17	55	-46
664+99.24	66499.24	19.66	4.58	1.46	0.00	3	1	1	20	56	-45

BEAM GUARD EAT - IH 43 SB (INSIDE SHOULDER) - STA 673+48

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
672+98.45	67298.45	0.00	4.16	3.21	0.56	0	0	0	0	0	0
673+23.49	67323.49	25.04	6.89	3.21	2.78	5	3	2	5	2	0
673+48.45	67348.45	24.96	9.56	3.21	3.12	8	3	3	13	6	2
673+48.45	67348.45	0.00	0.00	3.21	0.00	0	0	0	13	6	2
673+98.45	67398.45	50.00	7.07	3.21	1.18	7	6	1	20	7	1
674+48.45	67448.45	50.00	4.43	3.21	0.52	11	6	2	31	9	4
674+68.04	67468.04	19.59	5.44	3.21	0.28	4	2	0	35	9	6

BEAM GUARD EAT - IH 43 SB (OUTSIDE SHOULDER) - STA 676+52

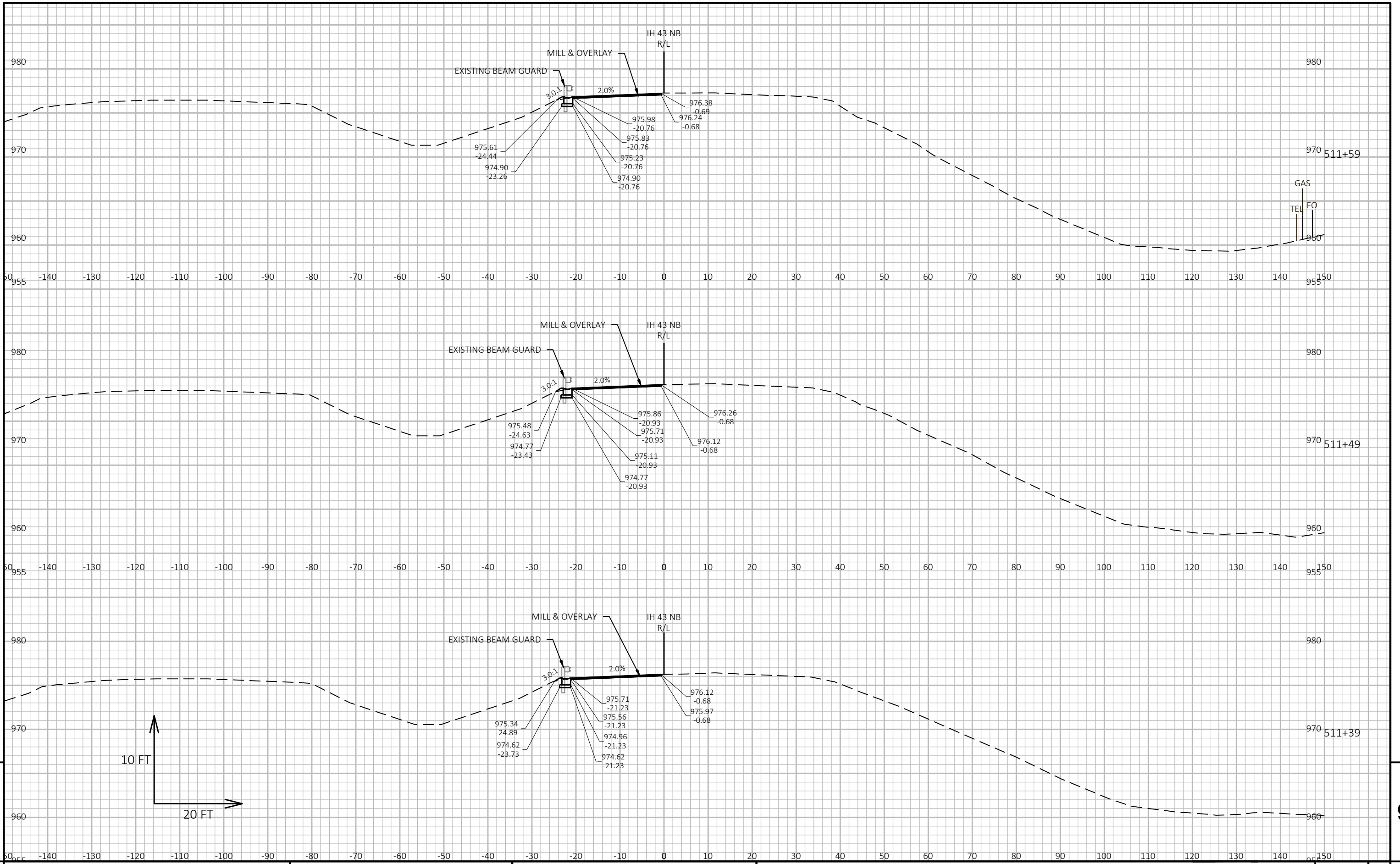
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
676+02.44	67602.44	0.00	5.59	1.46	0.00	0	0	0	0	0	0
676+27.29	67627.29	24.85	3.93	1.46	13.11	4	1	6	4	7	-4
676+52.35	67652.35	25.06	2.91	1.46	16.24	3	1	14	7	22	-17
677+02.44	67702.44	50.09	3.38	1.46	6.07	6	3	21	13	45	-37
677+52.44	67752.44	50.00	1.28	1.46	7.24	4	3	12	17	58	-49
677+70.35	67770.35	17.91	1.76	1.46	7.61	1	1	5	18	64	-55

BEAM GUARD EAT - IH 43 NB (OUTSIDE SHOULDER) - STA 776+68

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
775+49.22	77549.22	0.00	3.90	2.92	0.07	0	0	0	0	0	0
775+99.22	77599.22	50.00	3.74	2.92	0.87	7	5	1	7	1	1
776+49.22	77649.22	50.00	6.37	2.92	1.86	9	5	3	16	4	2
776+68.40	77668.40	19.18	5.36	2.92	6.20	4	2	3	20	8	0
776+93.38	77693.38	24.98	5.21	2.92	2.83	5	3	4	25	12	-2
776+99.22	77699.22	5.84	6.16	2.92	1.39	1	1	0	26	12	-2
777+18.33	77718.33	19.11	5.82	2.92	0.18	4	2	1	30	13	-1

BEAM GUARD EAT - IH 43 NB ON RAMP (LOOP) FROM MOORLAND RD (OUTSIDE SHOULDER) - STA 780+33

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
779+04.97	77904.97	0.00	2.67	1.46	0.00	0	0	0	0	0	0
779+54.97	77954.97	50.00	3.38	1.46	0.31	6	3	0	6	0	3
780+04.97	78004.97	50.00	3.79	1.46	0.07	7	3	0	13	0	7
780+32.94	78032.94	27.97	4.36	1.46	0.55	4	2	0	17	0	9
780+54.97	78054.97	22.03	2.91	1.46	0.02	3	1	0	20	0	11
780+57.93	78057.93	2.96	2.67	1.46	0.03	0	0	0	20	0	11
780+82.69	78082.69	24.76	2.57	1.46	0.17	2	1	0	22	0	12

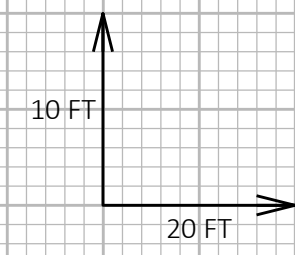
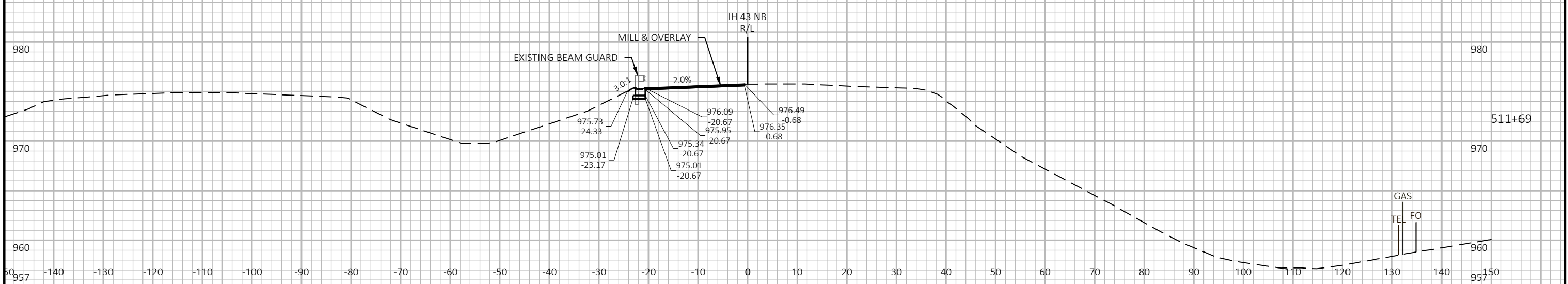
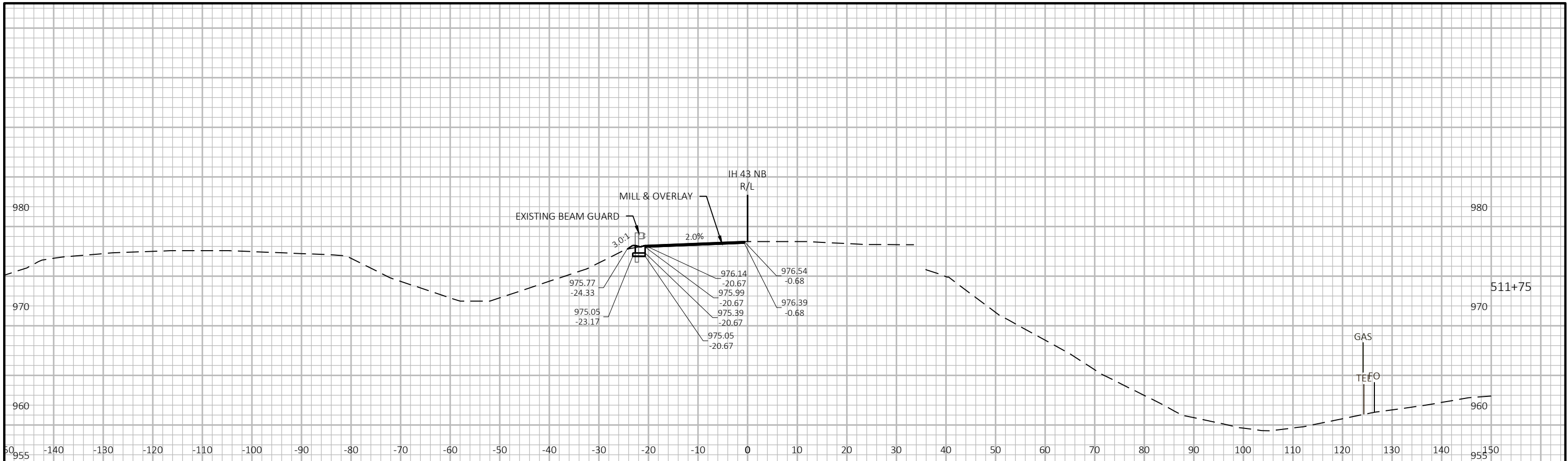


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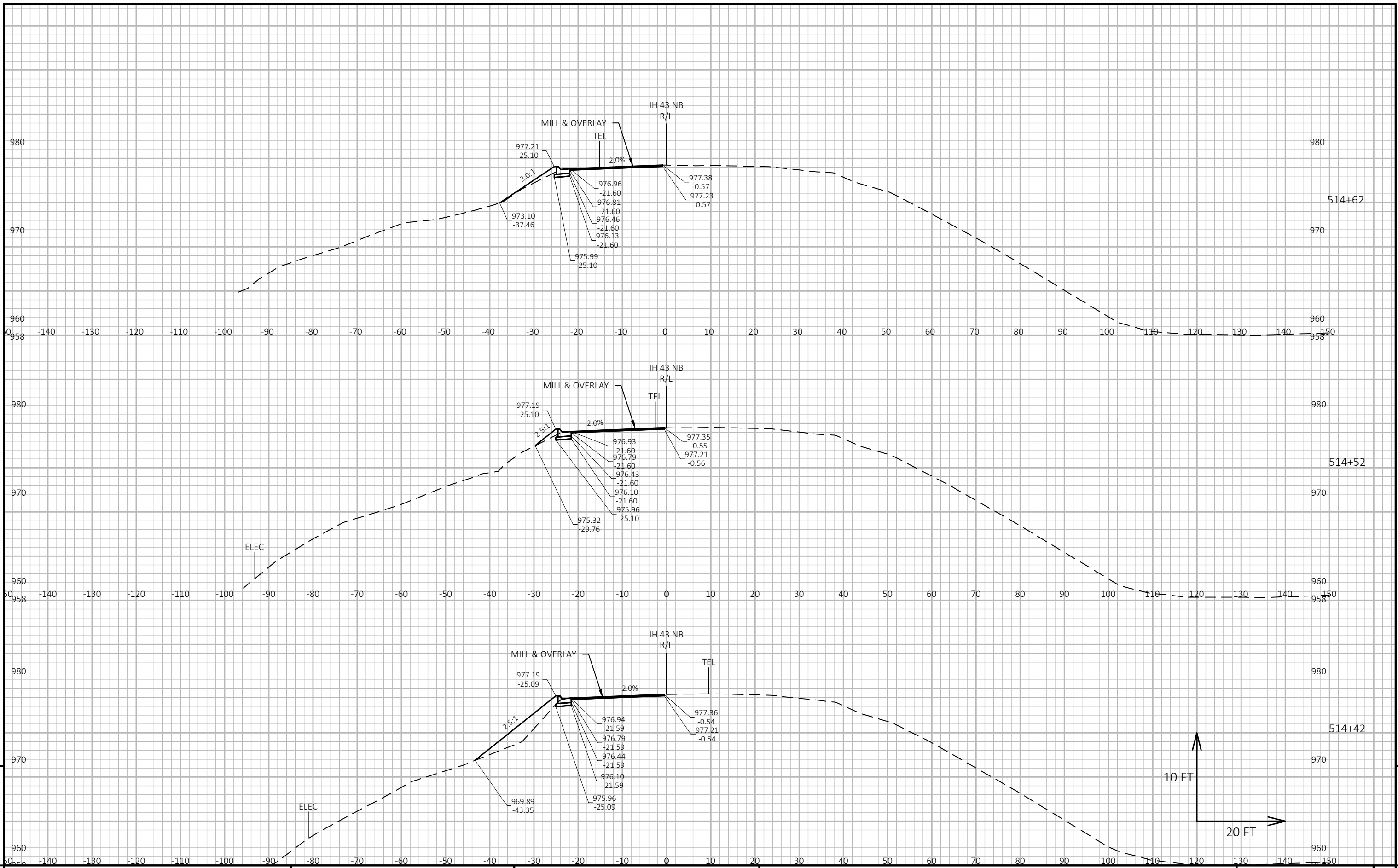
PROJECT NO: 1090-09-76 HWY: IH 43 COUNTY: WAUKESHA CROSS SECTIONS: ASPHALTIC CURB & ASPHALTIC SURFACE - IH 43 NB (IH 43 & GUTHRIE DR INTERCHANGE) SHEET E

FILE NAME: N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-C&G\_FLUMES.DWG PLOT DATE: 9/14/2022 9:27 AM PLOT BY: ABU AJWA, MUNTHER J PLOT NAME: LAYOUT NAME - 43NB-LT-ASPCR (1) PLOT SCALE: 1 IN:20 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

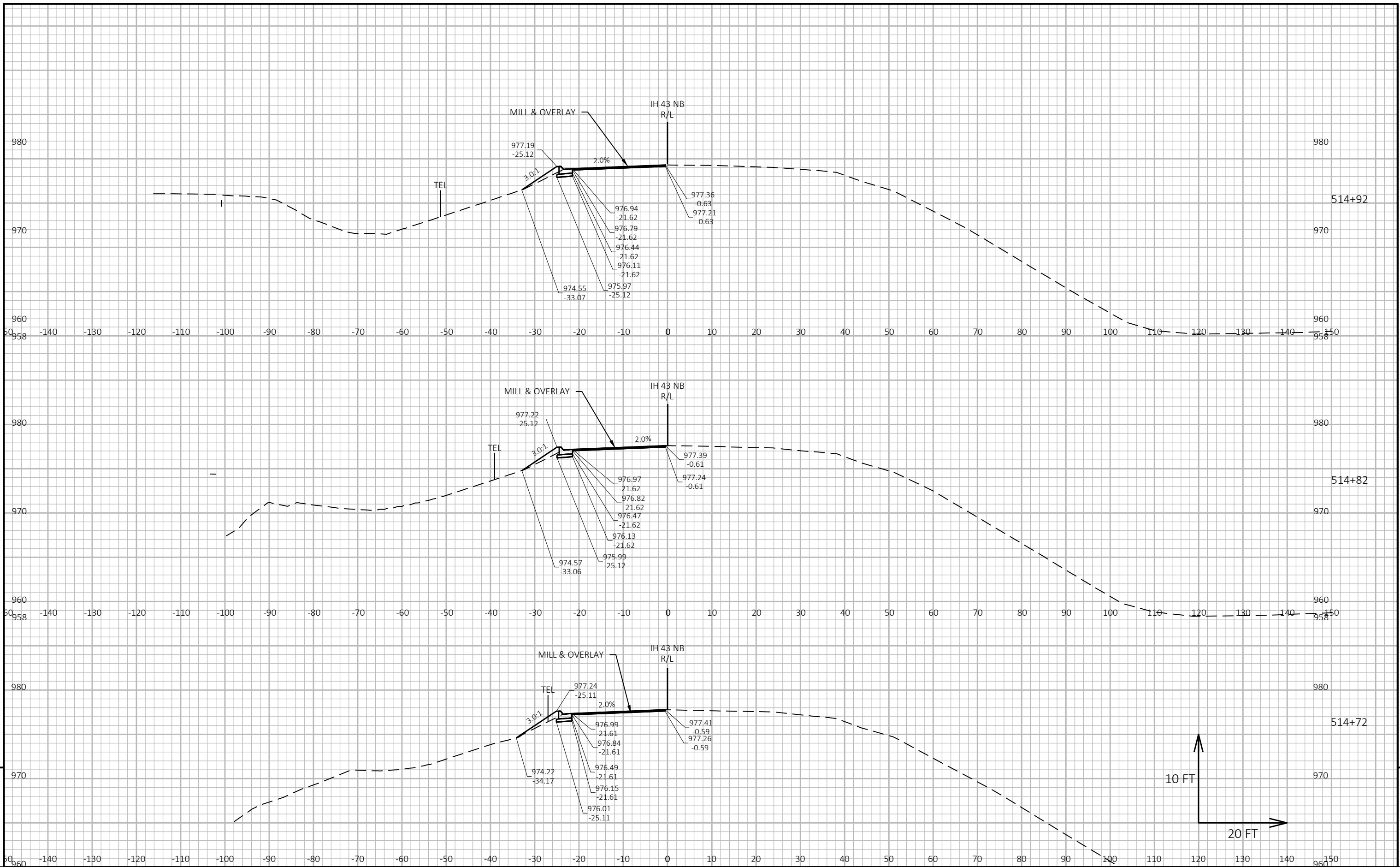


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PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: CURB & GUTTER - IH 43 NB (IH 43 & GUTHRIE DR INTERCHANGE)      SHEET 9

