

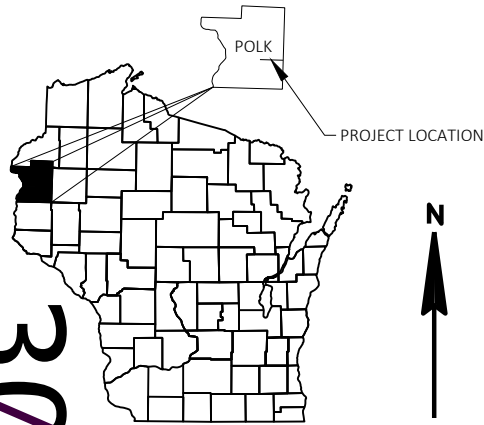
SUP

MAR 10, 2020

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.	0	Cross Sections

TOTAL SHEETS = 146



DESIGN DESIGNATION 1570-00-04

A.A.D.T.	2023	=	6200
A.A.D.T.	2043	=	6800
D.H.V.	2043	=	898
D.D.		=	63/37
T.		=	13.8
DESIGN SPEED		=	2,400,000
ESALS		=	60 MPH

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ST CROIX FALLS - TURTLE LAKE

STH 46 SOUTH JUNCTION TO FRONT AVE

USH 8
POLK

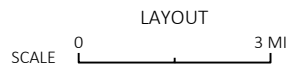
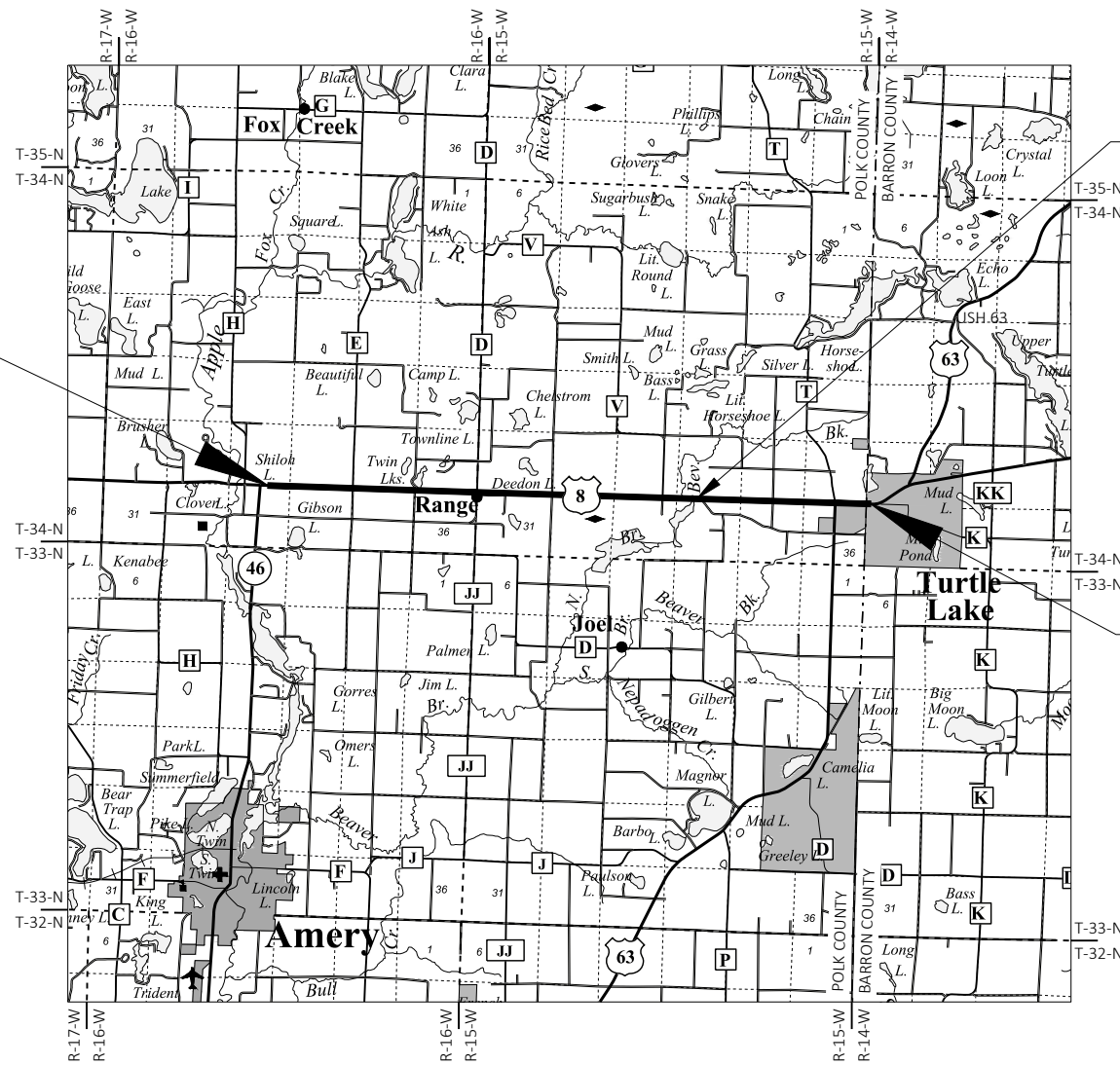
STATE PROJECT NUMBER
1570-00-74

ST CROIX FALLS - TURTLE LAKE

STH 46 SOUTH JUNCTION TO FRONT AVE

USH 8
POLK

STATE PROJECT NUMBER
1570-00-77



TOTAL NET LENGTH OF CENTERLINE = 9.749 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), POLK COUNTY, NAD83 (1991), 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 (1991). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 09.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	ZACHARY ERICKSON
Project Manager	MATTHEW DICKENSON
Regional Examiner	TOU YANG
Regional Supervisor	JEFFREY OSLOIN

APPROVED FOR THE DEPARTMENT

DATE: 10/11/2019 *Matthew J. Dickenson* (signature)

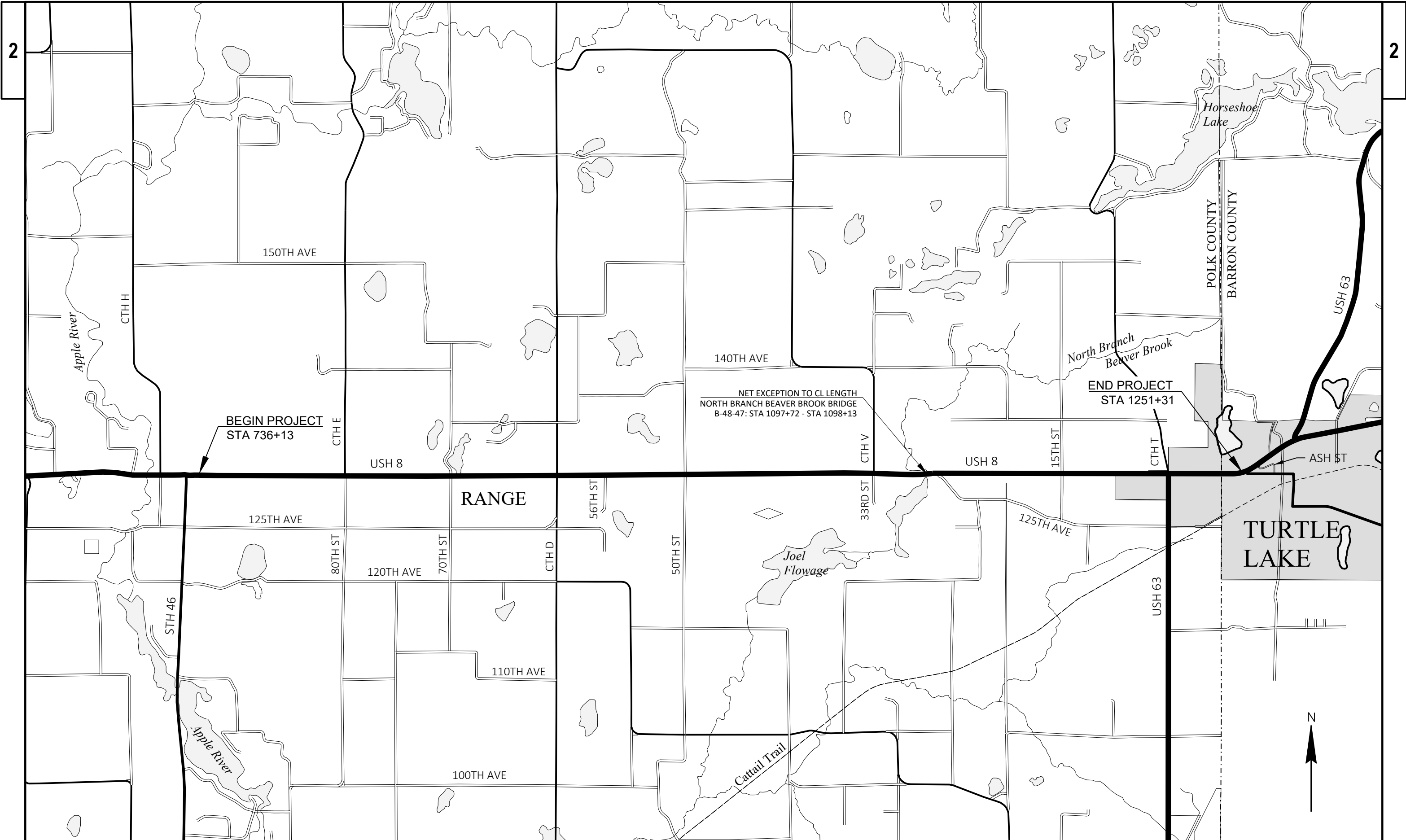
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PROJECT ID: 1570-00-74

WITH: 1570-00-77

30

COUNTY: POLK



BEGIN PROJECT
STA 736+13

NET EXCEPTION TO CL LENGTH
NORTH BRANCH BEAVER BROOK BRIDGE
B-48-47: STA 1097+72 - STA 1098+13

END PROJECT
STA 1251+31

RANGE

TURTLE LAKE



PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PROJECT OVERVIEW	SHEET	E
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GENERAL NOTES

- THE ENGINEER WILL DETERMINE ANY DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN.
- ALL WASTE MATERIAL RESULTING FROM THE VARIOUS OPERATIONS UNDER THIS CONTRACT SHALL BE COLLECTED TO BE PROPERTY DISPOSED OF PRIOR TO REOPENING LANES TO TRAFFIC.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY AS A RESULT OF THIS PROJECT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- WOOD POST SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS ARE APPROXIMATE AN MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
- THE CONTRACTOR SHALL PRESERVE PAVEMENT MARKING TRANSITIONS AND ENSURE NEW PAVEMENT MARKING MATCHES THAT WHICH EXISTED PRIOR TO RESURFACING.
- THE LOCATION OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
- ACCESS TO ALL RESIDENCES SHALL BE MAINTAINED DURING CONSTRUCTION.
- NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
- THE EXACT LOCATIONS OF EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.
- CURVE DATA SHOWN IS "ARC DEFINITION".
- INSTALL/MAINTAIN ADVANCED WARNING SIGNS BEFORE BEGINNING WORK.
- MAINTAIN MINIMUM 11-FT LANES ALONG USH 8 AT ALL TIMES.
- HMA PAVEMENT LONGITUDINAL CONSTRUCTIONS JOINTS SHALL NOT BE PLACED IN WHEEL PATHS.
- RAMPS SHALL BE PAVED WHEN THE DIFFERENCE BETWEEN EXISTING SURFACE AND MILLED SURFACE IS GREATER THAN 2" AND IS INCIDENTAL TO PAVING.
- WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR HMA PAVEMENT IS MEASURED BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
- HMA PAVEMENT AND ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

STANDARD ABBREVIATIONS

ABUT.	ABUTMENT	ESALS	EQUIVALENT SINGLE AXLE LOADS	REQ'D	REQUIRED
AGG.	AGGREGATE	E.B.S.	EXCAVATION BELOW SUBGRADE	R/L	REFERENCE LINE
AH.	AHEAD	EL.	EXISTING	RT	RIGHT
AADT	ANNUAL AVERAGE DAILY TRAFFIC	FERT.	FERTILIZE	R.H.F.	RIGHT-HAND FORWARD
APPROX.	APPROXIMATE	FE	FIELD ENTRANCE	R/W	RIGHT-OF-WAY
AEW	APRON END WALL	FIN.	FINISHED	RD	ROAD
ASPH.	ASPHALTIC	FL OR ϵ	FLOW LINE	SHLD	SHOULDER
BK.	BACK	HOR.	HORIZONTAL	S.	SOUTH
BEG.	BEGIN	INL.	INLET	SDD	STANDARD DETAIL DRAWINGS
B.M.	BENCH MARK	INTER.	INTERSECTION	SR	SIDE ROAD
C/L OR ϵ	CENTER LINE	INV.	INVERT	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
C.E.	COMMERCIAL ENTRANCE	LT	LEFT	STH	STATE TRUNK HIGHWAYS
CONC.	CONCRETE	L.H.F.	LEFT-HAND FORWARD	STA.	STATION
CONSTRUT.	CONSTRUCTION	LF	LINEAR FOOT	STRUCT.	STRUCTURE
CO.	COUNTY	LS	LUMP SUM	TEL	TELEPHONE
CTH	COUNTY TRUNK HIGHWAY	MAX.	MAXIMUM	TEMP.	TEMPORARY
X-SEC.	CROSS SECTION	MISC.	MISCELLANEOUS	T	TOWN
CR.	CRUSHED	N.	NORTH	T.	TRUCKS (PERCENT OF)
CULV.	CULVERT	NE	NORTHEAST	TYP.	TYPICAL
DOT	DEPARTMENT OF TRANSPORTATION	NW	NORTHWEST	UG	UNDERGROUND
D.H.V.	DESIGN HOUR VOLUME	PAVT.	PAVEMENT	VAR.	VARIABLE
DIA.	DIAMETER	PC	POINT OF CURVATURE	V	VELOCITY OR DESIGN SPEED
DISCH.	OR DIS. DISCHARGE	PI	POINT OF INTERSECTION	VC	VERTICAL CURVE
E.	EAST	PT	POINT OF TANGENCY	W.	WEST
EB	EASTBOUND	POT	POINT ON TANGENT	WB	WESTBOUND
EA.	EACH	PE	PRIVATE ENTRANCE	WD	WORKING DAY
ELEC.	ELECTRIC	PROJ.	PROJECT	WZ	WORK ZONE
OR ELEV.	ELEVATION	R	RANGE	X	EAST GRID COORDINATE
				Y	NORTH GRID COORDINATE

COMMUNICATIONS

WISDOT - NW REGION
 ATTN: MATTHEW DICKENSON - DESIGN PROJECT MANAGER
 1701 N. 4TH STREET
 SUPERIOR, WI 54880
 PHONE: (715) 395-3022
 EMAIL: matthew.dickenson@dot.wi.gov

WISDOT - NW REGION
 ATTN: ZACHARY ERICKSON - DESIGN PROJECT LEADER
 1701 N. 4TH STREET
 SUPERIOR, WI 54880
 PHONE: (715) 392-7996
 EMAIL: zachary.erickson@dot.wi.gov

WISDOT - NW REGION
 JENNIFER BERG - TRAFFIC ENGINEER
 718 W. CLAIREMONT AVENUE
 EAU CLAIRE, WI 54701
 (715) 836-2853
 EMAIL: jenniferl.berg@dot.wi.gov

WDNR - NORTHERN REGION HQ
 ATTN: AMY CRONK
 810 W. MAPLE STREET
 SPOONER, WI 54801
 PHONE: (715) 635-4229
 EMAIL: amy.cronk@wisconsin.gov

POLK COUNTY HIGHWAY DEPARTMENT
 EMIL NORBY - HIGHWAY COMMISSIONER
 518 MAIN STREET
 BALSAM LAKE, WI 54810
 PHONE: (715) 485-8700
 FAX: (715) 485-8702

WISCONSIN STATE PATROL SPOONER POST
 W7102 GREEN VALLEY ROAD
 SPOONER, WI 54801
 PHONE: (715) 635-2141
 EMERGENCY: (715) 635-7725
 FAX: (715) 635-6373

POLK COUNTY SHERIFF'S OFFICE
 POLK COUNTY JUSTICE CENTER
 1005 WEST MAIN STREET, SUITE 900
 BALSAM LAKE, WI 54810
 EMERGENCY 911
 DISPATCH (715) 485-8300

UTILITIES

COMMUNICATIONS LINE

CENTURYLINK - COMMUNICATION LINE
 ATTN: MICHAEL VANDEN BOS
 2426 75TH AVENUE
 OSCEOLA, WI 54020
 PHONE: (715) 294-2463
 EMAIL: mike.vandenbos@centurylink.com

CHARTER COMMUNICATIONS - COMMUNICATIONS LINE
 ATTN: JAMEY OLDEEN
 2304 S MAIN ST
 RICE LAKE, WI 54868
 PHONE: (715) 719-0561
 MOBILE: (715) 651-7488
 EMAIL: jamey.oldeen@charter.com

MOSAIC TELECOM - COMMUNICATIONS LINE
 ATTN: DENNIS RUSSETT
 410 S. 1ST STREET
 CAMERON, WI 54822
 PHONE: (715) 458-5378
 MOBILE: (715) 548-5518
 EMAIL: ctdennis@mosaictelecom.com

NORTHWEST COMMUNITY COMMUNICATIONS INC. - COMMUNICATIONS LINE
 ATTN: GREG CARDINAL
 116 HARRIMAN AVENUE N.
 AMERY, WI 54001
 PHONE: (715) 268-3379
 MOBILE: (715) 554-1620
 EMAIL: gregcardinal@amerytel.com

ELECTRICITY - DISTRIBUTION

POLK-BURNETT ELECTRIC COOPERATIVE - ELECTRICITY
 ATTN: ED JOHANSEN
 1001 STATE ROAD 35
 CENTURIA, WI 54824
 PHONE: (715) 646-2191, EXT.322
 EMAIL: ejohansen@polkburnett.com

DAIRYLAND POWER COOPERATIVE - ELECTRICITY
 ATTN: ROB MALY
 3200 EAST AVE S.
 P.O. BOX 817
 LA CROSSE, WI 54602-0817
 PHONE: (608) 518-2633
 EMAIL: rob.maly@dairylandpower.com

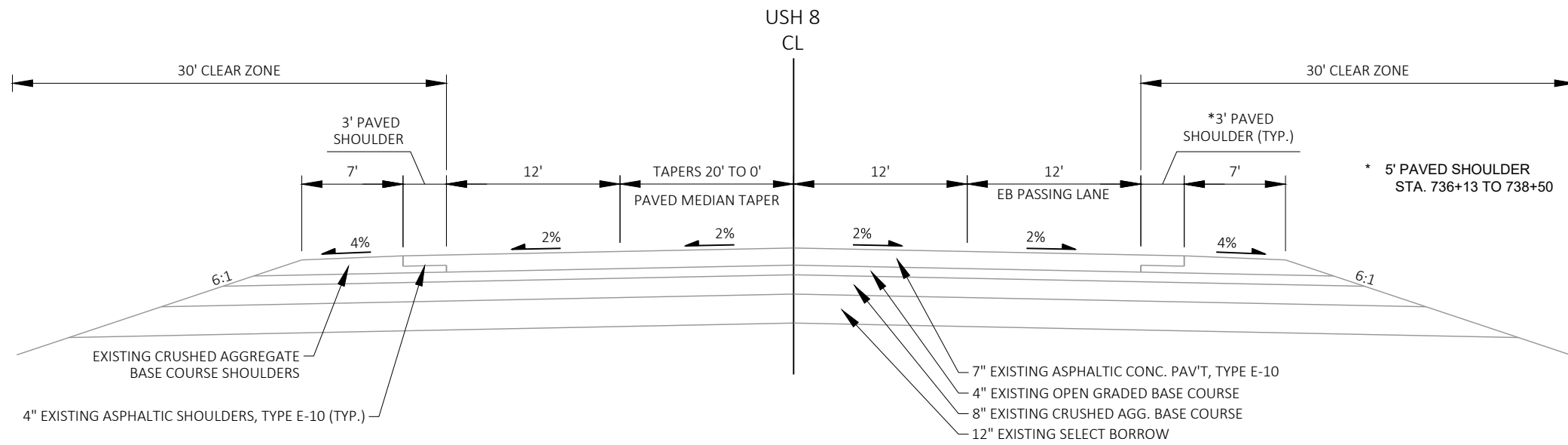
GAS

WE ENERGIES - GAS
 ATTN: STEVEN CHAVERS
 104 W. SOUTH STREET
 RICE LAKE, WI 54868
 PHONE: (715) 234-9605
 MOBILE: (715) 213-4327
 EMAIL: steven.chavers@we-energies.com

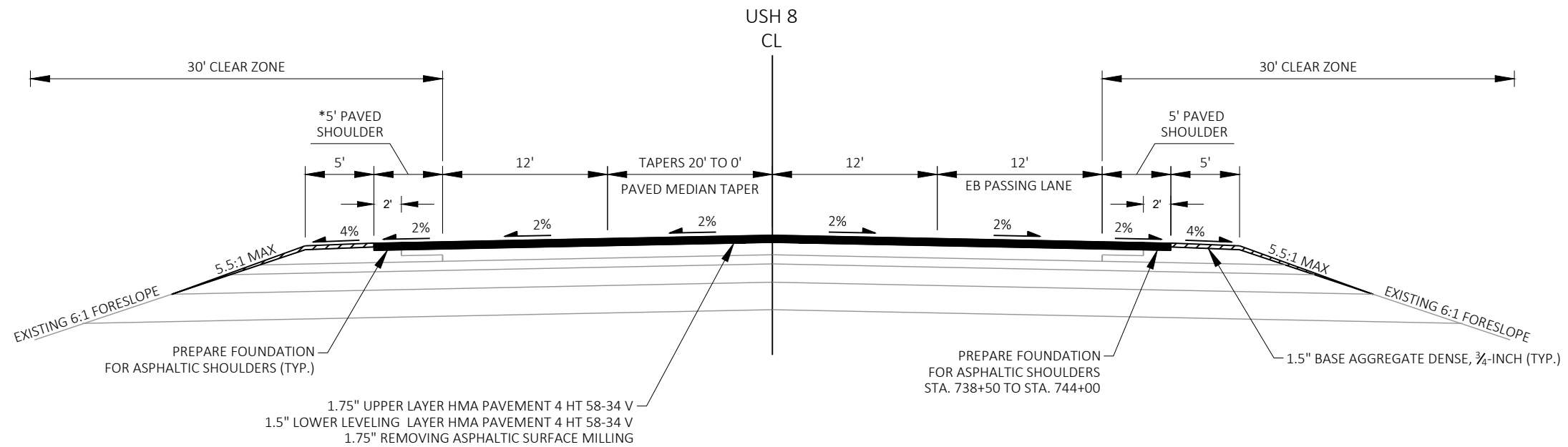
SANITARY AND WATER

VILLAGE OF TURTLE LAKE - SANITARY & WATER MAIN
 ATTN: CORY DAVIS, DIRECTOR OF PUBLIC WORKS
 520 LOGAN AVENUE E.
 P.O. BOX 11
 TURTLE LAKE, WI 54889
 PHONE: (715) 986-2820
 MOBILE: (715) 641-0582
 EMAIL: vtlpw@turtlelake.com

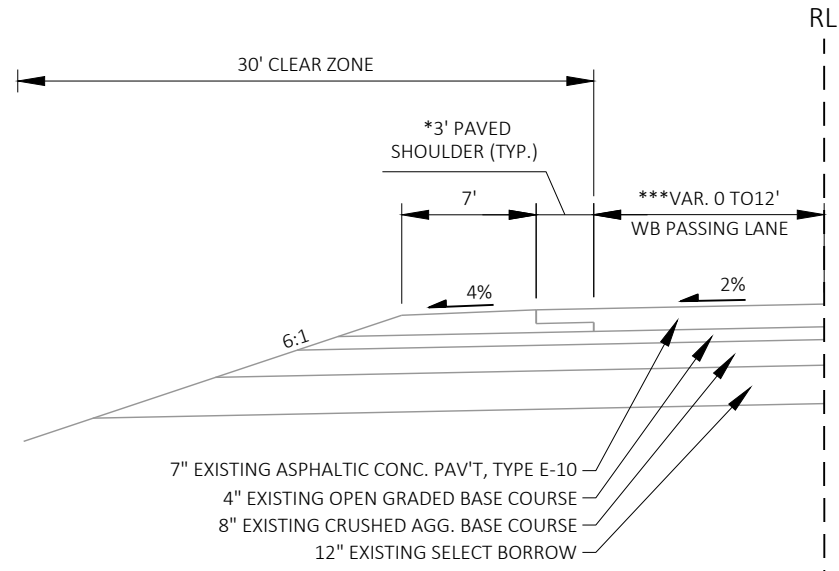




TYPICAL EXISTING SECTION
STA. 736+13 TO 744+00



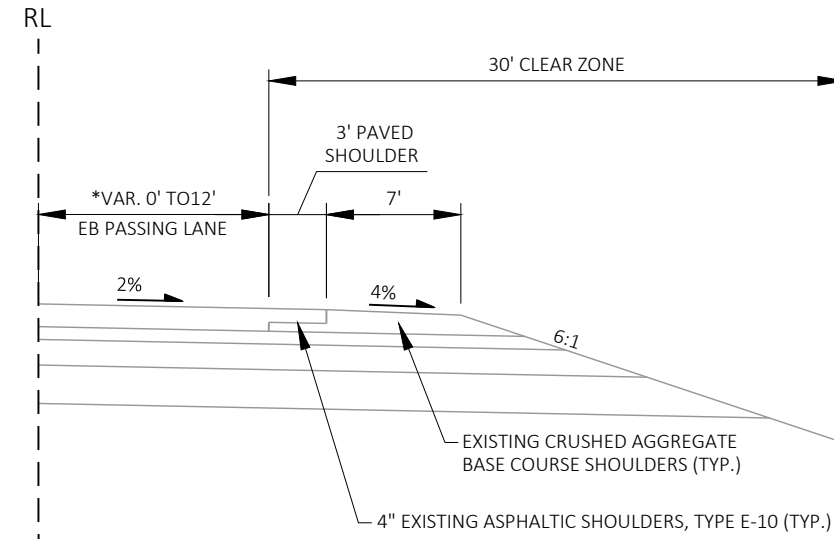
TYPICAL FINISHED SECTION
STA. 736+13 TO 744+00



WESTBOUND PASSING LANES

STA. 815+50 TO 822+50 LT (TAPERS OUT 0' TO 12')
 STA. 822+50 TO 884+00 LT (FULL WIDTH 12')
 STA. 884+00 TO 891+00 LT (TAPERS IN 12' TO 0')

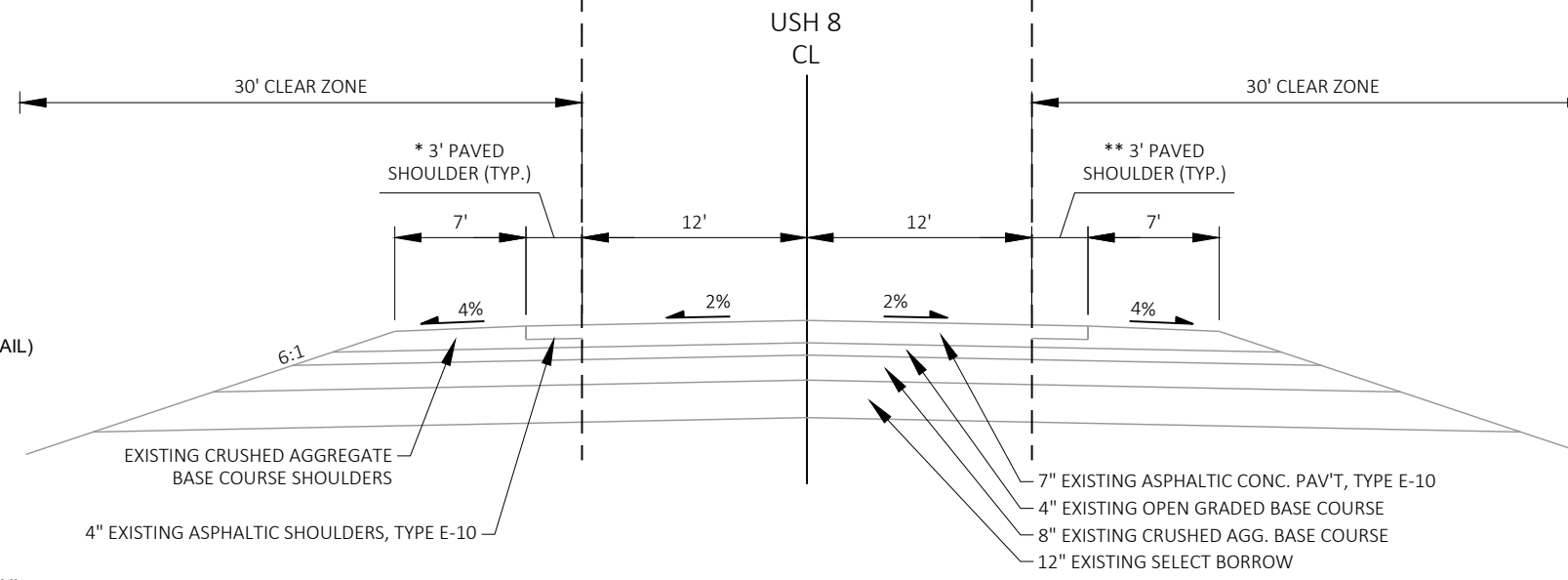
STA. 1112+00 TO 1119+50 LT (TAPERS OUT 0' TO 12')
 STA. 1119+50 TO 1185+00 LT (FULL WIDTH 12')
 STA. 1185+00 TO 1192+00 LT (TAPERS IN 12' TO 0')



EASTBOUND PASSING LANES

STA. 744+00 TO 794+00 RT (FULL WIDTH 12')
 STA. 794+00 TO 801+00 RT (TAPER IN 12' TO 0')

STA. 993+00 TO 1000+00 RT (TAPERS OUT 0' TO 12')
 STA. 1000+00 TO 1056+00 RT (FULL WIDTH 12')
 STA. 1056+00 TO 1063+00 RT (TAPER IN 12' TO 0')



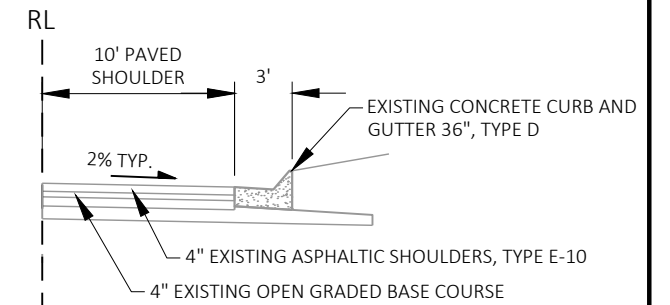
TYPICAL EXISTING SECTION

STA. 744+00 TO 907+80
 STA. 915+50 TO 1096+72
 STA. 1099+13 TO 1206+28

**** EASTBOUND RIGHT TURN LANES (SEE TURN LANE DETAIL)**

STA. 804+40 TO 814+25 RT
 STA. 821+20 TO 828+20 RT
 STA. 855+50 TO 862+50 RT
 STA. 906+10 TO 907+80 RT (TAPER ONLY)
 STA. 935+95 TO 939+15 RT
 STA. 973+20 TO 978+80 RT
 STA. 1067+40 TO 1074+25 RT
 STA. 1099+85 TO 1104+60 RT
 STA. 1160+10 TO 1165+95 RT

PAVED SHOUDLER WIDENS AT APPROACH TO GUARDRAIL
 STA. 1092+97 TO 1094+10 RT (5' TO 10' TAPER OUT)
 STA. 1094+10 TO 1095+70 RT (10' PAVED WITH 36" C&G)
 STA. 1095+70 TO 1096+72 RT (10' TO 12' TAPER OUT TO EAT)
 STA. 1099+13 TO 1099+80 RT (12' TO 10' TAPER IN FROM EAT)



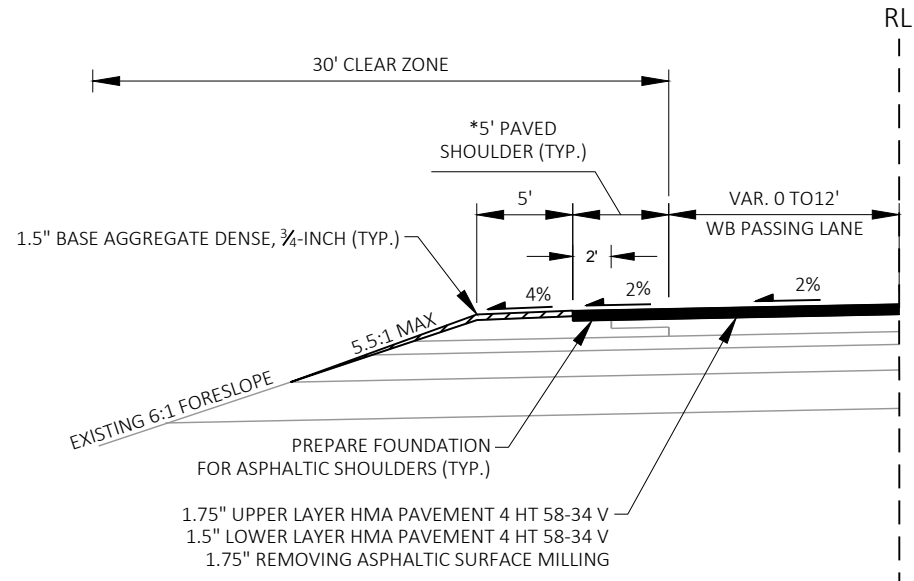
TYPICAL CURB AND GUTTER SECTION

STA. 1094+10 TO 1095+70 RT

*** WESTBOUND RIGHT TURN LANES (SEE TURN LANE DETAIL)**

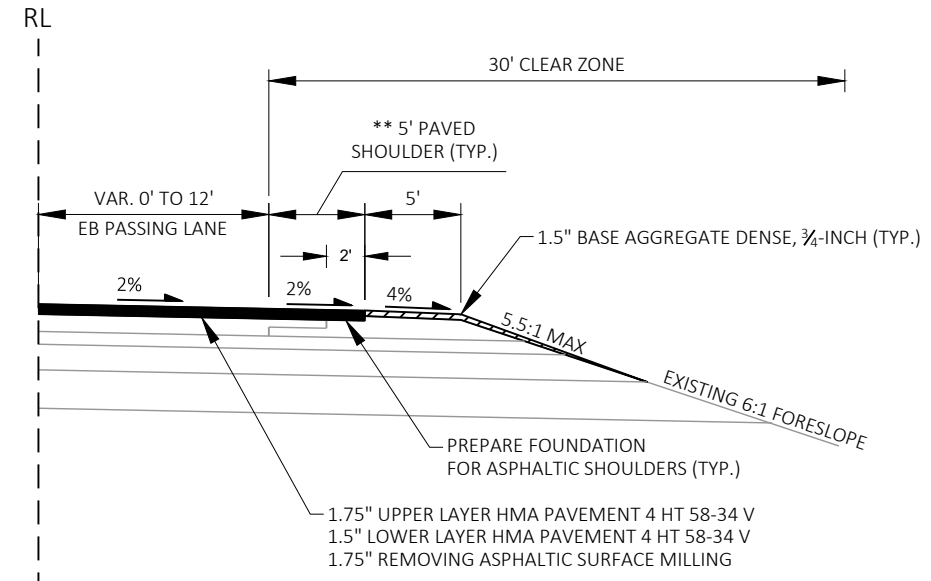
STA. 807+10 TO 828+20 LT
 STA. 859+60 TO 865+60 LT
 STA. 907+25 TO 907+80 LT (TAPER ONLY)
 STA. 915+50 TO 916+95 LT (TAPER ONLY)
 STA. 923+70 TO 927+85 LT
 STA. 975+80 TO 981+60 LT
 STA. 1069+60 TO 1075+20 LT
 STA. 1163+25 TO 1168+65 LT

PAVED SHOUDLER WIDENS AT APPROACH TO GUARDRAIL
 STA. 1096+05 TO 1096+72 LT (5' TO 12' TAPER OUT TO EAT)
 STA. 1099+13 TO 1099+80 LT (12' TO 5' TAPER IN FROM EAT)



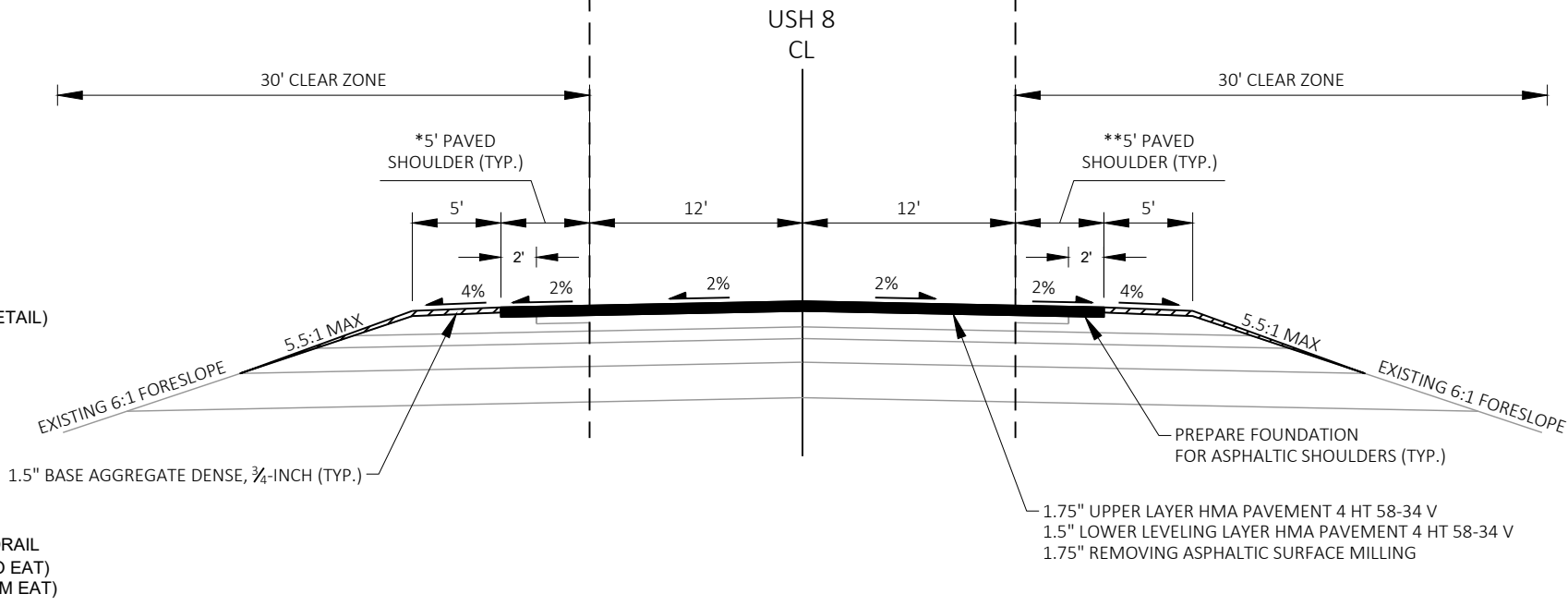
WESTBOUND PASSING LANES
 STA. 815+50 TO 822+50 LT (TAPERS OUT 0' TO 12')
 STA. 822+50 TO 884+00 LT (FULL WIDTH 12')
 STA. 884+00 TO 891+00 LT (TAPERS IN 12' TO 0')

 STA. 1112+00 TO 1119+50 LT (TAPERS OUT 0' TO 12')
 STA. 1119+50 TO 1185+00 LT (FULL WIDTH 12')
 STA. 1185+00 TO 1192+00 LT (TAPERS IN 12' TO 0')



EASTBOUND PASSING LANES
 STA. 744+00 TO 794+00 RT (FULL WIDTH 12')
 STA. 794+00 TO 801+00 RT (TAPER IN 12' TO 0')

 STA. 993+00 TO 1000+00 RT (TAPERS OUT 0' TO 12')
 STA. 1000+00 TO 1056+00 RT (FULL WIDTH 12')
 STA. 1056+00 TO 1063+00 RT (TAPER IN 12' TO 0')

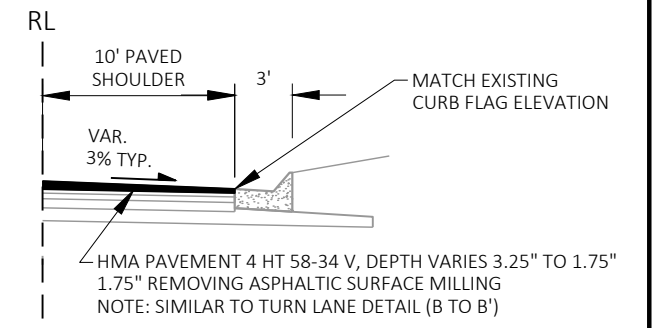


TYPICAL FINISHED SECTION
 STA. 744+00 TO 907+80
 STA. 915+50 TO 1096+72
 STA. 1099+13 TO 1206+28

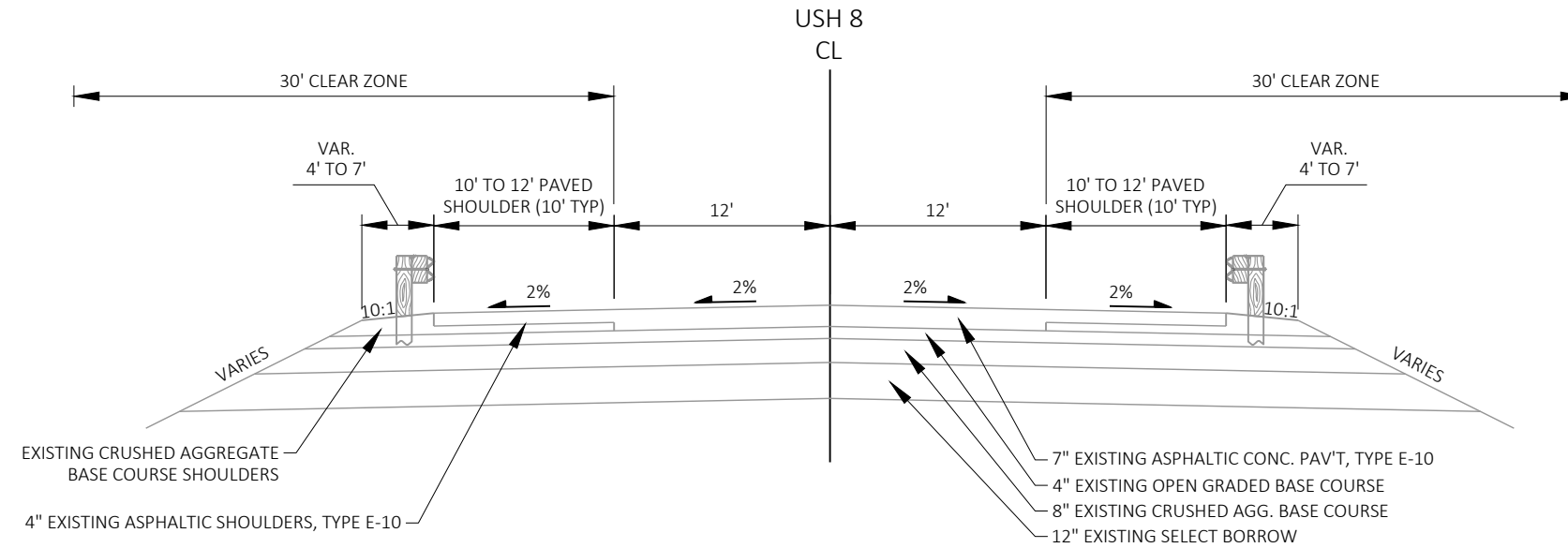
* WESTBOUND RIGHT TURN LANES (SEE TURN LANE DETAIL)
 STA. 807+10 TO 828+20 LT
 STA. 859+60 TO 865+60 LT
 STA. 907+25 TO 907+80 LT (TAPER ONLY)
 STA. 915+50 TO 916+95 LT (TAPER ONLY)
 STA. 923+70 TO 927+85 LT
 STA. 975+80 TO 981+60 LT
 STA. 1069+60 TO 1075+20 LT
 STA. 1163+25 TO 1168+65 LT

** EASTBOUND RIGHT TURN LANES (SEE TURN LANE DETAIL)
 STA. 804+40 TO 814+25 RT
 STA. 821+20 TO 828+20 RT
 STA. 855+50 TO 862+50 RT
 STA. 906+10 TO 907+80 RT (TAPER ONLY)
 STA. 935+95 TO 939+15 RT
 STA. 973+20 TO 978+80 RT
 STA. 1067+40 TO 1074+25 RT
 STA. 1099+85 TO 1104+60 RT
 STA. 1160+10 TO 1165+95 RT

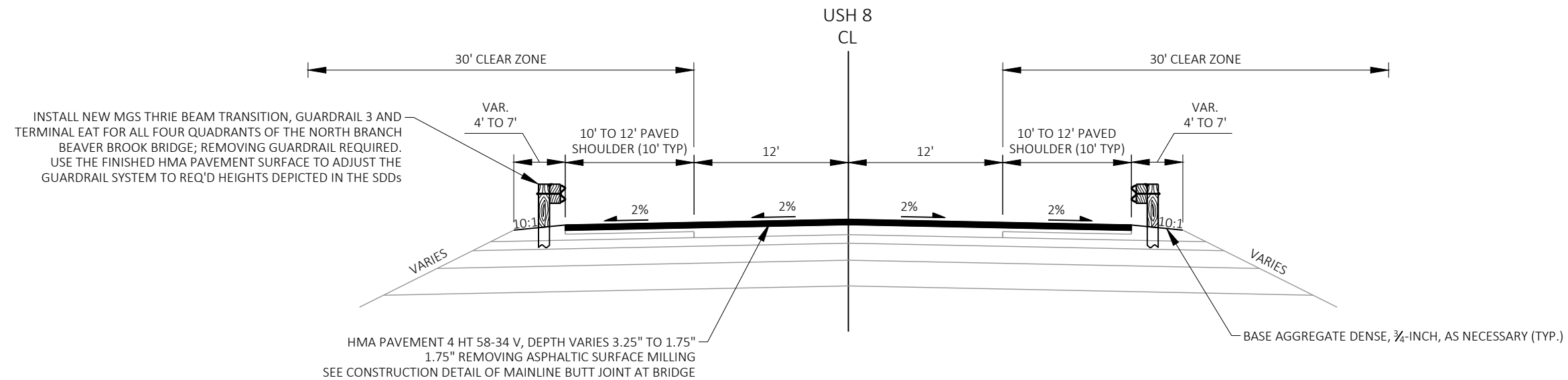
PAVED SHOUDLER WIDENS AT APPROACH TO GUARDRAIL
 STA. 1092+97 TO 1094+10 RT (5' TO 10' TAPER OUT)
 STA. 1094+10 TO 1095+70 RT (10' PAVED WITH 36" C&G)
 STA. 1095+70 TO 1096+72 RT (10' TO 12' TAPER OUT TO EAT)
 STA. 1099+13 TO 1099+80 RT (12' TO 10' TAPER IN FROM EAT)



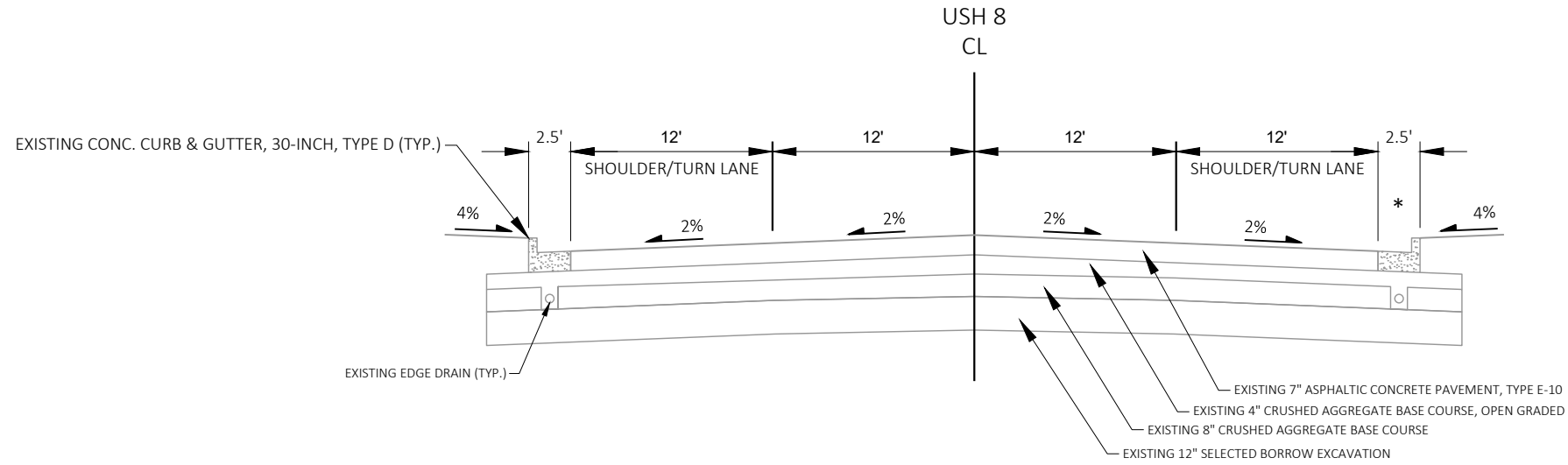
TYPICAL CURB AND GUTTER SECTION
 STA. 1094+10 TO 1095+70 RT



TYPICAL EXISTING SECTION
 STA. 1096+72 TO 1097+72
 STA. 1098+13 TO 1099+13

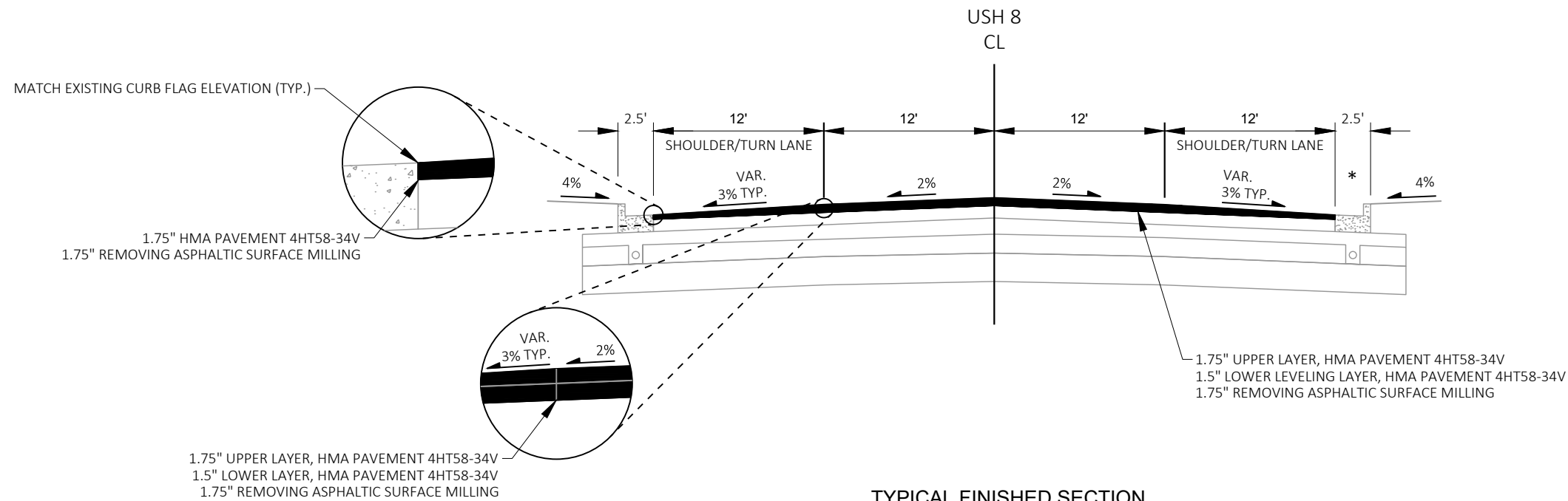


TYPICAL FINISHED SECTION
 STA. 1096+72 TO 1097+72
 STA. 1098+13 TO 1099+13

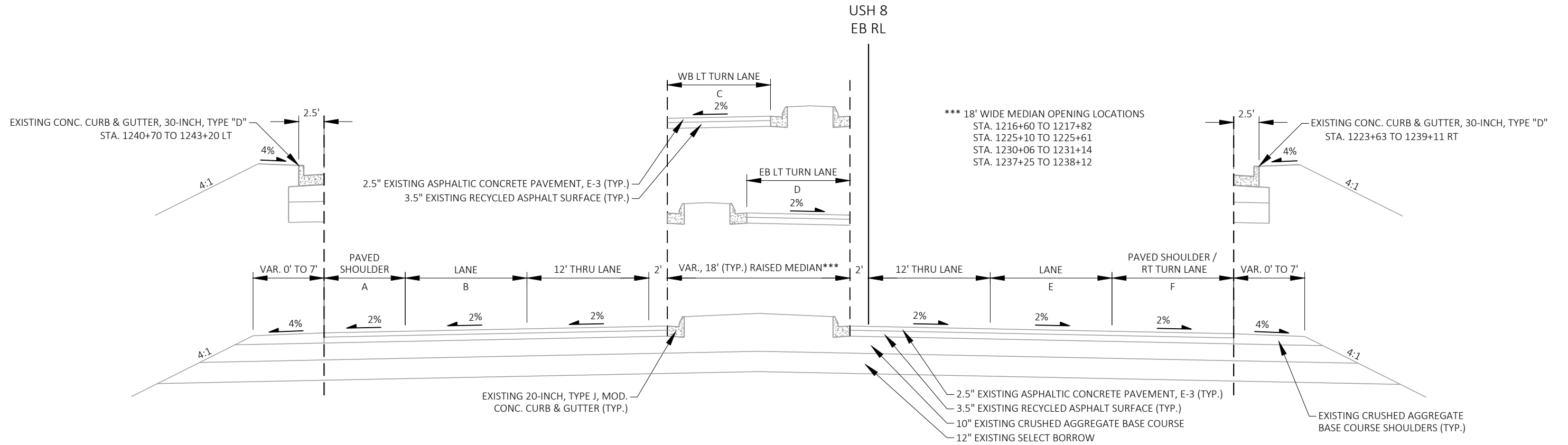


TYPICAL EXISTING SECTION
COMMUNITY OF RANGE
STA. 907+80 TO 915+50

* CURB AND GUTTER ON RIGHT ENDS AT STA. 914+25 RT,
 TURN LANE TAPERS IN 12' TO 0' FROM STA. 914+25 TO 915+20 RT. (SEE TURN LANE DETAIL)

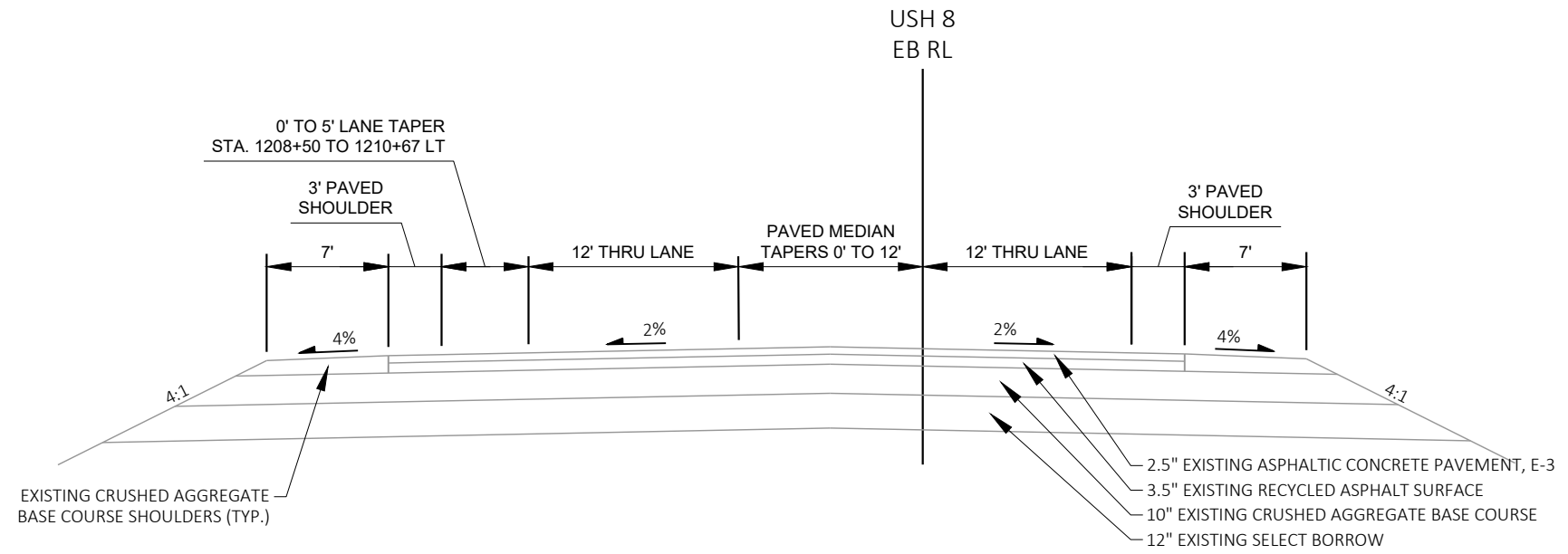


TYPICAL FINISHED SECTION
COMMUNITY OF RANGE
STA. 907+80 TO 915+50

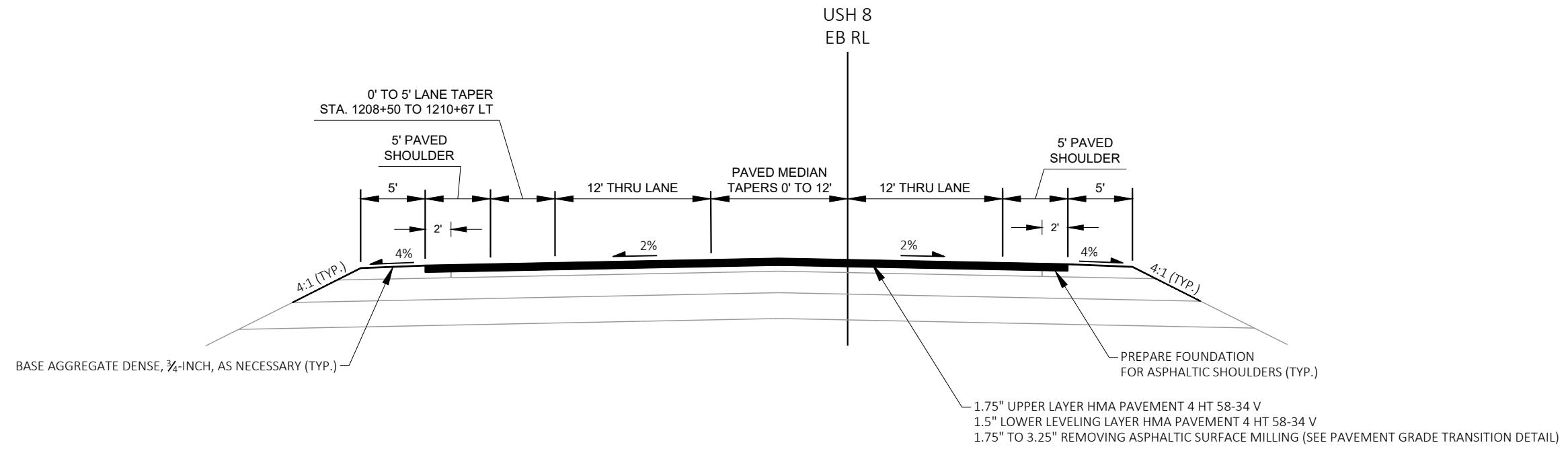


TYPICAL EXISTING SECTION
STA. 1210+67 TO 1243+20

A		B		C		D		E		F	
STA. 1210+67 TO 1215+83	3'	STA. 1210+67 TO 1214+70	5' TO 12'	STA. 1217+82 TO 1222+41	10'	STA. 1210+67 TO 1213+71	0'	STA. 1210+67 TO 1223+63	0'	STA. 1210+67 TO 1211+27	3'
STA. 1215+83 TO 1216+62	3' TO 10'	STA. 1214+70 TO 1243+20	12'	STA. 1222+41 TO 1223+40	10' TO 0'	STA. 1213+71 TO 1214+68	0' TO 10'	STA. 1223+63 TO 1243+20	12'	STA. 1211+27 TO 1213+10	3' TO 12'
STA. 1216+62 TO 1218+01	10'			STA. 1223+40 TO 1231+14	0'	STA. 1214+68 TO 1216+60	10'			STA. 1213+10 TO 1220+00	12'
STA. 1218+01 TO 1240+70	8'			STA. 1231+14 TO 1232+23	10'	STA. 1216+60 TO 1243+20	0'			STA. 1220+00 TO 1223+63	34' TO 21'
STA. 1240+70 TO 1243+20	0'			STA. 1232+23 TO 1233+41	10' TO 0'					STA. 1223+63 TO 1239+11	12'
				STA. 1233+41 TO 1238+12	0'					STA. 1239+11 TO 1243+20	10'
				STA. 1238+12 TO 1239+16	10'						
				STA. 1239+16 TO 1239+65	10' TO 0'						
				STA. 1239+65 TO 1243+20	0'						



TYPICAL EXISTING SECTION
STA. 1206+28 TO 1210+67

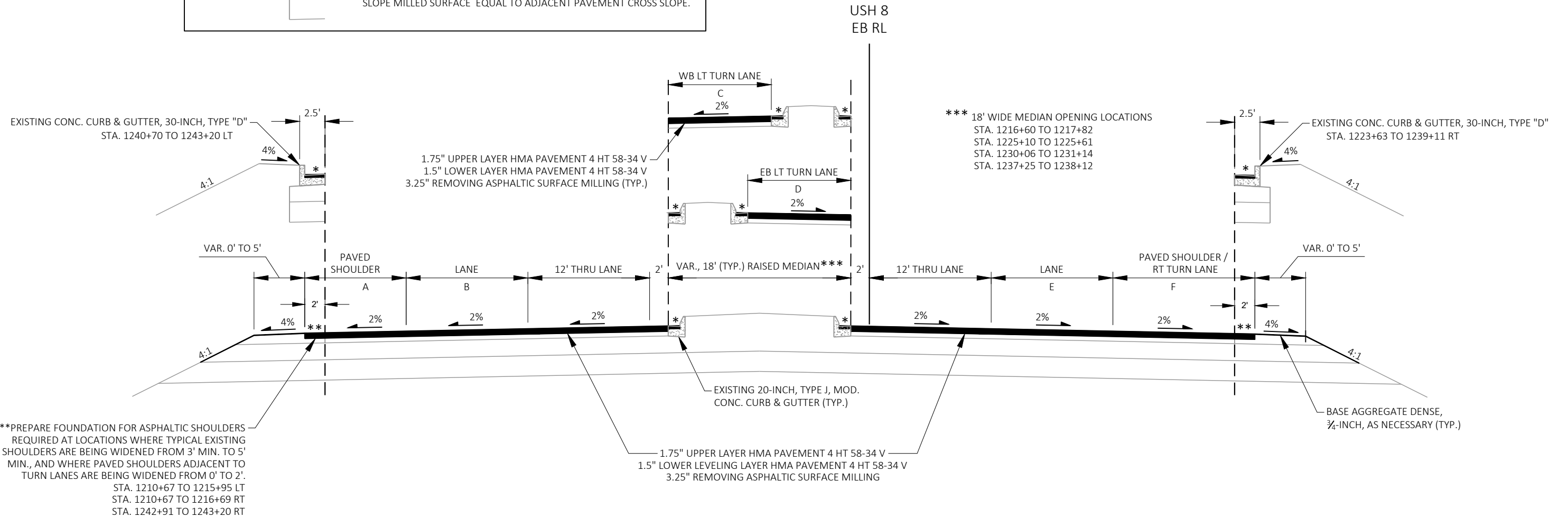


TYPICAL FINISHED SECTION
STA. 1206+28 TO 1210+67

* AS DIRECTED BY THE ENGINEER IN THE FIELD, OVERLAY DETERIORATED SEGMENTS OF EXISTING GUTTER PAN. SEE MISCELLANEOUS QUANTITIES FOR ANTICIPATED LOCATIONS.

MAINTAIN CURB FLAG ELEVATION (TYP.)
 1.75" UPPER LAYER, HMA PAVEMENT 4HT58-34V
 1.5" LOWER LEVELING LAYER HMA PAVEMENT 4 HT 58-34 V
 3.25" REMOVING ASPHALTIC SURFACE MILLING

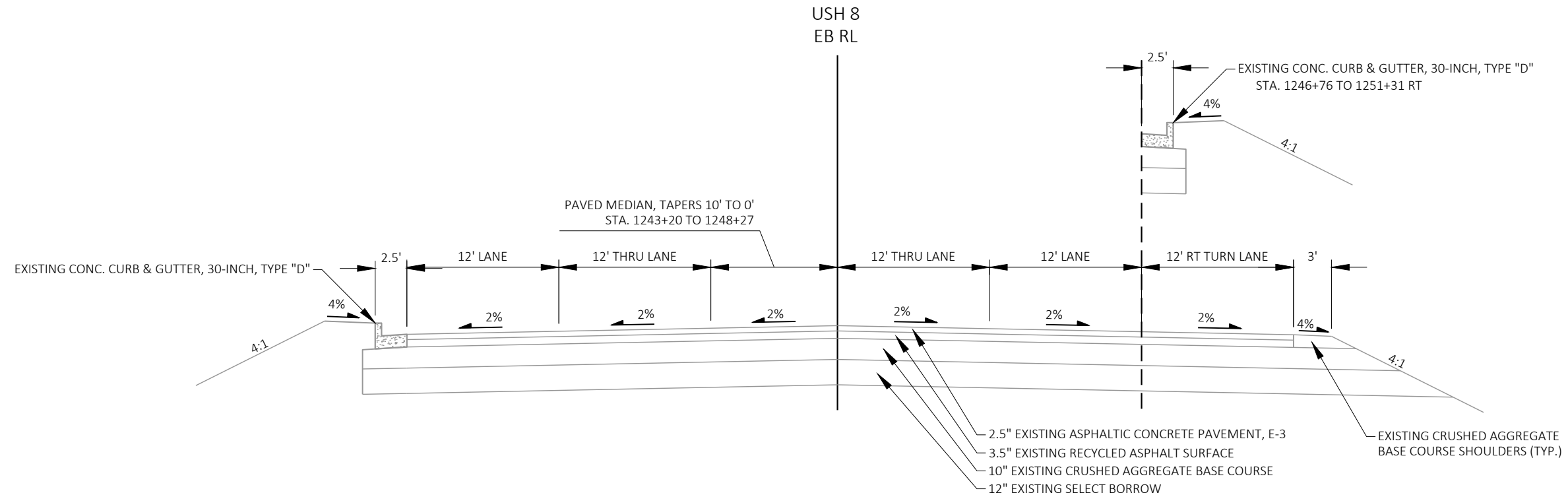
NOTE: 1.75" MILL DEPTH MEASURED AT CURB FLAG, SLOPE MILLED SURFACE EQUAL TO ADJACENT PAVEMENT CROSS SLOPE.



**PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS REQUIRED AT LOCATIONS WHERE TYPICAL EXISTING SHOULDERS ARE BEING WIDENED FROM 3' MIN. TO 5' MIN., AND WHERE PAVED SHOULDERS ADJACENT TO TURN LANES ARE BEING WIDENED FROM 0' TO 2'.
 STA. 1210+67 TO 1215+95 LT
 STA. 1210+67 TO 1216+69 RT
 STA. 1242+91 TO 1243+20 RT

TYPICAL FINISHED SECTION
 STA. 1210+67 TO 1243+20

A		B		C		D		E		F	
**STA. 1210+67 TO 1216+18	5'	STA. 1210+67 TO 1214+70	5' TO 12'	STA. 1217+82 TO 1222+41	10'	STA. 1210+67 TO 1213+71	0'	STA. 1210+67 TO 1223+63	0'	**STA. 1210+67 TO 1211+27	5'
**STA. 1216+18 TO 1216+62	5' TO 12'	STA. 1214+70 TO 1243+20	12'	STA. 1222+41 TO 1223+40	10' TO 0'	STA. 1213+71 TO 1214+68	0' TO 10'	STA. 1223+63 TO 1243+20	12'	**STA. 1211+27 TO 1213+10	5' TO 14'
STA. 1216+62 TO 1218+01	12'			STA. 1223+40 TO 1231+14	0'	STA. 1214+68 TO 1216+60	10'			**STA. 1213+10 TO 1216+69	14'
STA. 1218+01 TO 1240+70	8'			STA. 1231+14 TO 1232+23	10'	STA. 1216+60 TO 1243+20	0'			STA. 1216+69 TO 1220+00	12'
STA. 1240+70 TO 1243+20	0'			STA. 1232+23 TO 1233+41	10' TO 0'					STA. 1220+00 TO 1223+63	34' TO 21'
				STA. 1233+41 TO 1238+12	0'					STA. 1223+63 TO 1239+11	12'
				STA. 1238+12 TO 1239+16	10'					STA. 1239+11 TO 1243+20	10'
				STA. 1239+16 TO 1239+65	10' TO 0'						
				STA. 1239+65 TO 1243+20	0'						

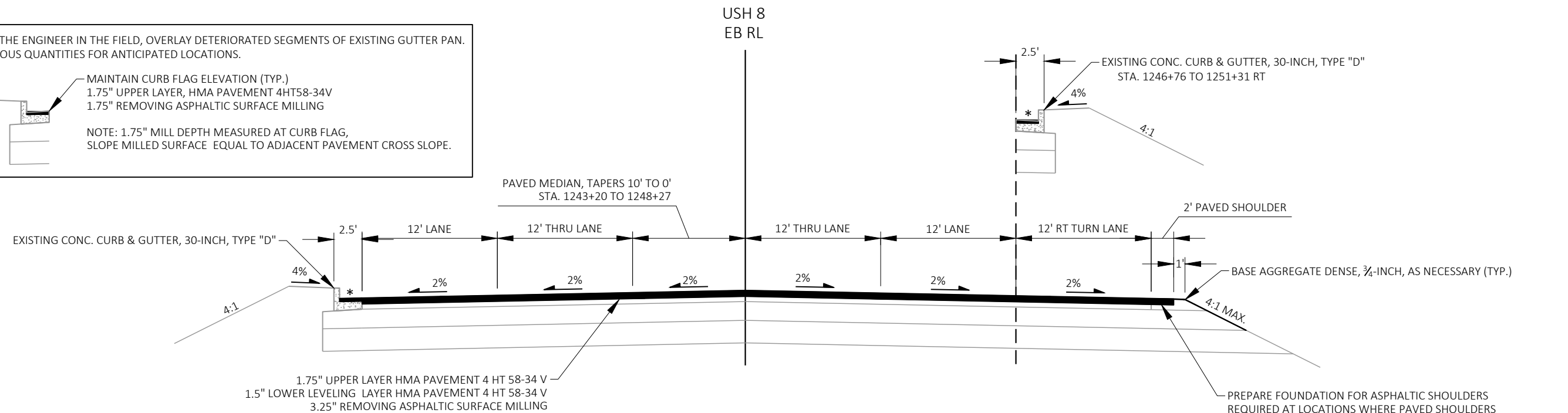


TYPICAL EXISTING SECTION
STA. 1243+20 TO 1251+31

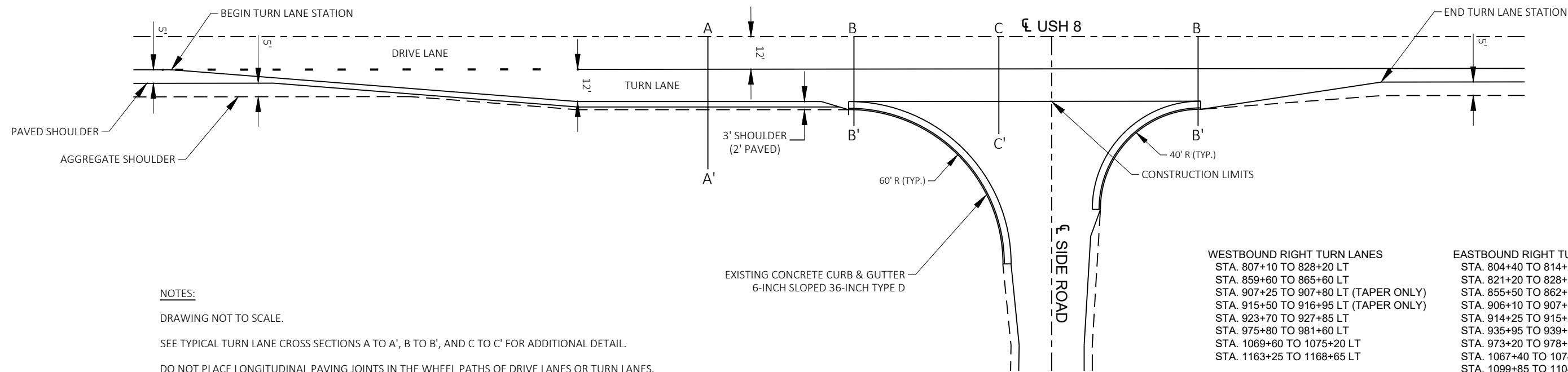
* AS DIRECTED BY THE ENGINEER IN THE FIELD, OVERLAY DETERIORATED SEGMENTS OF EXISTING GUTTER PAN. SEE MISCELLANEOUS QUANTITIES FOR ANTICIPATED LOCATIONS.

MAINTAIN CURB FLAG ELEVATION (TYP.)
 1.75" UPPER LAYER, HMA PAVEMENT 4HT58-34V
 1.75" REMOVING ASPHALTIC SURFACE MILLING

NOTE: 1.75" MILL DEPTH MEASURED AT CURB FLAG, SLOPE MILLED SURFACE EQUAL TO ADJACENT PAVEMENT CROSS SLOPE.



TYPICAL FINISHED SECTION
STA. 1243+20 TO 1251+31



NOTES:

DRAWING NOT TO SCALE.

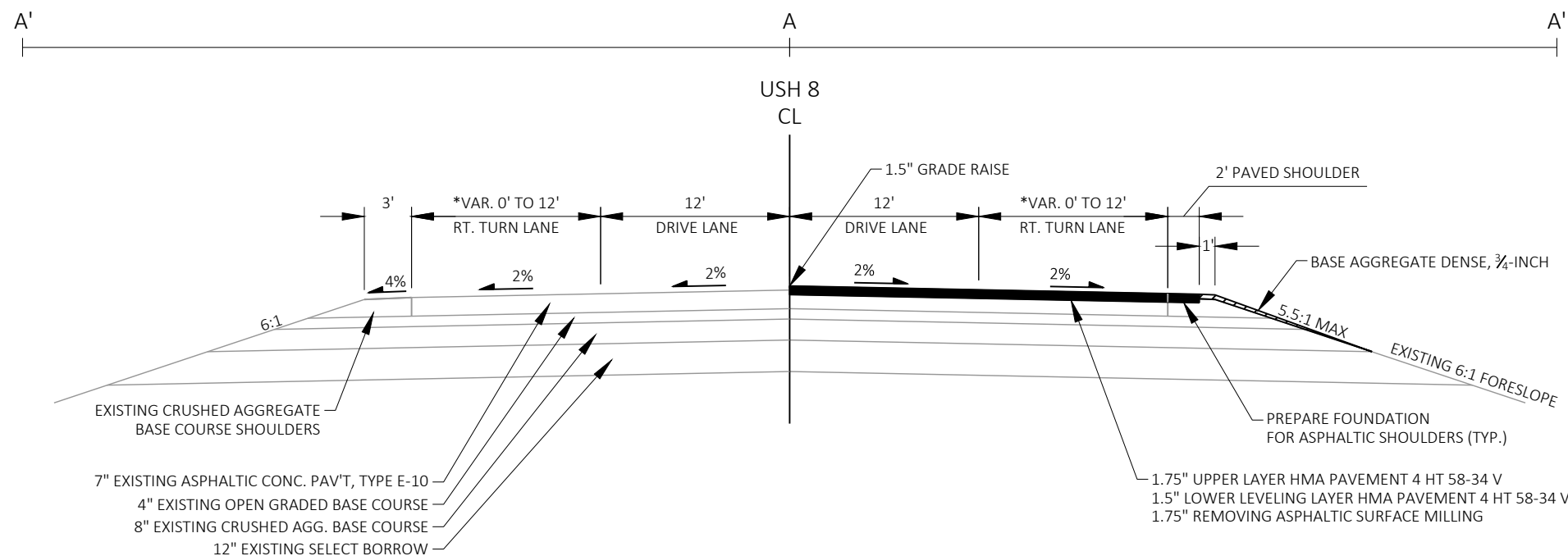
SEE TYPICAL TURN LANE CROSS SECTIONS A TO A', B TO B', AND C TO C' FOR ADDITIONAL DETAIL.

DO NOT PLACE LONGITUDINAL PAVING JOINTS IN THE WHEEL PATHS OF DRIVE LANES OR TURN LANES.

WESTBOUND RIGHT TURN LANES
 STA. 807+10 TO 828+20 LT
 STA. 859+60 TO 865+60 LT
 STA. 907+25 TO 907+80 LT (TAPER ONLY)
 STA. 915+50 TO 916+95 LT (TAPER ONLY)
 STA. 923+70 TO 927+85 LT
 STA. 975+80 TO 981+60 LT
 STA. 1069+60 TO 1075+20 LT
 STA. 1163+25 TO 1168+65 LT

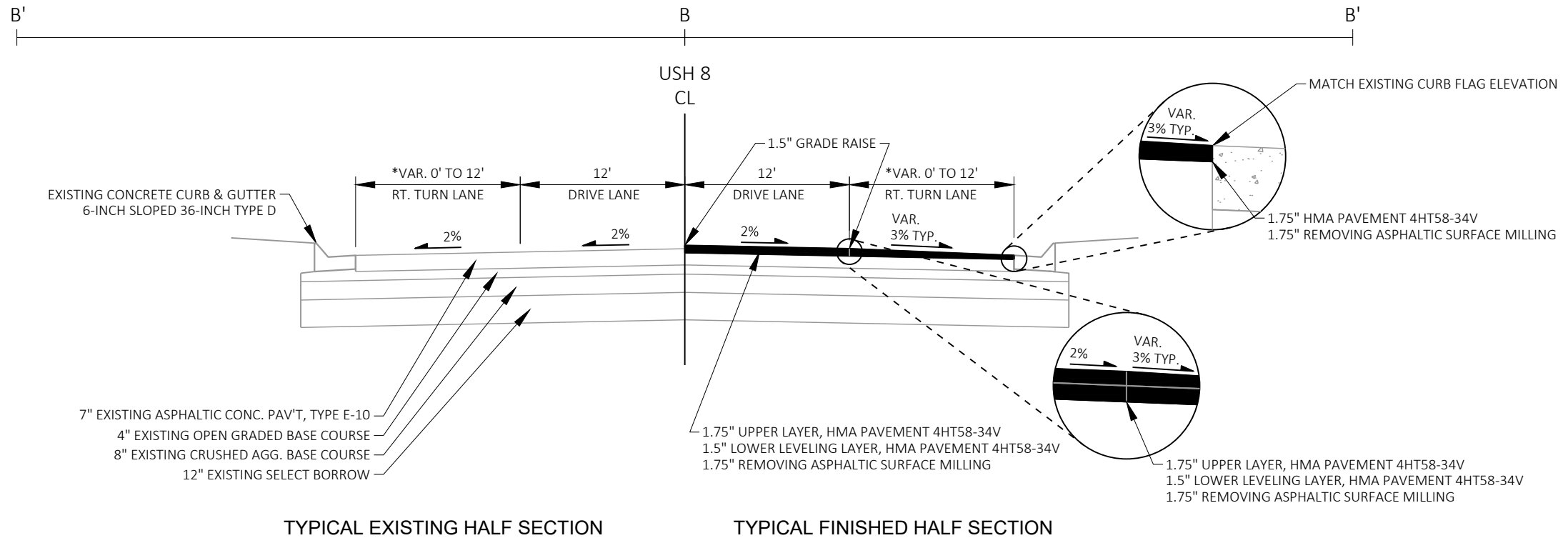
EASTBOUND RIGHT TURN LANES
 STA. 804+40 TO 814+25 RT
 STA. 821+20 TO 828+20 RT
 STA. 855+50 TO 862+50 RT
 STA. 906+10 TO 907+80 RT (TAPER ONLY)
 STA. 914+25 TO 915+20 RT (TAPER ONLY)
 STA. 935+95 TO 939+15 RT
 STA. 973+20 TO 978+80 RT
 STA. 1067+40 TO 1074+25 RT
 STA. 1099+85 TO 1104+60 RT
 STA. 1160+10 TO 1165+95 RT

TURN LANE DETAIL (PLAN VIEW)

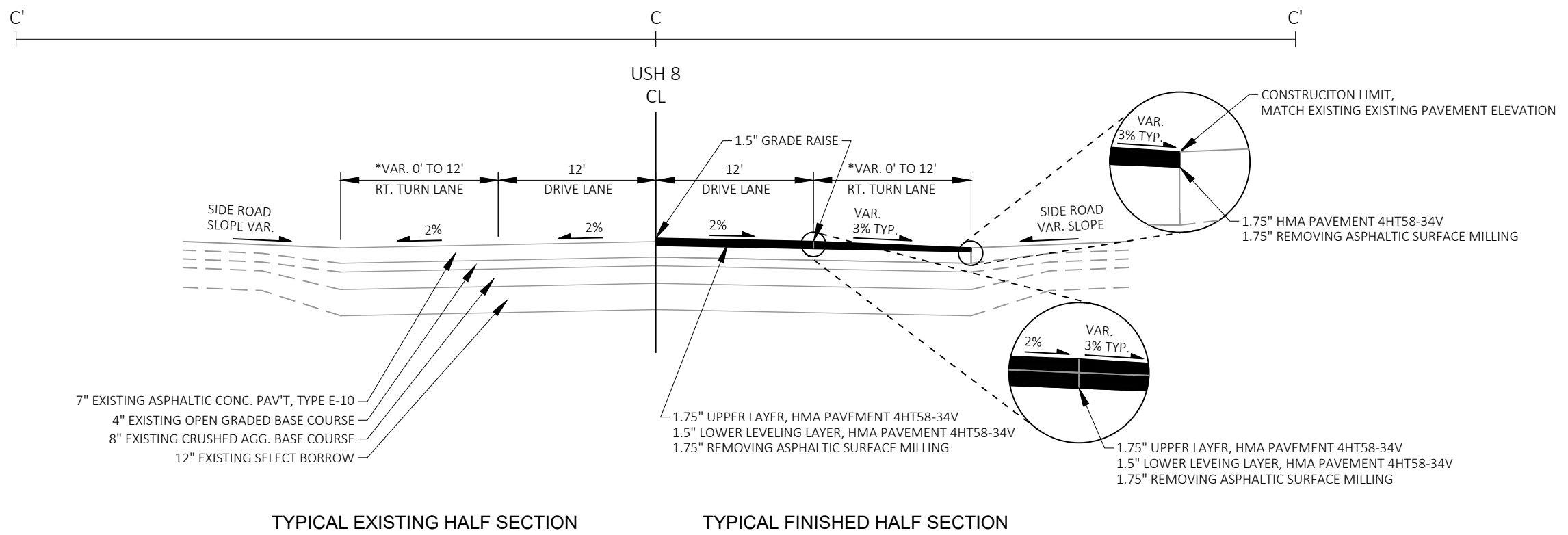


TYPICAL EXISTING HALF SECTION

TYPICAL FINISHED HALF SECTION



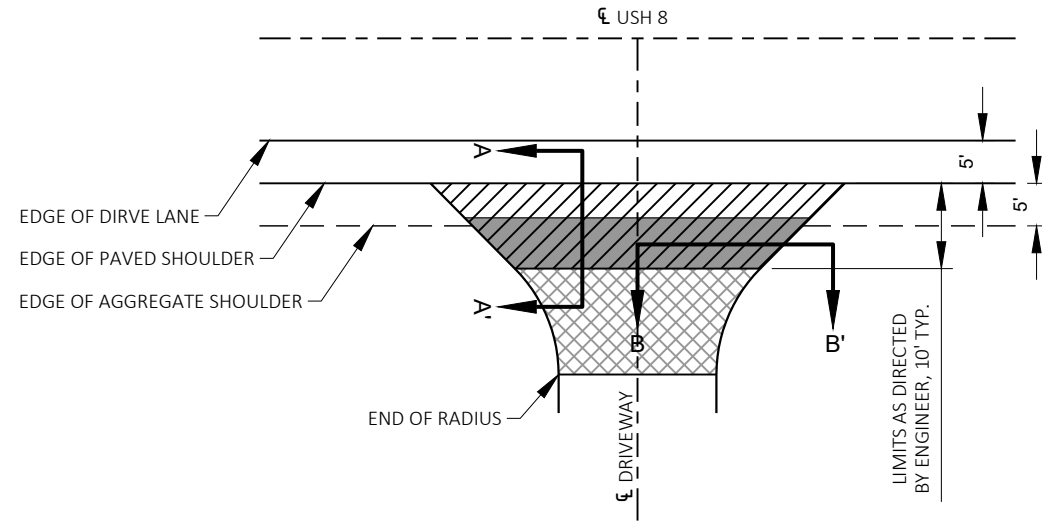
TURN LANE DETAIL (B TO B')



TURN LANE DETAIL (C TO C')

SUPER ELEVATION TABLE - USH 8

CURVE START STA.	CURVE END STA.	EXISTING SE	PROPOSED SE
739+50.78	745+60.87	NC	NC
750+08.47	752+81.30	NC	NC
812+99.80	817+72.98	NC	NC
817+72.98	822+10.07	NC	NC
837+37.17	845+68.86	NC	NC
883+64.26	893+20.70	NC	NC
893+20.70	902+76.55	NC	NC
943+30.32	945+21.33	NC	NC
971+97.83	975+91.50	NC	NC
990+66.65	996+26.93	NC	NC
1021+01.01	1023+41.20	NC	NC
1036+11.95	1044+11.42	NC	NC
1044+11.42	1052+00.46	NC	NC
1063+25.81	1069+96.82	NC	NC
1090+06.47	1094+16.16	4.6%	4.6%
1099+00.06	1111+86.74	NC	NC
1111+86.74	1121+64.53	NC	NC
1134+24.02	1136+38.80	NC	NC
1158+60.35	1165+37.38	NC	NC
1178+97.54	1180+99.61	NC	NC
1185+83.20	1195+40.81	NC	NC
1195+40.81	1204+98.06	NC	NC
1248+26.80	1251+21.28	4.0%	4.0%



RESTORE RURAL PAVED DRIVEWAY DETAIL

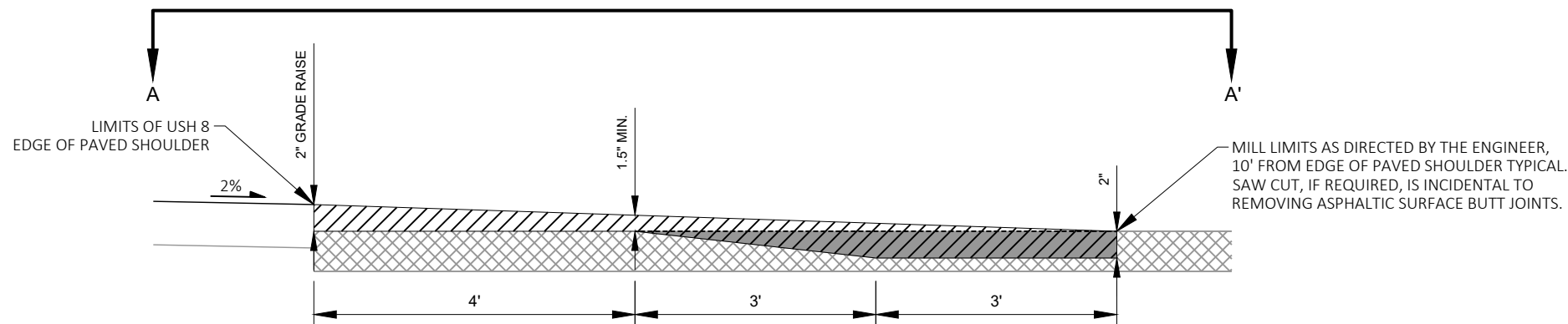
736+50 RT	790+00 RT	844+54 LT	892+30 LT	903+20 RT
904+20 LT	917+15 LT	928+05 RT	950+50 LT	965+74 LT
1041+32 LT	1050+90 RT	1065+55 RT	1182+65 LT	

LEGEND

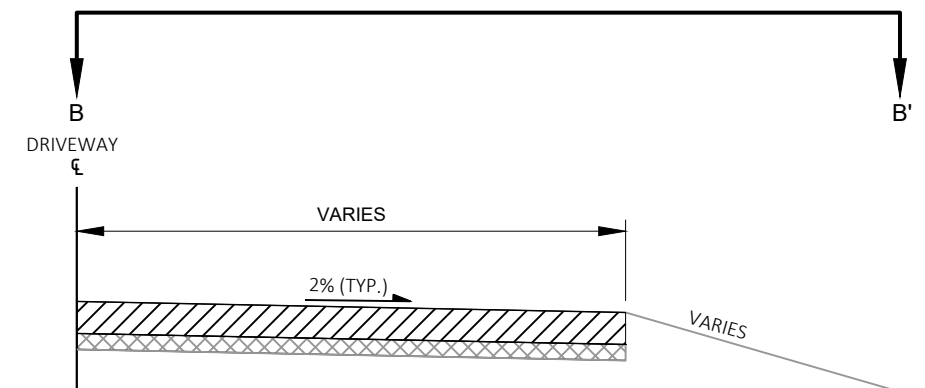
- = ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES (DEPTH VARIES, 2" TYP., 1.5" MIN.)
- = REMOVING ASPHALTIC SURFACE BUTT JOINTS
- = EXISTING ASPHALTIC DRIVEWAY

NOTES

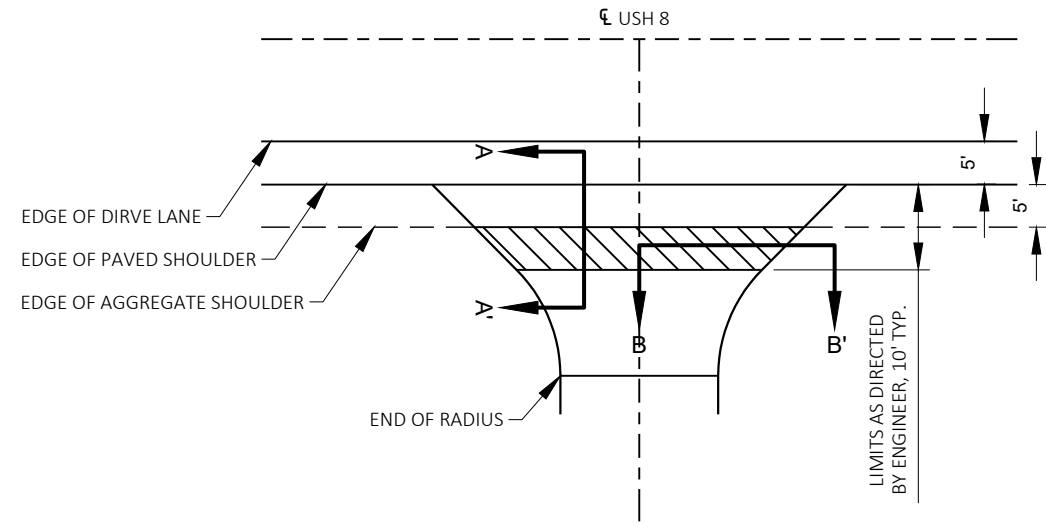
- NOT TO SCALE.
- MATCH EXISTING PAVED SURFACE WIDTH, RADII AND TAPERS.
- ANY ADDITIONAL BASE AGG. DENSE REQUIRED SHALL BE PAID UNDER ITEM 'BASE AGGREGATE DENSE 3/4-INCH'.



