

Jan 09, 2024

ORDER OF SHEETS

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

TOTAL SHEETS = 202

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

### MADISON - LODI

SUNSET LANE TO CTH V

STH 113

DANE COUNTY

STATE PROJECT NUMBER

5280-03-70

STATE PROJECT

5280-03-70

FEDERAL PROJECT

PROJECT

WISC 2024109

CONTRACT

1

PROJECT ID: 5280-03-70  
WITH: N/A



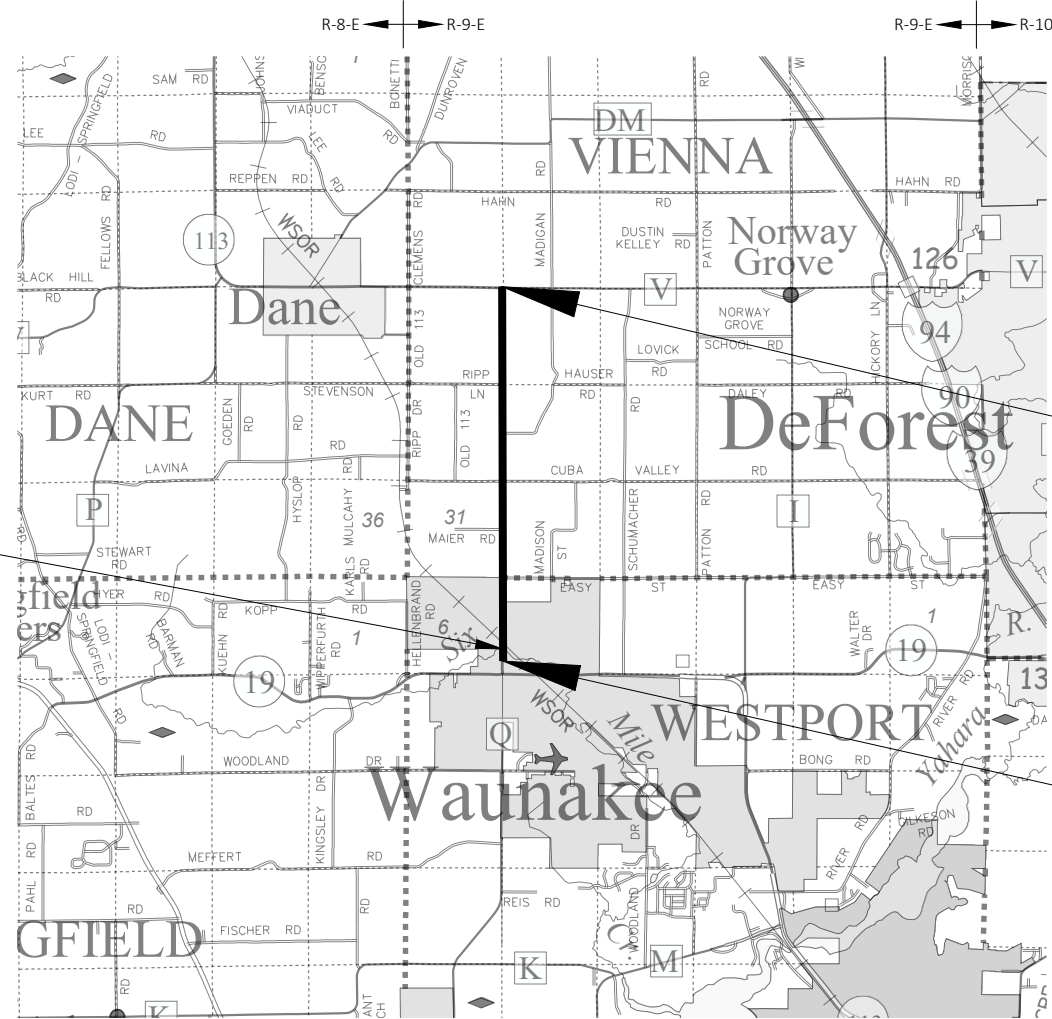
DESIGN DESIGNATION

A.A.D.T.	2023	=	4900
A.A.D.T.	2043	=	6300
D.H.V.		=	
D.D.		=	
T.		=	12.8%
DESIGN SPEED		=	55 MPH (35 MPH S. OF KOPP RD.)
ESALS		=	1,500,000

CONVENTIONAL SYMBOLS

PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
MARSH AREA	STORM SEWER
	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

STRUCTURE B-13-0871  
STA 16+95 - STA 17+63



END PROJECT  
STA 215+85

BEGIN PROJECT  
STA 15+00  
X = 800450.0766  
Y = 526743.2175

LAYOUT  
SCALE 0 2 MI  
TOTAL NET LENGTH OF CENTERLINE = 3.804 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DANE 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	MSA PROFESSIONAL SERVICES
Designer	MEGAN SCHERER, P.E.
Project Manager	AMY COUGHLIN, P.E.
Regional Examiner	SW REGION
Regional Supervisor	ALEX HAGEN, P.E.

APPROVED FOR THE DEPARTMENT  
DATE: 10/12/2022  
*Amy Coughlin*  
(Signature)

E

UTILITY CONTACTS

ELECTRIC TRANSMISSION

ATC MANAGEMENT INC.  
DOUG VOSBERG  
2489 RINDEN ROAD  
COTTAGE GROVE, WI 53527  
(608) 877-7650  
dvosberg@atcllc.com

COMMUNICATIONS

SPECTRUM  
BRAD TEMPLETON  
2701 DANIELS STREET  
MADISON, WI 53718  
(608) 225-2529  
brad.templeton@charter.com

COMMUNICATIONS

BRIGHTSPEED OF WESTERN  
WISCONSIN, LLC  
JAMES WINTER  
224 INDUSTRIAL DRIVE  
NORTH PRAIRIE, WI 53153  
(262) 392-5210  
james.winter@brightspeed.com

ELECTRIC

ALLIANT ENERGY  
KAI GRAFF  
6462 BLANCHAR'S CROSSING  
WINDSOR, WI 53598  
(608) 459-5797  
kaigraff@alliantenergy.com

COMMUNICATIONS

MCI  
RANDOLPH CICATELLO JR.  
15725 WEST RYERSON ROAD  
NEW BERLIN, WI 53151  
(262) 232-1323  
randy.cicatelto@verizon.com

GAS

MADISON GAS & ELECTRIC CO.  
ROGER AHLES  
623 RAILROAD STREET  
MADISON, WI 53701  
(608) 252-5682  
rahles@mge.com

ELECTRIC

WAUNAKEE UTILITIES  
JOHN MCLAIN  
322 MORAVIAN VALLEY RD  
P.O. BOX 70  
WAUNAKEE, WI 53597  
(608) 235-6441  
jmclain@waunakeeutilities.com

SEWER & WATER

WAUNAKEE UTILITIES  
RANDY DORN  
322 MORAVIAN VALLEY RD  
P.O. BOX 70  
WAUNAKEE, WI 53597  
(608) 849-4107  
rdorn@waunakeeutilities.org

COMMUNICATIONS

SPRINT COMMUNICATIONS  
DAN HILLIARD  
849 EARL STREET  
SAINT PAUL, MN 55106  
(612) 217-3526  
dan.j.hilliard@t-mobile.com

COMMUNICATIONS

TDS TELECOM  
JERRY MYERS  
525 JUNCTION RD  
MADISON, WI 53717  
(608) 664-4404  
jerry.myers@tdstelecom.com

SEWER

VILLAGE OF DANE  
SHANE CLAPPER  
102 W MAIN ST  
P.O. BOX 168  
DANE, WI 53529-0168  
(608) 849-5425  
publicworks@villageofdane.org

COMMUNICATIONS

EVERSTREAM  
JIM SAGAITIS  
324 E WISCONSIN AVE  
STE 370  
MILWAUKEE, WI 53202  
(608) 201-5586  
jsagaitis@everstream.net

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

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 AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER IN CONSULTATION WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

EXISTING SIGNS SHALL REMAIN IN PLACE UNLESS MOVED AS PART OF THE PLAN OR THE ENGINEER APPROVES THEIR REMOVAL.

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT, SAWCUT WHERE SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE LOCATION AND WIDTH OF DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

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

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING OR TURNING LANE.

HMA PAVEMENT CALCULATIONS ARE BASED ON 112 LB/SY/IN.



Dial **811** or (800)242-8511

www.DiggersHotline.com

SECTION 2 ORDER OF SHEETS

GENERAL NOTES  
PROJECT OVERVIEW  
CONSTRUCTION DETAILS  
PLAN DETAILS  
EROSION CONTROL  
PAVEMENT MARKING  
DETOURS

RAILROAD

WISCONSIN & SOUTHERN RAILROAD  
BEN MEIGHAN  
1890 E. JOHNSON ST.  
MADISON, WI 53704  
(608) 620-2037

DNR LIAISON

ERIC HEGGELUND  
DEPARTMENT OF NATURAL RESOURCES  
3911 FISH HATCHERY ROAD  
FITCHBURG, WI 53711  
(608) 228-7927  
eric.heggelund@wisconsin.gov

DESIGN CONTACTS

WISDOT DESIGNER

MEGAN SCHERER  
WISDOT NORTHEAST REGION  
944 VANDERPERREN WAY  
GREEN BAY, WI 54304  
(920) 492-7702  
megan.scherer@dot.wi.gov

WISDOT PROJECT MANAGER

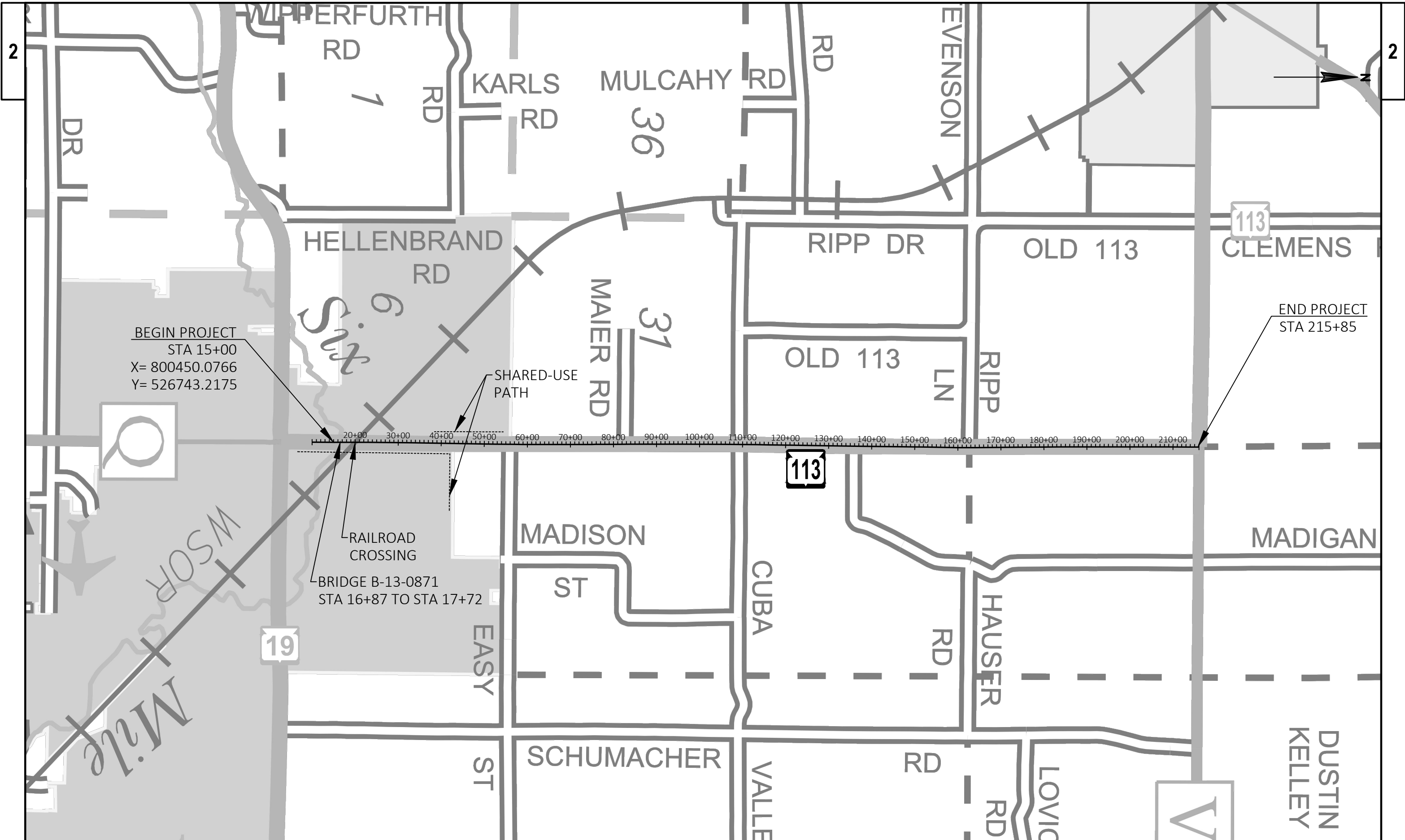
AMY COUGHLIN  
WISDOT SOUTHWEST REGION  
2101 WRIGHT STREET  
MADISON, WI 54704  
(608) 245-5358  
amy.coughlin@dot.wi.gov

EXISTING ASPHALT THICKNESS

APPROXIMATE STATION	LANE MILE	OFFSET	THICKNESS (INCHES)
10+35	0.00	15' RT	6.00
23+55	0.25	6' LT	4.25
38+33	0.53	11' RT	3.50
51+00	0.77	9' LT	4.25
63+15	1.00	6' RT	2.75
76+35	1.25	10' LT	3.50
89+55	1.50	9' RT	3.50
102+75	1.75	6' LT	4.00
115+95	2.00	9' RT	8.50
130+73	2.28	9' LT	4.50
142+35	2.50	11' RT	8.00
158+19	2.80	11' LT	5.50
168+75	3.00	6' RT	7.25
182+48	3.26	9' LT	7.00
199+90	3.59		7.00
208+35	3.75	11' LT	4.75

NOTE: RED TOPS FOR REESTABLISHING GRADES ARE AVAILABLE IN THE EVENT BASE IS ENCOUNTERED

TOTAL LAYER PAVEMENT THICKNESS	PAVEMENT TYPE	LAYERS
6.25" HMA PAVEMENT	4 MT 58-28 S UPPER 3 MT 58-28 S LOWER	1.75" UPPER LAYER 2.25" LOWER LAYER 2.25" LOWER LAYER
4" HMA PAVEMENT	4 MT 58-28 S UPPER 3 MT 58-28 S LOWER	1.75" UPPER LAYER 2.25" LOWER LAYER



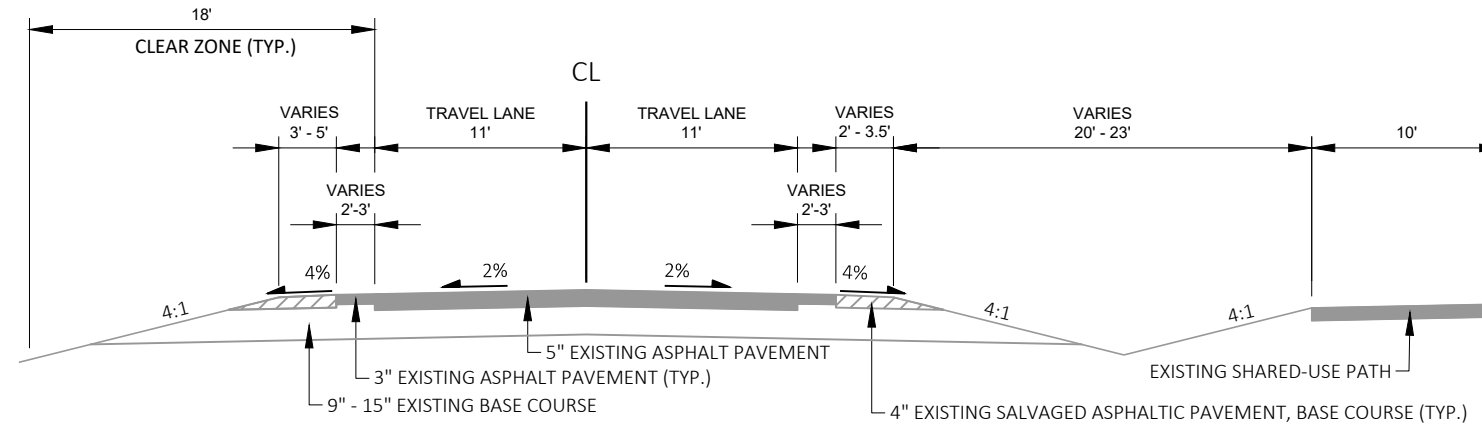
BEGIN PROJECT  
 STA 15+00  
 X= 800450.0766  
 Y= 526743.2175

END PROJECT  
 STA 215+85

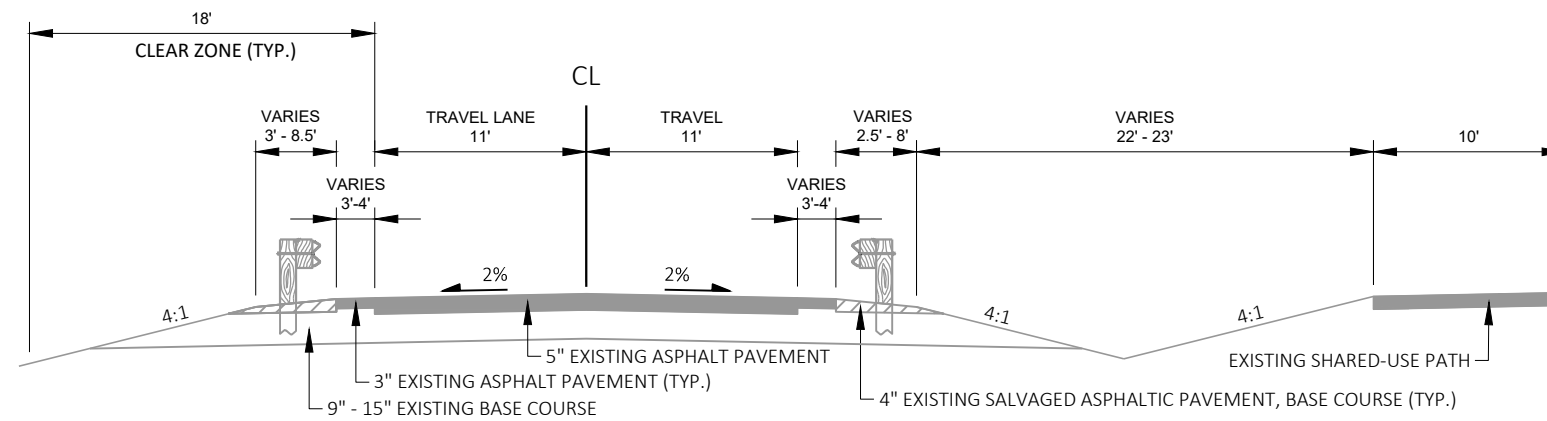
SHARED-USE  
 PATH

RAILROAD  
 CROSSING

BRIDGE B-13-0871  
 STA 16+87 TO STA 17+72

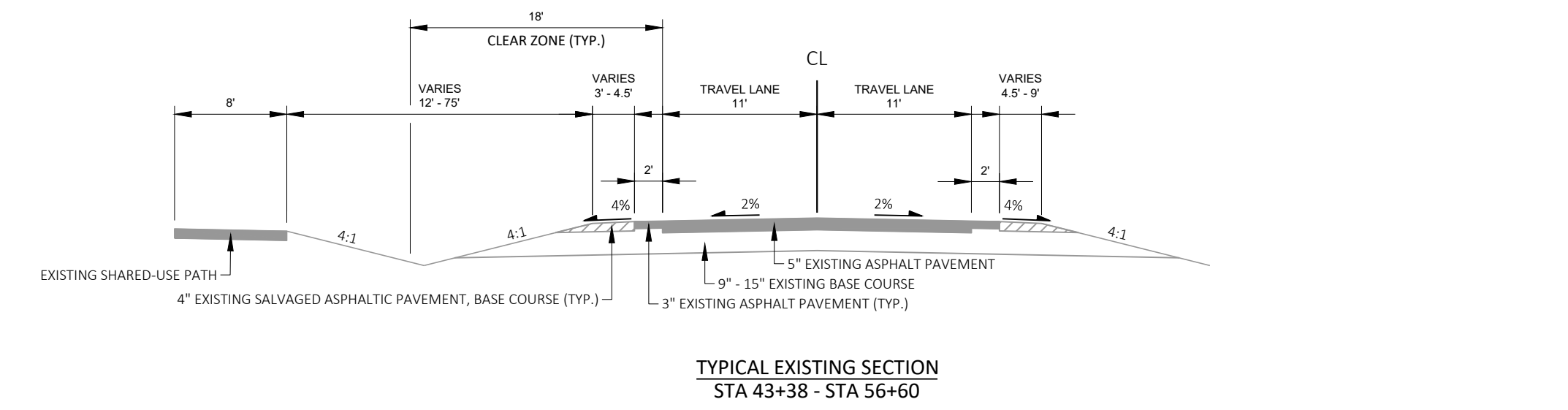
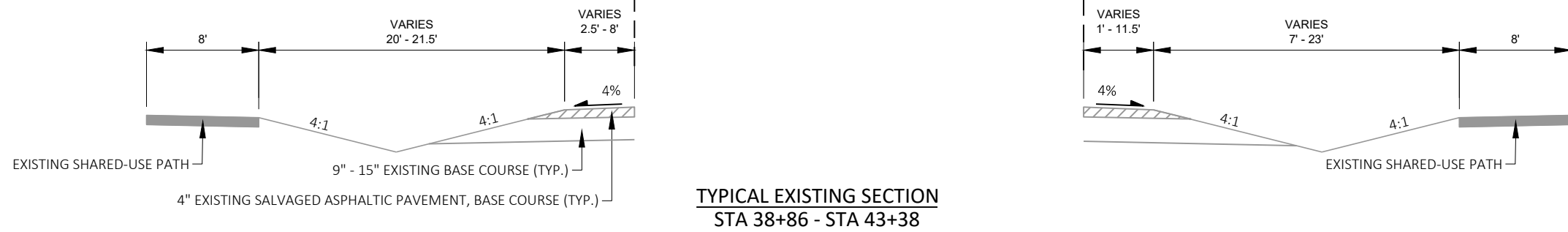
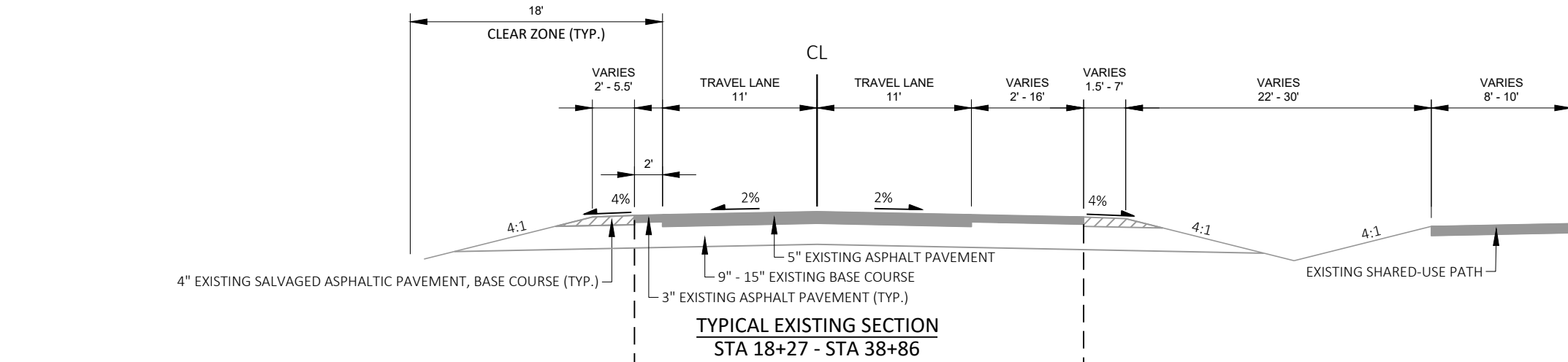


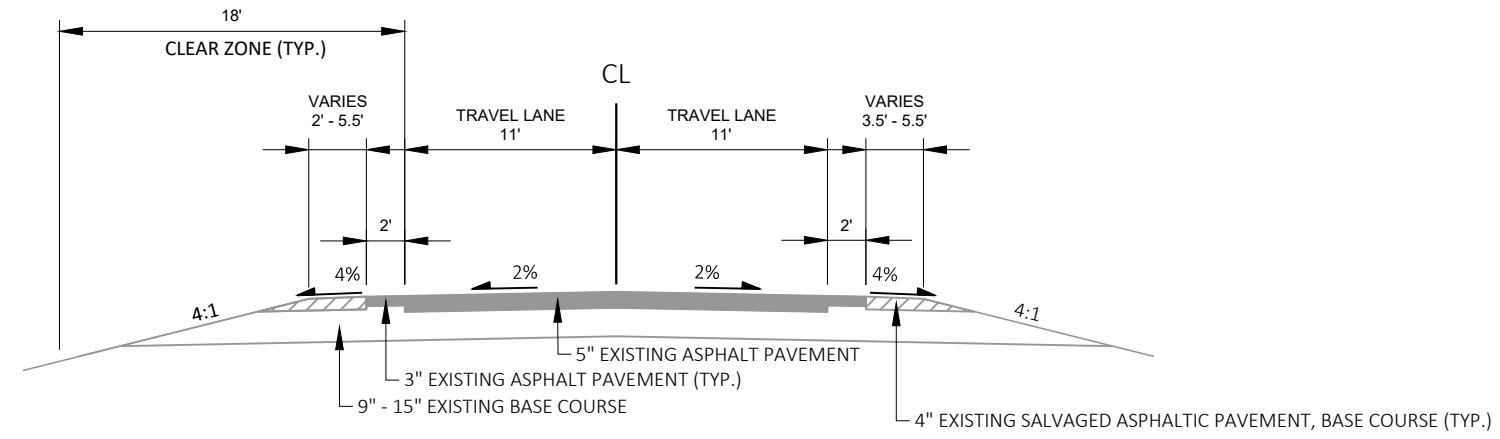
**TYPICAL EXISTING SECTION**  
 STA 15+00 - STA 16+32



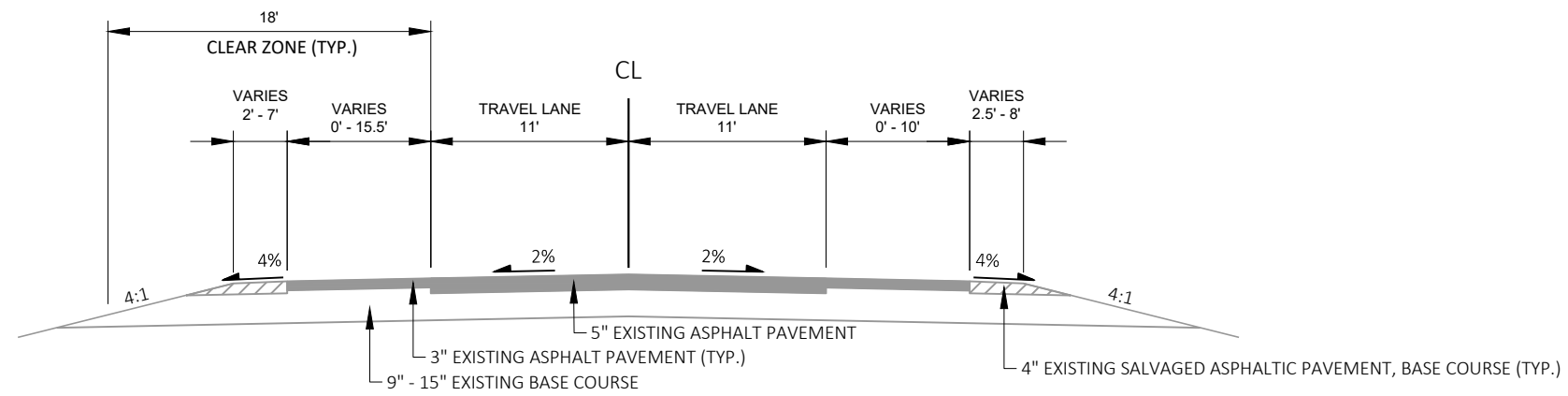
**TYPICAL EXISTING SECTION**  
 STA 16+32 - STA 18+27



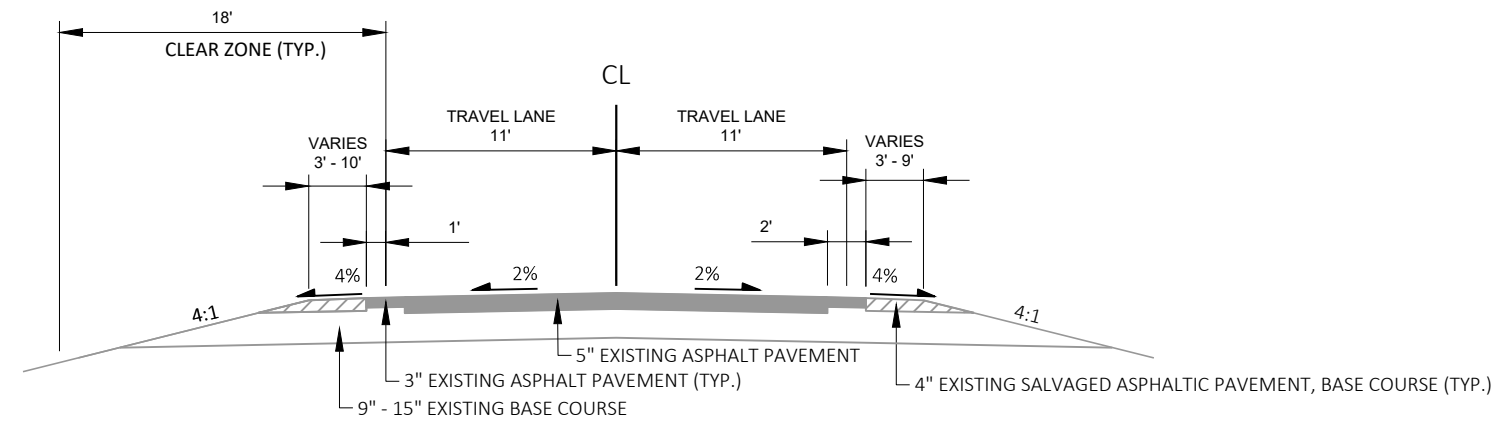




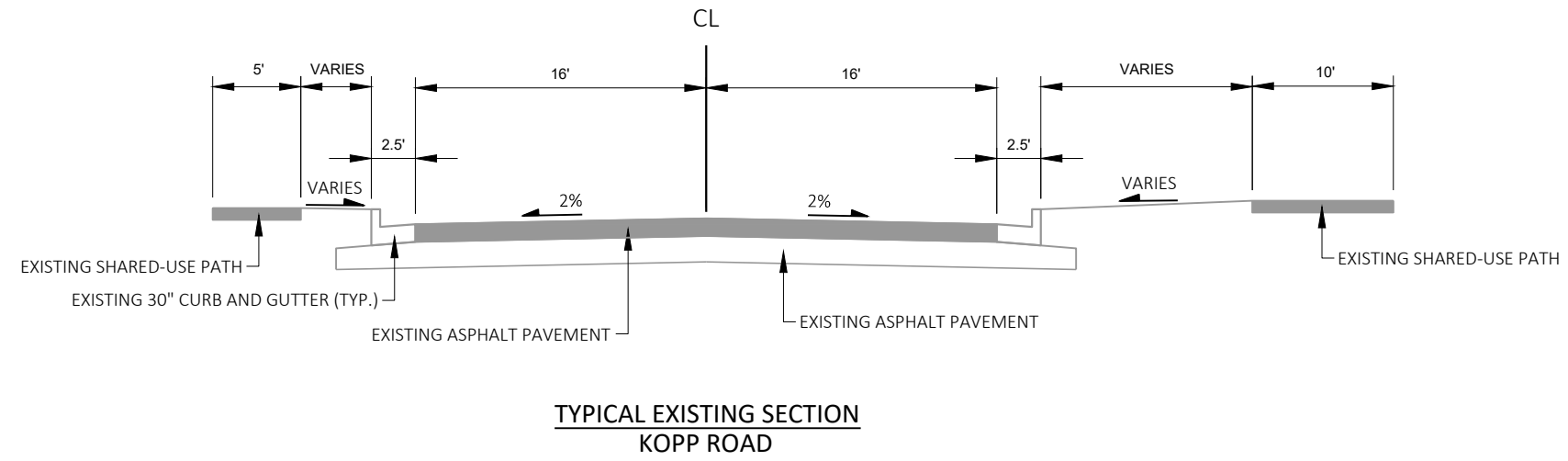
**TYPICAL EXISTING SECTION**  
STA 56+60 - STA 105+44

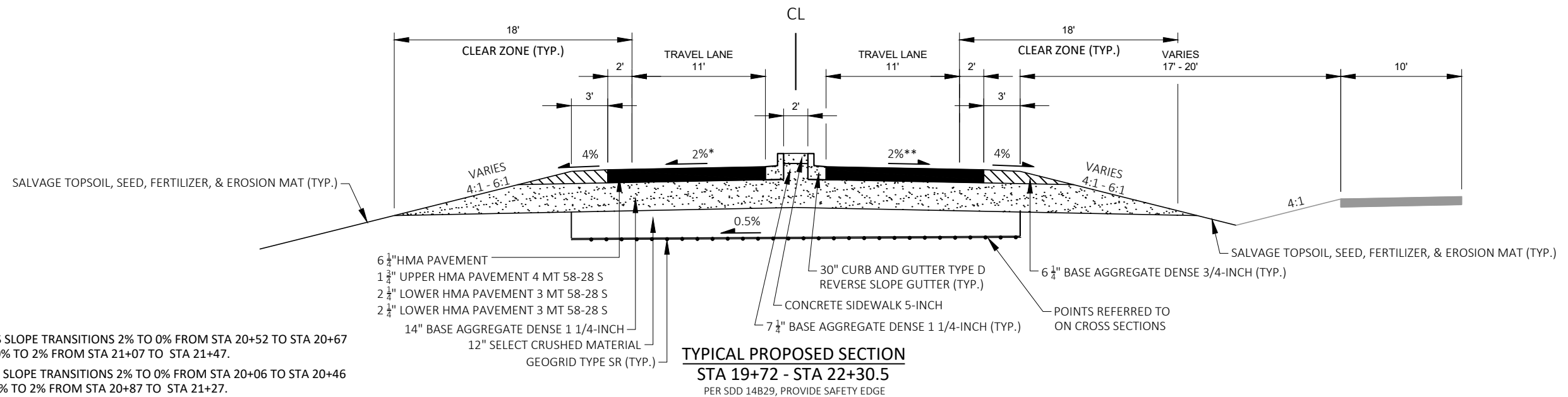
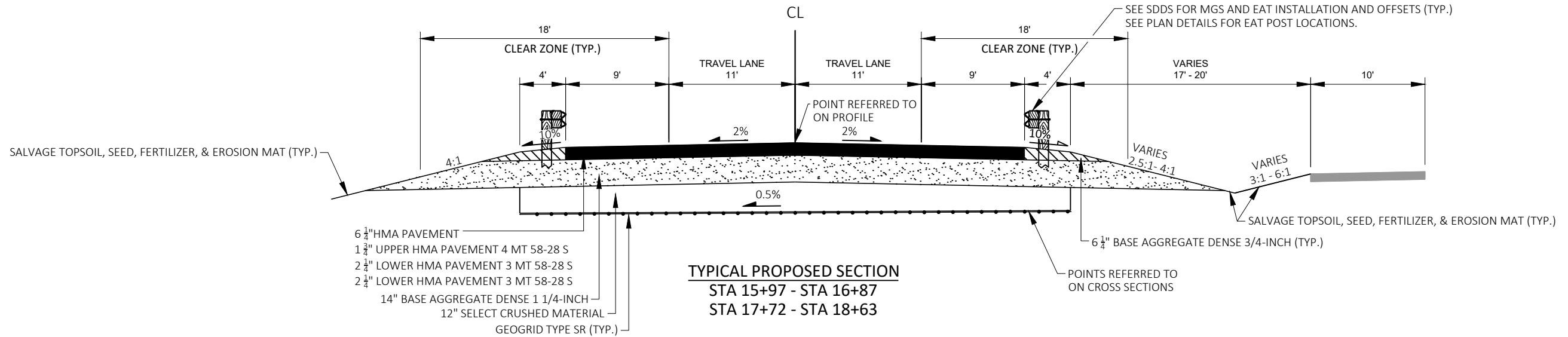
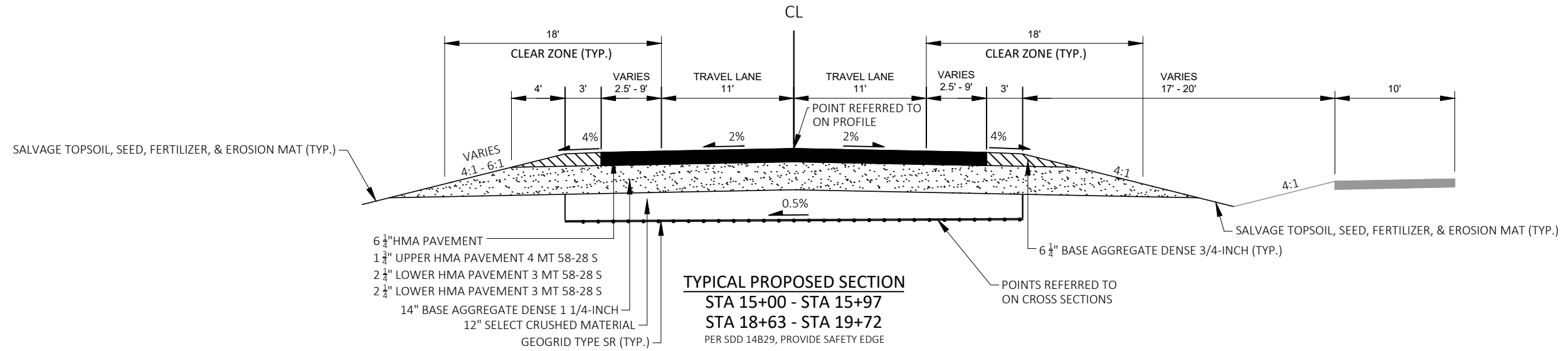


**TYPICAL EXISTING SECTION**  
STA 105+44 - STA 114+39



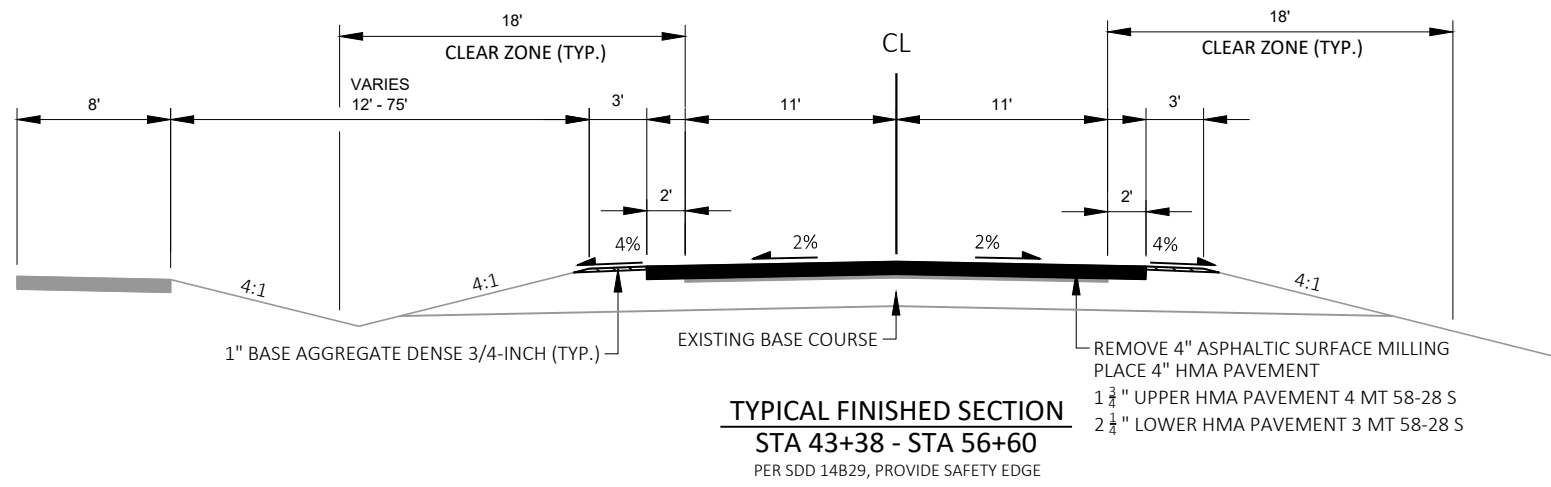
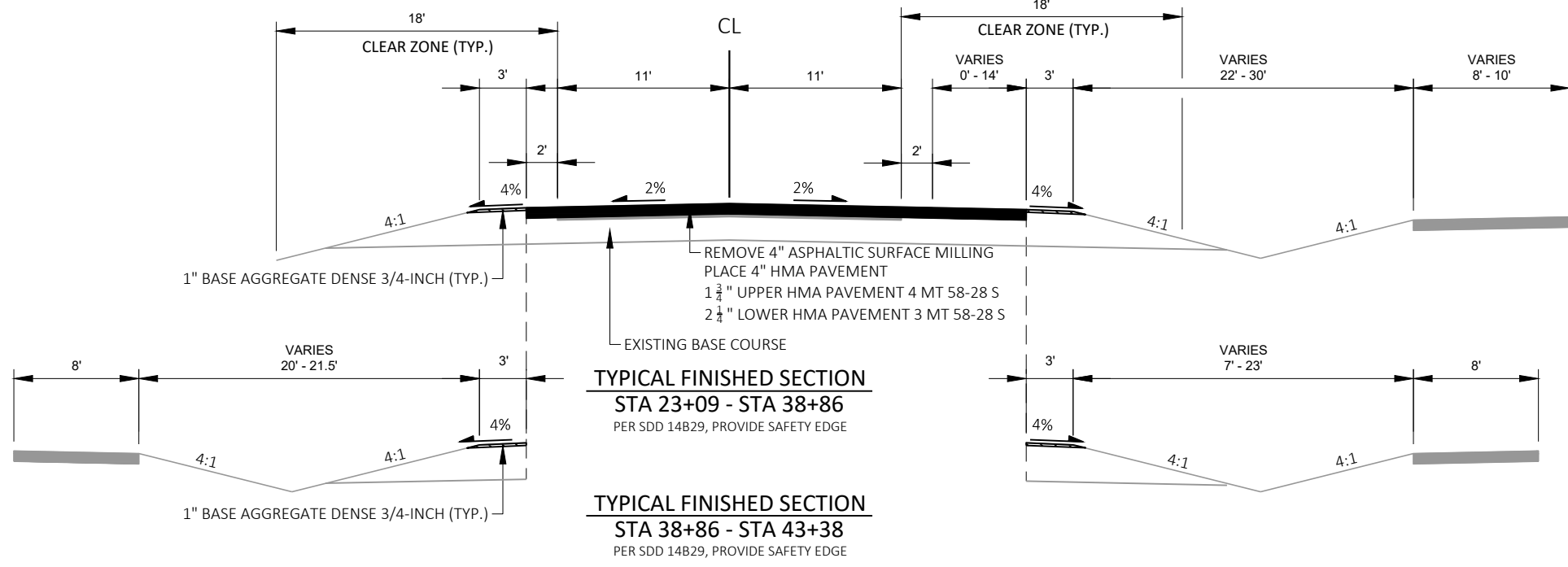
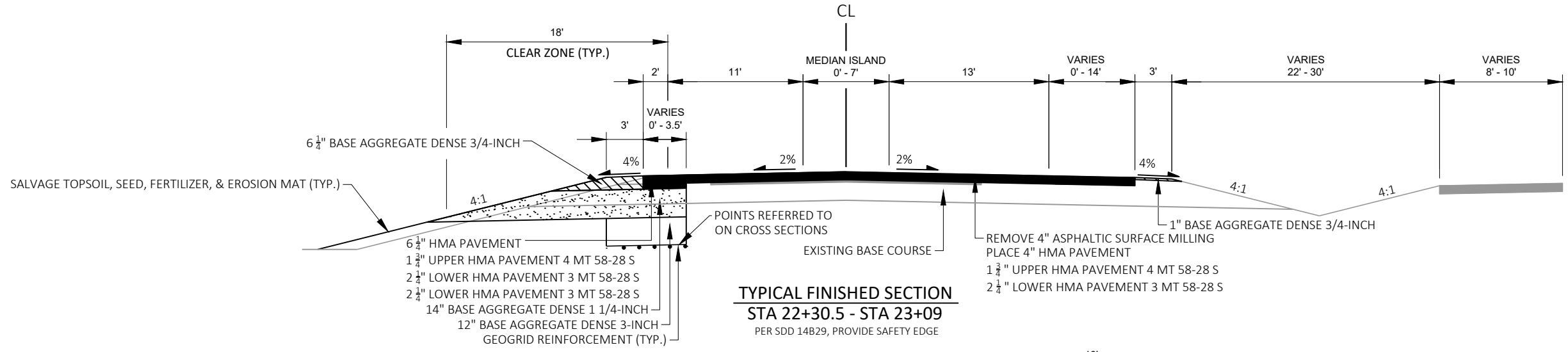
**TYPICAL EXISTING SECTION**  
STA 114+39 - STA 215+85

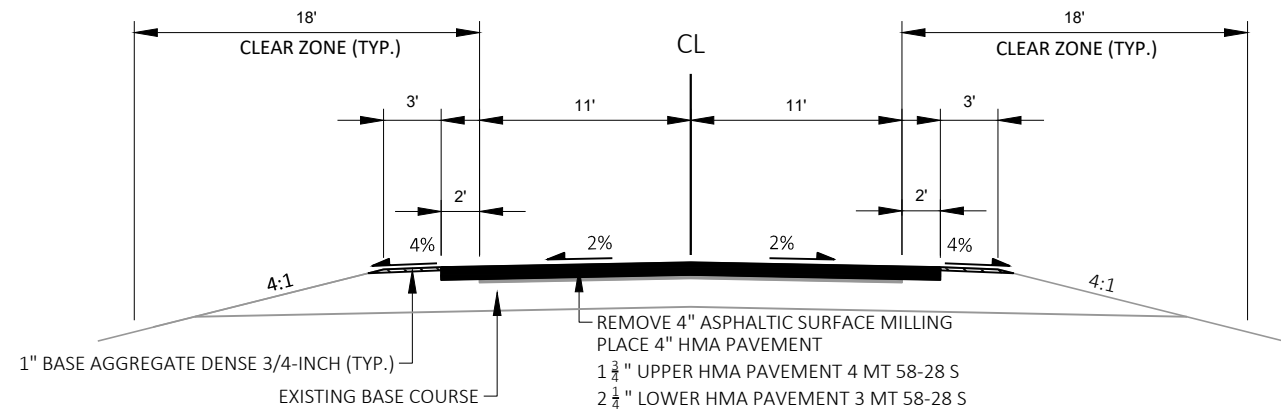




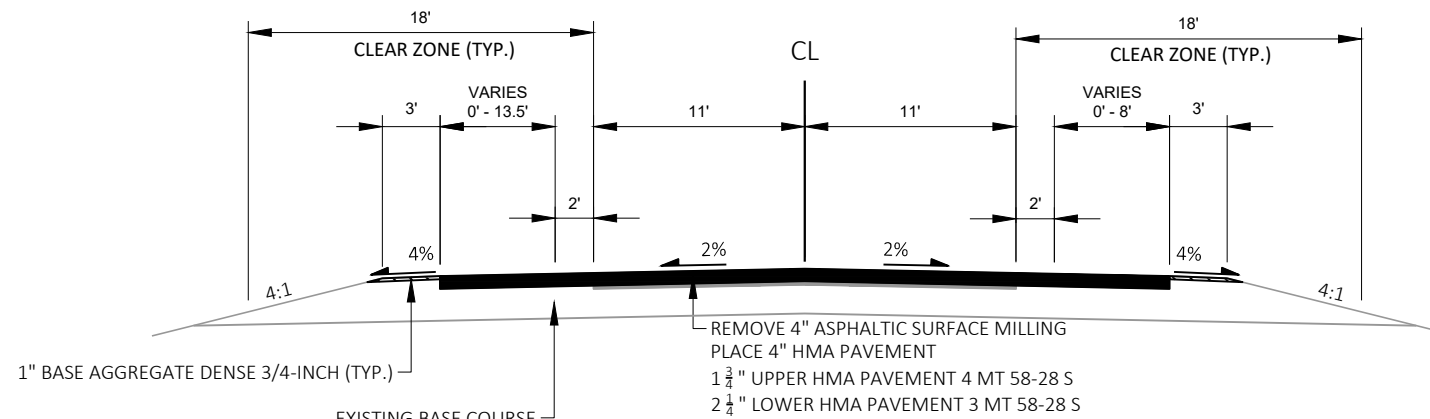
\* CROSS SLOPE TRANSITIONS 2% TO 0% FROM STA 20+52 TO STA 20+67  
 AND 0% TO 2% FROM STA 21+07 TO STA 21+47.

\*\* CROSS SLOPE TRANSITIONS 2% TO 0% FROM STA 20+06 TO STA 20+46  
 AND 0% TO 2% FROM STA 20+87 TO STA 21+27.

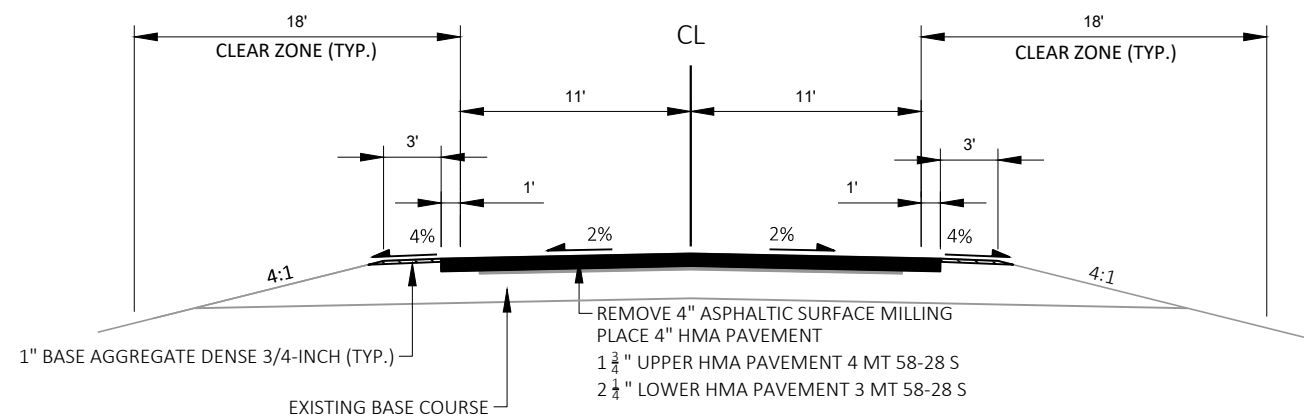




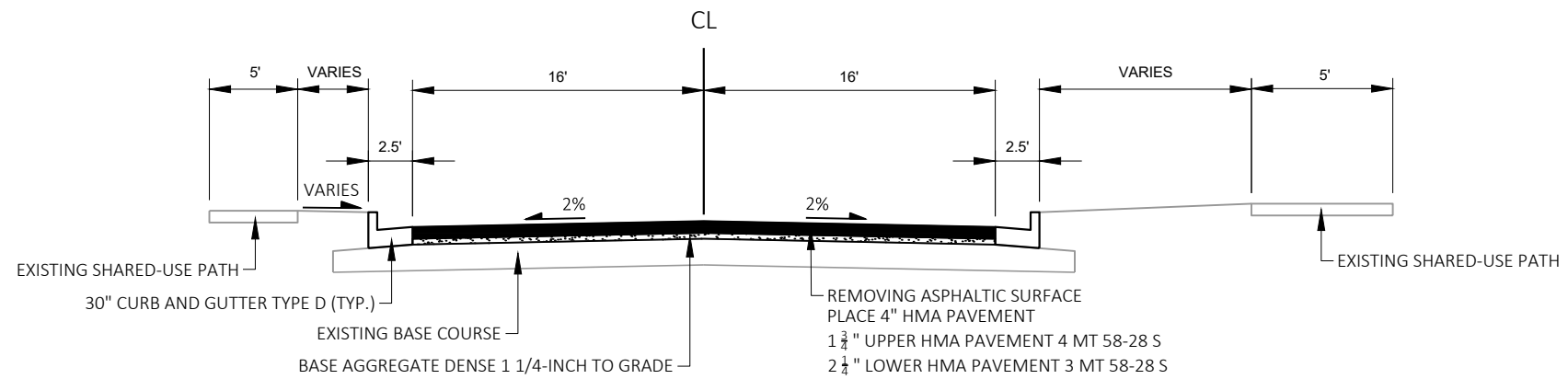
**TYPICAL FINISHED SECTION**  
**STA 56+60 - STA 105+44**  
 PER SDD 14B29, PROVIDE SAFETY EDGE



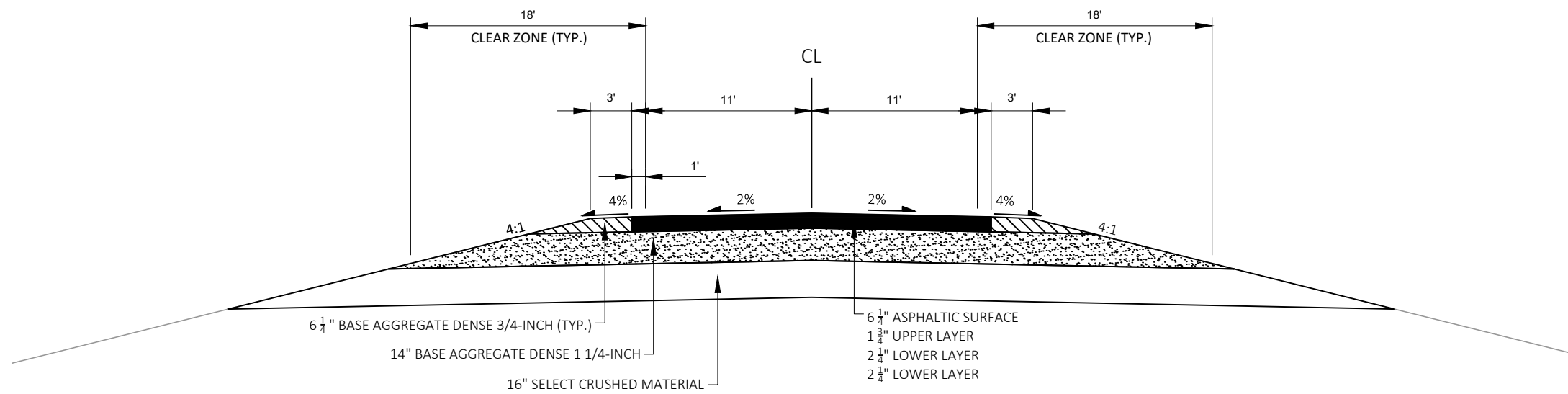
**TYPICAL FINISHED SECTION**  
**STA 105+44 - STA 114+39**  
 PER SDD 14B29, PROVIDE SAFETY EDGE



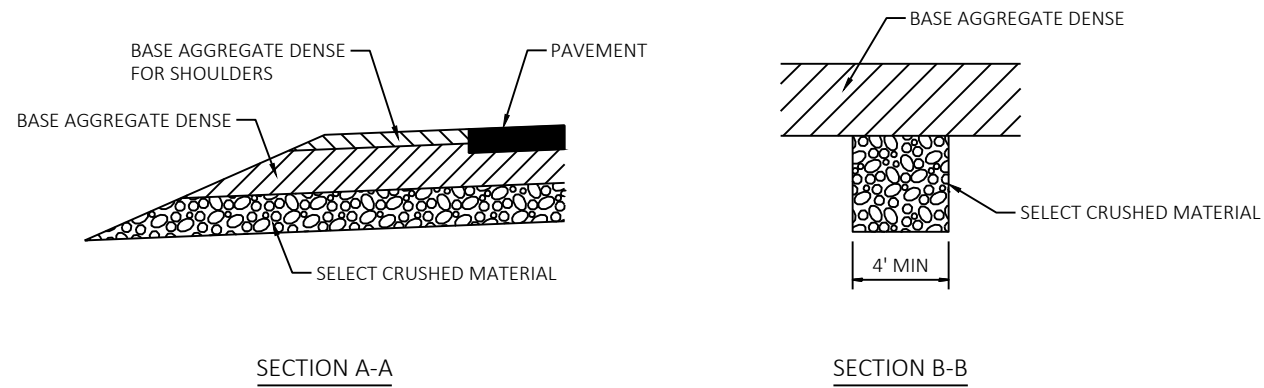
**TYPICAL FINISHED SECTION**  
**STA 114+39 - STA 215+85**  
 PER SDD 14B29, PROVIDE SAFETY EDGE



**TYPICAL PROPOSED SECTION  
KOPP ROAD**

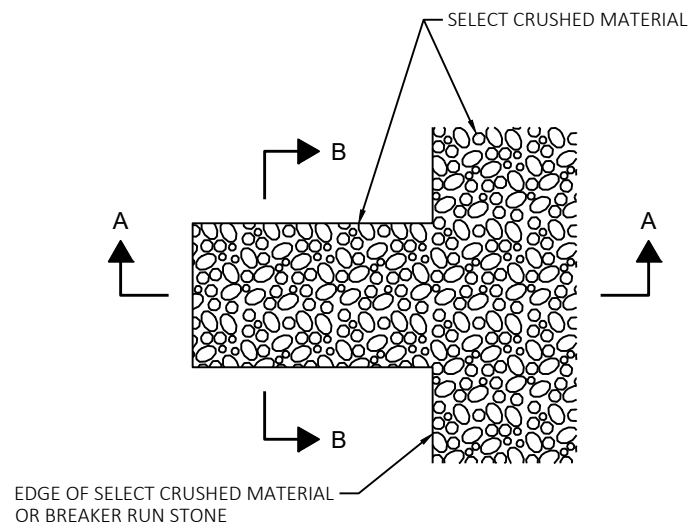


**TYPICAL PROPOSED SECTION  
AT CULVERT REPLACEMENT**  
SEE PLAN DETAILS: CULVERTS FOR LIMITS  
EBS AREAS TO USE THIS PAVEMENT STRUCTURE



SECTION A-A

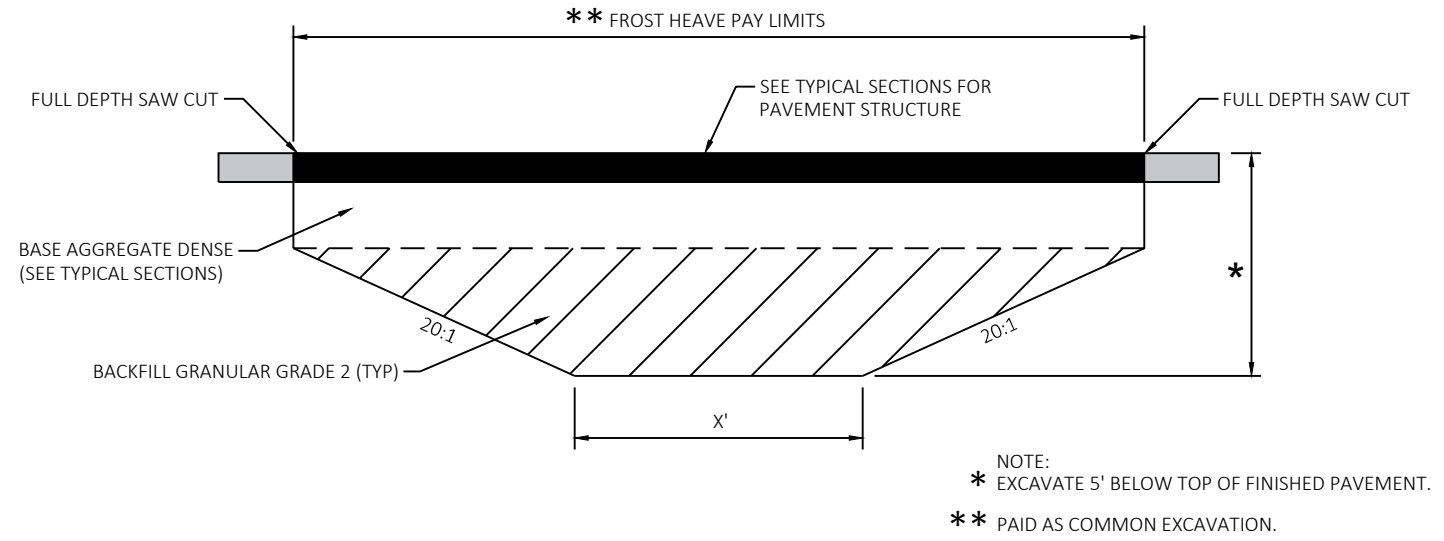
SECTION B-B



**DETAIL FOR FRENCH DRAINS**

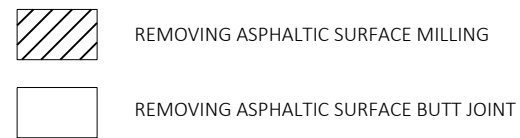
DRAINS ARE TO BE CONSTRUCTED AT THE FOLLOWING STATIONS:  
STA 16+50 LT, STA 18+00 LT, & STA 22+30 LT OR AS DIRECTED BY ENGINEER.

EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL BE CONSIDERED INCIDENTAL TO THE ITEM SELECT CRUSHED MATERIAL.



**LONGITUDINAL DETAIL FOR FROST HEAVE REPAIR AREA WITHOUT PIPE**

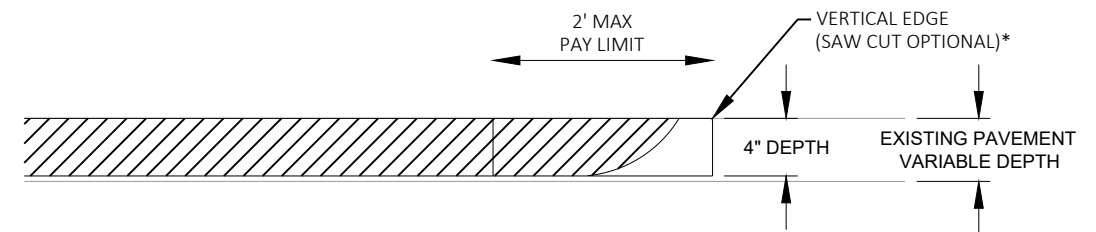
STA 22+07



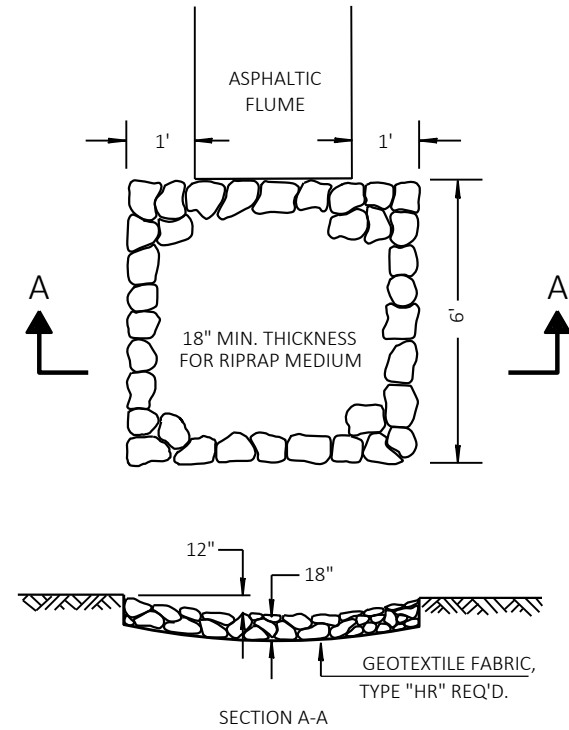
\*INCIDENTAL TO "REMOVING ASPHALTIC SURFACE BUTT JOINT" ITEM

**BUTT JOINT DETAIL**

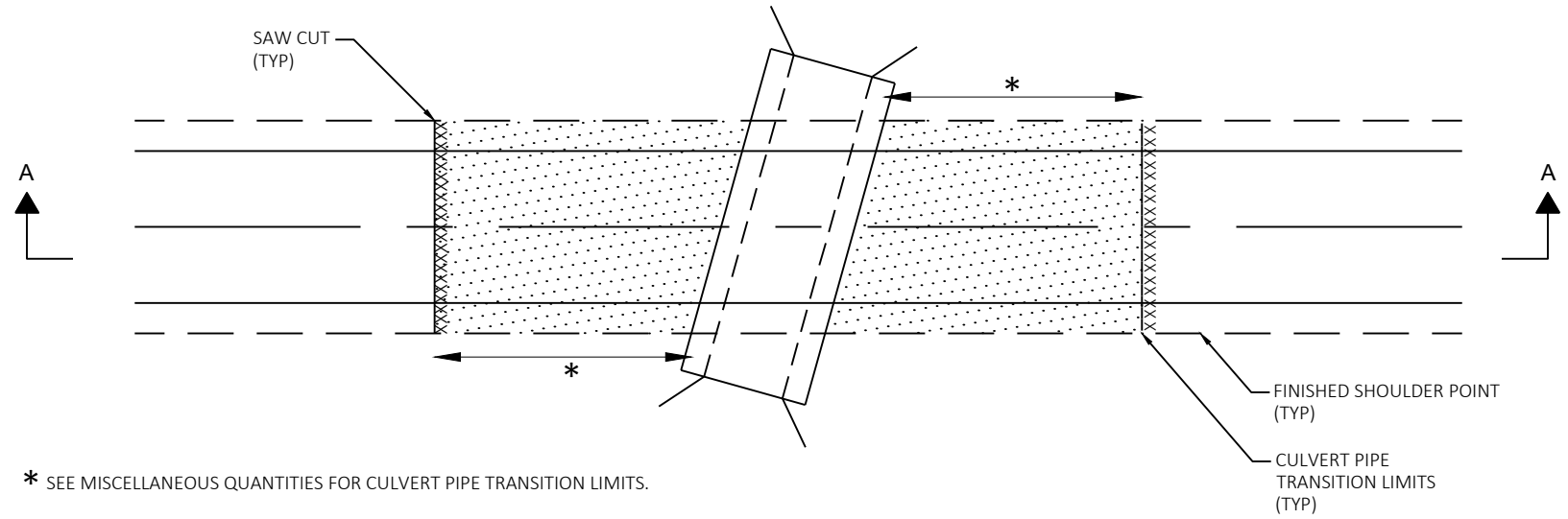
- W VERLEEN AVENUE (RT)
- LOCHMOORE DRIVE (RT)
- LEGENDS DRIVE (RT)
- KOPP ROAD (LT)
- EASY STREET (RT)
- MAIER ROAD (LT)
- CUBA VALLEY ROAD (LT/RT)
- MADIGAN ROAD (RT)
- RIPP LANE (LT)
- END OF PROJECT (STA 215+85)



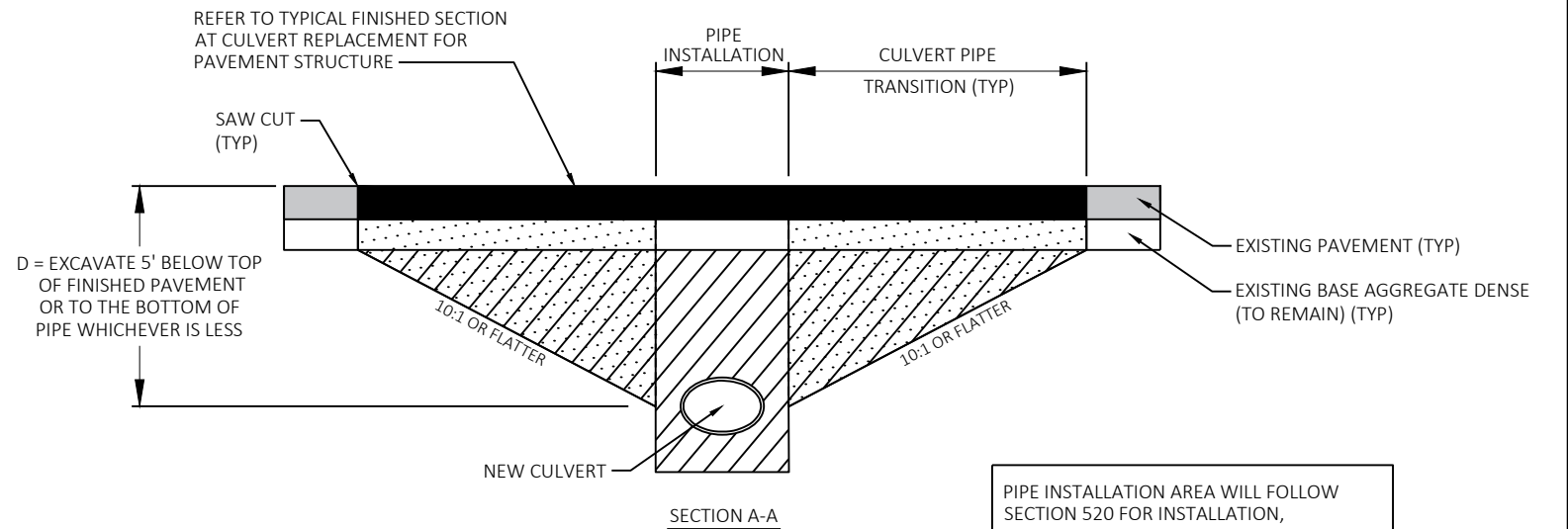




**RIPRAP MEDIUM TREATMENT AT FLUMES DETAIL**  
SEE EROSION CONTROL PLAN FOR LOCATIONS



\* SEE MISCELLANEOUS QUANTITIES FOR CULVERT PIPE TRANSITION LIMITS.

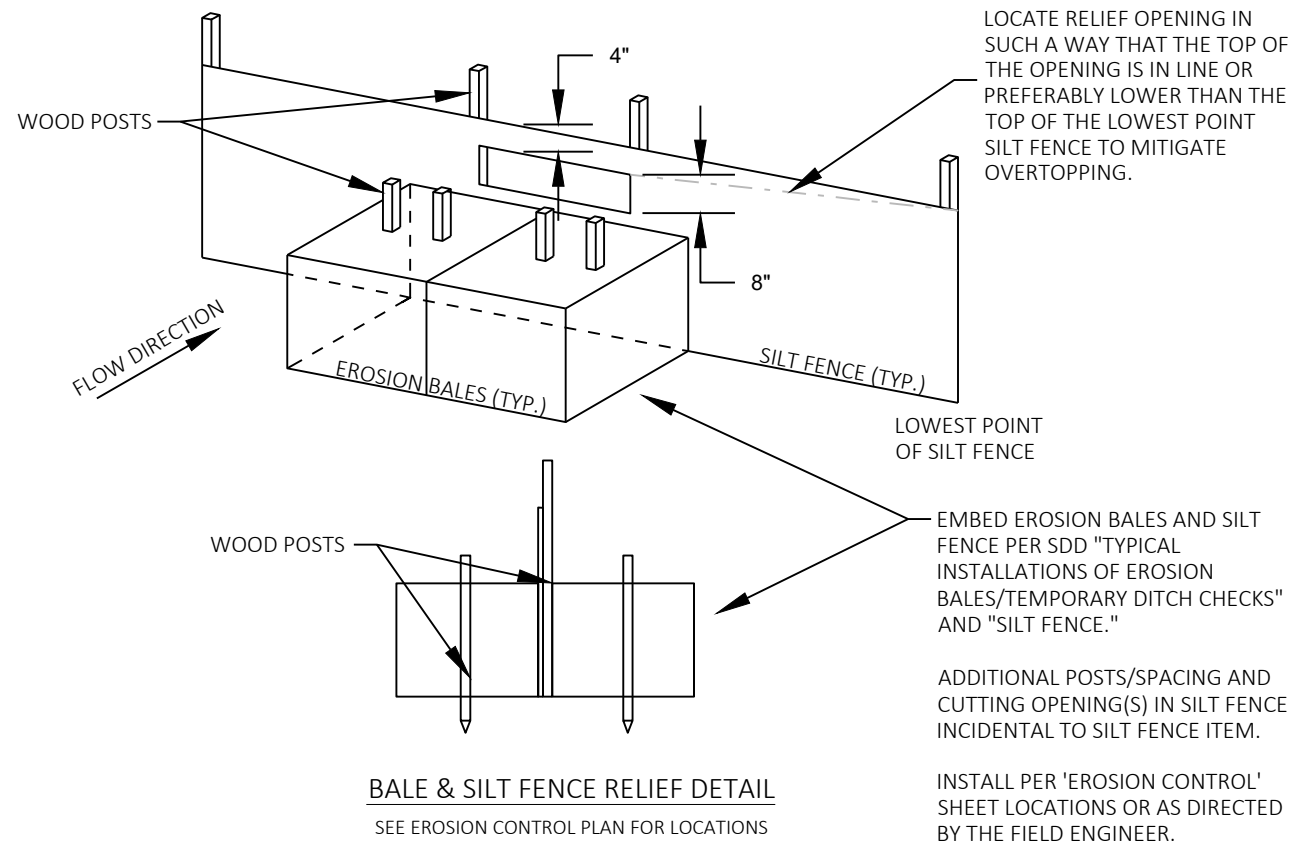


COMMON EXCAVATION  
FOUNDATION BACKFILL

PIPE INSTALLATION AREA WILL FOLLOW SECTION 520 FOR INSTALLATION, WIDTHS AND PAYMENT.  
CONSTRUCT TRANSITION PERPENDICULAR TO CULVERT PIPE.  
CULVERT PIPE TRANSITION AREAS WILL BE PAID BY COMMON EXCAVATION & SPV FOUNDATION BACKFILL.  
PAVEMENT SAW CUT TO BE PERPENDICULAR TO ROADWAY ALIGNMENT.

**SHALLOW PIPES WITH TRANSITION**

STA 210+41



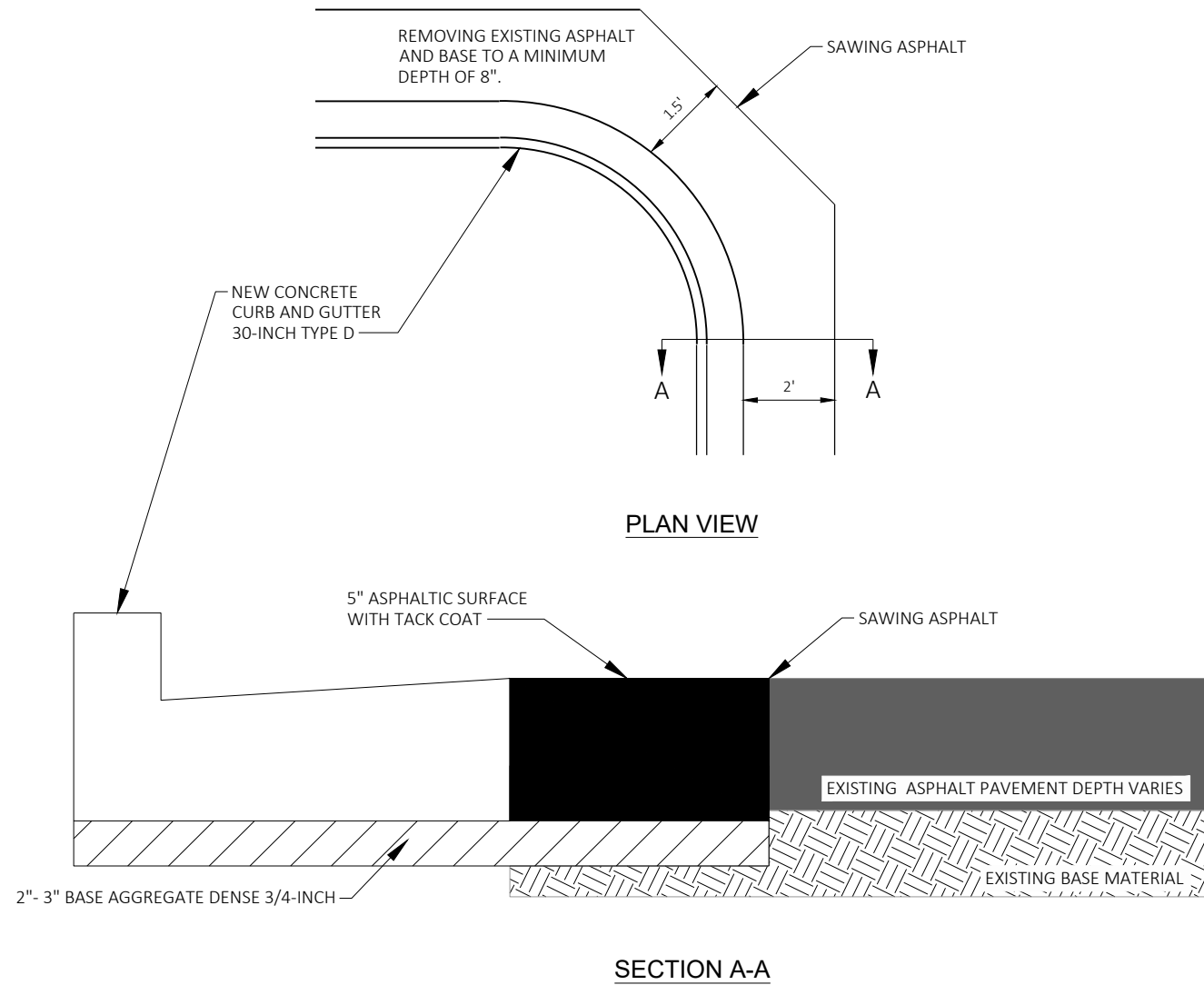
**BALE & SILT FENCE RELIEF DETAIL**  
SEE EROSION CONTROL PLAN FOR LOCATIONS

LOCATE RELIEF OPENING IN SUCH A WAY THAT THE TOP OF THE OPENING IS IN LINE OR PREFERABLY LOWER THAN THE TOP OF THE LOWEST POINT SILT FENCE TO MITIGATE OVERTOPPING.

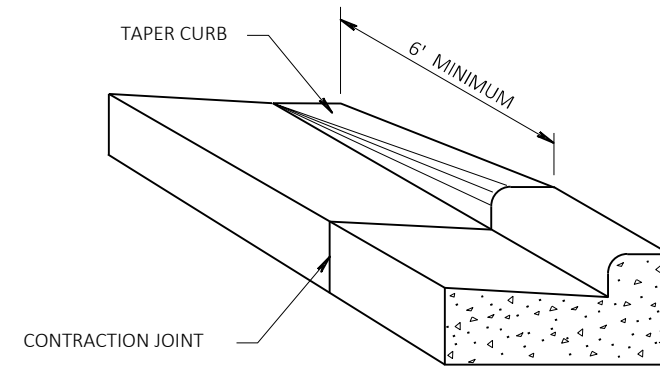
EMBED EROSION BALES AND SILT FENCE PER SDD "TYPICAL INSTALLATIONS OF EROSION BALES/TEMPORARY DITCH CHECKS" AND "SILT FENCE."

ADDITIONAL POSTS/SPACING AND CUTTING OPENING(S) IN SILT FENCE INCIDENTAL TO SILT FENCE ITEM.

INSTALL PER 'EROSION CONTROL' SHEET LOCATIONS OR AS DIRECTED BY THE FIELD ENGINEER.

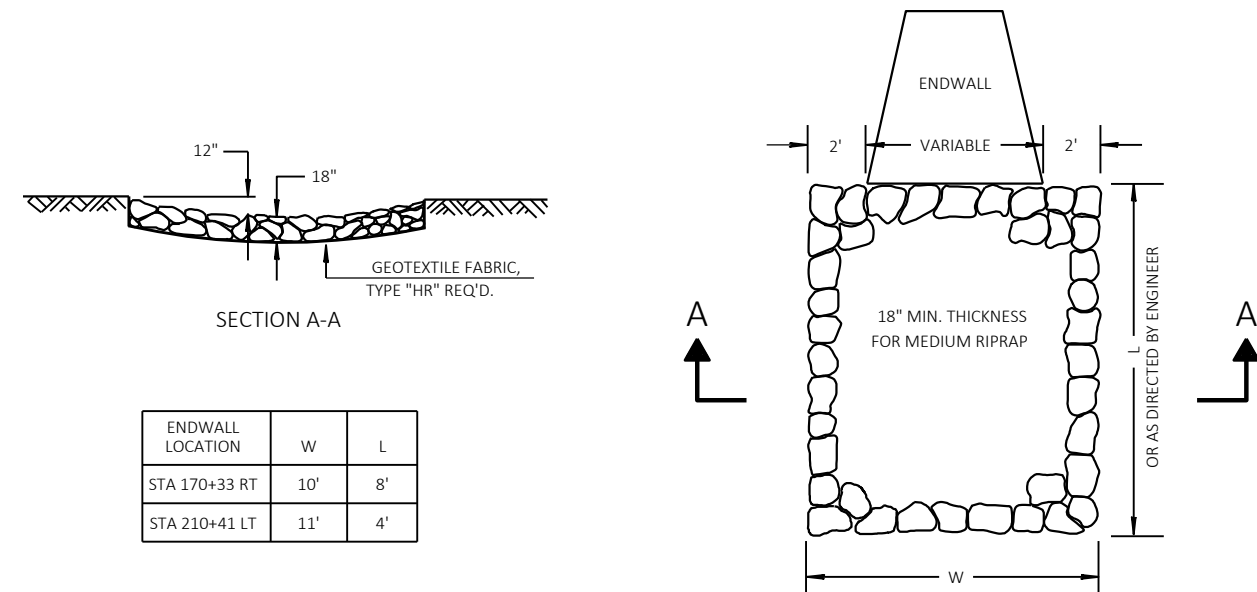


INTERMEDIATE PAVING AROUND NEW CURB AND GUTTER



DETAIL OF CURB & GUTTER TERMINI

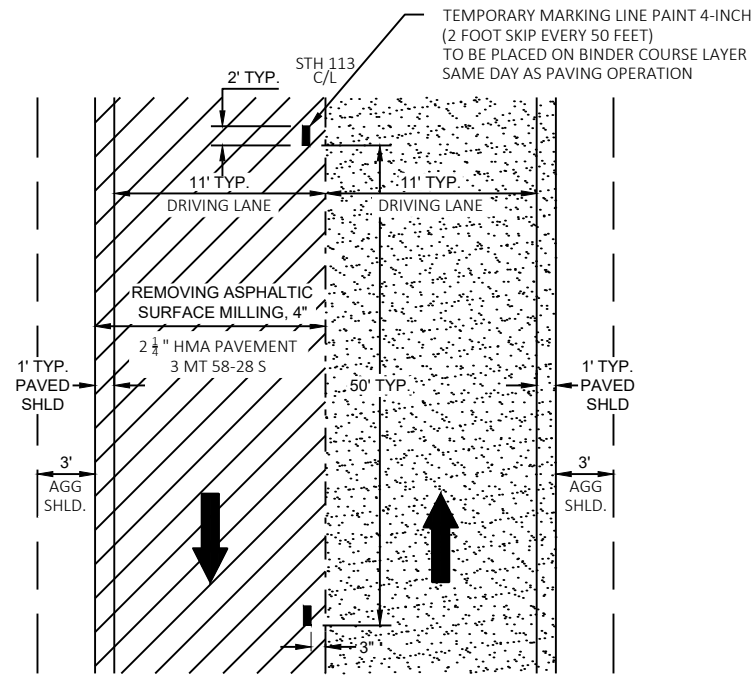
- STA 16+28 RT
- STA 16+28 LT
- STA 20+56 RT
- STA 20+58 LT
- STA 20+95 RT
- STA 20+98 LT
- STA 42+80 LT
- STA 44+14 LT



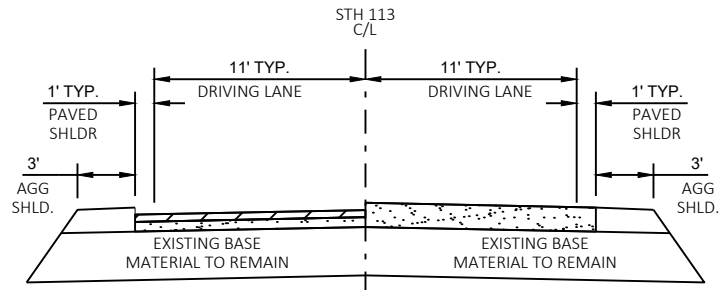
ENDWALL LOCATION	W	L
STA 170+33 RT	10'	8'
STA 210+41 LT	11'	4'

RIPRAP TREATMENT AT CULVERTS

- STA 170+33
- STA 210+41



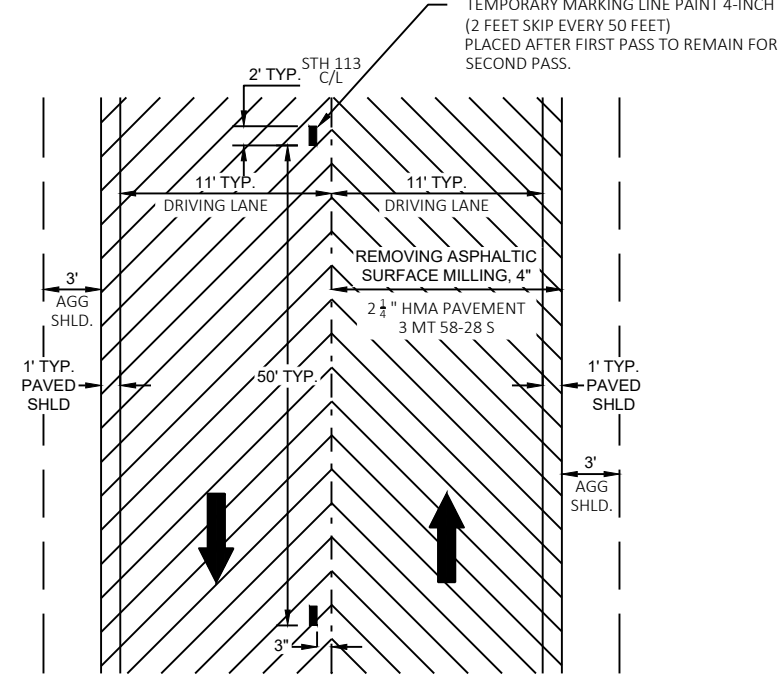
PLAN VIEW



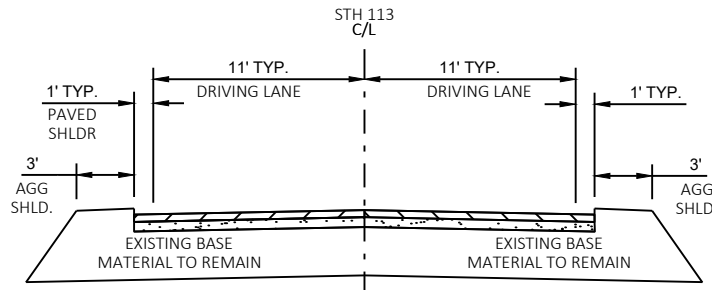
CROSS SECTION VIEW

LONGITUDINAL PAVEMENT JOINT DETAIL - FIRST PASS

STA 22+30.5 - STA 215+85



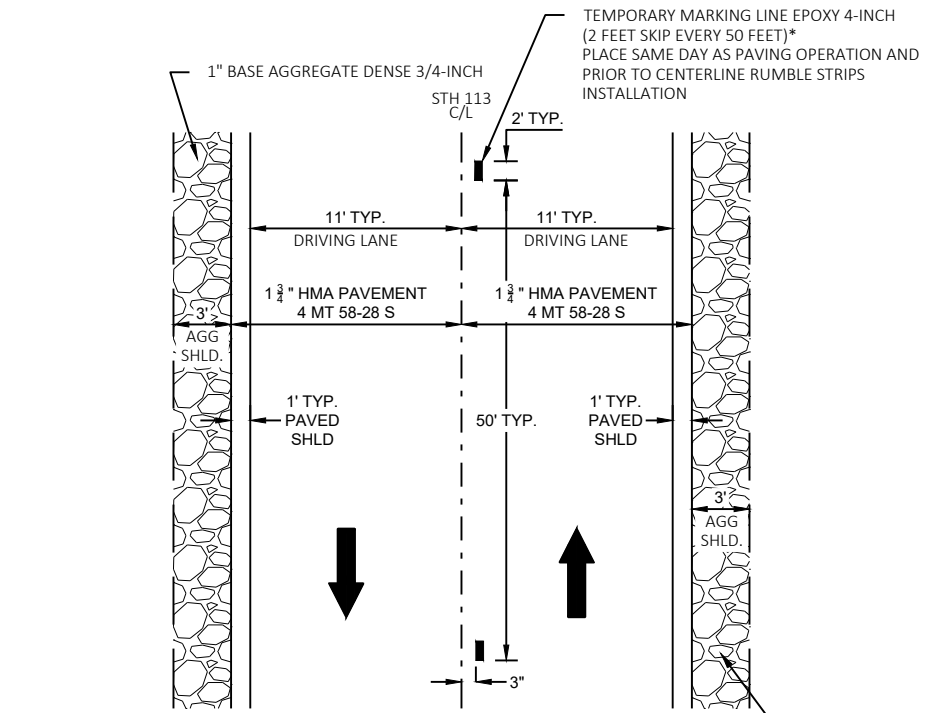
PLAN VIEW



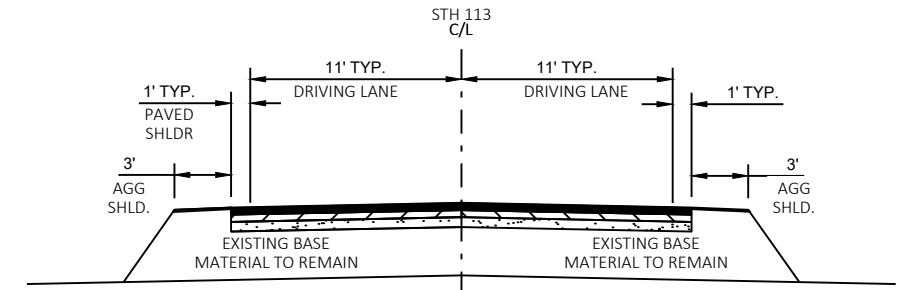
CROSS SECTION VIEW

LONGITUDINAL PAVEMENT JOINT DETAIL - SECOND PASS

STA 22+30.5 - STA 215+85



PLAN VIEW



CROSS SECTION VIEW

LONGITUDINAL PAVEMENT JOINT DETAIL - THIRD PASS

STA 22+30.5 - STA 215+85

NOTES

BINDER LAYER MUST BE PAVED PRIOR TO MILLING ADJACENT TRAVELED LANE.

DIFFERING HEIGHT GREATER THAN 2" BETWEEN ADJACENT TRAVELED LANES WILL NOT BE PERMITTED OVERNIGHT.

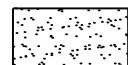
SEE STANDARD DETAIL DRAWING 15C8 PAVEMENT MARKING, MAINLINE AND TURN LANES AND 15C33 STOP LINE AND CROSSWALK PAVEMENT MARKING FOR PERMANENT PAVEMENT MARKING DETAILS.

DRAINAGE TO BE MAINTAINED DURING CONSTRUCTION.

NOTCH WEDGE JOINT TO BE USED ON SURFACE LAYER.

ONLY ONE SET OF PAVEMENT MARKINGS WILL BE VISIBLE TO MOTORIST WITH EACH PAVEMENT PASS.

\*TEMPORARY PAVEMENT MARKING TO BE PLACED IN LOCATION OF PERMANENT MARKINGS. MARKING LINE EPOXY 4-INCH REQUIRED AFTER INSTALLING CENTERLINE RUMBLE STRIPS.



EXISTING ASPHALTIC SURFACE TO REMAIN



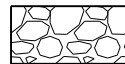
SECOND PASS 2-1/4" HMA PAVEMENT 3 MT 58-28 S PAVING LIMITS



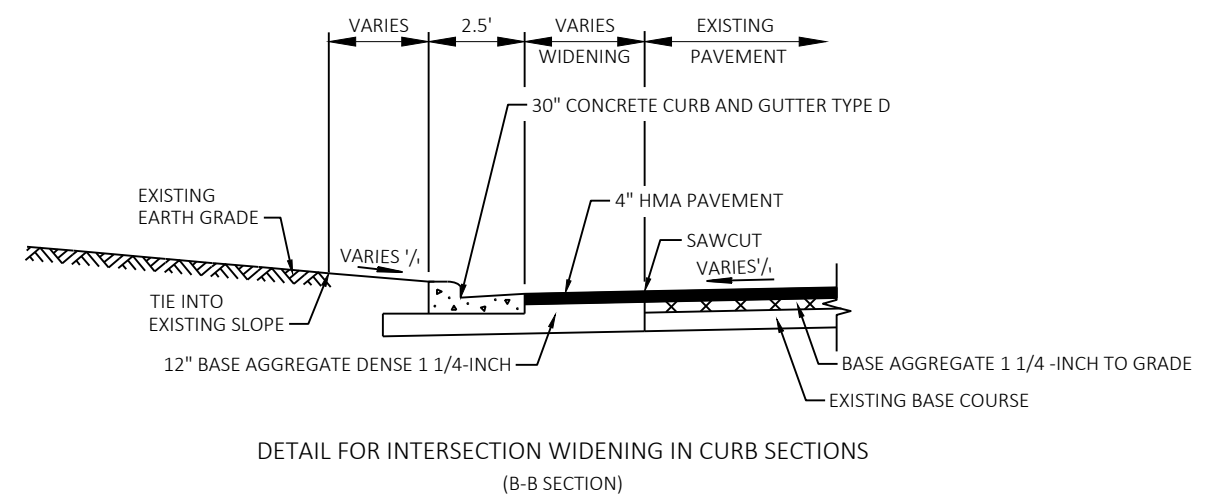
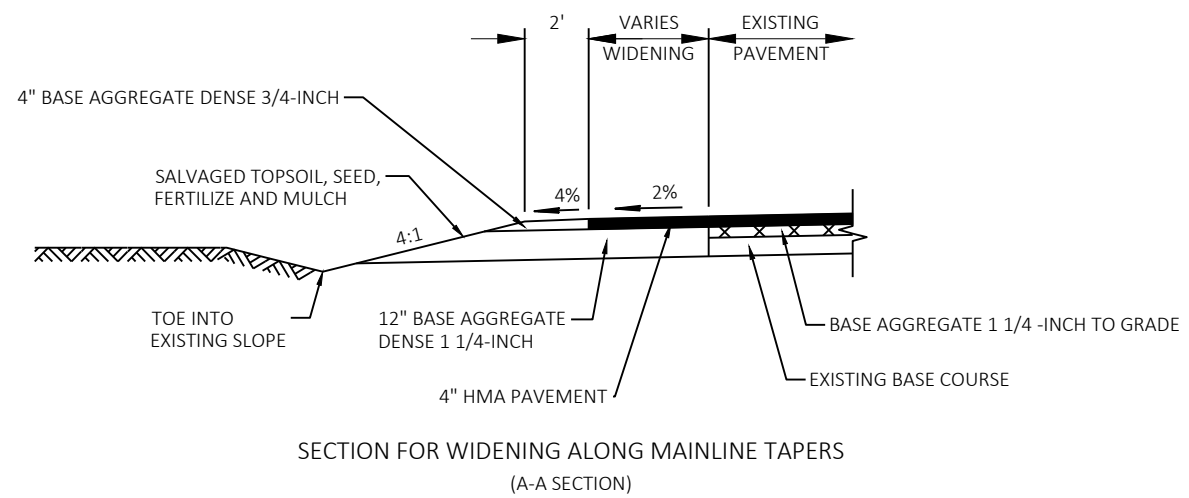
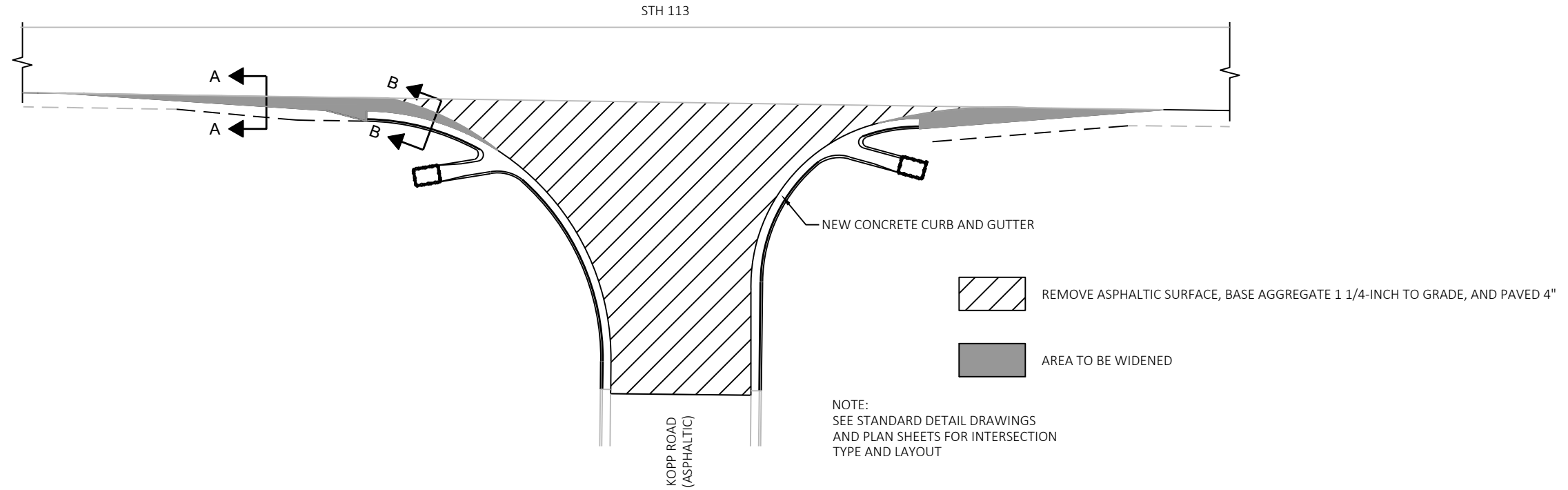
FIRST PASS 2-1/4" HMA PAVEMENT 3 MT 58-28 S PAVING LIMITS



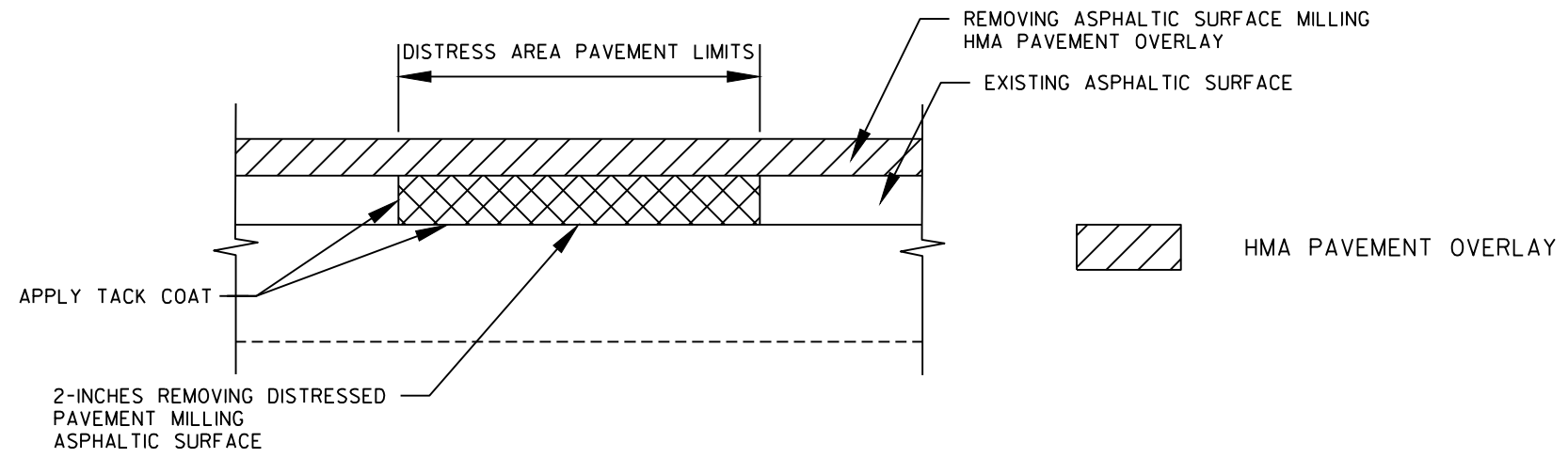
THIRD PASS 1-3/4" HMA PAVEMENT 4 MT 58-28 S PAVING LIMITS



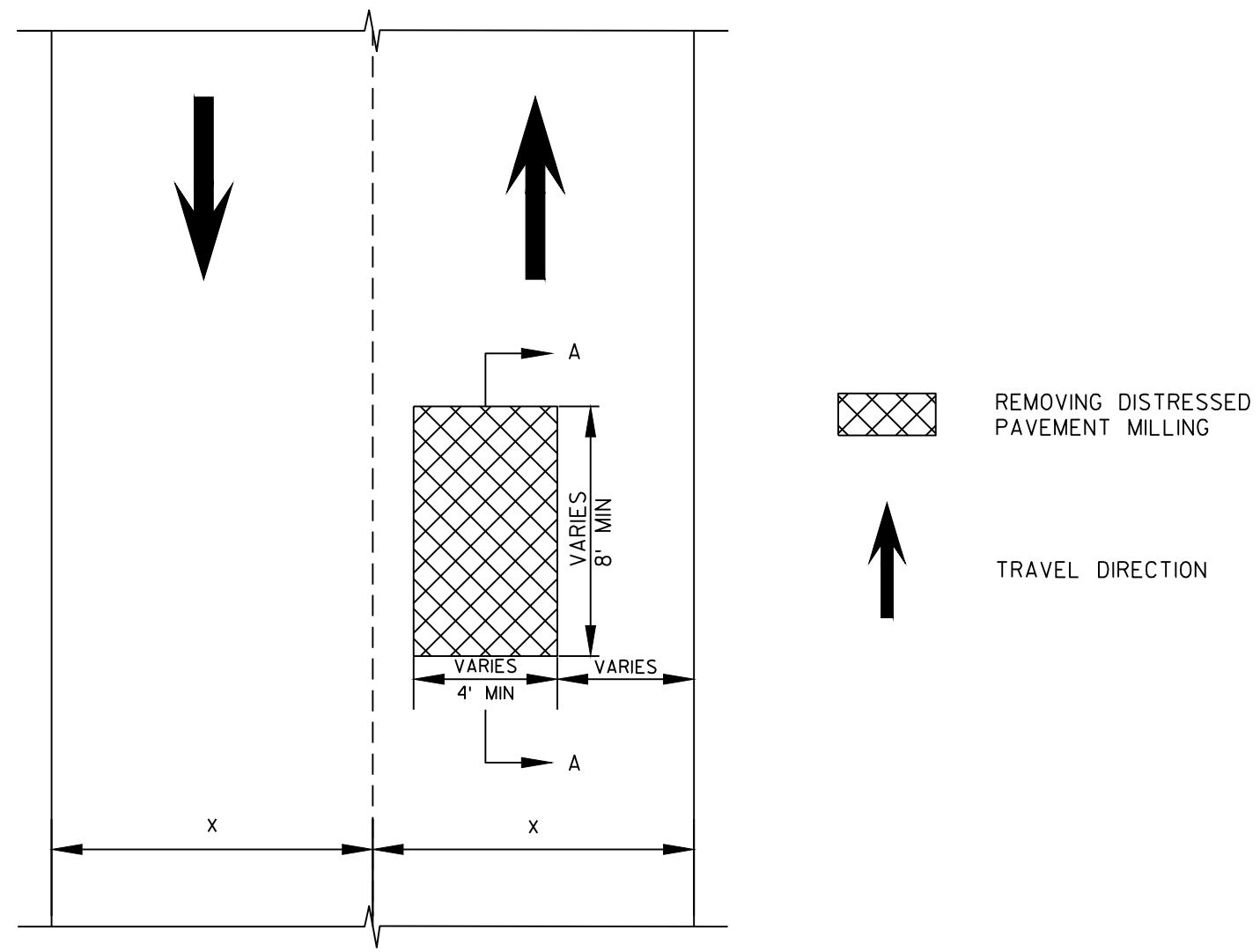
1" BASE AGGREGATE DENSE 3/4-INCH



KOPP ROAD INTERSECTION WIDENING DETAIL

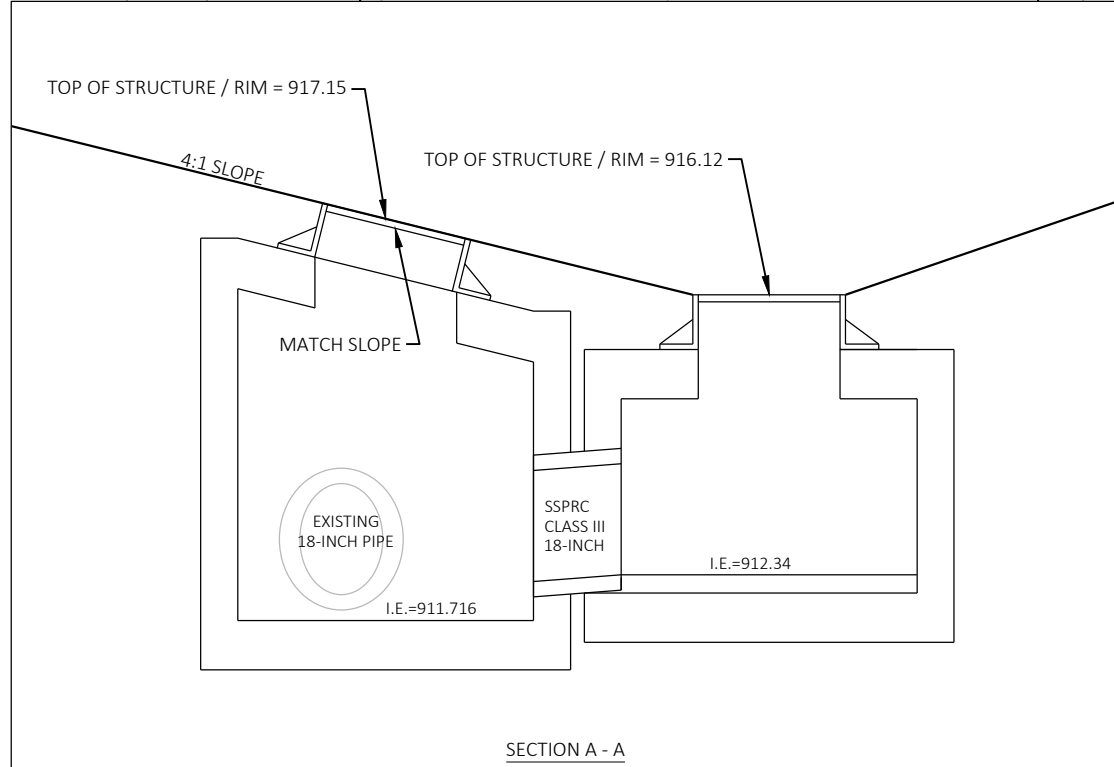
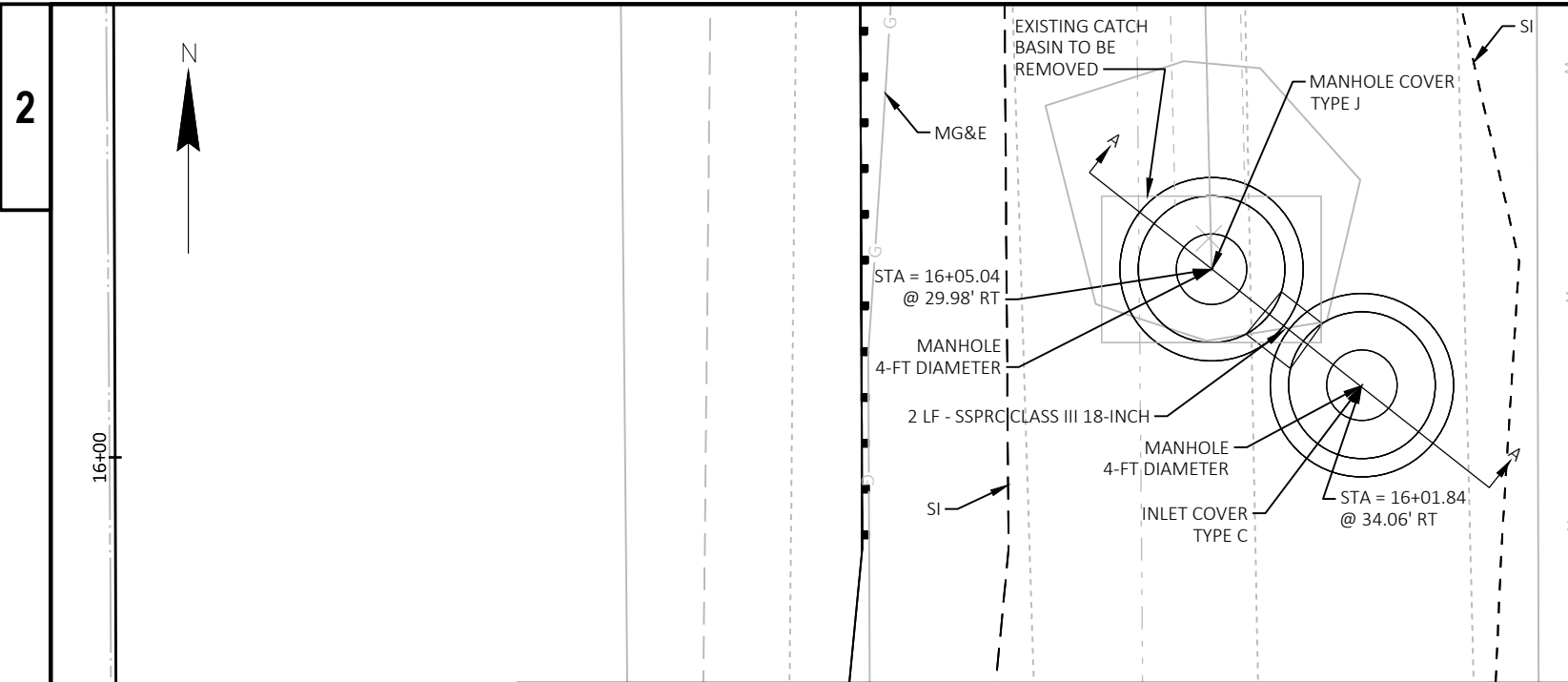


REMOVING DISTRESS PAVEMENT MILLING  
SECTION A-A

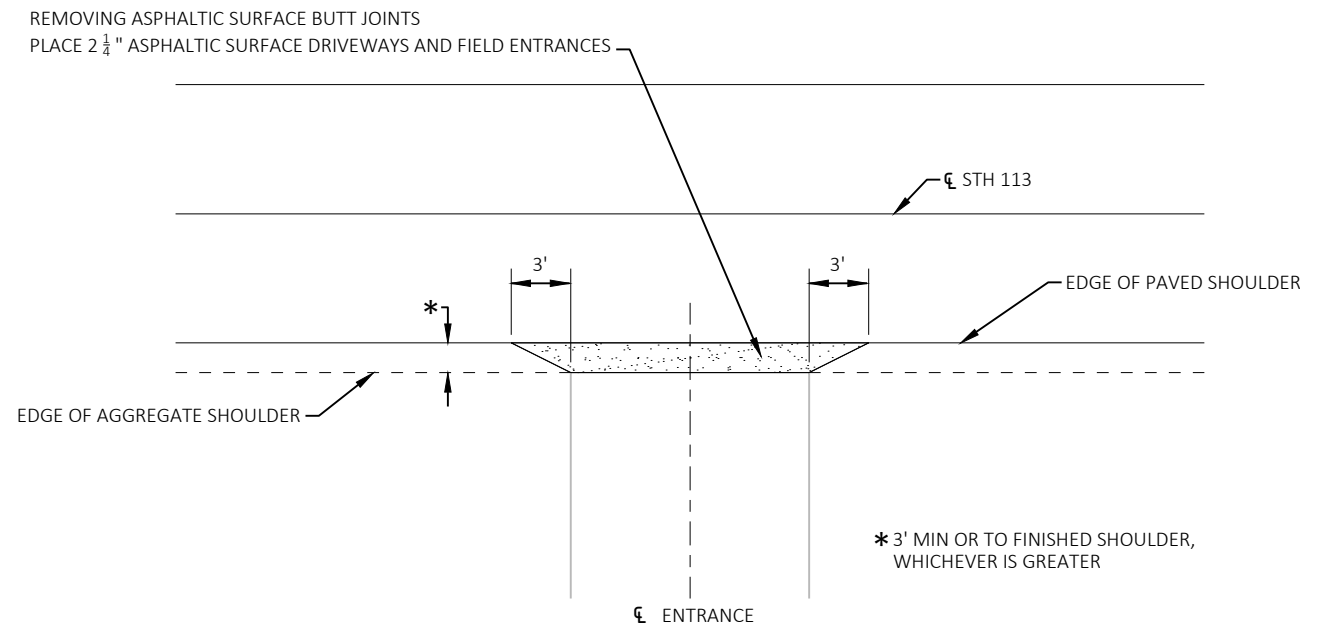


PLAN VIEW

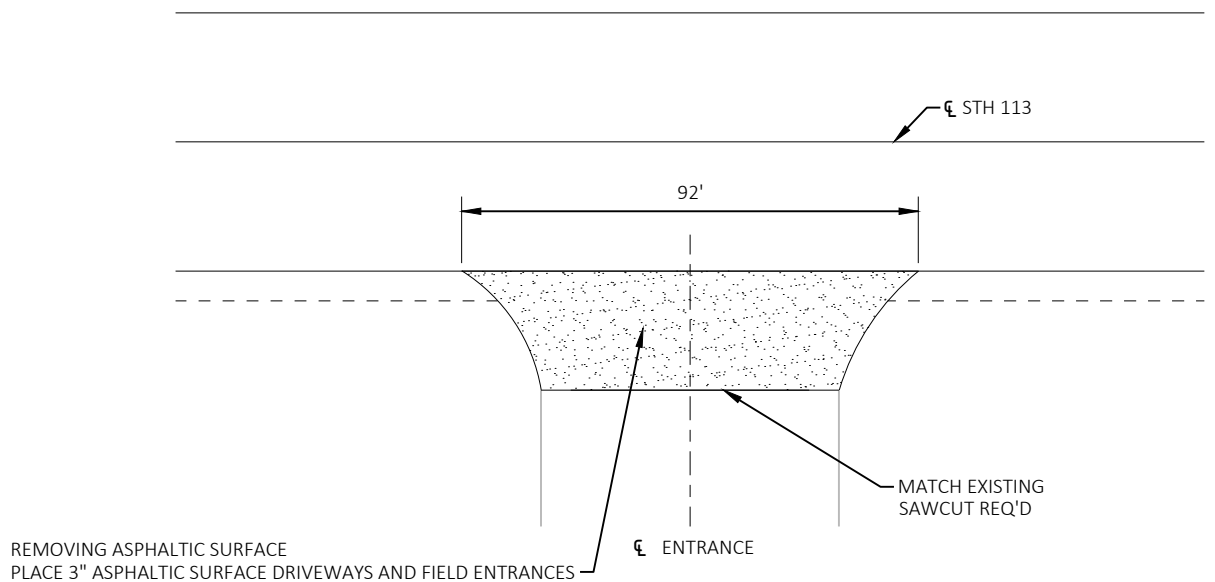
EXACT LOCATION AND LIMITS OF REMOVING DISTRESSED  
PAVEMENT MILLING TO BE DETERMINED BY THE  
ENGINEER IN THE FIELD



STORM SEWER MODIFICATIONS

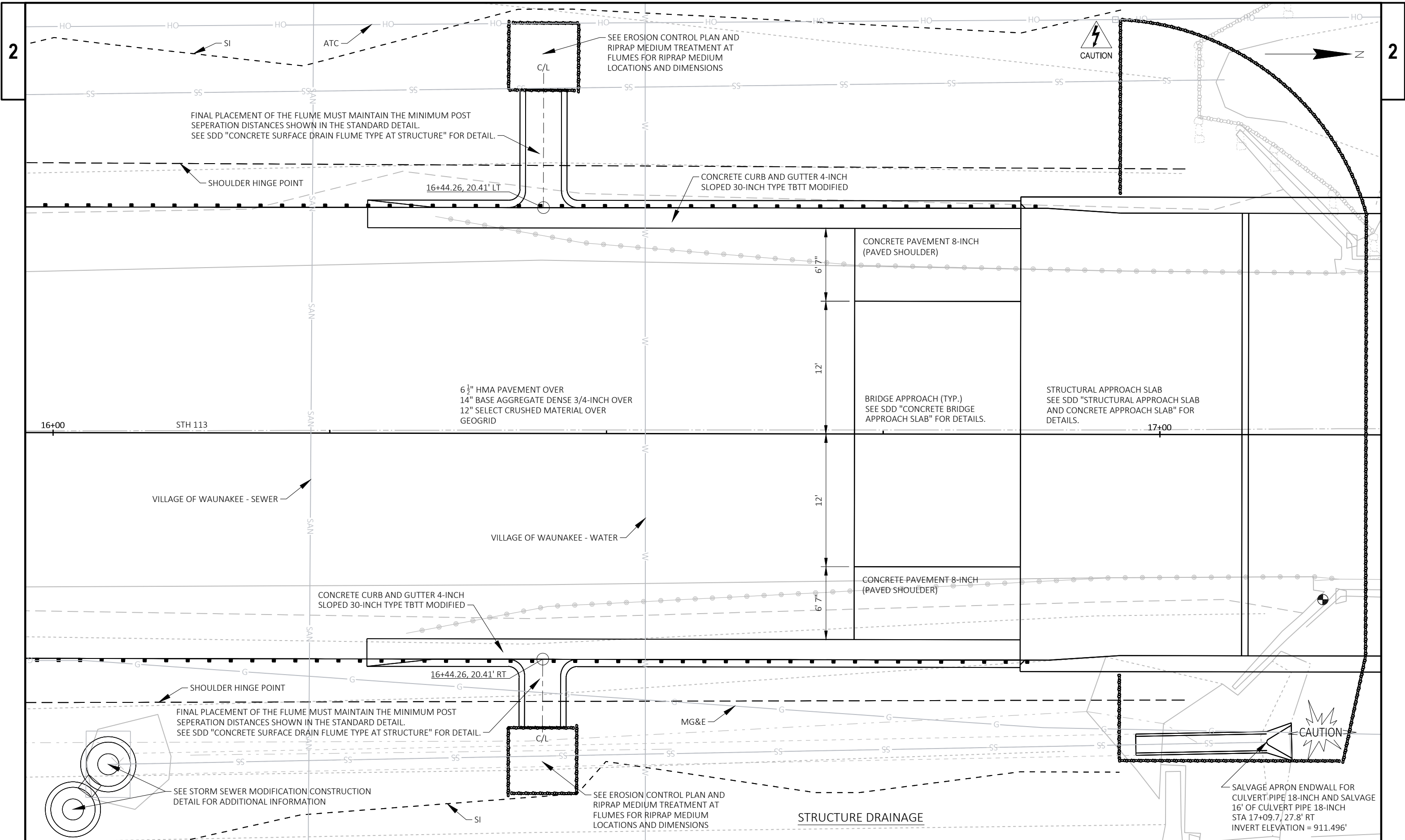


RURAL EXISTING ASPHALT DRIVEWAY DETAIL



COMMERCIAL DRIVEWAY DETAIL

19+56 LT



PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	CONSTRUCTION DETAILS - STRUCTURE DRAINAGE	SHEET	E
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LAYOUT NAME - 07

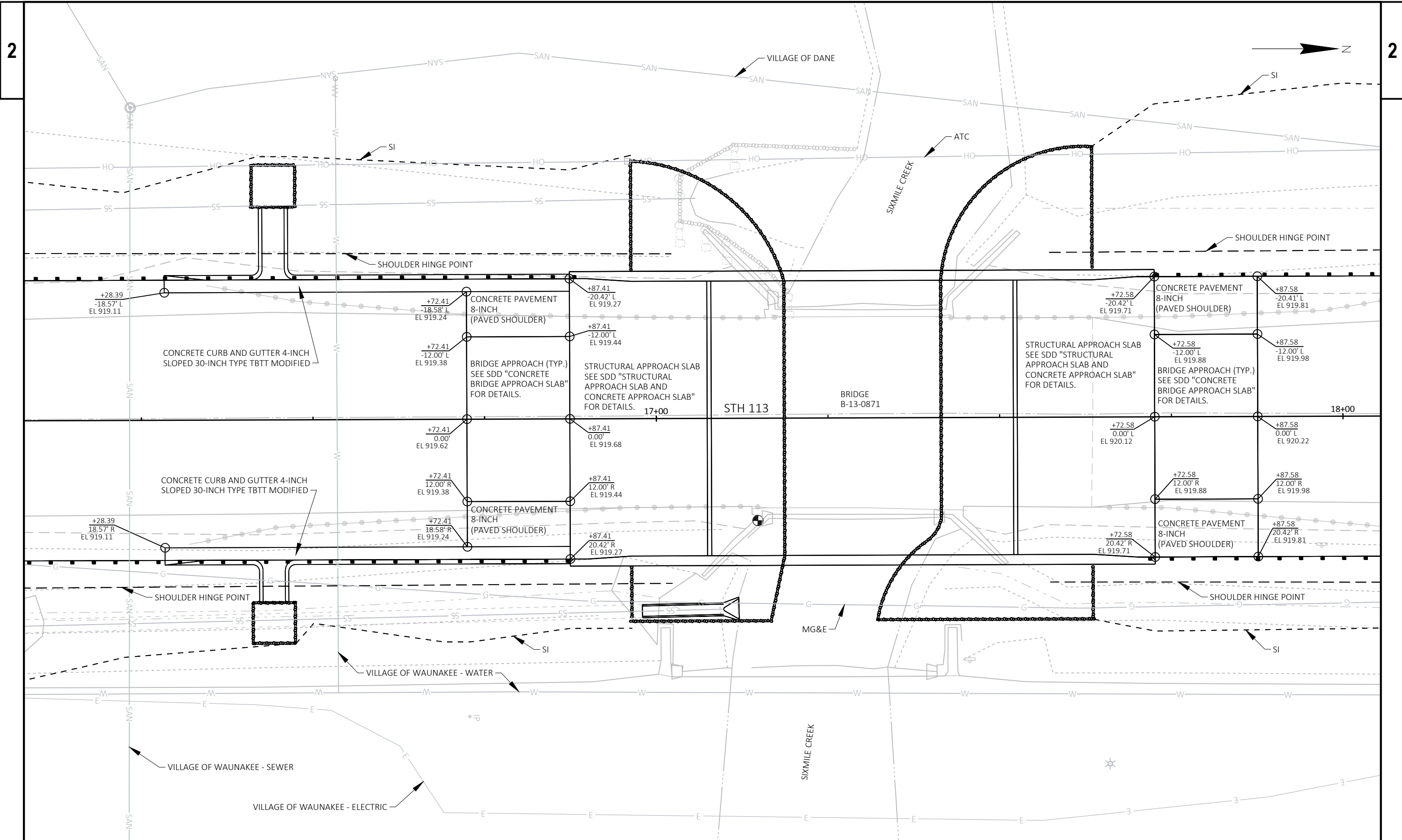
PLOT DATE : 10/21/2022 7:03 AM

PLOT BY : SCHERER, MEGAN S

PLOT NAME :

PLOT SCALE : #####

WISDOT/CADD SHEET 42



PROJECT NO: 5280-03-70

HWY: STH 113

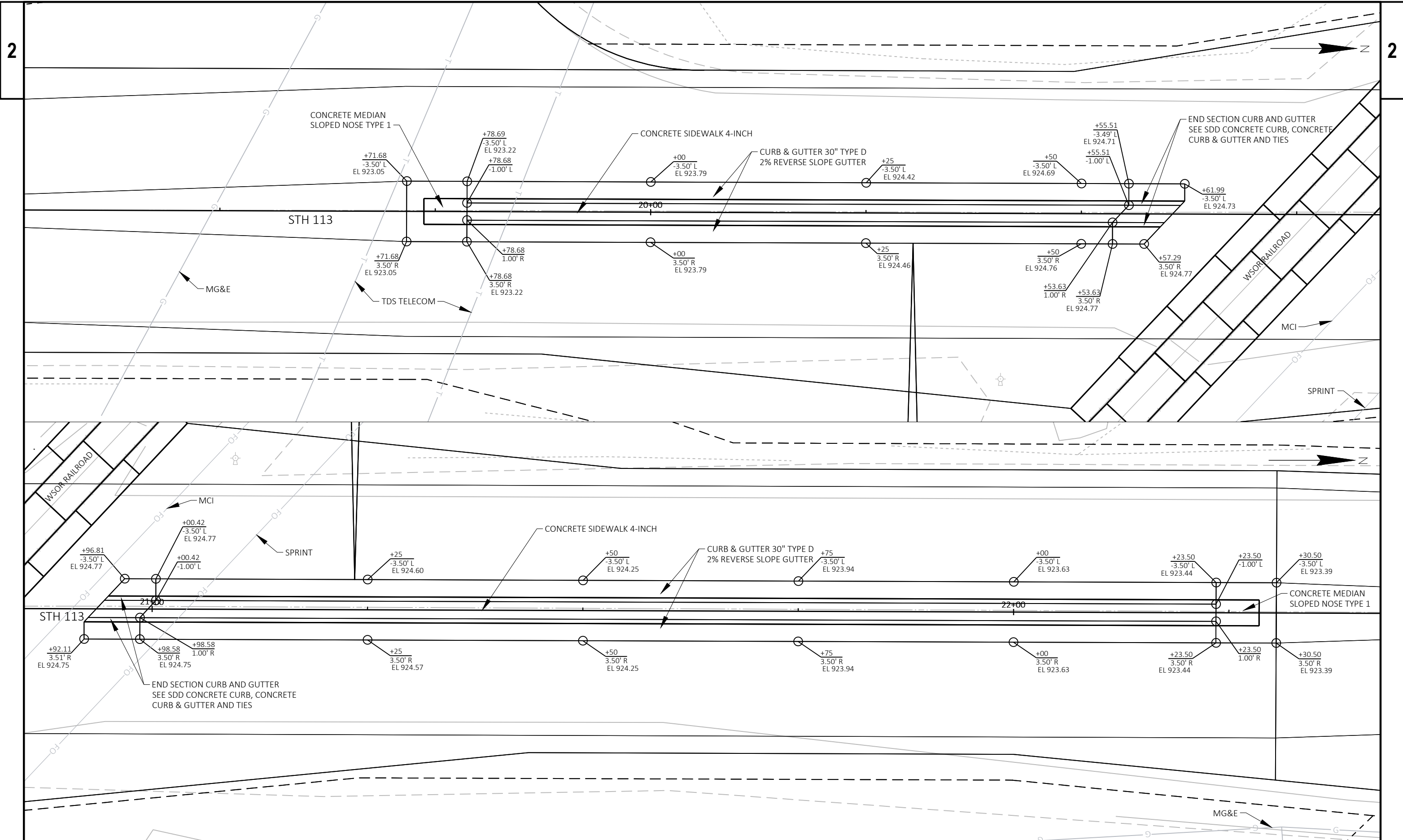
COUNTY: DANE

CONSTRUCTION DETAILS - APPROACH DETAILS

SHEET

E





PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	CONSTRUCTION DETAILS - MEDIAN DETAILS	SHEET	E
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LAYOUT NAME - 09

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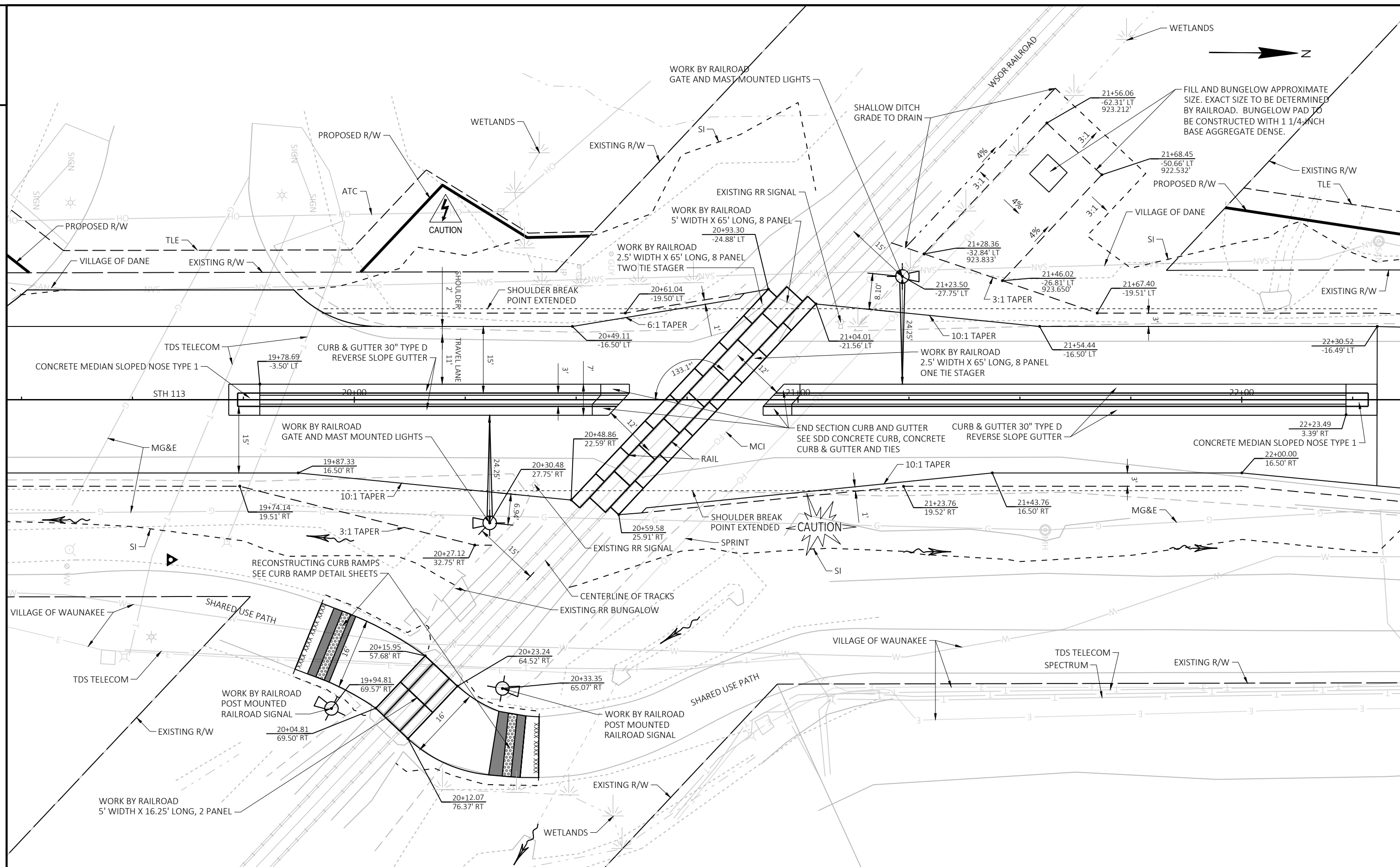
PLOT BY : SCHERER, MEGAN S

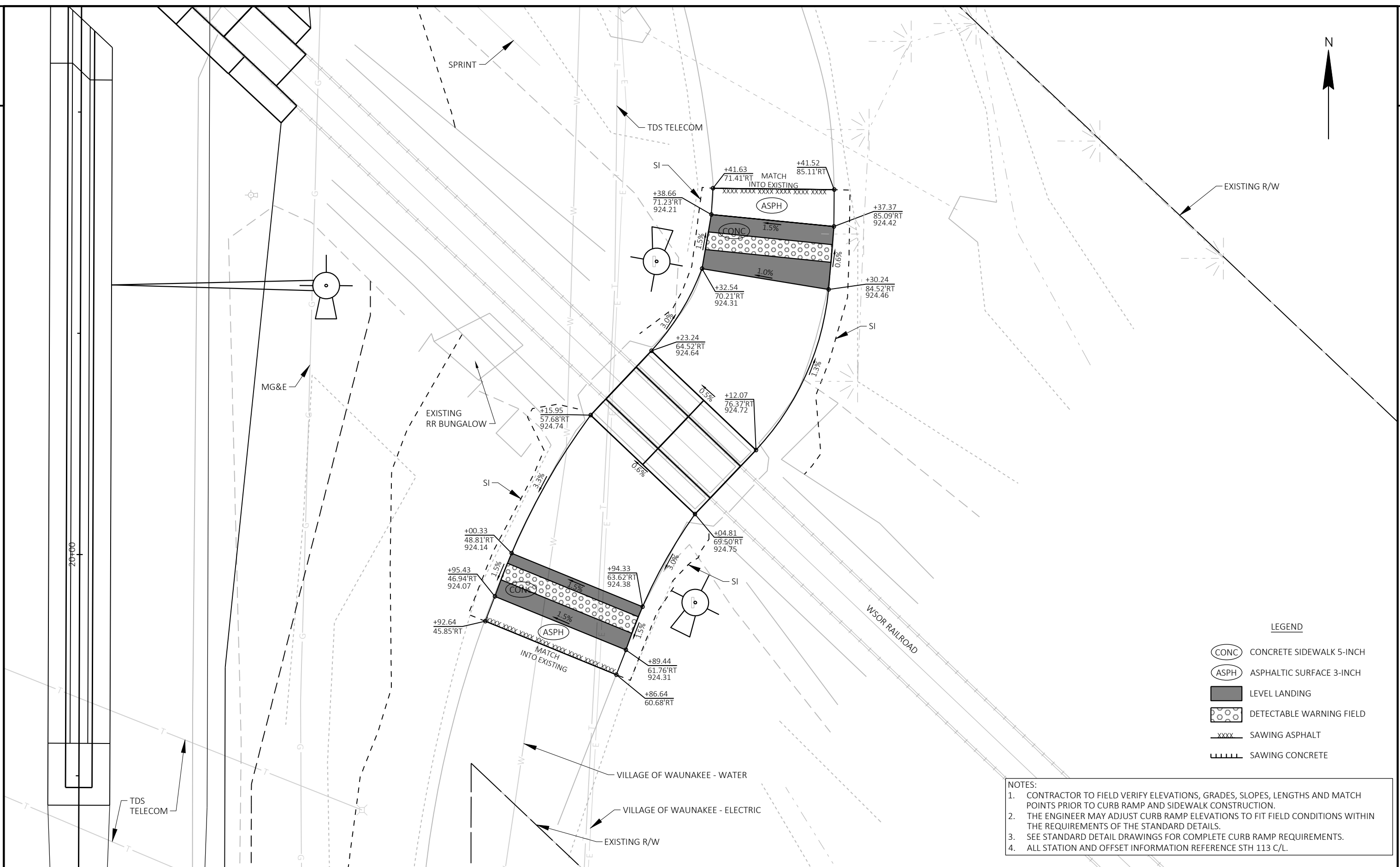
PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADD SHEET 42



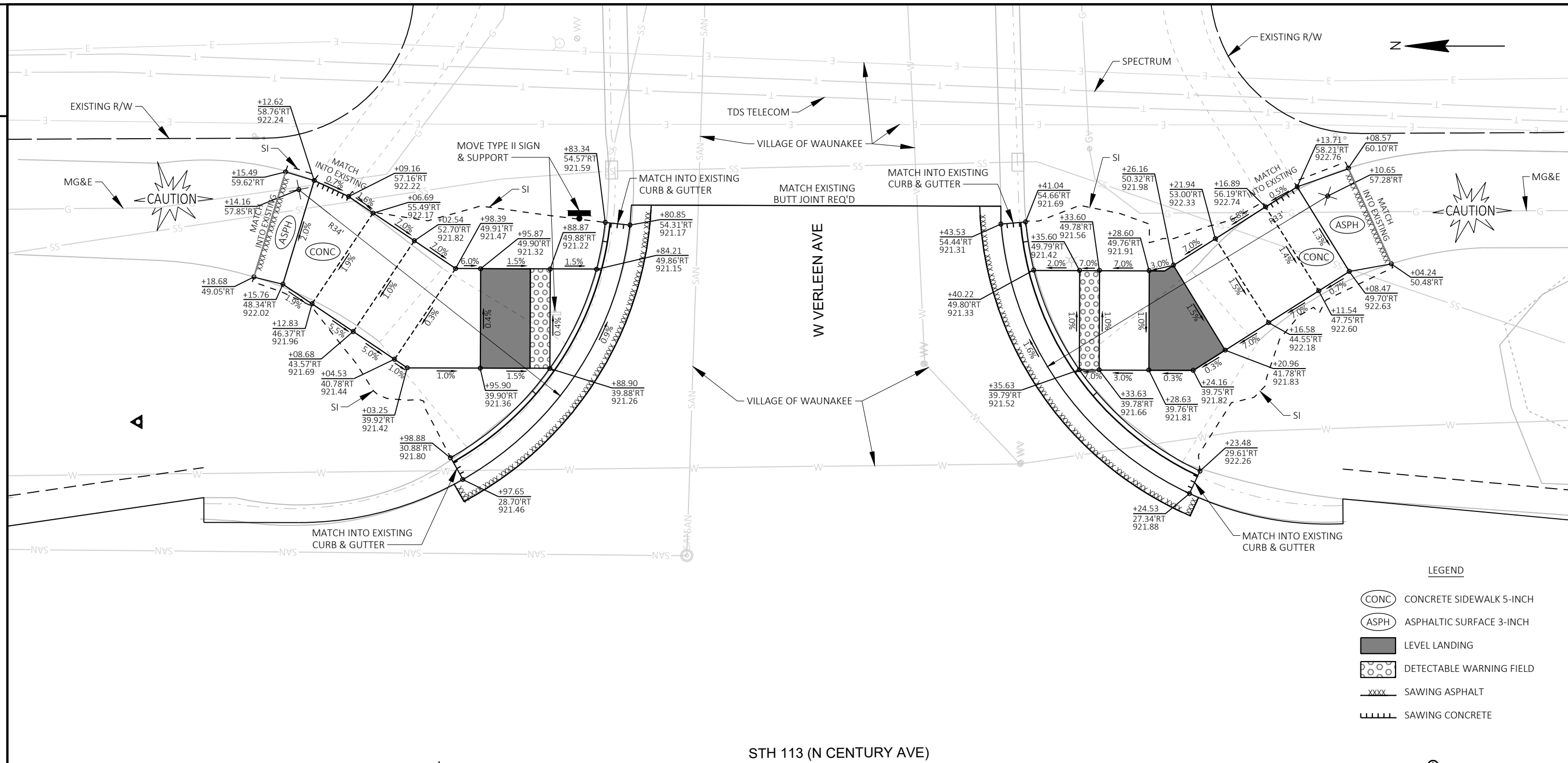




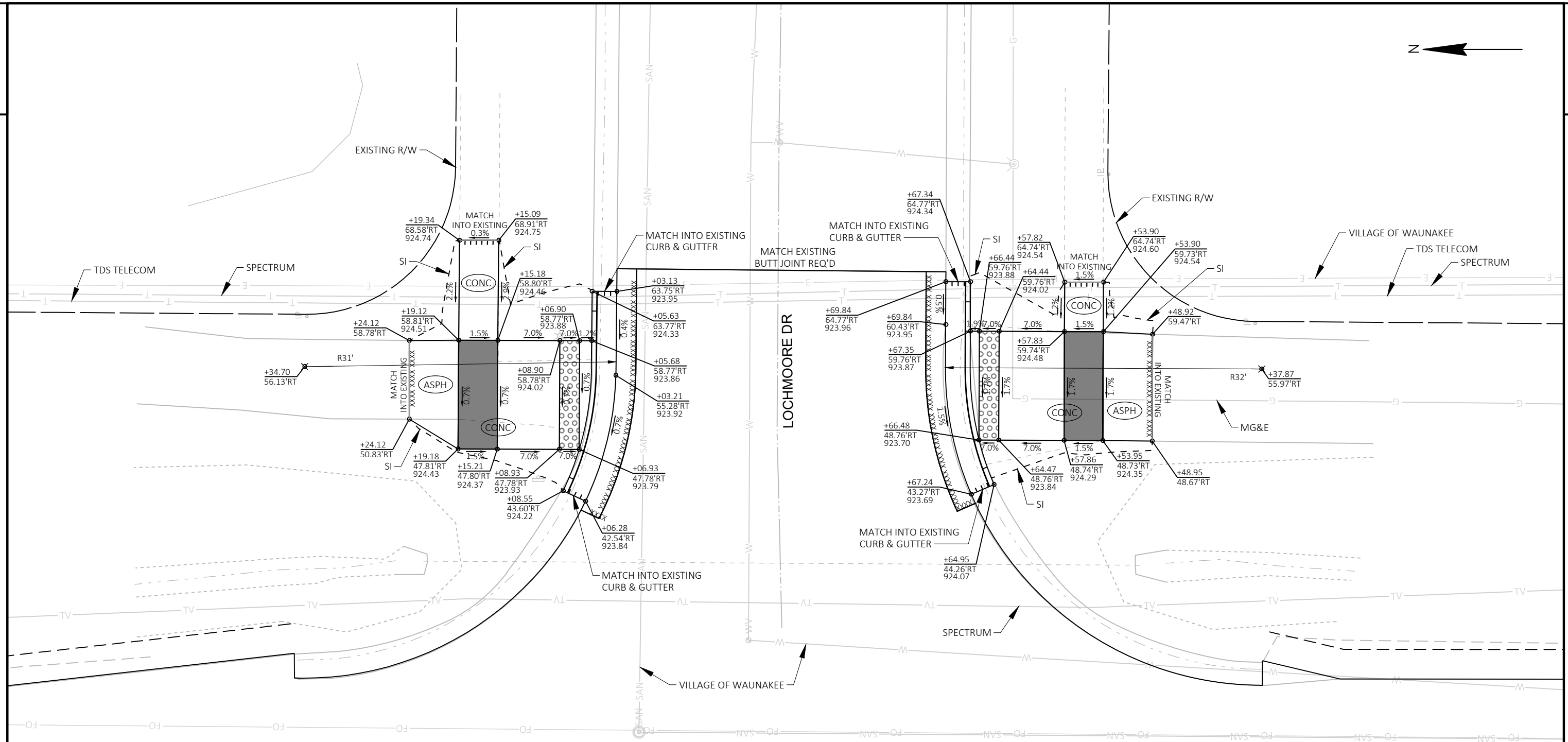
LEGEND

- CONCRETE SIDEWALK 5-INCH
- ASPHALTIC SURFACE 3-INCH
- LEVEL LANDING
- DETECTABLE WARNING FIELD
- SAWING ASPHALT
- SAWING CONCRETE

- NOTES:
1. CONTRACTOR TO FIELD VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
  2. THE ENGINEER MAY ADJUST CURB RAMP ELEVATIONS TO FIT FIELD CONDITIONS WITHIN THE REQUIREMENTS OF THE STANDARD DETAILS.
  3. SEE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
  4. ALL STATION AND OFFSET INFORMATION REFERENCE STH 113 C/L.



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1. CONTRACTOR TO FIELD VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
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  3. SEE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
  4. ALL STATION AND OFFSET INFORMATION REFERENCE STH 113 C/L.