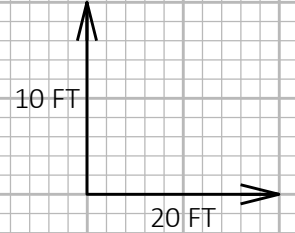


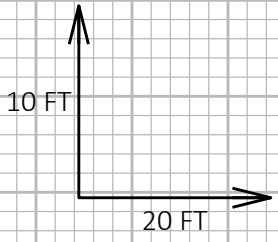
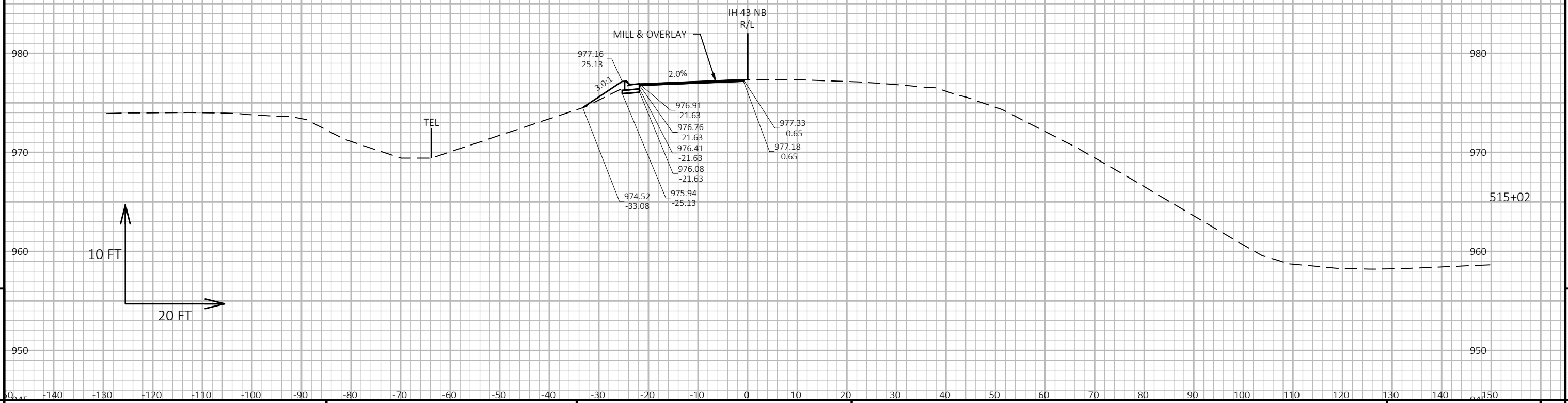
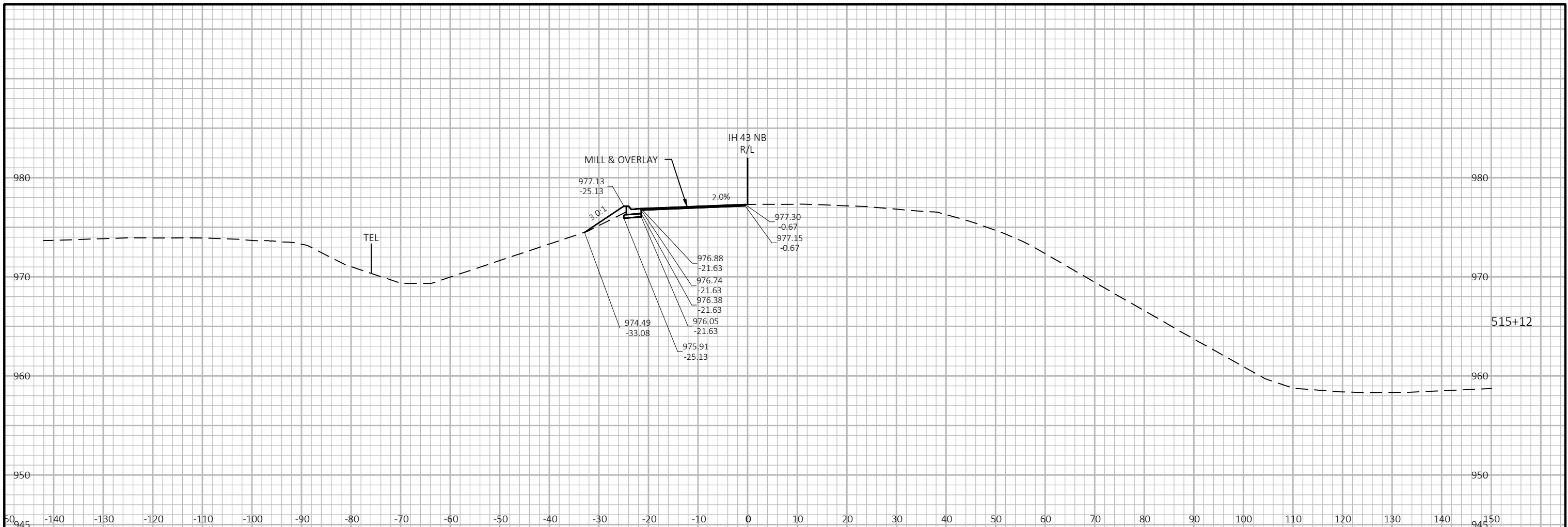
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PROJECT NO: 1090-09-76 HWY: IH 43 COUNTY: WAUKESHA CROSS SECTIONS: CURB & GUTTER - IH 43 NB (IH 43 & GUTHRIE DR INTERCHANGE) SHEET E

FILE NAME: N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-C&G\_FLUMES.DWG PLOT DATE: 9/14/2022 9:39 AM PLOT BY: ABU AJWA, MUNTHERR J PLOT NAME: PLOT SCALE: 1 IN:20 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49



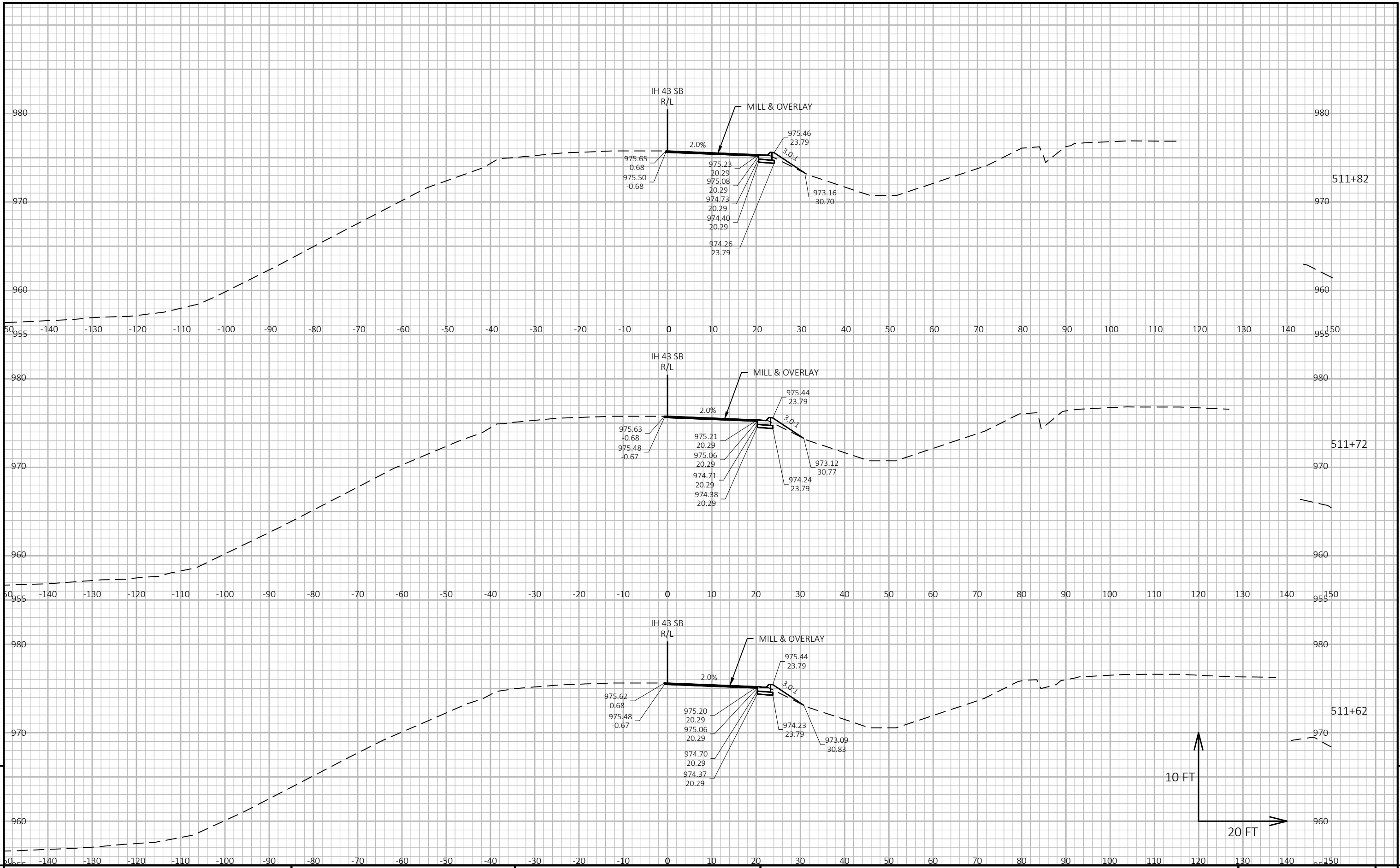


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PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: CURB & GUTTER - IH 43 NB (IH 43 & GUTHRIE DR INTERCHANGE)	SHEET	E
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PROJECT NO: 1090-09-76

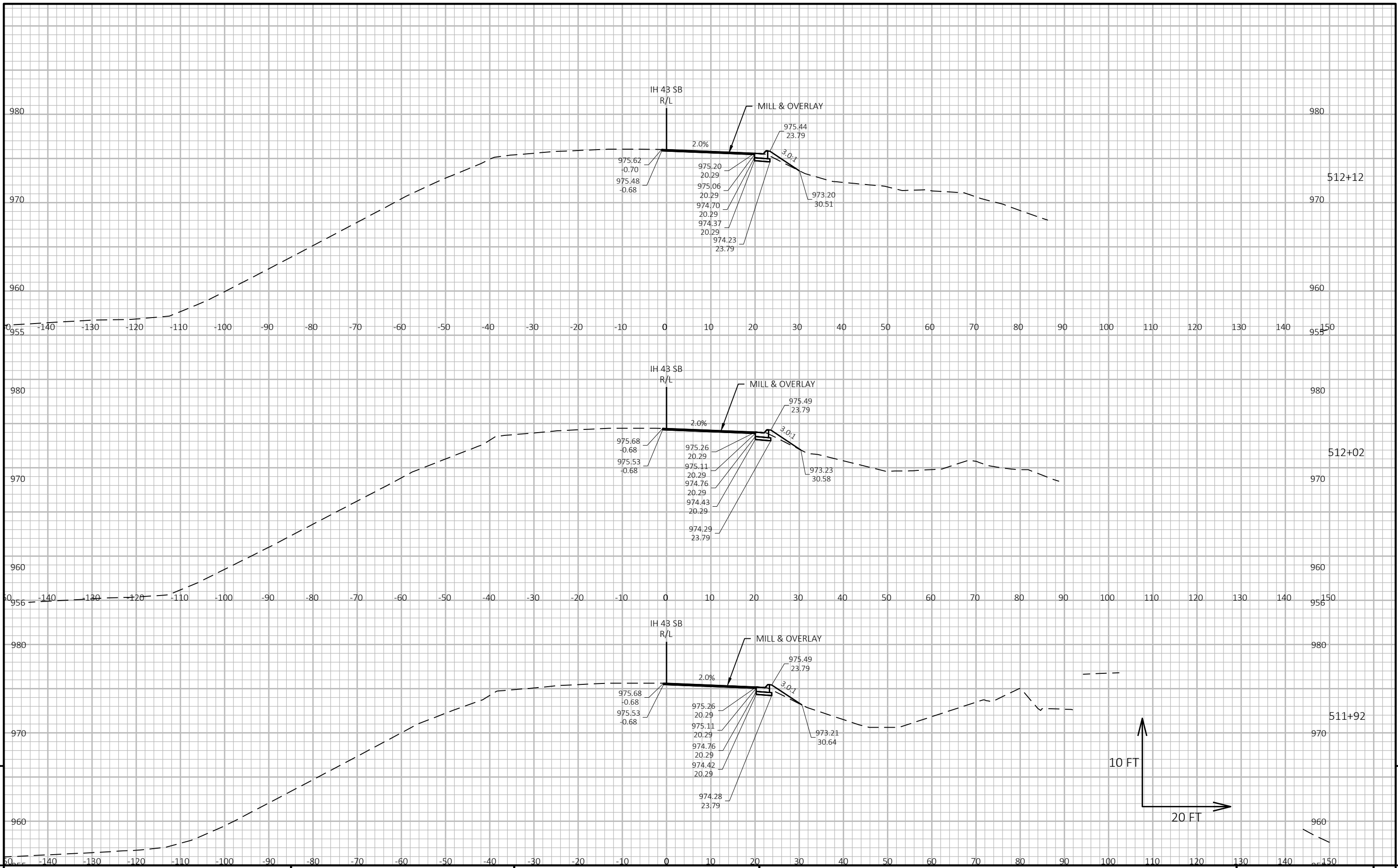
HWY: IH 43

COUNTY: WAUKESHA

CROSS SECTIONS: CURB & GUTTER - IH 43 SB (IH 43 & GUTHRIE DR INTERCHANGE)

SHEET

E



PROJECT NO: 1090-09-76

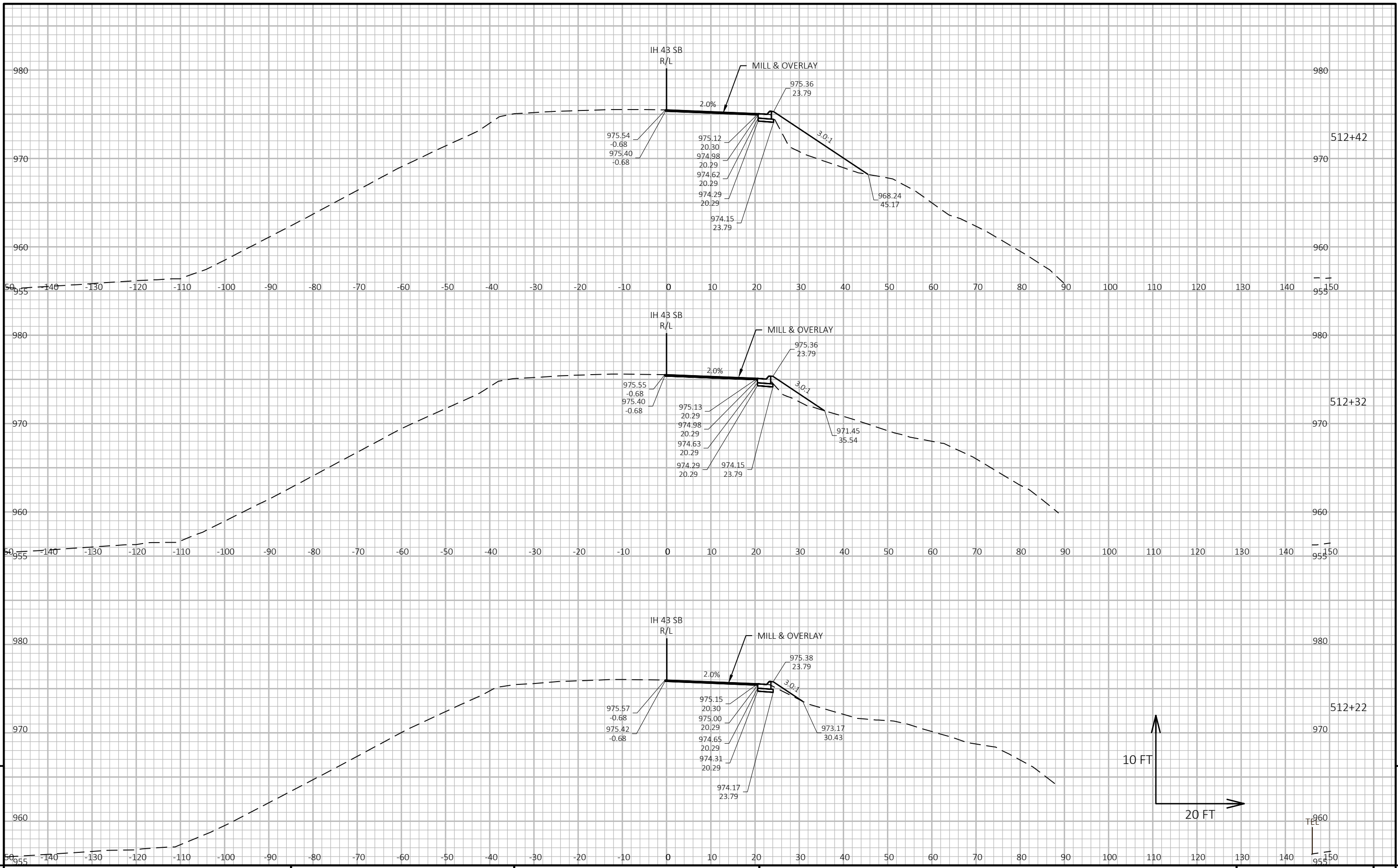
HWY: IH 43

COUNTY: WAUKESHA

CROSS SECTIONS: CURB & GUTTER - IH 43 SB (IH 43 & GUTHRIE DR INTERCHANGE)

SHEET

E



PROJECT NO: 1090-09-76

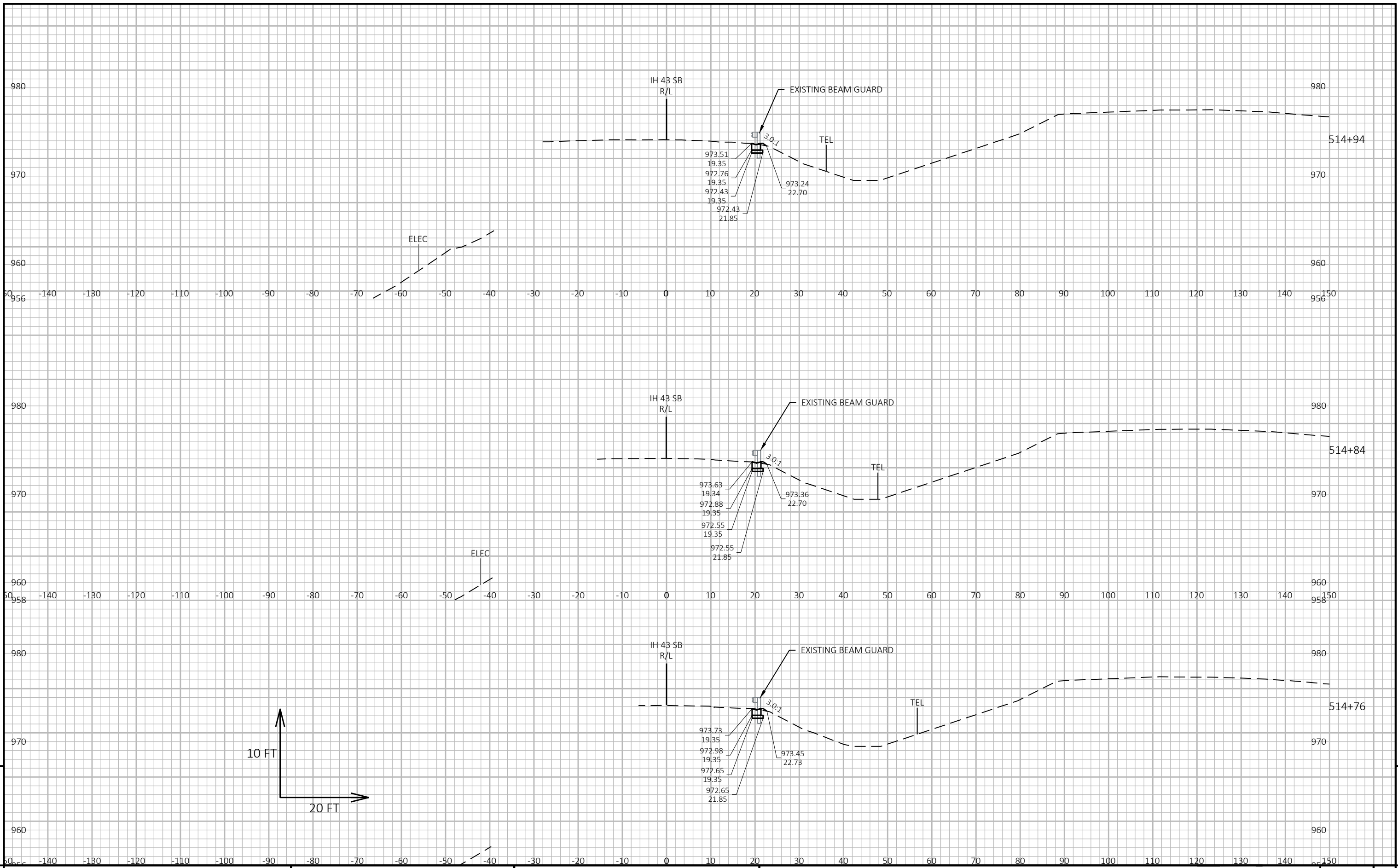
HWY: IH 43

COUNTY: WAUKESHA

CROSS SECTIONS: CURB & GUTTER - IH 43 SB (IH 43 & GUTHRIE DR INTERCHANGE)