DETAIL OF RURAL PAVED DRIVEWAY BUTT JOINT (A-A')




TYPICAL PAVED DRIVEWAY HALF SECTION (B-B')

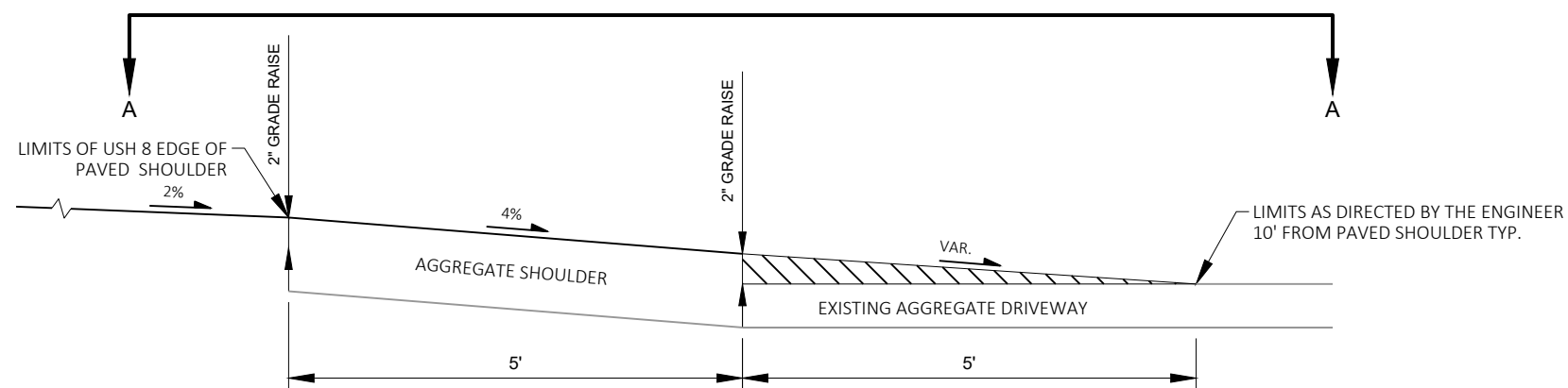


RESTORE AGGREGATE DRIVEWAY DETAIL

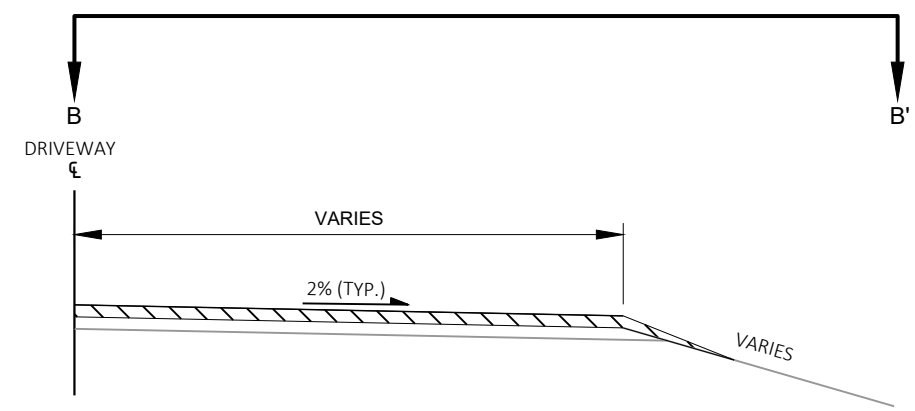
743+13 LT	795+30 LT	895+30 LT	918+90 RT	992+20 LT	1080+66 RT	1136+60 LT
743+26 RT	821+70 RT	899+80 LT	919+75 LT	992+20 RT	1083+14 LT	1150+75 RT
746+35 LT	828+45 LT	901+65 LT	924+85 RT	1018+00 RT	1085+62 LT	1150+85 LT
755+94 RT	872+67 LT	902+06 LT	926+60 LT	1022+00 LT	1089+76 RT	1198+88 RT
756+63 LT	874+00 RT	904+80 RT	942+80 LT	1032+50 RT	1102+96 LT	1201+80 LT
772+54 RT	878+70 LT	905+90 RT	957+20 LT	1051+42 LT	1105+90 RT	1206+35 RT
775+40 LT	885+00 LT	906+75 RT	957+40 RT	1065+10 LT	1108+90 RT	1208+90 LT
782+26 RT	888+32 LT	917+25 RT	972+35 LT	1065+85 RT	1118+20 LT	1240+55 LT
792+00 LT	890+50 RT	917+70 RT	988+00 LT	1080+50 LT	1130+95 RT	1242+05 LT

LEGEND

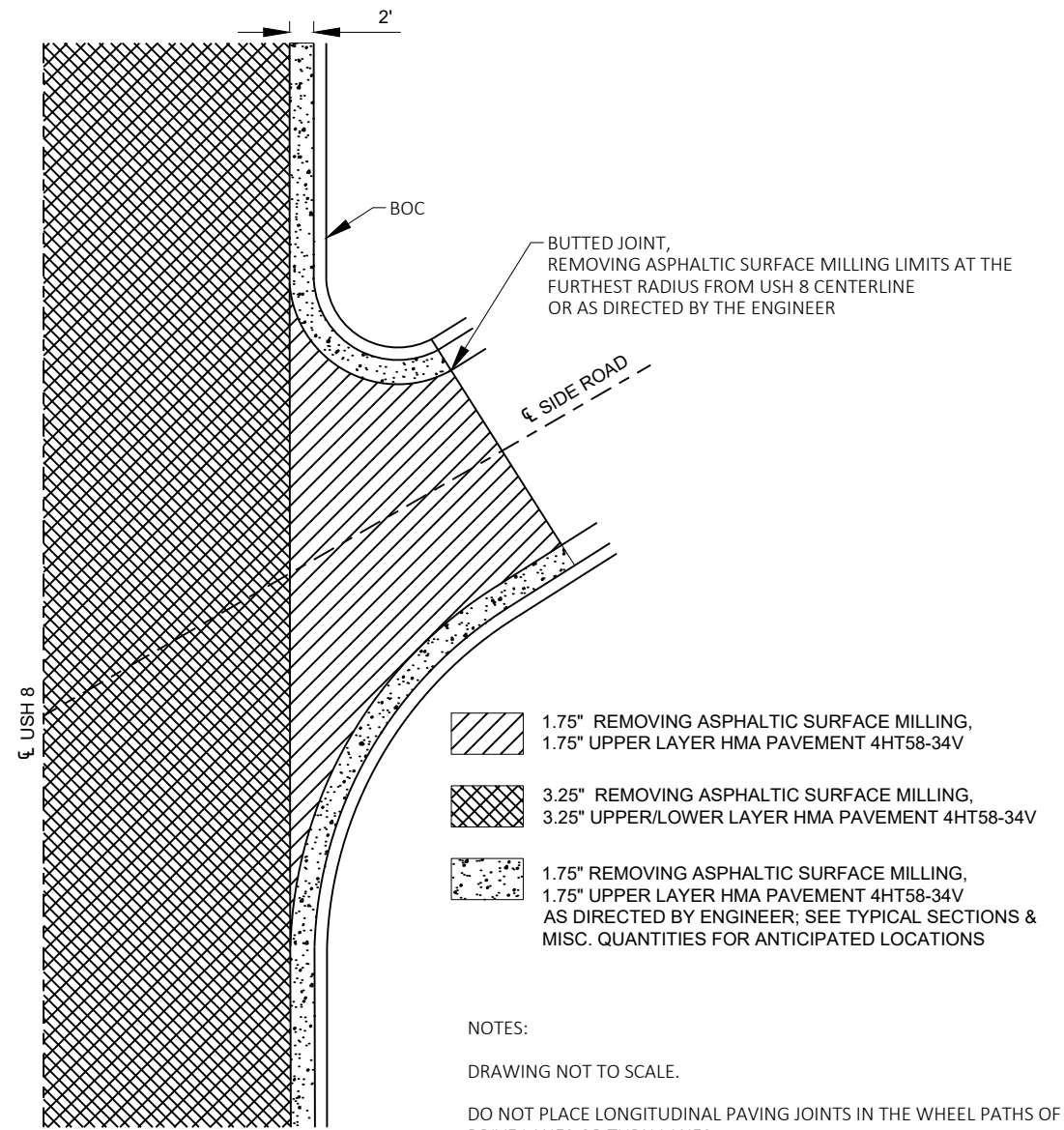
 = EACH ENTRANCE SHALL RECEIVE ADEQUATE BASE AGGREGATE DENSE 3/4-INCH AFTER MAINLINE PAVING TO BRING ENTRANCE UP TO SHOULDER PAVEMENT GRADE. MATCH EXISTING DRIVEWAY WIDTH AND RADII.



DETAIL OF RURAL AGGREGATE DRIVEWAY (A-A')

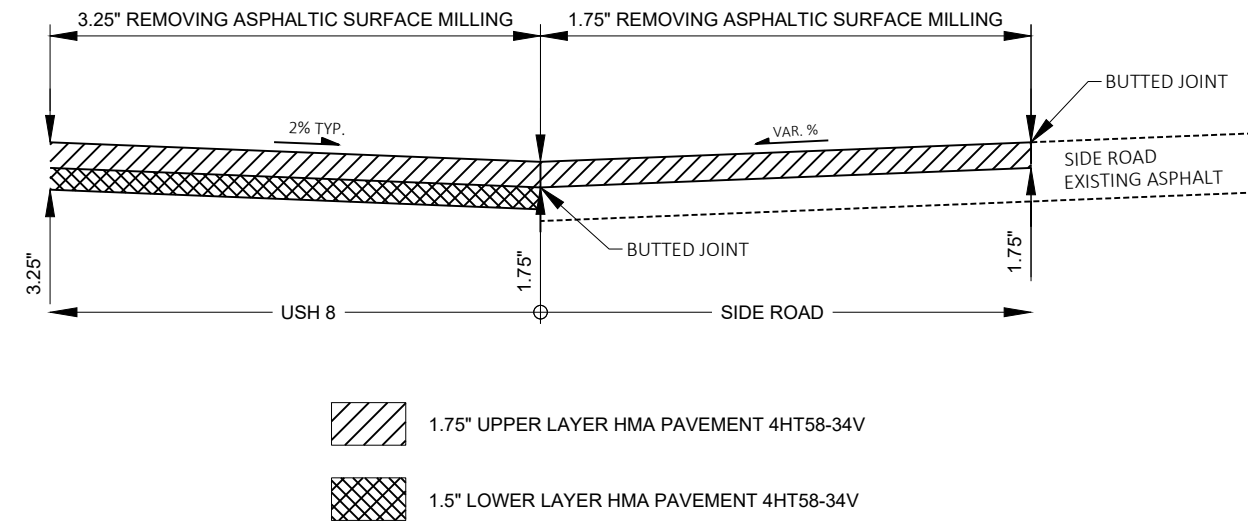


TYPICAL AGGREGATE DRIVEWAY HALF SECTION (B-B')

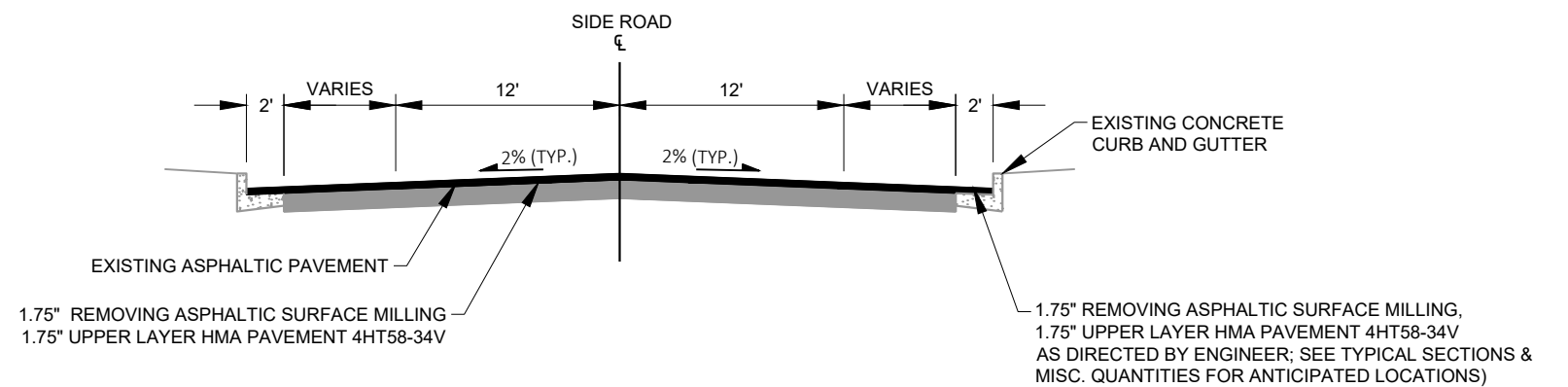


DETAIL OF PAVED SIDE ROAD - URBAN (NO MAINLINE GRADE RAISE)

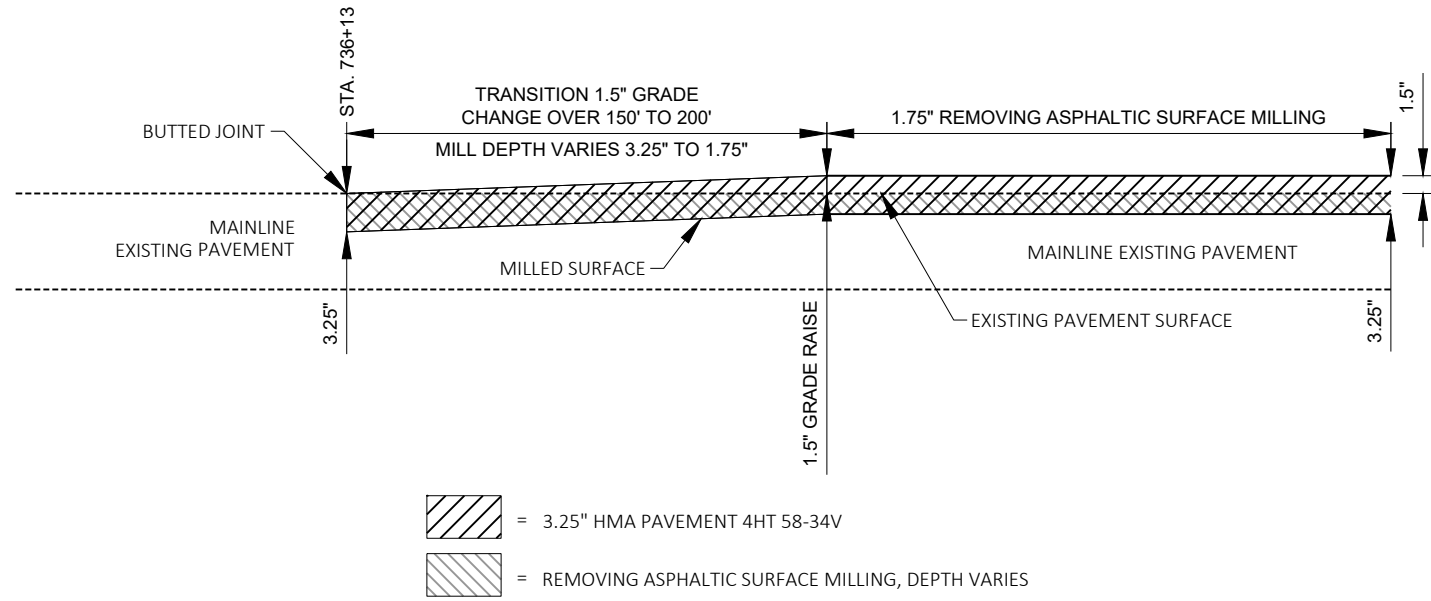
- 1217+39 LT (CTH T)
- 1217+33 RT (USH 63)
- 1230+76 RT (WESTERN BLVD)
- 1237+60 RT (PROSSER AVE)
- 1246+30 RT (PROSSER AVE)
- 1250+85 RT (PROSSER AVE)
- 1251+01 LT (FRONT AVE)



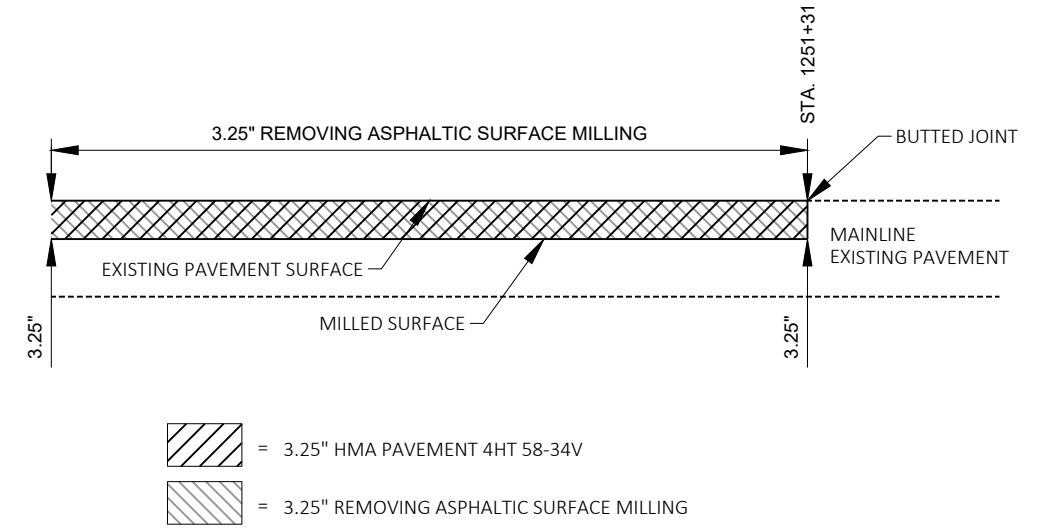
DETAIL OF PAVED SIDE ROAD BUTTED JOINT - URBAN (NO GRADE RAISE)



TYPICAL PAVED SIDE ROAD SECTION - URBAN

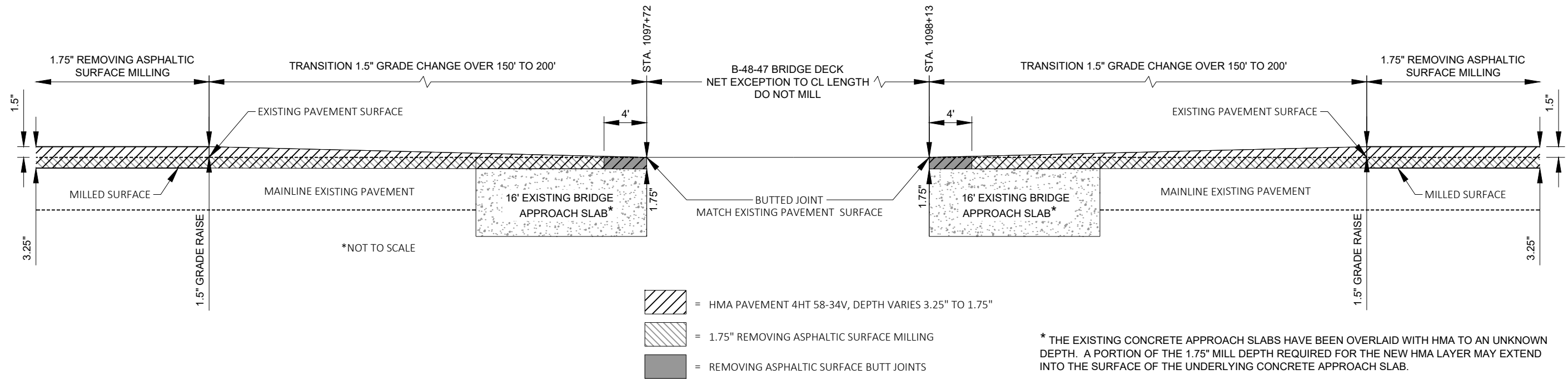


DETAIL OF MAINLINE BUTT JOINT - BEGIN PROJECT (1.5" GRADE RAISE)



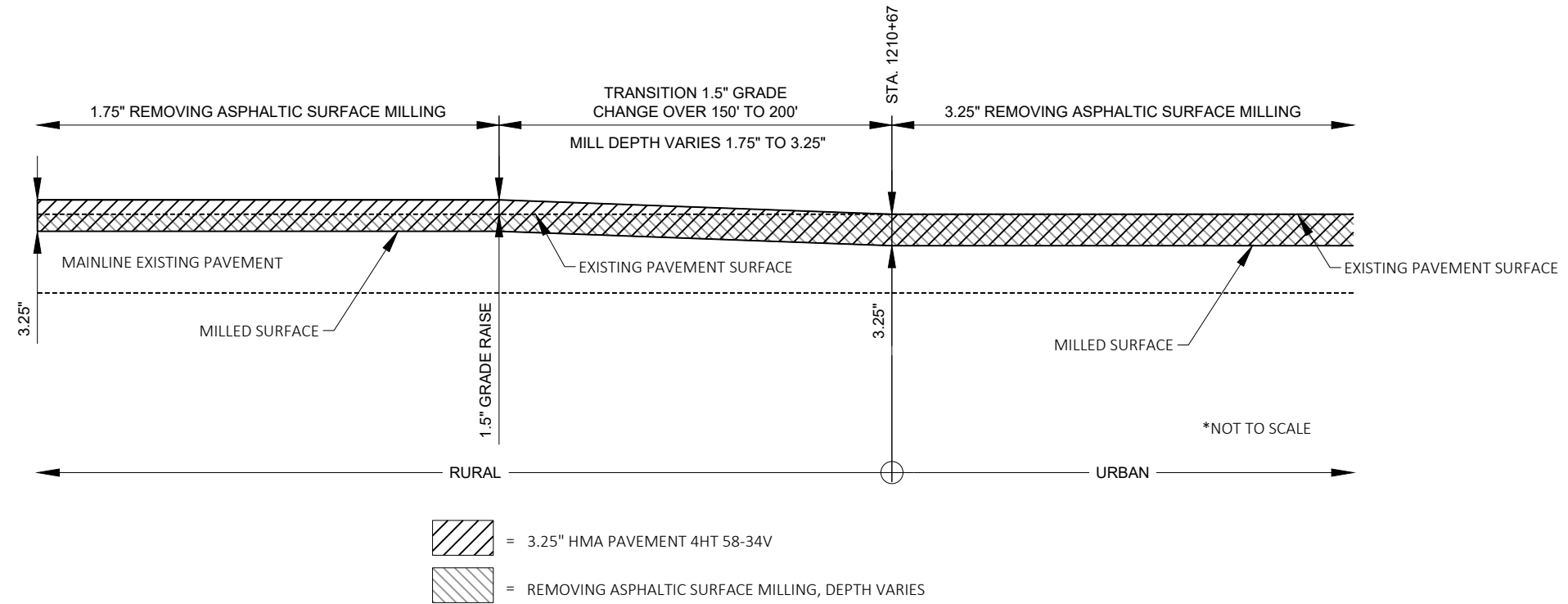
DETAIL OF MAINLINE BUTT JOINT - END PROJECT (NO GRADE RAISE)

NOTES:
 NOT TO SCALE
 EXACT DIMENSIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
 INSTALLATION AND REMOVAL OF TEMPORARY BUTT JOINT RAMP OR WEDGE IS INCIDENTAL TO THE WORK. ASPHALTIC SURFACE PATCHING REQUIRED FOR TEMPORARY BUTT JOINT RAMPS OR WEDGES WILL BE PAID FOR SEPARATELY.



DETAIL OF MAINLINE BUTT JOINT AT BRIDGE

* THE EXISTING CONCRETE APPROACH SLABS HAVE BEEN OVERLAID WITH HMA TO AN UNKNOWN DEPTH. A PORTION OF THE 1.75" MILL DEPTH REQUIRED FOR THE NEW HMA LAYER MAY EXTEND INTO THE SURFACE OF THE UNDERLYING CONCRETE APPROACH SLAB.

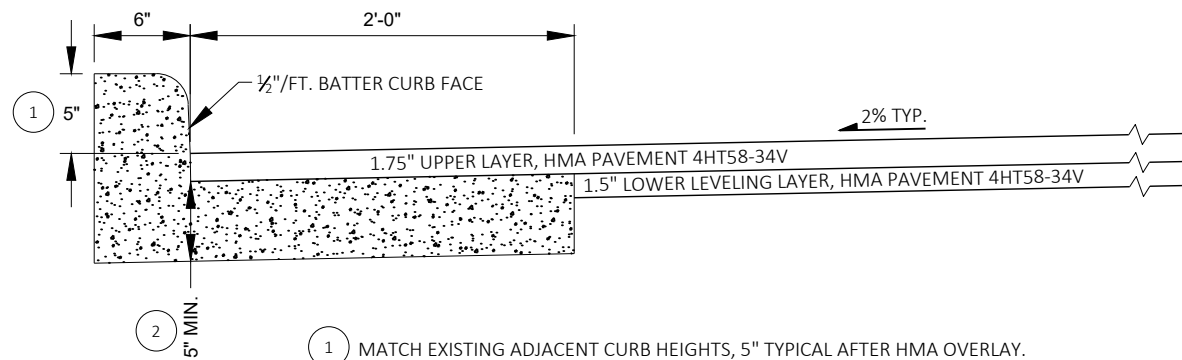


DETAIL OF PAVEMENT GRADE TRANSITION - RURAL TO URBAN

NOTES:

EXACT DIMENSIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

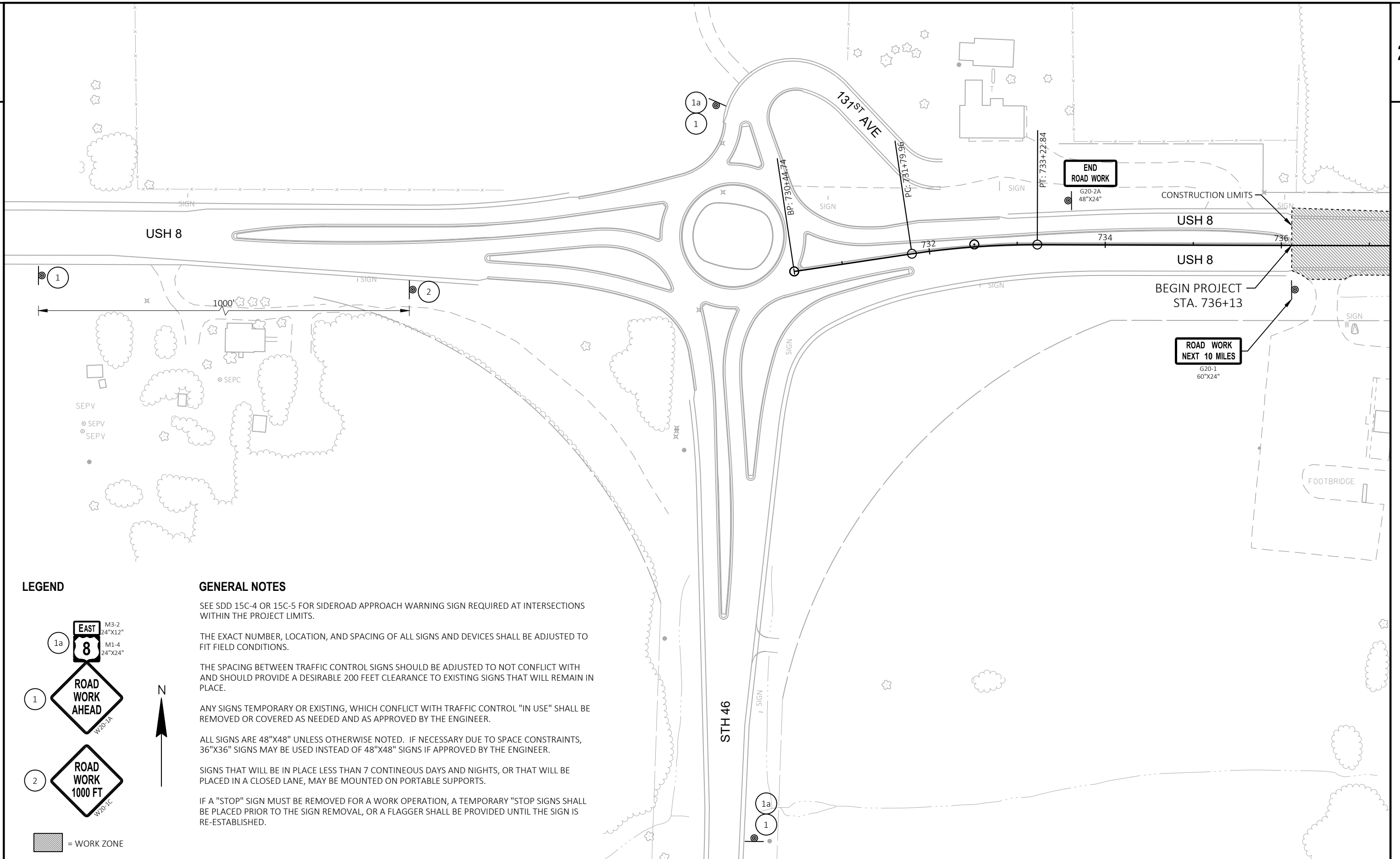
INSTALLATION AND REMOVAL OF TEMPORARY BUTT JOINT RAMP OR WEDGE IS INCIDENTAL TO THE WORK. ASPHALTIC SURFACE PATCHING REQUIRED FOR TEMPORARY BUTT JOINT RAMPS OR WEDGES WILL BE PAID FOR SEPARATELY.



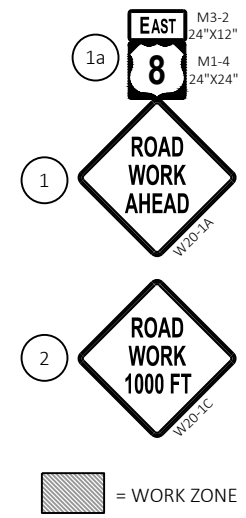
- ① MATCH EXISTING ADJACENT CURB HEIGHTS, 5" TYPICAL AFTER HMA OVERLAY.
- ② WHERE NEW CONCRETE CURB AND GUTTER IS BEING PLACED IN LOCATIONS WHERE ADJACENT GUTTER PAN IS BEING OVERLAYED, REDUCE TYPICAL THICKNESS OF TYPE D CONCRETE GUTTER PAN TO ALLOW PLACEMENT OF A 1.75" UPPER LAYER HMA PAVEMENT.

THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE OVERLYING HMA PAVEMENT; MINIMUM CONCRETE THICKNESS = 5".

**DETAIL OF NEW CONCRETE CURB & GUTTER WITH HMA OVERLAY
(MODIFIED 30" TYPE D SHOWN)**



LEGEND



GENERAL NOTES

SEE SDD 15C-4 OR 15C-5 FOR SIDEROAD APPROACH WARNING SIGN REQUIRED AT INTERSECTIONS WITHIN THE PROJECT LIMITS.

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

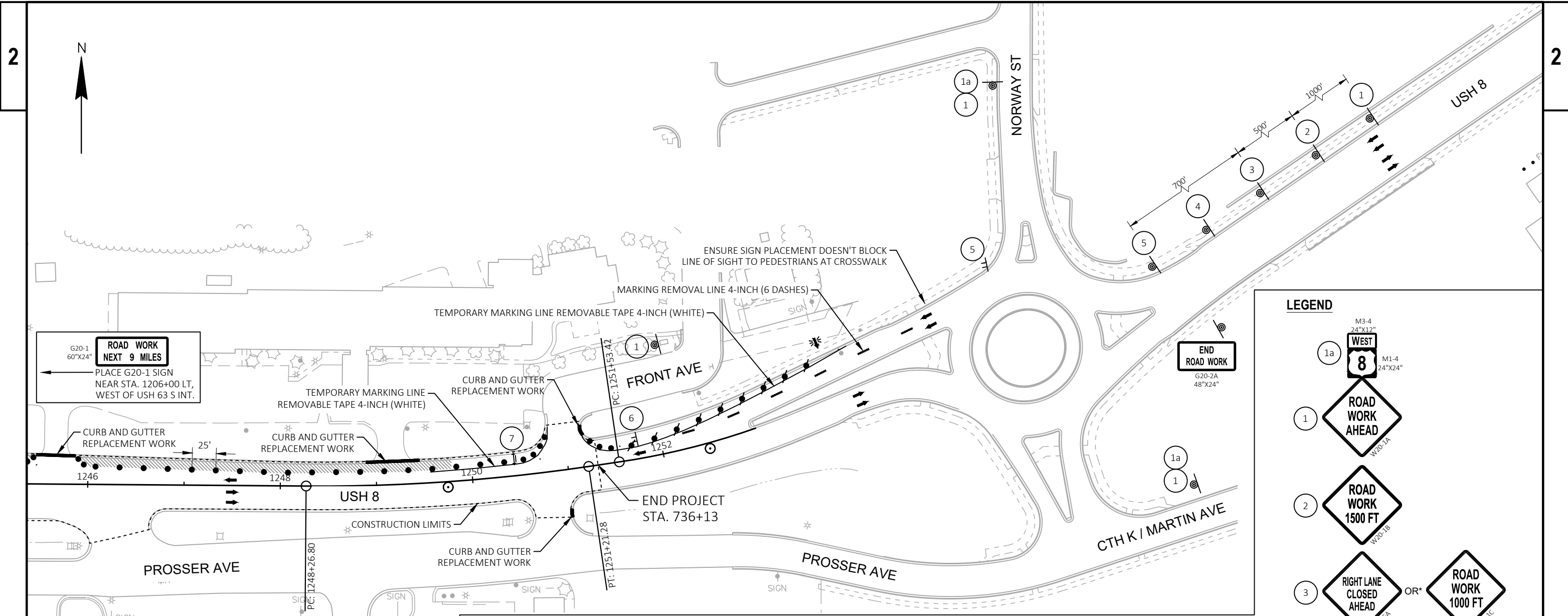
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS IF APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINEOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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



G20-1
60"x24"
**ROAD WORK
NEXT 9 MILES**
PLACE G20-1 SIGN
NEAR STA. 1206+00 LT,
WEST OF USH 63 S INT.

**END
ROAD WORK**
G20-2A
48"x24"

LEGEND

- 1a M3-4 24"x12" WEST 8 M1-4 24"x24"
- 1 ROAD WORK AHEAD W20-1A
- 2 ROAD WORK 1500 FT W20-1B
- 3 RIGHT LANE CLOSED AHEAD W20-5A OR* ROAD WORK 1000 FT W20-1C
- 4 ROAD WORK NEXT 10 MILES G20-1 60"x24"
- 5 W4-2R
- 6 BEGIN RIGHT TURN LANE R3-20R 24"x36"
- 7 LANE CLOSED R11-2L 48"x30"

*USE W20-5A SIGN WHEN LANE CLOSURE IS PRESENT

GENERAL NOTES

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

WHEN THE LANE CLOSURE IS NOT IN PLACE, REPLACE THE W20-5A AND W4-2R SIGNS WITH W20-1C AND W20-1(MOD) SIGNS, RESPECTIVELY.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS IF APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

SEE SDD 'TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREWAY/EXPRESSWAY' FOR ADDITIONAL LANE CLOSURE TRAFFIC CONTROL REQUIRED WEST OF THIS DETAIL SHEET.

SEE SDD 15C-4 OR 15C-5 FOR SIDEROAD APPROACH WARNING SIGN REQUIRED AT INTERSECTIONS WITHIN THE PROJECT LIMITS.

- WORK ZONE FOR SPOT CURB AND GUTTER REPLACEMENT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD

LEGEND:

① = PLACE 'BUMP' SIGN AT PROFILE CHANGE EXCEEDING ONE INCH.



[Hatched pattern] = UPPER LAYER HMA

[Diagonal hatched pattern] = LOWER LAYER HMA

[Dotted pattern] = MILLED SURFACE

[Solid grey pattern] = SHOULDER WIDENING

[Arrow] = DIRECTION OF TRAFFIC

[T-shaped symbol] = SIGN ON TEMPORARY SUPPORT

NOTES:

DRAWING NOT TO SCALE.

PLACE 'UNEVEN LANES' AND 'DO NOT PASS' SIGNS WHEN LONGITUDINAL ELEVATION CHANGES OF 1/2-INCH OR GREATER ARE LEFT OVERNIGHT. PLACE ADDITIONAL SIGNS AT 1-MILE INTERVALS OR AS DIRECTED BY THE ENGINEER.

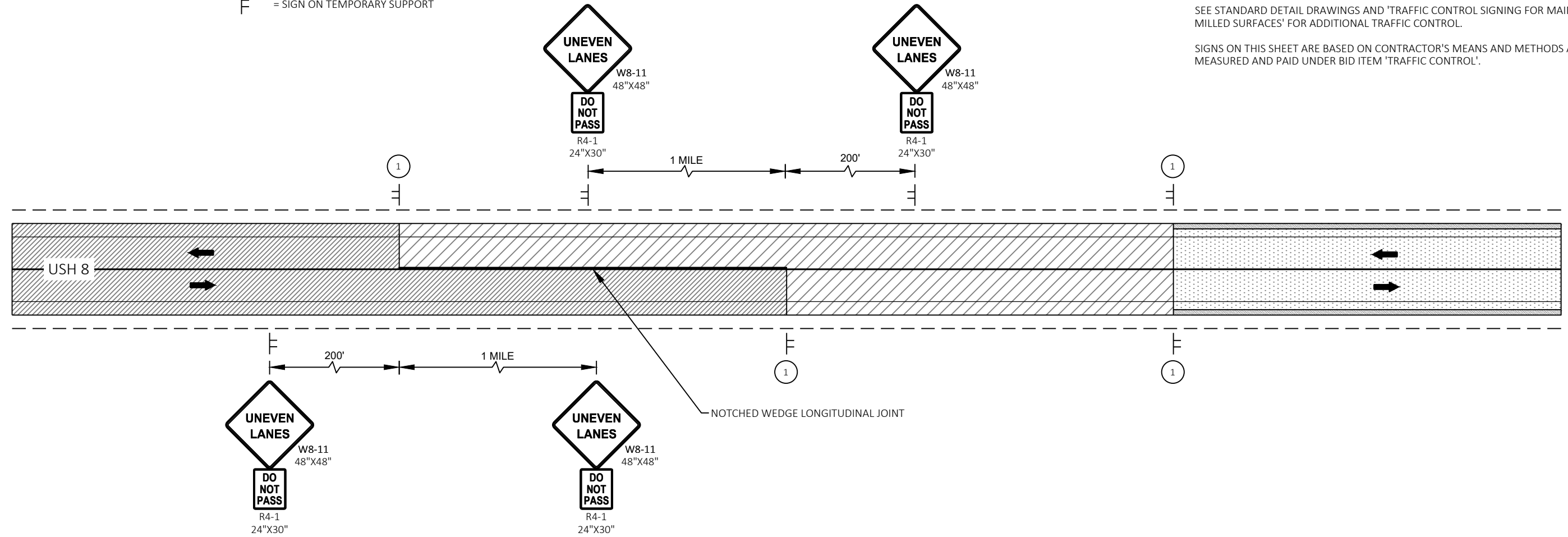
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS, THE SPECIAL PROVISIONS, AND/OR AS DIRECTED BY THE ENGINEER.

SEE STANDARD DETAIL DRAWINGS AND 'TRAFFIC CONTROL SIGNING FOR MAINLINE MILLED SURFACES' FOR ADDITIONAL TRAFFIC CONTROL.

SIGNS ON THIS SHEET ARE BASED ON CONTRACTOR'S MEANS AND METHODS AND ARE MEASURED AND PAID UNDER BID ITEM 'TRAFFIC CONTROL'.



TRAFFIC CONTROL SIGNING FOR UNEVEN SURFACES

NOTES:

DRAWING NOT TO SCALE.

PLACE 'GROOVED PAVEMENT' AND '45 MPH' SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1-MILE INTERVALS OR AS DIRECTED BY THE ENGINEER.

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

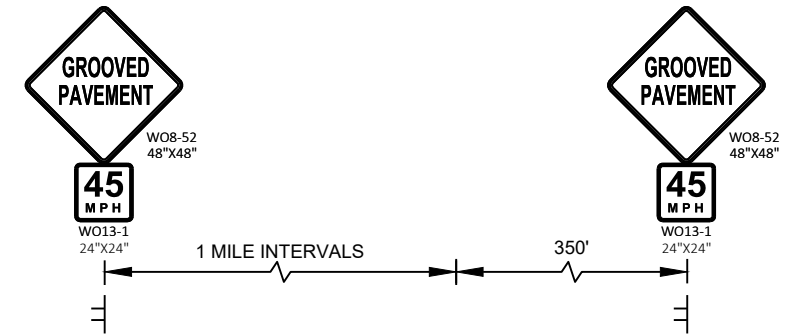
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS, THE SPECIAL PROVISIONS, AND/OR AS DIRECTED BY THE ENGINEER.

'45 MPH' (WO13-1) SIGNS ONLY REQUIRED WHERE THE POSTED SPEED IS GREATER THAN 45 MPH.

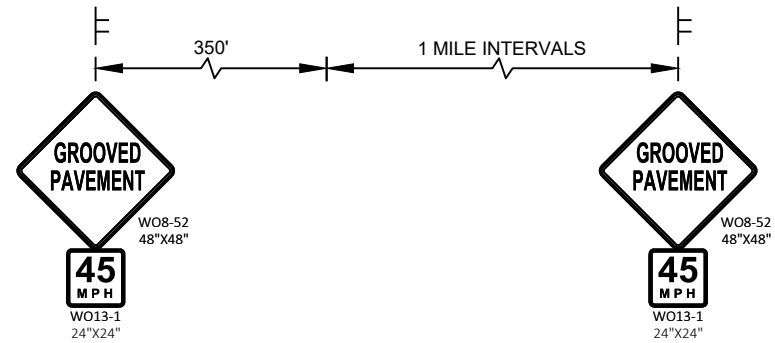
SEE STANDARD DETAIL DRAWINGS AND 'TRAFFIC CONTROL SIGNING FOR UNEVEN SURFACES' FOR ADDITIONAL TRAFFIC CONTROL.

SIGNS ON THIS SHEET SHALL BE MEASURED AND PAID FOR WITH THE 'TRAFFIC CONTROL SIGNS' BID ITEM.



USH 8

MILLED SURFACE



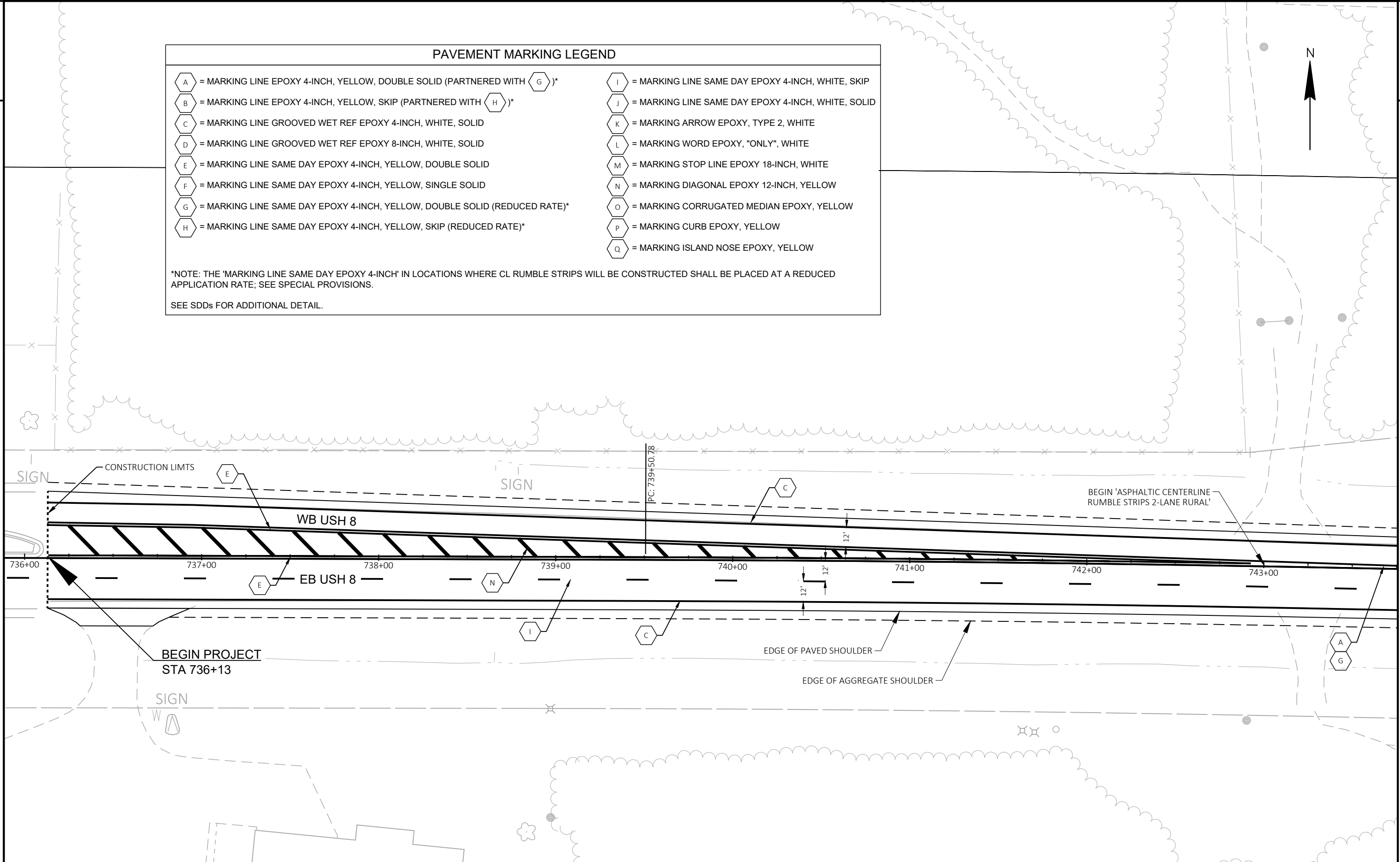
TRAFFIC CONTROL SIGNING FOR MAINLINE MILLED SURFACES

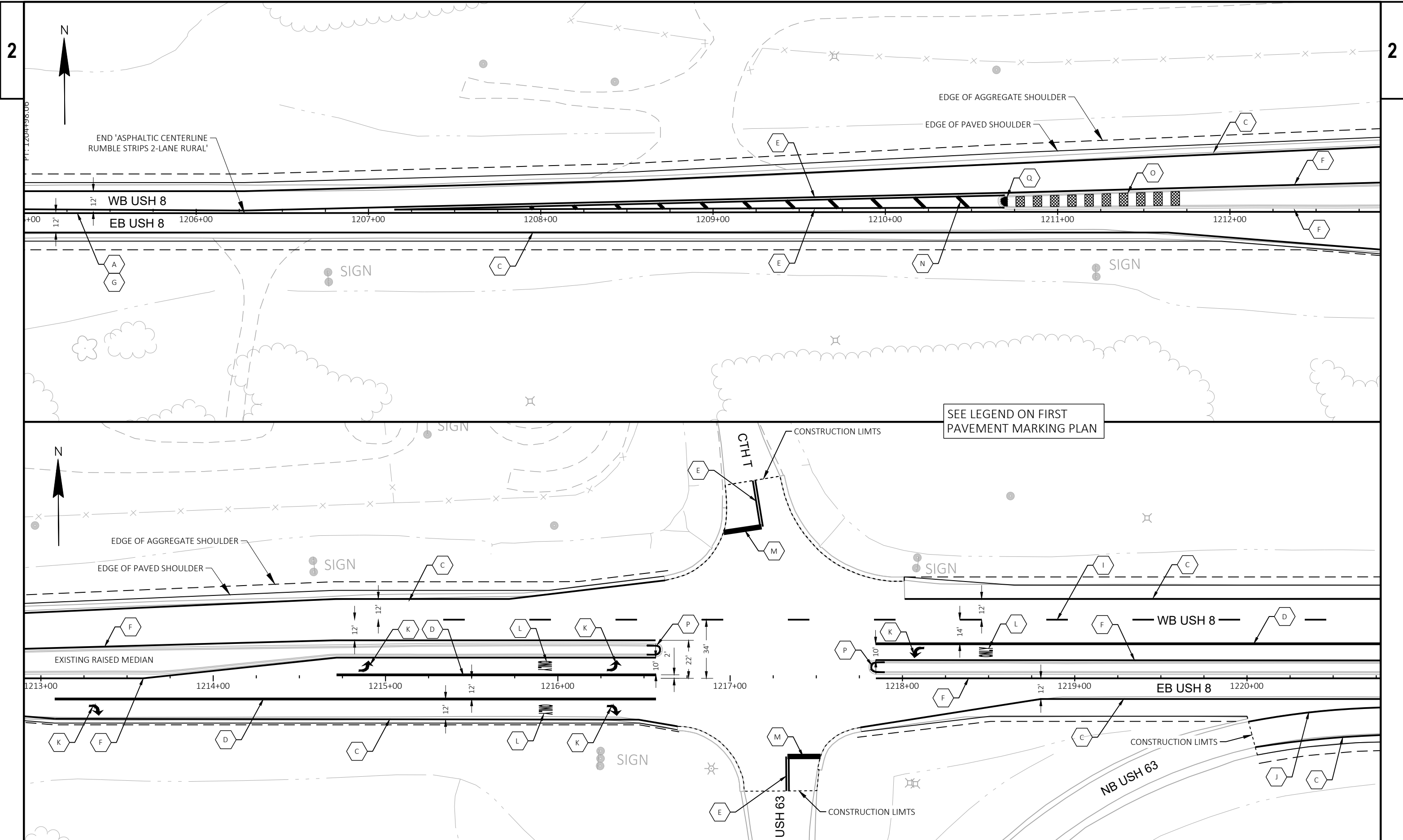
PAVEMENT MARKING LEGEND

- | | |
|--|--|
| = MARKING LINE EPOXY 4-INCH, YELLOW, DOUBLE SOLID (PARTNERED WITH)* | = MARKING LINE SAME DAY EPOXY 4-INCH, WHITE, SKIP |
| = MARKING LINE EPOXY 4-INCH, YELLOW, SKIP (PARTNERED WITH)* | = MARKING LINE SAME DAY EPOXY 4-INCH, WHITE, SOLID |
| = MARKING LINE GROOVED WET REF EPOXY 4-INCH, WHITE, SOLID | = MARKING ARROW EPOXY, TYPE 2, WHITE |
| = MARKING LINE GROOVED WET REF EPOXY 8-INCH, WHITE, SOLID | = MARKING WORD EPOXY, "ONLY", WHITE |
| = MARKING LINE SAME DAY EPOXY 4-INCH, YELLOW, DOUBLE SOLID | = MARKING STOP LINE EPOXY 18-INCH, WHITE |
| = MARKING LINE SAME DAY EPOXY 4-INCH, YELLOW, SINGLE SOLID | = MARKING DIAGONAL EPOXY 12-INCH, YELLOW |
| = MARKING LINE SAME DAY EPOXY 4-INCH, YELLOW, DOUBLE SOLID (REDUCED RATE)* | = MARKING CORRUGATED MEDIAN EPOXY, YELLOW |
| = MARKING LINE SAME DAY EPOXY 4-INCH, YELLOW, SKIP (REDUCED RATE)* | = MARKING CURB EPOXY, YELLOW |
| | = MARKING ISLAND NOSE EPOXY, YELLOW |

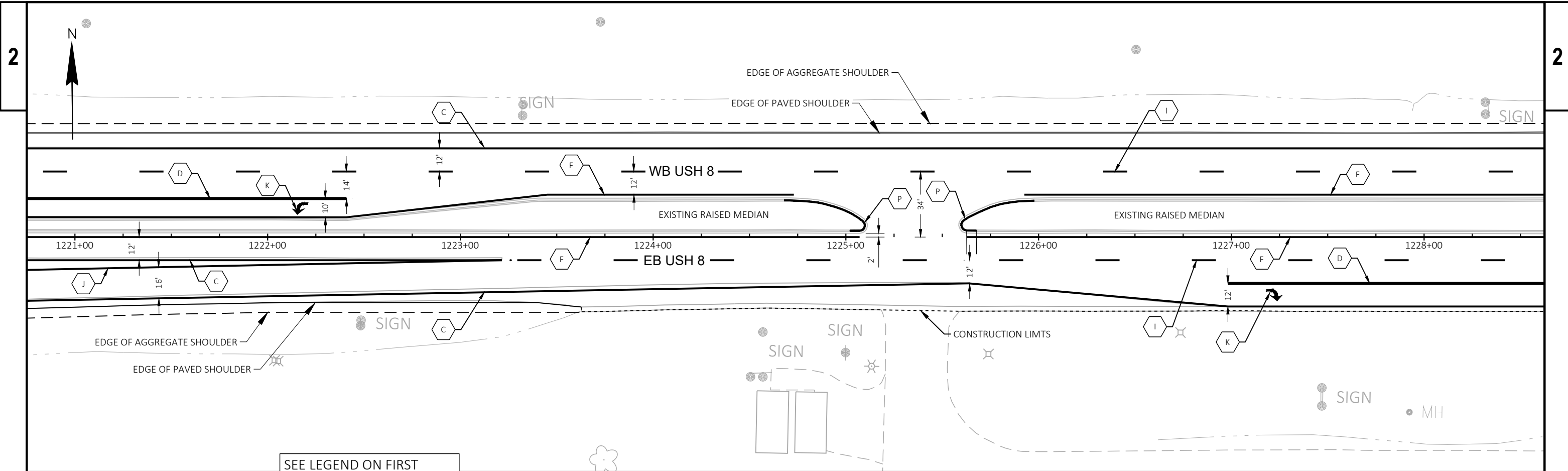
*NOTE: THE 'MARKING LINE SAME DAY EPOXY 4-INCH' IN LOCATIONS WHERE CL RUMBLE STRIPS WILL BE CONSTRUCTED SHALL BE PLACED AT A REDUCED APPLICATION RATE; SEE SPECIAL PROVISIONS.

SEE SDDs FOR ADDITIONAL DETAIL.

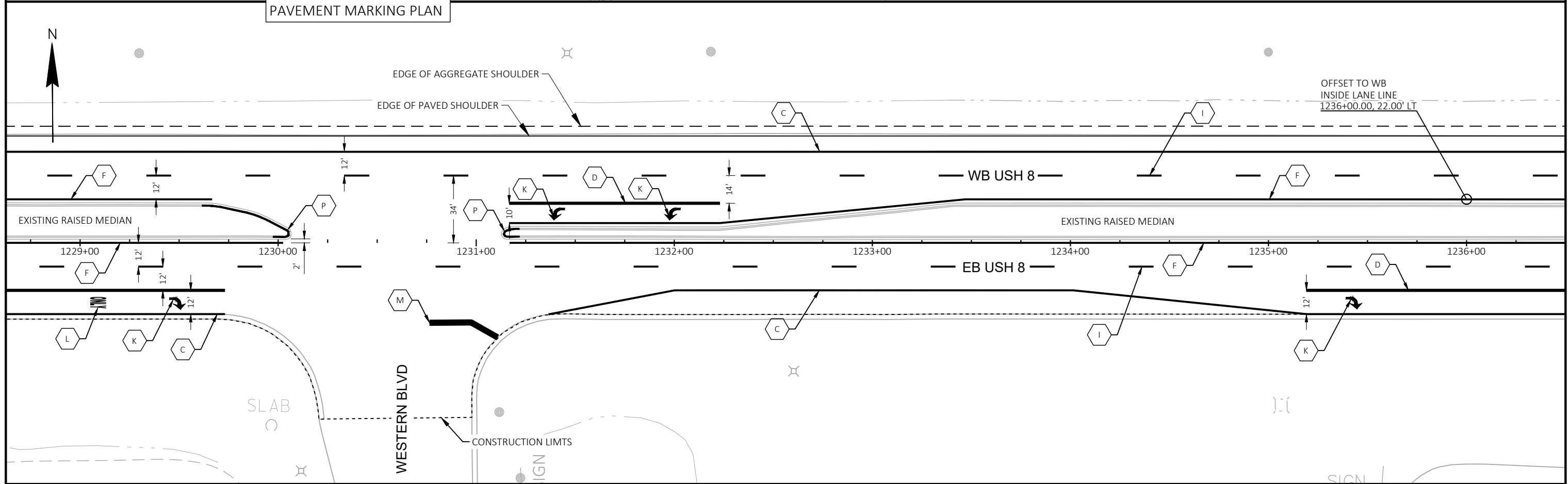




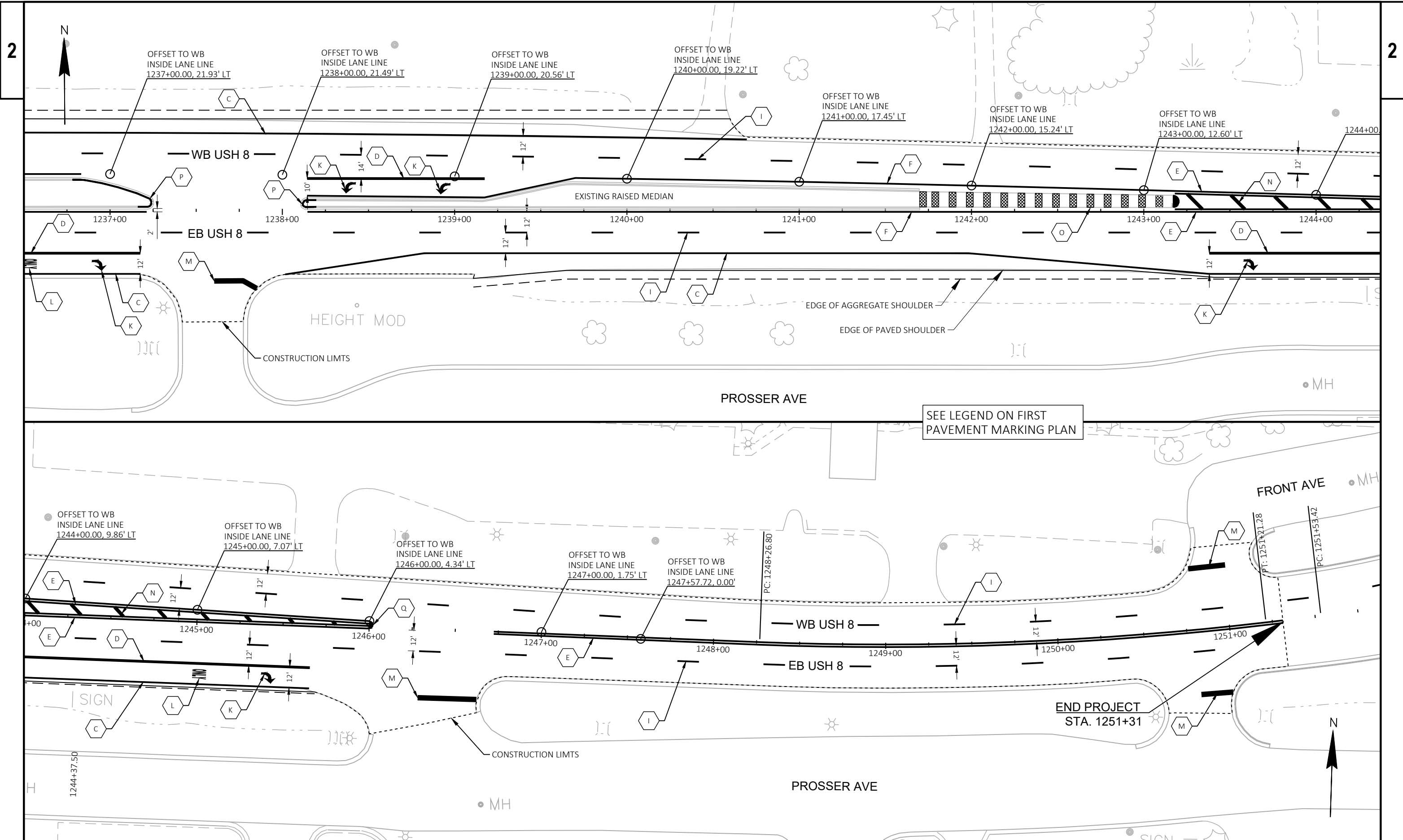
PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PAVEMENT MARKING	SHEET	E
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SEE LEGEND ON FIRST PAVEMENT MARKING PLAN



PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PAVEMENT MARKING	SHEET	E
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Estimate Of Quantities

		1570-00-74	1570-00-77			
Line	Item	Item Description	Unit	Total	Qty	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000	
0004	204.0110	Removing Asphaltic Surface	SY	105.000	105.000	
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	392.000	392.000	
0008	204.0120	Removing Asphaltic Surface Milling	SY	236,396.000	236,396.000	
0010	204.0150	Removing Curb & Gutter	LF	192.000	192.000	
0012	204.0165	Removing Guardrail	LF	380.000	380.000	
0014	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1570-00-74	LS	1.000	1.000	
0016	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	926.000	60.000	866.000
0018	213.0100	Finishing Roadway (project) 01. 1570-00-74	EACH	1.000	1.000	
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	11,502.000	11,502.000	
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	19.000	19.000	
0024	455.0605	Tack Coat	GAL	29,618.000	28,668.000	950.000
0026	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000	
0028	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000	
0030	460.2005	Incentive Density PWL HMA Pavement	DOL	12,630.000	12,630.000	
0032	460.2010	Incentive Air Voids HMA Pavement	DOL	46,210.000	46,210.000	
0034	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	84,456.000	84,456.000	
0036	460.7644	HMA Pavement 4 HT 58-34 V	TON	46,203.000	42,747.000	3,456.000
0038	465.0105	Asphaltic Surface	TON	400.000	400.000	
0040	465.0110	Asphaltic Surface Patching	TON	27.000	27.000	
0042	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	76.000	76.000	
0044	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	79,452.000		79,452.000
0046	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	41,630.000	41,630.000	
0048	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000	
0050	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	16.000	16.000	
0052	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	135.000	135.000	
0054	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	57.000	57.000	
0056	614.2300	MGS Guardrail 3	LF	50.000	50.000	
0058	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600	
0060	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000	
0062	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1570-00-74	EACH	1.000	1.000	
0064	619.1000	Mobilization	EACH	1.000	0.900	0.100
0066	624.0100	Water	MGAL	173.000	173.000	
0068	633.5200	Markers Culvert End	EACH	10.000	10.000	
0070	642.5001	Field Office Type B	EACH	1.000	1.000	
0072	643.0300	Traffic Control Drums	DAY	3,584.000	3,584.000	
0074	643.0420	Traffic Control Barricades Type III	DAY	14.000	14.000	
0076	643.0715	Traffic Control Warning Lights Type C	DAY	70.000	70.000	

Estimate Of Quantities

		1570-00-74		1570-00-77	
Line	Item	Item Description	Unit	Total	Qty
0078	643.0800	Traffic Control Arrow Boards	DAY	7.000	7.000
0080	643.0900	Traffic Control Signs	DAY	9,395.000	9,395.000
0082	643.5000	Traffic Control	EACH	1.000	1.000
0084	646.1020	Marking Line Epoxy 4-Inch	LF	57,751.000	57,751.000
0086	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	101,471.000	101,471.000
0088	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	5,065.000	5,065.000
0090	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	78,134.000	78,134.000
0092	646.5020	Marking Arrow Epoxy	EACH	44.000	44.000
0094	646.5120	Marking Word Epoxy	EACH	17.000	17.000
0096	646.6120	Marking Stop Line Epoxy 18-Inch	LF	179.000	179.000
0098	646.7120	Marking Diagonal Epoxy 12-Inch	LF	451.000	451.000
0100	646.8020	Marking Corrugated Median Epoxy	SF	836.000	836.000
0102	646.8120	Marking Curb Epoxy	LF	300.000	300.000
0104	646.8220	Marking Island Nose Epoxy	EACH	2.000	2.000
0106	646.9000	Marking Removal Line 4-Inch	LF	75.000	75.000
0108	649.0105	Temporary Marking Line Paint 4-Inch	LF	130,571.000	130,571.000
0110	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	450.000	450.000
0112	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	192.000	192.000
0114	650.8000	Construction Staking Resurfacing Reference	LF	51,477.000	51,477.000
0116	650.9910	Construction Staking Supplemental Control (project) 01. 1570-00-74	LS	1.000	1.000
0118	690.0150	Sawing Asphalt	LF	325.000	325.000
0120	690.0250	Sawing Concrete	LF	30.000	30.000
0122	740.0440	Incentive IRI Ride	DOL	50,759.000	50,759.000
0124	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0126	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	630.000	630.000
0128	SPV.0090	Special 01. Concrete Curb and Gutter Cure and Seal Treatment	LF	192.000	192.000
0130	SPV.0105	Special 01. Material Transfer Vehicle (Project 1570-00- 74)	LS	1.000	1.000
0132	SPV.0105	Special 02. Milling and Removing Temporary Joint (Project 1570-00-74)	LS	1.000	1.000

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	203.0100 EACH	REMARKS
PROJECT 1570-00-74				
0010	778+03	18'-34' RT	1	PARTIAL REMOVAL, SAWCUTS REQUIRED
PROJECT 1570-00-74 CATEGORY 0010 TOTAL			<u>1</u>	
CONTRACT CATEGORY 0010 TOTAL			<u>1</u>	

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	204.0110 SY	REMARKS
PROJECT 1570-00-74						
0010	777+93	-	778+13	RT	30	FOR CULVERT REPAIR
0010	1216+75	-	1217+75	LT	15	FOR CURB AND GUTTER REPLACEMENT - CTH T SIDEROAD
0010	1241+94	-	1242+24	LT	15	FOR DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1245+46	-	1245+86	LT	18	FOR DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1248+90	-	1249+45	LT	24	FOR DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1251+15	-	1251+20	LT	3	FOR CURB & GUTTER REPLACEMENT - FRONT AVE, EAST RADIUS
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					<u>105</u>	
CONTRACT CATEGORY 0010 TOTAL					<u>105</u>	

MILLING REMOVAL SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	LENGTH (FT)	WIDTH (FT)	SF	SY	MILLING DEPTH (IN)	REMOVING ASPHALTIC	REMOVING ASPHALTIC	REMARKS
										SURFACE BUTT JOINTS 204.0115	SURFACE MILLING 204.0120	
PROJECT 1570-00-74												
RURAL SEGMENT												
0010	736+13	-	744+00	LT & RT	787	64-42	39870	4430	1.75	-	4430	DRIVE LANES, PAVED MEDIAN, EXISTING SHOULDER WIDTH
0010	744+00	-	794+00	LT & RT	5000	42	210000	23333	1.75	-	23333	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE
0010	794+00	-	801+00	LT & RT	700	42-30	25200	2800	1.75	-	2800	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	801+00	-	815+50	LT & RT	1450	30	43500	4833	1.75	-	4833	DRIVE LANES, EXISTING SHOULDER WIDTH
0010	815+50	-	822+50	LT & RT	700	30-42	25200	2800	1.75	-	2800	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	822+50	-	884+00	LT & RT	6150	42	258300	28700	1.75	-	28700	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE
0010	884+00	-	891+00	LT & RT	700	42-30	25200	2800	1.75	-	2800	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	891+00	-	907+80	LT & RT	1680	30	50400	5600	1.75	-	5600	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	907+80	-	915+50	LT & RT	770	24	18480	2053	1.75	-	2053	RANGE - DIRVE LANES (SEE BELOW FOR SHOULDER/TURN LANE QTY.)
0010	915+50	-	993+00	LT & RT	7750	30	232500	25833	1.75	-	25833	DRIVE LANES, EXISTING SHOULDER WIDTH
0010	993+00	-	1000+00	LT & RT	700	30-42	25200	2800	1.75	-	2800	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	1000+00	-	1056+00	LT & RT	5600	42	235200	26133	1.75	-	26133	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE
0010	1056+00	-	1063+00	LT & RT	700	42-30	25200	2800	1.75	-	2800	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	1063+00	-	1097+68	LT & RT	3468	30	104040	11560	1.75	-	11560	DRIVE LANES, EXISTING SHOULDER WIDTH
0010	1097+68	-	1097+72	LT & RT	4	46	184	20	1.75	20	-	MAINLINE BUTT JOINT - BRIDGE
0010	1098+13	-	1098+17	LT & RT	4	46	184	20	1.75	20	-	MAINLINE BUTT JOINT - BRIDGE
0010	1098+17	-	1112+00	LT & RT	1383	30	41490	4610	1.75	-	4610	DRIVE LANES, EXISTING SHOULDER WIDTH
0010	1112+00	-	1119+50	LT & RT	750	30-42	27000	3000	1.75	-	3000	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	1119+50	-	1185+00	LT & RT	6550	42	275100	30567	1.75	-	30567	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE
0010	1185+00	-	1192+00	LT & RT	700	42-30	25200	2800	1.75	-	2800	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	1192+00	-	1206+28	LT & RT	1428	30	42840	4760	1.75	-	4760	DRIVE LANES, EXISTING SHOULDER WIDTH
0010	1206+28	-	1210+67	LT & RT	439	30-47	16311	1812	1.75	-	1812	EXISTING PAVEMENT LIMITS
RURAL RT. TURN LANES & TAPERS BEYOND TYPICAL SHOULDERS												
0010	804+74	-	807+79	RT	-	-	2907	255	1.75	-	255	80TH ST.
0010	807+79	-	814+12	RT	-	-	5822	647	1.75	-	647	80TH ST.
0010	807+18	-	812+35	LT	-	-	4653	446	1.75	-	446	CTH E
0010	821+42	-	828+12	RT	-	-	6298	600	1.75	-	600	CE
0010	855+67	-	862+38	RT	-	-	5743	638	1.75	-	638	70TH ST.
0010	859+61	-	864+91	LT	-	-	4804	458	1.75	-	458	70TH ST.
0010	906+62	-	915+50	RT	-	-	9721	1053	1.75	-	1053	RANGE SHOULDER/RT. TURN LANE
0010	907+28	-	916+61	LT	-	-	9491	1033	1.75	-	1033	RANGE SHOULDER/RT. TURN LANE
0010	936+04	-	938+87	RT	-	-	1769	181	1.75	-	181	56TH ST.
0010	973+52	-	978+73	RT	-	-	4629	450	1.75	-	450	50TH ST.
0010	975+91	-	981+25	LT	-	-	4698	454	1.75	-	454	50TH ST.
0010	1068+02	-	1073+96	RT	-	-	4908	490	1.75	-	490	33RD ST.
0010	1069+65	-	1074+88	LT	-	-	4538	436	1.75	-	436	CTH V / 33RD ST.
0010	1092+97	-	1097+68	LT & RT	-	-	4496	500	1.75	-	500	WIDENED SHOULDERS NEAR BRIDGE APPROACH
0010	1098+17	-	1099+80	LT & RT	-	-	1935	215	1.75	-	215	WIDENED SHOULDERS NEAR BRIDGE APPROACH
0010	1000+30	-	1104+50	RT	-	-	3588	351	1.75	-	351	125TH AVE.
0010	1160+62	-	1166+02	RT	-	-	5120	497	1.75	-	497	15TH ST.
0010	1163+16	-	1168+25	LT	-	-	4392	420	1.75	-	420	15TH ST.
0010	-	-	-	LT	-	-	-	-	VAR.	352	-	BUTT JOINTS FOR RESTORING 14 RURAL PAVED DRIVEWAYS
URBAN SEGMENT												
0010	1210+67	-	1251+31	LT & RT	4064	VAR.	276603	30627	3.25	-	30627	EXIST. PAVEMENT LIMITS (EXCLUDES SIDE ROAD AREA)
0010	1210+67	-	1216+61	EB MEDIAN	594	1.67	992	110	1.75	-	110	MEDIAN GUTTER PAN
0010	1210+67	-	1216+61	WB MEDIAN	594	1.67	992	110	1.75	-	110	MEDIAN GUTTER PAN
0010	1217+80	-	1225+12	WB MEDIAN	732	1.67	1222	136	1.75	-	136	MEDIAN GUTTER PAN
0010	1223+62	-	1229+72	EB RT	610	2.00	1220	136	1.75	-	136	GUTTER PAN
0010	1231+12	-	1237+26	WB MEDIAN	614	1.67	1025	114	1.75	-	114	MEDIAN GUTTER PAN
0010	1238+10	-	1241+70	WB MEDIAN	360	1.67	601	67	1.75	-	67	MEDIAN GUTTER PAN
0010	1240+70	-	1250+46	WB RT	976	2.00	1952	217	1.75	-	217	GUTTER PAN
0010	1216+62	-	1218+01	SIDE RD, LT	139	VAR.	3154	350	1.75	-	350	CTH T
0010	1216+69	-	1217+76	SIDE RD, RT	107	VAR.	2056	228	1.75	-	228	USH 63
0010	1229+71	-	1231+36	SIDE RD, RT	165	VAR.	5099	567	1.75	-	567	WESTERN BLVD.
0010	1237+15	-	1238+02	SIDE RD, RT	87	VAR.	1315	146	1.75	-	146	PROSSER AVE.
0010	1245+64	-	1246+79	SIDE RD, RT	115	VAR.	1930	214	1.75	-	214	PROSSER AVE.
0010	1250+44	-	1251+17	SIDE RD, RT	73	VAR.	1003	111	1.75	-	111	PROSSER AVE.
0010	1250+49	-	1251+31	SIDE RD, LT	82	VAR.	1034	115	1.75	-	115	FRONT ST.
PROJECT 1570-00-74 CATEGORY 0010 TOTAL										392	236396	
CONTRACT CATEGORY 0010 TOTAL										392	236396	

REMOVING CURB & GUTTER

204.0150						
CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
PROJECT 1570-00-74						
0010	1216+75	-	1216+95	LT	25	CTH T - NW RADIUS
0010	1217+47	-	1217+76	LT	32	CTH T - NE RADIUS
0010	1241+94	-	1242+24	LT	30	DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1245+46	-	1245+86	LT	40	DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1248+90	-	1249+45	LT	55	DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1251+15	-	1251+20	LT	10	FRONT AVE - EAST RADIUS
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					192	
CONTRACT CATEGORY 0010 TOTAL					192	

REMOVING GUARDRAIL

204.0165						
CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
PROJECT 1570-00-74						
0010	1096+77	-	1097+72	LT	95	B-48-47, NW QUADRANT
0010	1098+13	-	1099+08	LT	95	B-48-47, NE QUADRANT
0010	1096+77	-	1097+72	RT	95	B-48-47, SW QUADRANT
0010	1098+13	-	1099+08	RT	95	B-48-47, SE QUADRANT
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					380	
CONTRACT CATEGORY 0010 TOTAL					380	

PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT 1570-00-74)

211.0100		
CATEGORY	LOCATION	LS
PROJECT 1570-00-74		
0010	PROJECT 1570-00-74	1
PROJECT 1570-00-74 CATEGORY 0010 TOTAL		1
CONTRACT CATEGORY 0010 TOTAL		1

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

211.0400

CATEGORY	STATION	TO	STATION	LENGTH (FT)	LOCATION	STA	REMARKS
PROJECT 1570-00-74							FOR 2' SHOULDER WIDENING ADJACENT TO RIGHT TURN LANES
0010	809+29	-	812+35	306	LT	4	RT. TURN LANE FOR CTH E
0010	861+80	-	864+91	311	LT	4	RT. TURN LANE FOR 70TH ST.
0010	915+48	-	916+61	113	LT	2	RT. TURN LANE FOR CTH D / 60TH ST.
0010	978+09	-	981+25	316	LT	4	RT. TURN LANE FOR 50TH ST.
0010	1071+70	-	1074+88	318	LT	4	RT. TURN LANE FOR CTH V / 33RD ST.
0010	1165+21	-	1168+25	304	LT	4	RT. TURN LANE FOR 15TH ST.
0010	804+69	-	807+80	311	RT	4	RT. TURN LANE FOR 80TH ST.
0010	821+42	-	826+04	462	RT	5	RT. TURN LANE FOR CE
0010	855+67	-	856+81	114	RT	2	RT. TURN LANE FOR 70TH ST.
0010	906+62	-	907+68	106	RT	2	RT. TURN LANE FOR RANGE
0010	936+04	-	936+92	88	RT	1	RT. TURN LANE FOR 56TH ST.
0010	973+52	-	976+63	311	RT	4	RT. TURN LANE FOR 50TH ST.
0010	1068+02	-	1070+24	222	RT	3	RT. TURN LANE FOR 33RD ST.
0010	1092+97	-	1094+10	113	RT	2	RT. TAPER TO CURB & GUTTER
0010	1100+30	-	1102+34	204	RT	3	RT. TURN LANE FOR 125TH AVE.
0010	1160+62	-	1163+75	313	RT	4	RT. TURN LANE FOR 15TH ST.
0010	1211+95	-	1216+69	474	RT	5	RT. TURN LANE FOR USH 63
0010	1242+91	-	1245+70	279	RT	3	RT. TURN LANE FOR PROSSER AVE.

PROJECT 1570-00-74 CATEGORY 0010 TOTAL 60

PROJECT 1570-00-77							FOR WIDENING OF TYPICAL SHOULDERS FROM 3' TO 5' PAVED
0010	736+13	-	807+18	7105	LT	72	STH 46 TO CTH E
0010	812+35	-	859+61	4726	LT	48	CTH E TO 70TH ST.
0010	864+91	-	907+28	4237	LT	43	70TH ST. TO RANGE
0010	916+61	-	975+91	5930	LT	60	60TH/CTH D TO 50TH ST.
0010	981+25	-	1069+65	8840	LT	89	50TH TO 33RD ST./CTH V
0010	1074+88	-	1096+05	2117	LT	22	33RD ST./CTH V TO WEST OF BRIDGE APPROACH
0010	1099+80	-	1163+16	6336	LT	64	EAST OF BRIDGE APPROACH TO 15TH ST.
0010	1168+25	-	1215+95	4770	LT	48	15TH ST. TO CTH T
0010	736+13	-	804+69	6856	RT	69	STH 46 TO 80TH ST.
0010	814+32	-	821+42	710	RT	8	80TH ST. TO CE
0010	828+12	-	855+67	2755	RT	28	CE TO 70TH ST.
0010	862+38	-	906+62	4424	RT	45	70TH ST. TO RANGE
0010	915+07	-	936+04	2097	RT	21	60TH/CTH D TO 56TH ST.
0010	938+87	-	973+52	3465	RT	35	56TH ST. TO 50TH ST.
0010	978+73	-	1068+02	8929	RT	90	50TH ST. TO 33RD ST.
0010	1073+96	-	1092+97	1901	RT	20	33RD ST. TO WEST OF BRIDGE APPROACH
0010	1099+80	-	1100+30	50	RT	1	EAST OF BRIDGE APPROACH TO 125TH AVE.
0010	1104+50	-	1160+62	5612	RT	57	125TH AVE. TO 15TH ST.
0010	1166+02	-	1211+95	4593	RT	46	15TH ST. TO USH 63

PROJECT 1570-00-77 CATEGORY 0010 TOTAL 866

CONTRACT CATEGORY 0010 TOTAL 926

FINISHING ROADWAY (PROJECT 1570-00-74)

CATEGORY	LOCATION	213.0100 EACH
PROJECT 1570-00-74		
0010	PROJECT 1570-00-74	1
PROJECT 1570-00-74 CATEGORY 0010 TOTAL		1
CONTRACT CATEGORY 0010 TOTAL		1

BASE AGGREGATE SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	BASE AGGREGATE	BASE AGGREGATE	WATER	REMARKS
					DENSE 3/4-INCH 305.0110 TON	DENSE 1 1/4-INCH 305.0120 TON	624.0100 MGAL	
PROJECT 1570-00-74								
0010	736+13	-	907+80	LT & RT	4195	-	62.9	SHOULDER AGGREGATE
0010	915+50	-	1097+72	LT & RT	4453	-	66.8	SHOULDER AGGREGATE
0010	1098+13	-	1206+28	LT & RT	2643	-	39.6	SHOULDER AGGREGATE
0010	1206+28	-	1210+67	LT & RT	81	-	1.2	SHOULDER AGGREGATE
0010	777+90	-	778+10	RT	-	19	0.3	CULVERT REPAIR AREA
0010	-	-	-	LT & RT	130	-	2.0	RESTORE PE, FE, CE; SEE CD FOR LOCATIONS
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					11502	19	173	
CONTRACT CATEGORY 0010 TOTAL					11502	19	173	

VOIDS & DENSITY TEST STRIP SUMMARY SUMMARY

CATEGORY	LOCATION	HMA PERCENT WITHIN	HMA PERCENT WITHIN	REMARKS
		LIMITS (PWL) TEST STRIP VOLUMETRICS 460.0105.S EACH	LIMITS (PWL) TEST STRIP DENSITY 460.0110.S EACH	
PROJECT 1570-00-74				
0010	LEVELING LAYER LAYER 4 HT 58-34V	1	-	SEE PWL MIXTURE USE TABLE
0010	UPPER LAYER 4 HT 58-34V	-	1	SEE PWL MIXTURE USE TABLE
PROJECT 1570-00-74 CATEGORY 0010 TOTAL		<u>1</u>	<u>1</u>	
CONTRACT CATEGORY 0010 TOTAL		<u>1</u>	<u>1</u>	

PWL MIXTURE USE TABLE

THE FOLLOWING ACCEPTANCE CRITERIA ARE APPLICABLE FOR THIS PROJECT:

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	TYPICAL THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
							MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
DRIVE LANES & PASSING LANES	736+13 TO 1251+31	UPPER LAYER	4 HT 58-34V	4 HT 58-34V	12627	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
DRIVE LANES & PASSING LANES	736+13 TO 1251+31	LEVELING LAYER	ASPHALTIC CONC. PAVEMENT E-10 OR RECYCLED ASPHALT SURFACE	4 HT 58-34V	10820	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE BY ORDINARY COMPACTION
MEDIANS, SHOULDERS, SIDEROADS & TURN LANES	736+13 TO 1251+31	UPPER LAYER	4 HT 58-34V	4 HT 58-34V	12253	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
MEDIANS, SHOULDERS & TURN LANES	736+13 TO 1251+31	LEVELING LAYER	ASPHALTIC CONC. PAVEMENT E-10, RECYCLED ASPHALT SURFACE, OR BASE AGGREGATE	4 HT 58-34V	10503	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE BY ORDINARY COMPACTION
HMA PAVING FOUNDATION	UNDISTRIBUTED	LEVELING AND WEDGING	VARIES	ASPHALTIC SURFACE	400	VARIES	QMP AS PER STANDARD SPEC. 465	ACCEPTANCE BY ORDINARY COMPACTION
PAVED DRIVEWAYS	VARIOUS	SINGLE LAYER	BASE AGGREGATE	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	76	VARIES	QMP AS PER STANDARD SPEC. 465	ACCEPTANCE BY ORDINARY COMPACTION
MINOR REPAIRS	VARIOUS	ASPHALTIC PATCHING	BASE AGGREGATE	ASPHALTIC SURFACE PATCHING	27	VARIES	QMP AS PER STANDARD SPEC. 465	ACCEPTANCE BY ORDINARY COMPACTION

REHEATING HMA PAVEMENT LONGITUDINAL JOINTS

CATEGORY	STATION	TO	STATION	LOCATION	460.4110.S LF
PROEJCT 1570-00-74					
0010	736+13	-	1097+72	CL	36159
0010	1098+13	-	1210+67	CL	11254
0010	1243+20	-	1251+31	CL	811
0010	1210+67	-	1251+31	BETWEEN WB DRIVE LANES	4064
0010	1220+00	-	1251+31	BETWEEN EB DRIVE LANES	3131
0010	736+13	-	801+00	EB PASSING LANE	6487
0010	815+50	-	891+00	WB PASSING LANE	7550
0010	993+00	-	1063+00	EB PASSING LANE	7000
0010	1112+00	-	1192+00	WB PASSING LANE	8000
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					<u>84456</u>
CONTRACT CATEGORY 0010 TOTAL					<u>84456</u>

HMA PAVEMENT & TACK COAT SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	LENGTH (FT)	WIDTH (FT)	TACK COAT	HMA PAVEMENT	REMARKS
							455.0605 GAL	4 HT 58-34 V 460.7644 TON	
PROJECT 1570-00-74									
RURAL SEGMENT									
0010	736+13	-	744+00	LT & RT	787	62-42	532	806	DRIVE LANES, PAVED MEDIAN, EXISTING SHOULDER WIDTH
0010	744+00	-	794+00	LT & RT	5000	42	2800	4247	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE
0010	794+00	-	801+00	LT & RT	700	42-30	336	510	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	801+00	-	815+50	LT & RT	1450	30	580	880	DRIVE LANES, EXISTING SHOULDER WIDTH
0010	815+50	-	822+50	LT & RT	700	30-42	336	510	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	822+50	-	884+00	LT & RT	6150	42	3444	5223	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE
0010	884+00	-	891+00	LT & RT	700	42-30	336	510	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	891+00	-	907+80	LT & RT	1680	30	672	1019	DRIVE LANES, EXISTING SHOULDER WIDTH,
0010	907+80	-	915+50	LT & RT	770	24	246	374	RANGE; DRIVE LANES (SEE BELOW FOR SHOULDER/TURN LANE QTY.)
0010	915+50	-	993+00	LT & RT	7750	30	3100	4702	DRIVE LANES, EXISTING SHOULDER WIDTH
0010	993+00	-	1000+00	LT & RT	700	30-42	336	510	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	1000+00	-	1056+00	LT & RT	5600	42	3136	4756	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE
0010	1056+00	-	1063+00	LT & RT	700	42-30	336	510	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	1063+00	-	1096+72	LT & RT	3372	30	1349	2046	DRIVE LANES, EXISTING SHOULDER WIDTH
0010	1096+72	-	1097+72	LT & RT	100	30	47	47	BUTTED JOINT FOR BRIDGE APPROACH, GRADE CHANGE TRANSITION
0010	1098+13	-	1099+13	LT & RT	100	30	47	47	BUTTED JOINT FOR BRIDGE APPROACH, GRADE CHANGE TRANSITION
0010	1099+13	-	1112+00	LT & RT	1287	30	515	781	DRIVE LANES, EXISTING SHOULDER WIDTH
0010	1112+00	-	1119+50	LT & RT	750	30-42	360	546	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	1119+50	-	1185+00	LT & RT	6550	42	3668	5563	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE
0010	1185+00	-	1192+00	LT & RT	700	42-30	336	510	DRIVE LANES, EXISTING SHOULDER WIDTH, PASSING LANE TAPER
0010	1192+00	-	1206+28	LT & RT	1428	30	571	866	DRIVE LANES, EXISTING SHOULDER WIDTH
0010	1206+28	-	1210+67	LT & RT	439	30-47	217	330	EXISTING PAVEMENT LIMITS
RURAL RT. TURN LANES & TAPERS BEYOND TYPICAL SHOULDERS									
0010	804+74	-	807+79	RT	305	-	39	59	80TH ST.
0010	807+79	-	814+12	RT	633	-	78	91	80TH ST.
0010	807+18	-	812+35	LT	517	-	62	89	CTH E
0010	821+42	-	828+12	RT	670	-	84	122	CE
0010	855+67	-	862+38	RT	671	-	77	111	70TH ST.
0010	859+61	-	864+91	LT	530	-	64	92	70TH ST.
0010	906+62	-	915+50	RT	888	-	130	146	RANGE SHOULDER/RT. TURN LANE
0010	907+28	-	916+61	LT	933	-	127	143	RANGE SHOULDER/RT. TURN LANE
0010	936+04	-	938+87	RT	283	-	24	31	56TH ST.
0010	973+52	-	978+73	RT	521	-	62	89	50TH ST.
0010	975+91	-	981+25	LT	534	-	63	90	50TH ST.
0010	1068+02	-	1073+96	RT	594	-	65	94	33RD ST.
0010	1069+65	-	1074+88	LT	523	-	61	87	CTH V / 33RD ST.
0010	1092+97	-	1097+72	RT	475	-	47	59	WIDENED SHOULDERS NEAR BRIDGE APPROACH
0010	1096+05	-	1097+72	LT	167	-	13	18	WIDENED SHOULDERS NEAR BRIDGE APPROACH
0010	1098+13	-	1099+80	RT	167	-	13	17	WIDENED SHOULDERS NEAR BRIDGE APPROACH
0010	1098+13	-	1099+80	LT	167	-	13	18	WIDENED SHOULDERS NEAR BRIDGE APPROACH
0010	1000+30	-	1104+50	RT	10420	-	48	68	125TH AVE.
0010	1160+62	-	1166+02	RT	540	-	68	99	15TH ST.
0010	1163+16	-	1168+25	LT	509	-	59	84	15TH ST.
PROJECT 1570-00-74 CATEGORY 0010 SUBTOTAL							24497	36900	

HMA PAVEMENT & TACK COAT SUMMARY, CONTINUED

CATEGORY	STATION	TO	STATION	LOCATION	LENGTH (FT)	WIDTH (FT)	TACK COAT	HMA PAVEMENT	REMARKS
							455.0605 GAL	4 HT 58-34 V 460.7644 TON	
PROJECT 1570-00-74, CONTINUED									
URBAN SEGMENT									
0010	1210+67	-	1251+31	LT & RT	4064	VAR.	3688	5594	EXIST. PAVEMENT LIMITS (EXCLUDES SIDE ROAD TONNAGE)
0010	1210+67	-	1216+61	EB MEDIAN	594	1.67	8	11	MEDIAN GUTTER PAN OVERLAY
0010	1210+67	-	1216+61	WB MEDIAN	594	1.67	8	11	MEDIAN GUTTER PAN OVERLAY
0010	1217+80	-	1225+12	WB MEDIAN	732	1.67	10	13	MEDIAN GUTTER PAN OVERLAY
0010	1223+62	-	1229+72	EB RT	610	2.00	9	13	GUTTER PAN OVERLAY
0010	1231+12	-	1237+26	WB MEDIAN	614	1.67	8	11	MEDIAN GUTTER PAN OVERLAY
0010	1238+10	-	1241+70	WB MEDIAN	360	1.67	5	7	MEDIAN GUTTER PAN OVERLAY
0010	1240+70	-	1250+46	WB RT	976	2.00	15	21	GUTTER PAN OVERLAY
0010	1216+62	-	1218+01	SIDE RD, LT	-	VAR.	25	34	CTH T
0010	1216+69	-	1217+76	SIDE RD, RT	-	VAR.	16	22	USH 63
0010	1229+71	-	1231+36	SIDE RD, RT	-	VAR.	38	53	WESTERN BLVD.
0010	1237+15	-	1238+02	SIDE RD, RT	-	VAR.	10	14	PROSSER AVE.
0010	1245+64	-	1246+79	SIDE RD, RT	-	VAR.	15	21	PROSSER AVE.
0010	1250+44	-	1251+17	SIDE RD, RT	-	VAR.	8	11	PROSSER AVE.
0010	1250+49	-	1251+31	SIDE RD, LT	-	VAR.	8	11	FRONT ST.
UNDISTRIBUTED									
0010	-	-	-	-	-	-	300	-	FOR USE WITH ASPHALTIC SURFACE
PROJECT 1570-00-74 CATEGORY 0010 TOTAL							28668	42747	
PROJECT 1570-00-77									
RURAL HSIP SHOULDER WIDENING - LEFT									
0010	736+13	-	807+18	LT	7105	2	79	287	STH 46 TO CTH E
0010	812+35	-	859+61	LT	4726	2	53	191	CTH E TO 70TH ST.
0010	864+91	-	907+28	LT	4237	2	47	171	70TH ST. TO RANGE
0010	916+61	-	975+91	LT	5930	2	66	240	60TH/CTH D TO 50TH ST.
0010	981+25	-	1069+65	LT	8840	2	98	358	50TH TO 33RD ST./CTH V
0010	1074+88	-	1096+05	LT	2117	2	24	86	33RD ST./CTH V TO WEST OF BRIDGE APPROACH
0010	1099+80	-	1163+16	LT	6336	2	70	256	EAST OF BRIDGE APPROACH TO 15TH ST.
0010	1168+25	-	1215+95	LT	4770	2	53	193	15TH ST. TO CTH T
RURAL HSIP SHOULDER WIDENING - RIGHT									
0010	736+13	-	804+69	RT	6856	2	76	277	STH 46 TO 80TH ST.
0010	814+32	-	821+42	RT	710	2	8	29	80TH ST. TO CE
0010	828+12	-	855+67	RT	2755	2	31	111	CE TO 70TH ST.
0010	862+38	-	906+62	RT	4424	2	49	179	70TH ST. TO RANGE
0010	915+07	-	936+04	RT	2097	2	23	85	60TH/CTH D TO 56TH ST.
0010	938+87	-	973+52	RT	3465	2	39	140	56TH ST. TO 50TH ST.
0010	978+73	-	1068+02	RT	8929	2	99	361	50TH ST. TO 33RD ST.
0010	1073+96	-	1092+97	RT	1901	2	21	77	33RD ST. TO WEST OF BRIDGE APPROACH
0010	1099+80	-	1100+30	RT	50	2	1	2	EAST OF BRIDGE APPROACH TO 125TH AVE.
0010	1104+50	-	1160+62	RT	5612	2	62	227	125TH AVE. TO 15TH ST.
0010	1166+02	-	1211+95	RT	4593	2	51	186	15TH ST. TO USH 63
PROJECT 1570-00-77 CATEGORY 0010 TOTAL							950	3456	
CONTRACT CATEGORY 0010 TOTAL							29618	46203	

ASPHALTIC SURFACE

CATEGORY	LOCATION	465.0105 TON	REMARKS
PROJECT 1570-00-74			
0010	UNDISTRIBUTED	400	FOR LEVELING AND WEDGING, PREPARING FOUNDATION FOR ASPHALTIC PAVING
PROJECT 1570-00-74 CATEGORY 0010 TOTAL		<u>400</u>	
CONTRACT CATEGORY 0010 TOTAL		400	

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

CATEGORY	STATION	LOCATION	465.0120 TON
PROJECT 1570-00-74			
0010	736+50	RT	7
0010	790+00	RT	6
0010	844+54	LT	5
0010	892+30	LT	6
0010	903+20	RT	5
0010	904+20	LT	6
0010	917+15	LT	6
0010	928+05	RT	8
0010	950+50	LT	3
0010	965+74	LT	6
0010	1041+32	LT	4
0010	1050+90	RT	4
0010	1065+55	RT	4
0010	1182+65	LT	4
0011	1245+67	LT	1
0010	1245+17	LT	1
PROJECT 1570-00-74 CATEGORY 0010 TOTAL			<u>76</u>
CONTRACT CATEGORY 0010 TOTAL			76

ASPHALTIC SURFACE PATCHING

CATEGORY	STATION	TO	STATION	LOCATION	465.0110 TON	REMARKS
PROJECT 1570-00-74						
0010	77793	-	77813	RT	7	PATCH FOR CULVERT REPAIR
0010	-	-	-	UNDISTRIBUTED	20	FOR MINOR REPAIRS
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					<u>27</u>	
CONTRACT CATEGORY 0010 TOTAL					27	

ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL

							465.0425	
CATEGORY	STATION	TO	STATION	LOCATION	TYPE	LF	REMARKS	
PROJECT 1570-00-77								
0010	736+13	-	1215+80	LT	1	40742	OMIT SHOULDER RUMBLES ACCORDING TO SDD & PLAN	
0010	737+50	-	1211+30	RT	1	38710	OMIT SHOULDER RUMBLES ACCORDING TO SDD & PLAN	
						1570-00-77 CATEGORY 0010 TOTAL	79452	
						CONTRACT CATEGORY 0010 TOTAL	79452	

ASPHALT CENTER LINE RUMBLE STRIPS 2-LANE RURAL

							465.0475	
CATEGORY	STATION	TO	STATION	LOCATION		LF	REMARKS	
1570-00-74								
0010	74300	-	90275	CL		15175	OMIT CL RUMBLES ACCORDING TO SDD	
0010	92132	-	109772	CL		16440	OMIT CL RUMBLES ACCORDING TO SDD	
0010	109813	-	120628	CL		10015	OMIT CL RUMBLES ACCORDING TO SDD	
						PROJECT 1570-00-74 CATEGORY 0010 TOTAL	41630	
						CONTRACT CATEGORY 0010 TOTAL	41630	

CULVERT ITEM SUMMARY

				CONCRETE COLLARS FOR PIPE 520.8000	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH 522.0124		
CATEGORY	STATION	LOCATION	EACH	LF	REMARKS		
PROJECT 1570-00-74							
0010	778+03	18'-34' RT	1	16	CULVERT SEGMENT REPAIR		
			PROJECT 1570-00-74 CATEGORY 0010 TOTAL	1	16		
			CONTRACT CATEGORY 0010 TOTAL	1	16		

CURB AND GUTTER SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	CONCRETE CURB & GUTTER 30-INCH TYPE D 601.0411 LF	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D 601.0557 LF	SPECIAL (01. CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT) SPV.0090.01 LF	REMARKS
PROJECT 1570-00-74								
0010	1216+75	-	1216+95	LT	-	25	25	CTH T - NW RADIUS
0010	1217+47	-	1217+75	LT	-	32	32	CTH T - NE RADIUS
0010	1241+94	-	1242+24	LT	30	-	30	DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1245+46	-	1245+86	LT	40	-	40	DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1248+90	-	1249+45	LT	55	-	55	DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1251+15	-	1251+20	LT	10	-	10	FRONT AVE - EAST RADIUS
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					135	57	192	
CONTRACT CATEGORY 0010 TOTAL					135	57	192	

NOTE: SEE CONSTRUCTION DETIAL FOR MODIFICATIONS TO CONCRETE CURB AND GUTTER DIMENSIONS AT LOCATIONS WHERE THE GUTTER PAN WILL BE OVERLAYED WITH HMA PAVEMENT.