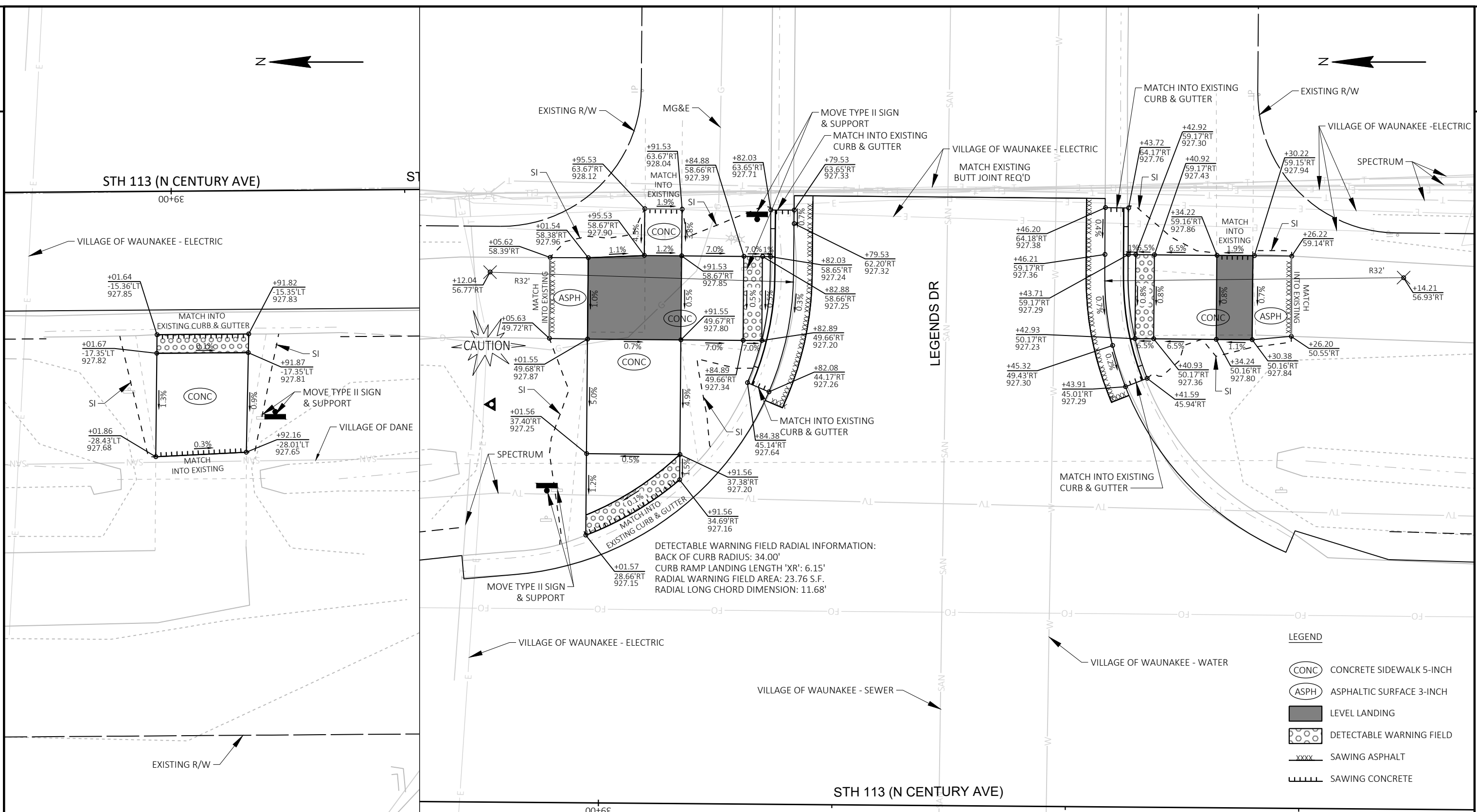
LEGEND

- (CONC) CONCRETE SIDEWALK 5-INCH
- (ASPH) ASPHALTIC SURFACE 3-INCH
- LEVEL LANDING
- ◻ DETECTABLE WARNING FIELD
- SAWING ASPHALT
- ||||| SAWING CONCRETE

- NOTES:
1. CONTRACTOR TO FIELD VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
  2. THE ENGINEER MAY ADJUST CURB RAMP ELEVATIONS TO FIT FIELD CONDITIONS WITHIN THE REQUIREMENTS OF THE STANDARD DETAILS.
  3. SEE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
  4. ALL STATION AND OFFSET INFORMATION REFERENCE STH 113 C/L.

STH 113 (N CENTURY AVE)

32+00



- NOTES:
1. CONTRACTOR TO FIELD VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
  2. THE ENGINEER MAY ADJUST CURB RAMP ELEVATIONS TO FIT FIELD CONDITIONS WITHIN THE REQUIREMENTS OF THE STANDARD DETAILS.
  3. SEE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
  4. ALL STATION AND OFFSET INFORMATION REFERENCE STH 113 C/L.

LEGEND

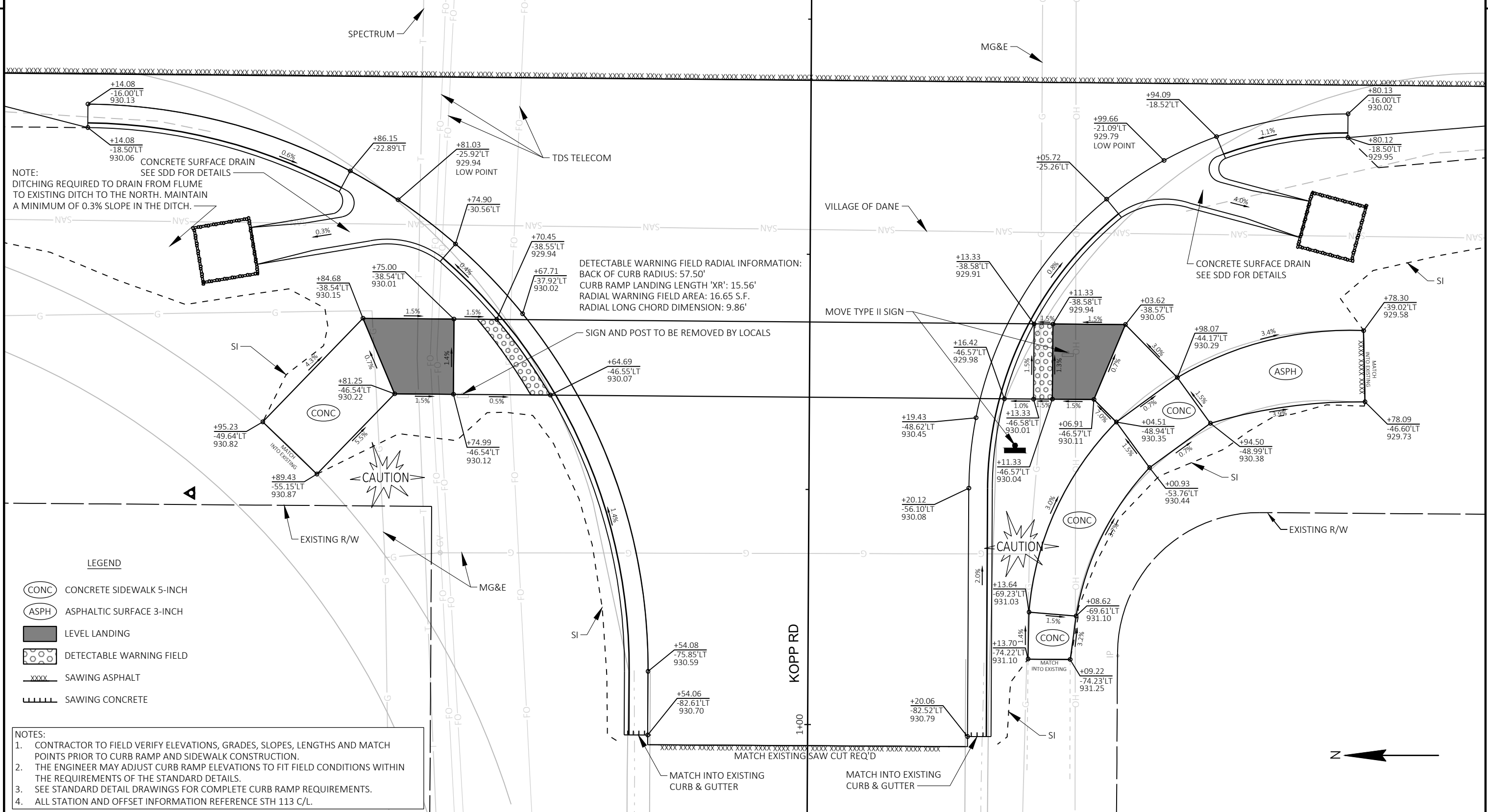
	CONCRETE SIDEWALK 5-INCH
	ASPHALTIC SURFACE 3-INCH
	LEVEL LANDING
	DETECTABLE WARNING FIELD
	SAWING ASPHALT
	SAWING CONCRETE

STH 113 (N CENTURY AVE)

EP: 1+81.36

00+77

00+77



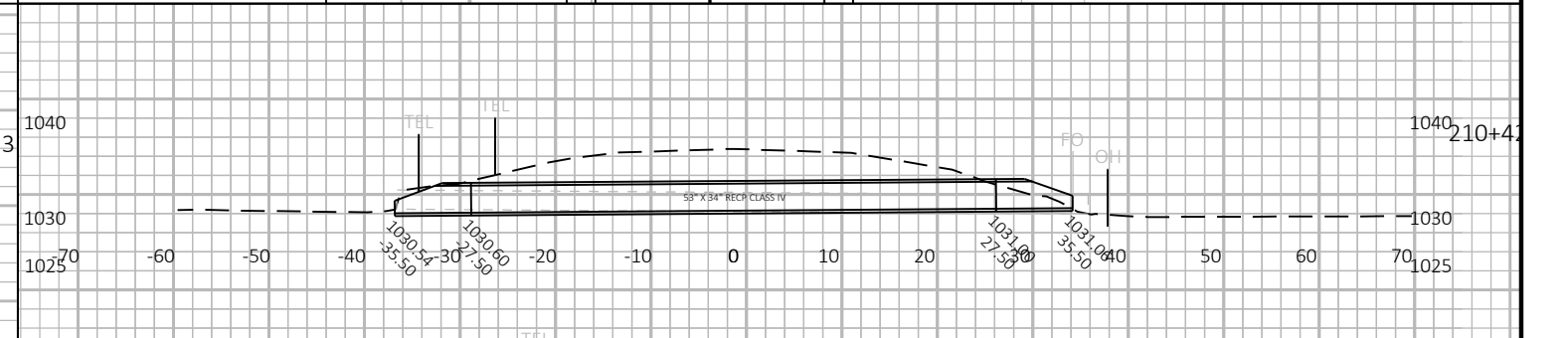
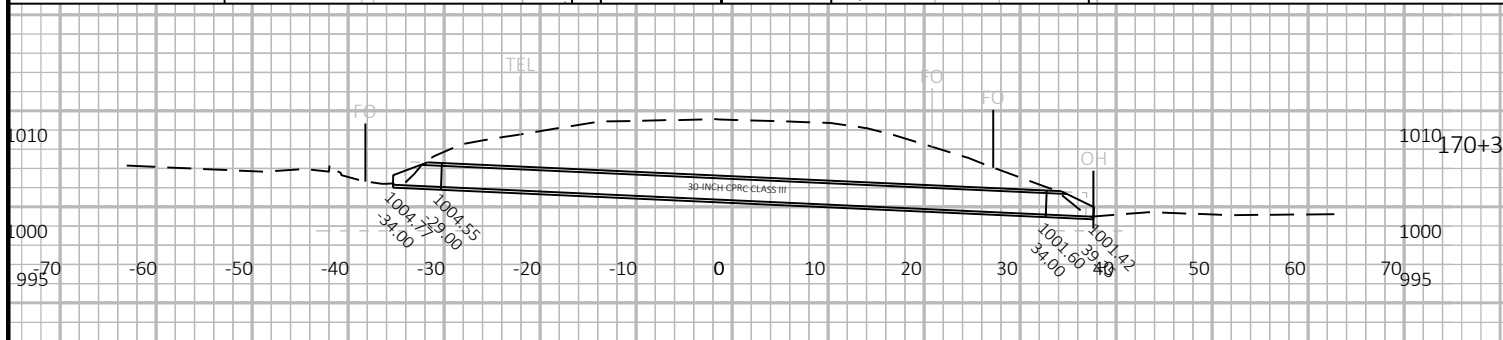
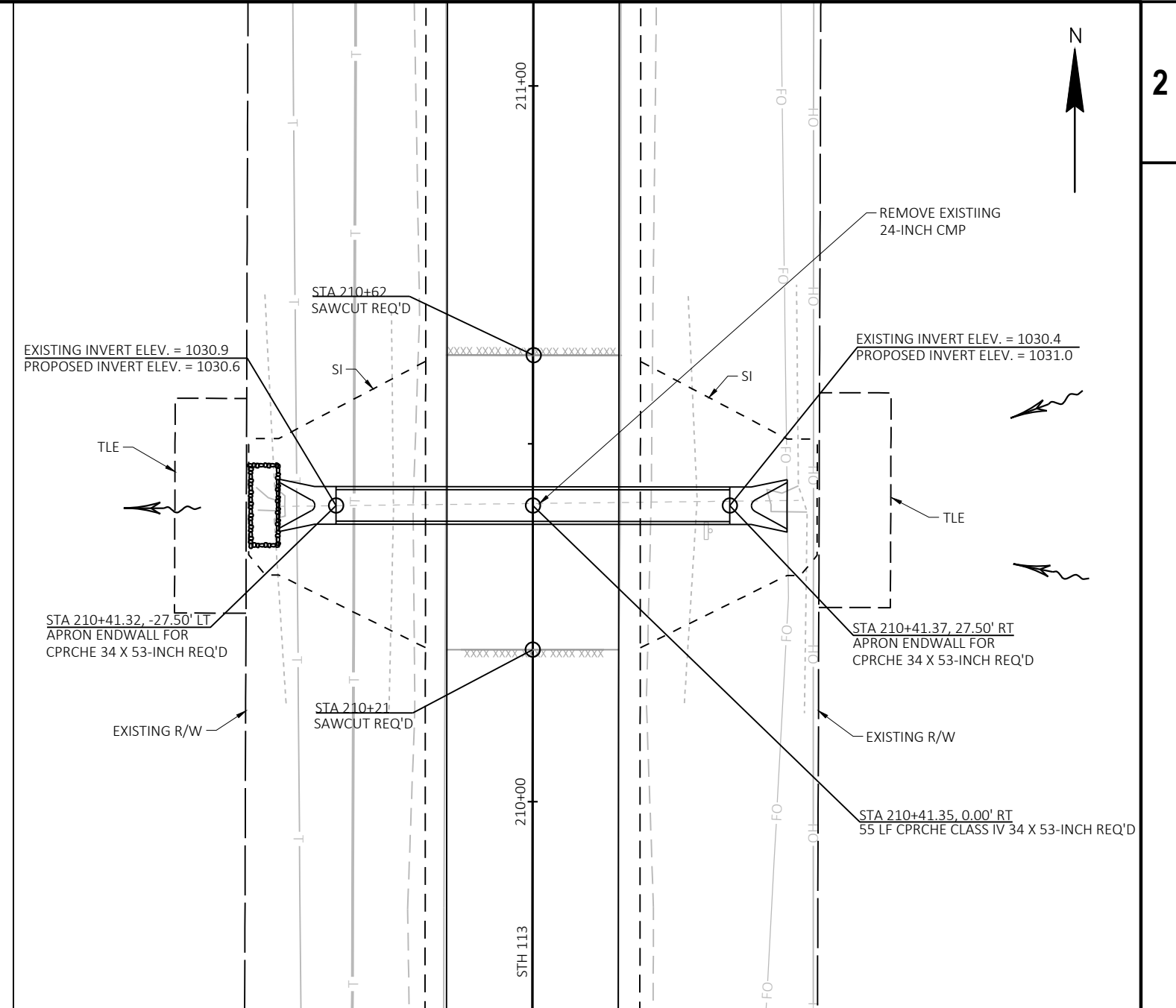
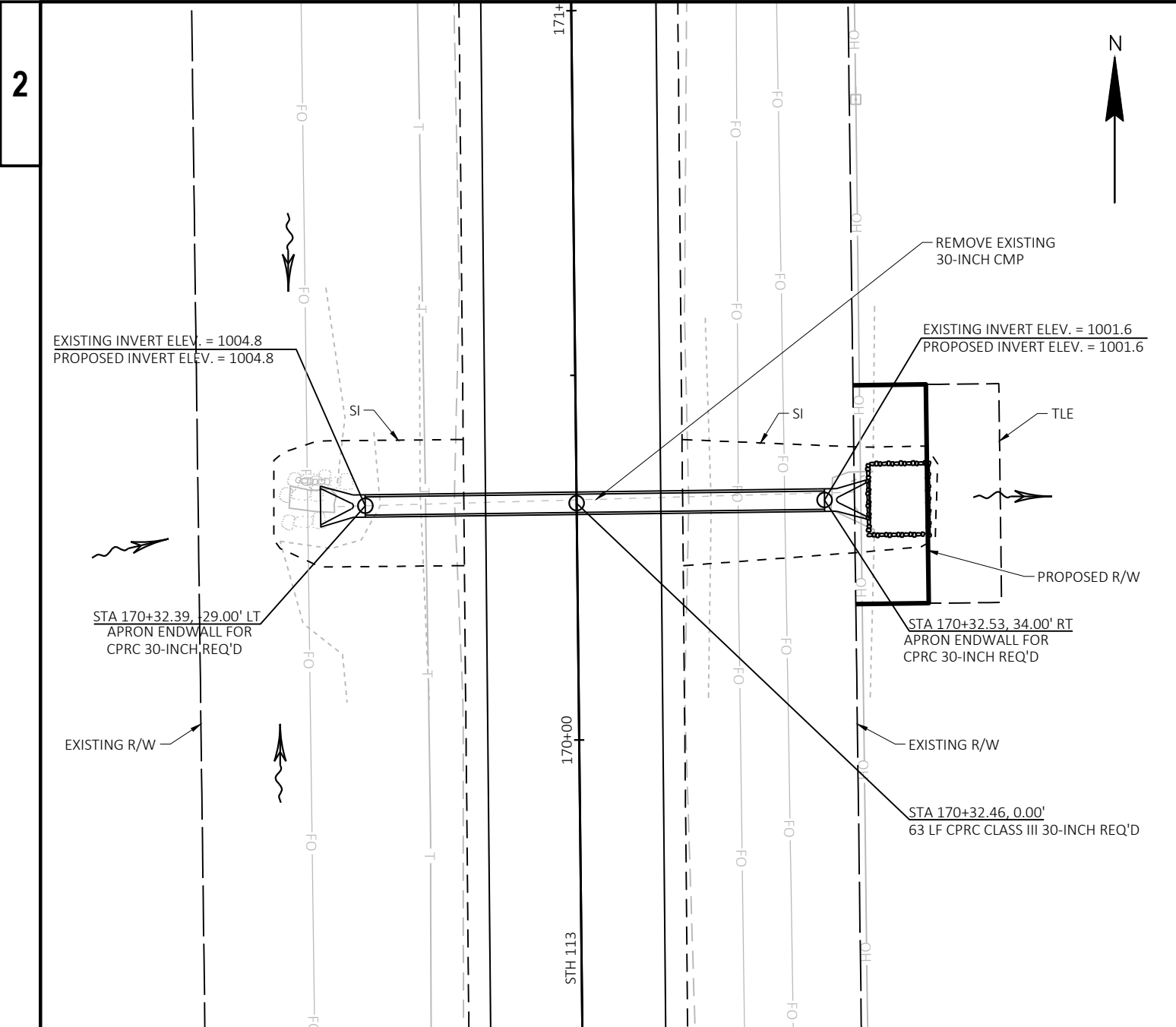
NOTE:  
 DITCHING REQUIRED TO DRAIN FROM FLUME  
 TO EXISTING DITCH TO THE NORTH. MAINTAIN  
 A MINIMUM OF 0.3% SLOPE IN THE DITCH.

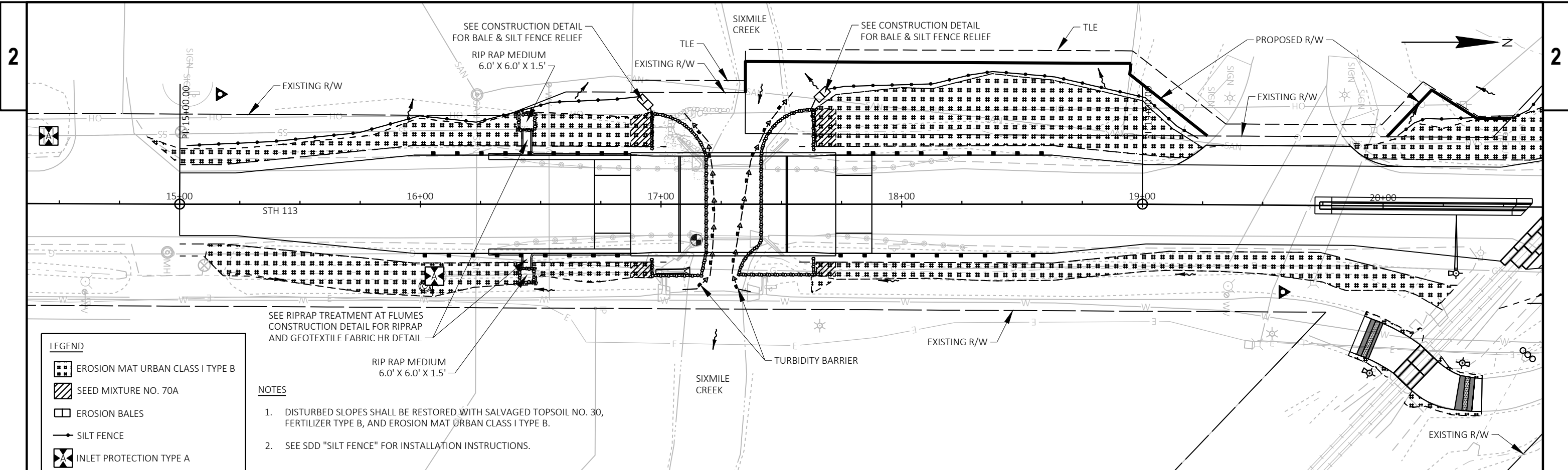
DETECTABLE WARNING FIELD RADIAL INFORMATION:  
 BACK OF CURB RADIUS: 57.50'  
 CURB RAMP LANDING LENGTH 'XR': 15.56'  
 RADIAL WARNING FIELD AREA: 16.65 S.F.  
 RADIAL LONG CHORD DIMENSION: 9.86'

- LEGEND**
- (CONC) CONCRETE SIDEWALK 5-INCH
  - (ASPH) ASPHALTIC SURFACE 3-INCH
  - LEVEL LANDING
  - ◻ DETECTABLE WARNING FIELD
  - SAWING ASPHALT
  - ||||| SAWING CONCRETE

- NOTES:**
1. CONTRACTOR TO FIELD VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
  2. THE ENGINEER MAY ADJUST CURB RAMP ELEVATIONS TO FIT FIELD CONDITIONS WITHIN THE REQUIREMENTS OF THE STANDARD DETAILS.
  3. SEE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
  4. ALL STATION AND OFFSET INFORMATION REFERENCE STH 113 C/L.







**LEGEND**

- EROSION MAT URBAN CLASS I TYPE B
- SEED MIXTURE NO. 70A
- EROSION BALES
- SILT FENCE
- INLET PROTECTION TYPE A
- INLET PROTECTION TYPE C
- CULVERT PIPE CHECK
- SURFACE WATER FLOW

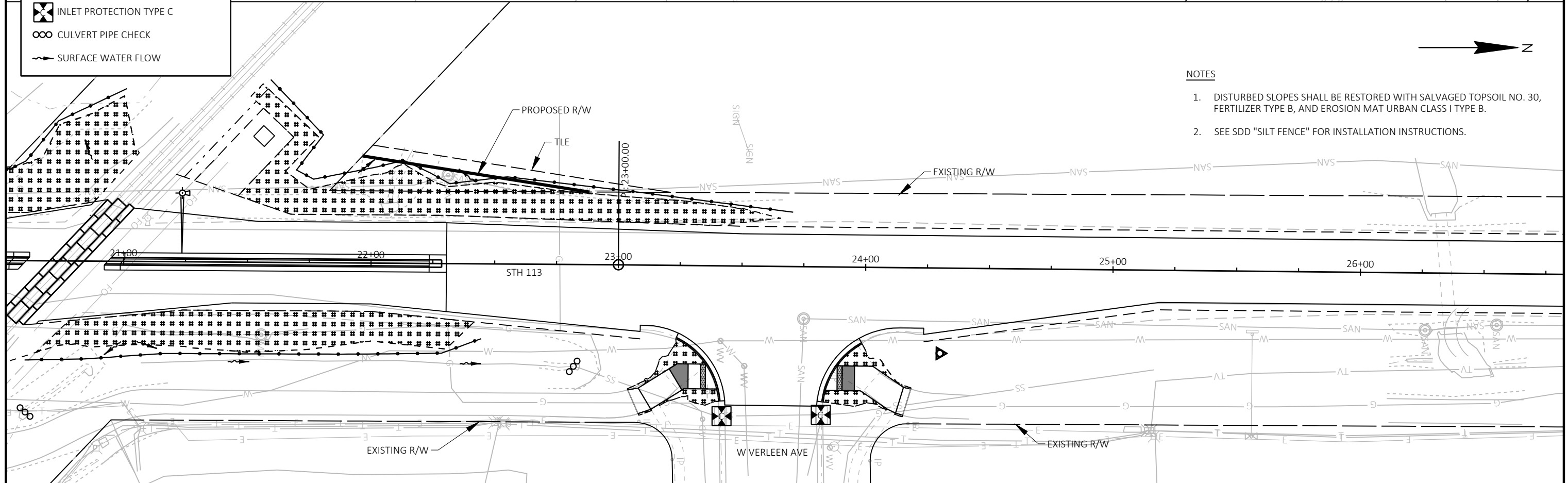
- NOTES**
1. DISTURBED SLOPES SHALL BE RESTORED WITH SALVAGED TOPSOIL NO. 30, FERTILIZER TYPE B, AND EROSION MAT URBAN CLASS I TYPE B.
  2. SEE SDD "SILT FENCE" FOR INSTALLATION INSTRUCTIONS.

RIP RAP MEDIUM  
6.0' X 6.0' X 1.5'

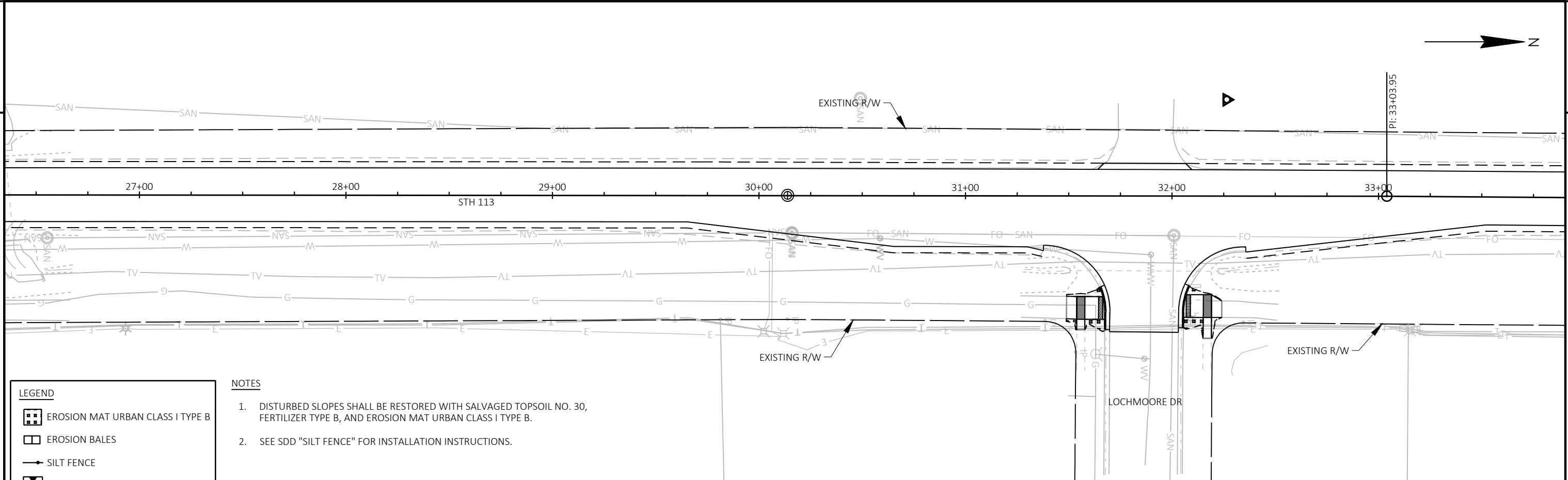
SEE RIPRAP TREATMENT AT FLUMES  
CONSTRUCTION DETAIL FOR RIPRAP  
AND GEOTEXTILE FABRIC HR DETAIL

SEE CONSTRUCTION DETAIL  
FOR BALE & SILT FENCE RELIEF








SEE CONSTRUCTION DETAIL  
FOR BALE & SILT FENCE RELIEF



- NOTES**
1. DISTURBED SLOPES SHALL BE RESTORED WITH SALVAGED TOPSOIL NO. 30, FERTILIZER TYPE B, AND EROSION MAT URBAN CLASS I TYPE B.
  2. SEE SDD "SILT FENCE" FOR INSTALLATION INSTRUCTIONS.

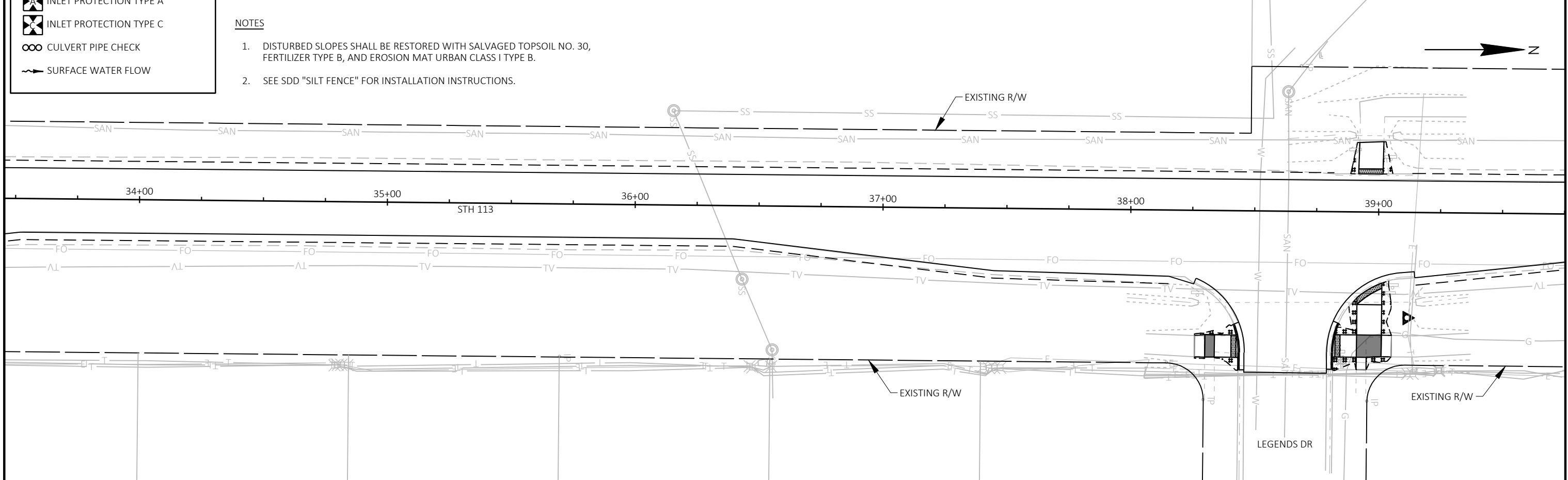


**LEGEND**

-  EROSION MAT URBAN CLASS I TYPE B
-  EROSION BALES
-  SILT FENCE
-  INLET PROTECTION TYPE A
-  INLET PROTECTION TYPE C
-  CULVERT PIPE CHECK
-  SURFACE WATER FLOW

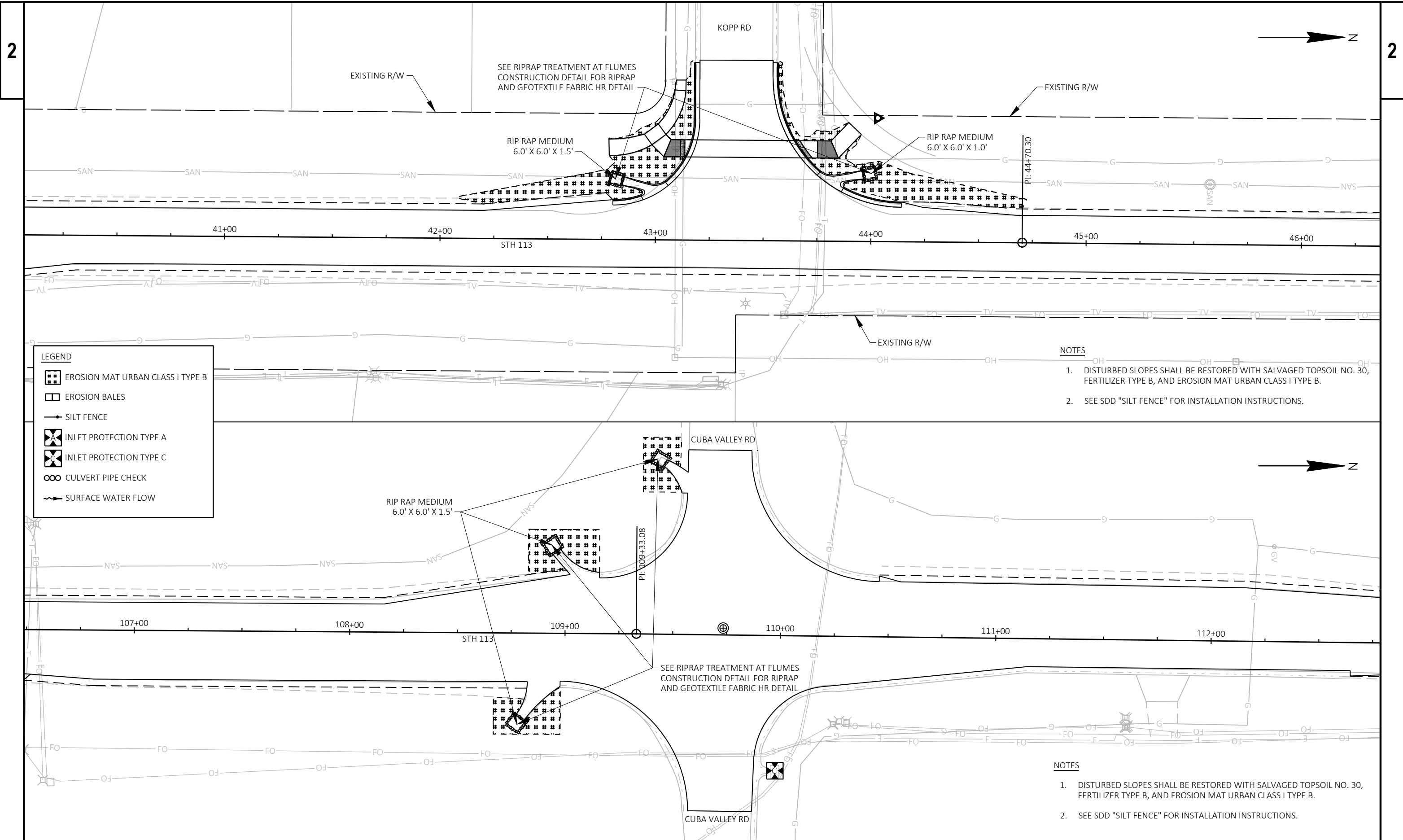
**NOTES**

1. DISTURBED SLOPES SHALL BE RESTORED WITH SALVAGED TOPSOIL NO. 30, FERTILIZER TYPE B, AND EROSION MAT URBAN CLASS I TYPE B.
2. SEE SDD "SILT FENCE" FOR INSTALLATION INSTRUCTIONS.



**NOTES**

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2. SEE SDD "SILT FENCE" FOR INSTALLATION INSTRUCTIONS.



PROJECT NO: 5280-03-70

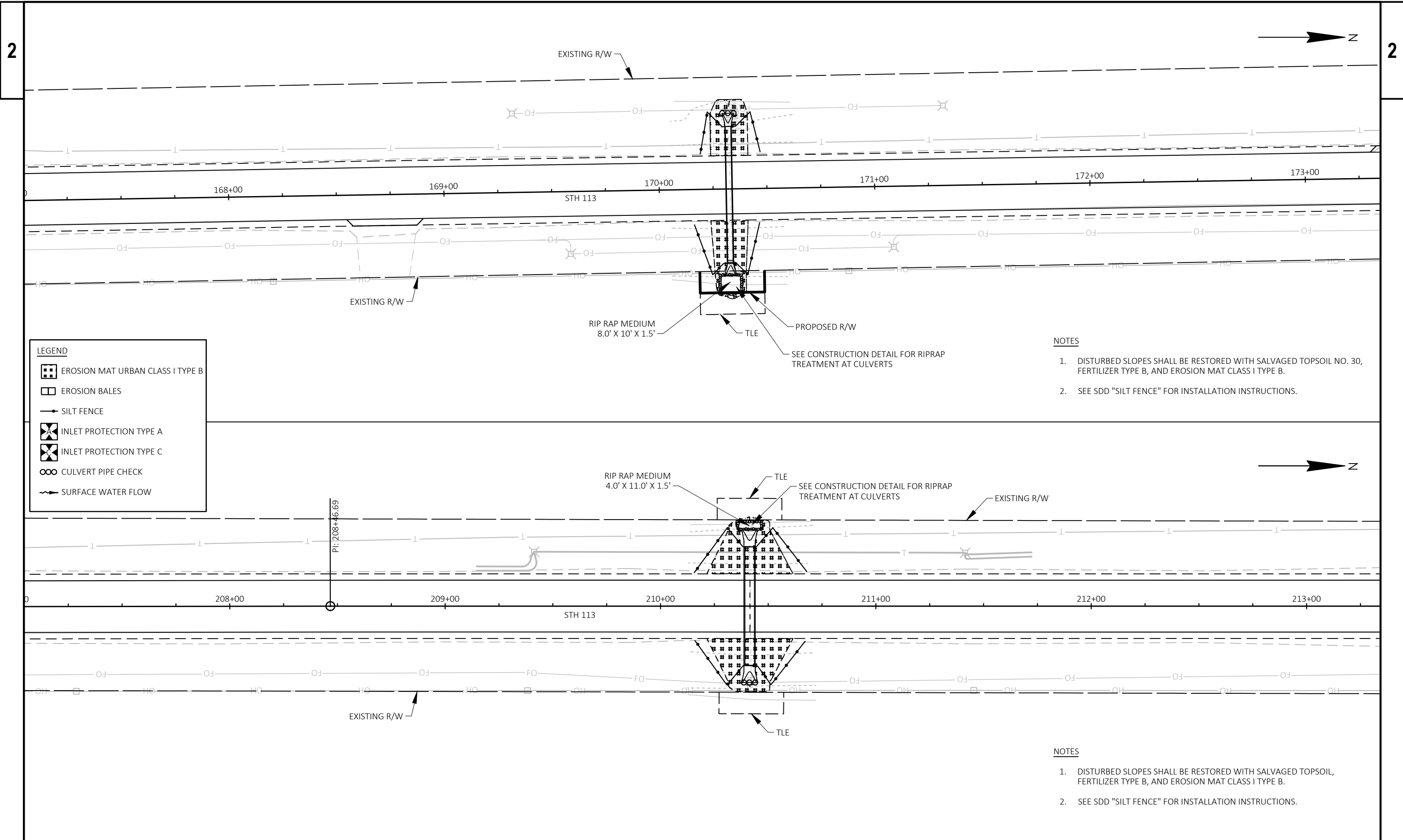
HWY: STH 113

COUNTY: DANE








EROSION CONTROL

SHEET

E

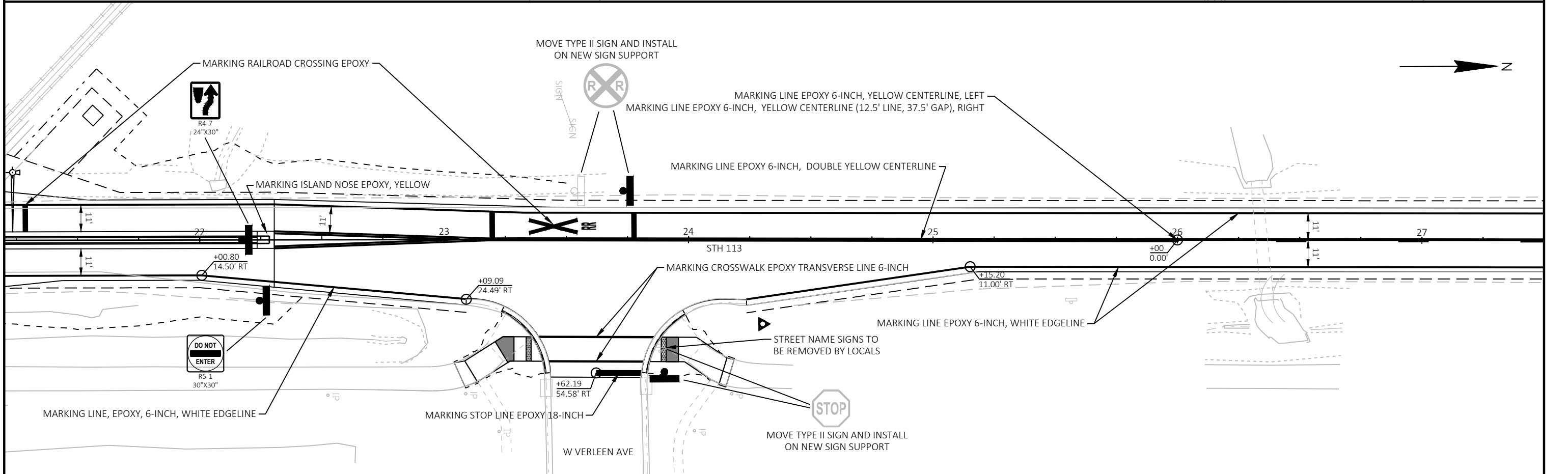
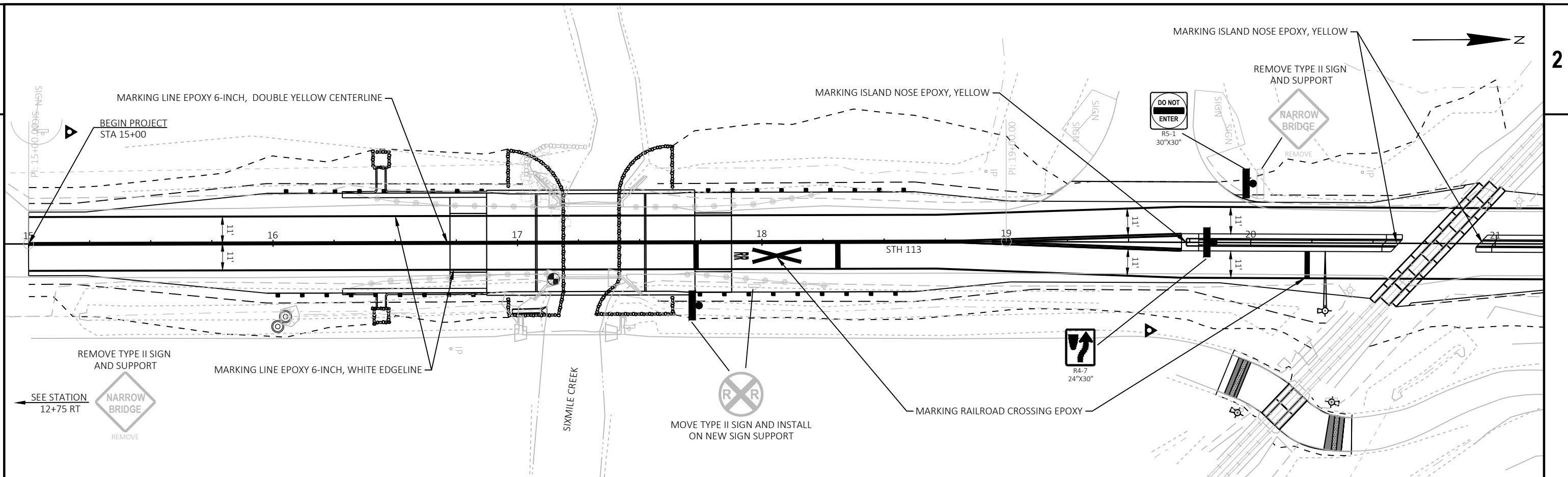


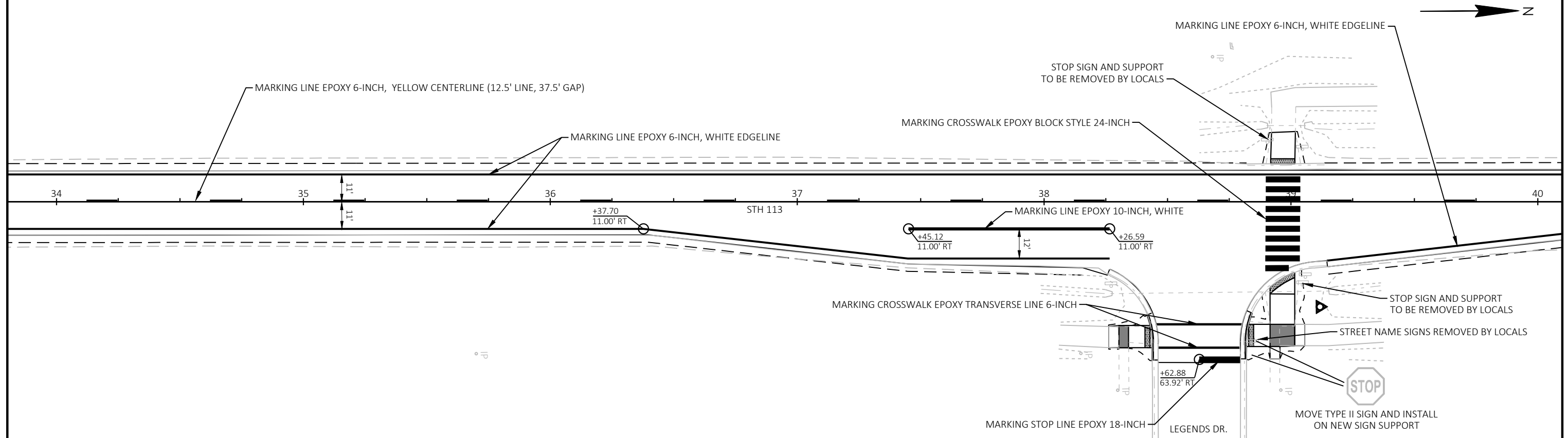
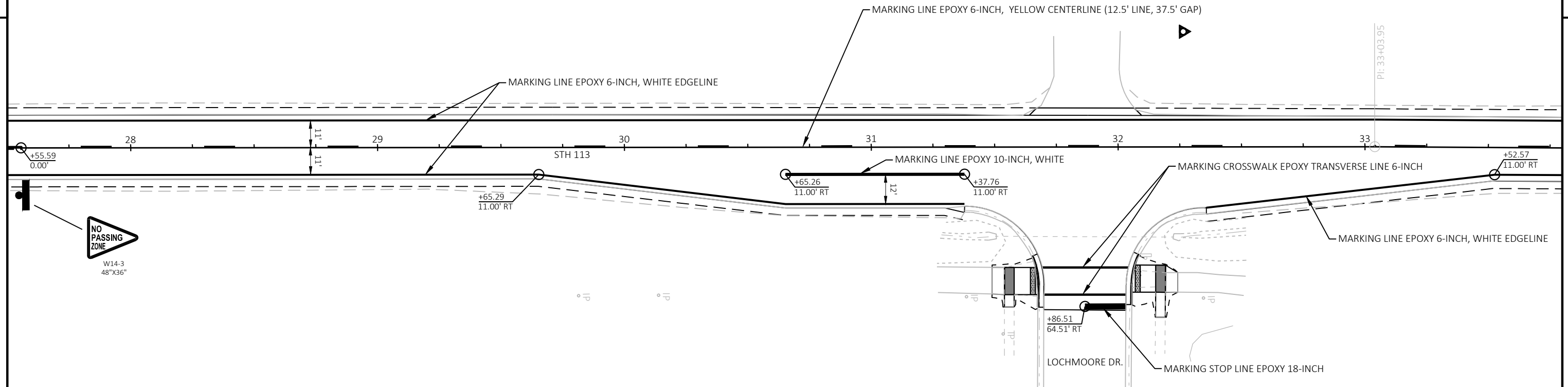
**LEGEND**

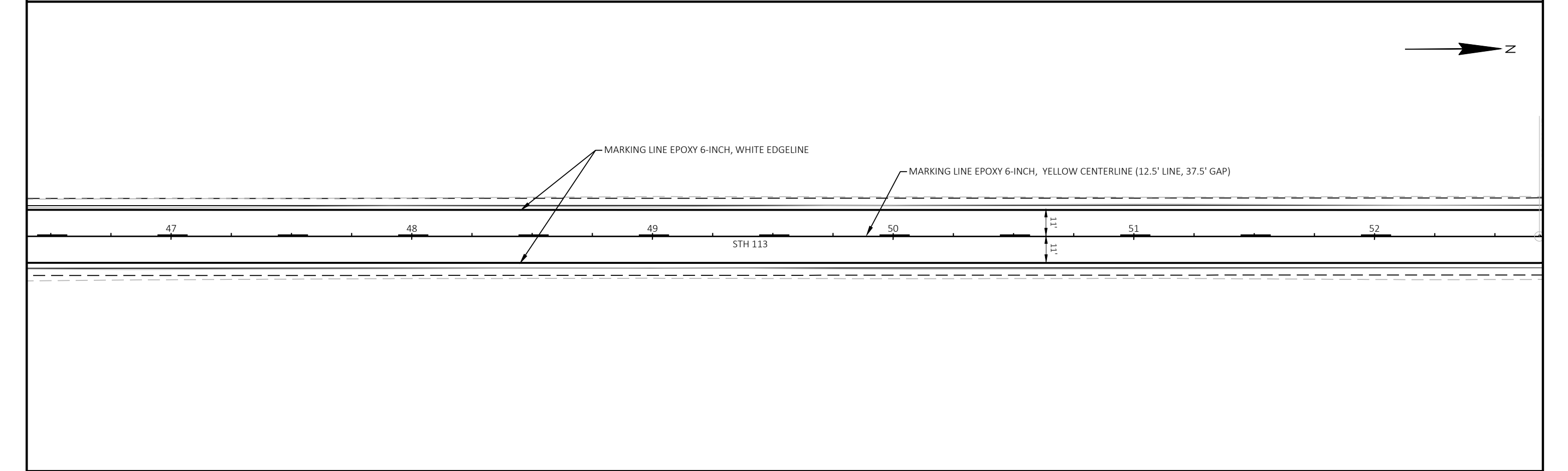
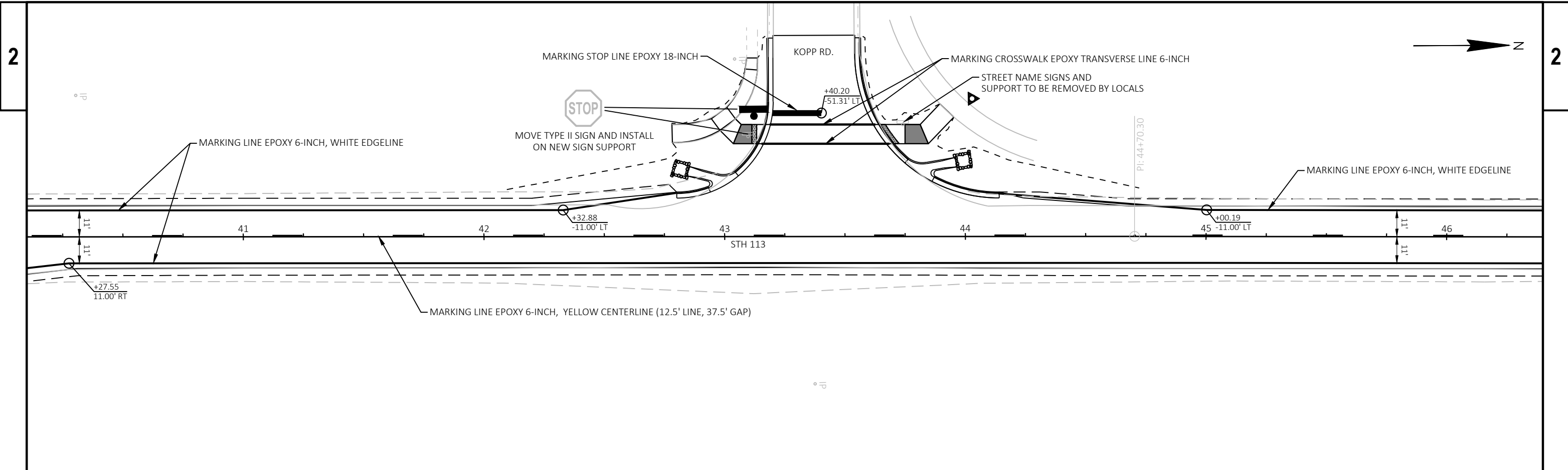
-  EROSION MAT URBAN CLASS I TYPE B
-  EROSION BALES
-  SILT FENCE
-  INLET PROTECTION TYPE A
-  INLET PROTECTION TYPE C
-  CULVERT PIPE CHECK
-  SURFACE WATER FLOW

- NOTES**
1. DISTURBED SLOPES SHALL BE RESTORED WITH SALVAGED TOPSOIL NO. 30, FERTILIZER TYPE B, AND EROSION MAT CLASS I TYPE B.
  2. SEE SDD "SILT FENCE" FOR INSTALLATION INSTRUCTIONS.

- NOTES**
1. DISTURBED SLOPES SHALL BE RESTORED WITH SALVAGED TOPSOIL, FERTILIZER TYPE B, AND EROSION MAT CLASS I TYPE B.
  2. SEE SDD "SILT FENCE" FOR INSTALLATION INSTRUCTIONS.







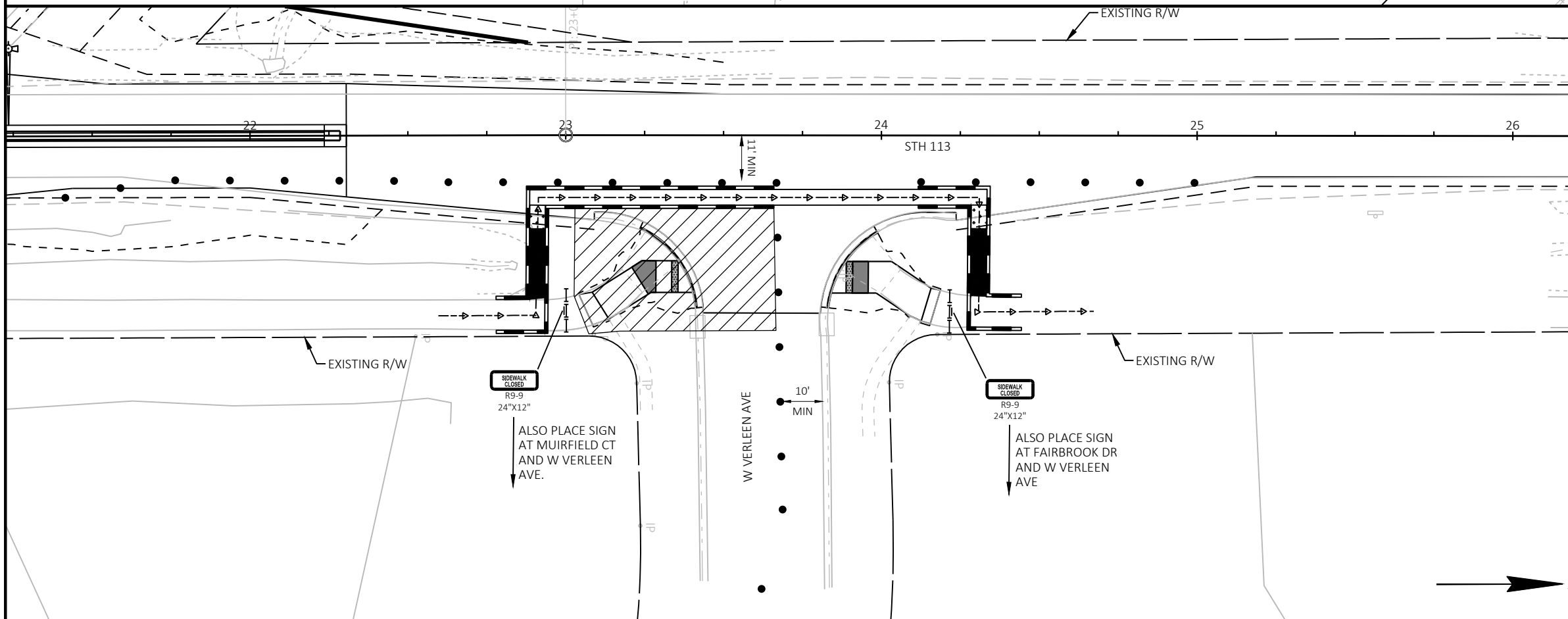
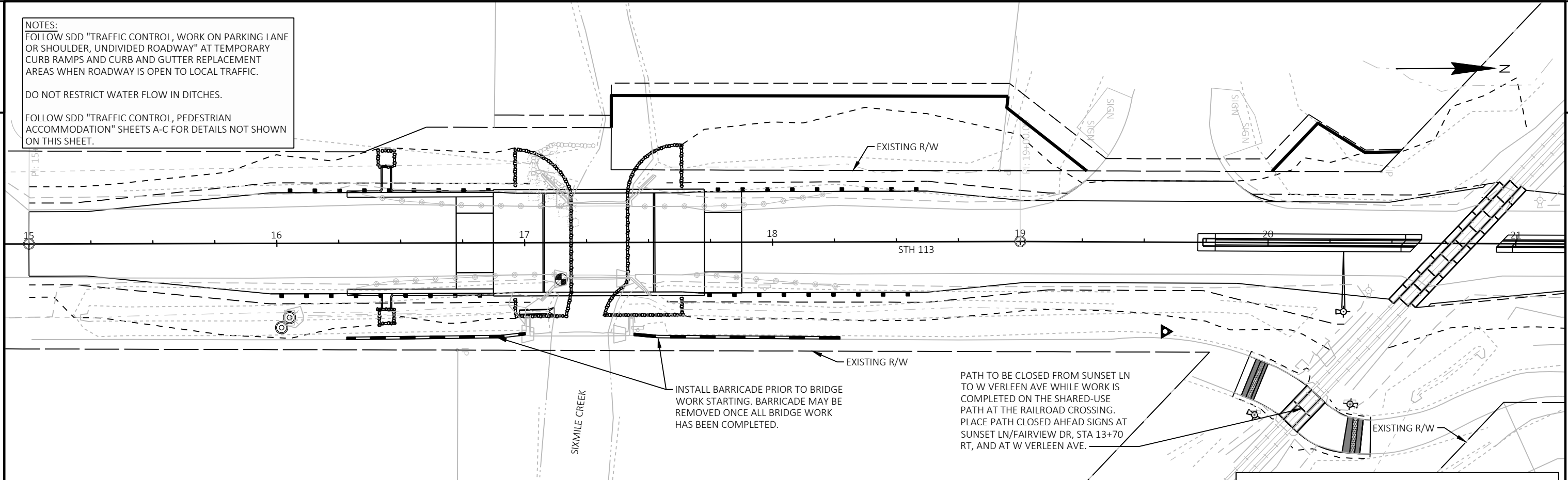
PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	SIGNING AND PAVEMENT MARKING	SHEET	E
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NOTES:  
 FOLLOW SDD "TRAFFIC CONTROL, WORK ON PARKING LANE OR SHOULDER, UNDIVIDED ROADWAY" AT TEMPORARY CURB RAMP AND CURB AND GUTTER REPLACEMENT AREAS WHEN ROADWAY IS OPEN TO LOCAL TRAFFIC.

DO NOT RESTRICT WATER FLOW IN DITCHES.

FOLLOW SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" SHEETS A-C FOR DETAILS NOT SHOWN ON THIS SHEET.



### LEGEND

- TRAFFIC CONTROL DRUM
- ▬ SIGN ON PERMANENT SUPPORT
- ▬ / ▬ TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- ▬ / ▬ TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- TEMPORARY MARKING LINE PAINT 4-INCH
- ▬ TEMPORARY PEDESTRIAN BARRICADE
- PEDESTRIAN DETOUR
- ▨ WORK AREA
- ▤ TEMPORARY CURB RAMP WITH DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN SURFACE ASPHALT

NOTES:  
 FOLLOW SDD "TRAFFIC CONTROL, WORK ON PARKING LANE OR SHOULDER, UNDIVIDED ROADWAY" AT TEMPORARY CURB RAMP AND CURB AND GUTTER REPLACEMENT AREAS WHEN ROADWAY IS OPEN TO LOCAL TRAFFIC.

DO NOT RESTRICT WATER FLOW IN DITCHES.

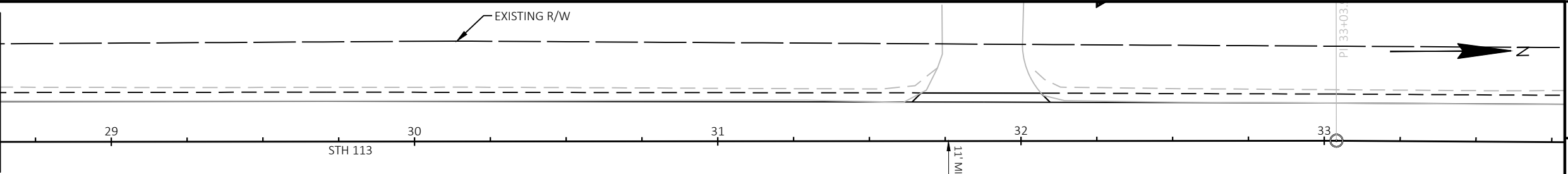
FOLLOW SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" SHEETS A-C FOR DETAILS NOT SHOWN ON THIS SHEET.

**2**

**NOTES:**  
 FOLLOW SDD "TRAFFIC CONTROL, WORK ON PARKING LANE OR SHOULDER, UNDIVIDED ROADWAY" AT TEMPORARY CURB RAMP AND CURB AND GUTTER REPLACEMENT AREAS WHEN ROADWAY IS OPEN TO LOCAL TRAFFIC.

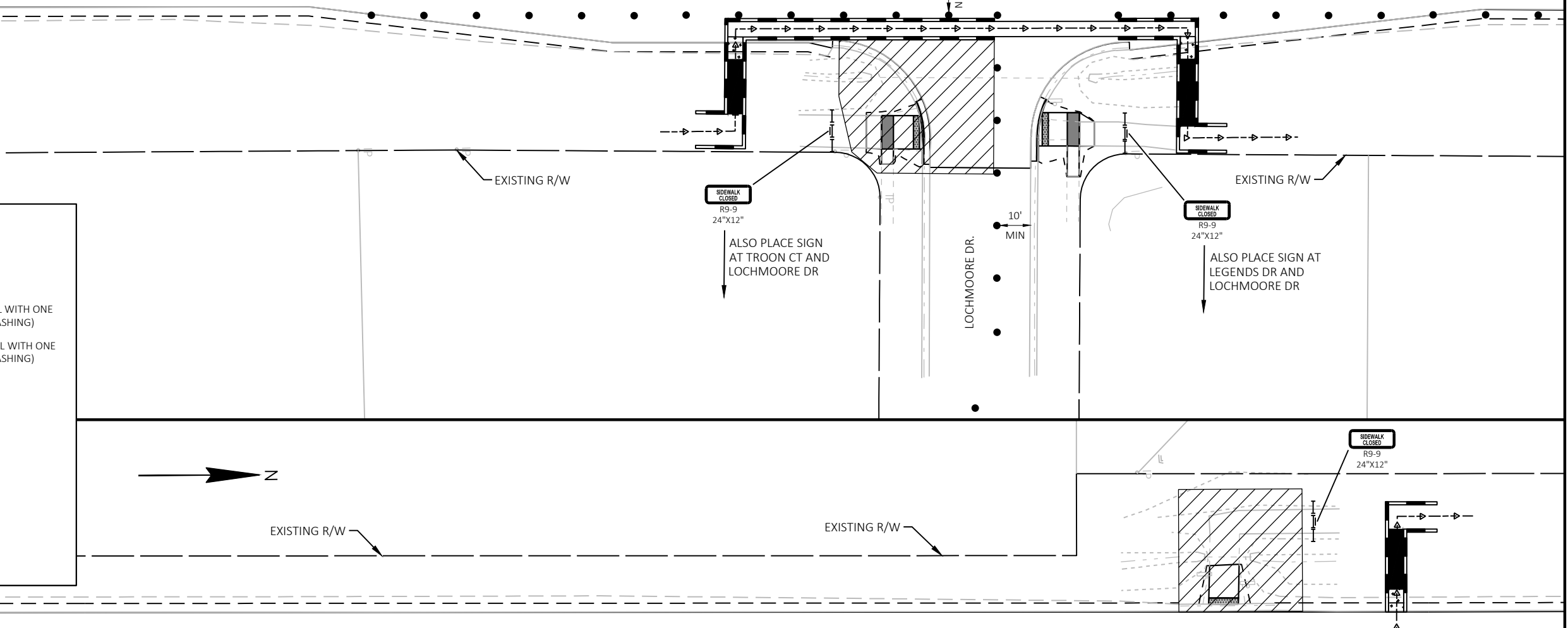
DO NOT RESTRICT WATER FLOW IN DITCHES.

FOLLOW SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" SHEETS A-C FOR DETAILS NOT SHOWN ON THIS SHEET.



**LEGEND**

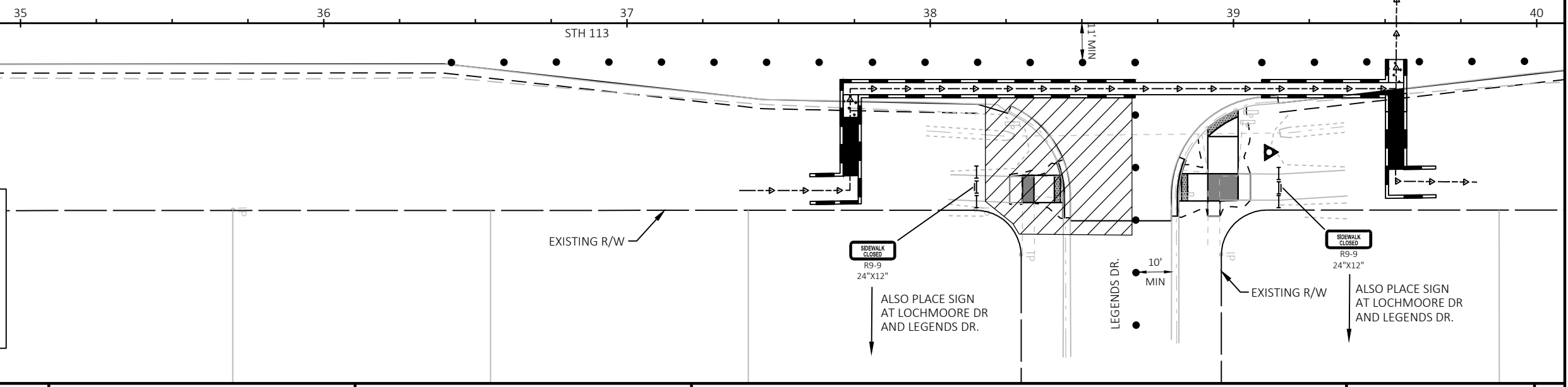
- TRAFFIC CONTROL DRUM
- ▬ SIGN ON PERMANENT SUPPORT
- ▬ / ▬ TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- ▬ / ▬ TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- ▬ TEMPORARY MARKING LINE PAINT 4-INCH
- ▬ TEMPORARY PEDESTRIAN BARRICADE
- ▬ PEDESTRIAN DETOUR
- ▨ WORK AREA
- ▤ TEMPORARY CURB RAMP WITH DETECTABLE WARNING FIELD
- ▬ TEMPORARY PEDESTRIAN SURFACE ASPHALT



**NOTES:**  
 FOLLOW SDD "TRAFFIC CONTROL, WORK ON PARKING LANE OR SHOULDER, UNDIVIDED ROADWAY" AT TEMPORARY CURB RAMP AND CURB AND GUTTER REPLACEMENT AREAS WHEN ROADWAY IS OPEN TO LOCAL TRAFFIC.

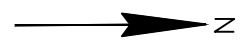
DO NOT RESTRICT WATER FLOW IN DITCHES.

FOLLOW SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" SHEETS A-C FOR DETAILS NOT SHOWN ON THIS SHEET.

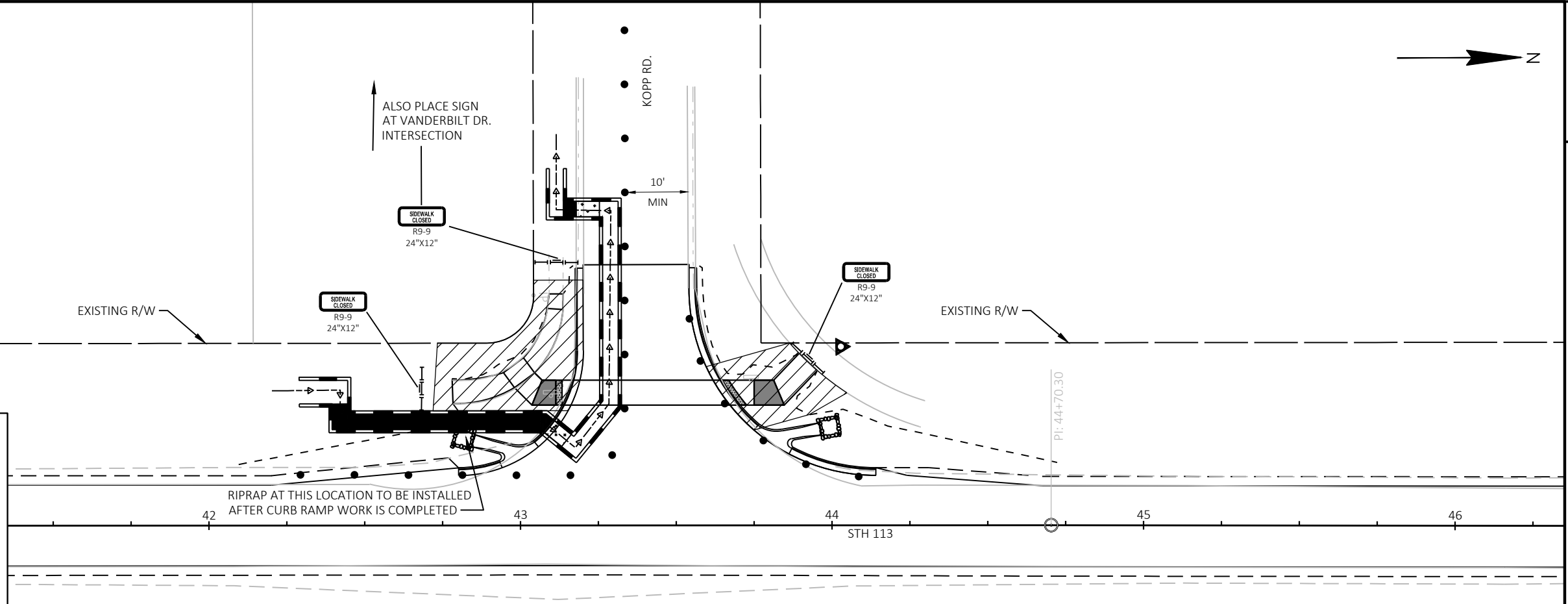


2

NOTES:  
 FOLLOW SDD "TRAFFIC CONTROL, WORK ON PARKING LANE OR SHOULDER, UNDIVIDED ROADWAY" AT TEMPORARY CURB RAMPS AND CURB AND GUTTER REPLACEMENT AREAS WHEN ROADWAY IS OPEN TO LOCAL TRAFFIC.  
 DO NOT RESTRICT WATER FLOW IN DITCHES.  
 FOLLOW SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" SHEETS A-C FOR DETAILS NOT SHOWN ON THIS SHEET.



2



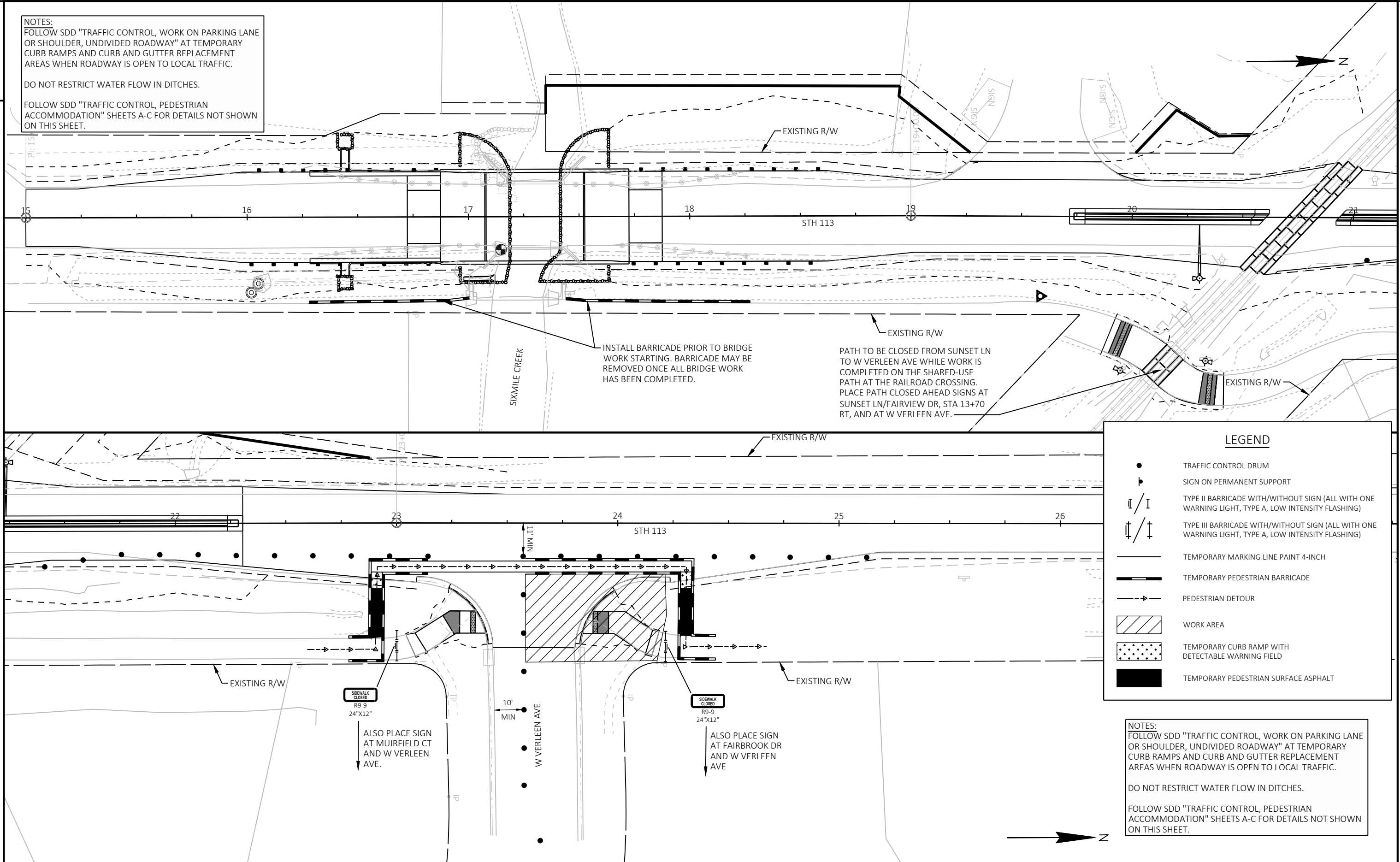
**LEGEND**

- TRAFFIC CONTROL DRUM
- ▬ SIGN ON PERMANENT SUPPORT
- ▬ / ▬ TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- ▬ / ▬ TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- ▬ TEMPORARY MARKING LINE PAINT 4-INCH
- ▬ TEMPORARY PEDESTRIAN BARRICADE
- ▬ PEDESTRIAN DETOUR
- ▨ WORK AREA
- ▤ TEMPORARY CURB RAMP WITH DETECTABLE WARNING FIELD
- ▬ TEMPORARY PEDESTRIAN SURFACE ASPHALT

NOTES:  
 FOLLOW SDD "TRAFFIC CONTROL, WORK ON PARKING LANE OR SHOULDER, UNDIVIDED ROADWAY" AT TEMPORARY CURB RAMPS AND CURB AND GUTTER REPLACEMENT AREAS WHEN ROADWAY IS OPEN TO LOCAL TRAFFIC.

DO NOT RESTRICT WATER FLOW IN DITCHES.

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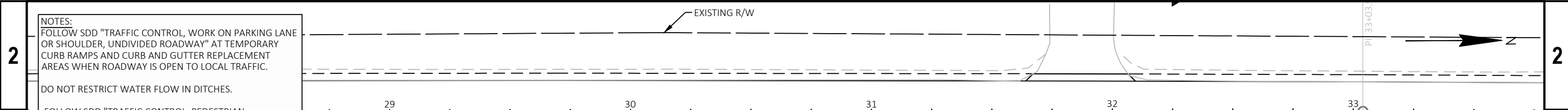
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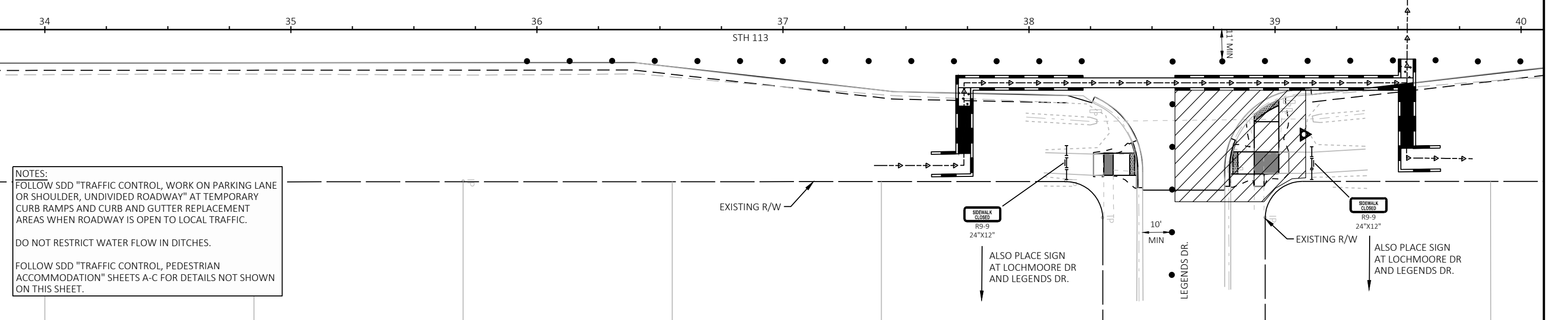
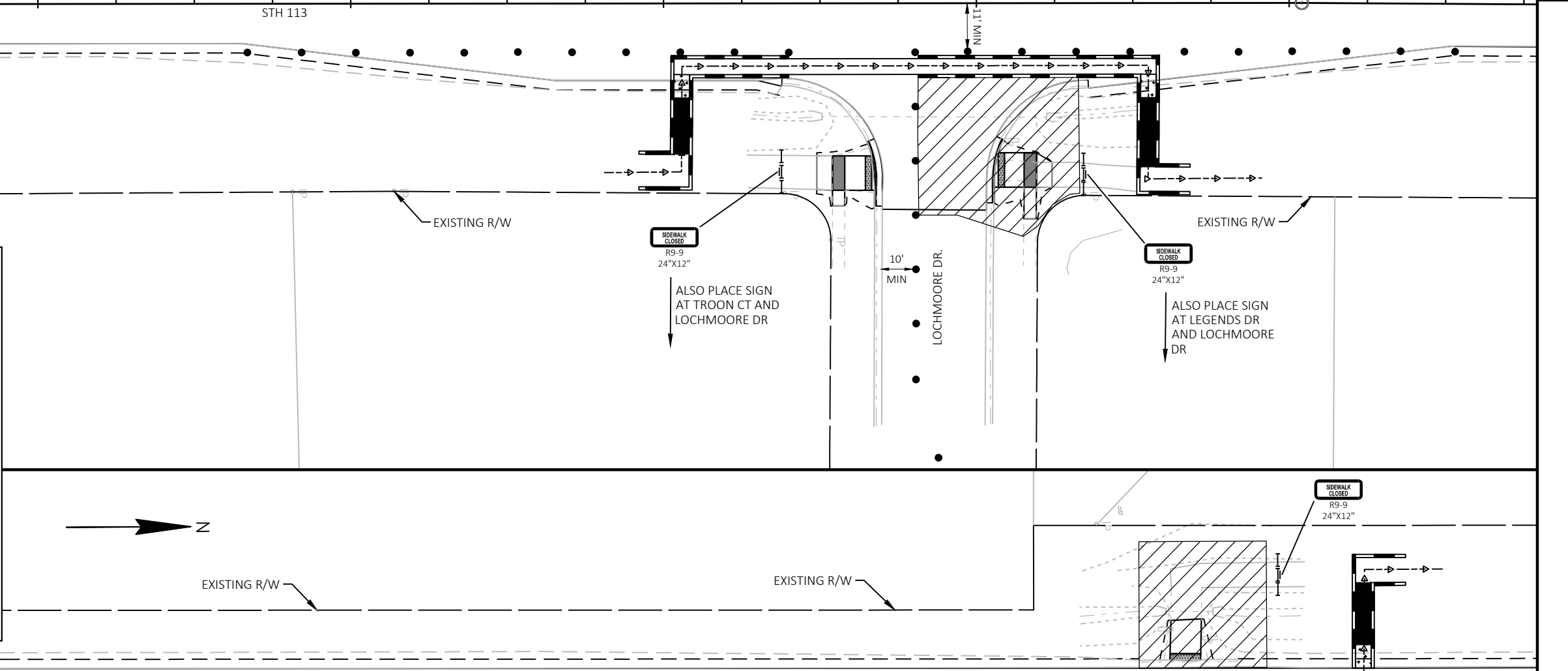
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### LEGEND

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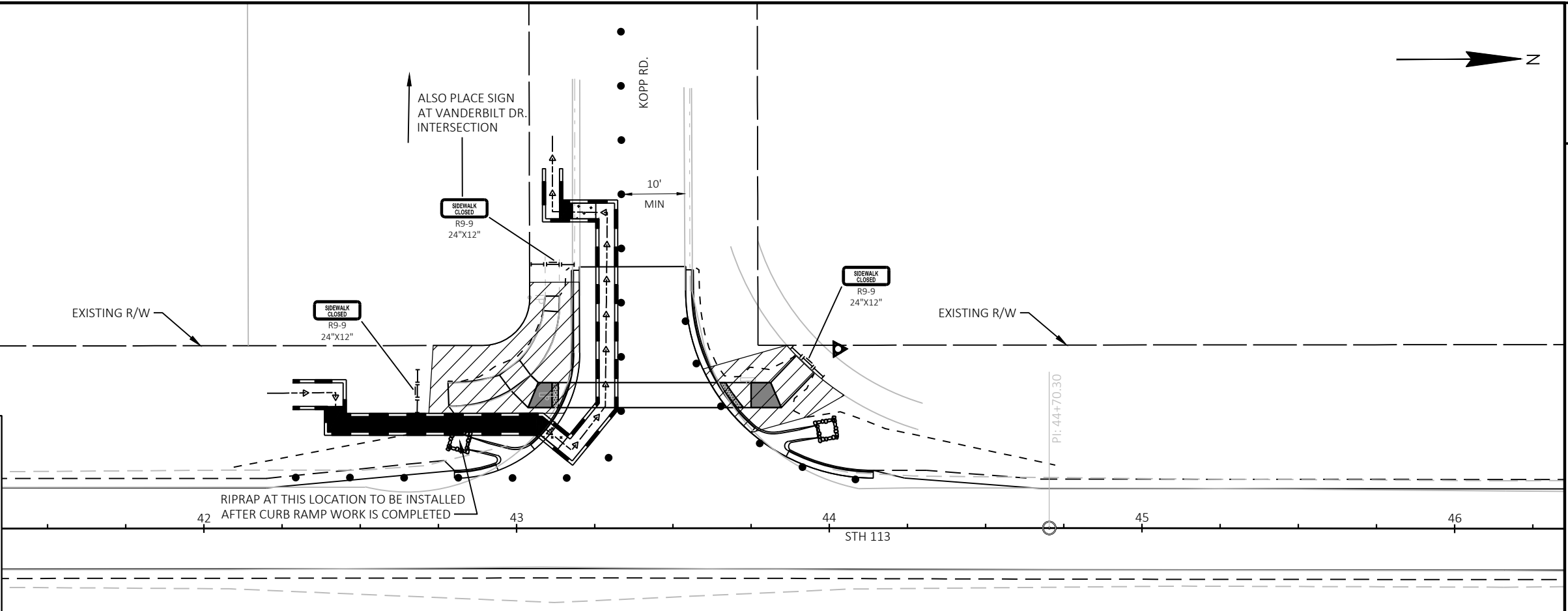


**NOTES:**  
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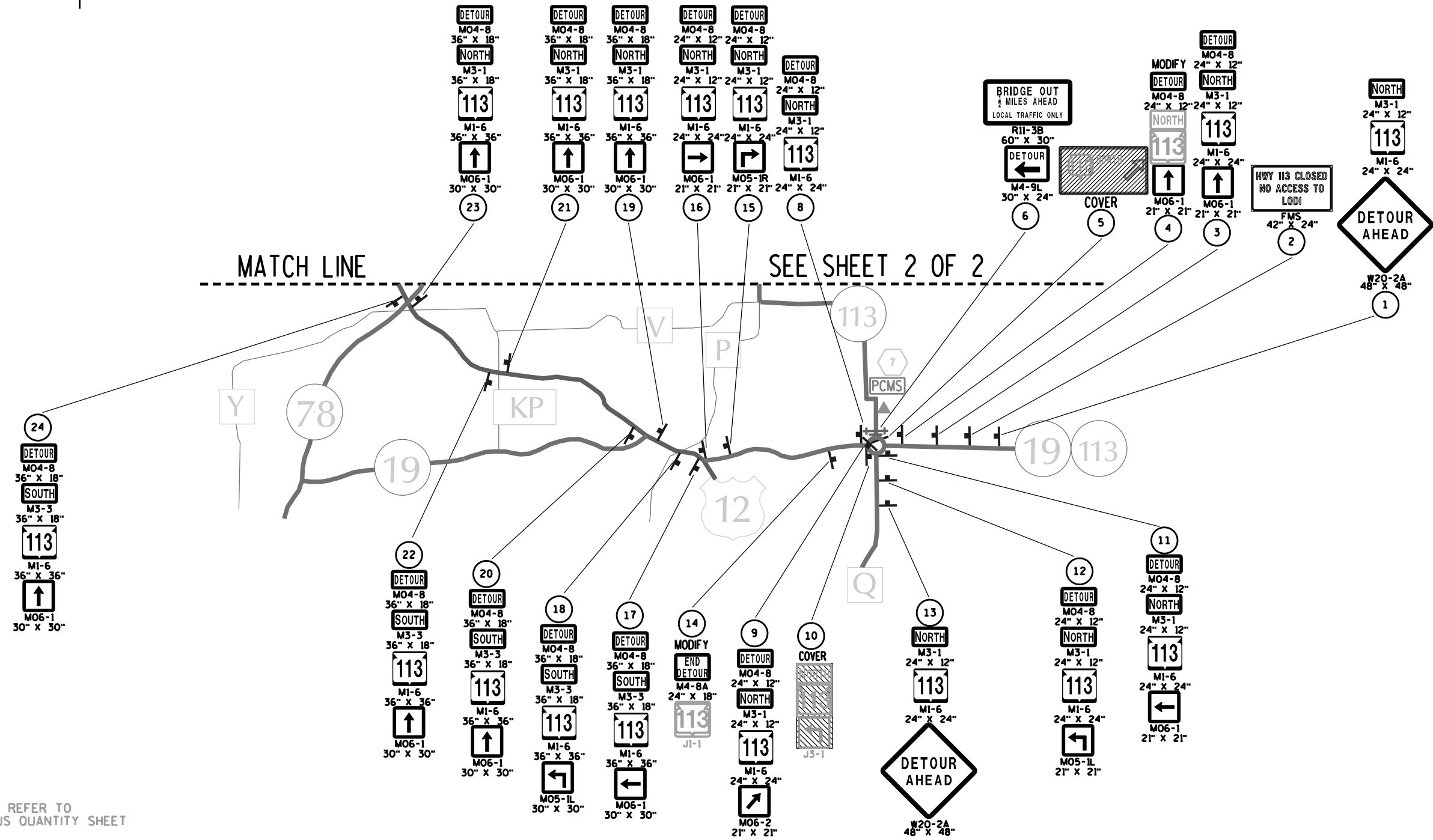
NOTES:  
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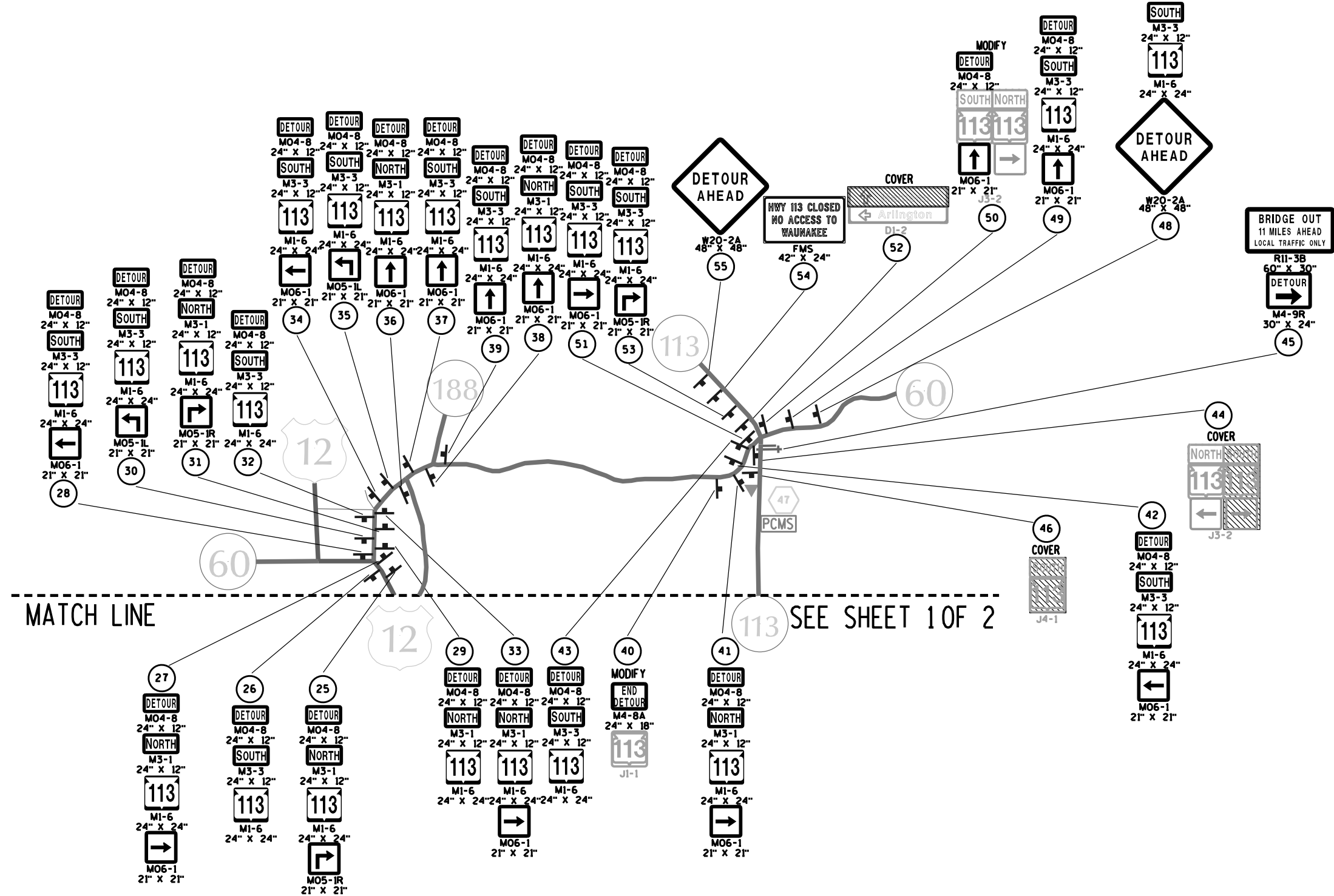
RIPRAP AT THIS LOCATION TO BE INSTALLED AFTER CURB RAMP WORK IS COMPLETED








LEGEND

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

SHEET 1 OF 2  
PLAN SHEET PRODUCED  
BY WISDOT-NE REGION



LEGEND

-  SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
-   PORTABLE CHANGEABLE MESSAGE SIGN
-  SIGN MOUNTED ON TYPE III BARRICADE
-  POST MOUNTED SIGN

SHEET 2 OF 2  
PLAN SHEET PRODUCED  
BY WISDOT-NE REGION



Estimate Of Quantities

5280-03-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0004	203.0220	Removing Structure (structure) 01. STA 22+07	EACH	1.000	1.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-13-945	EACH	1.000	1.000
0008	204.0110	Removing Asphaltic Surface	SY	520.000	520.000
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	253.000	253.000
0012	204.0120	Removing Asphaltic Surface Milling	SY	58,643.000	58,643.000
0014	204.0150	Removing Curb & Gutter	LF	146.000	146.000
0016	204.0155	Removing Concrete Sidewalk	SY	141.000	141.000
0018	204.0165	Removing Guardrail	LF	340.000	340.000
0020	204.0280	Sealing Pipes	EACH	1.000	1.000
0022	205.0100	Excavation Common	CY	5,898.000	5,898.000
0024	206.1001	Excavation for Structures Bridges (structure) 01. B-13-871	EACH	1.000	1.000
0026	209.2500	Backfill Granular Grade 2	TON	297.000	297.000
0028	210.1500	Backfill Structure Type A	TON	180.000	180.000
0030	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 5280-03-70	EACH	1.000	1.000
0032	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	387.000	387.000
0034	213.0100	Finishing Roadway (project) 01. 5280-03-70	EACH	1.000	1.000
0036	305.0110	Base Aggregate Dense 3/4-Inch	TON	991.000	991.000
0038	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,809.000	3,809.000
0040	305.0130	Base Aggregate Dense 3-Inch	TON	44.000	44.000
0042	312.0110	Select Crushed Material	TON	2,100.000	2,100.000
0044	415.0080	Concrete Pavement 8-Inch	SY	52.000	52.000
0046	415.0410	Concrete Pavement Approach Slab	SY	83.000	83.000
0048	450.4000	HMA Cold Weather Paving	TON	4,180.000	4,180.000
0050	455.0605	Tack Coat	GAL	7,729.000	7,729.000
0052	460.2000	Incentive Density HMA Pavement	DOL	9,400.000	9,400.000
0054	460.6223	HMA Pavement 3 MT 58-28 S	TON	8,615.000	8,615.000
0056	460.6224	HMA Pavement 4 MT 58-28 S	TON	6,008.000	6,008.000
0058	465.0105	Asphaltic Surface	TON	741.000	741.000
0060	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	91.000	91.000
0062	465.0315	Asphaltic Flumes	SY	39.000	39.000
0064	502.0100	Concrete Masonry Bridges	CY	361.000	361.000
0066	502.3200	Protective Surface Treatment	SY	403.000	403.000
0068	502.3210	Pigmented Surface Sealer	SY	85.000	85.000
0070	505.0400	Bar Steel Reinforcement HS Structures	LB	5,400.000	5,400.000
0072	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	53,090.000	53,090.000
0074	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	390.000	390.000
0076	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0078	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	63.000	63.000
0080	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	2.000	2.000
0082	522.2434	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 34x53-Inch	LF	55.000	55.000
0084	522.2634	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 34x53-Inch	EACH	2.000	2.000
0086	524.0118	Culvert Pipe Salvaged 18-Inch	LF	16.000	16.000
0088	524.0618	Apron Endwalls for Culvert Pipe Salvaged 18-Inch	EACH	1.000	1.000
0090	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	595.000	595.000
0092	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	754.000	754.000
0094	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	118.000	118.000
0096	602.0410	Concrete Sidewalk 5-Inch	SF	3,228.000	3,228.000
0098	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	218.000	218.000
0100	602.0605	Curb Ramp Detectable Warning Field Radial Yellow	SF	41.000	41.000

Estimate Of Quantities

5280-03-70

Line	Item	Item Description	Unit	Total	Qty
0102	602.3010	Concrete Surface Drains	CY	19.000	19.000
0104	606.0200	Riprap Medium	CY	27.000	27.000
0106	606.0300	Riprap Heavy	CY	185.000	185.000
0108	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	2.000	2.000
0110	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0112	611.0612	Inlet Covers Type C	EACH	1.000	1.000
0114	611.2004	Manholes 4-FT Diameter	EACH	2.000	2.000
0116	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0118	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0120	614.2500	MGS Thrie Beam Transition	LF	156.000	156.000
0122	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0124	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5280-03-70	EACH	1.000	1.000
0126	619.1000	Mobilization	EACH	1.000	1.000
0128	620.0300	Concrete Median Sloped Nose	SF	98.000	98.000
0130	624.0100	Water	MGAL	77.000	77.000
0132	625.0500	Salvaged Topsoil	SY	2,906.000	2,906.000
0134	628.1104	Erosion Bales	EACH	13.000	13.000
0136	628.1504	Silt Fence	LF	1,545.000	1,545.000
0138	628.1520	Silt Fence Maintenance	LF	1,545.000	1,545.000
0140	628.1905	Mobilizations Erosion Control	EACH	7.000	7.000
0142	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0144	628.2008	Erosion Mat Urban Class I Type B	SY	2,906.000	2,906.000
0146	628.6005	Turbidity Barriers	SY	195.000	195.000
0148	628.7005	Inlet Protection Type A	EACH	3.000	3.000
0150	628.7015	Inlet Protection Type C	EACH	4.000	4.000
0152	628.7555	Culvert Pipe Checks	EACH	23.000	23.000
0154	629.0210	Fertilizer Type B	CWT	3.200	3.200
0156	630.0130	Seeding Mixture No. 30	LB	65.000	65.000
0158	630.0171	Seeding Mixture No. 70A	LB	1.000	1.000
0160	630.0500	Seed Water	MGAL	79.000	79.000
0162	633.5200	Markers Culvert End	EACH	4.000	4.000
0164	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	9.000	9.000
0166	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	1.000	1.000
0168	637.2210	Signs Type II Reflective H	SF	26.000	26.000
0170	638.2102	Moving Signs Type II	EACH	5.000	5.000
0172	638.2602	Removing Signs Type II	EACH	2.000	2.000
0174	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0176	642.5001	Field Office Type B	EACH	1.000	1.000
0178	643.0300	Traffic Control Drums	DAY	1,916.000	1,916.000
0180	643.0410	Traffic Control Barricades Type II	DAY	838.000	838.000
0182	643.0420	Traffic Control Barricades Type III	DAY	4,536.000	4,536.000
0184	643.0705	Traffic Control Warning Lights Type A	DAY	8,064.000	8,064.000
0186	643.0900	Traffic Control Signs	DAY	24,860.000	24,860.000
0188	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0190	643.1000	Traffic Control Signs Fixed Message	SF	16.000	16.000
0192	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0194	643.3165	Temporary Marking Line Paint 6-Inch	LF	1,554.000	1,554.000
0196	643.3170	Temporary Marking Line Epoxy 6-Inch	LF	1,554.000	1,554.000
0198	643.5000	Traffic Control	EACH	1.000	1.000
0200	644.1410	Temporary Pedestrian Surface Asphalt	SF	1,317.000	1,317.000

Estimate Of Quantities

5280-03-70

Line	Item	Item Description	Unit	Total	Qty
0202	644.1601	Temporary Pedestrian Curb Ramp	DAY	154.000	154.000
0204	644.1605	Temporary Pedestrian Detectable Warning Field	SF	110.000	110.000
0206	644.1810	Temporary Pedestrian Barricade	LF	2,511.000	2,511.000
0208	645.0111	Geotextile Type DF Schedule A	SY	76.000	76.000
0210	645.0120	Geotextile Type HR	SY	410.000	410.000
0212	645.0220	Geogrid Type SR	SY	3,155.000	3,155.000
0214	646.2020	Marking Line Epoxy 6-Inch	LF	28,835.000	28,835.000
0216	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	33,594.000	33,594.000
0218	646.4020	Marking Line Epoxy 10-Inch	LF	541.000	541.000
0220	646.5320	Marking Railroad Crossing Epoxy	EACH	2.000	2.000
0222	646.6120	Marking Stop Line Epoxy 18-Inch	LF	103.000	103.000
0224	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	320.000	320.000
0226	646.7520	Marking Crosswalk Epoxy Block Style 24-Inch	LF	136.000	136.000
0228	646.8220	Marking Island Nose Epoxy	EACH	4.000	4.000
0230	650.4500	Construction Staking Subgrade	LF	724.000	724.000
0232	650.5000	Construction Staking Base	LF	1,596.000	1,596.000
0234	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	608.000	608.000
0236	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0238	650.6501	Construction Staking Structure Layout (structure) 01. B-13-871	EACH	1.000	1.000
0240	650.8000	Construction Staking Resurfacing Reference	LF	19,276.000	19,276.000
0242	650.9000	Construction Staking Curb Ramps	EACH	11.000	11.000
0244	650.9500	Construction Staking Sidewalk (project) 01. 5280-03-70	EACH	1.000	1.000
0246	650.9911	Construction Staking Supplemental Control (project) 01. 5280-03-70	EACH	1.000	1.000
0248	690.0150	Sawing Asphalt	LF	1,125.000	1,125.000
0250	690.0250	Sawing Concrete	LF	81.000	81.000
0252	715.0502	Incentive Strength Concrete Structures	DOL	2,166.000	2,166.000
0254	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0256	740.0440	Incentive IRI Ride	DOL	15,280.000	15,280.000
0258	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 17+25	EACH	1.000	1.000
0260	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0262	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0264	SPV.0035	Special 01. Foundation Backfill	CY	80.000	80.000
0266	SPV.0060	Special 01. Verify and Replace Existing Land Parcel Monuments	EACH	6.000	6.000
0268	SPV.0060	Special 02. Research and Locate Existing Land Parcel Monuments	EACH	6.000	6.000
0270	SPV.0060	Special 03. Verify Landmark Reference Monuments	EACH	8.000	8.000
0272	SPV.0090	Special 01. Pre-Boring Special	LF	32.000	32.000
0274	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	5,877.000	5,877.000
0276	SPV.0195	Special 01. Select Crushed Material for Travel Corridor	TON	68.000	68.000

3

REMOVING STRUCTURE AND CULVERTS

CATEGORY	STATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	203.0220.01 REMOVING STRUCTURE (STRUCTURE) (01. 22+07) EACH	REMARKS
0010	STA 22+07	-	1	REMOVE 52' OF 72" CMP
0010	STA 170+32	1	-	30" CMP
0010	STA 210+40	1	-	24" CMP
TOTAL 0010		2	1	

EXCAVATION COMMON

CATEGORY	STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	UNUSABLE PAVEMENT MATERIAL	UNEXPANDED FILL	EXPANDED FILL (1)	MASS ORDINATE +/- (2)	REMARKS
0010	15+00	-	23+50	STH 113	3,101	165	116	166	2,770	RECONSTRUCTION SEGMENT
0010	21+58	-	22+56	STH 113	135	-	-	-	135	72" CULVERT REMOVAL
0010	19+85	-	44+15	CURB RAMP LOCATIONS	133	-	-	-	133	
0010	42+20	-	44+66	STH 113/KOPP RD	35	-	-	-	35	SHOULDER WIDENING
0010	210+21	-	210+62	STH 113	182	-	-	-	182	CULVERT REPLACEMENT
0010	UNDISTRIBUTED				2,312	-	-	-	2,312	EBS AREAS
TOTAL 0010					5,898					

NOTES:  
 1) EXPANDED FILL FACTOR = 1.43  
 2) THE MASS ORDINATE + OR - QT CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL

3

SEALING PIPES

CATEGORY	STATION	OFFSET	204.0280 SEALING PIPES EACH	REMARKS
0010	22+07	29' RT	1	72" CULVERT PIPE
TOTAL 0010			1	

PREPARE FOUNDATION ITEMS

CATEGORY	STATION TO	STATION	LOCATION	211.0101.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) (01. 5280- 03-70) EACH	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA
0010	23+09	- 215+85	STH 113 - LT	-	193
0010	22+00	- 215+85	STH 113 - RT	-	194
0010			STH 113	1	-
TOTAL 0010				1	387

BRIDGE APPROACH ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	415.0080 CONCRETE PAVEMENT 8- INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	601.0590 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF
0010	16+28	-	16+87	SOUTH OF BRIDGE - LT	11	21	59
0010	16+28	-	16+87	SOUTH OF BRIDGE - RT	11	21	59
0010	17+72	-	17+88	NORTH OF BRIDGE - LT	15	21	0
0010	17+72	-	17+88	NORTH OF BRIDGE - RT	15	20	0
TOTAL 0010					52	83	118

CULVERT ITEMS

CATEGORY	STATION	LOCATION	209.2500 BACKFILL GRANULAR GRADE 2 TON	522.0130 CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	522.2434 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 34X53-INCH LF	522.2634 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 34X53-INCH EACH	524.0118 CULVERT PIPE SALVAGED 18- INCH LF	524.0618 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 18- INCH EACH	624.0100 WATER MGAL	633.5200 MARKERS CULVERT END EACH	SPV.0035.01 SPECIAL (01. FOUNDATION BACKFILL) CY	REMARKS
0010		STH 113	-	-	-	-	-	16	1	-	-	-	SE OF BRIDGE IN RIPRAP
0010	22+07	STH 113	297	-	-	-	-	-	-	3	-	-	72" CULVERT REMOVAL FROST HEAVE REPAIR AREA
0010	170+33	STH 113	-	63	2	-	-	-	-	-	2	-	CULVERT REPLACEMENT
0010	210+42	STH 113	-	-	-	55	2	-	-	1	2	80	CULVERT REPLACEMENT
TOTAL 0010			297	63	2	55	2	16	1	4	4	80	

\* ADDITIONAL QUANTITIES LISTED ELSEWHERE

PROJECT NO: 5280-03-70

HWY: STH 113

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

E

3

3

ASPHALT ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	SPV.0180.01 SPECIAL (01. REMOVING DISTRESSED PAVEMENT MILLING) SY
0010	15+00	-	22+30	STH 113 - RECONSTRUCTION	-	-	-	227	233	610	228	-	-	-
0010	22+30	-	25+00	STH 113 - MILL & OVERLAY	-	-	879	50	101	107	77	-	-	-
0010	25+00	-	35+00	STH 113 - MILL & OVERLAY	-	-	2,908	183	348	393	284	-	-	-
0010	35+00	-	45+00	STH 113 - MILL & OVERLAY	-	-	2,920	183	349	393	284	-	-	-
0010	45+00	-	55+00	STH 113 - MILL & OVERLAY	-	-	2,905	183	348	393	284	-	-	-
0010	55+00	-	65+00	STH 113 - MILL & OVERLAY	-	-	2,963	183	352	393	284	-	-	-
0010	65+00	-	75+00	STH 113 - MILL & OVERLAY	-	-	2,909	183	349	393	284	-	-	-
0010	75+00	-	85+00	STH 113 - MILL & OVERLAY	-	-	2,879	183	346	393	284	-	-	-
0010	85+00	-	95+00	STH 113 - MILL & OVERLAY	-	-	2,859	183	345	393	284	-	-	-
0010	95+00	-	105+00	STH 113 - MILL & OVERLAY	-	-	2,905	183	348	393	284	-	-	-
0010	105+00	-	115+00	STH 113 - MILL & OVERLAY	-	-	3,019	180	354	386	278	-	-	-
0010	115+00	-	125+00	STH 113 - MILL & OVERLAY	-	-	2,678	169	321	363	262	-	-	-
0010	125+00	-	135+00	STH 113 - MILL & OVERLAY	-	-	2,652	169	319	363	262	-	-	-
0010	135+00	-	145+00	STH 113 - MILL & OVERLAY	-	-	2,656	169	320	363	262	-	-	-
0010	145+00	-	155+00	STH 113 - MILL & OVERLAY	-	-	2,642	169	319	363	262	-	-	-
0010	155+00	-	165+00	STH 113 - MILL & OVERLAY	-	-	2,648	169	319	363	262	-	-	-
0010	165+00	-	175+00	STH 113 - MILL & OVERLAY	-	-	2,654	169	320	363	262	-	-	-
0010	175+00	-	185+00	STH 113 - MILL & OVERLAY	-	-	2,651	169	319	363	262	-	-	-
0010	185+00	-	195+00	STH 113 - MILL & OVERLAY	-	-	2,643	169	319	363	262	-	-	-
0010	195+00	-	205+00	STH 113 - MILL & OVERLAY	-	-	2,646	169	319	363	262	-	-	-
0010	205+00	-	215+85	STH 113 - MILL & OVERLAY	-	-	2,934	184	351	394	284	-	-	-
0010				W VERLEEN AVE	-	9	502	29	58	61	44	-	-	-
0010				LOCHMOORE DR	-	8	566	36	68	77	56	-	-	-
0010				LEGENDS DR	-	8	563	38	69	80	58	-	-	-
0010				KOPP RD	454	-	-	30	23	63	45	-	-	-
0010				EASY ST	-	6	268	17	32	36	26	-	-	-
0010				MAIER RD	-	5	244	16	30	33	24	-	-	-
0010				CUBA VALLEY RD (LT)	-	7	959	64	117	136	98	-	-	-
0010				CUBA VALLEY RD (RT)	-	7	799	52	97	111	80	-	-	-
0010				MADIGAN RD	-	6	175	12	21	24	18	-	-	-
0010				RIPP LN	-	5	234	15	28	32	23	-	-	-
0010				CTH V (LT)	-	17	215	15	27	31	22	-	-	-
0010				CTH V (RT)	-	17	168	11	21	23	17	-	-	-
0010	170+23	-	170+41	CULVERT REPLACEMENT	-	-	-	5	5	-	-	18	-	-
0010	210+21	-	210+62	CULVERT REPLACEMENT	-	-	-	11	11	-	-	40	-	-
0010				DRIVEWAYS	66	158	-	25	11	-	-	-	91	-
0010				DISTRESSED PAVEMENT AREAS	-	-	-	178	412	-	-	659	-	5,877
TOTAL 0010					520	253	58,643	4,180	7,729	8,615	6,008	717	91	5,877

\* ADDITIONAL QUANTITIES LISTED ELSEWHERE

ASPHALTIC FLUMES

CATEGORY	LOCATION	465.0315 ASPHALTIC FLUMES SY
0010	CUBA VALLEY RD - SW	11
0010	CUBA VALLEY RD - SW	9
0010	CUBA VALLEY RD - SE	19
TOTAL 0010		39

RIPRAP & GEOTEXTILE FABRIC

CATEGORY	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
0010	16+44	BRIDGE SW	3	12
0010	16+44	BRIDGE SE	3	12
0010	43+98	KOPP RD LT	2	12
0010	42+82	KOPP RD RT	3	12
0010	108+92	CUBA VALLEY RD - SW	2	11
0010	109+43	CUBA VALLEY RD - SW	3	12
0010	108+76	CUBA VALLEY RD - SE	3	12
0010	170+32	CULVERT RT	5	19
0010	210+41	CULVERT LT	3	14
TOTAL 0010			27	116

GUARDRAIL ITEMS

CATEGORY	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	SW OF B-13-945	85	39	1
0010	SE OF B-13-946	85	39	1
0010	NW OF B-13-947	85	39	1
0010	NE OF B-13-948	85	39	1
TOTAL 0010		340	156	4

CONCRETE SURFACE DRAINS

CATEGORY	STATION	TO	STATION	LOCATION	602.3010 CONCRETE SURFACE DRAINS CY
0010	16+28	-	16+87	SOUTH OF BRIDGE - LT	8
0010	16+28	-	16+87	SOUTH OF BRIDGE - RT	7
0010	42+94	-	43+06	KOPP ROAD - SOUTH DRAIN	2
0010	43+74	-	43+86	KOPP ROAD - NORTH DRAIN	2
TOTAL 0010					19

STORM SEWER ITEMS

CATEGORY	STATION	OFFSET	LOCATION	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	611.0530 MANHOLE COVERS TYPE J EACH	611.0612 INLET COVERS TYPE C EACH	611.2004 MANHOLES 4-FT DIAMETER EACH
0010	16+02	34' RT	STH 113	2	-	1	1
0010	16+05	30' RT	STH 113	-	1	-	1
TOTAL 0010				2	1	1	2

3

CURB RAMP RECONSTRUCTION ITEMS

CATEGORY	LOCATION	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	465.0105 ASPHALTIC SURFACE TON	601.0411 CONCRETE CURB & GUTTER 30-INCH LF	602.0410 CONCRETE SIDEWALK 5- INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	602.0605 CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW SF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	624.0100 WATER MGAL
0010	RR CROSSING - S PED CROSSING	-	-	10	1	-	325	32	-	-	0.2
0010	RR CROSSING - N PED CROSSING	-	-	11	1	-	340	29	-	-	0.2
0010	RR CROSSING - S MEDIAN	-	-	9	-	164	164	-	-	49	0.2
0010	RR CROSSING - N MEDIAN	-	-	14	-	260	261	-	-	49	0.2
0010	W VERLEEN AVE - SE	33	21	18	4	33	299	21	-	-	0.2
0010	W VERLEEN AVE - NE	31	20	18	3	30	322	20	-	-	0.2
0010	LOCHMOORE DR - SE	22	21	12	3	22	166	22	-	-	0.2
0010	LOCHMOORE DR - NE	21	16	12	3	21	185	22	-	-	0.2
0010	LEGENDS DR - SE	19	11	10	3	19	119	18	-	-	0.2
0010	LEGENDS DR - NE	20	38	16	3	20	379	18	24	-	0.2
0010	LEGENDS DR - NW	-	14	4	-	-	126	20	-	-	0.2
0010	KOPP RD - SW	-	-	37	3	87	308	16	-	-	0.4
0010	KOPP RD - NW	-	-	33	-	98	234	-	17	-	0.4
TOTAL 0010		146	141	204	24	754	3,228	218	41	98	3.0

\* ADDITIONAL QUANTITIES LISTED ELSEWHERE

NOTE 1: CONSTRUCT CONCRETE SIDEWALK OVER 4" OF BASE AGGREGATE DENSE 1 1/4-INCH

NOTE 2: CONSTRUCT ASPHALTIC SURFACE SIDEWALK OVER 6" OF BASE AGGREGATE DENSE 1 1/4-INCH

3

EROSION CONSTROL MOBILIZATON

CATEGORY	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	STH 113	7	4
TOTAL 0010		7	4

AGGREGATE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0130 BASE AGGREGATE DENSE 3-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON	624.0100 WATER MGAL	645.0220 GEOGRID TYPE SR SY	REMARKS
0010	15+00	-	16+88	STH 113	56	786	-	577	15	912	RECONSTRUCTION SEGMENT
0010	17+72	-	22+31	STH 113	121	2012	-	1381	36	2180	RECONSTRUCTION SEGMENT
0010	22+31	-	23+50	STH 113 - LT	25	49	44	-	2	63	WIDENING SEGMENT
0010	23+50	-	215+36	STH 113 - RT/LT SHOULDERS	747	-	-	-	8	-	SHOULDERS
0010				KOPP RD	-	175	-	-	2	-	
0010	170+23	-	170+23	STH 113	17	24	-	26	1	-	CULVERT REPLACEMENT
0010	210+21	-	210+62	STH 113	25	265	-	116	5	-	CULVERT REPLACEMENT
0010	21+27	-	21+67	RR BUNGELOW PAD	-	26	-	-	1	-	BUNGELOW PAD AT RAILROAD
TOTAL 0010					991	3,337	44	2,100	70	3,155	

\* ADDITIONAL QUANTITIES LISTED ELSEWHERE

TURBIDITY BARRIER

CATEGORY	LOCATION	628.6005 TURBIDITY BARRIER SY
0010	SIXMILE CREEK BRIDGE SOUTH ABUTMENT	95
0010	SIXMILE CREEK BRIDGE NORTH ABUTMENT	100
TOTAL 0010		195

PROJECT NO: 5280-03-70

HWY: STH 113

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

E

3

EROSION CONTROL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	628.1104	628.1504	628.1520	628.7005	628.7015	628.7555	REMARKS
					EROSION BALES EACH	SILT FENCE LF	SILT FENCE MAINTENANCE LF	PROTECTION TYPE A EACH	PROTECTION TYPE C EACH	CULVERT PIPE CHECKS EACH	
0010	15+00	-	16+96	STH 113 - LT	5	207	207	1	-	-	
0010	17+62	-	19+22	STH 113 - LT	5	182	182	-	-	-	
0010	20+05	-	20+97	STH 113 - LT	-	109	109	-	-	-	
0010	20+60	-	22+45	STH 113 - RT	-	185	185	-	-	3	
0010	22+75	-	24+00	STH 113 - RT	-	-	-	1	2	3	
0010	21+45	-	23+70	STH 113 - LT	-	255	255	-	-	-	
0010	110+00	-	110+00	STH 113 - RT	-	-	-	-	1	-	
0010	169+83	-	170+85	STH 113	-	135	135	-	-	4	CULVERT REPLACEMENT
0010	210+20	-	210+62	STH 113	-	163	163	-	-	8	CULVERT REPLACEMENT
				UNDISTRIBUTED	3	309	309	1	1	5	
TOTAL 0010					13	1,545	1,545	3	4	23	

RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0500	628.2008	629.0210	630.0130	630.0171	630.0500
					SALVAGED TOPSOIL SY	EROSION MAT URBAN CLASS I TYPE B SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 30 LB	SEEDING MIXTURE NO. 70A LB	SEED WATER MGAL
0010	15+00	-	17+00	STH 113 - RT	211	211	0.2	4	0.2	5
0010	15+00	-	16+95	STH 113 - LT	199	199	0.2	4	0.2	5
0010	17+62	-	20+35	STH 113 - RT	244	244	0.2	5	0.2	6
0010	17+64	-	21+05	STH 113 - LT	661	661	0.5	12	0.2	15
0010	20+62	-	22+38	STH 113 - RT	247	247	0.2	5	-	6
0010	21+28	-	23+65	STH 113 - LT	318	318	0.2	6	-	8
0010				PATH RAILROAD CROSSING SOUTH	9	9	0.1	1	-	1
0010				PATH RAILROAD CROSSING NORTH	13	13	0.1	1	-	1
0010				W VERLEEN AVE - SOUTH CURB RAMP	26	26	0.1	1	-	1
0010				W VERLEEN AVE - NORTH CURB RAMP	24	24	0.1	1	-	1
0010				LOCHMOORE DR - SOUTH CURB RAMPS	10	10	0.1	1	-	1
0010				LOCHMOORE DR - NORTH CURB RAMPS	10	10	0.1	1	-	1
0010				LEGENDS DR - SOUTH CURB RAMP	6	6	0.1	1	-	1
0010				LEGENDS DR - NORTH CURB RAMP	20	20	0.1	1	-	1
0010				LEGENDS DR - NORTHWEST CURB RAMP	7	7	0.1	1	-	1
0010				KOPP RD - SOUTH CURB RAMP	138	138	0.1	3	-	4
0010				KOPP RD - NORTH CURB RAMP	128	128	0.1	3	-	3
0010				CUBA VALLEY RD - FLUMES	145	145	0.1	3	-	4
0010				CULVERT 170+32	89	89	0.1	2	-	2
0010				CULVERT 210+41	136	136	0.1	3	-	4
0010				UNDISTRIBUTED	265	265	0.3	6	0.2	8
TOTAL 0010					2,906	2,906	3.2	65	1	79

TRAFFIC CONTROL ITEMS

CATEGORY	LOCATION	DAYS	643.0420		643.0705		643.0900	
			TRAFFIC CONTROL BARRICADES TYPE III NO. IN SERVICE	DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A NO. IN SERVICE	DAY	TRAFFIC CONTROL SIGNS NO. IN SERVICE	DAY
0010	START OF PROJECT	126	2	252	4	504	3	378
0010	SOUTH OF BRIDGE	126	5	630	6	756	1	126
0010	NORTH OF BRIDGE	126	5	630	6	756	1	126
0010	W VERLEEN AVE	126	2	252	4	504	3	378
0010	LOCHMOORE DR	126	2	252	4	504	3	378
0010	LEGENDS DR	126	2	252	4	504	3	378
0010	KOPP RD	126	2	252	4	504	3	378
0010	EASY ST	126	2	252	4	504	3	378
0010	MAIER RD	126	2	252	4	504	3	378
0010	CUBA VALLEY RD - LT	126	2	252	4	504	3	378
0010	CUBA VALLEY RD - RT	126	2	252	4	504	3	378
0010	MADIGAN RD	126	2	252	4	504	3	378
0010	RIPP LN	126	2	252	4	504	3	378
0010	END OF PROJECT	126	2	252	4	504	1	126
TOTAL 0010				4,284		7,560		4,536

\* ADDITIONAL QUANTITIES LISTED ELSEWHERE

PROJECT NO: 5280-03-70

HWY: STH 113

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

E

PAVEMENT MARKING ITEMS

CATEGORY	STATION TO	STATION	LOCATION	646.2020		646.2040	646.4020	646.5320	646.6120	646.7420	646.7520	646.8220	643.3170	643.3165	
				MARKING LINE EPOXY 6-INCH		MARKING LINE	MARKING LINE	MARKING	MARKING	MARKING	MARKING	MARKING	MARKING	TEMPORARY	TEMPORARY
				YELLOW	WHITE	REF EPOXY 6-INCH	EPOXY 10-INCH	CROSSINGS	STOP LINE	CROSSWALK EPOXY	CROSSWALK	ISLAND NOSE	MARKING LINE	MARKING LINE	PAINT 6-INCH
	LF	LF	WHITE LF	LF	EACH	LF	LF	LF	LF	LF	EACH	LF	LF		
0010	15+00	- 19+72	STH 113	1,096	944	-	-	1	-	-	-	-	-	-	
0010	22+30	- 23+06	STH 113	304	152	-	-	-	-	-	-	-	7	7	
0010	23+06	- 25+48	STH 113	484	365	-	-	1	-	-	-	2	20	20	
0010	25+48	- 27+92	STH 113	305	488	-	-	-	-	-	-	2	20	20	
0010	27+92	- 64+60	STH 113	917	3,105	2,992	154	-	-	-	136	-	294	294	
0010	64+60	- 75+05	STH 113	1,307	-	1,808	-	-	-	-	-	-	84	84	
0010	75+05	- 88+53	STH 113	2,696	-	2,696	-	-	-	-	-	-	108	108	
0010	88+53	- 100+15	STH 113	1,453	-	2,300	-	-	-	-	-	-	93	93	
0010	100+15	- 117+62	STH 113	437	-	2,737	387	-	-	-	-	-	140	140	
0010	117+62	- 129+04	STH 113	1,428	-	4,502	-	-	-	-	-	-	92	92	
0010	129+04	- 154+27	STH 113	5,046	-	4,287	-	-	-	-	-	-	202	202	
0010	154+27	- 165+57	STH 113	1,413	-	2,260	-	-	-	-	-	-	91	91	
0010	165+57	- 169+10	STH 113	89	-	706	-	-	-	-	-	-	29	29	
0010	169+10	- 179+50	STH 113	1,300	-	2,080	-	-	-	-	-	-	84	84	
0010	179+50	- 191+00	STH 113	1,438	-	2,300	-	-	-	-	-	-	92	92	
0010	191+00	- 202+45	STH 113	1,432	-	2,290	-	-	-	-	-	-	92	92	
0010	202+45	- 215+63	STH 113	2,636	-	2,636	-	-	30	-	-	-	106	106	
0010			W VERLEEN AVE	-	-	-	-	-	19	86	-	-	-	-	
0010			LOCHMOORE DR	-	-	-	-	-	17	68	-	-	-	-	
0010			LEGENDS DR	-	-	-	-	-	17	68	-	-	-	-	
0010			KOPP RD	-	-	-	-	-	20	98	-	-	-	-	
SUBTOTAL				23,781	5,054										
TOTAL 0010				28,835		33,594	541	2	103	320	136	4	1,554	1,554	

SIGN ITEMS

CATEGORY	STATION	LOCATION	634.0614	634.0616	637.2210	638.2102	638.2602	638.3000	REMARKS
			POSTS WOOD 4X6-INCH X 14-FT	POSTS WOOD 4X6-INCH X 16-FT	SIGNS TYPE II REFLECTIVE H SF	MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	
0010	12+75	STH 113 RT	-	-	-	-	1	1	NARROW BRIDGE
0010	17+74	STH 113 RT	-	1	-	1	-	1	R X R
0010	19+85	STH 113 CL	1	-	3	-	-	-	KEEP LEFT/RIGHT
0010	20+00	STH 113 LT	1	-	7	-	1	1	INSTALL DO NOT ENTER/ REMOVE NARROW BRIDGE
0010	22+18	STH 113 CL	1	-	3	-	-	-	KEEP LEFT/RIGHT
0010	22+25	STH 113 RT	1	-	7	-	-	-	DO NOT ENTER
0010	23+77	STH 113 LT	1	-	-	1	-	1	R X R
0010	23+86	STH 113 RT	1	-	-	1	-	1	STOP SIGN
0010	27+56	STH 113 RT	1	-	6	-	-	-	W14-3 NO PASSING ZONE
0010	38+83	STH 113 RT/LEGENDS DR	1	-	-	1	-	1	STOP SIGN
0010	43+15	STH 113 LT/KOPP RD	1	-	-	1	-	1	STOP SIGN
TOTAL 0010			9	1	26	5	2	7	

SAWING ITEMS

CATEGORY	STATION TO	STATION	LOCATION	690.0150	690.0250
				SAWING ASPHALT LF	SAWING CONCRETE LF
0010	15+00	- 15+00	START PROJECT	27	-
0010	19+86	- 20+41	PATH AT RR CROSSING	30	-
0010	22+30	- 22+30	END OF RECONSTRUCT 22+30	36	-
0010	22+30	- 23+09	SHOULDER WIDENING AREA	109	-
0010	23+04	- 24+18	W VERLEEN AVE - CURB RAMPS	107	18
0010	31+48	- 32+24	LOCHMOORE DR - CURB RAMPS	104	18
0010	38+26	- 39+05	LEGENDS DR - CURB RAMPS	67	40
0010	42+20	- 44+68	KOPP RD & STH 113	250	-
0010	43+20	- 43+54	KOPP RD	34	-
0010	42+78	- 43+95	KOPP RD - CURB RAMPS	204	5
0010	169+82	- 170+83	CULVERT REPLACEMENT	48	-
0010	209+90	- 210+92	CULVERT REPLACEMENT	48	-
0010	19+26	- 19+87	COMMERCIAL DRIVEWAY	61	-
TOTAL 0010				1,125	81

PROJECT NO: 5280-03-70

HWY: STH 113

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

E



TRAFFIC CONTROL DETOUR SIGN SUMMARY

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SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 126 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
1	STH 19/113, E. OF CTH Q, PLACE 1500' E. OF CTH Q RAB INTERSECTION	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	W 20-2A	48"X48"	1	126	126							
2	STH 19/113, E. OF CTH Q, PLACE 1000' E. OF CTH Q RAB INTERSECTION	FMS	48"X24"	1					8				SEE SIGN DETAIL SHEET
3	STH 19/113, E. OF CTH Q, PLACE 500' E. OF CTH Q RAB INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							AHEAD
4	STH 19/113, AT CTH Q, MODIFY EXISTING J3-1 SIGN AS SHOWN AT CTH Q RAB INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	MO 6-1	21"X21"	1	126	126							AHEAD
5	STH 19/113, AT CTH Q, COVER EXISTING SPLITTER ISLAND SIGN AT NORTH LEG EXIT										1	1	COVER ENTIRE SIGN
6	STH 113, AT STH 19, PLACE ON RIGHT SHOULDER AT STH 19 RAB INTERSECTION	R 11-3B	60"X30"	1	126	126	126	252					1/2 MILE AHEAD
	"	M 4-9L	30"X24"	1	126	126							
7	STH 113, N. OF STH 19, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
8	STH 19, W. OF STH 113, PLACE 250' W. OF STH 113 RAB INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
9	STH 19, AT STH 113, PLACE ABOVE EXISTING SPLITTER ISLAND SIGN ON WEST LEG EXIT	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-2	21"X21"	1	126	126							TILT RIGHT
10	STH 19, AT STH 113, COVER EXISTING J3-1 SIGN AS SHOWN										1	1	COVER ENTIRE SIGN
11	CTH Q, S. OF STH 19/113, PLACE 100' S. OF STH 19/113 RAB INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							LEFT
12	CTH Q, S. OF STH 19/113, PLACE 600' S. OF STH 19/113 RAB INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 5-1L	21"X21"	1	126	126							
13	CTH Q, S. OF STH 19/113, PLACE 1000' S. OF STH 19/113 RAB INTERSECTION	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	W 20-2A	48"X48"	1	126	126							
14	STH 19, W. OF STH 113, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	126	126							
15	STH 19, E. OF USH 12, PLACE 500' E. OF USH 12 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 5-1R	21"X21"	1	126	126							
16	STH 19, AT USH 12, PLACE RIGHT OF EXISTING J3-3 SIGN AT USH 12 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							RIGHT
17	USH 12/STH 19, AT STH 19, PLACE AT BEGIN OF LEFT TURN LANE IN MEDIAN TO STH 19	MO 4-8	36"X18"	1	126	126							
	"	M 3-3	36"X18"	1	126	126							
	"	M 1-6	36"X36"	1	126	126							113
	"	MO 6-1	30"X30"	1	126	126							LEFT

PAGE SUBTOTALS

44 5,292 126 252 8 7 2

\* ADDITIONAL QUANTITIES LISTED ELSEWHERE

**TRAFFIC CONTROL DETOUR SIGN SUMMARY**

\* \* \*

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 126 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
18	USH 12/STH 19, W. OF STH 19, PLACE 1000' W. OF STH 19 INTERSECTION IN MEDIAN	MO 4-8	36"X18"	1	126	126							
	"	M 3-3	36"X18"	1	126	126							
	"	M 1-6	36"X36"	1	126	126							113
	"	MO 5-1L	30"X30"	1	126	126							
19	USH 12/STH 19, E. OF STH 19, PLACE 250' E. OF STH 19 INTERSECTION	MO 4-8	36"X18"	1	126	126							
	"	M 3-1	36"X18"	1	126	126							
	"	M 1-6	36"X36"	1	126	126							113
	"	MO 6-1	30"X30"	1	126	126							AHEAD
20	USH 12, W. OF STH 19, PLACE 250' W. OF STH 19 INTERSECTION	MO 4-8	36"X18"	1	126	126							
	"	M 3-3	36"X18"	1	126	126							
	"	M 1-6	36"X36"	1	126	126							113
	"	MO 6-1	30"X30"	1	126	126							AHEAD
21	USH 12, E. OF CTH KP, PLACE 250' E. OF CTH KP INTERSECTION	MO 4-8	36"X18"	1	126	126							
	"	M 3-1	36"X18"	1	126	126							
	"	M 1-6	36"X36"	1	126	126							113
	"	MO 6-1	30"X30"	1	126	126							AHEAD
22	USH 12, W. OF CTH KP, PLACE 250' W. OF CTH KP INTERSECTION	MO 4-8	36"X18"	1	126	126							
	"	M 3-3	36"X18"	1	126	126							
	"	M 1-6	36"X36"	1	126	126							113
	"	MO 6-1	30"X30"	1	126	126							AHEAD
23	USH 12, E. OF STH 78, PLACE 250' E. OF STH 78 INTERSECTION	MO 4-8	36"X18"	1	126	126							
	"	M 3-1	36"X18"	1	126	126							
	"	M 1-6	36"X36"	1	126	126							113
	"	MO 6-1	30"X30"	1	126	126							AHEAD
24	USH 12, W. OF STH 78, PLACE 250' W. OF STH 78 INTERSECTION	MO 4-8	36"X18"	1	126	126							
	"	M 3-3	36"X18"	1	126	126							
	"	M 1-6	36"X36"	1	126	126							113
	"	MO 6-1	30"X30"	1	126	126							AHEAD
25	USH 12, E. OF STH 60, PLACE 750' E. OF STH 60 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 5-1R	21"X21"	1	126	126							
26	USH 12, E. OF STH 60, PLACE 250' E. OF STH 60 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
27	USH 12, AT STH 60, PLACE RIGHT OF EXISTING J3-3 SIGN AT STH 60 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							RIGHT
28	STH 60, AT USH 12, PLACE ABOVE EXISTING J3-2 SIGN AT USH 12 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							LEFT
29	STH 60, N. OF USH 12, PLACE 250' N. OF USH 12 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
PAGE SUBTOTALS				46		5,796	0	0	0	0		0	

\* ADDITIONAL QUANTITIES LISTED ELSEWHERE

**TRAFFIC CONTROL DETOUR SIGN SUMMARY**

\* \* \*

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
30	STH 60, N. OF USH 12, PLACE 500' N. OF USH 12 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 5-1L	21"X21"	1	126	126							
31	STH 60, S. OF PRAIRIE ST, PLACE 500' S. OF PRAIRIE ST INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 5-1R	21"X21"	1	126	126							
32	STH 60, S. OF PRAIRIE ST, PLACE 250' S. OF PRAIRIE ST INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
33	STH 60, AT PRAIRIE ST, PLACE RIGHT OF EXISTING R1-1 SIGN AT PRAIRIE ST INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							RIGHT
34	STH 60, AT PRAIRIE ST, PLACE RIGHT OF EXISTING J3-2 SIGN AT PRAIRIE ST INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							LEFT
35	STH 60, N. OF PRAIRIE ST, PLACE 500' N. OF PRAIRIE ST INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 5-1L	21"X21"	1	126	126							
36	STH 60, W. OF STH 78, PLACE 250' W. OF STH 78 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							AHEAD
37	STH 60, E. OF STH 78, PLACE 250' E. OF STH 78 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							AHEAD
38	STH 60, W. OF STH 188, PLACE 250' W. OF STH 188 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							AHEAD
39	STH 60, E. OF STH 188, PLACE 250' E. OF STH 188 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							AHEAD
40	STH 60, W. OF STH 113, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	126	126							
41	STH 60, AT LODI ST, PLACE 100' PRIOR TO LODI ST INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-1	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							RIGHT
PAGE SUBTOTALS				44		5,544	0	0	0	0		0	

\* ADDITIONAL QUANTITIES LISTED ELSEWHERE



TRAFFIC CONTROL DETOUR SIGN SUMMARY

\* \* \*

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
42	STH 60, AT WATER ST, PLACE 100' PRIOR TO WATER ST INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							LEFT
43	STH 60, W. OF STH 113, PLACE 100' W. OF STH 113 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
44	STH 60, AT STH 113, COVER EXISTING J3-2 SIGN AS SHOWN										1	1	COVER" SOUTH 113 RT"
45	STH 113, AT STH 60, PLACE ON RIGHT SHOULDER IN SW QUADRANT OF INTERSECTION	R 11-3B	60"X30"	1	126	126	126	252					11 MILES AHEAD
	"	M 4-9R	30"X24"	1	126	126							
46	STH 113, S. OF STH 60, COVER EXISTING J4-1 SIGN AS SHOWN										1	1	COVER ENTIRE SIGN
47	STH 113, S. OF STH 60, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
48	STH 60, E. OF STH 113, PLACE 1000' E. OF STH 113 INTERSECTION	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	W 20-2A	48"X48"	1	126	126							
49	STH 60, E. OF STH 113, PLACE 500' E. OF STH 113 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							AHEAD
50	STH 60, AT STH 113, MODIFY EXISTING J3-2 SIGN AS SHOWN	MO 4-8	24"X12"	1	126	126							
	"	MO 6-1	21"X21"	1	126	126							AHEAD
51	STH 113, AT STH 60, PLACE RIGHT OF EXISTING R1-1 SIGN	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 6-1	21"X21"	1	126	126							RIGHT
52	STH 113, N. OF STH 60, COVER EXISTING D1-2 SIGN AS SHOWN										1	1	COVER "AHEAD-MADISON"
53	STH 113, N. OF STH 60, PLACE 500' N. OF STH 60 INTERSECTION	MO 4-8	24"X12"	1	126	126							
	"	M 3-3	24"X12"	1	126	126							
	"	M 1-6	24"X24"	1	126	126							113
	"	MO 5-1R	21"X21"	1	126	126							
54	STH 113, N. OF STH 60, PLACE 1000' N. OF STH 60 INTERSECTION	FMS	48"X24"	1					8				SEE SIGN DETAIL
55	STH 113, N. OF STH 60, PLACE 1500' N. OF STH 60 INTERSECTION	W 20-2A	48"X48"	1	126	126							
PAGE SUBTOTALS				29		3,402	126	252	8	7		3	
DETOUR TOTALS				163		20,034	252	504	16	14		5	

\* ADDITIONAL QUANTITIES LISTED ELSEWHERE

3

3

TEMPORARY PEDESTRIAN FACILITIES

CATEGORY	STATION TO	STATION	LOCATION	643.0900		643.0300		643.0410		644.1410	644.1601		644.1810	644.1605	REMARKS
				TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE II		TEMPORARY PEDESTRIAN SURFACE ASPHALT	TEMPORARY PEDESTRIAN CURB RAMP	TEMPORARY PEDESTRIAN BARRICADE	TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD		
				NO. IN SERVICE	DAY	NO. IN SERVICE	DAY	NO. IN SERVICE	DAY	SF	NO. IN SERVICE	DAY	LF	SF	
0010	16+28 -	18+28	STH 113	3	42	-	-	7	98	-	-	-	155	-	AT BRIDGE ALONG PEDESTRIAN PATH
0010	22+84 -	24+38	STH 113/W VERLEEN AVE	4	56	30	420	12	168	218	2	28	480	20	
0010	30+99 -	32+62	STH 113/LOCHMOORE DR	4	56	32	448	12	168	201	2	28	488	20	
0010	37+67 -	39+61	STH 113/LEGENDS	4	56	32	448	12	168	240	2	28	502	20	
0010	39+48 -	39+61	STH 113 LT	1	14	-	-	3	42	100	1	14	135	10	
0010	42+34 -	43+35	STH 113/KOPP RD	2	28	25	350	6	84	386	2	28	423	20	
0010			UNDISTRIBUTED		38		250		110	172	2	28	328	20	
TOTAL 0010					290		1,916		838	1,317		154	2,511	110	

\* ADDITIONAL QUANTITIES LISTED ELSEWHERE

STAKING ITEMS

CATEGORY	STATION TO	STATION	LOCATION	650.4500	650.5000	650.5500	650.6000	650.8000	650.9000	650.9500.01	650.9911.01	650.6501.01
				CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	CONSTRUCTION STAKING PIPE CULVERTS EACH	CONSTRUCTION STAKING RESURFACING REFERENCE LF	CONSTRUCTION STAKING CURB RAMPS EACH	CONSTRUCTION STAKING SIDEWALK (PROJECT) (01. 5280-03-70) EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 5280-03-70) EACH	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01.B-13-871) EACH
0010	15+00 -	16+87	STH 113	187	187	--	--	--	--	--	--	--
0010	17+72 -	23+09	STH 113	537	537	424	--	--	--	--	--	--
0010	23+09 -	215+85	STH 113	--	--	--	--	19,276	--	--	--	--
0010	169+83 -	170+83	CULVERT REPLACEMENT	--	--	--	1	--	--	--	--	--
0010	209+90 -	210+92	CULVERT REPLACEMENT	--	--	--	1	--	--	--	--	--
0010	19+86 -	20+41	RAILROAD CROSSING	--	--	--	--	--	2	--	--	--
0010	23+04 -	24+15	W VERLEEN AVE	--	--	--	--	--	2	--	--	--
0010	31+49 -	32+24	LOCHMOORE DR	--	--	--	--	--	2	--	--	--
0010	38+26 -	39+05	LEGENDS DR	--	--	--	--	--	3	--	--	--
0010	0+97 -	1+69	KOPP RD	--	72	184	--	--	2	--	--	--
			UNDISTRIBUTED	--	800	--	--	--	--	1	1	1
TOTAL 0010				724	1,596	608	2	19,276	11	1	1	1

BIRD DETERRENT SYSTEM

CATEGORY	STATION	LOCATION	EACH
0010	17+25	STH 113 Bridge over Sixmile Creek	1
TOTAL 0010			1

999.2000.S.01  
INSTALLING AND  
MAINTAINING BIRD  
DETERRENT SYSTEM  
(STATION) (01.17+25)

LAND PARCEL MONUMENTS

CATEGORY	LOCATION	SPV.0060.01	SPV.0060.02
		VERIFY AND REPLACE EXISTING LAND PARCEL MONUMENTS EACH	RESEARCH AND LOCATE EXISTING LAND PARCEL MONUMENTS EACH
0010	STH 113 PROJECT	6	6
TOTAL 0010		6	6

REFERENCE MONUMENTS

CATEGORY	STATION	OFFSET	SPV.0060.03	REMARKS
			LANDMARK REFERENCE MONUMENTS EACH	
0010	30+13.9	0.0'	1	T8N, R9E, S6/5
0010	56+60.8	1.2' RT	1	T9N / T8N, R9E, S6/5/31/32
0010	83+16.5	4.8' RT	1	T9N, R9E, S31/32
0010	109+73.4	3.2' LT	1	T9N, R9E, S30/29/31/32
0010	136+19.5	1.0' LT	1	T9N, R9E, S30/29
0010	162+86.0	0.8' RT	1	T9N, R9E, S30/29/19/20
0010	189+42.7	0.1' RT	1	T9N, R9E, S19/20
0010	215+99.5	0.0'	1	T9N, R9E, S19/20/18/17
TOTAL 0010			8	

PROJECT NO: 5280-03-70

HWY: STH 113

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

E

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION TRANSPORTATION PROJECT PLAT TITLE SHEET

## 5280-03-20

### MADISON - LODI

SUNSET LANE TO CTH V

## STH 113 DANE COUNTY



#### CONVENTIONAL SYMBOLS

SECTION LINE		SECTION CORNER SYMBOL		R/W MONUMENT (TO BE SET)	
QUARTER LINE		SECTION CORNER MONUMENT		NON-MONUMENTED R/W POINT	
SIXTEENTH LINE		GEODETIC SURVEY MONUMENT		FOUND IRON PIN (1-INCH UNLESS NOTED)	
NEW REFERENCE LINE		SIXTEENTH CORNER MONUMENT		OFF-PREMISE SIGN	
NEW R/W LINE		SIGN		COMPENSABLE	
EXISTING R/W OR HE LINE		ACCESS RESTRICTED BY ACQUISITION		NON-COMPENSABLE	
PROPERTY LINE		NO ACCESS (BY STATUTORY AUTHORITY)			
LOT, TIE & OTHER MINOR LINES		ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)			
SLOPE INTERCEPT		NO ACCESS (NEW HIGHWAY)			
CORPORATE LIMITS		PARCEL NUMBER (25)		UTILITY NUMBER (40)	
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)		PARALLEL OFFSETS			
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)					
TEMPORARY LIMITED EASEMENT AREA					
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)					
TRANSMISSION STRUCTURES					
BUILDING					
BRIDGE					

#### CONVENTIONAL ABBREVIATIONS

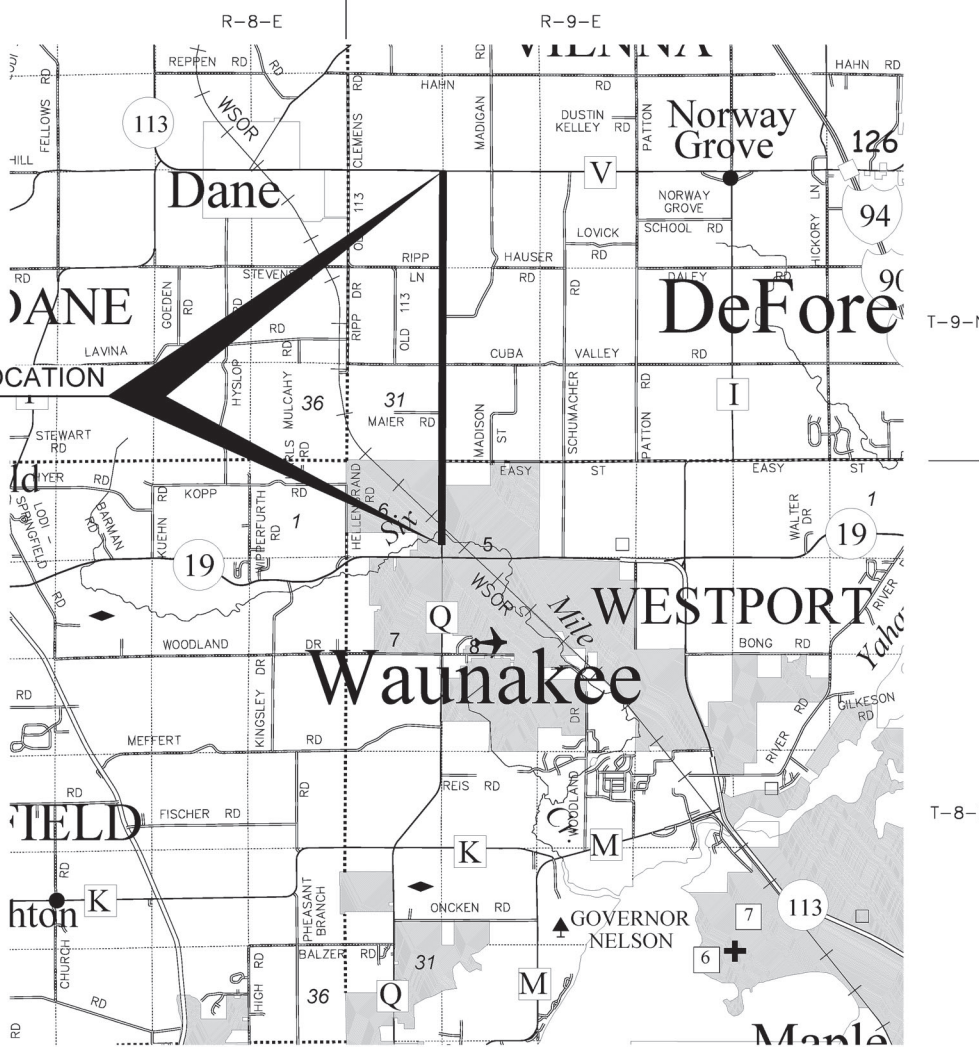
ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS (100')	R/I
ALUMINUM	ALUM	REEL / IMAGE	R/L
AND OTHERS	ET AL	REFERENCE LINE	REM
BACK	BK	REMAINING	RDE
BLOCK	BLK	RESTRICTIVE DEVELOPMENT EASEMENT	RT
CENTERLINE	C/L		R/W
CERTIFIED SURVEY MAP	CSM	RIGHT	SEC
CONCRETE	CONC	RIGHT OF WAY	SEPV
COUNTY	CO	SECTION	SF
COUNTY TRUNK HIGHWAY	CTH	SEPTIC VENT	STH
DISTANCE	DIST	SQUARE FEET	STA
CORNER	COR	STATE TRUNK HIGHWAY	TP
DOCUMENT NUMBER	DOC	STATION	TLE
EASEMENT	EASE	TELEPHONE PEDESTAL	TPP
EXISTING	EX	TEMPORARY LIMITED EASEMENT	USH
GAS VALVE	GV		V
GRID NORTH	GN	TRANSPORTATION PROJECT PLAT	
HIGHWAY EASEMENT	HE		
IDENTIFICATION	ID	UNITED STATES HIGHWAY	
LAND CONTRACT	LC	VOLUME	
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

#### CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

#### CONVENTIONAL UTILITY SYMBOLS

	WATER
	GAS
	TELEPHONE OVERHEAD
	TRANSMISSION LINES
	ELECTRIC
	CABLE TELEVISION
	FIBER OPTIC
	SANITARY SEWER
	STORM SEWER



THE NOTES, CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 5280-03-20

#### NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DANE COUNTY, NAD83(2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLE) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHTS TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

AN EASEMENT FOR HIGHWAY PURPOSES (HE), AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE.