SHEET

E



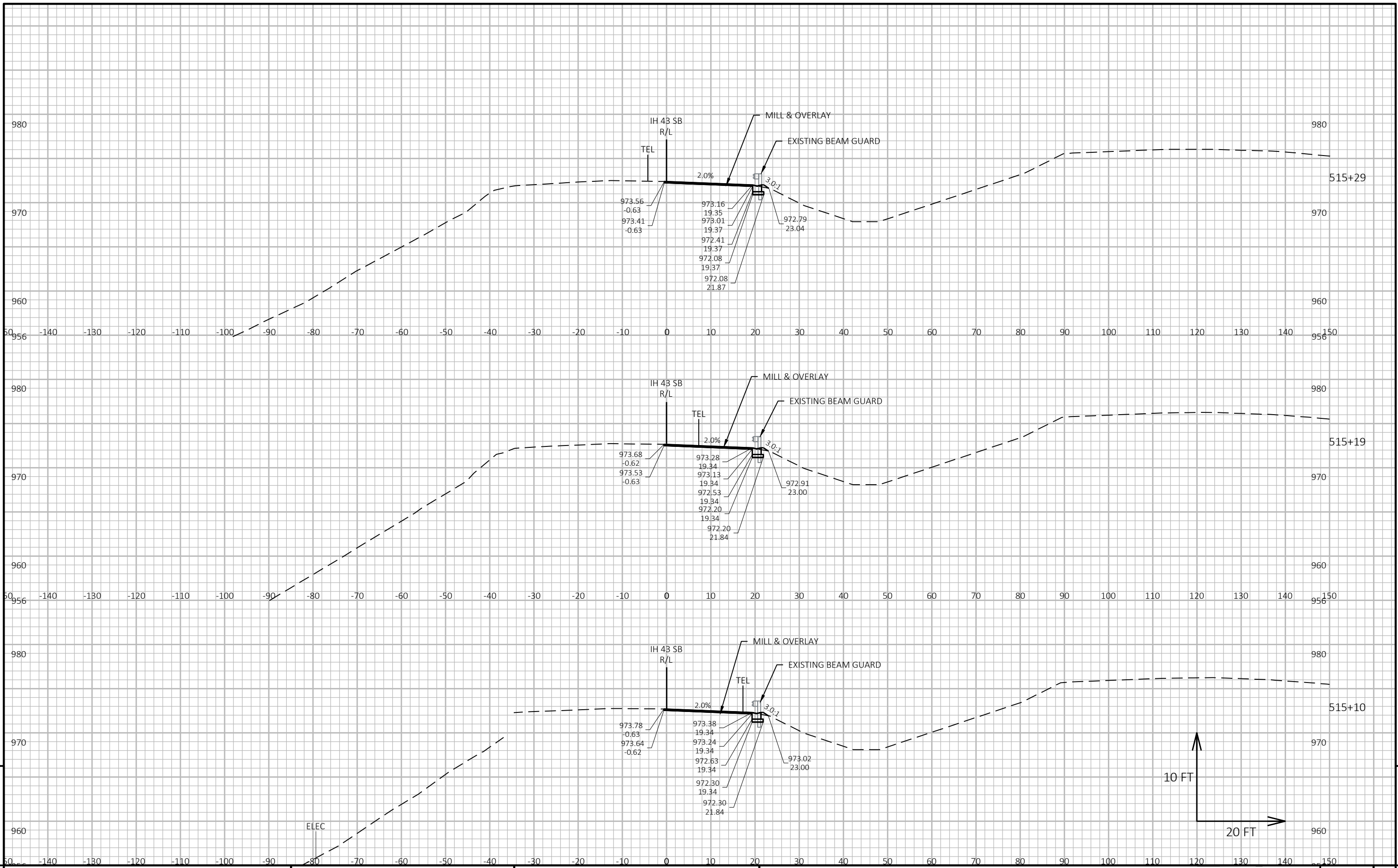
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PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: ASPHALTIC CURB & ASPHALTIC SURFACE - IH 43 SB (IH 43 & GUTHRIE DR INTERCHANGE)      SHEET E

FILE NAME : N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-C&G\_FLUMES.DWG      PLOT DATE : 9/14/2022 10:08 AM      PLOT BY : ABU AJWA, MUNTHER J      PLOT NAME :      PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - 43SB-RT-ASPCR (1)

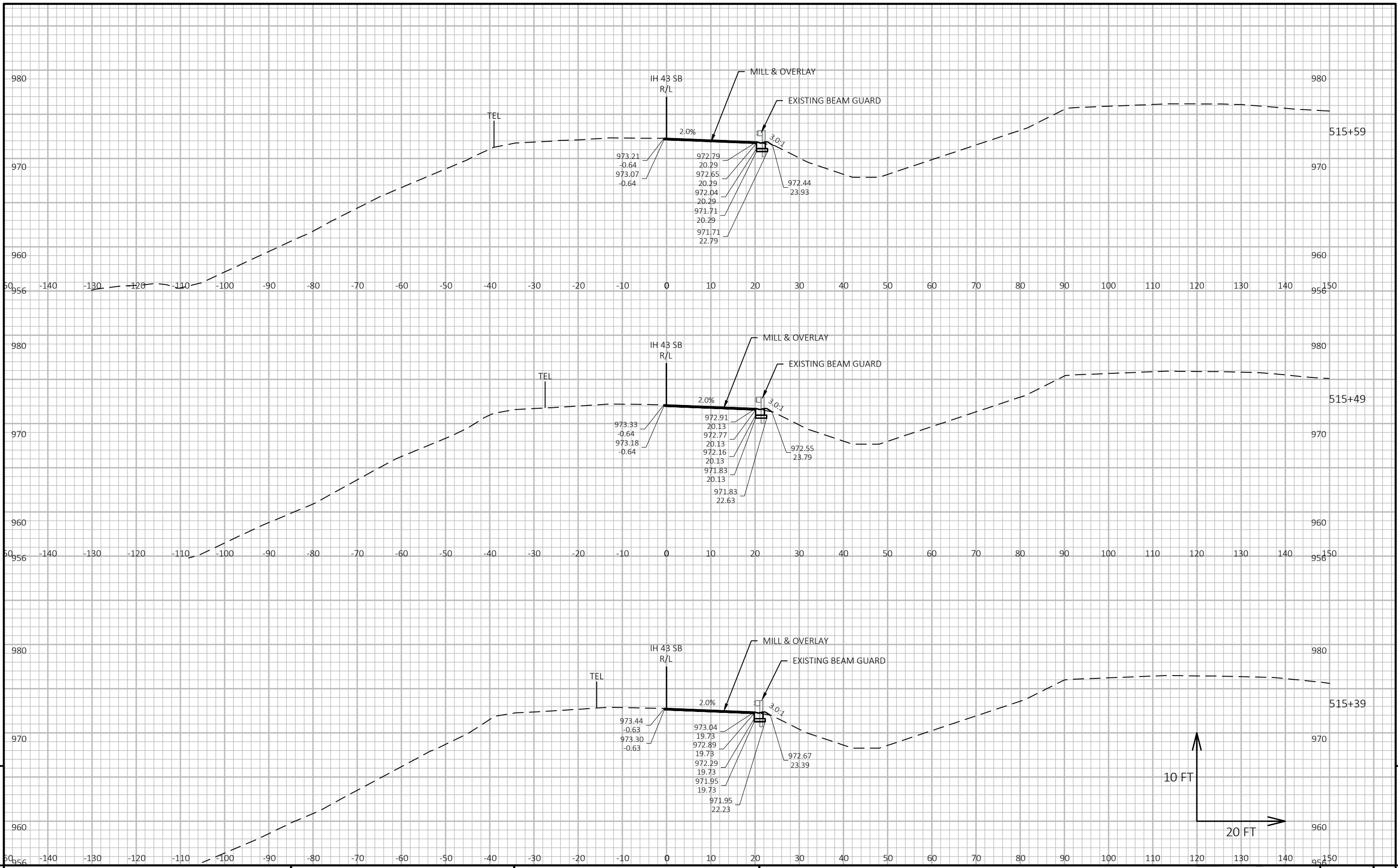


PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: ASPHALTIC CURB & ASPHALTIC SURFACE - IH 43 SB (IH 43 & GUTHRIE DR INTERCHANGE)      SHEET **E**

FILE NAME : N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-C&G\_FLUMES.DWG      PLOT DATE : 9/14/2022 10:10 AM      PLOT BY : ABU AJWA, MUNTHER J      PLOT NAME :      PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

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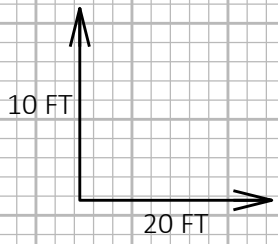
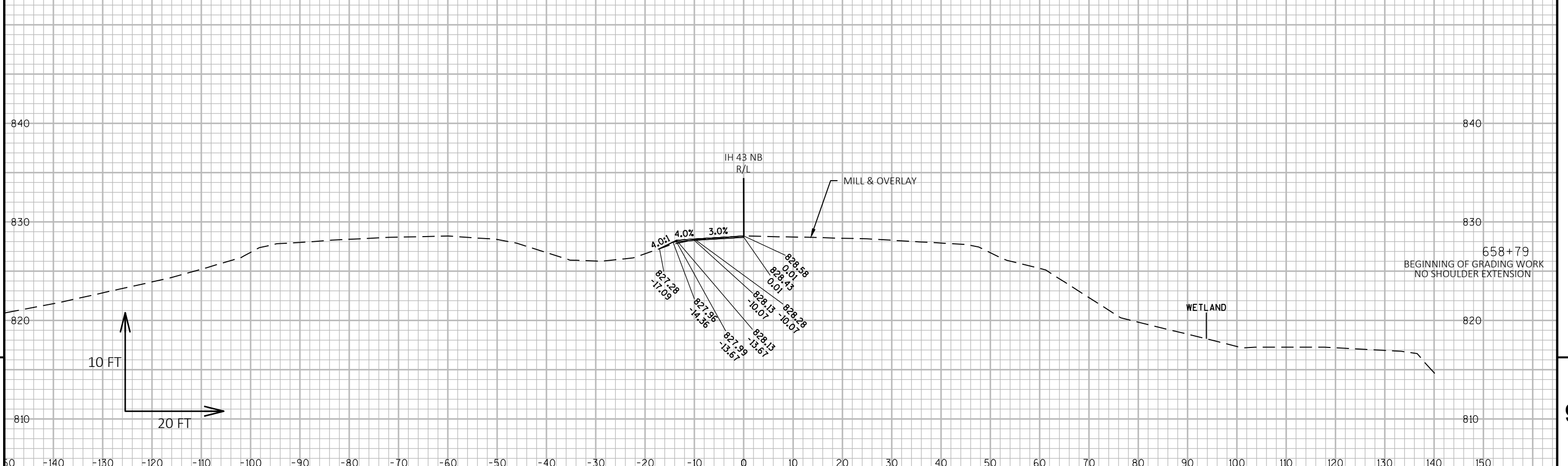
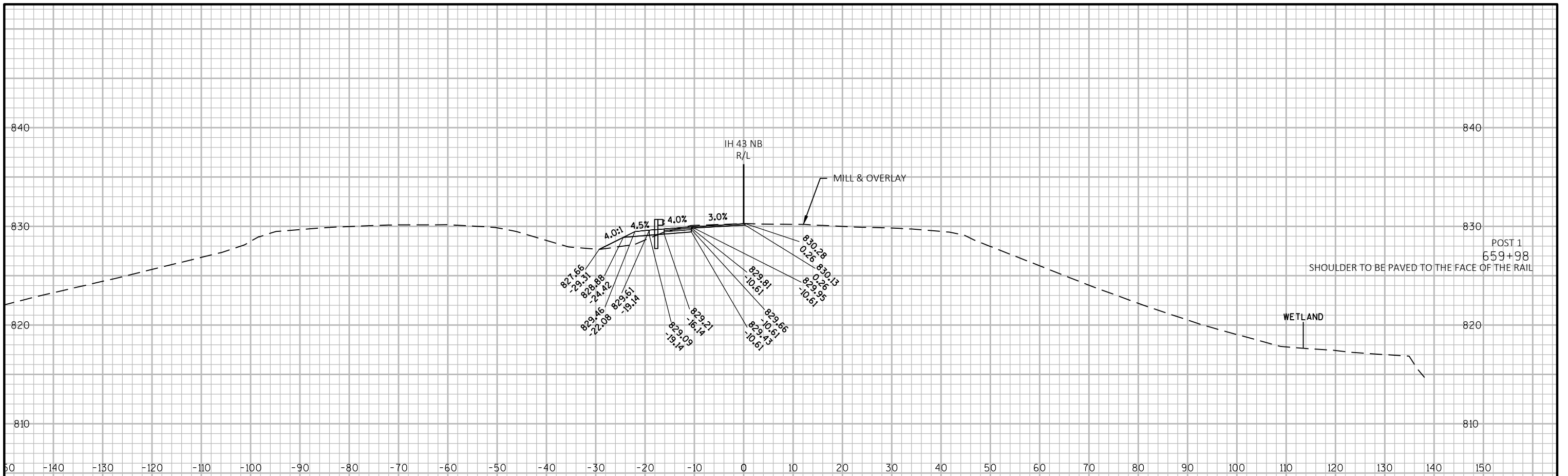


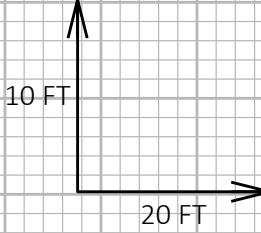
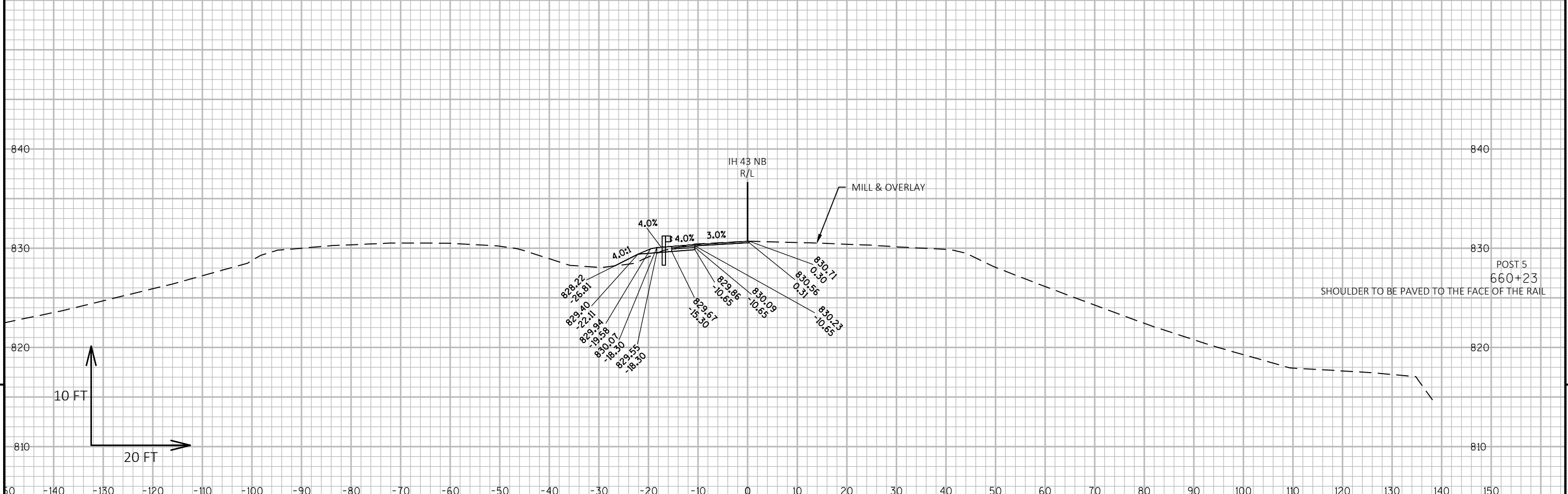
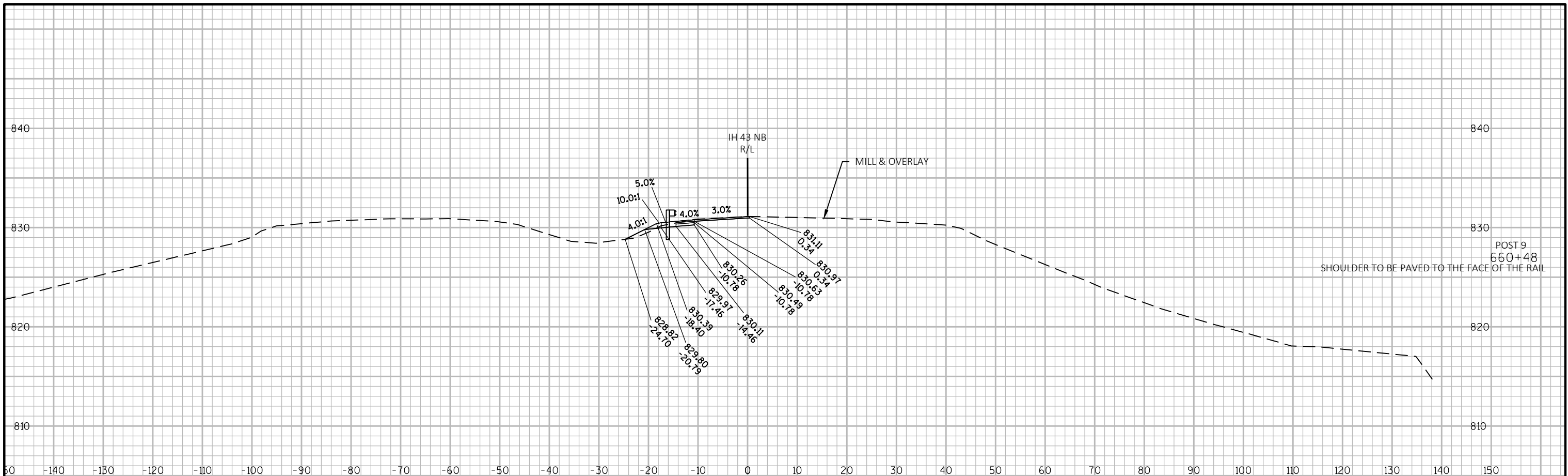
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PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: ASPHALTIC CURB & ASPHALTIC SURFACE - IH 43 SB (IH 43 & GUTHRIE DR INTERCHANGE)      SHEET E

FILE NAME: N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-C&G\_FLUMES.DWG      PLOT DATE: 9/14/2022 10:12 AM      PLOT BY: ABU AJWA, MUNTHER J      PLOT NAME:      PLOT SCALE: 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49