CATEGORY	STATION	TO	STATION	LOCATION	MGS GUARDRAIL 3 614.2300 LF	MGS THRIE BEAM TRANSITION 614.2500 LF	MGS GUARDRAIL TERMINAL EAT 614.2610 EACH	REMARKS
PROJECT 1570-00-74								
0010	1096+72	-	1097+72	LT	12.5	39.4	1	B-48-47, NW QUADRANT
0010	1098+13	-	1099+13	LT	12.5	39.4	1	B-48-47, NE QUADRANT
0010	1096+72	-	1097+72	RT	12.5	39.4	1	B-48-47, SW QUADRANT
0010	1098+13	-	1099+13	RT	12.5	39.4	1	B-48-47, SE QUADRANT
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					50	157.6	4	
CONTRACT CATEGORY 0010 TOTAL					50	157.6	4	

MOBILIZATION

CATEGORY	LOCATION	619.1000 EACH
PROJECT 1570-00-74		
0010	PROJECT 1570-00-75	0.9
PROJECT 1570-00-74 CATEGORY 0010 TOTAL		0.9
PROJECT 1570-00-77		
0010	PROJECT 1570-00-77	0.1
PROJECT 1570-00-77 CATEGORY 0010 TOTAL		0.1
CONTRACT CATEGORY 0010 TOTAL		1.0

MARKERS CULVERT END

CATEGORY	STATION	LOCATION	633.5200 EACH
PROJECT 1570-00-74			
0010	863+00	RT	1
0010	1057+22	RT	1
0010	1069+52	RT	1
0010	1093+51	RT	1
0010	1215+44	RT	1
0010	1215+62	LT	1
0010	1216+54	LT	1
0010	1217+95	RT	1
0010	1240+03	LT	1
0010	1240+71	RT	1
PROJECT 1570-00-74 CATEGORY 0010 TOTAL			10
CONTRACT CATEGORY 0010 TOTAL			10

TRAFFIC CONTROL SUMMARY

CATEGORY	LOCATION	SIGNS/ DRUMS	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	REMARKS
						CONTROL DRUMS 643.0300 DAY	CONTROL BARRICADES TYPE III 643.0420 DAY	CONTROL LIGHTS TYPE C 643.0715 DAY	CONTROL ARROW BOARDS 643.0800 DAY	CONTROL SIGNS 643.0900 DAY	CONTROL 643.5000 EACH	
PROJECT 1570-00-74												
0010	PROJECT 1570-00-75	-	-	-	-	-	-	-	-	-	1	
0010	BEGIN PROJECT, STH 46 RAB	3	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	384	-	SEE DETAIL SHEET 'TRAFFIC CONTROL - BEGIN PROJECT
0010		2	128	M3-2	EAST	-	-	-	-	256	-	ADVANCED WARNING'
0010		2	128	M1-4	USH 8	-	-	-	-	256	-	
0010		1	128	W20-1C	ROAD WORK 1000 FT	-	-	-	-	128	-	
0010		1	128	G20-2A	END ROAD WORK	-	-	-	-	128	-	
0010		1	128	G20-1	ROAD WORK NEXT 10 MILES	-	-	-	-	128	-	
0010	STA. 736+13 - 742+74	28	113	-	TRAFFIC CONTROL DRUMS	3164	-	-	-	-	-	MEDIAN DELINEATION (IN LIEU OF TEMP. 12" DIAG.)
0010	80TH ST., CTH E	2	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	256	-	ADVANCED WARNING SIGNS FOR SIDE ROAD APPROACH
0010	70TH ST.	2	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	256	-	
0010	CTH D	2	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	256	-	
0010	56TH ST.	1	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	128	-	
0010	50TH ST.	2	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	256	-	
0010	33RD ST. CTH V	2	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	256	-	
0010	125TH AVE.	1	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	128	-	
0010	15TH ST.	2	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	256	-	
0010	CTH T	1	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	128	-	
0010	WESTERN BLVD.	1	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	128	-	
0010	ANTIQUÉ RD.	1	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	128	-	
0010	OSTERMAN DR.	1	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	128	-	
0010	FRONT AVE.	1	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	128	-	
0010	USH 63 SOUTH INT.	1	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	128	-	ADVANCED WARNING FOR INTERSECTING USH 63
0010		1	128	W20-1C	ROAD WORK 1000 FT	-	-	-	-	128	-	
0010		1	128	W20-1D	ROAD WORK 500 FT	-	-	-	-	128	-	
0010		1	128	G20-2A	END ROAD WORK	-	-	-	-	128	-	
0010	USH 8 NEAR STA. 1206+00	1	128	G20-1	ROAD WORK NEXT 9 MILES	-	-	-	-	128	-	FOR WESTBOUND TRAFFIC, WEST OF USH 63 INT.
0010	END PROJECT, CTH K RAB	3	128	W20-1A	ROAD WORK AHEAD	-	-	-	-	384	-	SEE DETAIL SHEET 'TRAFFIC CONTROL - END PROJECT
0010		2	128	M3-4	WEST	-	-	-	-	256	-	ADVANCED WARNING AND SINGLE LANE CLOSURE'
0010		2	128	M1-4	USH 8	-	-	-	-	256	-	
0010		1	128	W20-1B	ROAD WORK 1500 FT	-	-	-	-	128	-	
0010		1	121	W20-1C	ROAD WORK 1000 FT	-	-	-	-	121	-	
0010		1	7	W20-5A	RIGHT LANE AHEAD	-	-	-	-	7	-	
0010		1	128	G20-1	ROAD WORK NEXT 10 MILES	-	-	-	-	128	-	
0010		1	7	W4-2R	RIGHT LANE ENDS	-	-	-	-	7	-	
0010		2	7	R3-20R	BEGIN RIGHT TURN LANE	-	-	-	-	14	-	
0010		1	7	-	ARROW BOARD	-	-	-	7	-	-	
0010		2	7	R11-2L	BARRICADE WITH SIGN, LN CLOSED	-	14	-	-	14	-	
0010		60	7	-	TRAFFIC CONTROL DRUMS	420	-	70	-	-	-	10 DRUMS WITH LIGHTS AT TAPER
0010		1	128	G20-2A	END ROAD WORK	-	-	-	-	128	-	
0010	UNDISTRIBUTED	-	-	W08-1	BUMP	-	-	-	-	600	-	SDD 15D44, SIGNING ON MILLED SURFACES AND
0010		-	-	W016-7L	DIAGONAL DOWN ARROW	-	-	-	-	600	-	TRAFFIC CONTROL SIGNING FOR UNEVEN SURFACES
0010		-	-	W8-11	UNEVEN LANES	-	-	-	-	600	-	
0010		-	-	R4-1	DO NOT PASS	-	-	-	-	600	-	
0010		-	-	W08-52	GROOVED PAVEMENT	-	-	-	-	600	-	
0010		-	-	W013-1	45 M.P.H.	-	-	-	-	600	-	
PROJECT 1570-00-74 CATEGORY 0010 TOTAL						3584	14	70	7	9395	1	
CONTRACT CATEGORY 0010 TOTAL						3584	14	70	7	9395	1	

PAVEMENT MARKING SUMMARY

PROJECT 1570-00-74	CATEGORY	STATION	TO STATION	LOCATION	MARKING											REMARKS
					MARKING LINE EPOXY 4-INCH 646.1020 LF	MARKING LINE GROOVED WET REF EPOXY 4-INCH 646.1040 LF	MARKING LINE GROOVED WET REF EPOXY 8-INCH 646.3040 LF	MARKING LINE SAME DAY EPOXY 4-INCH 646.4520 LF	MARKING ARROW EPOXY 646.5020 EACH	MARKING WORD EPOXY 646.5120 EACH	MARKING STOP LINE EPOXY 18-INCH 646.6120 LF	MARKING DIAGONAL EPOXY 12-INCH 646.7120 LF	MARKING CORRUGATED MEDIAN EPOXY 646.8020 SF	MARKING CURB EPOXY 646.8120 LF	MARKING ISLAND NOSE EPOXY 646.8220 EACH	
EDGE LINES AND CENTERLINES																
0010		736+13	1240+70	EDGE LINES LT	-	50457	-	-	-	-	-	-	-	-	SOLID, WHITE	
0010		736+13	1245+67	EDGE LINES RT	-	50954	-	-	-	-	-	-	-	-	SOLID, WHITE	
0010		736+13	- 757+27	CL	4228	-	-	4228	-	-	-	-	-	-	DOUBLE SOLID, YELLOW*	
0010		757+27	- 770+00	CL	1592	-	-	1592	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		770+00	- 783+60	CL	2720	-	-	2720	-	-	-	-	-	-	DOUBLE SOLID, YELLOW*	
0010		783+60	- 801+00	CL	2175	-	-	2175	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		801+00	- 808+87	CL	197	-	-	197	-	-	-	-	-	-	SKIP, YELLOW*	
0010		808+87	- 815+50	CL	829	-	-	829	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		815+50	- 817+78	CL	456	-	-	456	-	-	-	-	-	-	DOUBLE SOLID, YELLOW*	
0010		817+78	- 863+15	CL	5672	-	-	5672	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		863+15	- 877+40	CL	2850	-	-	2850	-	-	-	-	-	-	DOUBLE SOLID, YELLOW*	
0010		877+40	- 895+46	CL	2258	-	-	2258	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		895+46	- 902+75	CL	183	-	-	183	-	-	-	-	-	-	SKIP, YELLOW*	
0010		902+75	- 921+32	CL	-	-	-	465	-	-	-	-	-	-	SKIP, YELLOW #	
0010		921+32	- 943+42	CL	553	-	-	553	-	-	-	-	-	-	SKIP, YELLOW*	
0010		943+42	- 955+10	CL	1460	-	-	1460	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		955+10	- 957+90	CL	560	-	-	560	-	-	-	-	-	-	DOUBLE SOLID, YELLOW*	
0010		957+90	- 969+00	CL	1388	-	-	1388	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		969+00	- 982+00	CL	325	-	-	325	-	-	-	-	-	-	SKIP, YELLOW*	
0010		982+00	- 993+00	CL	1375	-	-	1375	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		993+00	- 1015+84	CL	4568	-	-	4568	-	-	-	-	-	-	DOUBLE SOLID, YELLOW*	
0010		1015+84	- 1078+60	CL	7845	-	-	7845	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		1078+60	- 1107+05	CL	712	-	-	712	-	-	-	-	-	-	SKIP, YELLOW*	
0010		1107+05	- 1122+90	CL	1982	-	-	1982	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		1122+90	- 1134+15	CL	2250	-	-	2250	-	-	-	-	-	-	DOUBLE SOLID, YELLOW*	
0010		1134+15	- 1159+62	CL	3184	-	-	3184	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		1159+62	- 1183+50	CL	4776	-	-	4776	-	-	-	-	-	-	DOUBLE SOLID, YELLOW*	
0010		1183+50	- 1196+40	CL	1613	-	-	1613	-	-	-	-	-	-	SOLID-SKIP, YELLOW*	
0010		1196+40	- 1206+28	CL	1976	-	-	1976	-	-	-	-	-	-	DOUBLE SOLID, YELLOW*	
0010		1206+28	- 1251+31	CL	-	-	-	9006	-	-	-	-	-	-	DOUBLE SOLID, YELLOW ^	
PROJECT 1570-00-74 CATEGORY 0010 SUBTOTAL					57727	101411	0	67198	0	0	0	0	0	0	0	

NOTES: *THE 'MARKING LINE SAME DAY EPOXY 4-INCH' IN LOCATIONS WHERE CENTERLINE RUMBLE STRIPS WILL BE CONSTRUCTED SHALL BE PLACED AT A REDUCED APPLICATION RATE; SEE SPECIAL PROVISIONS.

RANGE, NO CL RUMBLE STRIP

^ URBAN, NO CL RUMBLE STRIP

PAVEMENT MARKING SUMMARY, CONTINUED

PROJECT 1570-00-74				MARKING LINE	MARKING LINE	MARKING LINE	MARKING LINE	MARKING	MARKING	MARKING	MARKING	MARKING	MARKING	MARKING	REMARKS
				EPOXY 4-INCH	GROOVED WET REF	GROOVED WET REF	SAME DAY	ARROW	WORD	STOP LINE	DIAGONAL	CORRUGATED	CURB	ISLAND NOSE	
				646.1020	646.1040	646.3040	646.4520	646.5020	646.5120	646.6120	646.7120	646.8020	646.8120	646.8220	
CATEGORY	STATION TO	STATION	LOCATION	LF	LF	LF	LF	EACH	EACH	LF	LF	SF	LF	EACH	
LANE LINES, MEDIANS, TURN LANES & SIDEROADS															
0010	736+13	- 742+93	MEDIAN	-	-	-	1360	-	-	-	260	-	-	-	SOLID, YELLOW
0010	736+13	- 791+55	EB PASSING LANE LINE	-	-	-	1386	-	-	-	-	-	-	-	SKIP, WHITE
0010	824+25	- 891+00	WB PASSING LANE LINE	-	-	-	1669	-	-	-	-	-	-	-	SKIP, WHITE
0010	993+00	- 1050+00	EB PASSING LANE LINE	-	-	-	1425	-	-	-	-	-	-	-	SKIP, WHITE
0010	1124+40	- 1192+00	WB PASSING LANE LINE	-	-	-	1690	-	-	-	-	-	-	-	SKIP, WHITE
0010	1206+28	- 1210+67	MEDIAN	-	-	-	710	-	-	-	85	351	20	1	SOLID, YELLOW
0010	1217+80	- 1225+11	MEDIAN	-	-	-	-	-	-	-	-	-	75	-	SOLID, YELLOW
0010	1220+00	- 1223+22	USH 63 LT LANE LINE	-	-	-	322	-	-	-	-	-	-	-	SOLID, WHITE
0010	1225+58	- 1230+07	MEDIAN	-	-	-	-	-	-	-	-	-	110	-	SOLID, YELLOW
0010	1231+12	- 1237+25	MEDIAN	-	-	-	-	-	-	-	-	-	75	-	SOLID, YELLOW
0010	1223+22	- 1251+31	EB LANE LINE	-	-	-	703	-	-	-	-	-	-	-	SKIP, WHITE
0010	1214+90	- 1251+31	WB LANE LINE	-	-	-	911	-	-	-	-	-	-	-	SKIP, WHITE
0010	1238+10	- 1246+02	MEDIAN	-	-	-	564	-	-	-	106	485	20	1	SOLID, YELLOW
0010	805+82	- 807+80	EB RT TURN LANE	-	-	198	-	2	1	-	-	-	-	-	SOLID, WHITE (80TH ST)
0010	809+28	- 811+22	WB RT TURN LANE	-	-	194	-	2	1	-	-	-	-	-	SOLID, WHITE (CTH E)
0010	822+55	- 826+05	EB RT TURN LANE	-	-	350	-	2	1	-	-	-	-	-	SOLID, WHITE (CE)
0010	856+80	- 860+33	EB RT TURN LANE	-	-	353	-	2	1	-	-	-	-	-	SOLID, WHITE (70TH ST)
0010	861+77	- 863+78	WB RT TURN LANE	-	-	201	-	2	1	-	-	-	-	-	SOLID, WHITE (70TH ST)
0010	907+75	- 912+94	EB RT TURN LANE	-	-	519	-	2	1	-	-	-	-	-	SOLID, WHITE (CTH D / 60TH)
0010	914+42	- 915+48	WB RT TURN LANE	-	-	106	-	2	-	-	-	-	-	-	SOLID, WHITE (CTH D / 60TH)
0010	974+65	- 976+64	EB RT TURN LANE	-	30	199	-	2	1	-	-	-	-	-	SOLID, WHITE (50TH ST)
0010	978+08	- 980+12	WB RT TURN LANE	-	30	204	-	2	1	-	-	-	-	-	SOLID, WHITE (50TH ST)
0010	1069+15	- 1070+35	EB RT TURN LANE	-	-	120	-	2	-	-	-	-	-	-	SOLID, WHITE (33RD ST)
0010	1071+60	- 1073+75	WB RT TURN LANE	-	-	215	-	2	1	-	-	-	-	-	SOLID, WHITE (CTH V / 33RD)
0010	1101+43	- 1102+42	EB RT TURN LANE	-	-	99	-	2	-	-	-	-	-	-	SOLID, WHITE (125TH AVE)
0010	1161+75	- 1163+82	WB RT TURN LANE	-	-	207	-	2	1	-	-	-	-	-	SOLID, WHITE (15TH ST)
0010	1165+11	- 1167+12	EB RT TURN LANE	-	-	201	-	2	1	-	-	-	-	-	SOLID, WHITE (15TH ST)
0010	1213+08	- 1216+57	EB RT TURN LANE	-	-	349	-	2	1	-	-	-	-	-	SOLID, WHITE (USH 63)
0010	1214+71	- 1216+57	EB LT TURN LANE	-	-	186	-	2	1	-	-	-	-	-	SOLID, WHITE (CTH T)
0010	1217+84	- 1222+41	WB LT TURN LANE	-	-	457	-	2	1	-	-	-	-	-	SOLID, WHITE (USH 63)
0010	1226+98	- 1229+72	EB RT TURN LANE	-	-	274	-	2	1	-	-	-	-	-	SOLID, WHITE (WESTERN BLVD)
0010	1231+17	- 1232+23	WB LT TURN LANE	-	-	106	-	2	-	-	-	-	-	-	SOLID, WHITE (WESTERN BLVD)
0010	1235+19	- 1237+18	EB RT TURN LANE	-	-	199	-	2	1	-	-	-	-	-	SOLID, WHITE (PROSSER AVE)
0010	1238+14	- 1239+17	WB LT TURN LANE	-	-	103	-	2	-	-	-	-	-	-	SOLID, WHITE (PROSSER AVE)
0010	1243+41	- 1245+66	EB RT TURN LANE	-	-	225	-	2	1	-	-	-	-	-	SOLID, WHITE (PROSSER AVE)
0010	1216+96	- 1217+19	SIDEROAD LT	12	-	-	60	-	-	23	-	-	-	-	CTH T
0010	1217+33	- 1217+53	SIDEROAD RT	12	-	-	40	-	-	20	-	-	-	-	USH 63
0010	1230+76	- 1231+11	SIDEROAD RT	-	-	-	96	-	-	35	-	-	-	-	WESTERN BLVD
0010	1237+60	- 1237+85	SIDEROAD RT	-	-	-	-	-	-	25	-	-	-	-	PROSSER AVE
0010	1246+29	- 1246+64	SIDEROAD RT	-	-	-	-	-	-	35	-	-	-	-	PROSSER AVE
0010	1250+79	- 1251+01	SIDEROAD LT	-	-	-	-	-	-	22	-	-	-	-	PROSSER AVE
0010	1250+80	- 1250+99	SIDEROAD RT	-	-	-	-	-	-	19	-	-	-	-	FRONT AVE
PROJECT 1570-00-74 CATEGORY 0010 SUBTOTAL				24	60	5065	10936	44	17	179	451	836	300	2	
PROJECT 1570-00-74 CATEGORY 0010 TOTAL				57751	101471	5065	78134	44	17	179	451	836	300	2	
CONTRACT CATEGORY 0010 TOTAL				57751	101471	5065	78134	44	17	179	451	836	300	2	

MARKING REMOVAL LINE 4-INCH

CATEGORY	STATION	TO	STATION	LOCATION	646.9000 LF	REMARKS
PROJECT 1570-00-74						
0010	1252+25	-	1254+75	WB LANE LINE DASHES	75	FOR TAPER OF SINGLE LANE CLOSURE
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					<u>75</u>	
CONTRACT CATEGORY 0010 TOTAL					<u>75</u>	

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH

CATEGORY	STATION	TO	STATION	LOCATION	649.0150 LF	REMARKS
PROJECT 1570-00-74						
0010	1249+55	-	1254+20	WB LANE CLOSURE TAPER	450	SOLID, WHITE (SEE END PROJECT TC SHEET)
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					<u>450</u>	
CONTRACT CATEGORY 0010 TOTAL					<u>450</u>	

TEMPORARY MARKING LINE PAINT 4-INCH

CATEGORY	STATION	TO	STATION	LENGTH (FT)	APPLICATIONS*	MULTIPLIER	LOCATION	649.0105 LF	REMARKS
PROJECT 1570-00-74									
0010	736+13	-	757+27	2114	2	2	CL	8456	DOUBLE SOLID, YELLOW
0010	757+27	-	770+00	1273	2	1.08	CL	2750	SOLID-SKIP, YELLOW
0010	770+00	-	783+60	1360	2	2	CL	5440	DOUBLE SOLID, YELLOW
0010	783+60	-	801+00	1740	2	1.08	CL	3759	SOLID-SKIP, YELLOW
0010	801+00	-	808+87	787	2	0.08	CL	126	SKIP, YELLOW
0010	808+87	-	815+50	663	2	1.08	CL	1433	SOLID-SKIP, YELLOW
0010	815+50	-	817+78	228	2	2	CL	912	DOUBLE SOLID, YELLOW
0010	817+78	-	863+15	4537	2	1.08	CL	9800	SOLID-SKIP, YELLOW
0010	863+15	-	877+40	1425	2	2	CL	5700	DOUBLE SOLID, YELLOW
0010	877+40	-	895+46	1806	2	1.08	CL	3901	SOLID-SKIP, YELLOW
0010	895+46	-	902+75	729	2	0.08	CL	117	SKIP, YELLOW
0010	902+75	-	921+32	1857	2	0.08	CL	298	SKIP, YELLOW
0010	921+32	-	943+42	2210	2	0.08	CL	354	SKIP, YELLOW
0010	943+42	-	955+10	1168	2	1.08	CL	2523	SOLID-SKIP,
0010	955+10	-	957+90	280	2	2	CL	1120	DOUBLE SOLID,
0010	957+90	-	969+00	1110	2	1.08	CL	2398	SOLID-SKIP,
0010	969+00	-	982+00	1300	2	0.08	CL	208	SKIP, YELLOW
0010	982+00	-	993+00	1100	2	1.08	CL	2376	SOLID-SKIP, YELLOW
0010	993+00	-	1015+84	2284	2	2	CL	9136	DOUBLE SOLID, YELLOW
0010	1015+84	-	1078+60	6276	2	1.08	CL	13557	SOLID-SKIP, YELLOW
0010	1078+60	-	1107+05	2845	2	0.08	CL	456	SKIP, YELLOW
0010	1107+05	-	1122+90	1585	2	1.08	CL	3424	SOLID-SKIP, YELLOW
0010	1122+90	-	1134+15	1125	2	2	CL	4500	DOUBLE SOLID, YELLOW
0010	1134+15	-	1159+62	2547	2	1.08	CL	5502	SOLID-SKIP, YELLOW
0010	1159+62	-	1183+50	2388	2	2	CL	9552	DOUBLE SOLID, YELLOW
0010	1183+50	-	1196+40	1290	2	1.08	CL	2787	SOLID-SKIP, YELLOW
0010	1196+40	-	1206+28	988	2	2	CL	3952	DOUBLE SOLID, YELLOW
0010	1206+28	-	1251+31	4503	2	2	CL	18012	DOUBLE SOLID, YELLOW
0010	736+13	-	742+74	661	2	1	MEDIAN	1322	SOLID, YELLOW
0010	736+13	-	791+55	5542	2	0.08	EB PASSING LANE LINE	887	SKIP, WHITE
0010	824+25	-	891+00	6675	2	0.08	WB PASSING LANE LINE	1068	SKIP, WHITE
0010	993+00	-	1050+00	5700	2	0.08	EB PASSING LANE LINE	912	SKIP, WHITE
0010	1124+40	-	1192+00	6760	2	0.08	WB PASSING LANE LINE	1082	SKIP, WHITE
0010	1207+10	-	1210+67	357	2	1	MEDIAN	714	SOLID, YELLOW
0010	1220+00	-	1223+22	322	2	1	USH 63 LANE LINES	644	SOLID, WHITE
0010	1223+22	-	1251+31	2809	2	0.08	EB LANE LINE	450	SKIP, WHITE
0010	1214+90	-	1251+31	3641	2	0.08	WB LANE LINE	583	SKIP, WHITE
0010	1243+20	-	1245+00	180	2	1	MEDIAN	360	SOLID, YELLOW

PROJECT 1570-00-74 CATEGORY 0010 TOTAL 130571

CONTRACT CATEGORY 0010 TOTAL 130571

NOTES: *QUANTITIES ASSUME ONE APPLICATION ON MILLED SURFACE AND SECOND APPLICATION ON HMA LOWER LAYER.

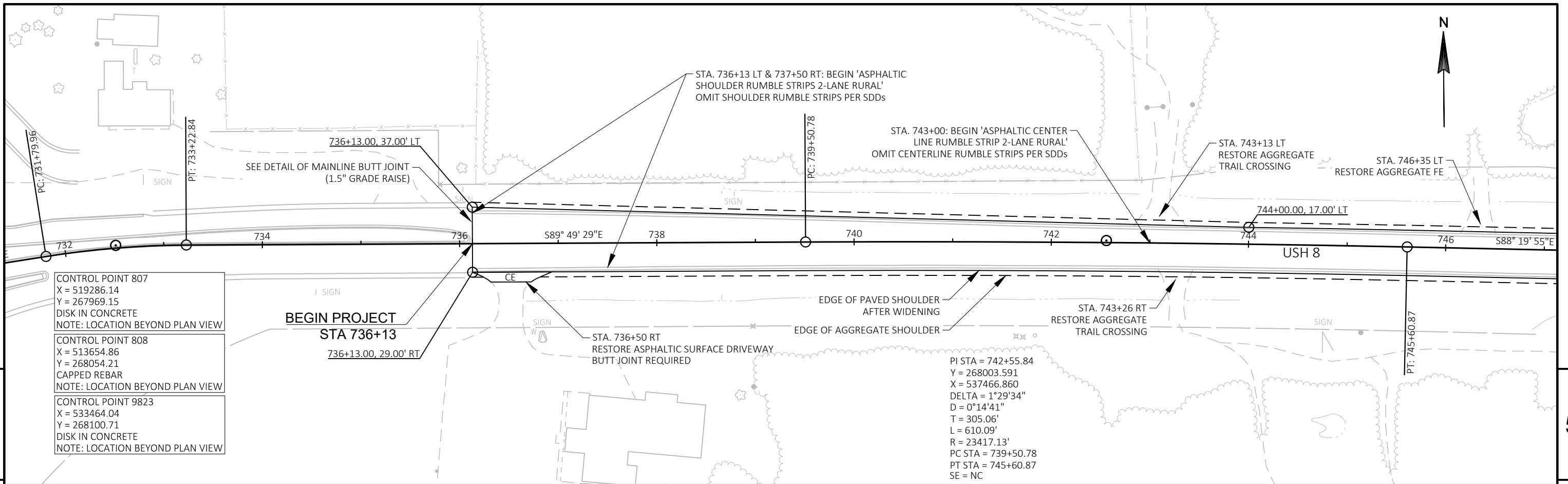
ALSO SEE PAVEMENT MARKING SUMMARY TABLE FOR LOCATIONS WHERE 'MARKING LINE SAME DAY EPOXY 4-INCH' WILL BE MARKED AT A REDUCED APPLICATION RATE PRIOR TO CENTERLINE RUMBLE STRIP INSTALLATION; SEE SPECIAL PROVISIONS.

CONSTRUCTION STAKING SUMMARY

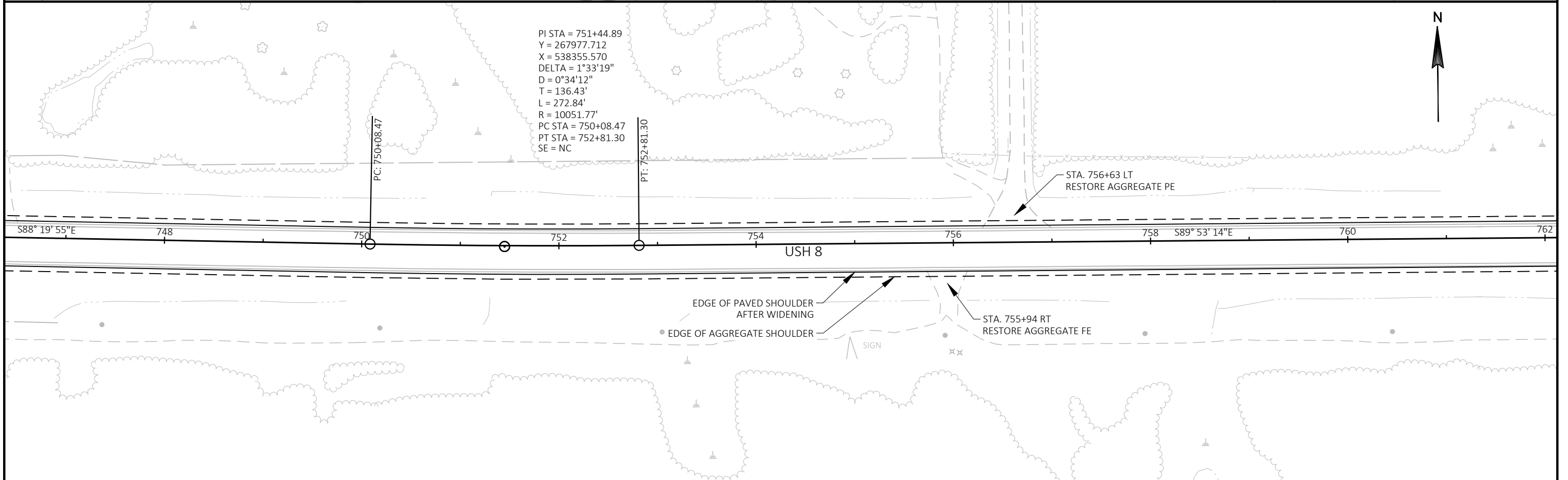
CATEGORY	STATION	TO	STATION	LOCATION	CONSTRUCTION	CONSTRUCTION	REMARKS
					STAKING CURB GUTTER AND CURB & GUTTER 650.5500 LF	STAKING RESURFACING REFERENCE 650.8000 LF	
PROJECT 1570-00-74							
0010	736+13	-	1097+72	CL	-	36159	
0010	1098+13	-	1251+31	CL	-	15318	
0010	1216+75	-	1216+95	LT	25	-	CTH T - NW RADIUS
0010	1217+47	-	1217+75	LT	32	-	CTH T - NE RADIUS
0010	1241+94	-	1242+24	LT	30	-	DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1245+46	-	1245+86	LT	40	-	DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1248+90	-	1249+45	LT	55	-	DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1251+15	-	1251+20	LT	10	-	FRONT AVE - EAST RADIUS
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					192	51477	
CONTRACT CATEGORY 0010 TOTAL					192	51477	

SAWING SUMMARY

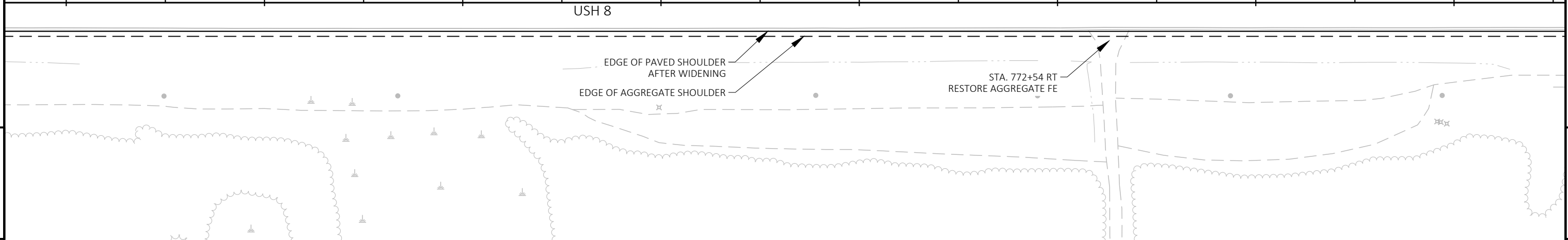
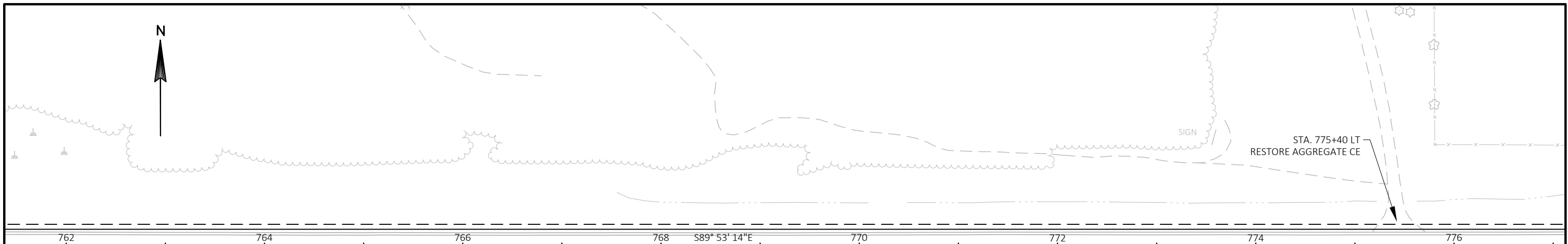
CATEGORY	STATION	TO	STATION	LOCATION	SAWING	SAWING	REMARKS
					ASPHALT 690.0150 LF	CONCRETE 690.0250 LF	
PROJECT 1570-00-74							
0010	777+93	-	778+13	RT	50	-	AT CULVERT REPAIR
0010	1216+75	-	1217+75	LT	61	10	FOR CURB & GUTTER REPLACEMENT - CTH T SIDEROAD
0010	1241+94	-	1242+24	LT	34	5	FOR DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1245+46	-	1245+86	LT	65	5	FOR DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1248+90	-	1249+45	LT	100	5	FOR DRIVEWAY CURB & GUTTER REPLACEMENT
0010	1251+15	-	1251+20	LT	15	5	FOR CURB & GUTTER REPLACEMENT - FRONT AVE, EAST RADIUS
PROJECT 1570-00-74 CATEGORY 0010 TOTAL					325	30	
CONTRACT CATEGORY 0010 TOTAL					325	30	



CONTROL POINT 807 X = 519286.14 Y = 267969.15 DISK IN CONCRETE NOTE: LOCATION BEYOND PLAN VIEW
CONTROL POINT 808 X = 513654.86 Y = 268054.21 CAPPED REBAR NOTE: LOCATION BEYOND PLAN VIEW
CONTROL POINT 9823 X = 533464.04 Y = 268100.71 DISK IN CONCRETE NOTE: LOCATION BEYOND PLAN VIEW

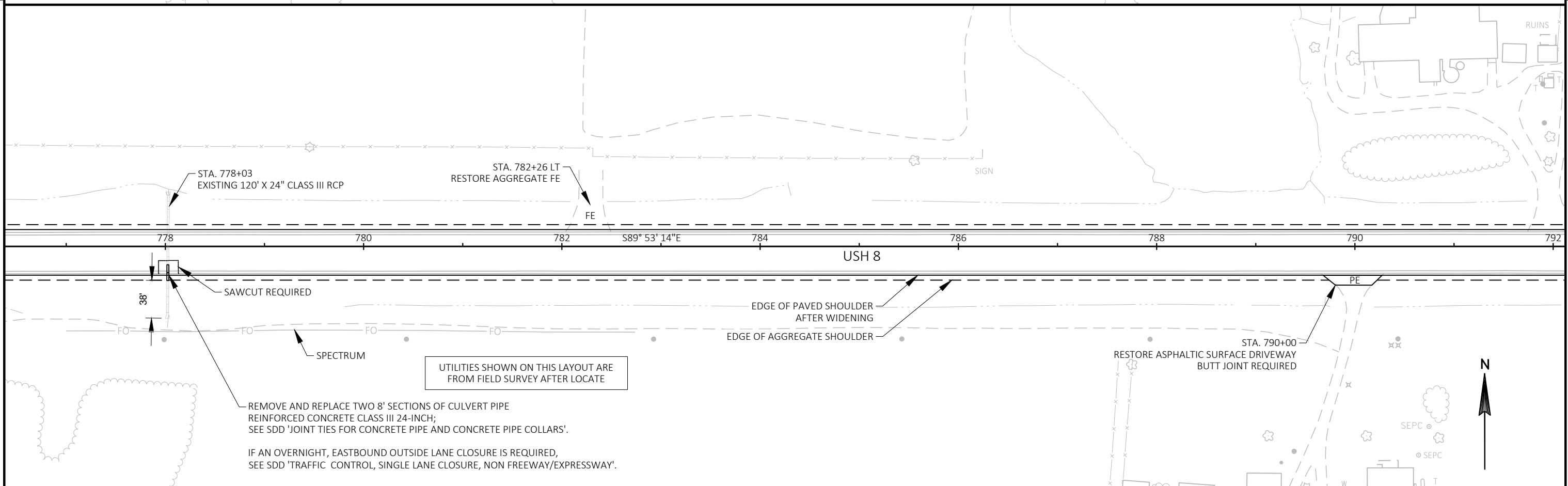


PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PLAN	SHEET	E
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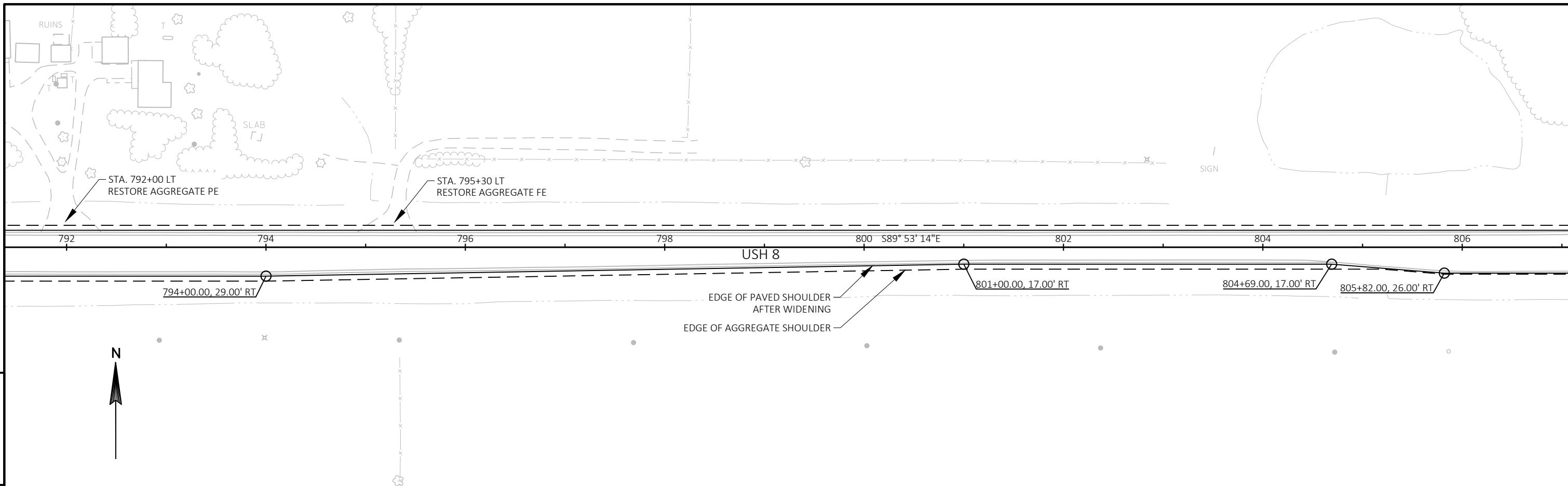


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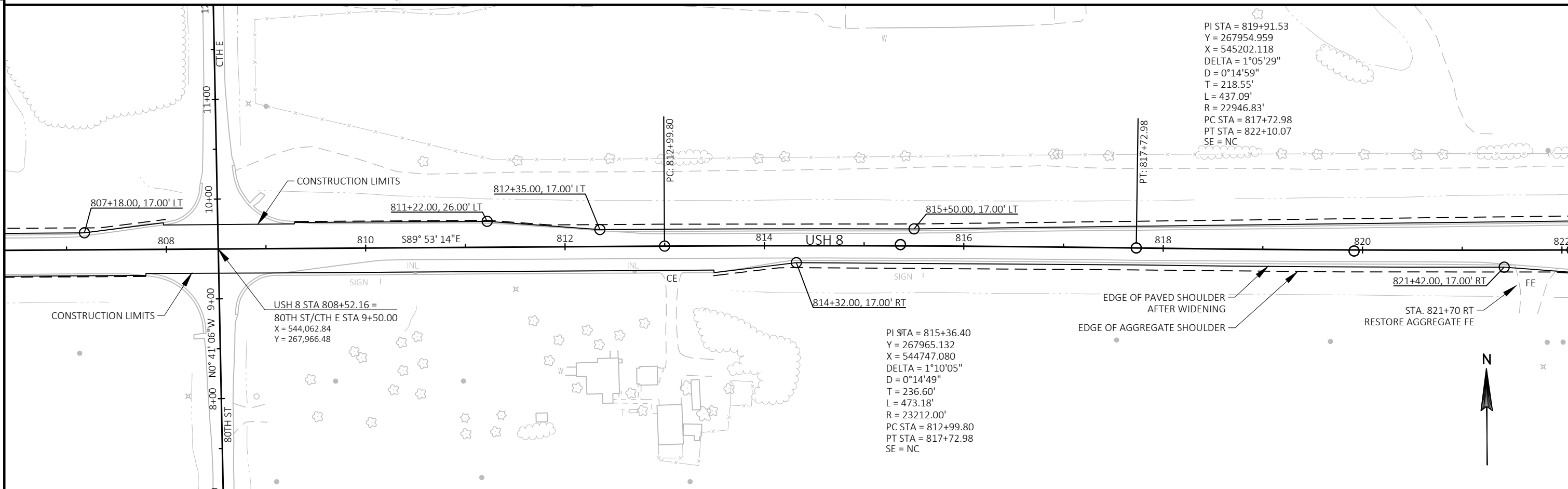


PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PLAN	SHEET	E
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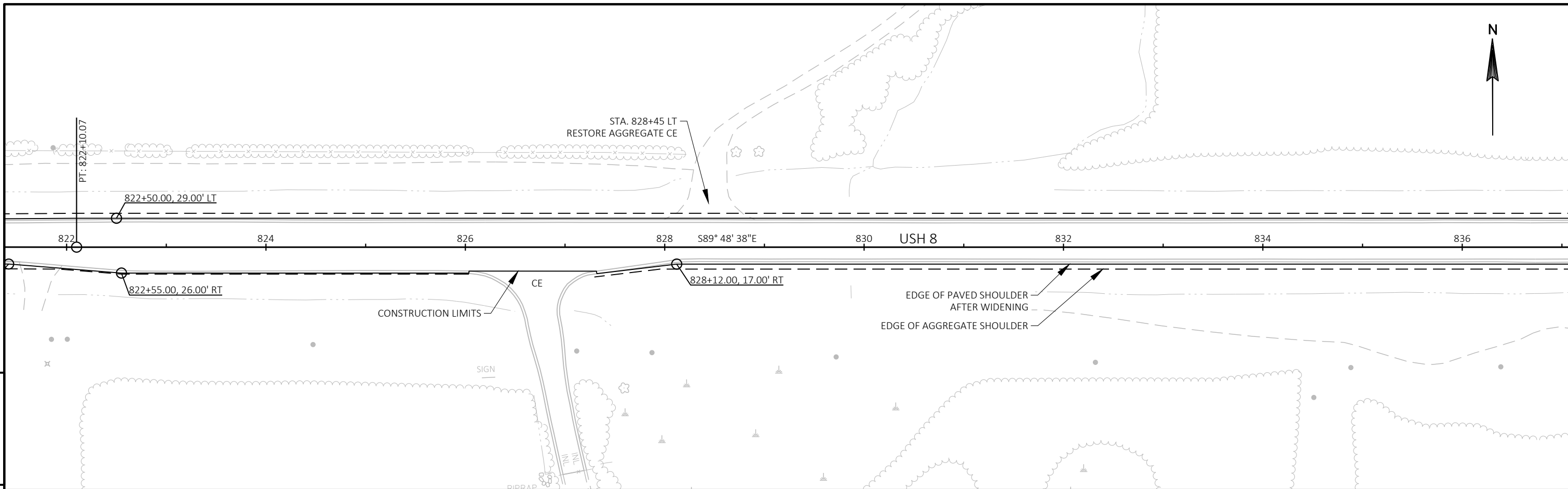


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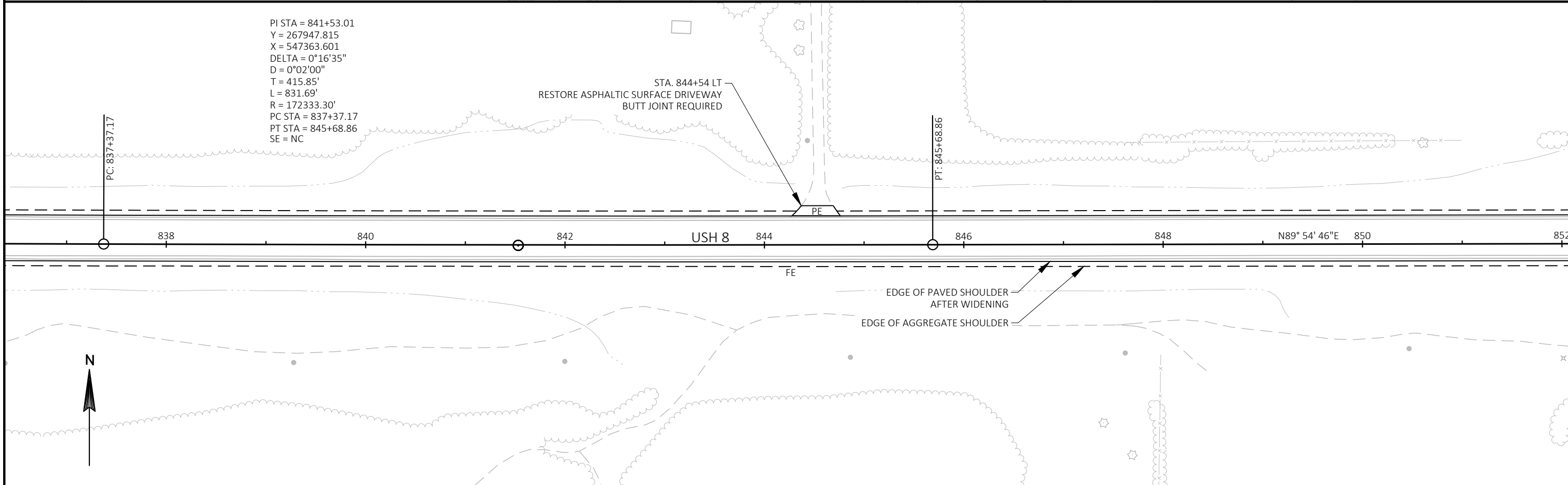


PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PLAN	SHEET	E
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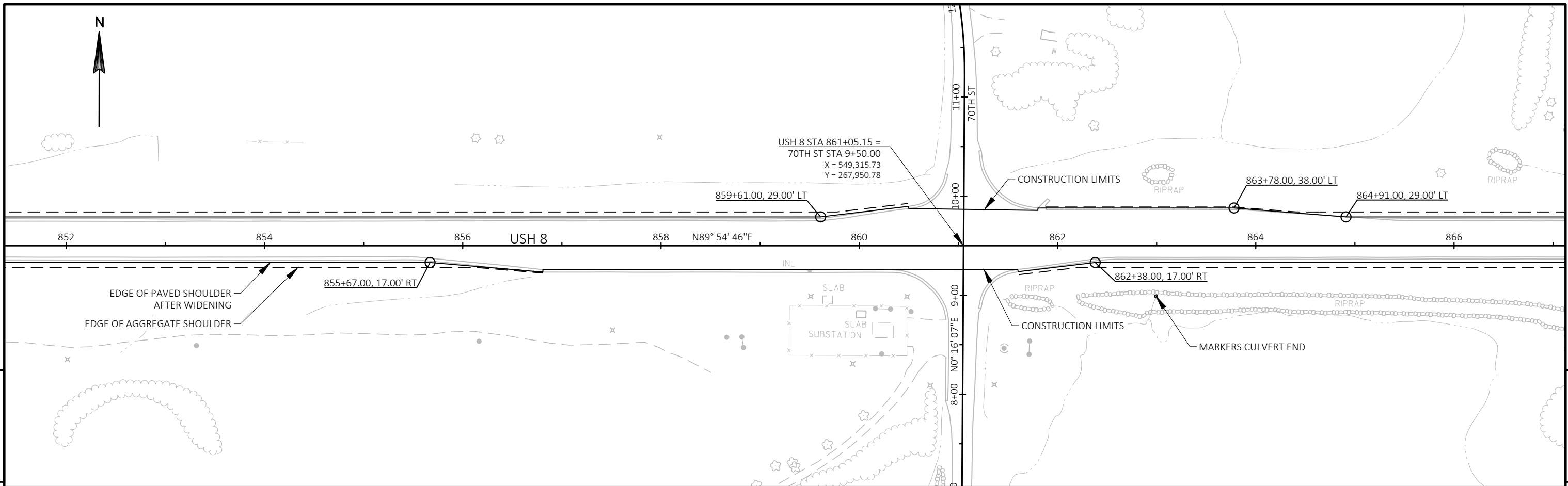


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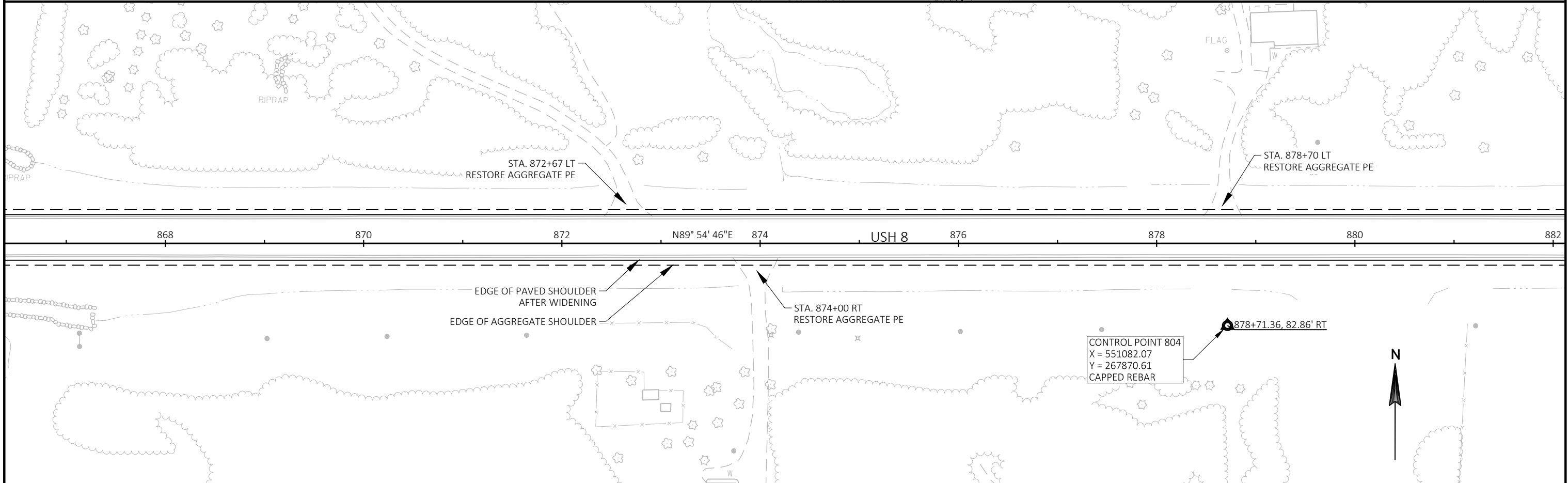


PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PLAN	SHEET	E
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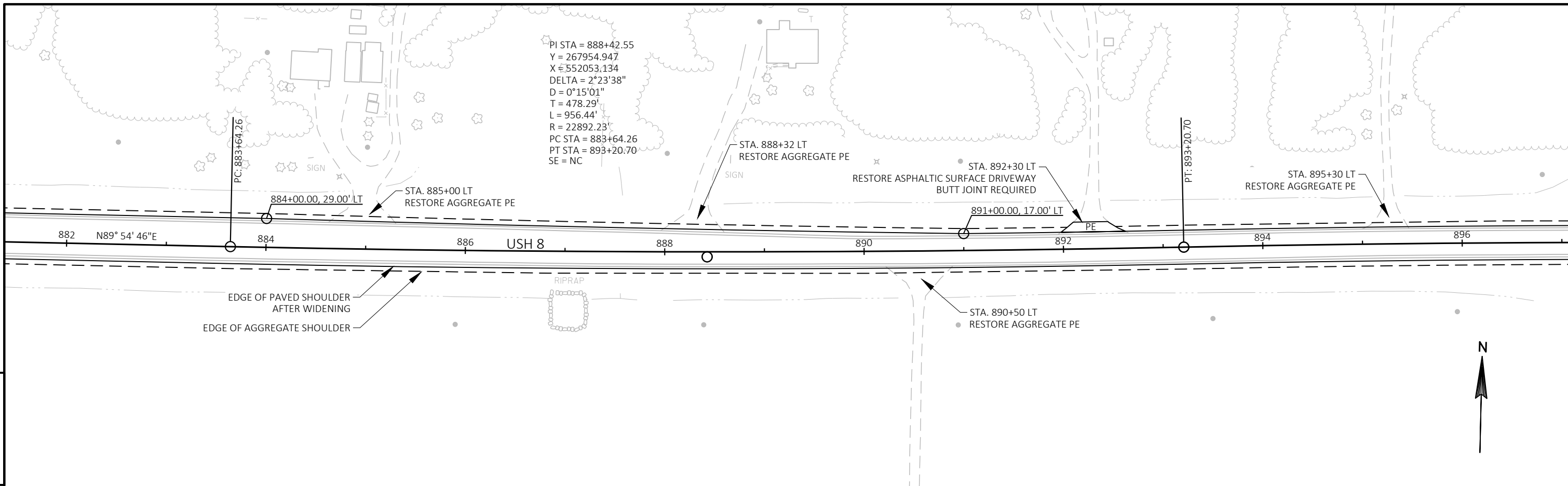


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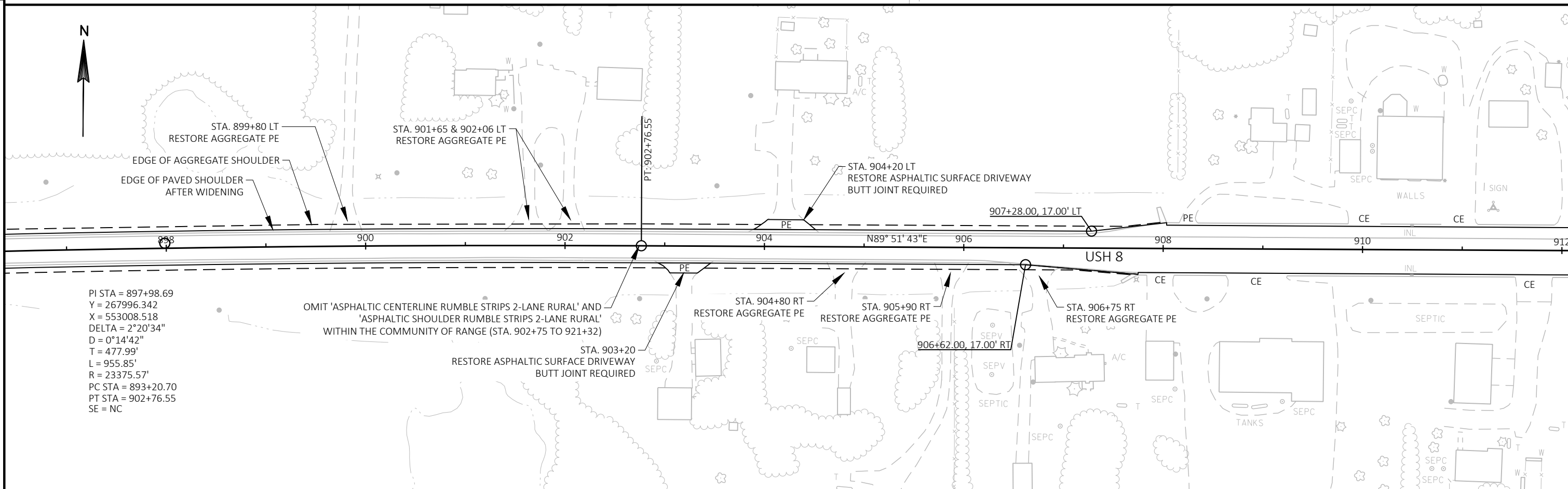


PROJECT NO: 1570-00-74 & 1570-00-77 HWY: USH 8 COUNTY: POLK PLAN SHEET E



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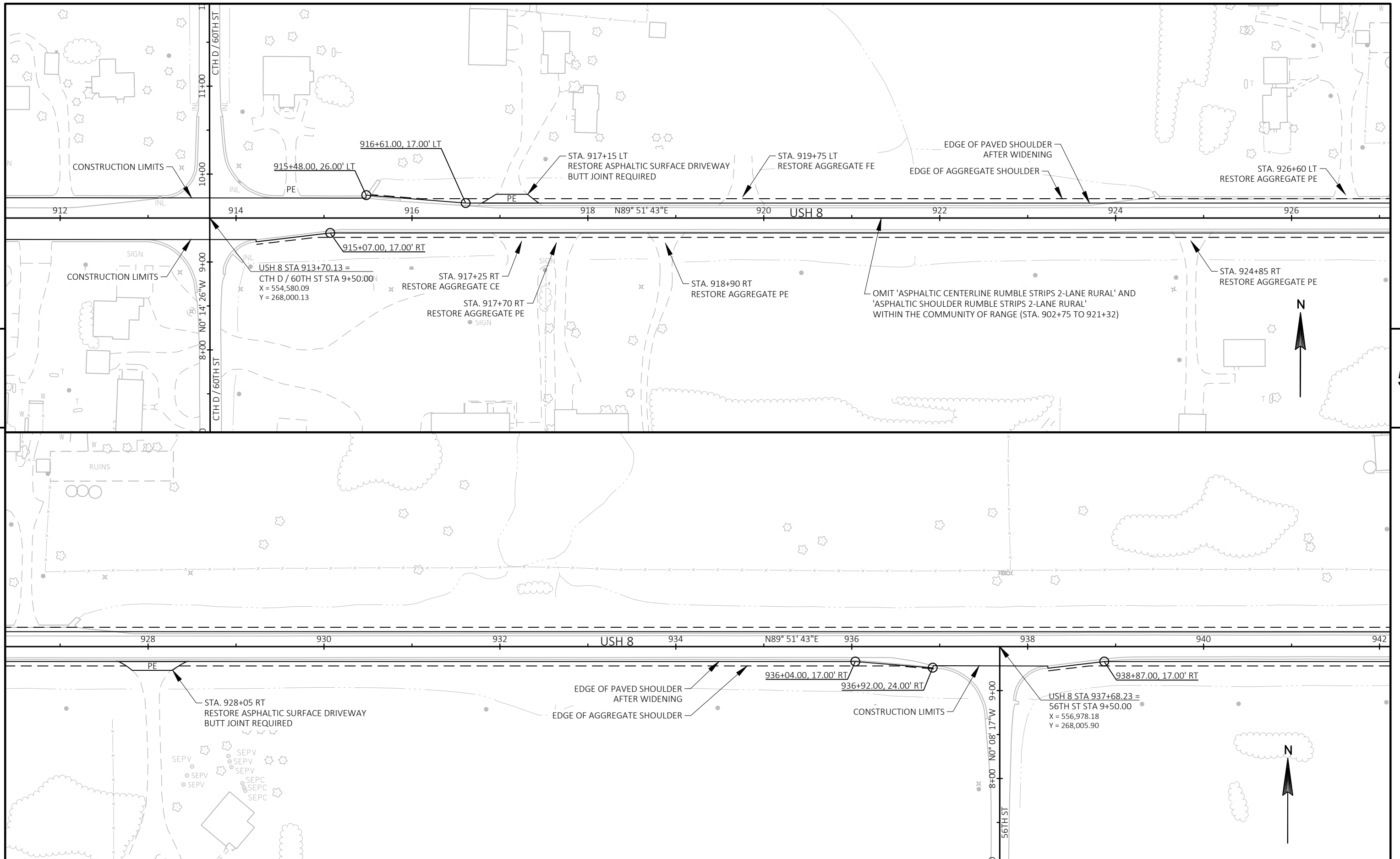
5



PI STA = 897+98.69
 Y = 267996.342
 X = 553008.518
 DELTA = 2°20'34"
 D = 0°14'42"
 T = 477.99'
 L = 955.85'
 R = 23375.57'
 PC STA = 893+20.70
 PT STA = 902+76.55
 SE = NC

OMIT 'ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL' AND 'ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL' WITHIN THE COMMUNITY OF RANGE (STA. 902+75 TO 921+32)

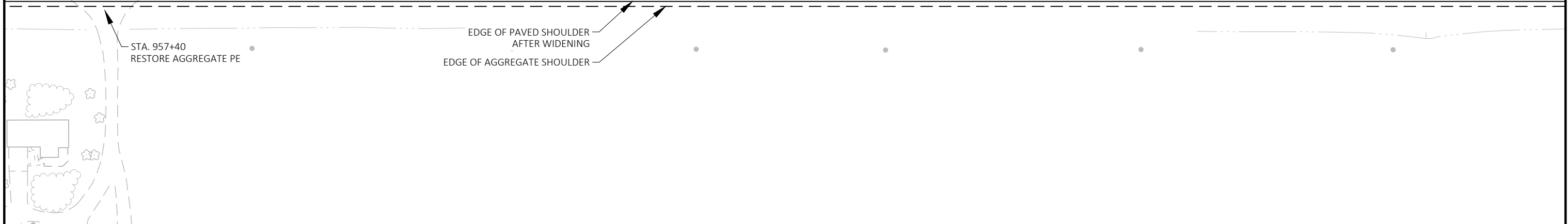
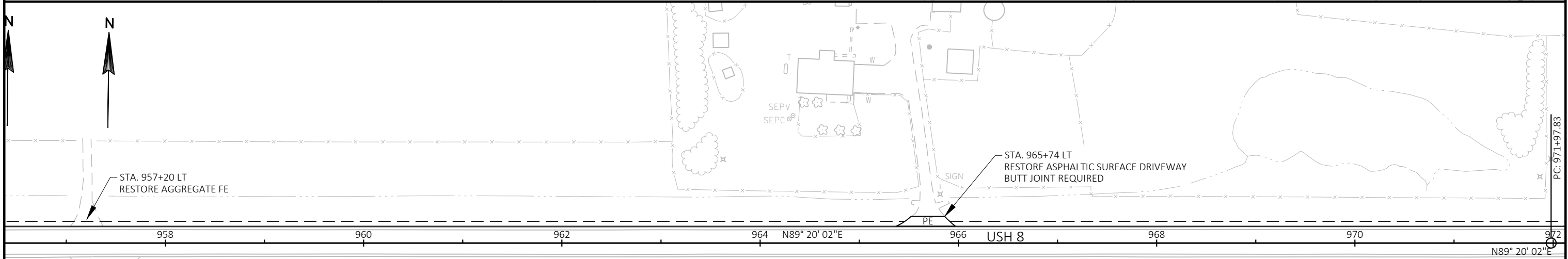
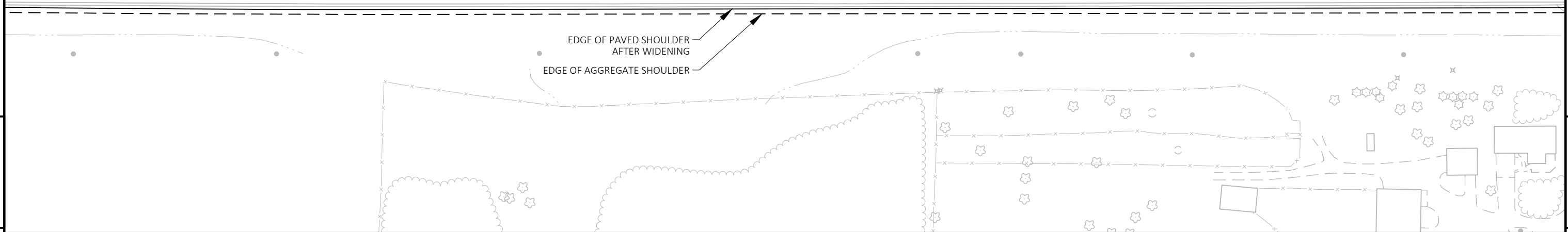
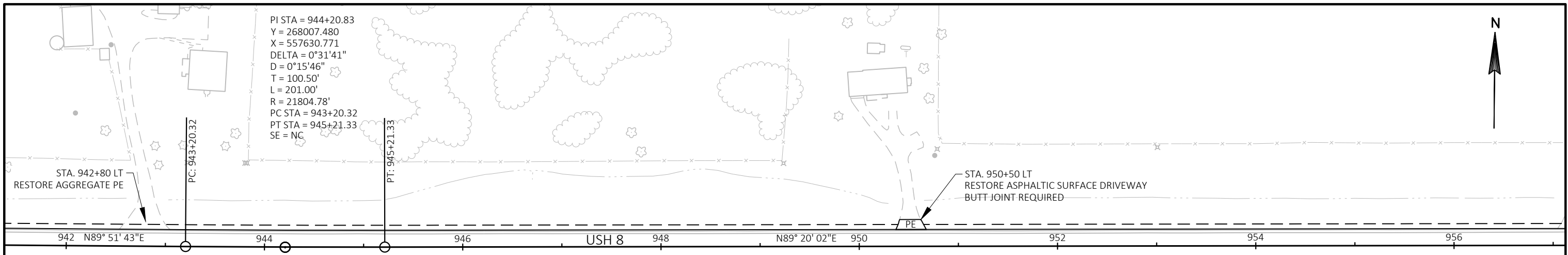
PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PLAN	SHEET	E
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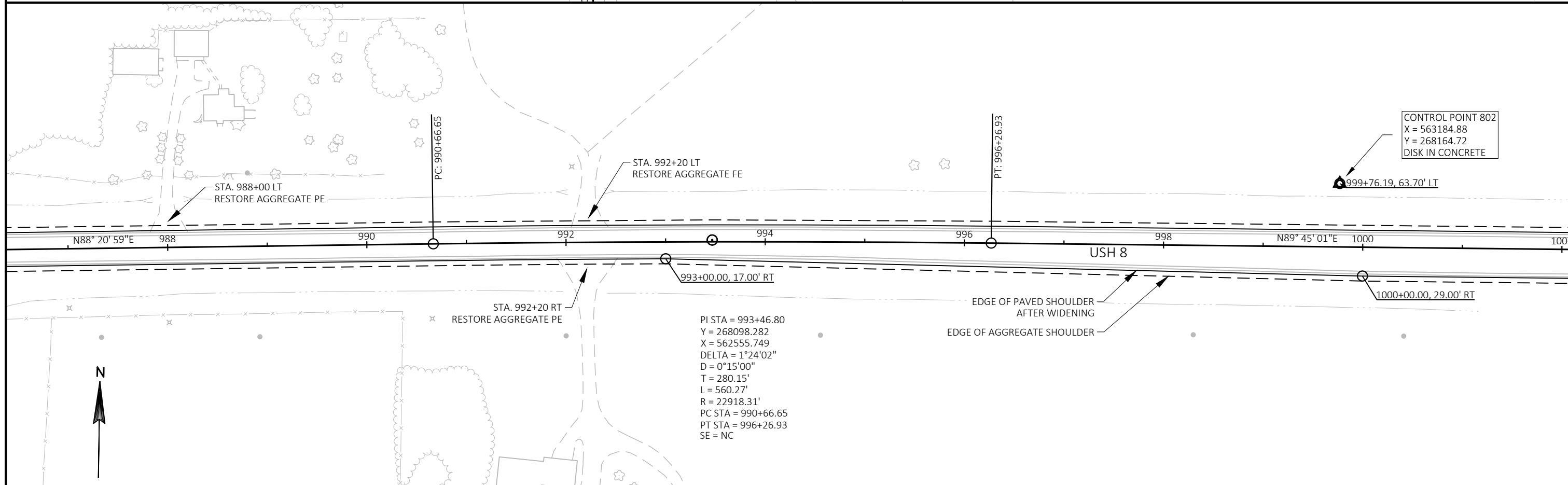
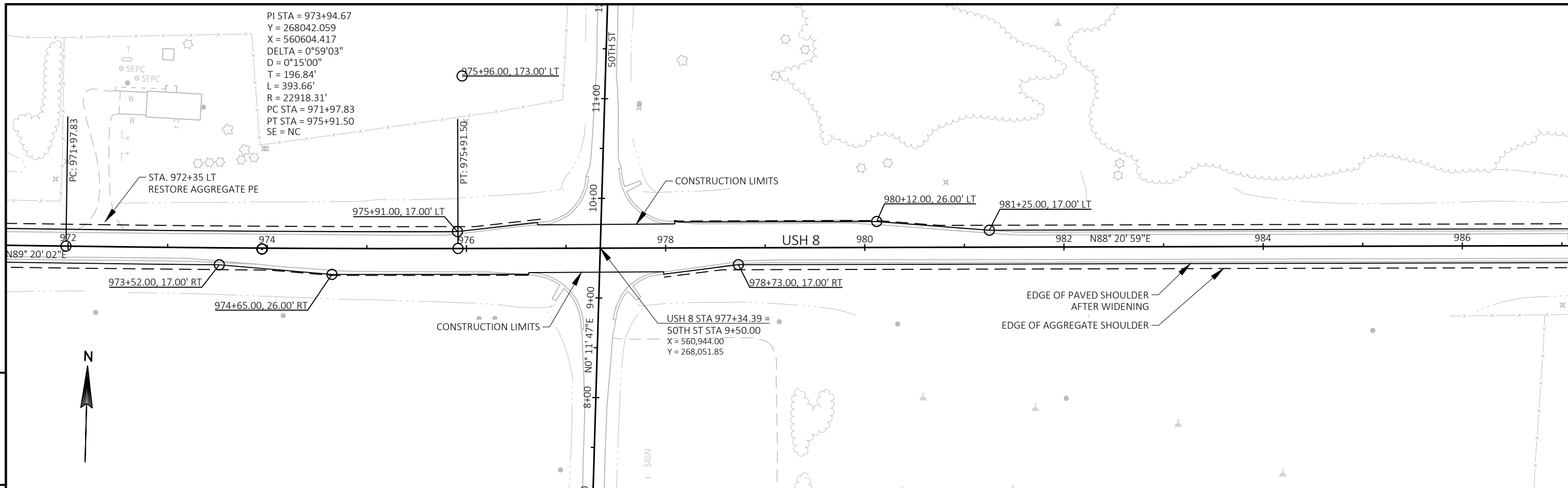
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PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PLAN	SHEET	E
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PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PLAN	SHEET	E
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PROJECT NO: 1570-00-74 & 1570-00-77

HWY: USH 8

COUNTY: POLK

PLAN

SHEET

E

FILE NAME: N:\PDS\C3D\15700004\SHEETSP\15700004_PP.DWG
LAYOUT NAME - PP-9

PLOT DATE: 10/8/2019 4:54 PM

PLOT BY: ERICKSON, ZACHARY A

PLOT NAME:

PLOT SCALE: #####

WISDOT/CADD SHEET 44



1002 1004 1006 1008 N89° 45' 01"E 1010 1012 1014 1016

USH 8

EDGE OF PAVED SHOULDER
AFTER WIDENING
EDGE OF AGGREGATE SHOULDER

5

5

PC: 1021+01.01

STA. 1022+00 LT
RESTORE AGGREGATE PE

PT: 1023+41.20

1018 N89° 45' 01"E 1020 1022 1024 1026 1028 S89° 43' 23"E 1030 1032

USH 8

STA. 1018+00 RT
RESTORE AGGREGATE FE

EDGE OF PAVED SHOULDER
AFTER WIDENING
EDGE OF AGGREGATE SHOULDER

PI STA = 1022+21.11
Y = 268110.809
X = 565430.055
DELTA = 0°31'36"
D = 0°13'10"
T = 120.10'
L = 240.19'
R = 26124.80'
PC STA = 1021+01.01
PT STA = 1023+41.20
SE = NC



PROJECT NO: 1570-00-74 & 1570-00-77

HWY: USH 8

COUNTY: POLK

PLAN

SHEET

E

FILE NAME : N:\PDS\C3D\15700004\SHEETSPLAN\15700004_PP.DWG
LAYOUT NAME - PP-10

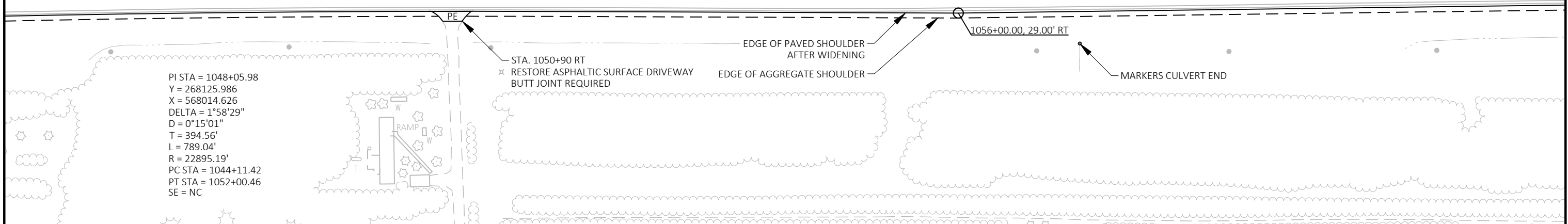
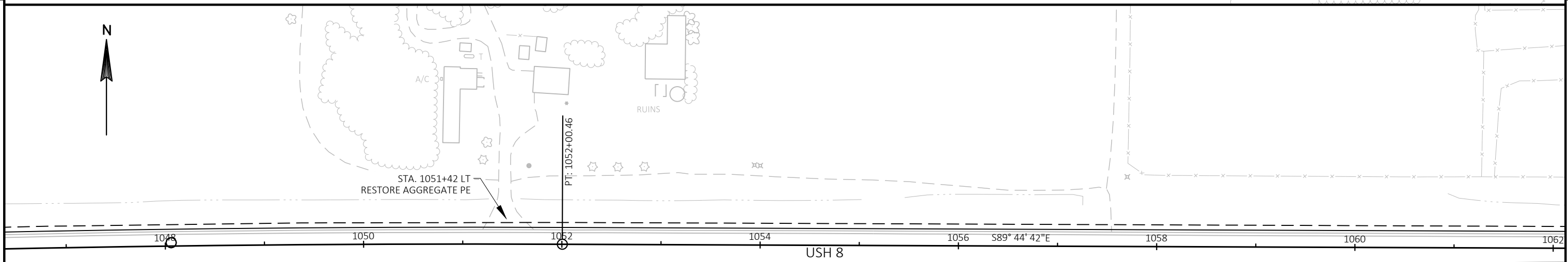
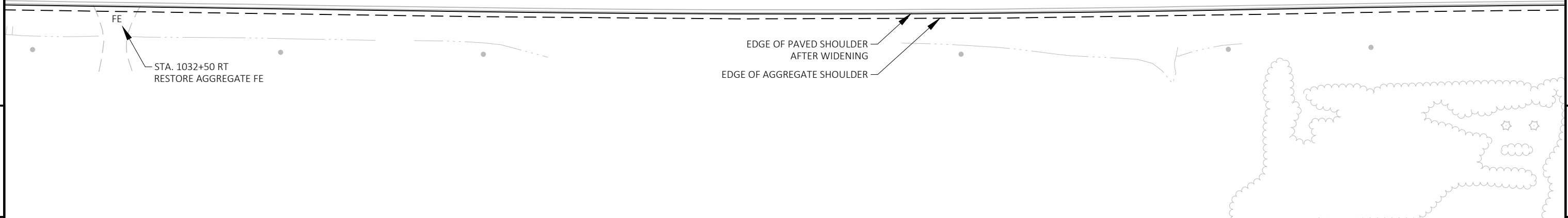
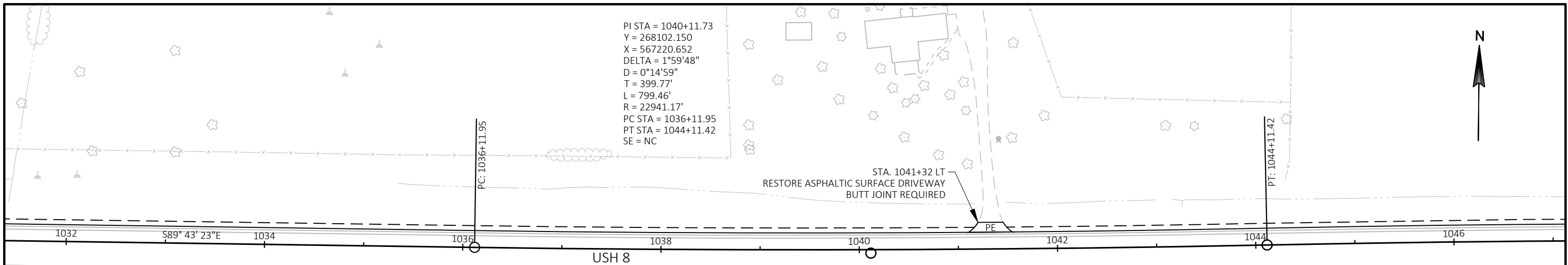
PLOT DATE : 10/8/2019 4:54 PM

PLOT BY : ERICKSON, ZACHARY A

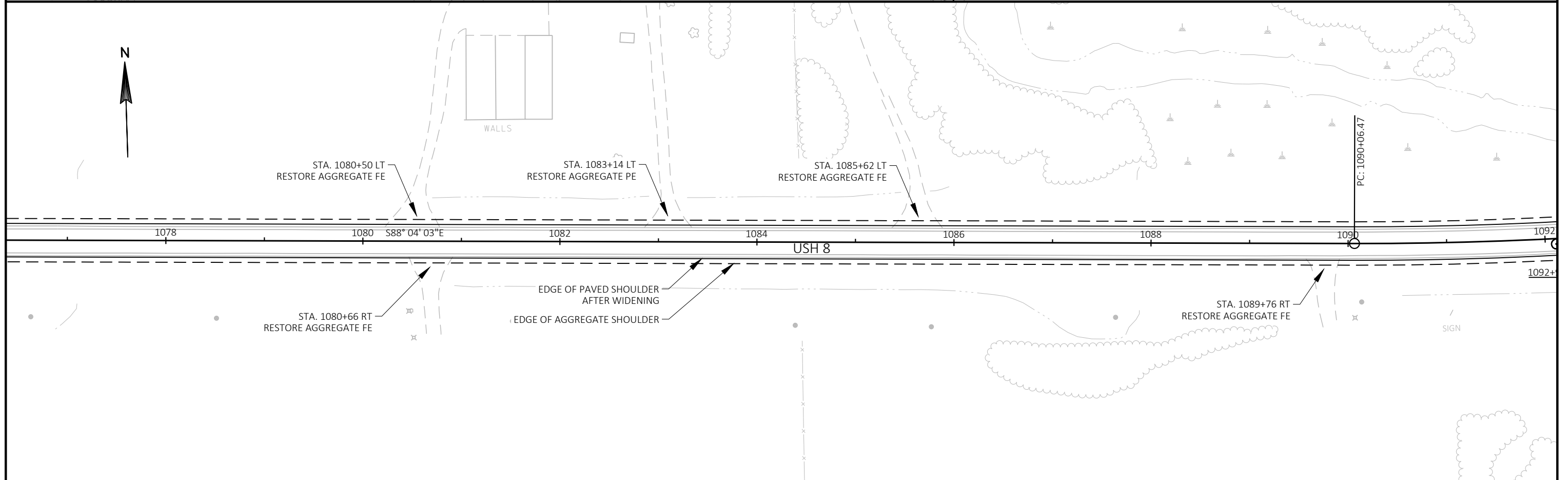
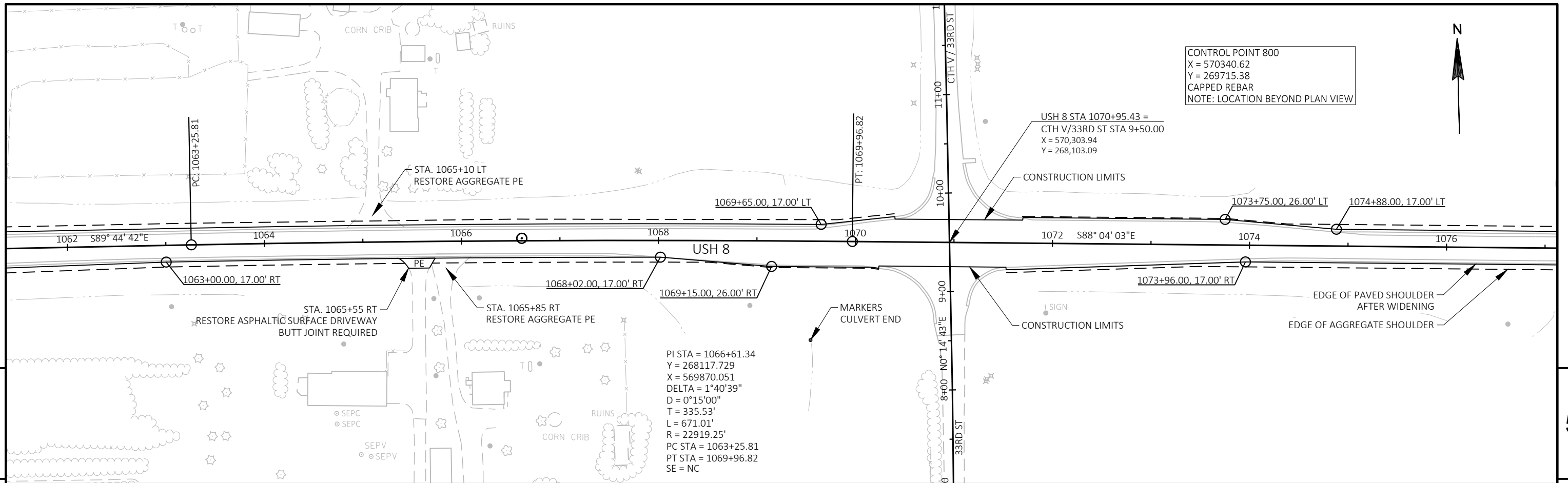
PLOT NAME :

PLOT SCALE : #####

WISDOT/CADD SHEET 44



PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PLAN	SHEET	E
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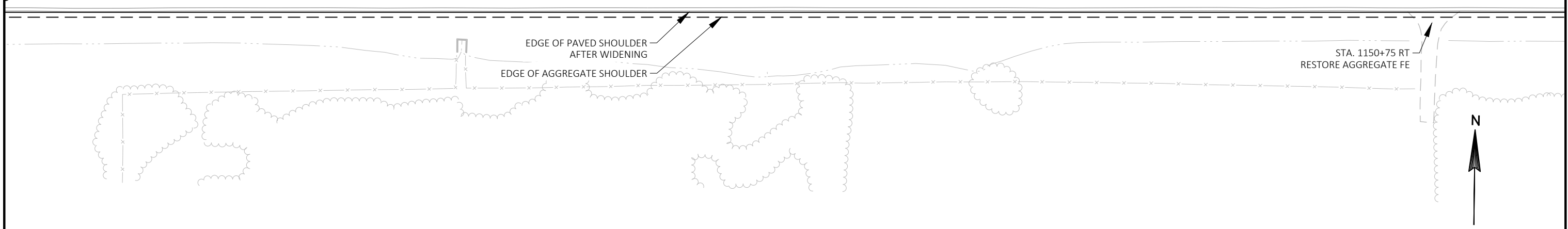
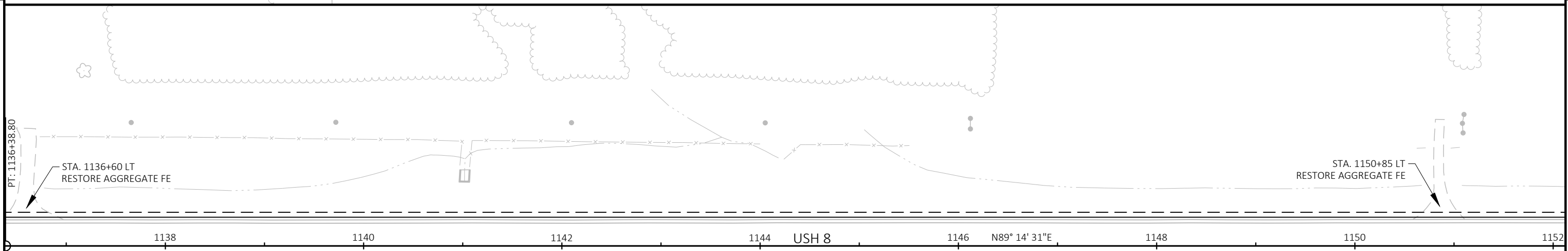
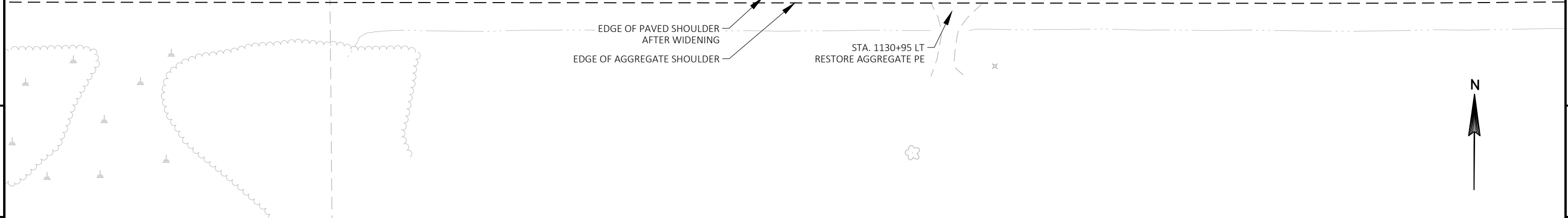
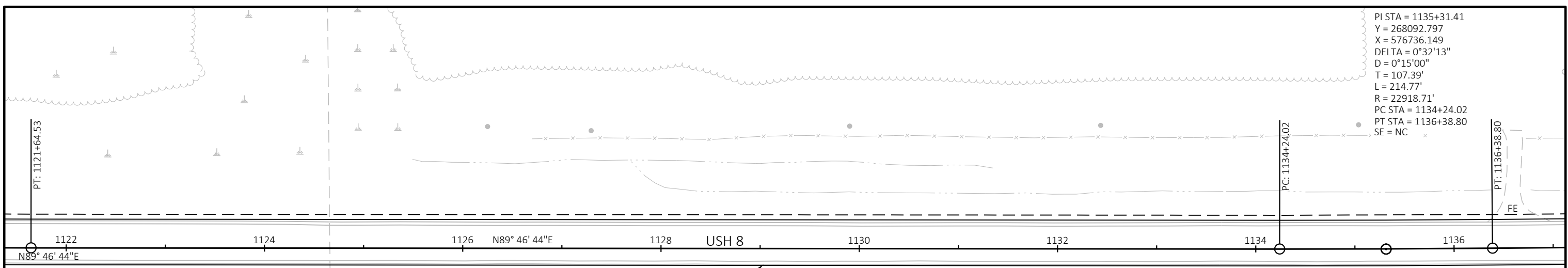


PROJECT NO: 1570-00-74 & 1570-00-77 HWY: USH 8 COUNTY: POLK PLAN SHEET E

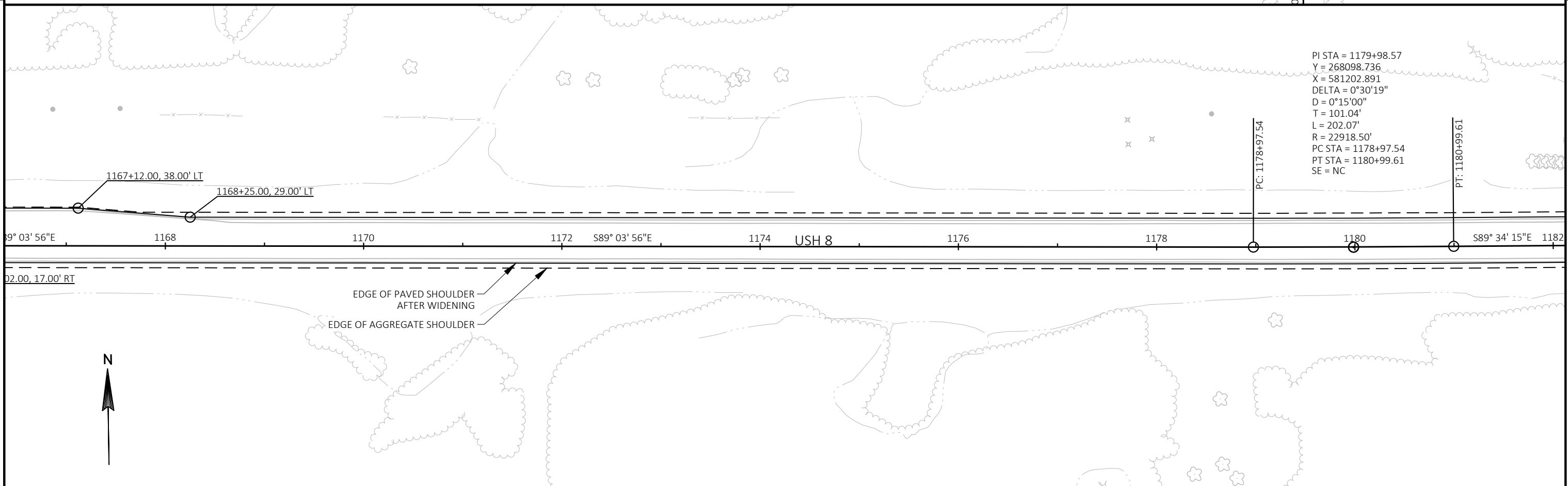
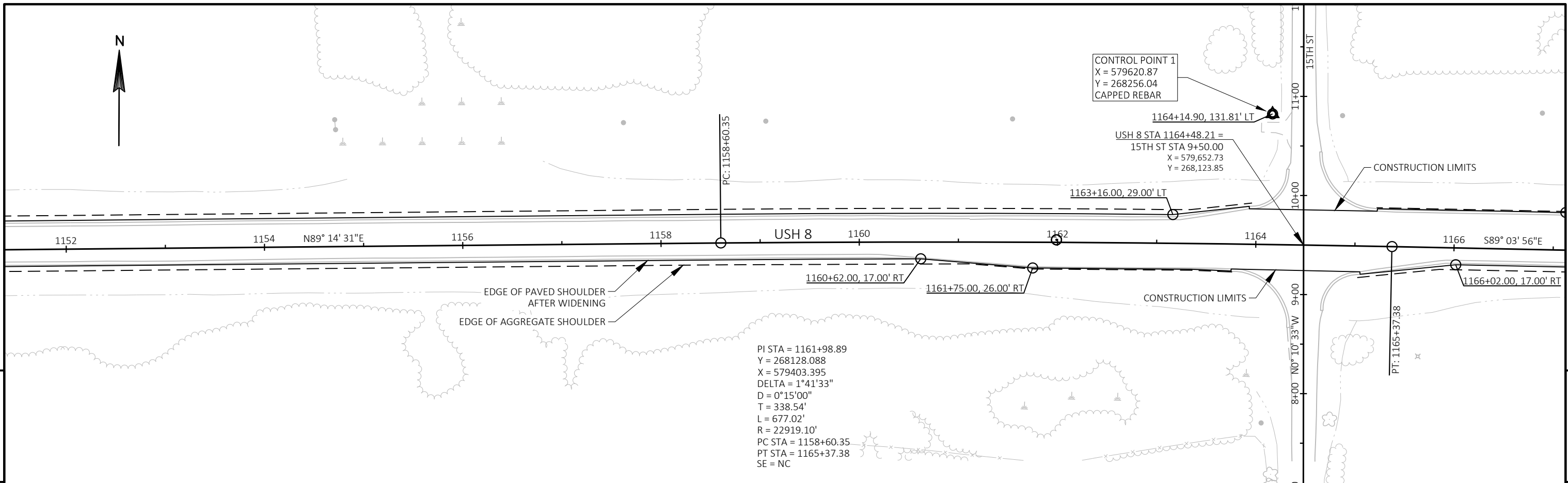
FILE NAME : N:\PDS\C3D\15700004\SHEETPLAN\15700004_PP.DWG PLOT DATE : 10/8/2019 4:56 PM PLOT BY : ERICKSON, ZACHARY A PLOT NAME : PLOT SCALE : ##### WISDOT/CADD SHEET 44

LAYOUT NAME - PP-12

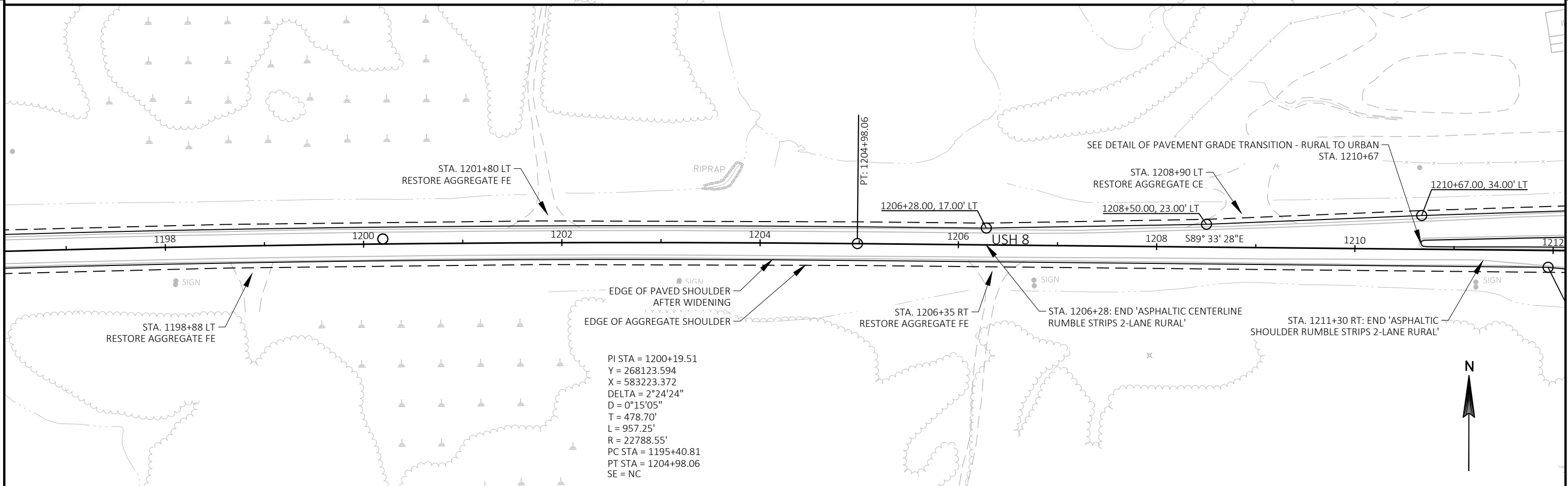
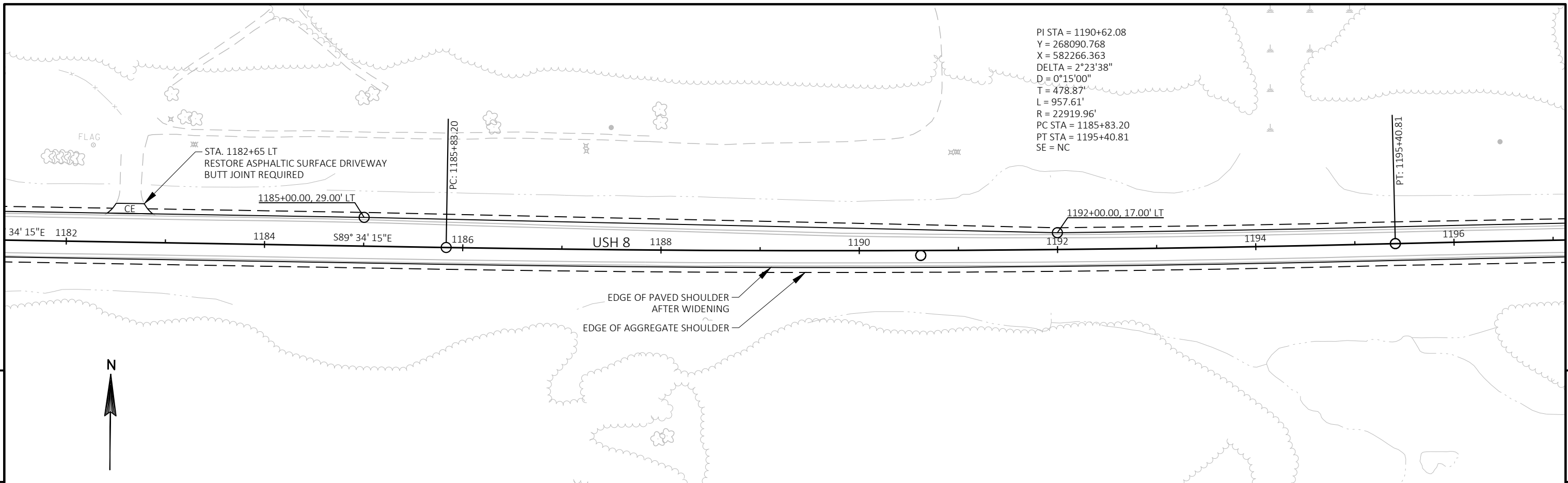
PI STA = 1135+31.41
 Y = 268092.797
 X = 576736.149
 DELTA = 0°32'13"
 D = 0°15'00"
 T = 107.39'
 L = 214.77'
 R = 22918.71'
 PC STA = 1134+24.02
 PT STA = 1136+38.80
 SE = NC



PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PLAN	SHEET	E
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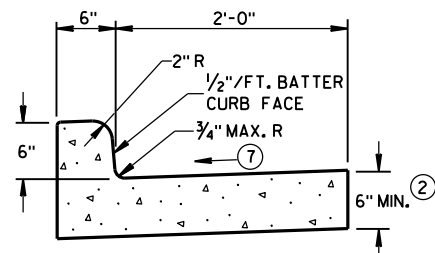
PROJECT NO: 1570-00-74 & 1570-00-77	HWY: USH 8	COUNTY: POLK	PLAN
SHEET			E



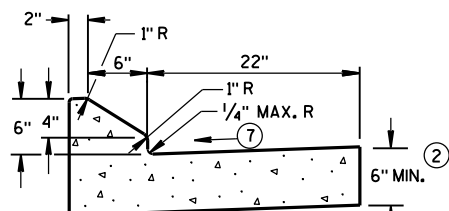
PROJECT NO: 1570-00-74 & 1570-00-77 HWY: USH 8 COUNTY: POLK PLAN SHEET E

Standard Detail Drawing List

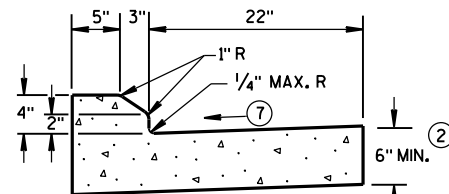
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E15-01	CULVERT PIPE CHECK
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-01	HMA LONGITUDINAL JOINTS
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
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
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C07-14B	PAVEMENT MARKING WORDS
15C07-14C	PAVEMENT MARKING ARROWS
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-04	MEDIAN ISLAND MARKING
15C19-05A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-05B	MOVING PAVEMENT MARKING OPERATION MULTI-LANE UNDIVIDED ROADWAY
15C27-03B	PAVEMENT MARKING (ISLANDS)
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15C35-03B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-03C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-06	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-01	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES



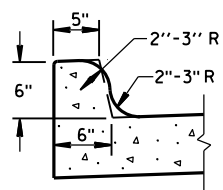
TYPES A^① & D



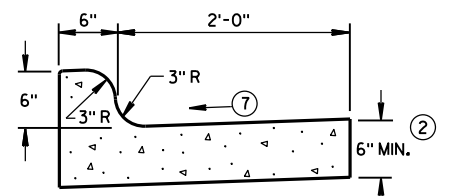
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

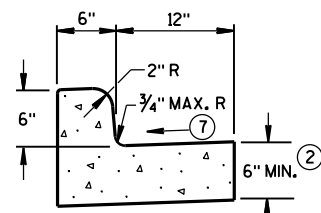


TYPES K^① & L
(OPTIONAL CURB SHAPE)



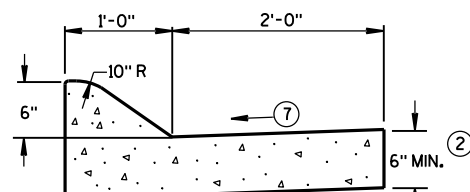
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

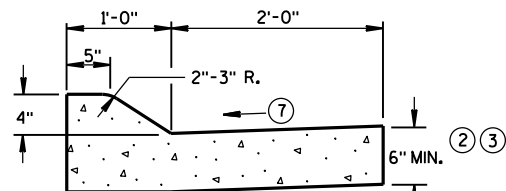


TYPES A^① & D

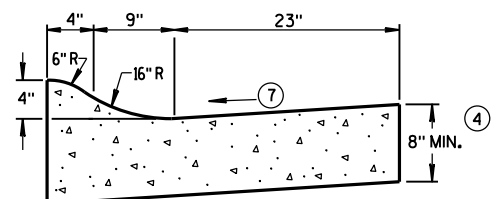
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

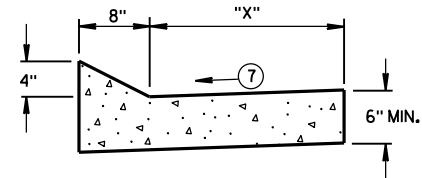


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

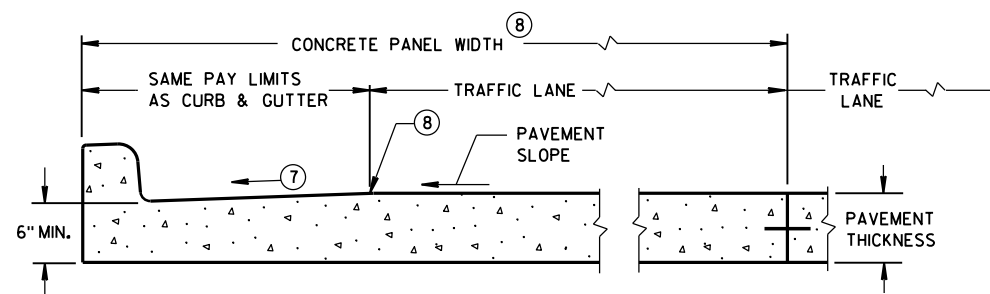
CONCRETE CURB & GUTTER 36"



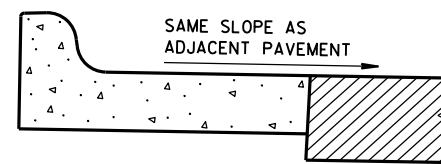
TYPES TBT & TBTT^①

CONCRETE CURB & GUTTER

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



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



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

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS 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 & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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 GUTTER 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 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.