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

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE TPP DETAIL SHEETS.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT OF WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON DETAIL SHEETS.

PROJECT NUMBER 5280-03-20 -4.01  
SHEET 2 OF 2  
AMENDMENT NO:



# TRANSPORTATION PROJECT PLAT NO: 5280-03-20 - 4.01

PART OF LOT 1 OF CSM NO. 5320 RECORDED AS DOCUMENT NO. 2037727 LOCATED IN AND INCLUDING PART OF THE NE 1/4 OF THE SE 1/4 AND PART OF THE SE 1/4 OF THE SE 1/4 ALL BEING LOCATED IN SECTION 6, T8N, R9E, VILLAGE OF WAUNAKEE, DANE COUNTY, WISCONSIN.

RELOCATION ORDER: STH 113, MADISON-LODI, (SUNSET LANE TO CTH V), DANE COUNTY, WISCONSIN

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

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

- THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
- THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: PREVIOUS PROJECT 5290-01-21, FIRST ADDITION SIXMILE CREEK SUBDIVISION, CSM NO. 5320, CSM NO. 8801, CSM NO. 12679 AND SCHNEEBERGER PLAT OF SURVEY M783-L.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), DANE COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

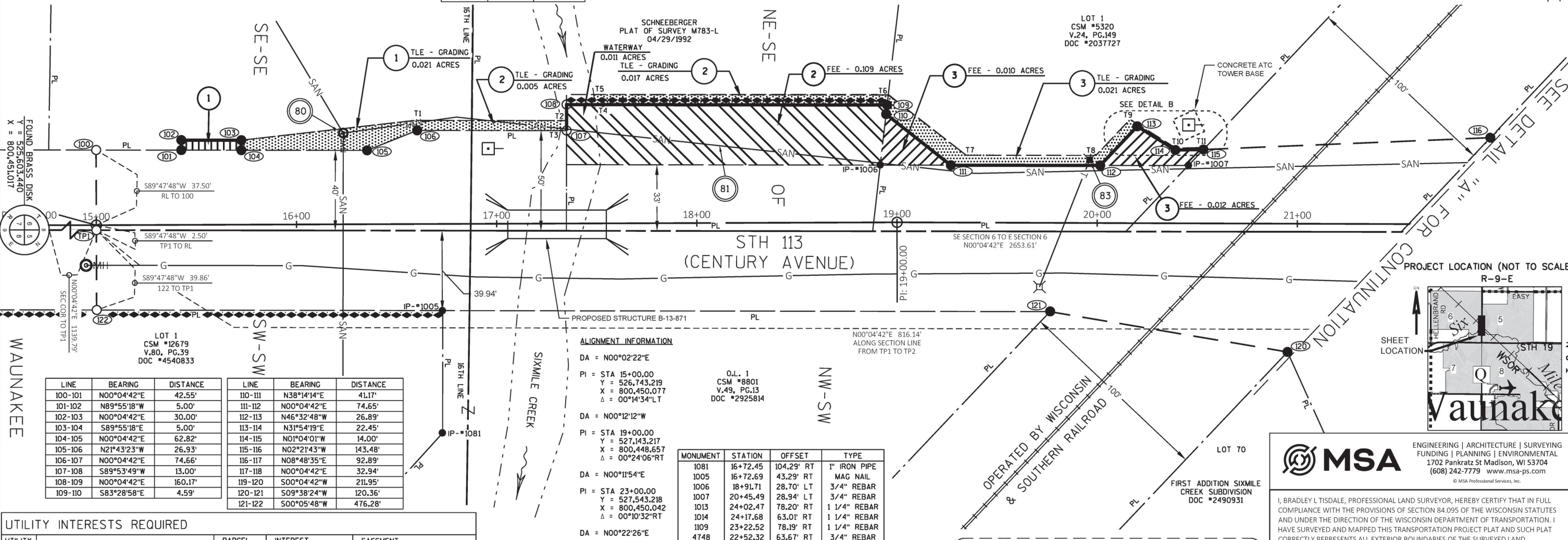
ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4"x24" IRON REBARS) UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, IN DANE COUNTY, AS SHEET 2 OF 2 OF THIS DOCUMENT.

EXISTING ACCESS CONTROL ALONG STH 113 HAS BEEN ESTABLISHED FROM CSM NO. 12679 AND ACCESS COVENANT (PERMIT) RECORDED AS DOCUMENT NO. 2732910

RW POINT	STATION	OFFSET
100	14+99.84	37.50' LT
101	15+42.54	37.29' LT
102	15+42.57	42.29' LT
103	15+72.57	42.14' LT
104	15+72.54	37.14' LT
105	16+35.36	36.83' LT
106	16+60.41	46.71' LT
107	17+35.07	46.34' LT
108	17+35.10	59.34' LT
109	18+95.26	58.56' LT
110	18+94.72	54.00' LT
111	19+26.77	28.59' LT
112	20+01.42	28.75' LT
113	20+19.85	48.33' LT
114	20+38.95	36.54' LT
115	20+52.94	36.84' LT
116	21+96.28	43.25' LT
117	22+88.12	29.35' LT
118	23+20.97	29.48' LT
119	23+07.45	63.59' RT
120	20+95.31	64.06' RT
121	19+76.58	44.32' RT
122	15+00.00	42.36' RT
TP1	15+00.00	2.50' RT
TP2	23+16.17	3.55' RT

TLE POINT	STATION	OFFSET
T1	16+59.48	51.72' LT
T2	17+32.51	51.36' LT
T3	17+32.08	46.36' LT
T4	17+49.25	59.27' LT
T5	17+48.73	64.28' LT
T6	18+95.85	63.55' LT
T7	19+34.43	33.60' LT
T8	19+99.26	33.74' LT
T9	20+16.21	51.76' LT
T10	20+39.22	37.54' LT
T11	20+53.90	37.87' LT
T12	22+00.44	47.68' LT



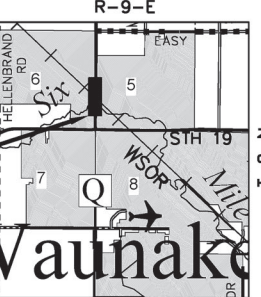
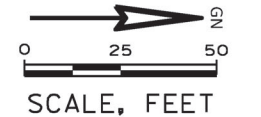
LINE	BEARING	DISTANCE	LINE	BEARING	DISTANCE
100-101	N00°04'42"E	42.55'	110-111	N38°14'14"E	41.17'
101-102	N89°55'18"W	5.00'	111-112	N00°04'42"E	74.65'
102-103	N00°04'42"E	30.00'	112-113	N46°32'48"W	26.89'
103-104	S89°55'18"E	5.00'	113-114	N31°54'19"E	22.45'
104-105	N00°04'42"E	62.82'	114-115	N01°04'01"W	14.00'
105-106	N21°43'23"W	26.93'	115-116	N02°21'43"W	143.48'
106-107	N00°04'42"E	74.66'	116-117	N08°48'35"E	92.89'
107-108	S89°53'49"W	13.00'	117-118	N00°04'42"E	32.94'
108-109	N00°04'42"E	160.17'	119-120	S00°04'42"W	211.95'
109-110	S83°28'58"E	4.59'	120-121	S09°38'24"W	120.36'
			121-122	S00°05'48"W	476.28'

UTILITY NUMBER	OWNER(S)	PARCEL AFFECTED	INTEREST REQUIRED	EASEMENT AFFECTING
80	WAUNAKEE UTILITIES (SANITARY)	1	RELEASE OF RIGHTS	NO EASEMENT OF RECORD
81	MADISON METROPOLITAN SEWERAGE DISTRICT	1, 2 & 3	RELEASE OF RIGHTS	NO EASEMENT OF RECORD
82	AMERICAN TRANSMISSION COMPANY, LLC	1, 2 & 3	RELEASE OF RIGHTS	DOC #3282842
83	TDS TELECOM	3	RELEASE OF RIGHTS	NO EASEMENT OF RECORD
84	WISCONSIN POWER AND LIGHT	1, 2 & 3	RELEASE OF RIGHTS	PARCEL 1,2,3 - DOC #584928 PARCEL 1 - DOC #1165023
85	MADISON GAS AND ELECTRIC COMPANY	2	RELEASE OF RIGHTS	DOC #1135368

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES REQUIRED			TLE ACRES
			NEW	EXISTING	TOTAL	
1	RONALD G. ENDRES	FEE/TLE	0.003	---	0.003	0.021
2	SIXMILE CREEK GOLF DEVELOPMENT GROUP, LLC	FEE/TLE	0.126	0.232	0.358	0.034
3	CLASSIC CUSTOM HOMES OF WAUNAKEE, INC.	FEE/TLE	0.022	0.106	0.128	0.021

KRISTI CHLEBOWSKI  
DANE COUNTY  
REGISTER OF DEEDS  
DOCUMENT #  
5716525  
04/13/2021 10:25 AM  
Trans Fee:  
Exempt #:  
Rec. Fee: 25.00  
Pages:  
\*\*The above recording information  
verifies that this document has  
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RESERVED FOR REGISTER OF DEEDS  
PROJECT NUMBER 5280-03-20-4.01  
SHEET 1 OF 2  
AMENDMENT NO.:



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1702 Pankratz St Madison, WI 53704  
(608) 242-7779 www.msa-ps.com  
© MSA Professional Services, Inc.

I, BRADLEY L. TISDALE, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

SIGNATURE: *Bradley L. Tisdale* DATE: 04/08/21  
PRINT NAME: BRADLEY L. TISDALE  
REGISTRATION NUMBER: S-2824

SIGNATURE: *Cory Schlage* DATE: 4/12/2021  
PRINT NAME: CORY SCHLAGE

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



# TRANSPORTATION PROJECT PLAT NO: 5280-03-20 - 4.02

PART OF LOT 1 OF CSM NO. 10221 RECORDED IN V.60, P.38-40 AS DOCUMENT NO. 3393332 LOCATED IN THE SW 1/4 OF THE SW 1/4 OF SECTION 20, T9N, R9E, TOWN OF VIENNA, DANE COUNTY, WISCONSIN.

RELOCATION ORDER: STH 113, MADISON-LODI, (SUNSET LANE TO CTH V), DANE COUNTY, WISCONSIN

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

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: PREVIOUS PROJECT - DANE COUNTY 522-32, CSM #6041 AND CSM #10221.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), DANE COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4"x24" IRON REBAR) UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, IN DANE COUNTY, AS SHEET 2 OF 2 OF DOCUMENT 5716525.

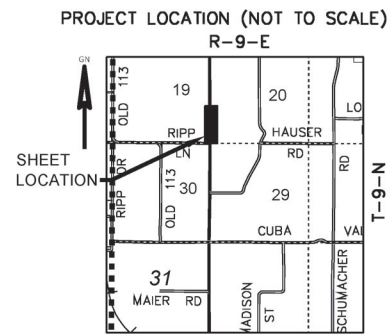
RW POINT	STATION	OFFSET
300	162+86.01	0.00'
301	162+86.81	-49.28'
302	163+19.81	-49.62'
303	176+15.51	-47.01'
304	176+14.42	0.00'
305	176+14.36	2.92'
306	176+13.87	42.92'
307	170+48.23	41.52'
308	170+48.23	48.02'
309	170+18.23	47.95'
310	170+18.23	41.50'
311	162+85.96	40.72'

LINE	BEARING	DISTANCE
300-301	N89°16'11"W	49.29'
301-302	N00°29'08"W	33.01'
303-304	S89°19'04"E	47.09'
304-305	S89°19'04"E	2.92'
305-306	S89°56'51"E	40.00'
307-308	N89°22'47"E	6.50'
308-309	S00°29'08"E	30.00'
309-310	S89°22'47"W	6.50'
311-SE 1/4 SEC 19	S89°54'12"W	40.00'
SE 1/4 SEC 19-300	N89°16'11"W	0.72'

TLE POINT	STATION	OFFSET
T1	170+48.23	58.02'
T2	170+18.23	57.95'

SCHEDULE OF LANDS & INTERESTS REQUIRED		OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.				
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W SQ FT REQUIRED			TLE SQ FT
			NEW	EXISTING	TOTAL	
4	RIPP LIVING TRUST AND TRICOR TRANSIT INC, AS LESSEE	FEE/TLE	195	--	195	300

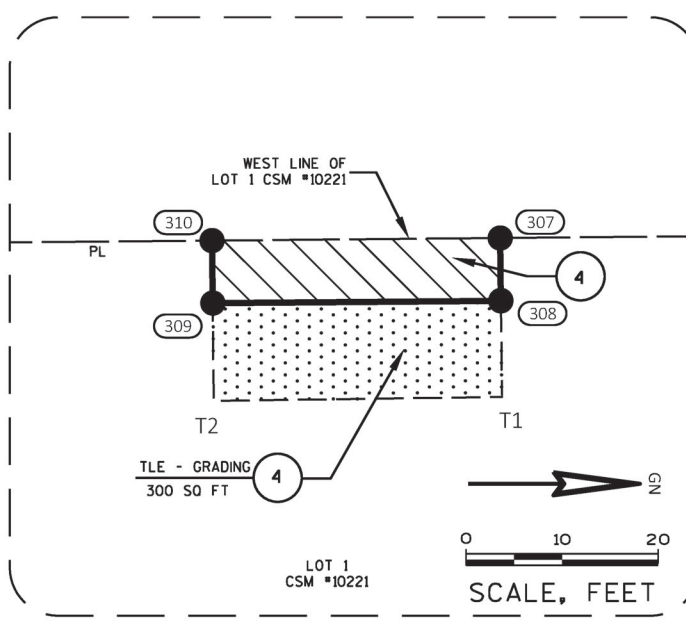
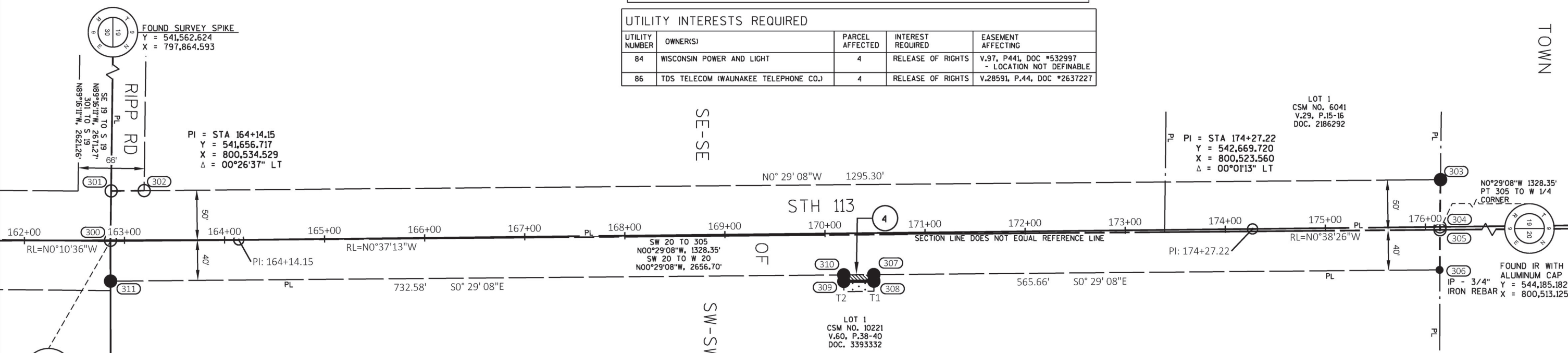
UTILITY INTERESTS REQUIRED				
UTILITY NUMBER	OWNER(S)	PARCEL AFFECTED	INTEREST REQUIRED	EASEMENT AFFECTING
84	WISCONSIN POWER AND LIGHT	4	RELEASE OF RIGHTS	V.97, P.441, DOC #532997 - LOCATION NOT DEFINABLE
86	TDS TELECOM (WAUNAKEE TELEPHONE CO.)	4	RELEASE OF RIGHTS	V.28591, P.44, DOC #2637227



KRISTI CHLEBOWSKI  
DANE COUNTY  
REGISTER OF DEEDS

DOCUMENT #  
5743452  
06/23/2021 01:13 PM  
Trans Fee:  
Exempt #:  
Rec. Fee: 25.00  
Pages:  
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RESERVED FOR REGISTER OF DEEDS  
PROJECT NUMBER 5280-03-20-4.02  
AMENDMENT NO.:



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1702 Pankratz St Madison, WI 53704  
(608) 242-7779 www.msa-ps.com  
© MSA Professional Services, Inc.

I, BRADLEY L TISDALE, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

SIGNATURE: *Bradley L Tisdale* DATE: 06/01/21  
PRINT NAME: BRADLEY L TISDALE  
REGISTRATION NUMBER: S-2824

SIGNATURE: *Cory Schlager* DATE: 6/23/21  
PRINT NAME: CORY SCHLAGEL

WISCONSIN LAND SURVEYOR  
BRADLEY L. TISDALE  
S-2824  
WAUNAKEE  
WI

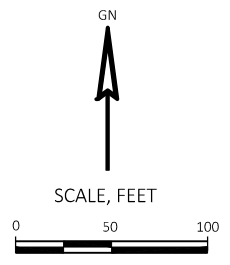


R/W PROJECT NUMBER: 5280-03-20 EXHIBIT NUMBER: 1  
 TLE ACQUISITION EXHIBIT  
 MADISON - LODI  
 (SUNSET LN - CTH V)  
 STH 113 DANE COUNTY

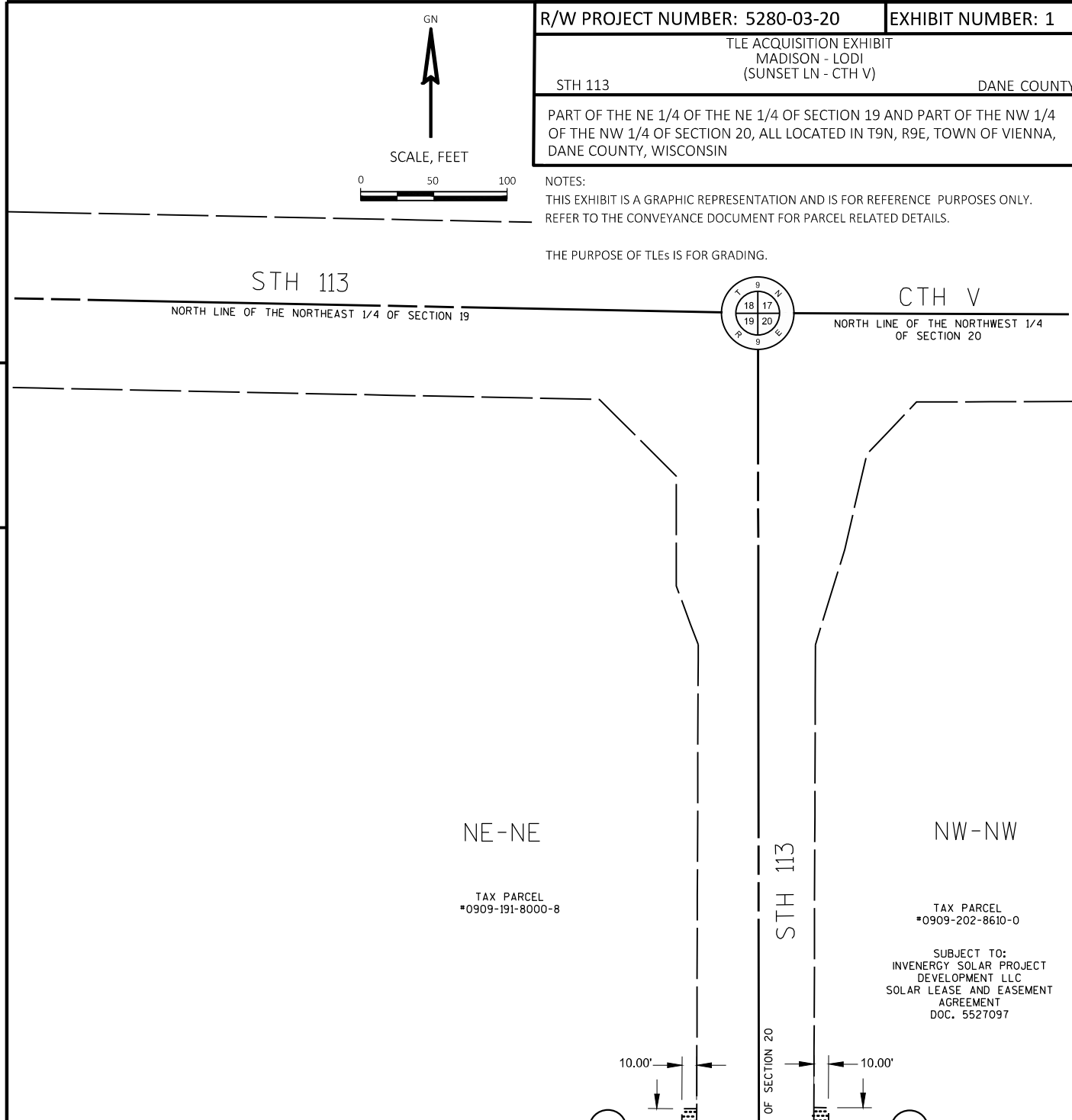
PART OF THE NE 1/4 OF THE NE 1/4 OF SECTION 19 AND PART OF THE NW 1/4 OF SECTION 20, ALL LOCATED IN T9N, R9E, TOWN OF VIENNA, DANE COUNTY, WISCONSIN

NOTES:  
 THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.  
 REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

THE PURPOSE OF TLES IS FOR GRADING.



4



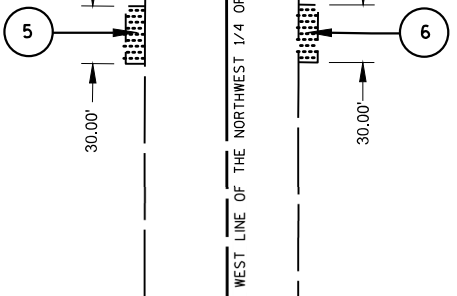
**SCHEDULE OF LANDS & INTERESTS REQUIRED**

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

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
5	DONALD C. POMERANKE, TRUSTEE, AND ANY SUCCESSOR TRUSTEE(S), OF THE DONALD CHARLES POMERANKE AND BETTY JANE POMERANKE REV. TRUST AGREEMENT DATED MAY 25, 2010	TLE	300
6	JAMES L. MEIER AND BEVERLY F. MEIER	TLE	300

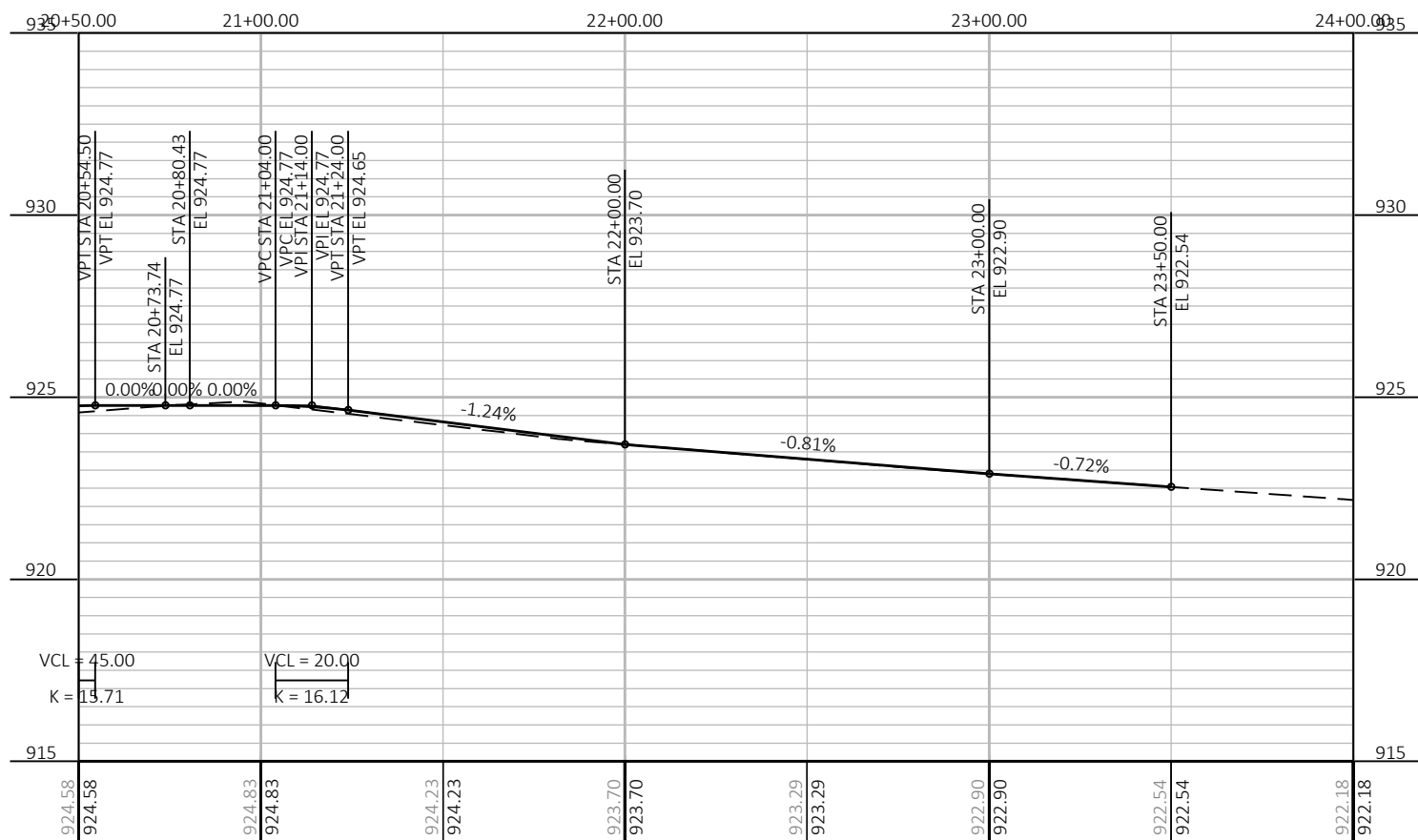
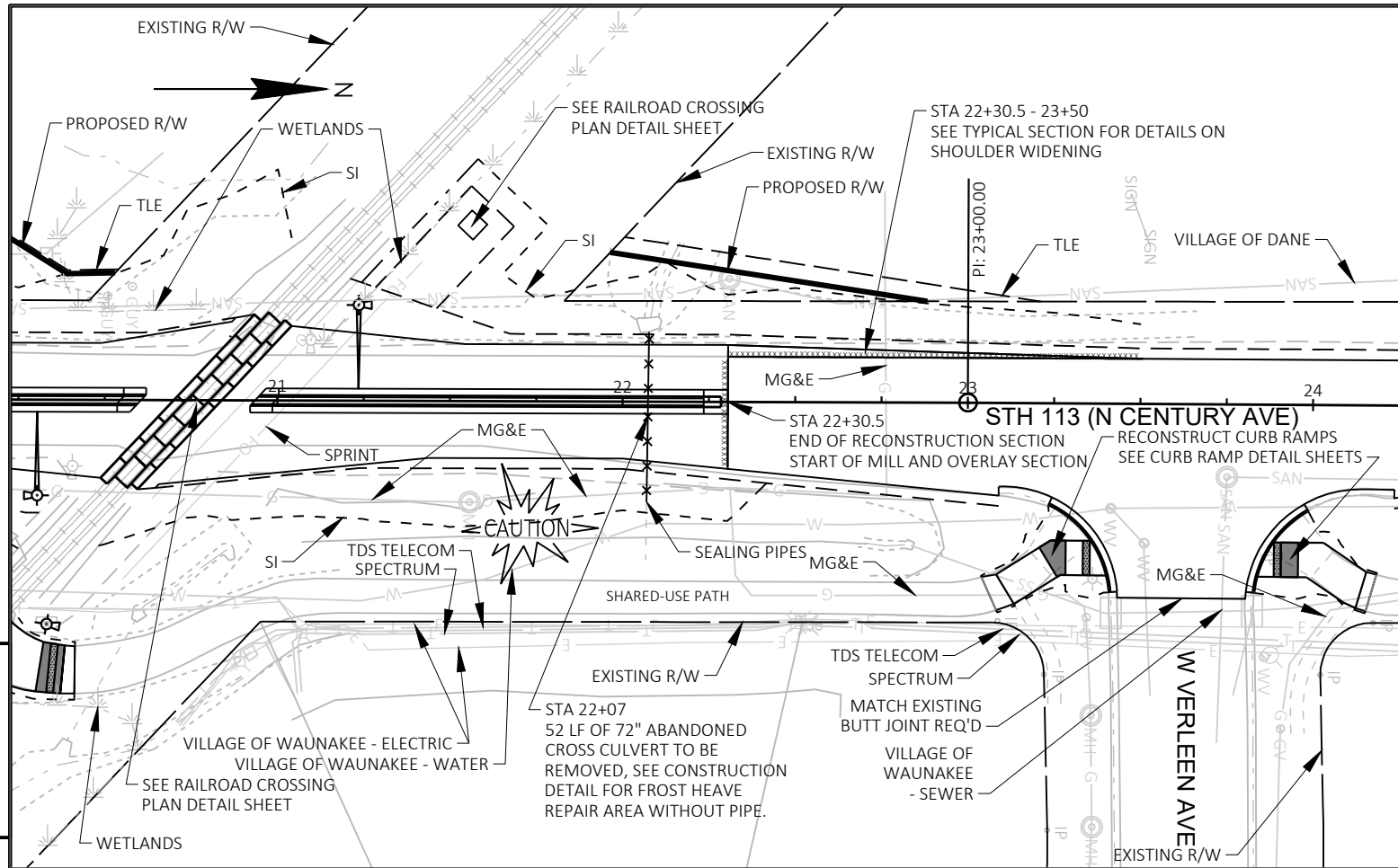
**UTILITY INTERESTS REQUIRED**

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
87	INVENERGY SOLAR PROJECT DEVELOPMENT LLC	TEMPORARY RELEASE OF RIGHTS



THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION  
 SOUTHWEST REGION - MADISON  
 SIGNATURE: *Cory Schlagel* DATE: 6/23/21  
 PRINT NAME: Cory Schlagel





PROJECT NO: 5280-03-70

HWY: STH 113

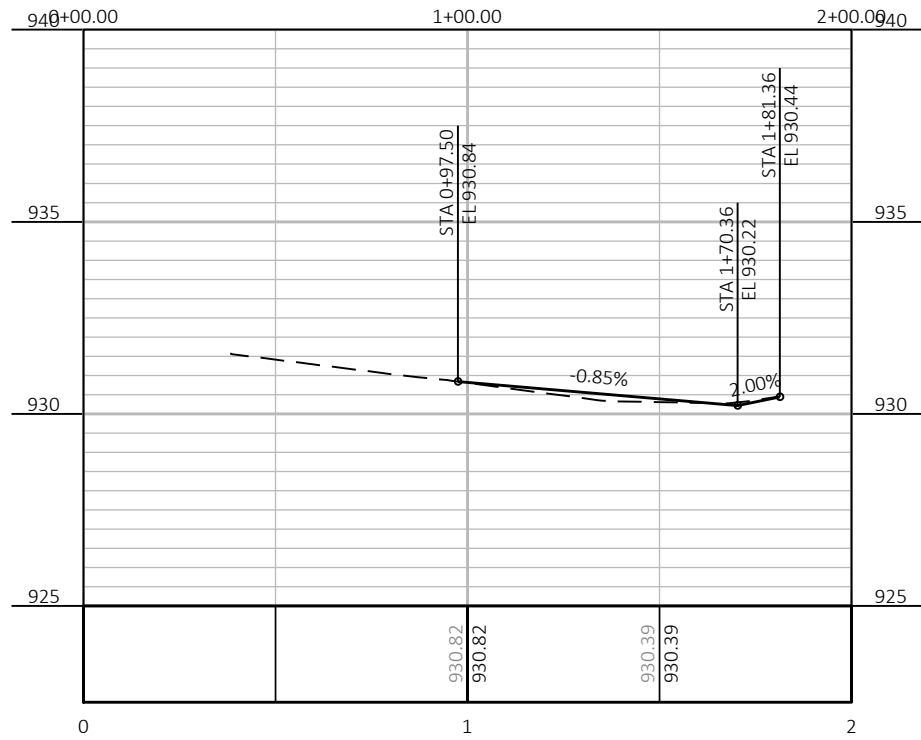
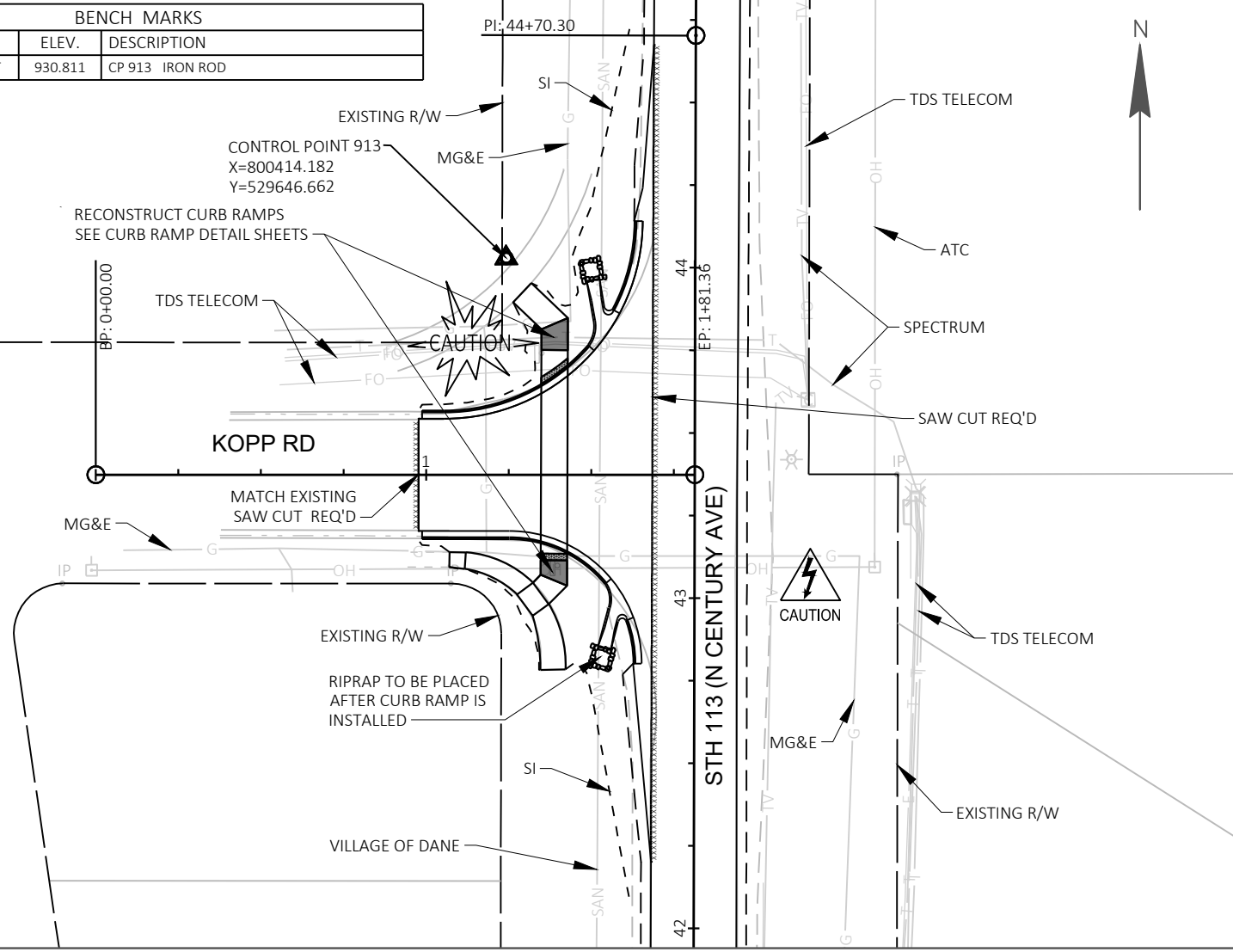
COUNTY: DANE

PLAN AND PROFILE: STH 113

SHEET

E

BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
913	44+02.79 LT	930.811	CP 913 IRON ROD



PROJECT NO: 5280-03-70

HWY: STH 113

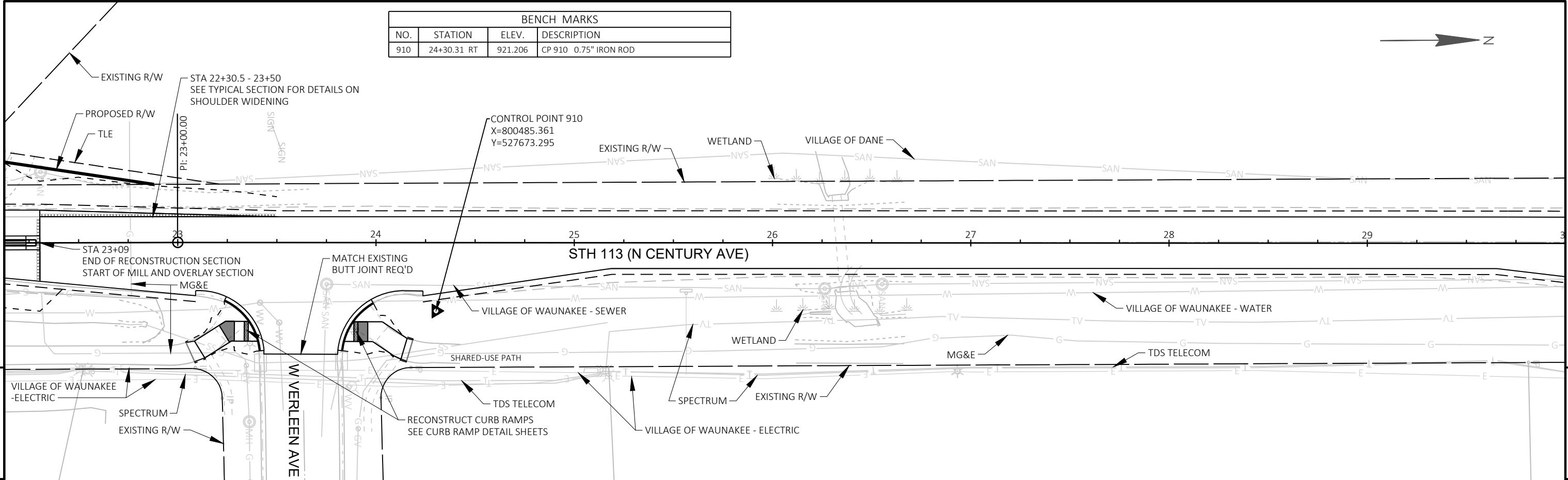
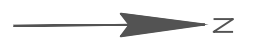
COUNTY: DANE

PLAN AND PROFILE: KOPP RD

SHEET

E

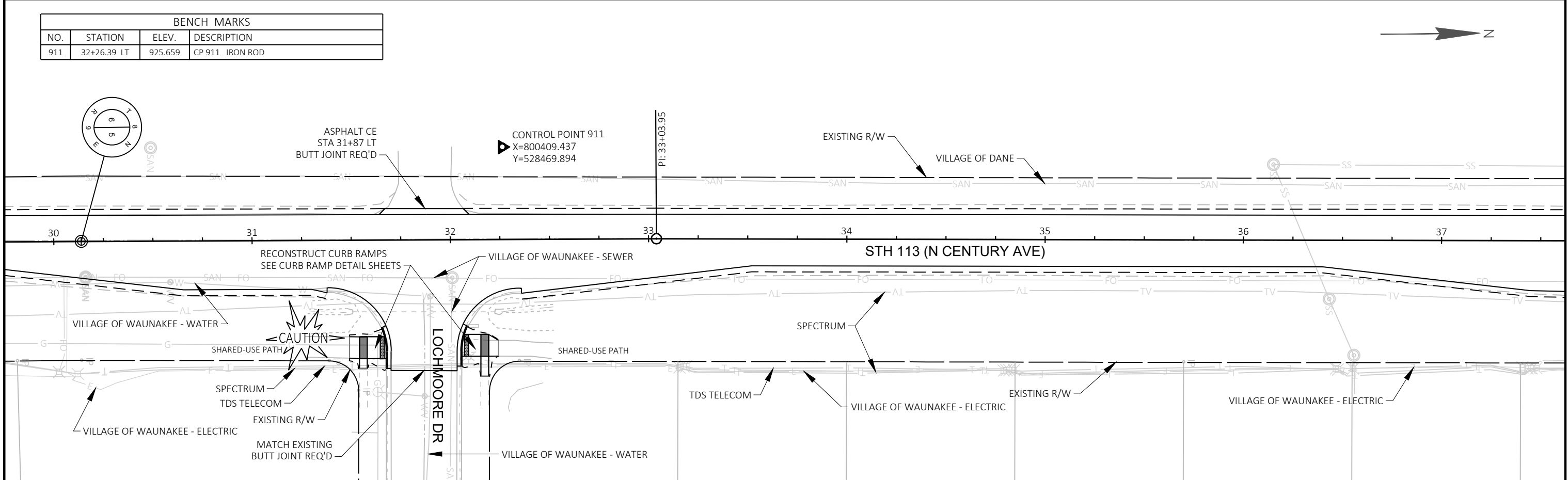
BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
910	24+30.31 RT	921.206	CP 910 0.75" IRON ROD



5

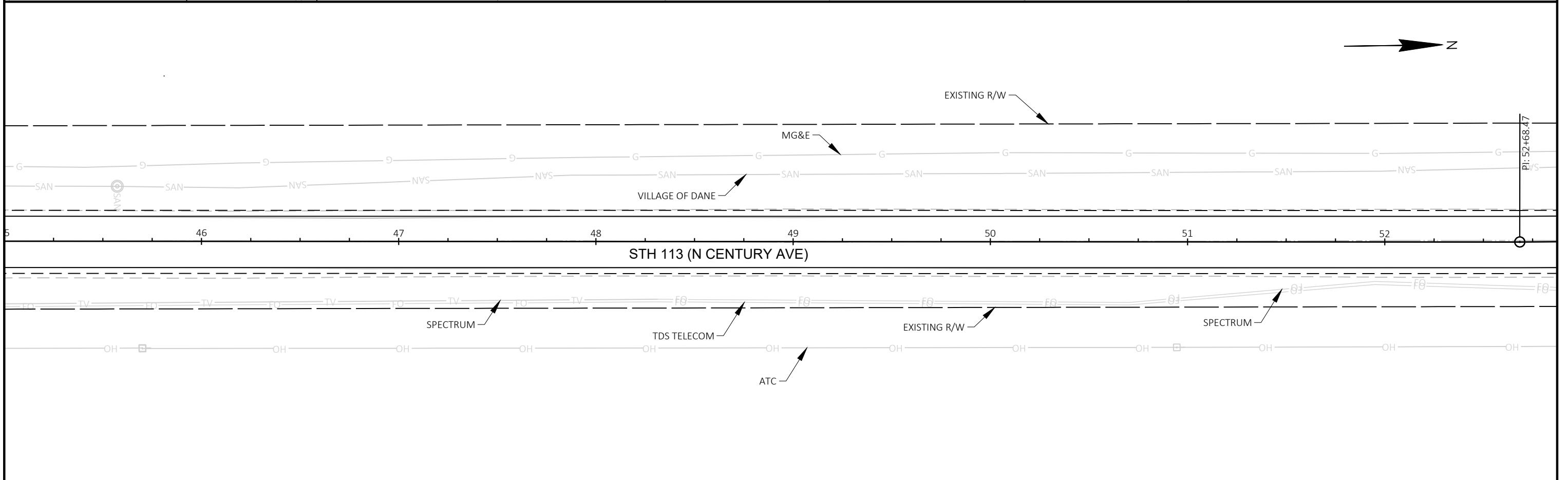
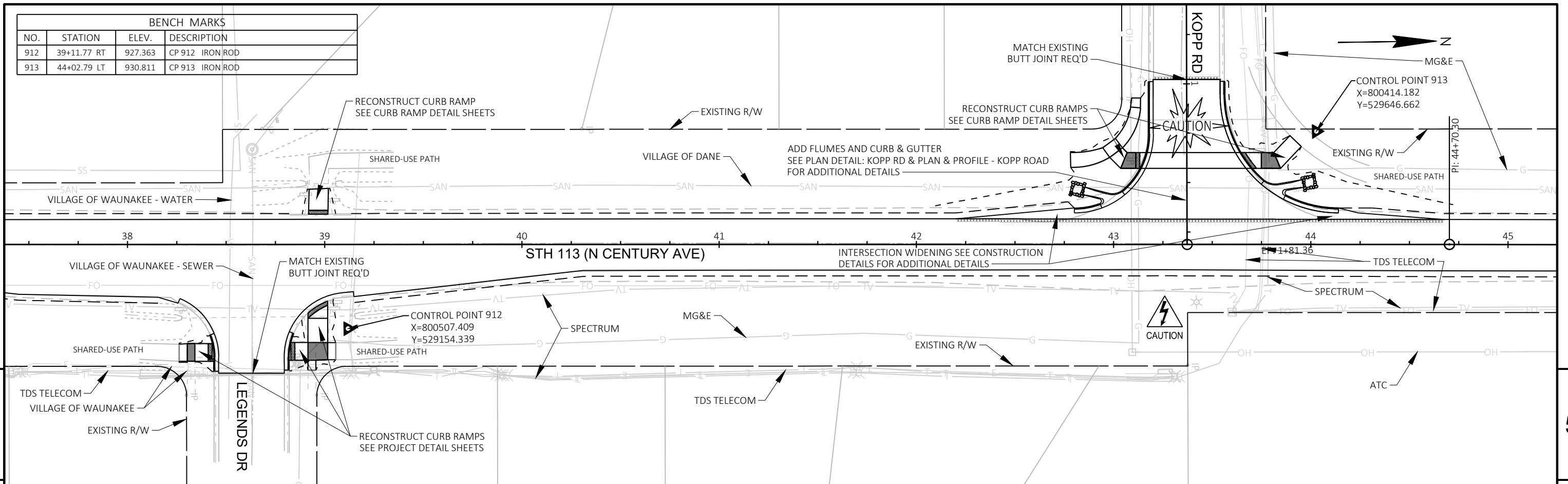
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BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
911	32+26.39 LT	925.659	CP 911 IRON ROD

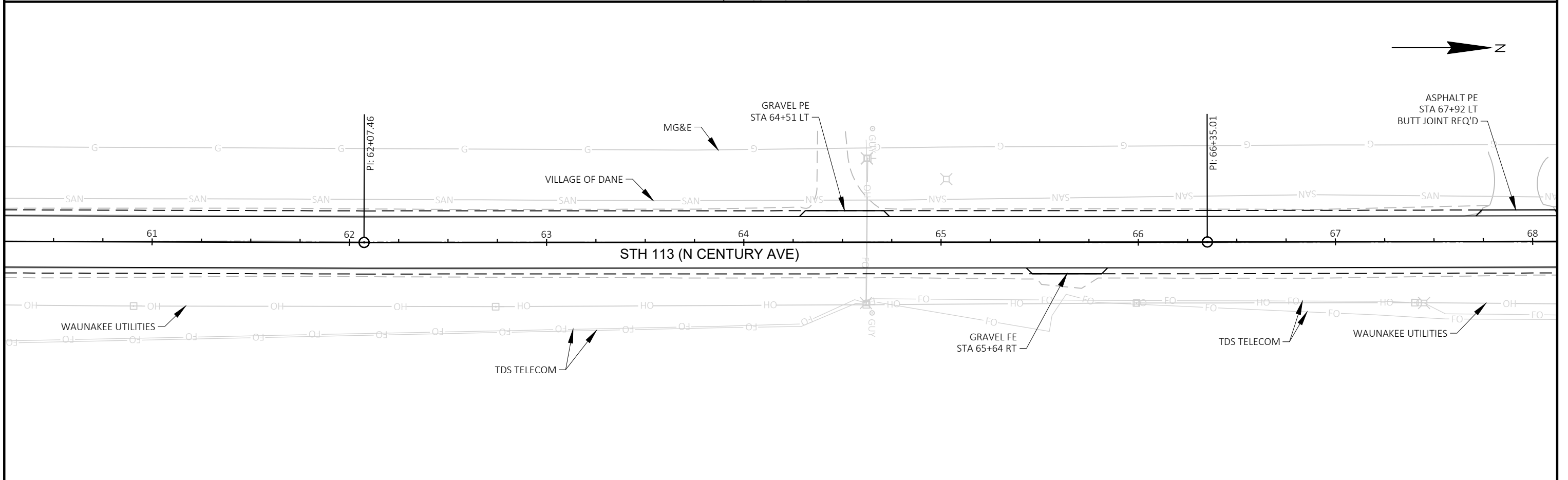
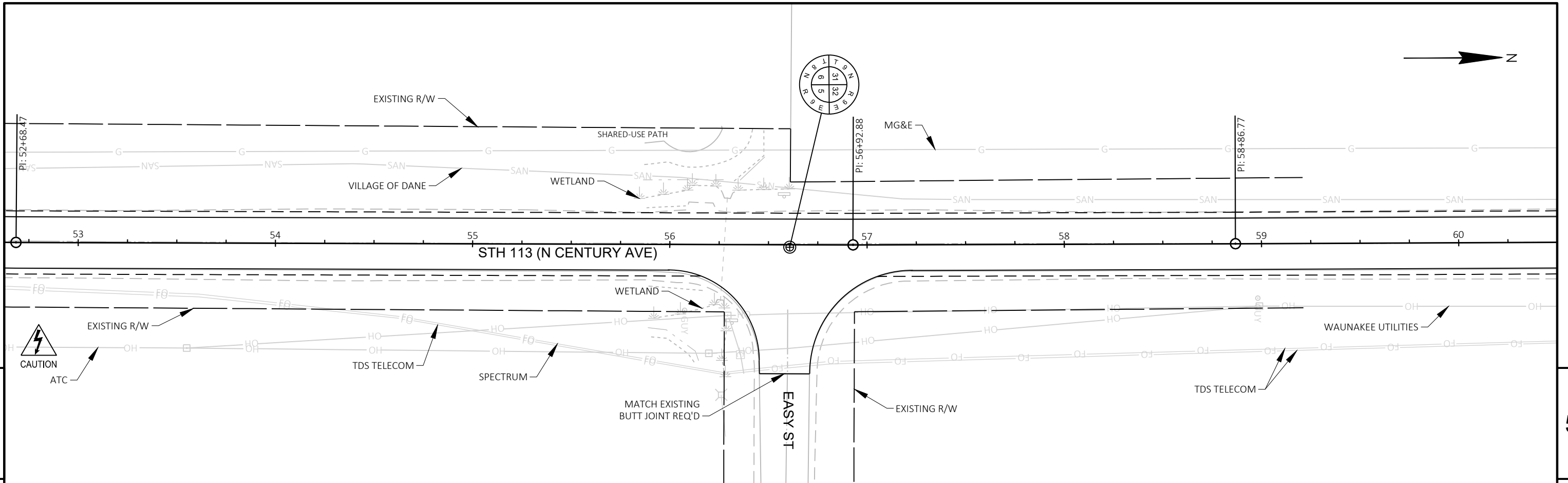


PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	PLAN SHEETS	SHEET	E
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BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
912	39+11.77 RT	927.363	CP 912 IRON ROD
913	44+02.79 LT	930.811	CP 913 IRON ROD

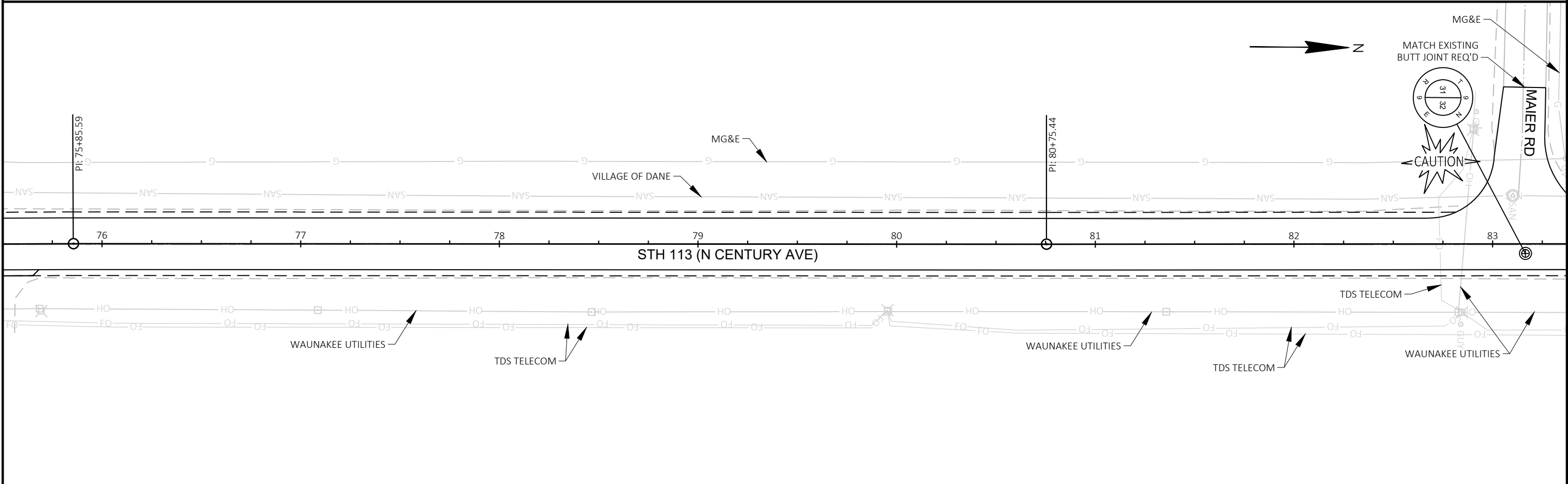
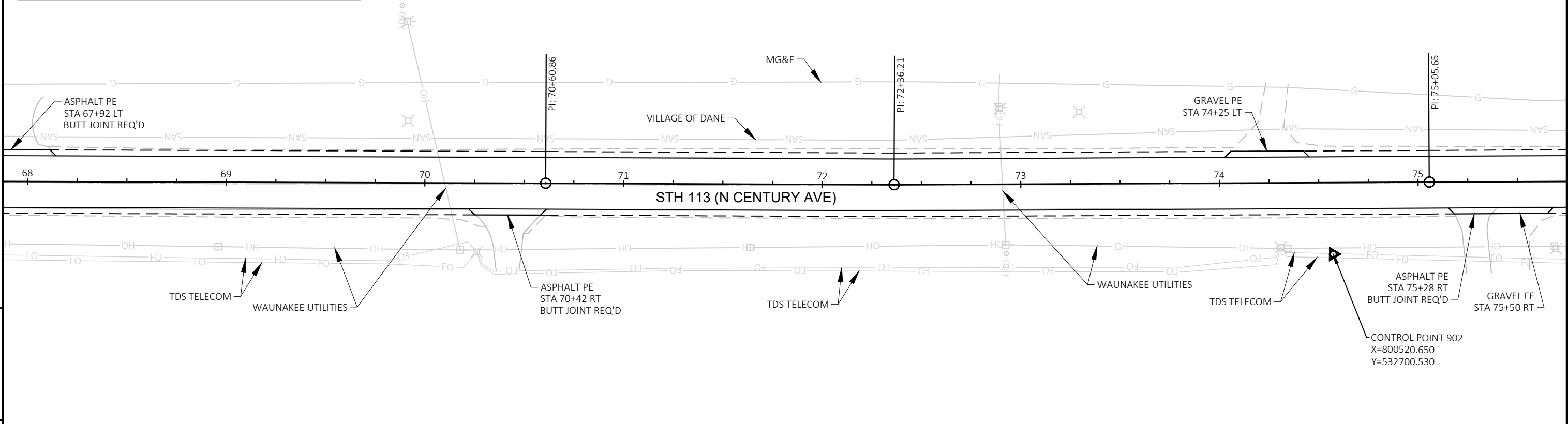


PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	PLAN SHEETS	SHEET	<b>E</b>
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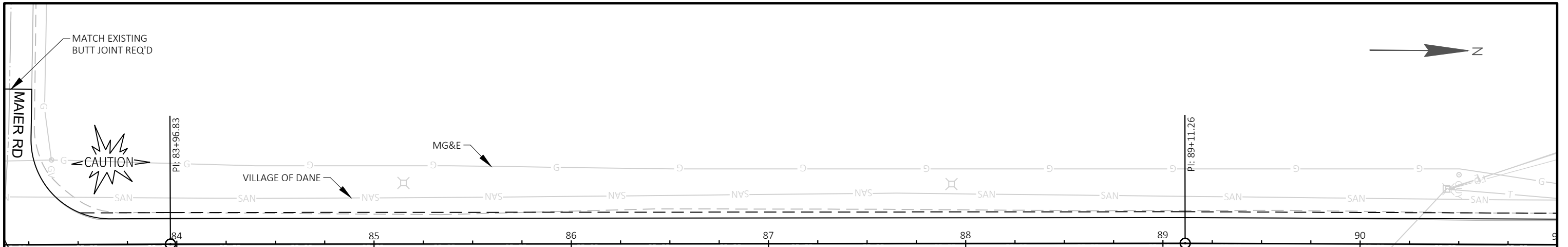
PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	PLAN SHEETS	SHEET	<b>E</b>
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BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
902	74+57.15 RT	975.612	CP 902 FENO

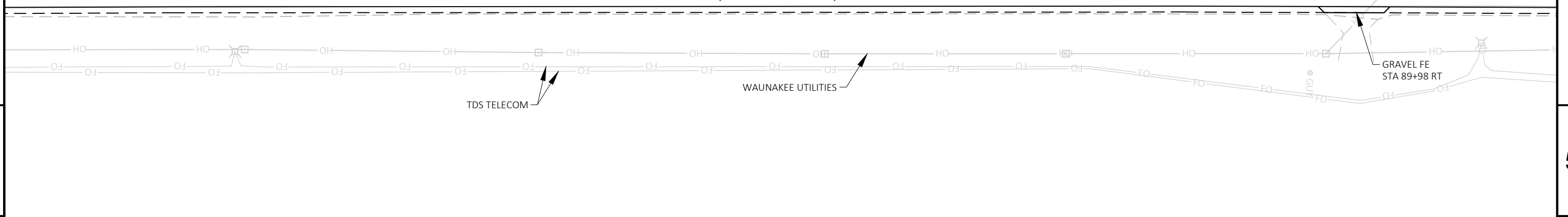


PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	PLAN SHEETS	SHEET	<b>E</b>
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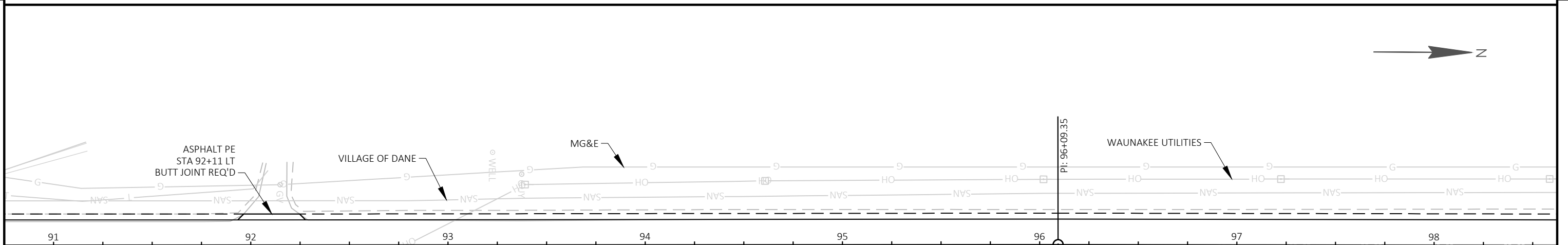


STH 113 (N CENTURY AVE)

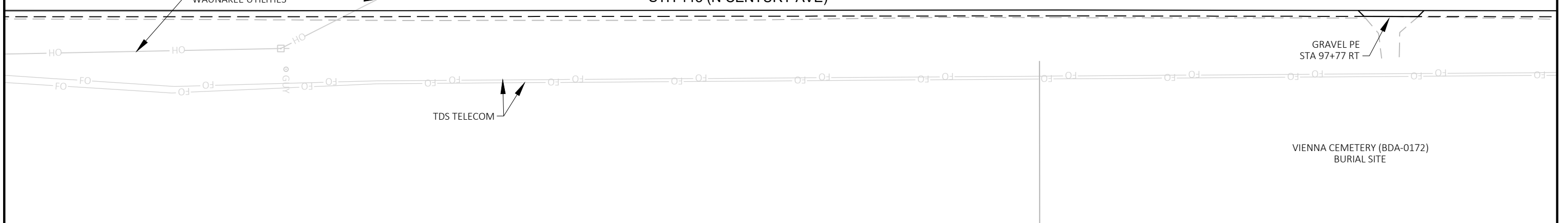


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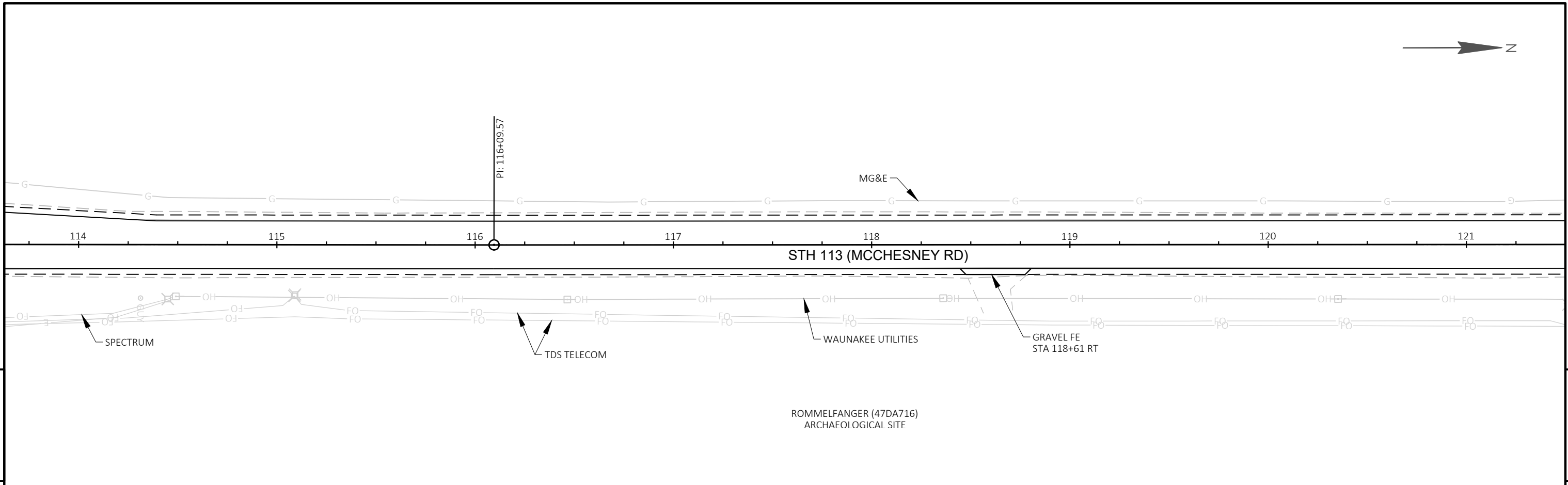


STH 113 (N CENTURY AVE)

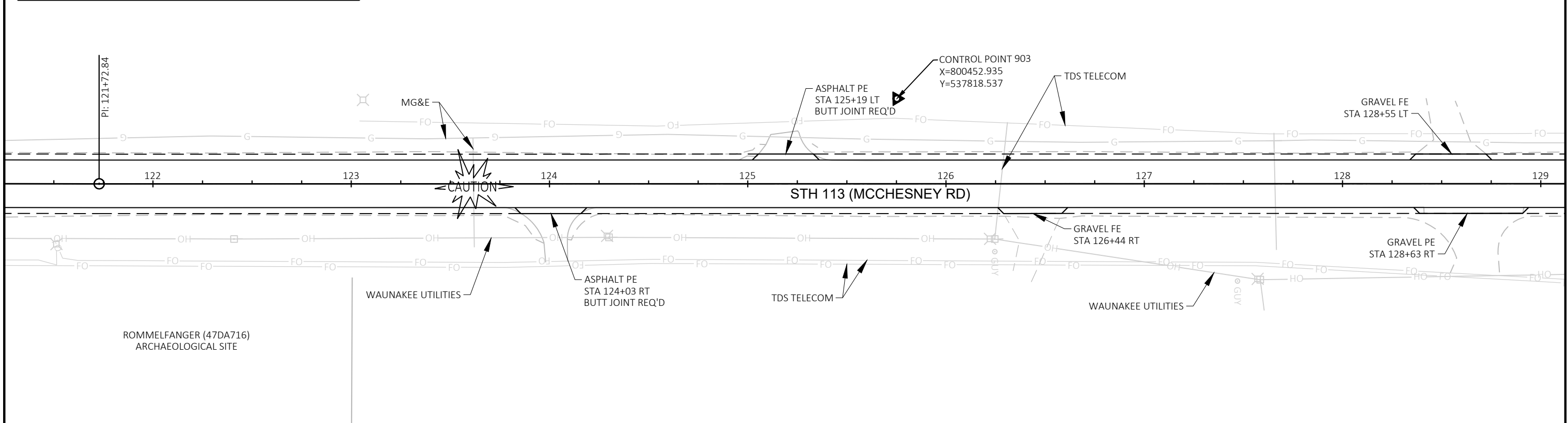


PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	PLAN SHEETS	SHEET	E
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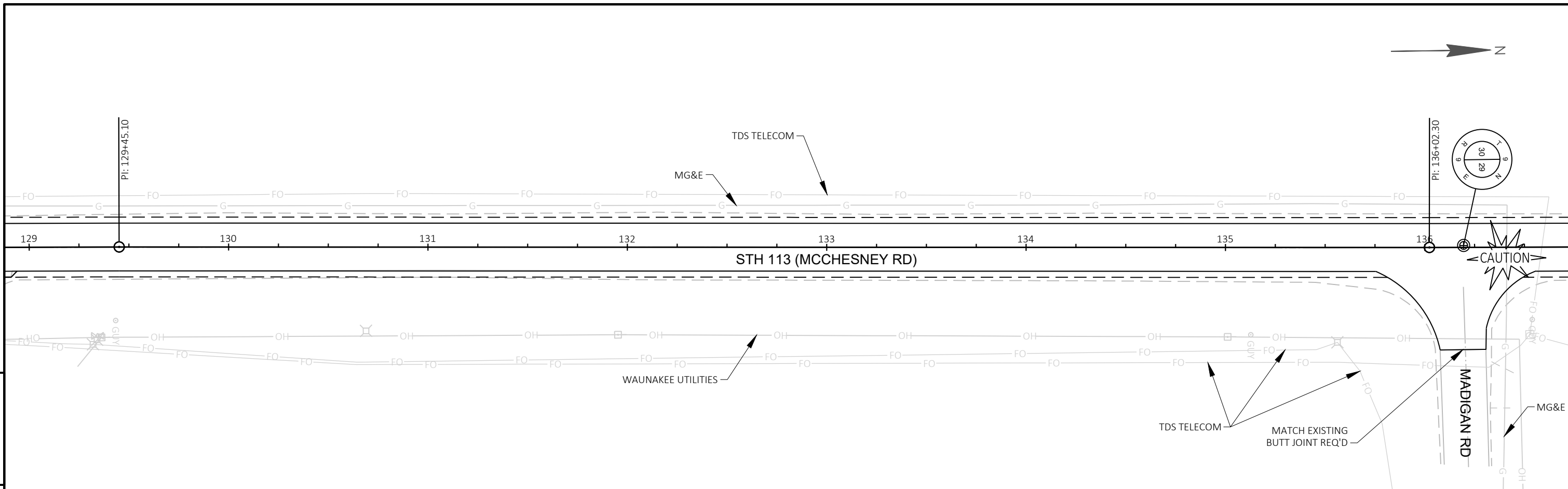




BENCH MARKS			
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903	125+75.25 LT	1006.056	CP 903 FENO

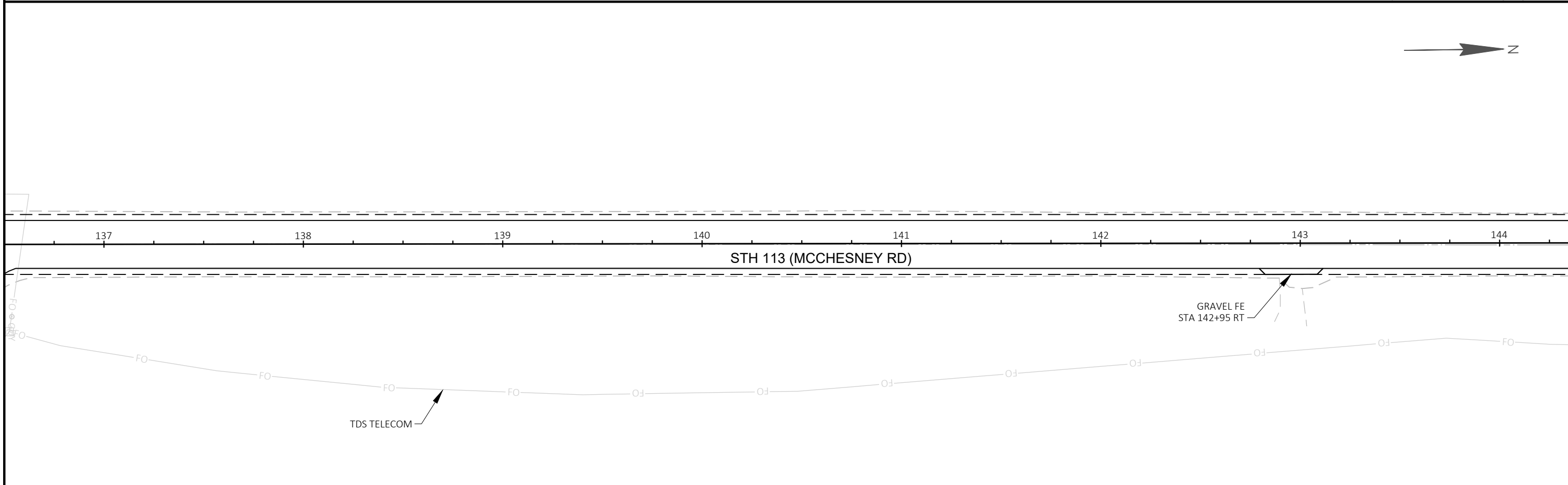


PROJECT NO: 5280-03-70      HWY: STH 113      COUNTY: DANE      PLAN SHEETS      SHEET      E

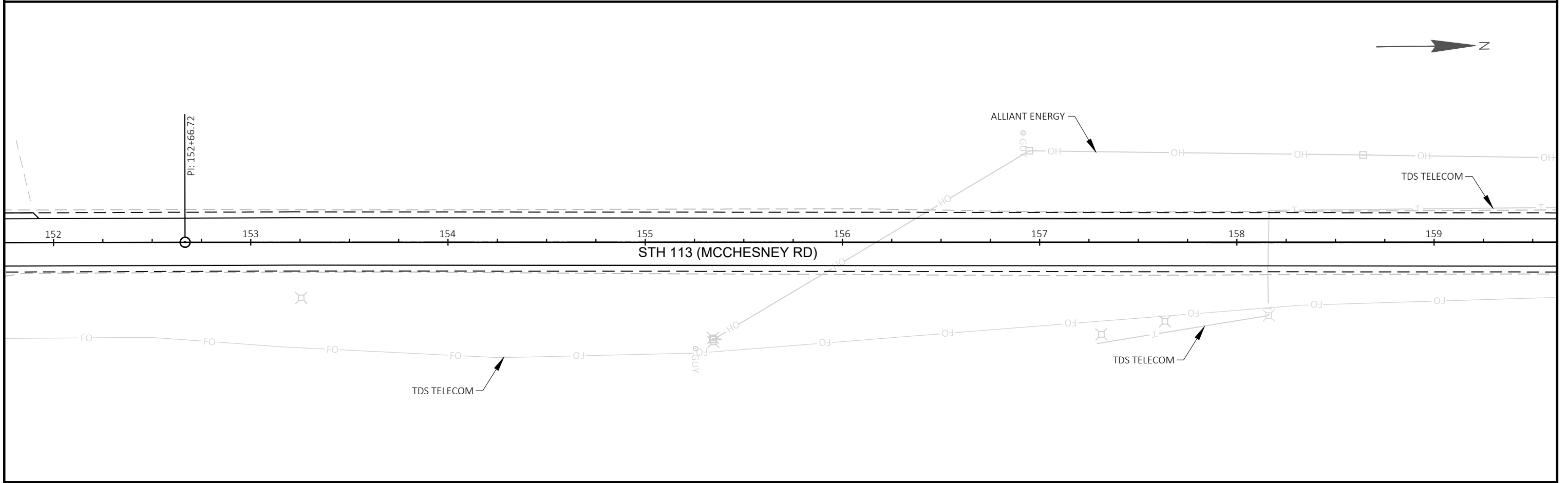
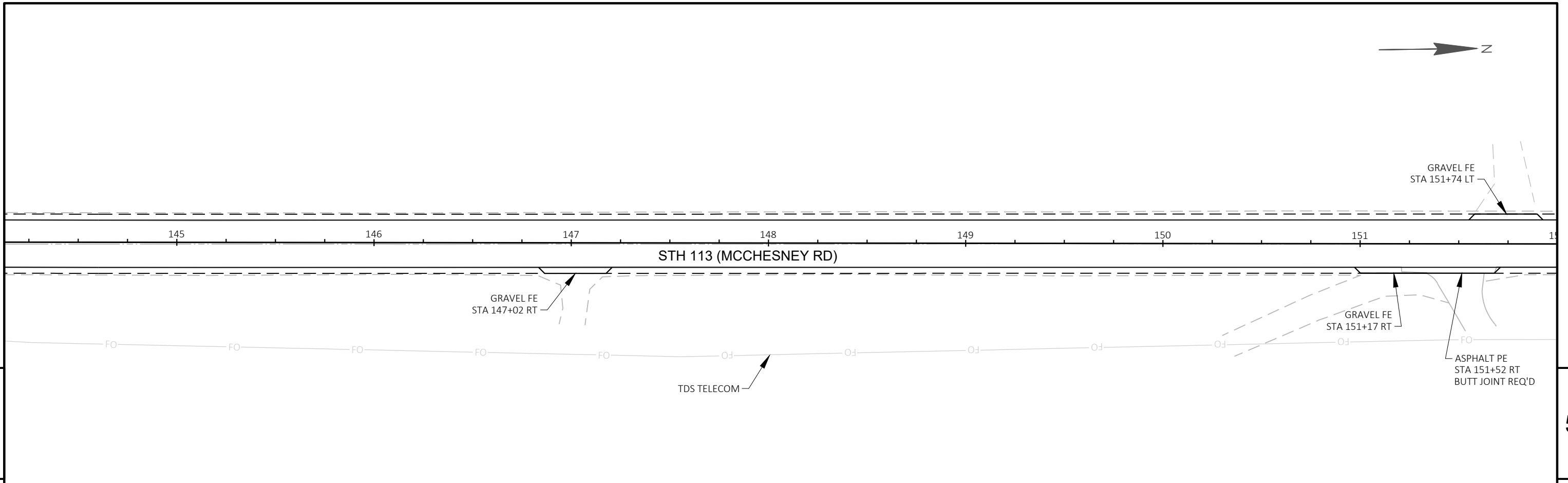


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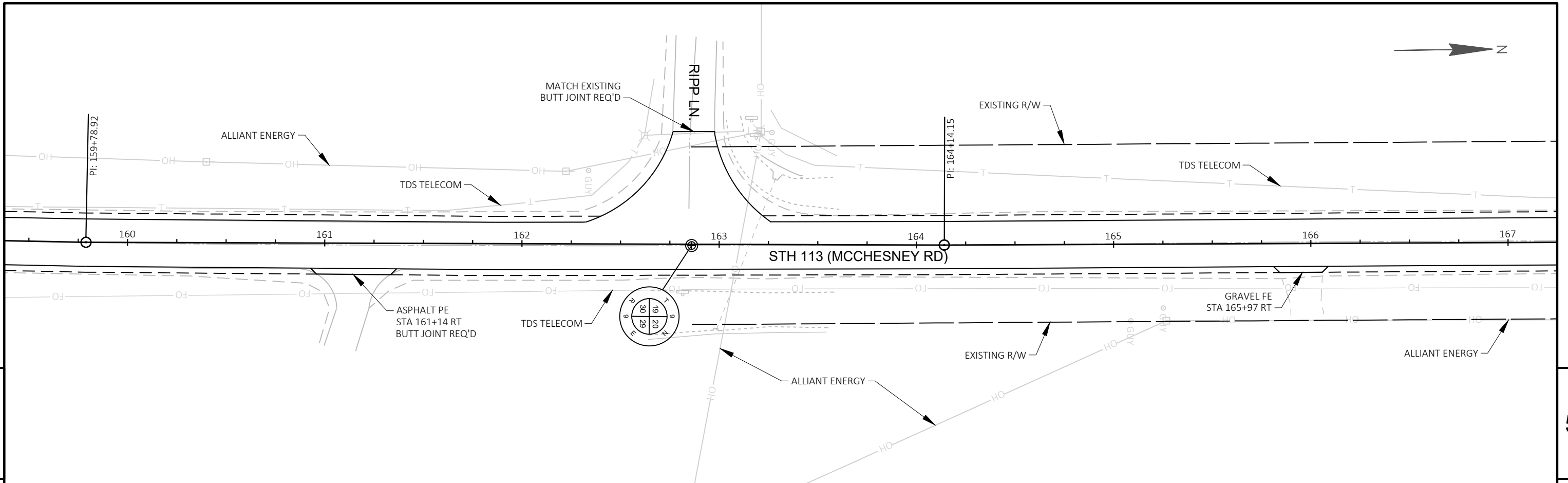
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PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	PLAN SHEETS	SHEET	E
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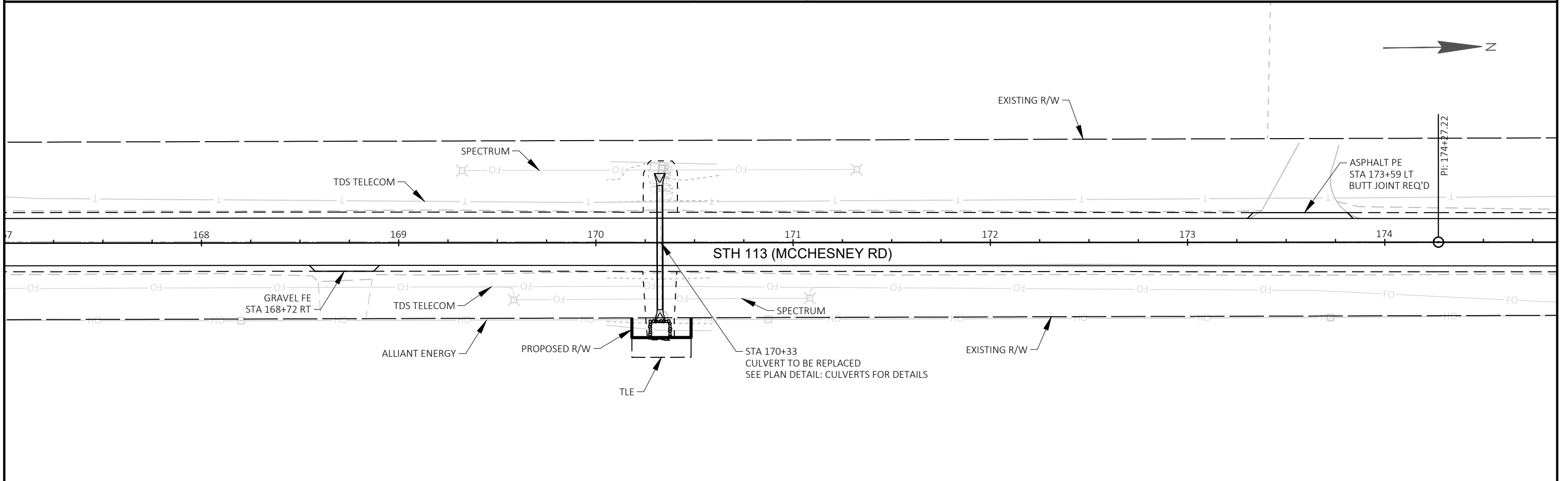


PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	PLAN SHEETS	SHEET	<b>E</b>
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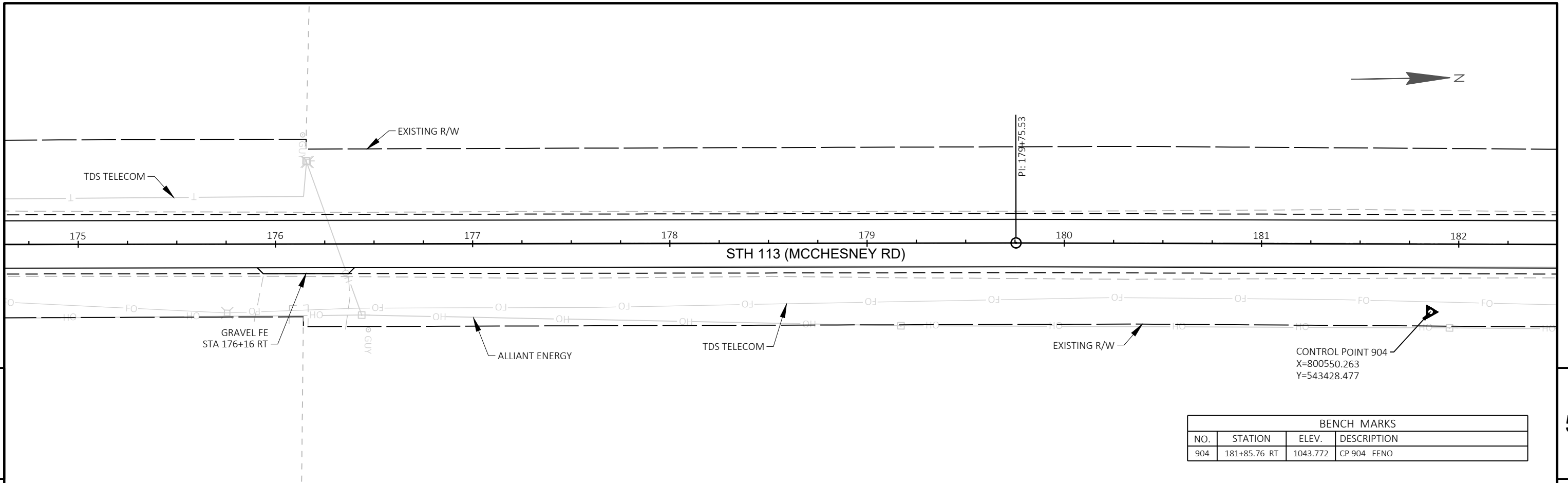


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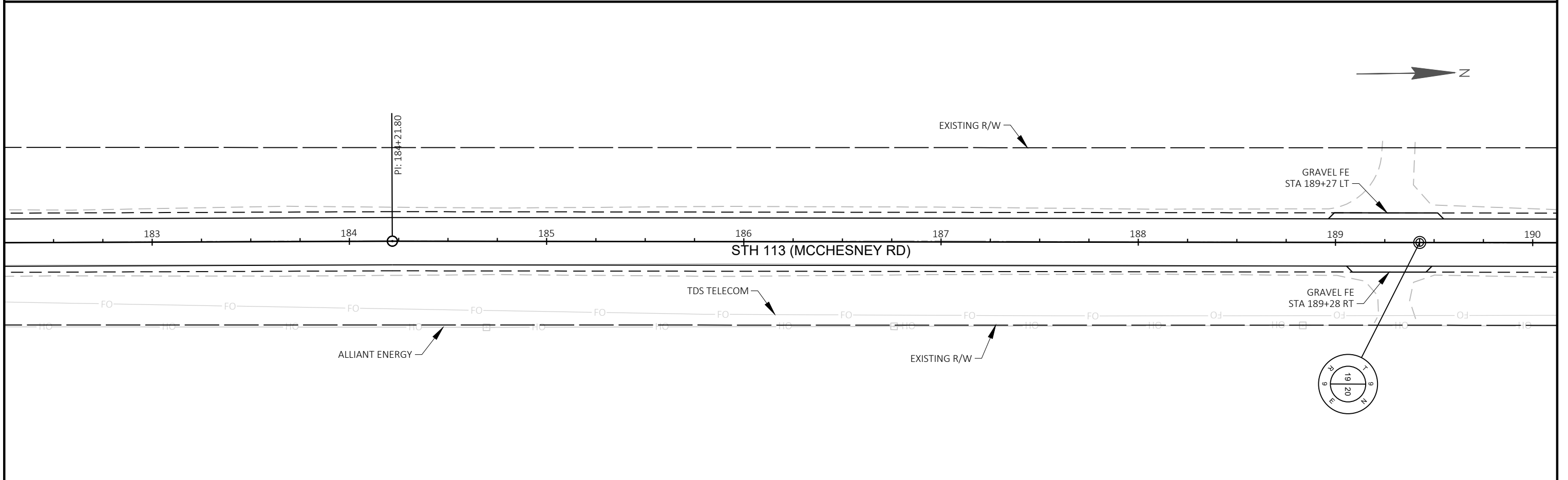
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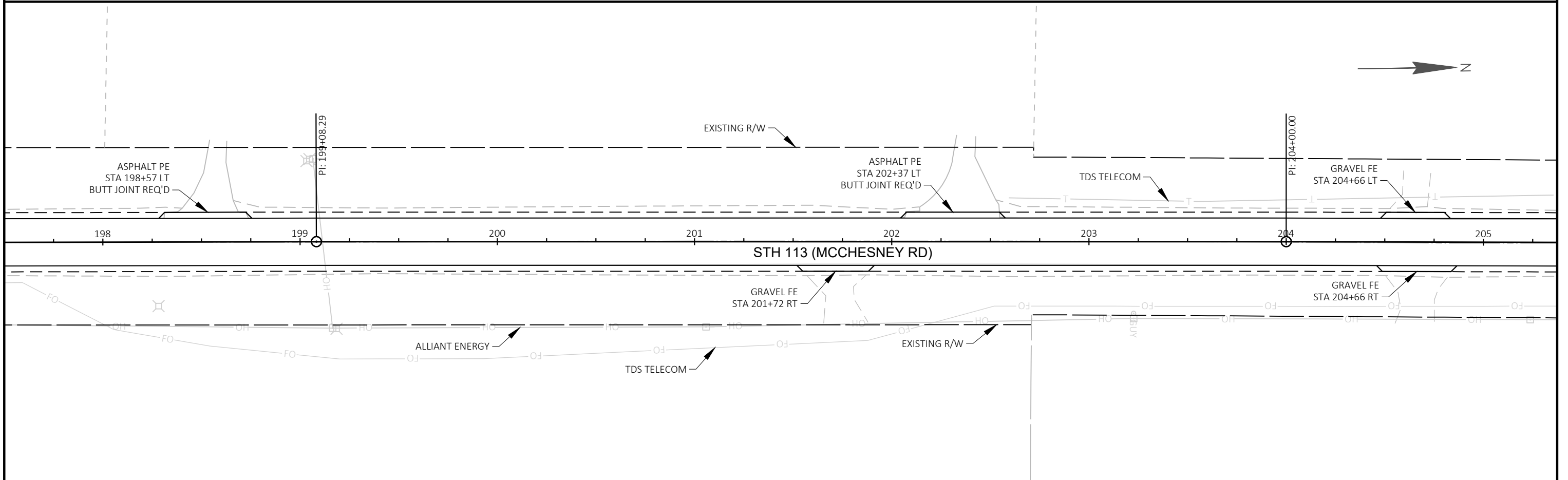
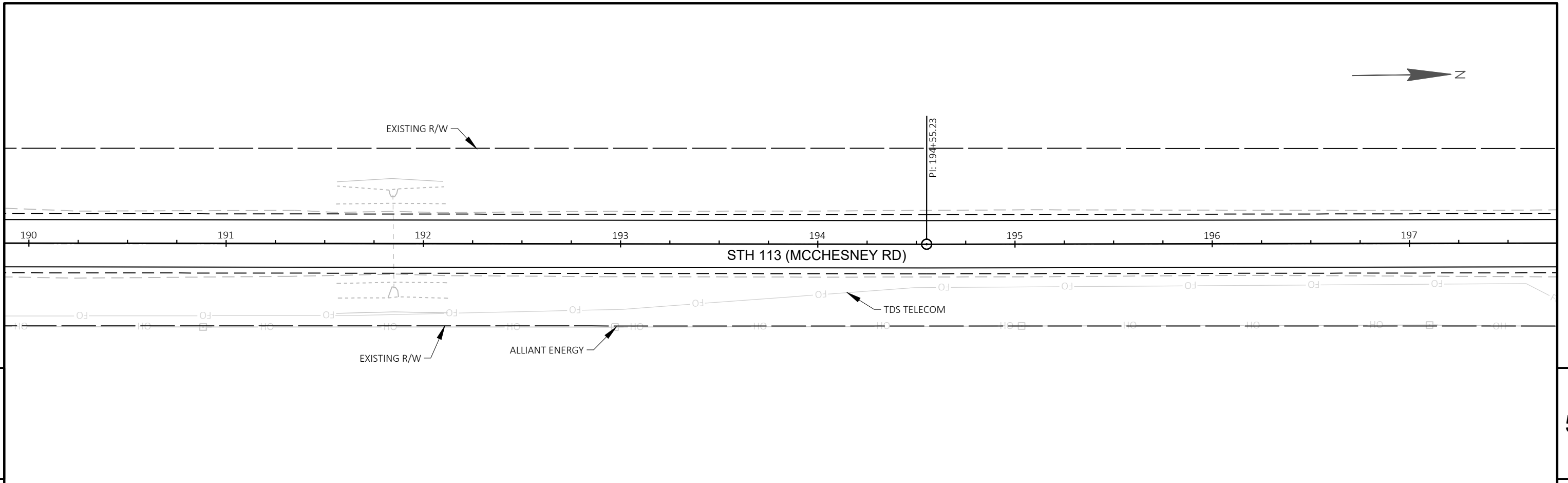
PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	PLAN SHEETS	SHEET	E
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BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
904	181+85.76 RT	1043.772	CP 904 FENO

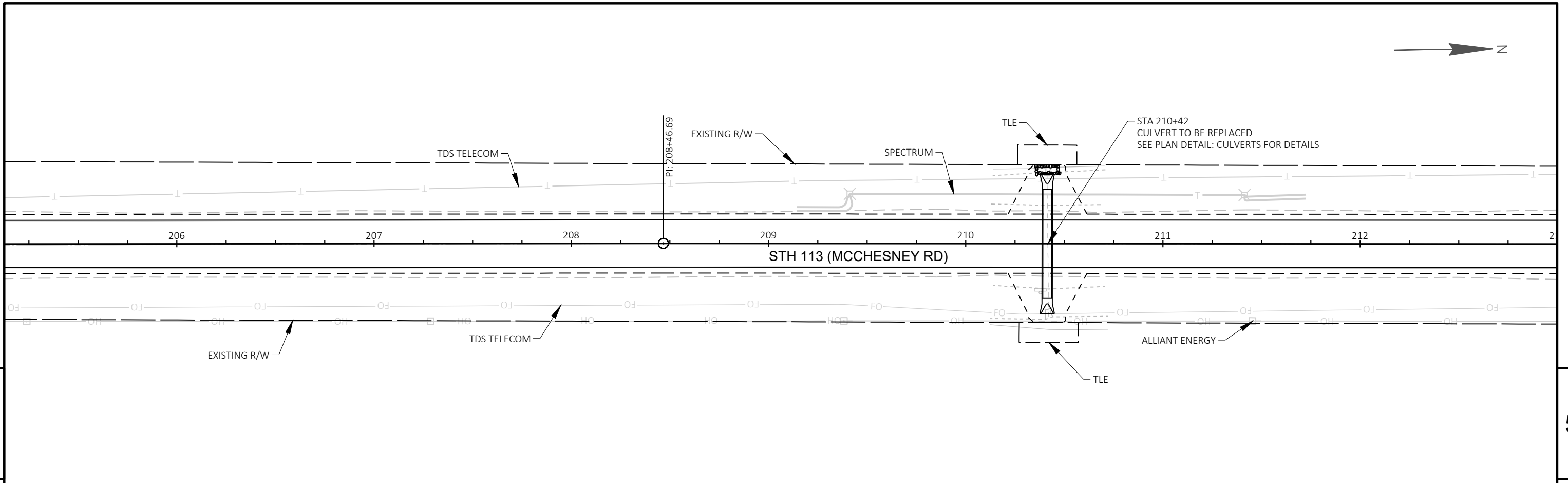


PROJECT NO: 5280-03-70      HWY: STH 113      COUNTY: DANE      PLAN SHEETS      SHEET **E**



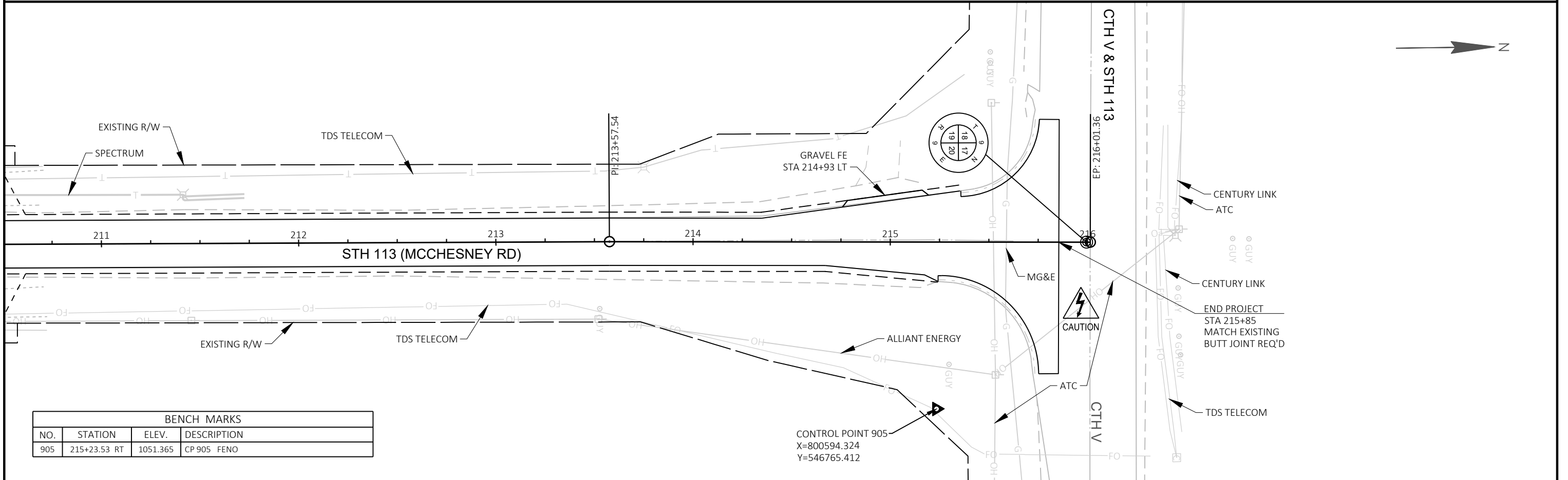
PROJECT NO: 5280-03-70	HWY: STH 113	COUNTY: DANE	PLAN SHEETS	SHEET	E
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BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
905	215+23.53 RT	1051.365	CP 905 FENO

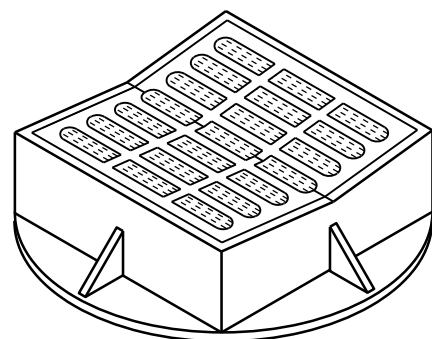
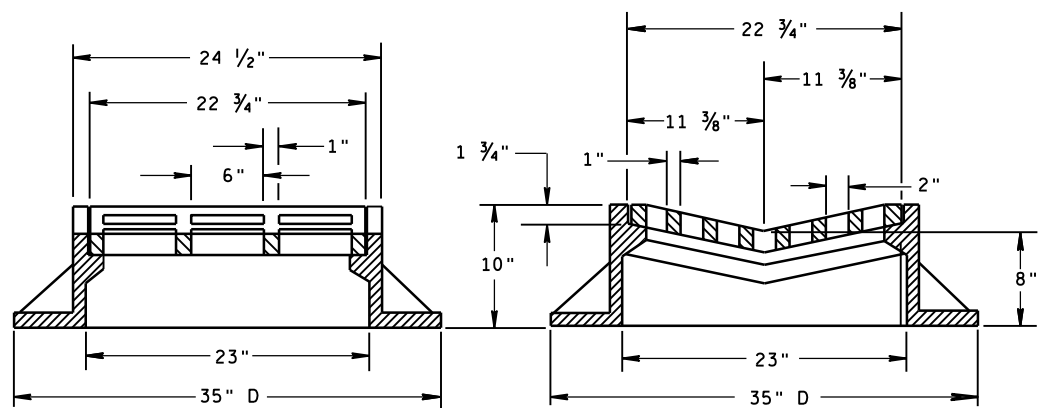
PROJECT NO: 5280-03-70      HWY: STH 113      COUNTY: DANE      PLAN SHEETS      SHEET **E**

## Standard Detail Drawing List

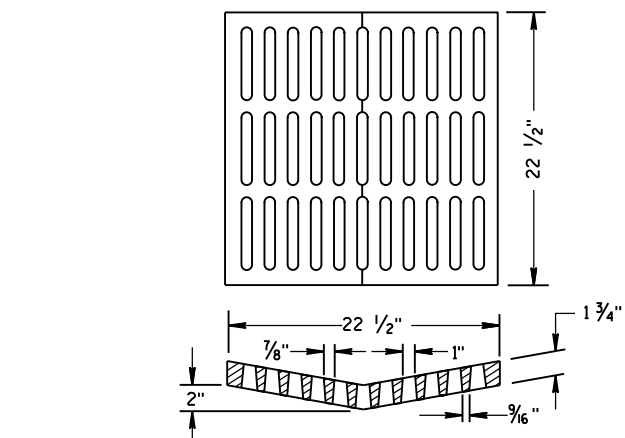
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	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
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
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-14A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-14B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
13B01-11A	PAVEMENT DETAILS FOR RAILROAD APPROACH
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C18-07A	CONCRETE PAVEMENT JOINTING
13C18-07B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-07C	CONCRETE PAVEMENT JOINT TYPES
13C18-07D	CONCRETE PAVEMENT JOINT TYPES AT UTILITY FIXTURES
13C18-07F	CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-23C	PAVEMENT MARKING (TURN LANES)
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C09-13A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C12-09B	TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE
15C18-08A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C18-08B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C18-08C	MEDIAN PAVEMENT MARKINGS DOUBLE ARROW WARNING SIGN PLACEMENT

## Standard Detail Drawing List

15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-09A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09D	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09G	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09H	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09I	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

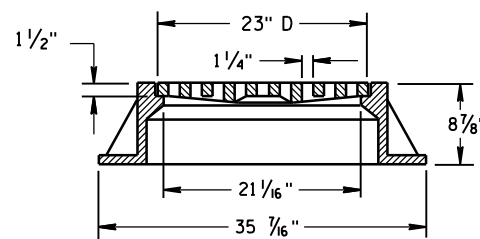
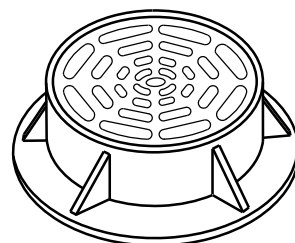
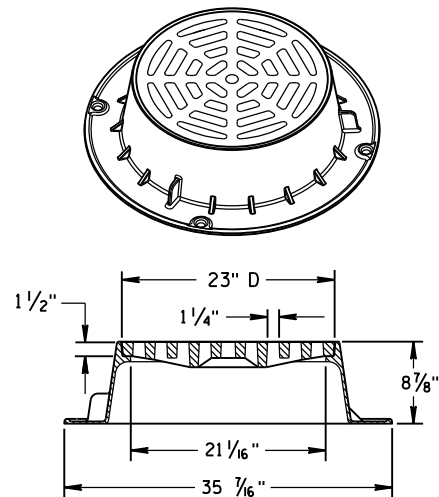


**TYPE "B"**



**ALTERNATIVE GRATE FOR TYPE "B" COVER**

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.  
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



**TYPE "C"**

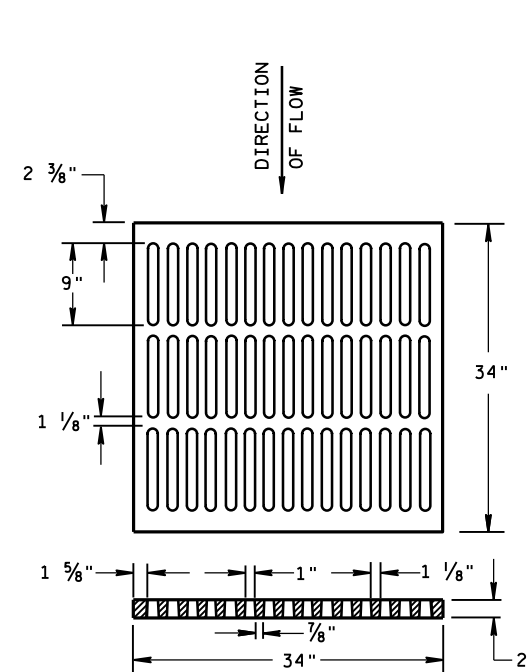
NOTE: EITHER CASTING IS ACCEPTABLE

**GENERAL NOTES**

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

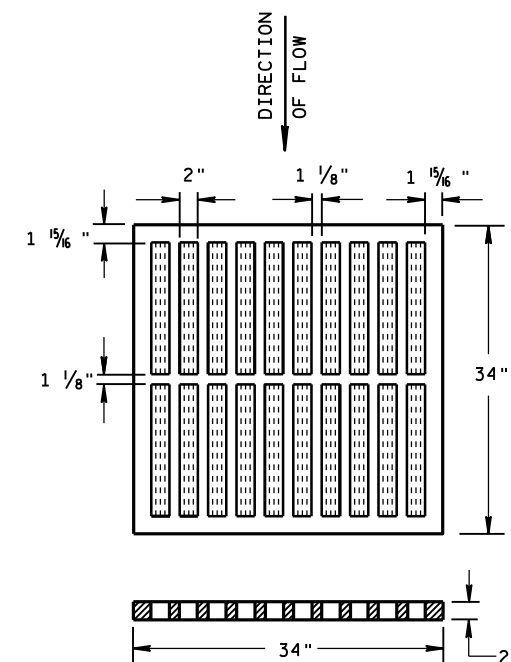
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



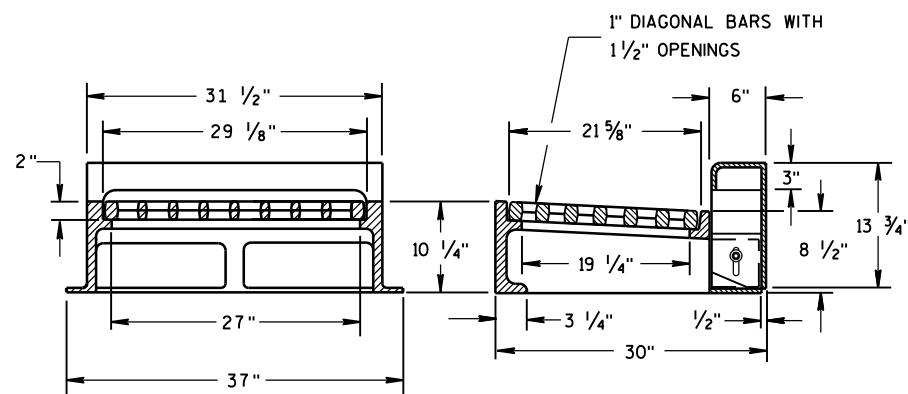
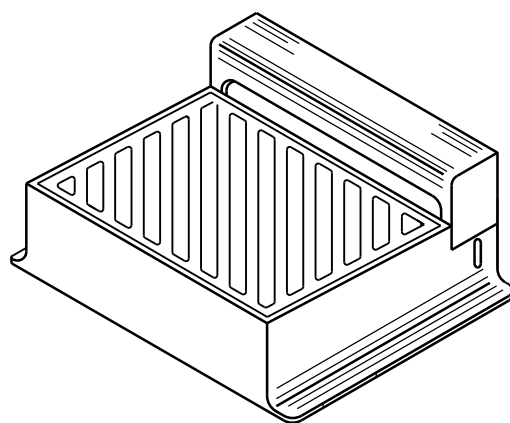
**ALTERNATIVE TYPE "MS"**

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED  
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



**TYPE "MS"**

USE ON FREEWAYS AND EXPRESSWAYS  
NOTED AS TYPE MS ON DRAINAGE TABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

**TYPE "WM"**

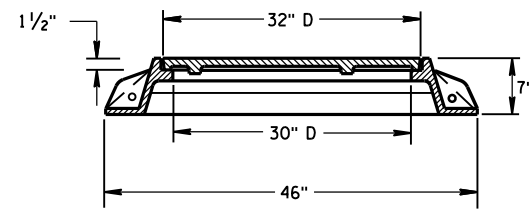
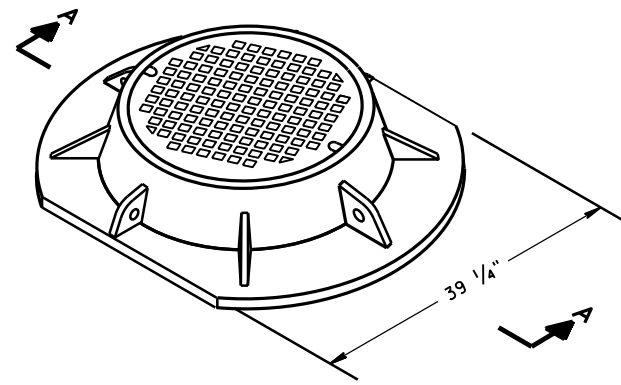
DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.

DIRECTION OF FLOW

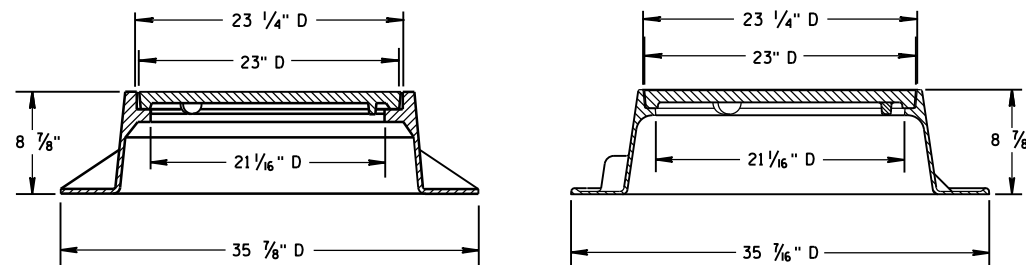
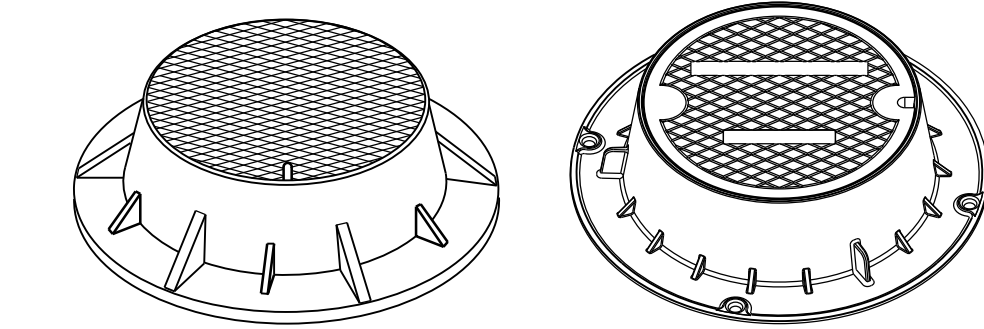
**INLET COVERS  
TYPE B, B-A, C,  
MS, MS-A, & WM**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 11/27/2013 /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA



SECTION A-A  
TYPE "K"



TYPE "J"

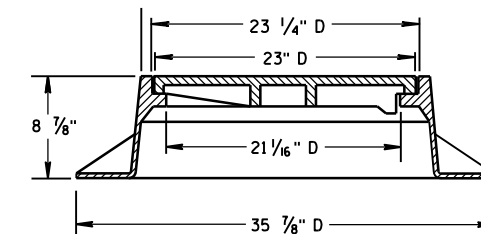
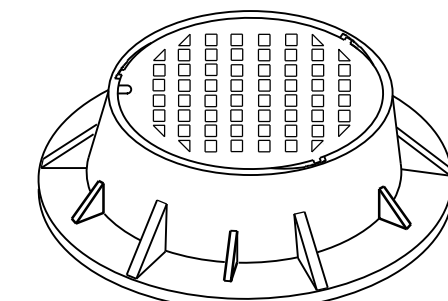
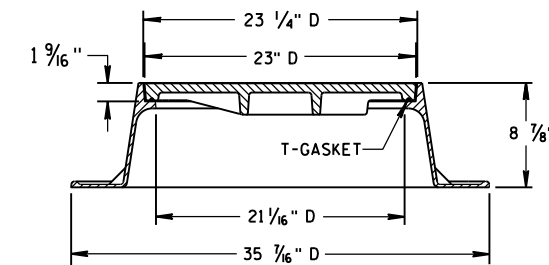
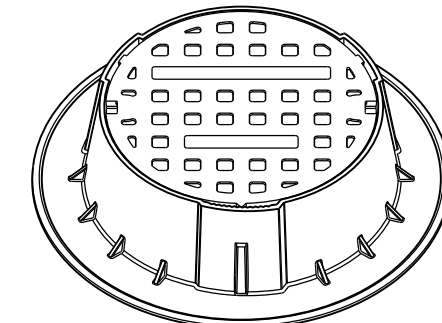
NOTE: EITHER CASTING IS ACCEPTABLE

**GENERAL NOTES**

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

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

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



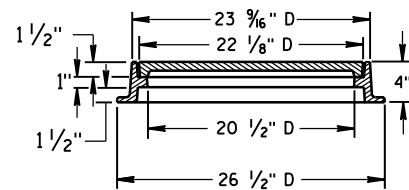
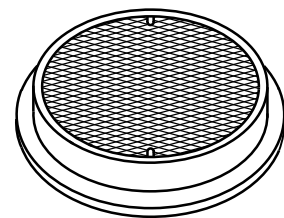
TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID

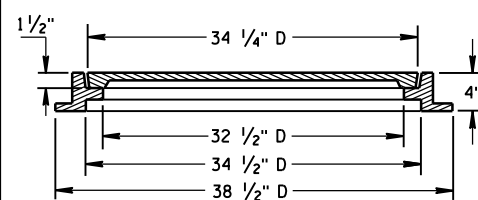
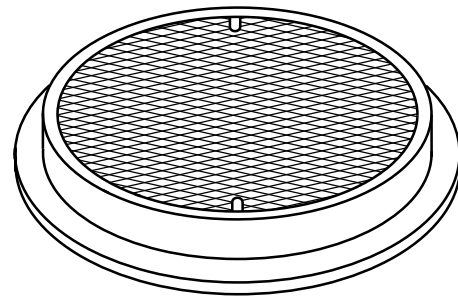
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

NOTE: EITHER CASTING IS ACCEPTABLE

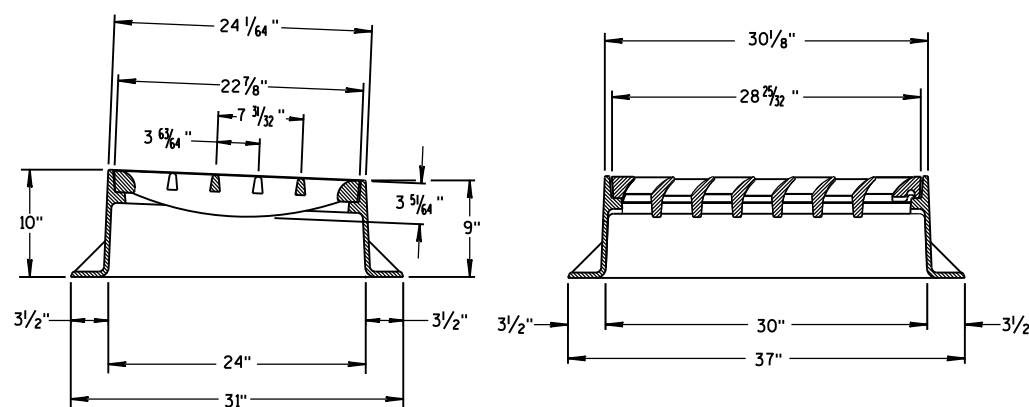
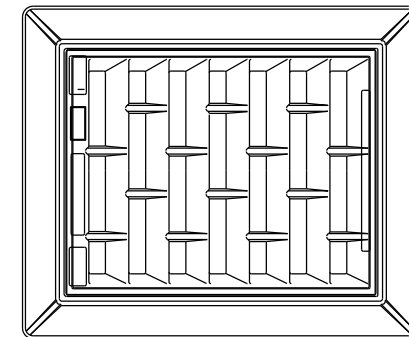
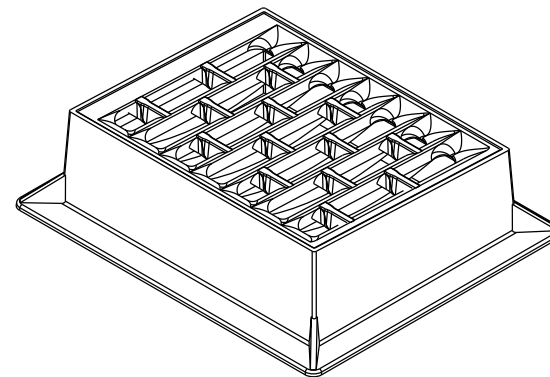
6



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

6

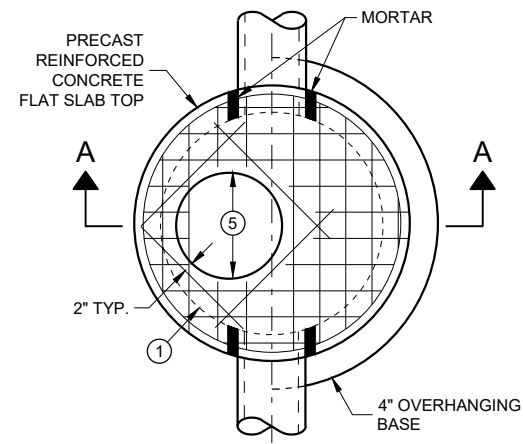
S.D.D. 8 A 5-19d

S.D.D. 8 A 5-19d

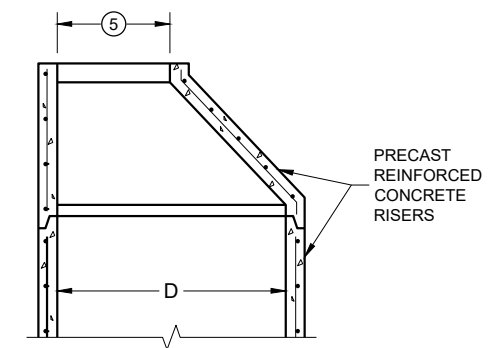
INLET COVER TYPE BW  
MANHOLE COVERS, TYPE K,  
J, J-S, L & M

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

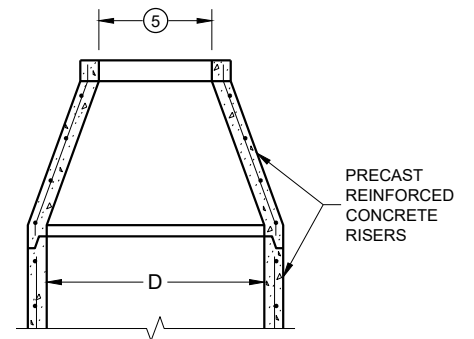
APPROVED  
11/27/2013 DATE /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA



PLAN VIEW CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

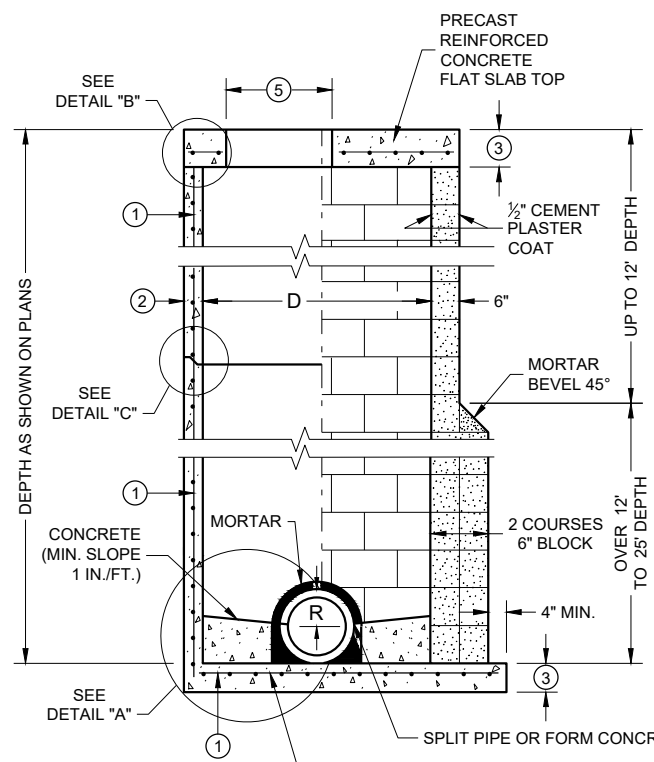
MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

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

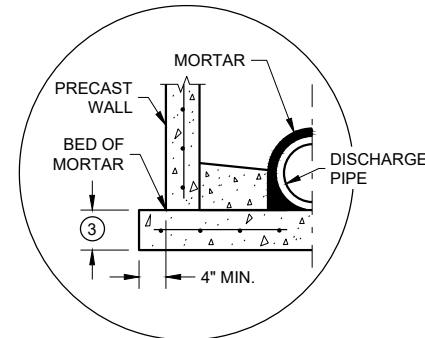
\*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.



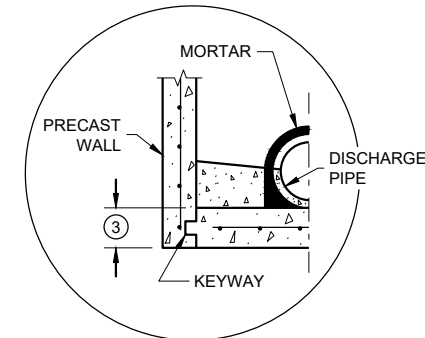
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ①

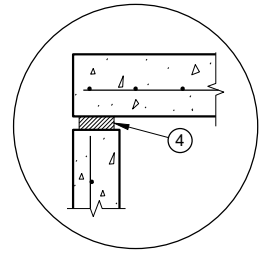


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

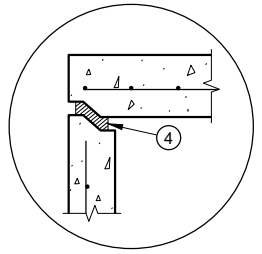


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

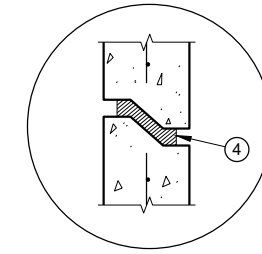
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

DETAIL "C"

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

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

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

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

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

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

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

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

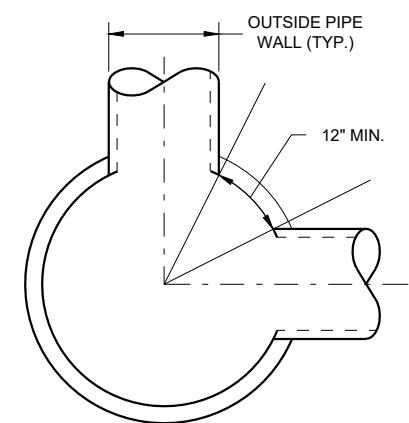
PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

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

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

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

- ① FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ② SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES
- ③ SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.
- ④ JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP.).
- ⑤ SEE MANHOLE COVER OPENING MATRIX.



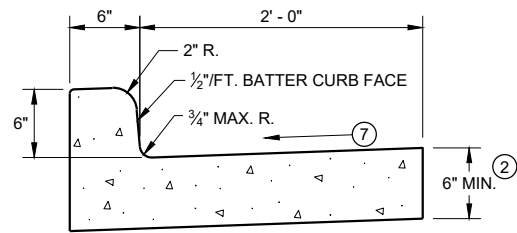
MINIMUM HORIZONTAL PIPE SEPARATION

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

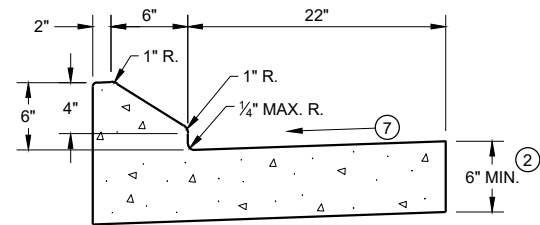
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA

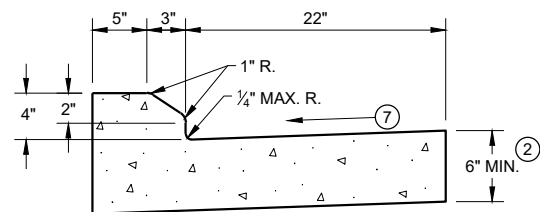
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER



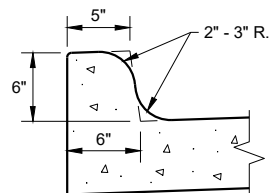
**TYPES A<sup>1</sup> & D**



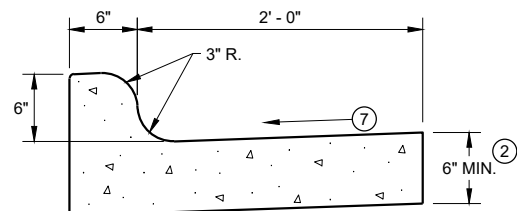
**6" SLOPED CURB TYPES G<sup>1</sup> & J**



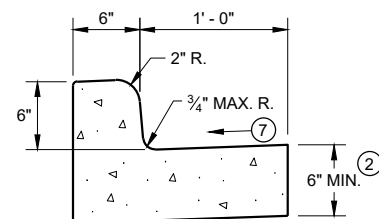
**4" SLOPED CURB TYPES G<sup>1</sup> & J**



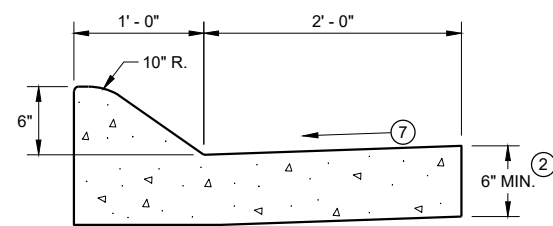
**TYPES K<sup>1</sup> & L**  
(OPTIONAL CURB SHAPE)



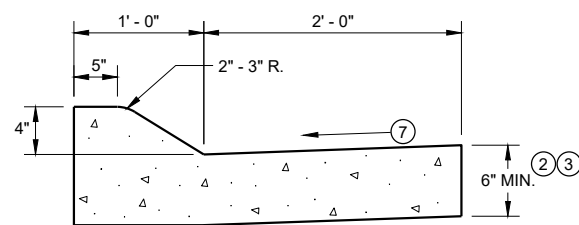
**TYPES K<sup>1</sup> & L**  
**CONCRETE CURB AND GUTTER 30"**



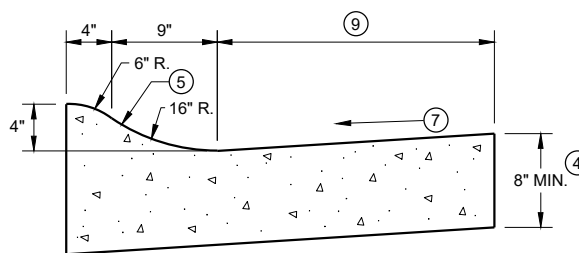
**TYPES A<sup>1</sup> & D**  
**CONCRETE CURB AND GUTTER 18"**



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

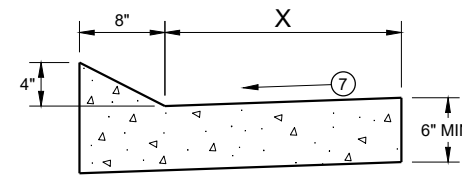


**4" SLOPED CURB TYPES A<sup>1</sup> & D**  
**CONCRETE CURB AND GUTTER 36"**



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

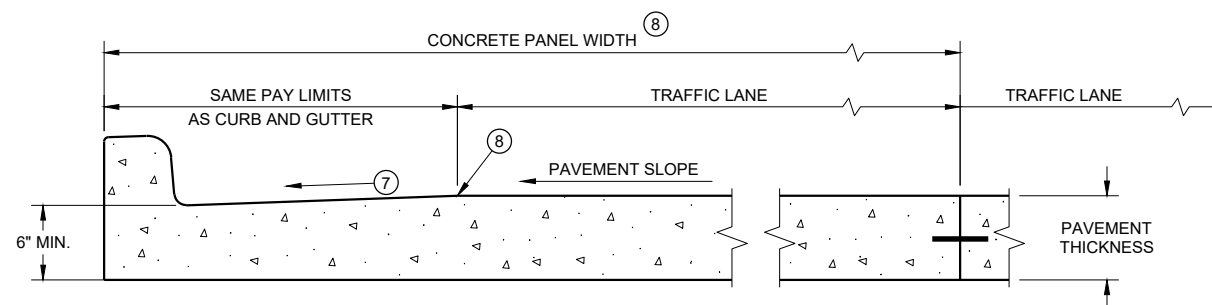
TBT & TBTT	X
30"	22"
36"	28"



**TYPES TBT & TBTT<sup>1</sup>**  
**CONCRETE CURB AND GUTTER**

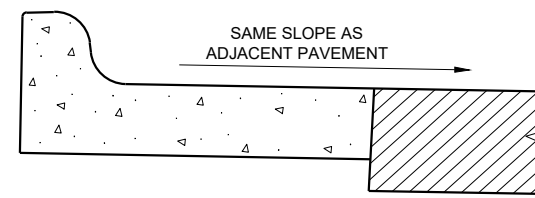
**PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE**

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**

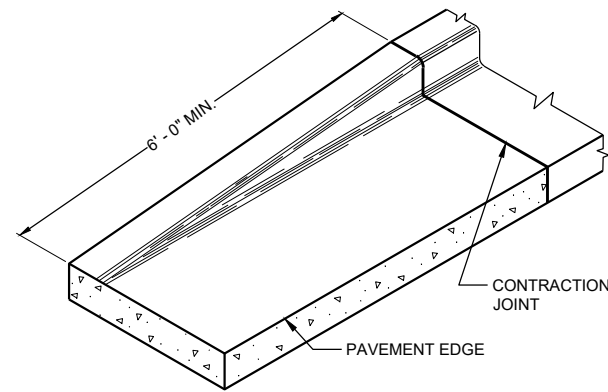
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

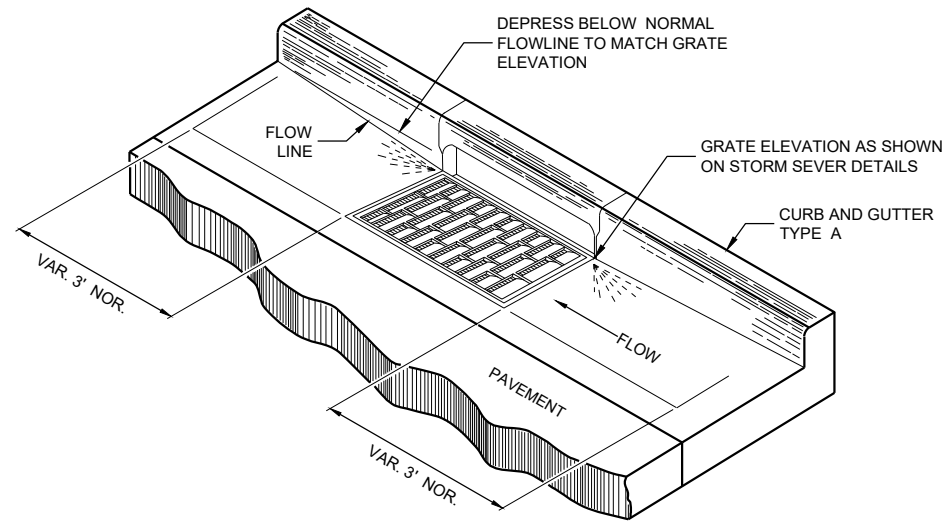
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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)

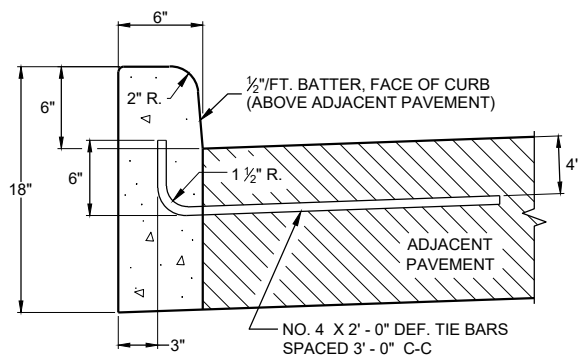
**GENERAL NOTES**

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

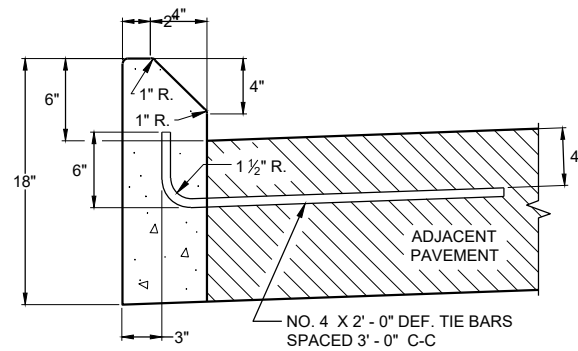
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

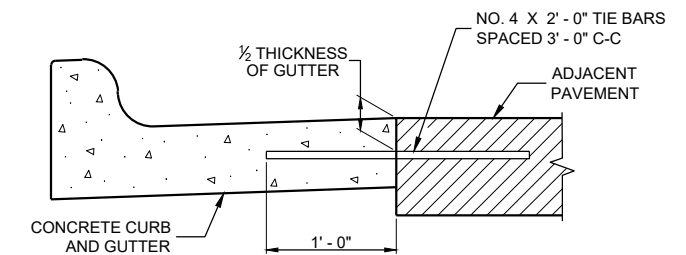
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL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



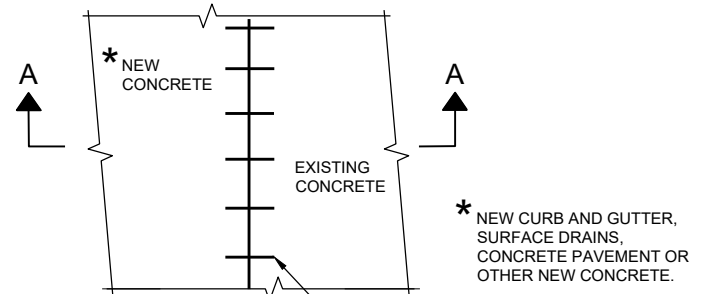
**TYPES A<sup>①</sup> & D**



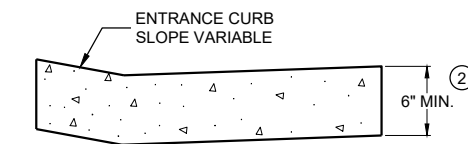
**TYPES G<sup>①</sup> & J  
CONCRETE CURB**



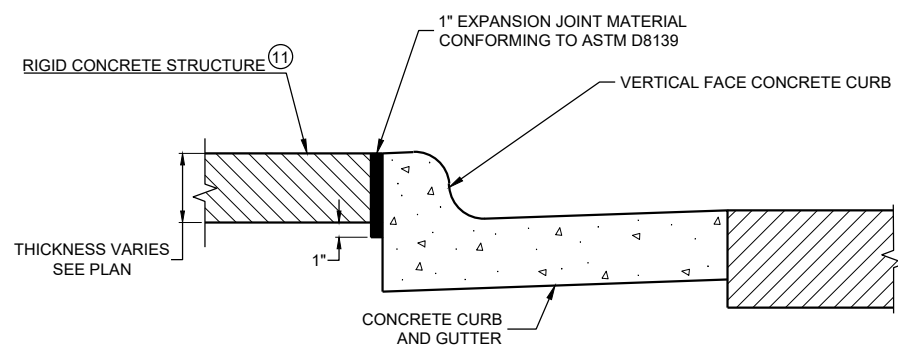
**TYPICAL TIE BAR LOCATION<sup>①</sup>**



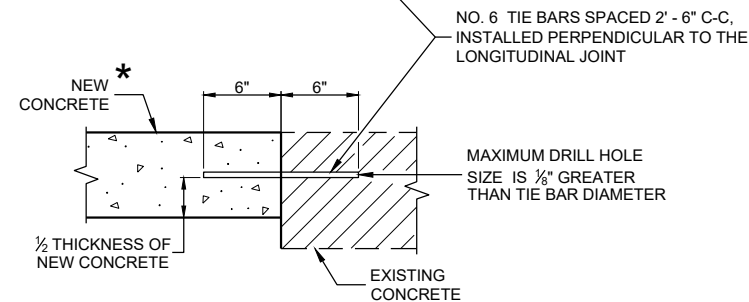
**PLAN VIEW**



**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**

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



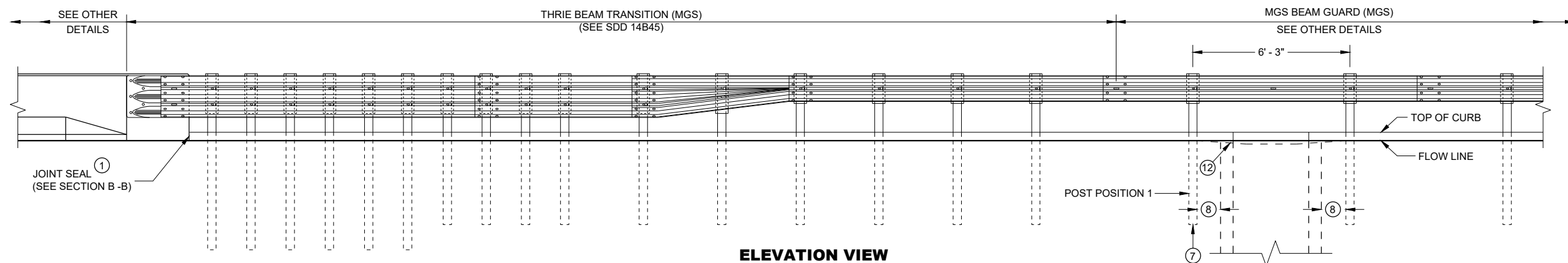
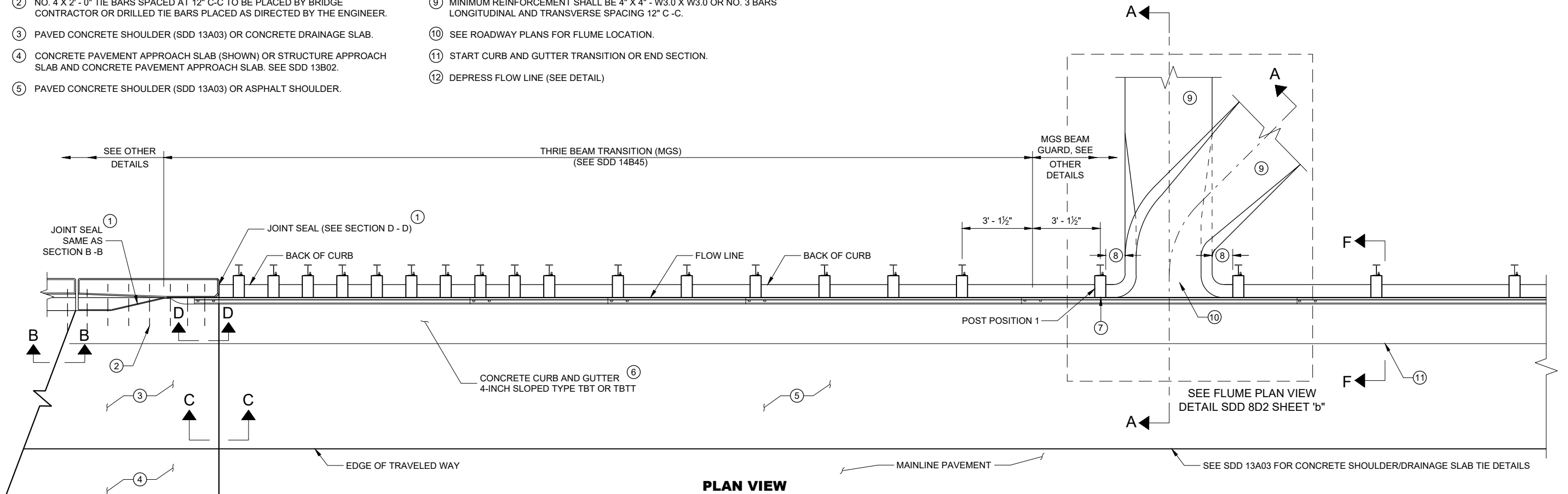
**GENERAL NOTES**

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.