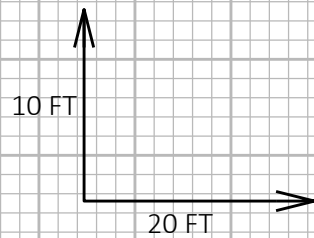
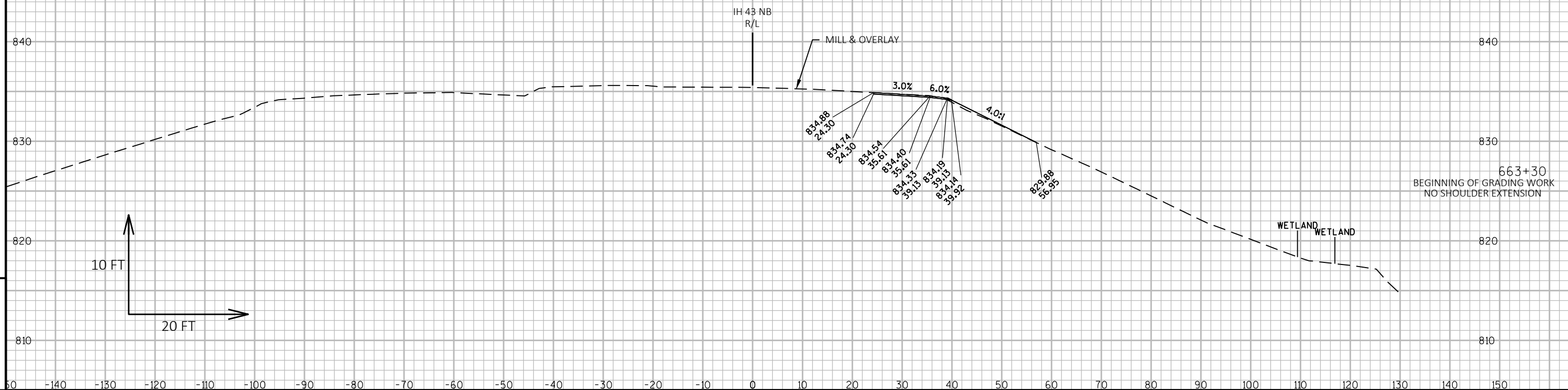
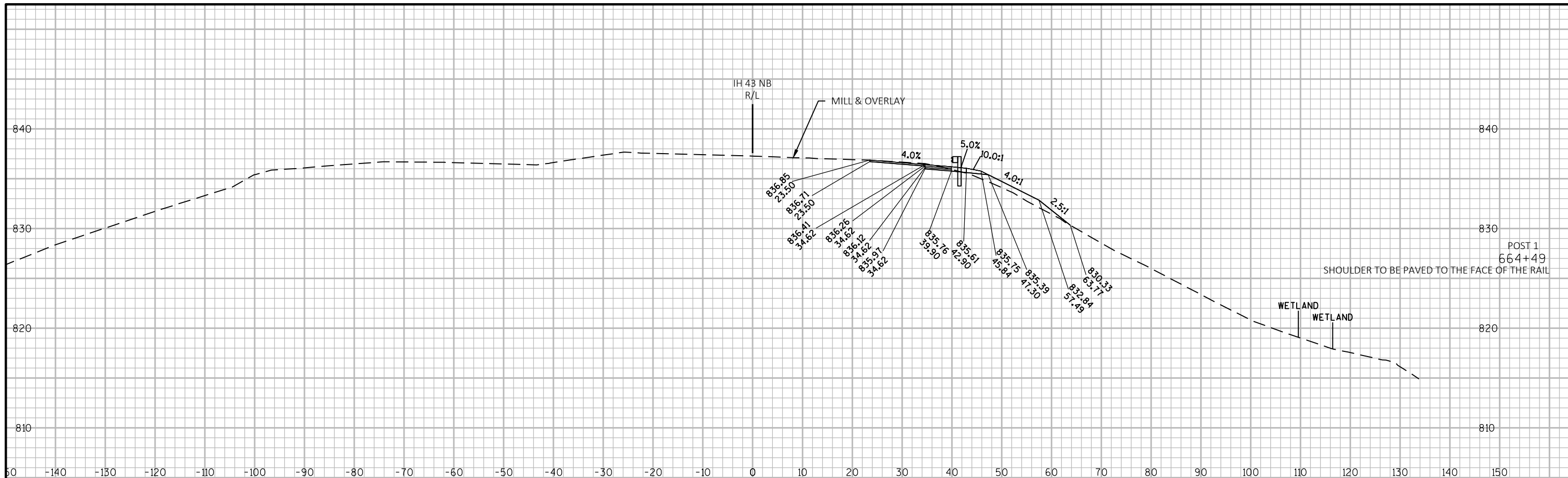
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PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: BEAM GUARD - IH 43 NB (IH 43 & S MARTIN RD INTERCHANGE)      SHEET      E

FILE NAME : N:\PDS\C3D\10900906\SHEETPLAN\090203\_XS-BG\_(R).DWG      PLOT DATE : 6/6/2023 10:30 AM      PLOT BY : ABU AJWA, MUNTERH J      PLOT NAME :      PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49





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PROJECT NO: 1090-09-76

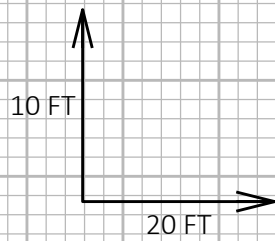
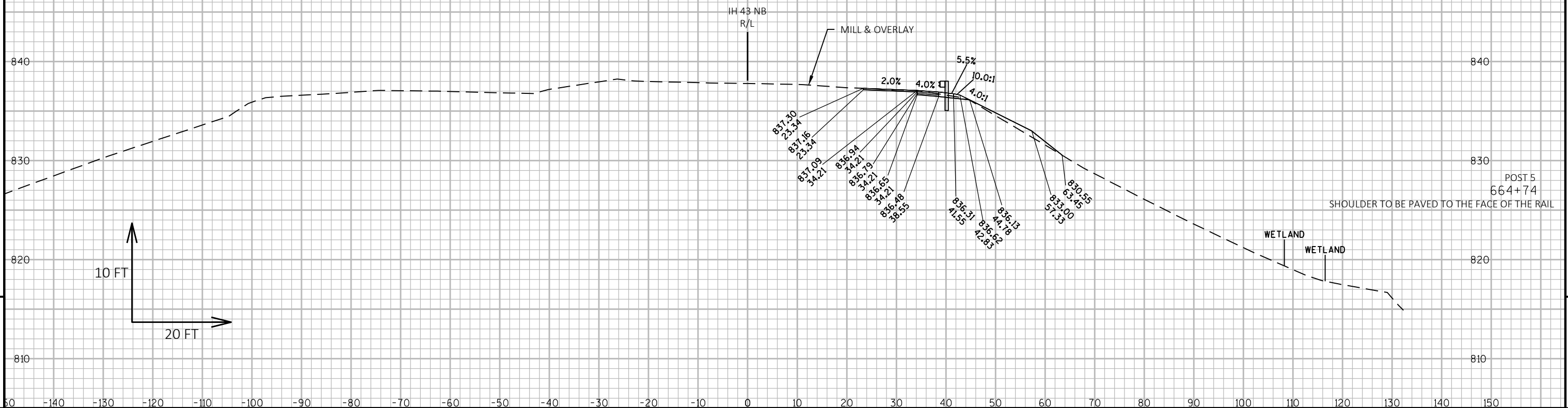
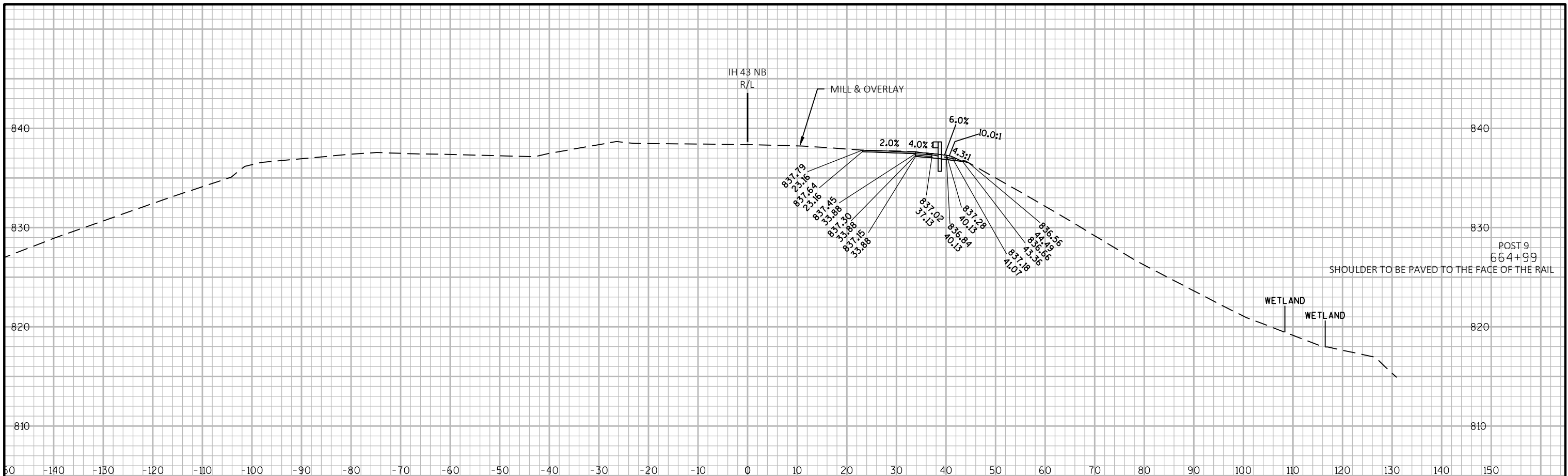
HWY: IH 43

COUNTY: WAUKESHA

CROSS SECTIONS: BEAM GUARD - IH 43 NB (IH 43 & S MARTIN RD INTERCHANGE)

SHEET

E

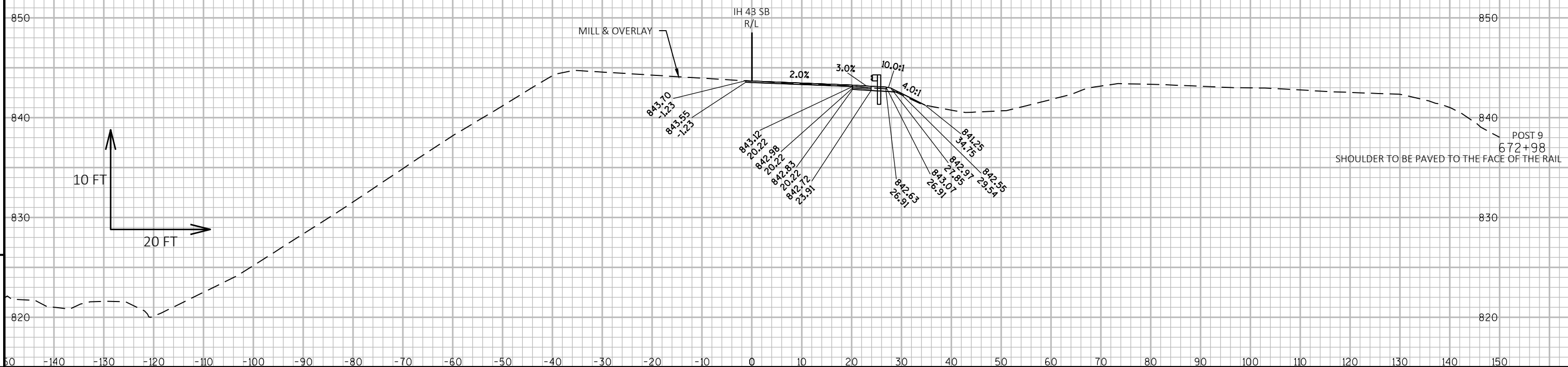
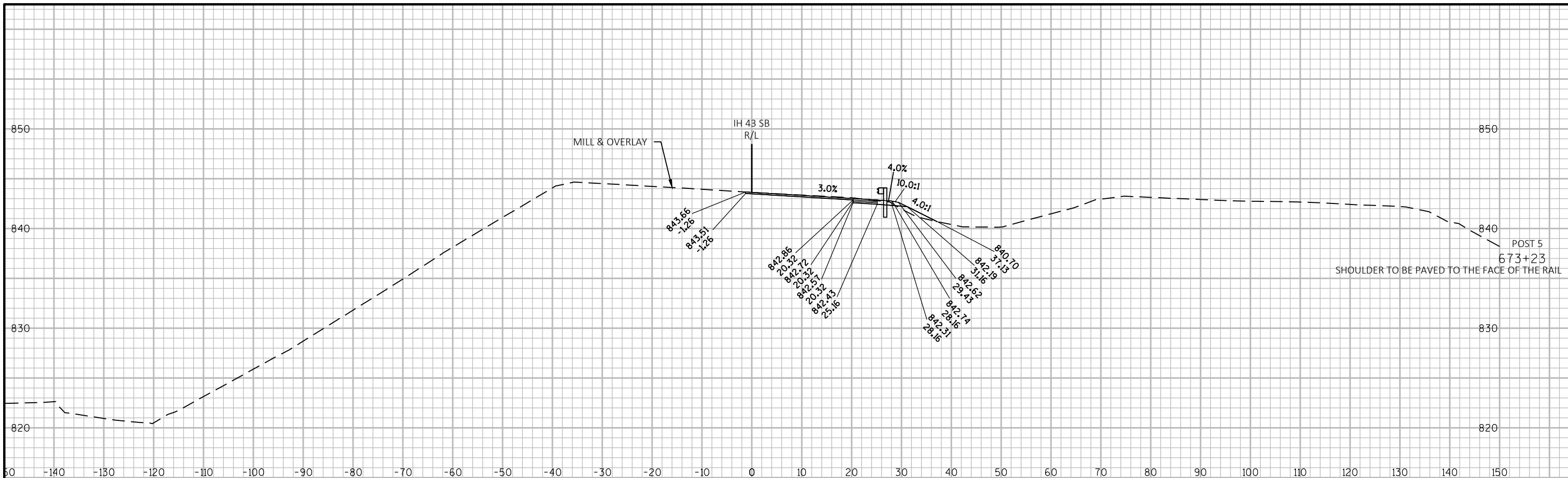


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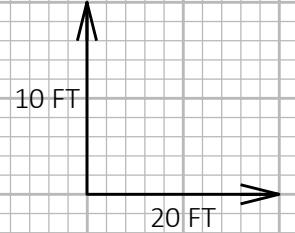
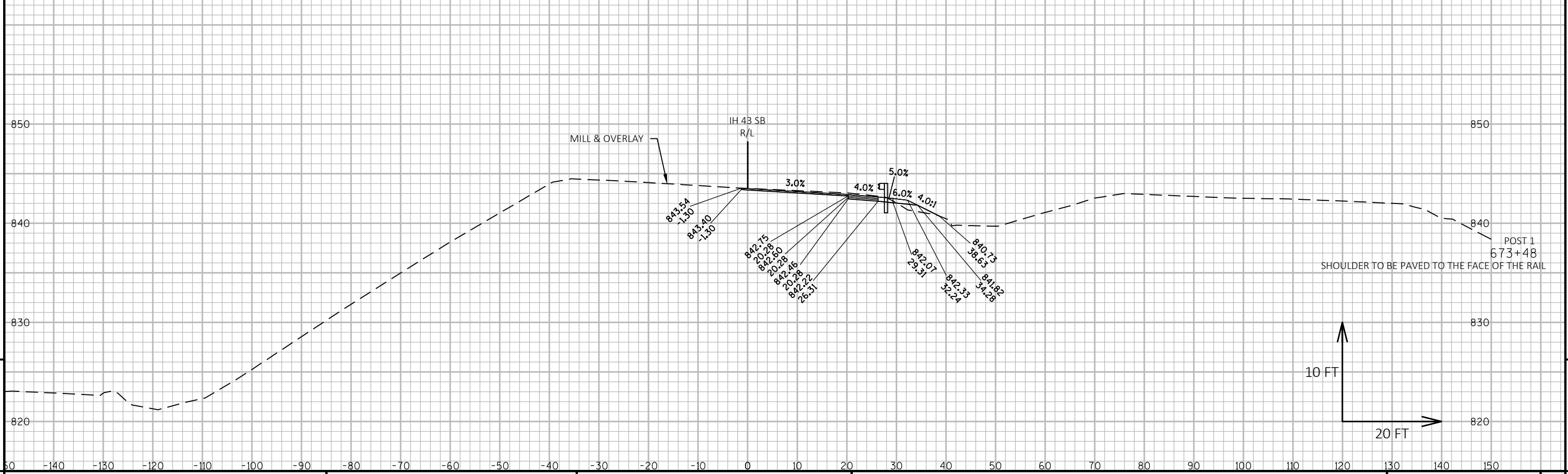
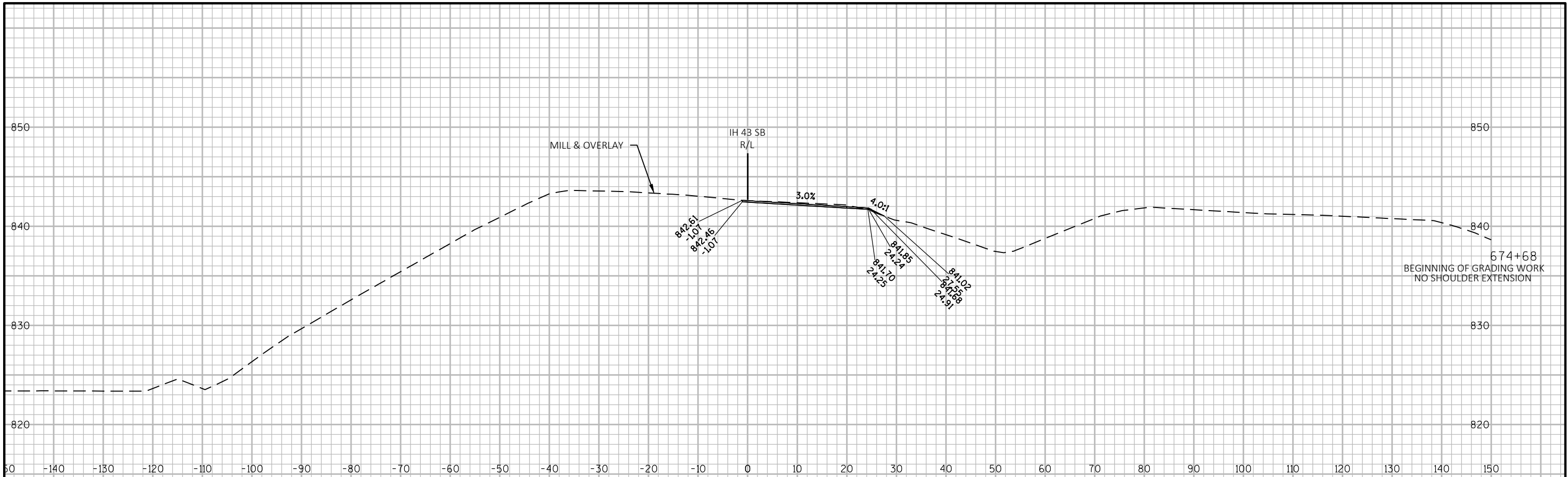
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PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: BEAM GUARD - IH 43 NB (IH 43 & S MARTIN RD INTERCHANGE)      SHEET

FILE NAME : N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-BG\_(R).DWG      PLOT DATE : 6/6/2023 10:27 AM      PLOT BY : ABU AJWA, MUNTHERR J      PLOT NAME :      PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49



PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: BEAM GUARD - IH 43 SB (IH 43 & S MARTIN RD INTERCHANGE)      SHEET 9