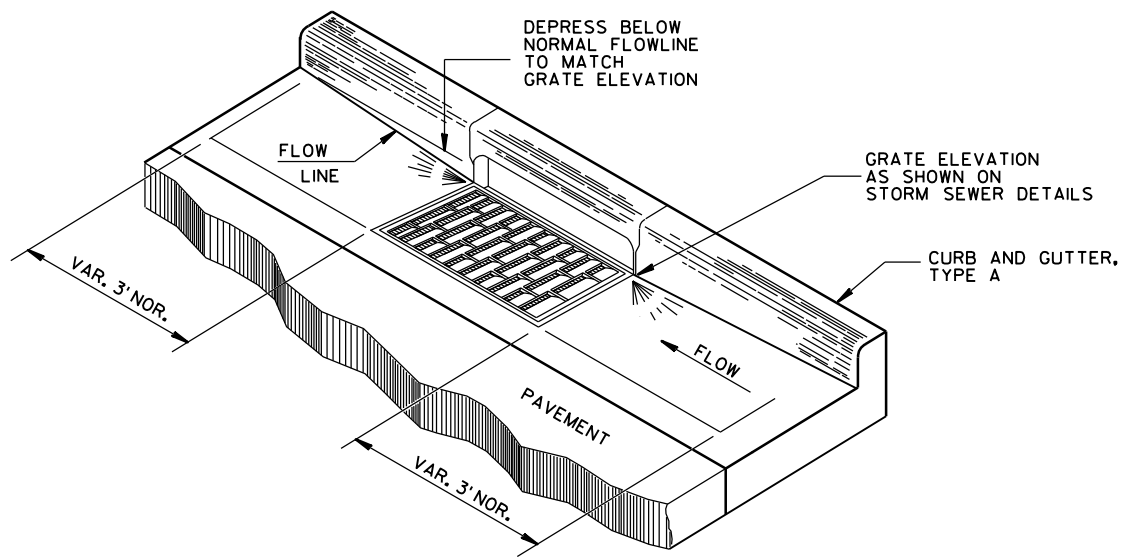
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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

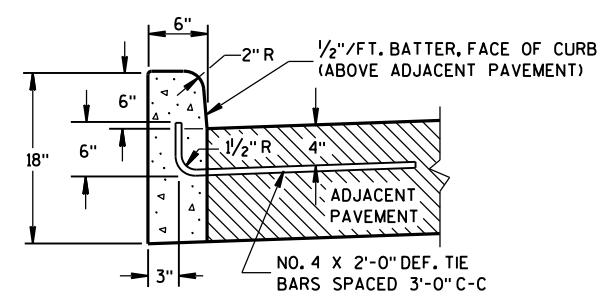
* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

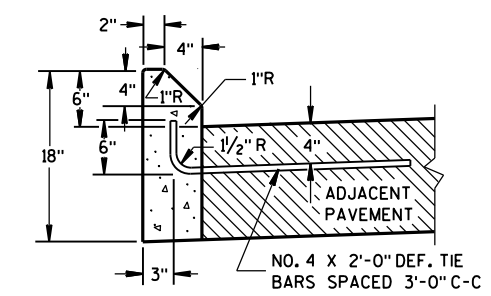
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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



TYPES A^① & D

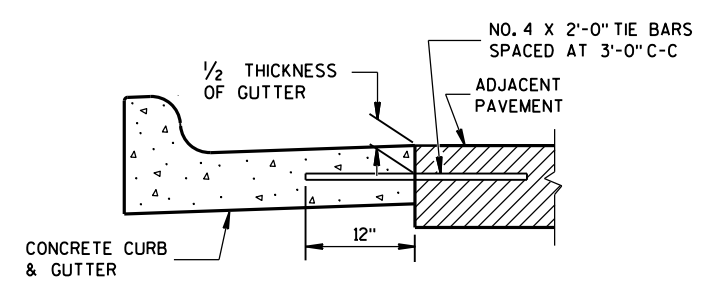


TYPES G^① & J

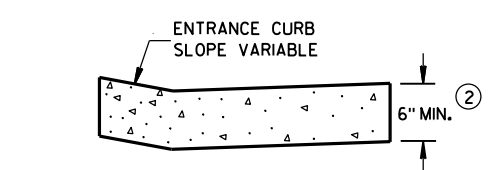
GENERAL NOTES

- DETAILS OF CONSTRUCTION, MATERIALS 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 GUTTER 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 REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

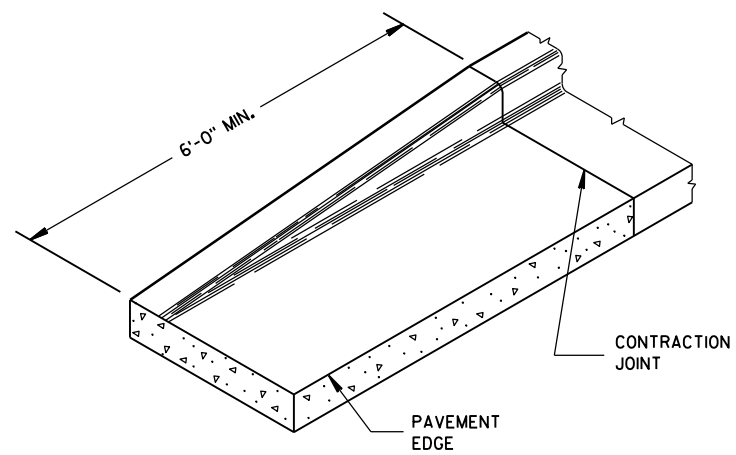
CONCRETE CURB



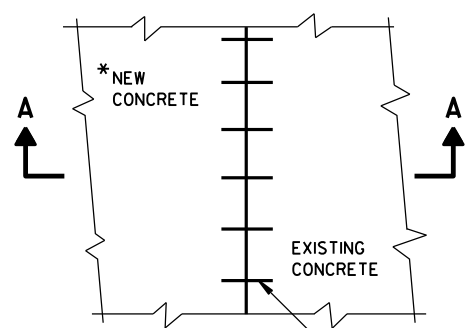
TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑨
(WHEN DIRECTED BY THE ENGINEER)



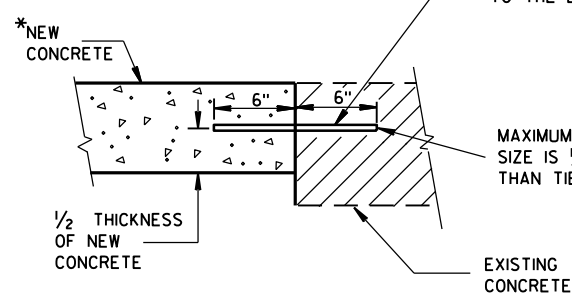
END SECTION CURB & GUTTER



PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

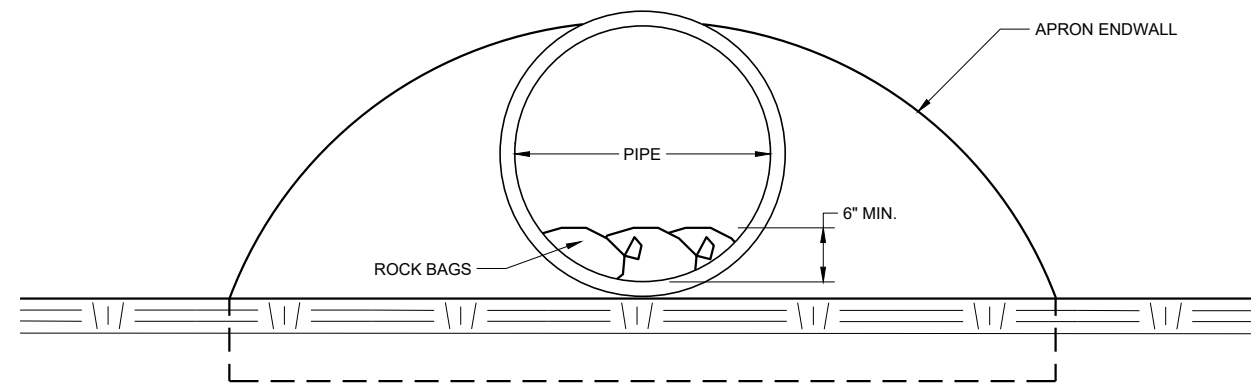
NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.



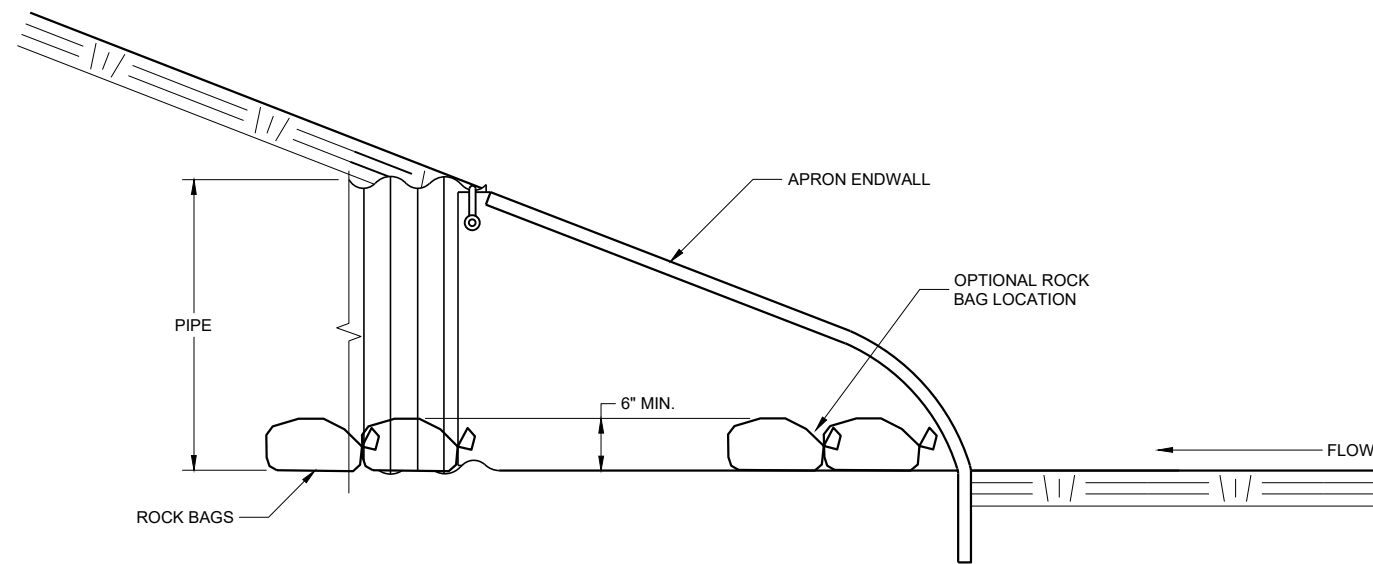
SECTION A-A
TIE BARS DRILLED INTO EXISTING PAVEMENT

MAXIMUM DRILL HOLE SIZE IS 1/8" GREATER THAN TIE BAR DIAMETER

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June, 2017 DATE	/s/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	



END VIEW



SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Daniel Schave
DATE EROSION CONTROL ENGINEER

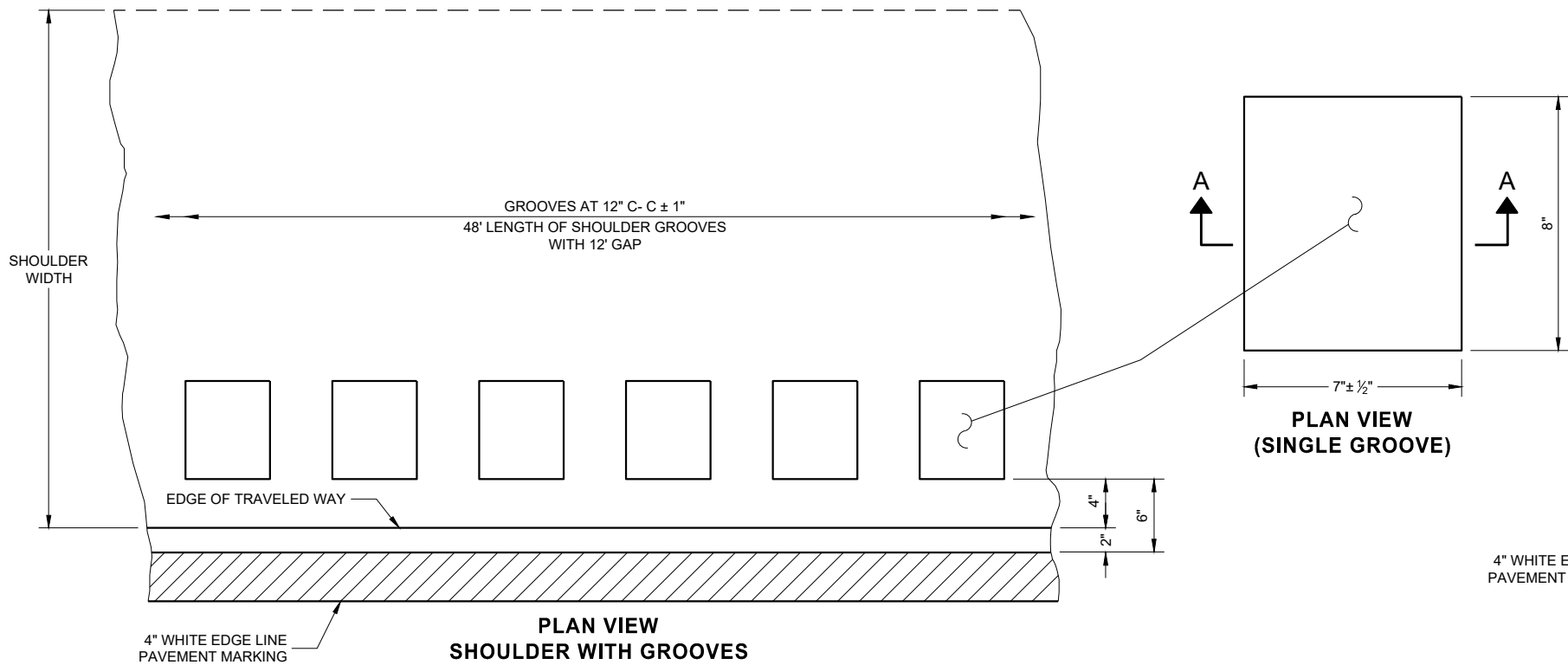
FHWA

GENERAL NOTES

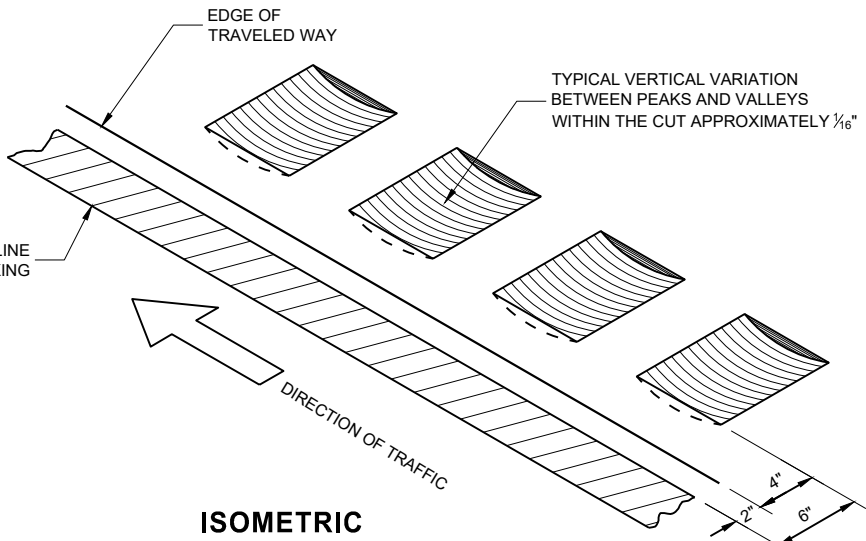
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

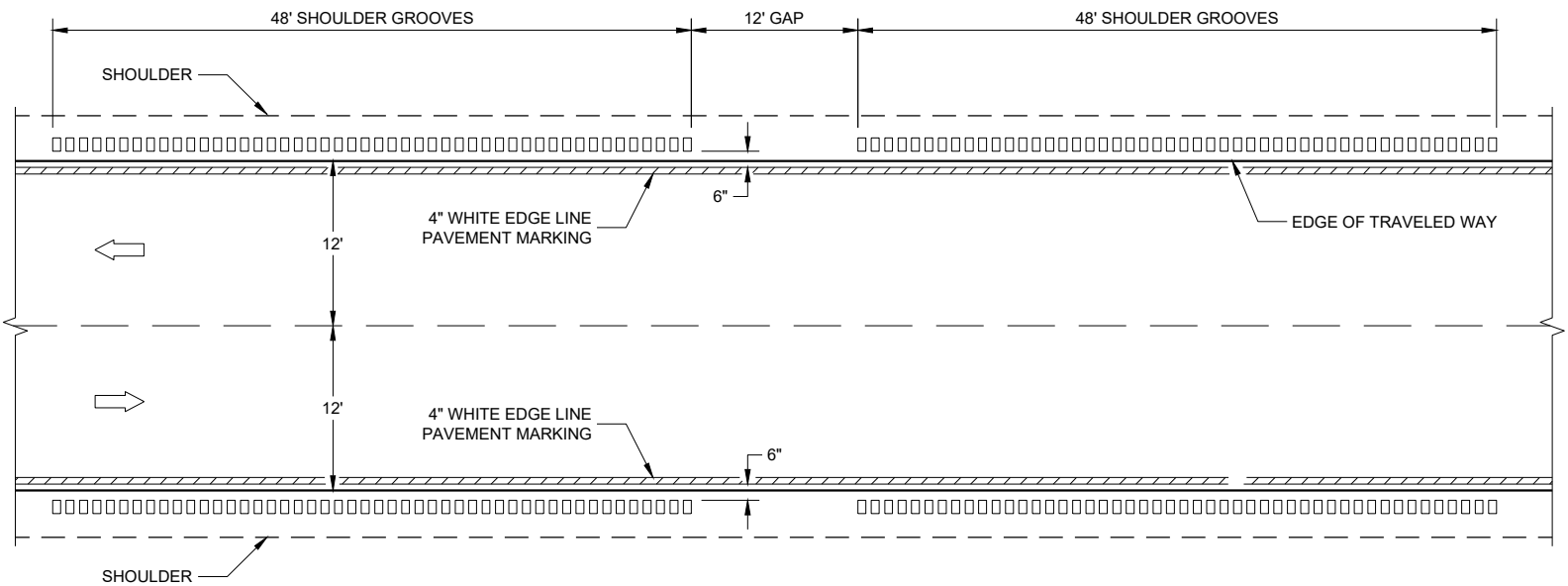
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



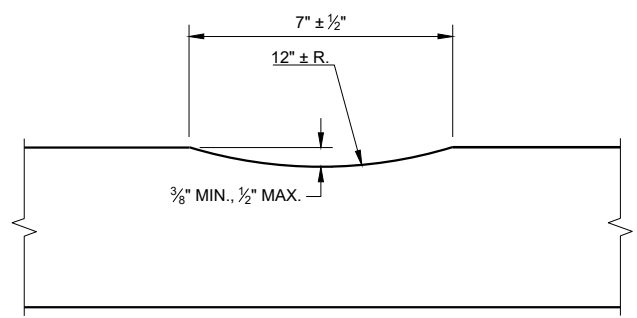
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



ISOMETRIC



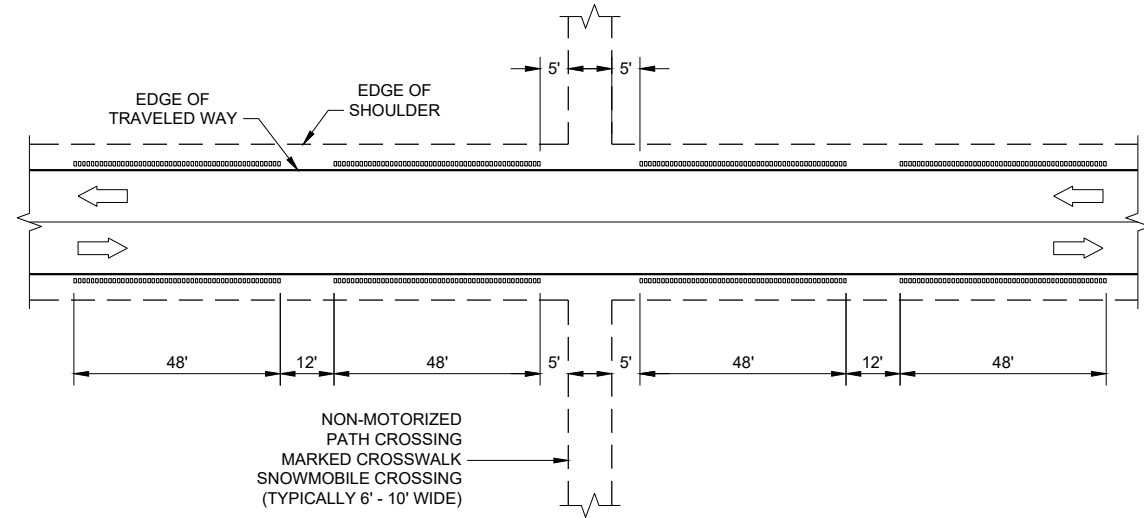
**TYPE 1
2 - LANE SHOULDER RUMBLE STRIP**



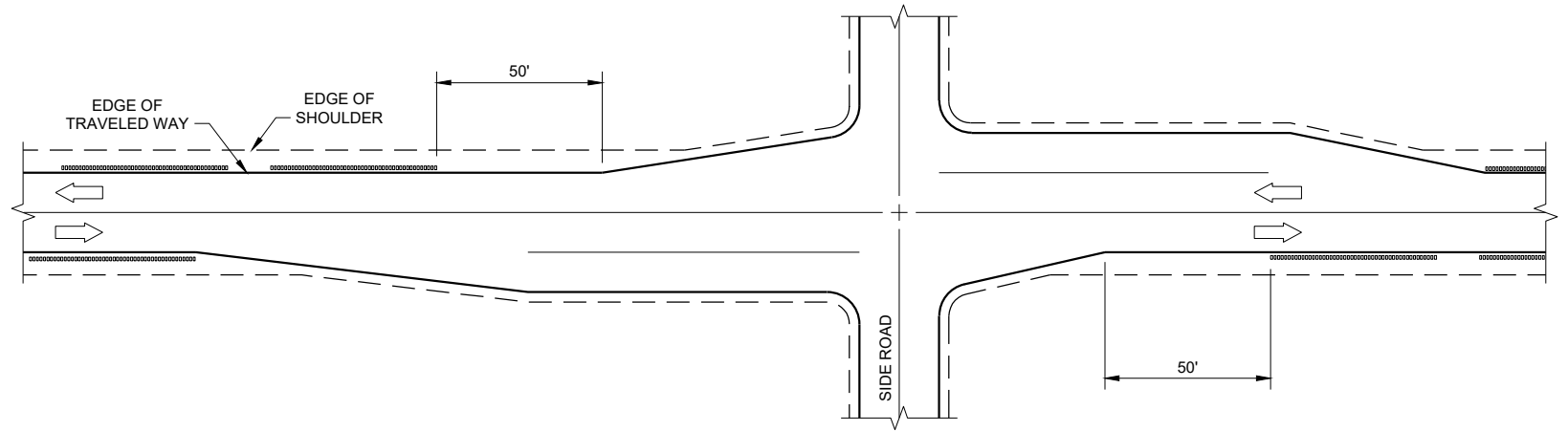
SECTION A - A

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

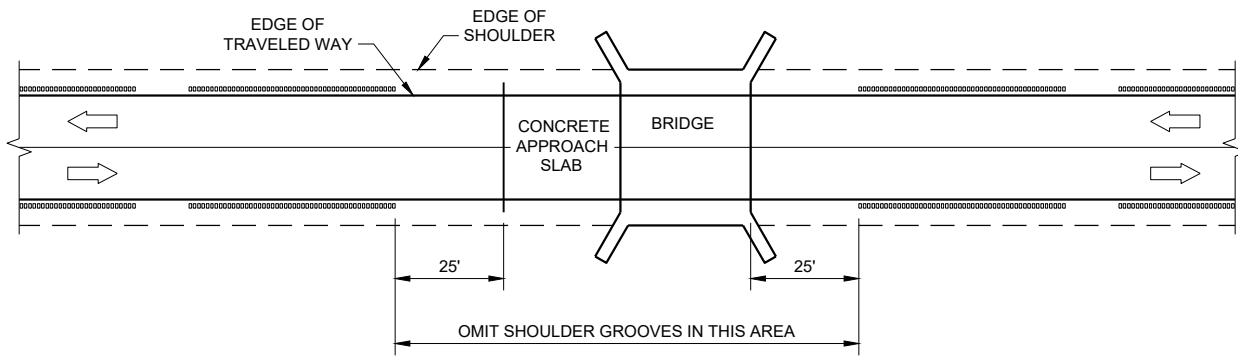
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



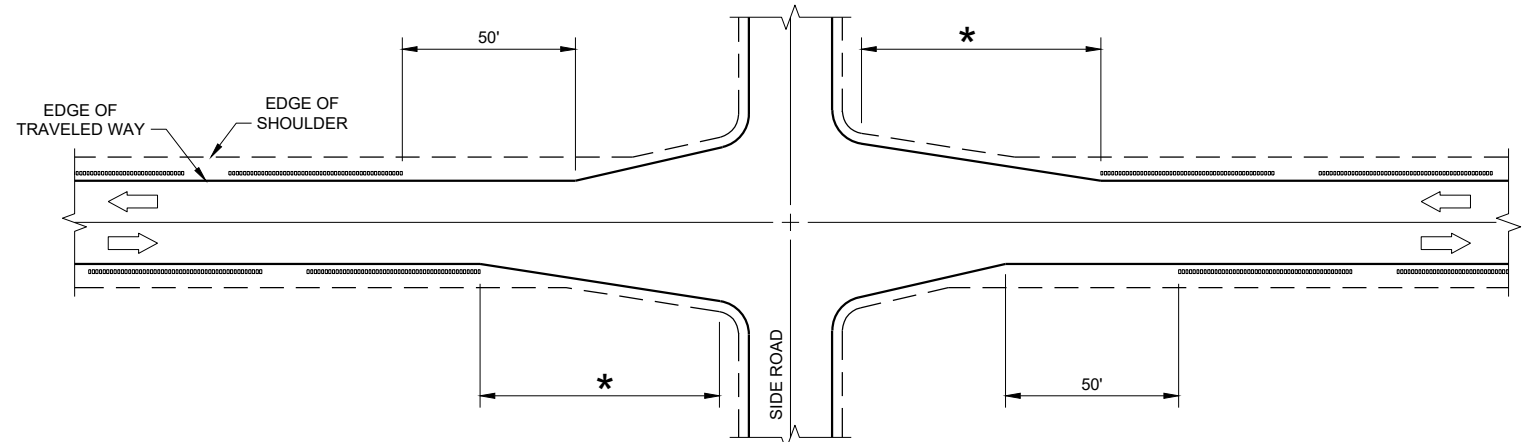
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



SHOULDER GROOVES AT RIGHT TURN LANE

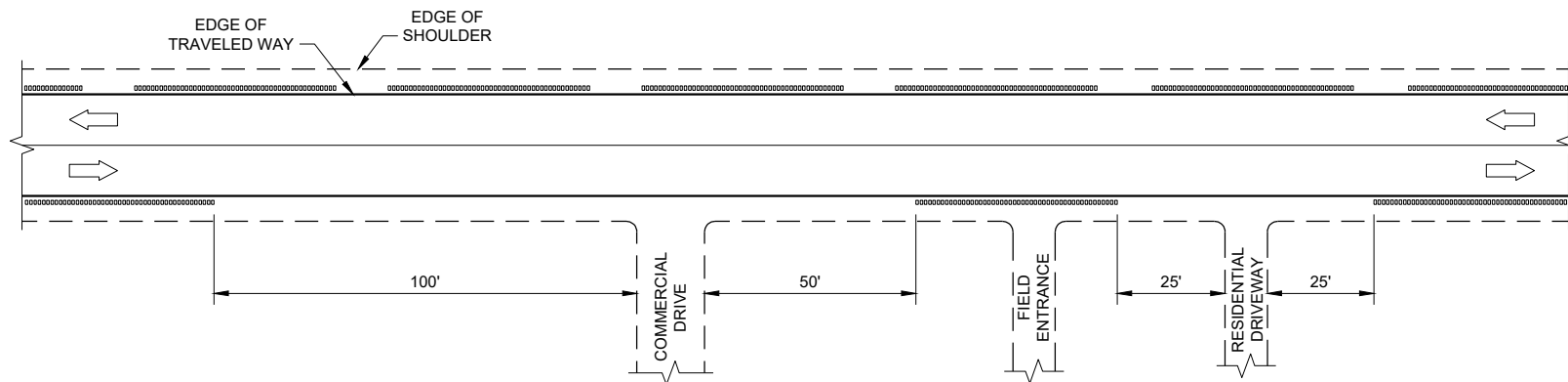


SHOULDER GROOVES AT BRIDGES



* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER



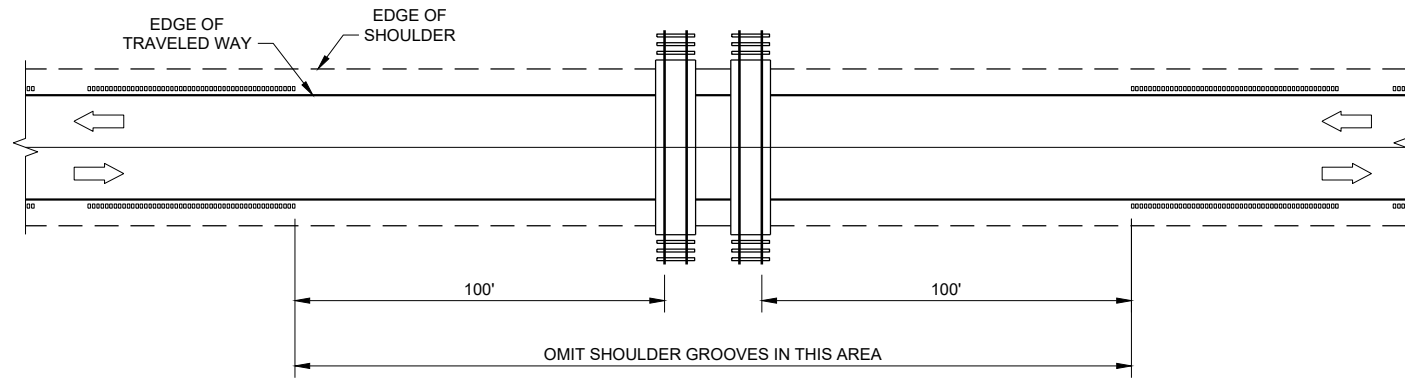
SHOULDER GROOVES AT DRIVEWAYS^①

GENERAL NOTES

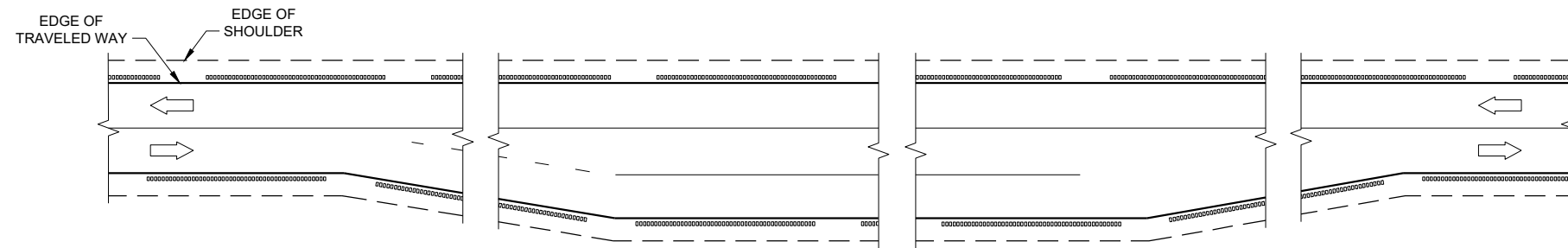
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

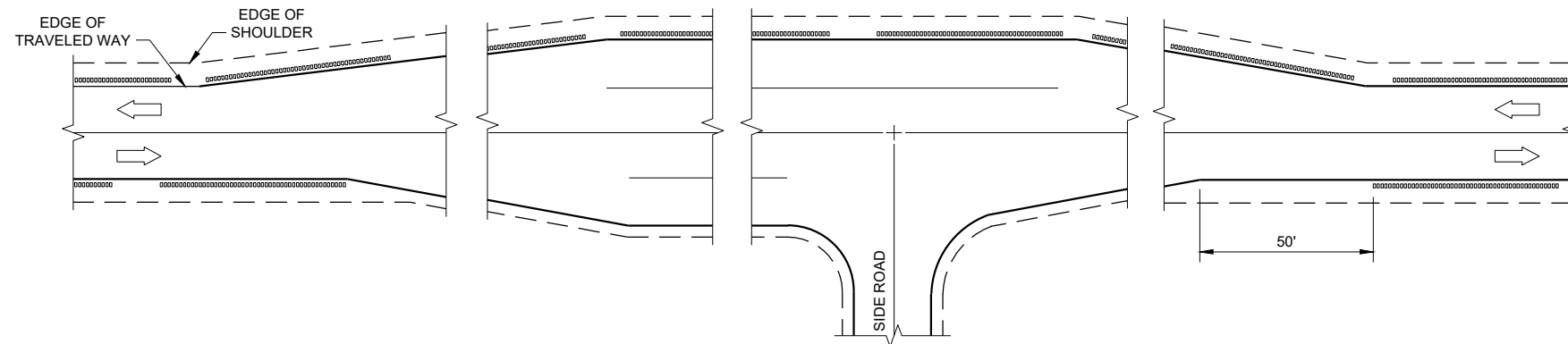
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

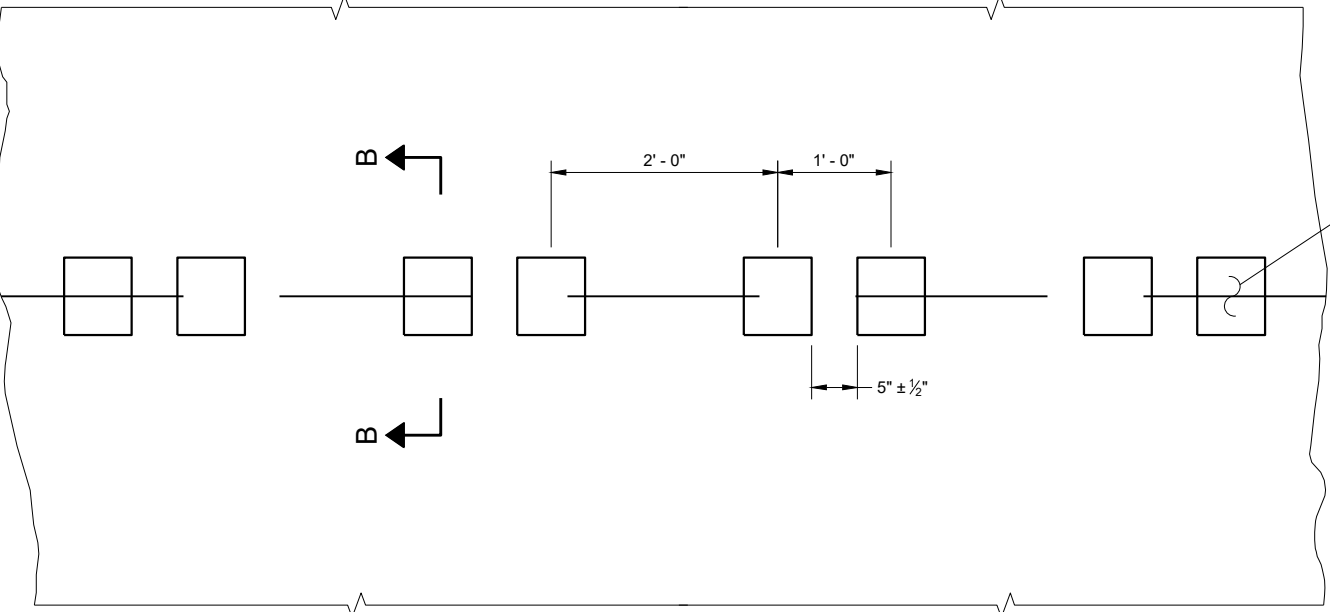
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

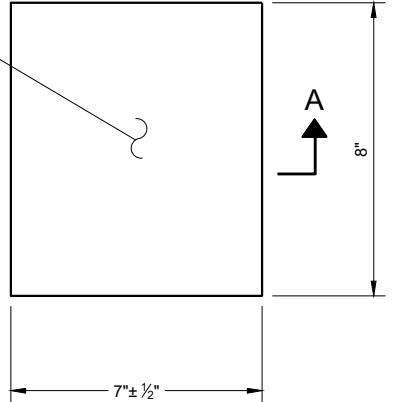
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

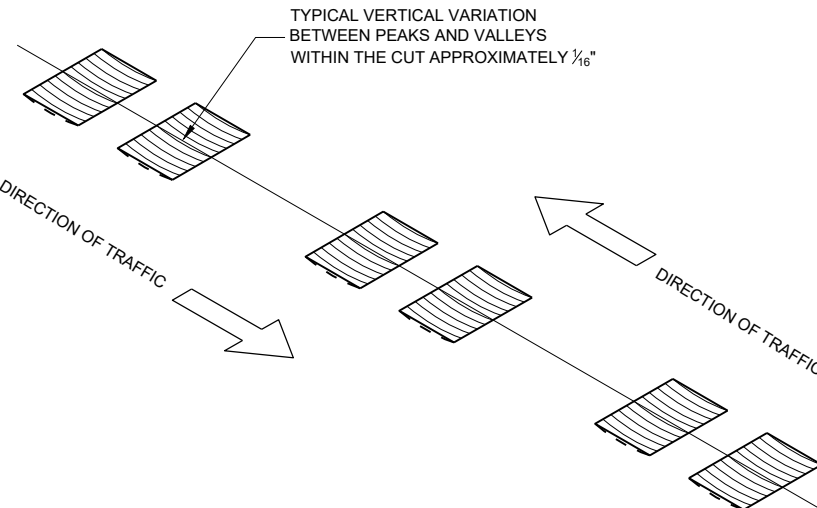
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



**PLAN VIEW
SHOULDER WITH GROOVES**

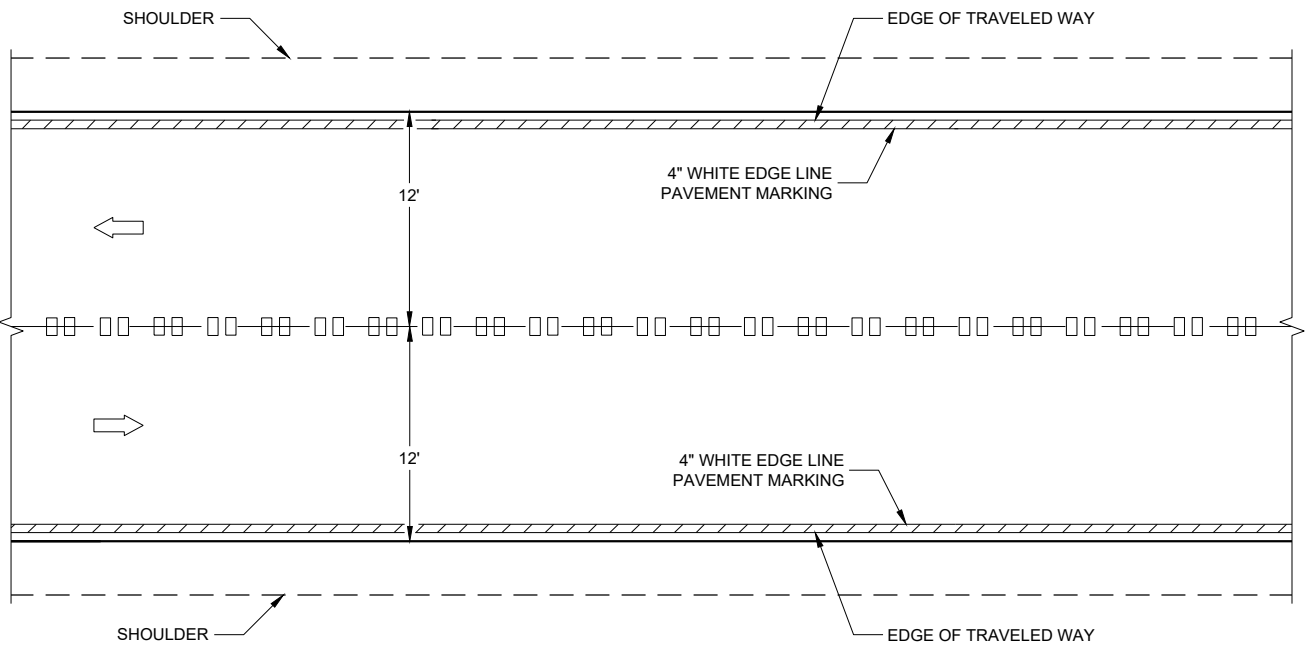


**PLAN VIEW
(SINGLE GROOVE)**

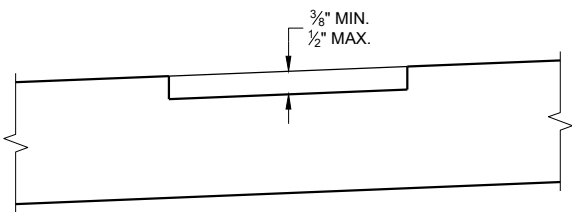


ISOMETRIC

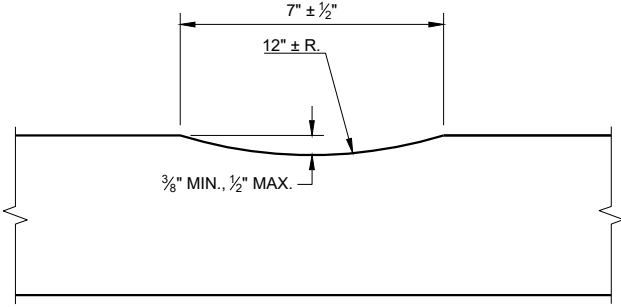
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



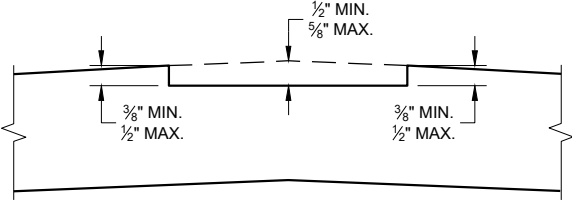
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



**SECTION B - B
SUPERELEVATED ROADWAY**



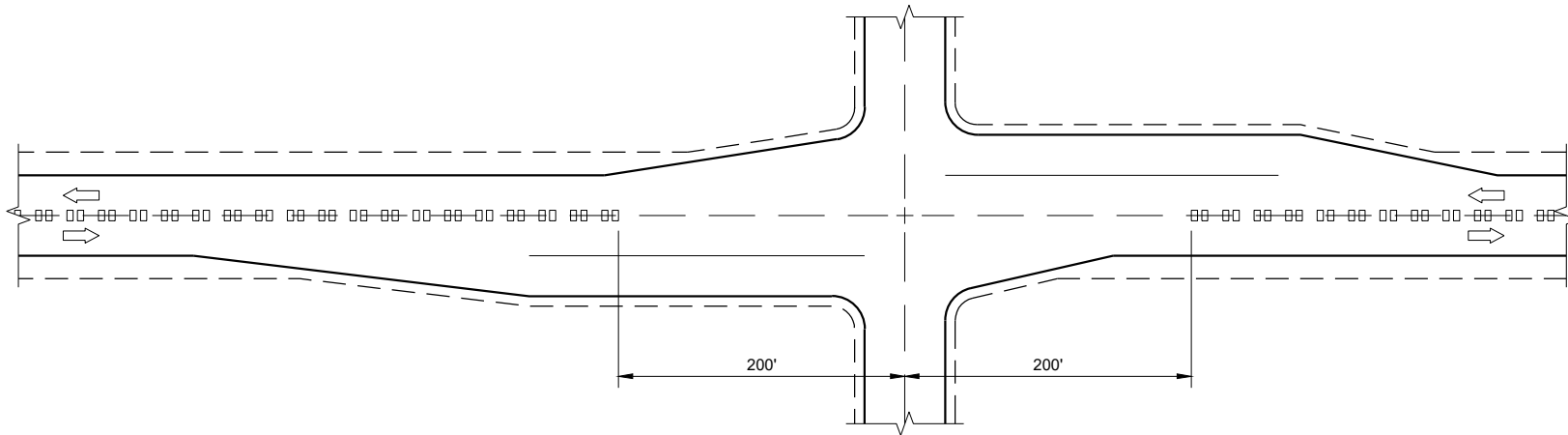
SECTION A - A



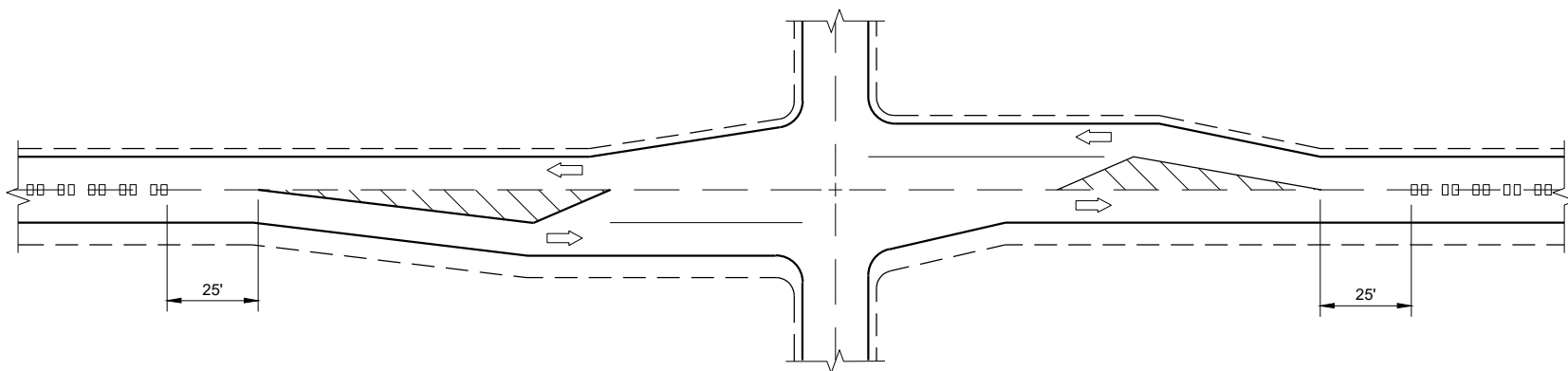
**SECTION B - B
CROWNED ROADWAY**

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

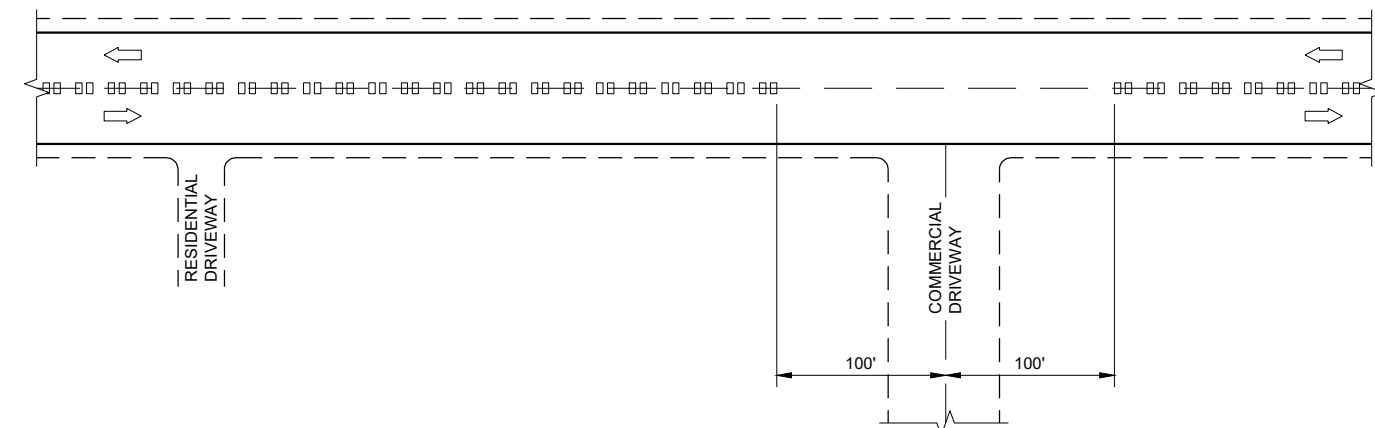
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



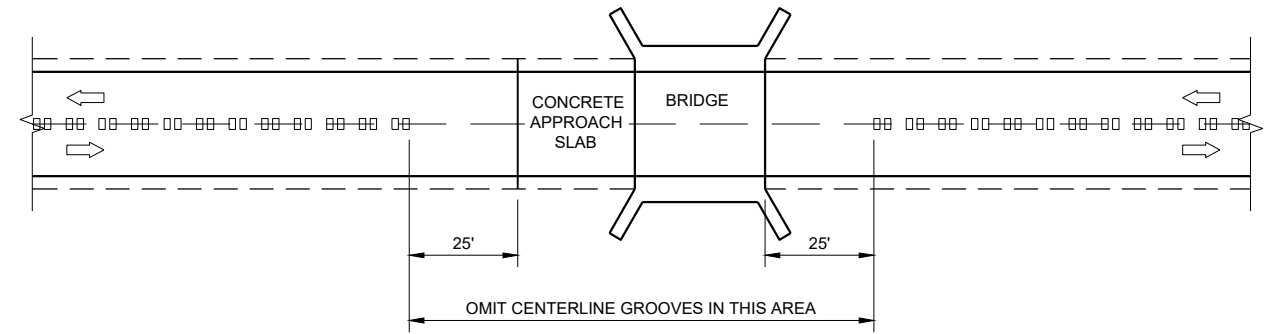
**CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)**



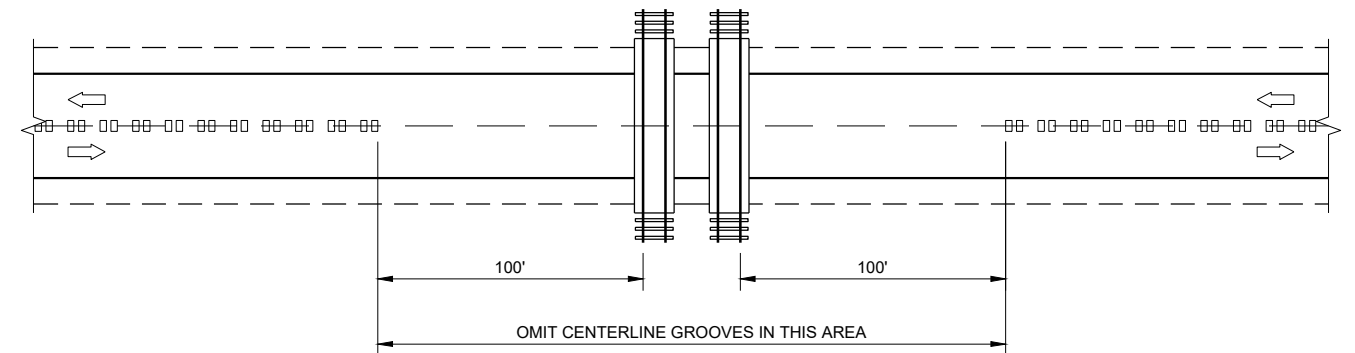
CENTERLINE GROOVES AT DRIVEWAYS ①

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

6

6

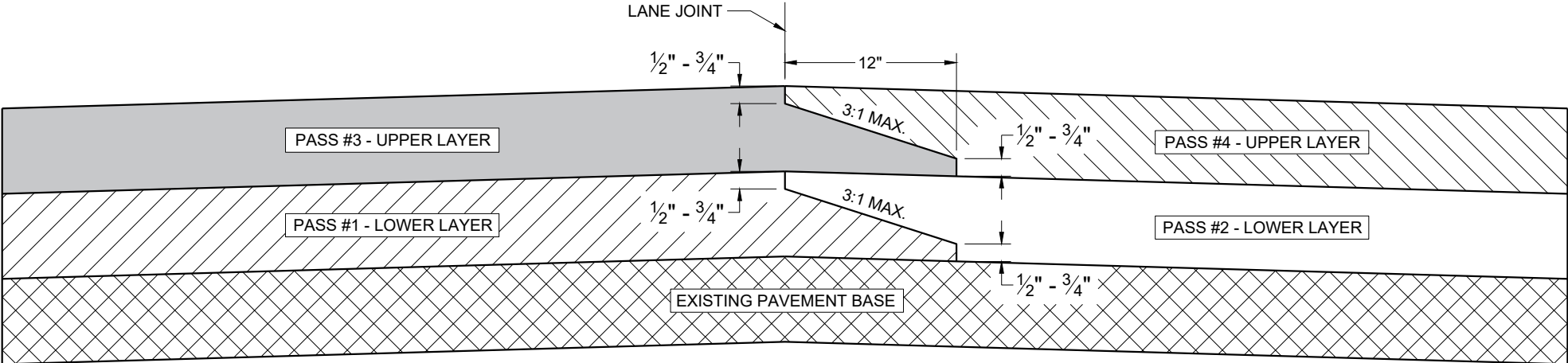
SDD 13A11 - 03b

SDD 13A11 - 03b

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

GENERAL NOTES

CONFORM TO STANDARD SPECIFICATION 450.3.2.8



**TYPICAL PAVEMENT CROSS SECTION
OF NOTCHED WEDGE LONGITUDINAL JOINTS**

6

6

SDD 13C19 - 01

SDD 13C19 - 01

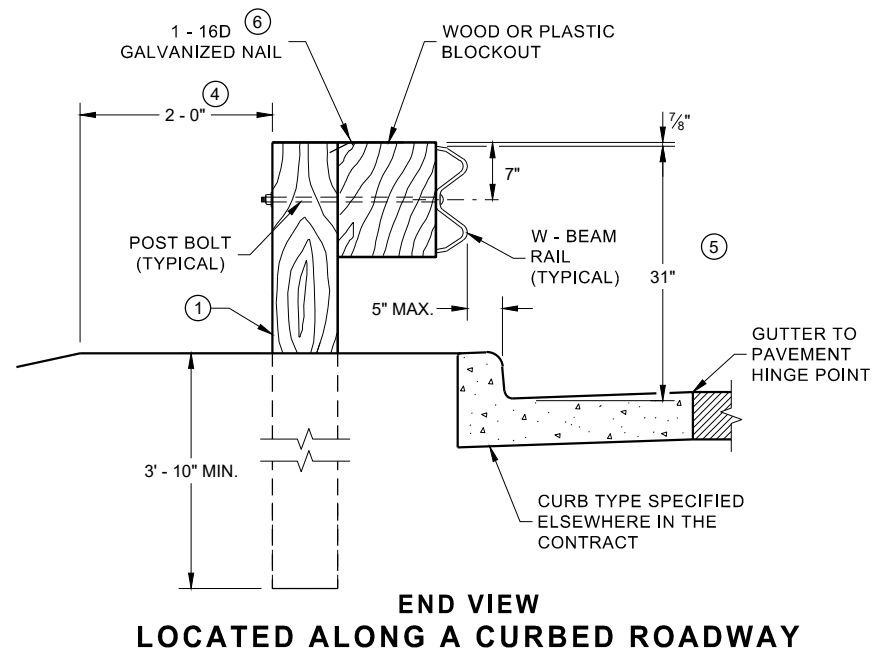
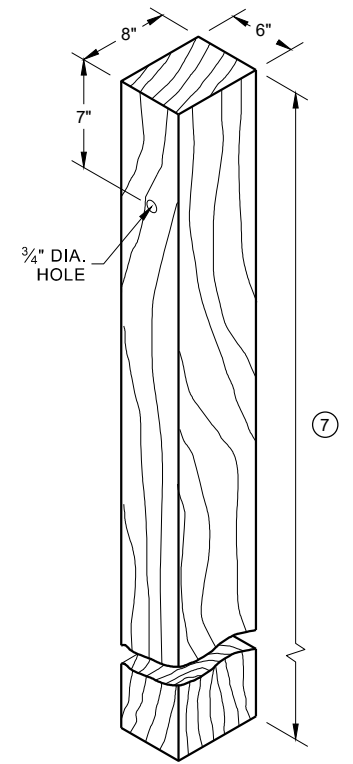
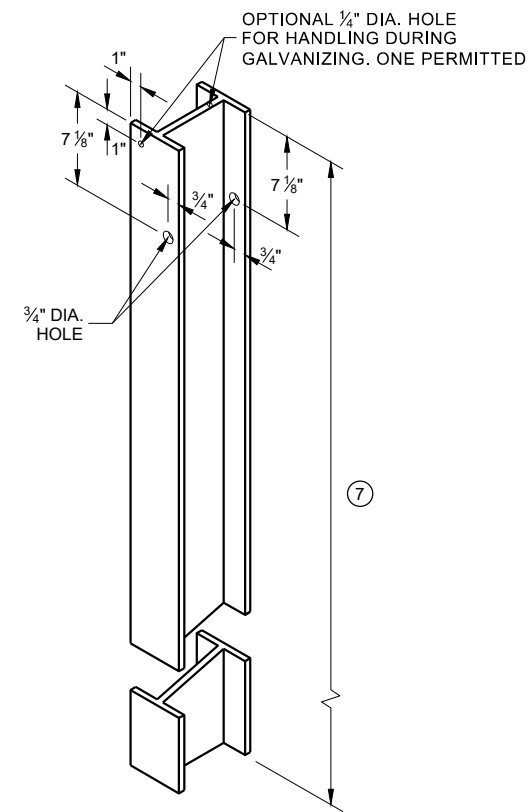
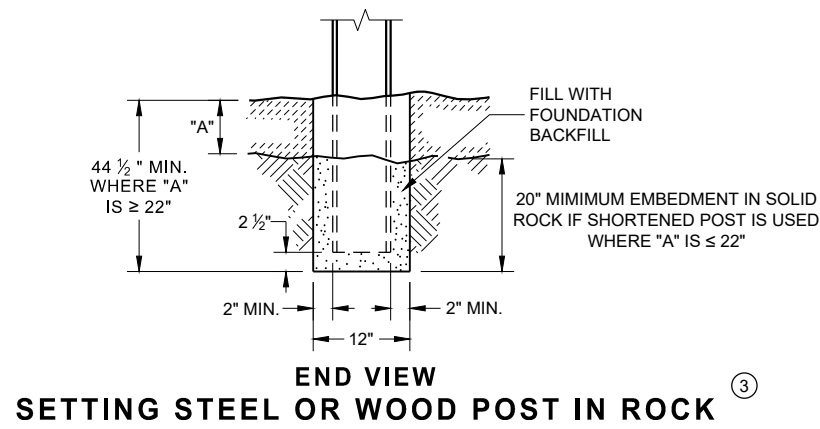
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Steven Hefel
DATE HMA PAVEMENT ENGINEER

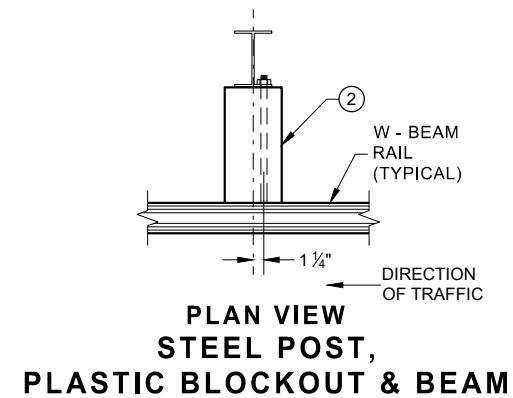
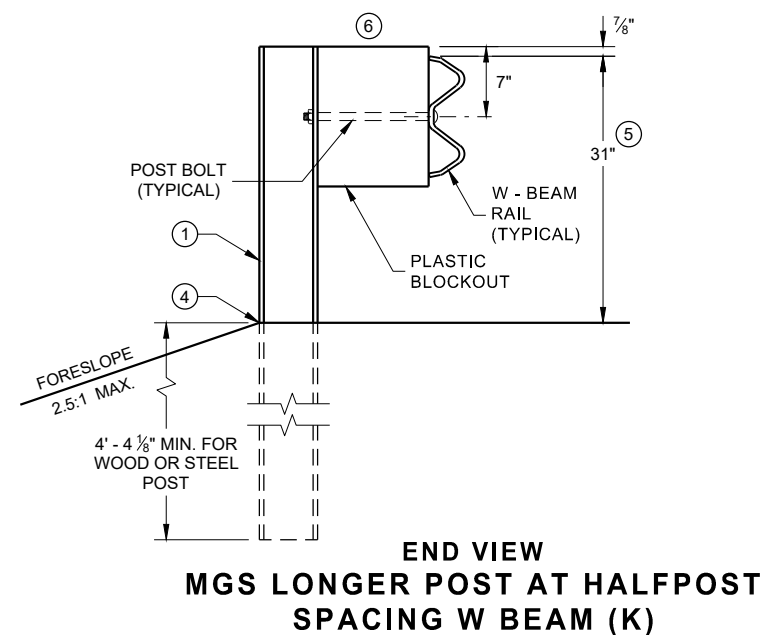
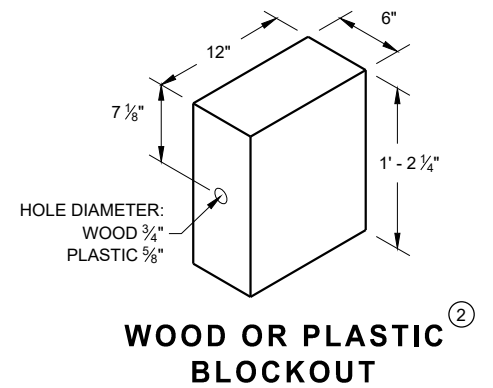
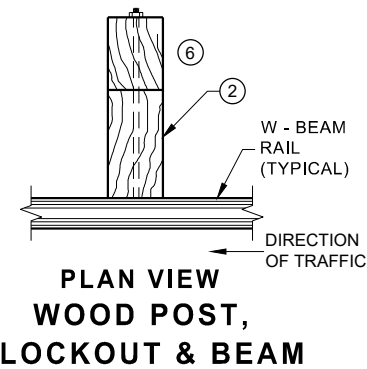
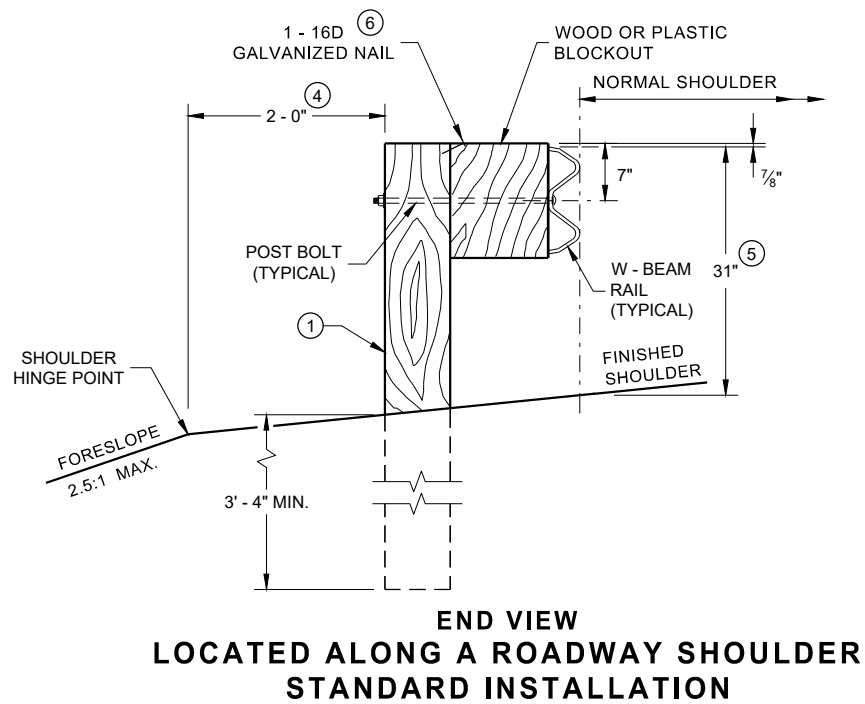
FHWA

- 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 +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".



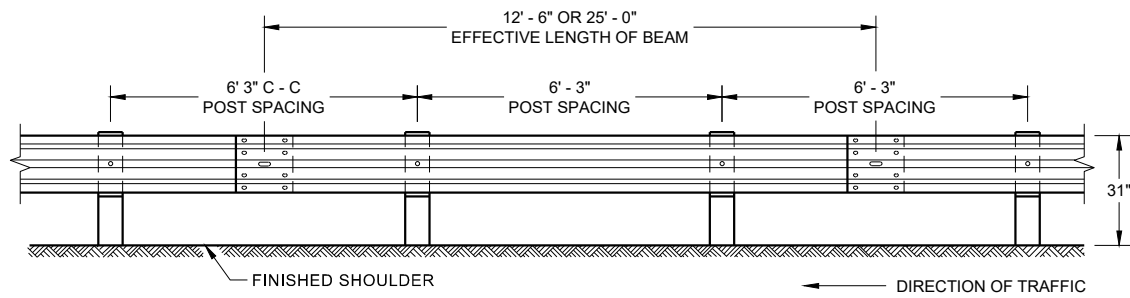
**STEEL POST & HOLE
PUNCHING DETAIL** ①

**WOOD POST
(6" X 8") NOMINAL** ①

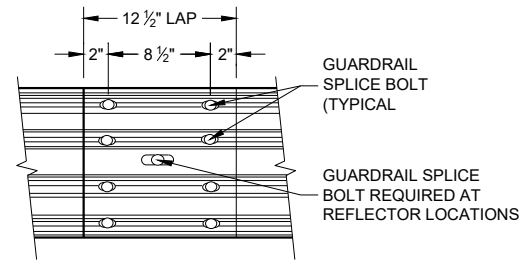


**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



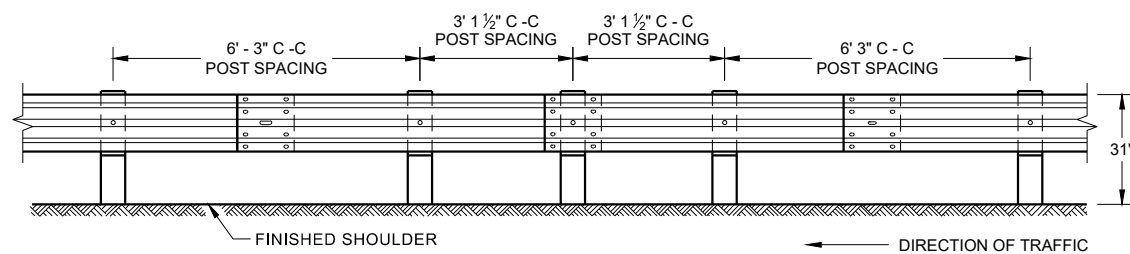
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



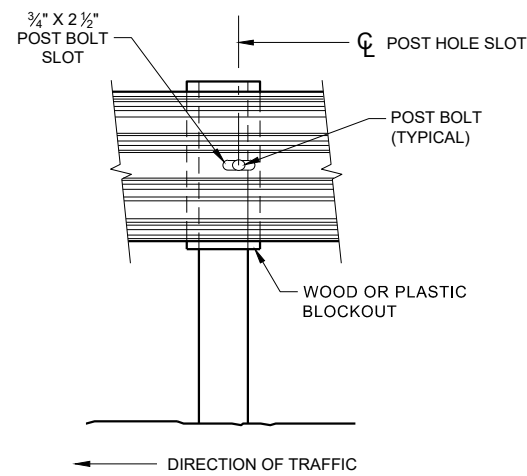
**FRONT VIEW
MID-SPAN BEAM SPLICE**

GENERAL NOTES

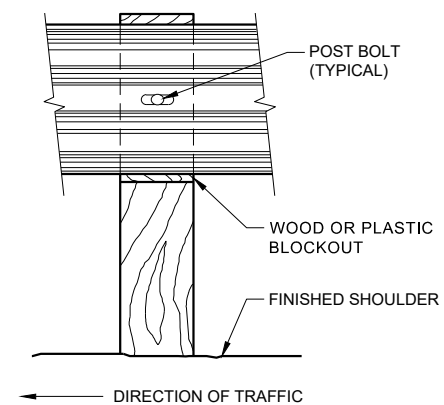
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" 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.



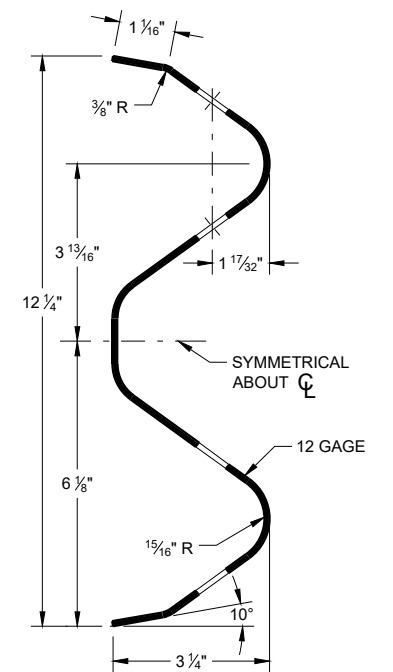
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



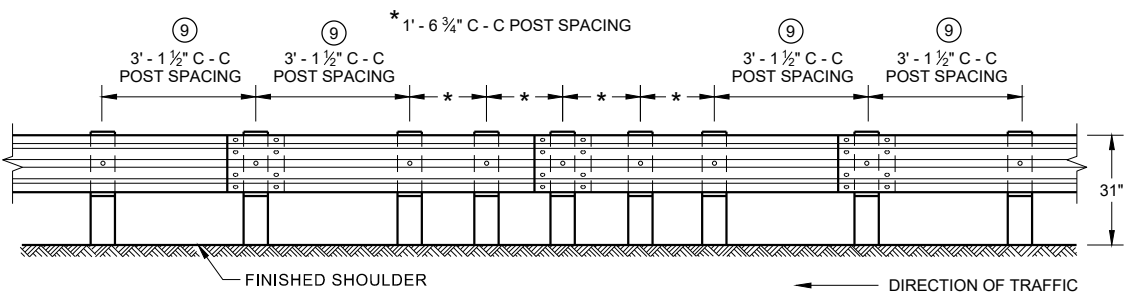
FRONT VIEW AT STEEL POST



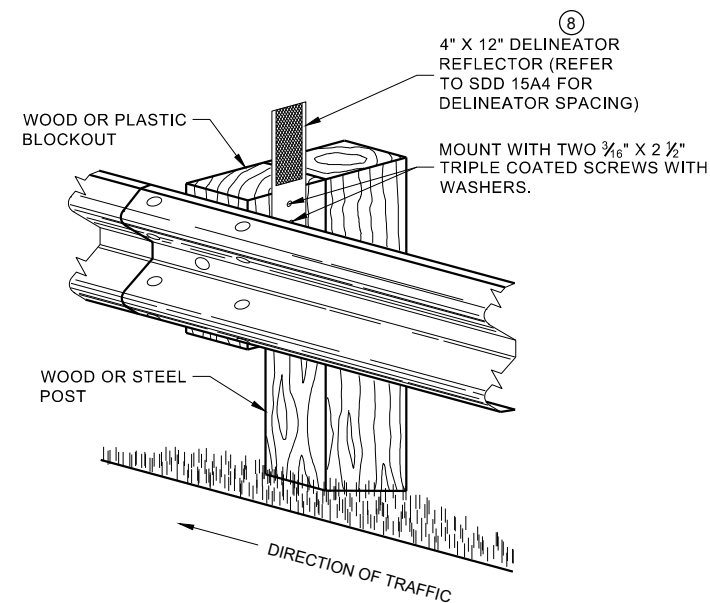
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



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



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

6

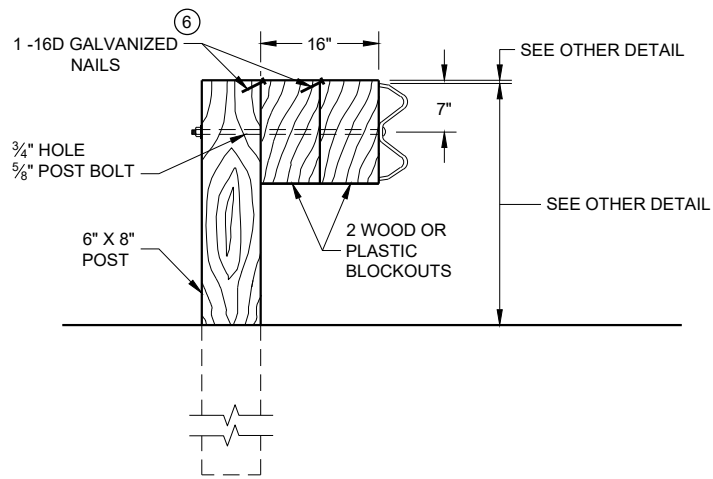
6

SDD 14B42 - 06b

SDD 14B42 - 06b

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

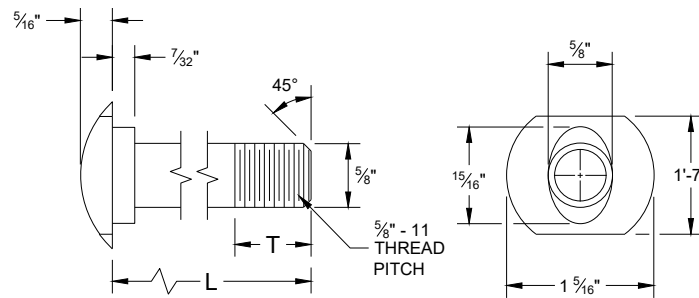


DETAIL FOR 16" BLOCKOUT DEPTH

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.

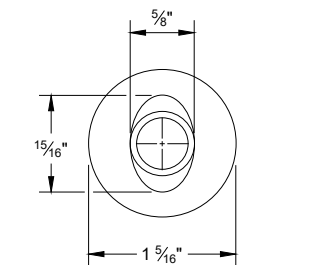
NOTE:

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.

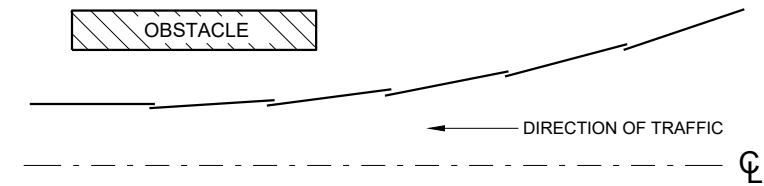


POST BOLT TABLE

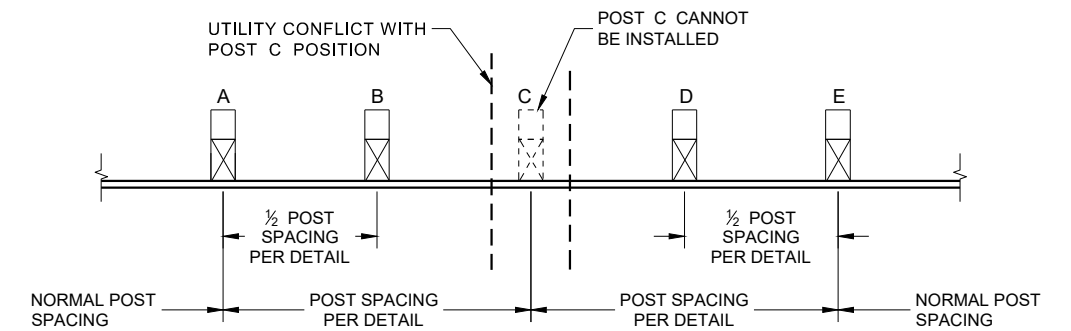
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



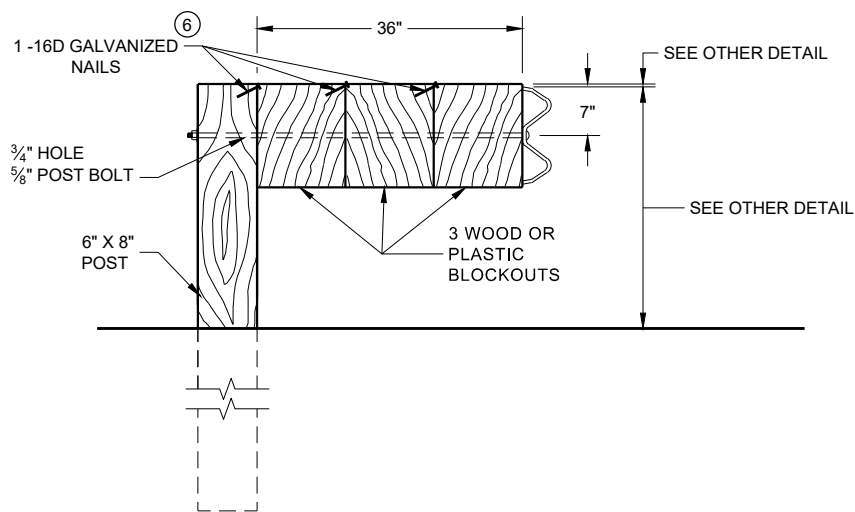
ALTERNATE BOLT HEAD



**PLAN VIEW
BEAM LAPPING DETAIL**

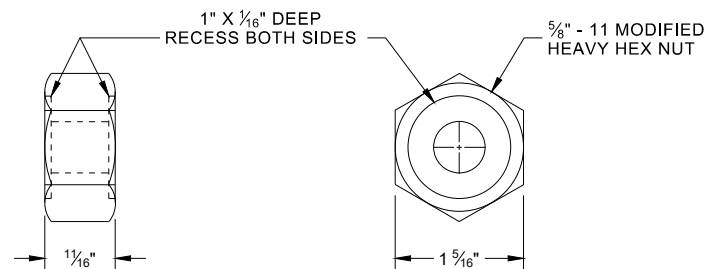


**POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION**

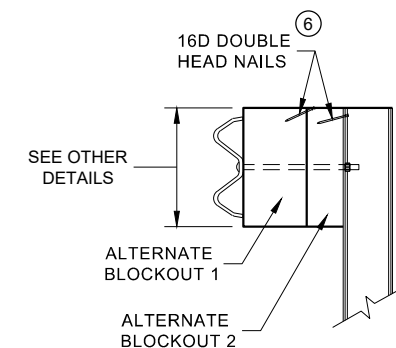


DETAIL FOR 36" BLOCKOUT DEPTH

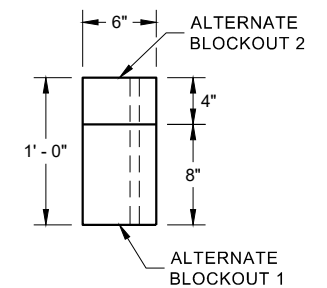
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT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



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



SIDE VIEW



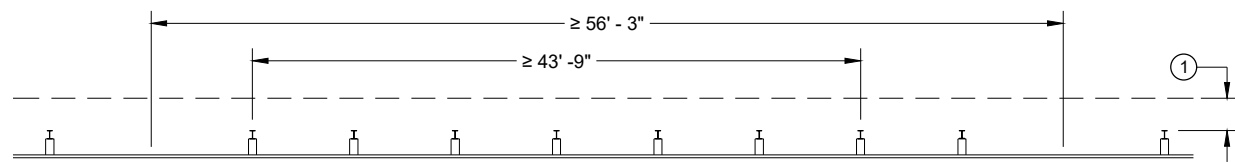
PLAN VIEW

**ALTERNATE WOOD
BLOCKOUT DETAIL**

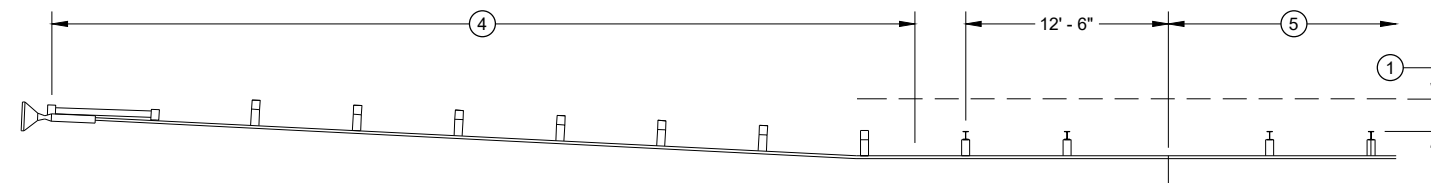
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

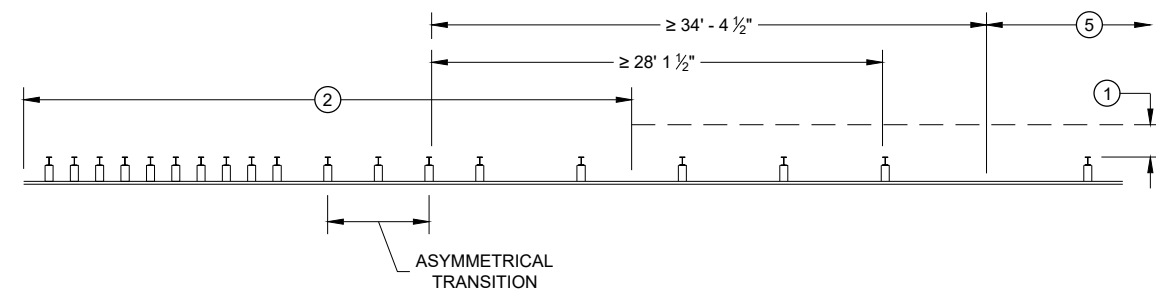
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



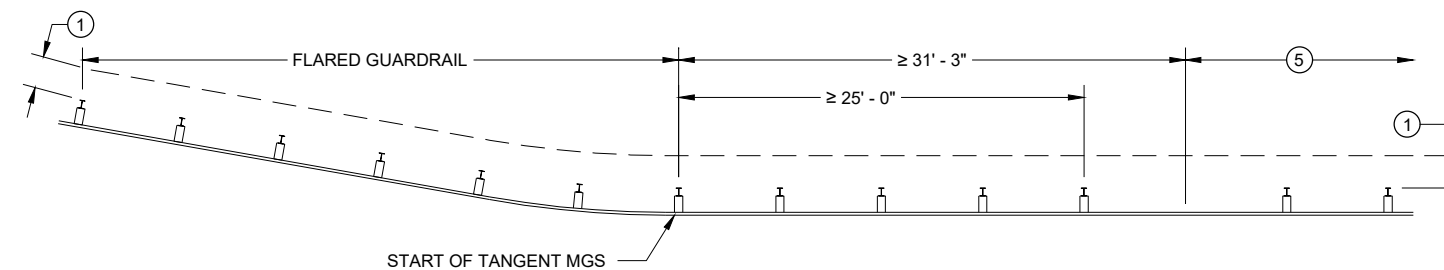
MISSING POST IN NORMAL BEAM GUARD RUN



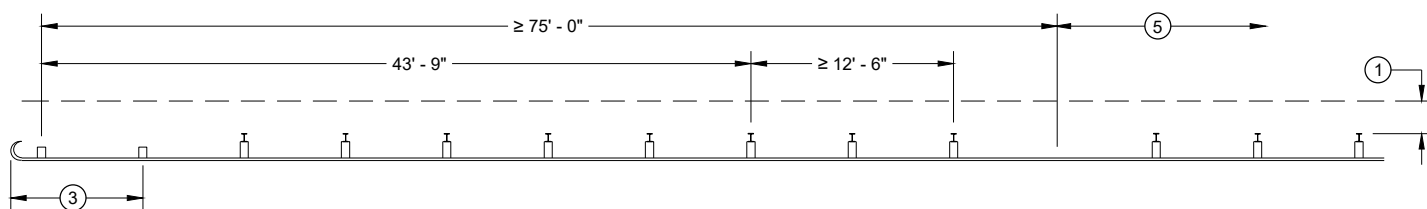
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



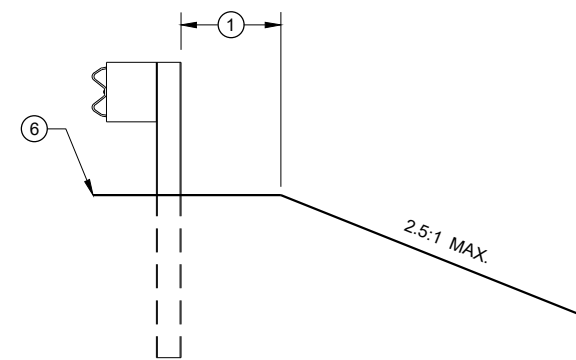
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

- ① MINIMUM OF 2 FEET OF GRADING BEHIND POST.
- ② SEE SDD 14B45 FOR MORE DETAILS.
- ③ SEE SDD 14B47 FOR MORE DETAILS.
- ④ SEE SDD 14B44 FOR MORE DETAILS.
- ⑤ SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
- ⑥ SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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.

