

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1330-22-70		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

HARTFORD - CHENEQUA

STH 167 TO MONROE AVENUE

STH 83

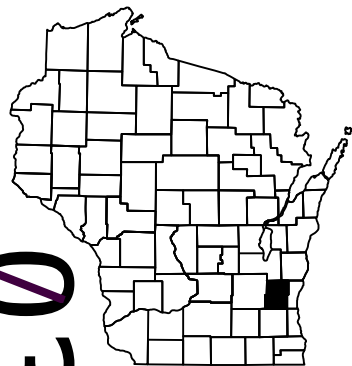
WASHINGTON COUNTY

STATE PROJECT NUMBER
1330-22-70

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 = 296



03

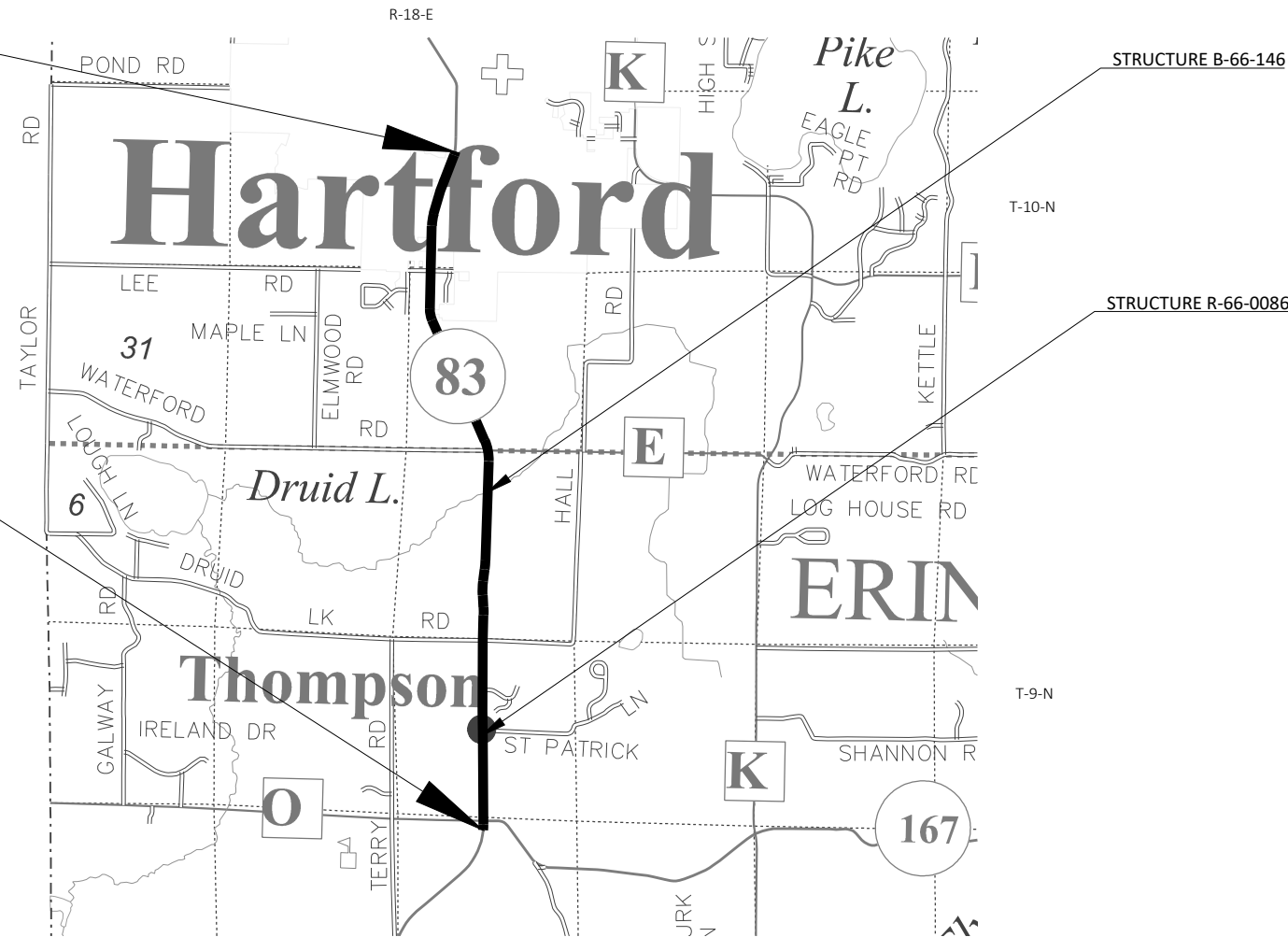
END PROJECT
STA 251+74.77
Y = 141435.309
X = 311377.212

BEGIN PROJECT
STA 47+32.00
Y = 121464.041
X = 312204.763

DESIGN DESIGNATION	STA 244+64 - 251+75	STA 52+51 - 105+19 STA 192+51 - 244+65	STA 47+32 - 52+51 STA 105+19 - 192+51
A.A.D.T. 2022	= 6,900	= -	= -
A.A.D.T. 2042	= 7,800	= -	= -
D.H.V.	= 1,035	= -	= -
D.D.	= 59/41	= -	= -
T.	= 13.2%	= -	= -
DESIGN SPEED	= 30MPH	= 45MPH	= 55MPH
ESALS	= 2,100,000	= -	= -

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
WOODED OR SHRUB AREA	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE



LAYOUT
SCALE 0 1 MILES
TOTAL NET LENGTH OF CENTERLINE = 3.872 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WASHINGTON COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.
ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ORIGINAL PLANS PREPARED BY

GRAEF 275 W. WISCONSIN AVE, SUITE 300
MILWAUKEE, WI 53203

ROBERT J. STEUCK
41177
NEW BERLIN
WI

PROFESSIONAL ENGINEER

3/31/2023 (Date) *[Signature]* (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	GRAEF
Surveyor	GRAEF
Designer	MARTIN VILLACA
Project Manager	WISDOT
Regional Examiner	JOSH LEVEQUE
Regional Supervisor	

APPROVED FOR THE DEPARTMENT

DATE: March 29, 2023 *[Signature]*
(Signature)

PROJECT ID: 1330-22-70

COUNTY: WASHINGTON

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GENERAL NOTES

1. 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.
2. CURB AND GUTTER GRADES ARE GIVEN TO THE FLOW LINE OF CURB AND GUTTER OR THEORETICAL FLOW LINE OF INTEGRAL CURB AND GUTTER. CURB AND GUTTER RADII ARE MEASURED TO THE FLOW LINE OF CURB AND GUTTER OR THEORETICAL FLOW LINE OF INTEGRAL CURB AND GUTTER.
3. CONTACT THE PROJECT ENGINEER AND THE COUNTY SURVEYOR (SCOTT M. SCHMIDT) AT LEAST TWO WEEKS BEFORE WORKING NEAR ANY SECTION CORNER MONUMENT.
4. VERIFY EXISTING PAVEMENT ELEVATIONS AT ALL TIE-INS TO EXISTING PAVEMENT PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF A DISCREPANCY IS FOUND BETWEEN PROPOSED PLAN ELEVATIONS AND EXISTING PAVEMENT ELEVATIONS.
5. CONSTRUCT PAVEMENT CONSISTENT WITH THE PLAN TYPICAL SECTIONS. PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE, OR PARKING LANE. THE LOCATIONS OF JOINTS IN THE HMA PAVEMENT SHALL BE APPROVED BY THE ENGINEER.
6. RESHAPE, RESTORE AND FINISH ALL PREVIOUSLY GRASSED AREAS DISTURBED BY OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT NO EXPENSE TO THE DEPARTMENT.
7. DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, SEEDDED, AND E-MATTED AS DIRECTED BY THE ENGINEER. DO NOT USE FERTILIZER IN OR ADJACENT TO WETLANDS.
8. PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD OR MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.
9. BACKFILL ALL OPENINGS AND HOLES LOCATED WITHIN THE ROADWAY RESULTING FROM REMOVALS OR ABANDONMENTS WITH BACKFILL GRANULAR GRADE 1 UNLESS THE PLANS PROVIDE FOR ALTERNATE BACKFILL.
10. DO NOT REMOVE ANY TREES OR SHRUBS WITHOUT APPROVAL OF THE ENGINEER.
11. ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.
12. EXISTING DRIVEWAYS AND FIELD ENTRANCES SHALL BE RESTORED IN KIND AS DIRECTED BY THE ENGINEER IN THE FIELD AND AT THE LOCATION DETERMINED BY THE ENGINEER.
13. INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES AND PIPES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.
14. THE EXISTING RIGHT-OF-WAY LIMITS ARE APPROXIMATE, AND FOR INFORMATION PURPOSES ONLY, AS PRESENTED IN THE PLANS. THE CONTRACTOR SHALL PERFORM ALL WORK WITHIN THE EXISTING RIGHT-OF-WAY OF 33-FEET TYPICAL.

ORDER OF SECTION 2 SHEETS

- | | |
|--------------------------------------|----------------------|
| GENERAL NOTES | EROSION CONTROL |
| PROJECT OVERVIEW | PERMANENT SIGNING |
| TYPICAL SECTIONS | FLASHER REMOVAL PLAN |
| CONSTRUCTION DETAILS | PAVEMENT MARKING |
| MGS GUARDRAIL DETAILS | TRAFFIC CONTROL |
| CULVERT DETAILS AND STAGING OVERVIEW | DETOUR ROUTE |
| REMOVALS PLAN | ALIGNMENT LAYOUT |
| PLAN DETAILS | SURVEY CONTROL |
| CURB RAMP DETAILS | |

OTHER AGENCIES

DNR CONTACT

DNR SERVICE CENTER
BENTON STELZEL
141 NW BARSTOW ROOM 180
WAUKESHA, WI 53188
PHONE: (262)623-0194
EMAIL: BENTON.STELZEL@WISCONSIN.GOV

SECTION CORNER/ COUNTY SURVEYOR CONTACT

CHIEF PUBLIC WORKS OFFICER/COUNTY SURVEYOR
WASHINGTON COUNTY HIGHWAY DEPARTMENT
SCOTT SCHMIDT
900 LANG ST
WEST BEND, WI 53090
PHONE: (262) 335-6881
FAX: (262) 335-4439
EMAIL: SCOTT.SCHMIDT@WASHCOWISCO.GOV

WASHINGTON COUNTY DEPUTY SURVEYOR/PROJECT MANAGER
WASHINGTON COUNTY HIGHWAY DEPARTMENT
TED DUMKE
900 LANG ST
WEST BEND, WI 53090
PHONE: (262) 335-4436
EMAIL: TED.DUMKE@WASHCOWISCO.GOV

DESIGN CONTACT
GRAEF

BOB STEUCK
275 W WISCONSIN AVE
SUITE 300
MILWAUKEE, WI 53203
(414) 266-9293
BOB.STEUCK@GRAEF-USA.COM

WISDOT CONTACT
WISDOT - SE REGION

MARTIN VILLACA
141 NW BARSTOW ST
P.O. BOX 798
WAUKESHA, WI 53187-0798
(262) 548-6456
MARTIN.VILLACA@DOT.WI.GOV

CITY OF HARTFORD
ENGINEER

JONH GRIFFIN
109 N MAIN ST
HARTFORD, WI 53027
PHONE: (262) 673-8263
EMAIL: JGRIFFIN@HARTFORD.WI.GOV

WISDOT SIGNALS
TRAFFIC ENGINEER

JARRETT GATES
141 NW BARSTOW STREET
WAUKESHA, WI 53187
PHONE: (262) 548-5894
EMAIL: JARRETT.GATES@DOT.WI.GOV

AT&T WISCONSIN
COMMUNICATIONS

DEAN HERRO
435 SOUTH 95TH STREET
MILWAUKEE, WI 53214
PHONE: (262) 226-9639
EMAIL: DH2572@ATT.COM

CITY OF HARTFORD
ELECTRIC

BRIAN RHODES
620 W SUMNER ST.
HARTFORD, WI 53027
PHONE: (262) 670-3710
EMAIL: BRHODES@HARTFORDUTILITIES.ORG

CITY OF HARTFORD
SEWER

DAN DENTICE
109 N MAIN ST
HARTFORD, WI 53027
PHONE: (262) 673-2423
EMAIL: DDENTICE@HARTFORD.WI.GOV

CITY OF HARTFORD
WATER

BRIAN PHODES
620 W SUMNER ST.
HARTFORD, WI 53027
PHONE: (262) 670-3710
EMAIL: BRHODES@HARTFORDUTILITIES.ORG

EVERSTREAM
COMMUNICATIONS

SHAD GARCIA
324 E WISCONSIN AVE
MILWAUKEE, WI 53202
PHONE: (414) 522-6685
EMAIL: SGARCIA@EVERSTREAM.NET

FRONTIER COMMUNICATIONS
COMMUNICATIONS

TYLER COFFMAN
330 BLACKBURN ST
RIPON, WI 54971
PHONE: (217) 491-7186
EMAIL: TCOFFMAN@MSCON.COM

PAETEC COMMUNICATIONS
COMMUNICATIONS

LORI KETTER
314 N DANZ AVE
GREEN BAY, WI 54302
PHONE: (920) 410-6902
EMAIL: LORI.KETTER@WINDSTREAM.COM

SPECTRUM
COMMUNICATIONS

RON FRASE
N3760 CTH DJ
JUNEAU, WI 53039
PHONE: (920) 349-3202, EXT. 103
EMAIL: RON.FRASE@CHARTER.COM

WE ENERGIES
ELECTRIC

GREGORY BOERNER
500 S 116th Street
WEST ALLIS, WI 53214
PHONE: (618) 409-5861
EMAIL: GREGORY.BOERNER@WE-ENERGIES.COM

WE ENERGIES
GAS/PETROLEUM

JACOB HULBERT
500 S 116TH STREET
WEST ALLIS, WI 53214
PHONE: (414) 944-5575
EMAIL: JACOB.HULBERT@WE-ENERGIES.COM

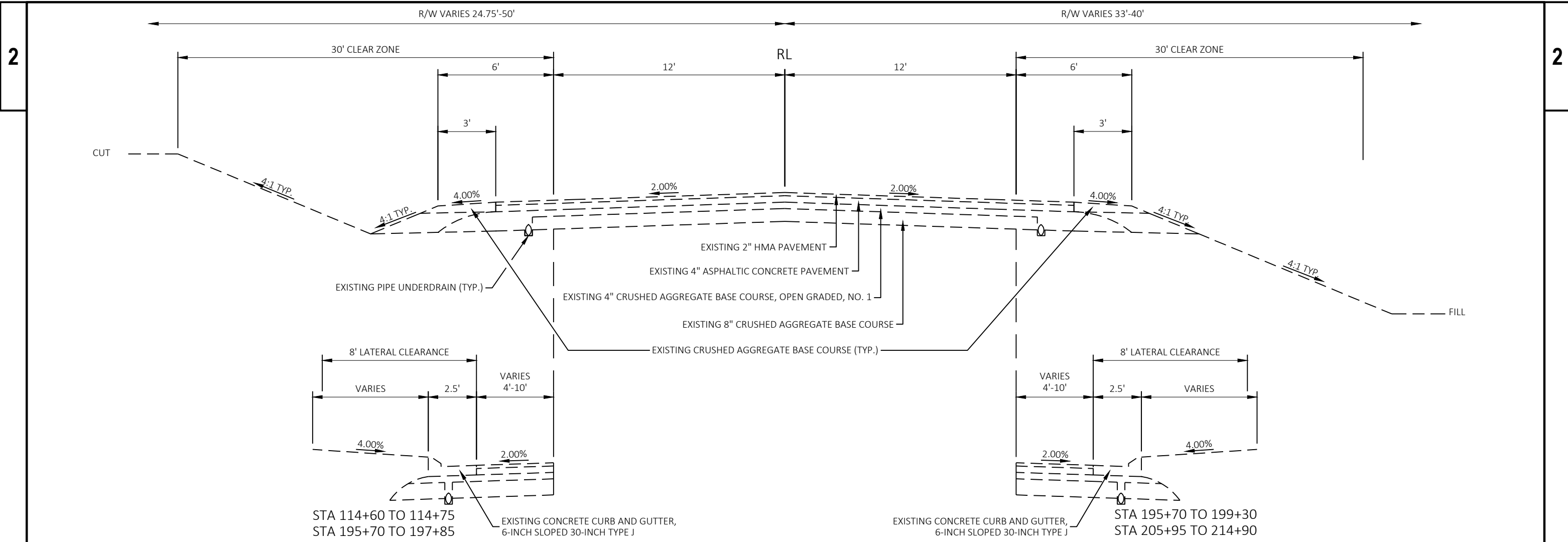
HMA PAVING

LOCATION	DEPTH	LAYER	HMA PAVEMENT TYPE	THICKNESS
MAINLINE - WITH EXISTING CONCRETE	4 ½"	UPPER LAYER	4 MT 58-28 S	1 ¾"
		LOWER LAYER	3 MT 58-28 S	2 ¾"
MAINLINE - WITHOUT EXISTING CONCRETE	4 ¾"	UPPER LAYER	4 MT 58-28 S	1 ¾"
		LOWER LAYER	3 MT 58-28 S	3"
SHOULDERS - TYPICAL	1 ¾"	UPPER LAYER	4 MT 58-28 S	1 ¾"
MAINLINE - BOX CULVERT REPLACEMENT	7 ¾"	UPPER LAYER	4 MT 58-28 S	1 ¾"
		MIDDLE LAYER	3 MT 58-25 S	2 ¾"
		LOWER LAYER	3 MT 58-25 S	2 ¾"
SHOULDERS - BOX CULVERT REPLACEMENT	4 ½"	UPPER LAYER	4 MT 58-28 S	1 ¾"
		LOWER LAYER	3 MT 58-28 S	2 ¾"

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

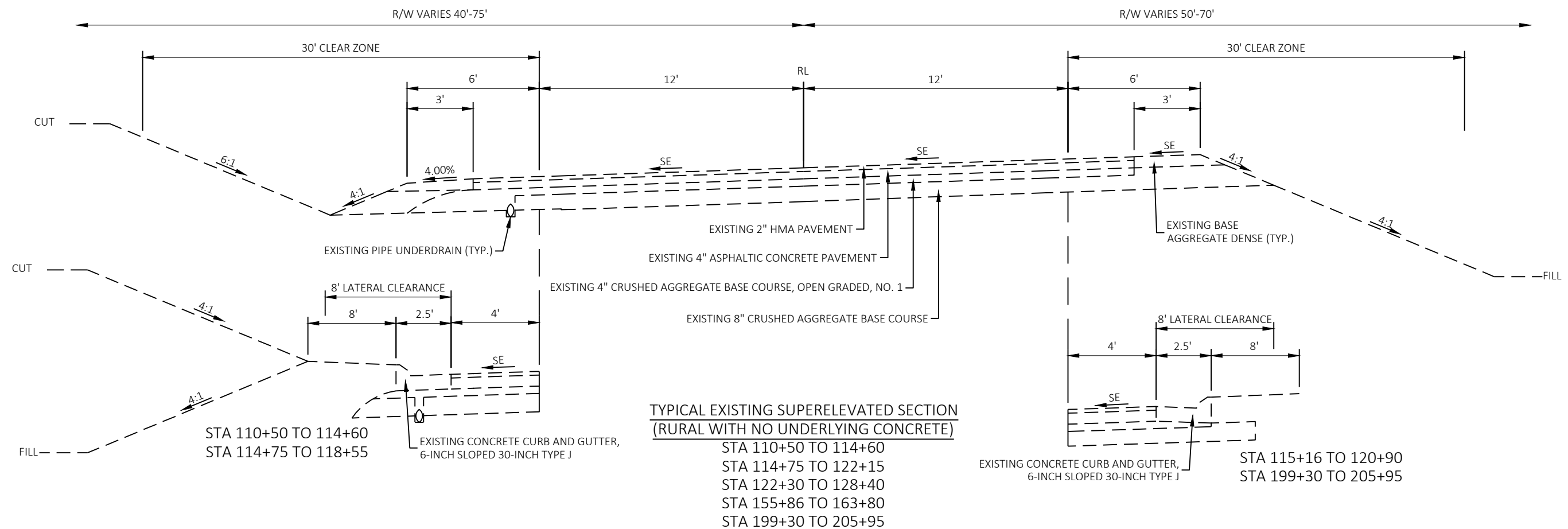
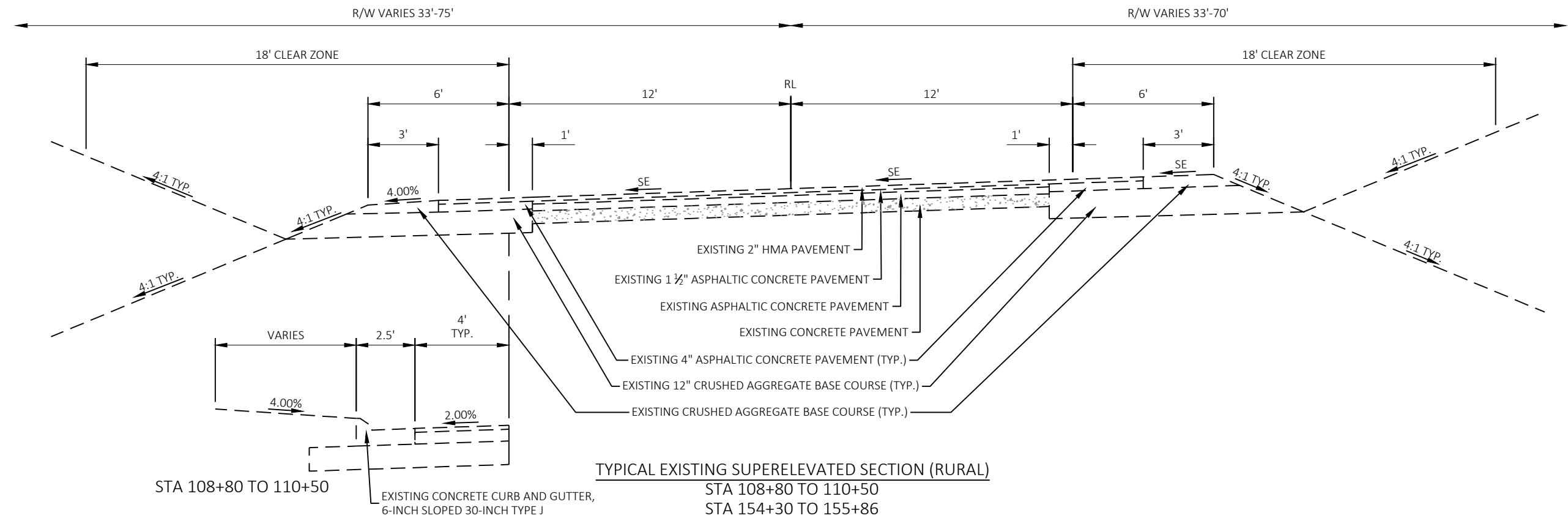


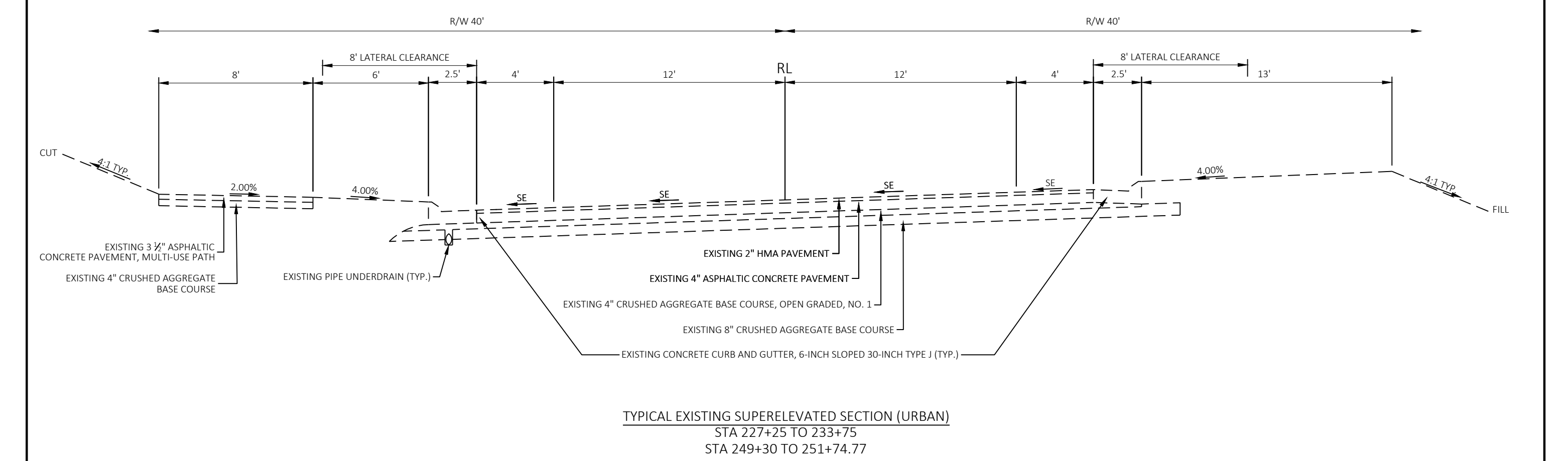
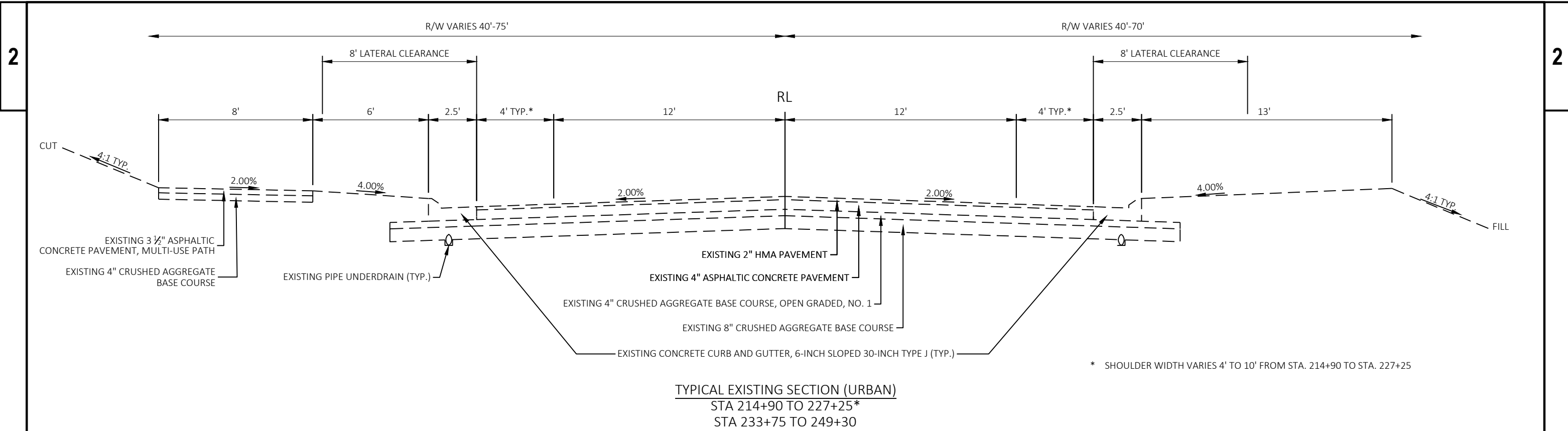
PROJECT NO: 1330-22-70	HWY: STH 83	COUNTY: WASHINGTON	PROJECT OVERVIEW	SHEET	E
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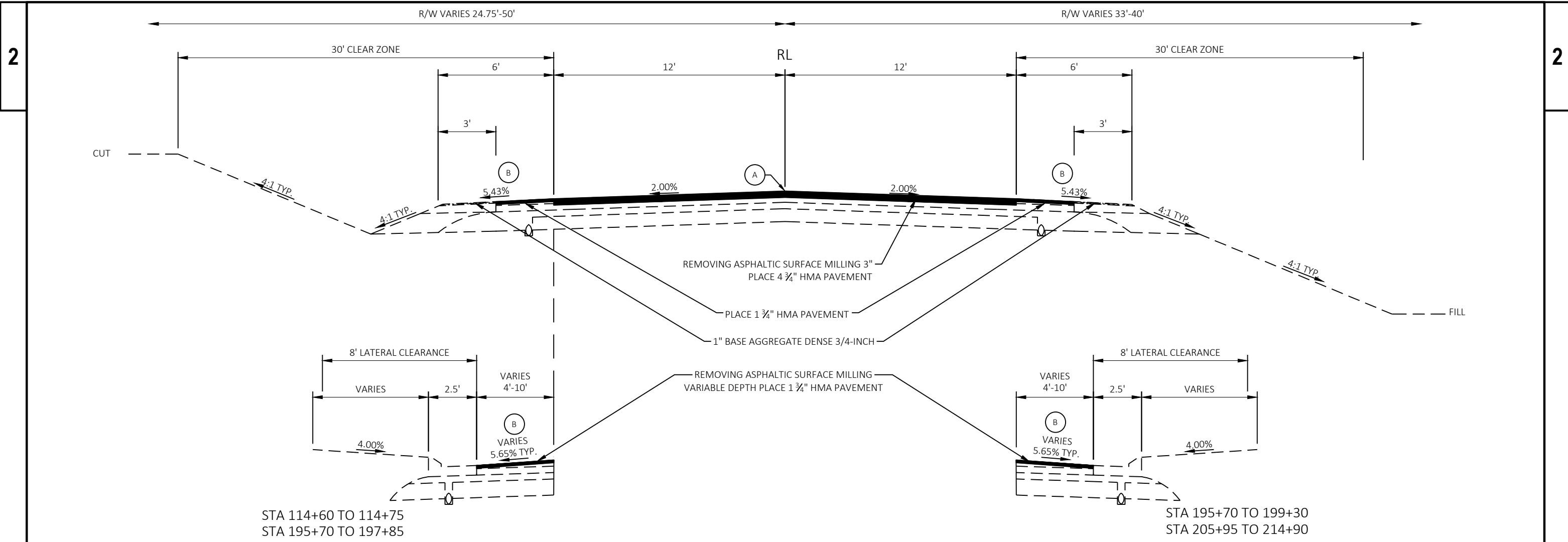
TYPICAL EXISTING SECTION (RURAL WITH NO UNDERLYING CONCRETE PAVEMENT)

- STA 47+32 TO 54+00
- STA 114+60 TO 114+75
- STA 122+15 TO 122+30
- STA 128+40 TO 131+75
- STA 163+80 TO 168+50
- STA 195+70 TO 199+30
- STA 205+95 TO 214+90





PROJECT NO: 1330-22-70	HWY: STH 83	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET	E
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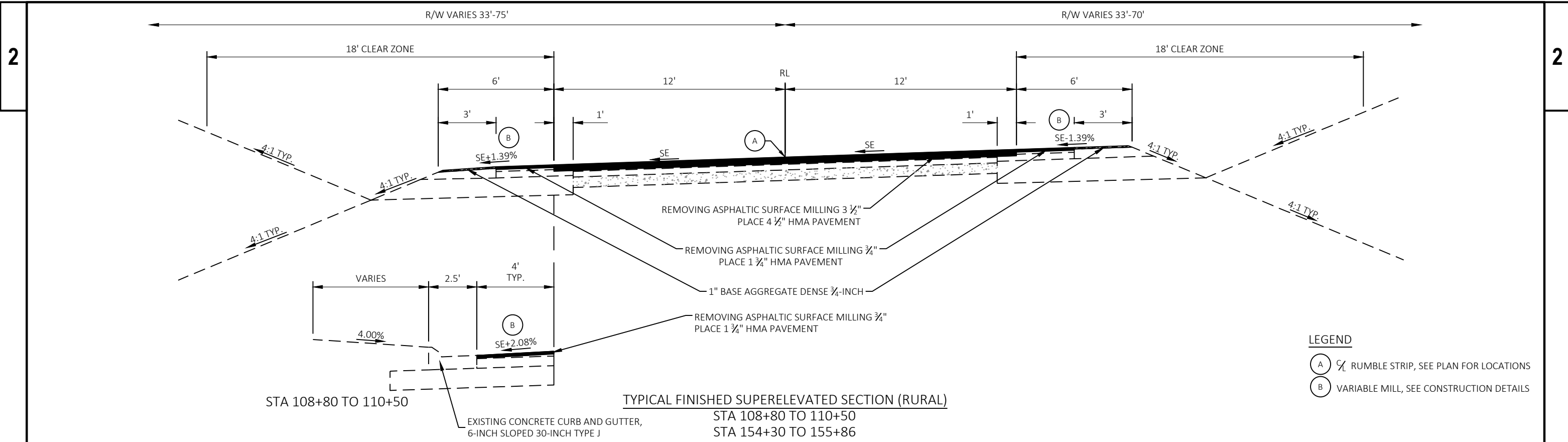
STA 114+60 TO 114+75
 STA 195+70 TO 197+85

STA 195+70 TO 199+30
 STA 205+95 TO 214+90

TYPICAL FINISHED SECTION (RURAL WITH NO UNDERLYING CONCRETE PAVEMENT)

- STA 47+32 TO 54+00
- STA 89+80 TO 94+80
- STA 114+60 TO 114+75
- STA 122+15 TO 122+30
- STA 128+40 TO 131+75
- STA 163+80 TO 168+50
- STA 195+70 TO 199+30
- STA 205+95 TO 214+90

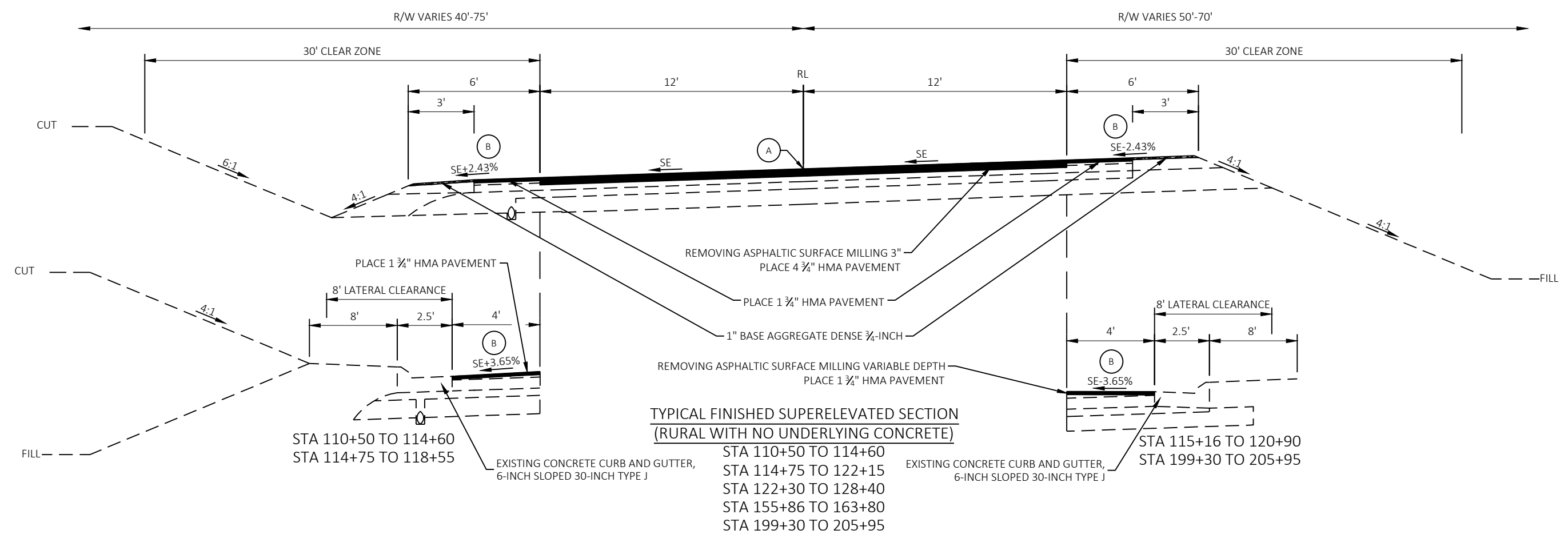
LEGEND
 (A) RUMBLE STRIP, SEE PLAN FOR LOCATIONS
 (B) VARIABLE MILL, SEE CONSTRUCTION DETAILS

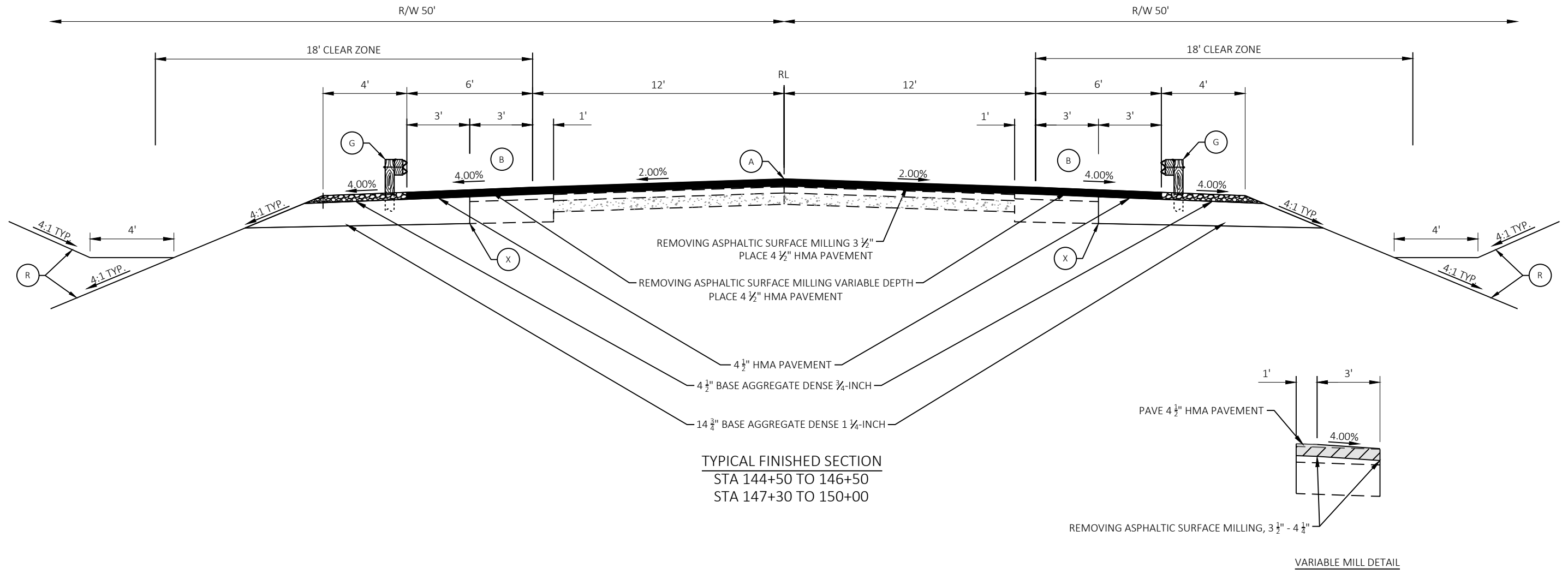


LEGEND

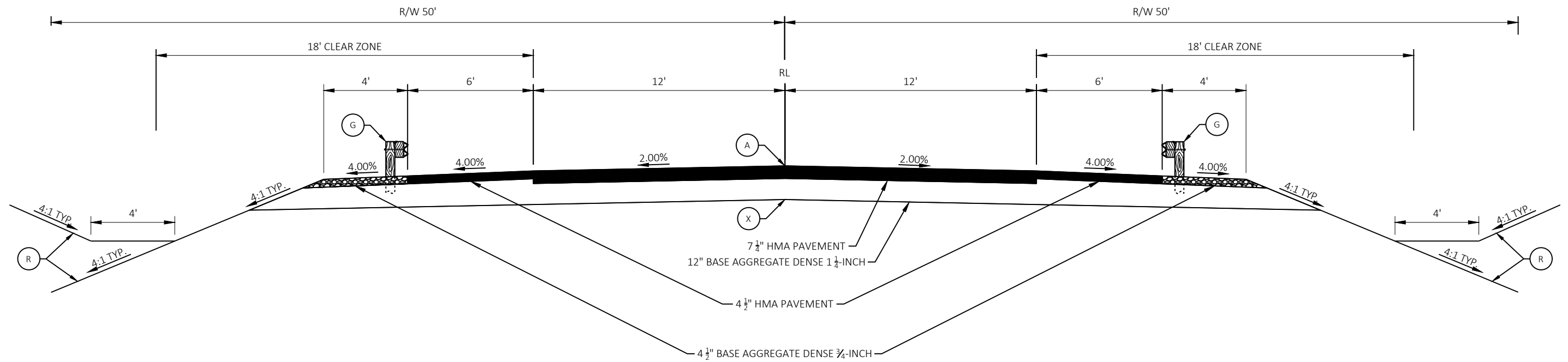
(A) RUMBLE STRIP, SEE PLAN FOR LOCATIONS

(B) VARIABLE MILL, SEE CONSTRUCTION DETAILS





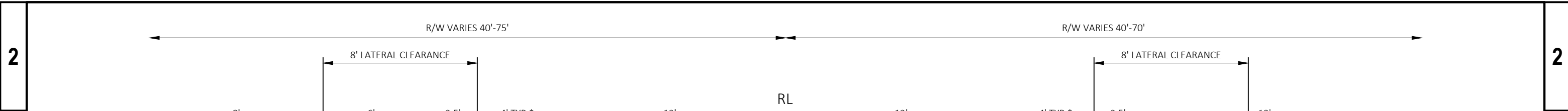
- LEGEND**
- (A) $\text{C}\%$ RUMBLE STRIP, SEE PLAN FOR LOCATIONS.
 - (B) VARIABLE MILL, SEE DETAIL ABOVE
 - (G) SEE "MGS GUARDRAIL DETAILS" FOR TYPES AND LOCATIONS.
 - (R) SEE EROSION CONTROL PLAN FOR RESTORATION INFORMATION.
 - (X) POINT REFERRED TO ON CROSS SECTIONS.



TYPICAL FINISHED SECTION
 STA 146+50 TO STA. 147+30

LEGEND

- (A) RUMBLE STRIP, SEE PLAN FOR LOCATIONS.
- (G) SEE "MGS GUARDRAIL DETAILS" FOR TYPES AND LOCATIONS.
- (R) SEE EROSION CONTROL PLAN FOR RESTORATION INFORMATION.
- (X) POINT REFERRED TO ON CROSS SECTIONS.



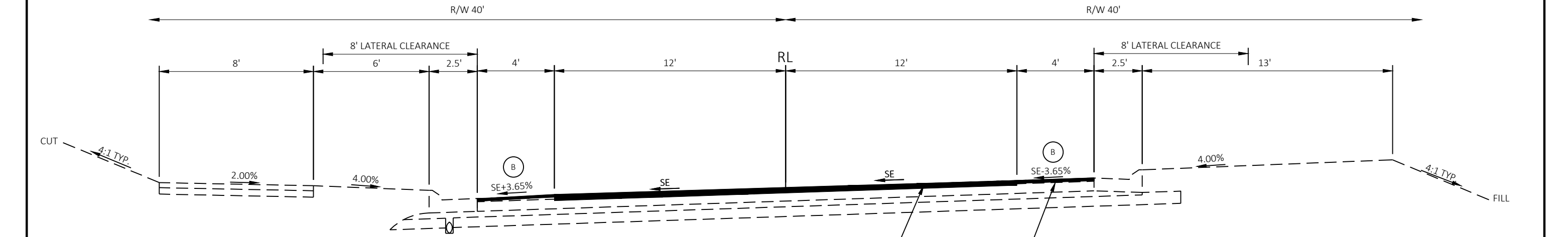
TYPICAL PROPOSED SECTION (URBAN)
 STA 214+90 TO 227+25
 STA 233+75 TO 249+30

- LEGEND**
- (A) RUMBLE STRIP, SEE PLAN FOR LOCATIONS
 - (B) VARIABLE MILL, SEE CONSTRUCTION DETAILS

* SHOULDER WIDTH VARIES 4' TO 10' FROM STA. 215+53 TO STA. 227+25

REMOVING ASPHALTIC SURFACE MILLING 3"
 PLACE 4 3/4" HMA PAVEMENT

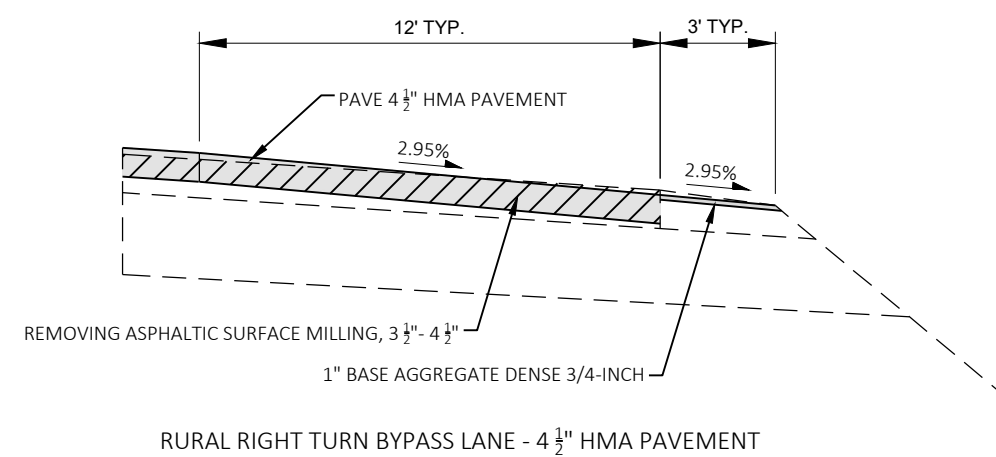
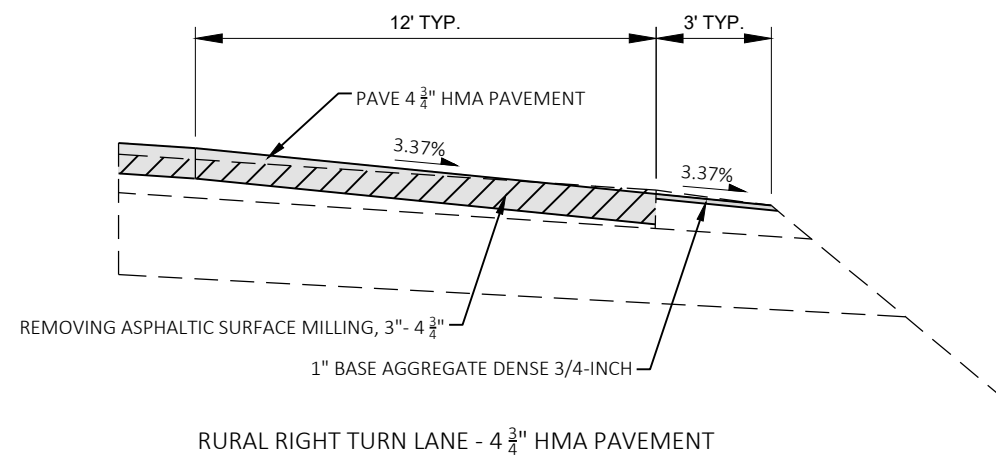
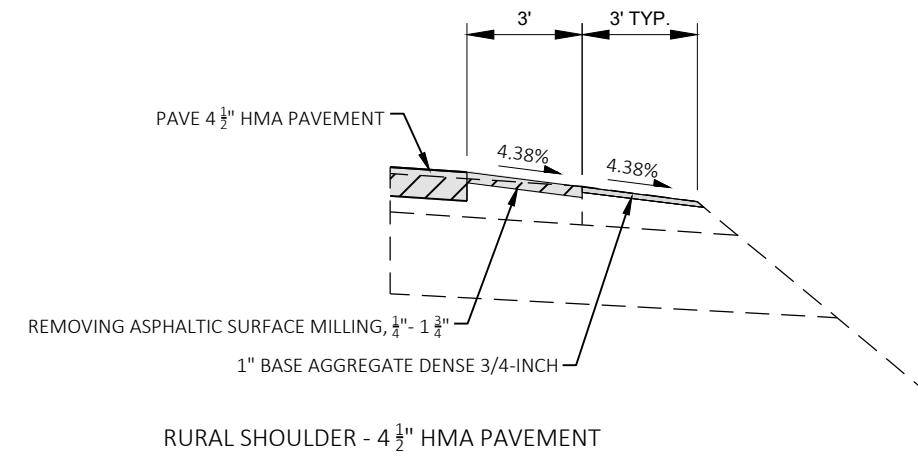
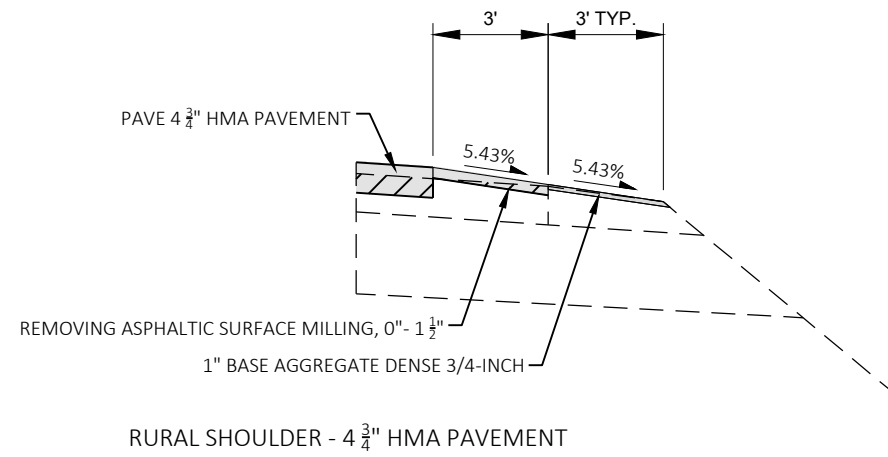
REMOVING ASPHALTIC SURFACE MILLING VARIABLE DEPTH
 PLACE 1 3/4" HMA PAVEMENT



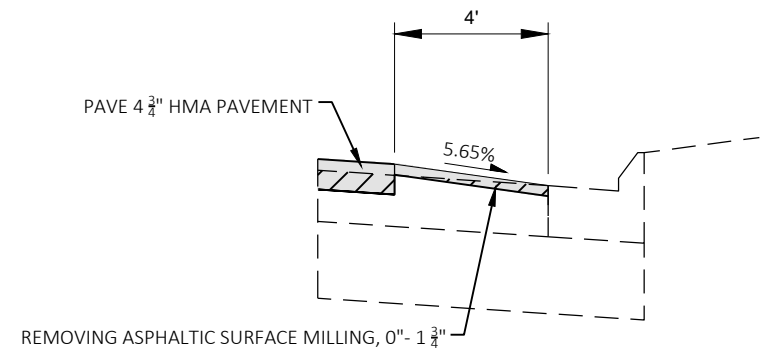
TYPICAL PROPOSED SUPERELEVATED SECTION (URBAN)
 STA 227+25 TO 233+75
 STA 249+30 TO 251+74.77

REMOVING ASPHALTIC SURFACE MILLING 3"
 PLACE 4 3/4" HMA PAVEMENT

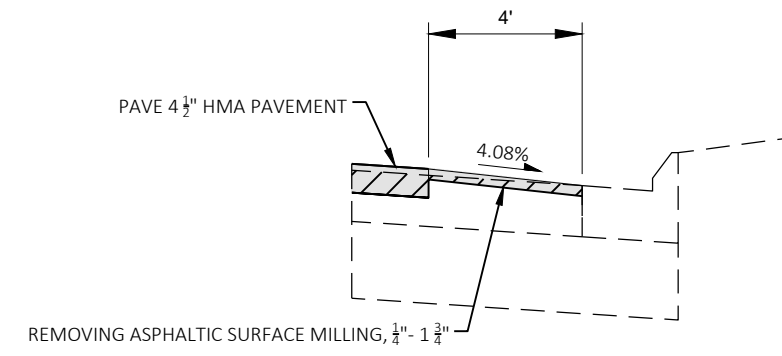
REMOVING ASPHALTIC SURFACE MILLING VARIABLE DEPTH
 PLACE 1 3/4" HMA PAVEMENT



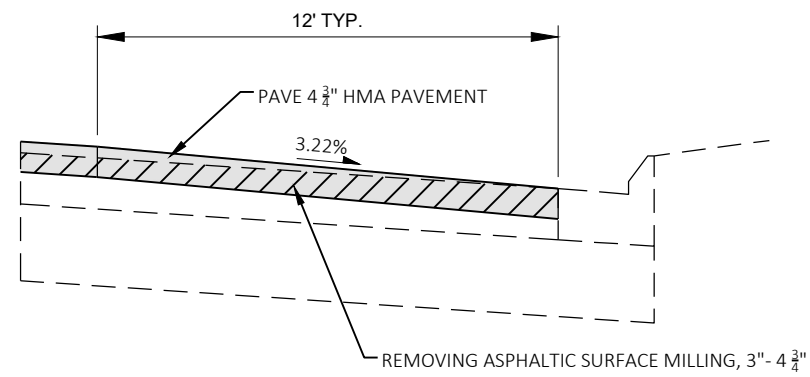
SHOULDER AND TURN LANE MILLING AND PAVING DETAILS - RURAL



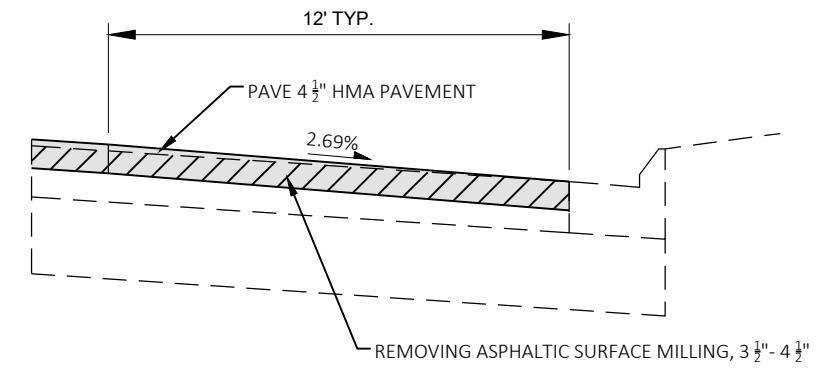
URBAN SHOULDER - 4 $\frac{3}{4}$ " HMA PAVEMENT



URBAN SHOULDER - 4 $\frac{1}{2}$ " HMA PAVEMENT

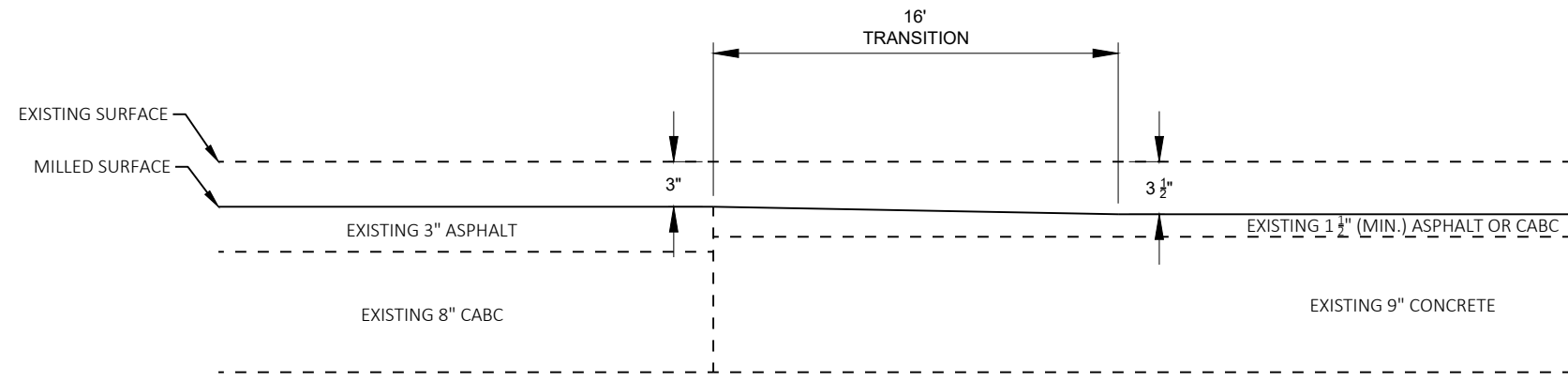


URBAN RIGHT TURN LANE - 4 $\frac{3}{4}$ " HMA PAVEMENT

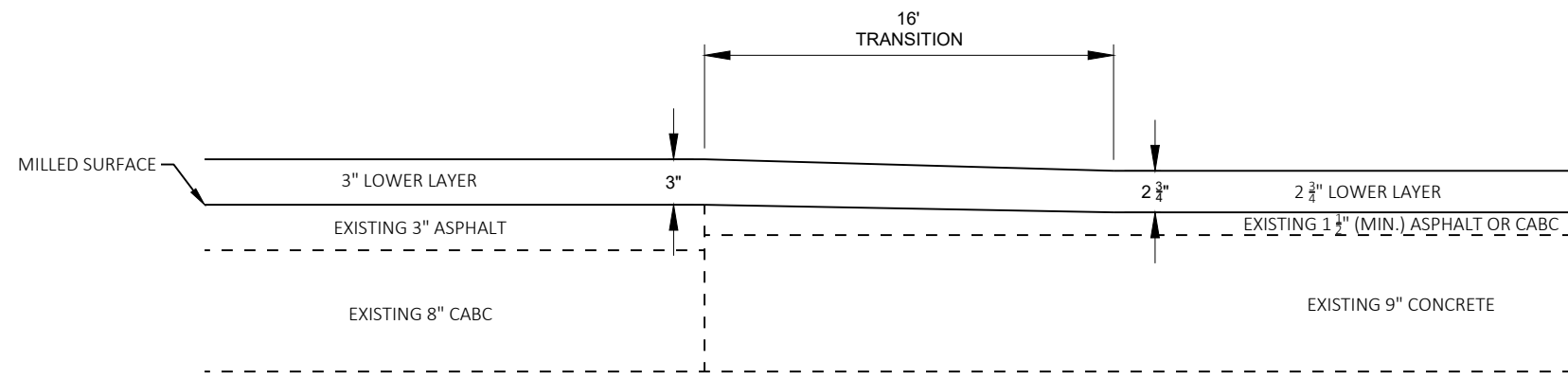


URBAN RIGHT TURN LANE - 4 $\frac{1}{2}$ " HMA PAVEMENT

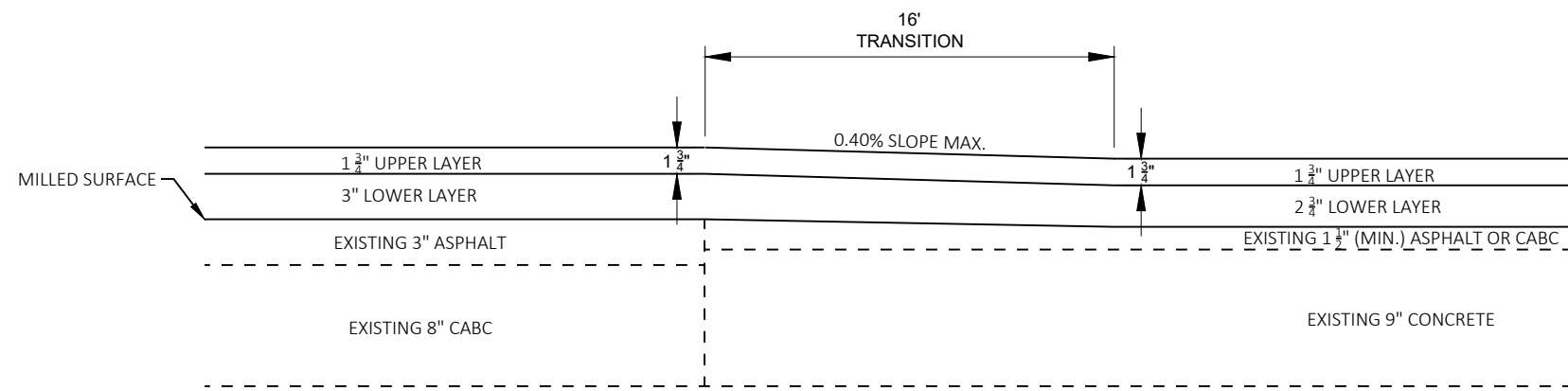
SHOULDER AND TURN LANE MILLING AND PAVING DETAILS - URBAN



STEP 1 : REMOVING ASPHALTIC SURFACE MILLING



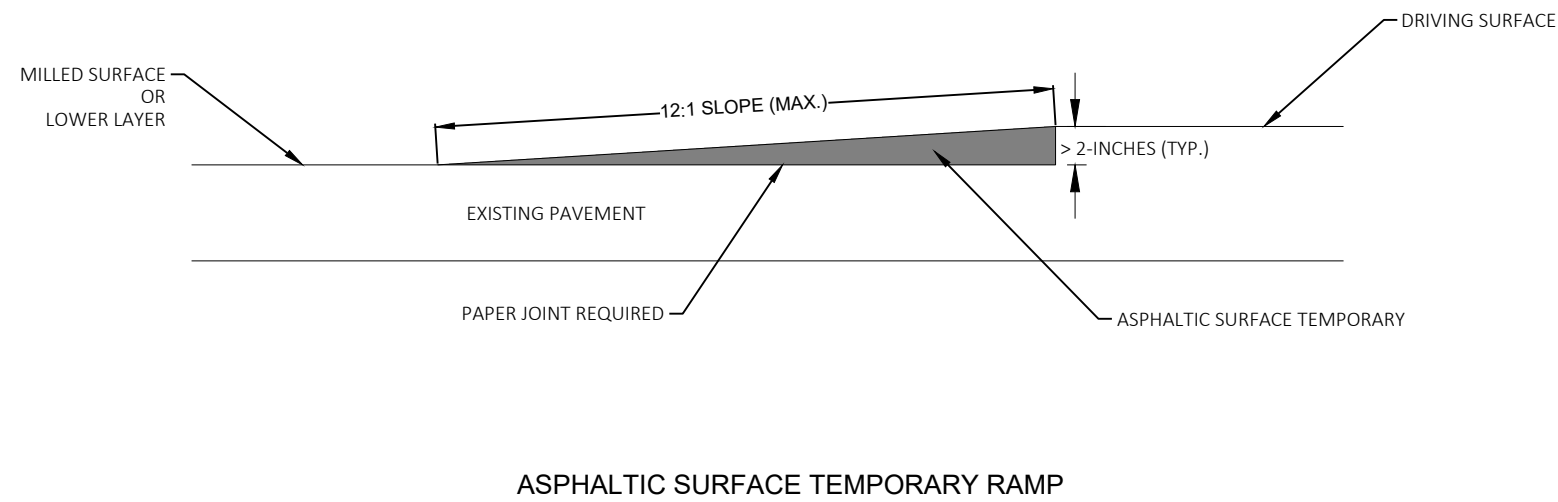
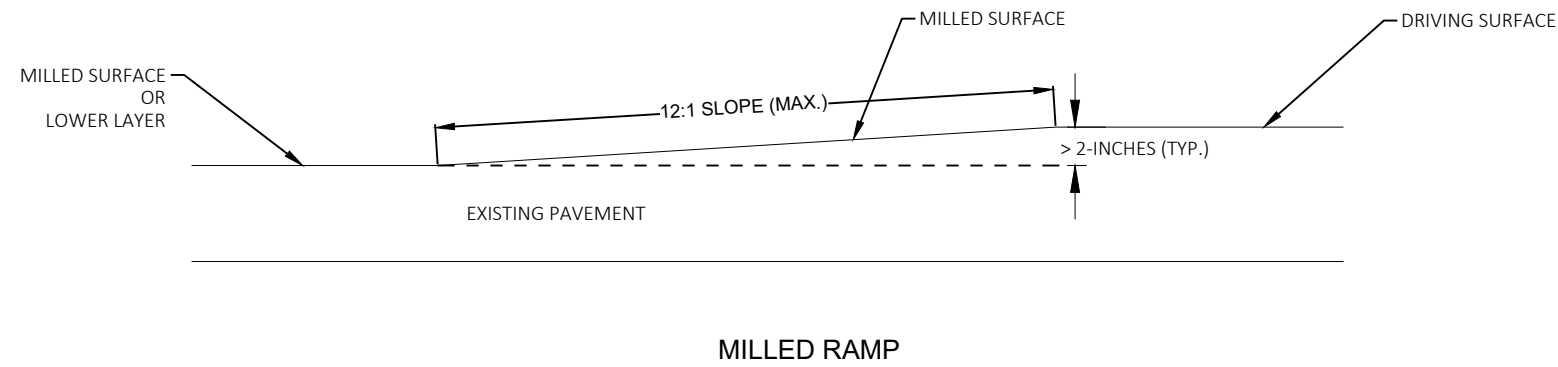
STEP 2: PAVE LOWER LAYERS

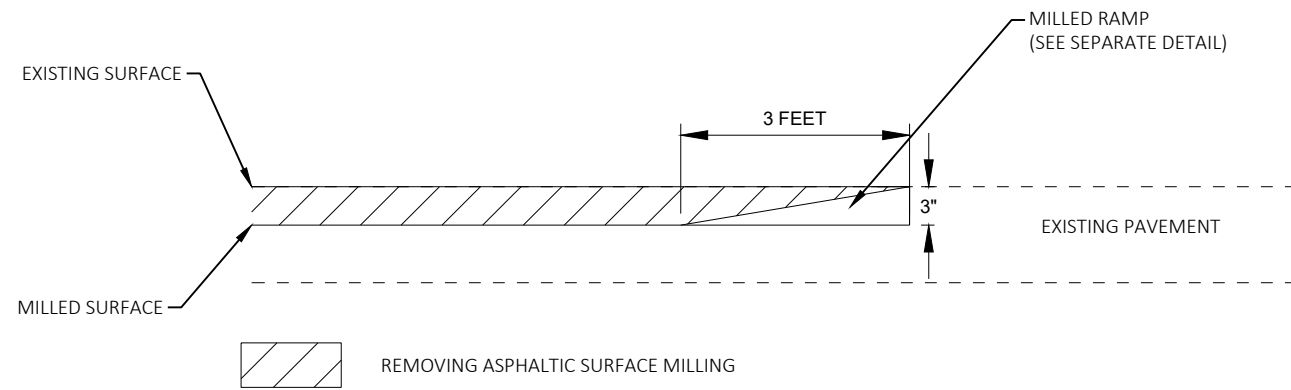


STEP 3: PAVE UPPER LAYER

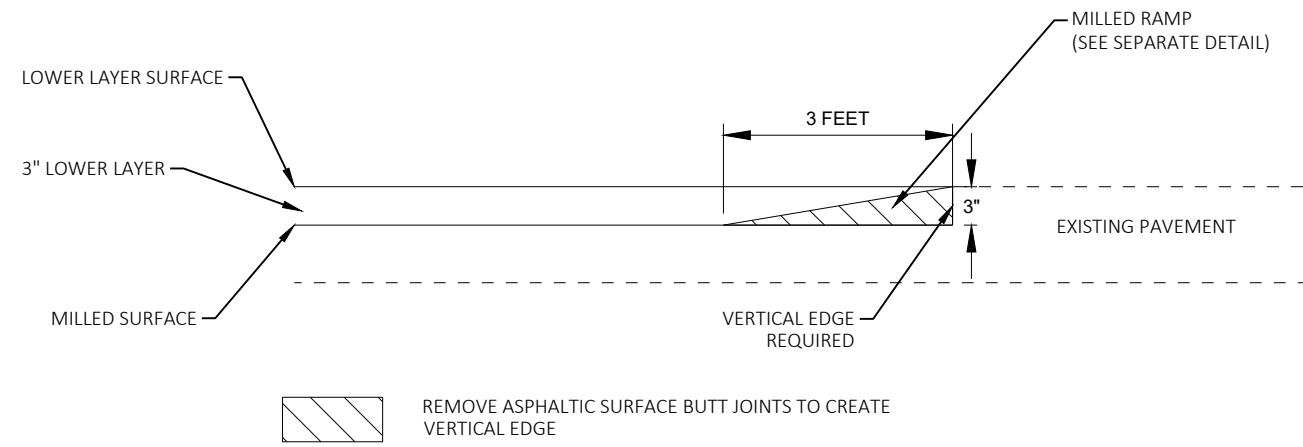
MILLING AND PAVING TRANSITION DETAIL

SEE PLAN FOR LOCATIONS

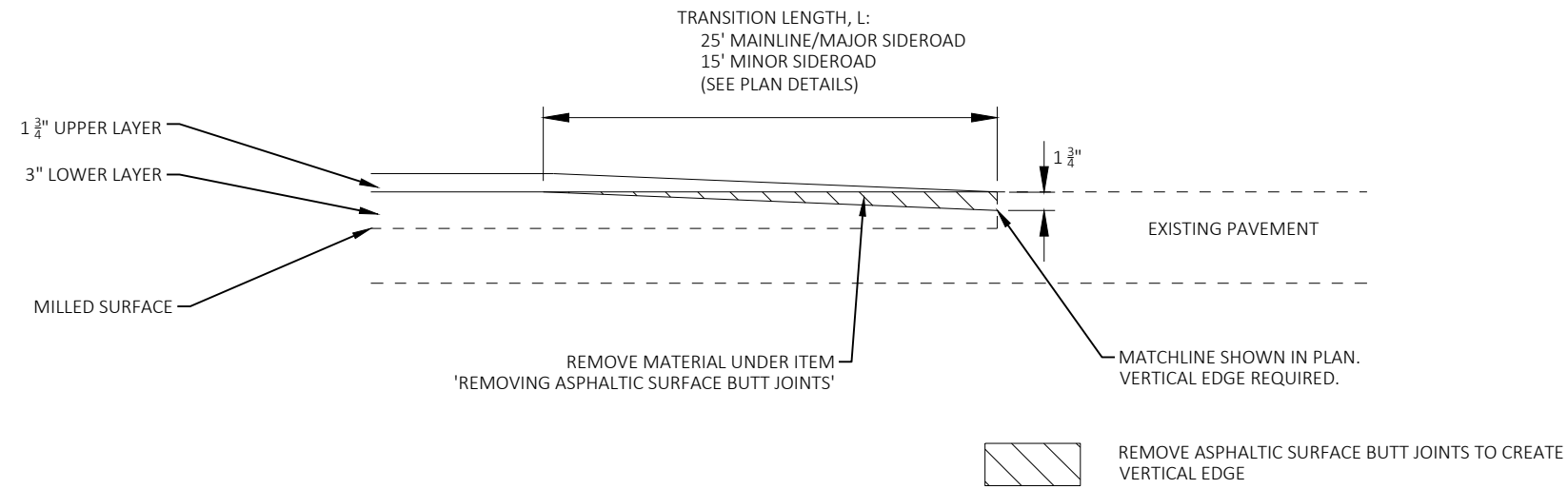




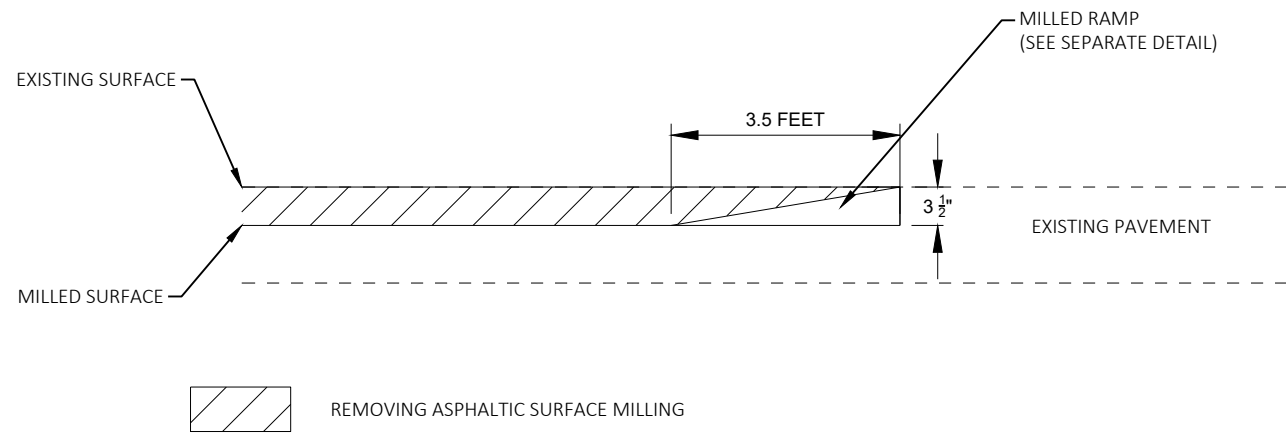
MILLING LOWER LAYER - 3"



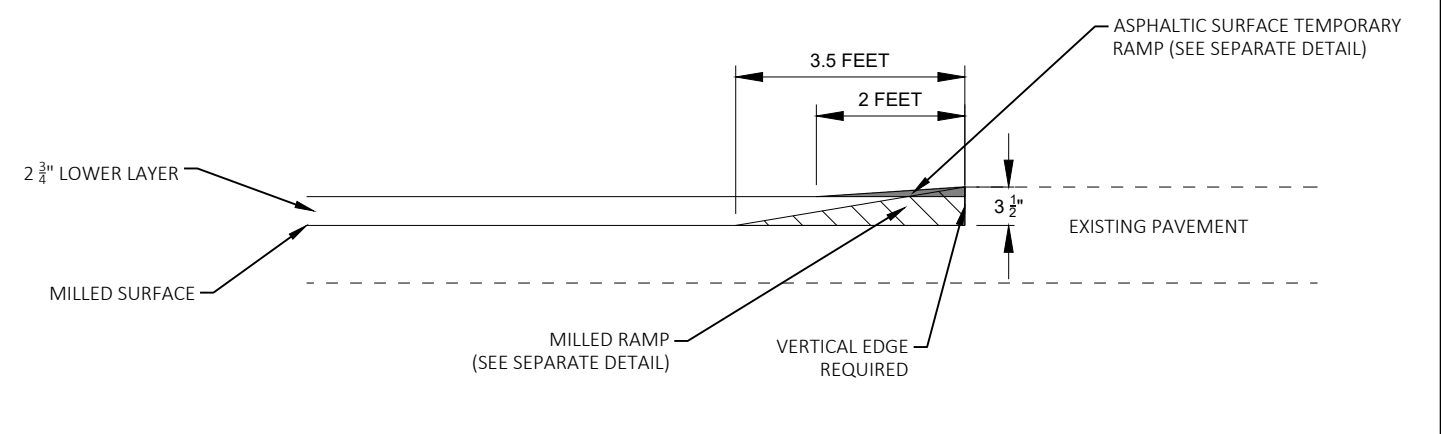
PAVING LOWER LAYER - 3"



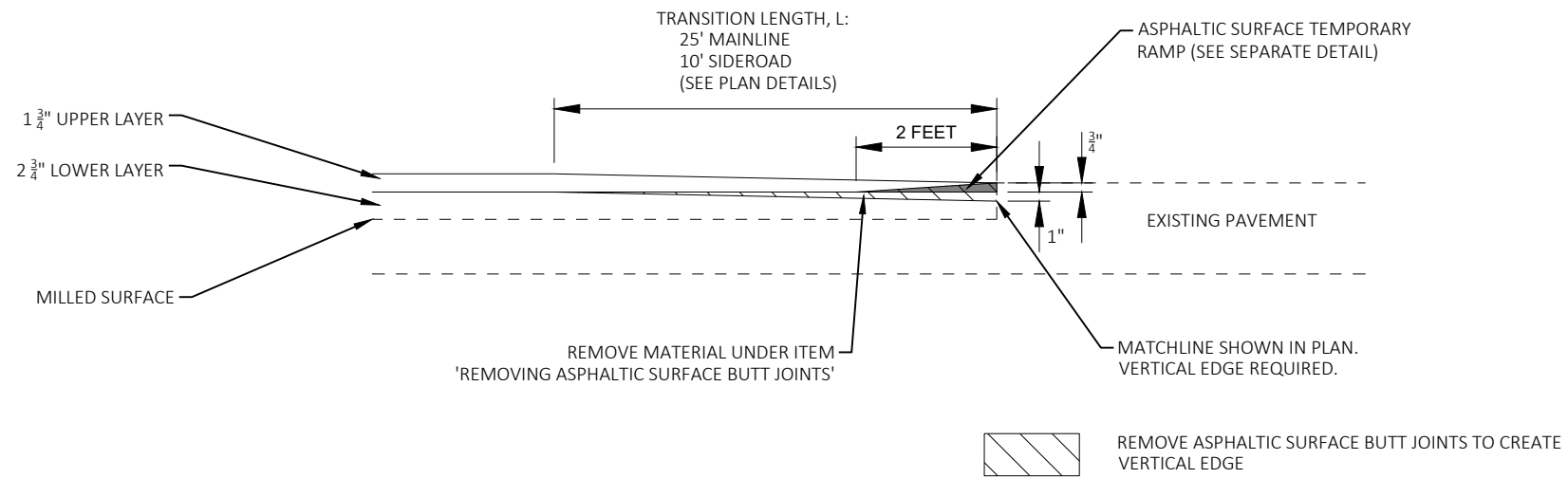
UPPER LAYER BUTT JOINT - 1 3/4" CHANGE IN PROFILE



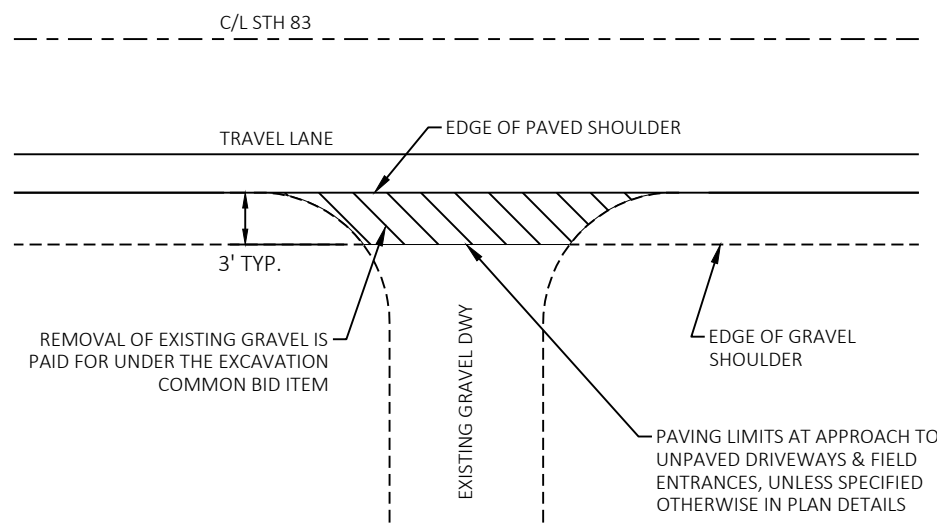
MILLING LOWER LAYER - 3 1/2"



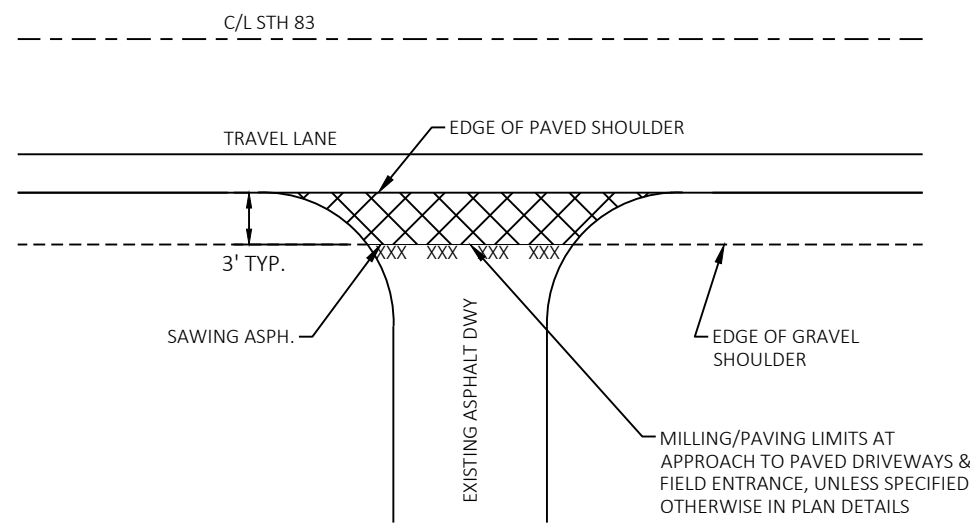
PAVING LOWER LAYER - 2 3/4"






UPPER LAYER BUTT JOINT - 1" CHANGE IN PROFILE



PLAN VIEW

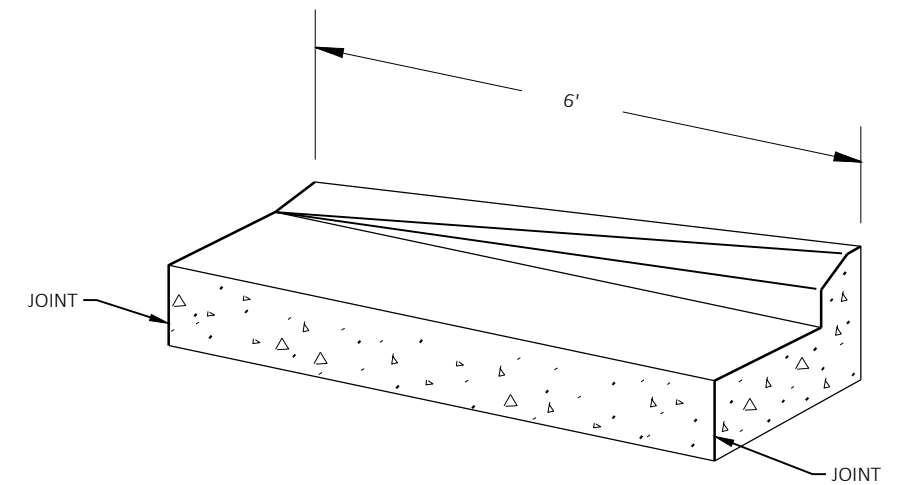


PLAN VIEW

-  2" ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
-  REMOVING ASPHALTIC SURFACE MILLING
-  2" ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

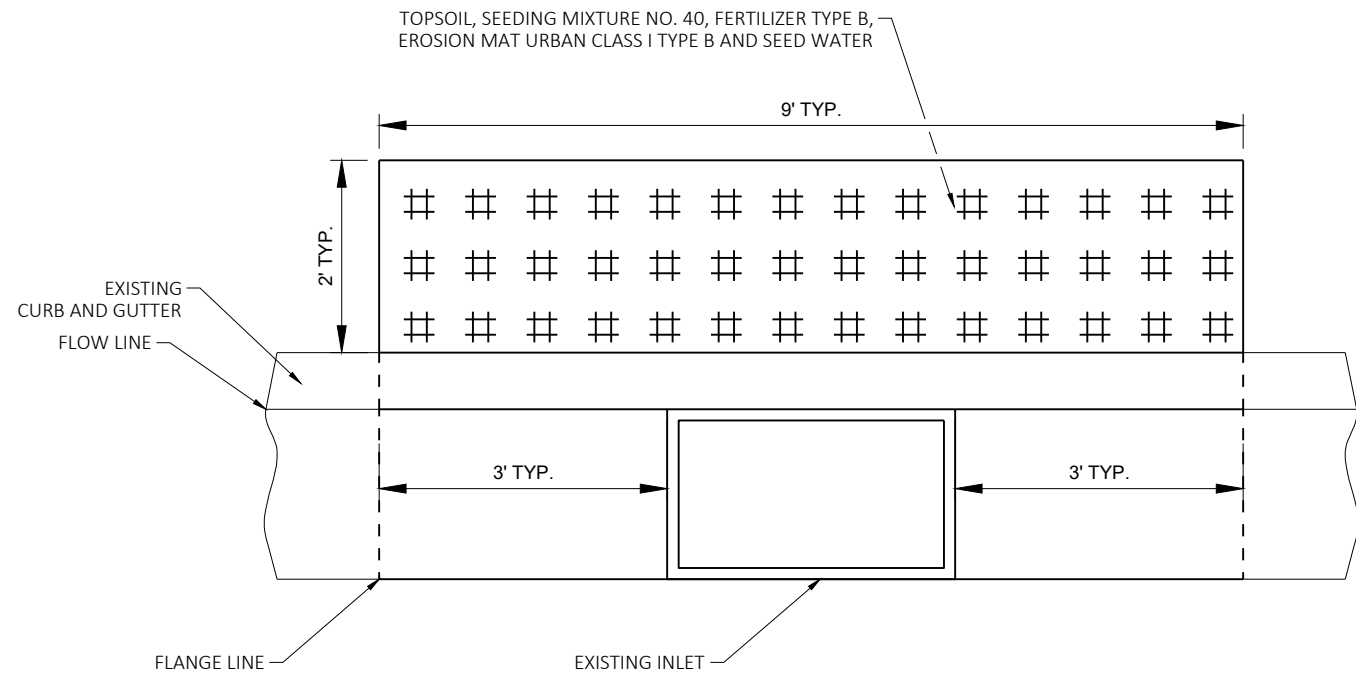
RURAL DRIVEWAY DETAIL

SEE PLAN DETAILS FOR LOCATIONS



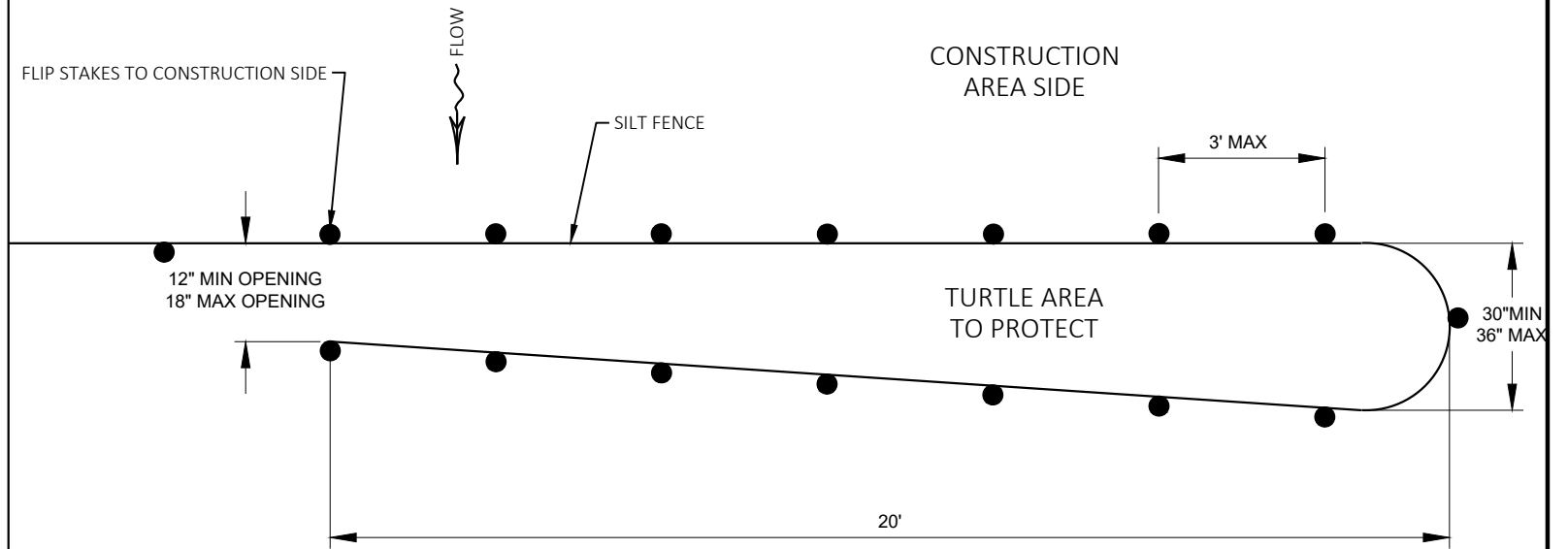
CURB AND GUTTER TRANSITION DETAIL

TRANSITION FROM FULL CURB HEAD TO DEPRESSED CURB HEAD TO BE PAID AS CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J SEE MGS GUARDRAIL CONSTRUCTION DETAILS FOR LOCATIONS



PERMANENT EROSION CONTROL AT INLETS

SEE PLAN FOR LOCATIONS



PLAN VIEW

NOTES:

THE PURPOSE OF THE TURTLE PROTECTION AREA IS TO REDIRECT TURTLES AWAY FROM THE CONSTRUCTION ZONE.

THE NON-CONSTRUCTION SIDE OF THE FENCE SHOULD BE KEPT CLEAR OF TALL VEGETATION THAT COULD ALLOW ANIMALS TO MANEUVER OVER THE FENCES.

FENCE STAKES SHOULD BE PLACED ON THE CONSTRUCTION SIDE OF THE FENCE. FENCE STAKES FOR THE TURN-AROUND SHOULD BE PLACED ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

FENCING SHOULD BE INSTALLED WITH TURN-AROUNDS AT ANY ACCESS OPENINGS NEEDED IN THE SILT FENCE, IN ORDER TO REDIRECT ANIMALS AWAY FROM OPENINGS.

TURTLE PROTECTION AREA DETAIL

SEE PLAN FOR LOCATIONS

PRIOR TO MILLING AND PAVING.

- A. SAWCUT EXISTING PAVEMENT FULL DEPTH.
- B. REMOVE AND STORE MANHOLE COVER.
- C. FURNISH AND INSTALL TEMPORARY COVER PLATE.
- D. BACKFILL USING ASPHALT SURFACE PATCHING.

AFTER PAVING HMA LOWER LAYER(S)

- A. REMOVE ASPHALTIC SURFACE PATCHING.
- B. EXCAVATE AROUND MANHOLE.
- C. ADJUST OR RECONSTRUCT MANHOLE AND RE-INSTALL MANHOLE FRAME AND COVER.
- D. POUR MONOLITHIC CONCRETE SHIM SO CONCRETE FILLS IN VOIDS BELOW THE CASTING BETWEEN THE SHIMS.
- E. PAVE UPPER LAYER HMA.

PAVEMENT REMOVAL, ASPHALT PATCH REMOVAL, EXCAVATING, PREPARING THE FOUNDATION AND SHIMMING ARE INCIDENTAL TO THE ADJUSTING OR RECONSTRUCTING BID ITEMS.

THE DEPARTMENT WILL PAY SEPARATELY FOR SAWING CONCRETE, COVER PLATES TEMPORARY, ASPHALTIC SURFACE PATCHING, BASE PATCHING CONCRETE SHES AND DRILLED TIE BARS.


MONOLITHIC SHIM CONCRETE, CONCRETE PLACEMENT AND FINISHING IS INCIDENTAL TO THE BASE PATCHING CONCRETE SHES BID ITEM.

PREVENT CONCRETE AND OTHER DEBRIS FROM FALLING INTO STRUCTURE.

REFER TO PLAN DETAILS AND MISCELLANEOUS QUANTITIES FOR ADDITIONAL INFORMATION.

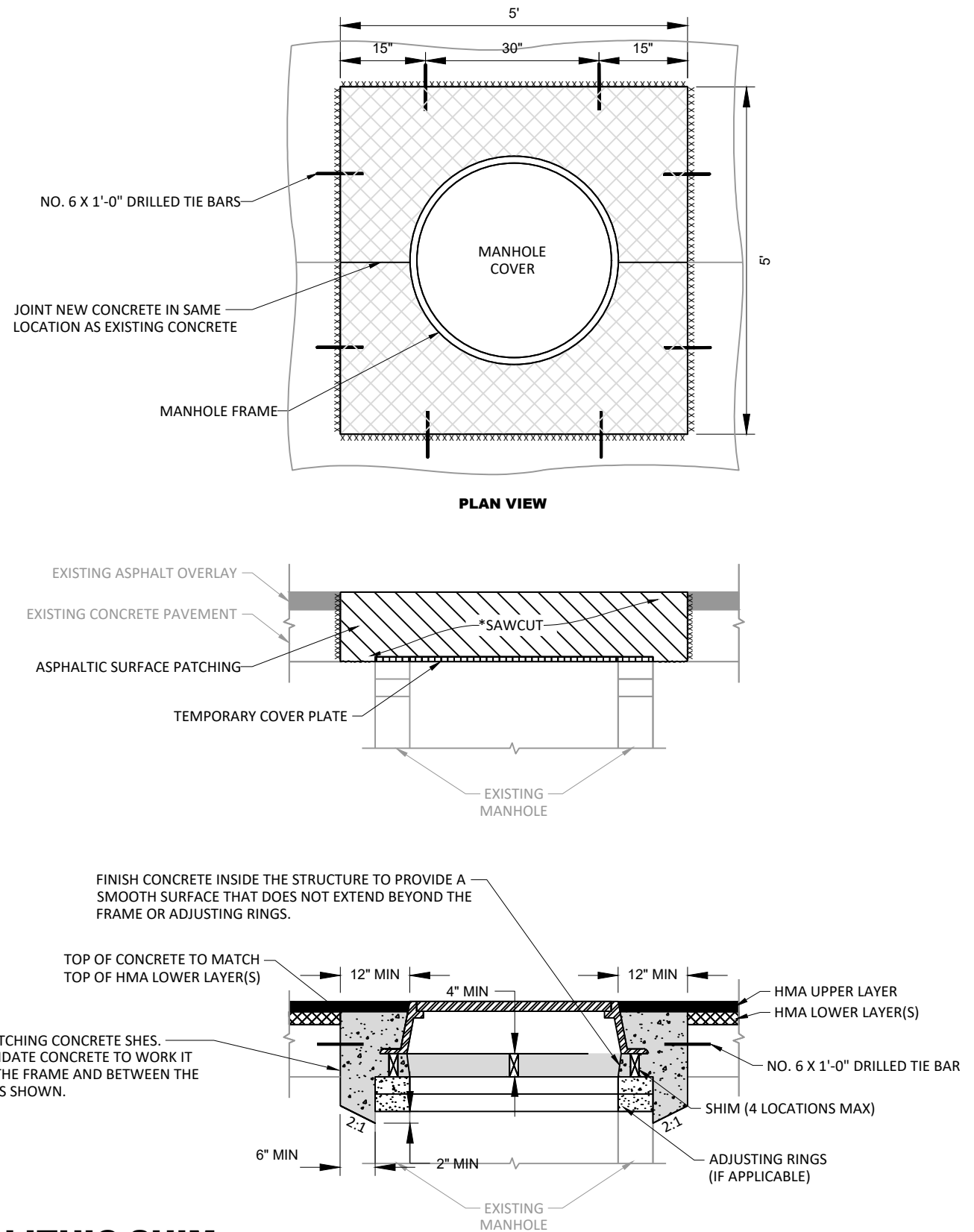
*SAWCUT WILL ONLY BE PAID ONCE. REMOVE ASPHALT SURFACE PATCHING MATERIAL TO THE ORIGINAL SAWCUT LIMITS.

XXX SAWING CONCRETE

 REMOVING PAVEMENT (INCIDENTAL TO ADJUSTING / RECONSTRUCTING BID ITEMS)

 ASPHALTIC SURFACE PATCHING

 MONOLITHIC CONCRETE



**ADJUSTING / RECONSTRUCTING MANHOLES - MONOLITHIC SHIM
EXISTING CONCRETE PAVEMENT**

PRIOR TO MILLING AND PAVING.

- A. SAWCUT EXISTING PAVEMENT FULL DEPTH.
- B. REMOVE AND STORE MANHOLE COVER.
- C. FURNISH AND INSTALL TEMPORARY COVER PLATE.
- D. BACKFILL USING ASPHALT SURFACE PATCHING.

AFTER PAVING HMA LOWER LAYER(S)

- A. REMOVE ASPHALTIC SURFACE PATCHING.
- B. EXCAVATE AROUND MANHOLE.
- C. ADJUST OR RECONSTRUCT MANHOLE AND RE-INSTALL MANHOLE FRAME AND COVER.
- D. POUR MONOLITHIC CONCRETE SHIM SO CONCRETE FILLS IN VOIDS BELOW THE CASTING BETWEEN THE SHIMS.
- E. PAVE UPPER LAYER HMA.

PAVEMENT REMOVAL, ASPHALT PATCH REMOVAL, EXCAVATING, PREPARING THE FOUNDATION AND SHIMMING ARE INCIDENTAL TO THE ADJUSTING OR RECONSTRUCTING BID ITEMS.

THE DEPARTMENT WILL PAY SEPARATELY FOR SAWING ASPHALT, COVER PLATES TEMPORARY, ASPHALTIC SURFACE PATCHING AND BASE PATCHING CONCRETE SHES.


MONOLITHIC SHIM CONCRETE, CONCRETE PLACEMENT AND FINISHING IS INCIDENTAL TO THE BASE PATCHING CONCRETE SHES BID ITEM.

PREVENT CONCRETE AND OTHER DEBRIS FROM FALLING INTO STRUCTURE.

REFER TO PLAN DETAILS AND MISCELLANEOUS QUANTITIES FOR ADDITIONAL INFORMATION.

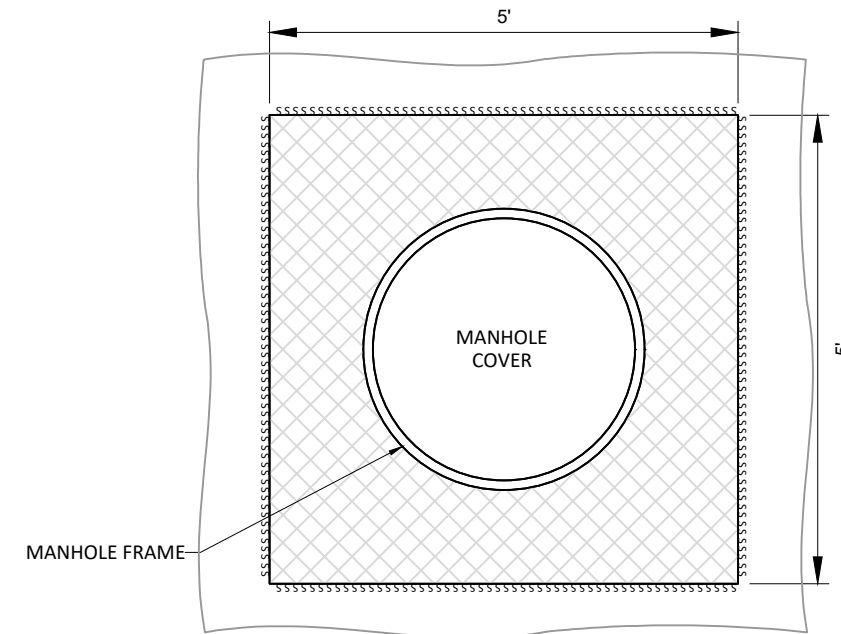
*SAWCUT WILL ONLY BE PAID ONCE. REMOVE ASPHALT SURFACE PATCHING MATERIAL TO THE ORIGINAL SAWCUT LIMITS.

SSS SAWING ASPHALT

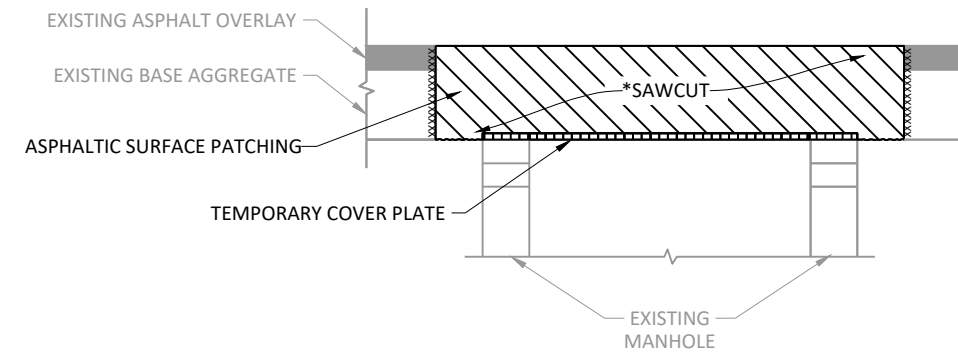
 REMOVING PAVEMENT (INCIDENTAL TO ADJUSTING / RECONSTRUCTING BID ITEMS)

 ASPHALTIC SURFACE PATCHING

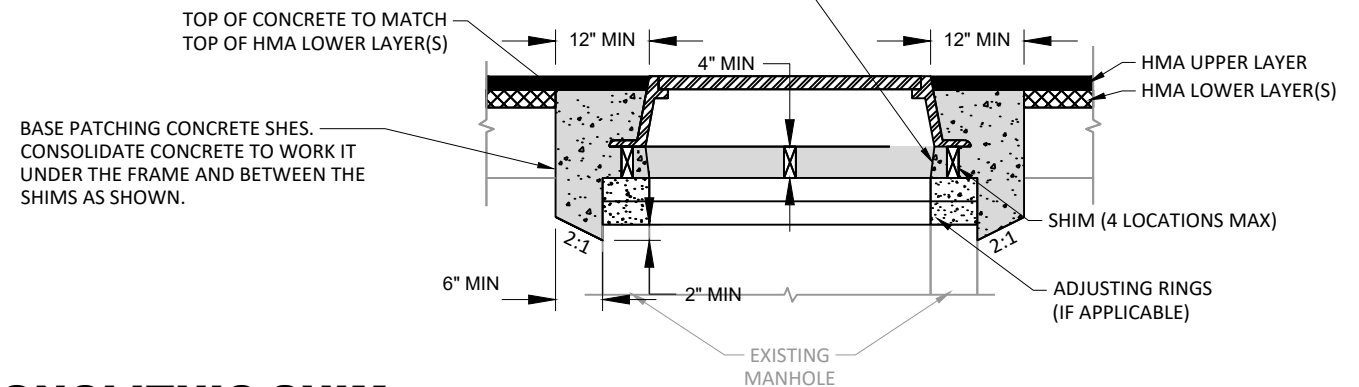
 MONOLITHIC CONCRETE



PLAN VIEW



FINISH CONCRETE INSIDE THE STRUCTURE TO PROVIDE A SMOOTH SURFACE THAT DOES NOT EXTEND BEYOND THE FRAME OR ADJUSTING RINGS.



ADJUSTING / RECONSTRUCTING MANHOLES - MONOLITHIC SHIM EXISTING ASPHALT PAVEMENT

EXCAVATING, PREPARING THE FOUNDATION AND SHIMMING ARE INCIDENTAL TO THE ADJUSTING OR RECONSTRUCTING BID ITEMS.

THE DEPARTMENT WILL PAY SEPARATELY FOR SAWING ASPHALT, SAWING CONCRETE, REMOVING CURB & GUTTER, CONCRETE CURB & GUTTER AND DRILLED TIE BARS.

PAVEMENT REMOVAL FOR THE MONOLITHIC SHIM IS INCIDENTAL TO THE REMOVING CURB & GUTTER BID ITEM.

MONOLITHIC SHIM CONCRETE, CONCRETE PLACEMENT AND FINISHING IS INCIDENTAL TO THE CONCRETE CURB & GUTTER BID ITEM.

PREVENT CONCRETE AND OTHER DEBRIS FROM FALLING INTO STRUCTURE.

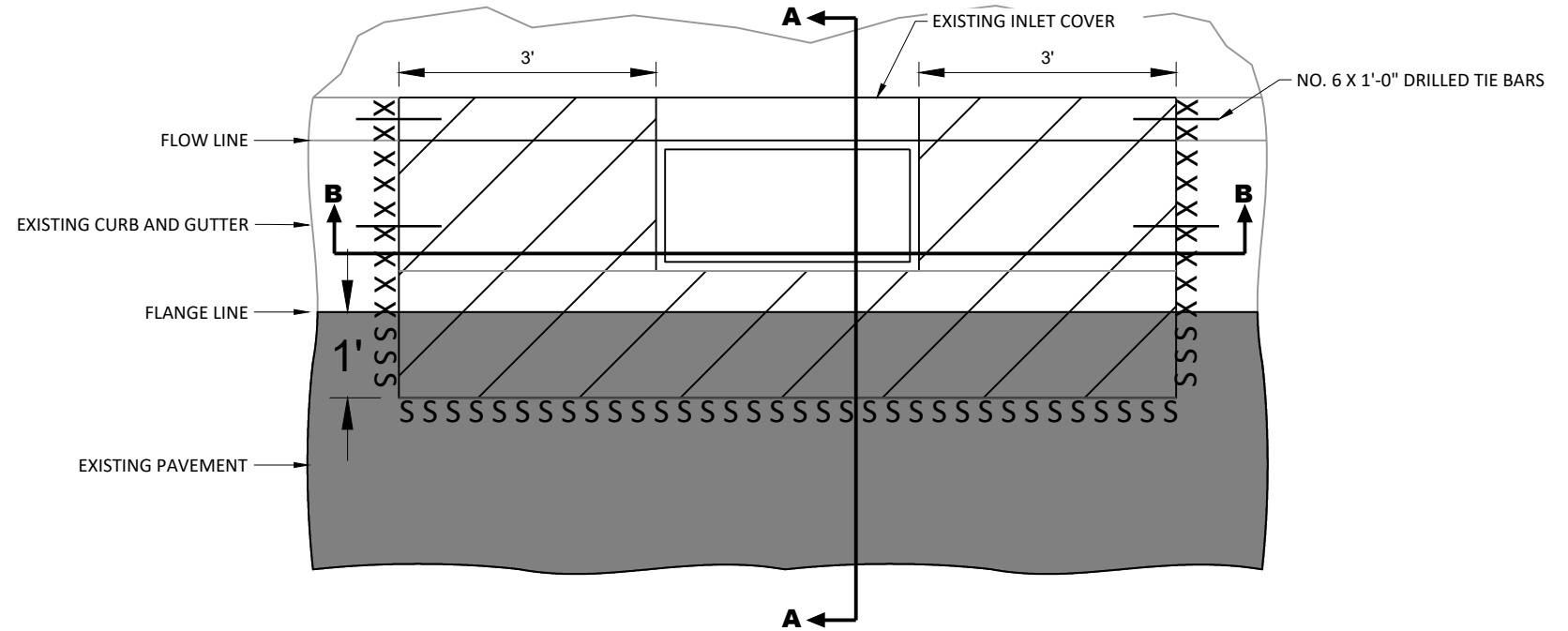
REFER TO PLAN DETAILS AND MISCELLANEOUS QUANTITIES FOR ADDITIONAL INFORMATION.

SSS SAWING ASPHALT

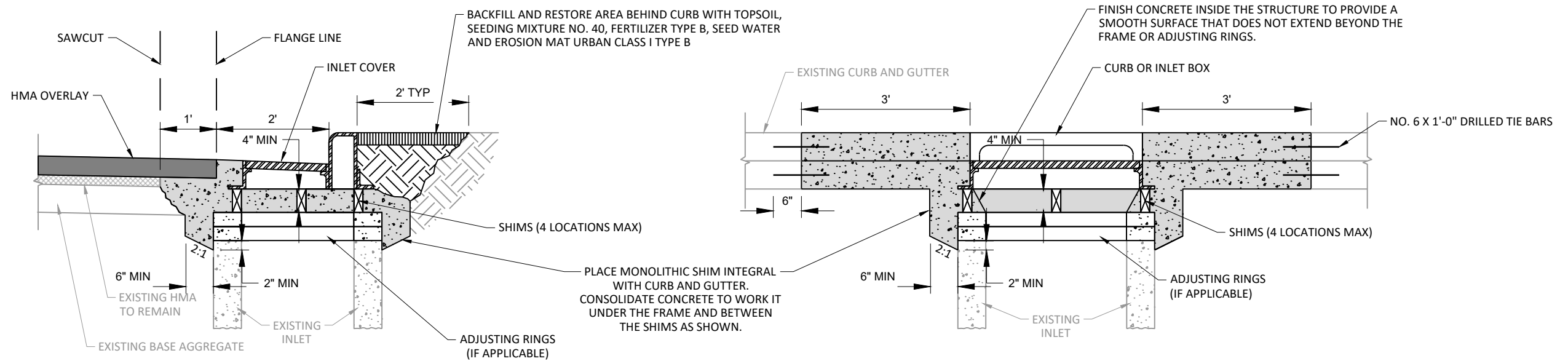
XXX SAWING CONCRETE

REMOVING CURB & GUTTER AND PAVEMENT. (REMOVING PAVEMENT INCIDENTAL TO REMOVING CURB & GUTTER BID ITEMS.)

MONOLITHIC CONCRETE



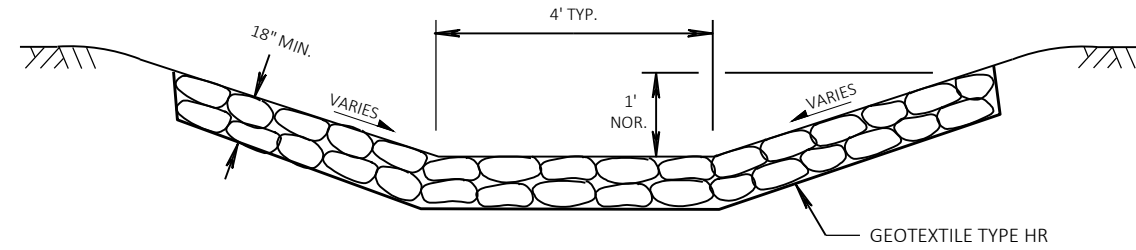
PLAN VIEW



SECTION A-A

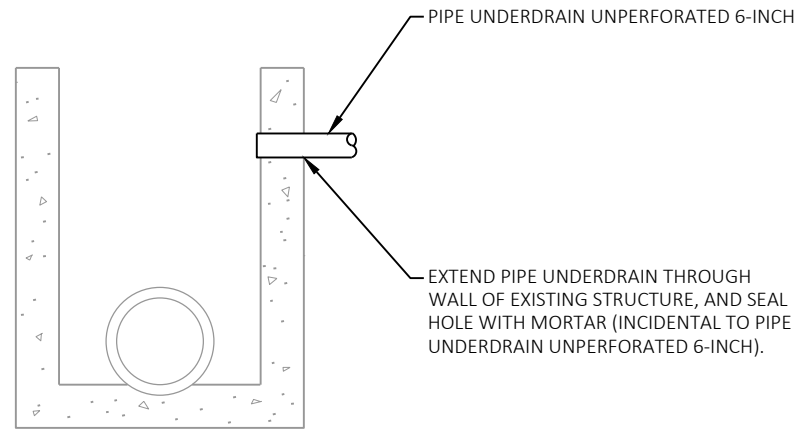
SECTION B-B

ADJUSTING / RECONSTRUCTING CATCH BASINS & INLETS - MONOLITHIC SHIM



DETAIL FOR RIPRAP MEDIUM IN DITCHES

STA 146+52 RT - STA 146+78 RT
 STA 146+84 LT - STA 147+07 LT



PIPE UNDERDRAIN CONNECTION TO EXISTING INLET

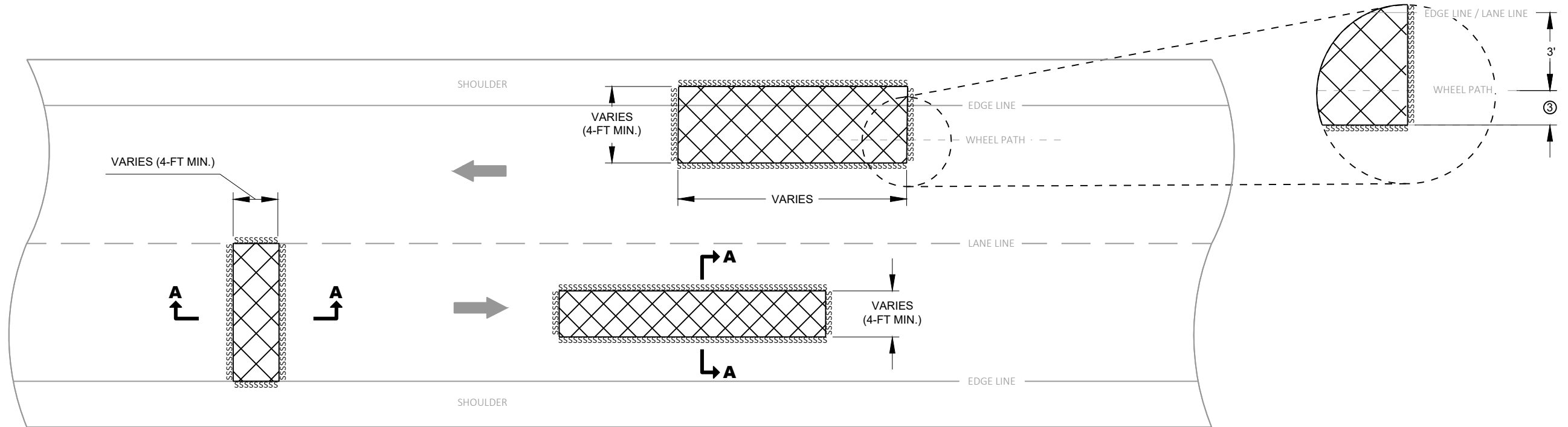
STA 74+26.38, 21' LT

LEGEND

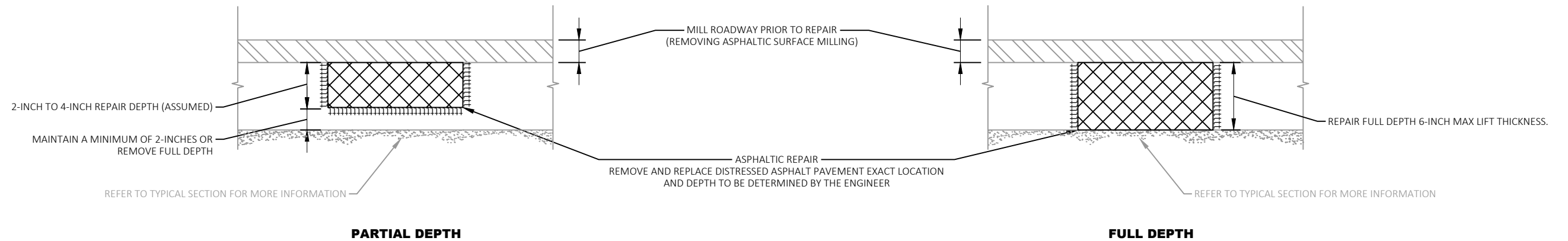
-  ASPHALTIC REPAIR
-  VERTICAL MILLED EDGE
SAW CUTTING AT THE CONTRACTORS DISCRETION
-  TACK COAT

GENERAL NOTES

- ① EXACT LOCATION, DEPTH AND SIZE OF REPAIR TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
- ② MILL PAVEMENT PER PLAN PRIOR TO MAKING ASPHALTIC REPAIR.
- ③ LOCATE LONGITUDINAL REPAIR JOINTS OUTSIDE OF WHEEL PATH. 12-INCH MINIMUM (24-INCH RECOMMENDED) FROM THE CENTER OF THE WHEEL PATH.
- ④ ASPHALTIC REPAIR PAVING TO BE DONE ON THE SAME DAY AS REMOVAL.

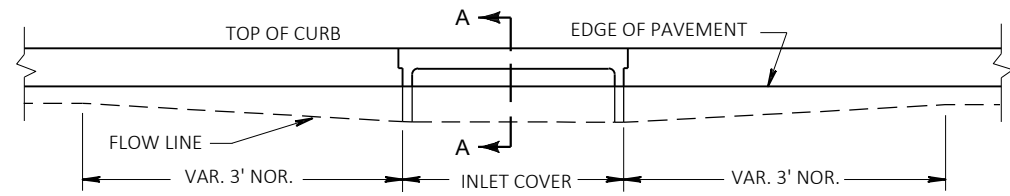


PLAN VIEW

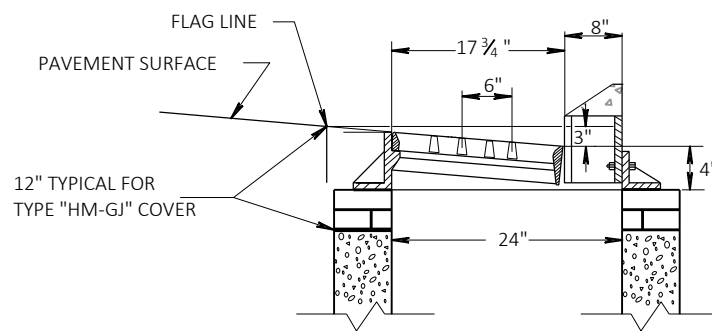
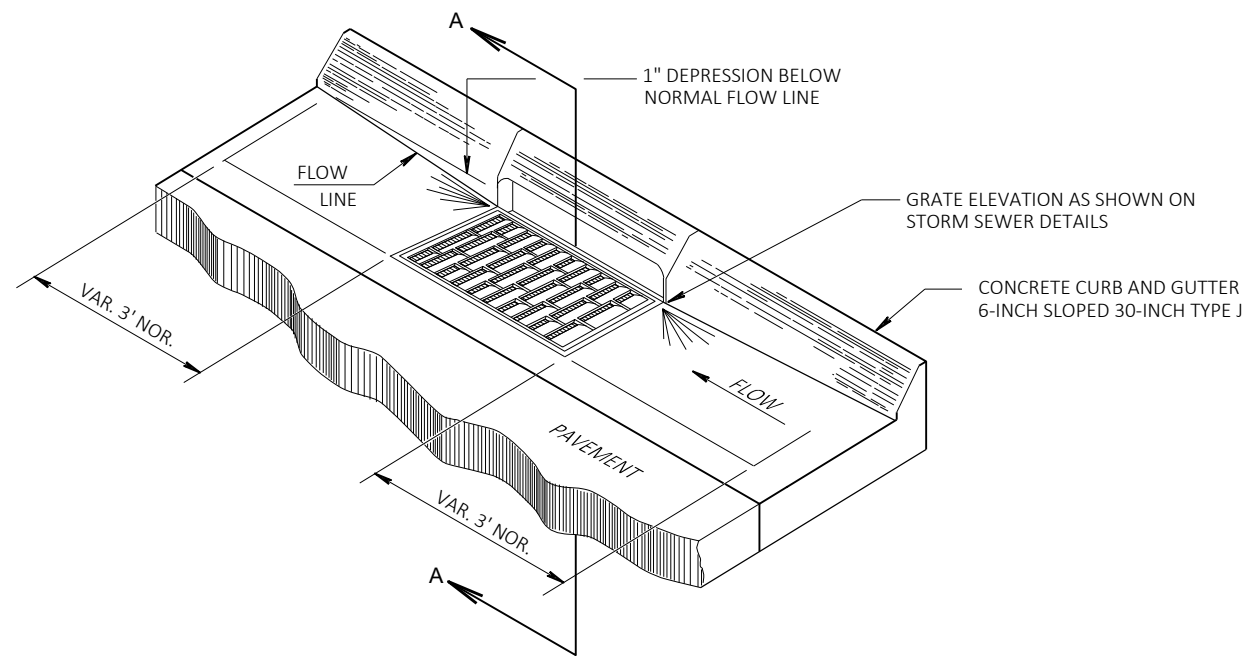


SECTION A-A

ASPHALTIC REPAIR

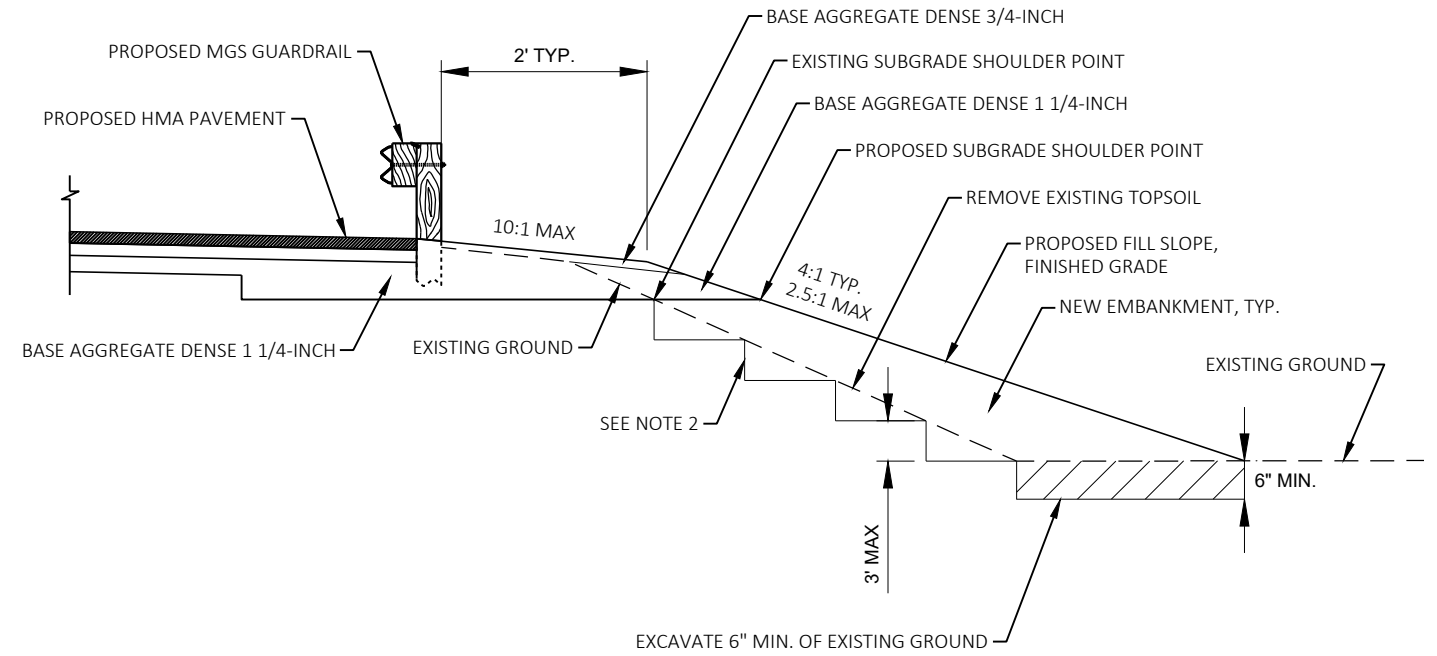


ELEVATION



SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS
(INLETS 2x3, HM-GJ SHOWN)

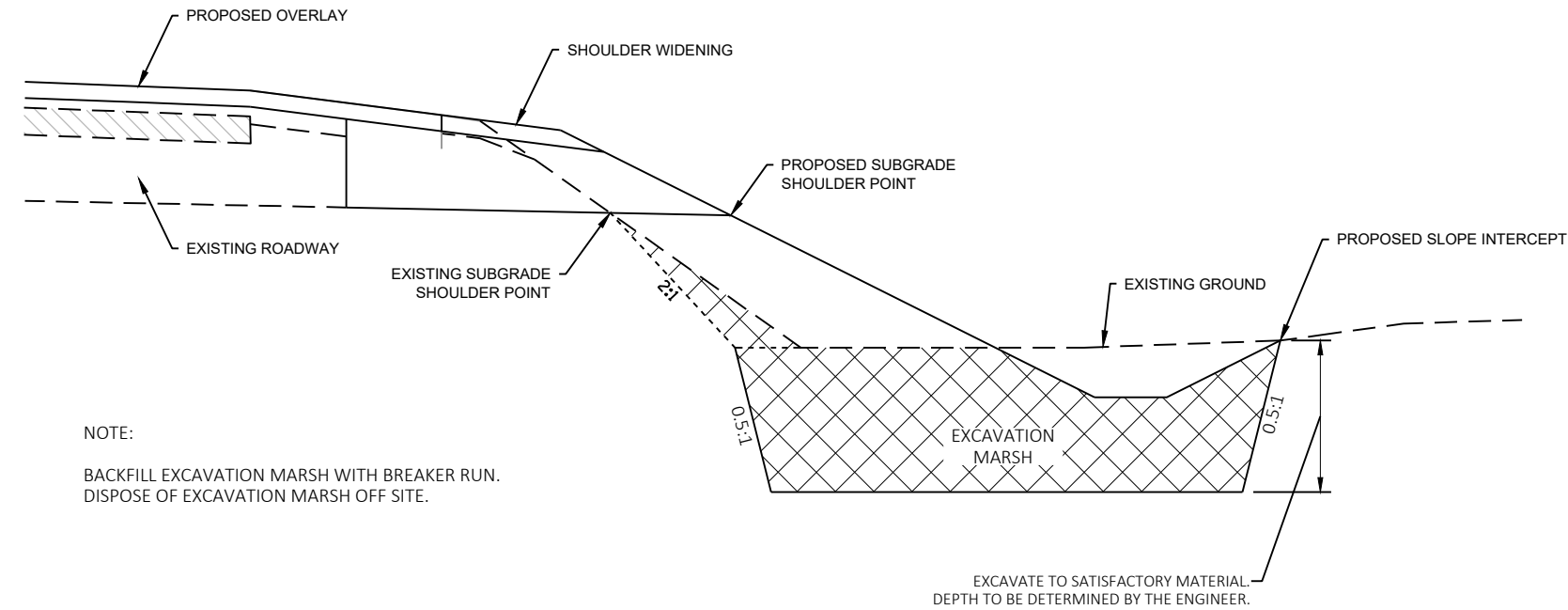


FILL SLOPES DETAIL

ASHIPPUN RIVER LT AND RT

NOTES:

1. EMBANKMENT PLACED IN LAYERS AND COMPACTED PER SPECIFICATIONS.
2. BENCH AS REQUIRED TO FACILITATE CONSTRUCTION OPERATIONS (3' MAXIMUM BENCH DEPTH, INCIDENTAL)
3. MARSH EXCAVATION AS REQUIRED IN THE PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE PAID UNDER THE ITEM "EXCAVATION MARSH".

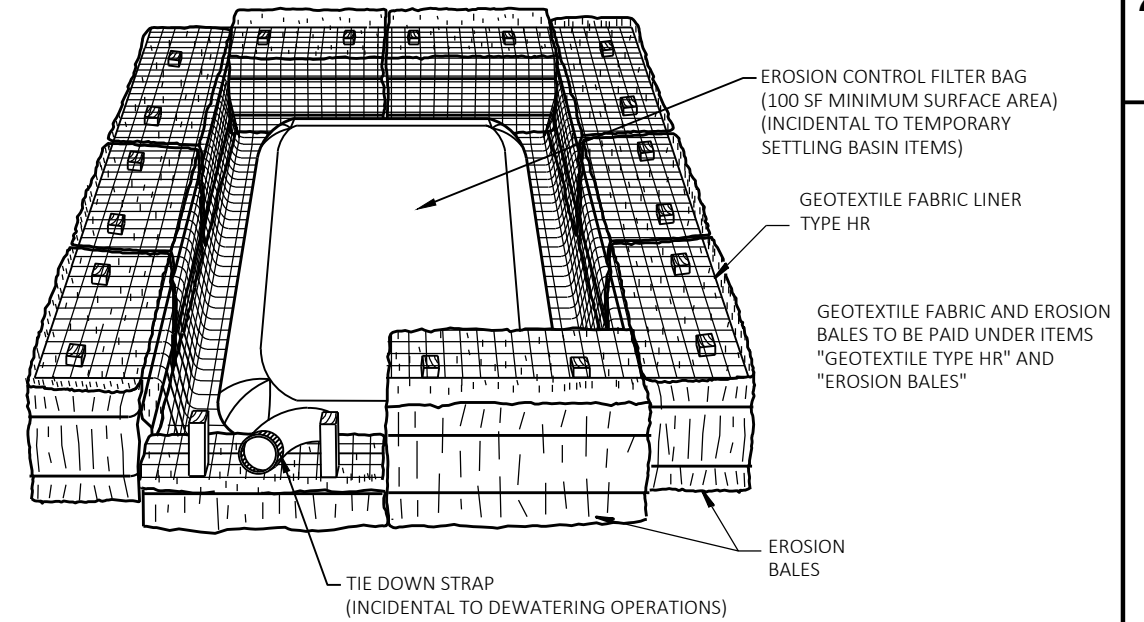


NOTE:
BACKFILL EXCAVATION MARSH WITH BREAKER RUN.
DISPOSE OF EXCAVATION MARSH OFF SITE.

PARTIAL MARSH EXCAVATION DETAIL

STA. 145+00 RT - STA. 149+00 RT
STA. 144+64 LT - STA. 149+46 LT
OR AS DIRECTED BY THE ENGINEER.

EXCAVATE TO SATISFACTORY MATERIAL.
DEPTH TO BE DETERMINED BY THE ENGINEER.



FILTER BAG SIZING EXAMPLE
(SIZE TO BE DETERMINED BY CONTRACTOR AS INDICATED BELOW)
SURFACE AREA = PUMPING RATE (GPM) / [FLOW RATE (GPM/SF) X CORRECTION FACTOR]

EXAMPLE:
SURFACE AREA = 1000 GPM / [50 GPM/SF X 0.5]
= 40 SF (INCREASE TO 100 SF MINIMUM)

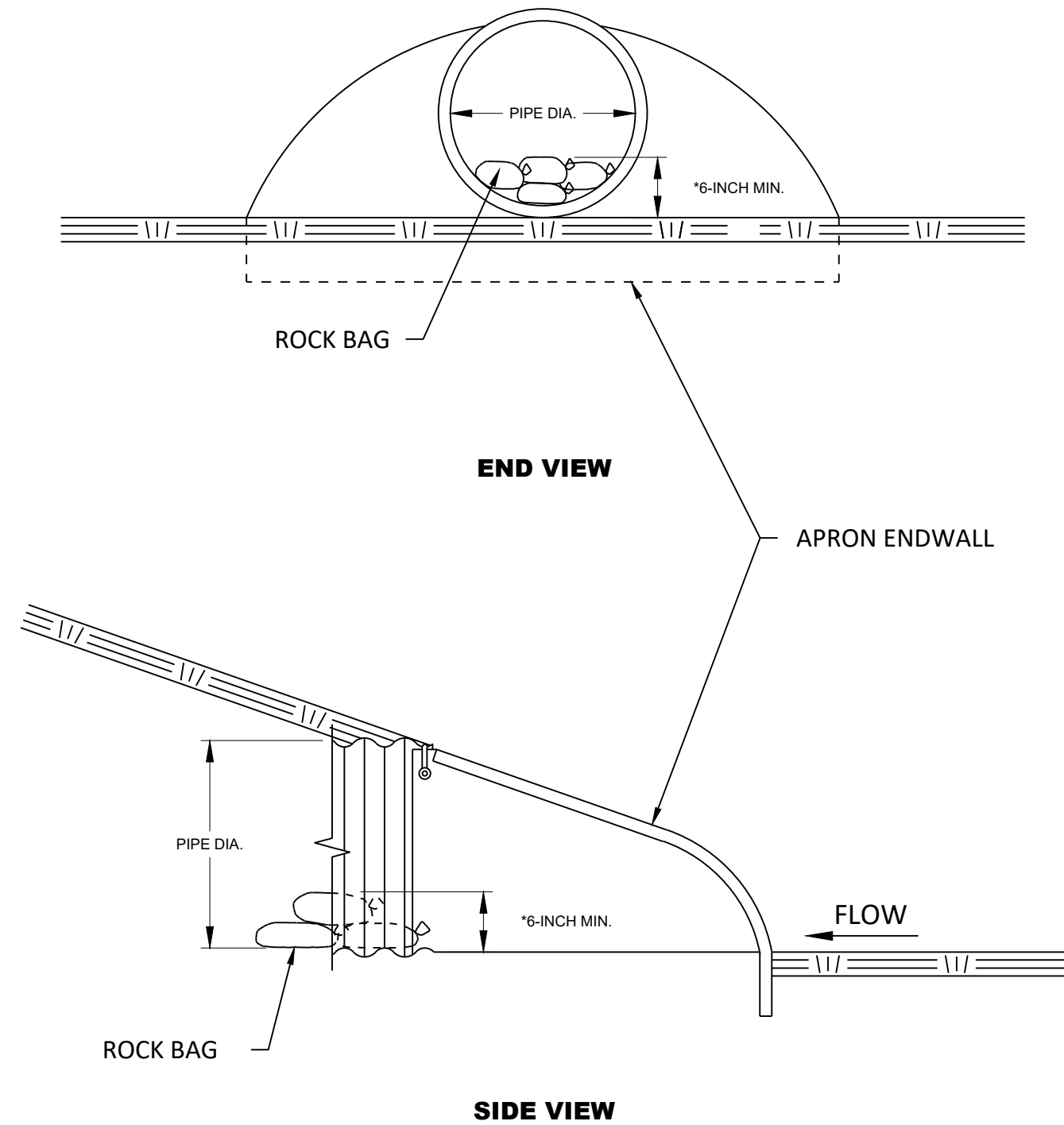
USE A GEOTEXTILE SURFACE AREA OF 100 SF.

TEMPORARY SETTLING BASIN AND FILTER BAG

(SIZE TO BE DETERMINED IN FIELD AS INDICATED)

NOTES:

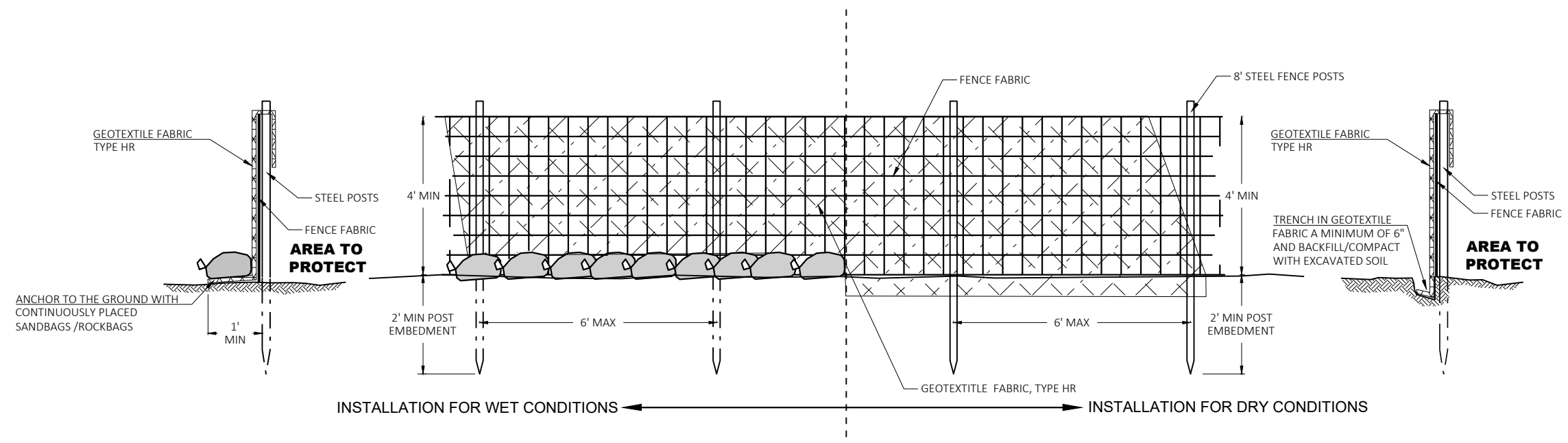
1. PLACE FILTER BAG ON THE DISCHARGE END OF THE DEWATERING HOSE. PLACE BAG WITHIN THE GEOTEXTILE FILTER BASIN. THE GEOTEXTILE FILTER BAG AND BASIN SHALL BE PLACED ON A STABLE SURFACE (I.E. DENSE VEGETATION IN GOOD CONDITION).
2. DO NOT PLACE GEOTEXTILE FILTER BAGS AND BASINS DIRECTLY IN WETLANDS.
3. SECURELY CONNECT INFLOW HOSES TO FILTER BAGS TO MINIMIZE LEAKAGE.
4. REPLACE CLOGGED, TORN OR DAMAGED GEOTEXTILE FILTERS.
5. PROVIDE A MINIMUM GEOTEXTILE SURFACE AREA OF 100 SQUARE FEET.
6. DETERMINE THE REQUIRED GEOTEXTILE SURFACE AREA BASED ON THE SPECIFIED GEOTEXTILE PRODUCT WATER FLOW RATE (GALLONS PER MINUTE/SQUARE FEET), AND REDUCE THE SPECIFIED GEOTEXTILE PRODUCT WATER FLOW BY A CORRECTION FACTOR OF 50% TO ACCOUNT FOR CLOGGING (SEE SIZING EXAMPLE).
7. FOR FILTER BAGS, DO NOT CONSIDER THE BOTTOM GEOTEXTILE SURFACE AREA UNLESS THE BAG OR BASIN IS PLACED ON PERMEABLE BEDDING MATERIAL (I.E. OPEN-GRADED BASE OR DENSE VEGETATION IN GOOD CONDITION) THAT WILL NOT IMPEDE OR REDUCE THE FLOW THROUGH THE GEOTEXTILE.
8. DISCHARGE RATES MAY BE LIMITED BY AVAILABLE GEOTEXTILE SIZES. IF NEEDED, A FLOW SPLITTER CAN BE USED TO DIRECT THE INFLOW TO MULTIPLE FILTER BAGS AND BASINS. USE ONLY ONE HOSE PER BAG.
9. PROPERLY DISPOSE OF ALL SEDIMENT COLLECTED IN DEWATERING PRACTICES OFF THE PROJECT SITE.



CULVERT PIPE CHECKS

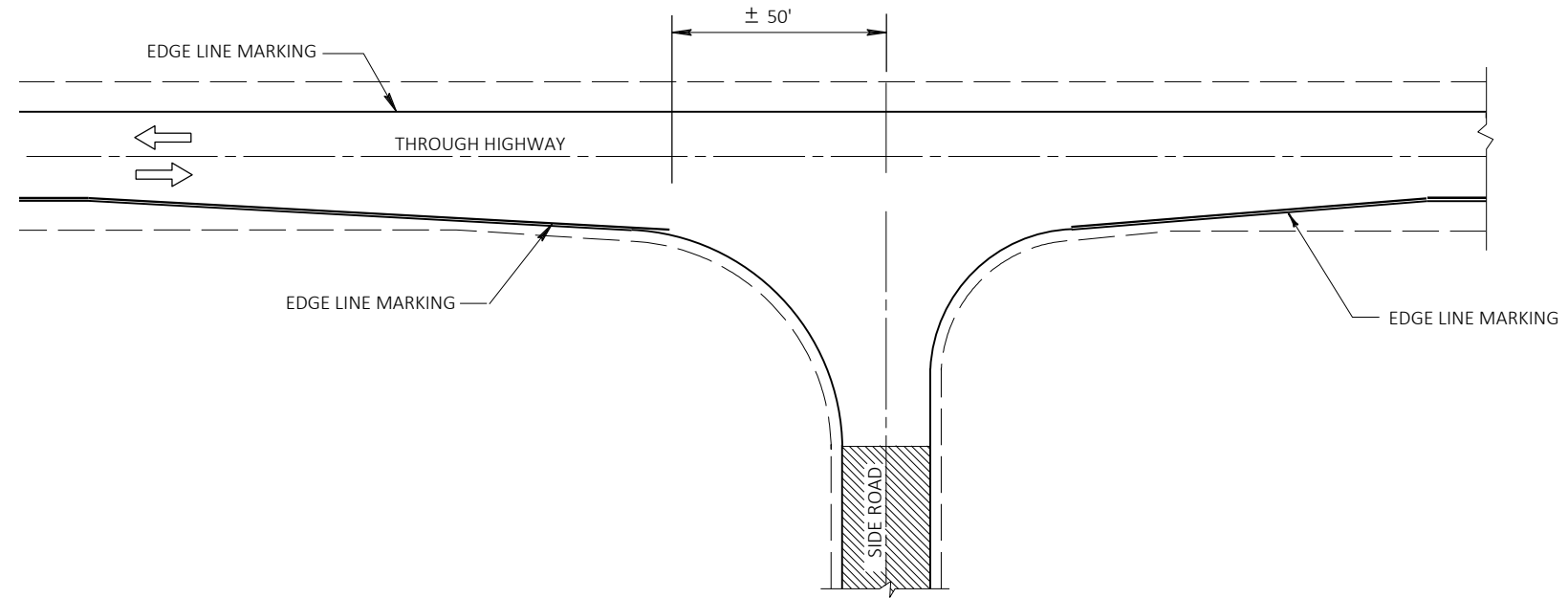
*OR AS DIRECTED BY THE ENGINEER

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

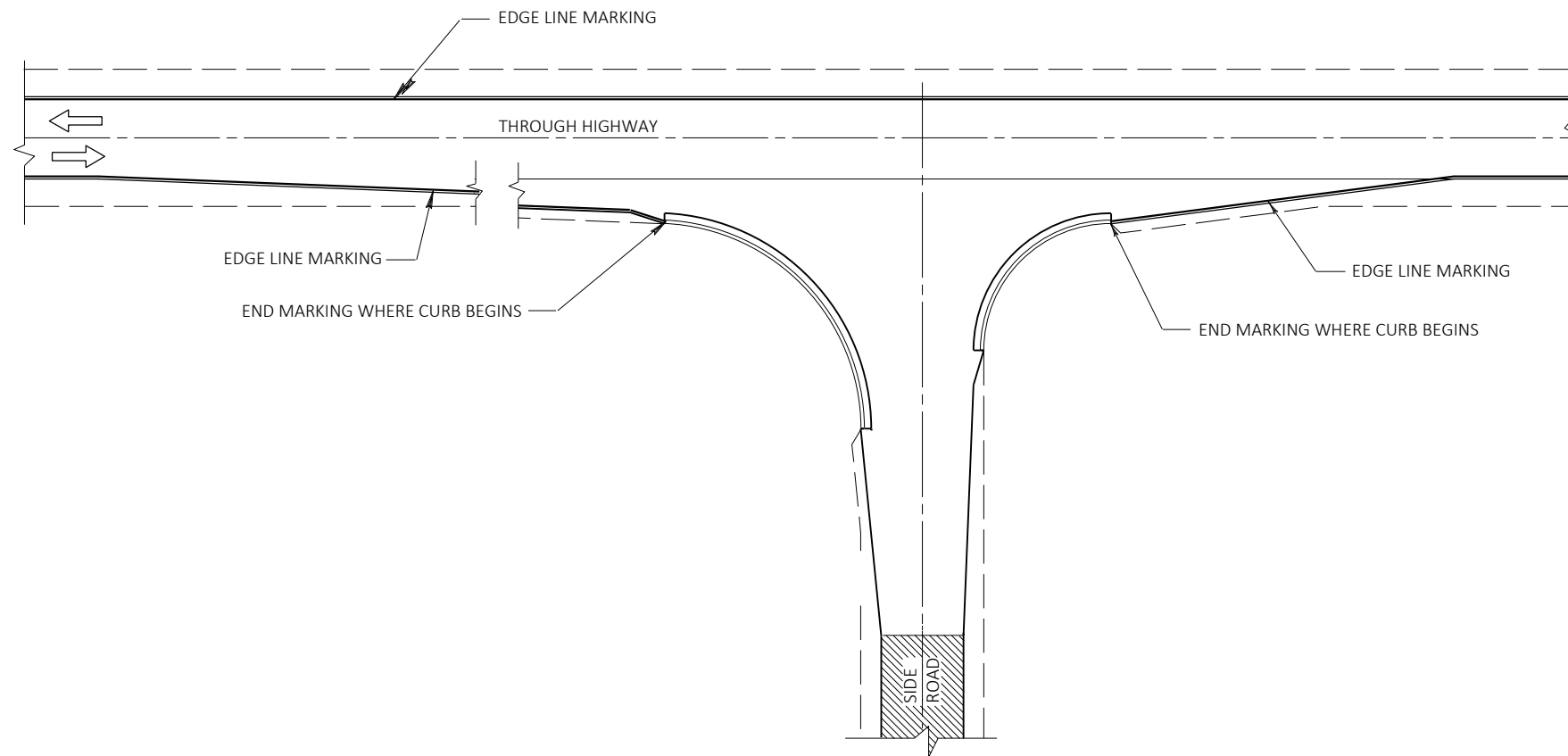


SILT FENCE HEAVY DUTY

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

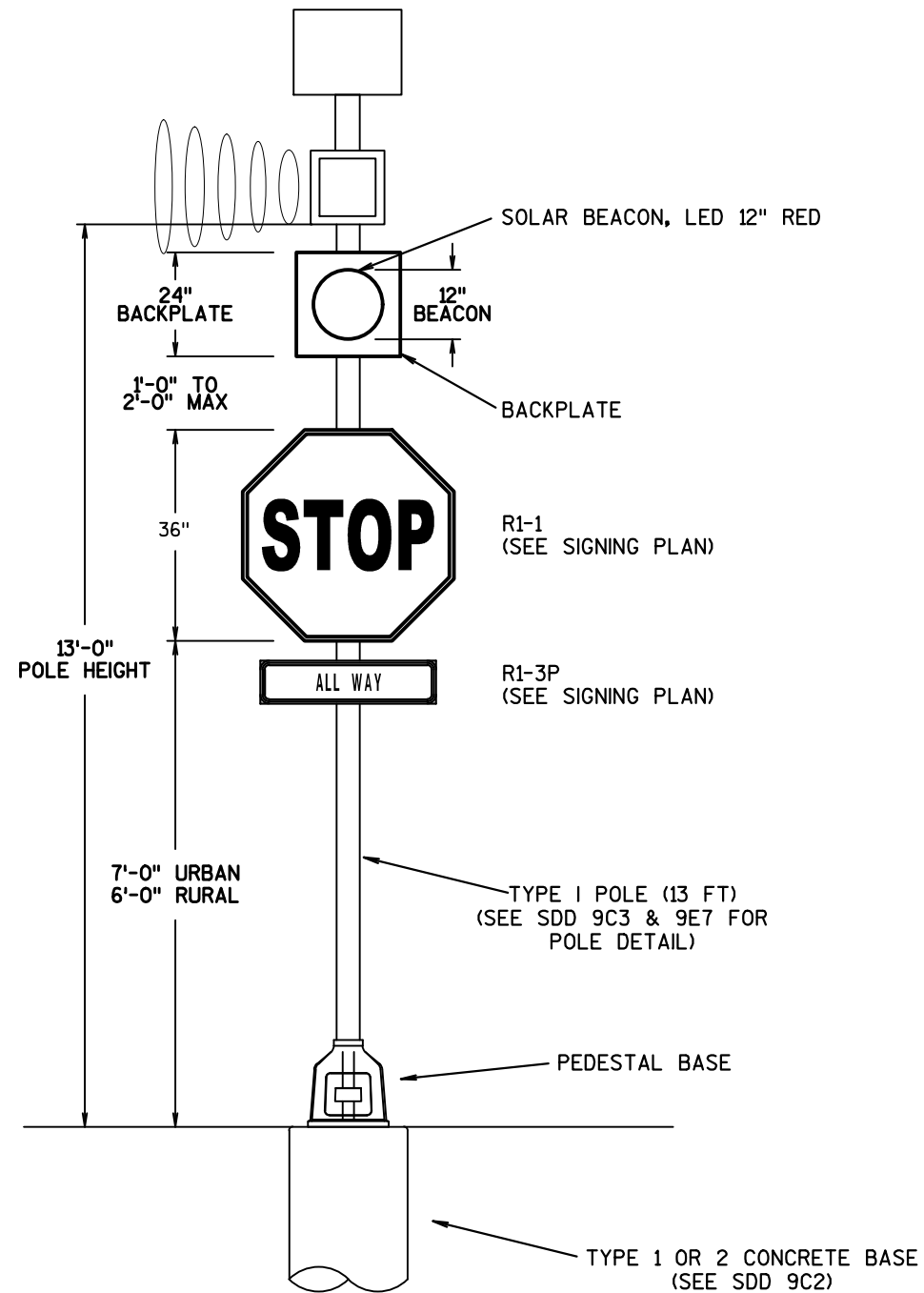


MINOR INTERSECTION WITHOUT CURBS
(TYPICAL MARKING)

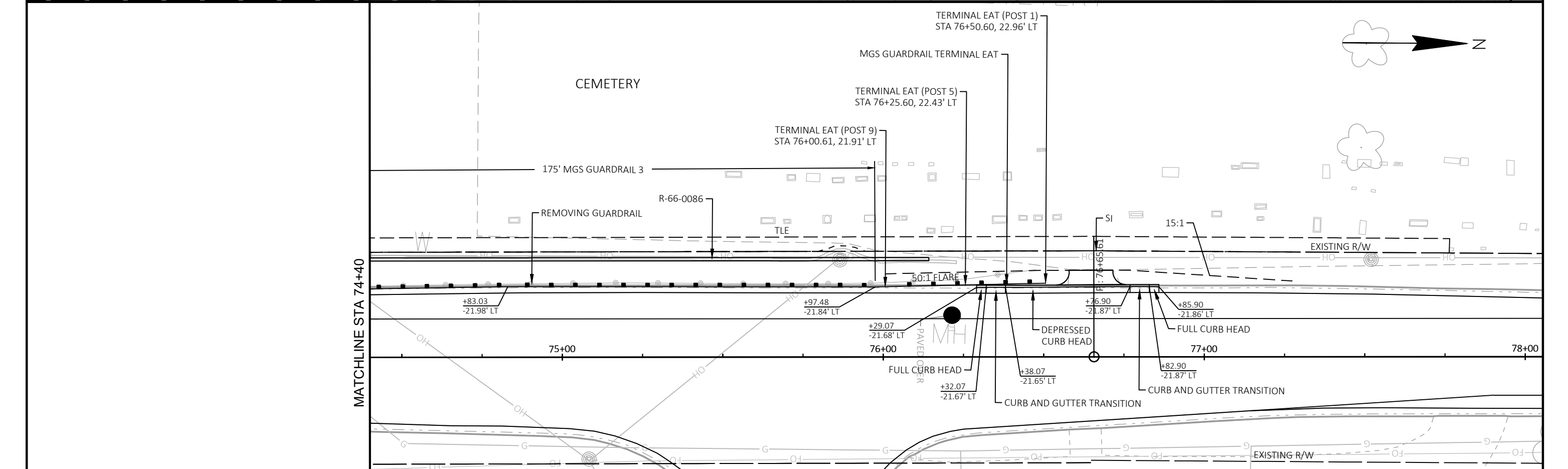
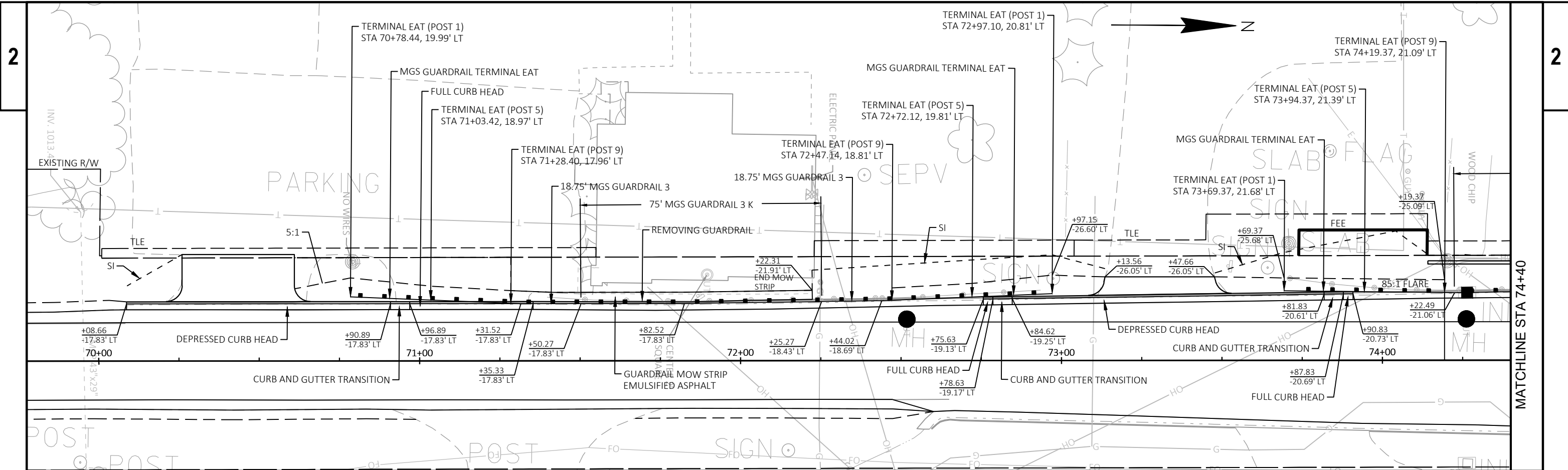


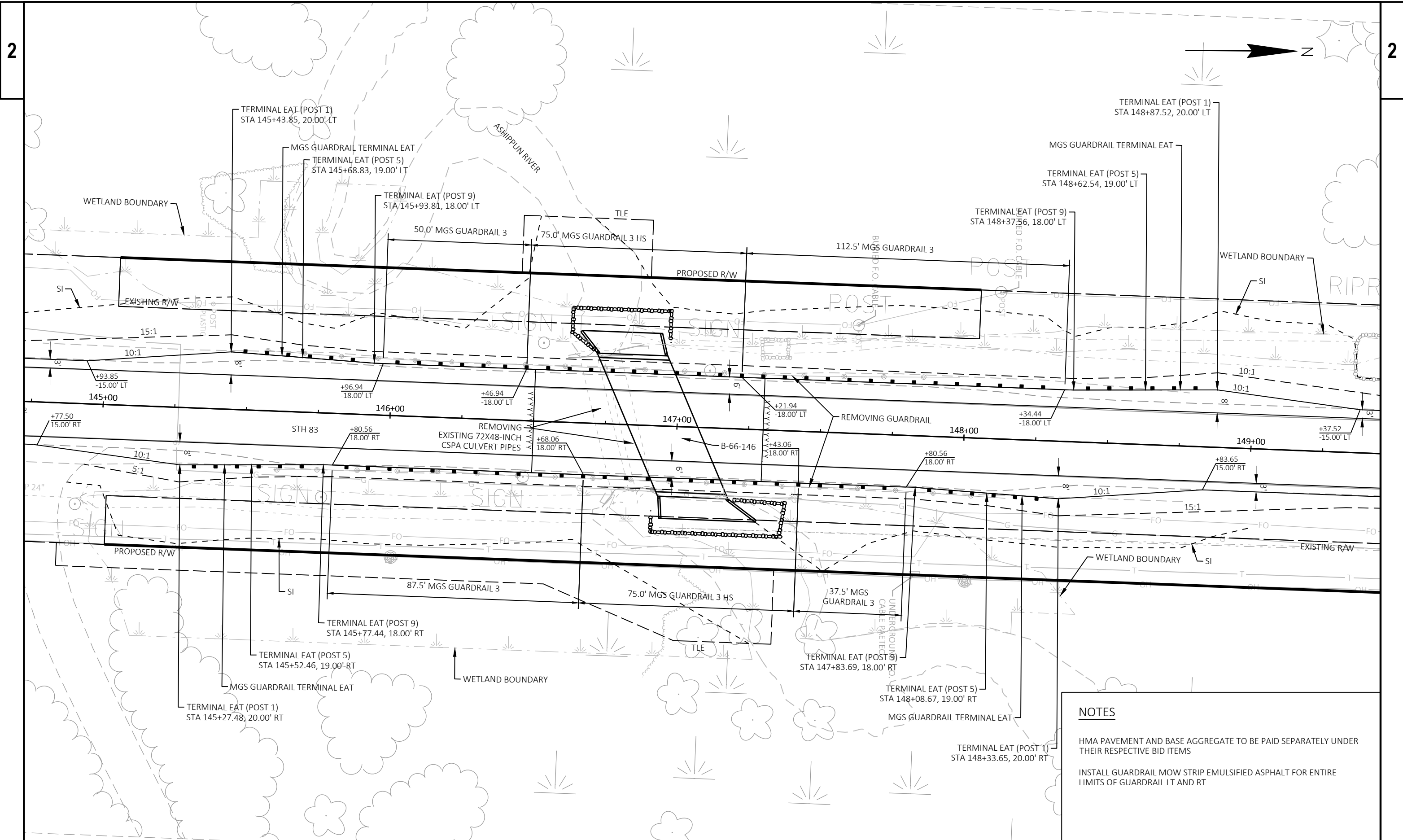
MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)

RADAR DETECTION UNIT & CONTROL BOX



13' SOLAR BEACON ASSEMBLY
(STOP SIGN APPLICATION)

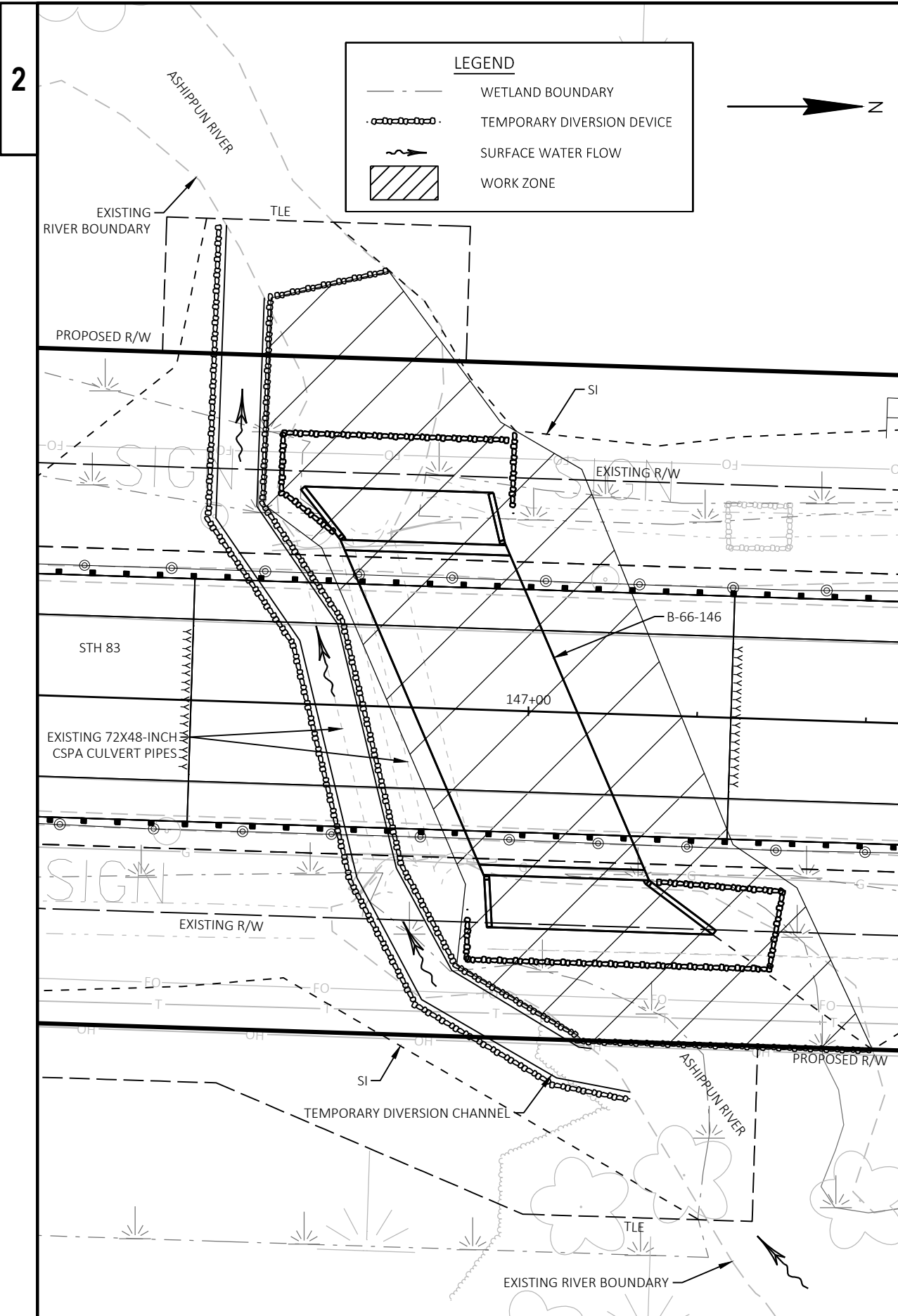




NOTES

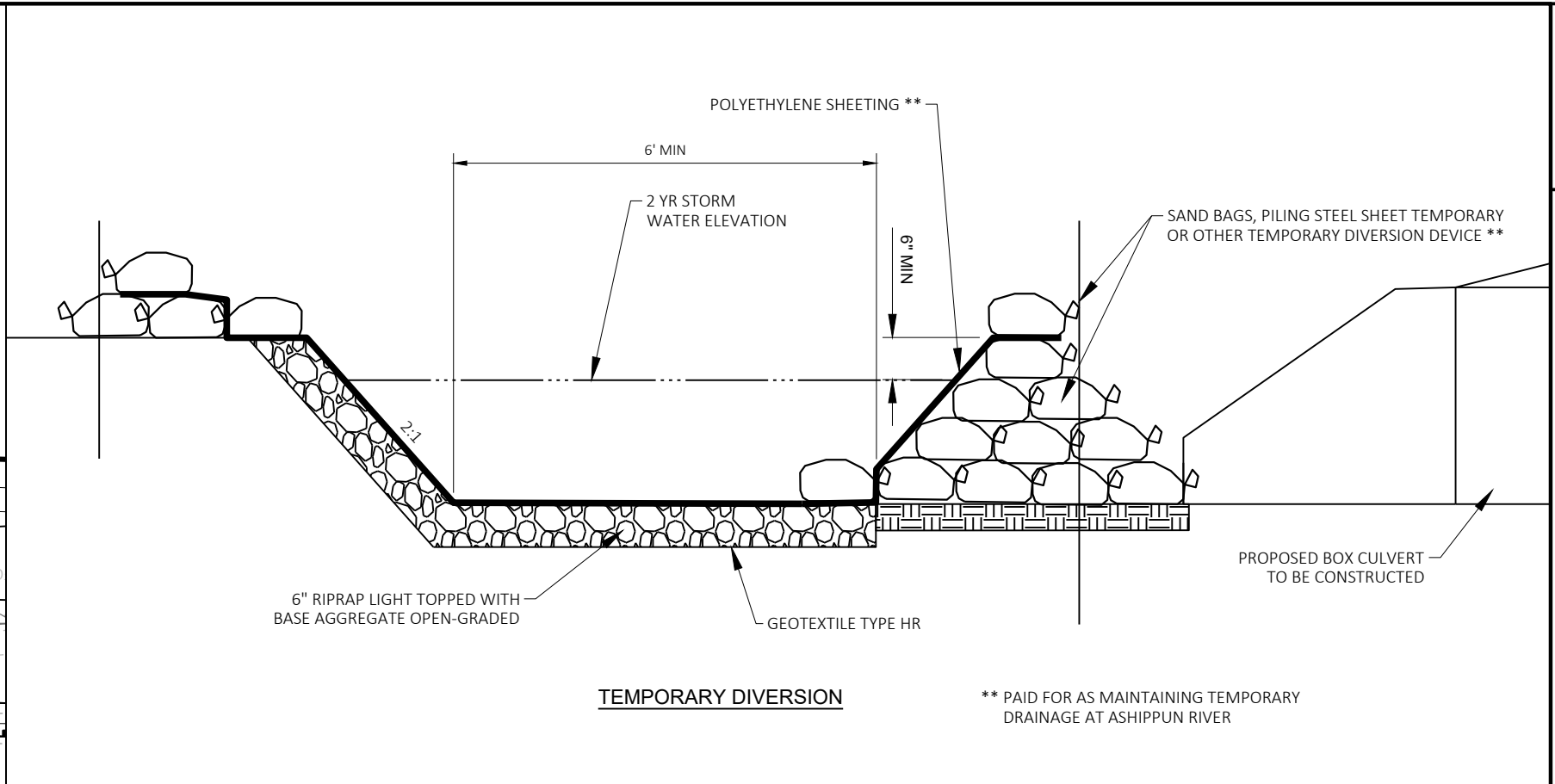
HMA PAVEMENT AND BASE AGGREGATE TO BE PAID SEPARATELY UNDER THEIR RESPECTIVE BID ITEMS

INSTALL GUARDRAIL MOW STRIP EMULSIFIED ASPHALT FOR ENTIRE LIMITS OF GUARDRAIL LT AND RT



LEGEND

- WETLAND BOUNDARY
- TEMPORARY DIVERSION DEVICE
- SURFACE WATER FLOW
- WORK ZONE



TEMPORARY DIVERSION

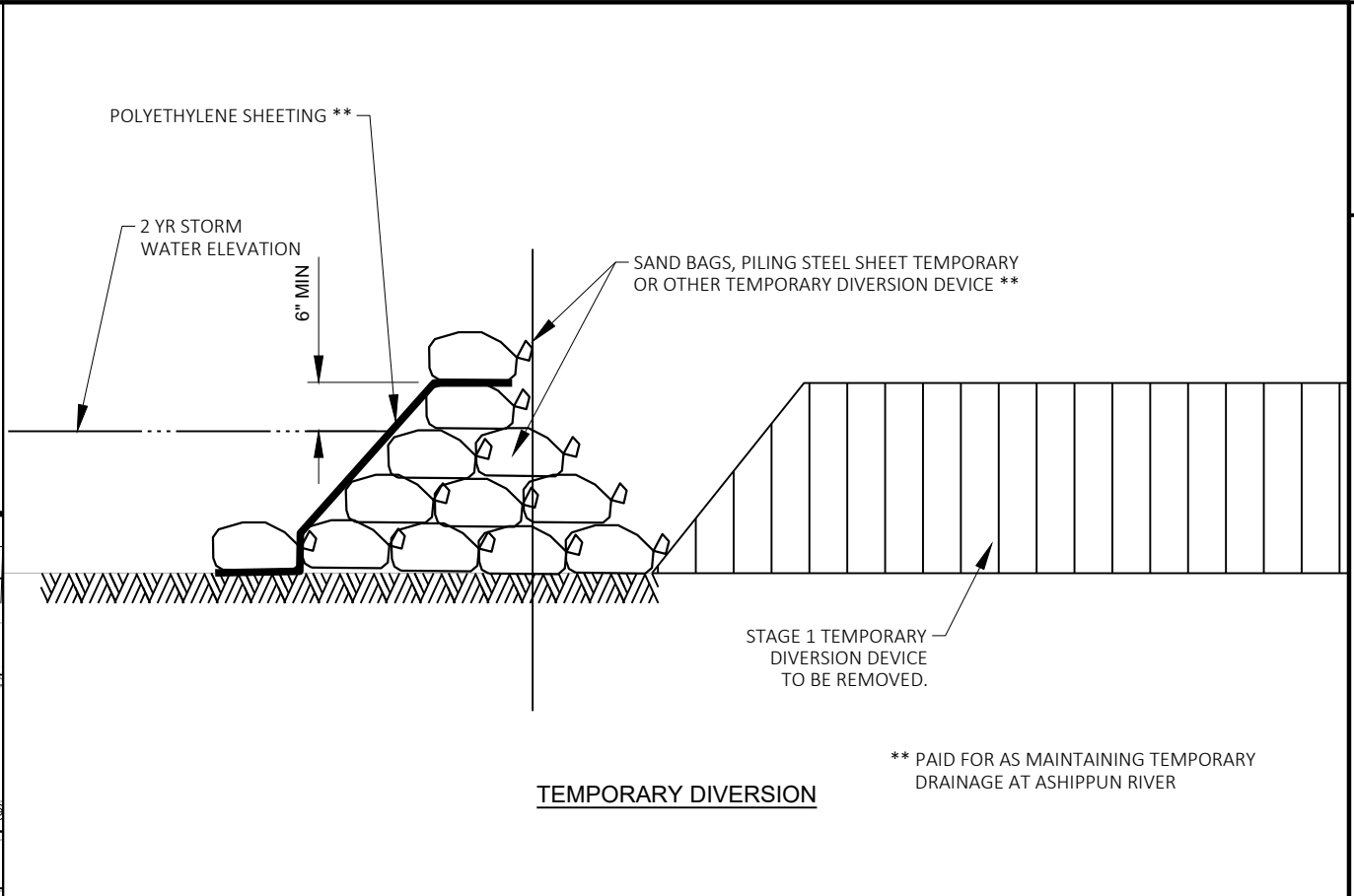
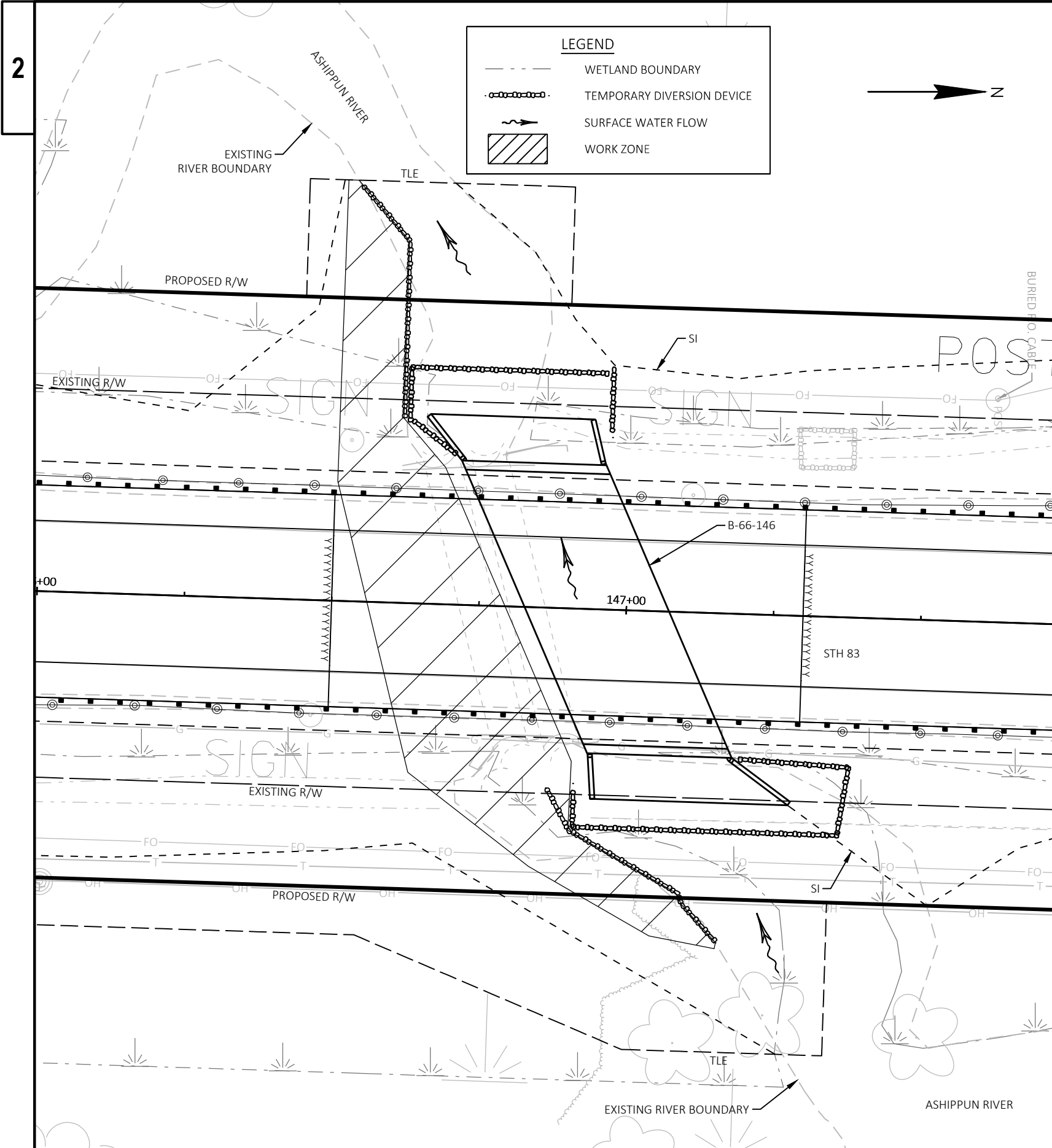
** PAID FOR AS MAINTAINING TEMPORARY DRAINAGE AT ASHIPUN RIVER

NOTES:

1. CONTRACTOR TO SUBMIT DESIGN FOR MAINTAINING TEMPORARY DRAINAGE DURING CONSTRUCTION AS PART OF THE EROSION CONTROL IMPLEMENTATION PLAN (ECIP).
2. PAYMENT SHALL BE THROUGH THE SPV ITEM FOR MAINTAINING TEMPORARY DRAINAGE AT ASHIPUN RIVER.
3. DETAIL SHOWN ON THIS SHEET IS FOR REFERENCE ONLY TO SHOW ONE POTENTIAL METHOD OF MAINTAINING TEMPORARY DRAINAGE. METHOD OF MAINTAINING TEMPORARY DRAINAGE TO BE DETERMINED BY THE CONTRACTOR.
4. METHOD OF MAINTAINING TEMPORARY DRAINAGE SHALL BE DESIGNED FOR THE 2-YEAR 24-HOUR STORM. SEE STRUCTURE PLANS FOR 2-YEAR HYDRAULIC DATA.
5. ANY WATER THAT IS PUMPED SHALL BE DISCHARGED IN ACCORDANCE WITH THE WISDNR TECHNICAL STANDARD 1061 DEWATERING PRACTICES FOR SEDIMENT CONTROL. THE METHOD AND SIZE OF THE DEWATERING DEVICE SHALL BE DESIGNED BY THE CONTRACTOR AS PART OF THE ECIP.
6. DEWATERING DEVICES ARE INCIDENTAL TO MAINTAINING TEMPORARY DRAINAGE AT ASHIPUN RIVER.
7. DO NOT DISTURB WETLANDS BEYOND CONSTRUCTION LIMITS.
8. IF PUMPING IS USED, A BACKUP PUMP SHALL BE ON-SITE AT ALL TIMES.

CULVERT DETAILS AND STAGING OVERVIEW

STAGE 1



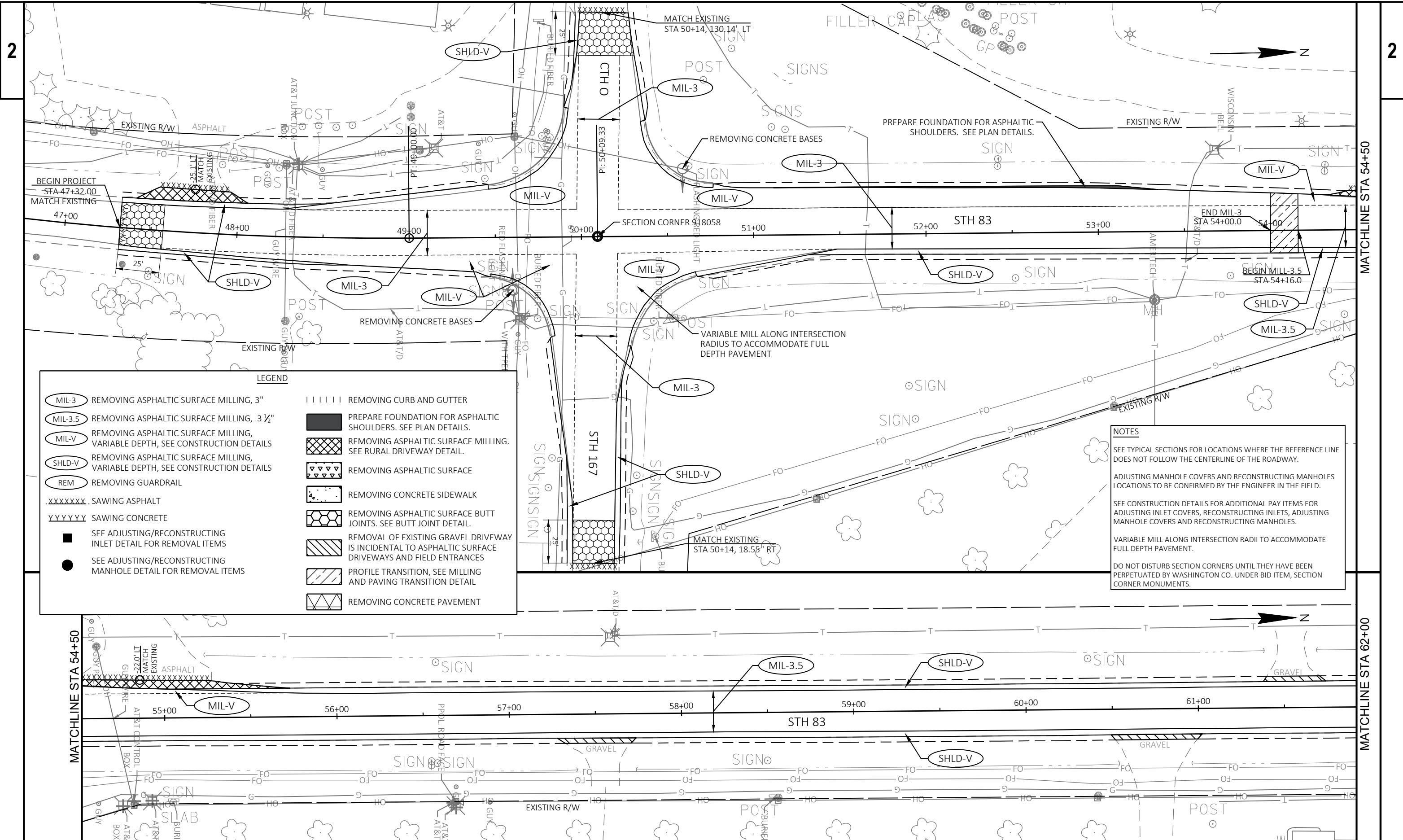
TEMPORARY DIVERSION

** PAID FOR AS MAINTAINING TEMPORARY DRAINAGE AT ASHIPUN RIVER

NOTES:

1. CONTRACTOR TO SUBMIT DESIGN FOR MAINTAINING TEMPORARY DRAINAGE DURING CONSTRUCTION AS PART OF THE EROSION CONTROL IMPLEMENTATION PLAN (ECIP).
2. PAYMENT SHALL BE THROUGH THE SPV ITEM FOR MAINTAINING TEMPORARY DRAINAGE AT ASHIPUN RIVER.
3. DETAIL SHOWN ON THIS SHEET IS FOR REFERENCE ONLY TO SHOW ONE POTENTIAL METHOD OF MAINTAINING TEMPORARY DRAINAGE. METHOD OF MAINTAINING TEMPORARY DRAINAGE TO BE DETERMINED BY THE CONTRACTOR.
4. METHOD OF MAINTAINING TEMPORARY DRAINAGE SHALL BE DESIGNED FOR THE 2-YEAR 24-HOUR STORM. SEE STRUCTURE PLANS FOR 2-YEAR HYDRAULIC DATA.
5. ANY WATER THAT IS PUMPED SHALL BE DISCHARGED IN ACCORDANCE WITH THE WISDNR TECHNICAL STANDARD 1061 DEWATERING PRACTICES FOR SEDIMENT CONTROL. THE METHOD AND SIZE OF THE DEWATERING DEVICE SHALL BE DESIGNED BY THE CONTRACTOR AS PART OF THE ECIP.
6. DEWATERING DEVICES ARE INCIDENTAL TO MAINTAINING TEMPORARY DRAINAGE AT ASHIPUN RIVER.
7. DO NOT DISTURB WETLANDS BEYOND CONSTRUCTION LIMITS.
8. IF PUMPING IS USED, A BACKUP PUMP SHALL BE ON-SITE AT ALL TIMES.

CULVERT DETAILS AND STAGING OVERVIEW
STAGE 2



LEGEND

MIL-3	REMOVING ASPHALTIC SURFACE MILLING, 3"	Vertical dashed line	REMOVING CURB AND GUTTER
MIL-3.5	REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"	Solid black rectangle	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
MIL-V	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	Cross-hatched rectangle	REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
SHLD-V	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	Inverted triangle pattern	REMOVING ASPHALTIC SURFACE
REM	REMOVING GUARDRAIL	Dotted pattern	REMOVING CONCRETE SIDEWALK
.XXXXXX.	SAWING ASPHALT	Hexagon pattern	REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
YYYYYY	SAWING CONCRETE	Diagonal line pattern	REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
■	SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS	Horizontal line pattern	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
●	SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS	Diagonal cross-hatch	REMOVING CONCRETE PAVEMENT

NOTES

SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

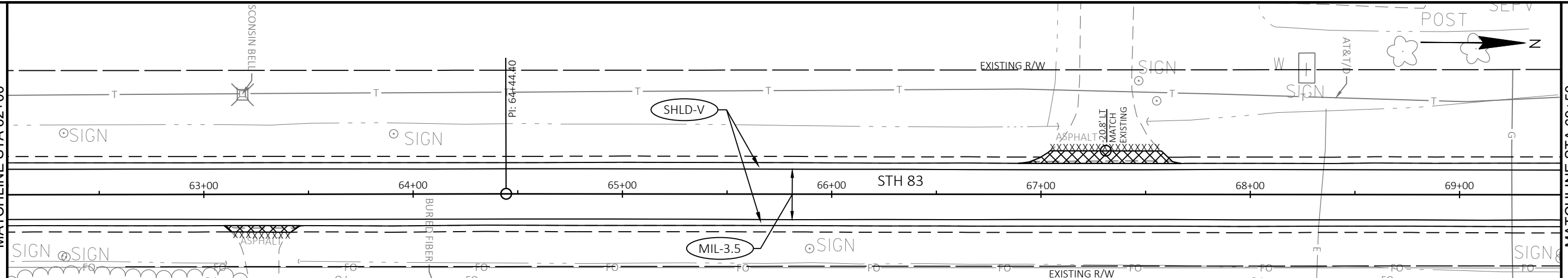
SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

VARIABLE MILL ALONG INTERSECTION RADIUS TO ACCOMMODATE FULL DEPTH PAVEMENT.

DO NOT DISTURB SECTION CORNERS UNTIL THEY HAVE BEEN PERPETUATED BY WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.

MATCHLINE STA 62+00

MATCHLINE STA 69+50



LEGEND

MIL-3	REMOVING ASPHALTIC SURFACE MILLING, 3"	I I I I I	REMOVING CURB AND GUTTER
MIL-3.5	REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"		PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
MIL-V	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS		REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
SHLD-V	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS		REMOVING ASPHALTIC SURFACE
REM	REMOVING GUARDRAIL		REMOVING CONCRETE SIDEWALK
	SAWING ASPHALT		REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
	SAWING CONCRETE		REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
	SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS		PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
	SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS		REMOVING CONCRETE PAVEMENT

NOTES

SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

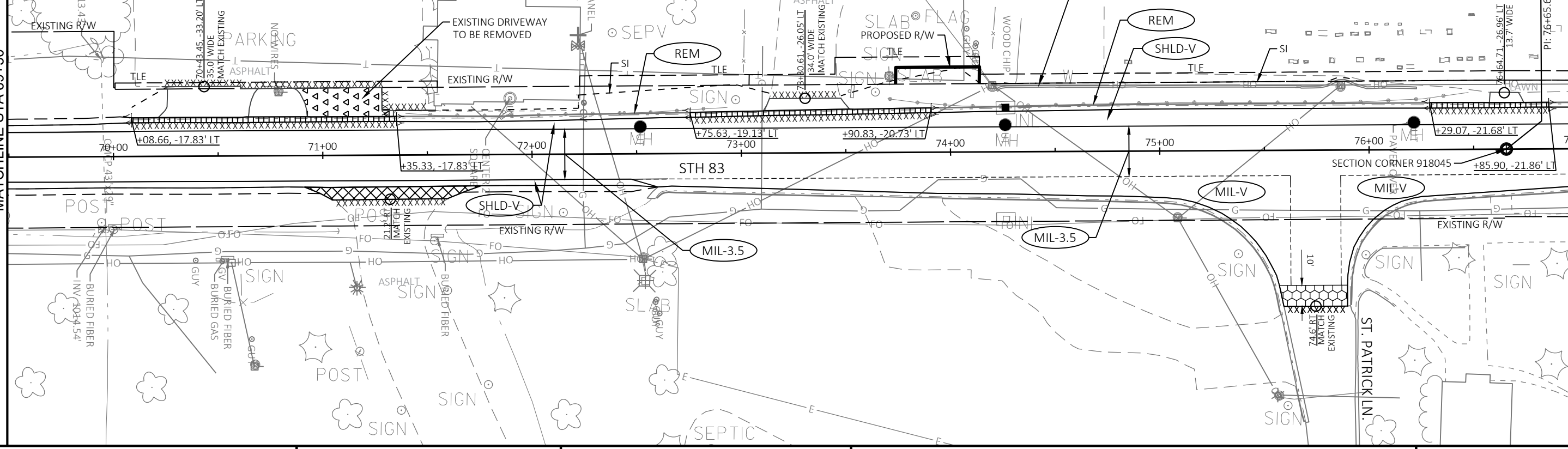
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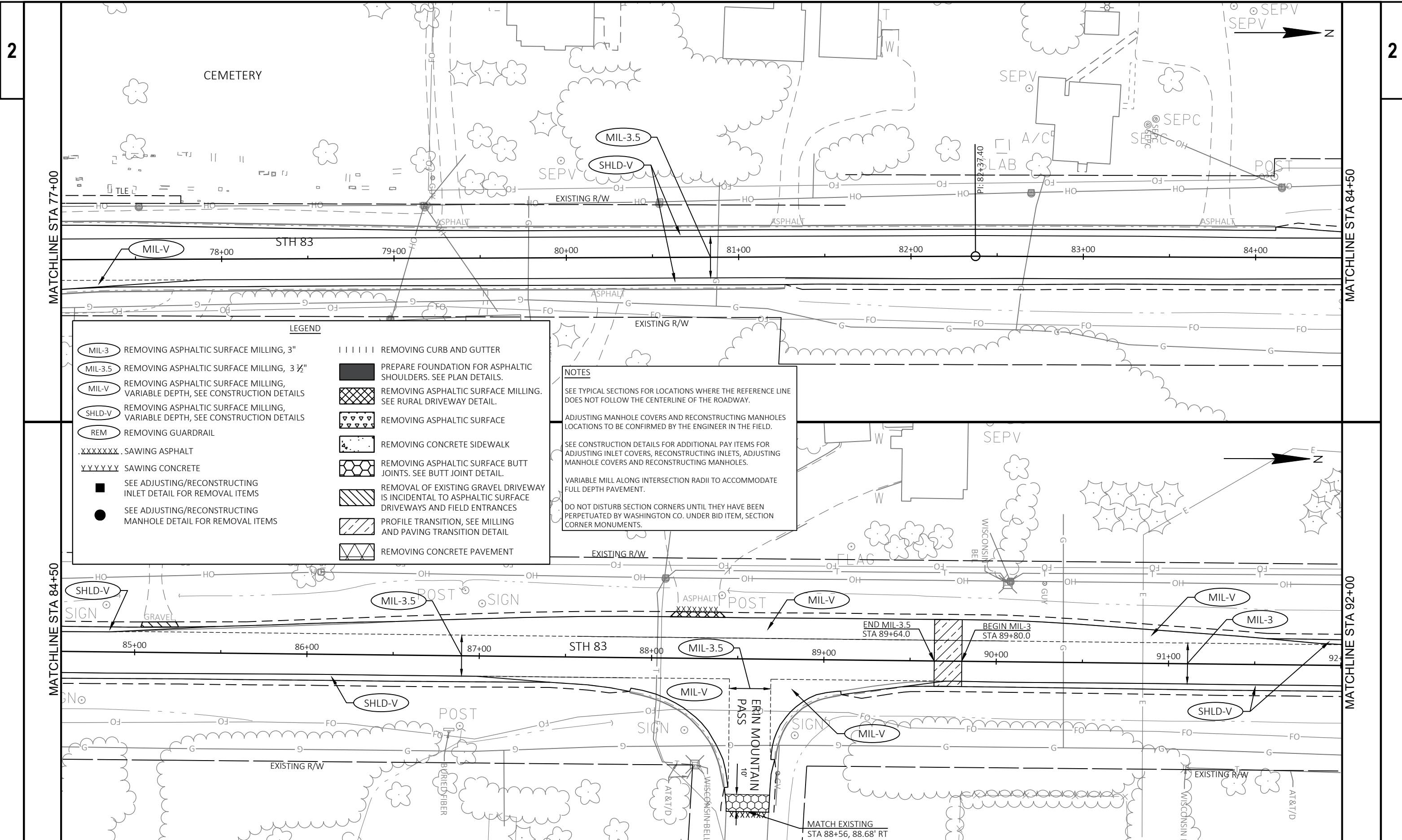
VARIABLE MILL ALONG INTERSECTION RADII TO ACCOMMODATE FULL DEPTH PAVEMENT.

DO NOT DISTURB SECTION CORNERS UNTIL THEY HAVE BEEN PERPETUATED BY WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.