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**

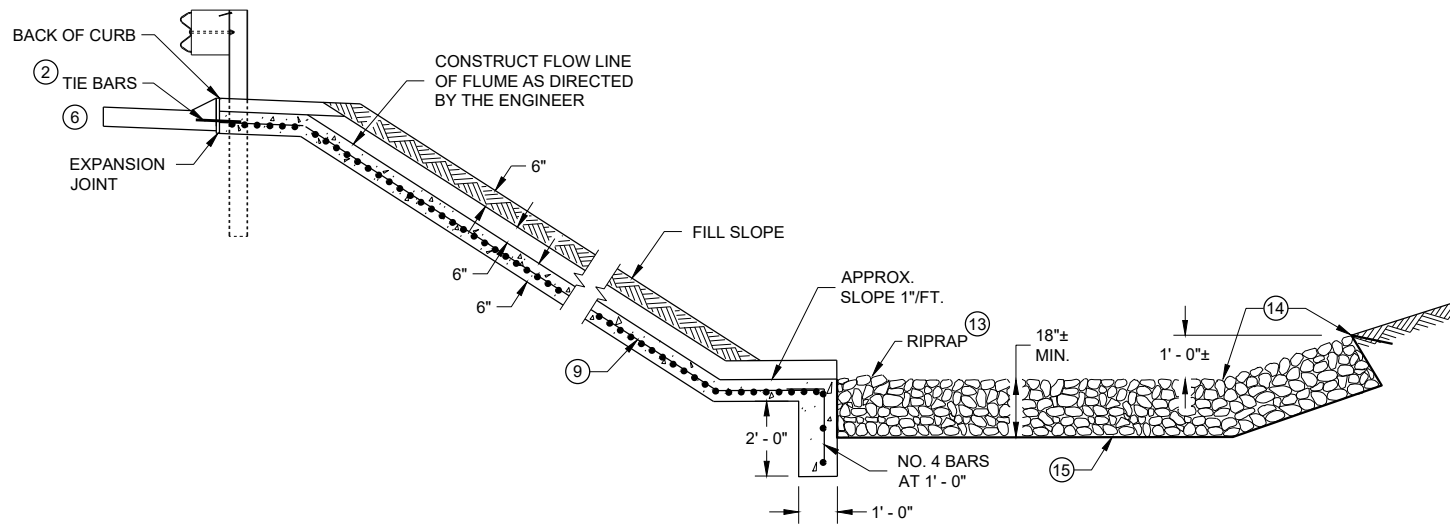
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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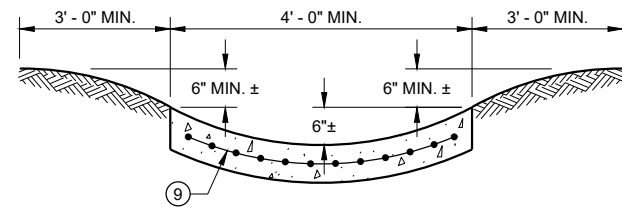
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SDD 08D02 - 08a

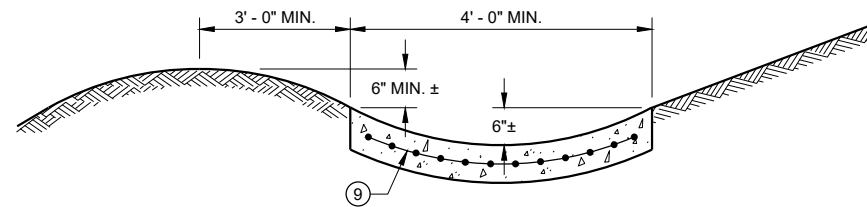
SDD 08D02 - 08a



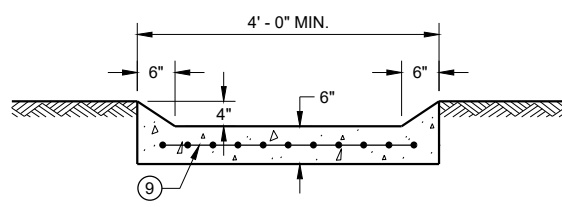
**SECTION A - A**



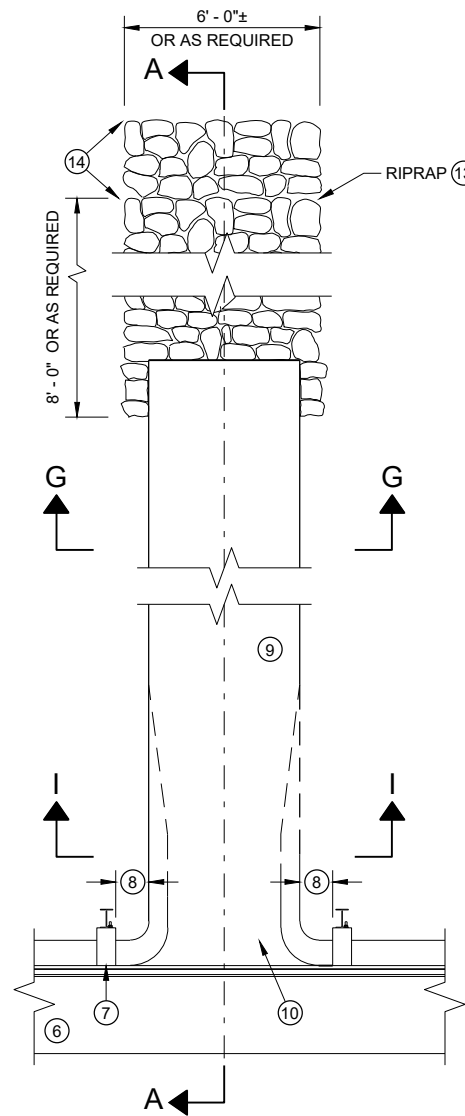
**SECTION G - G**



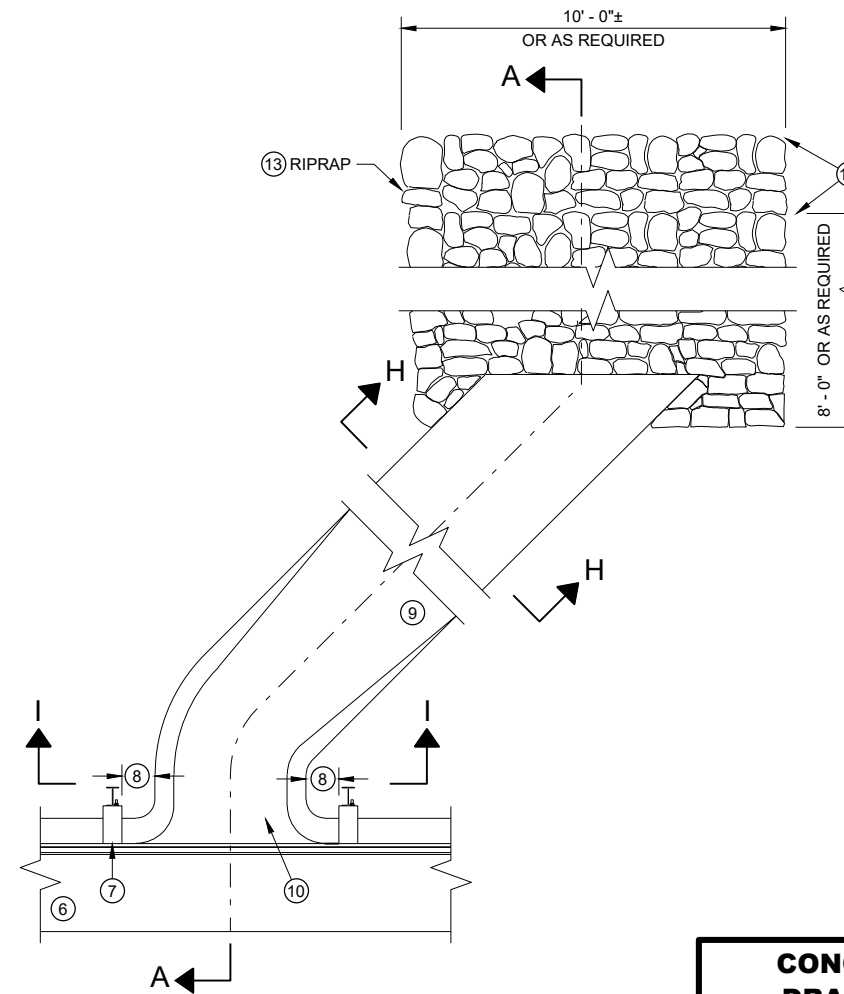
**SECTION H - H**



**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

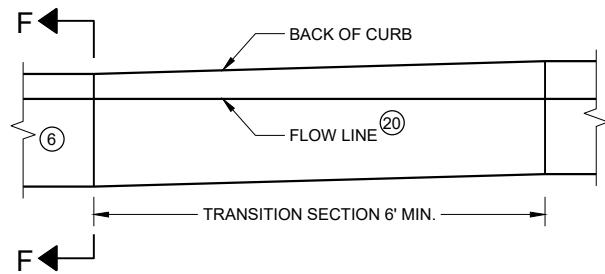
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SDD 08D02 - 08b

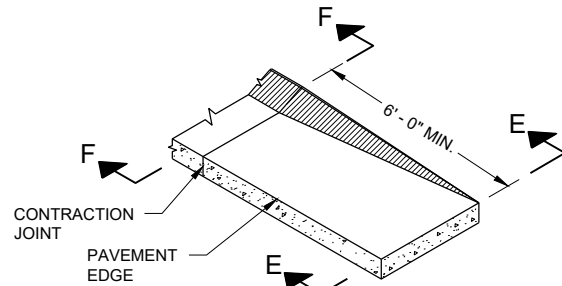
SDD 08D02 - 08b

**CONCRETE SURFACE  
DRAINS FLUME TYPE  
AT STRUCTURES**

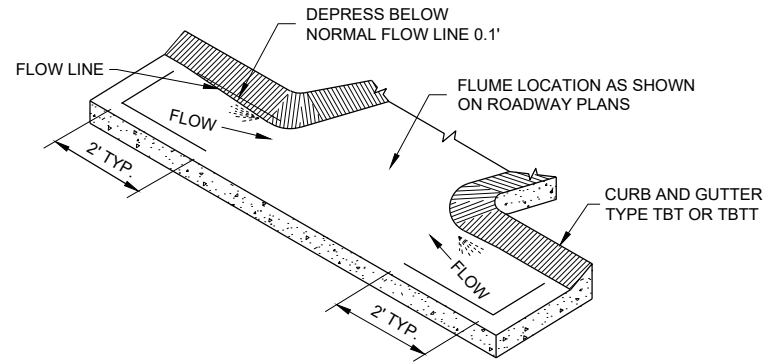
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**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**



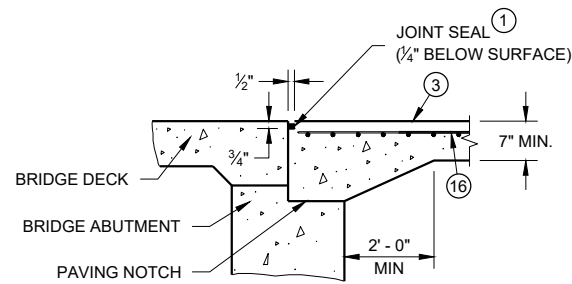
**CURB AND GUTTER FLOW LINE DEPRESSION  
AT FLUMES CONCRETE CURB AND GUTTER  
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

**GENERAL NOTES**

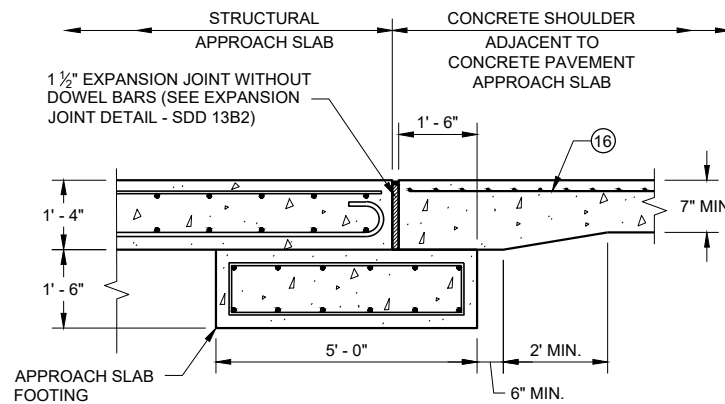
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

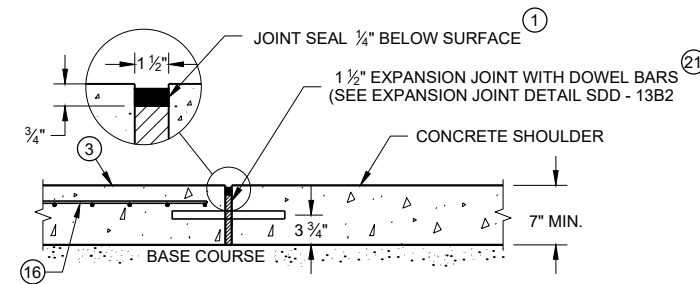
- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH 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.



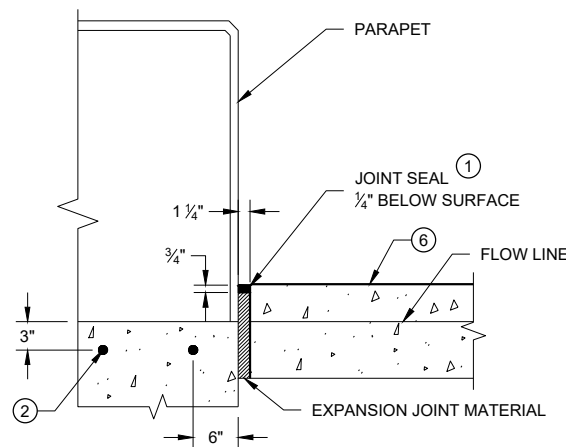
**SECTION B-B**



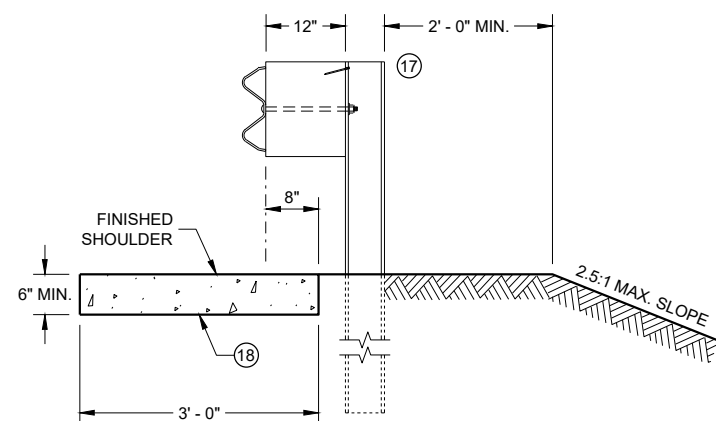
**SECTION C - C  
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL  
APPROACH SLAB AND CONCRETE APPROACH SLAB**



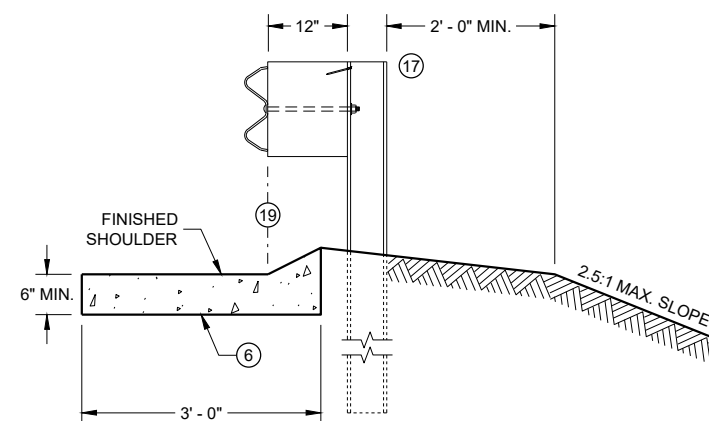
**SECTION C - C  
JOINT DETAIL FOR BRIDGE APPROACH  
WITH CONCRETE SHOULDERS**



**SECTION D - D**



**SECTION E - E**



**SECTION F - F**

6

6

SDD08D02 - 08C

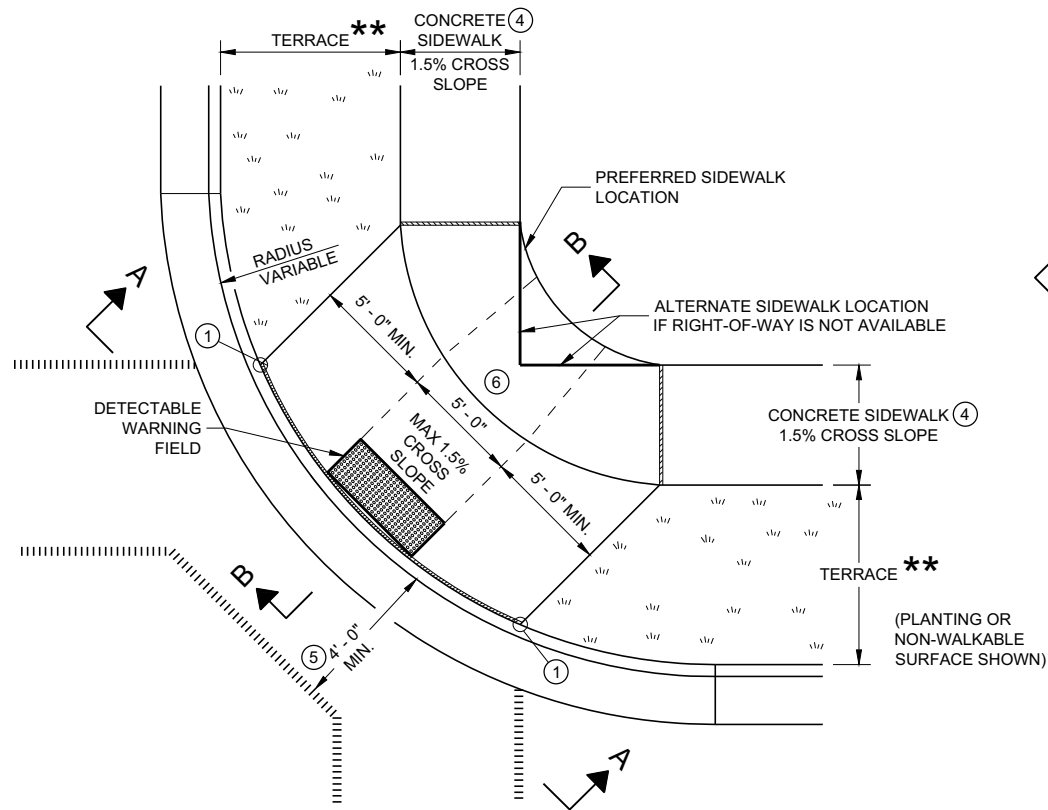
SDD08D02 - 08C

**CONCRETE SURFACE  
DRAINS FLUME TYPE  
AT STRUCTURES**

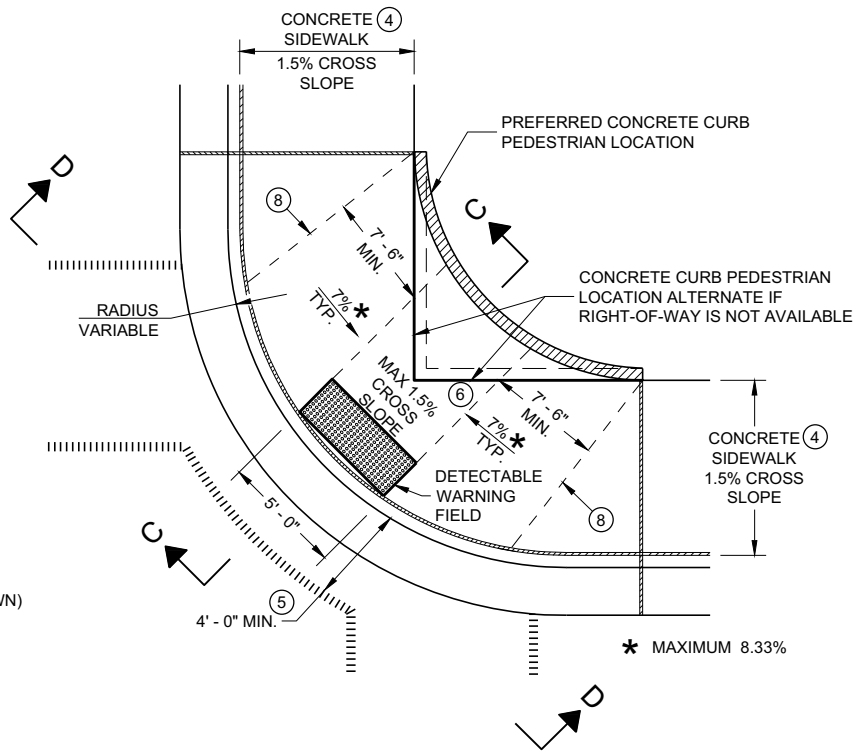
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

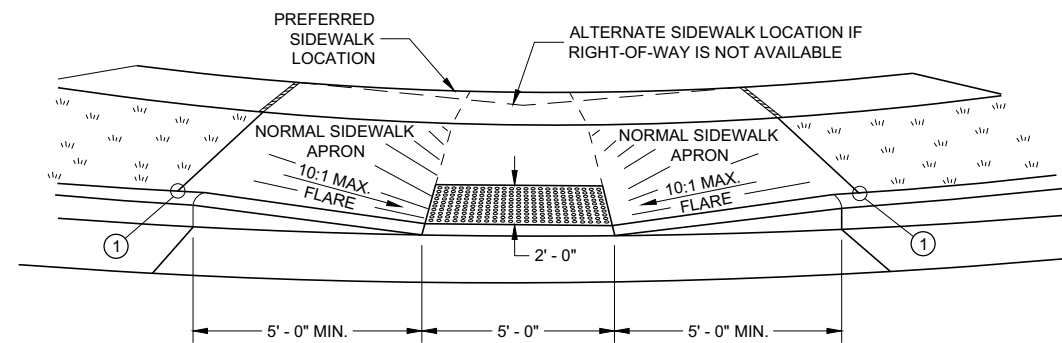
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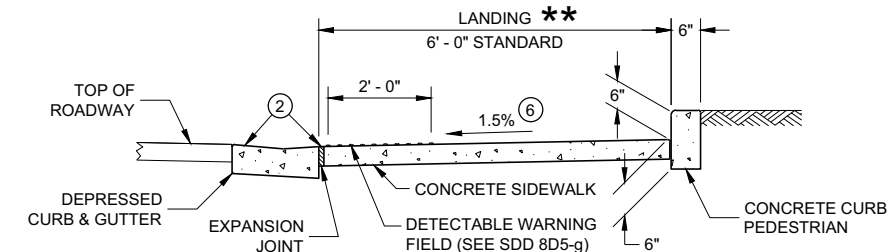
**PLAN VIEW  
CURB RAMP TYPE 1  
(CENTER OF CORNER RADIUS)**



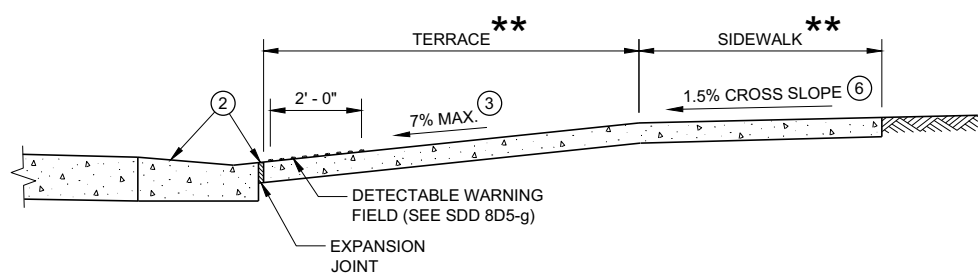
**PLAN VIEW  
CURB RAMP TYPE 1 - A  
(NO TERRACE)**



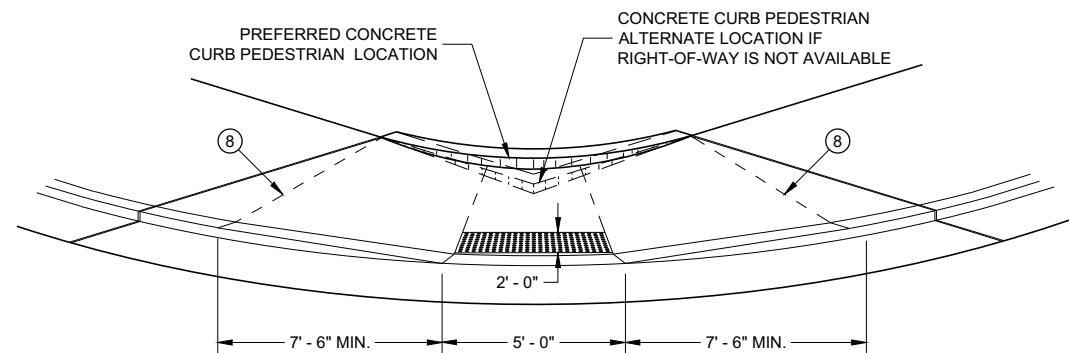
**VIEW A - A FOR TYPE 1**



**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.

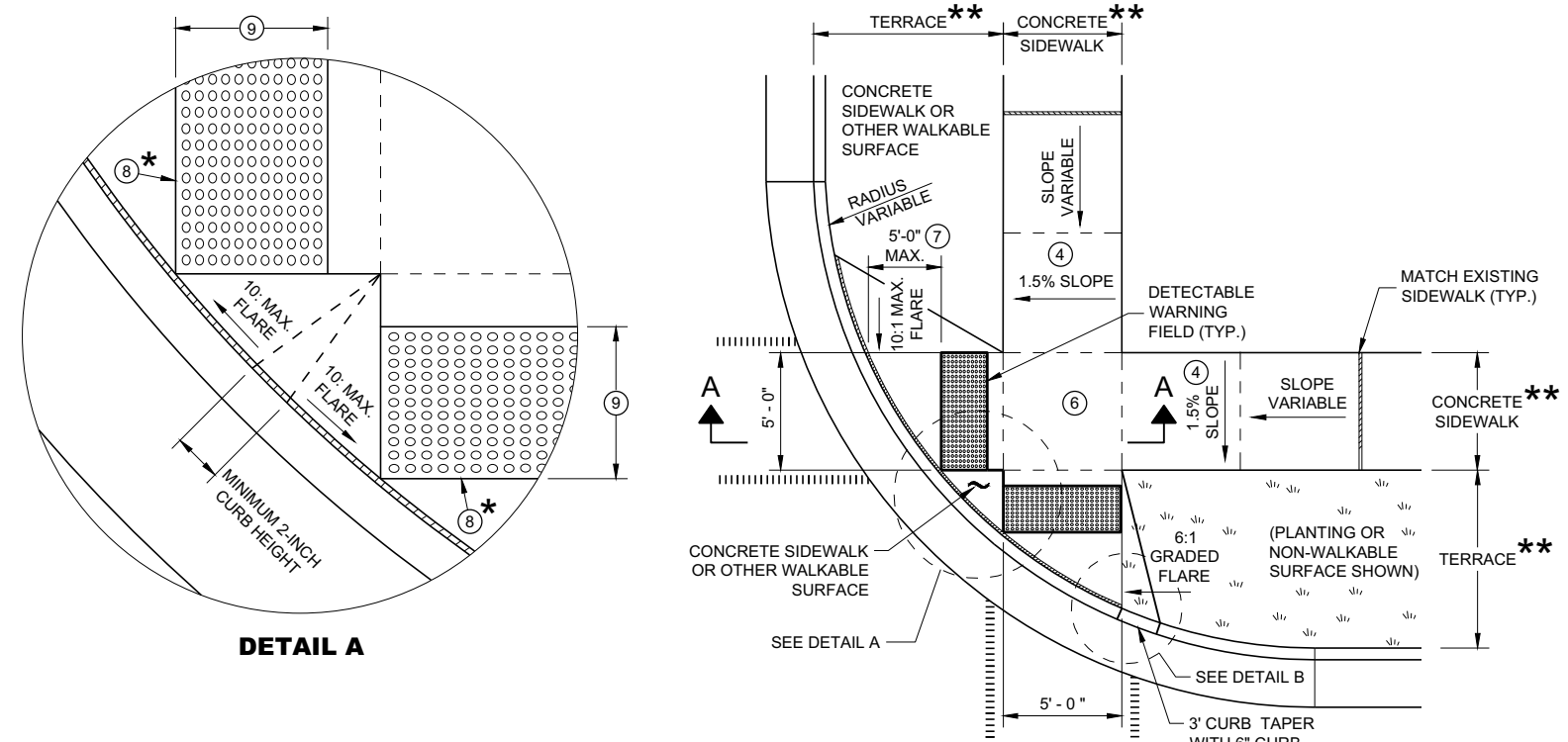
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. 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**

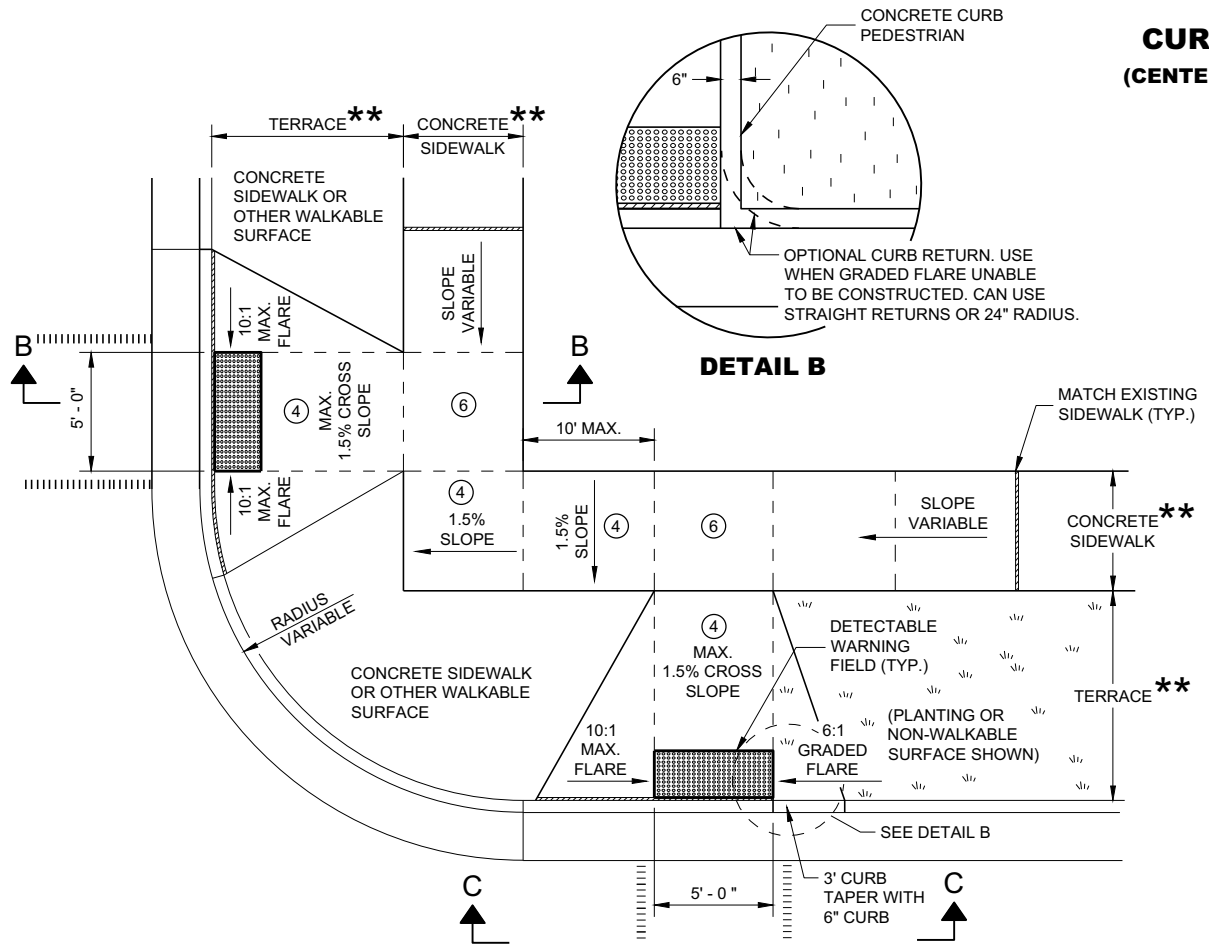
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

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

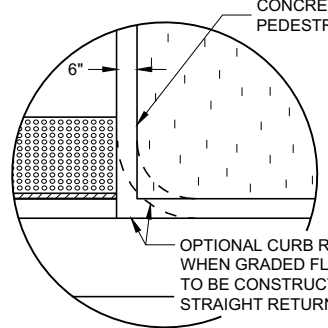
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DEPARTMENT OF TRANSPORTATION



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



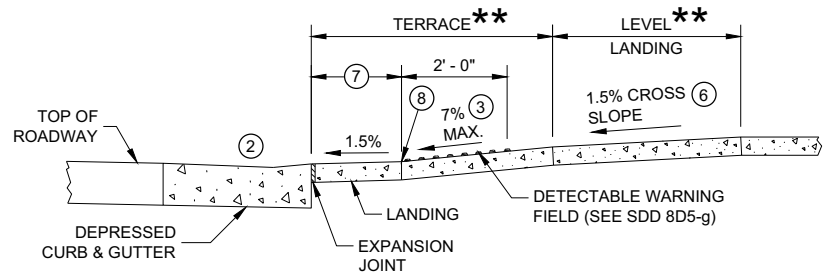
**PLAN VIEW CURB RAMP TYPE 3 (OUTSIDE OF CROSSWALK AREA)**



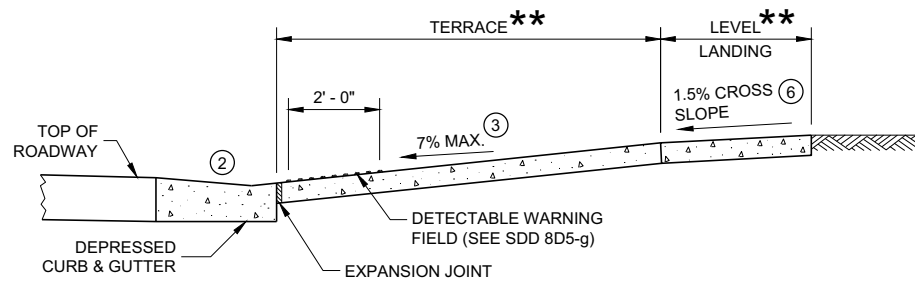
**DETAIL B**

**GENERAL NOTES**

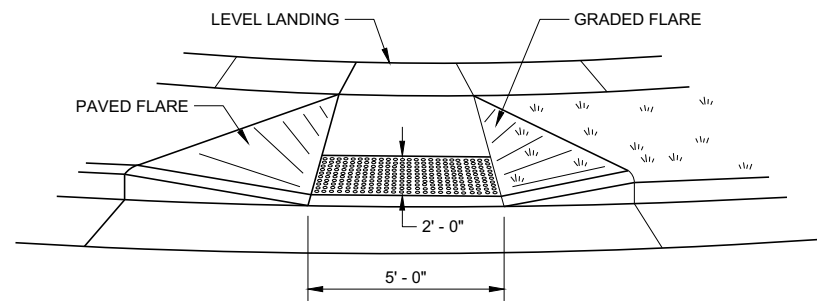
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE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

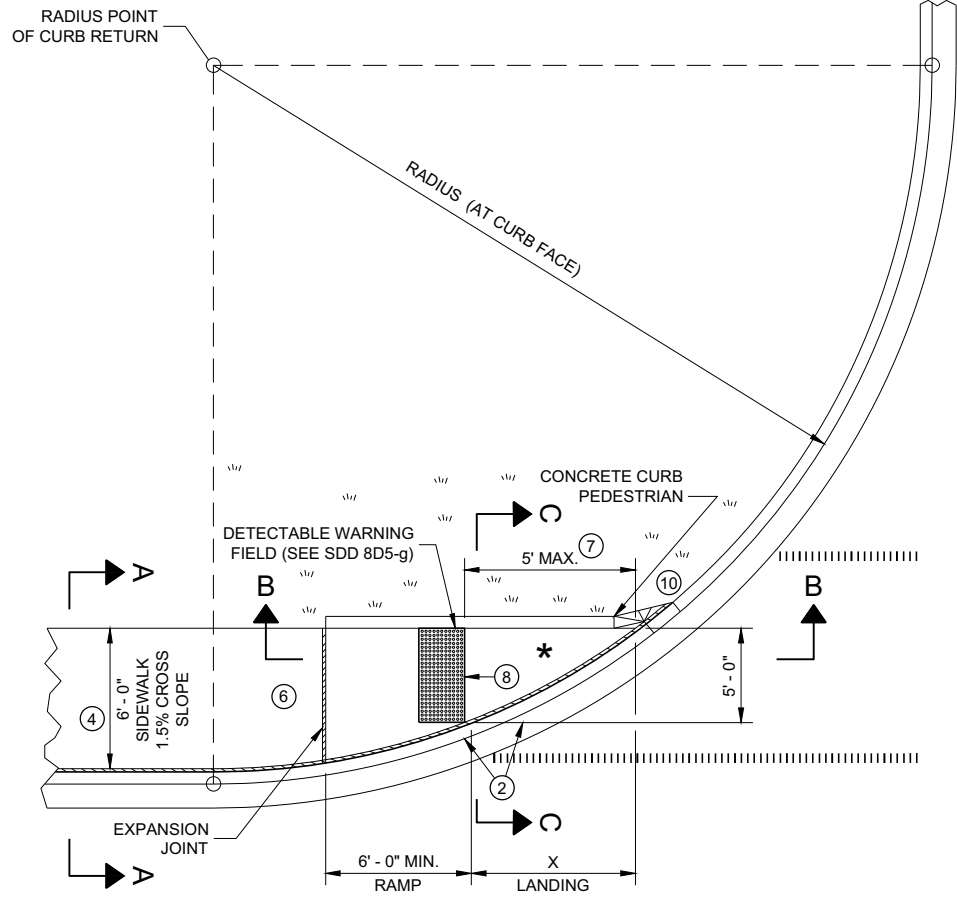
- \* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- \*\* WIDTH SHOWN ELSEWHERE IN THE PLANS

**LEGEND**

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

**CURB RAMPS  
TYPE 2 AND 3**

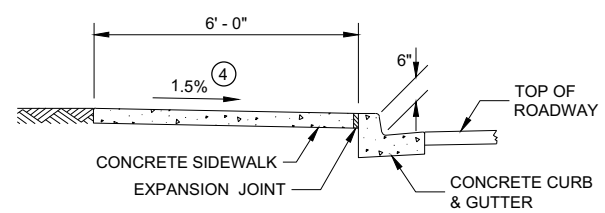
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**PLAN VIEW  
CURB RAMP TYPE 4A**

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

INTERMEDIATE RADII CAN BE INTERPOLATED



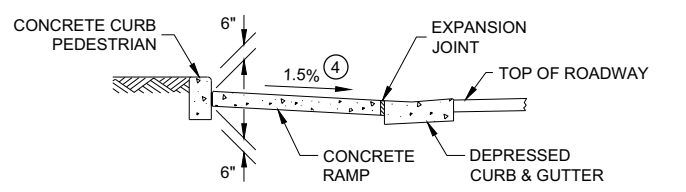
**SECTION A - A FOR TYPE 4A**

**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.

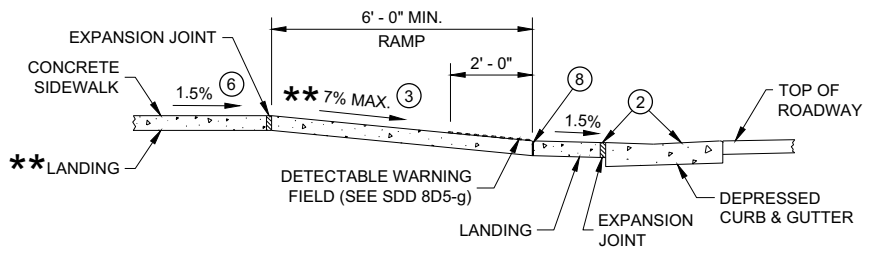
**LEGEND**

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



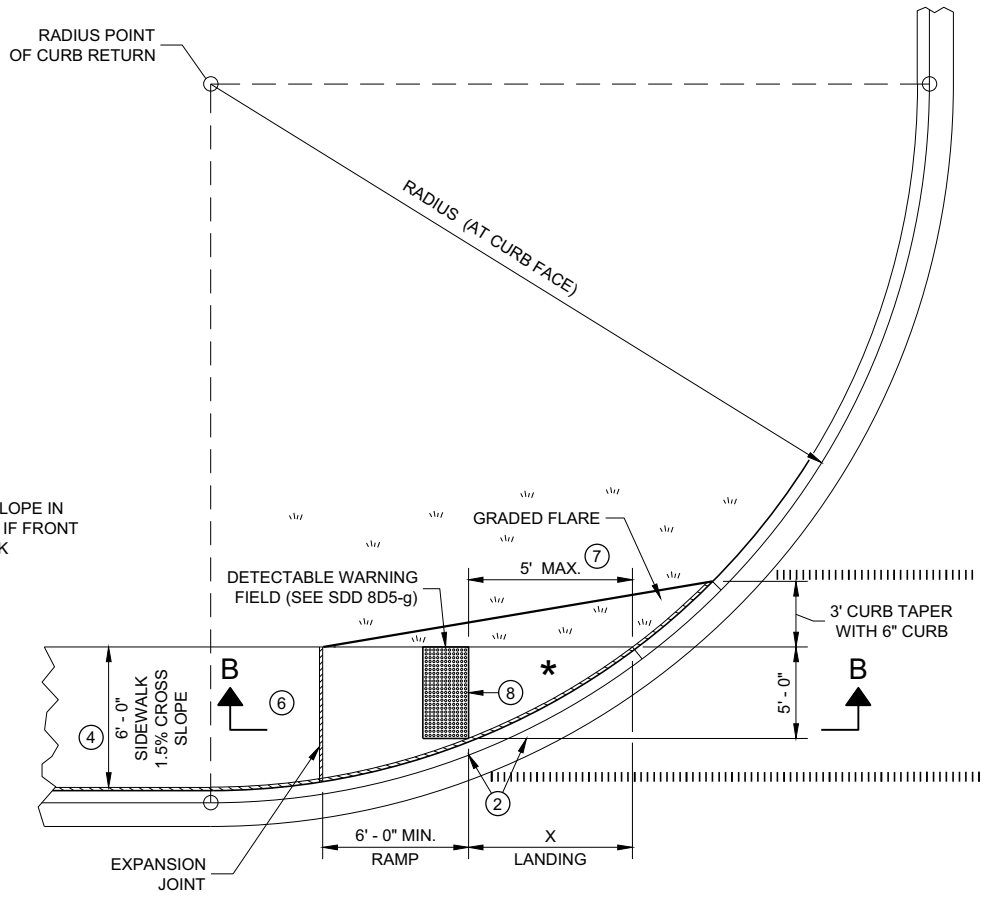
**SECTION C - C FOR TYPE 4A**

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

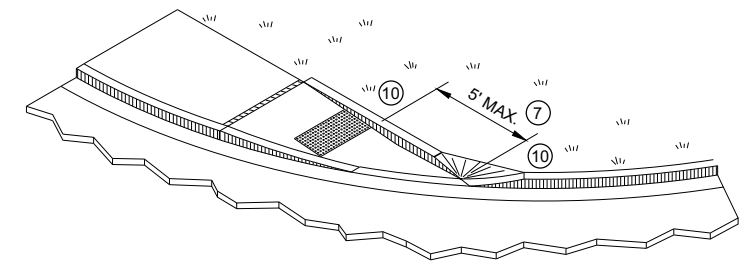


**SECTION B - B FOR  
TYPE 4A AND TYPE 4A1**

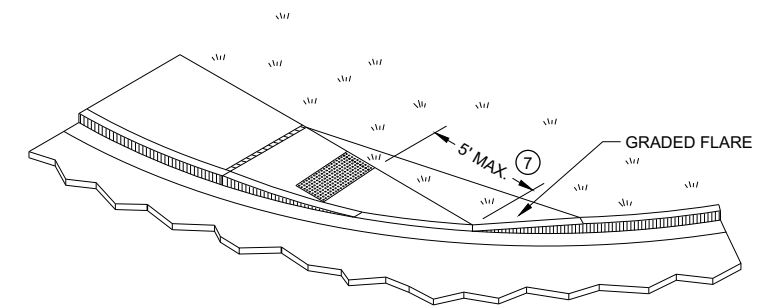
\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



**PLAN VIEW  
CURB RAMP TYPE 4A1**



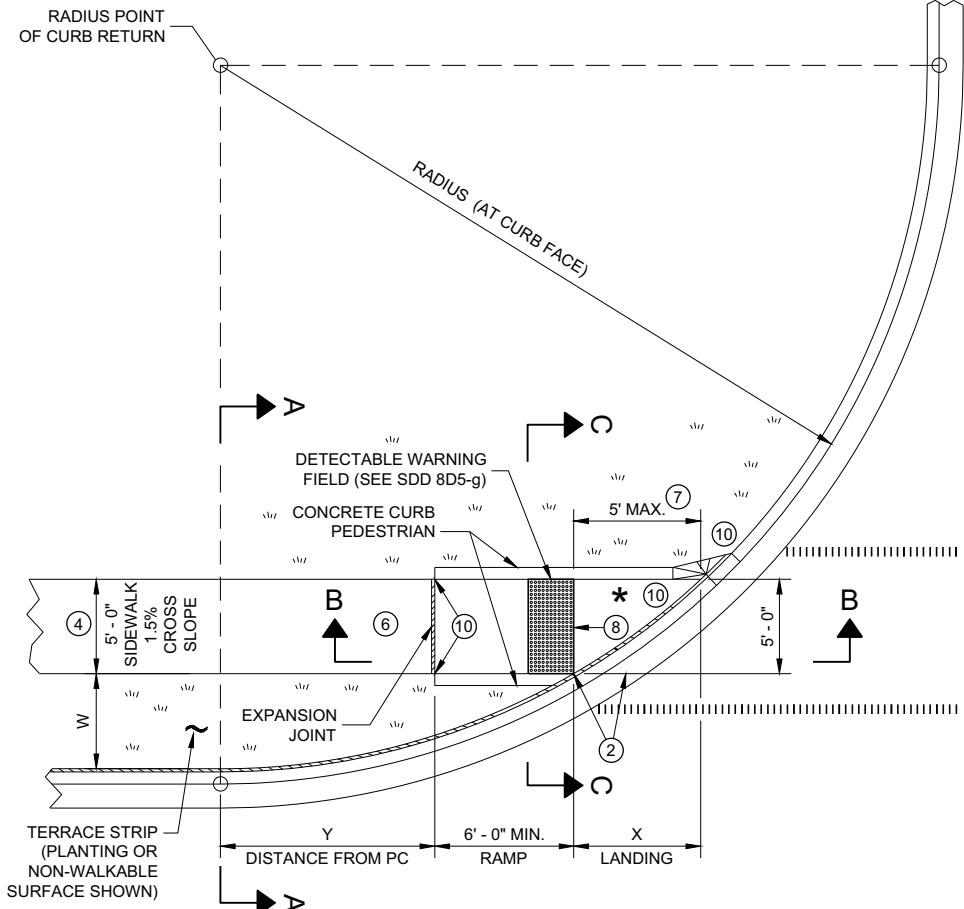
**ISOMETRIC VIEW FOR TYPE 4A**



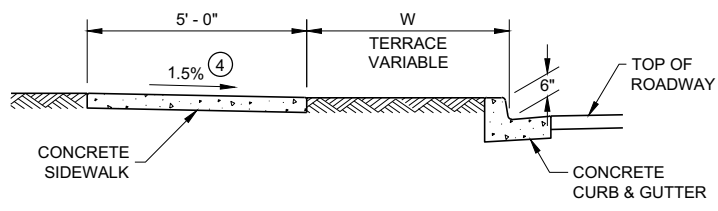
**ISOMETRIC VIEW FOR TYPE 4A1**

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

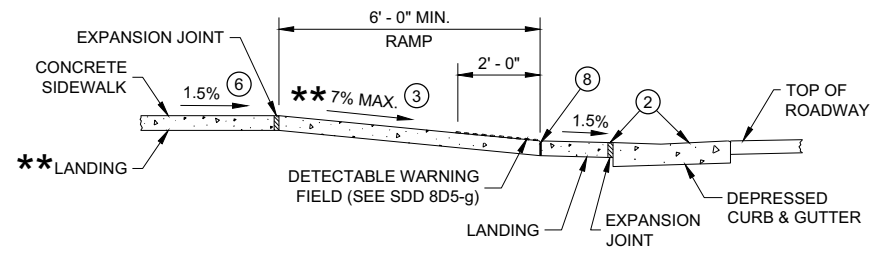
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**PLAN VIEW  
CURB RAMP TYPE 4B**



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



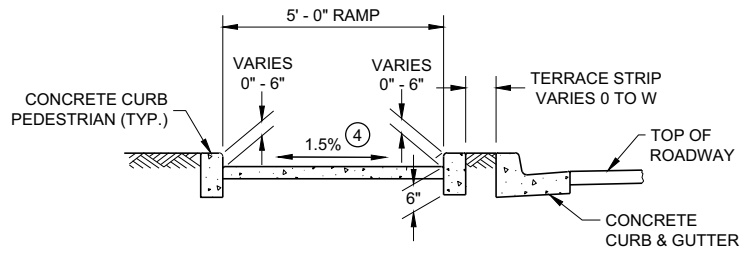
**SECTION B - B FOR  
TYPE 4B AND TYPE 4B1**

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

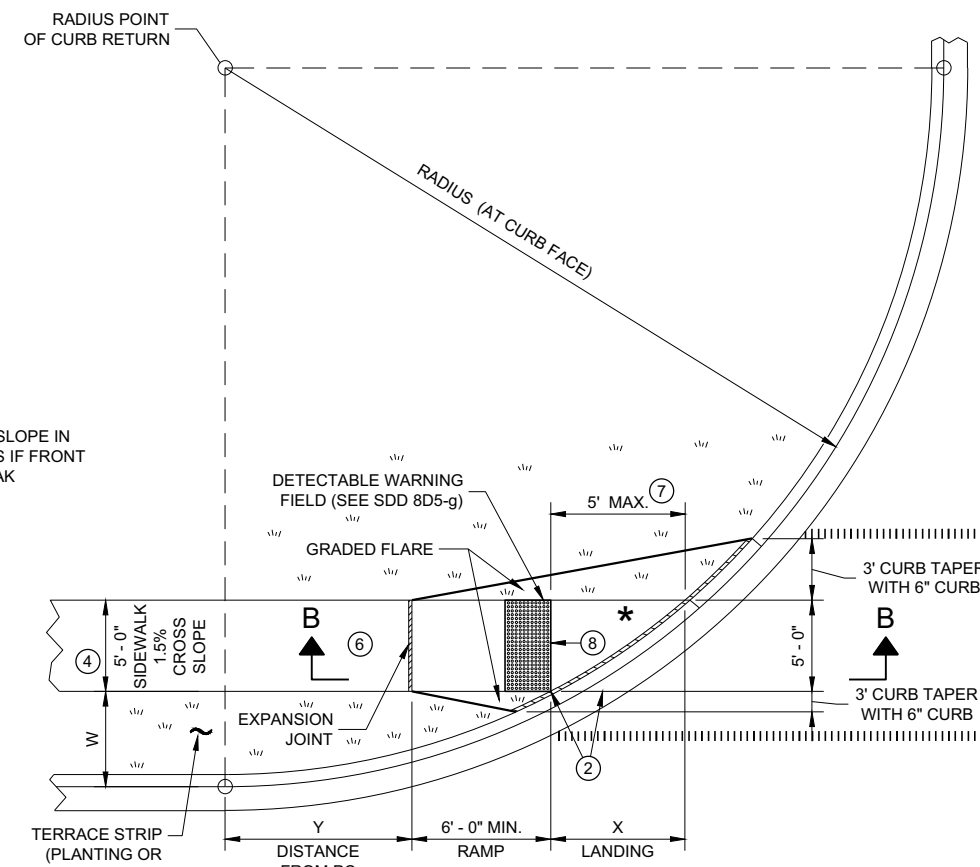
\* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

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"

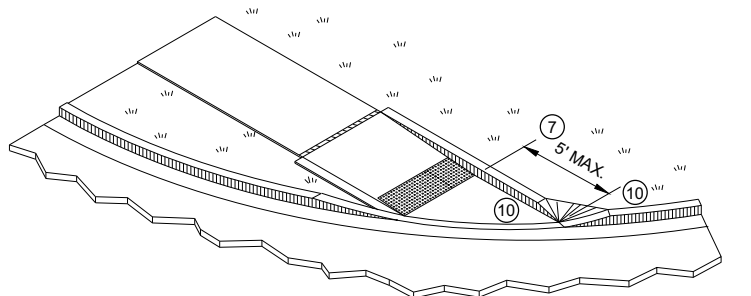
INTERMEDIATE RADII CAN BE INTERPOLATED  
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH  
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH



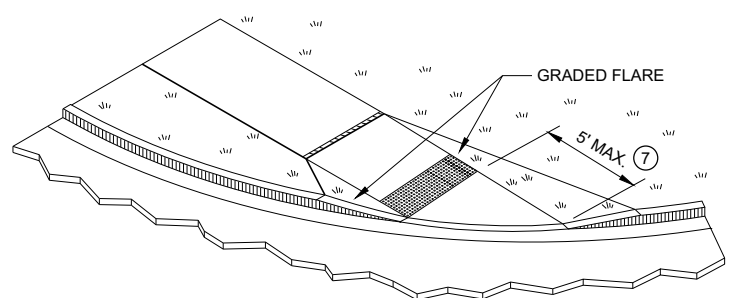
**SECTION C - C FOR TYPE 4B**



**PLAN VIEW  
CURB RAMP TYPE 4B1**



**ISOMETRIC VIEW FOR TYPE 4B**



**ISOMETRIC VIEW FOR TYPE 4B1**

**LEGEND**

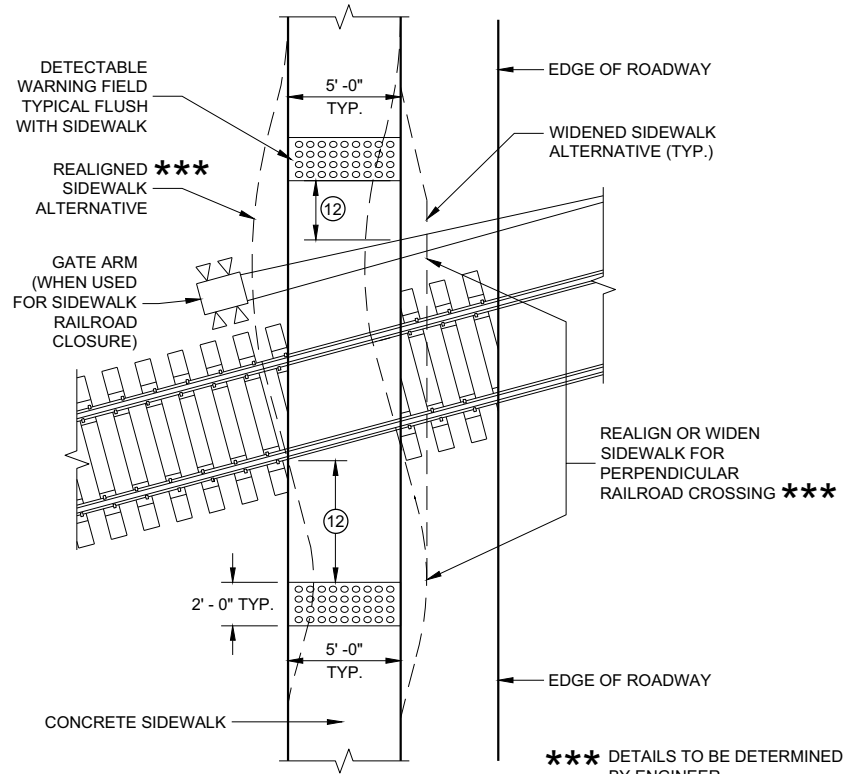
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

**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.
- 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 1/2 - 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.
- 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.

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

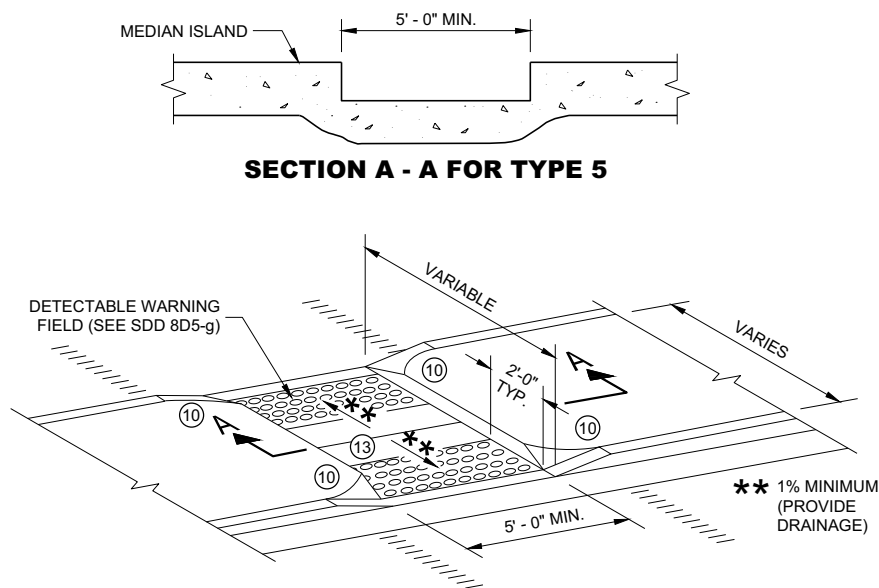
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**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.

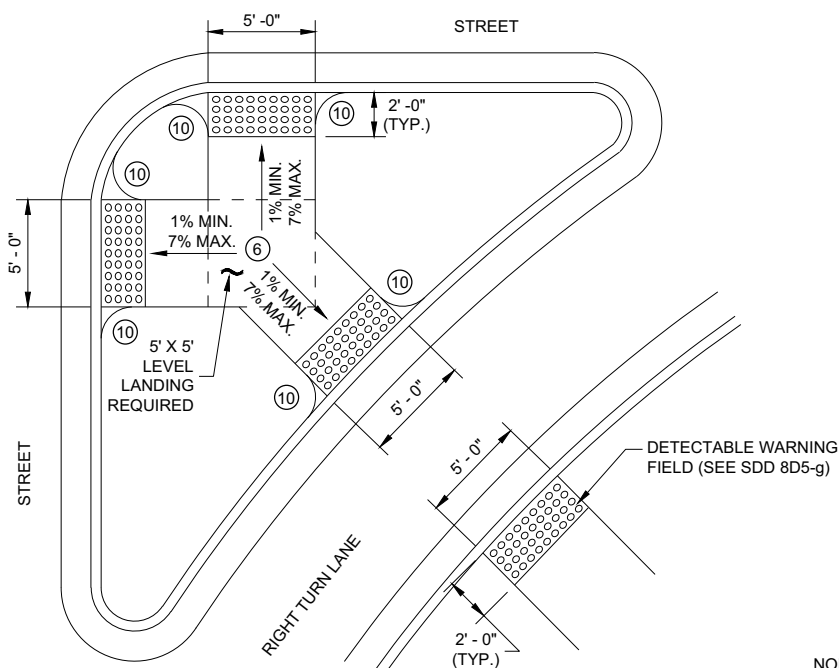
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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.

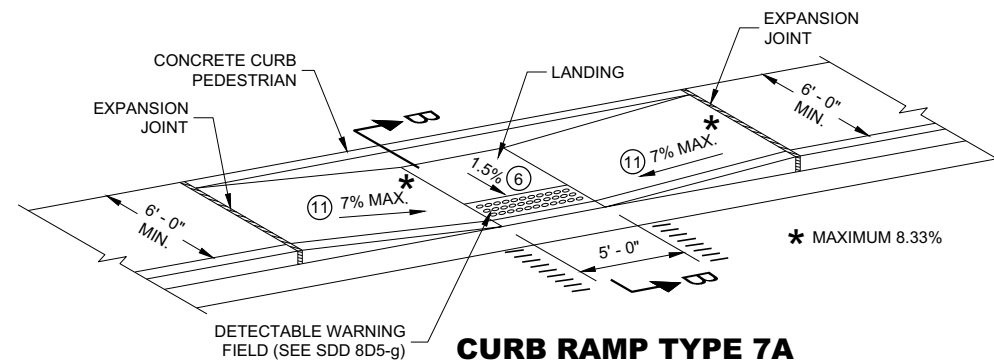
**LEGEND**

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

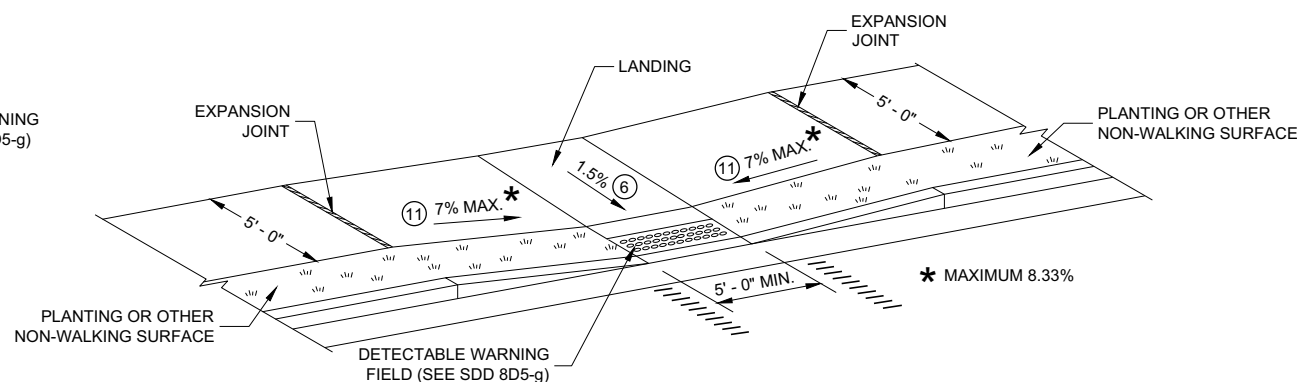


**CURB RAMP TYPE 6**  
**DETECTABLE WARNING AT ISLANDS**

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

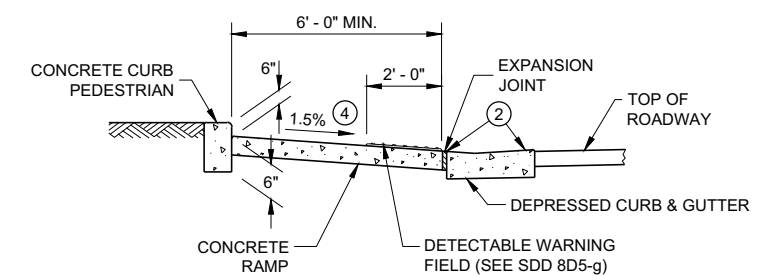


**CURB RAMP TYPE 7A**  
**MID BLOCK CROSSING**



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

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



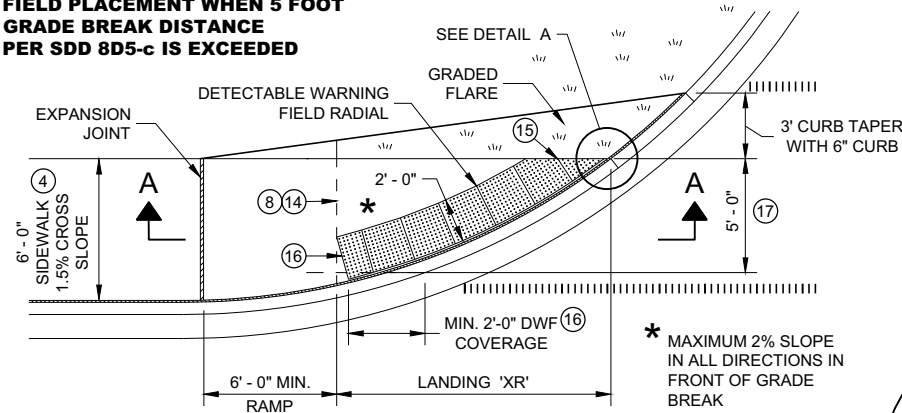
**SECTION B - B FOR TYPE 7A**

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

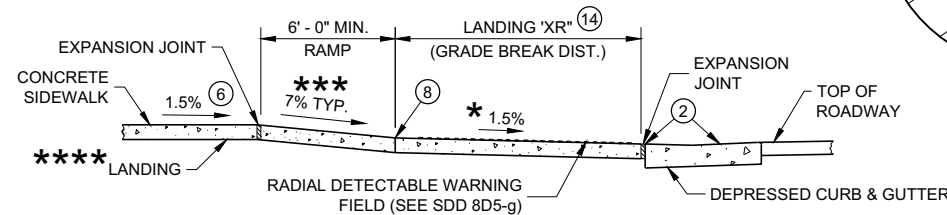
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



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



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

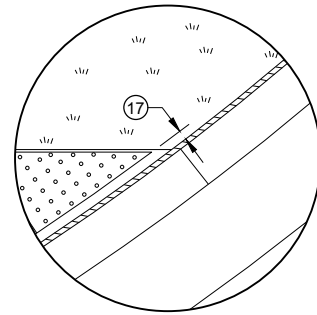


**SECTION A - A FOR TYPE 4A1**

\*\*\*\* 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)

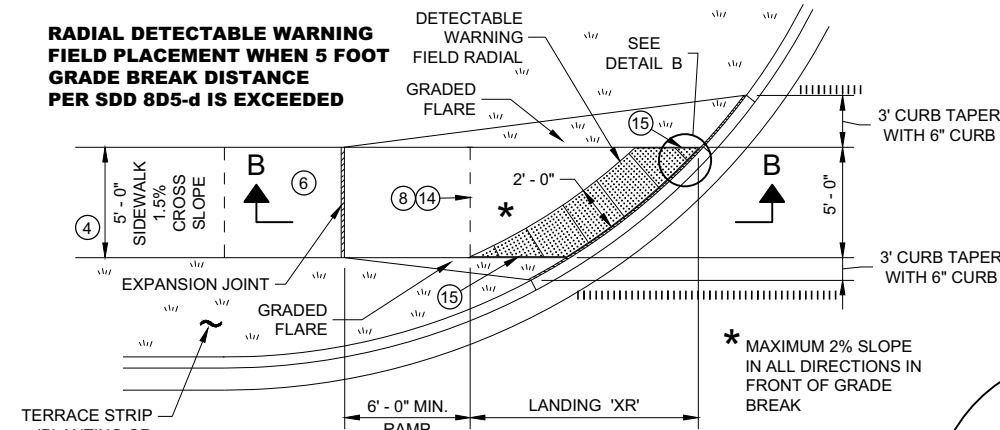


**DETAIL A**

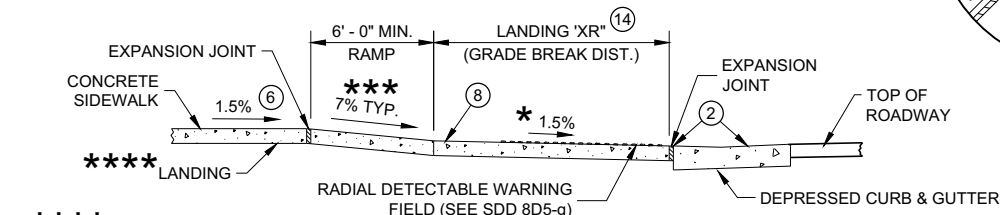
**GENERAL NOTES**

- 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**



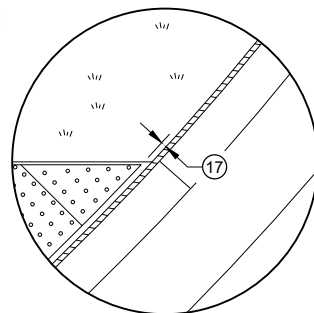
**PLAN VIEW  
CURB RAMP TYPE 4B1  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**



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

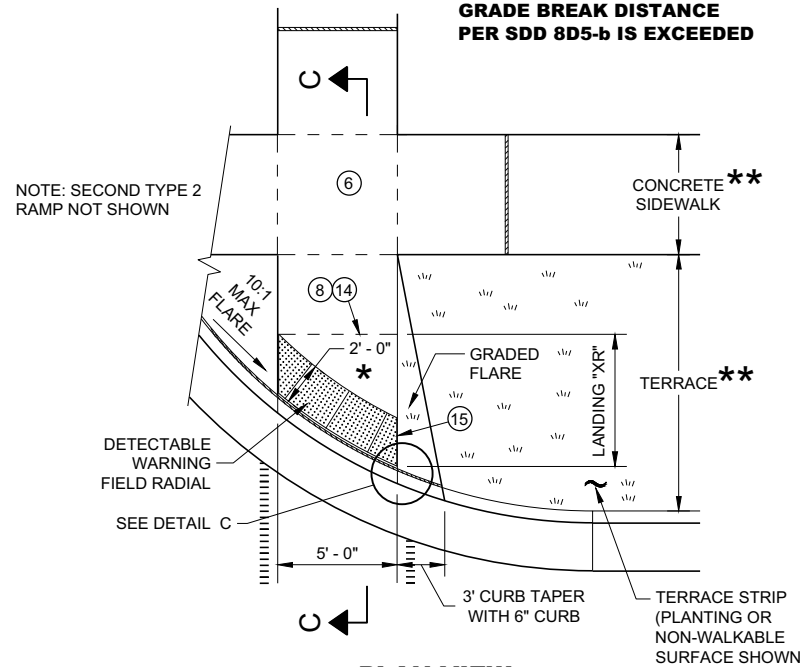
\*\*\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

\*\*\* MAXIMUM 8.33%



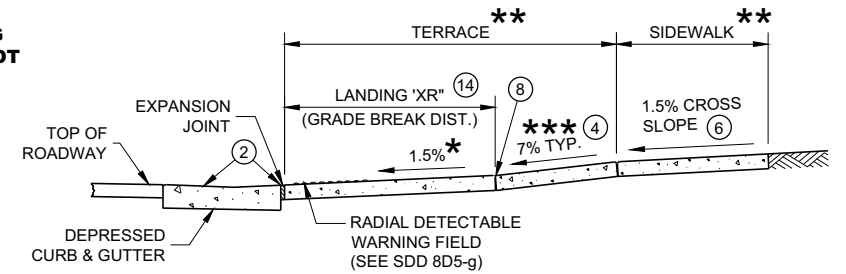
**DETAIL B**

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



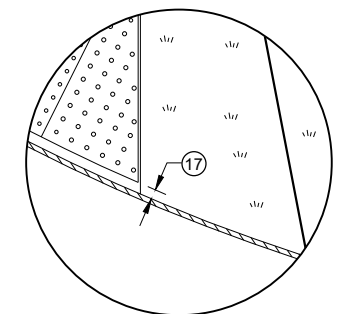
**PLAN VIEW  
CURB RAMP TYPE 2  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)  
(ON LINE WITH SIDEWALK)**

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%



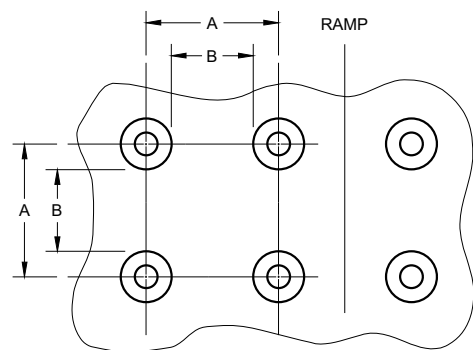
**DETAIL C**

**CURB RAMPS  
RADIAL DETECTABLE WARNING  
FIELD APPLICATIONS**

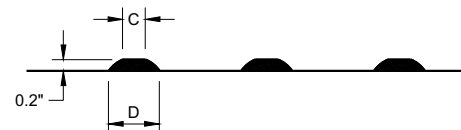
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

	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.

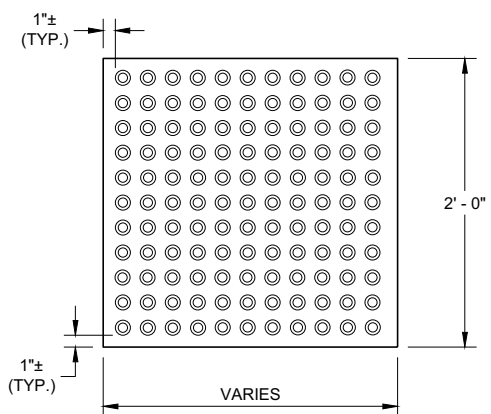


**PLAN VIEW**

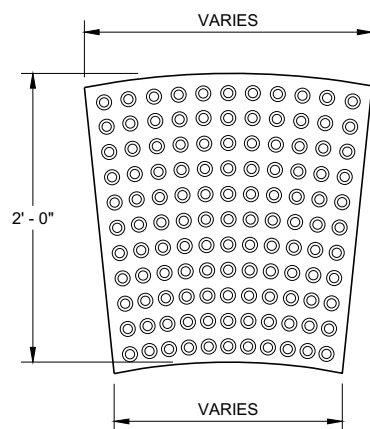


**ELEVATION VIEW**

**TRUNCATED DOMES  
DETECTABLE WARNING PATTERN DETAIL**

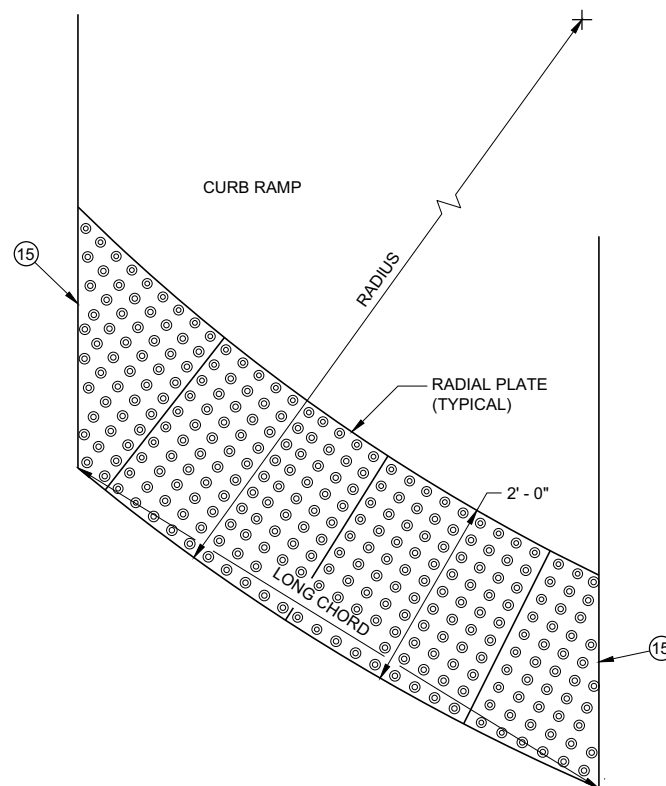


**RECTANGULAR  
PLATES**

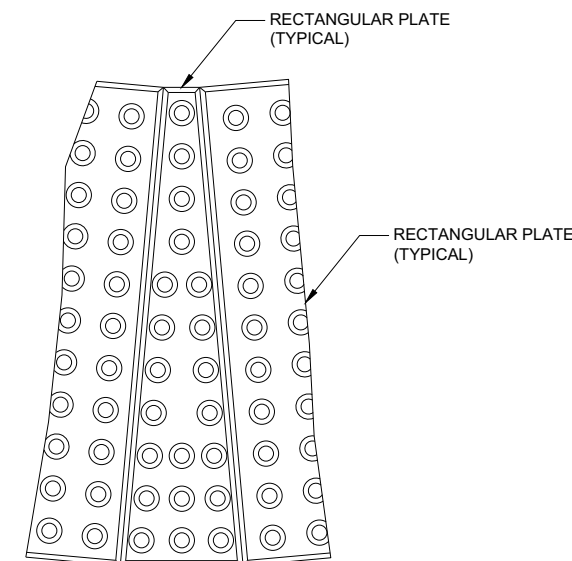


**RADIAL  
PLATES**

**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.

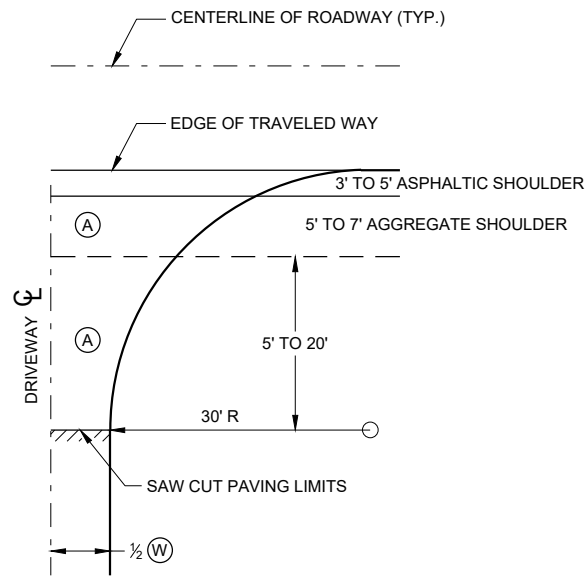
DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

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.

<b>CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

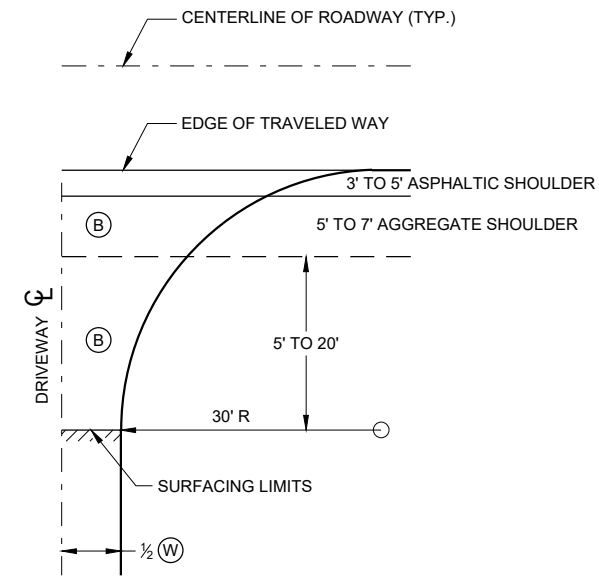
**GENERAL NOTES**

- ① DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.

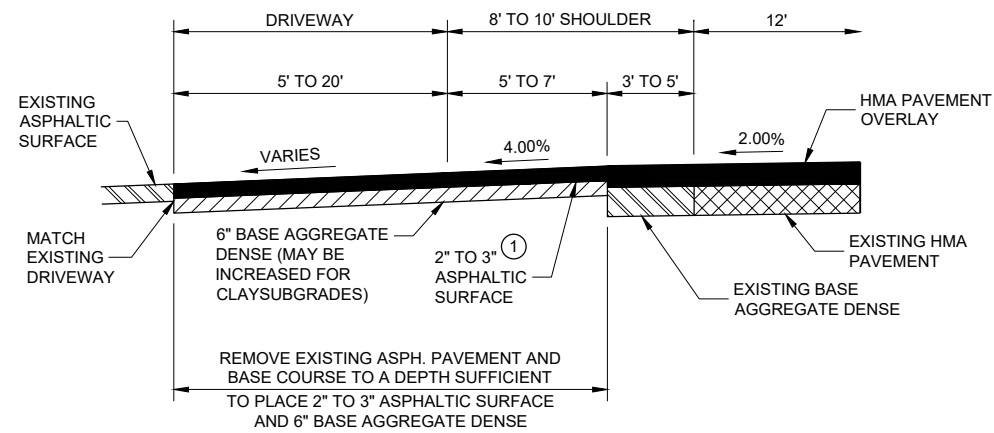


- (A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. (TON)
- (B) : PAID FOR AS BASE AGGREGATE DENSE 1 1/4" (TON)
- (W) : DRIVEWAY WIDTH 16' MIN. - 24' MAX.

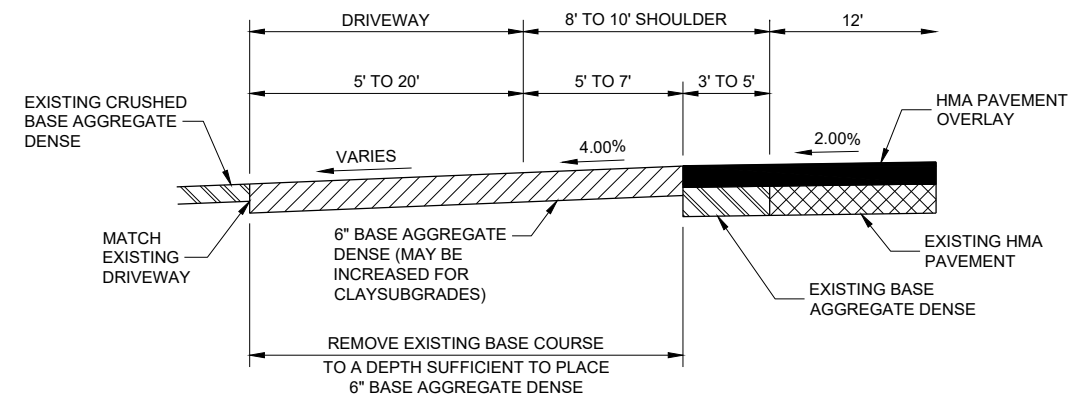
**PLAN VIEW  
HALF SECTION**



**PLAN VIEW  
HALF SECTION**



**PROFILE VIEW  
RURAL ENTRANCE  
WITH ASPHALTIC SURFACE  
RESURFACING PROJECTS**



**PROFILE VIEW  
RURAL ENTRANCE  
WITH AGGREGATE SURFACE  
6" BASE AGGREGATE DENSE  
RESURFACING PROJECTS**

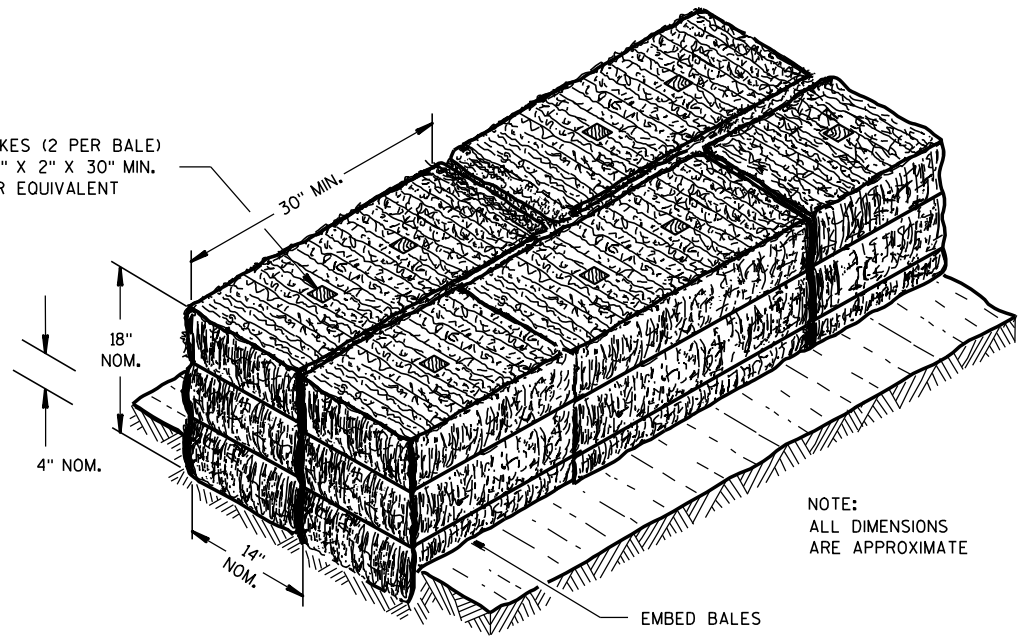
**DRIVEWAYS WITHOUT CURB  
AND GUTTER RESURFACING  
PROJECTS RURAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
December 2016 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

FHWA

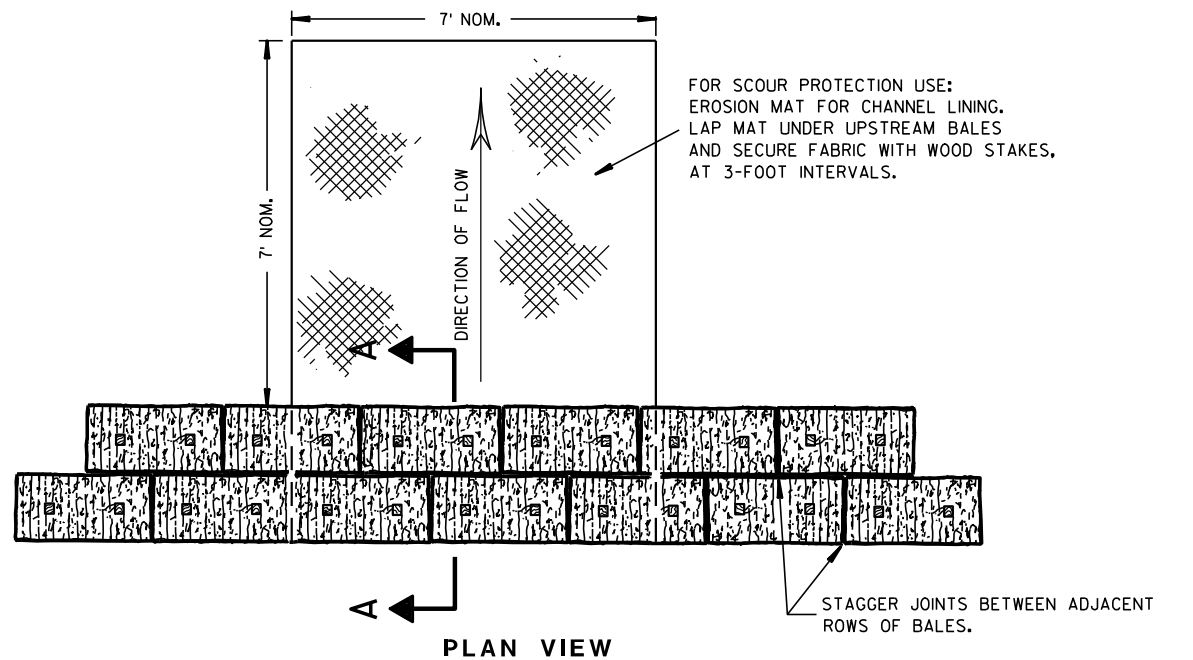
WOOD STAKES (2 PER BALE)  
NOMINAL 2" X 2" X 30" MIN.  
LENGTH OR EQUIVALENT



NOTE:  
ALL DIMENSIONS  
ARE APPROXIMATE

EMBED BALES

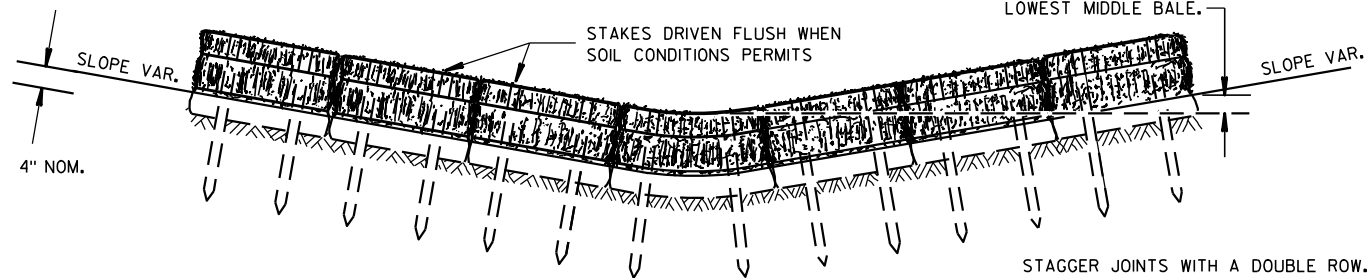
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT  
ROWS OF BALES.

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



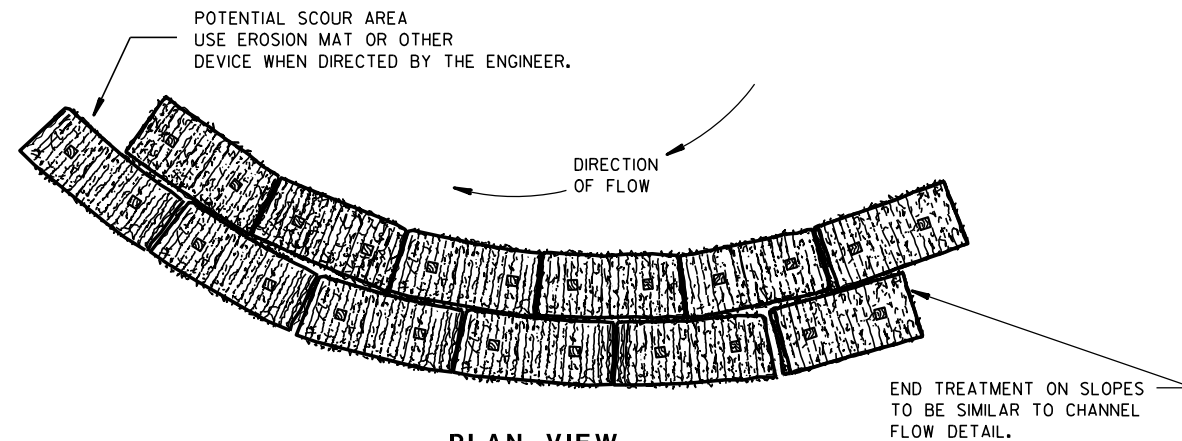
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

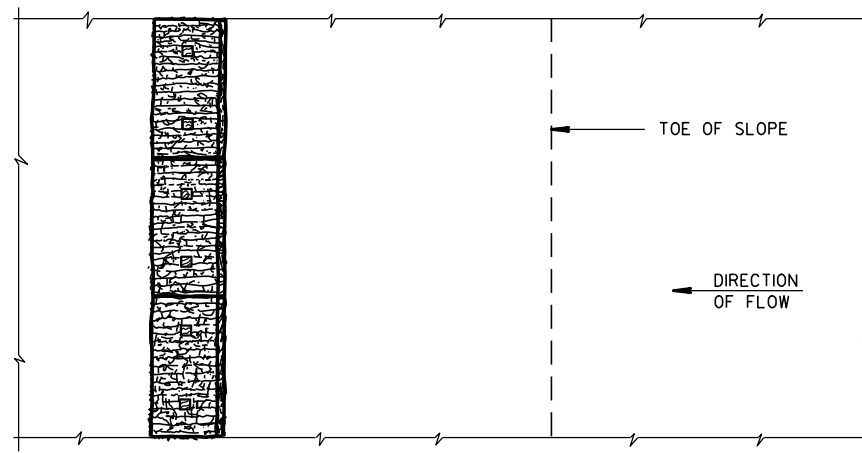
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

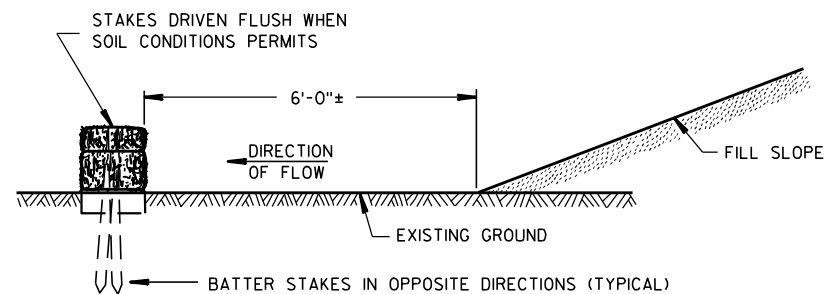


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

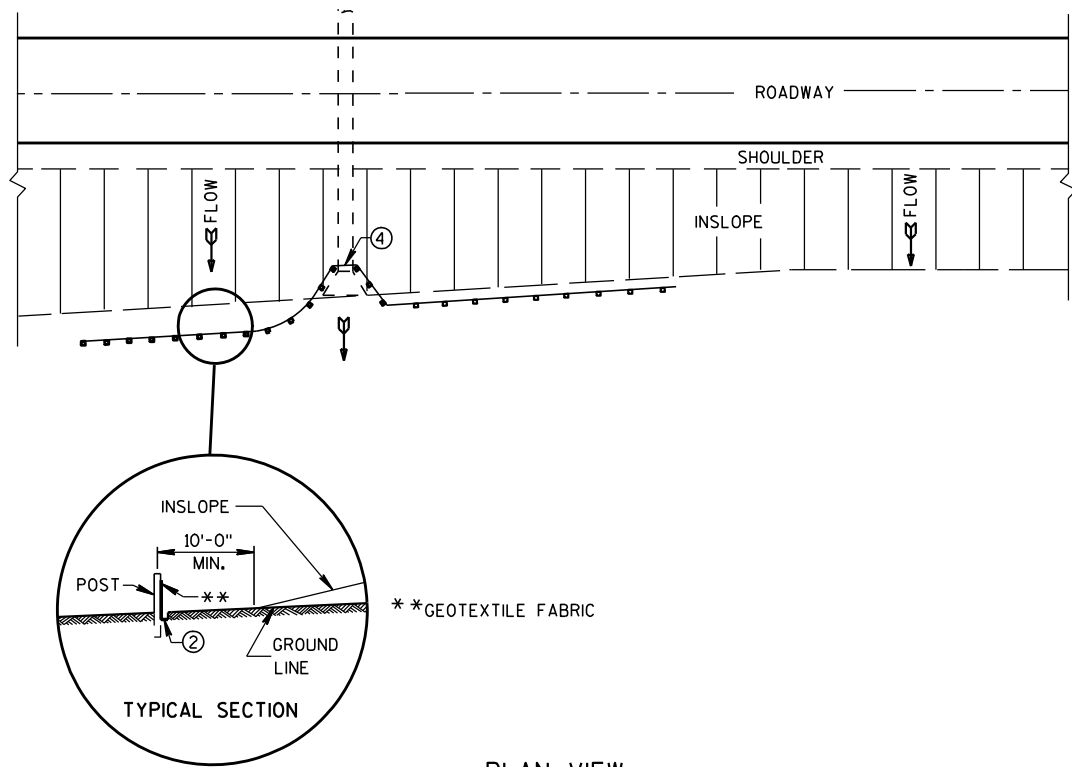
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

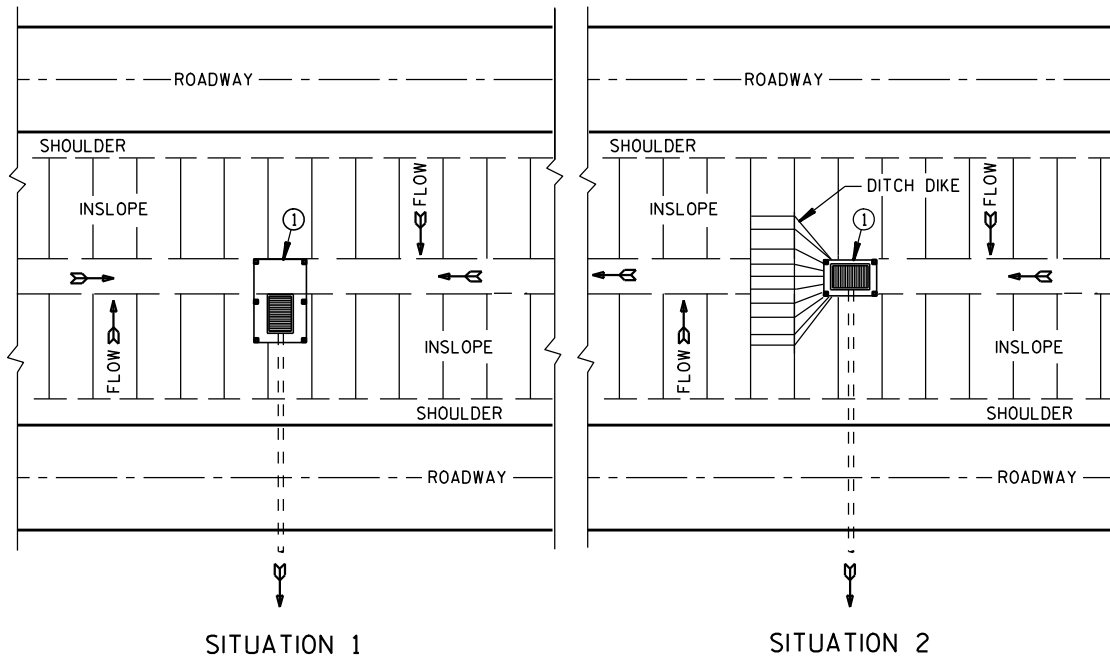
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

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

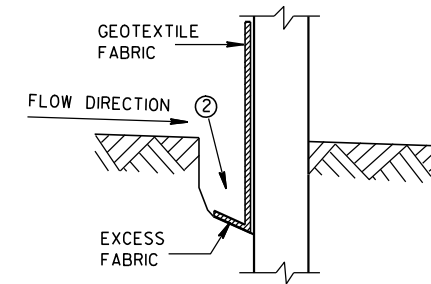


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

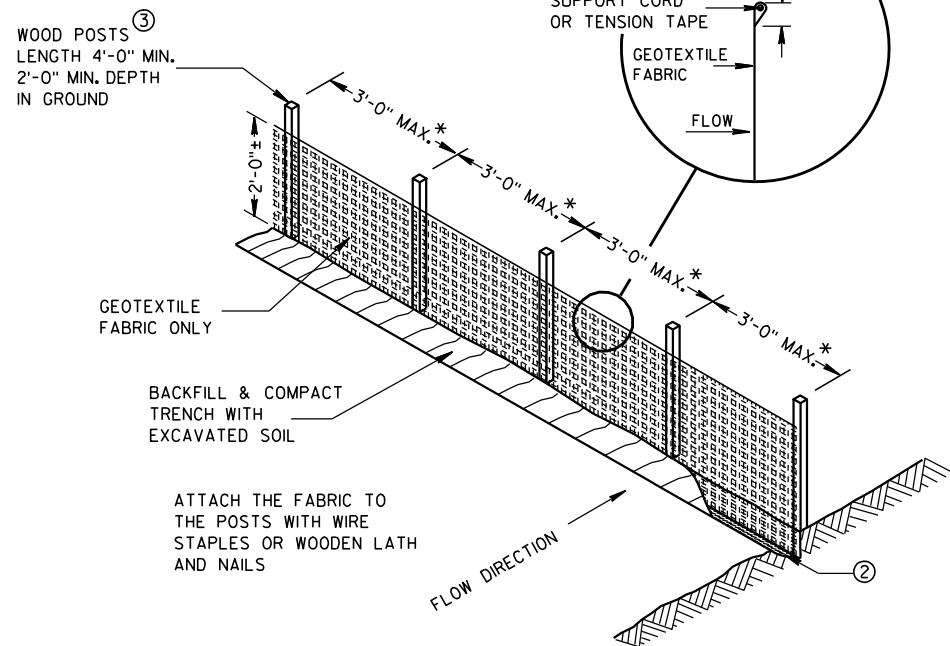
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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.



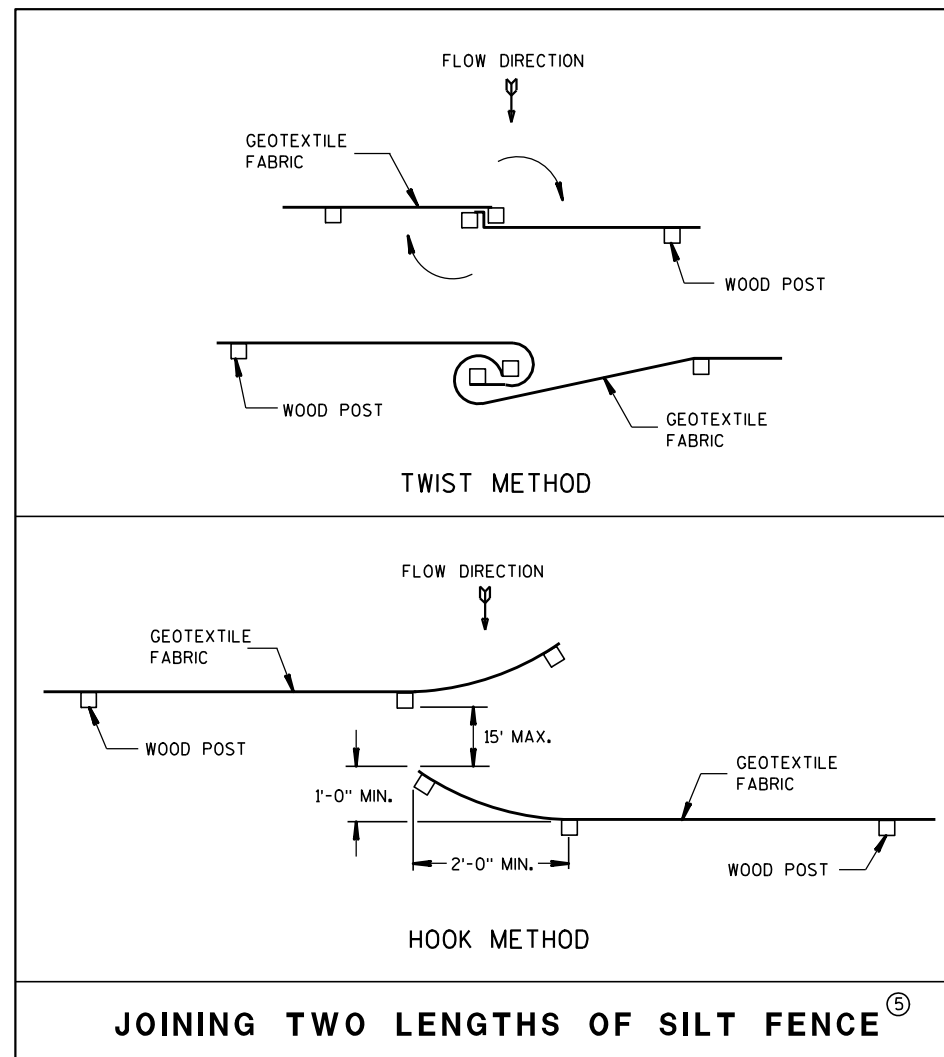
TRENCH DETAIL

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

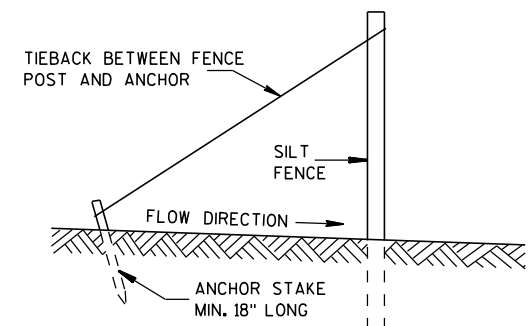


SILT FENCE

\* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



JOINING TWO LENGTHS OF SILT FENCE ⑤

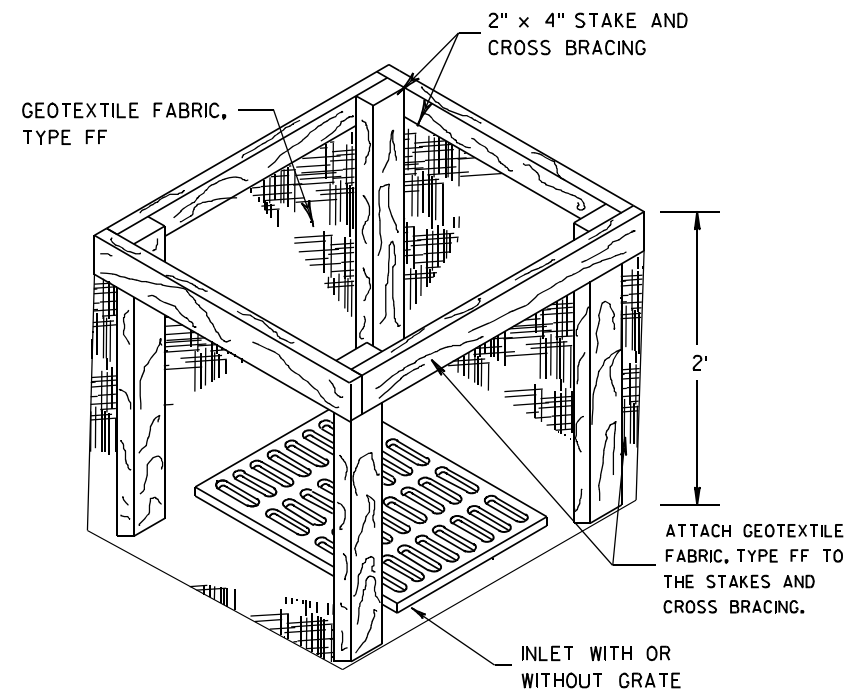
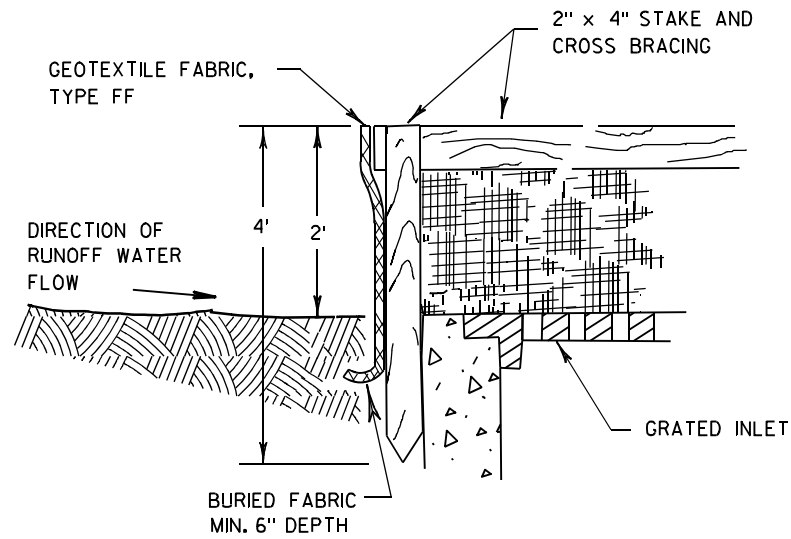


SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**INLET PROTECTION, TYPE A**

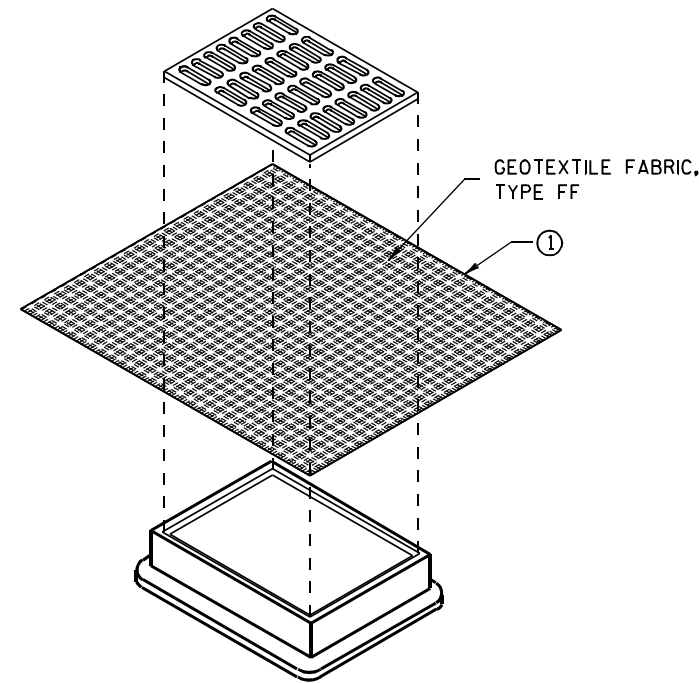
**GENERAL NOTES**

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.

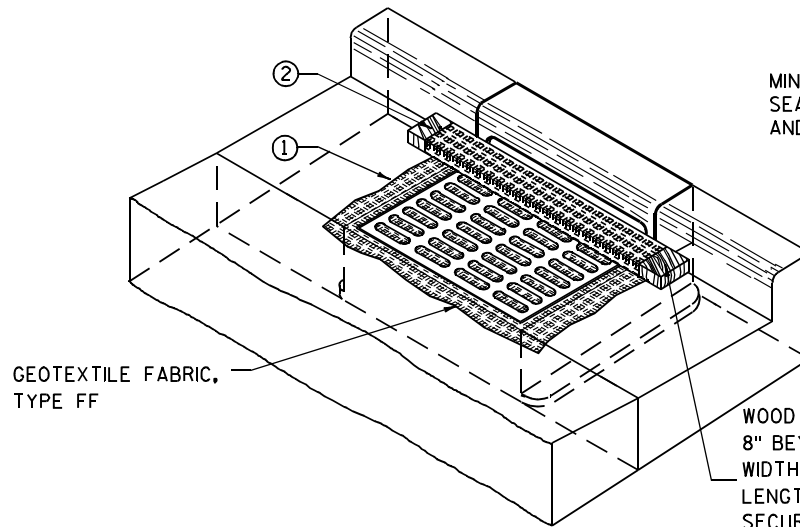
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

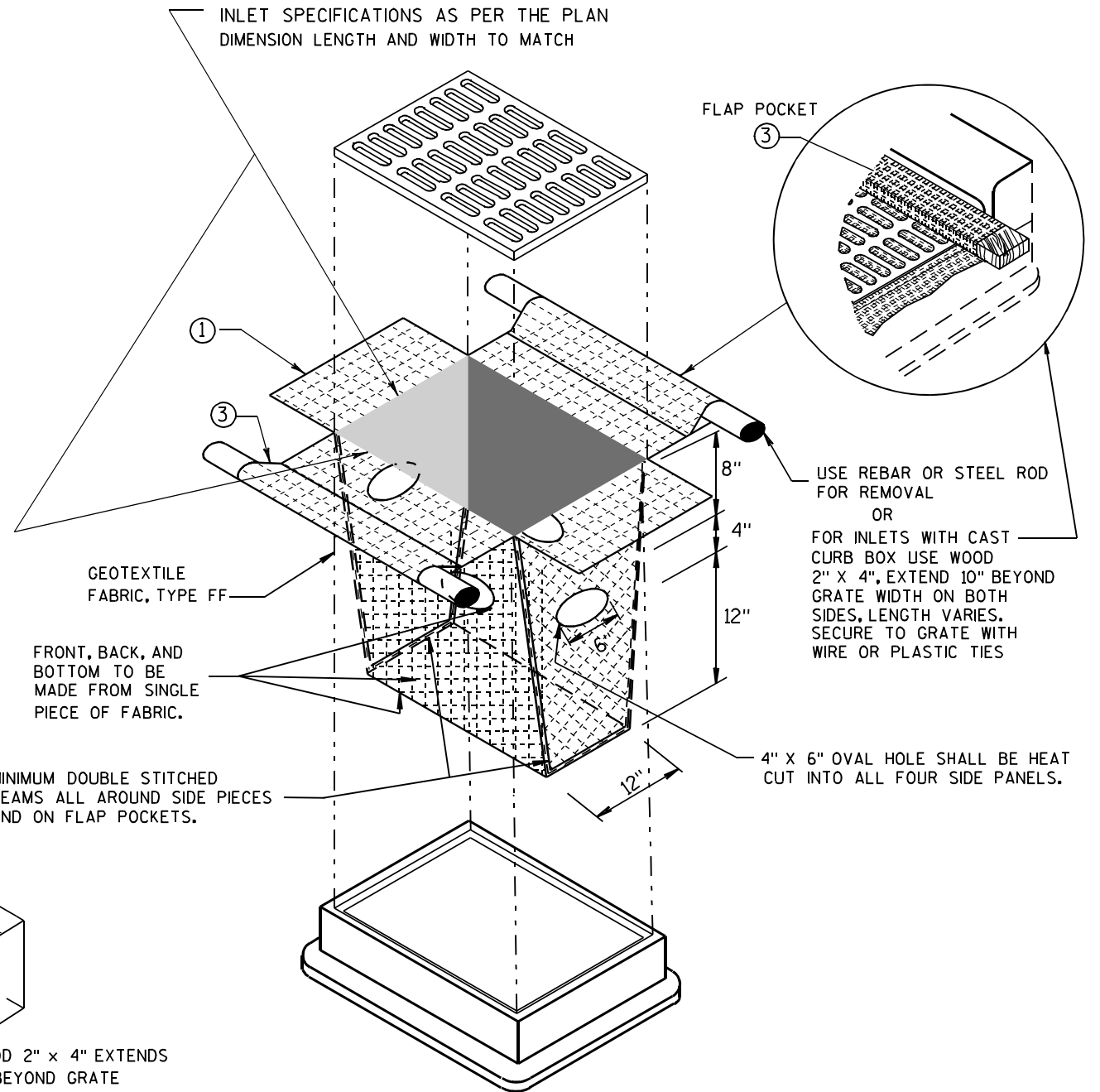
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**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.

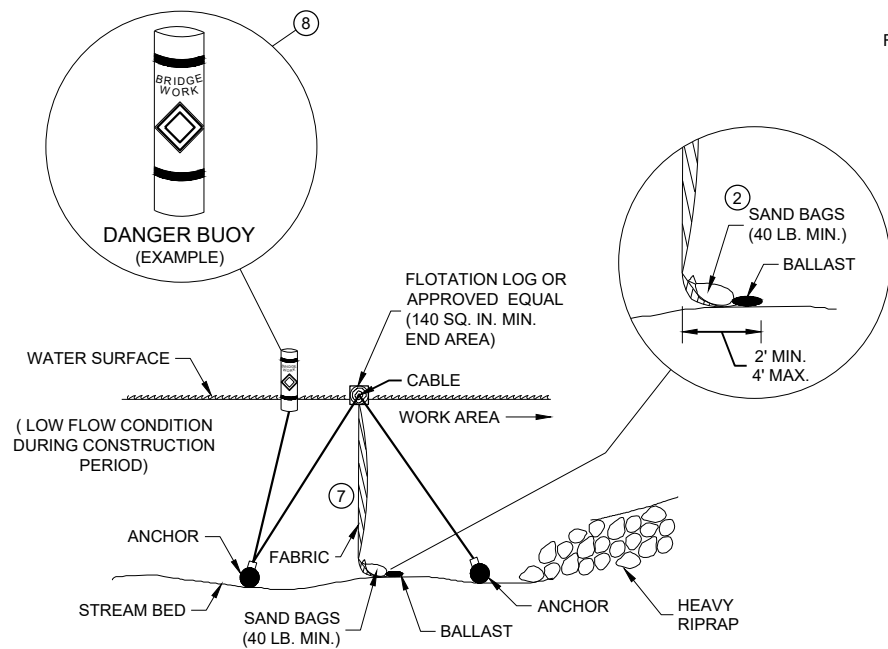
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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



**INLET PROTECTION, TYPE D**

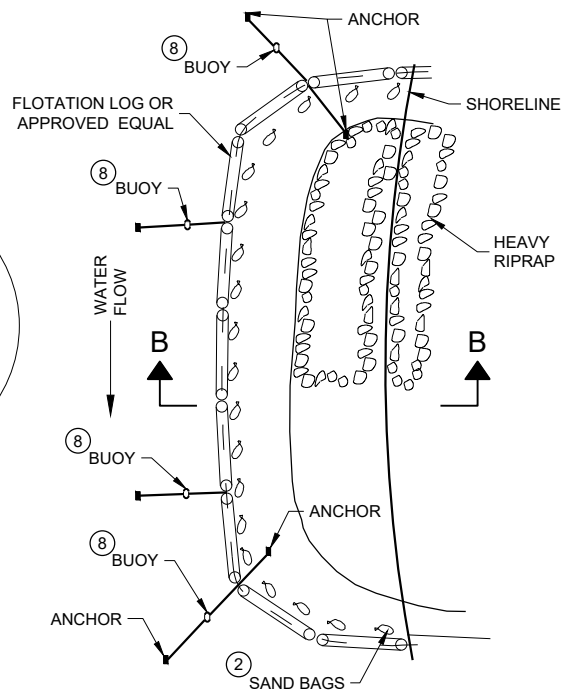
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

<b>INLET PROTECTION TYPE A, B, C, AND D</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/s/ Beth Connestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

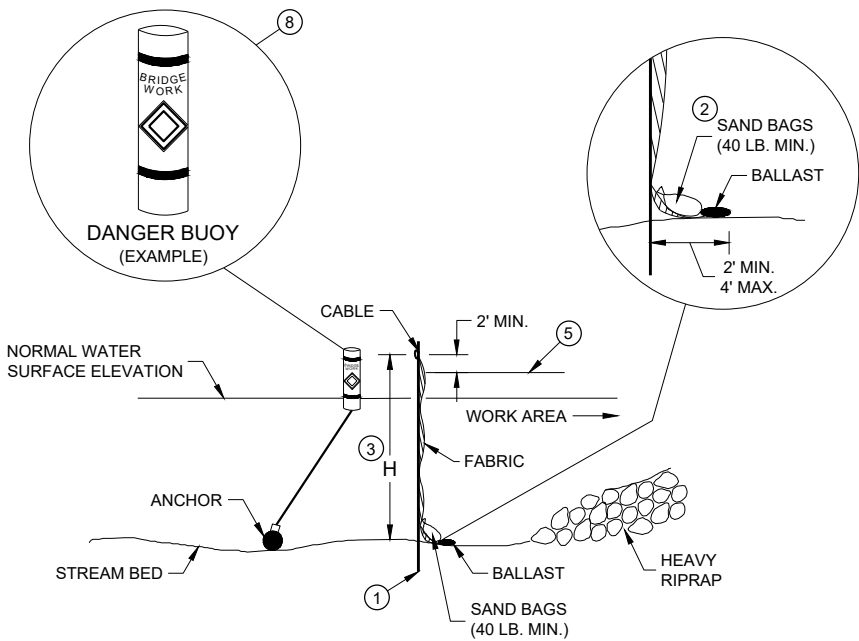


**SECTION B - B**

**TURBIDITY BARRIER - FLOAT ALTERNATIVE  
CAUTION - SEE NOTE 6**

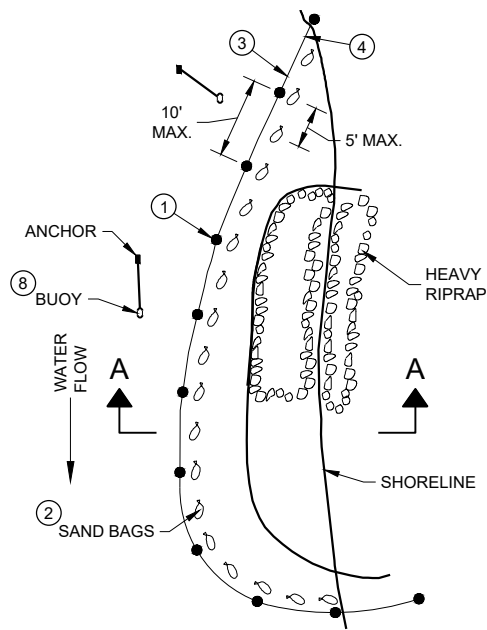


**PLAN VIEW**



**SECTION A - A**

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**



**PLAN VIEW**

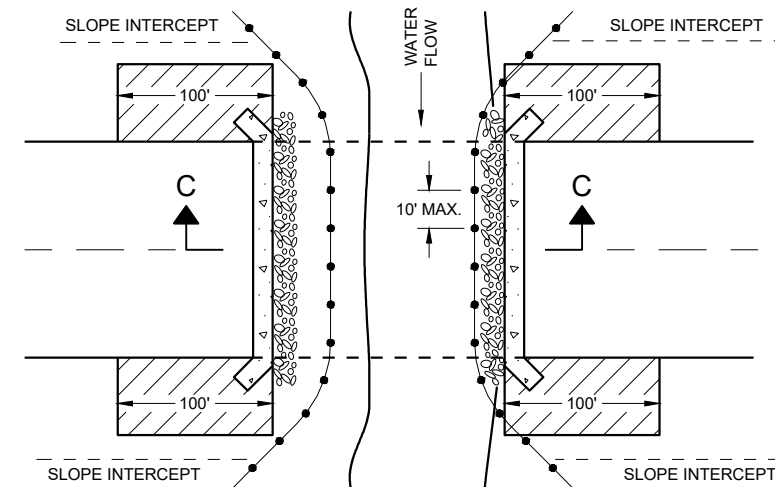
**TURBIDITY BARRIER PLACEMENT DETAILS**

**GENERAL NOTES**

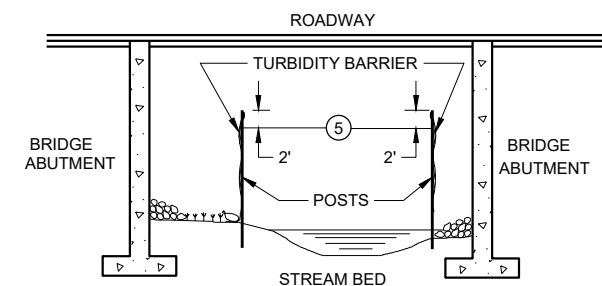
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



**PLAN VIEW**



**SECTION C - C**

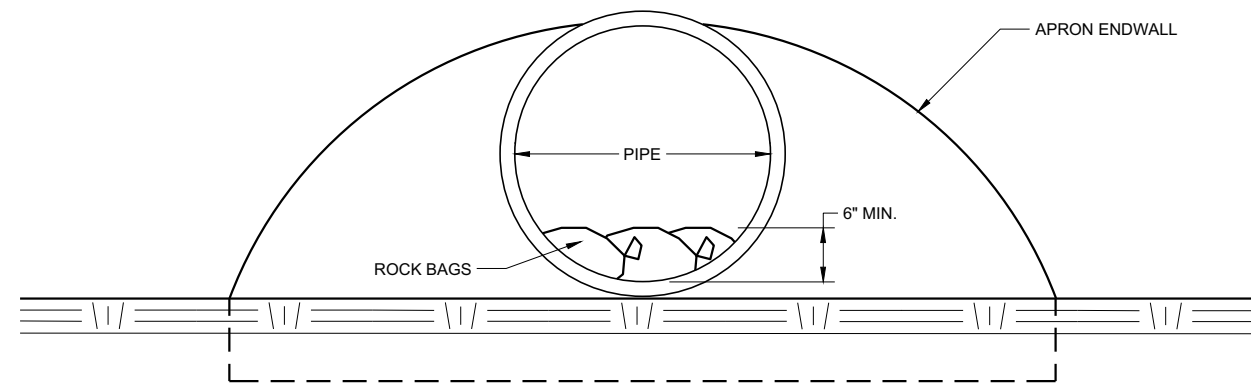
**TURBIDITY BARRIER DETAIL SHOWING  
TYPICAL PLACEMENT AT STRUCTURES**

**TURBIDITY BARRIER**

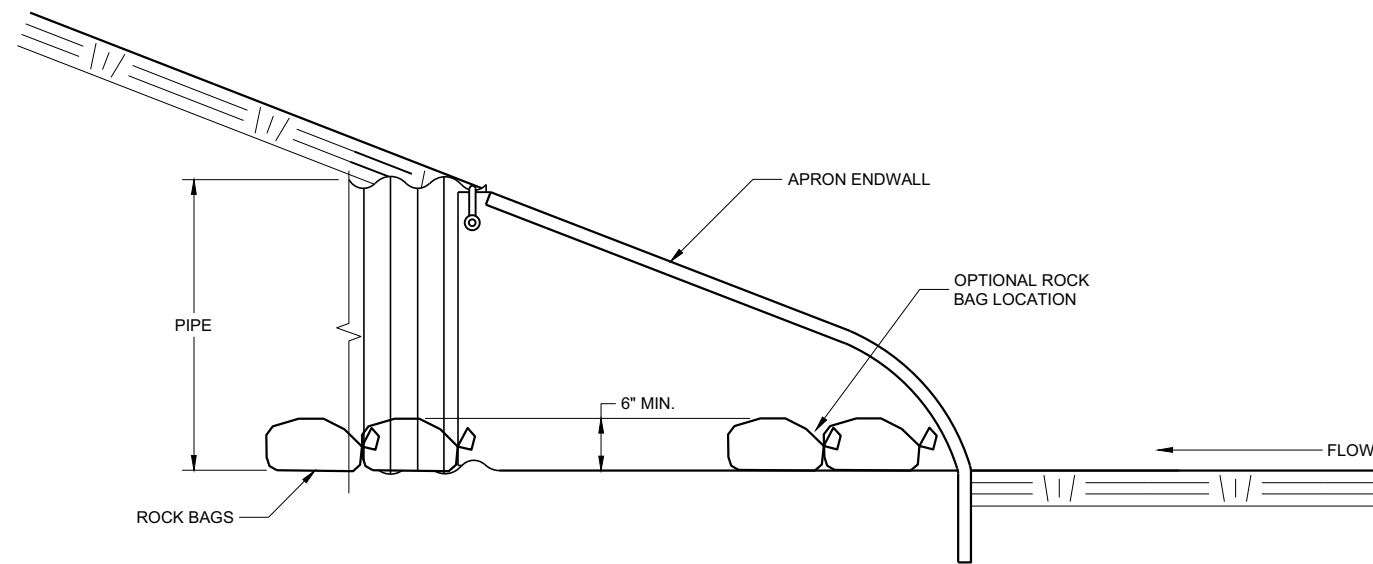
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
6/4/02 DATE /S/ Beth Cannestra  
DATE CHIEF ROADWAY 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>	

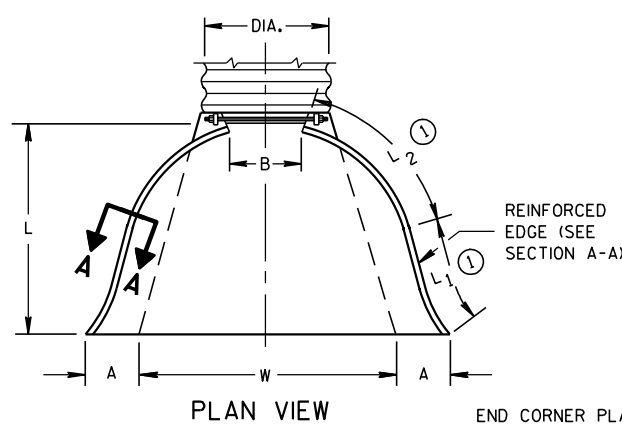


METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1	L2	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	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.

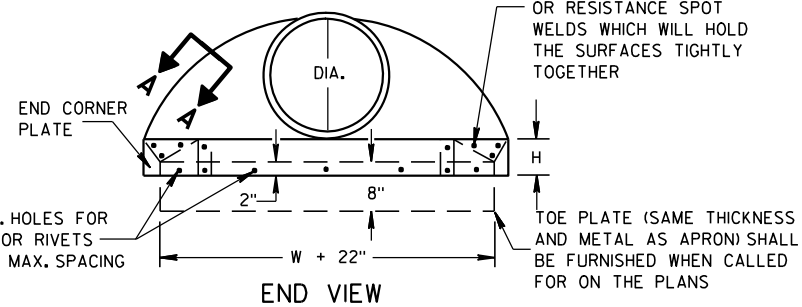
\* EXCEPT CENTER PANEL SEE GENERAL NOTES

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	24-30	72-78	21-27	99	102	5 1/2	2 to 1	
72	7	24-36	78	21	99	108	6	2 to 1	
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1	
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1	
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1	

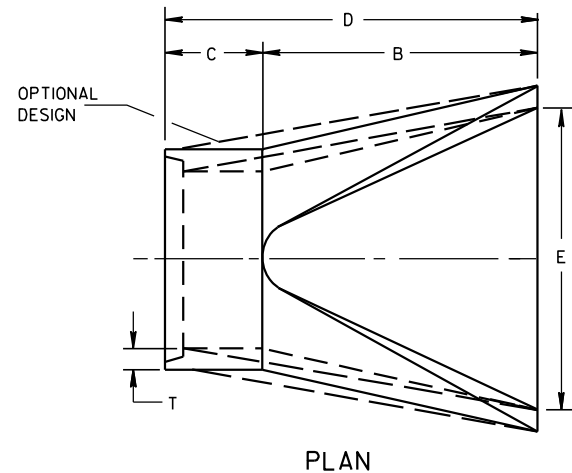
\* MINIMUM  
\*\* MAXIMUM



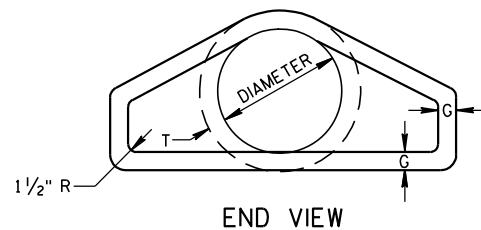
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



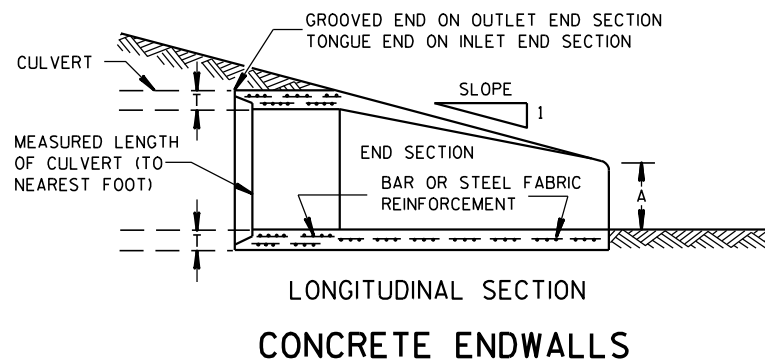
SIDE ELEVATION  
METAL ENDWALLS



PLAN

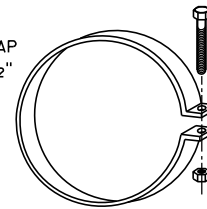


END VIEW

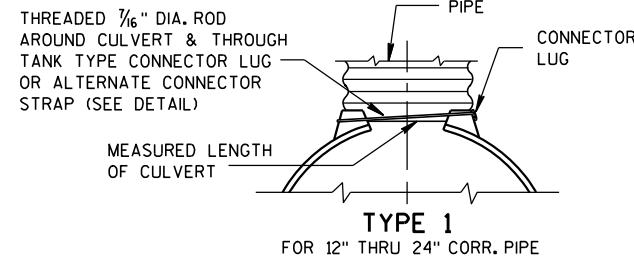


LONGITUDINAL SECTION  
CONCRETE ENDWALLS

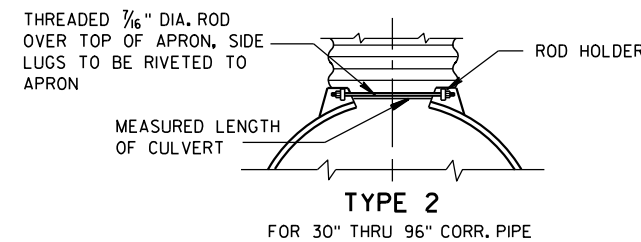
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



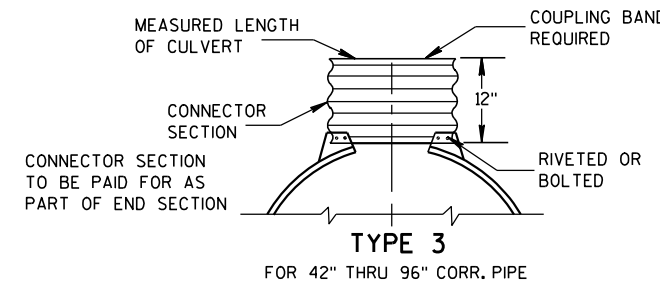
ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



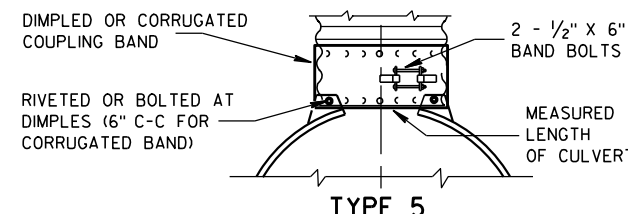
TYPE 1  
FOR 12" THRU 24" CORR. PIPE



TYPE 2  
FOR 30" THRU 96" CORR. PIPE



TYPE 3  
FOR 42" THRU 96" CORR. PIPE



TYPE 5  
ALTERNATE FOR:  
ALL SIZES CORRUGATED CIRCULAR PIPE

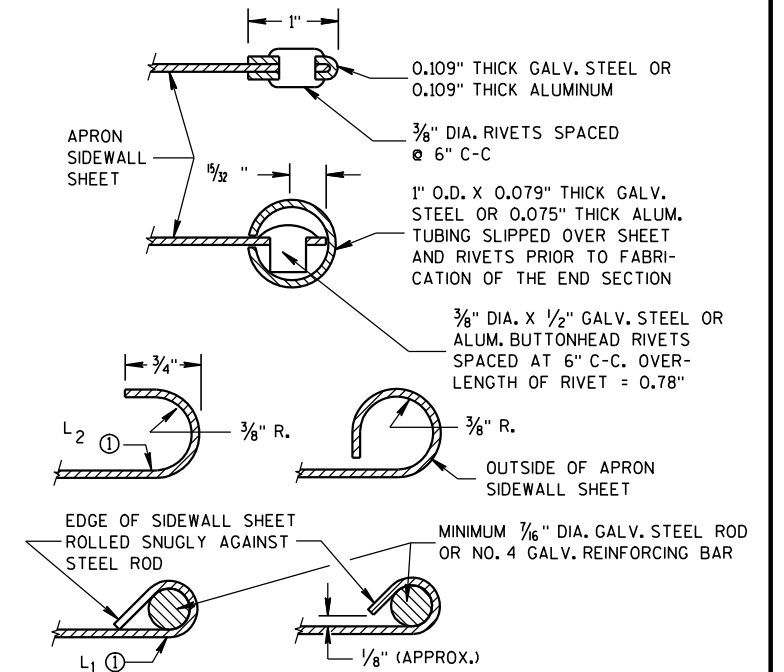
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR 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.

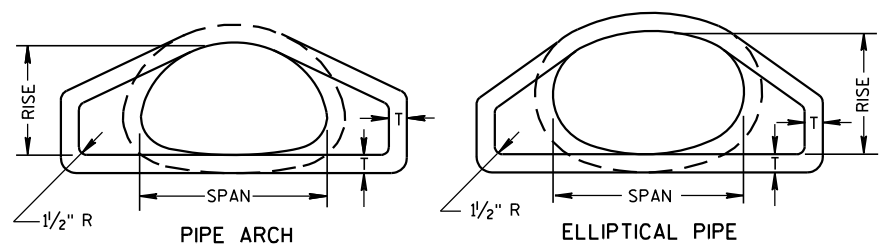
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

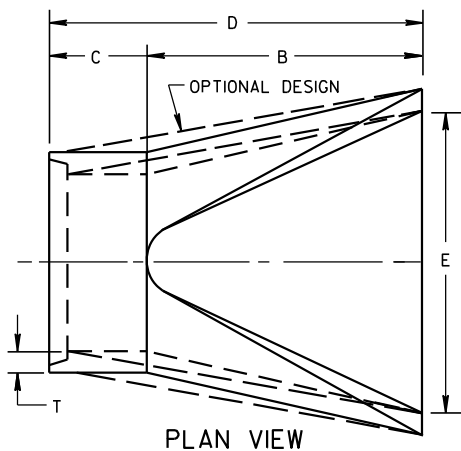
APRON ENDWALLS FOR  
CULVERT PIPE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

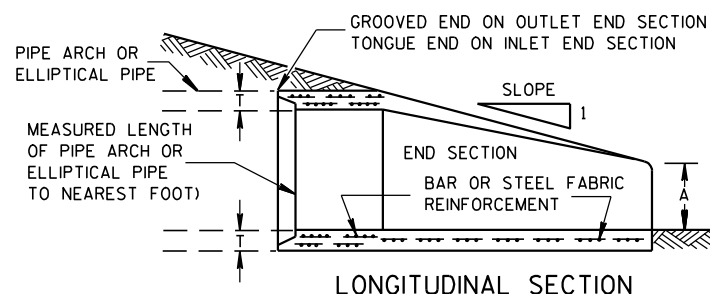
APPROVED  
11/30/94 /S/ Rory L. Rhinesmith  
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA



END VIEW

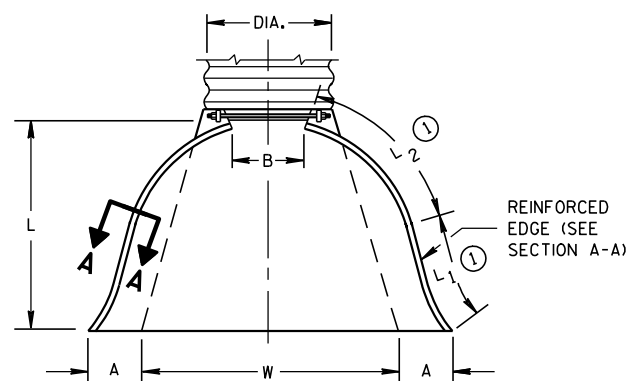


PLAN VIEW



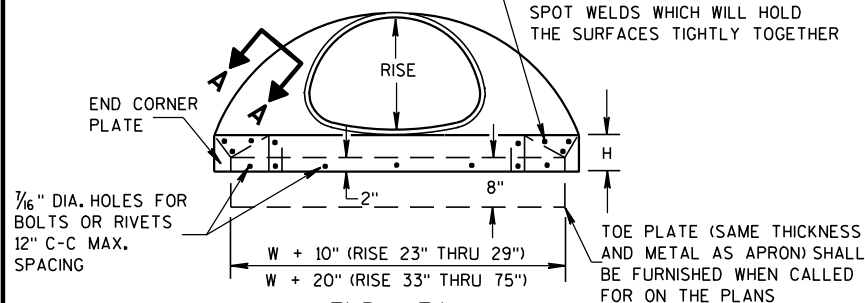
LONGITUDINAL SECTION

CONCRETE ENDWALLS

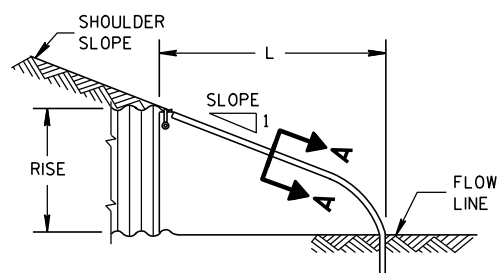


PLAN VIEW

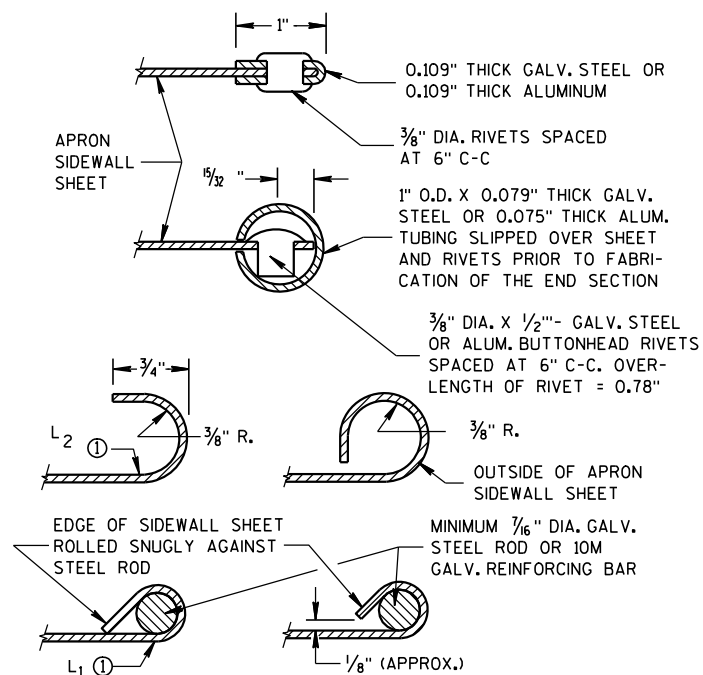
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW



SIDE ELEVATION  
METAL ENDWALLS



SECTION A-A

2- 2 2/3" X 1/2" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 (⓪)	L2 (⓪)	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 (⓪)	L2 (⓪)	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED. \* EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE PIPE ARCH										
EQUIV. DIA. (Inches)	DIMENSIONS (Inches)									APPROX. SLOPE
	**SPAN	**RISE	T	A	B	C	D	E		
24	29	18	3	8 1/2	39	33	72	48	3 to 1	
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1	
36	44	27	4	11 1/8	60	36	96	72	3 to 1	
42	51	31	4 1/2	15 1/8	60	36	96	78	3 to 1	
48	58	36	5	21	60	36	96	84	3 to 1	
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1	
60	73	45	6	31	60	36	96	96	3 to 1	
72	88	54	7	31	60	39	99	120	2 to 1	
84	102	62	8	28 1/2	83	19	102	144	2 to 1	

REINFORCED CONCRETE ELLIPTICAL PIPE										
EQUIV. DIA. (Inches)	DIMENSIONS (Inches)									APPROX. SLOPE
	**SPAN	**RISE	T	A	B	C	D	E		
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1	
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1	
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1	
42	53	34	5	15 3/4	60	36	96	78	2 1/2 to 1	
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1	
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1	
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1	

\*\*NOMINAL SIZE

GENERAL NOTES

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

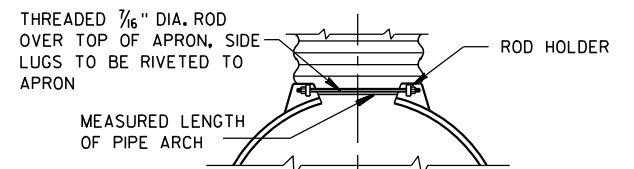
CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

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

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

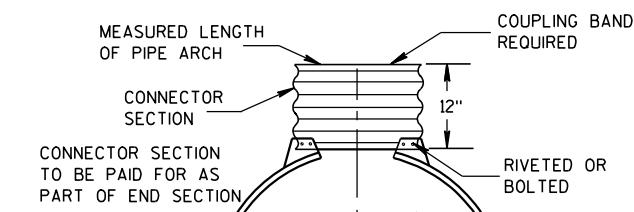
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

⓪ FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.