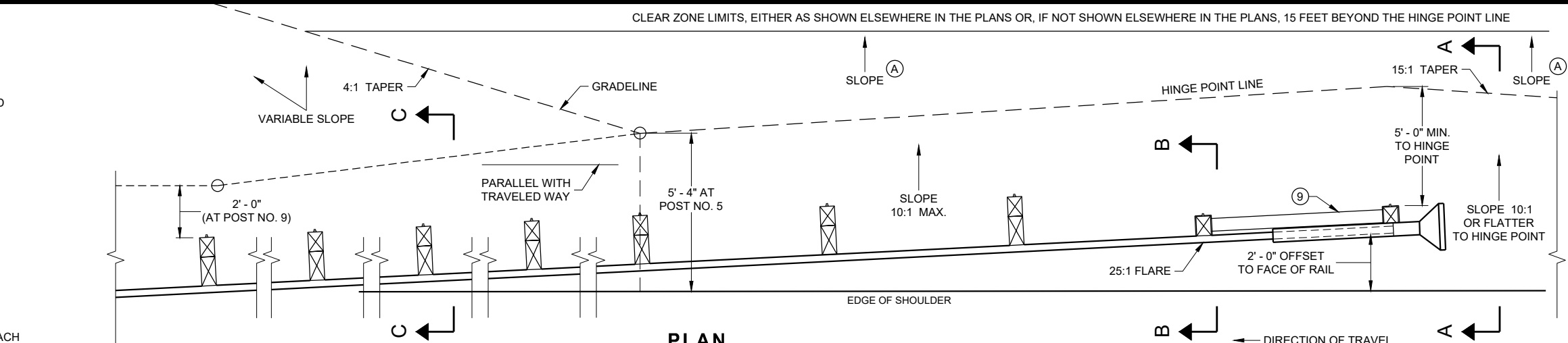
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

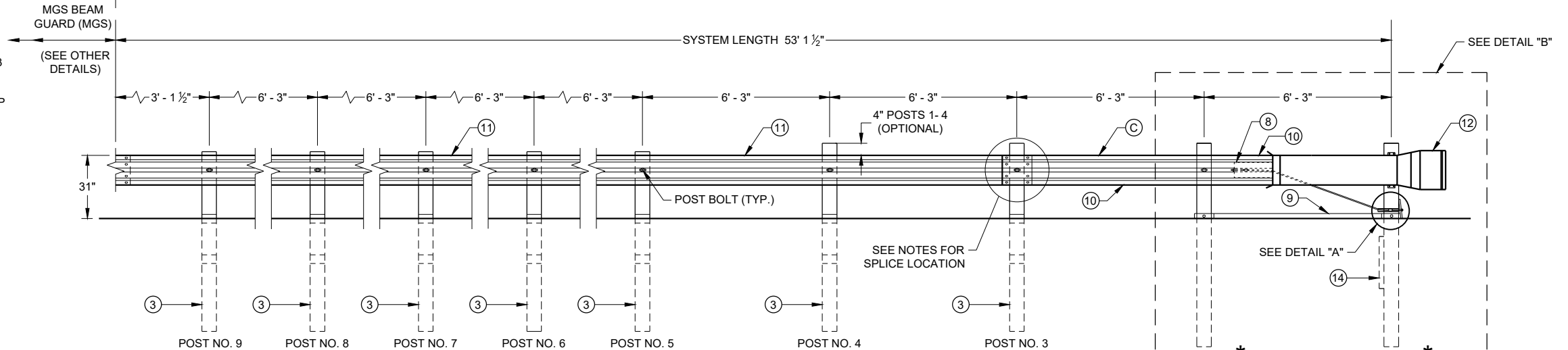
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

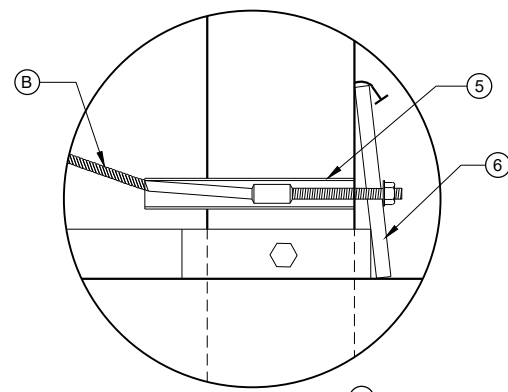
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



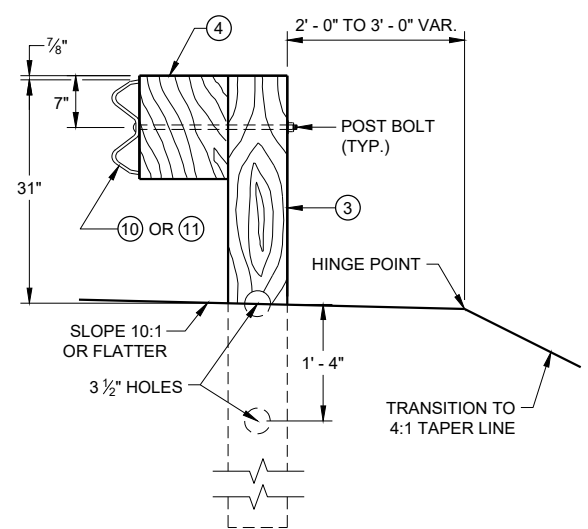
PLAN



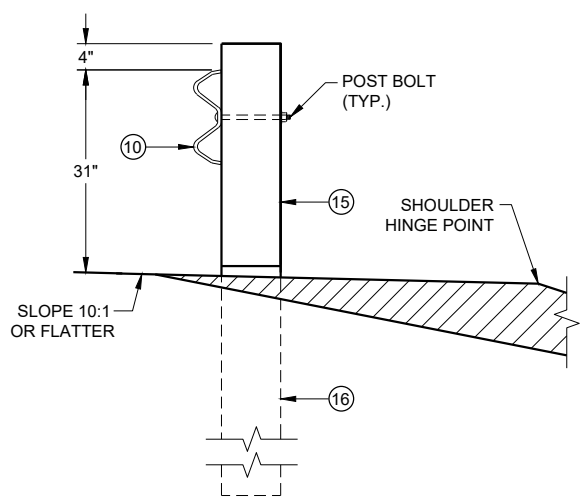
ELEVATION



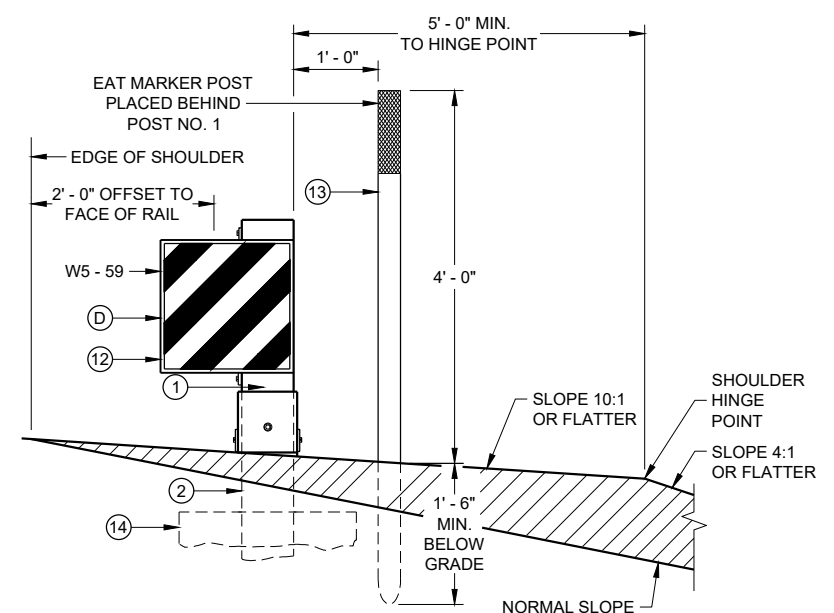
DETAIL "A"



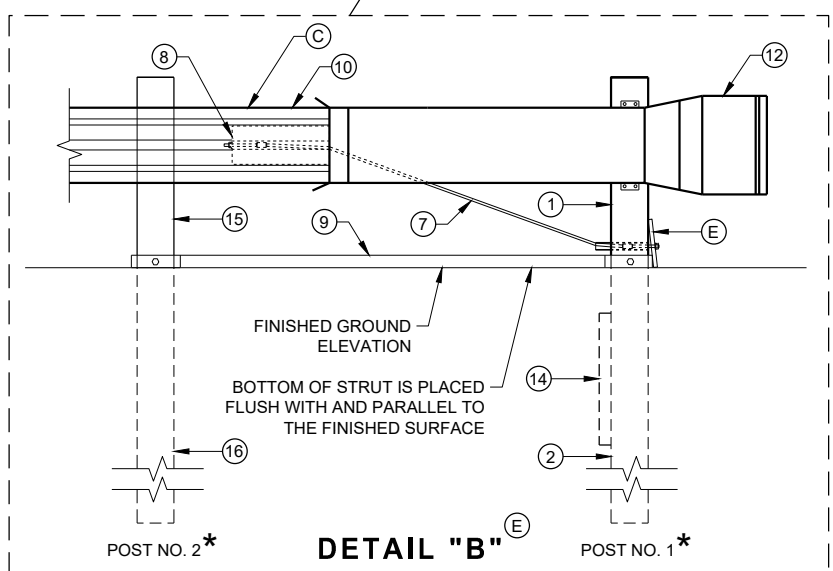
**SECTION C - C
TYPICAL AT POST NOS. 3 - 9**



**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

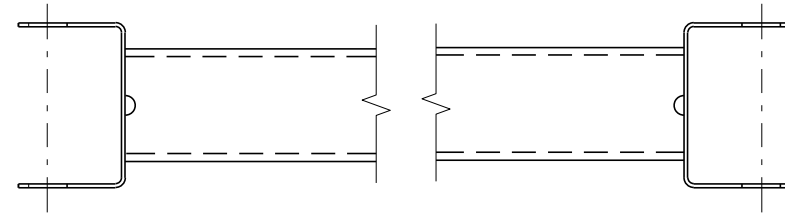
6

SDD 14B44 - 04a

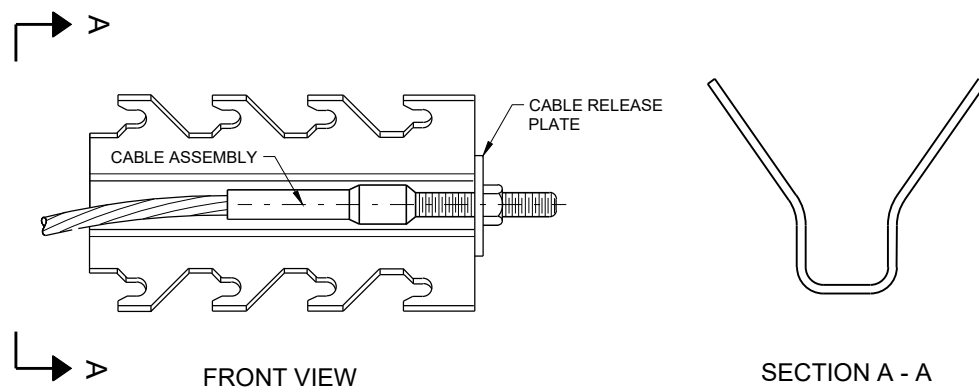
SDD 14B44 - 04a

BILL OF MATERIALS

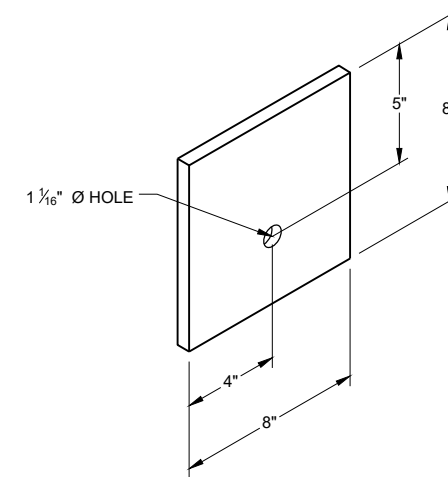
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL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

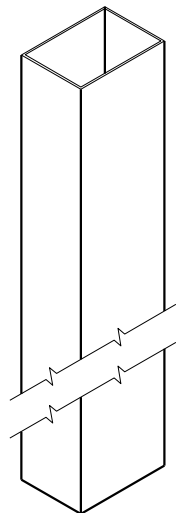
6

SDD 14B44 - 04b

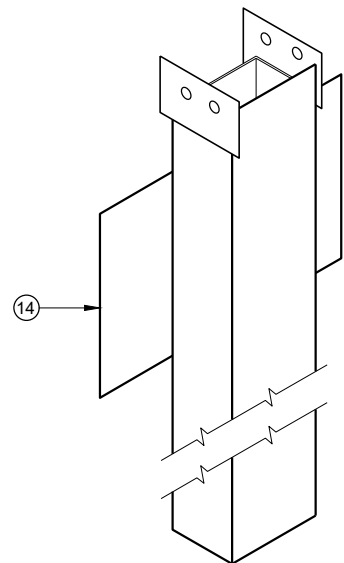
SDD 14B44 - 04b

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

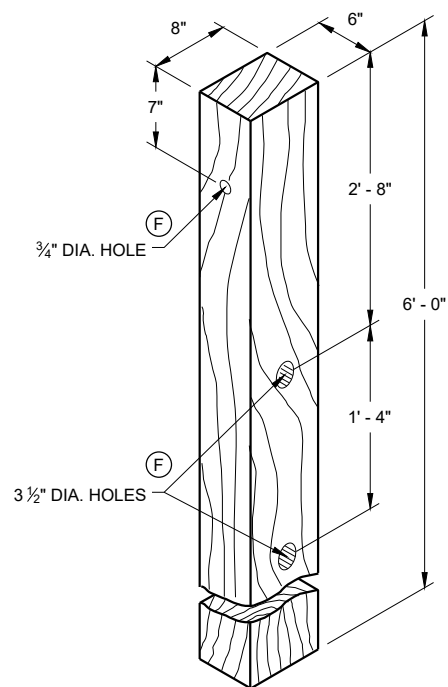
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



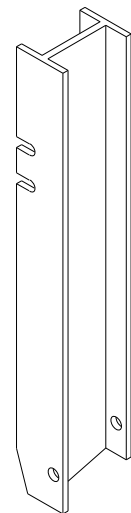
UPPER POST NO. 1 ⁽¹⁾ (E)



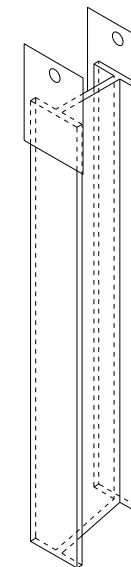
LOWER POST NO. 1 ⁽²⁾ (E)



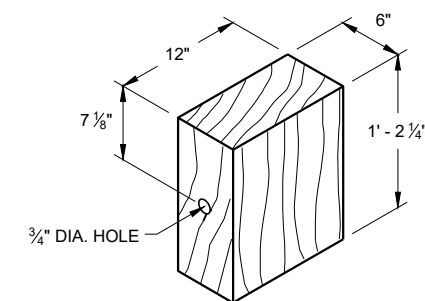
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



UPPER POST NO. 2 ⁽¹⁵⁾ (E)

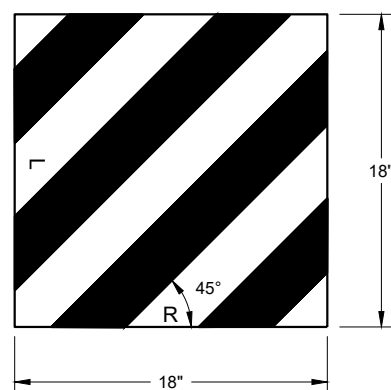


LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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

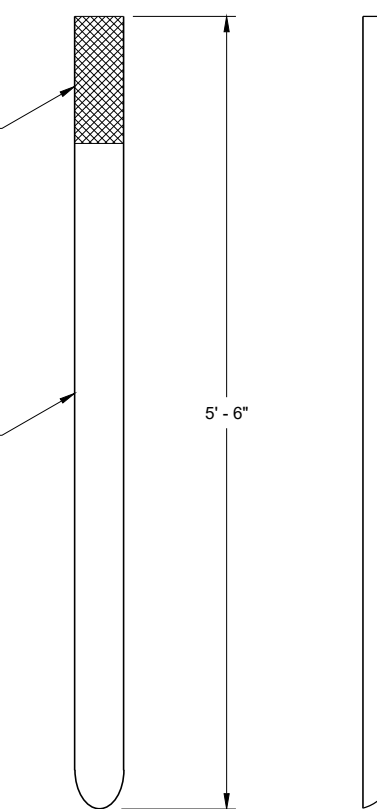
6



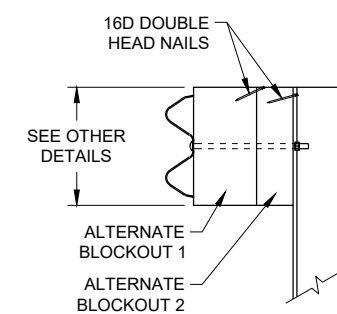
W5 - 59
REFLECTIVE SHEETING DETAIL ^(E)

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

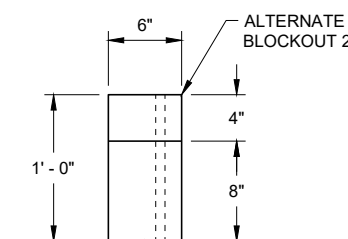
E.A.T. MARKER
POST (YELLOW)



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



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

6

SDD 14B44 - 04c

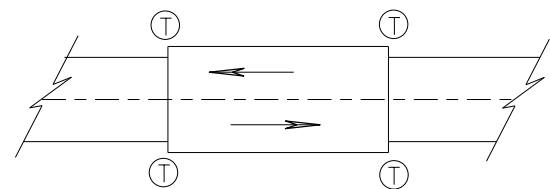
SDD 14B44 - 04c

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

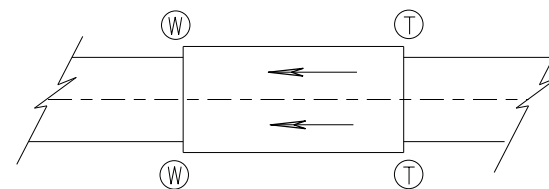
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

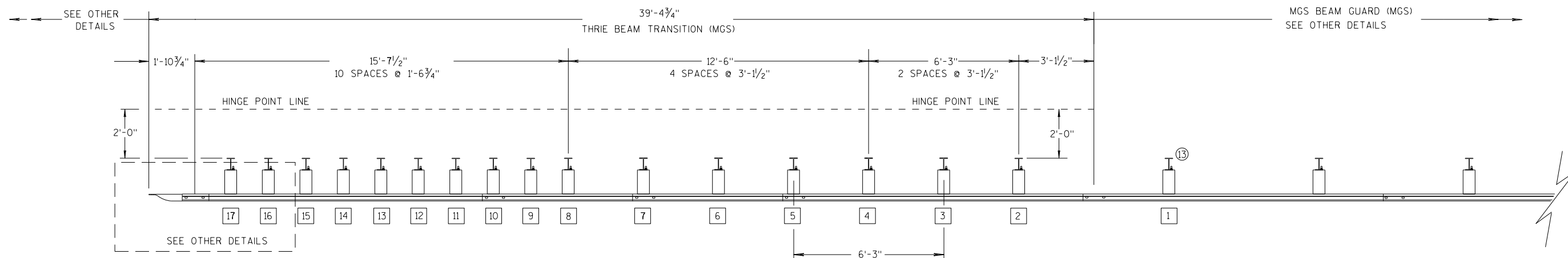
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

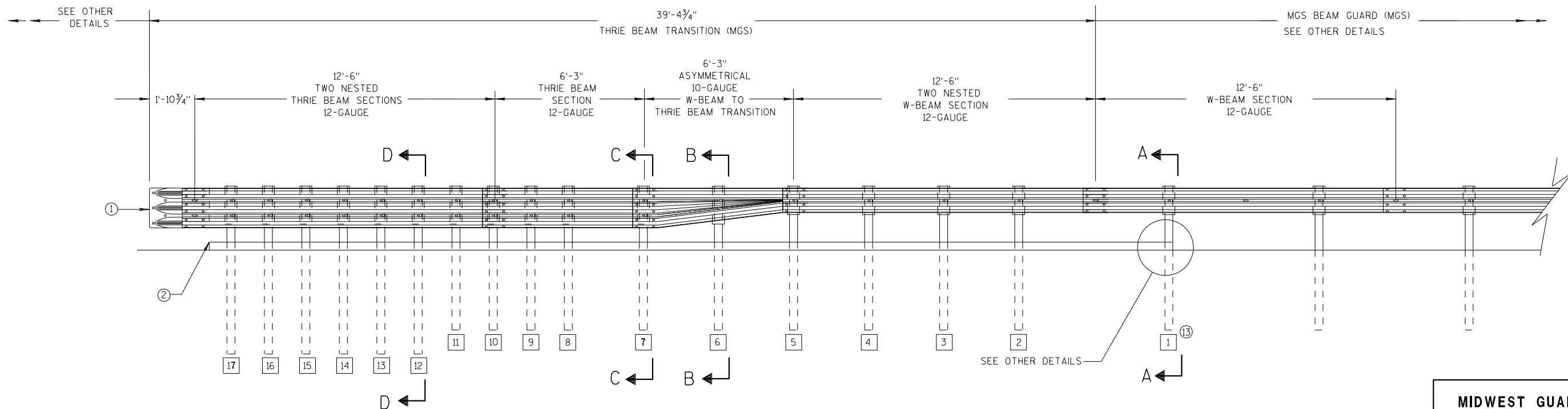
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

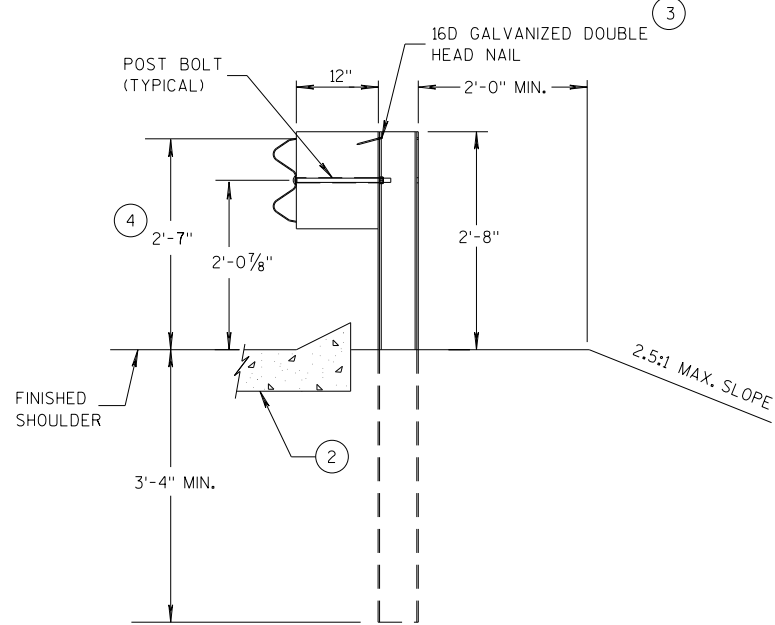
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

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

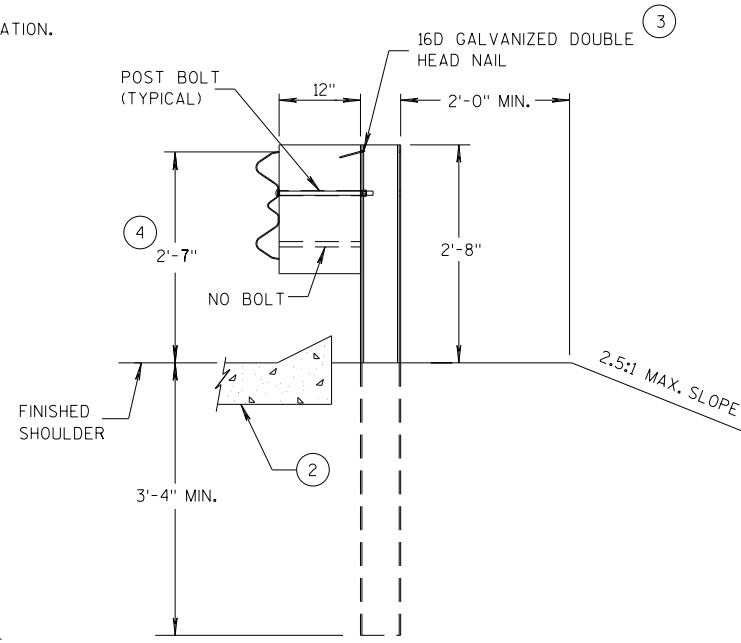
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

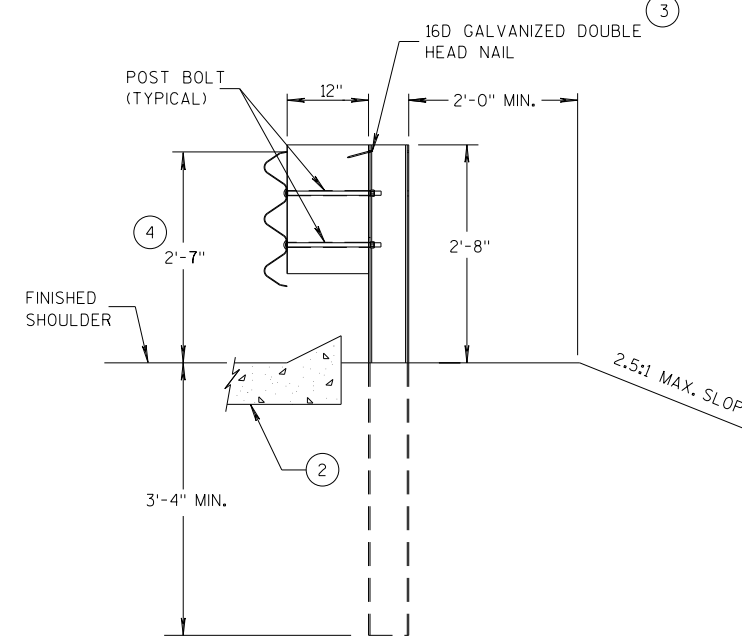
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".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



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



**SECTION B-B
POST 6**



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

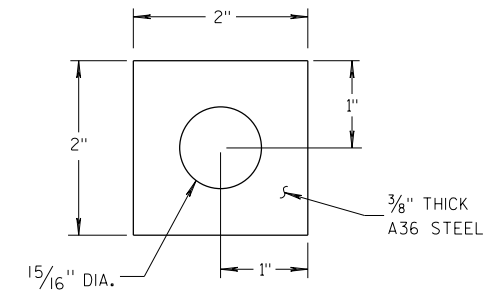
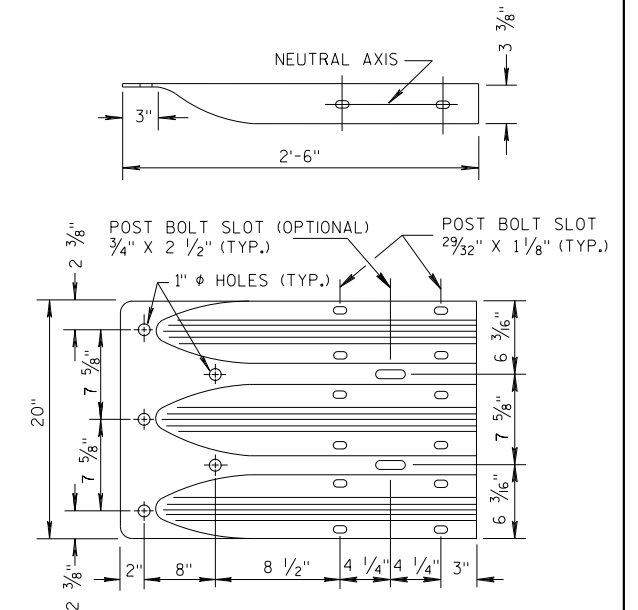
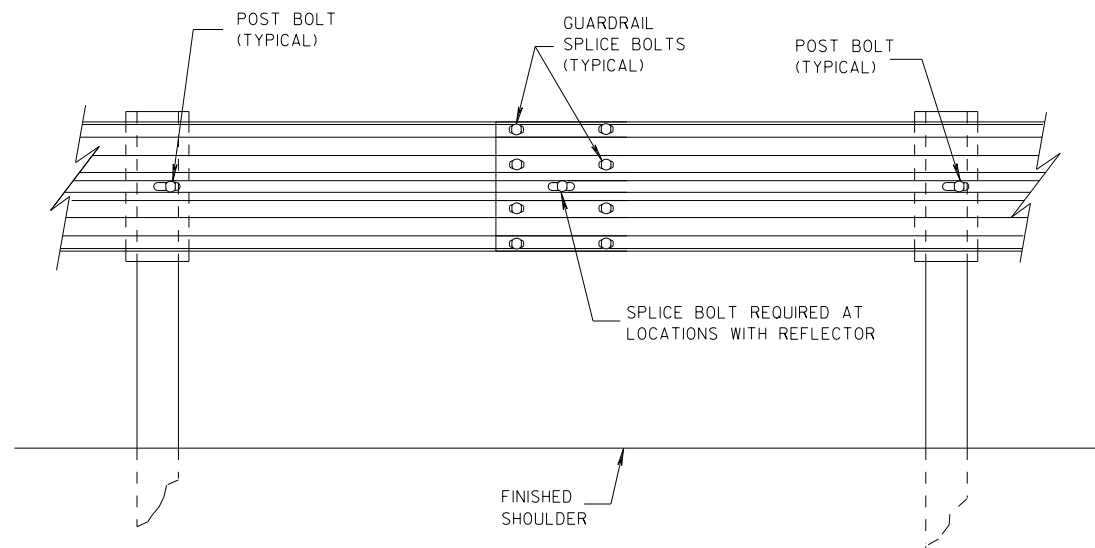


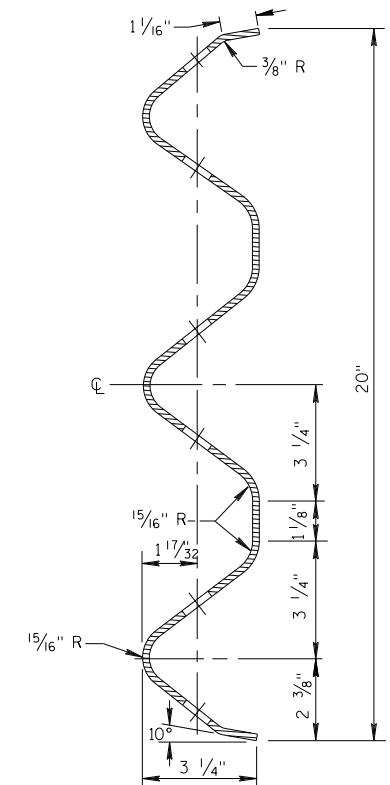
PLATE WASHER DETAIL



**THRIE BEAM
TERMINAL CONNECTOR**



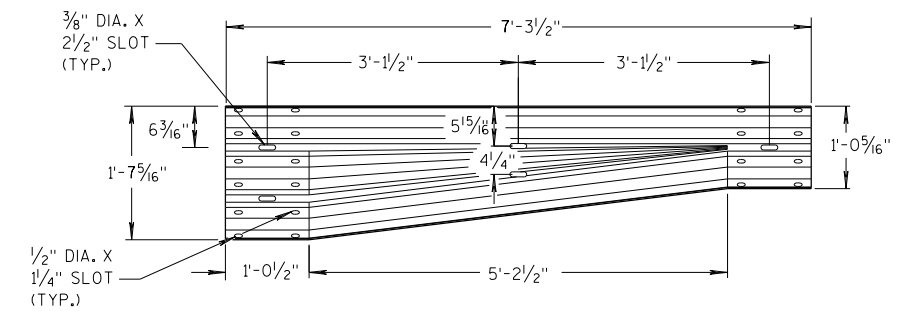
SPLICE DETAIL



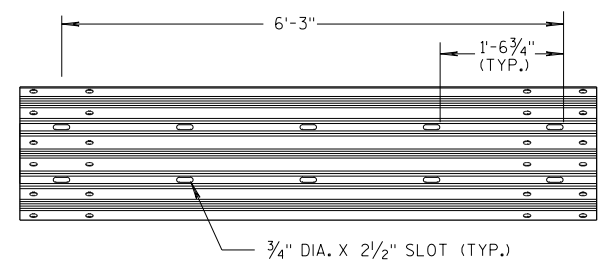
**SECTION THRU THRIE
BEAM RAIL ELEMENT**

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

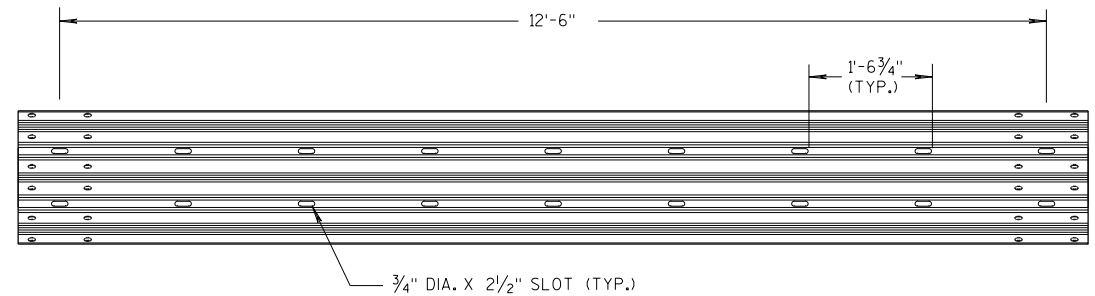
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



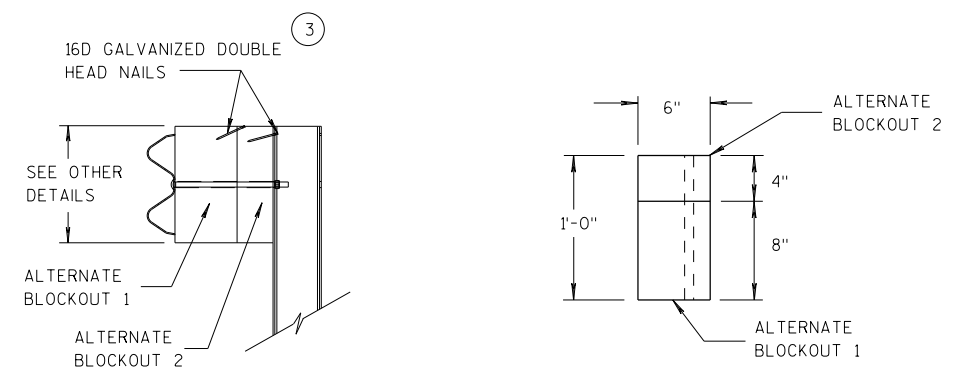
W-BEAM TO THRIE BEAM TRANSITION SECTION



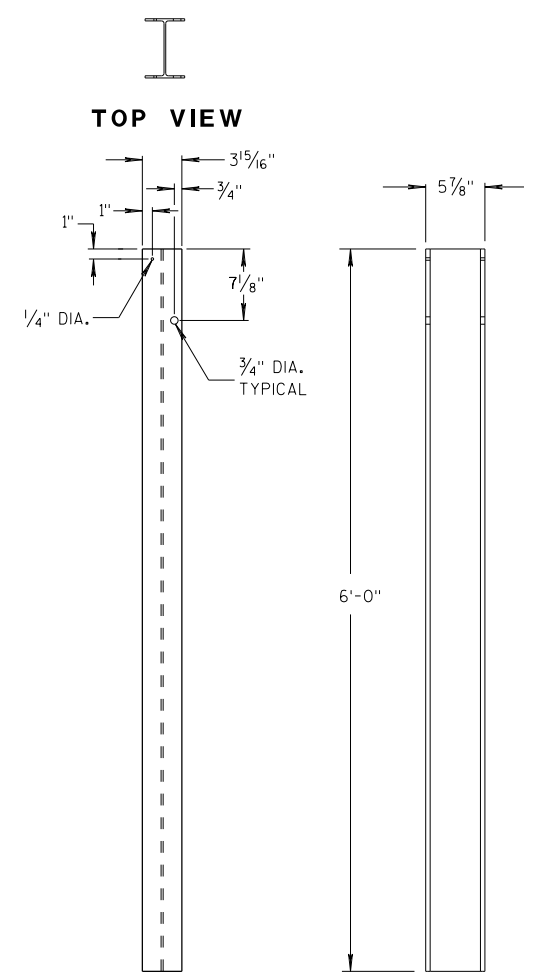
6'-3\"/>



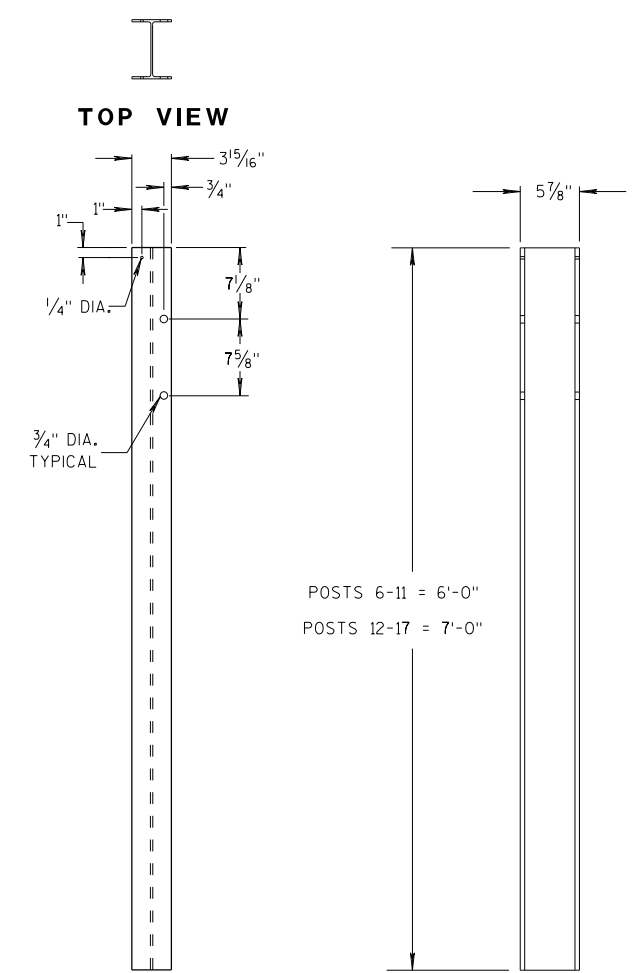
12'-6\"/>



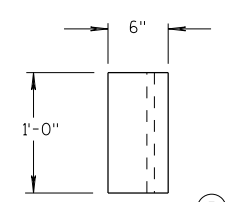
ALTERNATE WOOD BLOCKOUT DETAIL



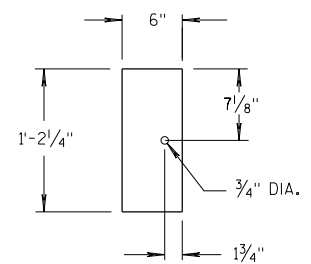
STEEL POSTS 1-5



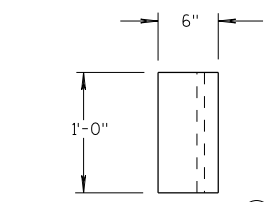
STEEL POSTS 6-17



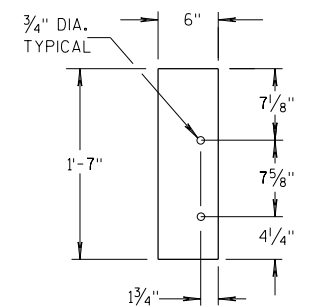
TOP VIEW



**FRONT VIEW
BLOCKOUT
POSTS 1-5**



TOP VIEW



**FRONT VIEW
BLOCKOUT
POSTS 6-17**

GENERAL NOTES

- STEEL POSTS ARE W6X9 OR W6X8.5.
- BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.
- (3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- (5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.
- (13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

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

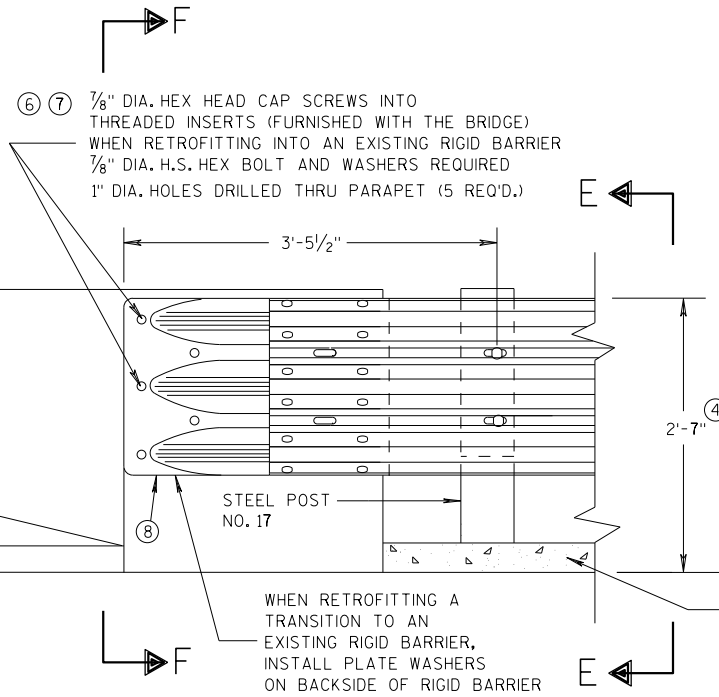
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

6

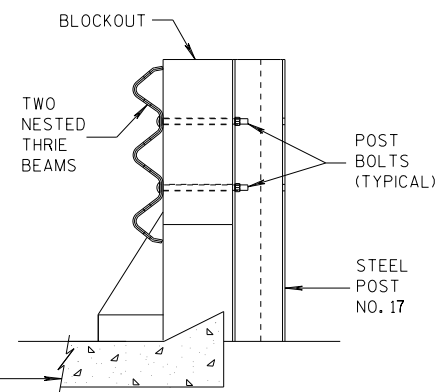
S.D.D. 14 B 45-5c

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



FRONT VIEW

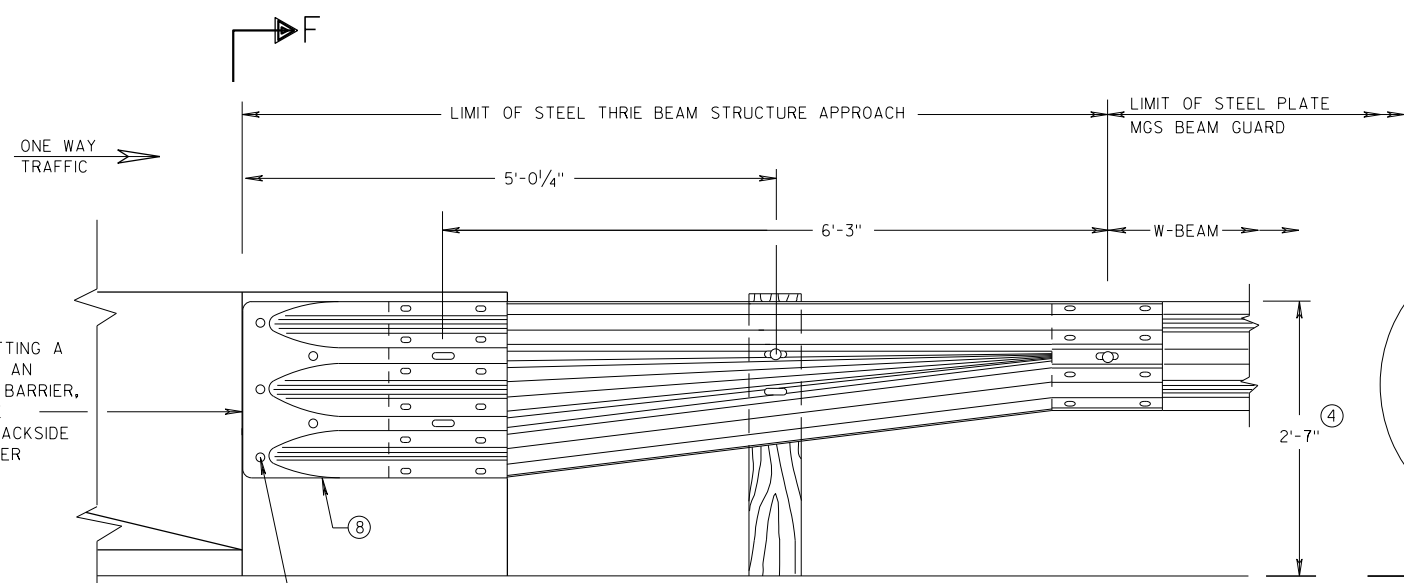
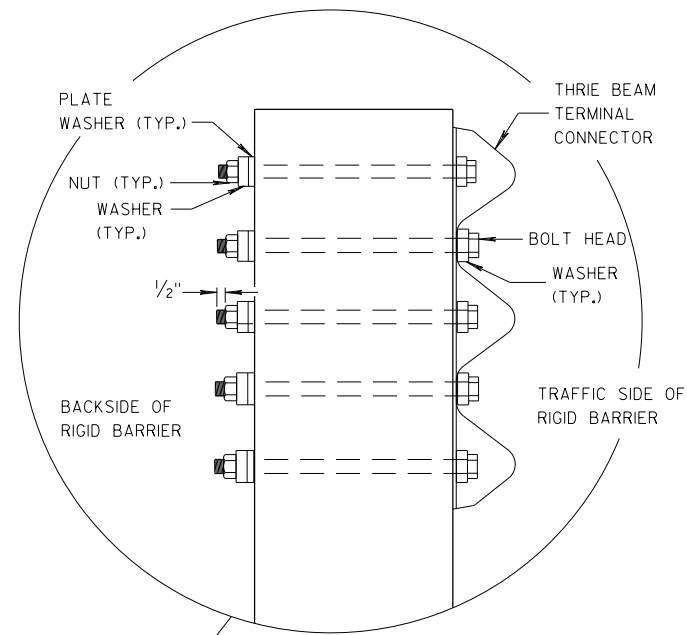
THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



SECTION E-E

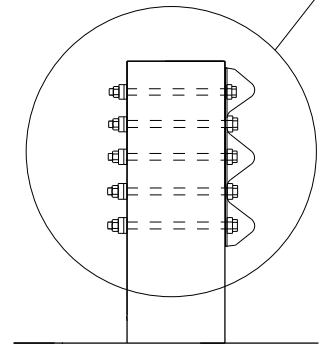
GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- (2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- (4) TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- (6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- (7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- (8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

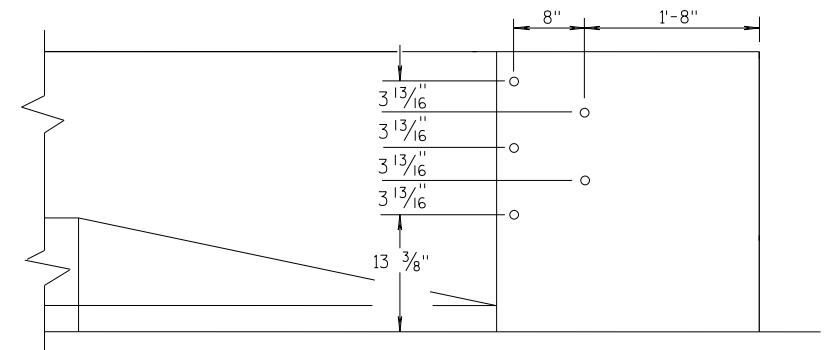


FRONT VIEW

**W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)**



SECTION F-F



DRILL HOLE LOCATION

6

6

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

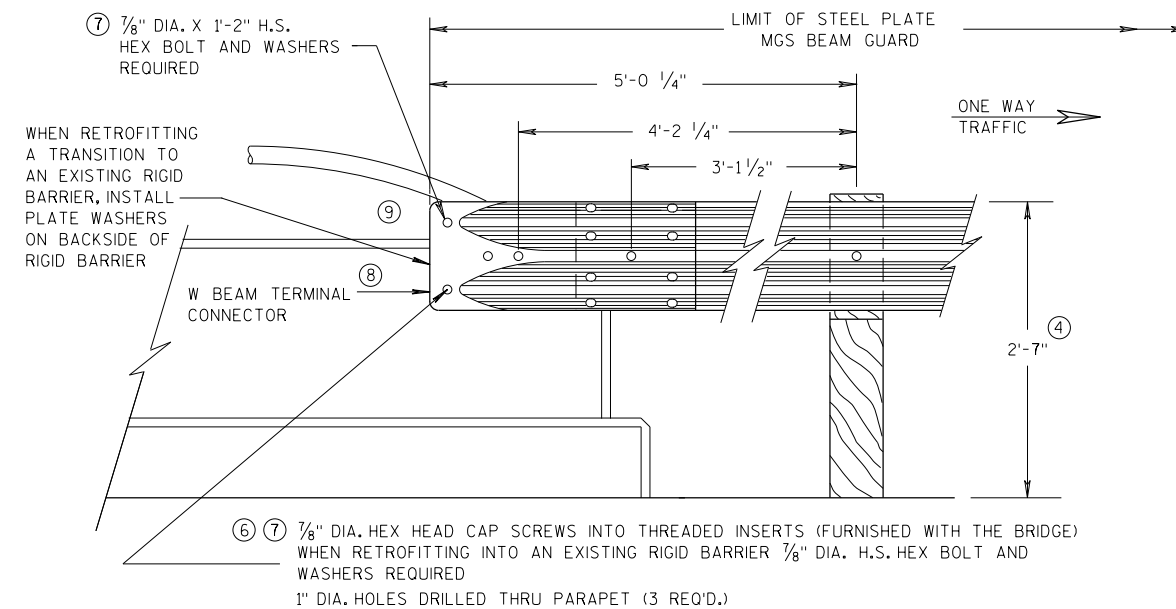
S.D.D. 14 B 45-5d

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

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

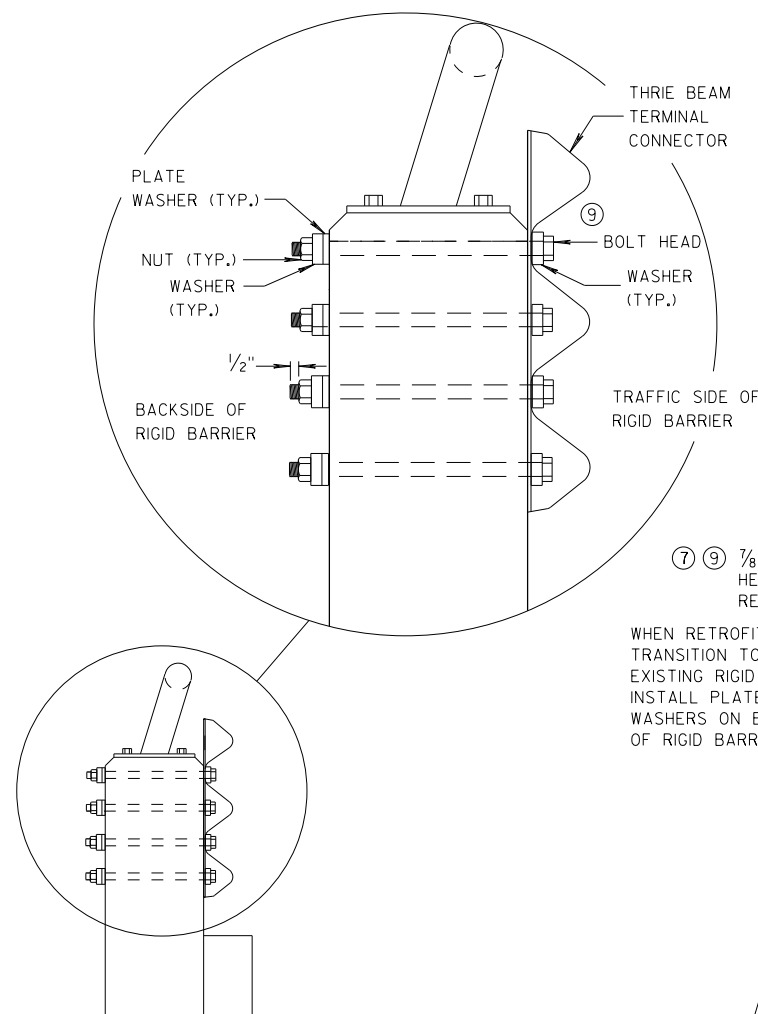
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}"$ THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}"$.
- ⑨ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



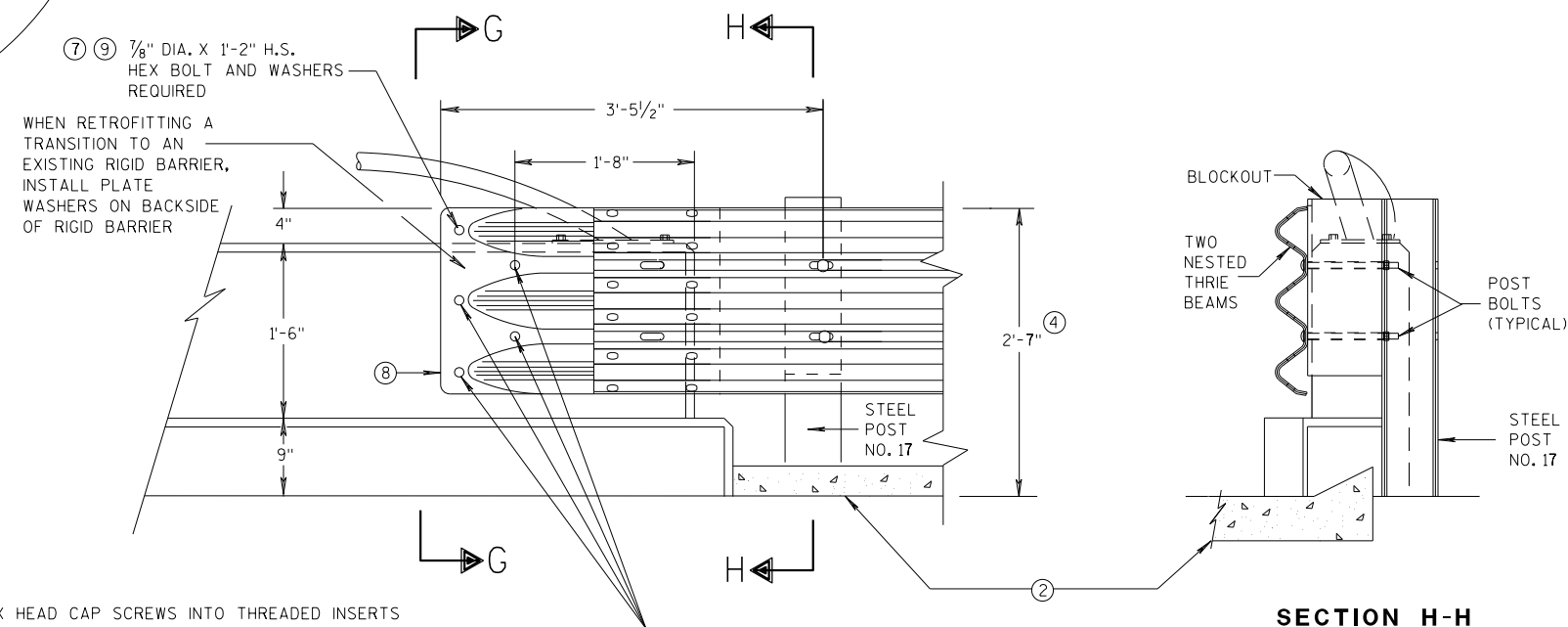
FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION G-G



FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

SECTION H-H

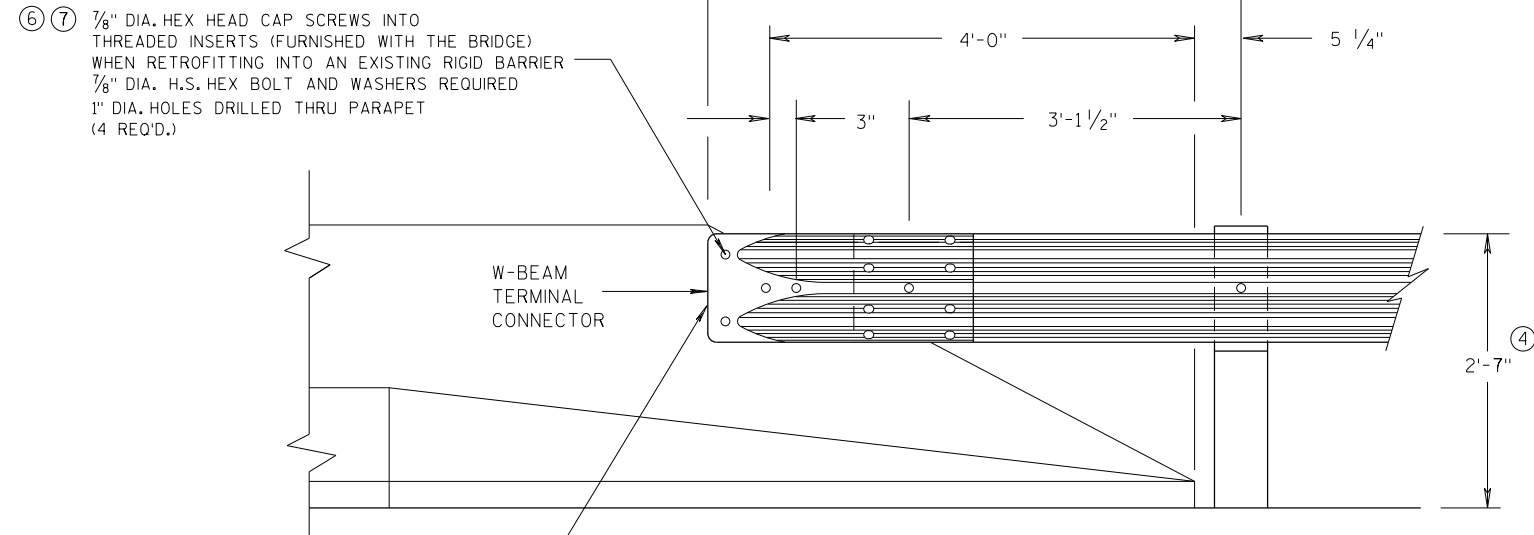
- ⑥ ⑦ $\frac{7}{8}"$ DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER $\frac{7}{8}"$ DIA. H.S. HEX BOLT AND WASHERS REQUIRED 1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

ONE WAY
TRAFFIC



W-BEAM
TERMINAL
CONNECTOR

WHEN RETROFITTING A TRANSITION
TO AN EXISTING RIGID BARRIER,
INSTALL PLATE WASHERS ON
BACKSIDE OF RIGID BARRIER.

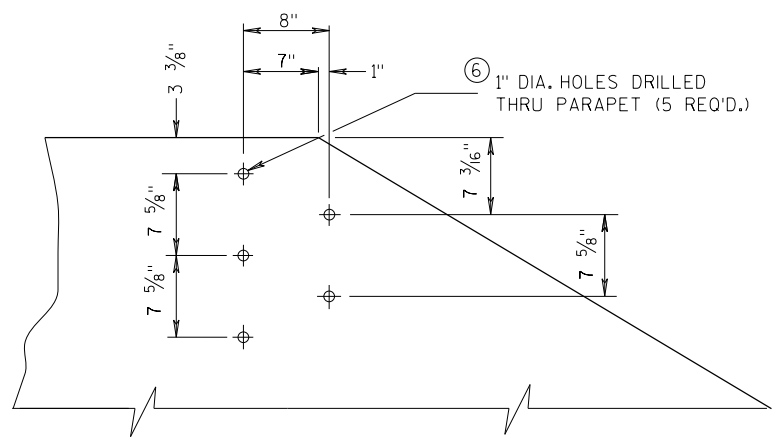
FRONT VIEW

**W BEAM CONNECTION TO
PARAPETS WITH SLOPED ENDS**

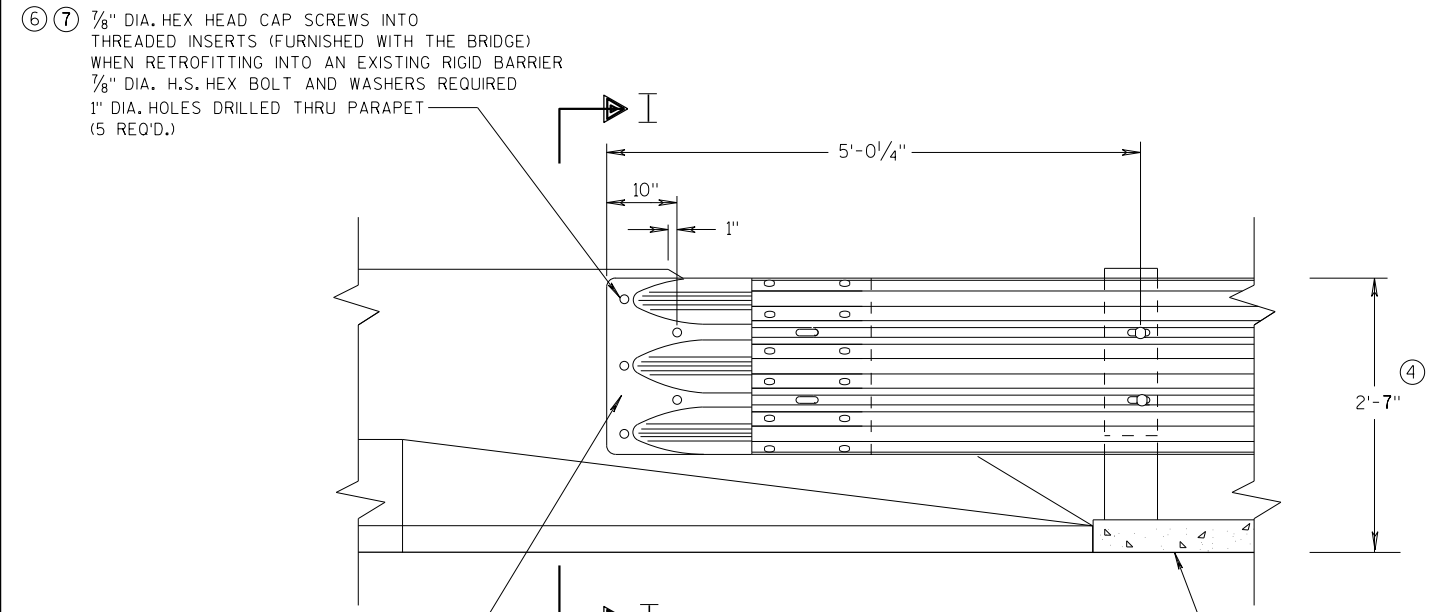
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
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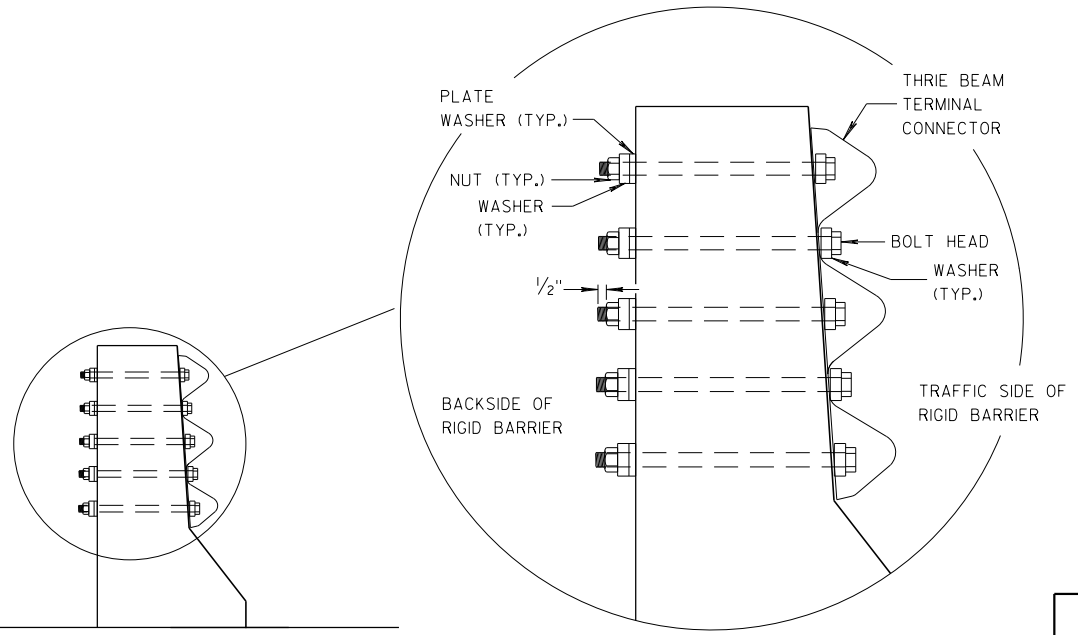
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



WHEN RETROFITTING A TRANSITION
TO AN EXISTING RIGID BARRIER,
INSTALL PLATE WASHERS ON
BACKSIDE OF RIGID BARRIER.

FRONT VIEW

**THRIE BEAM CONNECTION TO BRIDGE
PARAPETS WITH SLOPED ENDS**



SECTION I-I

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

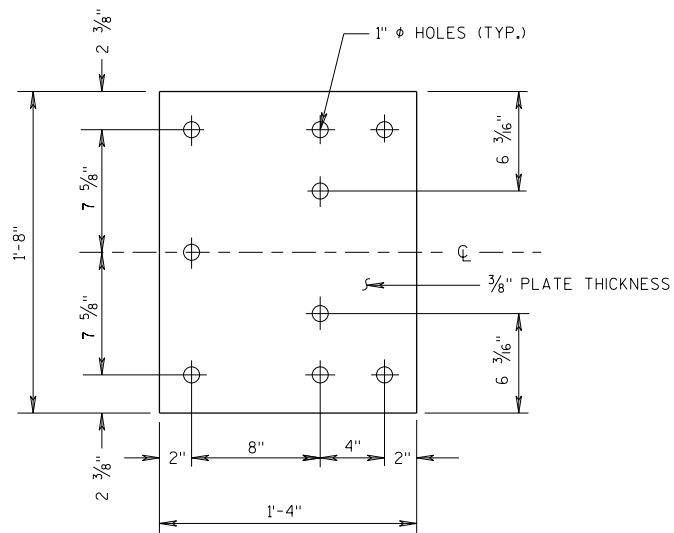
APPROVED
DATE 07/2018 /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

6

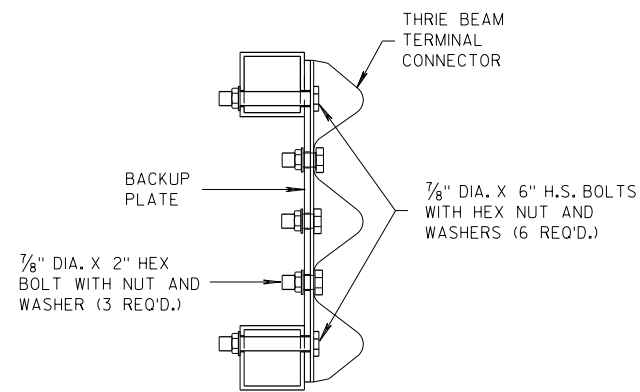
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S.D.D. 14 B 45-5f

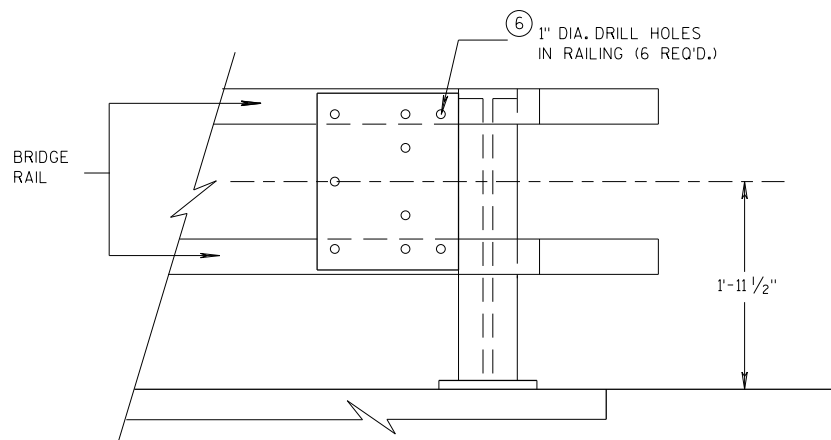
S.D.D. 14 B 45-5f



BACK-UP PLATE DETAIL



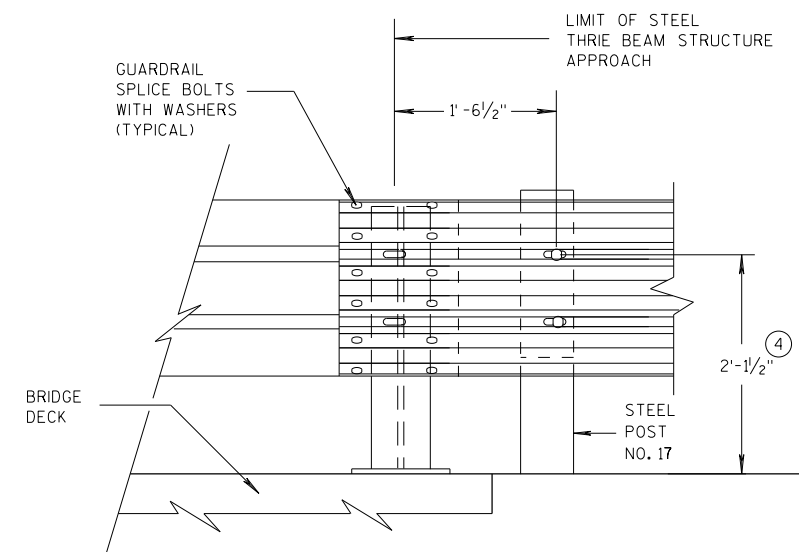
SECTION J-J



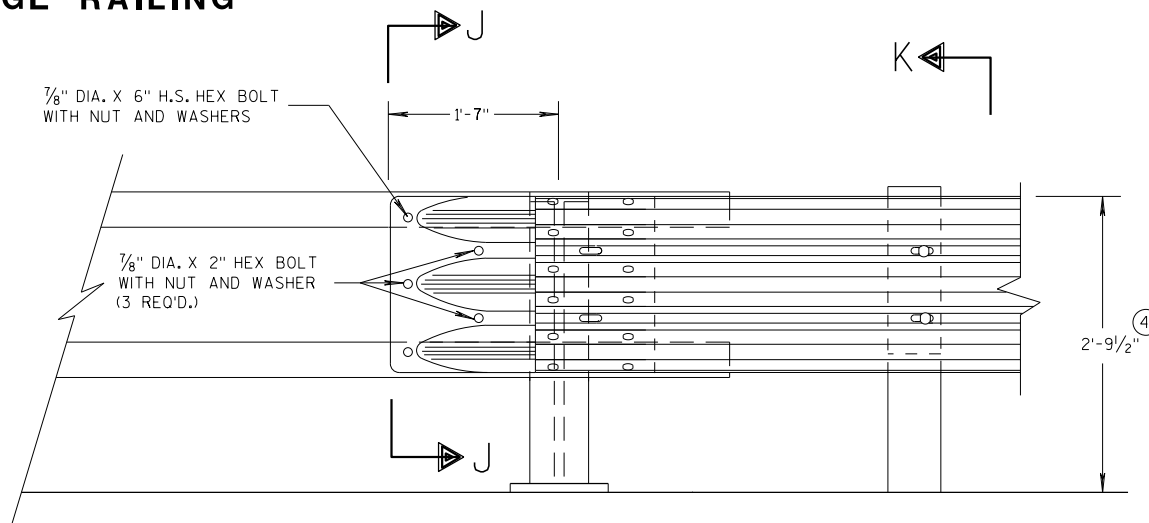
BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1'$.
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

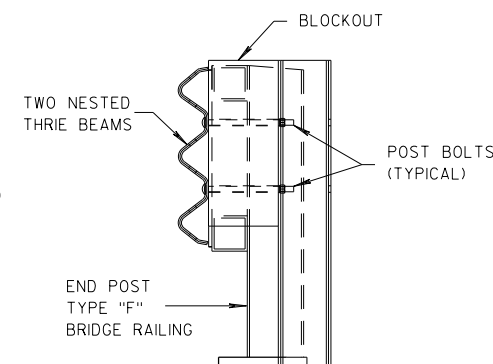


FRONT VIEW THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



SECTION K-K

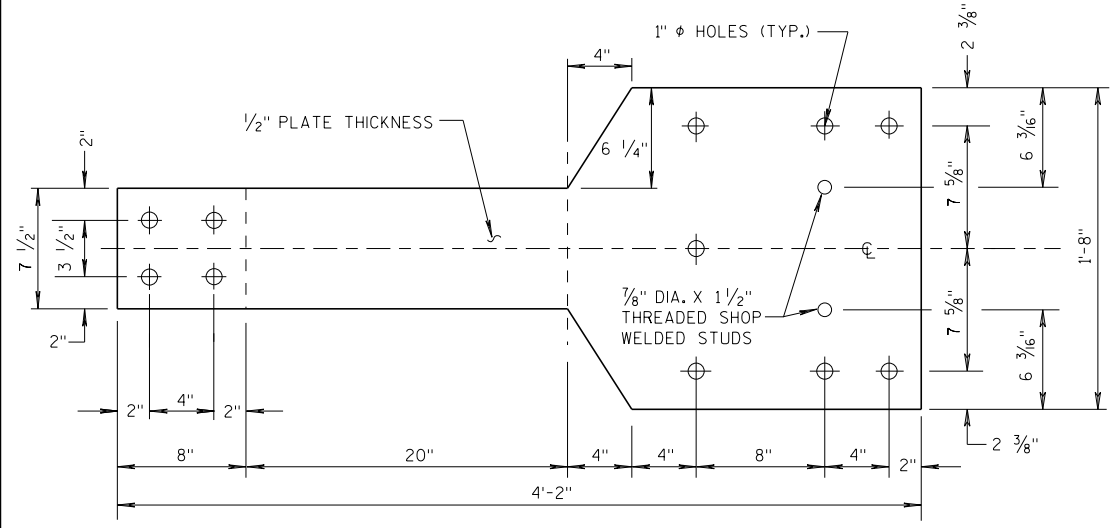
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

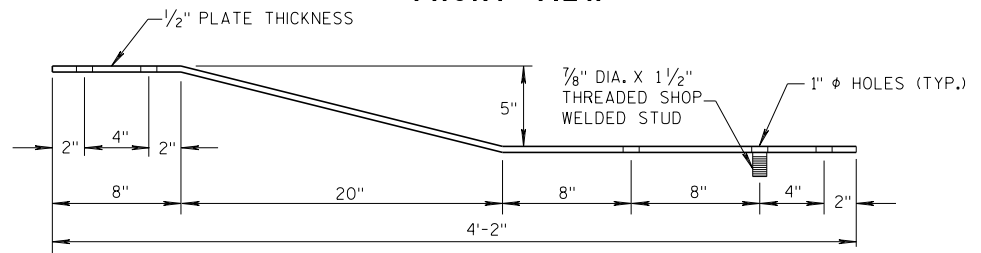
APPROVED
07/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

GENERAL NOTES

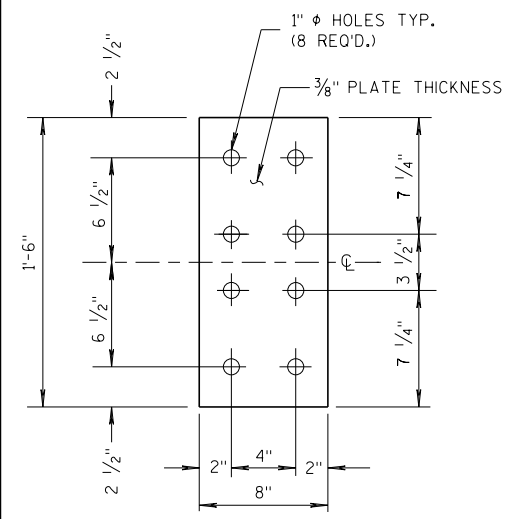
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



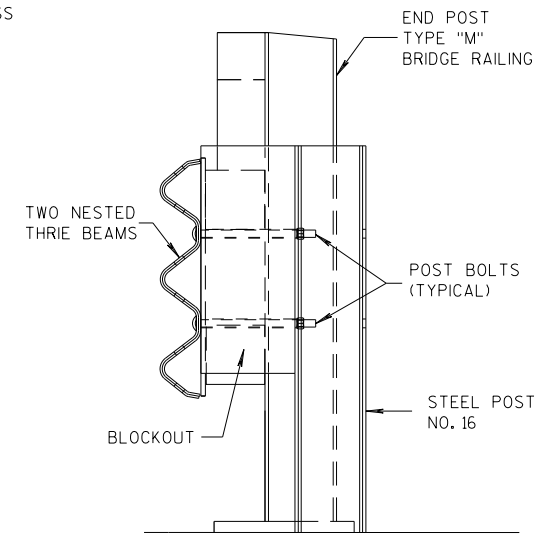
FRONT VIEW



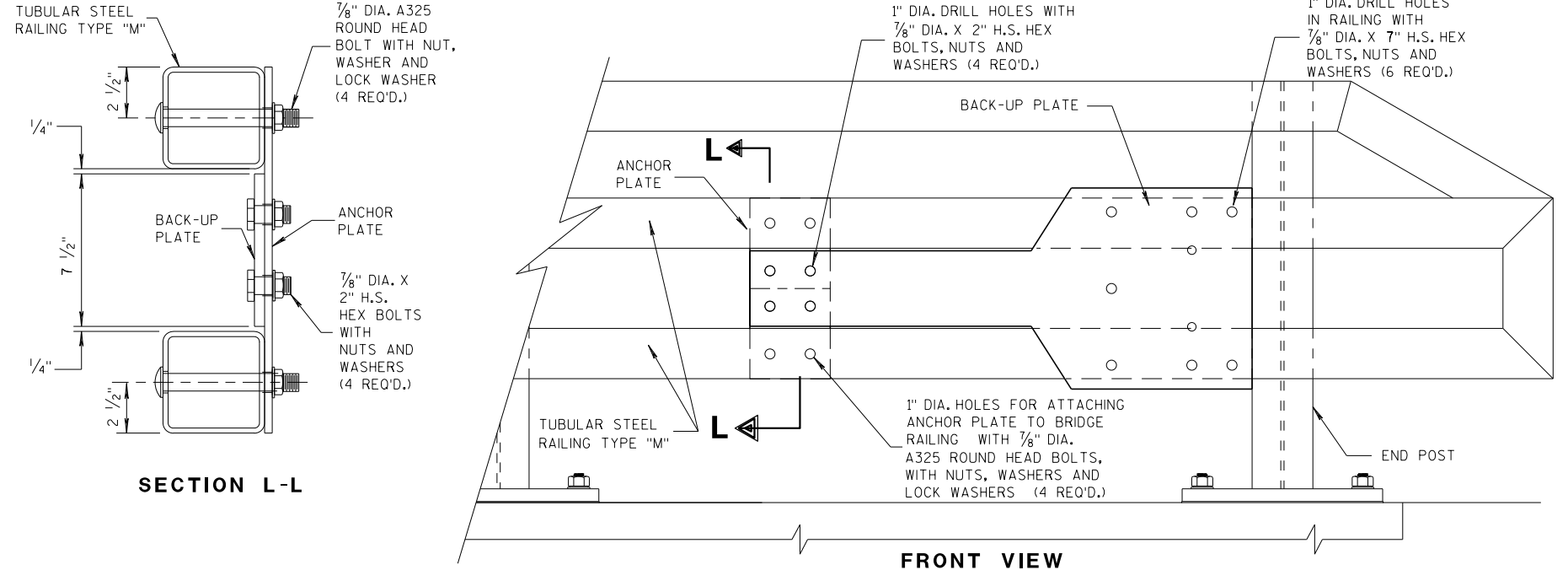
**PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"**



**FRONT VIEW
ANCHOR PLATE DETAIL, TYPE "M"**



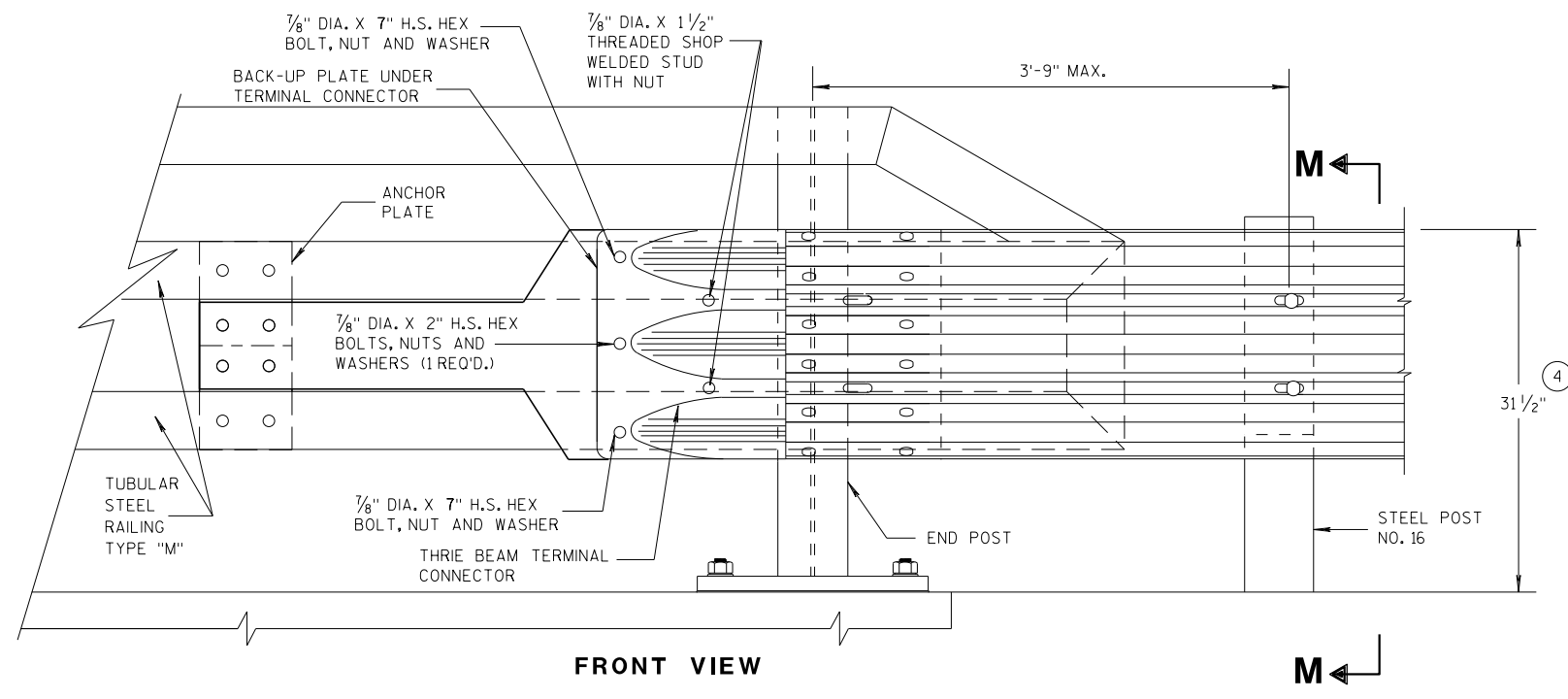
SECTION M-M



SECTION L-L

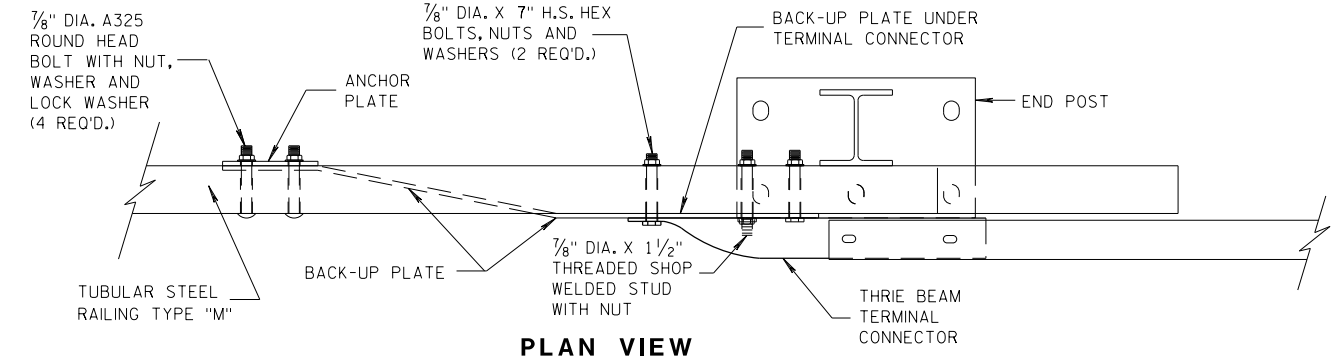
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW

M



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

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

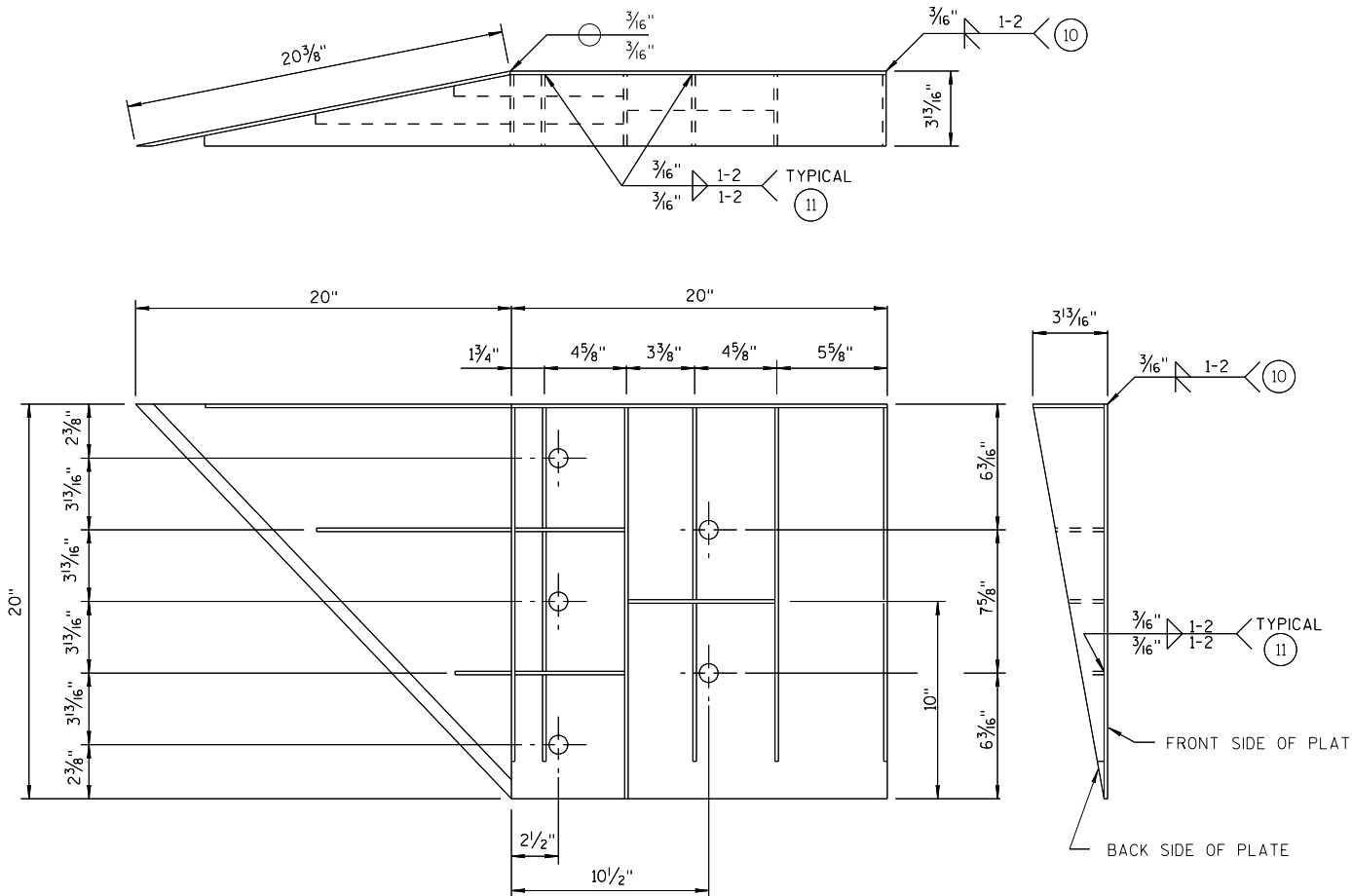
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 07/2018 /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

GENERAL NOTES

- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- (10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- (11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

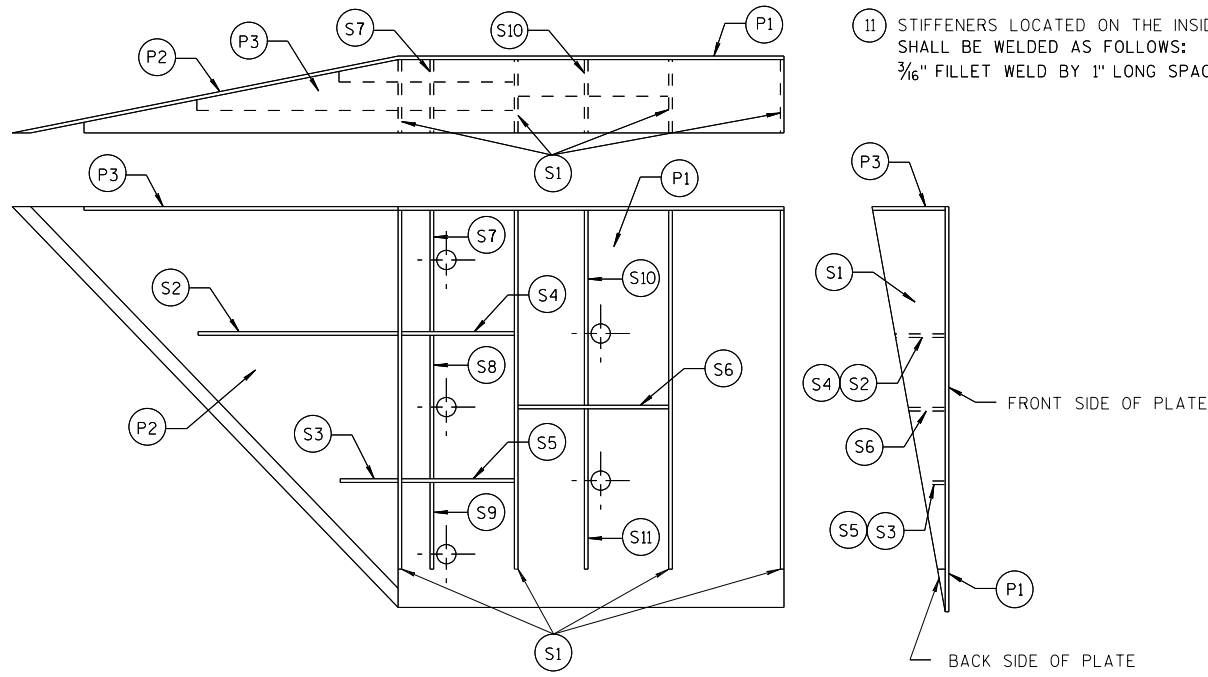


PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 3/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 1/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 3/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 1/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 3/16" x 6" x 3 5/8" x 5 1/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 3/8" x 9 1 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 3/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