MATCHLINE STA 69+50

MATCHLINE STA 77+00





LEGEND

MIL-3 REMOVING ASPHALTIC SURFACE MILLING, 3"	REMOVING CURB AND GUTTER
MIL-3.5 REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"	PREPARE FOUNDATION FOR ASPHALT SHOULDERS. SEE PLAN DETAILS.
MIL-V REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
SHLD-V REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	REMOVING ASPHALTIC SURFACE
REM REMOVING GUARDRAIL	REMOVING CONCRETE SIDEWALK
.XXXXXXX SAWING ASPHALT	REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
YYYYYYY SAWING CONCRETE	REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS	REMOVING CONCRETE PAVEMENT

NOTES

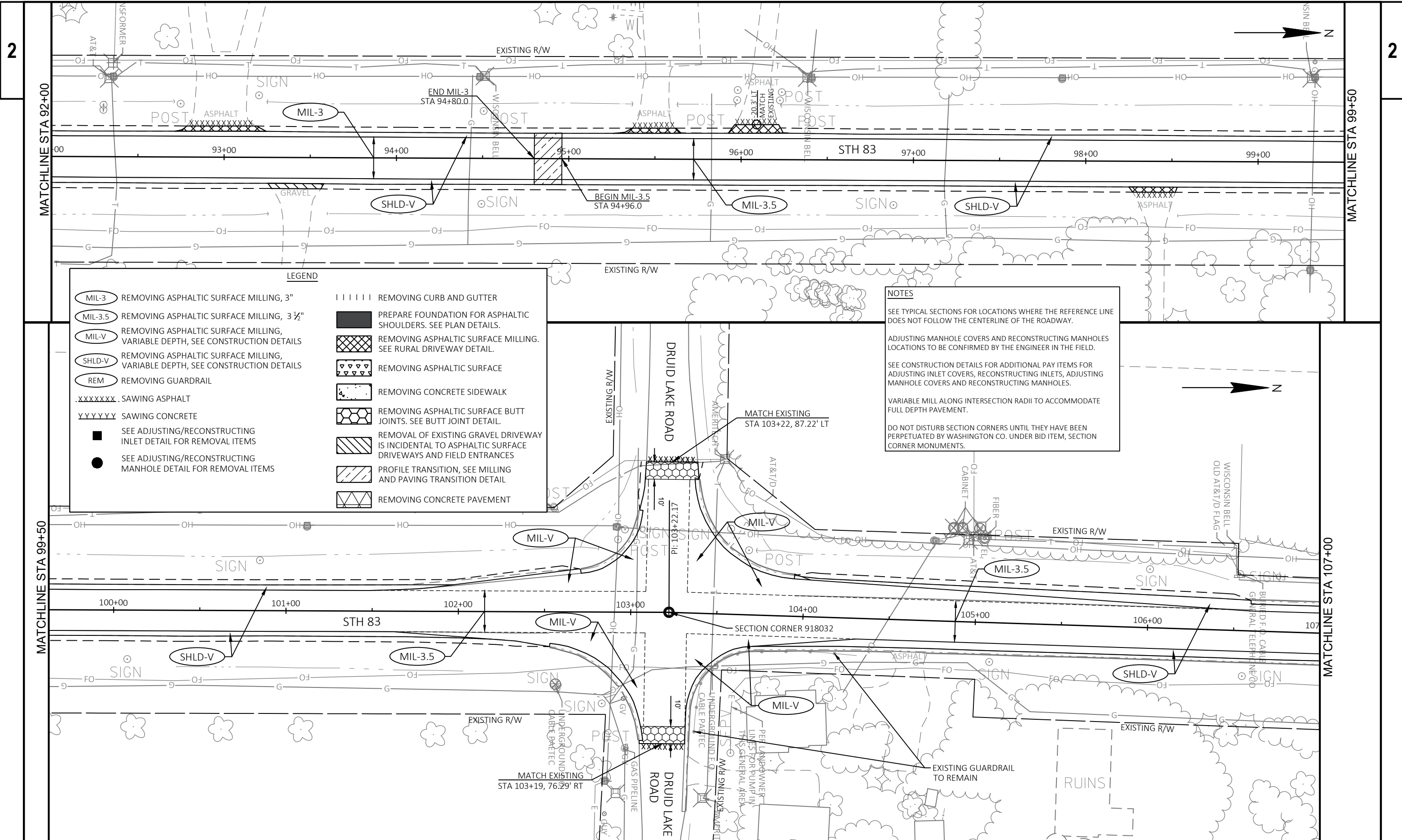
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LEGEND

(MIL-3)	REMOVING ASPHALTIC SURFACE MILLING, 3"		REMOVING CURB AND GUTTER
(MIL-3.5)	REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"	■	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
(MIL-V)	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	XXXXXX	REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
(SHLD-V)	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	▽▽▽	REMOVING ASPHALTIC SURFACE
(REM)	REMOVING GUARDRAIL	□	REMOVING CONCRETE SIDEWALK
XXXXXX	SAWING ASPHALT	□	REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
YYYYYY	SAWING CONCRETE	□	REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
■	SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS	□	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
●	SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS	□	REMOVING CONCRETE PAVEMENT

NOTES

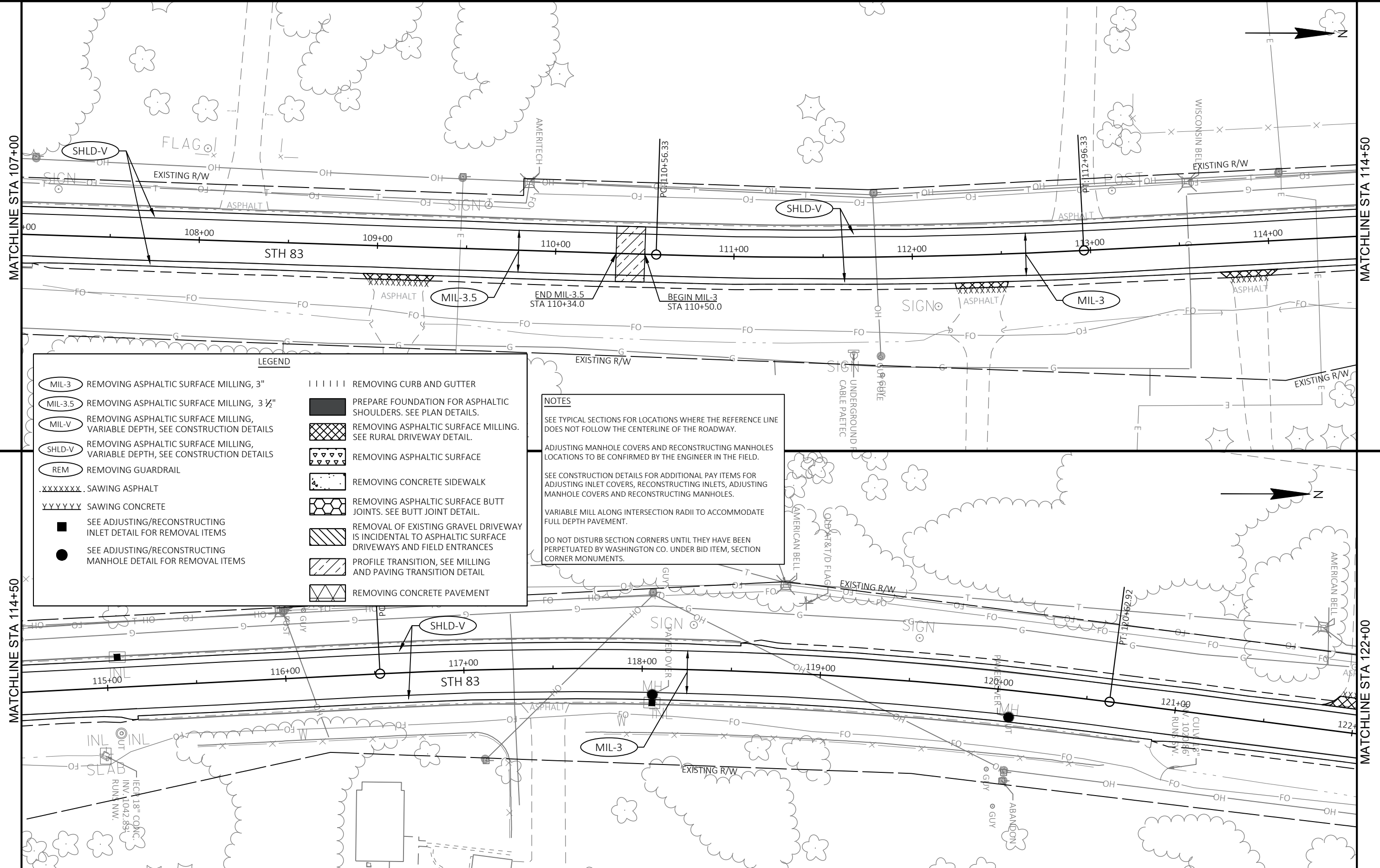
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LEGEND

(MIL-3) REMOVING ASPHALTIC SURFACE MILLING, 3"	REMOVING CURB AND GUTTER
(MIL-3.5) REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"	■ PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
(MIL-V) REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	XXXXXX REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
(SHLD-V) REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	▽▽▽ REMOVING ASPHALTIC SURFACE
(REM) REMOVING GUARDRAIL	□ REMOVING CONCRETE SIDEWALK
.XXXXXX. SAWING ASPHALT	□ REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
YYYYYY SAWING CONCRETE	▨ REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
■ SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS	▨ PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
● SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS	▨ REMOVING CONCRETE PAVEMENT

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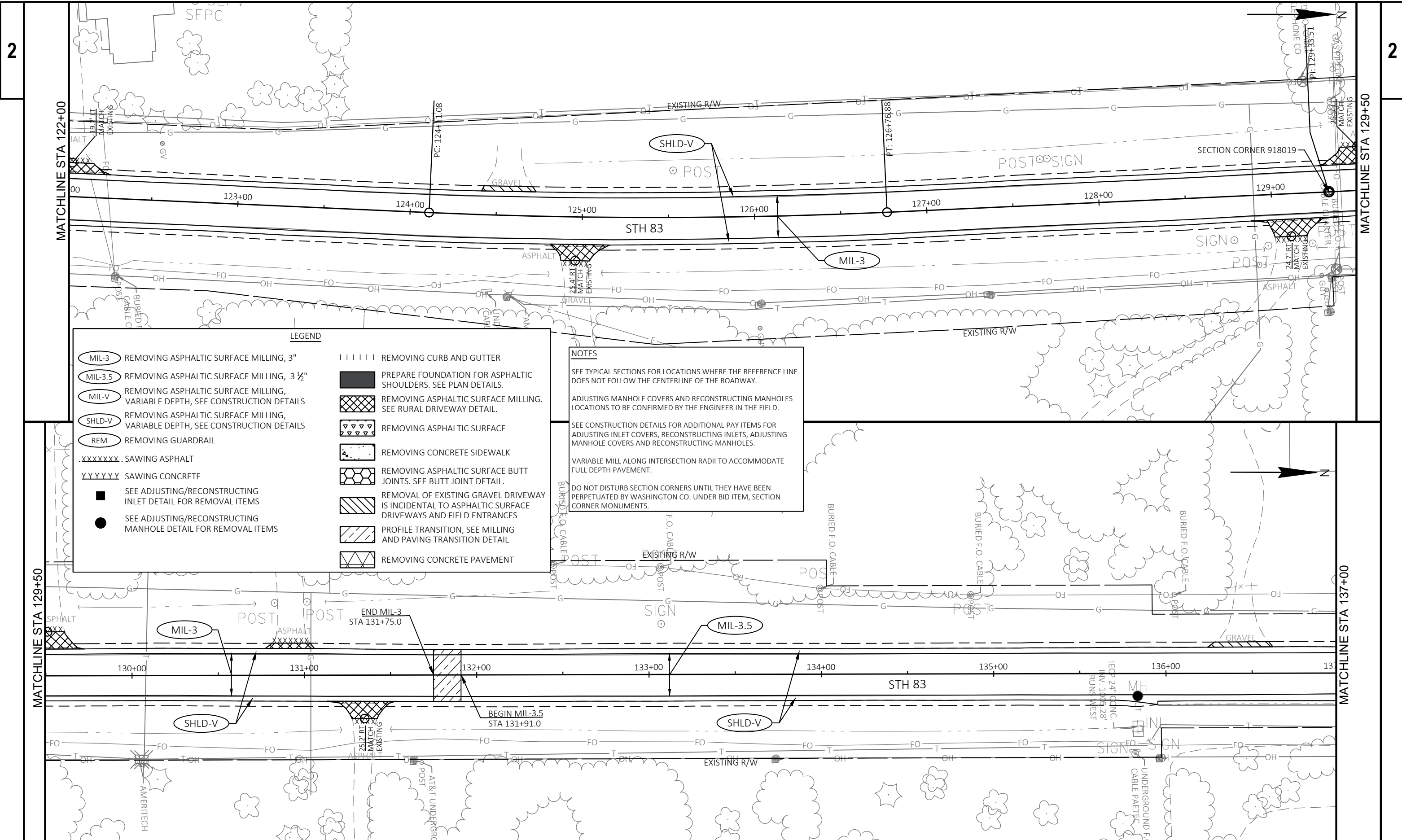
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LEGEND	
	REMOVING ASPHALTIC SURFACE MILLING, 3"
	REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"
	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS
	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS
	REMOVING GUARDRAIL
	SAWING ASPHALT
	SAWING CONCRETE
	SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS
	SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS
	REMOVING CURB AND GUTTER
	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
	REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
	REMOVING ASPHALTIC SURFACE
	REMOVING CONCRETE SIDEWALK
	REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
	REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
	REMOVING CONCRETE PAVEMENT

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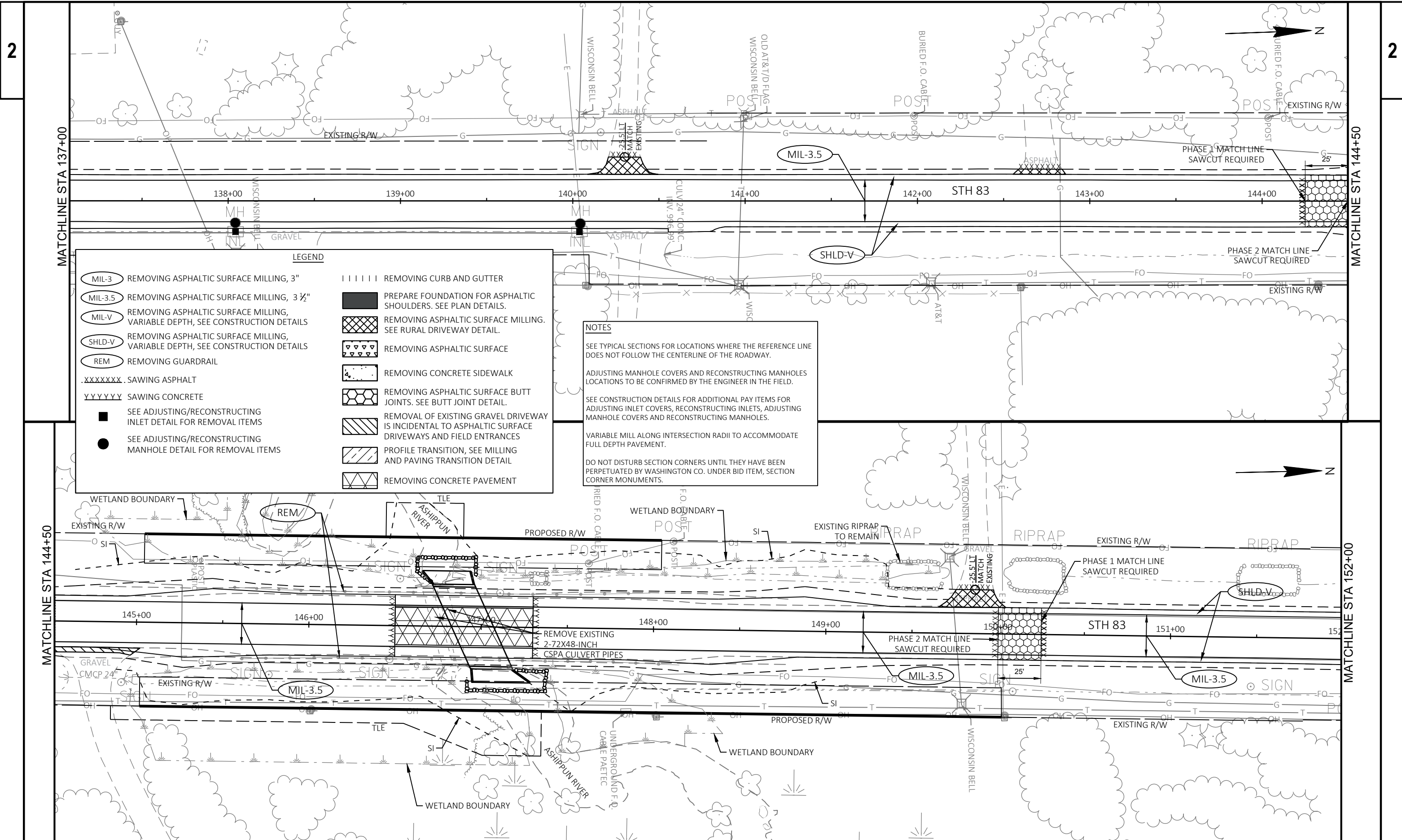
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LEGEND

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(MIL-3.5) REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"	■ PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
(MIL-V) REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	▨ REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
(SHLD-V) REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	▽▽▽ REMOVING ASPHALTIC SURFACE
(REM) REMOVING GUARDRAIL	□ REMOVING CONCRETE SIDEWALK
.XXXXXX. SAWING ASPHALT	▨ REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
YYYYYY SAWING CONCRETE	▨ REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
■ SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS	▨ PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
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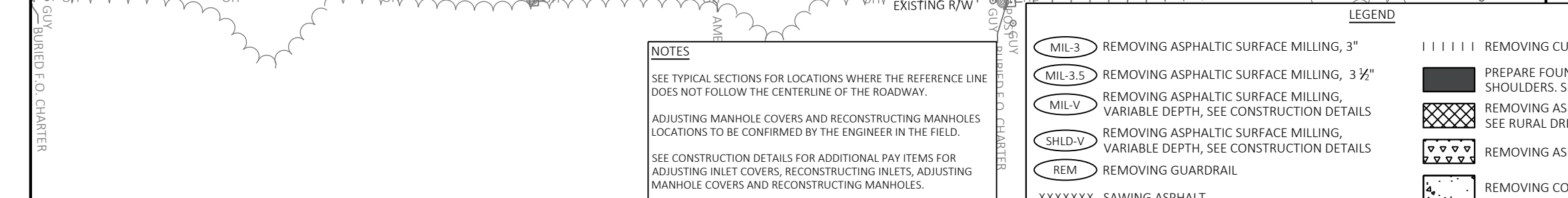
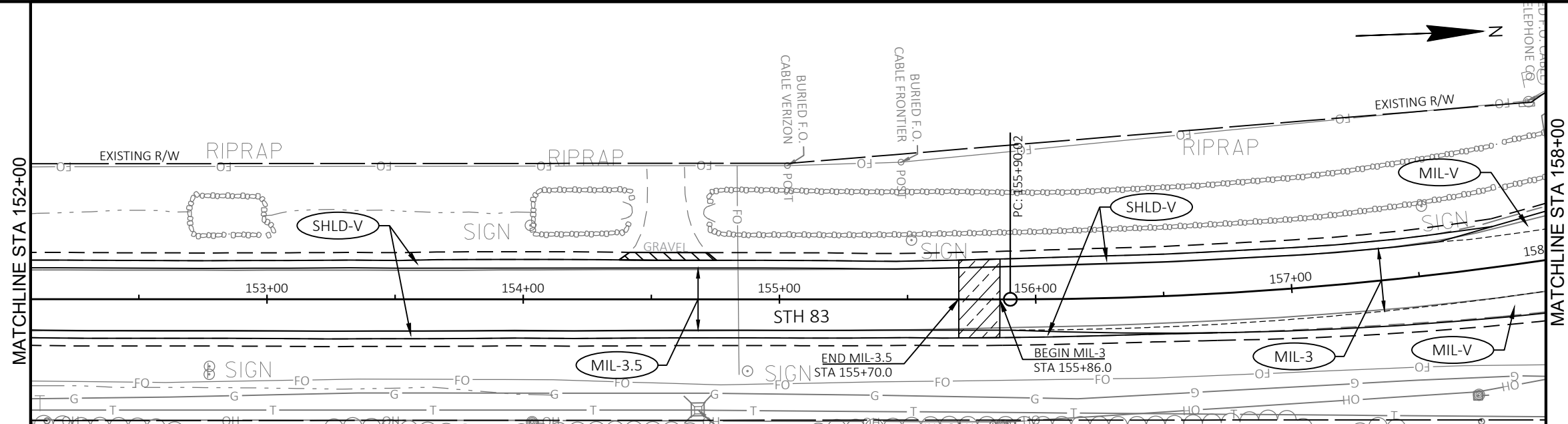
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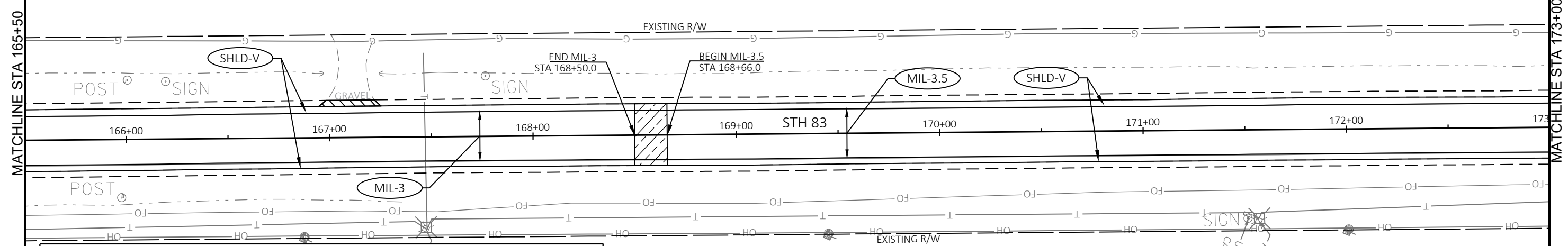
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LEGEND

(MIL-3)	REMOVING ASPHALTIC SURFACE MILLING, 3"		REMOVING CURB AND GUTTER
(MIL-3.5)	REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"	■	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
(MIL-V)	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	▨	REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
(SHLD-V)	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	▽▽▽	REMOVING ASPHALTIC SURFACE
(REM)	REMOVING GUARDRAIL	□	REMOVING CONCRETE SIDEWALK
.XXXXXXX.	SAWING ASPHALT	◻	REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
YYYYYY	SAWING CONCRETE	▨	REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
■	SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS	▨	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
●	SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS	▨	REMOVING CONCRETE PAVEMENT



LEGEND

- MIL-3 REMOVING ASPHALTIC SURFACE MILLING, 3"
- MIL-3.5 REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"
- MIL-V REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS
- SHLD-V REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS
- REM REMOVING GUARDRAIL
- .XXXXXXXXX SAWING ASPHALT
- YYYYYYY SAWING CONCRETE
- SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS
- SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS

- ||||| REMOVING CURB AND GUTTER
- PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
- ▨ REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
- ▽▽▽ REMOVING ASPHALTIC SURFACE
- REMOVING CONCRETE SIDEWALK
- ◻ REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
- ▨ REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
- ▨ PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
- ▨ REMOVING CONCRETE PAVEMENT

NOTES

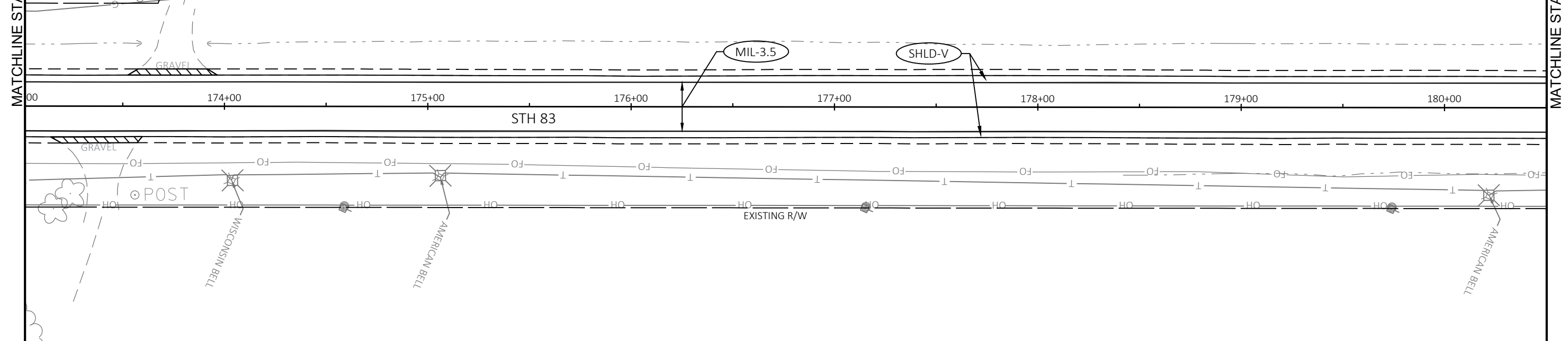
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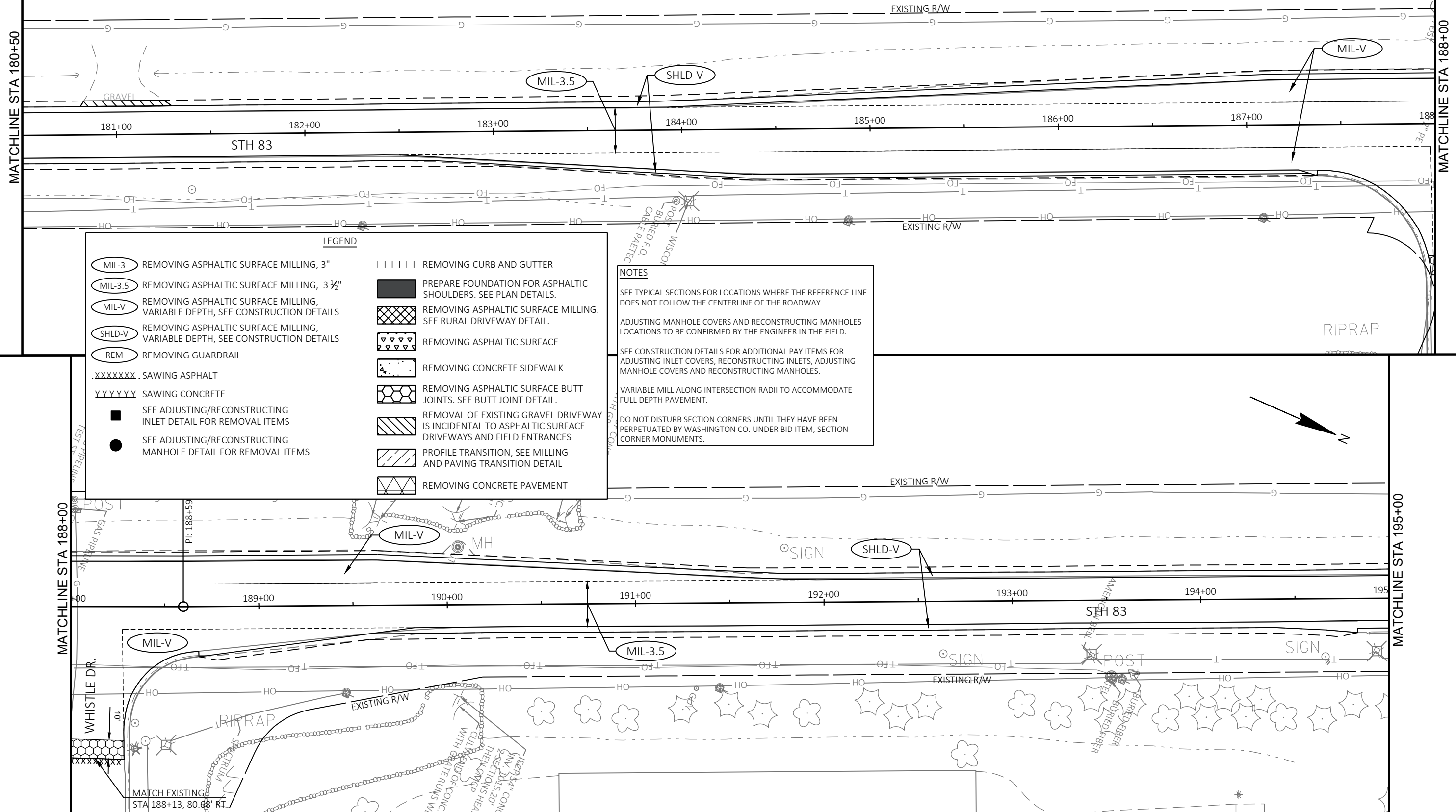
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LEGEND

MIL-3	REMOVING ASPHALTIC SURFACE MILLING, 3"	- - - - -	REMOVING CURB AND GUTTER
MIL-3.5	REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"	■	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
MIL-V	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	▨	REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
SHLD-V	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	▼▼▼	REMOVING ASPHALTIC SURFACE
REM	REMOVING GUARDRAIL	·····	REMOVING CONCRETE SIDEWALK
XXXXXX	SAWING ASPHALT	▯	REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
YYYYYY	SAWING CONCRETE	▨	REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
■	SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS	▨	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
●	SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS	▲▲▲	REMOVING CONCRETE PAVEMENT

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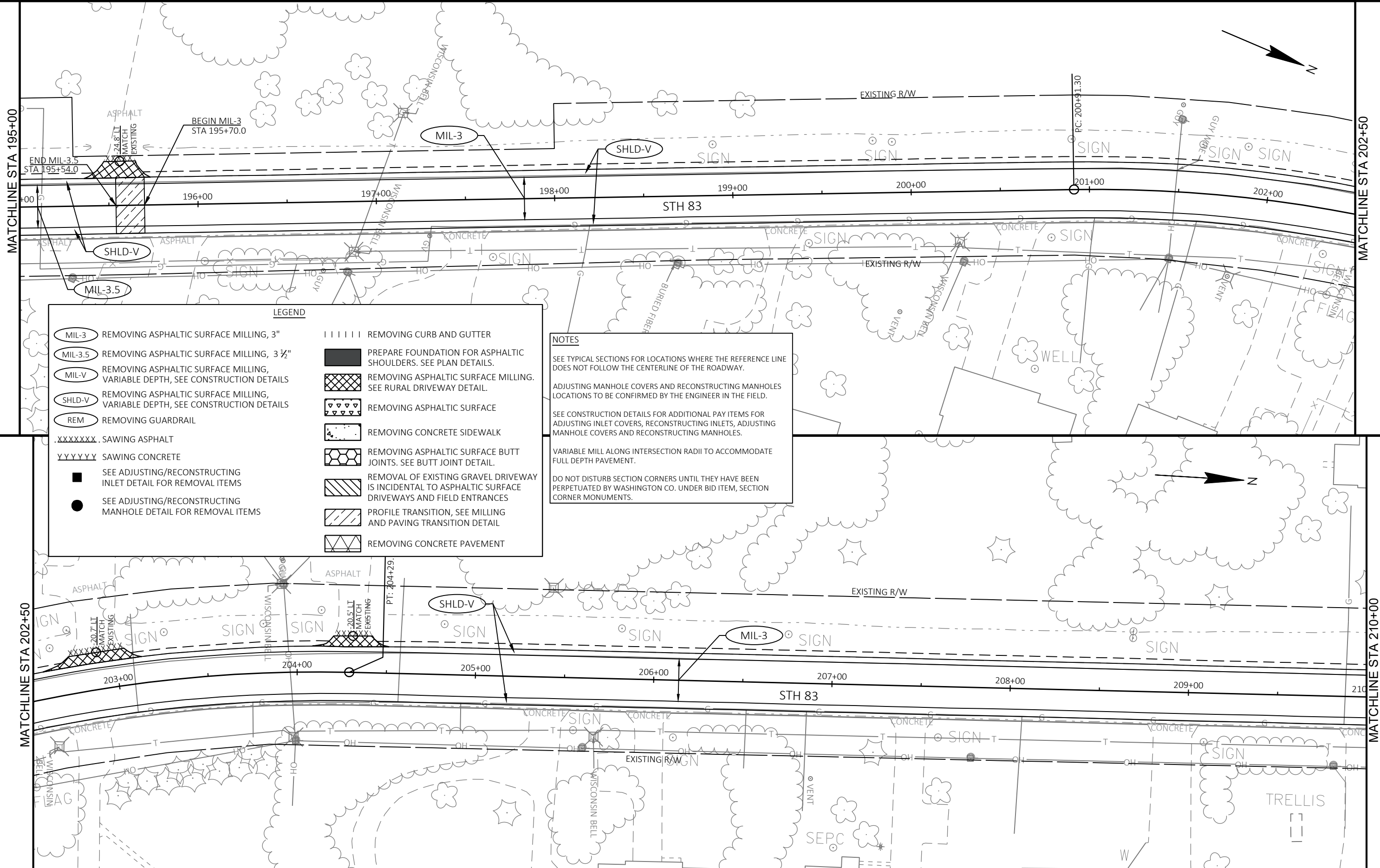
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LEGEND

MIL-3	REMOVING ASPHALTIC SURFACE MILLING, 3"	Dashed line	REMOVING CURB AND GUTTER
MIL-3.5	REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"	Solid black	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
MIL-V	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	Cross-hatched	REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
SHLD-V	REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	Downward triangles	REMOVING ASPHALTIC SURFACE
REM	REMOVING GUARDRAIL	Dotted	REMOVING CONCRETE SIDEWALK
.XXXXXXX.	SAWING ASPHALT	Hexagonal pattern	REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
.YYYYYY.	SAWING CONCRETE	Diagonal lines	REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
■	SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS	Diagonal lines	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
●	SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS	Upward triangles	REMOVING CONCRETE PAVEMENT

NOTES

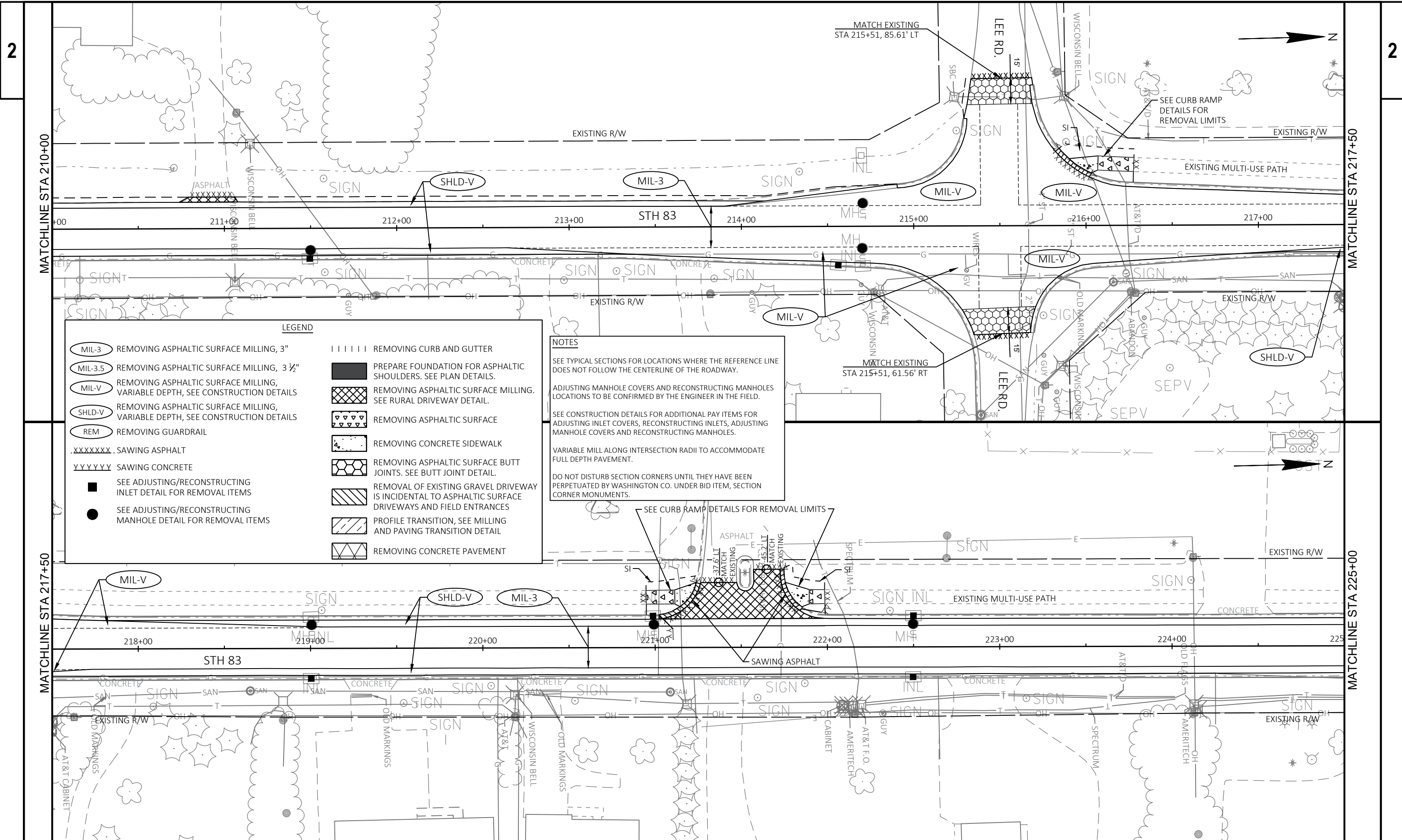
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PROJECT NO: 1330-22-70

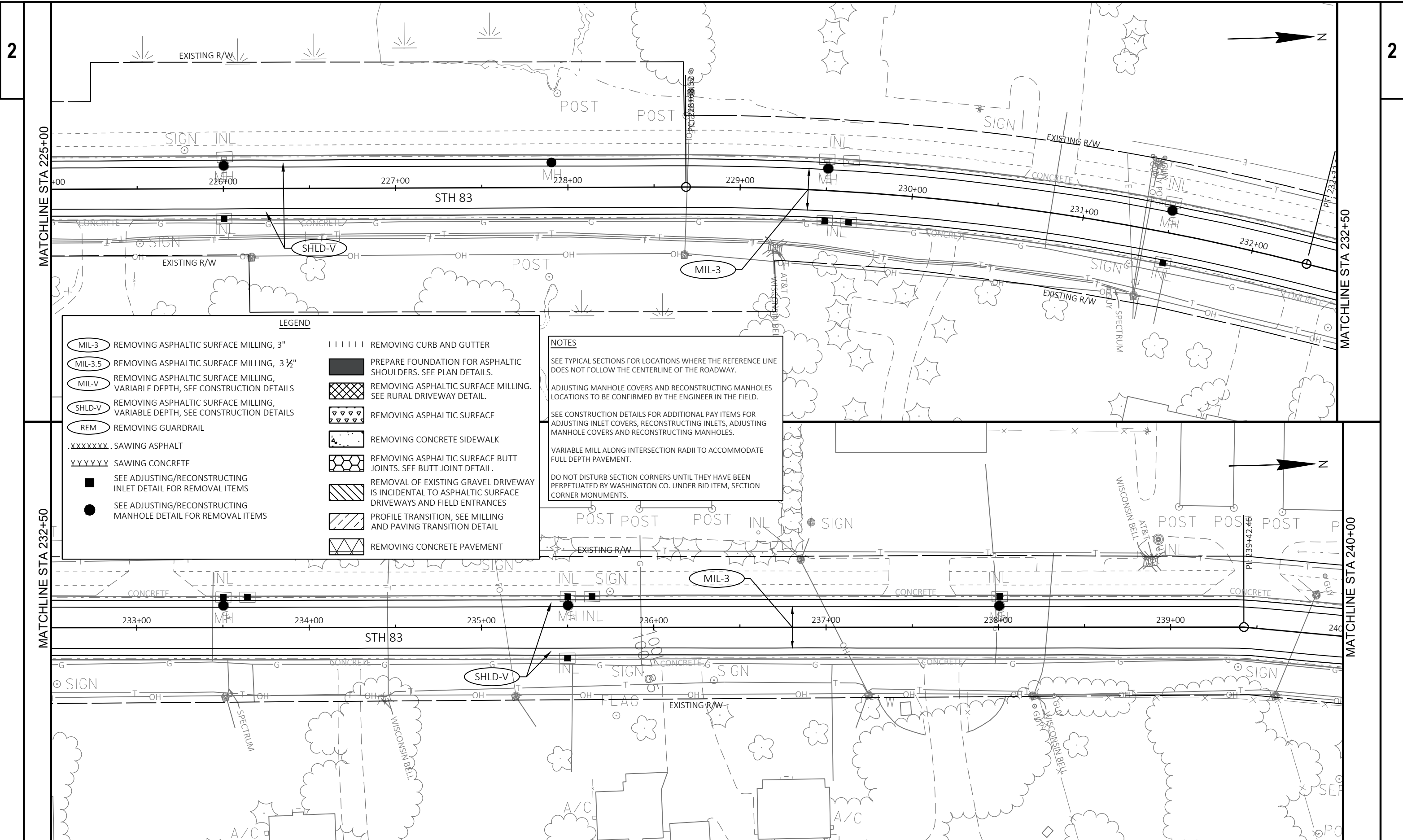
HWY: STH 83

COUNTY: WASHINGTON

REMOVALS PLAN

SHEET

E



LEGEND

(MIL-3) REMOVING ASPHALTIC SURFACE MILLING, 3"	REMOVING CURB AND GUTTER
(MIL-3.5) REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"	■ PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
(MIL-V) REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	▨ REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
(SHLD-V) REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS	▽▽▽ REMOVING ASPHALTIC SURFACE
(REM) REMOVING GUARDRAIL	■ REMOVING CONCRETE SIDEWALK
XXXXXXX SAWING ASPHALT	■ REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
YYYYYYY SAWING CONCRETE	▨ REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
■ SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS	▨ PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
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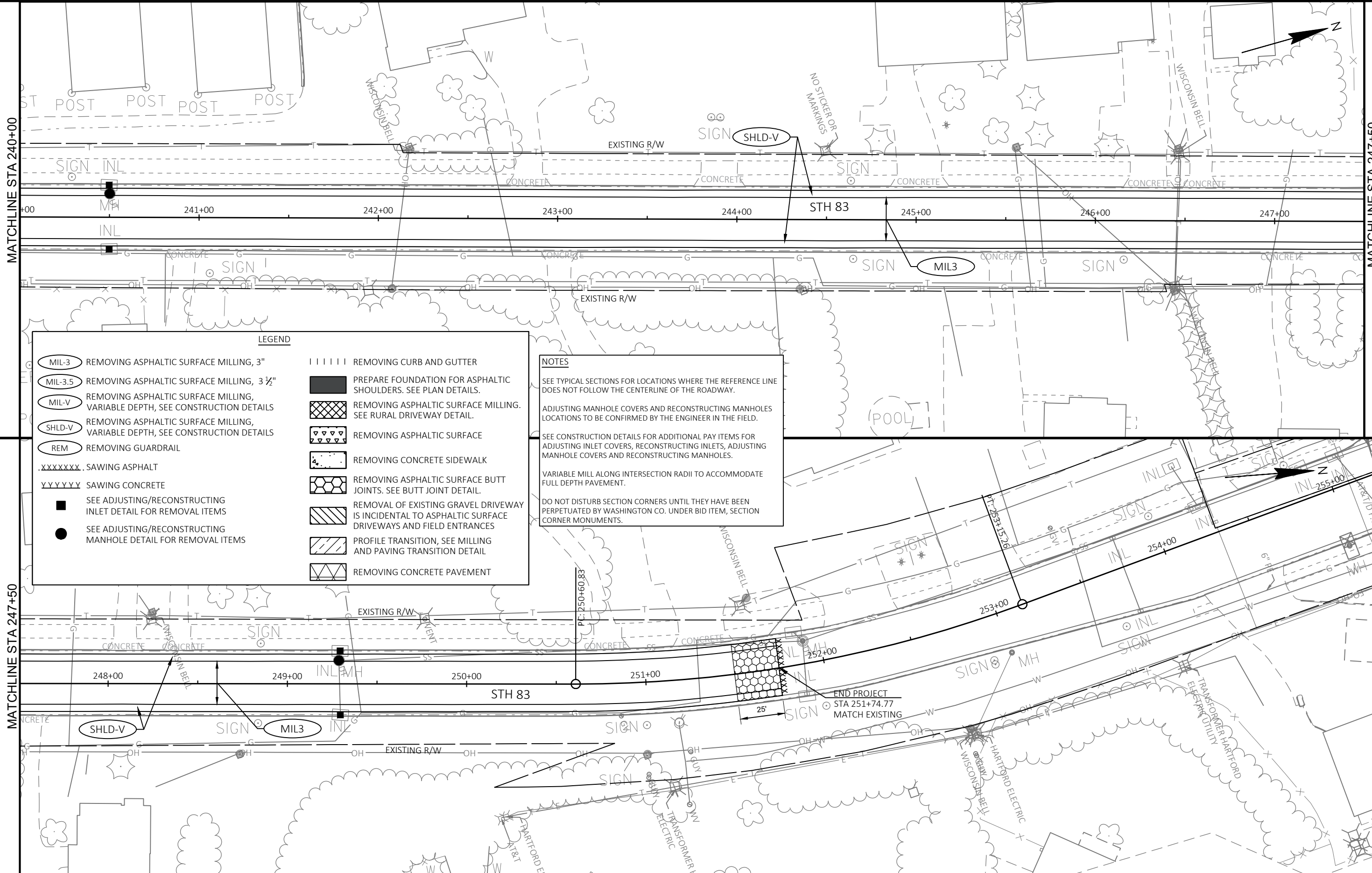
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LEGEND

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- MIL-3.5 REMOVING ASPHALTIC SURFACE MILLING, 3 1/2"
- MIL-V REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS
- SHLD-V REMOVING ASPHALTIC SURFACE MILLING, VARIABLE DEPTH, SEE CONSTRUCTION DETAILS
- REM REMOVING GUARDRAIL
- .XXXXXXXX SAWING ASPHALT
- YYYYYY SAWING CONCRETE
- SEE ADJUSTING/RECONSTRUCTING INLET DETAIL FOR REMOVAL ITEMS
- SEE ADJUSTING/RECONSTRUCTING MANHOLE DETAIL FOR REMOVAL ITEMS
- ||||| REMOVING CURB AND GUTTER
- PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS. SEE PLAN DETAILS.
- ▨ REMOVING ASPHALTIC SURFACE MILLING. SEE RURAL DRIVEWAY DETAIL.
- ▽▽▽ REMOVING ASPHALTIC SURFACE
- REMOVING CONCRETE SIDEWALK
- REMOVING ASPHALTIC SURFACE BUTT JOINTS. SEE BUTT JOINT DETAIL.
- ▨ REMOVAL OF EXISTING GRAVEL DRIVEWAY IS INCIDENTAL TO ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
- ▨ PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL
- ▨ REMOVING CONCRETE PAVEMENT

NOTES

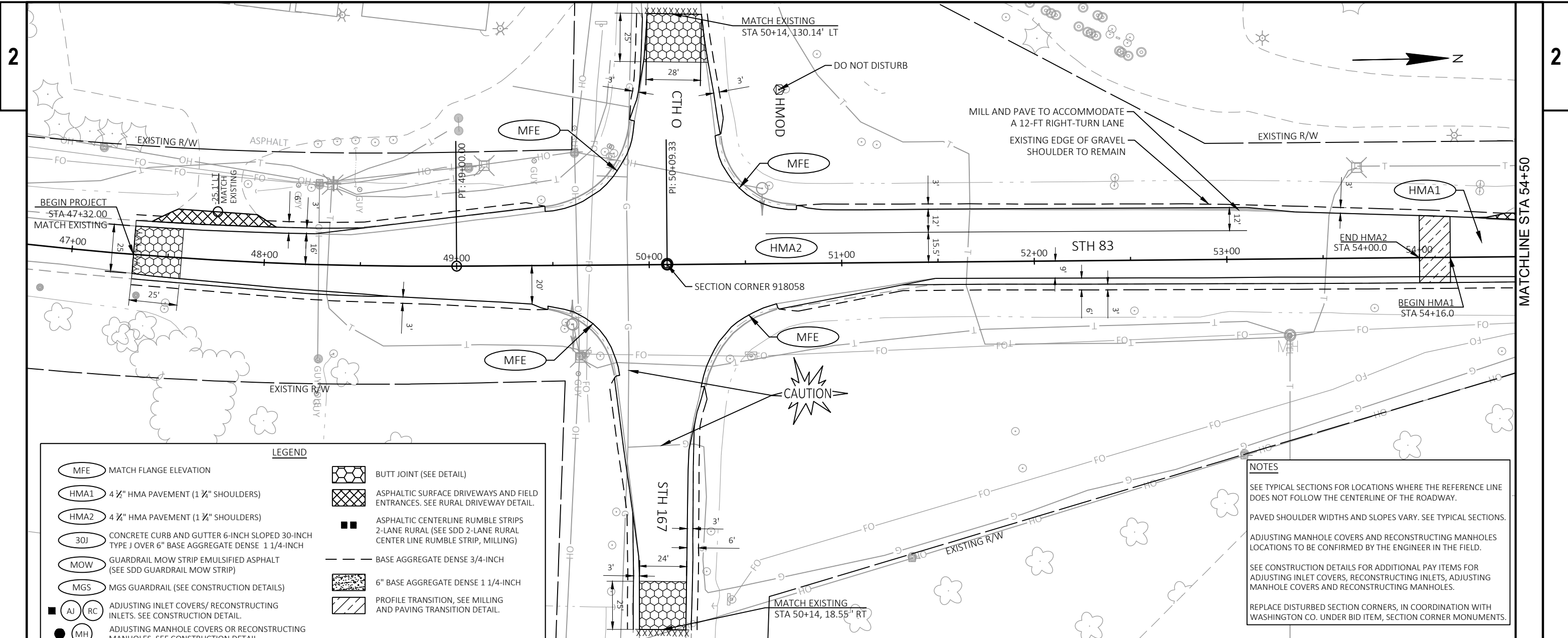
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

VARIABLE MILL ALONG INTERSECTION RADII TO ACCOMMODATE FULL DEPTH PAVEMENT.

DO NOT DISTURB SECTION CORNERS UNTIL THEY HAVE BEEN PERPETUATED BY WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



LEGEND	
(MFE)	MATCH FLANGE ELEVATION
(HMA1)	4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)
(HMA2)	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)
(30J)	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH
(MOW)	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)
(MGS)	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)
(AJ) (RC)	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.
(MH)	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.
(Butt Joint Symbol)	BUTT JOINT (SEE DETAIL)
(Asphaltic Surface Symbol)	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
(Rumble Strip Symbol)	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
(Dashed Line)	BASE AGGREGATE DENSE 3/4-INCH
(6" Base Symbol)	6" BASE AGGREGATE DENSE 1 1/4-INCH
(Profile Transition Symbol)	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.

NOTES

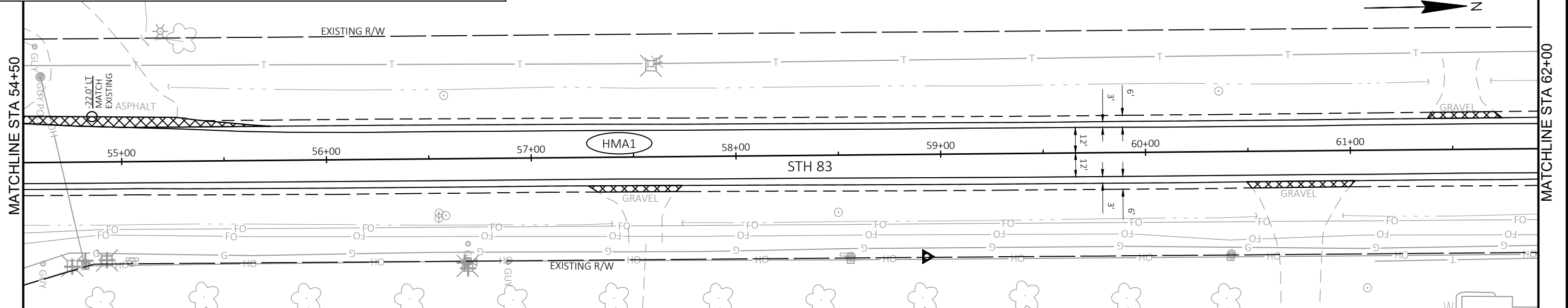
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.

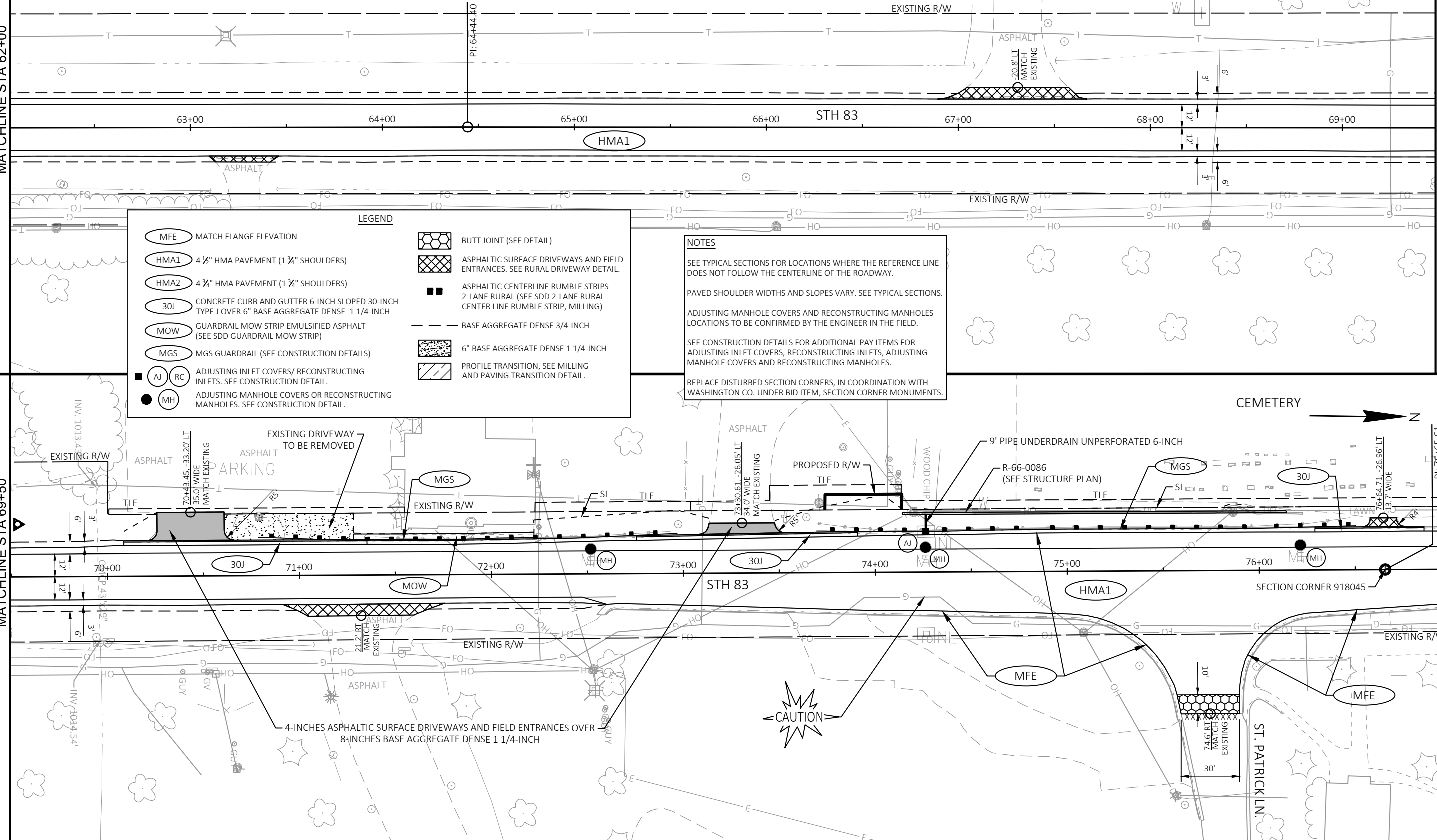


MATCHLINE STA 62+00

MATCHLINE STA 69+50

MATCHLINE STA 69+50

MATCHLINE STA 77+00



LEGEND

MFE	MATCH FLANGE ELEVATION	BUTT JOINT (SEE DETAIL)
HMA1	4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
HMA2	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
30J	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH	BASE AGGREGATE DENSE 3/4-INCH
MOW	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)	6" BASE AGGREGATE DENSE 1 1/4-INCH
MGS	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.
AI	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.	
RC	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.	
MH	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.	

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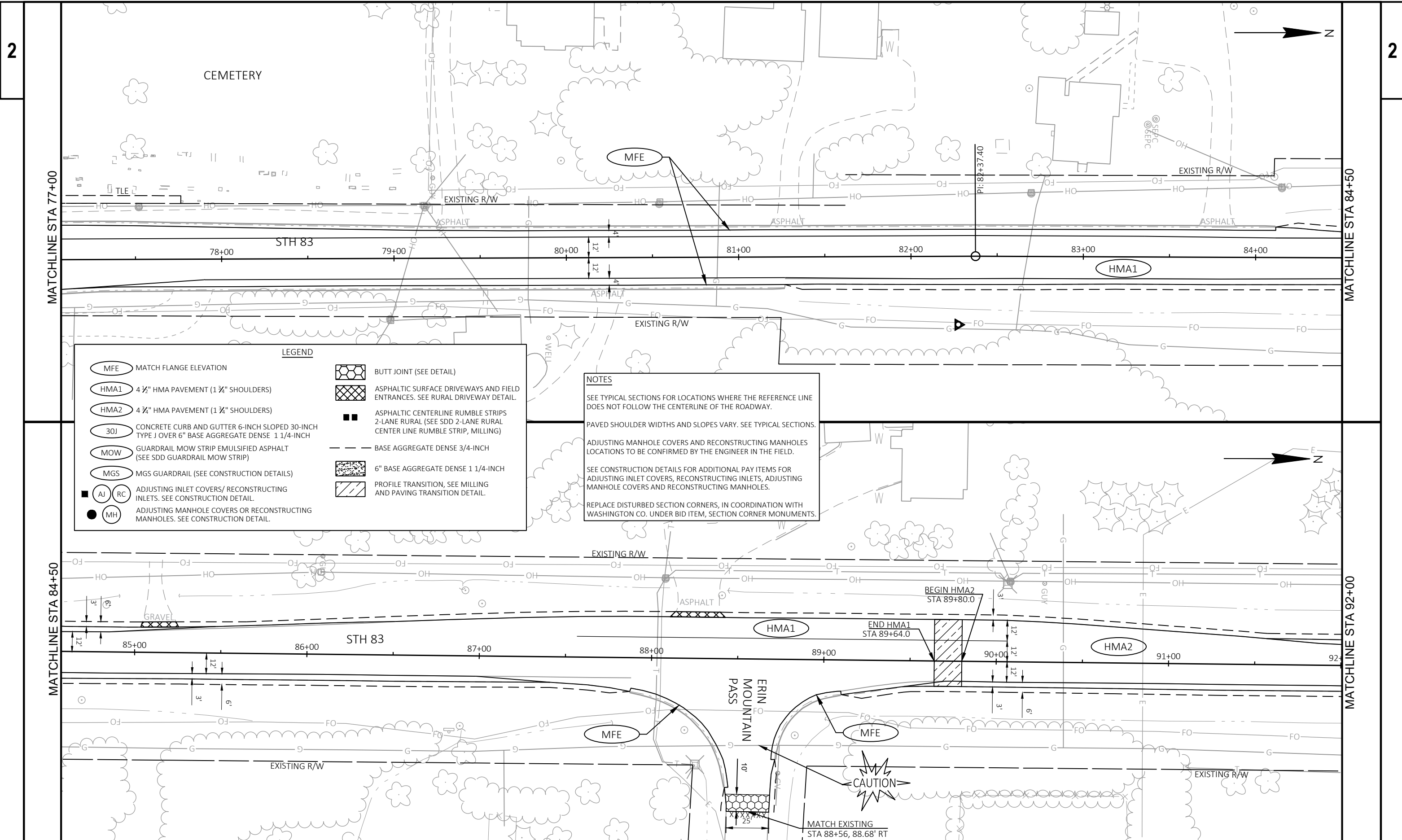
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



LEGEND	
(MFE)	MATCH FLANGE ELEVATION
(HMA1)	4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)
(HMA2)	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)
(30J)	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH
(MOW)	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)
(MGS)	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)
(AJ) (RC)	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.
(MH)	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.
(Hexagon)	BUTT JOINT (SEE DETAIL)
(Cross-hatch)	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
(Squares)	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
(Dashed line)	BASE AGGREGATE DENSE 3/4-INCH
(Dotted pattern)	6" BASE AGGREGATE DENSE 1 1/4-INCH
(Diagonal lines)	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.

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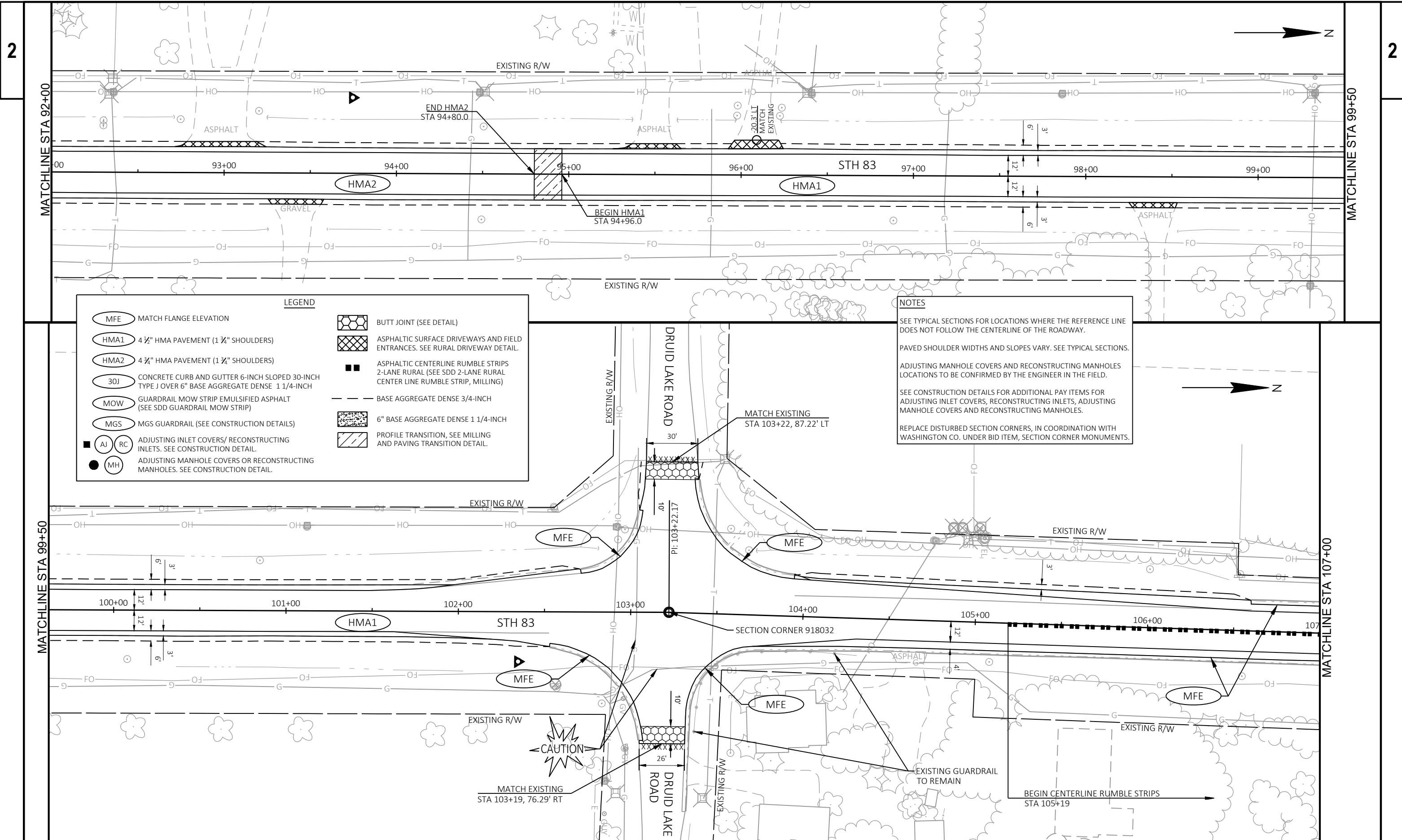
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



LEGEND

MFE MATCH FLANGE ELEVATION	BUTT JOINT (SEE DETAIL)
HMA1 4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
HMA2 4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
30J CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH	BASE AGGREGATE DENSE 3/4-INCH
MOW GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)	6" BASE AGGREGATE DENSE 1 1/4-INCH
MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.
ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.	
ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.	

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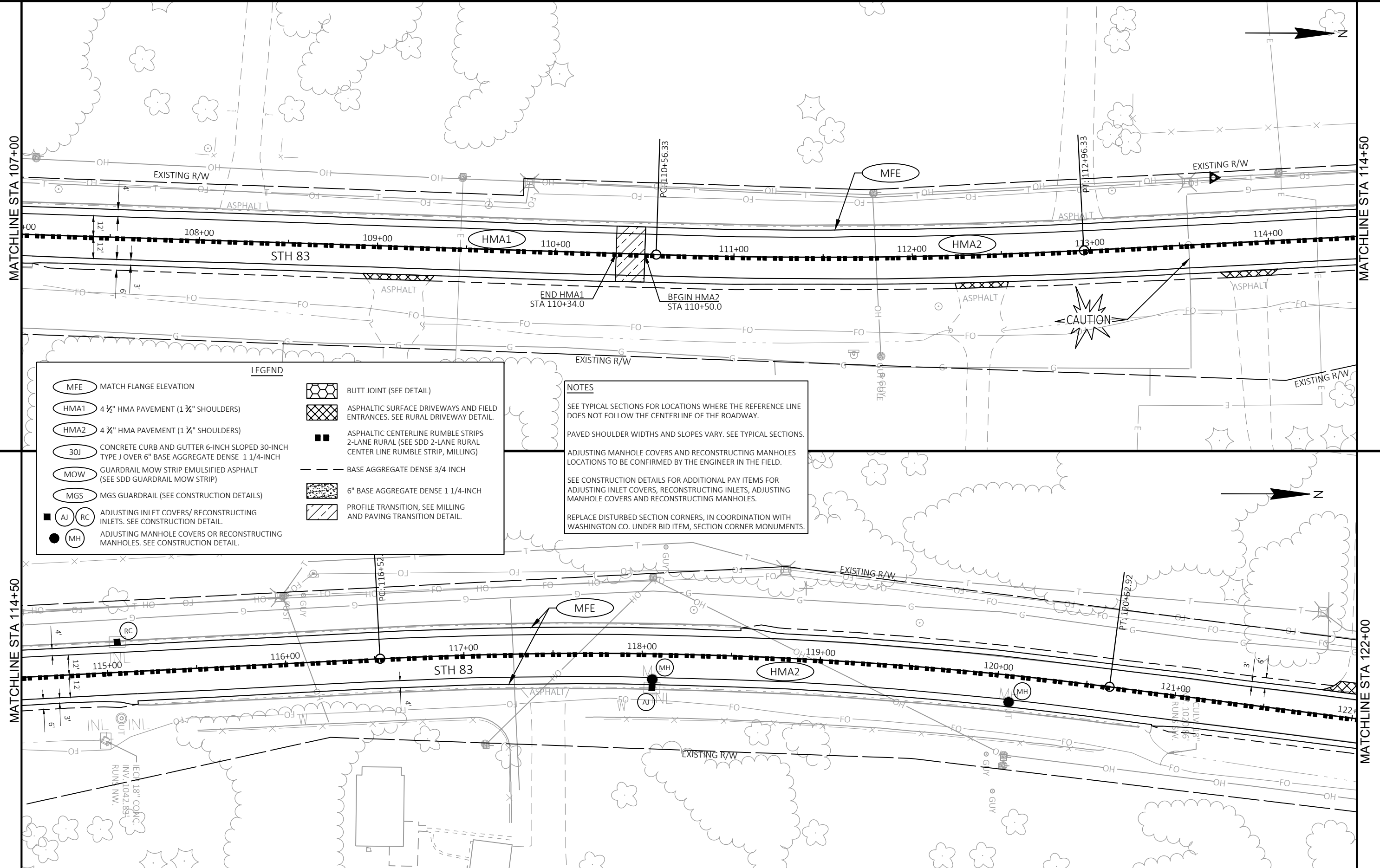
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



LEGEND

MFE MATCH FLANGE ELEVATION	BUTT JOINT (SEE DETAIL)
HMA1 4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
HMA2 4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
30J CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH	BASE AGGREGATE DENSE 3/4-INCH
MOW GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)	6" BASE AGGREGATE DENSE 1 1/4-INCH
MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.
ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.	
ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.	

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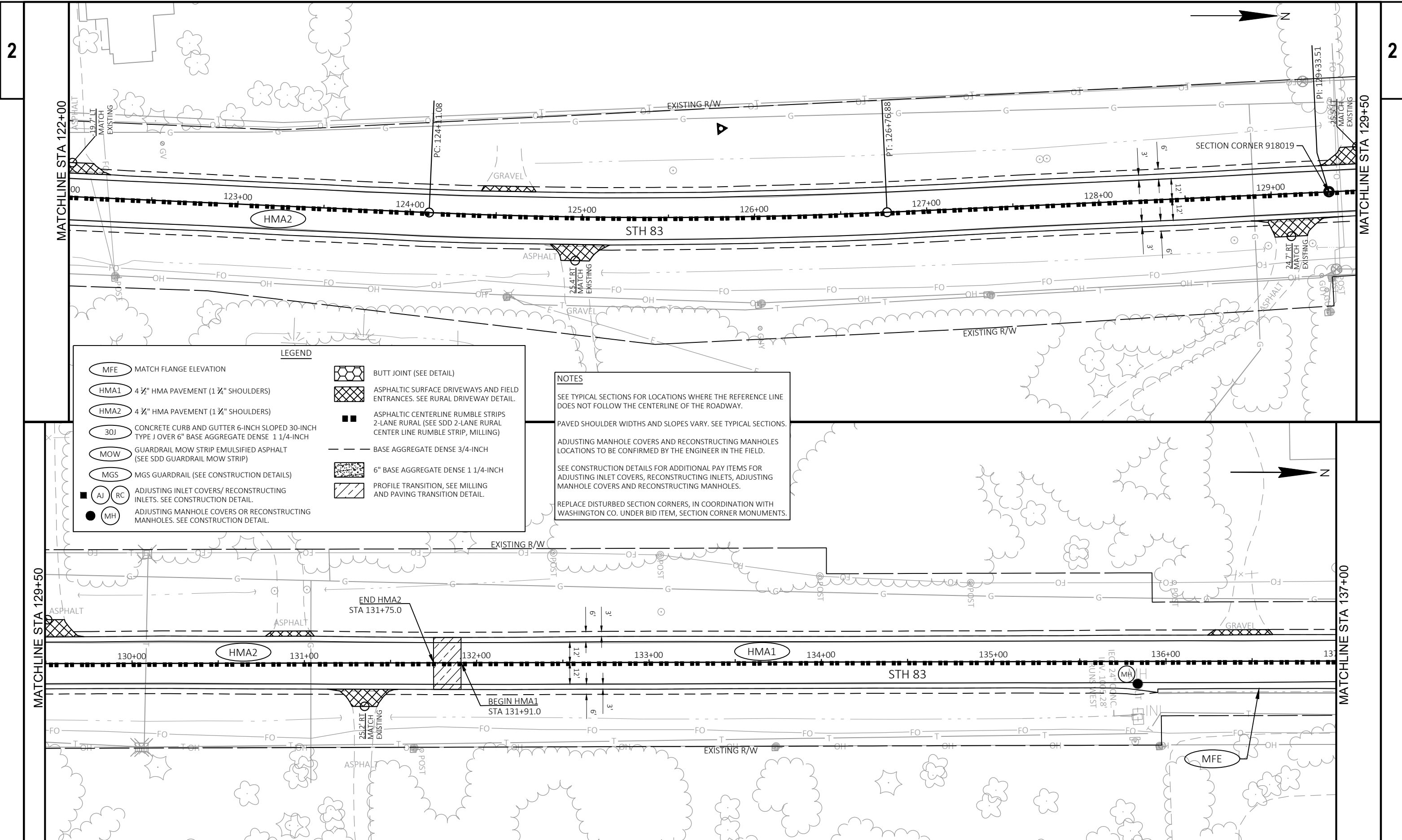
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PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



LEGEND	
MFE	MATCH FLANGE ELEVATION
HMA1	4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)
HMA2	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)
30J	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH
MOW	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)
MGS	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)
AJ	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.
RC	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.
MH	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.
BUTT JOINT	(SEE DETAIL)
ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	SEE RURAL DRIVEWAY DETAIL.
ASPHALTIC CENTERLINE RUMBLE STRIPS	2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
BASE AGGREGATE	DENSE 3/4-INCH
6" BASE AGGREGATE	DENSE 1 1/4-INCH
PROFILE TRANSITION	SEE MILLING AND PAVING TRANSITION DETAIL.

NOTES

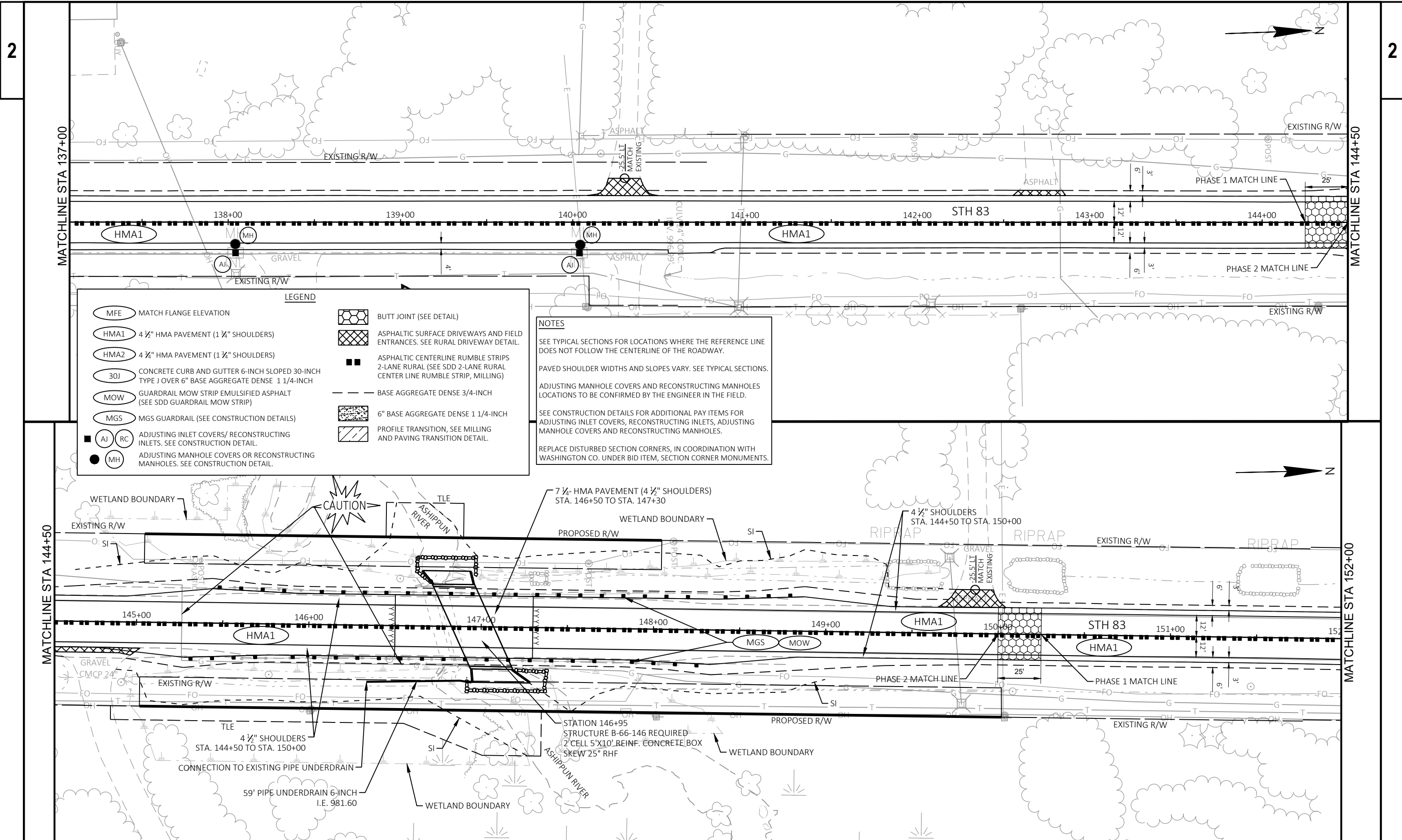
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



LEGEND

(MFE)	MATCH FLANGE ELEVATION	(Butt Joint Symbol)	BUTT JOINT (SEE DETAIL)
(HMA1)	4 1/2" HMA PAVEMENT (1 1/4" SHOULDERS)	(Asphaltic Surface Symbol)	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
(HMA2)	4 3/4" HMA PAVEMENT (1 1/4" SHOULDERS)	(Rumble Strip Symbol)	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
(30J)	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH	(Base Aggregate Symbol)	BASE AGGREGATE DENSE 3/4-INCH
(MOW)	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)	(Base Aggregate Symbol)	6" BASE AGGREGATE DENSE 1 1/4-INCH
(MGS)	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)	(Profile Transition Symbol)	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.
(AJ) (RC)	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.		
(MH)	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.		

NOTES

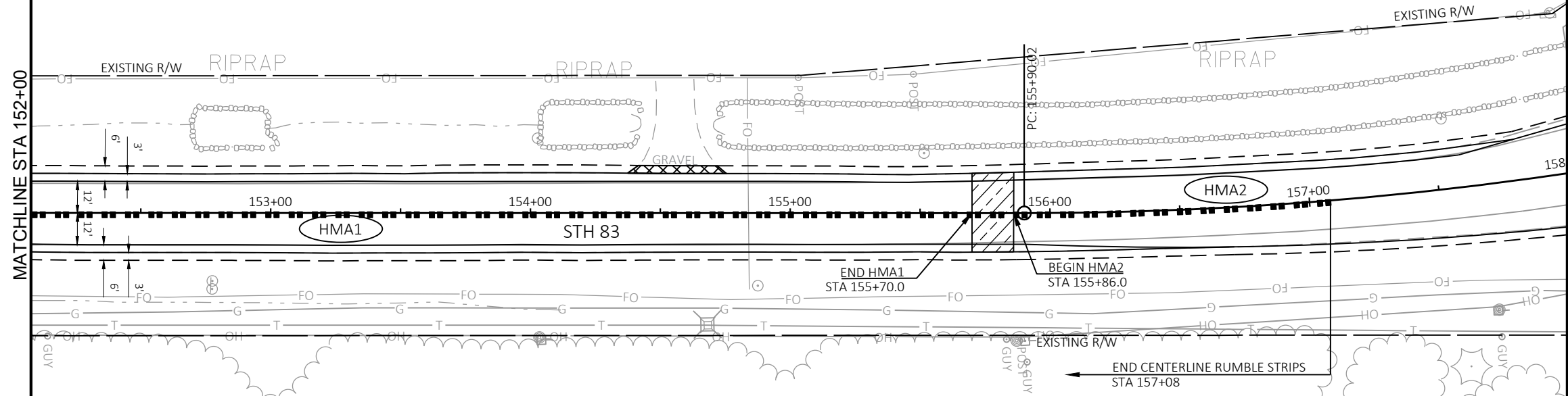
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



NOTES

SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

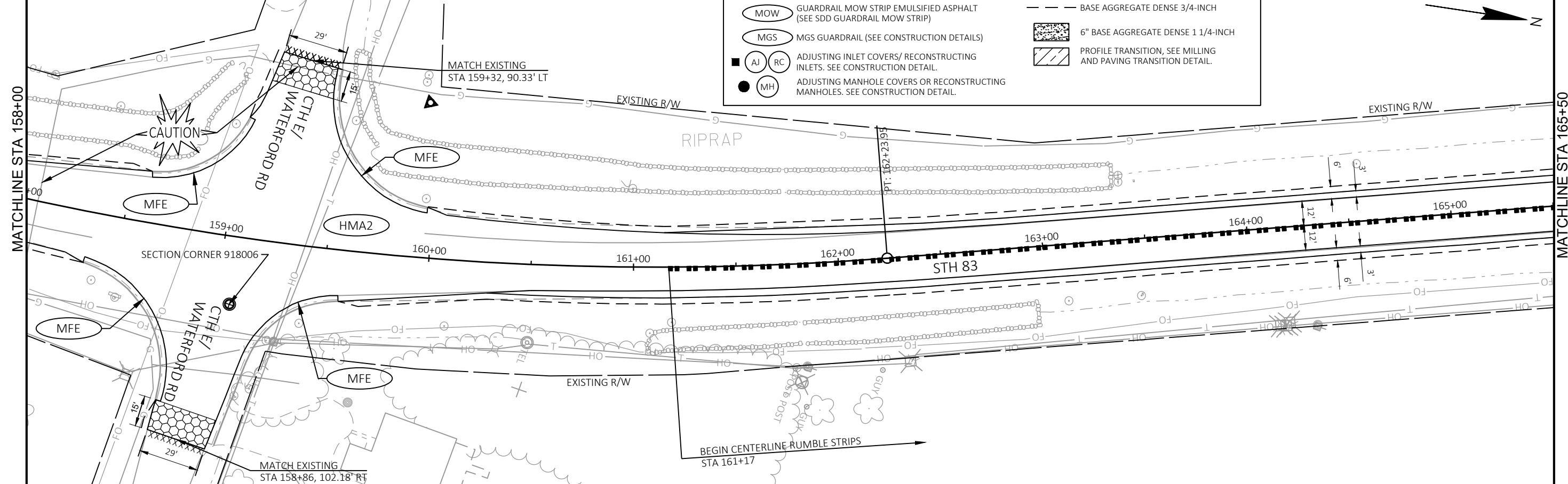
PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

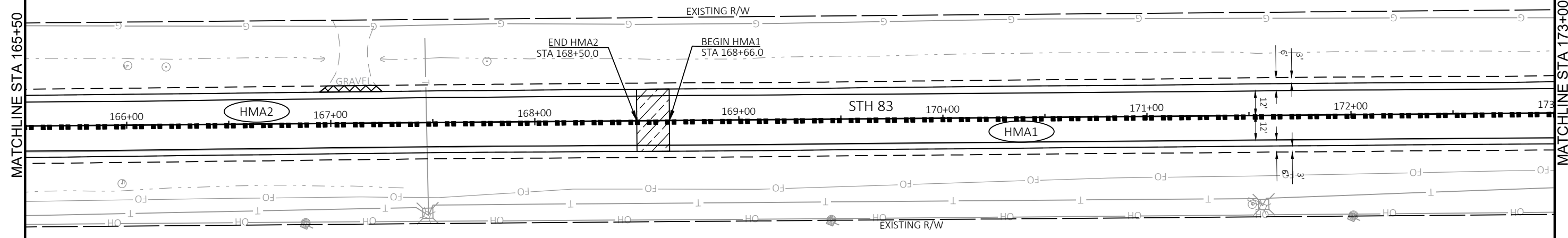
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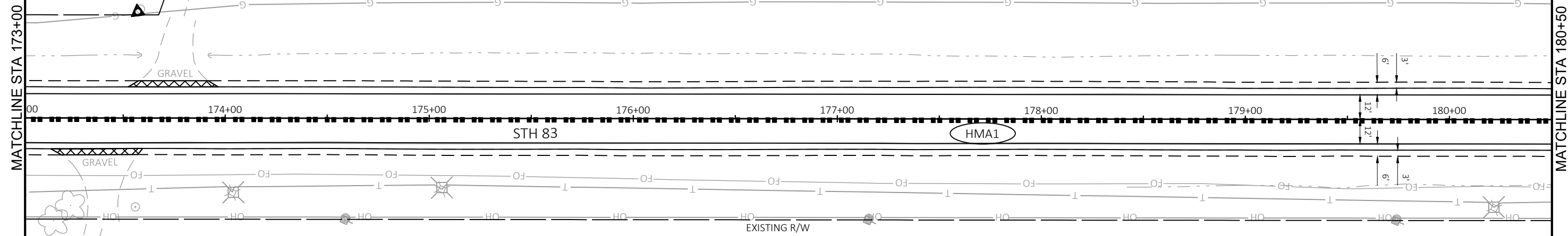
REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.

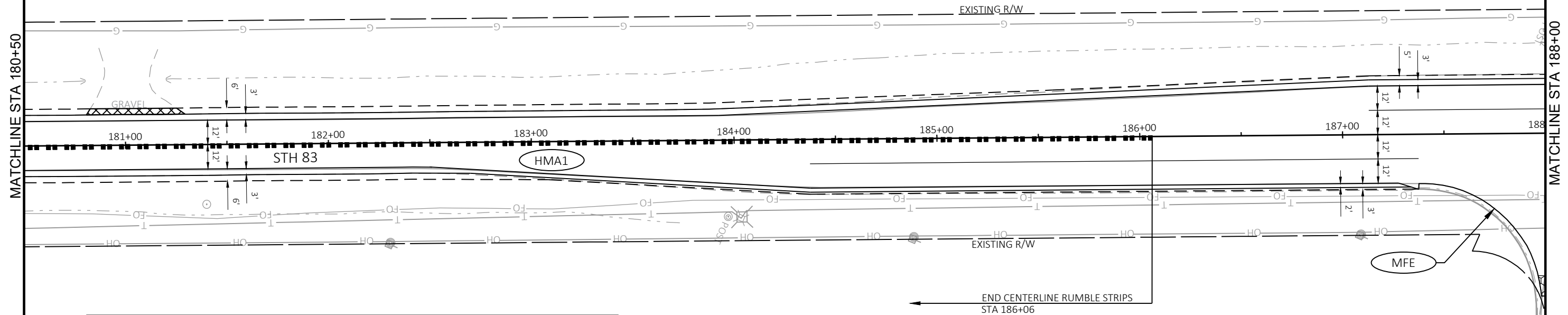
LEGEND			
(MFE)	MATCH FLANGE ELEVATION	[Pattern]	BUTT JOINT (SEE DETAIL)
(HMA1)	4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)	[Pattern]	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
(HMA2)	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)	[Pattern]	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
(30J)	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH	[Pattern]	BASE AGGREGATE DENSE 3/4-INCH
(MOW)	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)	[Pattern]	6" BASE AGGREGATE DENSE 1 1/4-INCH
(MGS)	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)	[Pattern]	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.
(AI) (RC)	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.		
(MH)	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.		



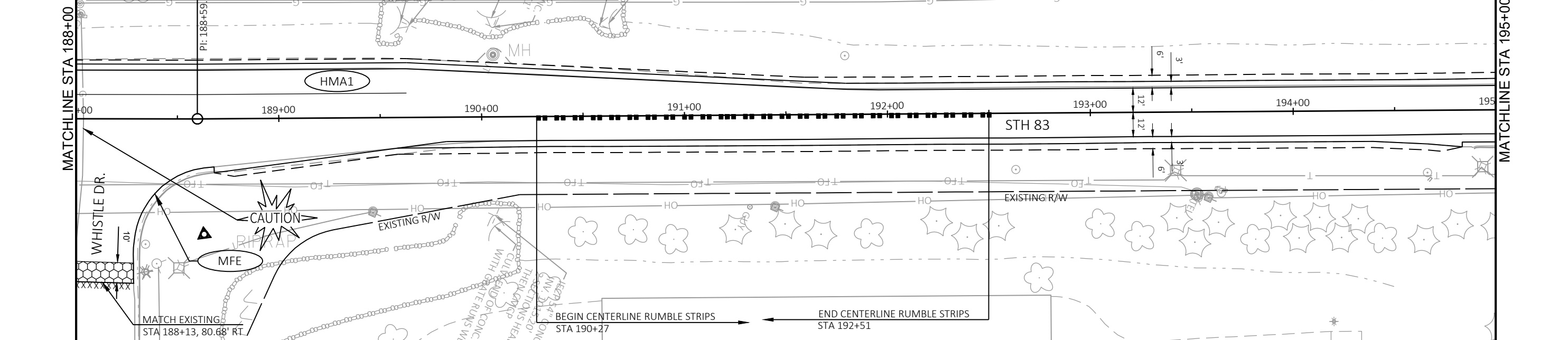


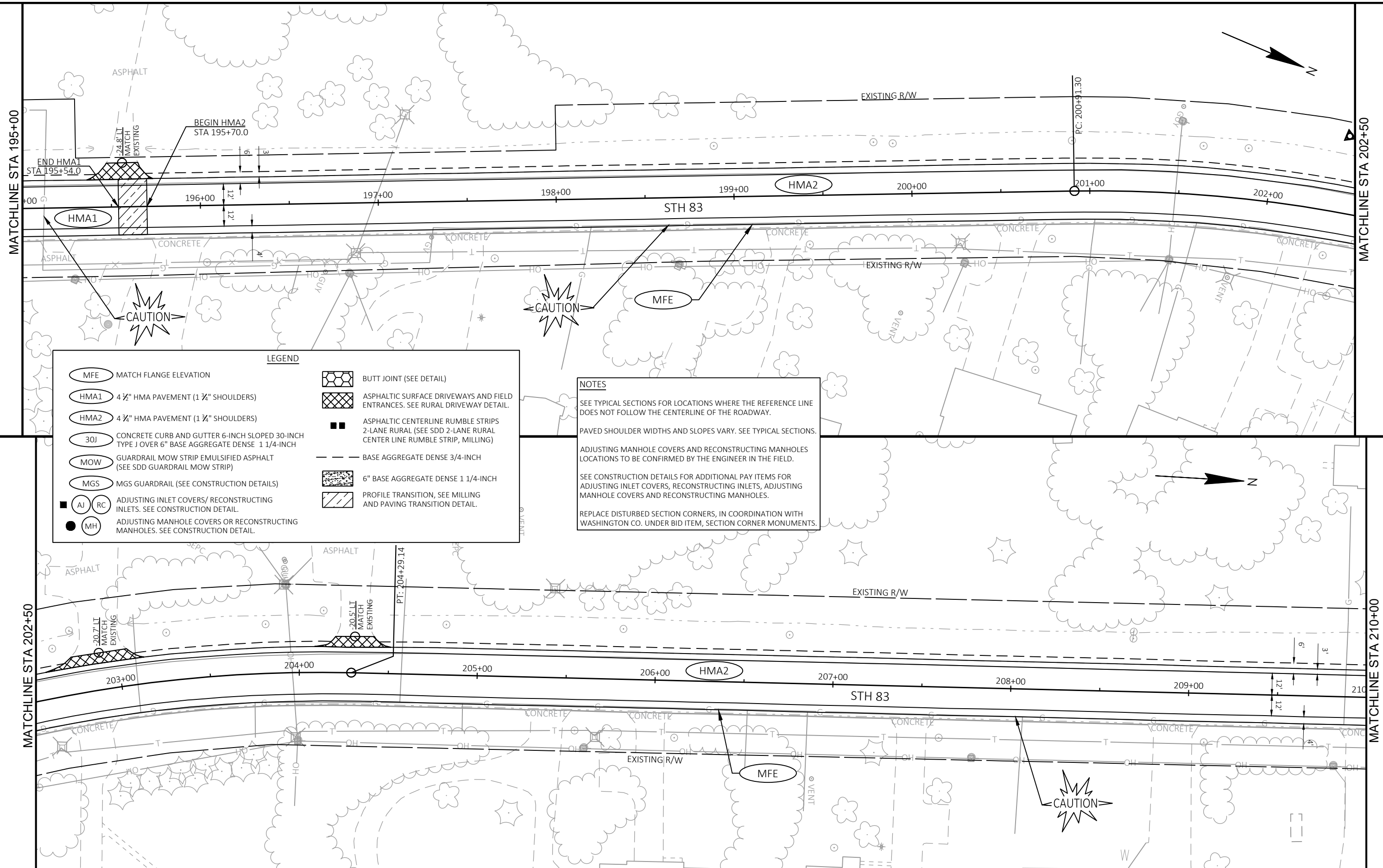
LEGEND		NOTES
MFE	MATCH FLANGE ELEVATION	<p>SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.</p> <p>PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.</p> <p>ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.</p> <p>SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.</p> <p>REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.</p>
HMA1	4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)	
HMA2	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)	
30J	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH	
MOW	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)	
MGS	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)	
AJ	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.	
RC	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.	
MH	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.	
	BUTT JOINT (SEE DETAIL)	
	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.	
	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)	
	BASE AGGREGATE DENSE 3/4-INCH	
	6" BASE AGGREGATE DENSE 1 1/4-INCH	
	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.	





LEGEND		NOTES
MFE	MATCH FLANGE ELEVATION	<p>SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.</p> <p>PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.</p> <p>ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.</p> <p>SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.</p> <p>REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.</p>
HMA1	4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)	
HMA2	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)	
30J	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH	
MOW	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)	
MGS	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)	
AJ	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.	
RC	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.	
MH	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.	
	BUTT JOINT (SEE DETAIL)	
	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.	
	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)	
	BASE AGGREGATE DENSE 3/4-INCH	
	6" BASE AGGREGATE DENSE 1 1/4-INCH	
	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.	





LEGEND

MFE	MATCH FLANGE ELEVATION	BUTT JOINT (SEE DETAIL)
HMA1	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
HMA2	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
30J	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH	BASE AGGREGATE DENSE 3/4-INCH
MOW	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)	6" BASE AGGREGATE DENSE 1 1/4-INCH
MGS	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.
AJ	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.	
RC	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.	
MH	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.	

NOTES

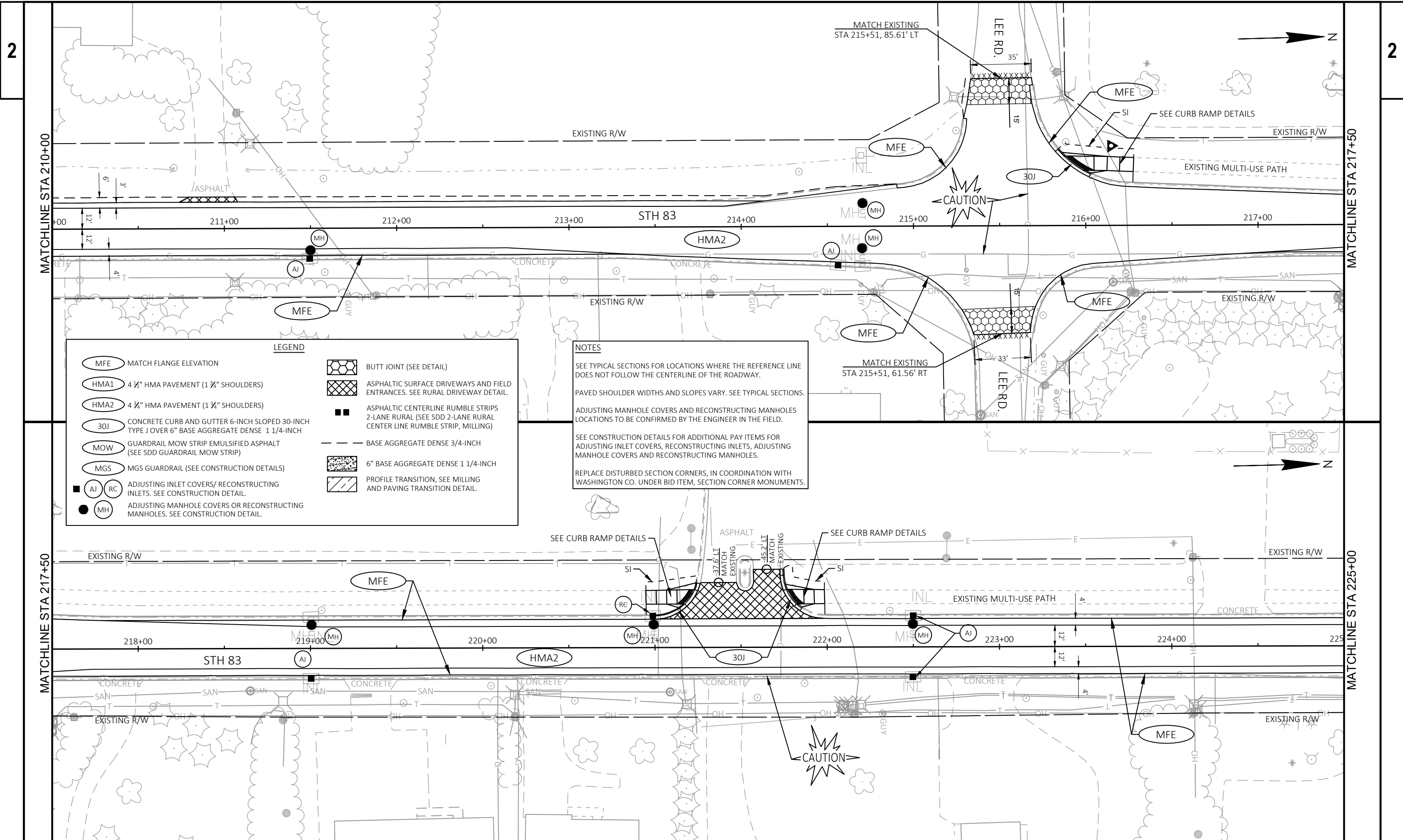
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



LEGEND	
MFE	MATCH FLANGE ELEVATION
HMA1	4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)
HMA2	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)
30J	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH
MOW	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)
MGS	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)
AJ	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.
RC	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.
MH	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.
	BUTT JOINT (SEE DETAIL)
	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
	BASE AGGREGATE DENSE 3/4-INCH
	6" BASE AGGREGATE DENSE 1 1/4-INCH
	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.

NOTES

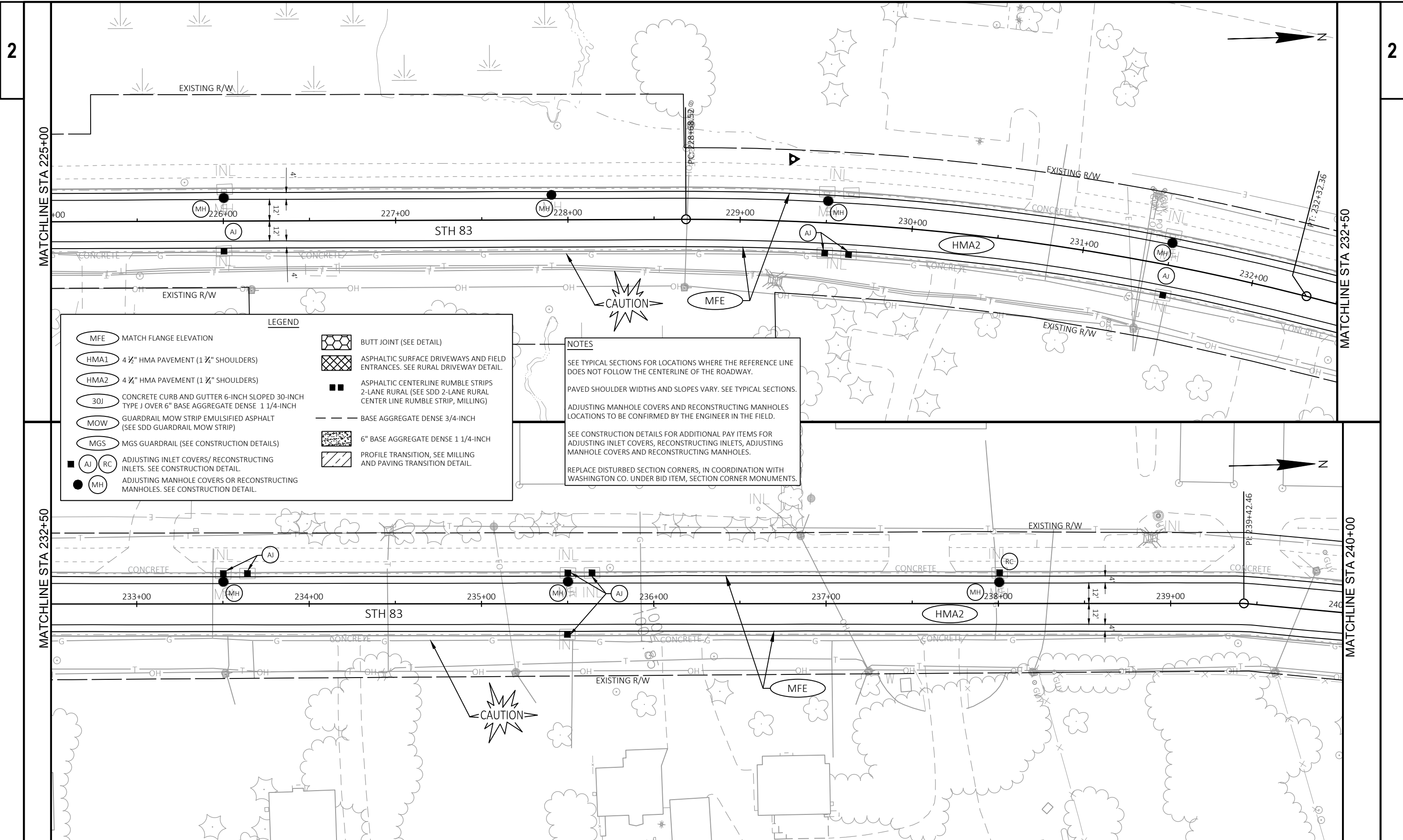
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



LEGEND

(MFE)	MATCH FLANGE ELEVATION	(Butt Joint Symbol)	BUTT JOINT (SEE DETAIL)
(HMA1)	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)	(Asphaltic Surface Symbol)	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
(HMA2)	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)	(Rumble Strip Symbol)	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
(30J)	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH	(Base Aggregate Symbol)	BASE AGGREGATE DENSE 3/4-INCH
(MOW)	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)	(6" Base Aggregate Symbol)	6" BASE AGGREGATE DENSE 1 1/4-INCH
(MGS)	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)	(Profile Transition Symbol)	PROFILE TRANSITION. SEE MILLING AND PAVING TRANSITION DETAIL.
(AJ) (RC)	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.		
(MH)	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.		

NOTES

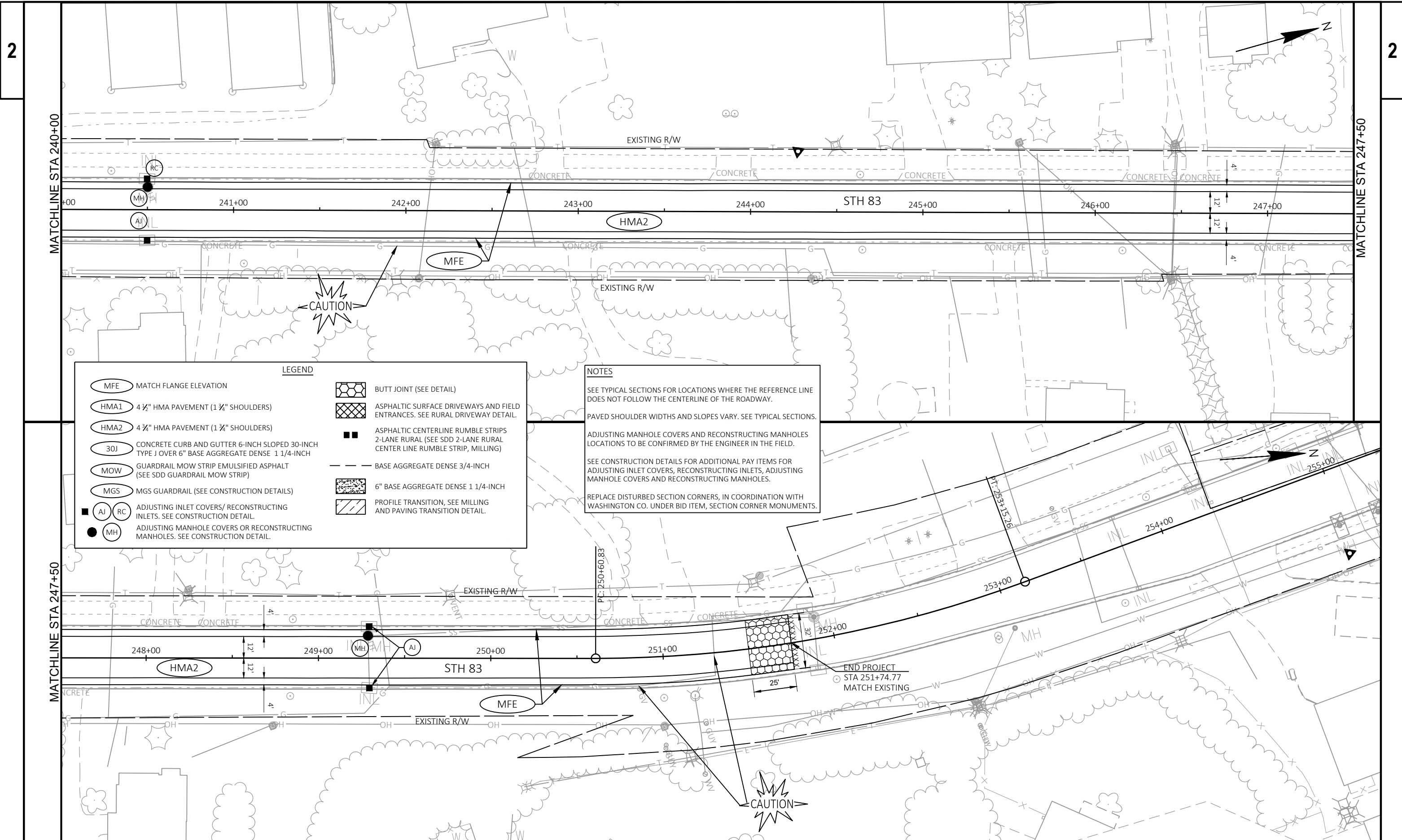
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



LEGEND	
(MFE)	MATCH FLANGE ELEVATION
(HMA1)	4 1/2" HMA PAVEMENT (1 3/4" SHOULDERS)
(HMA2)	4 3/4" HMA PAVEMENT (1 3/4" SHOULDERS)
(30J)	CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH
(MOW)	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SEE SDD GUARDRAIL MOW STRIP)
(MGS)	MGS GUARDRAIL (SEE CONSTRUCTION DETAILS)
(AJ) (RC)	ADJUSTING INLET COVERS/ RECONSTRUCTING INLETS. SEE CONSTRUCTION DETAIL.
(MH)	ADJUSTING MANHOLE COVERS OR RECONSTRUCTING MANHOLES. SEE CONSTRUCTION DETAIL.
(Butt Joint Symbol)	BUTT JOINT (SEE DETAIL)
(Asphaltic Surface Symbol)	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. SEE RURAL DRIVEWAY DETAIL.
(Rumble Strip Symbol)	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (SEE SDD 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING)
(Dashed Line)	BASE AGGREGATE DENSE 3/4-INCH
(6" Aggregate Symbol)	6" BASE AGGREGATE DENSE 1 1/4-INCH
(Profile Transition Symbol)	PROFILE TRANSITION, SEE MILLING AND PAVING TRANSITION DETAIL.

NOTES

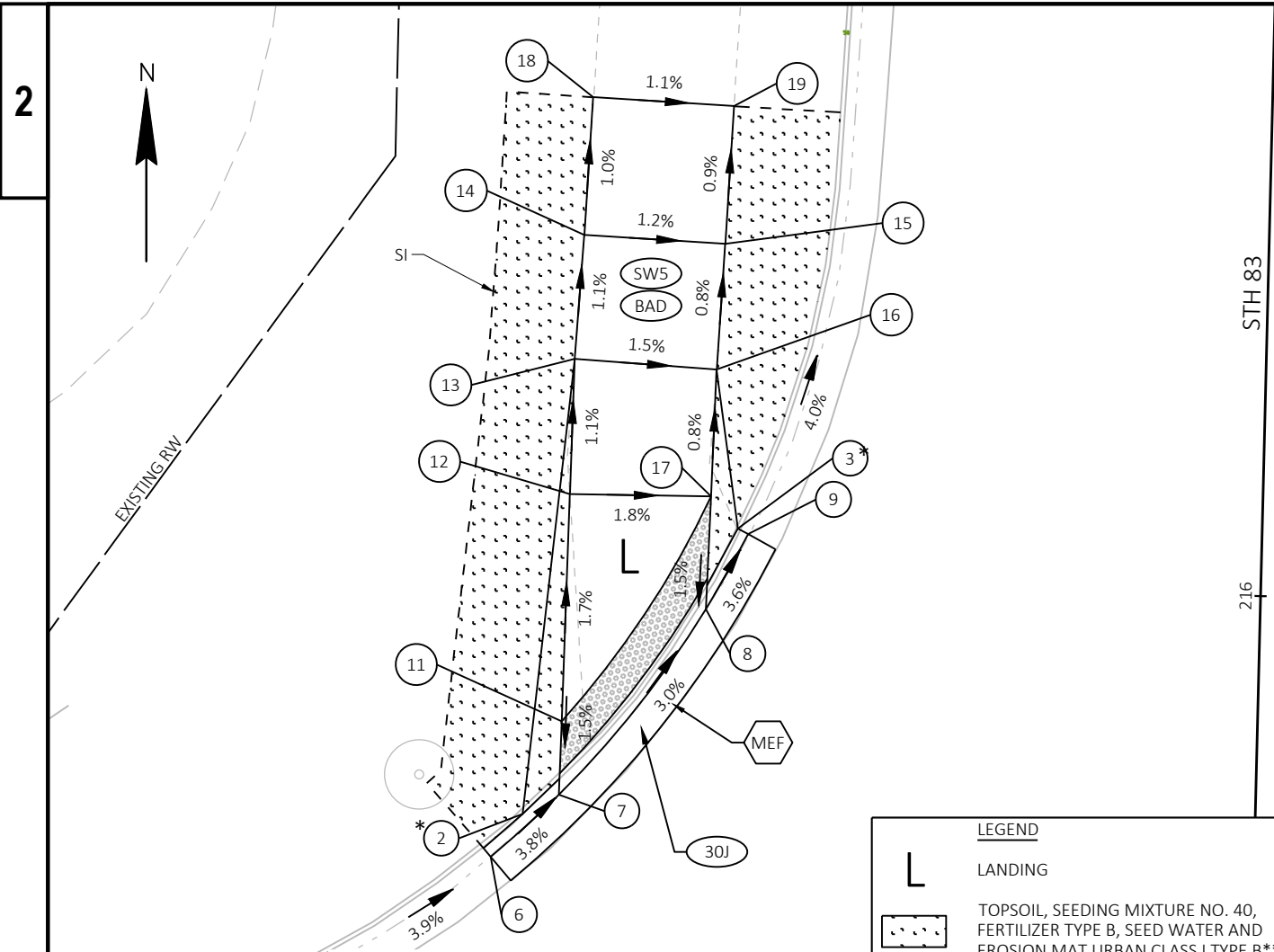
SEE TYPICAL SECTIONS FOR LOCATIONS WHERE THE REFERENCE LINE DOES NOT FOLLOW THE CENTERLINE OF THE ROADWAY.

PAVED SHOULDER WIDTHS AND SLOPES VARY. SEE TYPICAL SECTIONS.

ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES LOCATIONS TO BE CONFIRMED BY THE ENGINEER IN THE FIELD.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL PAY ITEMS FOR ADJUSTING INLET COVERS, RECONSTRUCTING INLETS, ADJUSTING MANHOLE COVERS AND RECONSTRUCTING MANHOLES.

REPLACE DISTURBED SECTION CORNERS, IN COORDINATION WITH WASHINGTON CO. UNDER BID ITEM, SECTION CORNER MONUMENTS.



RADIAL WARNING FIELD PANEL LAYOUT TABLE

QUADRANT	BACK OF CURB RADIUS (FT)	LANDING LENGTH "XR"	RADIAL WARNING FIELD AREA (SF)	RADIAL LONG CHORD (FT)
LEE ST. NORTHWEST	59' R	16.5'	29.8 SF	14.1'

STATION & OFFSET TABLE					
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION
2	215+86.36	-42.43 LT	137961.706	310616.047	1023.67
3	216+02.60	-30.66 LT	137978.239	310628.520	1022.90
6	215+83.84	-44.22 LT	137959.232	310614.198	1023.42
7	215+87.52	-40.35 LT	137962.824	310618.152	1023.20
8	215+98.48	-32.10 LT	137973.576	310626.662	1022.79
9	216+02.30	-30.06 LT	137977.919	310629.105	1022.61
11	215+91.78	-40.30 LT	137967.081	310618.307	1023.26
12	216+04.95	-40.14 LT	137980.240	310618.784	1023.04
13	216+12.79	-40.04 LT	137988.077	310619.068	1022.95
14	216+19.98	-39.67 LT	137995.255	310619.618	1022.87
15	216+19.66	-31.49 LT	137994.737	310627.787	1022.77
16	216+12.36	-31.81 LT	137987.448	310627.286	1022.83
17	216+05.01	-31.97 LT	137980.102	310626.955	1022.89
18	216+27.97	-39.36 LT	138003.239	310620.123	1022.79
19	216+27.65	-31.18 LT	138002.722	310628.292	1022.70

LEGEND

- LANDING
- TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B**
- DETECTABLE WARNING FIELD
- * ELEVATION AT BACK OF CURB
- MAXIMUM EXTENT FEASIBLE ELEMENTS, SEE TECHNICAL INFEASIBILITY DOCUMENT
- 30J CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE J
- BAD BASE AGGREGATE DENSE 1 1/4-INCH, DEPTH 4"
- SW5 CONCRETE SIDEWALK 5-INCH

NOTES

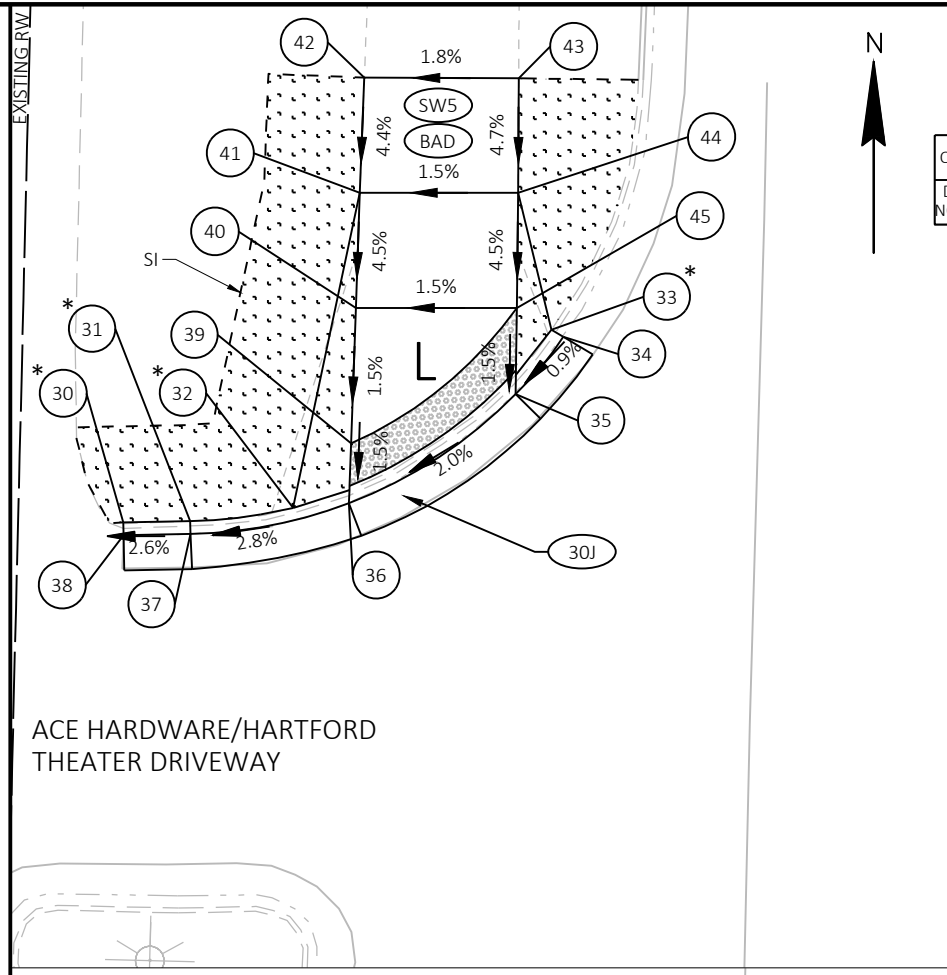
CONTRACTOR SHALL VERIFY ELEVATIONS, GRADES AND SLOPES PRIOR TO CURB RAMP CONSTRUCTION. ENSURE POSITIVE DRAINAGE AT THE COMPLETION OF ALL WORK.

REMOVE AND REPLACE SIDEWALK AND CURB AND GUTTER TO THE LIMITS SHOWN ON THE PLAN OR TO THE NEAREST JOINT. THE LIMITS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.

MATCH EXISTING CURB AND GUTTER ELEVATIONS.

SEE CURB RAMP SDDs FOR ADDITIONAL INFORMATION.

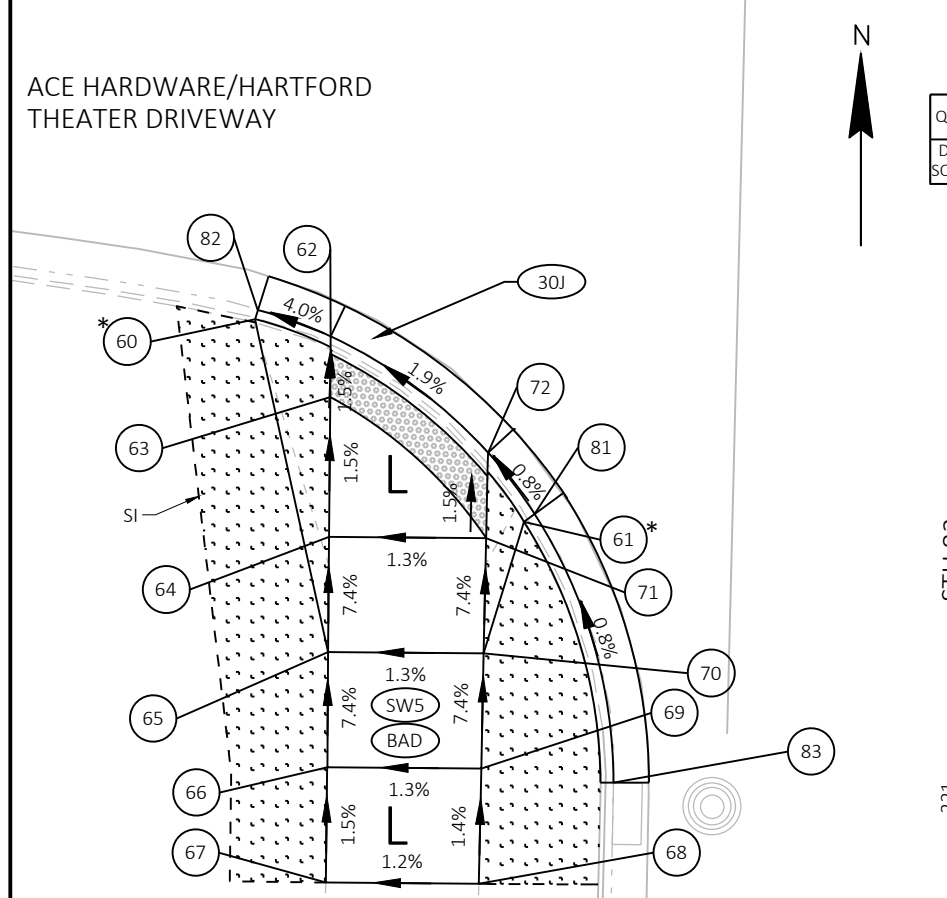
** TO BE PAID AS CURB RAMP GRADING, SHAPING, AND FINISHING



RADIAL WARNING FIELD PANEL LAYOUT TABLE

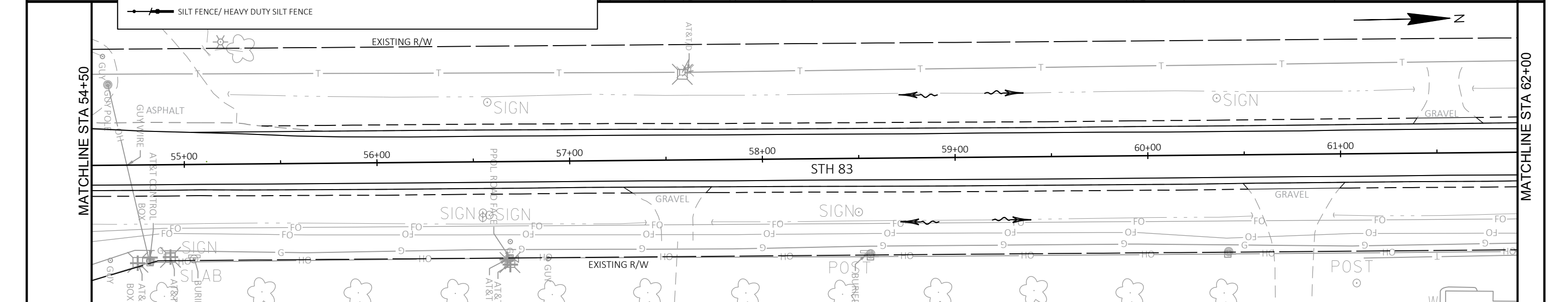
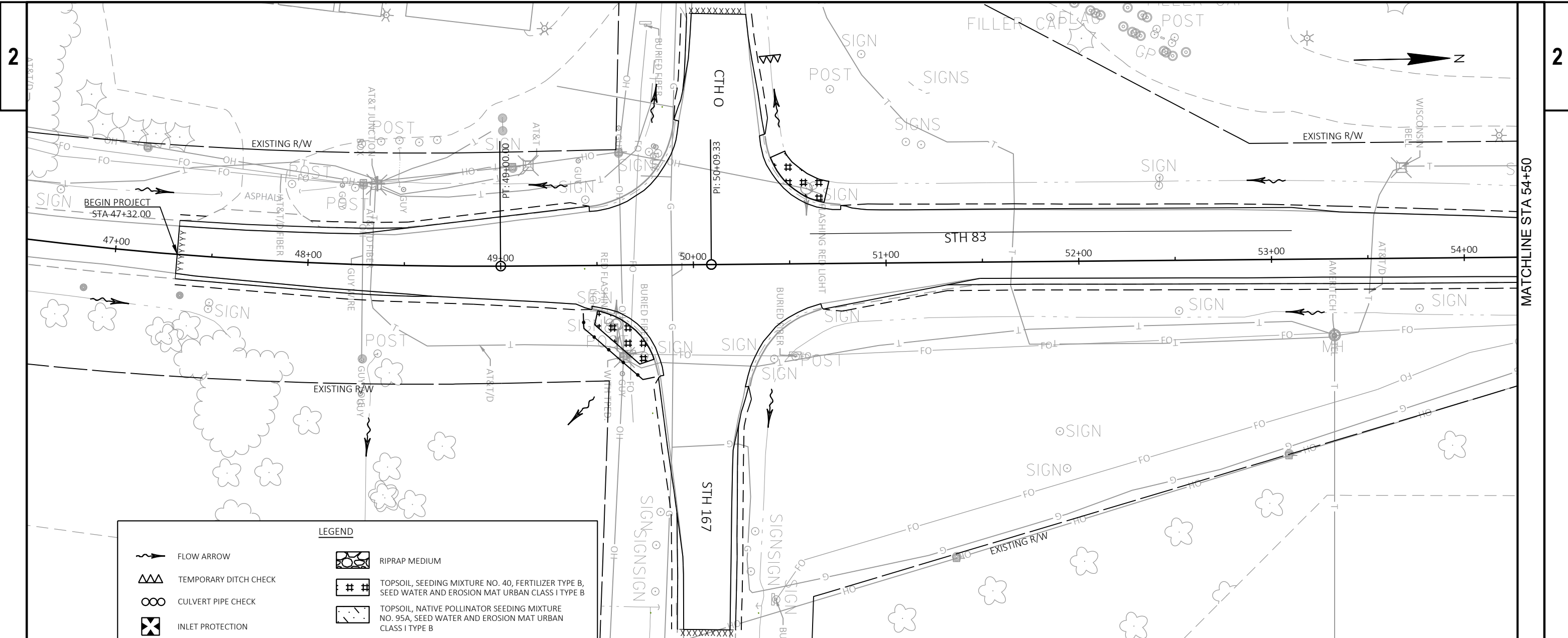
QUADRANT	BACK OF CURB RADIUS (FT)	LANDING LENGTH "XR"	RADIAL WARNING FIELD AREA (SF)	RADIAL LONG CHORD (FT)
DRIVEWAY NORTHWEST	22' R	9.5'	21.8 SF	10.5'

STATION & OFFSET TABLE					
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION
30	221+74.97	-45.33 LT	138550.219	310627.369	1011.65
31	221+75.12	-41.84 LT	138550.288	310630.854	1011.97
32	221+75.94	-36.50 LT	138550.976	310636.215	1012.17
33	221+85.54	-23.27 LT	138560.251	310649.675	1012.64
34	221+85.19	-22.65 LT	138559.885	310650.286	1012.25
35	221+82.14	-25.06 LT	138556.902	310647.801	1012.22
36	221+76.25	-33.59 LT	138551.215	310639.129	1012.01
37	221+74.46	-41.81 LT	138549.622	310630.874	1011.77
38	221+74.30	-45.30 LT	138549.553	310627.382	1011.68
39	221+79.36	-33.56 LT	138554.326	310639.238	1012.06
40	221+86.41	-33.49 LT	138561.373	310639.484	1012.16
41	221+92.42	-33.42 LT	138567.373	310639.691	1012.43
42	221+98.42	-33.33 LT	138573.373	310639.928	1012.70
43	221+98.58	-25.29 LT	138573.335	310647.966	1012.84
44	221+92.61	-25.18 LT	138567.373	310647.938	1012.56
45	221+86.61	-25.10 LT	138561.373	310647.867	1012.29

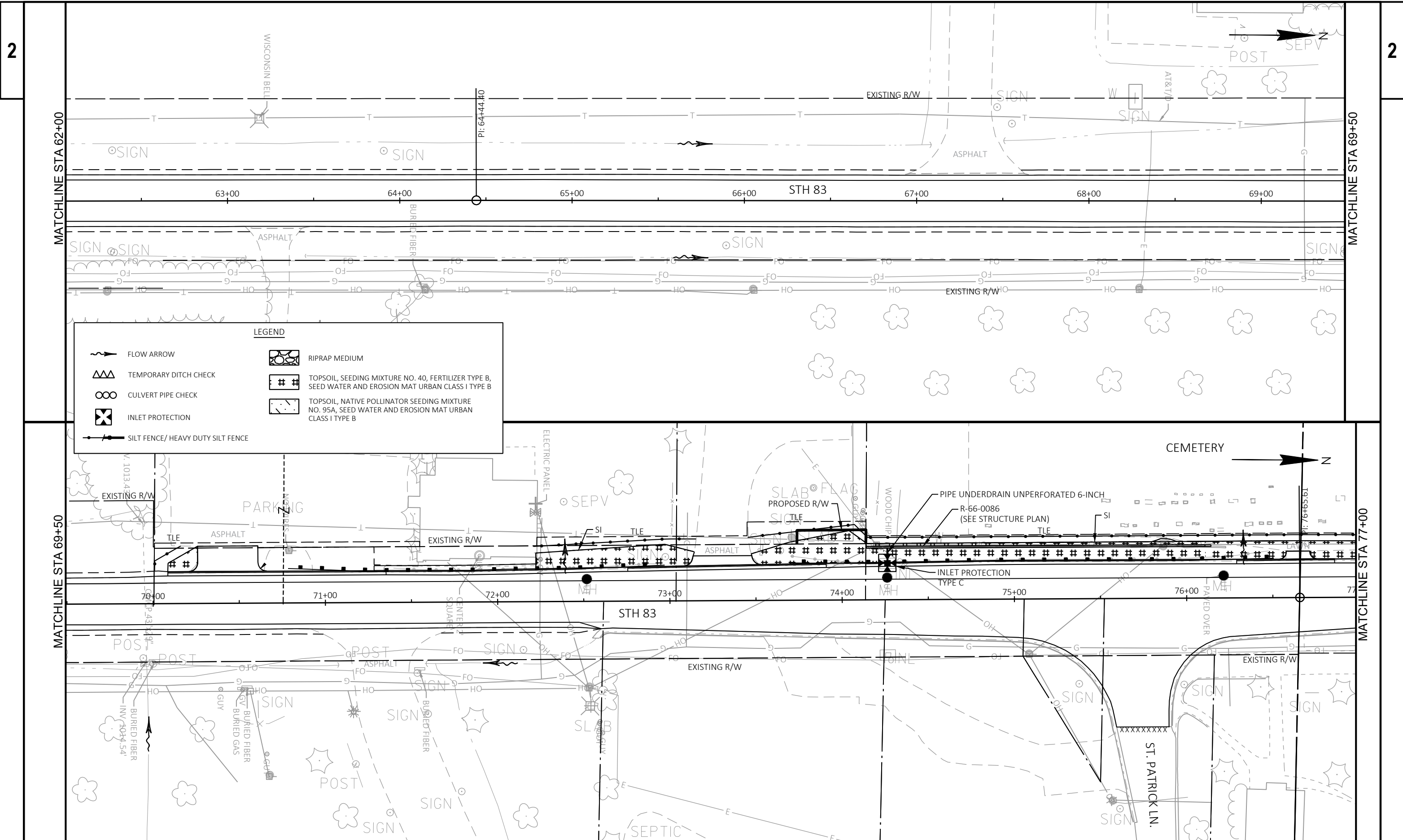


QUADRANT	BACK OF CURB RADIUS (FT)	LANDING LENGTH "XR"	RADIAL WARNING FIELD AREA (SF)	RADIAL LONG CHORD (FT)
DRIVEWAY SOUTHWEST	25' R	9.7'	21.4 SF	10.3'

STATION & OFFSET TABLE					
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION
60	221+24.03	-37.52 LT	138499.102	310633.945	1013.55
61	221+13.82	-23.27 LT	138488.550	310647.943	1014.06
62	221+23.23	-33.56 LT	138498.209	310637.884	1013.33
63	221+20.07	-33.51 LT	138495.050	310637.857	1013.38
64	221+12.79	-33.40 LT	138487.775	310637.793	1013.49
65	221+06.80	-33.30 LT	138481.775	310637.747	1013.93
66	221+00.80	-33.19 LT	138475.775	310637.706	1014.38
67	220+94.80	-33.13 LT	138469.775	310637.630	1014.47
68	220+94.92	-25.16 LT	138469.705	310645.600	1014.56
69	221+00.92	-25.17 LT	138475.704	310645.726	1014.48
70	221+06.92	-25.19 LT	138481.703	310645.852	1014.04
71	221+12.92	-25.21 LT	138487.703	310645.978	1013.59
72	221+17.38	-25.23 LT	138492.157	310646.072	1013.53
81	221+14.23	-22.73 LT	138488.953	310648.494	1013.56
82	221+24.51	-37.38 LT	138499.581	310634.088	1013.17
83	221+00.35	-18.28 LT	138474.969	310652.605	1013.67



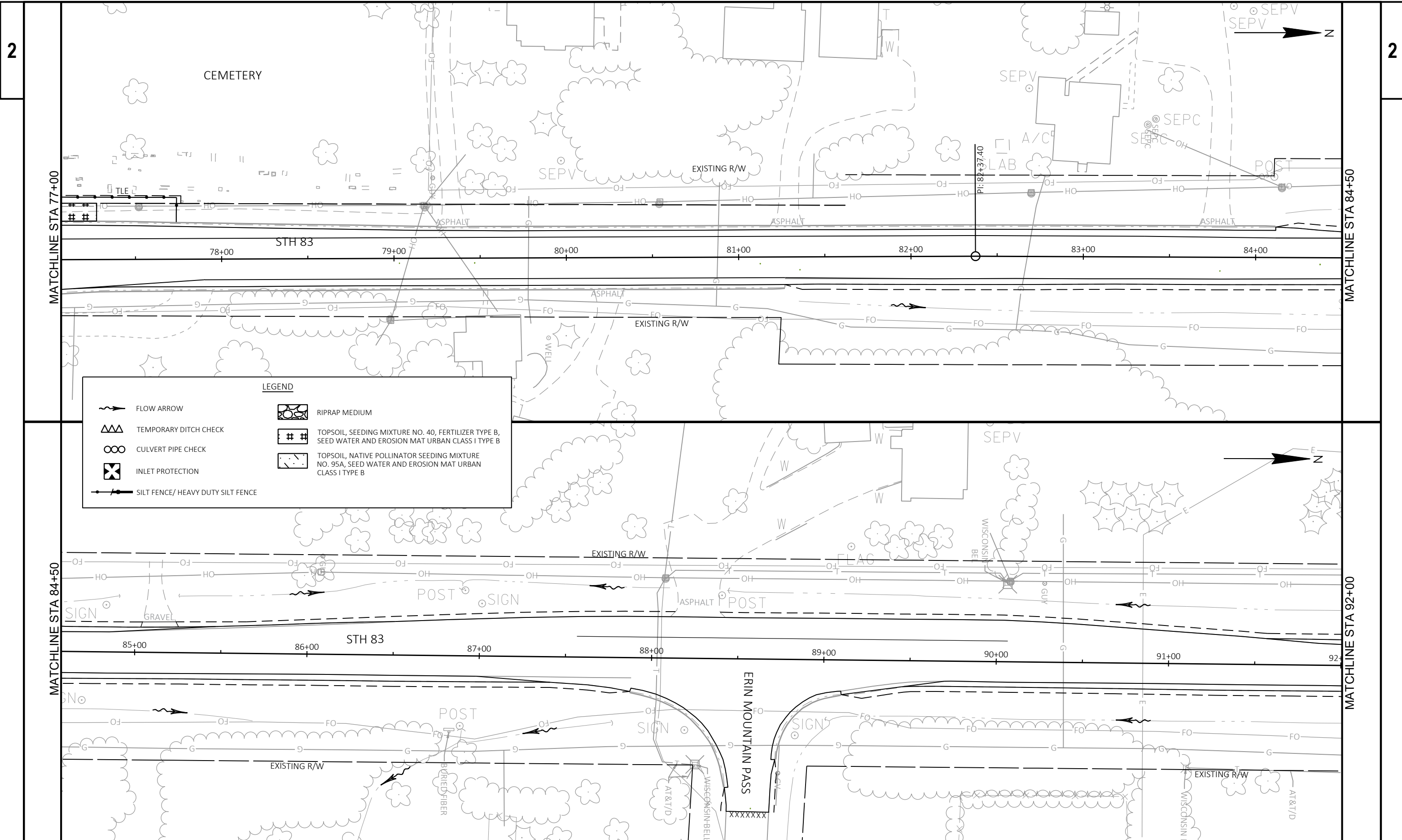
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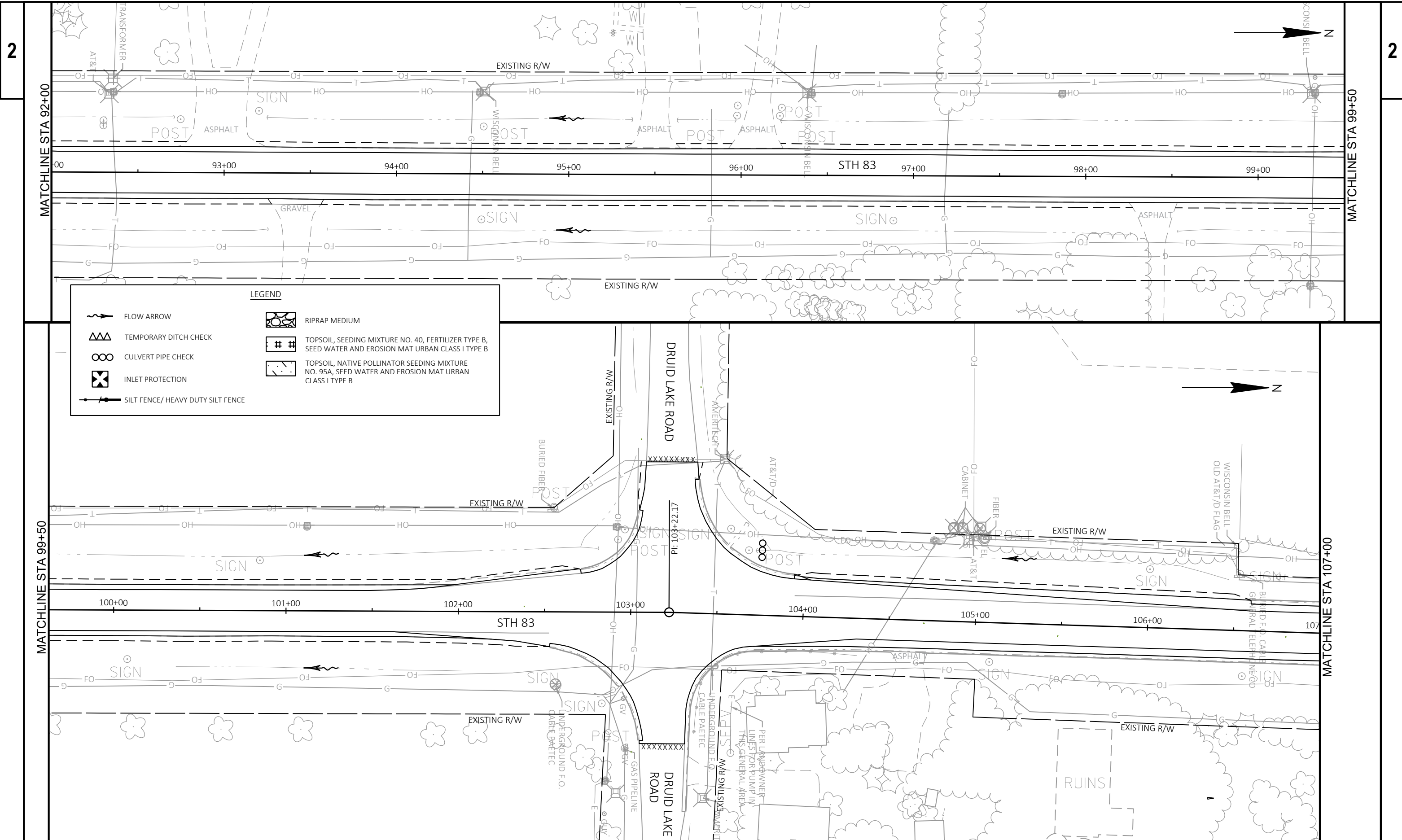
LEGEND

	FLOW ARROW		RIPRAP MEDIUM
	TEMPORARY DITCH CHECK		TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	CULVERT PIPE CHECK		TOPSOIL, NATIVE POLLINATOR SEEDING MIXTURE NO. 95A, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	INLET PROTECTION		
	SILT FENCE/ HEAVY DUTY SILT FENCE		

PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON EROSION CONTROL SHEET E



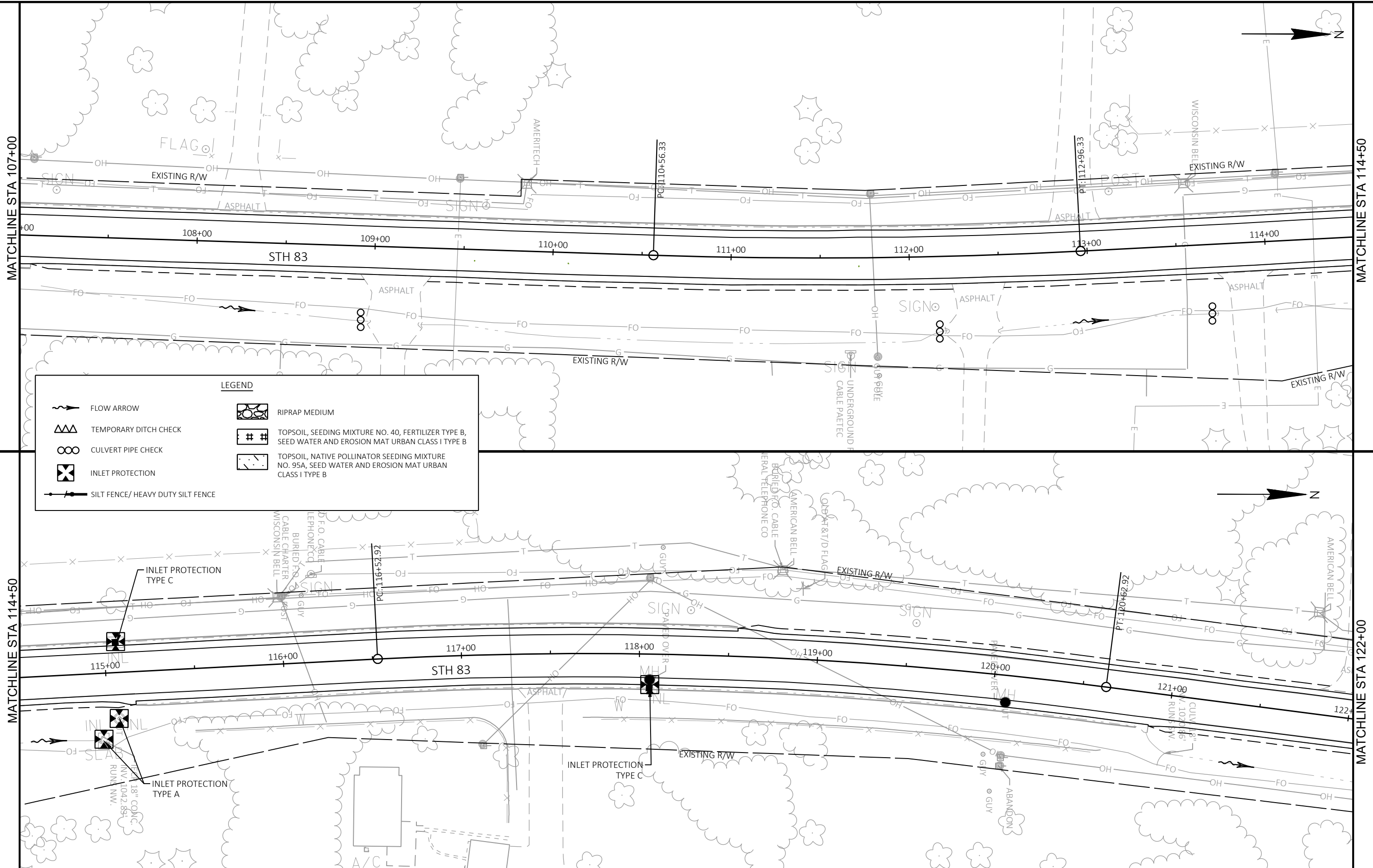
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LEGEND

	FLOW ARROW		RIPRAP MEDIUM
	TEMPORARY DITCH CHECK		TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	CULVERT PIPE CHECK		TOPSOIL, NATIVE POLLINATOR SEEDING MIXTURE NO. 95A, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	INLET PROTECTION		
	SILT FENCE/ HEAVY DUTY SILT FENCE		

PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON EROSION CONTROL SHEET **E**



LEGEND

	FLOW ARROW		RIPRAP MEDIUM
	TEMPORARY DITCH CHECK		TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	CULVERT PIPE CHECK		TOPSOIL, NATIVE POLLINATOR SEEDING MIXTURE NO. 95A, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	INLET PROTECTION		
	SILT FENCE/ HEAVY DUTY SILT FENCE		

PROJECT NO: 1330-22-70

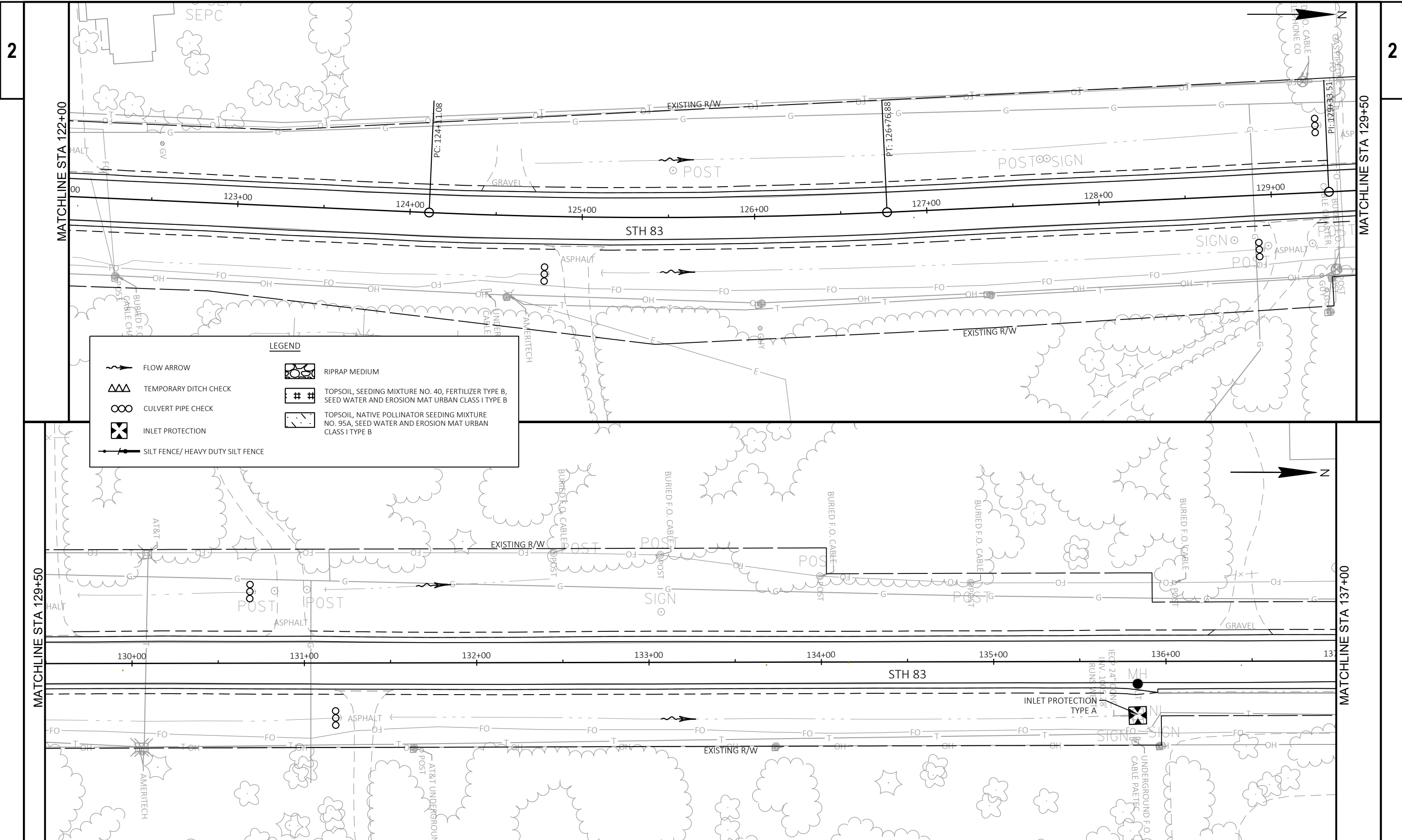
HWY: STH 83

COUNTY: WASHINGTON

EROSION CONTROL

SHEET

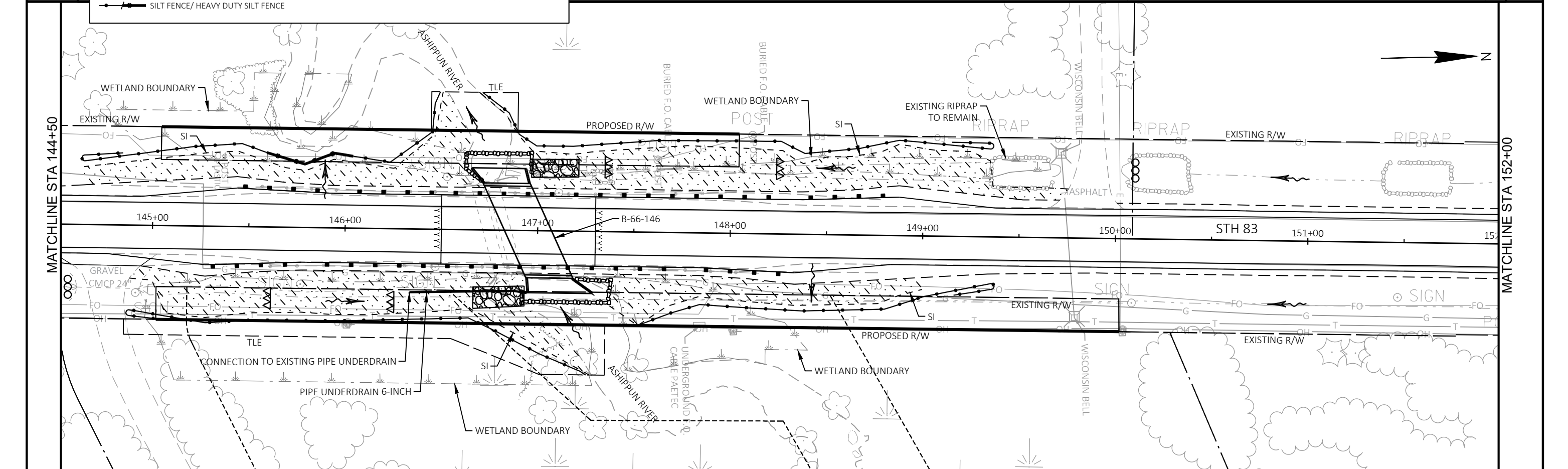
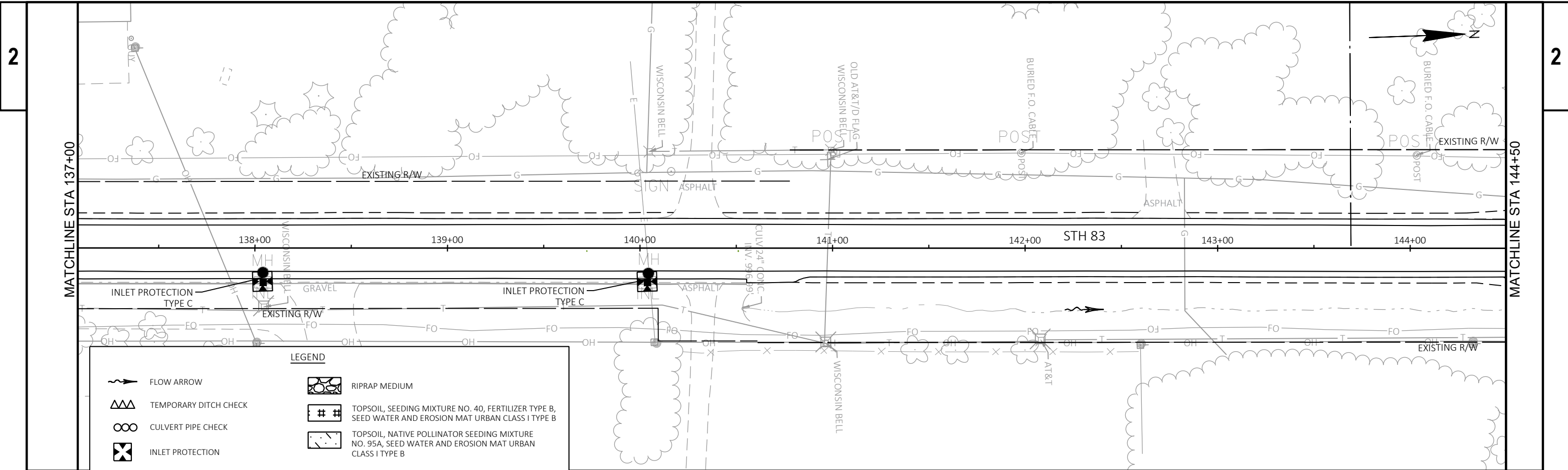
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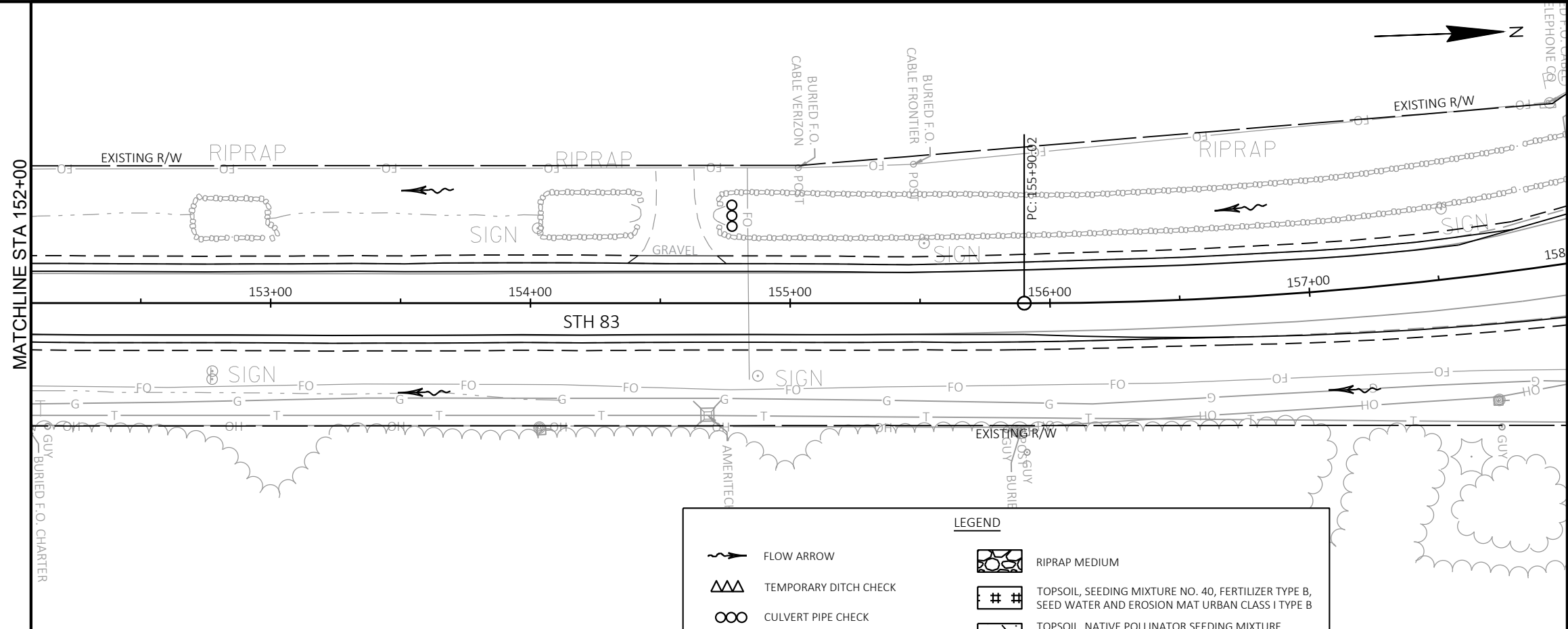
LEGEND

	FLOW ARROW		RIPRAP MEDIUM
	TEMPORARY DITCH CHECK		TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	CULVERT PIPE CHECK		TOPSOIL, NATIVE POLLINATOR SEEDING MIXTURE NO. 95A, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	INLET PROTECTION		
	SILT FENCE/ HEAVY DUTY SILT FENCE		

PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON EROSION CONTROL SHEET E

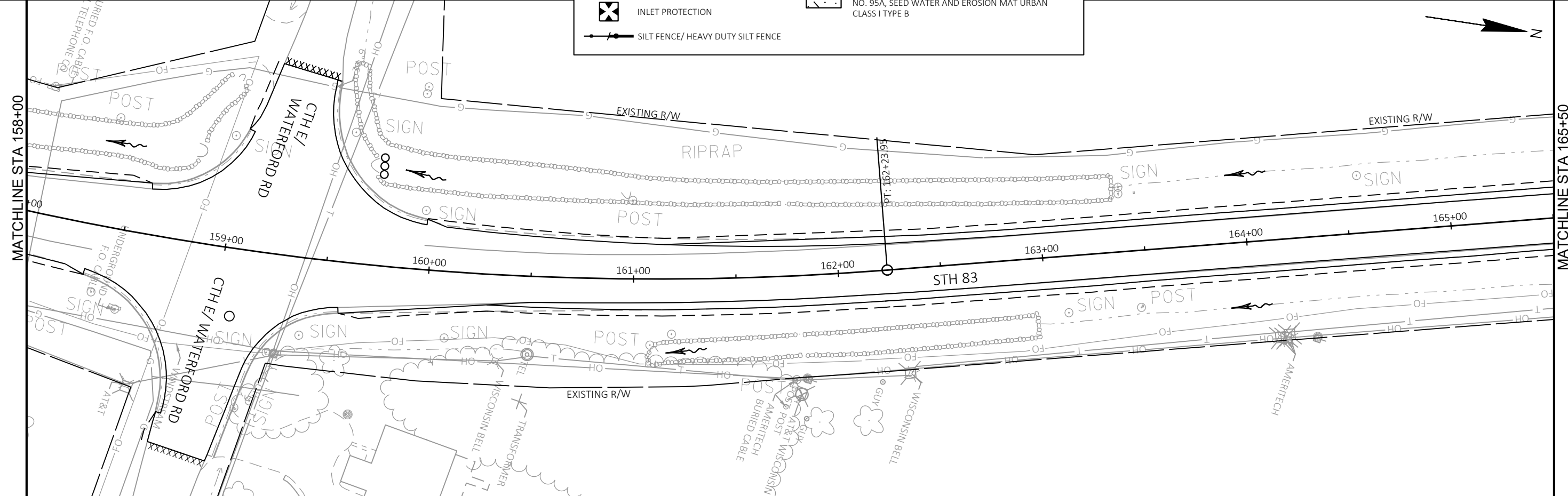


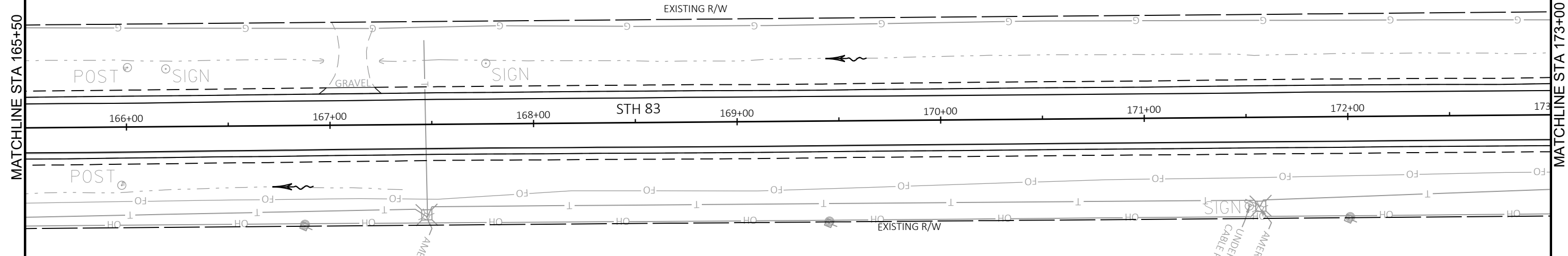
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LEGEND

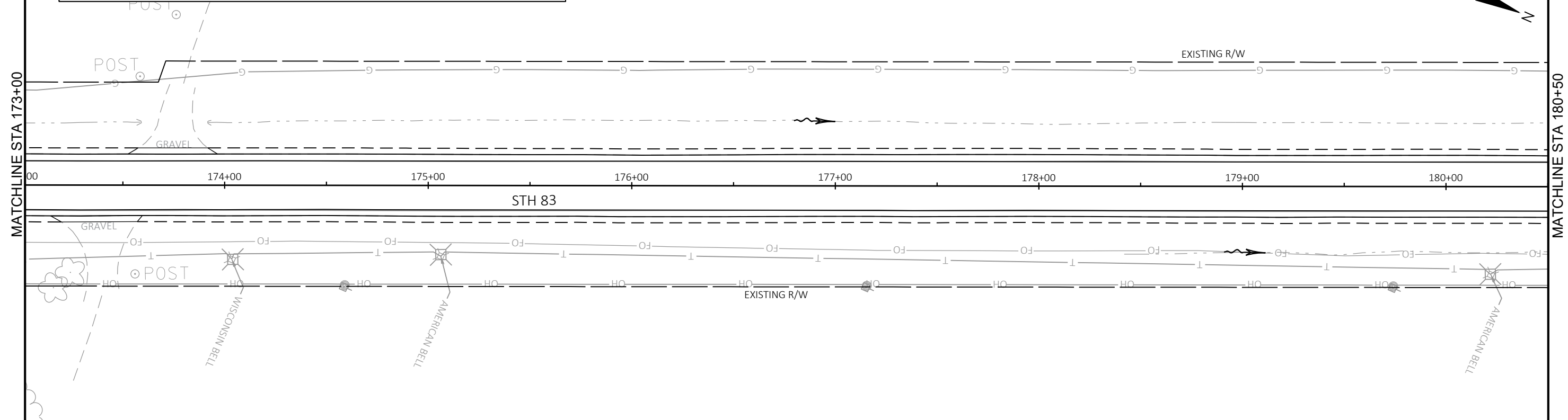
	FLOW ARROW		RIPRAP MEDIUM
	TEMPORARY DITCH CHECK		TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	CULVERT PIPE CHECK		TOPSOIL, NATIVE POLLINATOR SEEDING MIXTURE NO. 95A, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	INLET PROTECTION		
	SILT FENCE/ HEAVY DUTY SILT FENCE		

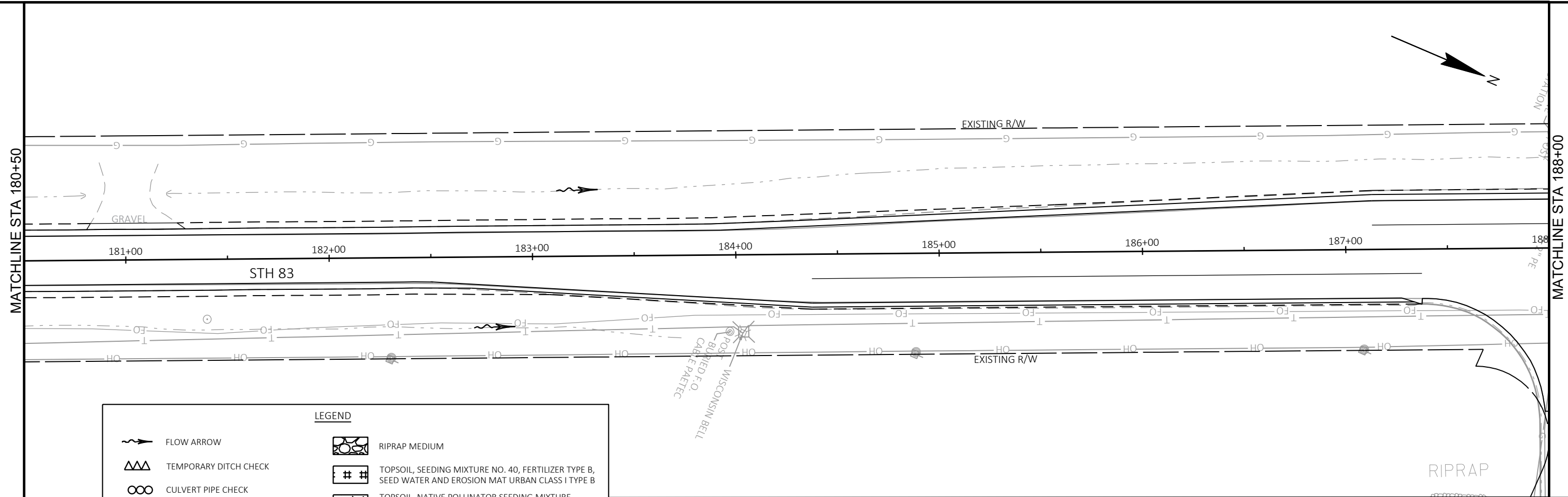




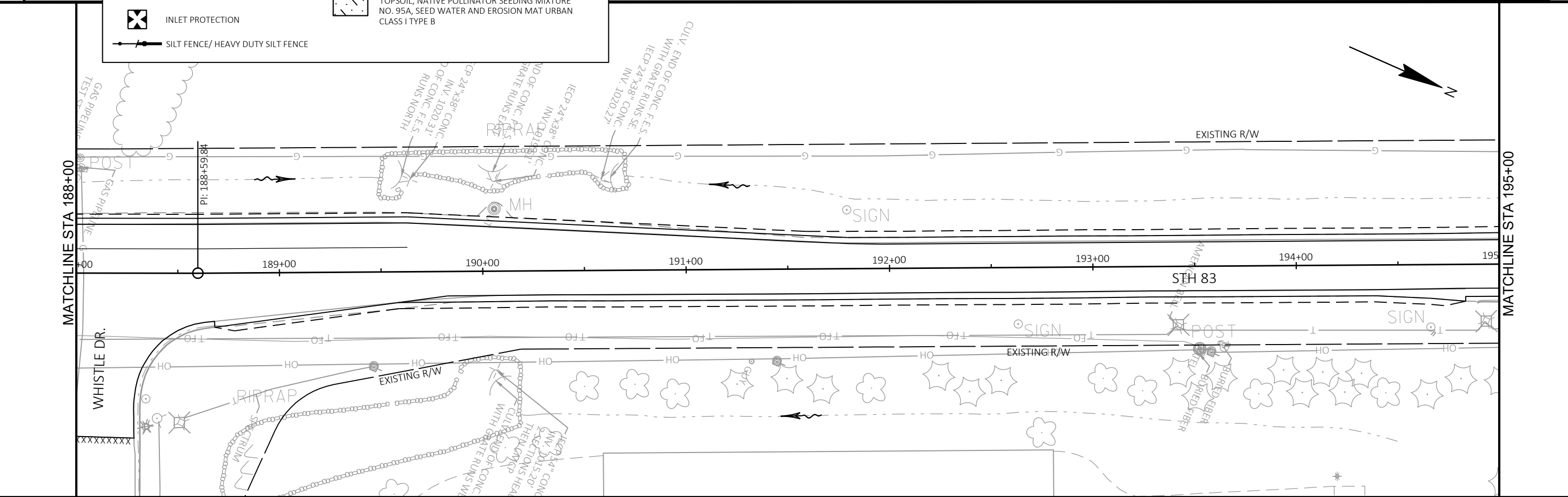
LEGEND

FLOW ARROW	RIPRAP MEDIUM
TEMPORARY DITCH CHECK	TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
CULVERT PIPE CHECK	TOPSOIL, NATIVE POLLINATOR SEEDING MIXTURE NO. 95A, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
INLET PROTECTION	
SILT FENCE/ HEAVY DUTY SILT FENCE	

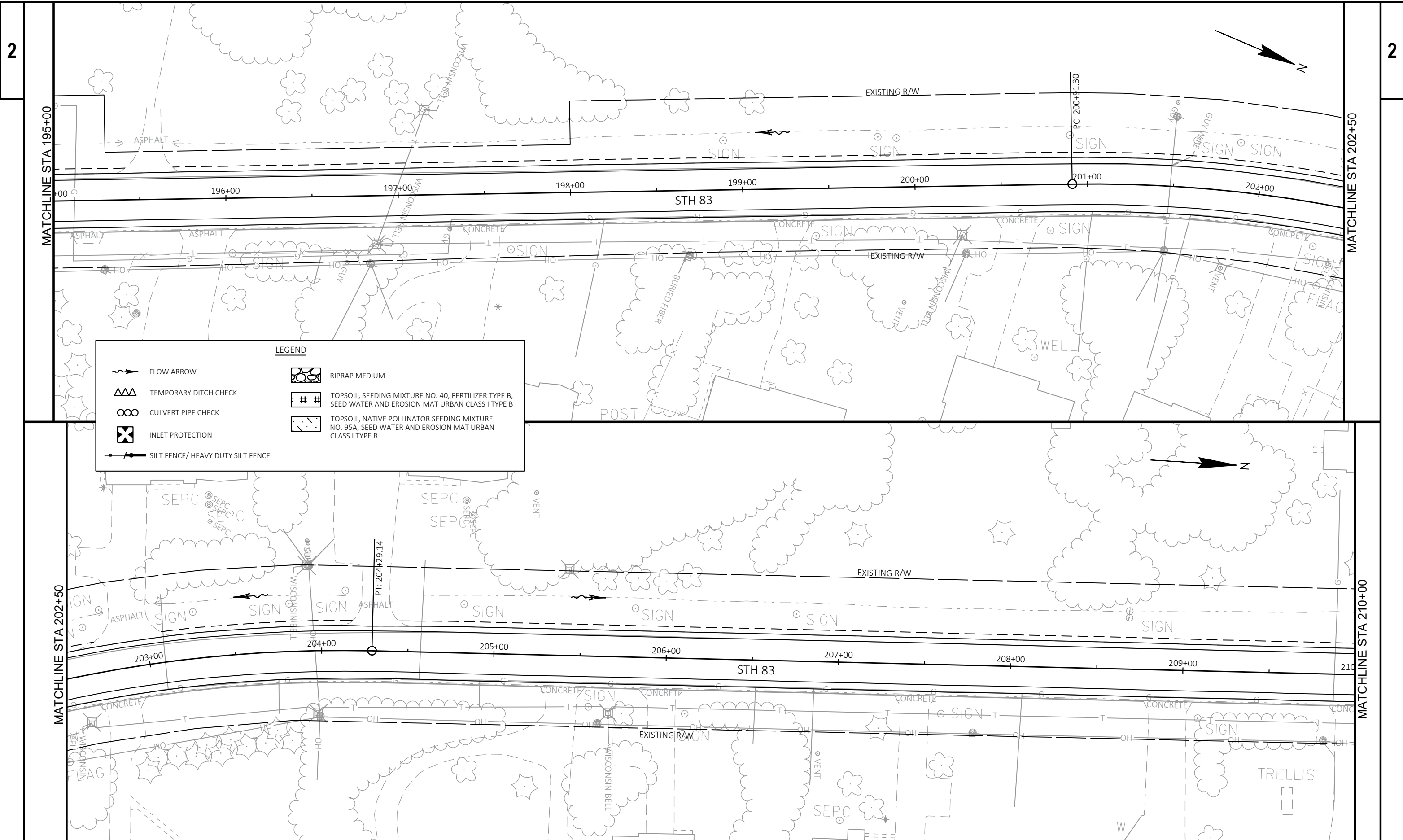




LEGEND	
	FLOW ARROW
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	INLET PROTECTION
	SILT FENCE/ HEAVY DUTY SILT FENCE
	RIPRAP MEDIUM
	TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	TOPSOIL, NATIVE POLLINATOR SEEDING MIXTURE NO. 95A, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B



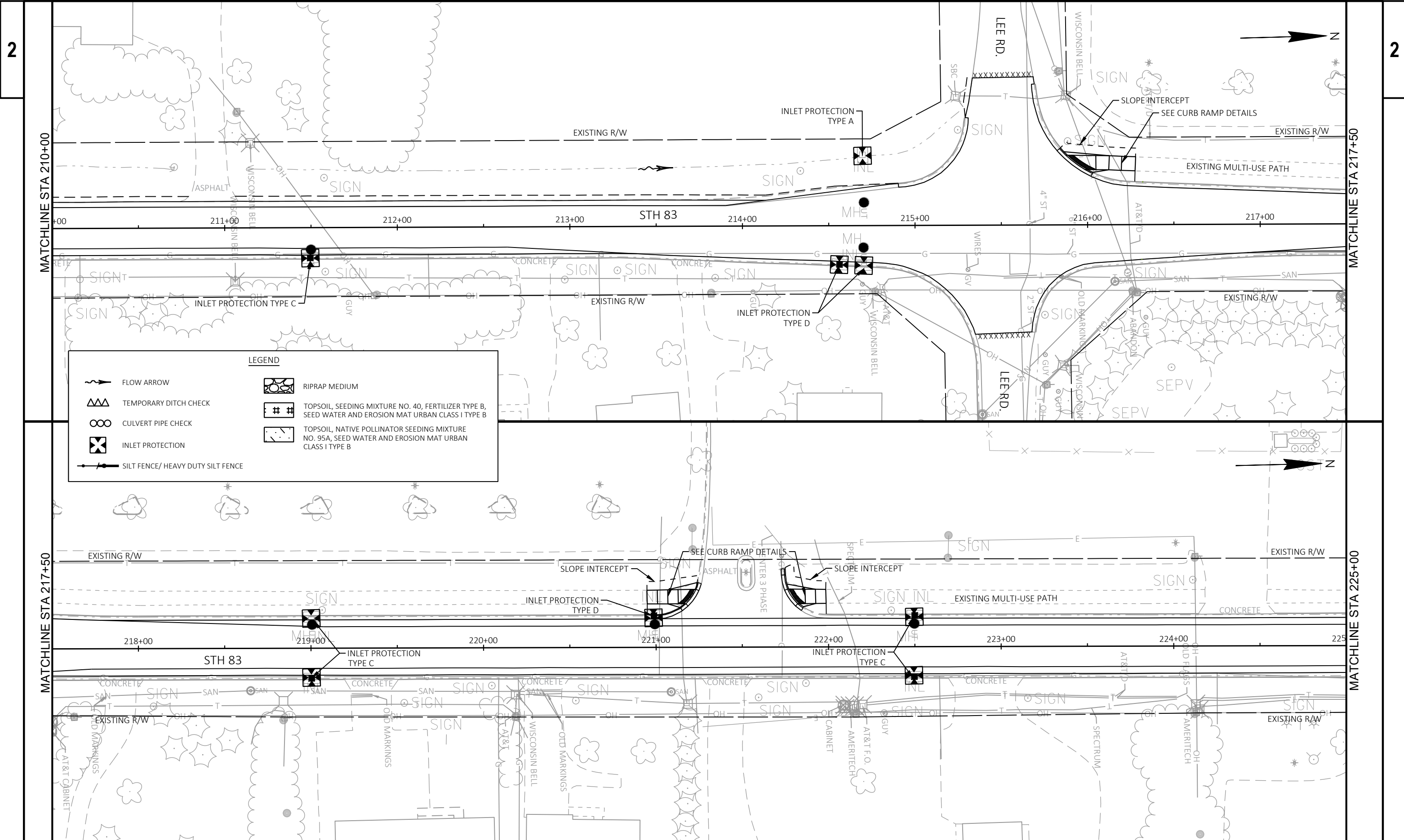
PROJECT NO: 1330-22-70	HWY: STH 83	COUNTY: WASHINGTON	EROSION CONTROL	SHEET	E
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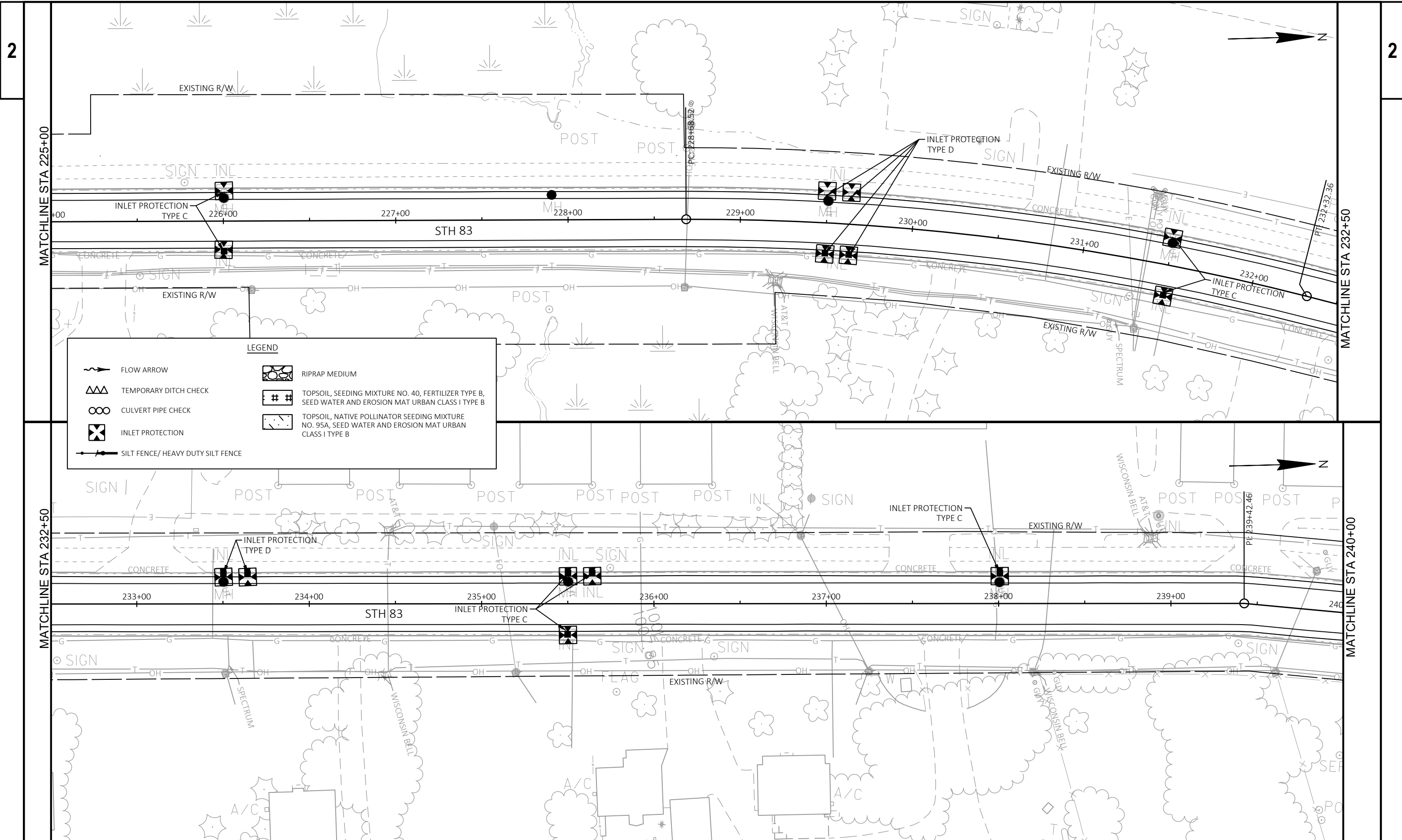
LEGEND

	FLOW ARROW		RIPRAP MEDIUM
	TEMPORARY DITCH CHECK		TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	CULVERT PIPE CHECK		TOPSOIL, NATIVE POLLINATOR SEEDING MIXTURE NO. 95A, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	INLET PROTECTION		
	SILT FENCE/ HEAVY DUTY SILT FENCE		

PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON EROSION CONTROL SHEET E



PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON EROSION CONTROL SHEET E



PROJECT NO: 1330-22-70

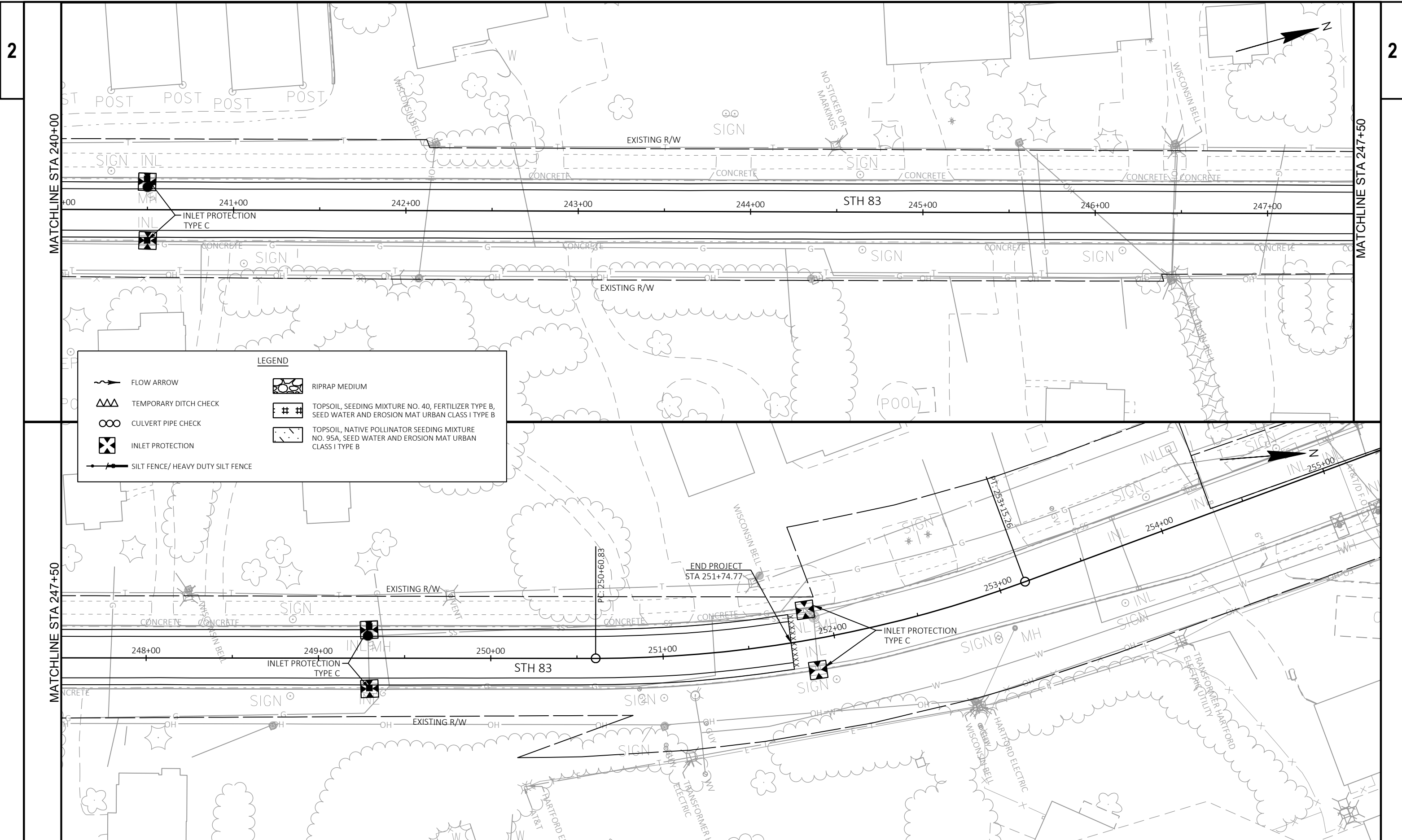
HWY: STH 83

COUNTY: WASHINGTON

EROSION CONTROL

SHEET

E

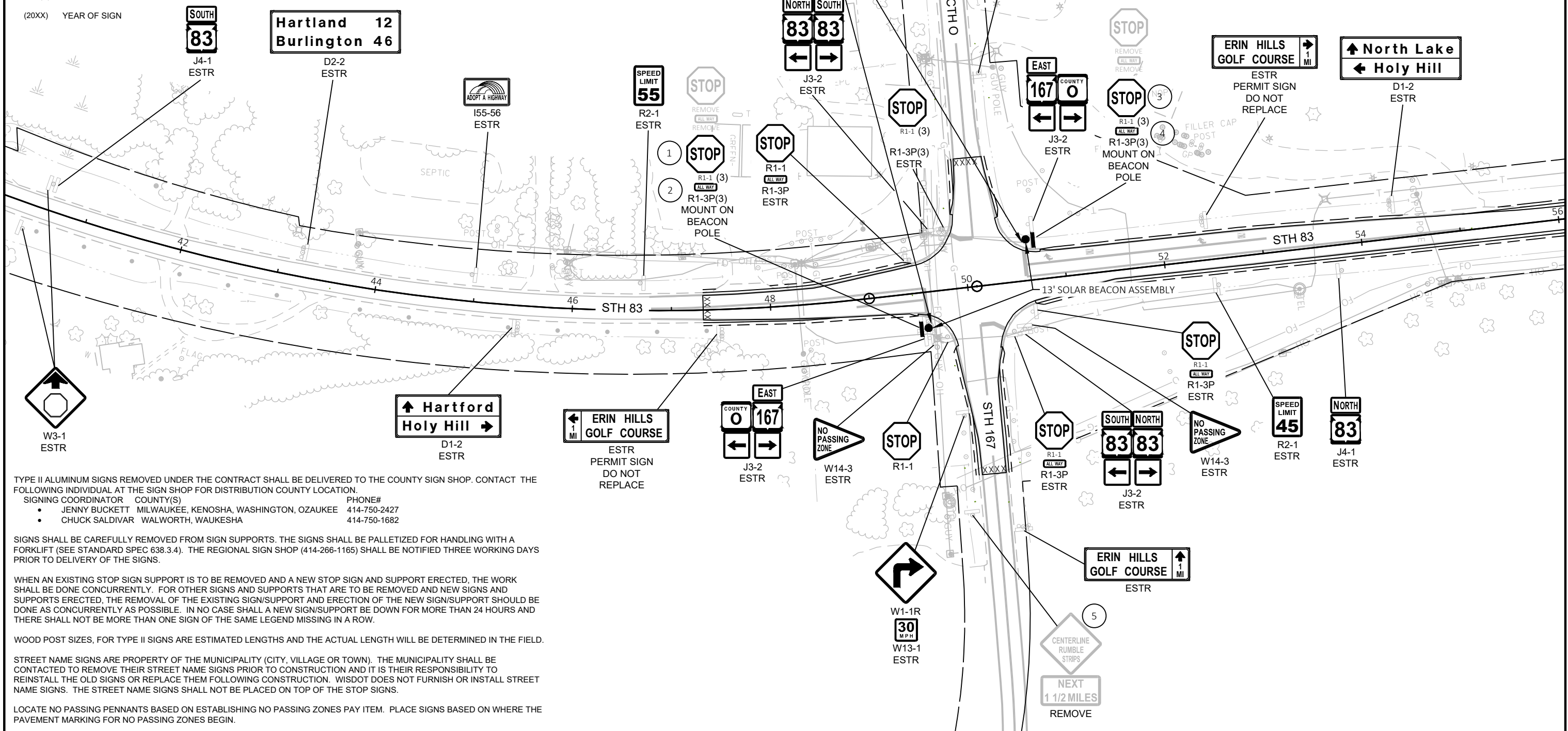


LEGEND	
	FLOW ARROW
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	INLET PROTECTION
	SILT FENCE/ HEAVY DUTY SILT FENCE
	RIPRAP MEDIUM
	TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B
	TOPSOIL, NATIVE POLLINATOR SEEDING MIXTURE NO. 95A, SEED WATER AND EROSION MAT URBAN CLASS I TYPE B

PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON EROSION CONTROL SHEET E



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



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

SIGNING COORDINATOR	COUNTY(S)	PHONE#
• JENNY BUCKETT	MILWAUKEE, KENOSHA, WASHINGTON, OZAUKEE	414-750-2427
• CHUCK SALDIVAR	WALWORTH, WAUKESHA	414-750-1682

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

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

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












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

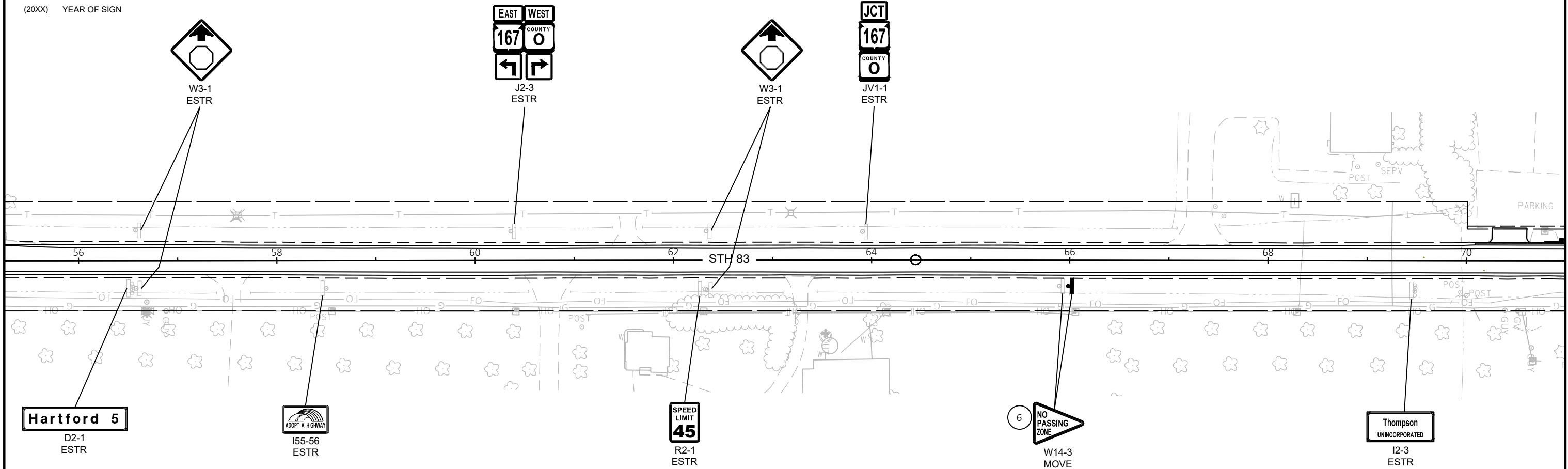
LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.