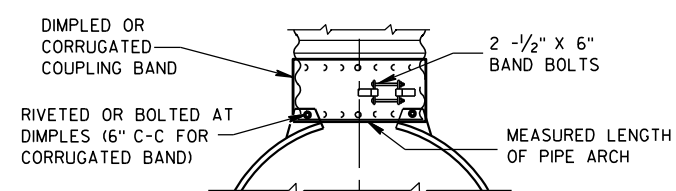
TYPE 2

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



TYPE 3

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



TYPE 5

ALTERNATE FOR:  
ALL SIZES CORRUGATED PIPE ARCHES

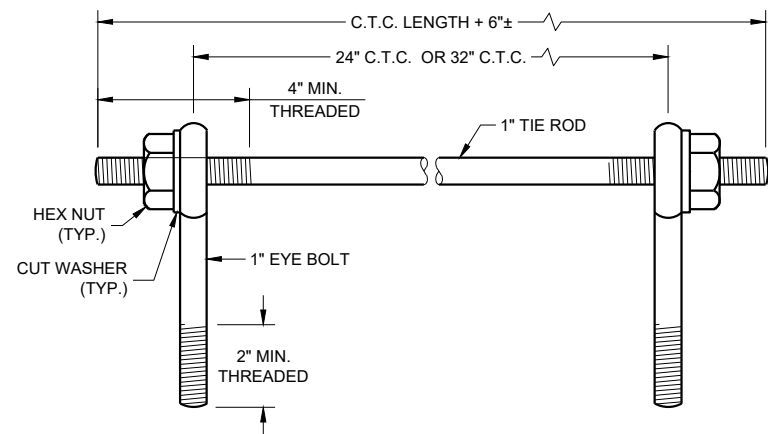
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

APRON ENDWALLS FOR  
PIPE ARCH AND  
ELLIPTICAL PIPE

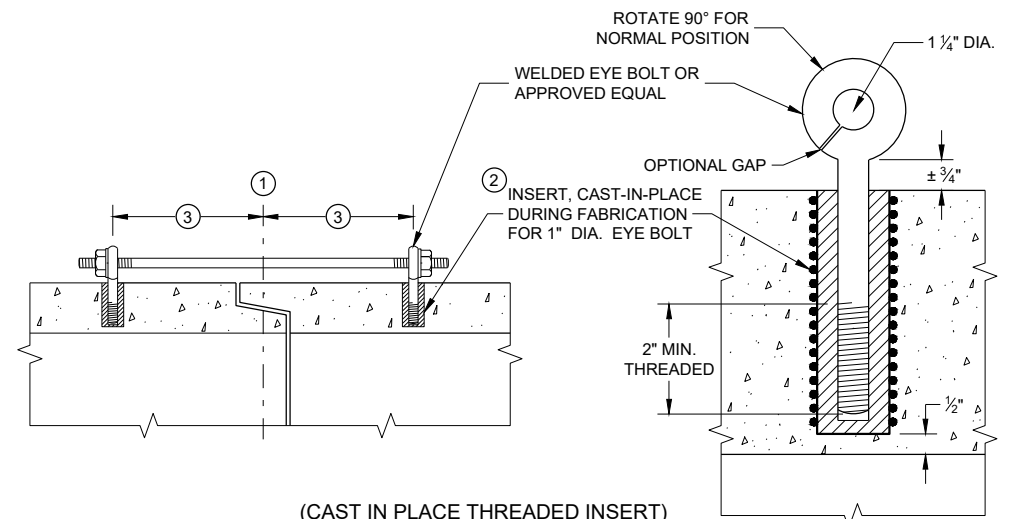
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**EYE BOLTS AND TIE ROD**

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



**LONGITUDINAL SECTIONS**

**GENERAL NOTES**

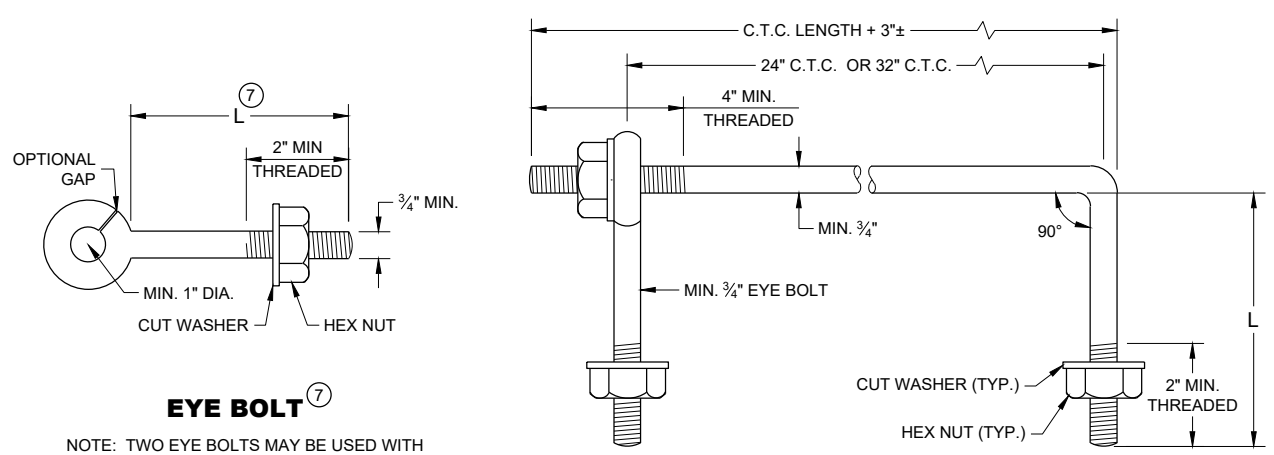
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

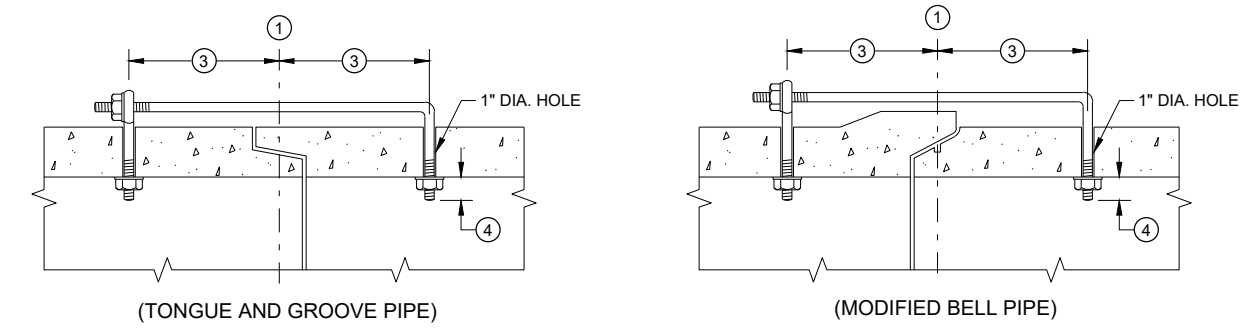
- ① CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- ④ BOLT PROJECTION 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 AND TIE ROD**

**EYE BOLT**

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



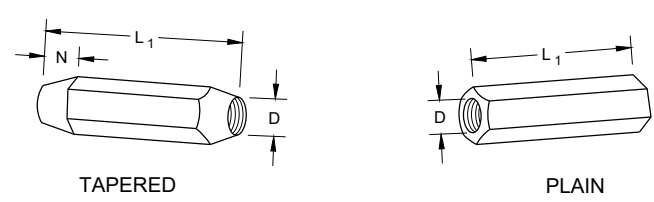
**LONGITUDINAL SECTION**  
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

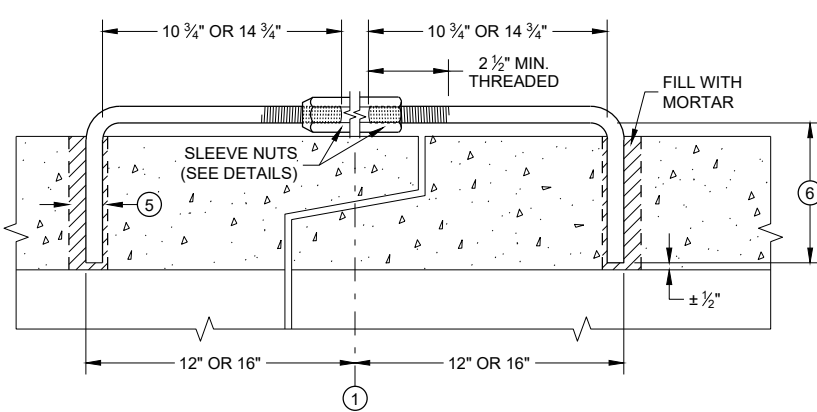
**ADJUSTABLE TIE ROD TABLE**

PIPE DIAMETER	TIE ROD DIAMETER	D	L <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

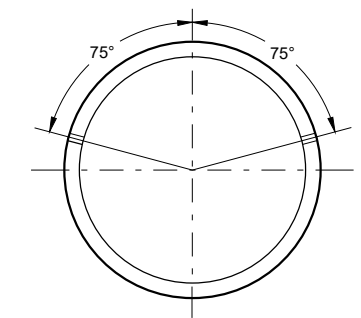
DIMENSIONS SHOWN ARE IN INCHES



**RIGHT AND LEFT THREADS SLEEVE NUTS**

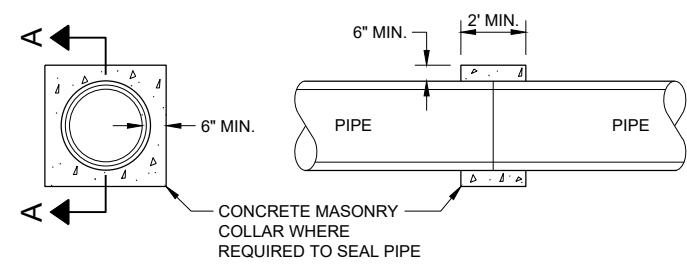


**LONGITUDINAL SECTION**  
**ADJUSTABLE TIE ROD (ALTERNATE NO. 3)**



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

**TRANSVERSE SECTION**

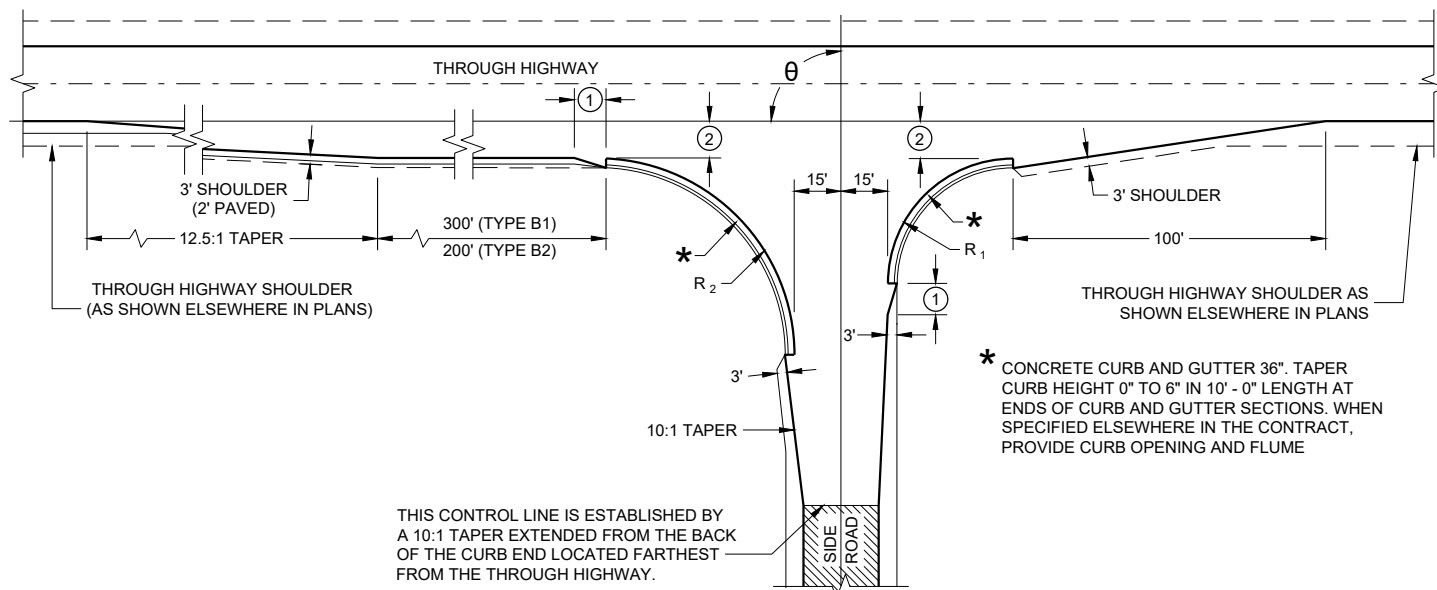


**SECTION A - A**  
**CONCRETE COLLAR DETAIL**

**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



**TYPE "B1" AND "B2"**

**RADI DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS**

$\theta$	$R_1$	$R_2$
65 - 70	35	70
71 - 80	40	70
81 - 90	40	60
91 - 100	50	55
101 - 110	60	45

**GENERAL NOTES**

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

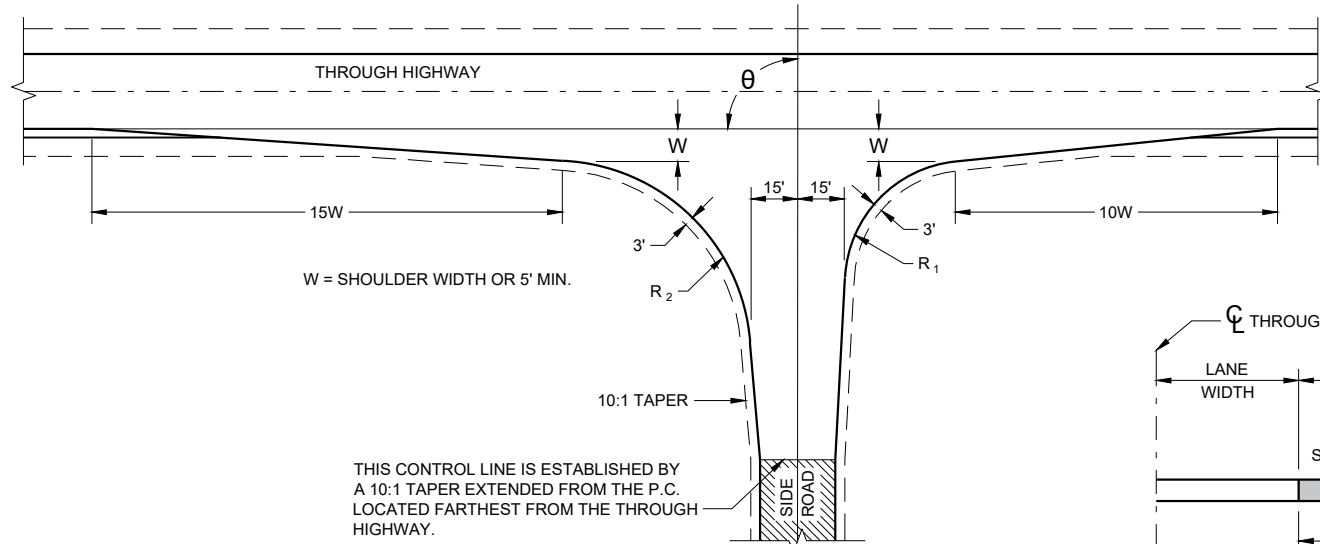
**SIDE ROAD SURFACING NOTE**

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

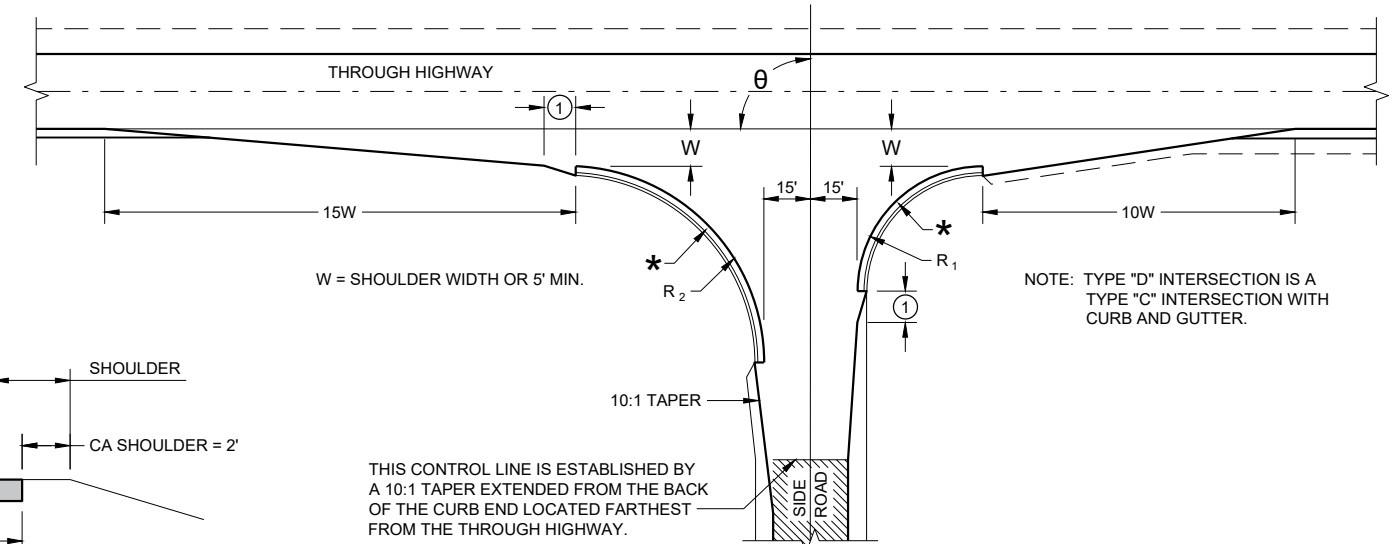
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

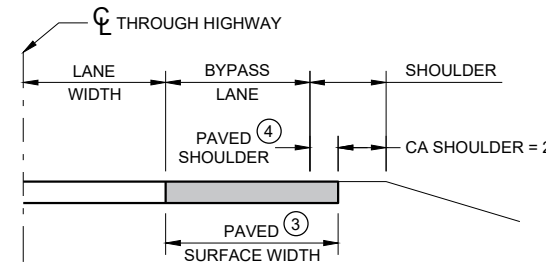
- ① 10-FT TYPICAL.
- ② 12-FT\*\* PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.  
\*\*10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE  
- ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH  
- PC CONCRETE = 13-FT PLUS PAVED SHOULDER WIDTH
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



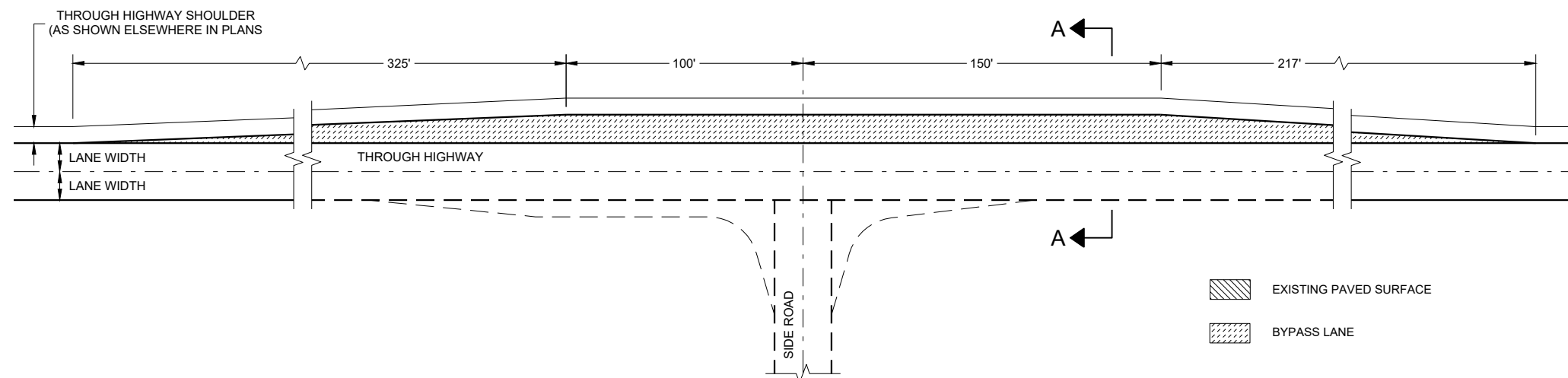
**TYPE "C"**



**TYPE "D"**



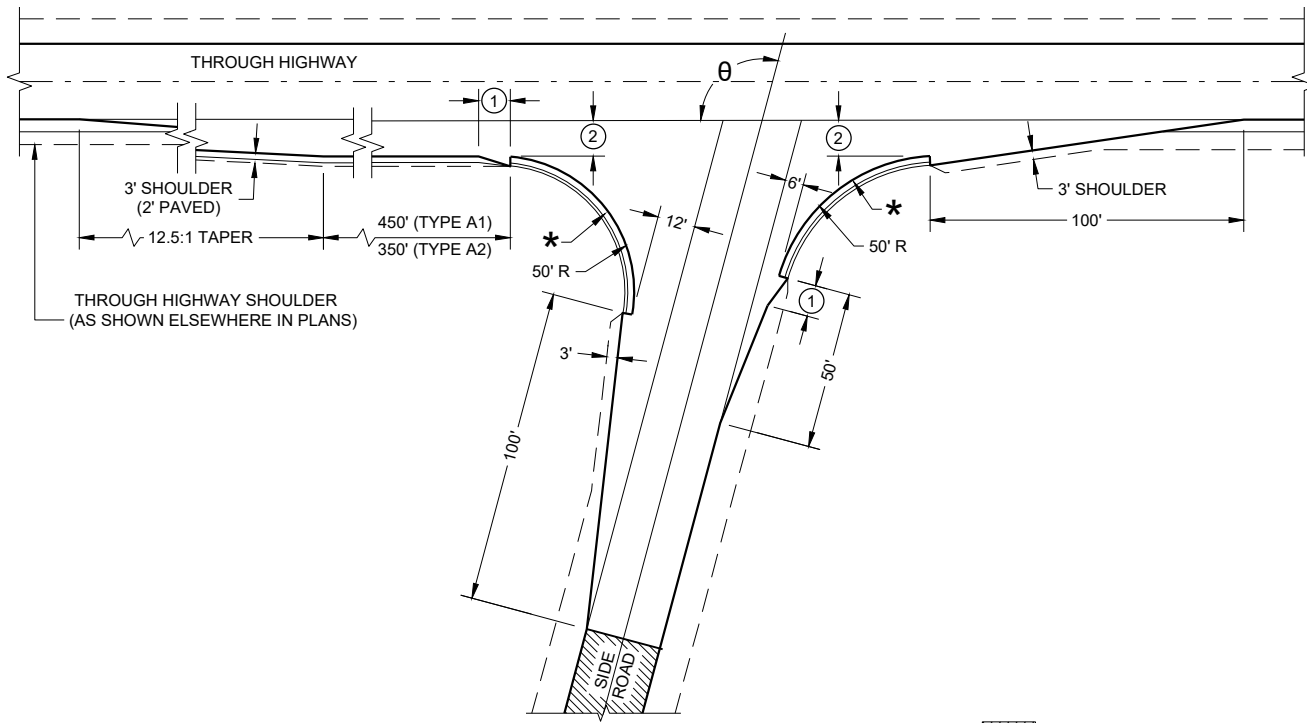
**SECTION A - A**  
(SHOWING BYPASS LANE AND SHOULDER)



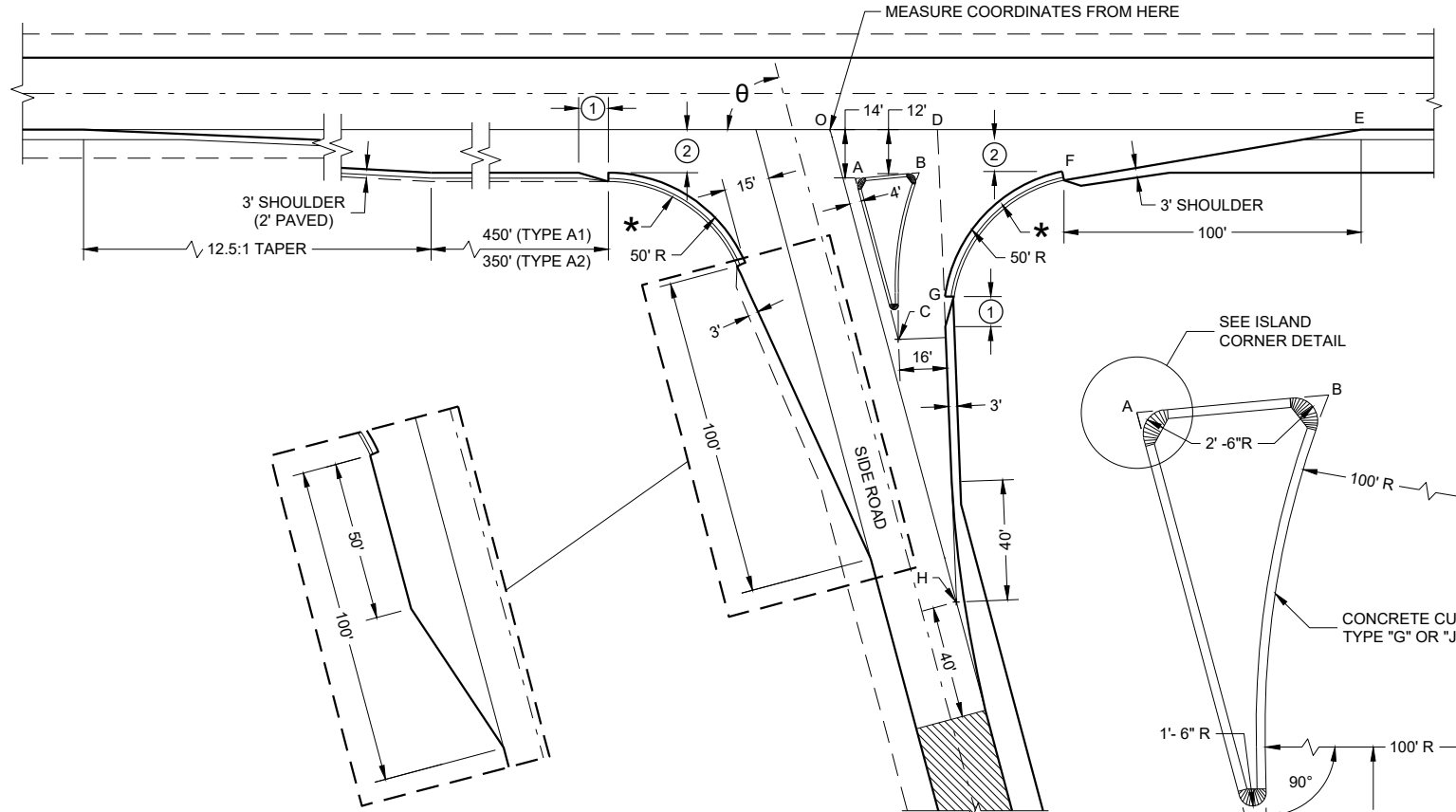
**TEE INTERSECTION BYPASS LANE DETAIL**

**AT GRADE SIDE ROAD INTERSECTION TYPES "B1", "B2", "C", "D" AND TEE INTERSECTION BYPASS LANE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



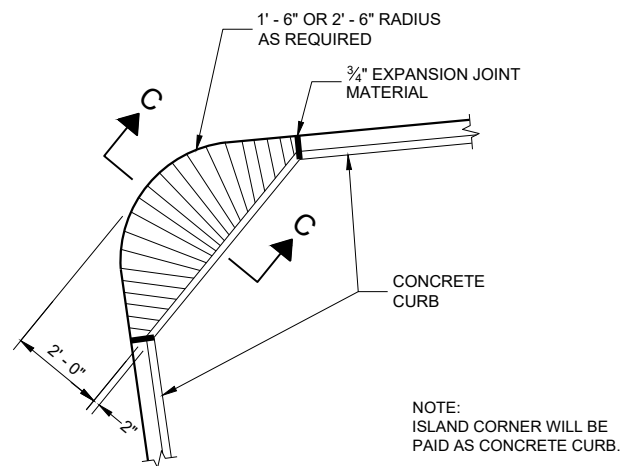
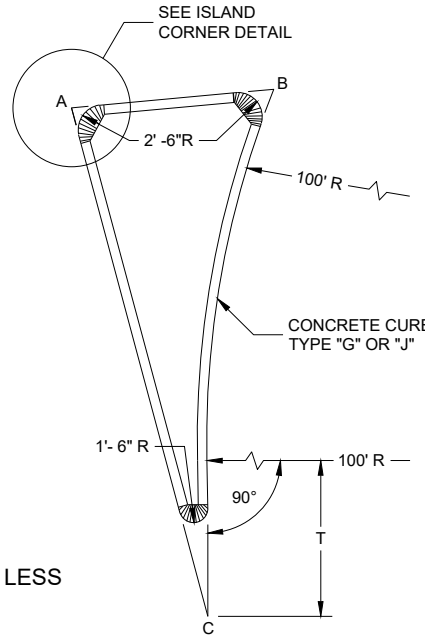
$\theta = \text{MORE THAN } 80^\circ$



SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC  
 $\theta = \text{ACUTE ANGLES } 70^\circ \text{ OR LESS}$

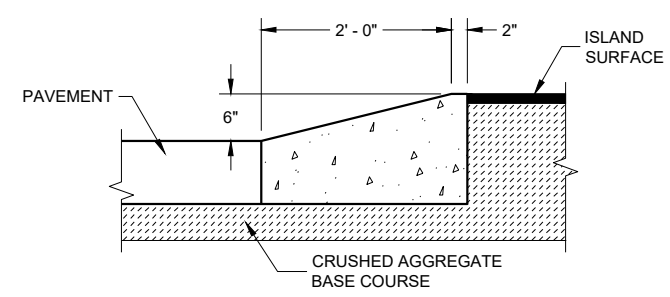
$\theta = \text{ACUTE ANGLES } 80^\circ \text{ OR LESS}$

EXISTING PAVED SURFACE



PLAN VIEW

NOTE: ISLAND CORNER WILL BE PAID AS CONCRETE CURB.



SECTION C - C

ISLAND CORNER DETAIL  
 (TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES  
 (INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

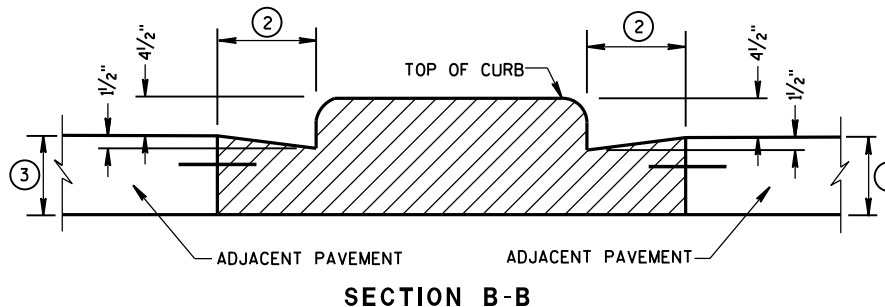
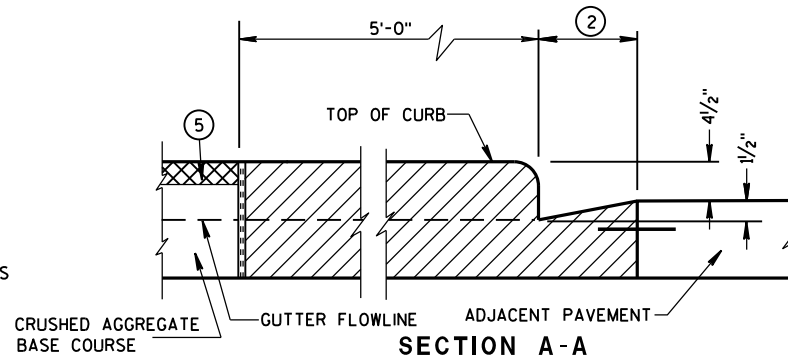
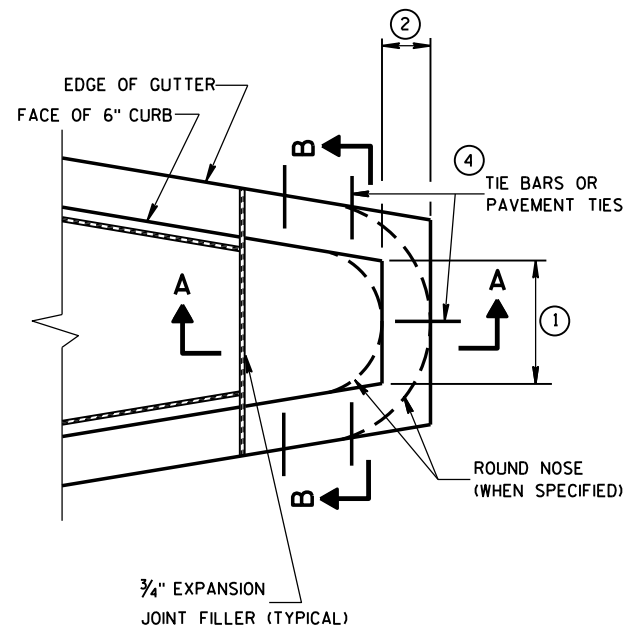
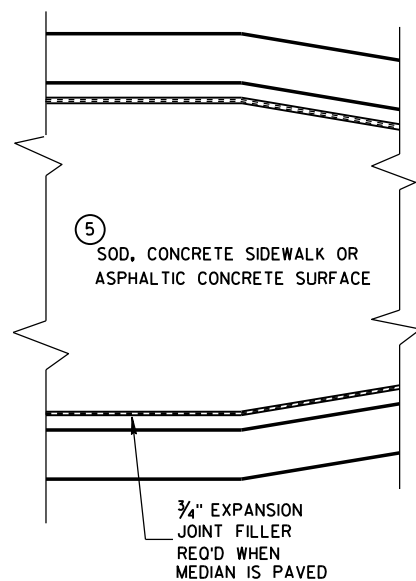
ANGLE $\theta$ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT 'O')								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 -14.0	44.9 -12.0	46.4 -72.4	41.9 0.0	205.0 0.0	104.6 -12.0	64.0 -75.5	85.0 -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 -14.0	39.0 -12.0	37.8 -71.6	39.4 0.0	196.1 0.0	95.7 -12.0	54.1 -71.5	70.5 -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 -14.0	33.9 -12.0	29.8 -70.1	37.4 0.0	188.3 0.0	87.8 -12.0	45.6 -67.5	56.1 -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 -14.0	29.3 -12.0	22.3 -67.9	35.7 0.0	181.2 0.0	80.7 -12.0	38.2 -63.4	41.8 -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 -14.0	25.4 -12.0	15.6 -65.2	34.4 0.0	174.8 0.0	74.4 -12.0	31.8 -59.3	27.6 -156.5	18.9	52.0	15.6	66.9	158.9

TYPE 'A1" AND "A2" SIDE ROAD INTERSECTION DETAILS

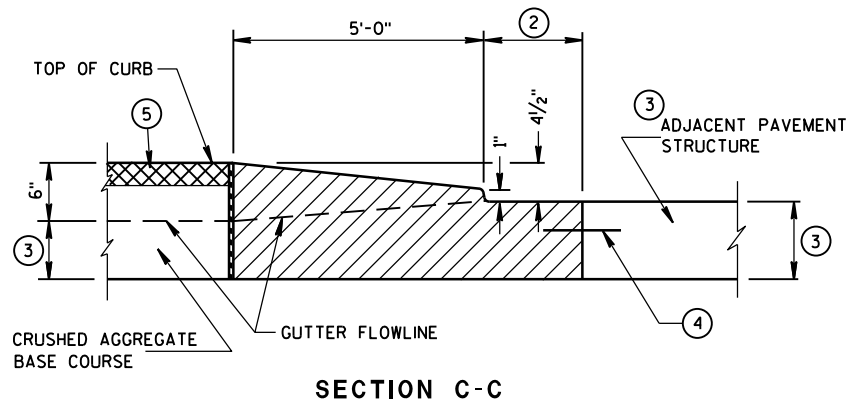
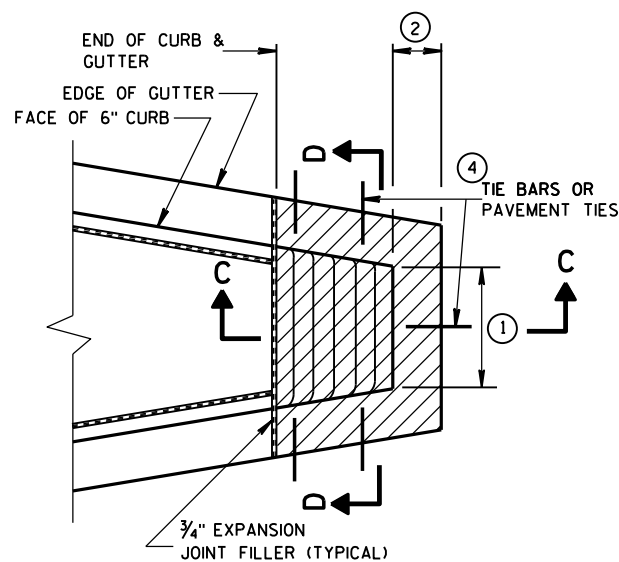
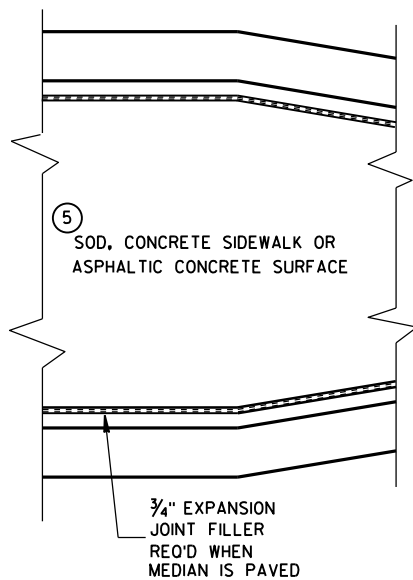
AT GRADE SIDE ROAD INTERSECTIONS  
 TYPES "A1" AND "A2"

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

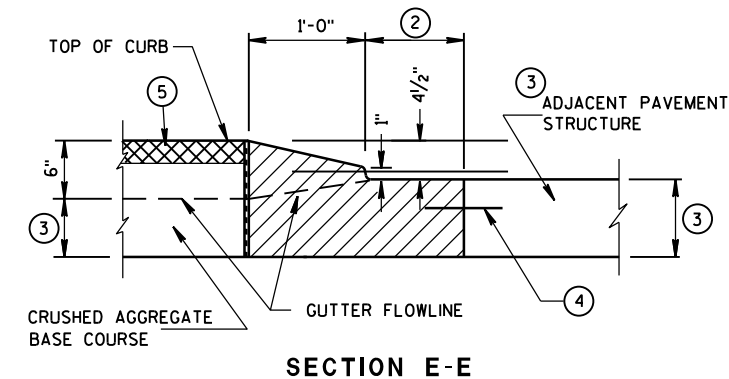
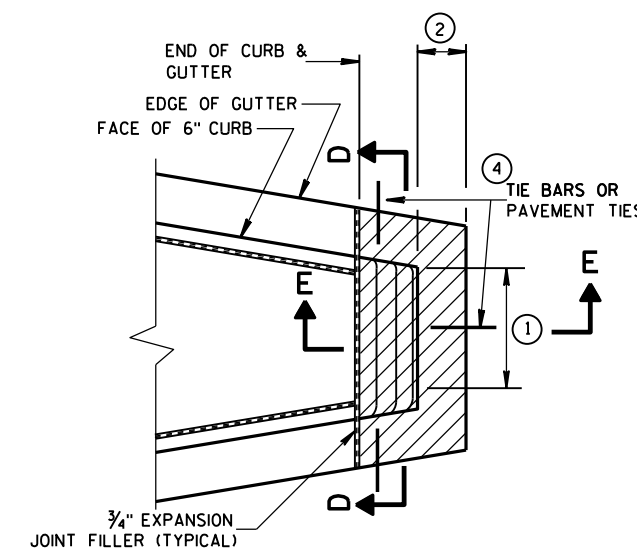
APPROVED  
 November 2022 /S/ John Jenkins  
 DATE ROADWAY STANDARDS DEVELOPMENT  
 ENGINEER  
 FHWA



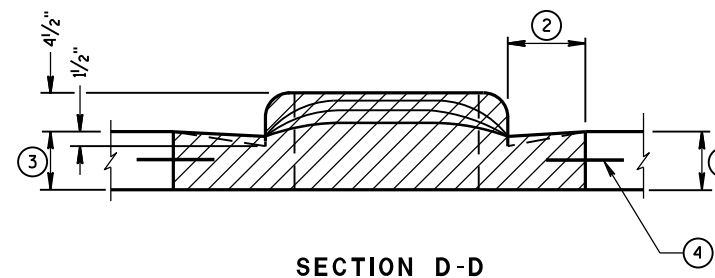
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



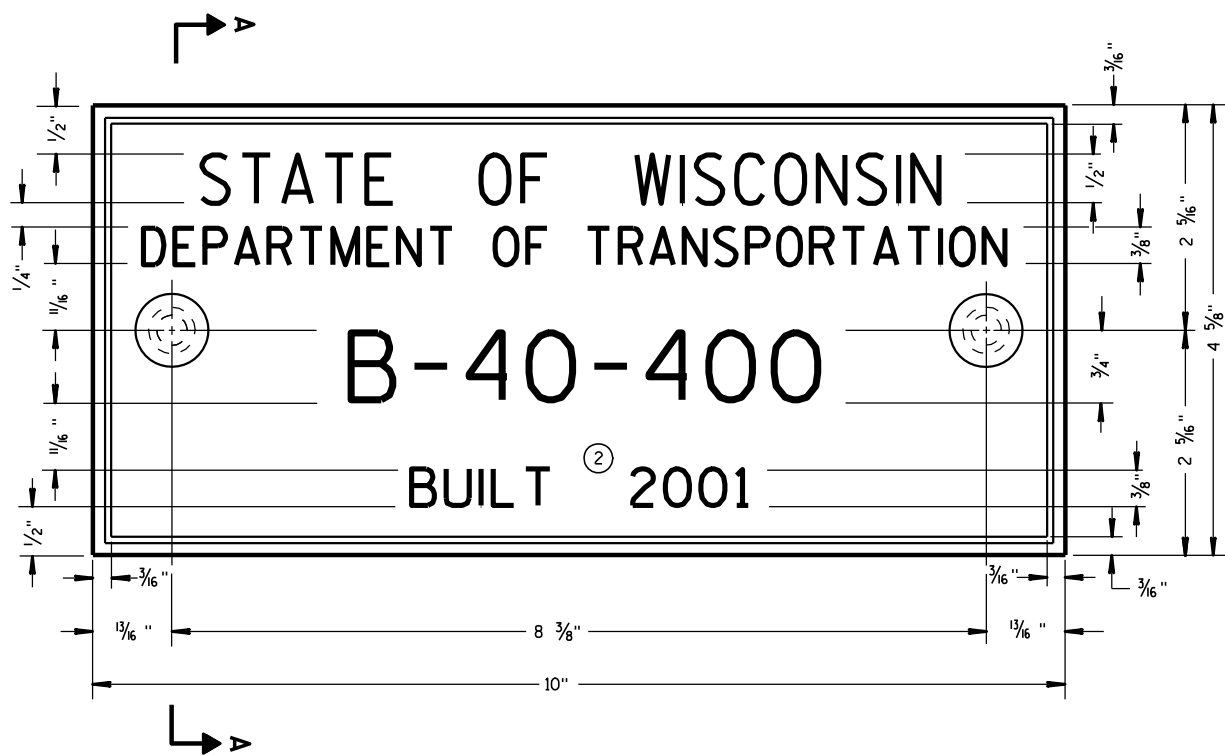
SECTION D-D

**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 SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
  - (1) NEW OR EXISTING CONCRETE PAVEMENT.
  - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
  - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.
- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.
- PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

<b>CONCRETE MEDIAN NOSE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/8/2006 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



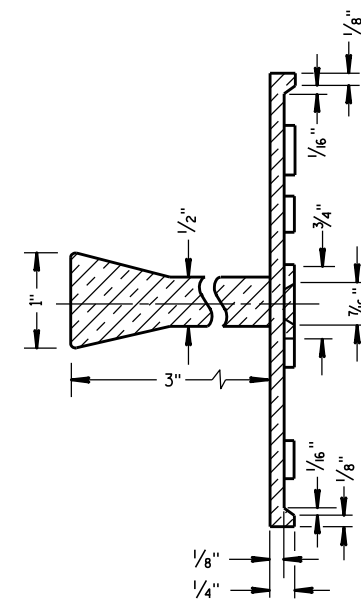
**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)

**GENERAL NOTES**

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

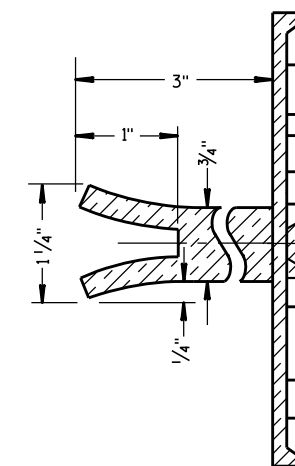
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

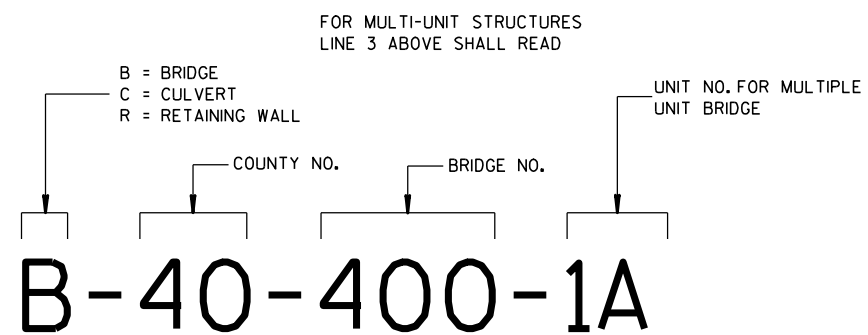


**SECTION A-A**

SPREAD OPEN SO THE TOP OF LUG IS 1 1/4" WIDE

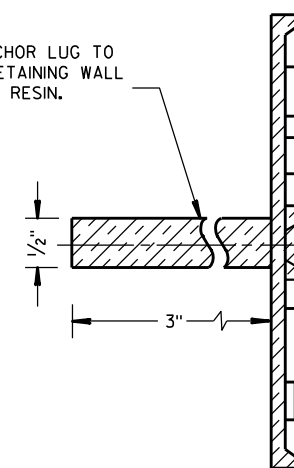


**ALTERNATE LUG**



**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



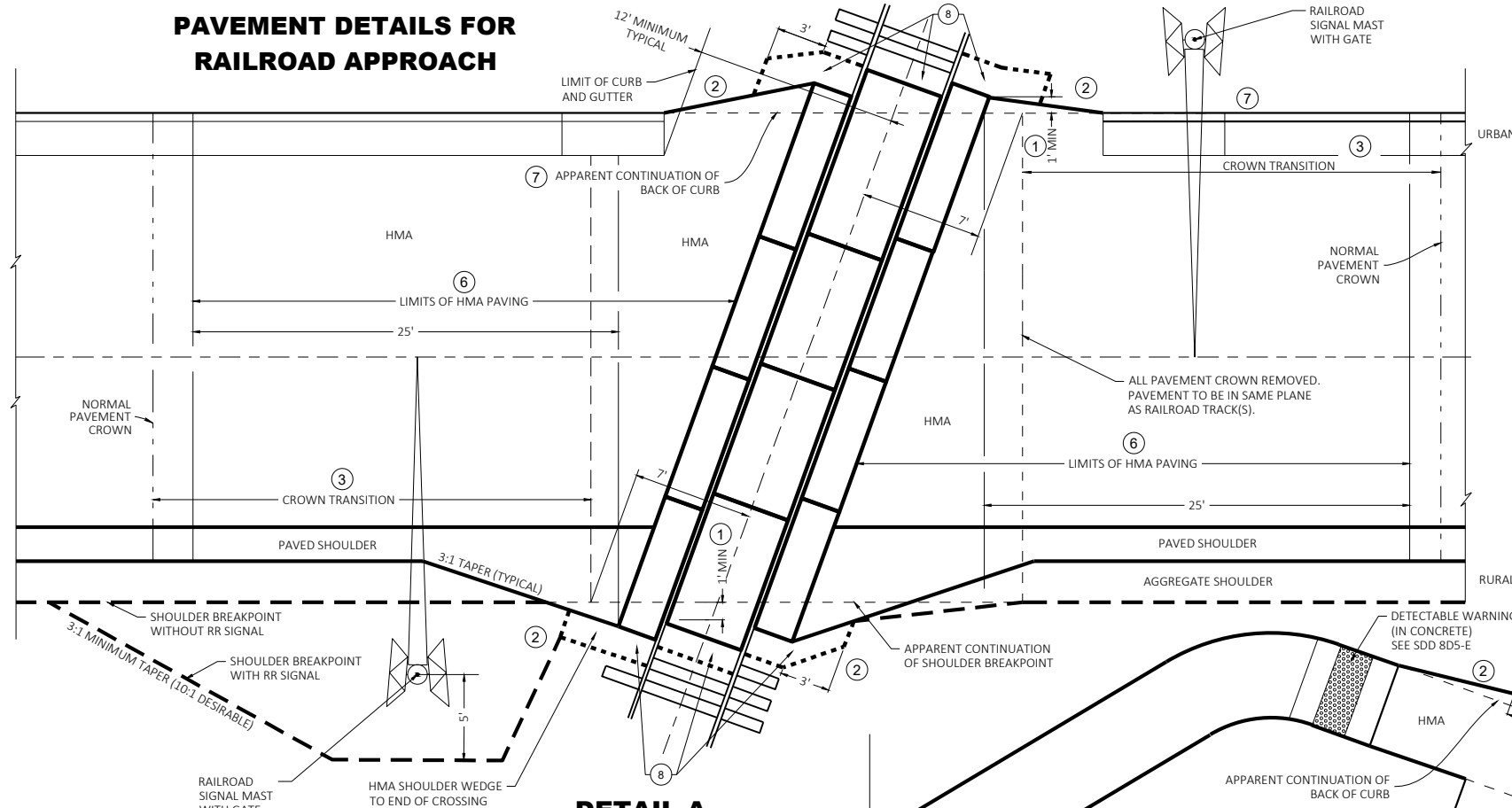
**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE  
(STRUCTURES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 3/26/10 /S/ Scot Becker  
CHIEF STRUCTURAL DEVELOPMENT ENGINEER  
FHWA

**PAVEMENT DETAILS FOR RAILROAD APPROACH**



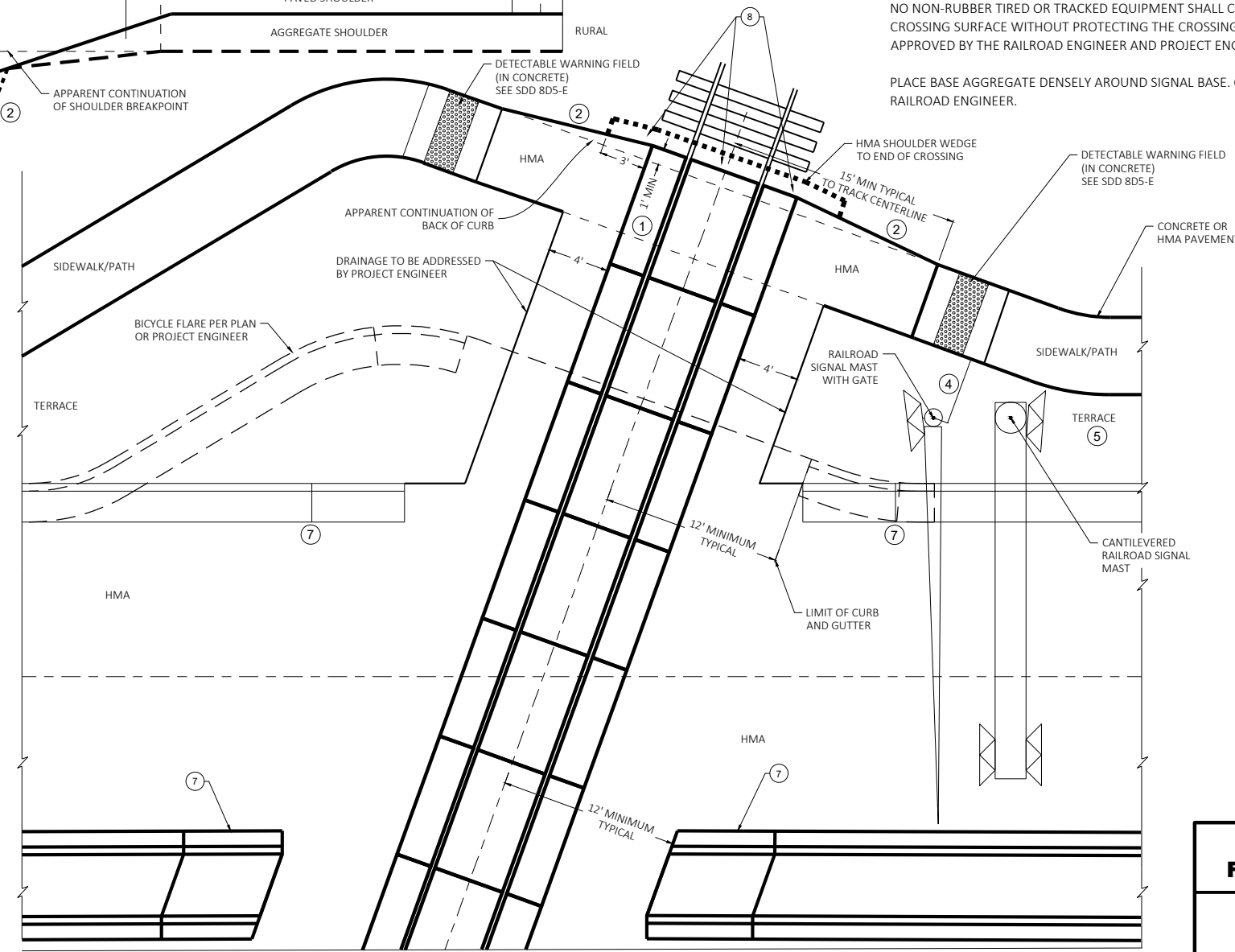
**DETAIL A  
RAILROAD APPROACH**

**GENERAL NOTES**

- PLANS AND SECTIONS ARE TYPICAL. DIMENSIONS VARY PER PROJECT.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, PROJECT PLANS, AND THE APPLICABLE SPECIAL PROVISIONS.
- CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS DIRECTED OTHERWISE. IF THE FINAL GRADES DON'T MATCH TO THE PLAN GRADES THEN GRADE ADJUSTMENTS WILL BE NECESSARY. CONFIRM NEW GRADES WITH PROJECT ENGINEER.
- HMA PAVEMENT APPROACHES, HMA PAVEMENT CROSSING SURFACES, AND HMA FLANGWAY/FIELD FILLERS TO BE REPLACED BY ROADWAY CONTRACTOR UNLESS DIRECTED OTHERWISE BY THE PLANS, SPECIAL PROVISIONS, RAILROAD ENGINEER, OR PROJECT ENGINEER.
- HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.
- WHEN THERE IS A SIDEWALK OR SHARED-USE PATH, ADD DETECTABLE WARNING FIELDS PER CURRENT STANDARD DETAIL DRAWING 8D5-E.
- THE CROSSING SHALL NOT BE OPENED TO ANY TYPE OF TRAFFIC UNTIL IT IS FULLY PAVED AND COOLED SUFFICIENTLY UNLESS OTHERWISE APPROVED BY THE RAILROAD ENGINEER AND THE PROJECT ENGINEER.
- NO NON-RUBBER TIED OR TRACKED EQUIPMENT SHALL CROSS OR SIT ON THE CROSSING SURFACE WITHOUT PROTECTING THE CROSSING SURFACE WITH A METHOD APPROVED BY THE RAILROAD ENGINEER AND PROJECT ENGINEER.
- PLACE BASE AGGREGATE DENSELY AROUND SIGNAL BASE. COORDINATE WITH THE RAILROAD ENGINEER.

**GENERAL NOTES CONTINUED**

- ① 1' MINIMUM CROSSING SURFACE COVERAGE PAST THE APPARENT CONTINUATION OF SHOULDER BREAKPOINT, BACK OF CURB, OR OUTSIDE EDGE OF SIDEWALK/PATH. INDIVIDUAL RAILROADS MAY HAVE DIFFERENT MINIMUM STANDARDS.
- ② HMA FLARE FROM OUTSIDE EDGE OF SIDEWALK/PATH, BACK OF CURB, OR AGGREGATE SHOULDER BREAKPOINT TO THE END OF CROSSING SURFACE MATERIAL.
- ③ CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.
- ④ NEAR EDGE OF PATH TO THE CENTER OF SIGNAL OR GATE MAST SHOULD BE A MINIMUM OF 5'-0". FOR SIDEWALK, THE NEAR EDGE SHOULD BE A MINIMUM OF 3'-0" TO THE CENTER OF SIGNAL OR GATE. NEAR EDGE OF SIDEWALK TO A NON-GATED MAST OR CANTILEVER SHOULD BE A MINIMUM OF 2'-6". SEE PLAN FOR RAILROAD SIGNAL AND GATE LOCATION IF THEY ARE NOT ALREADY INSTALLED.
- ⑤ TERRACE WIDTH VARIES. SEE PLAN FOR RAILROAD SIGNAL AND GATE LOCATIONS. PER PLAN OR PROJECT ENGINEER THE TERRACE AND SIDEWALK/PATH GRADES SHALL BE TRANSITIONED TO MATCH THE GRADE OF THE TRACK. FIELD FIT TO AVOID PONDING.
- ⑥ 25' MINIMUM HMA PAVING MEASURED PARALLEL TO THE ROAD OR 10' MINIMUM MEASURED PERPENDICULAR TO THE TRACK FROM THE EDGE OF THE CROSSING SURFACE, WHICHEVER IS GREATER.
- ⑦ REFERENCE SDD 8-D-01 END SECTION CURB AND GUTTER. MEDIAN END NEAR THE TRACK SHOULD BE PARALLEL TO THE TRACK. 6'-0" TAPER FOR A MEDIAN SHOULD BE REDUCED TO GET FULL HEIGHT CURB WHERE THE GATE COMES DOWN. DESIGN OPTION TO POUR MEDIAN TAPER IN ONE PIECE. BUILD PER PLAN UNLESS OTHERWISE APPROVED BY THE RAILROAD ENGINEER AND THE PROJECT ENGINEER.
- ⑧ IF METAL END PLATES ARE NOT INSTALLED BY THE RAILROAD THEN HMA PAVEMENT WEDGE SHALL BE PLACED AT THE END OF THE LAST PANEL TAPERED TO BACK EDGE OF NEXT TIE AND THOROUGHLY COMPACTED. SEE DETAIL G.



**DETAIL B  
MEDIAN AND SIDEWALK/SHARED-USE PATH APPROACH**

**PAVEMENT DETAILS FOR RAILROAD APPROACH**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Kristen Sommers  
DATE STATE RAILROAD ENGINEERING AND SAFETY SUPERVISOR  
FHWA

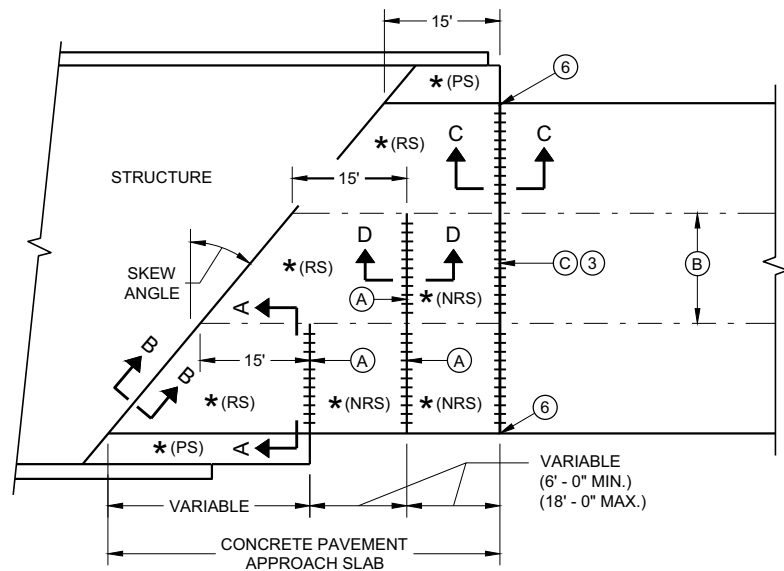
6

6

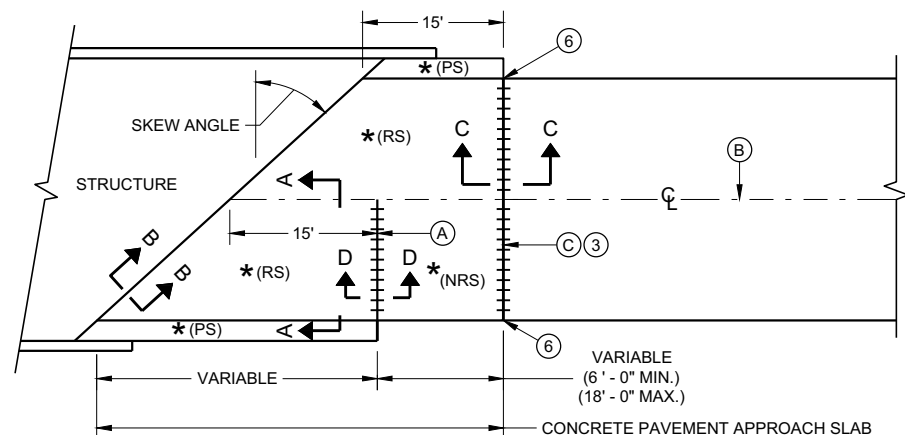
SDD 13B01-11a

SDD 13B01-11a

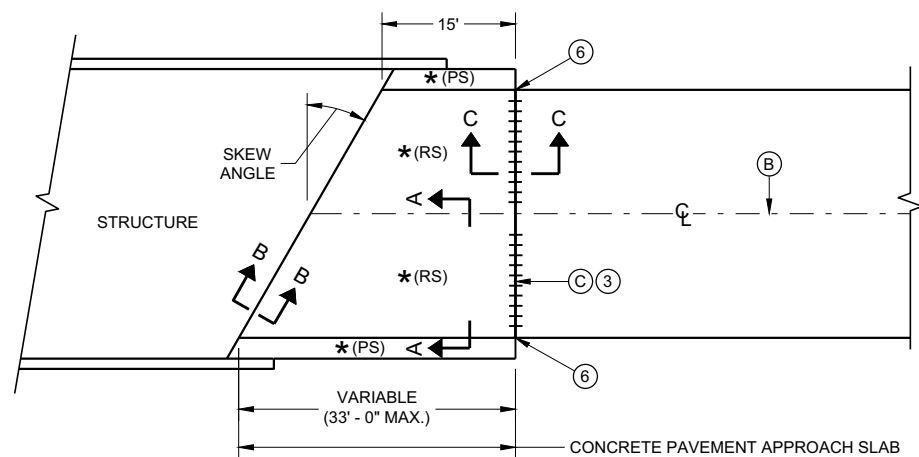




**SKewed Approach  
(Pavement more than two lanes)**

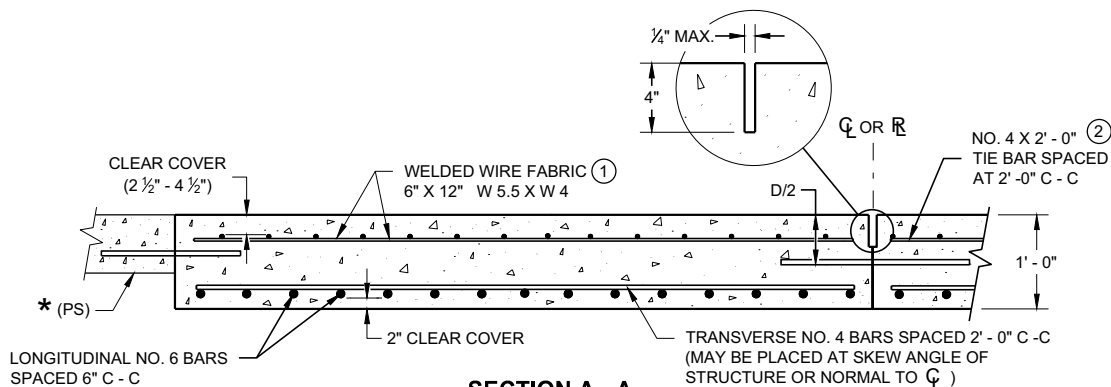


**Skews > 20°  
(Pavement width ≤ 30')**

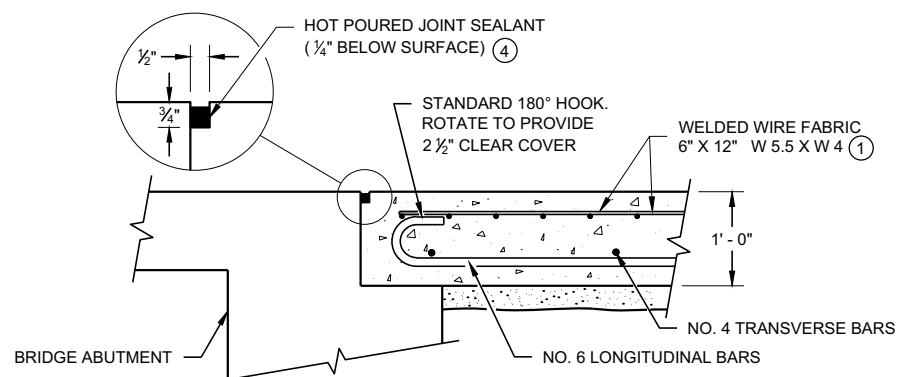


**Skews ≤ 20°  
(Pavement width ≤ 30')**  
**Approach Slab and Adjacent Pavement**

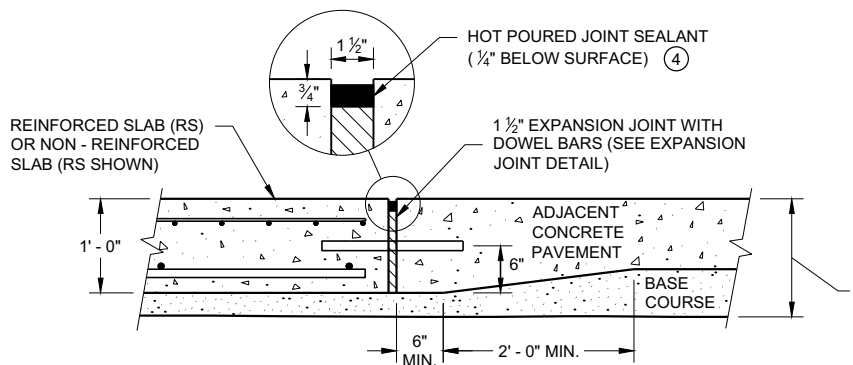
- \* (RS) = REINFORCED CONCRETE SLAB
- \* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- \* (NRS) = NON - REINFORCED CONCRETE SLAB
- \*\*\* STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A  
REINFORCEMENT POSITIONING DETAIL**



**SECTION B - B  
BEND DETAIL  
BOTTOM REINFORCEMENT**



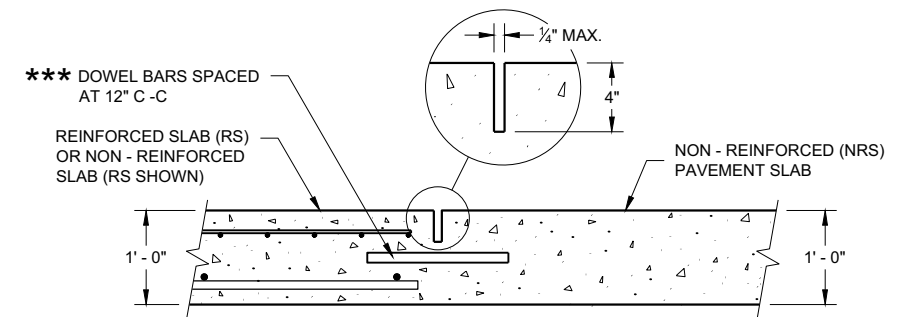
**SECTION C - C  
TRANSITION DETAIL  
APPROACH SLAB TO ADJACENT PAVEMENT**

**GENERAL NOTES**

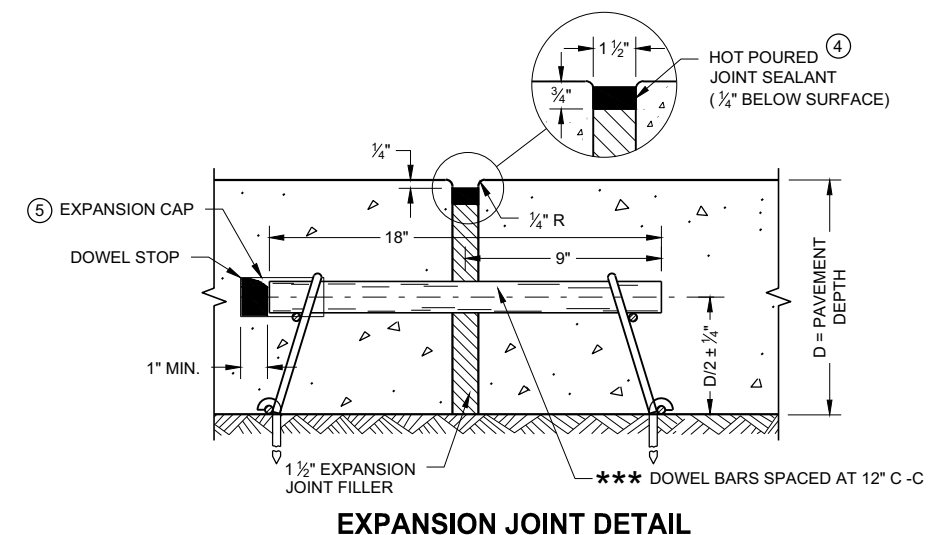
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- (A) STANDARD CONTRACTION JOINT NORMAL TO  $\bar{C}$  OR  $\bar{R}$ .
- (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO  $\bar{C}$  OR  $\bar{R}$ .



**SECTION D - D  
CONTRACTION JOINT**



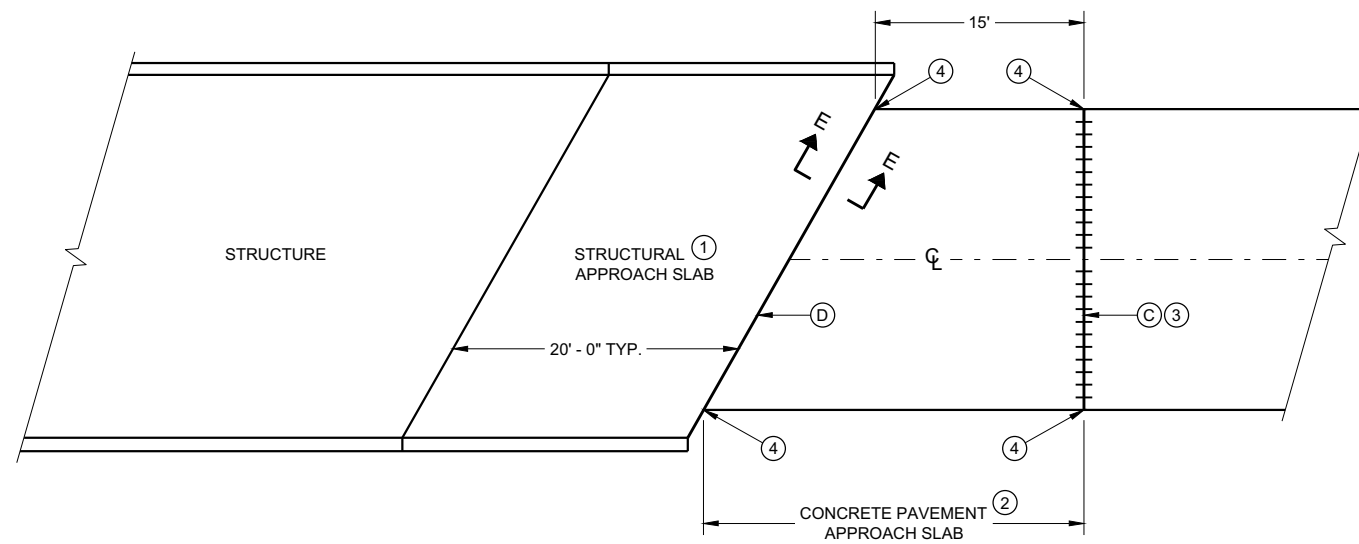
**EXPANSION JOINT DETAIL**

**CONCRETE PAVEMENT  
APPROACH SLAB**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 /S/ Peter Kemp, P.E.  
DATE DATE PAVEMENT SUPERVISOR

FHWA

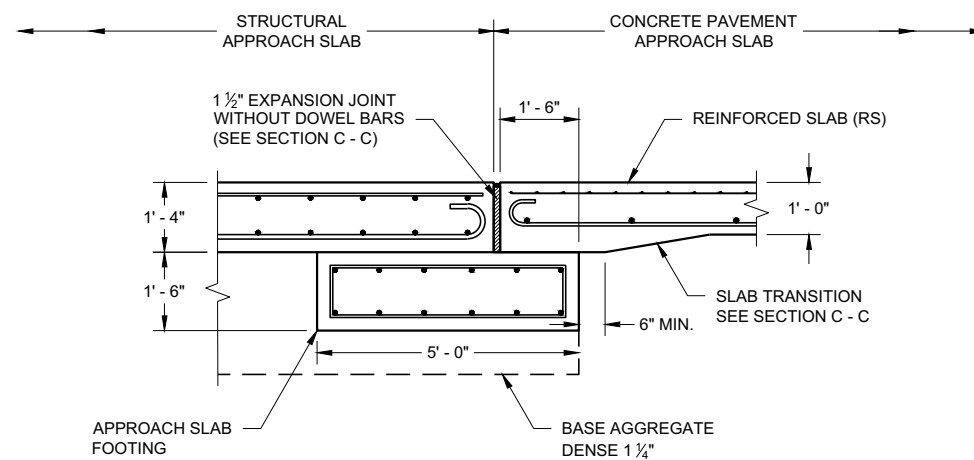


**GENERAL NOTES**

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

- ① SEE BRIDGE PLAN.
- ② CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO  $\text{CL}$  OR  $\text{RL}$ .
- Ⓓ 1½" EXPANSION JOINT (NO DOWELS)

**BRIDGE APPROACHES**

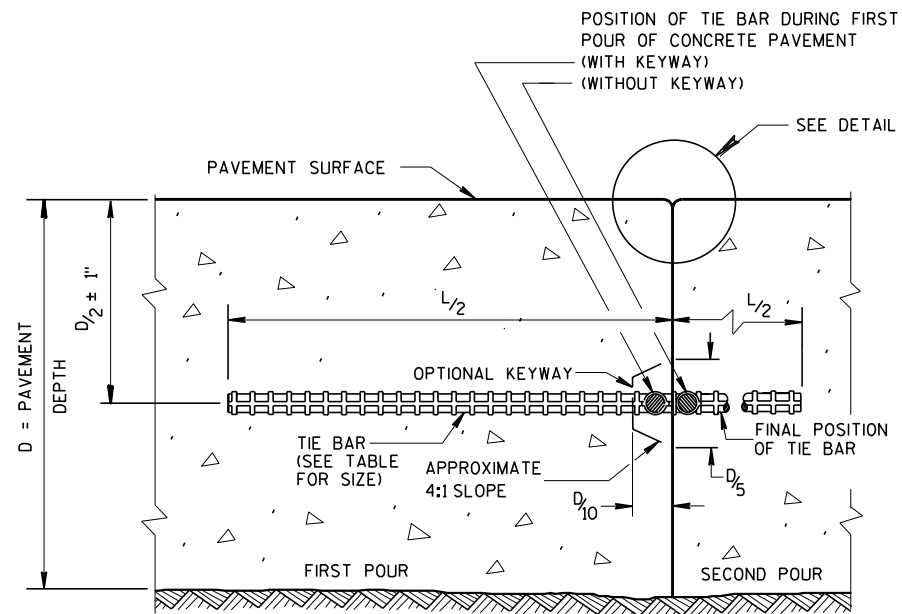


**SECTION E - E  
FOOTING DETAIL  
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH**

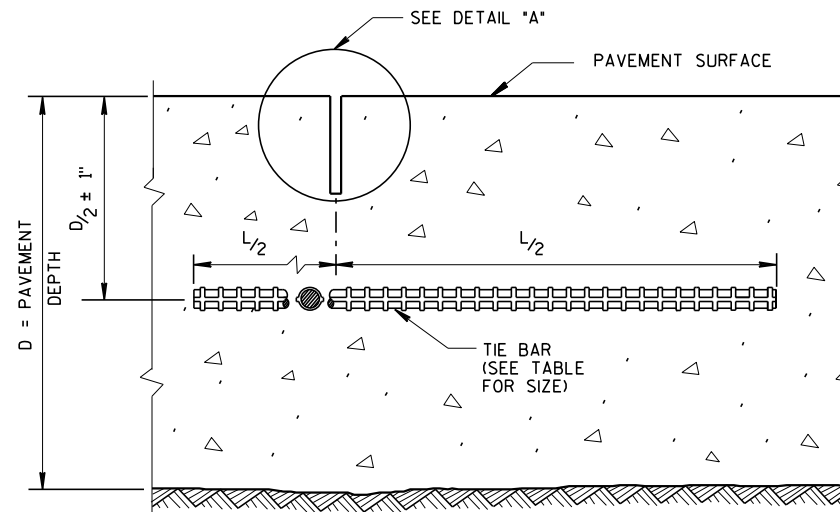
**STRUCTURAL APPROACH SLAB  
AND CONCRETE PAVEMENT  
APPROACH SLAB**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 /S/ Peter Kemp P.E.  
DATE PAVEMENT SUPERVISOR  
FHWA



**CONSTRUCTION JOINT**



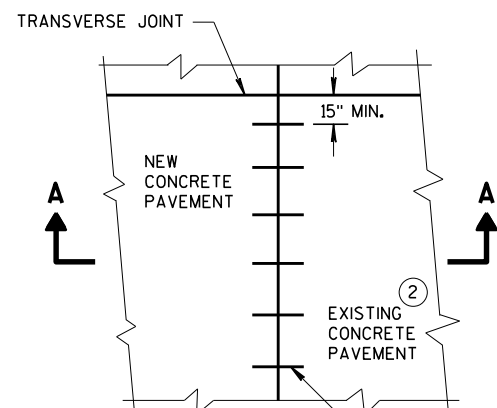
**SAWED JOINT**

**GENERAL NOTES**

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

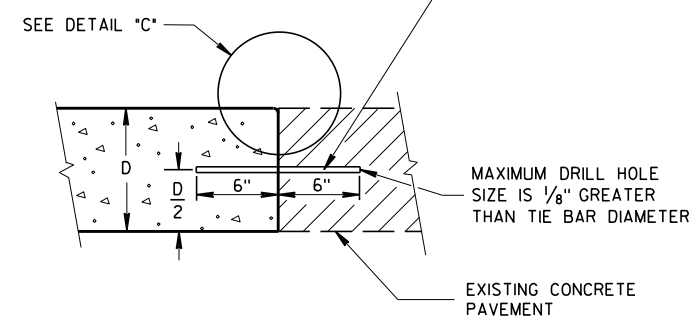
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

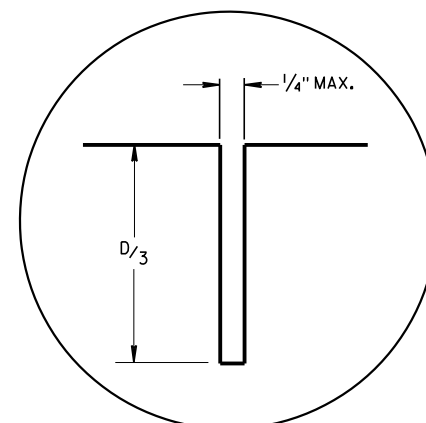


**PLAN VIEW**

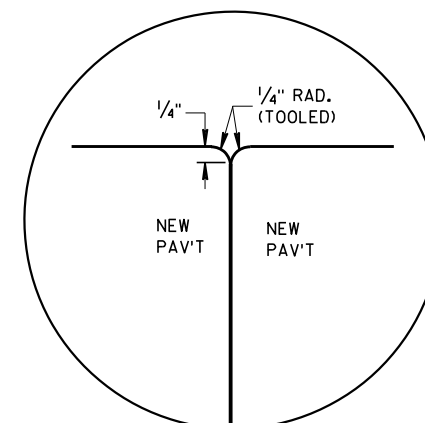
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



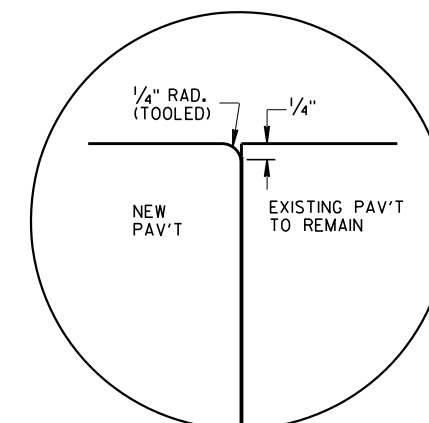
**SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT**



**DETAIL "A"**



**DETAIL "B"**



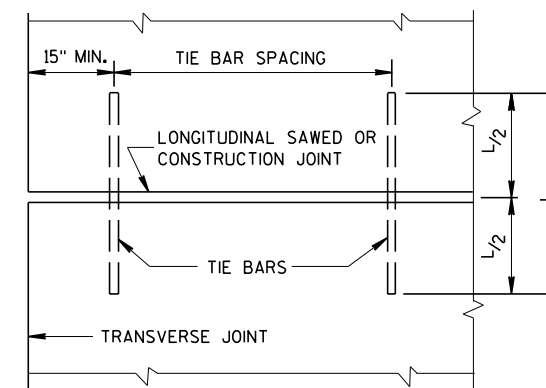
**DETAIL "C"**

**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.

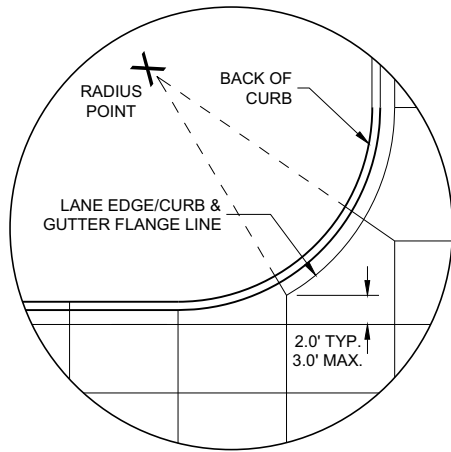


**PLAN VIEW  
SHOWING LOCATION OF TIE BARS**

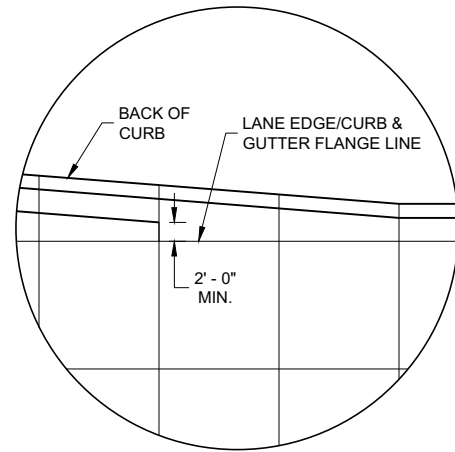
**CONCRETE PAVEMENT  
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

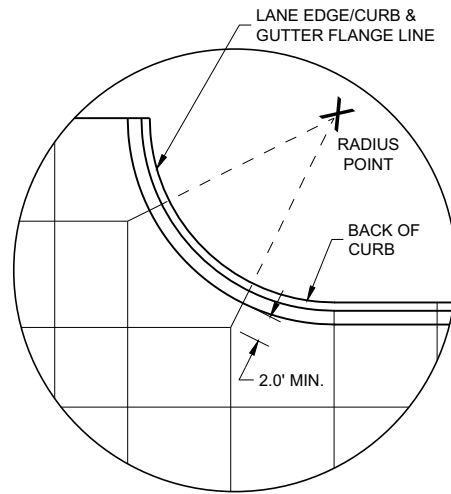
APPROVED  
March 2018 /S/ Peter Kemp, P.E.  
DATE PAVEMENT SUPERVISOR  
FHWA



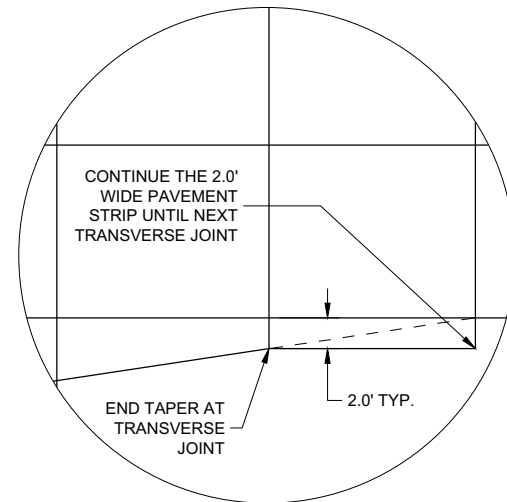
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

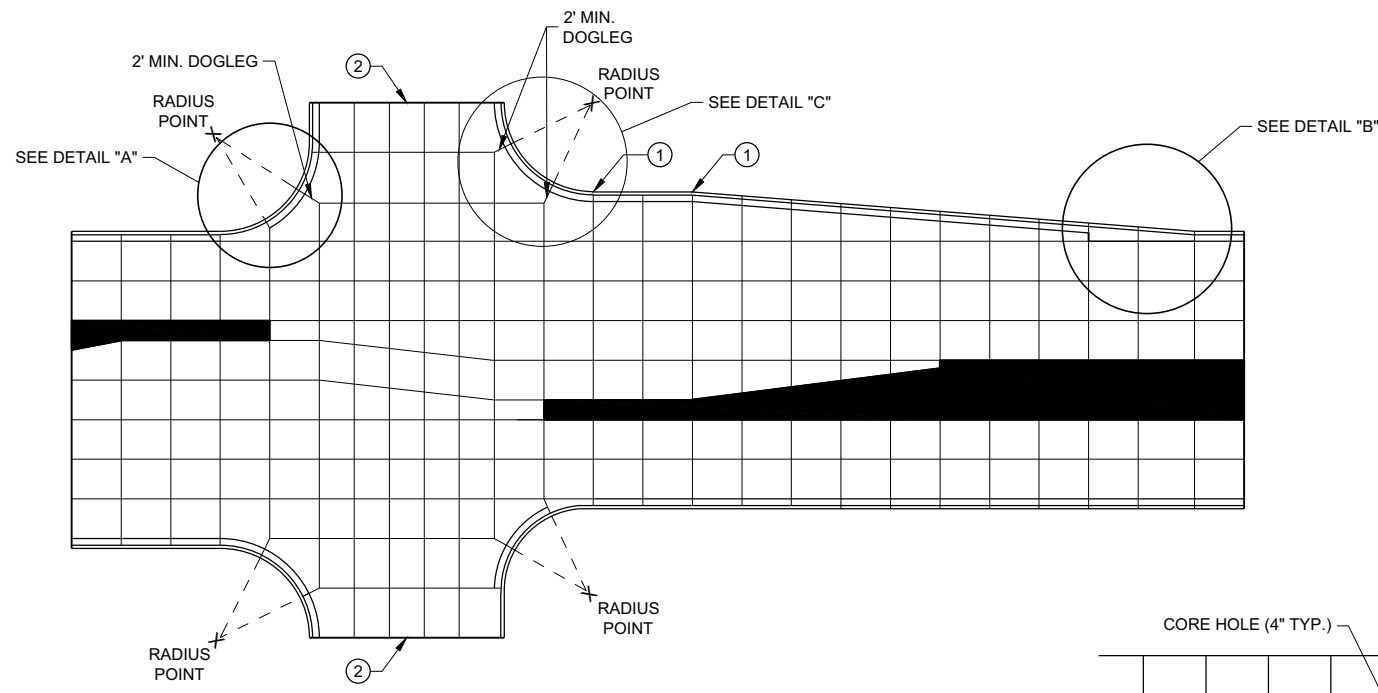
**GENERAL NOTES**

- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.
- AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.
- SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.
- AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

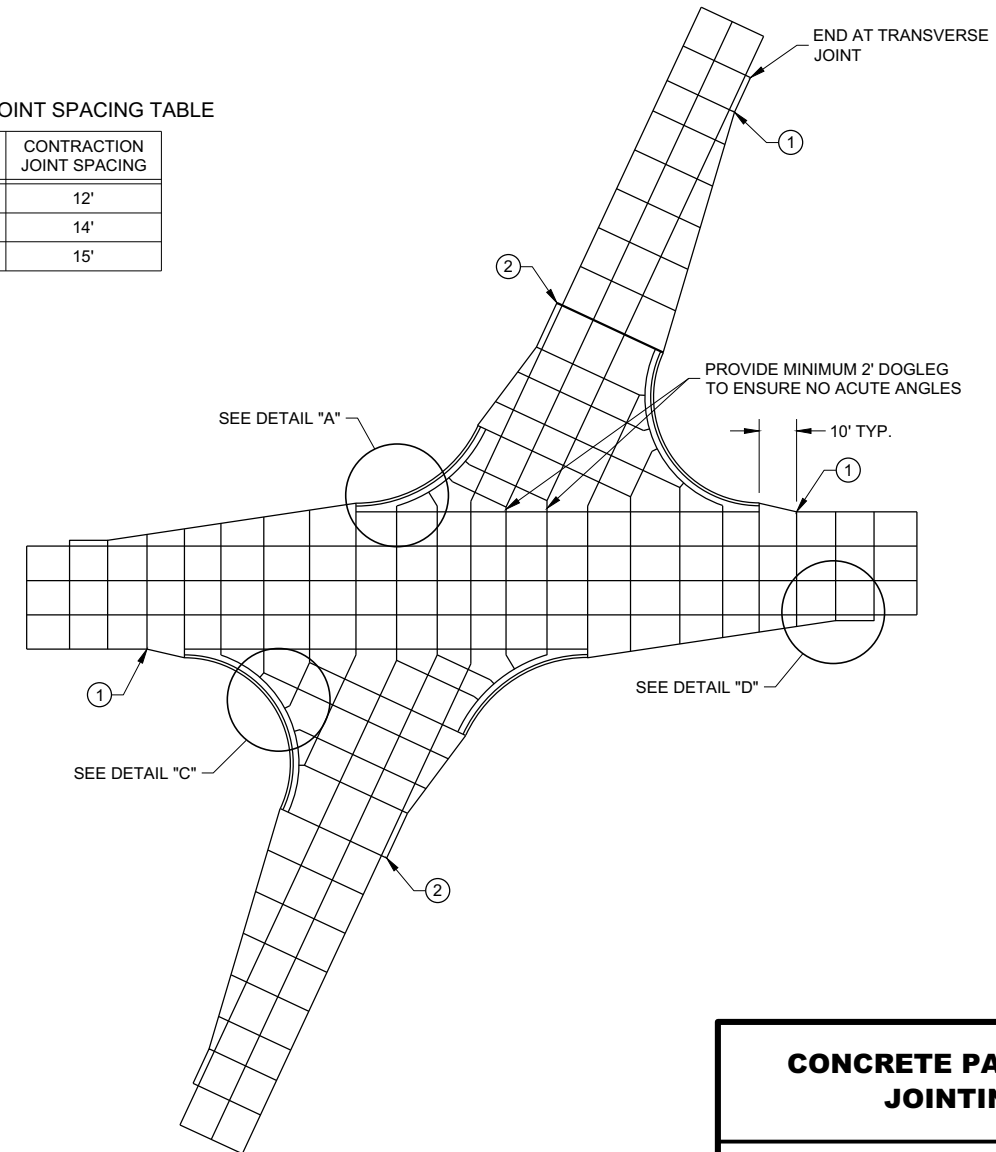
- ① PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
- ② CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
- ③ THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.

PAVEMENT DEPTH AND JOINT SPACING TABLE

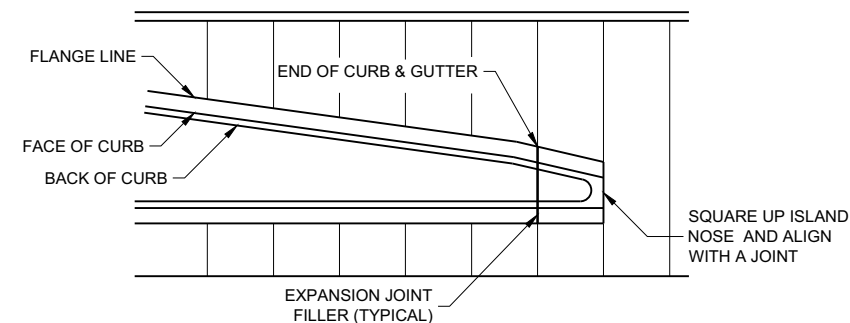
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



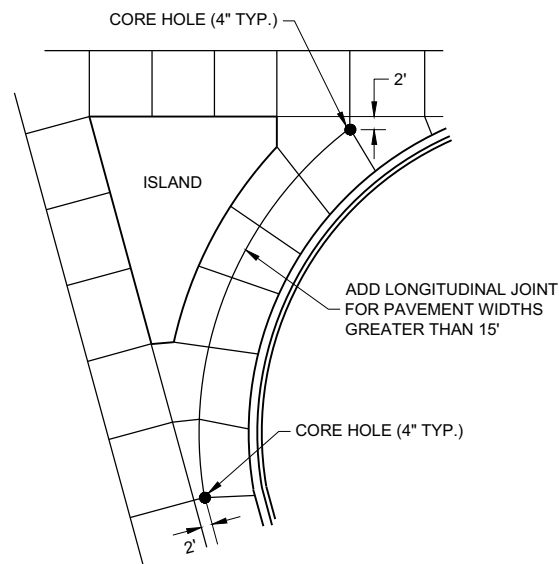
STANDARD INTERSECTION



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

**CONCRETE PAVEMENT JOINTING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

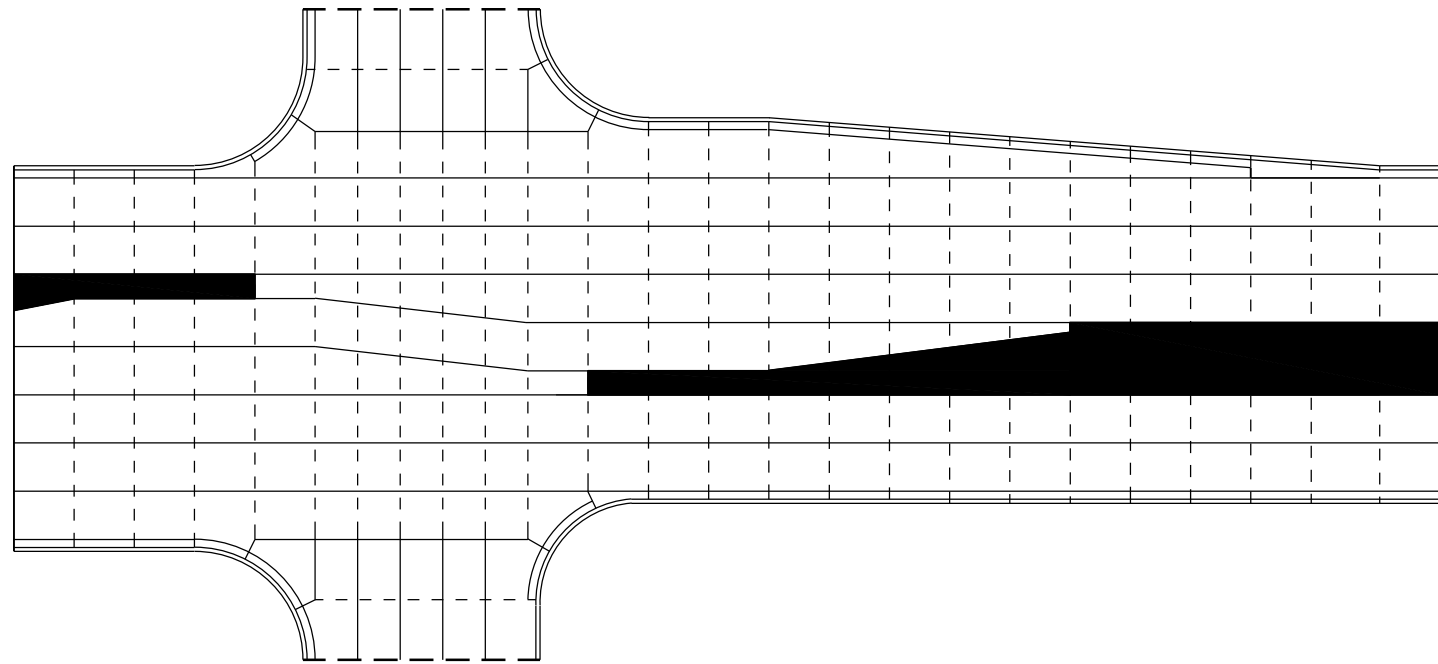
**LEGEND**

- - - - - POTENTIAL DOWELED EXPANSION JOINT
- - - - - DOWELED JOINT
- TIED JOINT

**GENERAL NOTES**

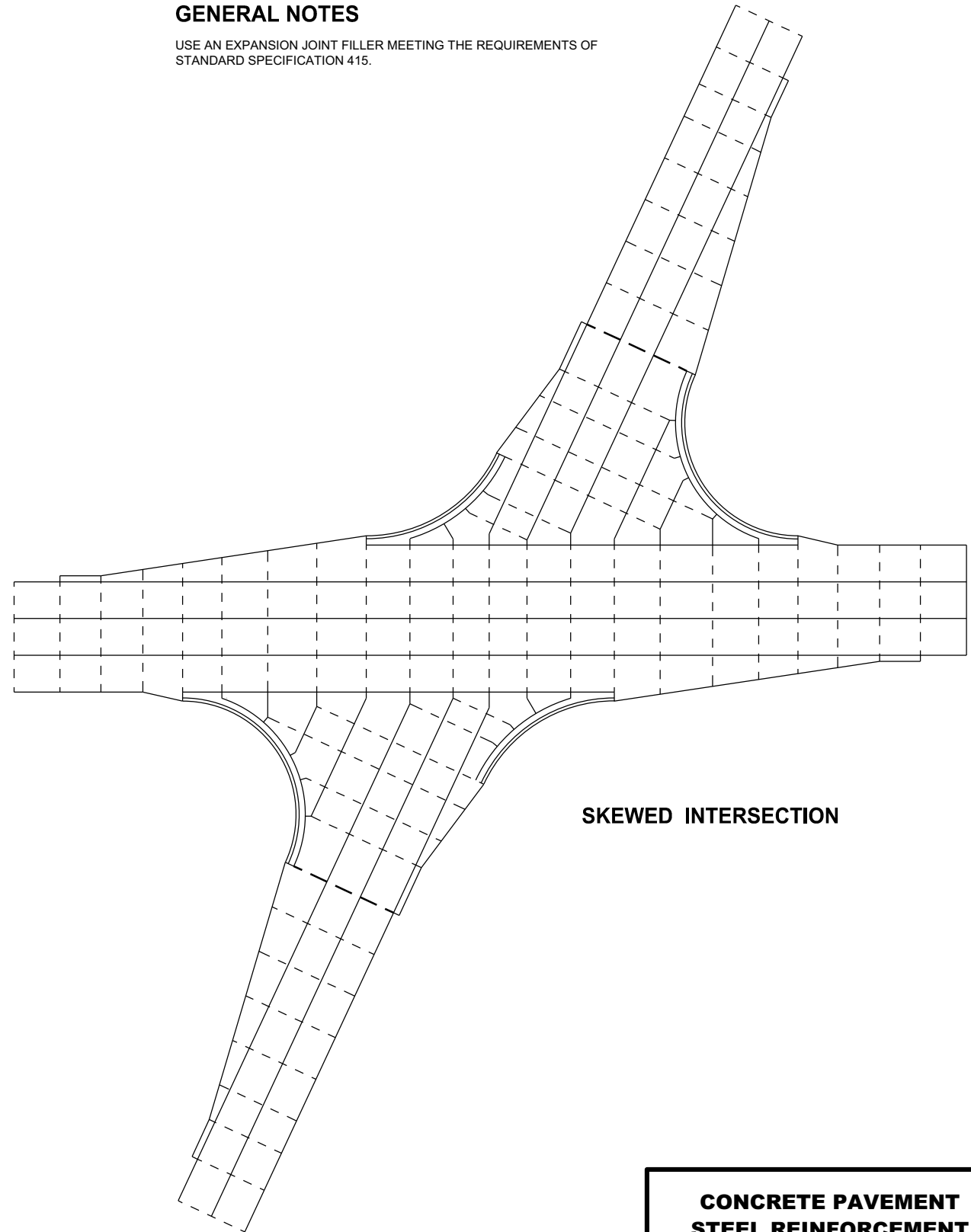
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.

6

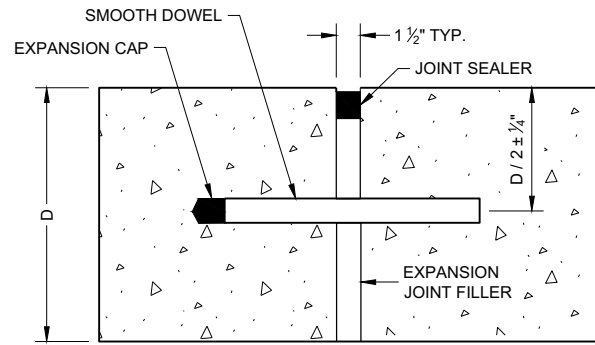


**STANDARD INTERSECTION**

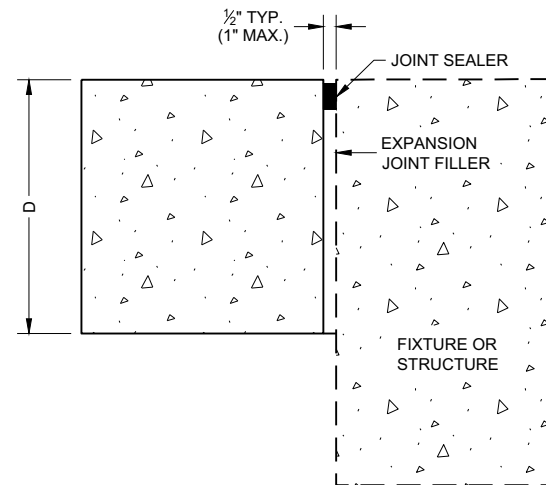
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**SKewed INTERSECTION**



**DOWELED TRANSVERSE** ①



**UNTIED - LONGITUDINAL**

**EXPANSION JOINTS**

**TIE BAR TABLE**

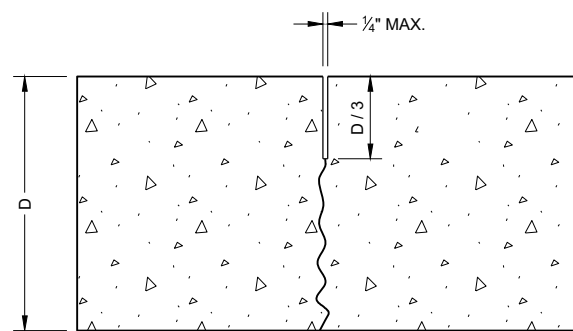
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24" **

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

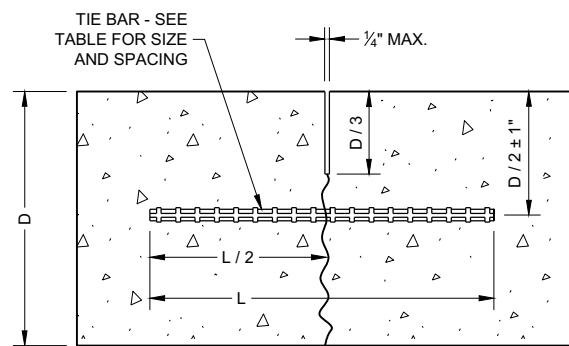
\*\* CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

**GENERAL NOTES**

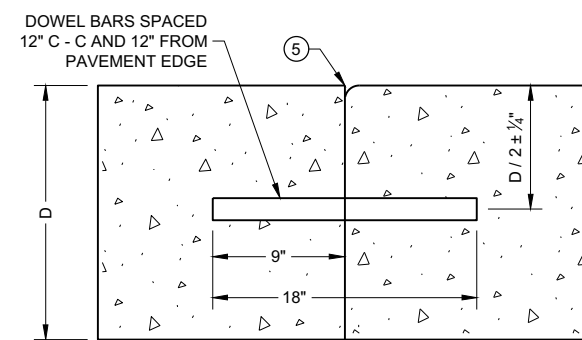
- ① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
- ② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
- ③ LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
- ④ CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
- ⑤ IF JOINT IS FORMED, PROVIDE A 1/4" RADIUS.
- ⑥ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



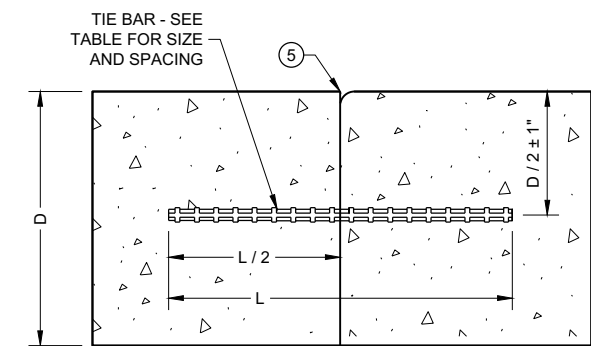
**UNDOWELED TRANSVERSE**



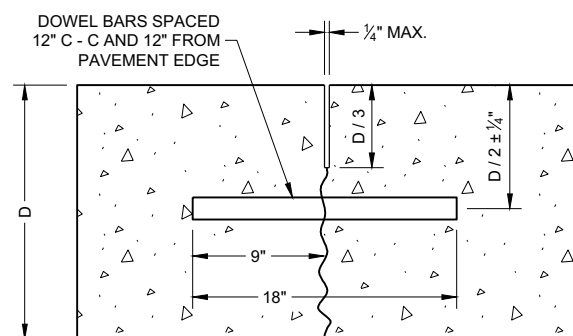
**TIED LONGITUDINAL**



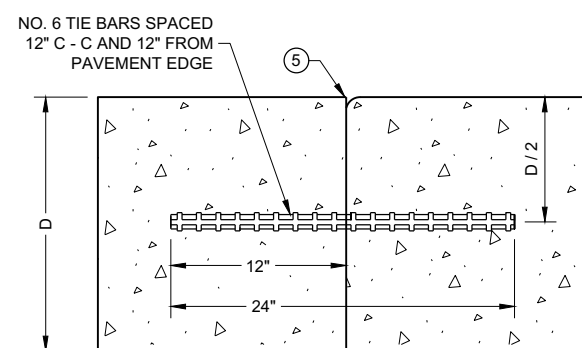
**DOWELED TRANSVERSE** ③



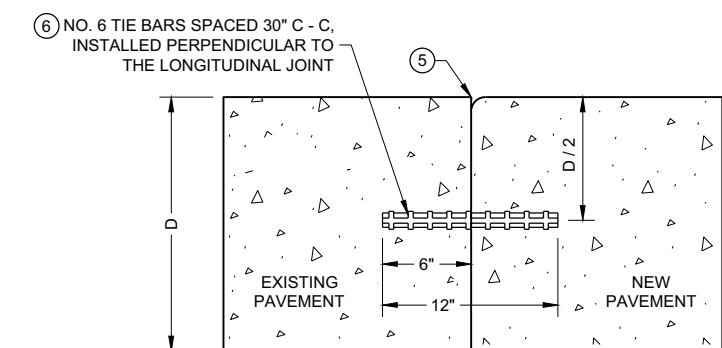
**TIED LONGITUDINAL**



**DOWELED TRANSVERSE**



**TIED TRANSVERSE** ③  
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



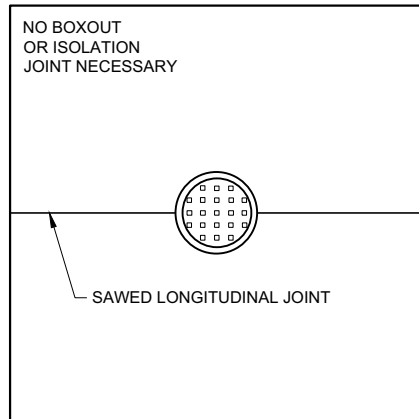
**TIED LONGITUDINAL TO EXISTING**

**CONTRACTION JOINTS** ②

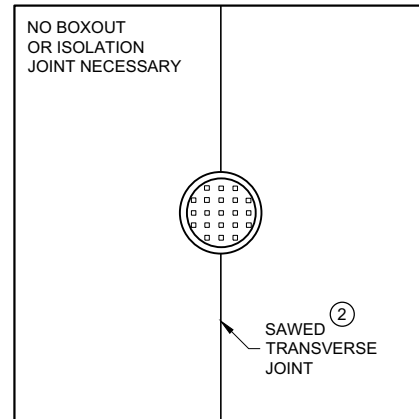
**CONSTRUCTION JOINTS** ④

**CONCRETE PAVEMENT JOINT TYPES**

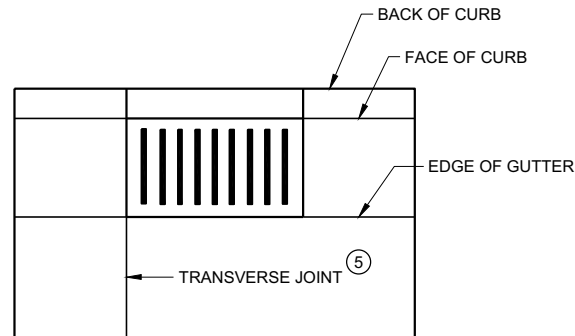
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**MANHOLE WITH LONGITUDINAL JOINT**



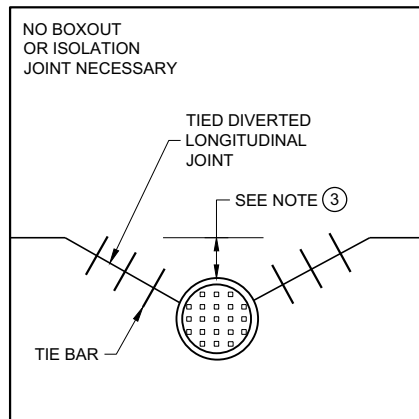
**MANHOLE WITH TRANSVERSE JOINT**



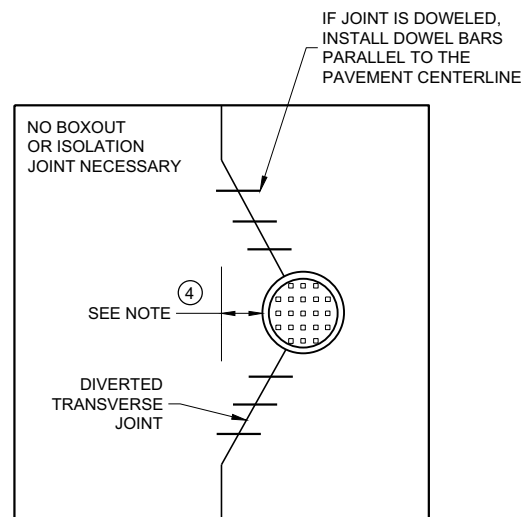
**INLET WITH TRANSVERSE JOINT**

**GENERAL NOTES**

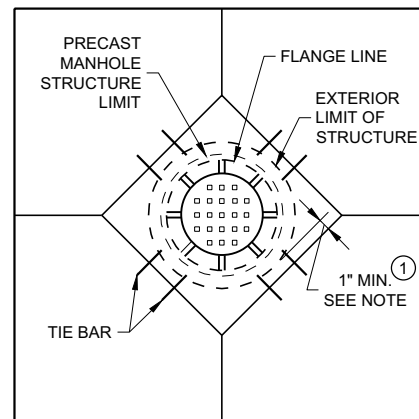
- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
- ④ IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
- ⑤ ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



**MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT**



**MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT**



**DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS**

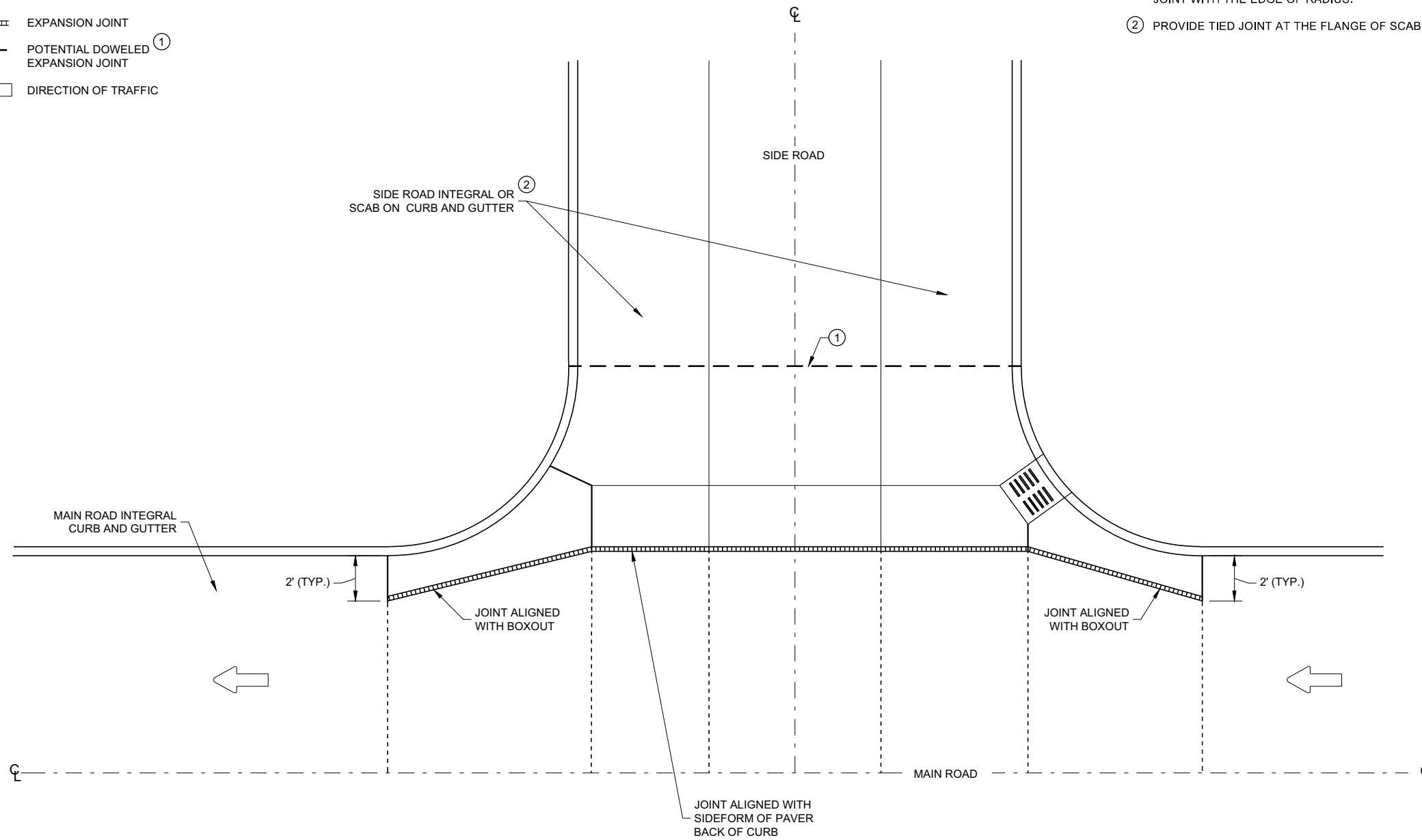
<b>CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2018 DATE	/s/ Peter Kemp P.E. PAVEMENT SUPERVISOR
<small>FHWA</small>	

**LEGEND**

- DOWELED JOINT
- TIED JOINT
- ▨▨▨▨ EXPANSION JOINT
- — — — POTENTIAL DOWELED <sup>①</sup> EXPANSION JOINT
- ← DIRECTION OF TRAFFIC

**GENERAL NOTES**

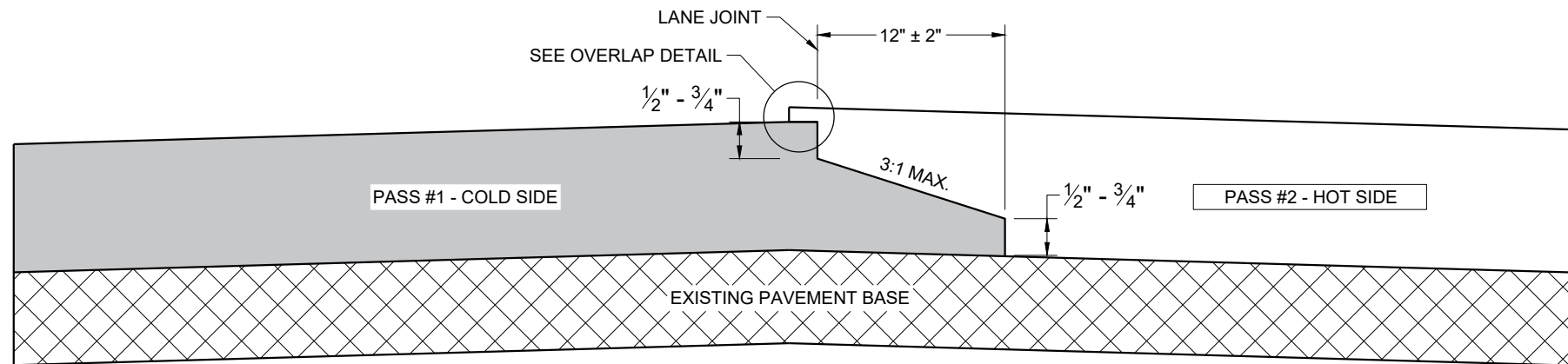
- ① CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH THE EDGE OF RADIUS.
- ② PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USE.



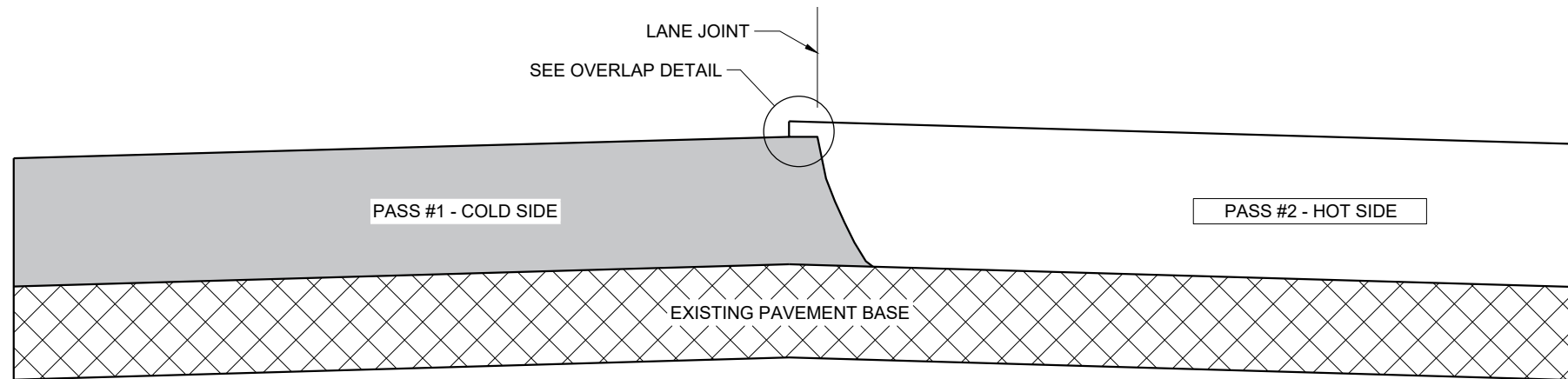
**INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER**

<b>CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2018 DATE	/S/ Peter Kemp P.E. ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

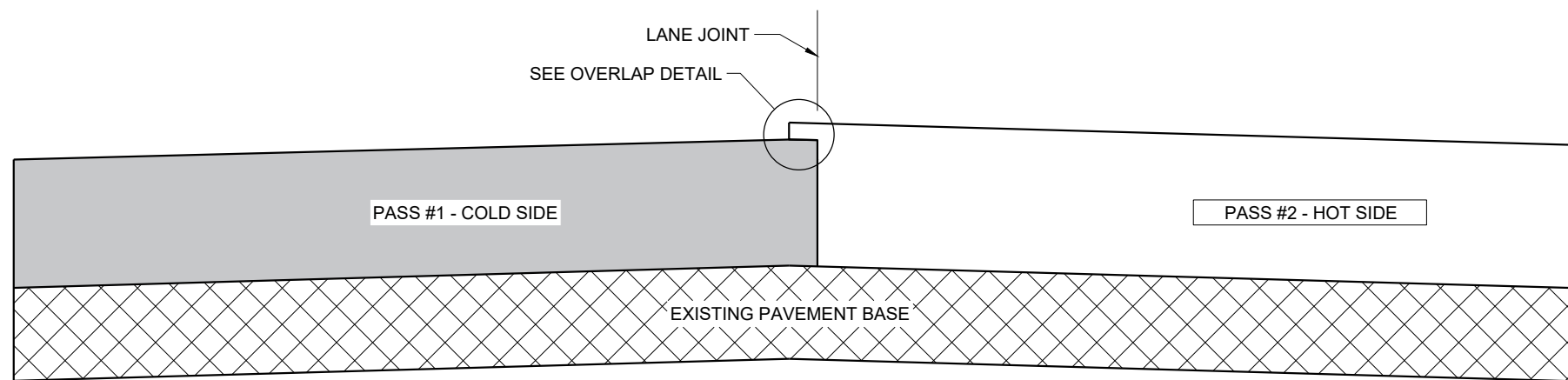




**TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT**



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

**GENERAL NOTES**

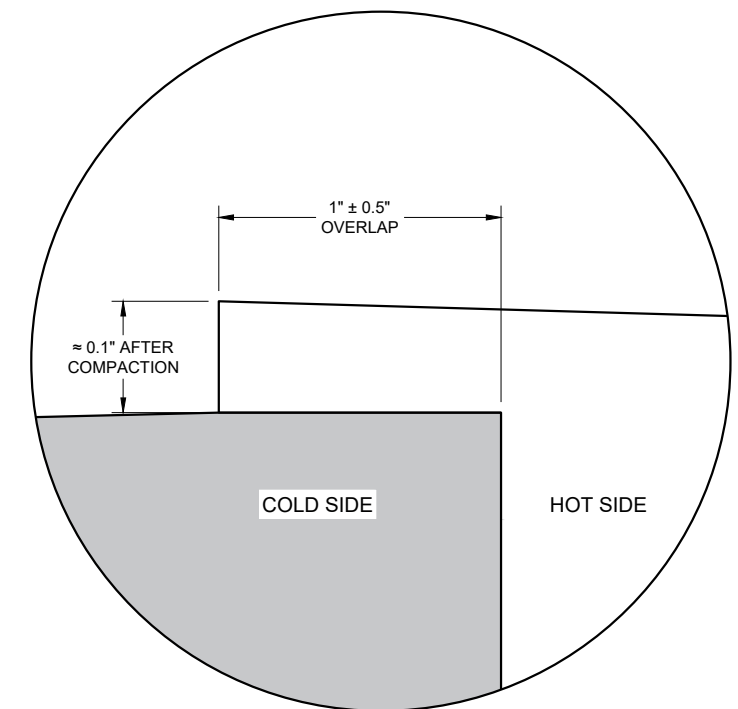
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

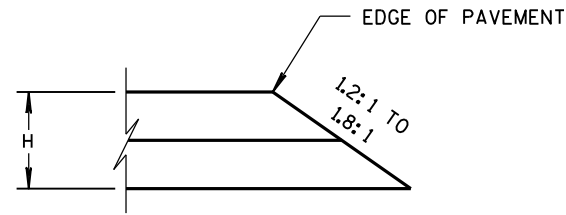
SDD 13C19 - 03

SDD 13C19 - 03

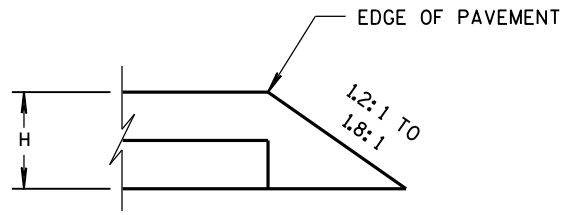
**HMA LONGITUDINAL JOINTS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

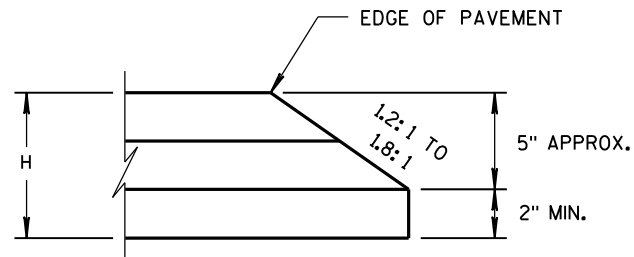
APPROVED  
November 2020 DATE /S/ Steven Hefel  
HMA PAVEMENT ENGINEER  
FHWA



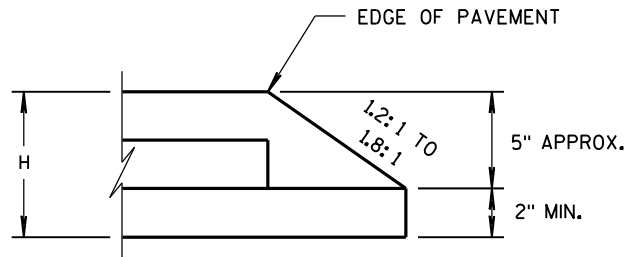
CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER  
FOR H 5" OR LESS

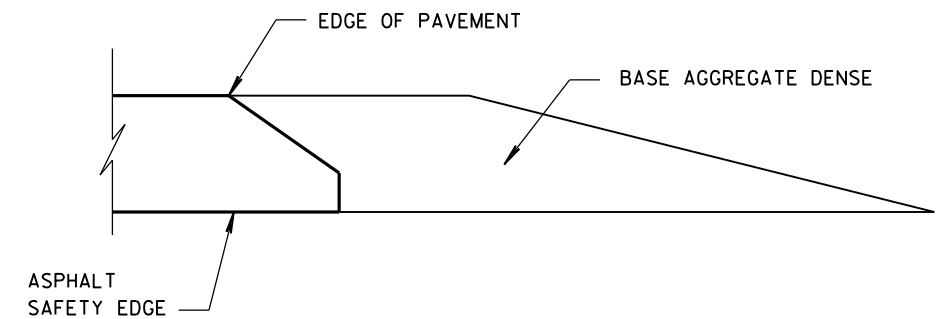


CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER  
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

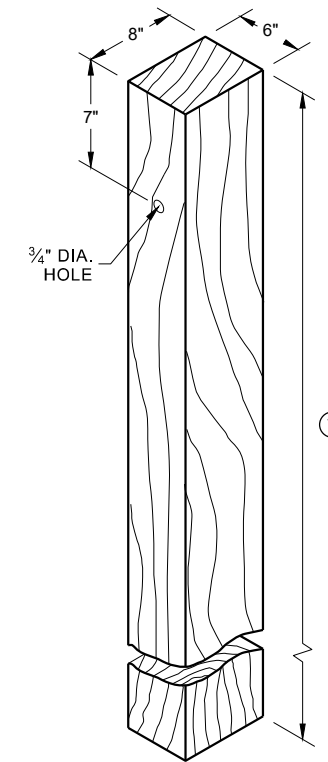
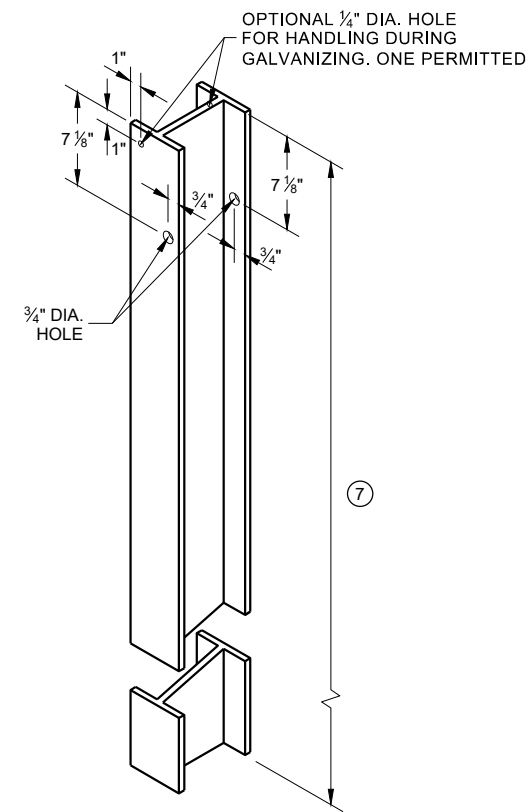
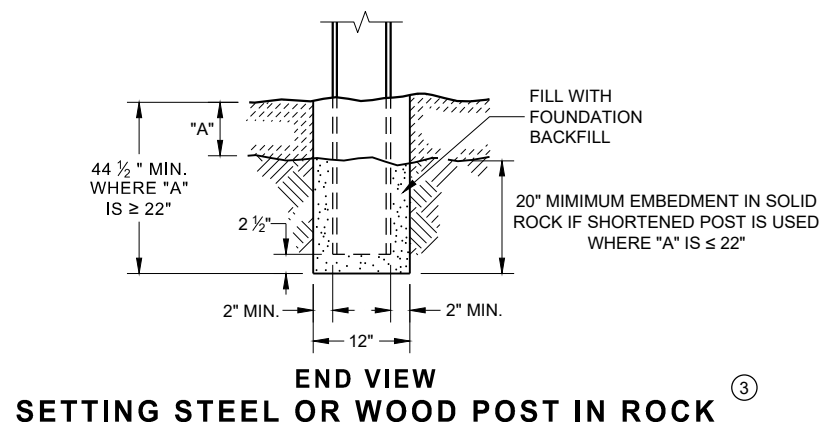
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S.D.D. 14 B 29-1

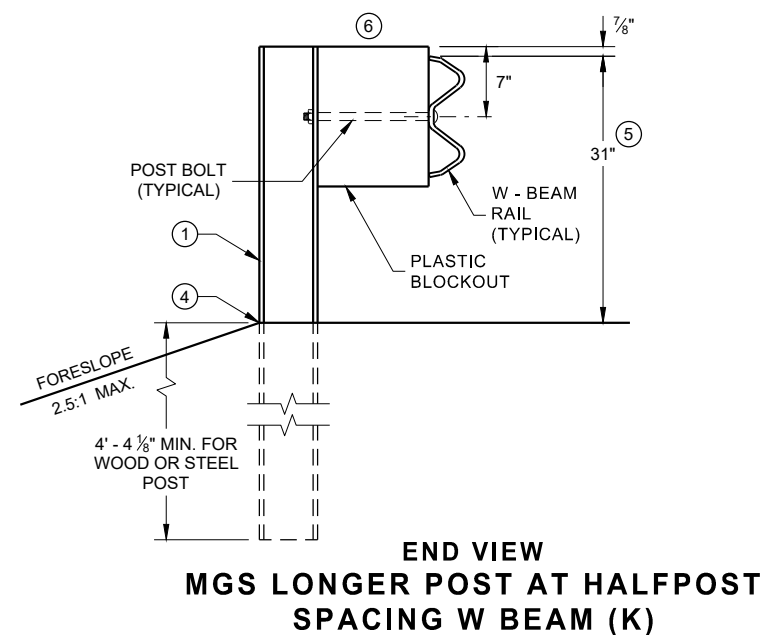
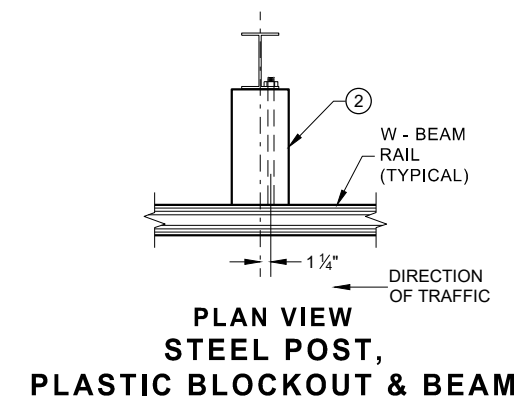
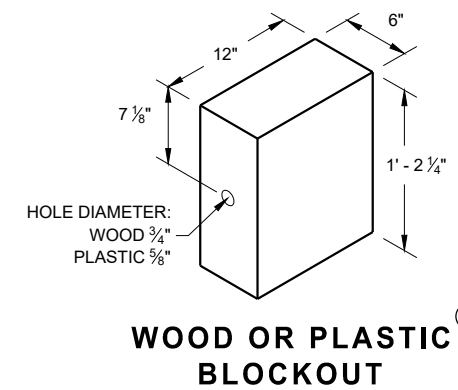
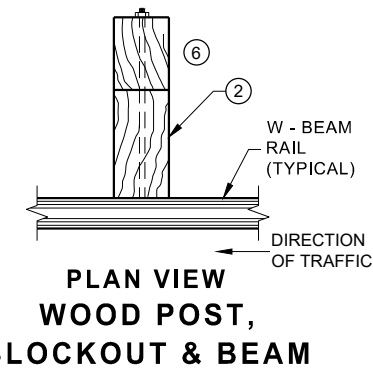
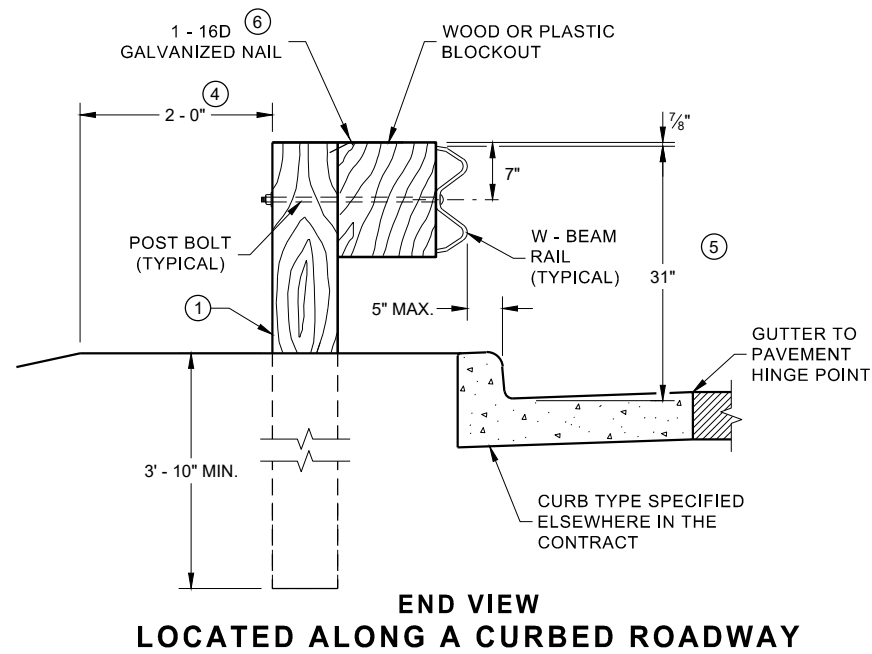
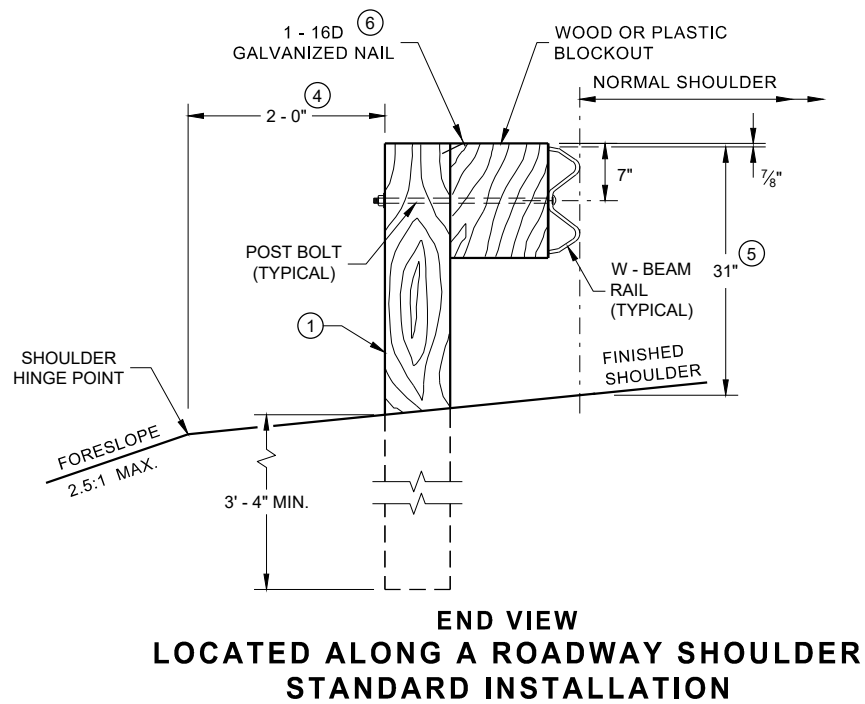
SAFETY EDGE <sub>SM</sub>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH 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".



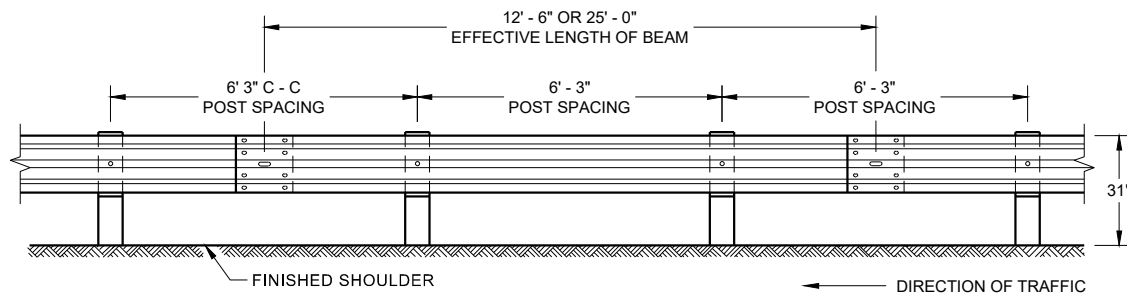
**STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)**

**WOOD POST (6" X 8") NOMINAL**

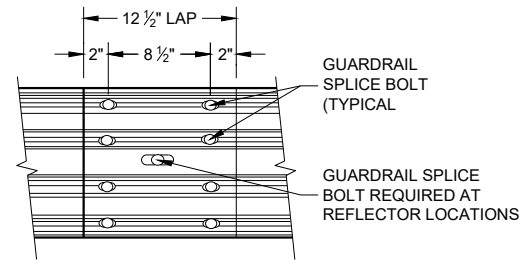


**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



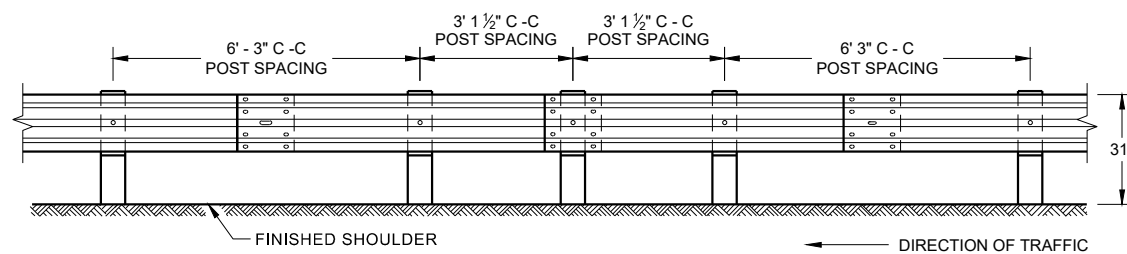
**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



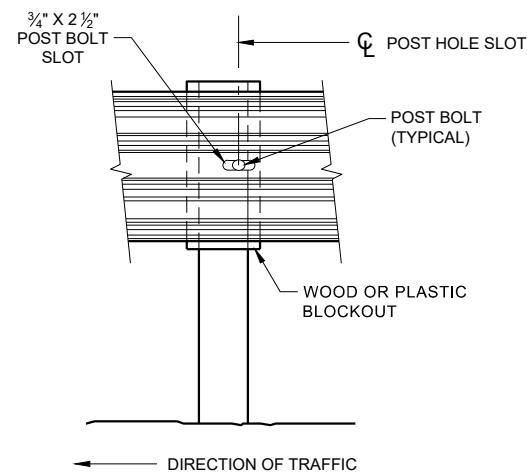
**FRONT VIEW  
MID-SPAN BEAM SPLICE**

**GENERAL NOTES**

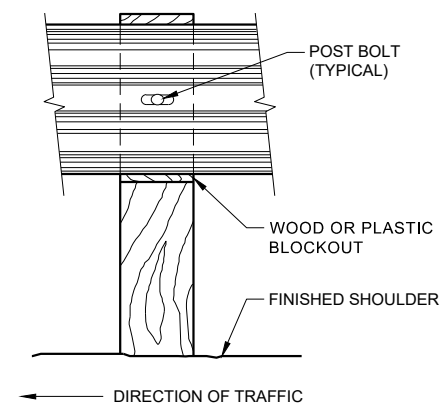
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
  - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER 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.



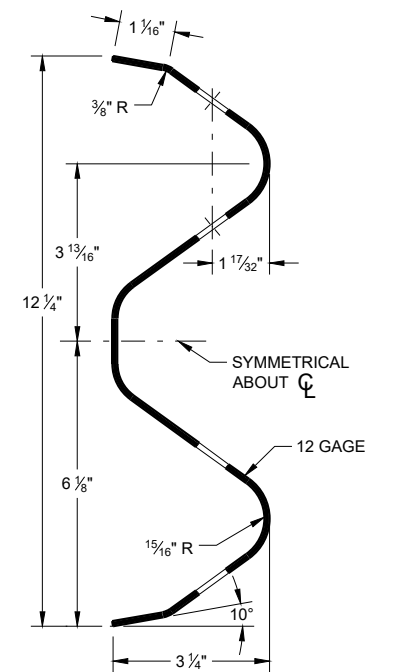
**FRONT VIEW  
HALF POST SPACING (HS) AND  
HALF POST SPACING WITH LONGER POSTS (K)**



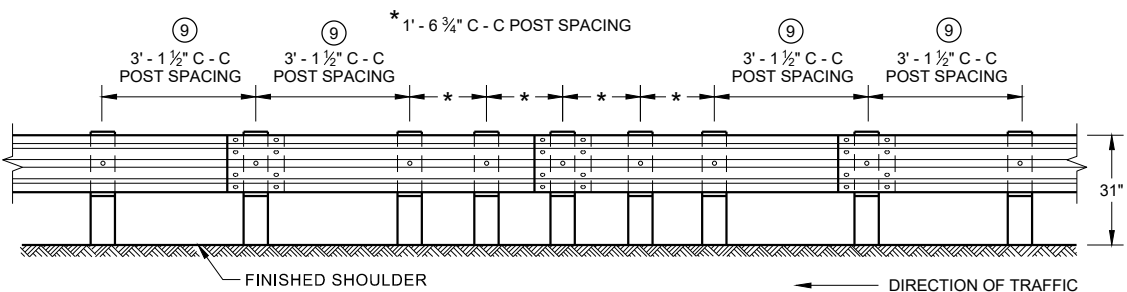
**FRONT VIEW AT STEEL POST**



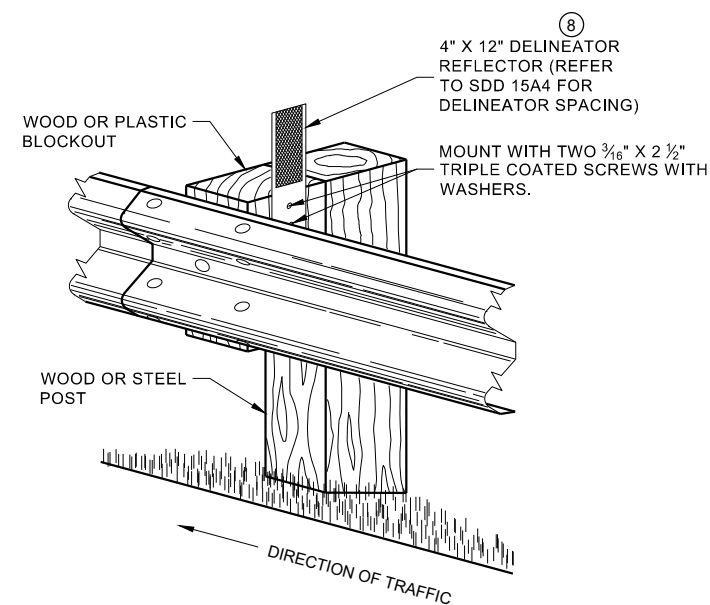
**FRONT VIEW AT WOOD POST**



**SECTION THRU W-BEAM RAIL**



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



**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

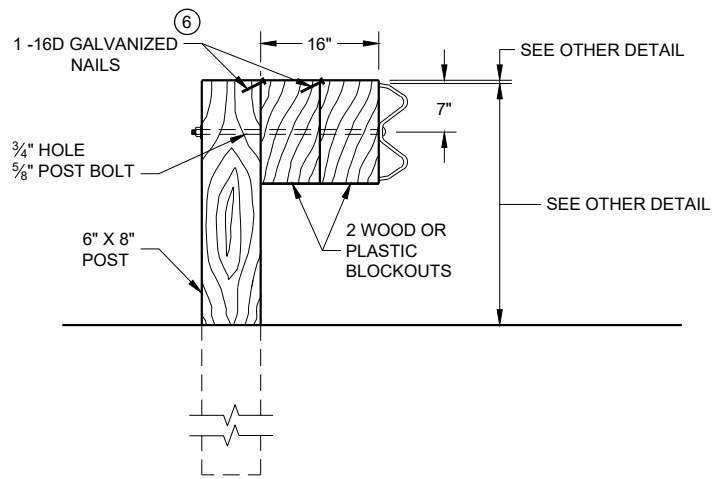
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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SDD 14B42 - 07b

SDD 14B42 - 07b

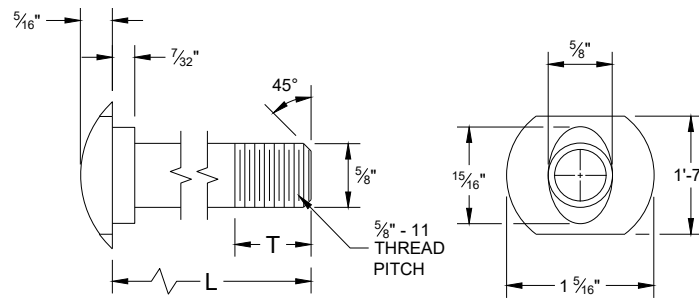


**DETAIL FOR 16" BLOCKOUT DEPTH**

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.

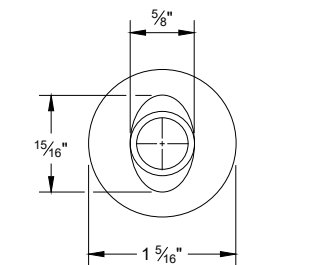
**NOTE:**

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.