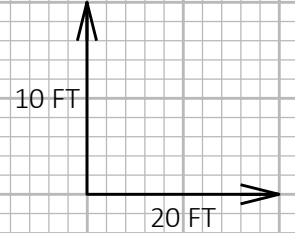
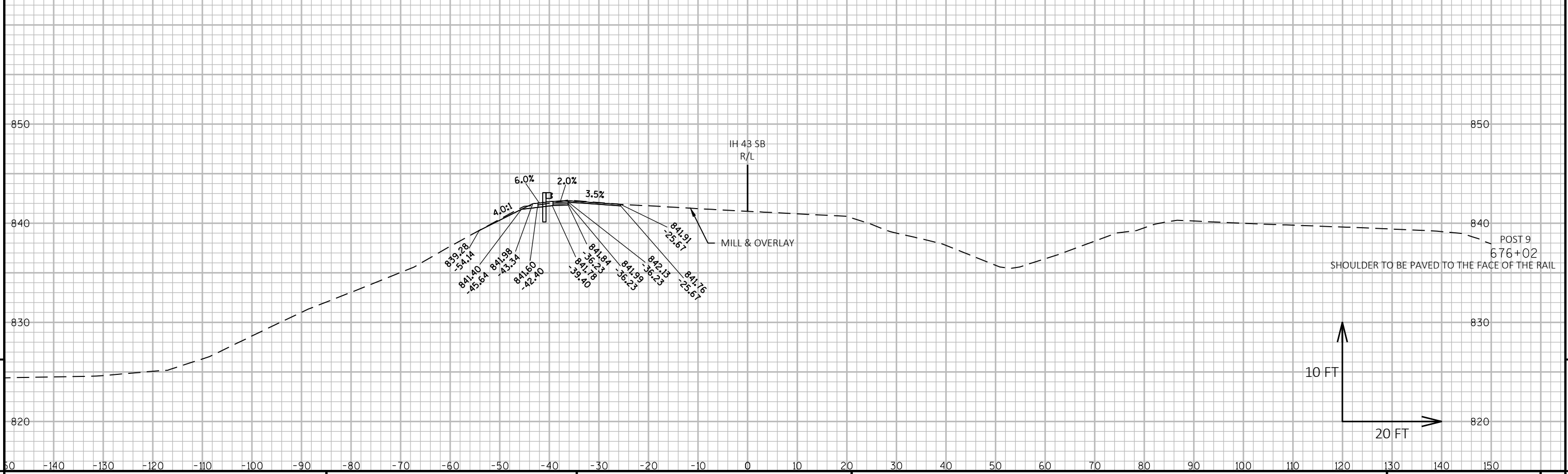
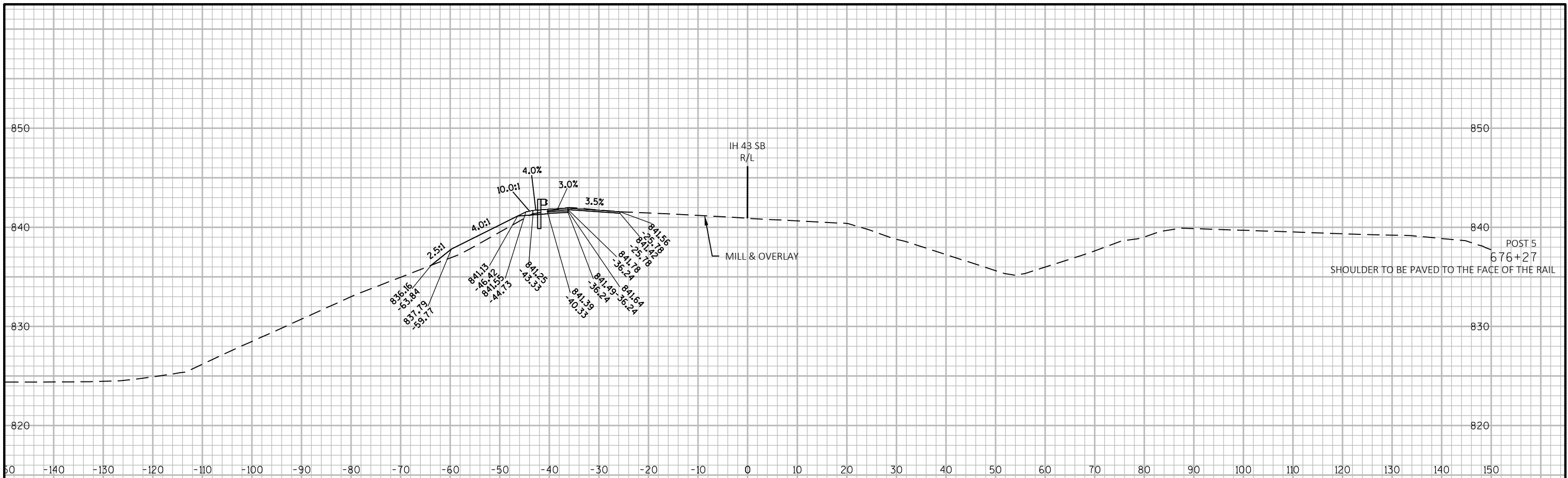
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9

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: BEAM GUARD - IH 43 SB (IH 43 & S MARTIN RD INTERCHANGE)	SHEET	E
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FILE NAME : N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-BG\_(R).DWG PLOT DATE : 6/6/2023 10:36 AM PLOT BY : ABU AJWA, MUNTHERR J PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - STA673+00 BG2

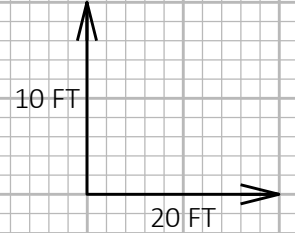
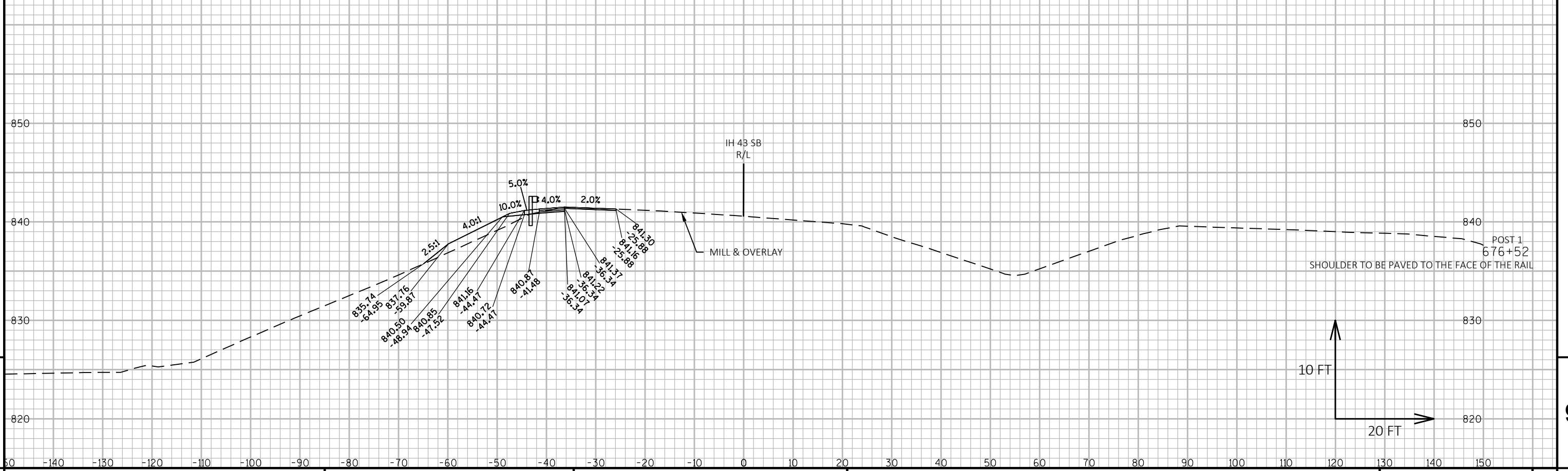
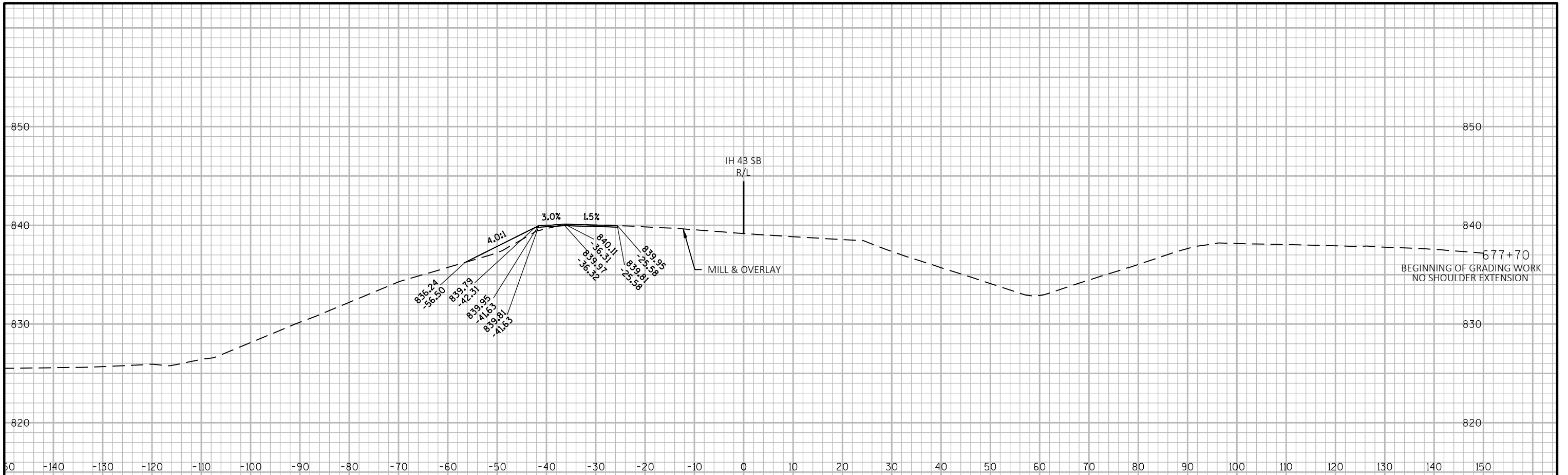


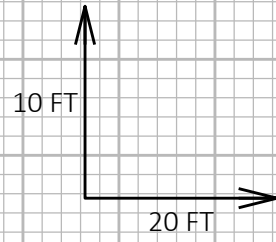
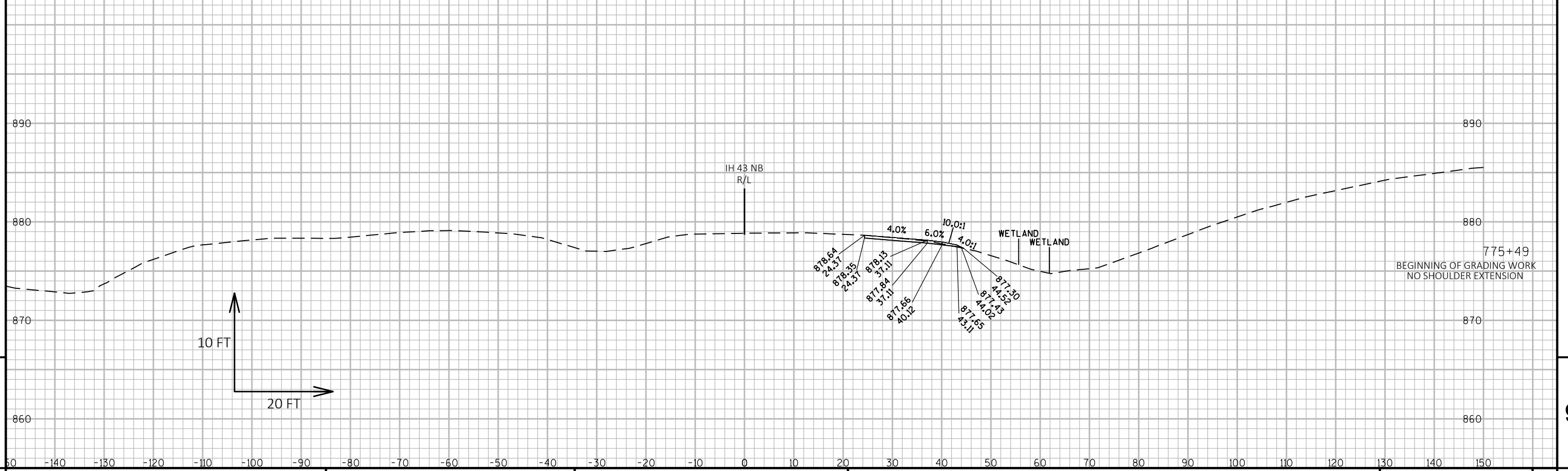
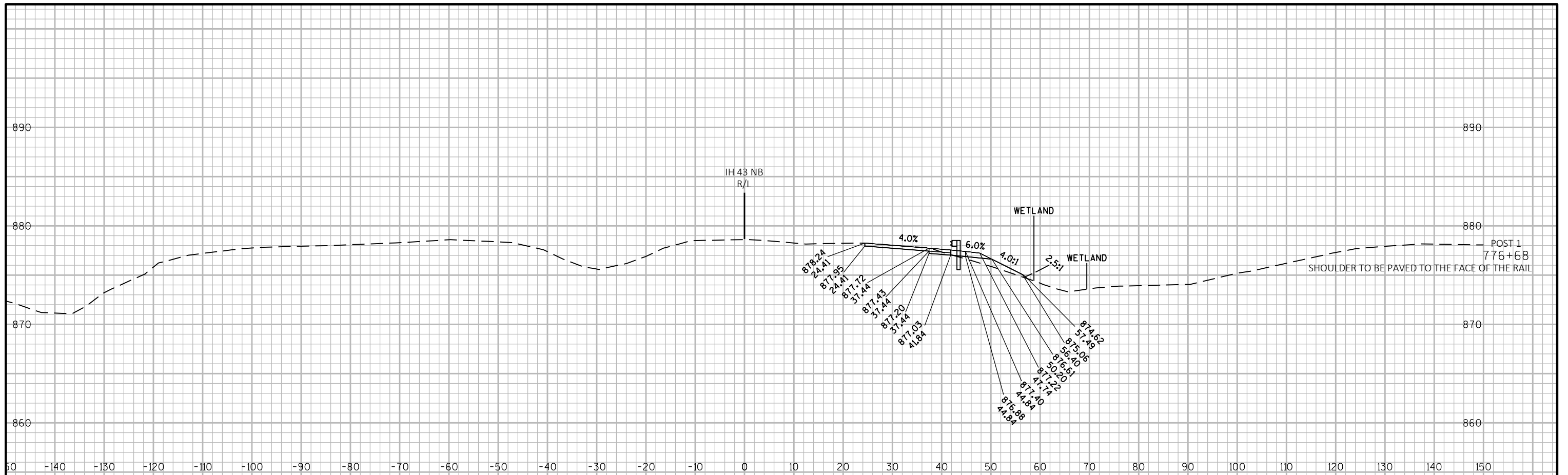
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PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: BEAM GUARD - IH 43 SB (IH 43 & S MARTIN RD INTERCHANGE)      SHEET

FILE NAME : N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-BG\_(R).DWG      PLOT DATE : 6/22/2023 2:11 PM      PLOT BY : ABU AJWA, MUNTERH J      PLOT NAME :      PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

9

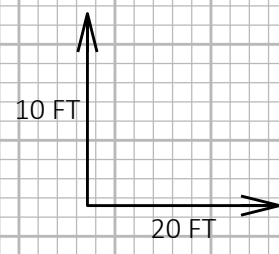
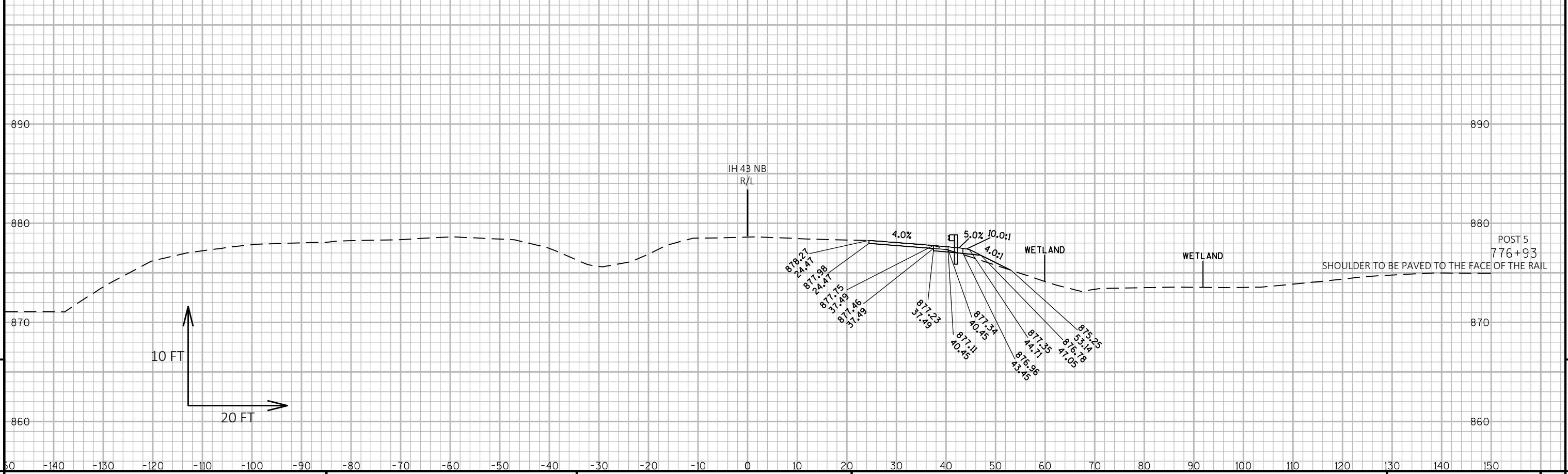
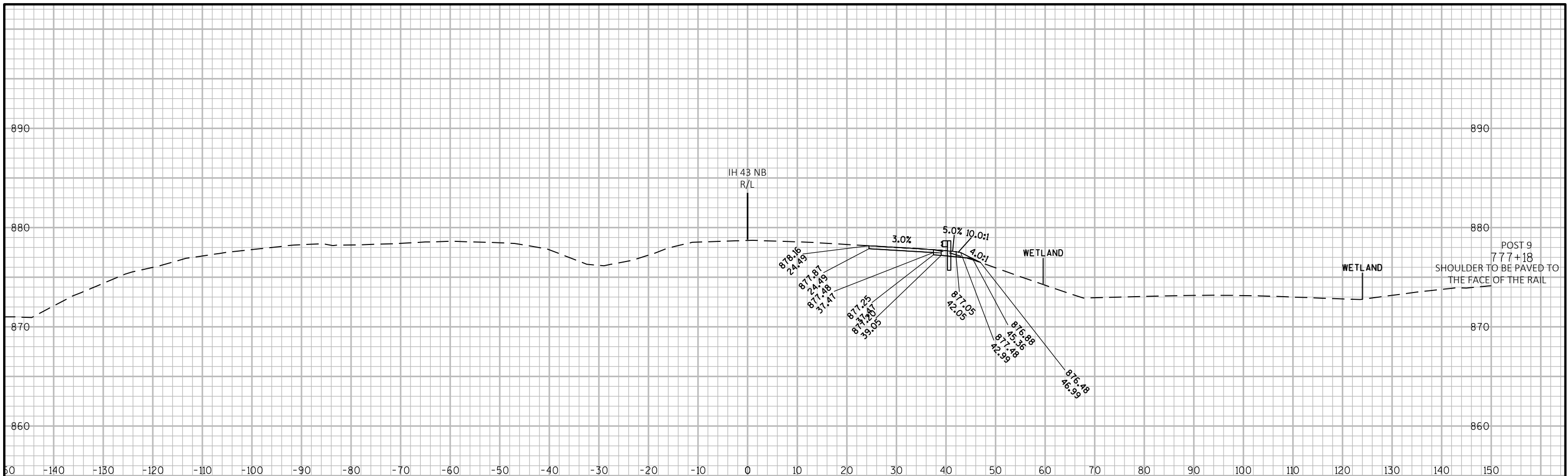




9

9

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: BEAM GUARD - IH 43 NB (IH 43 & S MOORLAND RD INTERCHANGE)	SHEET	E
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9