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












PROJECT NO: 1330-22-70	HWY: STH 83	COUNTY: WASHINGTON	PERMANENT SIGNING
SHEET			E

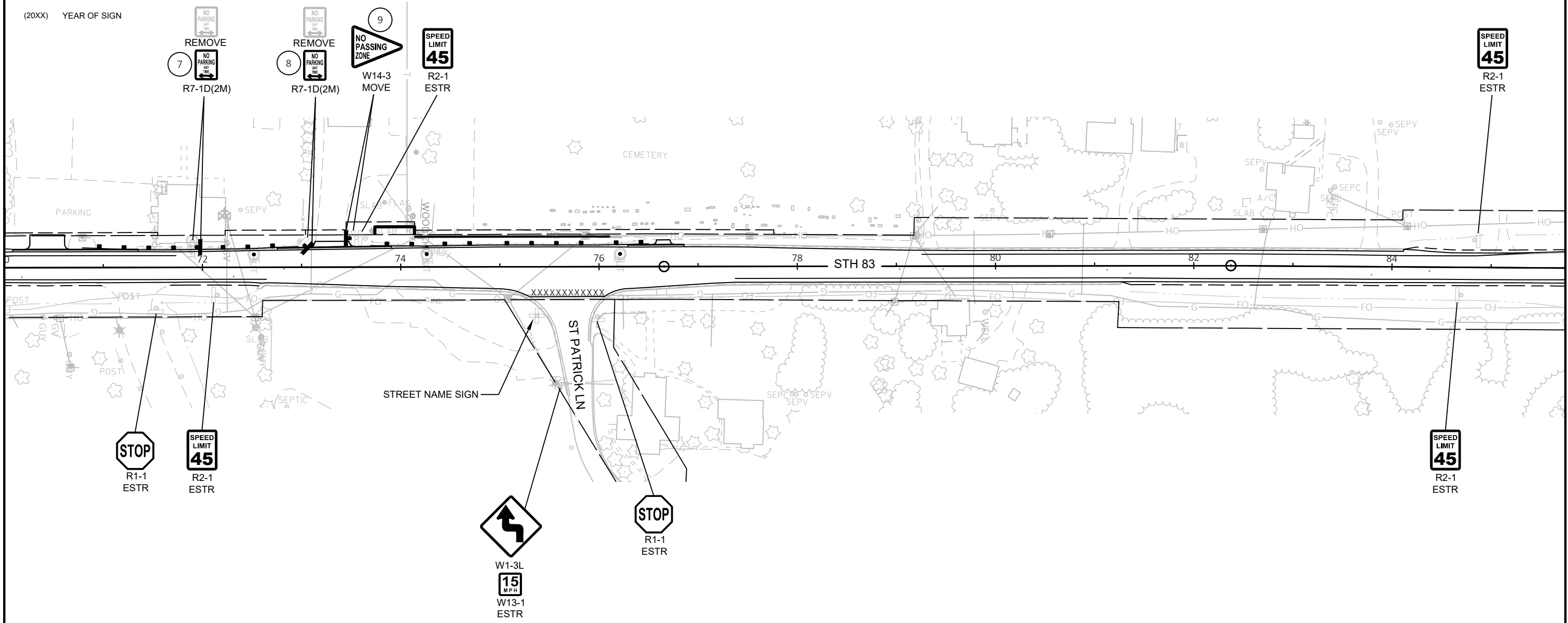
LEGEND

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-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE
-  (20XX) YEAR OF SIGN














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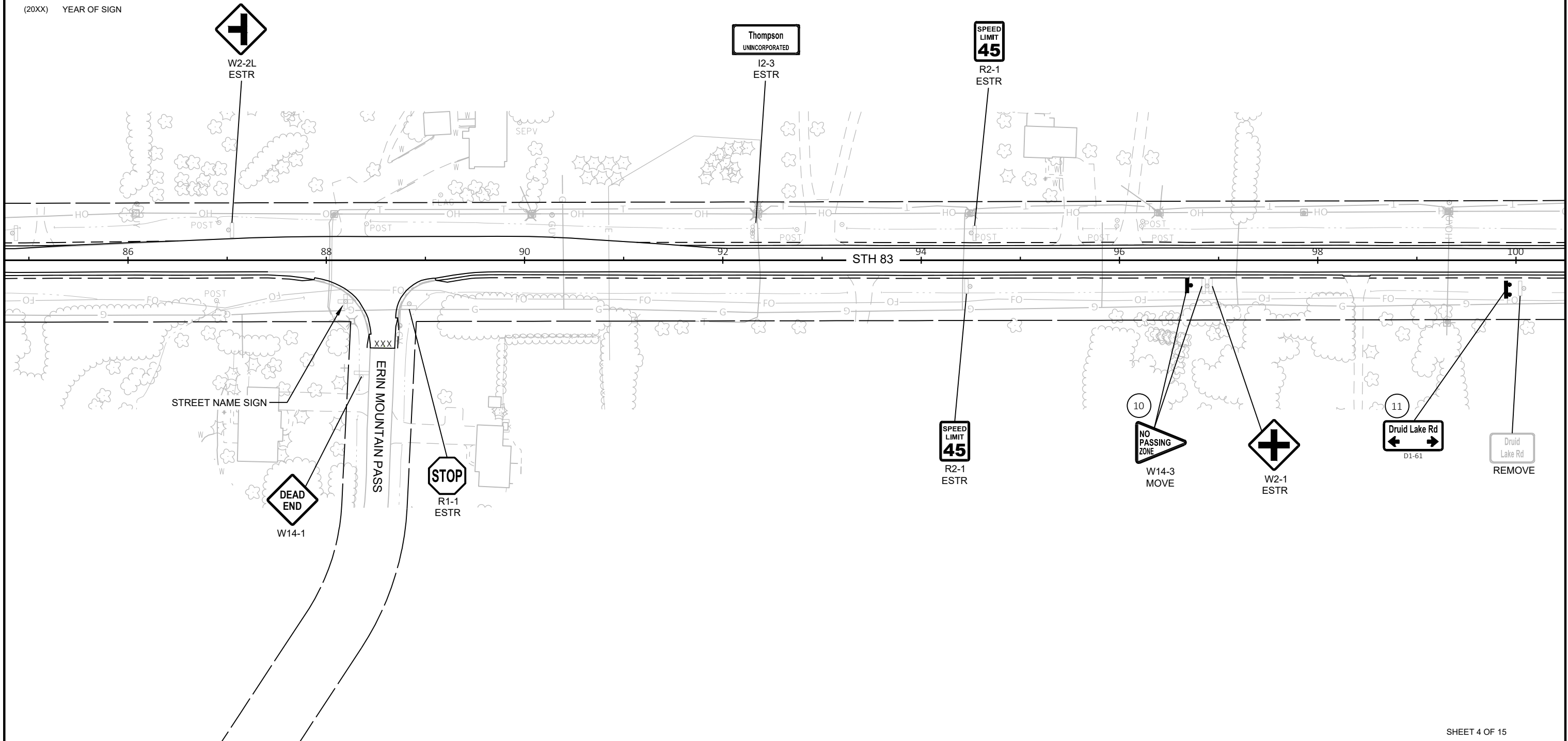
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PROJECT NO: 1330-22-70	HWY: STH 83	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET E
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





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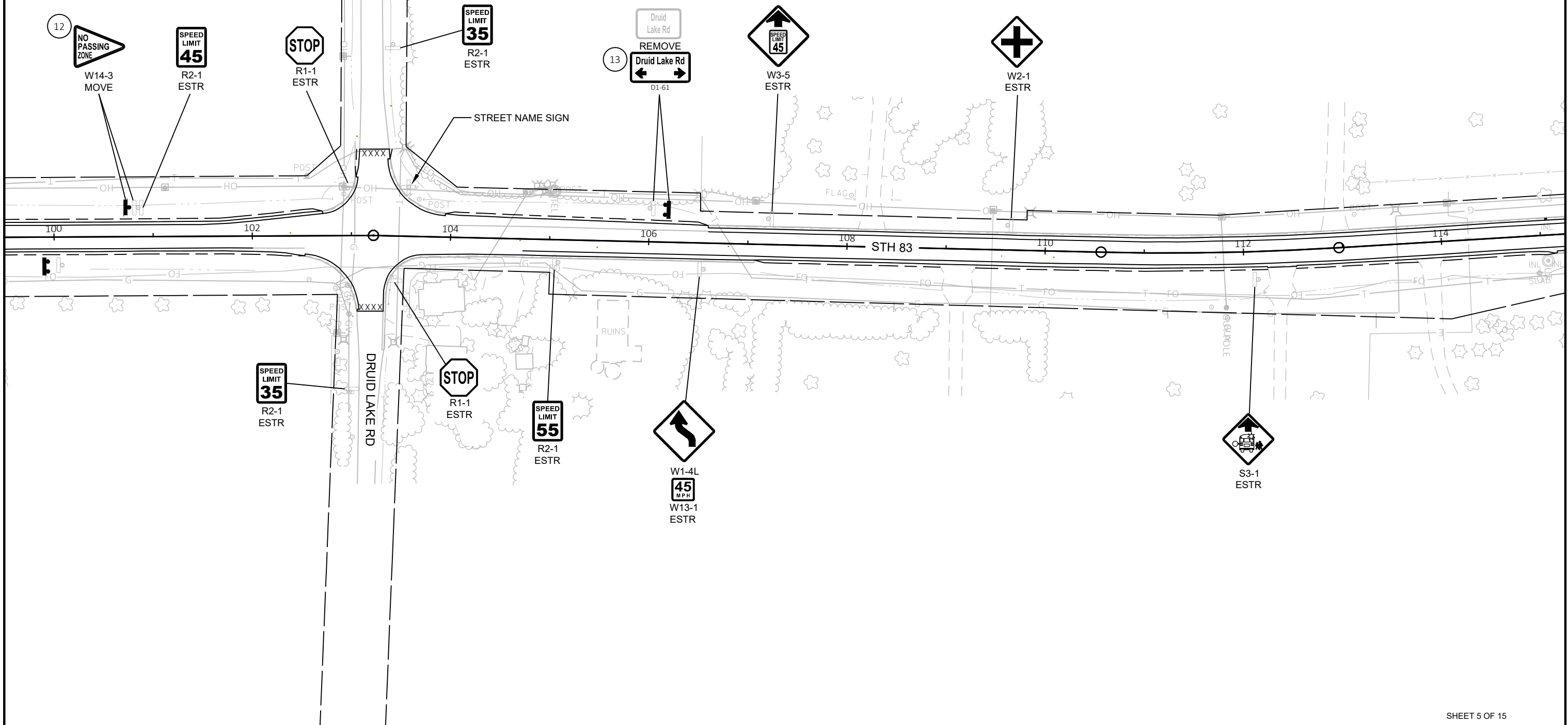
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PROJECT NO: 1330-22-70	HWY: STH 83	COUNTY: WASHINGTON	PERMANENT SIGNING
SHEET			E












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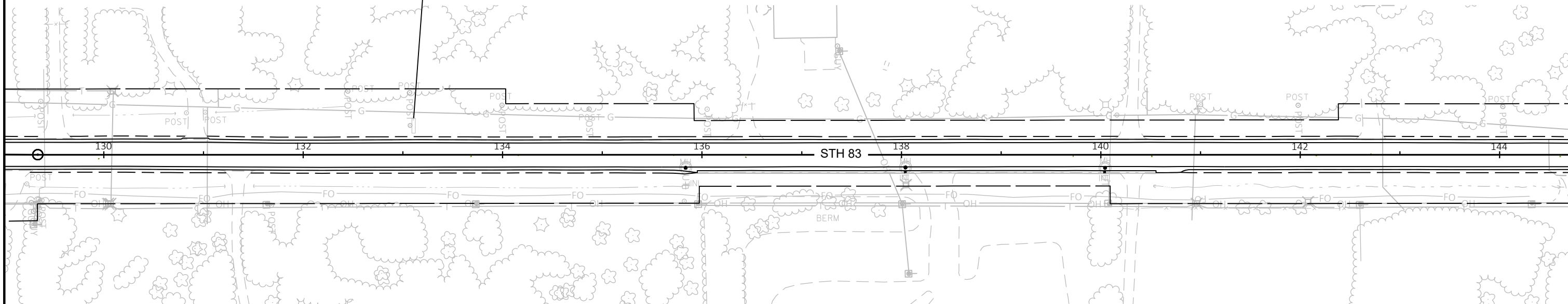
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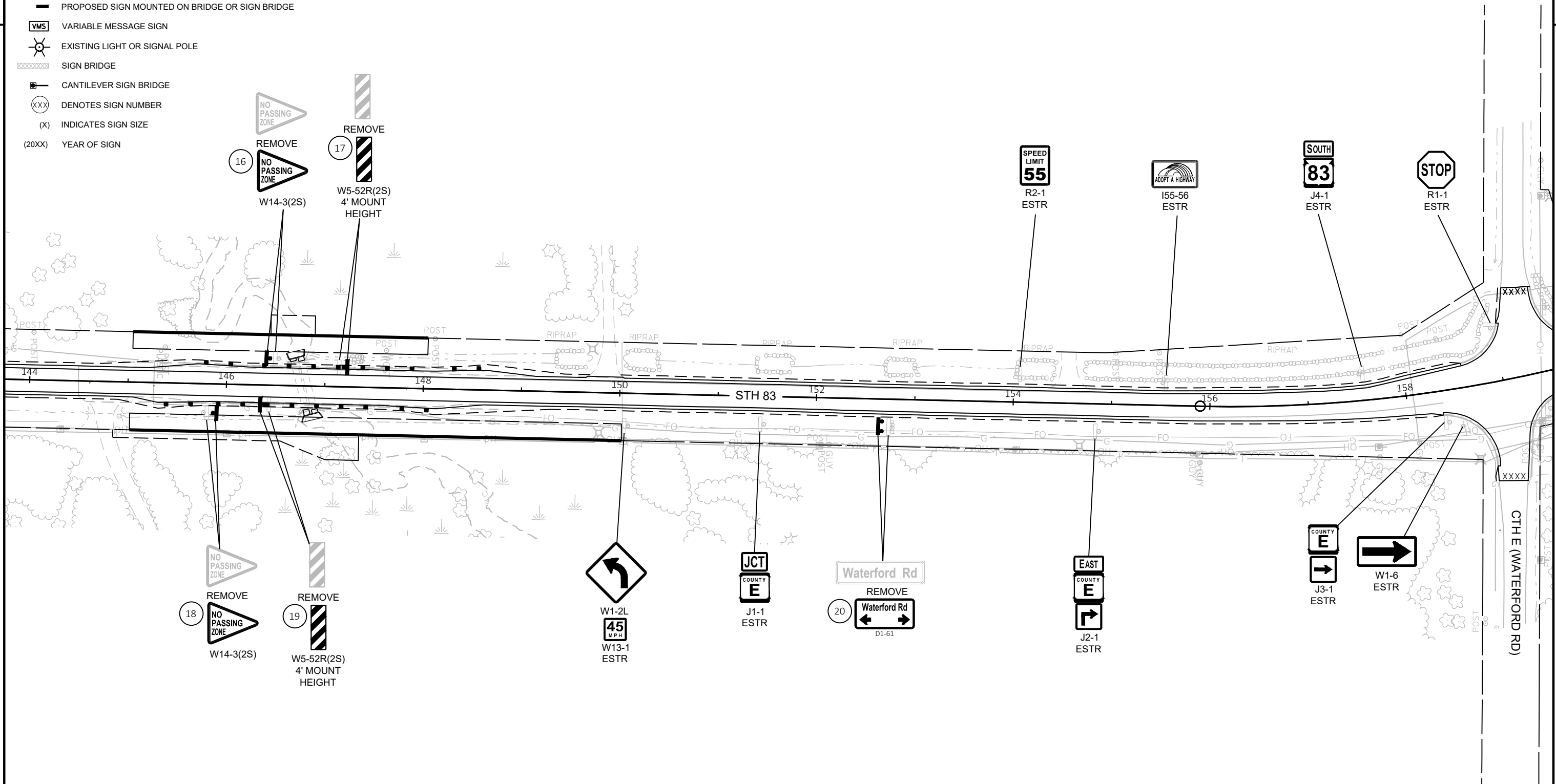
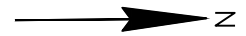


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LEGEND

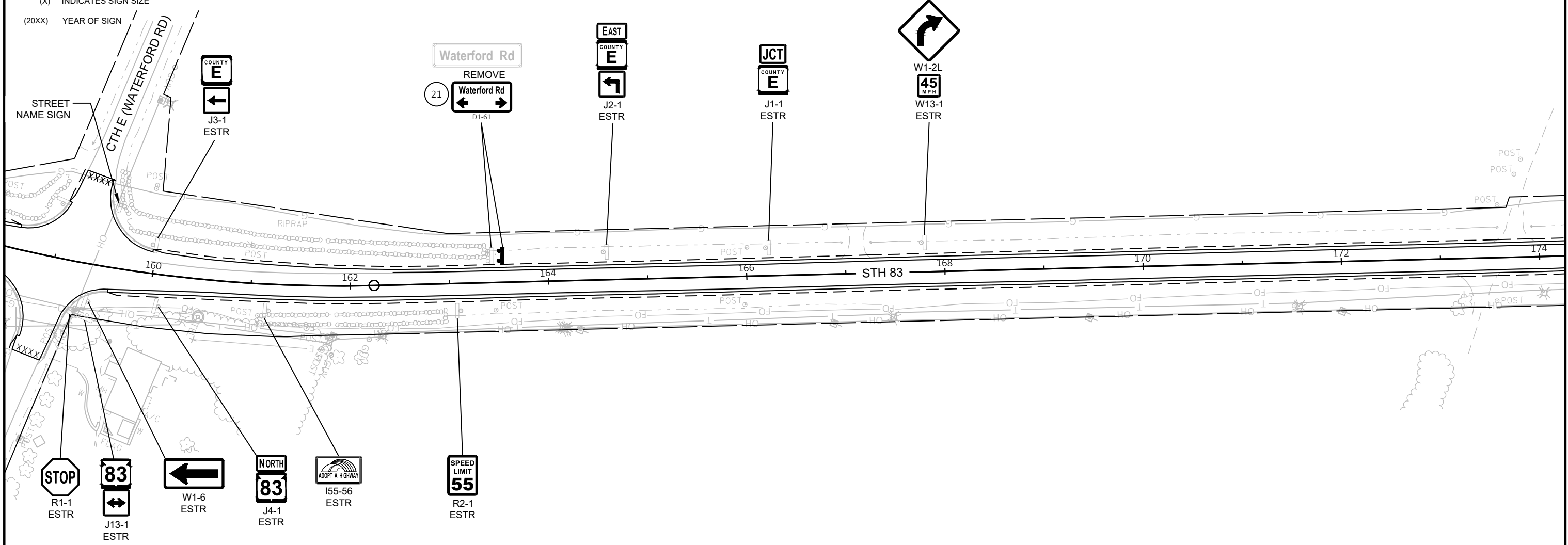
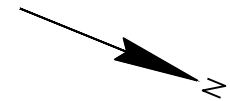
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






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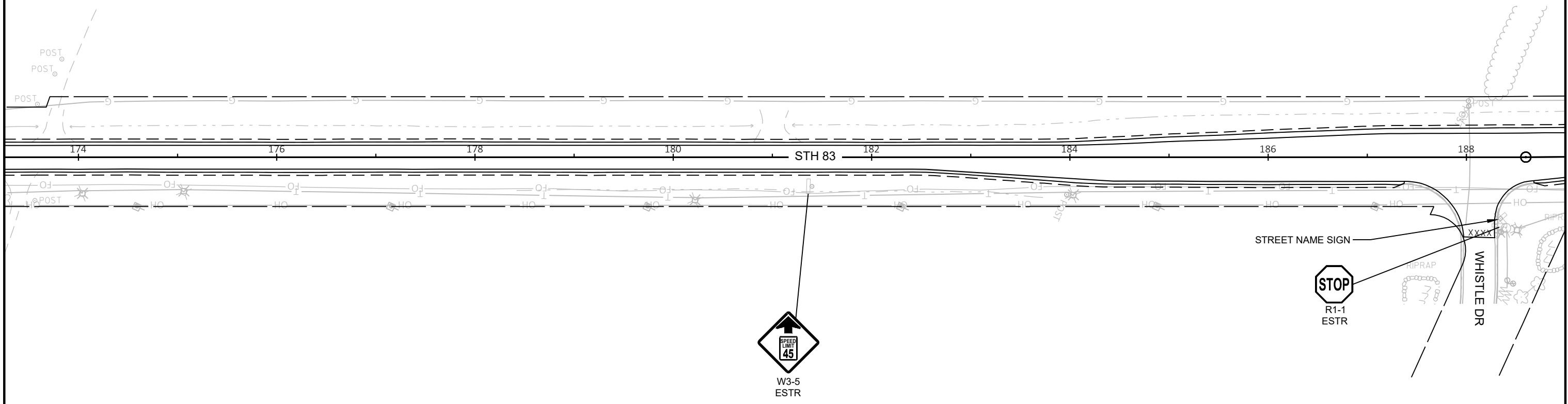
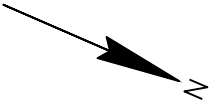
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


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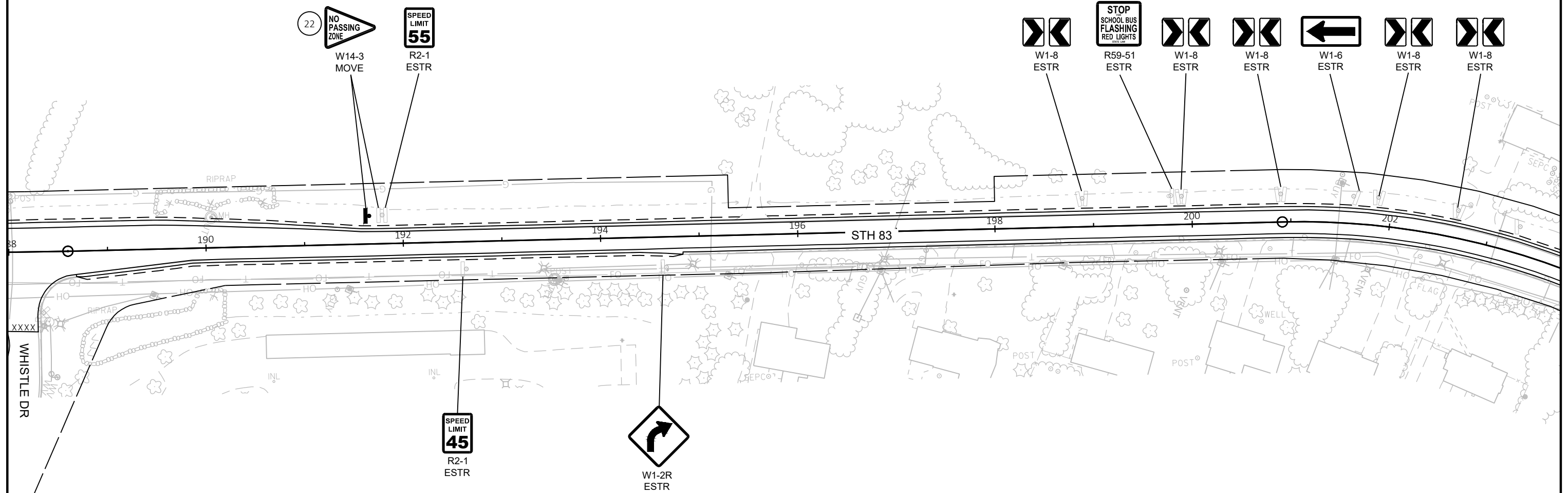
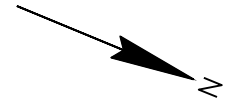
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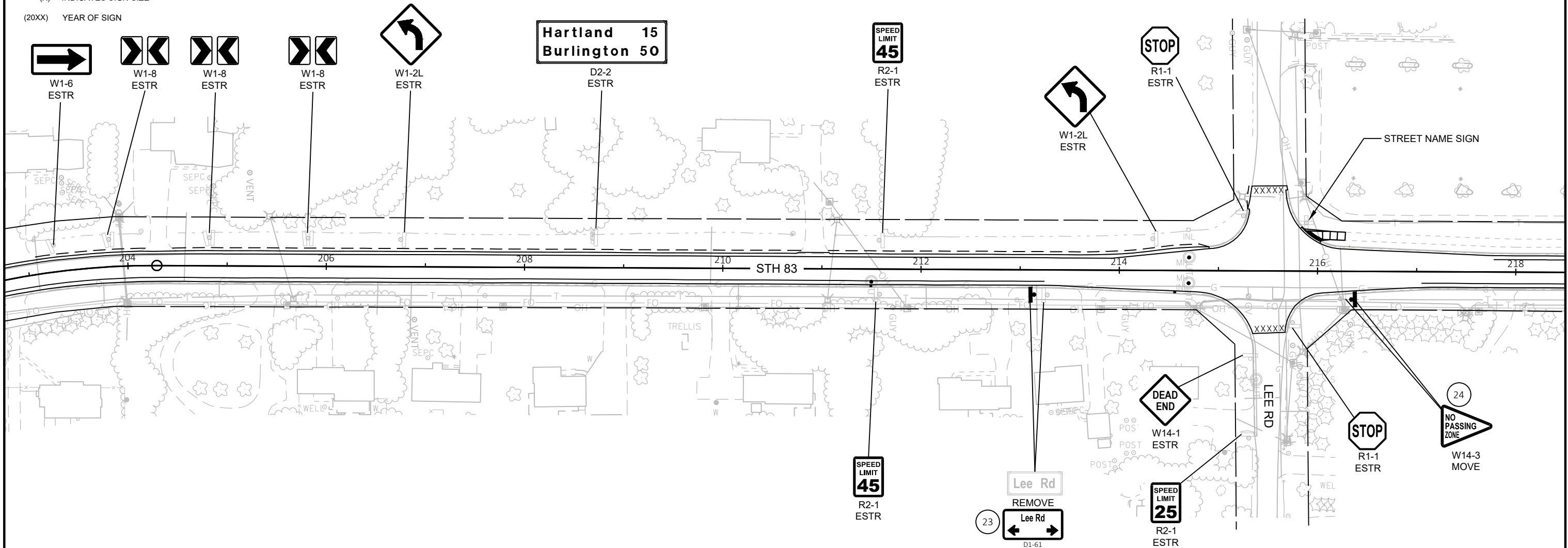
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





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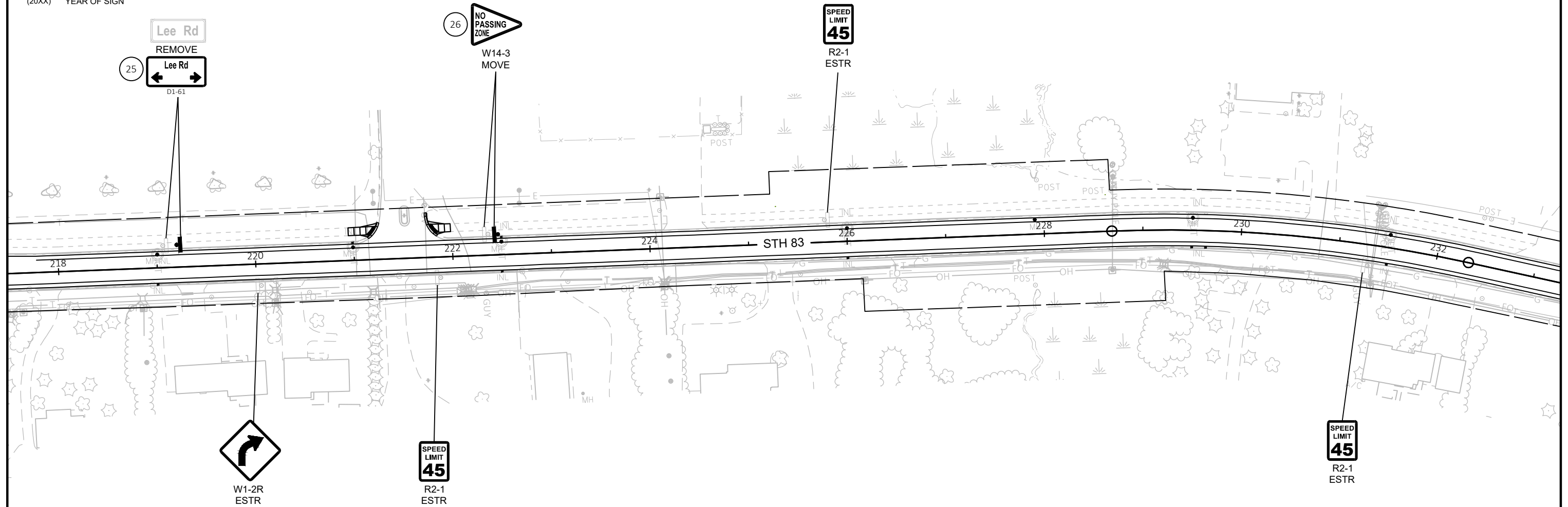
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





PROJECT NO: 1330-22-70	HWY: STH 83	COUNTY: WASHINGTON	PERMANENT SIGNING
SHEET			E

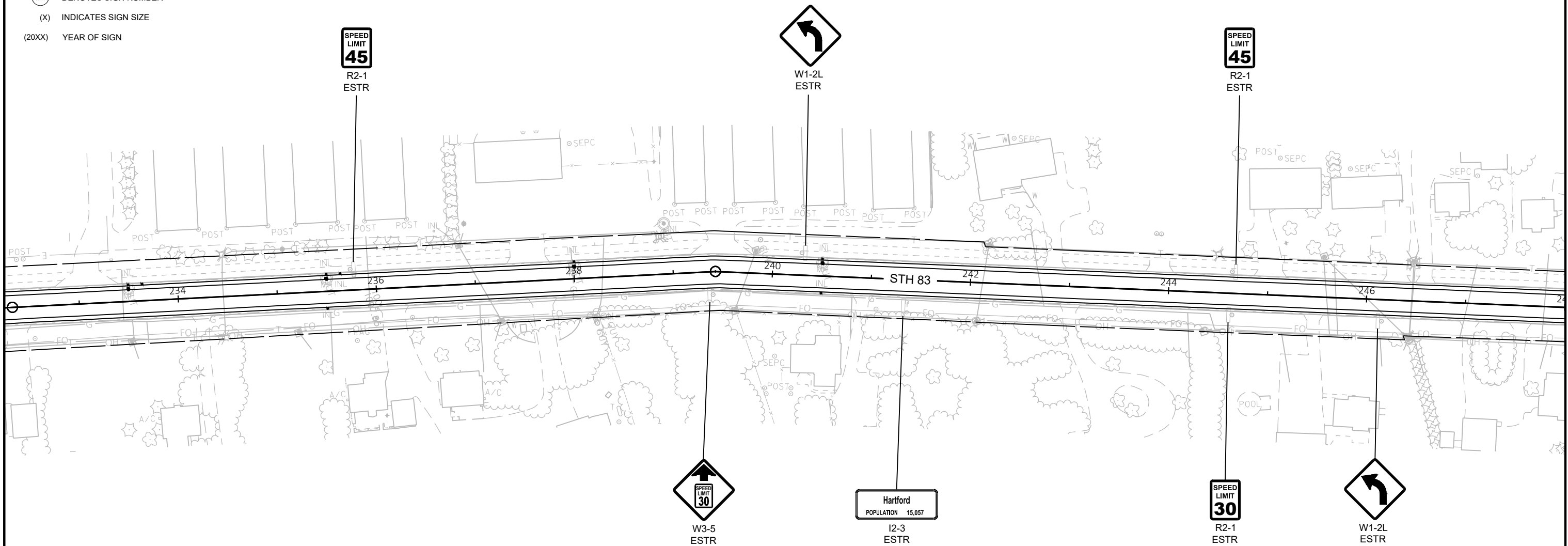
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





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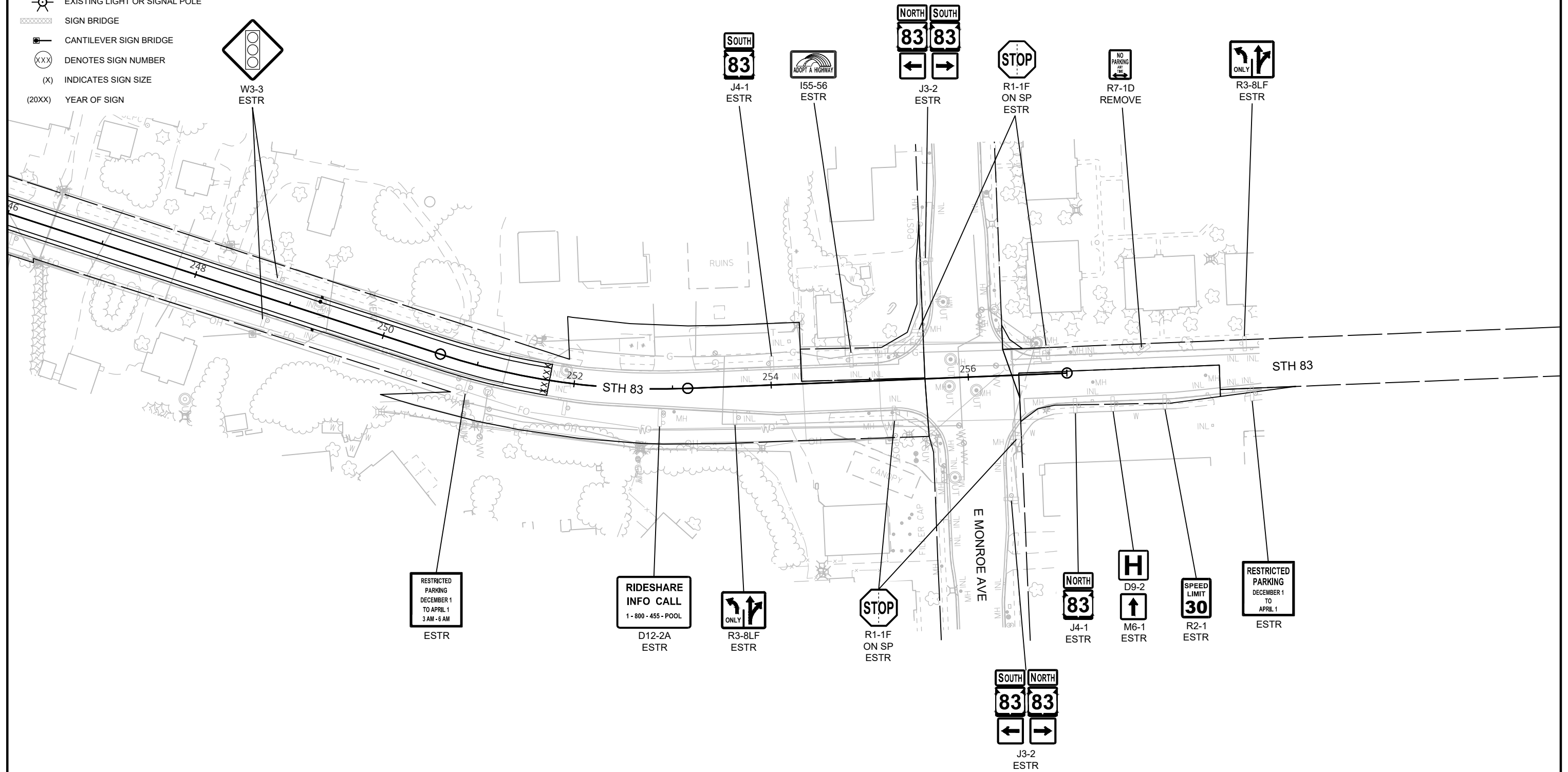
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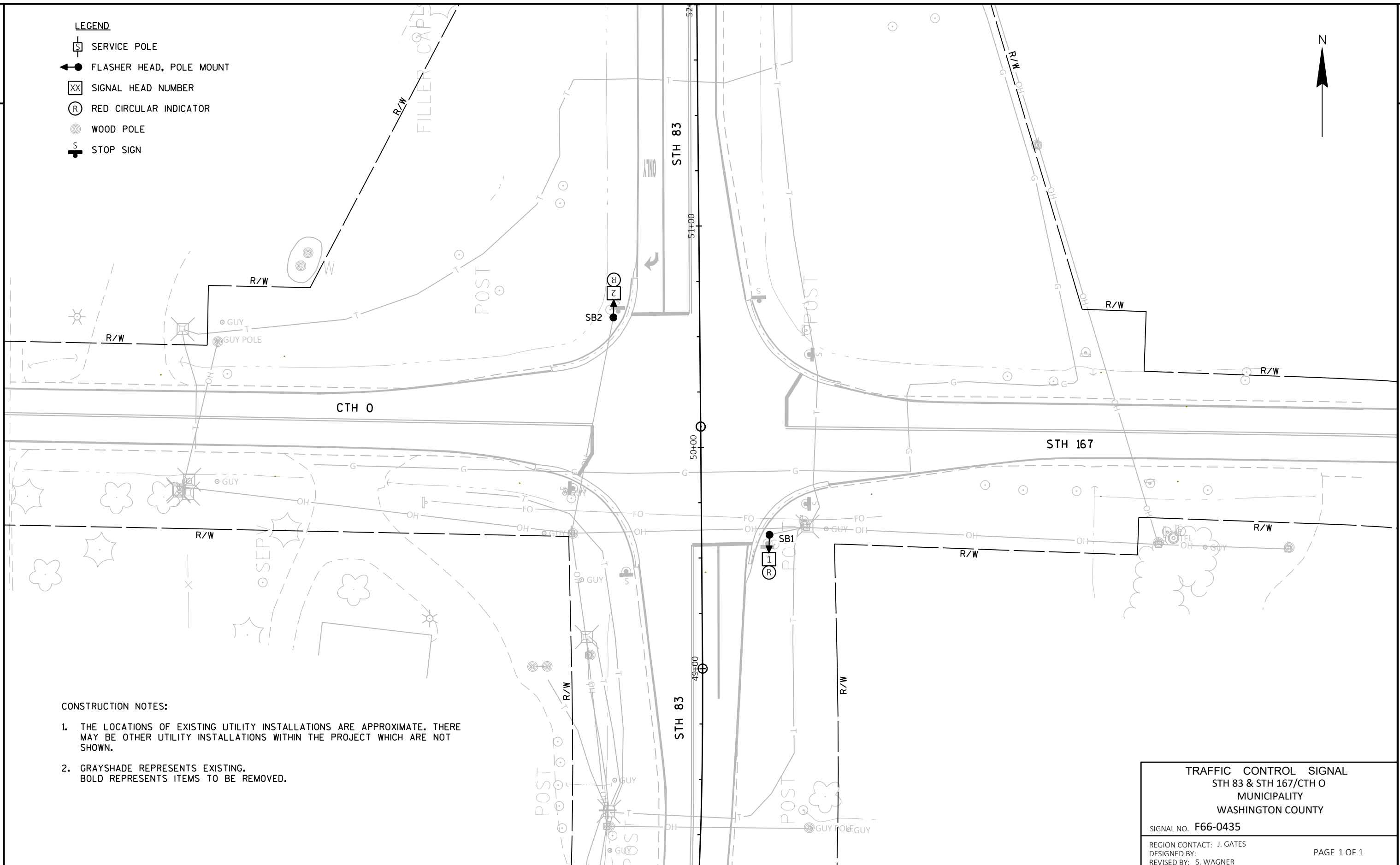
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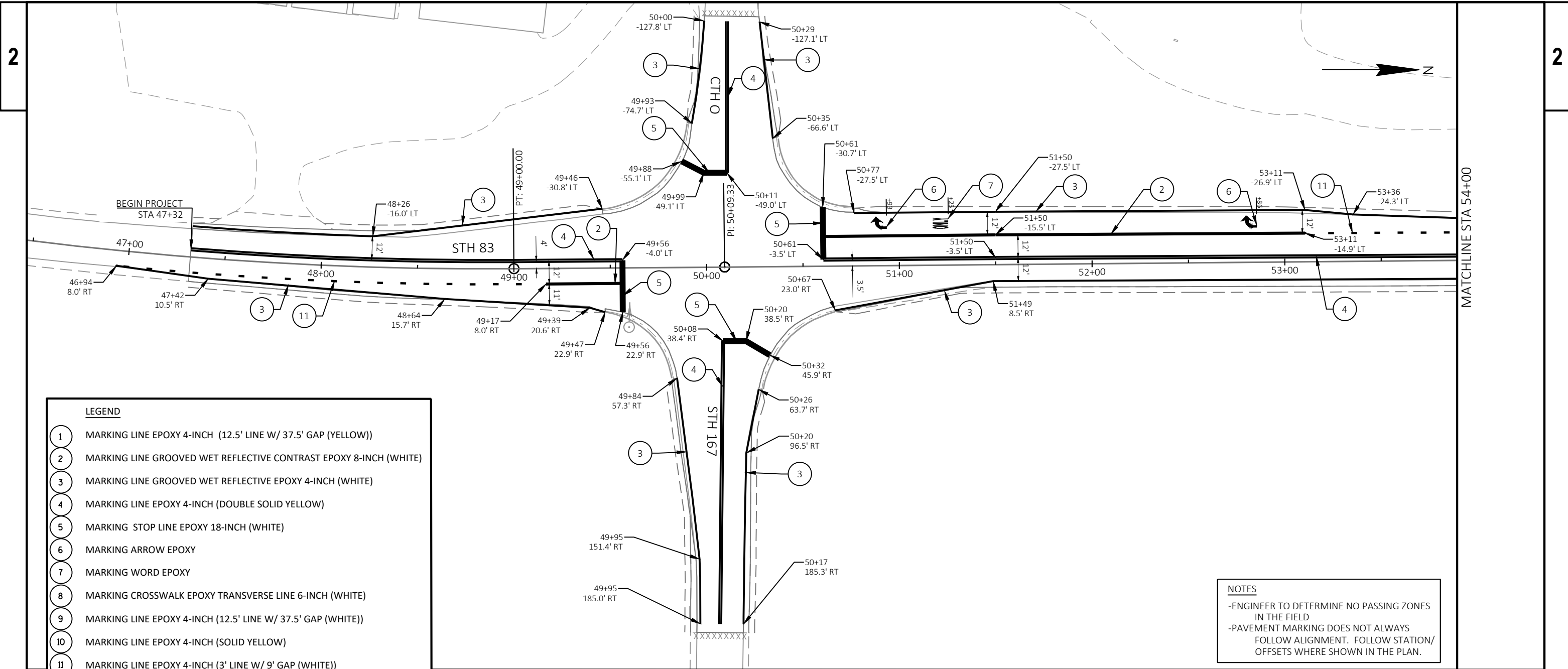
- SERVICE POLE
- ◀● FLASHER HEAD, POLE MOUNT
- XX SIGNAL HEAD NUMBER
- Ⓡ RED CIRCULAR INDICATOR
- ⊙ WOOD POLE
- ⊞ STOP SIGN



CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVED.

<p>TRAFFIC CONTROL SIGNAL STH 83 & STH 167/CTH 0 MUNICIPALITY WASHINGTON COUNTY</p>	
SIGNAL NO. F66-0435	
REGION CONTACT: J. GATES	PAGE 1 OF 1
DESIGNED BY: S. WAGNER	
REVISED BY: S. WAGNER	

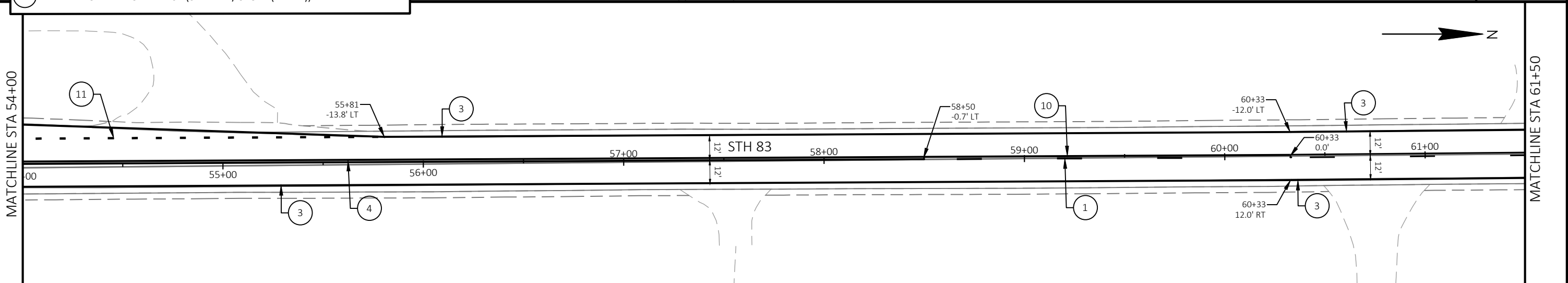


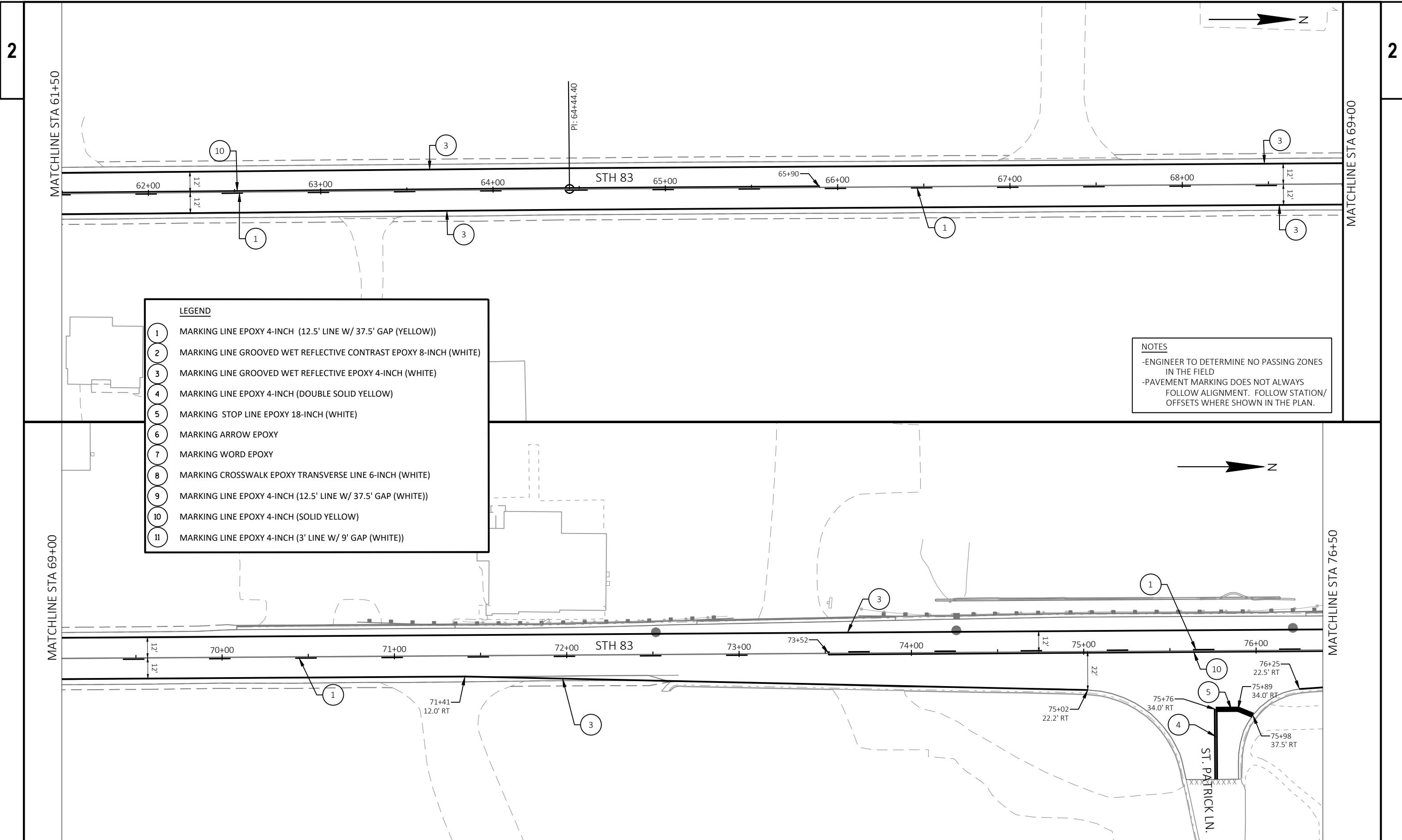
LEGEND

1	MARKING LINE EPOXY 4-INCH (12.5' LINE W/ 37.5' GAP (YELLOW))
2	MARKING LINE GROOVED WET REFLECTIVE CONTRAST EPOXY 8-INCH (WHITE)
3	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
4	MARKING LINE EPOXY 4-INCH (DOUBLE SOLID YELLOW)
5	MARKING STOP LINE EPOXY 18-INCH (WHITE)
6	MARKING ARROW EPOXY
7	MARKING WORD EPOXY
8	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
9	MARKING LINE EPOXY 4-INCH (12.5' LINE W/ 37.5' GAP (WHITE))
10	MARKING LINE EPOXY 4-INCH (SOLID YELLOW)
11	MARKING LINE EPOXY 4-INCH (3' LINE W/ 9' GAP (WHITE))

NOTES

- ENGINEER TO DETERMINE NO PASSING ZONES IN THE FIELD
- PAVEMENT MARKING DOES NOT ALWAYS FOLLOW ALIGNMENT. FOLLOW STATION/OFFSETS WHERE SHOWN IN THE PLAN.



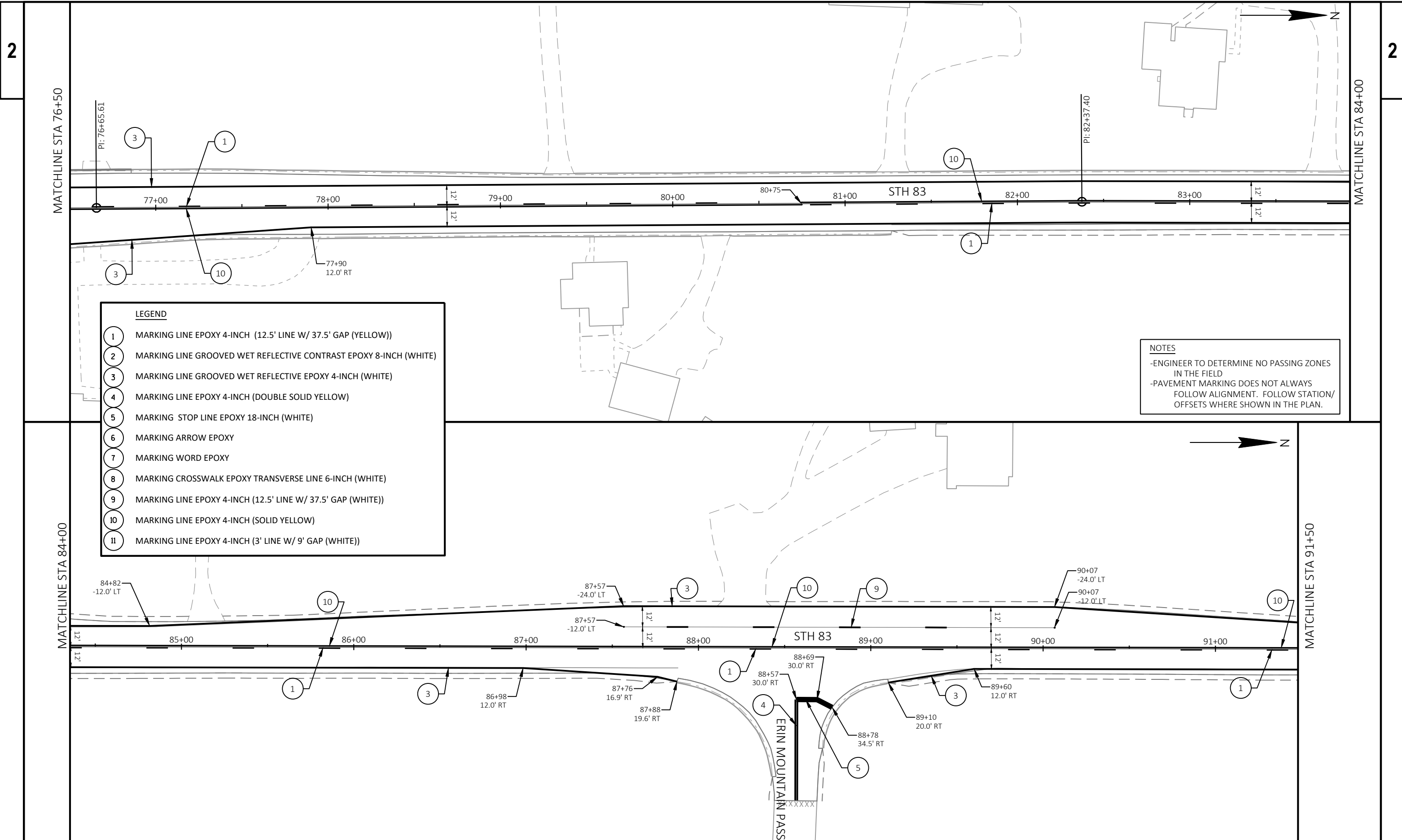


LEGEND

1	MARKING LINE EPOXY 4-INCH (12.5' LINE W/ 37.5' GAP (YELLOW))
2	MARKING LINE GROOVED WET REFLECTIVE CONTRAST EPOXY 8-INCH (WHITE)
3	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
4	MARKING LINE EPOXY 4-INCH (DOUBLE SOLID YELLOW)
5	MARKING STOP LINE EPOXY 18-INCH (WHITE)
6	MARKING ARROW EPOXY
7	MARKING WORD EPOXY
8	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
9	MARKING LINE EPOXY 4-INCH (12.5' LINE W/ 37.5' GAP (WHITE))
10	MARKING LINE EPOXY 4-INCH (SOLID YELLOW)
11	MARKING LINE EPOXY 4-INCH (3' LINE W/ 9' GAP (WHITE))

NOTES

- ENGINEER TO DETERMINE NO PASSING ZONES IN THE FIELD
- PAVEMENT MARKING DOES NOT ALWAYS FOLLOW ALIGNMENT. FOLLOW STATION/OFFSETS WHERE SHOWN IN THE PLAN.

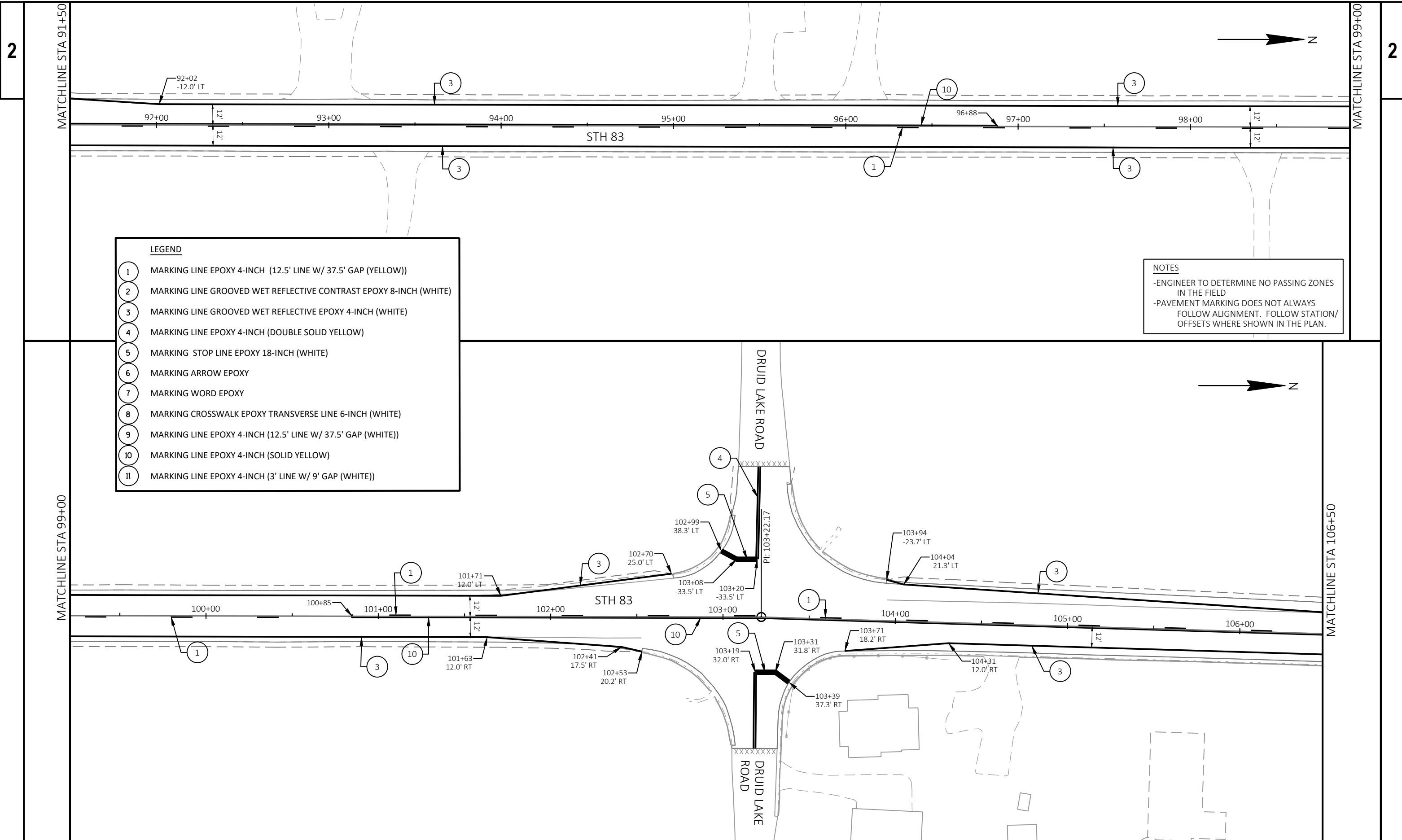


LEGEND

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NOTES

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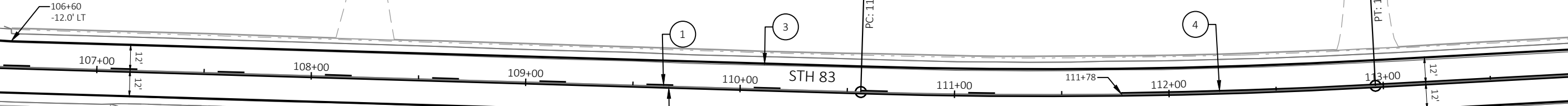
NOTES

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- PAVEMENT MARKING DOES NOT ALWAYS FOLLOW ALIGNMENT. FOLLOW STATION/OFFSETS WHERE SHOWN IN THE PLAN.

PROJECT NO: 1330-22-70	HWY: STH 83	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET	E
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MATCHLINE STA 106+50

MATCHLINE STA 114+00

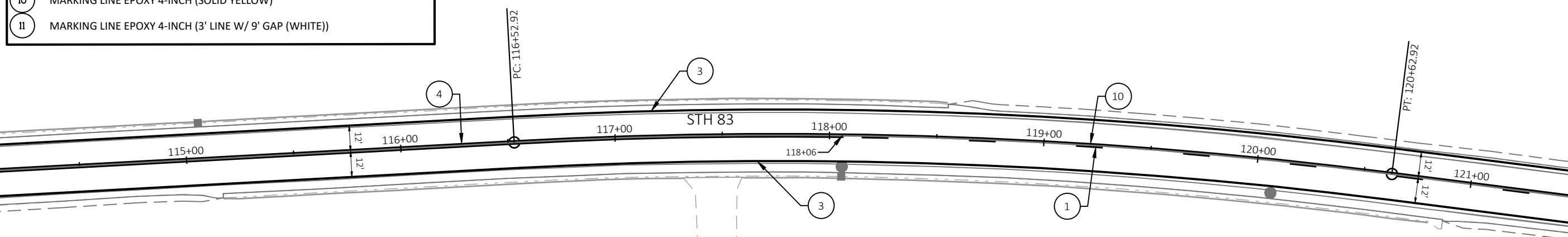


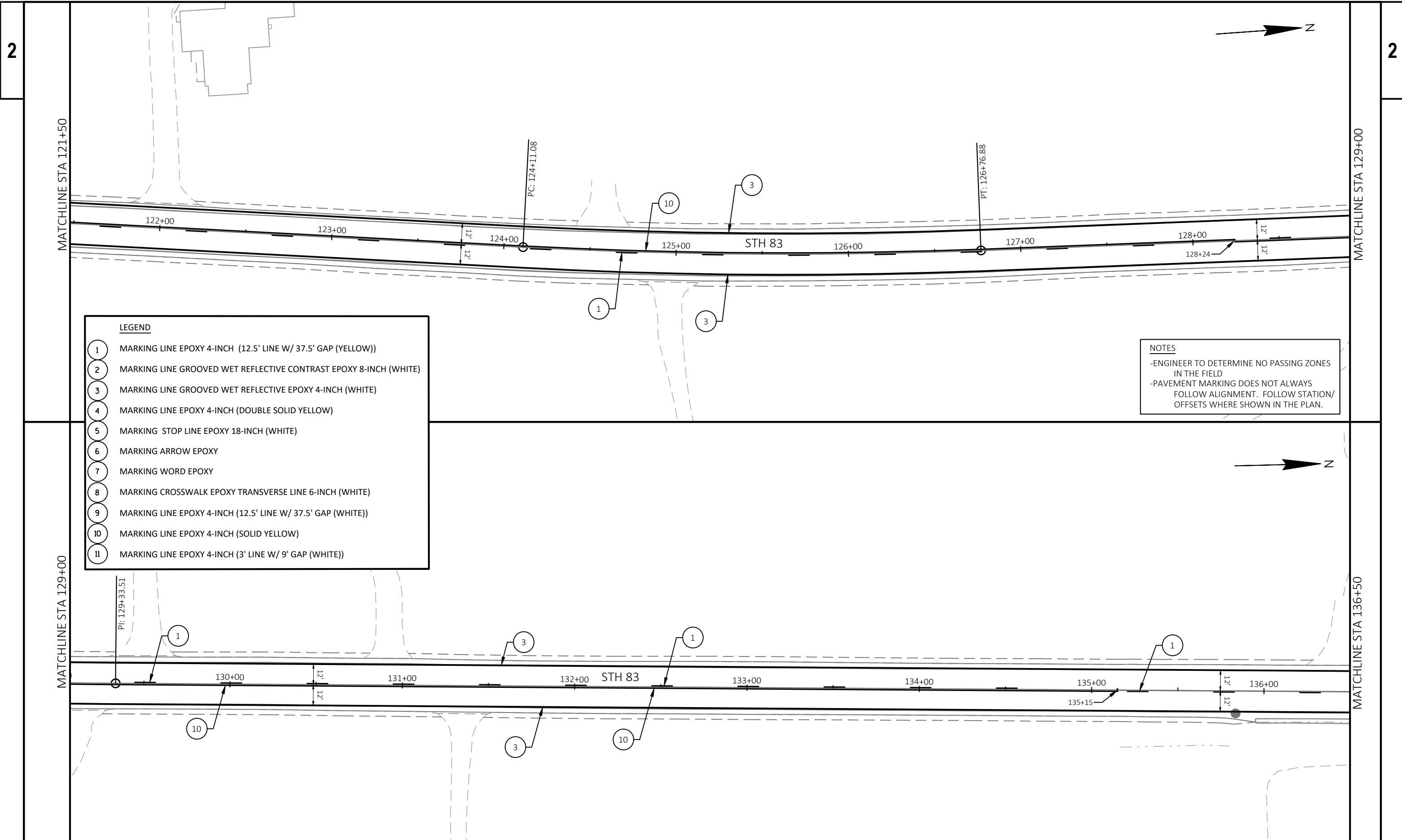
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NOTES
 -ENGINEER TO DETERMINE NO PASSING ZONES IN THE FIELD
 -PAVEMENT MARKING DOES NOT ALWAYS FOLLOW ALIGNMENT. FOLLOW STATION/OFFSETS WHERE SHOWN IN THE PLAN.

MATCHLINE STA 114+00

MATCHLINE STA 121+50



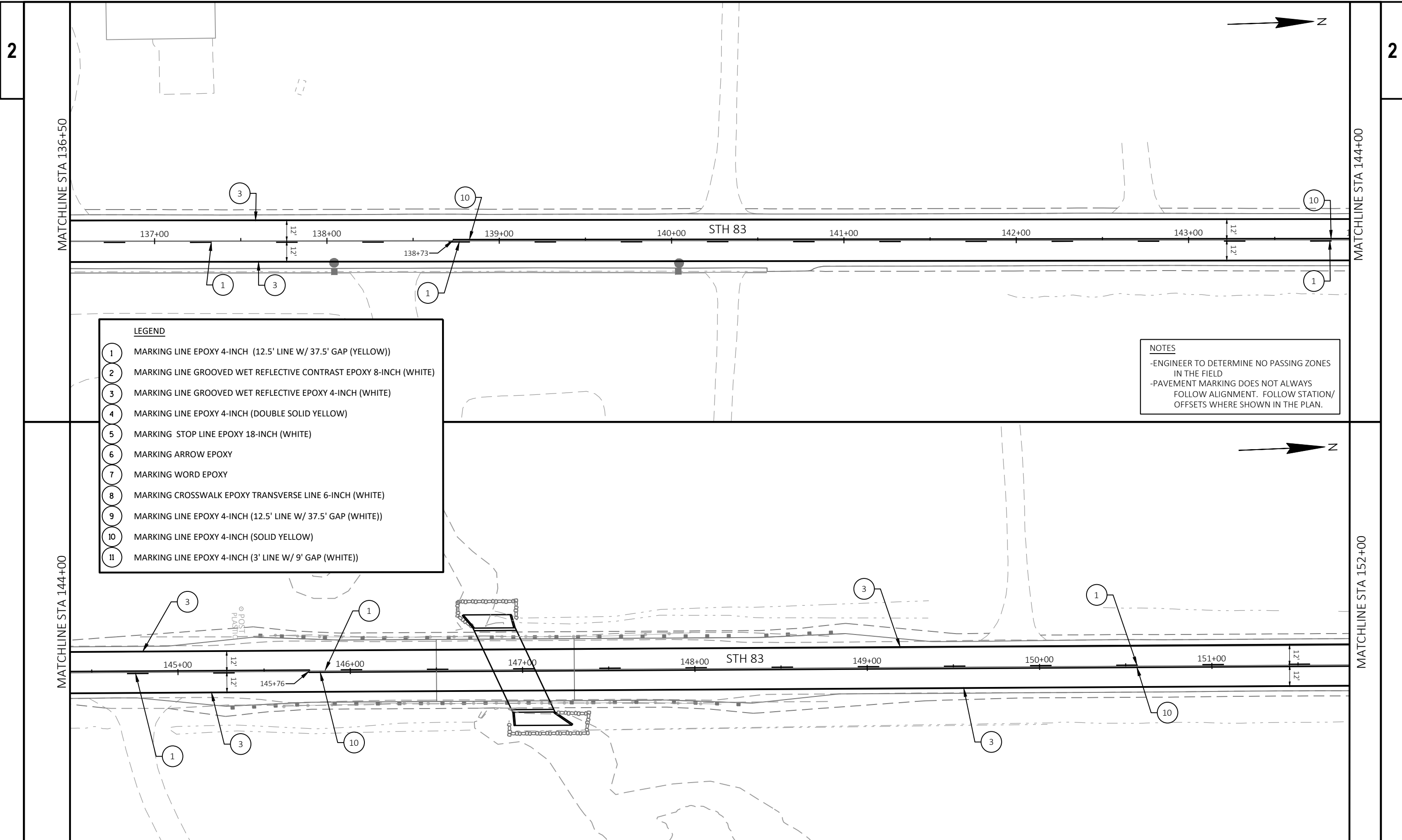


LEGEND

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2	MARKING LINE GROOVED WET REFLECTIVE CONTRAST EPOXY 8-INCH (WHITE)
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NOTES

- ENGINEER TO DETERMINE NO PASSING ZONES IN THE FIELD
- PAVEMENT MARKING DOES NOT ALWAYS FOLLOW ALIGNMENT. FOLLOW STATION/OFFSETS WHERE SHOWN IN THE PLAN.

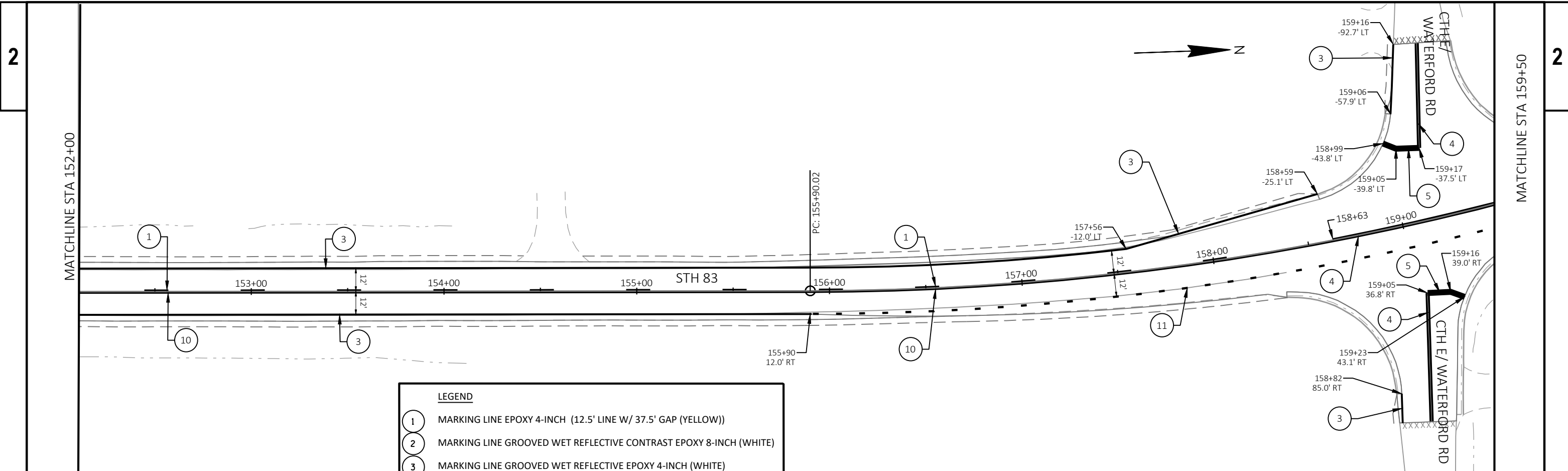


LEGEND

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11	MARKING LINE EPOXY 4-INCH (3' LINE W/ 9' GAP (WHITE))

NOTES

- ENGINEER TO DETERMINE NO PASSING ZONES IN THE FIELD
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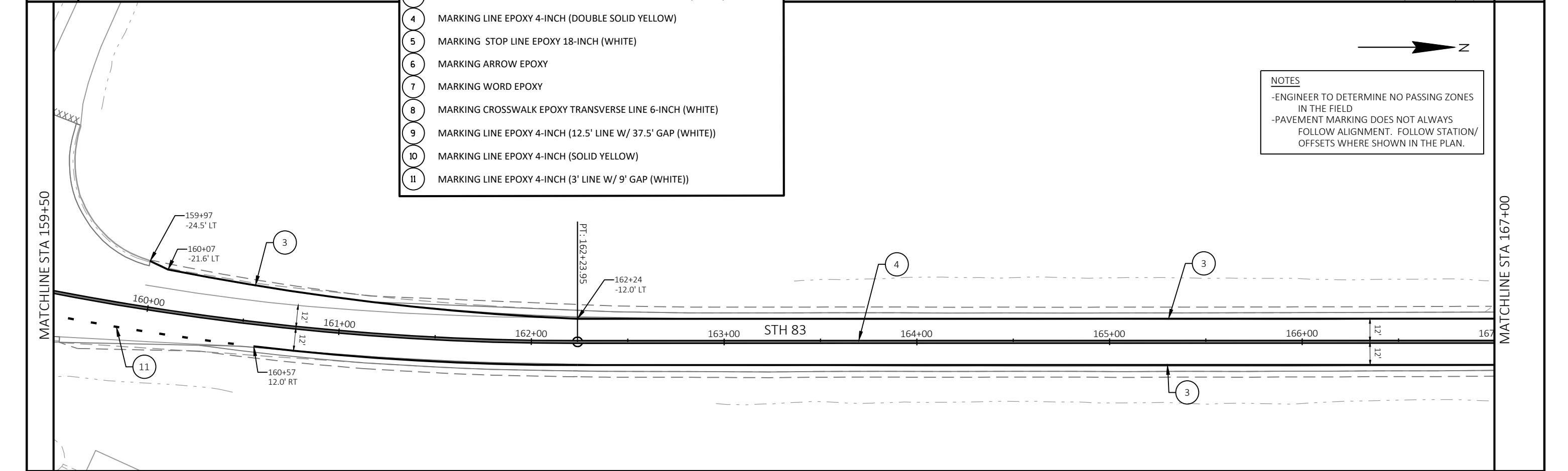


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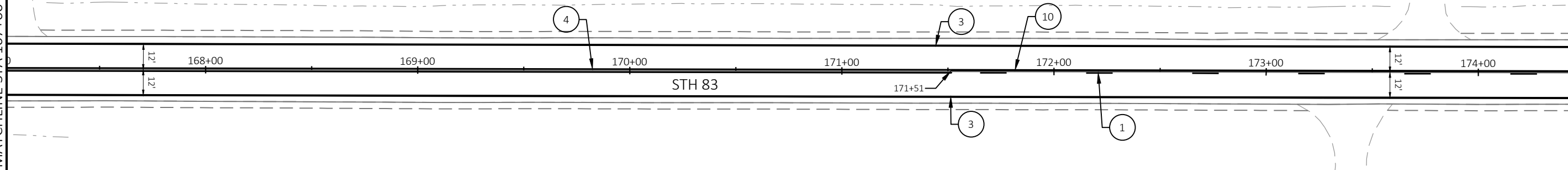
NOTES

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- PAVEMENT MARKING DOES NOT ALWAYS FOLLOW ALIGNMENT. FOLLOW STATION/OFFSETS WHERE SHOWN IN THE PLAN.



MATCHLINE STA 167+00

MATCHLINE STA 174+50

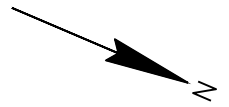


LEGEND

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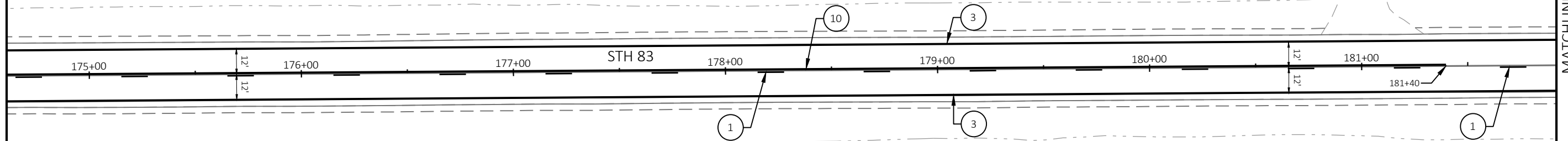
NOTES

- ENGINEER TO DETERMINE NO PASSING ZONES IN THE FIELD
- PAVEMENT MARKING DOES NOT ALWAYS FOLLOW ALIGNMENT. FOLLOW STATION/OFFSETS WHERE SHOWN IN THE PLAN.



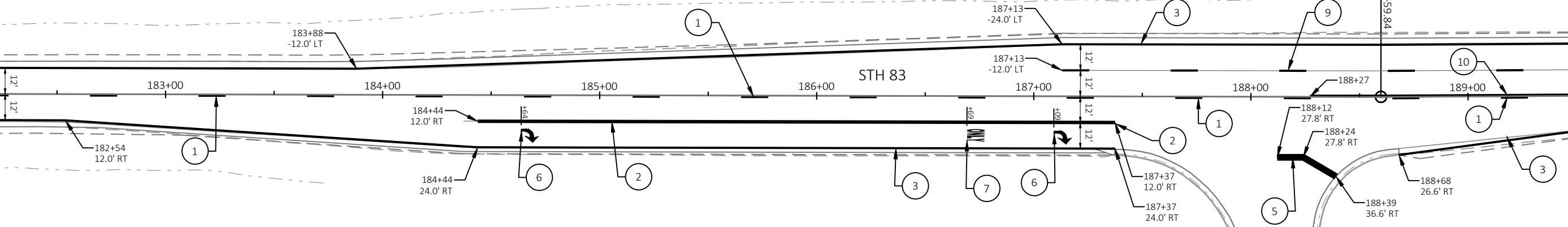
MATCHLINE STA 174+50

MATCHLINE STA 182+00



MATCHLINE STA 182+00

MATCHLINE STA 189+50



LEGEND

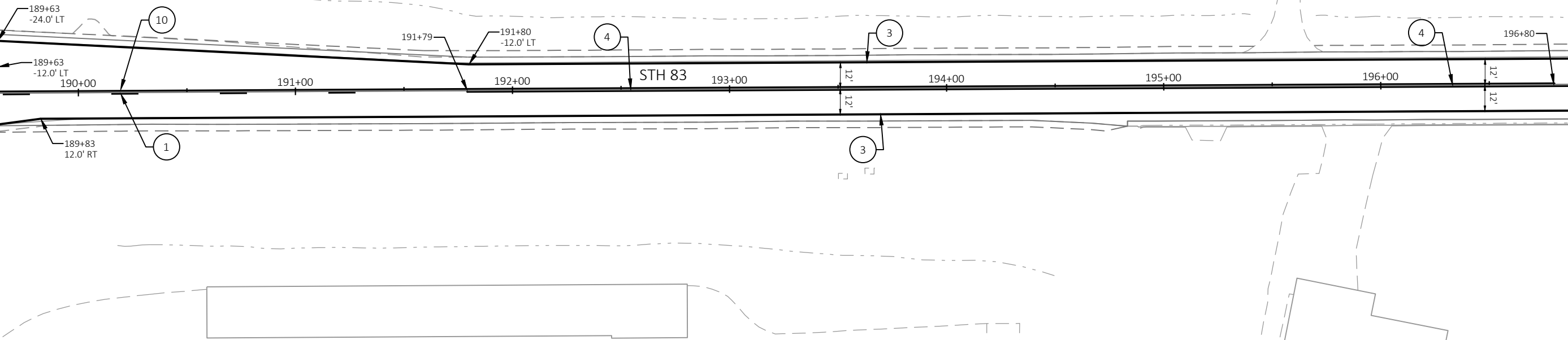
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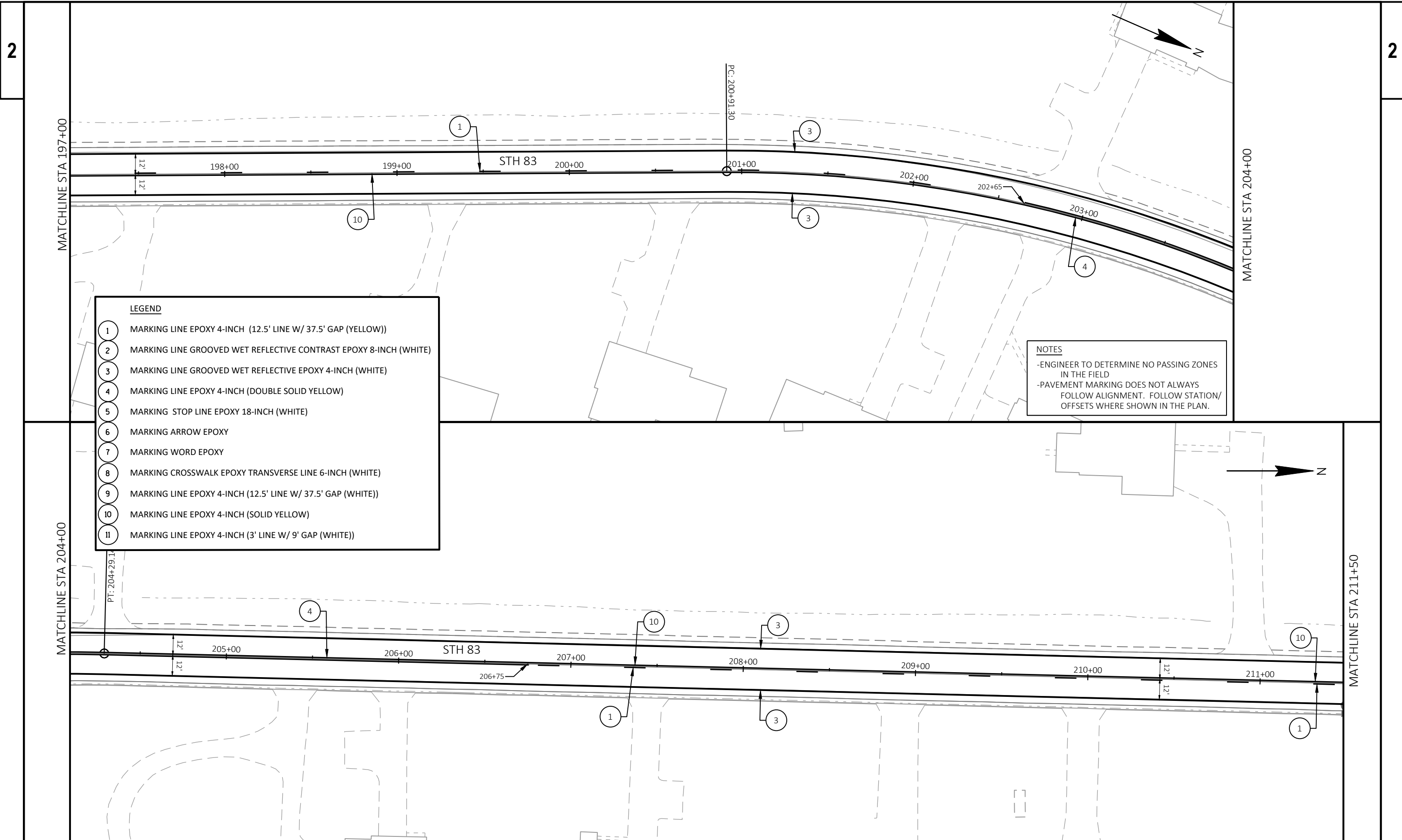
NOTES

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- PAVEMENT MARKING DOES NOT ALWAYS FOLLOW ALIGNMENT. FOLLOW STATION/OFFSETS WHERE SHOWN IN THE PLAN.

MATCHLINE STA 189+50

MATCHLINE STA 197+00



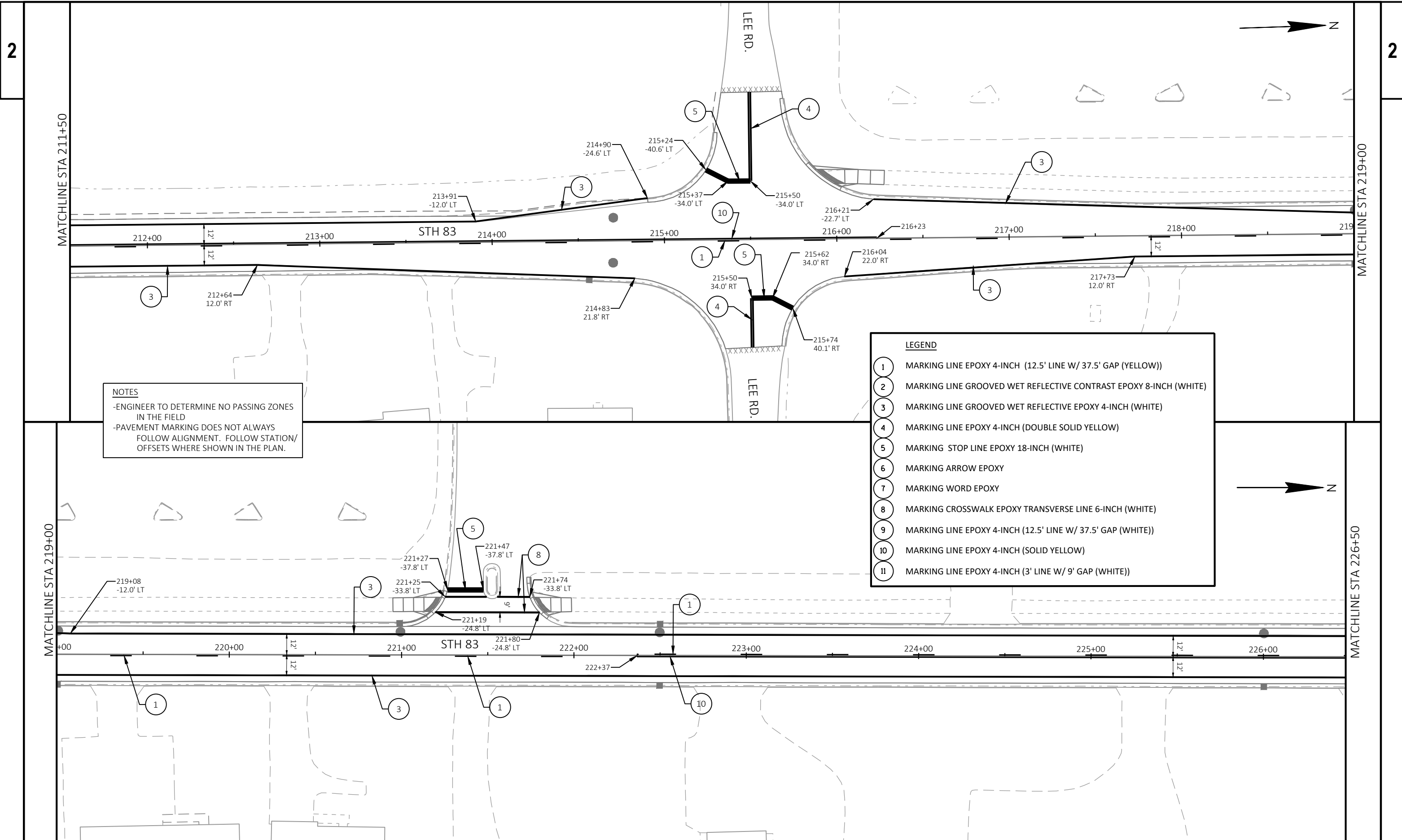


LEGEND

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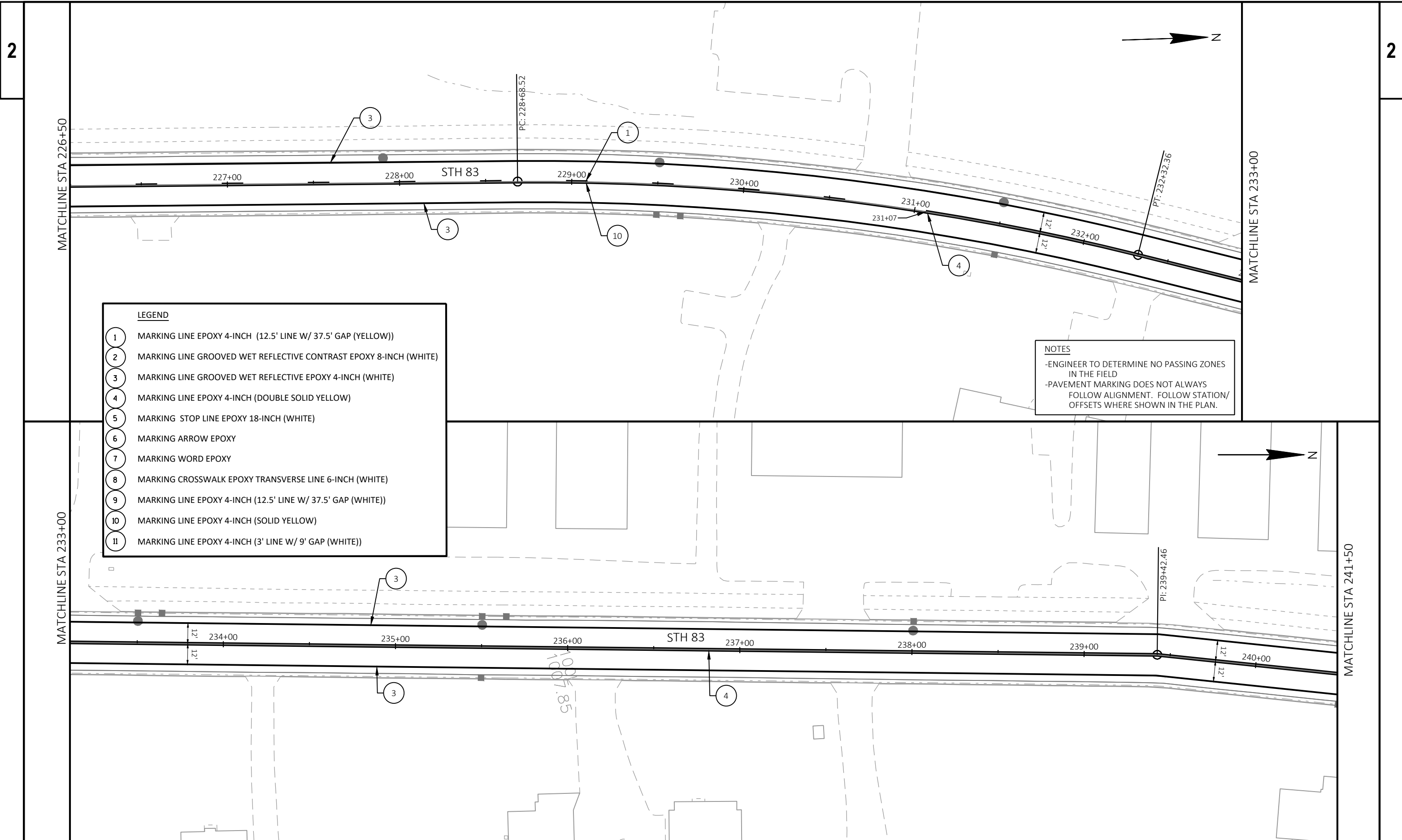
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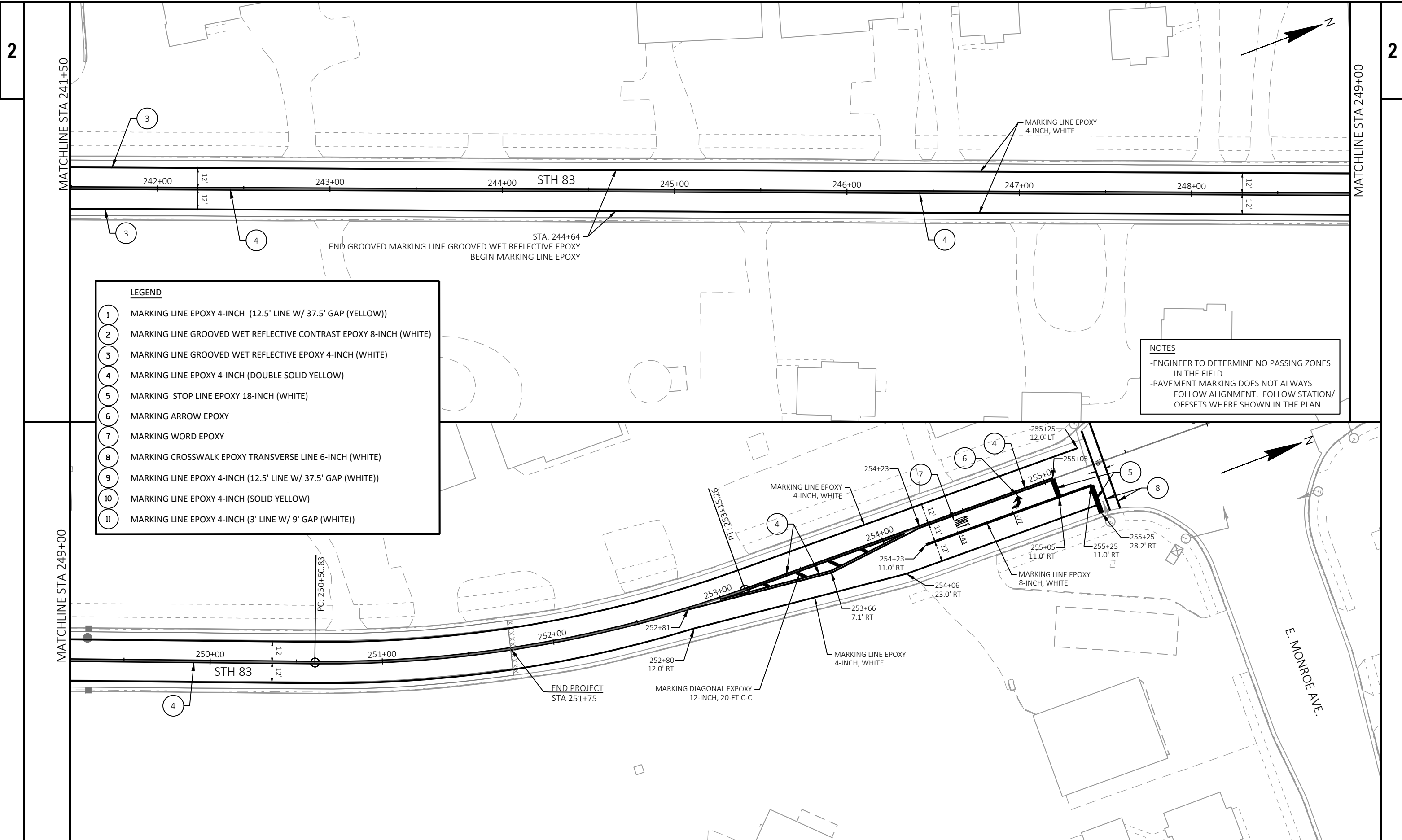


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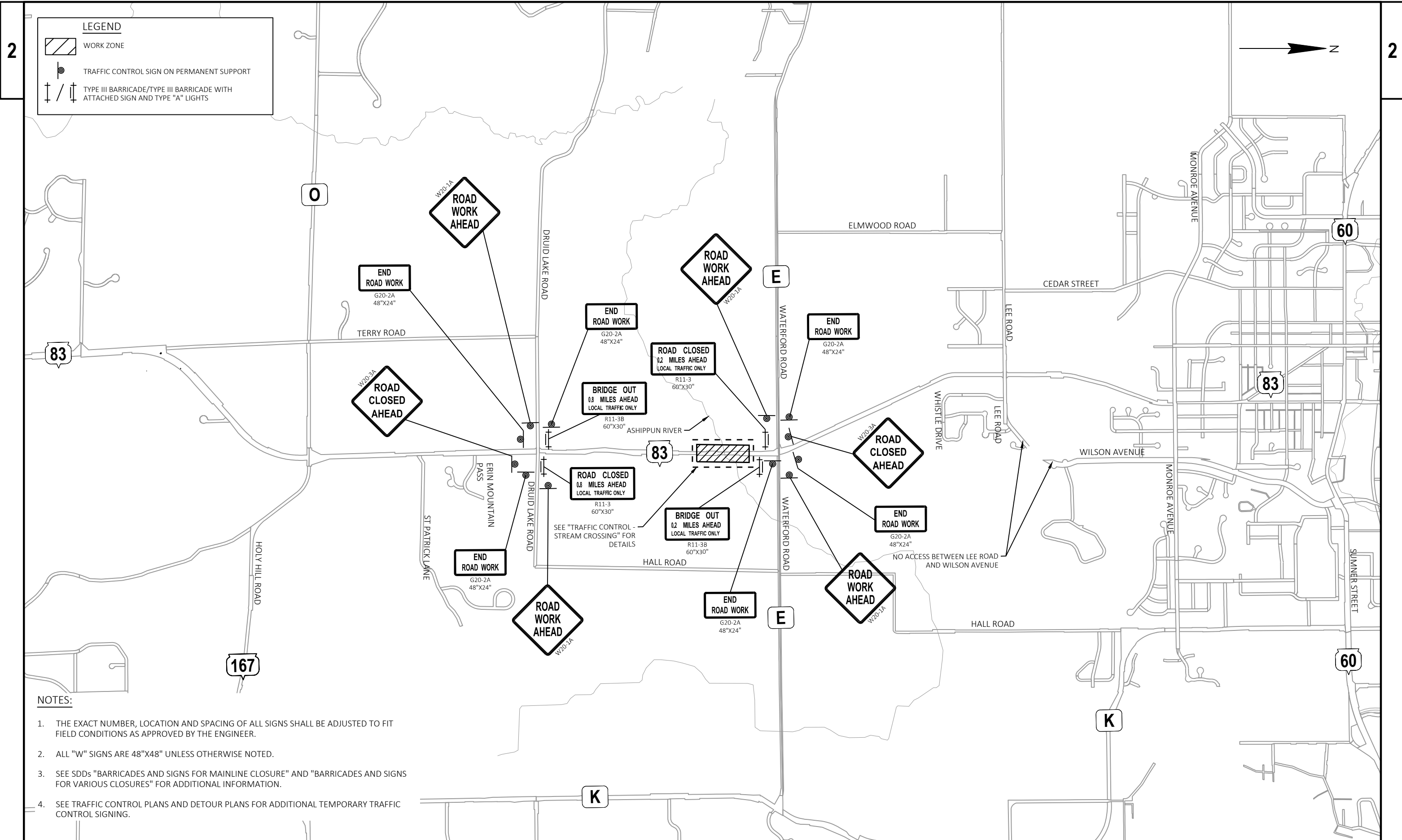


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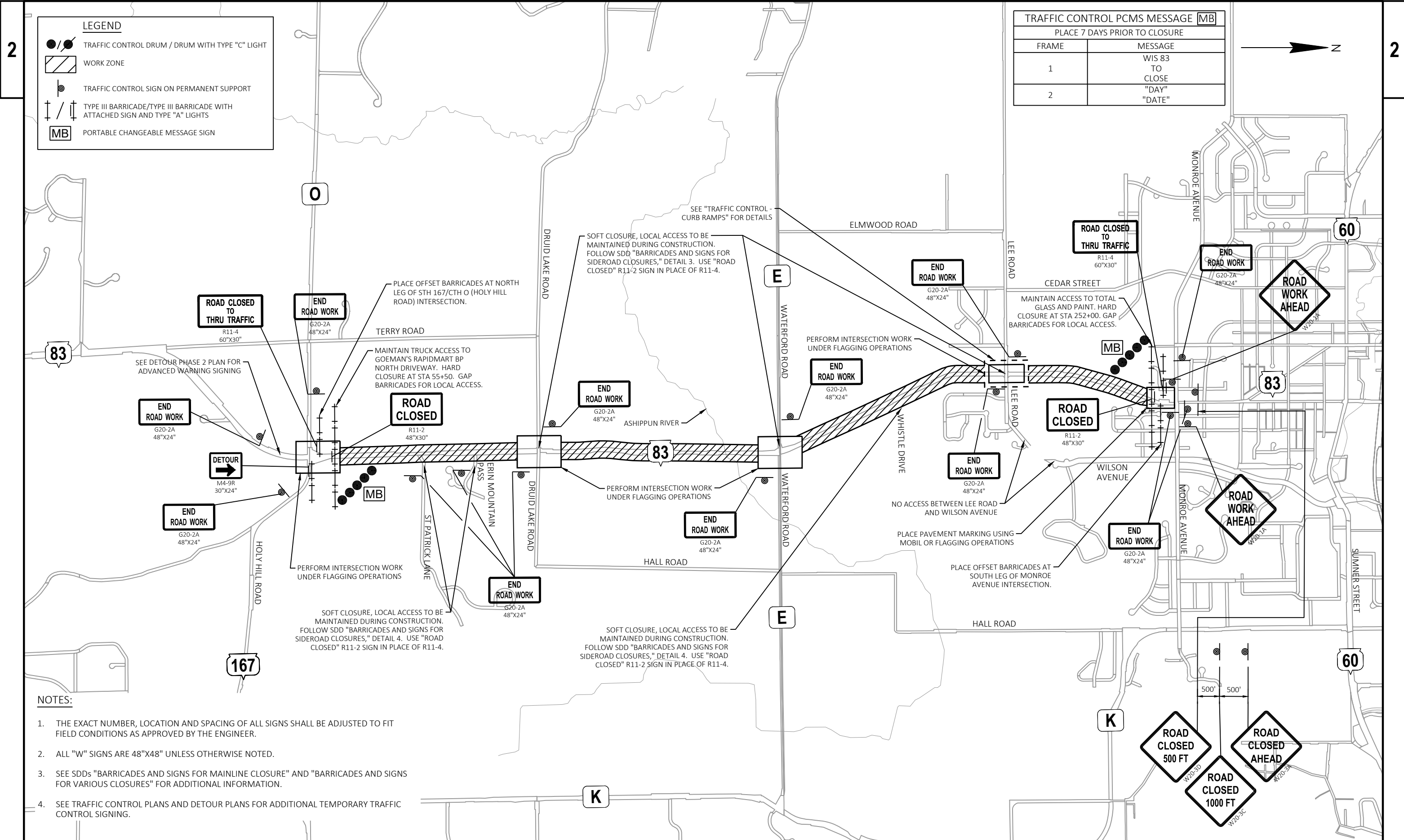
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NOTES:

1. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
2. ALL "W" SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
3. SEE SDDs "BARRICADES AND SIGNS FOR MAINLINE CLOSURE" AND "BARRICADES AND SIGNS FOR VARIOUS CLOSURES" FOR ADDITIONAL INFORMATION.
4. SEE TRAFFIC CONTROL PLANS AND DETOUR PLANS FOR ADDITIONAL TEMPORARY TRAFFIC CONTROL SIGNING.

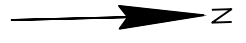


TRAFFIC CONTROL PCMS MESSAGE [MB]	
PLACE 7 DAYS PRIOR TO CLOSURE	
FRAME	MESSAGE
1	WIS 83 TO CLOSE "DAY"
2	"DATE"







LEGEND

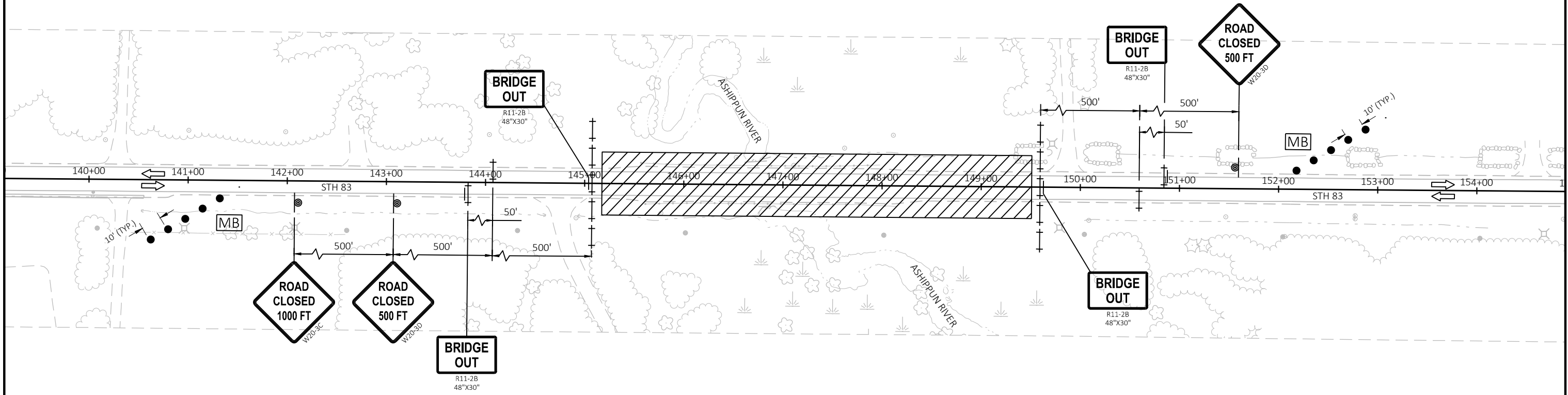
- TRAFFIC CONTROL DRUM / DRUM WITH TYPE "C" LIGHT
- WORK ZONE
- TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE/TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" LIGHTS
- PORTABLE CHANGEABLE MESSAGE SIGN

- NOTES:**
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
 - ALL "W" SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
 - SEE SDDs "BARRICADES AND SIGNS FOR MAINLINE CLOSURE" AND "BARRICADES AND SIGNS FOR VARIOUS CLOSURES" FOR ADDITIONAL INFORMATION.
 - SEE TRAFFIC CONTROL PLANS AND DETOUR PLANS FOR ADDITIONAL TEMPORARY TRAFFIC CONTROL SIGNING.



LEGEND

-  TYPE III BARRICADE/TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" LIGHTS
-  TRAFFIC CONTROL DRUM / DRUM WITH TYPE "C" LIGHT
-  TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK ZONE



NOTES:

1. CLOSE STH 83 TO ALL TRAFFIC AT THE ASHIPUN RIVER CROSSING TO REPLACE THE EXISTING PIPE CULVERTS WITH BOX CULVERT B-66-146.
2. INSTALL PERMANENT SIGNS AND PAVEMENT MARKING PRIOR TO OPENING TO TRAFFIC. PLACE PAVEMENT MARKING UNDER BID ITEM COLD WEATHER MARKING EPOXY.
3. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
4. ALL "W" SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
5. SEE SDDs "BARRICADES AND SIGNS FOR MAINLINE CLOSURE" AND "BARRICADES AND SIGN FOR VARIOUS CLOSURES" FOR ADDITIONAL INFORMATION.

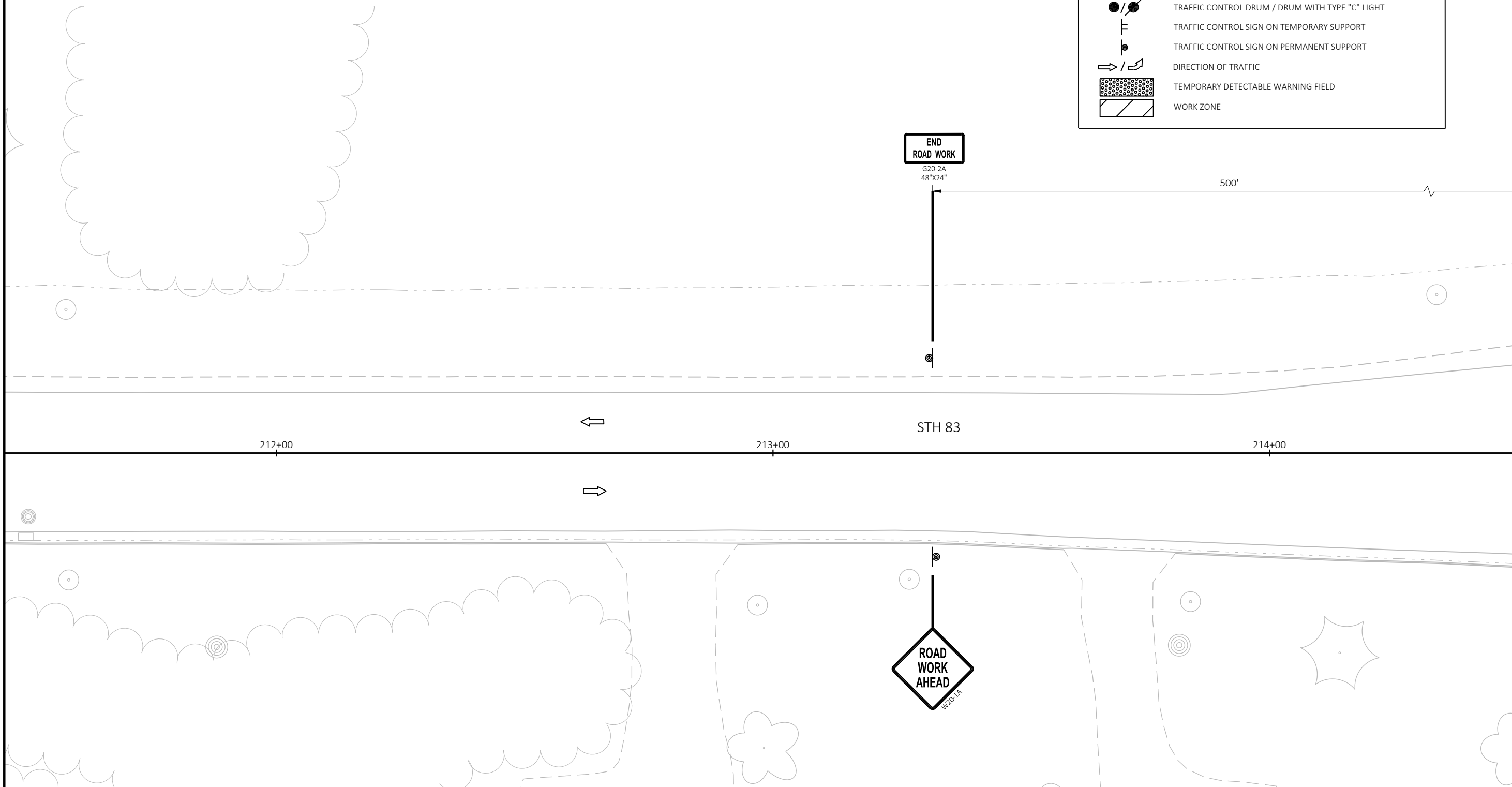
TRAFFIC CONTROL PCMS MESSAGE MB	
PLACE 7 DAYS PRIOR TO CLOSURE	
FRAME	MESSAGE
1	WIS 83 TO CLOSE
2	"DAY" "DATE"

NOTES:

1. PROVIDE PEDESTRIAN SIGNAGE AND TEMPORARY DEVICES IN ACCORDANCE WITH SDD, "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" UNTIL ACCOMMODATIONS CAN BE PROVIDED VIA PERMANENT SIDEWALK REPLACEMENT.
2. SEE SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR ADDITIONAL INFORMATION.
3. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
4. ALL "W" SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.



LEGEND	
	TEMPORARY PEDESTRIAN BARRICADE
	TEMPORARY CURB RAMP (REFER TO SDD:"TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION")
	TEMPORARY PEDESTRIAN SURFACE PLATE (REFER TO SDD:"TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION")
	TYPE III BARRICADE/TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" LIGHTS
	TRAFFIC CONTROL DRUM / DRUM WITH TYPE "C" LIGHT
	TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
	TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
	DIRECTION OF TRAFFIC
	TEMPORARY DETECTABLE WARNING FIELD
	WORK ZONE



MATCHLINE STA 214+50

PROJECT NO: 1330-22-70	HWY: STH 83	COUNTY: WASHINGTON	TRAFFIC CONTROL - CURB RAMPS	SHEET	E
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SHUBERT'S HARTFORD THEATRE

LEGEND

	TEMPORARY PEDESTRIAN BARRICADE
	TEMPORARY CURB RAMP (REFER TO SDD:"TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION")
	TEMPORARY PEDESTRIAN SURFACE PLATE (REFER TO SDD:"TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION")
	TYPE III BARRICADE/TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" LIGHTS
	TRAFFIC CONTROL DRUM / DRUM WITH TYPE "C" LIGHT
	TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
	TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
	DIRECTION OF TRAFFIC
	TEMPORARY DETECTABLE WARNING FIELD
	WORK ZONE

MATCHLINE STA 214+50

MATCHLINE STA 217+50

LEE RD

STH 83

LEE RD

500'

215+00

216+00

217+00

M4-60L
30"x24"

10' TYP.

6' MIN.

5'

50' (TYP.)

NOTES:

1. PROVIDE PEDESTRIAN SIGNAGE AND TEMPORARY DEVICES IN ACCORDANCE WITH SDD, "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" UNTIL ACCOMMODATIONS CAN BE PROVIDED VIA PERMANENT SIDEWALK REPLACEMENT.
2. SEE SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR ADDITIONAL INFORMATION.
3. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
4. ALL "W" SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

NOTES:

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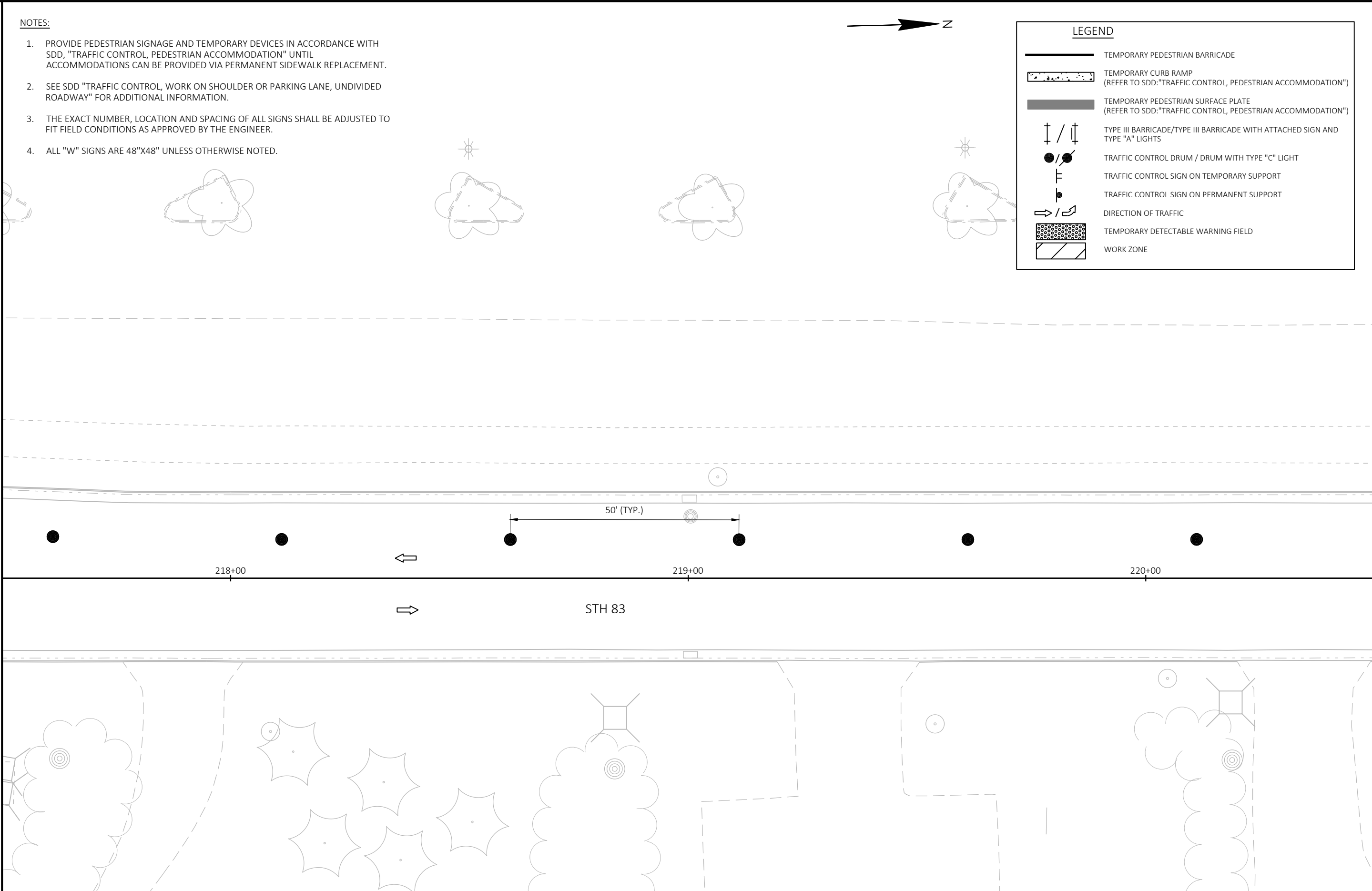


LEGEND

- TEMPORARY PEDESTRIAN BARRICADE
- TEMPORARY CURB RAMP (REFER TO SDD:"TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION")
- TEMPORARY PEDESTRIAN SURFACE PLATE (REFER TO SDD:"TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION")
- TYPE III BARRICADE/TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM / DRUM WITH TYPE "C" LIGHT
- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- TEMPORARY DETECTABLE WARNING FIELD
- WORK ZONE

MATCHLINE STA 217+50

MATCHLINE STA 220+50



PROJECT NO: 1330-22-70

HWY: STH 83

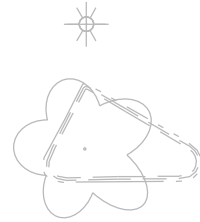
COUNTY: WASHINGTON

TRAFFIC CONTROL - CURB RAMPS

SHEET

E

SHUBERT'S HARTFORD THEATRE



NOTES:

1. PROVIDE PEDESTRIAN SIGNAGE AND TEMPORARY DEVICES IN ACCORDANCE WITH SDD, "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" UNTIL ACCOMMODATIONS CAN BE PROVIDED VIA PERMANENT SIDEWALK REPLACEMENT.
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LEGEND

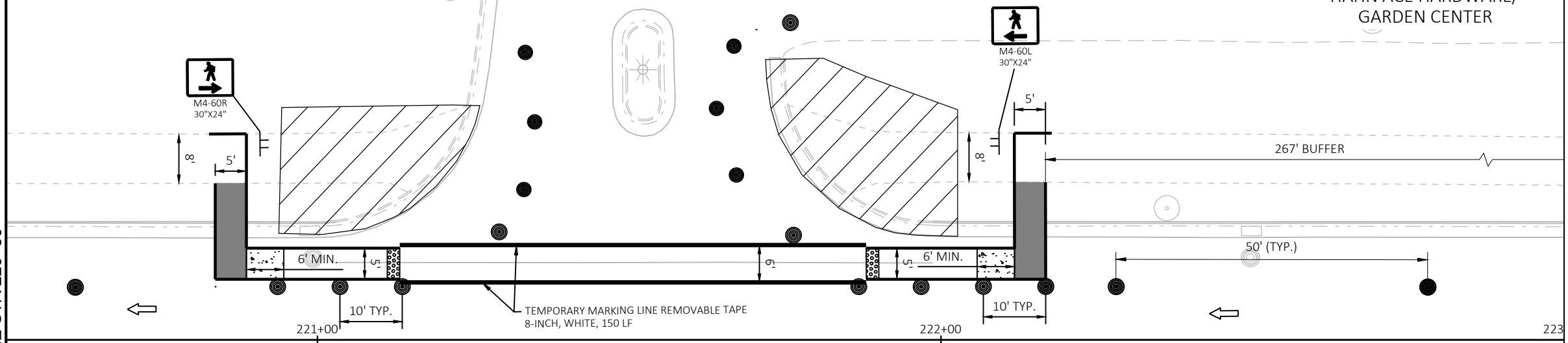
	TEMPORARY PEDESTRIAN BARRICADE
	TEMPORARY CURB RAMP (REFER TO SDD:"TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION")
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	TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
	DIRECTION OF TRAFFIC
	TEMPORARY DETECTABLE WARNING FIELD
	WORK ZONE



HAHN ACE HARDWARE/
GARDEN CENTER

MATCHLINE STA 220+50


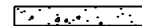

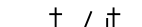

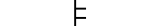




MATCHLINE STA 223+00



STH 83

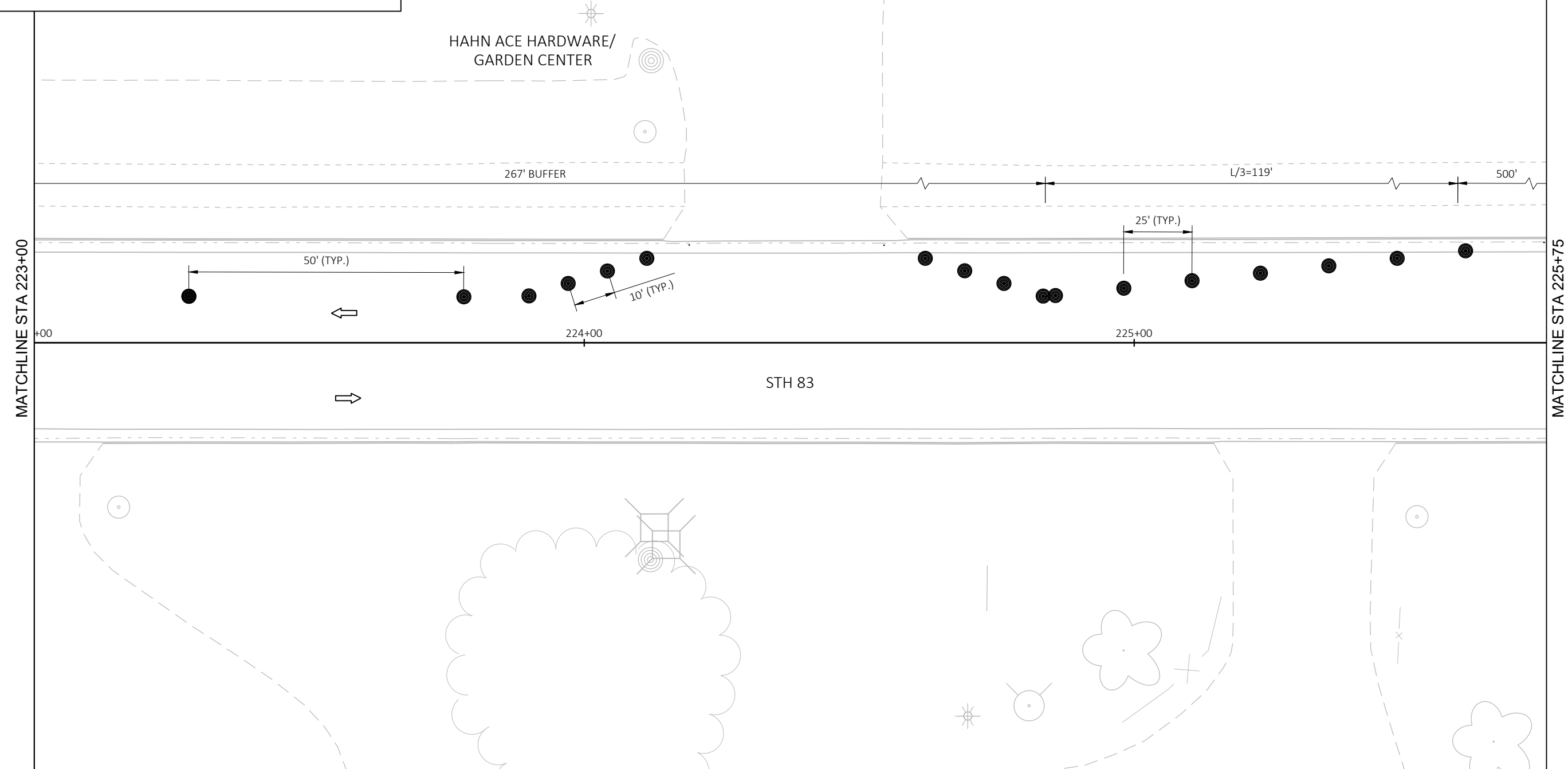
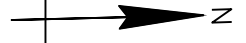


LEGEND


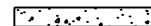


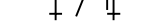

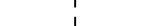
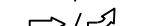


-  TEMPORARY PEDESTRIAN BARRICADE
-  TEMPORARY CURB RAMP
(REFER TO SDD: "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION")
-  TEMPORARY PEDESTRIAN SURFACE PLATE
(REFER TO SDD: "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION")
-  TYPE III BARRICADE / TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" LIGHTS
-  TRAFFIC CONTROL DRUM / DRUM WITH TYPE "C" LIGHT
-  TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  TEMPORARY DETECTABLE WARNING FIELD
-  WORK ZONE

NOTES:

1. PROVIDE PEDESTRIAN SIGNAGE AND TEMPORARY DEVICES IN ACCORDANCE WITH SDD, "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" UNTIL ACCOMMODATIONS CAN BE PROVIDED VIA PERMANENT SIDEWALK REPLACEMENT.
2. SEE SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR ADDITIONAL INFORMATION.
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4. ALL "W" SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

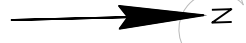


LEGEND

-  TEMPORARY PEDESTRIAN BARRICADE
-  TEMPORARY CURB RAMP
(REFER TO SDD: "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION")
-  TEMPORARY PEDESTRIAN SURFACE PLATE
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MATCHLINE STA 225+75

HAHN ACE HARDWARE/
GARDEN CENTER



500'

500'

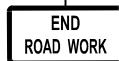


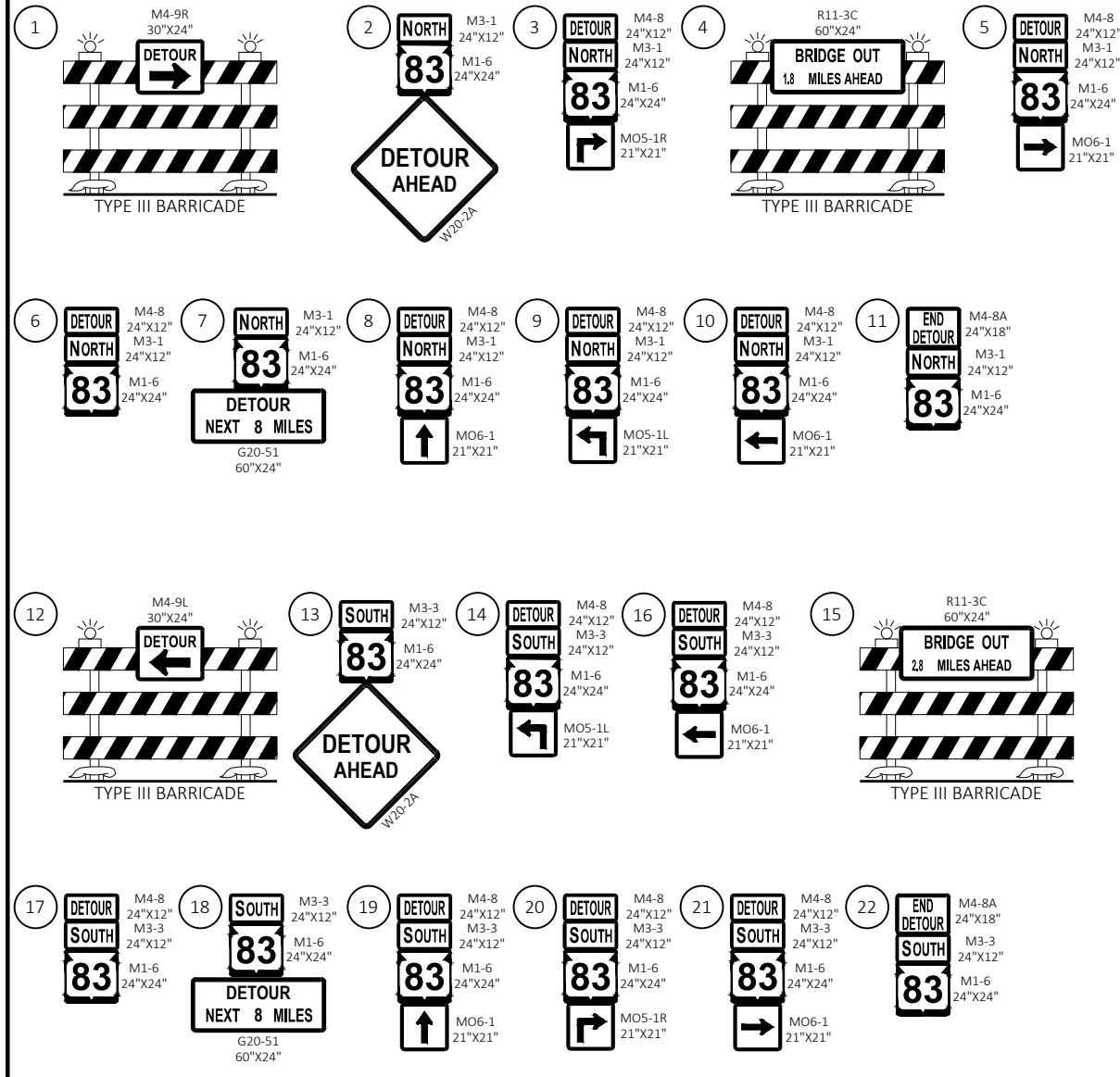
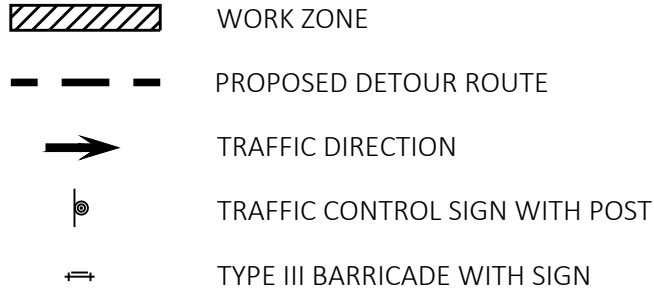
STH 83

226+00

227+00

228+00





NOTES

ALL EXISTING SIGN MESSAGES THAT CONFLICT WITH TRAFFIC CONTROL DETOUR SIGNS SHALL BE COVERED OR REMOVED

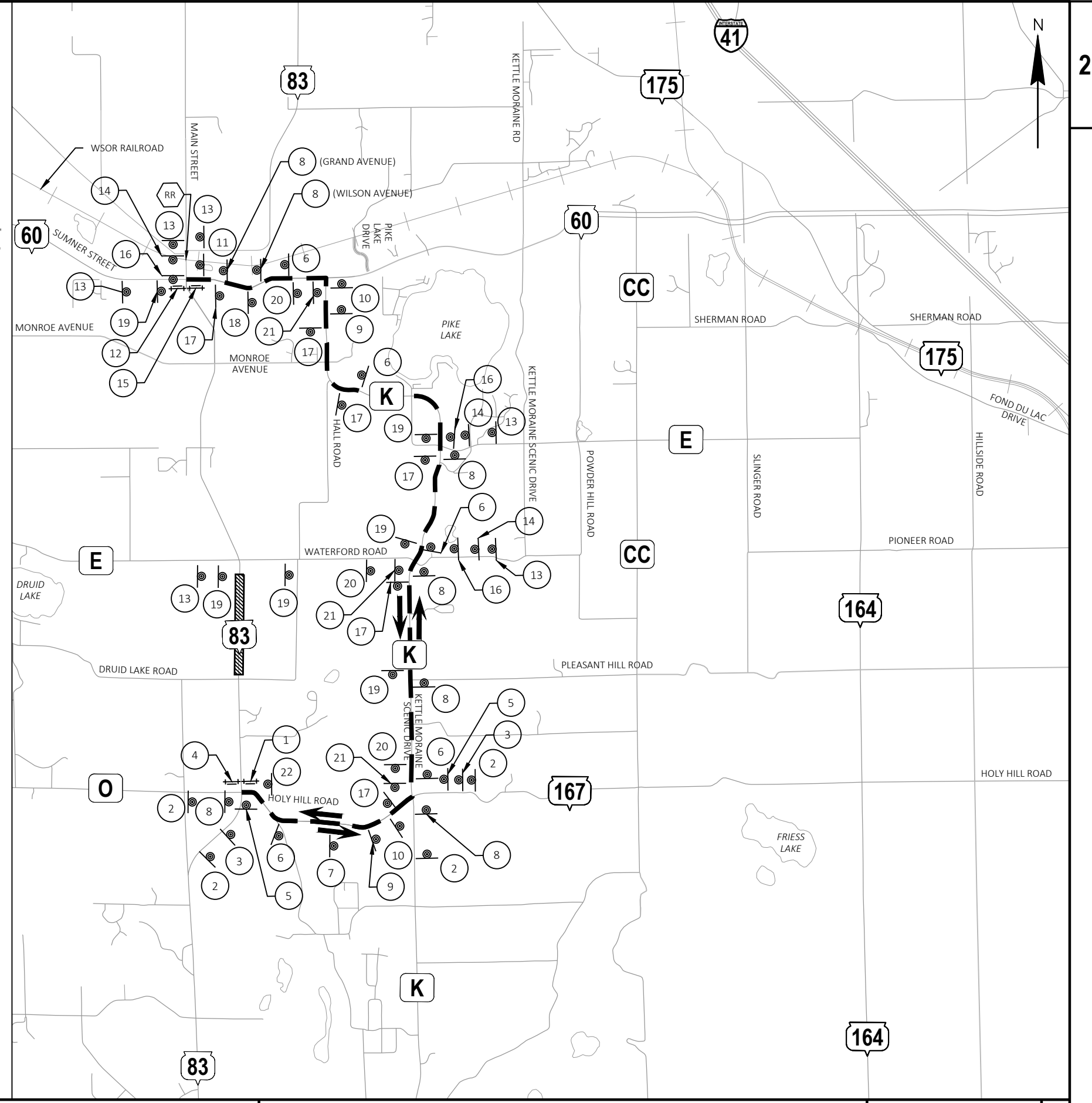
SEE SDD "DETOUR SIGNING FOR MAINLINE CLOSURES" FOR SIGN SPACING AND LOCATIONS

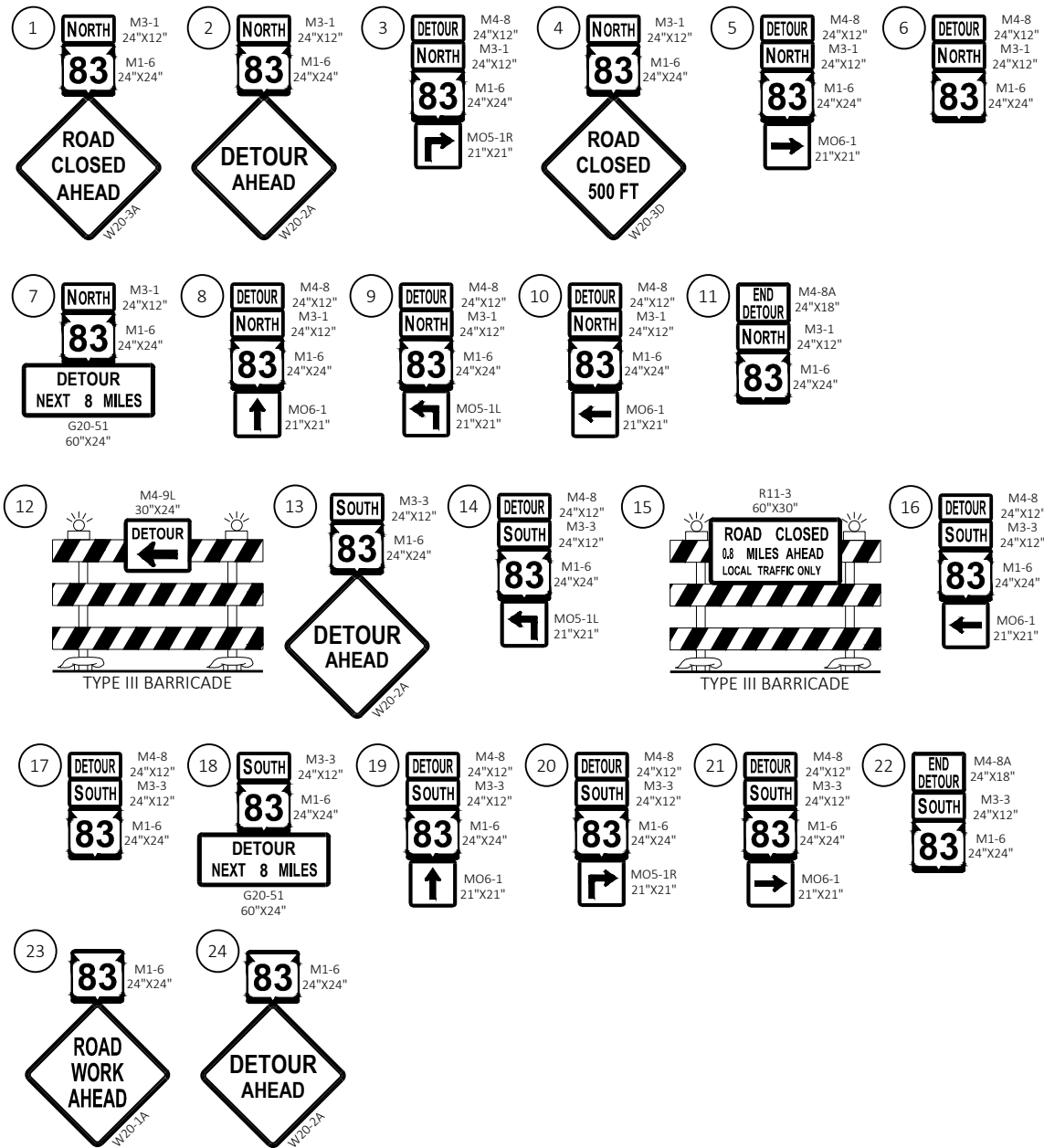
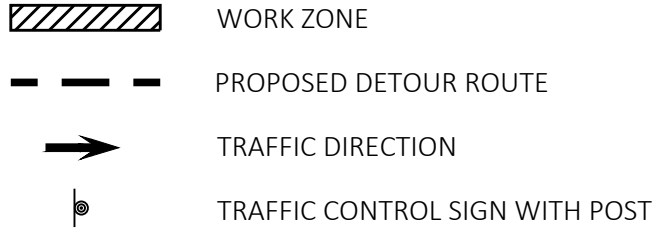
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER

ALL M3 SERIES SIGNS WHICH ARE PART OF THE DETOUR ROUTE MARKER SIGNING ASSEMBLY OR ATTACHED TO ANY WARNING SIGN SHALL BE BLACK LETTERING ON A WHITE BACKGROUND

RAILROAD NOTES

DO NOT PLACE ANY ITEMS WITHIN 50-FOET OF THE RAILROAD RIGHT-OF-WAY, INCLUDING ITEMS THAT COULD FOUL THE SAME AREA, INCLUDING BUT NOT LIMITED TO SIGNING, EQUIPMENT, OR MATERIAL. THIS INCLUDES AT-GRADE CROSSINGS AND STRUCTURES WITH RR UNDER OR OVER. IF THIS IS NOT ADHERED TO RAILROAD PROTECTIVE LIABILITY INSURANCE WILL BE REQUIRED OF THE CONTRACTOR AND INCIDENTAL TO THE PROJECT.





NOTES

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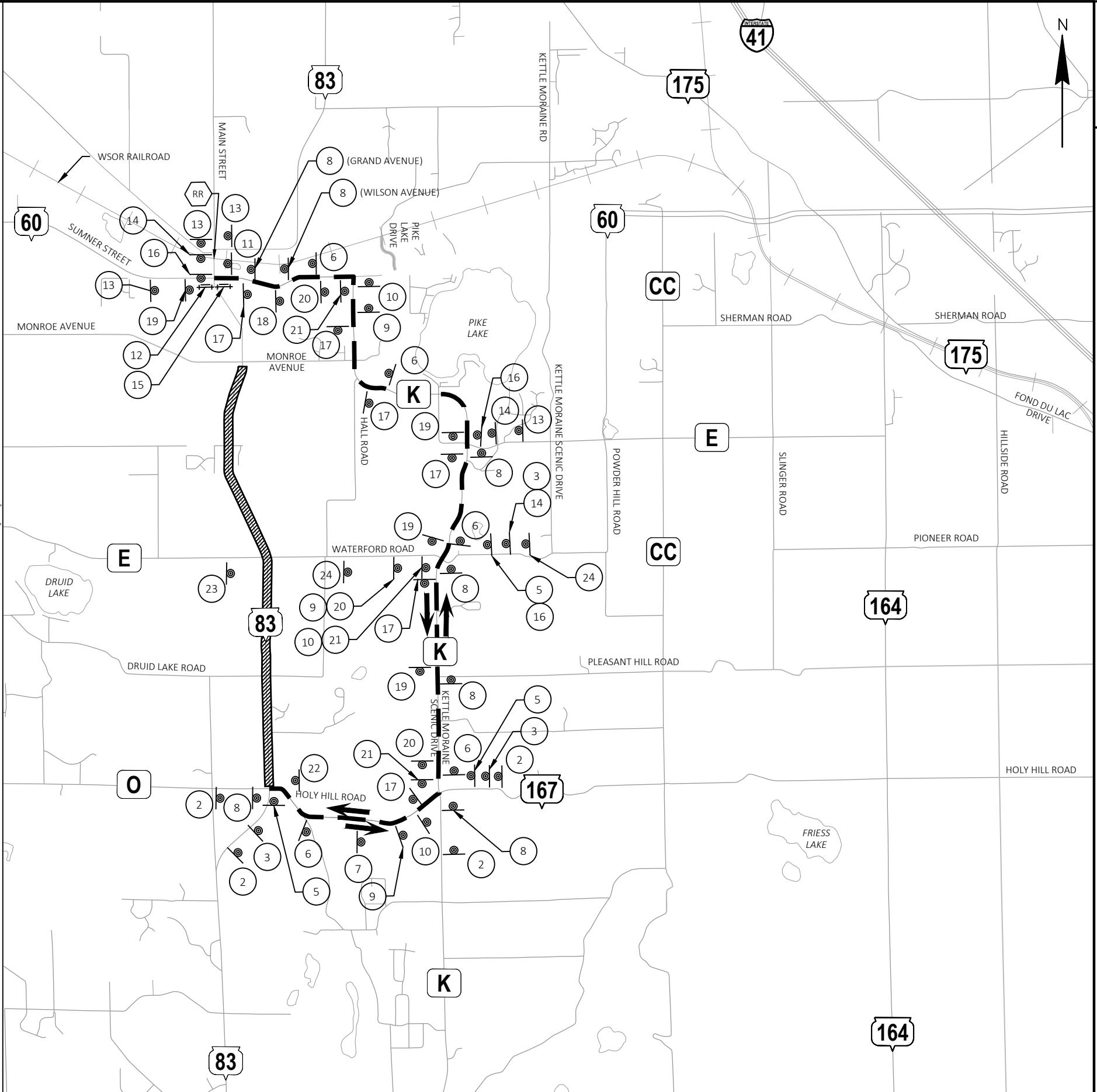
SEE SDD "DETOUR SIGNING FOR MAINLINE CLOSURES" FOR SIGN SPACING AND LOCATIONS

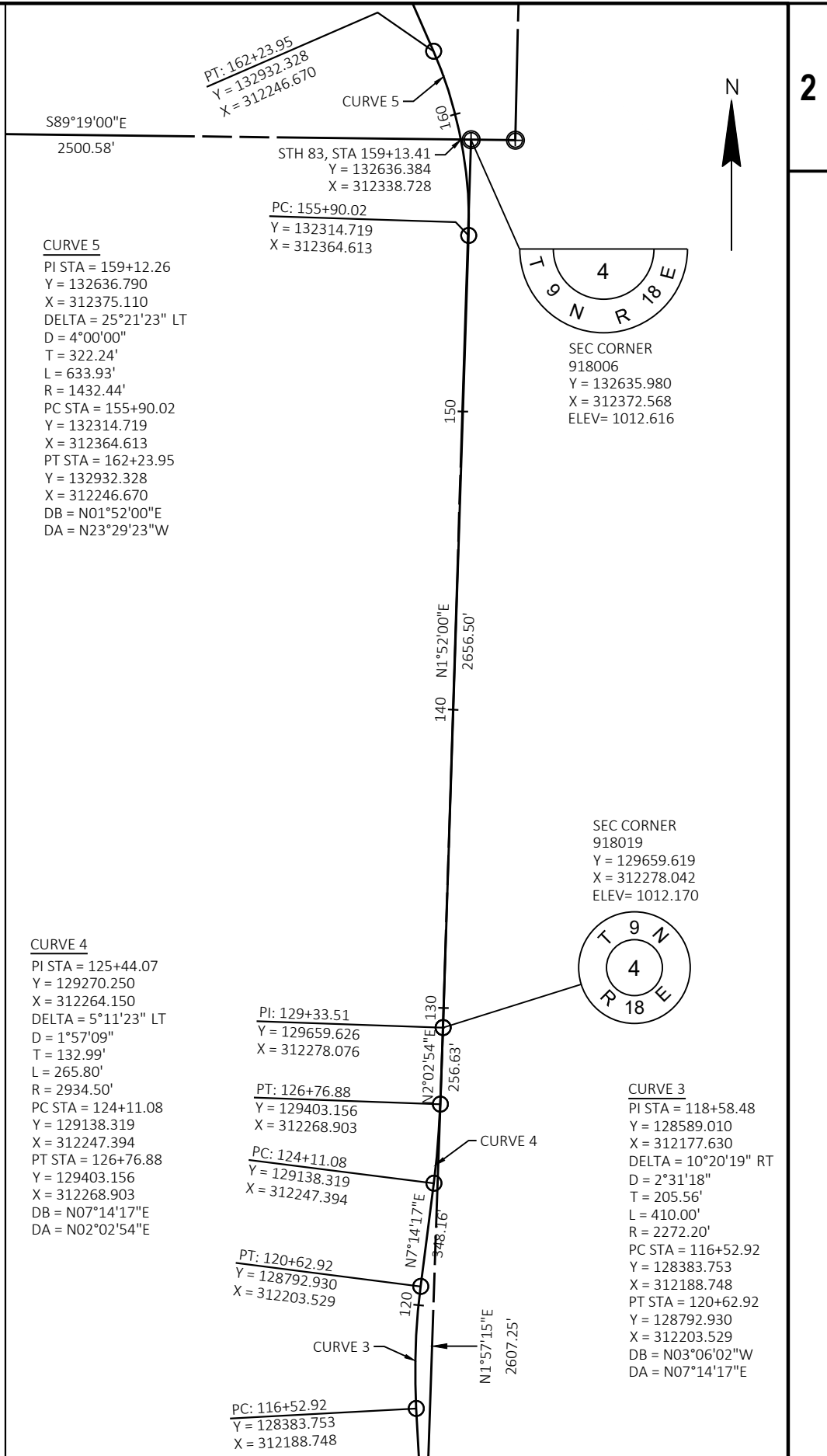
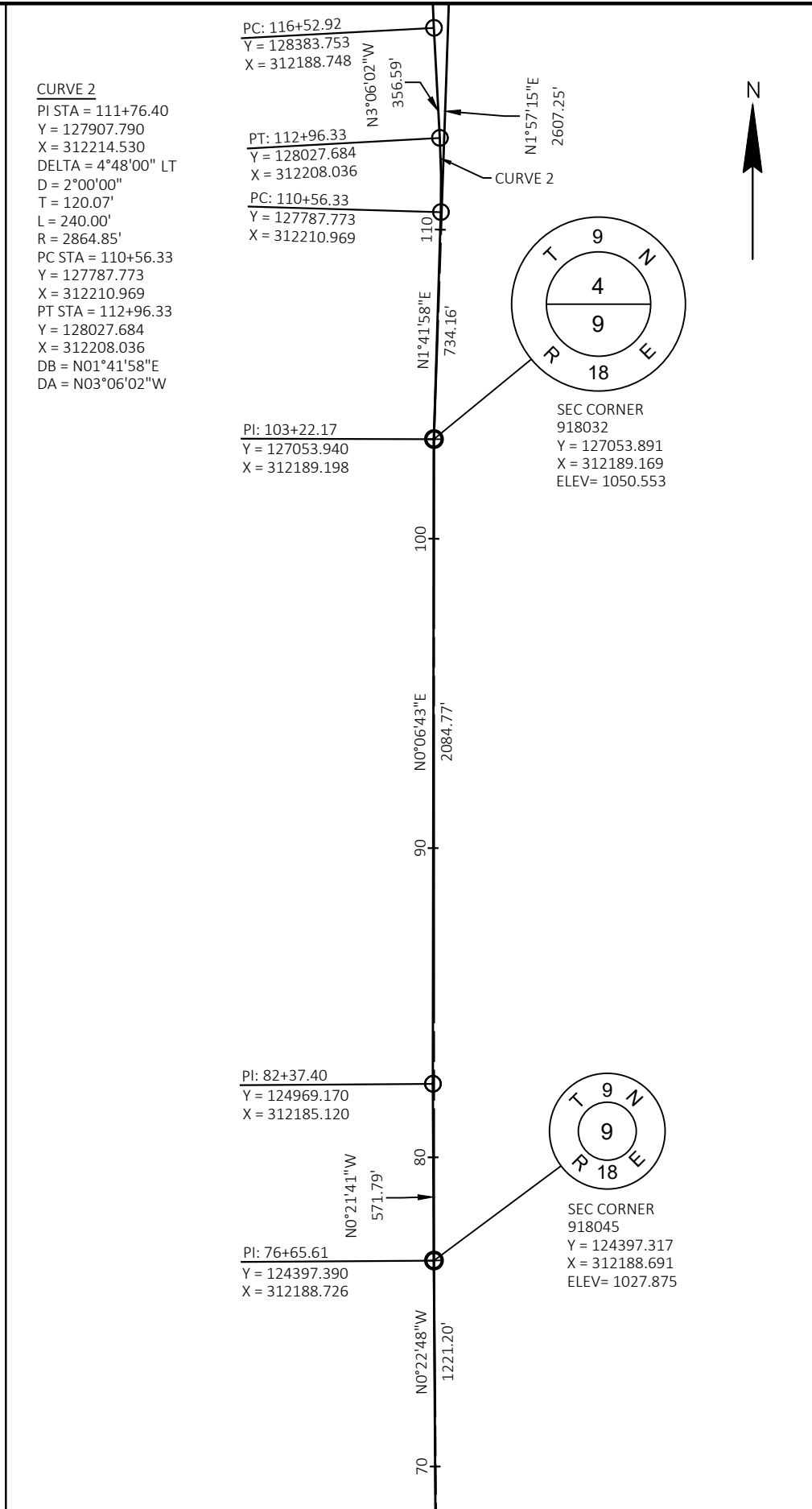
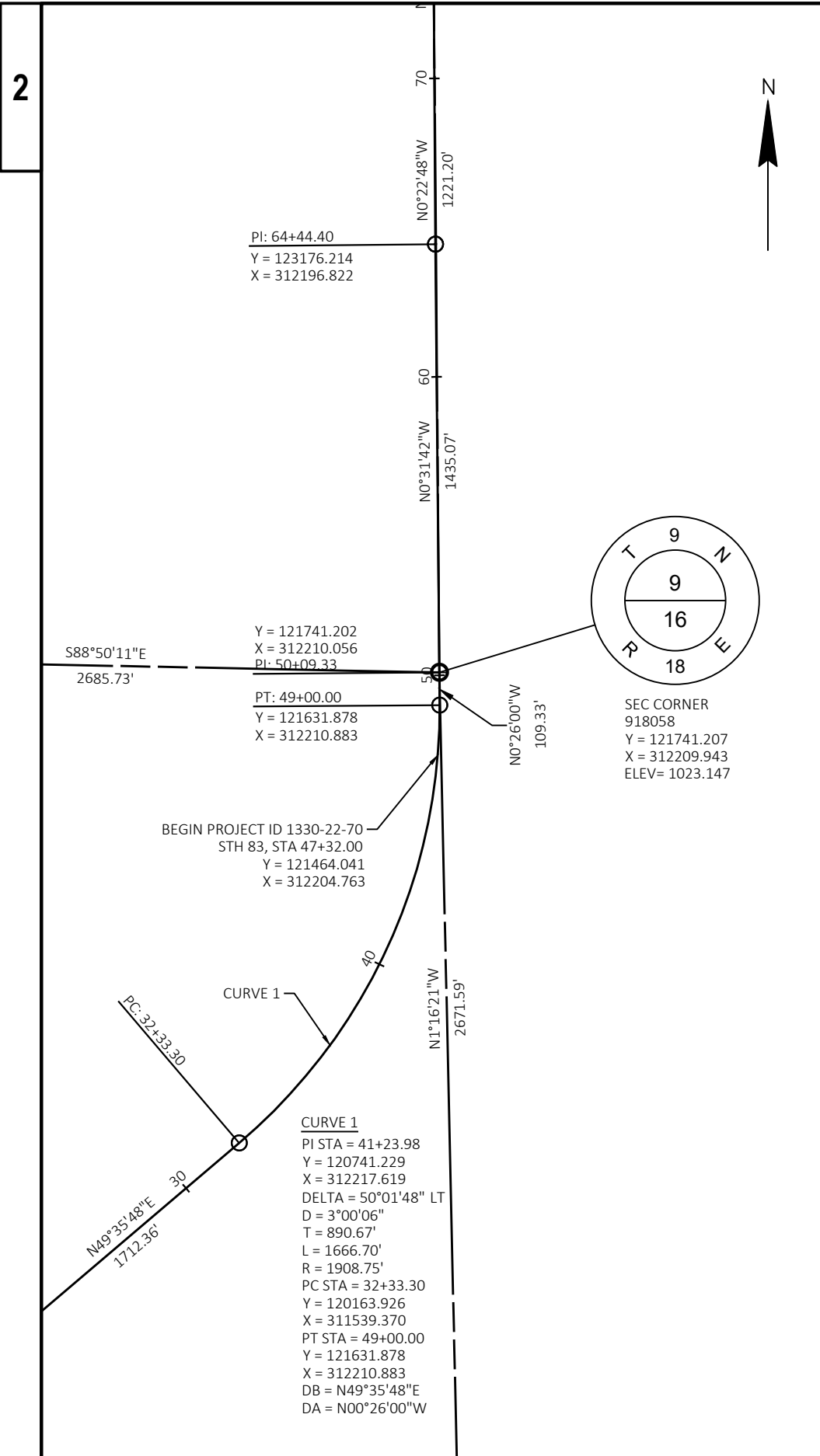
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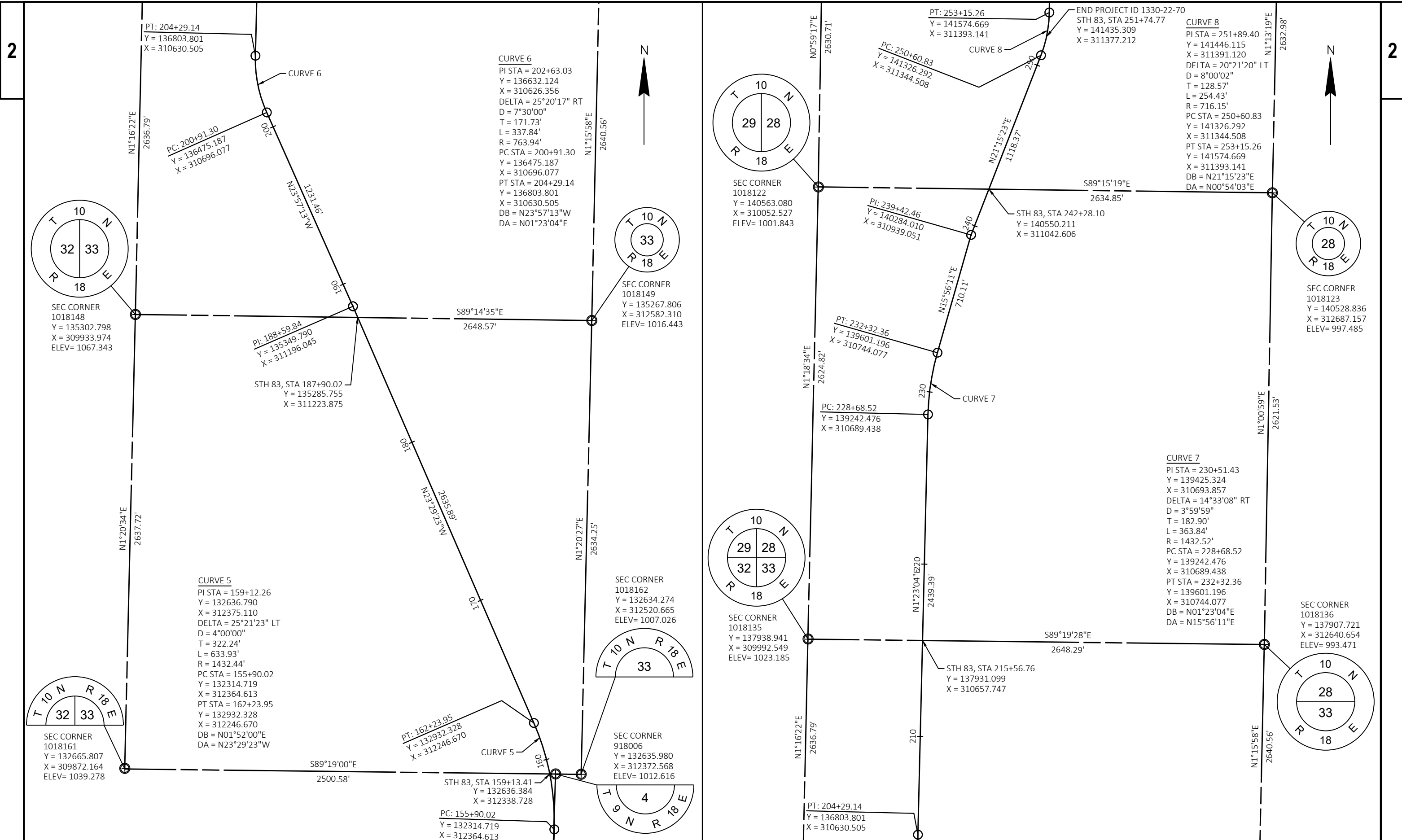
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PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON ALIGNMENT LAYOUT SHEET E



PT: 204+29.14
Y = 136803.801
X = 310630.505

PC: 200+91.30
Y = 136475.187
X = 310696.077

CURVE 6
PI STA = 202+63.03
Y = 136632.124
X = 310626.356
DELTA = 25°20'17" RT
D = 7°30'00"
T = 171.73'
L = 337.84'
R = 763.94'
PC STA = 200+91.30
Y = 136475.187
X = 310696.077
PT STA = 204+29.14
Y = 136803.801
X = 310630.505
DB = N23°57'13"W
DA = N01°23'04"E

PI: 188+59.84
Y = 135349.790
X = 311196.045

STH 83, STA 187+90.02
Y = 135285.755
X = 311223.875

CURVE 5
PI STA = 159+12.26
Y = 132636.790
X = 312375.110
DELTA = 25°21'23" LT
D = 4°00'00"
T = 322.24'
L = 633.93'
R = 1432.44'
PC STA = 155+90.02
Y = 132314.719
X = 312364.613
PT STA = 162+23.95
Y = 132932.328
X = 312246.670
DB = N01°52'00"E
DA = N23°29'23"W

PT: 162+23.95
Y = 132932.328
X = 312246.670

STH 83, STA 159+13.41
Y = 132636.384
X = 312338.728

PC: 155+90.02
Y = 132314.719
X = 312364.613

SEC CORNER
1018162
Y = 132634.274
X = 312520.665
ELEV= 1007.026

SEC CORNER
918006
Y = 132635.980
X = 312372.568
ELEV= 1012.616

SEC CORNER
1018122
Y = 140563.080
X = 310052.527
ELEV= 1001.843

SEC CORNER
1018135
Y = 137938.941
X = 309992.549
ELEV= 1023.185

PT: 204+29.14
Y = 136803.801
X = 310630.505

PC: 250+60.83
Y = 141326.292
X = 311344.508

PC: 228+68.52
Y = 139242.476
X = 310689.438

PT: 232+32.36
Y = 139601.196
X = 310744.077

PI: 239+42.46
Y = 140284.010
X = 310939.051

STH 83, STA 242+28.10
Y = 140550.211
X = 311042.606

PT: 253+15.26
Y = 141574.669
X = 311393.141

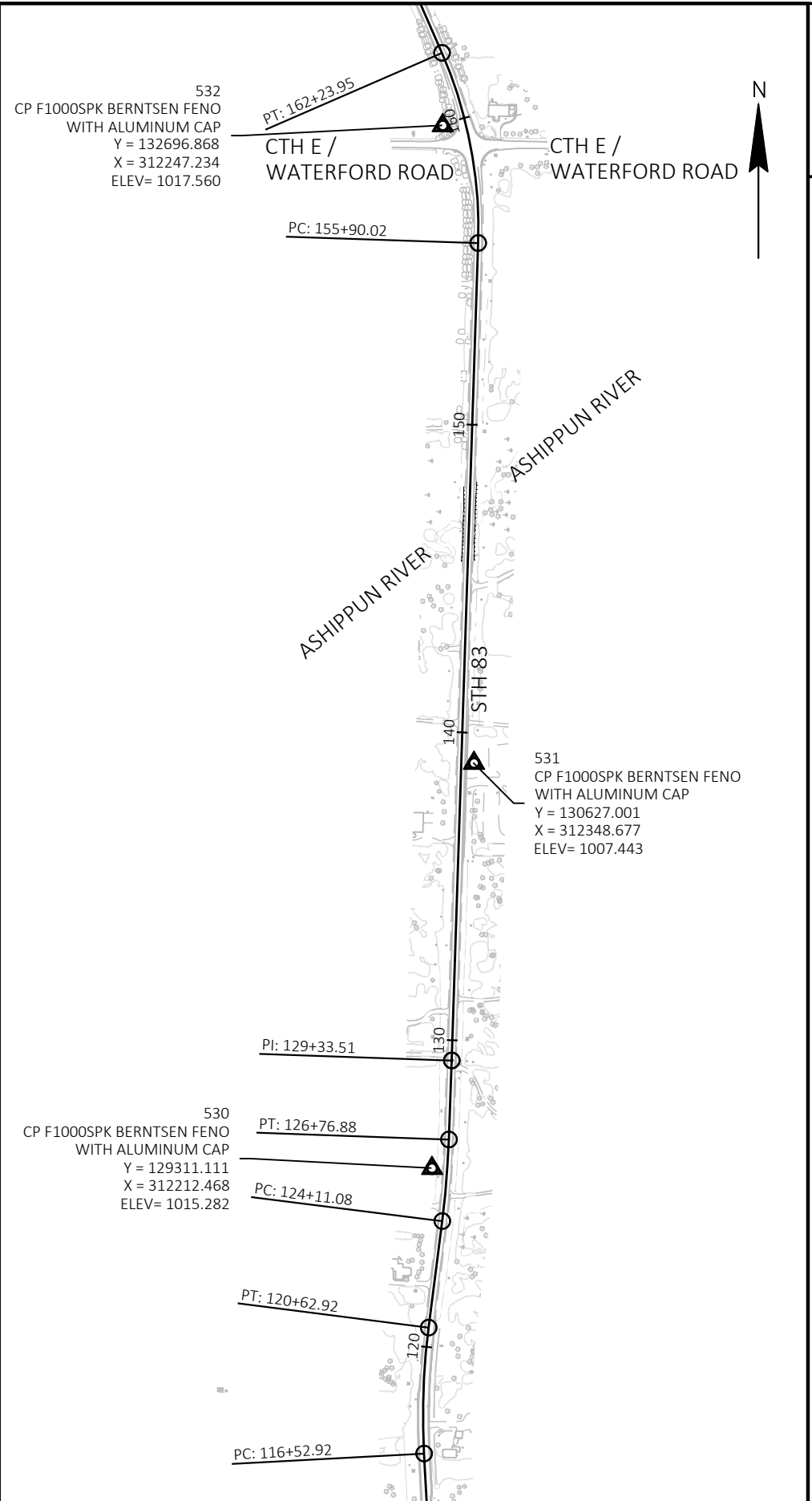
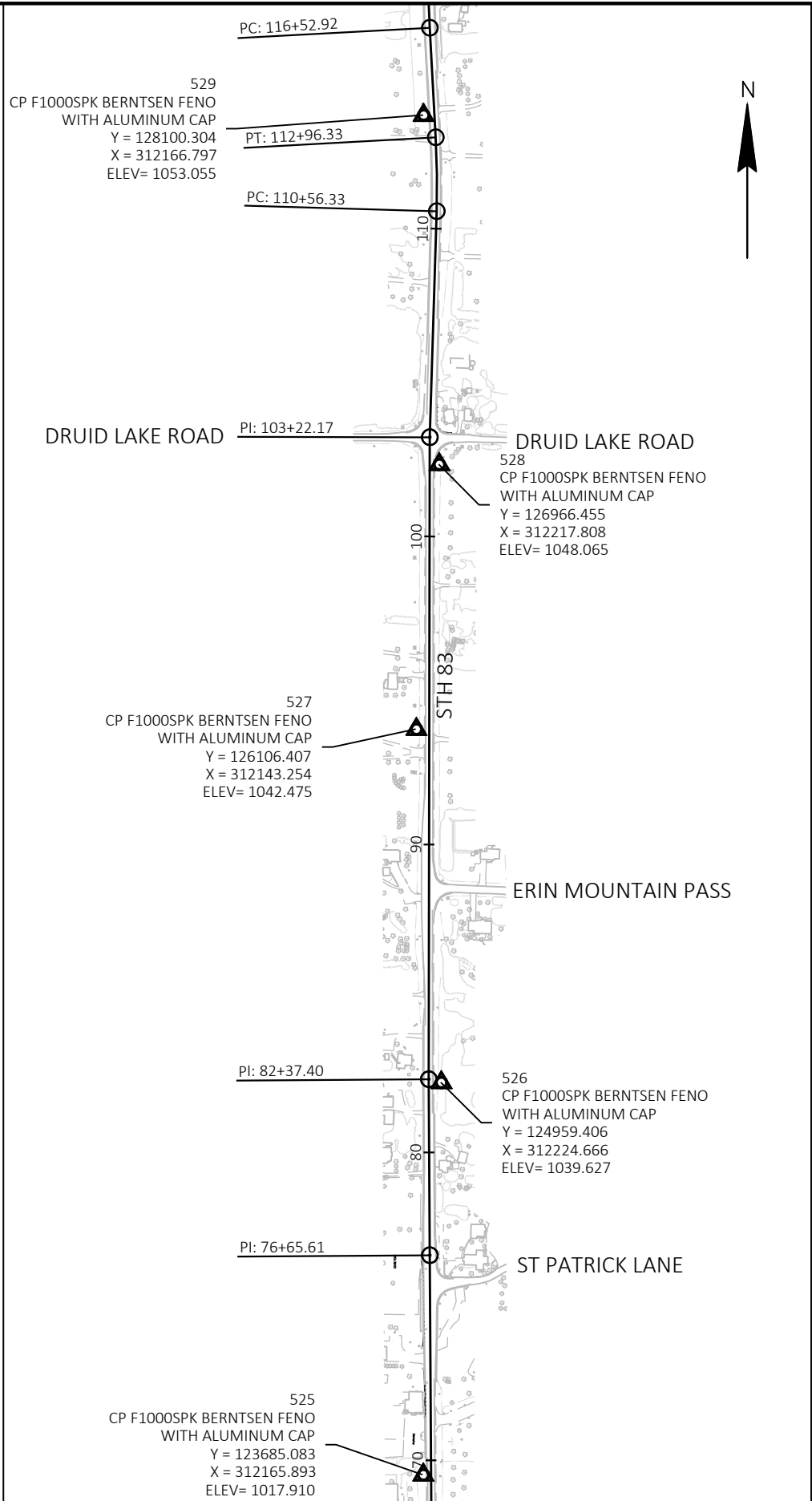
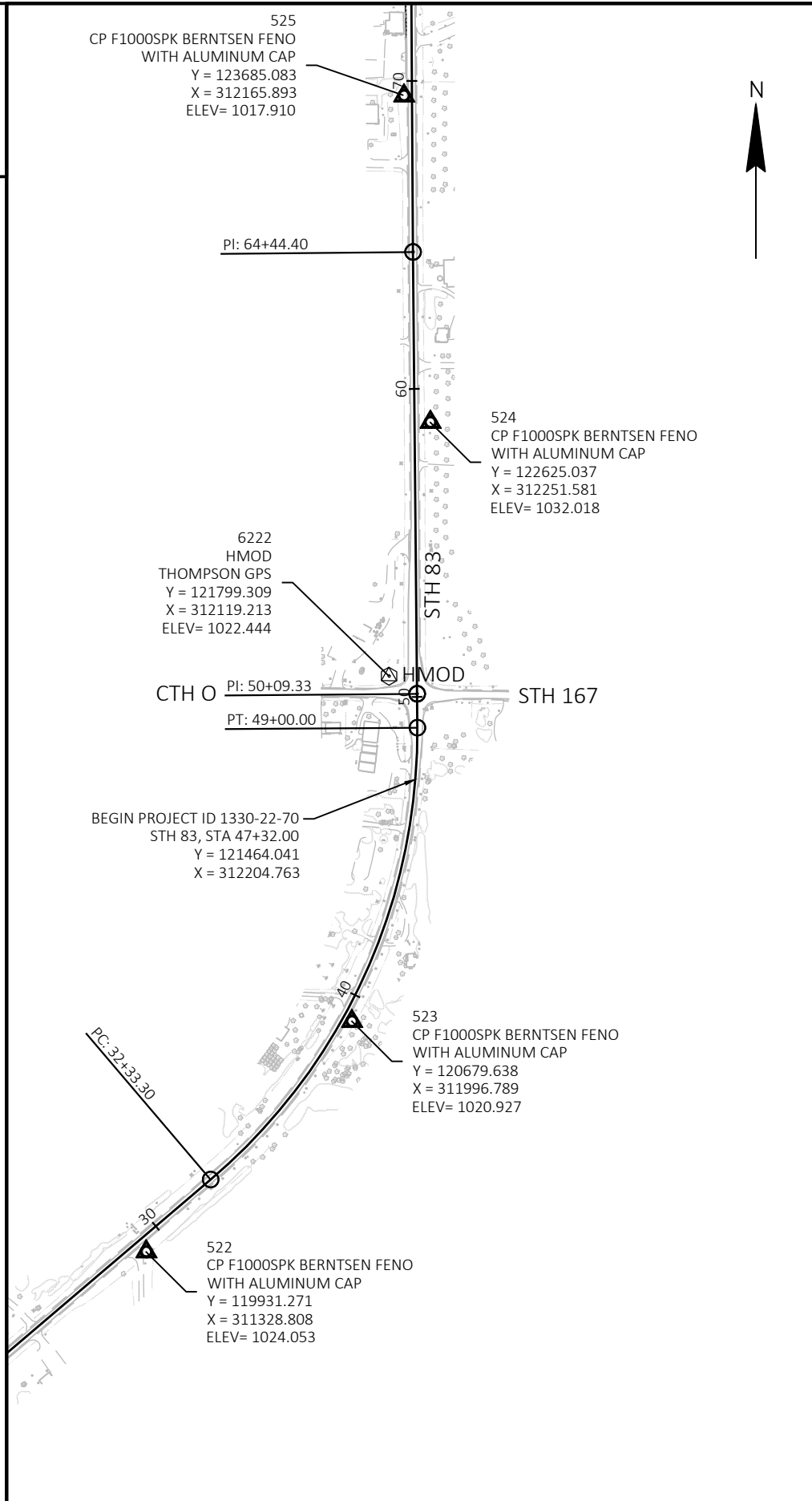
END PROJECT ID 1330-22-70
STH 83, STA 251+74.77
Y = 141435.309
X = 311377.212

CURVE 8
PI STA = 251+89.40
Y = 141446.115
X = 311391.120
DELTA = 20°21'20" LT
D = 8°00'02"
T = 128.57'
L = 254.43'
R = 716.15'
PC STA = 250+60.83
Y = 141326.292
X = 311344.508
PT STA = 253+15.26
Y = 141574.669
X = 311393.141
DB = N21°15'23"E
DA = N00°54'03"E

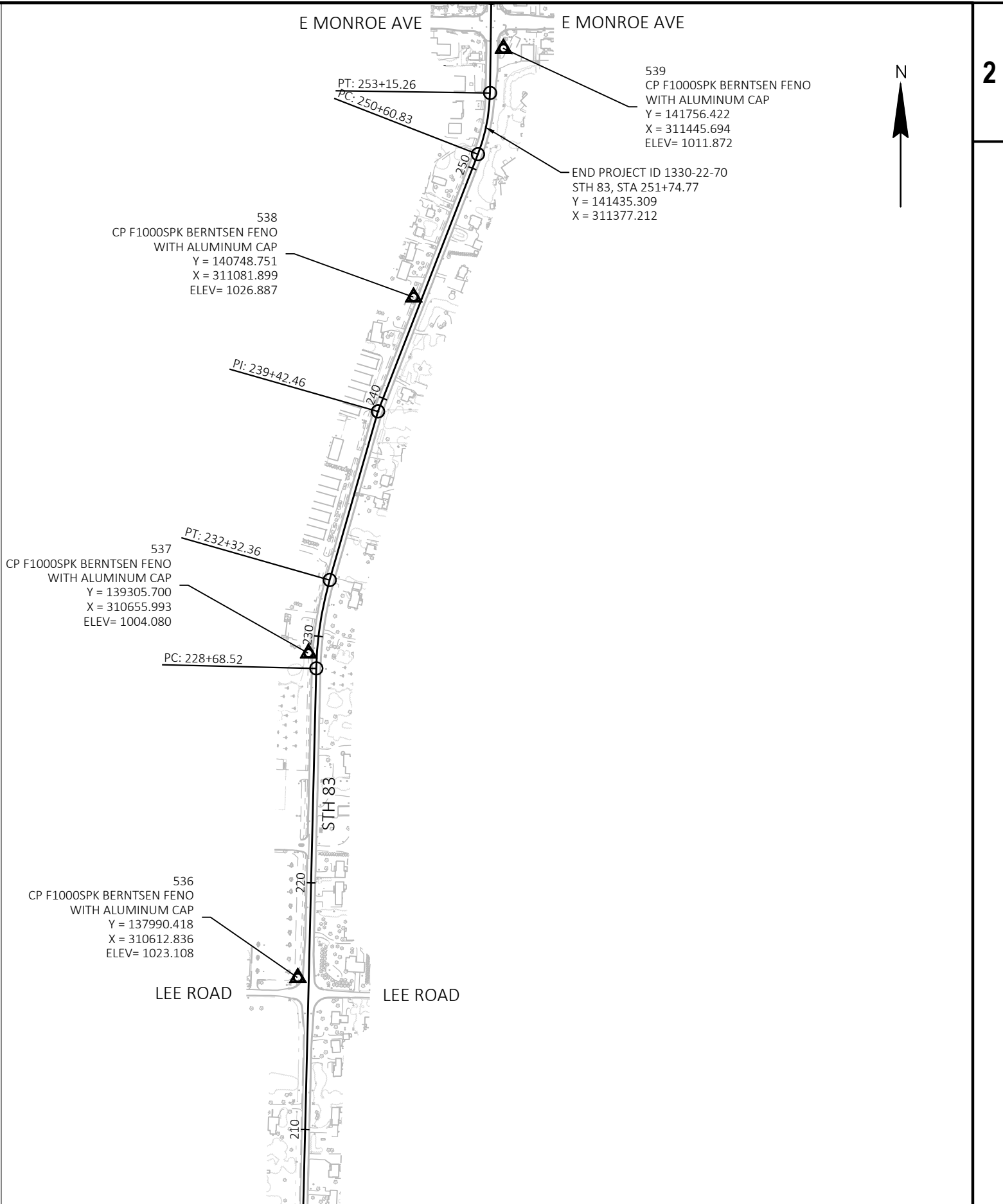
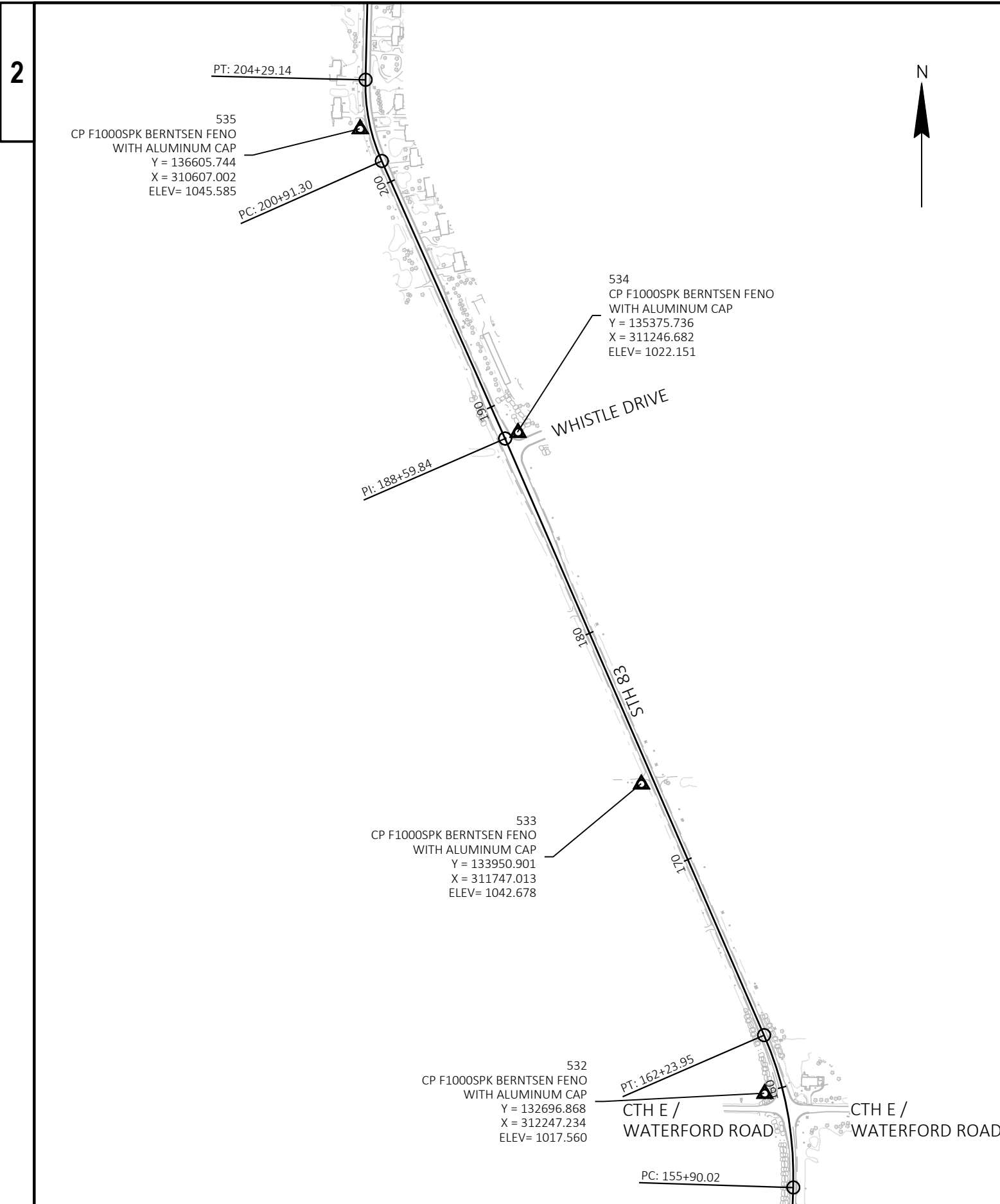
CURVE 7
PI STA = 230+51.43
Y = 139425.324
X = 310693.857
DELTA = 14°33'08" RT
D = 3°59'59"
T = 182.90'
L = 363.84'
R = 1432.52'
PC STA = 228+68.52
Y = 139242.476
X = 310689.438
PT STA = 232+32.36
Y = 139601.196
X = 310744.077
DB = N01°23'04"E
DA = N15°56'11"E

SEC CORNER
1018136
Y = 137907.721
X = 312640.654
ELEV= 993.471

SEC CORNER
1018123
Y = 140528.836
X = 312687.157
ELEV= 997.485



PROJECT NO: 1330-22-70	HWY: STH 83	COUNTY: WASHINGTON	SURVEY CONTROL	SHEET	E
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PROJECT NO: 1330-22-70

HWY: STH 83

COUNTY: WASHINGTON

SURVEY CONTROL

SHEET

E

Estimate Of Quantities

1330-22-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0220	Removing Structure (structure) 01. R-66-0080	EACH	1.000	1.000
0004	203.0220	Removing Structure (structure) 01. Twin 72"x48" Steel Pipe-Arch Culverts	EACH	1.000	1.000
0006	204.0100	Removing Concrete Pavement	SY	196.000	196.000
0008	204.0110	Removing Asphaltic Surface	SY	101.000	101.000
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	960.000	960.000
0012	204.0125	Removing Asphaltic Surface Milling	TON	13,207.000	13,207.000
0014	204.0150	Removing Curb & Gutter	LF	612.000	612.000
0016	204.0155	Removing Concrete Sidewalk	SY	35.000	35.000
0018	204.0165	Removing Guardrail	LF	930.000	930.000
0020	204.0195	Removing Concrete Bases	EACH	2.000	2.000
0022	204.9060.S	Removing (item description) 01. Traffic Signals, STH 83 & STH 167/CTH O	EACH	1.000	1.000
0024	204.9060.S	Removing (item description) 02. Concrete Block Endwalls	EACH	2.000	2.000
0026	204.9060.S	Removing (item description) 03. Apron Endwalls for Pipe Underdrain	EACH	10.000	10.000
0028	205.0100	Excavation Common	CY	725.000	725.000
0030	205.0400	Excavation Marsh	CY	575.000	575.000
0032	206.2001	Excavation for Structures Culverts (structure) 01. B-66-146	EACH	1.000	1.000
0034	206.3001	Excavation for Structures Retaining Walls (structure) 01. R-66-0086	EACH	1.000	1.000
0036	209.1500	Backfill Granular Grade 1	TON	200.000	200.000
0038	210.2500	Backfill Structure Type B	TON	607.000	607.000
0040	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	3.000	3.000
0042	213.0100	Finishing Roadway (project) 01. 1330-22-70	EACH	1.000	1.000
0044	305.0110	Base Aggregate Dense 3/4-Inch	TON	617.000	617.000
0046	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	588.000	588.000
0048	310.0110	Base Aggregate Open-Graded	TON	31.000	31.000
0050	311.0110	Breaker Run	TON	1,372.000	1,372.000
0052	311.0115	Breaker Run	CY	77.000	77.000
0054	312.0115	Select Crushed Material	CY	14.000	14.000
0056	390.0403	Base Patching Concrete Shes	SY	1,914.000	1,914.000
0058	416.0610	Drilled Tie Bars	EACH	830.000	830.000
0060	416.0620	Drilled Dowel Bars	EACH	3,639.000	3,639.000
0062	450.4000	HMA Cold Weather Paving	TON	621.000	621.000
0064	455.0605	Tack Coat	GAL	8,716.000	8,716.000
0066	460.2000	Incentive Density HMA Pavement	DOL	12,600.000	12,600.000
0068	460.6223	HMA Pavement 3 MT 58-28 S	TON	11,759.000	11,759.000
0070	460.6224	HMA Pavement 4 MT 58-28 S	TON	8,133.000	8,133.000
0072	465.0110	Asphaltic Surface Patching	TON	32.000	32.000
0074	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	120.000	120.000
0076	465.0125	Asphaltic Surface Temporary	TON	2.000	2.000
0078	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	7,908.000	7,908.000
0080	504.0100	Concrete Masonry Culverts	CY	151.000	151.000
0082	505.0400	Bar Steel Reinforcement HS Structures	LB	23,210.000	23,210.000
0084	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	1,130.000	1,130.000
0086	516.0500	Rubberized Membrane Waterproofing	SY	17.000	17.000
0088	601.0415	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type J	LF	612.000	612.000
0090	602.0410	Concrete Sidewalk 5-Inch	SF	641.000	641.000
0092	602.0605	Curb Ramp Detectable Warning Field Radial Yellow	SF	73.000	73.000
0094	606.0100	Riprap Light	CY	78.000	78.000
0096	606.0200	Riprap Medium	CY	28.000	28.000
0098	606.0300	Riprap Heavy	CY	48.000	48.000

Estimate Of Quantities

1330-22-70

Line	Item	Item Description	Unit	Total	Qty
0100	611.0420	Reconstructing Manholes	EACH	12.000	12.000
0102	611.0430	Reconstructing Inlets	EACH	4.000	4.000
0104	611.8110	Adjusting Manhole Covers	EACH	11.000	11.000
0106	611.8115	Adjusting Inlet Covers	EACH	21.000	21.000
0108	611.8120.S	Cover Plates Temporary	EACH	23.000	23.000
0110	612.0106	Pipe Underdrain 6-Inch	LF	59.000	59.000
0112	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	9.000	9.000
0114	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	207.000	207.000
0116	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	10.000	10.000
0118	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	337.000	337.000
0120	614.2300	MGS Guardrail 3	LF	500.000	500.000
0122	614.2310	MGS Guardrail 3 HS	LF	150.000	150.000
0124	614.2330	MGS Guardrail 3 K	LF	75.000	75.000
0126	614.2610	MGS Guardrail Terminal EAT	EACH	8.000	8.000
0128	614.8010	Anchor Post Assembly Top Mount	EACH	16.000	16.000
0130	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1330-22-70	EACH	1.000	1.000
0132	619.1000	Mobilization	EACH	1.000	1.000
0134	624.0100	Water	MGAL	18.100	18.100
0136	625.0100	Topsoil	SY	2,740.000	2,740.000
0138	628.1104	Erosion Bales	EACH	40.000	40.000
0140	628.1504	Silt Fence	LF	1,921.000	1,921.000
0142	628.1520	Silt Fence Maintenance	LF	1,921.000	1,921.000
0144	628.1530.S	Silt Fence Heavy Duty	LF	59.000	59.000
0146	628.1535.S	Silt Fence Heavy Duty Maintenance	LF	59.000	59.000
0148	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0150	628.1910	Mobilizations Emergency Erosion Control	EACH	8.000	8.000
0152	628.2008	Erosion Mat Urban Class I Type B	SY	2,740.000	2,740.000
0154	628.6005	Turbidity Barriers	SY	200.000	200.000
0156	628.7005	Inlet Protection Type A	EACH	4.000	4.000
0158	628.7015	Inlet Protection Type C	EACH	24.000	24.000
0160	628.7020	Inlet Protection Type D	EACH	9.000	9.000
0162	628.7504	Temporary Ditch Checks	LF	96.000	96.000
0164	628.7555	Culvert Pipe Checks	EACH	27.000	27.000
0166	629.0210	Fertilizer Type B	CWT	0.220	0.220
0168	630.0140	Seeding Mixture No. 40	LB	19.200	19.200
0170	630.0200	Seeding Temporary	LB	84.000	84.000
0172	630.0400	Seeding Nurse Crop	LB	19.100	19.100
0174	630.0500	Seed Water	MGAL	56.000	56.000
0176	633.5200	Markers Culvert End	EACH	2.000	2.000
0178	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	24.000	24.000
0180	637.2210	Signs Type II Reflective H	SF	95.000	95.000
0182	637.2230	Signs Type II Reflective F	SF	23.560	23.560
0184	638.2102	Moving Signs Type II	EACH	9.000	9.000
0186	638.2602	Removing Signs Type II	EACH	15.000	15.000
0188	638.3000	Removing Small Sign Supports	EACH	28.000	28.000
0190	642.5201	Field Office Type C	EACH	1.000	1.000
0192	643.0300	Traffic Control Drums	DAY	3,160.000	3,160.000
0194	643.0420	Traffic Control Barricades Type III	DAY	3,134.000	3,134.000
0196	643.0705	Traffic Control Warning Lights Type A	DAY	6,268.000	6,268.000

Estimate Of Quantities

1330-22-70

Line	Item	Item Description	Unit	Total	Qty
0198	643.0900	Traffic Control Signs	DAY	34,629.000	34,629.000
0200	643.0920	Traffic Control Covering Signs Type II	EACH	20.000	20.000
0202	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0204	643.1500	Traffic Control Speed Radar Trailer	DAY	50.000	50.000
0206	643.3250	Temporary Marking Line Removable Tape 8-Inch	LF	150.000	150.000
0208	643.5000	Traffic Control	EACH	1.000	1.000
0210	644.1430	Temporary Pedestrian Surface Plate	SF	236.000	236.000
0212	644.1601	Temporary Pedestrian Curb Ramp	DAY	45.000	45.000
0214	644.1605	Temporary Pedestrian Detectable Warning Field	SF	30.000	30.000
0216	644.1810	Temporary Pedestrian Barricade	LF	333.000	333.000
0218	645.0105	Geotextile Type C	SY	239.000	239.000
0220	645.0111	Geotextile Type DF Schedule A	SY	33.000	33.000
0222	645.0120	Geotextile Type HR	SY	384.000	384.000
0224	646.1020	Marking Line Epoxy 4-Inch	LF	38,918.000	38,918.000
0226	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	38,204.000	38,204.000
0228	646.3020	Marking Line Epoxy 8-Inch	LF	102.000	102.000
0230	646.3545	Marking Line Grooved Wet Ref Contrast Epoxy 8-Inch	LF	584.000	584.000
0232	646.5020	Marking Arrow Epoxy	EACH	5.000	5.000
0234	646.5120	Marking Word Epoxy	EACH	3.000	3.000
0236	646.5520	Marking Outfall Epoxy	EACH	19.000	19.000
0238	646.6120	Marking Stop Line Epoxy 18-Inch	LF	364.000	364.000
0240	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	1,950.000	1,950.000
0242	646.7120	Marking Diagonal Epoxy 12-Inch	LF	28.000	28.000
0244	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	205.000	205.000
0246	648.0100	Locating No-Passing Zones	MI	3.900	3.900
0248	650.4500	Construction Staking Subgrade	LF	1,200.000	1,200.000
0250	650.5000	Construction Staking Base	LF	1,200.000	1,200.000
0252	650.6501	Construction Staking Structure Layout (structure) 01. B-66-146	EACH	1.000	1.000
0254	650.6501	Construction Staking Structure Layout (structure) 02. R-66-0086	EACH	1.000	1.000
0256	650.8000	Construction Staking Resurfacing Reference	LF	20,400.000	20,400.000
0258	650.9000	Construction Staking Curb Ramps	EACH	3.000	3.000
0260	650.9500	Construction Staking Sidewalk (project) 01. 1330-22-70	EACH	1.000	1.000
0262	650.9911	Construction Staking Supplemental Control (project) 01. 1330-22-70	EACH	1.000	1.000
0264	650.9920	Construction Staking Slope Stakes	LF	1,200.000	1,200.000
0266	659.5000.S	Lamp, Ballast, LED, Switch Disposal by Contractor	EACH	2.000	2.000
0268	690.0150	Sawing Asphalt	LF	2,445.000	2,445.000
0270	690.0250	Sawing Concrete	LF	7,143.000	7,143.000
0272	715.0502	Incentive Strength Concrete Structures	DOL	906.000	906.000
0274	740.0440	Incentive IRI Ride	DOL	15,487.000	15,487.000
0276	SPV.0060	Special 01. Maintaining Temporary Drainage at Ashippun River	EACH	1.000	1.000
0278	SPV.0060	Special 02. Section Corner Monuments	EACH	5.000	5.000
0280	SPV.0060	Special 03. Utility Line Opening (ULO)	EACH	10.000	10.000
0282	SPV.0060	Special 04. Connection to Existing Pipe Underdrain	EACH	1.000	1.000
0284	SPV.0060	Special 05. Tuckpointing Pipe Underdrain Inlet Connections	EACH	21.000	21.000
0286	SPV.0060	Special 06. Traffic Flashing Beacon System, Solar STH 83 NB at STH 167/CTH O	EACH	1.000	1.000
0288	SPV.0060	Special 07. Traffic Flashing Beacon System, Solar STH 83 SB at STH 167/CTH O	EACH	1.000	1.000
0290	SPV.0085	Special 01. Native Pollinator Seeding Mixture No. 95A	LB	2.400	2.400
0292	SPV.0165	Special 01. Wall Modular Block Gravity R-66-0086	SF	1,001.000	1,001.000
0294	SPV.0195	Special 01. Asphaltic Repair	TON	1,300.000	1,300.000

3

REMOVING CONCRETE PAVEMENT

204.0100
REMOVING
CONCRETE
PAVEMENT

STATION TO STATION	SY
STH 83	
STH 167 - ST. PATRICK	-
ST. PATRICK - DRUID LAKE RD	-
DRUID LAKE RD - STA 131+00	-
STA 131+00 - CTH E	196
CTH E - WHISTLE	-
WHISTLE - LEE	-
LEE - MONROE	-
TOTALS	196

REMOVING ASPHALTIC SURFACE

204.0110
REMOVING
ASPHALTIC
SURFACE

STATION TO STATION	SY
STH 83	
STH 167 - ST. PATRICK	59
ST. PATRICK - DRUID LAKE RD	-
DRUID LAKE RD - STA 131+00	-
STA 131+00 - CTH E	-
CTH E - WHISTLE	-
WHISTLE - LEE	-
LEE - MONROE	42
TOTALS	101

REMOVING ASPHALTIC SURFACE BUTT JOINTS

204.0115
REMOVING ASPHALTIC
SURFACE BUTT JOINTS

STATION TO STATION	SY
STH 83	
STH 167 - ST. PATRICK	249
ST. PATRICK - DRUID LAKE RD	84
DRUID LAKE RD - STA 131+00	84
STA 131+00 - CTH E	134
CTH E - WHISTLE	118
WHISTLE - LEE	47
LEE - MONROE	244
TOTALS	960

3

REMOVING ASPHALTIC SURFACE MILLING

204.0125
REMOVING ASPHALTIC
SURFACE MILLING

STATION TO STATION	TON
STH 83	
STH 167 - ST. PATRICK	2,143
ST. PATRICK - DRUID LAKE RD	1,940
DRUID LAKE RD - STA 131+00	1,647
STA 131+00 - CTH E	1,747
CTH E - WHISTLE	2,008
WHISTLE - LEE	1,622
LEE - MONROE	2,100
TOTALS	13,207

REMOVING CURB & GUTTER

204.0150
REMOVING CURB &
GUTTER

STATION TO STATION	LF
STH 83	
STH 167 - ST. PATRICK	251
ST. PATRICK - DRUID LAKE RD	57
DRUID LAKE RD - STA 131+00	18
STA 131+00 - CTH E	18
CTH E - WHISTLE	-
WHISTLE - LEE	18
LEE - MONROE	250
TOTALS	612

REMOVING CONCRETE SIDEWALK

204.0155
REMOVING CONCRETE
SIDEWALK

STATION TO STATION	SY
STH 83	
STH 167 - ST. PATRICK	-
ST. PATRICK - DRUID LAKE RD	-
DRUID LAKE RD - STA 131+00	-
STA 131+00 - CTH E	-
CTH E - WHISTLE	-
WHISTLE - LEE	-
LEE - MONROE	35
TOTALS	35

REMOVING GUARDRAIL

204.0165
REMOVING
GUARDRAIL

STATION TO STATION	LF
STH 83	
STH 167 - ST. PATRICK	334
ST. PATRICK - DRUID LAKE RD	98
DRUID LAKE RD - STA 131+00	-
STA 131+00 - CTH E	498
CTH E - WHISTLE	-
WHISTLE - LEE	-
LEE - MONROE	-
TOTALS	930

ALL ITEMS CATEGORY 0010

PROJECT NO: 1330-22-70

HWY: STH 83

COUNTY: WASHINGTON

MISCELLANEOUS QUANTITIES

SHEET:

E

FILE NAME :

PLOT DATE :

PLOT BY :

PLOT NAME :

PLOT SCALE : 1:1

3

REMOVING CONCRETE BLOCK ENDWALLS 204.9060.S.02

STATION TO STATION	EACH
STH 83	
146+67 - 146+91	2
TOTALS	2

REMOVING APRON ENDWALLS FOR PIPE UNDERDRAIN 204.9060.S.03

REMOVING APRON ENDWALLS FOR PIPE UNDERDRAIN

STATION TO STATION	EACH
STH 83	
UNDISTRIBUTED	10
TOTALS	10

BACKFILL GRANULAR GRADE 1 209.1500

BACKFILL GRANULAR GRADE 1

STATION TO STATION	TON
STH 83	
UNDISTRIBUTED	200
TOTALS	200

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS 211.0400

PROJECT	STA
STH 167 - ST. PATRICK	3
ST. PATRICK - DRUID LAKE RD	0
DRUID LAKE RD - STA 131+00	0
STA 131+00 - CTH E	0
CTH E - WHISTLE	0
WHISTLE - LEE	0
LEE - MONROE	0
TOTALS	3

FINISHING ROADWAY 213.0100

FINISHING ROADWAY

PROJECT	EACH
ID 1330-22-70	1
	1

BASE AGGREGATE DENSE 3/4-INCH 305.0110

BASE AGGREGATE DENSE 3/4-INCH

STATION TO STATION	TON
STH 83	
STH 167 - ST. PATRICK	93
ST. PATRICK - DRUID LAKE R	76
DRUID LAKE RD - STA 131+C	64
STA 131+00 - CTH E	210
CTH E - WHISTLE	108
WHISTLE - LEE	66
LEE - MONROE	-
TOTALS	617

BASE AGGREGATE DENSE 1 1/4-INCH 305.0120

BASE AGGREGATE DENSE 1 1/4-INCH

STATION TO STATION	TON
STH 83	
STH 167 - ST. PATRICK	128
ST. PATRICK - DRUID LAKE RD	14
DRUID LAKE RD - STA 131+00	-
STA 131+00 - CTH E	430
CTH E - WHISTLE	-
WHISTLE - LEE	-
LEE - MONROE	16
TOTALS	588

BASE AGGREGATE OPEN-GRADED 310.0110*

BASE AGGREGATE OPEN GRADED

STATION TO STATION	TON
STH 83	
UNDISTRIBUTED	25
TOTALS	25

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS CATEGORY 0010

PROJECT NO: 1330-22-70

HWY: STH 83

COUNTY: WASHINGTON

MISCELLANEOUS QUANTITIES

SHEET:

E

FILE NAME :

PLOT DATE :

PLOT BY :

PLOT NAME :

PLOT SCALE : 1:1

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (2)	AVAILABLE MATERIAL (3)	205.0400 MARSH EXCAVATION (8)	EXPANDED MARSH BACKFILL (4)	UNEXPANDED FILL	EXPANDED FILL (5)	MASS ORDINATE +/- (6)	WASTE (7)	311.0110 BREAKER RUN (4)	COMMENT
			CUT	EBS EXCAVATION				FACTOR 1.50		FACTOR 1.25				
DIVISION 1			CY	CY	CY	CY	CY	CY	CY	CY	CY	CY	TON	
ASHIPPUN RIVER CROSSING	144+64 - 149+46	LT/RT	661	0	88	573	67	0	167	209	364	364	0	-
UNDISTRIBUTED EXCAVATION MARSH	144+64 - 149+46	LT/RT	0	0	0	0	508	762	0	0	0	0	1,372	SEE NOTE 8
TALLY HO/CEMETARY	70+09 - 77+27	LT/RT	64	0	16	48	0	0	26	33	16	16	0	-
DIVISION 1 SUBTOTAL			725	0	104	621	575	762	193	242	380	380	1,372	-
GRAND TOTAL			725	0	104	621	575	762	193	242	380	380	1,372	-
TOTAL COMMON EXC			725											

NOTES:

- (1) EXCAVATION COMMON = CUT + EBS EXCAVATION
- (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (3) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (4) EXPANDED MARSH BACKFILL = UNDISTRIBUTED EXCAVATION MARSH * BACKFILL FACTOR. UNDISTRIBUTED EXCAVATION MARSH IS TO BE BACKFILLED WITH BREAKER RUN (1.8 TONS/CY). ITEM NUMBER 311.0110
- (5) EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
- (6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION = AVAILABLE MATERIAL - EXPANDED FILL. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- (7) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.
- (8) UNDISTRIBUTED EXCAVATION MARSH NOT SHOWN IN CROSS SECTIONS. REFER TO CONSTRUCTION DETAIL PARTIAL MARSH EXCAVATION DETAIL. TO BE DETERMINED IN FIELD BY THE ENGINEER. DISPOSE OF EXCAVATION MARSH OFF-SITE.