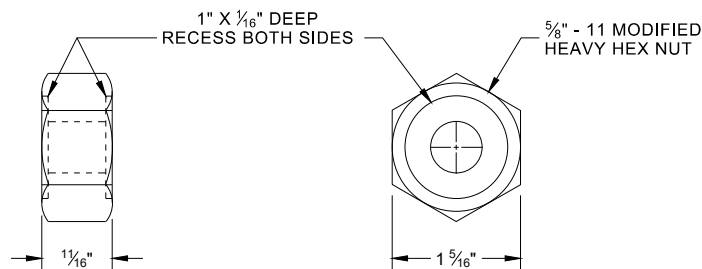


**POST BOLT TABLE**

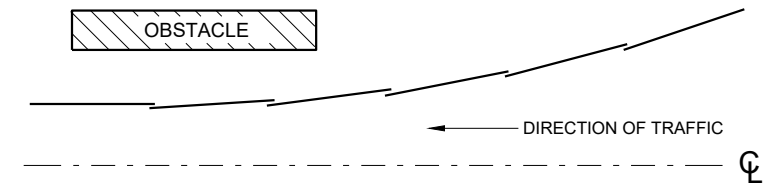
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



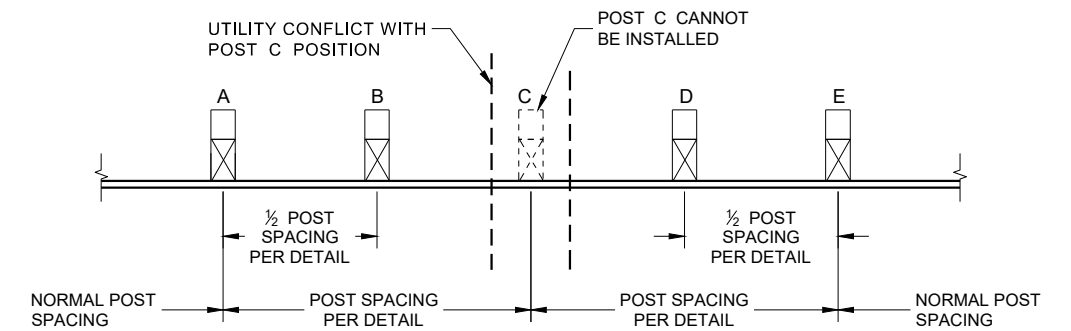
**ALTERNATE BOLT HEAD**



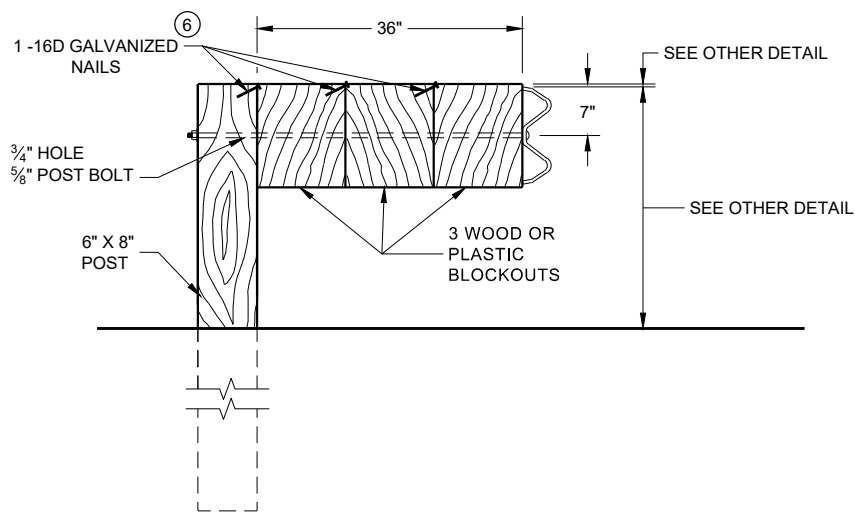
**POST BOLT, SPLICE BOLT AND RECESS NUT**



**PLAN VIEW BEAM LAPPING DETAIL**

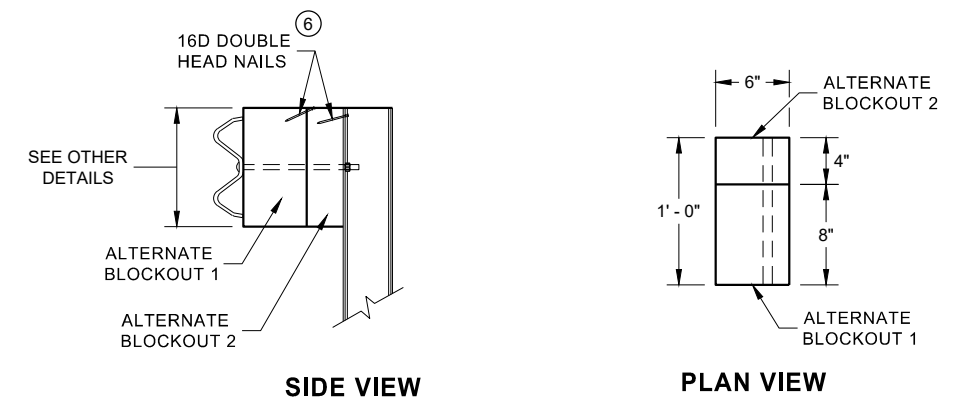


**POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION**



**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.

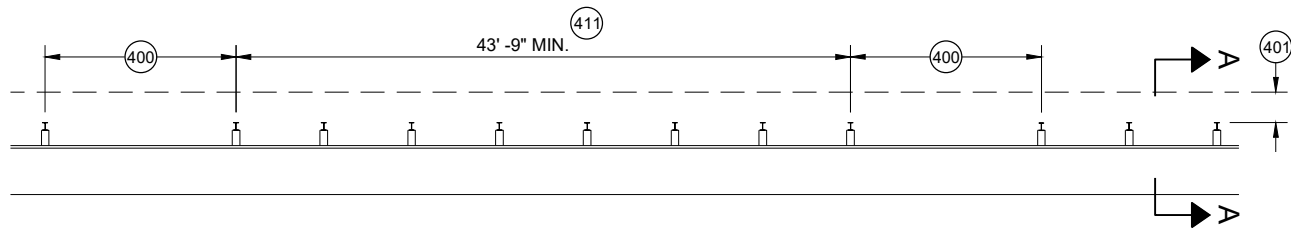


**ALTERNATE WOOD BLOCKOUT DETAIL**

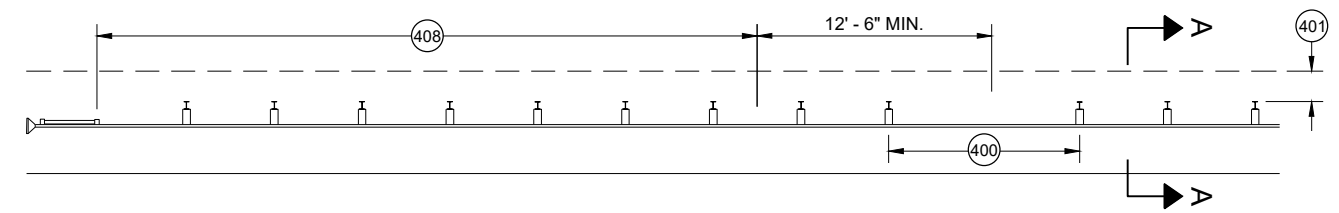
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

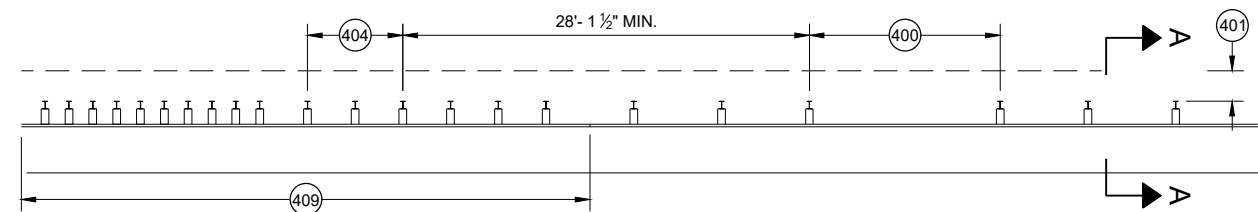
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



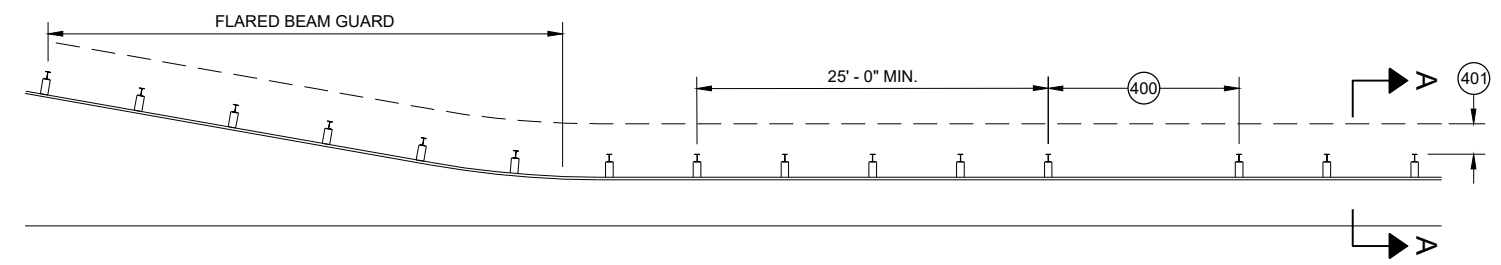
**MISSING POST IN MGS GUARDRAIL**



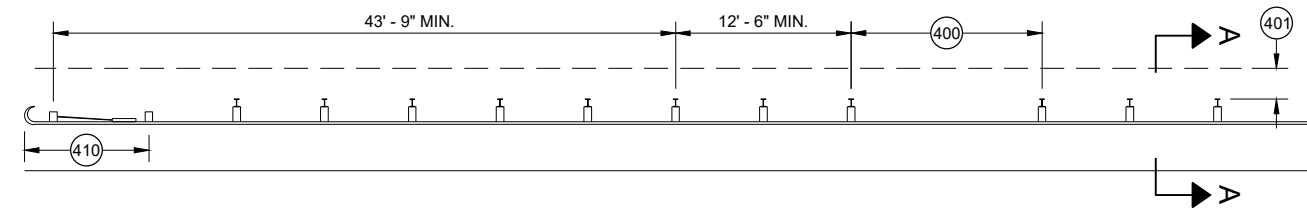
**MISSING POST IN MGS GUARDRAIL NEAR EAT**



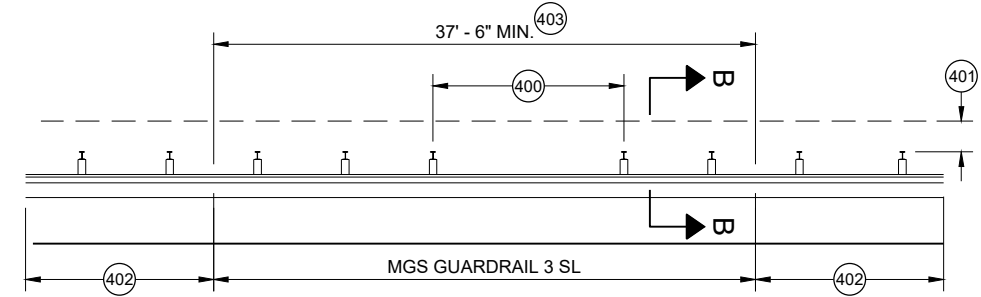
**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**



**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

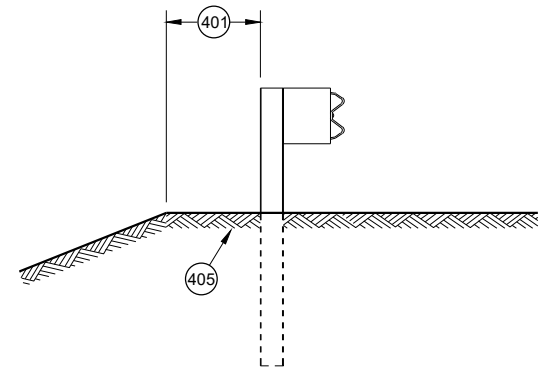


**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

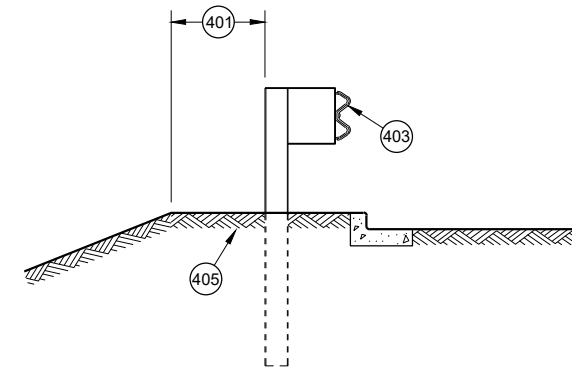


**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)**

- (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.

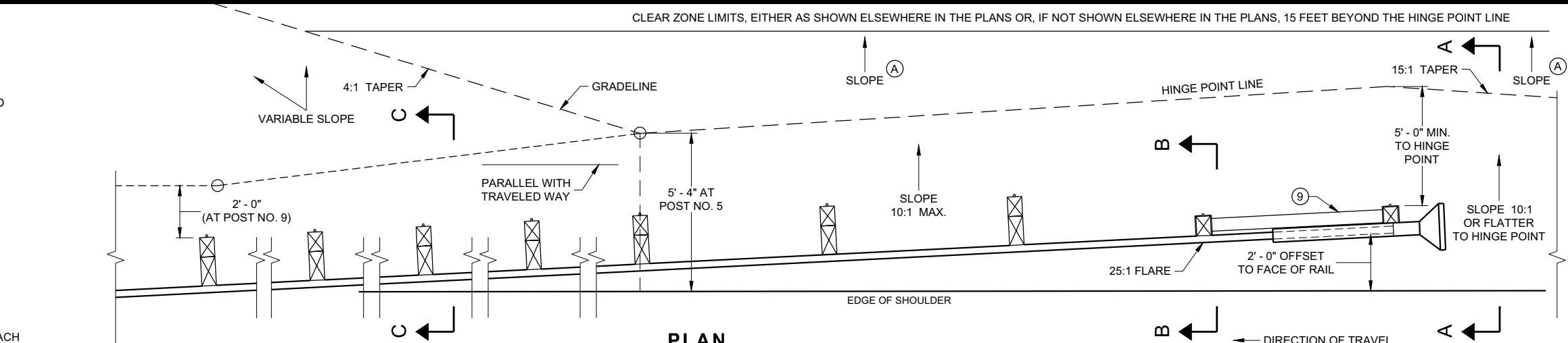
SEE SDD 14B42 FOR MORE INFORMATION.

\* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

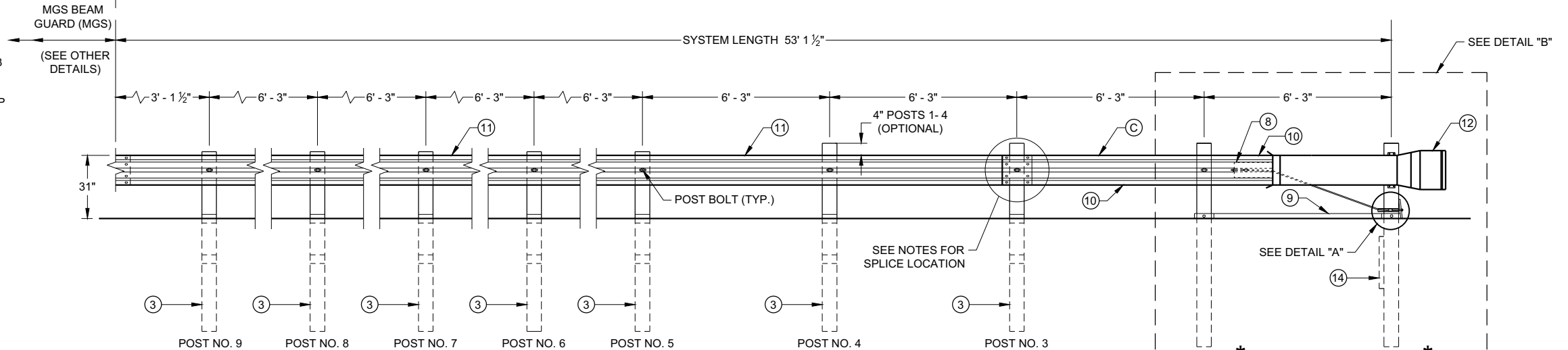
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

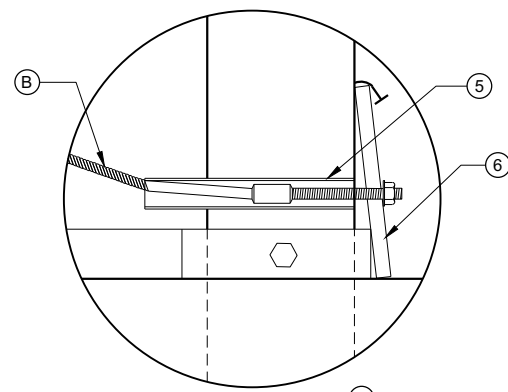
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



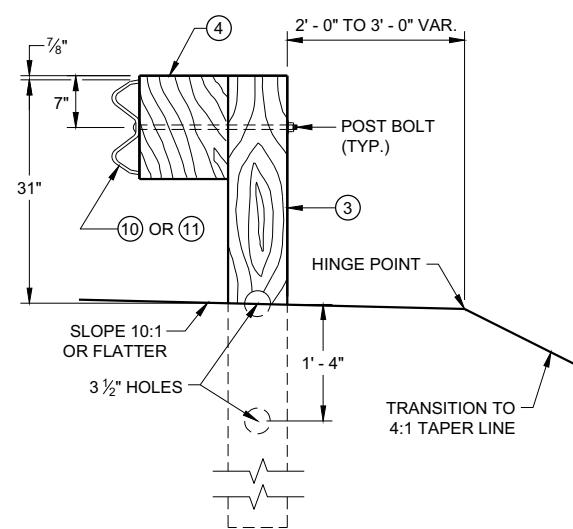
**PLAN**



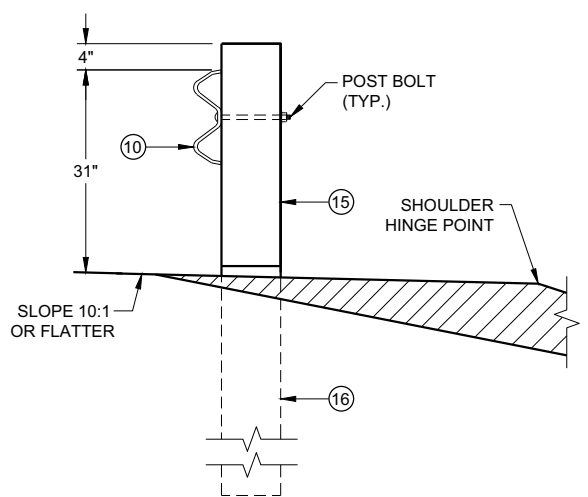
**ELEVATION**



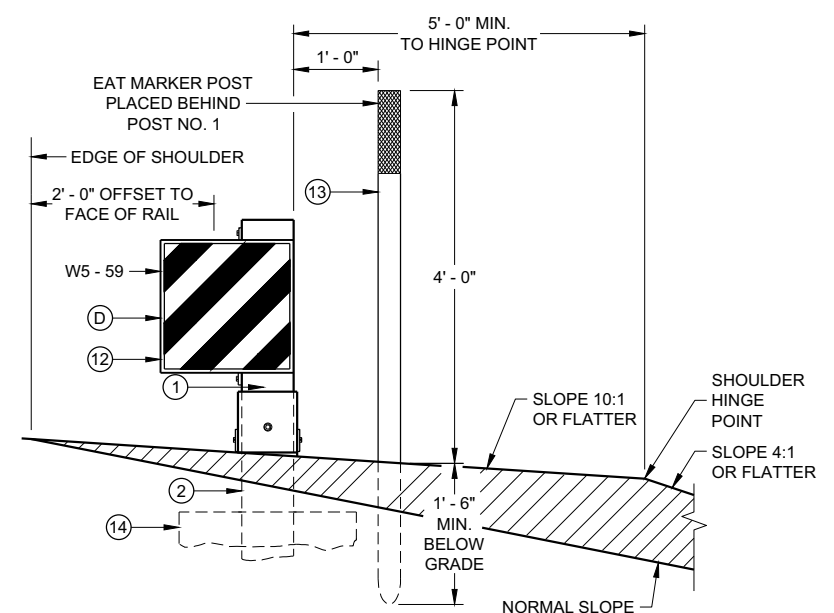
**DETAIL "A"**



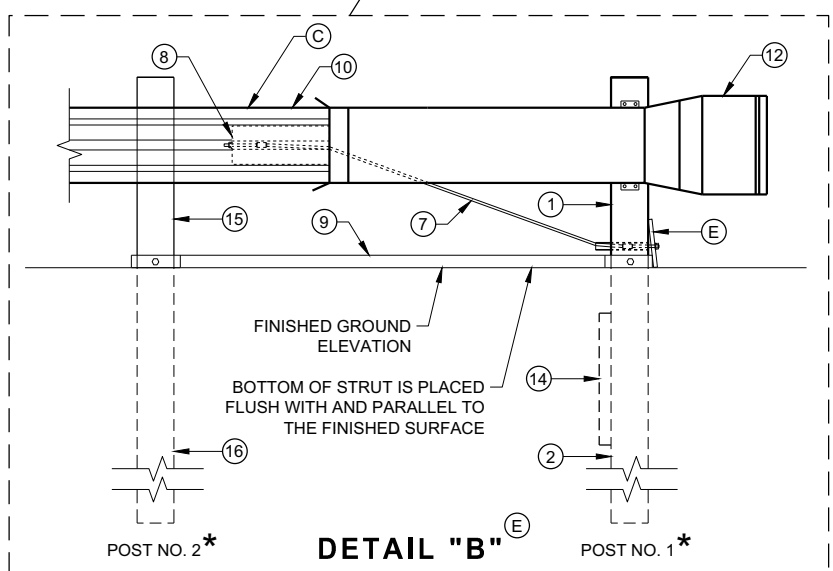
**SECTION C - C  
TYPICAL AT POST NOS. 3 - 9**



**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

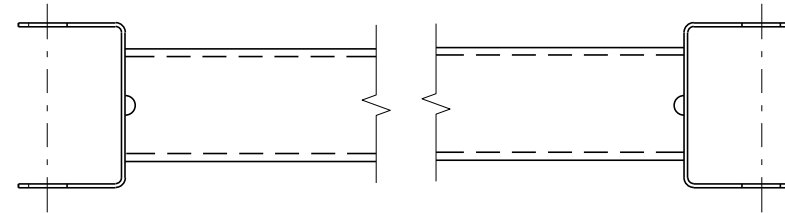
6

SDD 14B44 - 04a

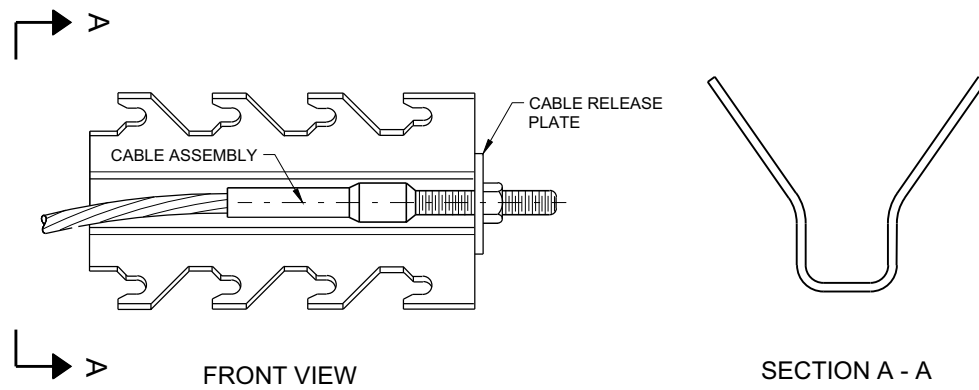
SDD 14B44 - 04a

**BILL OF MATERIALS**

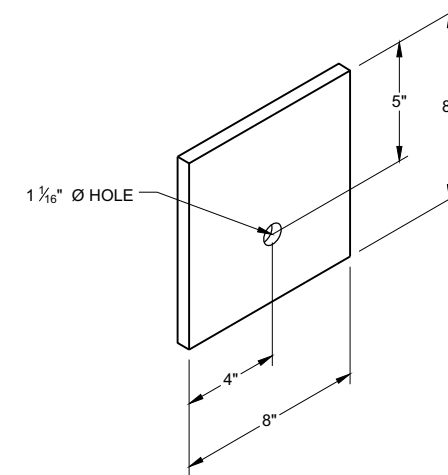
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL 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

6

6

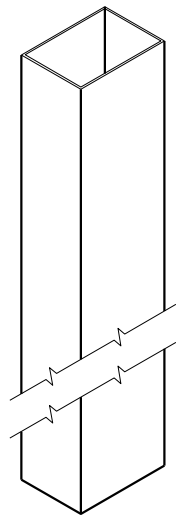
SDD 14B44 - 04b

SDD 14B44 - 04b

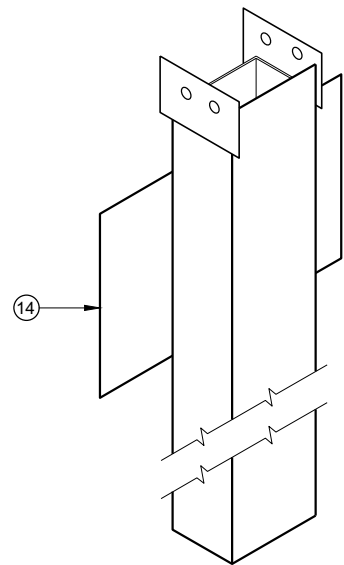
**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

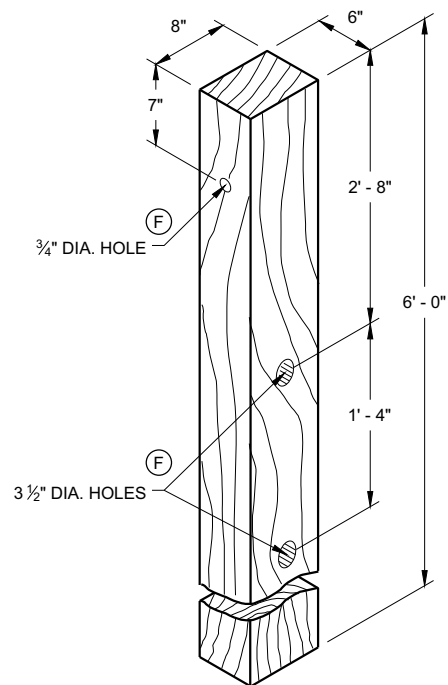




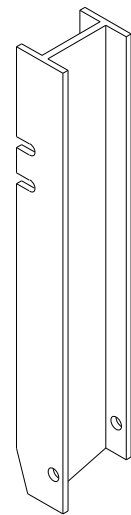
UPPER POST NO. 1 <sup>(1)</sup> (E)



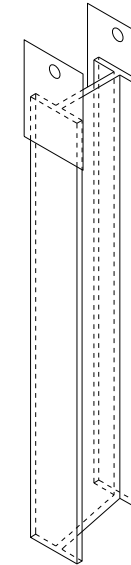
LOWER POST NO. 1 <sup>(2)</sup> (E)



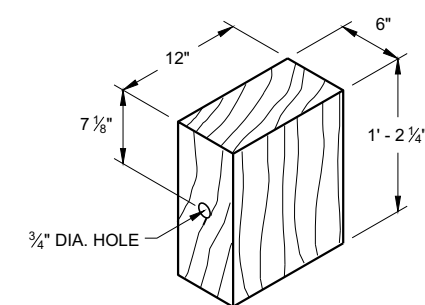
WOOD CRT POST <sup>(3)</sup> (E)  
POSTS NUMBER 3-9



UPPER POST NO. 2 <sup>(15)</sup> (E)

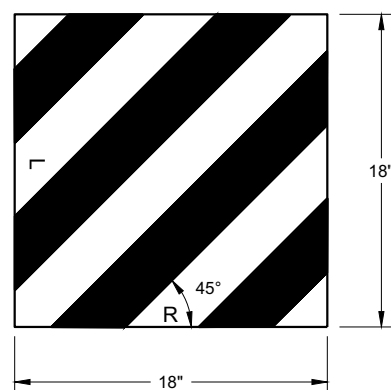


LOWER POST NO. 2 <sup>(16)</sup> (E)



WOOD BLOCKOUT <sup>(4)</sup>  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

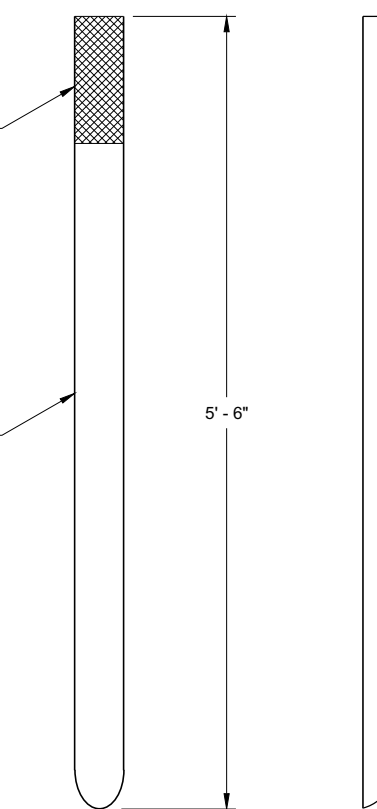
6



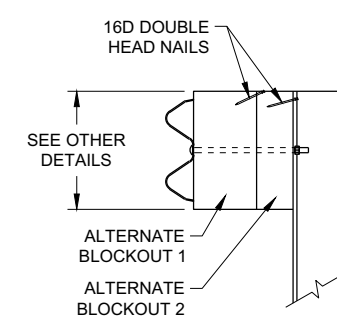
REFLECTIVE SHEETING DETAIL <sup>(E)</sup>

TYPE H  
YELLOW REFLECTIVE  
SHEETING 3" X 9".  
SEE STANDARD  
SPECIFICATION 637.

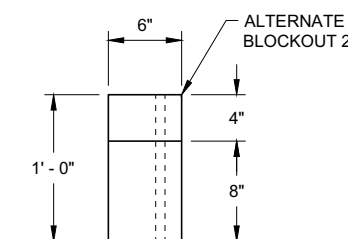
E.A.T. MARKER  
POST (YELLOW)



FRONT VIEW SIDE VIEW  
E.A.T. MARKER POST <sup>(13)</sup>



SIDE VIEW



TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

6

SDD 14B44 - 04c

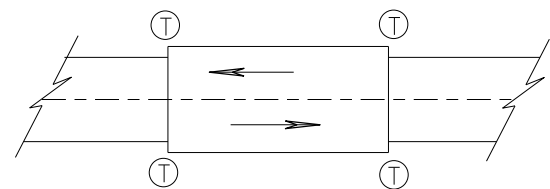
SDD 14B44 - 04c

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

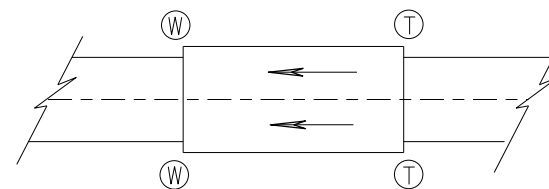
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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**

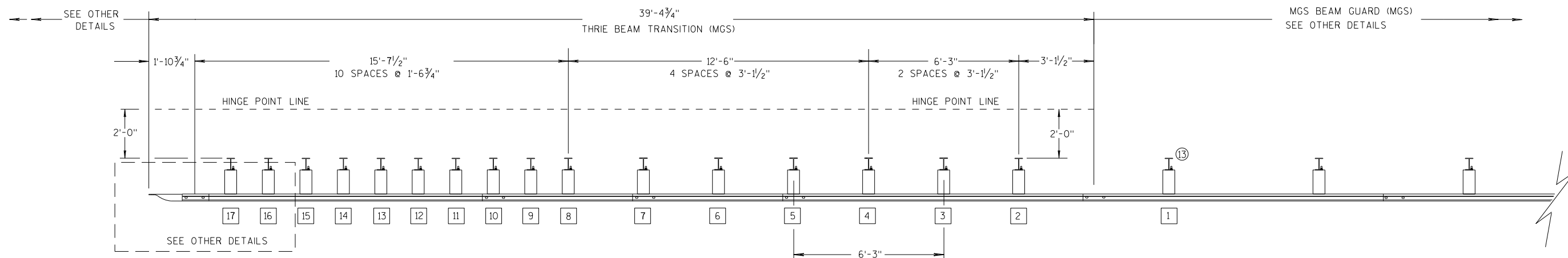
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

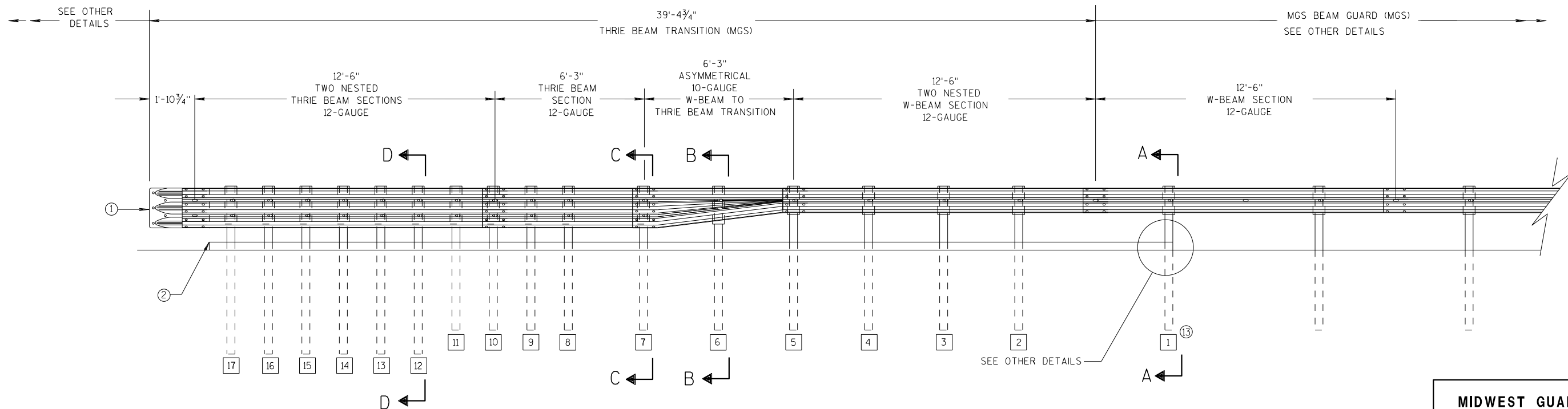
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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**

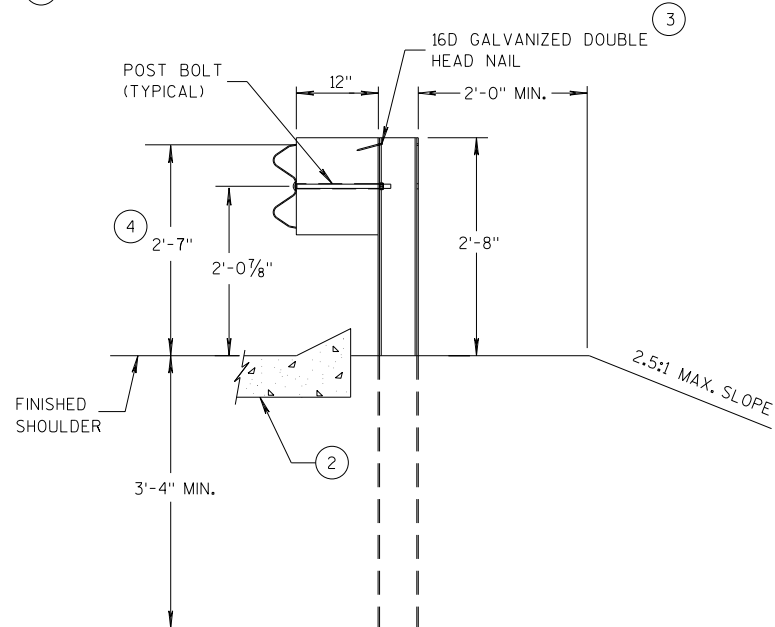
**MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION**

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

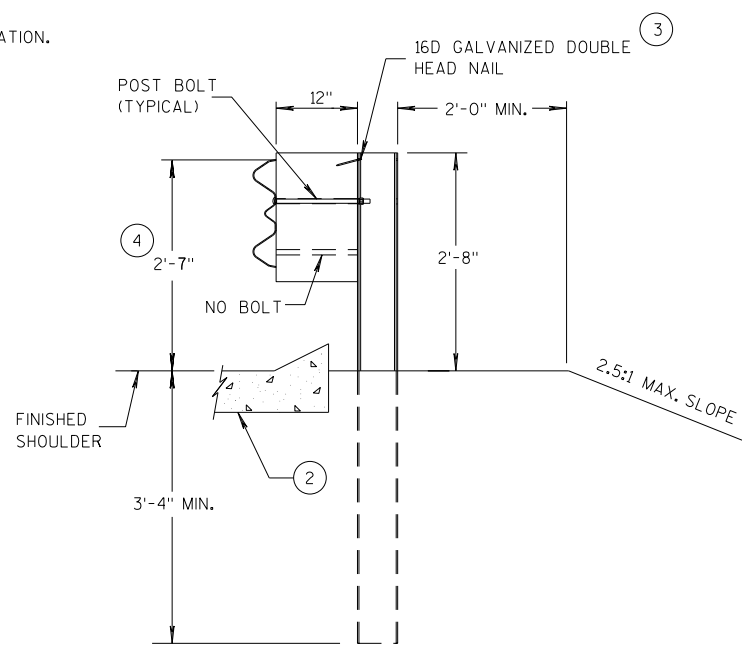
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

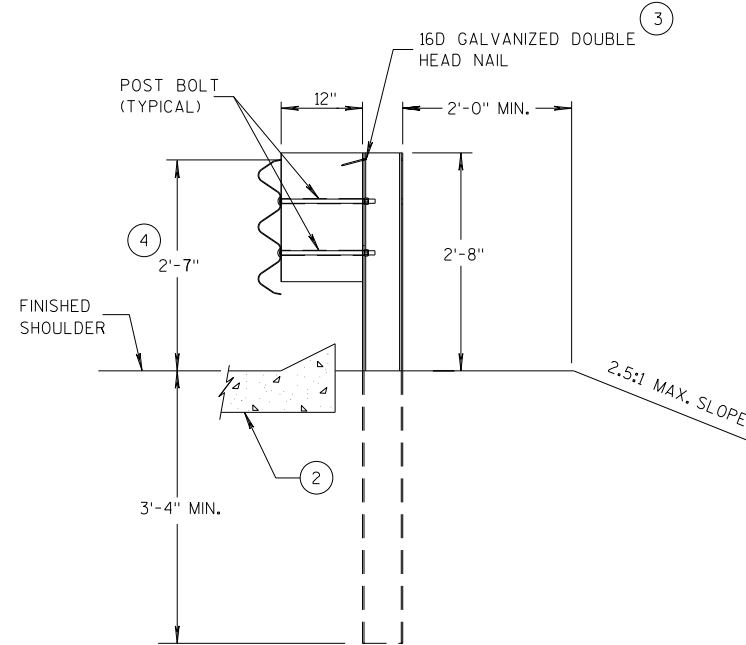
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".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



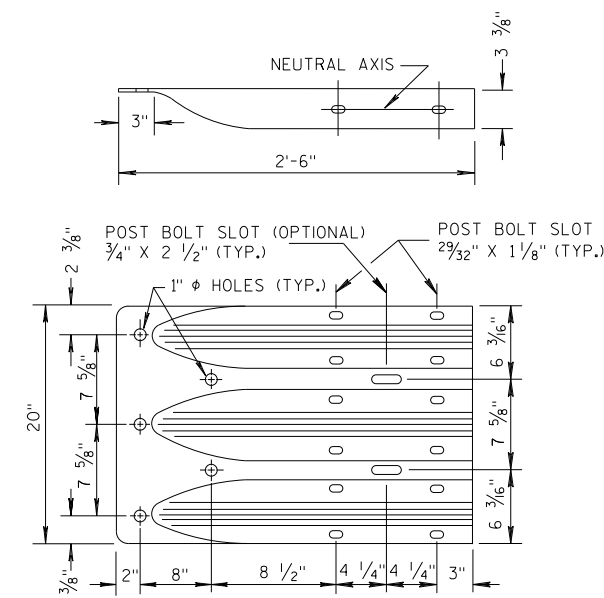
**SECTION A-A  
POSTS 1-5**



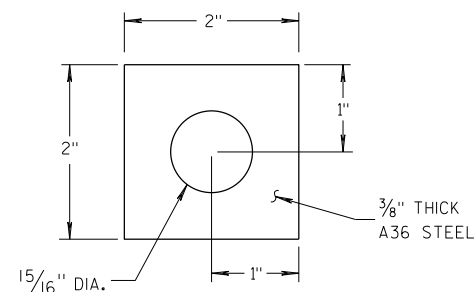
**SECTION B-B  
POST 6**



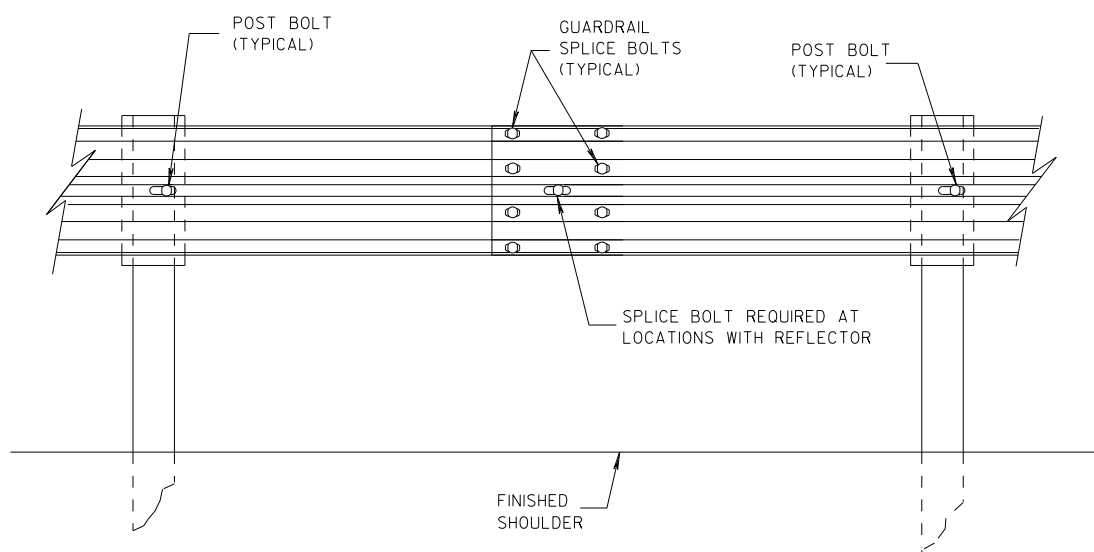
**SECTION C-C  
POSTS 7-11**



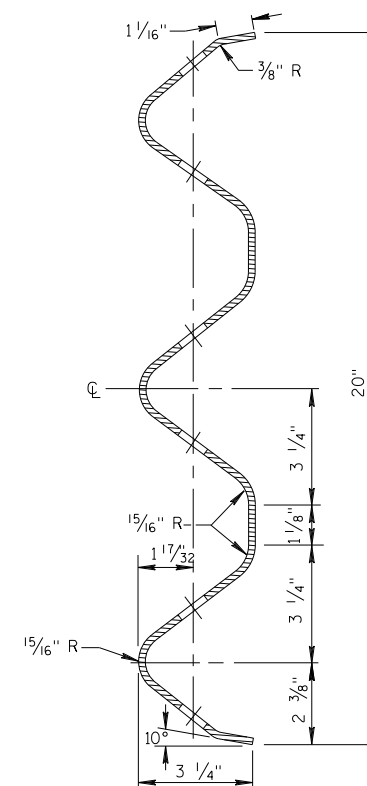
**THRIE BEAM  
TERMINAL CONNECTOR**



**PLATE WASHER DETAIL**



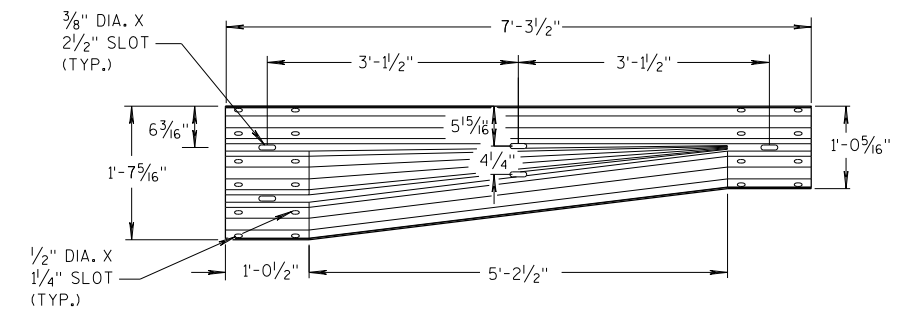
**SPLICE DETAIL**



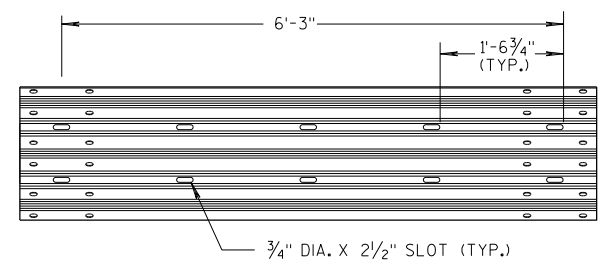
**SECTION THRU THRIE  
BEAM RAIL ELEMENT**

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

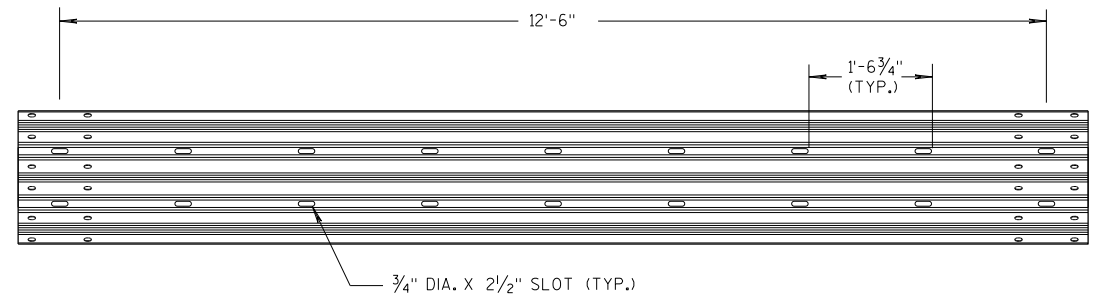
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



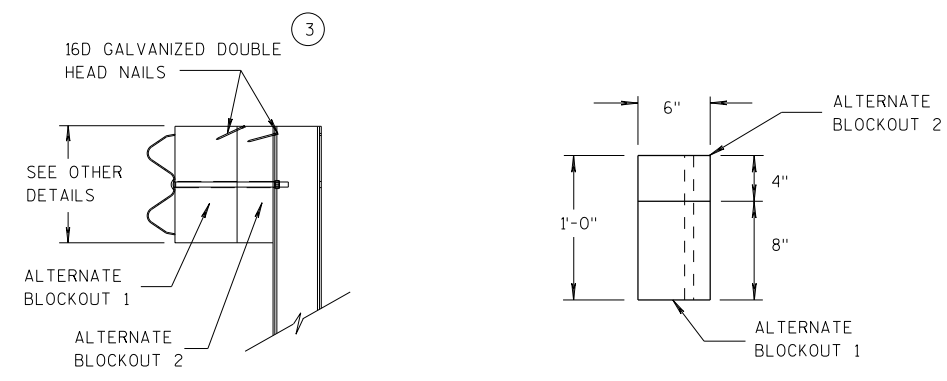
**W-BEAM TO THRIE BEAM TRANSITION SECTION**



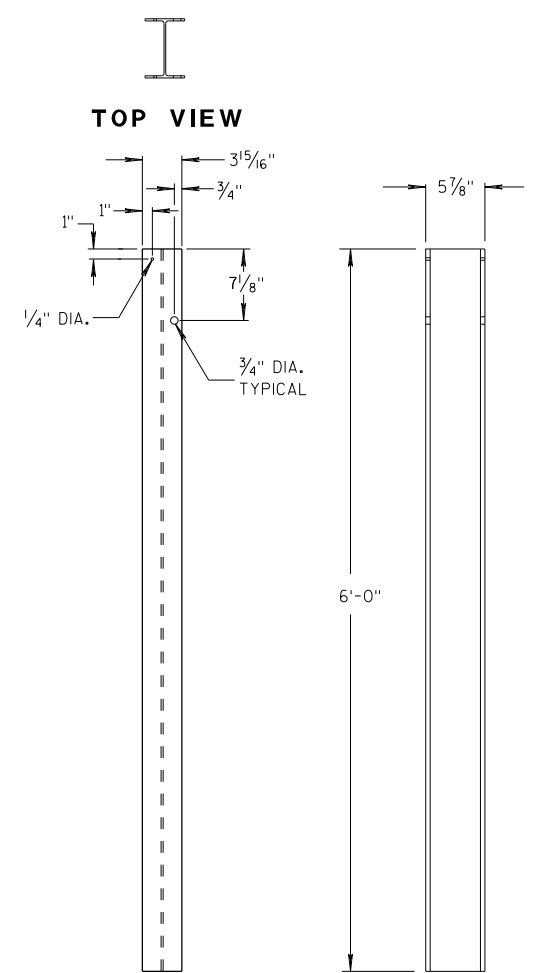
**6'-3\"/>**



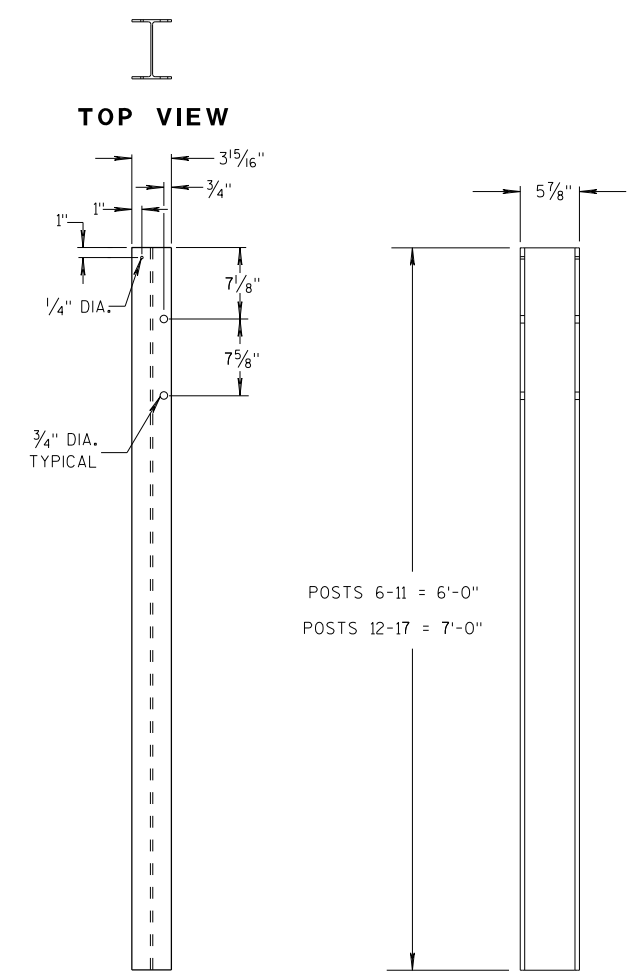
**12'-6\"/>**



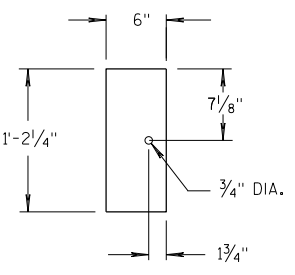
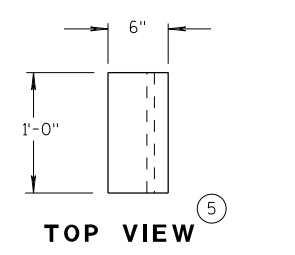
**ALTERNATE WOOD BLOCKOUT DETAIL**



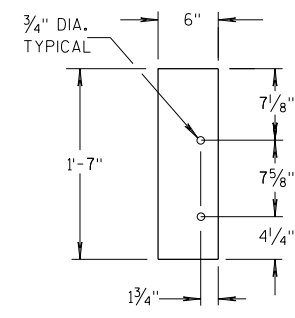
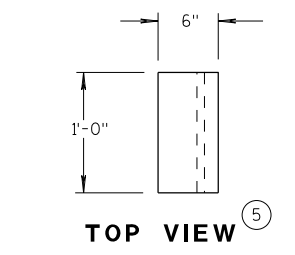
**STEEL POSTS 1-5**



**STEEL POSTS 6-17**



**BLOCKOUT POSTS 1-5**



**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)**

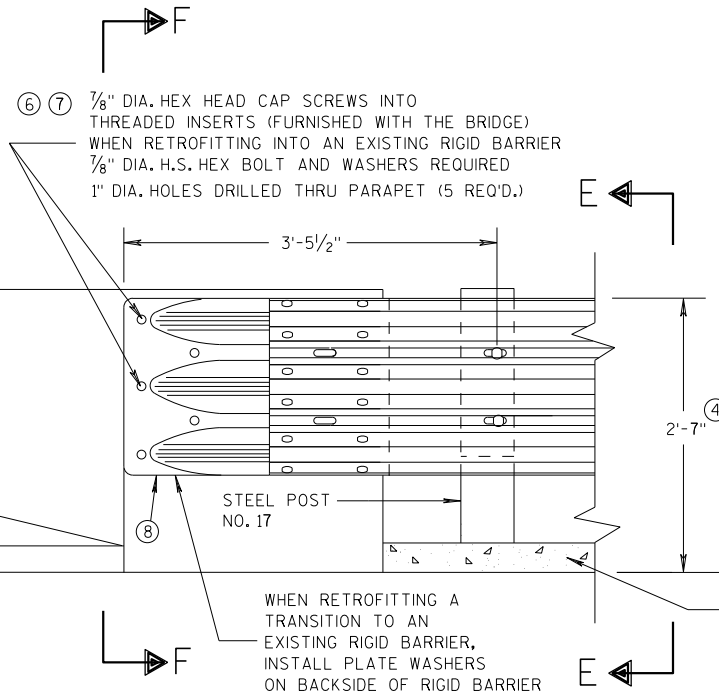
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

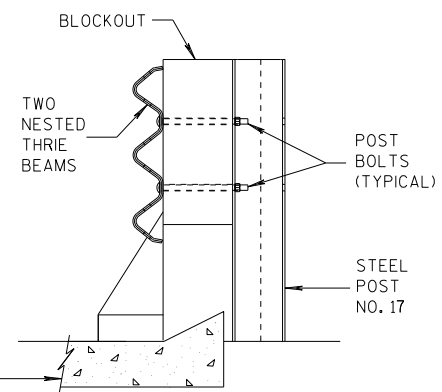
S.D.D. 14 B 45-5c

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



FRONT VIEW

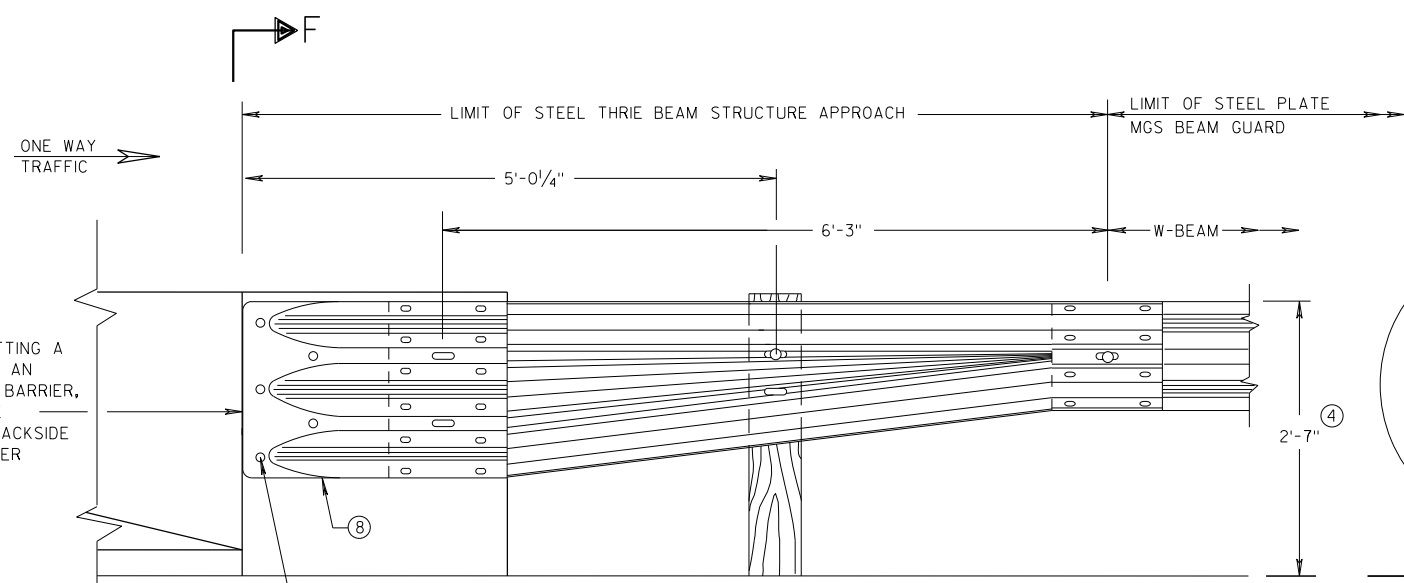
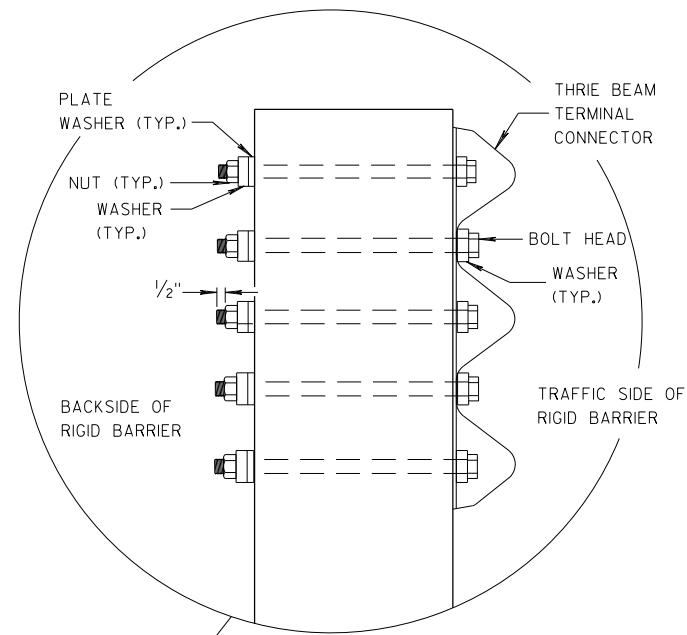
**THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS**



SECTION E-E

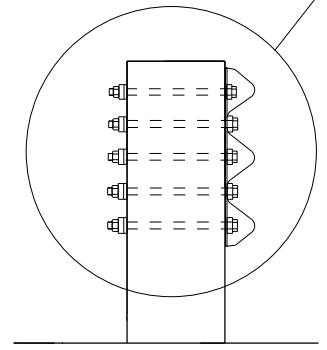
**GENERAL NOTES**

- 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".

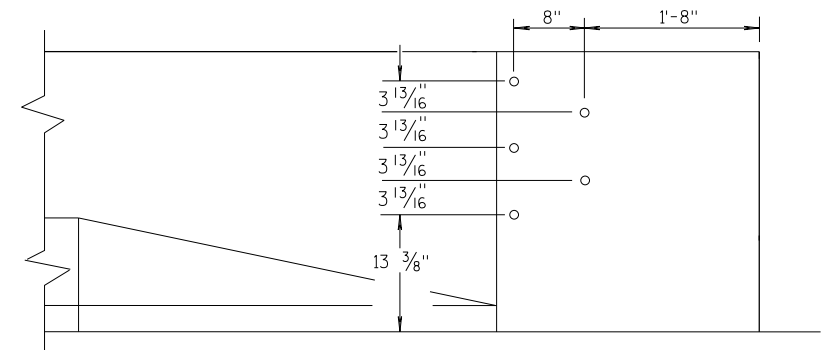


FRONT VIEW

**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

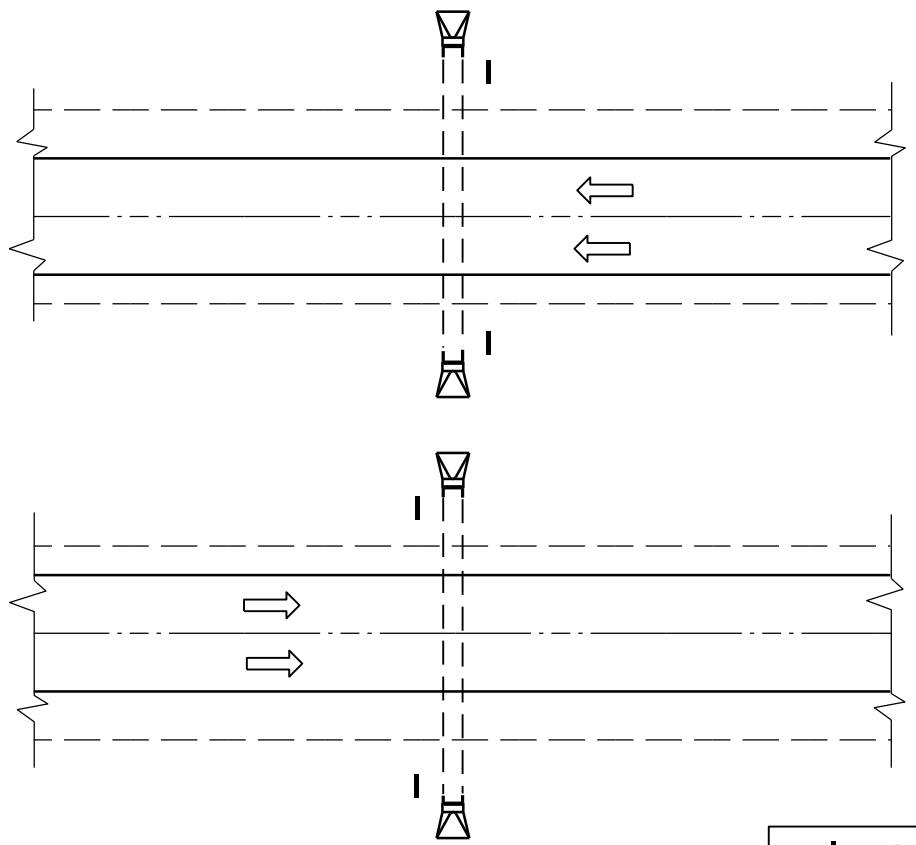
<b>MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

6

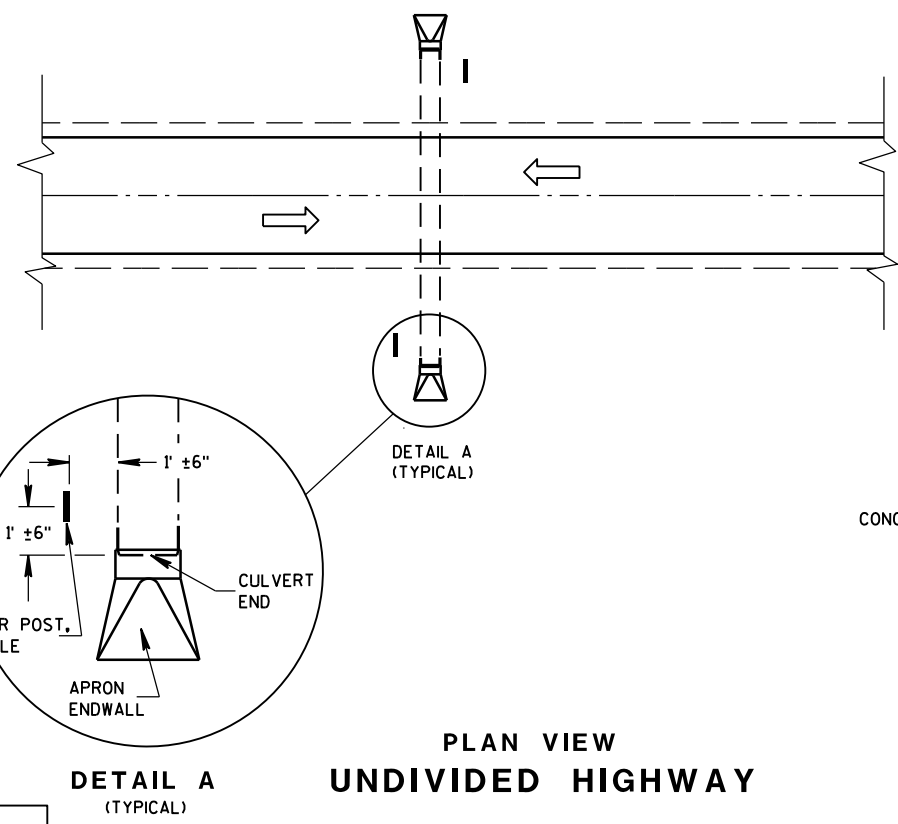
6

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

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



PLAN VIEW  
DIVIDED HIGHWAY

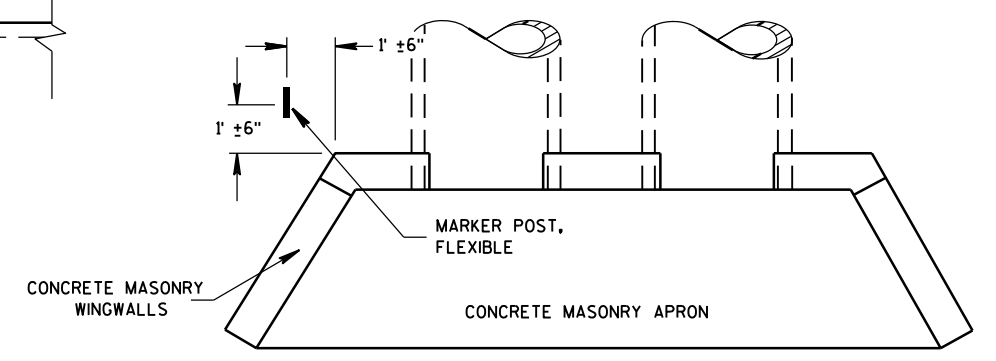


PLAN VIEW  
UNDIVIDED HIGHWAY

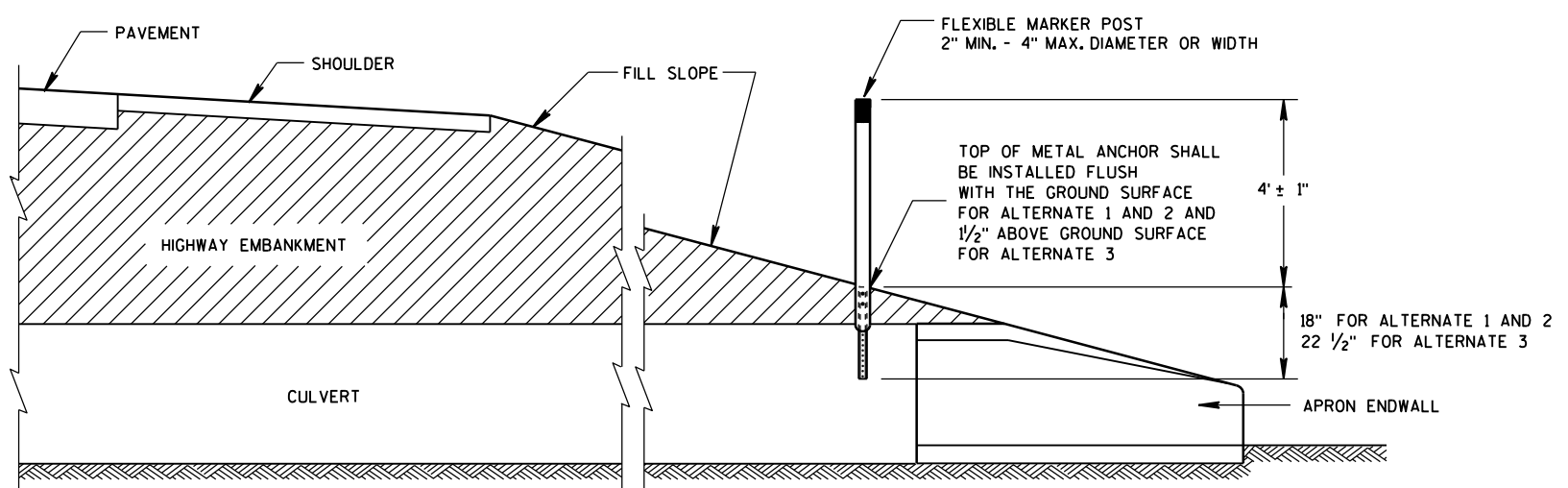
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH



CROSS SECTION  
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST  
FOR CULVERT END

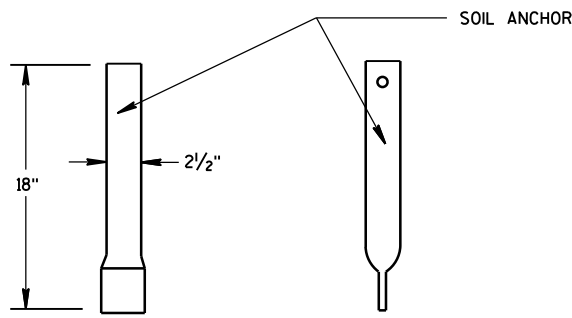
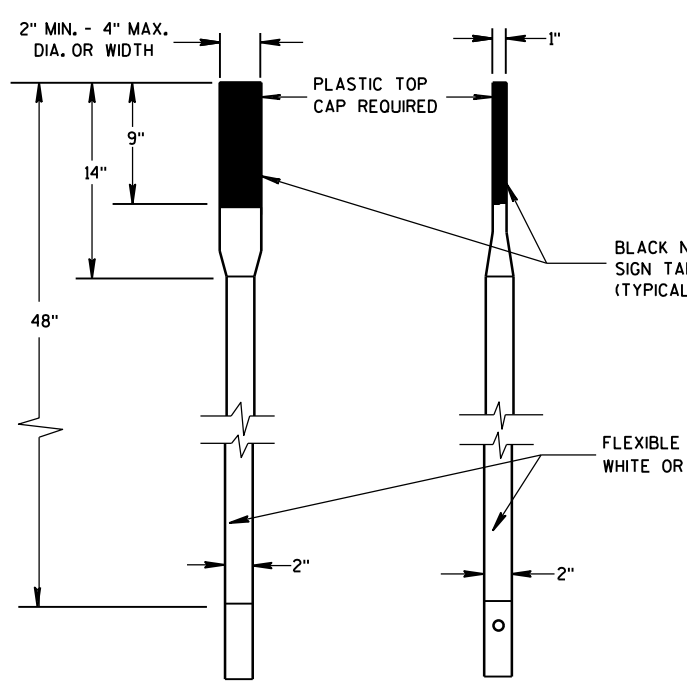
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

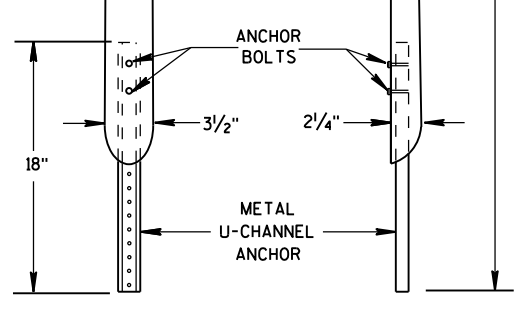
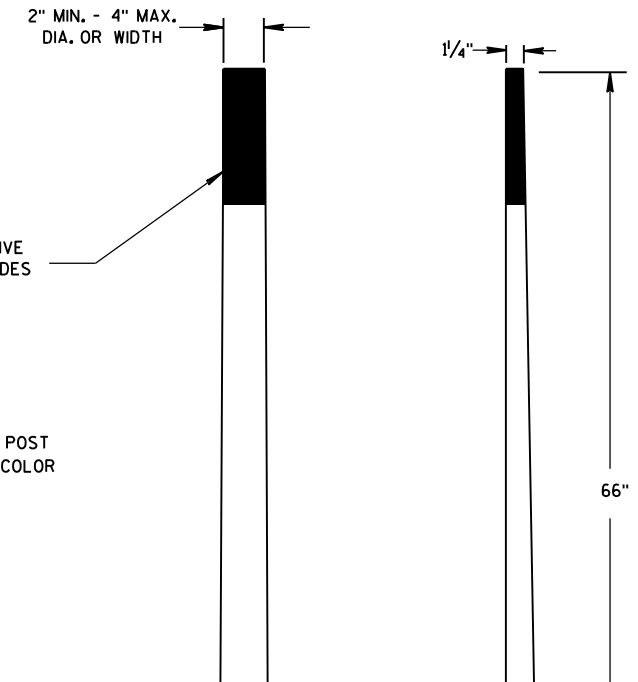
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S.D.D. 15 A 3-2a

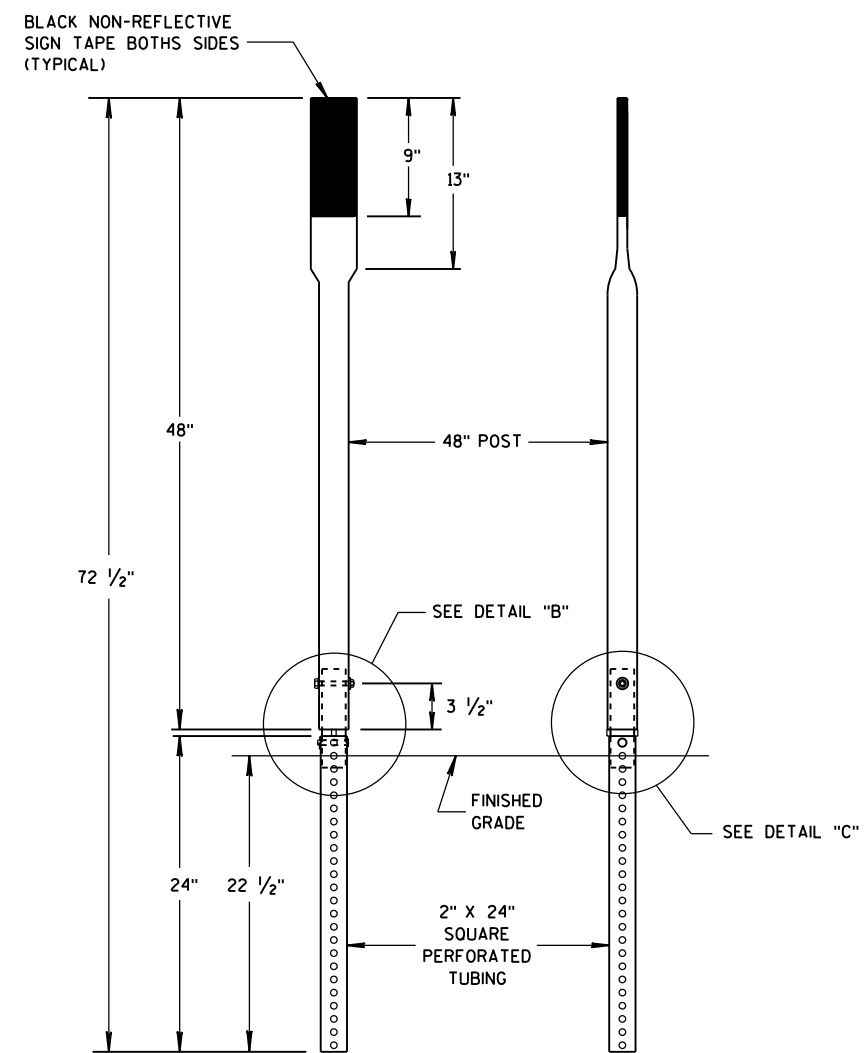
S.D.D. 15 A 3-2a



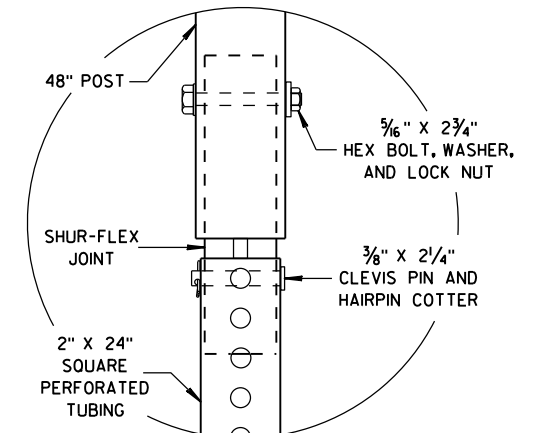
FRONT VIEW SIDE VIEW  
ALTERNATE 1



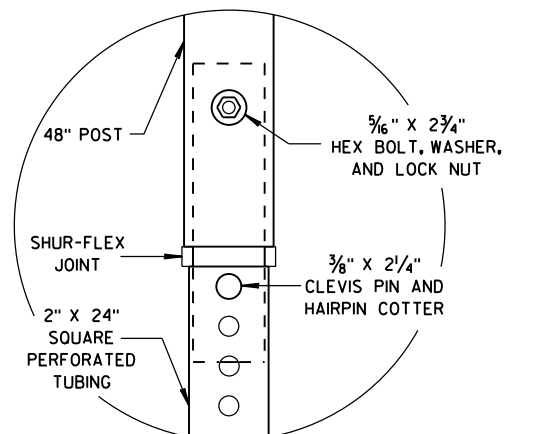
FRONT VIEW SIDE VIEW  
ALTERNATE 2



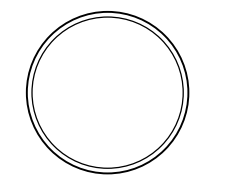
FRONT VIEW SIDE VIEW  
ALTERNATE 3



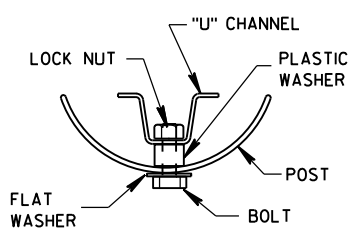
DETAIL B



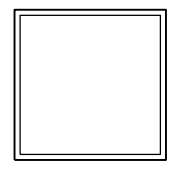
DETAIL C



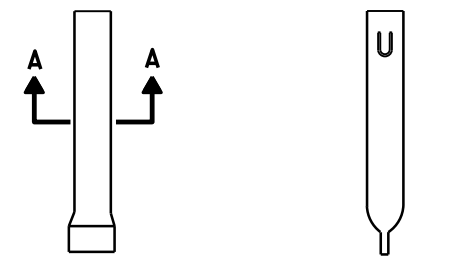
SECTION A-A



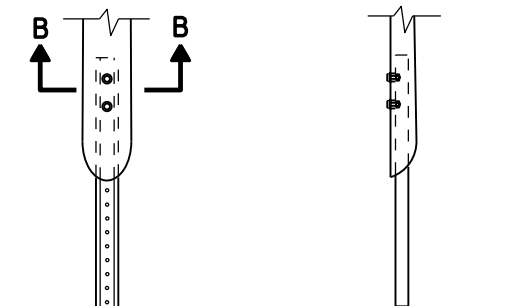
SECTION B-B



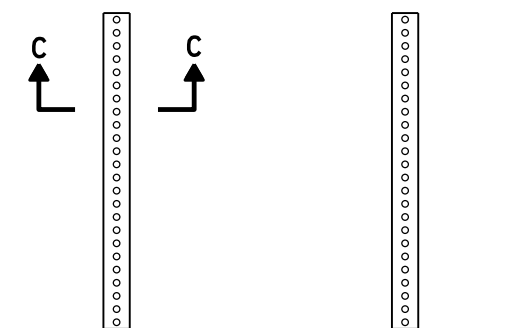
SECTION C-C



FRONT VIEW SIDE VIEW  
ALTERNATE 1



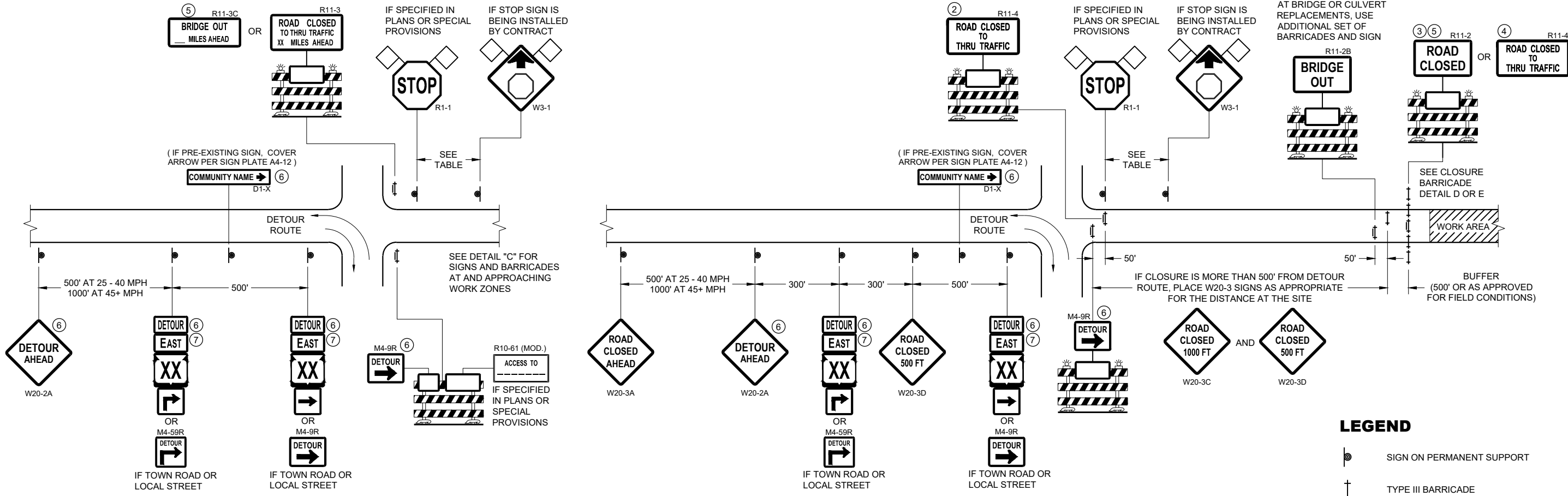
FRONT VIEW SIDE VIEW  
ALTERNATE 2



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	



**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**

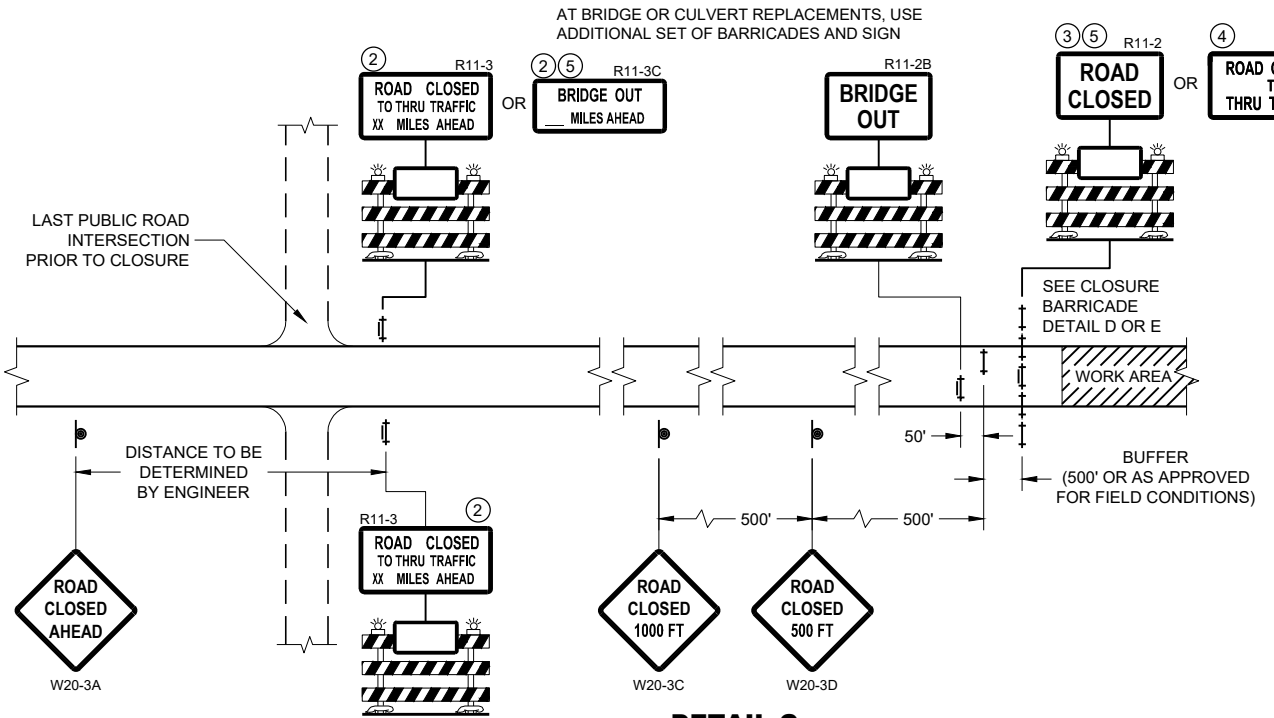
WORK ZONE LESS THAN 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**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)

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



**DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR**

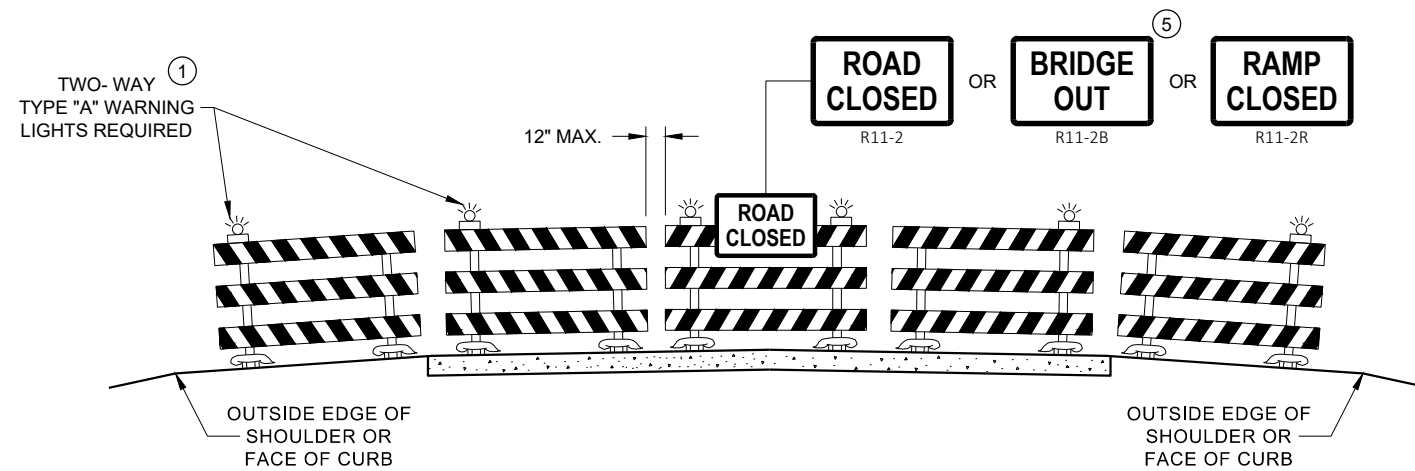
SEE SDD 15C2-SHEET "b"  
FOR GENERAL NOTES  
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

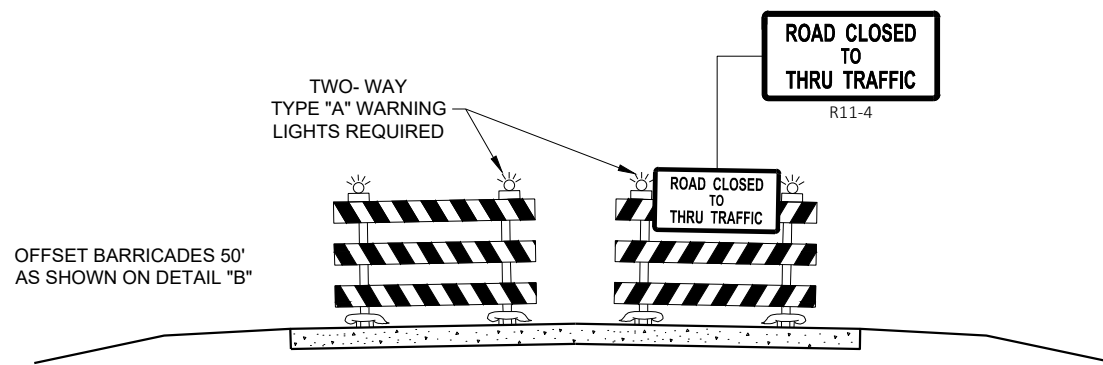
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
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:

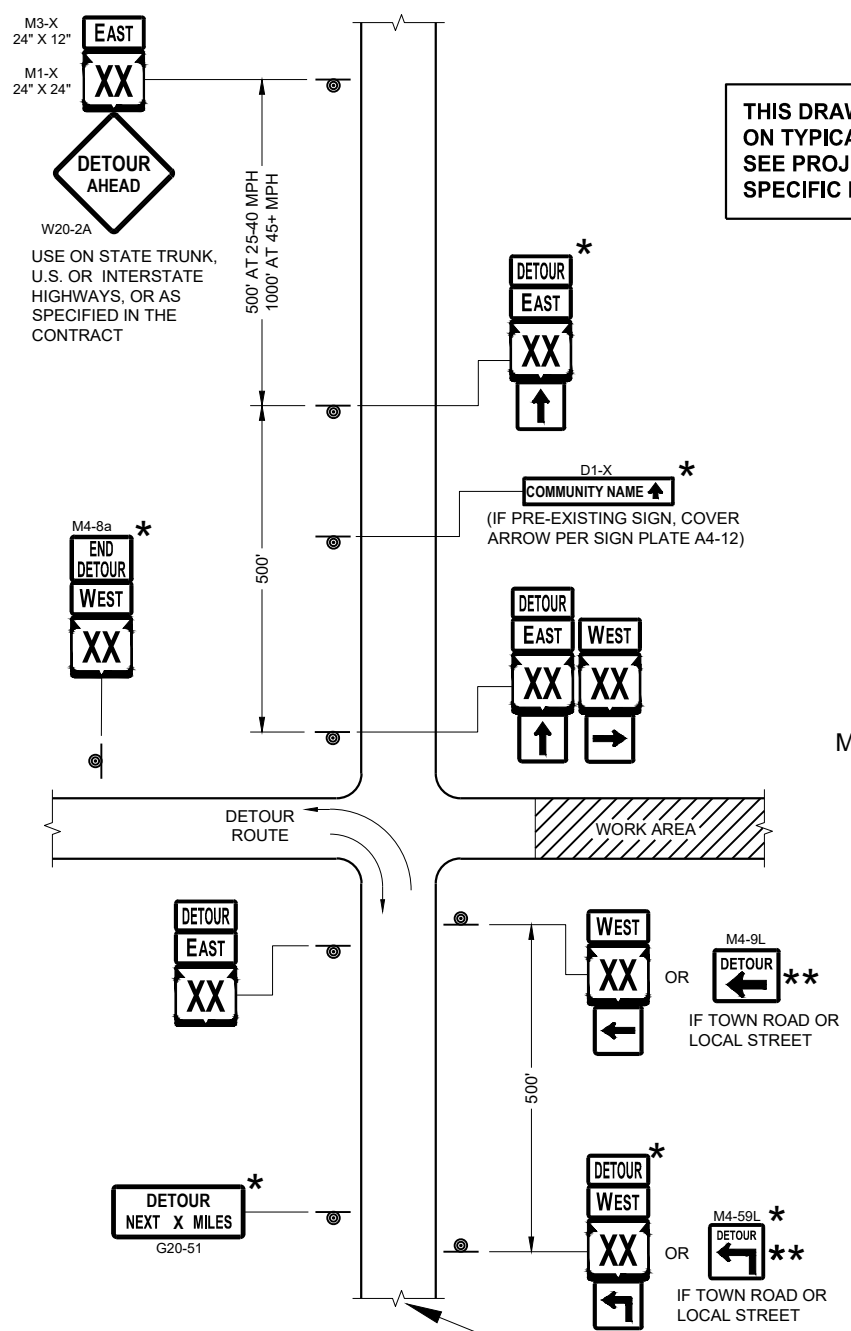
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" 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



THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

**GENERAL NOTES**

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

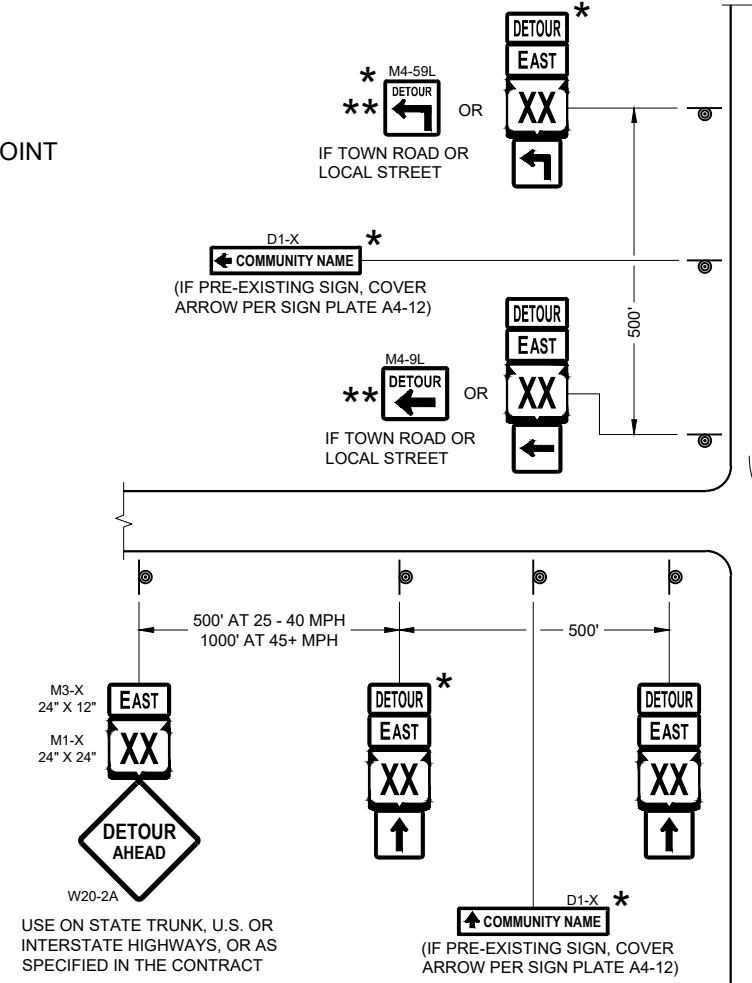
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

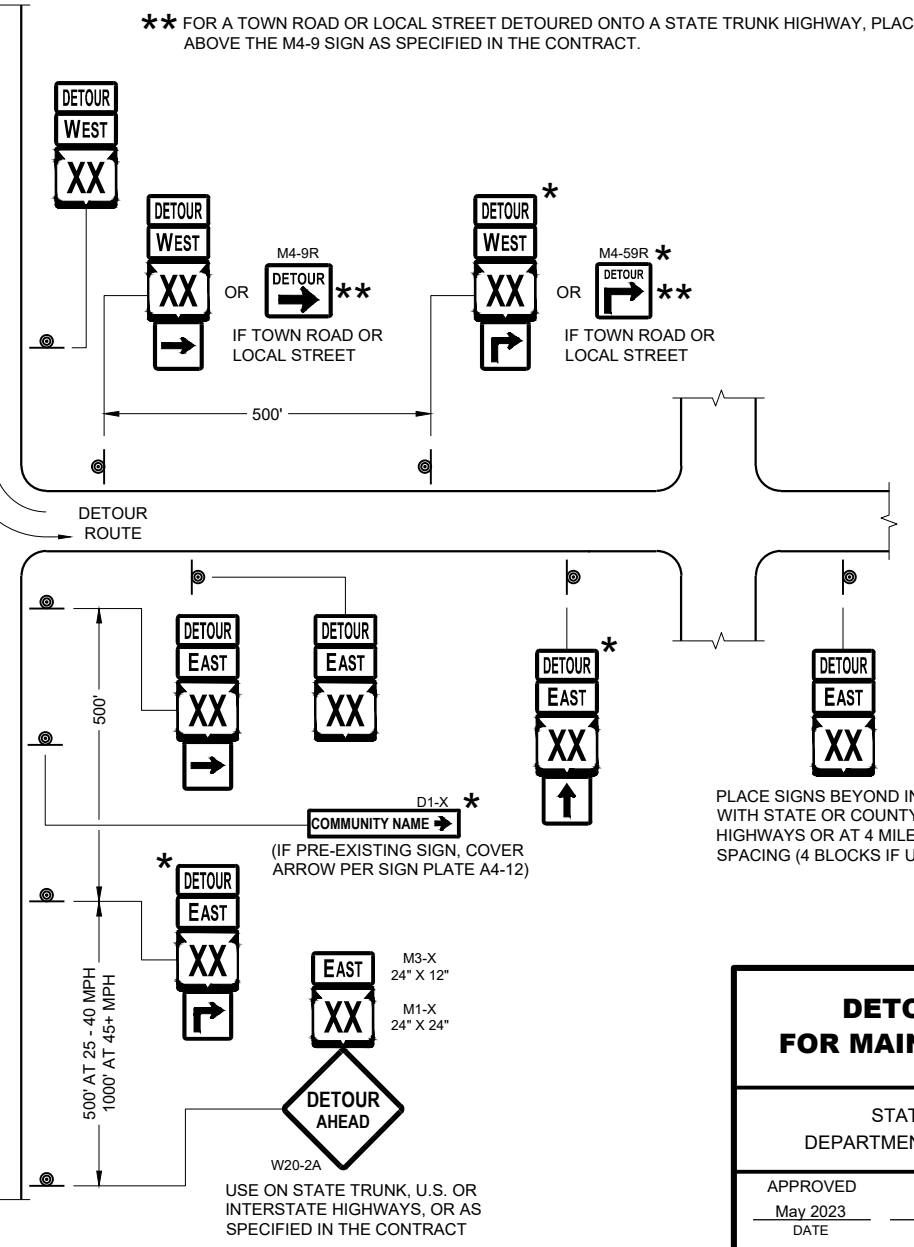
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-9R SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

- \* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- \*\* FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

MATCH POINT



**DETAIL F  
DETOUR SIGNING**

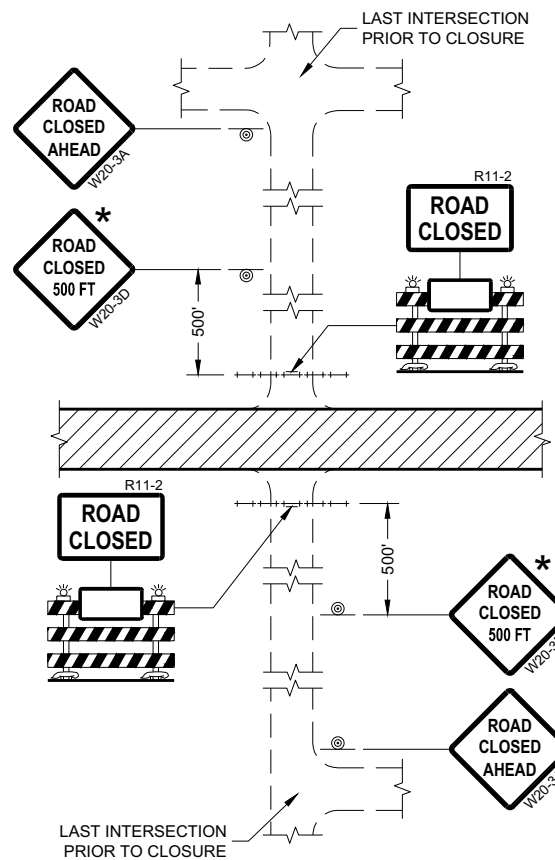


**DETOUR SIGNING  
FOR MAINLINE CLOSURES**

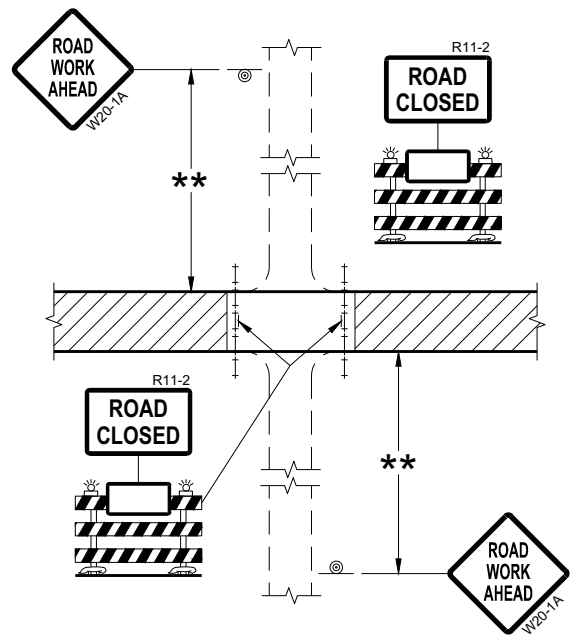
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

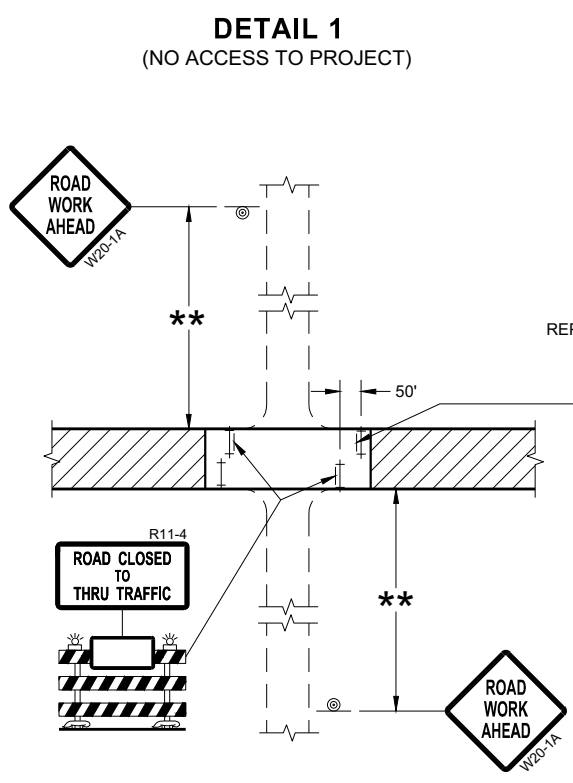
FHWA



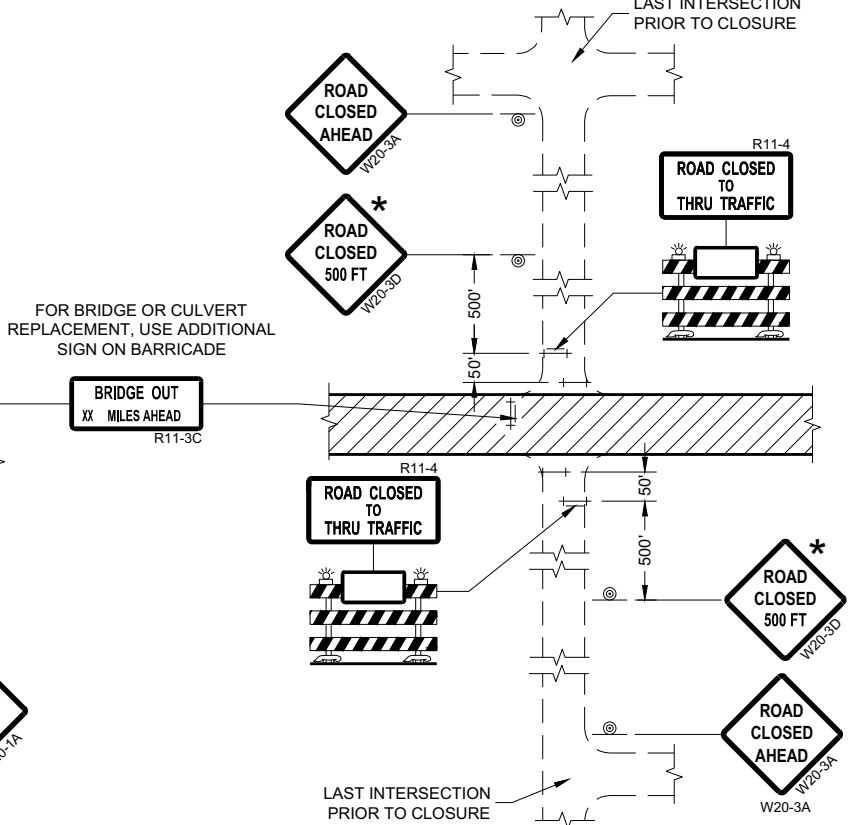
**DETAIL 1**  
(NO ACCESS TO PROJECT)



**DETAIL 2**  
(PUBLIC CROSS-TRAFFIC MAINTAINED.  
NO ACCESS TO PROJECT)



**DETAIL 3**  
(PUBLIC CROSS-TRAFFIC MAINTAINED.  
CONTRACTOR, LOCAL BUSINESS AND  
RESIDENT ACCESS TO PROJECT)



**DETAIL 4**  
(CONTRACTOR, LOCAL BUSINESS AND  
RESIDENT ACCESS TO PROJECT)

**GENERAL NOTES**

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:  
R11-2 SHALL BE 48" X 30".  
R11-4 AND R11-3 SHALL BE 60" X 30".

- \* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- \*\* 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

**LEGEND**

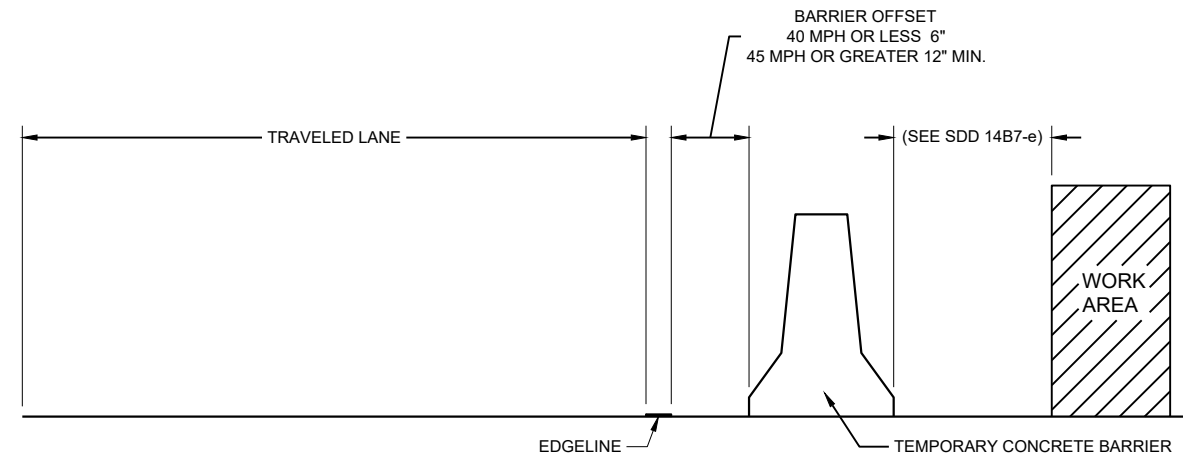
- ⊙ SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- ⚡ TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA

**BARRICADES AND SIGNS  
FOR  
SIDEROAD CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
July 2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER





**TEMPORARY BARRIER OFFSET FROM EDGELINE**

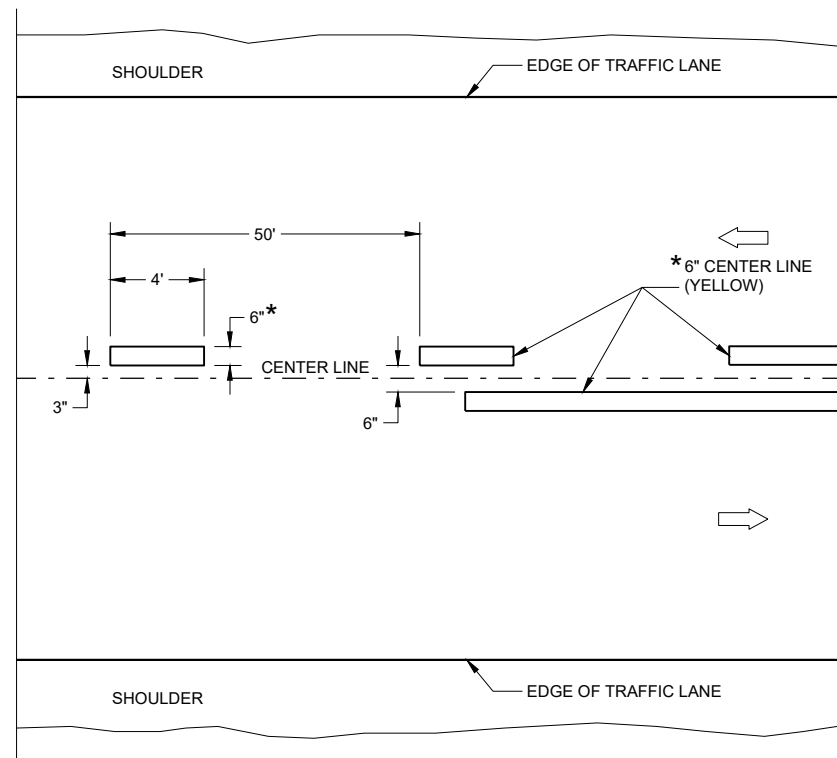
**GENERAL NOTES**

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

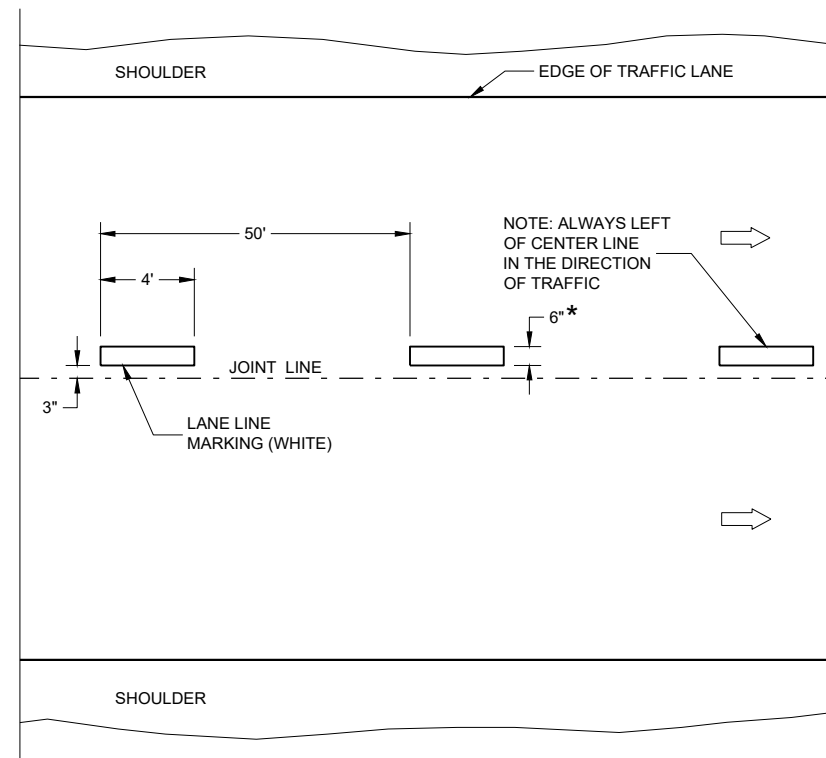
**LEGEND**

➔ DIRECTION OF TRAFFIC

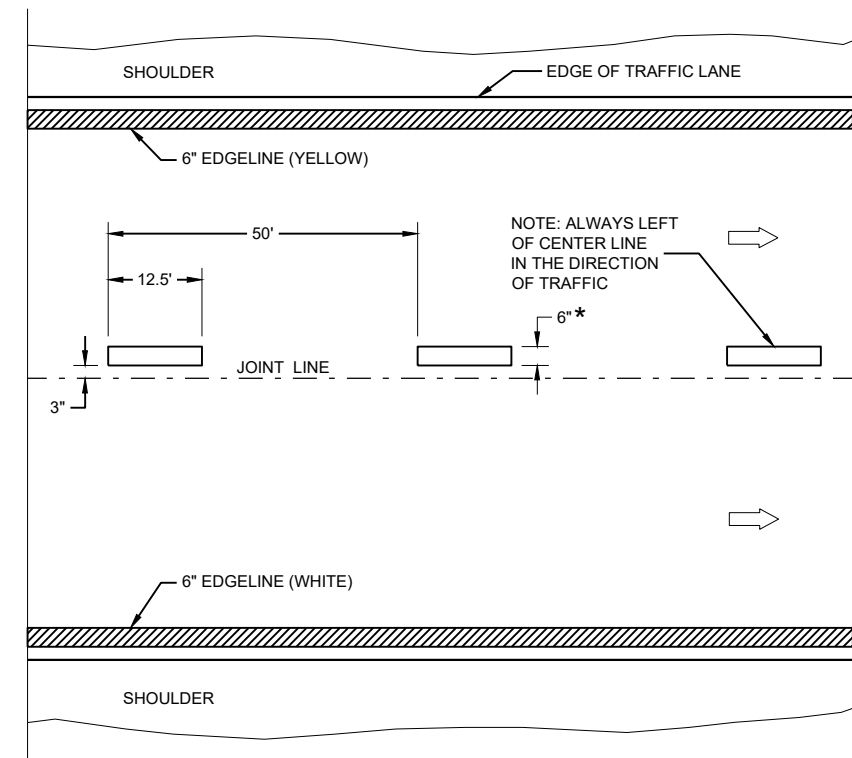
\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**



**FREEWAYS AND EXPRESSWAYS**

**TEMPORARY PAVEMENT MARKING**

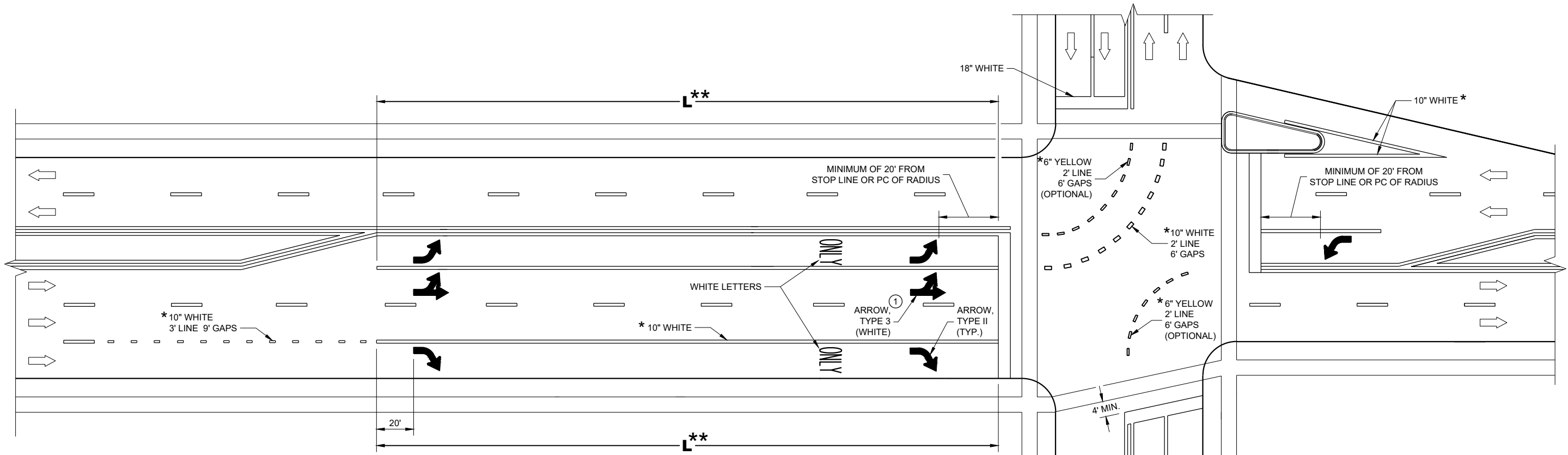
**TEMPORARY LONGITUDINAL PAVEMENT MARKING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Jeannie Silver  
DATE STATEWIDE SIGNING AND MARKING ENGINEER

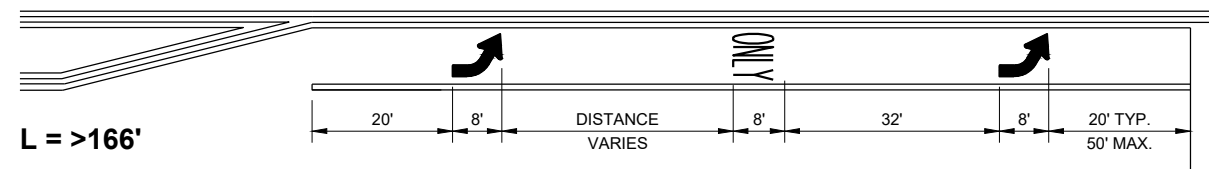
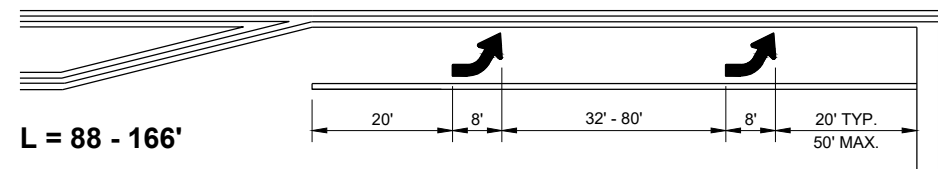
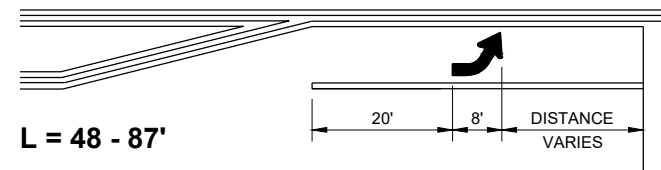
FHWA





**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.

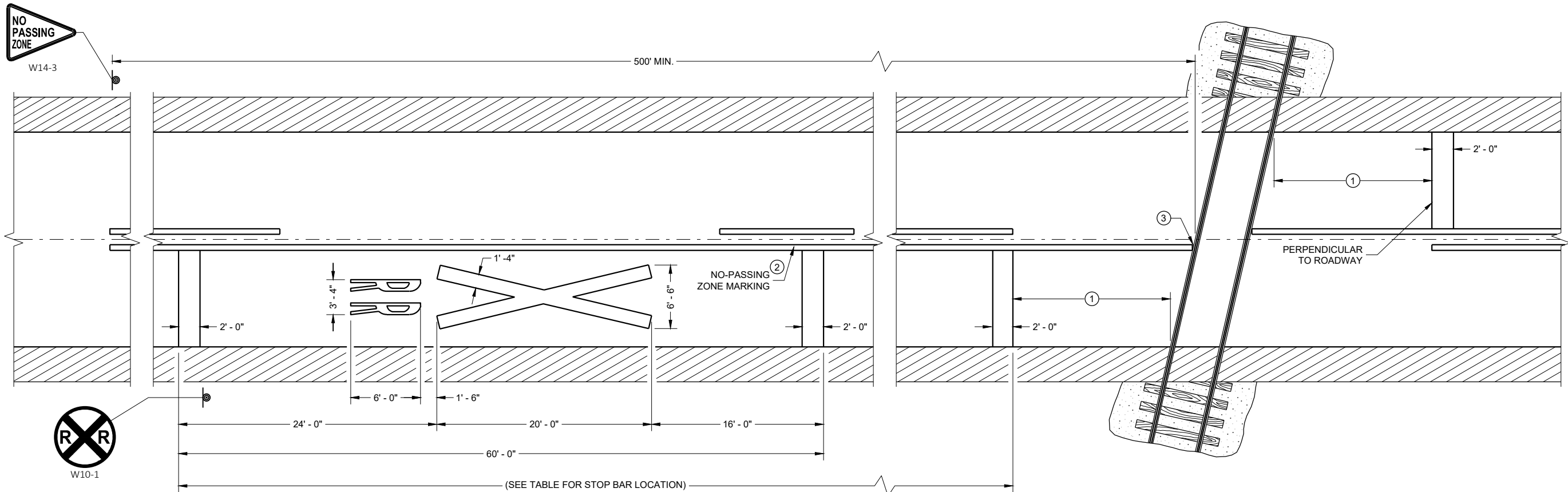
➡ DIRECTION OF TRAFFIC

**L** = LENGTH OF TURN BAY

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

**PAVEMENT MARKING (TURN LANES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**PAVEMENT MARKING**

**LEGEND**

⊙ SIGN ON PERMANENT SUPPORT

**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.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

TRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

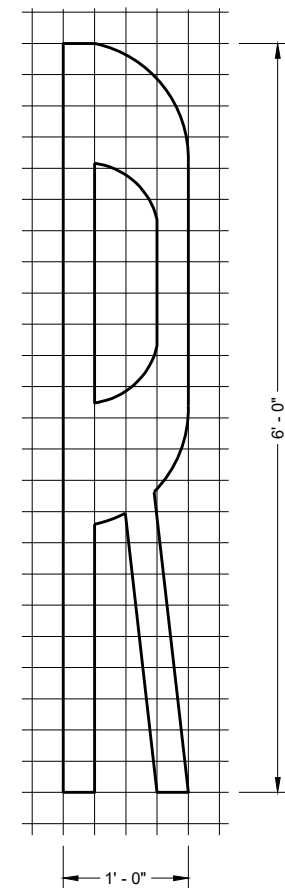
- ① PLACE STOP BAR APPROXIMATELY 8 FEET IN ADVANCE OF THE GATE (IF PRESENT), BUT NO CLOSER THAN 15 FEET IN ADVANCE OF THE NEAREST RAIL. FIELD-FIT STOP BAR TO MAXIMIZE VIEW OF APPROACHING TRAIN.
- ② 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- ③ FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

**DISTANCE TABLE**

TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

POSTED SPEED (M.P.H.)	DIMENSION RANGE (FEET)
25	150* - 250'
30	200* - 300'
35	250* - 450'
40	300* - 500'
45	400* - 650'
50	550* - 800'
55	750* - 1000'
60	1000* - 1250'
65	1000* - 1250'

\* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSED PROXIMITY OF DRIVEWAYS, BRIDGES, SIDE ROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.



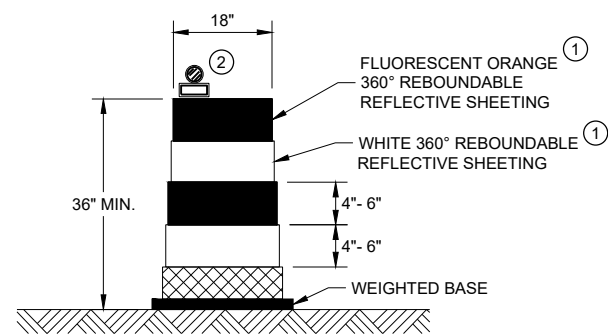
**SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD - HIGHWAY GRADE CROSSINGS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 DATE /S/ Matthew R. Rauch  
STATE SIGNING AND MARKING ENGINEER

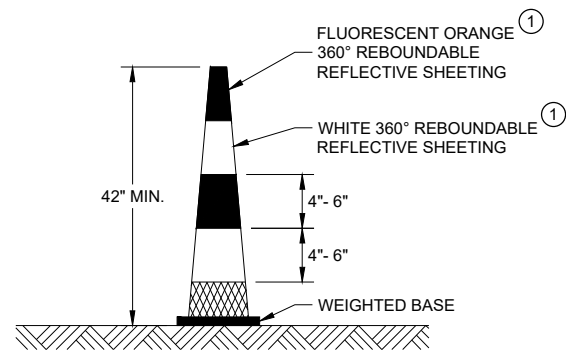
FHWA





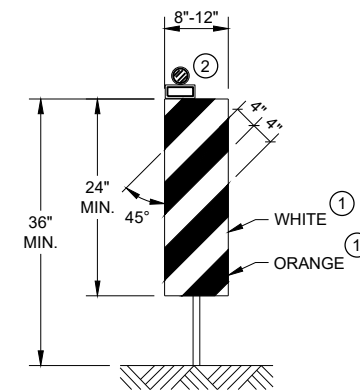
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



**42" CONE**

DO NOT USE IN TAPERS  
½ SPACING OF DRUMS  
BALLAST WIDTHS  
RANGE FROM 14"-20"

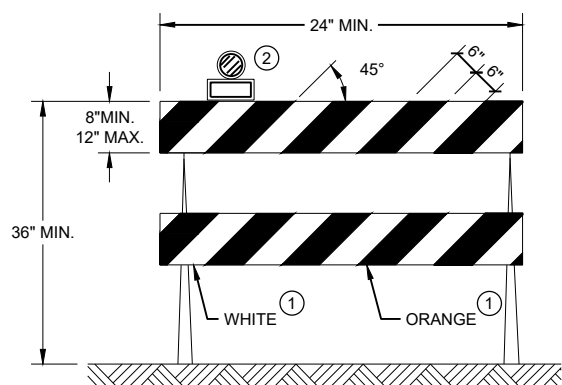


**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO  
THE TRAFFIC SIDE FOR CHANNELIZATION.

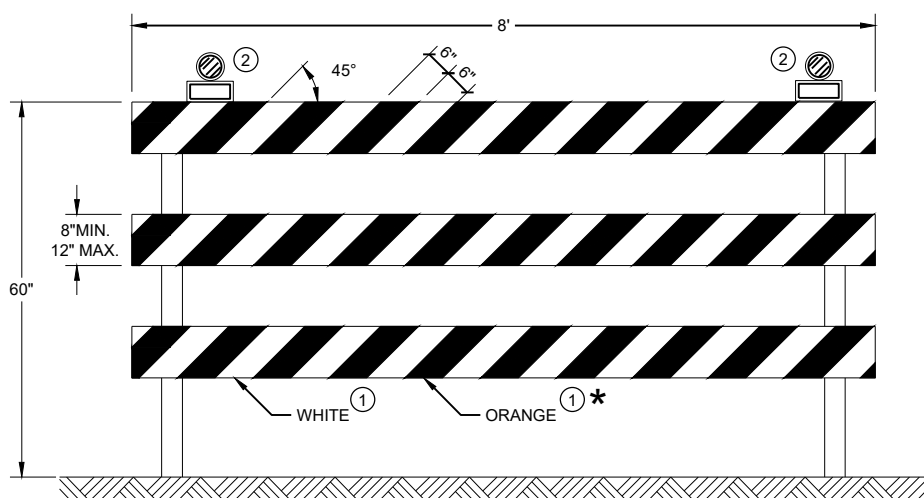
**GENERAL NOTES**

- 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.



**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	

**LEGEND**

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

**GENERAL NOTES**

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

**FLAGGING**

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

**TEMPORARY PORTABLE RUMBLE STRIPS**

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

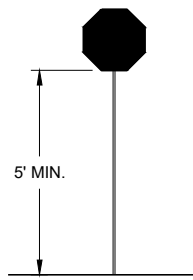
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



**STOP/SLOW PADDLE ON SUPPORT STAFF**

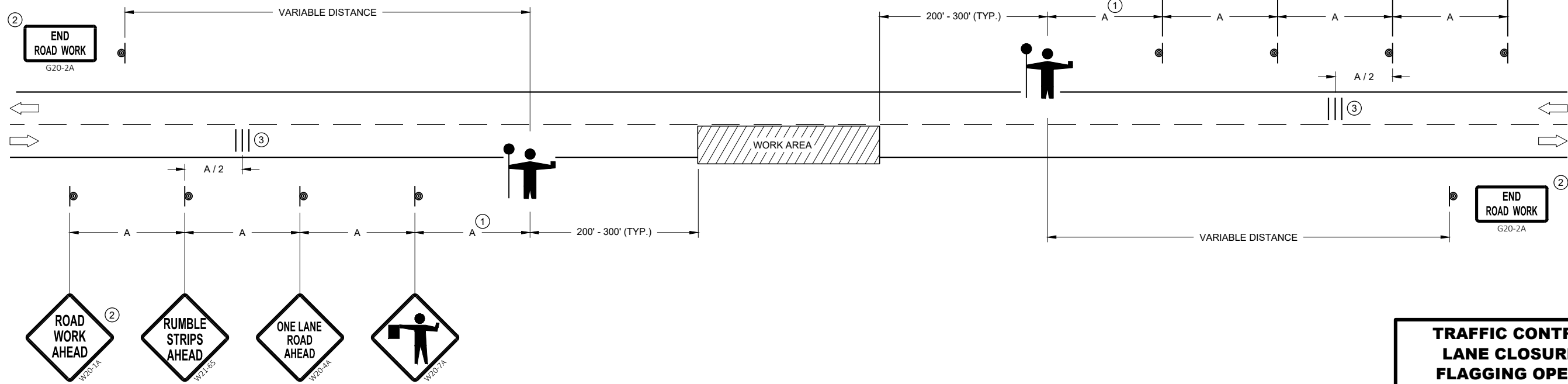
**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



W03-4

USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



6








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SDD 15C12 - 09a

SDD 15C12 - 09a

<b>TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**GENERAL NOTES**

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL CONE 42-INCH
-  TRAFFIC CONTROL DRUM
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  **AFAD** AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

**GENERAL NOTES**

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

**FLAGGING**

IF THE AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) STOPS WORKING, FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

- ① SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- ② IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.

**TEMPORARY PORTABLE RUMBLE STRIPS**

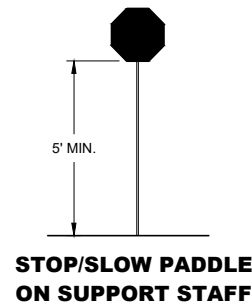
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

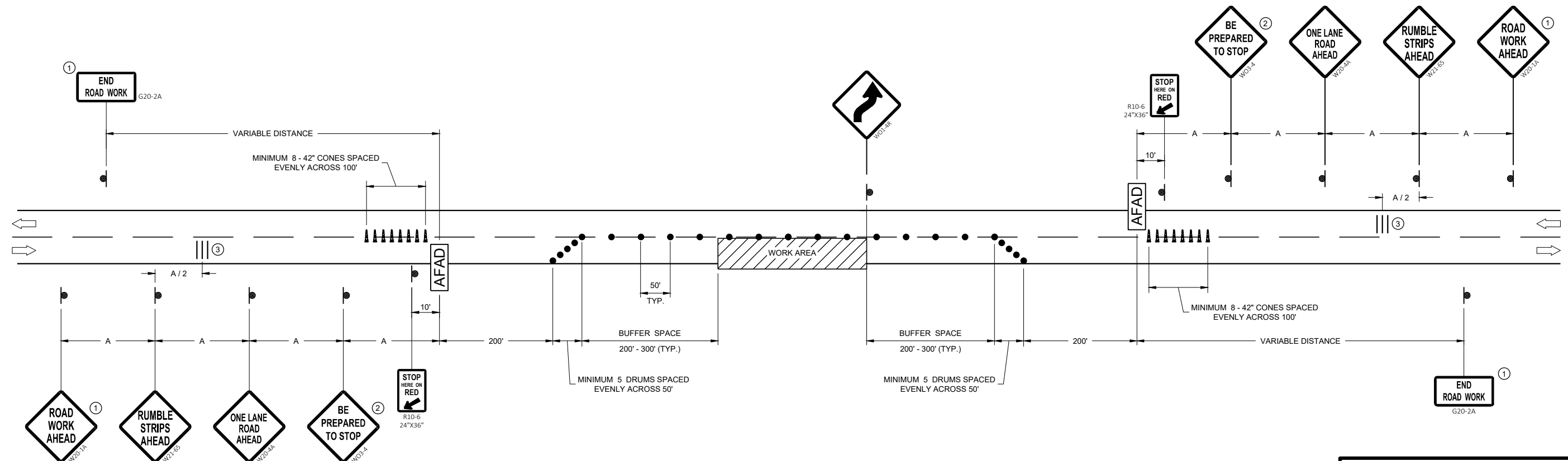
DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.



**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

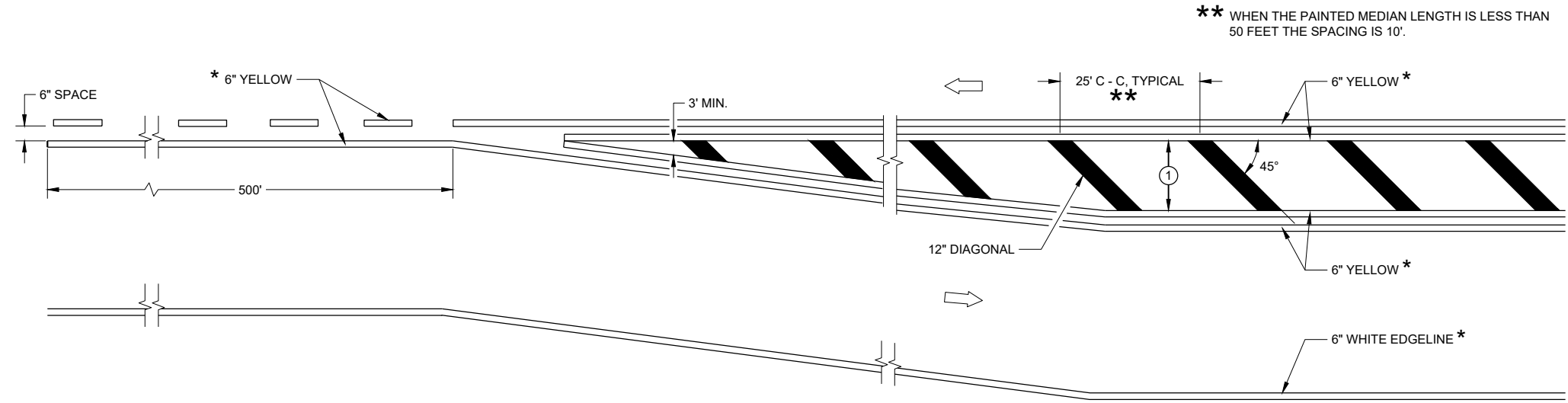


**TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



**MEDIAN ISLAND DETAIL**

**\*\*** WHEN THE PAINTED MEDIAN LENGTH IS LESS THAN 50 FEET THE SPACING IS 10'.

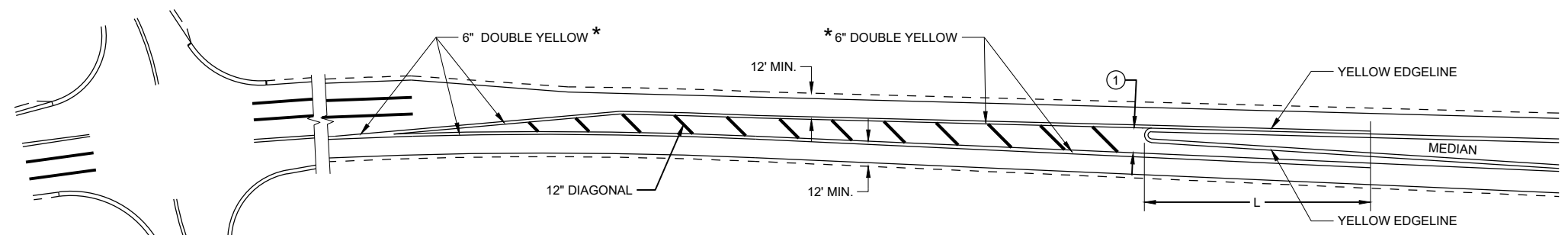
**GENERAL NOTES**

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.

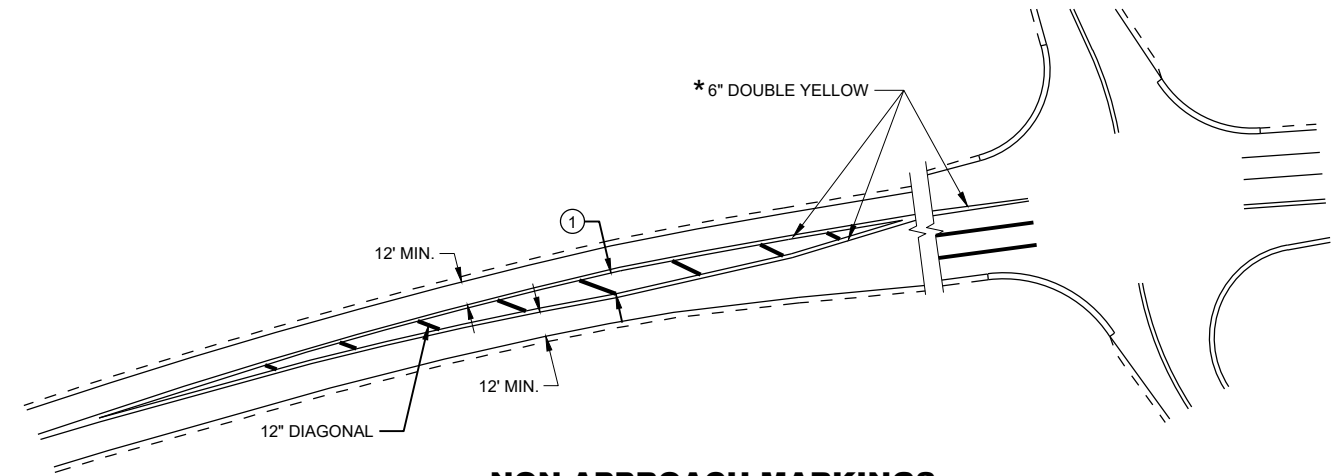
➔ DIRECTION OF TRAVEL

\* 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**

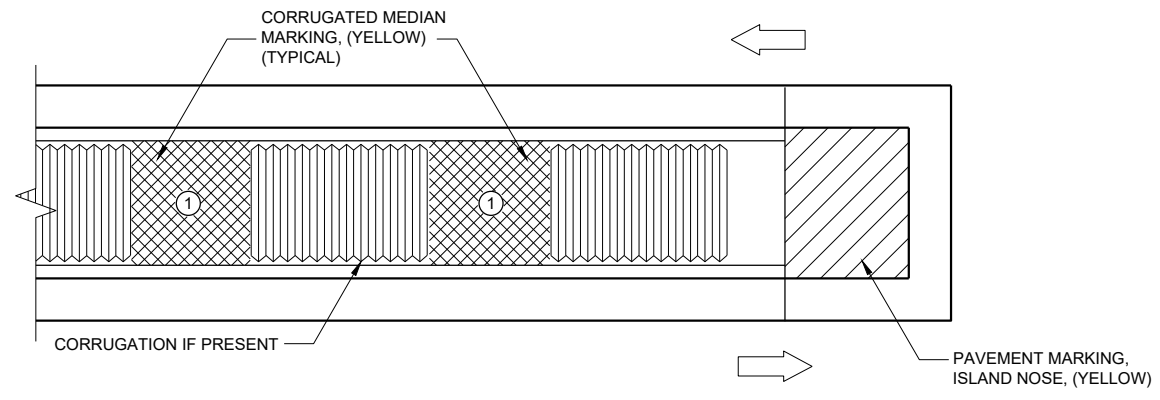
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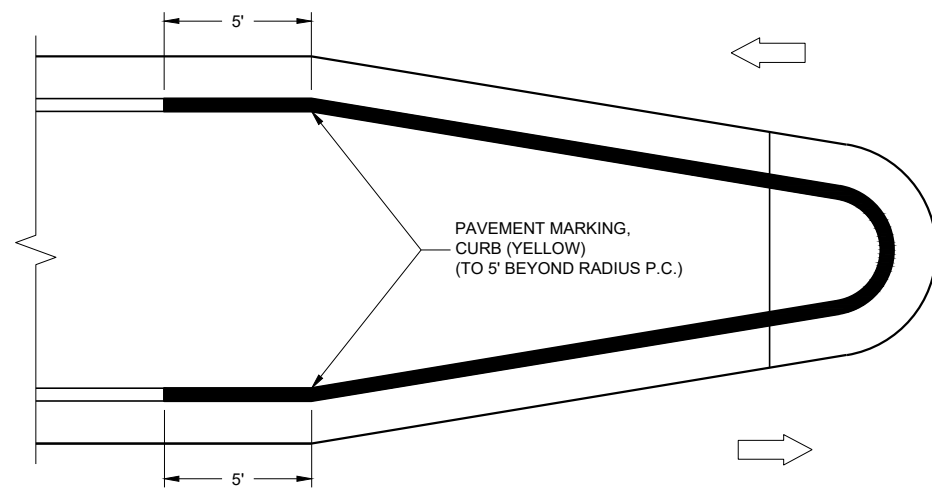
SDD 15C18-08a

SDD 15C18-08a

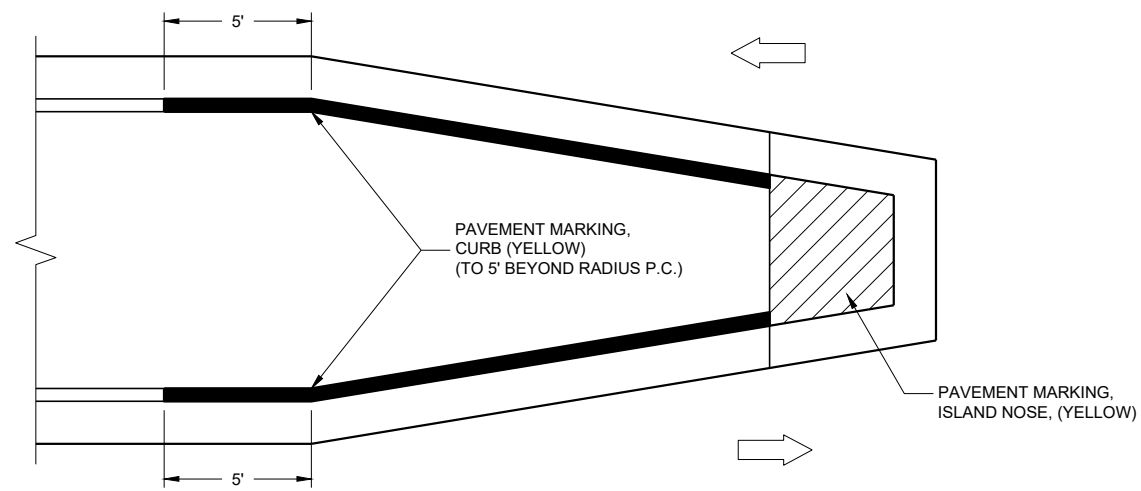
<b>MEDIAN ISLAND PAVEMENT MARKINGS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver STATE SIGNING AND MARKING ENGINEER
FHWA	



**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 DATE /S/ Jeannie Silver  
STATE SIGNING AND MARKING ENGINEER

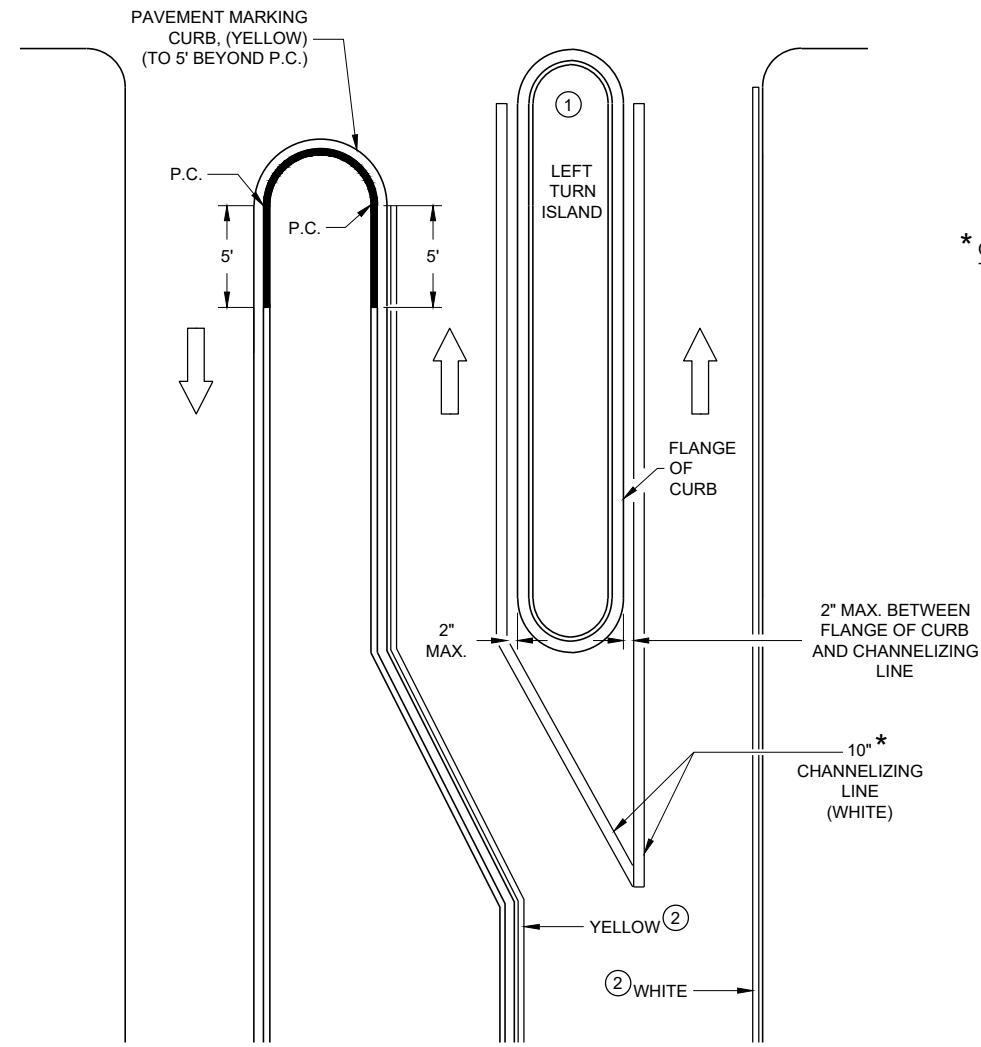
FHWA

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

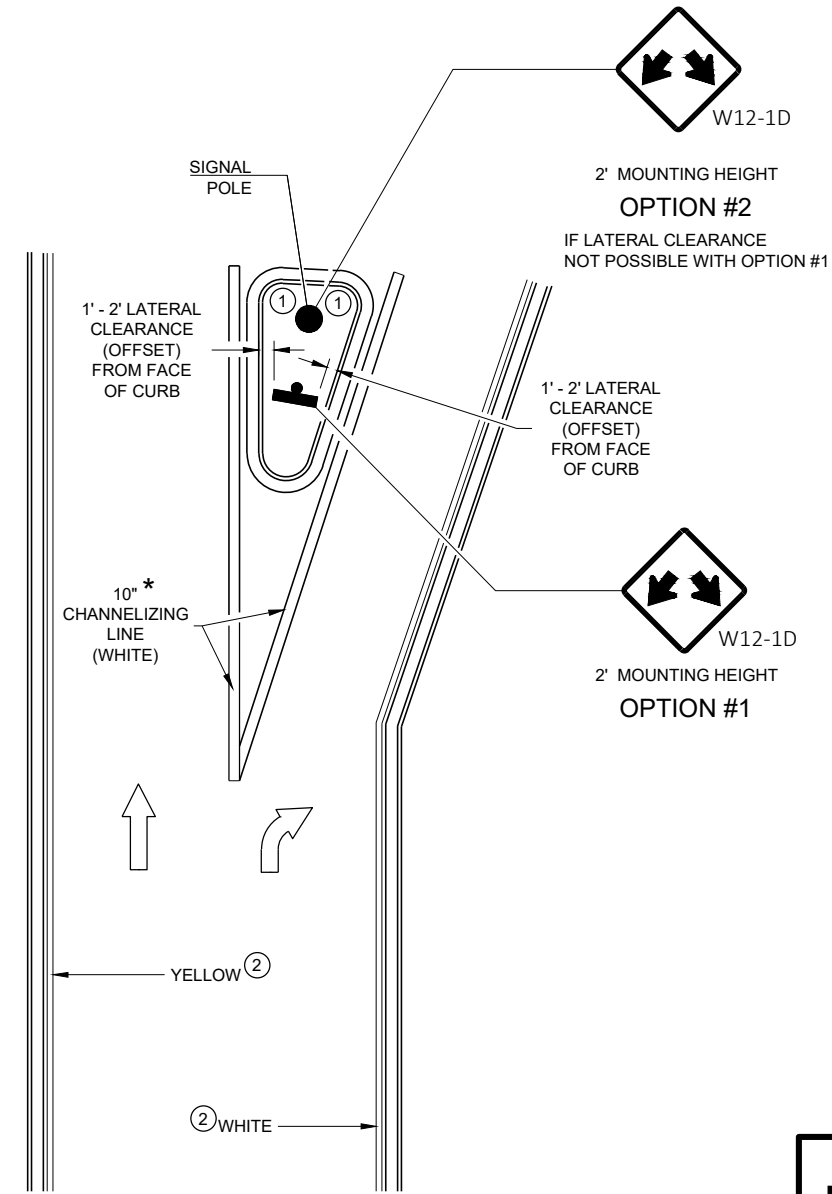
**GENERAL NOTES**

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.