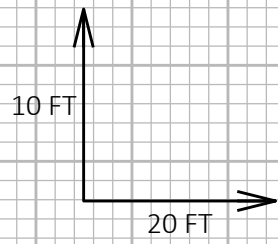
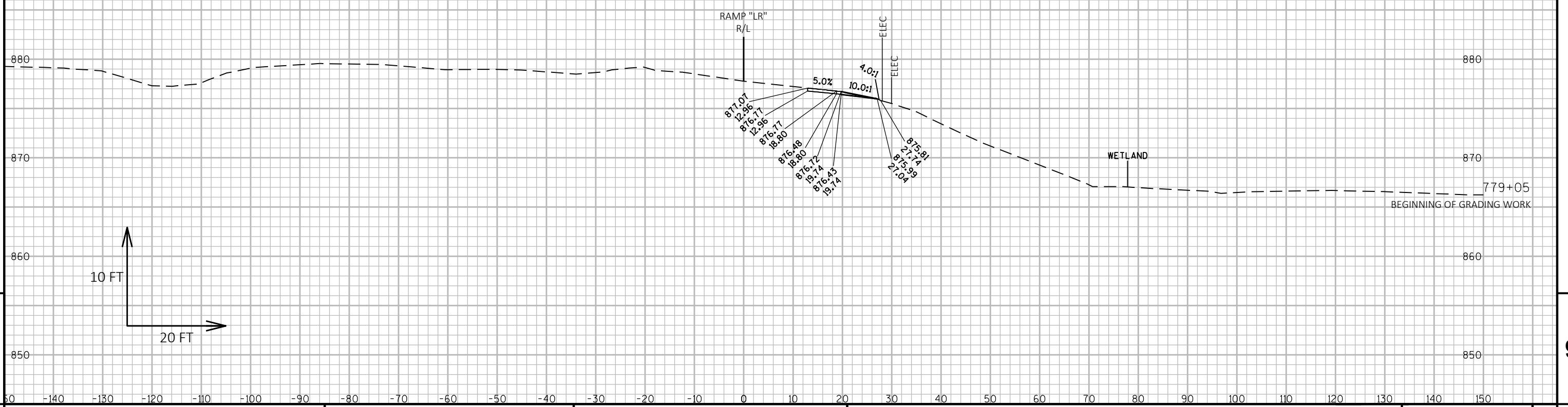
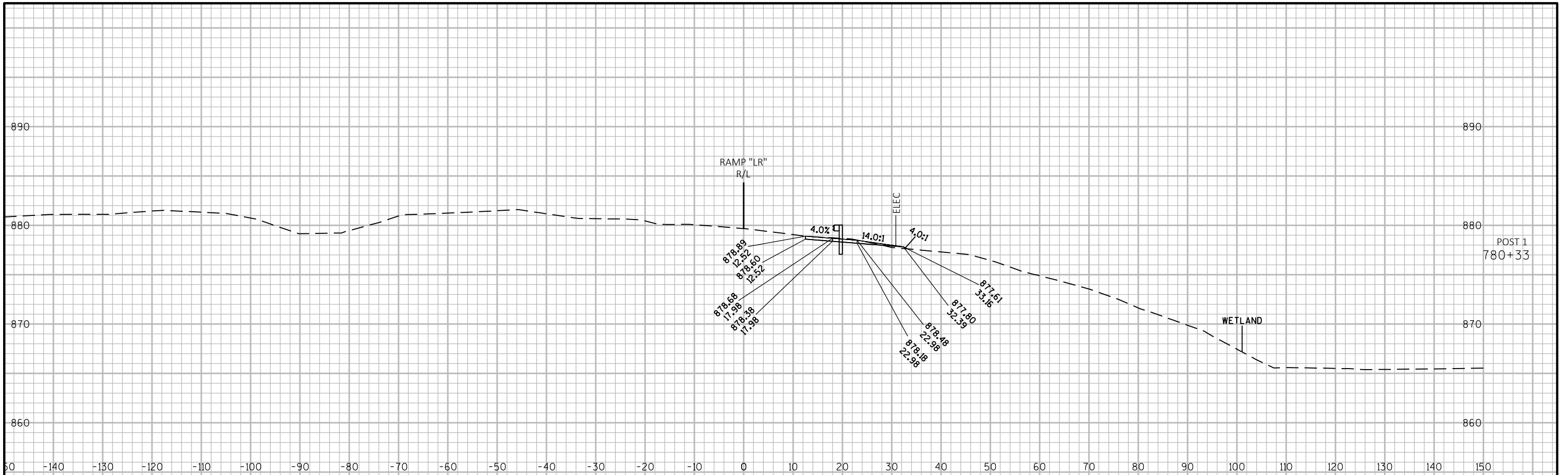
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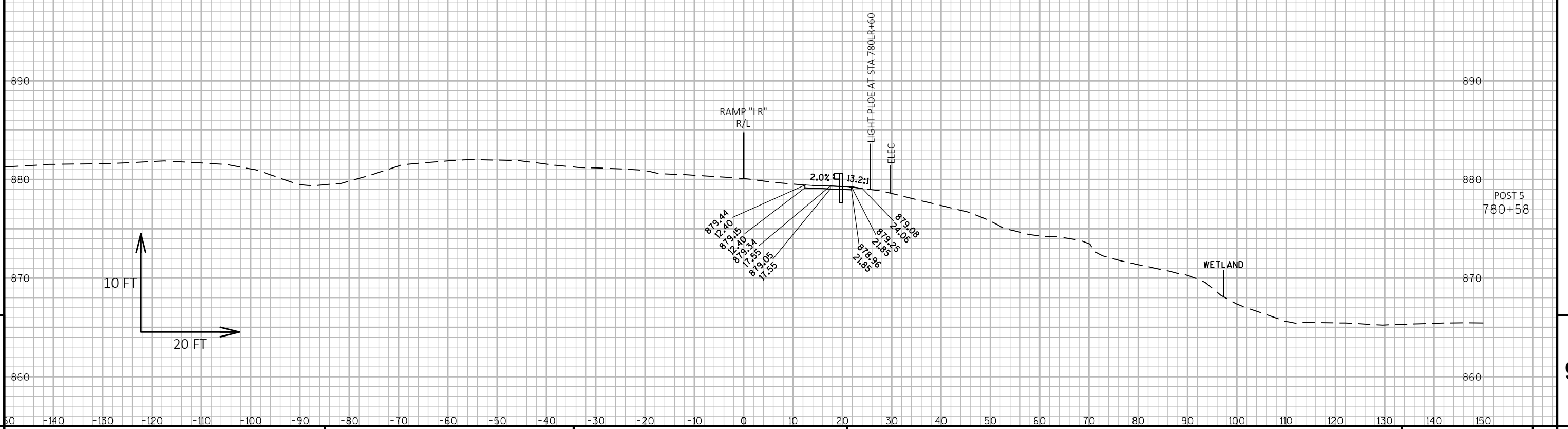
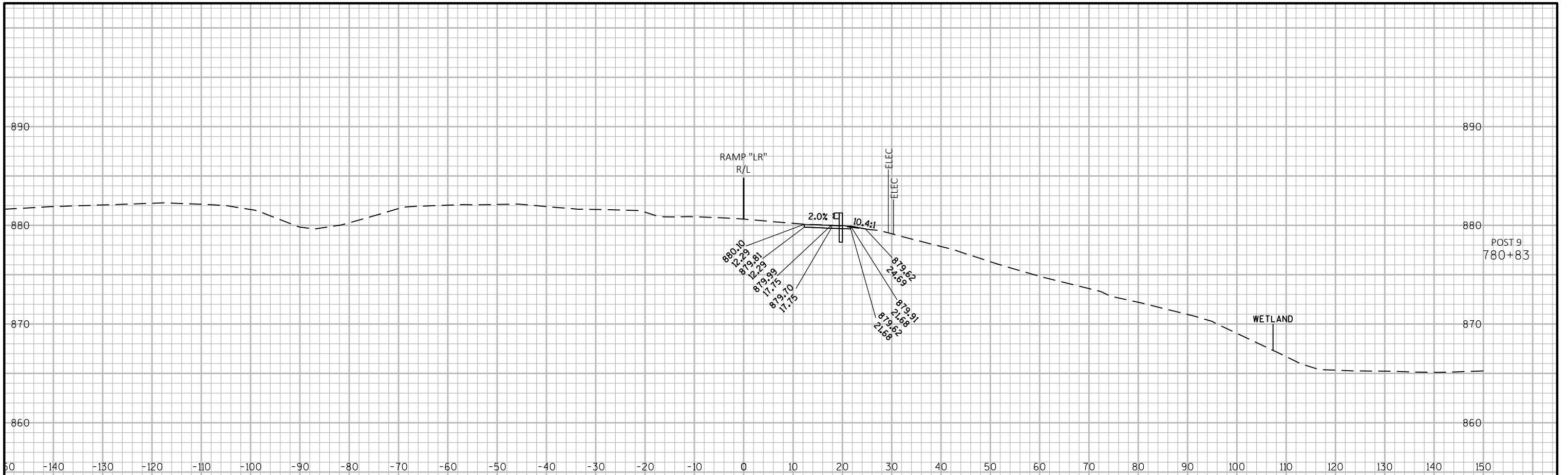
PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: BEAM GUARD - IH 43 NB (IH 43 & S MOORLAND RD INTERCHANGE)      SHEET

FILE NAME : N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-BG\_(R).DWG      PLOT DATE : 6/6/2023 10:56 AM      PLOT BY : ABU AJWA, MUNTHERR J      PLOT NAME :      PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - STA777+00 BG2







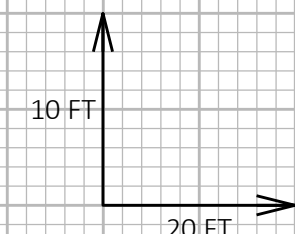
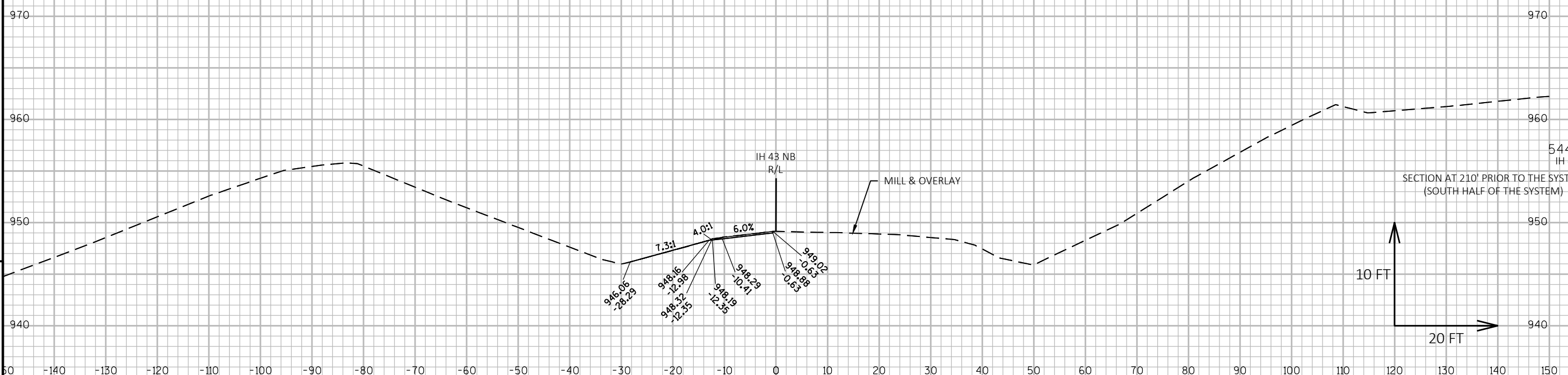
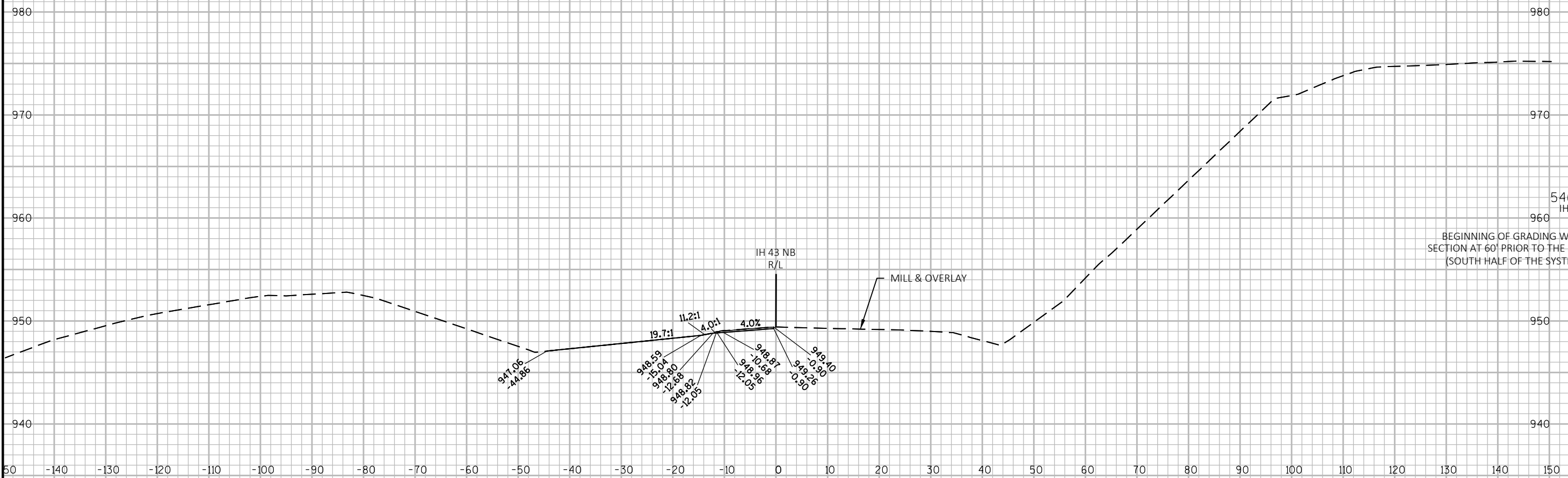
PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: BEAM GUARD - IH 43 NB ON RAMP (IH 43 & S MOORLAND RD INTERCHANGE)      SHEET

9

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FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".



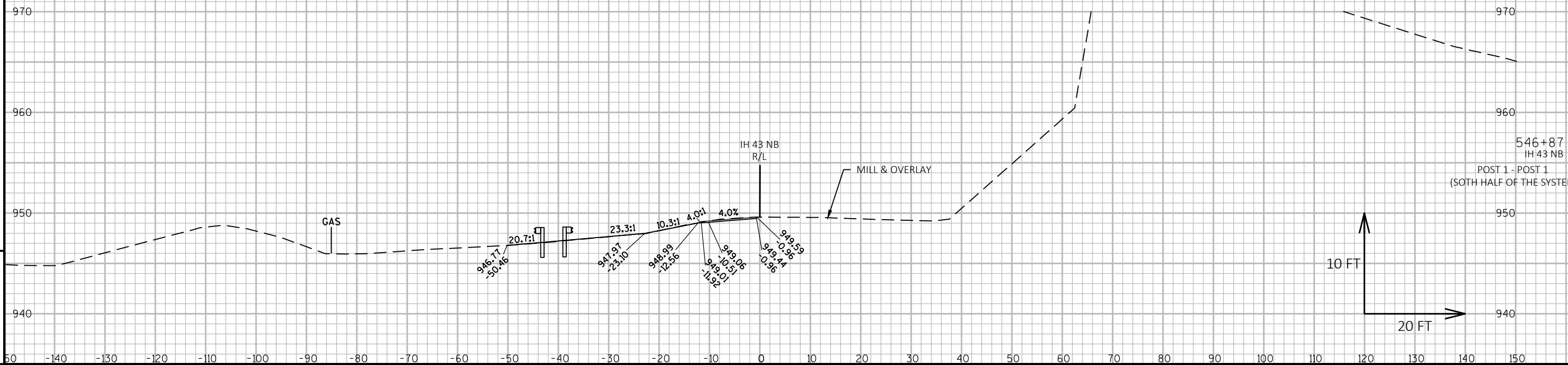
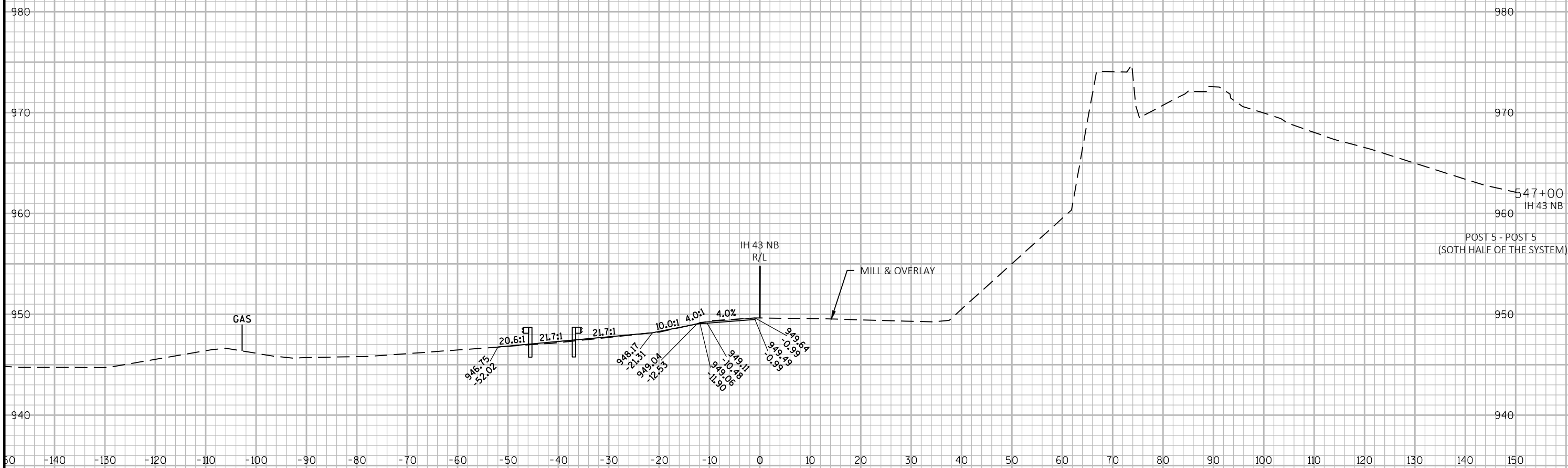
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9

PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: BEAM GUARD BULLNOSE UNDER CROWBAR DR	SHEET	E
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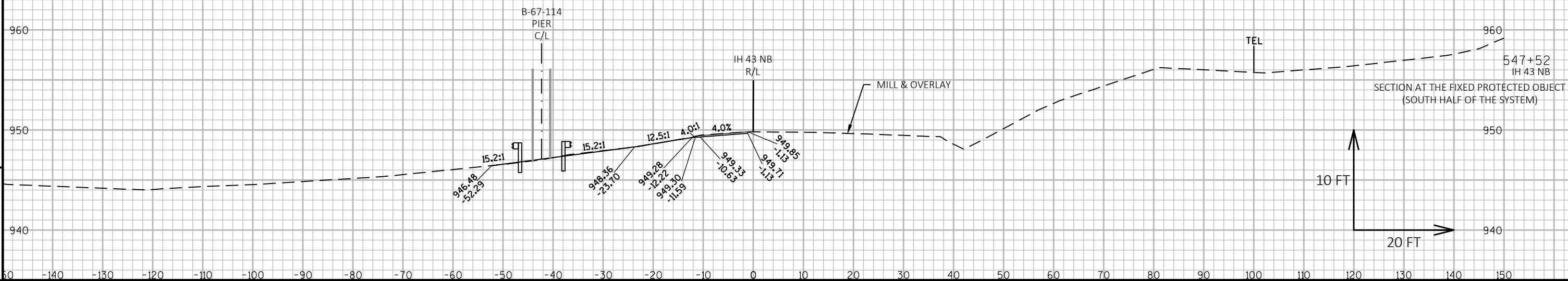
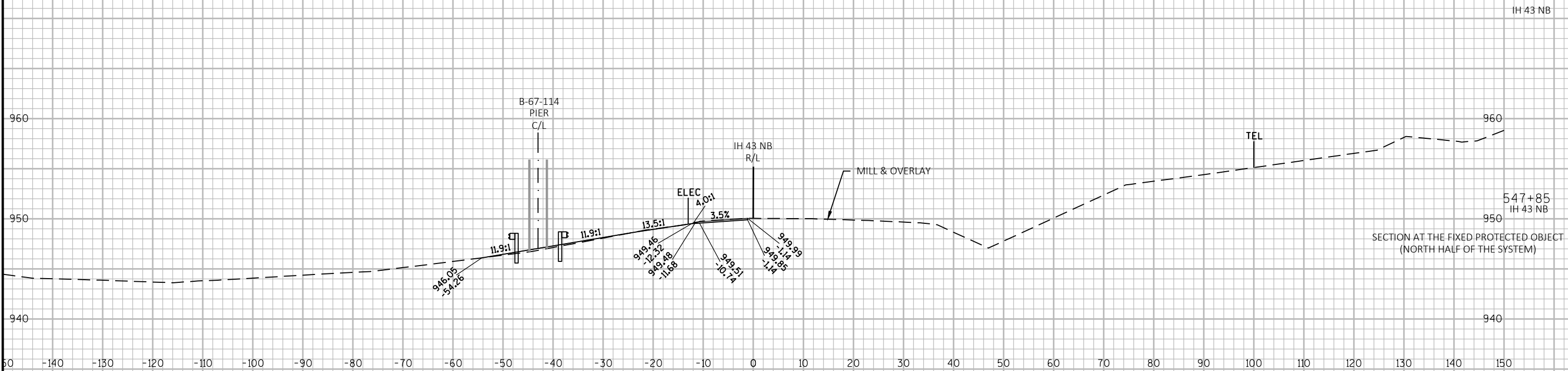
FILE NAME : N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-BG-BULLNOSE-CROWBAR DR.DWG PLOT DATE : 9/9/2022 1:26 AM PLOT BY : ABU AJWA, MUNTHERR J PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".