ALL ITEMS CATEGORY 0010

3

BASE PATCHING CONCRETE - ADJUSTING/RECONSTRUCTING MANHOLE S

390.0403*

BASE PATCHING CONCRETE SHES

STATION TO STATION	SY
STH 83	
STH 167 - ST. PATRICK	8
ST. PATRICK - DRUID LAKE RD	3
DRUID LAKE RD - STA 131+00	8
STA 131+00 - CTH E	14
CTH E - WHISTLE	-
WHISTLE - LEE	11
LEE - MONROE	50
TOTALS	94

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

DRILLED TIE BARS

416.0610*

DRILLED TIE BARS

STATION TO STATION	EACH
STH 83	
STH 167 - ST. PATRICK	20
ST. PATRICK - DRUID LAKE RD	8
DRUID LAKE RD - STA 131+00	8
STA 131+00 - CTH E	32
CTH E - WHISTLE	-
WHISTLE - LEE	8
LEE - MONROE	72
TOTALS	148

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

BASE PATCHING CONCRETE

390.0403*

416.0610*

416.0620

690.0250*

BASE PATCHING CONCRETE SHES DRILLED TIE BARS DRILLED DOWEL BARS SAWING CONCRETE

STATION TO STATION	SY	EACH	EACH	LF
STH 83				
UNDISTRIBUTED	1,820	682	3,639	6,824
TOTALS	1,820	682	3,639	6,824

NOTE: BASE PATCHING CONCRETE TO BE USED AT THE DISCRETION OF THE ENGINEER.

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ASPHALTIC SURFACE PATCHING

465.0110

ASPHALTIC SURFACE PATCHING

STATION TO STATION	TON
STH 83	
STH 167 - ST. PATRICK	3
ST. PATRICK - DRUID LAKE RD	1
DRUID LAKE RD - STA 131+00	3
STA 131+00 - CTH E	4
CTH E - WHISTLE	-
WHISTLE - LEE	4
LEE - MONROE	17
TOTALS	32

HMA PAVEMENT

460.6223

460.6224

465.0120
ASPHALTIC SURFACE DRIVEWAYS
AND FIELD ENTRANCES

465.0125
ASPHALTIC SURFACE
TEMPORARY

455.0605

450.4000
HMA COLD
WEATHER PAVING

STATION TO STATION	TON	TON	TON	TON	GAL	TON
STH 83						
STH 167 - ST. PATRICK	1,822	1,220	45	0.4	1,348	-
ST. PATRICK - DRUID LAKE RD	1,598	1,110	10	0.3	1,203	-
DRUID LAKE RD - STA 131+00	1,511	1,076	18	0.3	1,133	-
STA 131+00 - CTH E	1,573	1,049	15	-	1,143	621
CTH E - WHISTLE	1,719	1,183	6	0.3	1,276	-
WHISTLE - LEE	1,487	1,045	9	0.1	1,103	-
LEE - MONROE	2,049	1,450	17	0.5	1,510	-
TOTALS	11,759	8,133	120	2	8,716	621

ALL ITEMS CATEGORY 0010

PROJECT NO: 1330-22-70

HWY: STH 83

COUNTY: WASHINGTON

MISCELLANEOUS QUANTITIES

SHEET:

E

FILE NAME :

PLOT DATE :

PLOT BY :

PLOT NAME :

PLOT SCALE : 1:1

3

3

ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL
465.0475
ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL

STATION TO STATION	LF
STH 83	
STH 167 - ST. PATRICK	-
ST. PATRICK - DRUID LAKE RD	-
DRUID LAKE RD - STA 131+00	2,587
STA 131+00 - CTH E	2,608
CTH E- WHISTLE	2,489
WHISTLE- LEE	224
LEE - MONROE	-
TOTALS	7,908

CONCRETE CURB & GUTTER
601.0415
6-INCH SLOPED 30-INCH TYPE J

STATION TO STATION	LF
STH 83	
STH 167 - ST. PATRICK	251
ST. PATRICK - DRUID LAKE RD	57
DRUID LAKE RD - STA 131+00	18
STA 131+00 - CTH E	18
CTH E- WHISTLE	-
WHISTLE- LEE	18
LEE - MONROE	250
TOTALS	612

CONCRETE SIDEWALK
602.0410
5-INCH

STATION TO STATION	SF
STH 83	
STH 167 - ST. PATRICK	-
ST. PATRICK - DRUID LAKE RD	-
DRUID LAKE RD - STA 131+00	-
STA 131+00 - CTH E	-
CTH E- WHISTLE	-
WHISTLE- LEE	-
LEE - MONROE	641
TOTALS	641

CURB RAMP DETECTABLE WARNING FIELD YELLOW
602.0605
CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW

STATION TO STATION	SF
STH 83	
STH 167 - ST. PATRICK	-
ST. PATRICK - DRUID LAKE RD	-
DRUID LAKE RD - STA 131+00	-
STA 131+00 - CTH E	-
CTH E- WHISTLE	-
WHISTLE- LEE	-
LEE - MONROE	73
TOTALS	73

ADJUSTING AND RECONSTRUCTING INLETS AND MANHOLES

STATION	611.0420	611.0430	611.8110	611.8115	611.0820.S
	RECONSTRUCTING MANHOLES	RECONSTRUCTING INLETS	ADJUSTING MANHOLE COVERS	ADJUSTING INLET COVERS	COVER PLATES TEMPORARY
	EACH	EACH	EACH	EACH	EACH
STH 83					
STH 167 - ST. PATRICK	1	-	1	1	2
ST. PATRICK - DRUID LAKE RD	1	-	-	-	1
DRUID LAKE RD - STA 131+00	1	1	1	1	2
STA 131+00 - CTH E	1	-	2	2	3
CTH E- WHISTLE	-	-	-	-	-
WHISTLE- LEE	2	-	1	2	3
LEE - MONROE	6	3	6	15	12
TOTALS	12	4	11	21	23

PIPE UNDERDRAIN

STATION TO STATION	310.0110* BASE AGGREGATE OPEN GRADED TON	612.0106 PIPE UNDERDRAIN 6-INCH LF	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH LF	645.0111 GEOTEXTILE TYPE DF SCHEDULE A SY
STH 83				
STH 167 - ST. PATRICK	-	-	9	-
ST. PATRICK - DRUID LAKE RD	-	-	-	-
DRUID LAKE RD - STA 131+00	-	-	-	-
STA 131+00 - CTH E	6	59	-	33
CTH E - WHISTLE	-	-	-	-
WHISTLE - LEE	-	-	-	-
LEE - MONROE	-	-	-	-
TOTALS	6	59	9	33

APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH

STATION TO STATION	612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH
STH 83	
UNDISTRIBUTED	10
TOTALS	10

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS CATEGORY 0010

PROJECT NO: 1330-22-70

HWY: STH 83

COUNTY: WASHINGTON

MISCELLANEOUS QUANTITIES

SHEET:

E

FILE NAME :

PLOT DATE :

PLOT BY :

PLOT NAME :

PLOT SCALE : 1:1

GUARDRAIL

STATION TO STATION	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2310 MGS GUARDRAIL 3 HS LF	614.2330 MGS GUARDRAIL 3K LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.8010 ANCHOR POST ASSEMBLY TOP MOUNT EACH
STH 83						
STH 167 - ST. PATRICK	31	212.5	-	75	4	-
ST. PATRICK - DRUID LAKE RD	-	-	-	-	-	-
DRUID LAKE RD - STA 131+00	-	-	-	-	-	-
STA 131+00 - CTH E	306	287.5	150	-	4	16
CTH E- WHISTLE	-	-	-	-	-	-
WHISTLE- LEE	-	-	-	-	-	-
LEE - MONROE	-	-	-	-	-	-
TOTALS	337	500.0	150	75	8	16

MAINTENANCE AND REPAIR OF HAUL ROADS

PROJECT	618.0100 EACH
ID 1330-22-70	1
	1

MOBILIZATION

PROJECT	619.1000 EACH
ID 1330-22-70	1
	1

WATER

STATION TO STATION	624.0100 WATER MGAL	630.0500 SEED WATER MGAL
STH 83		
STH 167 - ST. PATRICK	3.3	11.5
ST. PATRICK - DRUID LAKE RD	1.4	4.4
DRUID LAKE RD - STA 131+00	1.0	0.1
STA 131+00 - CTH E	9.6	36.9
CTH E- WHISTLE	1.6	-
WHISTLE- LEE	1.0	0.1
LEE - MONROE	0.2	3.0
TOTALS	18.1	56.0

TOPSOIL

STATION TO STATION	625.0100 TOPSOIL SY
STH 83	
STH 167 - ST. PATRICK	511
ST. PATRICK - DRUID LAKE RD	194
DRUID LAKE RD - STA 131+00	4
STA 131+00 - CTH E	1,645
CTH E- WHISTLE	-
WHISTLE- LEE	4
LEE - MONROE	133
UNDISTRIBUTED	249
TOTALS	2,740

MULCHING & SEEDING

STATION TO STATION	630.0140 SEEDING MIXTURE NO. 40 LB	630.0400 SEEDING NURSE CROP LB	SPV.0085.01 NATIVE POLLINATOR SEEDING MIXTURE NO. 95A LB	630.0200 SEEDING TEMPORARY LB
STH 83				
STH 167 - ST. PATRICK	9.2	-	-	13.8
ST. PATRICK - DRUID LAKE RD	3.5	-	-	5.2
DRUID LAKE RD - STA 131+00	0.1	-	-	0.1
STA 131+00 - CTH E	0.1	15.3	1.9	44.4
CTH E- WHISTLE	-	-	-	-
WHISTLE- LEE	0.1	-	-	0.1
LEE - MONROE	2.4	-	-	3.6
UNDISTRIBUTED	3.8	3.8	0.5	16.8
TOTALS	19.2	19.1	2.4	84.0

ALL ITEMS CATEGORY 0010

PROJECT NO: 1330-22-70

HWY: STH 83

COUNTY: WASHINGTON

MISCELLANEOUS QUANTITIES

SHEET:

E

FILE NAME :

PLOT DATE :

PLOT BY :

PLOT NAME :

PLOT SCALE : 1:1

3

SILT FENCE

	628.1504	628.1520	628.1530.S	628.1535.S
	SILT FENCE	SILT FENCE MAINTENANCE	SILT FENCE HEAVY DUTY	SILT FENCE HEAVY DUTY MAINTENANCE
STATION TO STATION	LF	LF	LF	LF
<u>STH 83</u>				
STH 167 - ST. PATRICK	326	326	-	-
ST. PATRICK - DRUID LAKE RD	238	238	-	-
DRUID LAKE RD - STA 131+00	-	-	-	-
STA 131+00 - CTH E	973	973	47	47
CTH E- WHISTLE	-	-	-	-
WHISTLE- LEE	-	-	-	-
LEE - MONROE	-	-	-	-
UNDISTRIBUTED	384	384	12	12
TOTALS	1,921	1,921	59	59

TEMPORARY SETTLING BASINS

	628.1104	645.0120
	EROSION BALES	GEOTEXTILE TYPE HR
STATION TO STATION	EACH	SY
<u>STH 83</u>		
STH 167 - ST. PATRICK	-	-
ST. PATRICK - DRUID LAKE RD	-	-
DRUID LAKE RD - STA 131+00	-	-
STA 131+00 - CTH E	32	47
CTH E- WHISTLE	-	-
WHISTLE- LEE	-	-
LEE - MONROE	-	-
UNDISTRIBUTED	8	230
TOTALS	40	277

FERTILIZER

	629.0210
	FERTILIZER TYPE B
STATION TO STATION	CWT
<u>STH 83</u>	
STH 167 - ST. PATRICK	0.04
ST. PATRICK - DRUID LAKE RD	0.01
DRUID LAKE RD - STA 131+00	0.01
STA 131+00 - CTH E	0.12
CTH E- WHISTLE	-
WHISTLE- LEE	0.01
LEE - MONROE	0.01
UNDISTRIBUTED	0.02
TOTALS	0.22

3

EROSION CONTROL MOBILIZATIONS

	628.1905	628.1910
	MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL
STATION TO STATION	EACH	EACH
<u>STH 83</u>		
UNDISTRIBUTED	8	8
TOTALS	8	8

INLET PROTECTION

	628.7005	628.7015	628.7020
	INLET PROTECTION TYPE A	INLET PROTECTION TYPE C	INLET PROTECTION TYPE D
STATION TO STATION	EACH	EACH	EACH
<u>STH 83</u>			
STH 167 - ST. PATRICK	-	1	-
ST. PATRICK - DRUID LAKE RD	-	-	-
DRUID LAKE RD - STA 131+00	2	2	-
STA 131+00 - CTH E	1	2	-
CTH E- WHISTLE	-	-	-
WHISTLE- LEE	1	1	2
LEE - MONROE	-	18	7
TOTALS	4	24	9

EROSION MATTING

	628.2008
	EROSION MAT URBAN CLASS I TYPE B
STATION TO STATION	SY
<u>STH 83</u>	
STH 167 - ST. PATRICK	511
ST. PATRICK - DRUID LAKE RD	194
DRUID LAKE RD - STA 131+00	4
STA 131+00 - CTH E	1,645
CTH E- WHISTLE	-
WHISTLE- LEE	4
LEE - MONROE	133
UNDISTRIBUTED	249
TOTALS	2,740

ALL ITEMS CATEGORY 0010

3

3

<u>RIPRAP</u>			
	606.0100	606.0200	
	RIPRAP LIGHT	RIPRAP MEDIUM	
STATION TO STATION	CY	CY	
STH 83			
STH 167 - ST. PATRICK	-	-	
ST. PATRICK - DRUID LAKE RD	-	-	
DRUID LAKE RD - STA 131+00	-	-	
STA 131+00 - CTH E	-	28	
CTH E- WHISTLE	-	-	
WHISTLE- LEE	-	-	
LEE - MONROE	-	-	
UNDISTRIBUTED	35	-	
TOTALS	35	28	

<u>TURBIDITY BARRIERS</u>		
	628.6005	
	TURBIDITY BARRIERS	
STATION TO STATION	SY	
STH 83		
STH 167 - ST. PATRICK	-	
ST. PATRICK - DRUID LAKE RD	-	
DRUID LAKE RD - STA 131+00	-	
STA 131+00 - CTH E	200	
CTH E- WHISTLE	-	
WHISTLE- LEE	-	
LEE - MONROE	-	
TOTALS	200	

<u>DITCH CHECKS</u>			
	628.7504	628.7555	
	TEMPORARY DITCH CHECKS	CULVERT PIPE CHECKS	
STATION TO STATION	LF	EACH	
STH 83			
STH 167 - ST. PATRICK	48	-	
ST. PATRICK - DRUID LAKE RD	-	-	
DRUID LAKE RD - STA 131+00	-	16	
STA 131+00 - CTH E	48	8	
CTH E- WHISTLE	-	3	
WHISTLE- LEE	-	-	
LEE - MONROE	-	-	
TOTALS	96	27	

<u>MARKERS CULVERT END</u>		
	633.5200	
	MARKERS CULVERT END	
STATION	EACH	
STH 83		
146+93, 23.5' RT	1	
146+97, 23.5' LT	1	
TOTALS	2	

<u>TEMPORARY MARKING LINE</u>		
	643.3250	
	REMOVABLE TAPE 8-INCH	
STAGE	LF	
STH 83		
RETAINING WALL CONSTRUCTION	-	
CURB RAMP CONSTRUCTION	150	
TOTALS	150	

<u>TRAFFIC CONTROL</u>	
PROJECT	643.5000 EACH
ID 1330-22-70	1
	1

<u>FIELD OFFICE TYPE C</u>	
PROJECT	642.5201 EACH
ID 1330-22-70	1
	1

<u>TRAFFIC CONTROL</u>															
		643.0300		643.0420		643.0705		643.0900		643.0920		643.1050		643.1500	
		TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL COVERING SIGNS TYPE II		TRAFFIC CONTROL SIGNS PCMS		TRAFFIC CONTROL SPEED RADAR TRAILER	
STAGE	DURATION DAYS	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY
STH 83															
PHASE 1 BOX CULVERT	87	10	870	18	1,566	36	3,132	22	1,914	-	-	2	14	-	-
PHASE 2 CURB RAMPS	30	56	1,680	-	-	-	-	8	240	-	-	-	-	-	-
PHASE 1 DETOUR	87	-	-	4	348	8	696	205	17,835	-	-	-	-	-	-
PHASE 2	61	10	610	18	1,098	36	2,196	23	1,403	-	-	2	14	-	-
PHASE 2 DETOUR	61	-	-	2	122	4	244	217	13,237	-	-	-	-	-	-
UNDISTRIBUTED	-	-	-	-	-	-	-	-	-	20	-	-	-	2	50
TOTALS	326	76	3,160	42	3,134	84	6,268	475	34,629	20	-	4	28	2	50

ALL ITEMS CATEGORY 0010

TEMPORARY PEDESTRIAN

	644.1430 SURFACE PLATE	644.1601 CURB RAMP	644.1605 DETECTABLE WARNING FIELD	644.1810 BARRICADE
STAGE	SF	DAY	SF	LF
STH 83				
CURB RAMP CONSTRUCTION	236	45	30	333
TOTALS	236	45	30	333

MARKING LINE

	646.1020 EPOXY 4-INCH (WHITE)	646.1020 EPOXY 4-INCH (YELLOW)	646.1040 GROOVED WET REF EPOXY 4-INCH	646.3020 EPOXY 8-INCH (WHITE)	646.3545 GROOVED WET REF CONTRAST EPOXY 8- INCH	646.7120 DIAGONAL EPOXY 12- INCH	646.6464 COLD WEATHER MARKING EPOXY 4- INCH
STATION TO STATION	LF	LF	LF	LF	LF	LF	LF
STH 83							
PHASE 1 RESTORATION	4,981	2,098	-	-	-	-	-
STH 167 - ST. PATRICK	123	4,023	5,744	-	290	-	-
ST. PATRICK - DRUID LAKE RD	63	3,239	5,229	-	-	-	-
DRUID LAKE RD - STA 131+00	-	4,166	5,435	-	-	-	-
STA 131+00 - CTH E	78	3,170	5,248	-	-	-	1,950
CTH E - WHISTLE	61	4,146	5,534	-	294	-	-
WHISTLE - LEE	41	4,031	5,307	-	-	-	-
LEE - MONROE	2,118	6,580	5,707	102	-	28	-
TOTALS	7,465	31,453	38,204	102	584	28	1,950

LOCATE NO-PASSING ZONES

	648.0100 LOCATE NO-PASSING ZONES
STATION TO STATION	MI
STH 83	
47+32 - 251+75	3.9
TOTALS	3.9

MARKING OTHER

	646.5020 ARROW EPOXY	646.5120 WORD EPOXY	646.5520 OUTFALL EPOXY	646.6120 STOP LINE EPOXY 18-INCH	646.7420 CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
STATION TO STATION	EACH	EACH	EACH	LF	LF
STREET NAME					
STH 167 - ST. PATRICK	2	1	-	105	-
ST. PATRICK - DRUID LAKE RD	-	-	-	44	-
DRUID LAKE RD - STA 131+00	-	-	-	44	-
STA 131+00 - CTH E	-	-	-	-	-
CTH E - WHISTLE	2	1	-	39	-
WHISTLE - LEE	-	-	-	30	-
LEE - MONROE	1	1	-	102	205
UNDISTRIBUTED	-	-	19	-	-
TOTALS	5	3	19	364	205

ALL ITEMS CATEGORY 0010

TYPE II PERMANENT SIGNING

1330-22-70 STH 83

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	638.2602	638.3000	634.0618	638.2102	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
			W [IN.]	x	H [IN.]	SIGNS TYPE II REFLC H [SF]	SIGNS TYPE II REFLC F [SF]	REMOVING SIGNS TYPE II [EA]	REMOVING SMALL SIGN SUPPORTS [EA]	POSTS WOOD 4"X 6"X18' [EA]	MOVING SIGNS TYPE II [EA]		
1	R1-1(3)	--	36	x	36	9.000	--	1	1	--	--	--	MOUNT ON BEACON POLE
2	R1-3P(3)	--	24	x	9	1.500	--	--	--	--	--	--	MOUNT ON BEACON POLE
3	R1-1(3)	--	36	x	36	9.000	--	1	1	--	--	--	MOUNT ON BEACON POLE
4	R1-3P(3)	--	24	x	9	1.500	--	--	--	--	--	--	MOUNT ON BEACON POLE
5	W8-70	--	--	x	--	--	--	1	1	--	--	--	ALSO REMOVE 1/2 MILE PLAQUE
6	W14-3	--	--	x	--	--	--	--	1	1	1	--	MOVE IF NEEDED
7	R7-1D(2M)	--	24	x	30	5.000	--	1	1	1	--	--	--
8	R7-1D(2M)	--	24	x	30	5.000	--	1	1	1	--	--	--
9	W14-3	--	--	x	--	--	--	--	1	1	1	--	MOVE IF NEEDED
10	W14-3	--	--	x	--	--	--	--	1	1	1	--	MOVE IF NEEDED
11	D1-61	DRUID LAKE RD	78	x	24	13.000	--	1	2	2	--	--	--
12	W14-3	--	--	x	--	--	--	--	1	1	1	--	MOVE IF NEEDED
13	D1-61	DRUID LAKE RD	78	x	24	13.000	--	1	2	1	--	--	--
14	W14-3	--	--	x	--	--	--	--	1	1	1	--	MOVE IF NEEDED
15	W14-3	--	--	x	--	--	--	--	1	1	1	--	MOVE IF NEEDED
16	W14-3(2S)	--	48	x	36	--	5.560	1	1	1	--	--	--
17	W5-52R(2S)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
18	W14-3(2S)	--	48	x	36	--	12.000	1	1	1	--	--	--
19	W5-52R(2S)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
20	D1-61	WATERFORD RD	72	x	24	12.000	--	1	2	2	--	--	--
21	D1-61	WATERFORD RD	72	x	24	12.000	--	1	2	2	--	--	--
22	W14-3	--	--	x	--	--	--	--	1	1	1	--	MOVE IF NEEDED
23	D1-61	LEE RD	42	x	24	7.000	--	1	1	1	--	--	--
24	W14-3	--	--	x	--	--	--	--	1	1	1	--	MOVE IF NEEDED
25	D1-61	LEE RD	42	x	24	7.000	--	1	1	1	--	--	--
26	W14-3	--	--	x	--	--	--	--	1	1	1	--	MOVE IF NEEDED
--	--	--	--	x	--	--	--	--	--	--	--	--	--
TOTALS						95.000	23.560	15	28	24	9		

ALL ITEMS CATEGORY 0010

CONSTRUCTION STAKING

ITEM	DESCRIPTION	QUANTITY	UNIT
650.4500	CONSTRUCTION STAKING SUBGRADE	1,200	LF
650.5000	CONSTRUCTION STAKING BASE	1,200	LF
650.6501	CONSTRUCTION STAKING STRUCTURE LAYOUT (01. B-66-146)	1	EACH
650.6501	CONSTRUCTION STAKING STRUCTURE LAYOUT (02. R-66-0086)	1	EACH
650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	20,400	LF
650.9000	CONSTRUCTION STAKING CURB RAMPS	3	EACH
650.9500	CONSTRUCTION STAKING SIDEWALK (01. 1330-22-70)	1	EACH
650.9911	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (01. 1330-22-70)	1	EACH
650.9920	CONSTRUCTION STAKING SLOPE STAKES	1,200	LF

SAWING

STATION TO STATION	690.0150	690.0250*
	ASPHALT	CONCRETE
	LF	LF
STH 83		
STH 167 - ST. PATRICK	779	55
ST. PATRICK - DRUID LAKE RD	254	25
DRUID LAKE RD - STA 131+00	308	10
STA 131+00 - CTH E	150	114
CTH E - WHISTLE	59	-
WHISTLE - LEE	211	10
LEE - MONROE	684	105
TOTALS	2,445	319

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

MAINTAINING TEMPORARY DRAINAGE AT ASHIPUN RIVER

SPV.0060.01 MAINTAINING TEMPORARY DRAINAGE AT ASHIPUN RIVER	
LOCATION	EACH
ID 1330-22-70	1
TOTALS	1

SECTION CORNER MONUMENTS

SPV.0060.02 SECTION CORNER MONUMENTS	
STATION TO STATION	EACH
STH 83	
STH 167 - ST. PATRICK	1
ST. PATRICK - DRUID LAKE RD	1
DRUID LAKE RD - STA 131+00	2
STA 131+00 - CTH E	-
CTH E - WHISTLE	1
WHISTLE - LEE	-
LEE - MONROE	-
TOTALS	5

UTILITY LINE OPENING (ULO)

SPV.0060.03 UTILITY LINE OPENING (ULO)	
LOCATION	EACH
UNDISTRIBUTED	10
TOTALS	10

CONNECTION TO EXISTING PIPE UNDERDRAIN

SPV.0060.04 CONNECTION TO EXISTING PIPE UNDERDRAIN	
LOCATION	EACH
146+33.9, 32.8' RT	1
TOTALS	1

ALL ITEMS CATEGORY 0010

PROJECT NO: 1330-22-70

HWY: STH 83

COUNTY: WASHINGTON

MISCELLANEOUS QUANTITIES

SHEET:

E

FILE NAME :

PLOT DATE :

PLOT BY :

PLOT NAME :

PLOT SCALE : 1:1

TUCKPOINTING PIPE UNDERDRAIN INLET CONNECTIONS

SPV.0060.05
TUCKPOINTING PIPE
UNDERDRAIN INLET
CONNECTIONS

STATION	EACH
<u>STH 83</u>	
115+00, LT	1
118+00, RT	1
211+50, RT	1
214+56, RT	1
219+00, LT	1
219+00, RT	1
222+50, LT	1
222+50, RT	1
226+00, LT	1
226+00, RT	1
229+50, RT	1
229+64, RT	1
231+50, RT	1
233+64, LT	1
235+50, RT	1
235+64, LT	1
238+00, LT	1
240+50, LT	1
240+50, RT	1
249+30, LT	1
249+30, RT	1
TOTALS	21

TRAFFIC FLASHING BEACON SYSTEM

SPV.0060.06
TRAFFIC FLASHING BEACON SYSTEM,
SOLAR STH 83 NB AT STH 167/CTH O

SPV.0060.07
TRAFFIC FLASHING BEACON SYSTEM,
SOLAR STH 83 SB AT STH 167/CTH O

LOCATION	EACH	EACH
ID 1330-22-70	1	1
TOTALS	1	1

ASPHALTIC REPAIR

SPV.0195.01
ASPHALTIC
REPAIR

LOCATION	TON
UNDISTRIBUTED	1,300
TOTALS	1,300

ALL ITEMS CATEGORY 0010

STH 83 & STH 167/CTH O
 WASHINGTON COUNTY
 CATEGORY 0010
 F66-0435

3

3

REMOVING CONCRETE BASES	
SIGNAL BASE NO.	204.0195 REMOVING CONCRETE BASES EACH
SB1	1
SB2	1
TOTAL	2

TRAFFIC SIGNAL REMOVALS	
LOCATION	204.9060.S.01 REMOVING TRAFFIC SIGNALS EACH
STH 83 & STH 167/CTH O	1
TOTAL	1

LAMP, BALLAST, LED, SWITCH DISPOSAL	
FIXTURE TYPE	659.5000.S LAMP, BALLAST, LED, SWITCH DISPOSAL BY CONTRACTOR EACH
TRAFFIC SIGNAL, ONE SECTION	2
TOTAL	2

LAMP, BALLAST, LED, SWITCH DISPOSAL (FOR INFORMATION ONLY)	
SIGNAL BASE NO.	TRAFFIC SIGNAL, ONE SECTION EACH
SB1	1
SB2	1
TOTAL	2

R/W PROJECT NUMBER: 1330-22-20

SHEET NUMBER: 4.01

RIGHT OF WAY EXHIBIT

STH 83

STH 167 TO MONROE AVENUE

WASHINGTON COUNTY

STH 83

THE SOUTHWEST 1/4 OF SECTION 9, TOWNSHIP 9 NORTH, RANGE 18 EAST, IN THE TOWN OF ERIN, WASHINGTON COUNTY, WISCONSIN

NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCONS), WASHINGTON COUNTY NAD 83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCE MAY BE USED AS GROUND DISTANCES.

HWY	BASIS OF EXISTING R/W	WIDTH	DATE
STH 83	PROJECT 1333-03-20	66', 50'	12-20-93

LEDROC, LLC
UNPLATTED LANDS

THE NE 1/4
OF THE SW 1/4
SEC. 9, T9N, R18E

RIM INVESTMENT PROPERTIES, LLC
UNPLATTED LANDS

NON-DESCRIPT
EASEMENT FOR
RURAL ELECTRIC LINE,
DOC. 164157

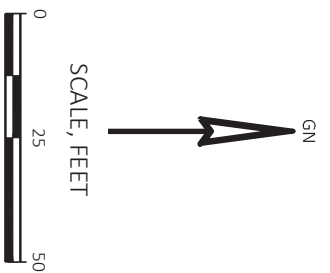
EXISTING
BUILDING

THE EAST LINE
OF THE SW 1/4
SEC. 9, T9N, R18E

THE NW 1/4
OF THE SE 1/4
SEC. 9, T9N, R18E

THE EAST LINE
OF THE SW 1/4
SEC. 9, T9N, R18E

228.00'



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

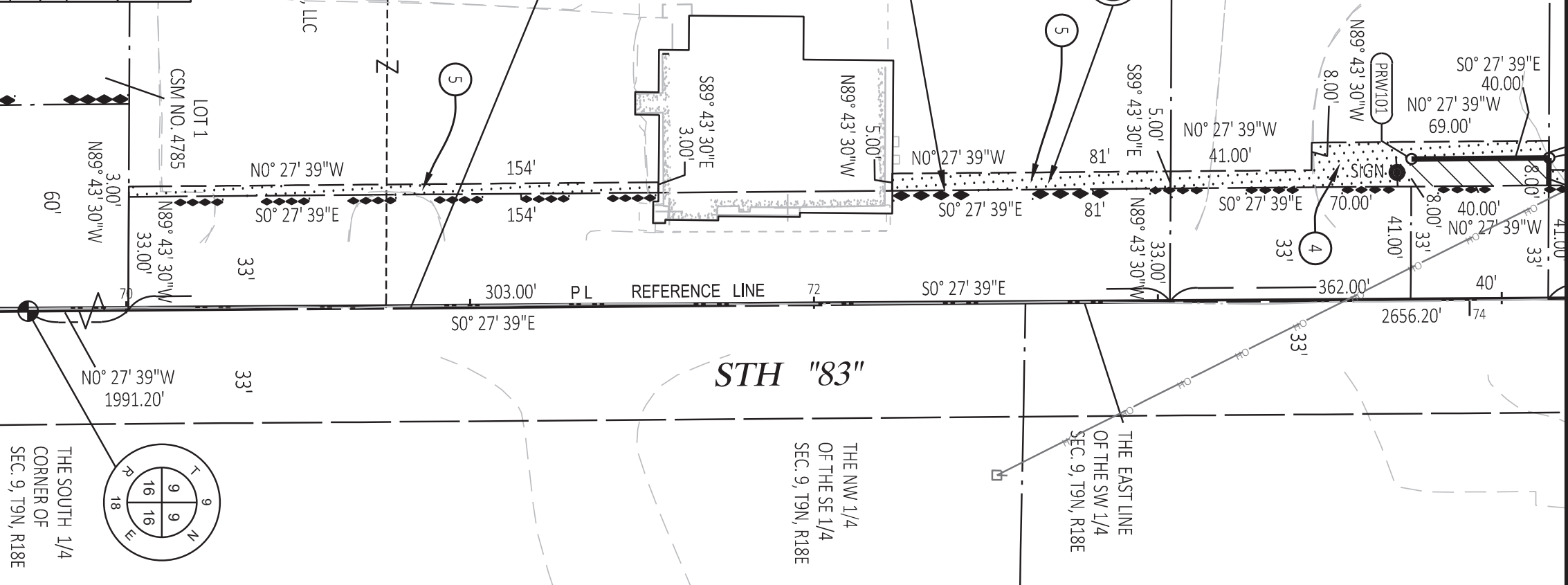
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	F.E.E. S.F.	T.L.E. S.F.
4	LEDROC, LLC	FEE, TILE	NEW: 320, EX: 1,320	782
5	RIM INVESTMENT PROPERTIES, LLC	TILE		867

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
102	CITY OF HARTFORD UTILITIES DEPARTMENT - ELECTRIC	RELEASE OF RIGHTS

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION REGION AND CITY REGION OFFICE

SIGNATURE: *Robert J. Dwyer* DATE: 3/30/2022
 PRINT NAME: _____



R/W PROJECT NUMBER: 1330-22-20

SHEET NUMBER: 4.02

RIGHT OF WAY EXHIBIT

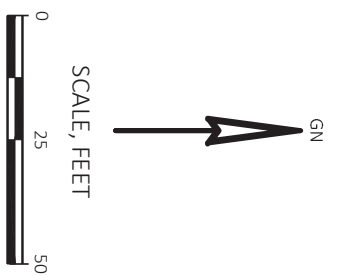
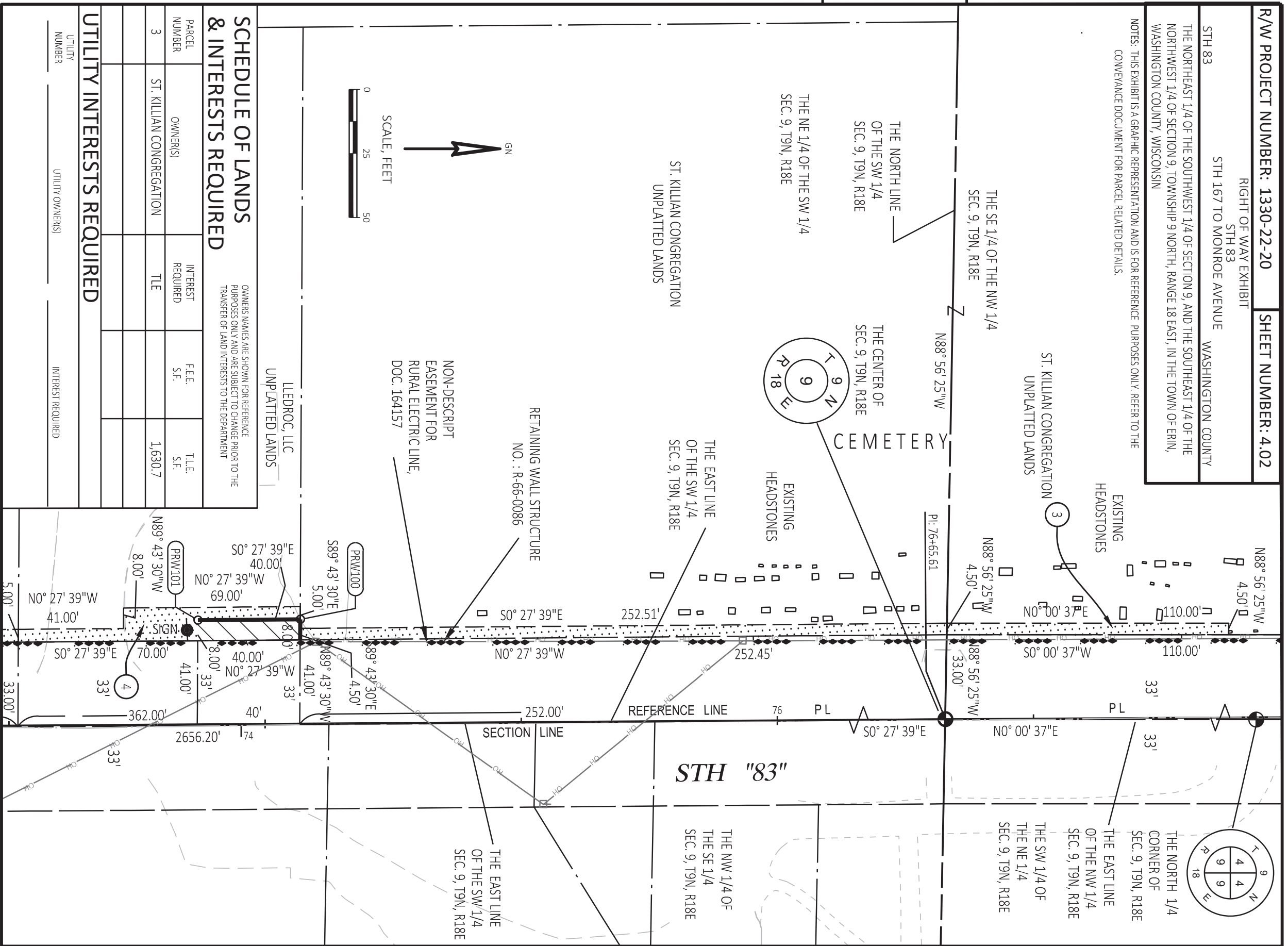
STH 83

STH 167 TO MONROE AVENUE

WASHINGTON COUNTY

THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 9, AND THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 9, TOWNSHIP 9 NORTH, RANGE 18 EAST, IN THE TOWN OF ERIN, WASHINGTON COUNTY, WISCONSIN

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



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	F.E.E. S.F.	T.L.E. S.F.
3	ST. KILLIAN CONGREGATION	TLE		1,630.7

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED

FILE NAME: 13302200_BIK.DWG

PLOT DATE: 3/23/2022 11:38 AM

R/W PROJECT: R/W PROJ NO

R/W PROJECT NUMBER: 1330-22-20

SHEET NUMBER: 4.03

RIGHT OF WAY EXHIBIT

STH 83

STH 167 TO MONROE AVENUE

WASHINGTON COUNTY

THE NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 4, AND THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 4, TOWNSHIP 9 NORTH, RANGE 18 EAST, IN THE TOWN OF ERIN, WASHINGTON COUNTY, WISCONSIN.

UNPLATTED LANDS

NOTES:

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

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCONS), WASHINGTON COUNTY MAD 83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCE MAY BE USED AS GROUND DISTANCES.

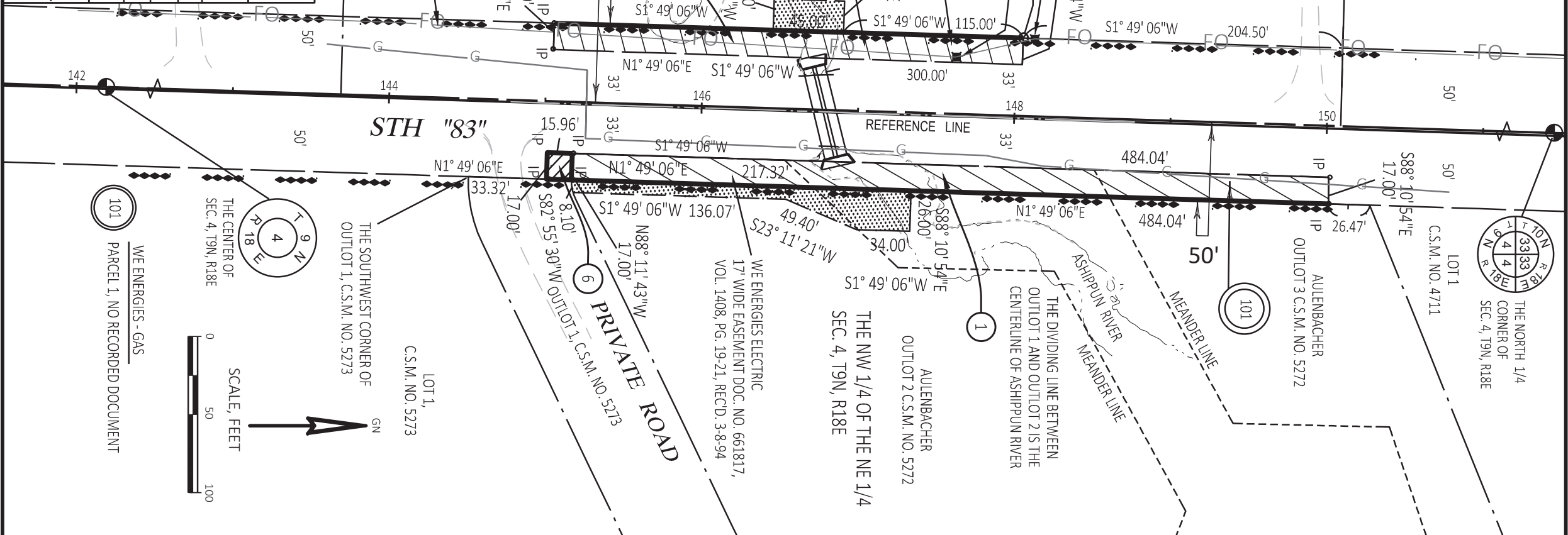
HWY	BASIS OF EXISTING R/W	WIDTH	DATE
STH 83	PROJECT 1333-03-20	66'	12-20-93
STH 83	C.S.M. 3638	33'	11-30-90
STH 83	C.S.M. 5272	33', 50'	8-25-00
STH 83	C.S.M. 5273	33', 50'	8-25-00
STH 83	DOC. NO. 614974	50'	10-16-92

SCHEDULE OF LANDS & INTERESTS REQUIRED				
PARCEL NUMBER	OWNERS	INTEREST REQUIRED	F.E.E. S.F.	T.L.E. S.F.
1	AULENBACHER	FEE, TILE	8,228.7	2,759.4
6	AULENBACHER, ET AL	FEE	271.3	
2	NIER	FEE, TILE	5,100	900

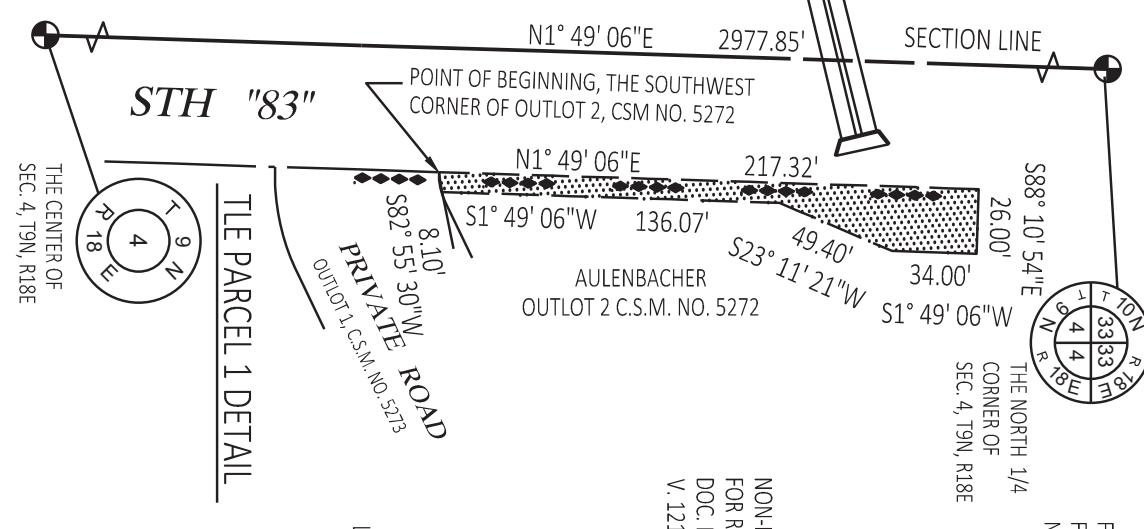
UTILITY INTERESTS REQUIRED	
UTILITY NUMBER	INTEREST REQUIRED
101	WE ENERGIES - GAS
102	CITY OF HARTFORD UTILITIES DEPARTMENT - ELECTRIC

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

FILE NAME : 13302200_BJK.DWG PLOT DATE : 3/30/2022 10:26 AM R/W PROJECT : R/W PROJ NO



TILE PARCEL 1 DETAIL

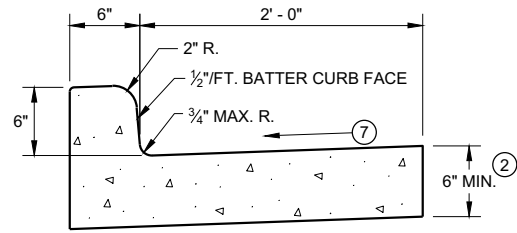


Standard Detail Drawing List

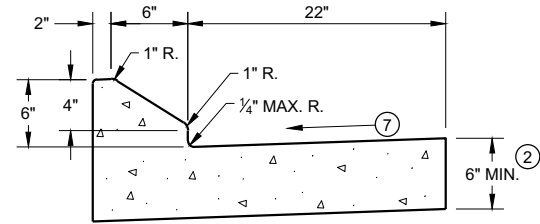
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-20A	CURB RAMPS TYPES 1 AND 1-A
08D05-20B	CURB RAMPS TYPES 2 AND 3
08D05-20C	CURB RAMPS TYPES 4A AND 4A1
08D05-20D	CURB RAMPS TYPE 4B AND 4B1
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D15-05A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08D15-05B	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08D15-05C	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
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
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E07-06	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
12A03-10	NAME PLATE (STRUCTURES)
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
13C19-03	HMA LONGITUDINAL JOINTS
14B28-04A	GUARDRAIL MOW STRIP
14B28-04B	GUARDRAIL MOW STRIP
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B51-02A	ANCHOR POST ASSEMBLY TOP-MOUNTED
14B51-02B	ANCHOR POST ASSEMBLY TOP-MOUNTED
14B51-02C	ANCHOR POST ASSEMBLY TOP-MOUNTED
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-22A	LONGITUDINAL MARKING (MAINLINE)
15C08-22B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-22C	PAVEMENT MARKING (TURN LANES)
15C08-22D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-07A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C19-07A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15C35-05B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-05C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D12-10A	TRAFFIC CONTROL, LANE CLOSURE
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

Standard Detail Drawing List

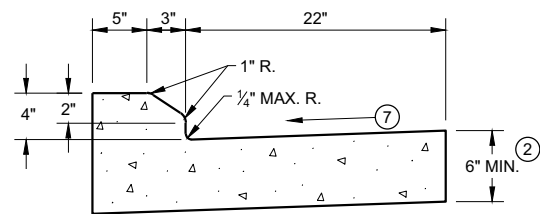
15D30-08A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-08B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-08C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-08D	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-08E	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-08F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-08G	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-08H	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-08I	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-08J	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D40-04C	TRAFFIC CONTROL, PARTIAL LANE SHIFT NON-FREEWAY OR MULTILANE DIVIDED 45 MPH AND UNDER
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS



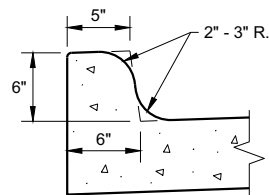
TYPES A^① & D



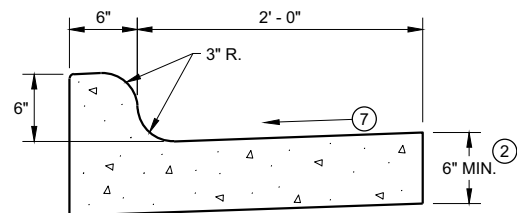
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

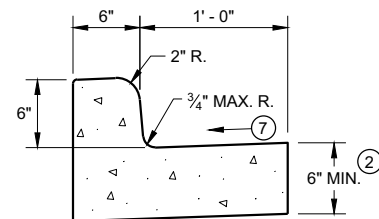


TYPES K^① & L
(OPTIONAL CURB SHAPE)



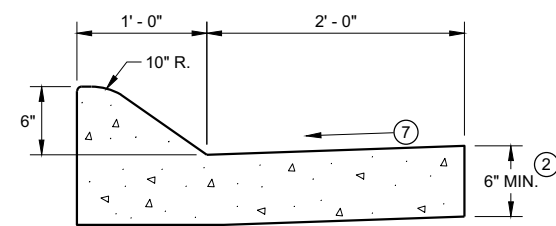
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

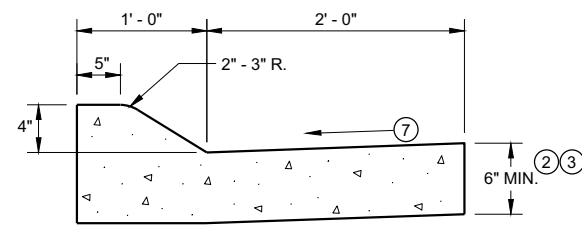


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

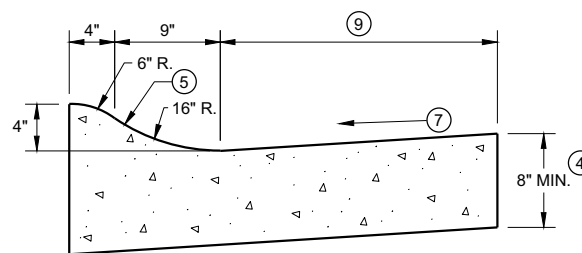


6" SLOPED CURB TYPES A^① & D



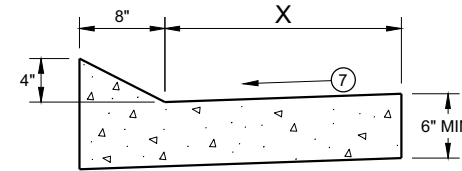
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

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

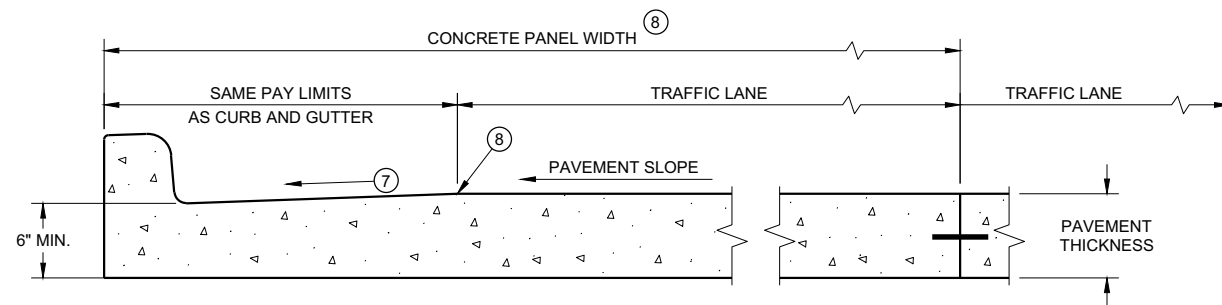


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

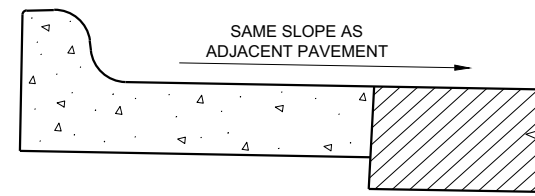
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

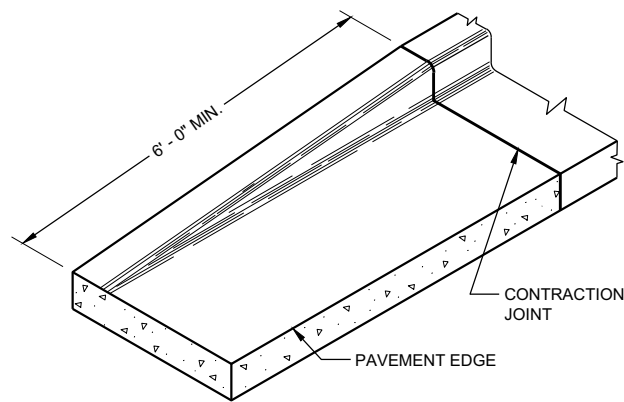
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

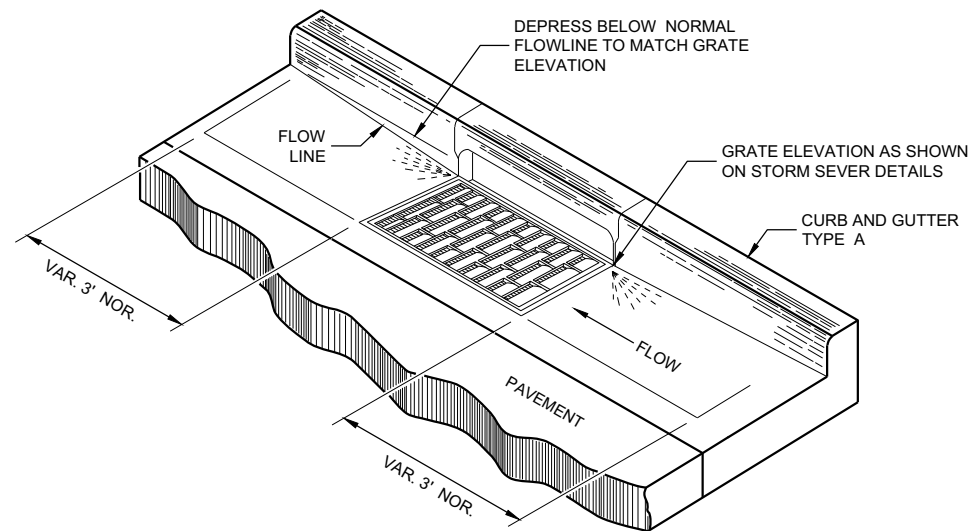
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ 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

6

6



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS
(TYPICAL H INLET COVER SHOWN)

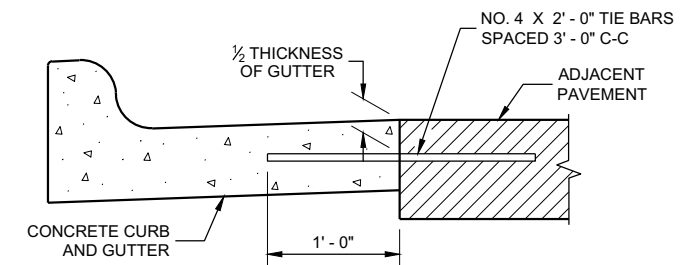
GENERAL NOTES

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

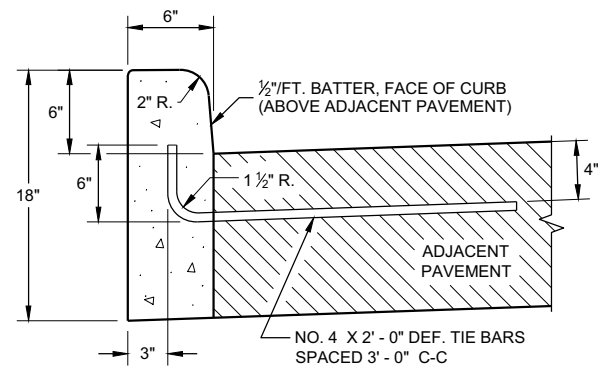
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

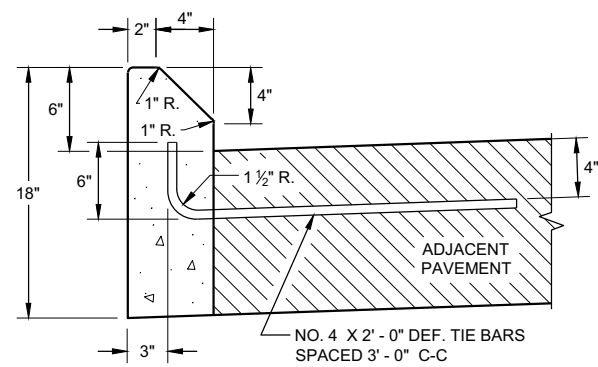
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION ①

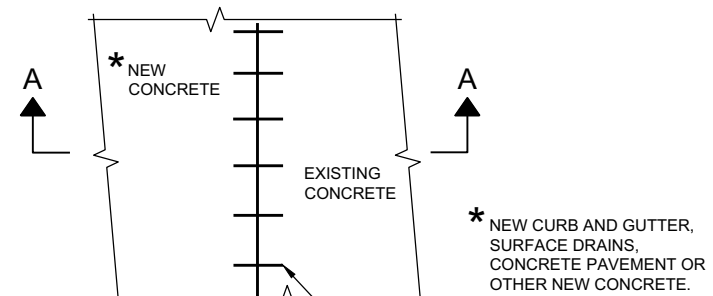


TYPES A ① & D

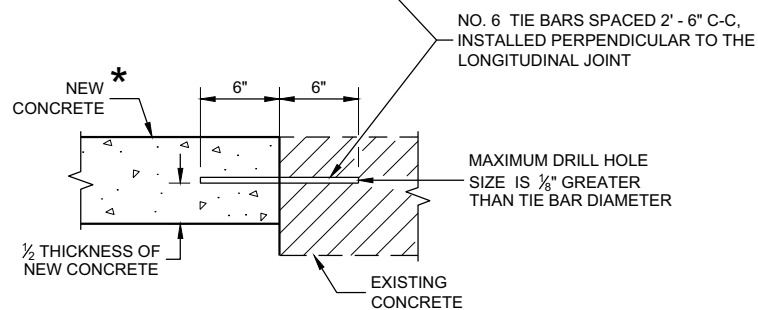


TYPES G ① & J

CONCRETE CURB

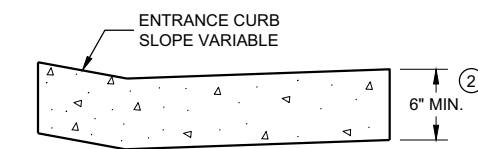


PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



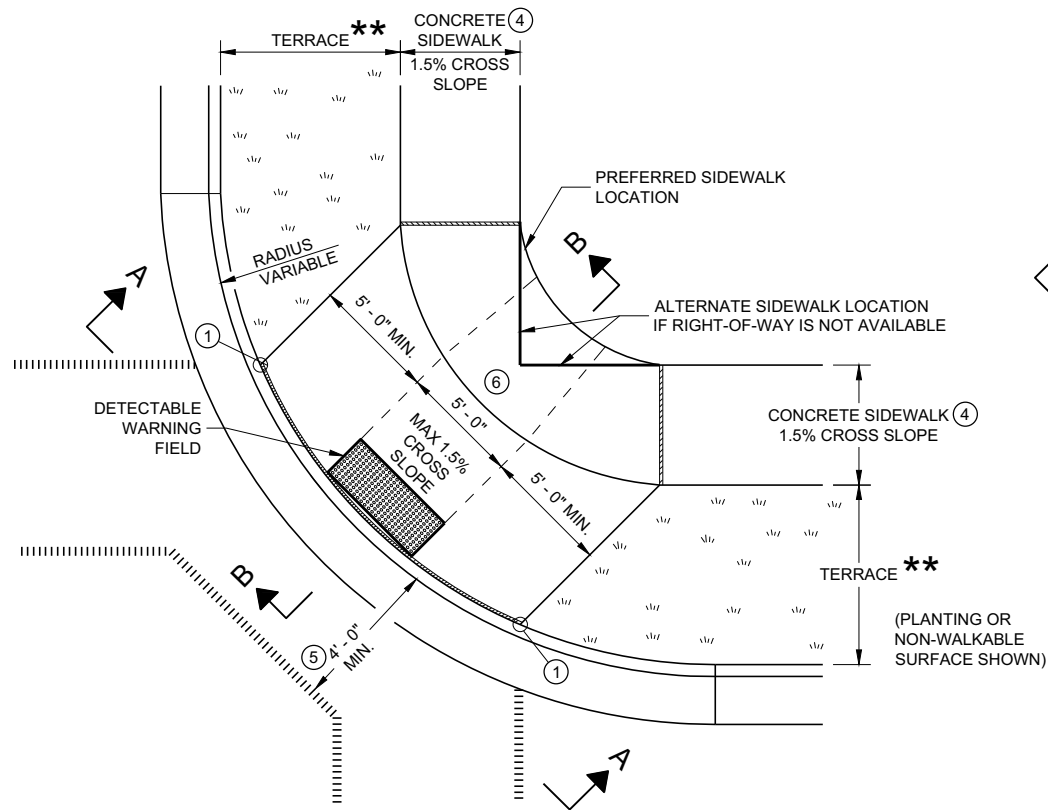
DRIVEWAY ENTRANCE CURB ⑨
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

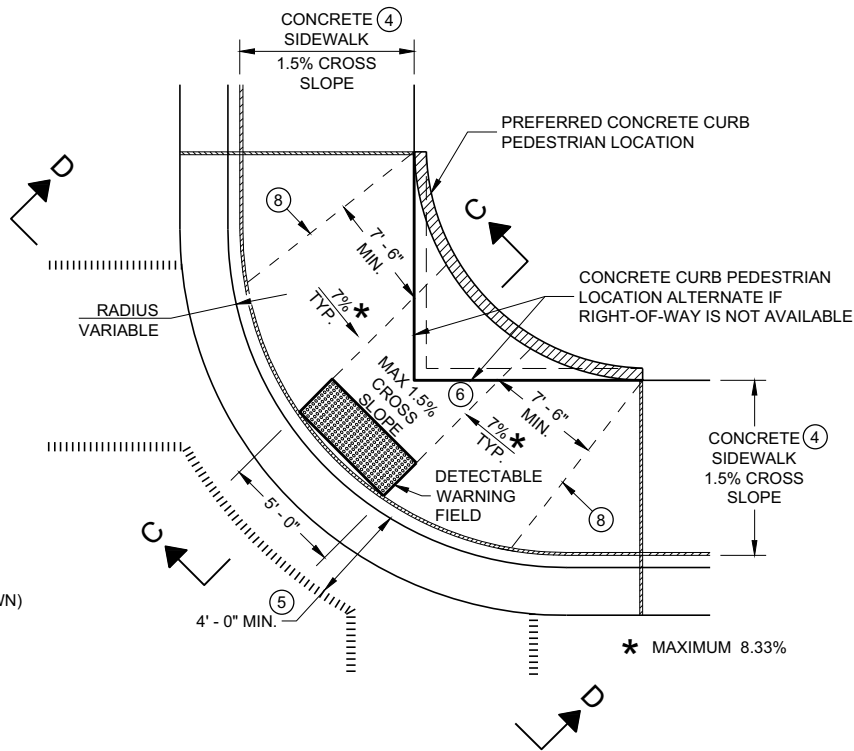
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

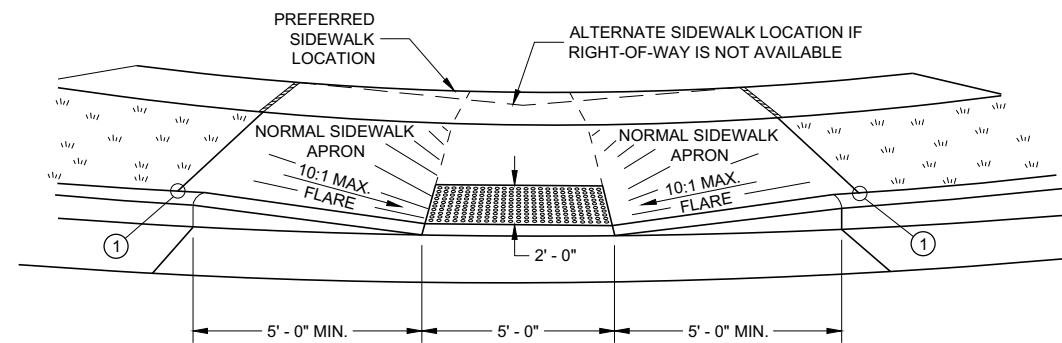
FHWA



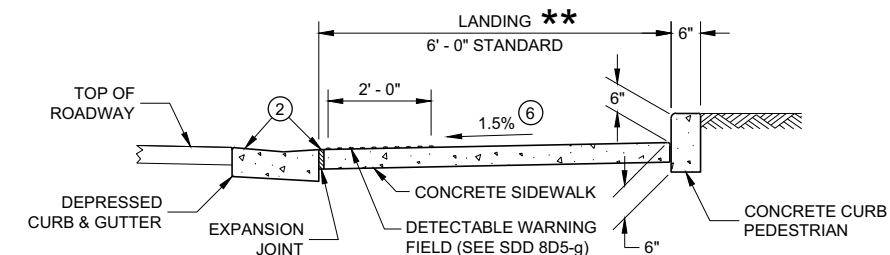
**PLAN VIEW
CURB RAMP TYPE 1
(CENTER OF CORNER RADIUS)**



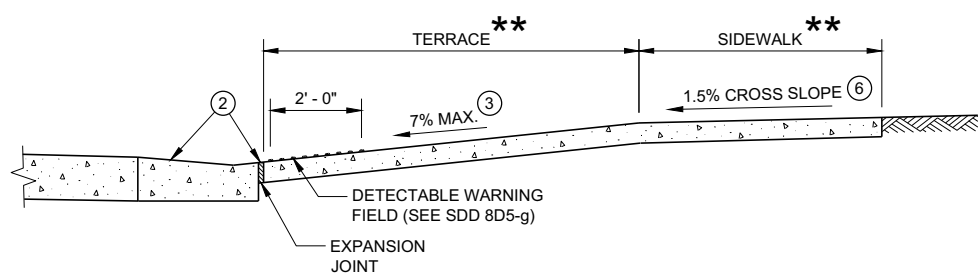
**PLAN VIEW
CURB RAMP TYPE 1 - A
(NO TERRACE)**



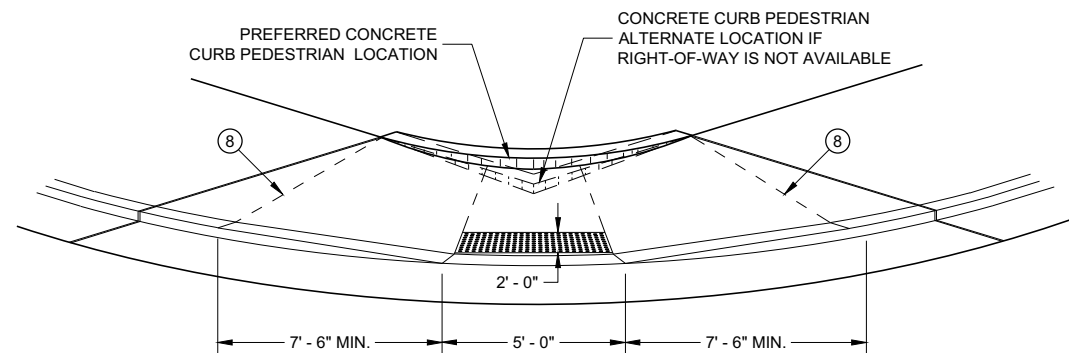
VIEW A - A FOR TYPE 1



SECTION C - C FOR TYPE 1 - A



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

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

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

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

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

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

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

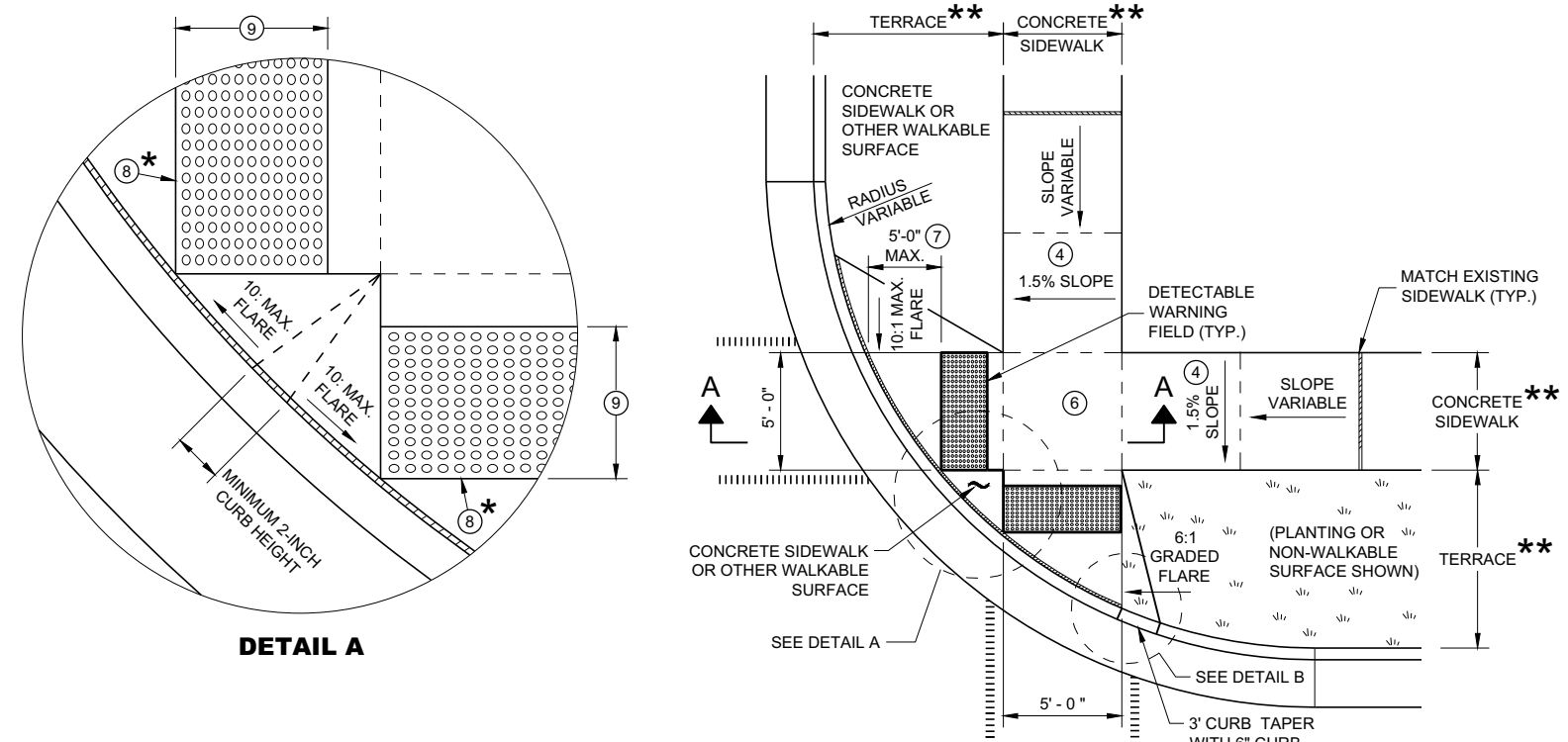
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%.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

LEGEND

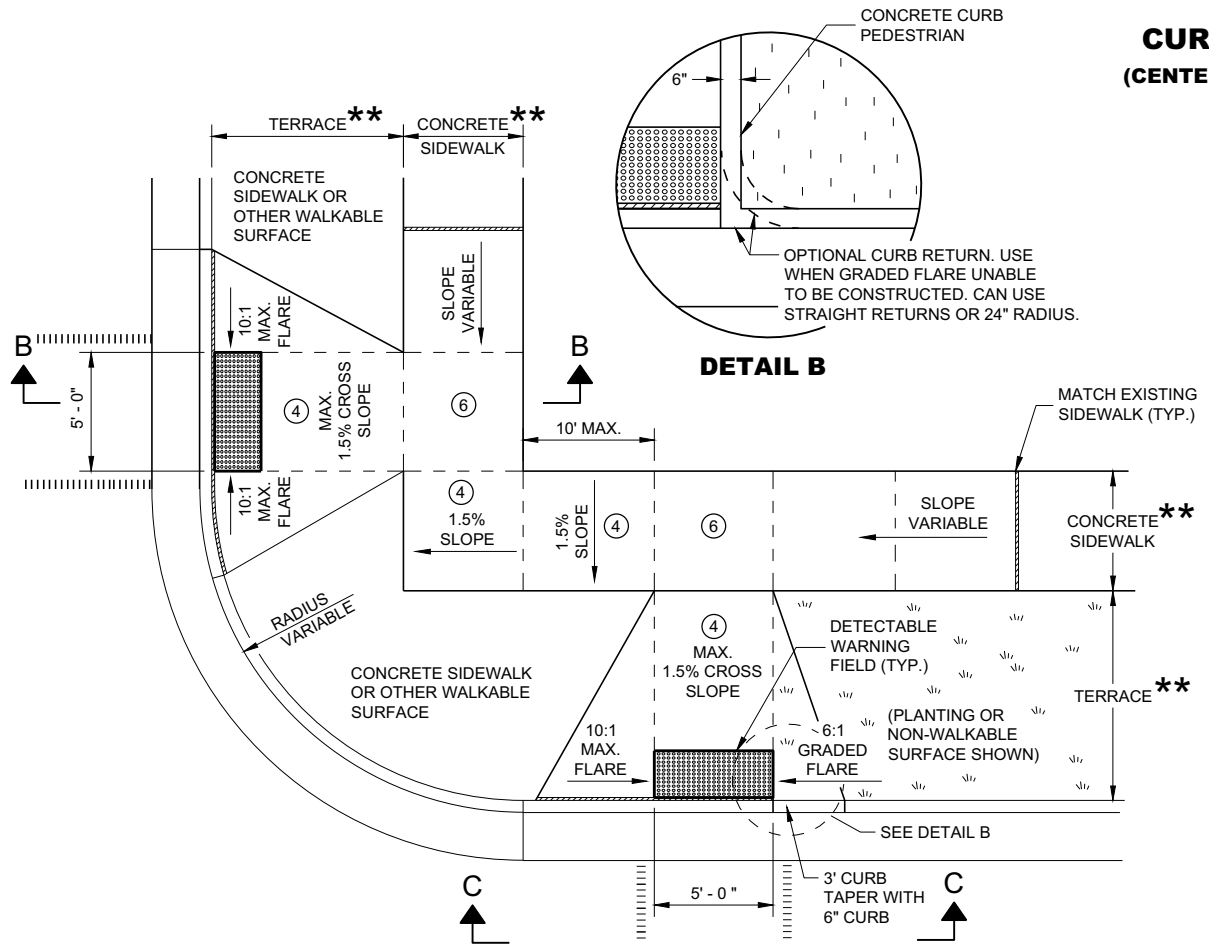
- 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

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

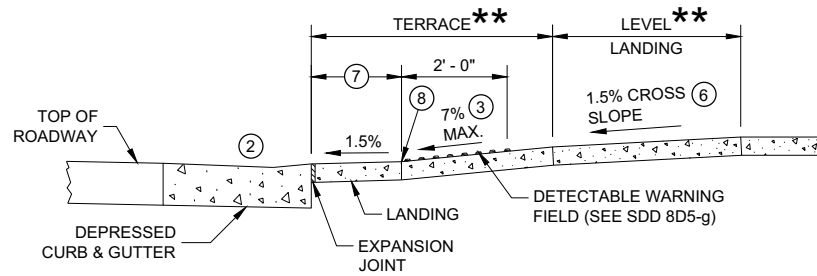
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



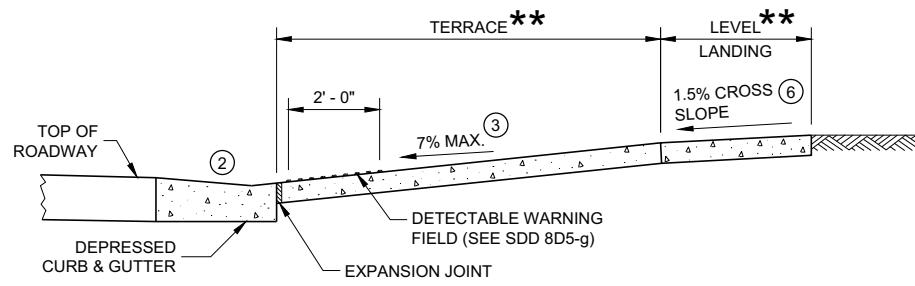
PLAN VIEW CURB RAMP TYPE 2 (CENTER OF CORNER RADIUS)



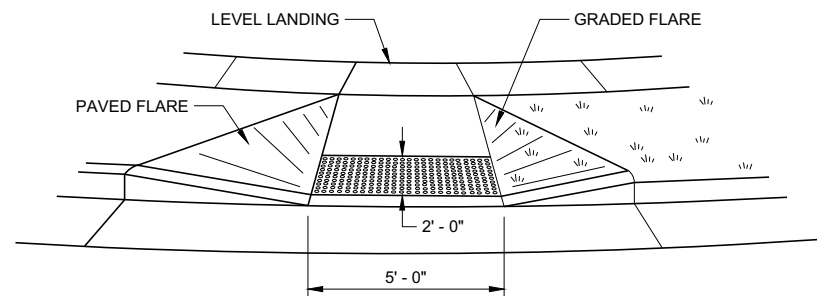
PLAN VIEW CURB RAMP TYPE 3 (OUTSIDE OF CROSSWALK AREA)



SECTION A - A FOR TYPE 2



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

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.

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

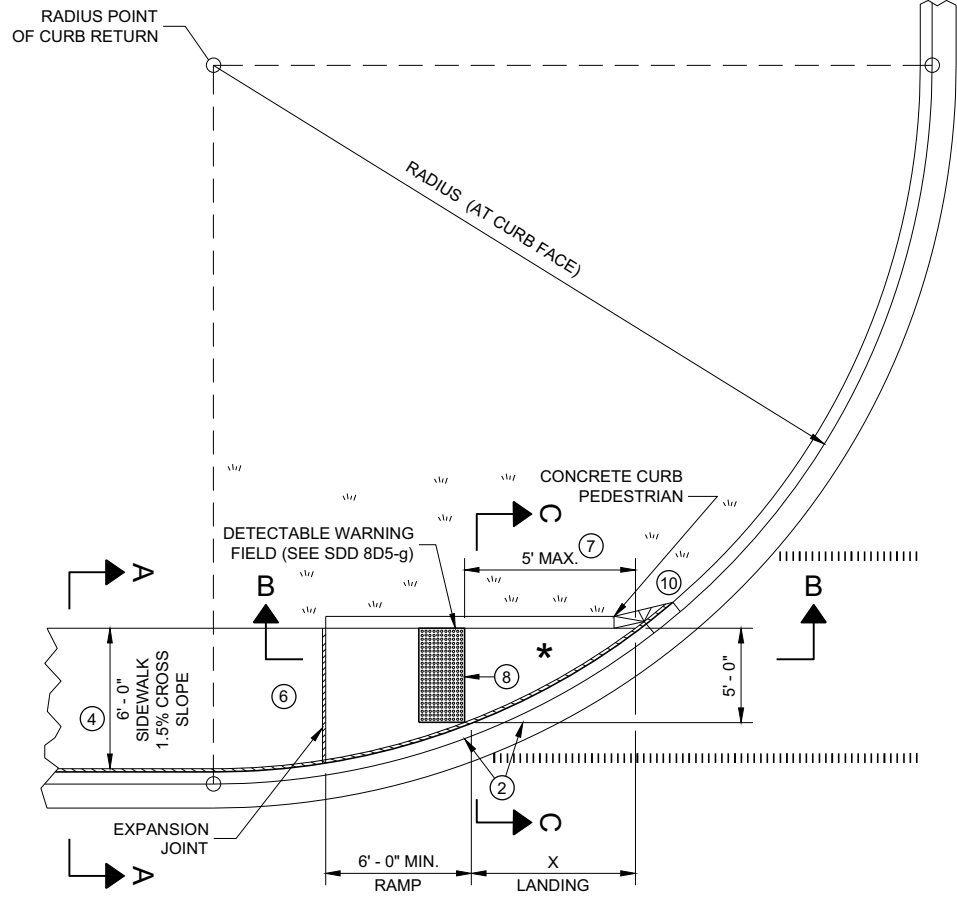
** WIDTH SHOWN ELSEWHERE IN THE PLANS

LEGEND

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

CURB RAMPS TYPE 2 AND 3

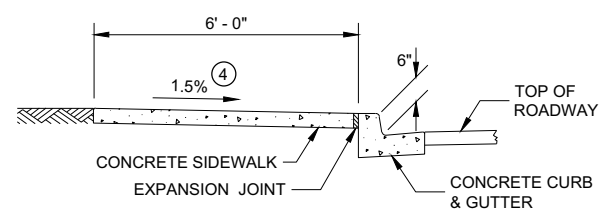
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**PLAN VIEW
CURB RAMP TYPE 4A**

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

INTERMEDIATE RADII CAN BE INTERPOLATED



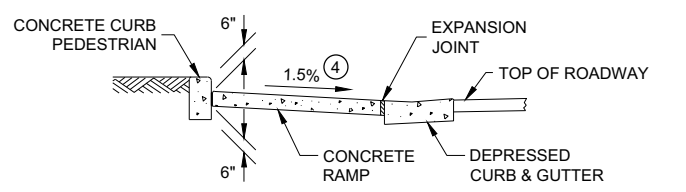
SECTION A - A FOR TYPE 4A

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.

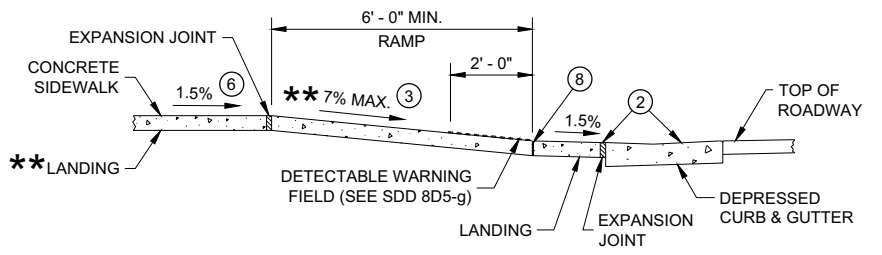
LEGEND

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



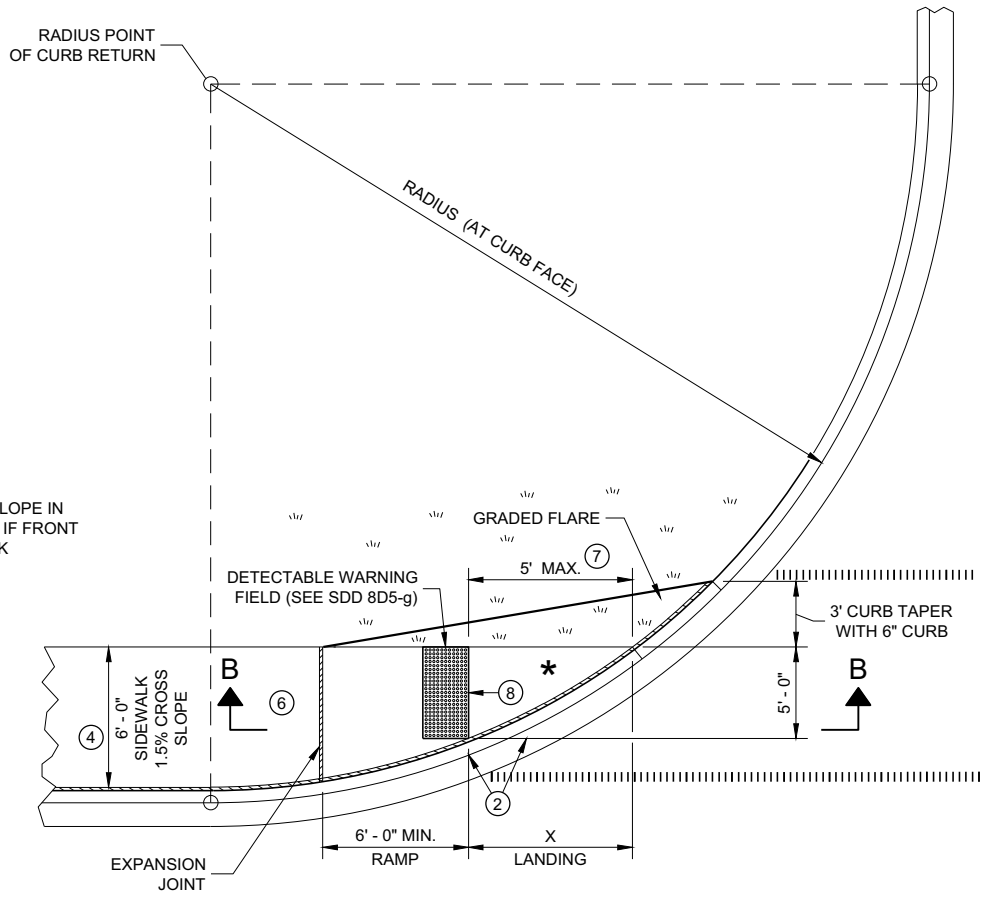
SECTION C - C FOR TYPE 4A

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

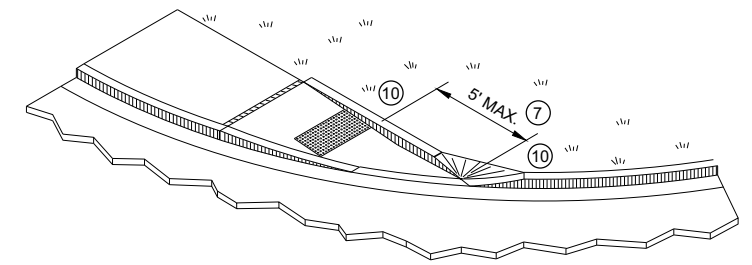


**SECTION B - B FOR
TYPE 4A AND TYPE 4A1**

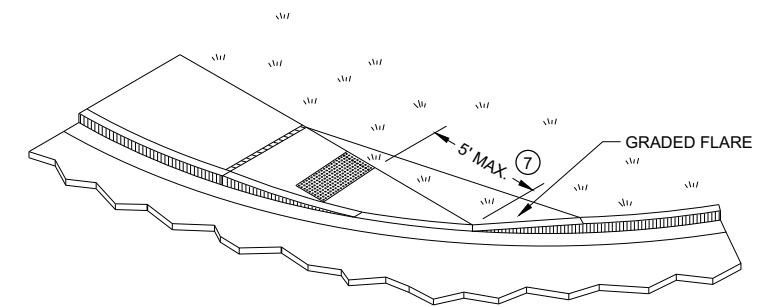
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



**PLAN VIEW
CURB RAMP TYPE 4A1**



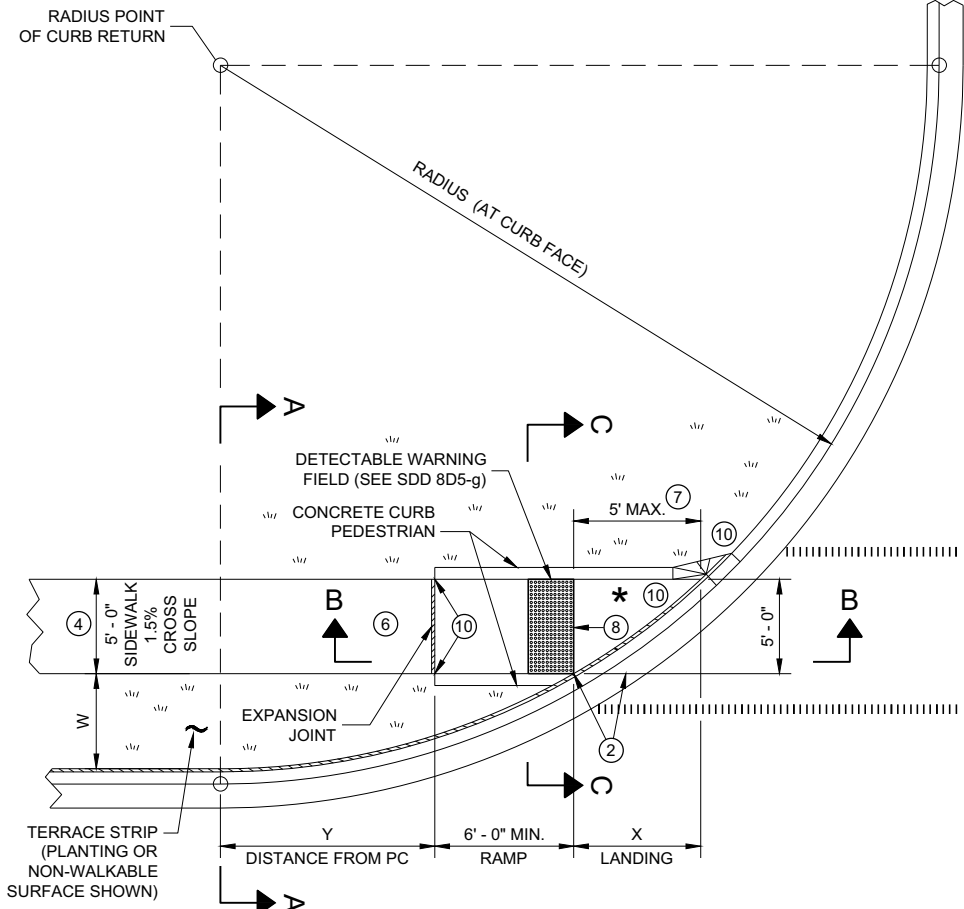
ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

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

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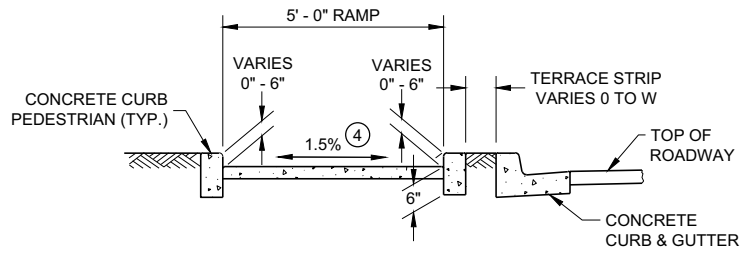
RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 1/4"	0' - 5"	2' - 1"	1' - 4 1/2"	1' - 5"	2' - 1"	0' - 10"	2' - 7 1/2"	0' - 3 1/4"	3' - 0 1/4"						
15 FEET	4' - 6 3/4"	2' - 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

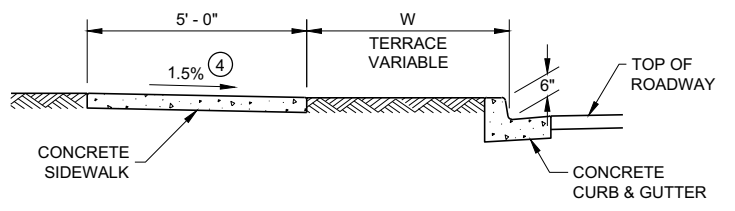
- LEGEND**
- ===== 1/2" EXPANSION JOINT SIDEWALK
 - - - - - CONTRACTION JOINT SIDEWALK
 - ||||| PAVEMENT MARKING CROSSWALK (WHITE)

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.

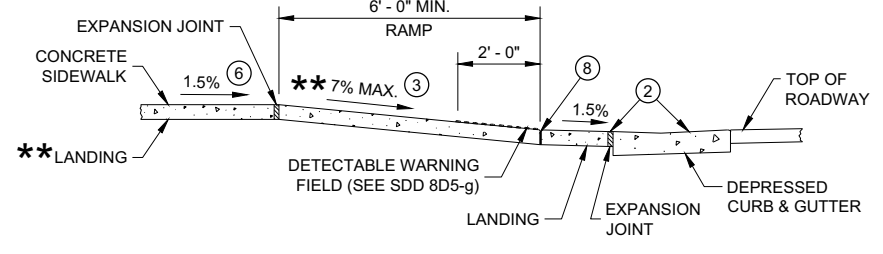


SECTION C - C FOR TYPE 4B



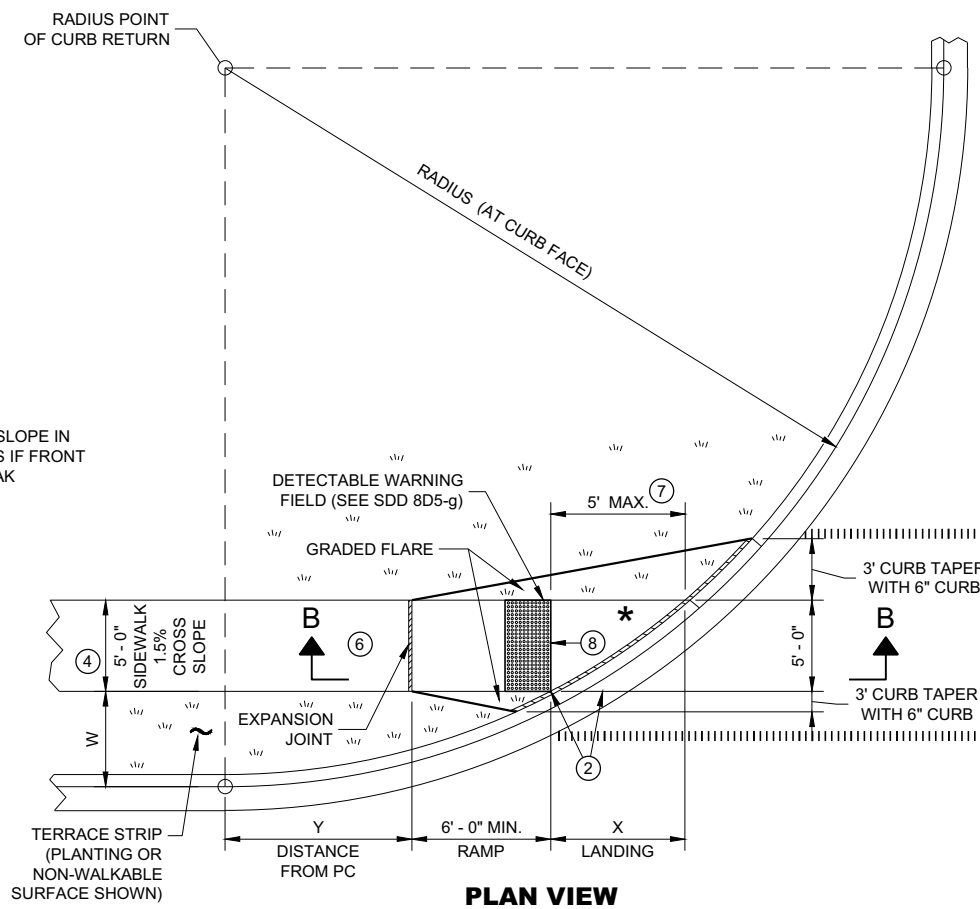
SECTION A - A FOR TYPE 4B

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

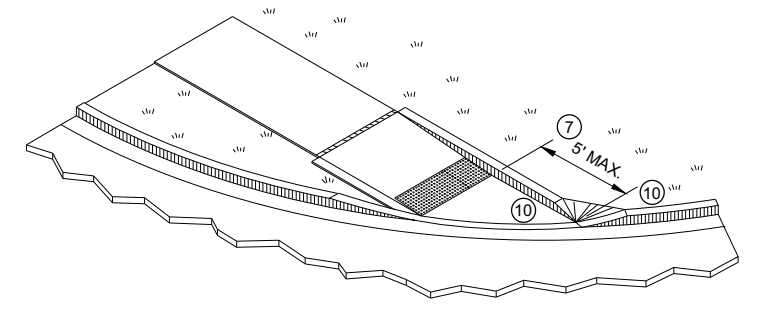


SECTION B - B FOR TYPE 4B AND TYPE 4B1

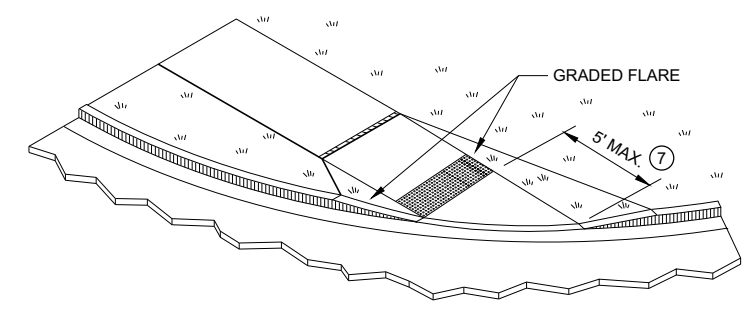
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



PLAN VIEW CURB RAMP TYPE 4B1



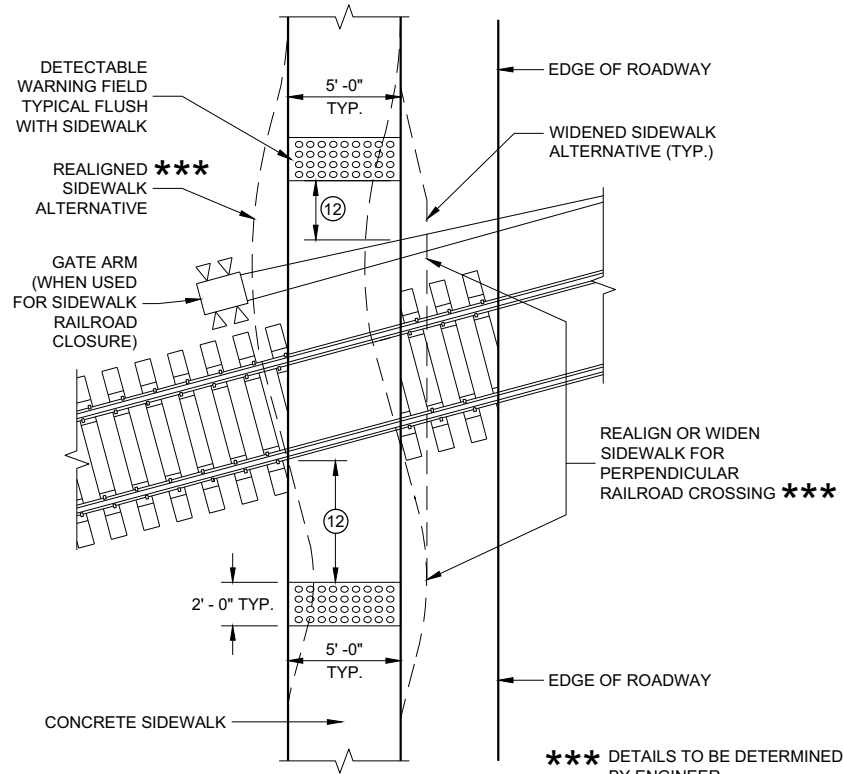
ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

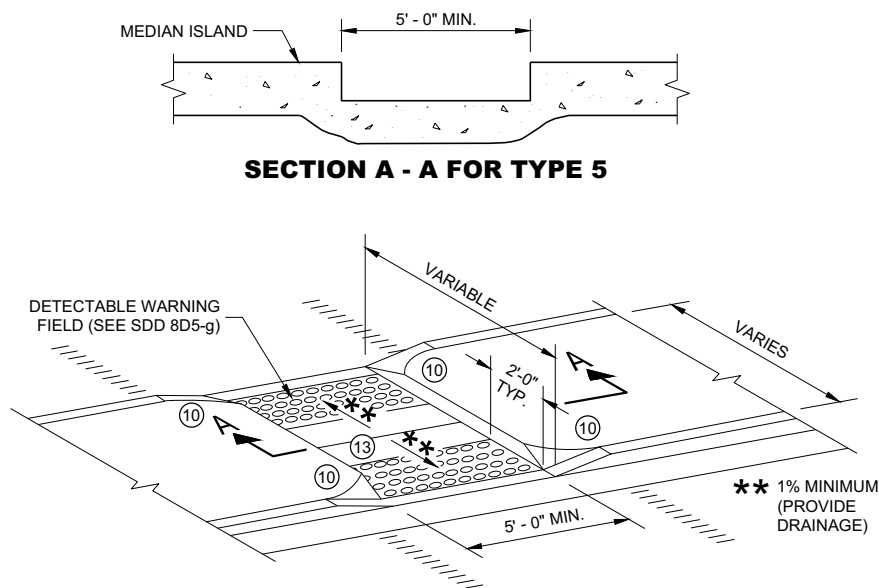
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 8

DETECTABLE WARNINGS 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.

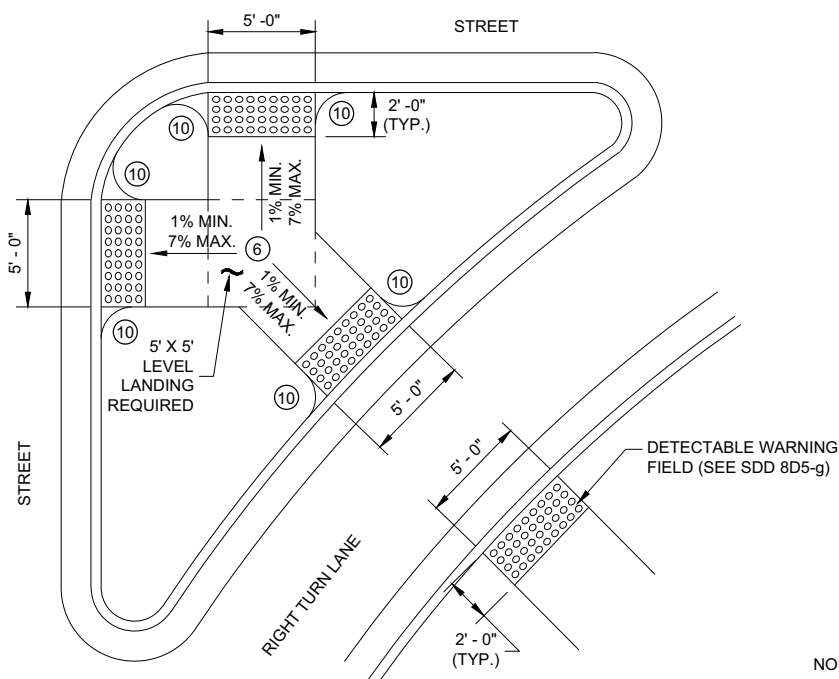
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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.

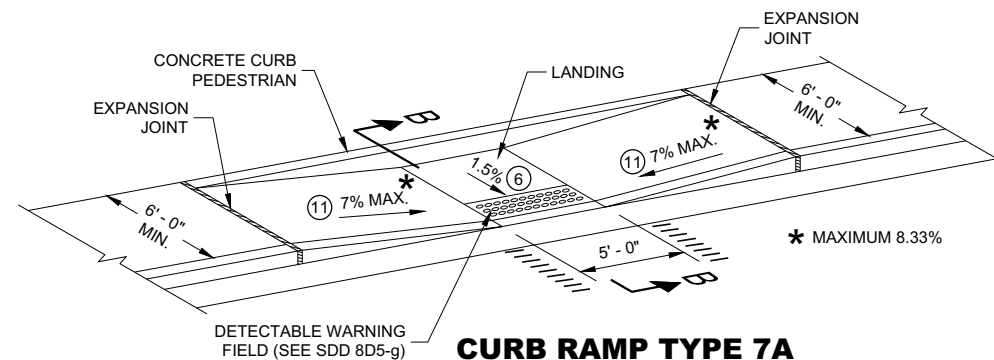
LEGEND

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

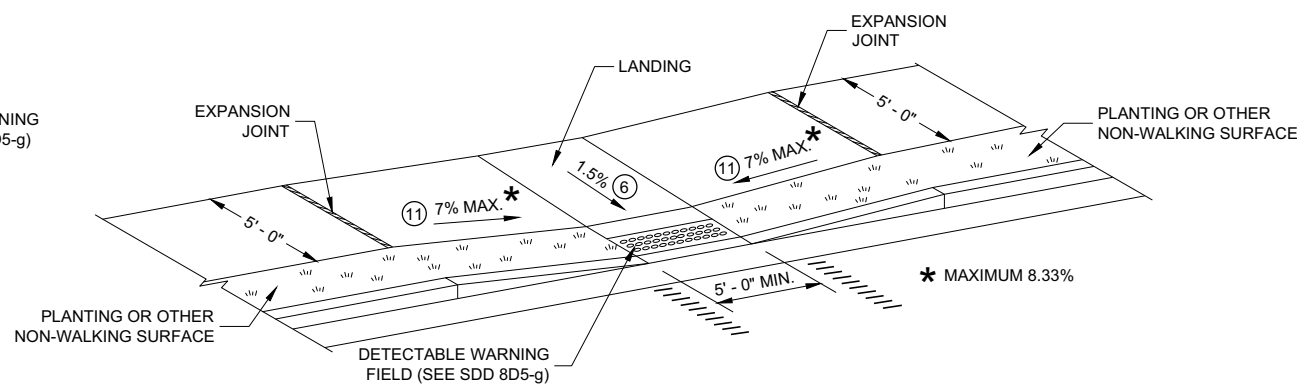


CURB RAMP TYPE 6
DETECTABLE WARNING AT ISLANDS

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

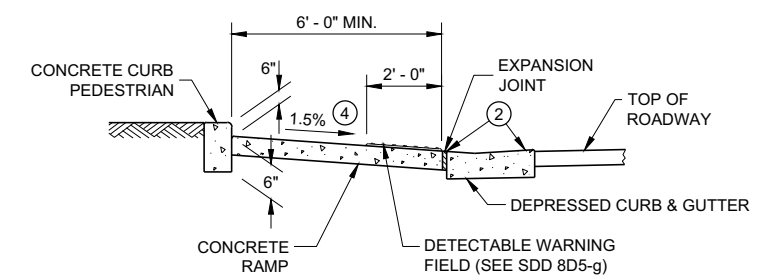


CURB RAMP TYPE 7A
MID BLOCK CROSSING



CURB RAMP TYPE 7B
MID BLOCK CROSSING

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

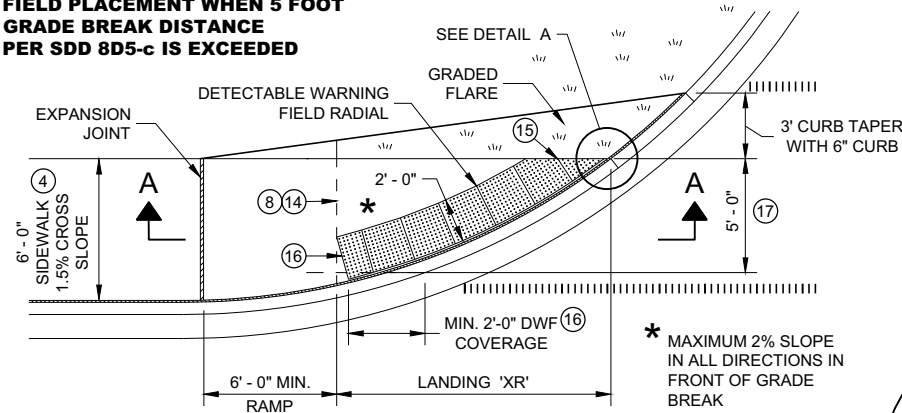


SECTION B - B FOR TYPE 7A

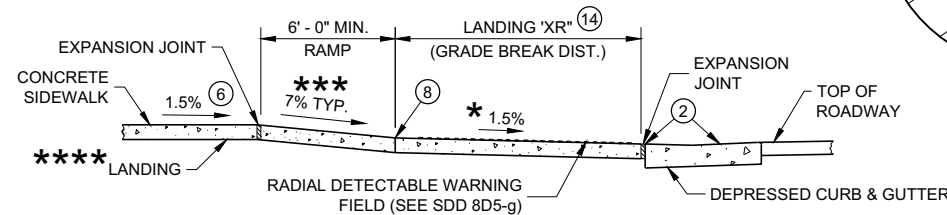
CURB RAMPS
TYPE 5, 6, 7A, 7B & 8

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



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

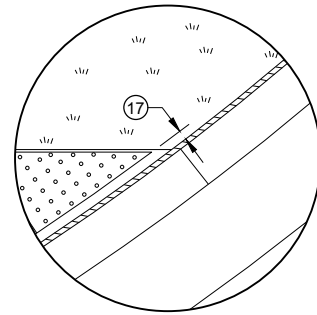


SECTION A - A FOR TYPE 4A1

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

*** MAXIMUM 8.33%

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

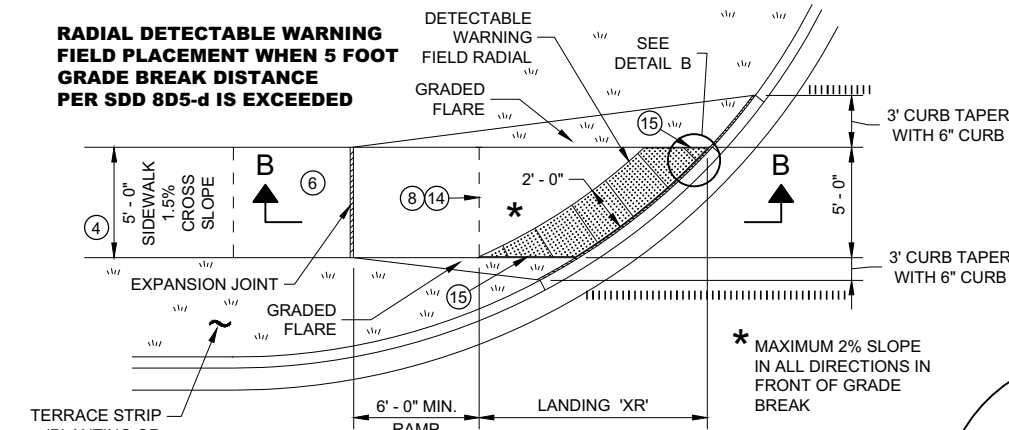


DETAIL A

GENERAL NOTES

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

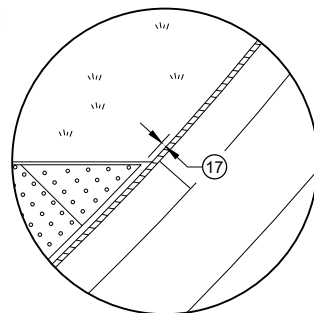
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-d IS EXCEEDED



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

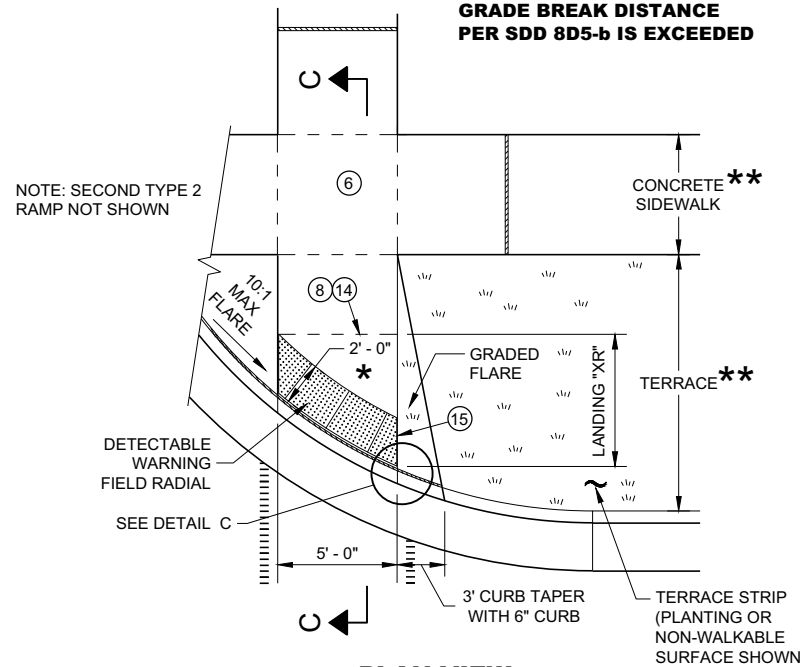
TERRACE STRIP (PLANTING OR NON-WALKABLE SURFACE SHOWN)

* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



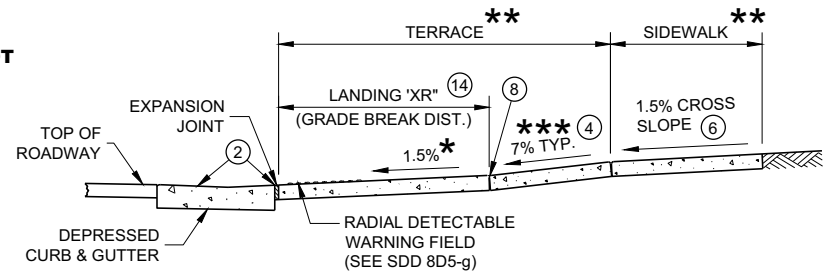
DETAIL B

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



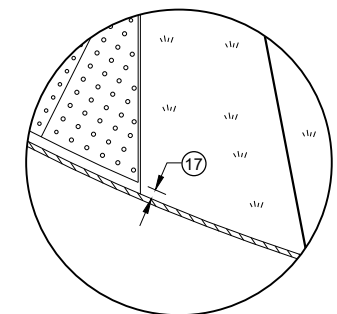
**PLAN VIEW
CURB RAMP TYPE 2
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)**

NOTE: SECOND TYPE 2 RAMP NOT SHOWN



SECTION C - C FOR TYPE 2

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



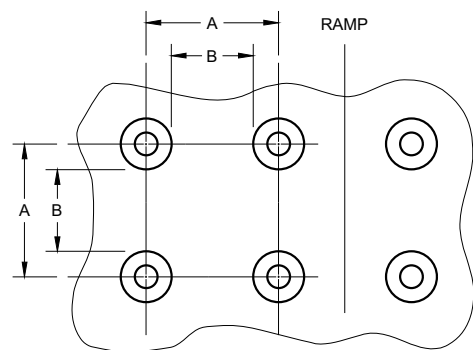
DETAIL C

**CURB RAMPS
RADIAL DETECTABLE WARNING
FIELD APPLICATIONS**

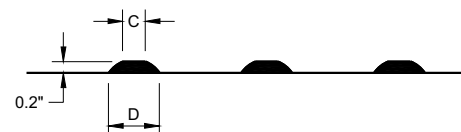
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

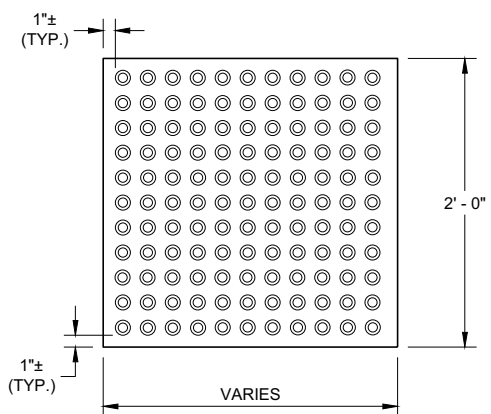


PLAN VIEW

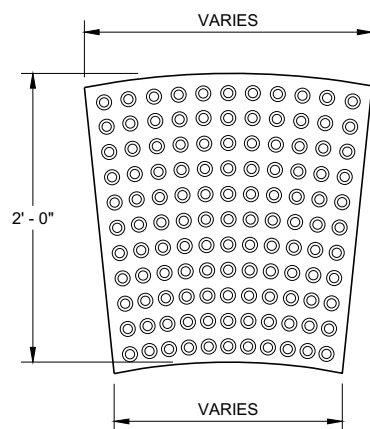


ELEVATION VIEW

**TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL**

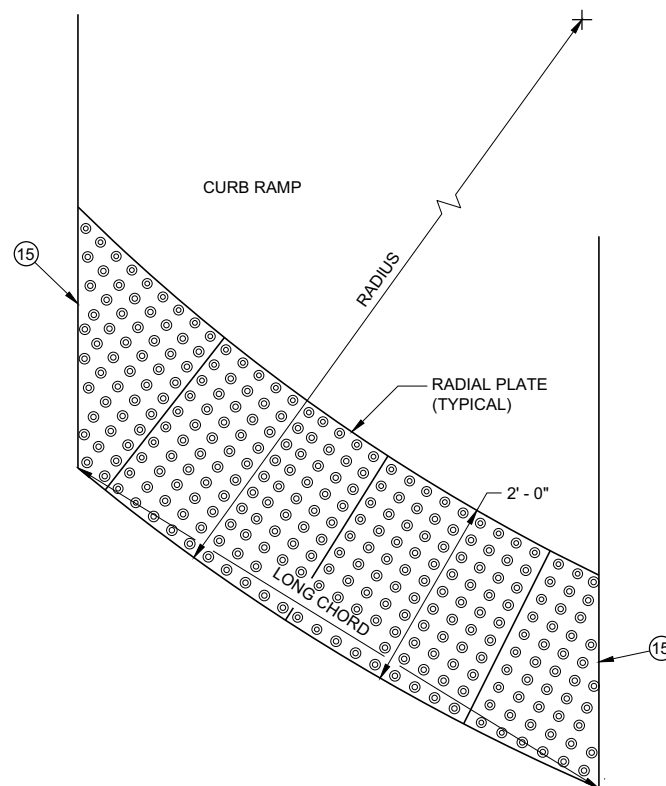


RECTANGULAR
PLATES

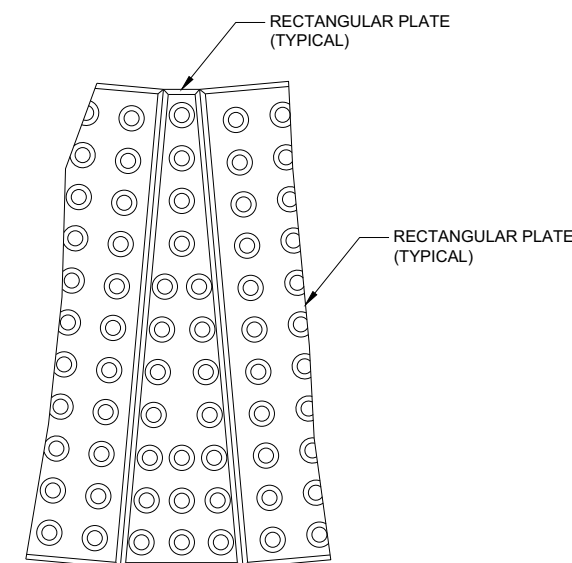


RADIAL
PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)



PLAN VIEW
RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES



PLAN VIEW
RADIAL WEDGE PLATE
CONNECTION DETAIL

GENERAL NOTES

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

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

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

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

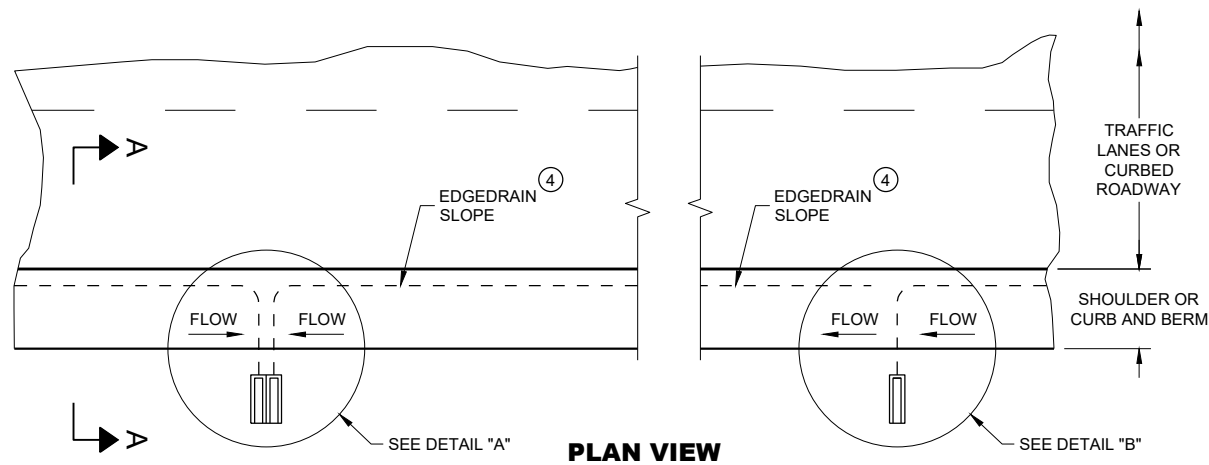
FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE.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

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

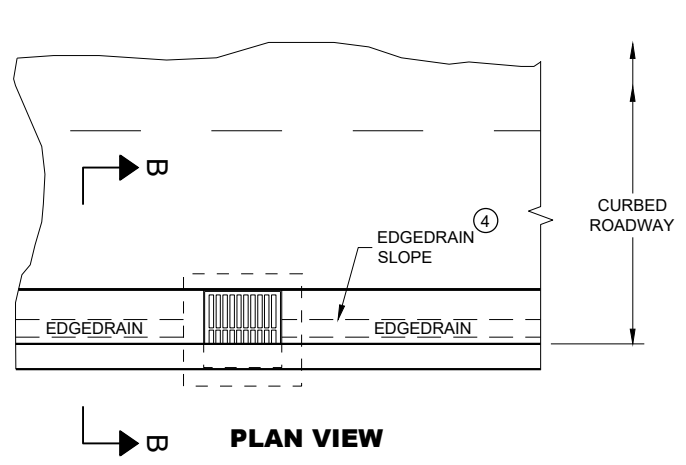
DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

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

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



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



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

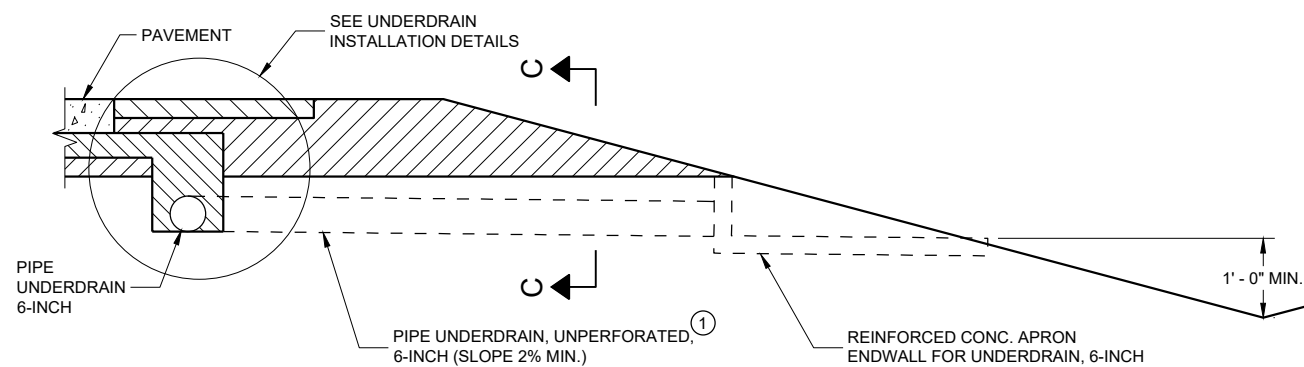
GENERAL NOTES

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

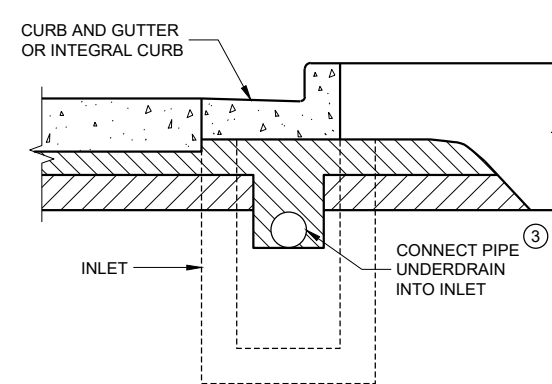
- ① UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

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

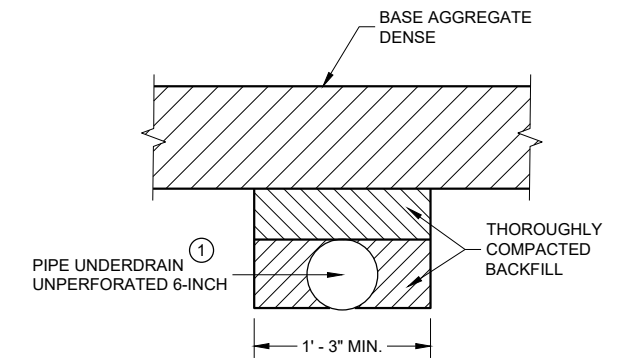
TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.
- ② MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.
- ③ EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.
- ④ EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



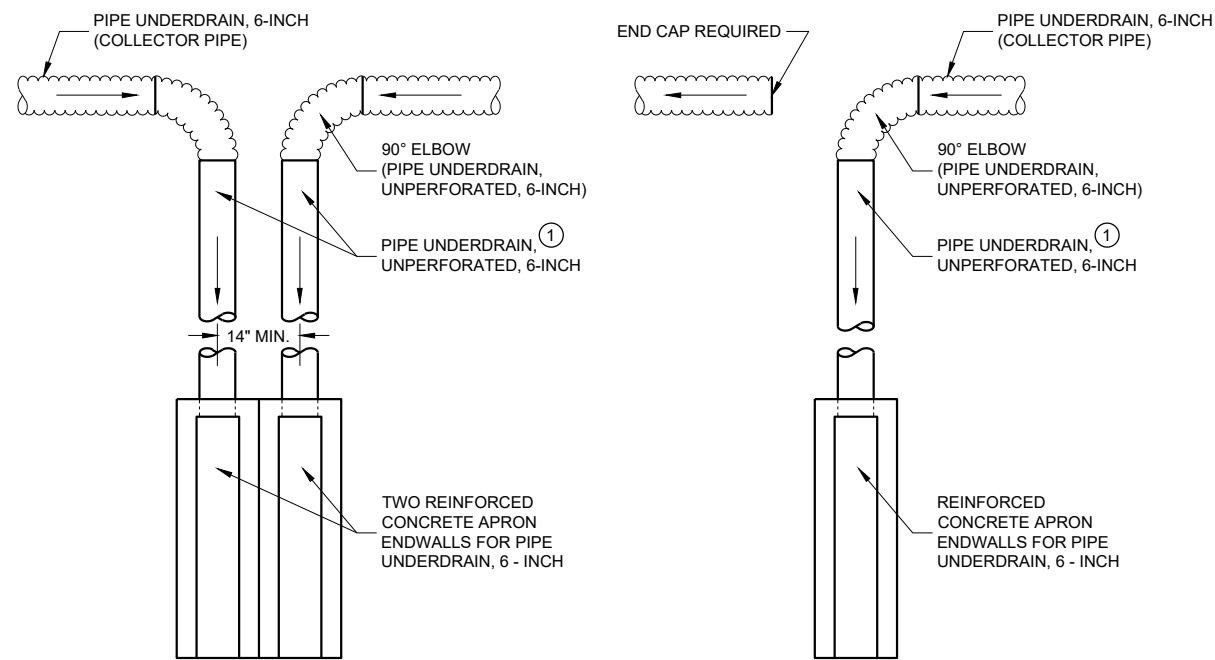
**SECTION A - A
RURAL CROSS SECTION**



**SECTION B - B
URBAN CROSS SECTION**



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



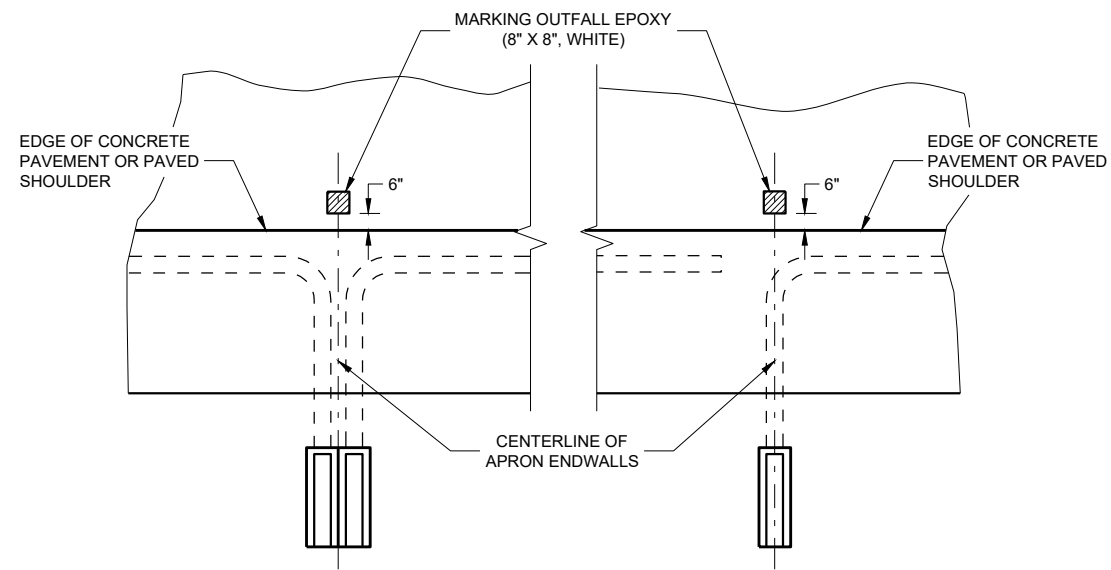
DETAIL "A"

TO BE USED AT LOW POINT LOCATIONS

DETAIL "B"

TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



LOW POINT LOCATIONS

INTERMEDIATE LOCATIONS

PAVEMENT MARKINGS FOR OUTFALL MARKERS

**EDGEDRAIN OUTLET
AND OUTFALL MARKERS**

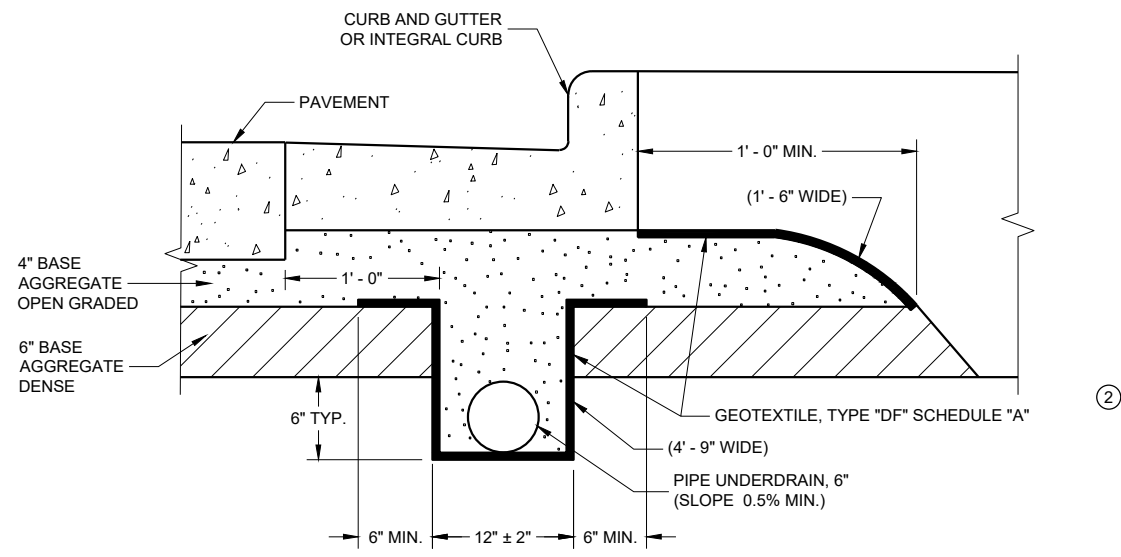
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

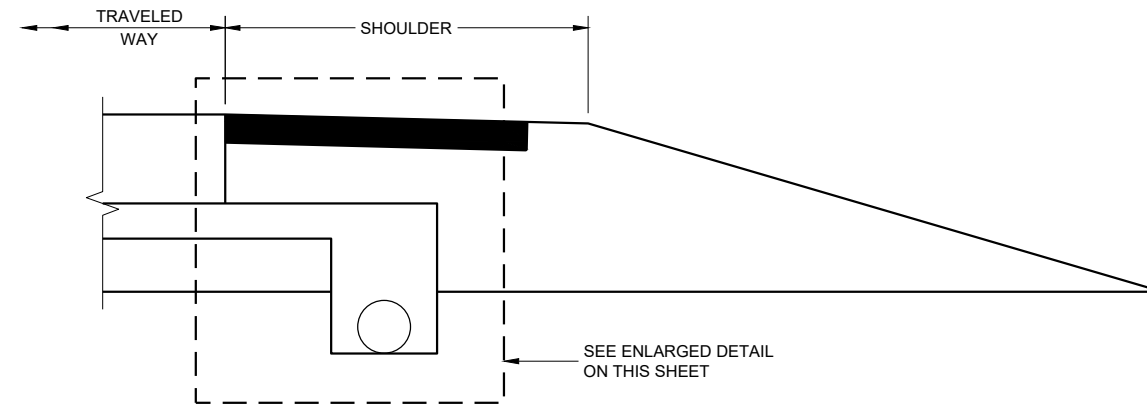
THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

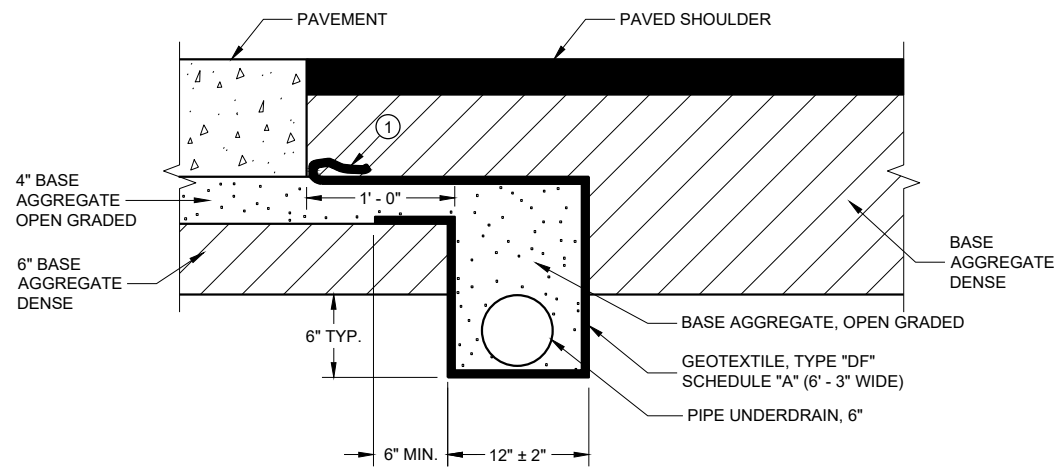
- ① FOLD OVER EXCESS GEOTEXTILE AT THIS LOCATION.
- ② TOTAL GEOTEXTILE WIDTH IS 6'-3" FOR PAYMENT.



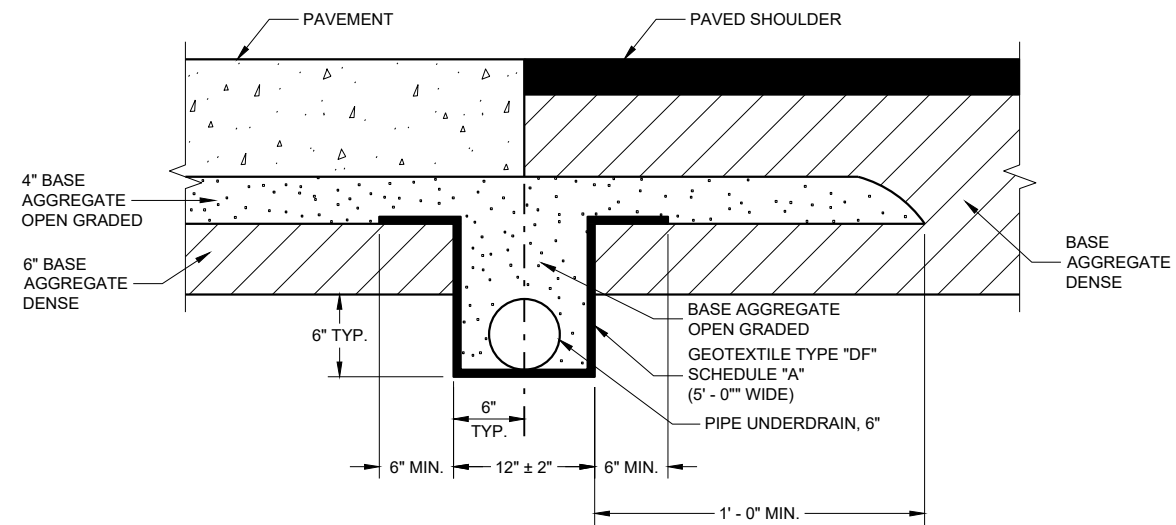
EGEDRAIN IN URBAN ROADWAY



RURAL CROSS SECTION



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATIVE

EGEDRAIN IN RURAL ROADWAY

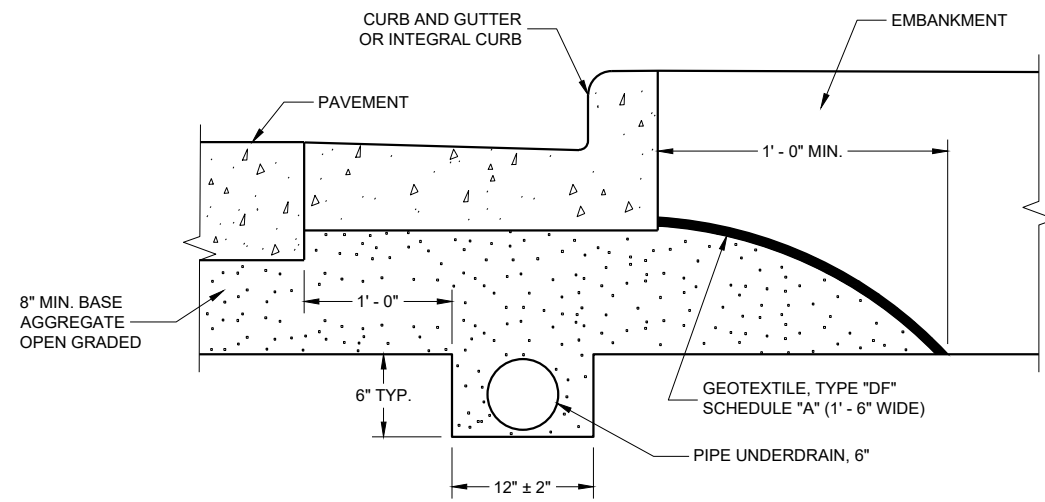
**EGEDRAIN AND BASE
AGGREGATE OPEN GRADED**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

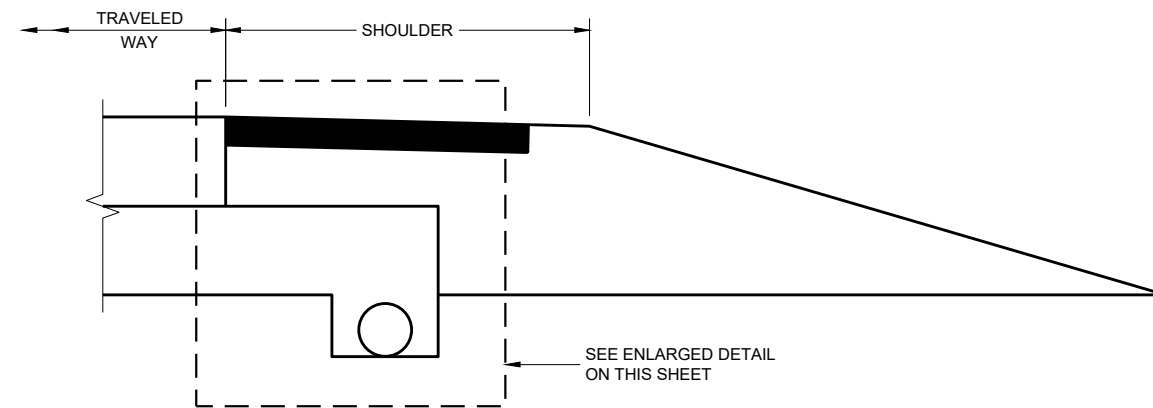
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

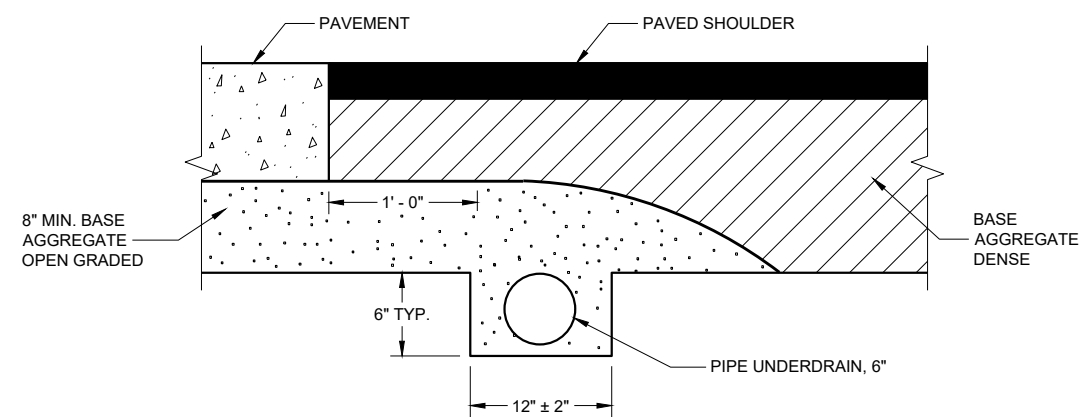
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.



EDGEDRAIN IN URBAN ROADWAY

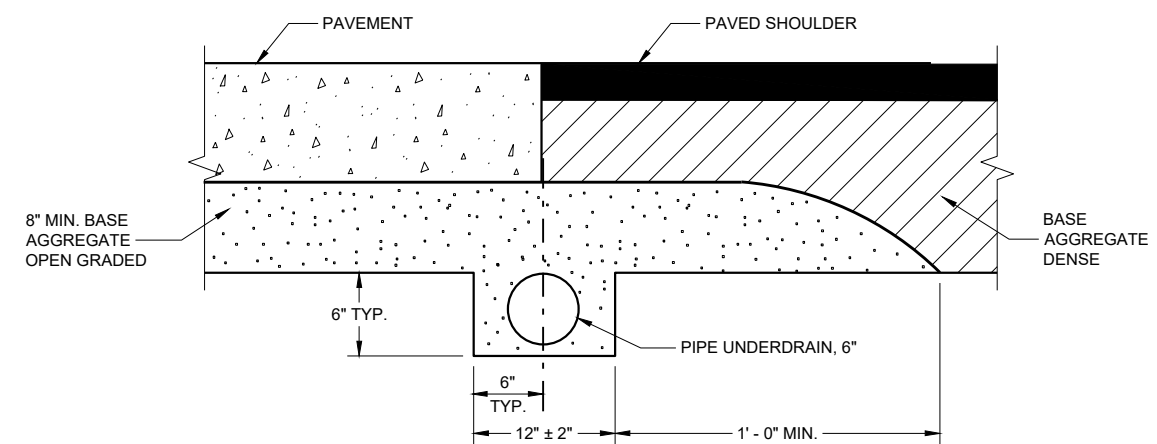


RURAL CROSS SECTION



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)

EDGEDRAIN IN RURAL ROADWAY



PRE-PAVING INSTALLATION ALTERNATIVE

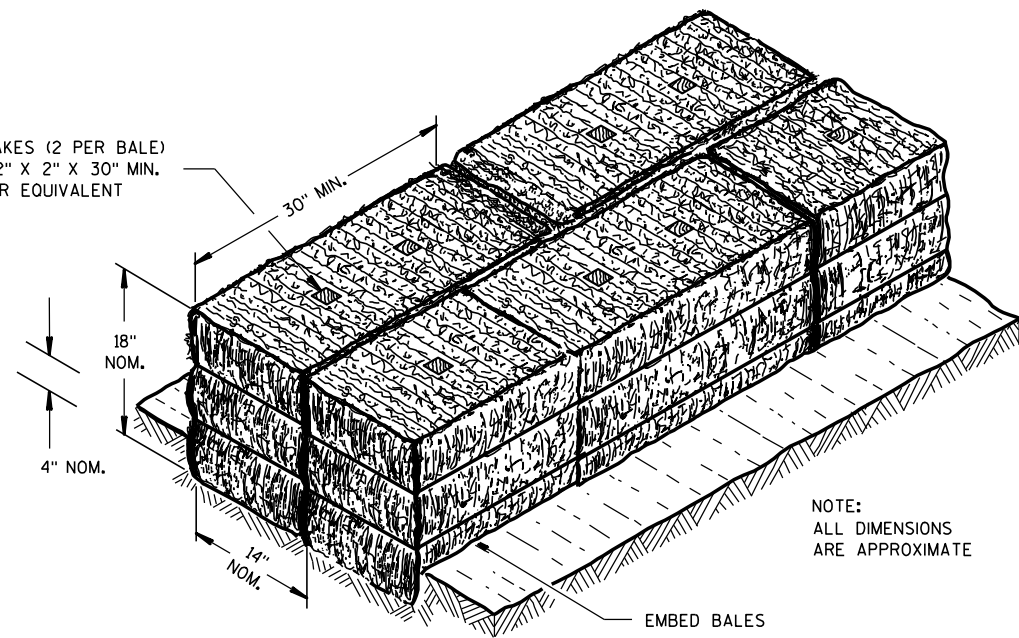
EDGEDRAIN AND BASE AGGREGATE OPEN GRADED

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2015 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR

FHWA

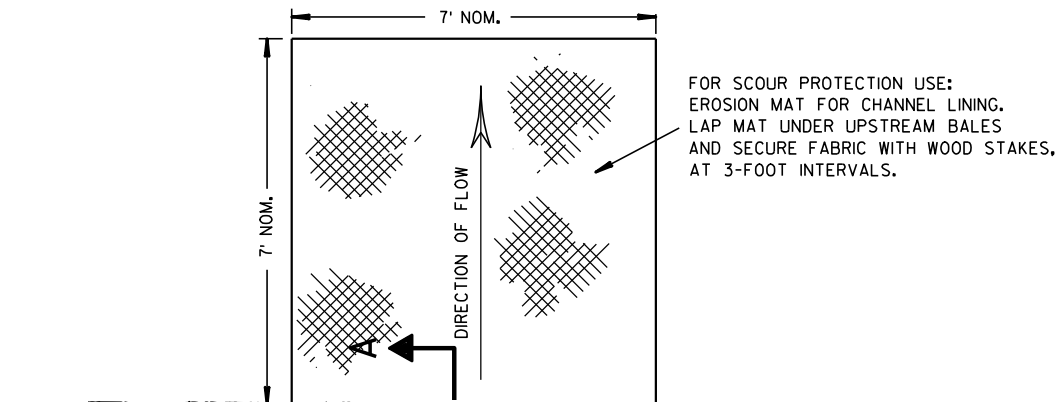
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



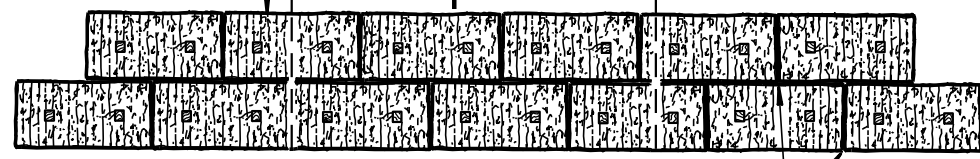
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

SECTION A-A



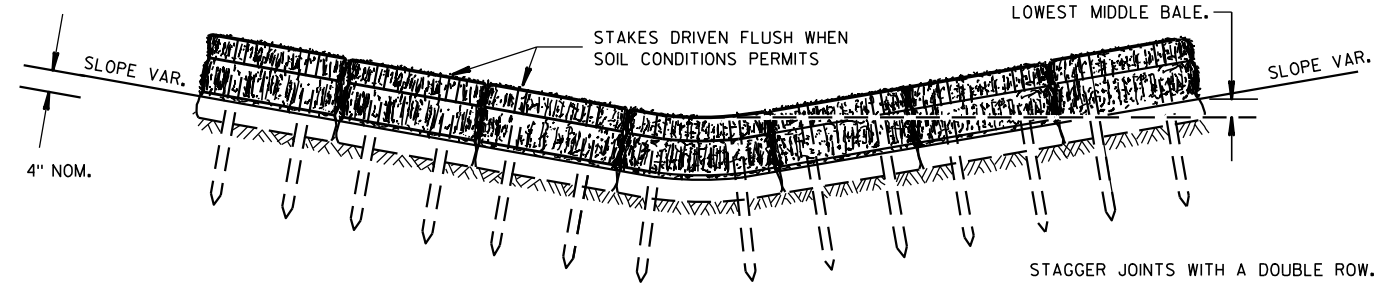
FOR SCOUR PROTECTION USE:
EROSION MAT FOR CHANNEL LINING.
LAP MAT UNDER UPSTREAM BALES
AND SECURE FABRIC WITH WOOD STAKES,
AT 3-FOOT INTERVALS.



STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

PLAN VIEW

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



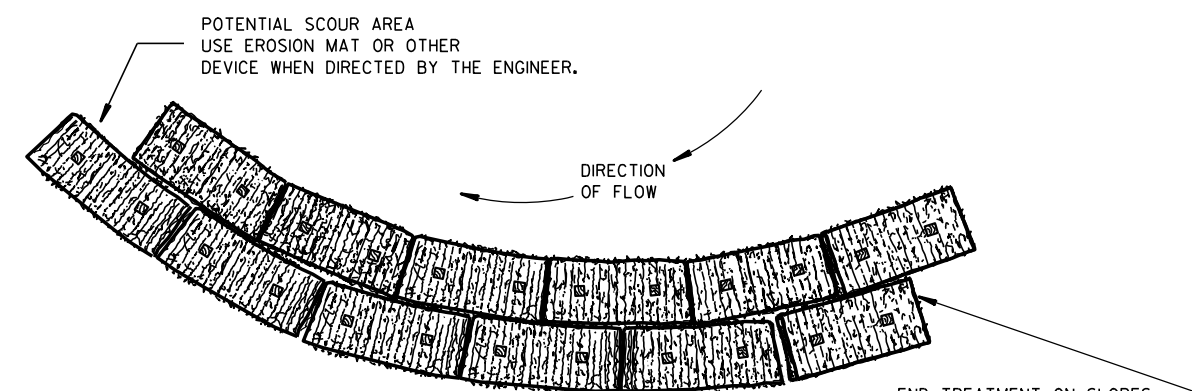
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

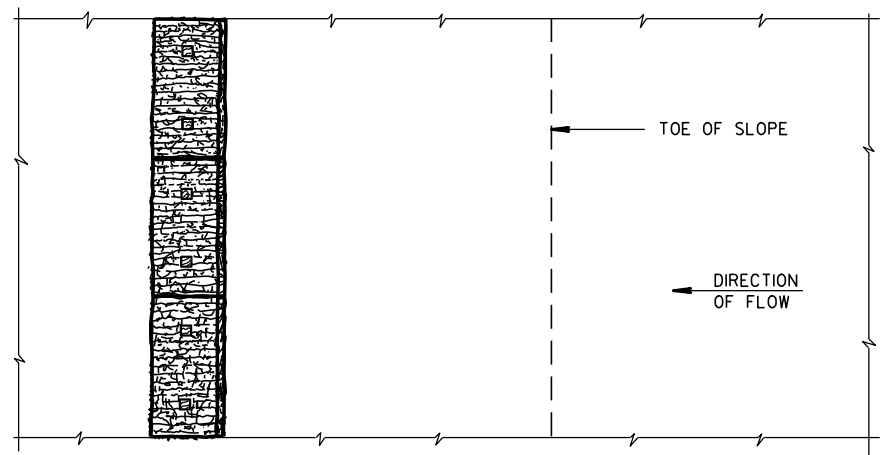
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

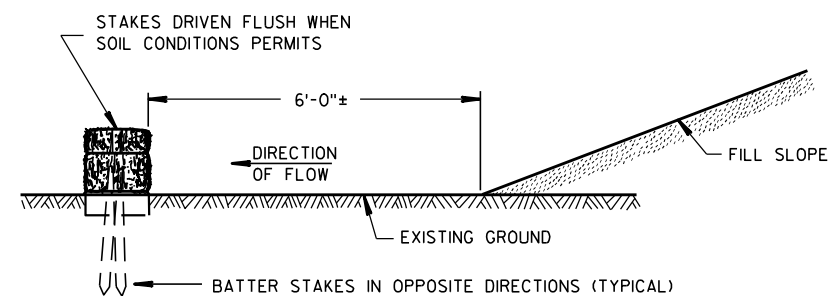


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

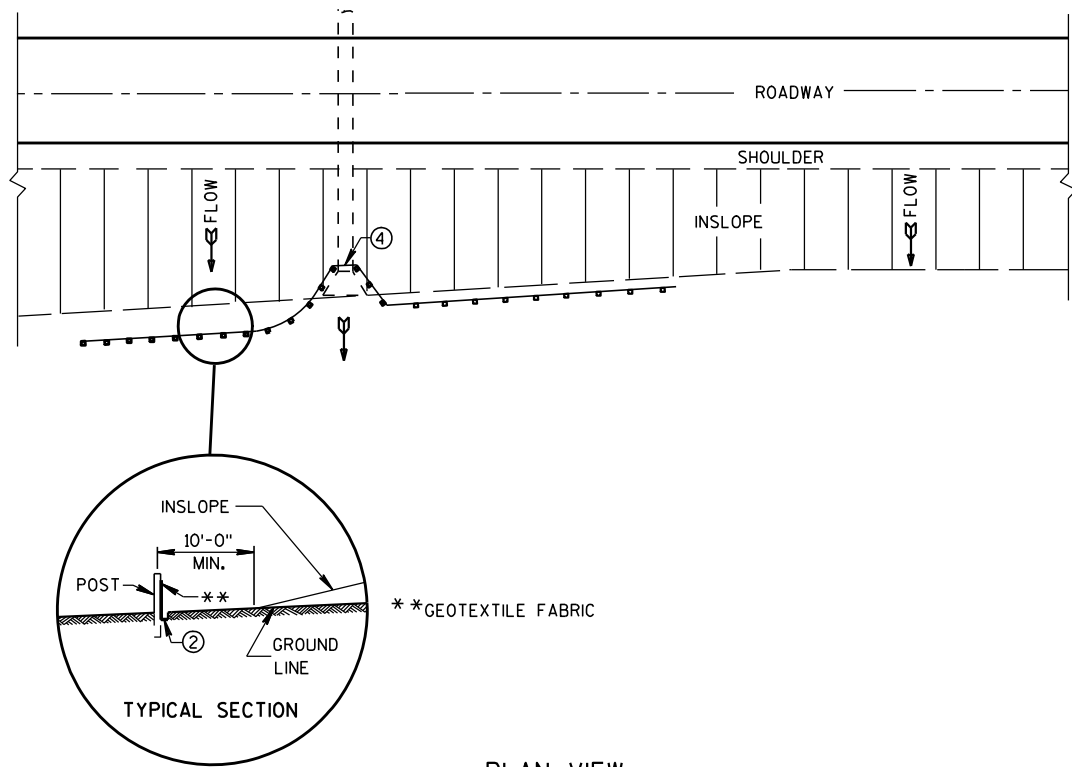
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

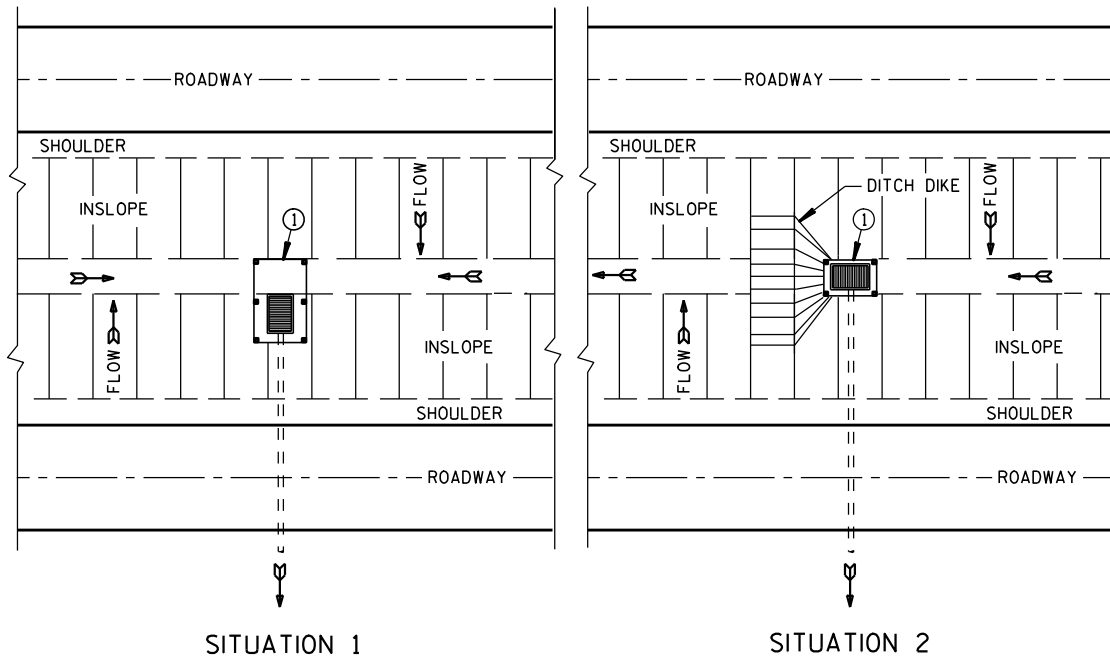
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
 6/04/02 /S/ Beth Canestra
 DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
 FHWA



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

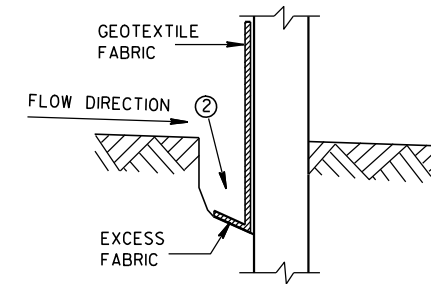


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

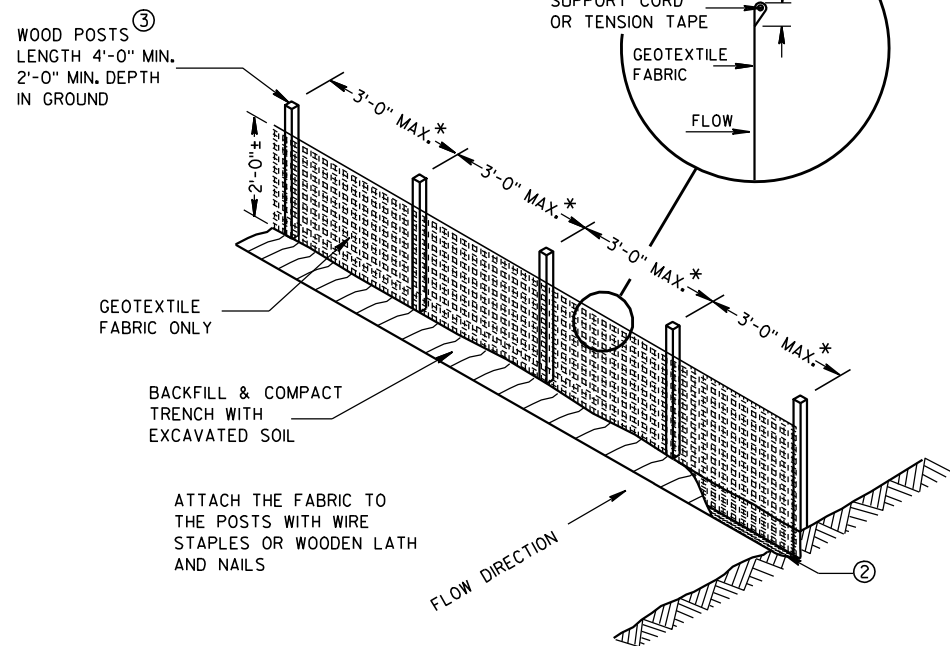
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

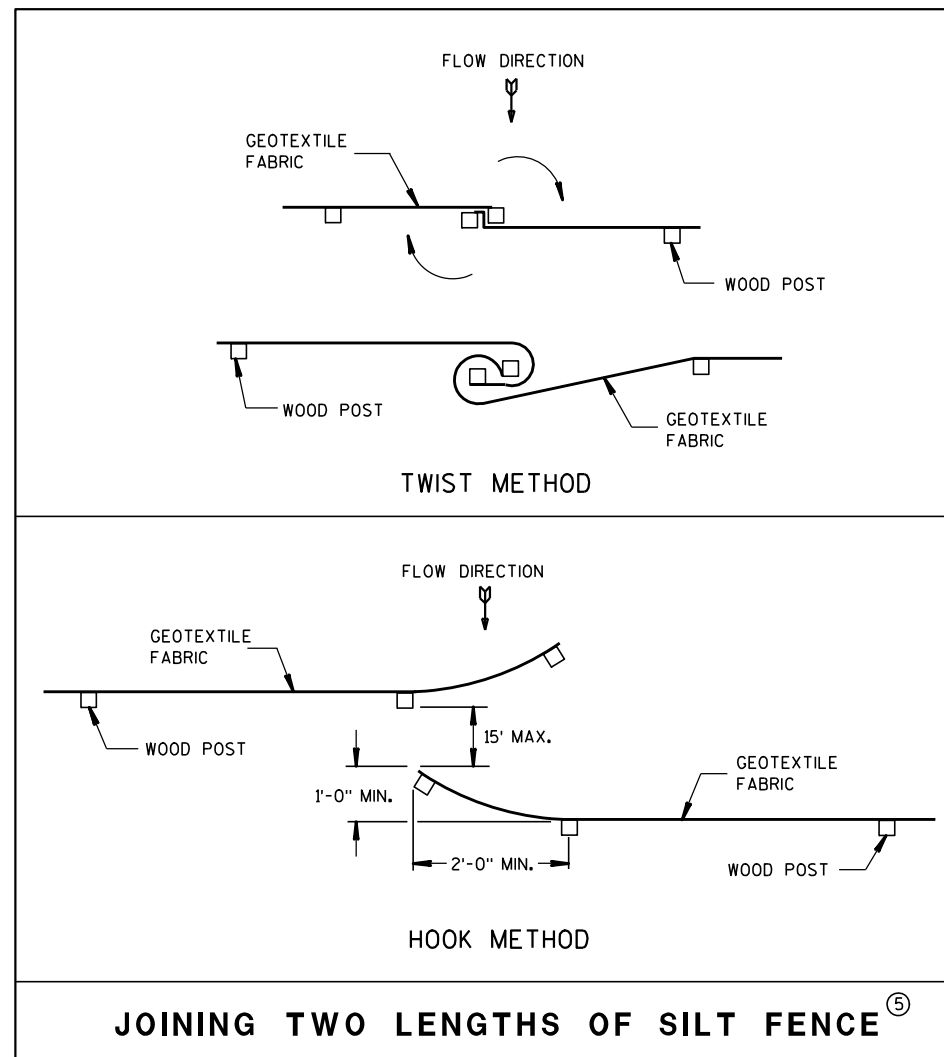


TRENCH DETAIL

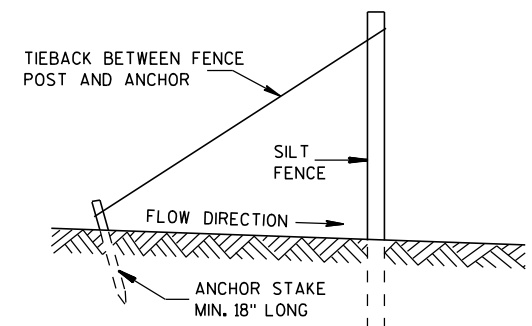
NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE ⑤

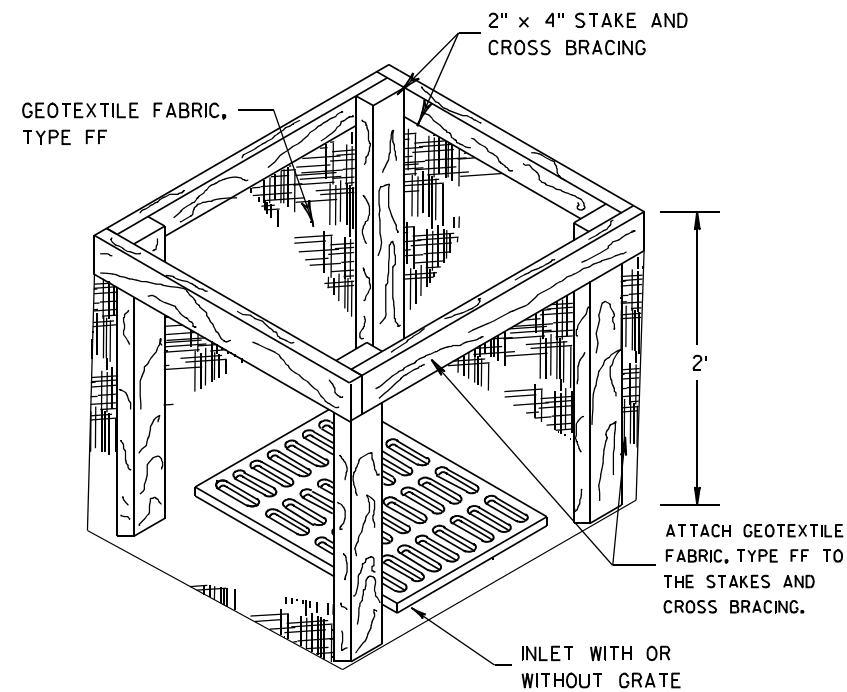
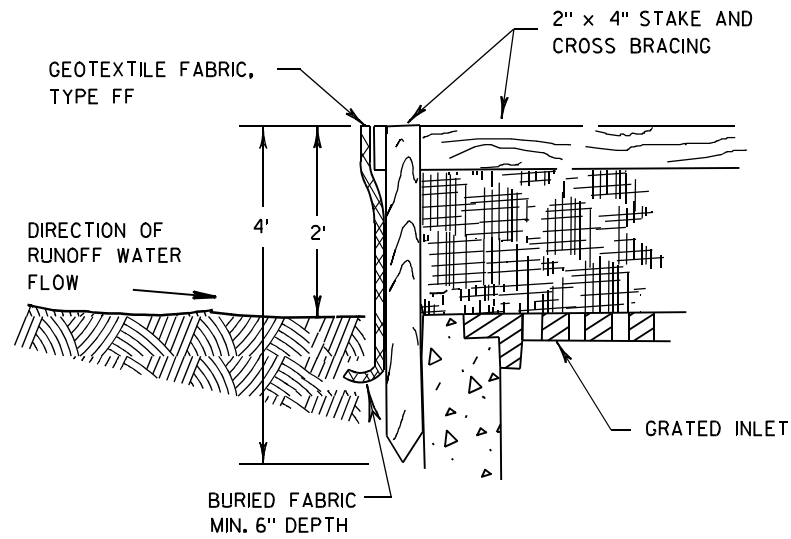


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



INLET PROTECTION, TYPE A

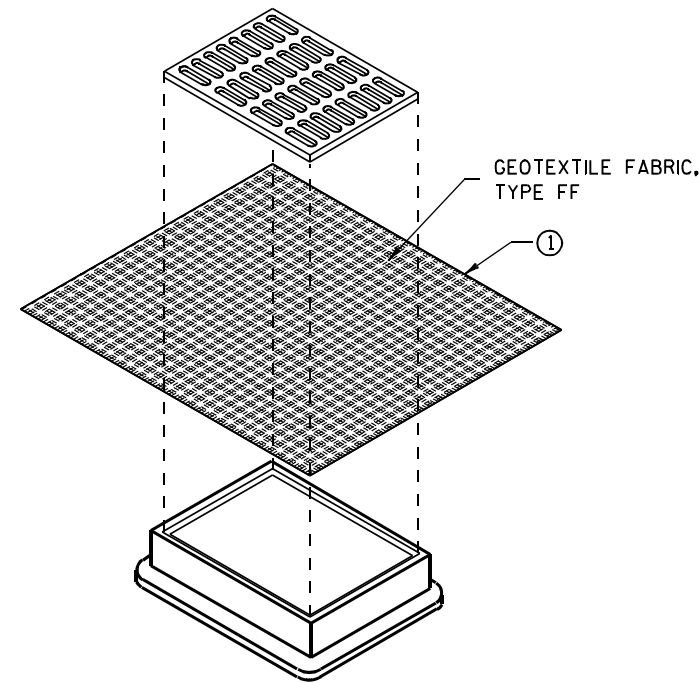
GENERAL NOTES

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.

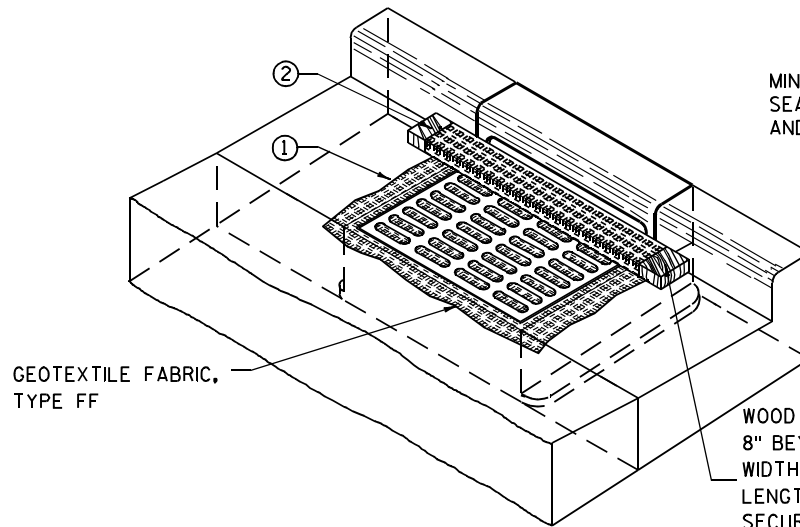
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

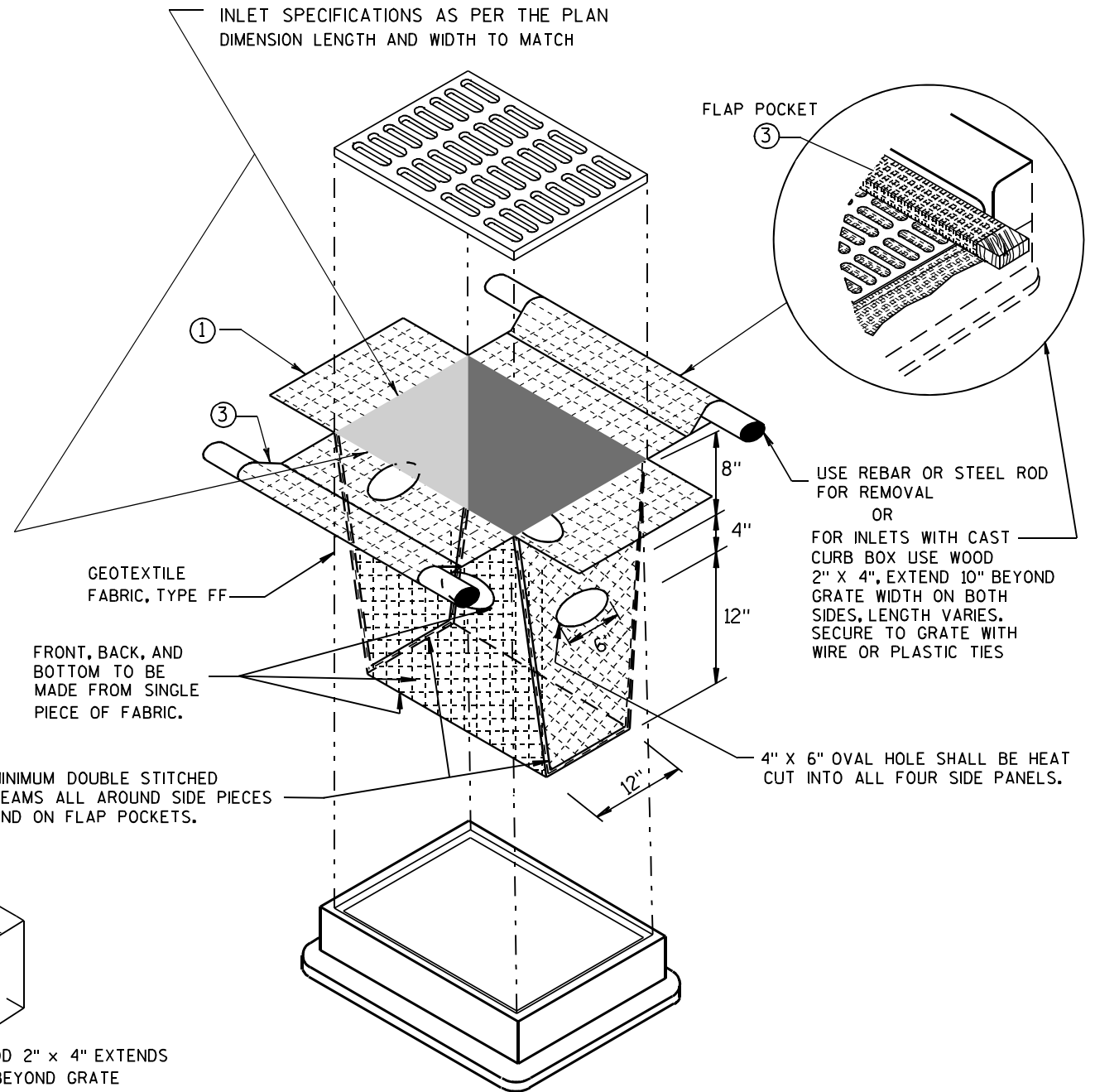
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.

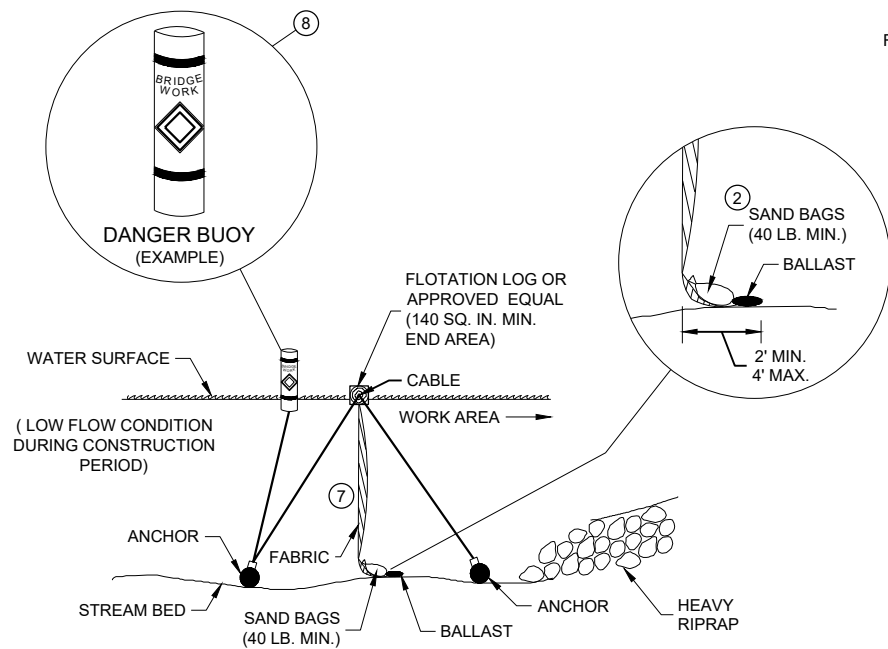
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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



INLET PROTECTION, TYPE D

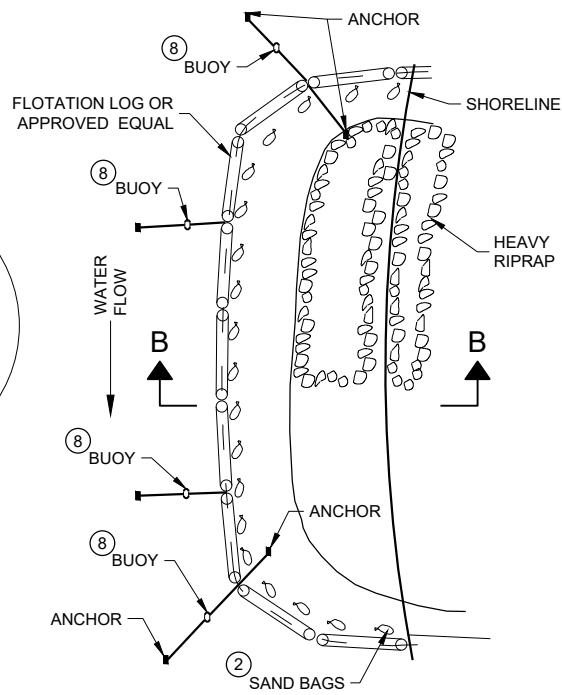
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

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

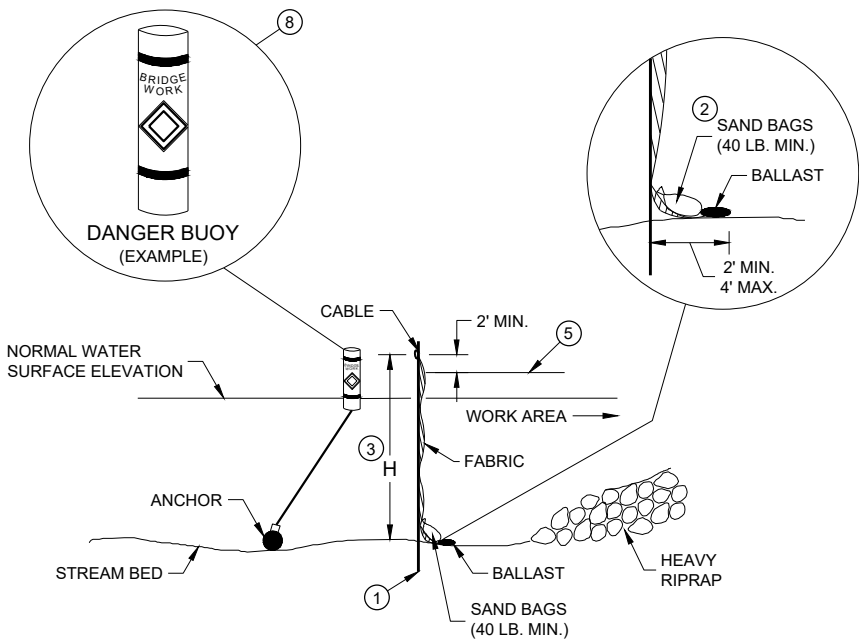


SECTION B - B

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

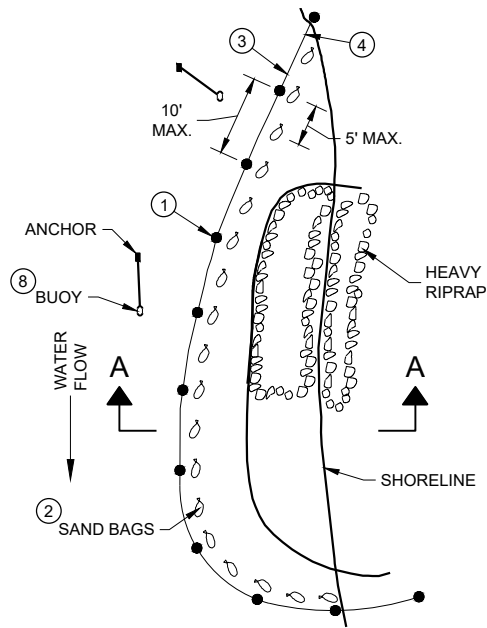


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW

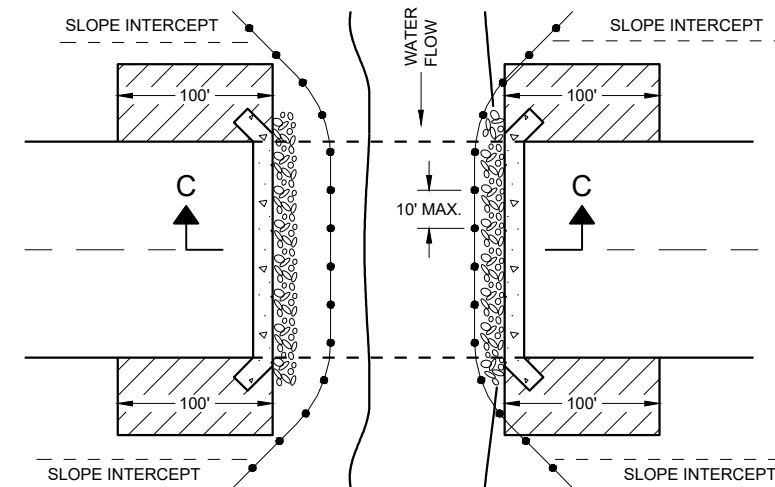
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

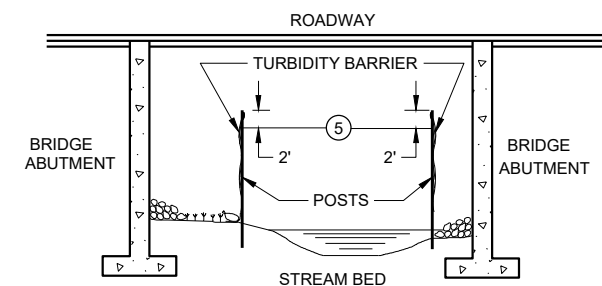
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

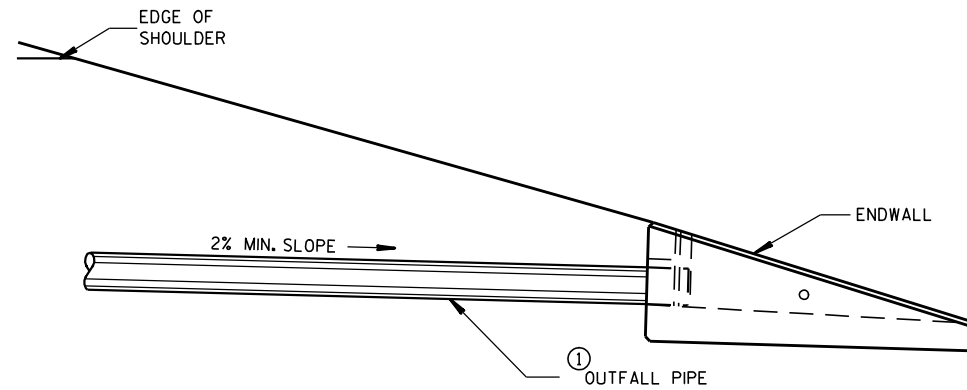
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02 DATE /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT
ENGINEER

FHWA

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

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



INSTALLATION DETAIL

GENERAL NOTES

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

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

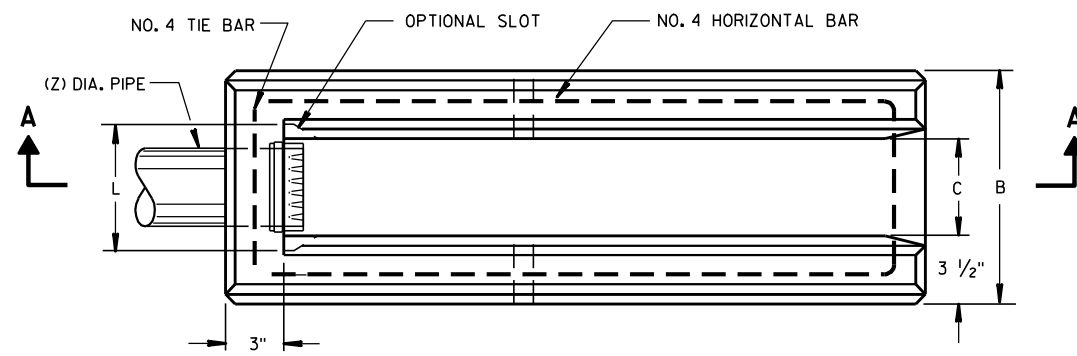
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

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

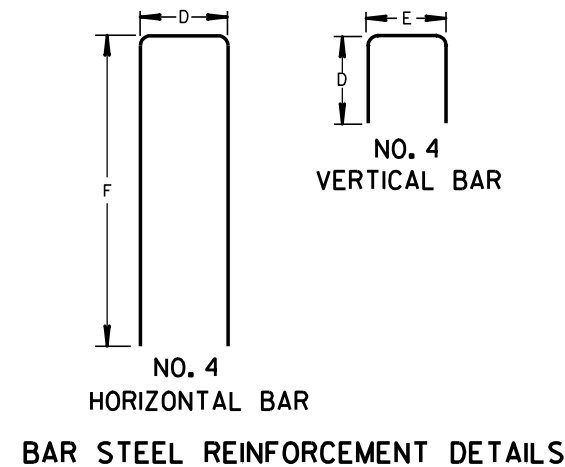
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE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

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

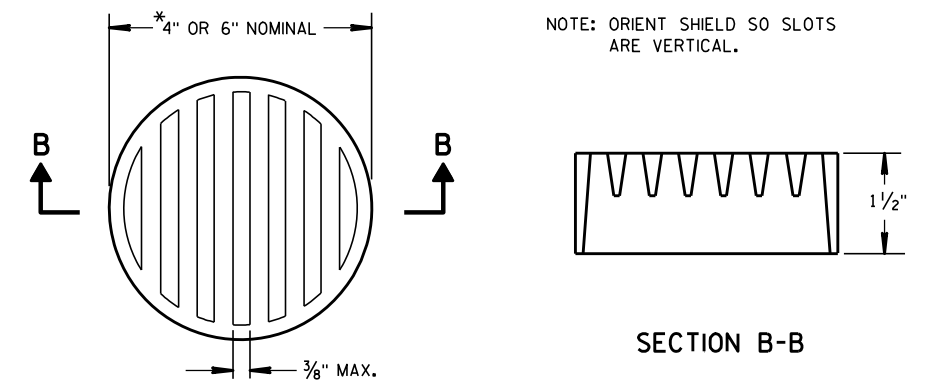
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL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



PLAN VIEW

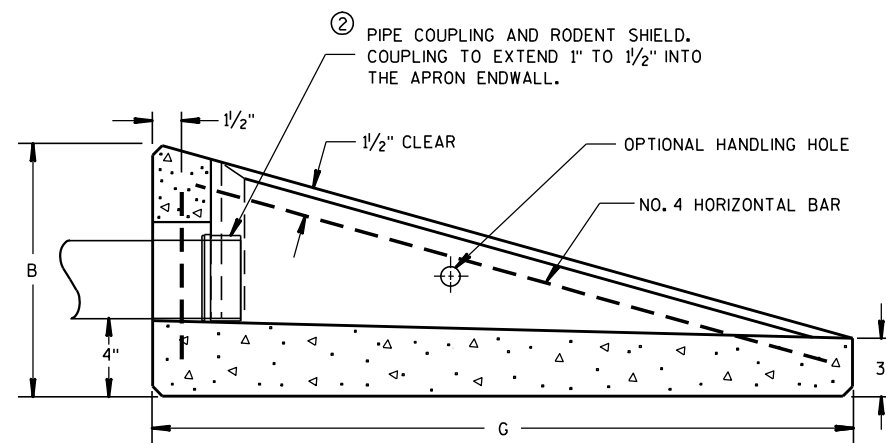


BAR STEEL REINFORCEMENT DETAILS



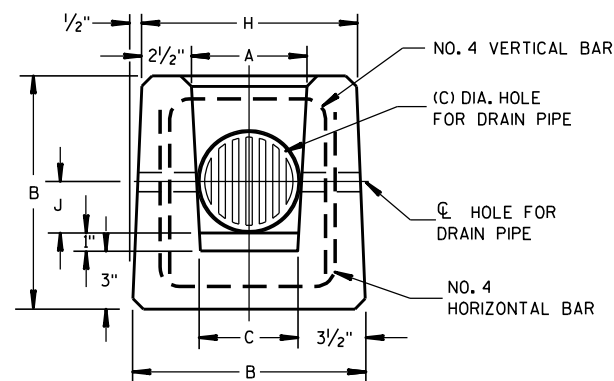
② RODENT SHIELD

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



SECTION A-A

CONCRETE APRON ENDWALL FOR UNDERDRAIN



END VIEW

**REINFORCED
CONCRETE APRON ENDWALL
FOR PIPE UNDERDRAIN**

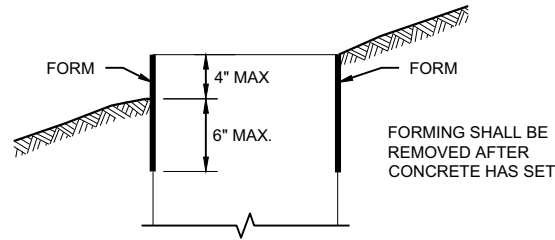
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION.