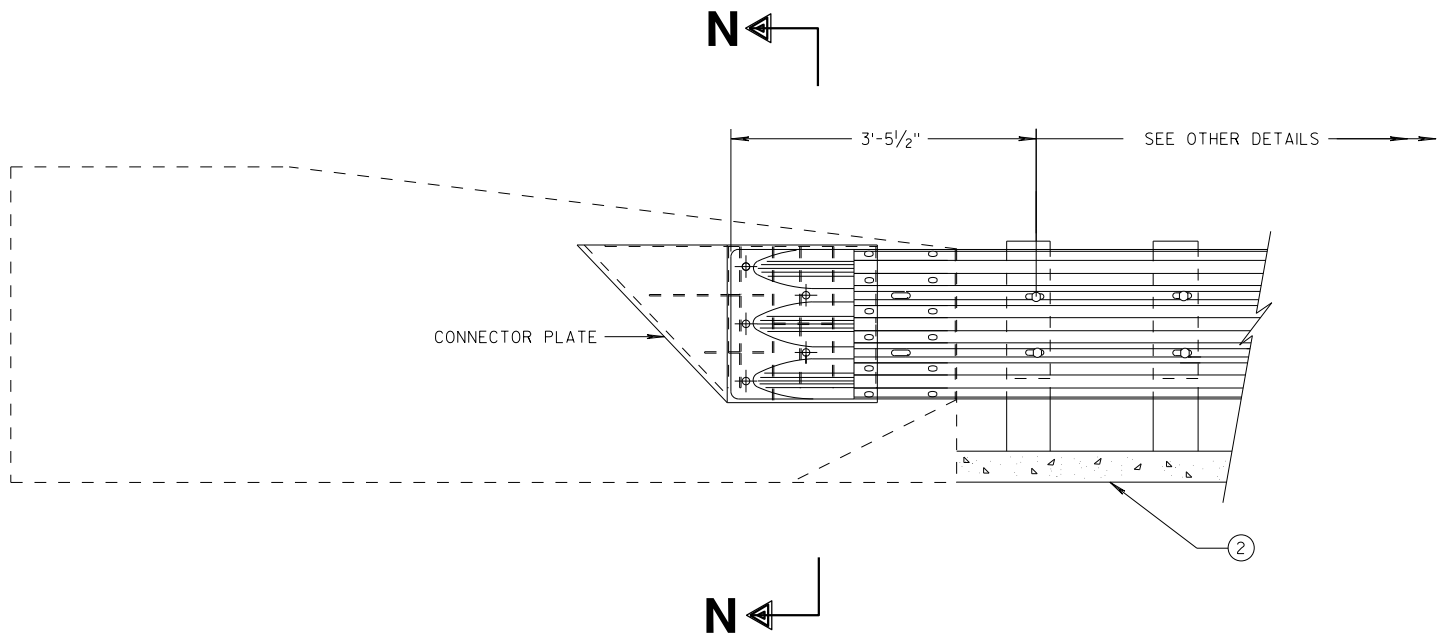
FHWA

GENERAL NOTES

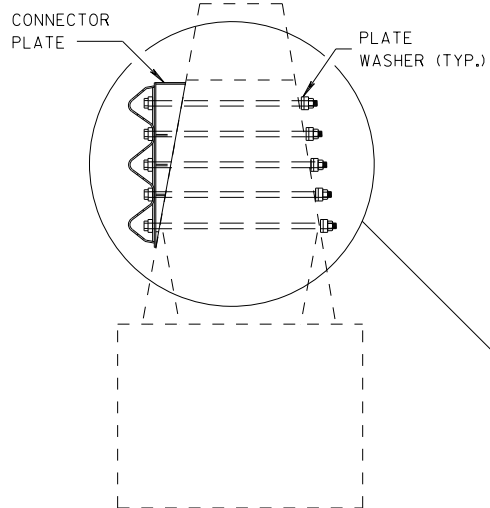
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

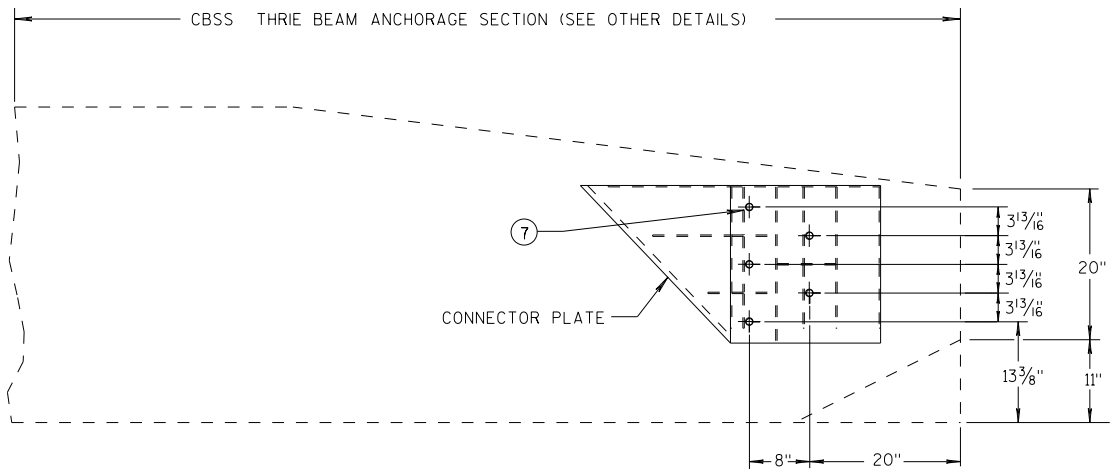
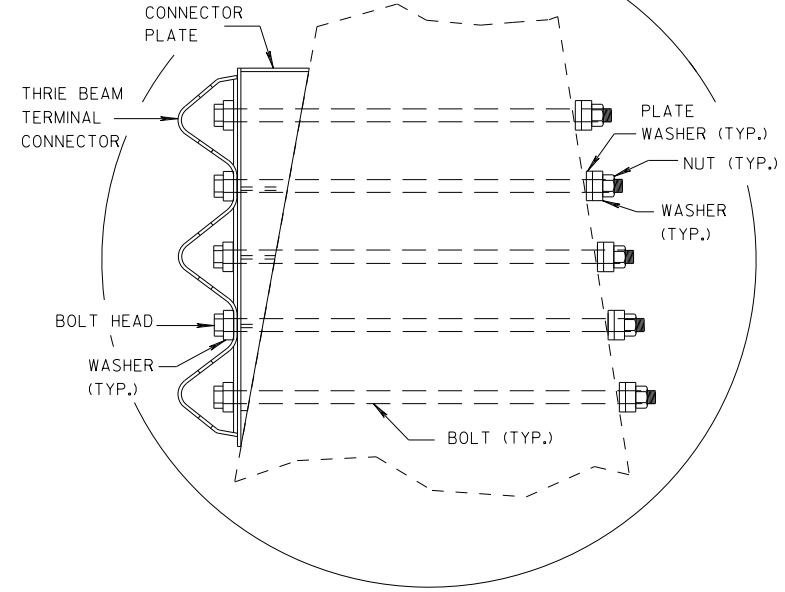
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THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



SECTION N-N

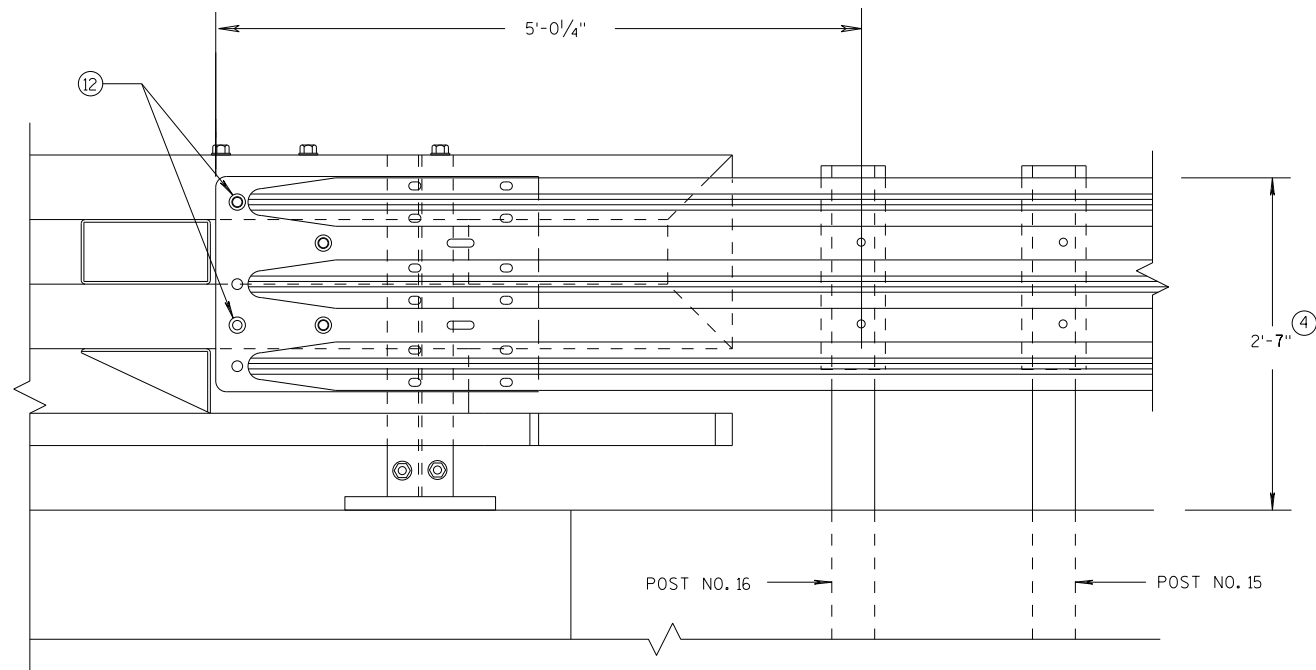


SINGLE SLOPE CONNECTION PLATE PLACEMENT

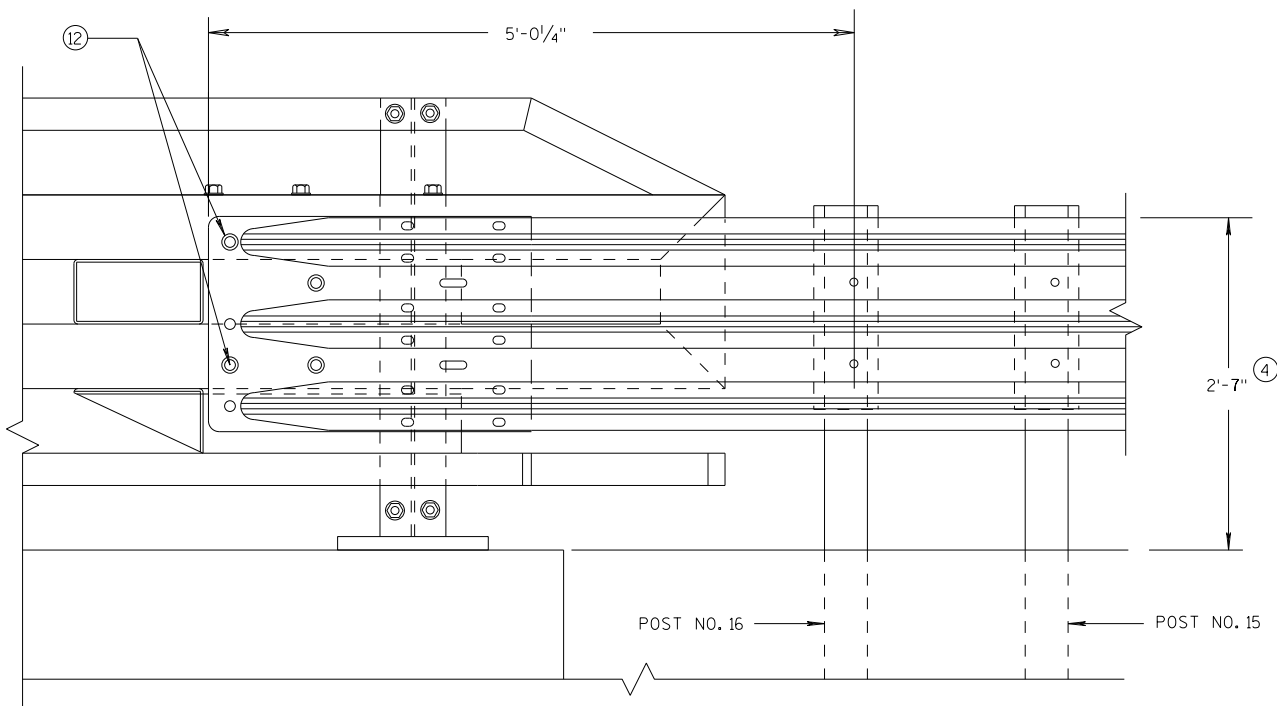
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



**ELEVATION OF DETAIL AT NY3 END POST
THRIE BEAM RAIL ATTACHMENT**



**ELEVATION OF DETAIL AT NY4 END POST
THRIE BEAM RAIL ATTACHMENT**

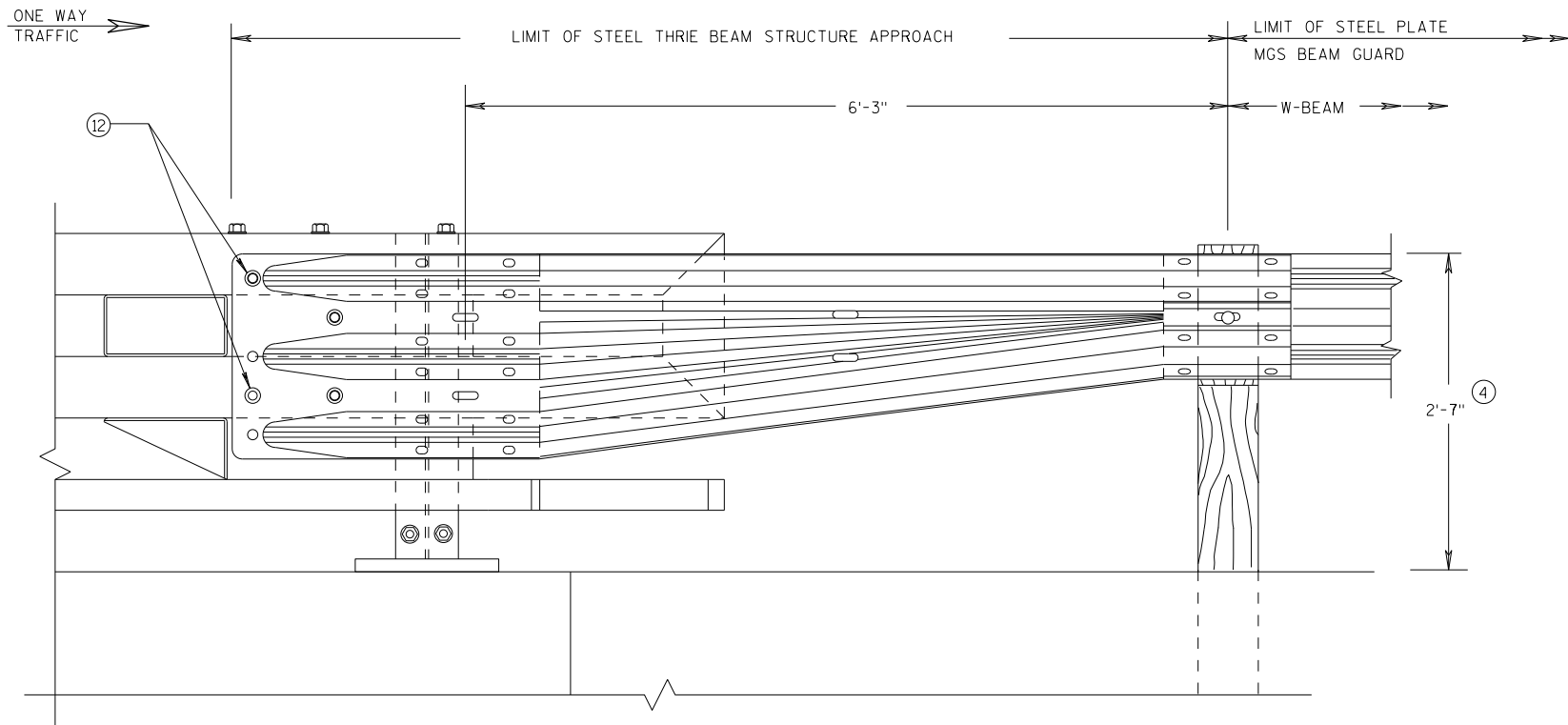
GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS ± 1".
- ⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

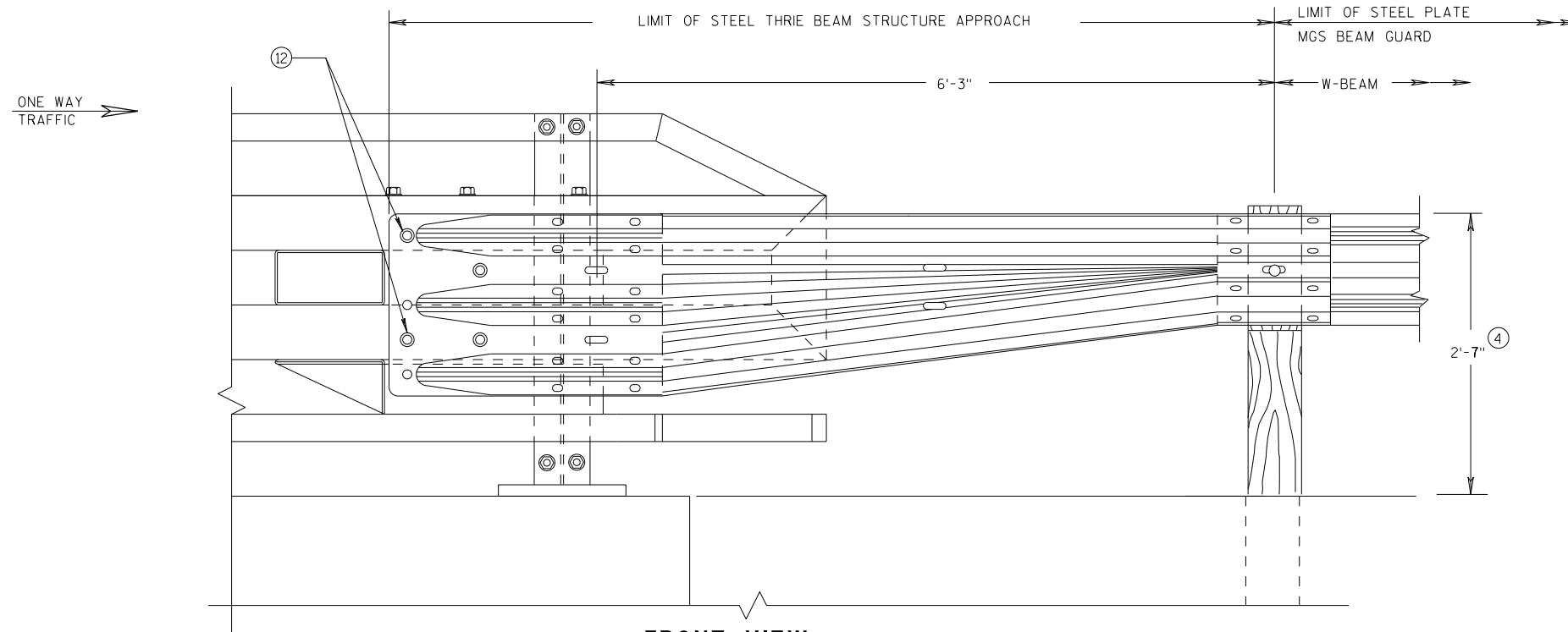
APPROVED
DATE 7/2018 /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



GENERAL NOTES

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FRONT VIEW
W BEAM TRANSITION AND
CONNECTION TO BRIDGE RAILING TYPE "NY3"
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

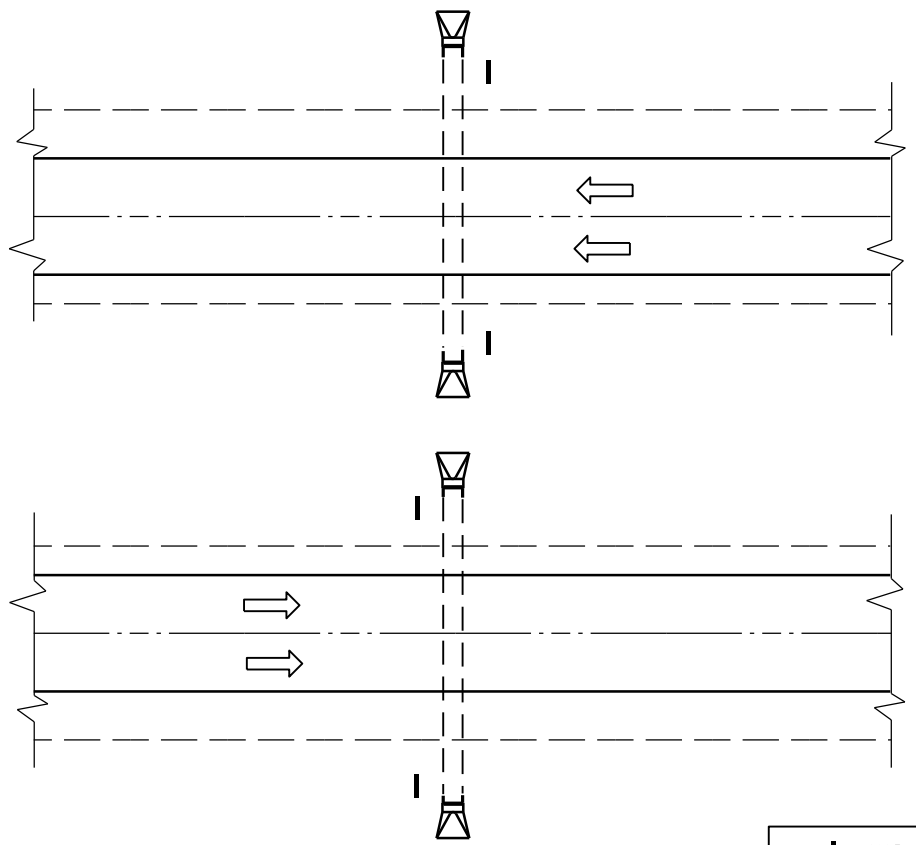


FRONT VIEW
W BEAM TRANSITION AND
CONNECTION TO BRIDGE RAILING TYPE "NY4"
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

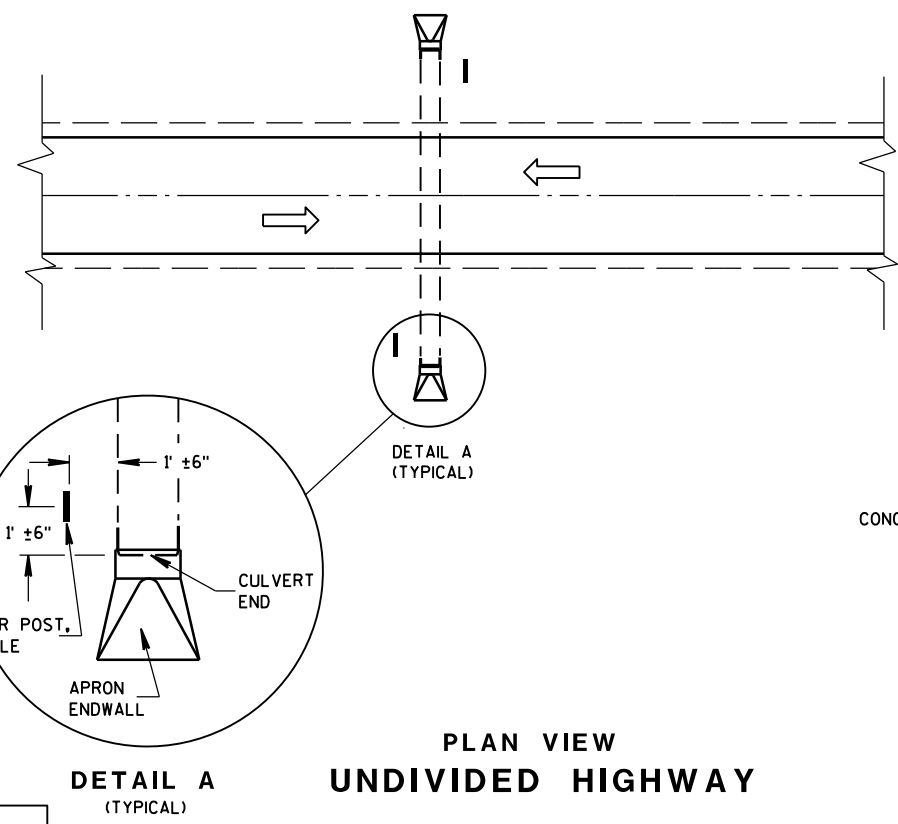
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

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

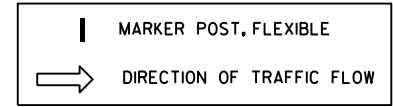


PLAN VIEW
DIVIDED HIGHWAY



PLAN VIEW
UNDIVIDED HIGHWAY

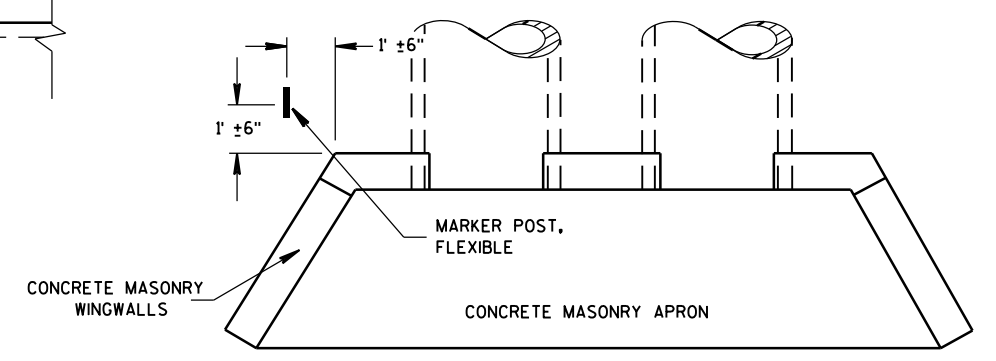
DETAIL A
(TYPICAL)



FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

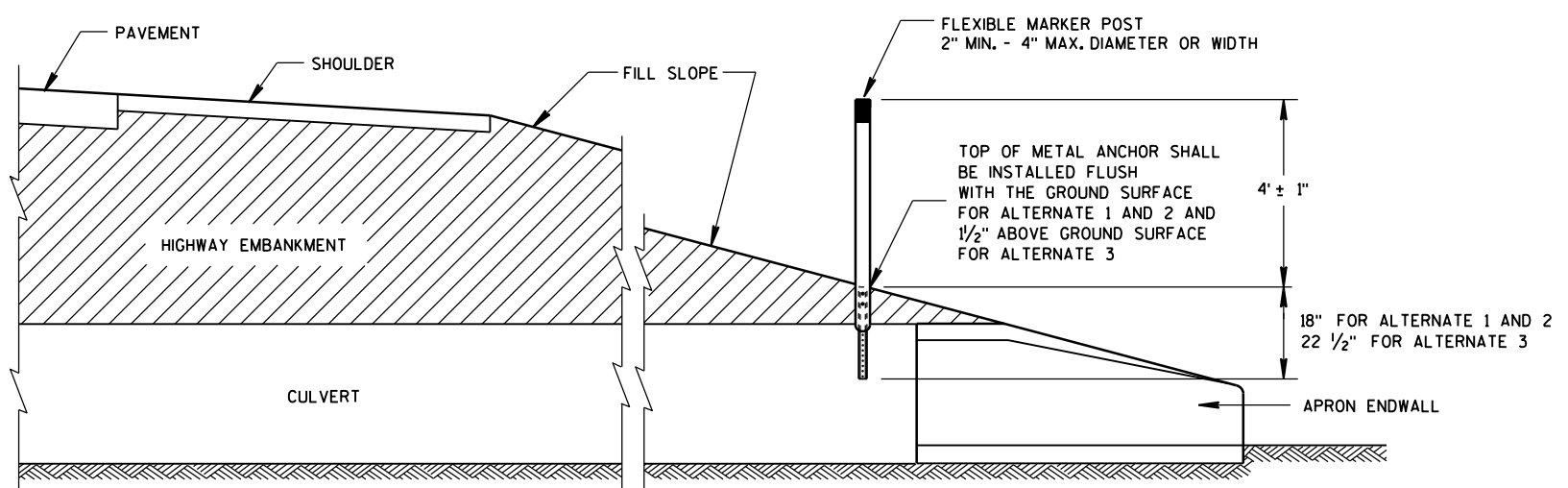
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH

6

6



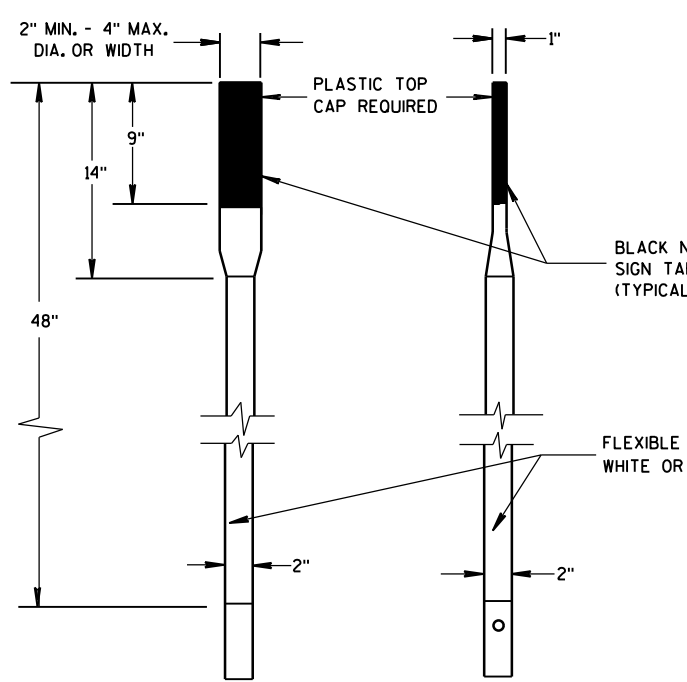
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

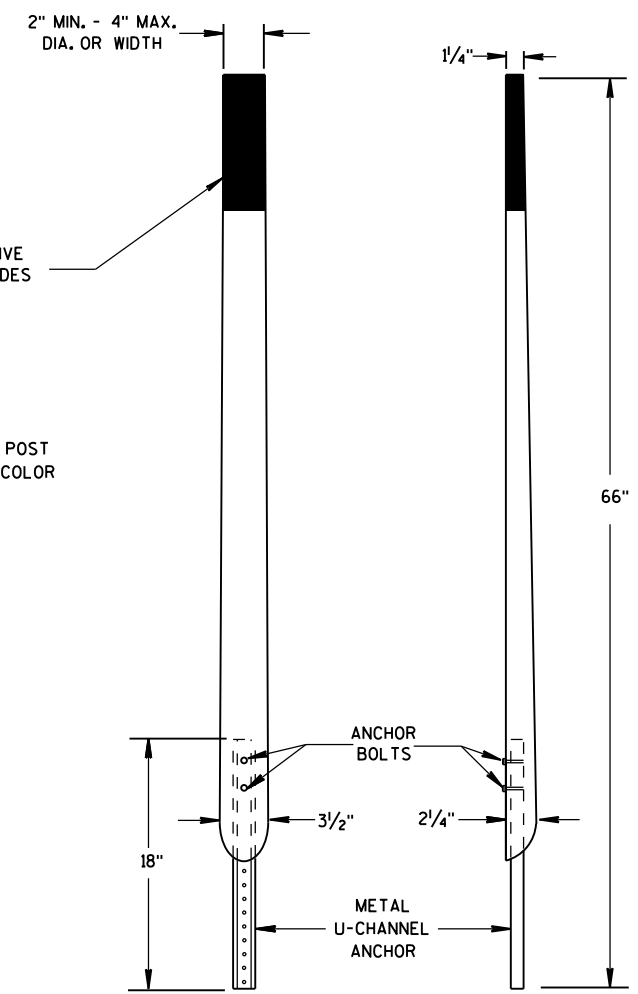
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

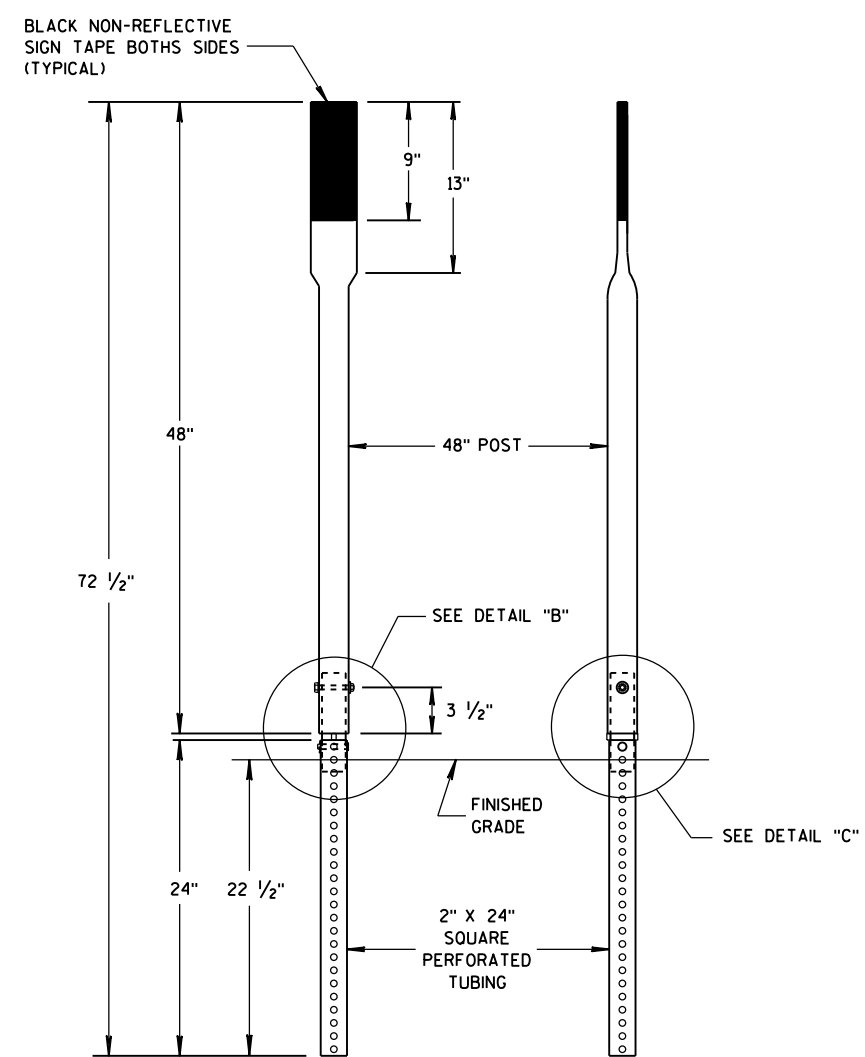
S.D.D. 15 A 3-2a



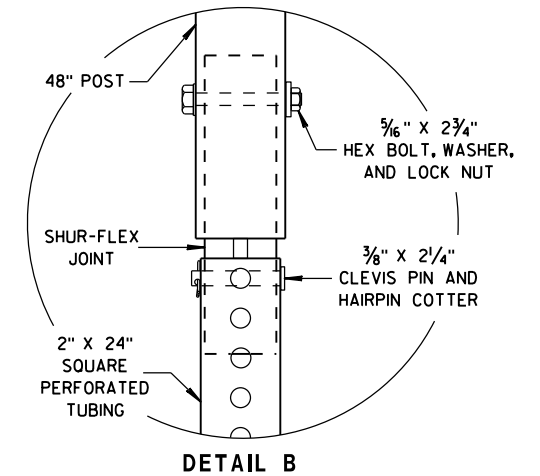
FRONT VIEW SIDE VIEW
ALTERNATE 1



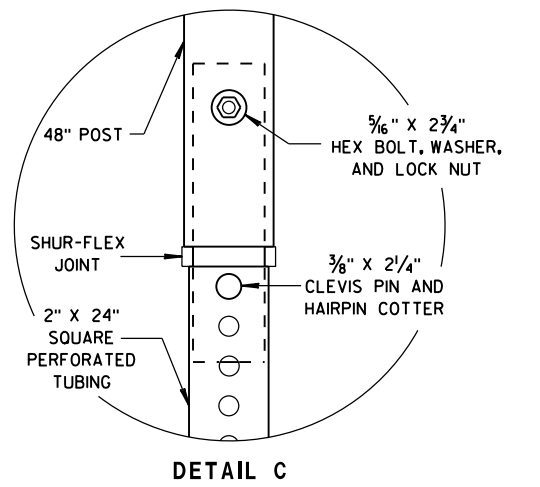
FRONT VIEW SIDE VIEW
ALTERNATE 2



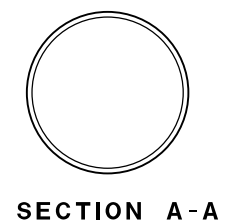
FRONT VIEW SIDE VIEW
ALTERNATE 3



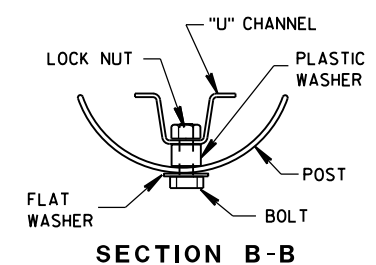
DETAIL B



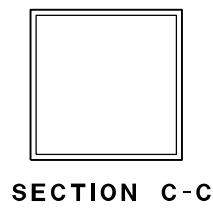
DETAIL C



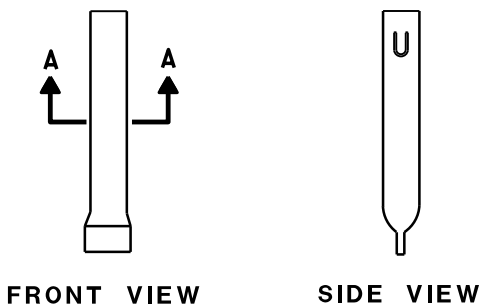
SECTION A-A



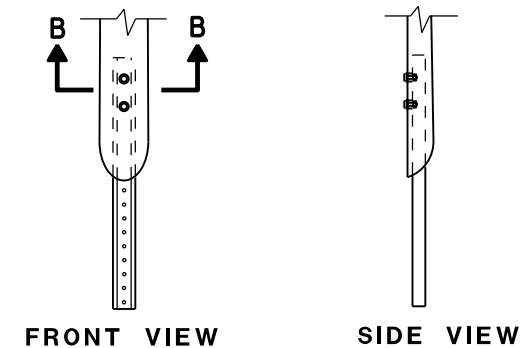
SECTION B-B



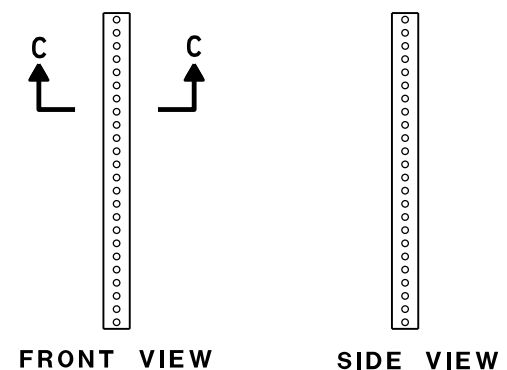
SECTION C-C



FRONT VIEW SIDE VIEW
ALTERNATE 1



FRONT VIEW SIDE VIEW
ALTERNATE 2



FRONT VIEW SIDE VIEW
ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

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	

GENERAL NOTES

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

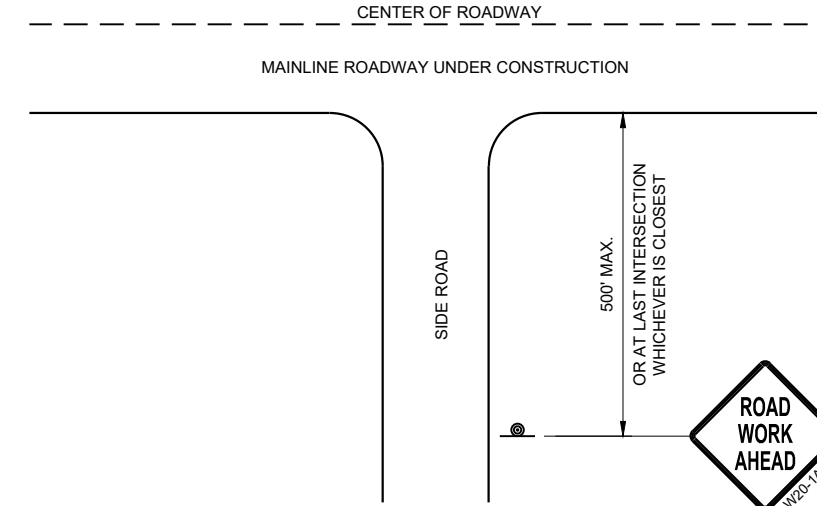
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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.

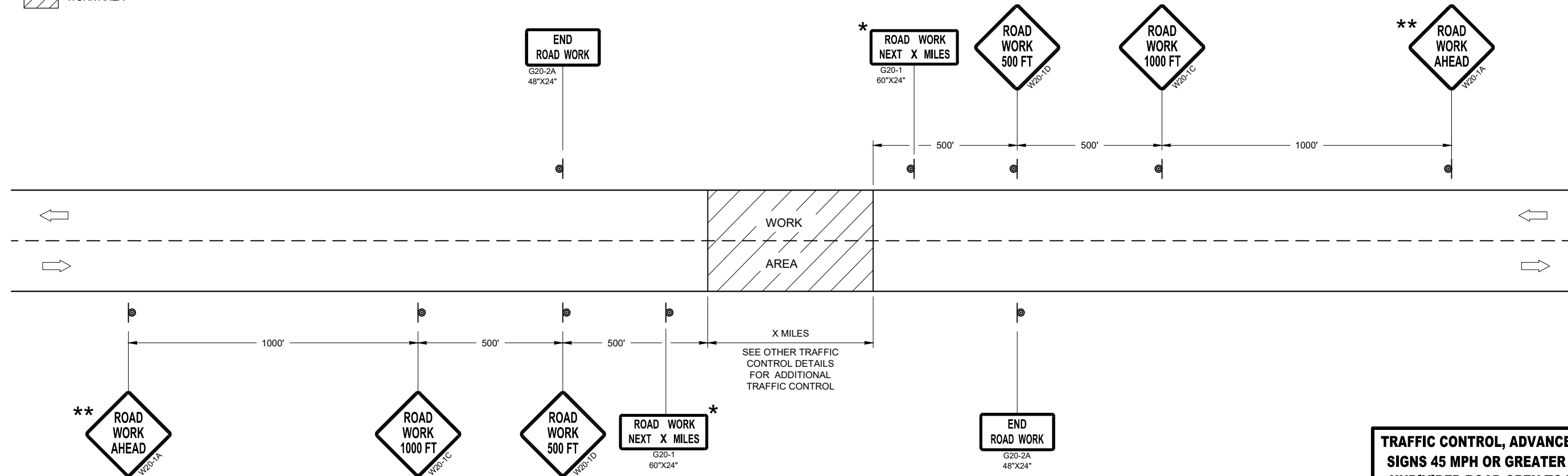
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



**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 TRAFFICE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

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

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.

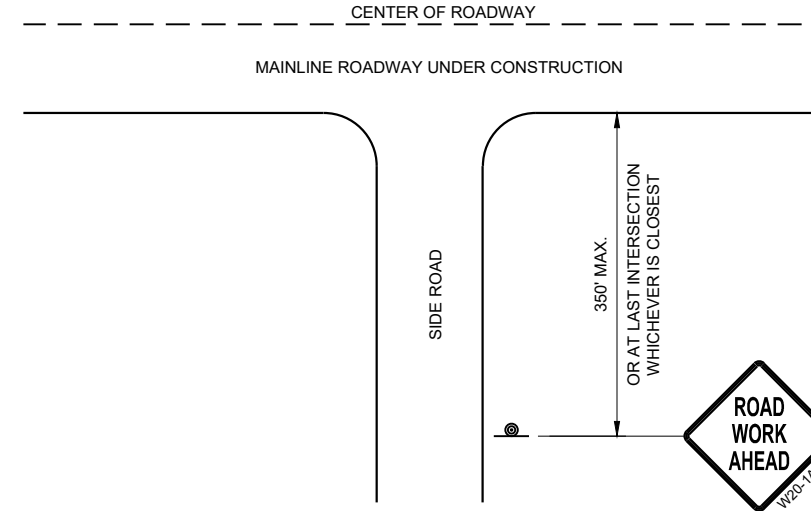
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

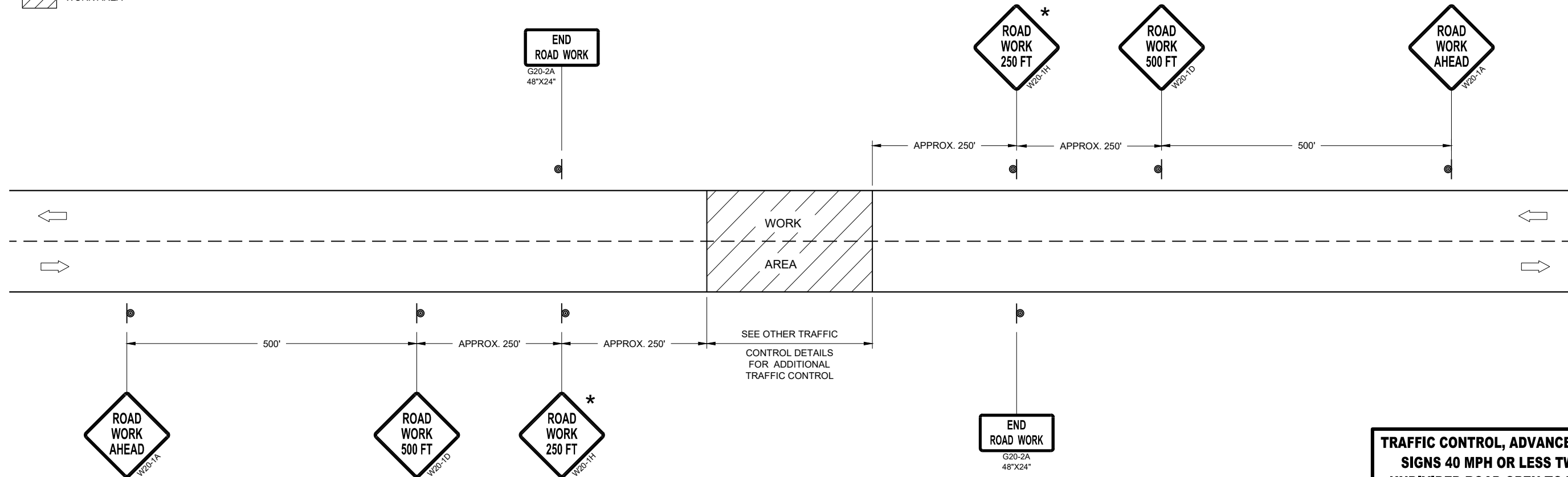
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

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 TRAFFICE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

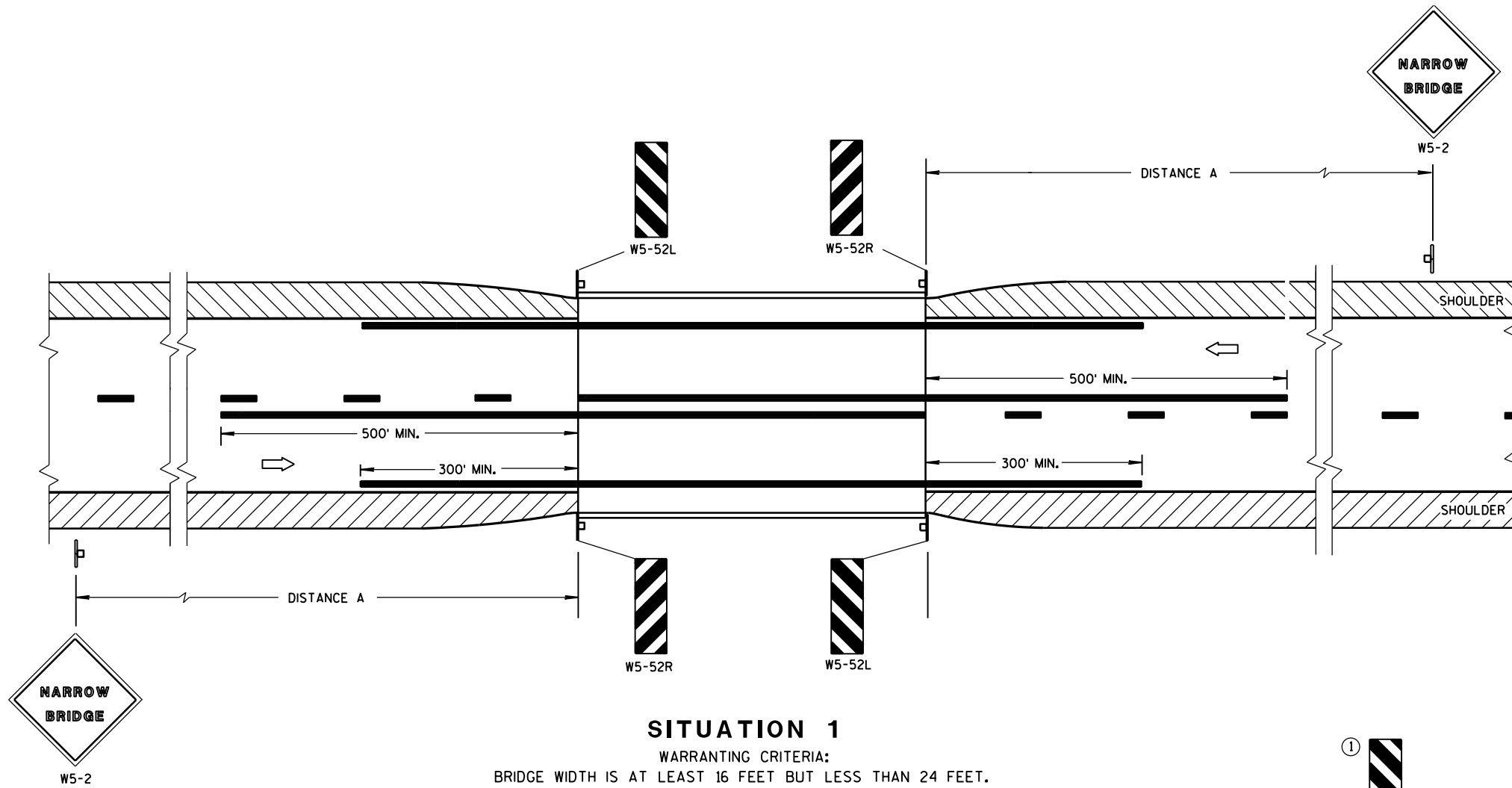
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

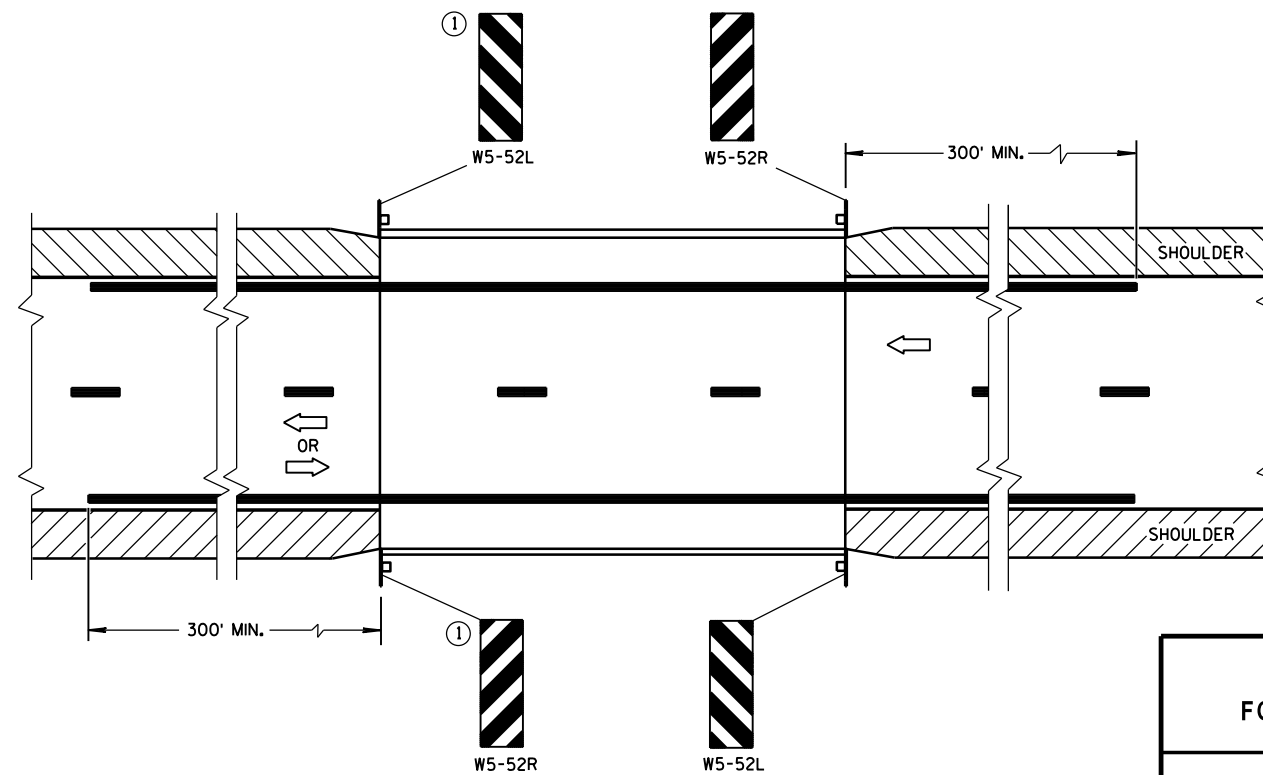
① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

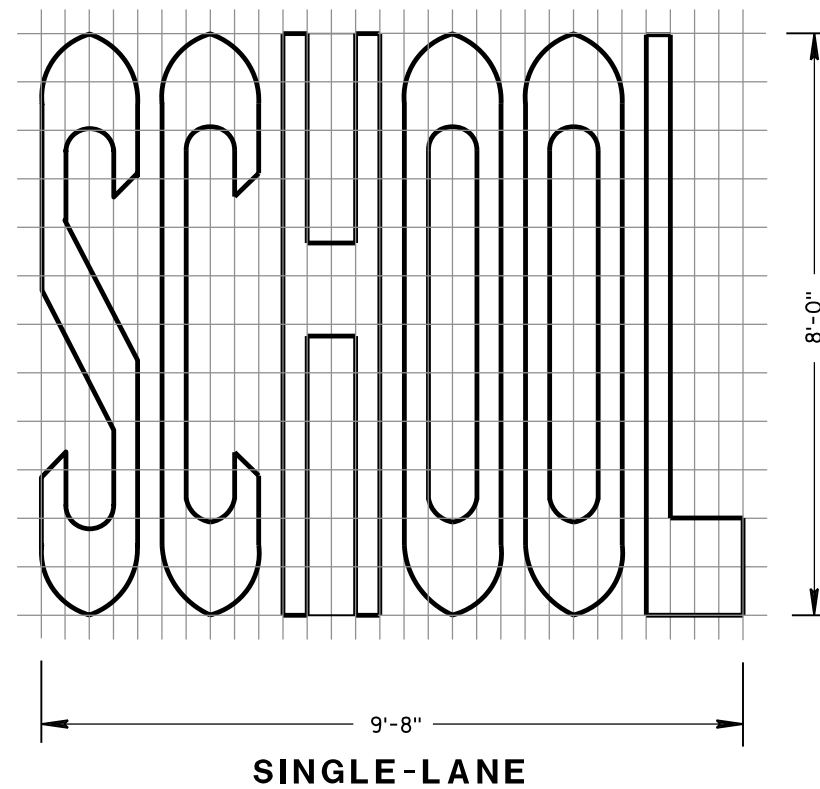
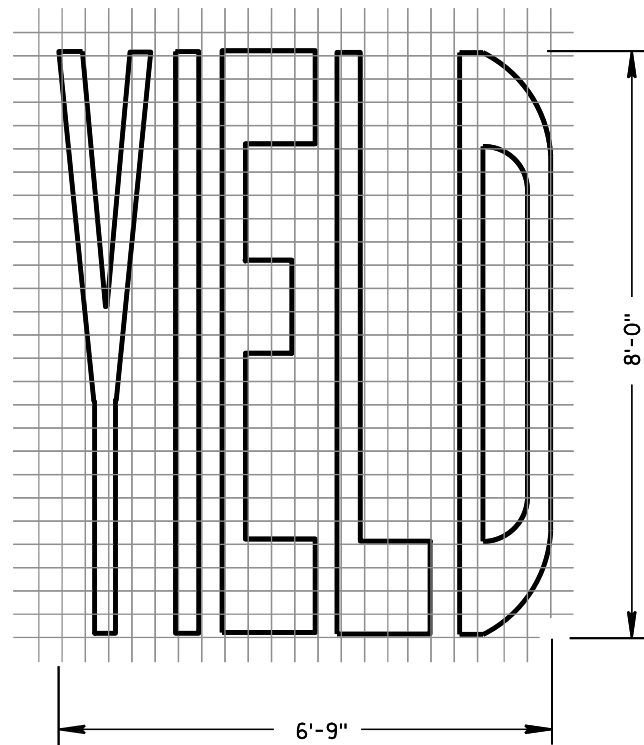
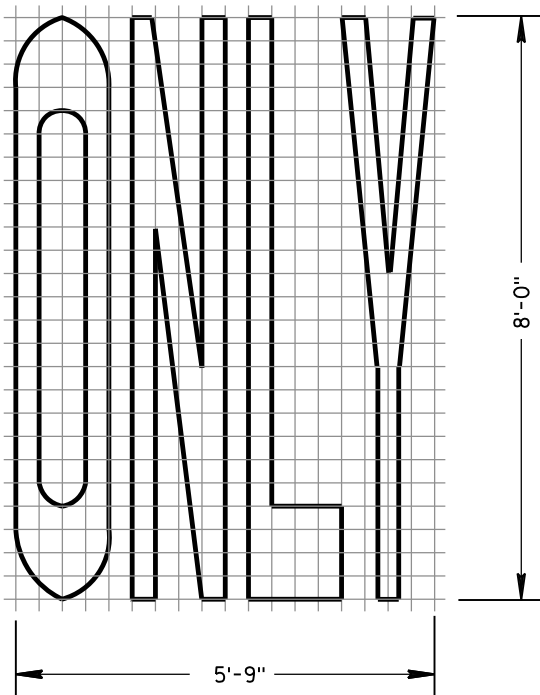
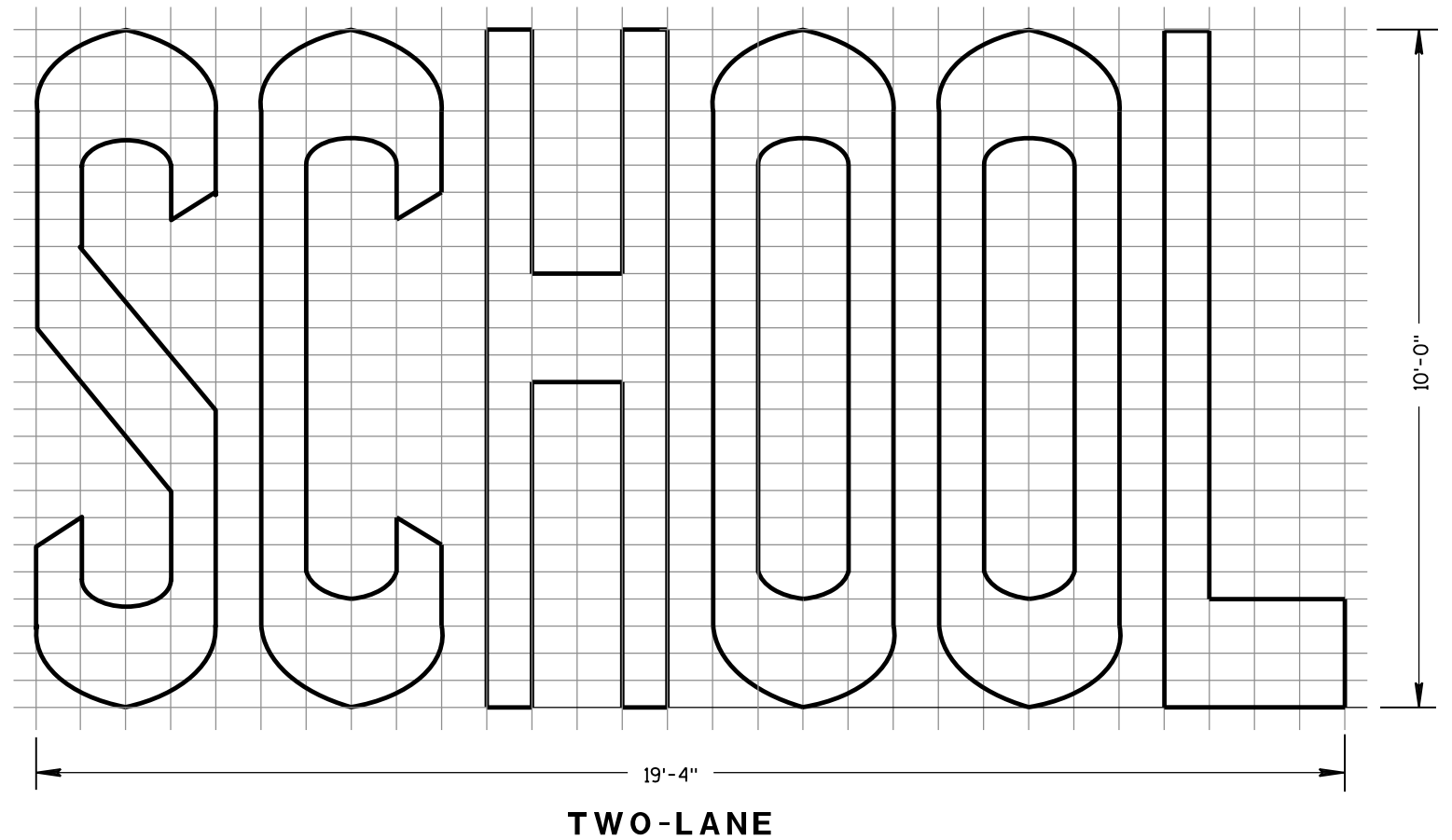
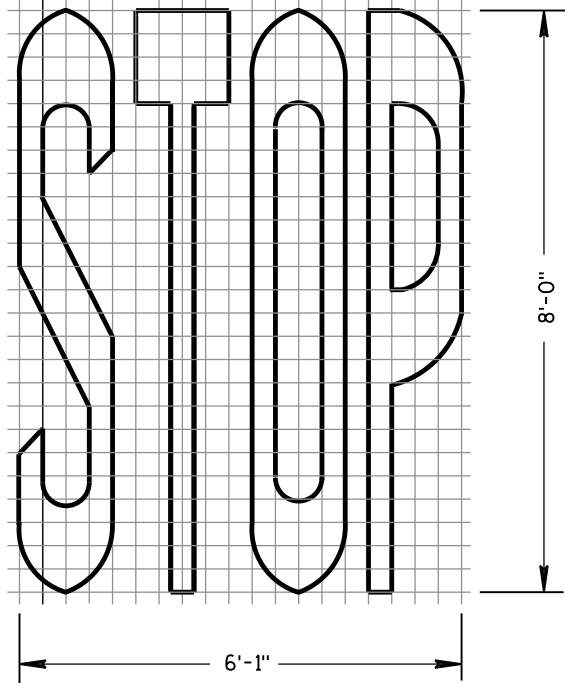
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

GENERAL NOTES

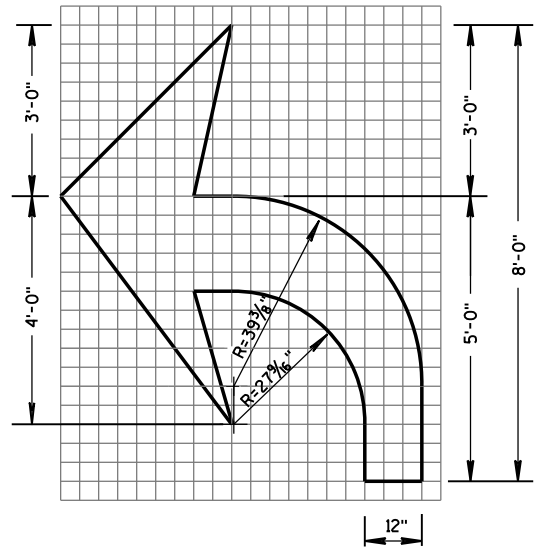
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



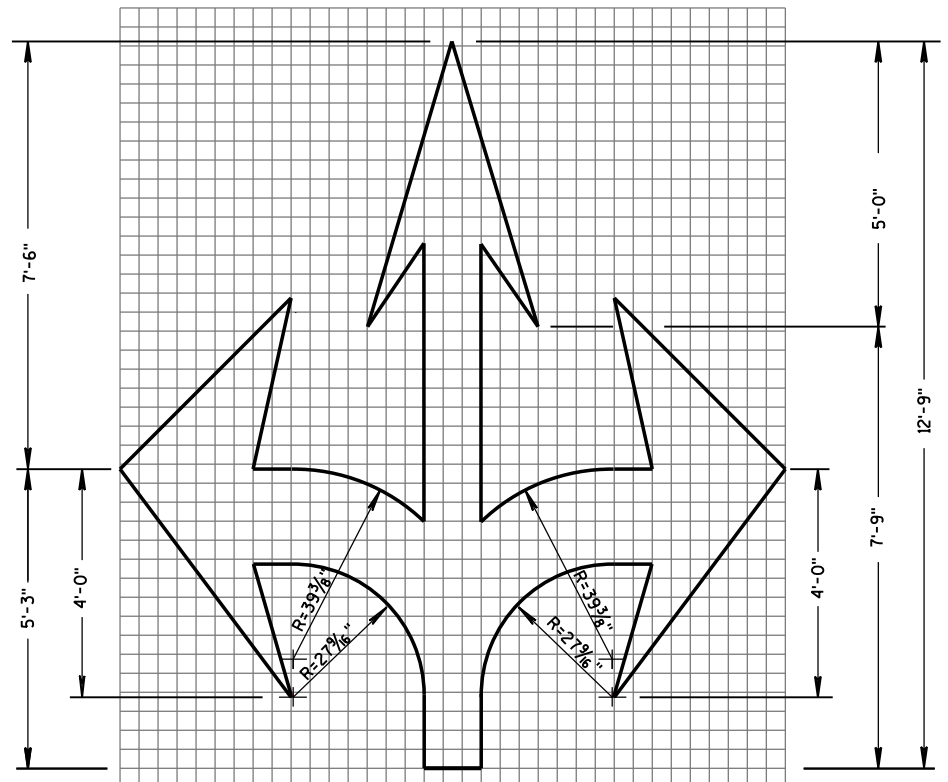
PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

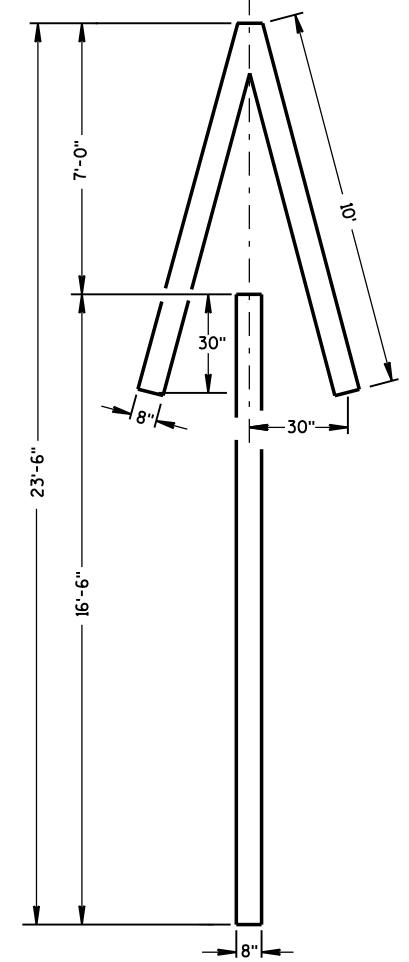
APPROVED
June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



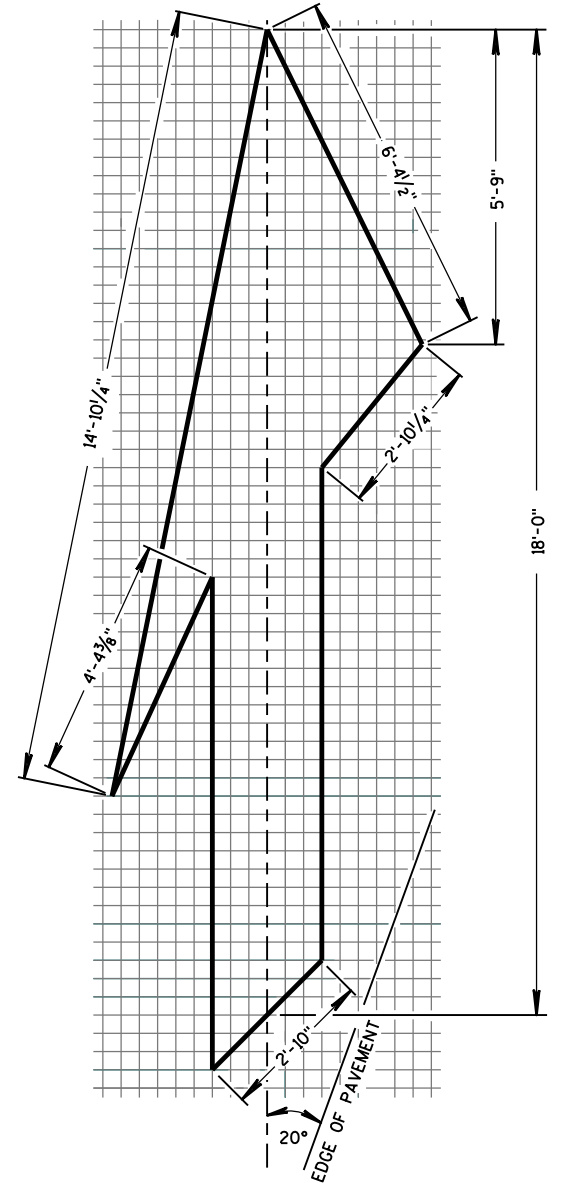
TYPE 2



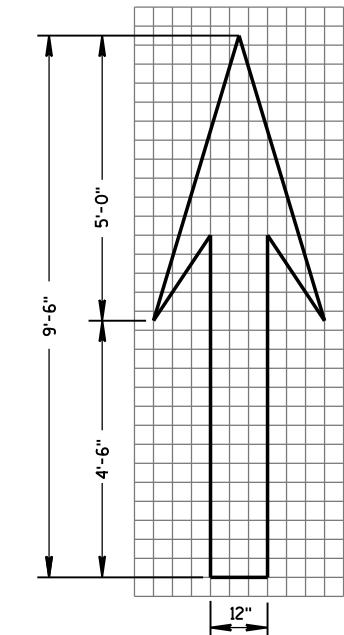
TYPE 6



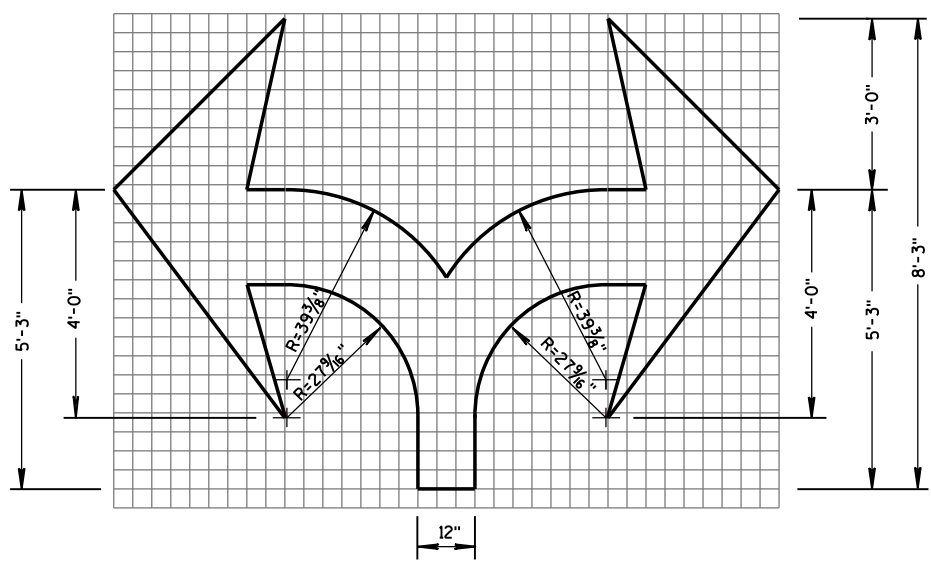
TYPE 4



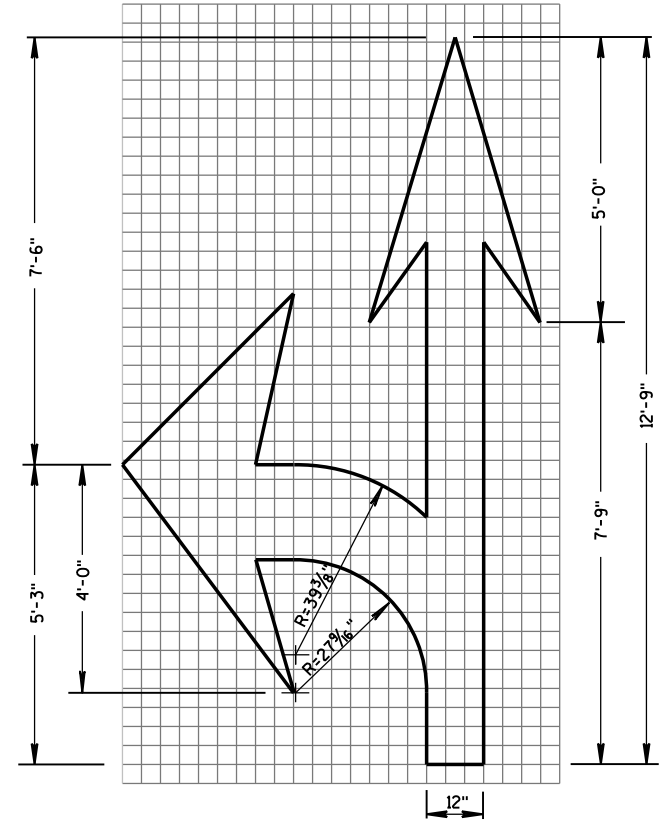
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7

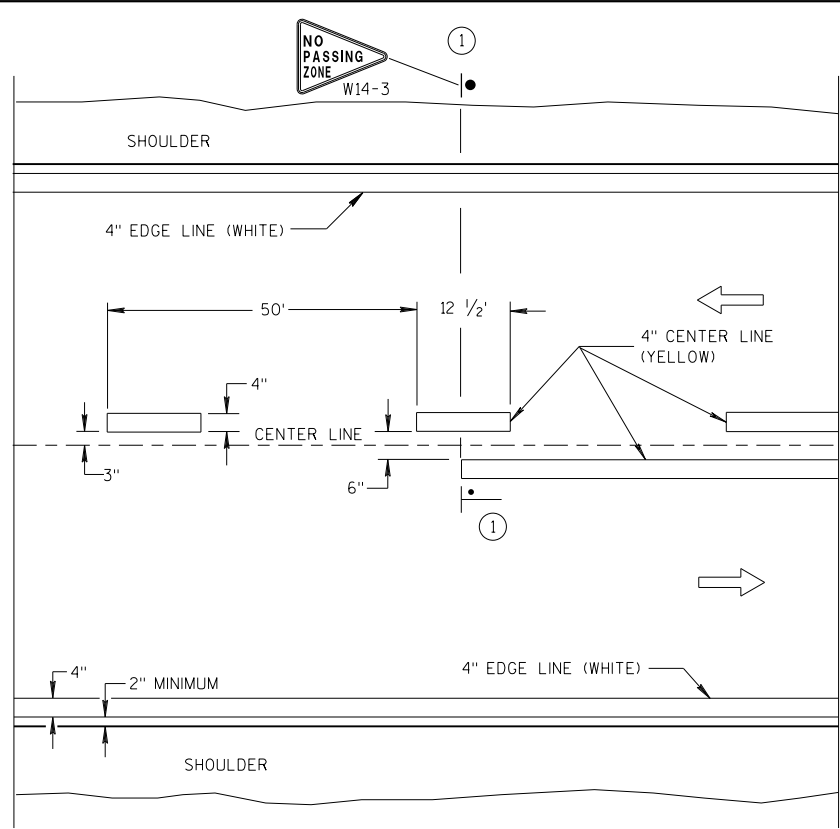


TYPE 3

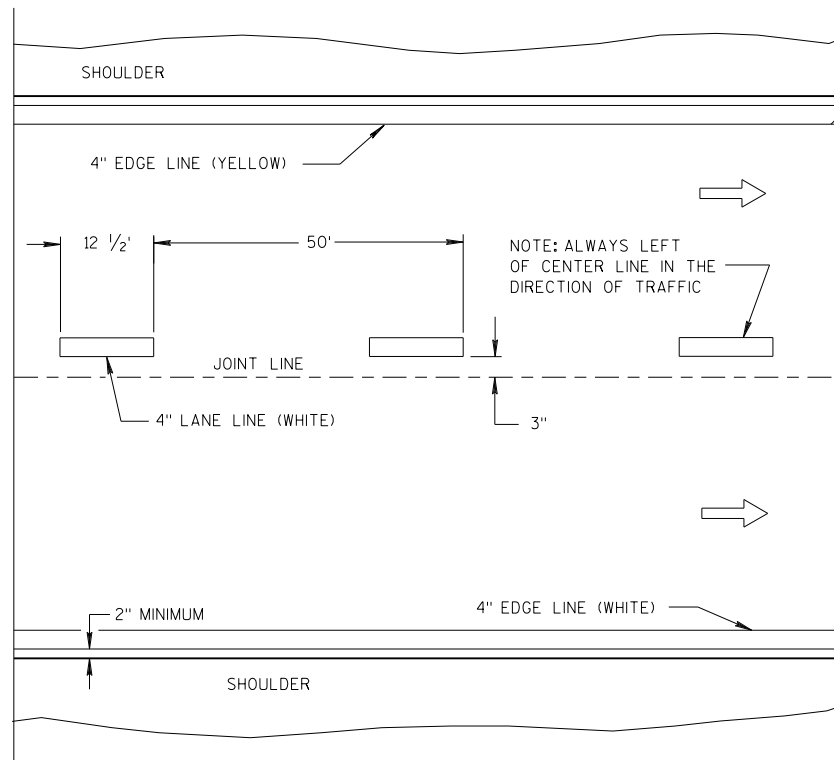
GENERAL NOTES

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 June 2017 DATE	/s/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

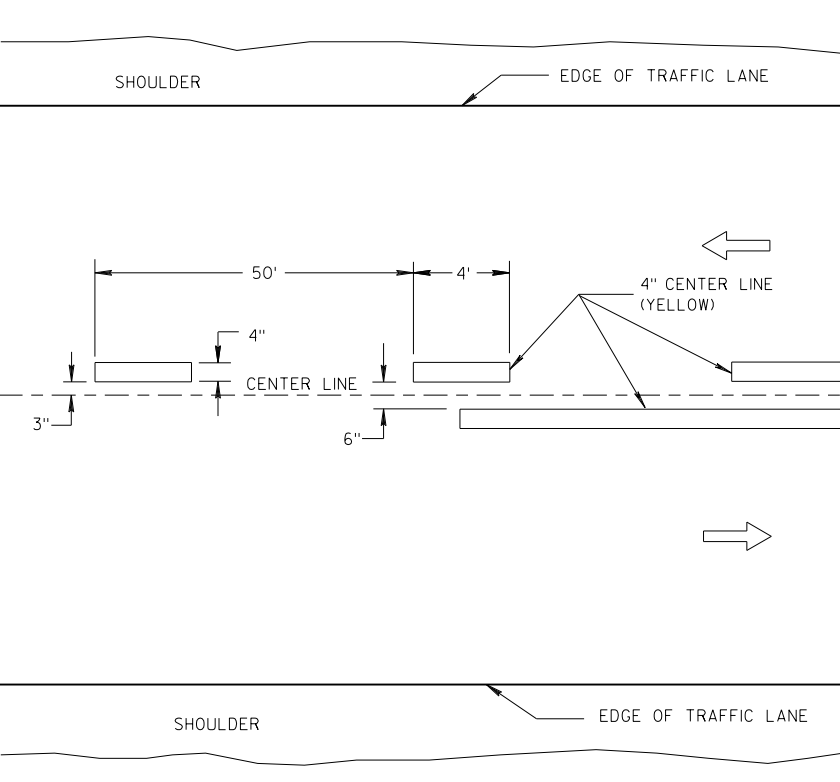


TWO WAY TRAFFIC

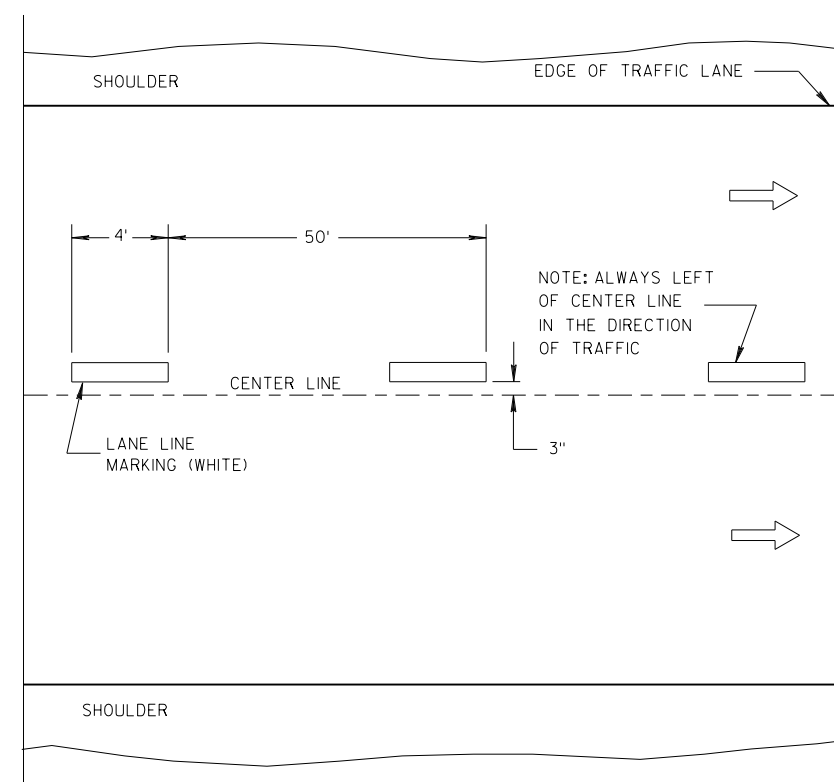


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

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.

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

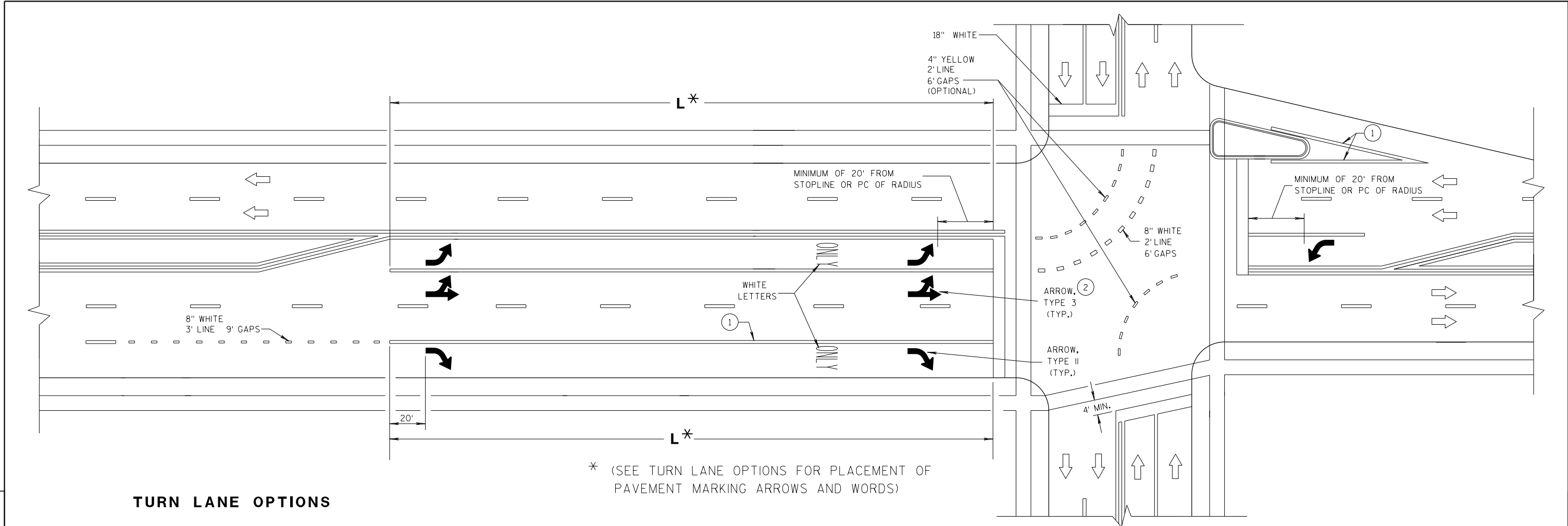
6

6

S.D.D. 15 C 8-19a

S.D.D. 15 C 8-19a

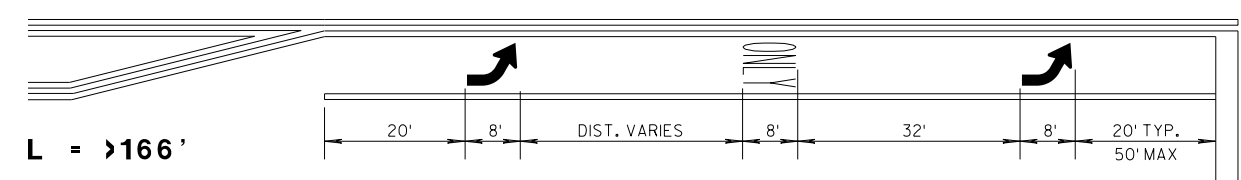
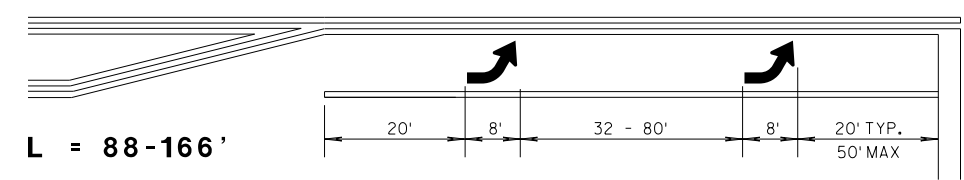
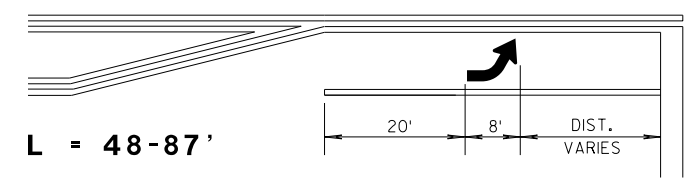
LONGITUDINAL MARKING (MAINLINE)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018	/S/ Matthew R. Rauch DATE STATE SIGNING AND MARKING ENGINEER
FHWA	



* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

LENGTH OF TURN BAY (L) OF 0-47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS

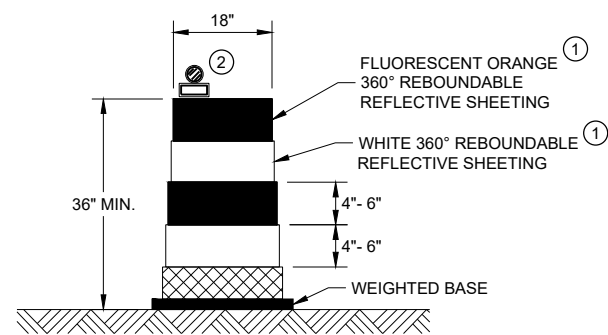


GENERAL NOTES

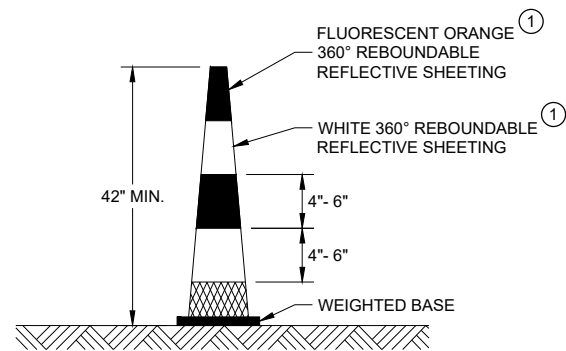
- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

➔ DIRECTION OF TRAFFIC
L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

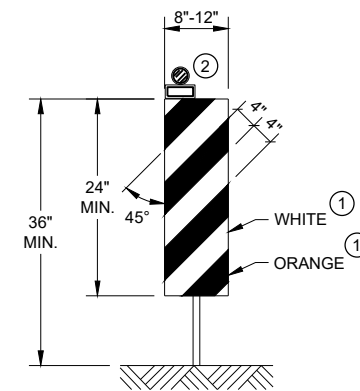


DRUM



42" CONE

DO NOT USE IN TAPERS
 1/2 SPACING OF DRUMS

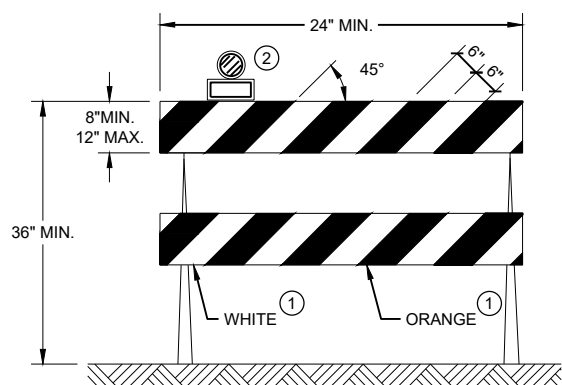


VERTICAL PANEL

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

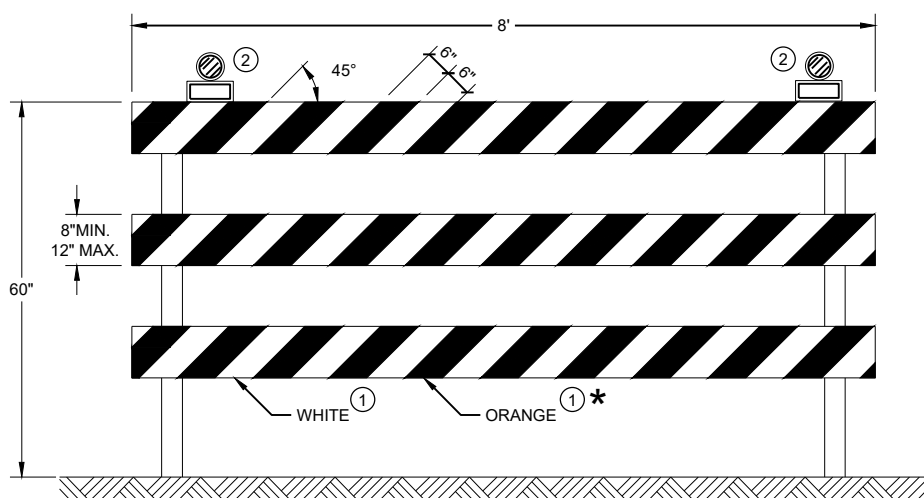
GENERAL NOTES

- 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
 June 2017 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER

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.

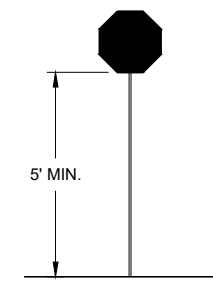
WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

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 SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR 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.