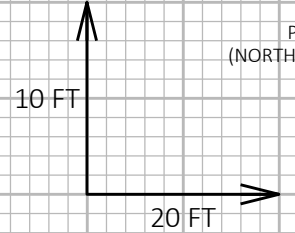
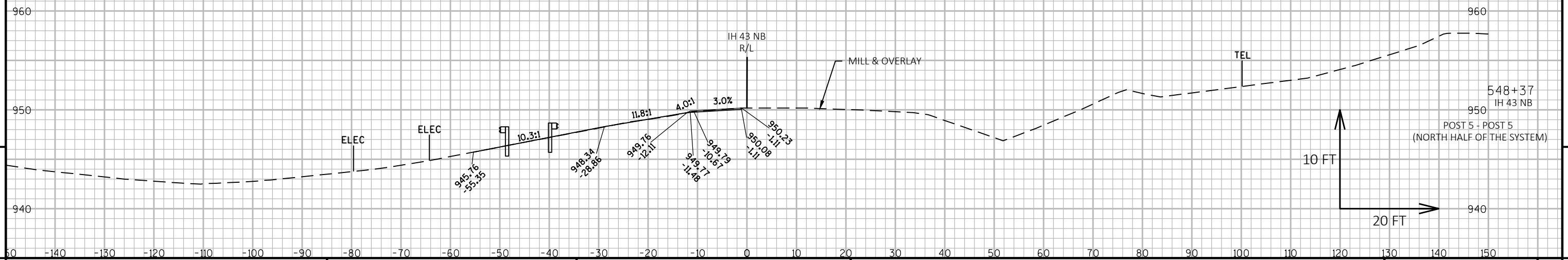
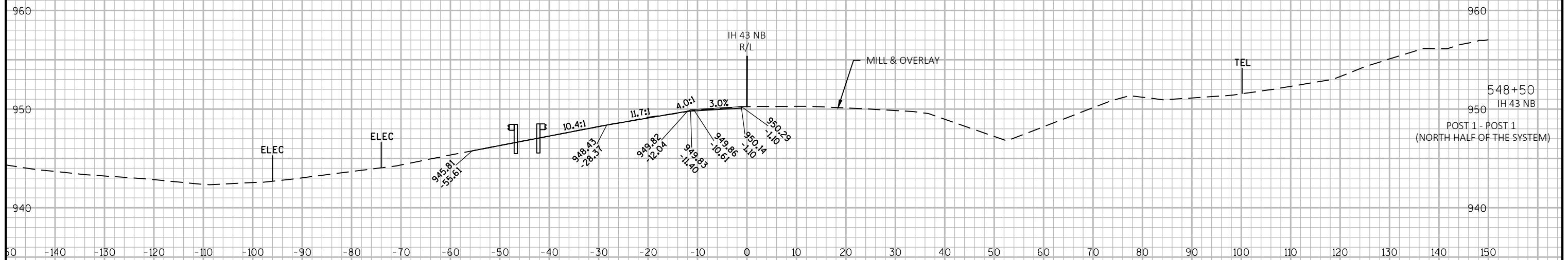
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: BEAM GUARD BULLNOSE UNDER CROWBAR DR	SHEET	<b>9</b>
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FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".



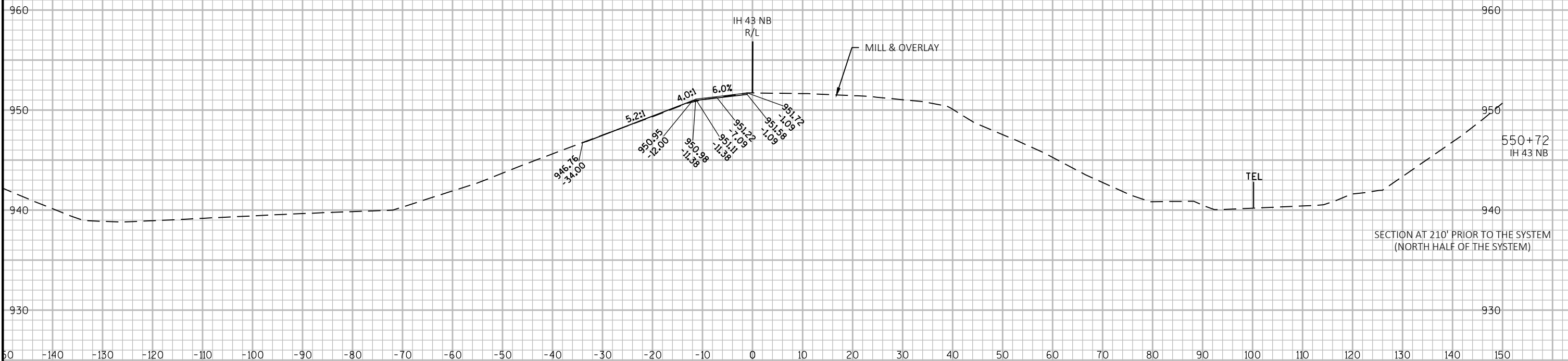
PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: BEAM GUARD BULLNOSE UNDER CROWBAR DR	SHEET	E
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FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".

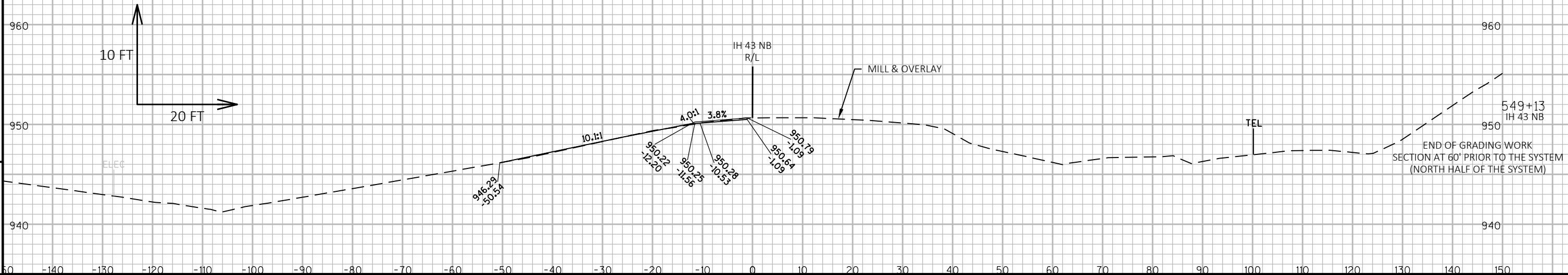


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: BEAM GUARD BULLNOSE UNDER CROWBAR DR	SHEET	<b>E</b>
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FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".



SECTION AT 210' PRIOR TO THE SYSTEM  
(NORTH HALF OF THE SYSTEM)



END OF GRADING WORK  
SECTION AT 60' PRIOR TO THE SYSTEM  
(NORTH HALF OF THE SYSTEM)

9

9

PROJECT NO: 1090-09-76

HWY: IH 43

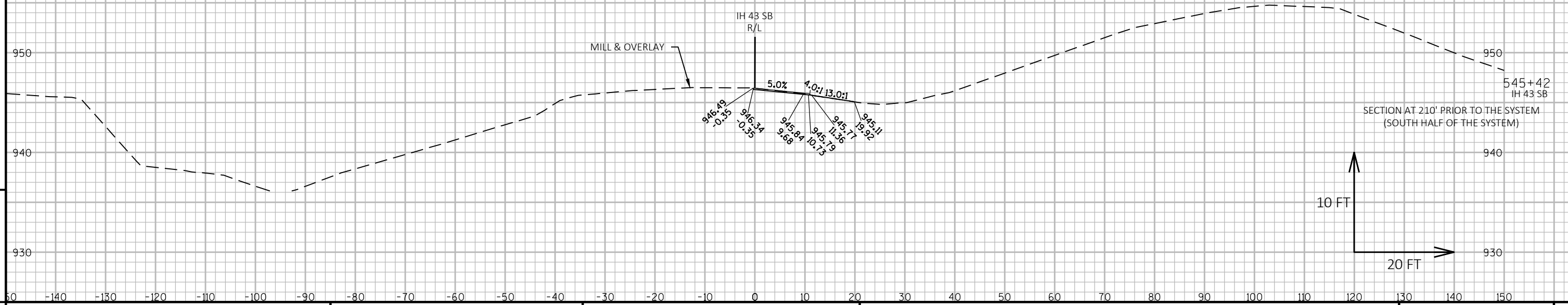
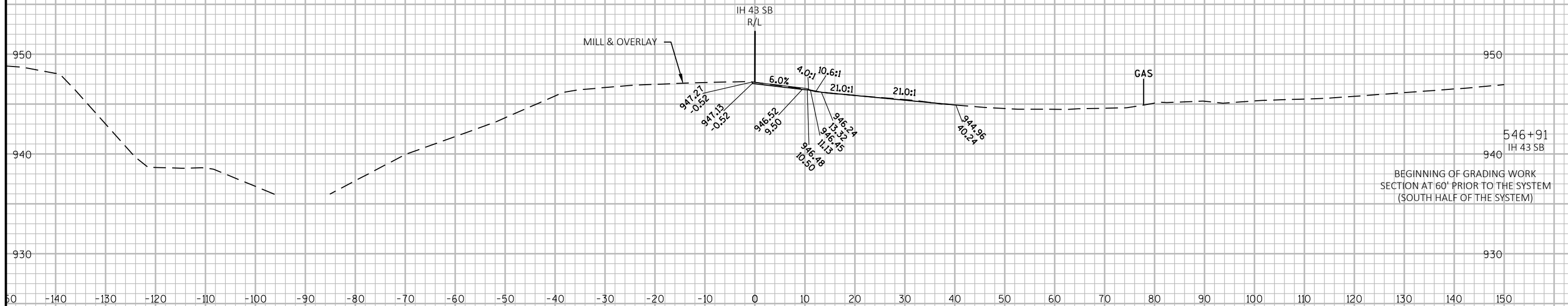
COUNTY: WAUKESHA

CROSS SECTIONS: BEAM GUARD BULLNOSE UNDER CROWBAR DR

SHEET

E

FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".



PROJECT NO: 1090-09-76

HWY: IH 43

COUNTY: WAUKESHA

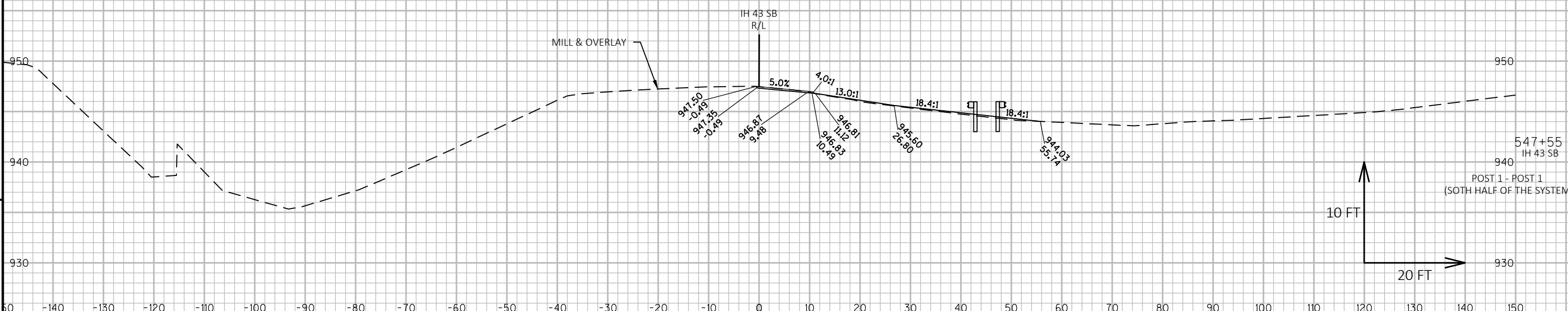
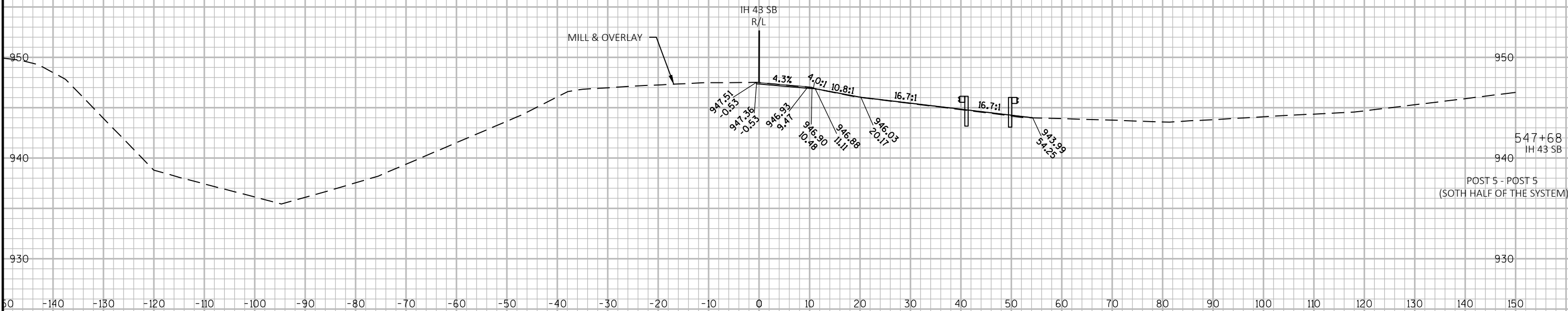
CROSS SECTIONS: BEAM GUARD BULLNOSE UNDER CROWBAR DR

SHEET

E



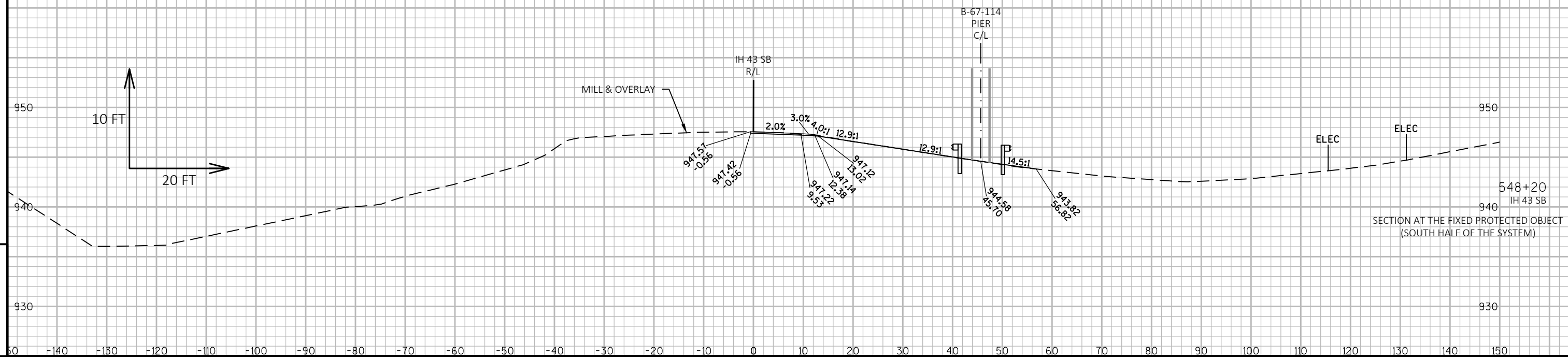
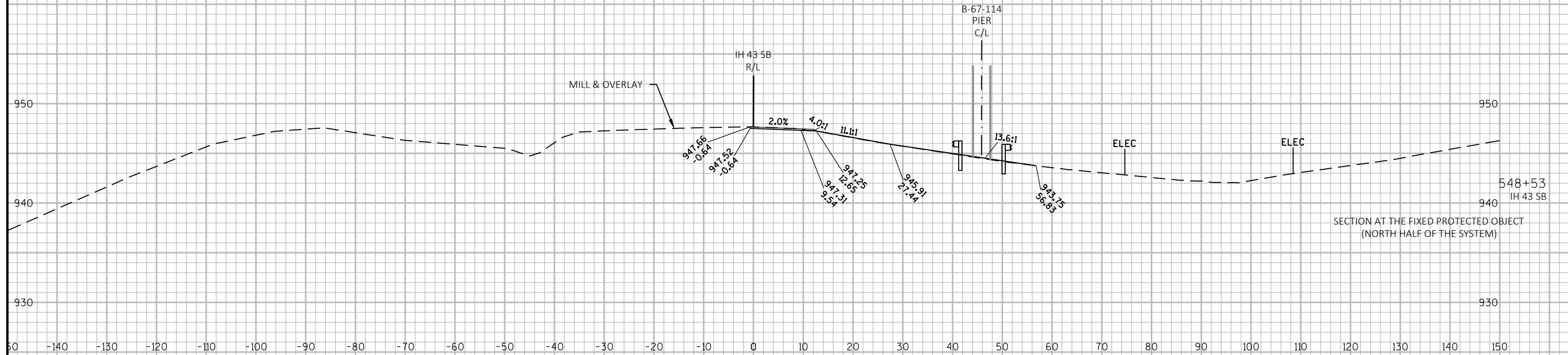
FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".



PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: BEAM GUARD BULLNOSE UNDER CROWBAR DR	SHEET	<b>E</b>
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FILE NAME : N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-BG-BULLNOSE-CROWBAR DR.DWG PLOT DATE : 9/9/2022 1:31 AM PLOT BY : ABU AJWA, MUNTHER J PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".