WHEN REQUIRED TO CONNECT NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2, TYPE 5 AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER ALL BASE TYPES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

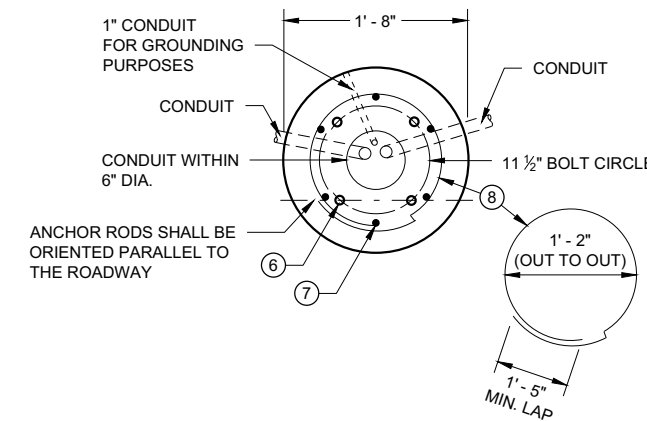
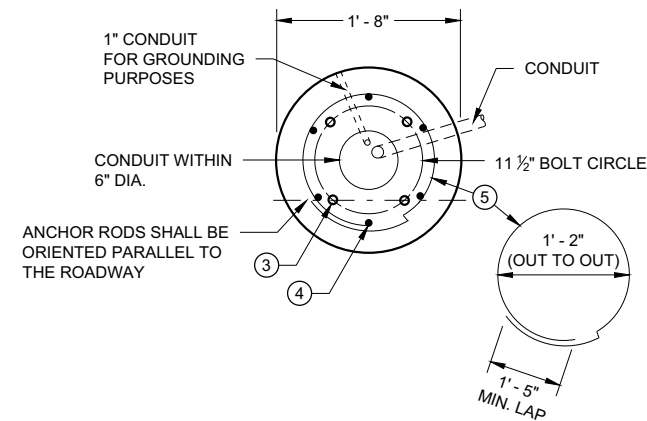
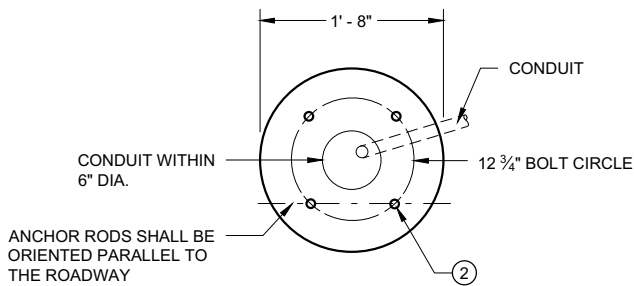
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

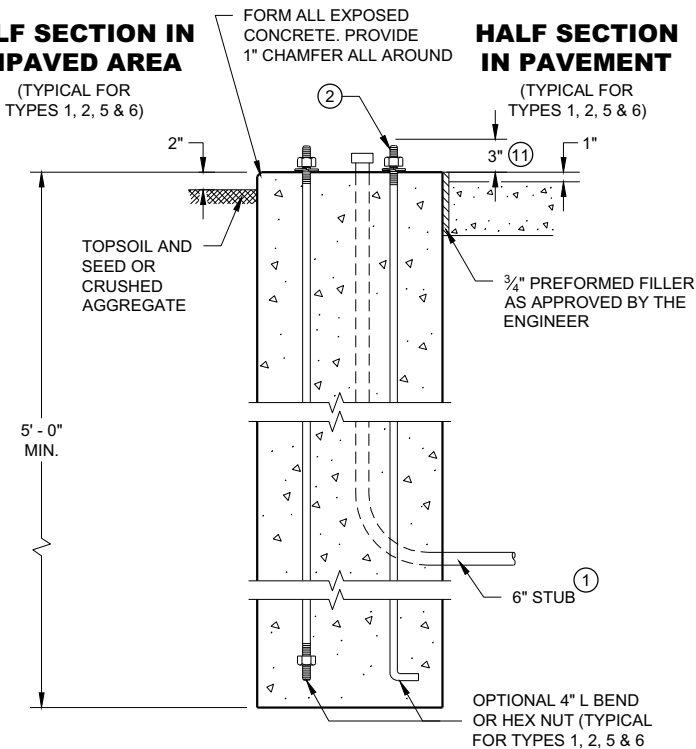
WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

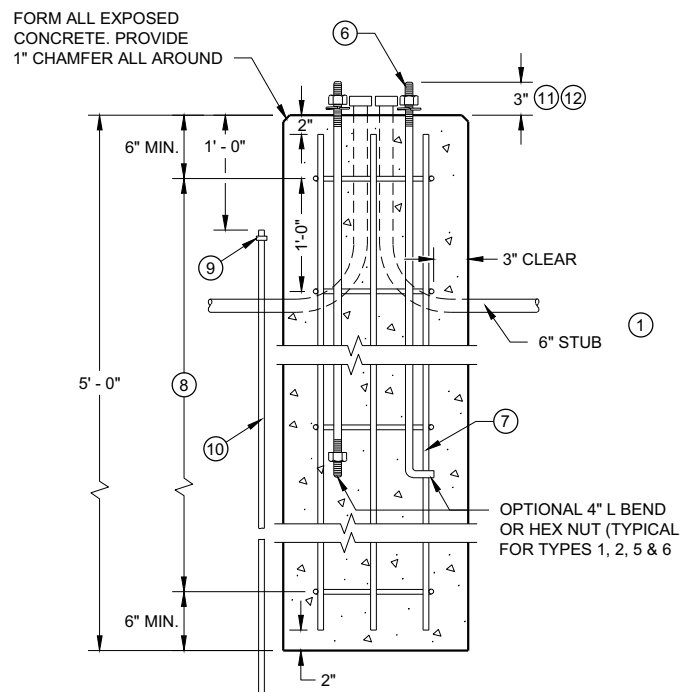
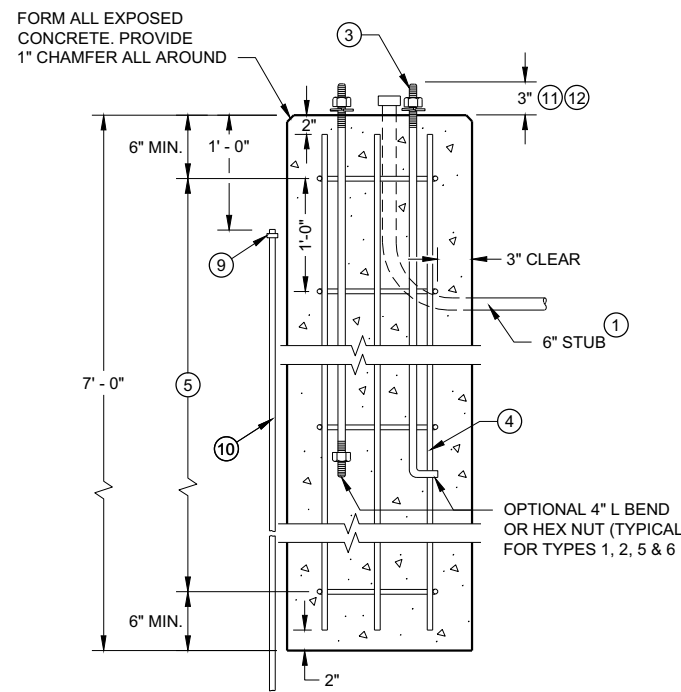
- ① THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER.
- ② (4) 1" DIA. X 3' - 6" ANCHOR RODS.
- ③ (4) 1" DIA. X 5' - 0" ANCHOR RODS.
- ④ (6) NO. 6 X 6' - 8" BAR STEEL REINFORCEMENT.
- ⑤ (7) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.
- ⑥ (4) 1" DIA. X 3' - 6" ANCHOR RODS.
- ⑦ (6) NO. 4 X 4' - 8" BAR STEEL REINFORCEMENT.
- ⑧ (5) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.
- ⑨ EXOTHERMIC CONNECTION TO EQUIPMENT GROUNDING CONDUCTOR
- ⑩ 5/8" DIA. X 8' - 0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED
- ⑪ ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.
- ⑫ FOR NON - BREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.



HALF SECTION IN UNPAVED AREA



HALF SECTION IN PAVEMENT



CONCRETE BASES

**CONCRETE BASES
TYPES 1, 2, 5, & 6**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Ahmet Demirelek
DATE STATE ELECTRICAL ENGINEER

FHWA

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

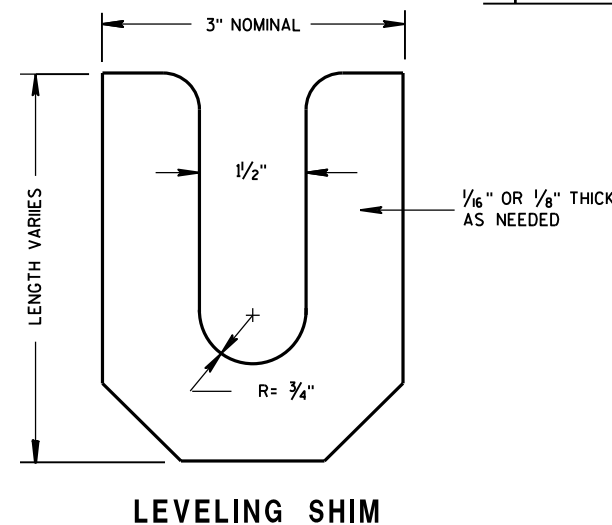
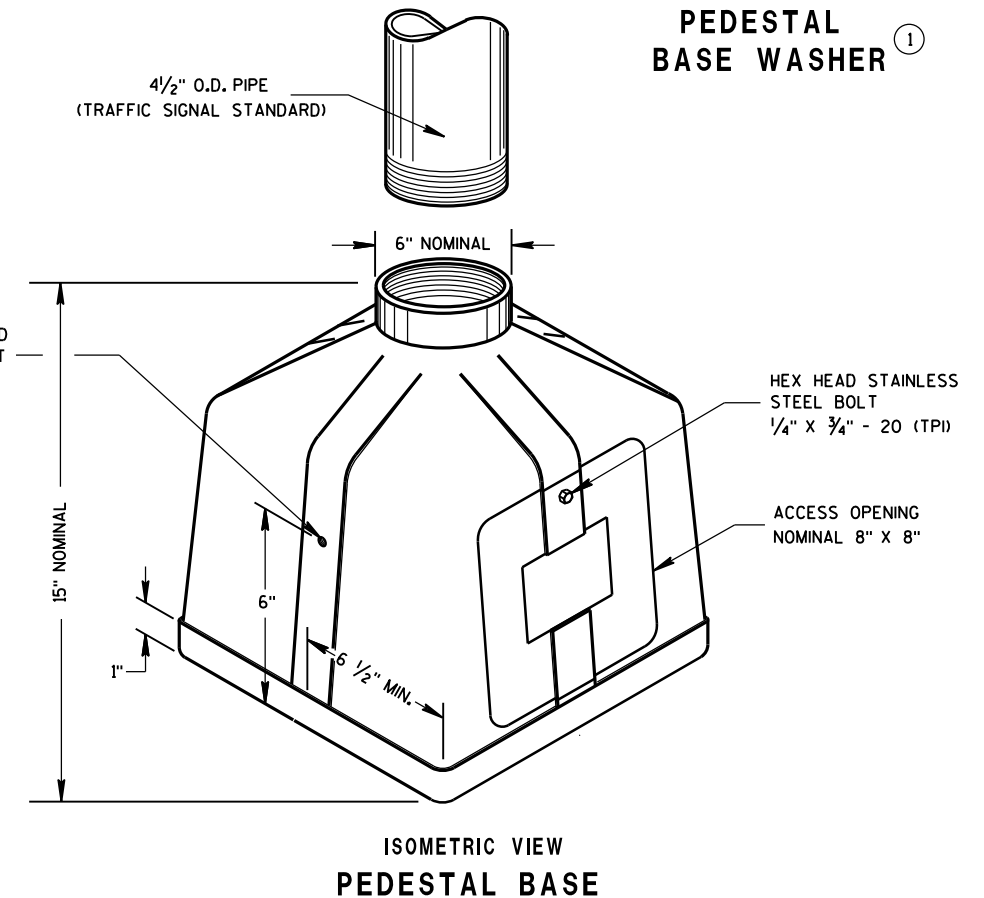
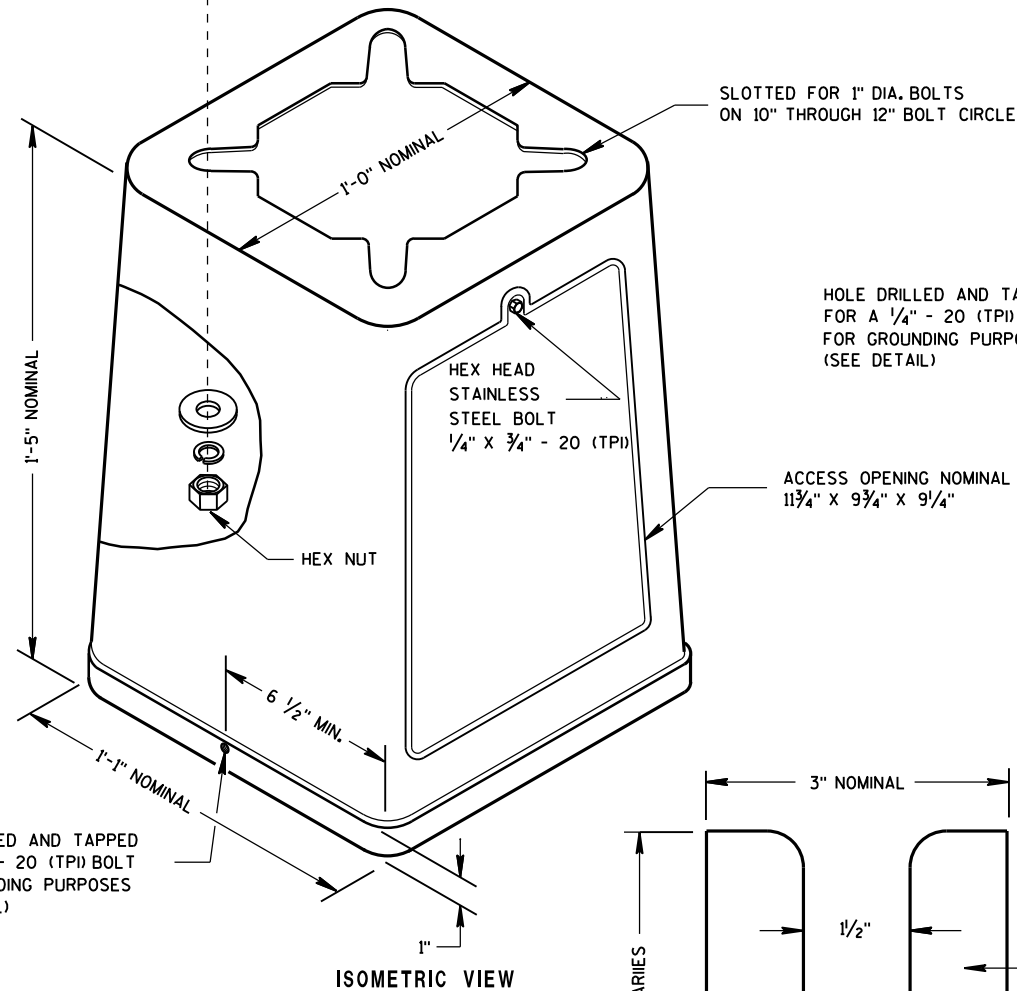
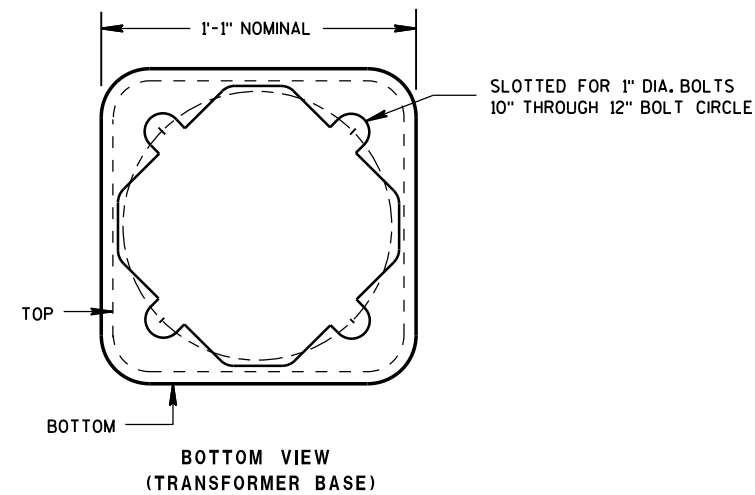
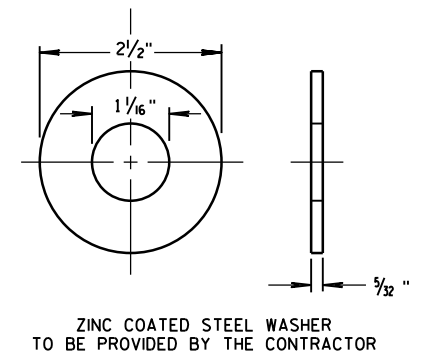
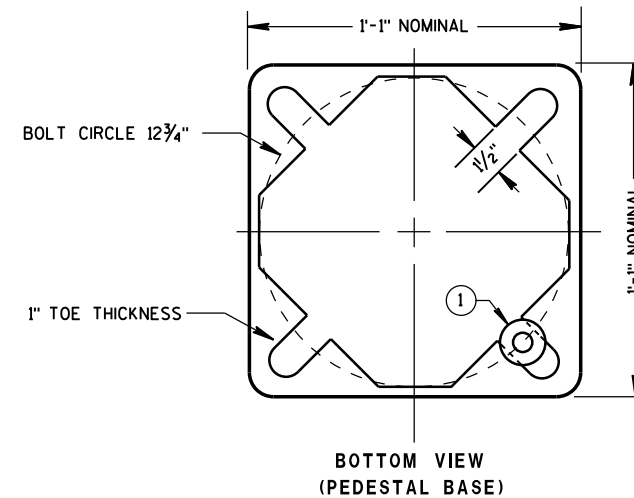
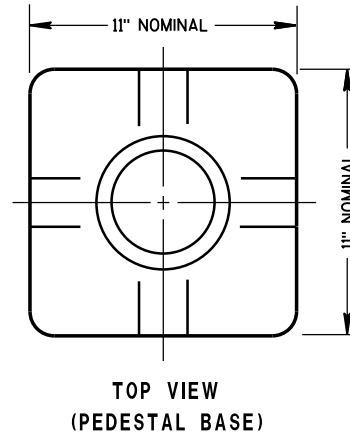
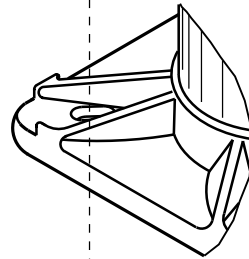
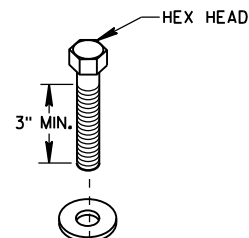
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

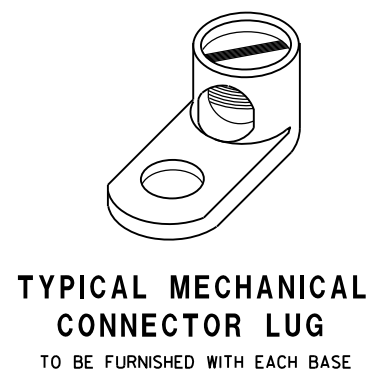
PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



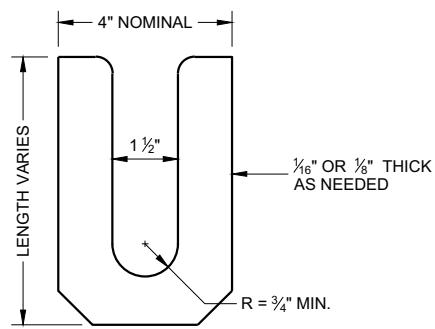
TRANSFORMER BASE
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



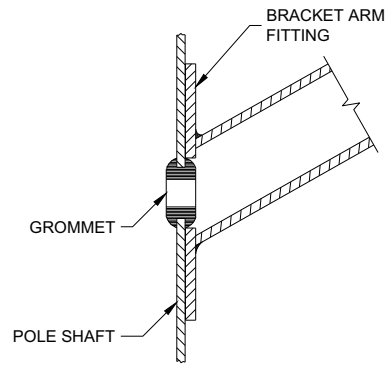
TRANSFORMER/PEDESTAL BASES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

6

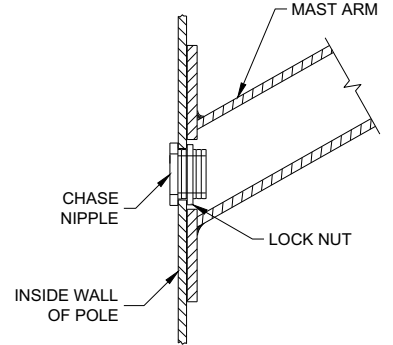
6



LEVELING SHIM
SHALL BE ALUMINUM



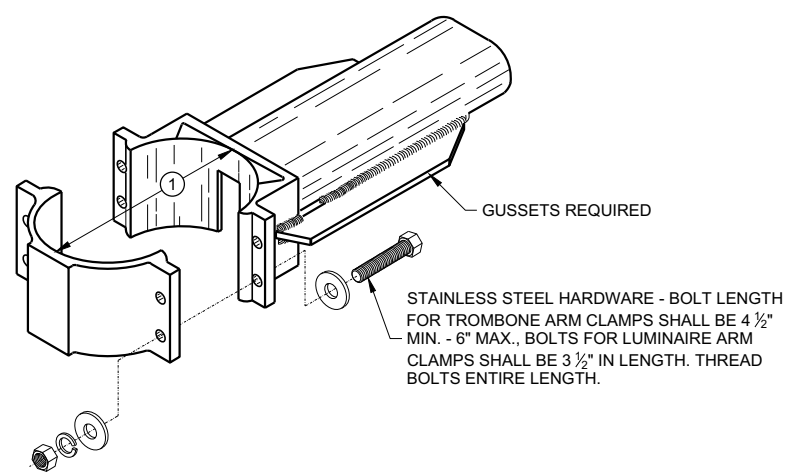
TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



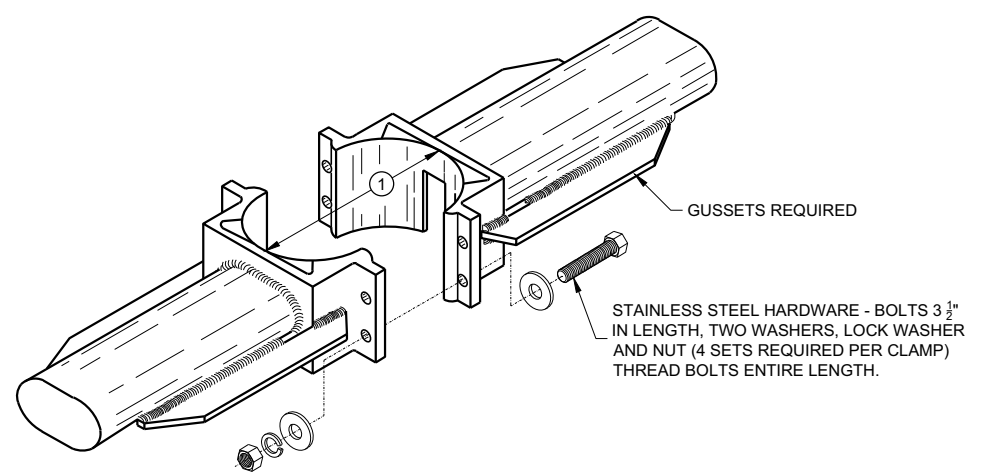
TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

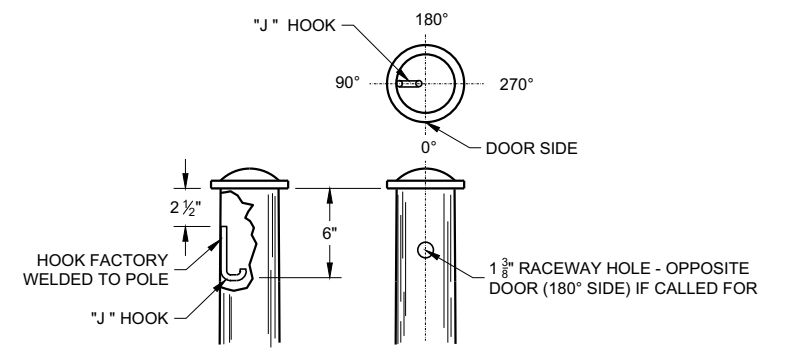
- CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.
- ① 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
 - ② INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
 - ③ BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.
 - ④ LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.
- SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



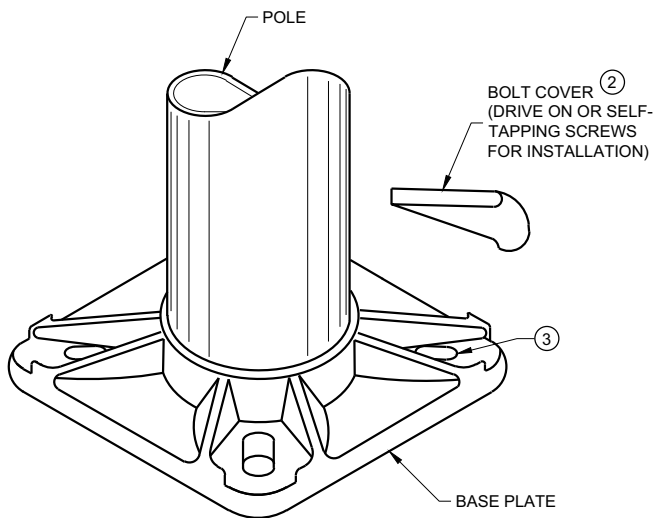
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



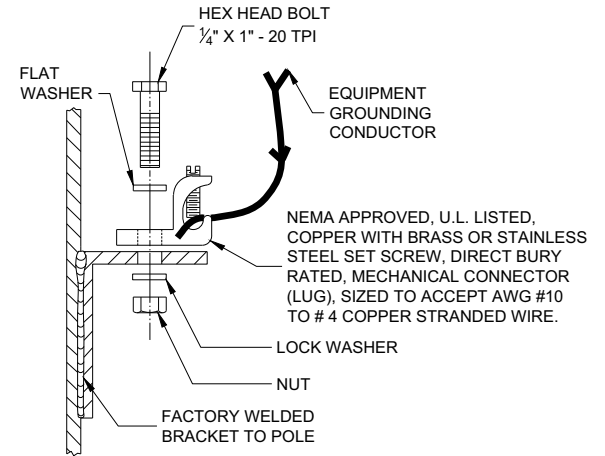
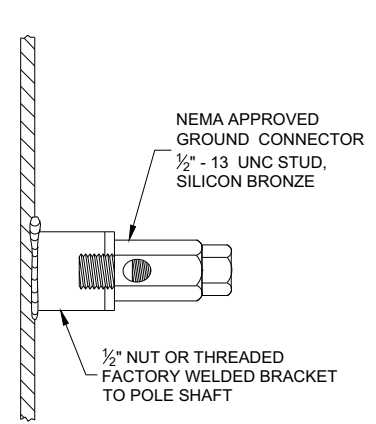
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS



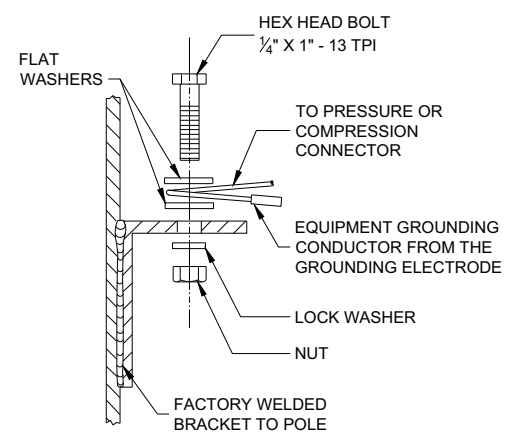
TYPICAL "J" HOOK LOCATION



BASE PLATE



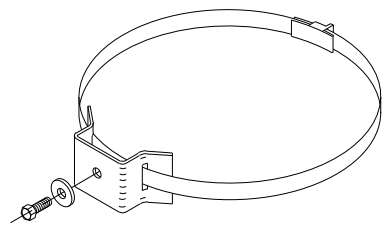
TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



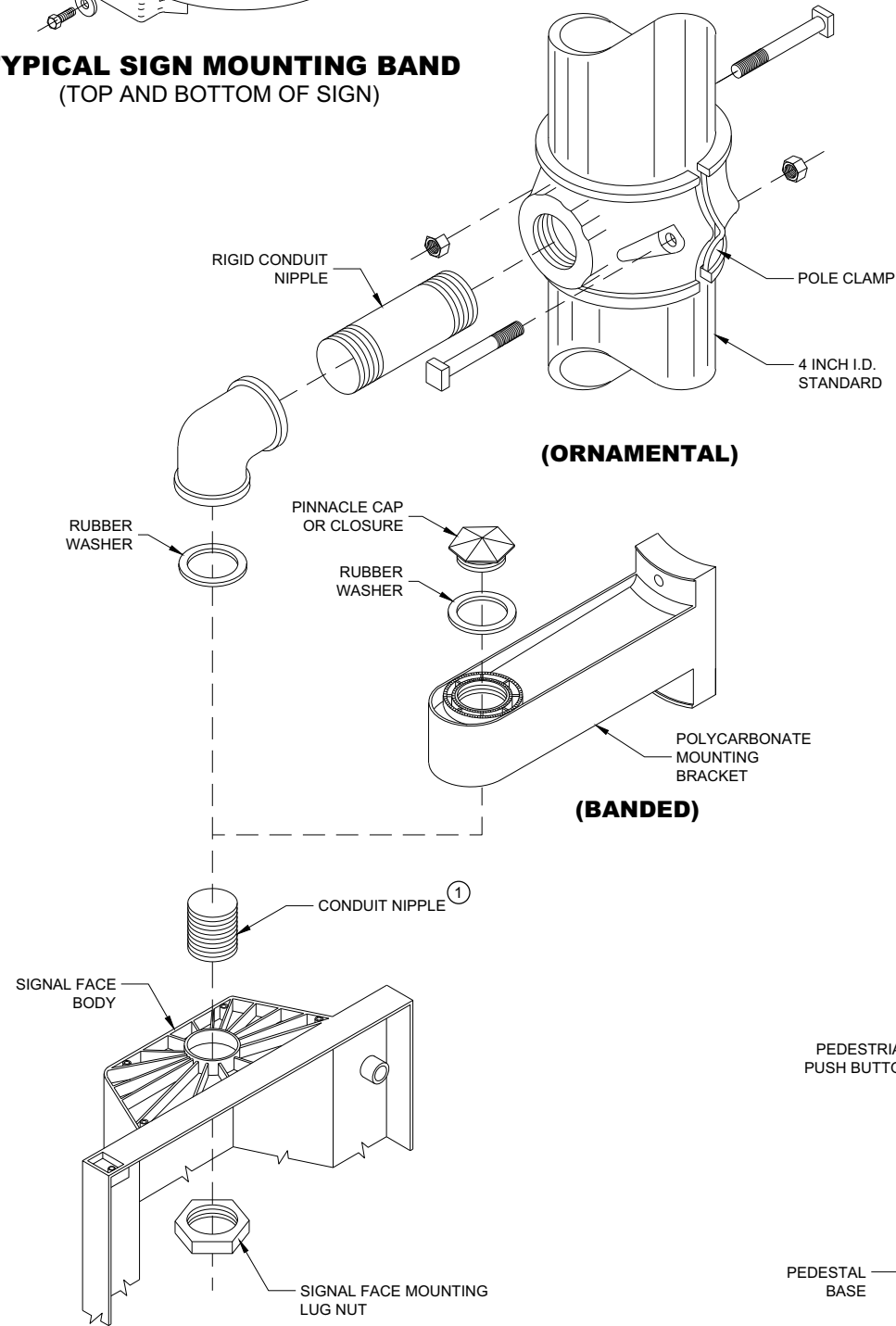
HARDWARE DETAILS FOR POLE MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

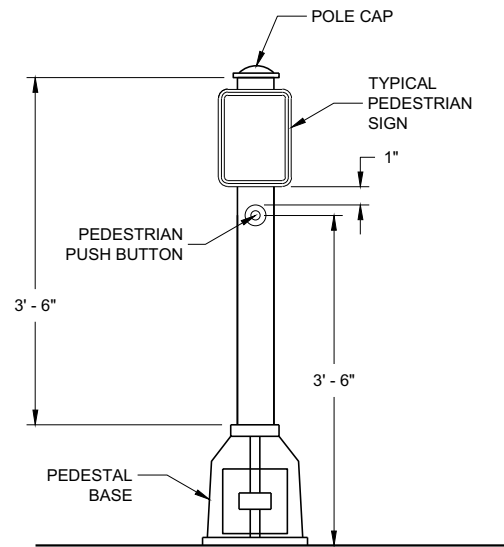
APPROVED
November 2018 /S/ Ahmet Demirelek
DATE STATE ELECTRICAL ENGINEER
FHWA



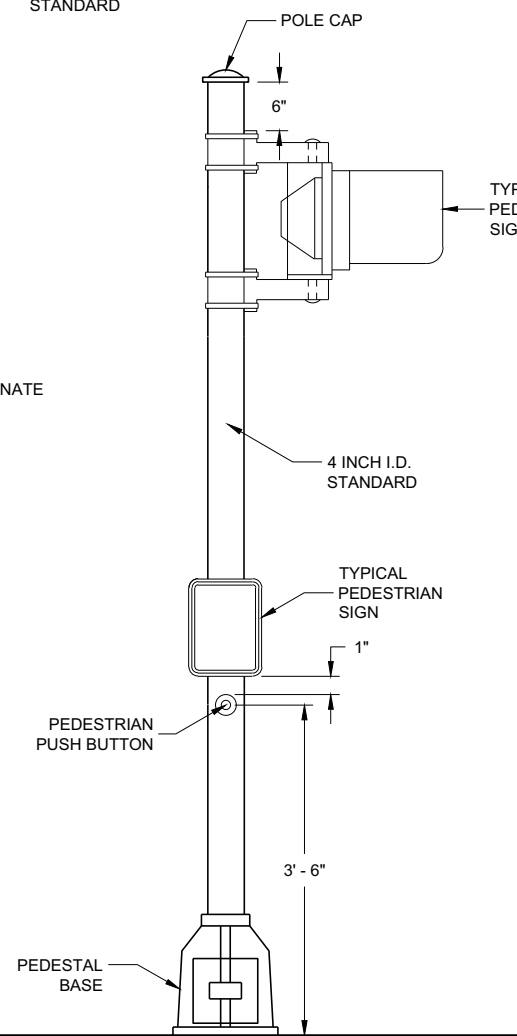
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



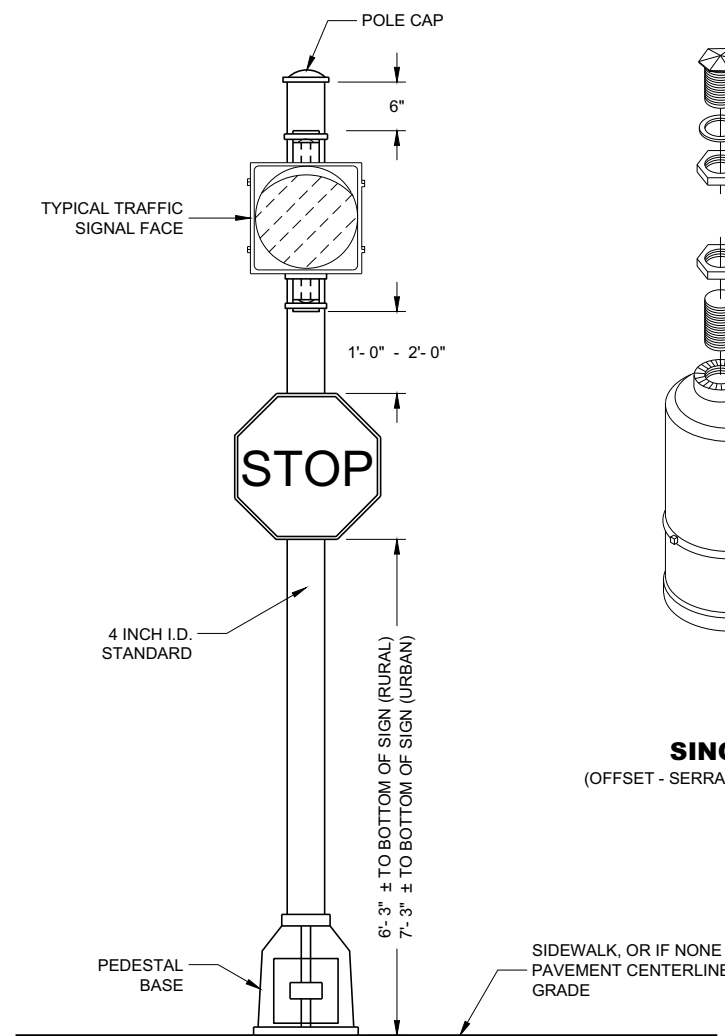
SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON
TYPICAL MOUNTING



PEDESTRIAN FACE STANDARD - 10 FT.
(WALK - DON'T WALK)



STANDARD FLASHER
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS, UNLESS APPROVED BY THE ENGINEER IN THE FIELD.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

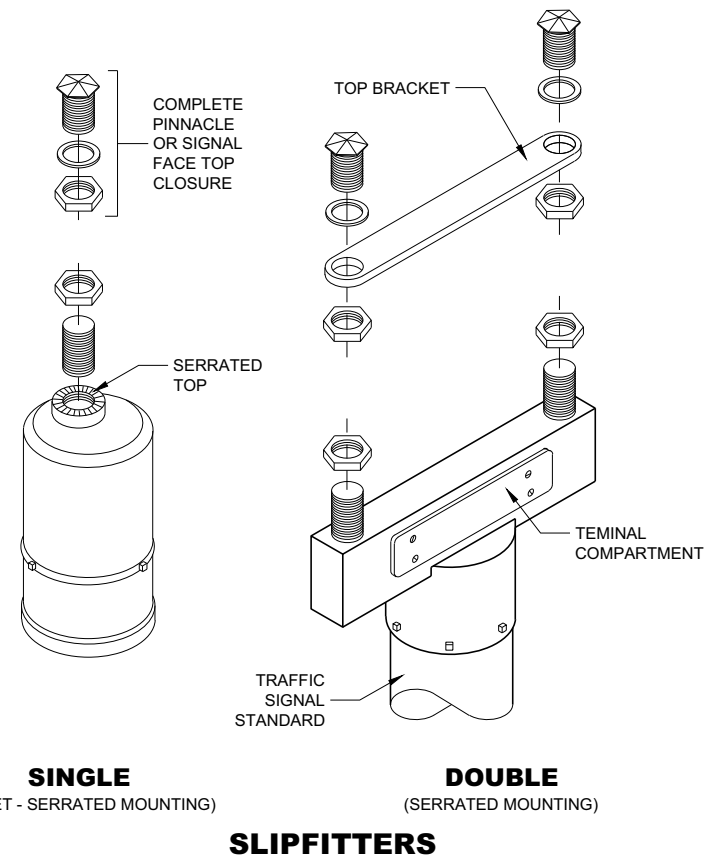
LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE REGION TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/2" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

① USE 1 1/2" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 1/2" OPENING IN SIGNAL FACES AND BRACKET ENDS.



6

6

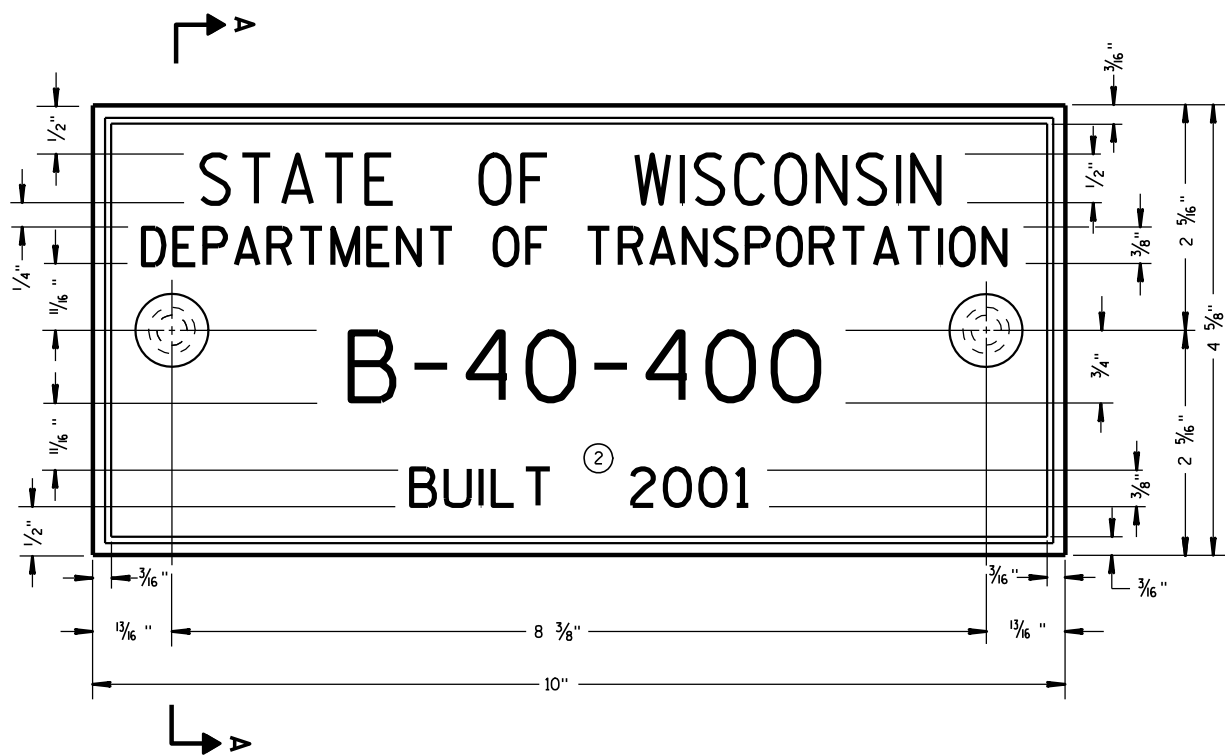
SDD 09E07 - 06

SDD 09E07 - 06

TRAFFIC SIGNAL STANDARD
PEDESTRIAN AND FLASHER
TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Ahmet Demirelek
DATE STATE ELECTRICAL ENGINEER
FHWA



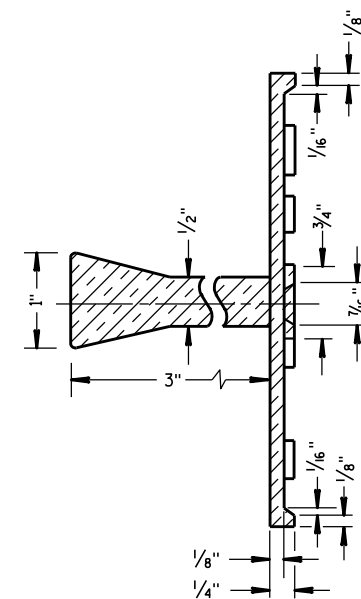
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

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.

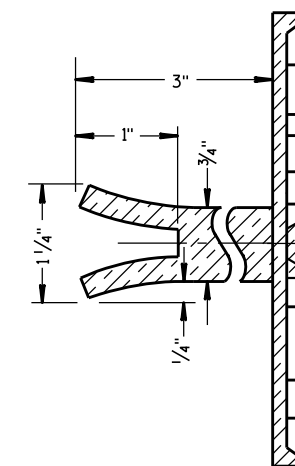
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- 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.

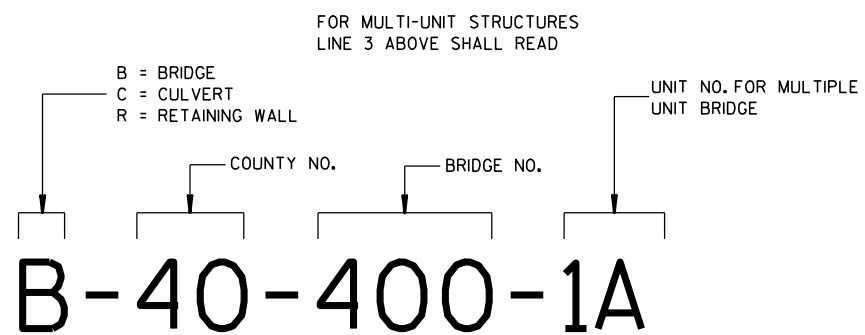


SECTION A-A

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

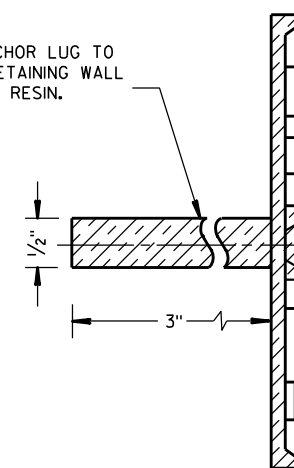


ALTERNATE LUG



**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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

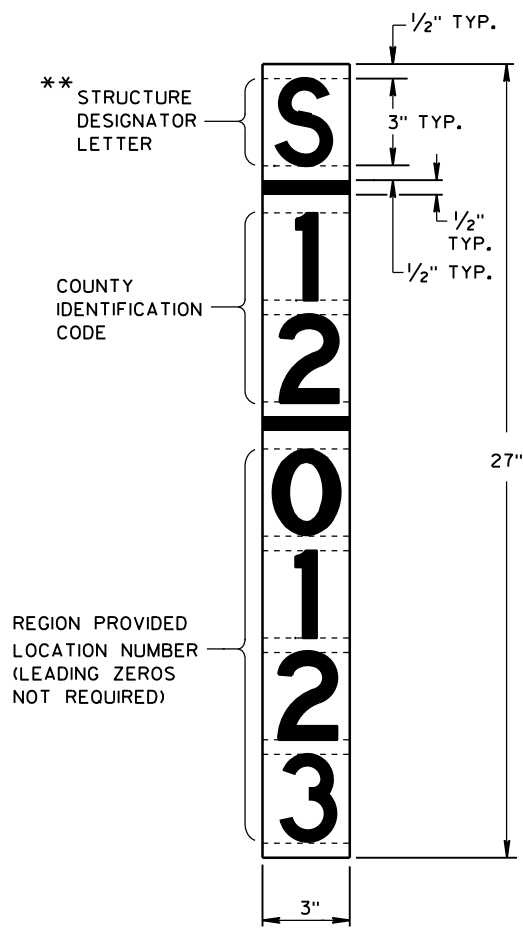
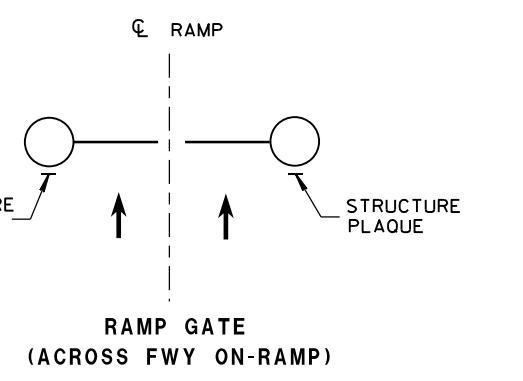
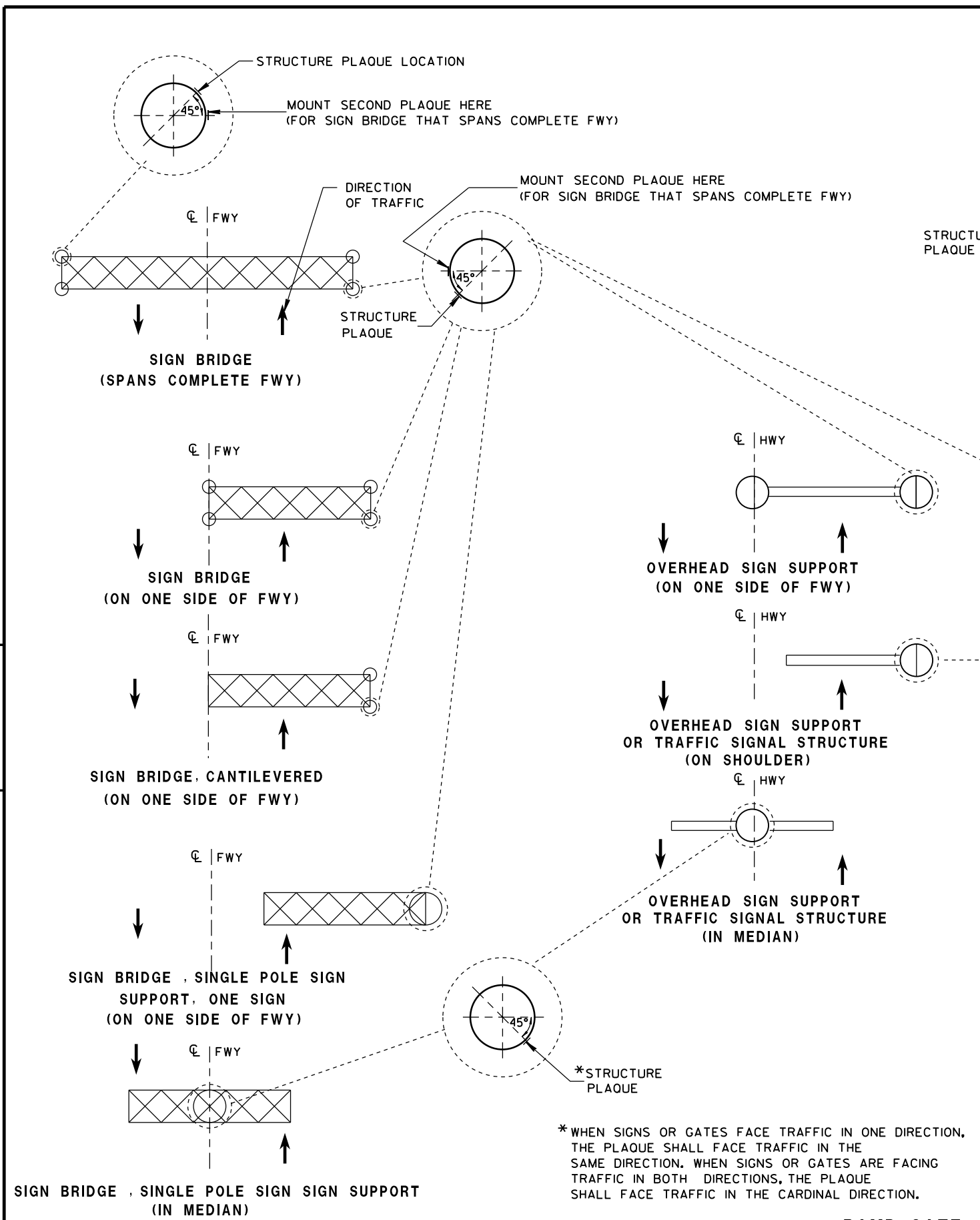


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

- GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS
- A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS
- ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

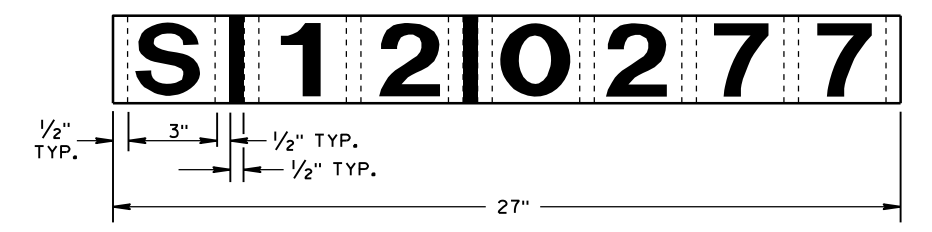
MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

- BASE - SHEET ALUMINUM, 0.060" THICK.
- FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE
- LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE
- CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

* WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.

LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12/4/2012 DATE	/s/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

GENERAL NOTES

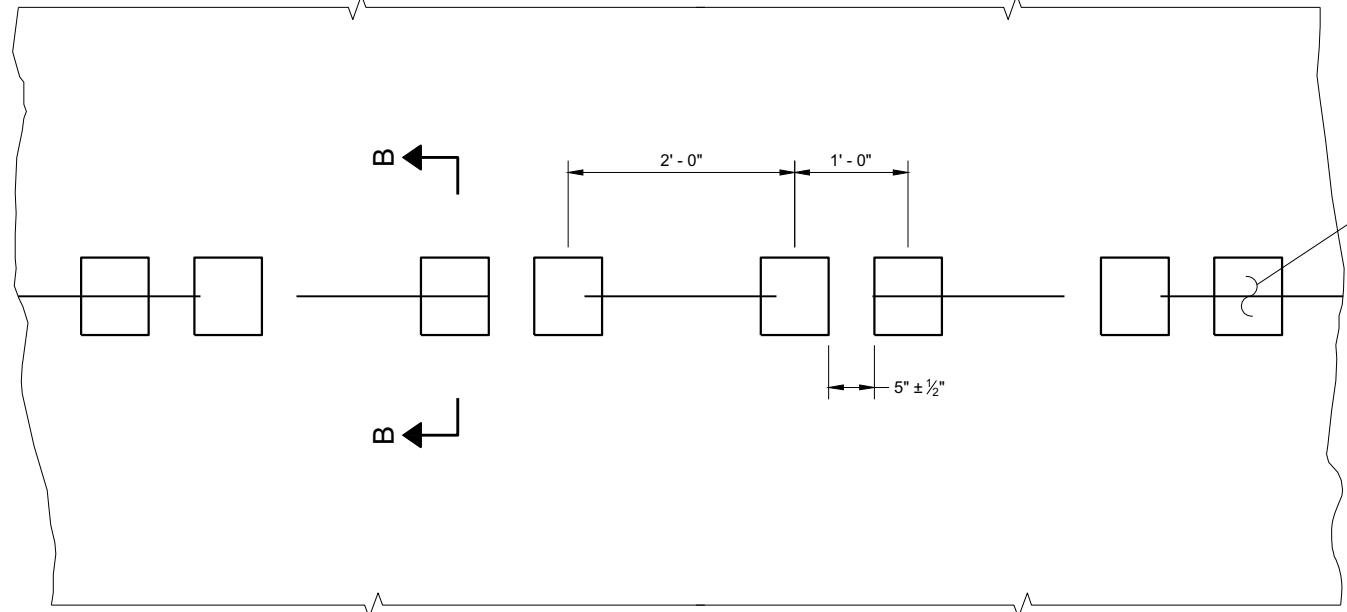
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

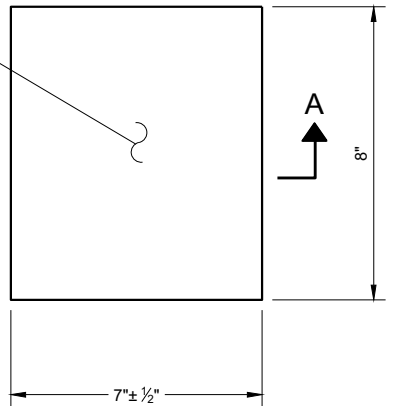
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

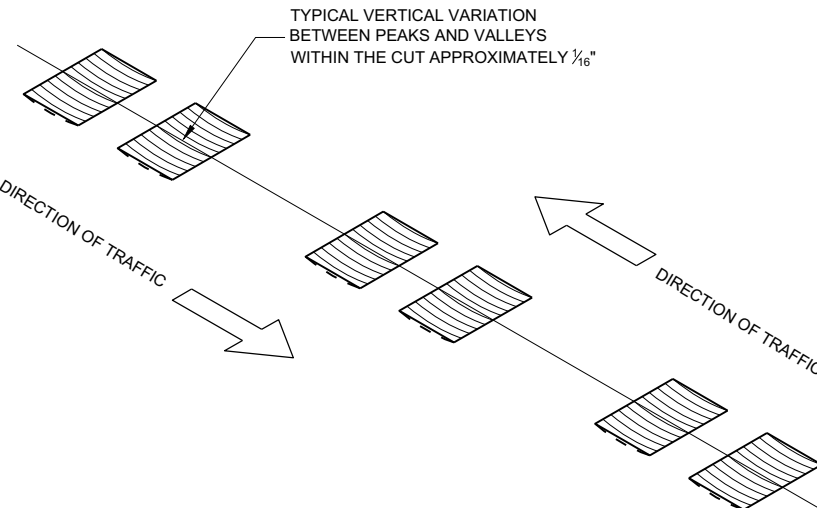
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



**PLAN VIEW
SHOULDER WITH GROOVES**

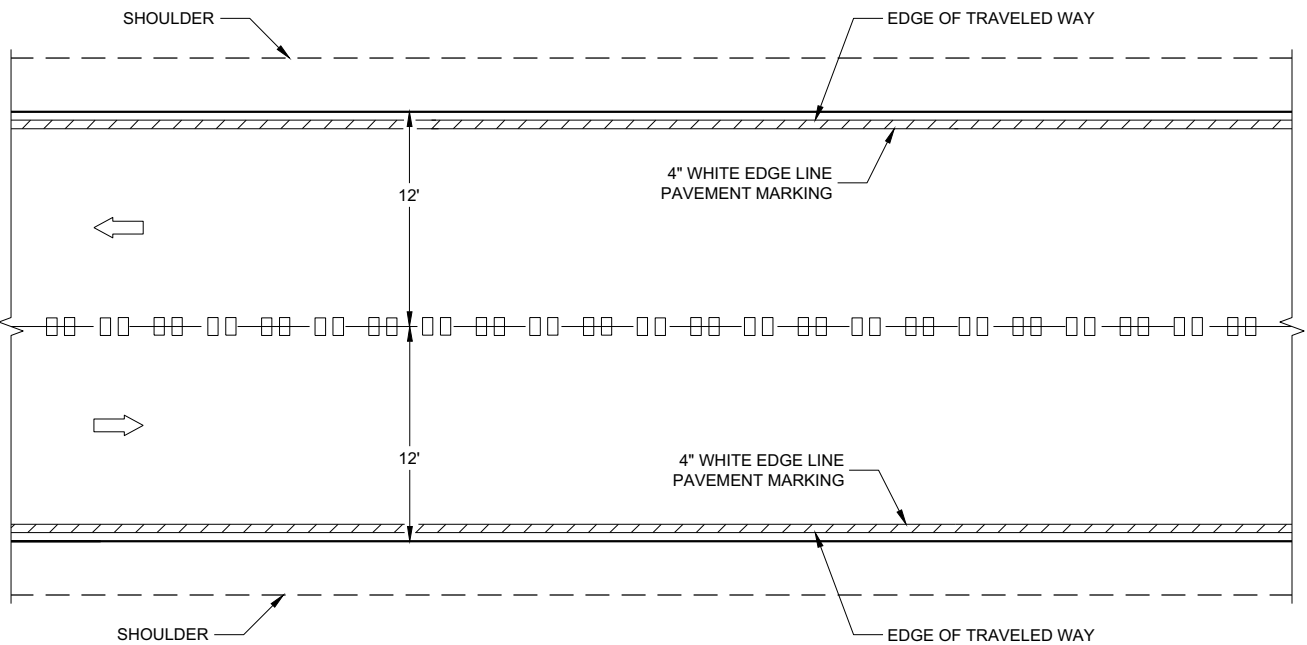


**PLAN VIEW
(SINGLE GROOVE)**

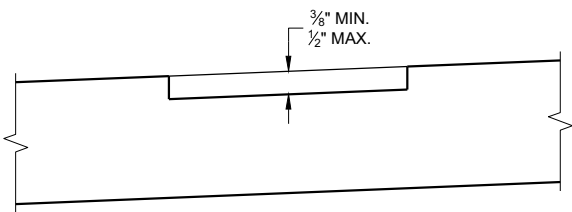


ISOMETRIC

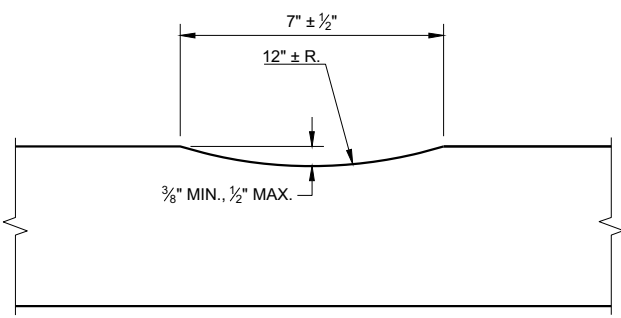
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



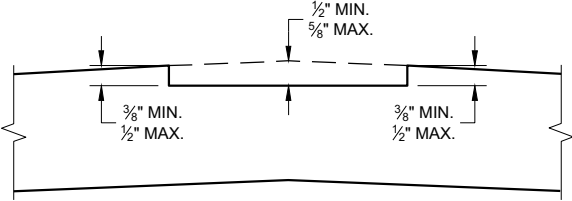
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



**SECTION B - B
SUPERELEVATED ROADWAY**



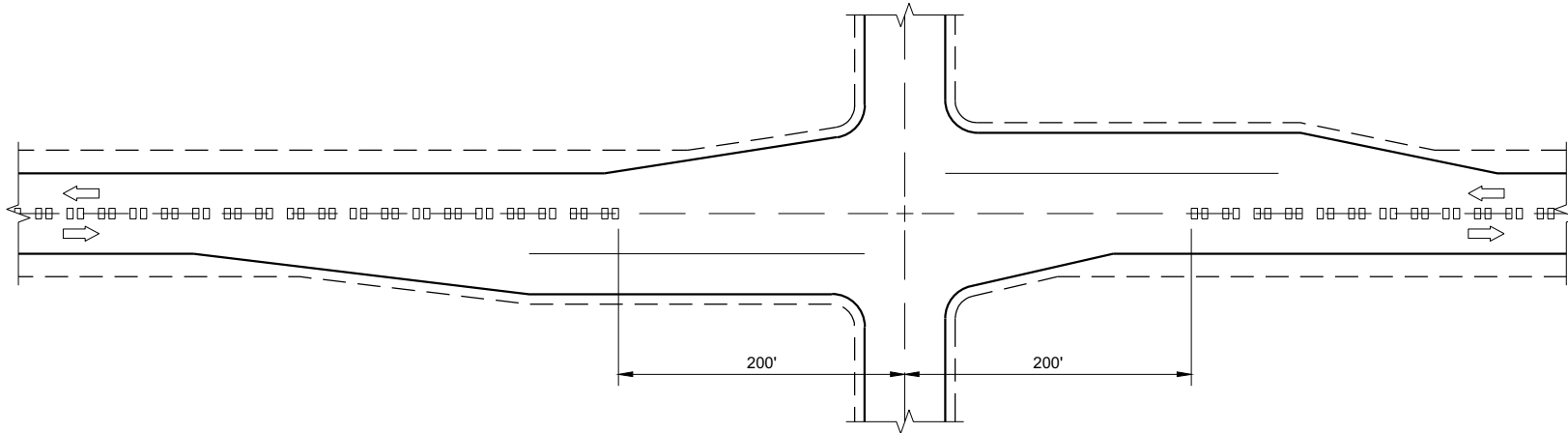
SECTION A - A



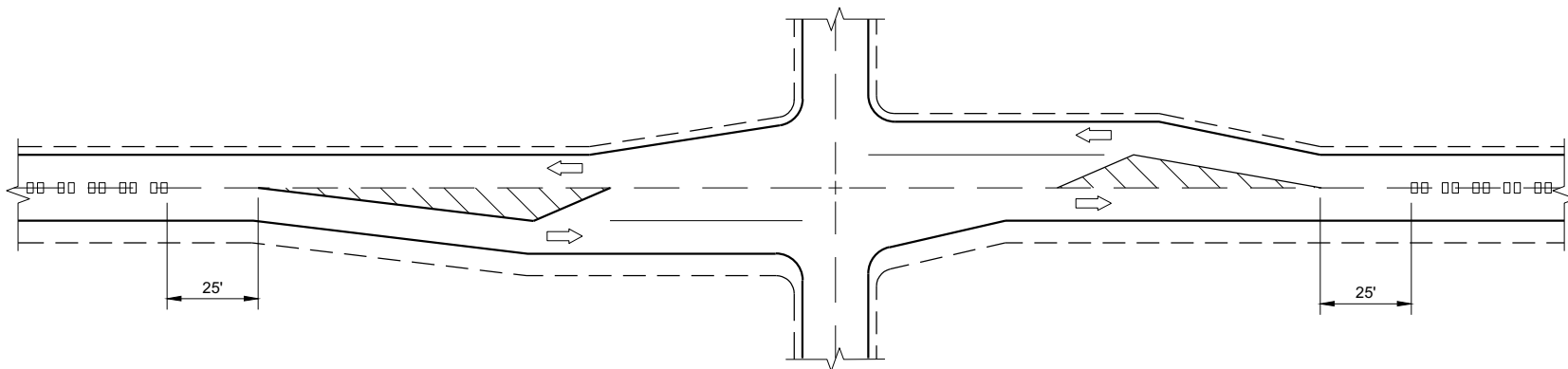
**SECTION B - B
CROWNED ROADWAY**

**2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING**

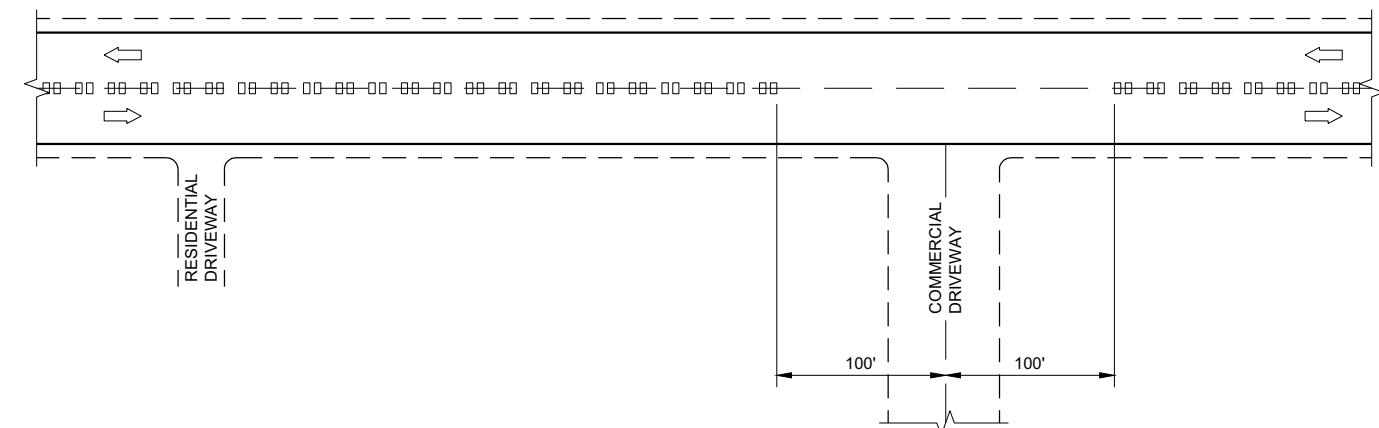
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



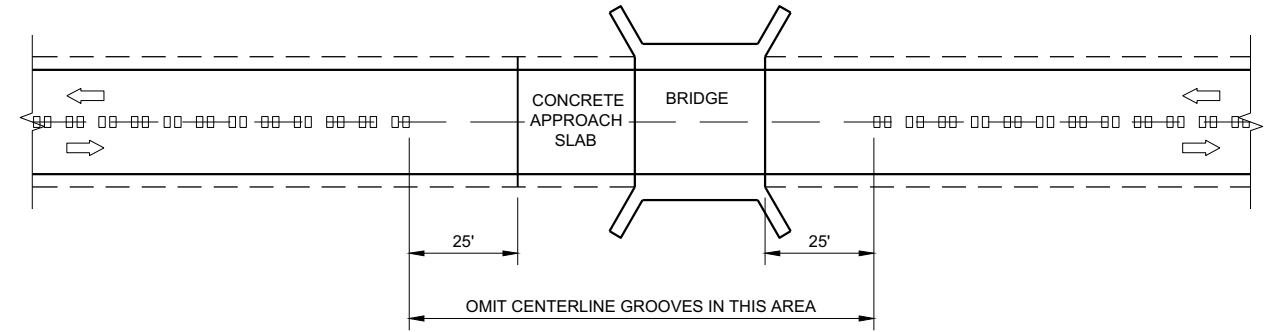
**CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)**



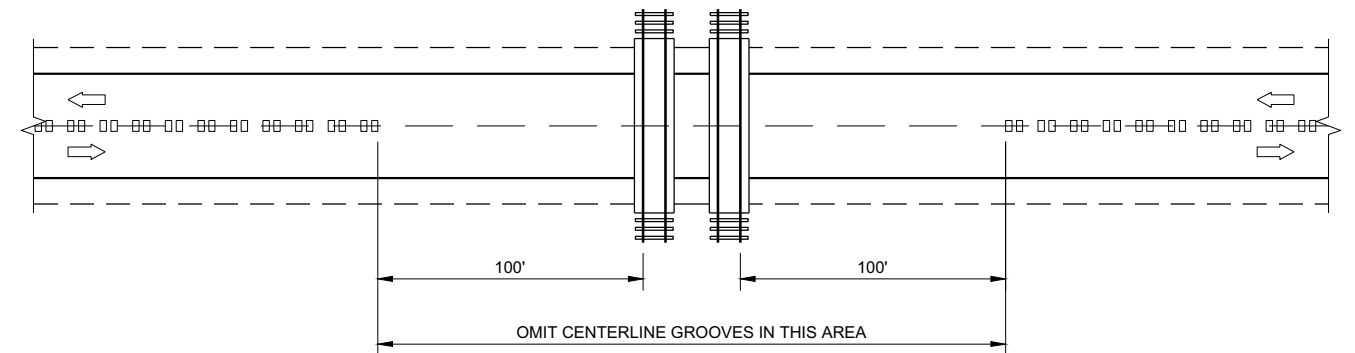
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

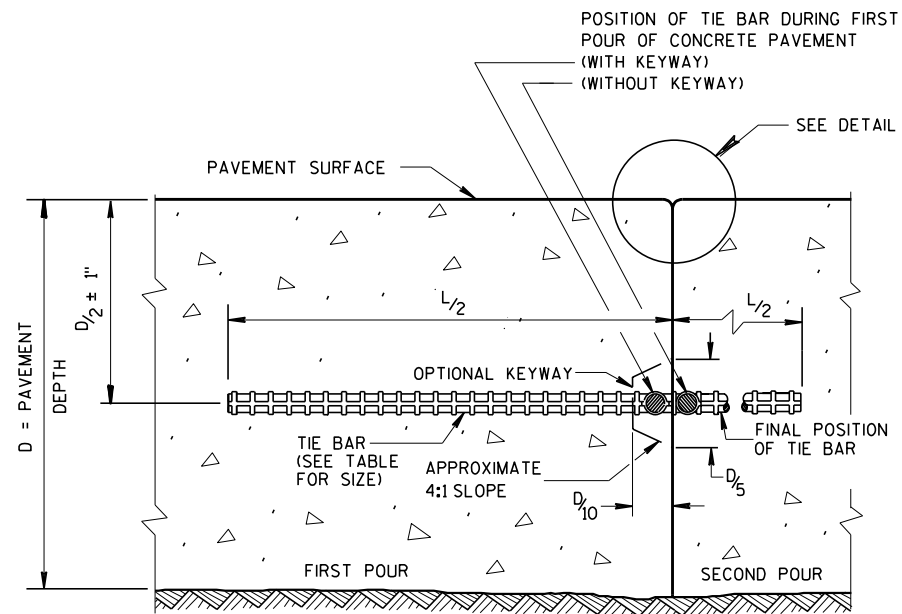
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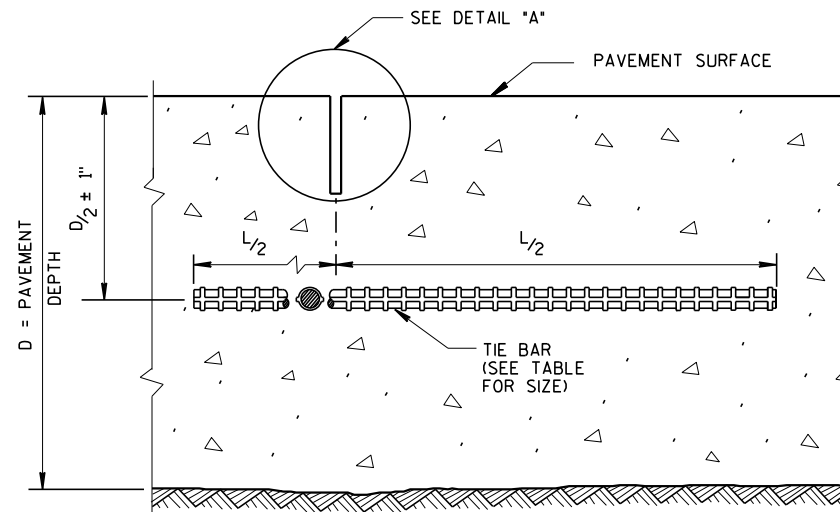
SDD 13A11 - 03b

SDD 13A11 - 03b

2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



CONSTRUCTION JOINT



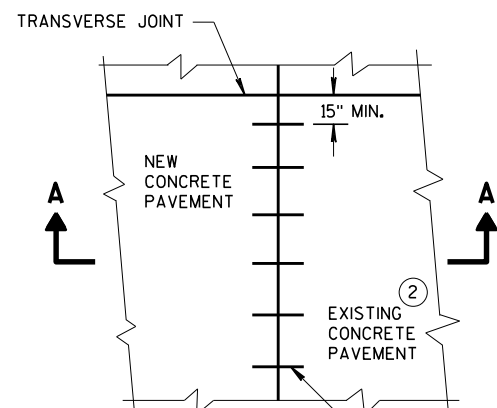
SAWED JOINT

GENERAL NOTES

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

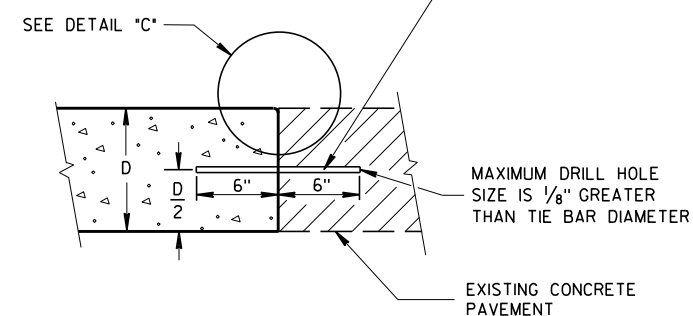
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

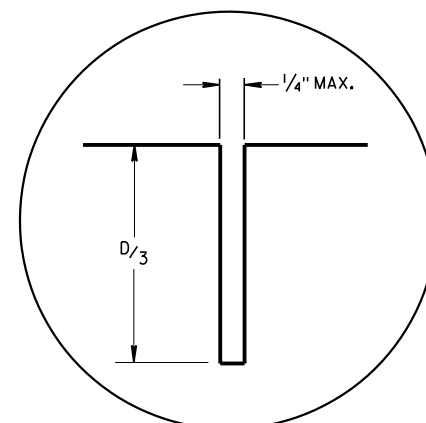


PLAN VIEW

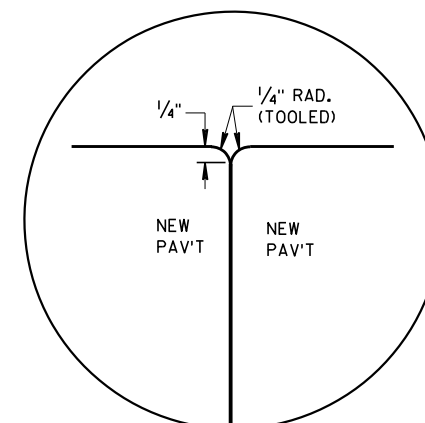
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



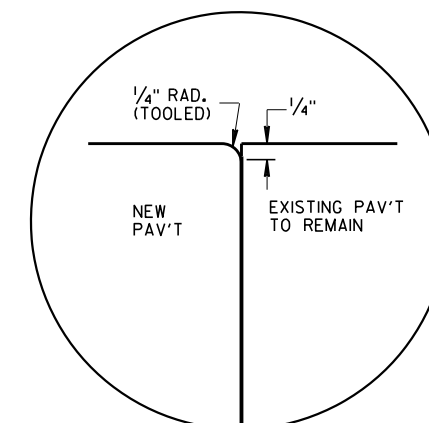
**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"



DETAIL "B"



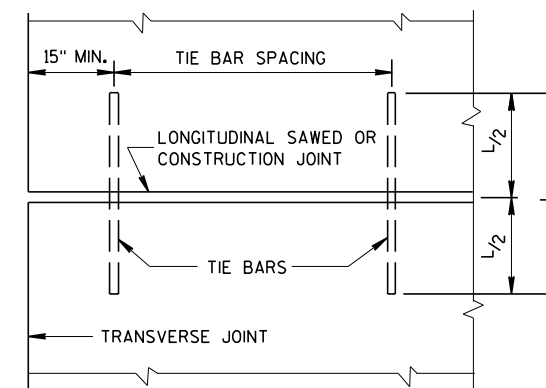
DETAIL "C"

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.

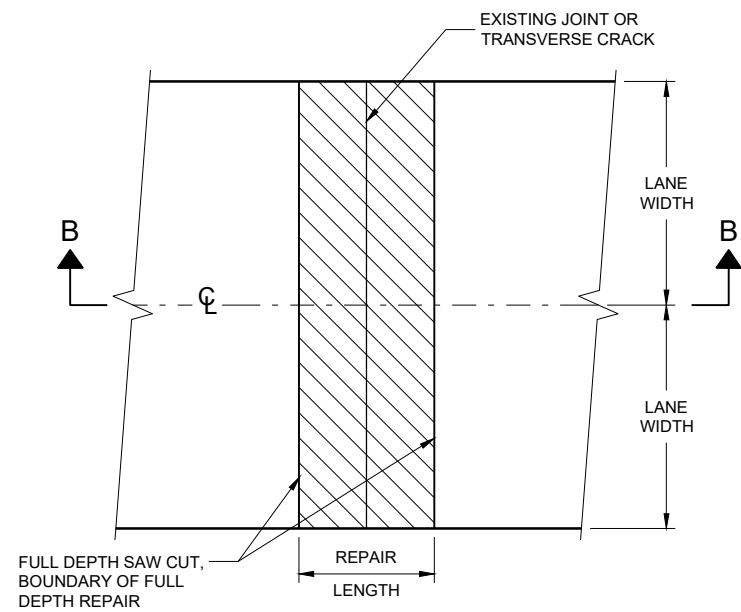


**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

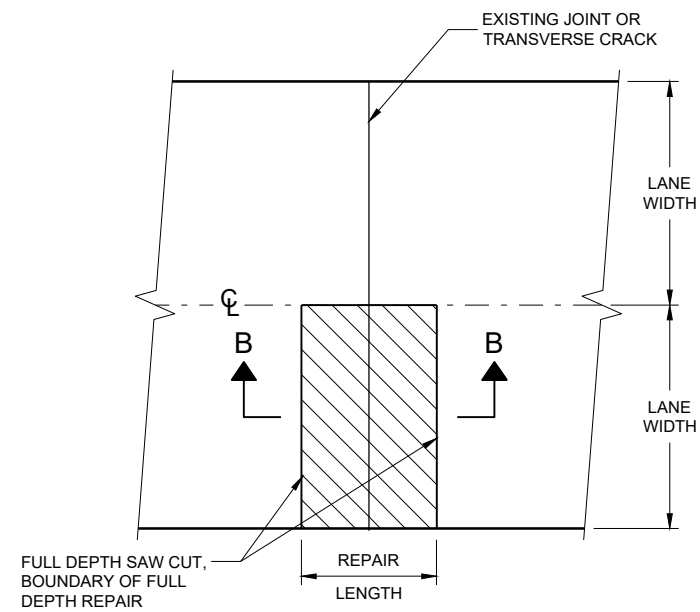
**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

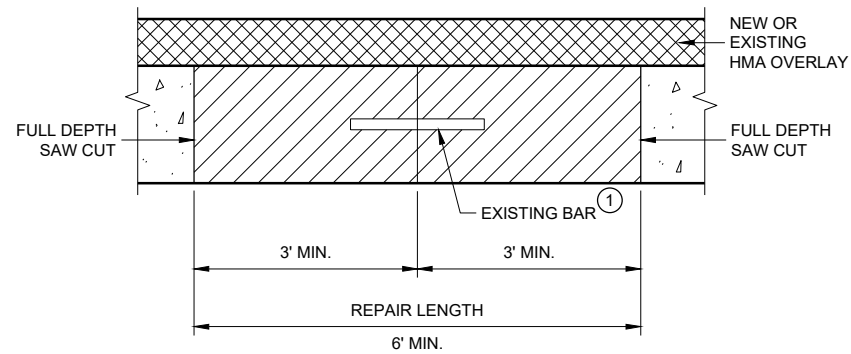


**PLAN VIEW
DOUBLE LANE REPAIR**



**PLAN VIEW
SINGLE LANE REPAIR**

FULL DEPTH CONCRETE PAVEMENT REMOVAL



**SECTION B - B
CONCRETE REMOVAL**

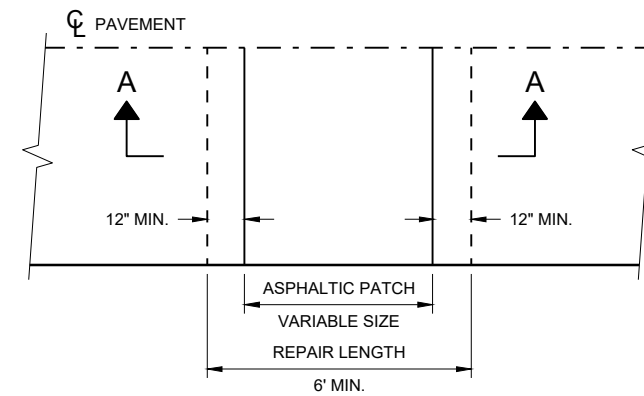
GENERAL NOTES

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

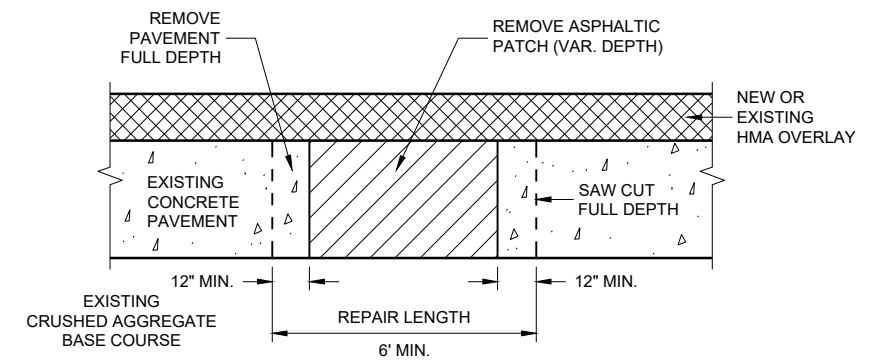
PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

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

① DOWEL BARS MAY NOT BE PRESENT.



PLAN VIEW

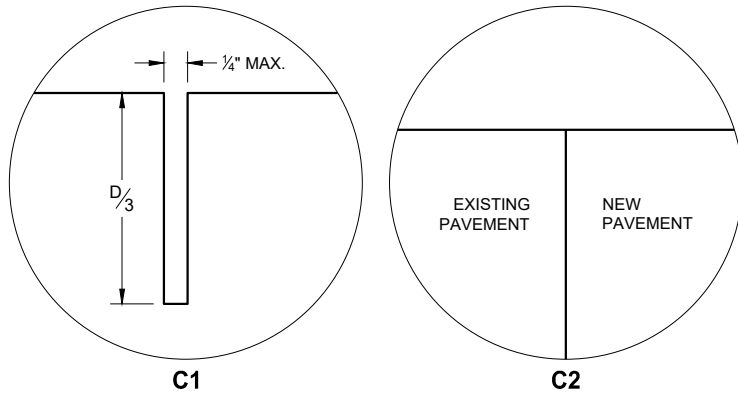


SECTION A - A

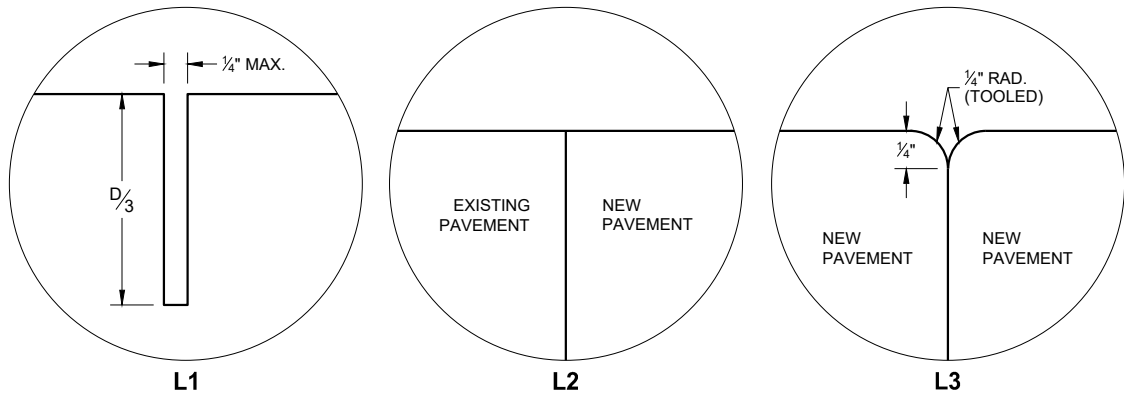
HMA PATCH REMOVAL

BASE PATCHING CONCRETE

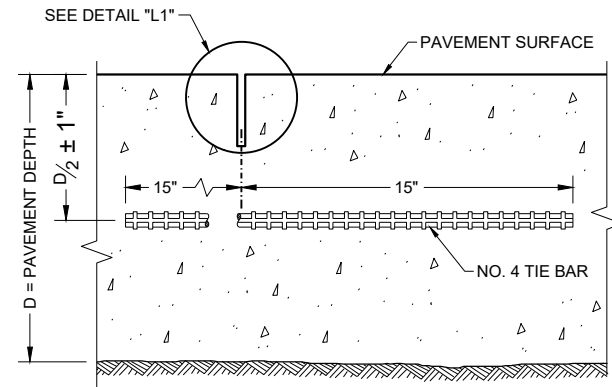
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



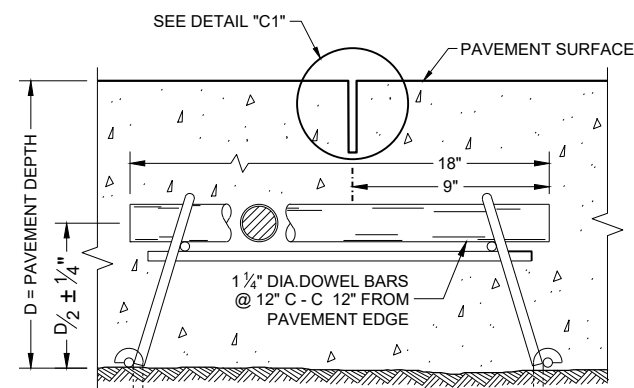
TRANSVERSE JOINTS



LONGITUDINAL JOINTS



**SECTION C - C
SAWED LONGITUDINAL JOINT**



**SECTION F - F
CONTRACTION JOINT**

GENERAL NOTES

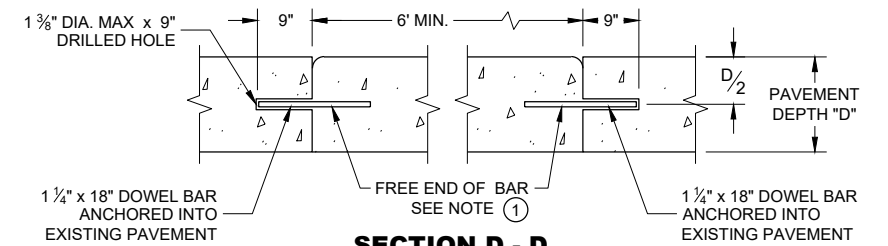
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

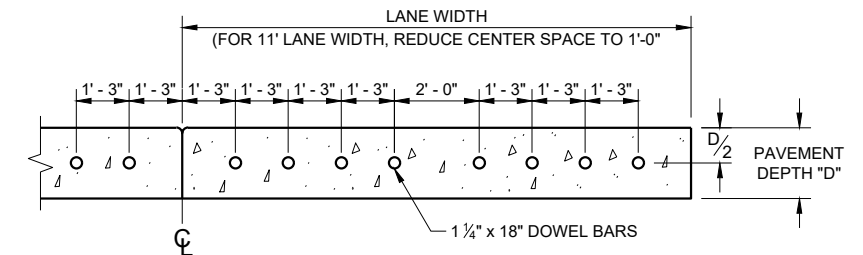
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

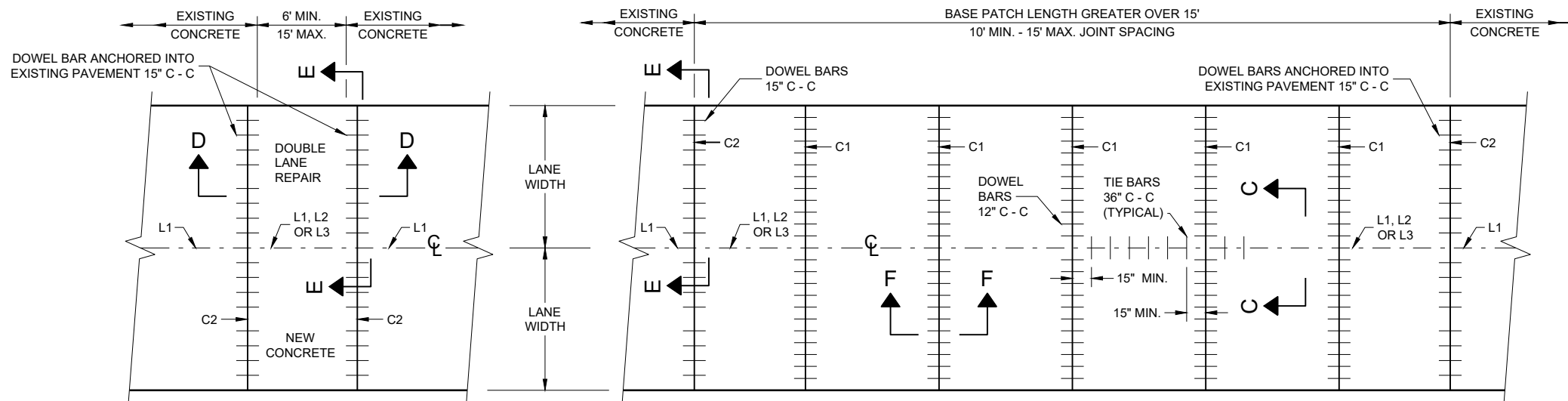
- ① APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



SECTION D - D



**SECTION E - E
SPACING OF DOWEL BARS
ANCHORED INTO EXISTING PAVEMENT**

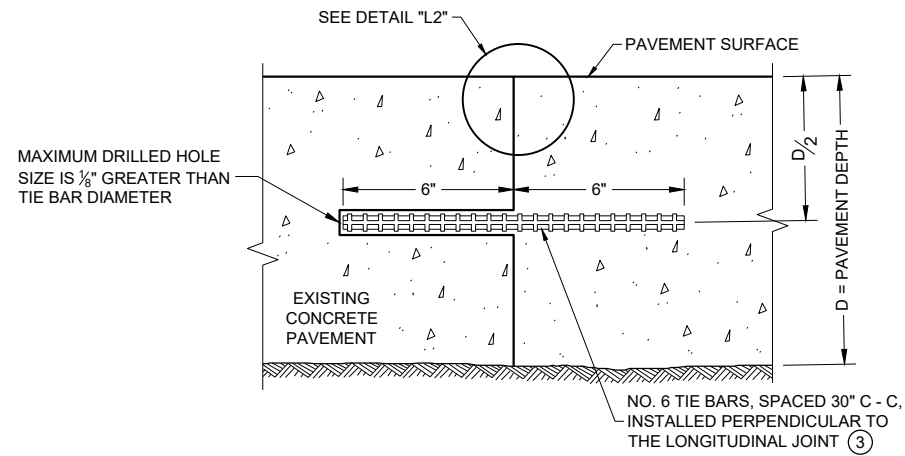


**PLAN VIEW
MULTILANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH**

**PLAN VIEW
MULTILANE CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH**

BASE PATCHING CONCRETE

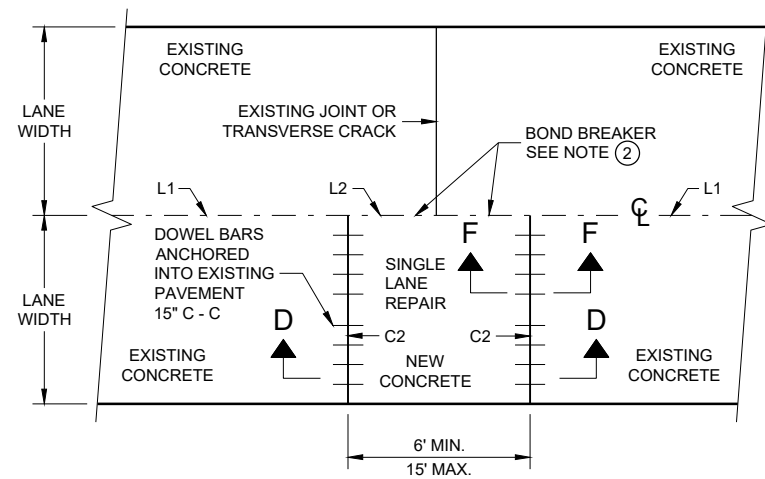
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



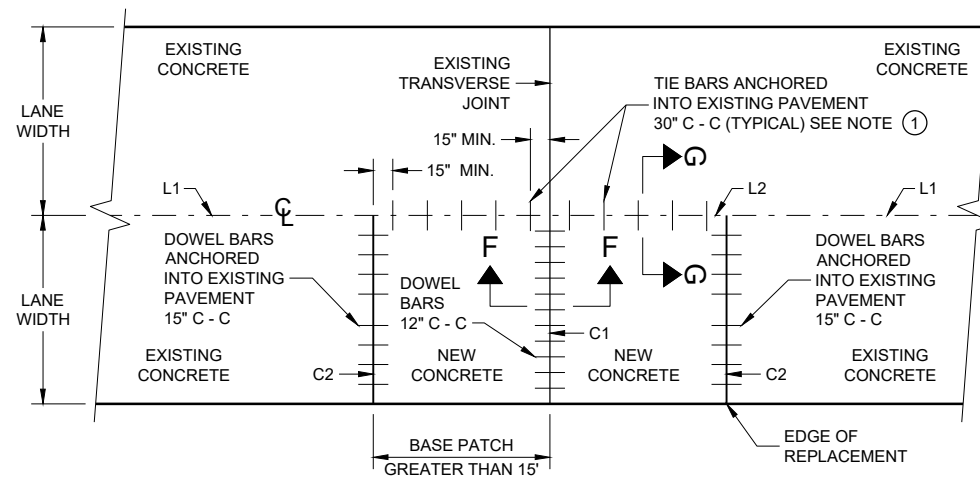
SECTION G - G
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

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



PLAN VIEW
SINGLE LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH



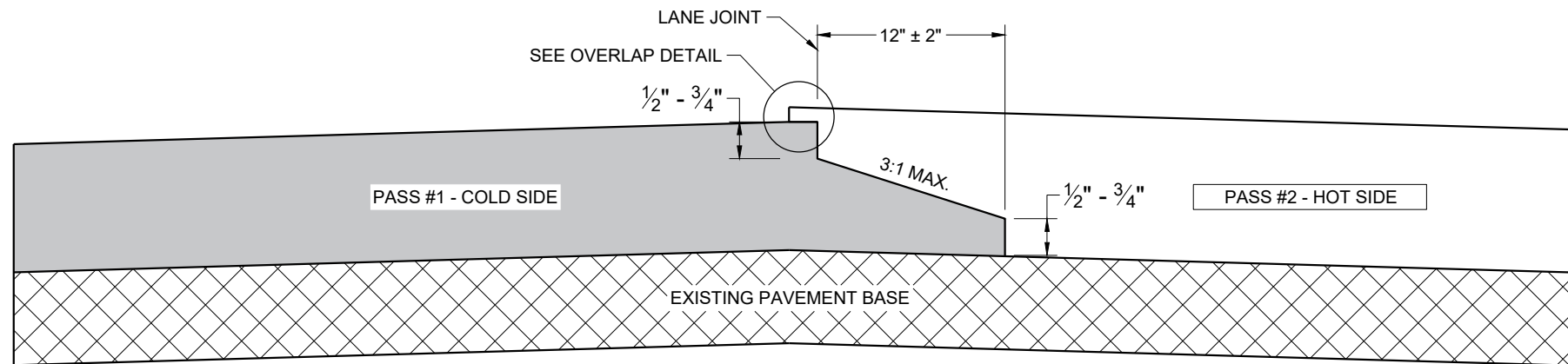
PLAN VIEW
SINGLE LANE CONCRETE BASE PATCH
GREATER THAN 15' LENGTH

BASE PATCHING CONCRETE

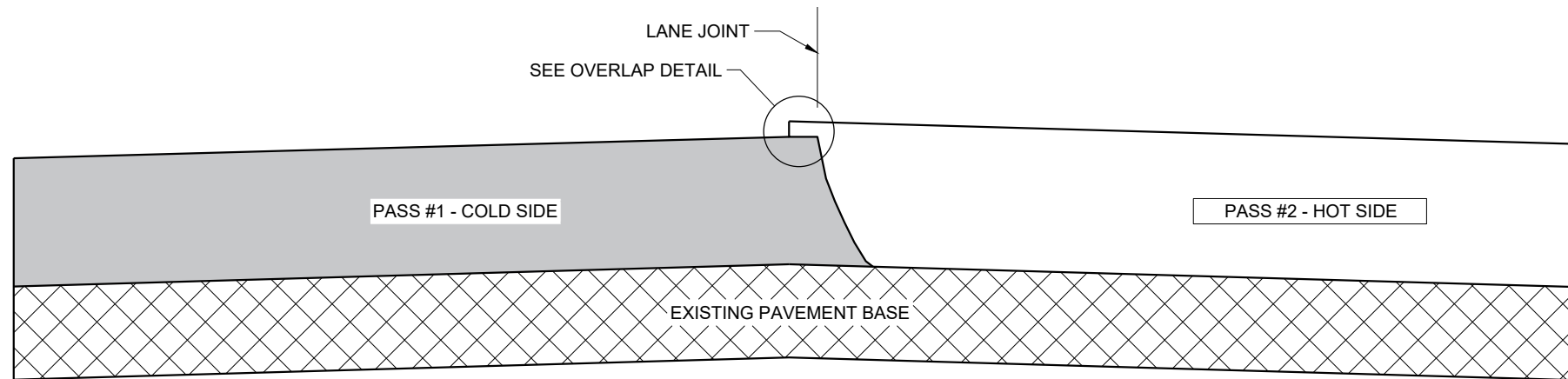
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

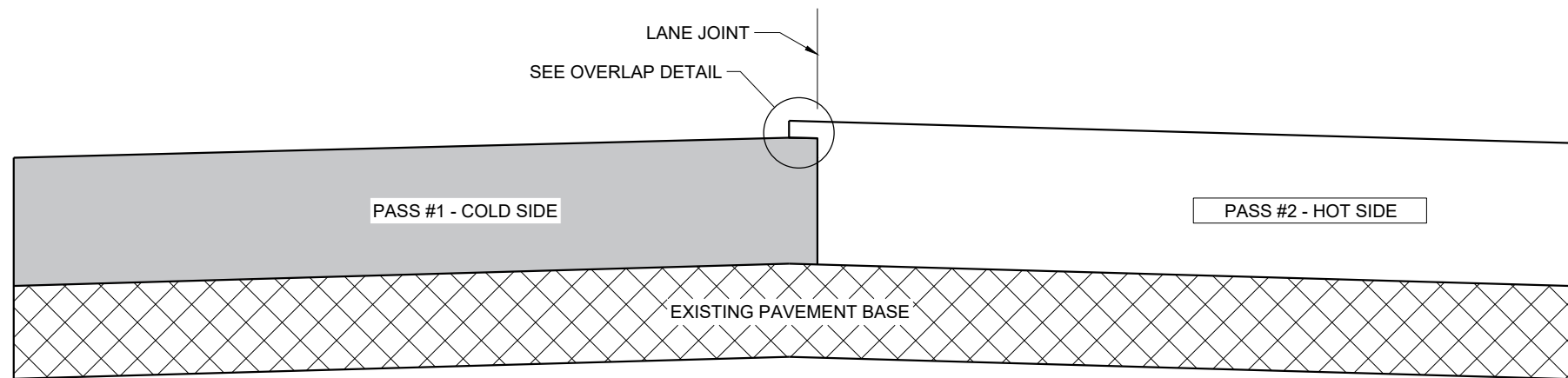
FHWA



TYPICAL PAVEMENT CROSS SECTION NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION VERTICAL JOINT (MILLED)

GENERAL NOTES

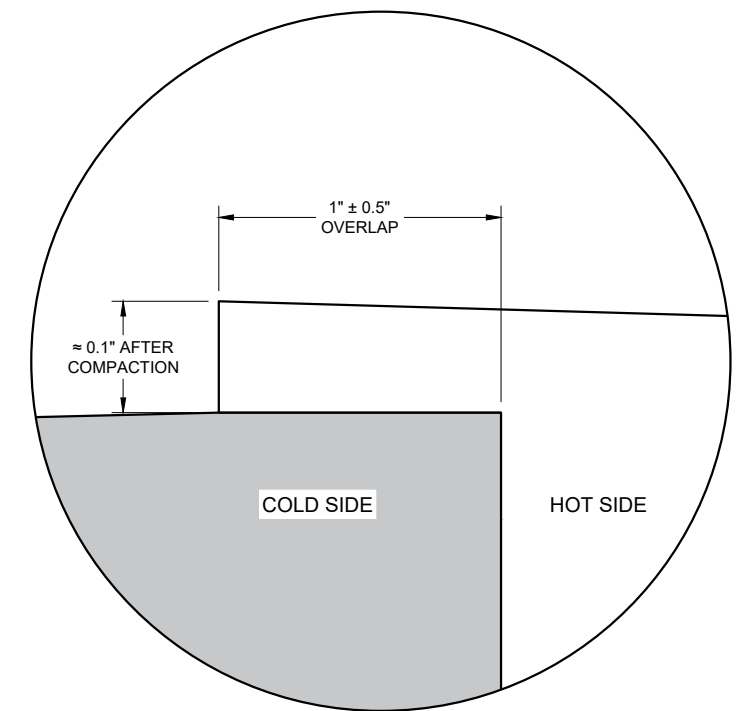
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

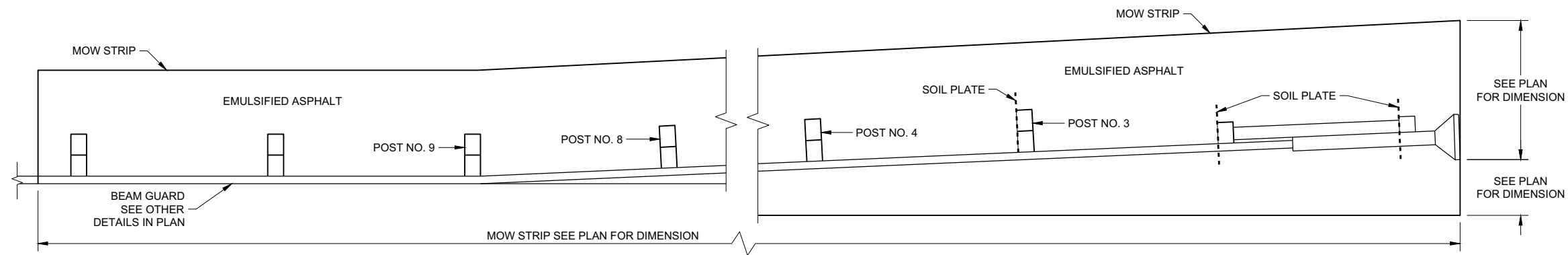
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6

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	

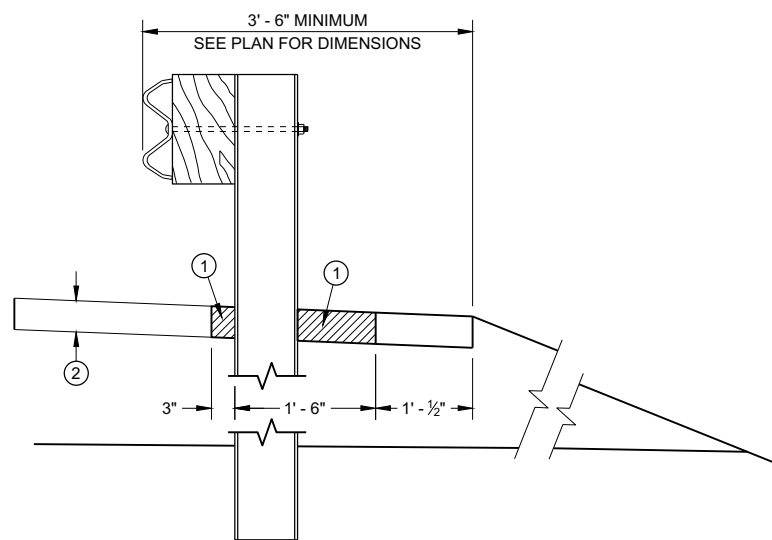


PLAN VIEW
MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

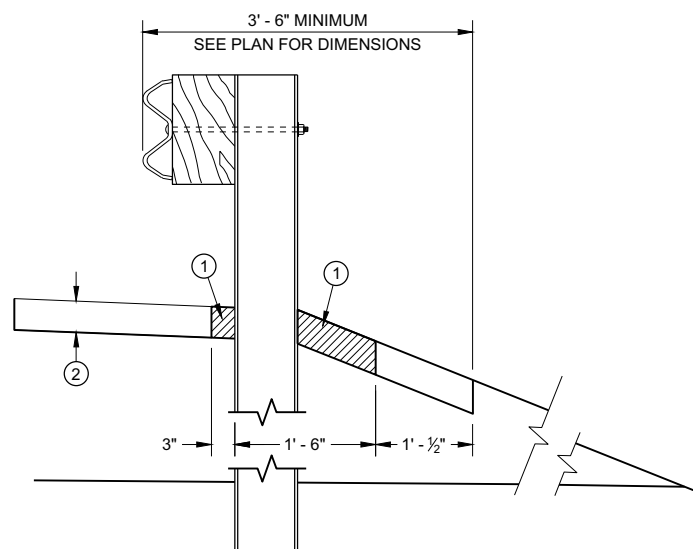
GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

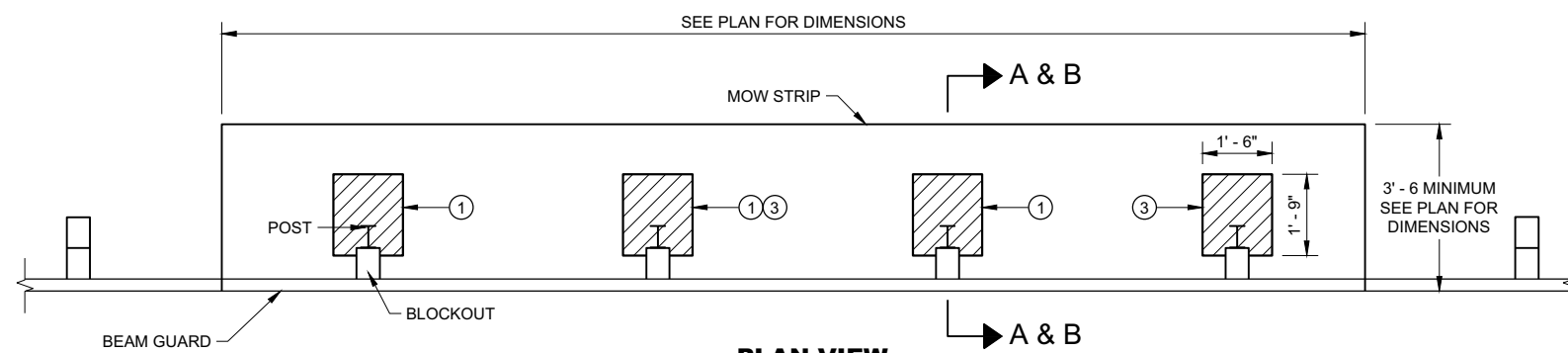
- ① CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
- ② DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS
- ③ FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)



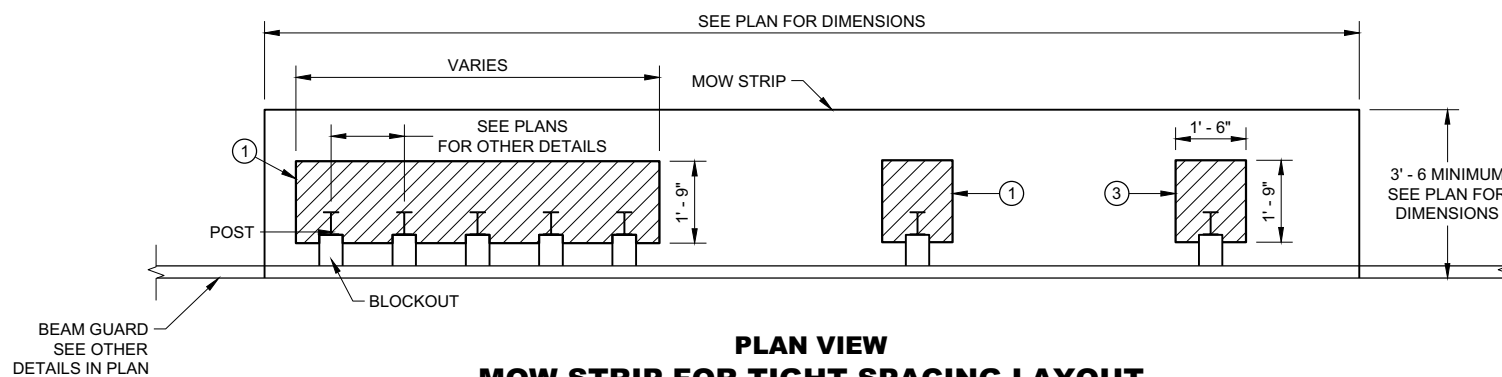
SECTION A - A



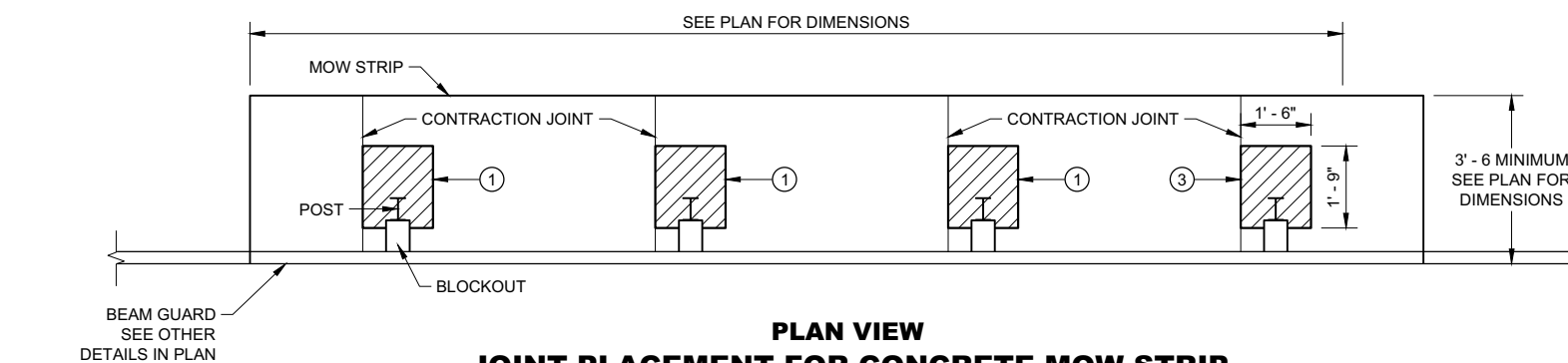
SECTION B - B



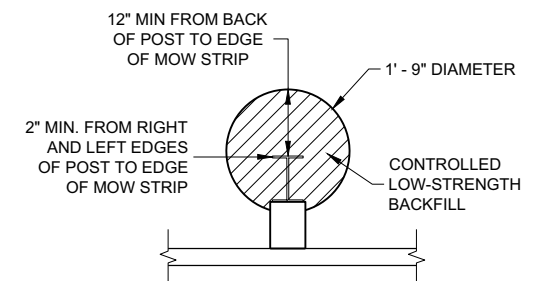
PLAN VIEW
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



PLAN VIEW
MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW
JOINT PLACEMENT FOR CONCRETE MOW STRIP



ALTERNATIVE HMA
MOW STRIP DESIGN

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

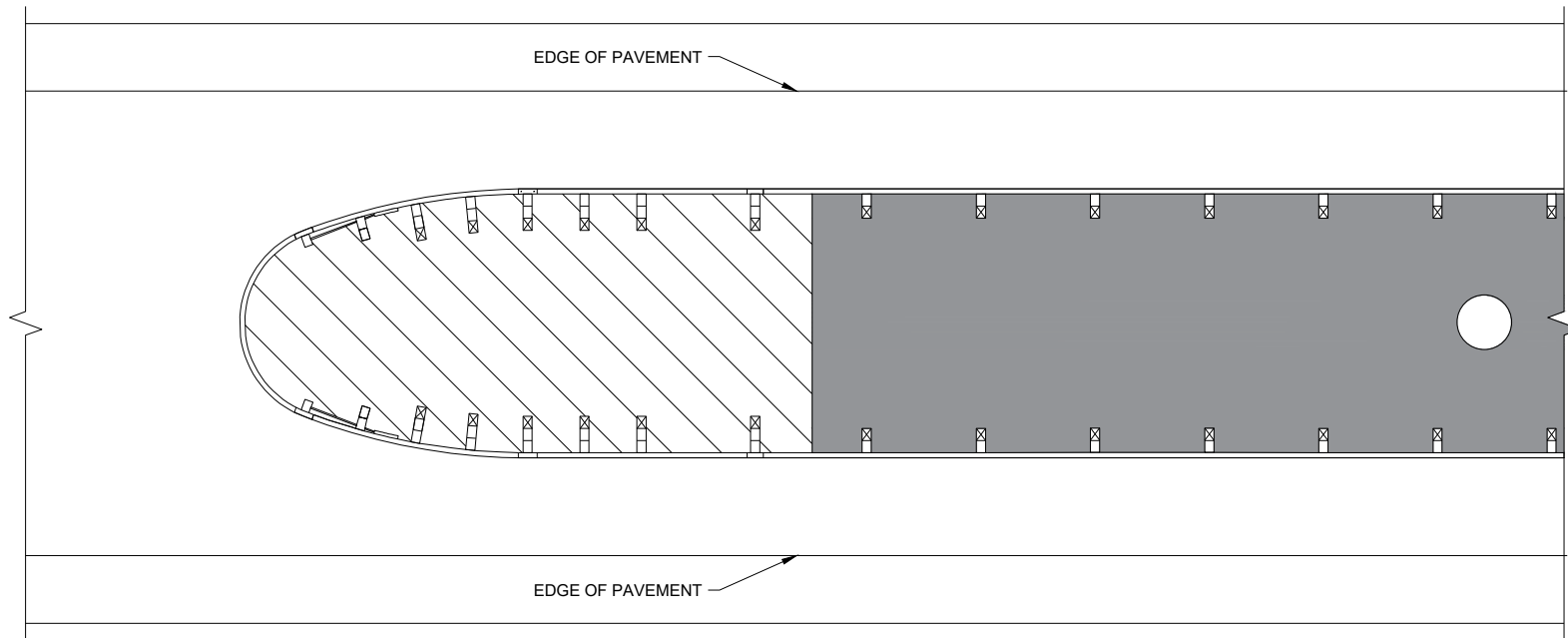
LEGEND

 CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

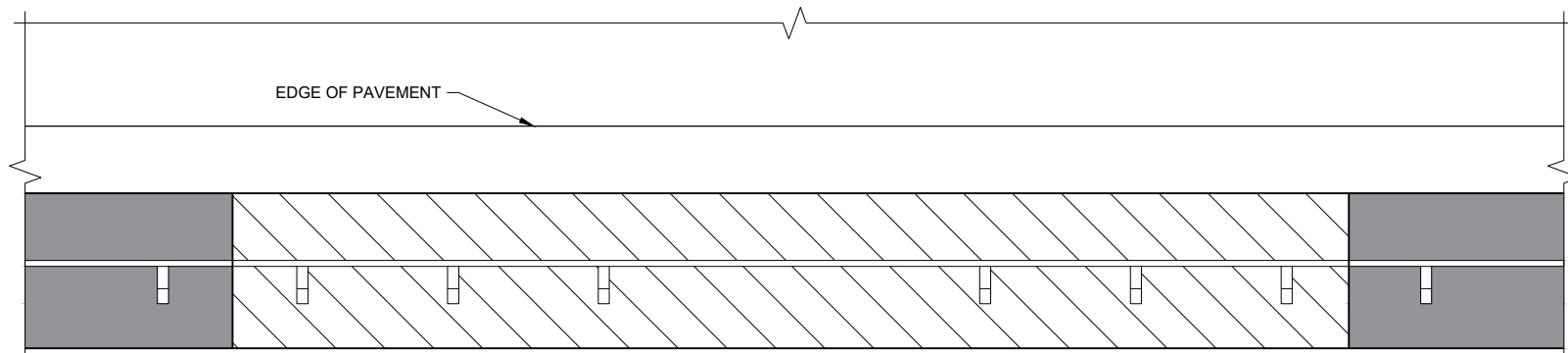
 EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

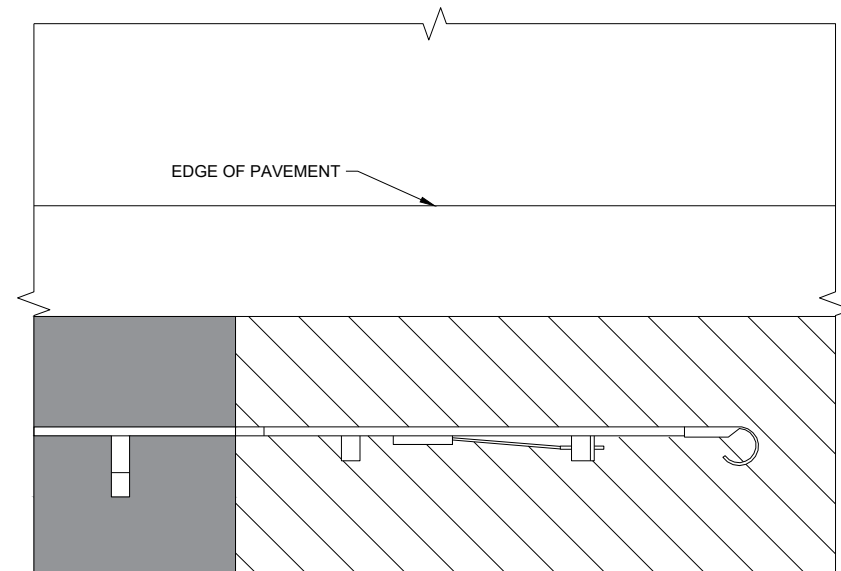
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



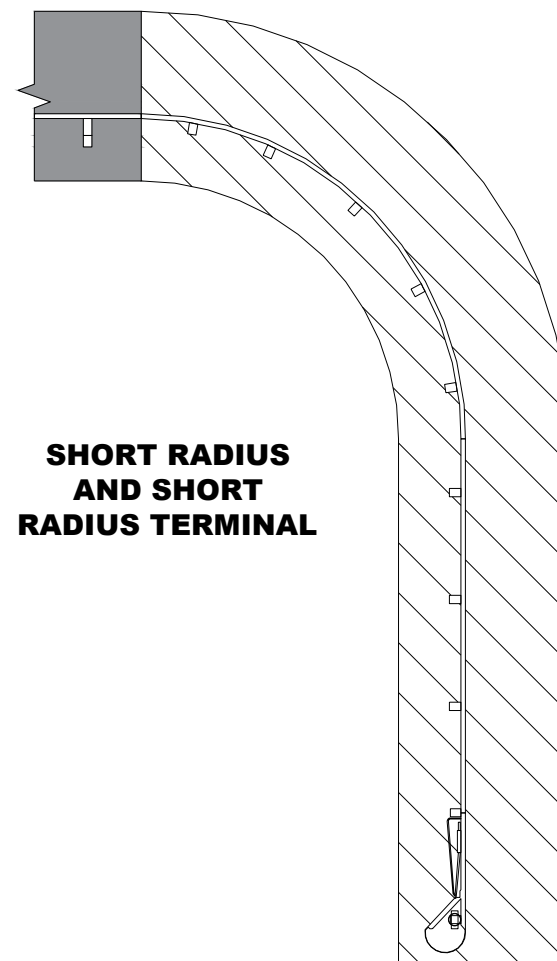
THRIE BEAM BULLNOSE



LONG - SPAN



TYPE 2 TERMINAL



**SHORT RADIUS
AND SHORT
RADIUS TERMINAL**

6

6

SDD 14B28 - 04b

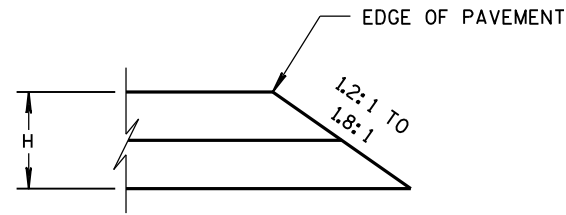
SDD 14B28 - 04b

GUARDRAIL MOW STRIP

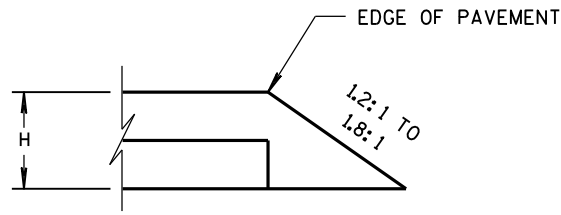
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

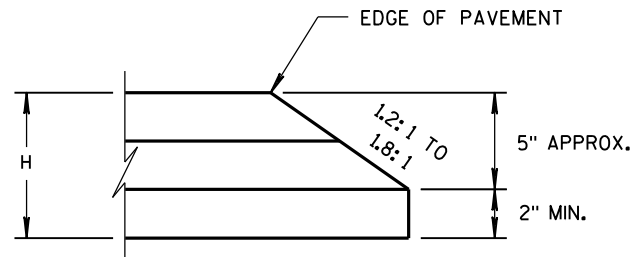
FHWA



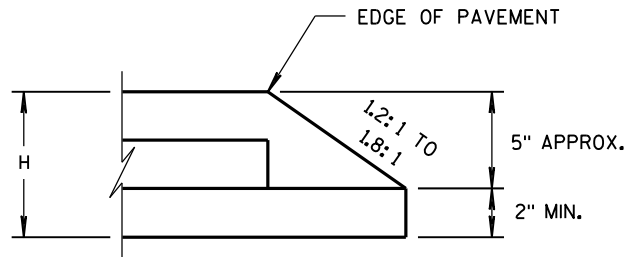
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

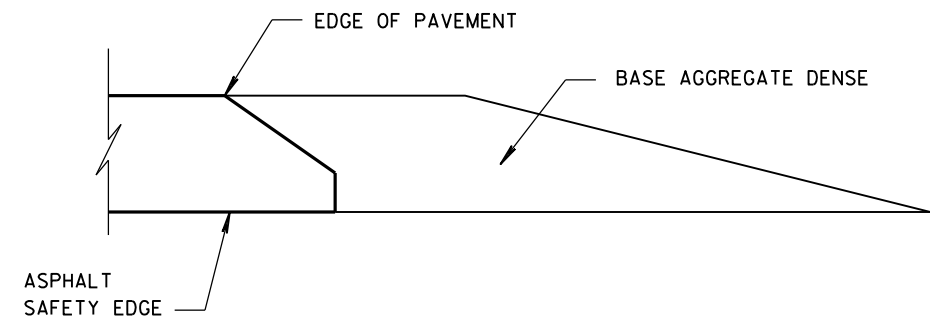


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

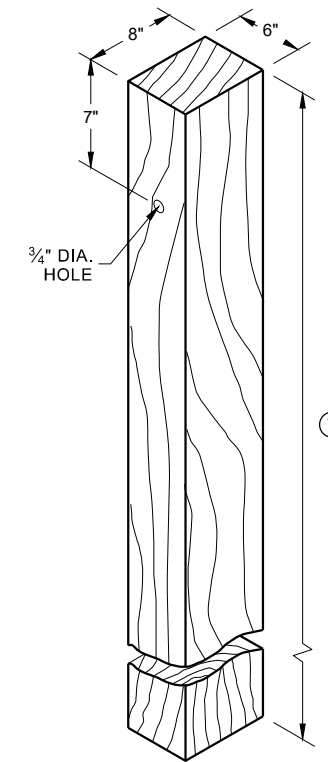
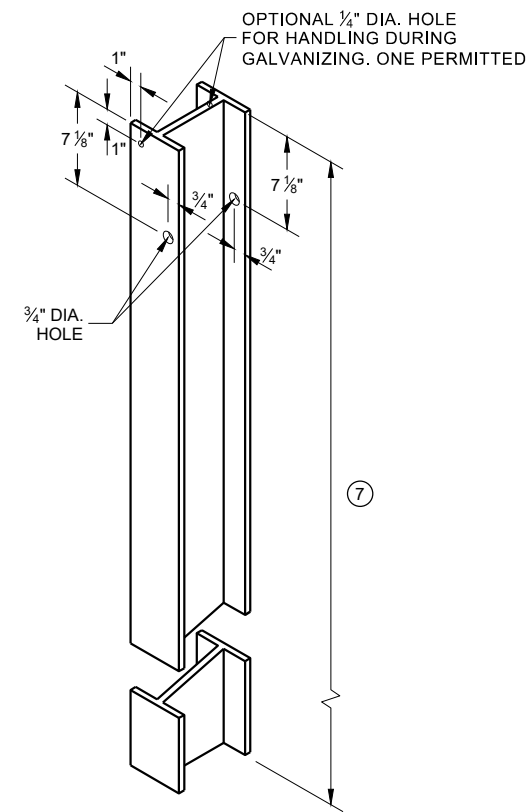
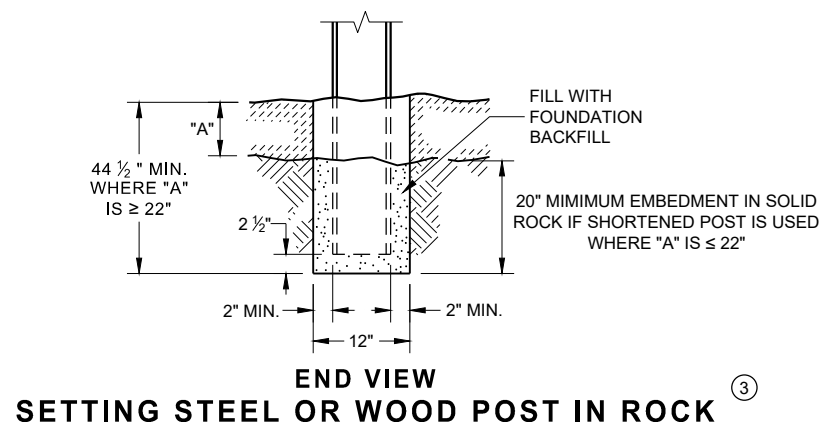
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S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

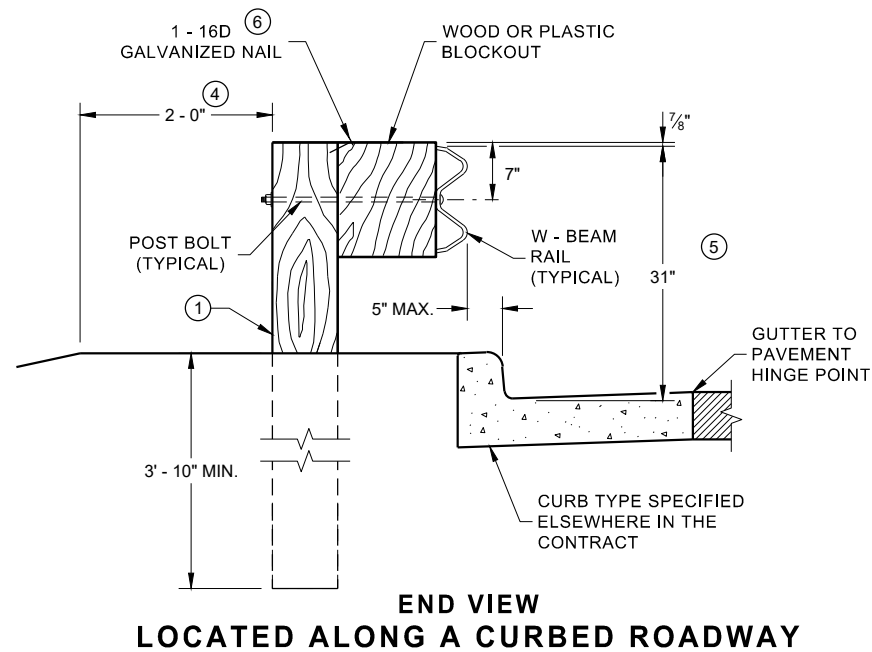
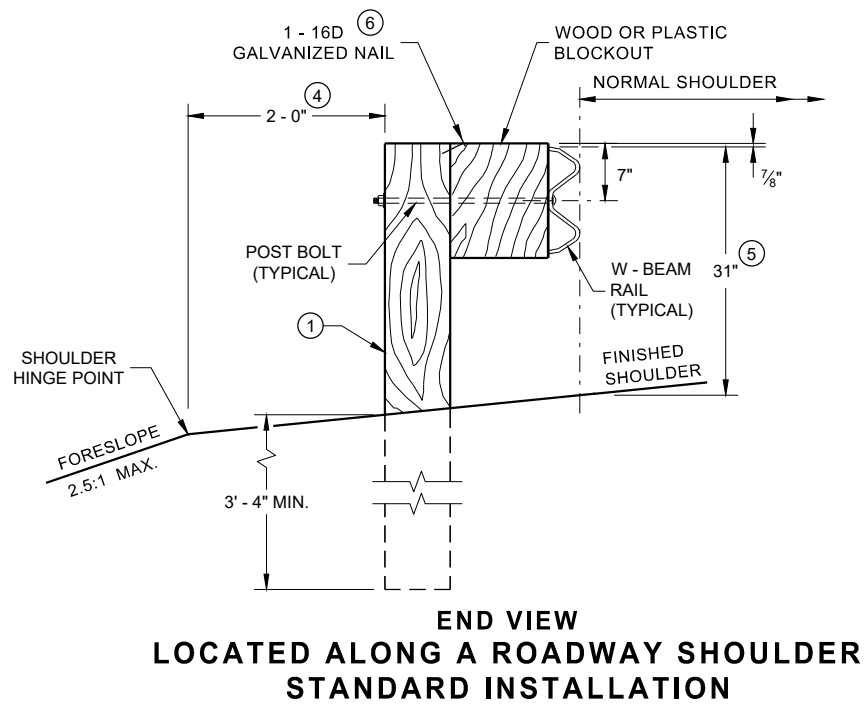
SAFETY EDGE _{SM}	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

- 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".

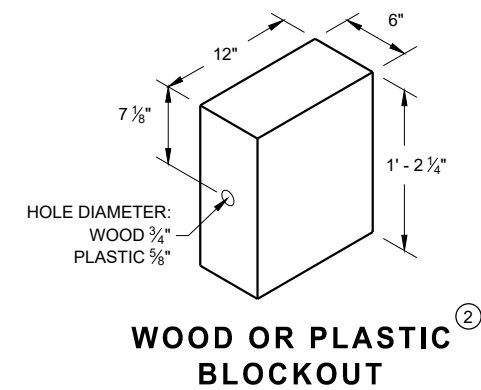
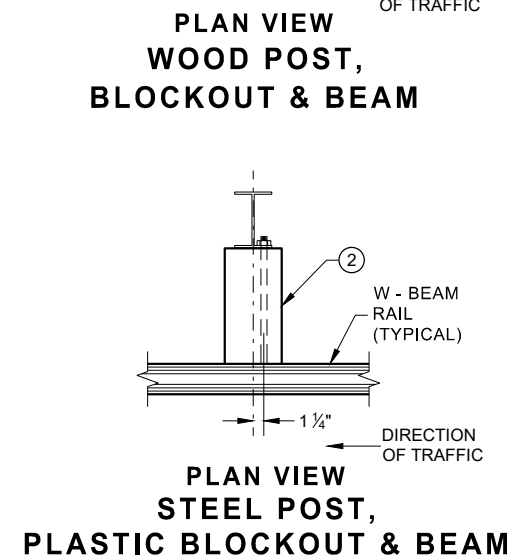
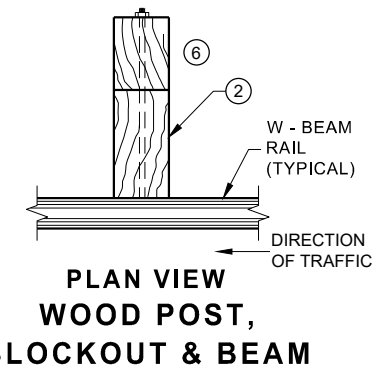


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)

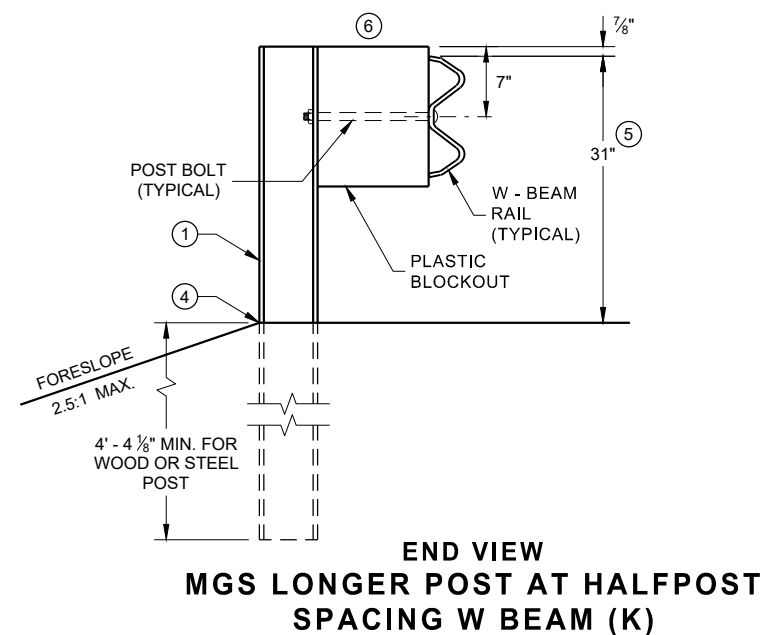
WOOD POST (6" X 8") NOMINAL



END VIEW LOCATED ALONG A CURBED ROADWAY



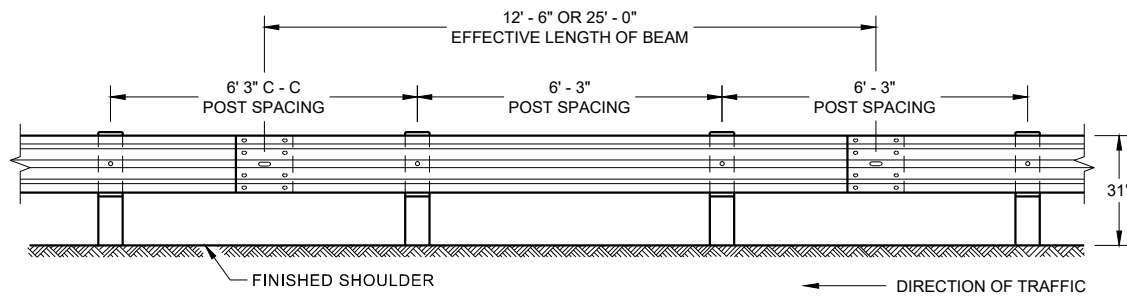
WOOD OR PLASTIC BLOCKOUT



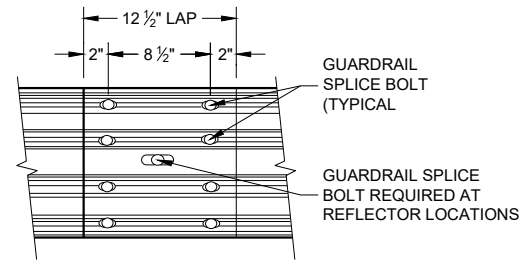
END VIEW MGS LONGER POST AT HALFPST SPACING W BEAM (K)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



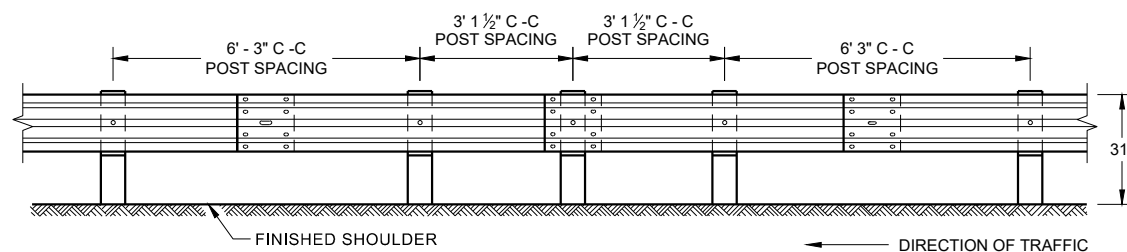
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



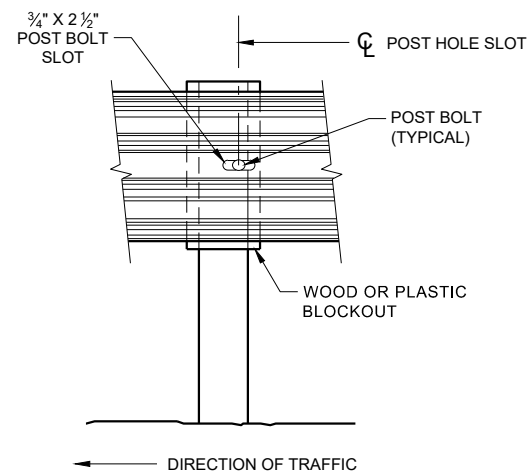
**FRONT VIEW
MID-SPAN BEAM SPLICE**

GENERAL NOTES

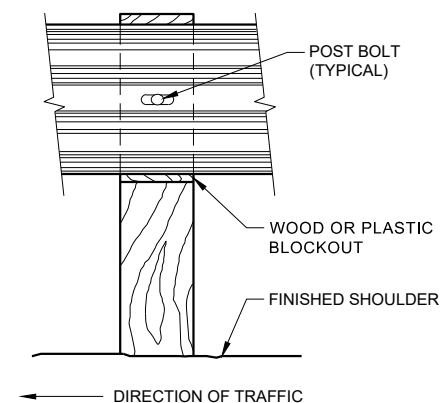
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
 - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER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



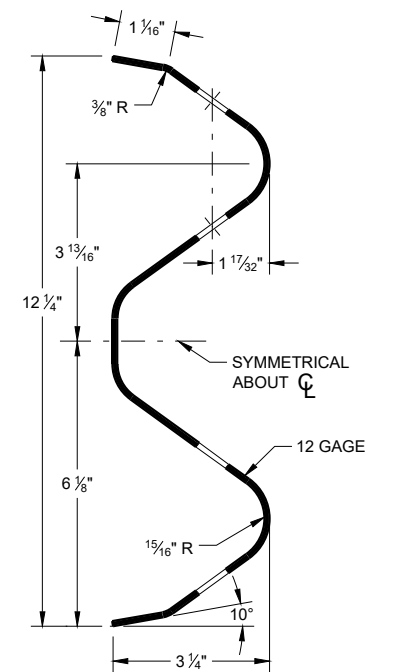
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



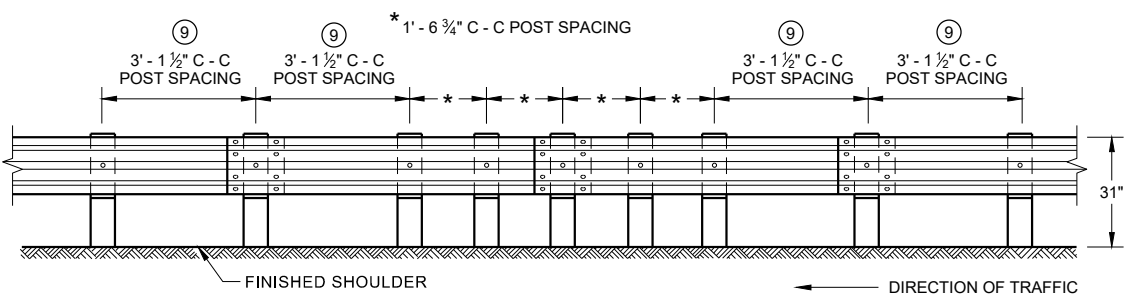
FRONT VIEW AT STEEL POST



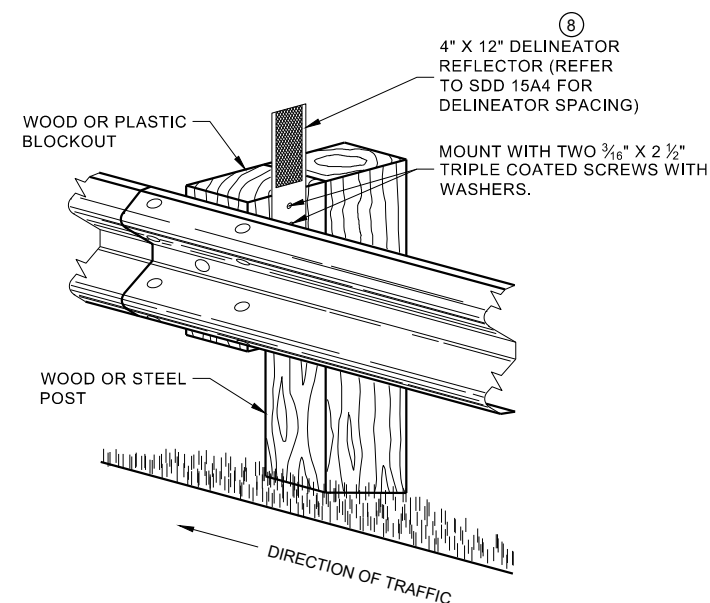
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



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



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

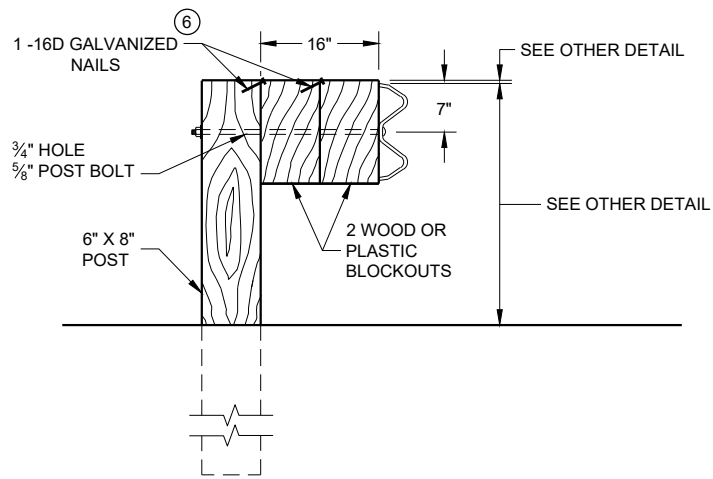
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B42 - 07b

SDD 14B42 - 07b

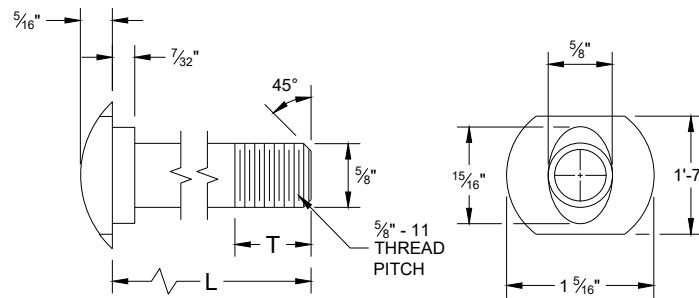


DETAIL FOR 16" BLOCKOUT DEPTH

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.

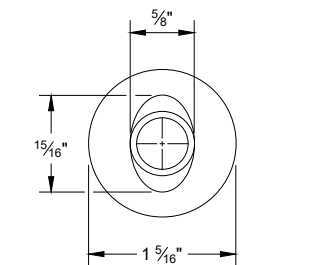
NOTE:

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.

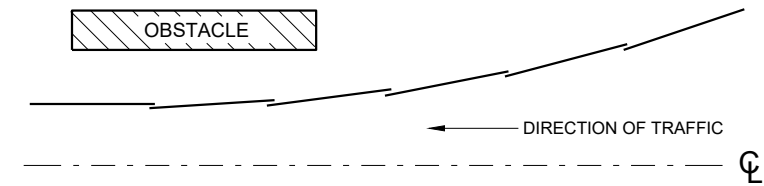


POST BOLT TABLE

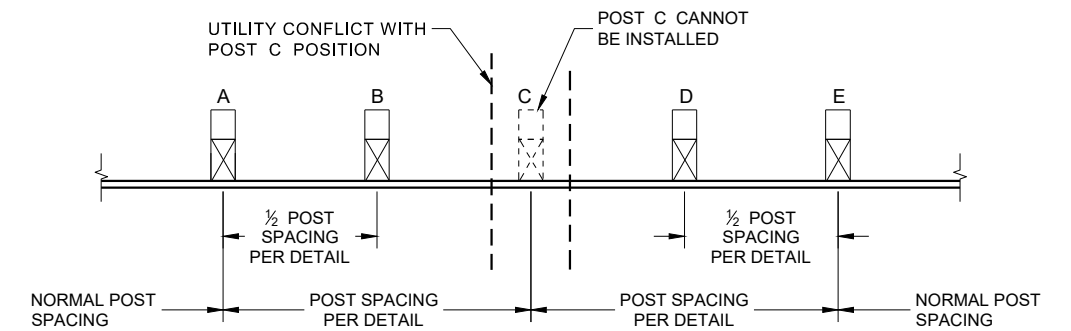
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



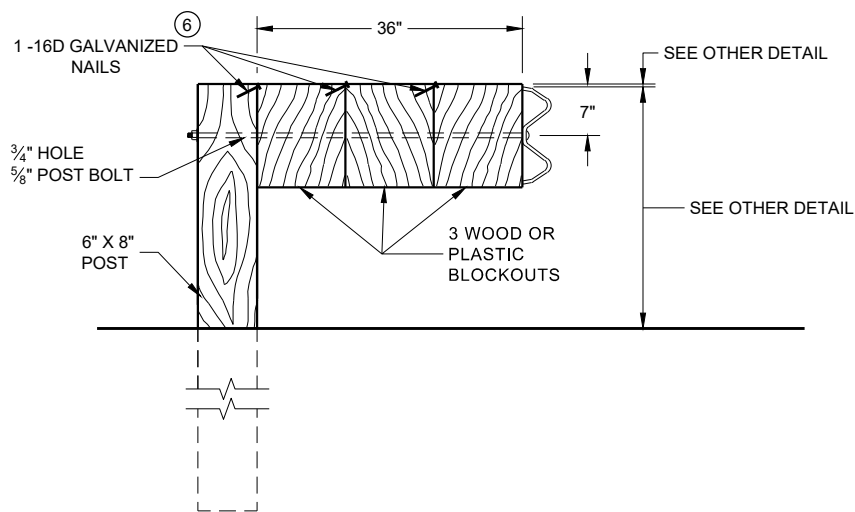
ALTERNATE BOLT HEAD



**PLAN VIEW
BEAM LAPPING DETAIL**

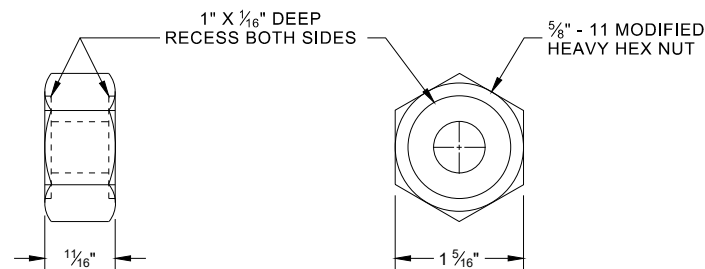


**POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION**

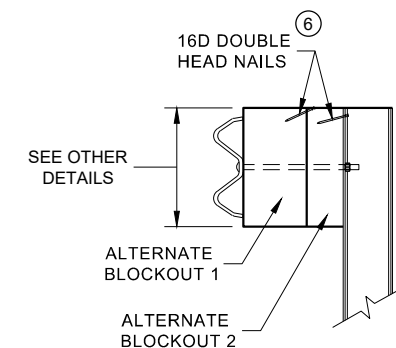


DETAIL FOR 36" BLOCKOUT DEPTH

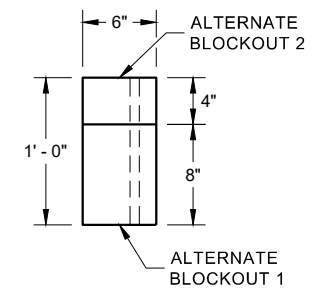
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



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



SIDE VIEW



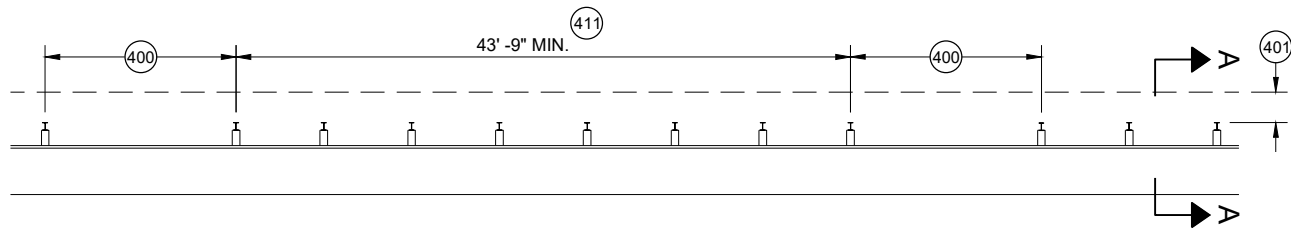
PLAN VIEW

**ALTERNATE WOOD
BLOCKOUT DETAIL**

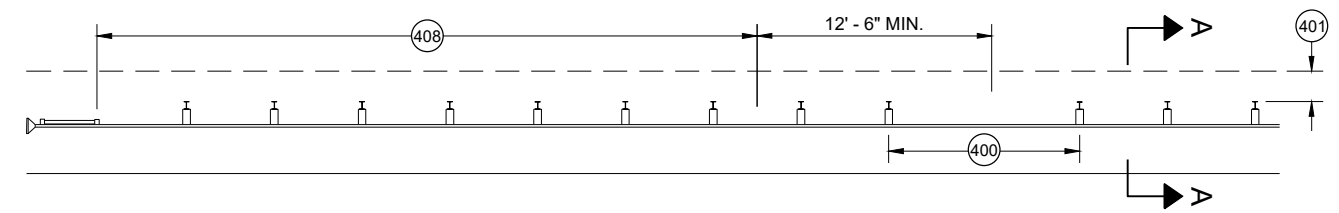
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

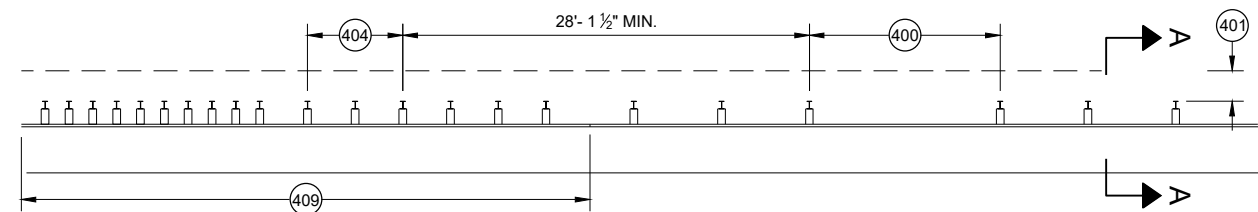
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



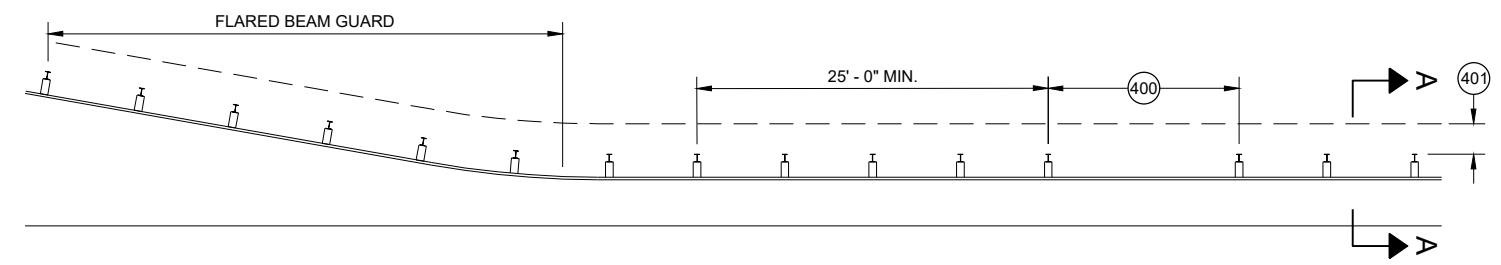
MISSING POST IN MGS GUARDRAIL



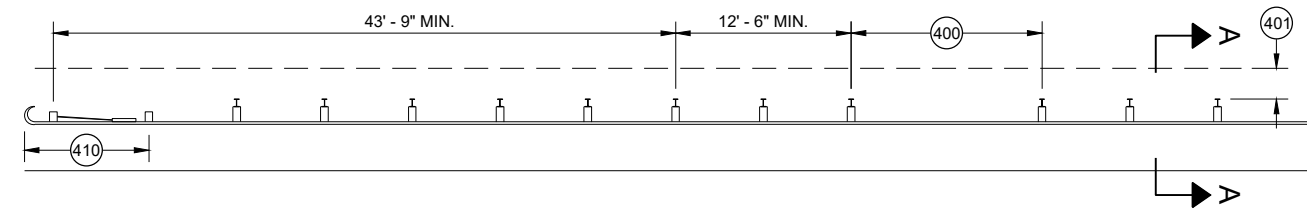
MISSING POST IN MGS GUARDRAIL NEAR EAT



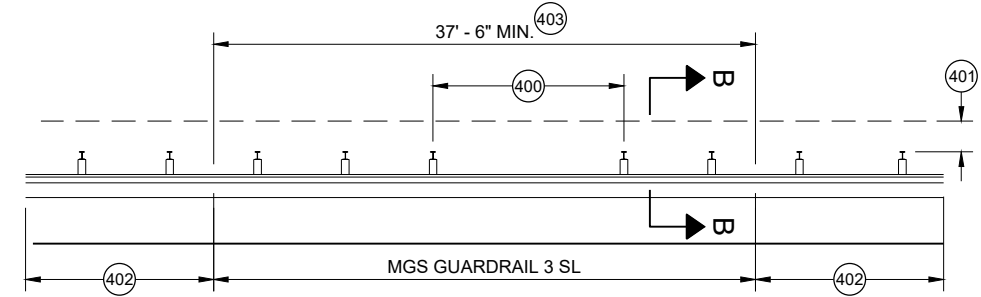
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

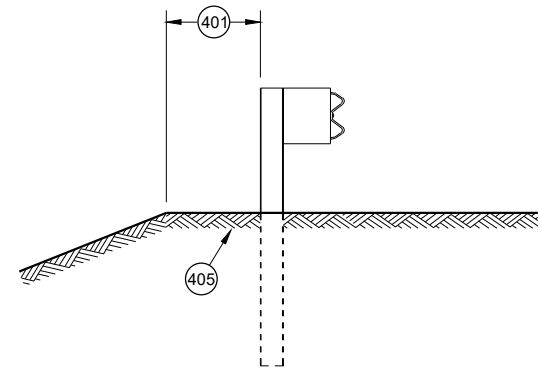


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

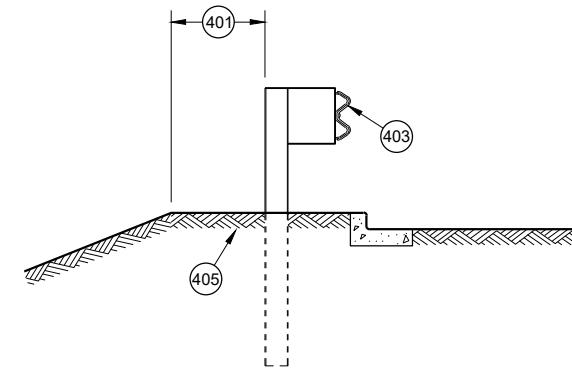


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- 400 MAX SPAN 12' - 6"
- 401 2' MIN.
- 402 MGS GUARDRAIL 3
- 403 NESTING BEAM GUARD
- 404 ASYMMETRIC TRANSITION
- 405 SOIL WELL DRAINED AND COMPACTED
- 406 SEE OTHER DRAWINGS IN THIS SDD
- 407 SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- 408 SEE SDD 14B44
- 409 SEE SDD 14B45
- 410 SEE SDD 14B47
- 411 MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A



SECTION B - B

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL	
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.

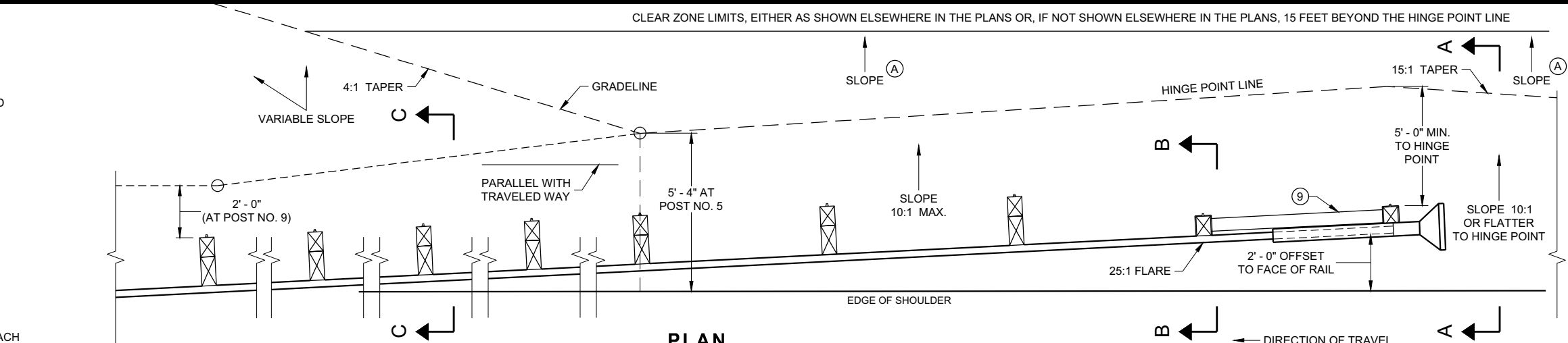
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

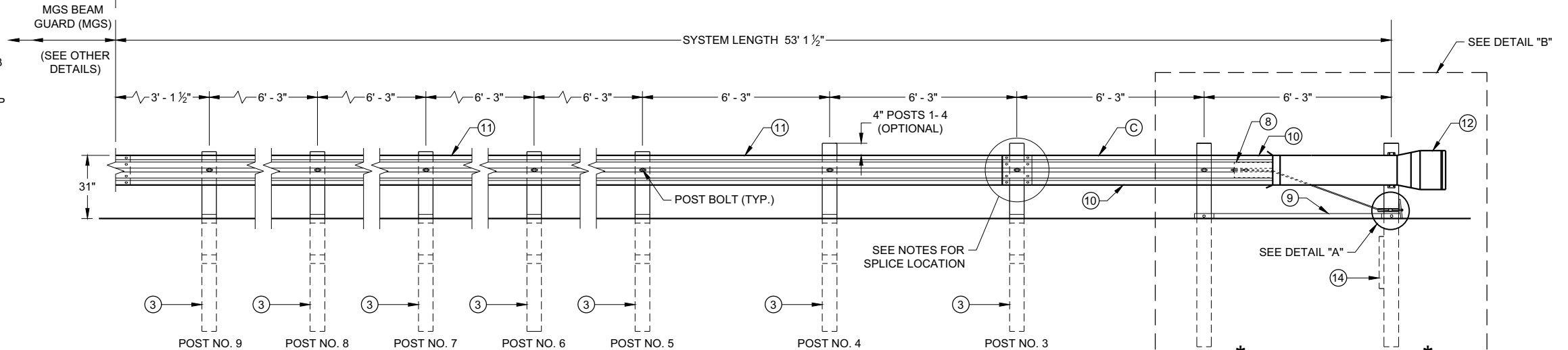
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

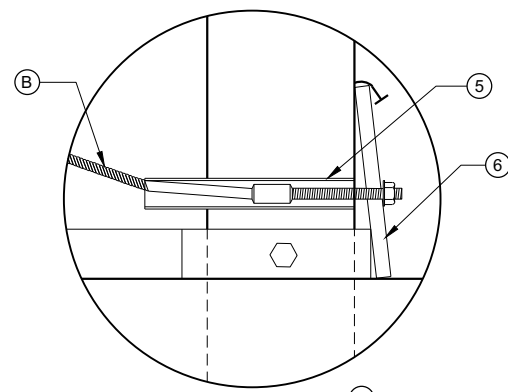
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



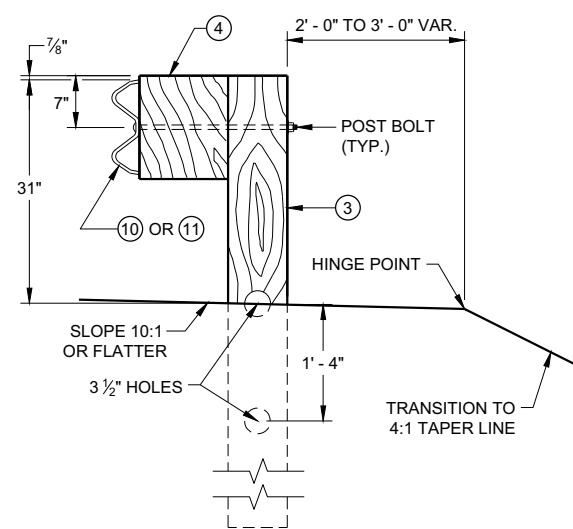
PLAN



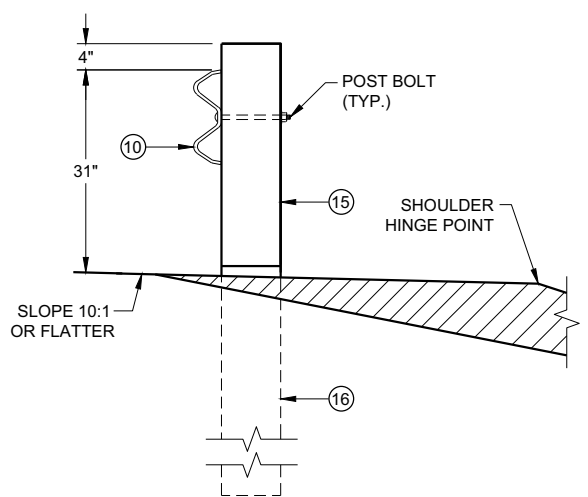
ELEVATION



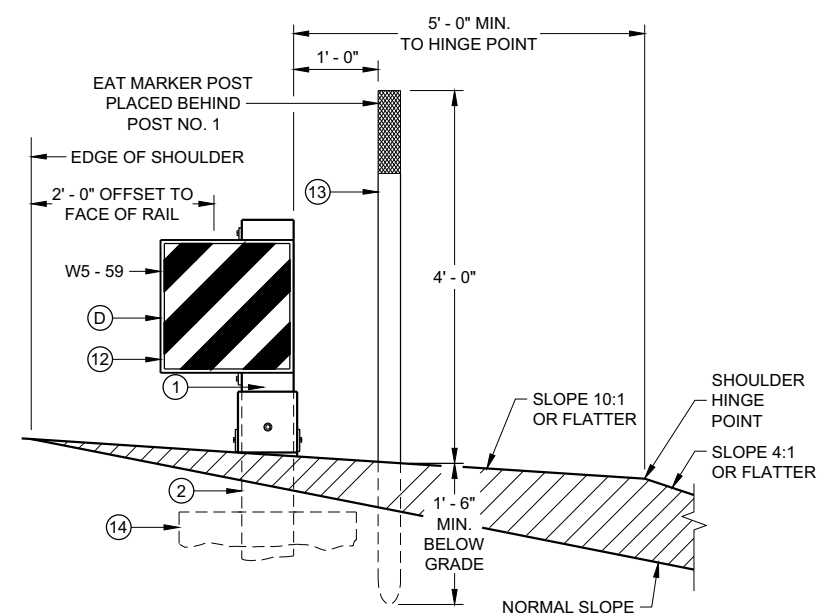
DETAIL "A"



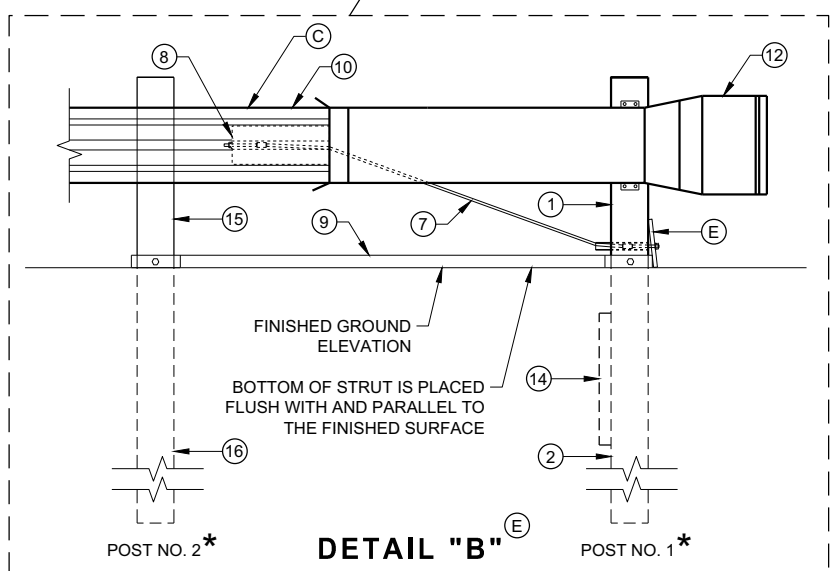
**SECTION C - C
TYPICAL AT POST NOS. 3 - 9**



**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

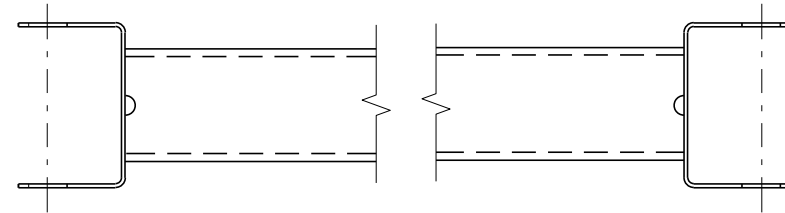
6

SDD 14B44 - 04a

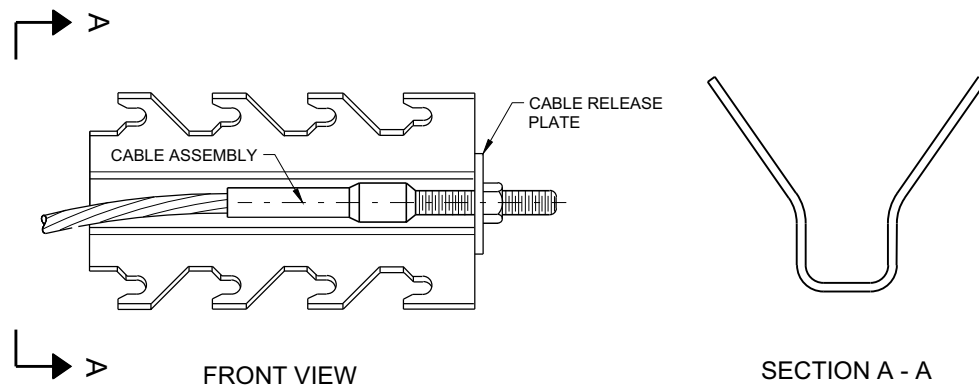
SDD 14B44 - 04a

BILL OF MATERIALS

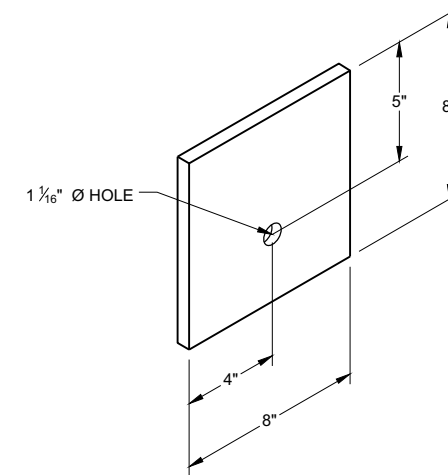
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL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

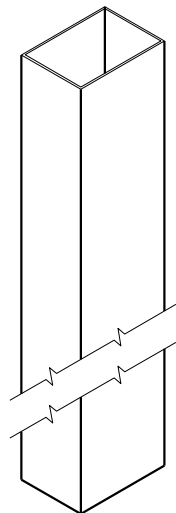
6

SDD 14B44 - 04b

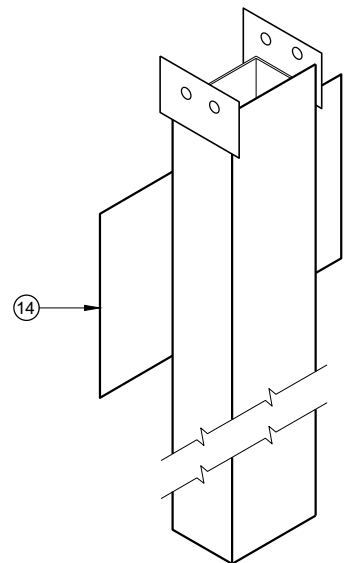
SDD 14B44 - 04b

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

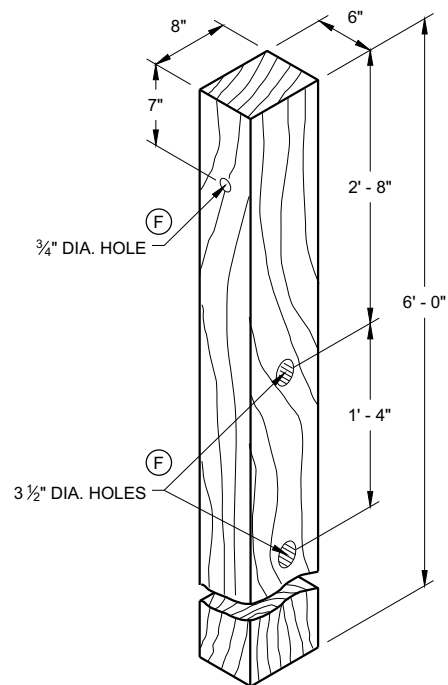
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



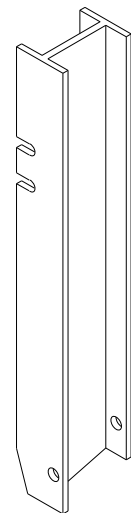
UPPER POST NO. 1 ⁽¹⁾ (E)



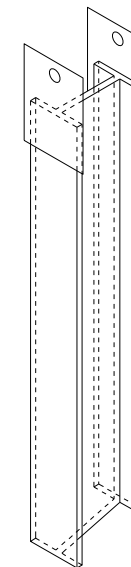
LOWER POST NO. 1 ⁽²⁾ (E)



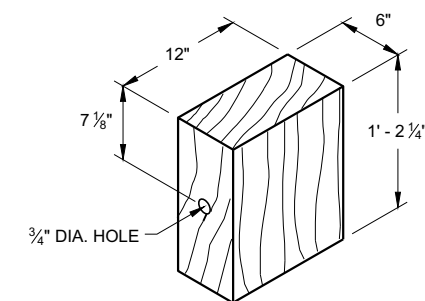
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



UPPER POST NO. 2 ⁽¹⁵⁾ (E)

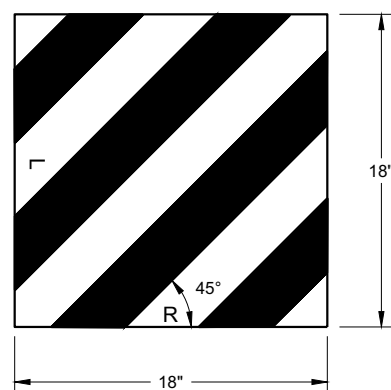


LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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

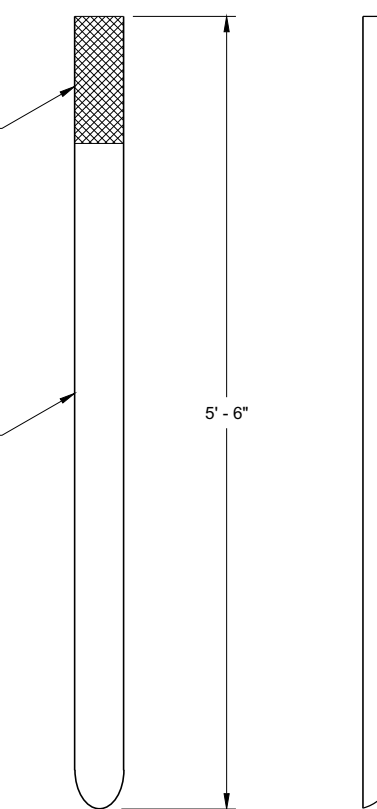
6



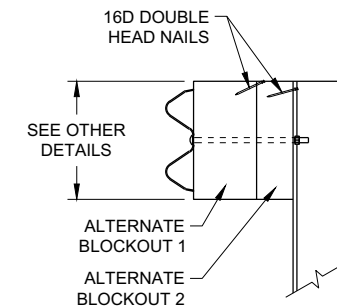
W5 - 59
REFLECTIVE SHEETING DETAIL ^(E)

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

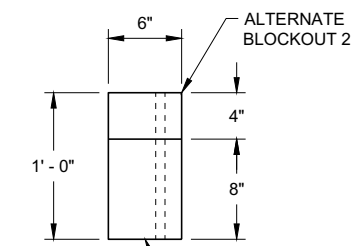
E.A.T. MARKER
POST (YELLOW)



FRONT VIEW SIDE VIEW
E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

6

SDD 14B44 - 04c

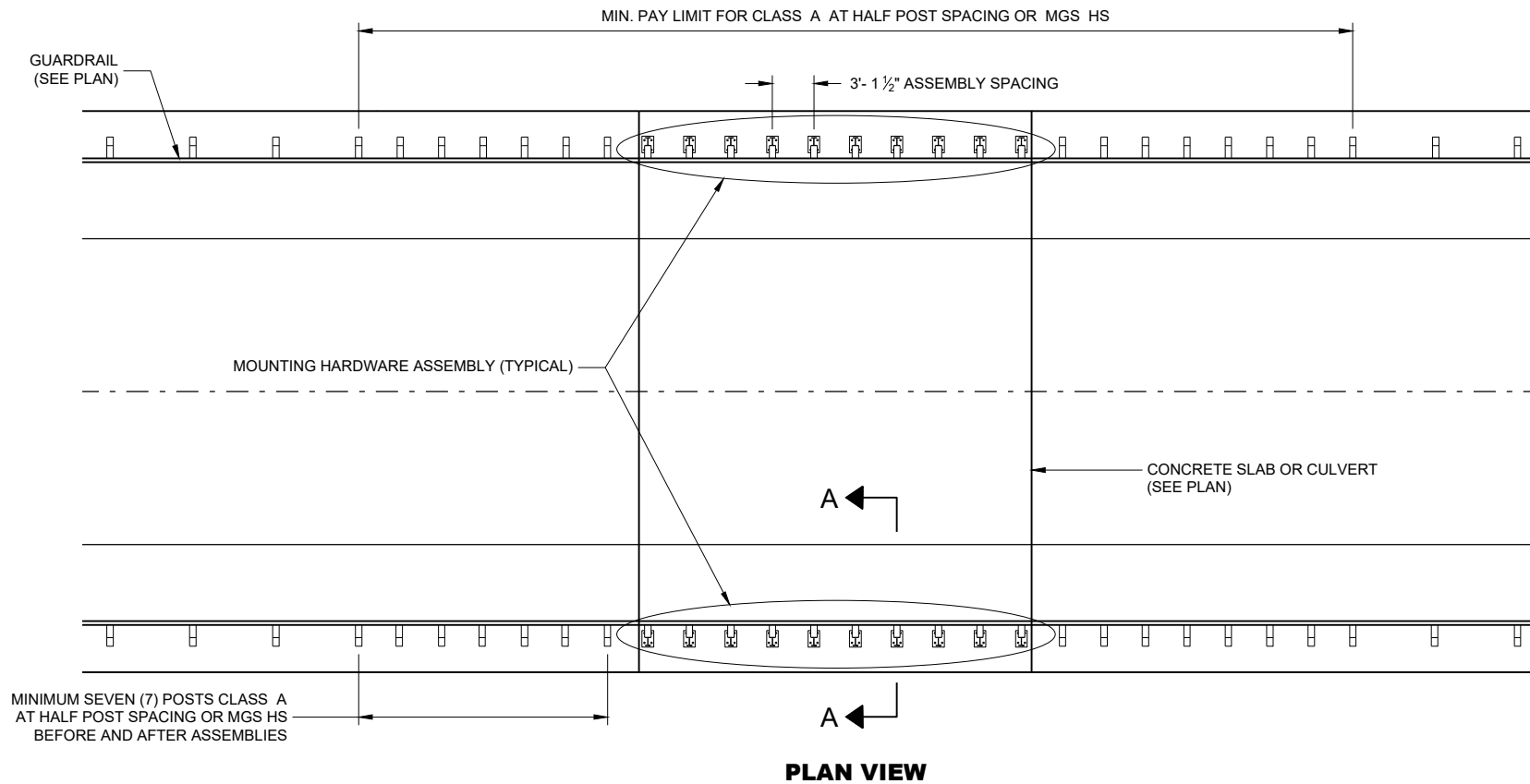
SDD 14B44 - 04c

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA



GENERAL NOTES

HOLES DRILLED INTO CONCRETE SLAB OR CULVERT ARE 1 1/8" DIAMETER.

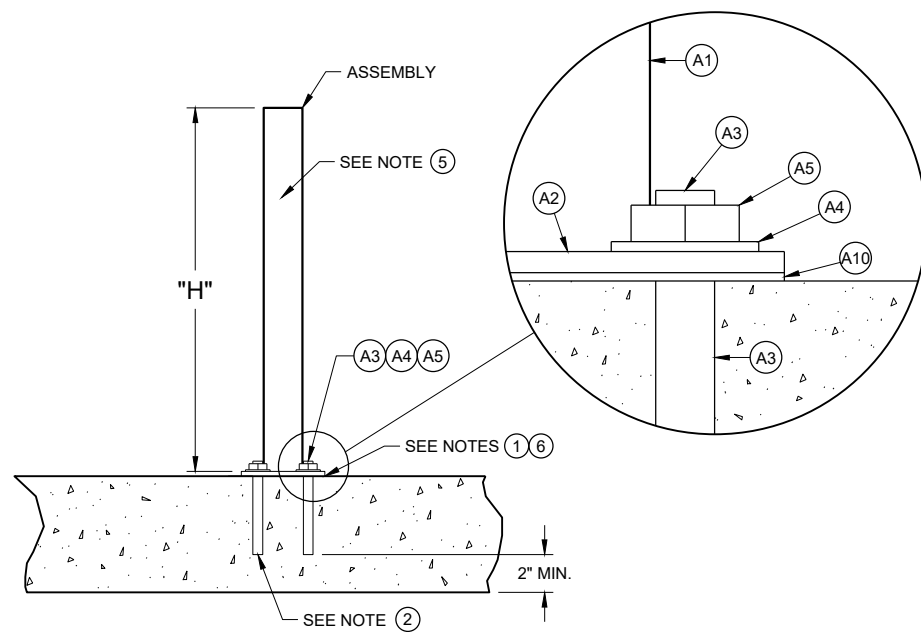
POST BASE PLATE (AND BOTTOM PLATES IF USED) SHALL BE FLAT WITH ALL SURFACES SMOOTH, AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS. CUT BOTTOM OF POST SO THAT POST WILL BE VERTICAL WHEN POST ASSEMBLY IS PLACED ON TOP OF CONCRETE. HEX BOLTS AND THREADED RODS ARE TO BE PLACED PERPENDICULAR TO THE BASE PLATE.

"H" DIMENSION WILL VARY. SEE PLAN FOR "H" DIMENSION. CONTRACTOR HAS OPTION OF INSTALLING POSTS THAT ARE TALLER THAN "H" DIMENSION AND CUT POSTS TO PROPER "H" DIMENSION IN THE FIELD. IF ELECTING TO FIELD CUT POSTS, DRILL HOLES AT APPROPRIATE LOCATIONS AND APPLY GALVANIZATION.