**LEFT TURN & MEDIAN ISLAND**



**RIGHT TURN ISLAND**

**MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

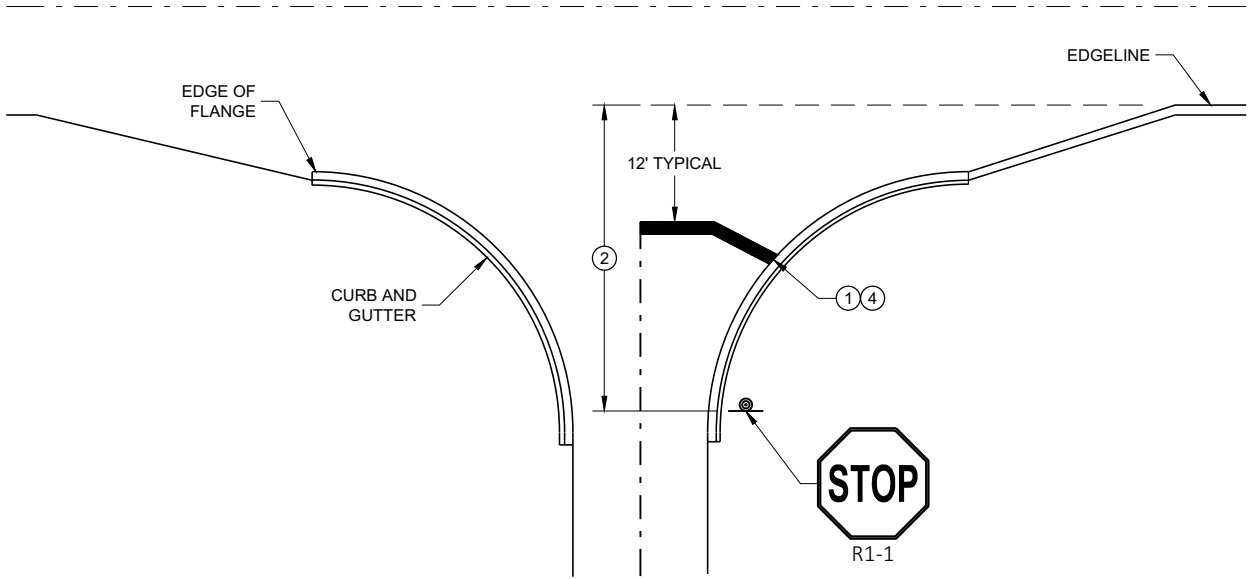
APPROVED  
May 2023 /S/ Jeannie Silver  
DATE STATE SIGNING AND MARKING ENGINEER

FHWA

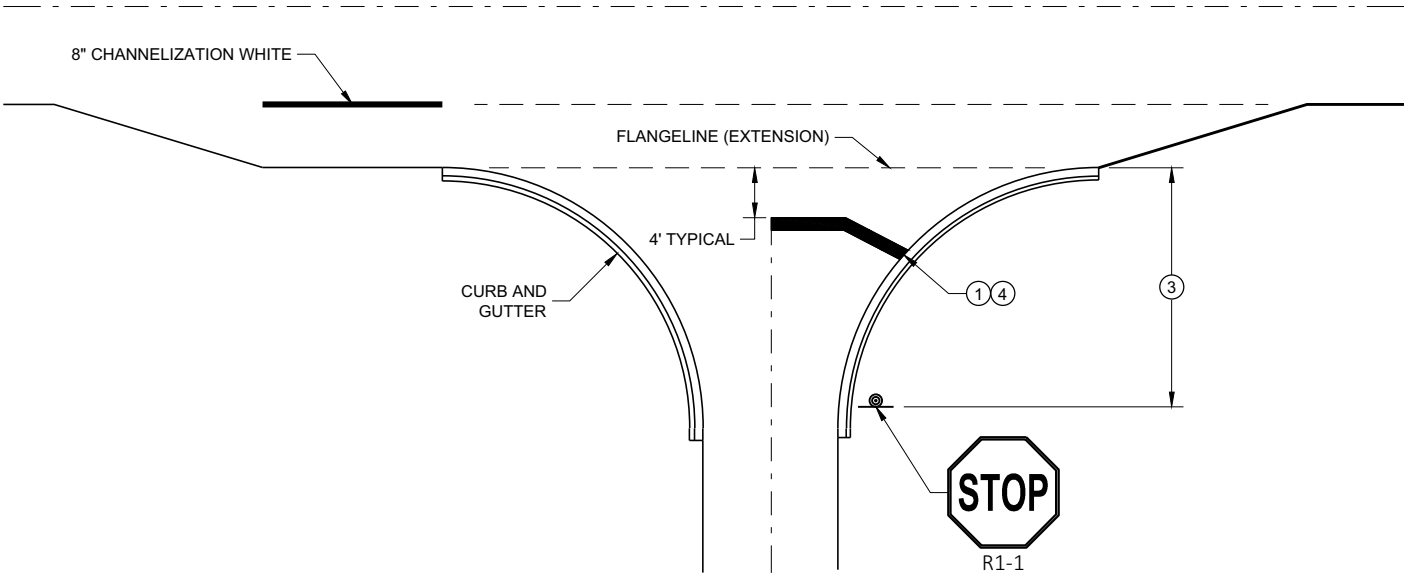
**GENERAL NOTES**

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

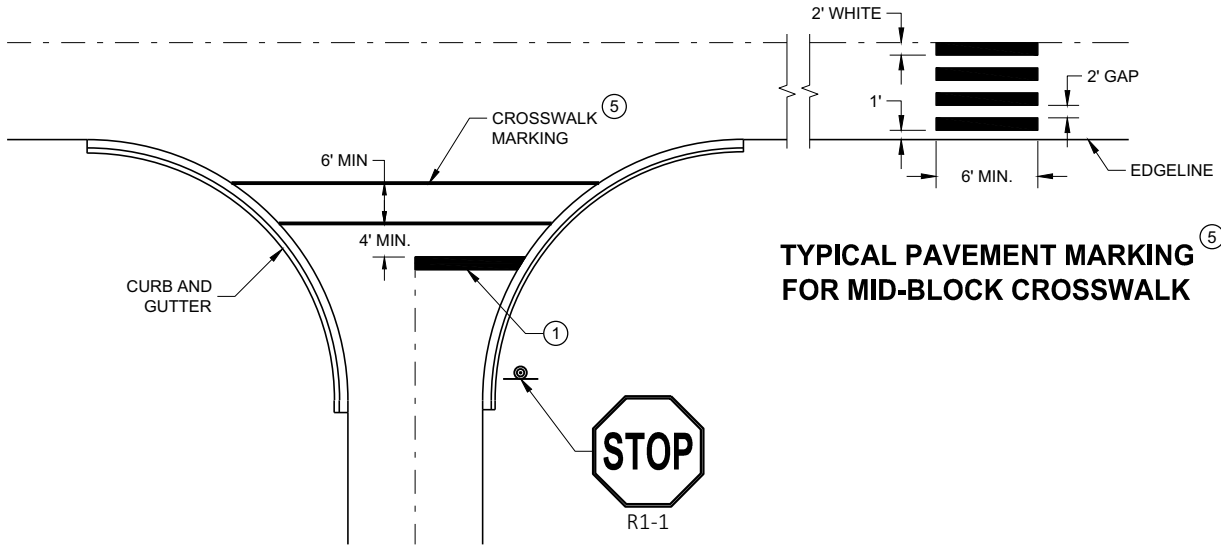
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE 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**

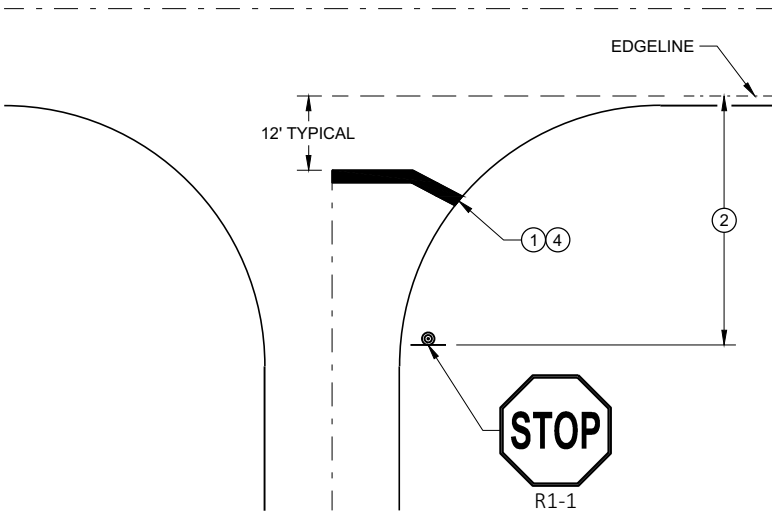


**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE**



**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

**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.

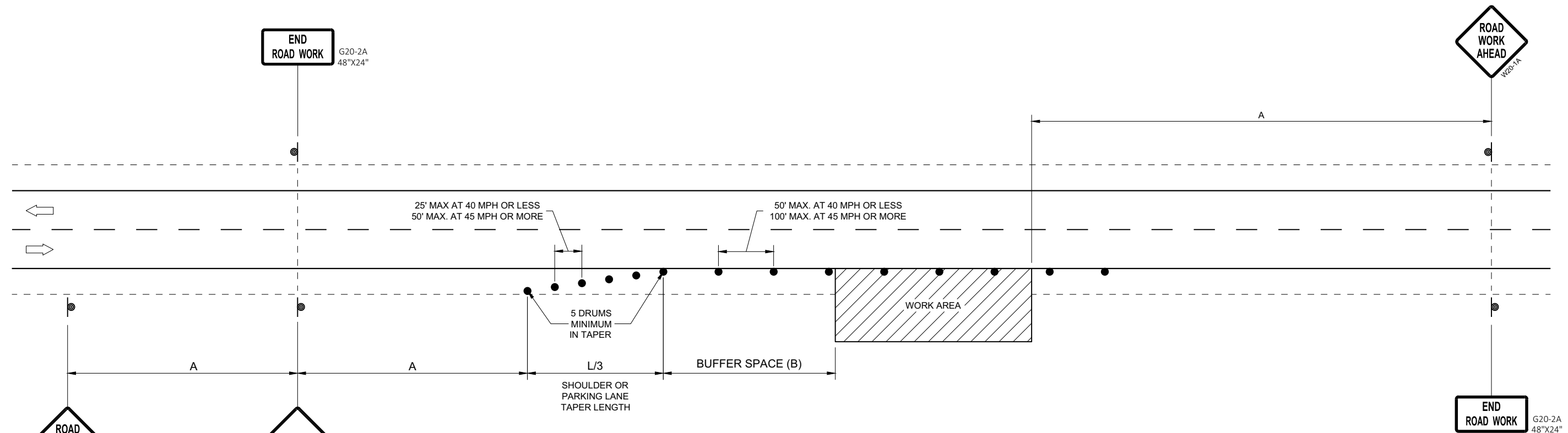
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

6



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

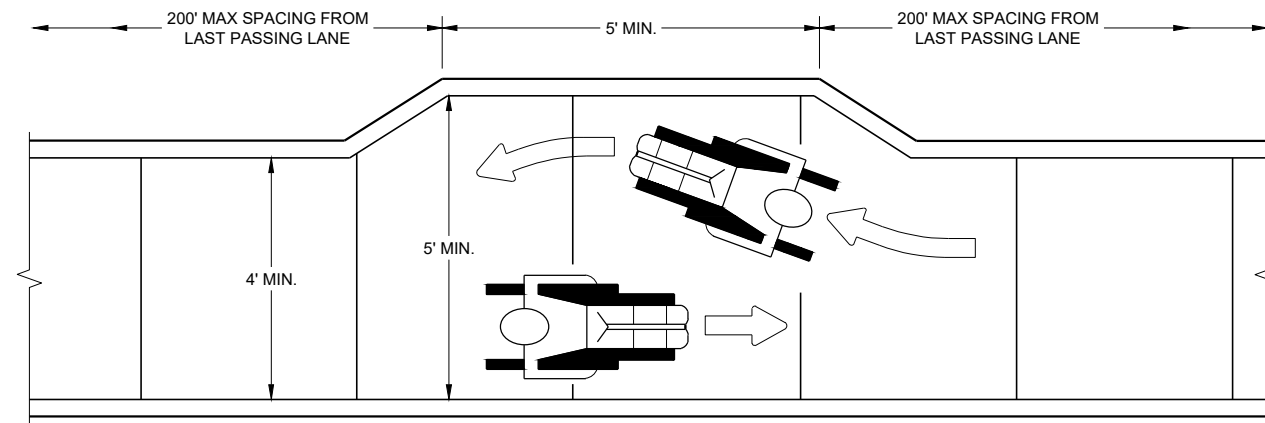
APPROVED  
May 2020 /S/ Andrew Heidtke  
DATE STATEWIDE WORK ZONE TRAFFIC  
SAFETY ENGINEER

FHWA

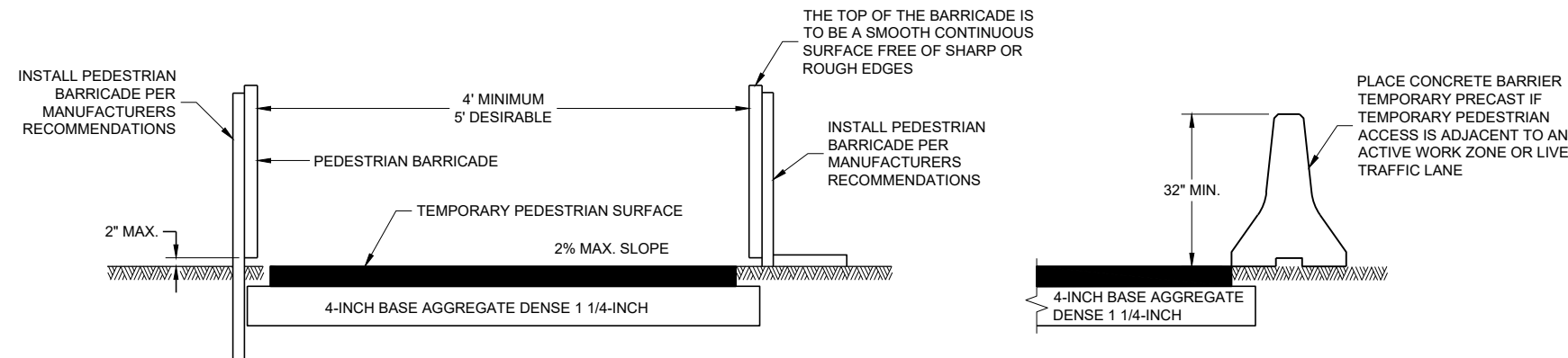
SDD 15D28 - 04

SDD 15D28 - 04





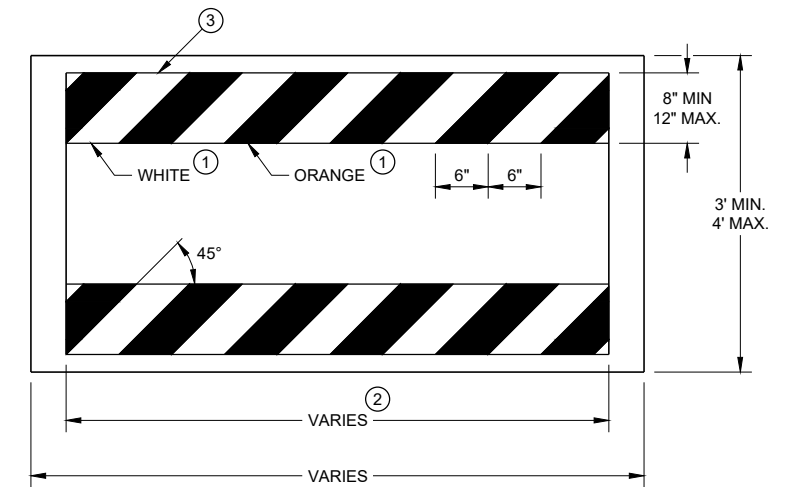
**NARROW SIDEWALK PASSING DETAIL**



**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.

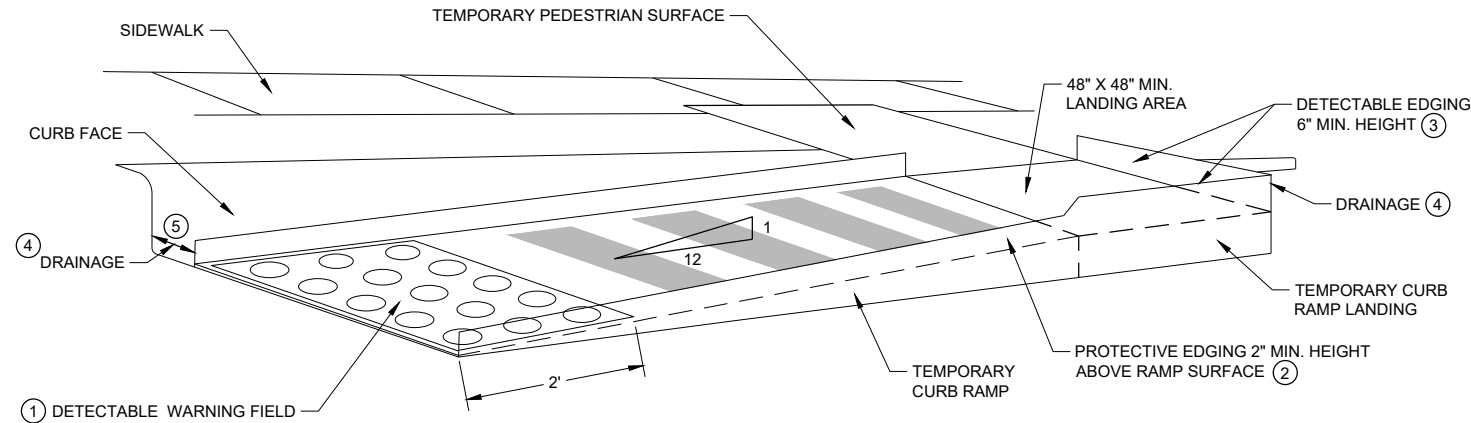


**TEMPORARY PEDESTRIAN BARRICADE\***

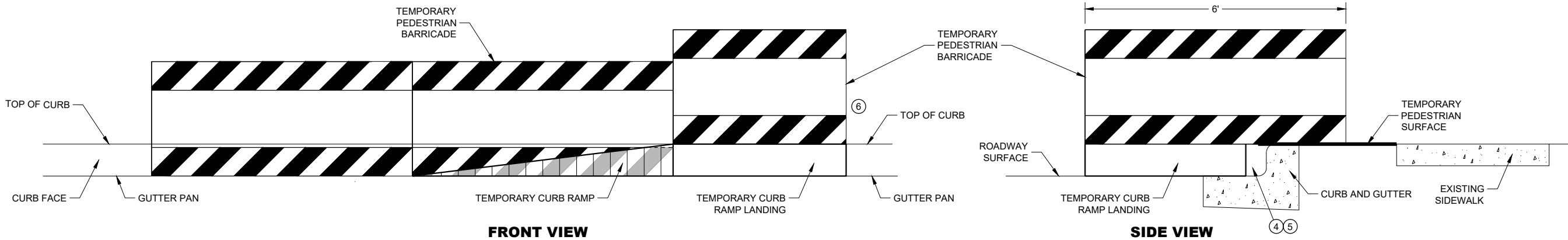
**GENERAL NOTES**

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**

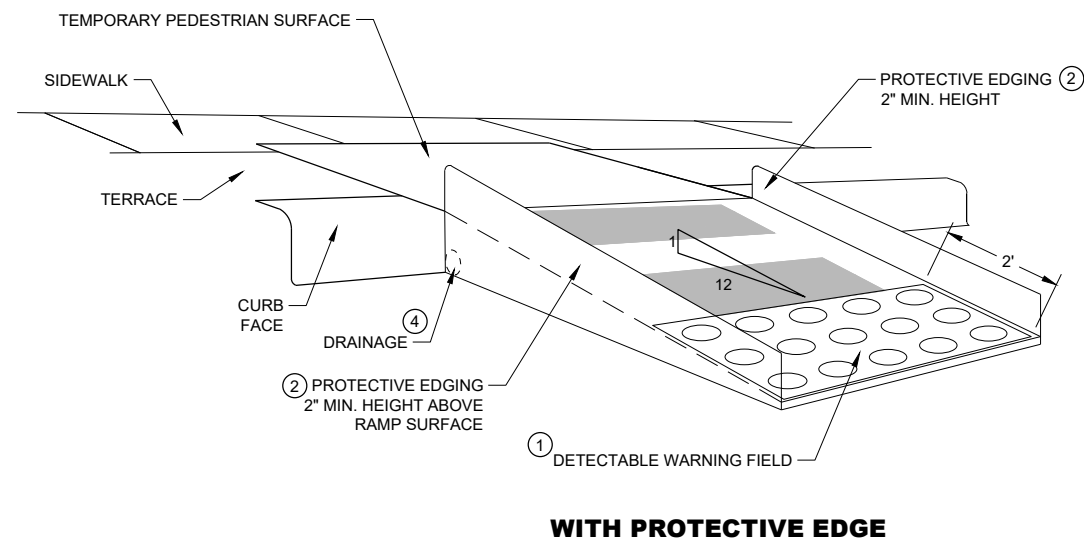
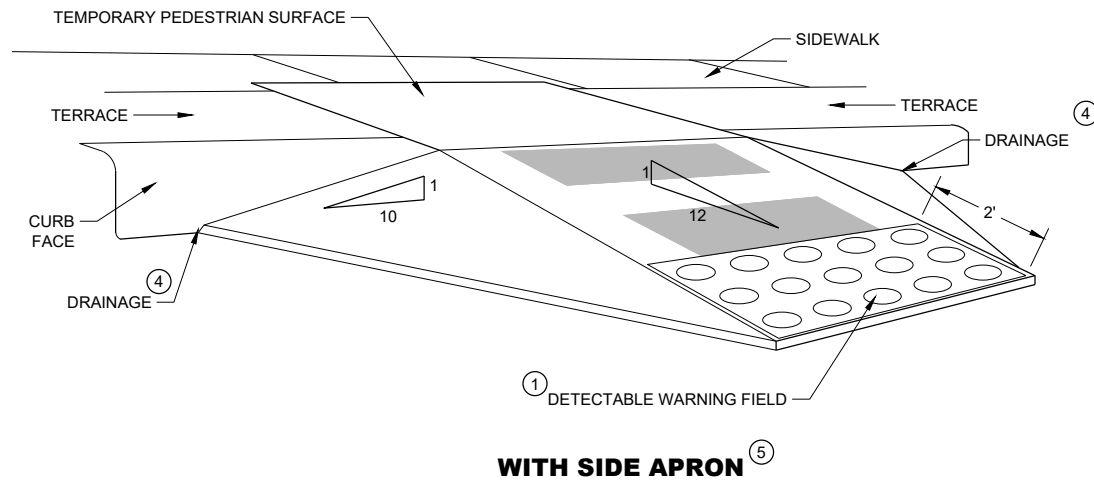


**FRONT VIEW**

**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.

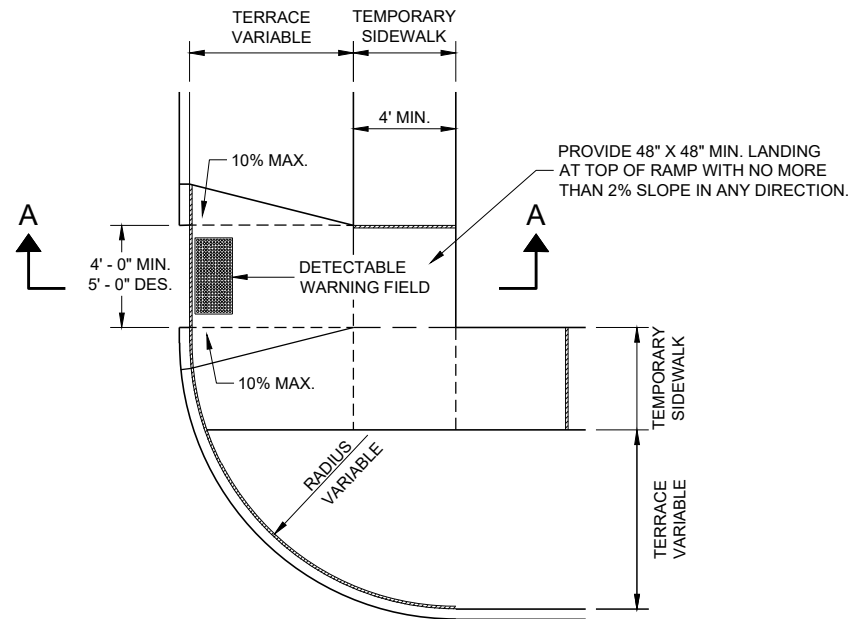
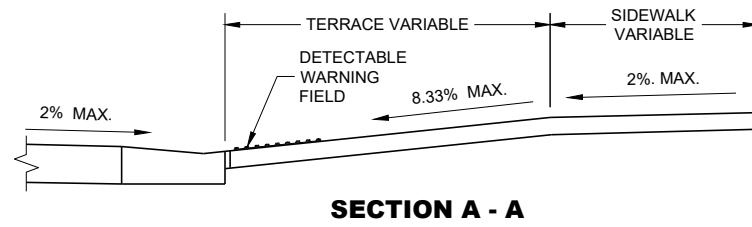
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

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.

**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.



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

6







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SDD 15D30-09d

SDD 15D30-09d

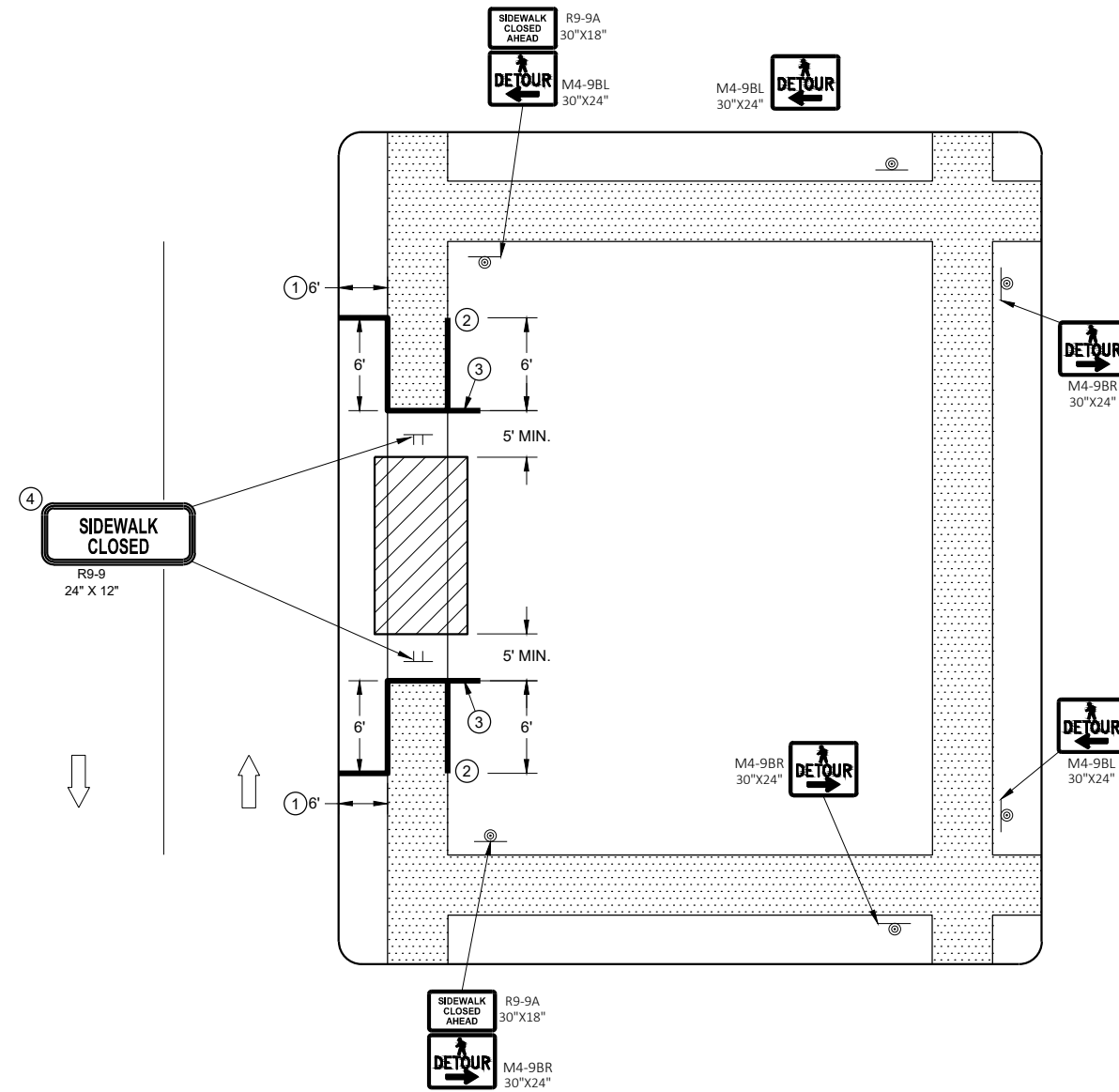
<b>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  UNDER PEDESTRIAN TRAFFIC
-  WORK AREA
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**








- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICTS WITH DRIVEWAYS AND OTHER EXISTING FEATURES.
- ① IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
  - ② PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
  - ③ IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
  - ④ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



**SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE**

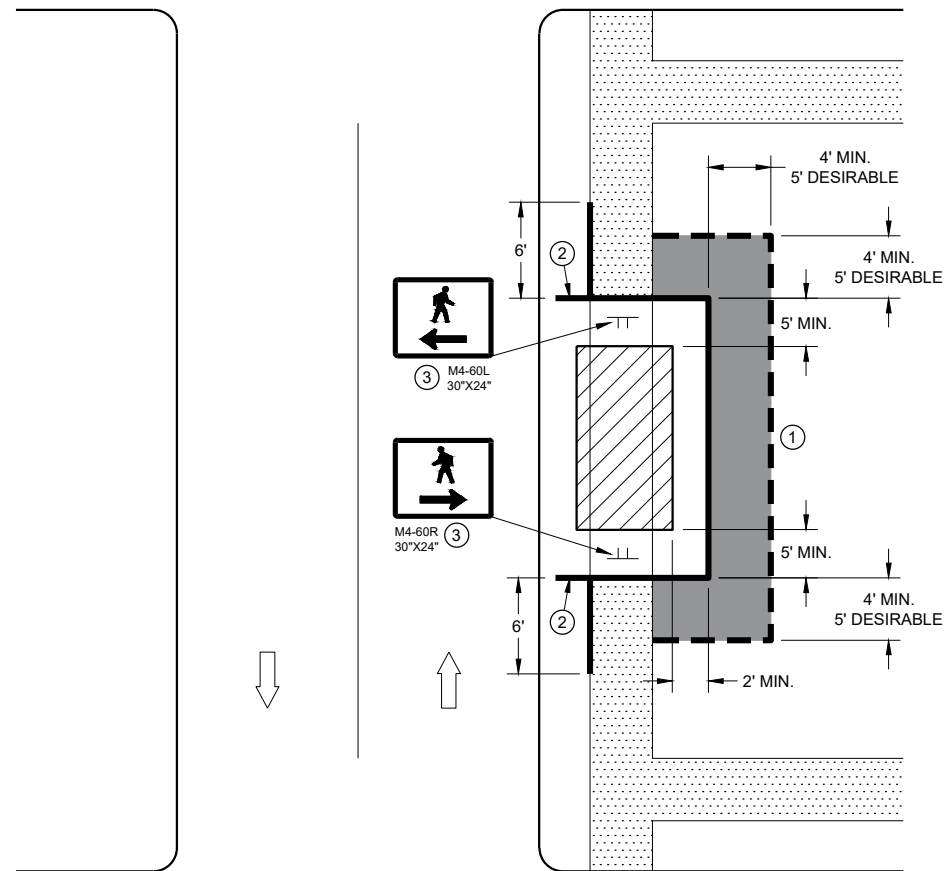
<b>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  WORK AREA
-  UNDER PEDESTRIAN TRAFFIC
-  TEMPORARY PEDESTRIAN SURFACE
-  TEMPORARY PEDESTRIAN BARRICADE
-  OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC










**GENERAL NOTES**

- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- ① USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
- ② IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
- ③ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



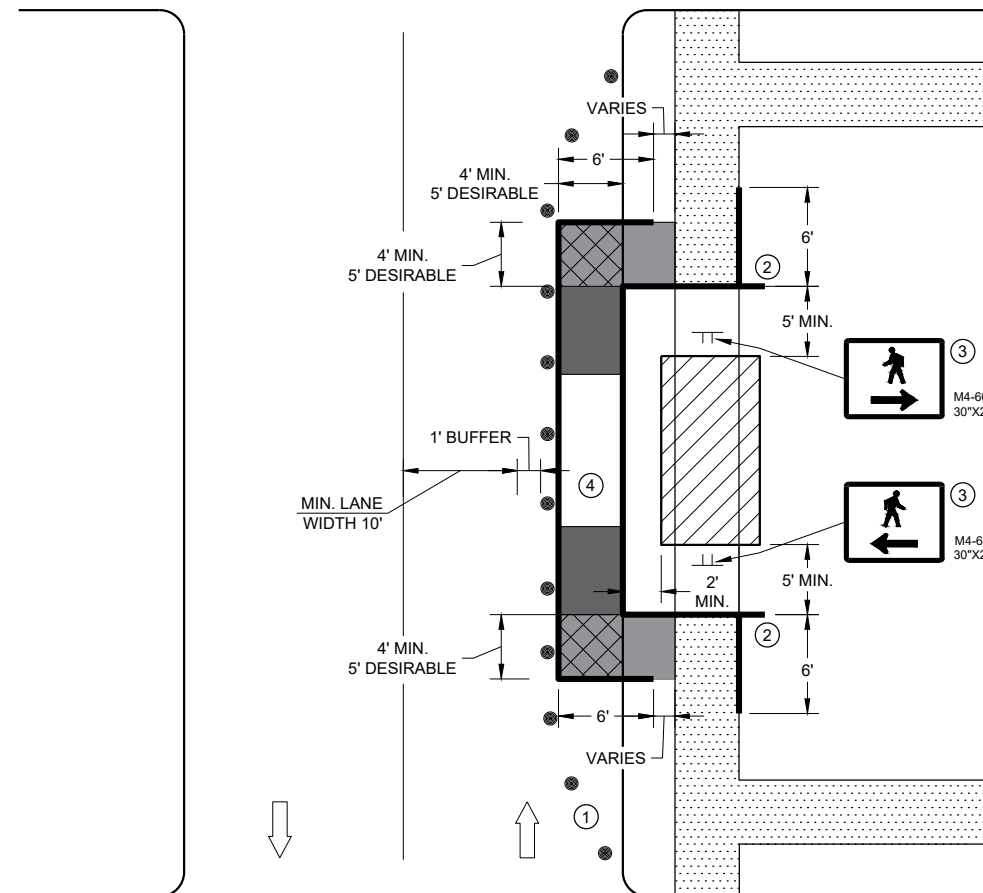
**SIDEWALK DIVERSION  
SINGLE SIDE**

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  WORK AREA
-  UNDER PEDESTRIAN TRAFFIC
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN SURFACE "A"
-  TEMPORARY PEDESTRIAN SURFACE "B"
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**

- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND BUFFER SPACE REQUIRED.
  - ② PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL PAST THE SIDEWALK ON THE SIDE AWAY FROM THE ROAD.
  - ③ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.
  - ④ USE EXISTING PAVEMENT SURFACE. IF EXISTING PAVEMENT SURFACE HAS BEEN REMOVED, USE A TEMPORARY PEDESTRIAN SURFACE.



**SIDEWALK DIVERSION, SINGLE SIDE**

<b>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6

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SDD 15D30 - 09h

SDD 15D30 - 09h

### GENERAL NOTES

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.











SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

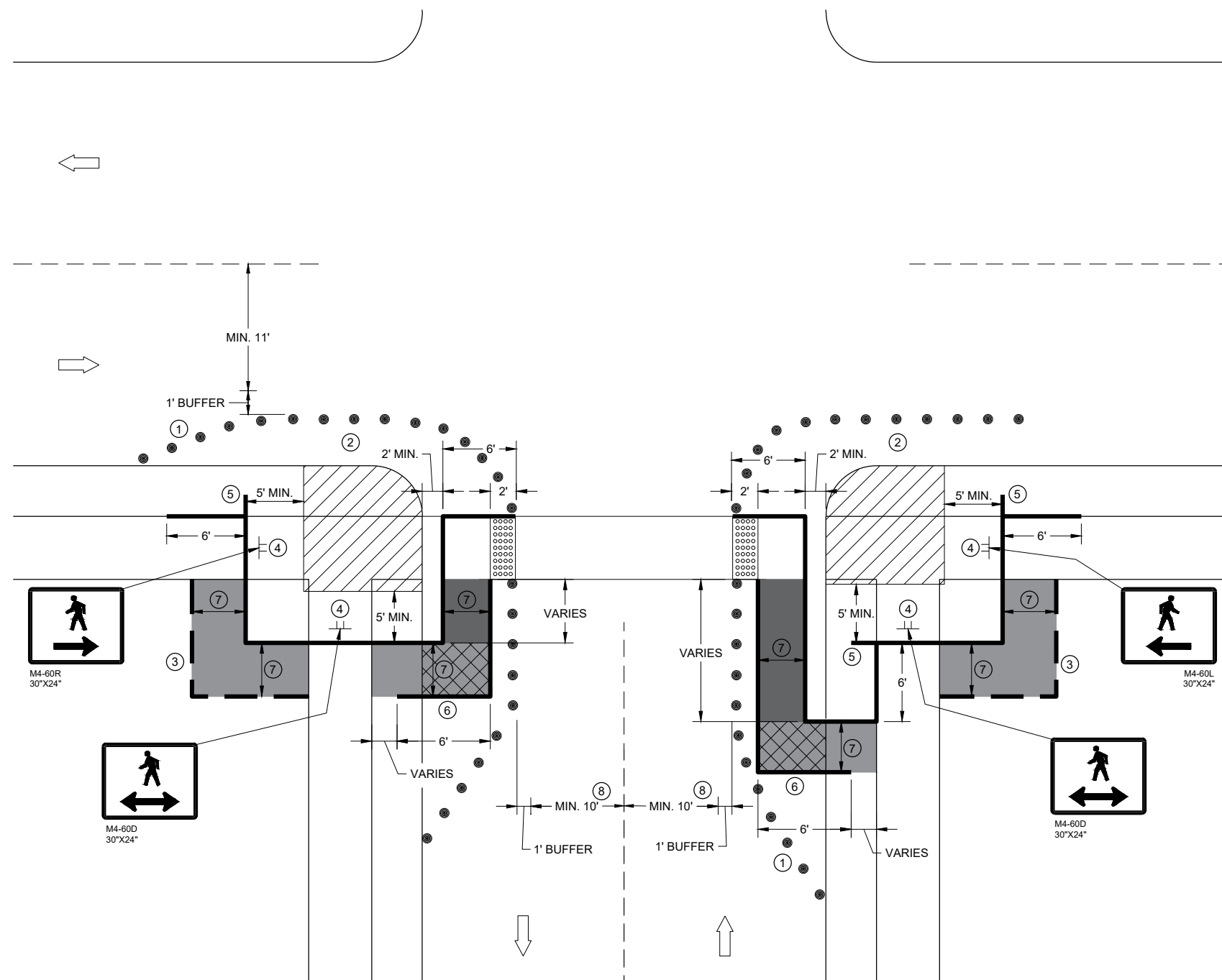
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
- ② PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
- ③ USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
- ④ MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
- ⑤ PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
- ⑥ IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
- ⑦ 4 FEET MINIMUM, 5 FEET DESIRABLE
- ⑧ IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

### LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  WORK AREA
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN SURFACE "A"
-  TEMPORARY PEDESTRIAN SURFACE "B"
-  TEMPORARY DETECTABLE WARNING FIELD
-  TEMPORARY PEDESTRIAN BARRICADE
-  OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC



**CURB RAMP PEDESTRIAN TRAFFIC CONTROL  
SIDEWALK ON SINGLE SIDE**

<b>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



**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.

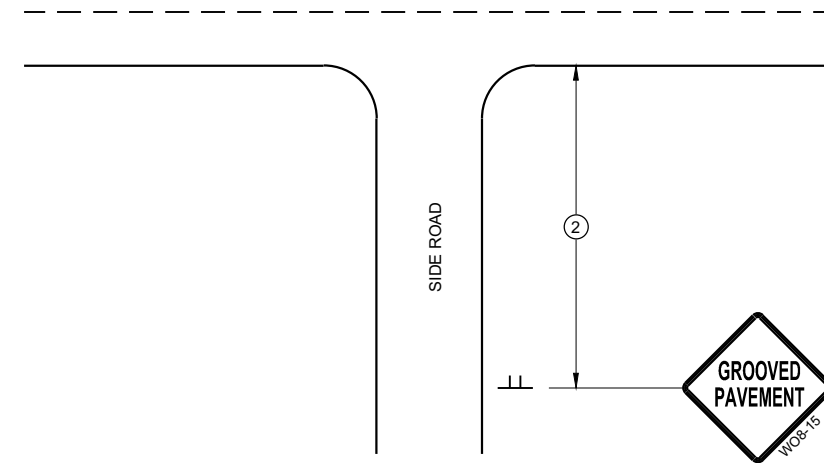
SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

- 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.

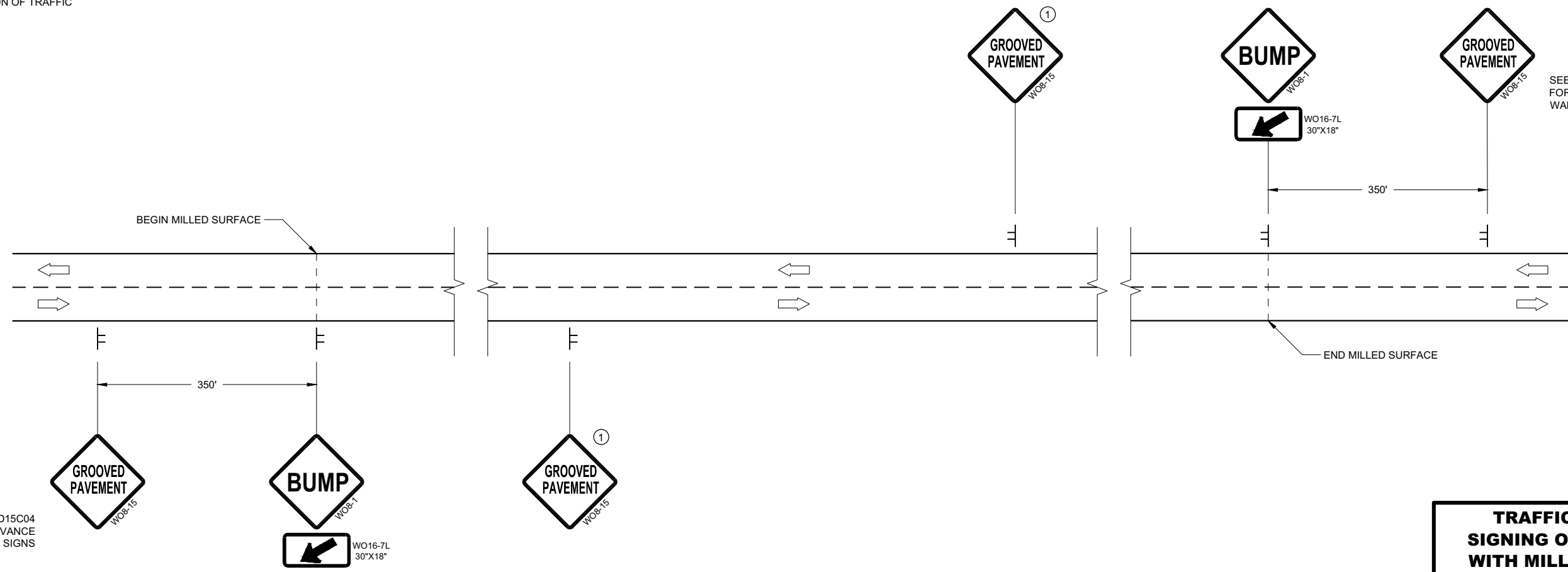
**LEGEND**

⊥ SIGN ON TEMPORARY SUPPORT

⇨ DIRECTION OF TRAFFIC



**TYPICAL SIDE ROAD APPROACH SIGN DETAIL**



SEE SDD15C04 FOR ADVANCE WARNING SIGNS

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

**DETAIL FOR SIGNING ON MILLED SURFACES**

**TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2020 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

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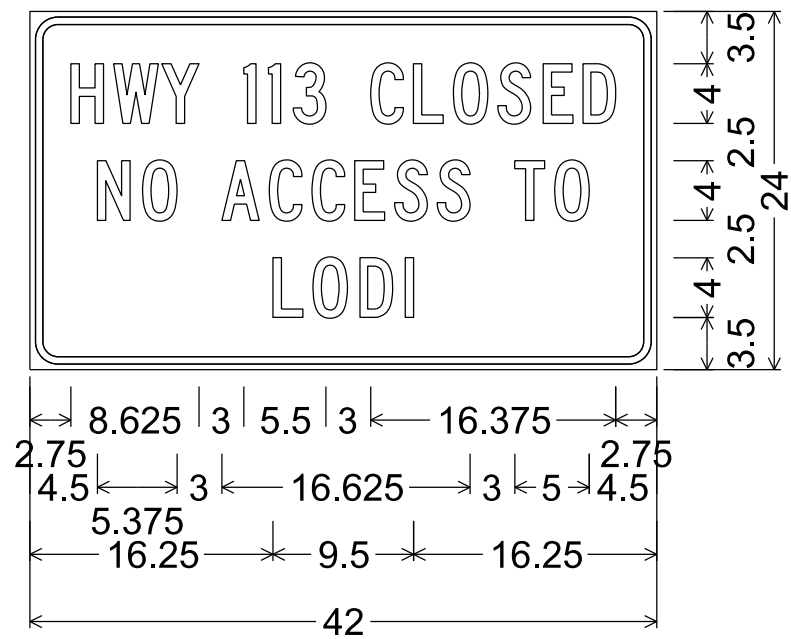
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SDD 15D44 - 02

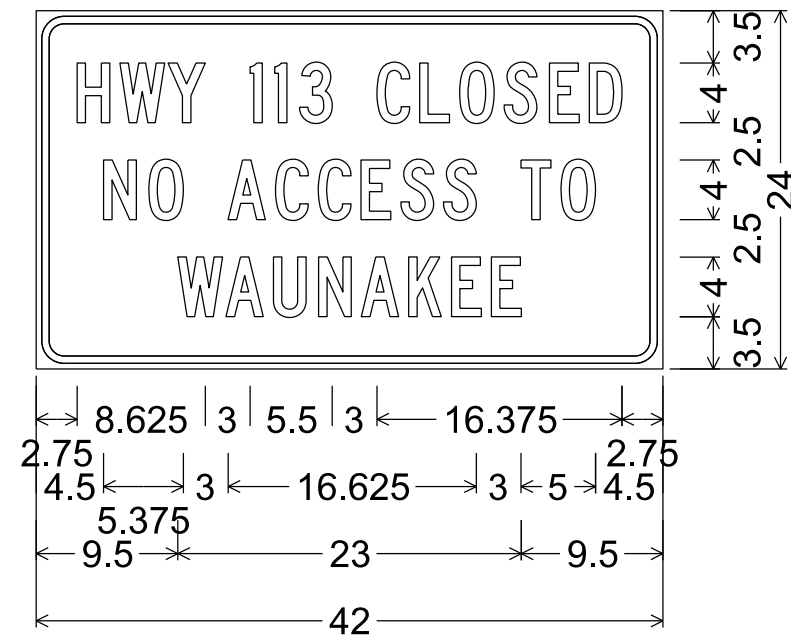
SDD 15D44 - 02

NOTES

1. Fixed Message Signs - Type II Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Message Series - C



1.875" Radius, 0.500" Border, 0.375" Indent

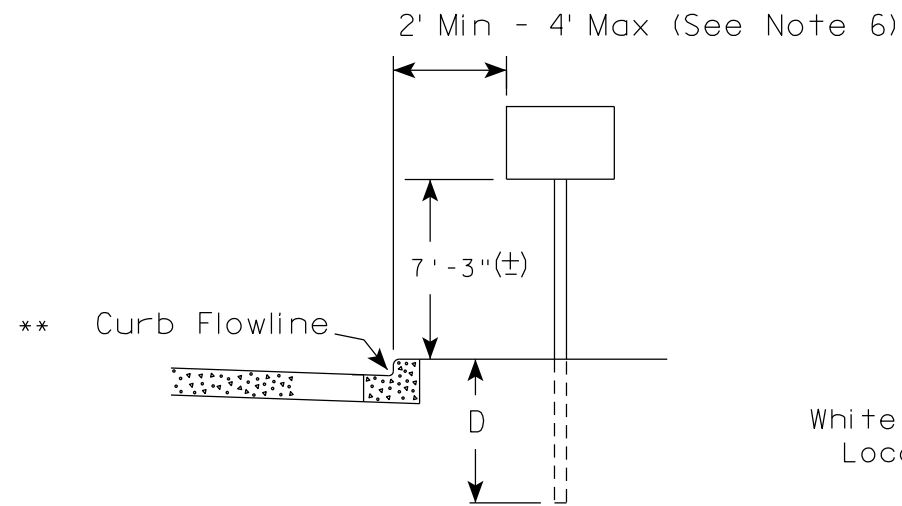


1.875" Radius, 0.500" Border, 0.375" Indent

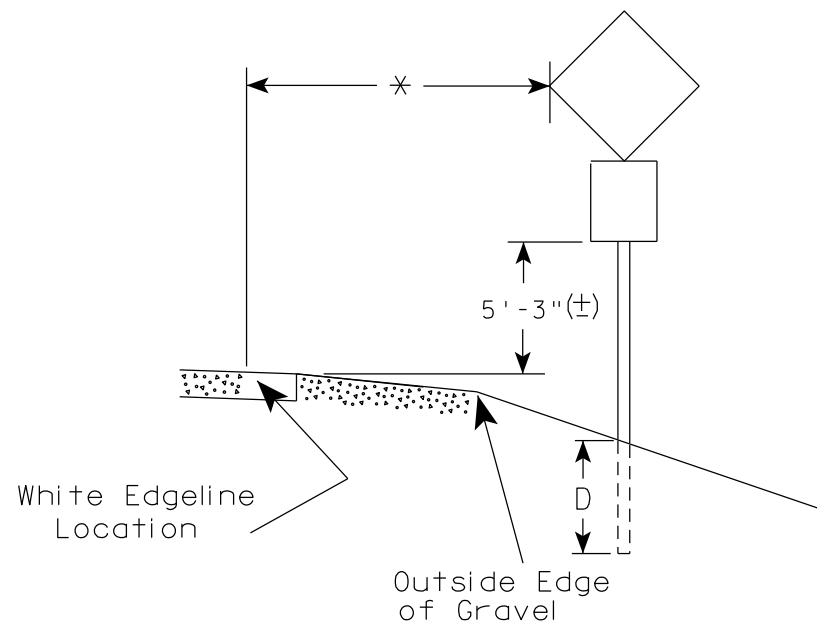
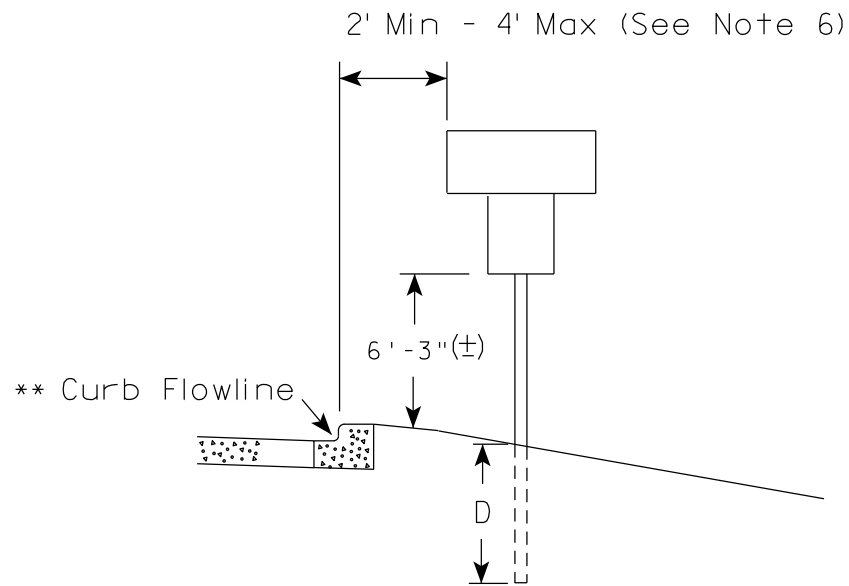
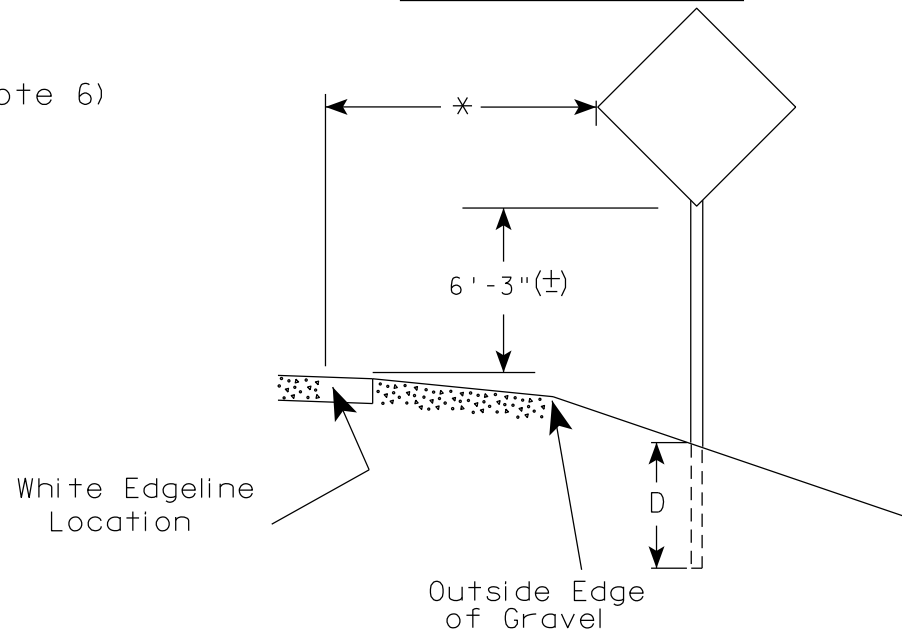
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URBAN AREA



RURAL AREA (See Note 2)



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.

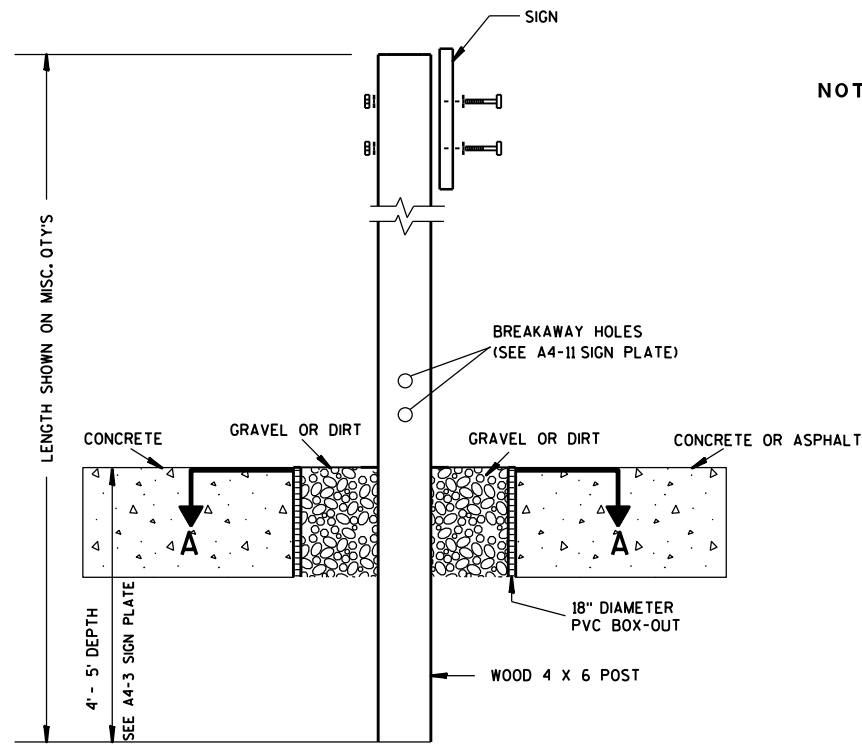
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

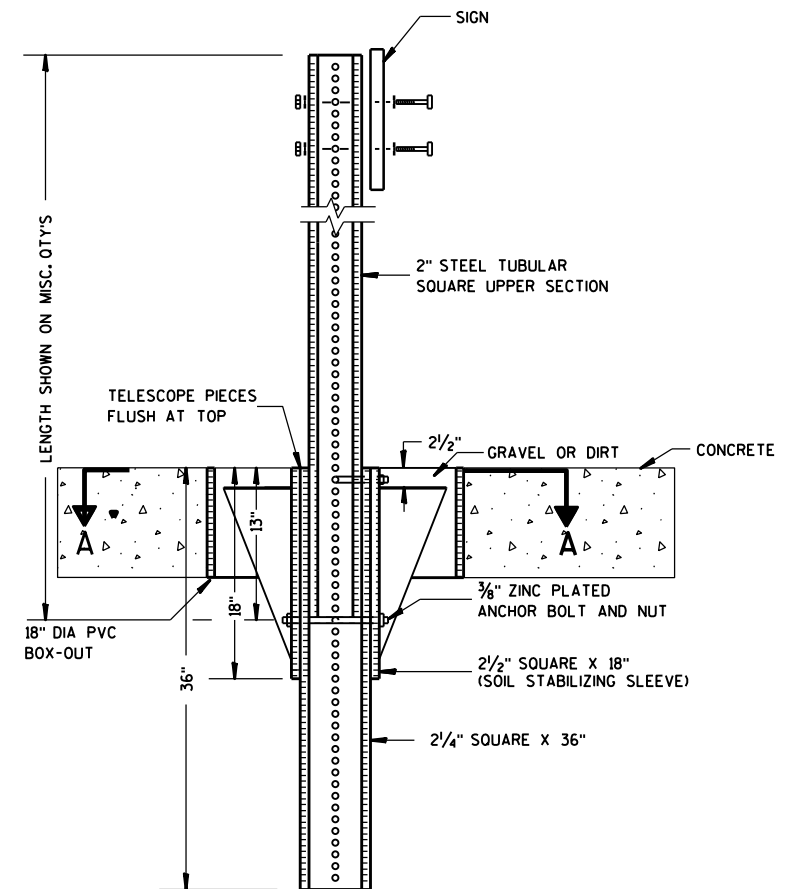
DATE 5/13/2020 PLATE NO. A4-3.22



**ELEVATION VIEW**

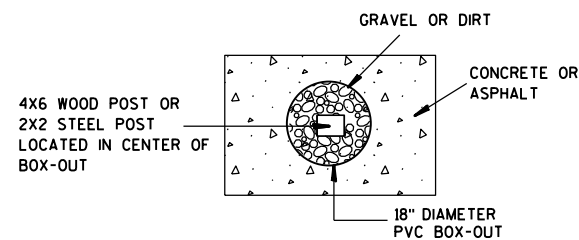
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

- 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**

**SIGN POST  
BOX-OUTS  
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

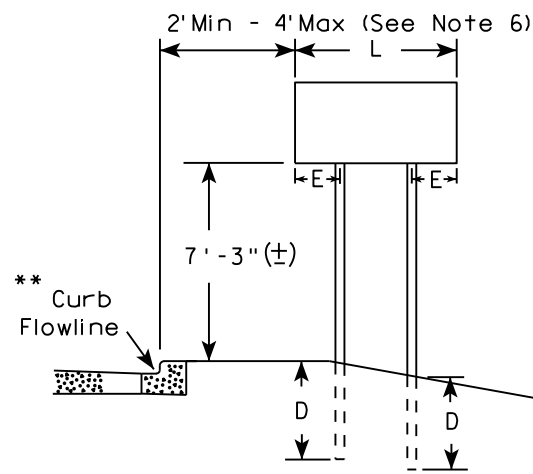
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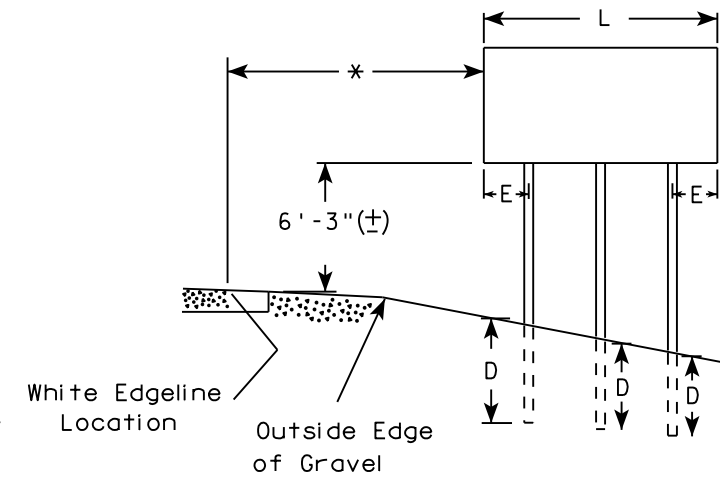
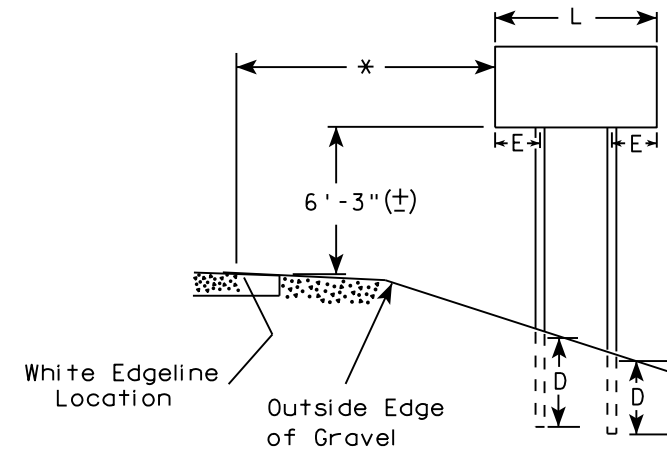
GENERAL NOTES

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" (±).

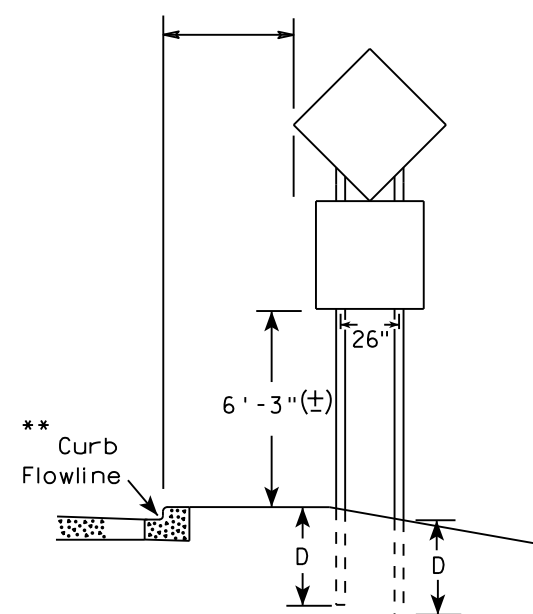
URBAN AREA



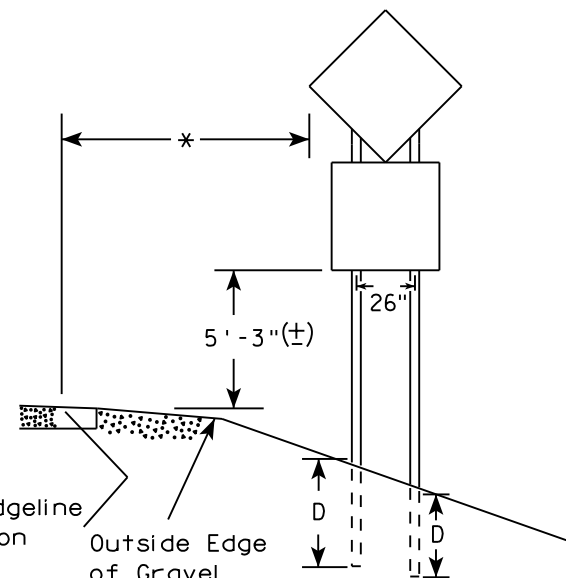
RURAL AREA (See Note 3)



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

\*\*\*

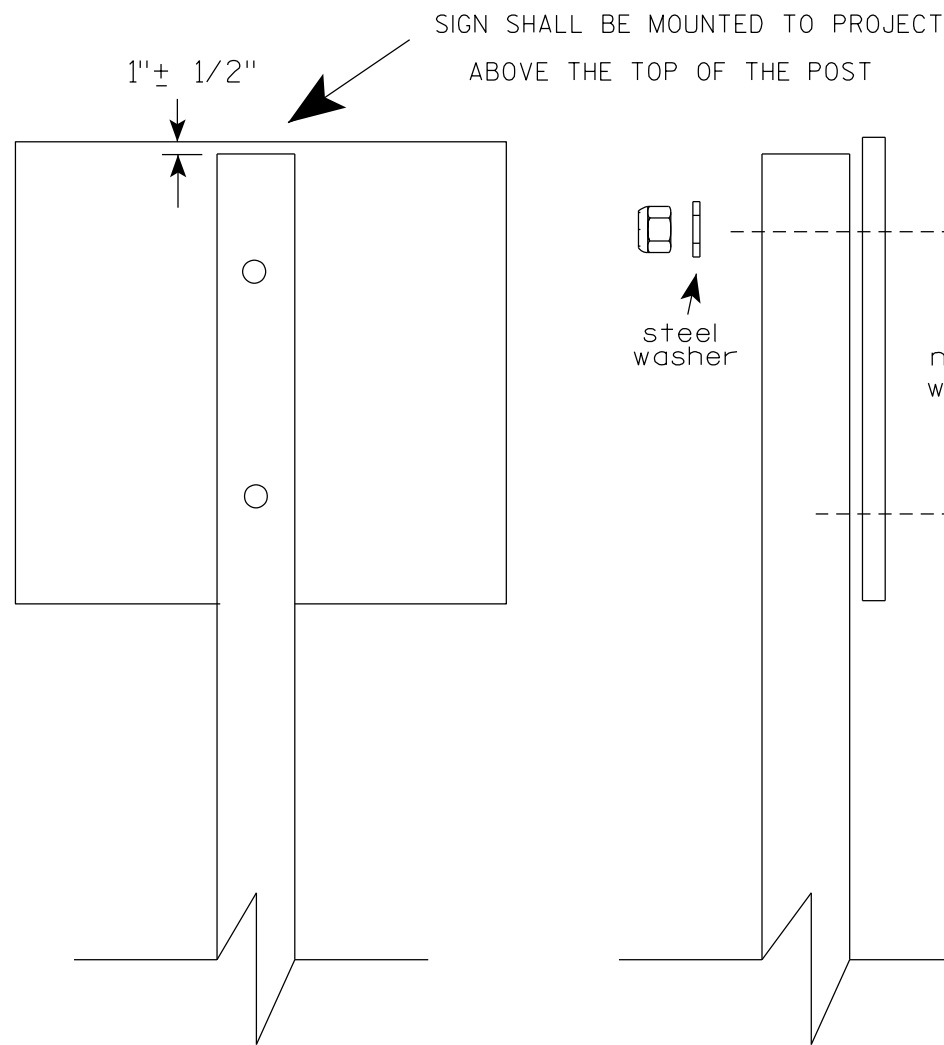
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- 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.

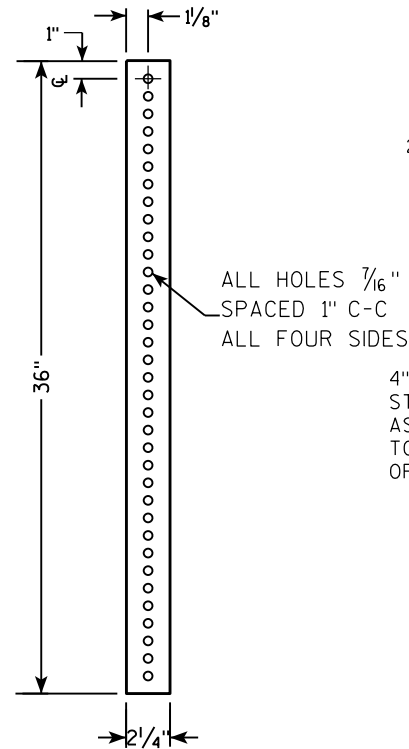
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS -  $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS -  $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
  - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS -  $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
  - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS -  $\frac{9}{32}$ " (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  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL
  - 1-1/4" O.D. X  $\frac{3}{8}$ " 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.

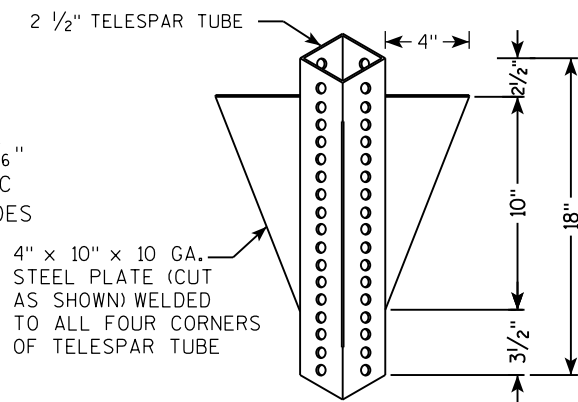
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

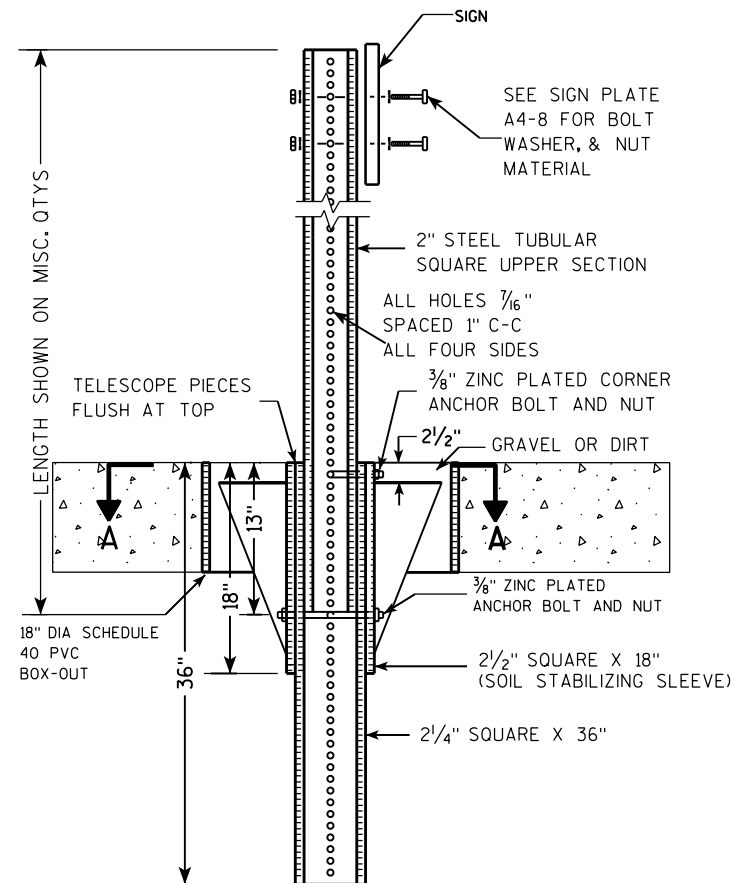
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



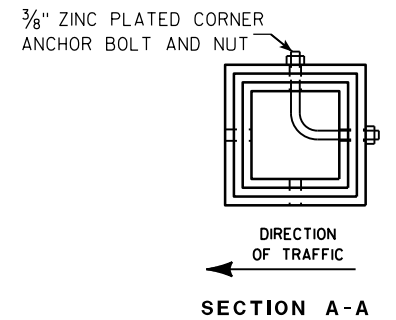
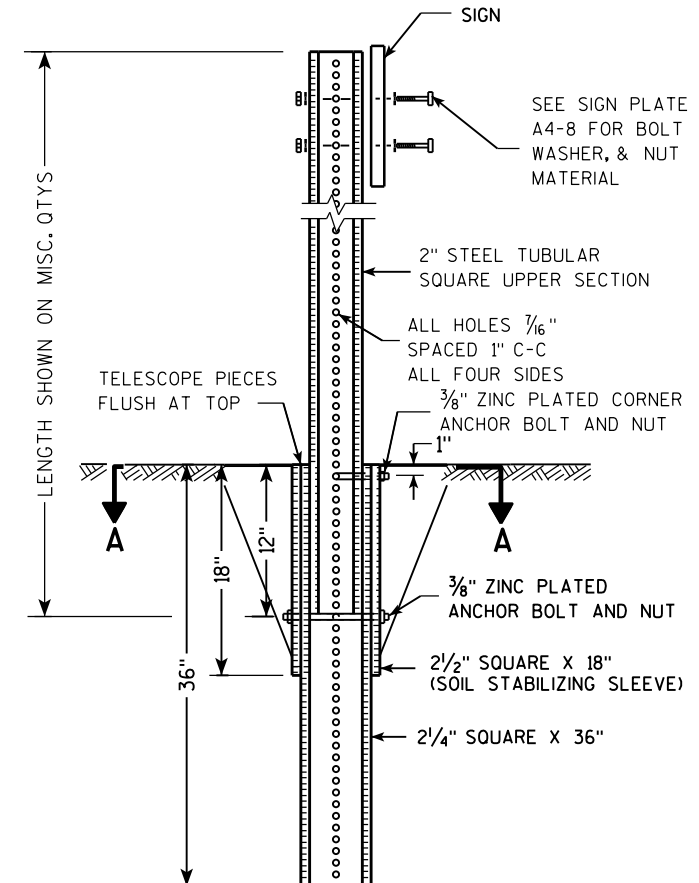
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



**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

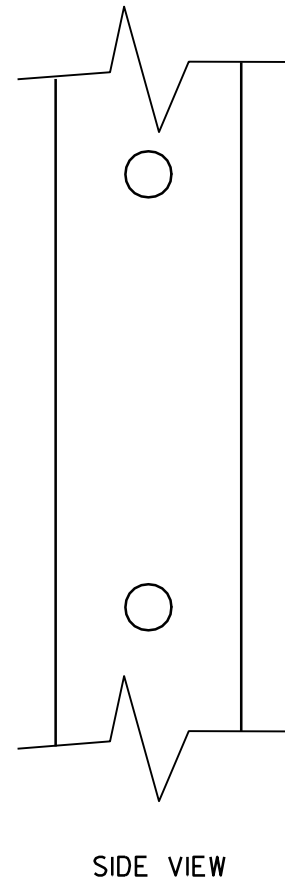
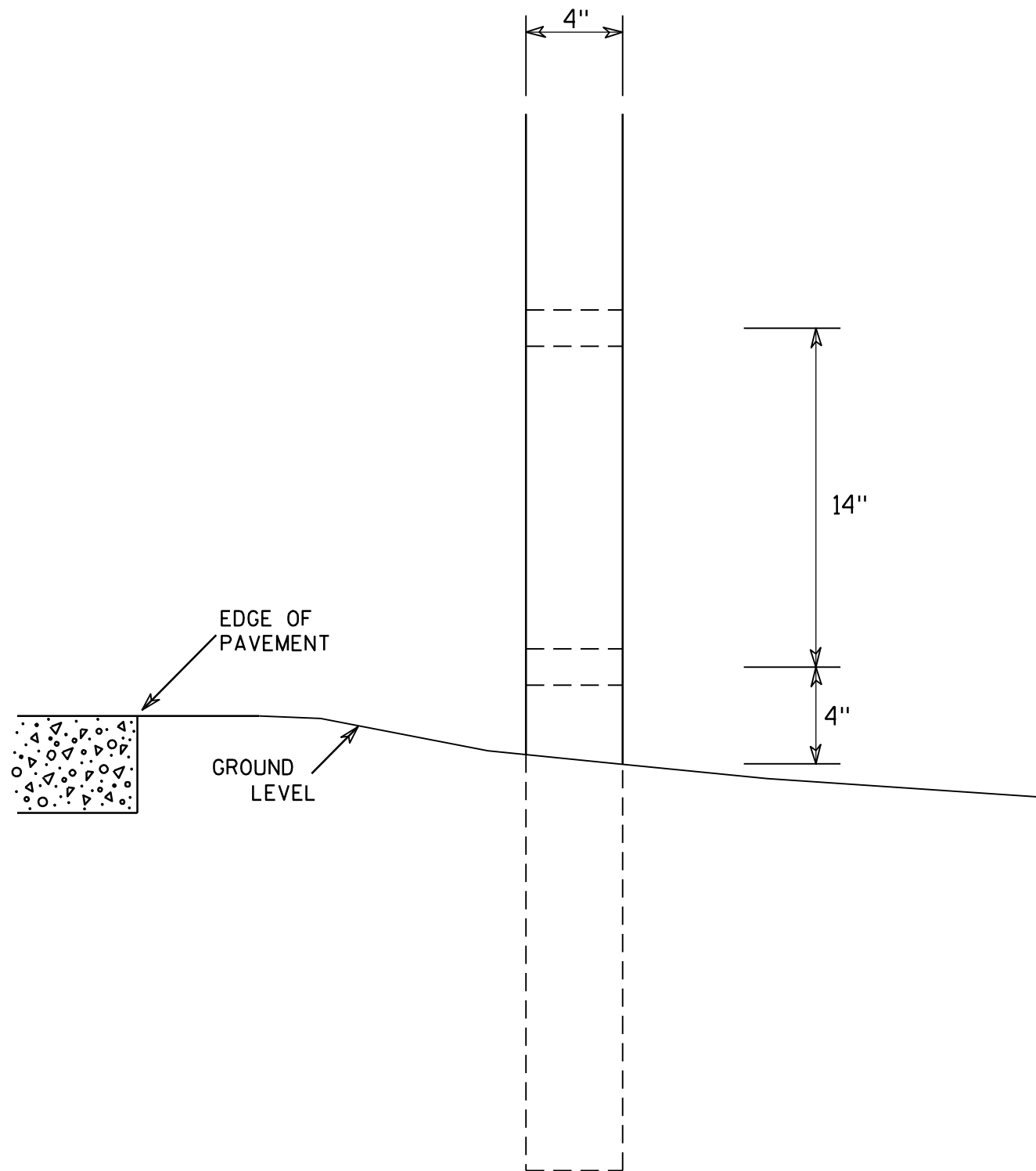
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

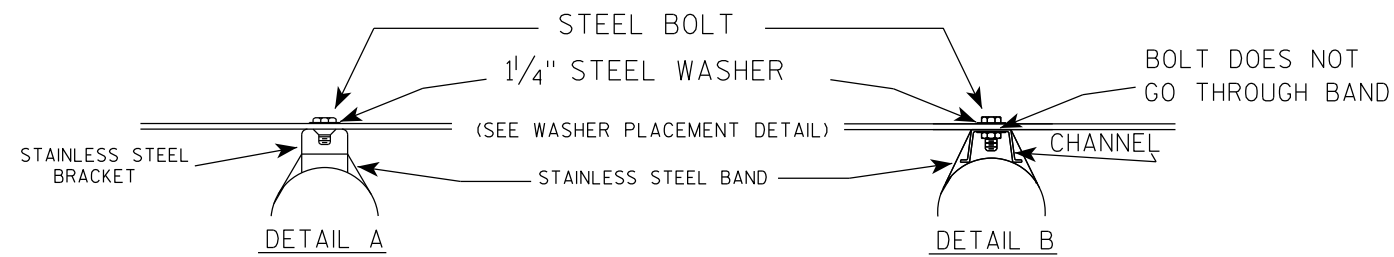
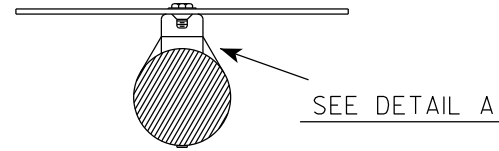
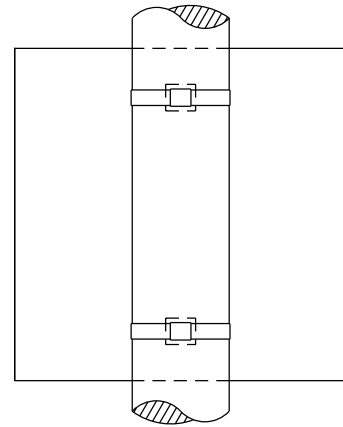
7

<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>



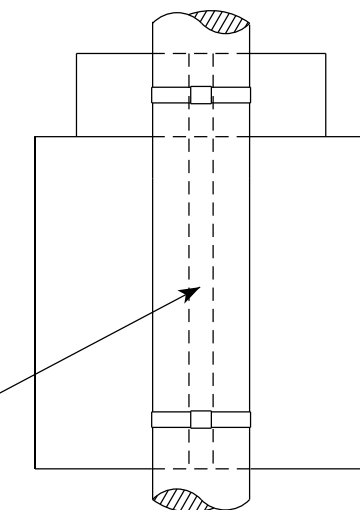
# BANDING

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  $\frac{3}{4}$ " 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

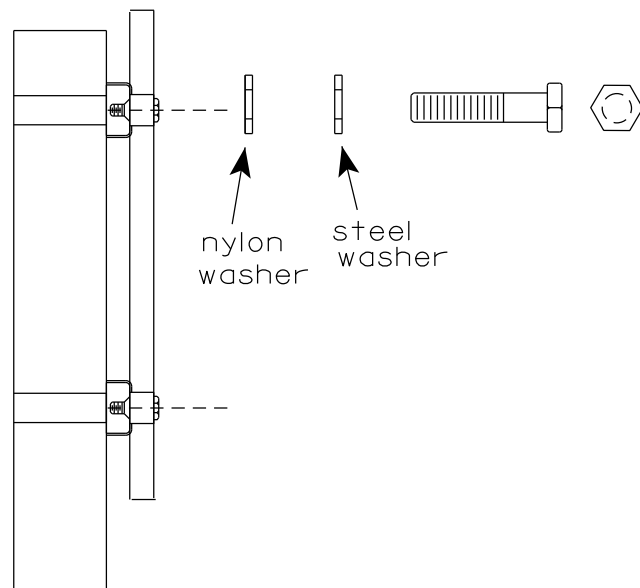
"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



WASHER PLACEMENT



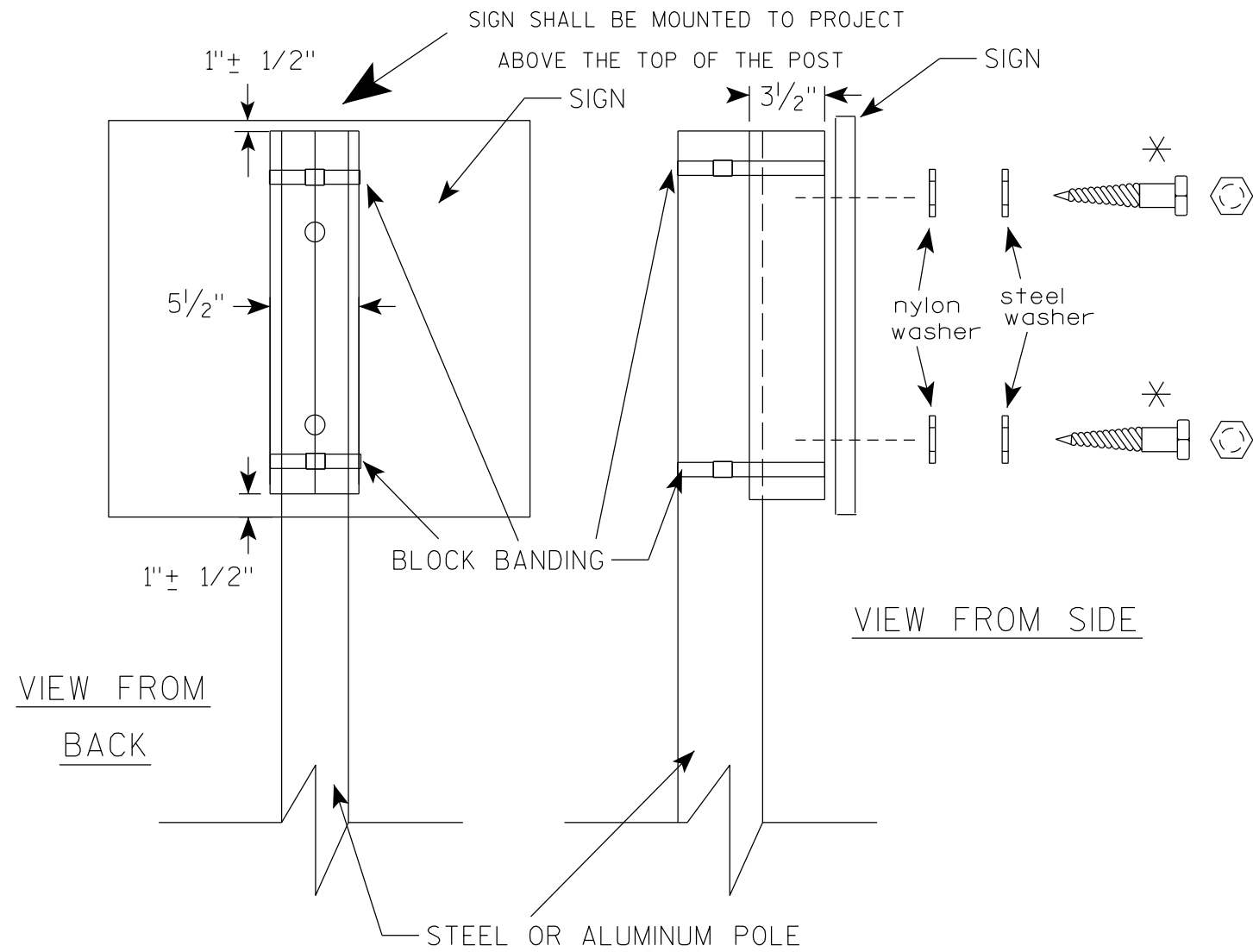
WASHERS (ALL POSTS) -  
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
 FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

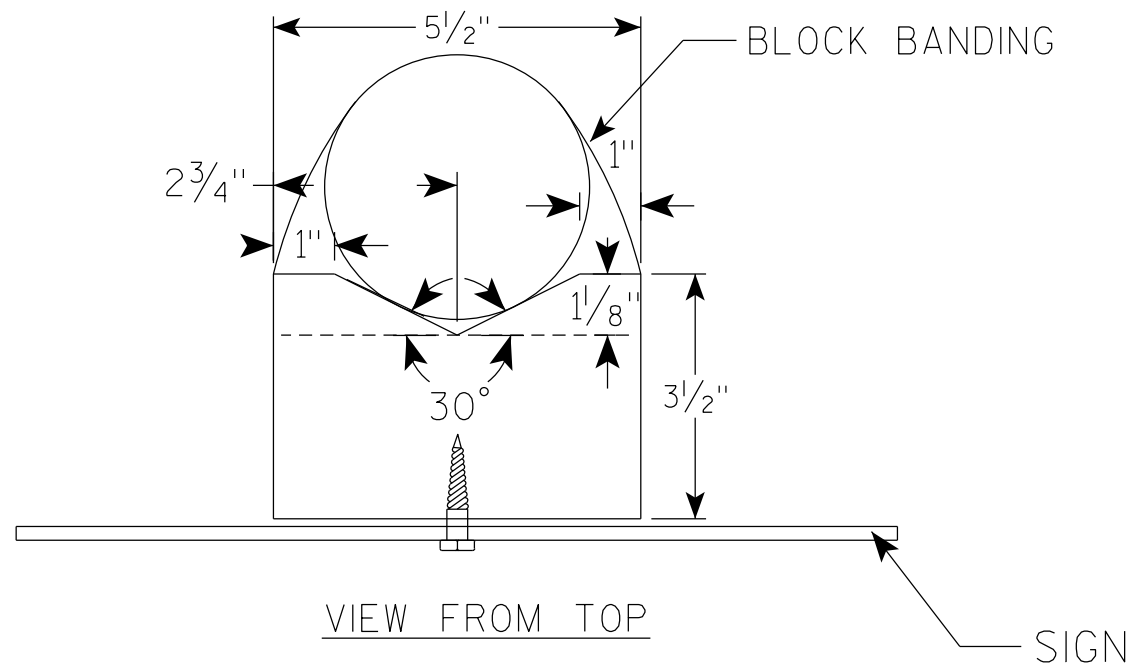
DATE 6/10/19 PLATE NO. A5-9.4



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

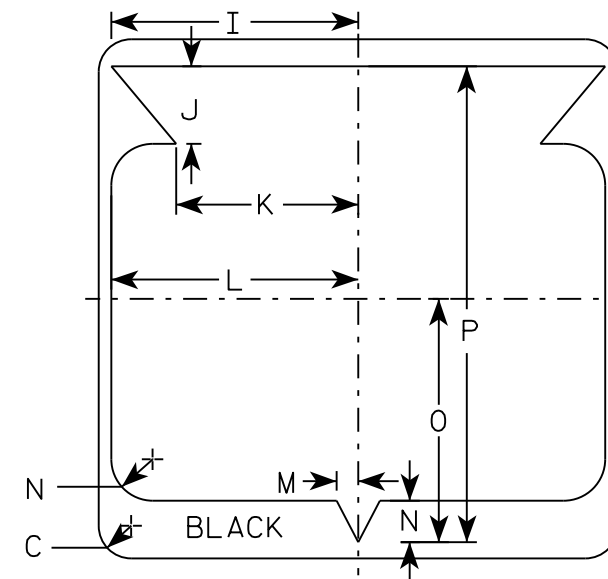
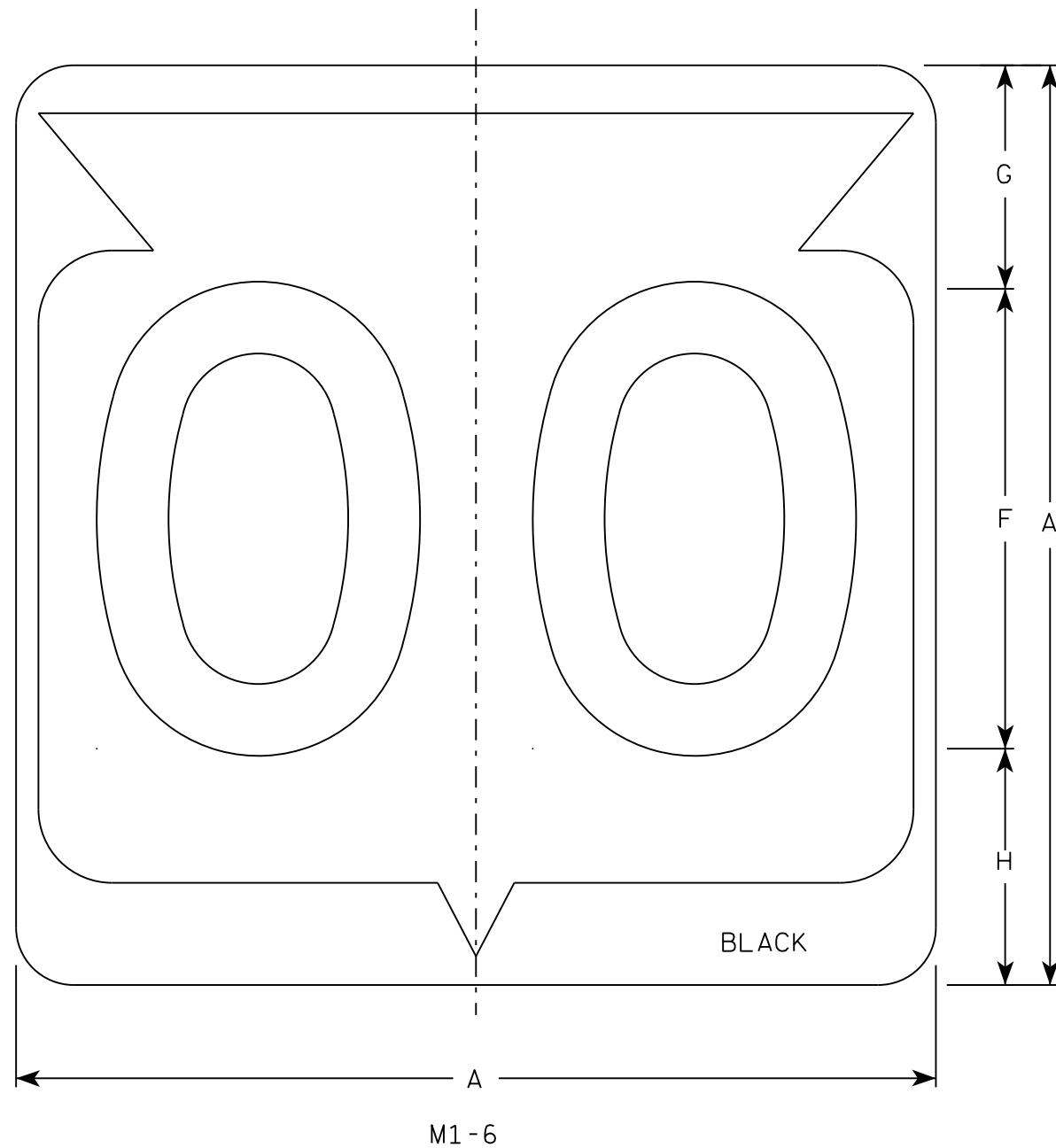
✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"



BLOCK BANDING DETAIL ( V-BLOCK OPTION )	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 4/19/2022	PLATE NO. A5-10.3

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D except 3 number signs Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER  
M1-6 FOR ASSEMBLIES

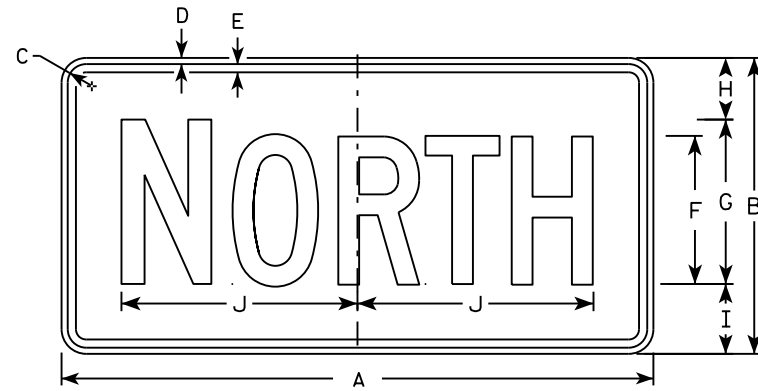
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

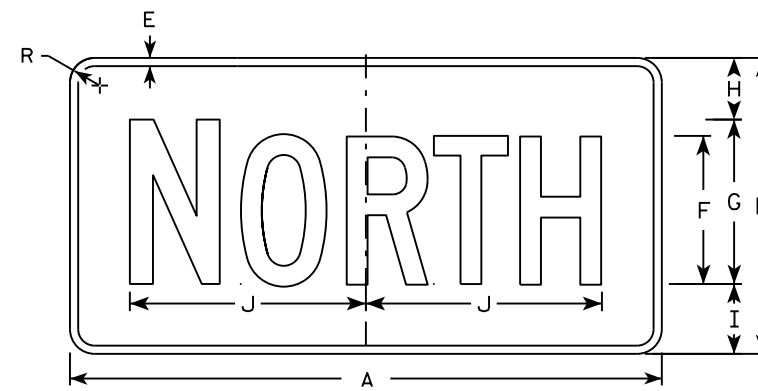
DATE 3/16/18 PLATE NO. M1-6.10

NOTES

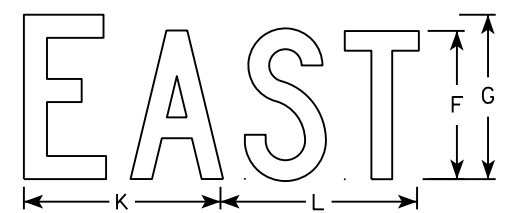
- All Signs Type II - Type H
- Color:
  - Background - See note 5
  - Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M3-1 thru M3-4 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.



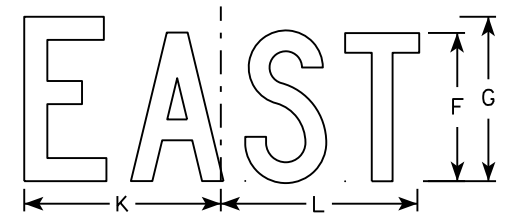
M3-1  
MM3-1  
MP3-1



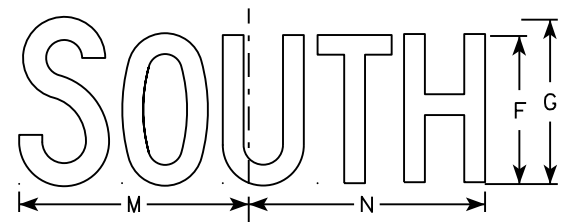
MB3-1  
MK3-1  
MN3-1



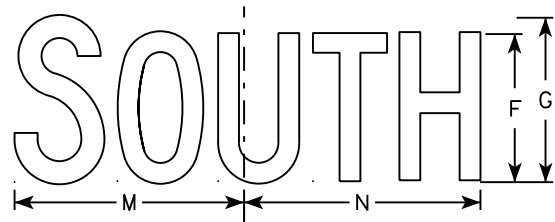
M3-2  
MM3-2  
MP3-2



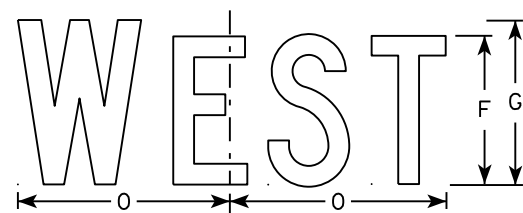
MB3-2  
MK3-2  
MN3-2



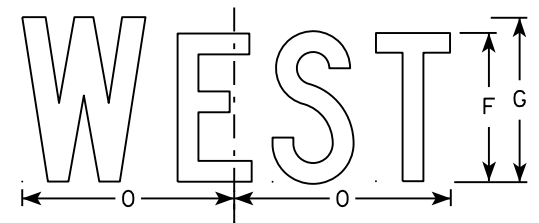
M3-3  
MM3-3  
MP3-3



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

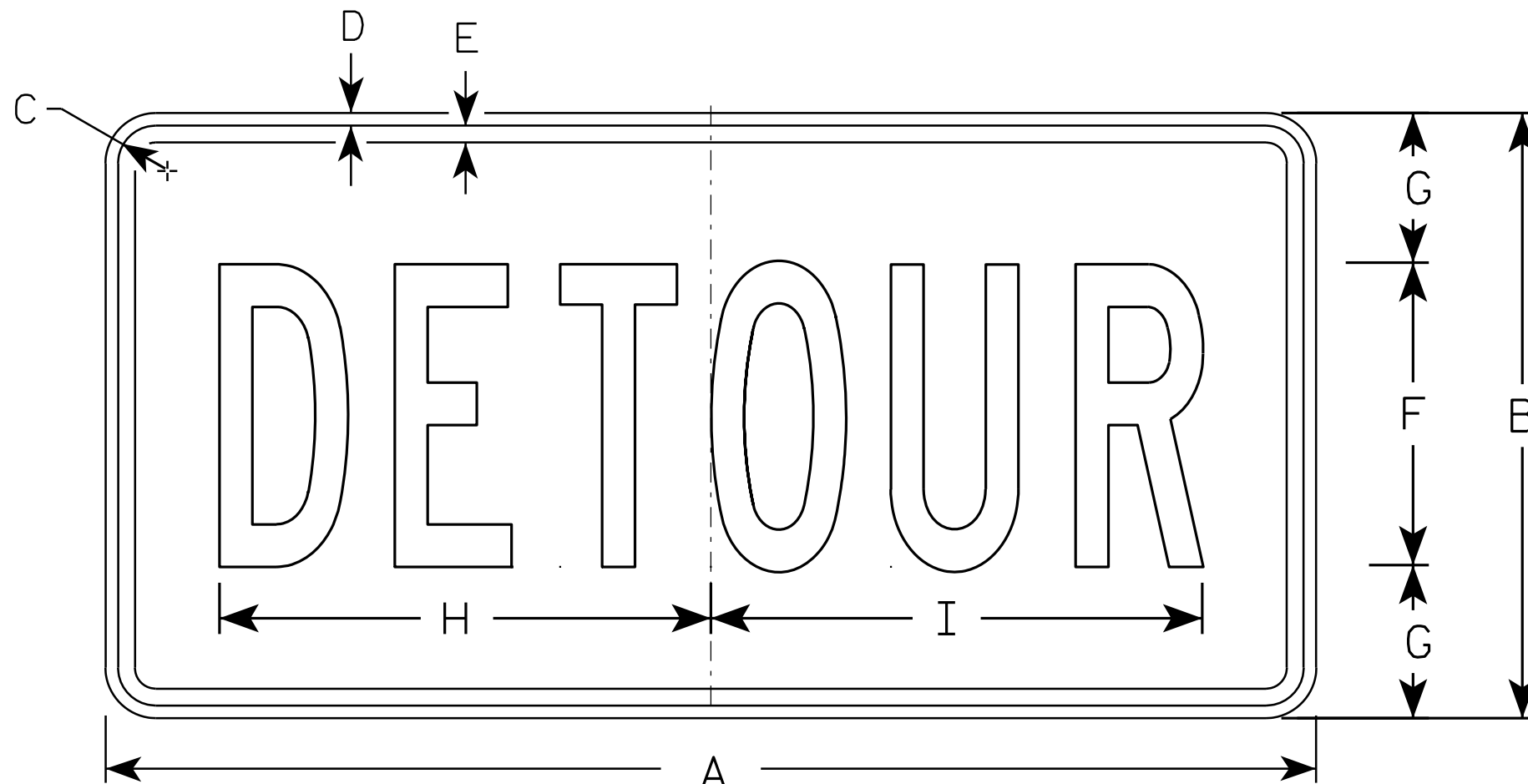
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14

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 - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4-8

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																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

**STANDARD SIGN**  
**M4-8**

WISCONSIN DEPT OF TRANSPORTATION

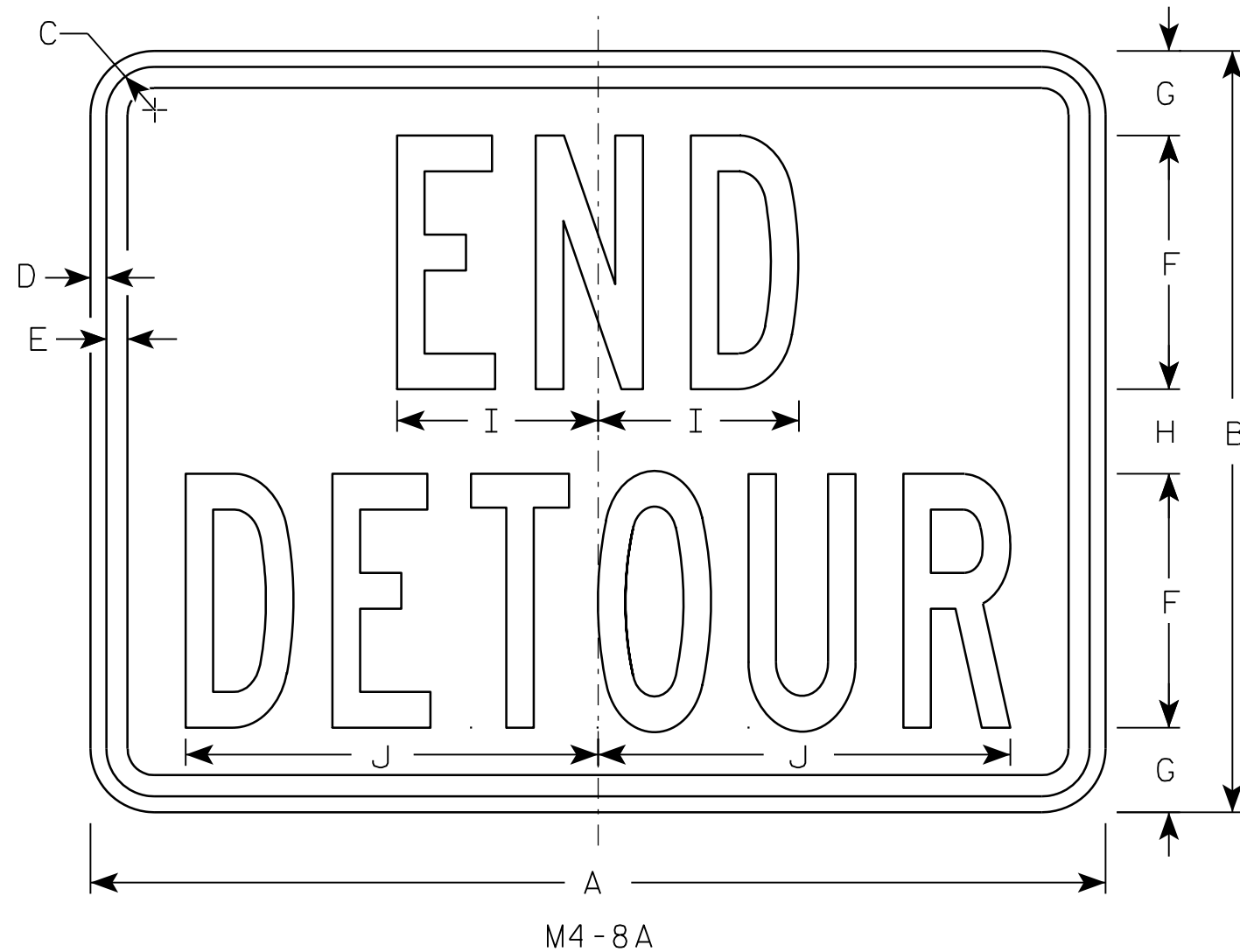
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

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. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



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																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

STANDARD SIGN  
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

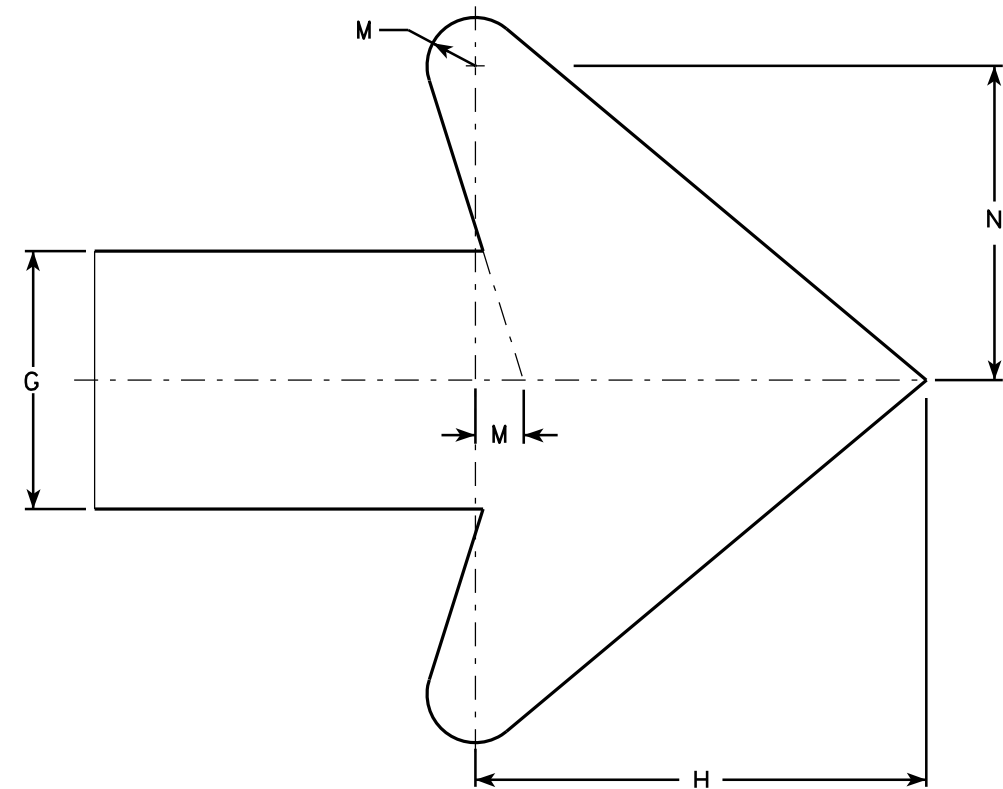
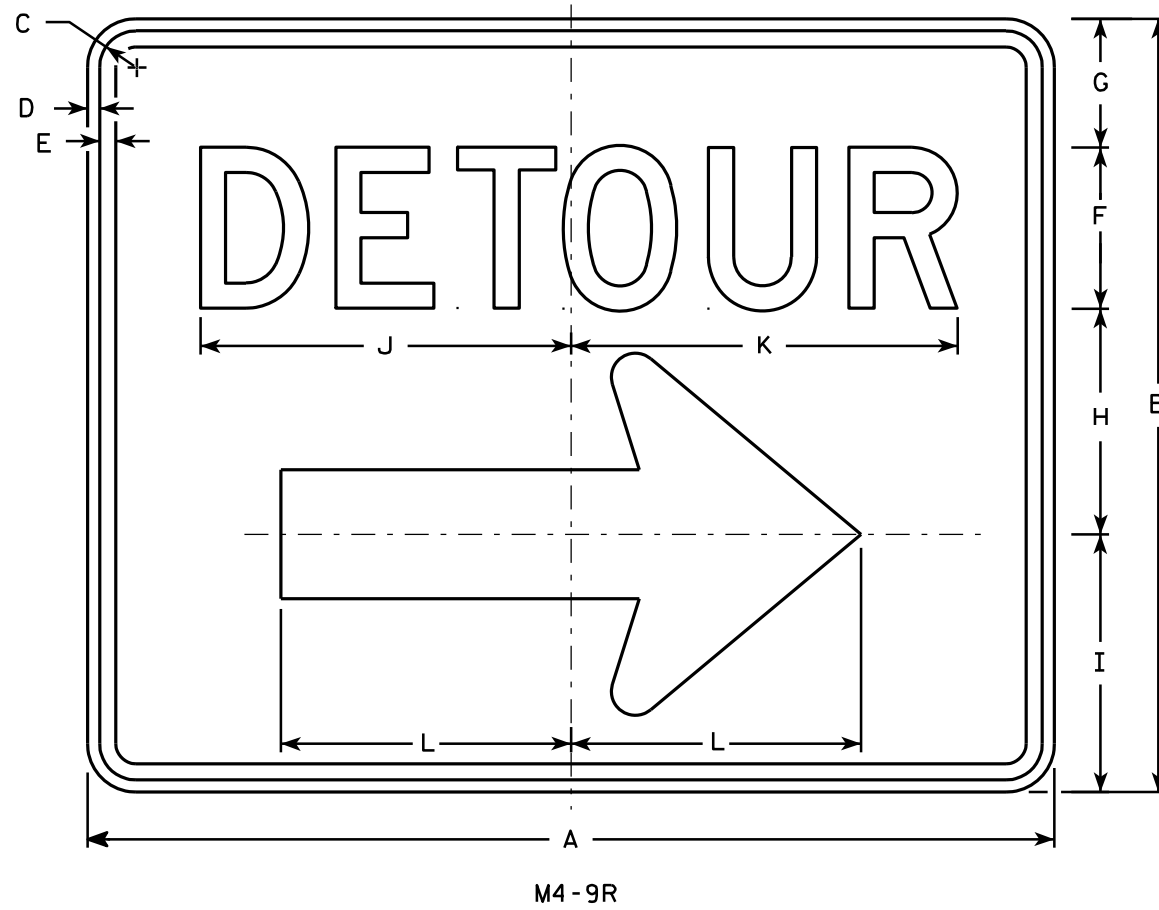
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

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. 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. M4-9L is the same as M4-9R except the arrow is reversed.



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																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

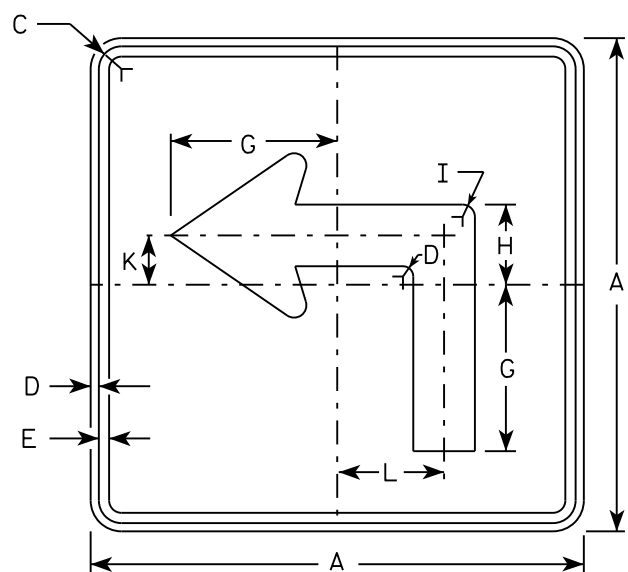
**STANDARD SIGN**  
**M4-9 R & L**

*WISCONSIN DEPT OF TRANSPORTATION*

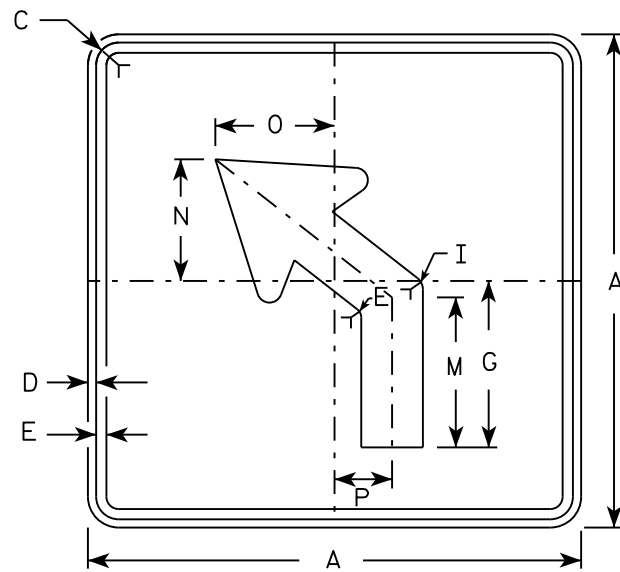
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

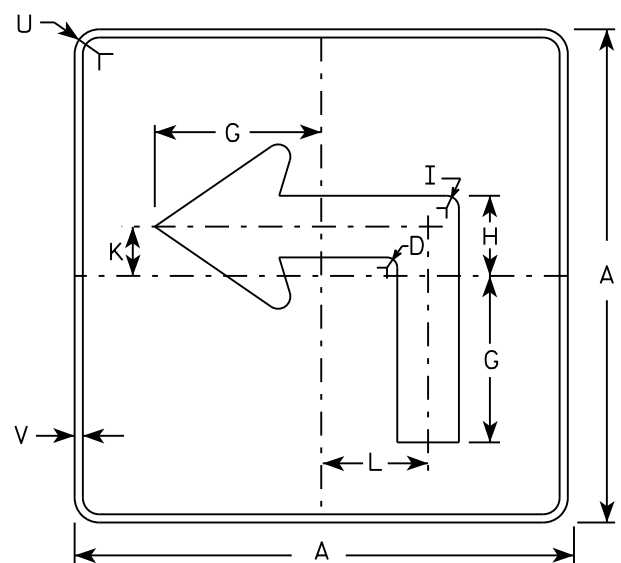
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



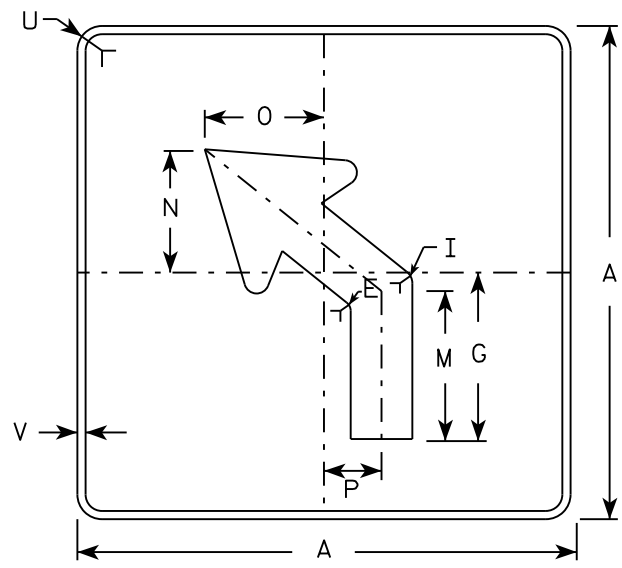
M5-1L  
MM5-1L  
M05-1L  
MP5-1L



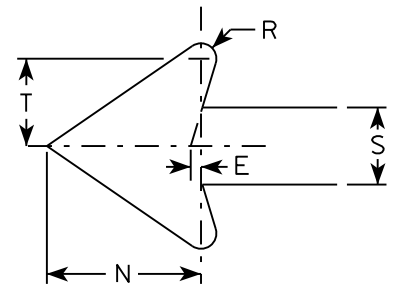
M5-2L  
MM5-2L  
M05-2L  
MP5-2L



MB5-1L  
MK5-1L  
MN5-1L  
MR5-1L



MB5-2L  
MK5-2L  
MN5-2L  
MR5-2L



NOTES

- Signs are Type II - Type H reflective 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.
- M5-1 and M5-2 Background - White  
Message - Black
  - MB5-1 and MB5-2 Background - Blue  
Message - White
  - MK5-1 and MK5-2 Background - Green  
Message - White
  - MM5-1 and MM5-2 Background - White  
Message - Green
  - MN5-1 and MN5-2 Background - Brown  
Message - White
  - M05-1 and M05-2 Background - Orange - Type F Reflective  
Message - Black
  - MP5-1 and MP5-2 Background - White - Type H Reflective  
Message - Blue
  - MR5-1 and MR5-2 Background - Brown  
Message - Yellow
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

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	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

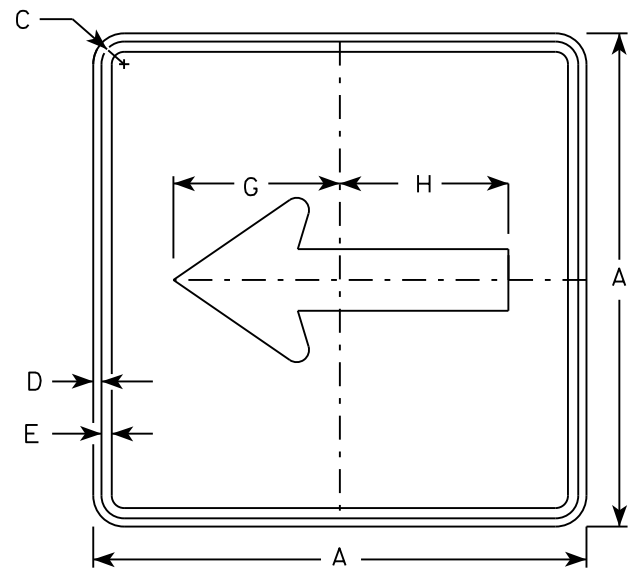
STANDARD SIGN  
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

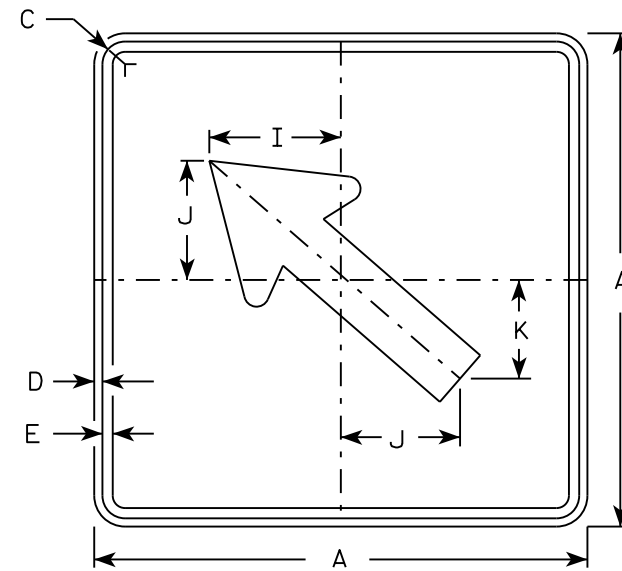
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M5-1.13

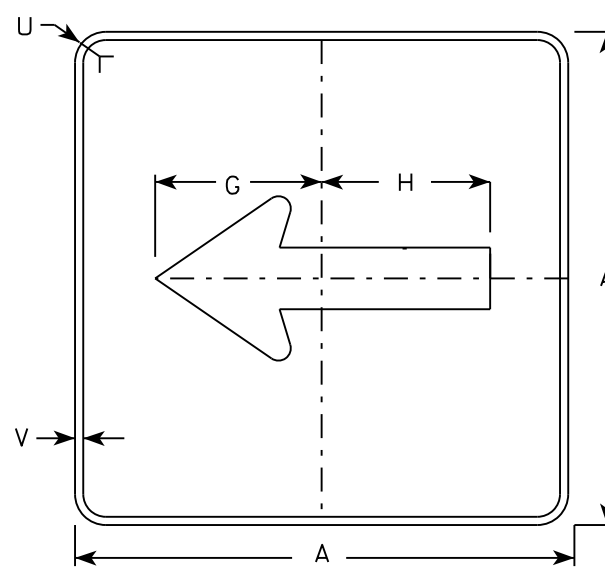




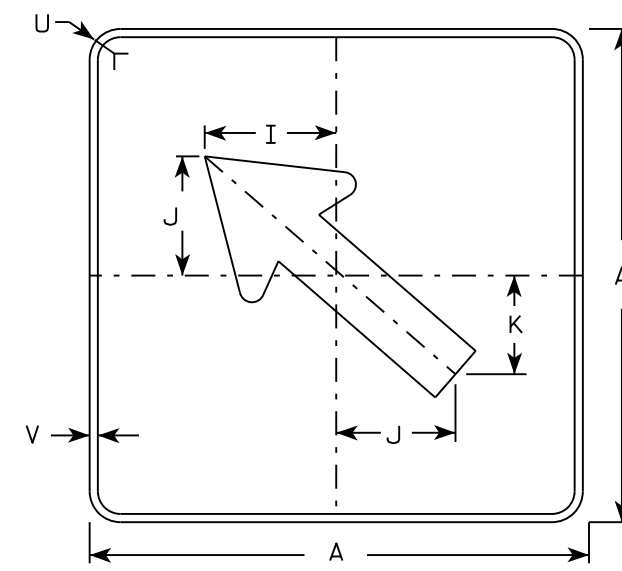
M6-1  
MM6-1  
M06-1  
MP6-1



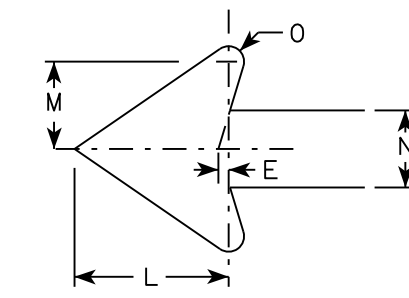
M6-2  
MM6-2  
M06-2  
MP6-2



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

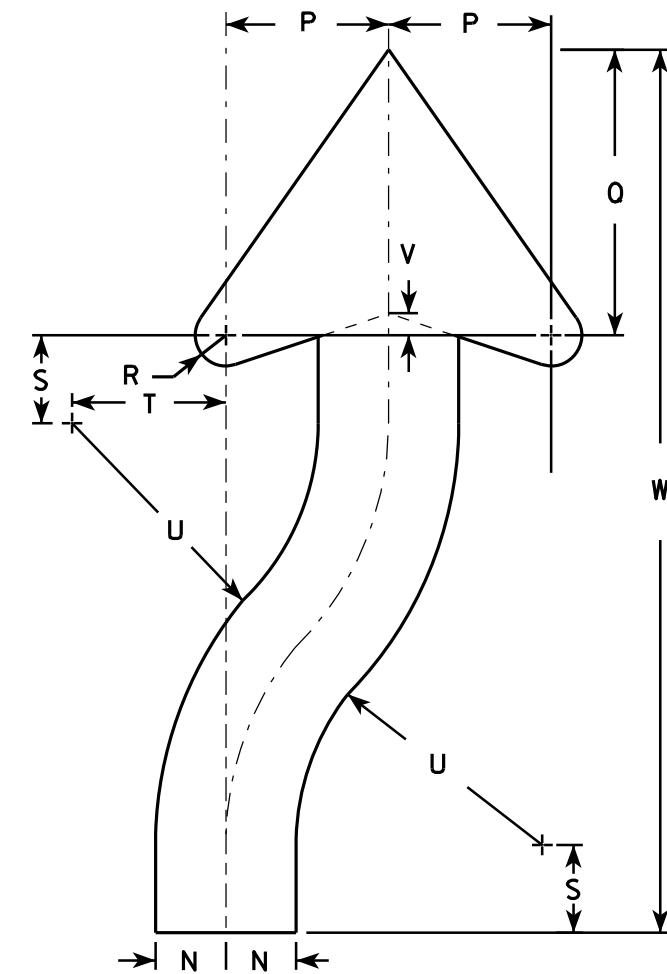
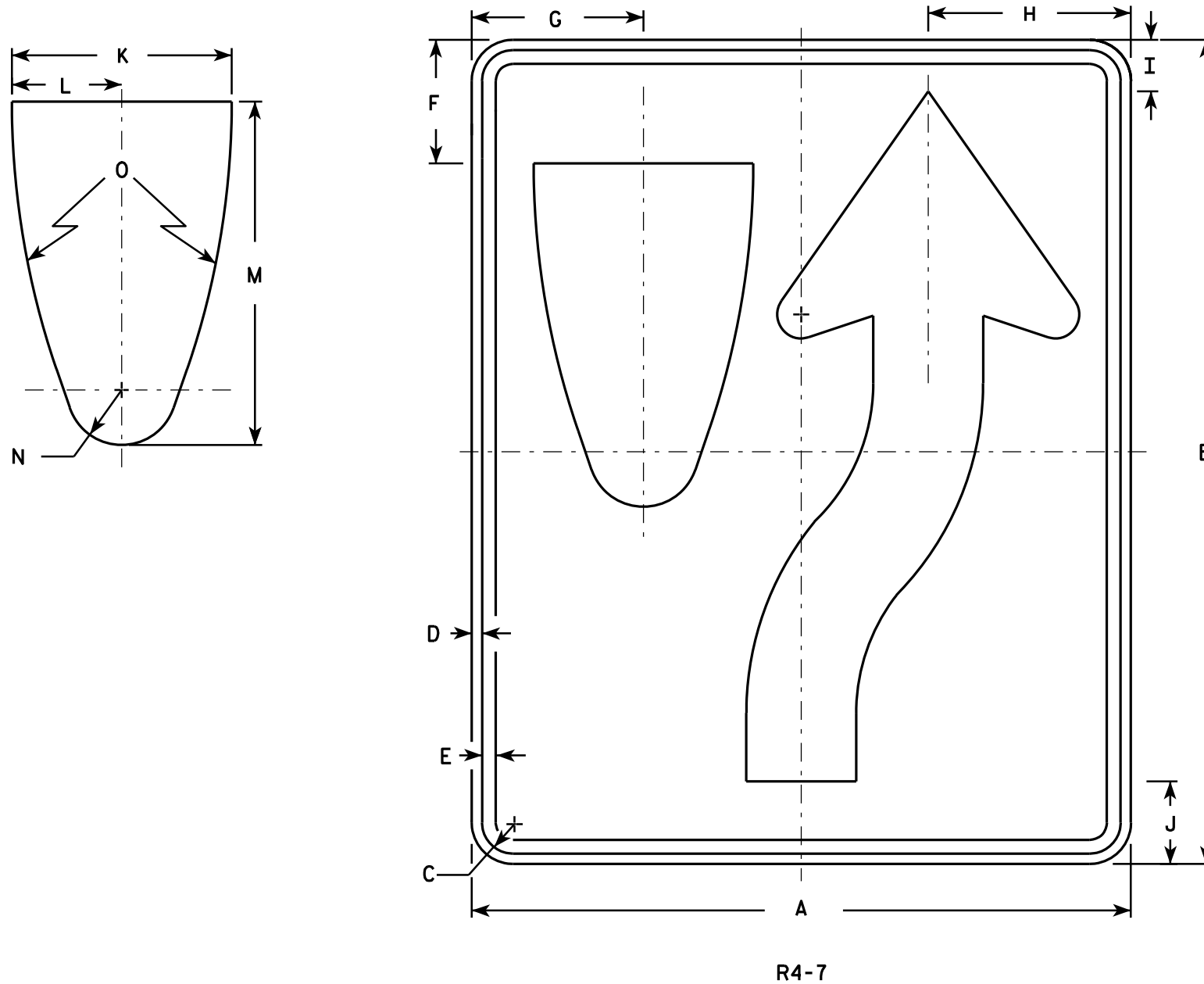
WISCONSIN DEPT OF TRANSPORTATION

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. material is plywood but borders shall be rounded
2. Color:  
Background - White  
Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



**ARROW DETAIL**

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

**STANDARD SIGN**  
**R4-7 & R4-8**

WISCONSIN DEPT OF TRANSPORTATION

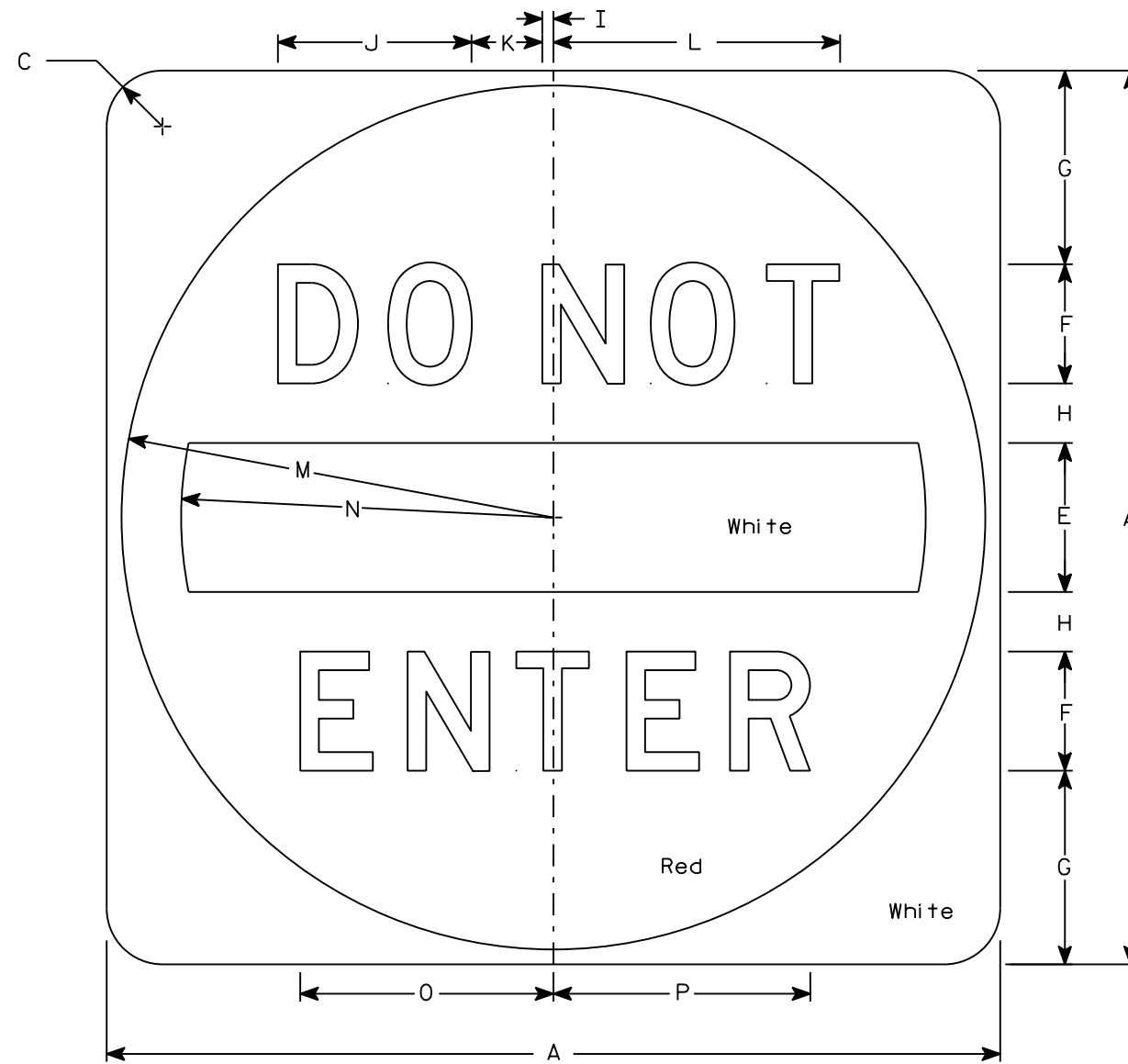
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - See detail  
Message - White
3. Message Series - D



R5-1

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		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.25
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

STANDARD SIGN  
R5-1

WISCONSIN DEPT OF TRANSPORTATION

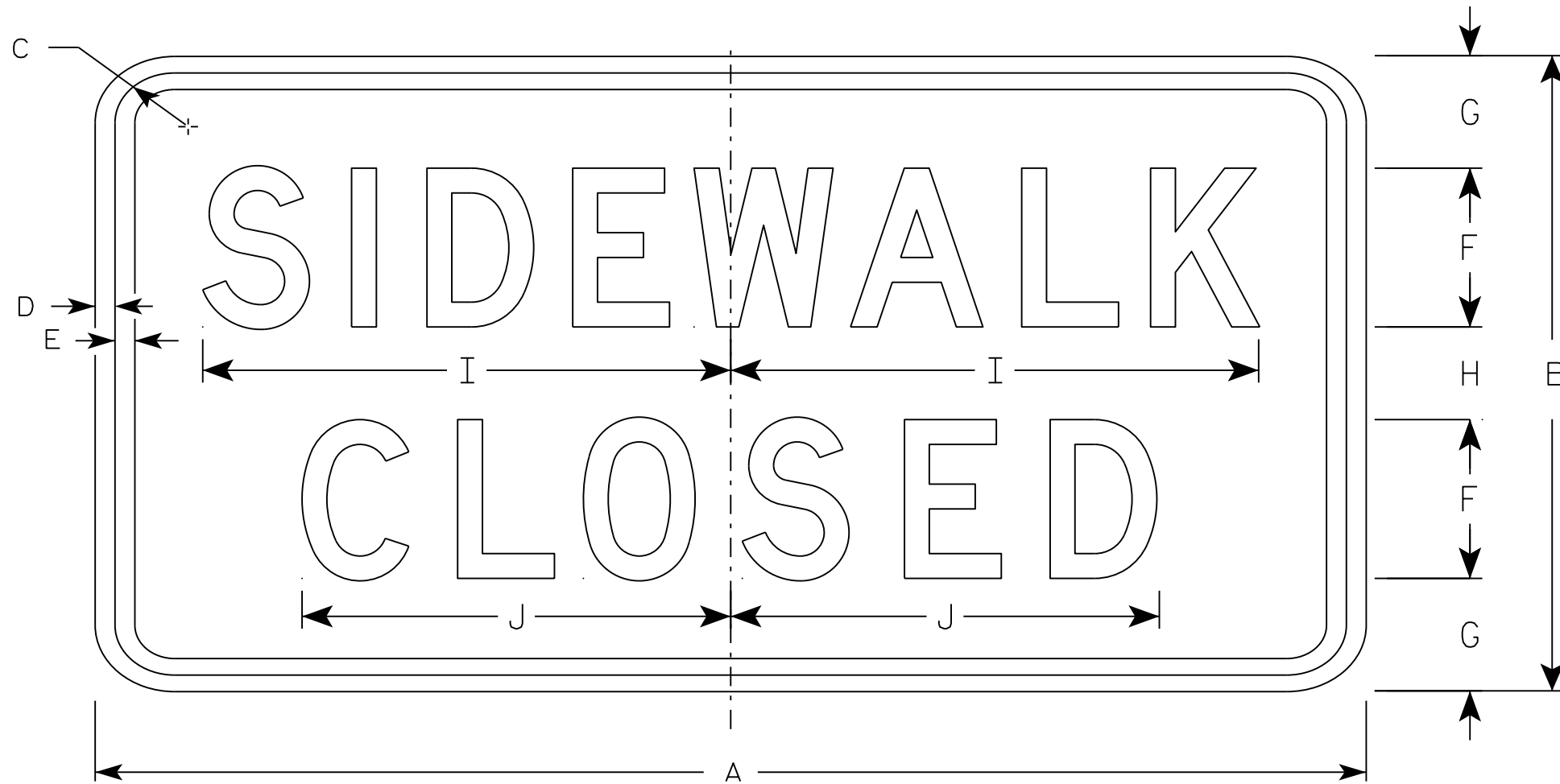
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/15/18 PLATE NO. R5-1.16

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 - 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. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.



R9-9

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	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

STANDARD SIGN  
R9-9

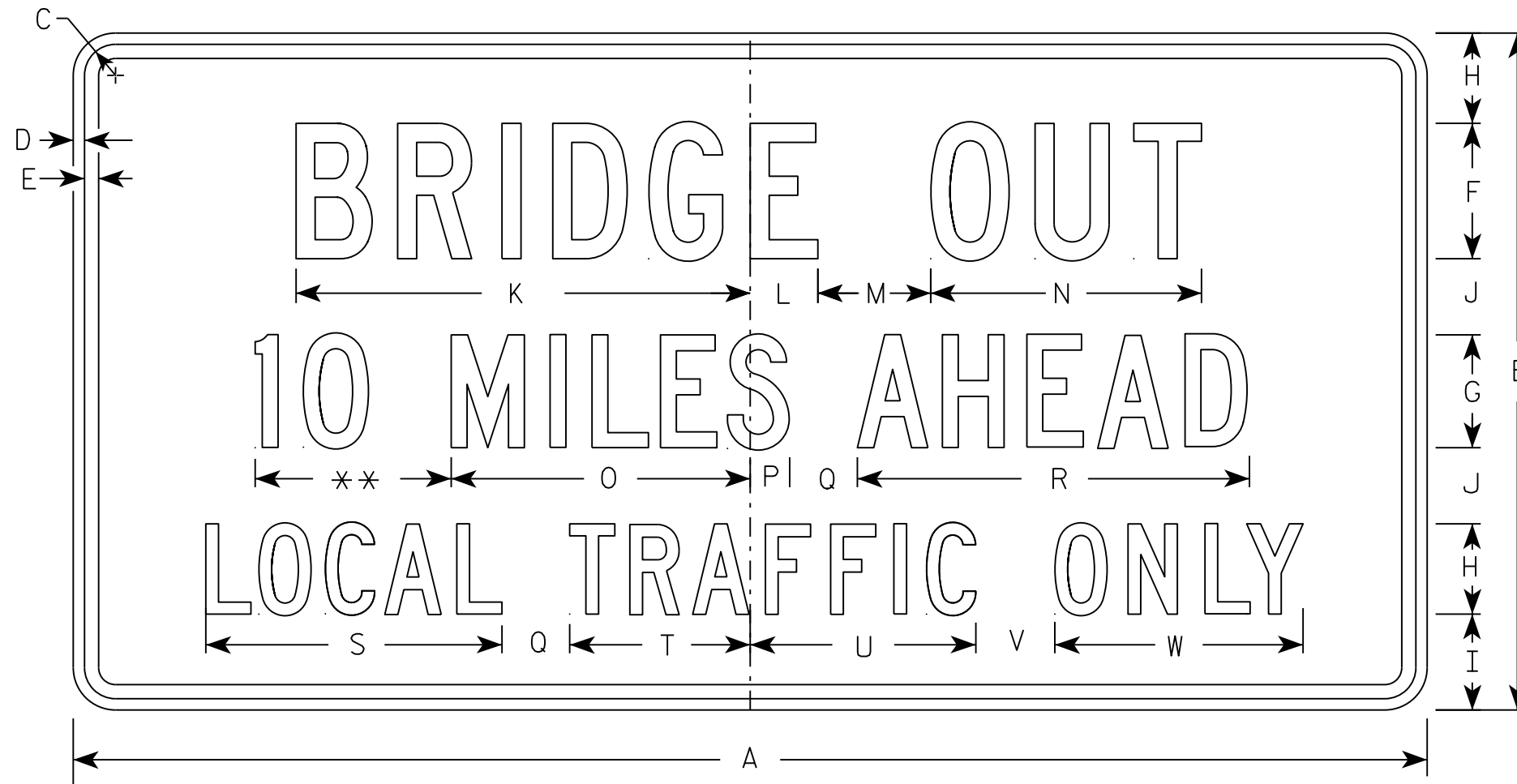
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 8/11/16 PLATE NO. R9-9.6

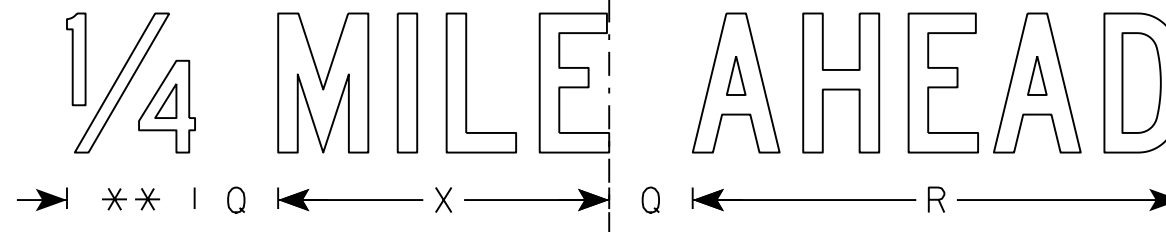
NOTES

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.



\*\* See Note 5

R11-3B



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 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8		4.5	
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8		12.5	
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8		12.5	
3																											
4																											
5																											

STANDARD SIGN  
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

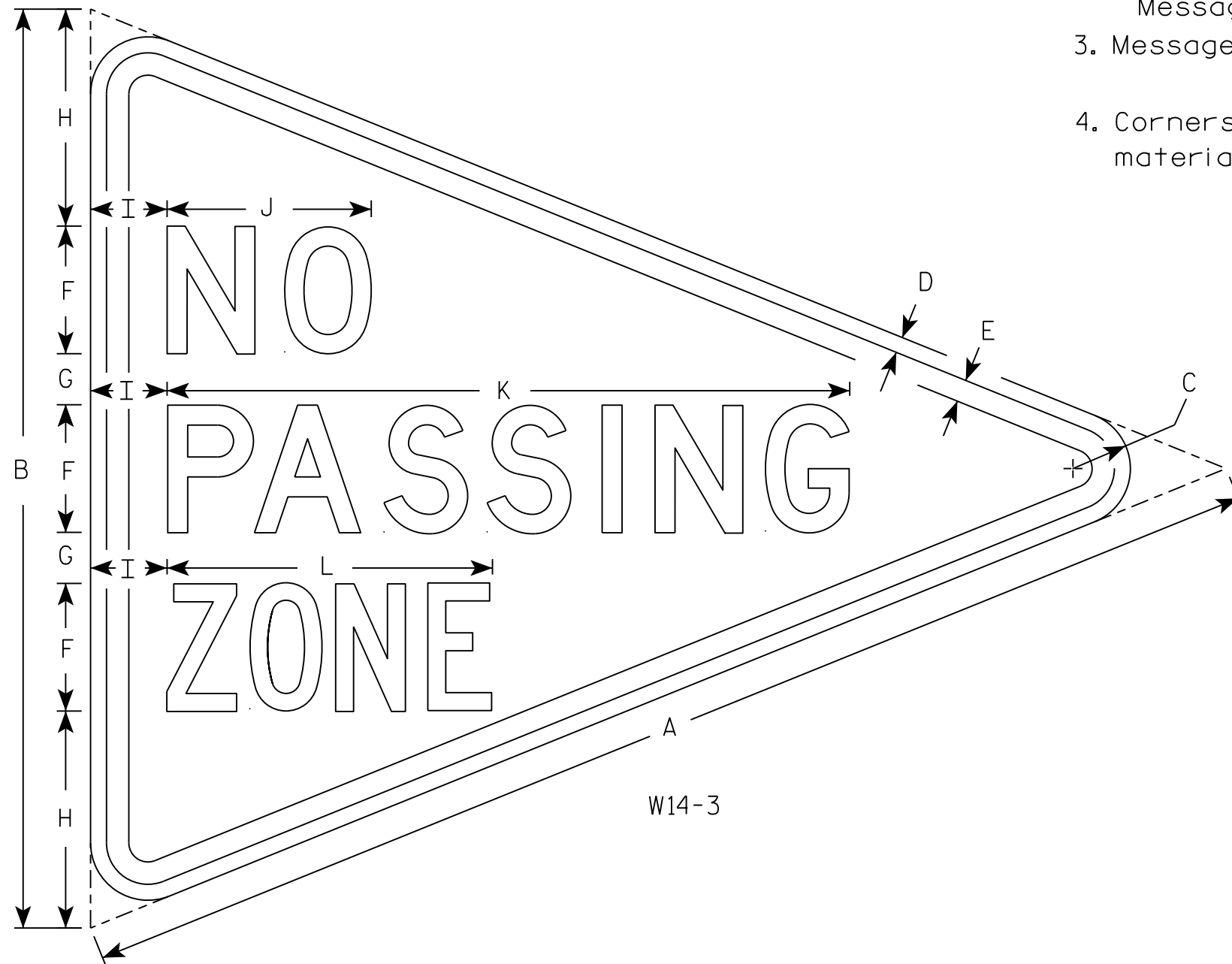
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - Lines 1 and 2 are Series D.  
Line 3 is series C.
4. Corners and borders shall be rounded on all base materials for this sign.