PROJECT NO: 1090-09-76

HWY: IH 43

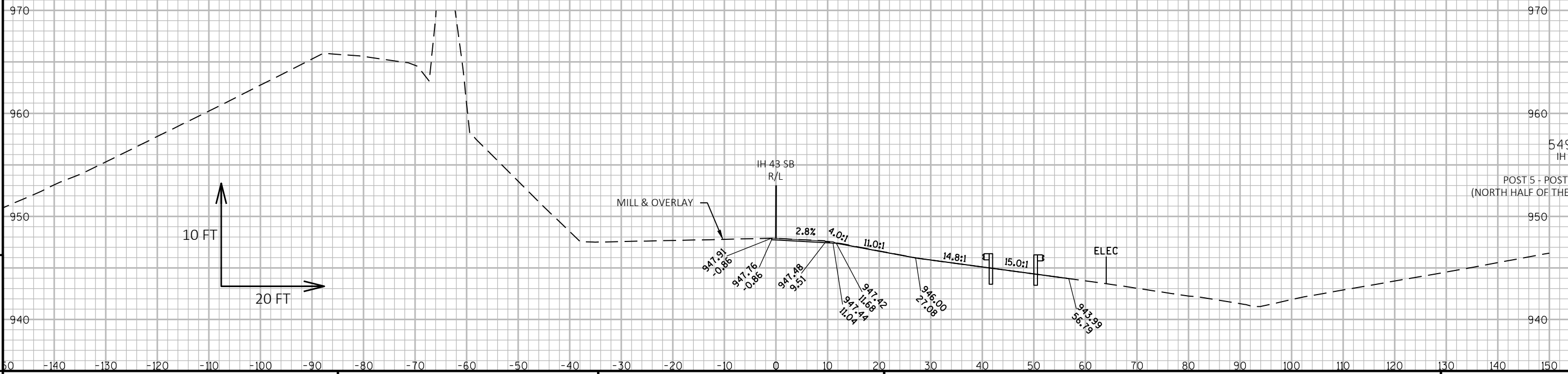
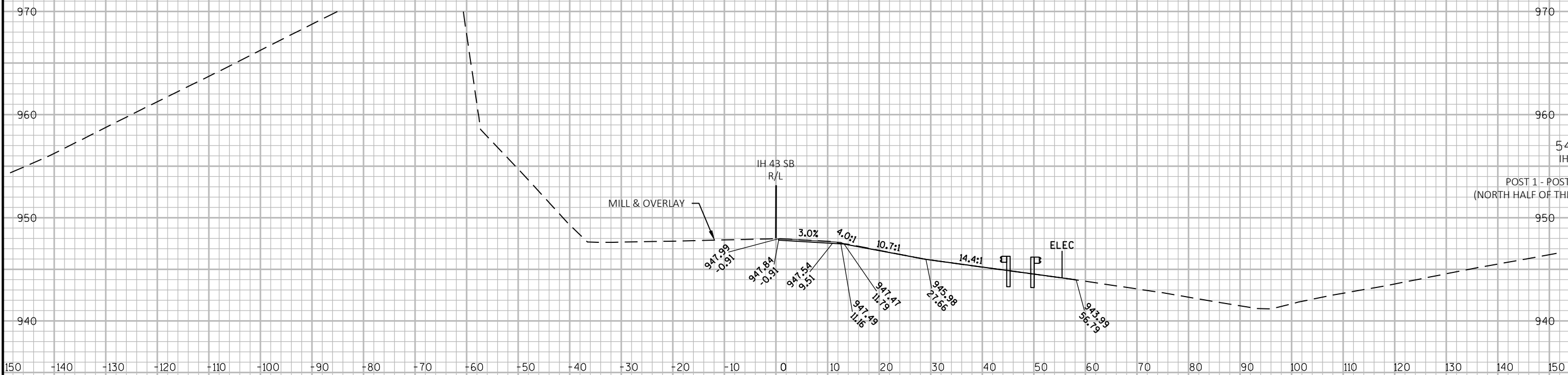
COUNTY: WAUKESHA

CROSS SECTIONS: BEAM GUARD BULLNOSE UNDER CROWBAR DR

SHEET

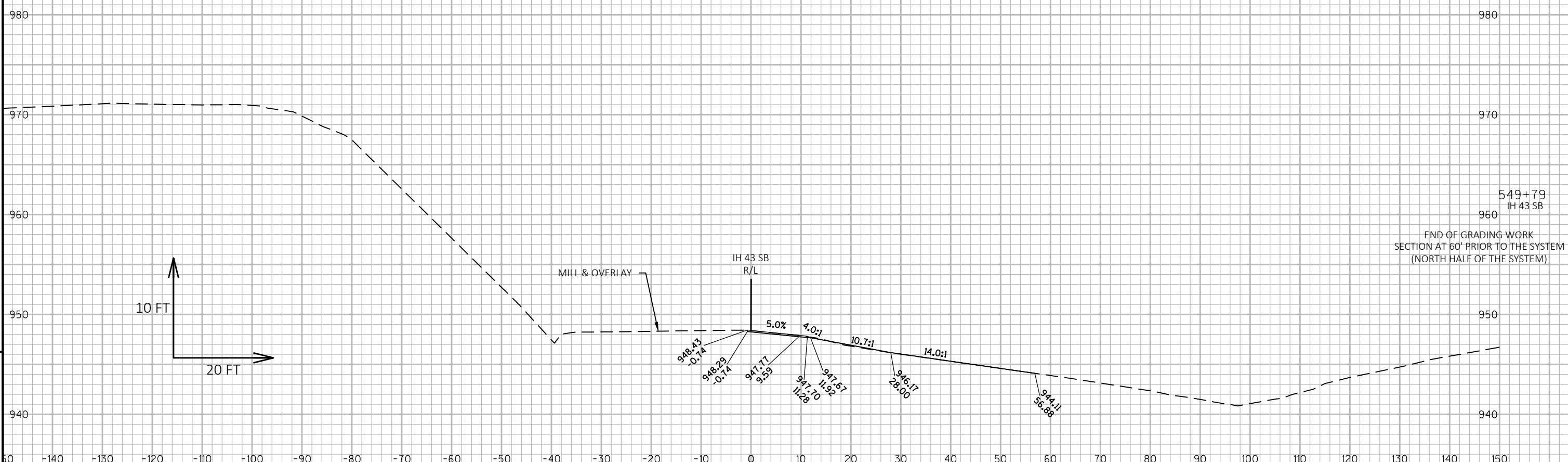
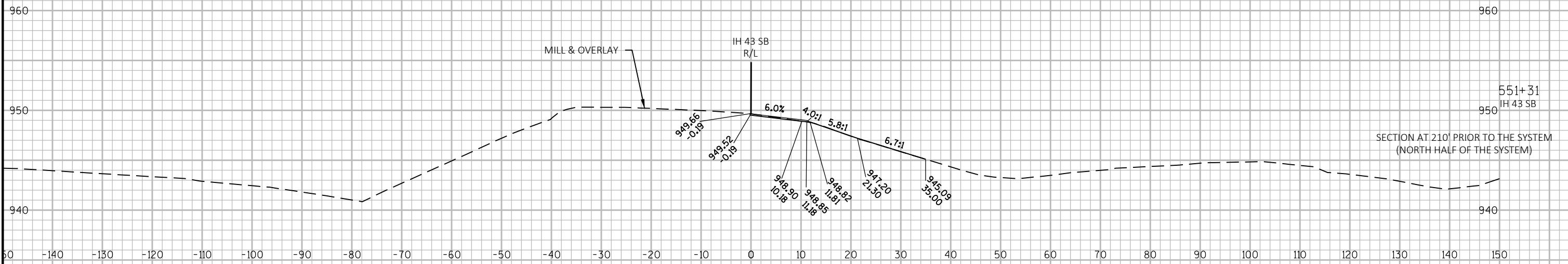
E

FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".



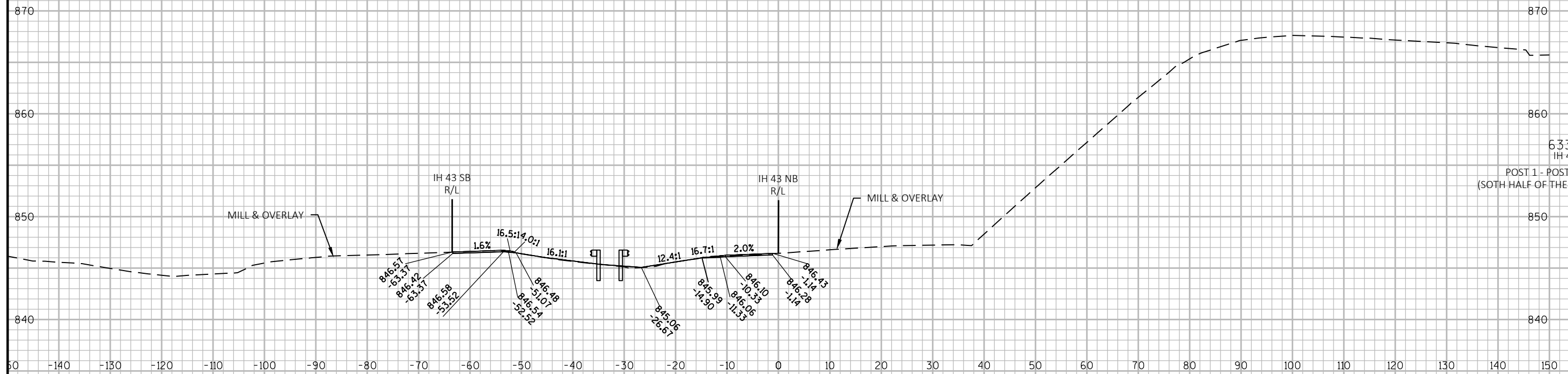
PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: BEAM GUARD BULLNOSE UNDER CROWBAR DR      SHEET 9

FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".

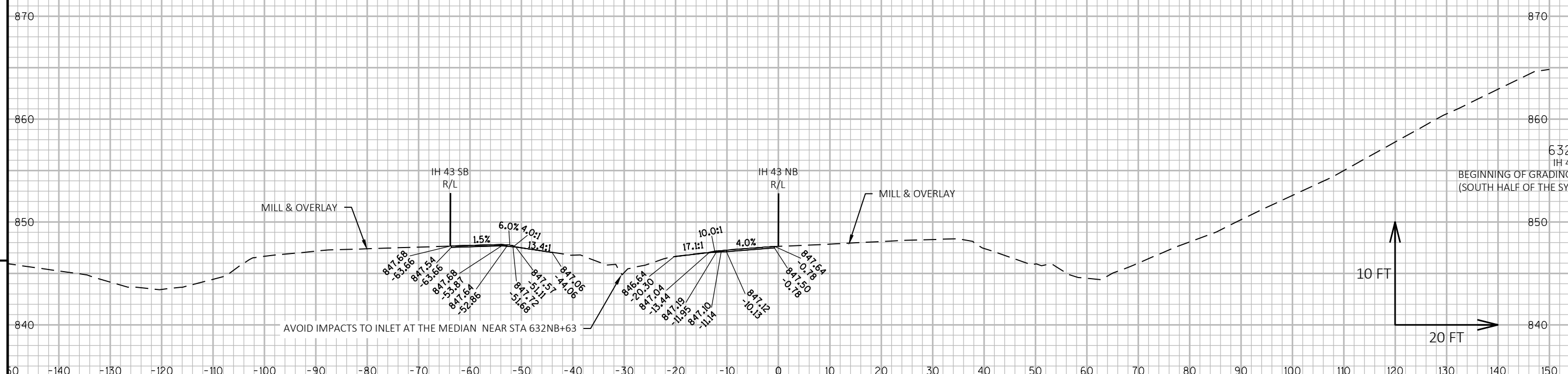


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: BEAM GUARD BULLNOSE UNDER CROWBAR DR	SHEET	<b>9</b>
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FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".

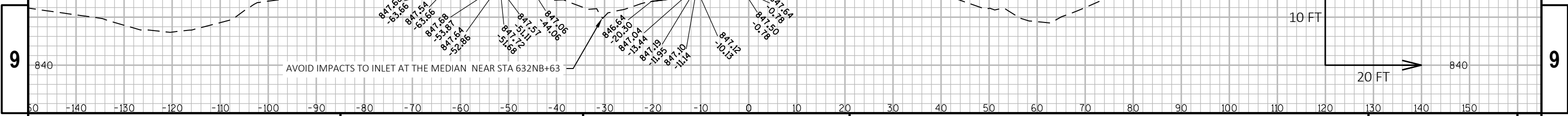
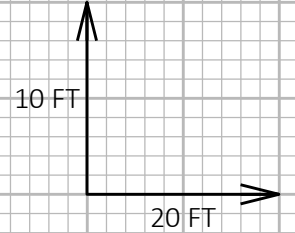


633+39  
IH 43 NB  
POST 1 - POST 1  
(SOUTH HALF OF THE SYSTEM)



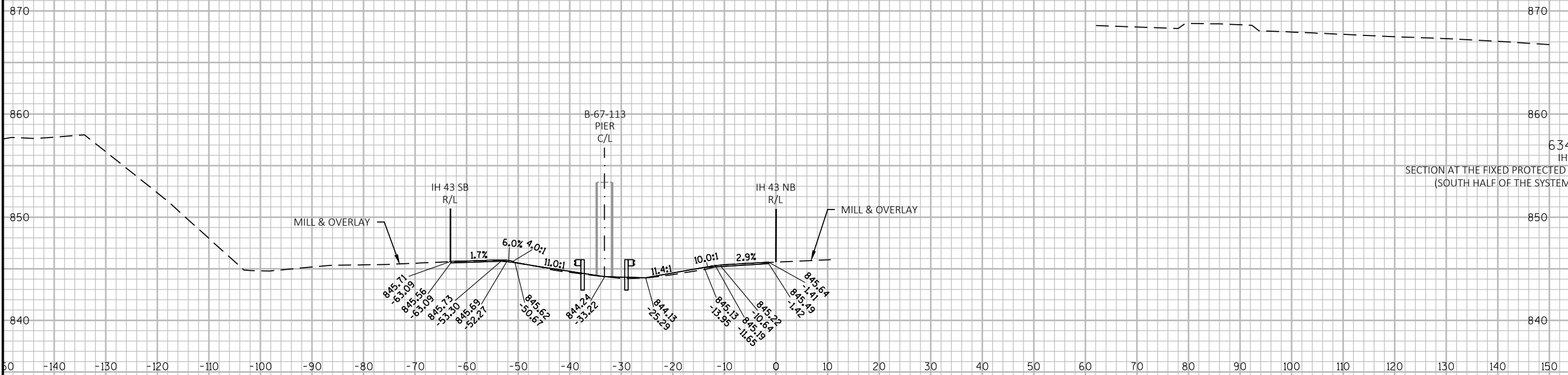
632+69  
IH 43 NB  
BEGINNING OF GRADING WORK  
(SOUTH HALF OF THE SYSTEM)

AVOID IMPACTS TO INLET AT THE MEDIAN NEAR STA 632NB+63

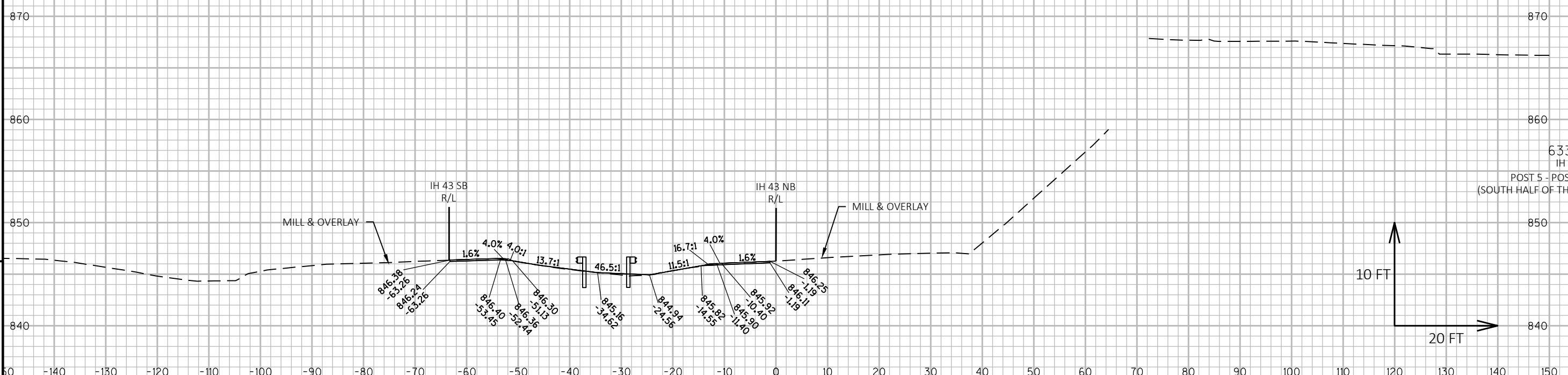


PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: BEAM GUARD BULL NOSE UNDER RACINE AVE/CTH Y	SHEET	E
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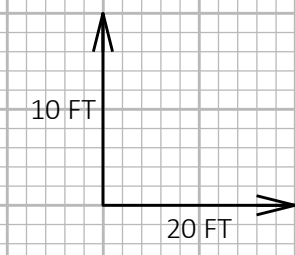
FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".



634+03  
IH 43 NB  
SECTION AT THE FIXED PROTECTED OBJECT  
(SOUTH HALF OF THE SYSTEM)



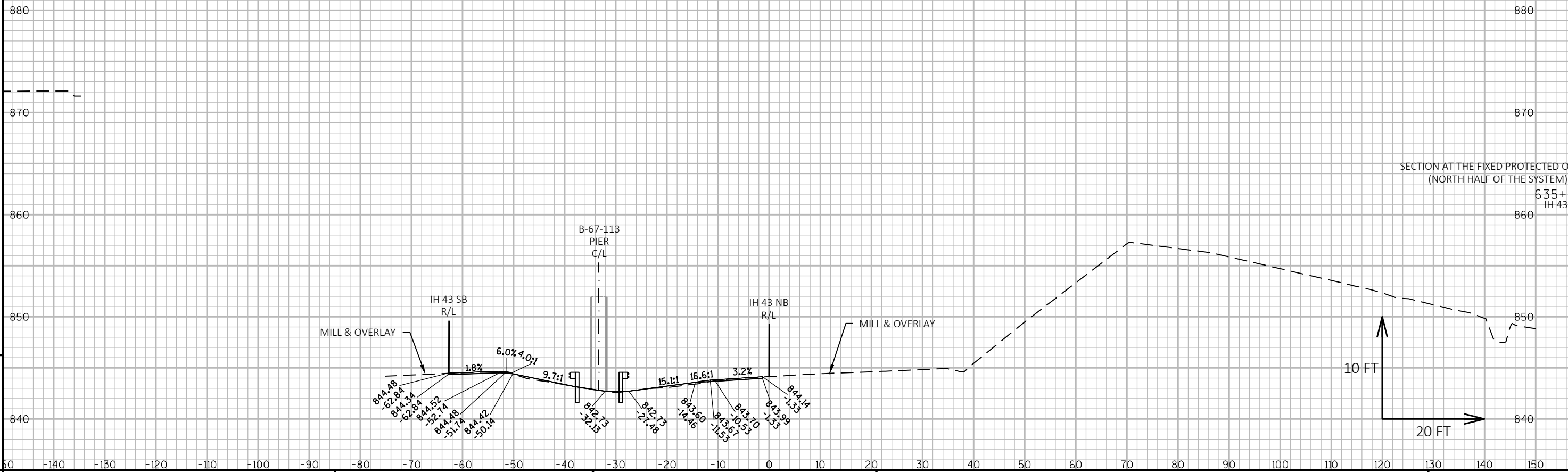
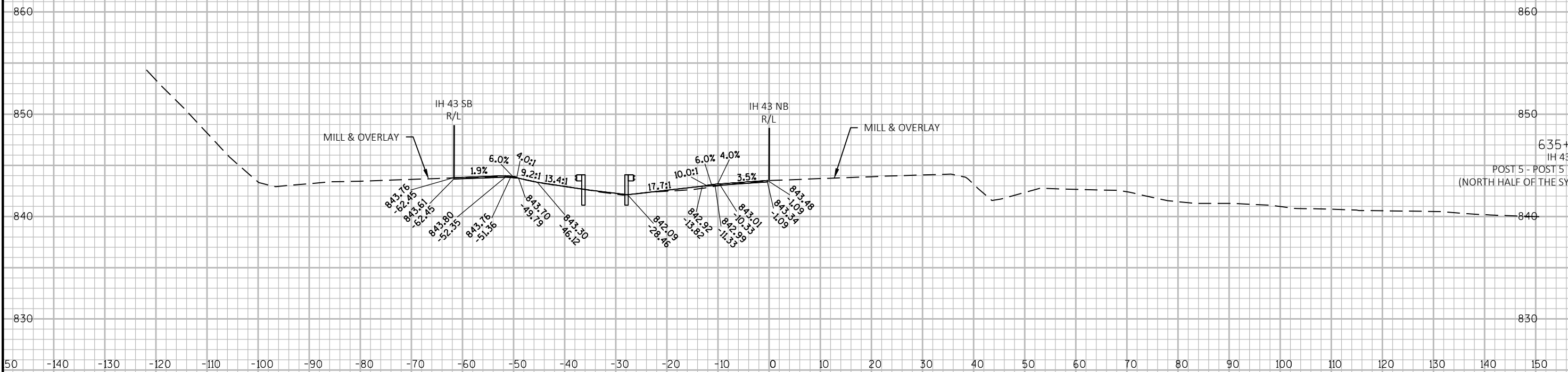
633+52  
IH 43 NB  
POST 5 - POST 5  
(SOUTH HALF OF THE SYSTEM)



PROJECT NO: 1090-09-76      HWY: IH 43      COUNTY: WAUKESHA      CROSS SECTIONS: BEAM GUARD BULL NOSE UNDER RACINE AVE/CTH Y      SHEET      E

FILE NAME : N:\PDS\C3D\10900906\SHEETSPLAN\090203\_XS-BG-BULLNOSE-CTH Y.DWG      PLOT DATE : 6/6/2023 3:20 PM      PLOT BY : ABU AJWA, MUNTHER J      PLOT NAME :      PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

FOR MORE DETAILS, REFER TO SDD "STEEL THRIE BEAM BULLNOSE TERMINAL".



PROJECT NO: 1090-09-76	HWY: IH 43	COUNTY: WAUKESHA	CROSS SECTIONS: BEAM GUARD BULL NOSE UNDER RACINE AVE/CTH Y	SHEET	<b>9</b>
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# Notes



## ***Wisconsin Department of Transportation***

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>