GALVANIZE STEEL COMPONENTS AFTER FABRICATION PER SECTION 614 OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

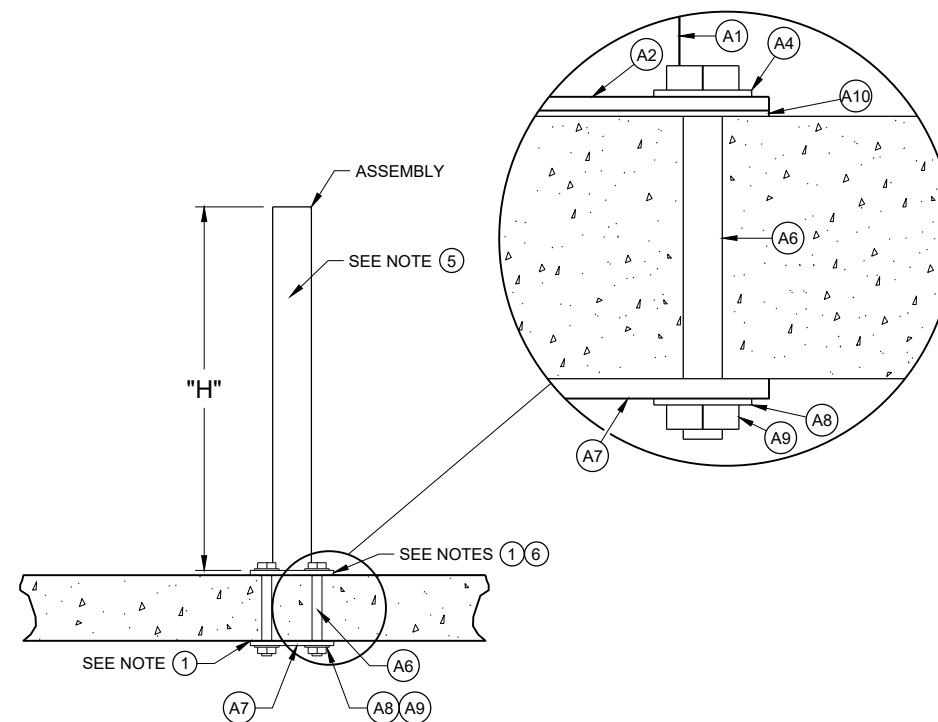
INSTALL 1 NUT AND 1 WASHER WHERE APPLICABLE. PROVIDE SUFFICIENT LENGTH OF BOLT OR THREADED ROD TO ALLOW FOR 1/4" TO 1/2" OF THREAD TO BEYOND THE NUT.

- ① PLACE NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER ON THE BOTTOM (A2) AND IN DRILL HOLES FOR BOLT THROUGH OPTION.
- ② BOND STRENGTH OF ADHESIVE IS 1,305 PSI OR GREATER WITH A MINIMUM EMBEDMENT DEPTH OF 8-INCHES. IF MINIMUM EMBEDMENT CANNOT BE ACHIEVED, BOLT THROUGH STRUCTURE.
- ③ USE GAS-METAL ARC WELDING (GMAW) PROCESS WITH ER70S-3 WELDING WIRE AND ARGON-OXYGEN OR CO₂ COVER GAS.
- ④ OTHER COMPONENT OF BARRIER SYSTEM NOT SHOWN. SEE SDD 14B15 OR SDD 14B42 FOR MORE DETAILS.
- ⑤ HOLES TO MOUNT BEAM GUARD AND BLOCK NOT SHOWN ON DRAWINGS. SEE SDD 14B15 OR SDD 14B42 FOR MORE DETAILS.
- ⑥ ADD AND ADJUST SHIM PLATES AS NECESSARY TO INSTALL POST PLUMB. SEE (A10) FOR DETAIL.



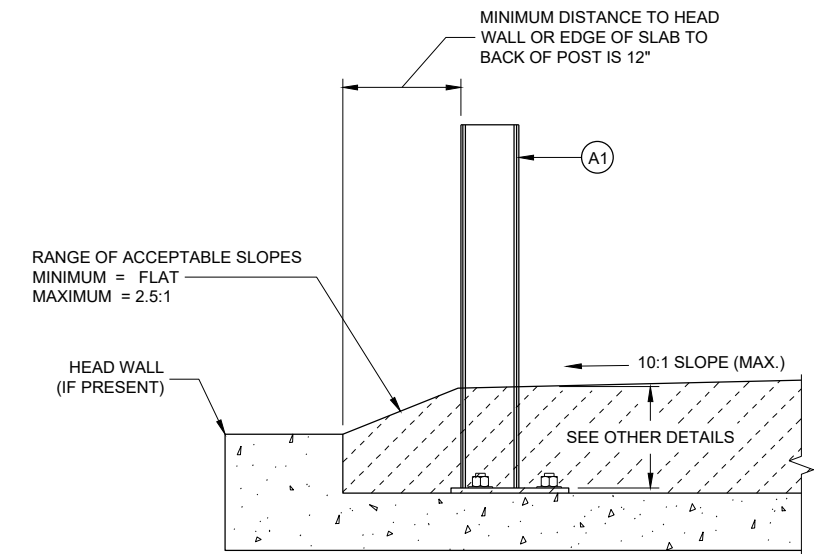
ADHESIVE ANCHOR DETAIL

SEE NOTE ④



BOLT THROUGH DETAIL

SEE NOTE ④

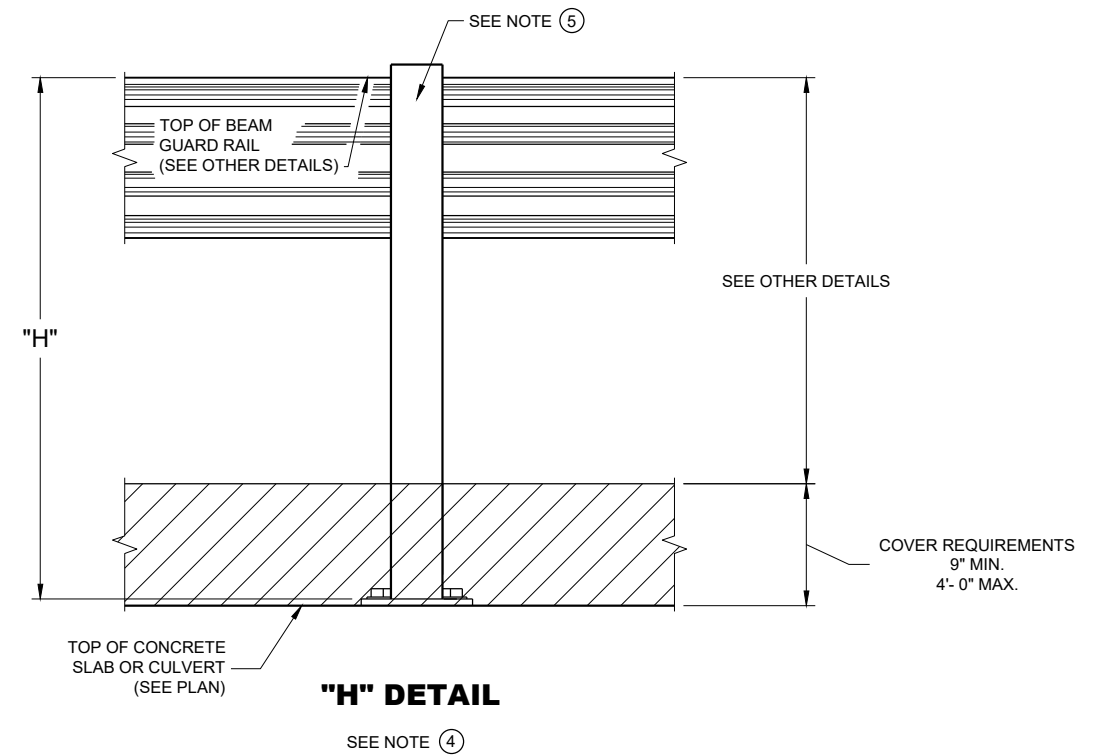
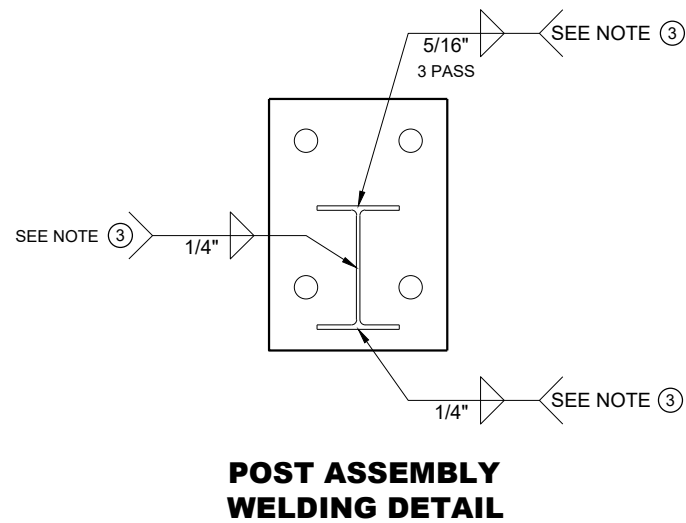
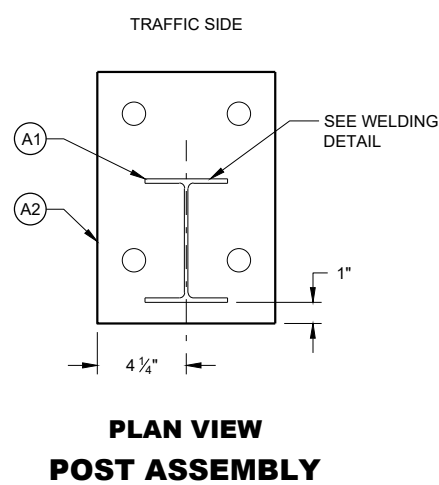
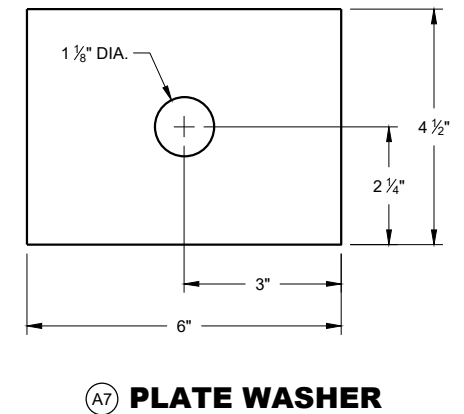
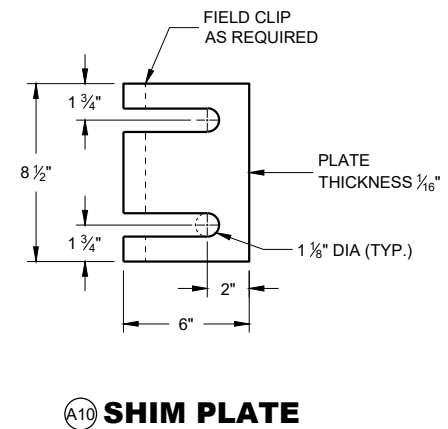
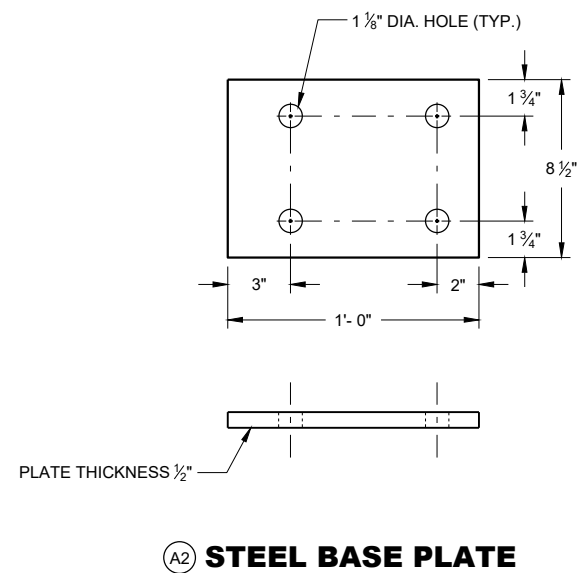
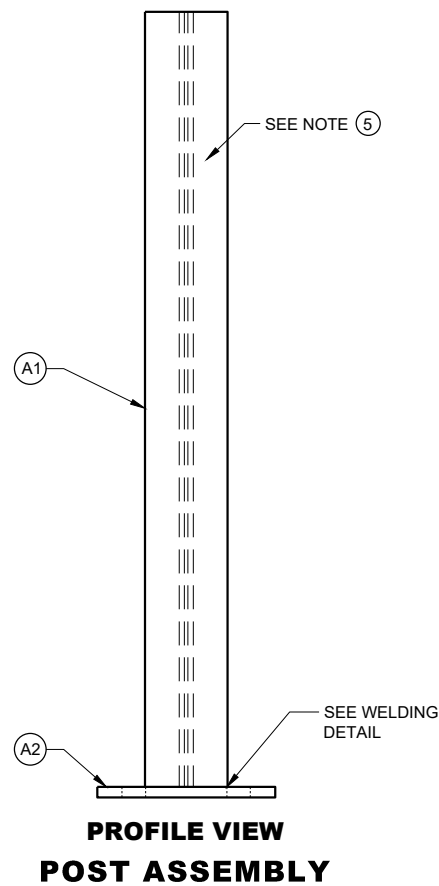


SECTION A - A

SEE NOTE ④

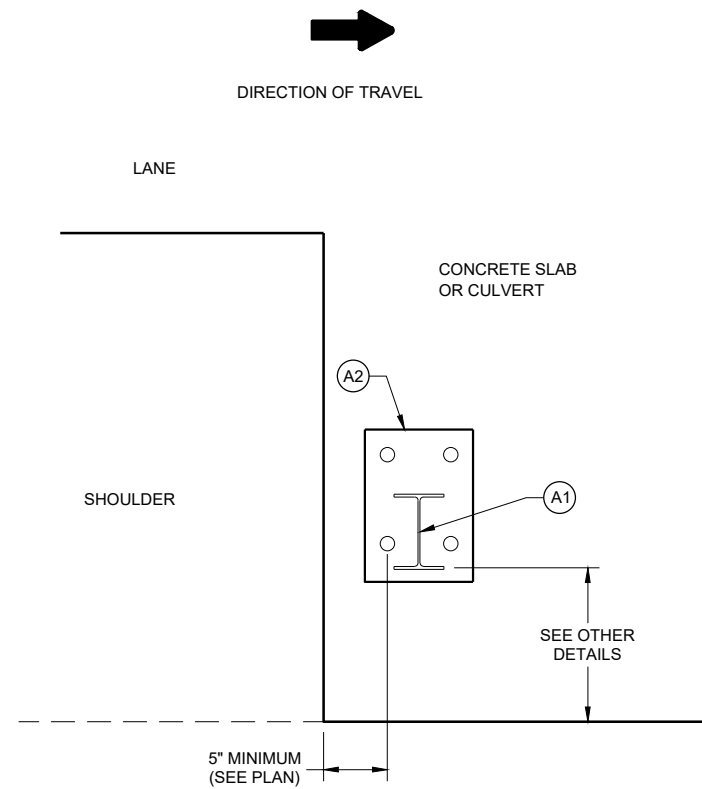
**ANCHOR POST ASSEMBLY
TOP MOUNTED**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



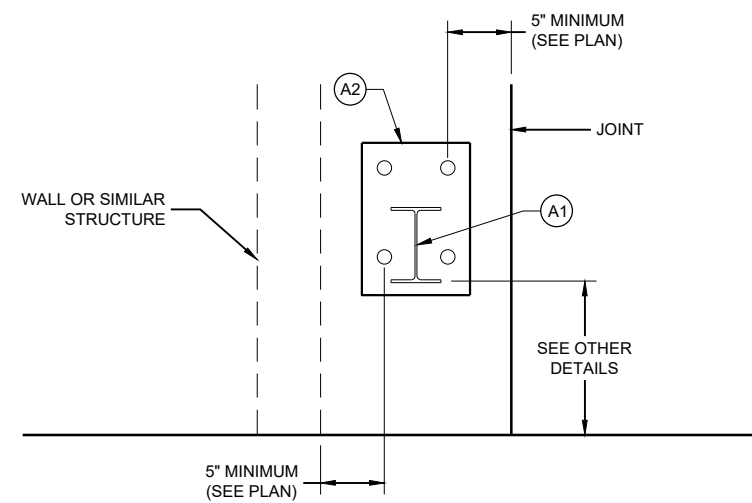
**ANCHOR POST ASSEMBLY
TOP MOUNTED**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



EDGE PLACEMENT

SEE NOTE ④



OBSTRUCTION AND JOINT PLACEMENT

SEE NOTE ④

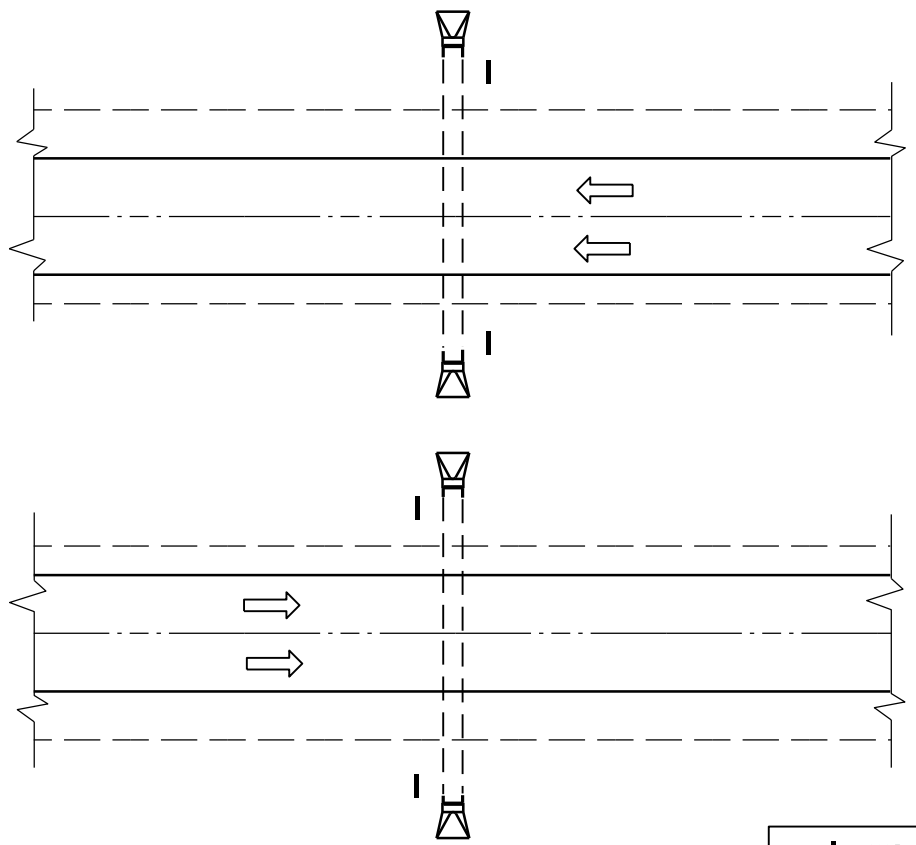
BILL OF MATERIALS LIST

ITEM	DESCRIPTION	MATERIAL SPECIFICATIONS	NOTES
(A1)	W6x9 or W6x8.5	ASTM A992 50 KSI MIN., ASTM A709 GRADE 50, OR ASTM A36	SEE SDD 14B15 OR 14B42 LENGTH WILL VARY
(A2)	STEEL BASE PLATE	ASTM A992 50 KSI MIN., ASTM A529 GRADE 50, ASTM A572 GRADE 50, OR ASTM A36	
(A3)	1" DIA. THREADED ROD	SAE J429 GRADE 2, ASTM A307 GRADE C, OR ASTM F1554 GRADE 36	LENGTH WILL VARY
(A4)	1" DIA. FLAT WASHER	ASTM F844	
(A5)	1" HEX NUT	ASTM A563A	
(A6)	1" DIA. HEX BOLT	ASTM A307	LENGTH WILL VARY
(A7)	PLATE WASHER	ASTM A992 50 KSI MIN., ASTM A529 GRADE 50, ASTM A572 GRADE 50, OR ASTM A36	
(A8)	1" DIA. FLAT WASHER	ASTM F844	
(A9)	1" DIA. HEX NUT	ASTM A563A	
(A10)	SHIM PLATE	SEE (A2)	4 MAX PER POST

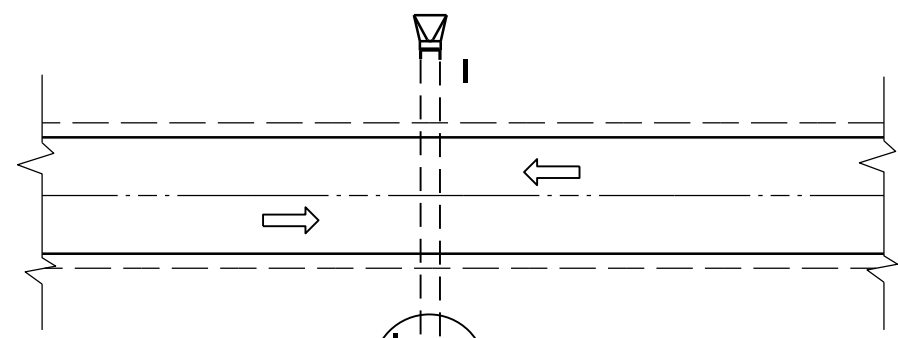
**ANCHOR POST ASSEMBLY
TOP MOUNTED**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

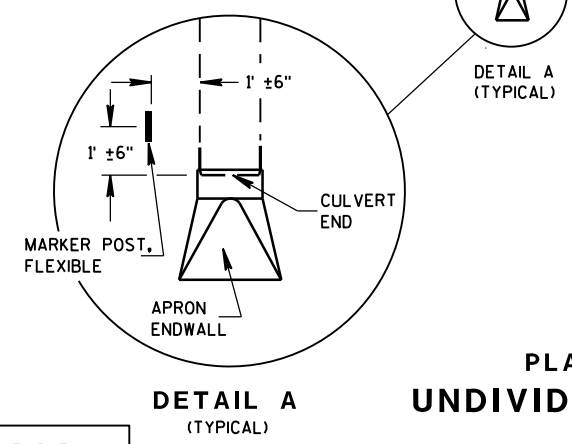
APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER



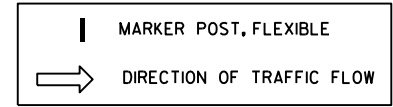
PLAN VIEW
DIVIDED HIGHWAY



PLAN VIEW
UNDIVIDED HIGHWAY



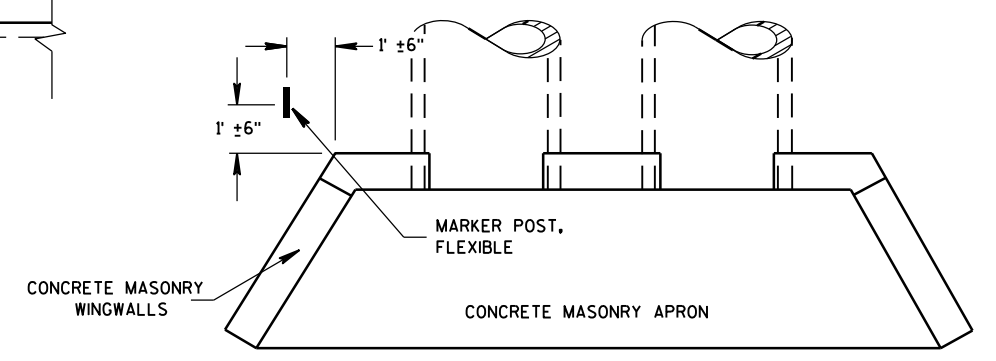
DETAIL A
(TYPICAL)



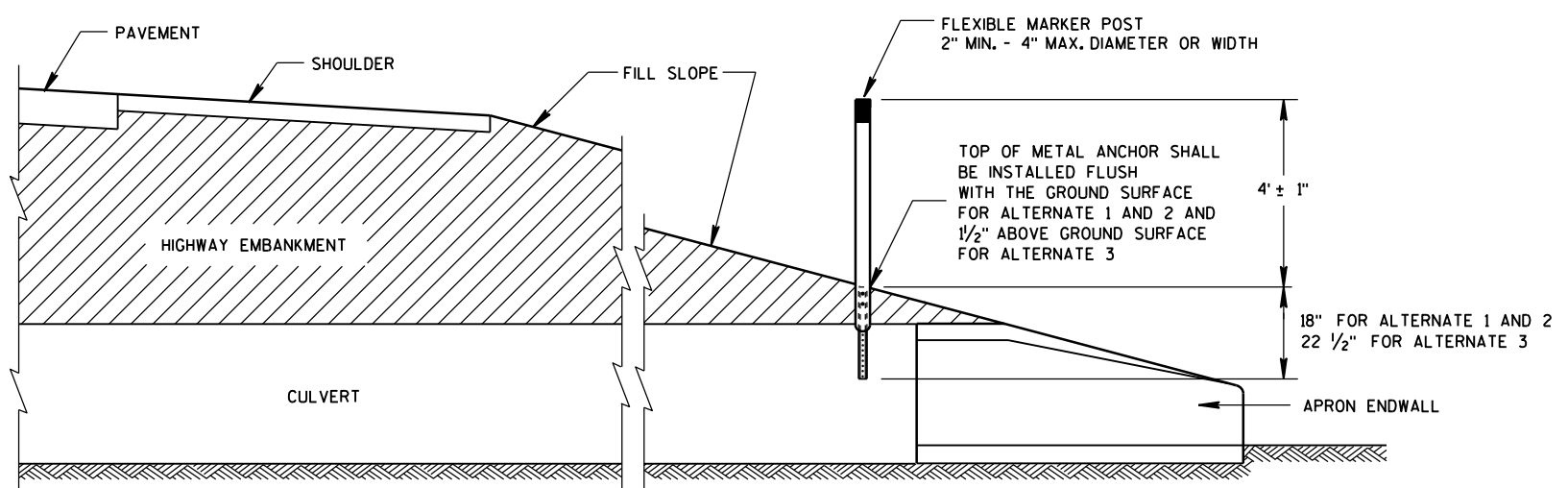
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

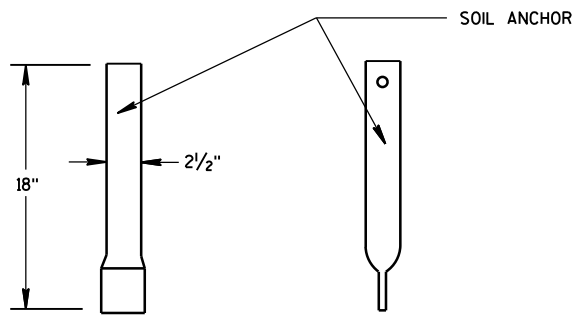
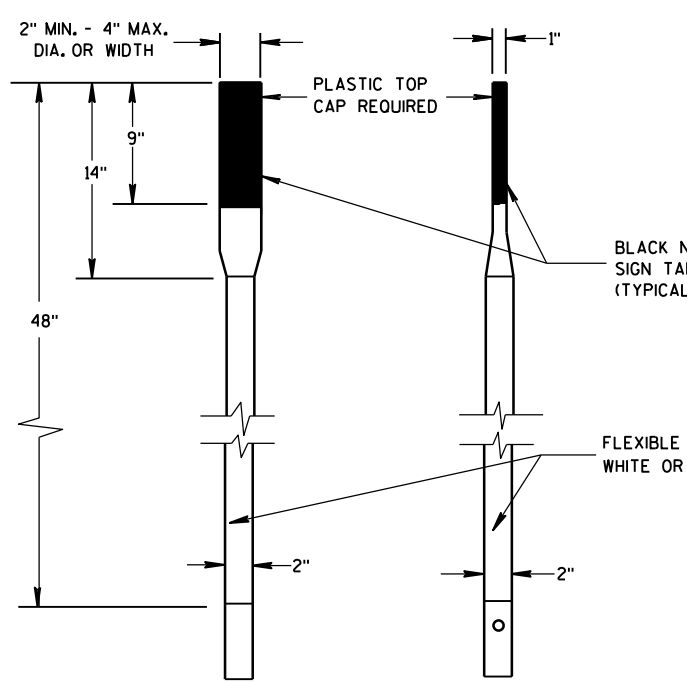
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

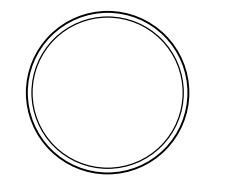
6

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

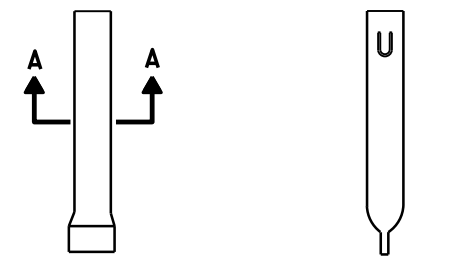
S.D.D. 15 A 3-2a



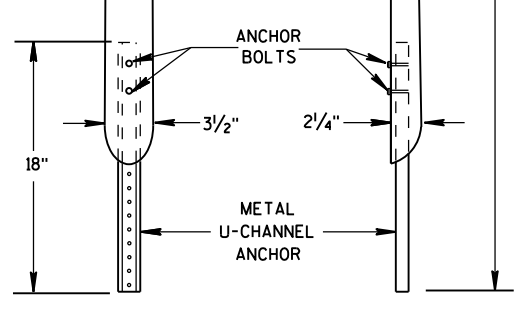
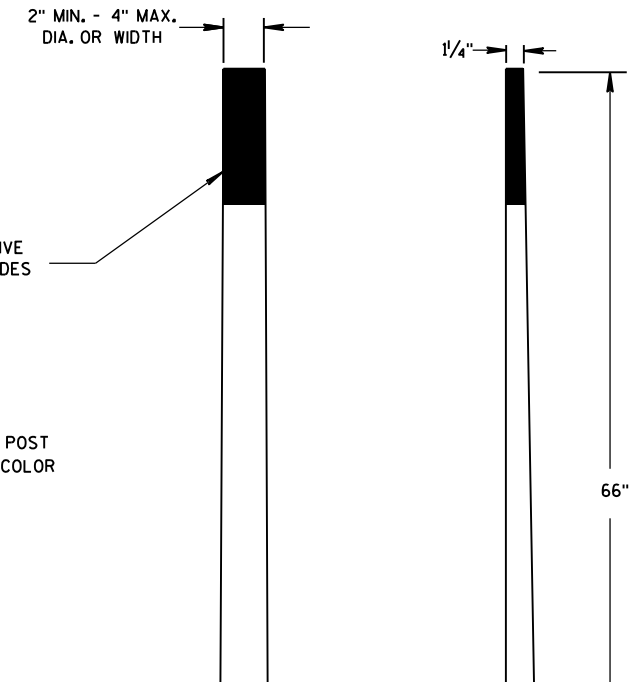
FRONT VIEW SIDE VIEW
ALTERNATE 1



SECTION A-A

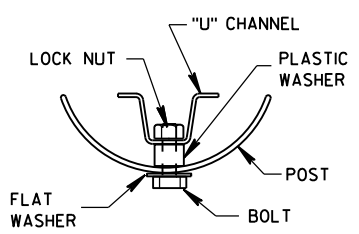


FRONT VIEW SIDE VIEW
ALTERNATE 1

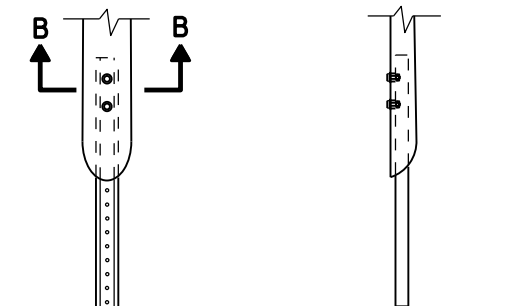


FRONT VIEW SIDE VIEW
ALTERNATE 2

FLEXIBLE MARKER POSTS

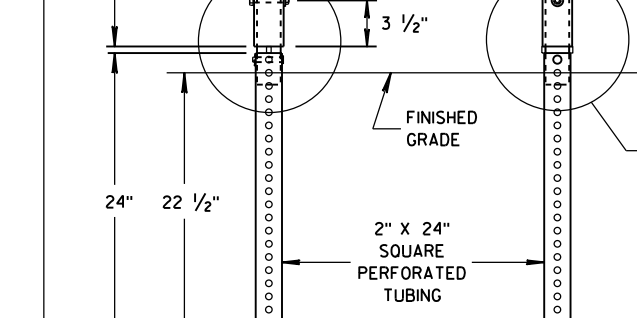
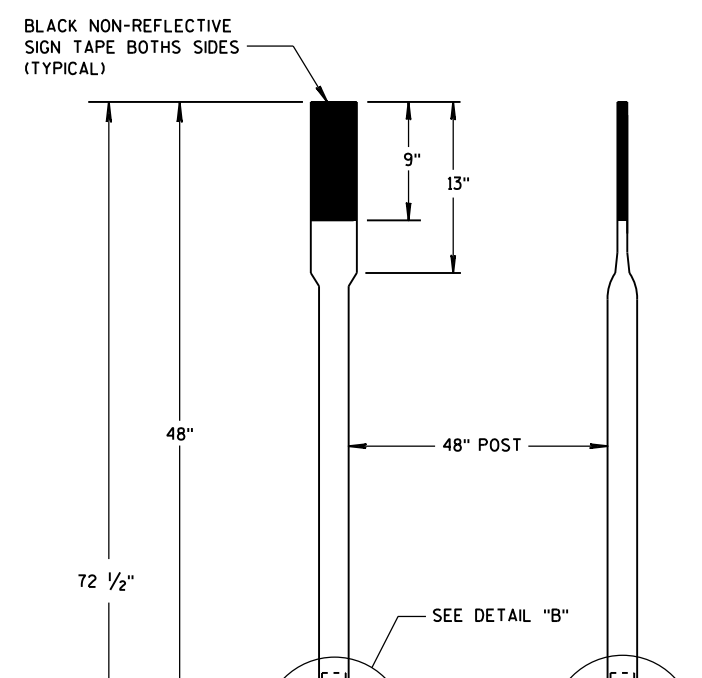


SECTION B-B

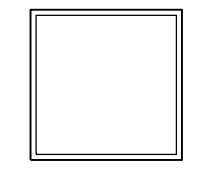


FRONT VIEW SIDE VIEW
ALTERNATE 2

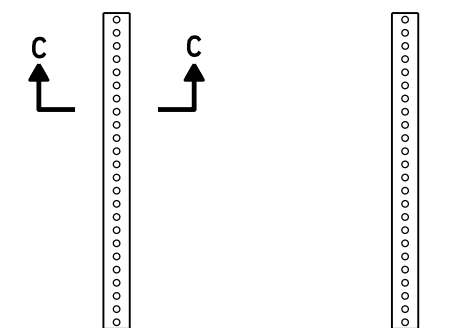
FLEXIBLE MARKER POST ANCHORS



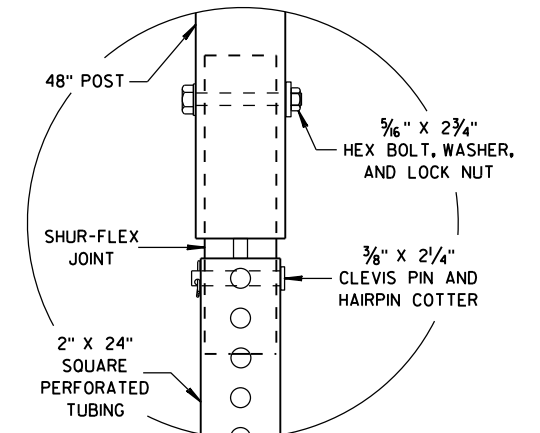
FRONT VIEW SIDE VIEW
ALTERNATE 3



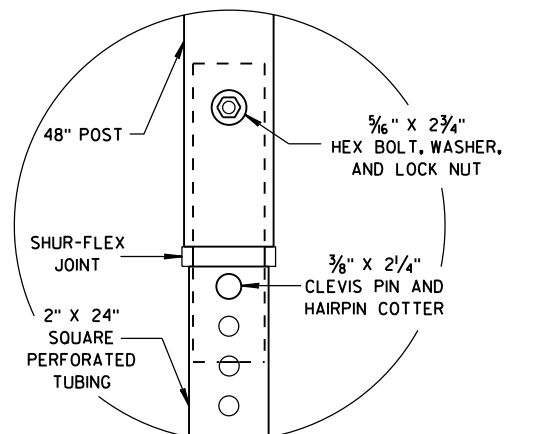
SECTION C-C



FRONT VIEW SIDE VIEW
ALTERNATE 3



DETAIL B

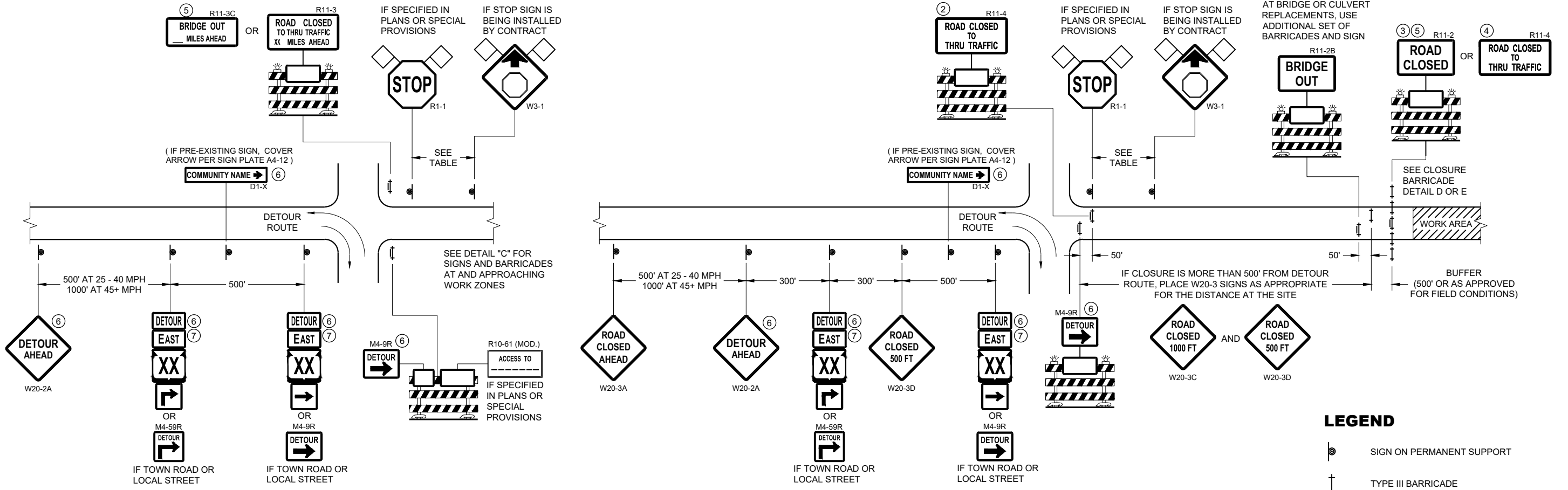


DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 DATE /S/ Travis Feltes
STATE TRAFFIC ENGINEER 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**

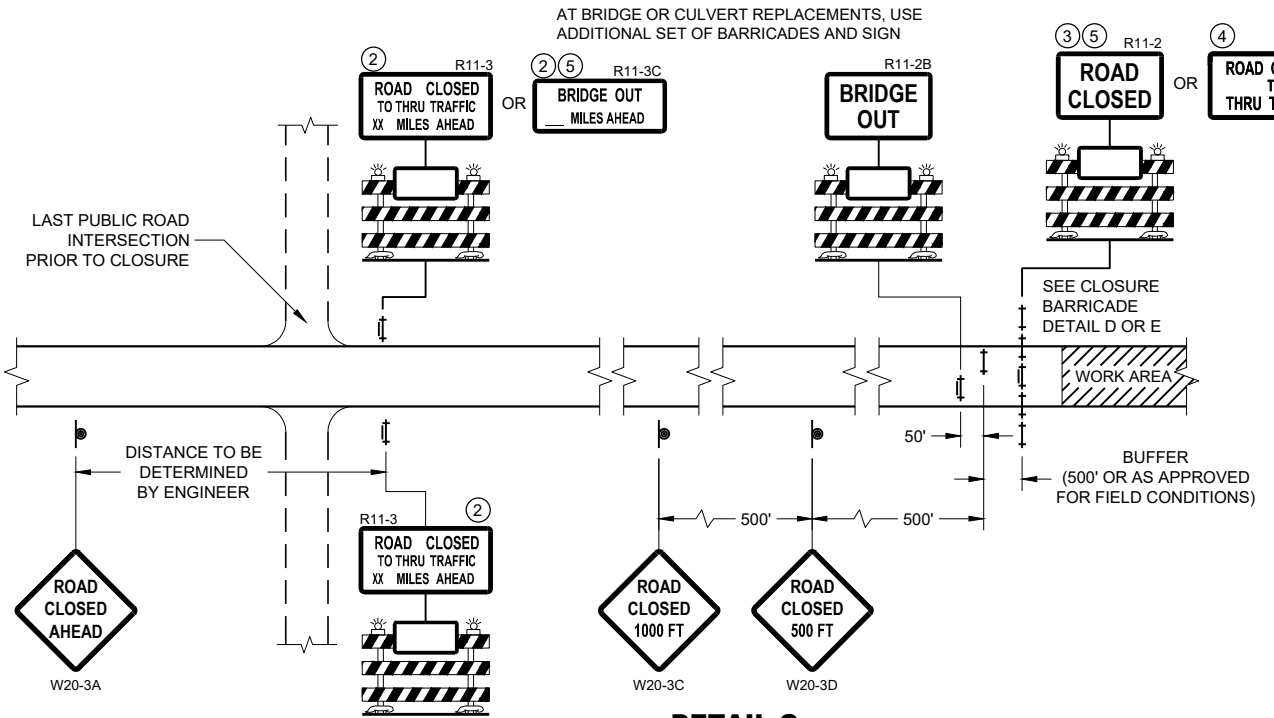
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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



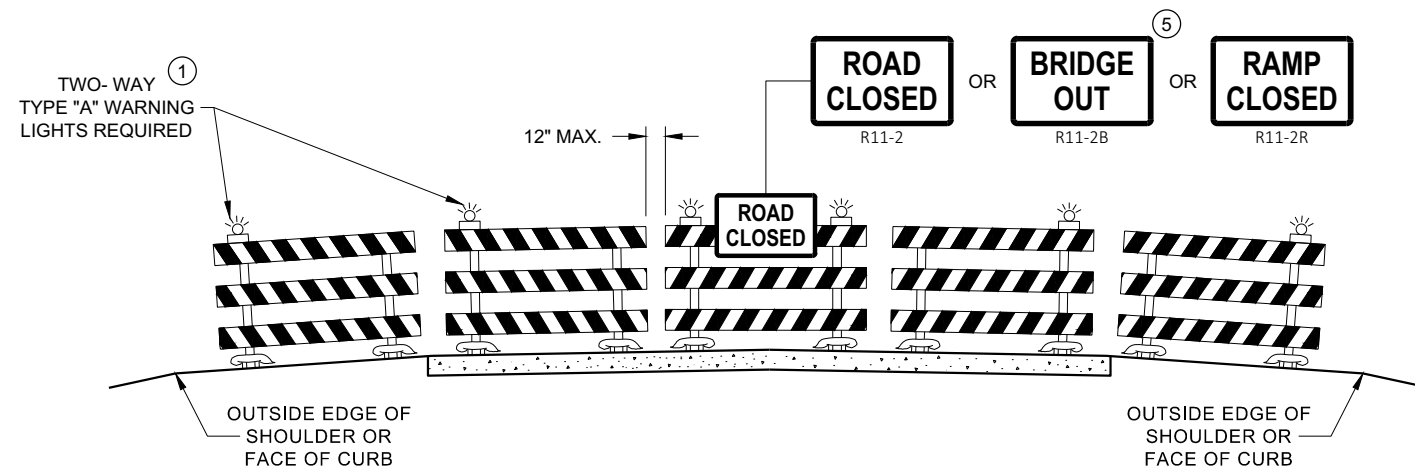
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

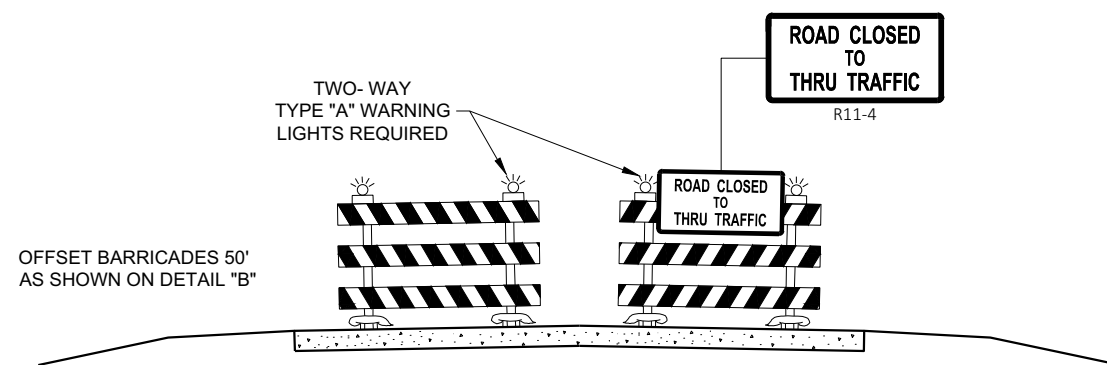
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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.

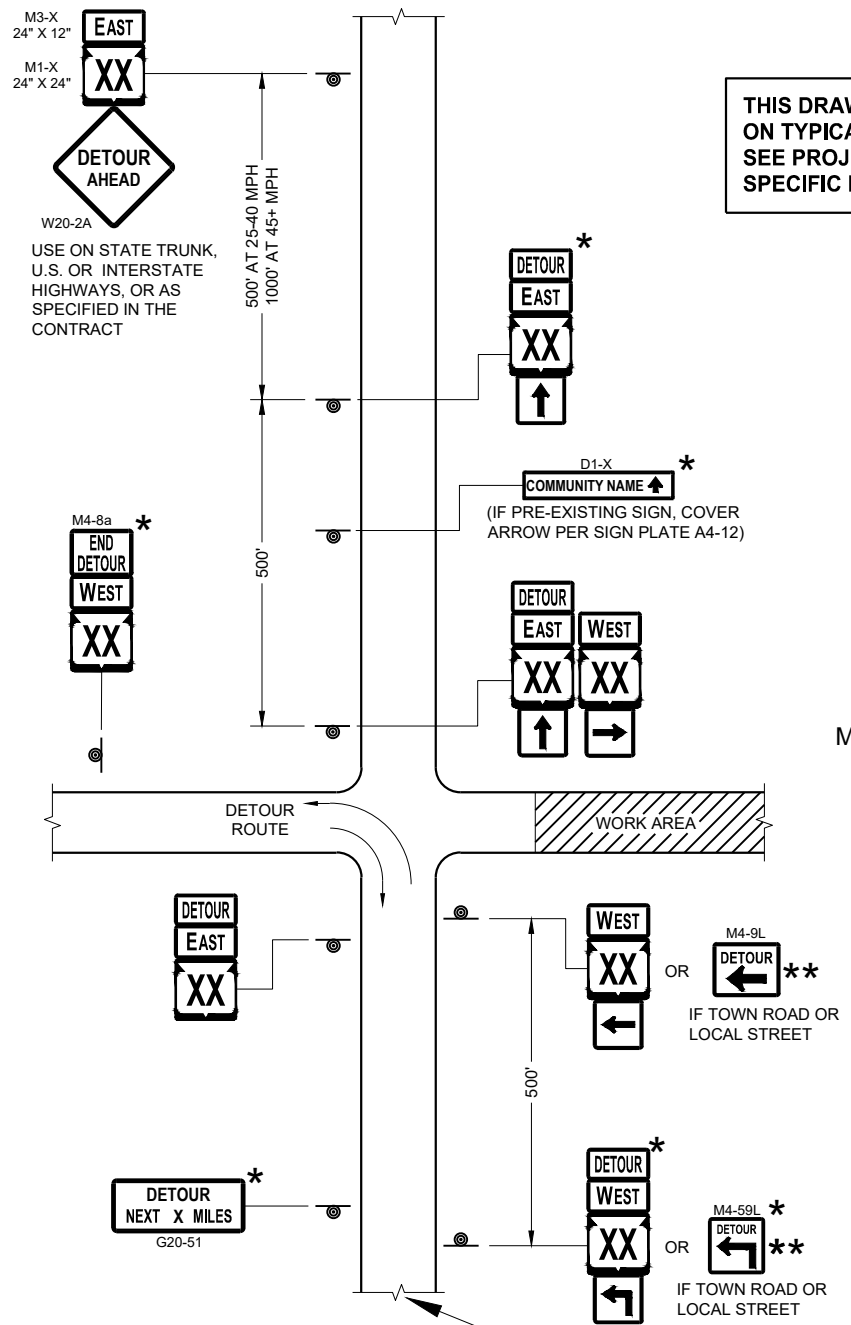
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

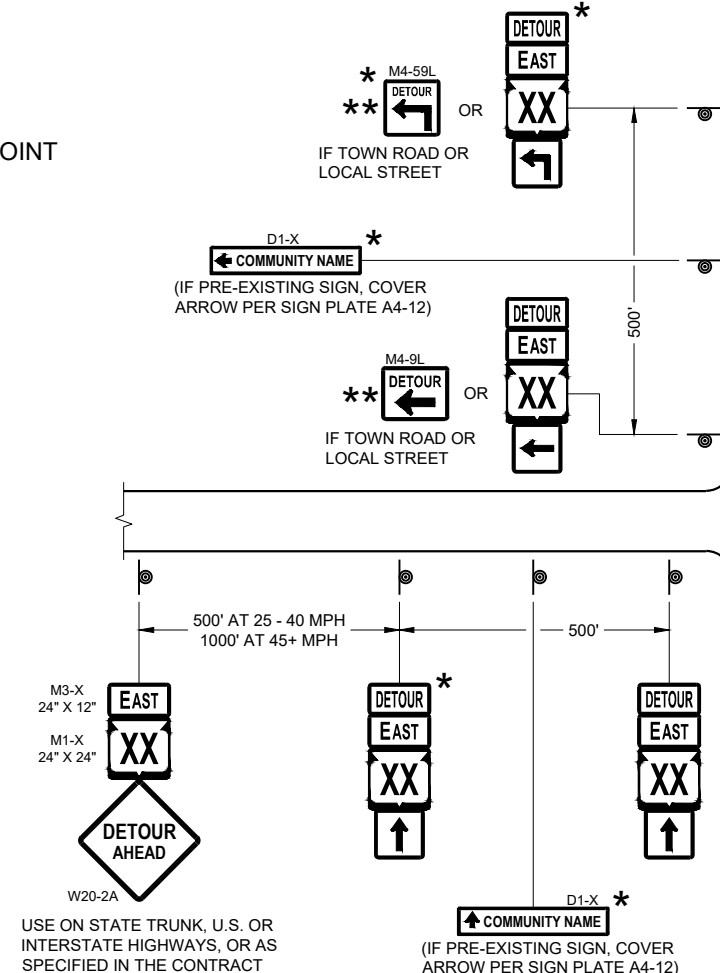
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

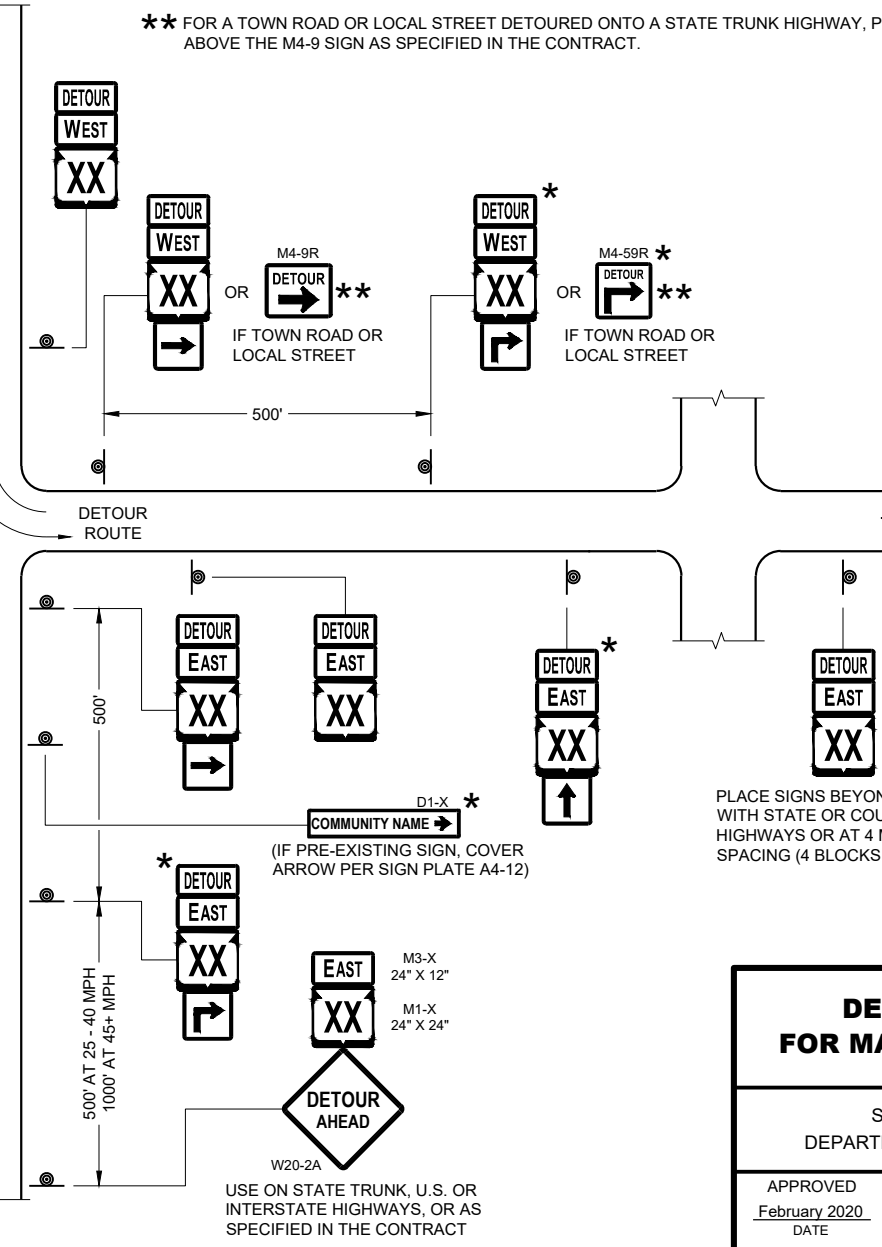
THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



MATCH POINT



DETAIL F DETOUR SIGNING



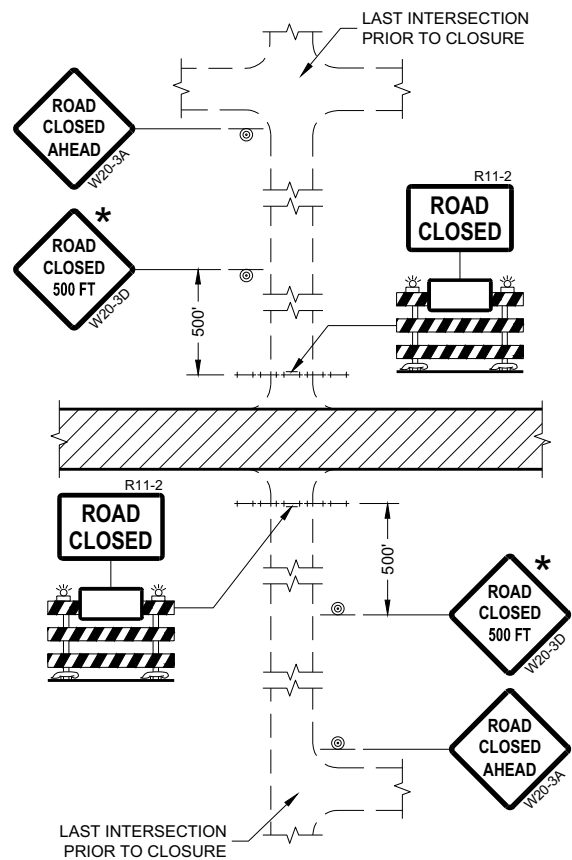
SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

**DETOUR SIGNING
FOR MAINLINE CLOSURES**

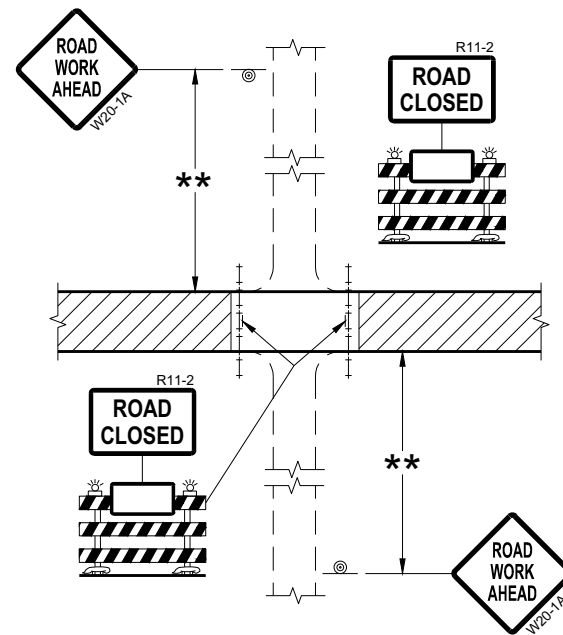
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

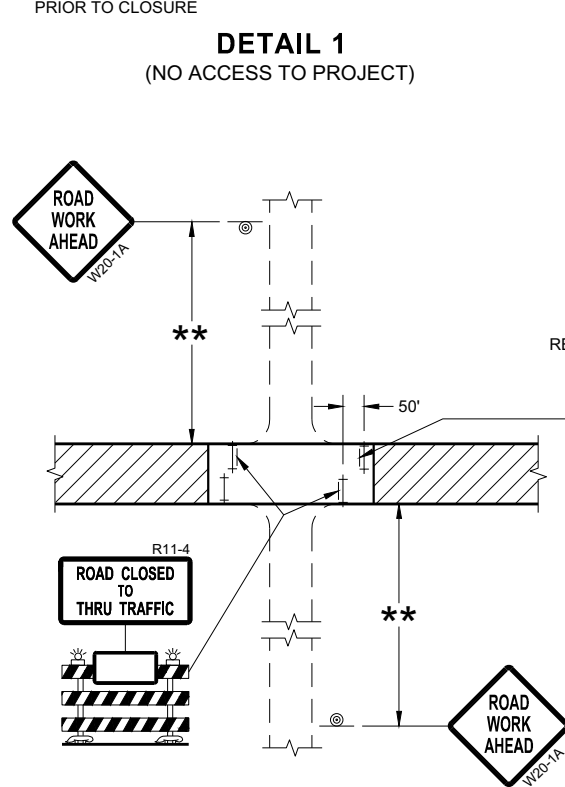
FHWA



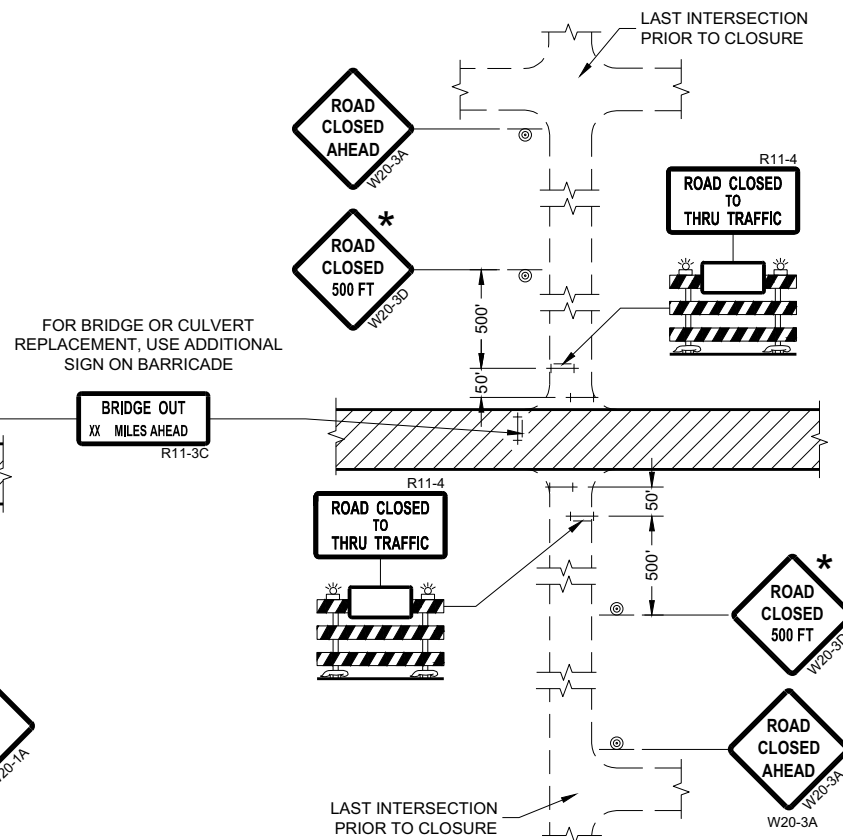
DETAIL 1
(NO ACCESS TO PROJECT)



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

GENERAL NOTES

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

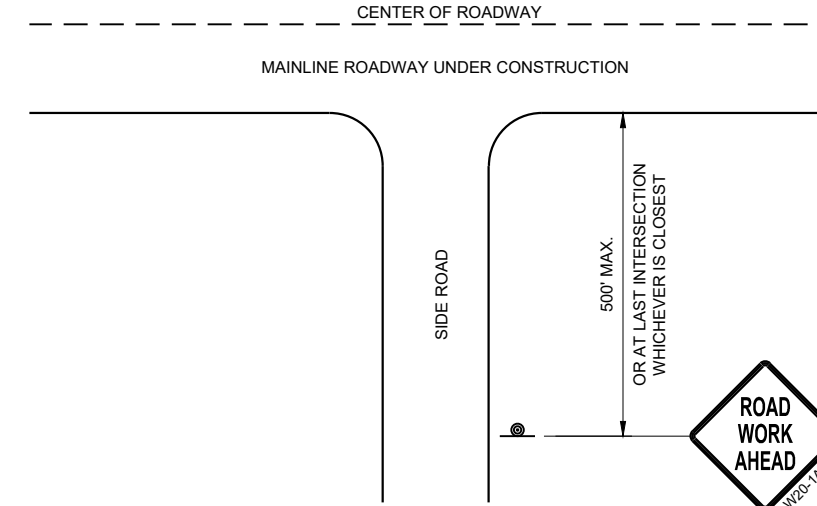
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

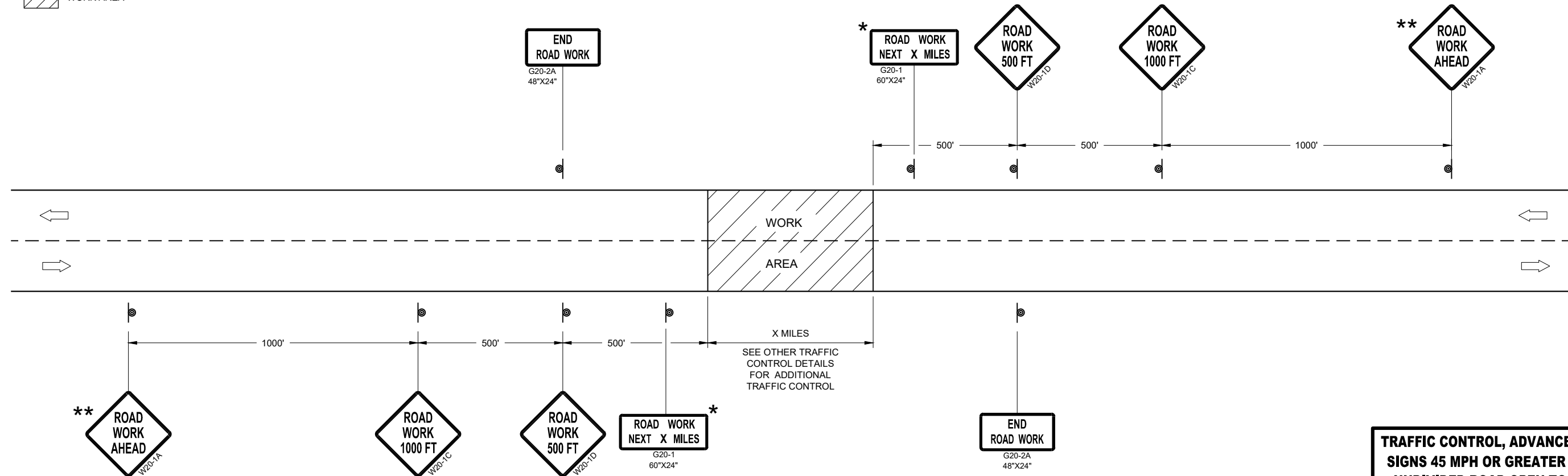
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



**TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL**

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

**TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

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

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




ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

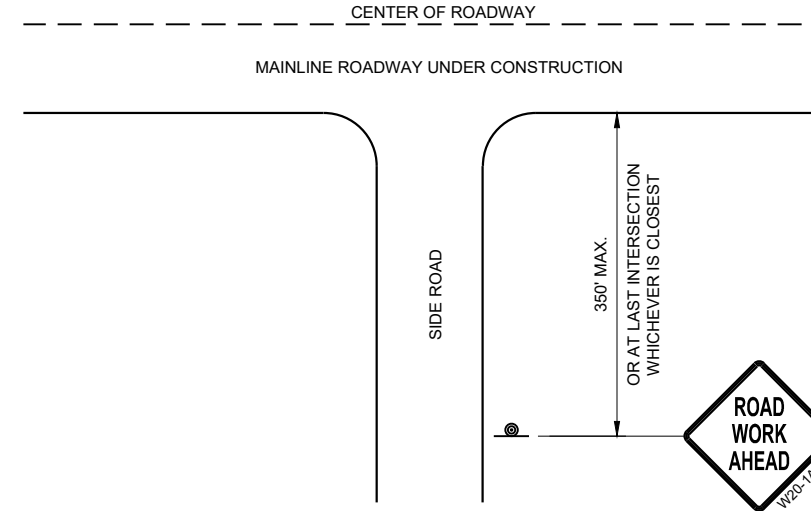
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

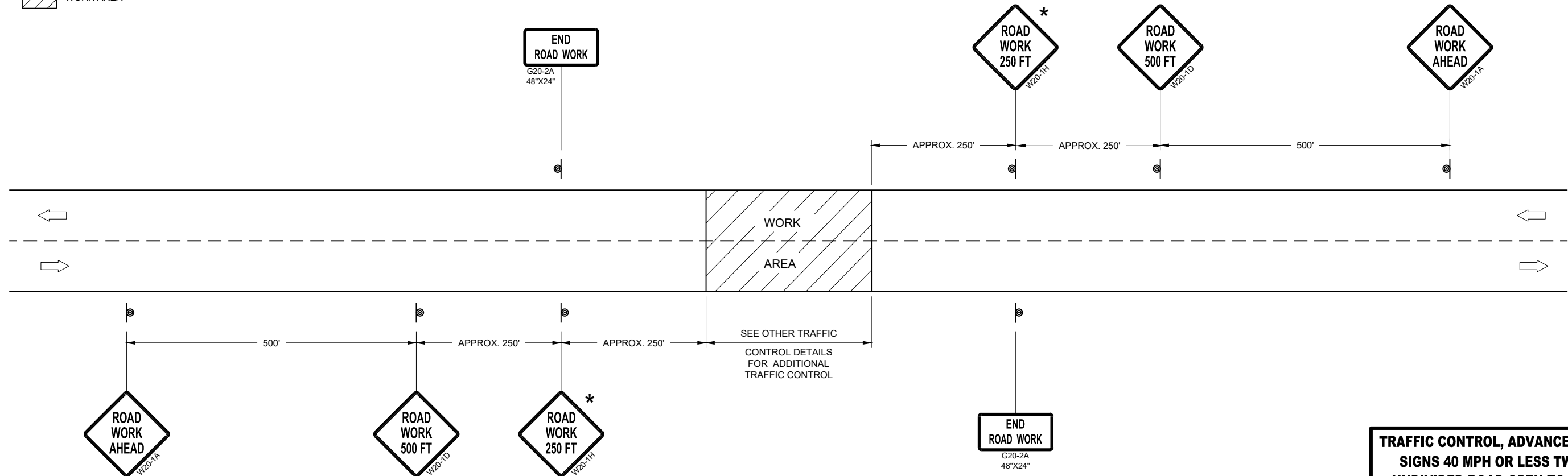
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



**TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL**



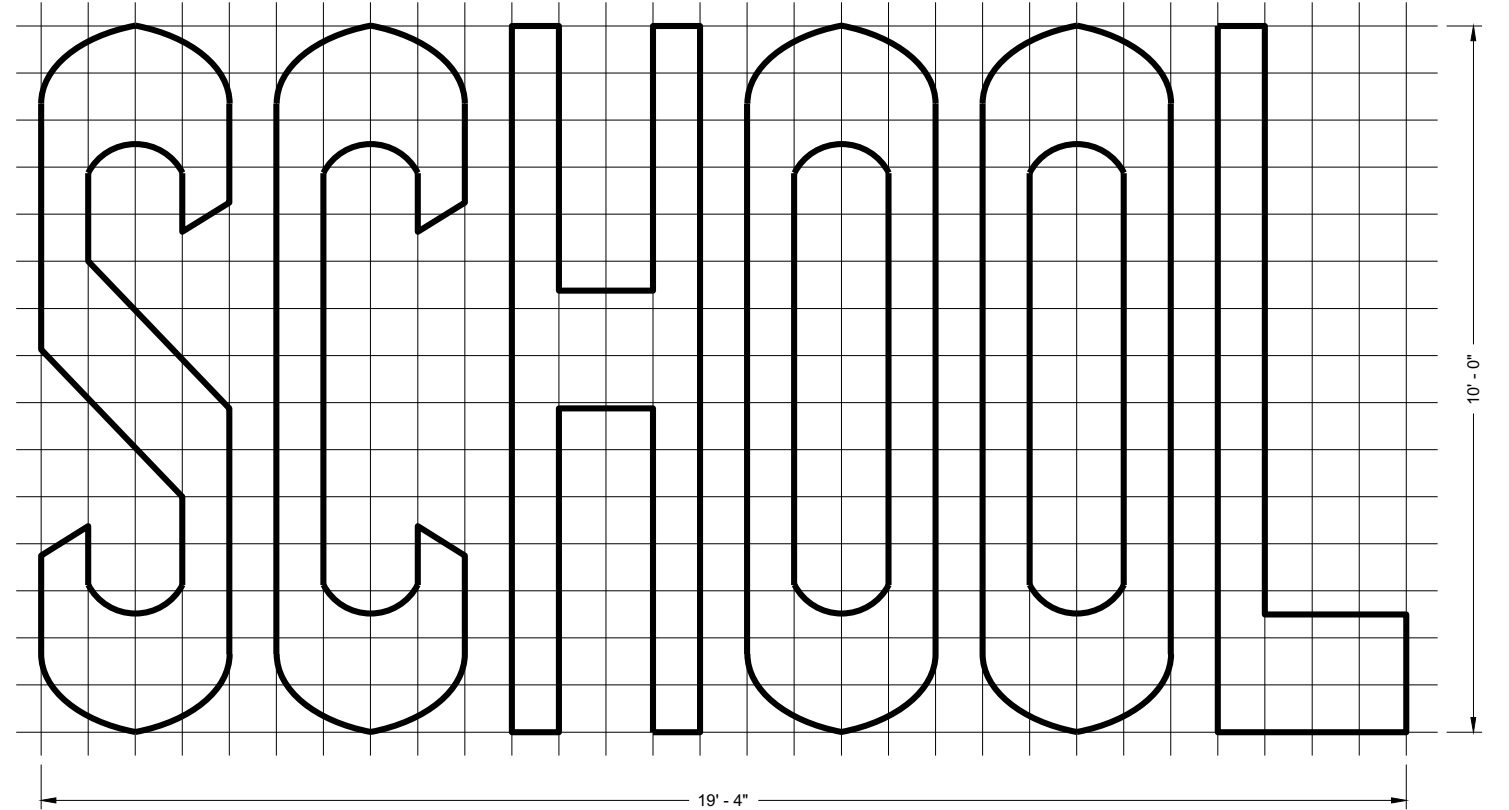
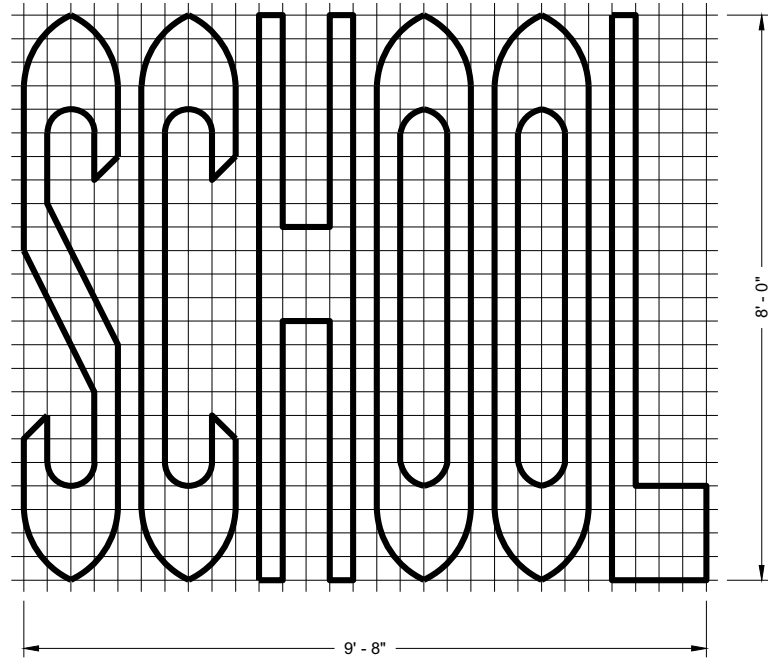
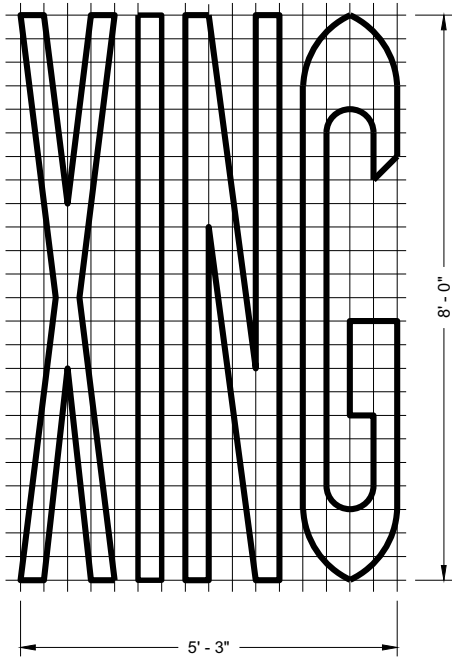
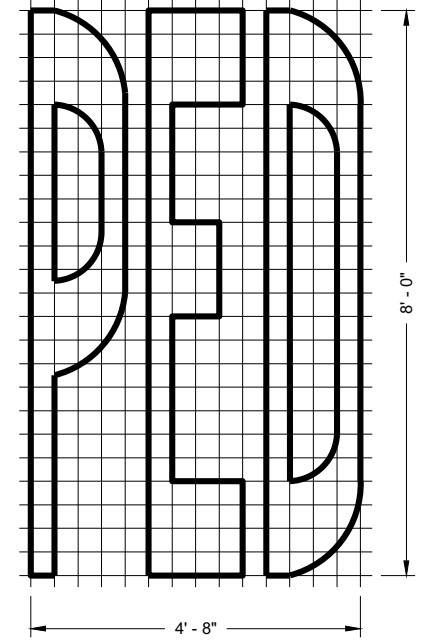
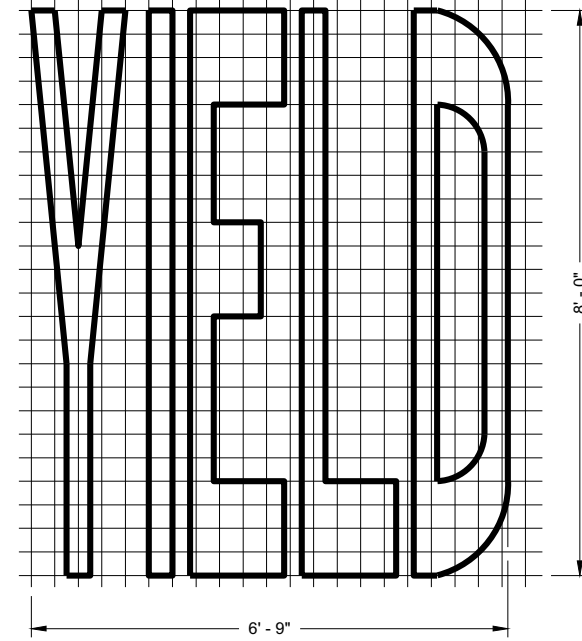
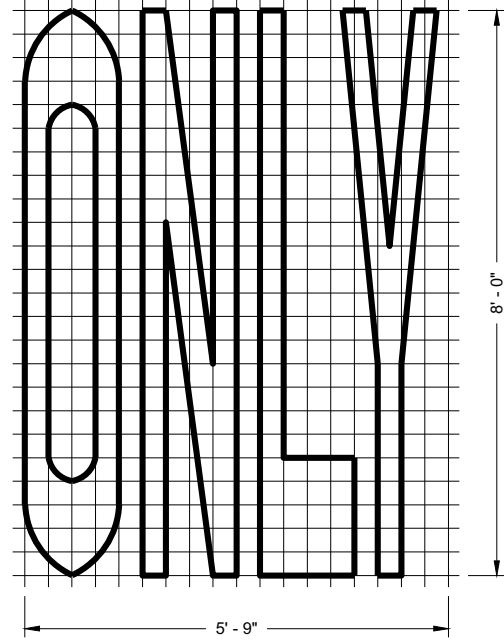
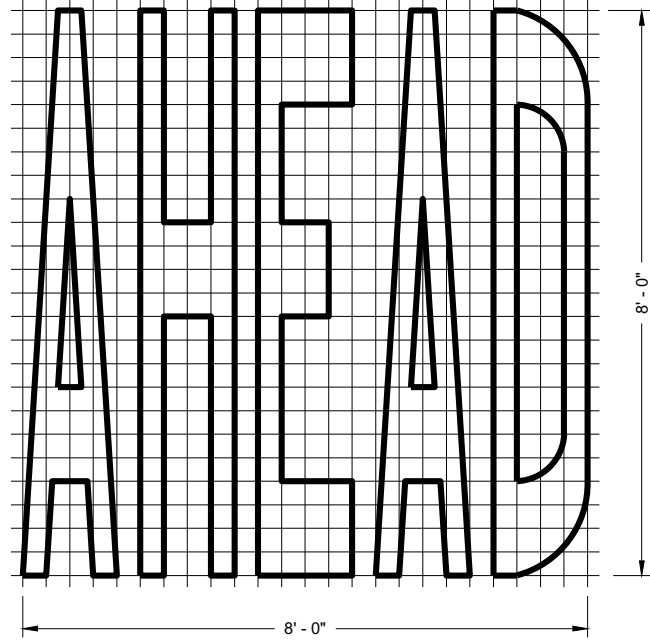
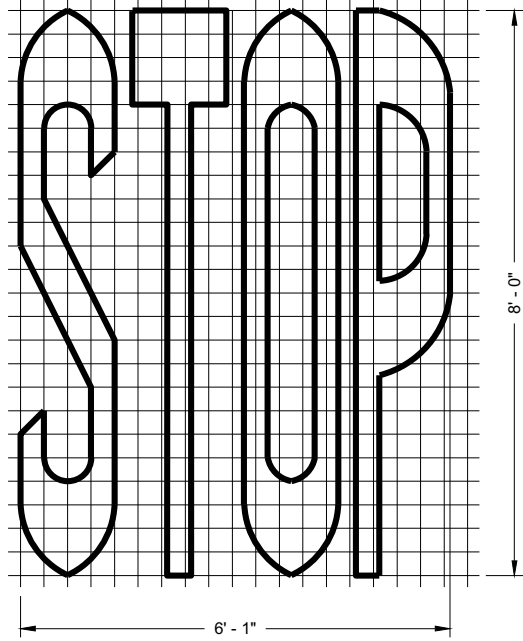
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

**TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 40 MPH OR LESS TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



SINGLE LANE

TWO - LANE

GENERAL NOTES

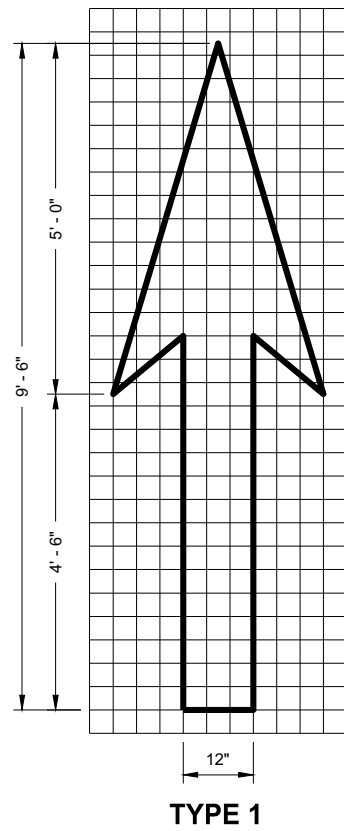
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING WORDS

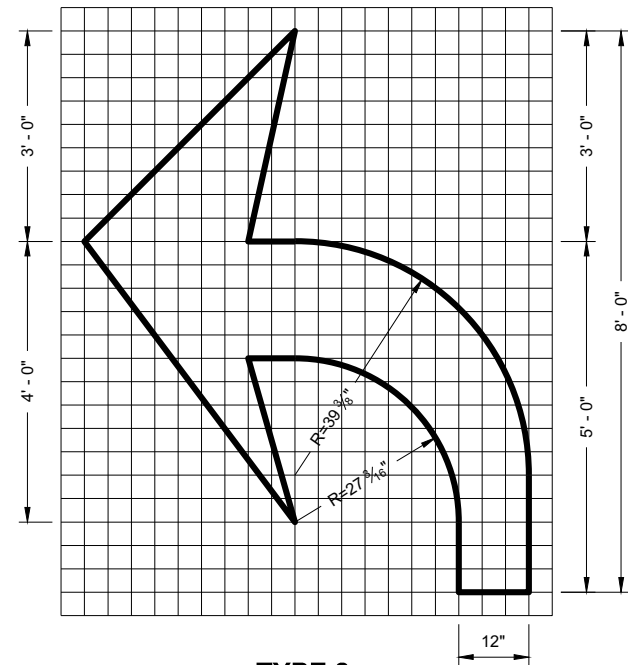
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING
ENGINEER

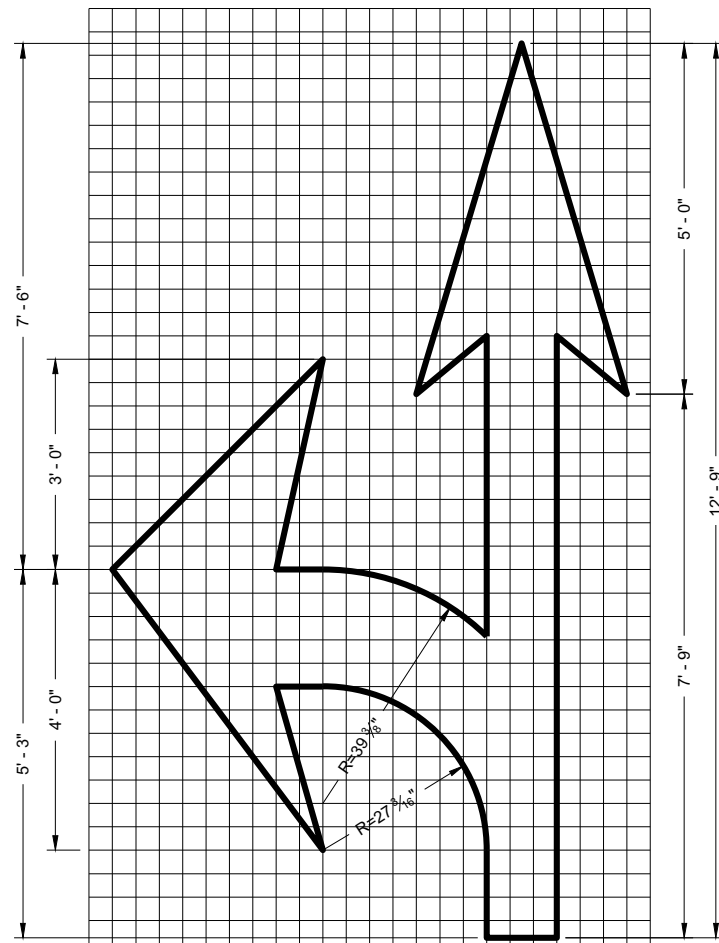
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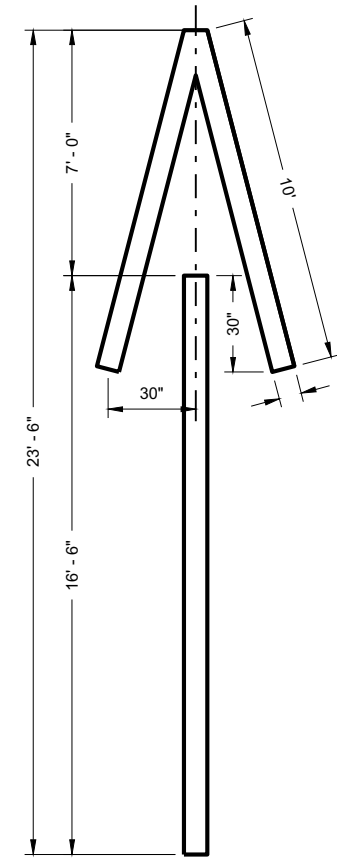
TYPE 1



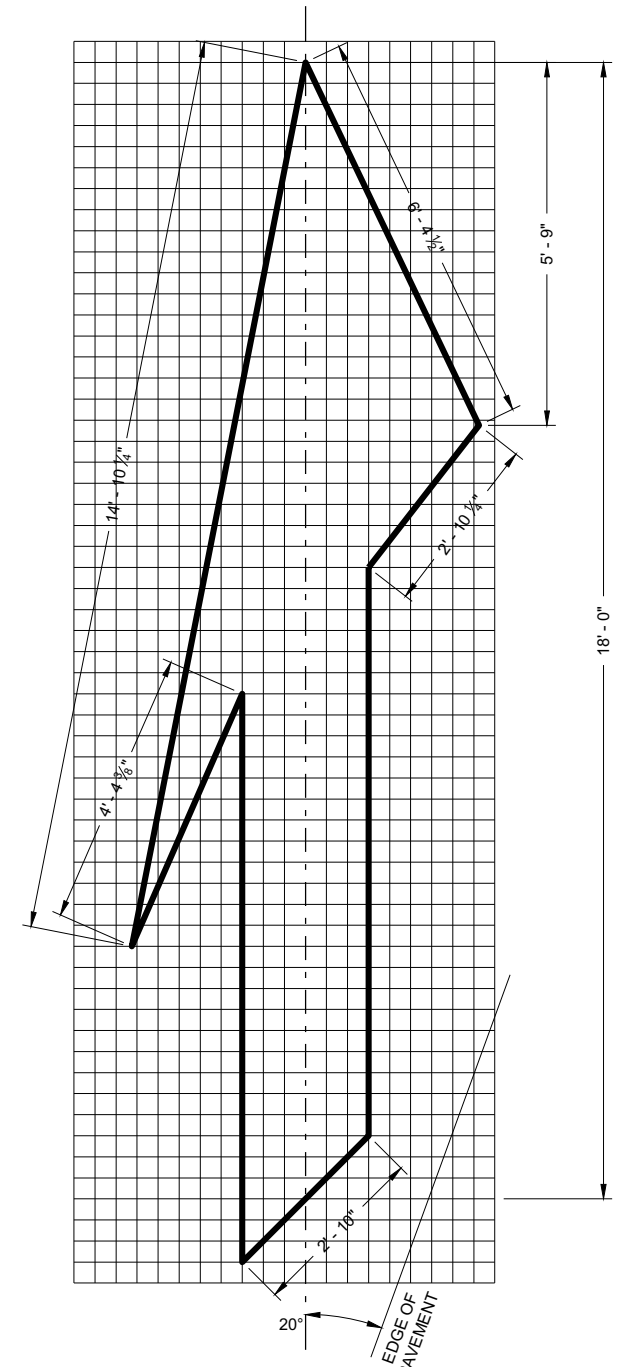
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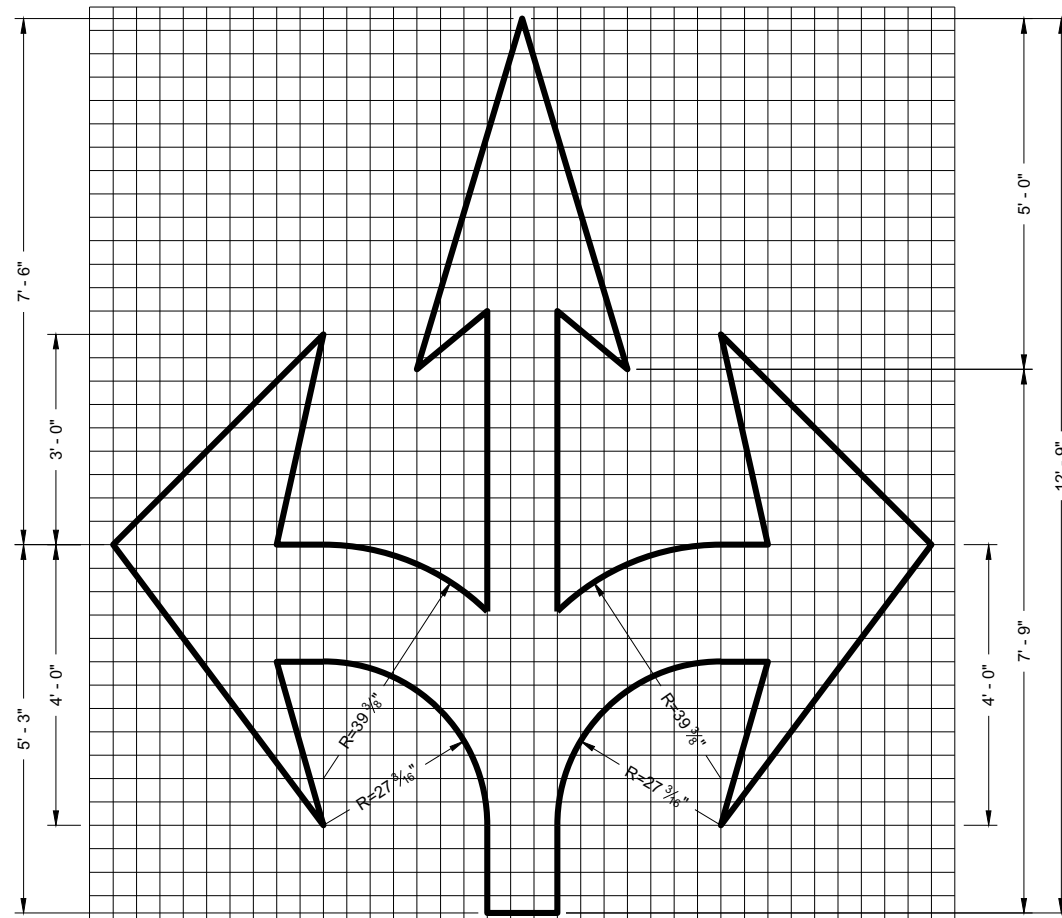
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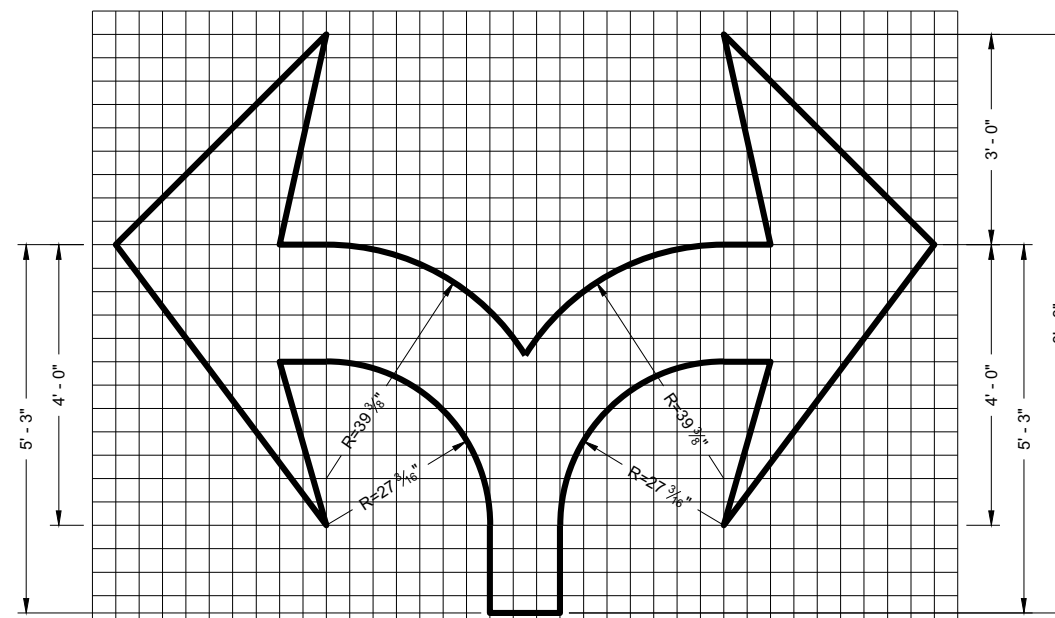
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

GENERAL NOTES

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

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2019

DATE

FHWA




/s/ Matthew Rauch
STATE SIGNING AND MARKING
ENGINEER

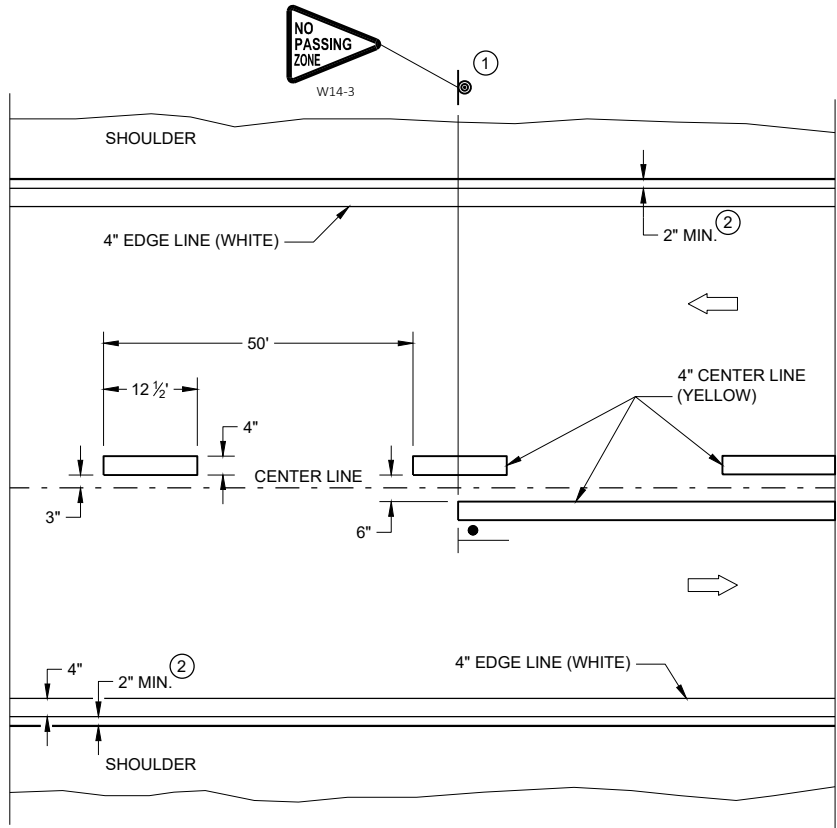
GENERAL NOTES

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

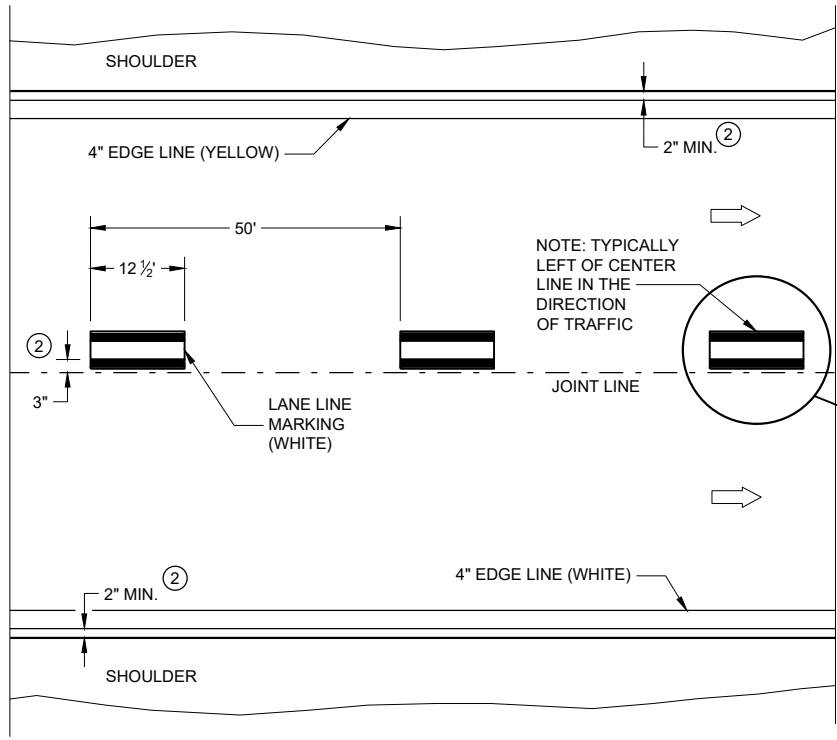
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

-  "T" MARKING
-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC

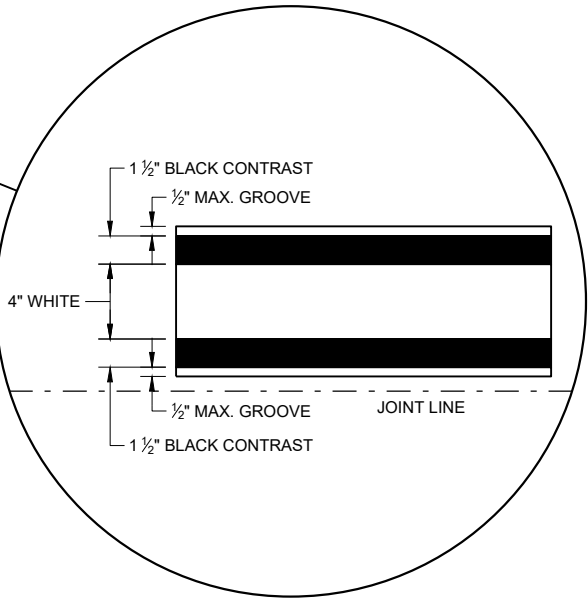


TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



6

6

SDD 15C08 - 22a

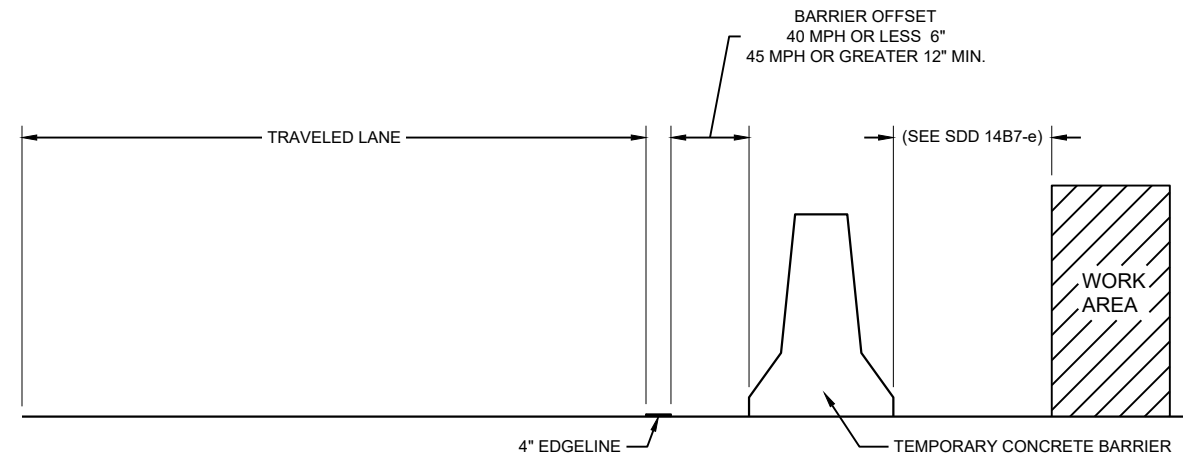
SDD 15C08 - 22a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2022 /S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING ENGINEER

FHWA



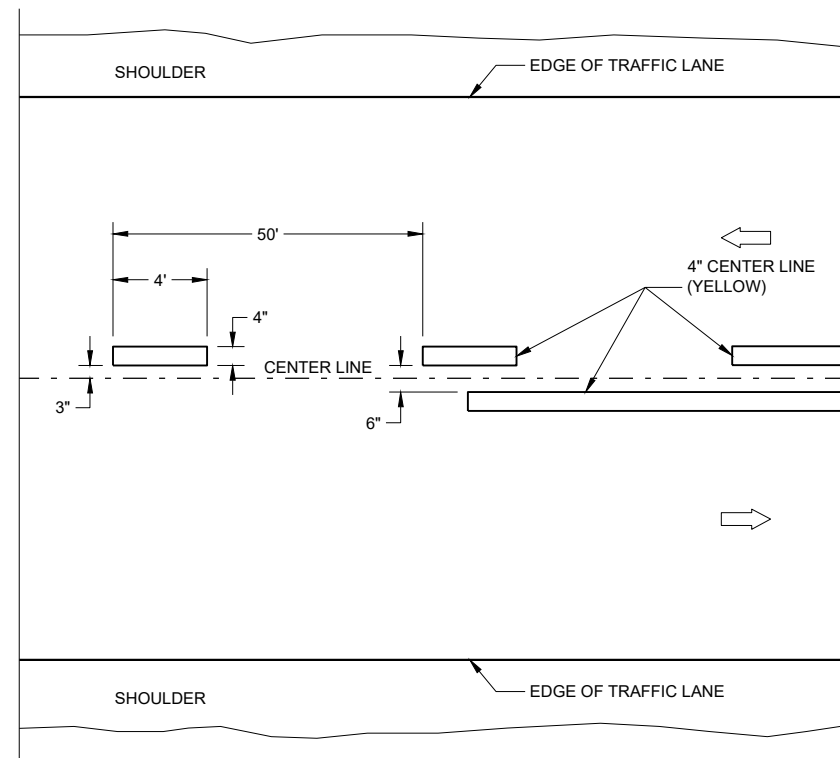
TEMPORARY BARRIER OFFSET FROM EDGELINE

GENERAL NOTES

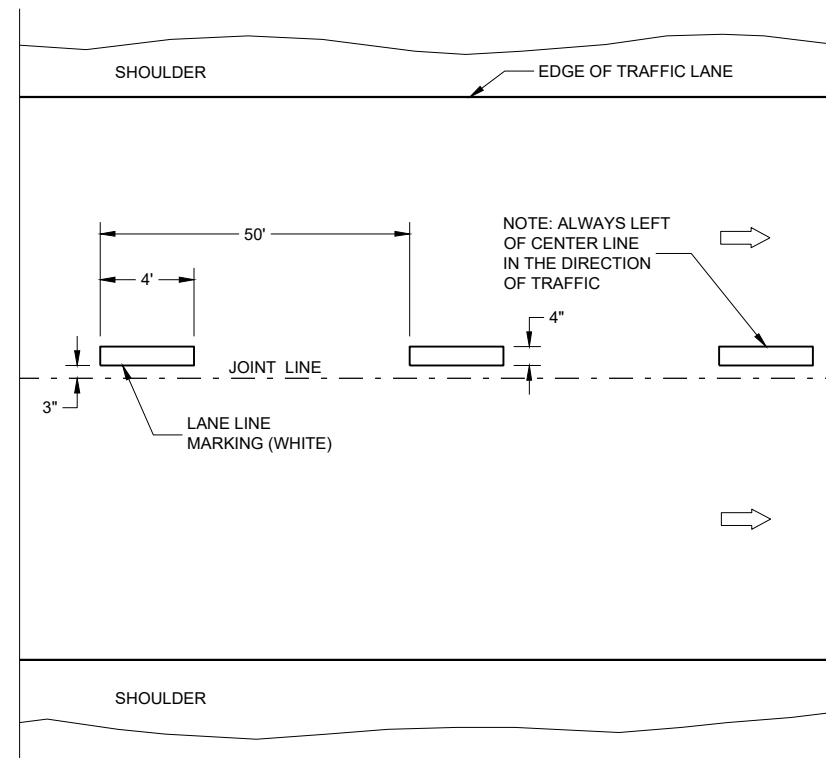
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

LEGEND

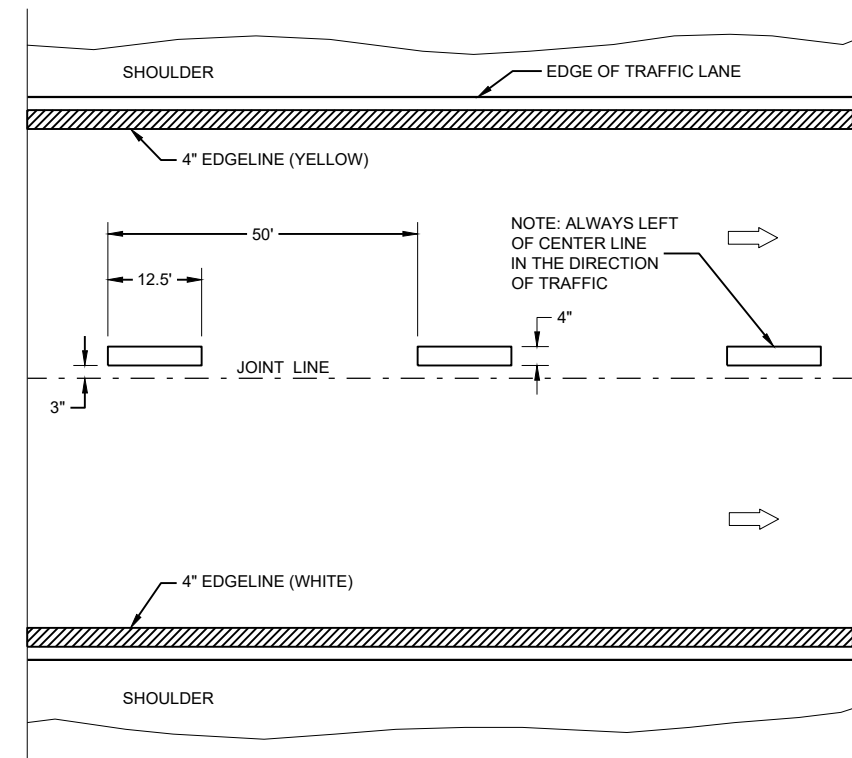
➡ DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

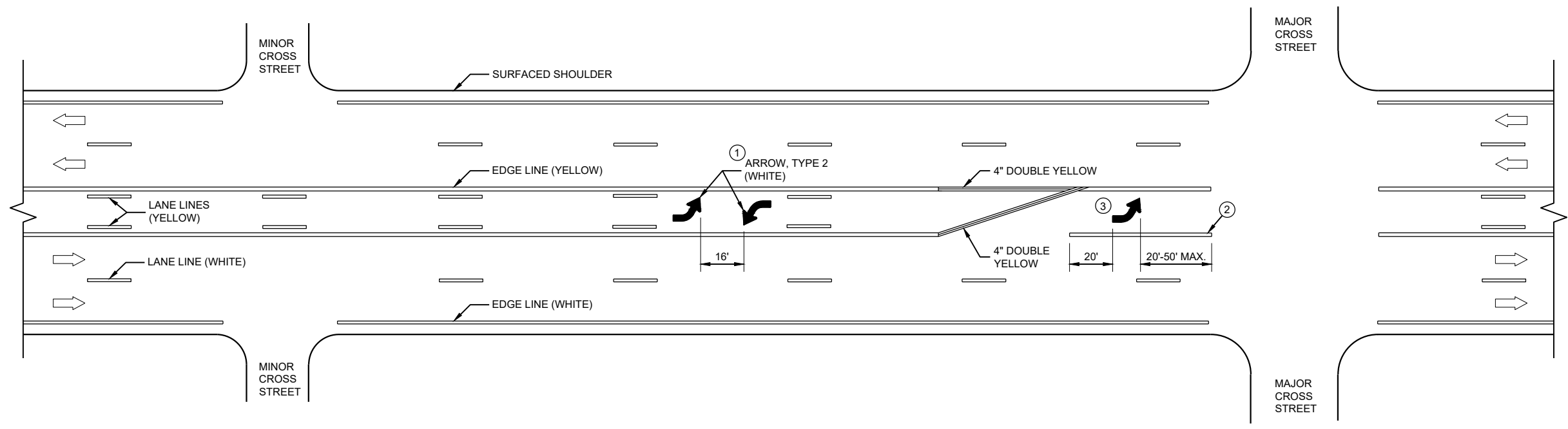
APPROVED
May 2022 /S/ Jeannie Silver
DATE STATEWIDE SIGNING AND MARKING
ENGINEER

FHWA

GENERAL NOTES

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 8" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

➡ DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

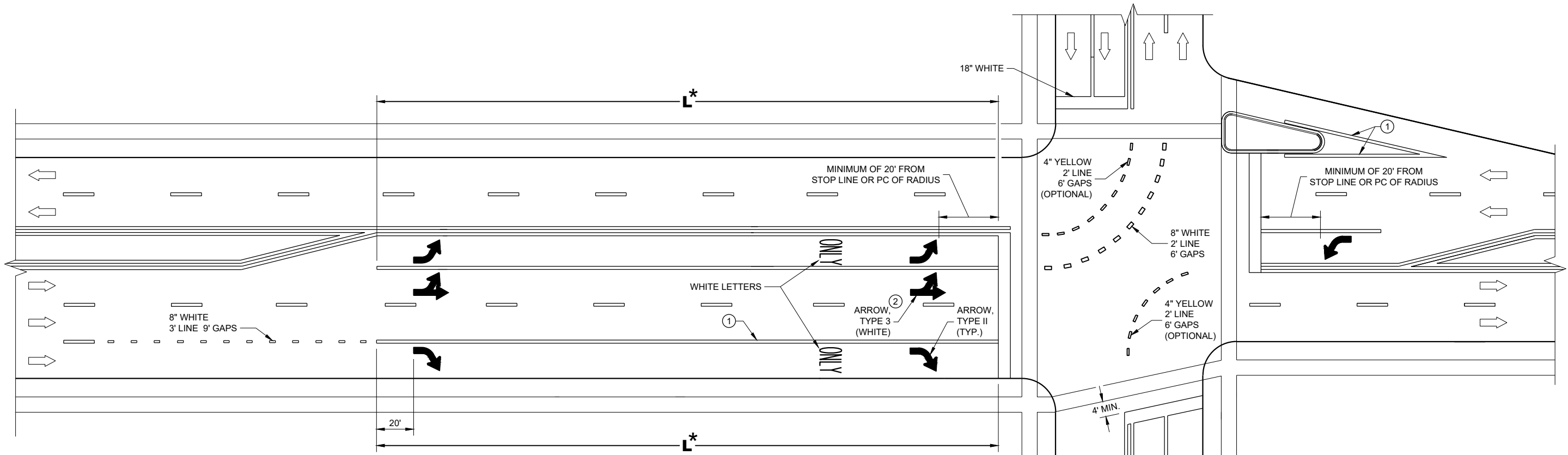
6

6

SDD 15C08 - 22c

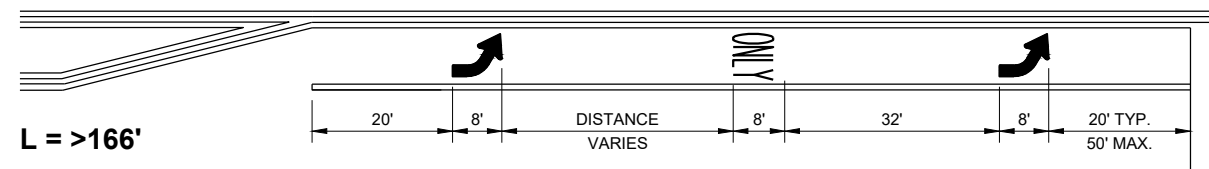
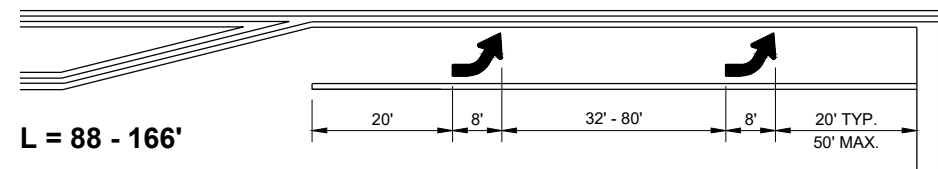
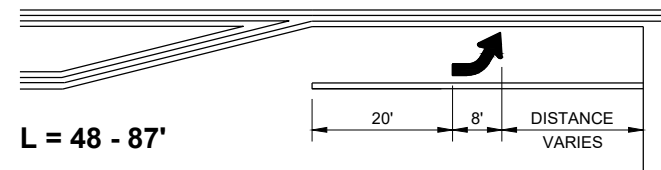
SDD 15C08 - 22c

<p>PAVEMENT MARKING (TURN LANES)</p>
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>



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

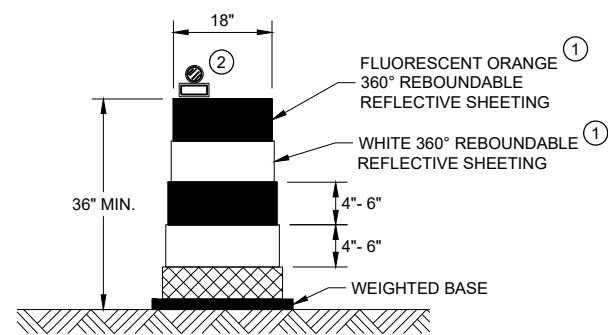
- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

➡ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

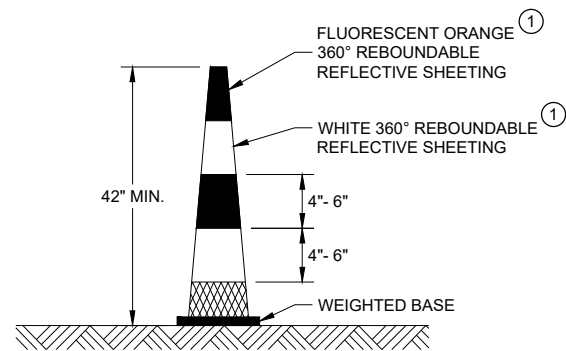
PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



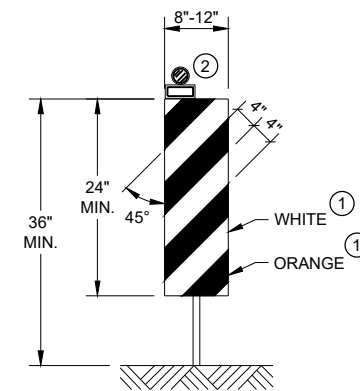
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"

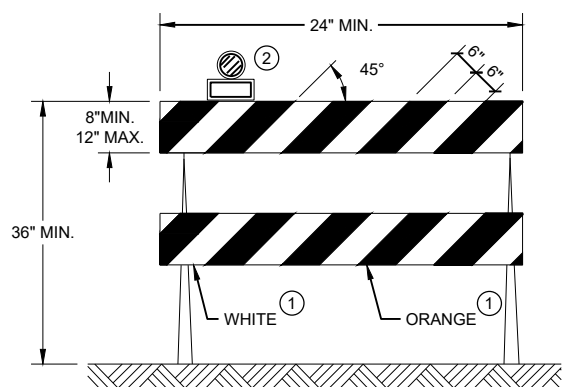


VERTICAL PANEL

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

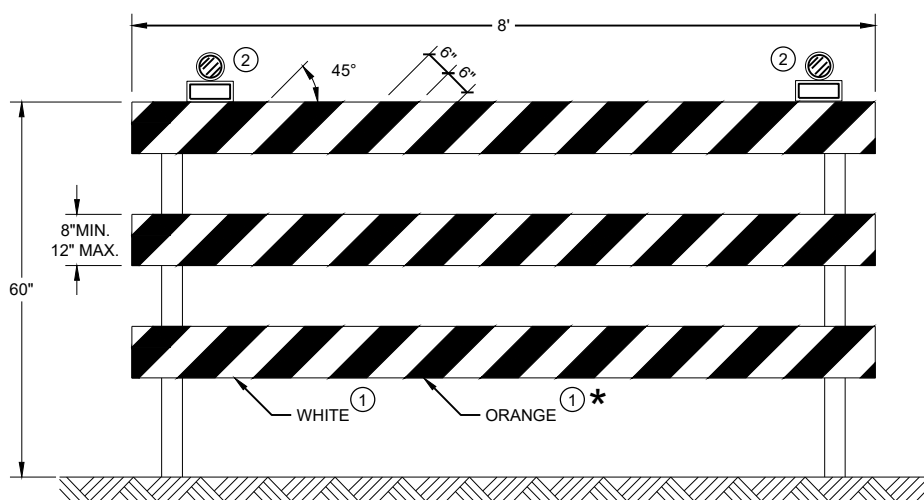
GENERAL NOTES

- 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.

**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE 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.

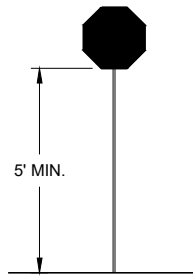
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

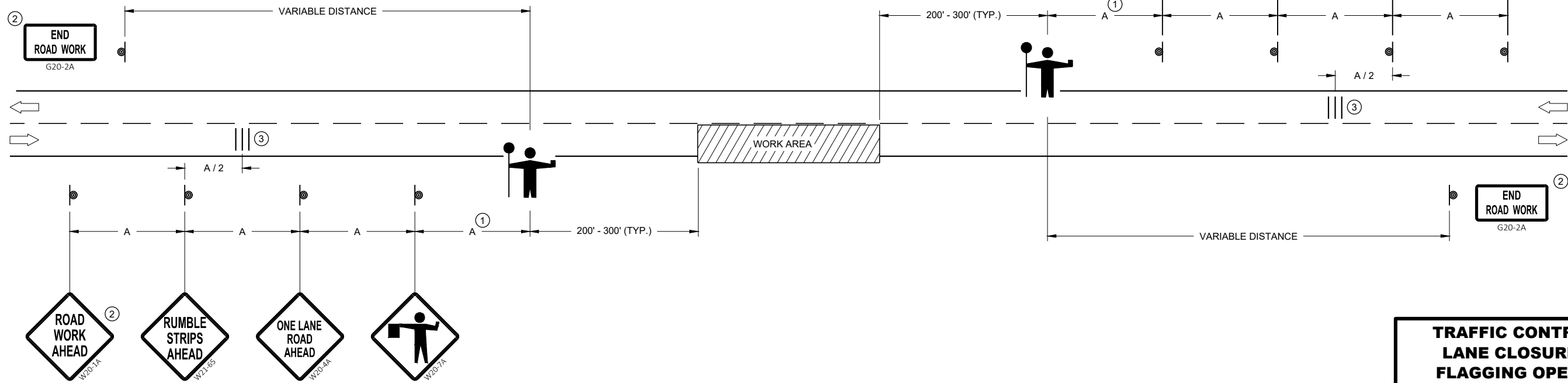
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

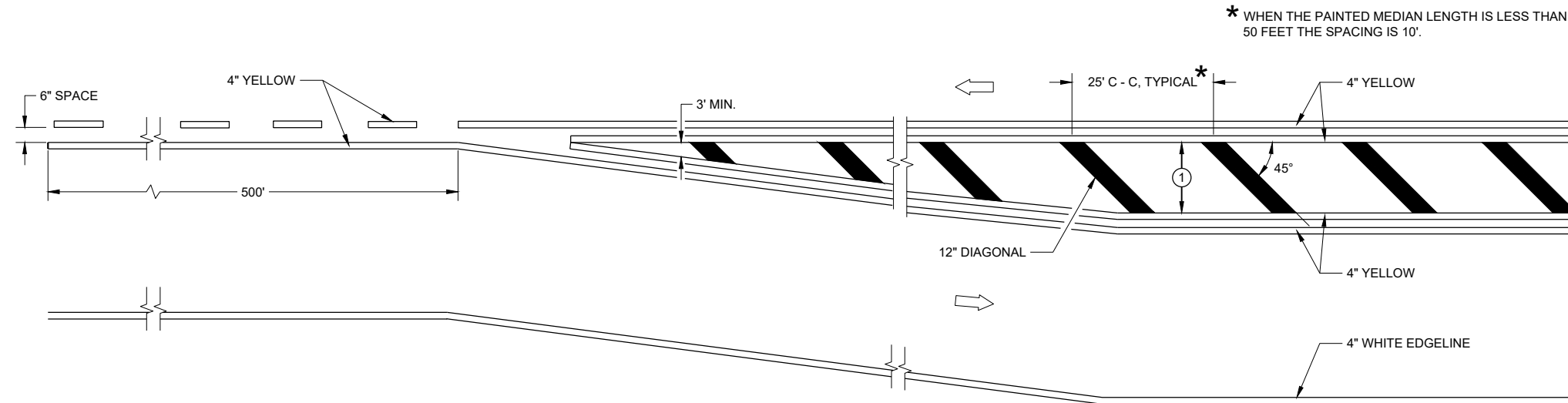
APPROVED
DATE: May 2022 /S/ Andrew Heidtke
WORK ZONE ENGINEER

GENERAL NOTES

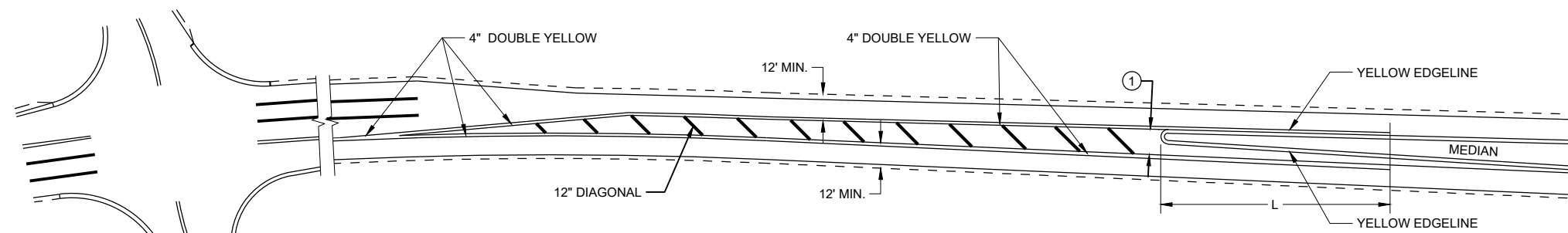
- ① DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

➔ DIRECTION OF TRAVEL

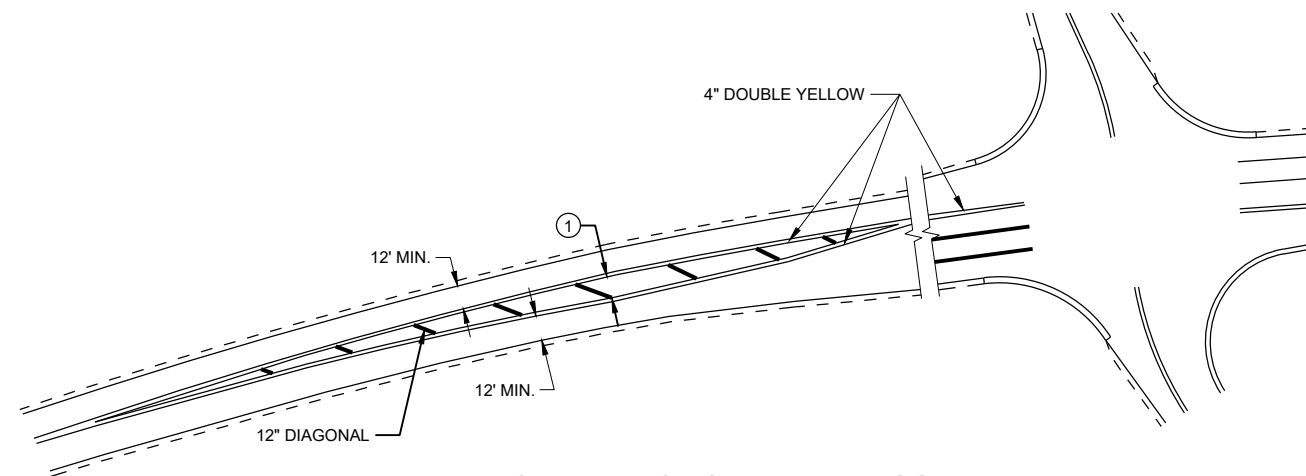
SPEED LIMIT	L
<35 MPH	5'
35 > MPH	50'



MEDIAN ISLAND DETAIL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON-APPROACH MARKINGS

6

6

SDD 15C18 - 07a





SDD 15C18 - 07a

MEDIAN ISLAND PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Jeannie Silver
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

LEGEND

- V1 LEAD VEHICLE
- V2 MARKING VEHICLE
- V3 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

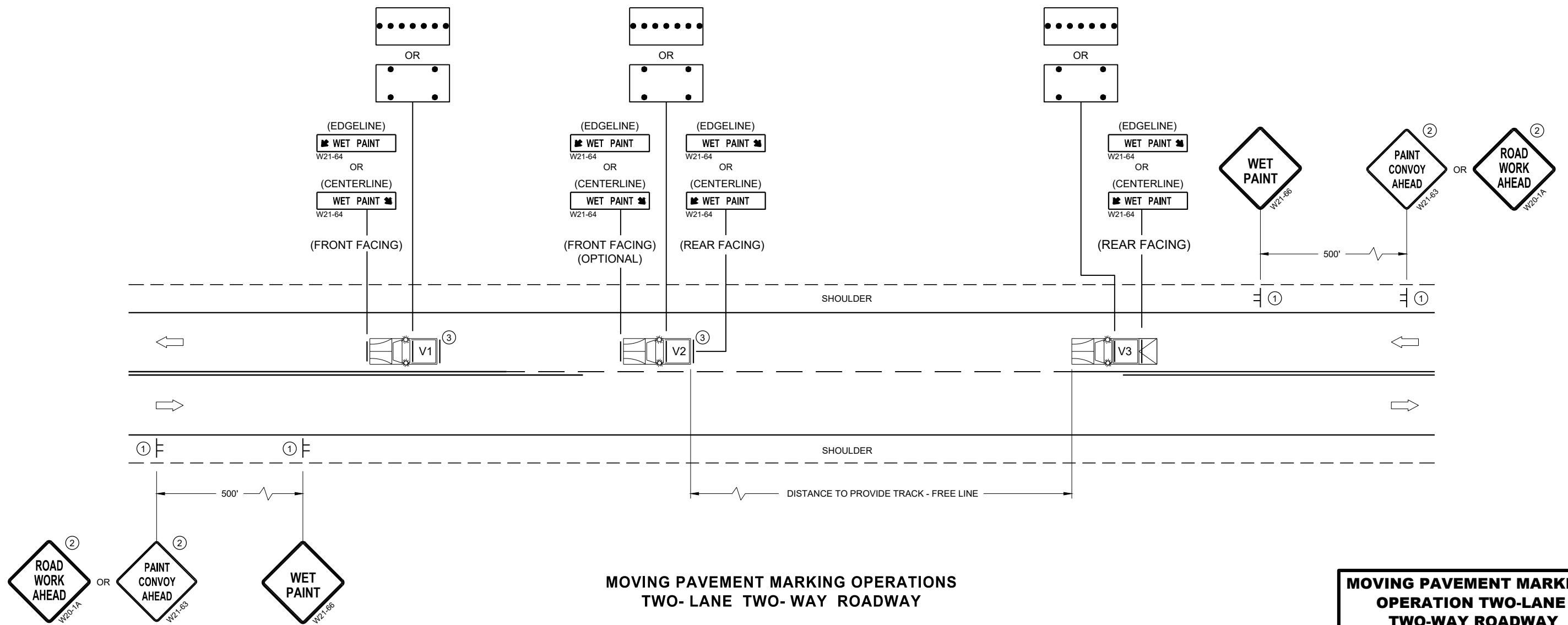
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING.

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.
- ③ V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.

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**MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY**

SDD 15C19 - 07a

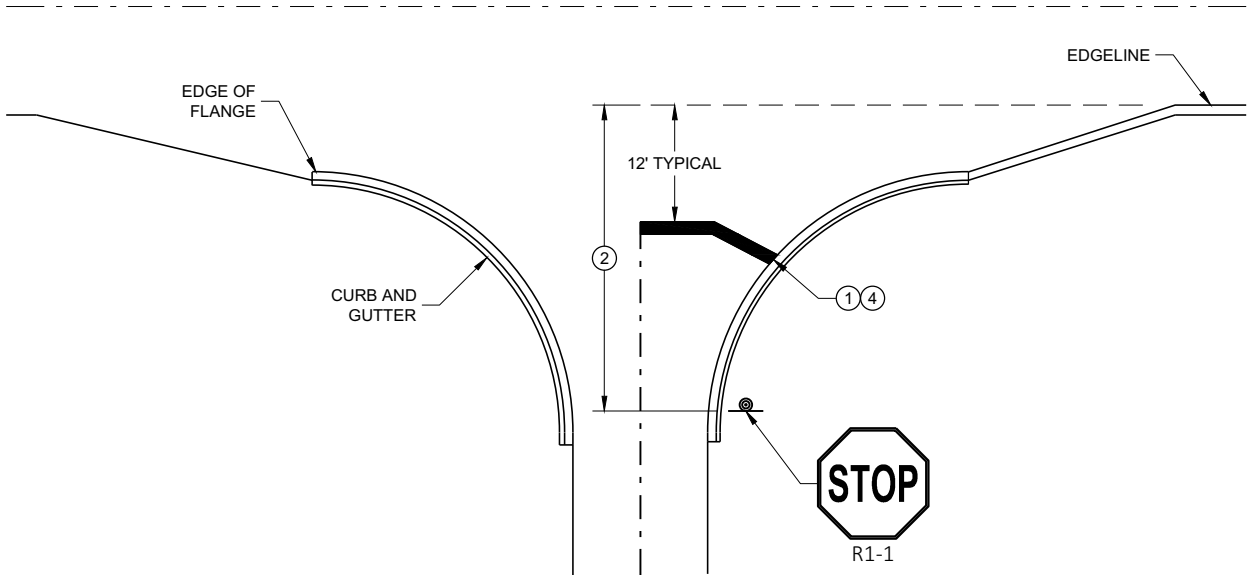
SDD 15C19 - 07a

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

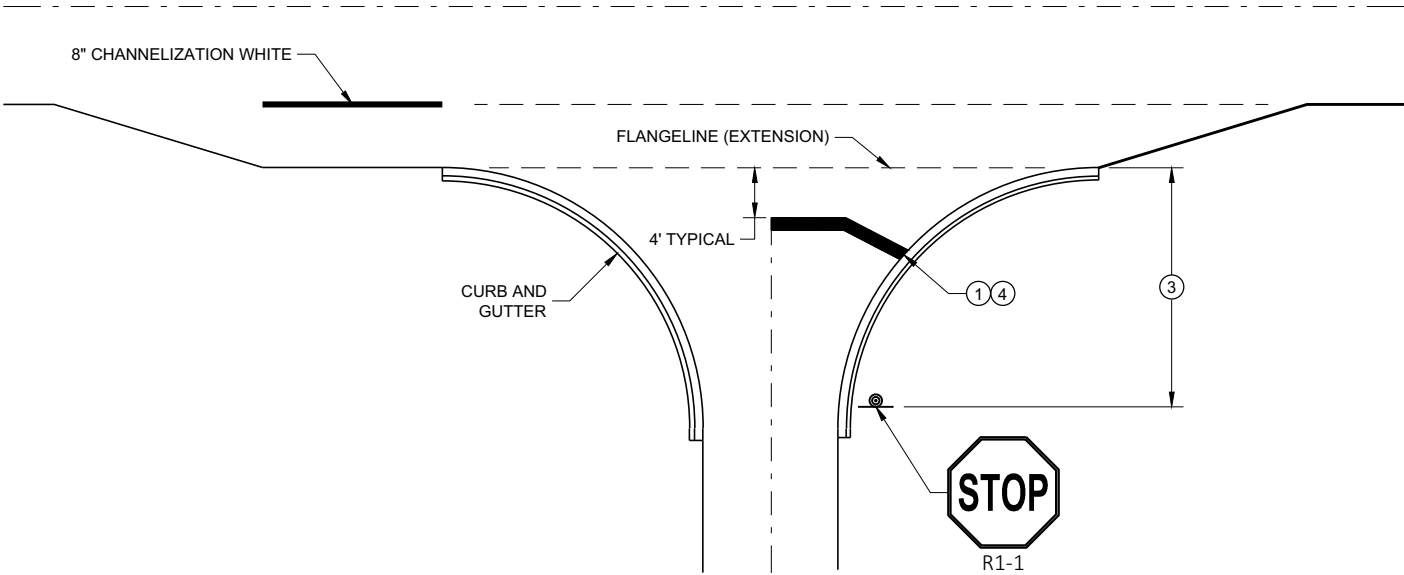
GENERAL NOTES

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

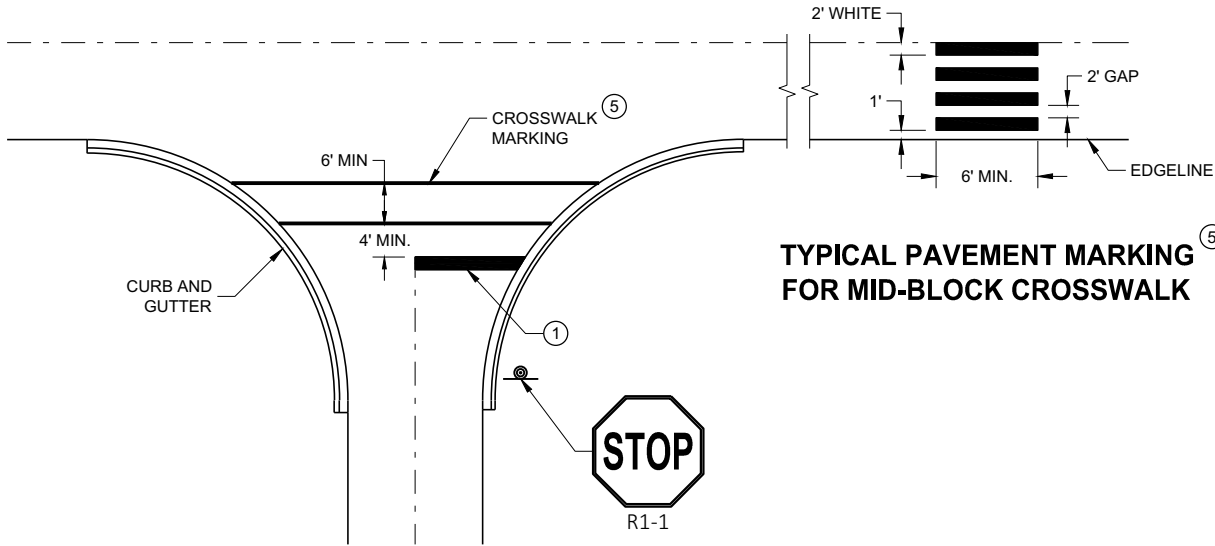
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE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

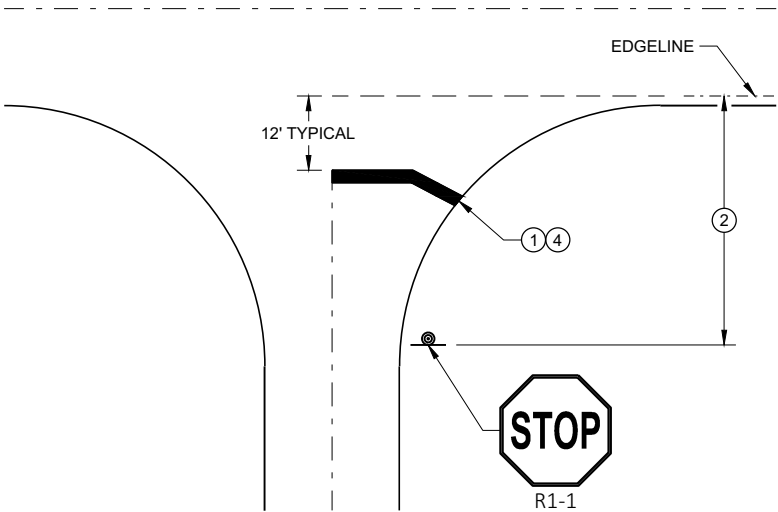


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



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

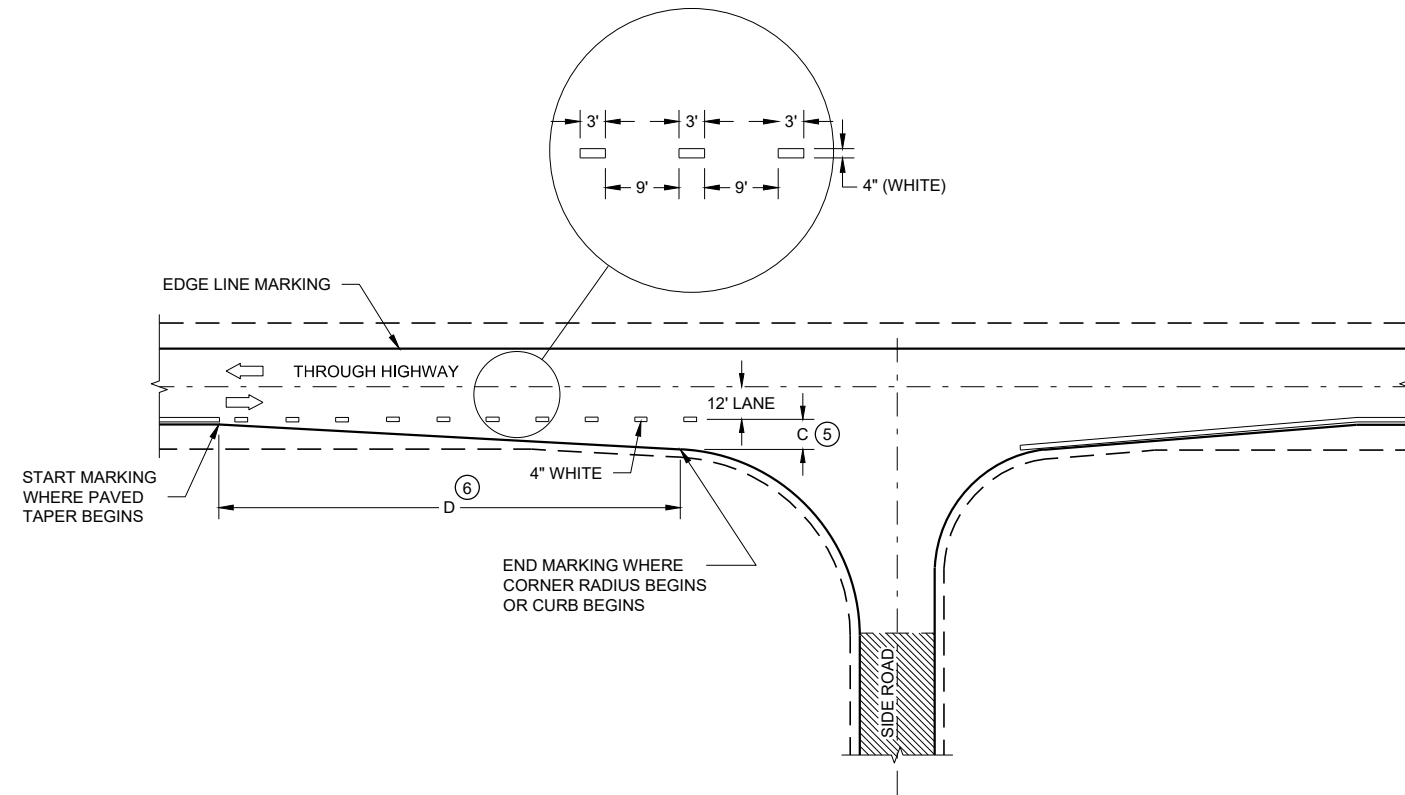
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

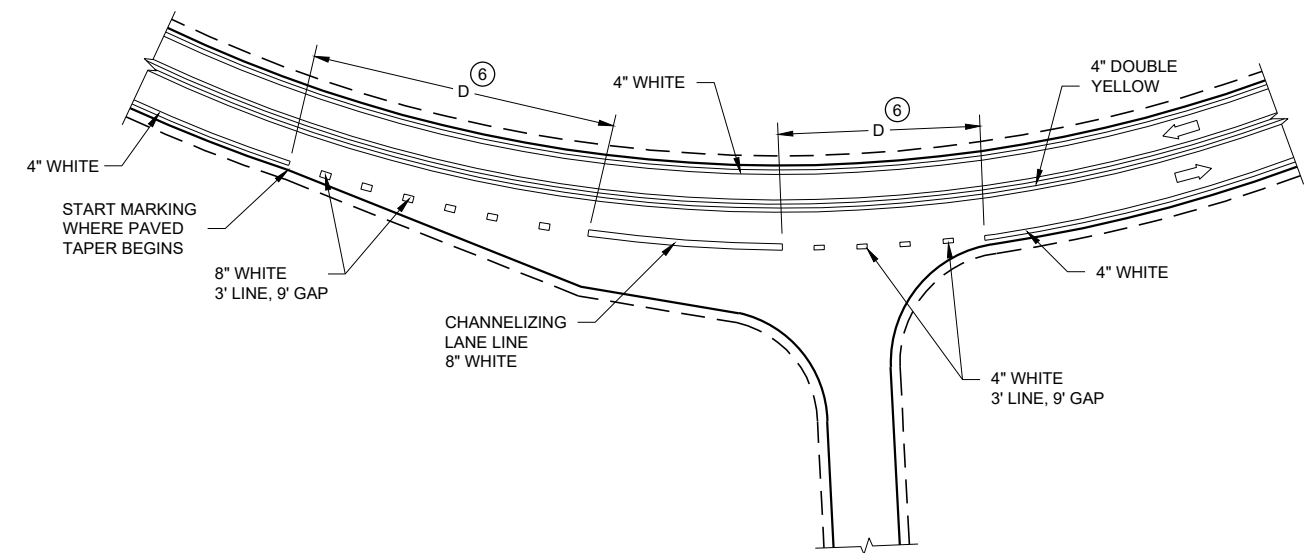
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

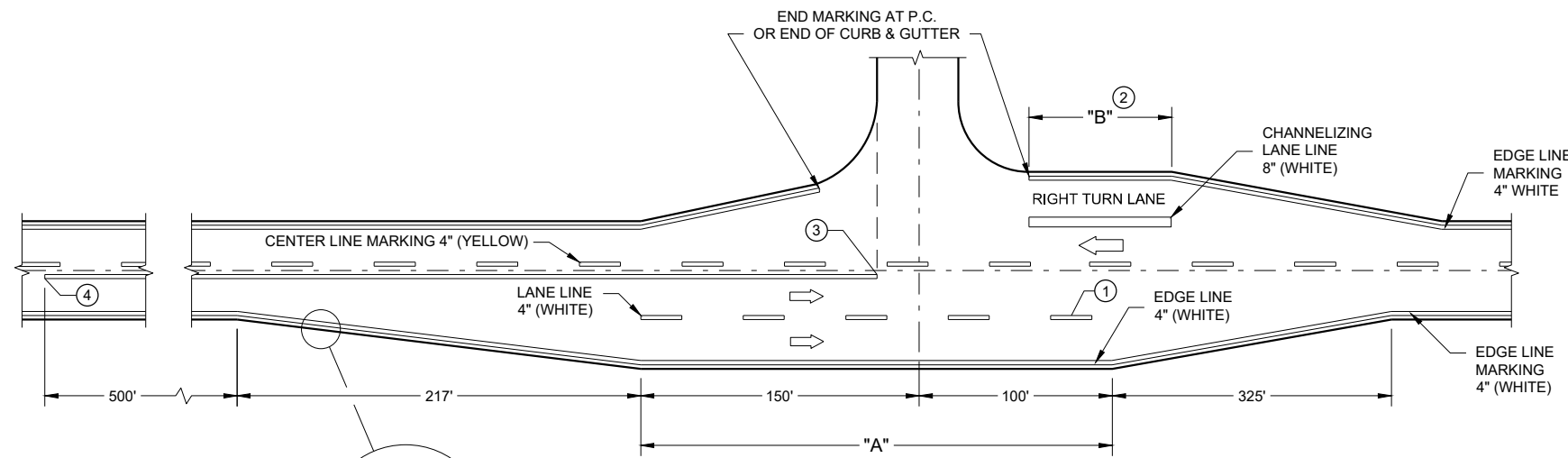
➡ DIRECTION OF TRAVEL



MINOR INTERSECTION

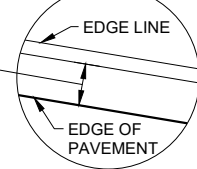


INTERSECTION ON OUTSIDE OF CURVE



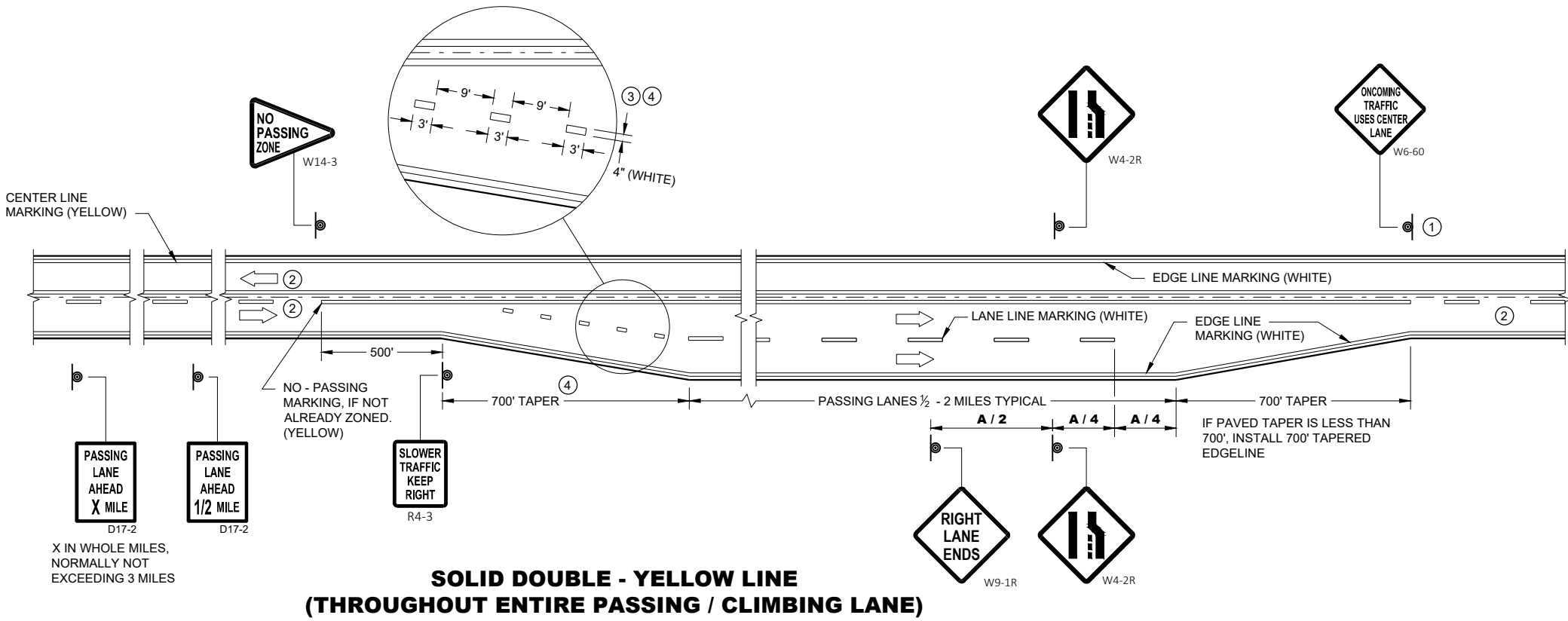
**MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)**

BYPASS LANE PAVED SHOULDER WIDTH (AS SHOWN ELSEWHERE IN PLANS) - PLUS 2 INCHES



**PAVEMENT MARKING
(INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



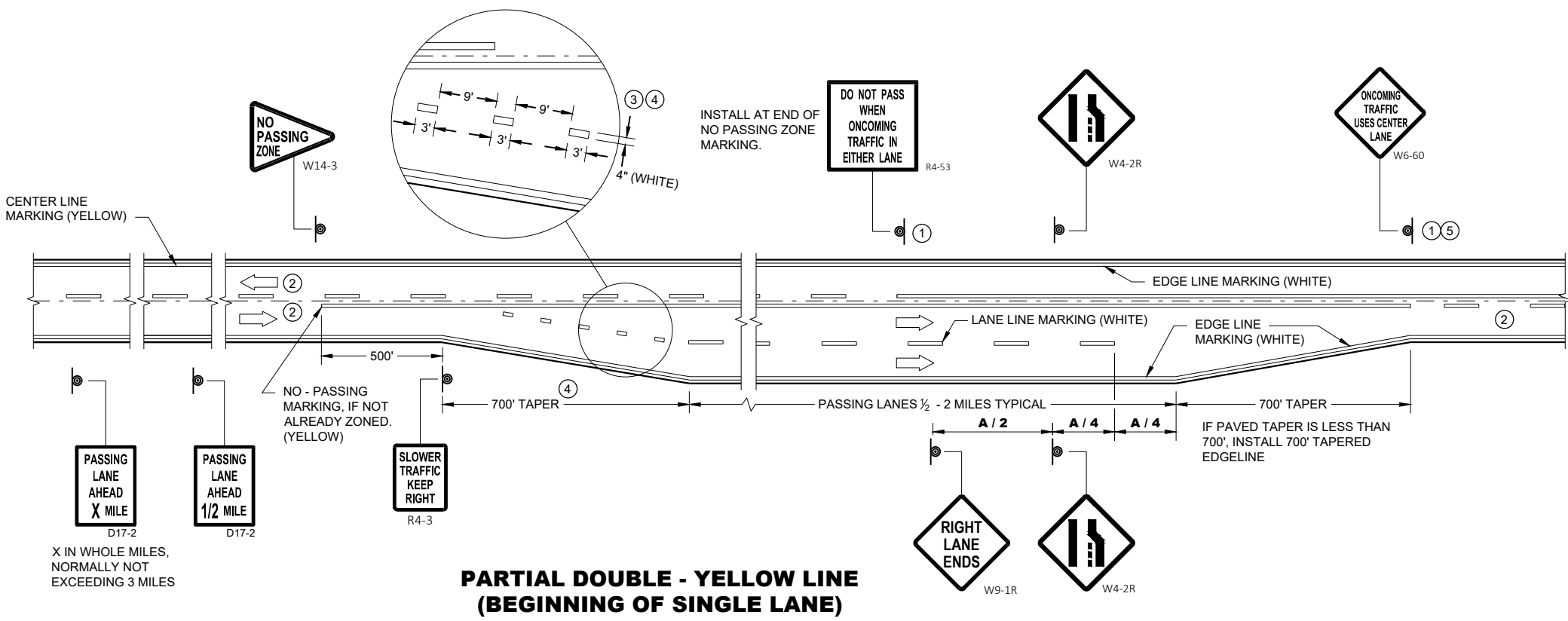
GENERAL NOTES

- SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
- REPEAT EVERY 1 MILE UP UNTIL R4-53.

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

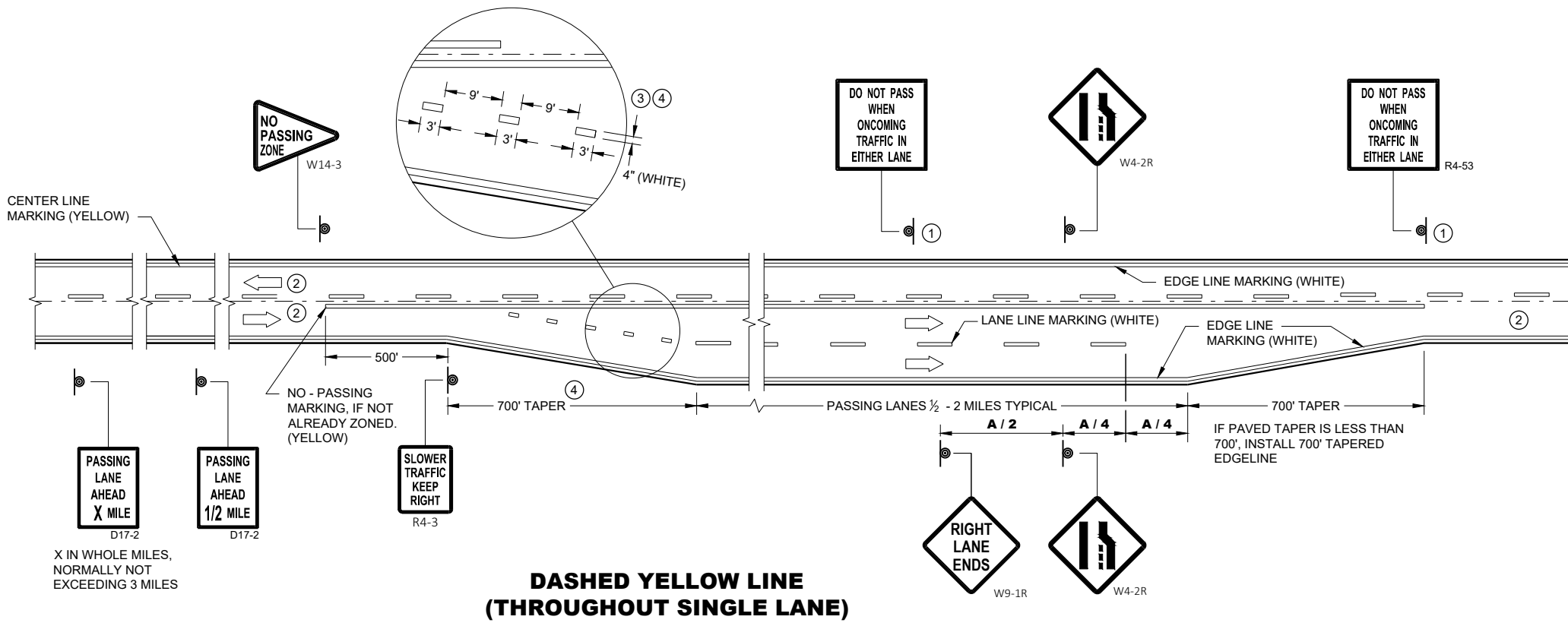
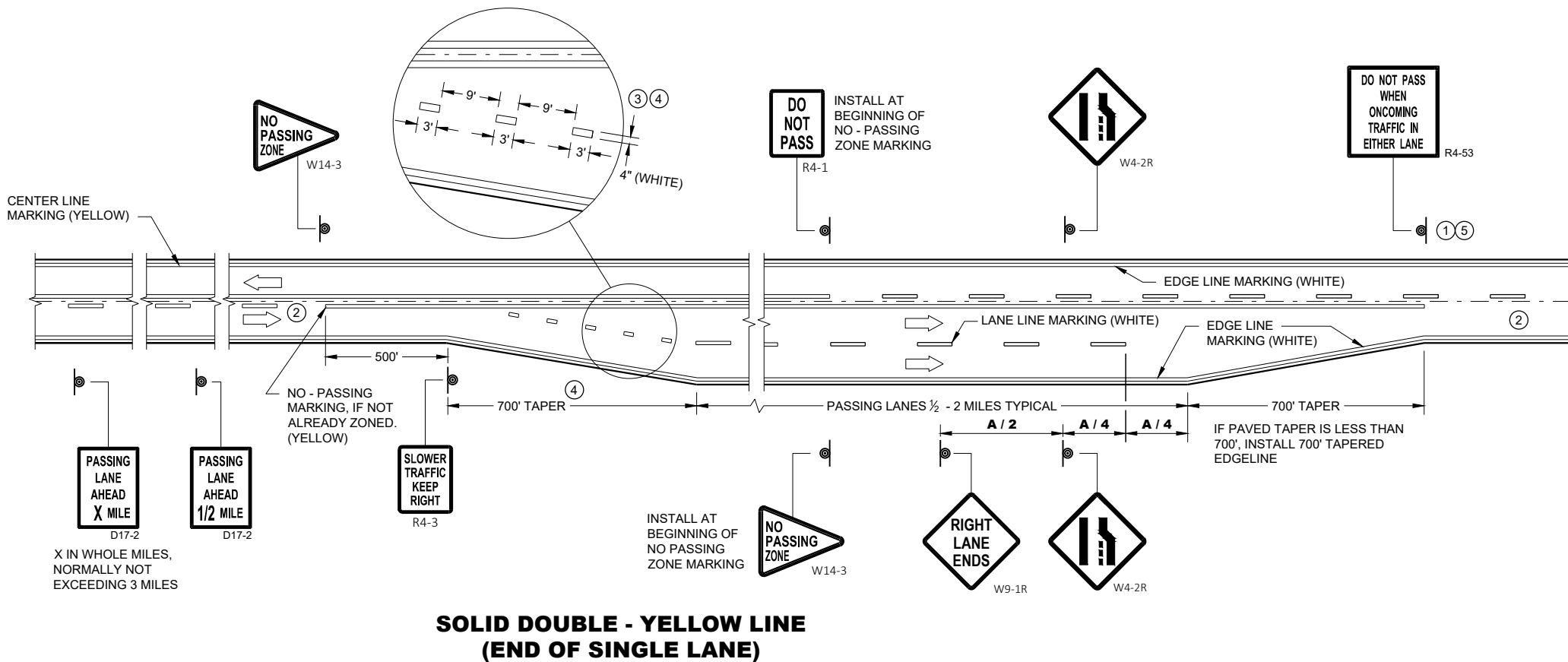
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990



**PAVEMENT MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

- ① SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- ② THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- ③ THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ④ WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
- ⑤ REPEAT EVERY ONE MILE UP UNTIL NO PASSING ZONE.

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

PAVEMNET MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2022 /S/ Jeannie Silver
STATE SIGNING AND MARKING ENGINEER

FHWA

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.










WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS

NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

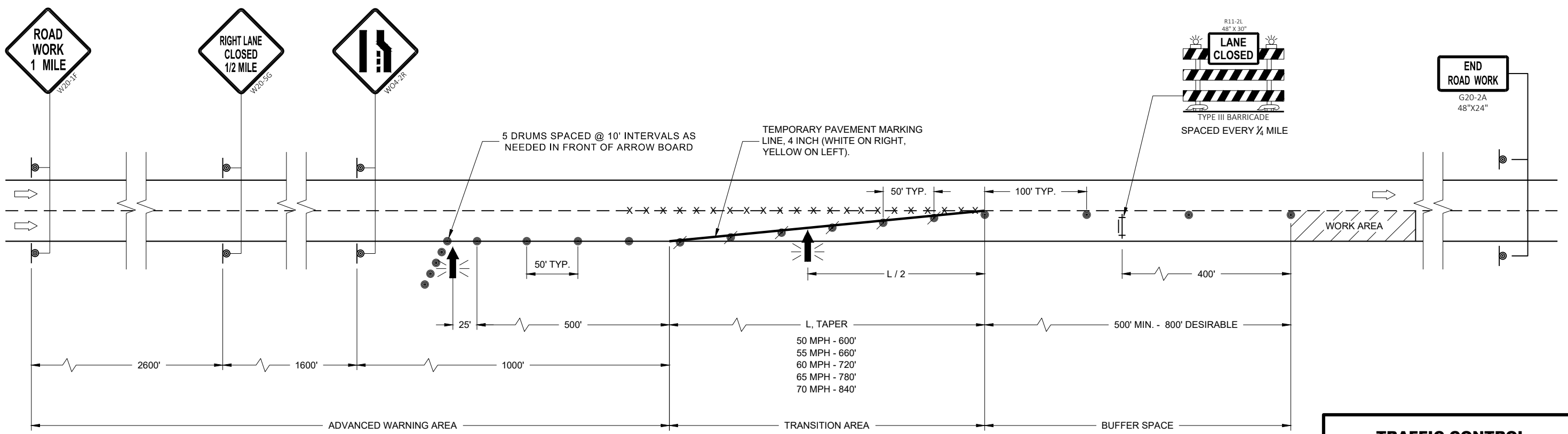
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLASHING ARROW BOARD

6

SDD 15D12 - 10a







6

SDD 15D12 - 10a

TRAFFIC CONTROL LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

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

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

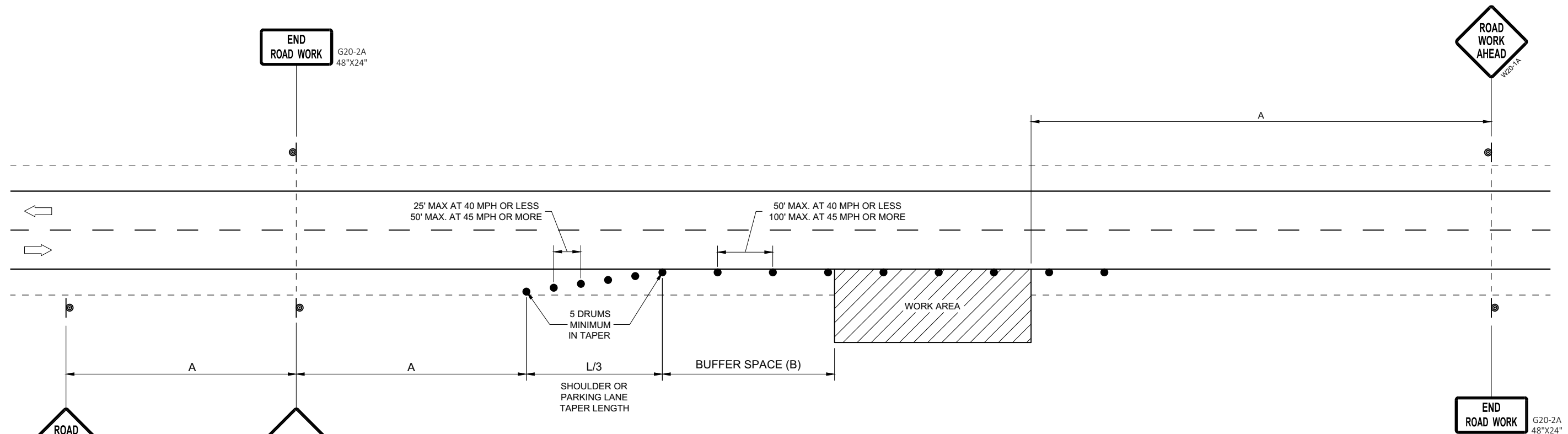
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

6

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OR
IF TRAFFIC CONTROL DEVICES
ENCROACH ONTO TRAVELED WAY, USE

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

**TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY**

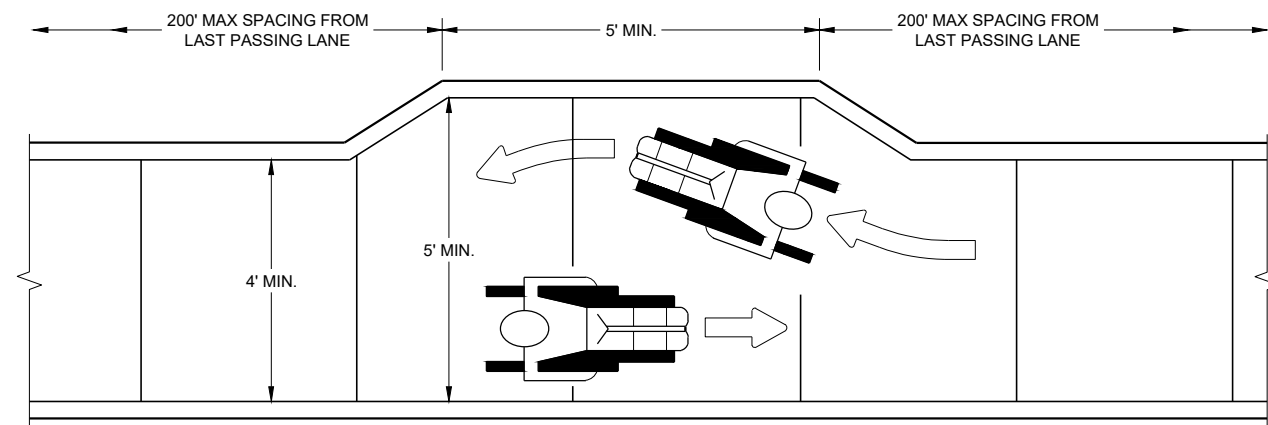
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

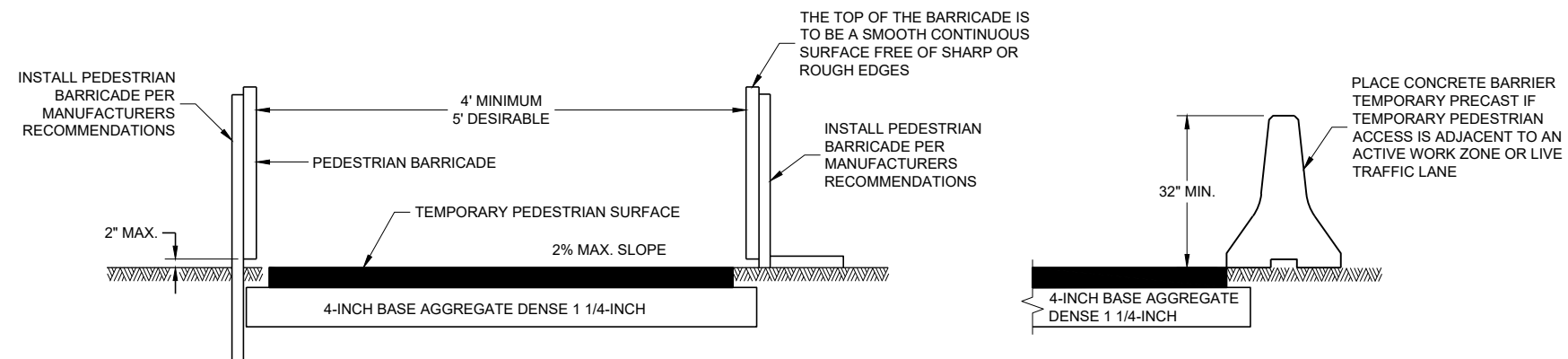
FHWA

SDD 15D28 - 04

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NARROW SIDEWALK PASSING DETAIL



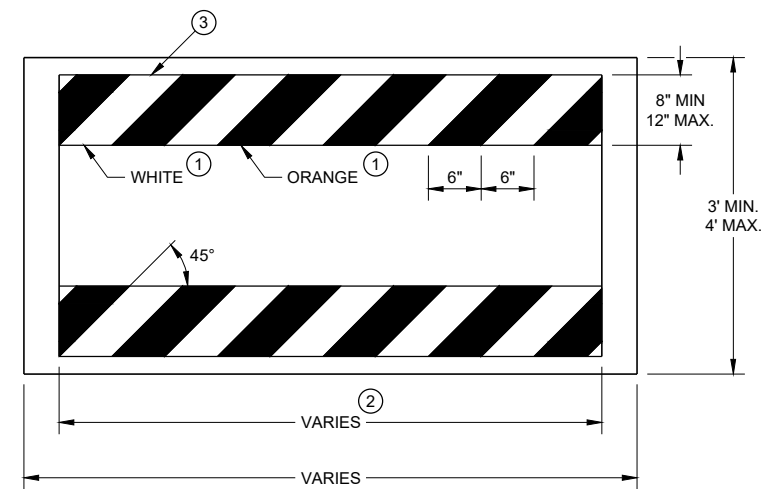
TEMPORARY PEDESTRIAN ACCESS

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*

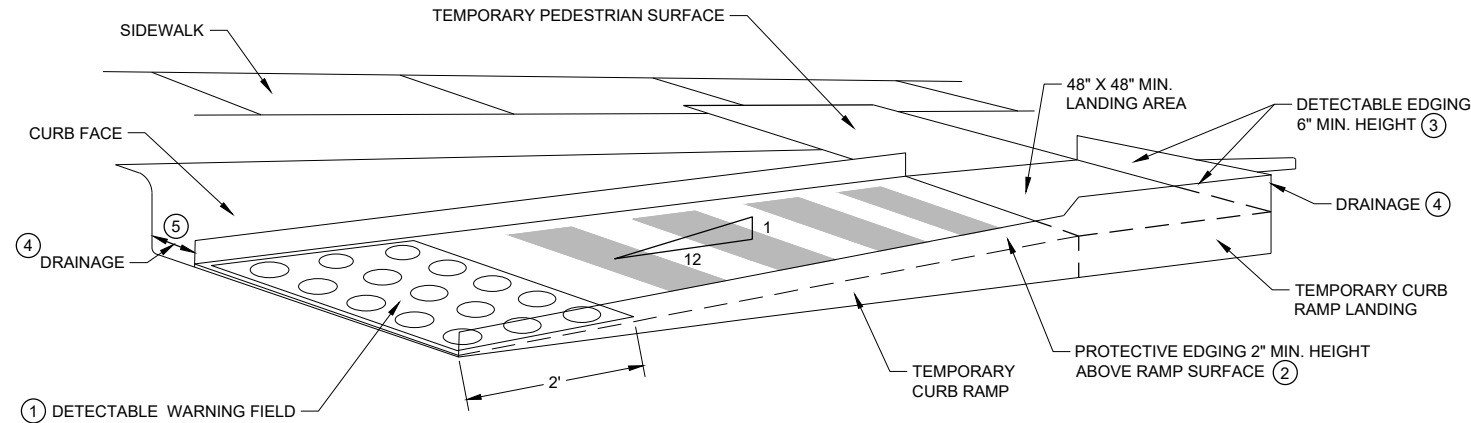
**TRAFFIC CONTROL,
PEDESTRIAN
ACCOMMODATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

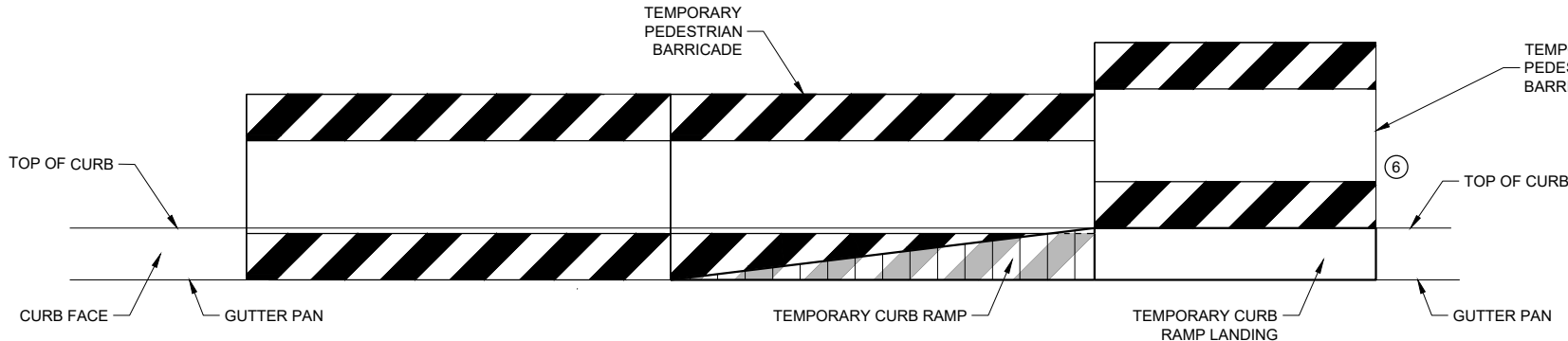
GENERAL NOTES

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".

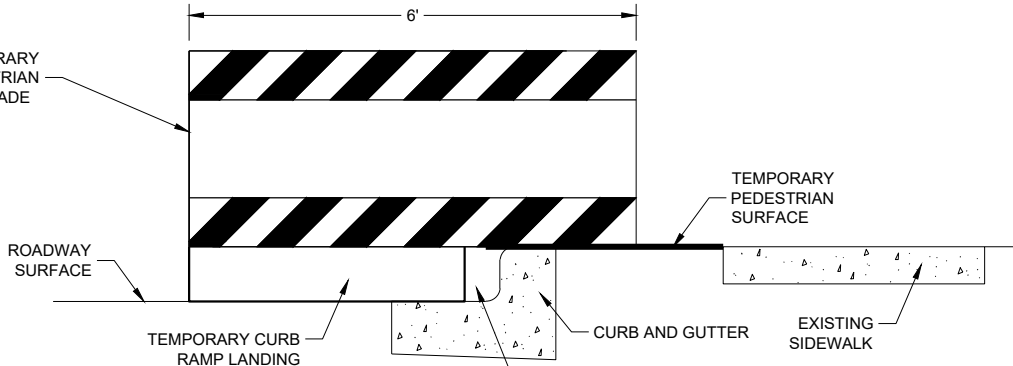
- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). 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



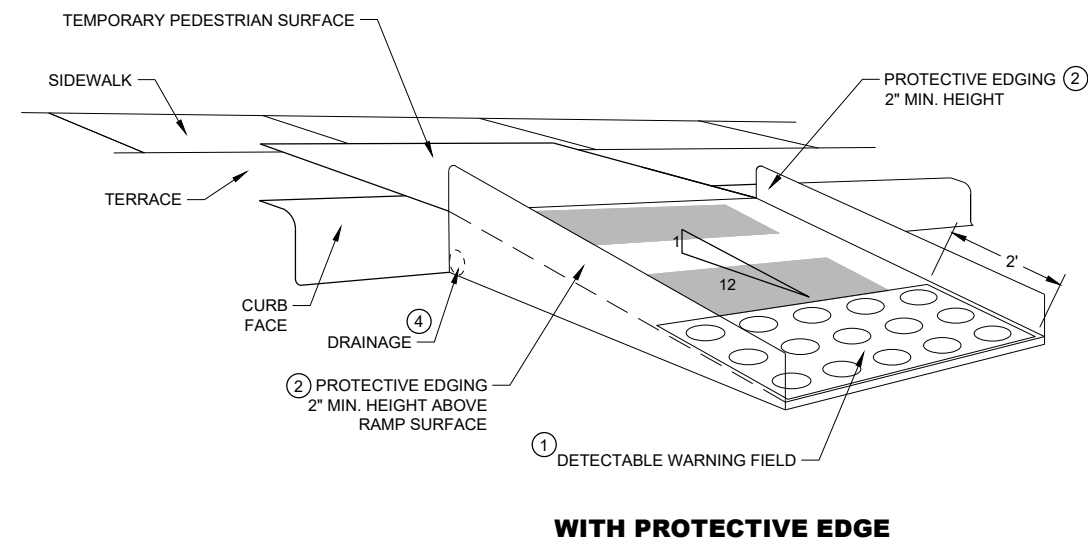
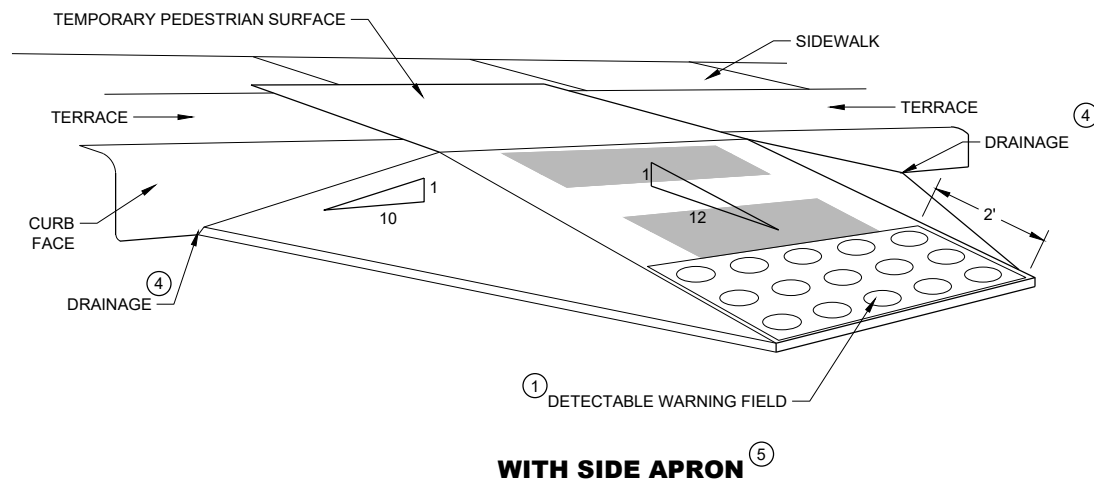
FRONT VIEW



SIDE VIEW

TEMPORARY CURB RAMP PARALLEL TO CURB

<p>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</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.

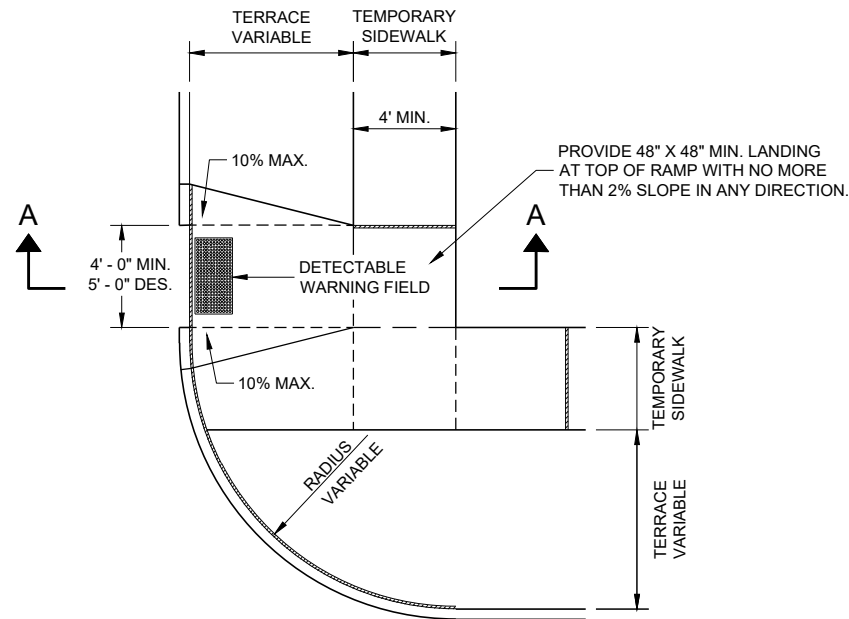
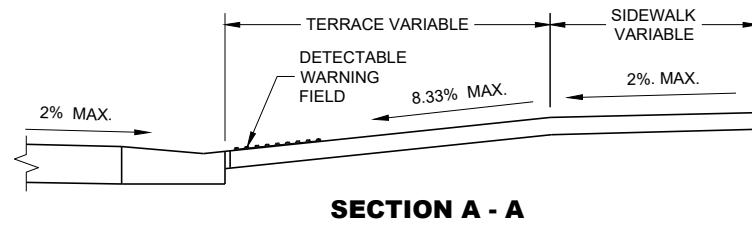
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

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 15D30-08d

SDD 15D30-08d

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

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 RAMP OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

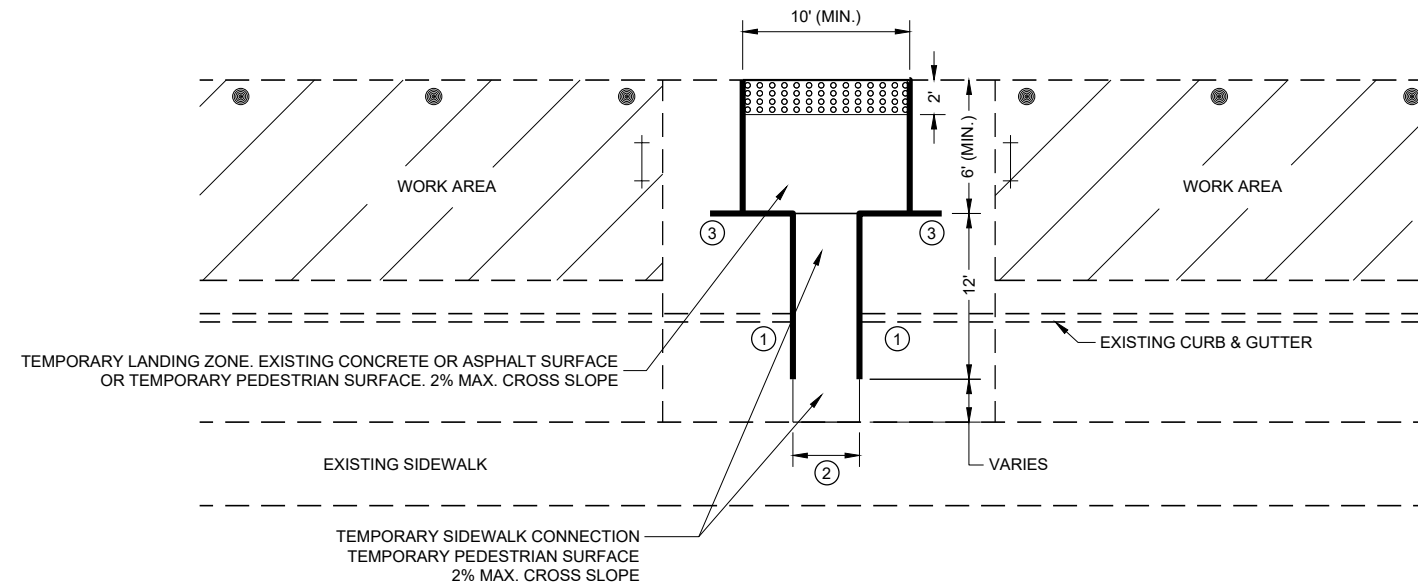
DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

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

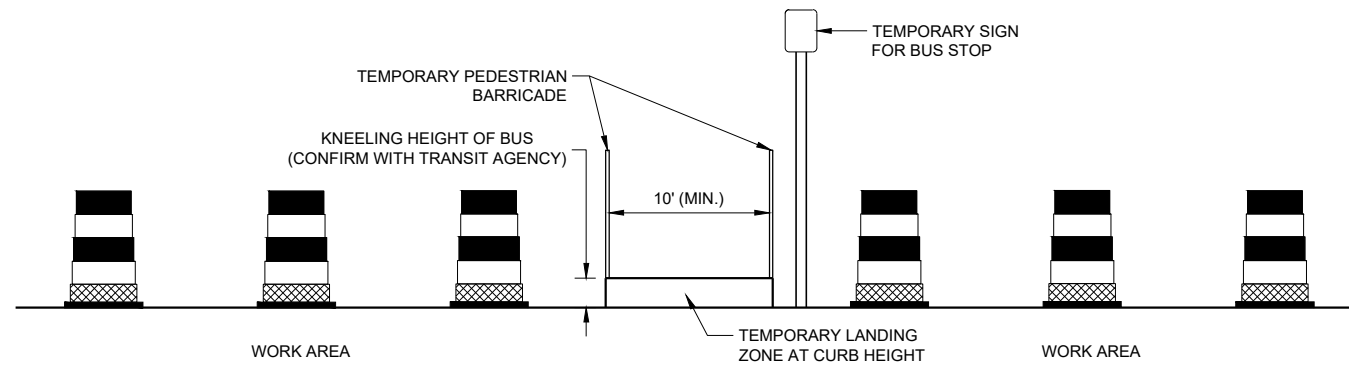
CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

- ① DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ② 5' WIDE MIN. WITH TEMPORARY PEDESTRIAN BARRICADE, 10' WIDE MIN. WITHOUT TEMPORARY PEDESTRIAN BARRICADE.
- ③ PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE INTO THIS SPACE.








PLAN VIEW



**PROFILE VIEW
TEMPORARY BUS STOP PAD**







LEGEND

-  TRAFFIC CONTROL DRUM
-  TYPE III BARRICADE
-  TEMPORARY PEDESTRIAN BARRICADE
-  TEMPORARY DETECTABLE WARNING FIELD
-  WORK AREA

**TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION**

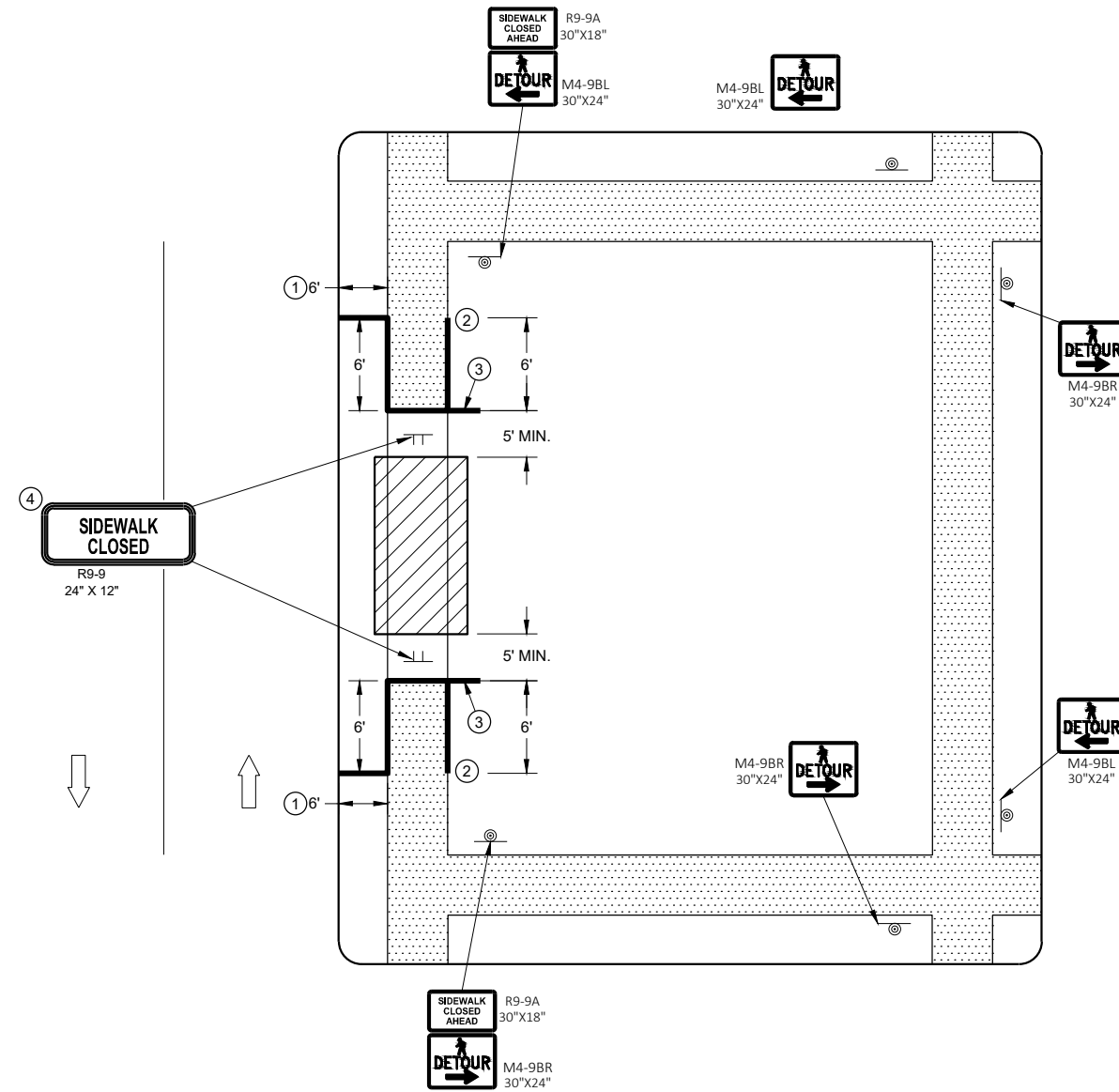
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

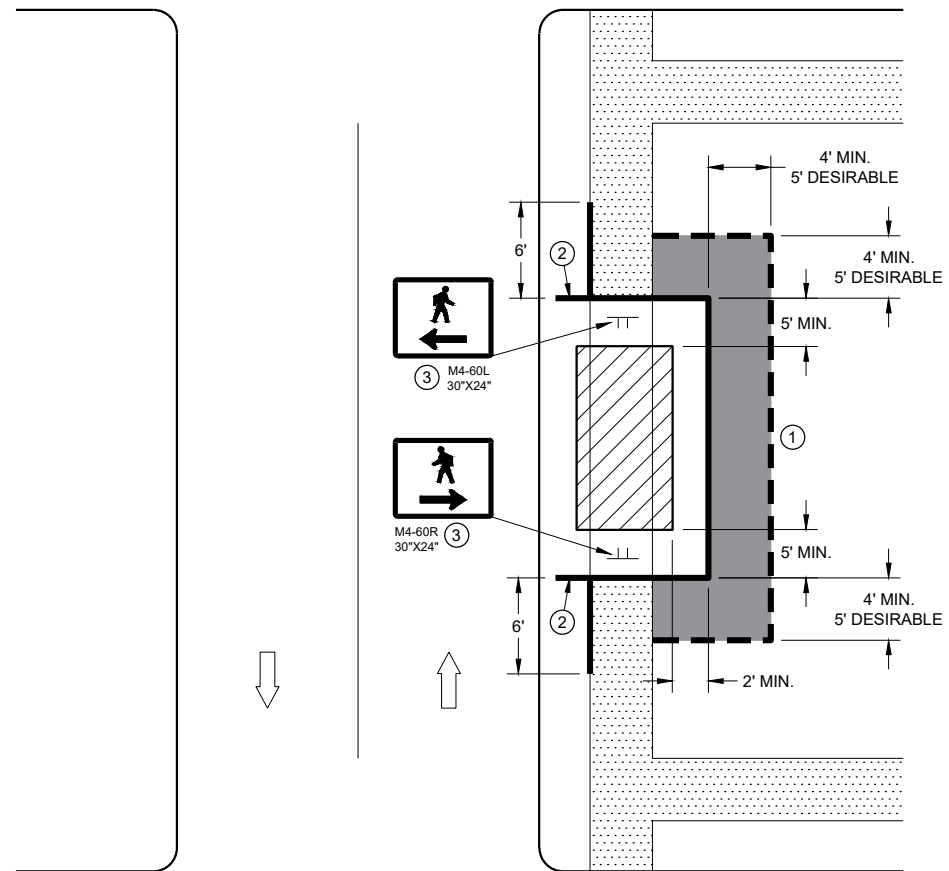
TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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.