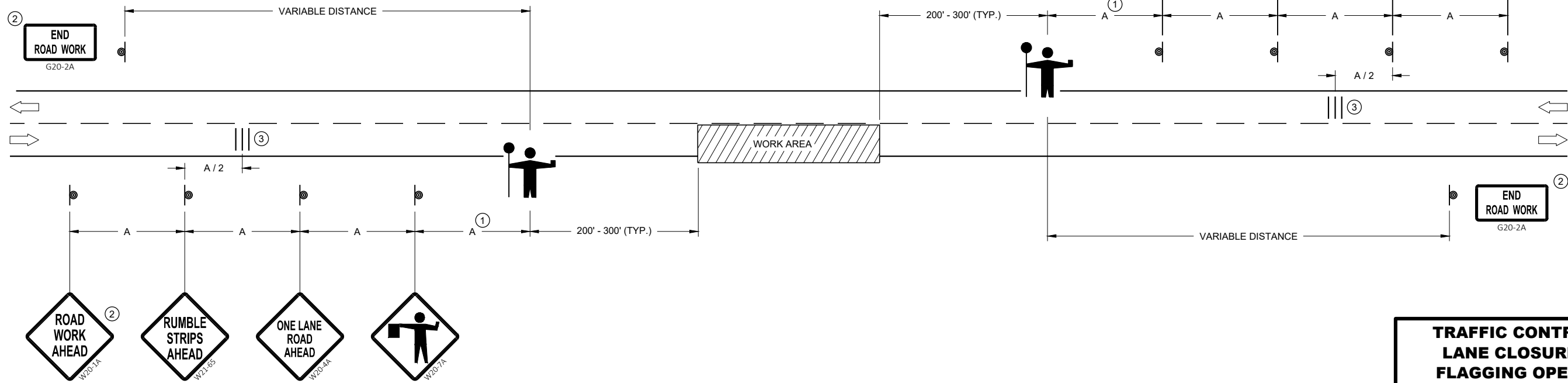
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



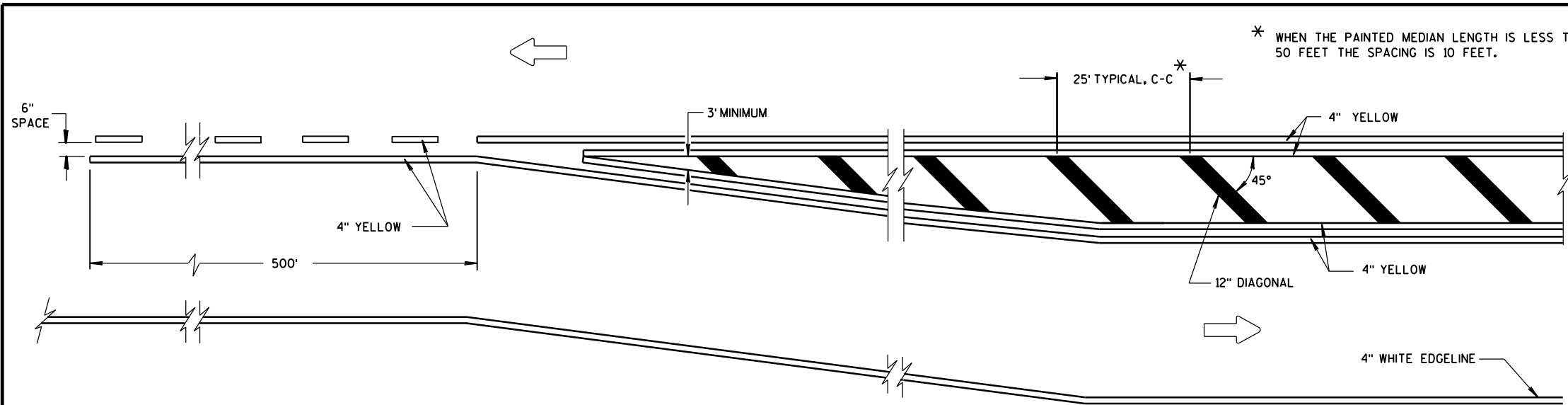
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE May 2019 /S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

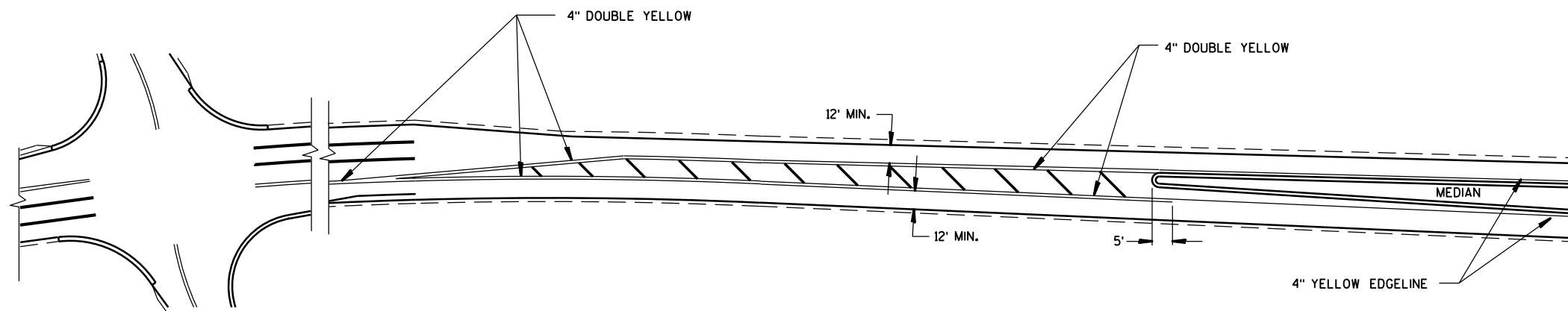


MEDIAN ISLAND DETAIL

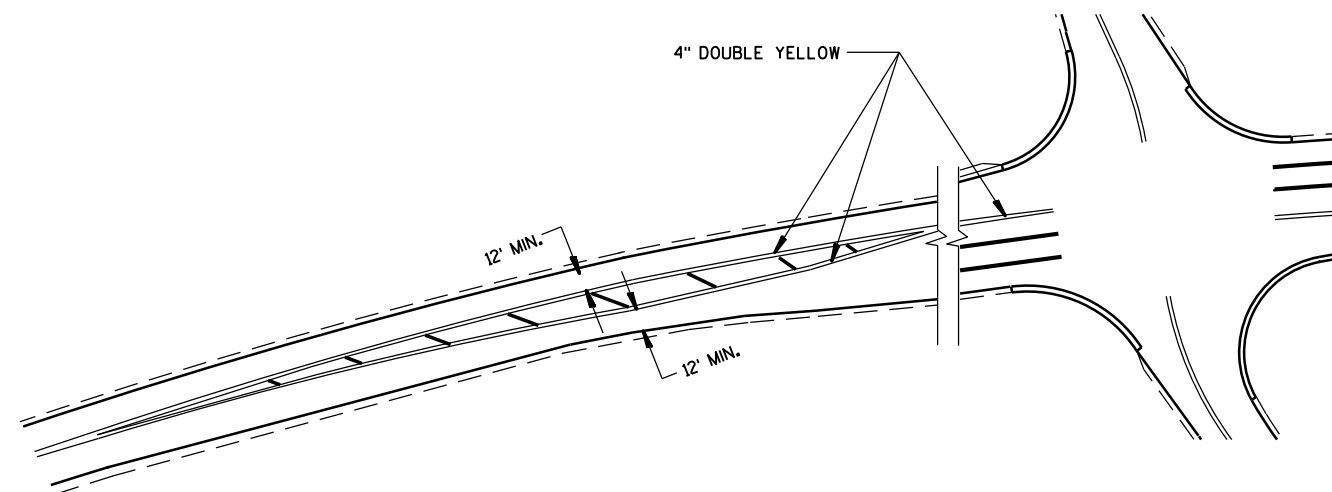
GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

➔ DIRECTION OF TRAVEL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

6

6

S.D.D. 15 C 18-4

S.D.D. 15 C 18-4

MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

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.

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.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.



ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

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 OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.






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

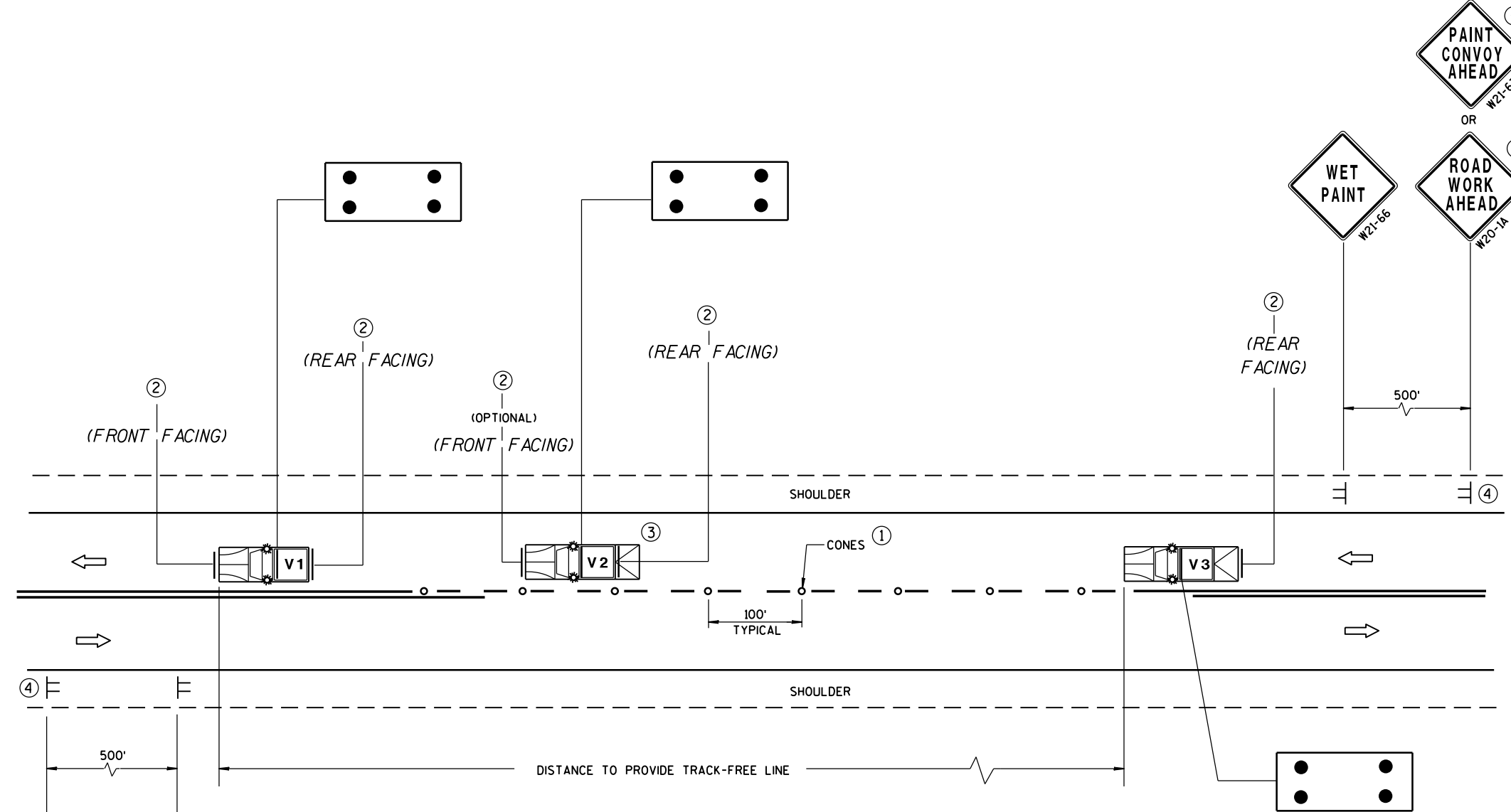
THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
 OR 
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

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



MOVING PAVEMENT MARKING OPERATIONS TWO-LANE TWO-WAY ROADWAY

MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
 Sept., 2017 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER
 FHWA

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. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

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 OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REAR MOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

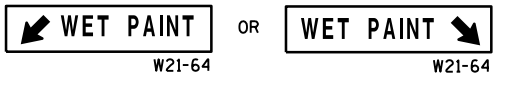
FOR EDGE LINE MARKING OR IF CONES ARE NOT USED, POSITION THE REAR MOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGE LINE OR LANELINE MARKING FOR MULTILANE UNDIVIDED ROADWAYS.

① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.



③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1 LEAD VEHICLE

V2 SHADOW VEHICLE

V3 TRAIL VEHICLE WITH TMA

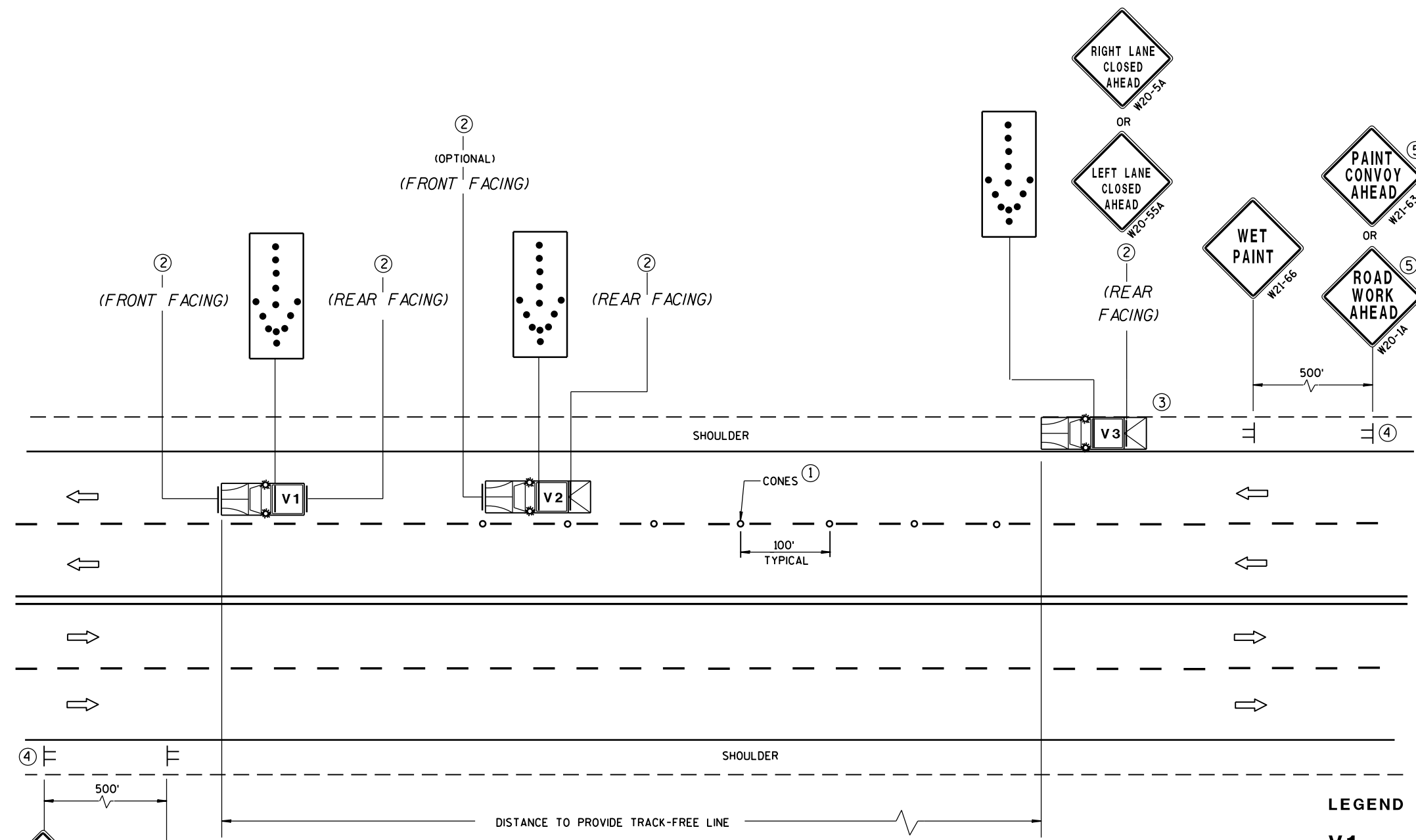
TMA TRUCK-MOUNTED ATTENUATOR

Sign on temporary support

Direction of traffic

Cones

Flashing arrow panel (merge)

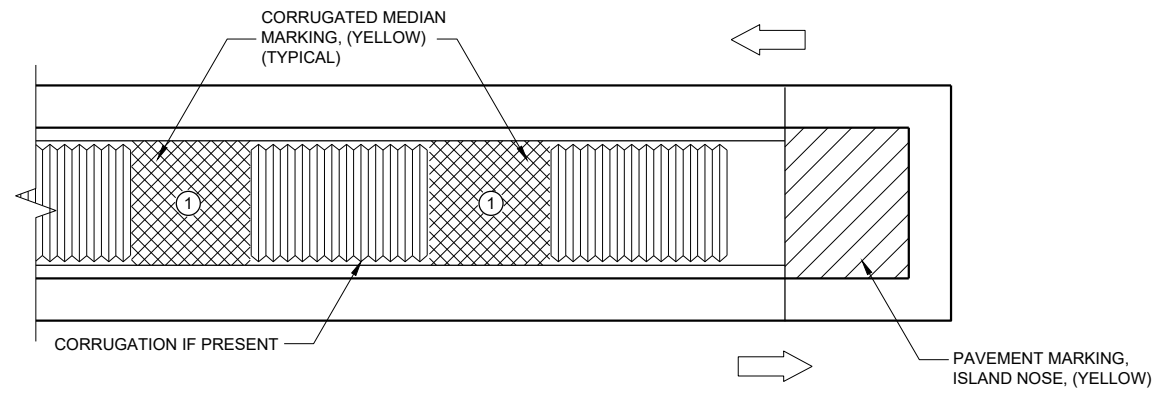


MOVING PAVEMENT MARKING OPERATIONS MULTI-LANE UNDIVIDED ROADWAY

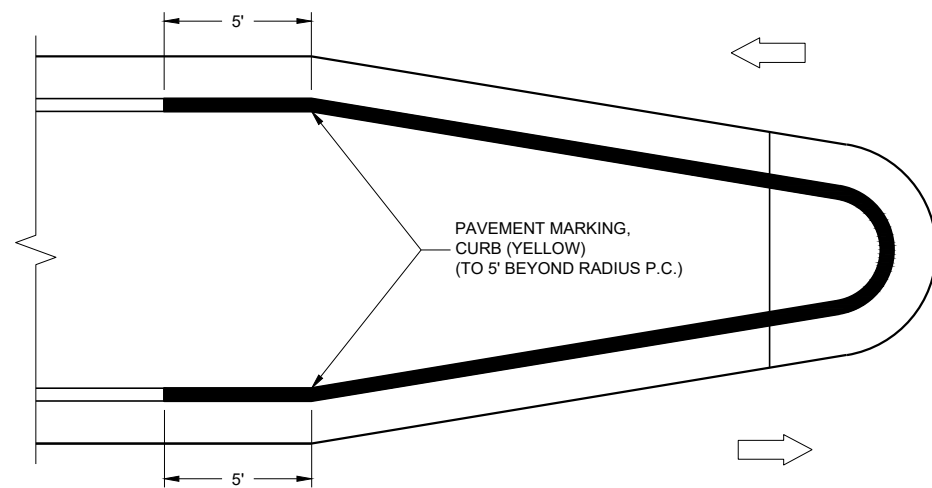
MOVING PAVEMENT MARKING
OPERATION
MULTI-LANE UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

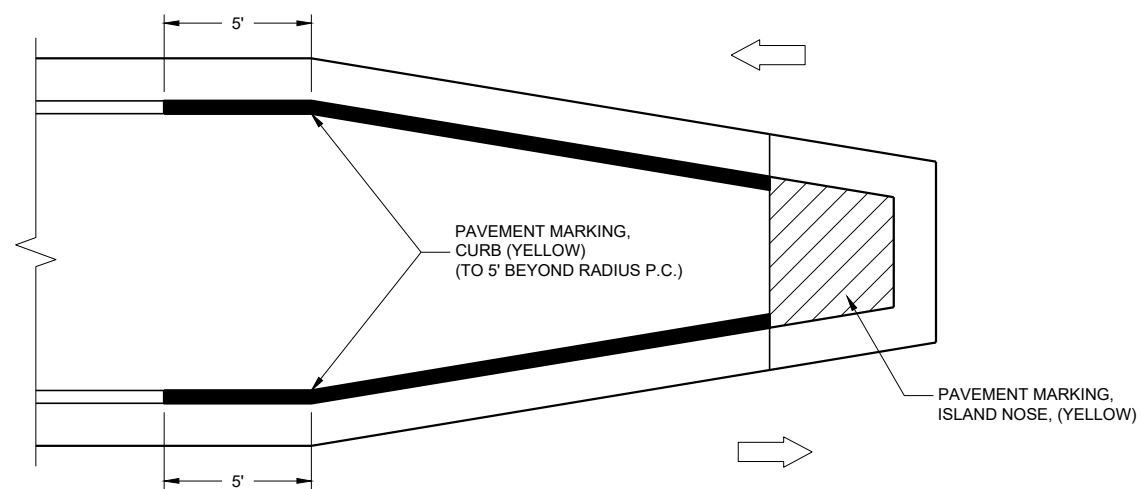
APPROVED
Sept., 2017 /s/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE







MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

-  ISLAND NOSE MARKING
-  CURB MARKING
-  CORRUGATED MEDIAN MARKING
-  DIRECTION OF TRAVEL

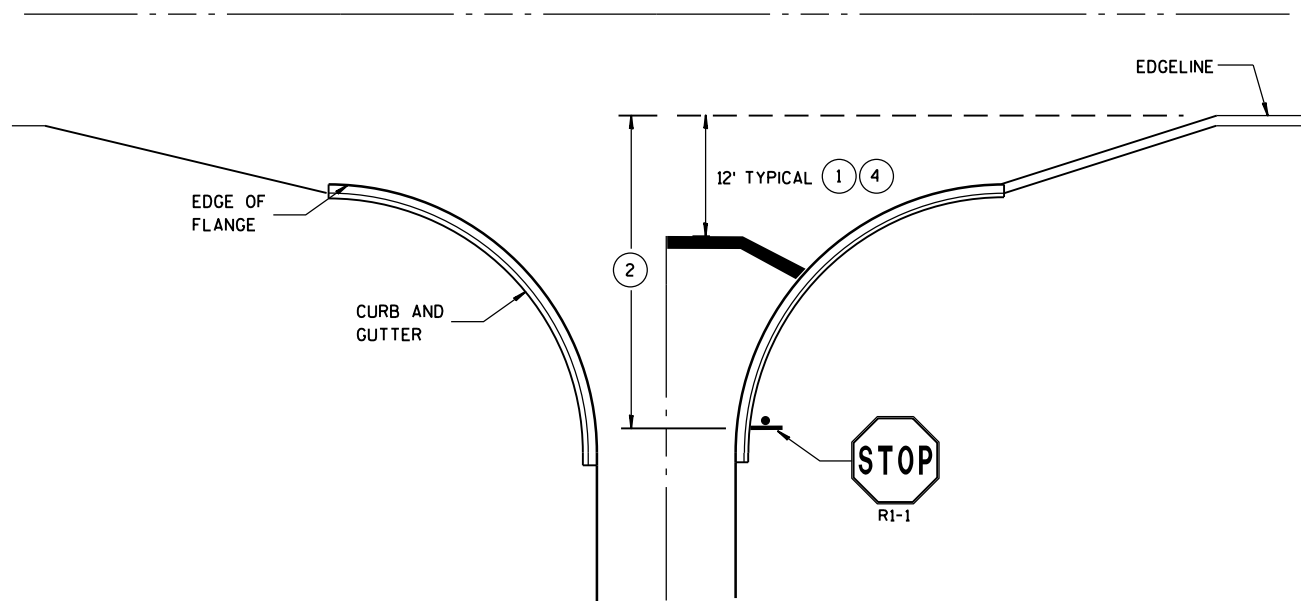
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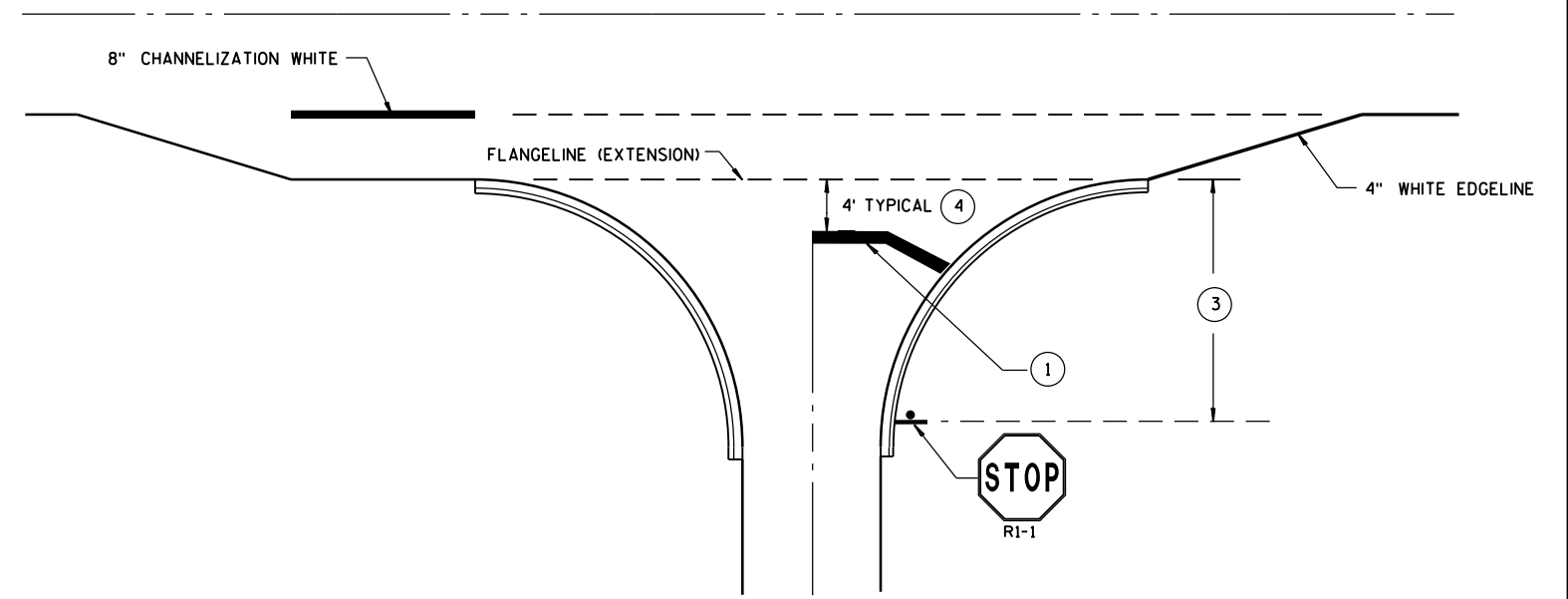
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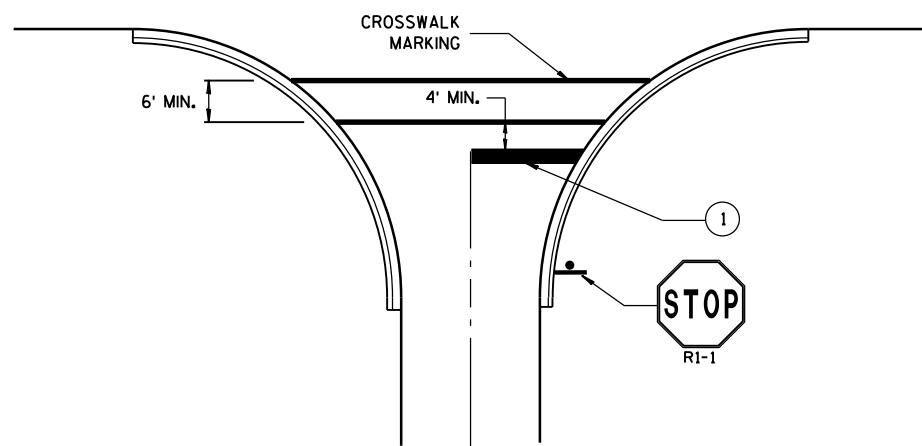
PAVEMENT MARKINGS (ISLANDS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
<small>FHWA</small>	



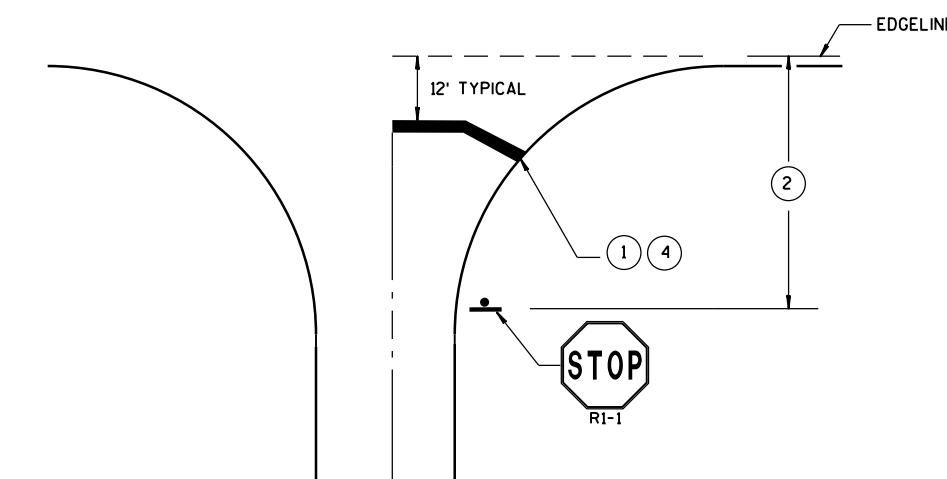
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

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 PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

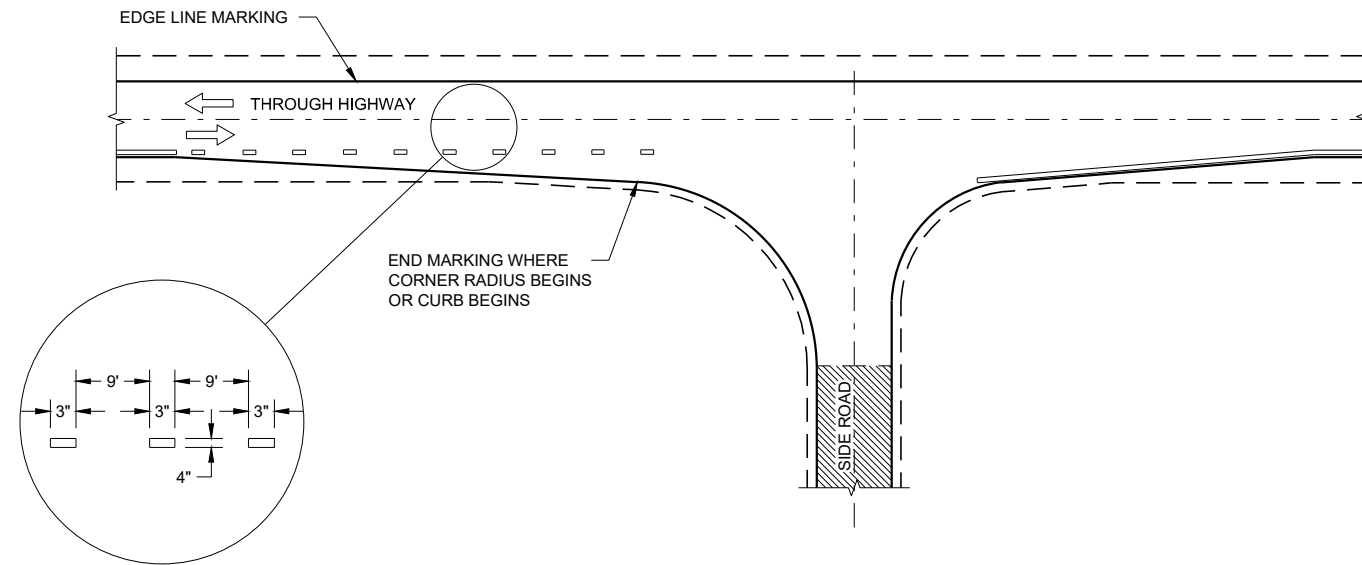
APPROVED
DATE: Sept., 2017 /S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER
FHWA

GENERAL NOTES

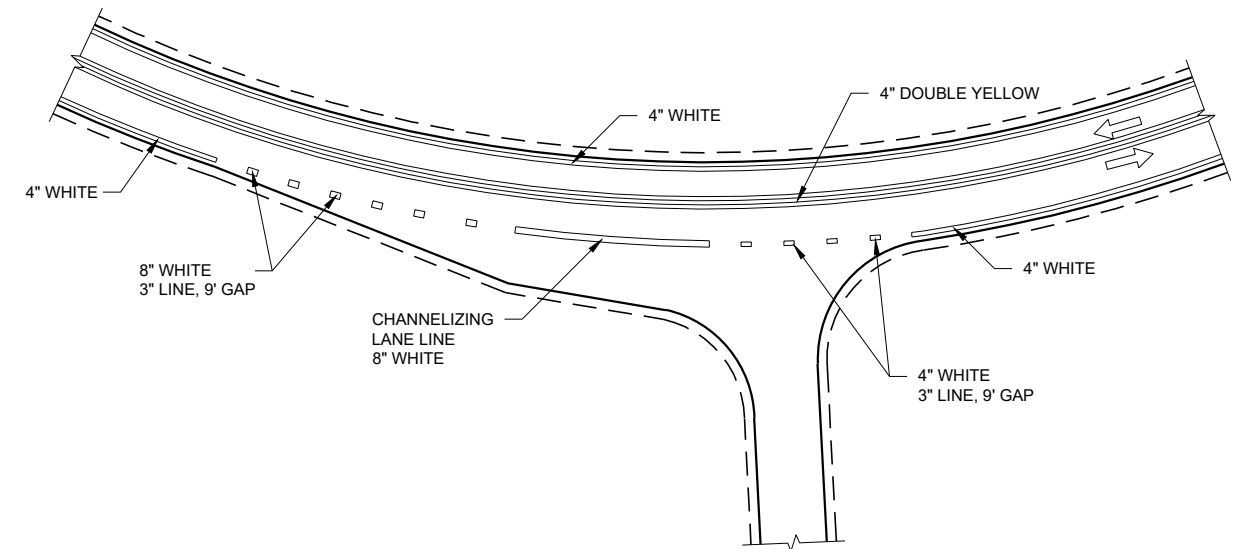
OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- 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

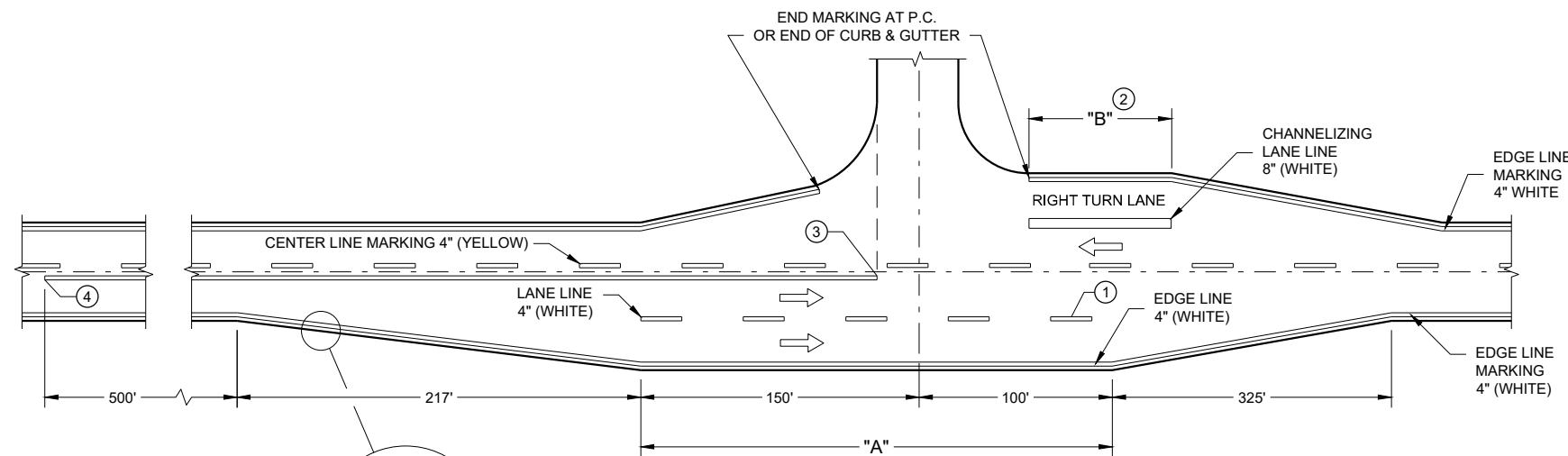
ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL



MINOR INTERSECTION

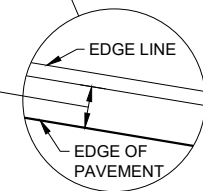


INTERSECTION ON OUTSIDE OF CURVE



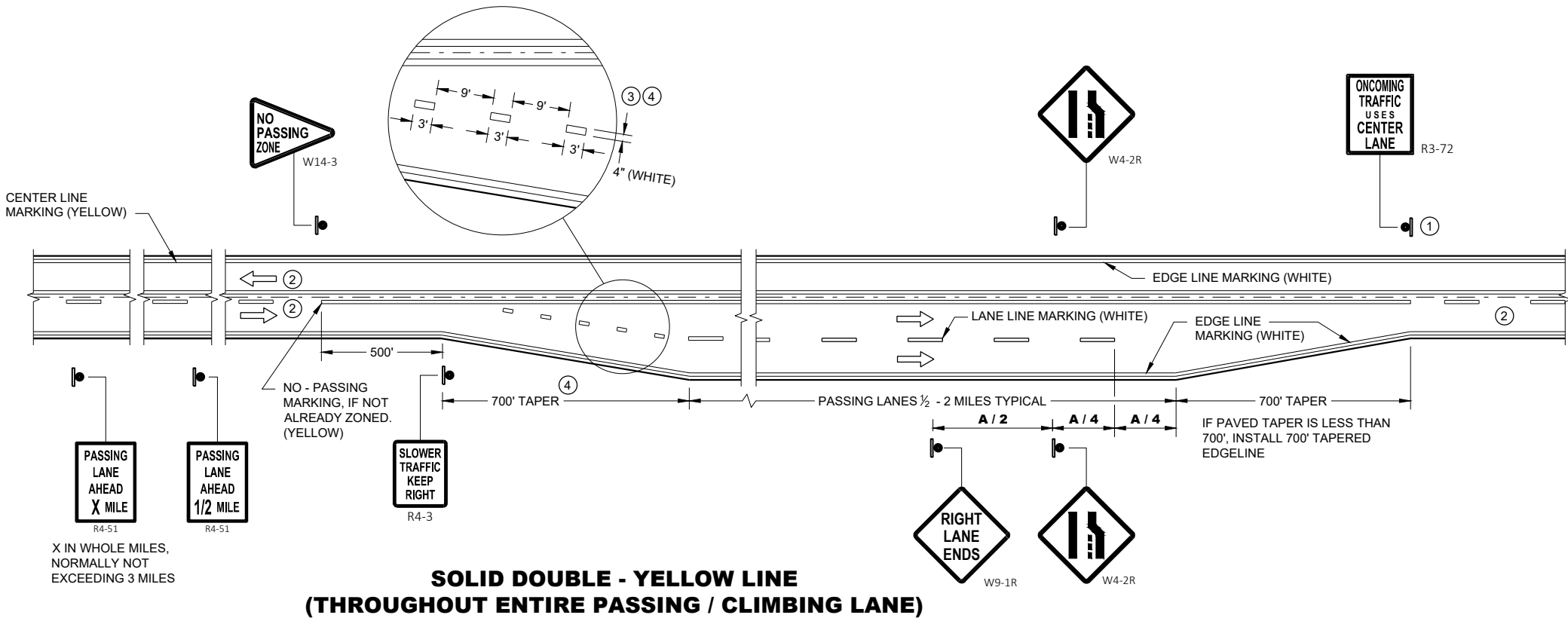
MAJOR INTERSECTIONS (INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

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



PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



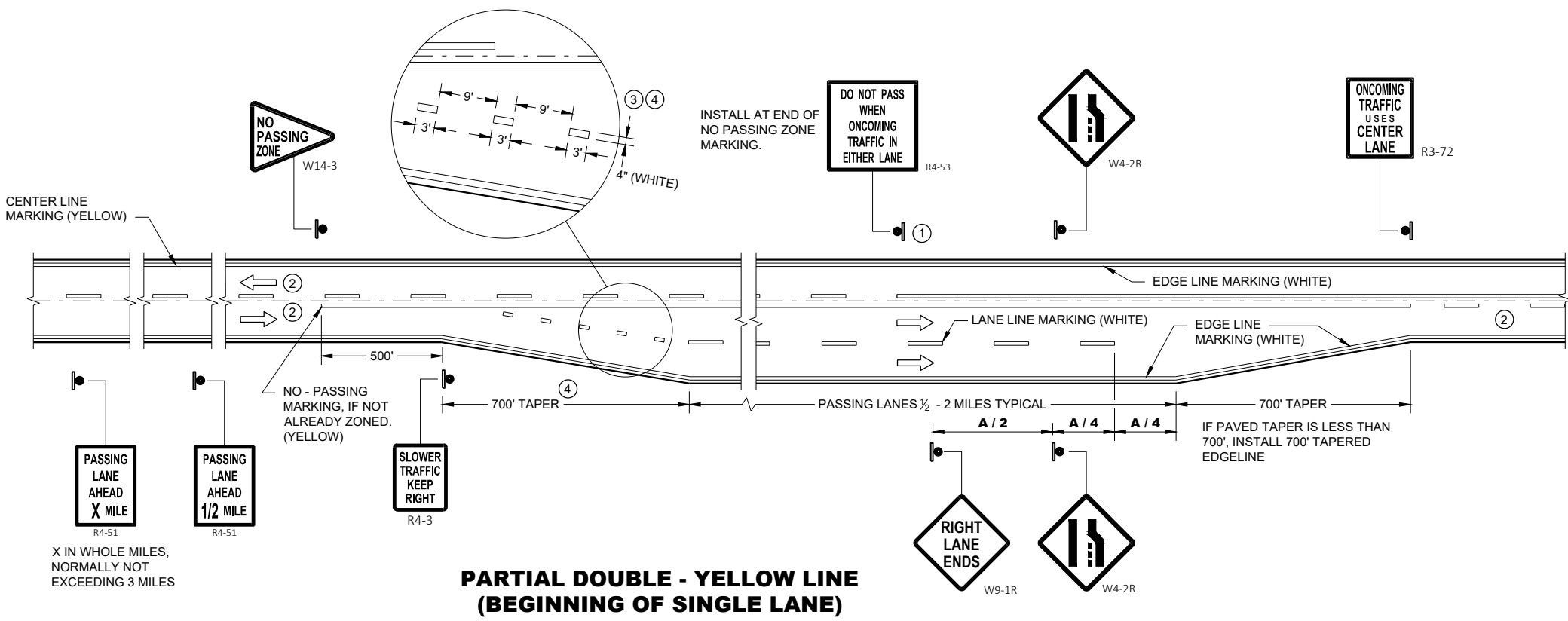
GENERAL NOTES

- 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 / CLIMBLING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	850
55	950



6

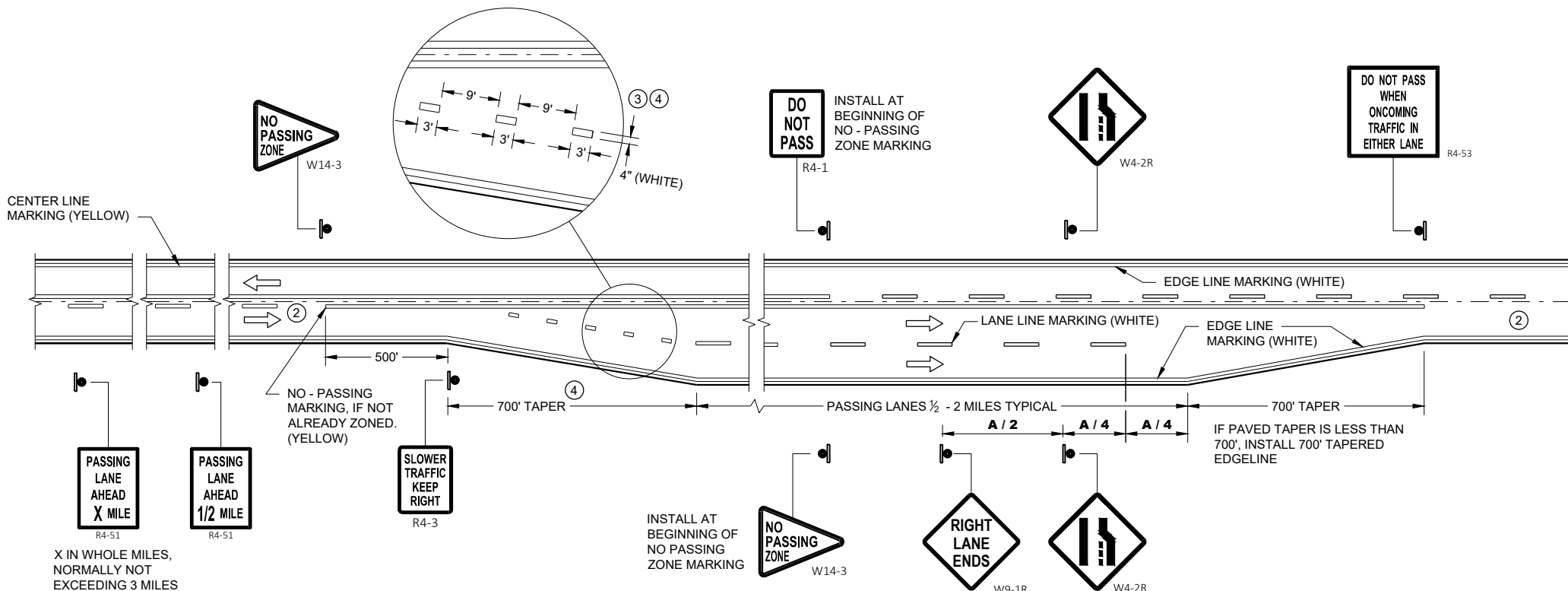
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SDD 15C35 - 03b

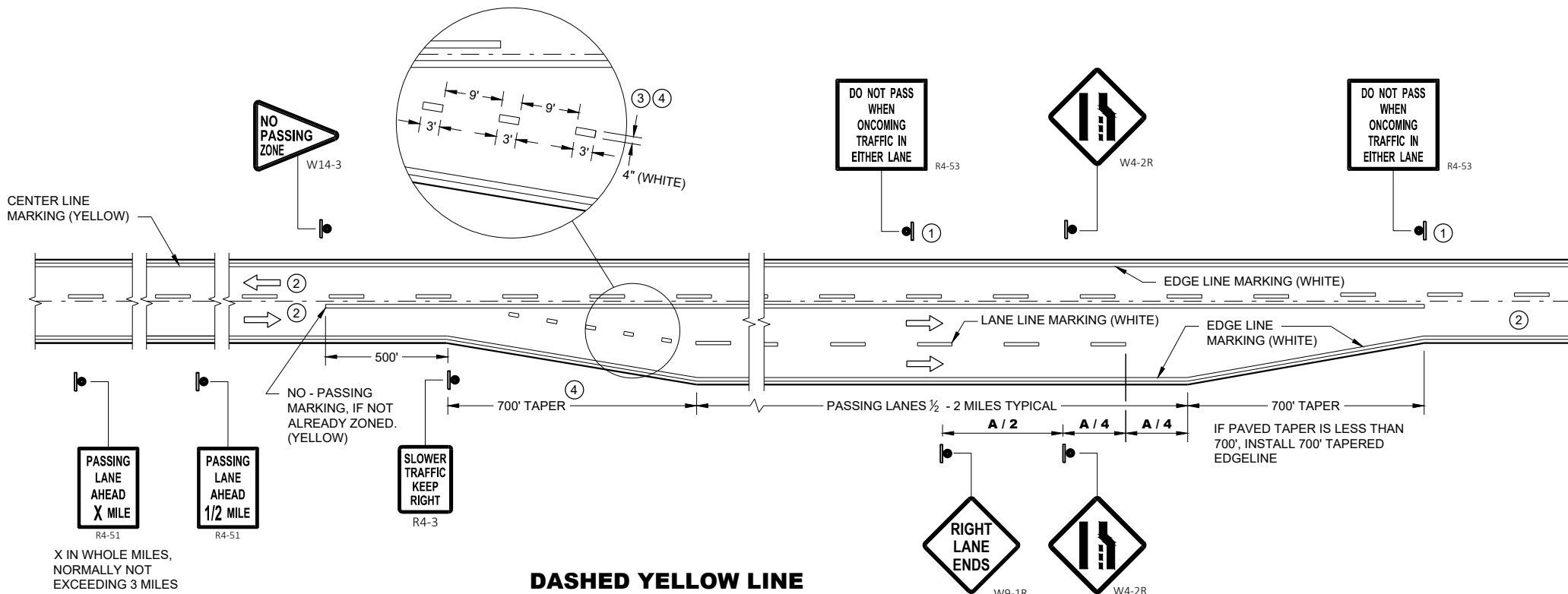
SDD 15C35 - 03b

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**SOLID DOUBLE - YELLOW LINE
(END OF SINGLE LANE)**



**DASHED YELLOW LINE
(THROUGHOUT SINGLE LANE)**

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 / CLIMBLING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

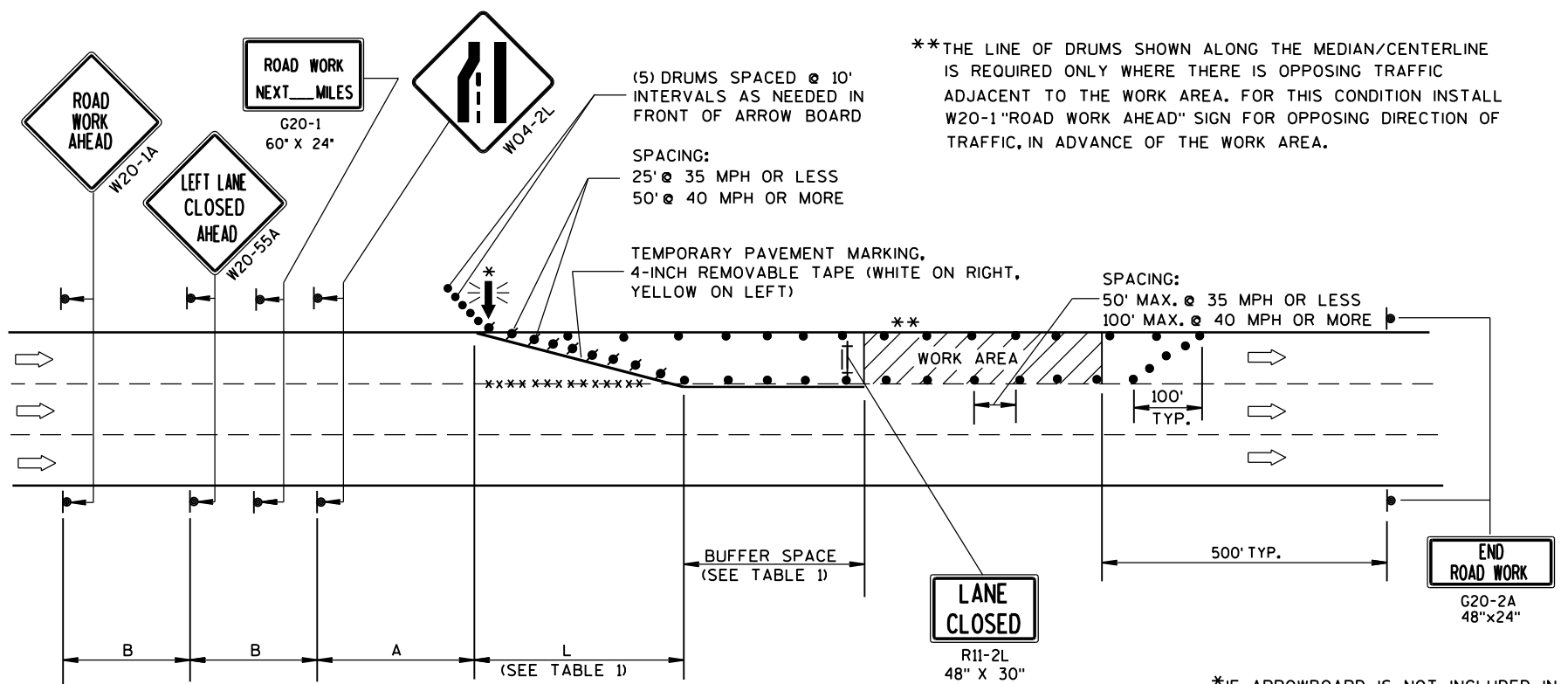
POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	850
55	950

**PAVEMNET MARKING & SIGNING
(CLIMBLING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA



B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':
 L = WS AT 45 MPH OR GREATER
 $L = \frac{WS^2}{60}$ AT 40 MPH OR LESS
 L = TAPER LENGTH IN FEET
 S = NON-CONSTRUCTION SPEED LIMIT (MPH)
 W = WIDTH OF LANE CLOSURE

**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

LEGEND

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

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

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 DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

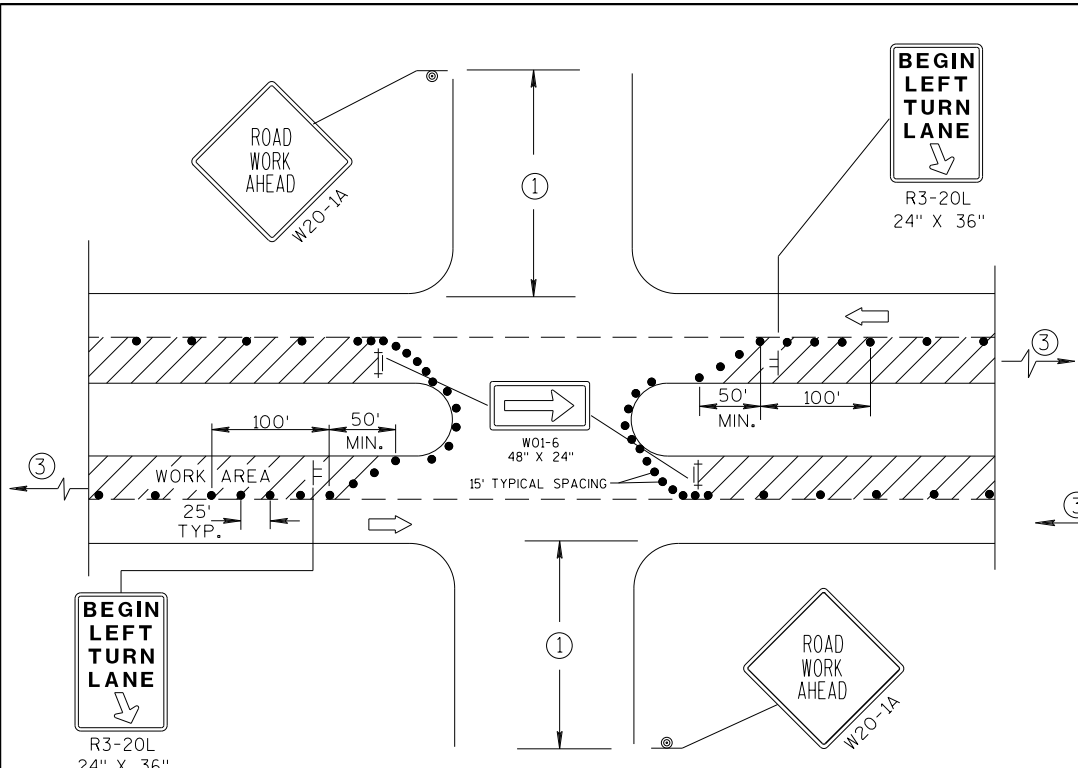
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

**TRAFFIC CONTROL,
SINGLE LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY**

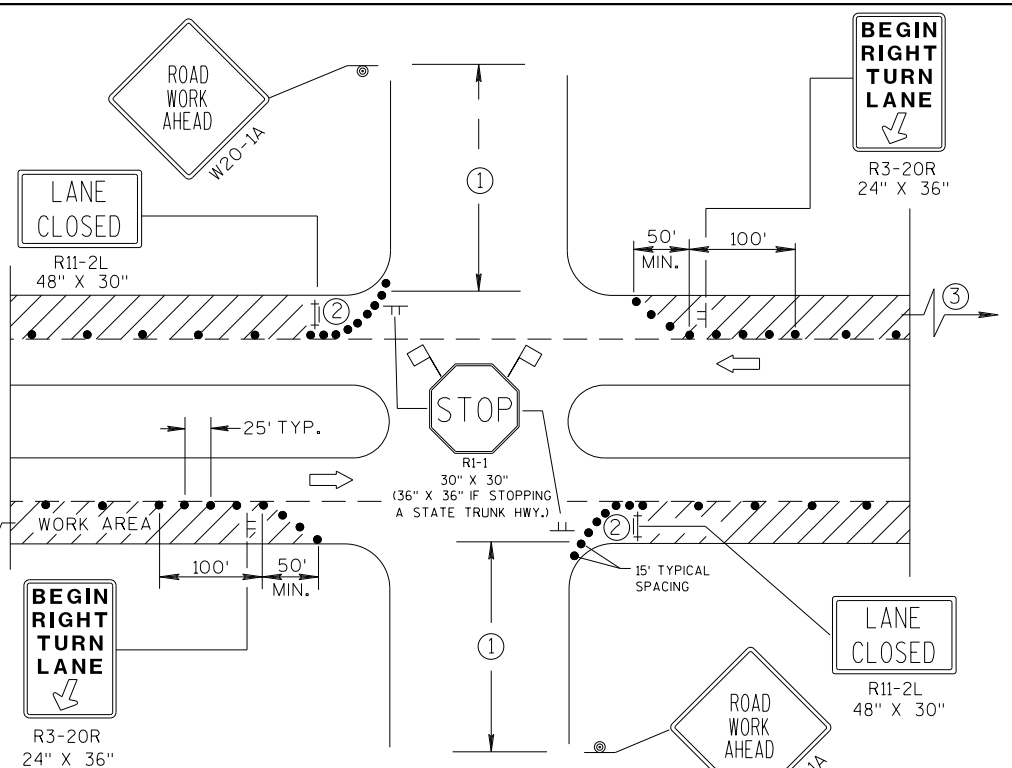
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 /s/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA



DETAIL A
FOR LEFT LANE CLOSURE AT
INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



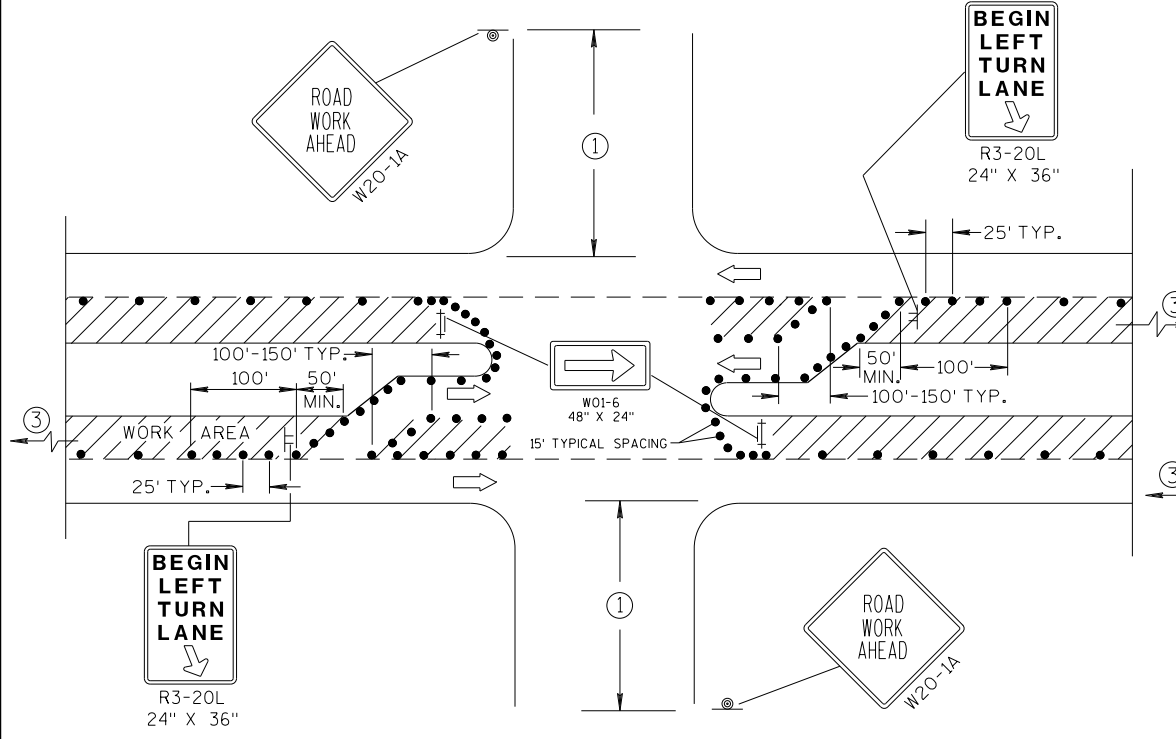
DETAIL B
FOR RIGHT LANE CLOSURE
AT INTERSECTION

GENERAL NOTES

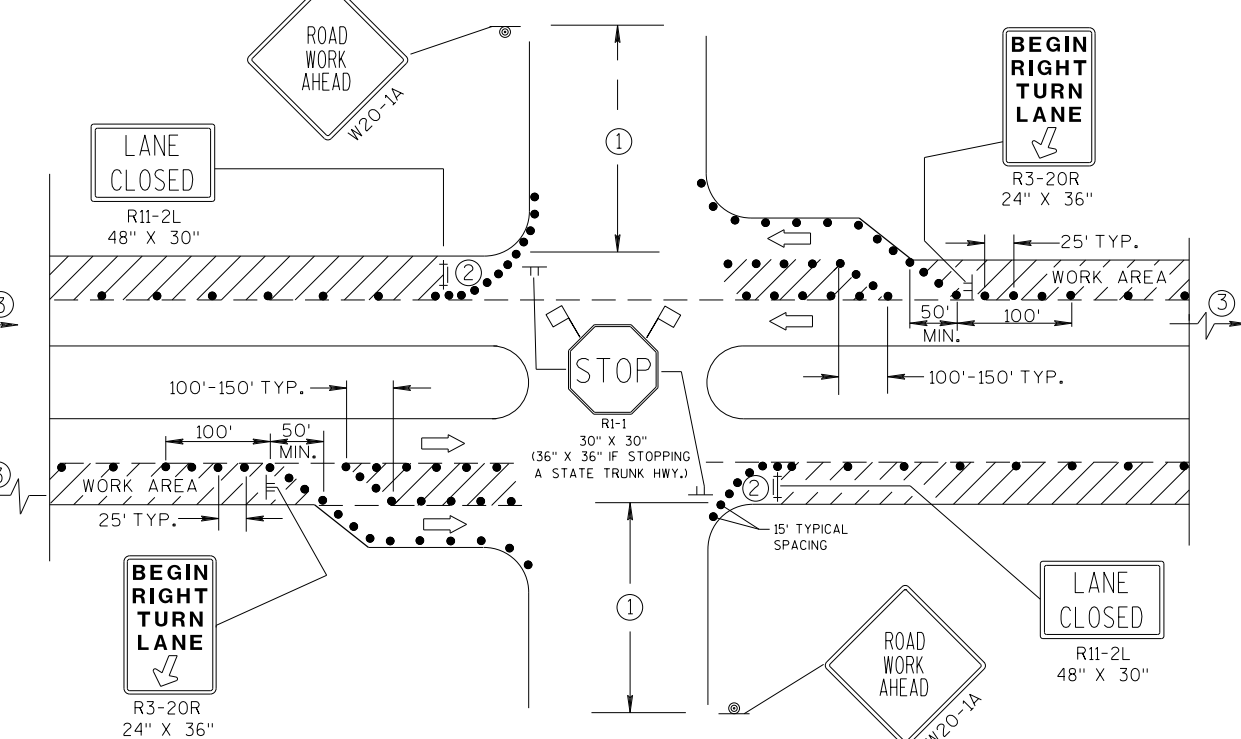
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- 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 DISTRICT TRAFFIC UNIT.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.
- BARRICADES IN A CLOSED LANE 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.

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER. 350' IF 35-40 MPH. 200' IF 25-30 MPH.
- ② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

6



DETAIL C
FOR LEFT LANE CLOSURE AT INTERSECTION OR
MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D
FOR RIGHT LANE CLOSURE AT INTERSECTION
(WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ⊞ SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- ⊞ TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- ➔ DIRECTION OF TRAFFIC
- 🚩 FLAGS, 16" X 16" MIN., (ORANGE)
- ▨ WORK AREA

TRAFFIC CONTROL,
INTERSECTION WITHIN
SINGLE LANE CLOSURE

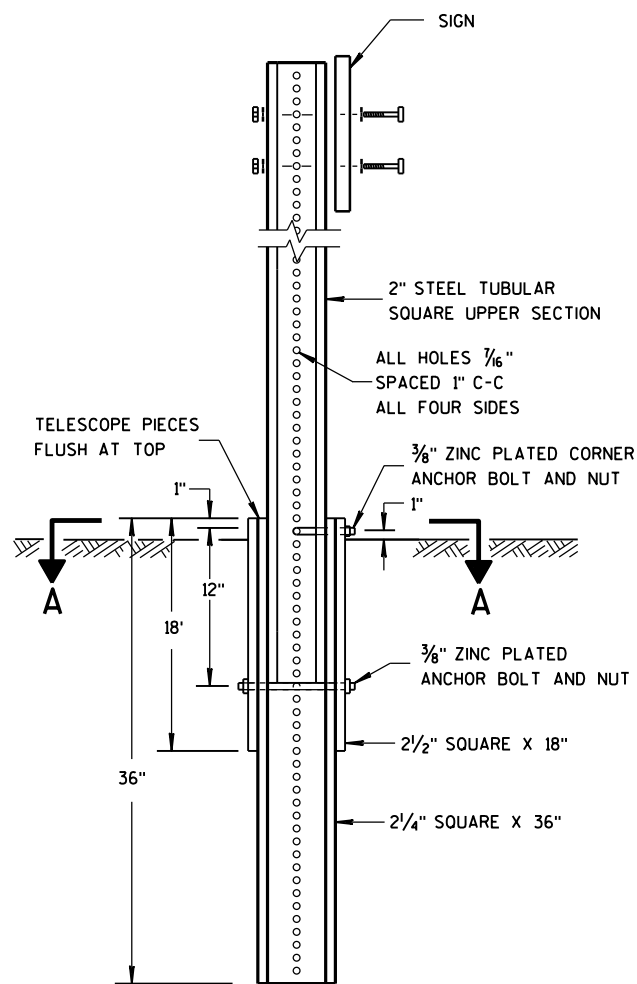
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 7/2018 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER

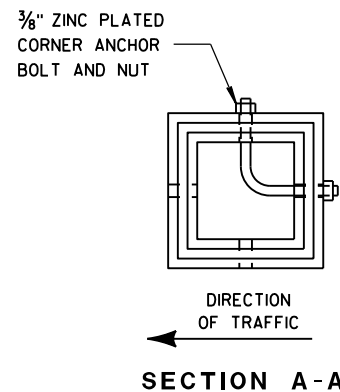
FHWA

S.D.D. 15 D 21-6

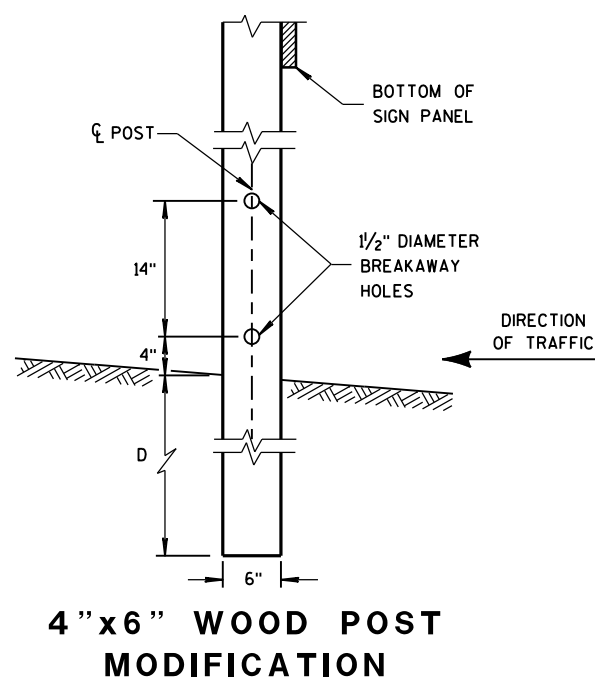
S.D.D. 15 D 21-6



DETAIL OF TUBULAR STEEL SIGN POST



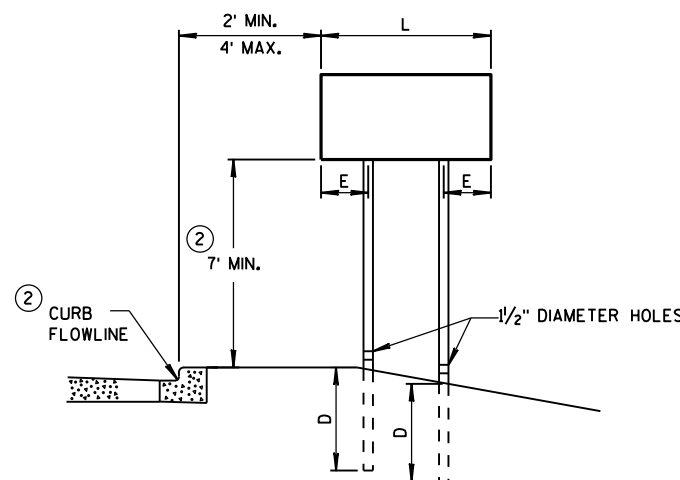
SECTION A-A



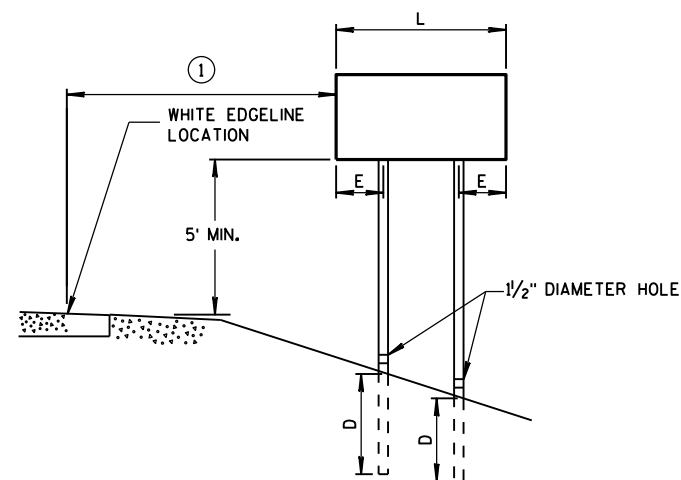
4" X 6" WOOD POST MODIFICATION

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA



RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

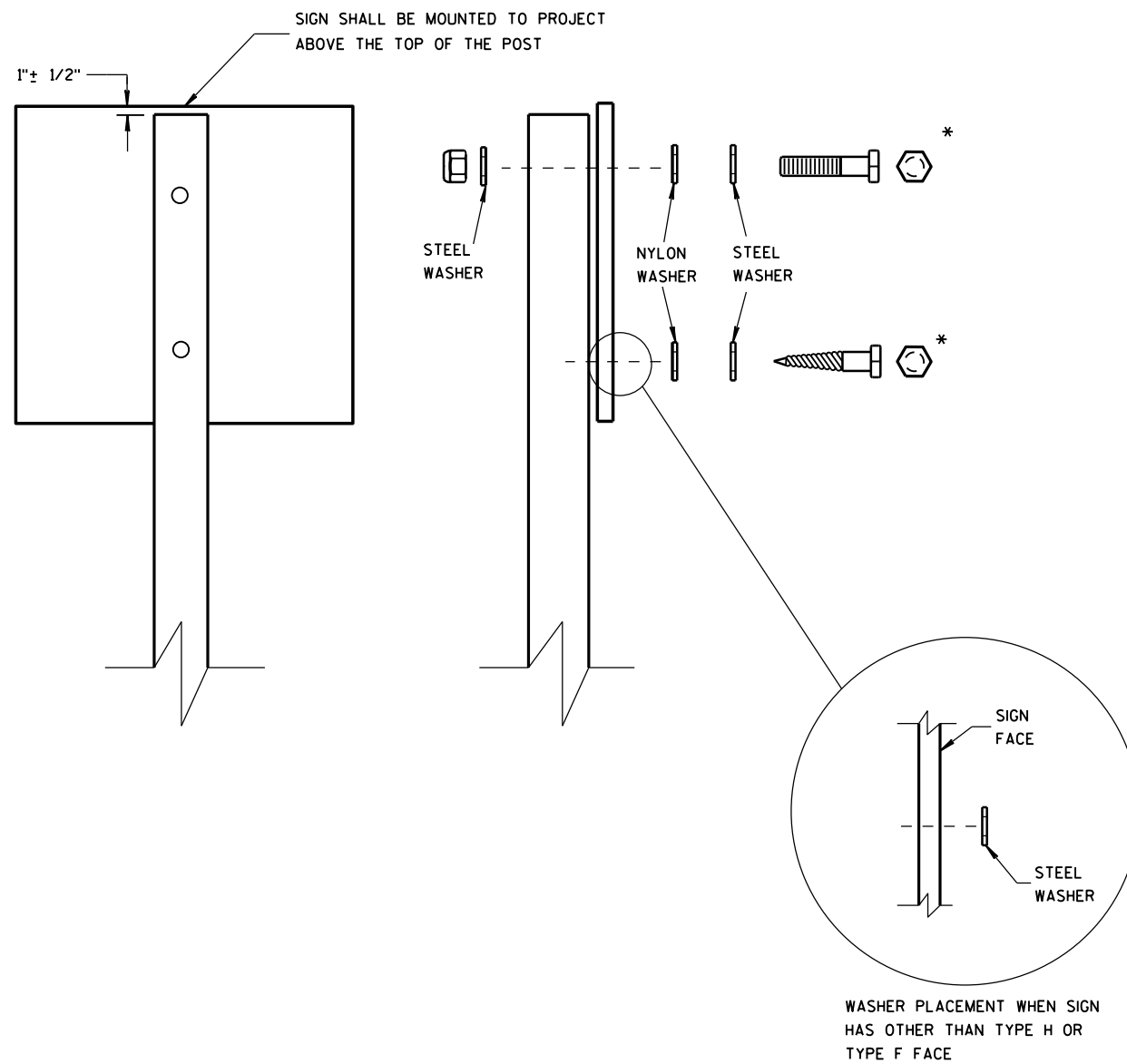
4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE ③

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 5/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

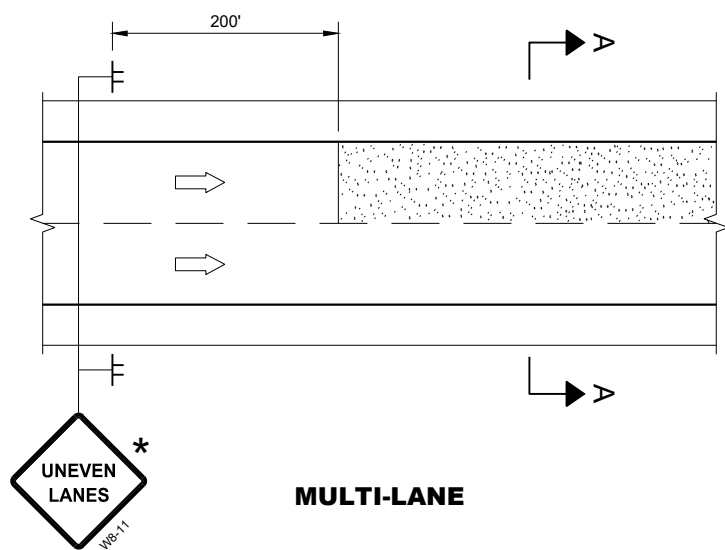
WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

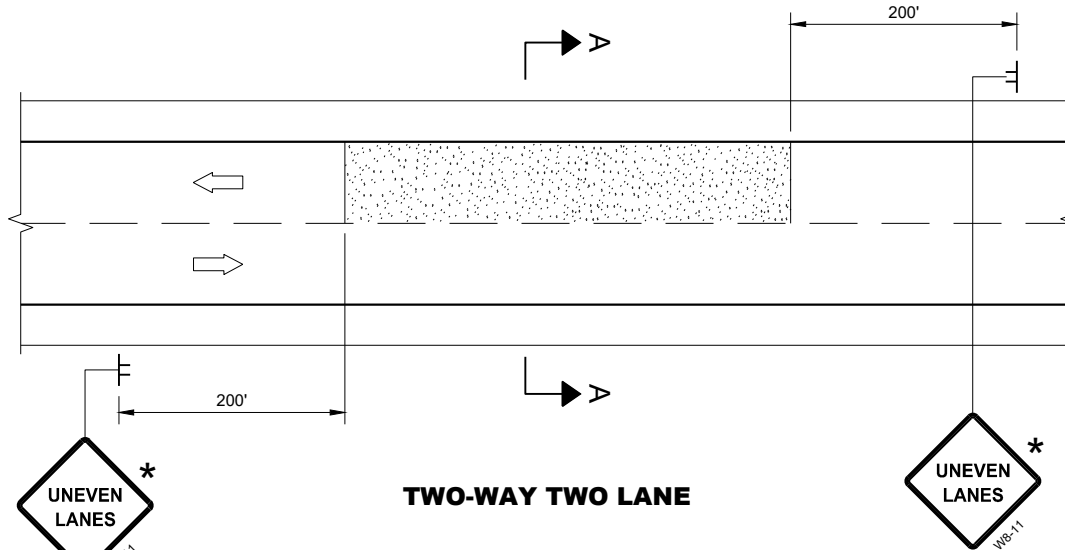
1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

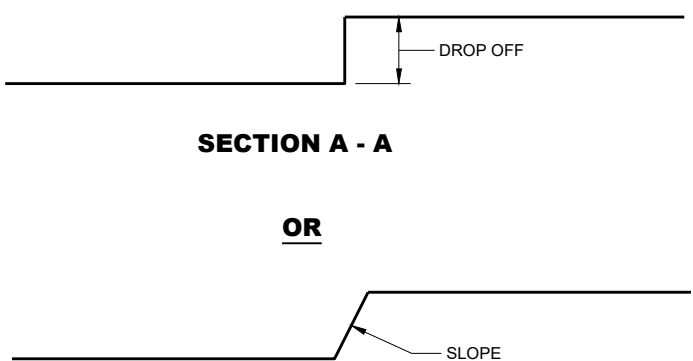
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/s/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



MULTI-LANE



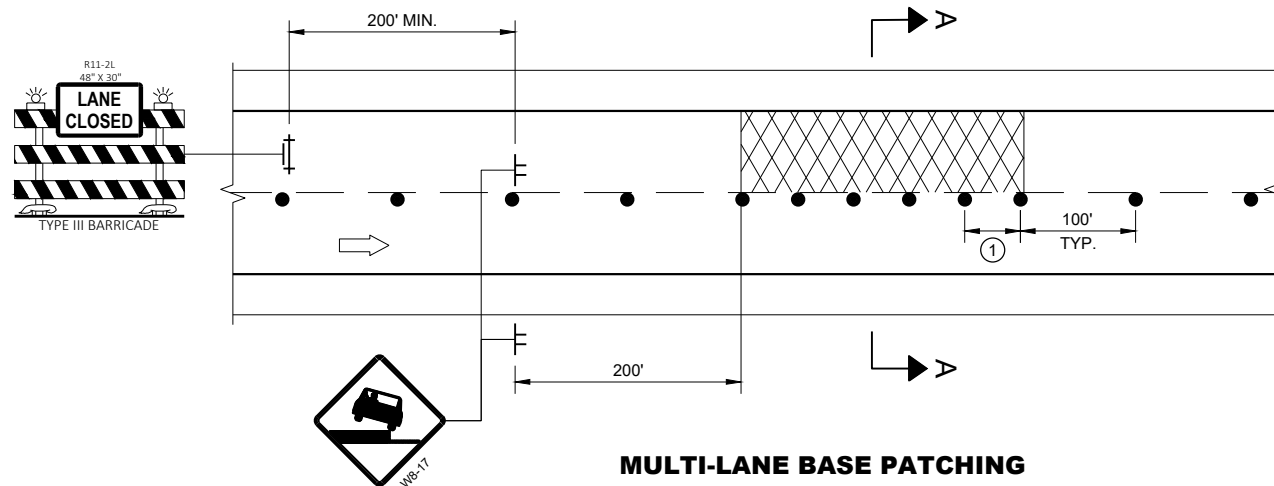
TWO-WAY TWO LANE



SECTION A - A

OR

SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

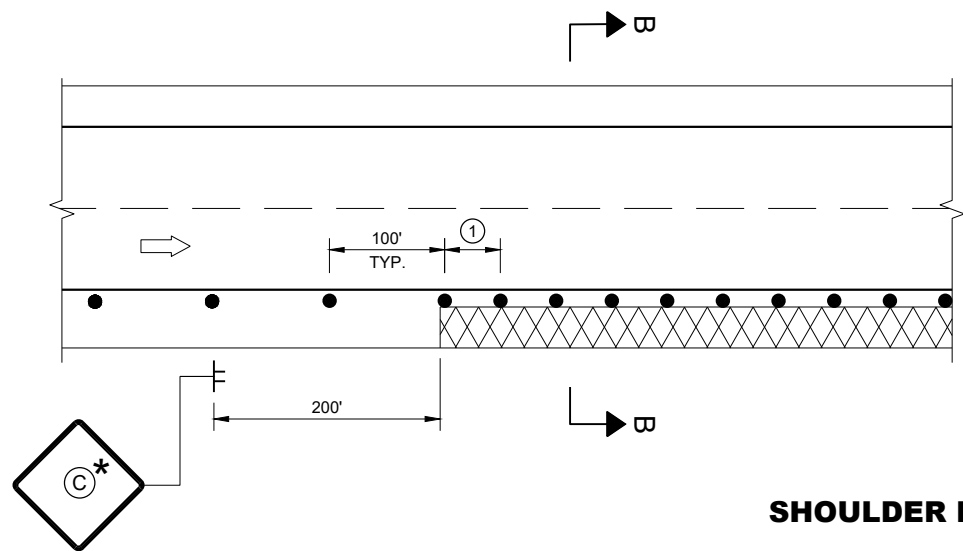
- FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.
- * IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.
- ① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

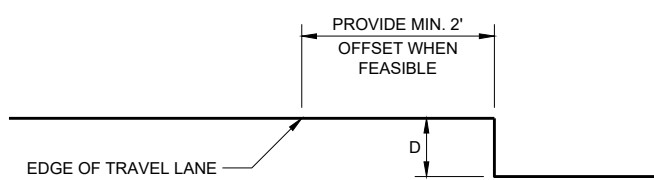
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

6

6



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

SDD 15D39 - 02

SDD 15D39 - 02

**TRAFFIC CONTROL,
DROP-OFF SIGNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

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

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

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

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



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

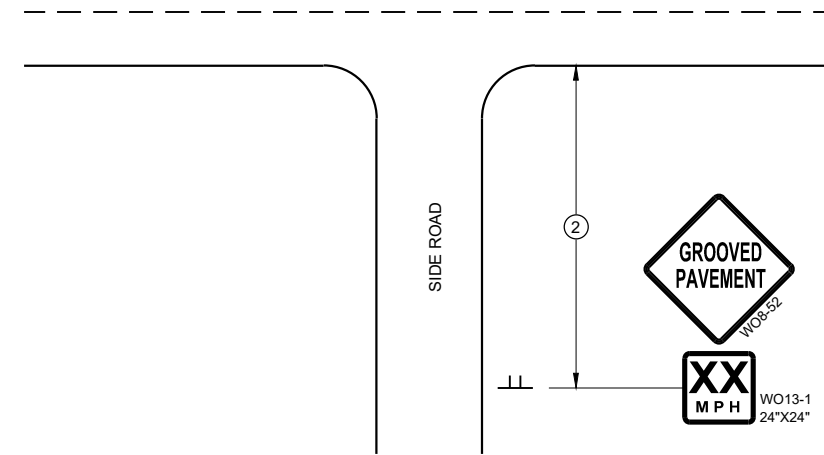
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

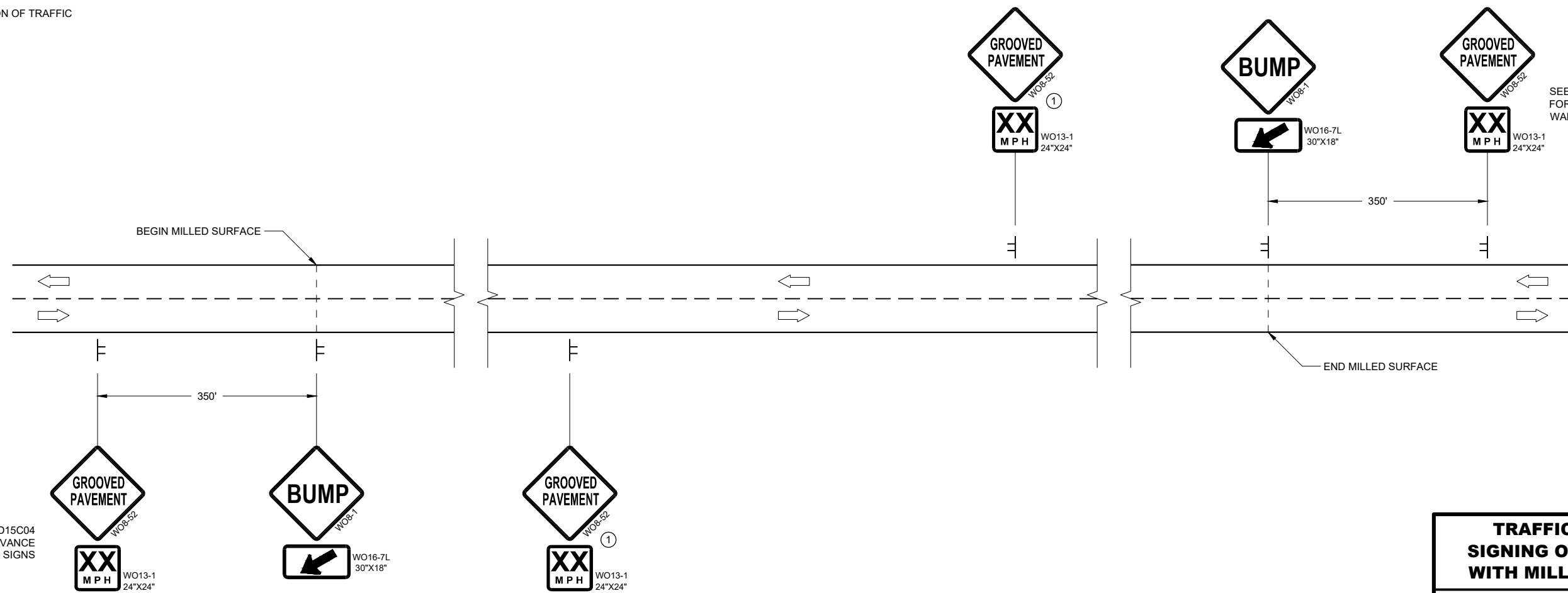
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



SEE SDD15C04 FOR ADVANCE WARNING SIGNS

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

DETAIL FOR SIGNING ON MILLED SURFACES

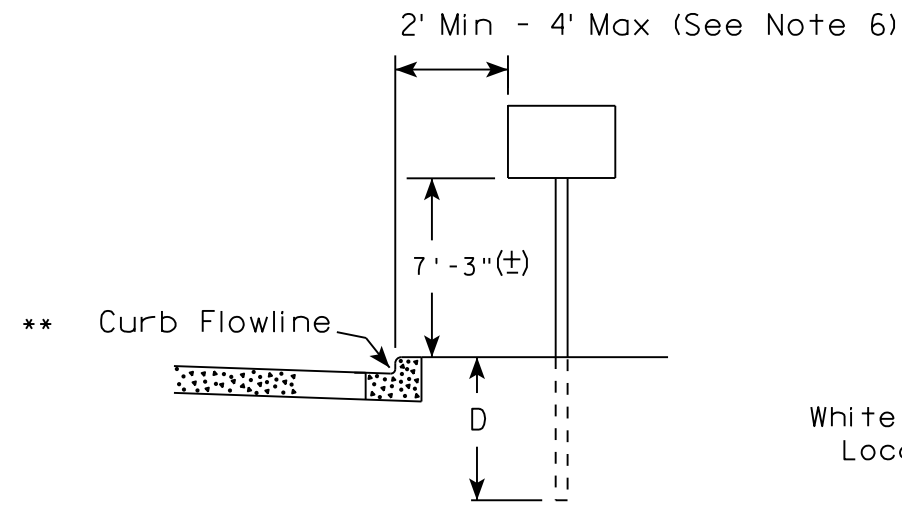
TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

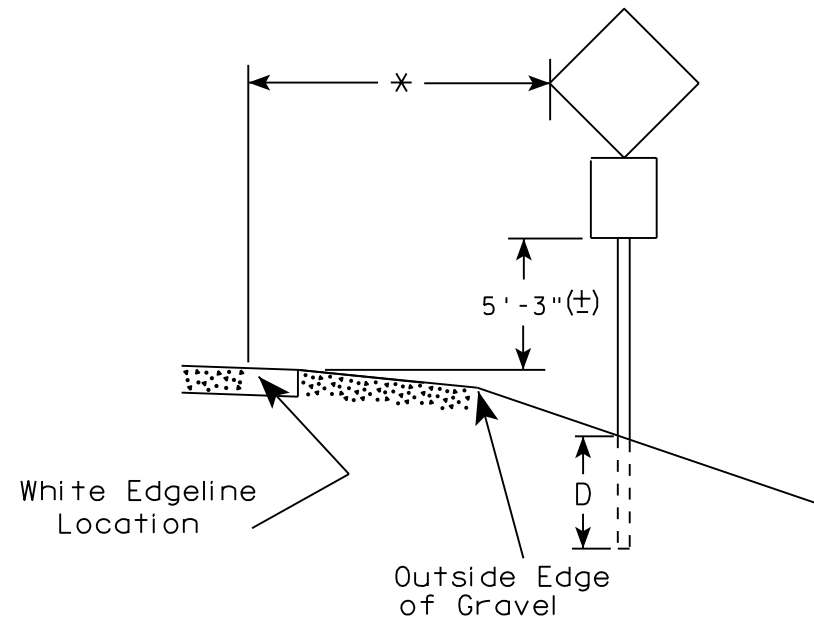
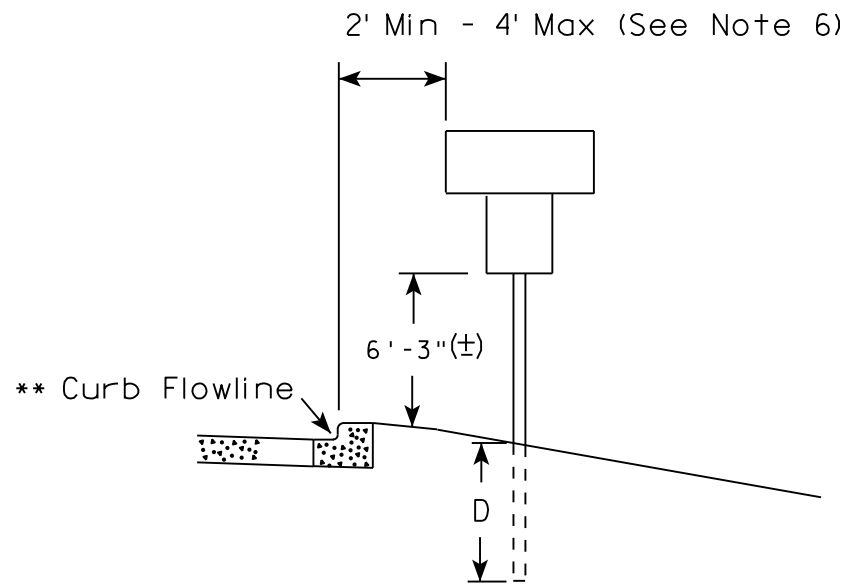
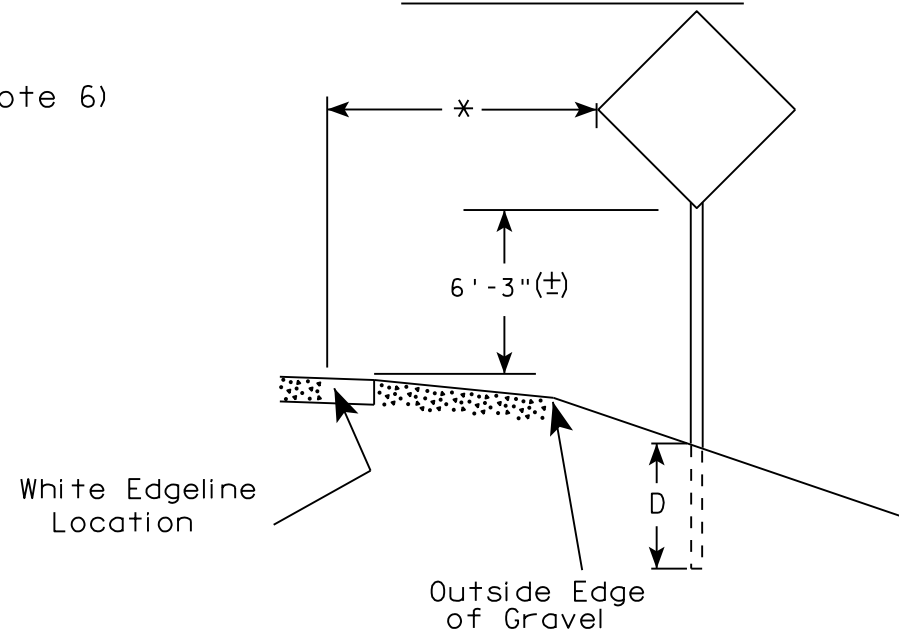
APPROVED
August 2019 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

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 barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. 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), 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" (±).