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	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

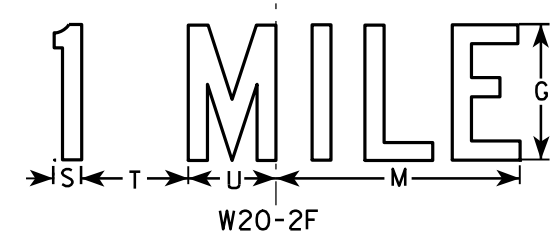
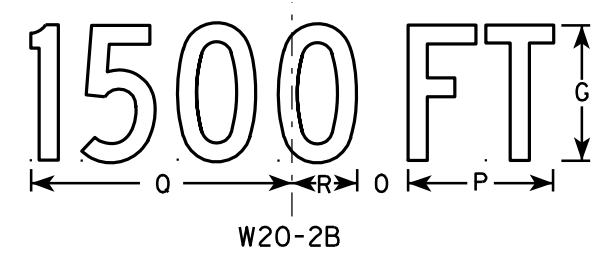
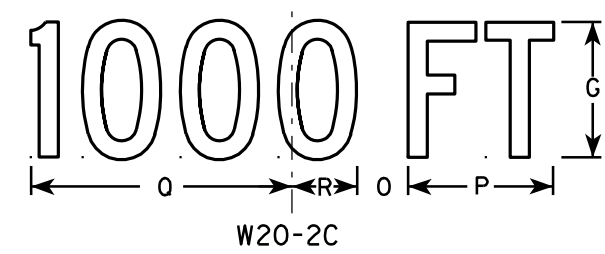
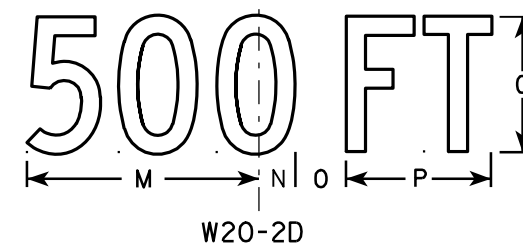
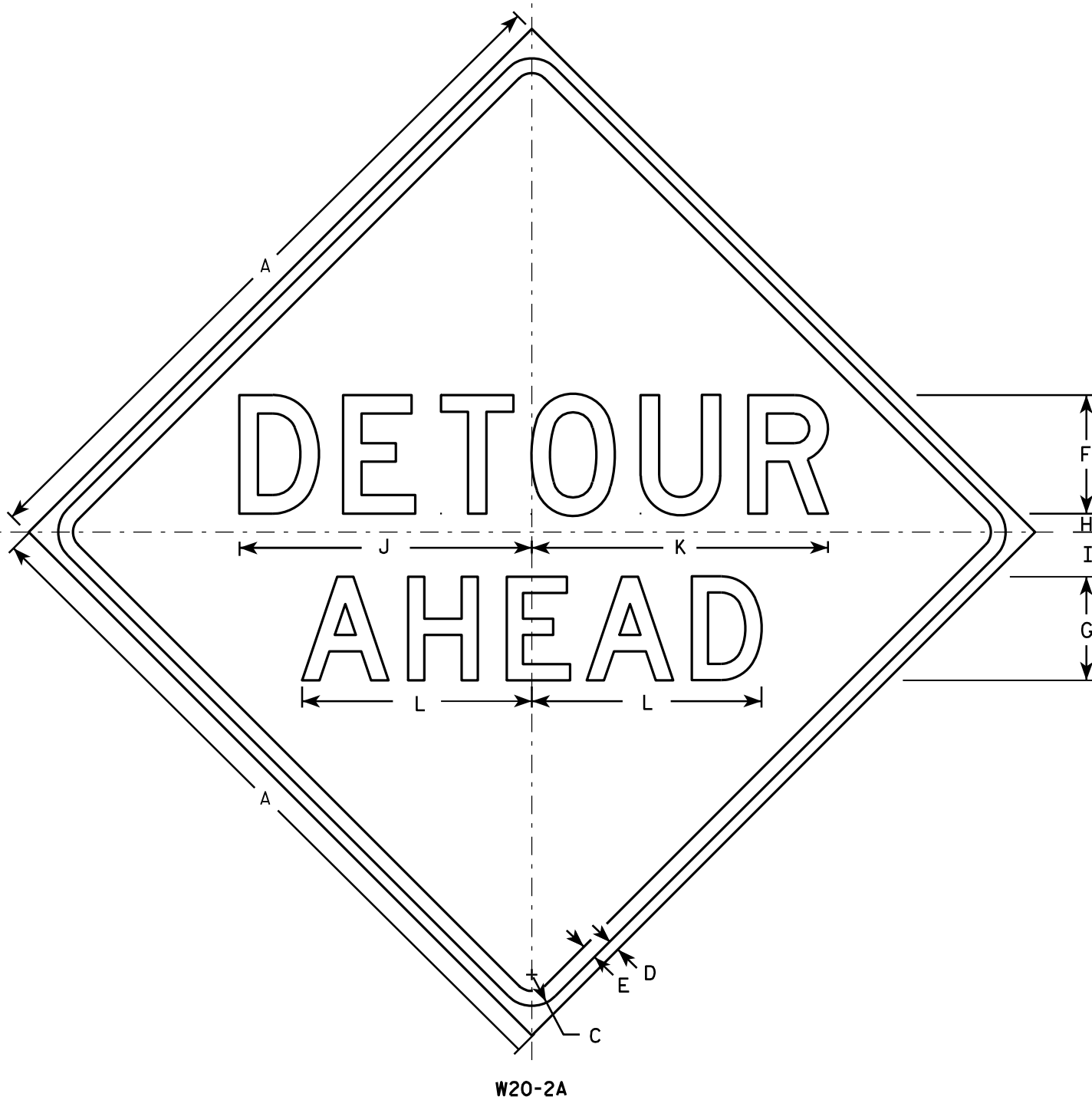
STANDARD SIGN  
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W14-3.10

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. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.  
Line 2 is Series D for AHEAD and Series C for all other distances.

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	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN  
W20-2A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raub*  
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

**DESIGN DATA**

**LIVE LOAD:**  
 DESIGN LOADING: HL-93  
 INVENTORY RATING FACTOR: RF = 1.24  
 OPERATING RATING FACTOR: RF = 1.61  
 WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250(KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

**MATERIAL PROPERTIES:**

CONCRETE MASONRY:  
 SUPERSTRUCTURE & STRUCTURAL APPROACH SLAB — f'c = 4,000 P.S.I.  
 ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT:  
 GRADE 60 — fy = 60,000 P.S.I.  
 STAINLESS, GRADE 60 — fy = 60,000 P.S.I.

**FOUNDATION DATA**

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 165 TONS \*\* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 45'-0" LONG AT SOUTH ABUTMENT. ESTIMATED 40'-0" LONG AT NORTH ABUTMENT.

\*\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

**HYDRAULIC DATA**

**100 YEAR FREQUENCY**  
 Q<sub>100</sub> = 1329 C.F.S.  
 VEL<sub>100</sub> = 10.1 F.P.S.  
 HW<sub>100</sub> = EL. 916.69  
 WATERWAY AREA = 131 SQ. FT.  
 DRAINAGE AREA = 36.7 SQ. MI.  
 ROADWAY OVERTOPPING = N/A  
 SCOUR CRITICAL CODE = 8

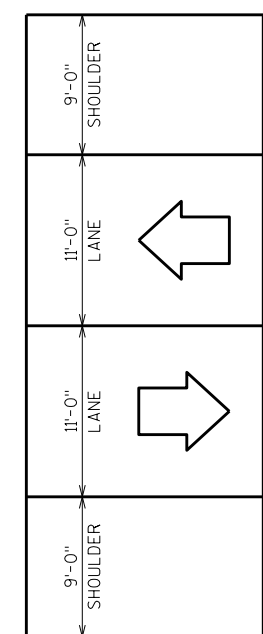
**2 YEAR FREQUENCY**  
 Q<sub>2</sub> = 600 C.F.S.  
 VEL<sub>2</sub> = 5.8 F.P.S.  
 HW<sub>2</sub> = EL. 914.34

**TRAFFIC VOLUME**

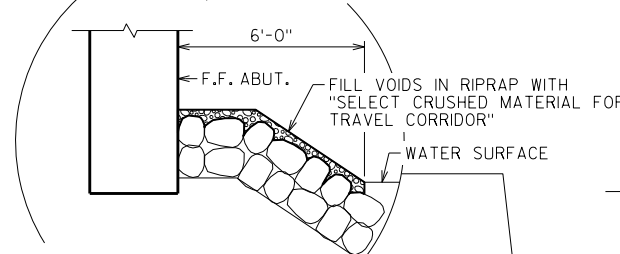
**FEATURE ON**  
 ADT = 4,900 (2023)  
 R.D.S. = 35 M.P.H.

\* PROVIDE FOR THREE BEAM GUARD RAIL ATTACHMENT AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

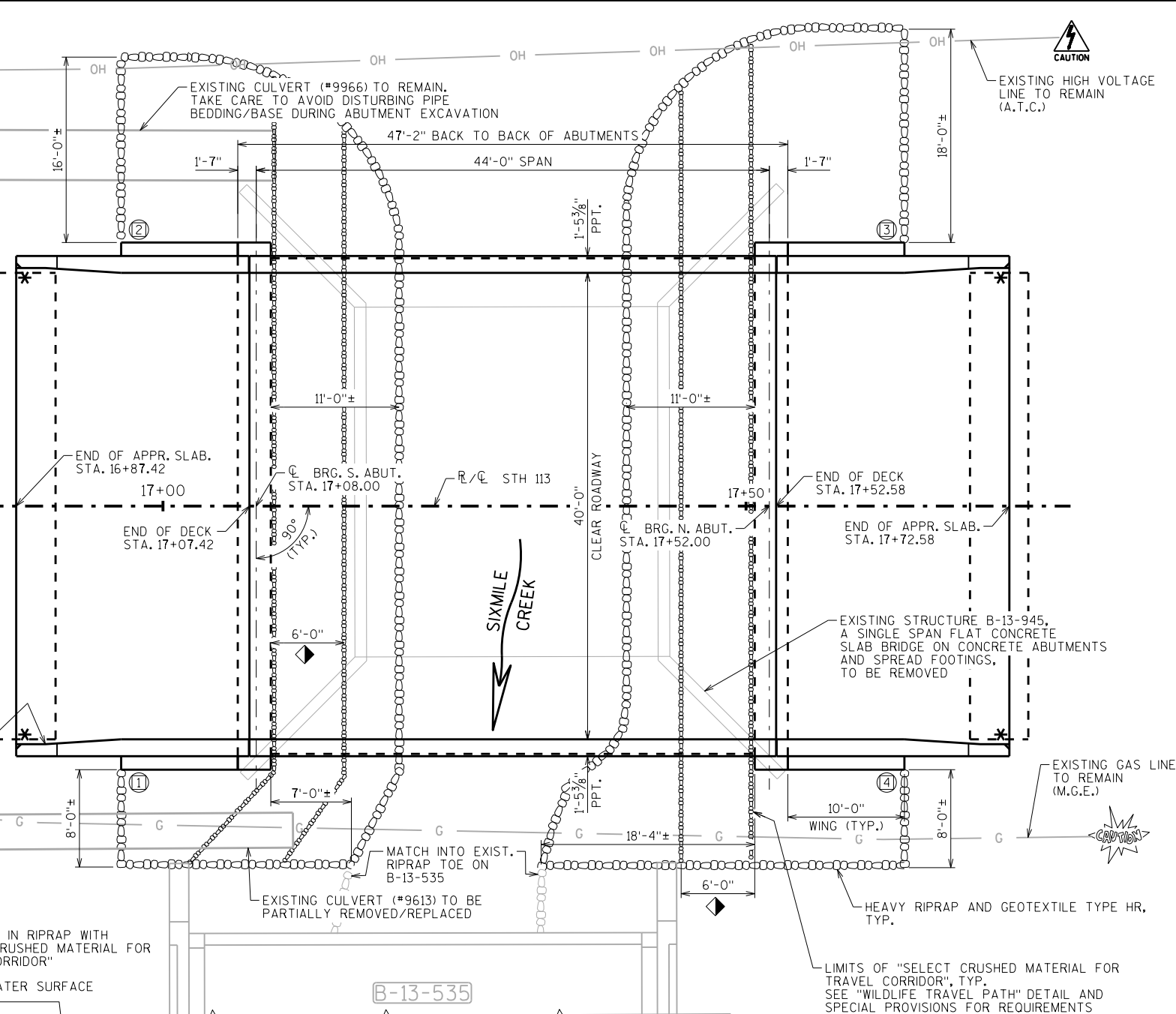
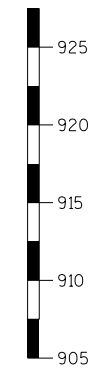
○ INDICATES WING NUMBER



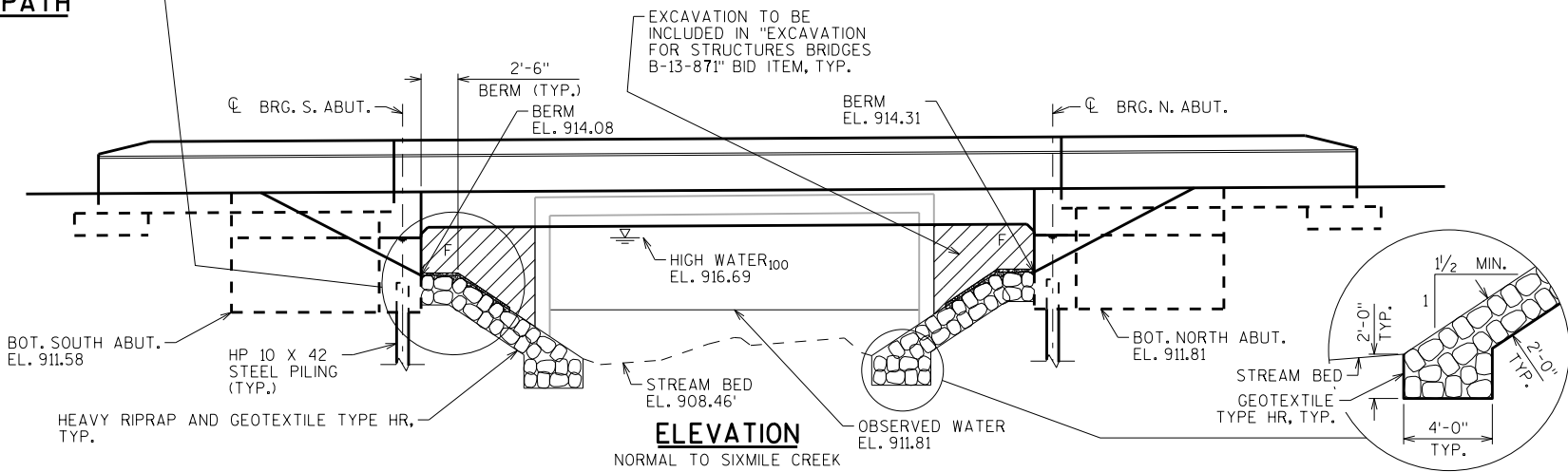
BENCH MARK AND NAME PLATE. FOR LOCATION SEE "SINGLE SLOPE PARAPET 42SS" SHEET



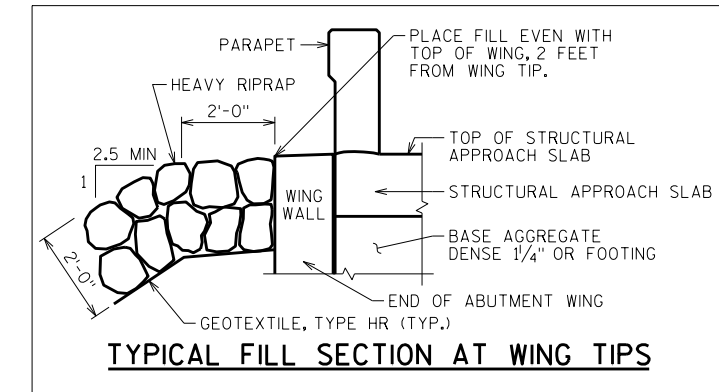
**WILDLIFE TRAVEL PATH**  
 TYP. @ BOTH ABUTMENTS



**PLAN**  
 SINGLE SPAN FLAT CONCRETE SLAB



**ELEVATION**  
 NORMAL TO SIXMILE CREEK



**TYPICAL FILL SECTION AT WING TIPS**

**STRUCTURE DESIGN CONTACTS:**

CHRISTOPHER DOLL (608) 266-3229  
 KYLE BUSCH (608) 267-0465

NO.	DATE	REVISION	BY

**BUREAU OF STRUCTURES**  
 ACCEPTED: *[Signature]* KHB 7/24/23  
 CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE B-13-871**  
 STH 113 OVER SIXMILE CREEK

COUNTY: DANE VILLAGE: WAUNAKEE

DESIGN SPEC: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS  
 DESIGNED BY: CAD DESIGNED CK'D: IDL DRAWN BY: CAD PLANS CK'D: IDL

**GENERAL PLAN** SHEET 1 OF 11

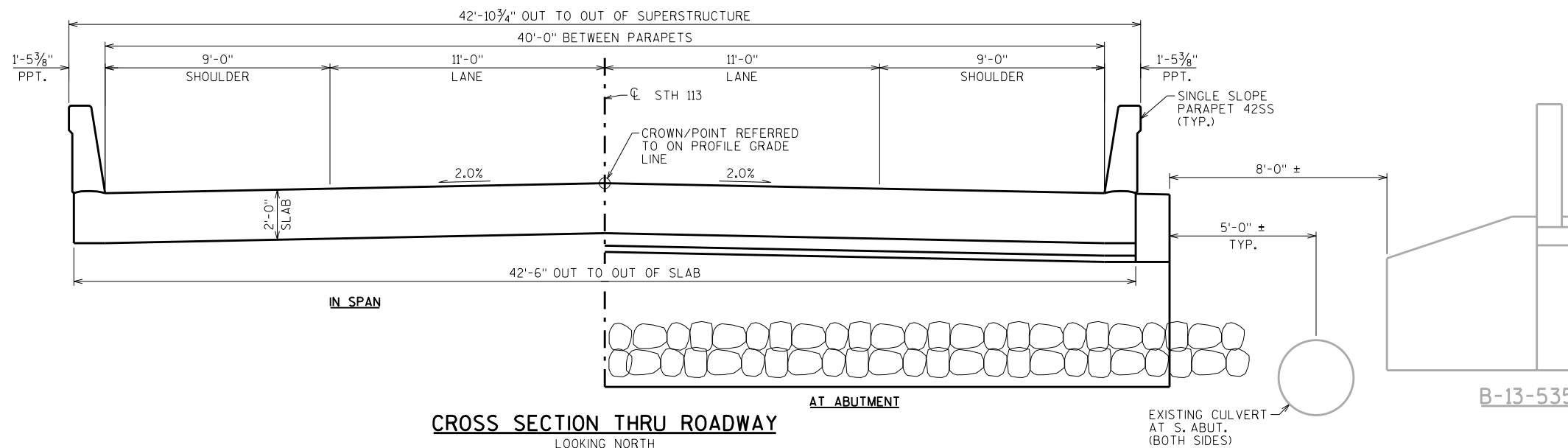
**LIST OF DRAWINGS**

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. STRUCTURAL APPROACH SLABS
11. SINGLE SLOPE PARAPET 42SS

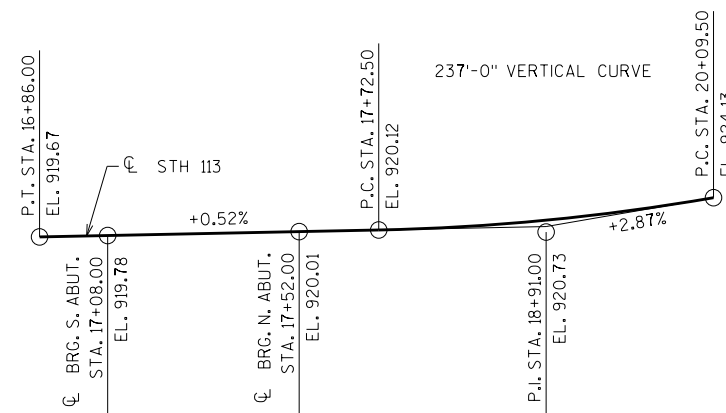


**GENERAL NOTES**

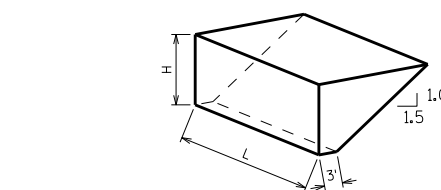
- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-13-871" SHALL BE THE EXISTING GROUNDLINE.
- AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A. ALSO EXCLUDED IS THE "BASE AGGREGATE DENSE 1 1/4-INCH" AS DETAILED ON THE STRUCTURAL APPROACH SLAB SHEETS.
- EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.
- THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.
- PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.
- PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.
- THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.
- SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.
- AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.
- THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.
- CONSTRUCTION OF BRIDGE B-13-871 MAY NEED TO BE ACCOMPLISHED BENEATH AND/OR ADJACENT TO ENERGIZED OVERHEAD 69 KV ELECTRIC TRANSMISSION LINES OWNED AND OPERATED BY THE AMERICAN TRANSMISSION COMPANY (ATC). THE HORIZONTAL AND VERTICAL LOCATION OF THESE LINES CAN VARY WITH WIND, AMBIENT TEMPERATURE, AND POWER LOADING. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING IF IT IS SAFE TO WORK NEAR THE 69 KV FACILITIES BASED ON THE LATEST OSHA REQUIREMENTS. ATC MANAGEMENT OUTAGE REQUESTS CAN BE MADE ON A ONE-TO-THREE DAY INTERVAL AND ARE FIRST COME, FIRST SERVE BASED ON DEMAND, WEATHER, AND TIME OF YEAR. ATC MANAGEMENT WILL NEED 6 TO 8 WEEKS NOTICE TO DETERMINE IF AN OUTAGE CAN BE OBTAINED AT THE TIME REQUESTED. IF AN OUTAGE IS APPROVED, THE CONTRACTOR SHALL COMPLETE A THIRD-PARTY OUTAGE AGREEMENT WITH ATC MANAGEMENT.



**CROSS SECTION THRU ROADWAY**  
LOOKING NORTH



**PROFILE GRADE LINE - STH 113**



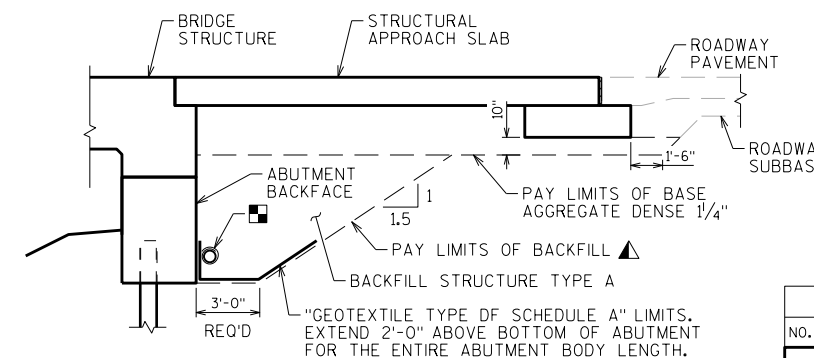
**ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY**

- L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
- H = AVERAGE ABUTMENT FILL HEIGHT (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
- $V_{CY} = V_{CF} (EF) / 27$
- $V_{TON} = V_{CY} (2.0)$

**TOTAL ESTIMATED QUANTITIES**

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	S. STRUCT. APP. SLAB	SOUTH ABUT.	NORTH ABUT.	N. STRUCT. APP. SLAB	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-13-945	EACH	---	---	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-13-871	EACH	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	---	90	90	---	180
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	---	134	---	---	134	268
502.0100	CONCRETE MASONRY BRIDGES	CY	164.7	58.7	39.4	39.4	58.7	361
502.3200	PROTECTIVE SURFACE TREATMENT	SY	223	90	---	---	90	403
502.3210	PIGMENTED SURFACE SEALER	SY	45	20	---	---	20	85
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	---	2700	2700	---	5400
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	30,780	9890	1260	1270	9890	53,090
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	390	---	---	---	---	390
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	---	11	11	---	22
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	---	---	315	280	---	595
606.0300	RIPRAP HEAVY	CY	---	---	87	98	---	185
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	---	80	80	---	160
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	---	2	---	---	2	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	---	38	38	---	76
645.0120	GEOTEXTILE TYPE HR	SY	---	---	139	155	---	294
SPV.0090	PRE-BORING SPECIAL	LF	---	---	16 ☆	16 ☆	---	32 ☆
SPV.0195	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	---	---	34	34	---	68
	NON-BID ITEMS							
	FILLER	SIZE						1/2", 3/4", 1 1/2"

☆ QUANTITY SHOWN ASSUMES PRE-BORING WILL BE REQUIRED AT 2 PILES PER ABUTMENT (WORST CASE). PREBORING MAY ONLY BE REQUIRED AT 1 PILE PER ABUTMENT, REDUCING THE PAY QUANTITY BY 50%.



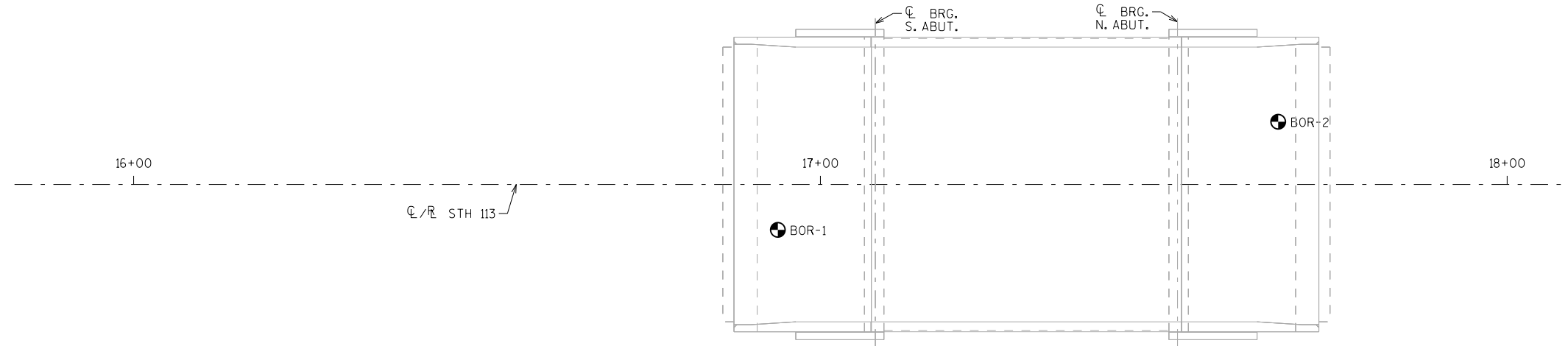
**TYPICAL SECTION THRU ABUTMENT**

- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6 INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-13-871</b>			
DRAWN BY		CAD	PLANS CK'D. IDL
<b>CROSS SECTION &amp; QUANTITIES</b>			SHEET 2

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	8/27/2021	526938.1	800457.6
2	8/30/2021	527010.9	800441.6

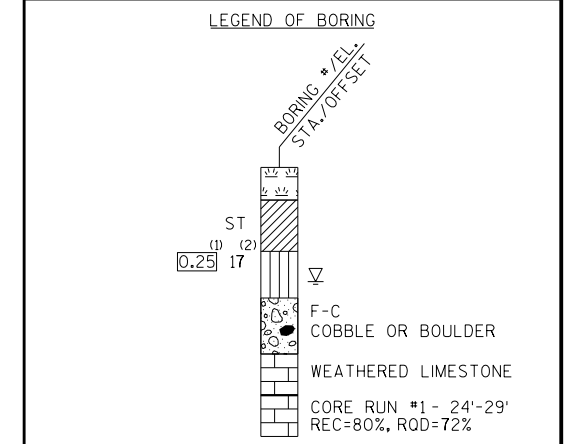
BORINGS COMPLETED BY: GESTRA  
 REPORT COMPLETED BY: WISDOT  
 ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DANE COUNTY  
 COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT



STATE PROJECT NUMBER  
**5280-03-70**

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

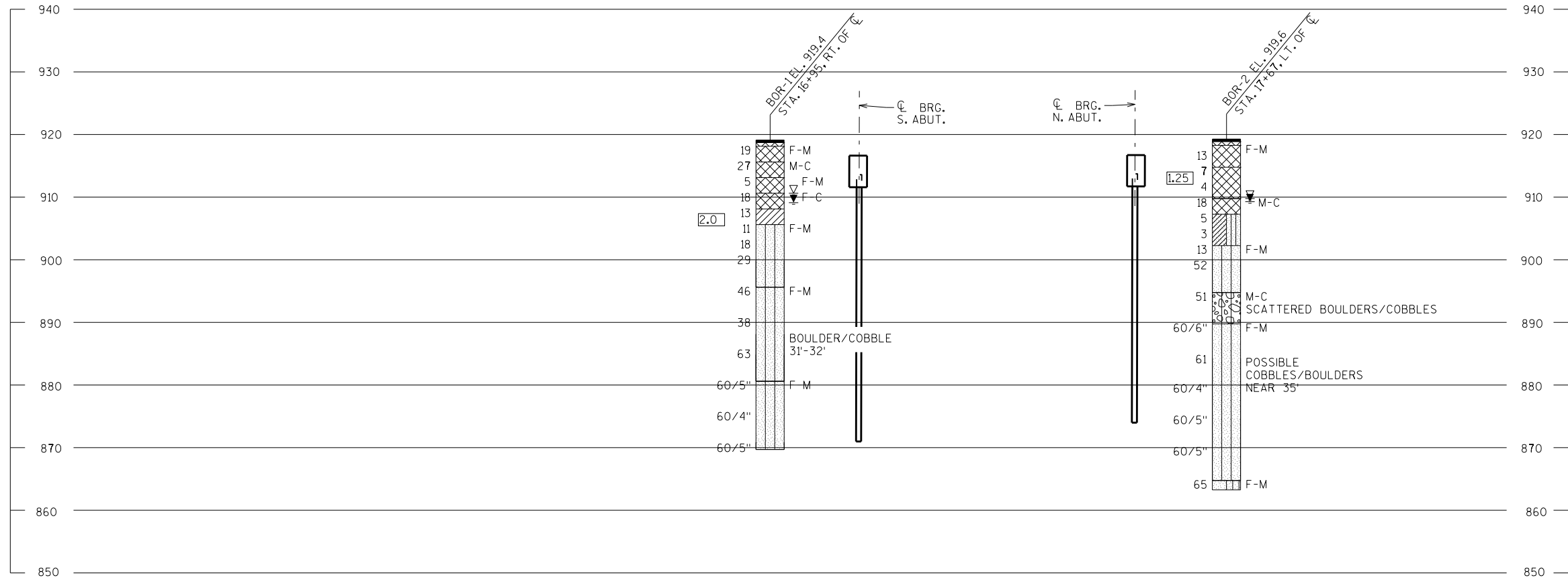
- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

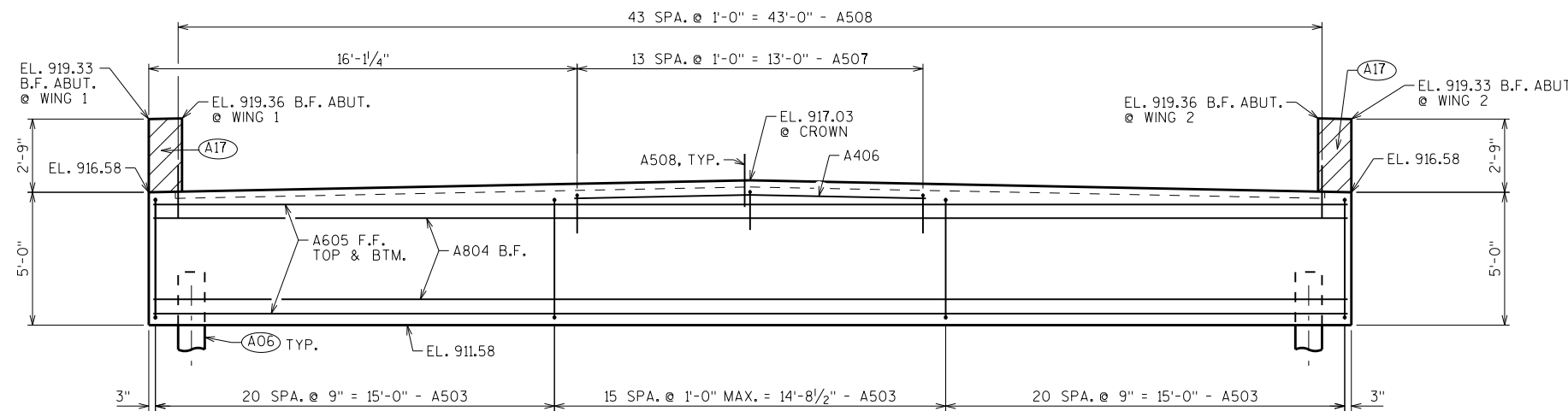


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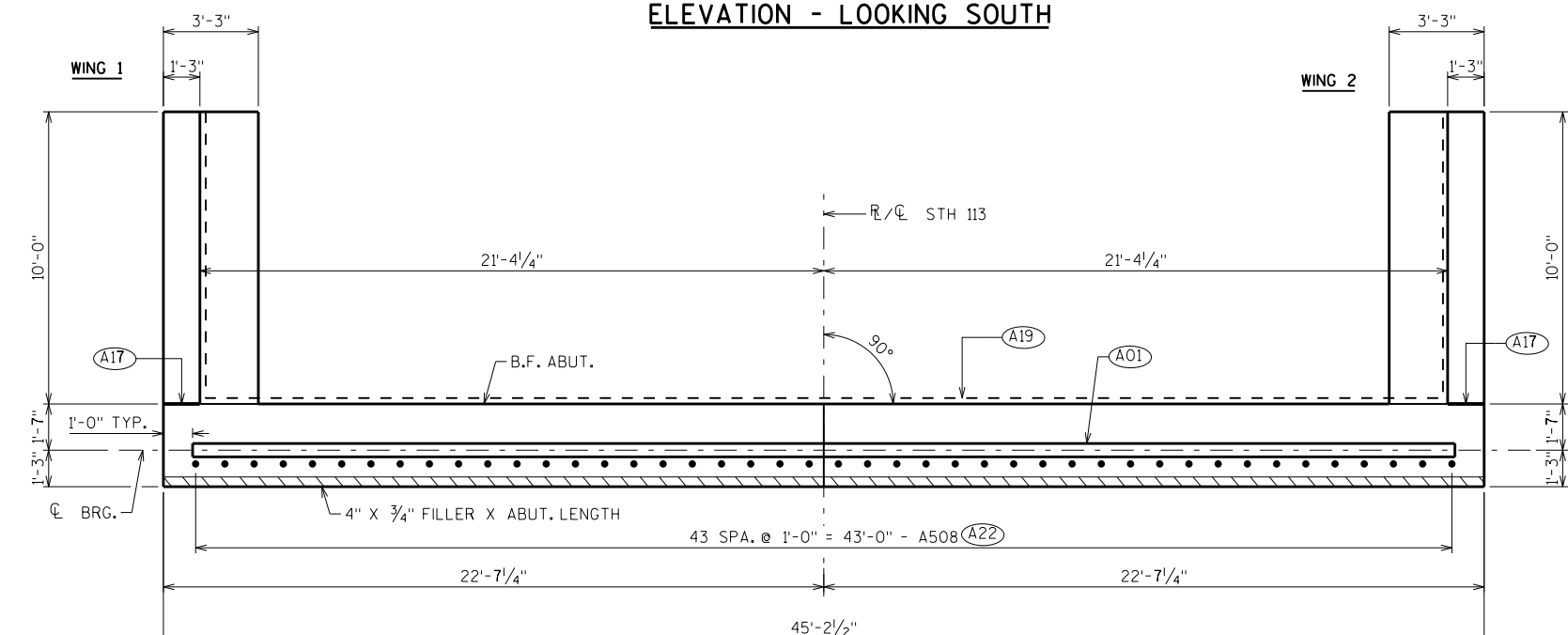
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-13-871</b>			
DRAWN BY JSJ/CAD		PLANS CKD.	IDL
<b>SUBSURFACE EXPLORATION</b>			SHEET 3

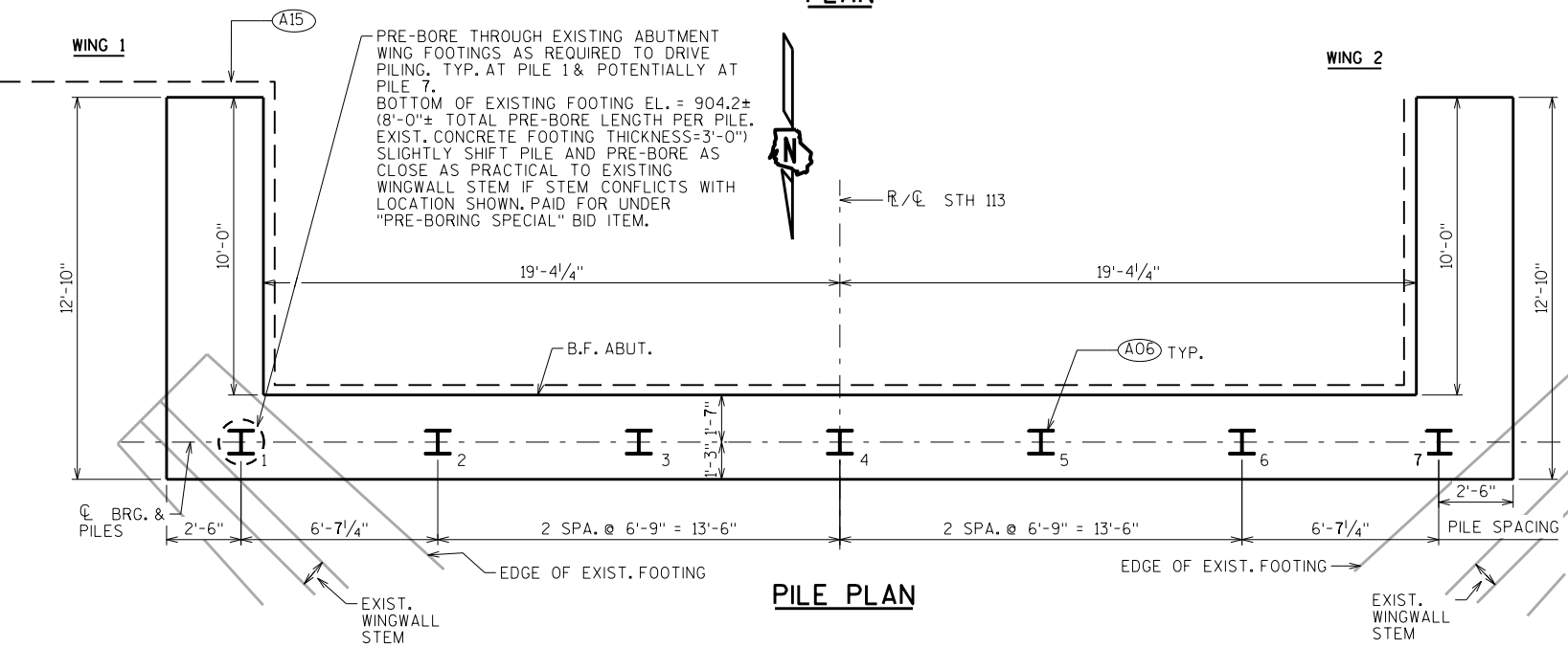
SCALE =



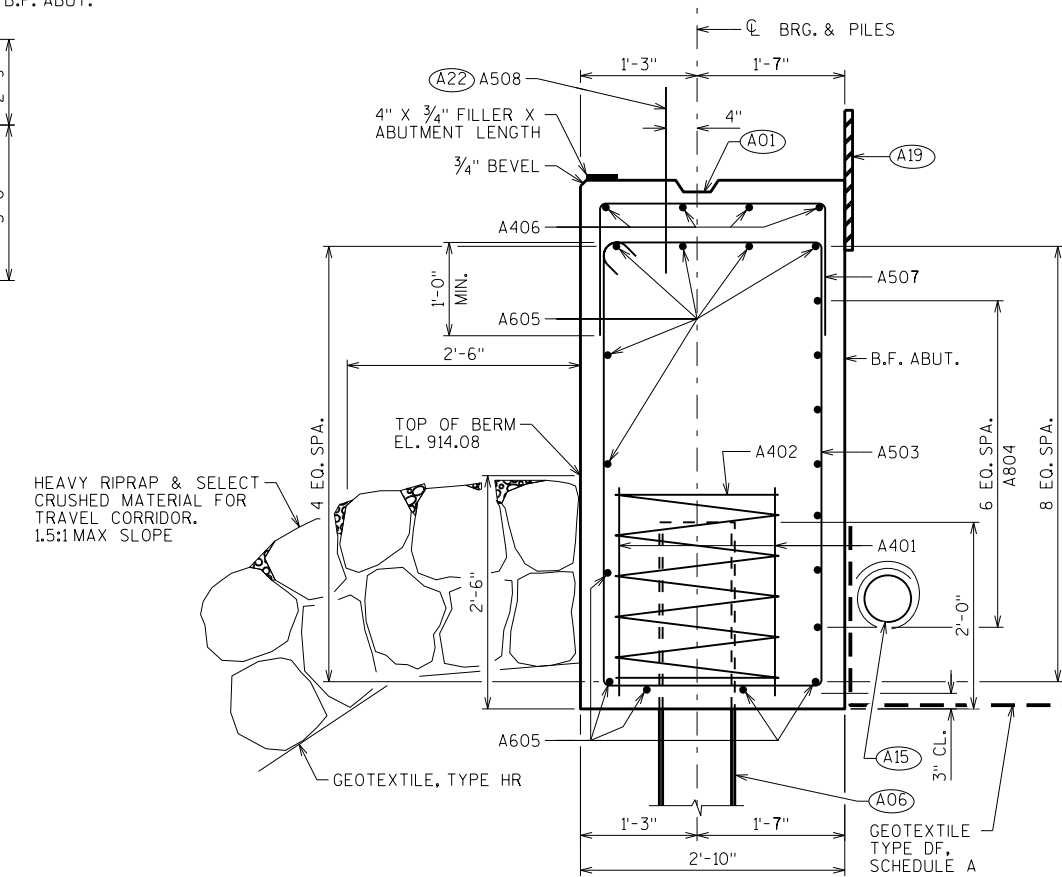
ELEVATION - LOOKING SOUTH



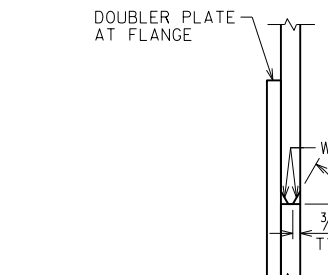
PLAN



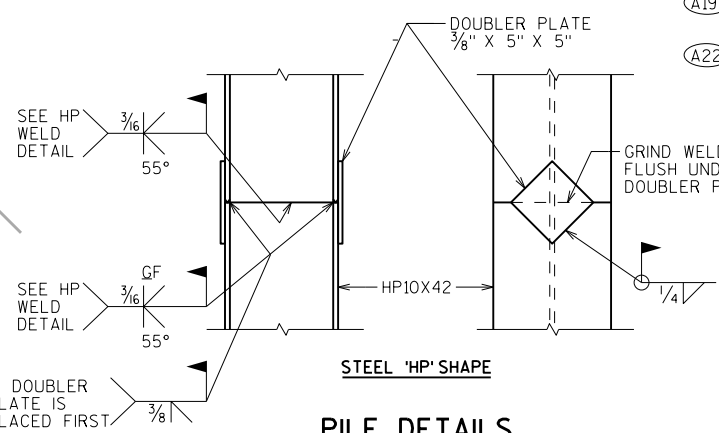
PILE PLAN



SECTION THRU BODY



HP WELD DETAIL  
FLANGE SHOWN, WEB SIMILAR



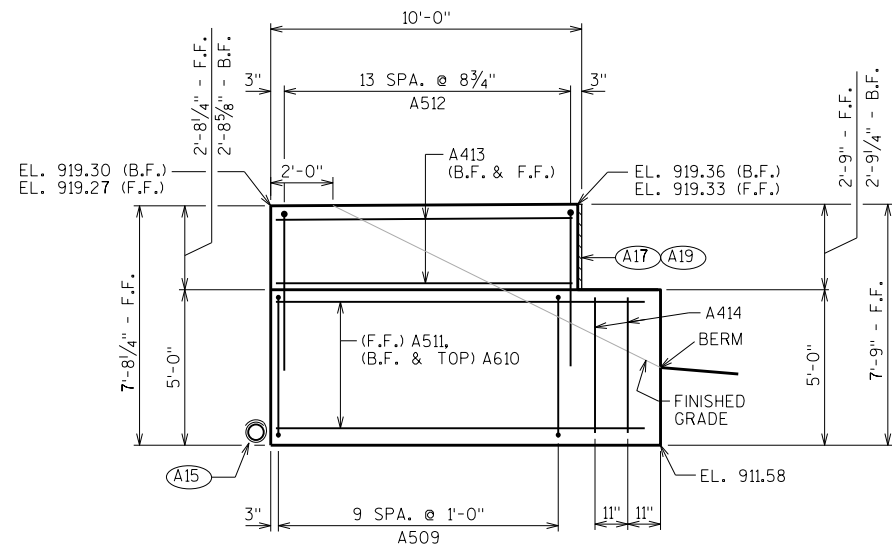
PILE DETAILS

- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 45'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 165 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. MINIMUM BTM. OF PIPE ELEVATION = 912.81
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

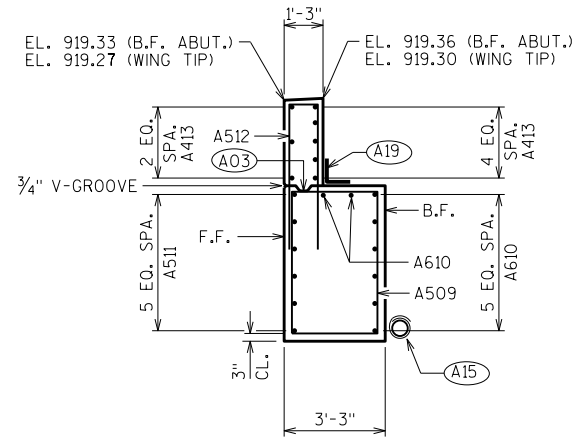
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-13-871</b>			
DRAWN BY		CAD	PLANS CK'D. <b>IDL</b>
<b>SOUTH ABUTMENT</b>		SHEET 4	

8

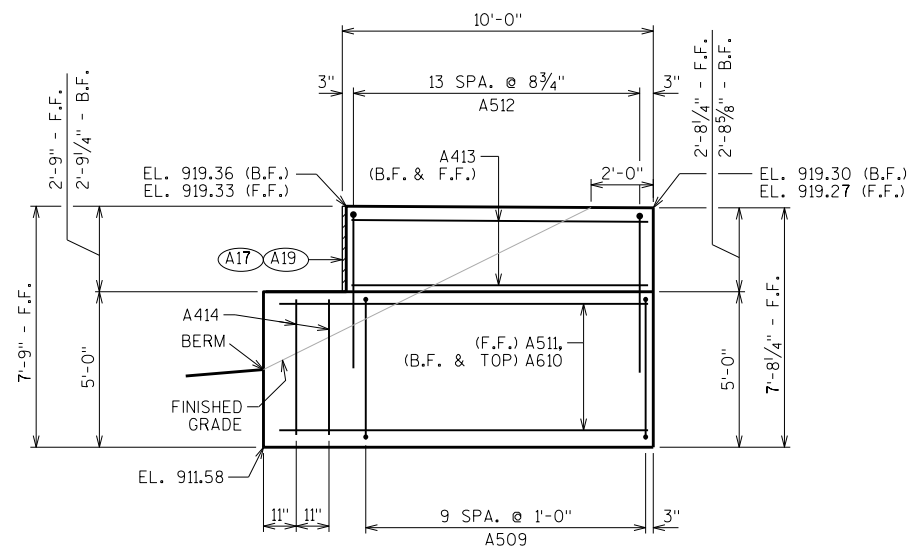
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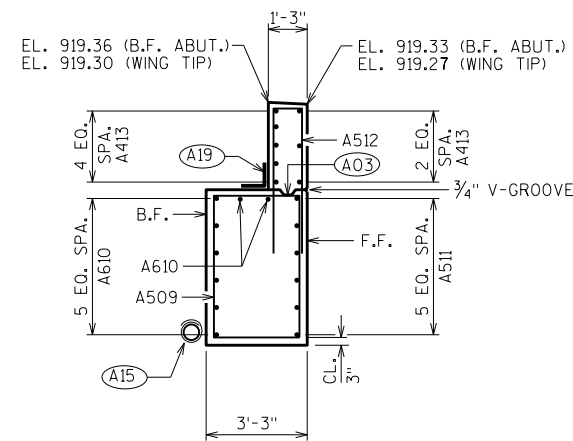
WING 1 ELEVATION



WING 1 SECTION



WING 2 ELEVATION



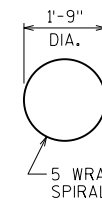
WING 2 SECTION

- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6, (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (R.M.W) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

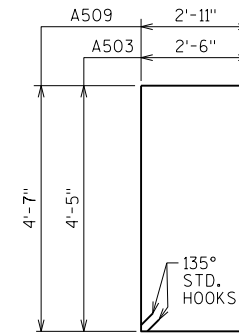
**BILL OF BARS**

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

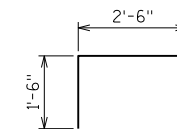
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401		14	2'-3"		PILES - 2 PER BODY PILE
A402		7	28'-0"	X	PILES - 1 PER BODY PILE
A503		56	14'-6"	X	BODY STIRRUPS
A804		7	44'-10"		BODY - HORIZ. - B.F.
A605		11	44'-9"		BODY - HORIZ. - TOP, F.F. & BTM.
A406		4	13'-6"		BODY - HORIZ. - TOP
A507		14	5'-3"	X	BODY - TOP
A508	X	44	2'-0"		BODY - VERT. - TOP - STAB BARS
A509	X	20	15'-8"	X	WING 1 & 2 - STIRRUPS
A610	X	16	12'-4"		WING 1 & 2 - HORIZ. - B.F. & TOP
A511	X	12	12'-6"		WING 1 & 2 - HORIZ. - F.F.
A512	X	28	9'-10"	X	WING 1 & 2 - VERT. - TOP
A413	X	16	9'-8"		WING 1 & 2 - HORIZ. - TOP - F.F. & B.F.
A414		4	4'-6"		BODY VERT. - ENDS



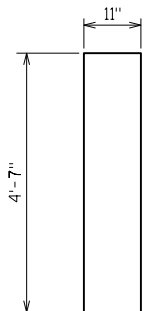
A502



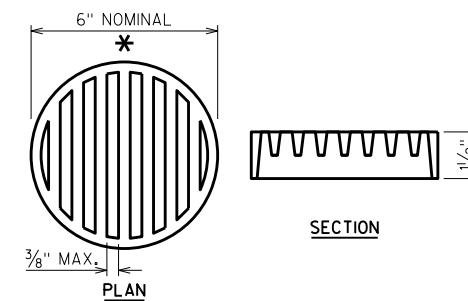
A503, A509



A507



A512



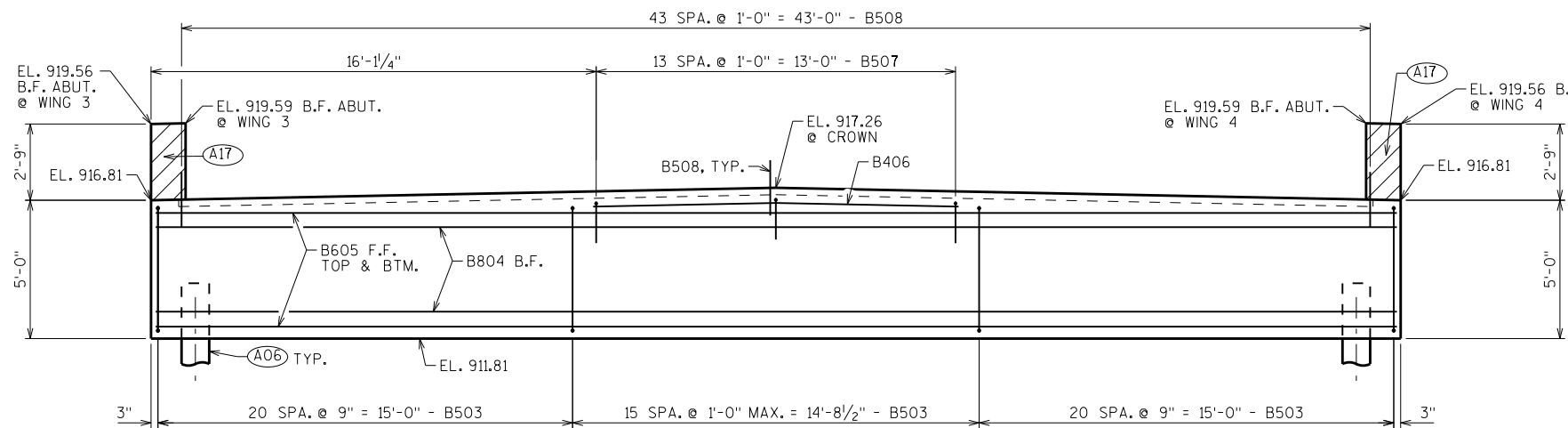
RODENT SHIELD DETAIL

\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

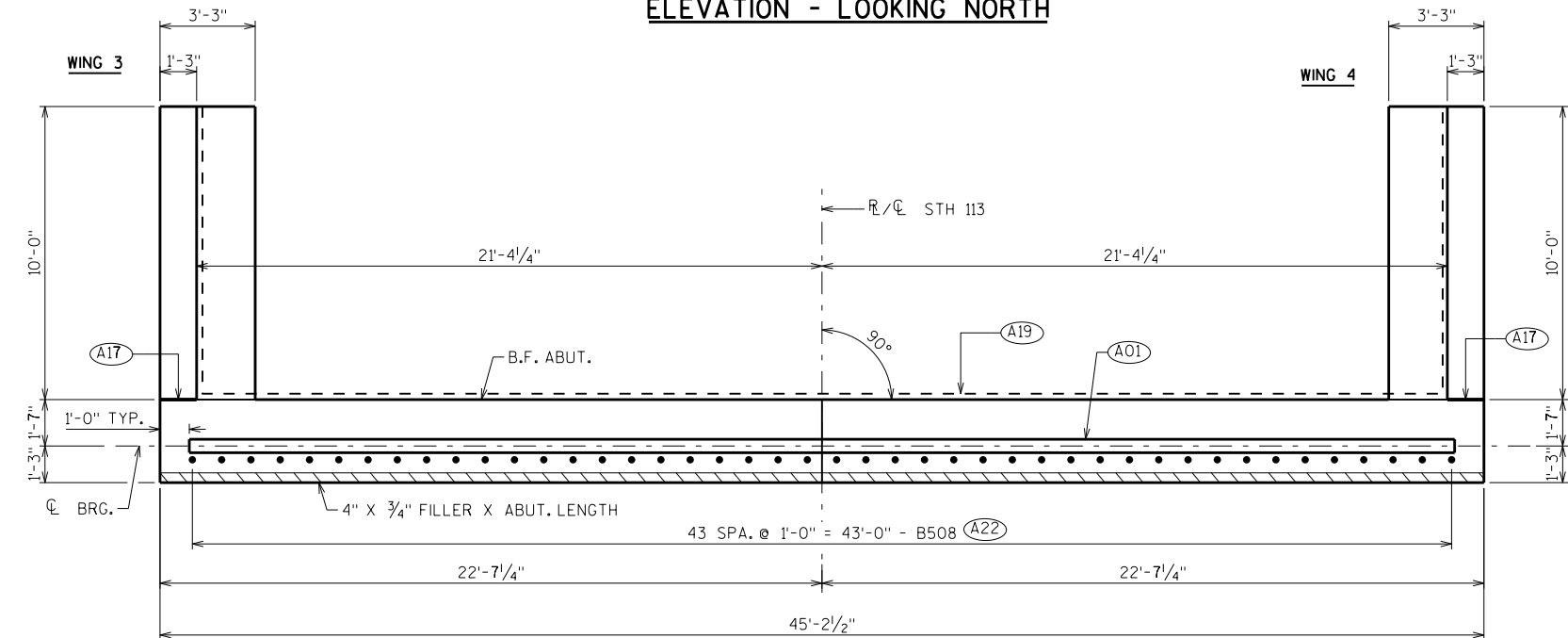
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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 EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

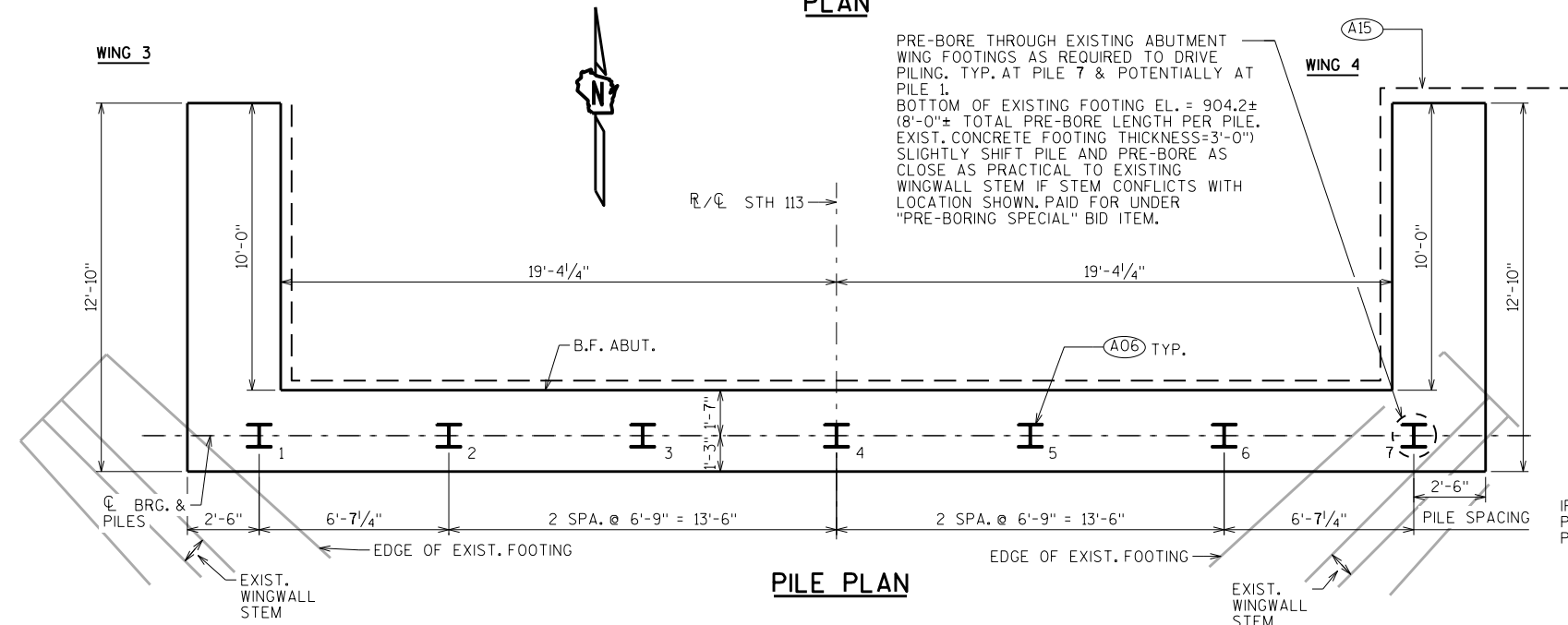
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-13-871</b>			
DRAWN BY		CAD	PLANS CK'D. IDL
<b>SOUTH ABUTMENT DETAILS</b>		SHEET 5	



ELEVATION - LOOKING NORTH



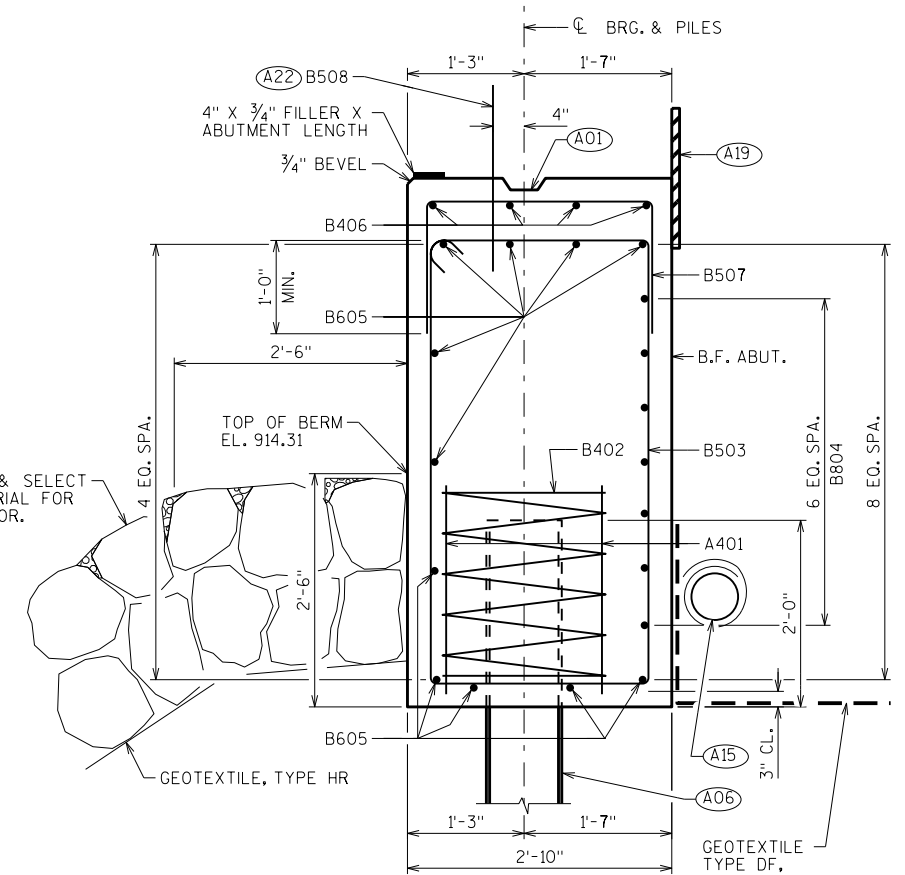
PLAN



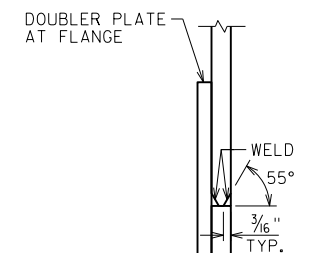
PILE PLAN

PRE-BORE THROUGH EXISTING ABUTMENT WING FOOTINGS AS REQUIRED TO DRIVE PILING. TYP. AT PILE 7 & POTENTIALLY AT PILE 1. BOTTOM OF EXISTING FOOTING EL. = 904.2± (8'-0"± TOTAL PRE-BORE LENGTH PER PILE. EXIST. CONCRETE FOOTING THICKNESS=3'-0") SLIGHTLY SHIFT PILE AND PRE-BORE AS CLOSE AS PRACTICAL TO EXISTING WINGWALL STEM IF STEM CONFLICTS WITH LOCATION SHOWN. PAID FOR UNDER "PRE-BORING SPECIAL" BID ITEM.

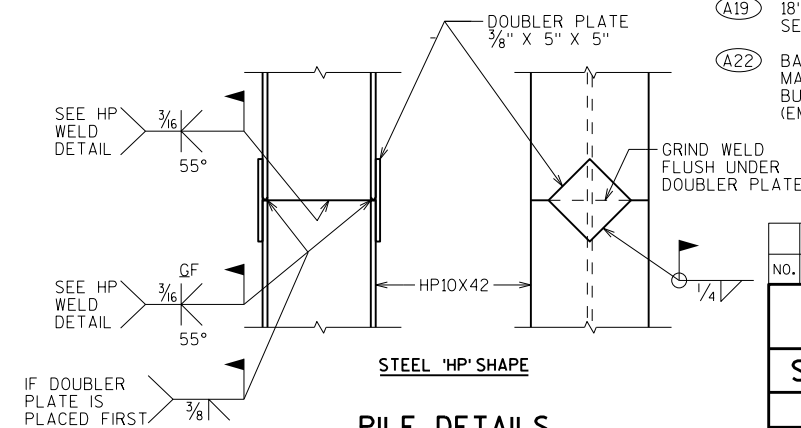
HEAVY RIPRAP & SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR. 1.5:1 MAX SLOPE



SECTION THRU BODY



HP WELD DETAIL  
FLANGE SHOWN, WEB SIMILAR

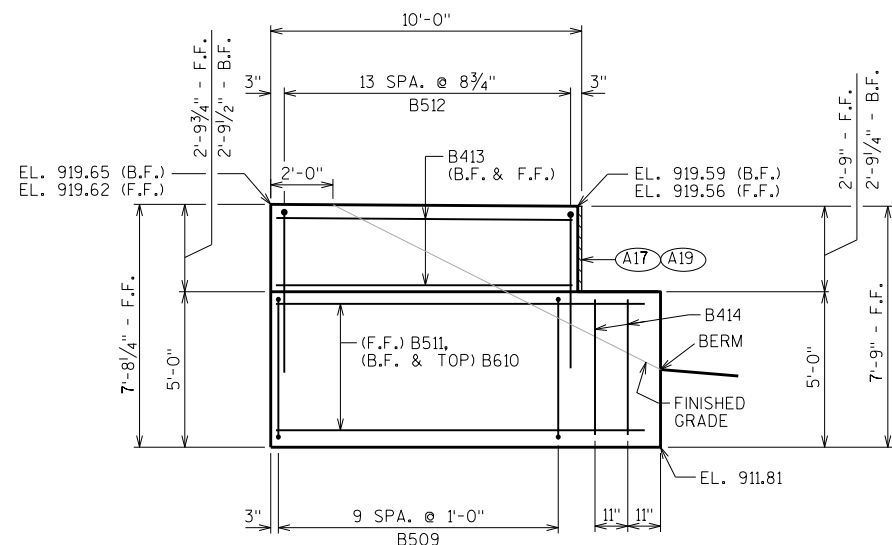


PILE DETAILS

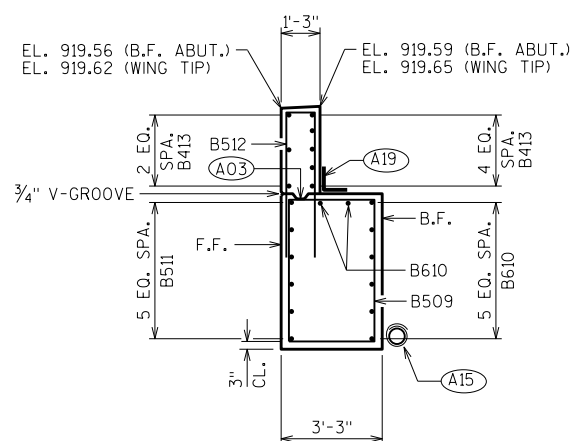
- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 40'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 165 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. MINIMUM BTM. OF PIPE ELEVATION = 912.81
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-13-871</b>			
DRAWN BY		CAD	PLANS CK'D. <b>IDL</b>
<b>NORTH ABUTMENT</b>		SHEET 6	





WING 3 ELEVATION



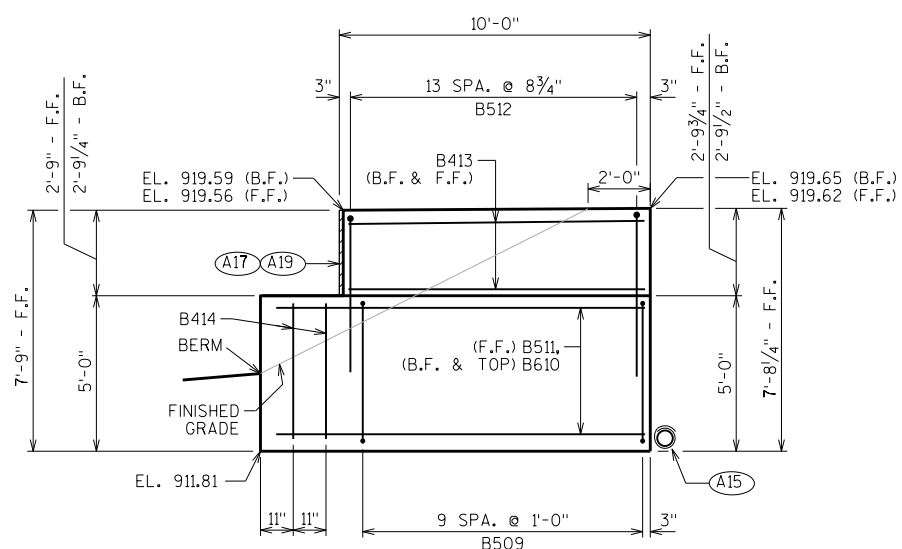
WING 3 SECTION

- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6, (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMM) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

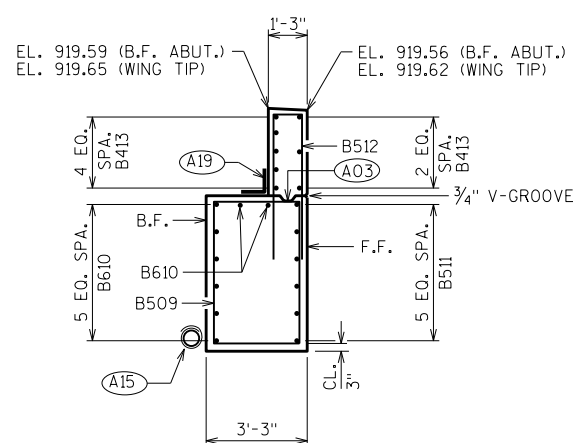
**BILL OF BARS**

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

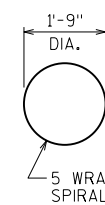
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B401		14	2'-3"		PILES - 2 PER BODY PILE
B402		7	28'-0"	X	PILES - 1 PER BODY PILE
B503		56	14'-6"	X	BODY STIRRUPS
B804		7	44'-10"		BODY - HORIZ. - B.F.
B605		11	44'-9"		BODY - HORIZ. - TOP, F.F. & BTM.
B406		4	13'-6"		BODY - HORIZ. - TOP
B507		14	5'-3"	X	BODY - TOP
B508	X	44	2'-0"		BODY - VERT. - TOP - STAB BARS
B509	X	20	15'-8"	X	WING 3 & 4 - STIRRUPS
B610	X	16	12'-4"		WING 3 & 4 - HORIZ. - B.F. & TOP
B511	X	12	12'-6"		WING 3 & 4 - HORIZ. - F.F.
B512	X	28	10'-0"	X	WING 3 & 4 - VERT. - TOP
B413	X	16	9'-8"		WING 3 & 4 - HORIZ. - TOP - F.F. & B.F.
B414		4	4'-6"		BODY VERT. - ENDS



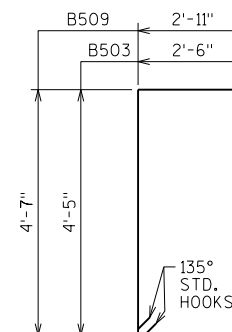
WING 4 ELEVATION



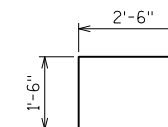
WING 4 SECTION



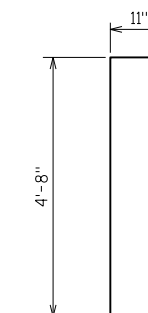
B402



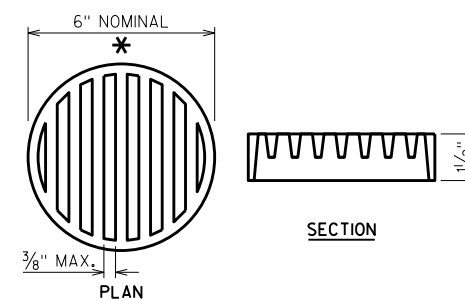
B503, B509



B507



B512



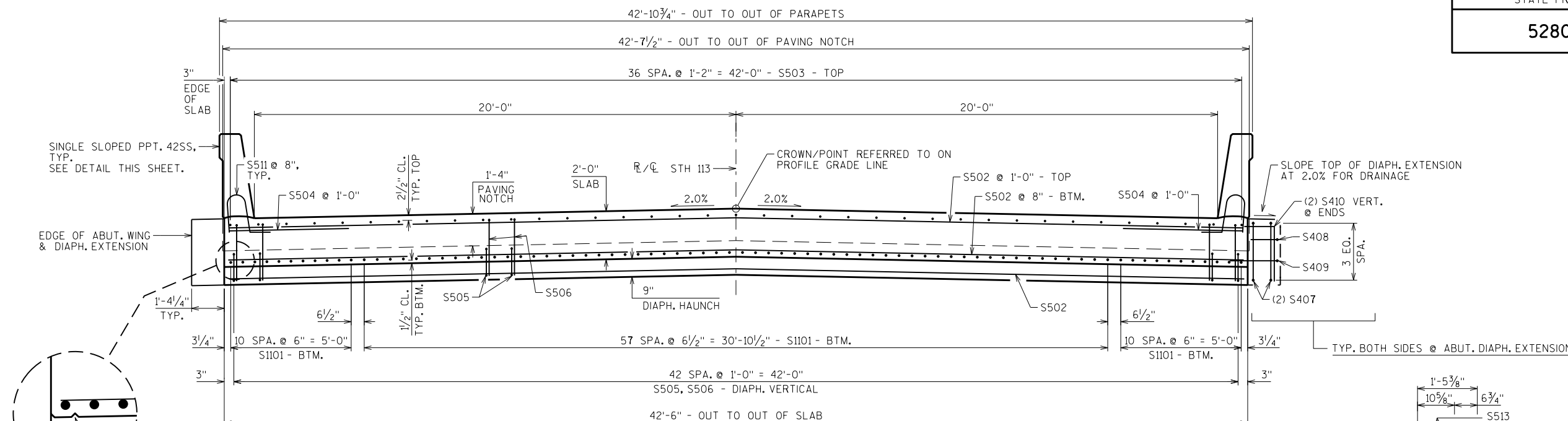
RODENT SHIELD DETAIL

\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

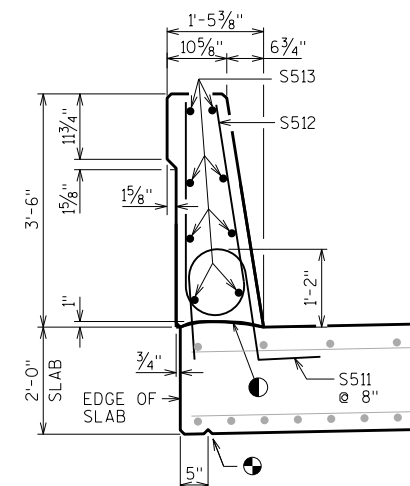
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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 EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

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<b>NORTH ABUTMENT DETAILS</b>		SHEET 7	



CROSS SECTION THRU BRIDGE (@ ABUT. DIAPH.)



SECTION DETAIL OF PARAPET ON BRIDGE

- CONSTRUCTION JOINT - STRIKE OFF AS SHOWN
- 3/4" V-GROOVE, EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUT. DIAPHRAGM. V-GROOVES ARE REQUIRED.

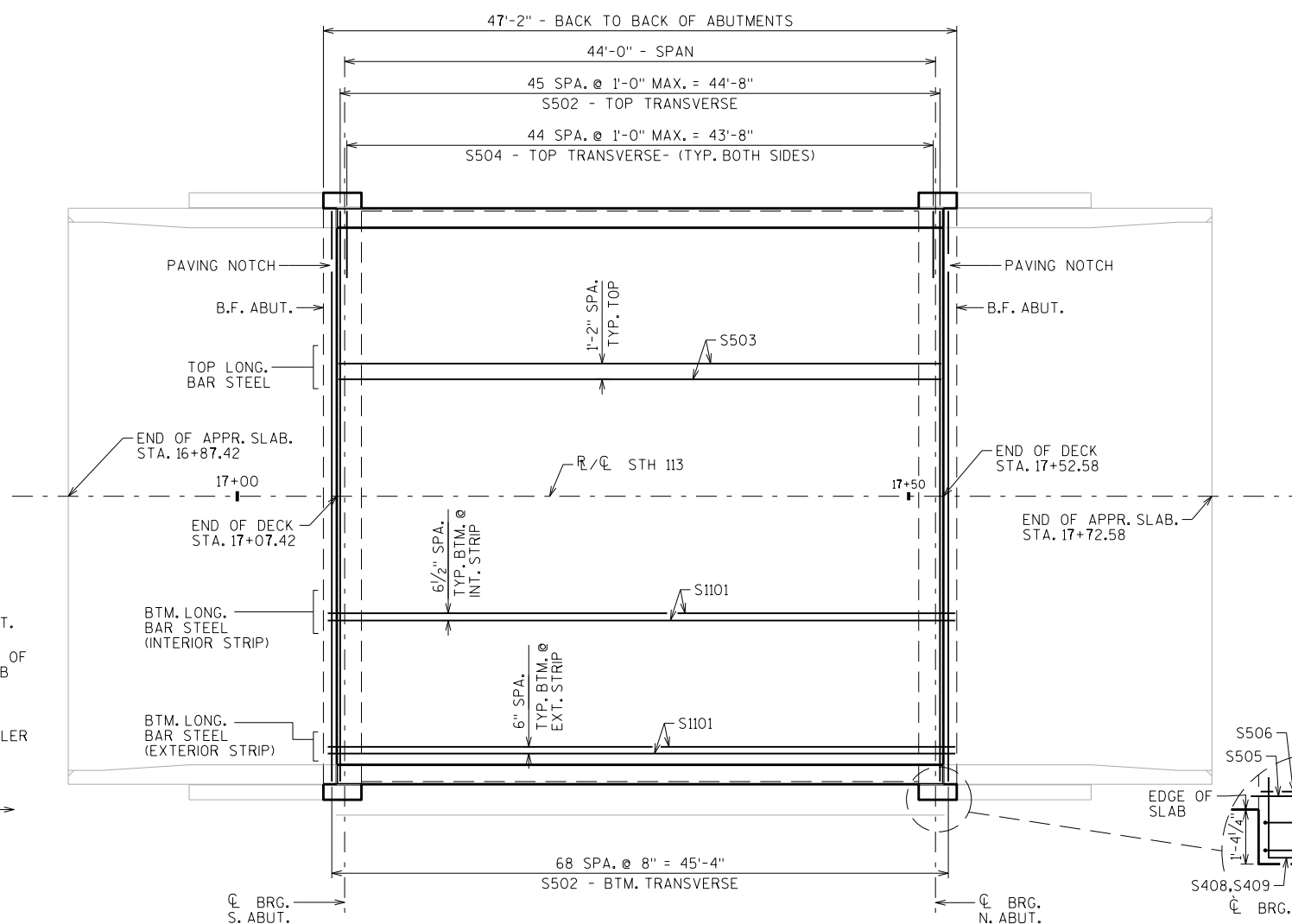
**NOTES**

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

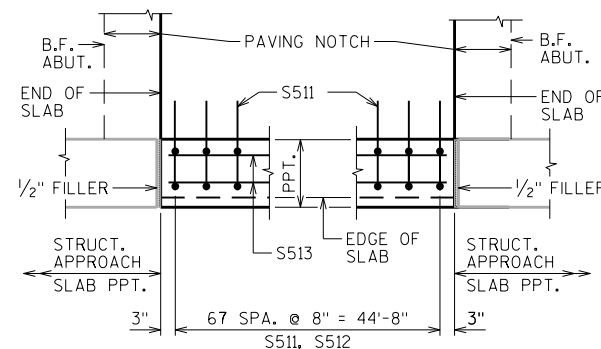
ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE (+).

PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. (SEE "SUPERSTRUCTURE DETAILS" SHEET FOR CAMBER VALUES.)

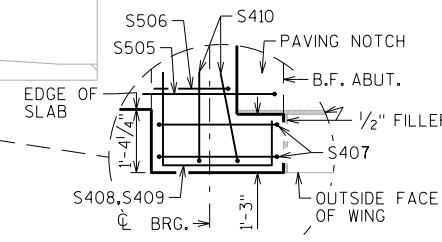


PLAN



PARTIAL PLAN DETAIL OF PARAPET REINF.

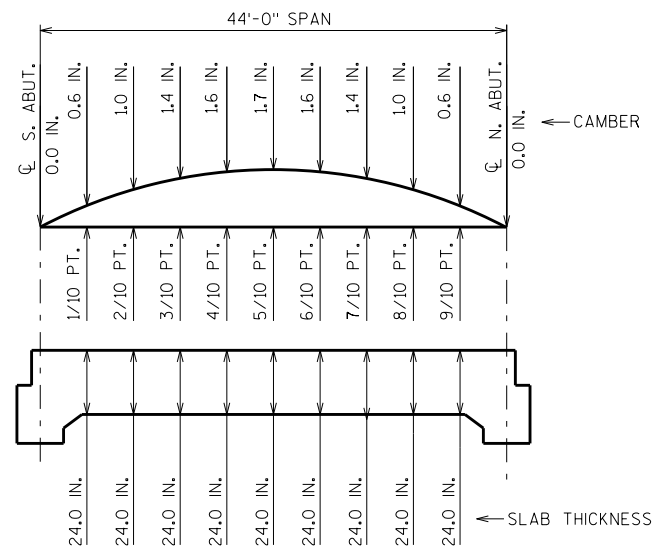
(SHOWING S.E. & N.E. CORNERS - DETAIL TYP. @ BOTH SIDES OF SUPERSTRUCTURE)



PARTIAL PLAN DETAIL OF DIAPH. EXTENSION

TYP. ALL (4) CORNERS

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DRAWN BY		CAD	PLANS CK'D. IDL
<b>SUPERSTRUCTURE</b>		SHEET 8	



**CAMBER AND SLAB THICKNESS DIAGRAM**

CAMBER IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS.

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

PARAPETS SHOWN ABOVE THE HORIZ. CONST. JT. SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR CENTERLINE FOLLOW THIS PROCEDURE:

LESS TOP OF DECK ELEVATION AT FINAL GRADE  
 PLUS SLAB THICKNESS  
 PLUS CAMBER  
 PLUS FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)  
 EQUALS TOP OF SLAB FALSEWORK ELEVATION.

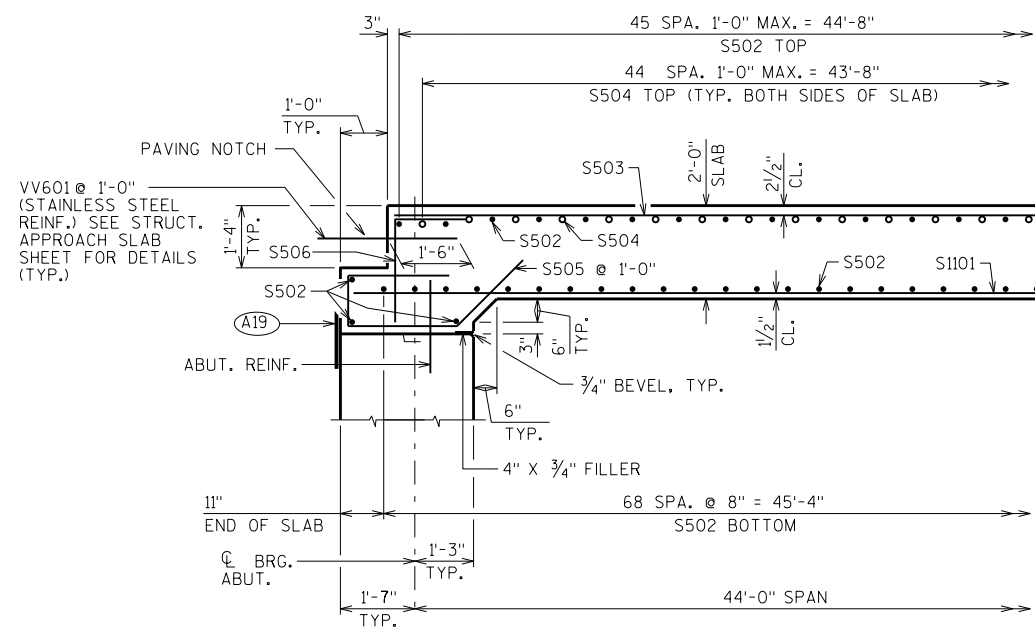
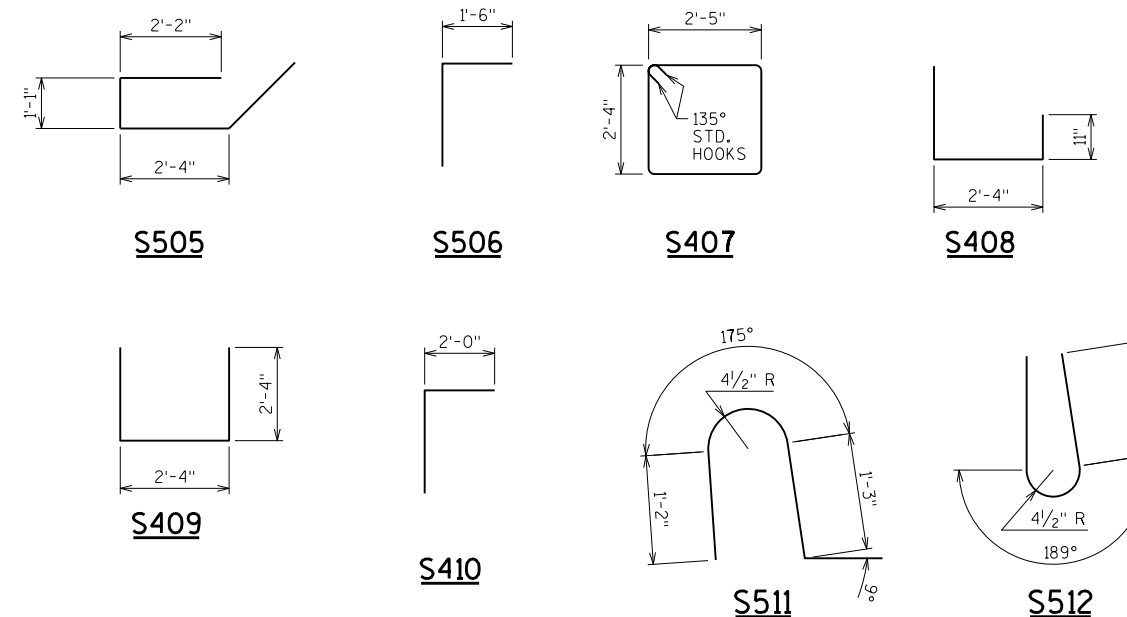
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE C. OF ABUTMENTS, THE C. OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR C.

**BILL OF BARS**

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S1101	X	80	46'-8"			LONG. - BTM.
S502	X	121	42'-2"			TRANS. - TOP & BTM.
S503	X	37	44'-10"			LONG. - TOP
S504	X	90	5'-0"			TRANS. - TOP - @ EDGE OF SLAB
S505	X	86	7'-4"	X		DIAPHRAGM VERT.
S506	X	86	3'-9"	X		DIAPHRAGM VERT.
S407	X	8	10'-0"	X		VERT. - DIAPHRAGM EXTENSIONS
S408	X	4	5'-5"	X		HORIZ. - DIAPHRAGM EXTENSIONS
S409	X	4	6'-10"	X		HORIZ. - DIAPHRAGM EXTENSIONS
S410	X	8	4'-4"	X		VERT. - DAIPHRAGM EXTENSIONS - @ ENDS
S511	X	136	4'-5"	X		PARAPET - VERT.
S512	X	136	6'-8"	X		PARAPET - VERT.
S513	X	16	44'-10"			PARAPET - HORIZ.

STAINLESS STEEL BAR → VV601 86 3'-0" ABUT. DIAPH. TO APPROACH SLAB



**LONGITUDINAL SECTION THRU ROADWAY**

**TOP OF DECK ELEVATIONS**

	C. BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C. BRG. N. ABUT.
W. GUTTER	919.38	919.40	919.43	919.45	919.47	919.50	919.52	919.54	919.56	919.59	919.61
CL/RL/CROWN	919.78	919.80	919.83	919.85	919.87	919.90	919.91	919.94	919.96	919.99	920.01
E. GUTTER	919.38	919.40	919.43	919.45	919.47	919.50	919.52	919.54	919.56	919.59	919.61

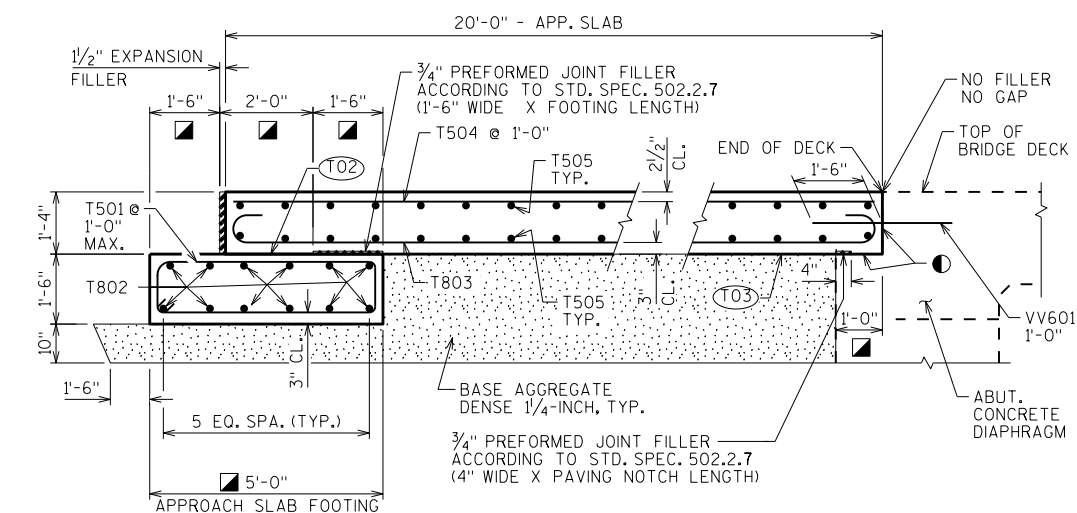
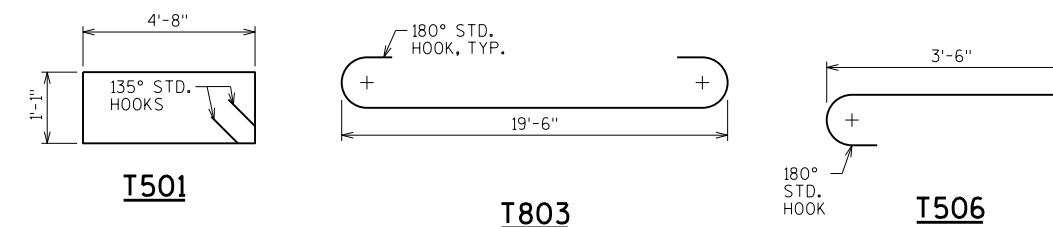
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
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DRAWN BY		CAD	PLANS CK'D. IDL
<b>SUPERSTRUCTURE DETAILS</b>		SHEET 9	



**BILL OF BARS**

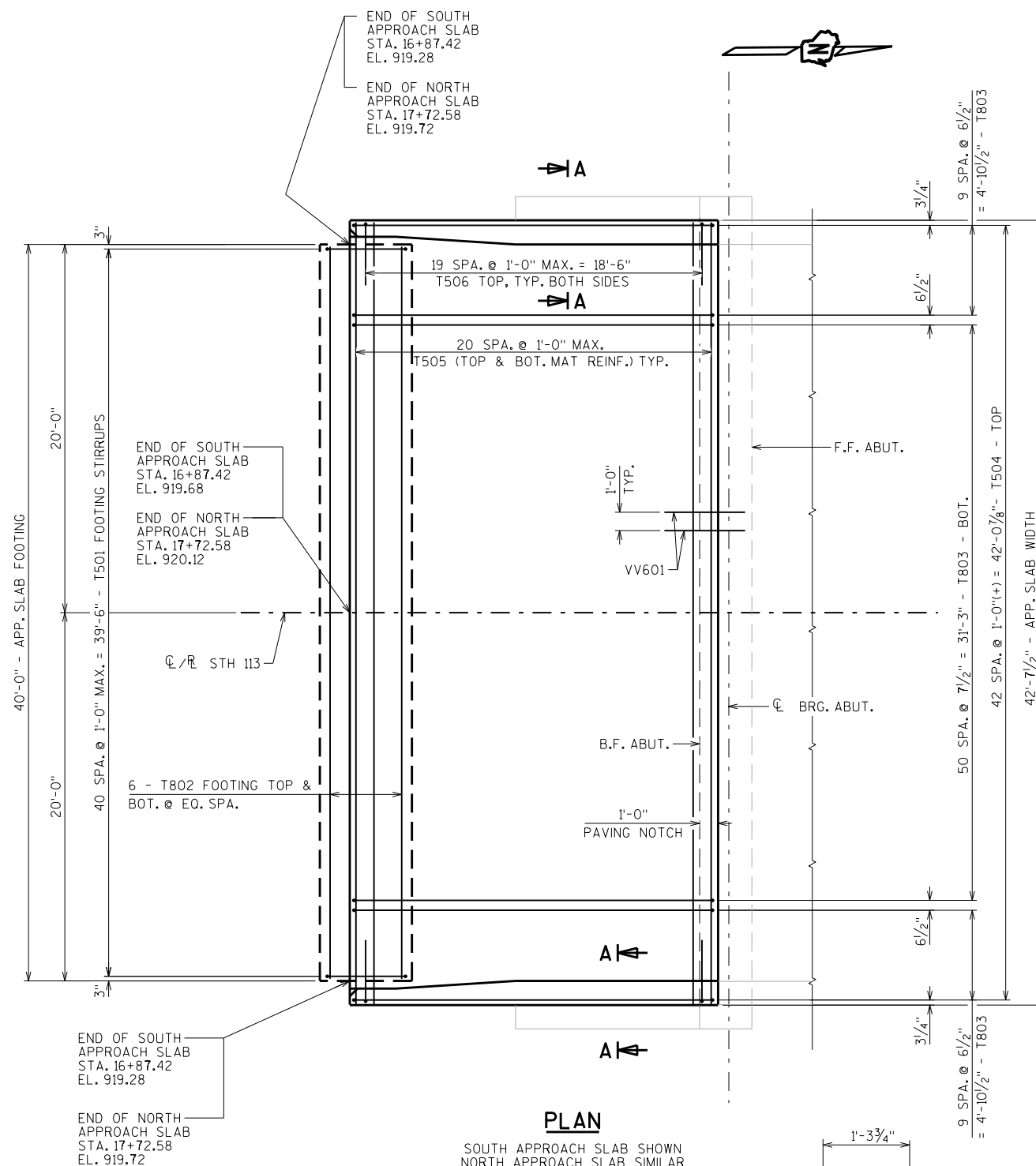
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D.		LENGTH	BENT	BAR SERIES	LOCATION
		SOUTH	NORTH				
T501	X	41	41	12'-2"	X		APP. SLAB - FTG. - STIRRUP
T802	X	12	12	39'-8"			APP. SLAB - FTG. - TRANS.
T803	X	71	71	21'-4"	X		APP. SLAB - LONG. - BOT.
T504	X	43	43	19'-6"			APP. SLAB - LONG. - TOP
T505	X	42	42	42'-3"			APP. SLAB - TRANS. - TOP & BOT.
T506	X	40	40	4'-1"	X		APP. SLAB - TRANS. - EDGES



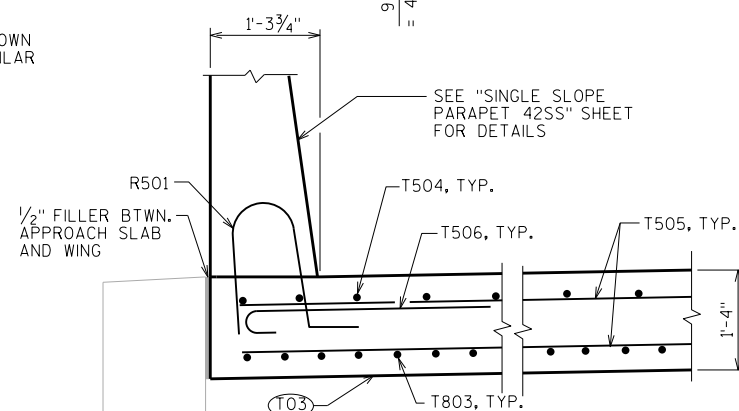
**SECTION THRU APPROACH SLAB**

- APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.
- ▣ MEASURED NORMAL TO ABUTMENT
- T02 STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.
- T03 PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE SUBGRADE BENEATH SLAB.



**PLAN**

SOUTH APPROACH SLAB SHOWN  
NORTH APPROACH SLAB SIMILAR



**SECTION A-A**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-13-871</b>			
DRAWN BY		CAD	PLANS CK'D. IDL
<b>STRUCTURAL APPROACH SLABS</b>		SHEET 10	

**BILL OF BARS**

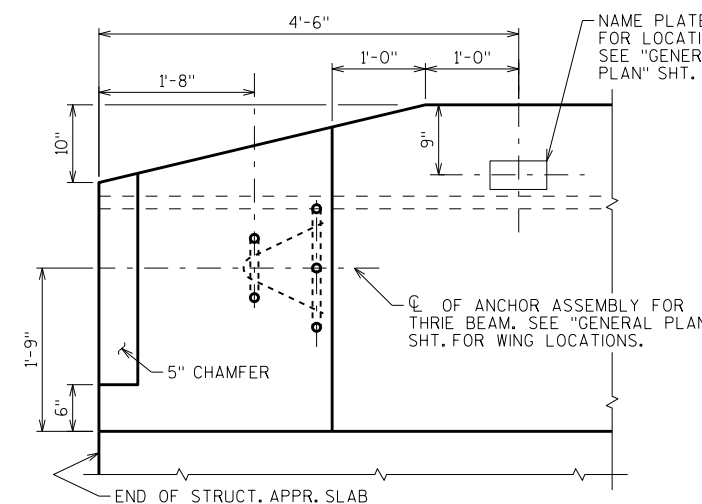
BAR MARK	COAT	S. ABUT.	N. ABUT.	LENGTH	BEND	BAR SERIES	LOCATION
R501	X	34	34	4'-5"	X		PARAPET VERT.
R502	X	34	34	6'-8"	X		PARAPET VERT.
R503	X	24	24	2'-9"	X		PARAPET VERT.
R504	X	34	34	4'-4"	X		PARAPET VERT.
R505	X	10	10	6'-5"	X		PARAPET VERT.
R506	X	12	12	6'-6"	X		PARAPET VERT.
R507	X	2	2	19'-6"	X		PARAPET HORIZ.
R508	X	10	10	19'-6"			PARAPET HORIZ.
R509	X	12	12	5'-5"	X	▲	PARAPET VERT.
R510	X	4	4	19'-6"	X		PARAPET HORIZ.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

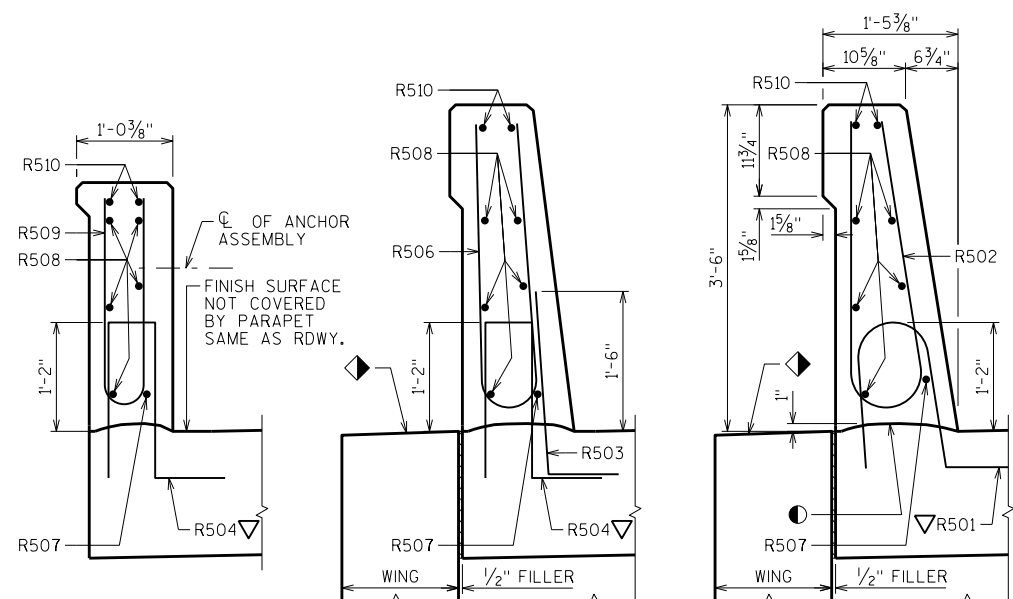
**BAR SERIES TABLE**

BAR MARK	NO. REQ'D	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



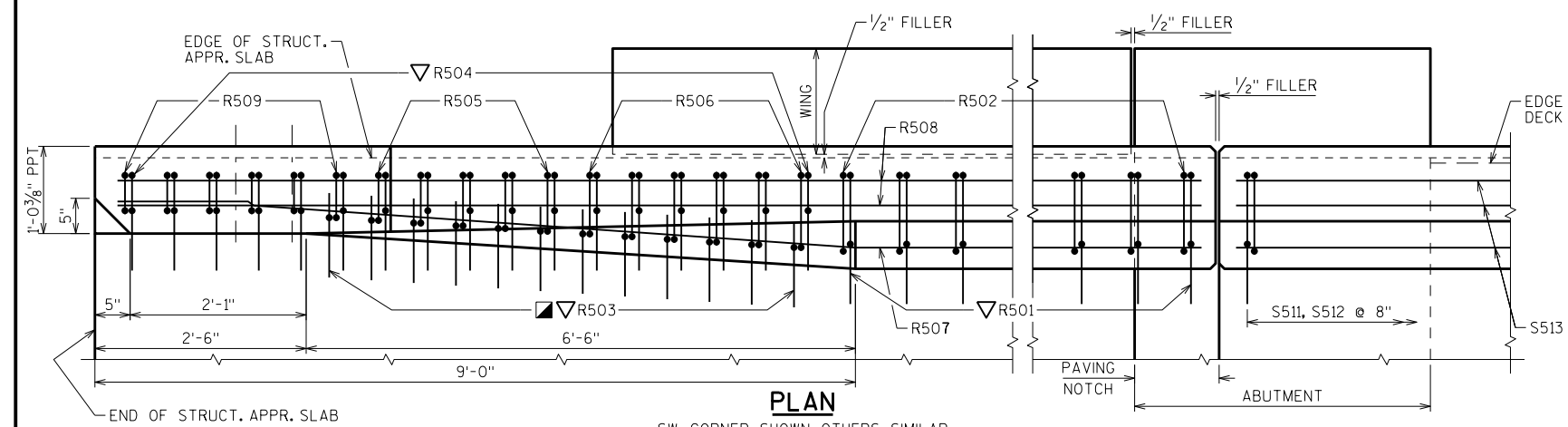
**PARAPET END TREATMENT DETAIL**  
LOOKING AT INSIDE FACE OF PARAPET



**SECTION A-A**

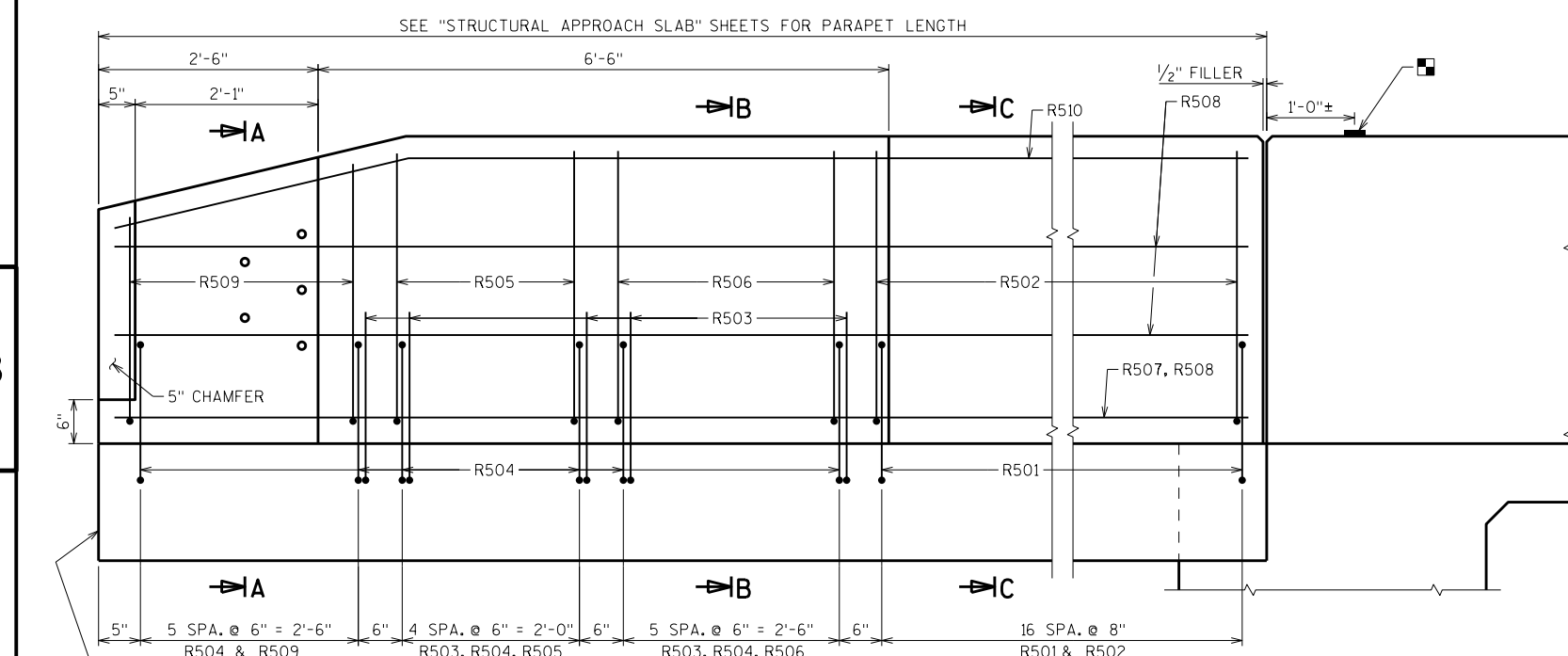
**SECTION B-B**

**SECTION C-C**



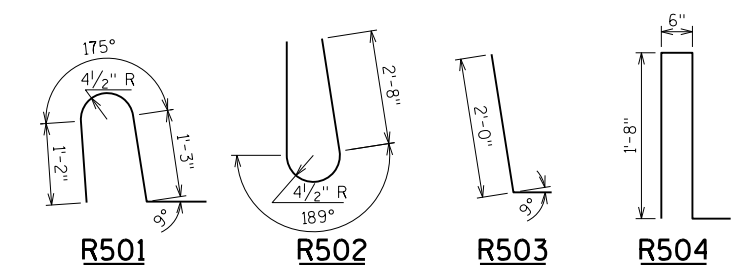
**PLAN**

SW CORNER SHOWN, OTHERS SIMILAR



**INSIDE ELEVATION**

SW CORNER SHOWN, OTHERS SIMILAR  
WING & STRUCTURAL APPROACH SLAB FOOTING NOT SHOWN FOR CLARITY

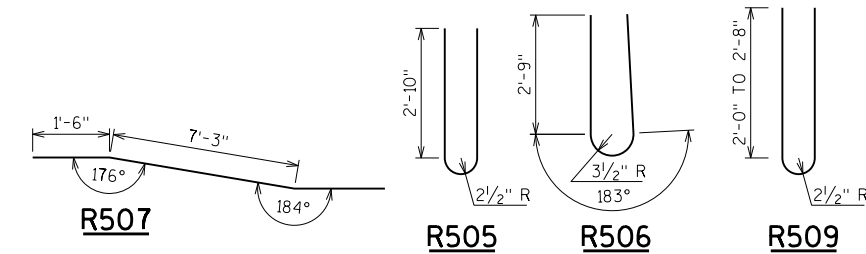


**R501**

**R502**

**R503**

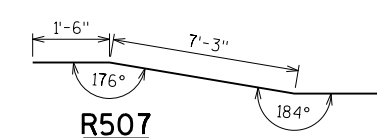
**R504**



**R505**

**R506**

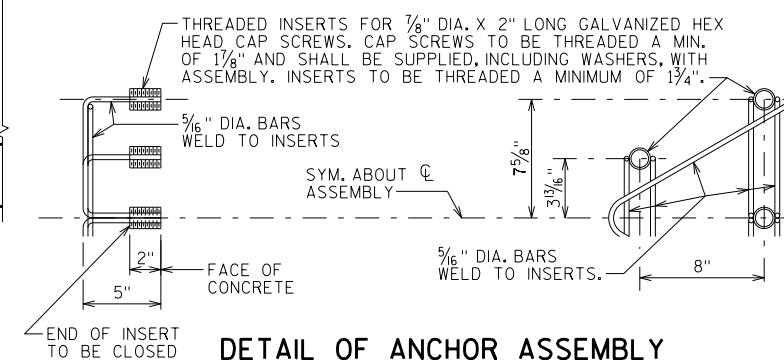
**R509**



**R507**

**R510**

■ BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.



**DETAIL OF ANCHOR ASSEMBLY**

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.  
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

- CONST. JOINT - STRIKE OFF AS SHOWN
- ◊ SLOPE FOR DRAINAGE
- USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501, R503, AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
STRUCTURES DESIGN SECTION  
**STRUCTURE B-13-871**

DRAWN BY: CAD PLANS CKD: IDL

**SINGLE SLOPE PARAPET 42SS** SHEET 11

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
			CUT (2)	EBS EXCAVATION (3)				FACTOR 1.43				
DIVISION 1												
QR-113	15+00/23+25	STH 113 RECONSTRUCTION AREA	3,101	0	165	2,936	116	166	2,770	2,770	0	
DIVISION 1 SUBTOTAL			3,101	0	165	2,936	116	166	2,770	2,770	0	
CULVERT REMOVAL	21+58/22+56	STH 112	135	0	0	135	0	0	135	135	0	
CURB RAMPS	19+85/44+15	STH 113	133	0	0	133	0	0	133	133	0	
SHOULDER WIDENING	42+20/44+66	STH 113 & KOPP ROAD	35	0	0	35	0	0	35	35	0	
CULVERT REPLACEMENT	210+21/210+62	STH 113	182	0	0	182	0	0	182	182	0	
UNDISTRIBUTED EBS		STH 113	0	2,312	0	0	0	0	0	0	0	
GRAND TOTAL			3,586	2,312	165	3,421	116	166	3,255	3,255	0	
TOTAL COMMON EXC			5,898									

**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 16" OF SELECT CRUSHED MATERIAL AND 14" BASE AGGREGATE DENSE MATERIAL 1 1/4-INCH.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (9) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS NOT USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE.
- (11) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT BORROW MATERIAL. EBS BACKFILL FACTOR = X.4X. ITEM NUMBER 208.1100
- (13) EXPANDED FILL FACTOR = 1.15
- (14) 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.
- (15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

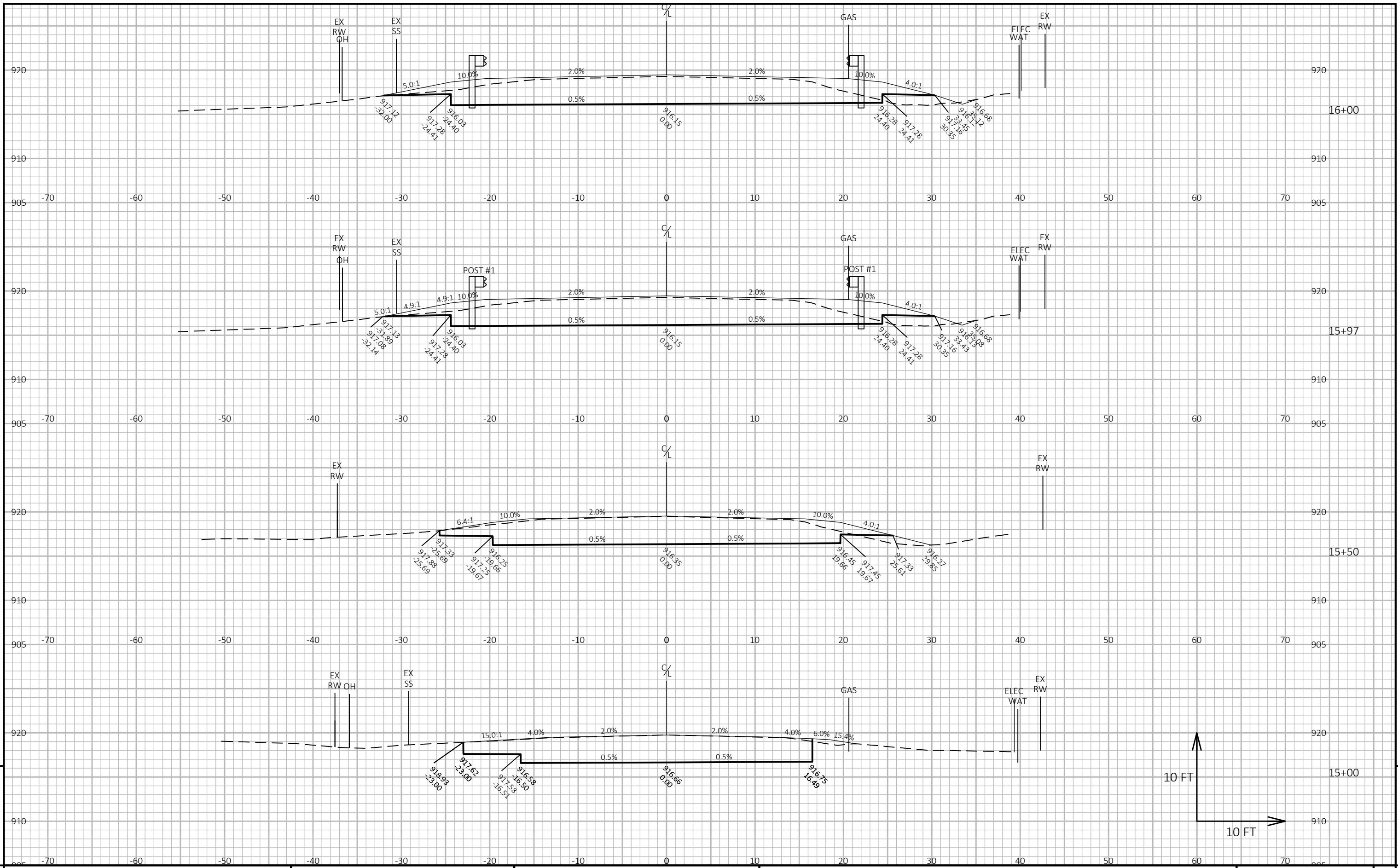
DIVISION -- STH 113 RECONSTRUCTION AREA

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
15+00	1500.00	0.00	104.78	5.42	0.00	0	0	0	0	0	0
15+25	1525.00	25.00	109.31	5.42	0.00	99	5	0	142	0	94
15+50	1550.00	25.00	115.71	5.42	1.99	104	5	1	290	1	192
15+75	1575.00	25.00	120.94	5.42	4.63	110	5	3	448	6	292
16+00	1600.00	25.00	125.71	5.42	6.38	114	5	5	611	13	394
16+25	1625.00	25.00	129.15	5.42	0.29	118	5	3	779	17	503
16+50	1650.00	25.00	126.76	5.42	1.56	118	5	1	948	19	614
16+75	1675.00	25.00	122.20	5.42	2.62	115	5	2	1,113	21	722
17+00	1700.00	25.00	16.75	5.42	0.00	64	5	1	1,204	23	779
17+25	1725.00	25.00	18.84	5.42	0.00	16	5	0	1,227	23	790
17+50	1750.00	25.00	20.62	5.42	0.00	18	5	0	1,253	23	803
17+75	1775.00	25.00	122.90	5.42	10.08	66	5	5	1,347	30	857
18+00	1800.00	25.00	124.42	5.42	11.85	115	5	10	1,512	44	953
18+25	1825.00	25.00	123.41	5.42	10.24	115	5	10	1,676	59	1,048
18+50	1850.00	25.00	118.09	5.42	19.53	112	5	14	1,836	79	1,135
18+75	1875.00	25.00	106.11	5.42	22.70	104	5	20	1,985	107	1,206
19+00	1900.00	25.00	103.15	5.42	6.69	97	5	14	2,124	127	1,278
19+25	1925.00	25.00	102.69	5.42	0.00	95	5	3	2,259	132	1,363
19+50	1950.00	25.00	102.26	5.42	0.00	95	5	0	2,395	132	1,453
19+75	1975.00	25.00	100.50	5.42	0.00	94	5	0	2,530	132	1,542
20+00	2000.00	25.00	112.33	5.42	0.76	99	5	0	2,671	132	1,636
20+25	2025.00	25.00	115.01	5.42	1.98	105	5	1	2,821	133	1,735
20+50	2050.00	25.00	113.21	5.42	3.37	106	5	2	2,973	136	1,833
20+75	2075.00	25.00	126.75	5.42	5.30	111	5	4	3,132	142	1,933
21+00	2100.00	25.00	150.80	5.42	2.22	128	5	3	3,315	146	2,052
21+25	2125.00	25.00	152.35	5.42	0.00	140	5	1	3,515	147	2,186
21+50	2150.00	25.00	137.17	5.42	0.80	134	5	0	3,707	147	2,315
21+75	2175.00	25.00	123.54	5.42	1.30	121	5	1	3,880	149	2,429
22+00	2200.00	25.00	124.67	5.42	8.39	115	5	4	4,044	154	2,534
22+25	2225.00	25.00	131.74	5.42	1.94	119	5	5	4,214	162	2,640
22+50	2250.00	25.00	30.11	5.42	0.97	75	5	1	4,321	163	2,709
22+75	2275.00	25.00	29.68	5.42	0.83	28	5	1	4,362	164	2,731
23+00	2300.00	25.00	28.43	5.42	0.49	27	5	1	4,400	166	2,751
23+25	2325.00	25.00	24.45	5.42	0.40	24	5	0	4,434	166	2,770

Notes:		
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL	
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS	
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME	
4 - EXPANDED MARSH BACKFILL	WILL BE BACKFILLED WITH GRANULAR BACKFILL (OR CUT, OR BORROW)	NOTE 4 - SELECT ONE BASED ON INPUT DIALOG SELECTION
5 - EXPANDED EBS	WILL BE BACKFILLED WITH GRANULAR BACKFILL (OR CUT, OR BORROW)	NOTE 5 - SELECT ONE BASED ON INPUT DIALOG SELECTION
6 - REDUCED MARSH IN FILL	REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL	NOTE 6 - IF EXCAVATED MARSH CAN BE USED IN FILL
7 - REDUCED EBS IN FILL	REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL	NOTE 7 - IF EXCAVATED EBS CAN BE USED IN FILL

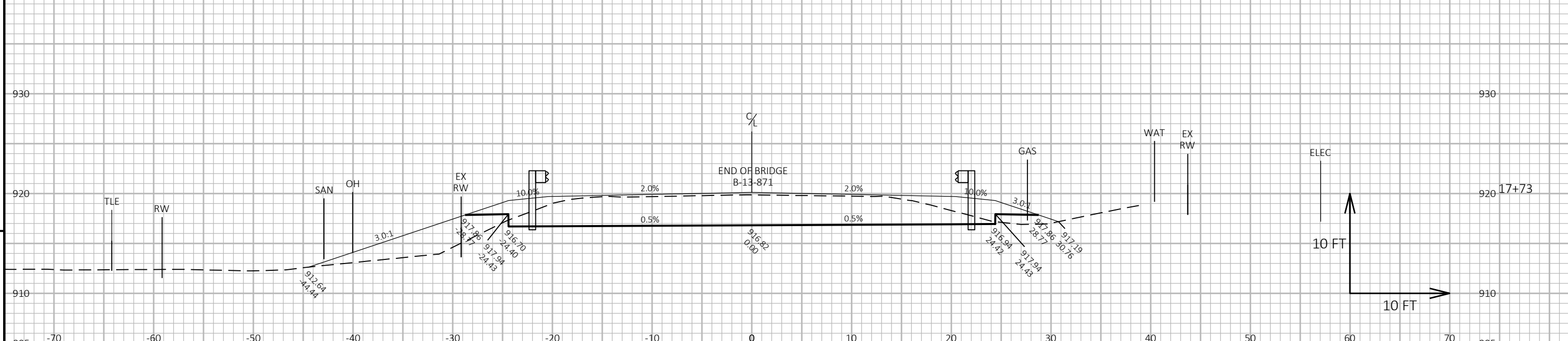
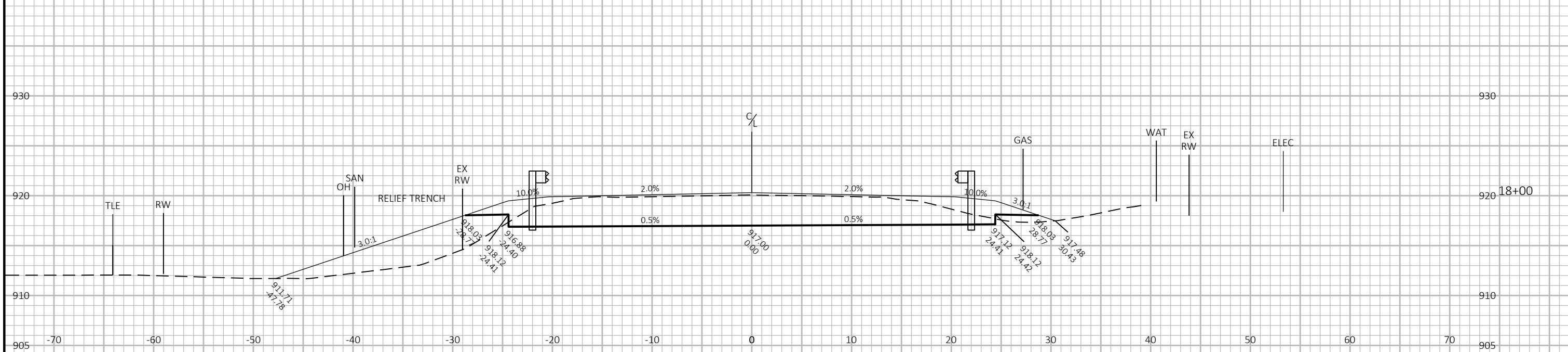
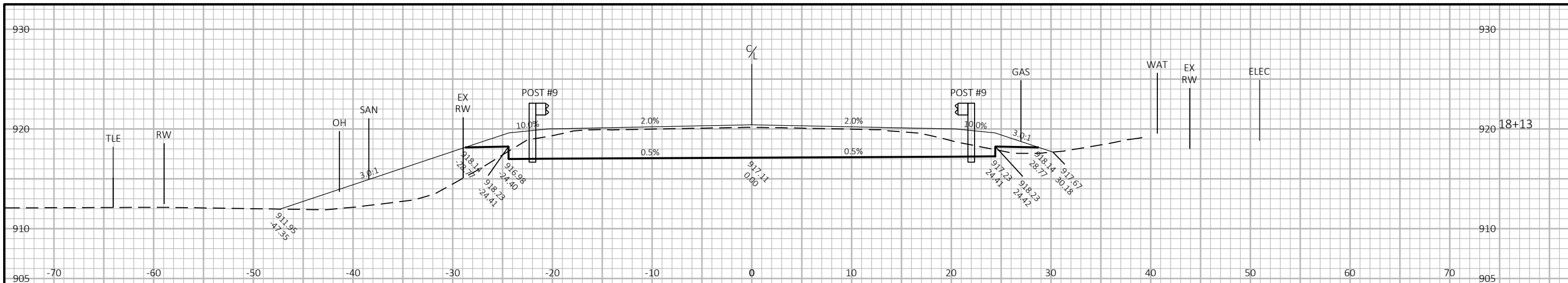
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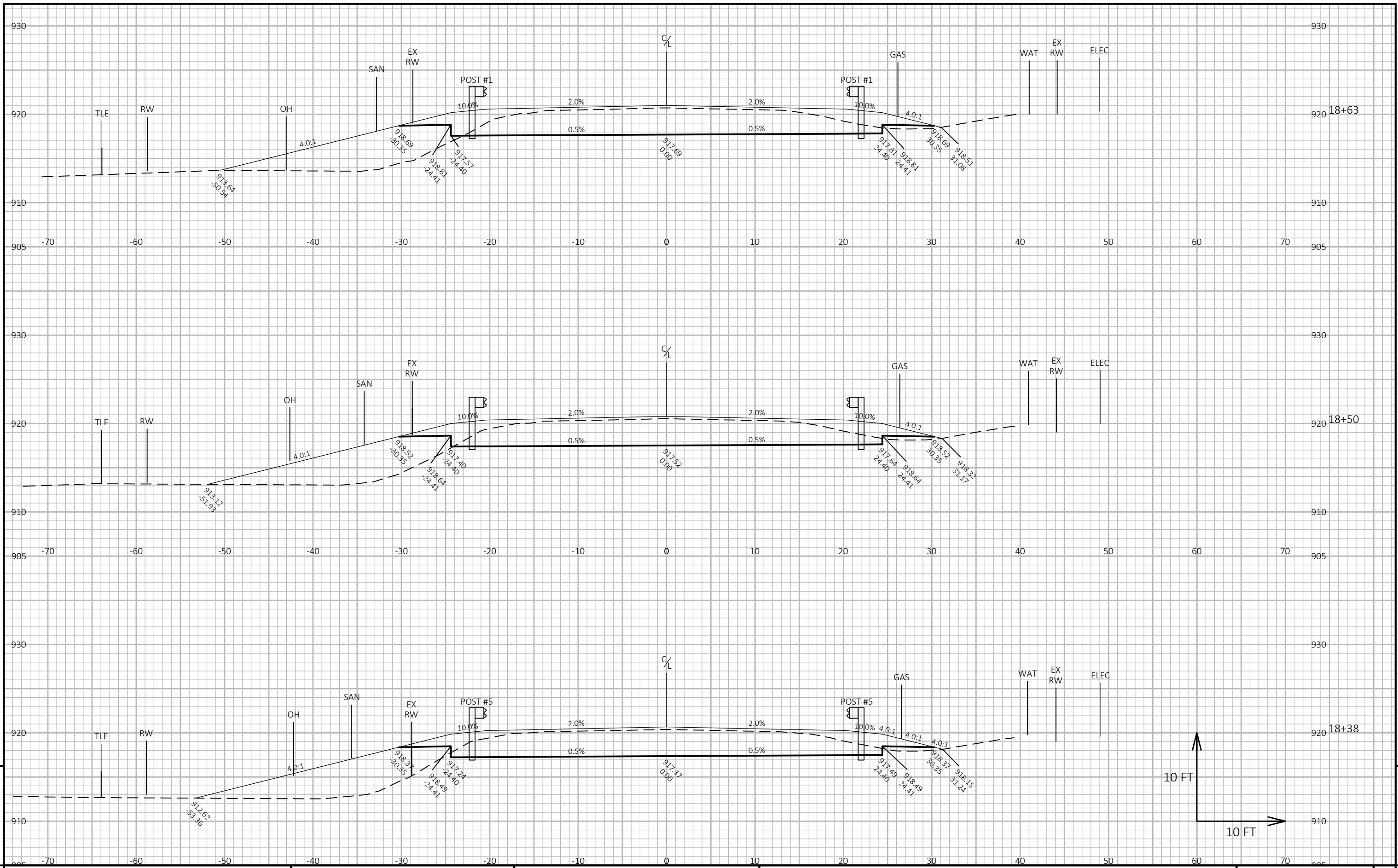


PROJECT NO: 5280-03-70      HWY: STH 113      COUNTY: DANE      CROSS SECTIONS: STH 113      SHEET      E



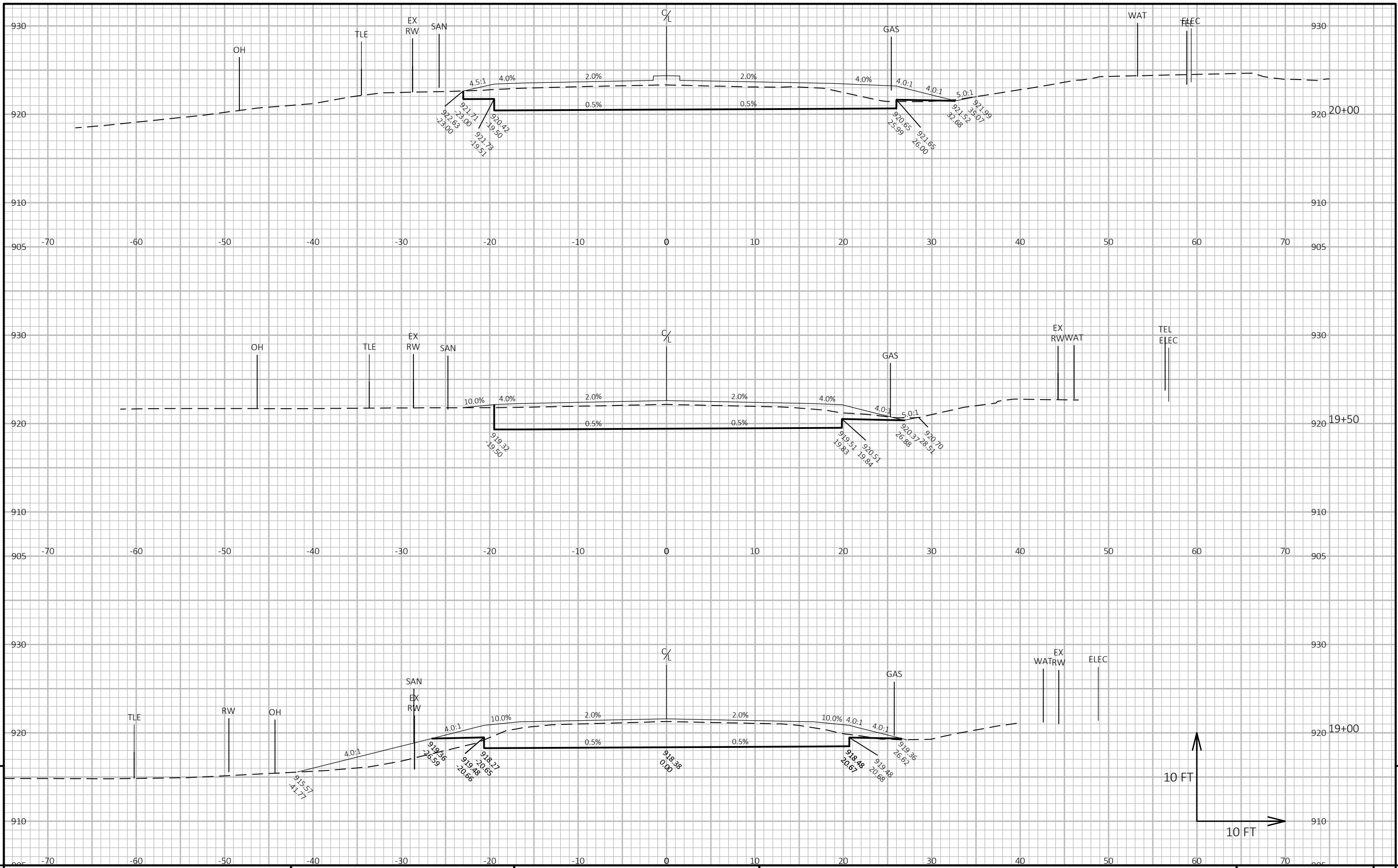


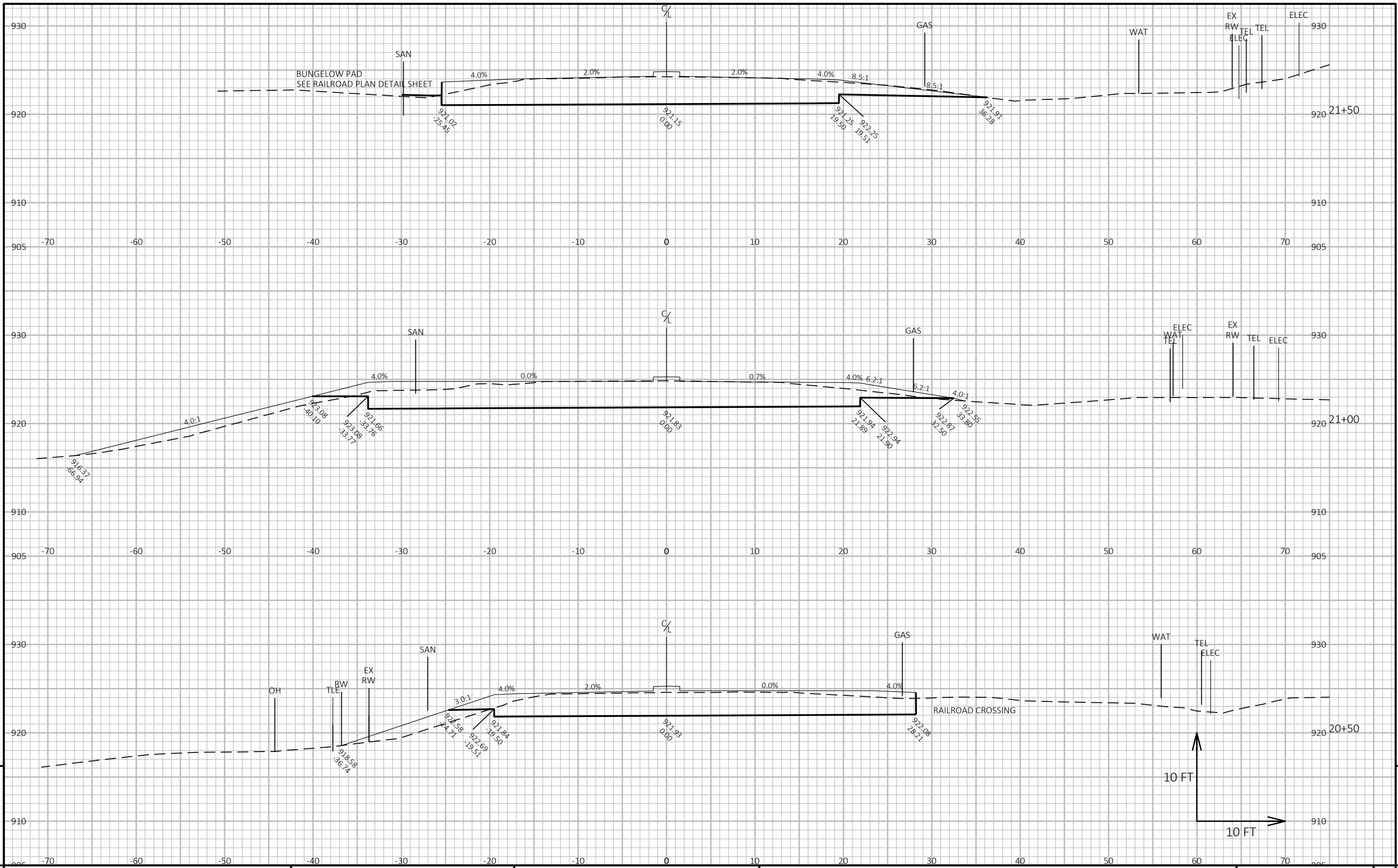
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PROJECT NO: 5280-03-70      HWY: STH 113      COUNTY: DANE      CROSS SECTIONS: STH 113      SHEET      E







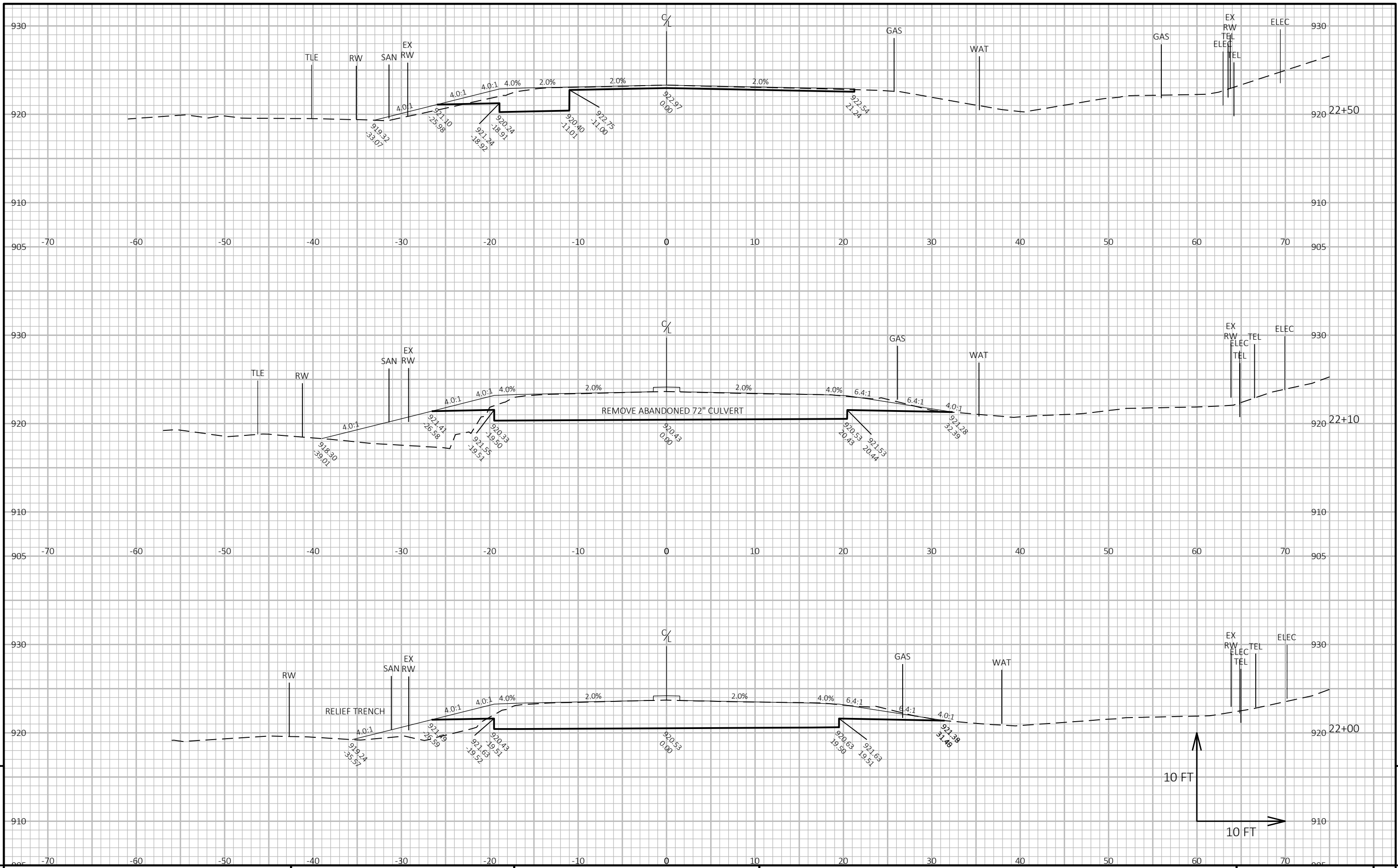
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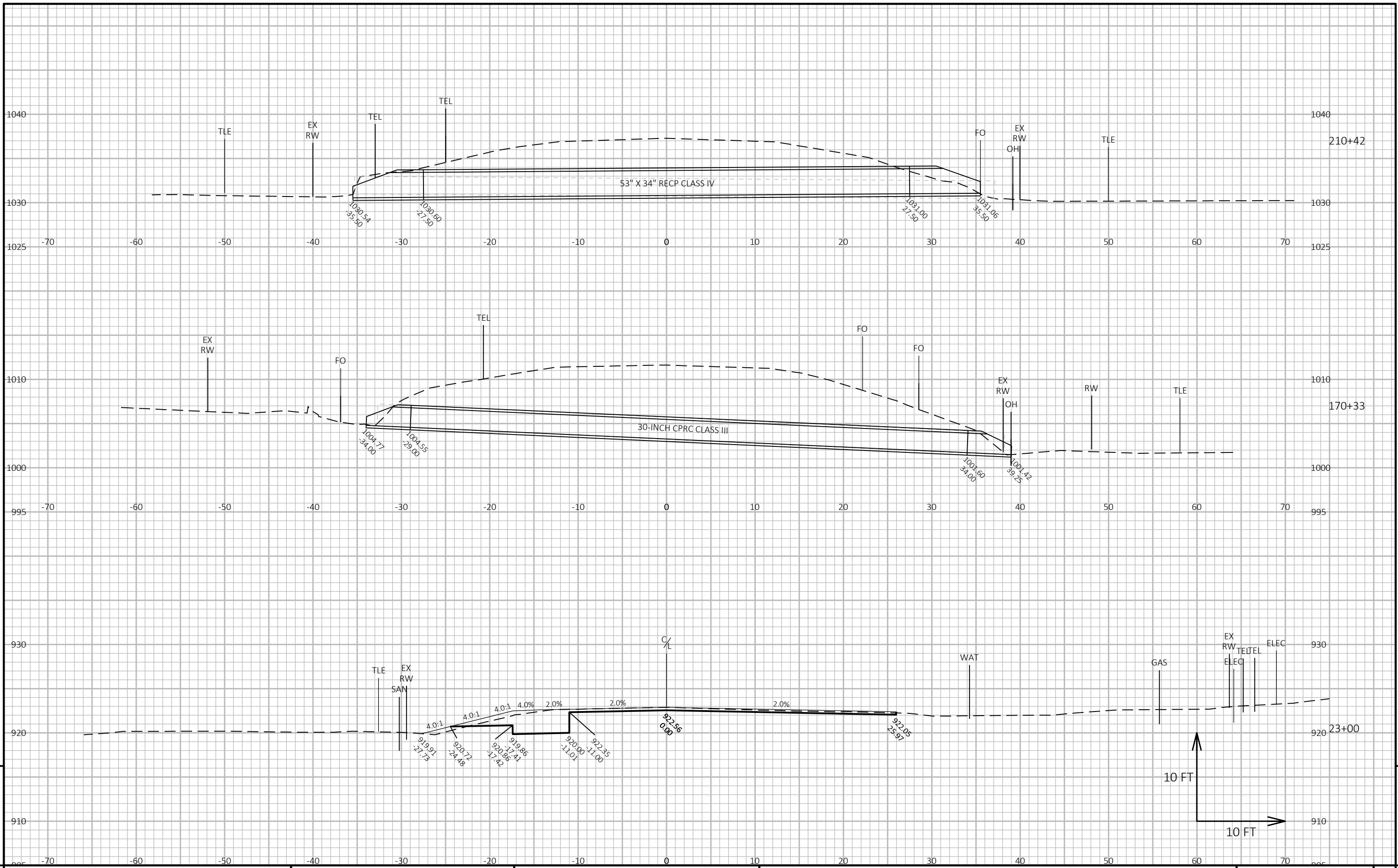
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PROJECT NO: 5280-03-70      HWY: STH 113      COUNTY: DANE      CROSS SECTIONS: STH 113      SHEET      E

FILE NAME : C:\TELEWORK\C3D FILES\52800300\SHEETSPLAN\090201-XS.DWG      PLOT DATE : 10/21/2022 7:09 AM      PLOT BY : SCHERER, MEGAN S      PLOT NAME :      PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - 6





9

9

PROJECT NO: 5280-03-70      HWY: STH 113      COUNTY: DANE      CROSS SECTIONS: STH 113      SHEET      E

FILE NAME : C:\TELEWORK\C3D FILES\52800300\SHEETSPLAN\090201-XS.DWG      PLOT DATE : 10/21/2022 7:09 AM      PLOT BY : SCHERER, MEGAN S      PLOT NAME :      PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - 8

# Notes



## ***Wisconsin Department of Transportation***

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