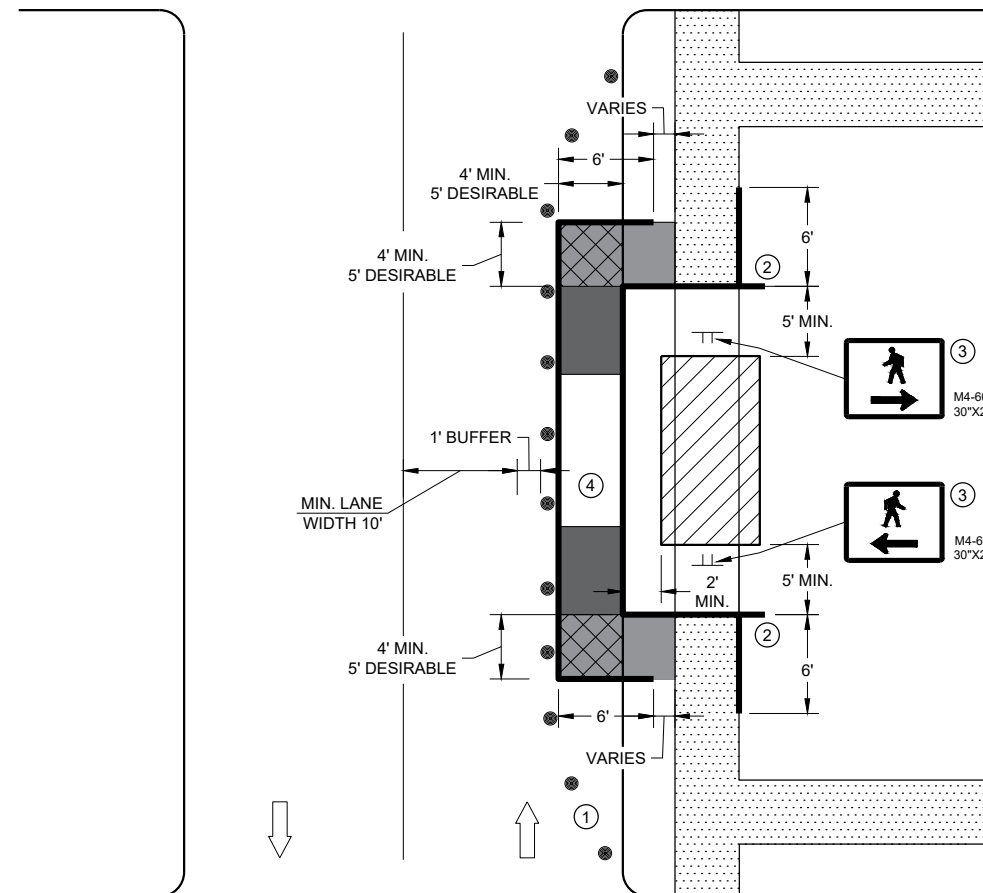
**SIDEWALK DIVERSION
SINGLE SIDE**

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

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6

6

SDD 15D30 - 08h

SDD 15D30 - 08h

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.

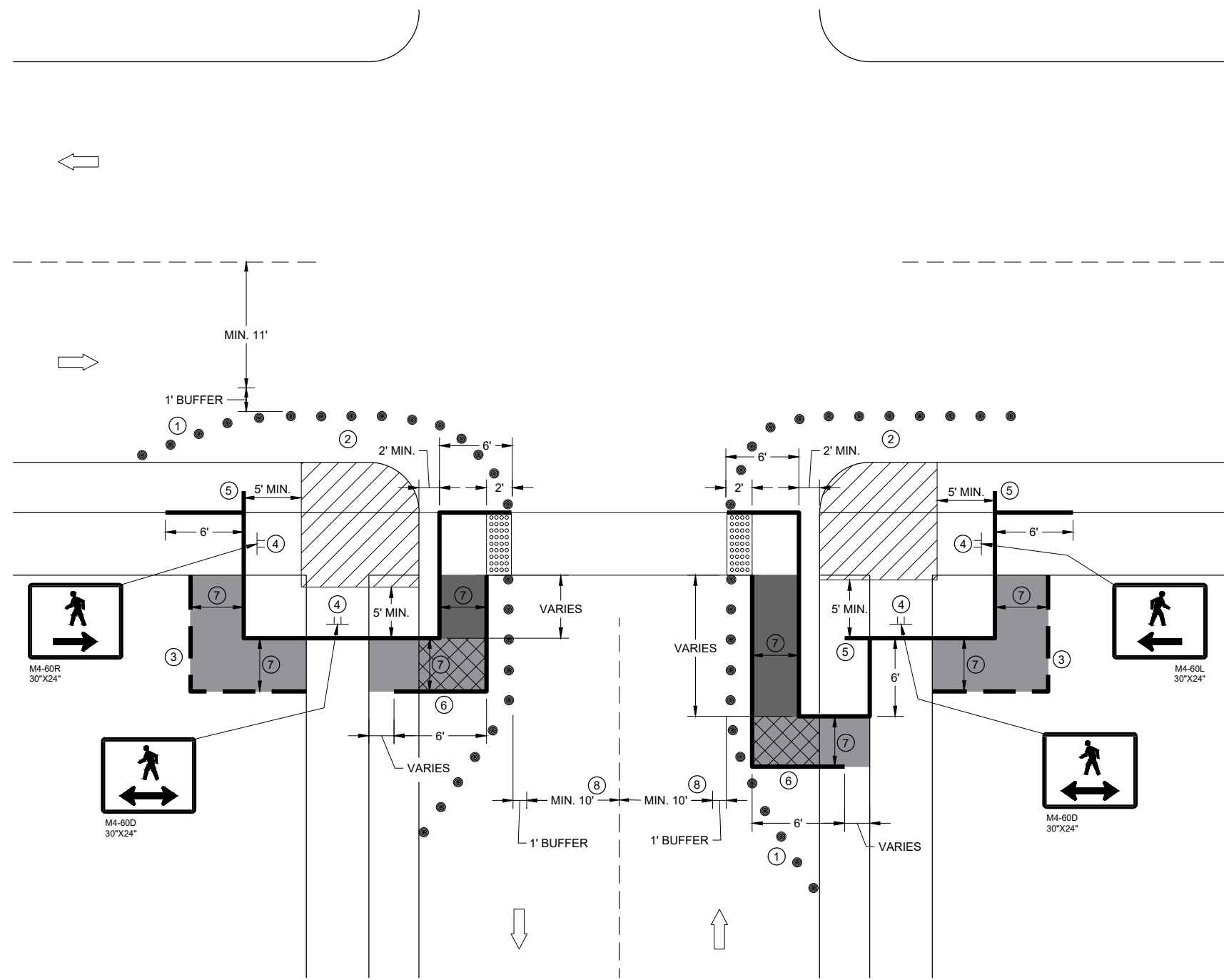
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

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**

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6

6

SDD 15D30 - 08i

SDD 15D30 - 08i

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.

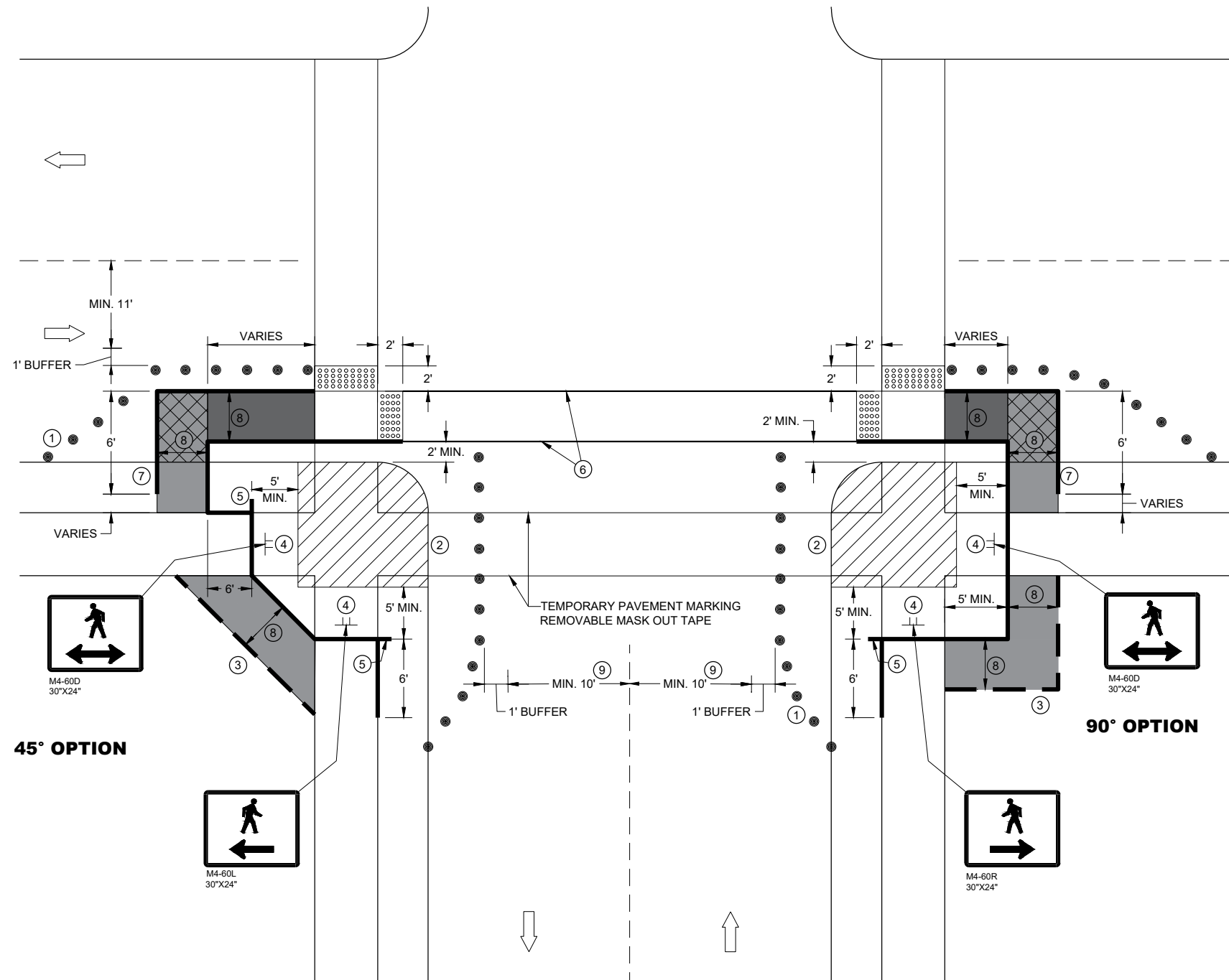
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

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 WHITE 6" TEMPORARY PAVEMENT MARKING
- ⑦ IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
- ⑧ 4 FEET MINIMUM, 5 FEET DESIRABLE
- ⑨ 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

**TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  CONCRETE BARRIER TEMPORARY PRECAST

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

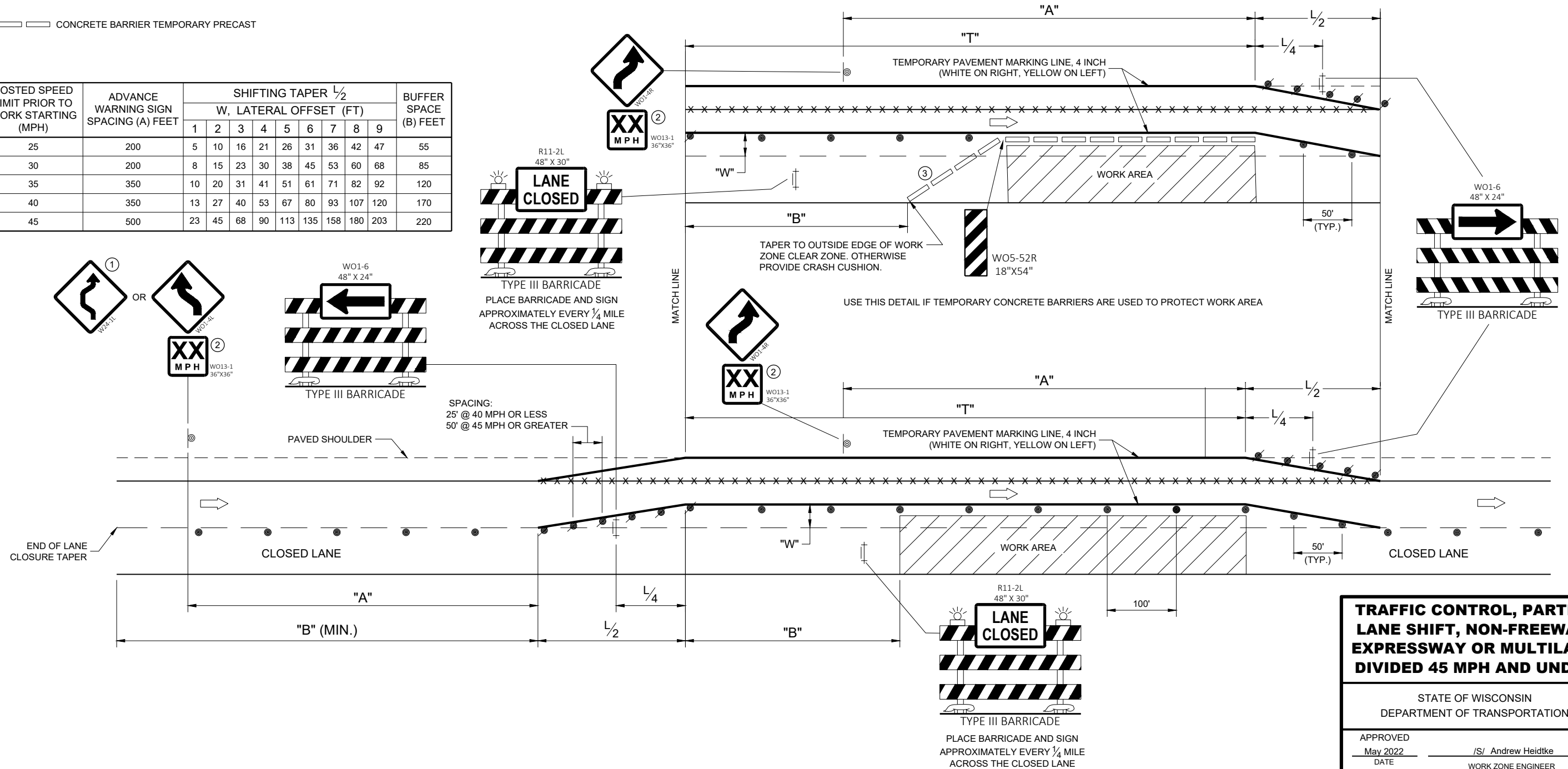
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

- ① USE ONLY WHEN T<600', OMIT WO1-4R.
- ② IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
- ③ BARRIER FLARE RATE: 6:1 @ 40 MPH OR LESS
8:1 @ 45 MPH OR GREATER

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER 1/2 W, LATERAL OFFSET (FT)									BUFFER SPACE (B) FEET
		1	2	3	4	5	6	7	8	9	
25	200	5	10	16	21	26	31	36	42	47	55
30	200	8	15	23	30	38	45	53	60	68	85
35	350	10	20	31	41	51	61	71	82	92	120
40	350	13	27	40	53	67	80	93	107	120	170
45	500	23	45	68	90	113	135	158	180	203	220



6

6

SDD 15D40 - 04c

SDD 15D40 - 04c

TRAFFIC CONTROL, PARTIAL LANE SHIFT, NON-FREEWAY/ EXPRESSWAY OR MULTILANE DIVIDED 45 MPH AND UNDER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

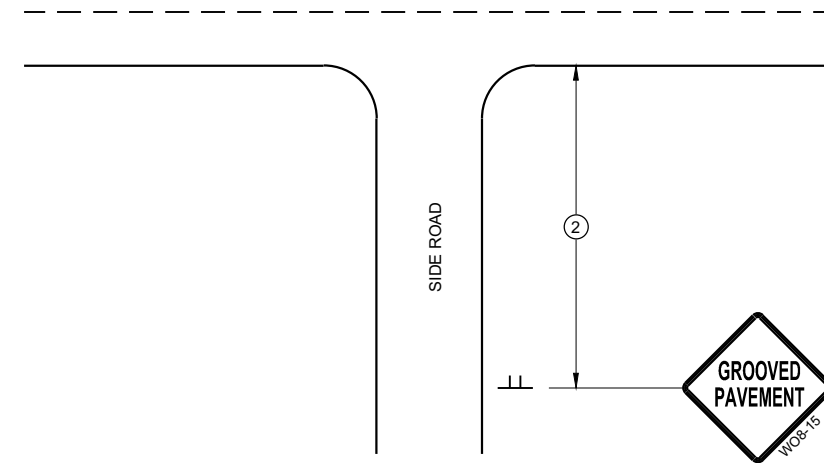
SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

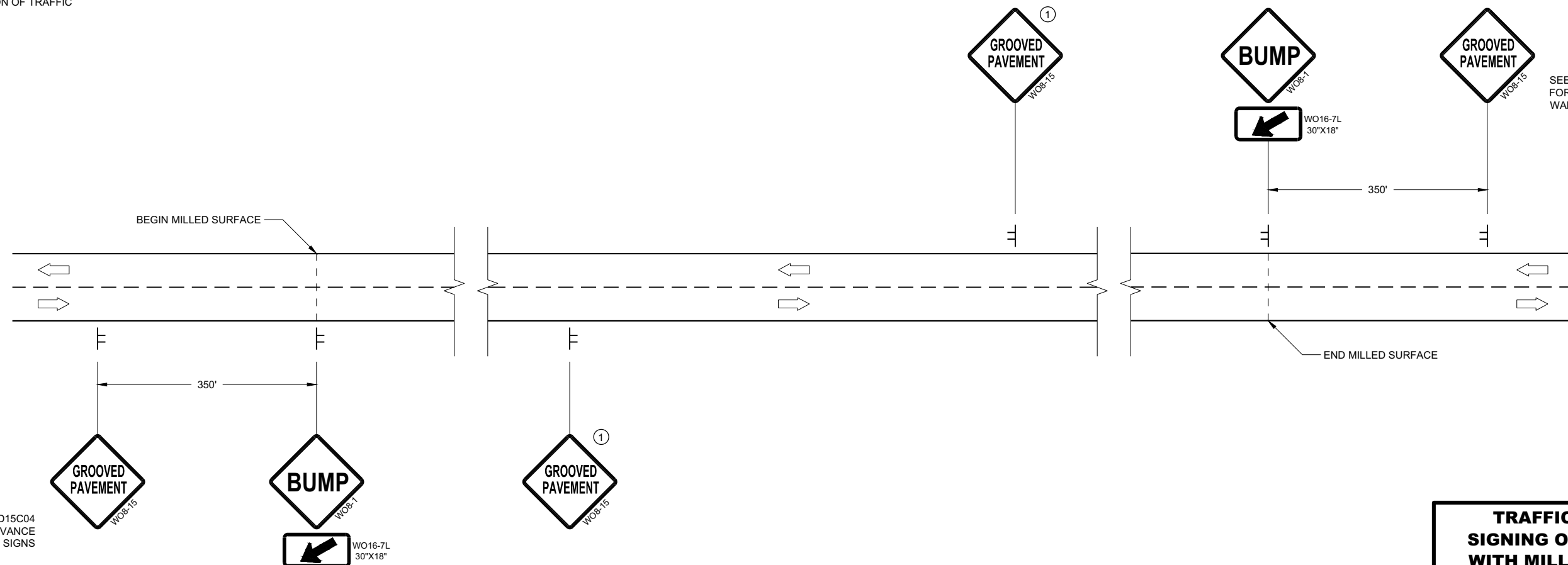
LEGEND

⊥ SIGN ON TEMPORARY SUPPORT

⇨ DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

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

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

PERMANENT MAGNETS SHALL BE INSERTED NEAR THE TOP AND BOTTOM OF ALL ALUMINUM MONUMENTS SO THE MONUMENT CAN EASILY BE DETECTED BY A METAL DETECTOR.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

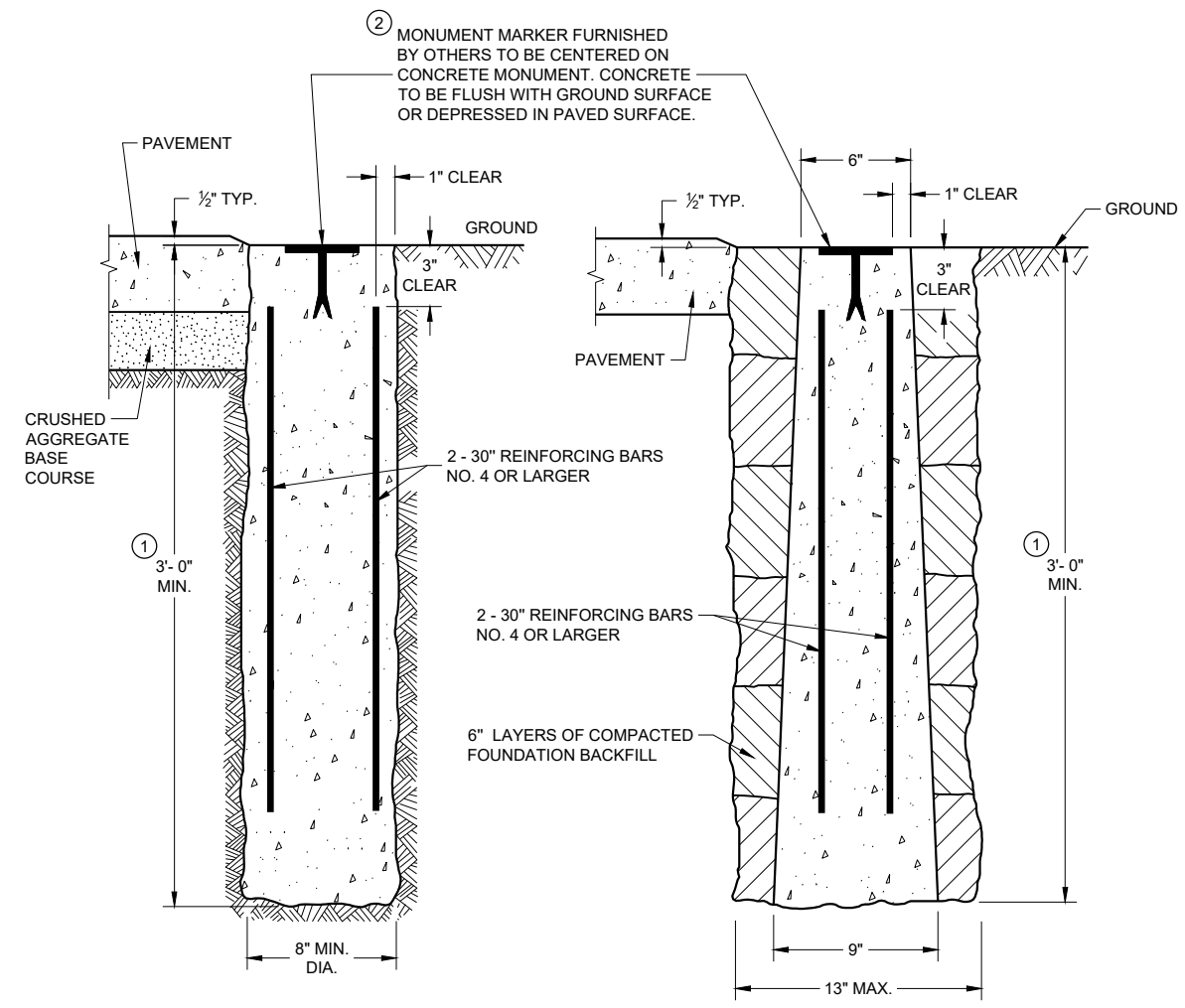
MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

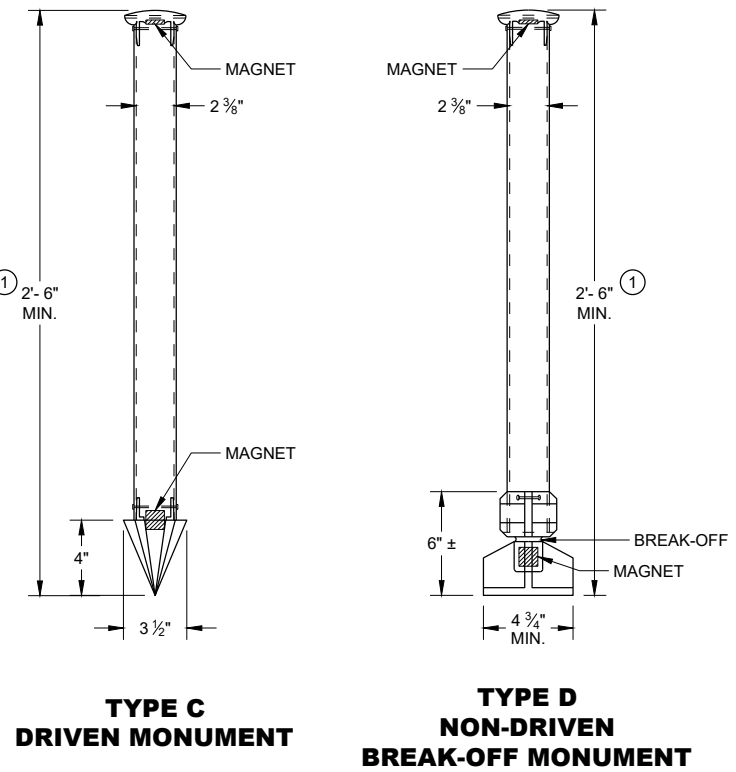
THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

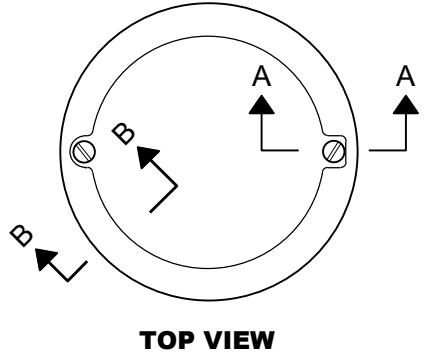
- ① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.
- ② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WISDOT MARKER.



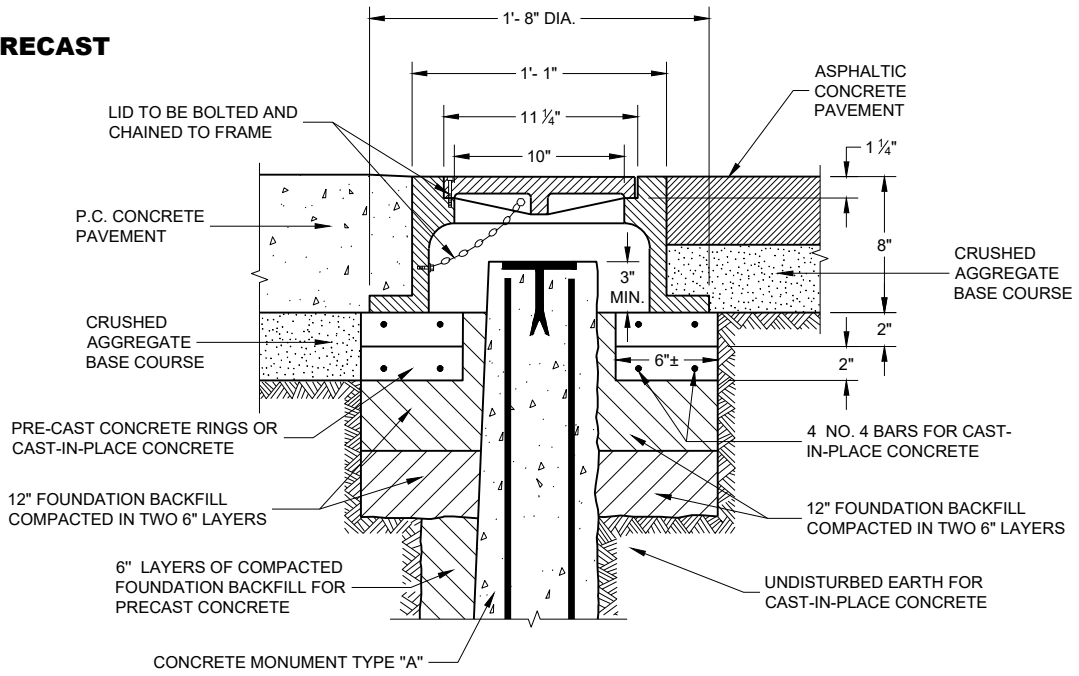
**CAST-IN-PLACE
CONCRETE MONUMENTS
TYPE A**



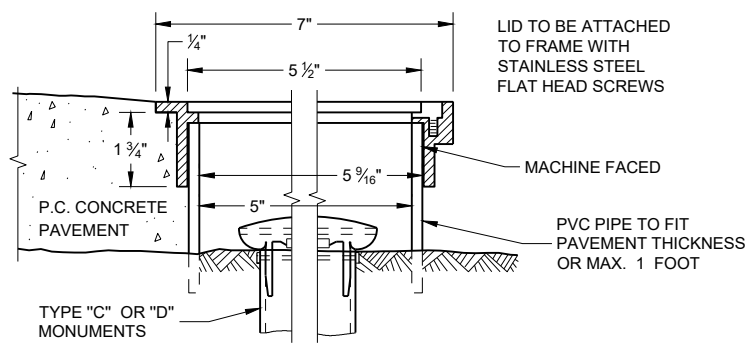
**TYPE C
DRIVEN MONUMENT**
**TYPE D
NON-DRIVEN
BREAK-OFF MONUMENT**
**ALUMINUM MONUMENTS
(INCLUDES MARKER)**



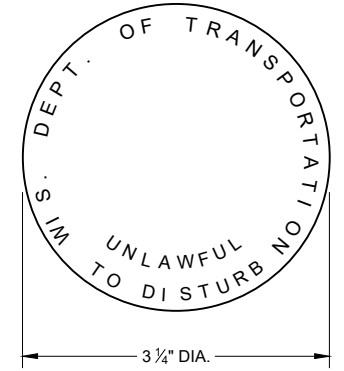
TOP VIEW



**CAST IRON MONUMENT COVER
(APPROXIMATE WEIGHT 95 LBS)**



**SECTION B-B SECTION A-A
ALUMINUM MONUMENT COVER
(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)**



② **WIS DOT MONUMENT
MARKER LOGO**
FOR TYPES "A", "C" & "D"

**LANDMARK REFERENCE
MONUMENTS AND COVERS**

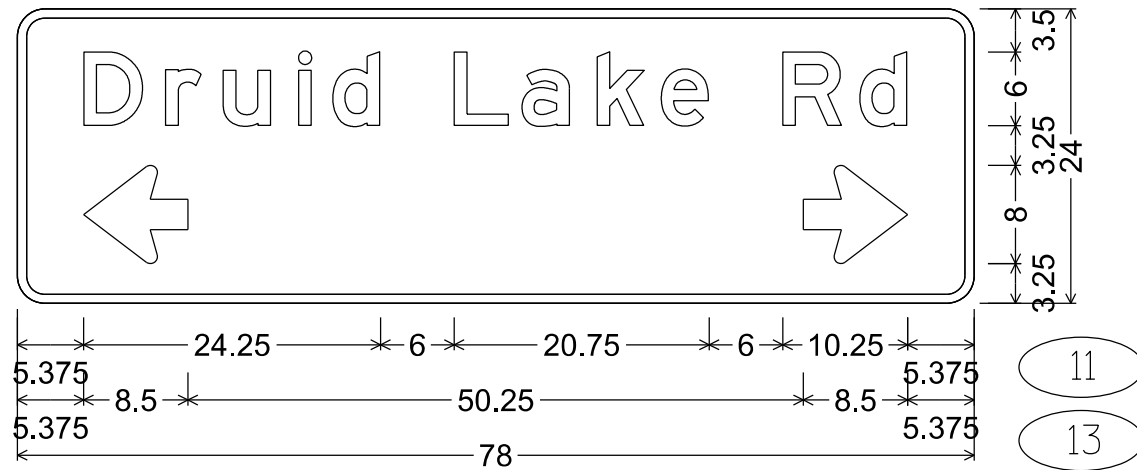
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Raymond A. Kumapayil
DATE CHIEF SURVEYING AND MAPPING
ENGINEER

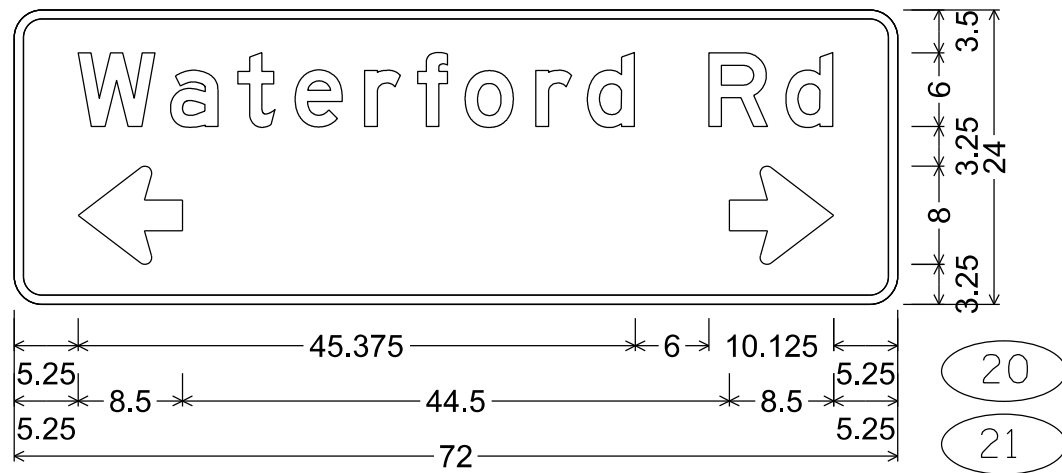
FHWA

NOTES

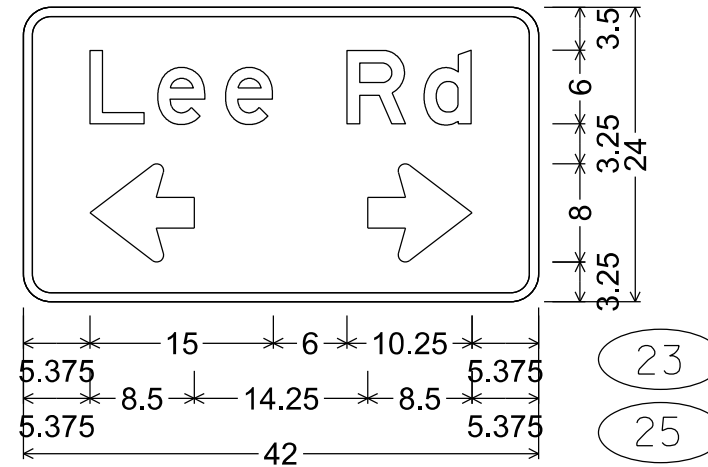
1. Signs are Type II - Type H Reflective
2. Color:
Background - Green
Message - White
3. Message Series - E



D1-61; 2.250" Radius, 0.750" Border



D1-61; 2.250" Radius, 0.750" Border

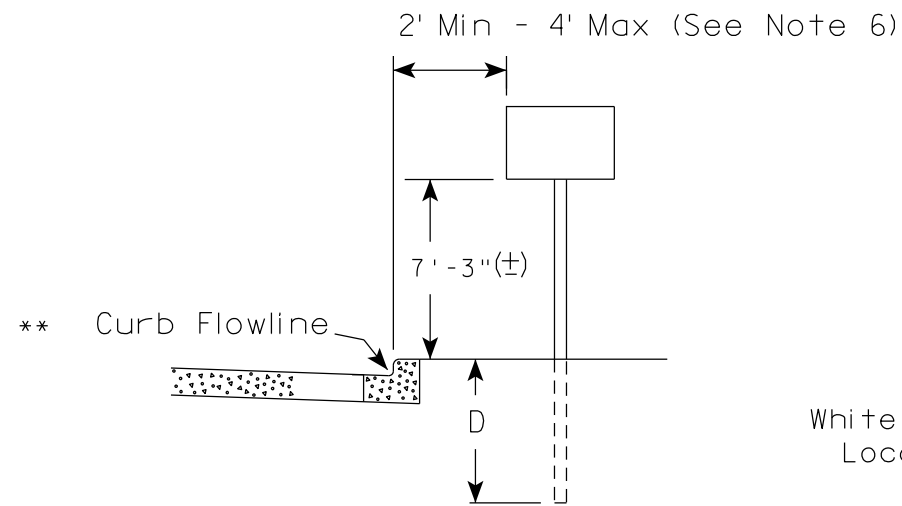


D1-61; 2.250" Radius, 0.750" Border

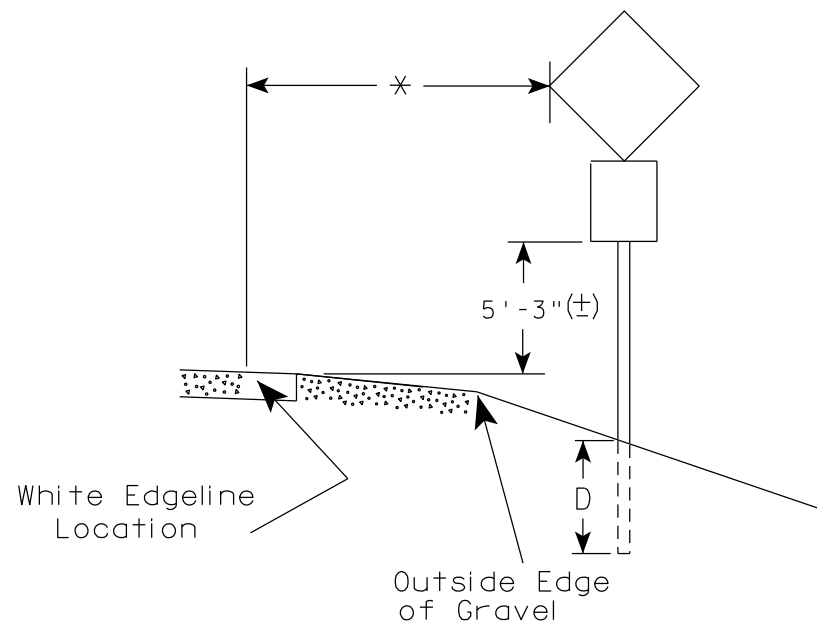
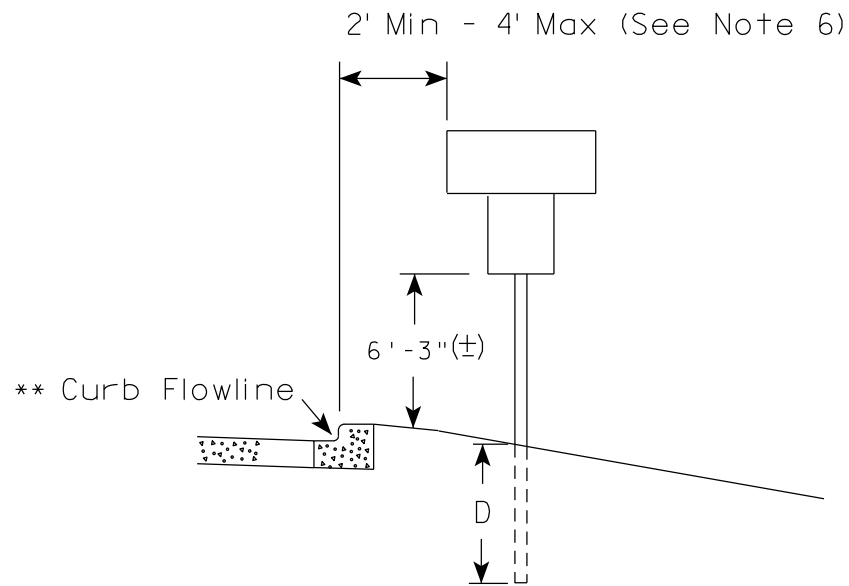
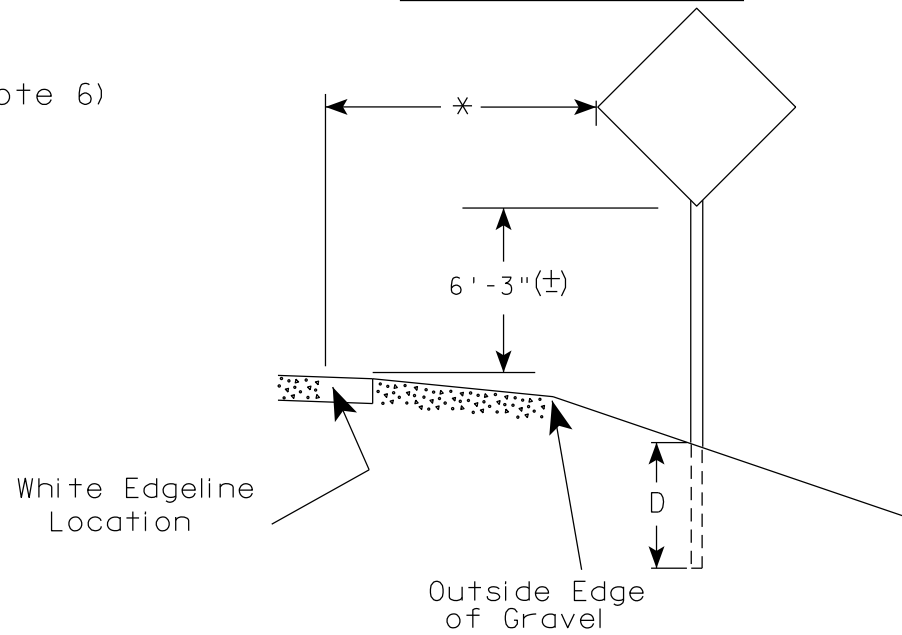
7

7

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

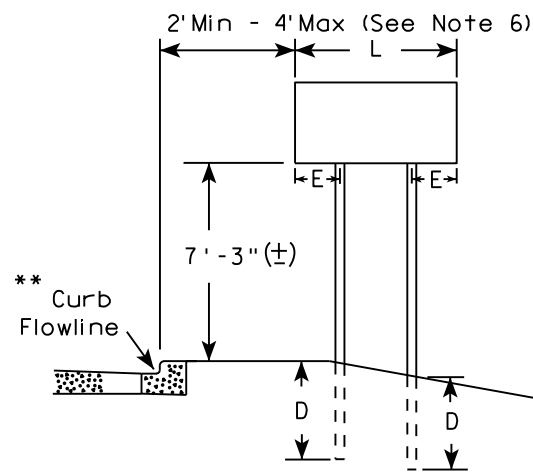
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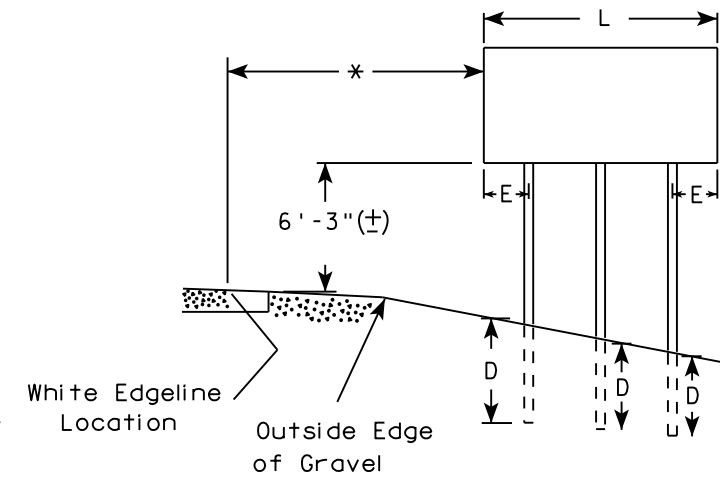
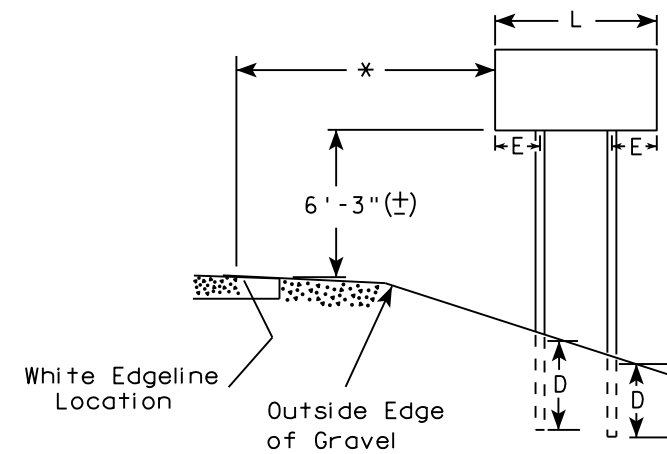
GENERAL NOTES

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" (±).

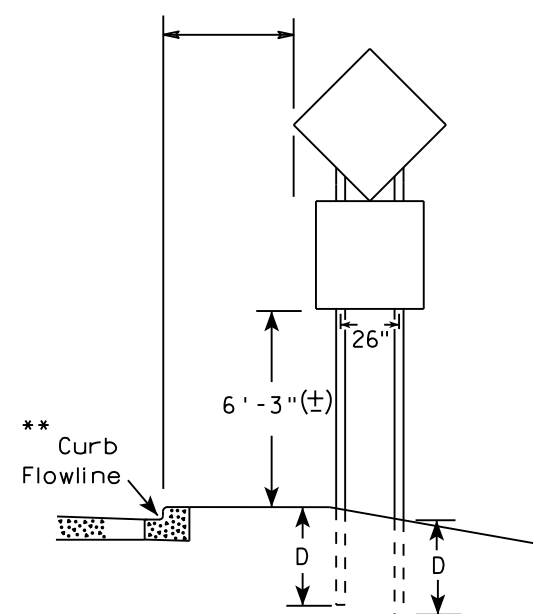
URBAN AREA



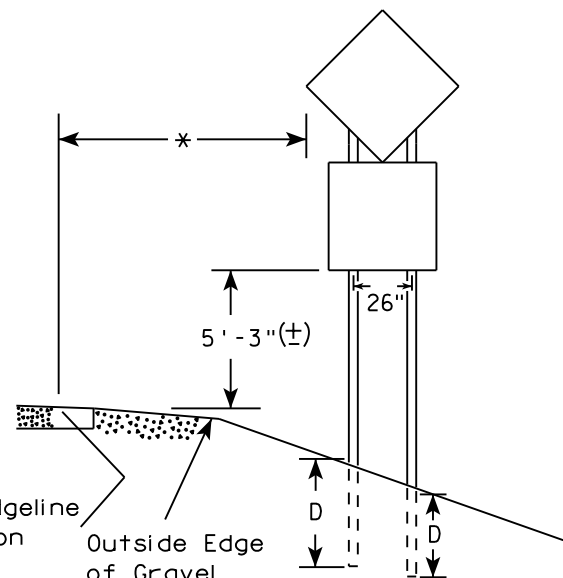
RURAL AREA (See Note 3)



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

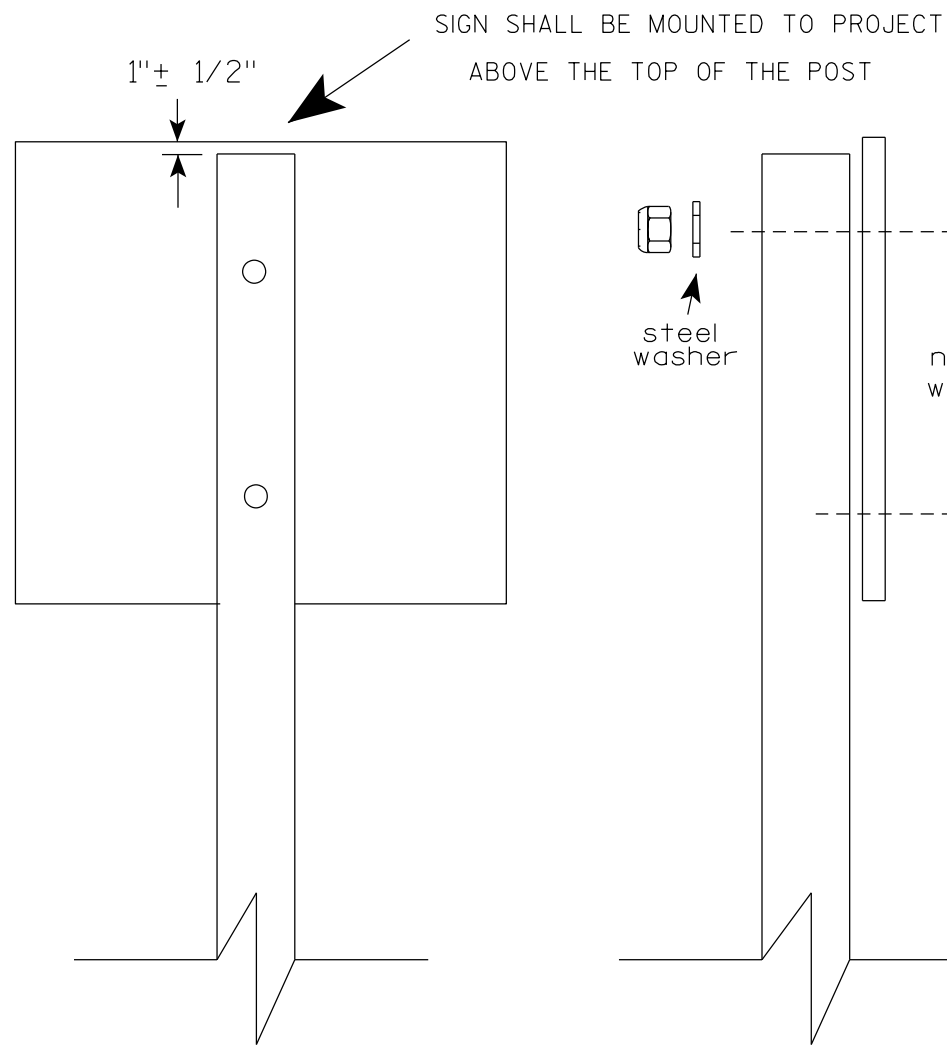
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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.

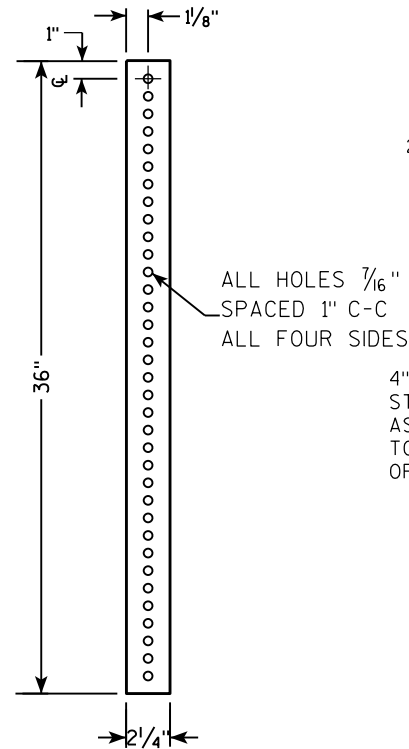
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE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

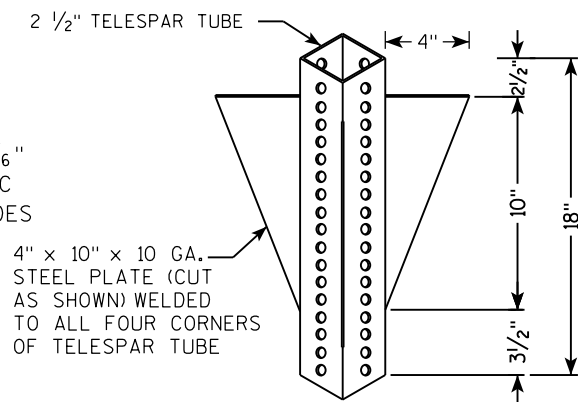
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

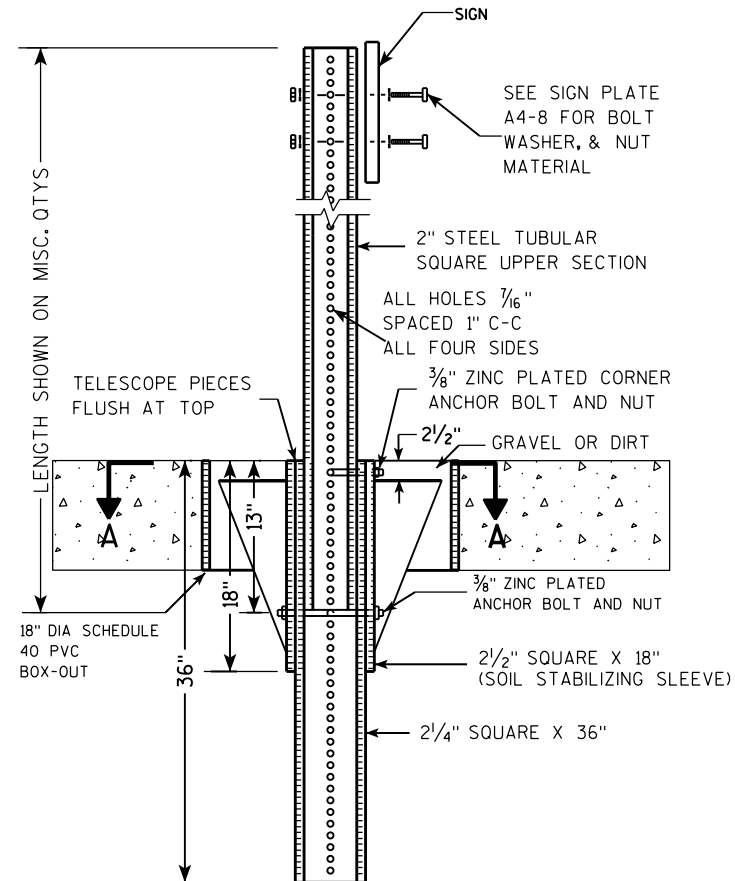
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



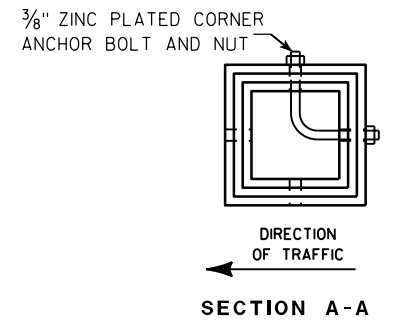
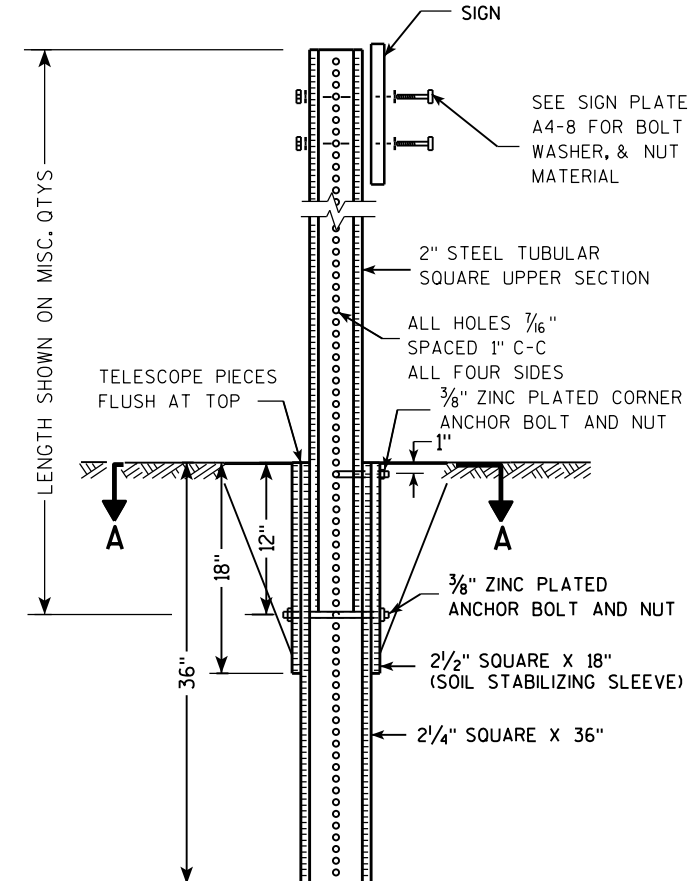
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



**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

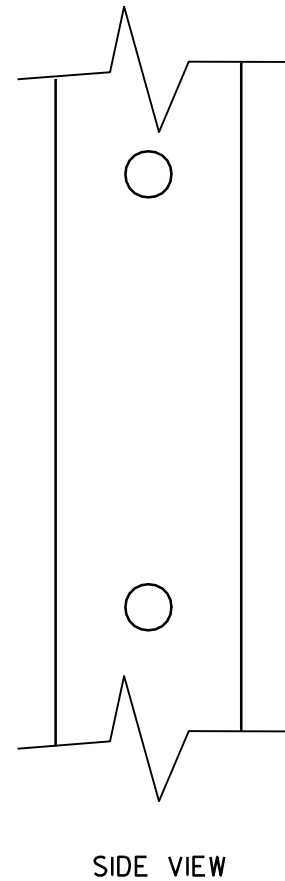
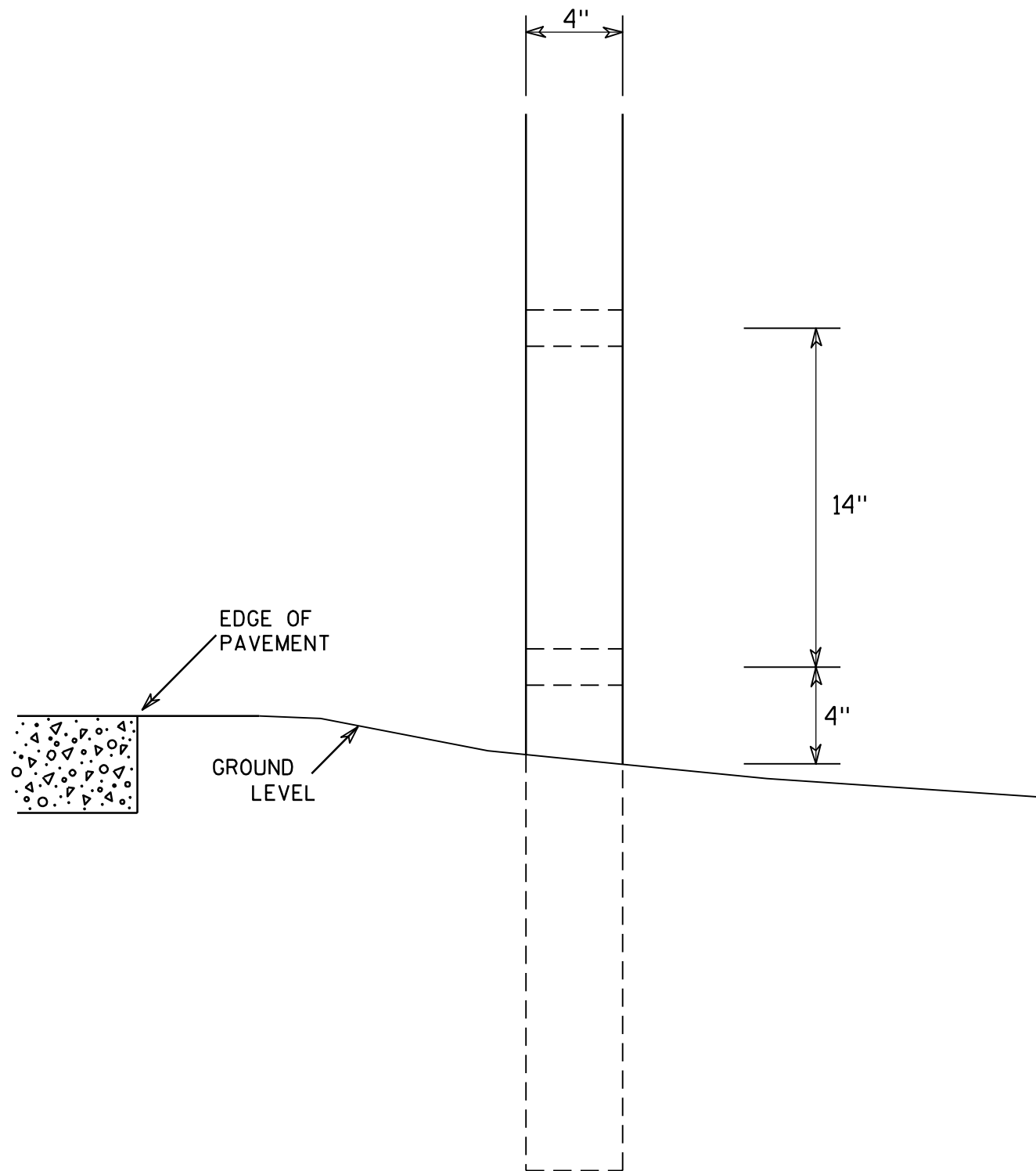
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



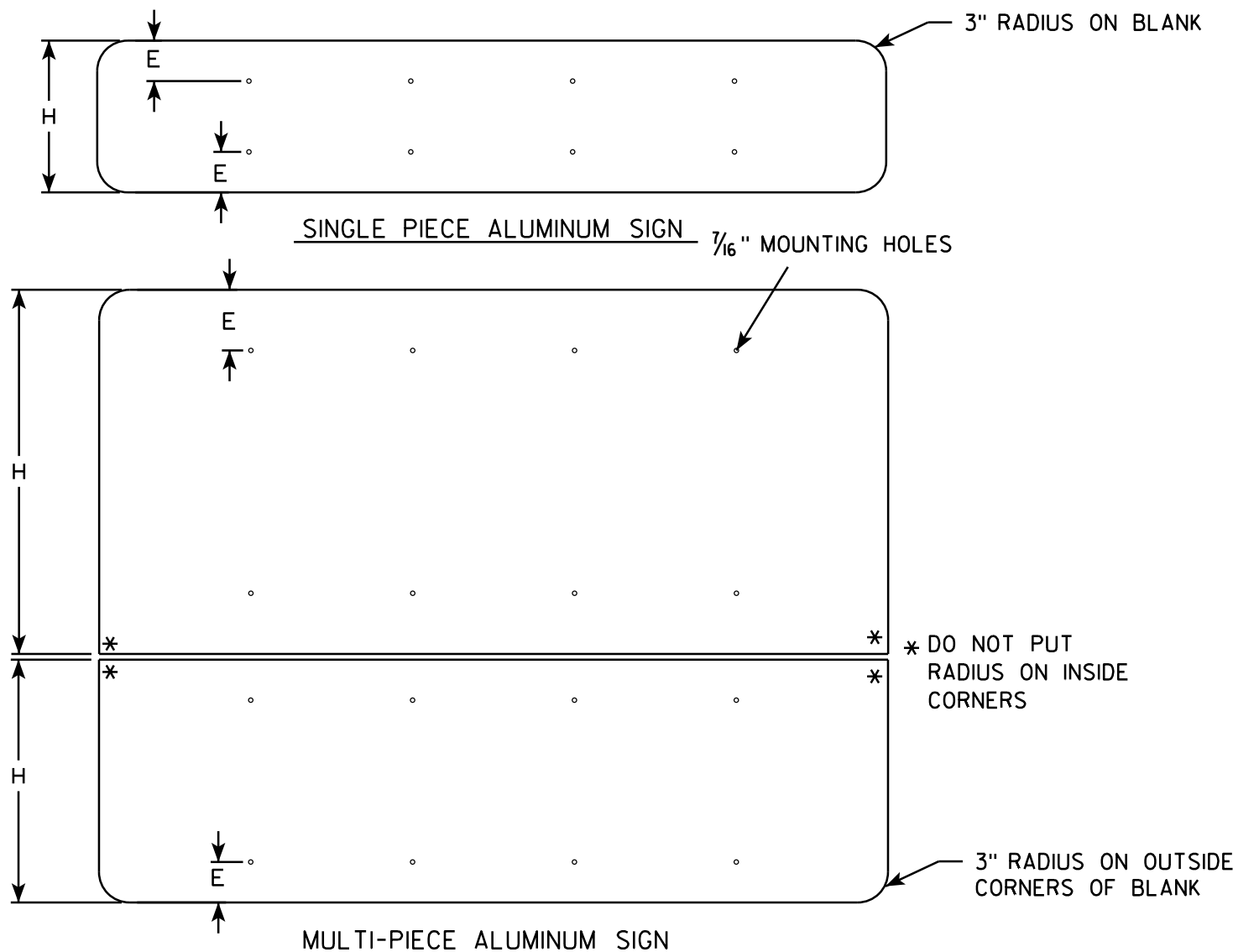
GENERAL NOTES

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

7

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4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J. Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

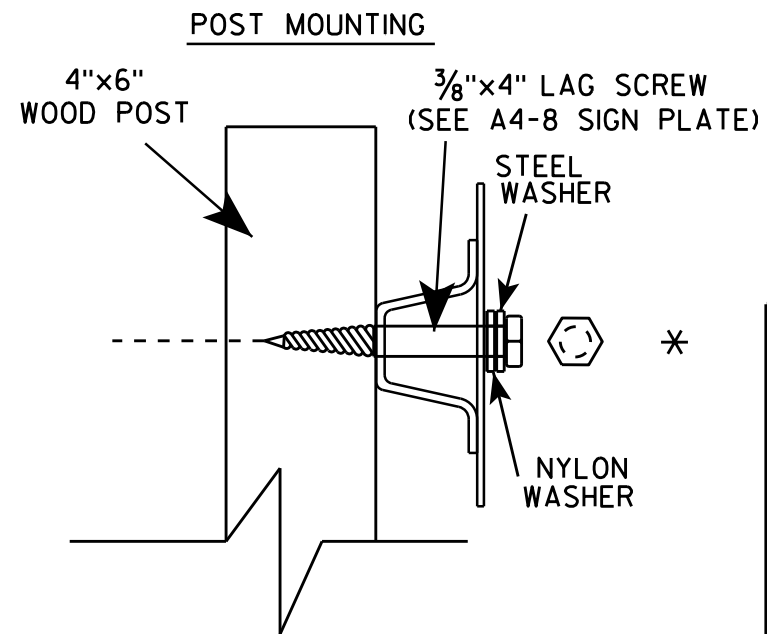
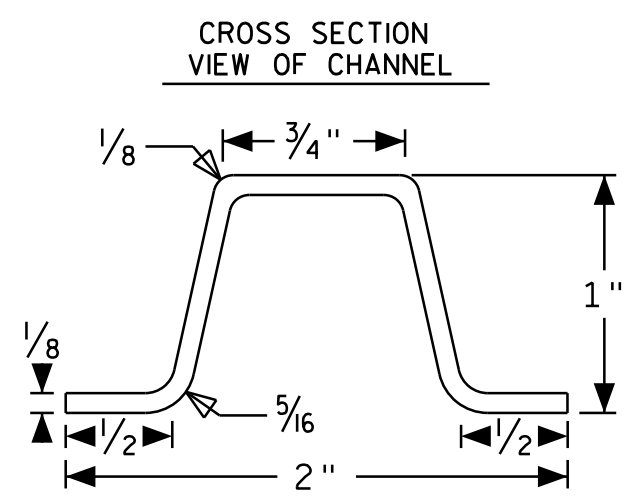
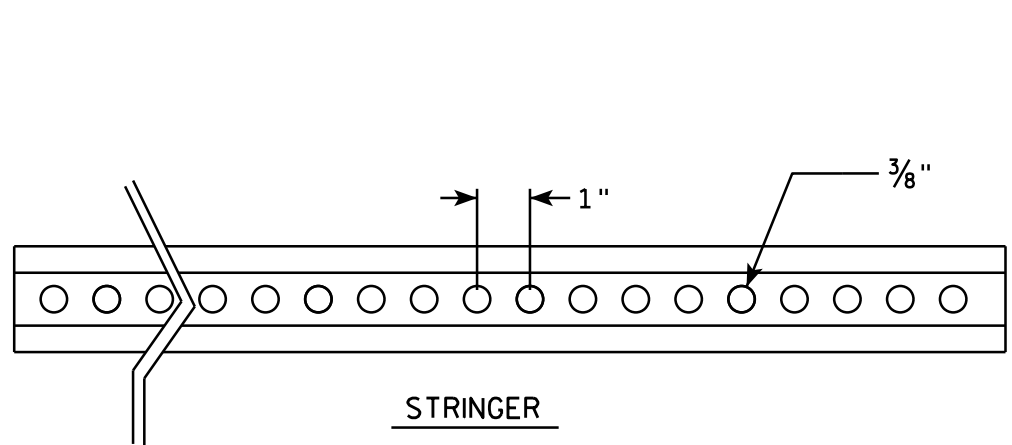


GENERAL NOTES

- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE $\frac{7}{16}$ " DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16 $\frac{1}{2}$ " 33 $\frac{1}{2}$ " 50 $\frac{1}{2}$ " 67 $\frac{1}{2}$ "
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19 $\frac{1}{2}$ " 38 $\frac{1}{2}$ " 57 $\frac{1}{2}$ " 76 $\frac{1}{2}$ "
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22 $\frac{1}{2}$ " 43 $\frac{1}{2}$ " 64 $\frac{1}{2}$ " 85 $\frac{1}{2}$ "
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

7



7

SIGN STRINGER MOUNTING REQUIREMENTS

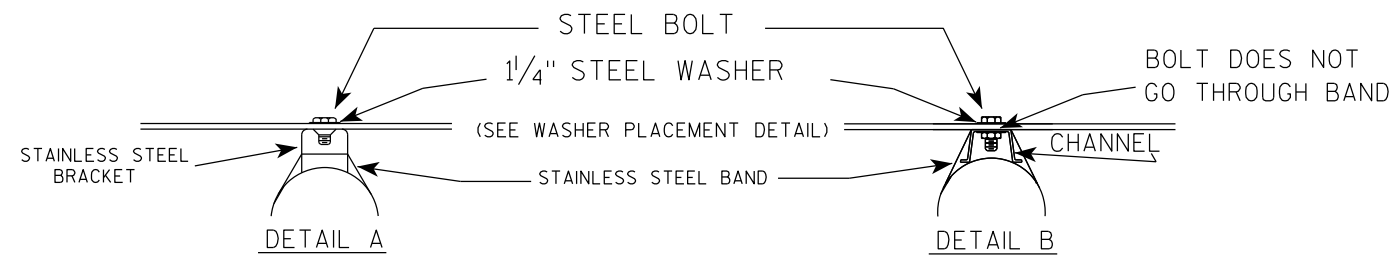
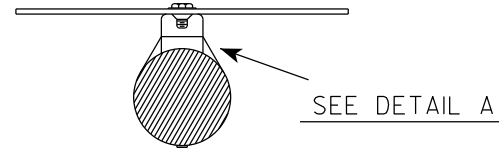
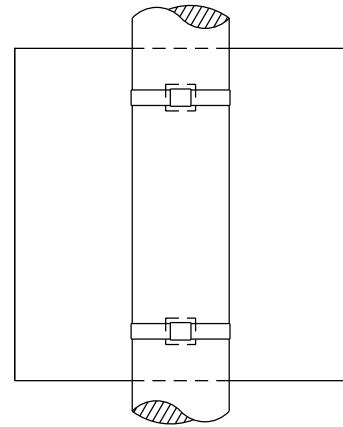
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/26/16 PLATE NO. A4-18.1

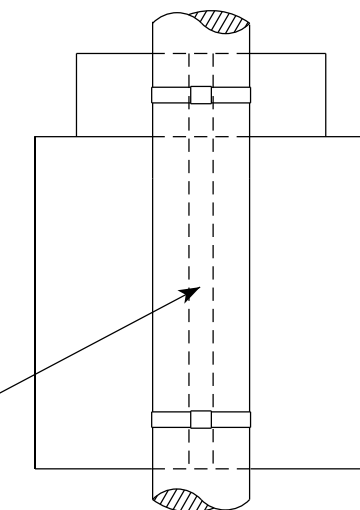
BANDING

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

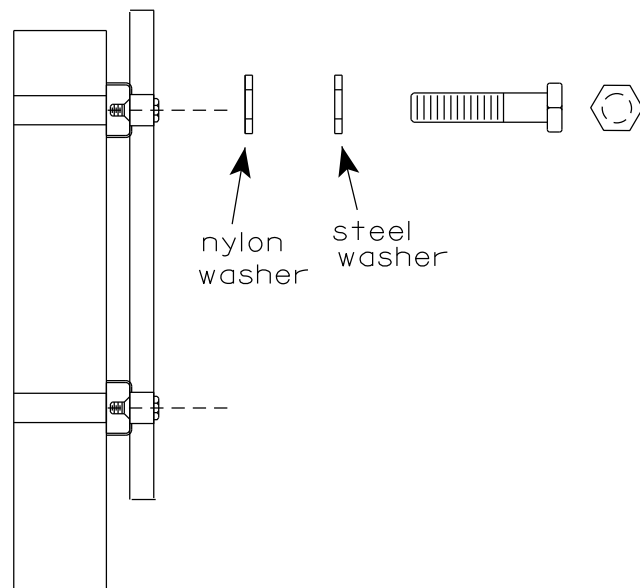
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

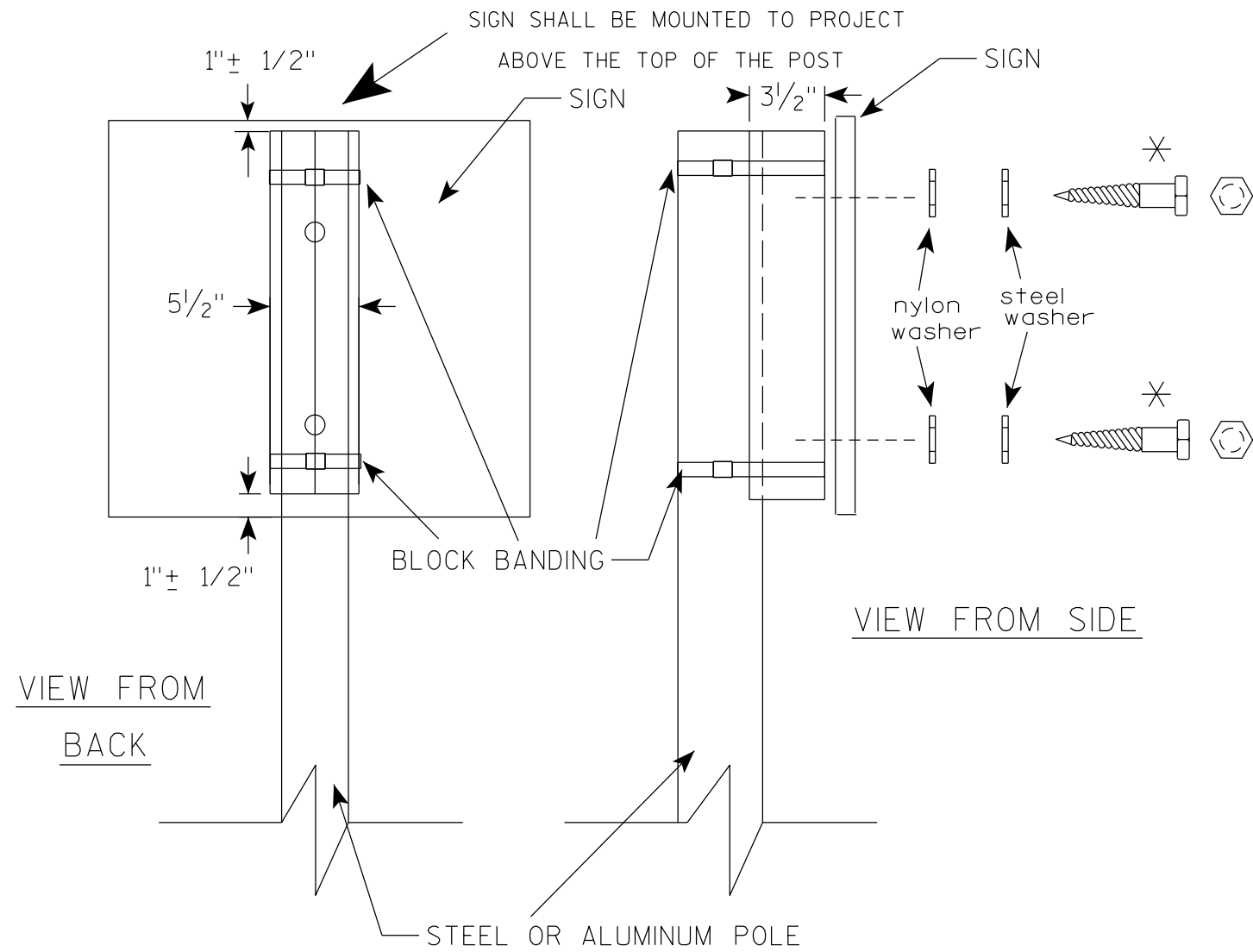


WASHER PLACEMENT



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

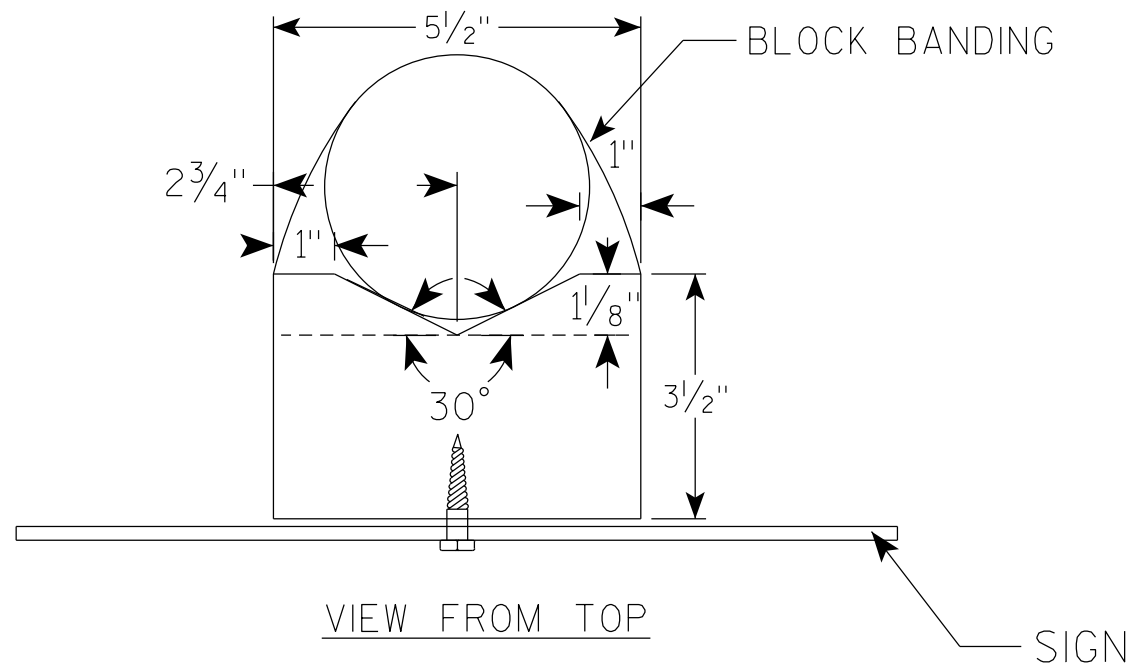
STANDARD SIGN SIGN BANDING DETAILS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 6/10/19	PLATE NO. A5-9.4



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

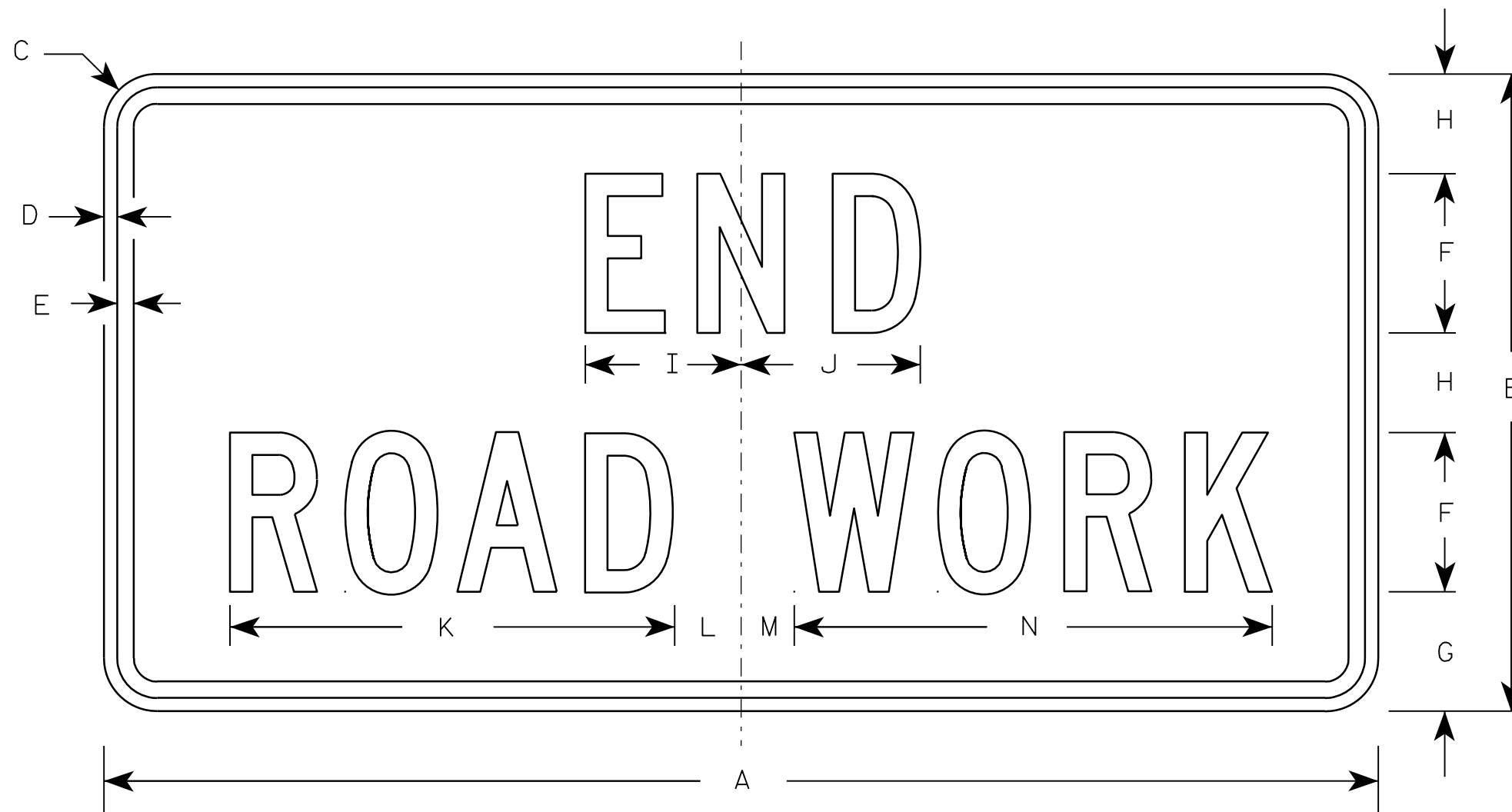
⊗ LAG BOLTS SHALL BE 3/8" X 2 1/2"



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 F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



G20-2A

Metric equivalent
for this sign is:

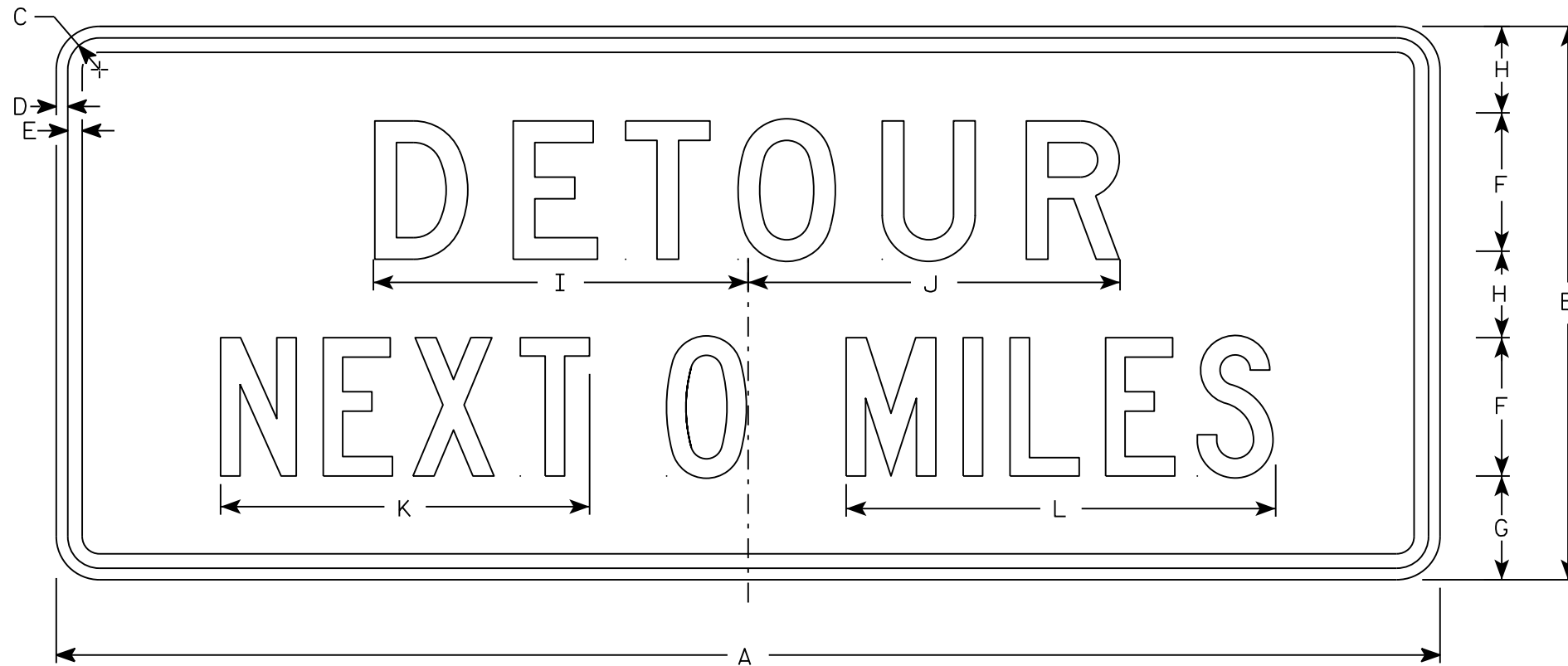
SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq.
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN G20-2A	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/30/09	PLATE NO. G20-2A.8

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - Line 1 is D and Line 2 is 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. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance



G20-51

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	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10
3																											
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10
5																											

STANDARD SIGN
G20-51

WISCONSIN DEPT OF TRANSPORTATION

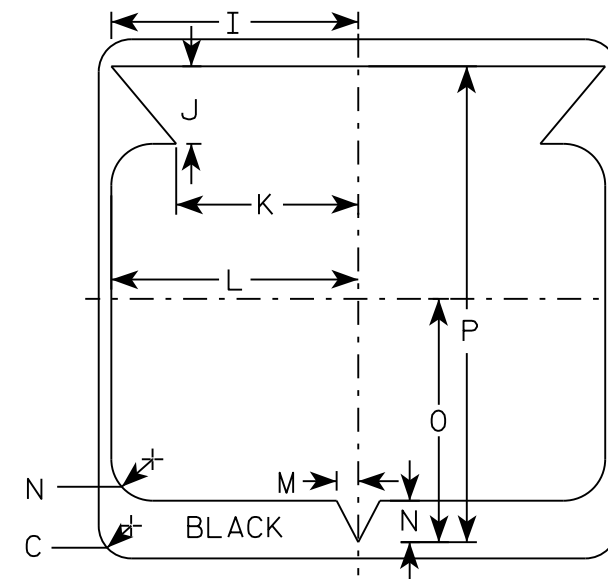
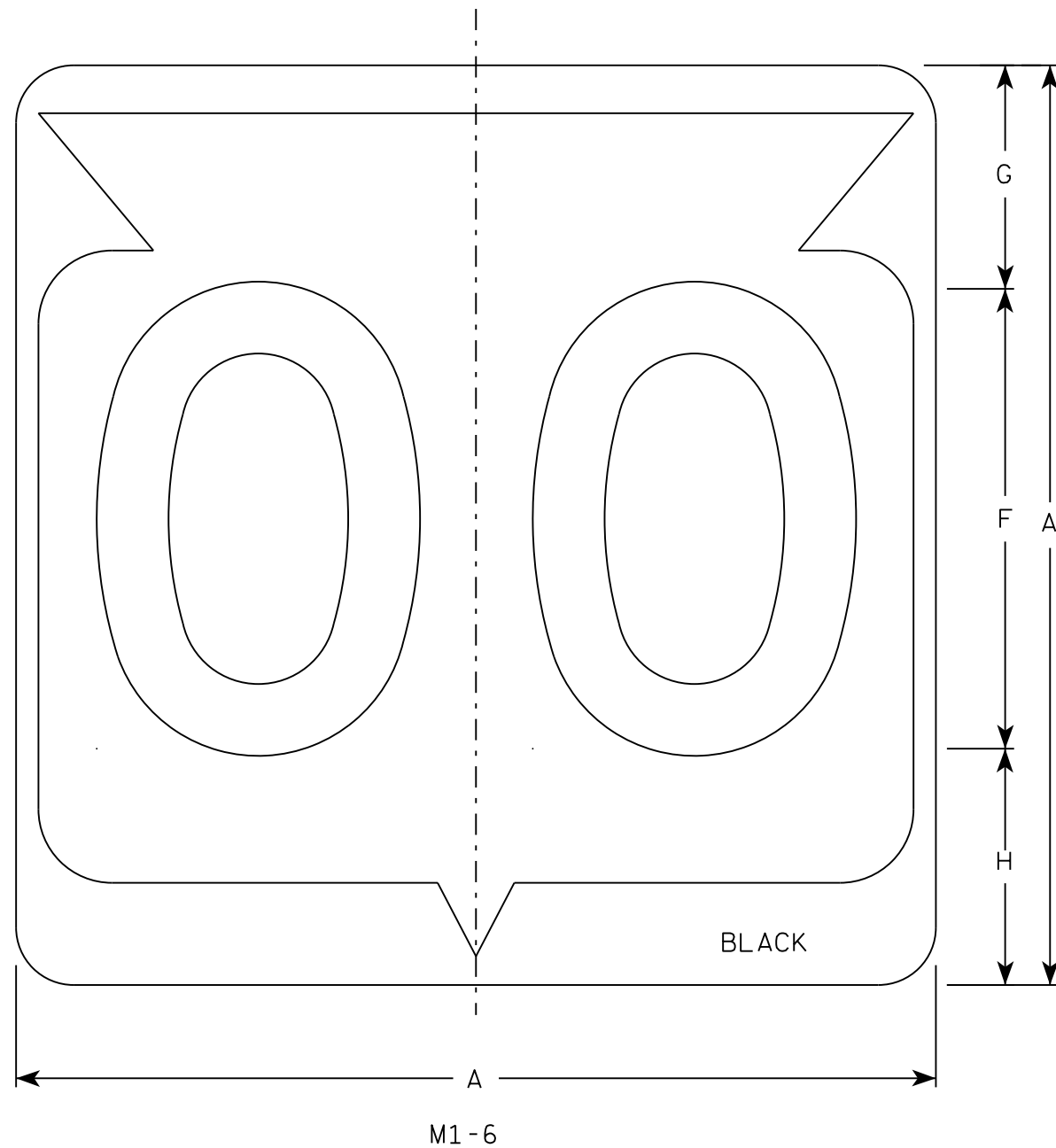
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-51.2

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

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

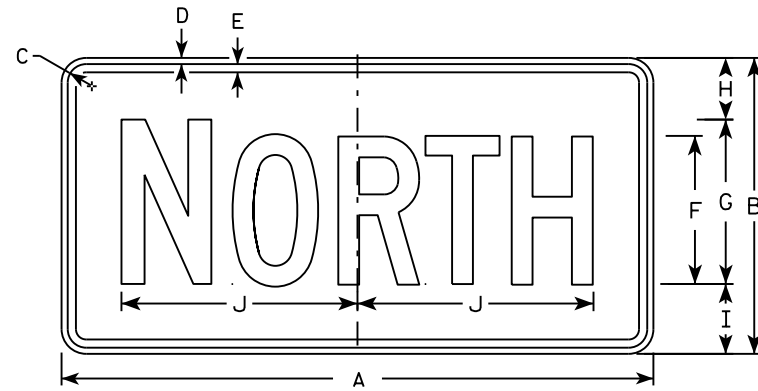
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

7

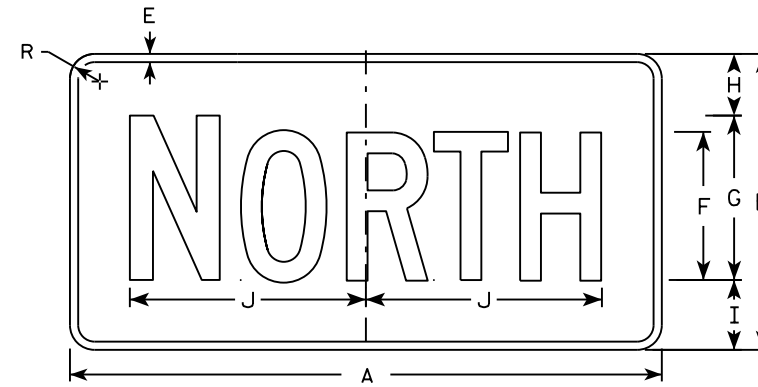
7

NOTES

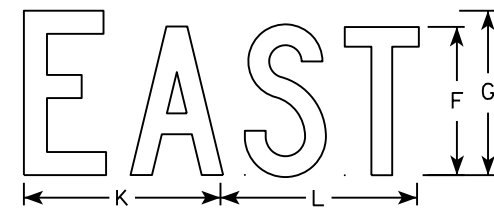
- All Signs Type II - Type H
- Color:
 - Background - See note 5
 - Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M3-1 thru M3-4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



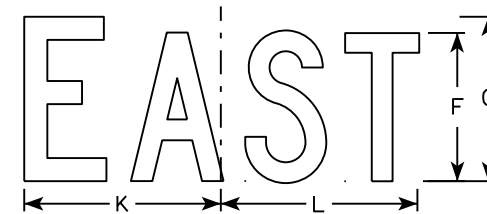
M3-1
MM3-1
MP3-1



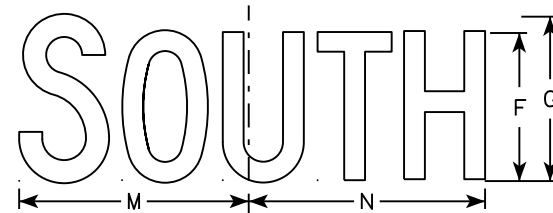
MB3-1
MK3-1
MN3-1



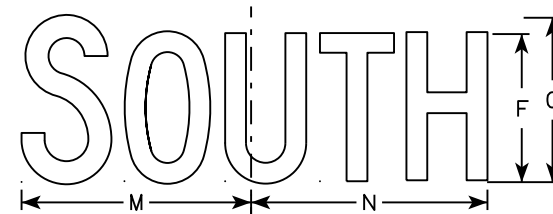
M3-2
MM3-2
MP3-2



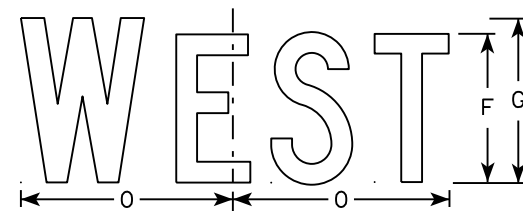
MB3-2
MK3-2
MN3-2



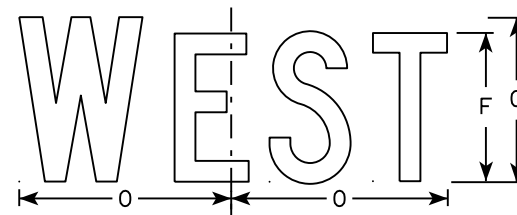
M3-3
MM3-3
MP3-3



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

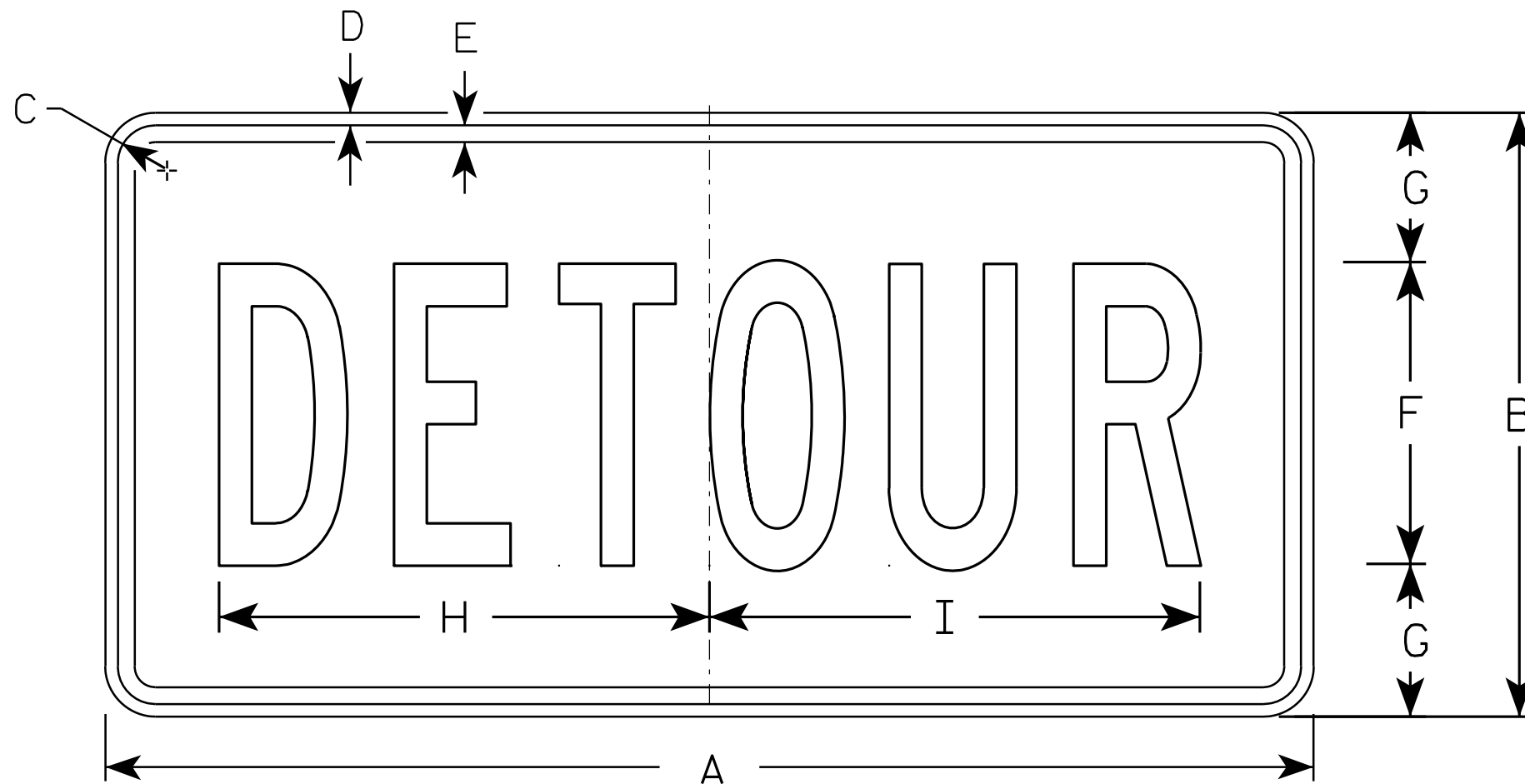
WISCONSIN DEPT OF TRANSPORTATION

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

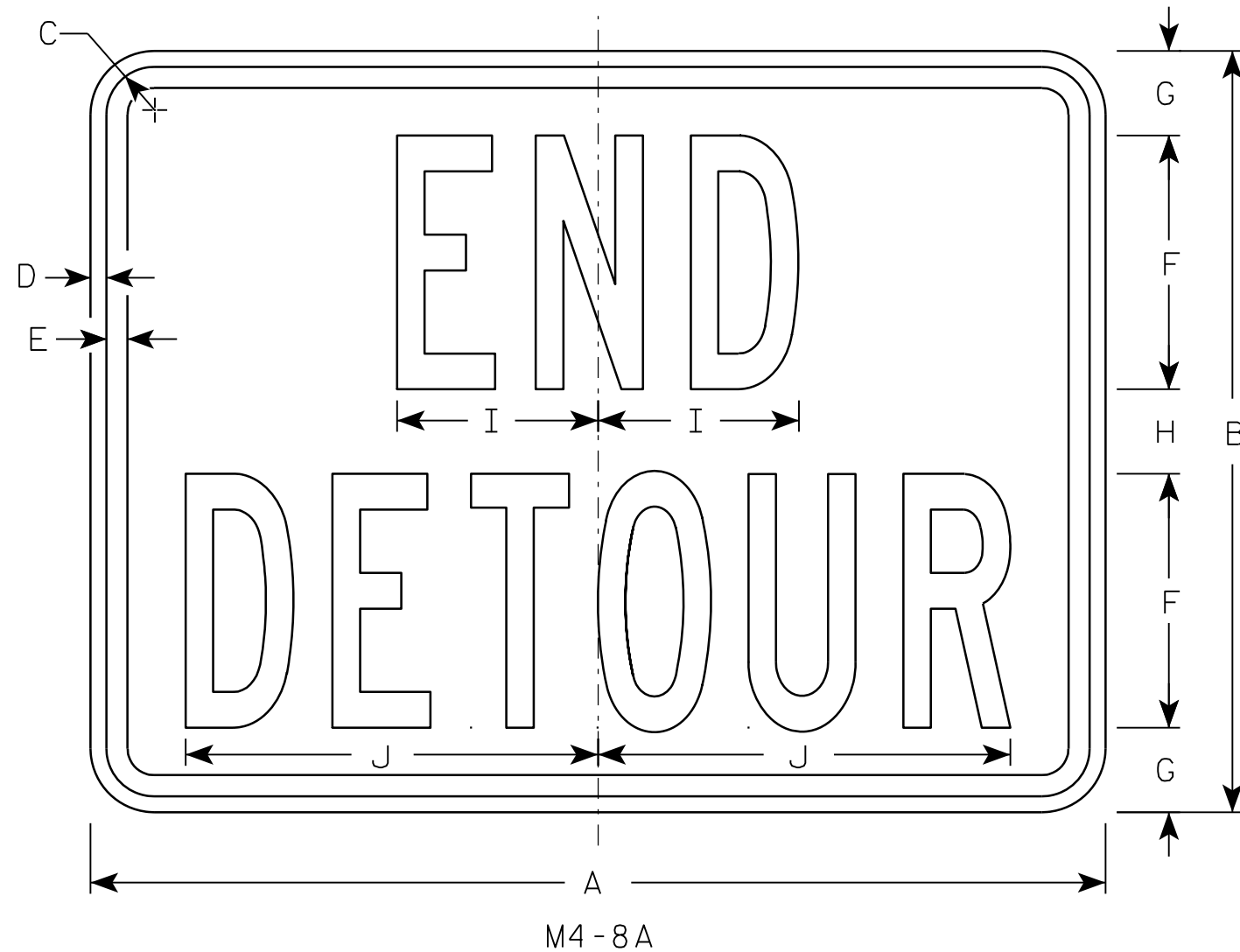
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

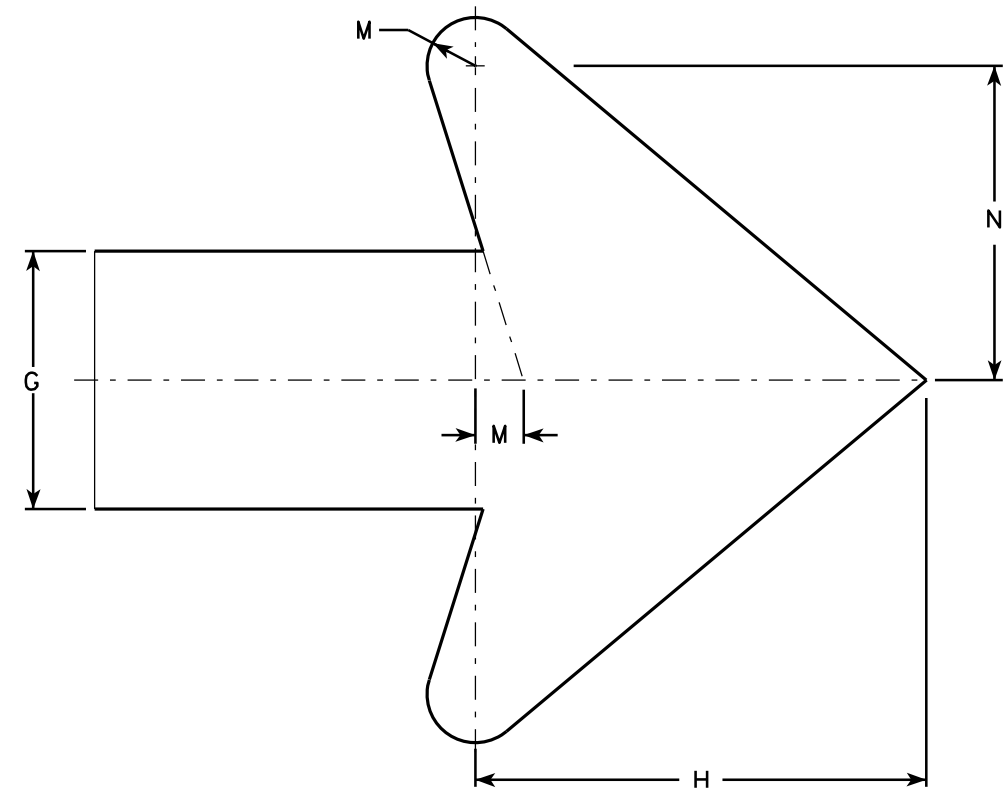
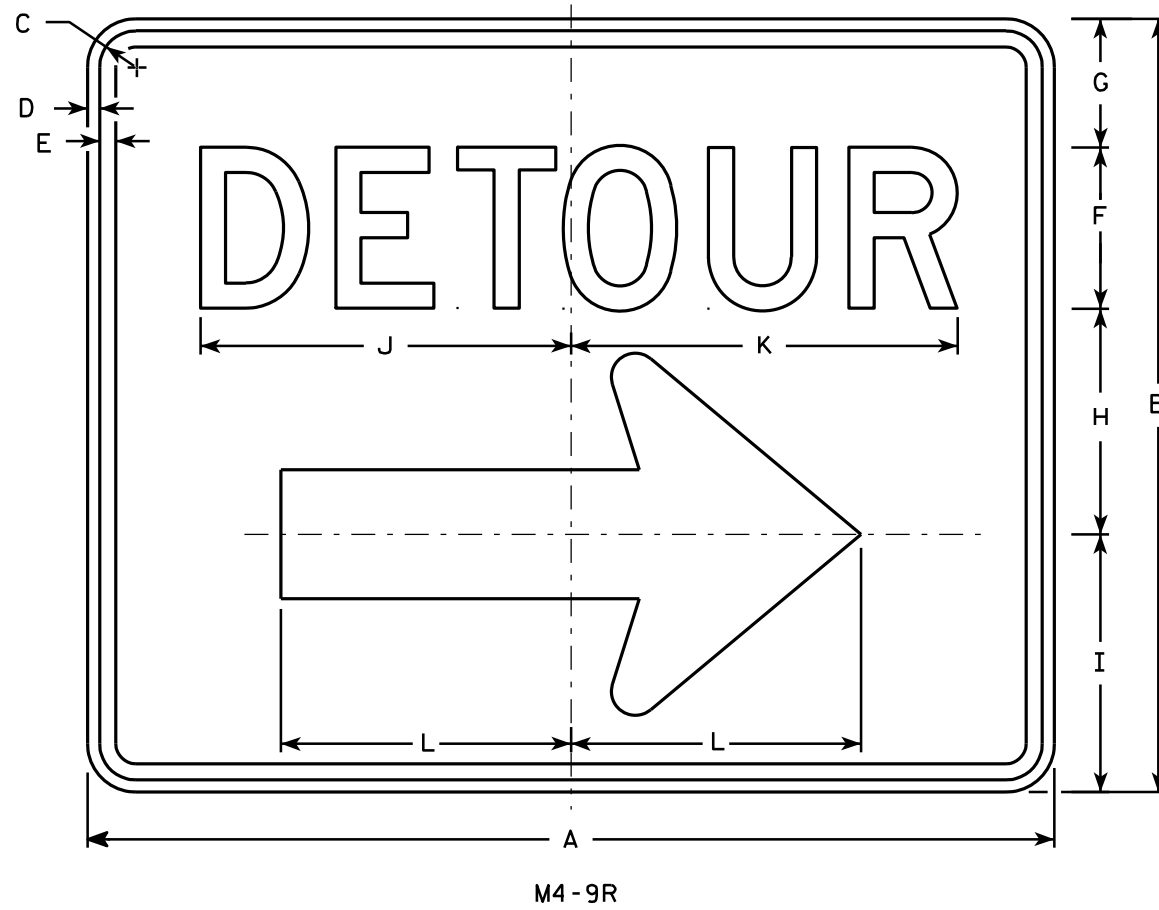
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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.



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

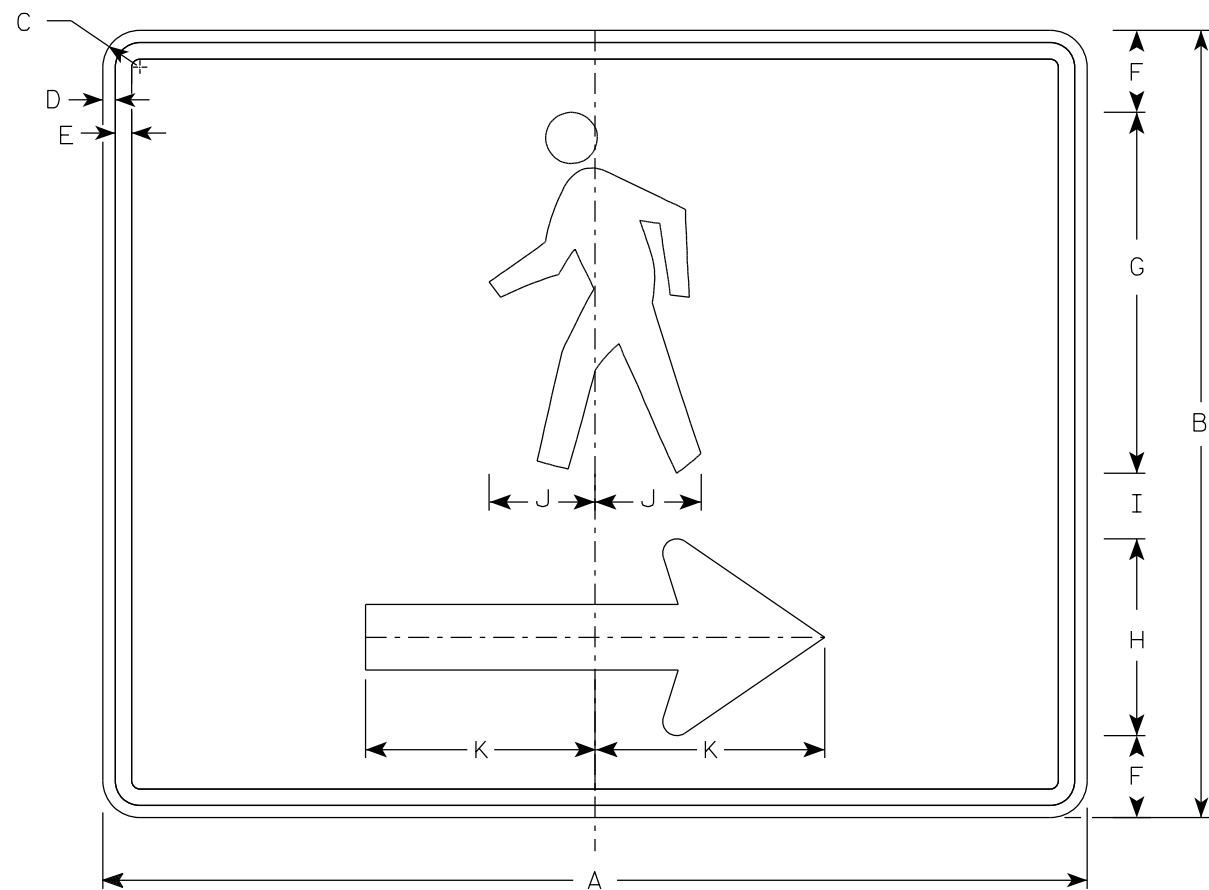
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

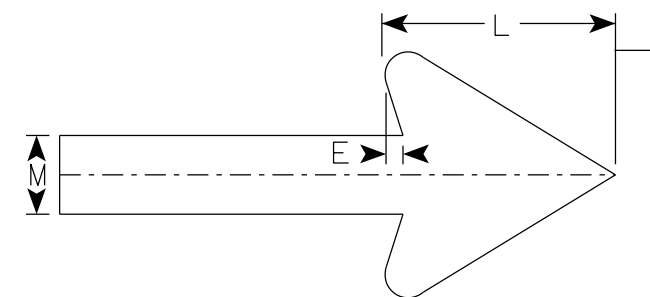
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M4-60L is the same as M4-60R except the arrow is reversed.



M4-60R



Arrow Detail

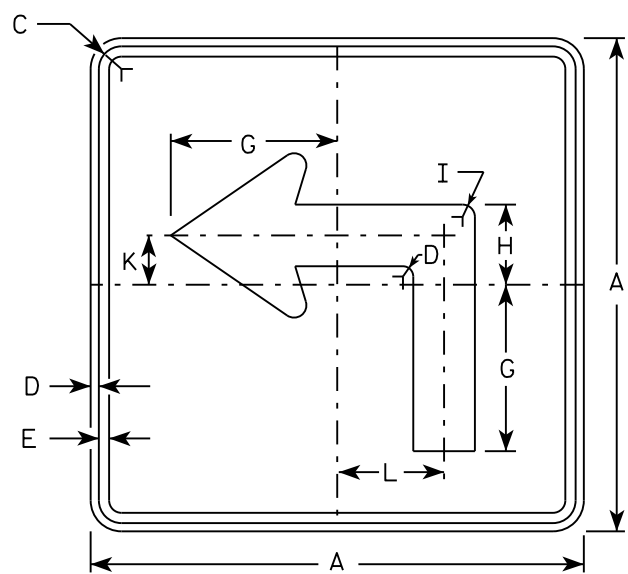
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	2 1/2	11	6	2	3 1/4	7	6	2														5.00
3																											
4																											
5																											

STANDARD SIGN
M4-60 L&R

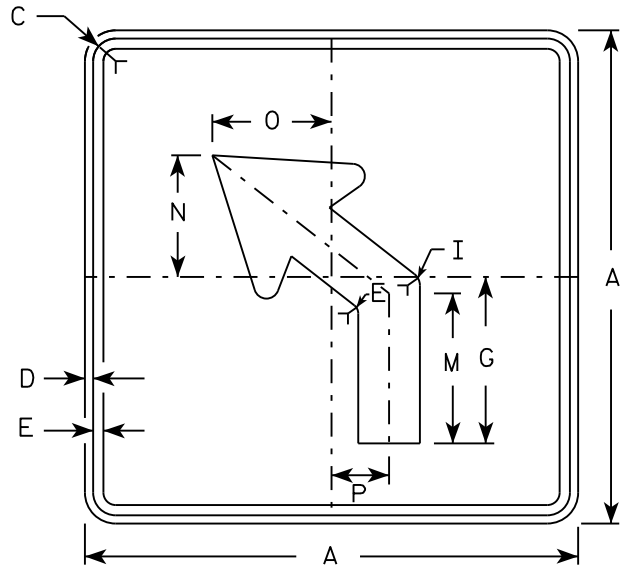
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

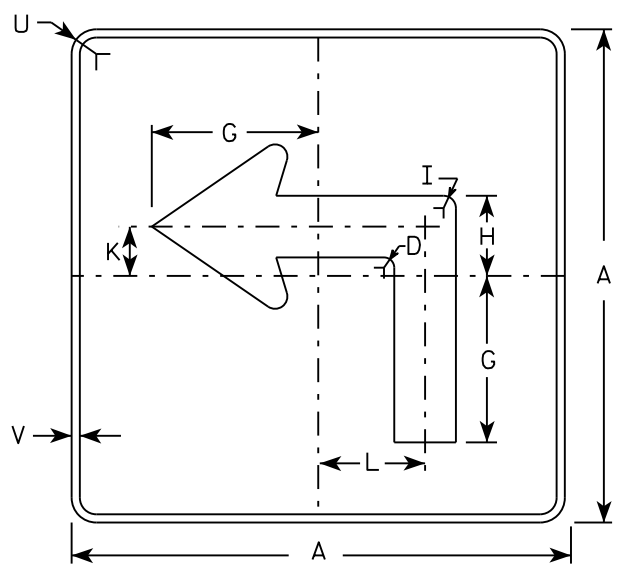
DATE 9/16/2021 PLATE NO. M4-60.1



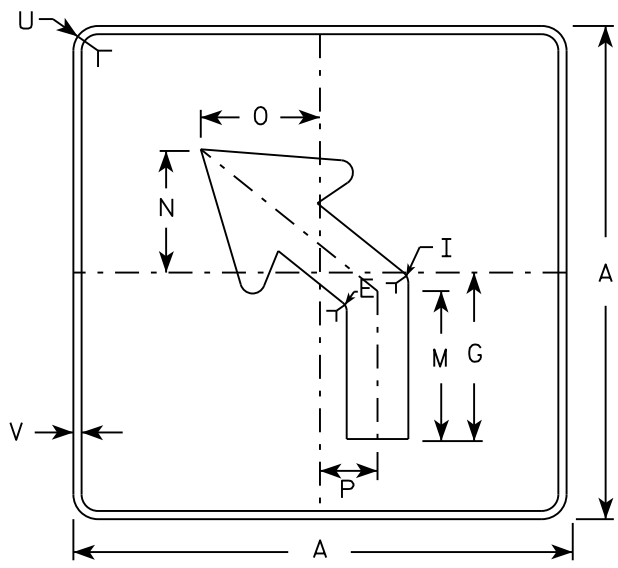
M5-1L
MM5-1L
M05-1L
MP5-1L



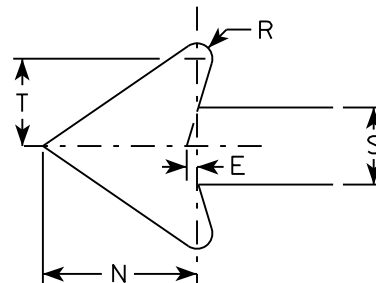
M5-2L
MM5-2L
M05-2L
MP5-2L



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.

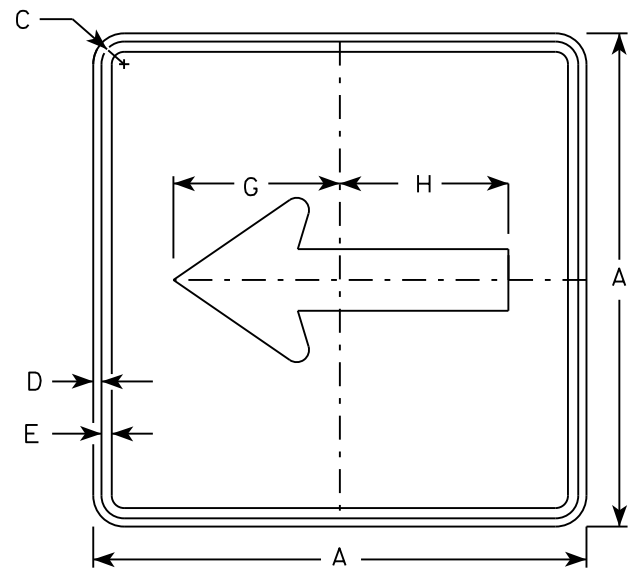
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
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

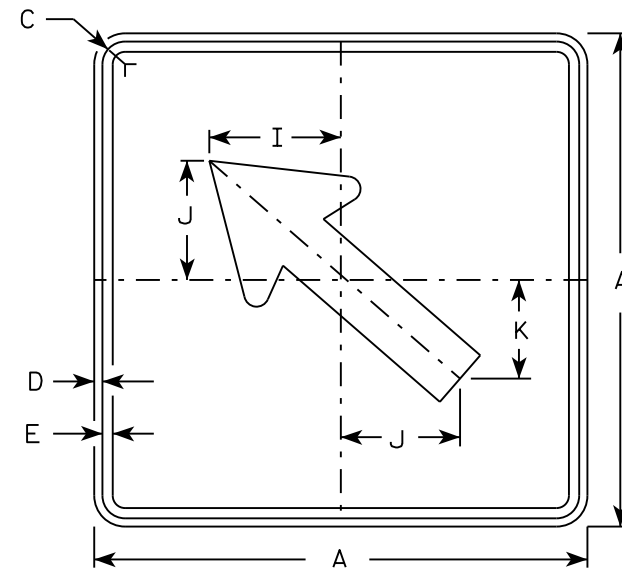
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

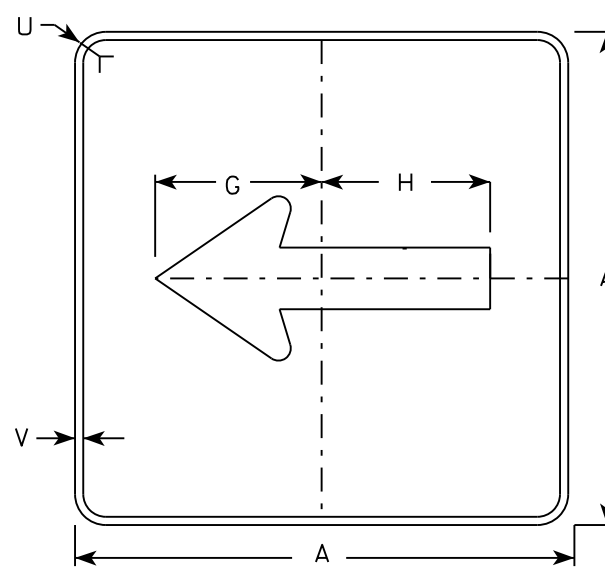
DATE 10/15/15 PLATE NO. M5-1.13



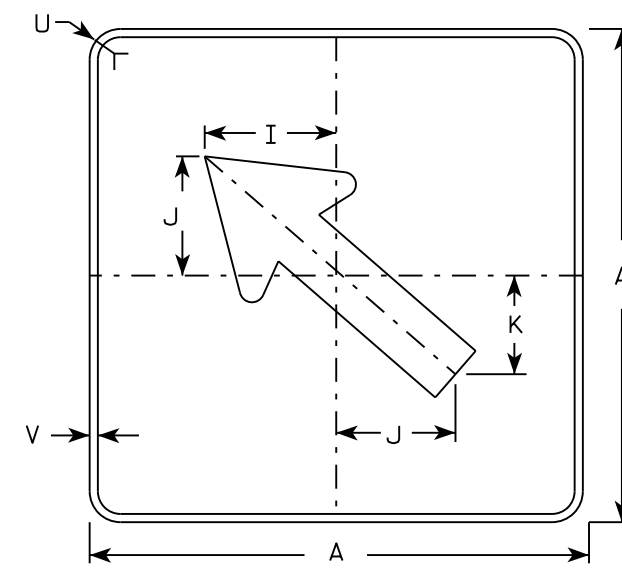
M6-1
MM6-1
M06-1
MP6-1



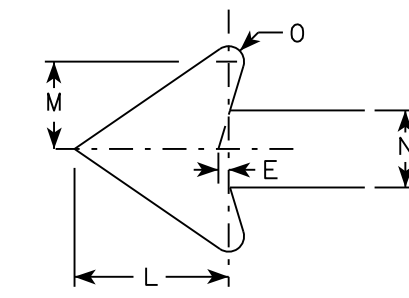
M6-2
MM6-2
M06-2
MP6-2



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

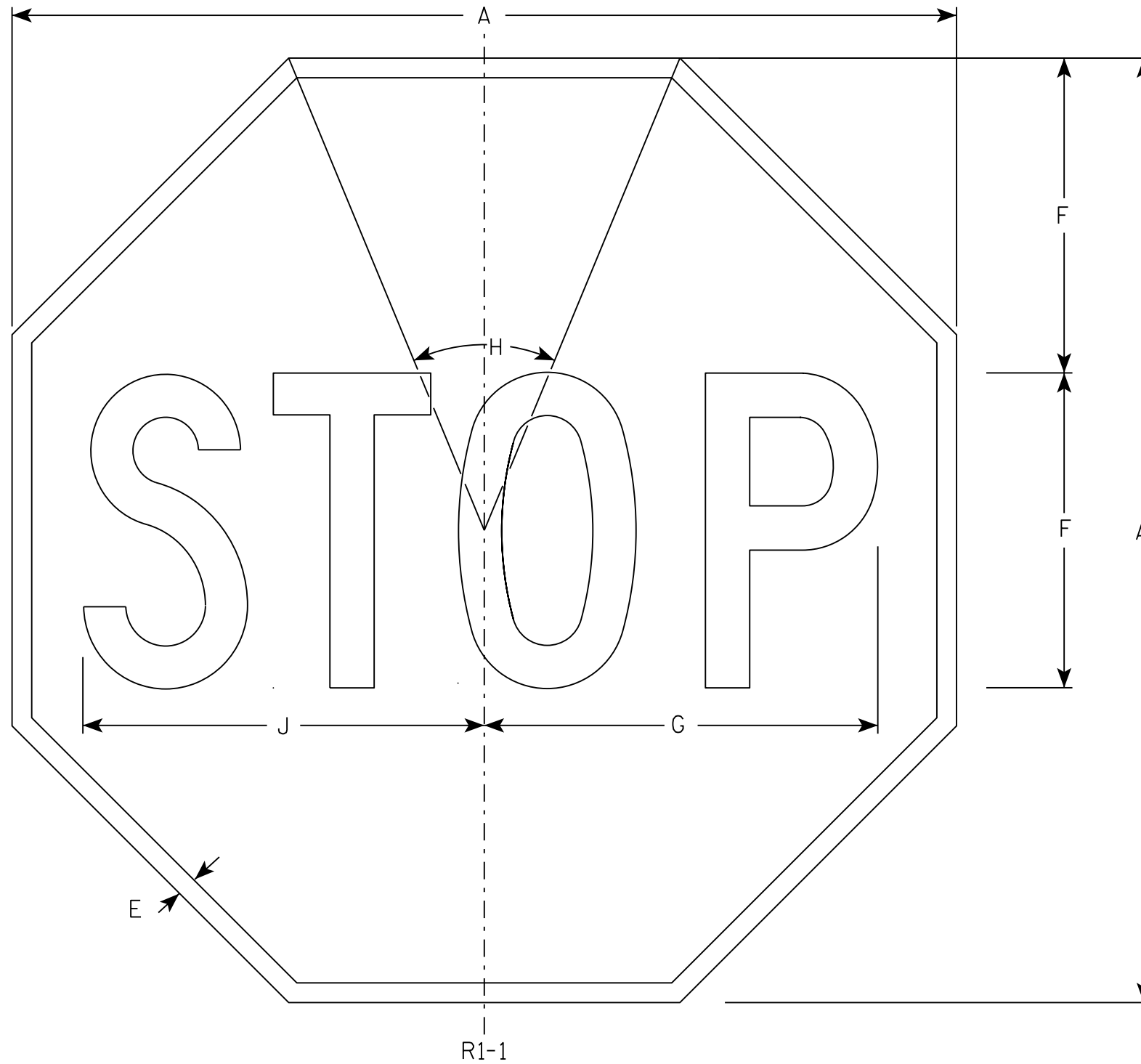
WISCONSIN DEPT OF TRANSPORTATION

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.
2. Color:
Background - Red
Message - White
3. Message Series - C



R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

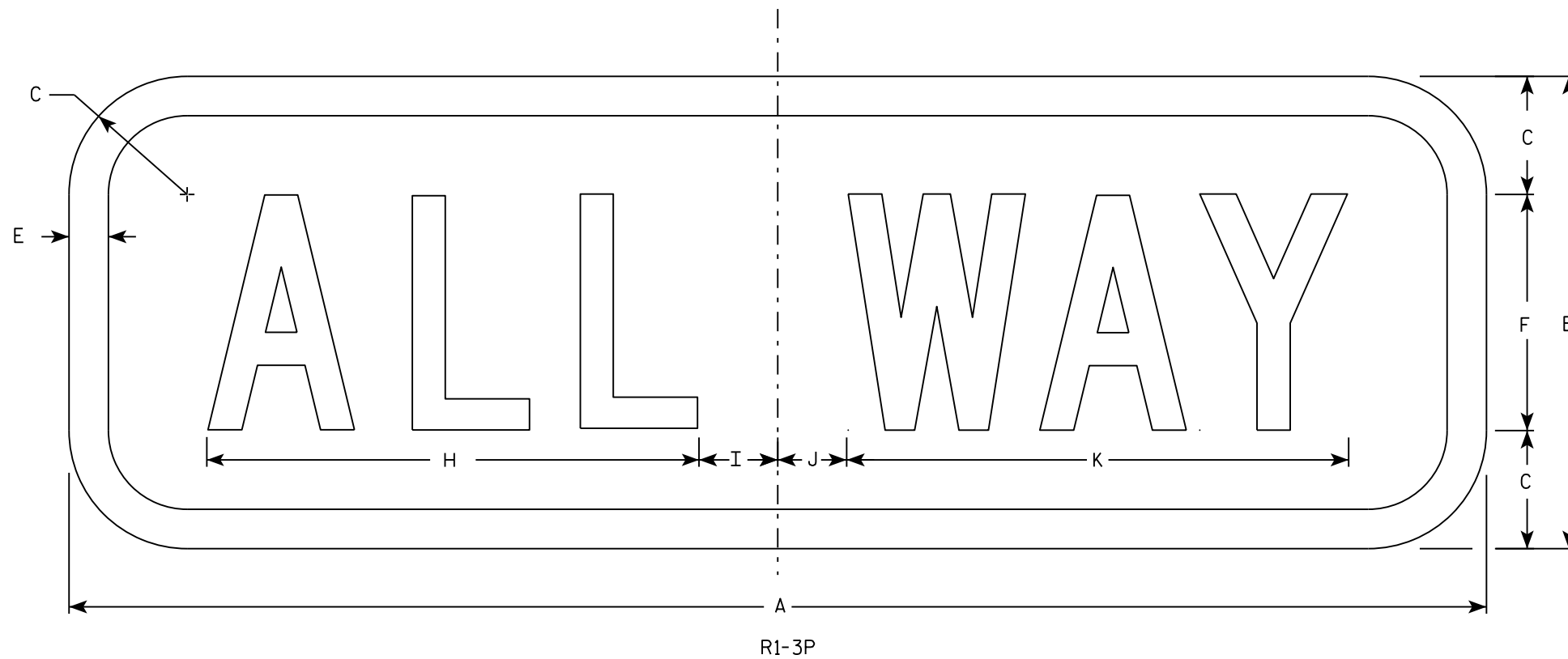
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - Red
Message - White
3. Message Series - C
4. For 30"x30" R1-1 use 18"x6" R1-3P sign
For 36"x36" R1-1 use 24"x9" R1-3P sign
For 48"x48" R1-1 use 30"x12" R1-3P 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	18	6	1 1/2		1/2	3		6 1/4	1 1/4	7/8	6 3/8																0.75
2S	18	6	1 1/2		1/2	3		6 1/4	1 1/4	7/8	6 3/8																1.5
2M	24	9	1 1/2		1/2	5		9 1/4	1 1/4	3/4	9 3/4																1.5
3	24	9	1 1/2		1/2	5		9 1/4	1 1/4	3/4	9 3/4																1.5
4	30	12	2 1/4		5/8	6		11	2 1/4	1 1/2	11 3/4																2.5
5	30	12	2 1/4		5/8	6		11	2 1/4	1 1/2	11 3/4																2.5

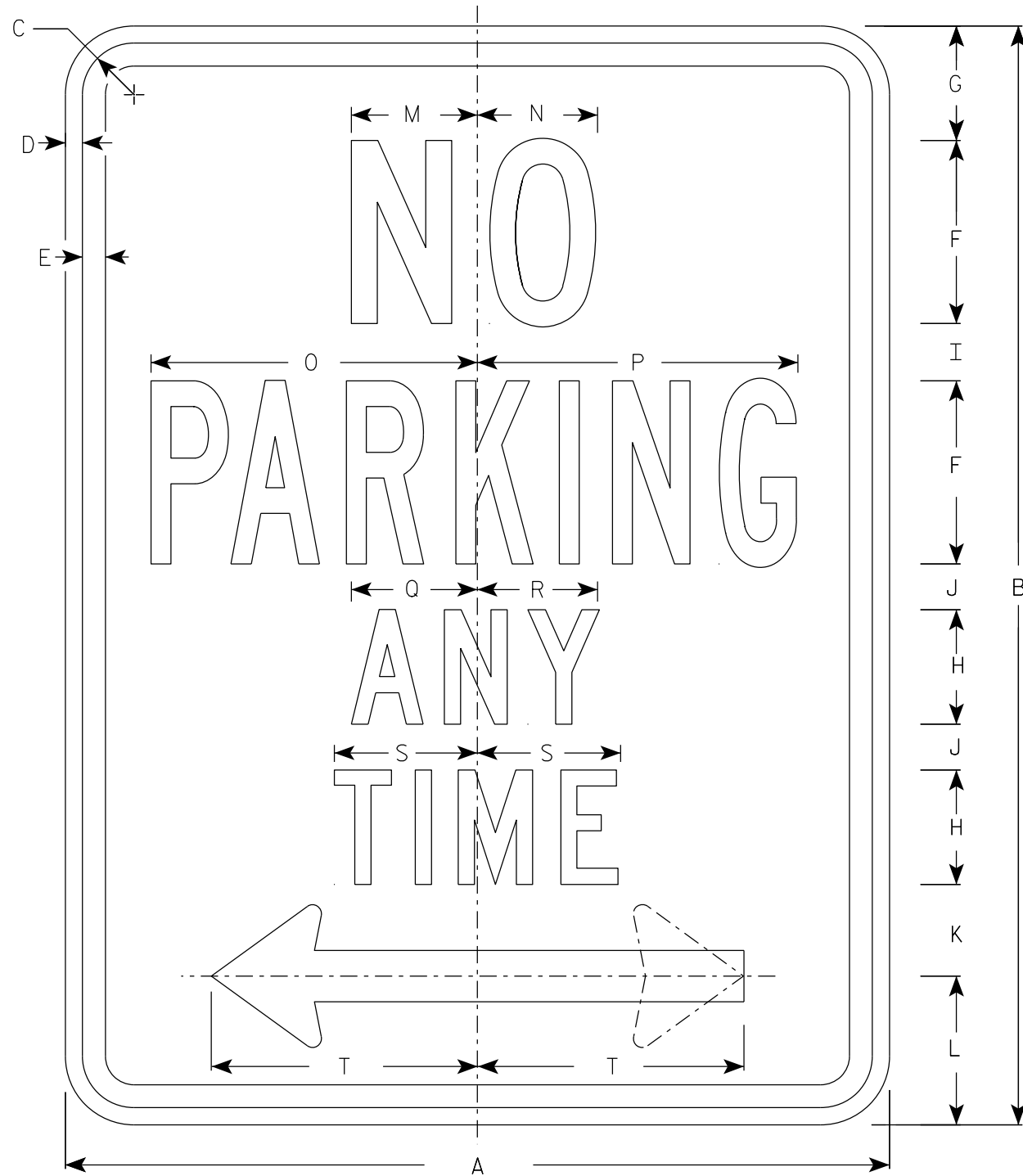
STANDARD SIGN
R1-3P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R1-3P.3

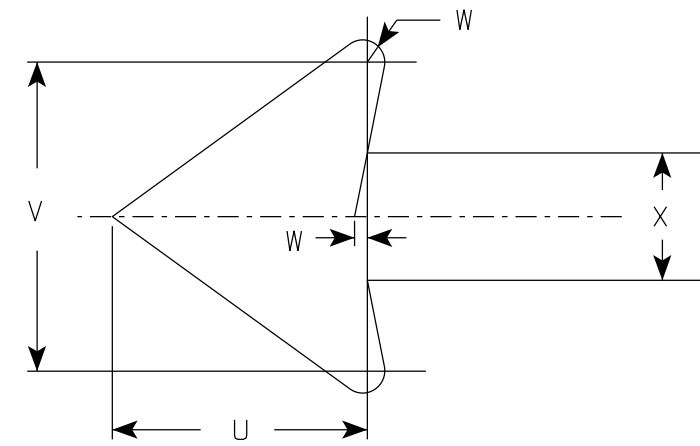
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



R7-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Red
3. Message Series - See Note 5
4. Lines 1, 3 and 4 are series C, line 2 is series B.
5. R7-1D (double arrow)
R7-1L (left arrow)
R7-1R (right arrow)



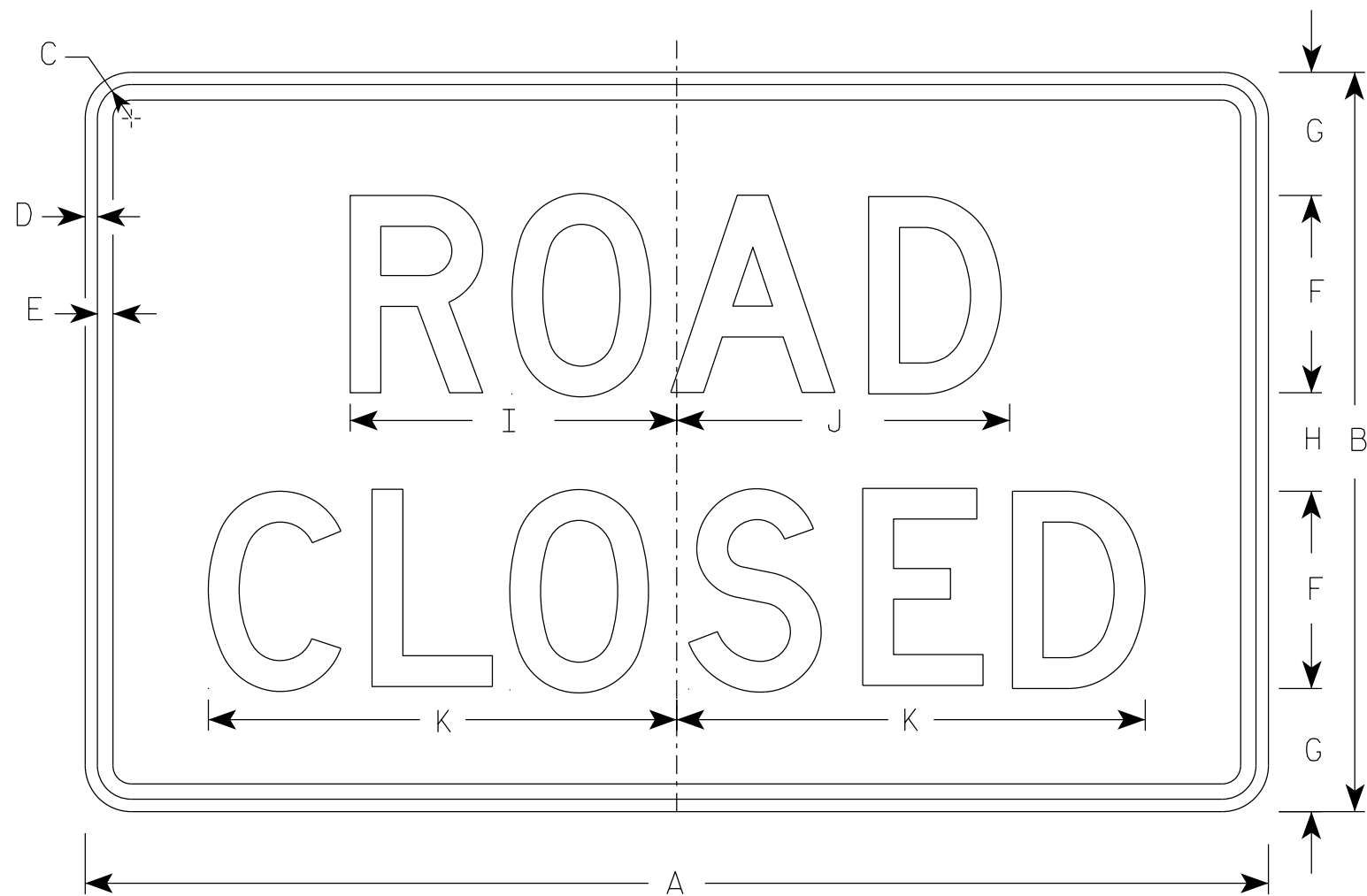
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4		1.5	
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8		3.0	
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2		5.0	
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2		5.0	
4																											
5																											

STANDARD SIGN
R7-1

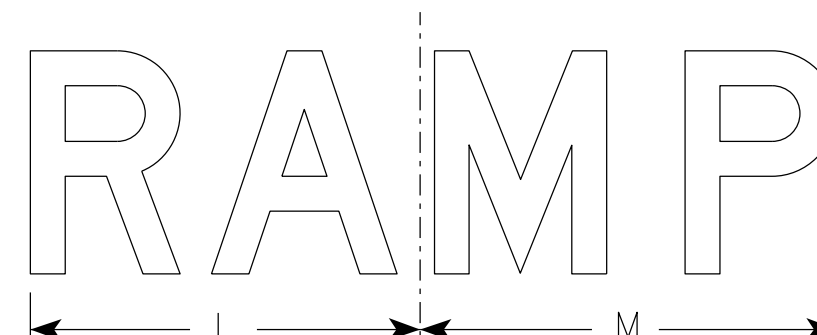
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

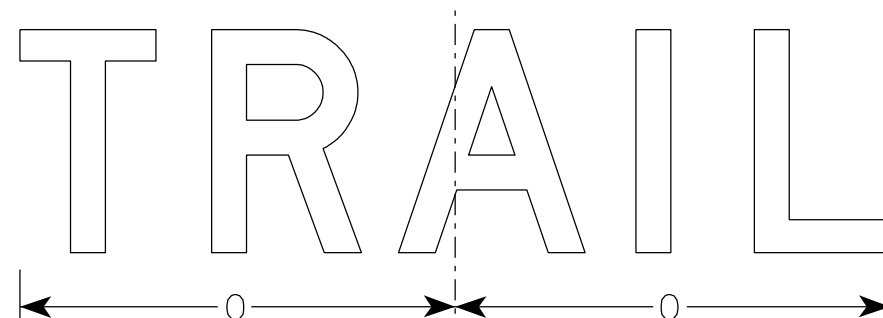
DATE 3/31/2021 PLATE NO. R7-1.10



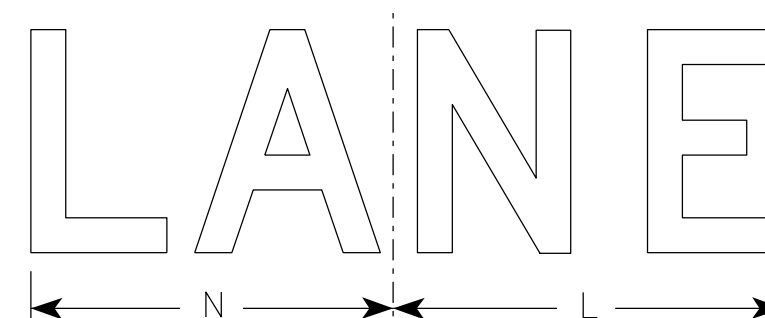
R11-2



R11-2R



R11-2T



R11-2L

NOTES

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

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

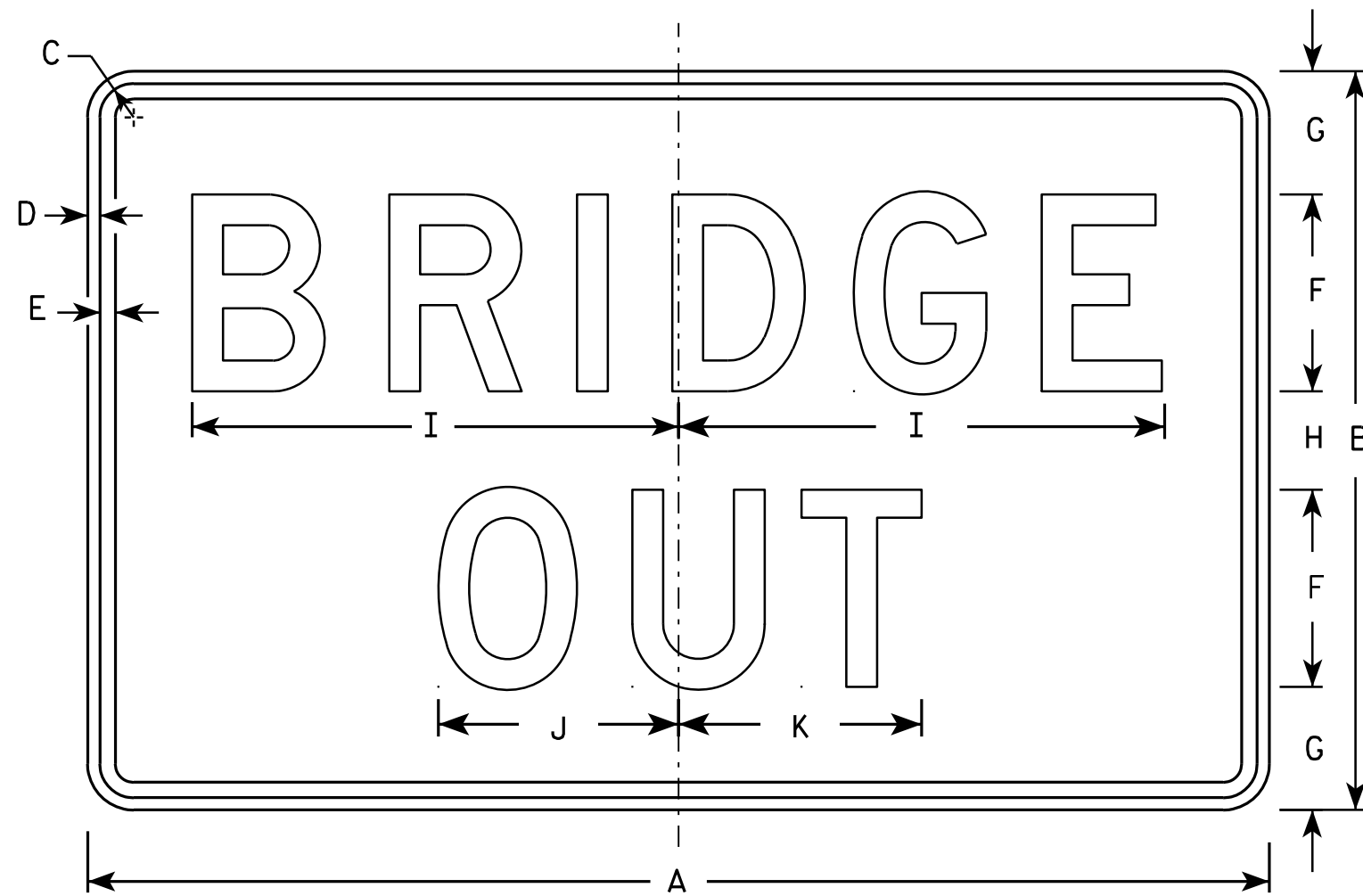
APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ **E**

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R11-2B

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

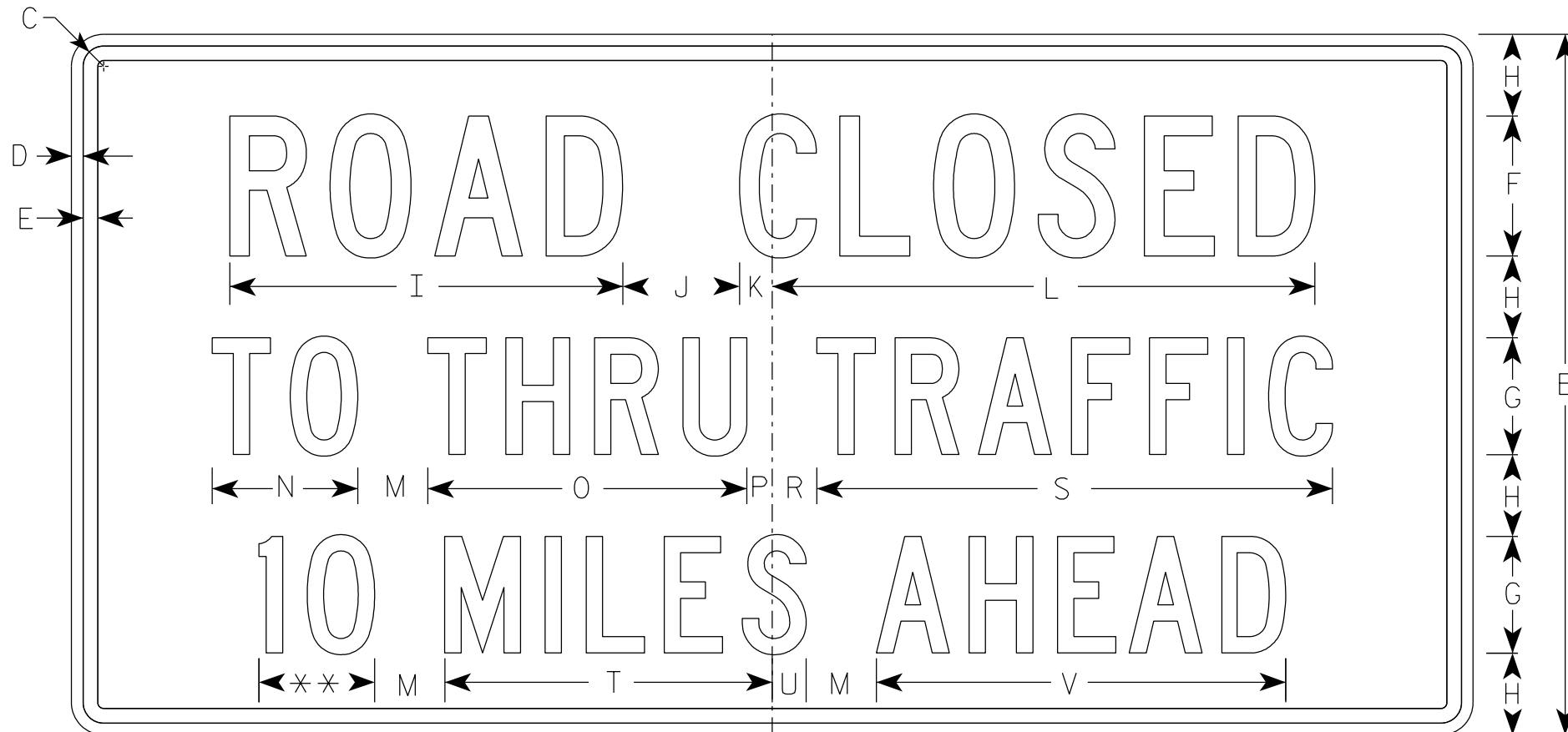
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO: _____ SHEET NO: _____ E

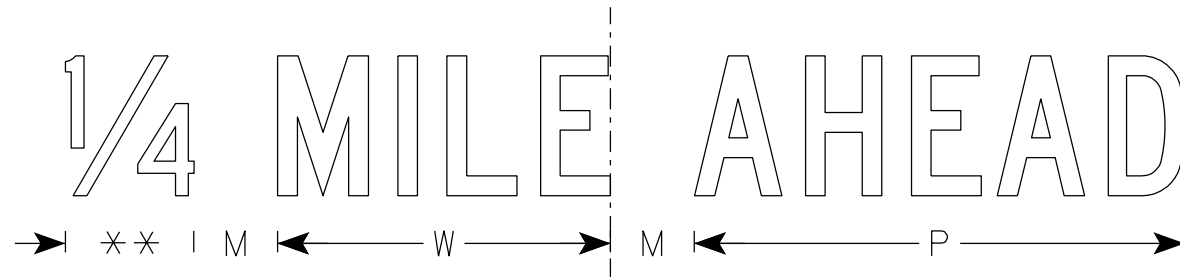
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/4	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8			4.5	
2S	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8			12.5	
2M	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8			12.5	
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

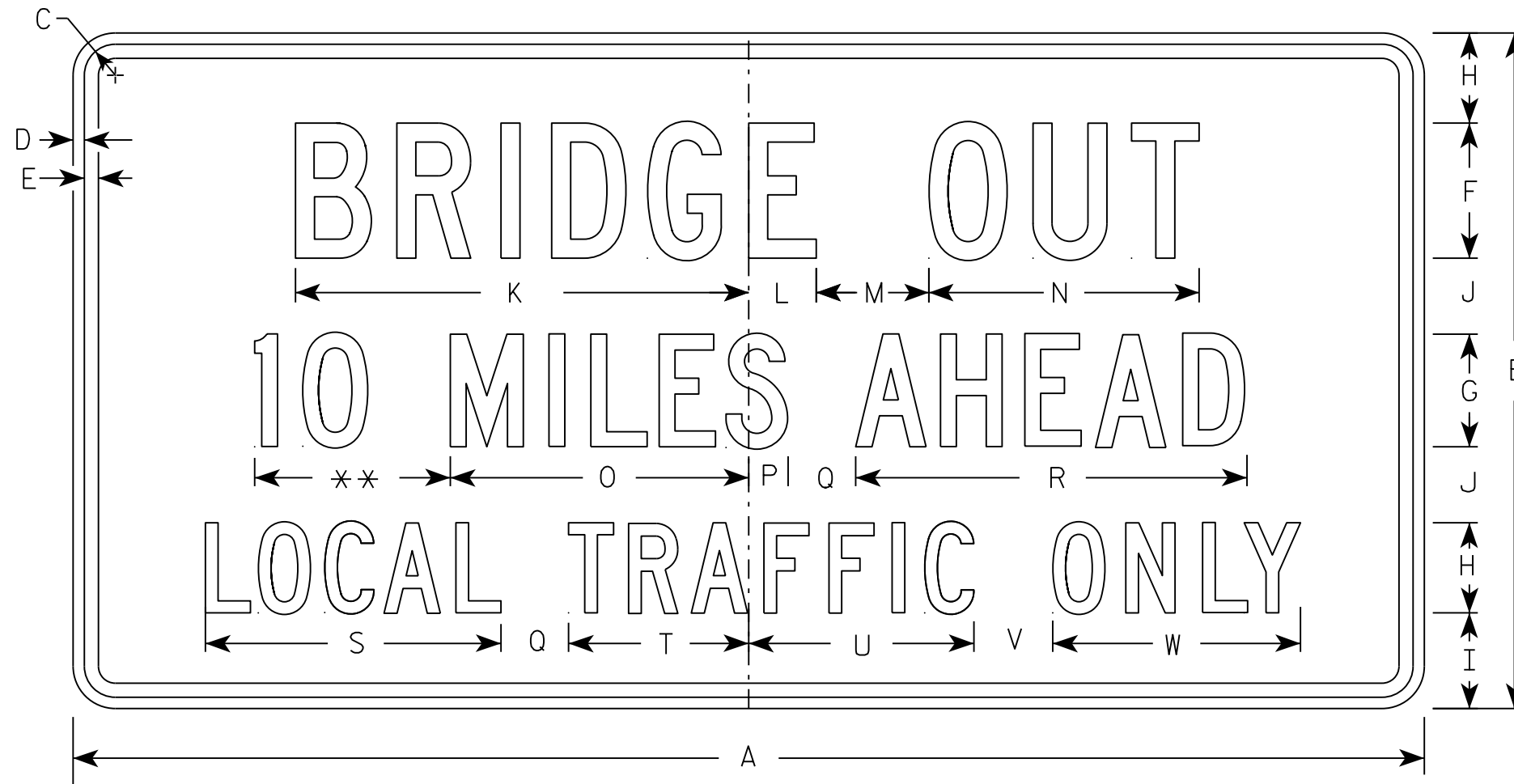
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/14/2021 PLATE NO. R11-3.9

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ **E**

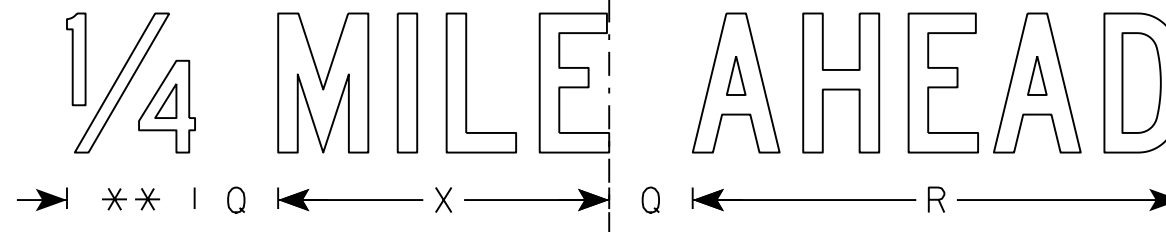
NOTES

1. Sign is Type II - Type H Reflective
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

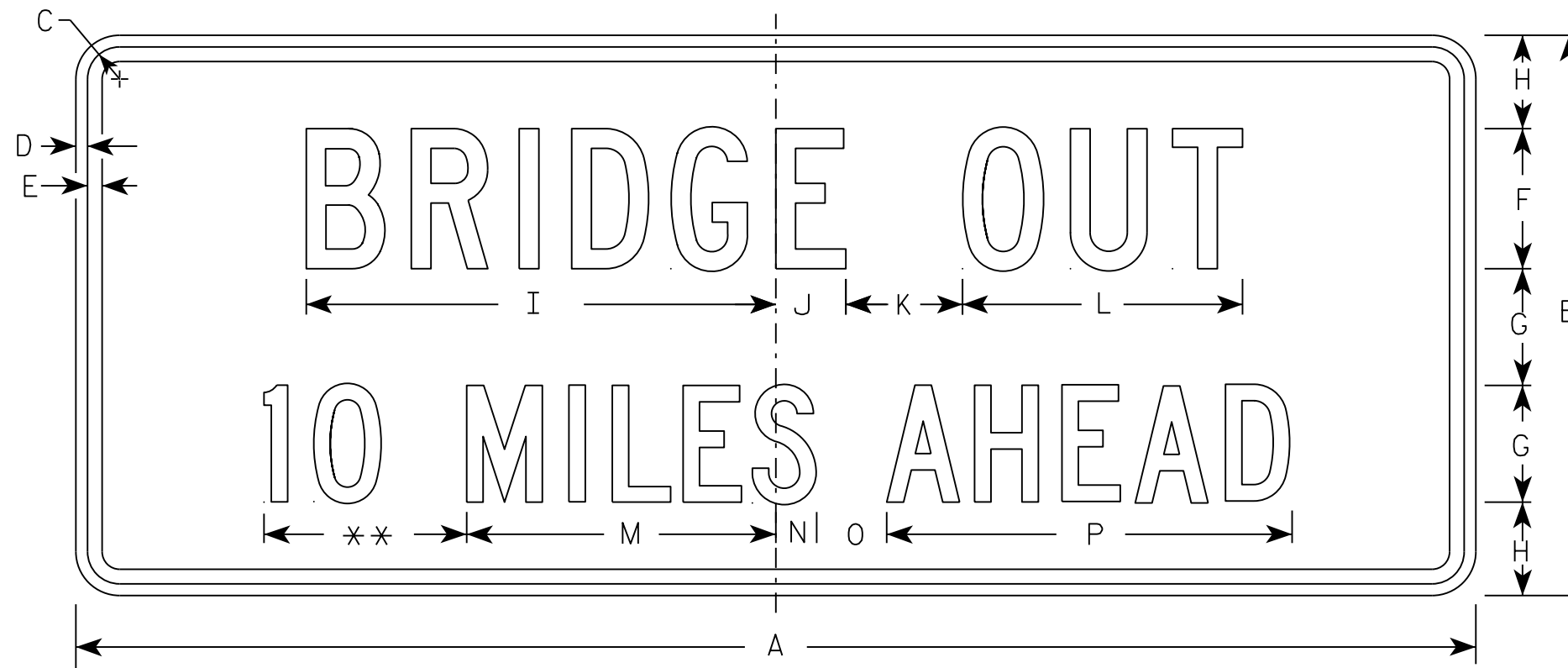
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

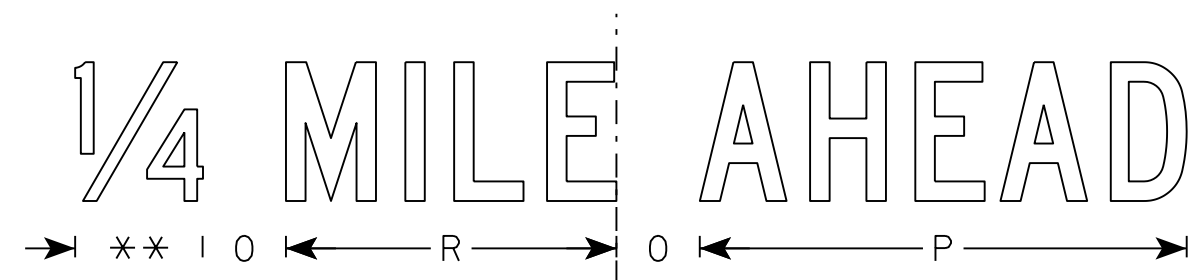
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

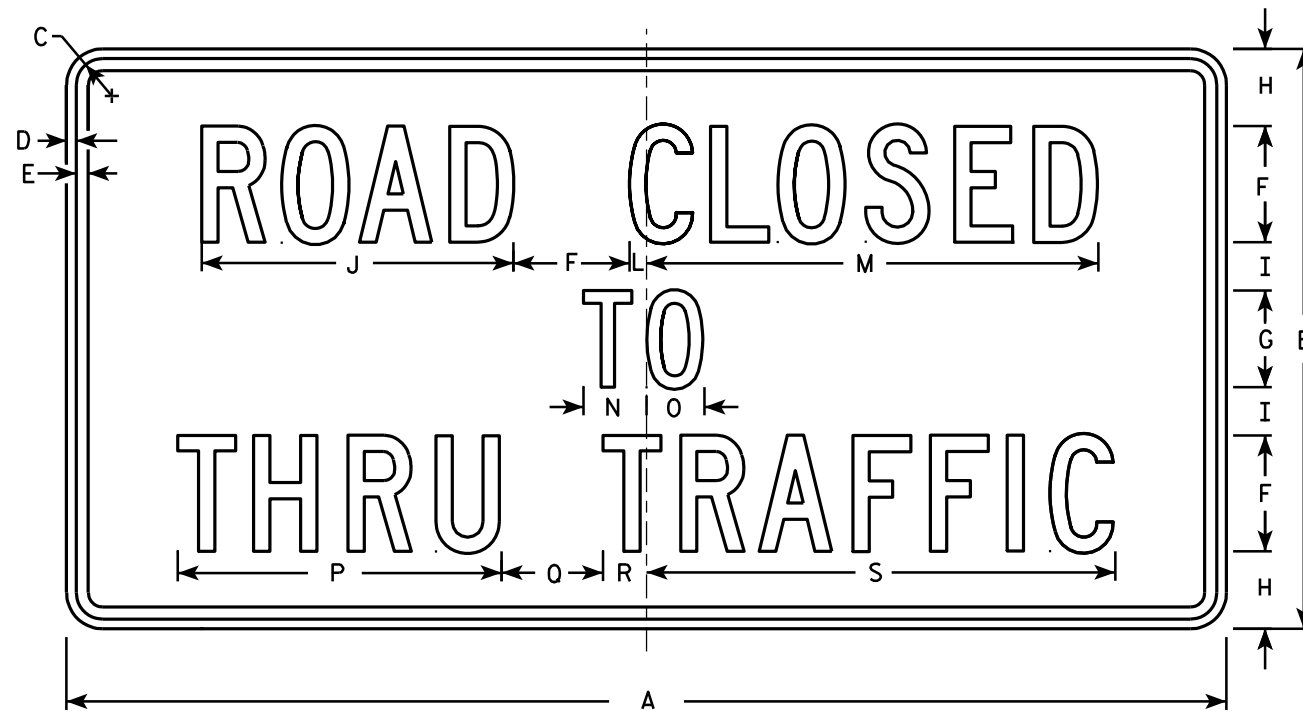
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 7/28/16 PLATE NO. R11-3C.3

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.



R11-4

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	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

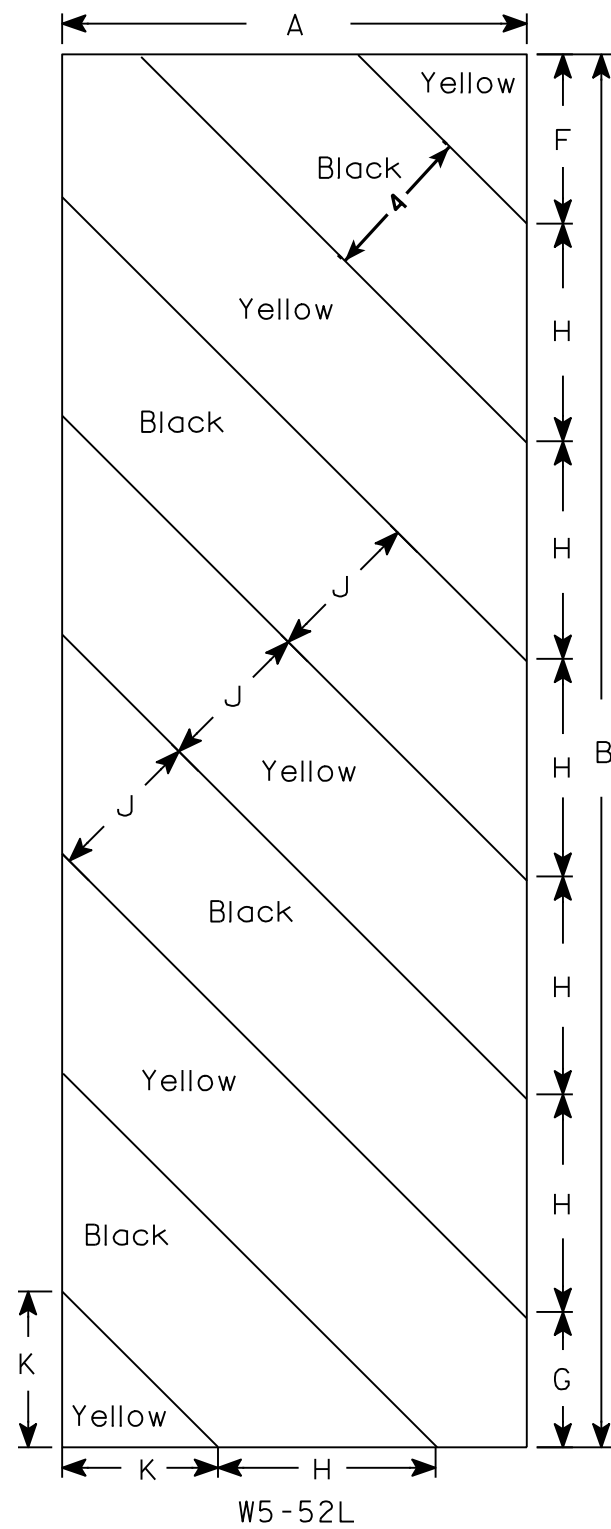
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

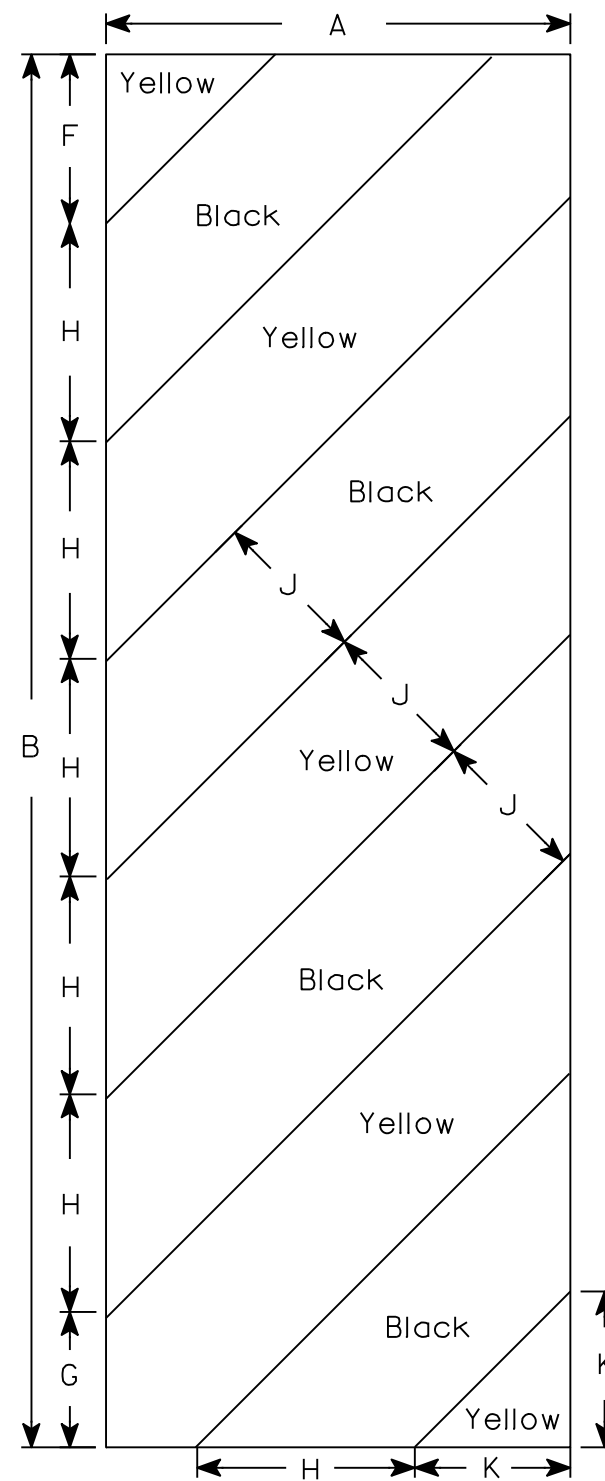
APPROVED *Matthew R. Raush*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

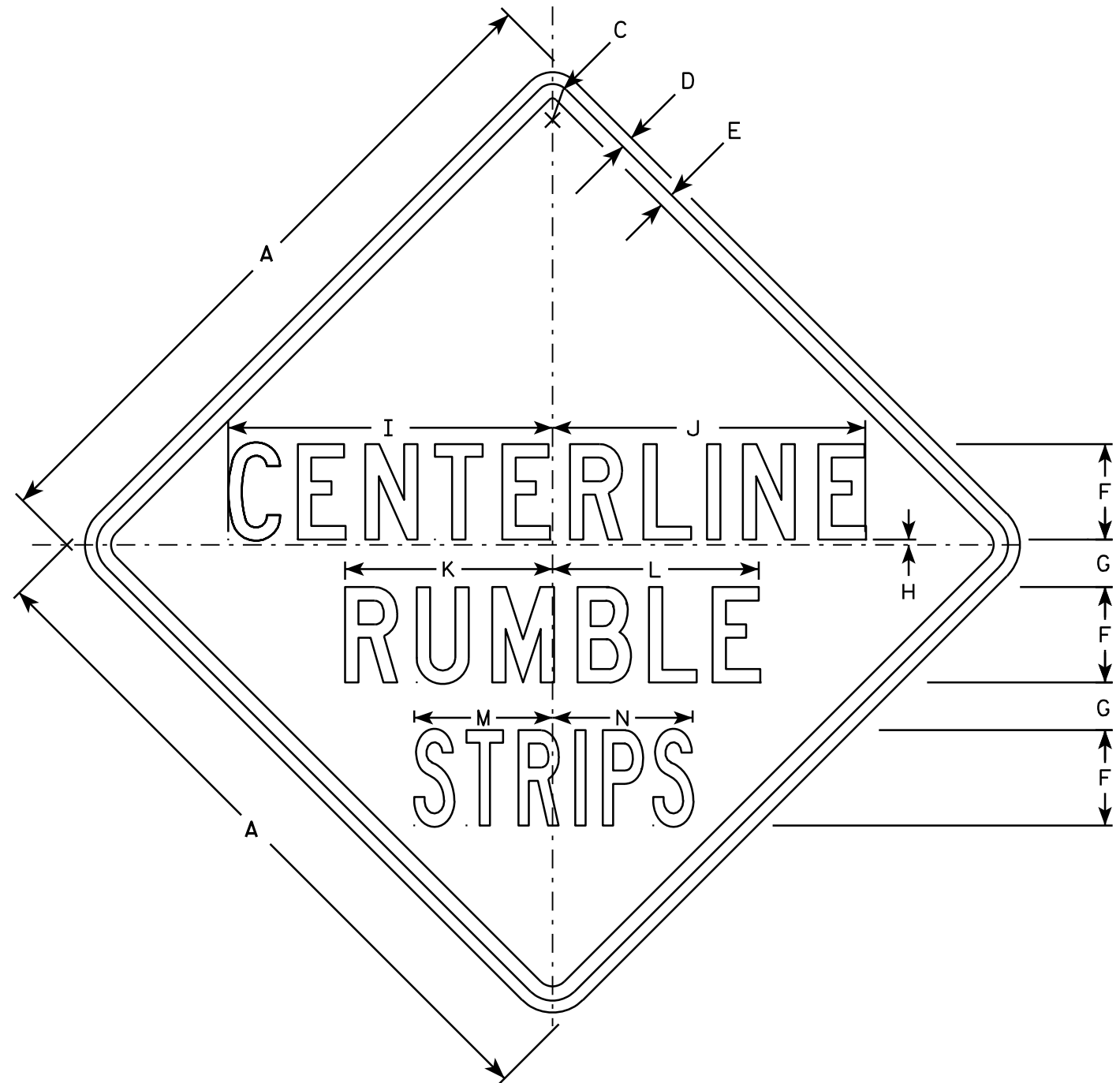
STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



W8-70

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Message - BLACK
3. Message Series - SEE NOTE 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 and 2 are Series C.
Line 3 is Series B.

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	36		1 5/8	5/8	3/4	5	2 1/2	1/4	17	16 3/8	10 7/8	10 3/4	7 1/4	7 3/8													9.0
2M	36		1 5/8	5/8	3/4	5	2 1/2	1/4	17	16 3/8	10 7/8	10 3/4	7 1/4	7 3/8													9.0
3	36		1 5/8	5/8	3/4	5	2 1/2	1/4	17	16 3/8	10 7/8	10 3/4	7 1/4	7 3/8													9.0
4																											
5																											

STANDARD SIGN
W8-70

WISCONSIN DEPT OF TRANSPORTATION

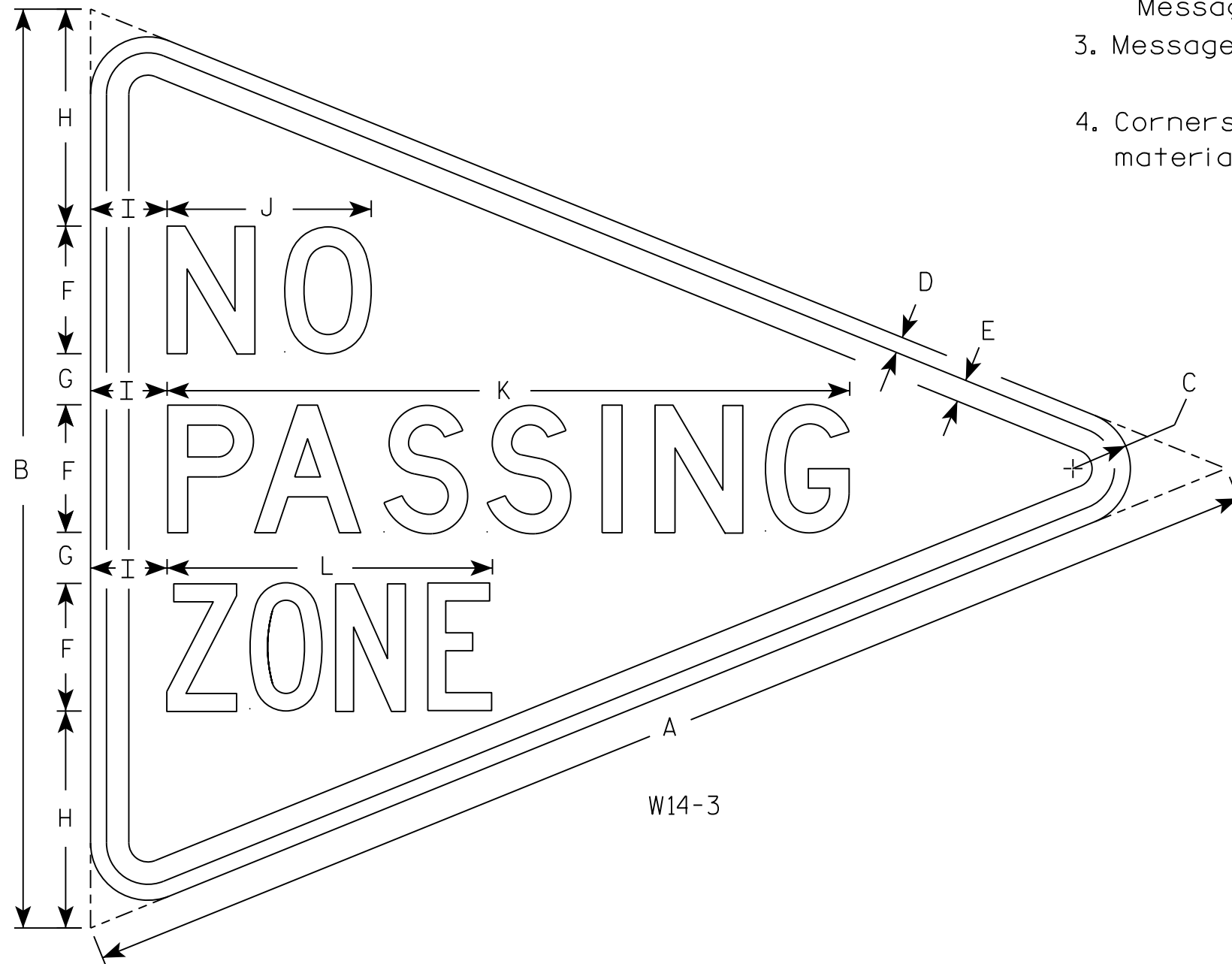
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 03/18/13 PLATE NO. W8-70.3

PROJECT NO: _____ 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

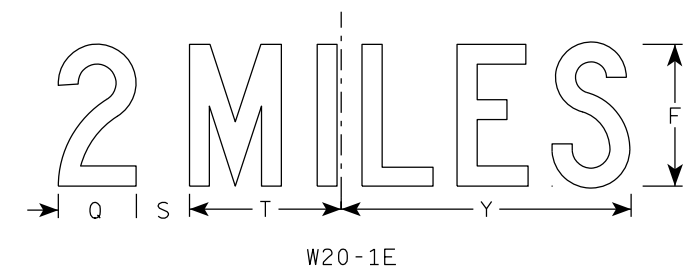
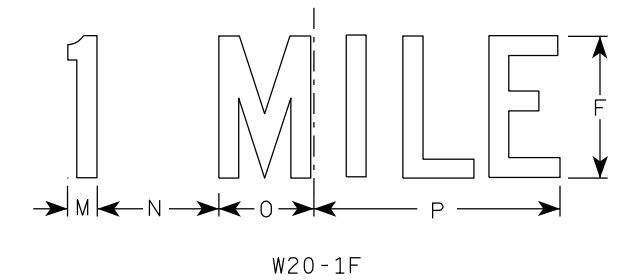
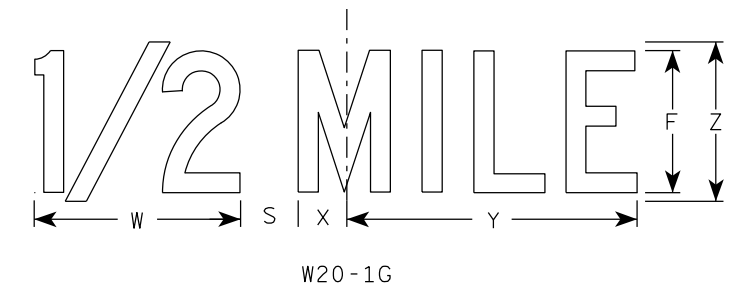
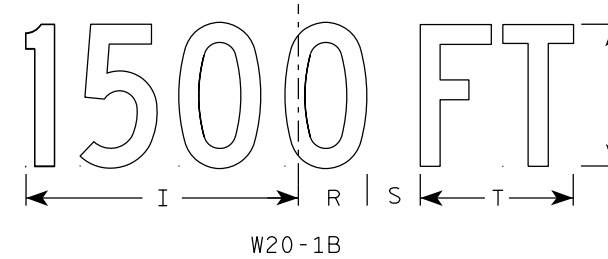
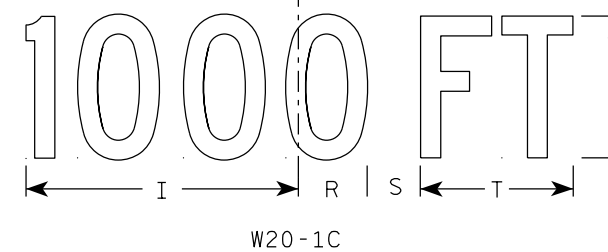
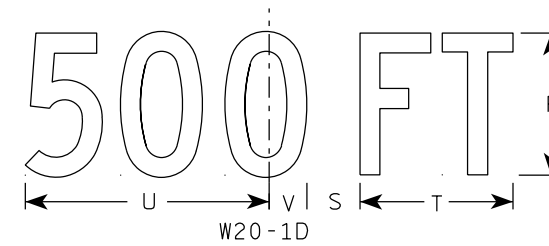
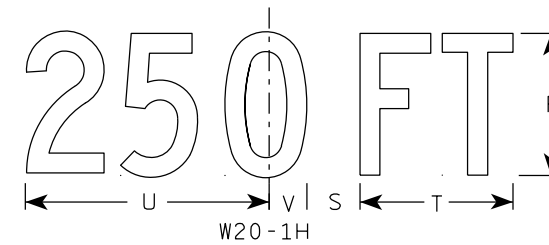
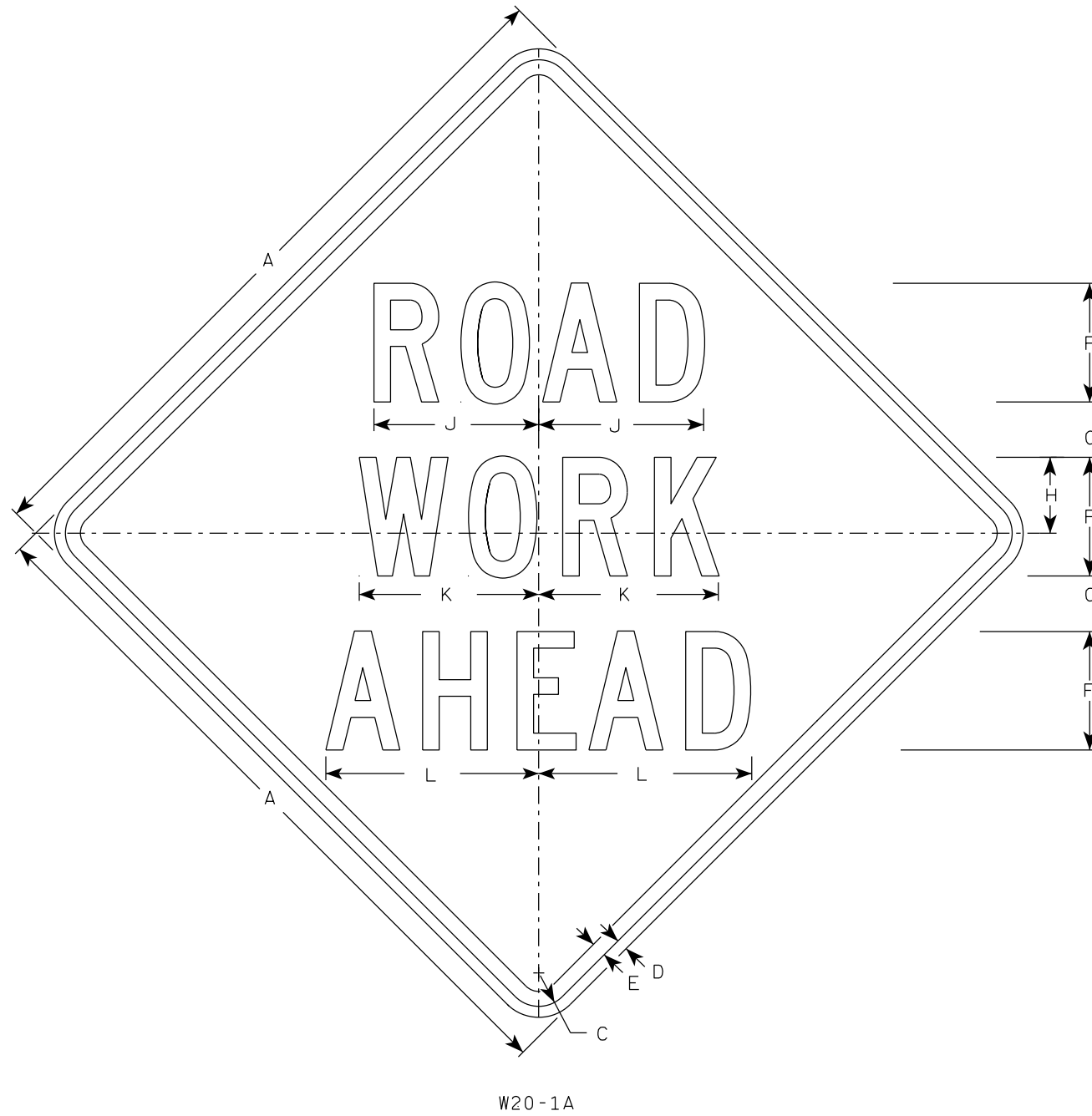
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



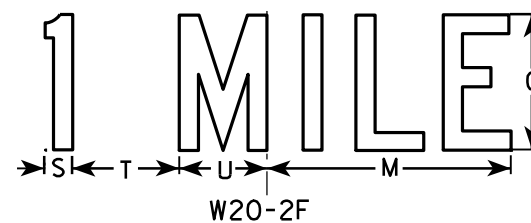
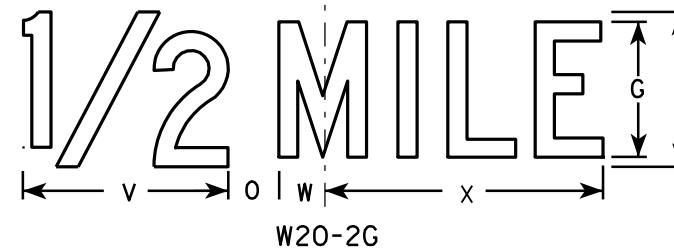
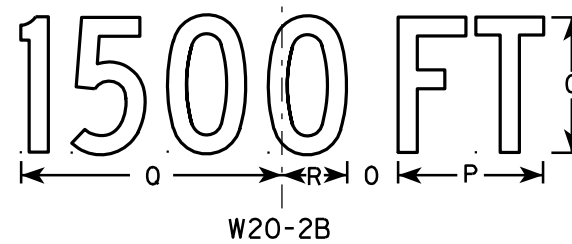
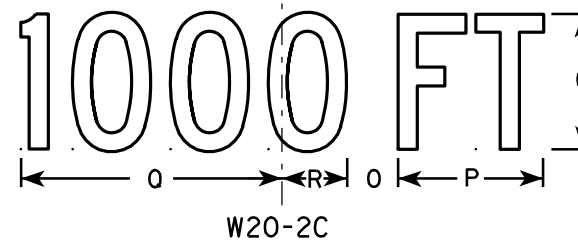
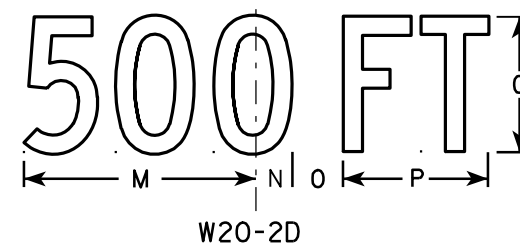
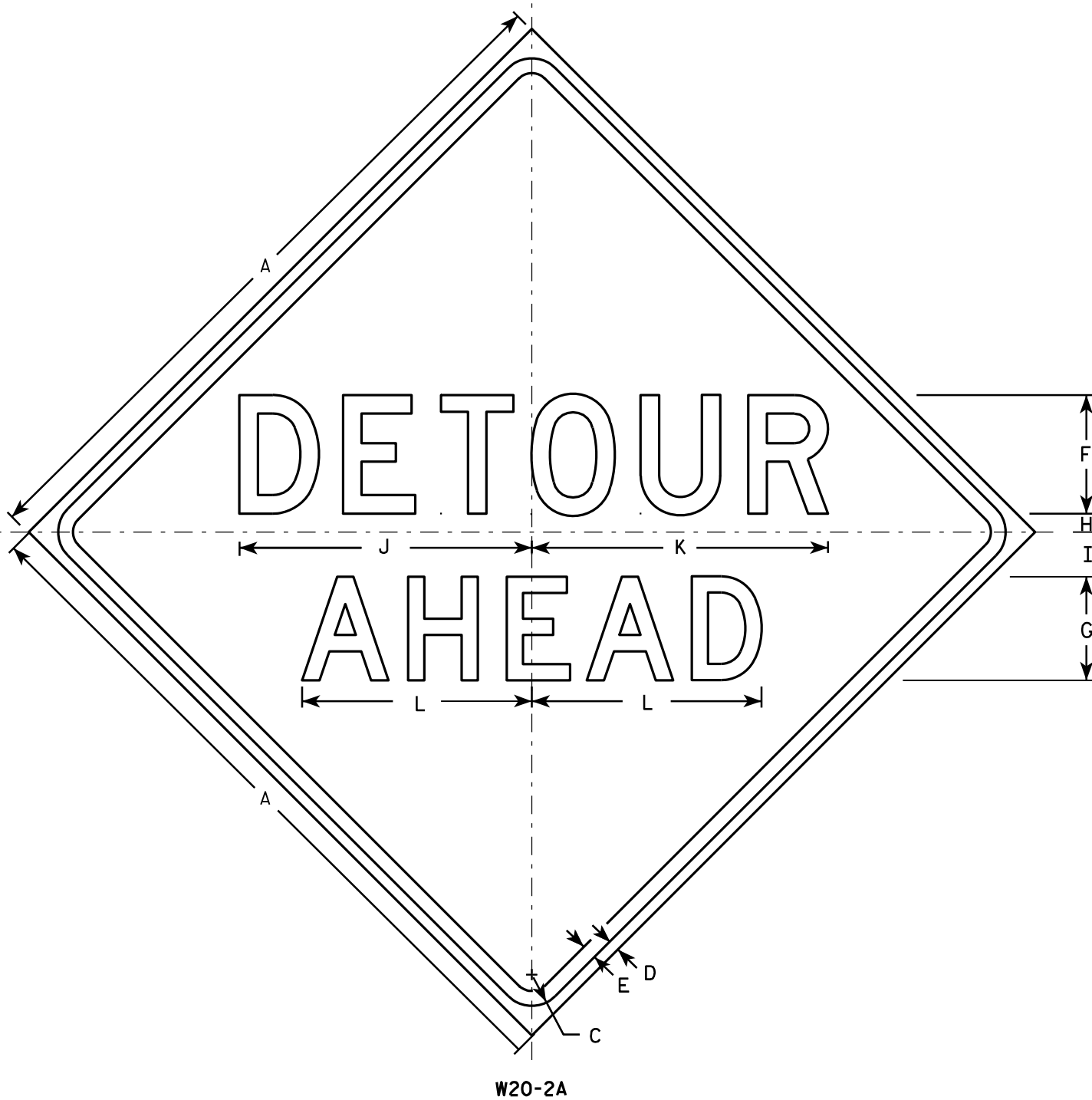
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11



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

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SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	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

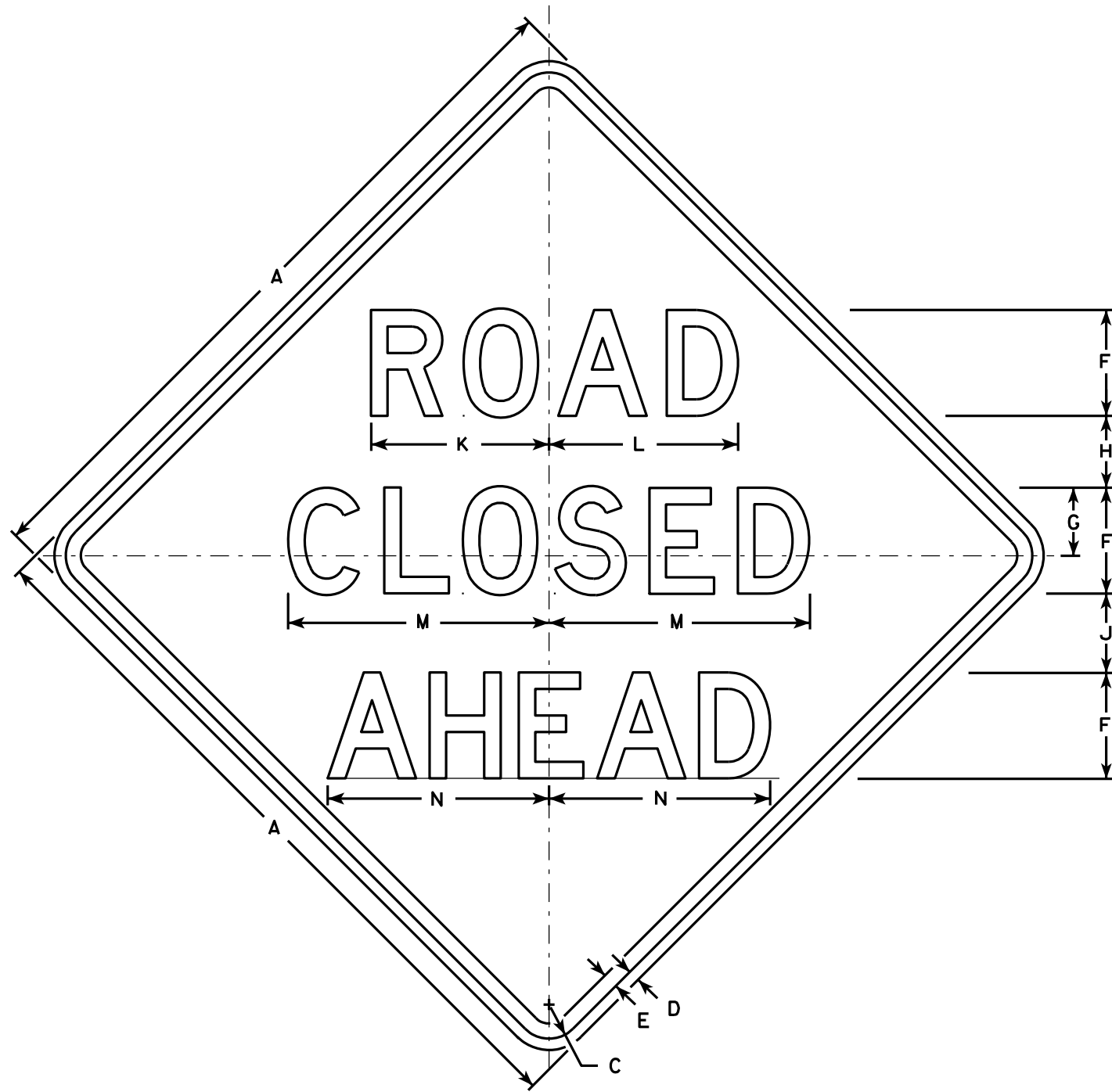
STANDARD SIGN
W20-2A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

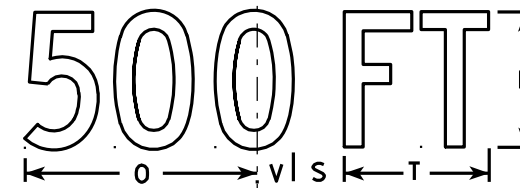
APPROVED *Matthew R. Raub*
for State Traffic Engineer

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

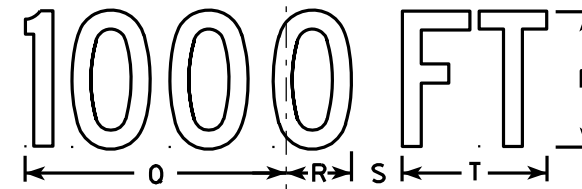
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



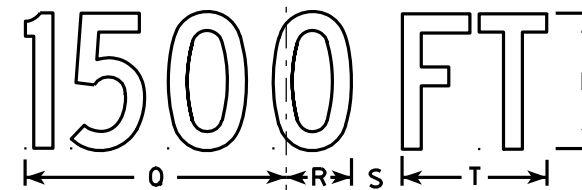
W20-3A



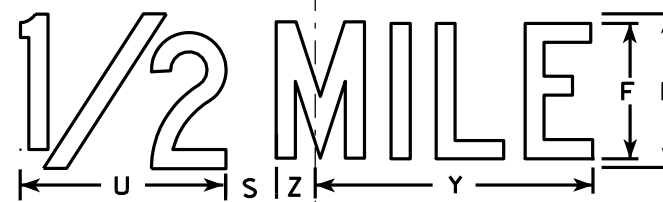
W20-3D



W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

7

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SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

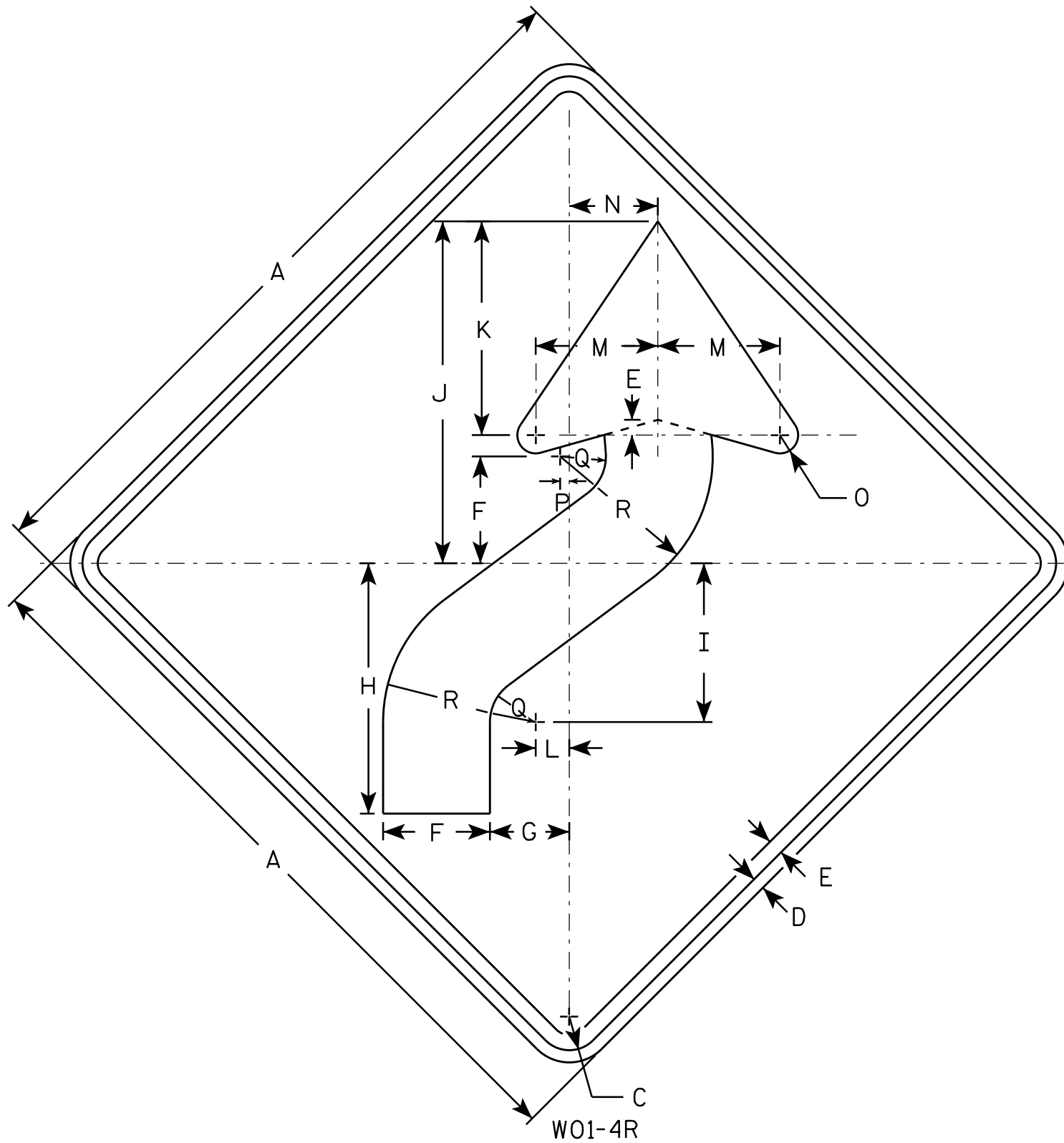
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

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W01-4R

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W01-4

WISCONSIN DEPT OF TRANSPORTATION

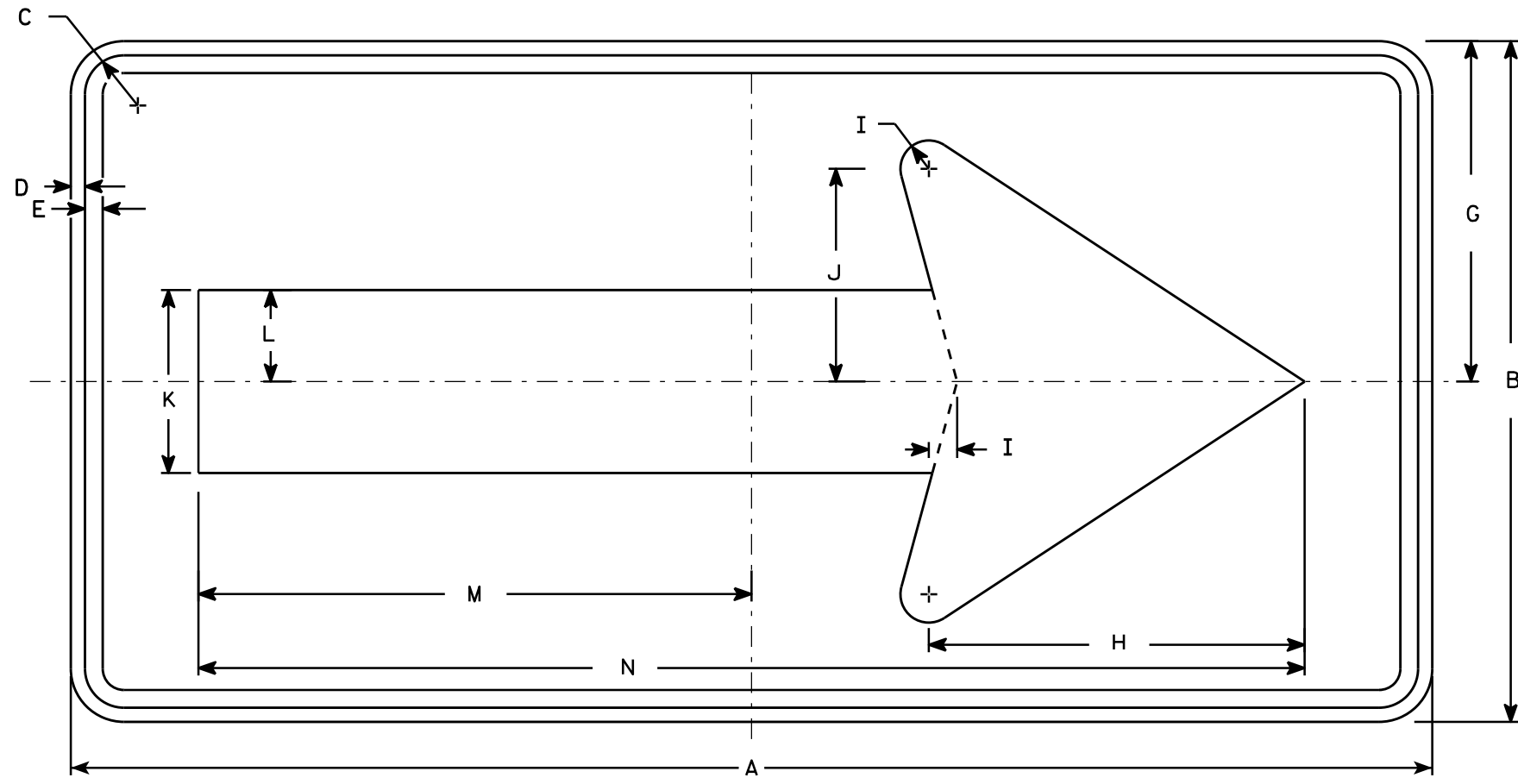
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4.1

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W01-6

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	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

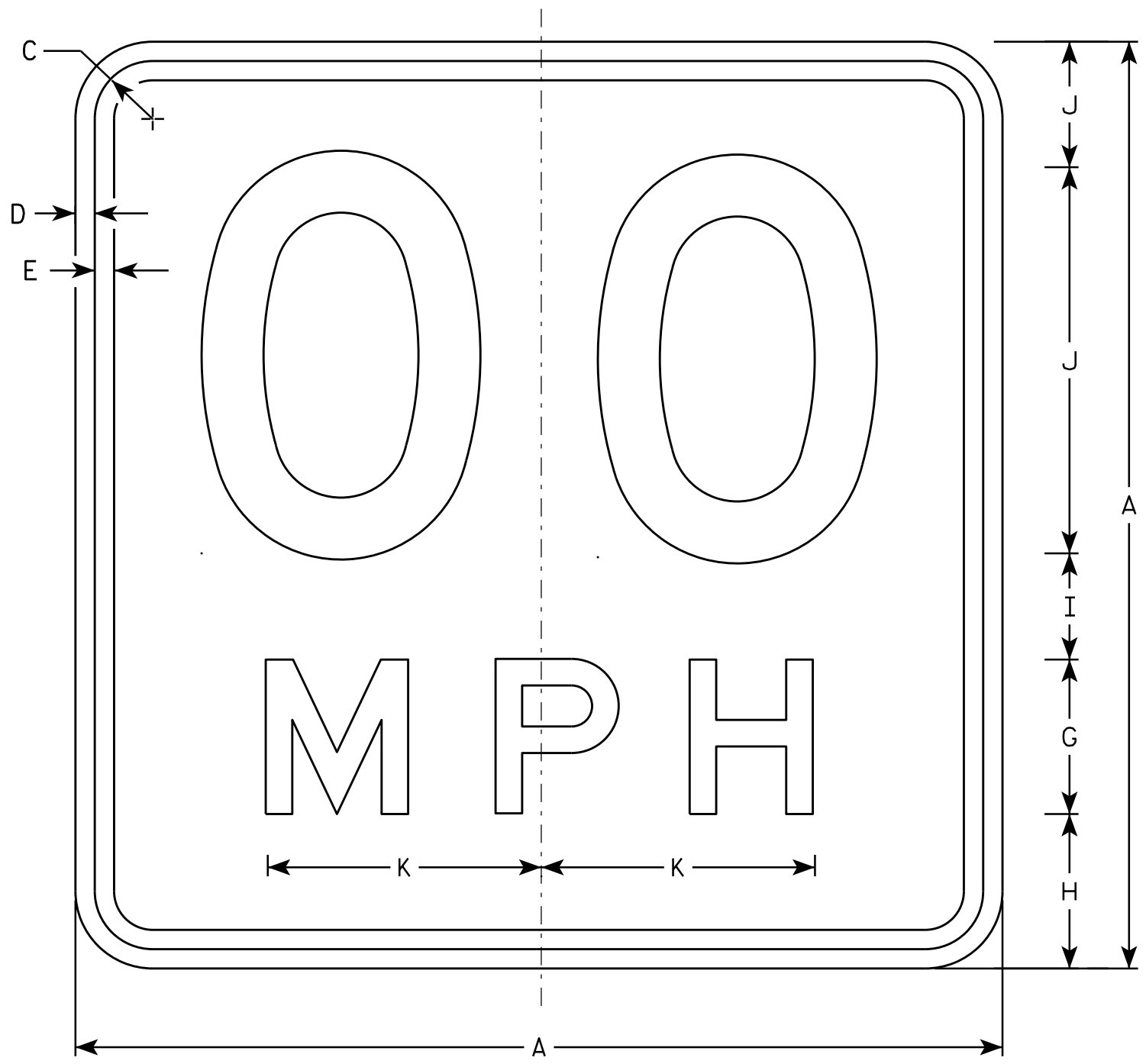
STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
Line 2 is Series E

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

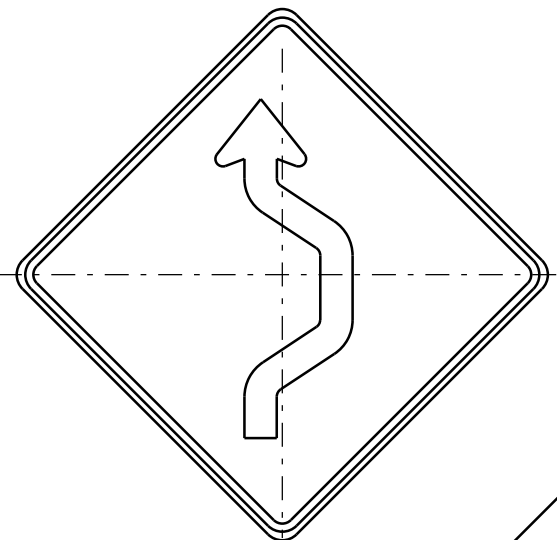
STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

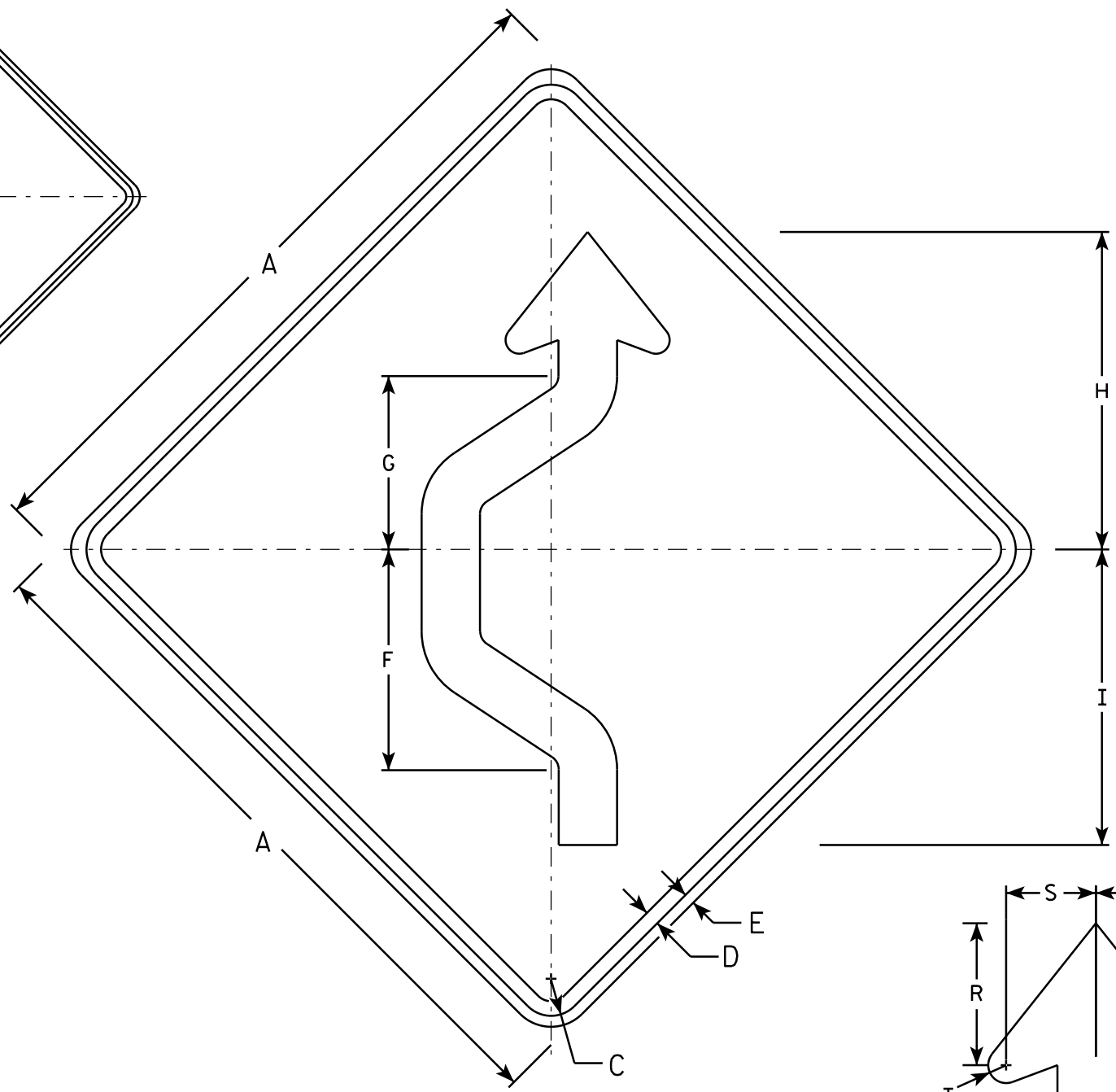
APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 11/21/13 PLATE NO. W013-1.1

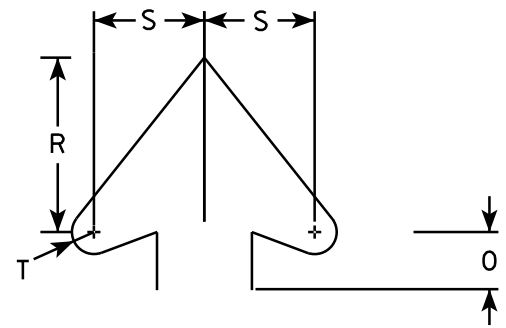
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



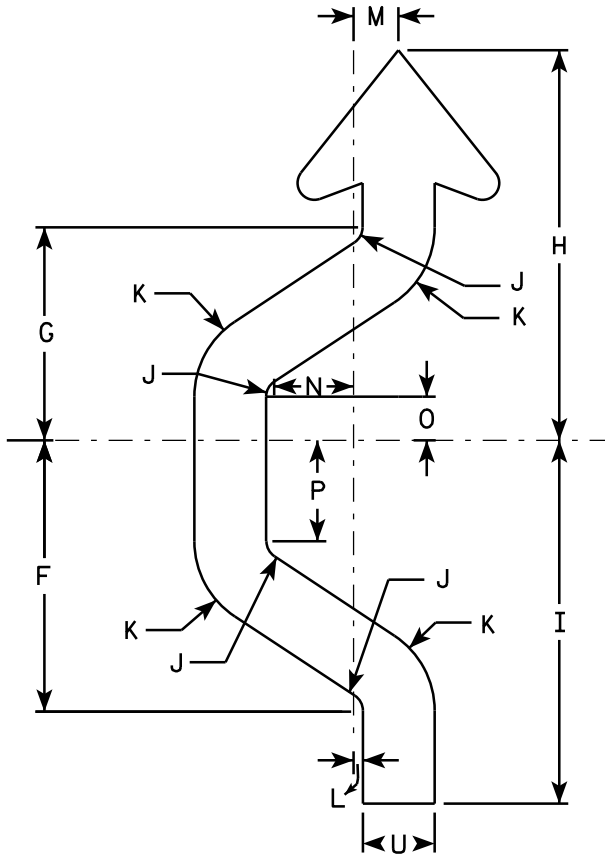
W024-1R



W024-1L



Arrowhead Detail



Arrow Detail

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W024-1R is the same as W024-1L except reversed along the vertical centerline.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9
2S	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
2M	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
3	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
4	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
5	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16

STANDARD SIGN
W024-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

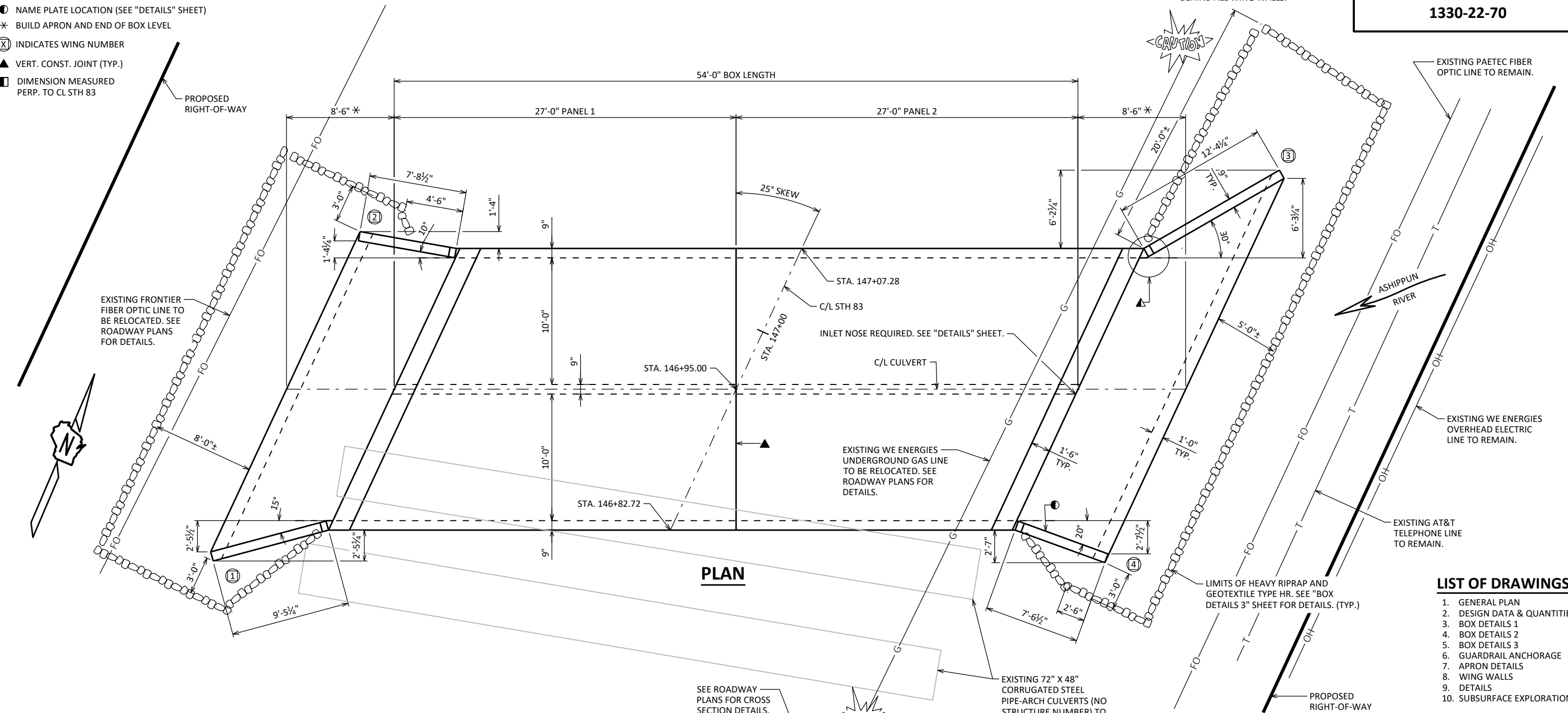
DATE 9/25/2013 PLATE NO. W024-1.1

- ▲ SEE CORNER DETAILS ON "WING WALLS" SHEET
- NAME PLATE LOCATION (SEE "DETAILS" SHEET)
- * BUILD APRON AND END OF BOX LEVEL
- ⓧ INDICATES WING NUMBER
- ▲ VERT. CONST. JOINT (TYP.)
- DIMENSION MEASURED PERP. TO CL STH 83

STATE PROJECT NUMBER

1330-22-70

NOTE: STRUCTURE BACKFILL REQUIRED BEHIND ALL WING WALLS.

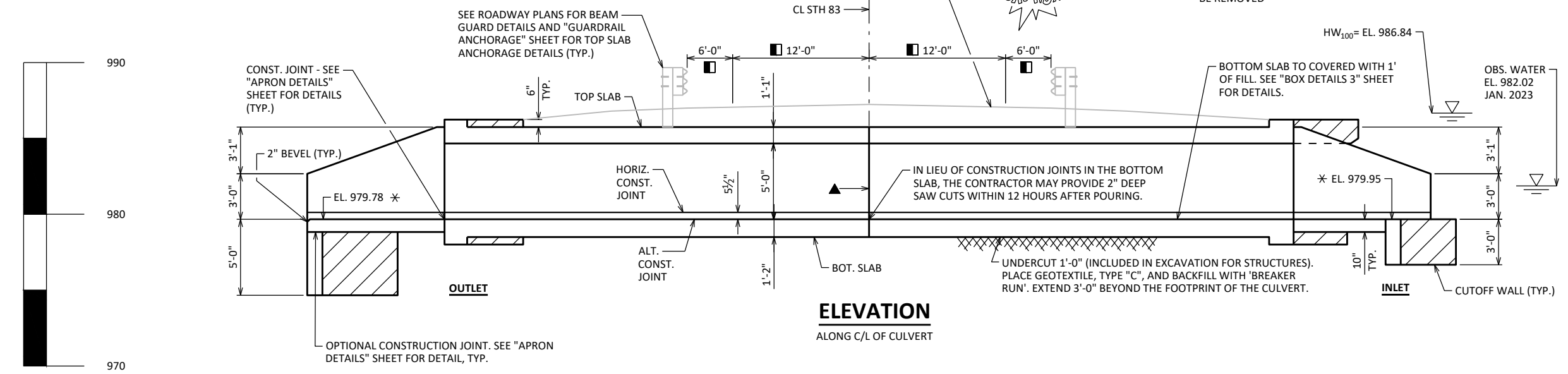


PLAN

LIST OF DRAWINGS

1. GENERAL PLAN
2. DESIGN DATA & QUANTITIES
3. BOX DETAILS 1
4. BOX DETAILS 2
5. BOX DETAILS 3
6. GUARDRAIL ANCHORAGE
7. APRON DETAILS
8. WING WALLS
9. DETAILS
10. SUBSURFACE EXPLORATION

STRUCTURE DESIGN CONTACTS:
 MICAH BROOKS 608-266-5080
 KYLE BUSCH 608-267-0465



ELEVATION

ALONG C/L OF CULVERT

NO.	DATE	REVISION	BY
<p>BUREAU OF STRUCTURES</p>			
ACCEPTED		 CHIEF STRUCTURES DESIGN ENGINEER	4/10/23 DATE
STRUCTURE B-66-146			
STH 83 OVER ASHIPPIN RIVER			
COUNTY	WASHINGTON	TOWN	ERIN
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION			
DESIGNED BY	MWB	DESIGNED BY	CK'D
DRAWN BY	AA	PLANS BY	AA
GENERAL PLAN			SHEET 1 OF 10

8

8

SCALE = 8

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
 INVENTORY RATING: RF = 1.05
 OPERATING RATING: RF = 1.35
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 255 (KIPS)

EARTHLOAD:

DESIGNED FOR 0.5 TO 1.5 FT. OF FILL.

MATERIAL PROPERTIES:

CONCRETE MASONRY $f'_c = 3,500$ PSI
 BAR STEEL REINFORCEMENT $f_y = 60,000$ PSI

HYDRAULIC DATA

100-YEAR FREQUENCY:

$Q_{100} = 560$ C.F.S.
 $V_{100} = 7.0$ F.P.S.
 $HW_{100} = EL. 986.84$
 WATERWAY AREA = 80 SQ. FT.
 DRAINAGE AREA = 7.0 SQ. MI.
 ROADWAY OVERTOPPING = N/A
 SCOUR CRITICAL CODE = 8

TRAFFIC DATA

STH 83:

ADT = 6,600 (2019)
 R.D.S. = 55 MPH

2-YEAR FREQUENCY:

$Q_2 = 100$ C.F.S.
 $V_2 = 1.6$ F.P.S.
 $HW_2 = EL. 984.00$

STATE PROJECT NUMBER

1330-22-70

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 $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS B-66-146" SHALL BE THE EXISTING GROUNDLINE.

ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL WITHIN THE LENGTH OF THE CULVERT INCLUDING THE APRON WING WALLS.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

PLACE 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN TO BOTTOM OF OUTSIDE WALLS.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO PRECAST DETAILS ON CHAPTER 36 STANDARDS OF THE CURRENT WISC. DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON THE QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES".

THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

TOTAL ESTIMATED QUANTITIES

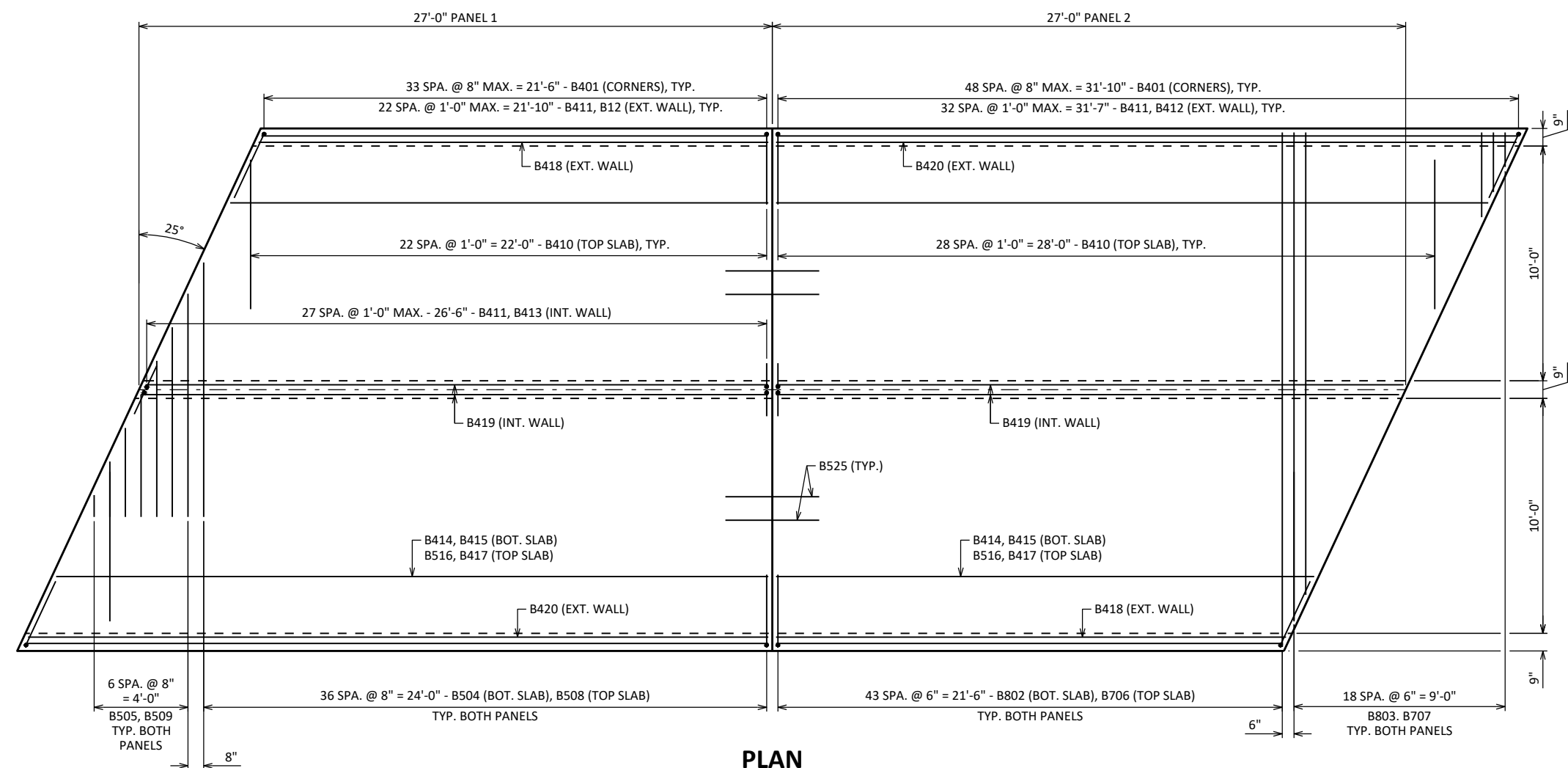
BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0220	REMOVING STRUCTURE (TWIN 72" X 48" STEEL PIPE-ARCH CULVERTS)	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS (B-66-146)	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	607
311.0115	BREAKER RUN	CY	77
312.0115	SELECT CRUSHED MATERIAL	CY	14
504.0100	CONCRETE MASONRY CULVERTS	CY	151
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	23,210
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,130
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	17
606.0100	RIPRAP LIGHT	CY	43
606.0300	RIPRAP HEAVY	CY	48
645.0105	GEOTEXTILE TYPE C	SY	239
645.0120	GEOTEXTILE TYPE HR	SY	107
	NON-BID ITEMS		
	FILLER	SIZE	$\frac{3}{4}$ "

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-146			
DRAWN BY		MWB	PLANS CK'D AA
DESIGN DATA & QUANTITIES			SHEET 2

SCALE = 1

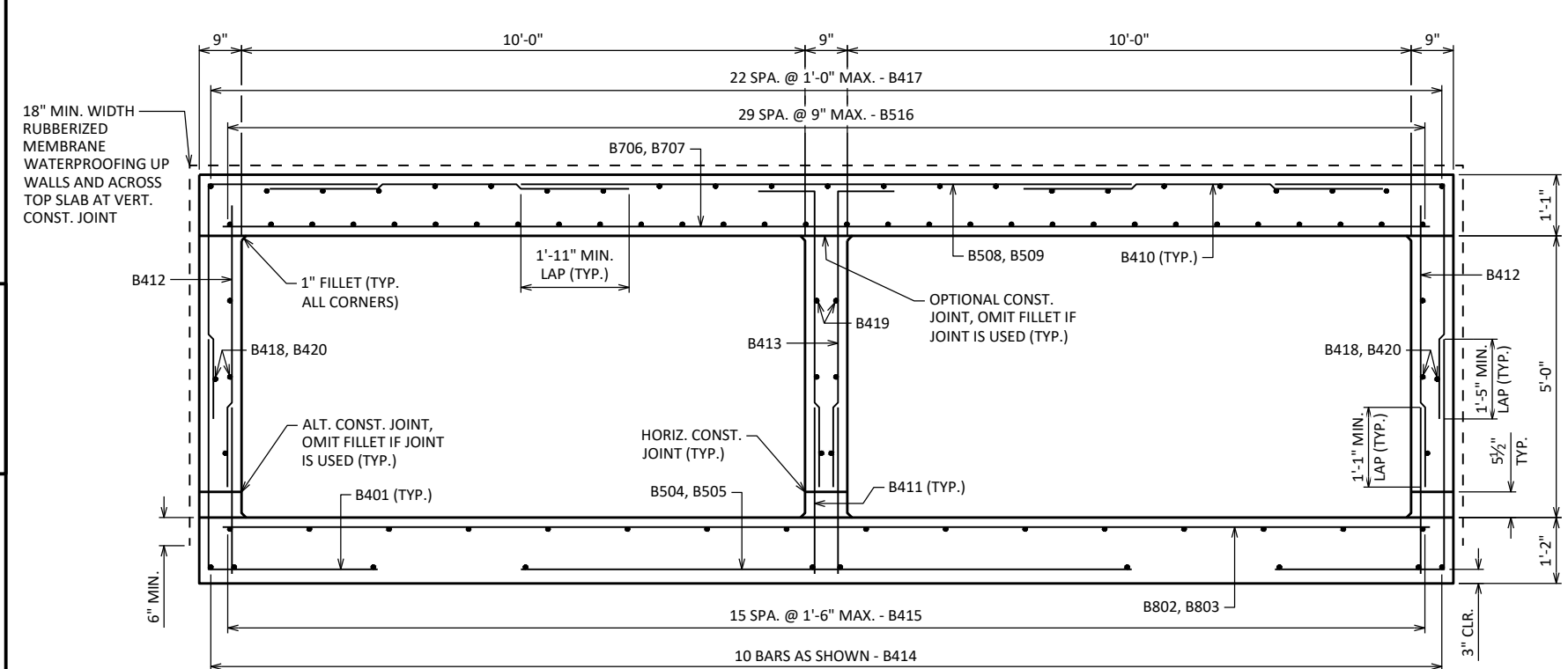
8

8

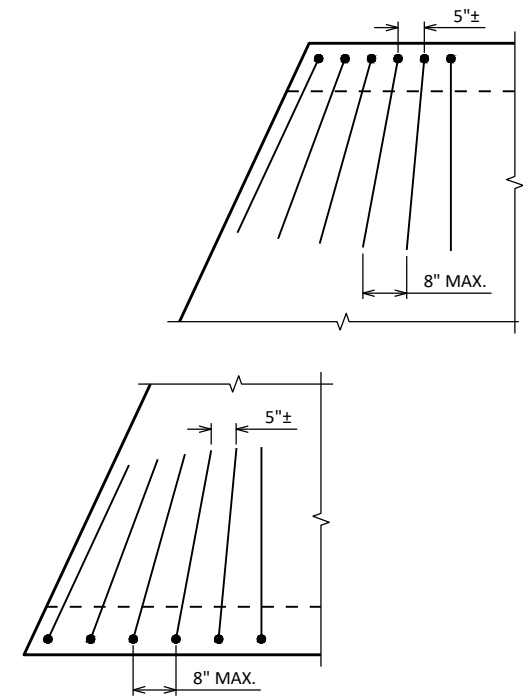


PLAN

HEADERS NOT SHOWN FOR CLARITY
ALL REINFORCING BARS ARE SYMMETRICAL BETWEEN PANELS, SOME LABELS NOT DUPLICATED FOR CLARITY



SECTION THRU BOX



CORNER BAR DETAILS

FLARE LAST (5) B401 BARS AS SHOWN. MAINTAIN 8" MAX. SPACING.

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-146			
DRAWN BY MWB		PLANS CK'D AA	
BOX DETAILS 1			SHEET 3

SCALE = 6

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
B401		332	7'-2"	X		CORNERS - VERT.
B802		88	21'-11"			BOT. SLAB - HORIZ.
B803		38	11'-1"	▲		BOT. SLAB - HORIZ.
B504		74	10'-10"			BOT. SLAB - HORIZ. - AT INT. WALL
B505		14	5'-3"	▲		BOT. SLAB - HORIZ. - AT INT. WALL
B706		88	21'-11"			TOP SLAB - HORIZ.
B707		38	11'-1"	▲		TOP SLAB - HORIZ.
B508		74	10'-10"			TOP SLAB - HORIZ. - AT INT. WALL
B509		14	5'-3"	▲		TOP SLAB - HORIZ. - AT INT. WALL
B410		104	6'-6"			TOP SLAB - HORIZ. - OVER CELLS
B411		224	2'-5"			INT. & EXT. WALLS - VERT. - DOWELS
B412		112	5'-2"			EXT. WALLS - VERT.
B413		112	6'-3"	X		INT. WALL - VERT.
B414		20	26'-8"	▲		BOT. SLAB - LONGIT.
B415		32	26'-8"	▲		BOT. SLAB - LONGIT.
B516		60	26'-8"	▲		TOP SLAB - LONGIT.
B417		46	26'-8"	▲		TOP SLAB - LONGIT.
B418		8	21'-8"			N. WALL PANEL 1/S. WALL PANEL 2 - LONGIT.
B419		6	26'-7"			INT. WALL - LONGIT.
B420		8	31'-7"			S. WALL PANEL 1/N. WALL PANEL 2 - LONGIT.
B321		34	4'-11"	X		TOP HEADER - VERT. - INLET
B322		34	5'-3"	X		TOP HEADER - VERT. - OUTLET
B323		68	5'-3"	X		BOT. HEADER - VERT. - INLET & OUTLET
B824		24	24'-2"			ALL HEADERS - HORIZ.
B525		59	4'-0"			VERT. CONST. JOINT

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

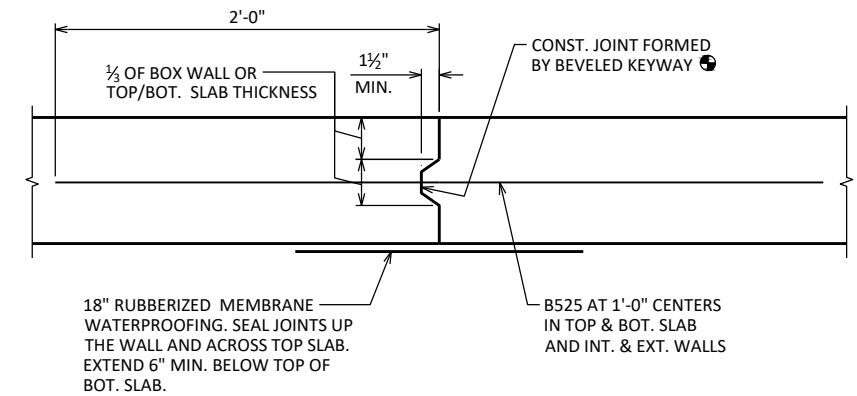
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D	LENGTH
B803	2 SERIES OF 19	1'-7" TO 20'-11"
B505	2 SERIES OF 7	0'-11" TO 9'-6"
B707	2 SERIES OF 19	1'-7" TO 20'-11"
B509	2 SERIES OF 7	0'-11" TO 9'-6"
B414	2 SERIES OF 10	21'-6" TO 31'-9"
B415	2 SERIES OF 16	21'-8" TO 31'-7"
B516	2 SERIES OF 30	21'-8" TO 31'-7"
B417	2 SERIES OF 23	21'-6" TO 31'-9"

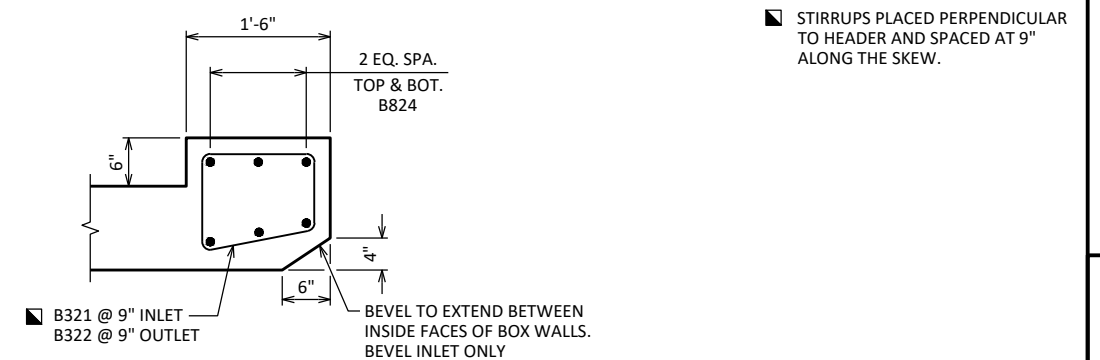
STATE PROJECT NUMBER

1330-22-70

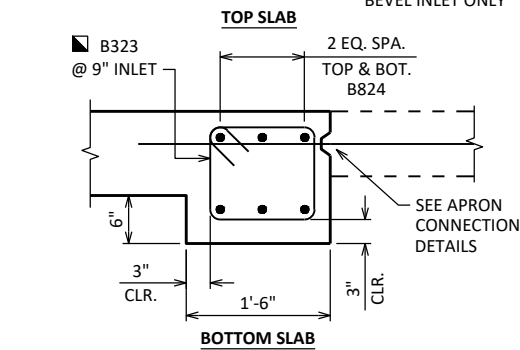


VERTICAL CONSTRUCTION JOINT

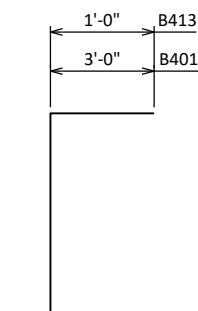
IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.



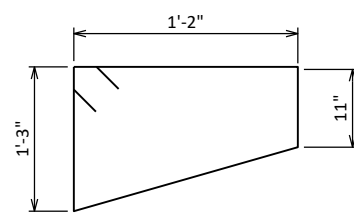
■ STIRRUPS PLACED PERPENDICULAR TO HEADER AND SPACED AT 9" ALONG THE SKEW.



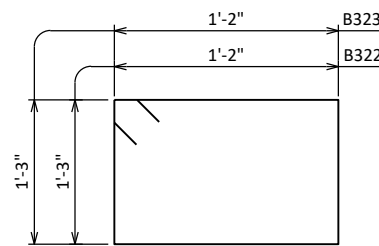
SECTION THRU HEADER



B401, B413



B321



B322, B323

8

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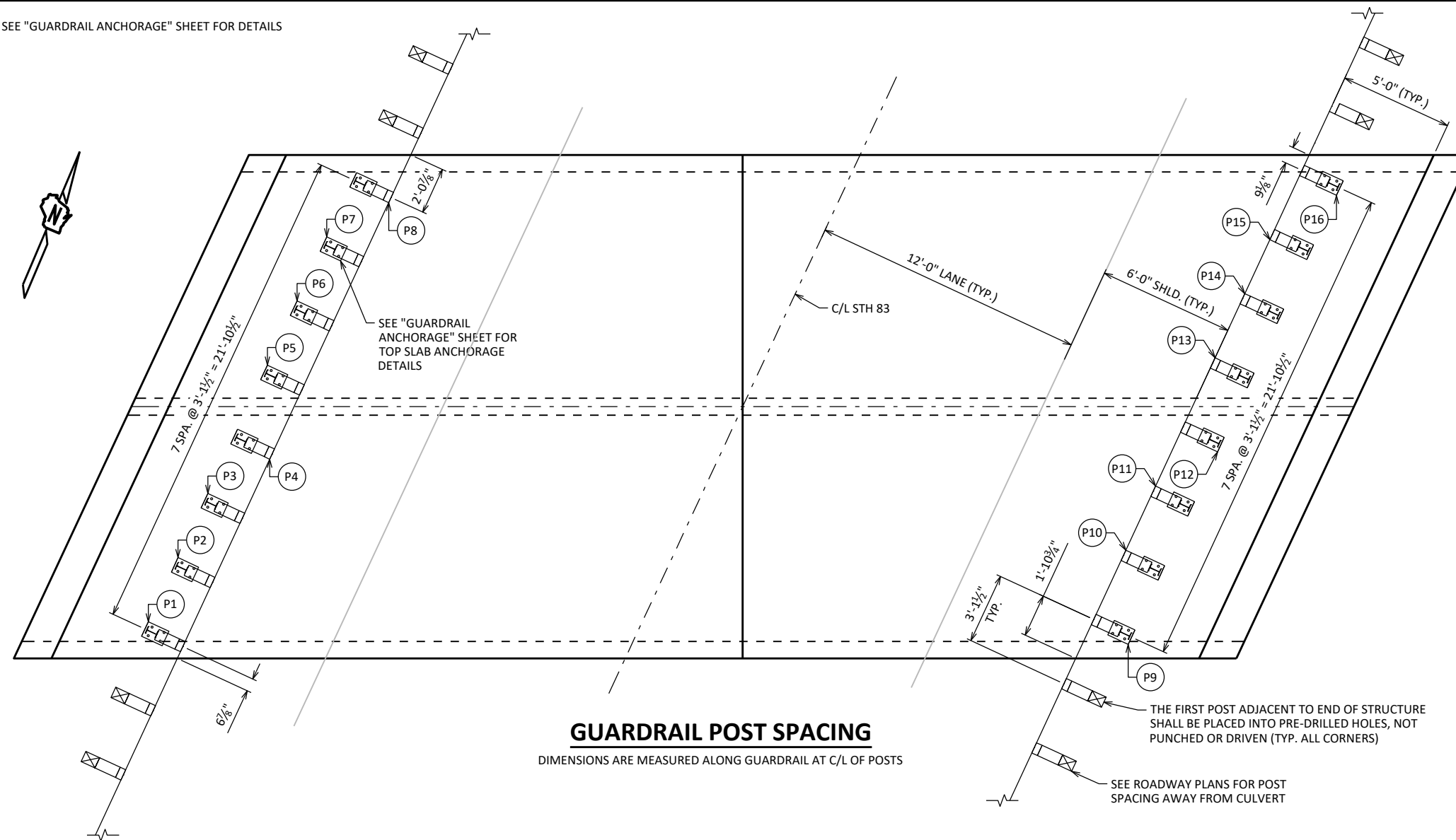
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-146			
DRAWN BY MWB		PLANS CK'D AA	
BOX DETAILS 2			SHEET 4

SCALE = 1

(X) INDICATES POST NUMBER, SEE "GUARDRAIL ANCHORAGE" SHEET FOR DETAILS

STATE PROJECT NUMBER

1330-22-70

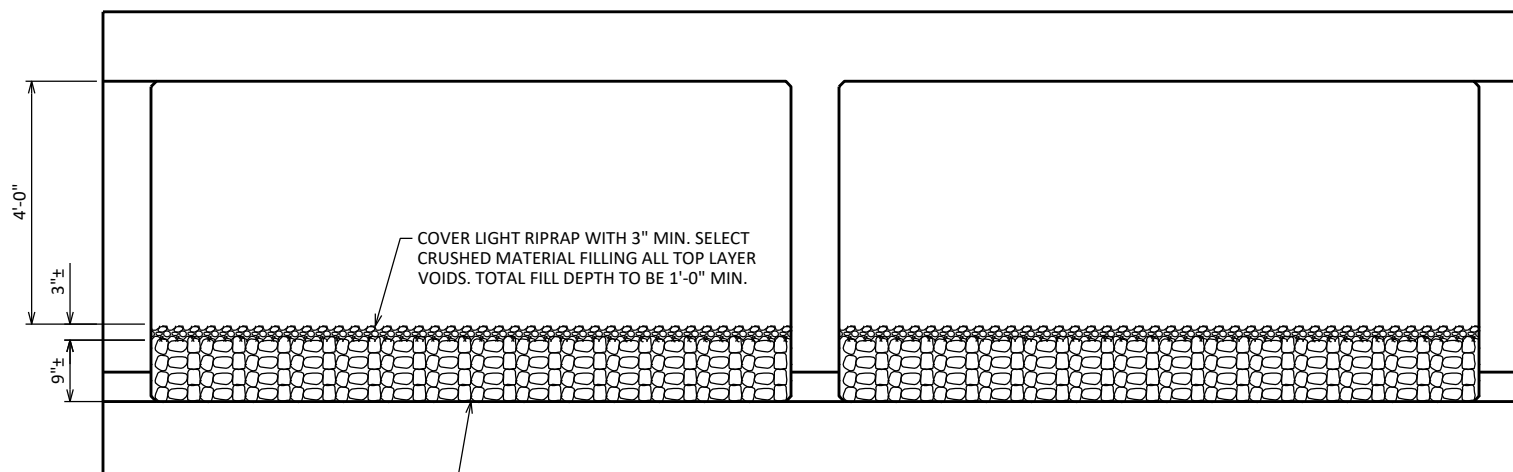


GUARDRAIL POST SPACING

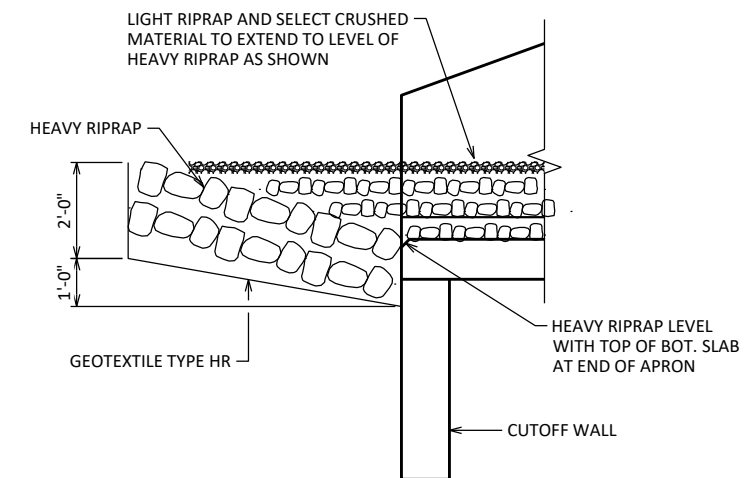
DIMENSIONS ARE MEASURED ALONG GUARDRAIL AT C/L OF POSTS

THE FIRST POST ADJACENT TO END OF STRUCTURE SHALL BE PLACED INTO PRE-DRILLED HOLES, NOT PUNCHED OR DRIVEN (TYP. ALL CORNERS)

SEE ROADWAY PLANS FOR POST SPACING AWAY FROM CULVERT



BOTTOM SLAB FILL



RIPRAP DETAIL

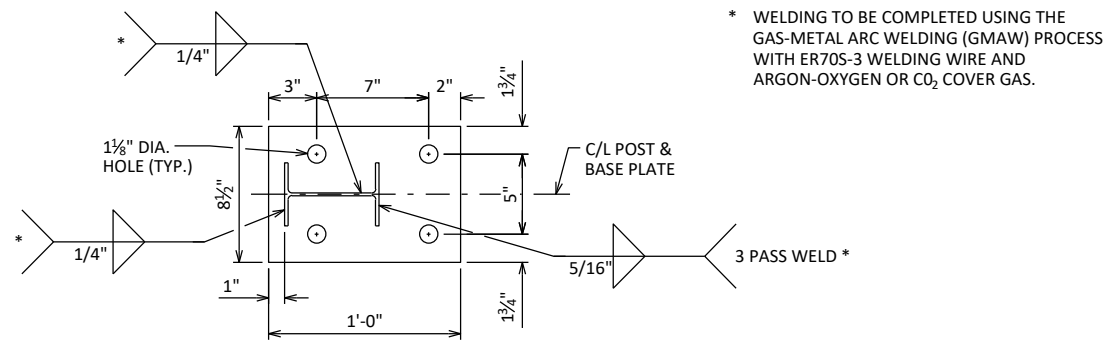
TYP. BOTH APRONS

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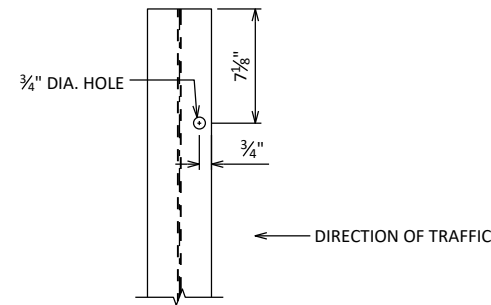
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-146			
DRAWN BY		PLANS CK'D	AA
MWB			
BOX DETAILS 3			SHEET 5

SCALE =



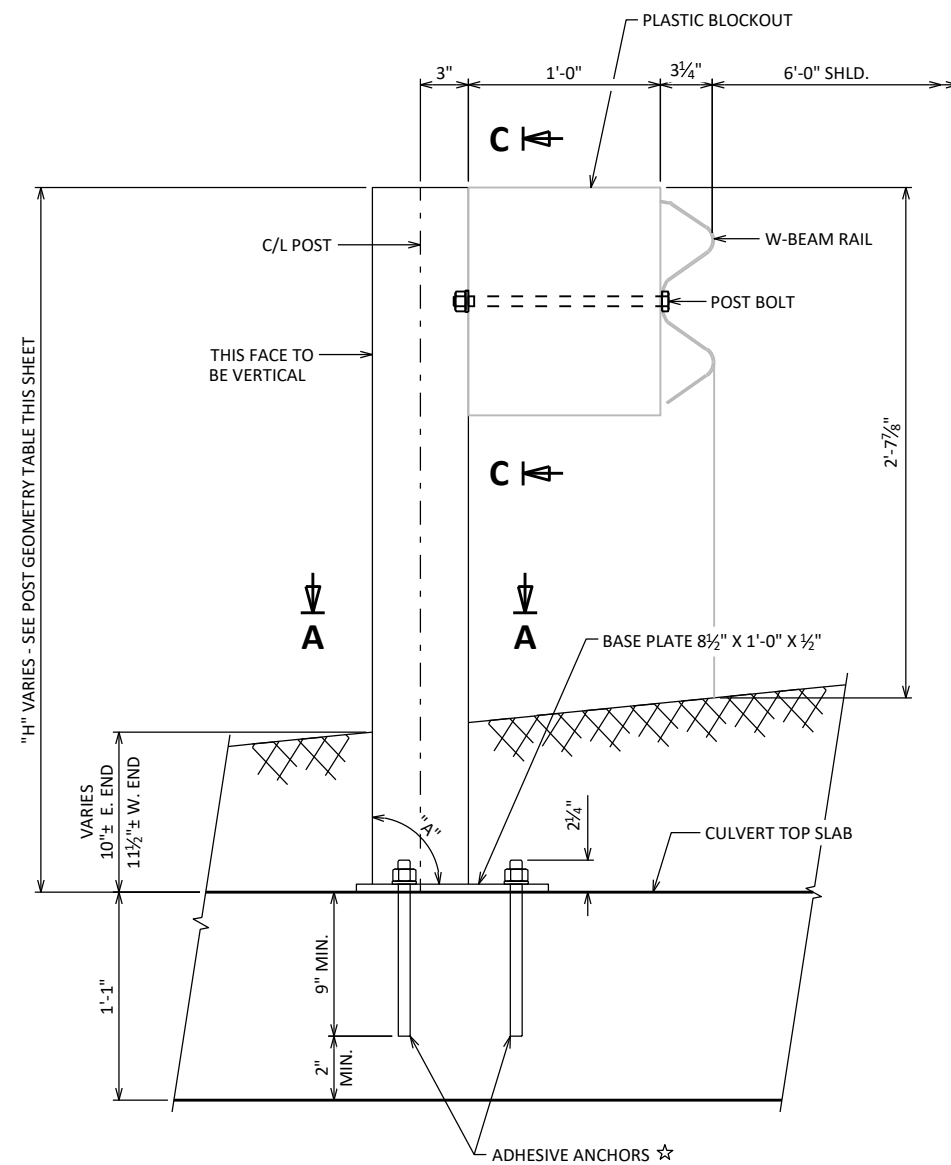
SECTION A-A

POST & BASE PLATE



SECTION C-C

HOLE IN POST FLANGE ON APPROACHING TRAFFIC SIDE



ELEVATION

SEE ROADWAY PLANS FOR "A" AND "H" DIMENSIONS

NOTES

DETAILS SHOWN FOR POSTS, PLATES, ANCHORAGE SYSTEM AND INSTALLATION, BLOCKS, AND GUARDRAIL ARE NOT PART OF THE STRUCTURE CONTRACT, BUT ARE BID PER THE ROADWAY DESIGN PLANS.

POST BASE PLATES (AND BOTTOM PLATES IF USED) SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

CUT BOTTOM OF POST SO THAT POST WILL BE VERTICAL WHEN POST ASSEMBLY IS PLACED ON TOP OF THE CULVERT. ALONG THE ROADWAY THE POST WILL BE NORMAL TO GRADE LINE. HEX BOLTS AND THREADED RODS ARE TO BE PLACED PERPENDICULAR TO THE BASE PLATE (AND BOTTOM PLATES IF USED).

POST, BASE PLATE (AND BOTTOM PLATE IF USED), AND SHIMS SHALL BE GALVANIZED AFTER FABRICATION.

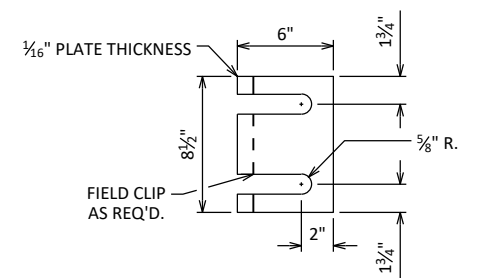
PRIOR TO GALVANIZING, ALL STEEL POSTS AND PLATES SHALL BE GIVEN A NO. 6 COMMERCIAL BLAST CLEANING BY SSPC SPECS.

ALL MATERIAL USED IN POSTS AND PLATES SHALL BE MADE FROM MATERIAL CONFORMING TO ASTM DESIGNATION A709 GRADE 50 OR 50S.

HEX BOLTS, THREADED RODS, HEX NUTS, AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F1554 GRADE 36, AND SHALL BE GALVANIZED. RODS ARE TO BE FULLY THREADED AND BOLTS TO BE THREADED 3". CHAMFER TOP OF BOLTS AND RODS BEFORE THREADING.

☆ ADHESIVE ANCHORS (1-INCH DIA. THREADED ROD). EMBED IN CONCRETE AS DETAILED. CHARACTERISTIC BOND STRENGTH SHALL MEET OR EXCEED 1305 PSI FOR UNCRACKED CONCRETE. SEE STANDARD SPECIFICATION 502.3.14 AND APPLY TO THREADED RODS.

STEEL SHIMS MAY BE USED BETWEEN PLATES AND SLAB WHERE REQUIRED FOR ALIGNMENT.



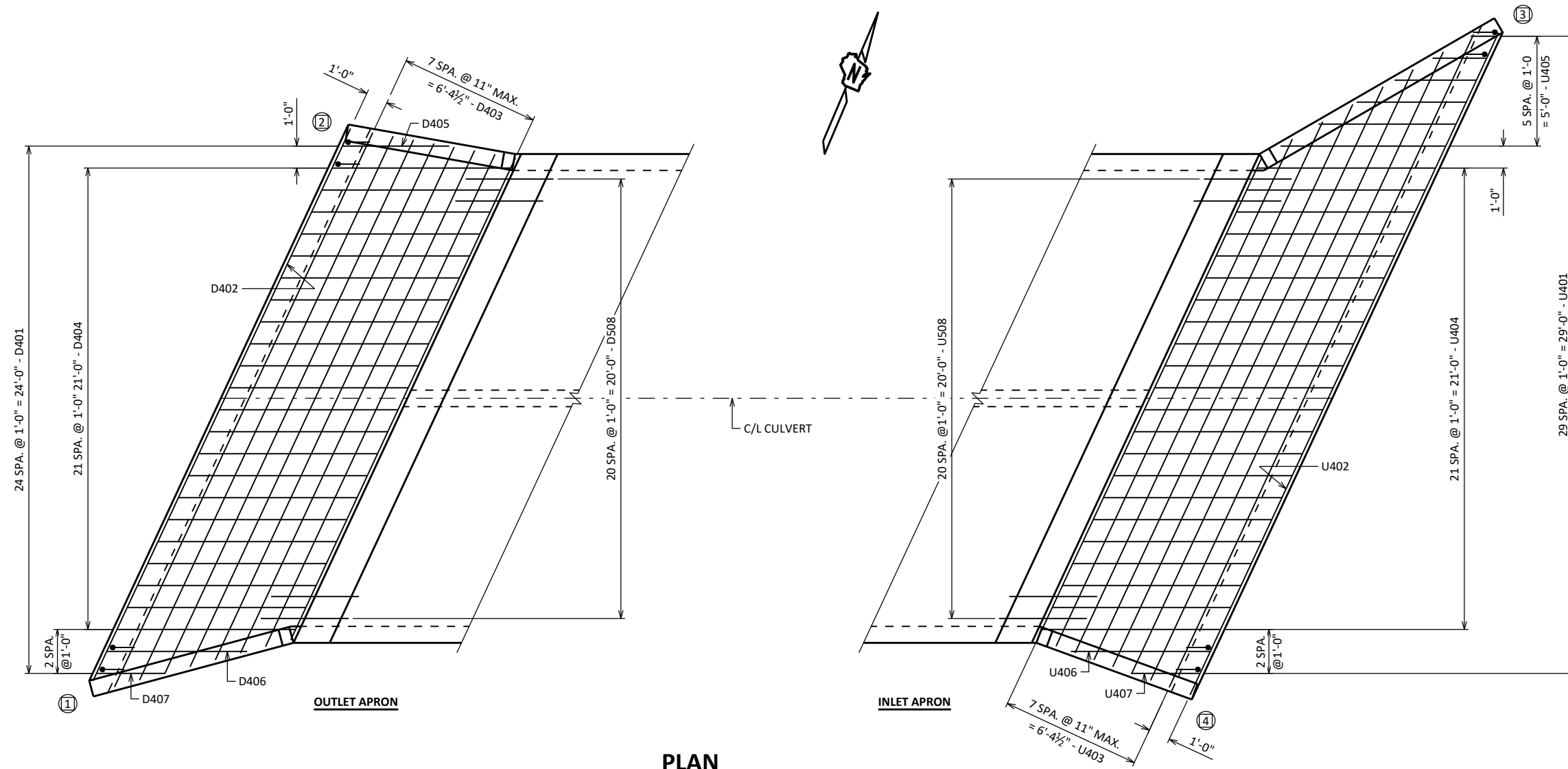
STEEL SHIM DETAIL

4 PER POST

POST NO.	STA. C/L STH 83	"A"	"H"
P1	146+74.91	89°49'11"	3'-8 1/2"
P2	146+78.04	89°49'11"	3'-8 1/2"
P3	146+81.16	89°49'11"	3'-8 1/2"
P4	146+84.29	89°49'11"	3'-8 1/2"
P5	146+87.41	89°49'11"	3'-8 1/2"
P6	146+90.54	89°49'11"	3'-8 1/2"
P7	146+93.66	89°49'11"	3'-8 1/2"
P8	146+96.79	89°49'11"	3'-8 1/2"
P9	146+93.06	90°10'49"	3'-7"
P10	146+96.19	90°10'49"	3'-7"
P11	146+99.31	90°10'49"	3'-7"
P12	147+02.44	90°10'49"	3'-7"
P13	147+05.56	90°10'49"	3'-7"
P14	147+08.69	90°10'49"	3'-7"
P15	147+11.81	90°10'49"	3'-7"
P16	147+14.94	90°10'49"	3'-7"

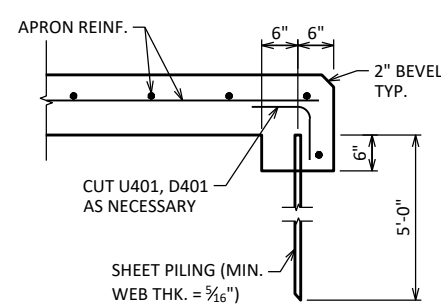
POST GEOMETRY TABLE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-146			
DRAWN BY MWB		PLANS CK'D AA	
GUARDRAIL ANCHORAGE		SHEET 6	



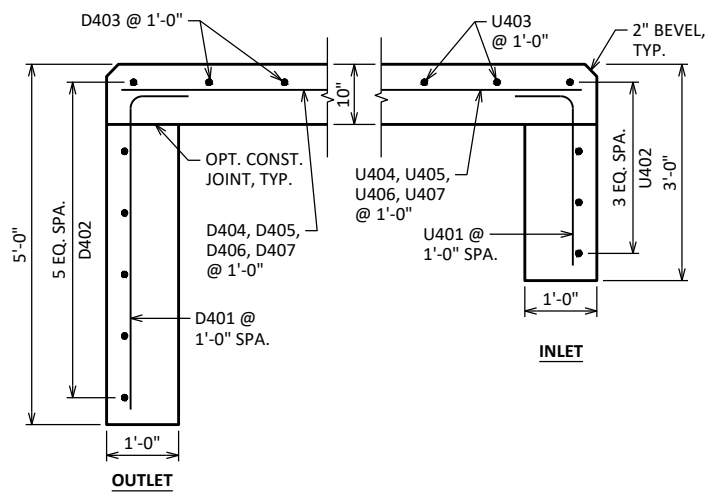
PLAN

(X) INDICATES WING NUMBER

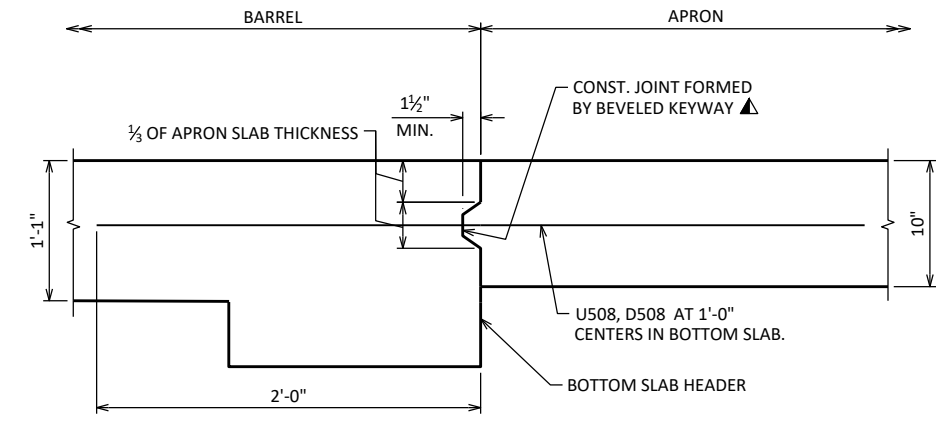


ALTERNATE CUT-OFF WALLS

THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.



CUT-OFF WALLS

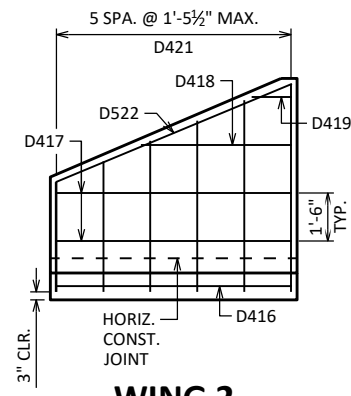


APRON CONNECTION DETAIL

▲ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.

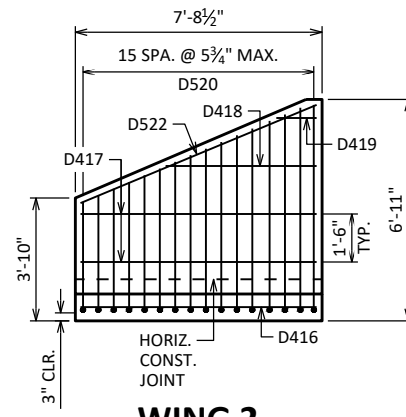
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-146			
DRAWN BY MWB		PLANS CK'D AA	
APRON DETAILS			SHEET 7

★ 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. PLACE ALONG HORIZ. CONST. JOINT FULL LENGTH OF WING.



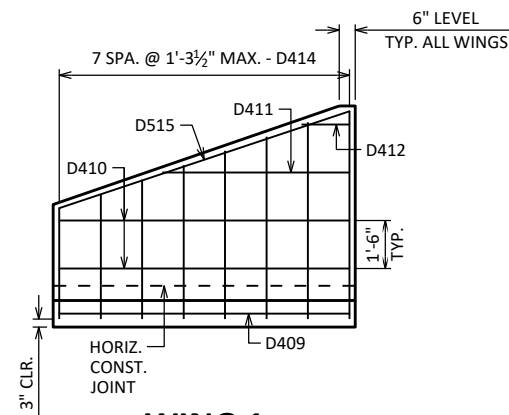
WING 2

SHOWING F.F. REINFORCEMENT



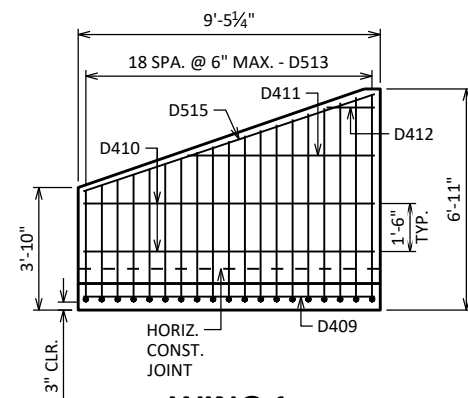
WING 2

SHOWING B.F. REINFORCEMENT



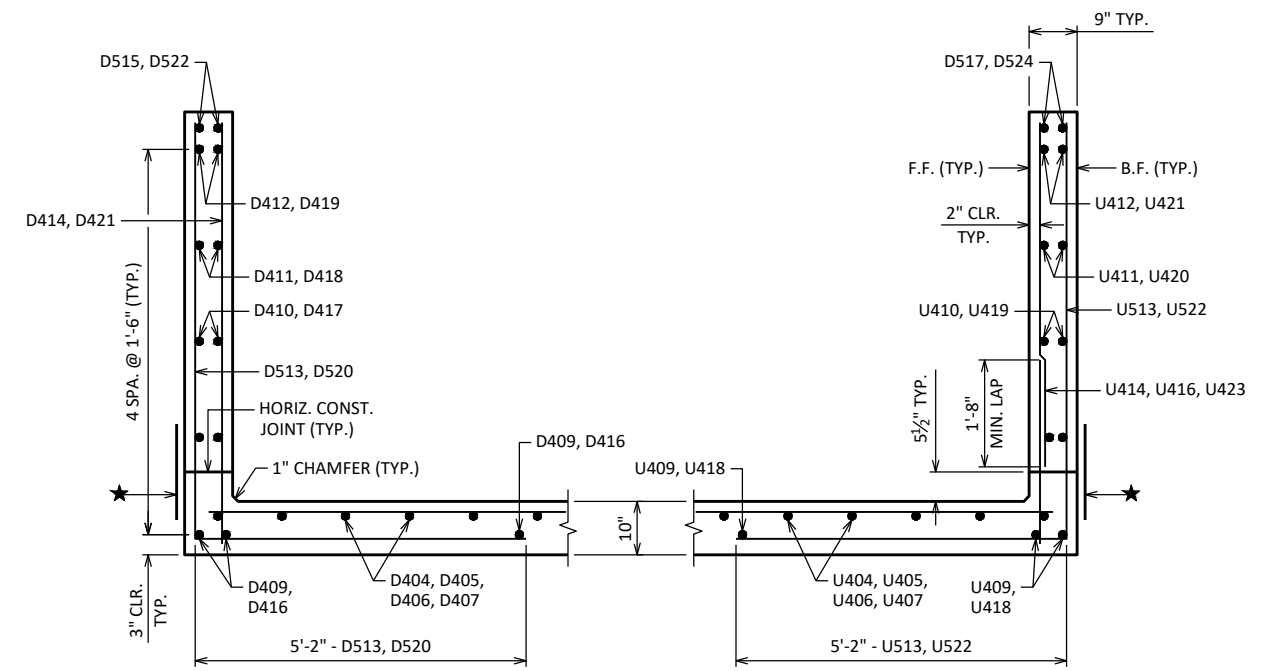
WING 1

SHOWING F.F. REINFORCEMENT



WING 1

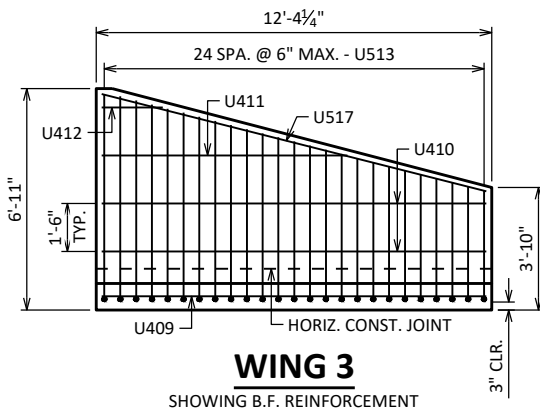
SHOWING B.F. REINFORCEMENT



WINGS 1 & 2

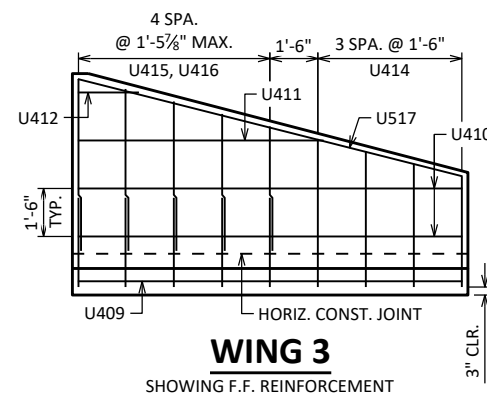
WINGS 3 & 4

SECTION THRU WINGS



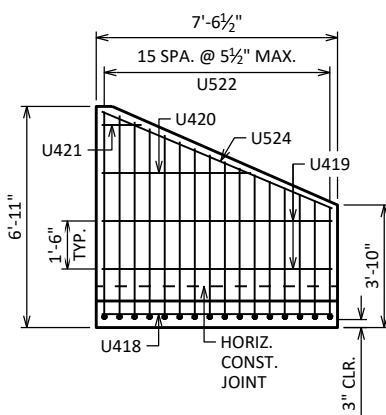
WING 3

SHOWING B.F. REINFORCEMENT



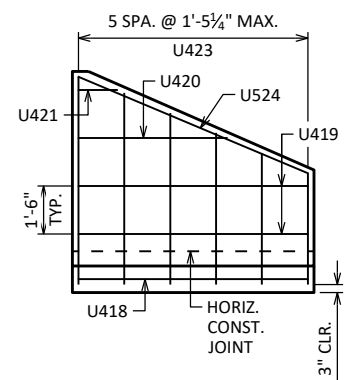
WING 3

SHOWING F.F. REINFORCEMENT



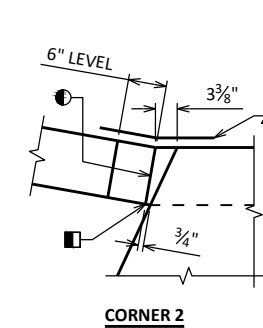
WING 4

SHOWING B.F. REINFORCEMENT

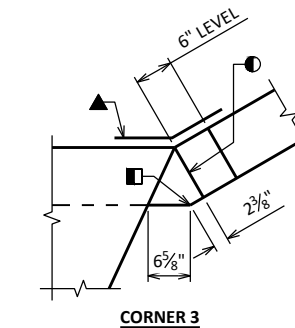


WING 4

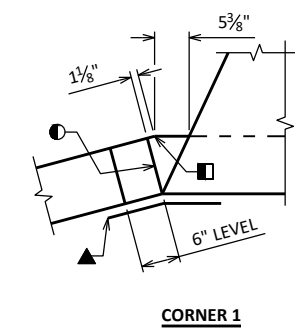
SHOWING F.F. REINFORCEMENT



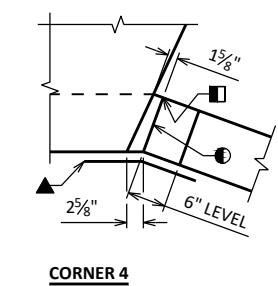
CORNER 2



CORNER 3



CORNER 1



CORNER 4

CORNER DETAILS

- 3/4" FILLER (TYP.) EXTEND FROM HORIZ. CONST. JOINT TO TOP OF WING.
- 1" BEVEL (TYP.)
- ▲ 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM HORIZ. CONST. JOINT TO TOP OF WING.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-146			
DRAWN BY MWB		PLANS CK'D AA	
WING WALLS			SHEET 8

8

8

SCALE = 7

BILL OF BARS

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

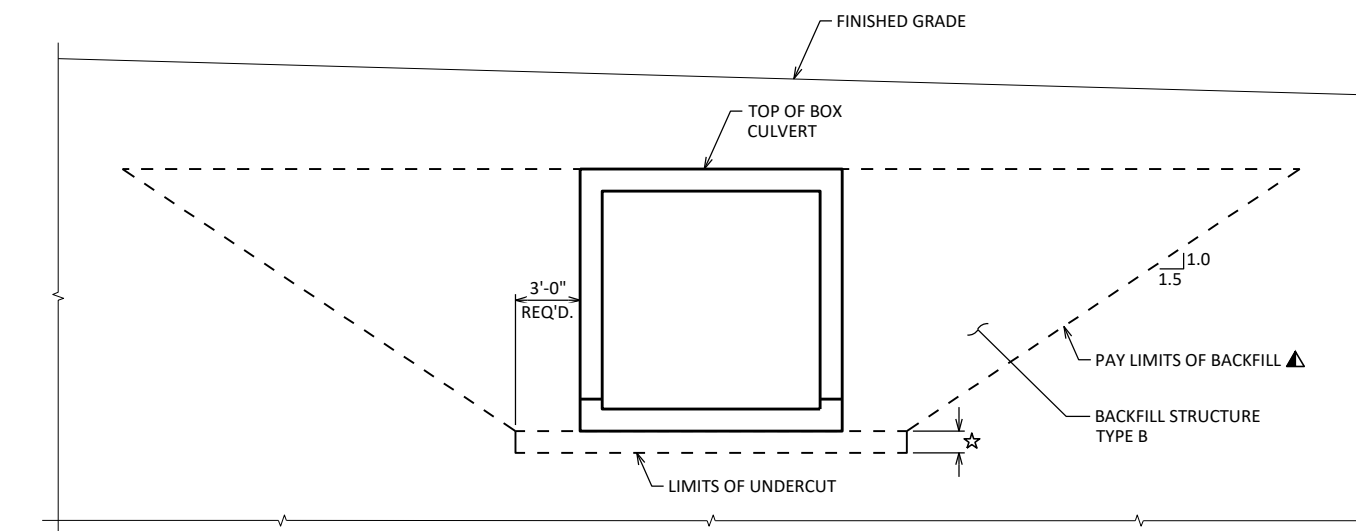
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
D401		25	5'-7"	X		OUTLET CUTOFF WALL - VERT.
D402		6	27'-9"			OUTLET CUTOFF WALL - HORIZ.
D403	X	8	26'-0"		▲	OUTLET APRON - TRANS.
D404		22	8'-2"			OUTLET APRON - LONGIT.
D405		1	4'-10"			OUTLET APRON - LONGIT.
D406		1	6'-5"			OUTLET APRON - LONGIT.
D407		1	3'-2"			OUTLET APRON - LONGIT.
D508		21	4'-0"			OUTLET APRON - CONST. JOINT
D409		3	9'-1"			WING 1 - HORIZ. - IN APRON
D410	X	4	9'-1"			WING 1 - HORIZ.
D411	X	2	6'-2"			WING 1 - HORIZ.
D412	X	2	1'-9"			WING 1 - HORIZ.
D513	X	19	10'-2"	X	▲	WING 1 - VERT. - B.F.
D414	X	8	5'-0"		▲	WING 1 - VERT. - F.F.
D515	X	2	9'-7"			WING 1 - HORIZ. - TOP
D416		3	7'-4"			WING 2 - HORIZ. - IN APRON
D417	X	4	7'-4"			WING 2 - HORIZ.
D418	X	2	5'-0"			WING 2 - HORIZ.
D419	X	2	1'-6"			WING 2 - HORIZ.
D520	X	16	10'-2"	X	▲	WING 2 - VERT. - B.F.
D421	X	6	5'-0"		▲	WING 2 - VERT. - F.F.
D522	X	2	8'-0"			WING 2 - HORIZ. - TOP
U401		30	3'-7"	X		INLET CUTOFF WALL - VERT.
U402		4	33'-3"			INLET CUTOFF WALL - HORIZ.
U403		8	28'-6"		▲	INLET APRON - TRANS.
U404		22	8'-2"			INLET APRON - LONGIT.
U405		6	4'-5"		▲	INLET APRON - LONGIT.
U406		1	6'-4"			INLET APRON - LONGIT.
U407		1	3'-2"			INLET APRON - LONGIT.
U508		21	4'-0"			INLET APRON - CONST. JOINT
U409		3	12'-0"			WING 3 - HORIZ. - IN APRON
U410	X	4	12'-0"			WING 3 - HORIZ.
U411	X	2	8'-1"			WING 3 - HORIZ.
U412	X	2	2'-3"			WING 3 - HORIZ.
U513	X	25	10'-2"	X	▲	WING 3 - VERT. - B.F.
U414	X	4	4'-1"		▲	WING 3 - VERT. - F.F.
U415	X	5	2'-9"			WING 3 - VERT. - F.F. DOWELS
U416	X	5	4'-8"		▲	WING 3 - VERT. - F.F.
U517	X	2	12'-5"			WING 3 - HORIZ. - TOP
U418		3	7'-2"			WING 4 - HORIZ. - IN APRON
U419	X	4	7'-2"			WING 4 - HORIZ.
U420	X	2	4'-11"			WING 4 - HORIZ.
U421	X	2	1'-5"			WING 4 - HORIZ.
U522	X	16	10'-2"	X	▲	WING 4 - VERT. - B.F.
U423	X	6	5'-0"		▲	WING 4 - VERT. - F.F.
U524	X	2	7'-10"			WING 4 - HORIZ. - TOP

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

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D	LENGTH
D403	1 SERIES OF 8	24'-2" TO 27'-10"
D513	1 SERIES OF 19	8'-6" TO 11'-7"
D414	1 SERIES OF 8	3'-6" TO 6'-6"
D520	1 SERIES OF 16	8'-6" TO 11'-7"
D421	1 SERIES OF 6	3'-6" TO 6'-6"
U403	1 SERIES OF 8	24'-3" TO 32'-9"
U405	1 SERIES OF 6	1'-3" TO 7'-6"
U513	1 SERIES OF 25	8'-6" TO 11'-7"
U414	1 SERIES OF 4	3'-6" TO 4'-7"
U416	1 SERIES OF 5	3'-11" TO 5'-5"
U522	1 SERIES OF 16	8'-6" TO 11'-7"
U423	1 SERIES OF 6	3'-6" TO 6'-6"

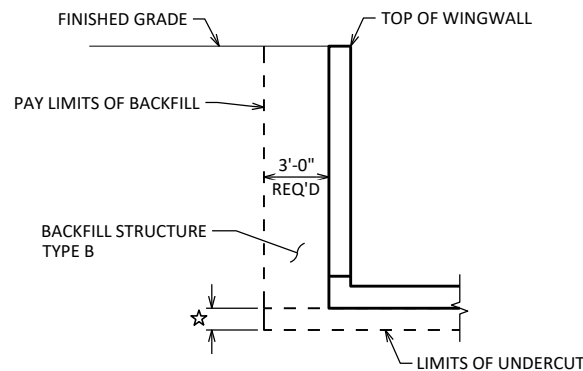


TYPICAL SECTION THRU BOX CULVERT

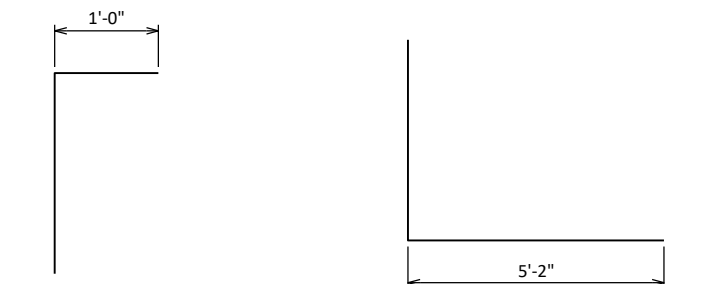
▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

☆ UNDERCUT 1'-0". EXCAVATION FOR UNDER CUT IS TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE FABRIC TYPE C" AND BACKFILL WITH "BREAKER RUN".

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR THE BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

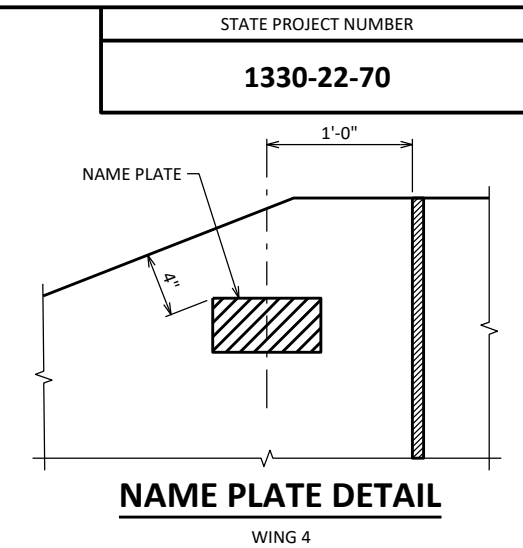


TYPICAL SECTION THRU BOX CULVERT WINGWALL



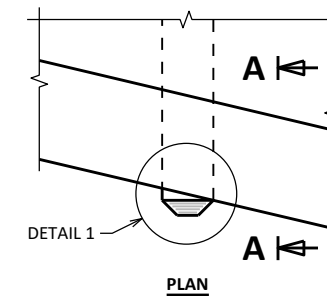
D401, U401

D513, D520, U513, U522

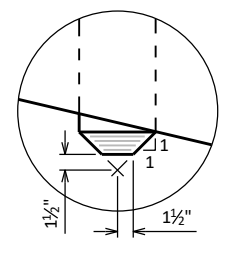


NAME PLATE DETAIL

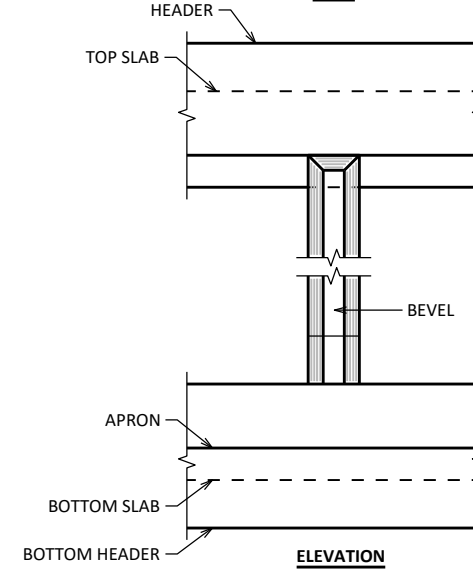
WING 4



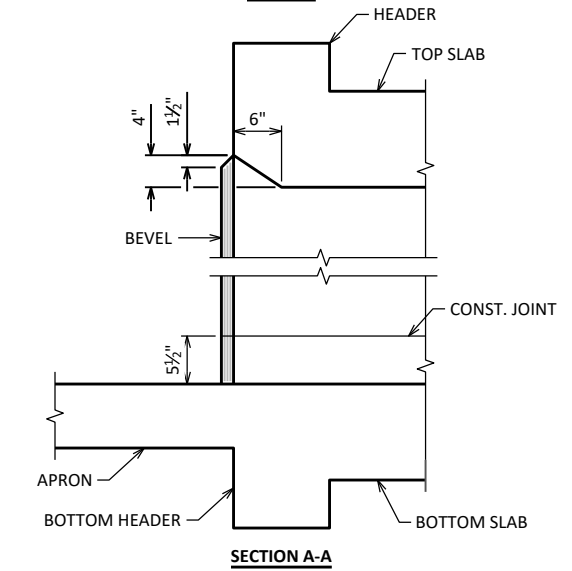
PLAN



DETAIL 1



ELEVATION



SECTION A-A

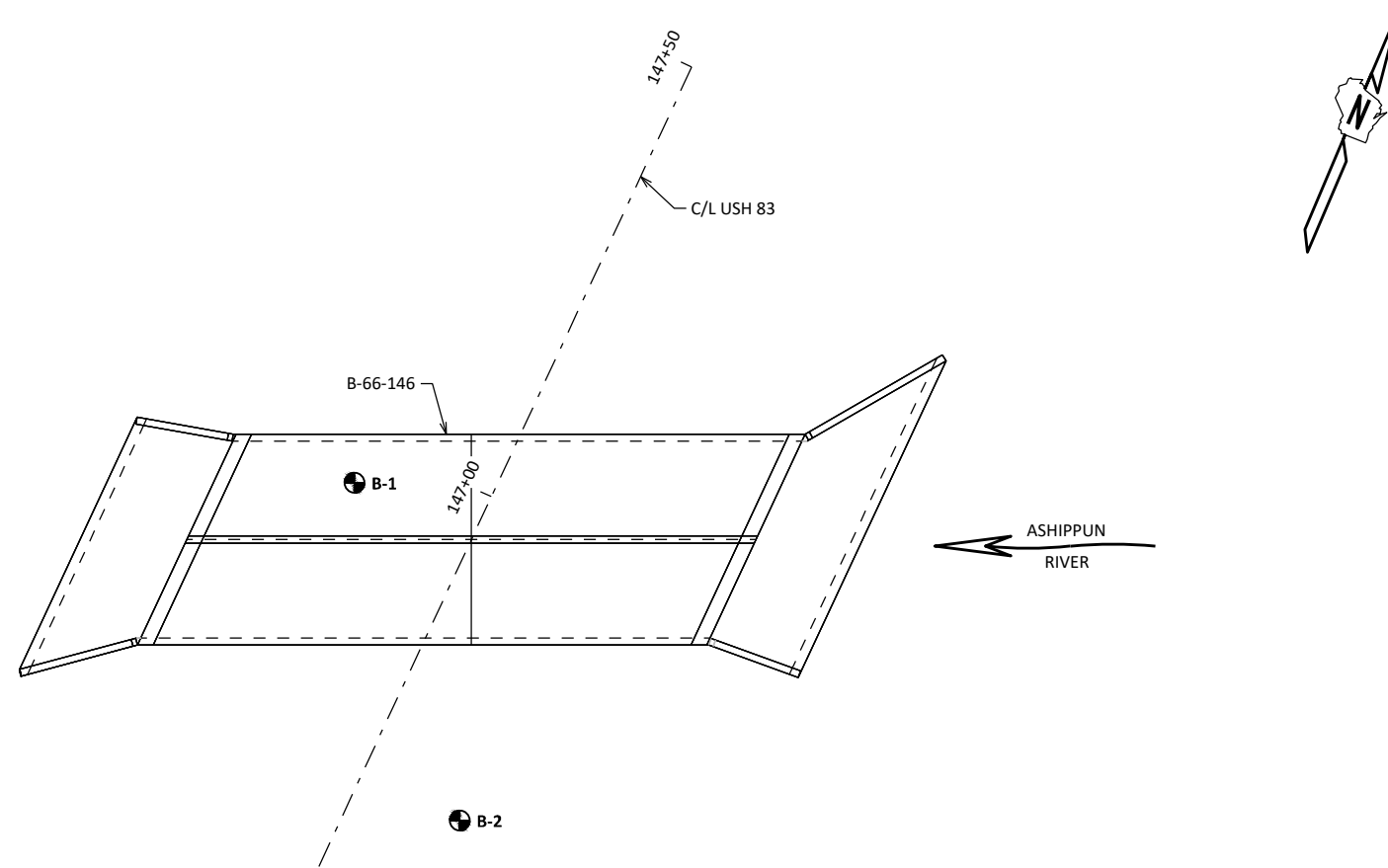
INLET NOSE DETAILS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-66-146			
DRAWN BY MWB		PLANS CK'D AA	
DETAILS			SHEET 9

SCALE = 1

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	03/15/2023	131421.1	312322.4
2	03/15/2023	131392.7	312346.6

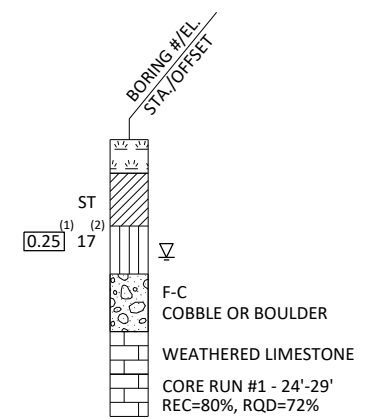
BORINGS COMPLETED BY: GESTRA
 REPORT COMPLETED BY: WISDOT
 ALL COORDINATES REFERENCED TO WCCS NAD 83 (91) WASHINGTON COUNTY
 COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT



MATERIAL SYMBOLS

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

LEGEND OF BORING



(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

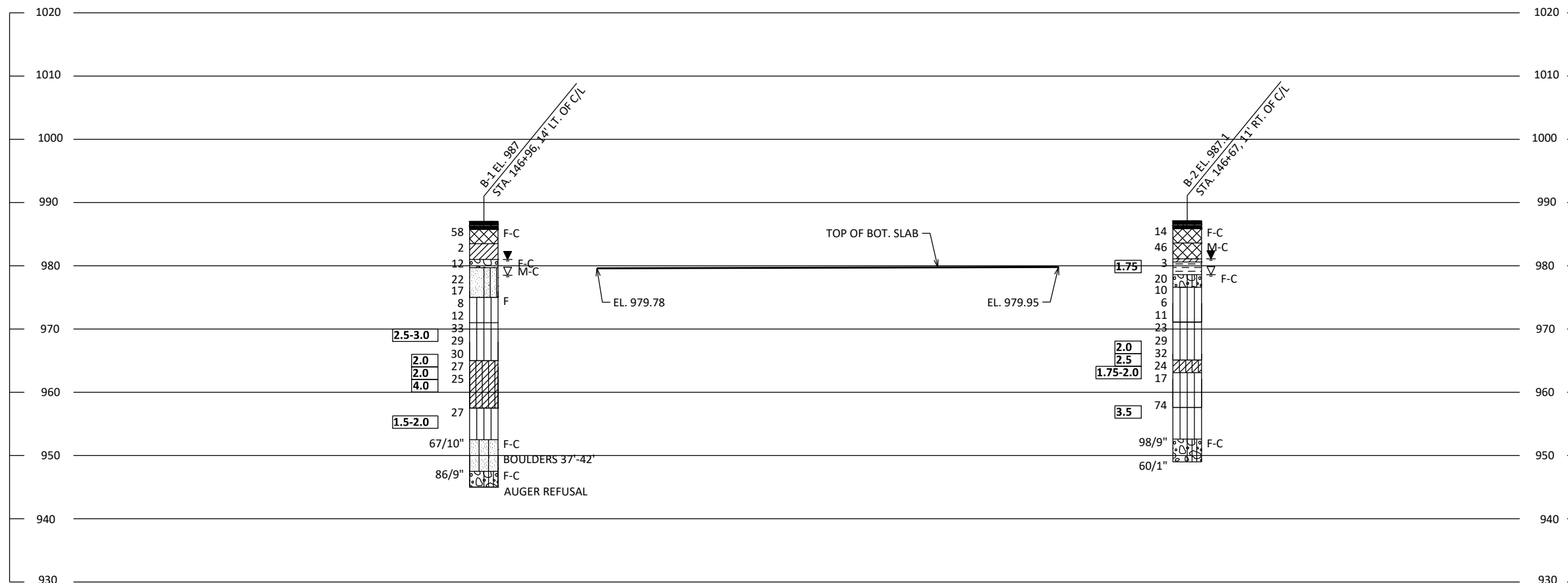
- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▼ AFTER DRILLING

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.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 STRUCTURES DESIGN SECTION

STRUCTURE B-66-146

DRAWN BY JJ/MWB PLANS CK'D AA

SUBSURFACE EXPLORATION

SHEET 10

SCALE = 20

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK GRAVITY R-66-86".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS PLAN.

DESIGN RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 100 PSF.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF WALL R-66-86.

THE PLAN QUANTITY FOR THE BID ITEM "WALL MODULAR BLOCK GRAVITY R-66-86" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO A CONSTANT DEPTH OF 1'-6" BELOW FINISHED GRADE.

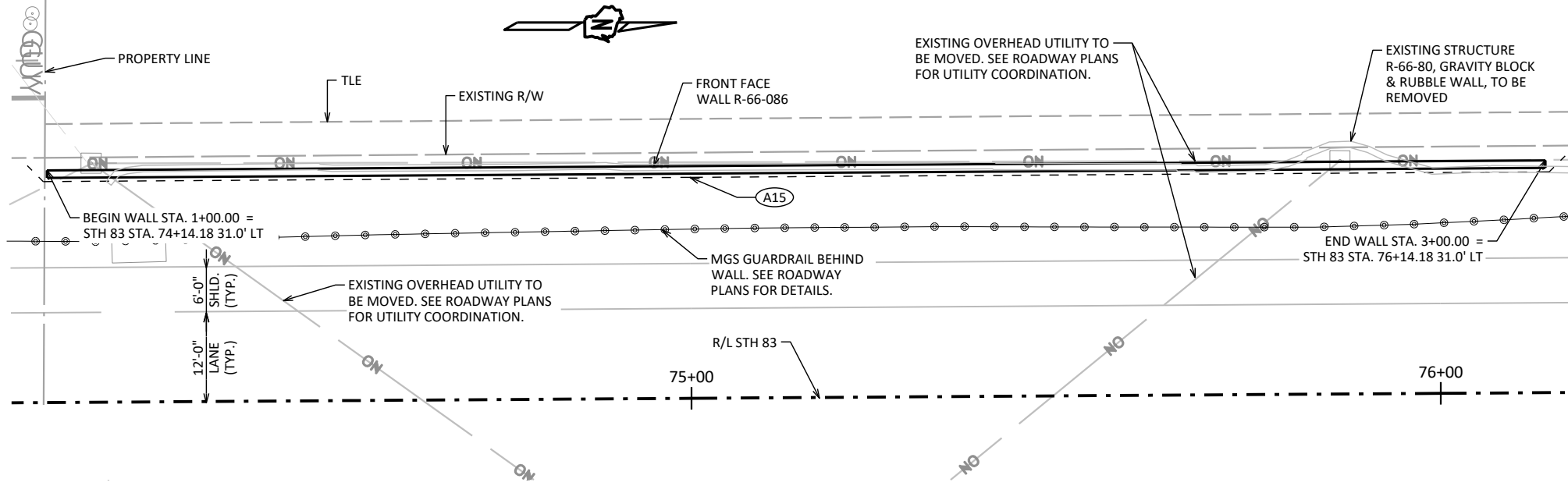
OVEREXCAVATE UNSUITABLE MATERIAL BELOW BOTTOM OF WALL, INCLUDING SOFT CLAY OR SILT SOILS, AS DIRECTED BY THE ENGINEER. BACKFILL WITH COMPACTED GRANULAR BACKFILL. EXCAVATION BELOW SUBGRADE (EBS) AND ANY ENGINEERED GRANULAR BACKFILL TO BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES RETAINING WALL R-66-86".

ALLOWABLE WALL SYSTEMS

WALL MODULAR BLOCK GRAVITY

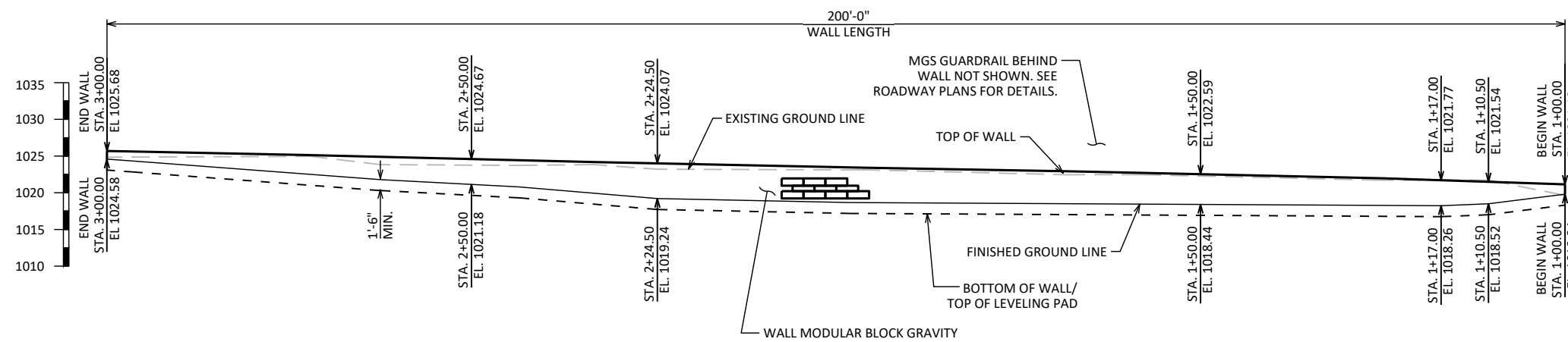
LIST OF DRAWINGS

1. GENERAL PLAN
2. WALL DETAILS & ELEVATIONS
3. SUBSURFACE EXPLORATION



PLAN

MODULAR BLOCK GRAVITY RETAINING WALL



ELEVATION

LOOKING EAST AT F.F. WALL

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0220	REMOVING STRUCTURE R-66-80	EACH	1
206.3001	EXCAVATION FOR STRUCTURES RETAINING WALLS R-66-86	EACH	1
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	207
SPV.0165	WALL MODULAR BLOCK GRAVITY R-66-86	SF	1,001

STRUCTURE DESIGN CONTACTS:
 IAN LINDLOFF (608) 261-2557
 KYLE BUSCH (608) 267-0465

NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES ACCEPTED <i>[Signature]</i> KHB 2/22/23 CHIEF STRUCTURES DESIGN ENGINEER DATE			

STRUCTURE R-66-0086			
MODULAR BLOCK WALL ALONG STH 83			
COUNTY	WASHINGTON	TOWN	ERIN
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION			
DESIGNED BY	DESIGNED CK'D	DRAWN MWB	PLANS CK'D

GENERAL PLAN	SHEET 1 OF 3
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(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
STRUCTURE/DRAINAGE BACKFILL (IMMEDIATELY BEHIND MODULAR BLOCKS)	30	0	120
FILL BEHIND THE STRUCTURE BACKFILL (RETAINED SOIL, EXISTING EMBANKMET FILL)	30 (B-1, B-3) 28 (B-2)	0	120
BOR - 1 - STA. 74+39.18 - 14.8' LT OF R/LSTH 83			
SANDY GRAVEL, BROWN, TRACE SILT, FIRM EL. 1016.3 TO EL. 1007.6	36	0	125
SAND, BROWN, SOME GRAVEL, LITTLE SILT, FIRM EL. 1007.6 TO EL. 1005.1	34	0	120
LEAN CLAY, GRAY, LITTLE SAND, TRACE GRAVEL, VERY STIFF EL. 1005.1 TO EL. 1002.6	0 (ST) 30 (LT)	3,000 (ST) 0 (LT)	125
SILTY SAND, BROWN, LITTLE GRAVEL, FEW CLAY EL. 1002.6 TO EL. 996.6	34	0	125
SAND, LIGHT BROWN, SOME GRAVEL, TRACE SILT EL. 996.6 AND BELOW	40	0	130
BOR - 2 - STA. 75+38.68 - 16.3' LT OF R/LSTH 83			
GRANULAR EBS BACKFILL AFTER SOFT CLAY EL. 1017.2 TO EL. 1016.3	32	0	120
SANDY GRAVEL, BROWN, TRACE SILT, FIRM EL. 1016.3 TO EL. 1008.8	36	0	125
SAND, BROWN, SOME GRAVEL, LITTLE SILT, FIRM EL. 1008.8 TO EL. 1003.8	32	0	125
SILTY SAND, BROWN, LITTLE GRAVEL, FEW CLAY, DENSE TO VERY DENSE EL. 1003.8 AND BELOW	38	0	130
BOR - 3 - STA. 75+76.68 - 22.8' LT OF R/LSTH 83			
SANDY GRAVEL, BROWN, TRACE SILT, FIRM TO DENSE EL. 1019.8 TO EL. 1015.6	36	0	125
SAND, BROWN, LITTLE TO SOME GRAVEL, FEW TO LITTLE SILT, TRACE CLAY EL. 1015.6 TO EL. 1009.6	36	0	125
SAND, BROWN, SOME GRAVEL, TRACE SILT EL. 1009.6 TO EL. 1002.6	34	0	125
SILTY SAND, BROWN, LITTLE GRAVEL, FEW CLAY, DENSE EL. 1002.6 AND BELOW	38	0	125

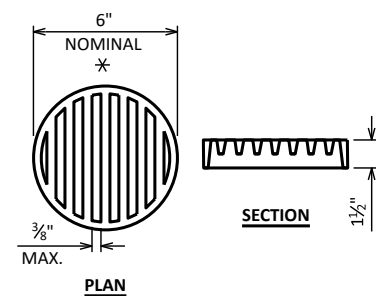
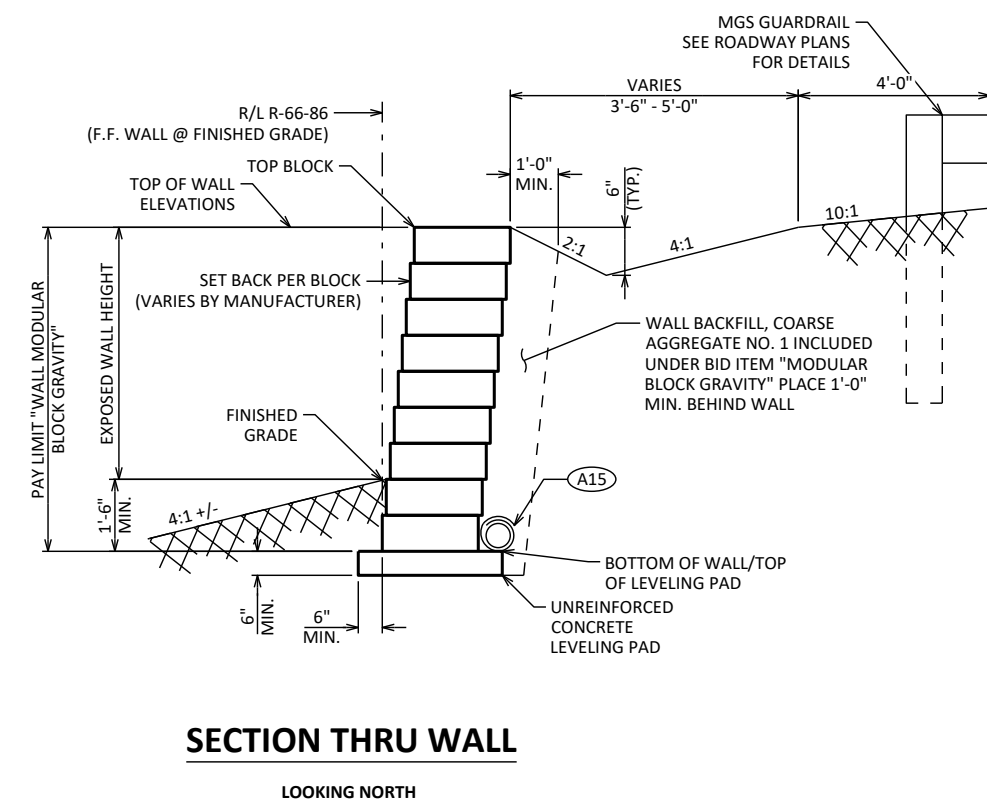
GEOMETRY TABLE

WALL STATION	R/L STH 83 STATION	R/L STH 83 TO F.F. OF WALL	TOP OF WALL EL.	FINISH GRADE EL.	BOTTOM OF WALL EL.	EXISTING GRADE EL.
1+00.00	74+14.18	31.00' LT	1021.19	1019.84	1018.34	1019.68
1+10.50	74+24.68	31.00' LT	1021.54	1018.52	1017.02	1021.78
1+17.00	74+31.18	31.00' LT	1021.77	1018.26	1016.76	1021.78
1+25.00	74+39.18	31.00' LT	1022.02	1018.30	1016.80	1021.78
1+50.00	74+64.18	31.00' LT	1022.59	1018.44	1016.94	1021.77
1+75.00	74+89.18	31.00' LT	1023.11	1018.58	1017.08	1021.80
2+00.00	75+14.18	31.00' LT	1023.57	1018.74	1017.24	1022.53
2+24.50	75+38.50	31.00' LT	1024.07	1019.24	1017.74	1023.27
2+25.00	75+39.18	31.00' LT	1024.09	1019.28	1017.78	1022.52
2+50.00	75+64.18	31.00' LT	1024.67	1021.18	1019.68	1023.18
2+75.00	75+89.18	31.00' LT	1025.27	1022.78	1021.28	1023.18
3+00.00	76+14.18	31.00' LT	1025.68	1024.58	1023.08	1023.27

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS			
WALL HEIGHT (FEET) ⁽¹⁾	5.1	6.3	4.5
EXPOSED WALL HEIGHT (FEET)	3.6	4.8	3.0
SLOPE IN FRONT OF WALL	4.4H:1V	4H:1V	4.3H:1V
ESTIMATED SLOPE HEIGHT (FEET)	2	3	2
MINIMUM BLOCK WIDTH (INCHES) ⁽²⁾	32	40	28
STH 83 STATION	74+39.18	75+38.68	75+76.68
WALL STATION	1+25	2+24.5	2+62.5
BORING USED	1	2	3
CAPACITY TO DEMAND RATIO (CDR) ⁽⁷⁾			
SLIDING (CDR > 1.0) ⁽³⁾	1.1	1.0	1.0
ECCENTRICITY (CDR > 1.0)	-- ⁽⁸⁾	-- ⁽⁸⁾	12.55
GLOBAL STABILITY (CDR > 1.0) ⁽⁴⁾	--	1.3 ⁽⁶⁾	--
BEARING RESISTANCE (CDR > 1.0)	3.8	3.1 ⁽⁶⁾	4.2
REQUIRED BEARING RESISTANCE (PSF)	3,000 ⁽⁵⁾	3,000 ⁽⁵⁾	3,000 ⁽⁵⁾
ESTIMATED SETTLEMENT (INCHES)	<1.0	<1.0	<1.0

- NOTES:
1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET.
 2. THE MINIMUM BLOCK WIDTH WAS DETERMINED AS THE WIDTH THAT SATISFIES EXTERNAL STABILITY.
 3. A FRICTION ANGLE OF 32 DEGREES WAS USED TO EVALUATE SLIDING RESISTANCE.
 4. CDR FOR GLOBAL STABILITY BASED ON A RESISTANCE FACTOR (ϕ) OF 0.75.
 5. REQUIRED BEARING RESISTANCE WAS REDUCED FROM MAXIMUM CALCULATED FACTORED BEARING RESISTANCE.
 6. EBS OF SOFT TO MEDIUM SILT AND CLAY ENCOUNTERED IN B-2 IS REQUIRED BELOW WALL TO SATISFY BEARING RESISTANCE. EBS EXCAVATION SHOULD BE BACKFILLED WITH ENGINEERED GRANULAR BACKFILL. EXTENT OF EBS ALONG WALL ALIGNMENT TO BE DETERMINED AT TIME OF CONSTRUCTION.
 7. CDR REQUIREMENTS AND LOAD AND RESISTANCE FACTORS ARE PRESENTED IN CHAPER 14 OF THE BRIDGE MANUAL.
 8. CALCULATED ECCENTRICITY WAS NEGATIVE.



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".

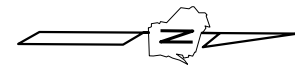
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH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

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-66-086			
DRAWN BY		IDL	PLANS CK'D
WALL DETAILS & ELEVATIONS			SHEET 2

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	04/28/2022	124181	312176
2	04/28/2022	124254	312174
3	04/28/2022	124329	312167

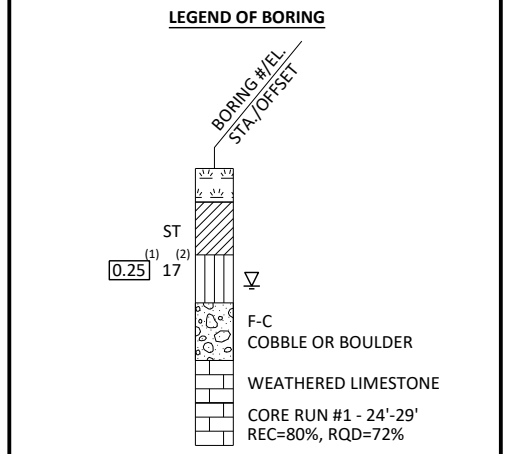
BORINGS COMPLETED BY: GESTRA
 REPORT COMPLETED BY: WISDOT
 ALL COORDINATES REFERENCED TO WCCS NAD 83 (91) WASHINGTON COUNTY
 COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT



STATE PROJECT NUMBER
1330-22-70

MATERIAL SYMBOLS

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



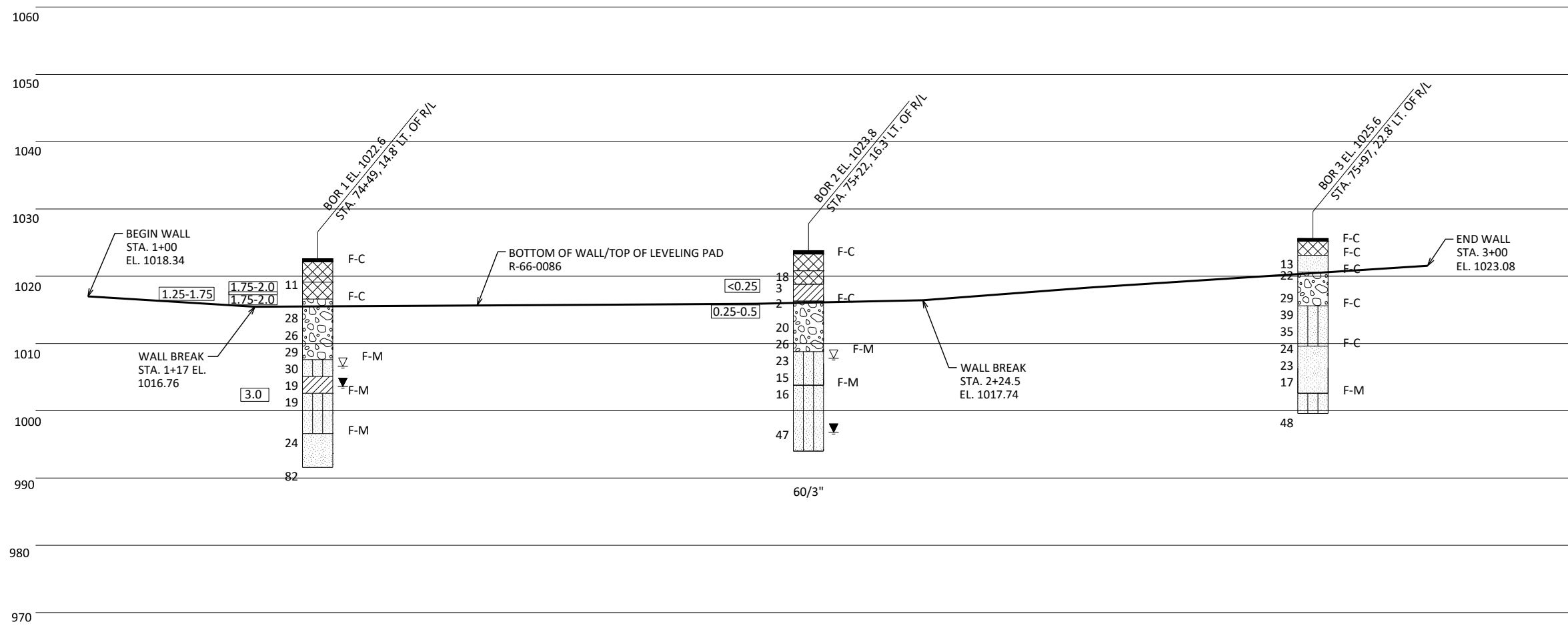
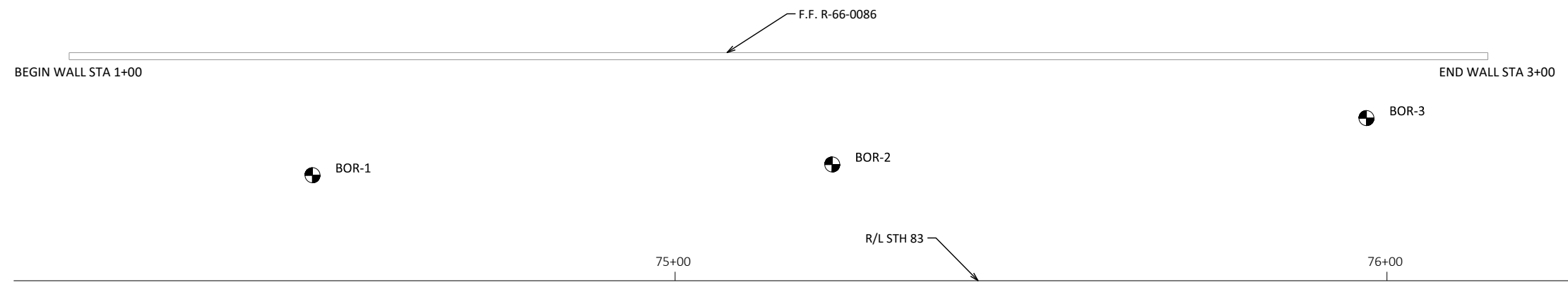
⁽¹⁾ UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)
⁽²⁾ UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

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.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-66-0086			
DRAWN BY JJ/IDL		PLANS CK'D	
SUBSURFACE EXPLORATION		SHEET 3	



8

8

SCALE =

DIVISION 1 - ALI-STH83_1330-22-00

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY)			CUMULATIVE VOL (CY)			
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL		MASS ORDINATE
									1.00	1.25	
		NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 4					
70+09	0.00	3.62	1.50	0.00	0	0	0	0	0	0	
70+26	17.16	3.89	1.25	0.90	2	1	0	2	0	1	
70+43	17.51	17.16	1.25	0.00	7	1	0	9	0	7	
70+61	17.51	3.82	1.25	0.29	7	1	0	16	0	13	
70+78	17.44	6.84	1.50	0.00	3	1	0	19	0	15	
70+91	12.50	4.37	1.50	1.33	3	1	0	22	0	17	
70+97	6.00	3.75	1.25	4.96	1	0	1	23	1	17	
71+03	6.50	3.74	1.25	3.59	1	0	1	24	3	17	
71+28	25.00	3.92	1.25	0.53	4	1	2	28	5	17	
71+35	6.92	3.99	1.50	0.30	1	0	0	29	5	18	
71+82	47.17	0.01	0.00	0.12	3	1	0	32	5	20	
72+22	39.83	0.00	0.00	0.36	0	0	0	32	5	20	
72+32	10.00	0.00	0.00	1.59	0	0	0	32	5	20	
72+47	14.82	0.00	0.00	0.19	0	0	0	32	5	20	
72+72	24.98	0.00	0.00	2.38	0	0	1	32	6	19	
72+79	6.49	4.33	1.50	3.22	1	0	1	33	8	19	
72+85	6.00	4.62	1.50	0.45	1	0	0	34	8	20	
72+97	12.49	4.74	1.50	1.85	2	1	1	36	9	19	
73+14	16.46	4.09	1.25	0.01	3	1	1	39	10	20	
73+31	17.05	8.54	1.25	0.00	4	1	0	43	10	23	
73+48	17.15	4.08	1.25	0.00	4	1	0	47	10	26	
73+69	21.52	4.52	1.50	0.12	3	1	0	50	10	28	
73+82	12.55	4.33	1.50	0.70	2	1	0	52	10	29	
73+88	5.99	4.22	1.50	1.89	1	0	0	53	10	30	
73+94	6.50	0.01	0.00	3.45	1	0	1	54	11	30	
74+04	9.86	0.00	0.00	6.89	0	0	2	54	14	27	
74+14	10.02	0.00	0.00	3.06	0	0	2	54	16	25	
74+19	5.07	0.00	0.00	4.62	0	0	1	54	18	24	
74+50	30.73	0.14	0.00	0.08	0	0	3	54	21	20	
75+00	50.00	0.00	0.00	0.81	0	0	1	54	23	19	
75+50	50.00	0.00	0.00	0.82	0	0	2	54	25	16	
76+00	50.00	0.23	0.00	0.09	0	0	1	54	26	15	
76+14	14.00	0.38	0.00	0.63	0	0	0	54	26	15	
76+26	11.57	0.00	0.00	1.25	0	0	0	54	26	15	
76+29	3.50	4.15	1.50	1.05	0	0	0	54	26	15	
76+32	2.99	4.16	1.50	0.99	0	0	0	54	26	15	
76+38	6.01	5.61	1.50	0.04	1	0	0	55	26	16	
76+51	12.53	4.37	1.50	0.69	2	1	0	57	26	17	
76+65	14.12	5.78	1.25	0.00	3	1	0	60	26	19	
76+77	12.18	3.93	1.50	2.75	2	1	1	62	28	19	
76+83	6.11	3.94	1.50	3.60	1	0	1	63	29	18	
76+86	2.89	3.95	1.50	3.59	0	0	0	63	29	18	
77+00	14.11	0.00	0.00	2.68	1	0	2	64	31	17	
77+27	27.50	0.04	0.00	0.00	0	0	1	64	33	16	
		TOTAL			64	16	26				

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 - MASS ORDINATE	= CUT - SALVAGED PAVT - (FILL * FILL FACTOR)

9

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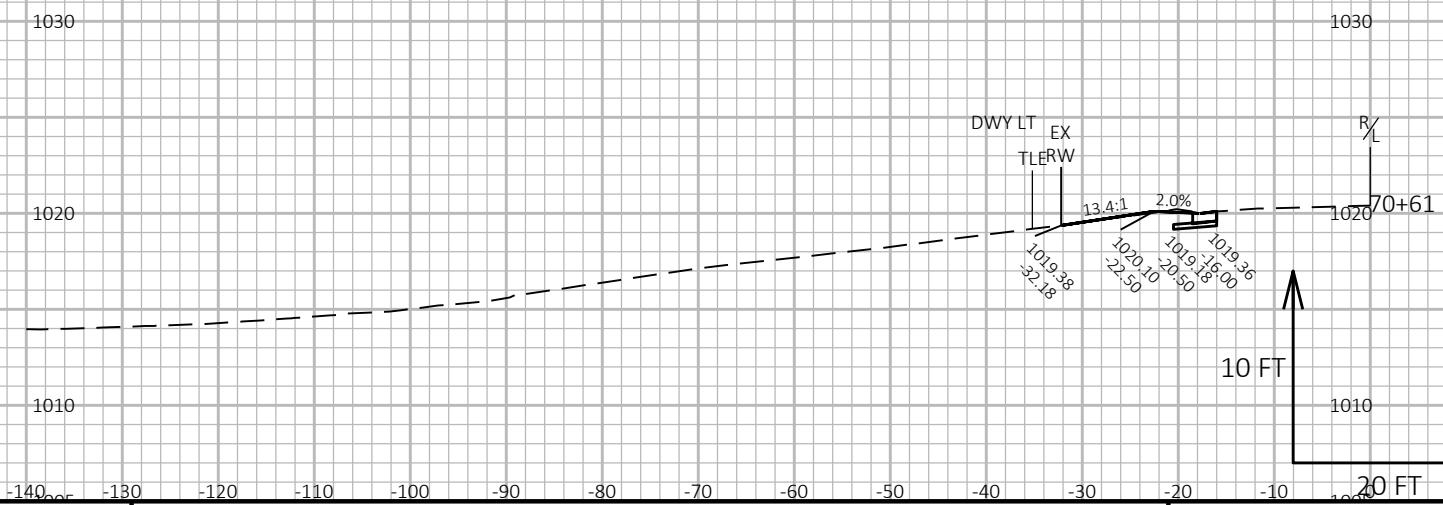
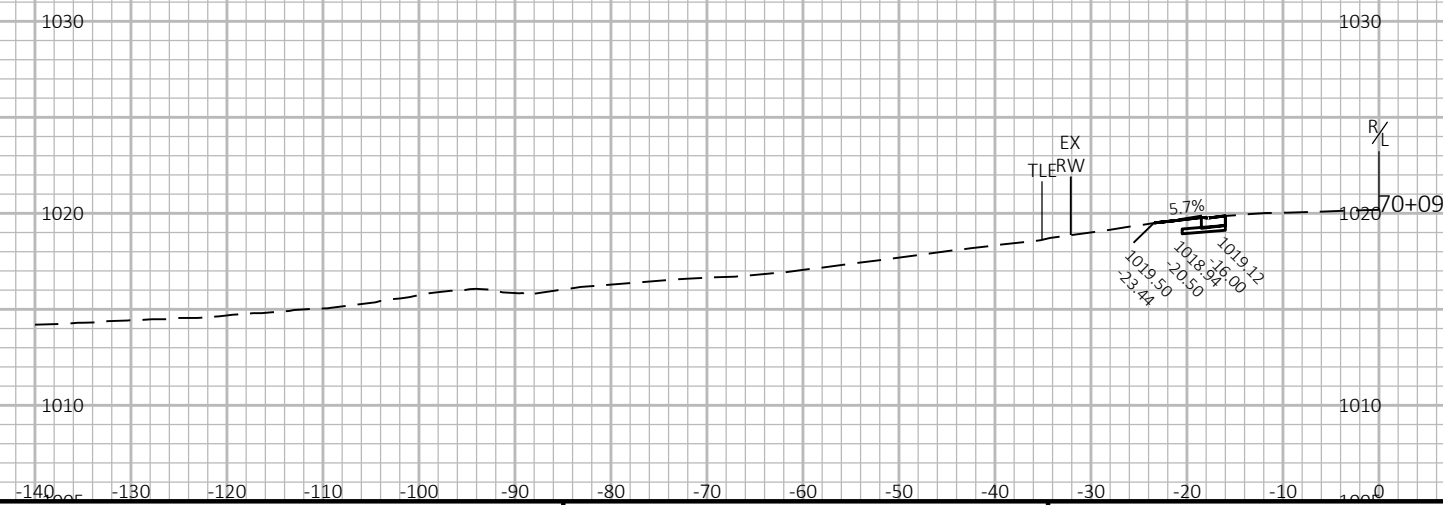
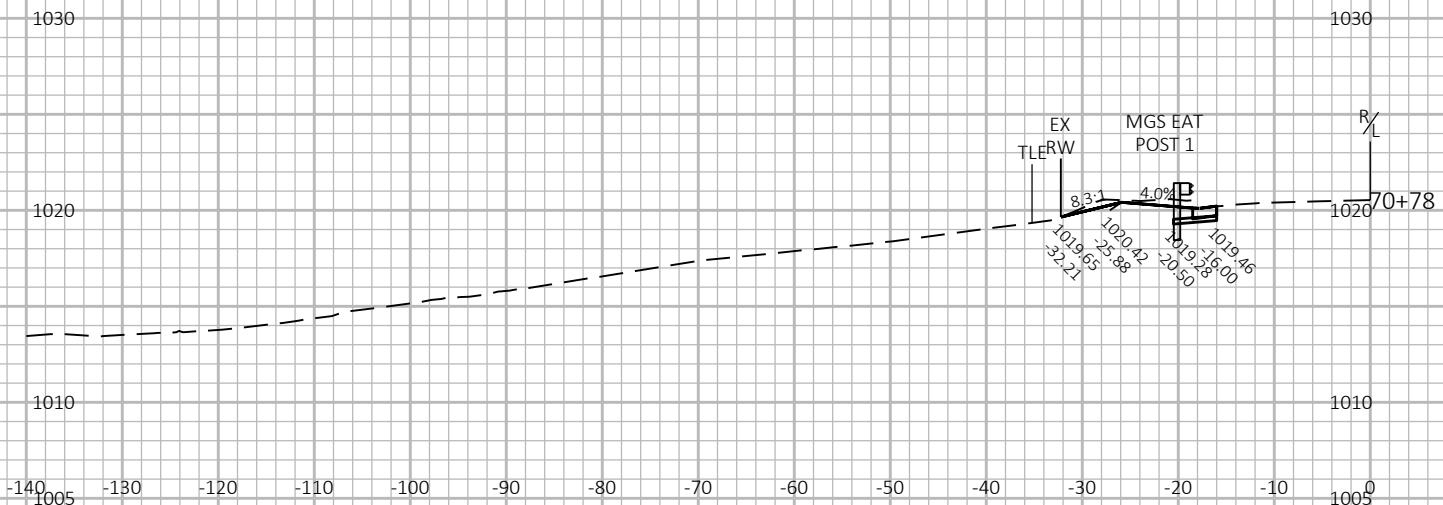
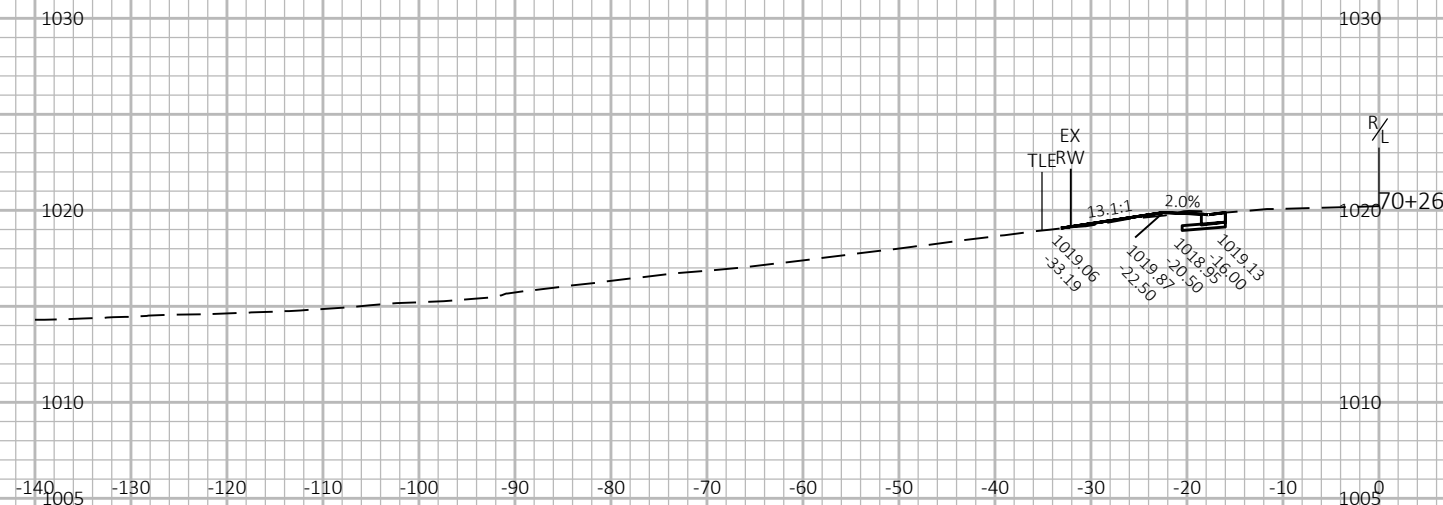
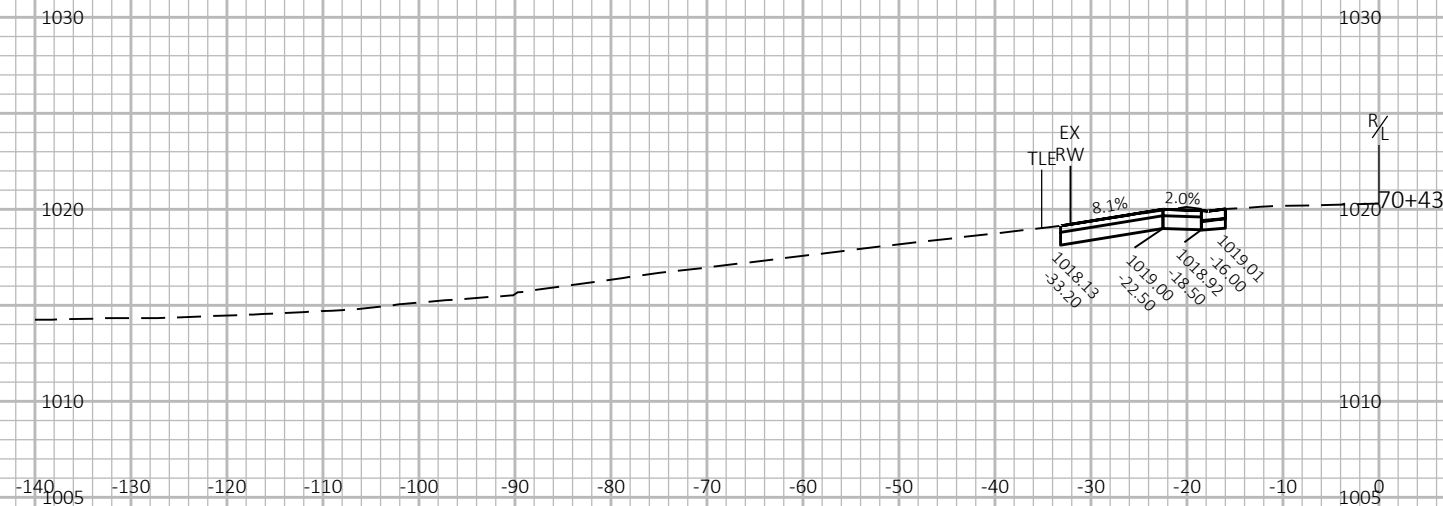
DIVISION 1 - ALI-STH83_1330-22-00

STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
144+64.19	0.00	14.20	0.00	0.01	0.00	0	0	0	0	0	0	0
145+00.00	35.81	27.44	0.00	2.36	0.00	28	0	2	0	28	3	26
145+27.48	27.48	25.06	0.00	13.65	7.78	27	0	8	4	55	13	43
145+43.85	16.37	29.79	0.00	12.00	5.40	17	0	8	4	72	23	50
145+52.46	8.61	32.90	0.00	6.66	4.30	10	0	3	2	82	26	56
145+68.83	16.37	31.80	0.00	1.55	4.17	20	0	2	3	102	29	73
145+77.44	8.61	30.53	0.00	1.19	4.39	10	0	0	1	112	29	83
145+93.81	16.37	29.79	0.00	6.27	4.52	18	0	2	3	130	31	99
146+50.00	56.19	66.55	17.50	11.90	3.07	100	18	19	8	230	55	157
146+65.20	15.20	69.14	17.50	32.72	1.39	38	10	13	1	268	71	169
146+72.01	6.81	69.71	17.50	22.23	0.00	18	4	7	0	286	80	174
146+93.00	20.99	64.44	17.50	49.81	0.00	52	14	28	0	338	115	177
146+97.00	4.00	64.92	17.50	13.89	1.87	10	3	5	0	348	121	178
147+18.00	21.00	62.62	17.50	11.82	6.23	50	14	10	3	398	134	201
147+30.00	12.00	62.78	17.50	26.06	10.84	28	8	8	4	426	144	211
147+83.69	53.69	28.64	0.00	3.20	5.62	91	17	29	16	517	180	249
148+08.67	24.98	30.83	0.00	3.69	3.62	28	0	3	4	545	184	273
148+33.65	24.98	26.34	0.00	7.53	0.08	26	0	5	2	571	190	293
148+37.56	3.91	25.60	0.00	7.91	0.01	4	0	1	0	575	191	296
148+62.54	24.98	23.79	0.00	7.64	0.59	23	0	7	0	598	200	310
148+87.52	24.98	24.25	0.00	2.42	8.70	22	0	5	4	620	206	326
149+00.00	12.48	24.55	0.00	1.32	5.75	11	0	1	3	631	208	336
149+46.00	46.00	10.78	0.00	0.07	0.00	30	0	1	5	661	209	364
TOTAL						661	88	167	67			

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 - MASS ORDINATE	=CUT - SALVAGED PAVT - (FILL * FILL FACTOR)

9

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PROJECT NO: 1330-22-70

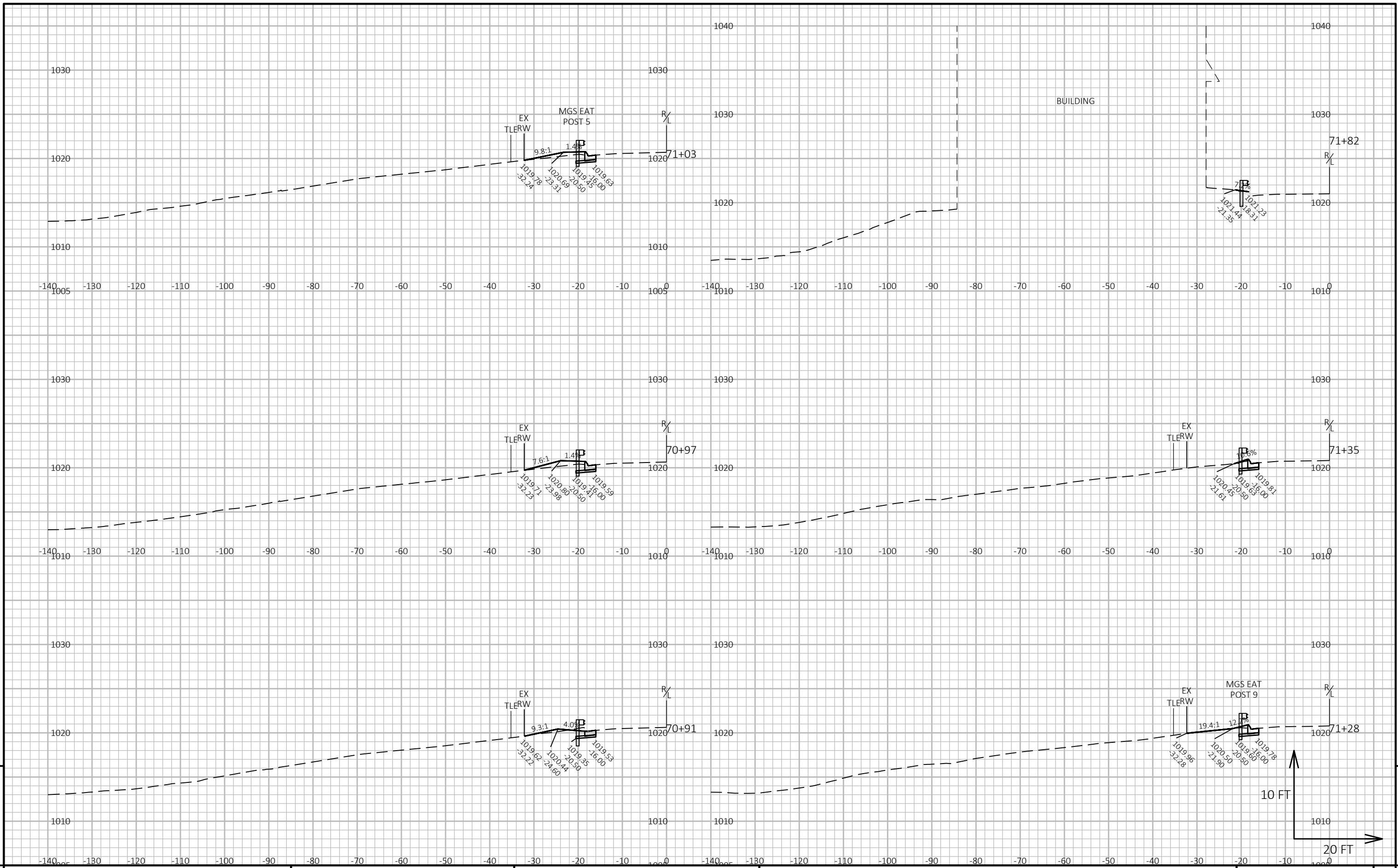
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COUNTY: WASHINGTON

CROSS SECTIONS: STA. 70+09 - STA. 77+27

SHEET

E



PROJECT NO: 1330-22-70

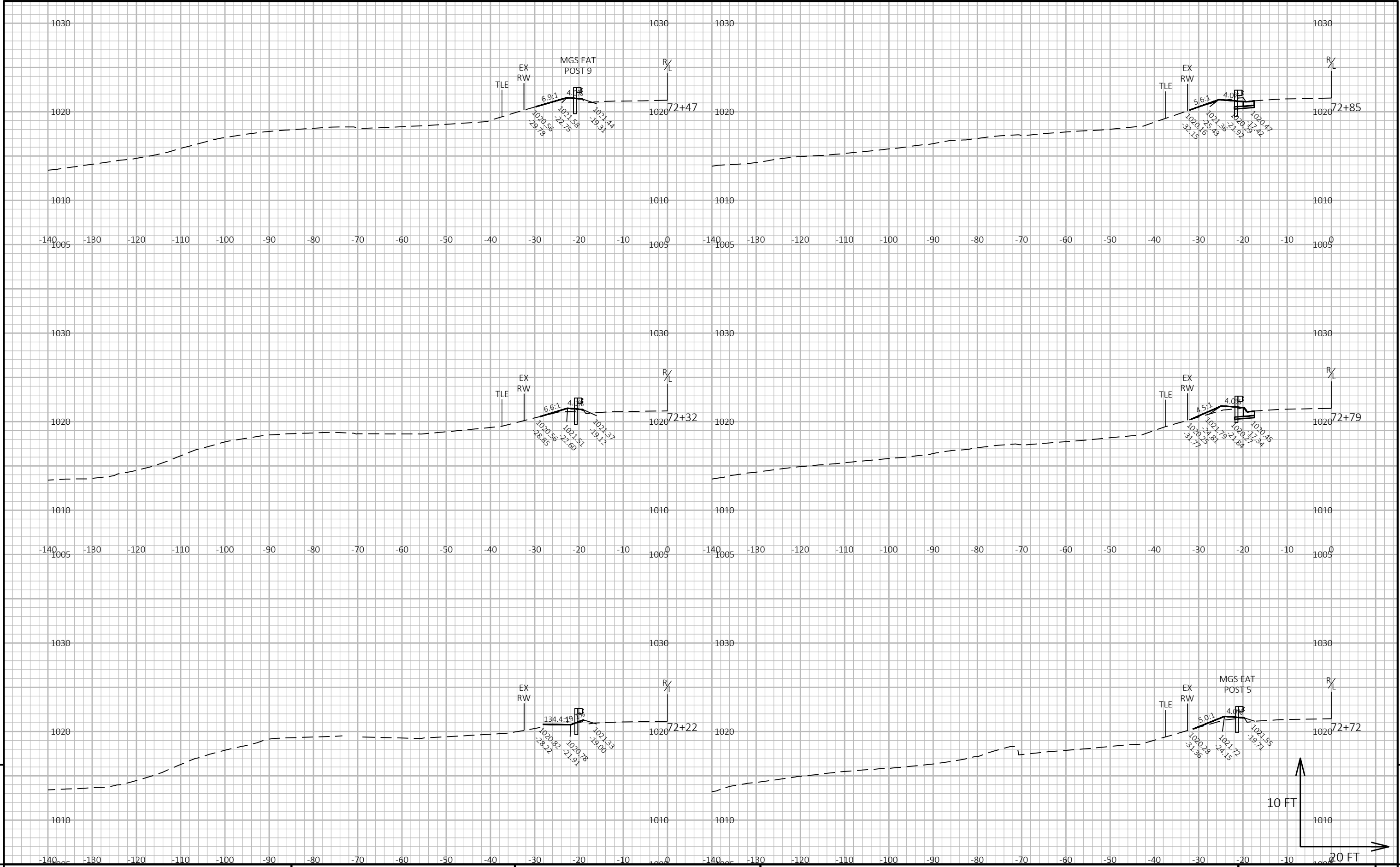
HWY: STH 83

COUNTY: WASHINGTON

CROSS SECTIONS: STA. 70+09 - STA. 77+27

SHEET

E



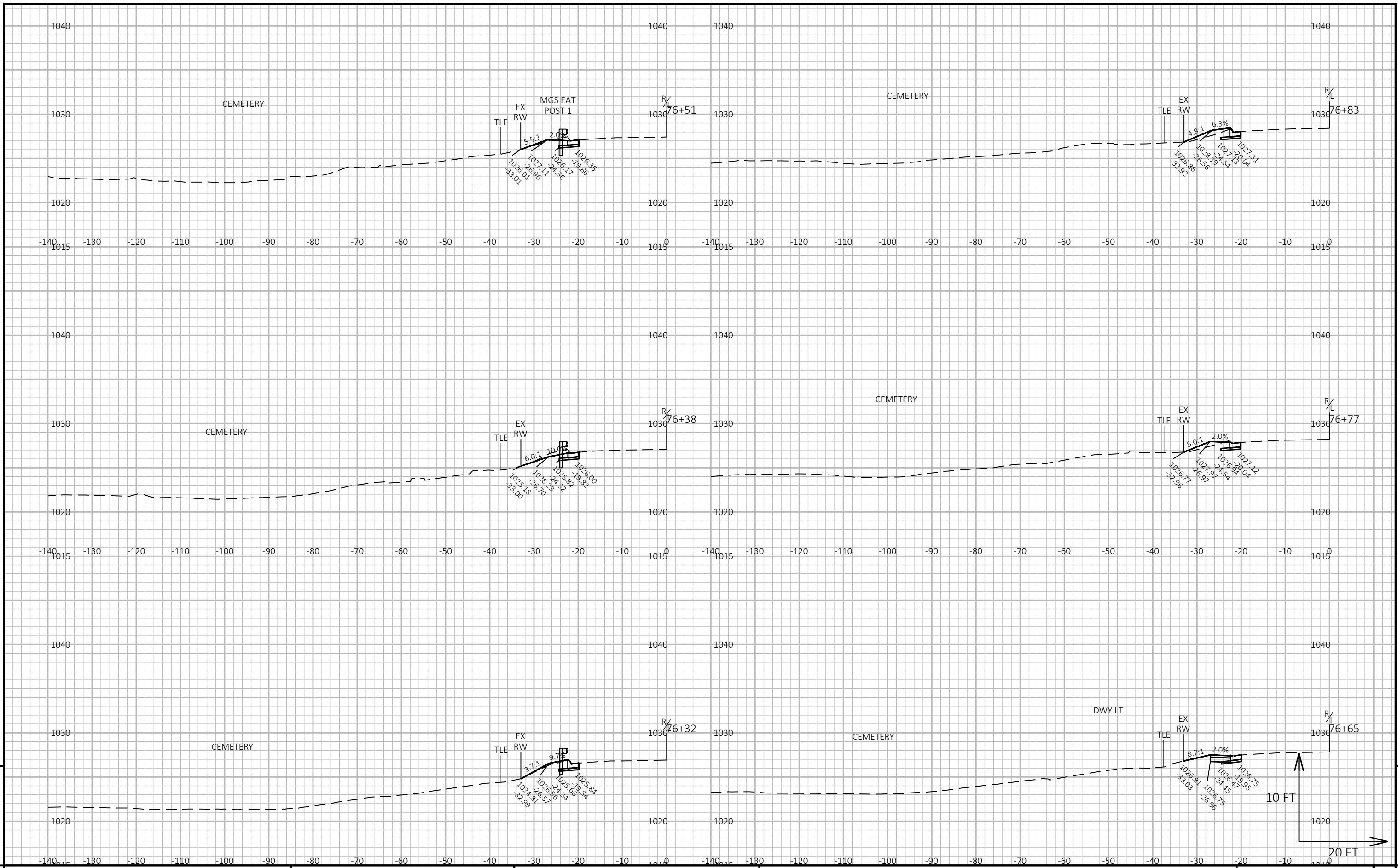
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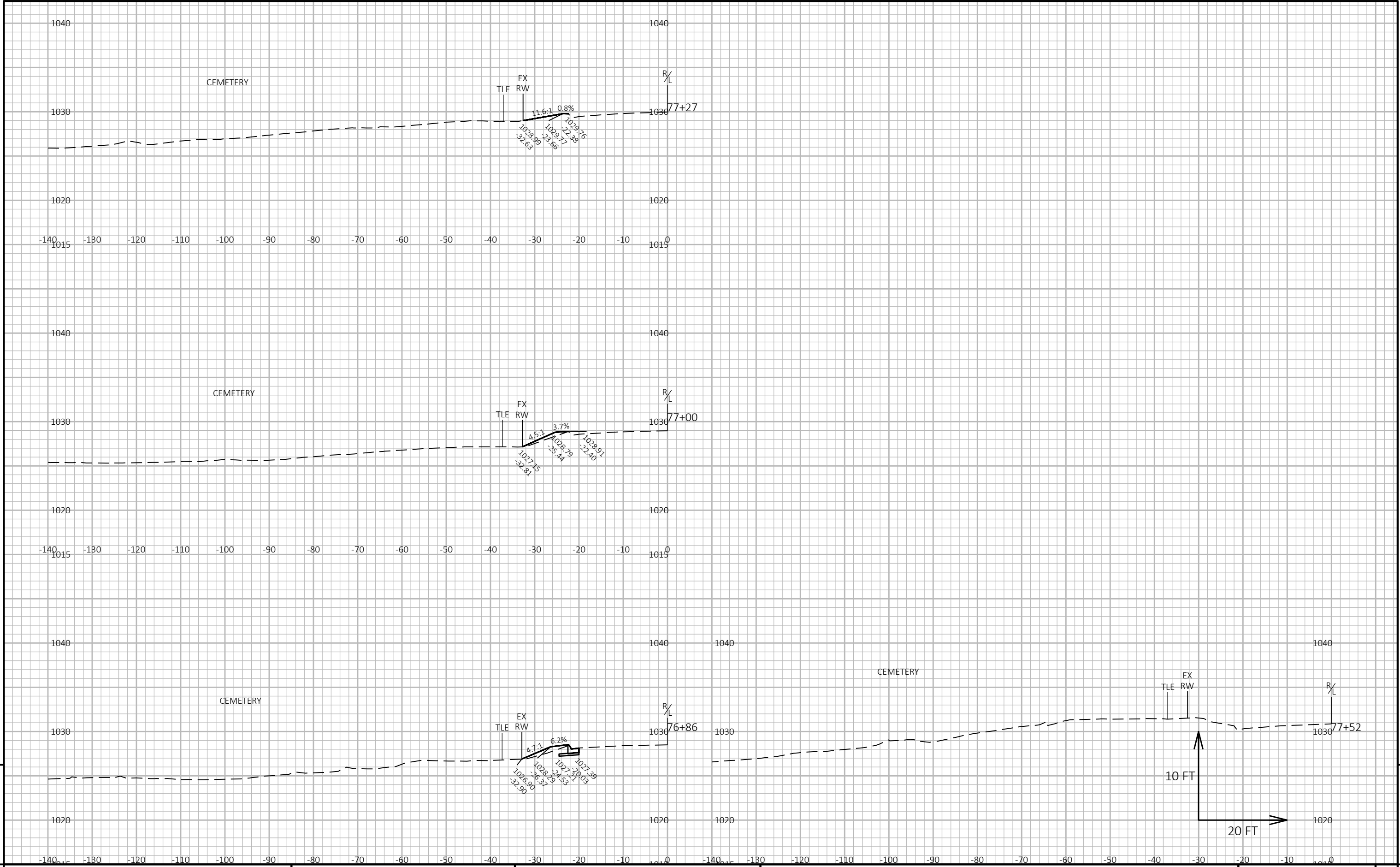
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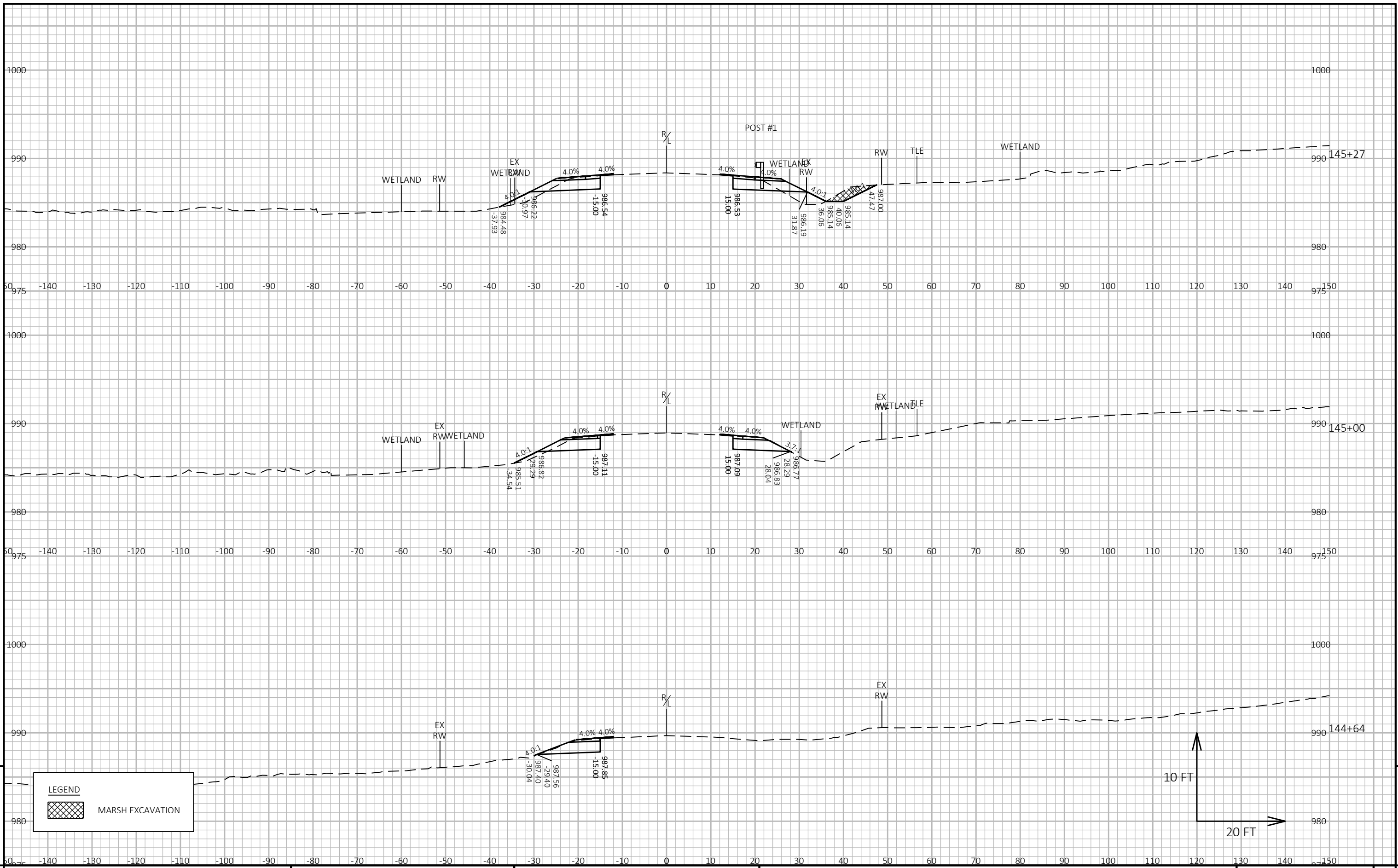
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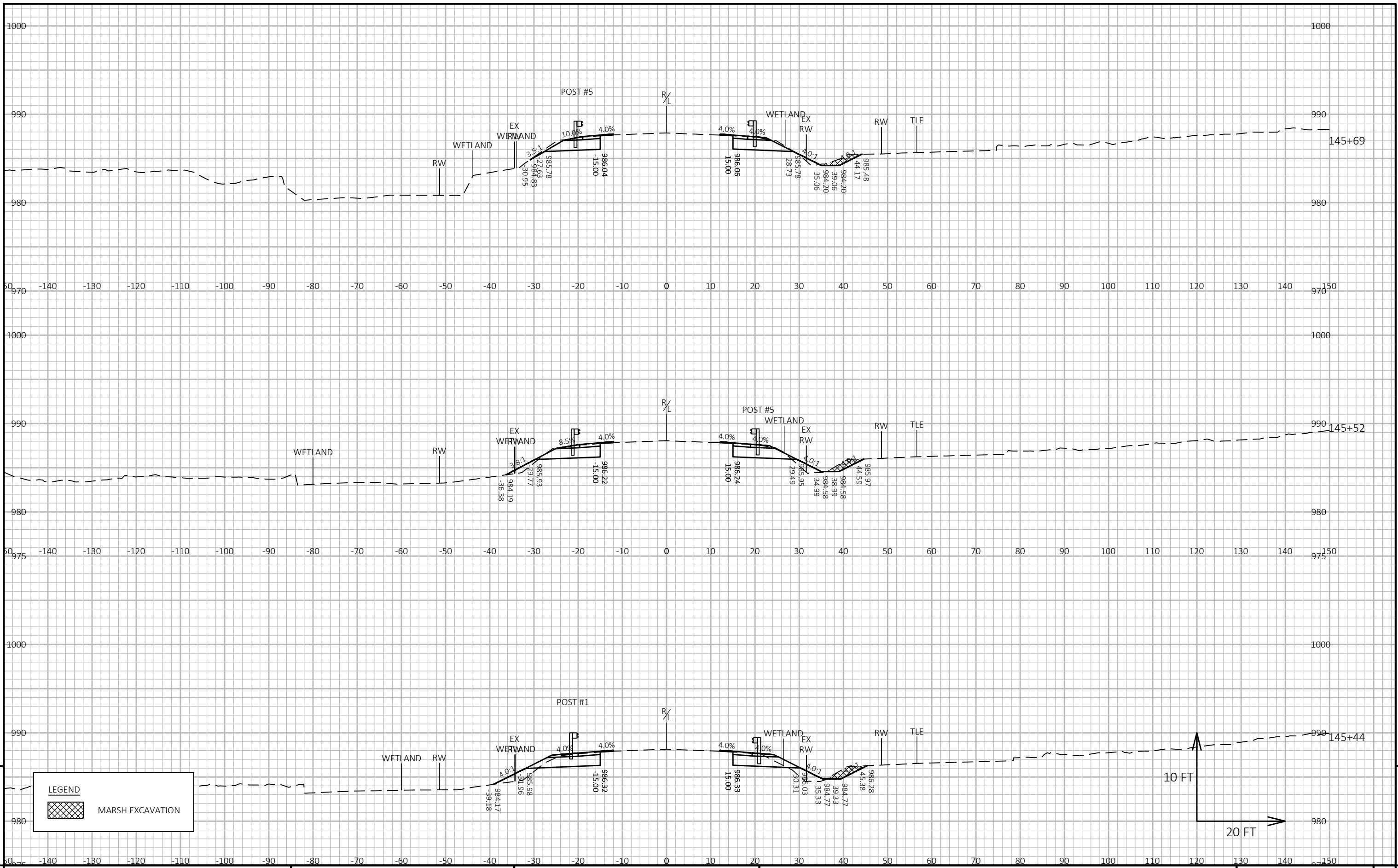
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PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON CROSS SECTIONS: STA. 144+64 - STA. 149+46 SHEET E

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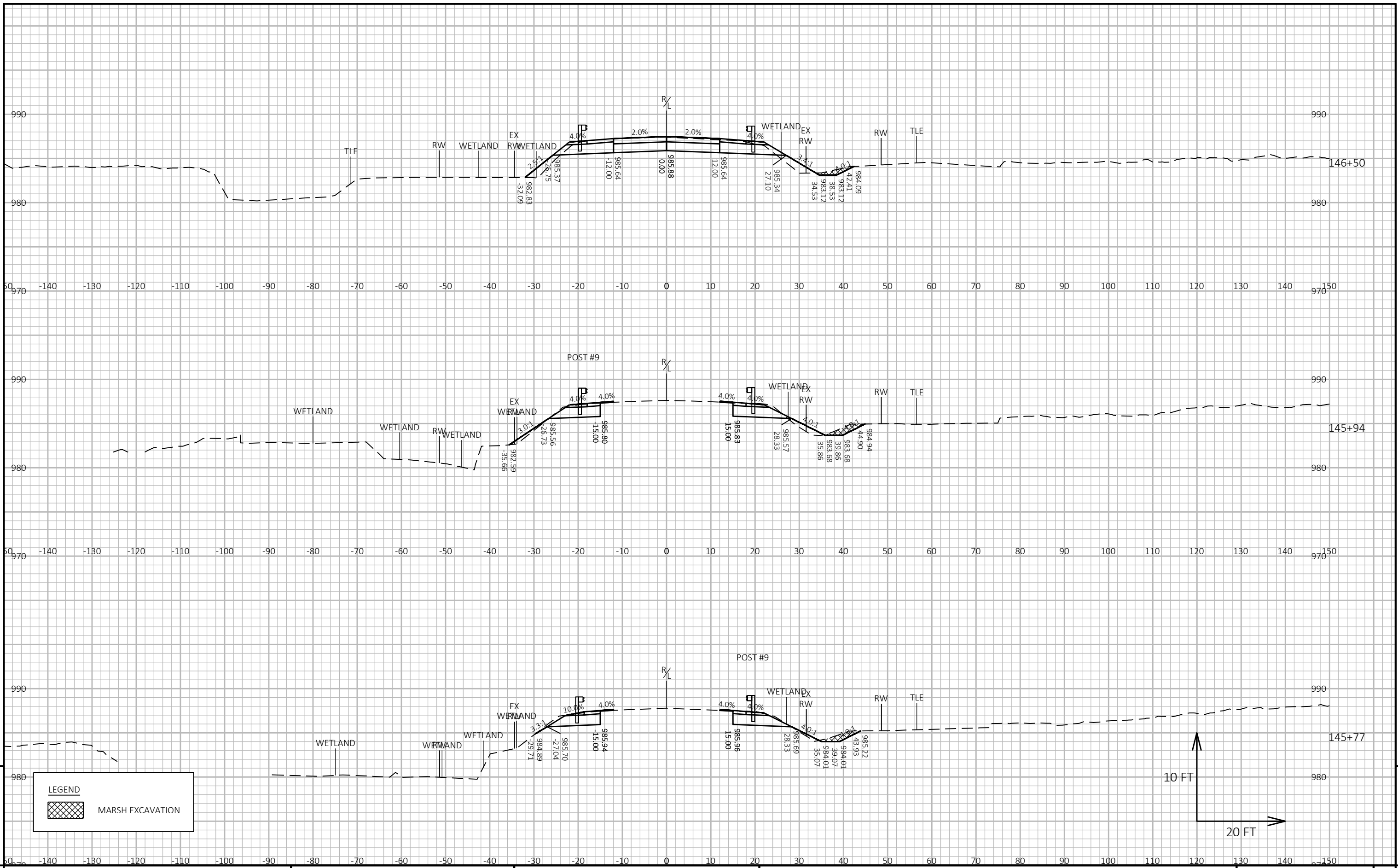


LEGEND

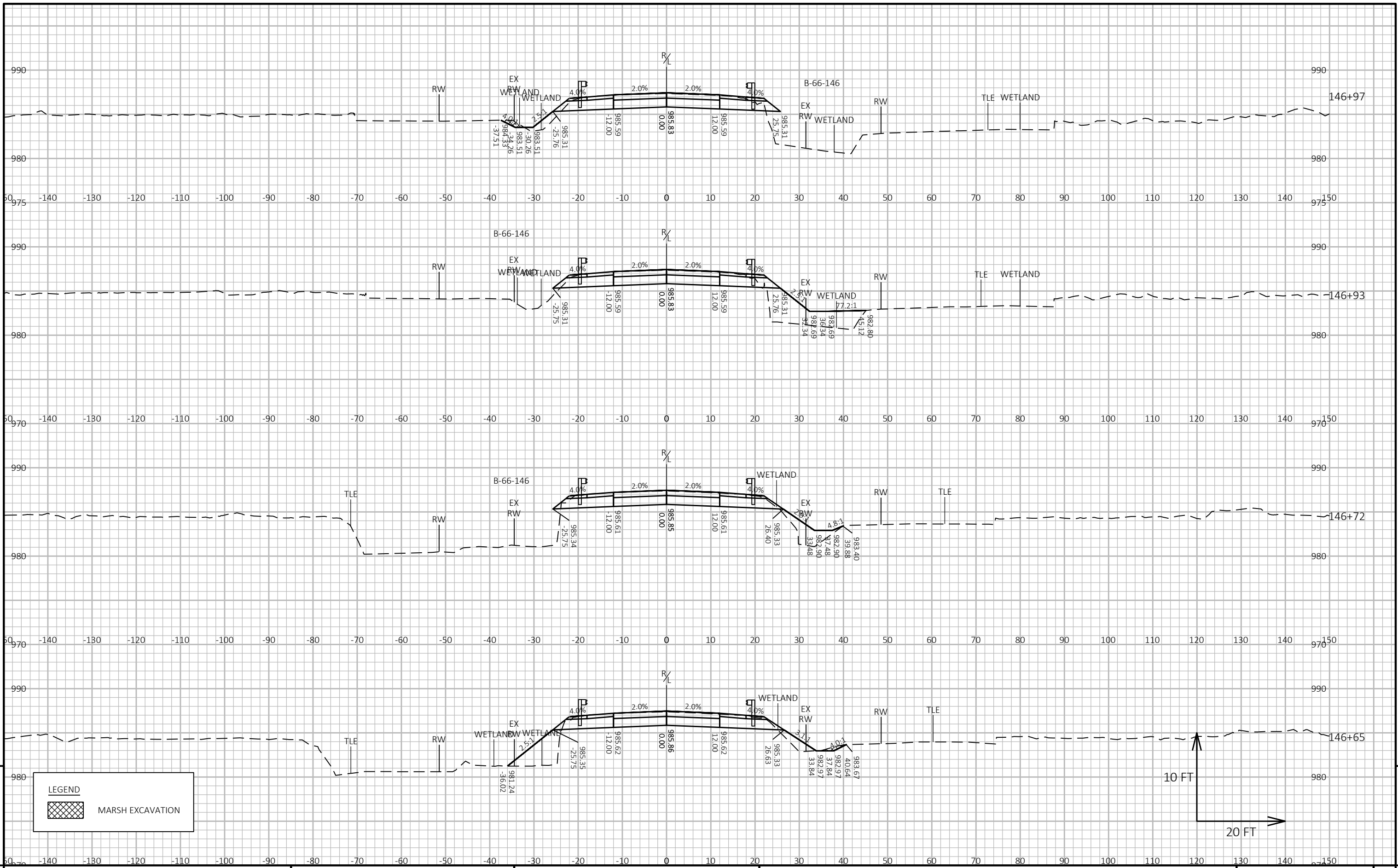
 MARSH EXCAVATION

PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON CROSS SECTIONS: STA. 144+64 - STA. 149+46 SHEET **E**

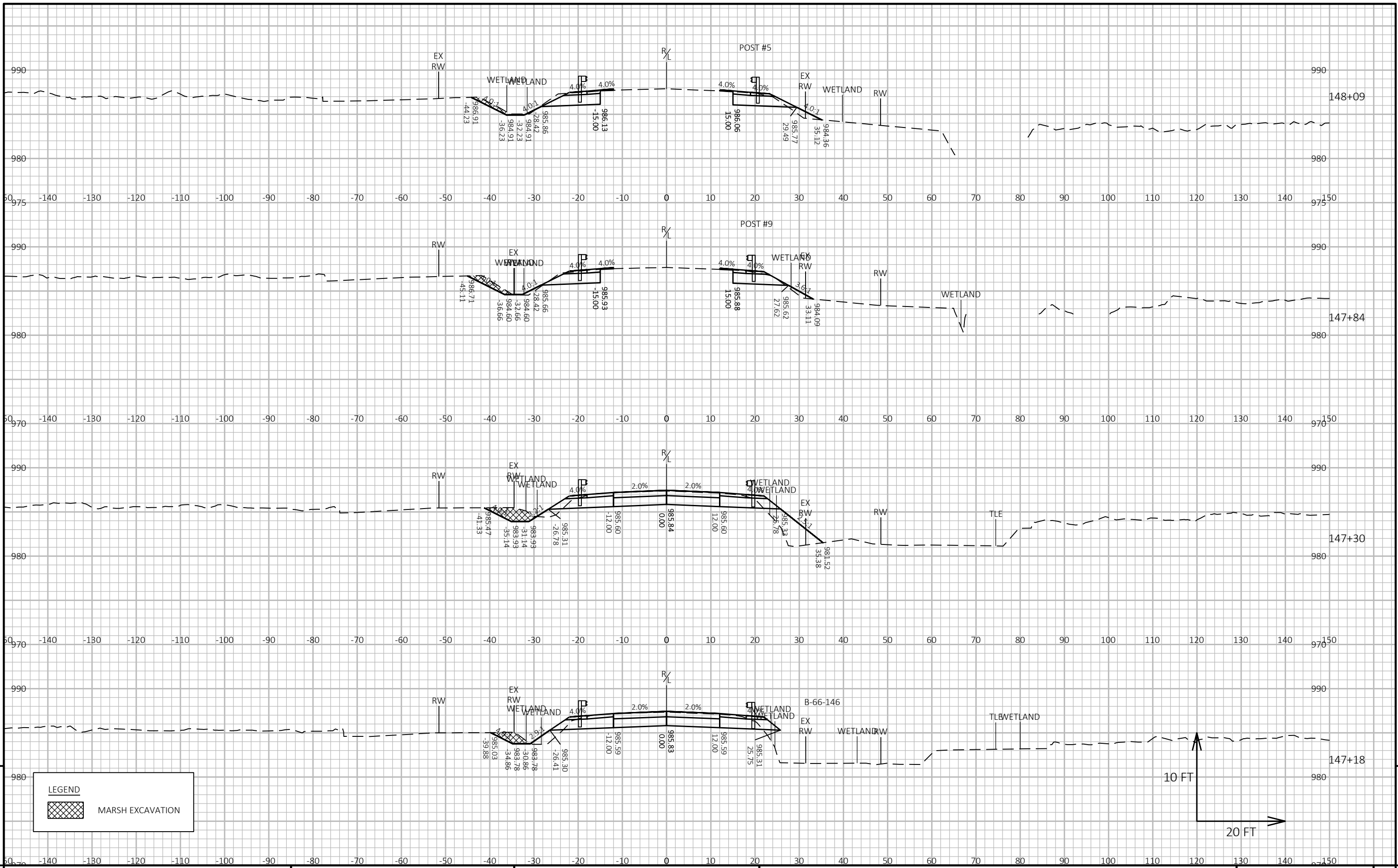
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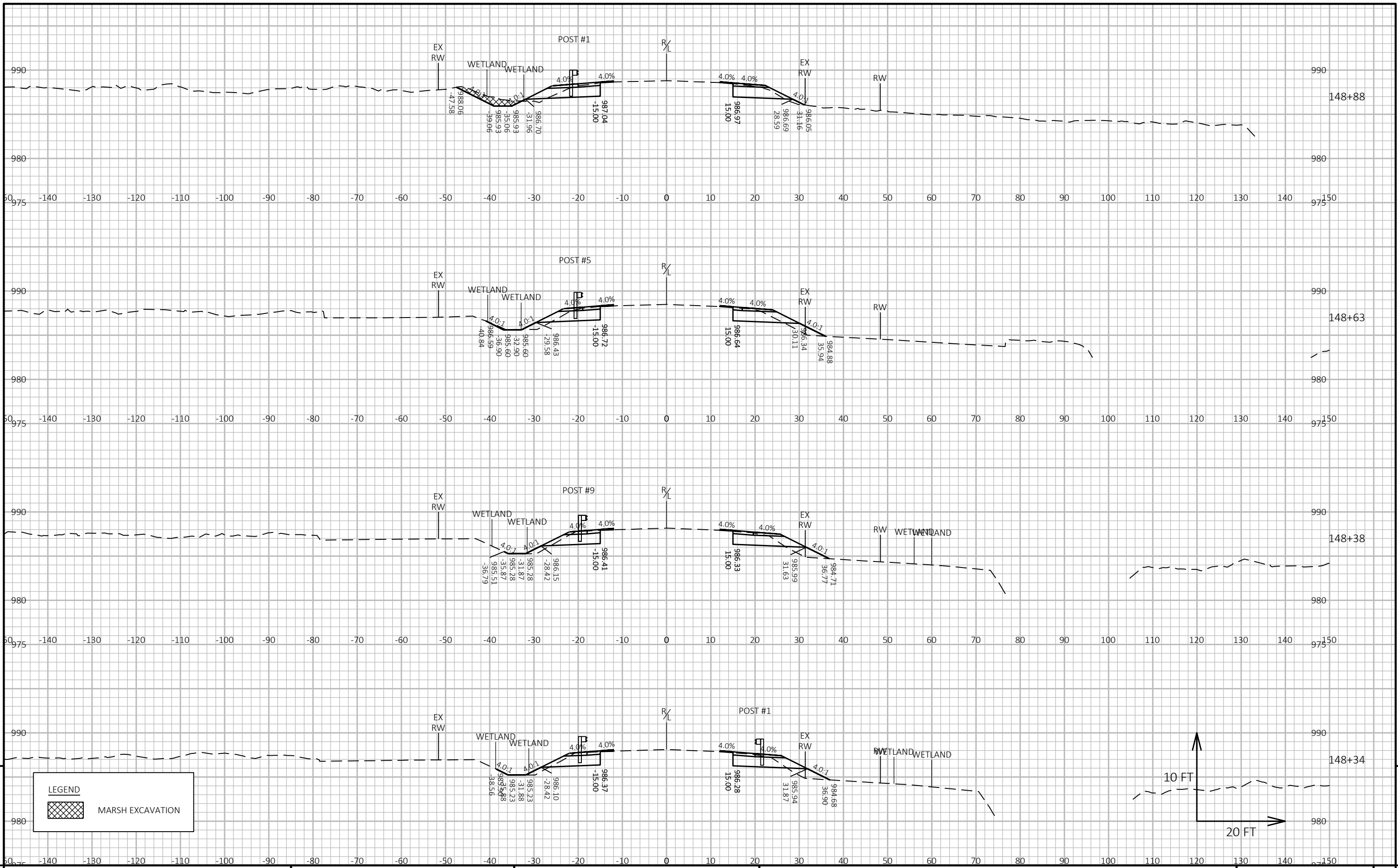
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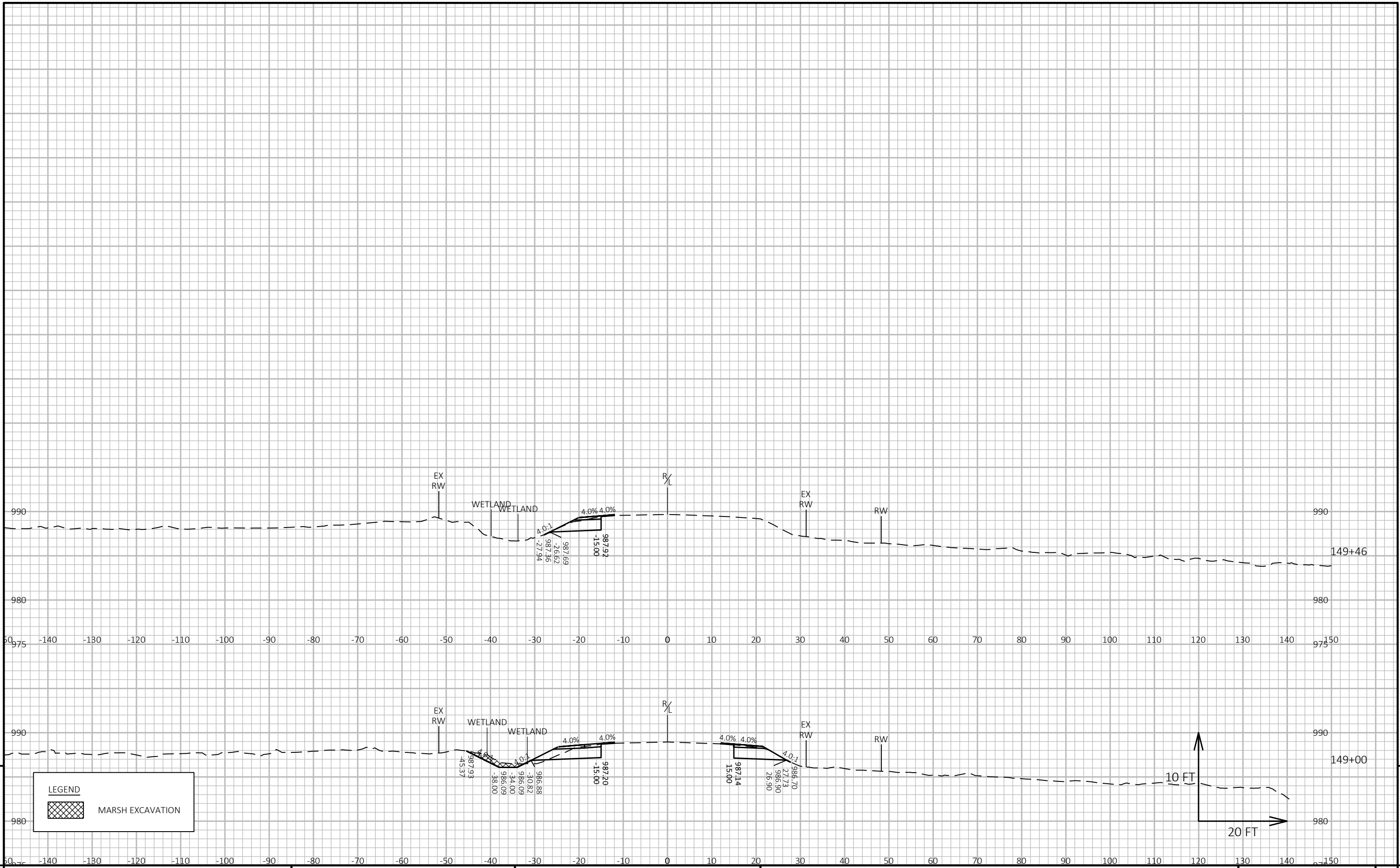
PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON CROSS SECTIONS: STA. 144+64 - STA. 149+46 SHEET E



PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON CROSS SECTIONS: STA. 144+64 - STA. 149+46 SHEET E



PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON CROSS SECTIONS: STA. 144+64 - STA. 149+46 SHEET E



LEGEND

 MARSH EXCAVATION

9

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PROJECT NO: 1330-22-70 HWY: STH 83 COUNTY: WASHINGTON CROSS SECTIONS: STA. 144+64 - STA. 149+46 SHEET E

FILE NAME : X:\ML\2022\20220183\DESIGN\TRANSPORTATION\SHEETSPLAN\090201-XS.DWG PLOT DATE : 3/30/2023 10:13 AM PLOT BY : BARRETT, WILL PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49



Wisconsin Department of Transportation

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