* * 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.

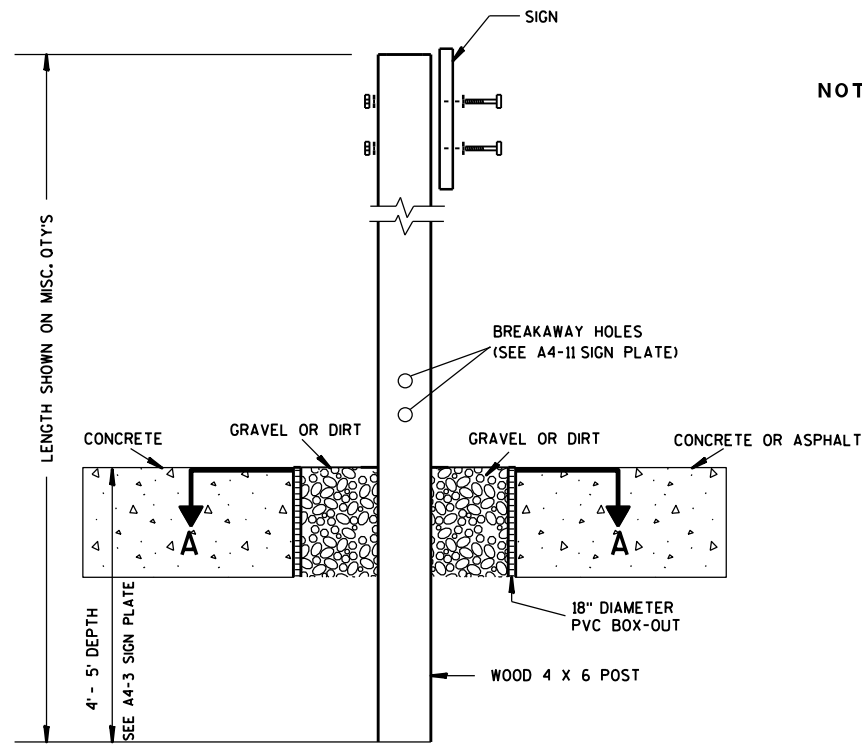
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

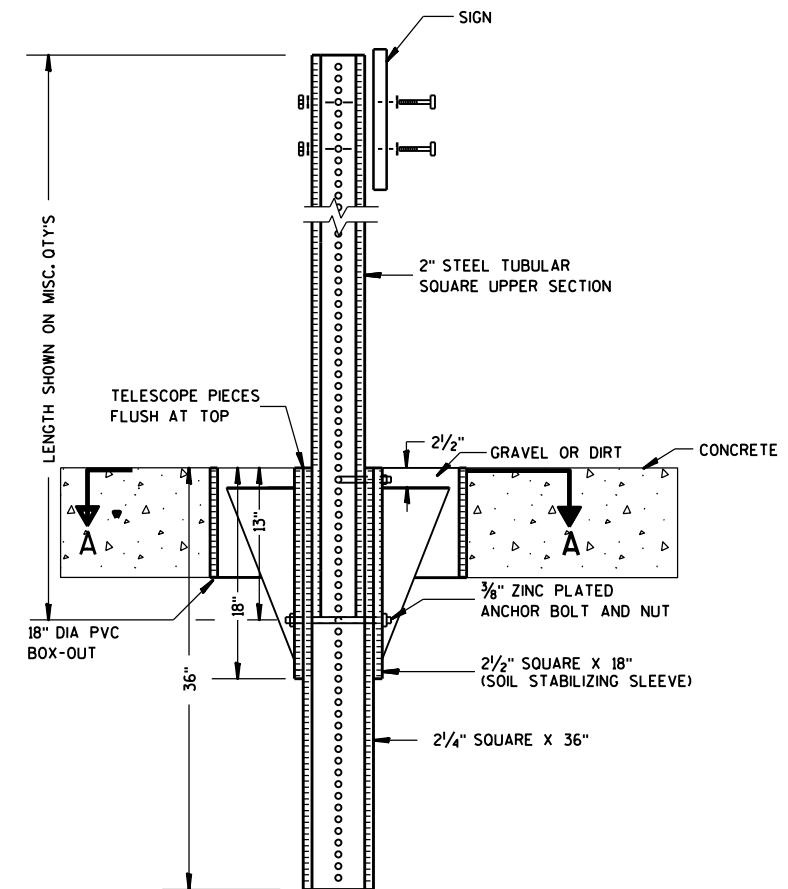
DATE 8/21/17 PLATE NO. A4-3.21



ELEVATION VIEW

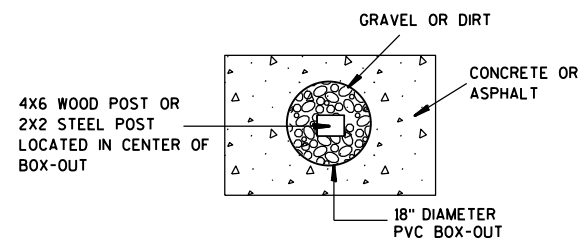
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

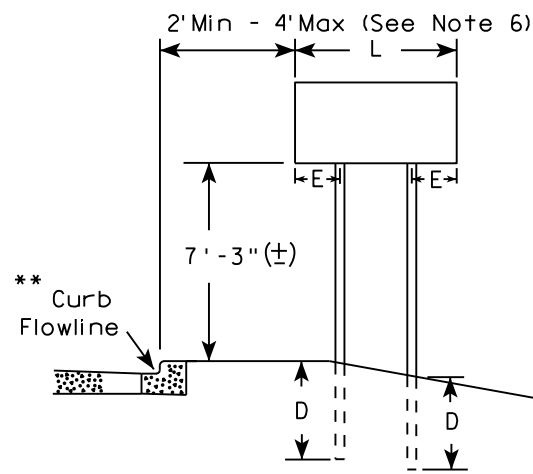
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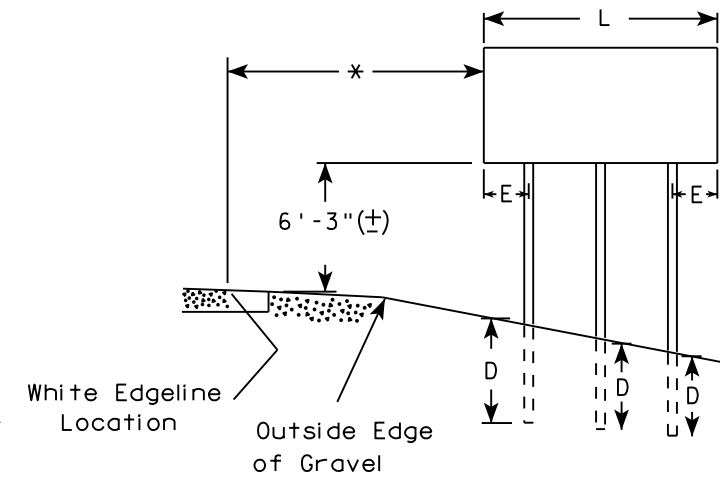
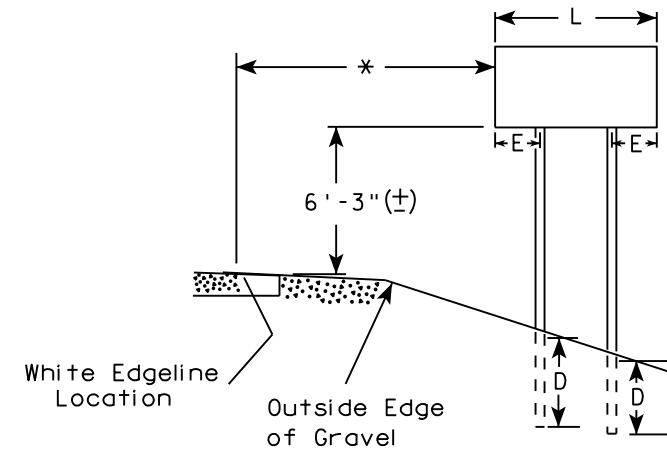
GENERAL NOTES

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" (±).

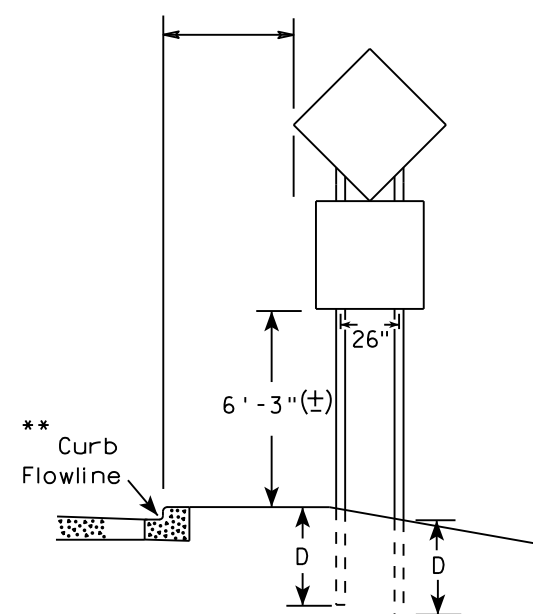
URBAN AREA



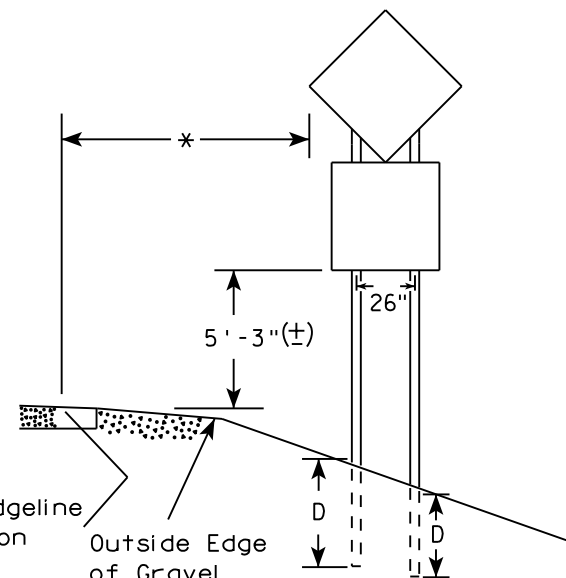
RURAL AREA (See Note 3)



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

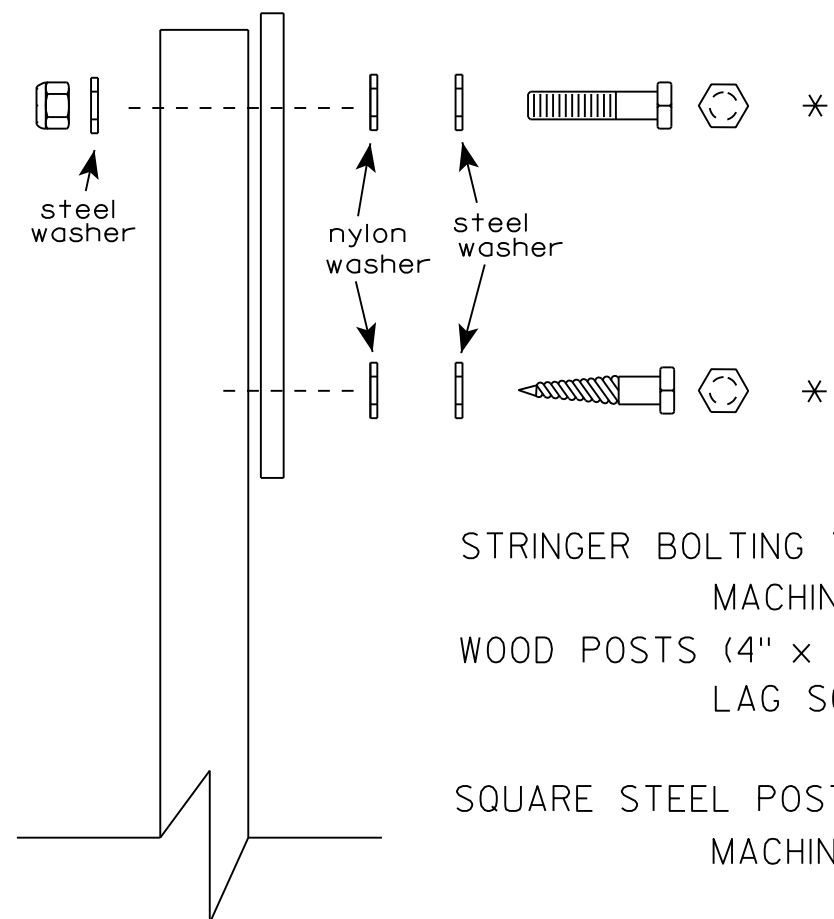
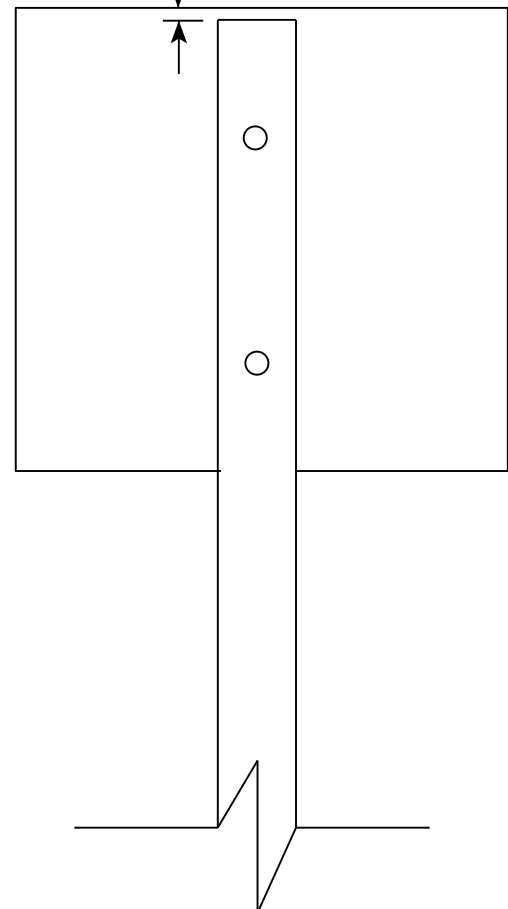
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

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

1"± 1/2"

SIGN SHALL BE MOUNTED TO PROJECT ABOVE THE TOP OF THE POST



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

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

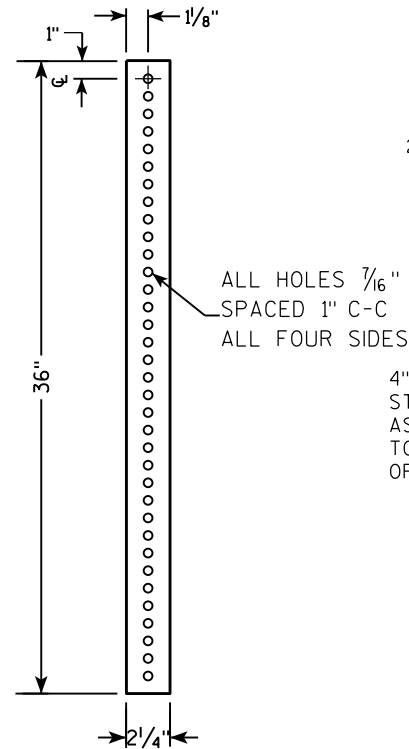
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

7

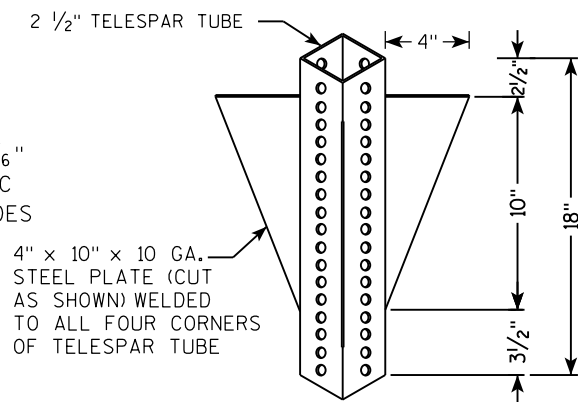
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 8/11/16	PLATE NO. A4-8.8

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

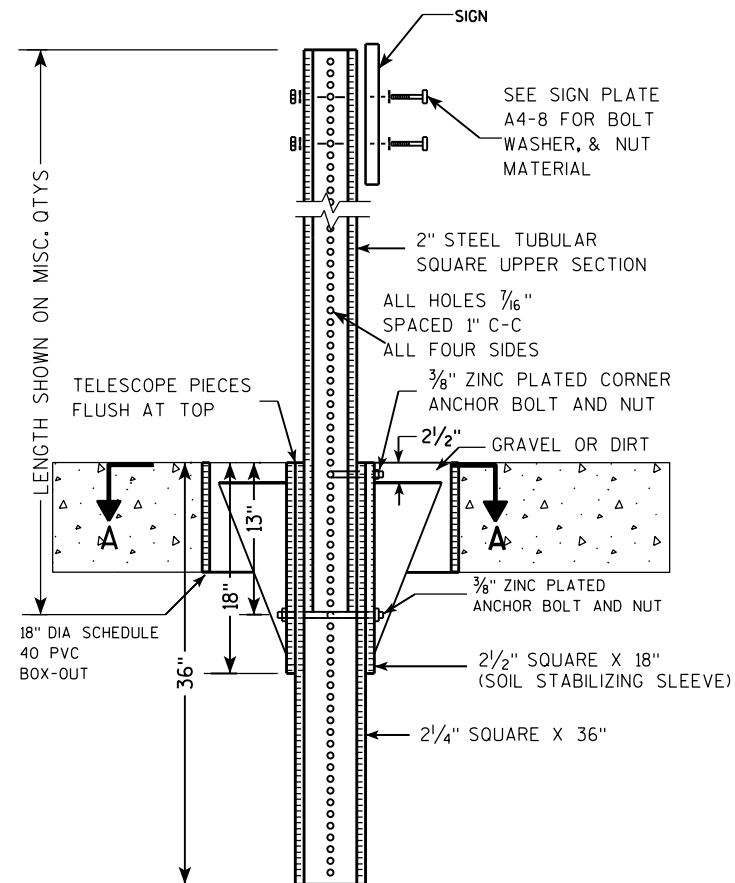
**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



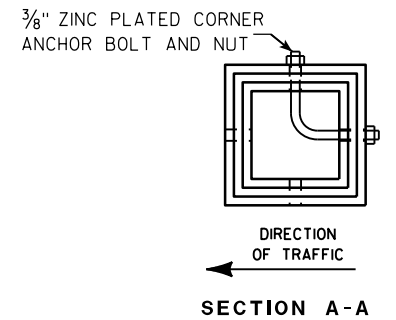
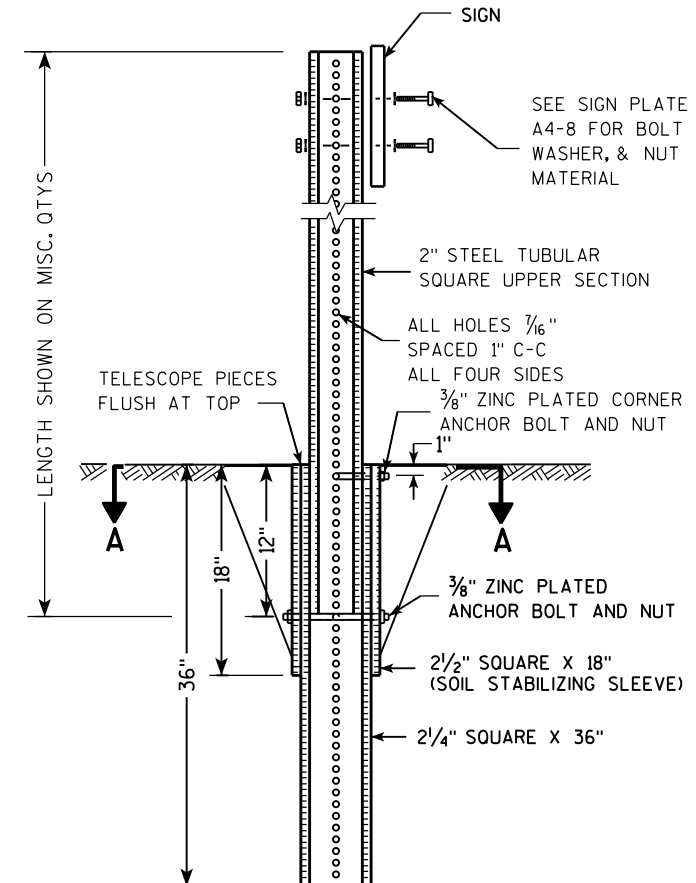
**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



**DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)**



**DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

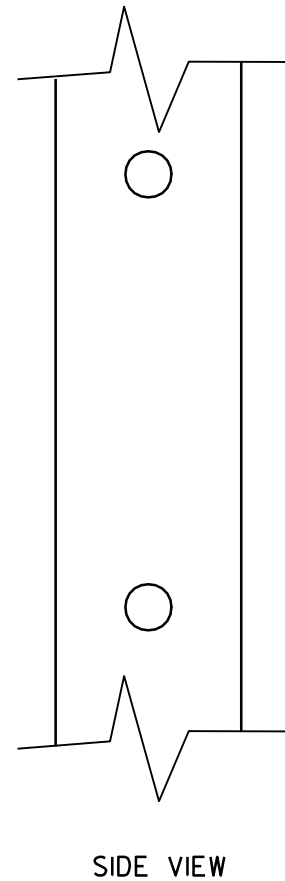
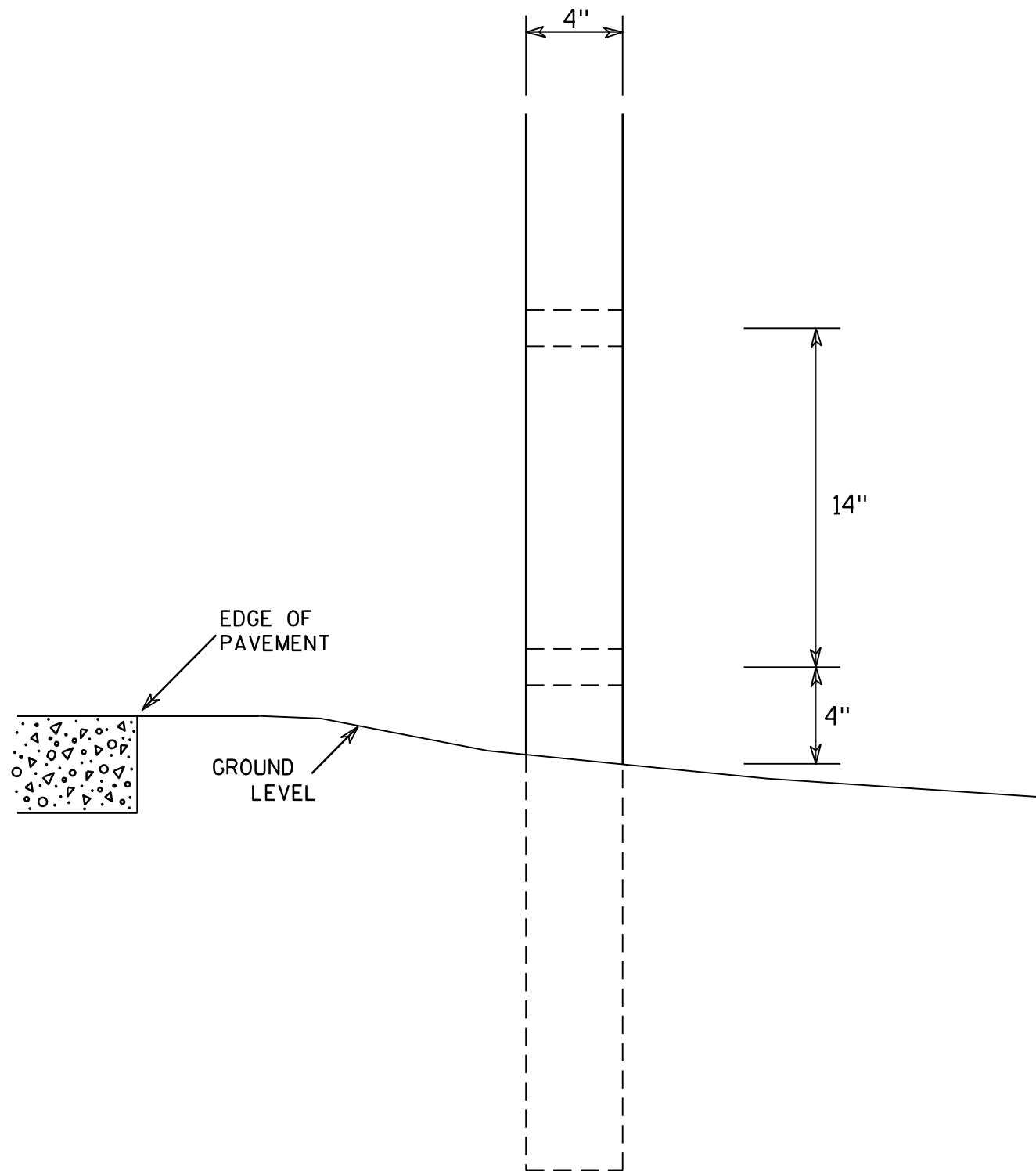
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL
SIGN POST
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9



GENERAL NOTES

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

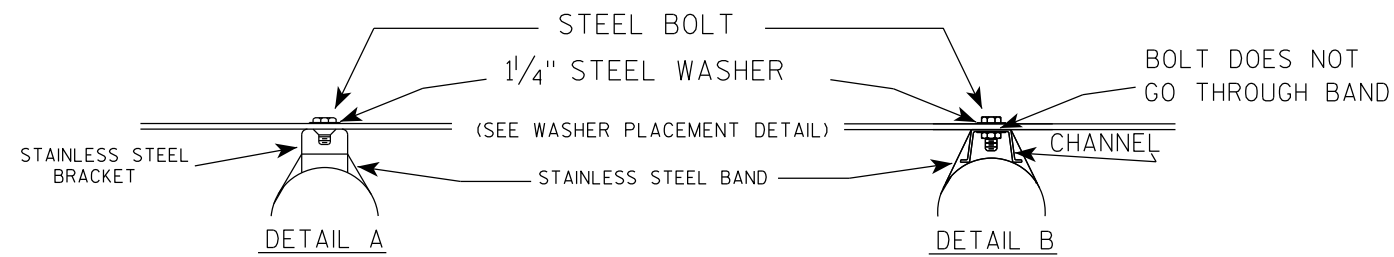
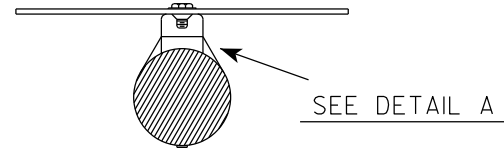
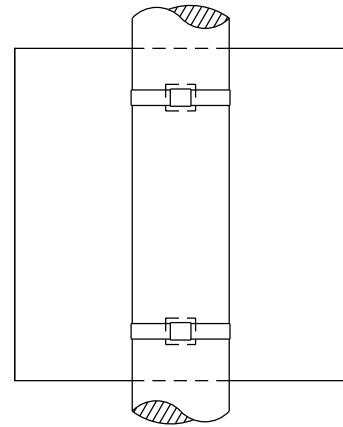
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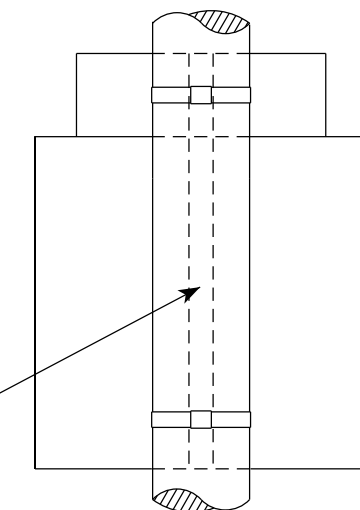
4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

BANDING

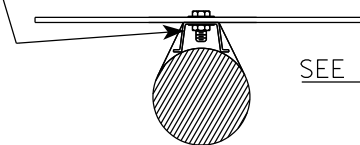
SINGLE SIGN



"J" ASSEMBLY

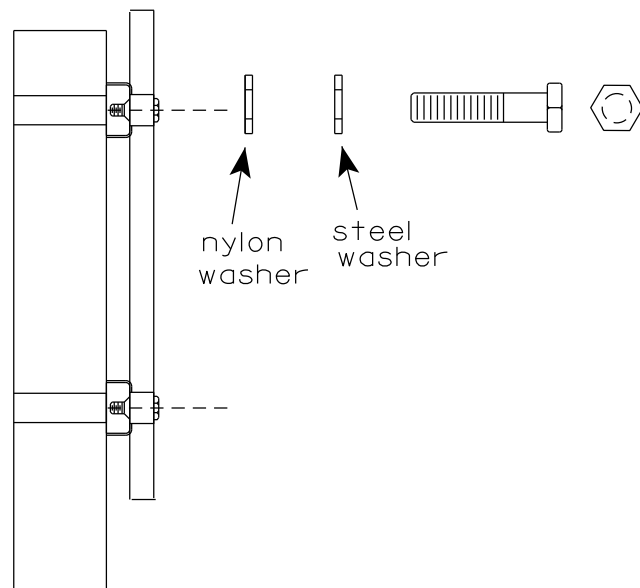


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



- 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

WASHER PLACEMENT



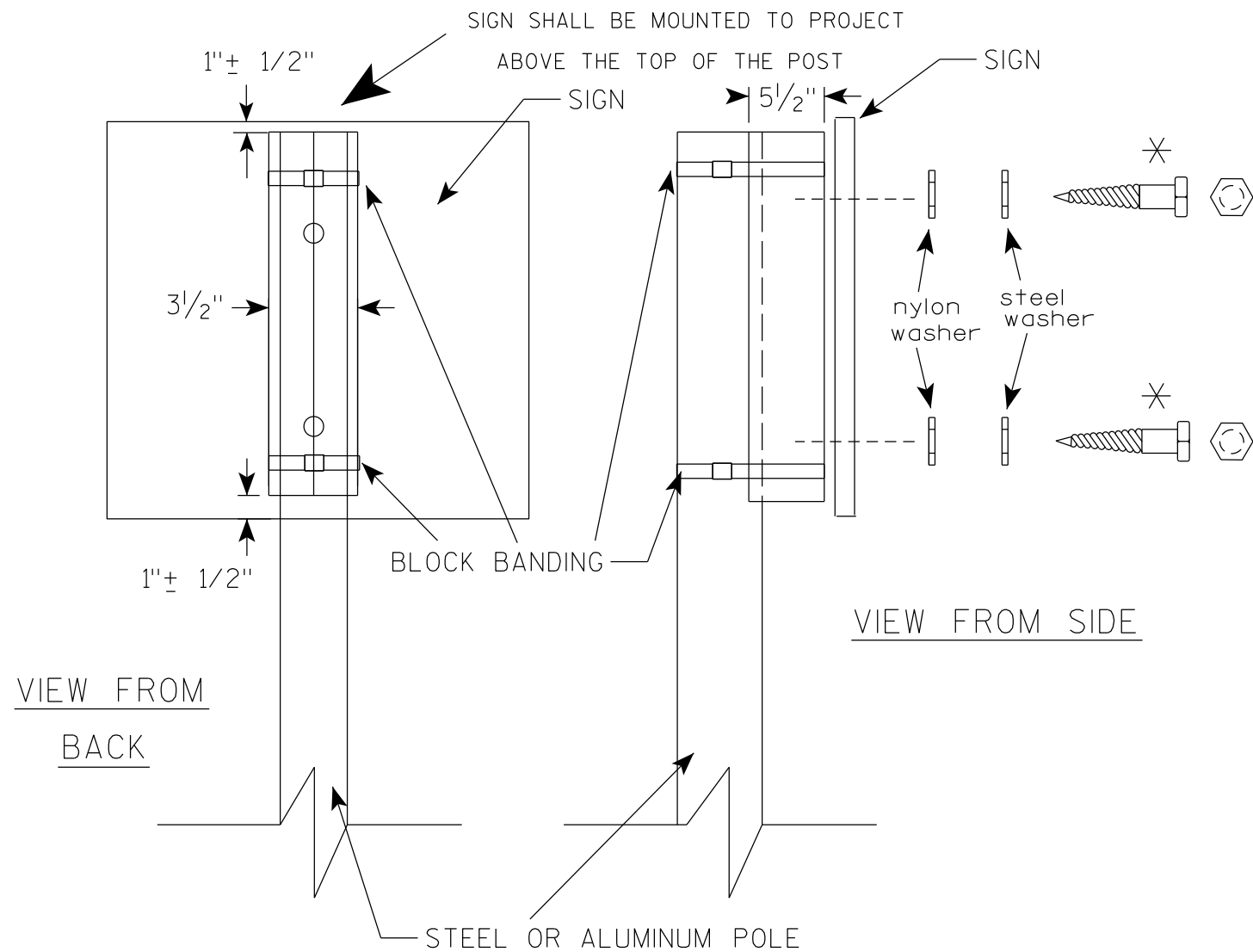
WASHERS (ALL POSTS) -
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON
 FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

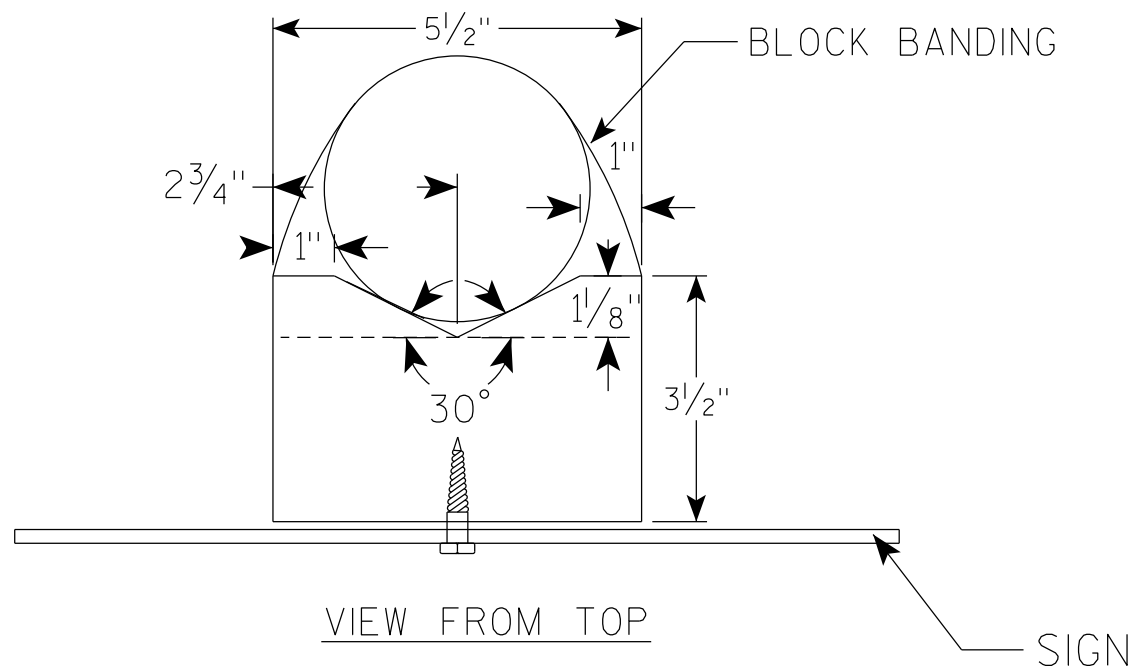
DATE 6/10/19 PLATE NO. A5-9.4



GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, 3/4" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

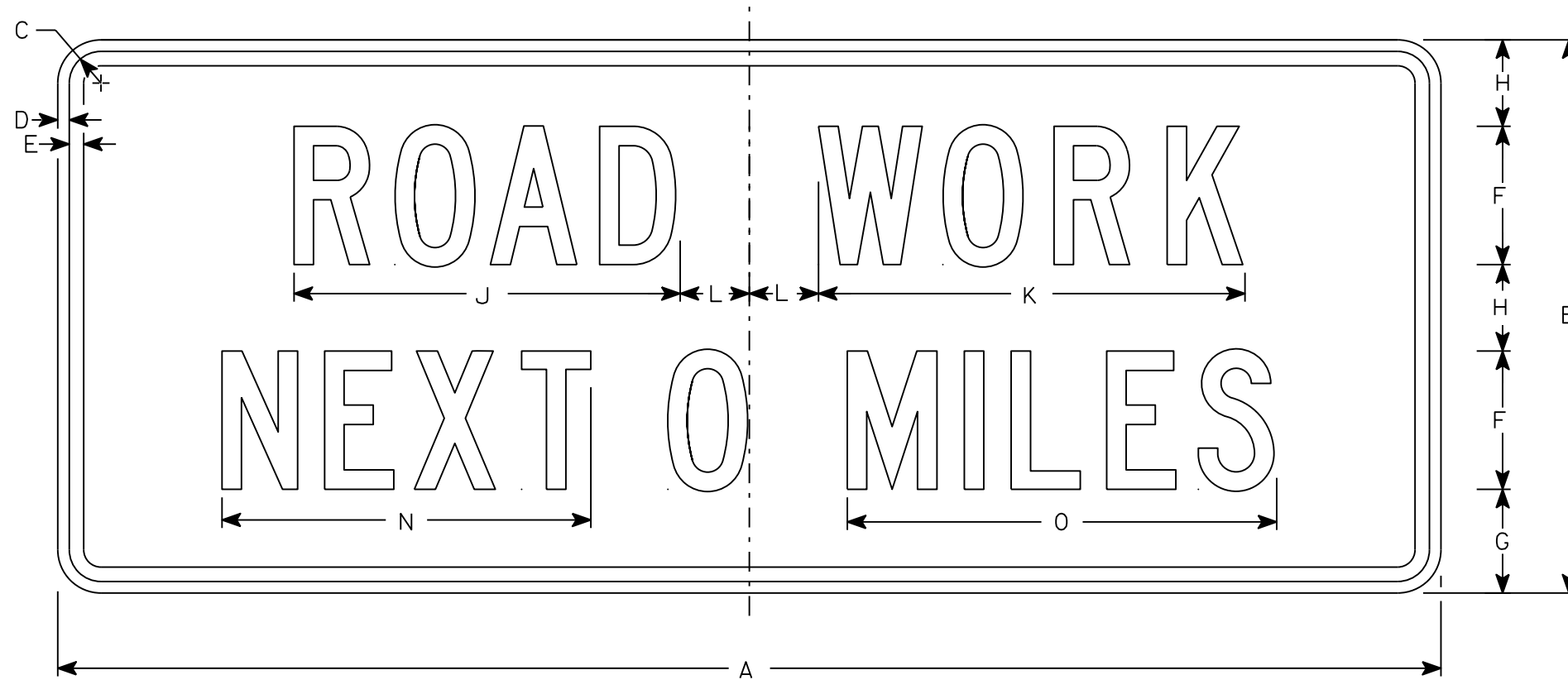
✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"



BLOCK BANDING DETAIL (V-BLOCK OPTION)	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 6/10/19	PLATE NO. A5-10.2

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance



G20-1

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

STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

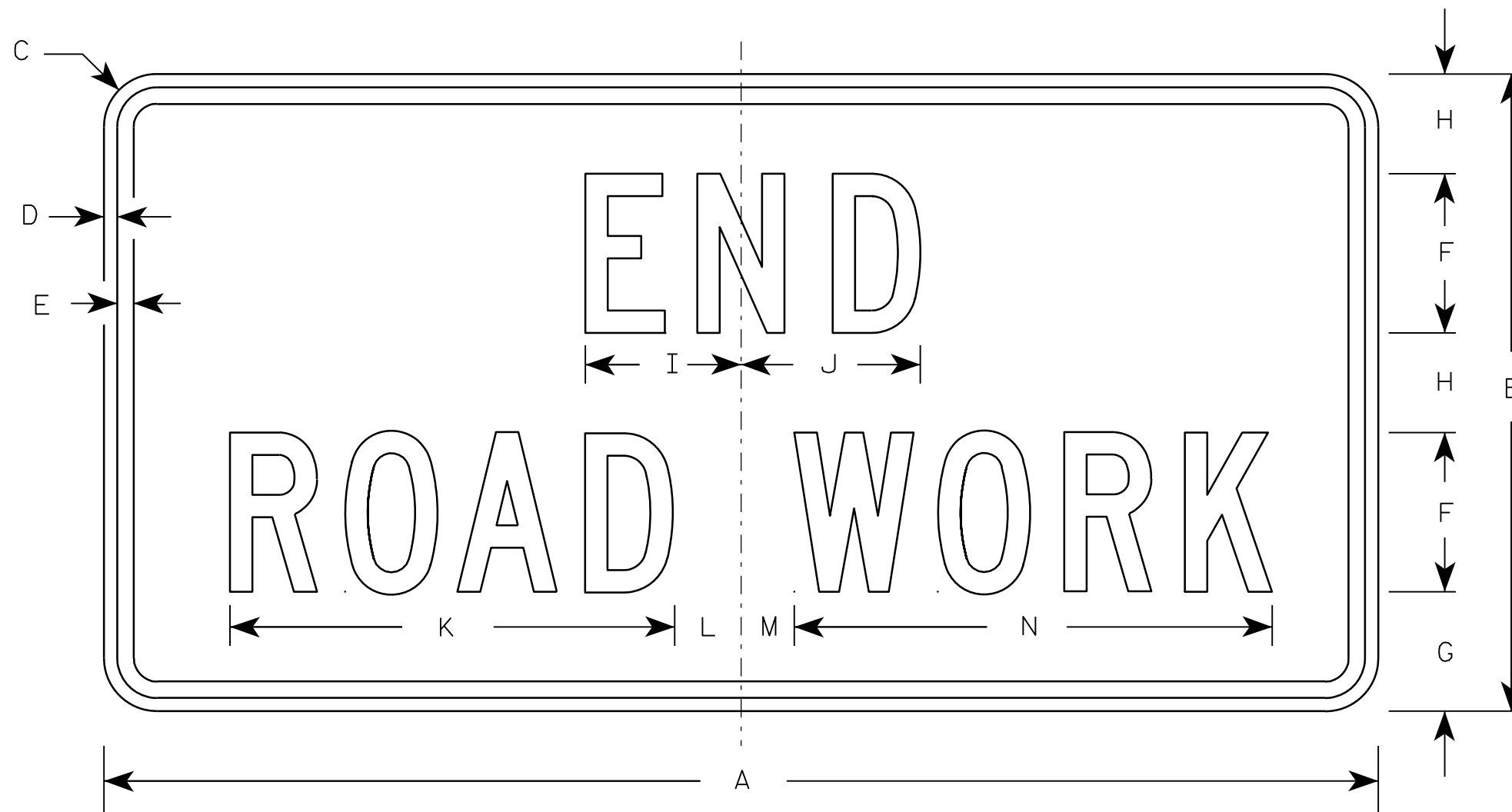
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-1.8

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 - 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:

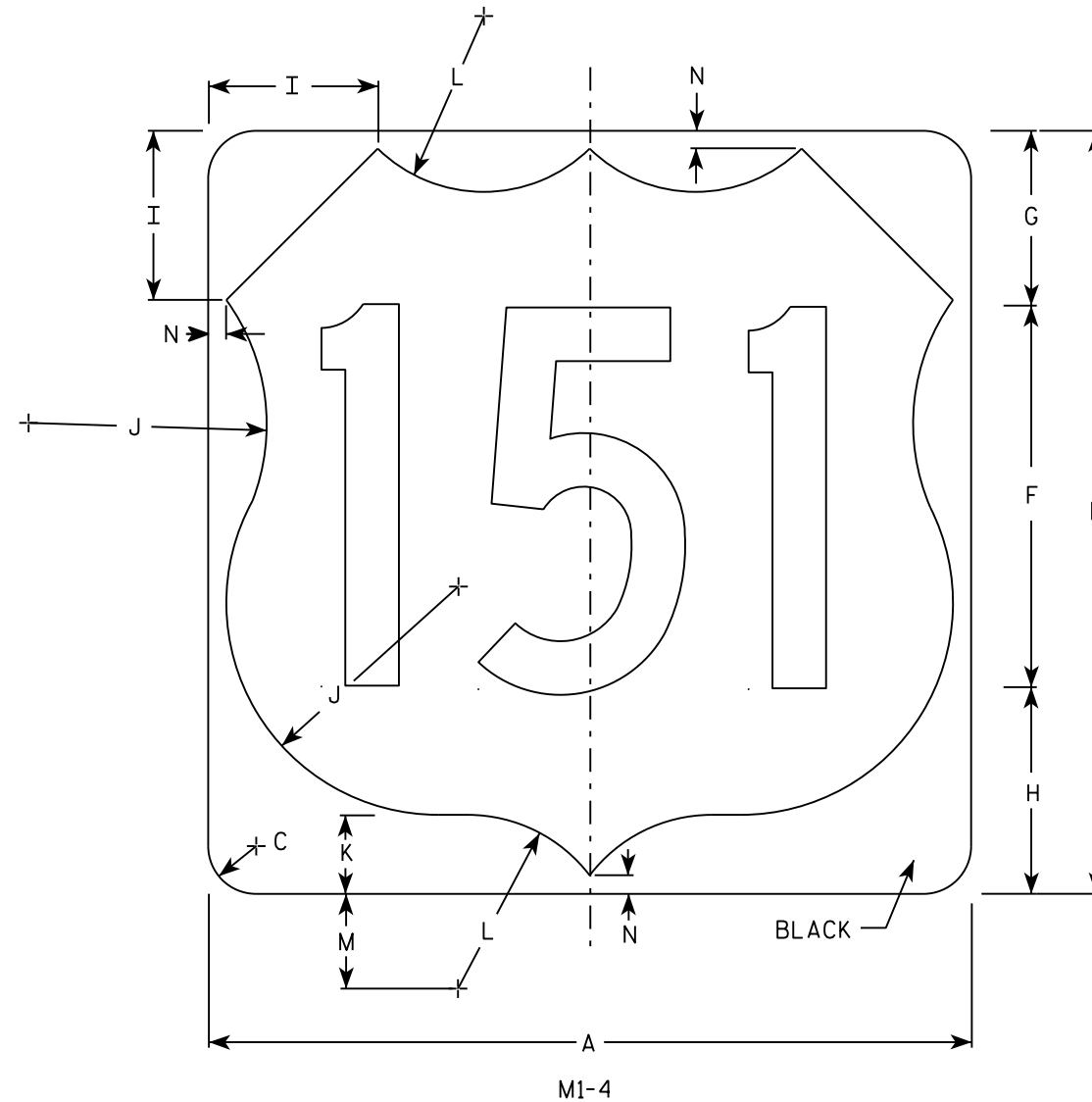
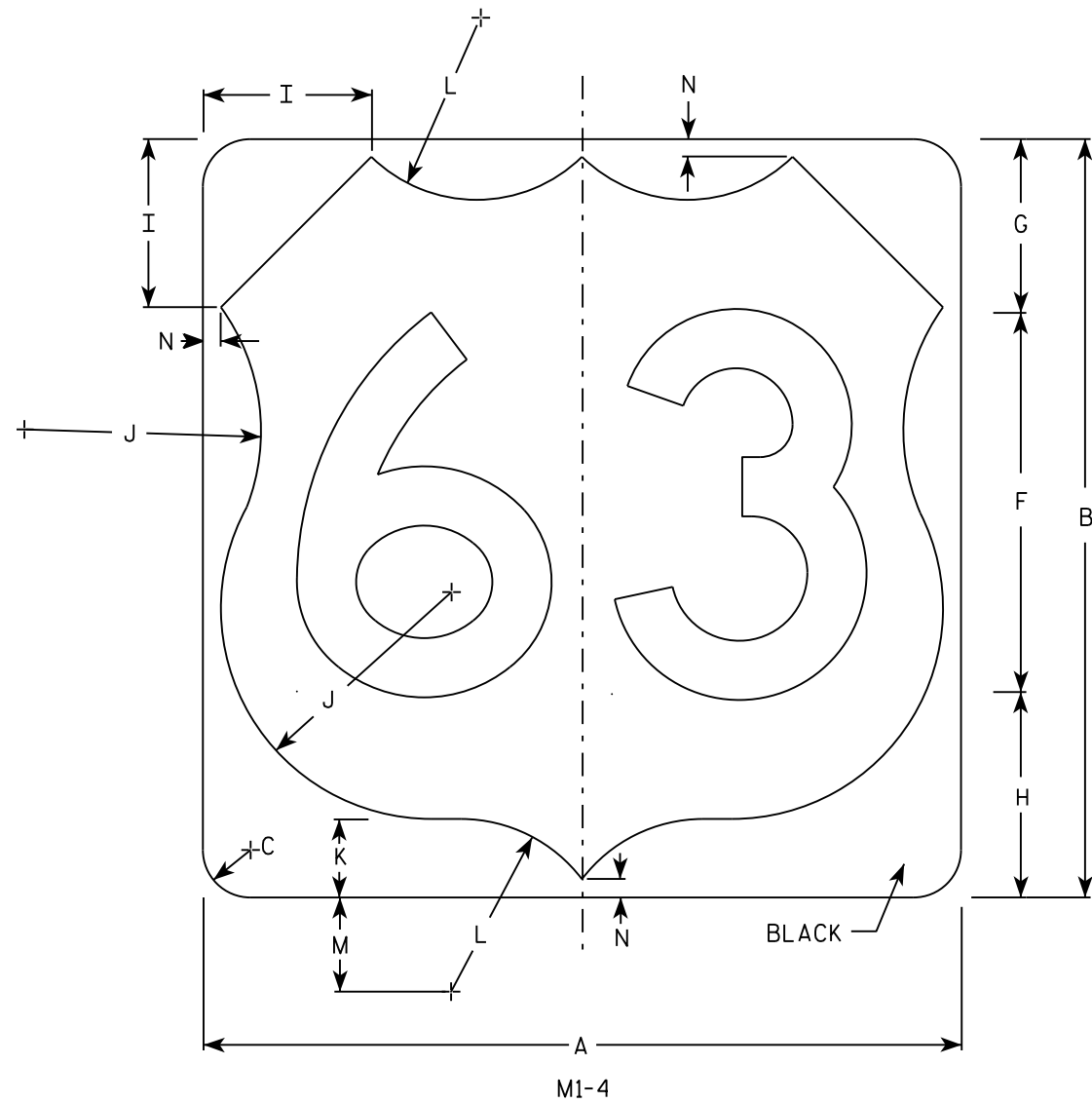
SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

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 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.



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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																											
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0

USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

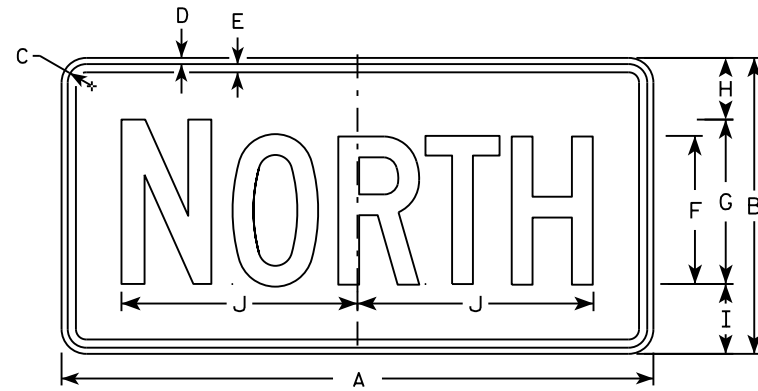
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-4.10

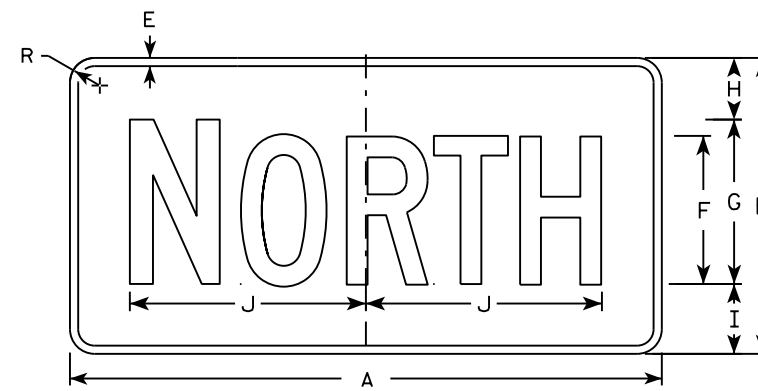
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ **E**

NOTES

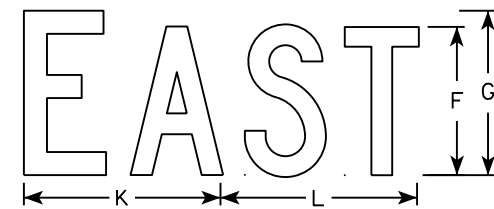
- All Signs Type II - Type H
- Color:
 - Background - See note 5
 - Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M3-1 thru M3-4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



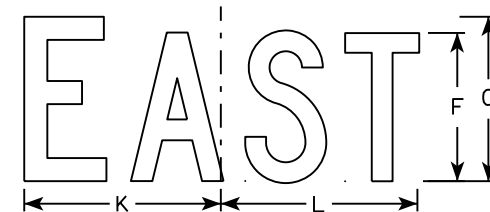
M3-1
MM3-1
MP3-1



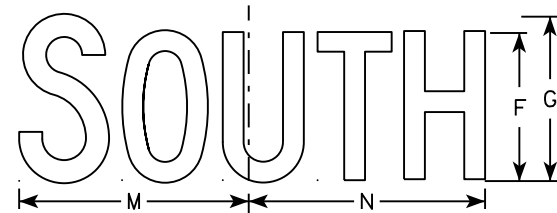
MB3-1
MK3-1
MN3-1



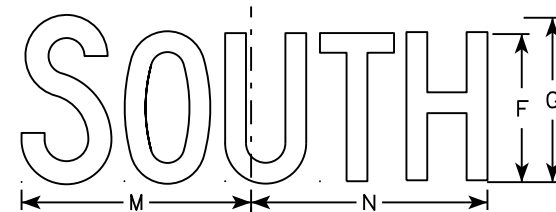
M3-2
MM3-2
MP3-2



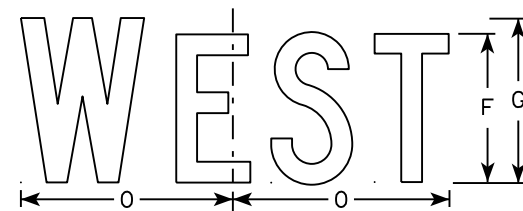
MB3-2
MK3-2
MN3-2



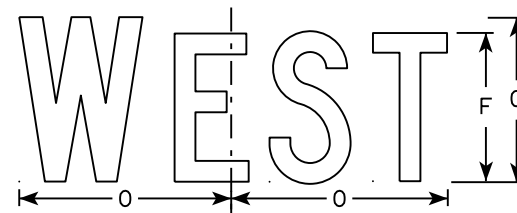
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

7

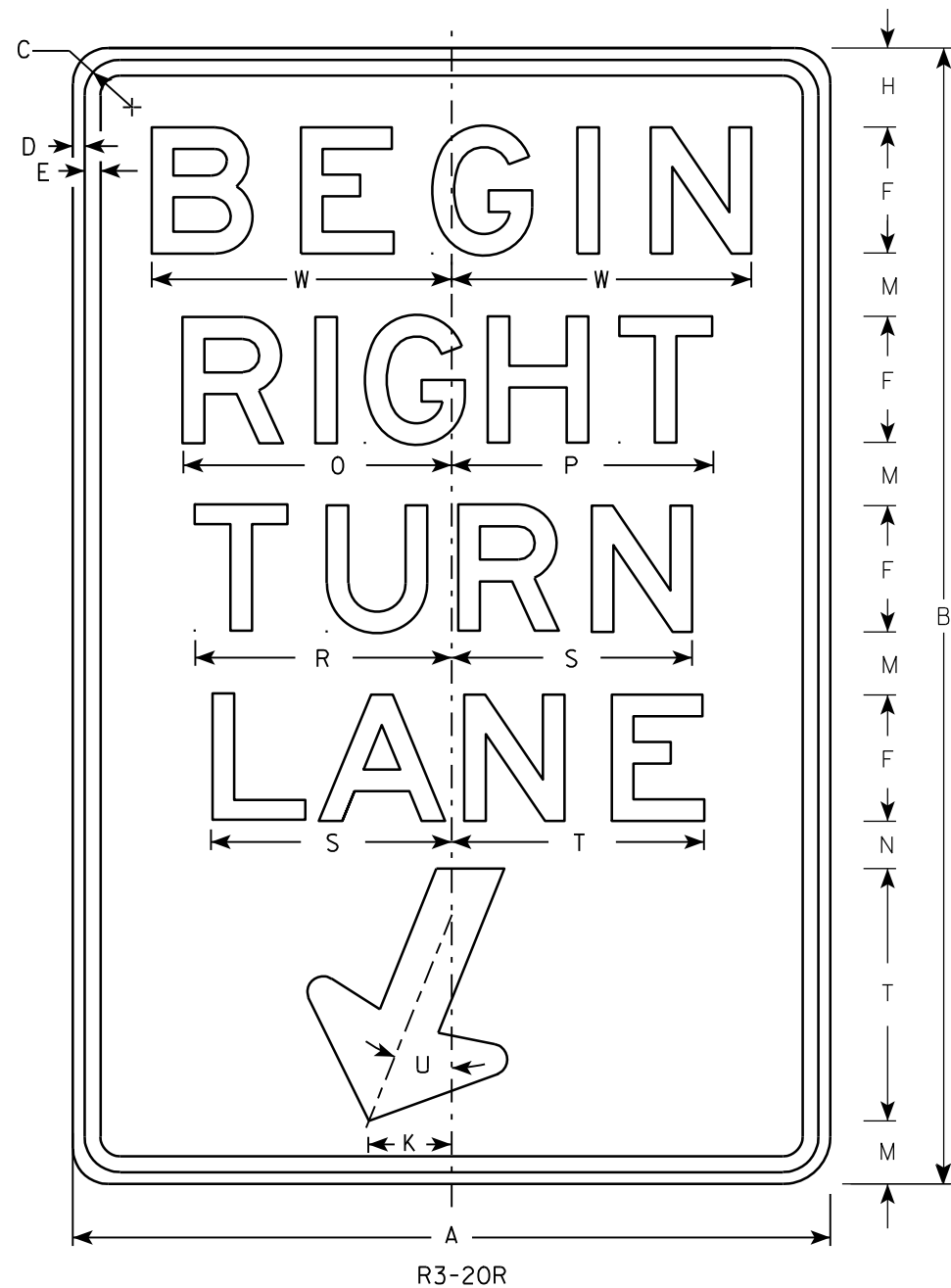
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	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

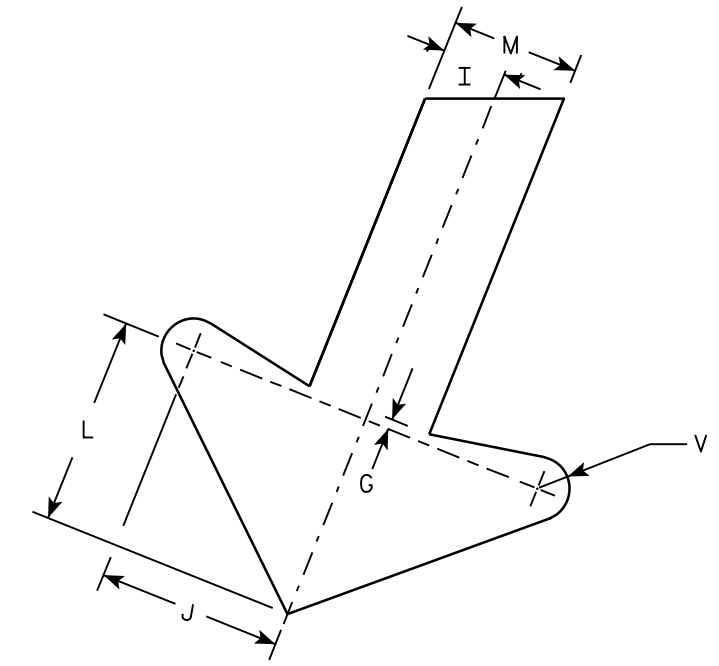
DATE 10/15/15 PLATE NO. M3-1.14



R3-20R

NOTES

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



ARROW DETAIL

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																												
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0	
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0	
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5	
4																												
5																												

STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

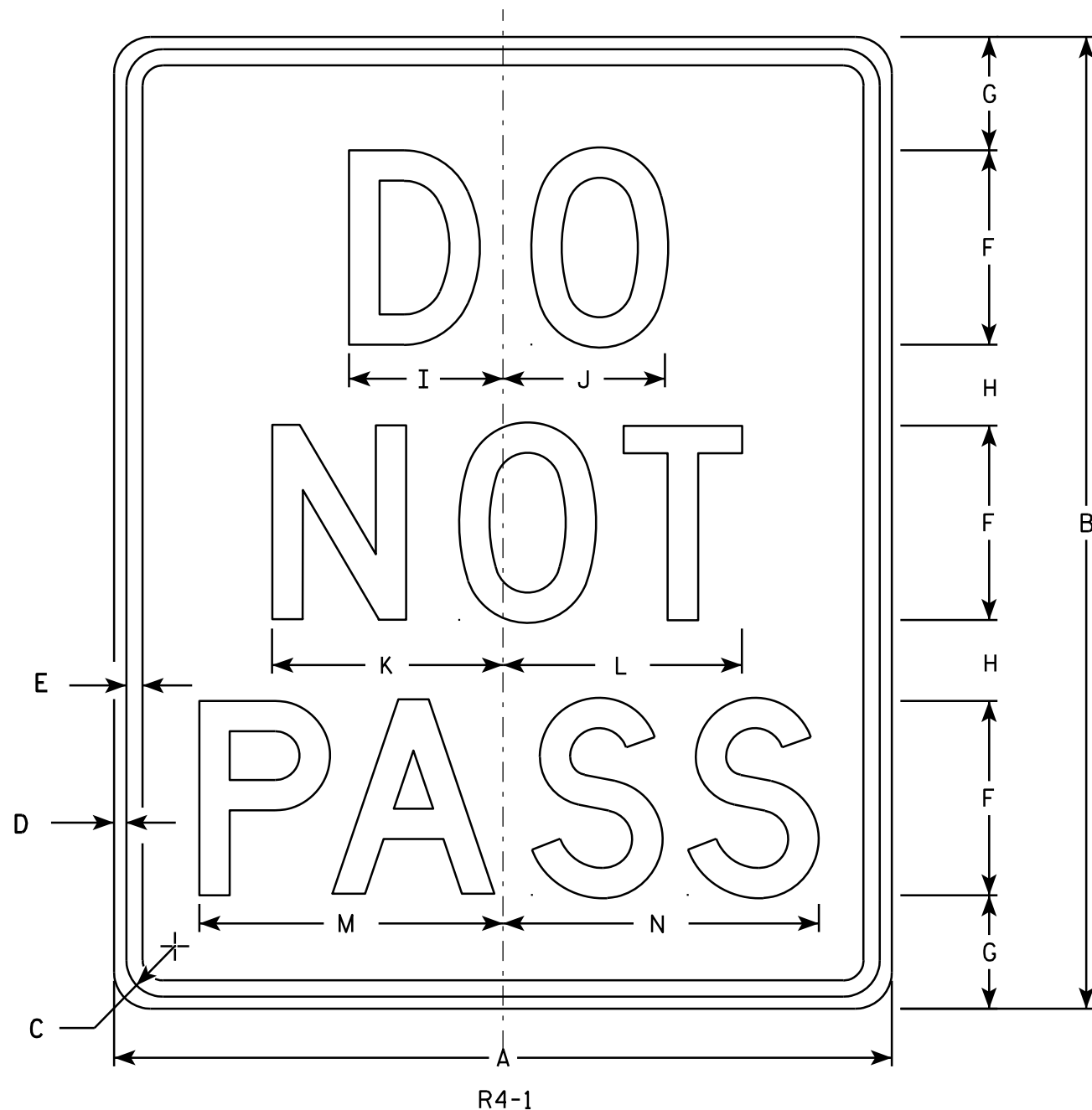
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

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

NOTES

1. Sign is Type II - Type H Reflective - 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.



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7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	4	3 1/2	2 1/2	3 1/8	3 1/4	4 3/4	4 7/8	6 1/4	6 1/2													3.0
2S	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
2M	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
3																											
4	36	48	1 5/8	5/8	3/4	8	7	5	6 1/4	6 5/8	9 1/2	9 3/4	12 1/2	13													12.0
5	48	60	2 1/4	3/4	1	10	8	7	7 3/4	8 3/8	11 1/8	12 1/4	15 5/8	16 1/4													20.0

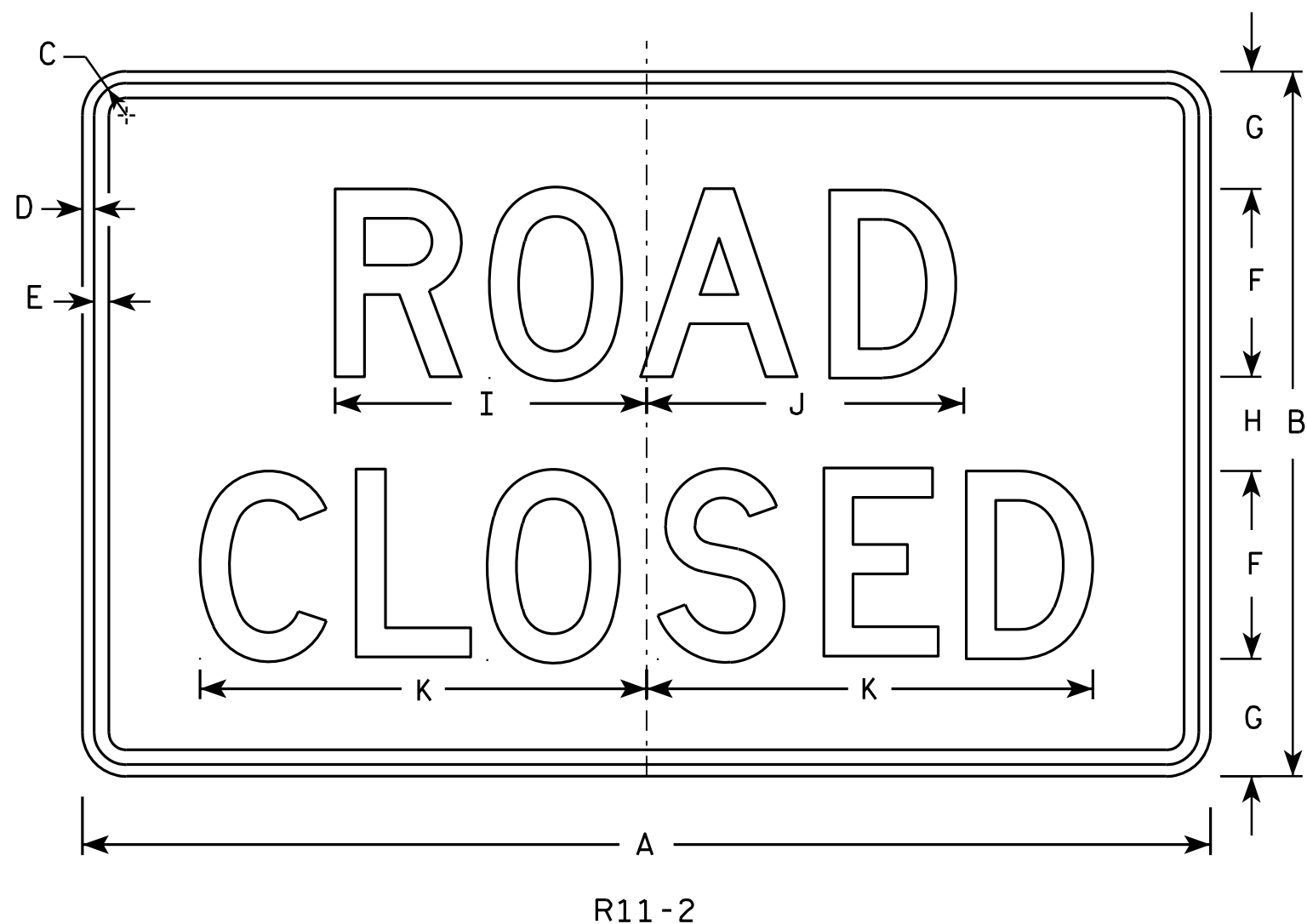
STANDARD SIGN
R4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

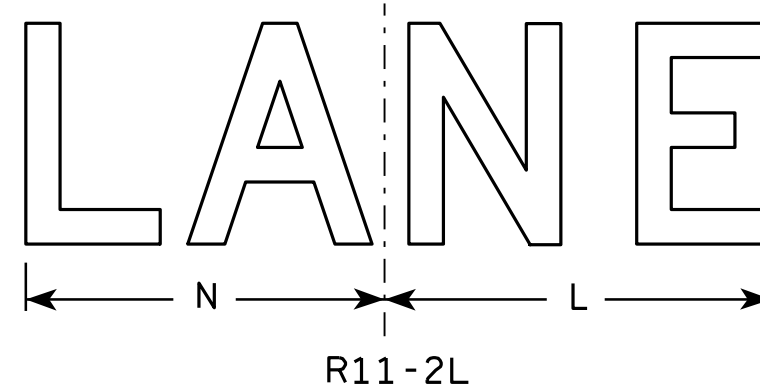
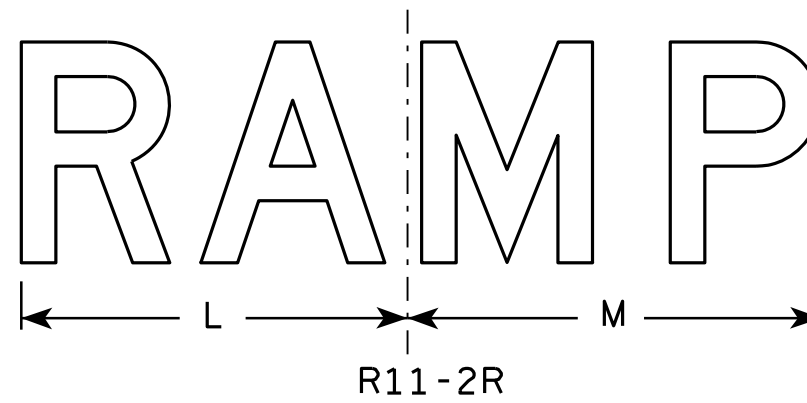
DATE 3/25/2011 PLATE NO. R4-1.7

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.
5. Modify the message as required.



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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												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												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												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												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												10.0	

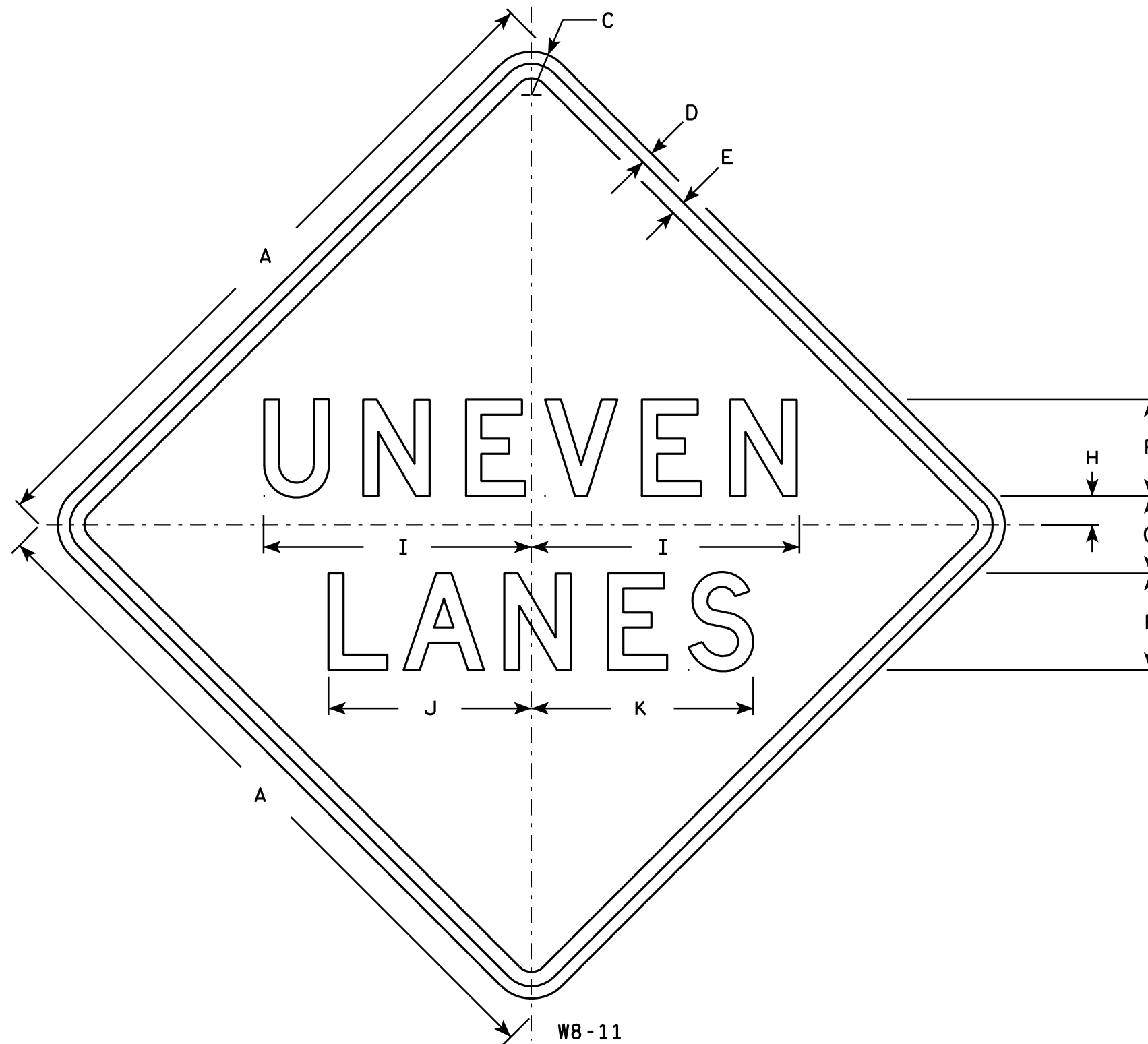
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

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



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - 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.

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																											
2S	36		1 5/8	5/8	3/4	5	4	1 1/2	13 7/8	10 1/2	11 1/2																9.0
2M	36		1 5/8	5/8	3/4	5	4	1 1/2	13 7/8	10 1/2	11 1/2																9.0
3																											
4	36		1 5/8	5/8	3/4	5	4	1 1/2	13 7/8	10 1/2	11 1/2																9.0
5	48		2 1/4	3/4	1	7	5	2	18 1/2	14	15 3/8																16.0

STANDARD SIGN
W8-11

WISCONSIN DEPT OF TRANSPORTATION

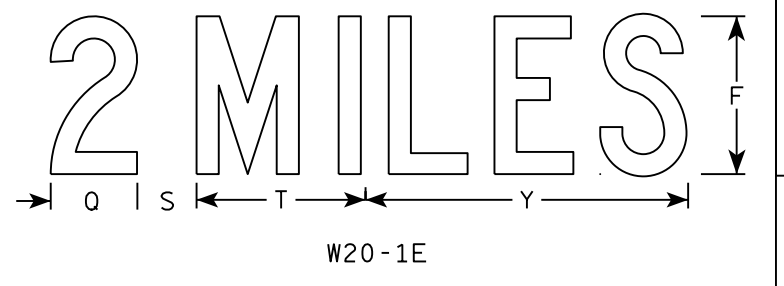
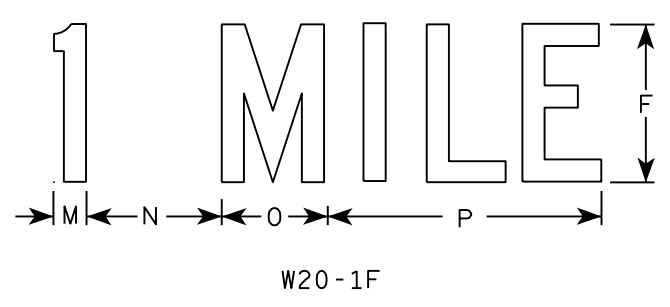
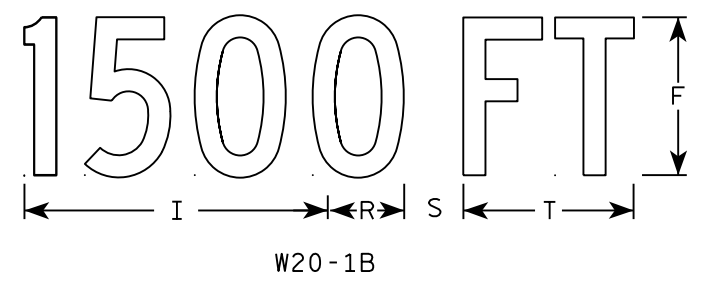
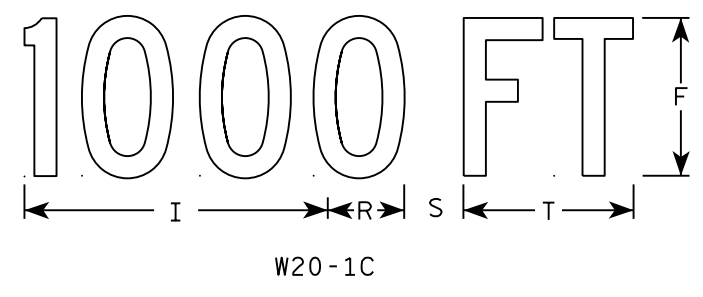
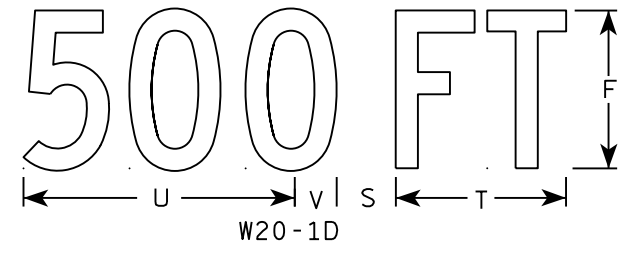
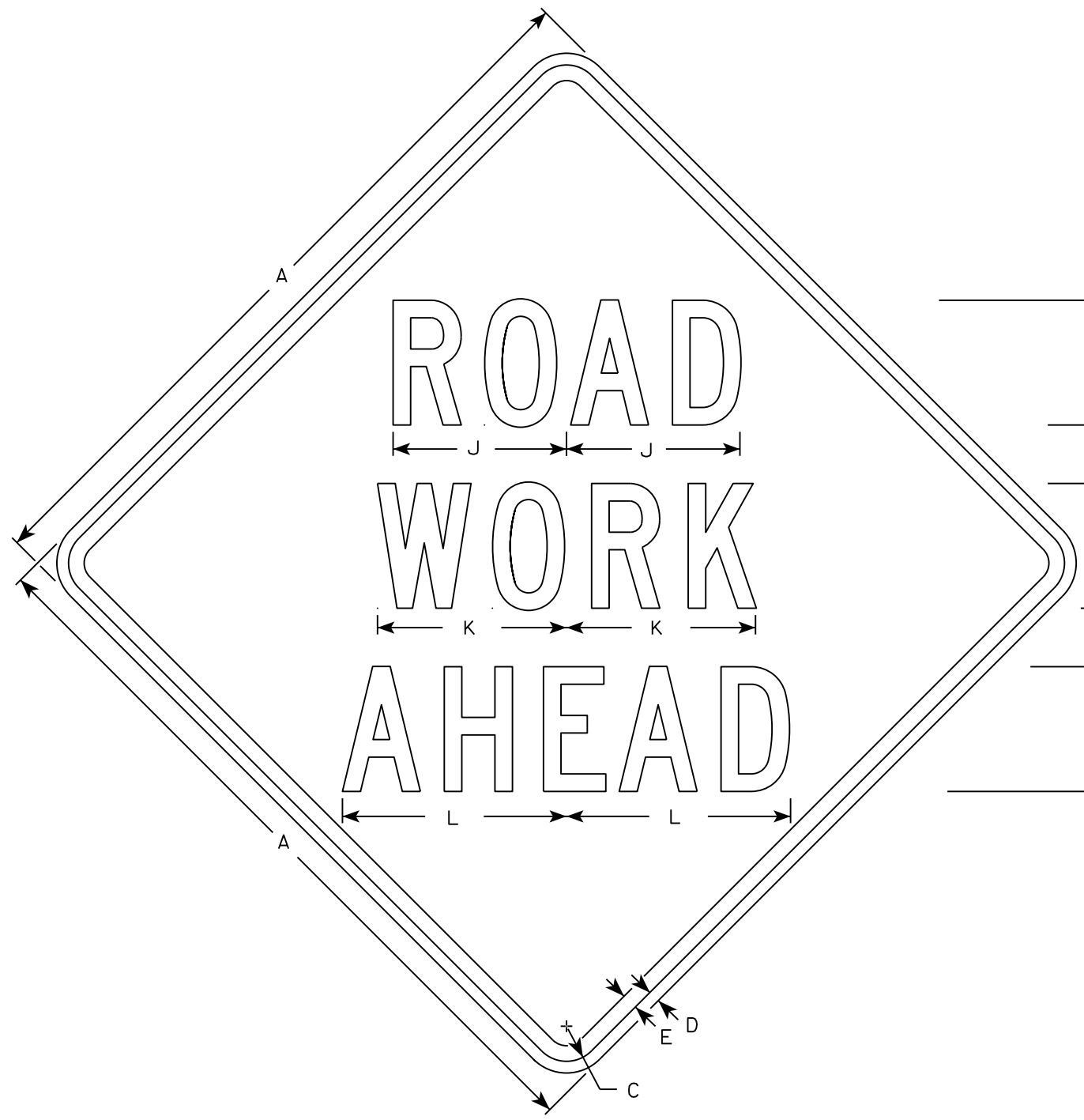
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/22/11 PLATE NO. W8-11.4

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.



7

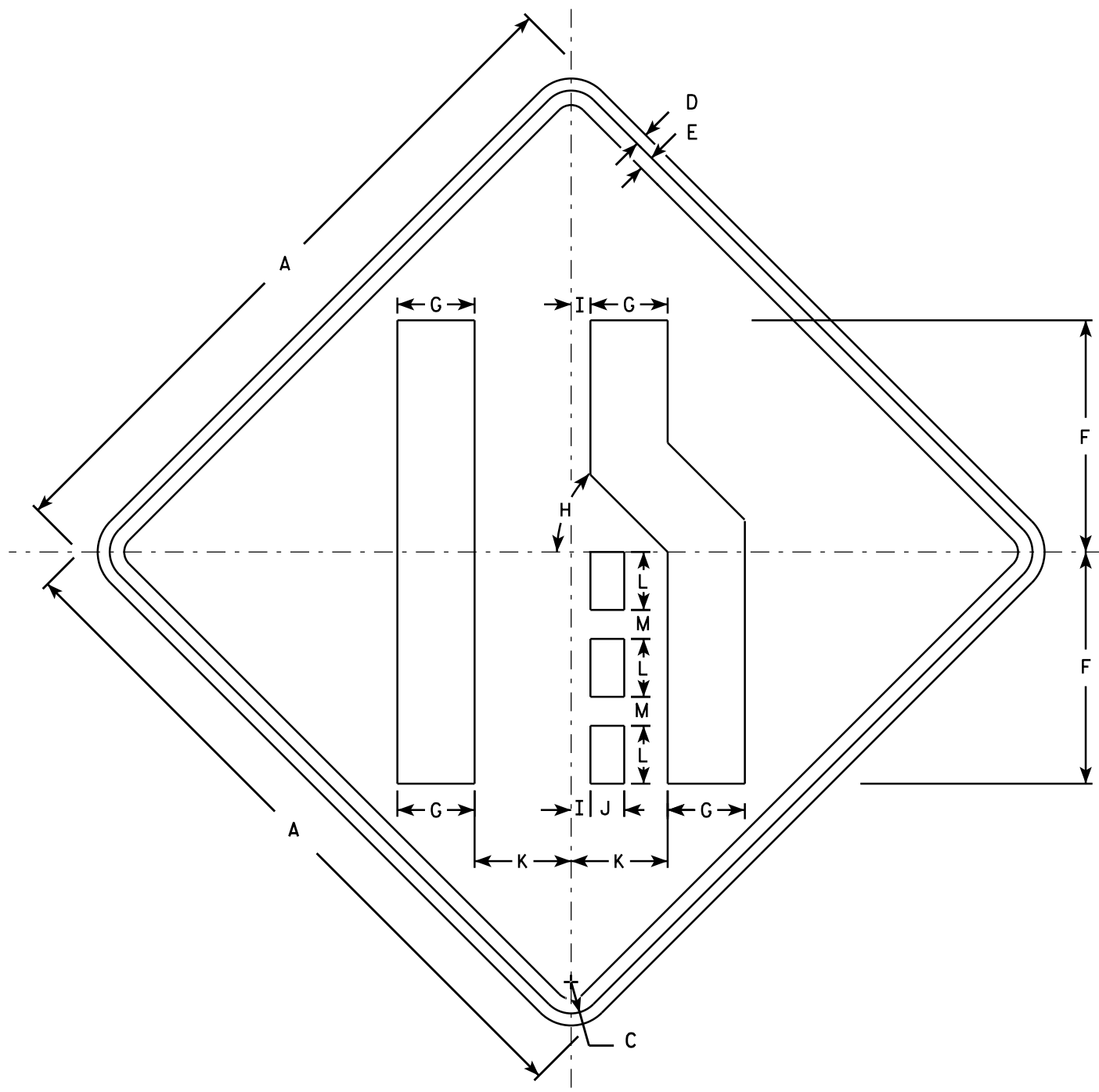
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 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, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

7

7

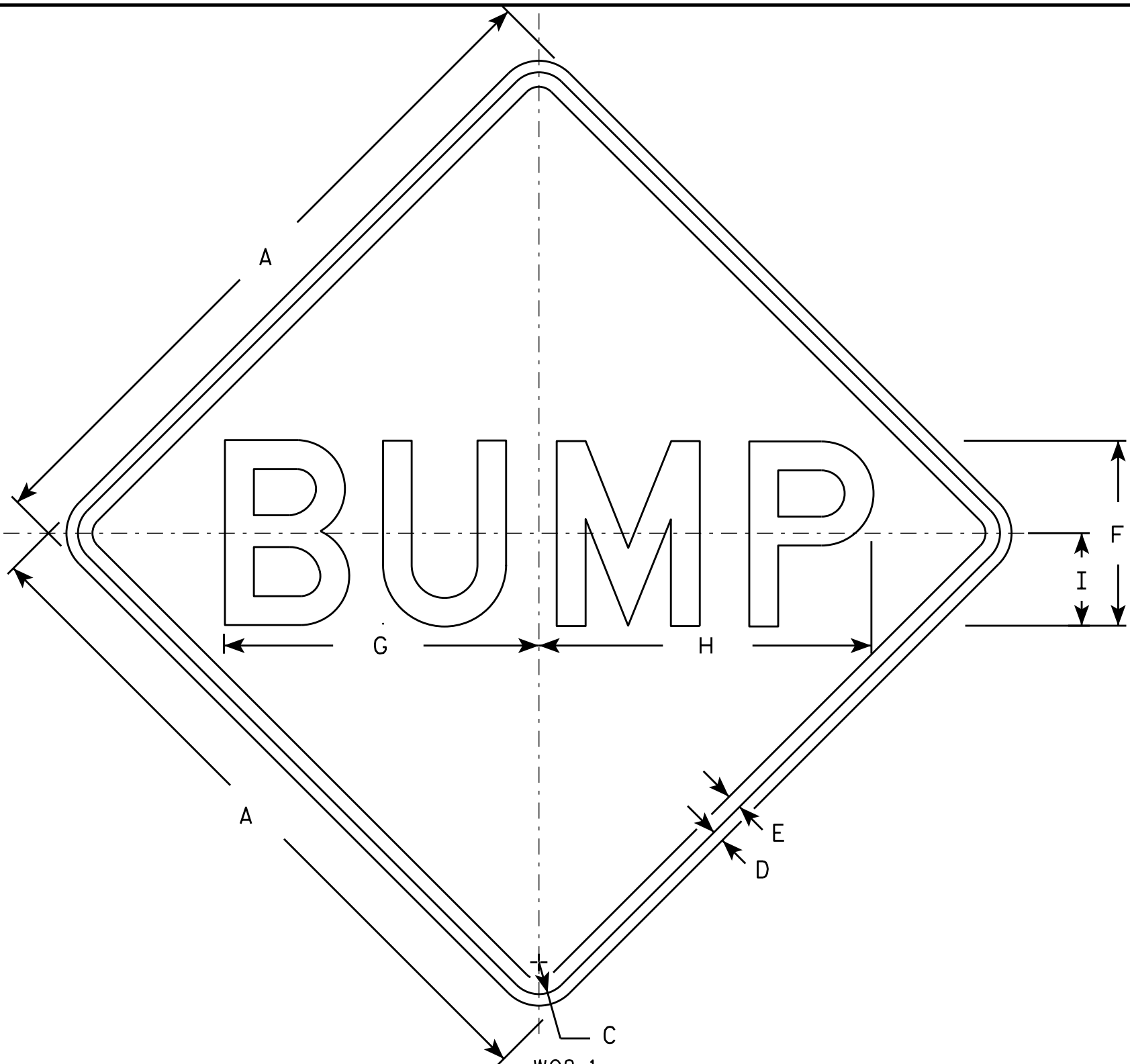
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-2.1



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.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	10	16 7/8	17 7/8	5																		9.0
2S	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
2M	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
3	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
4	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
5	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0

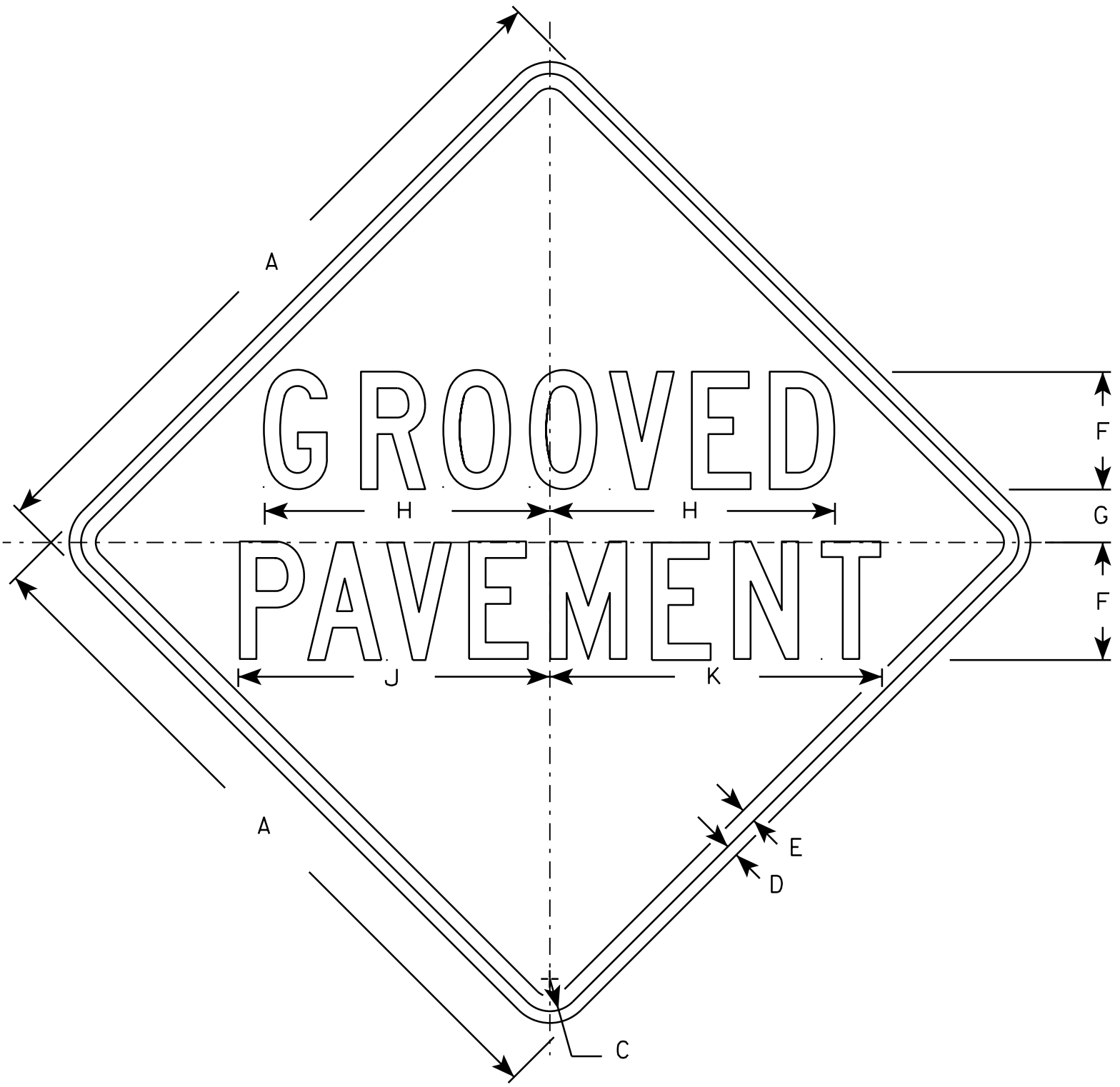
STANDARD SIGN
W08-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 11/20/13 PLATE NO. W08-1.1

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. 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.

7

7

W08-52

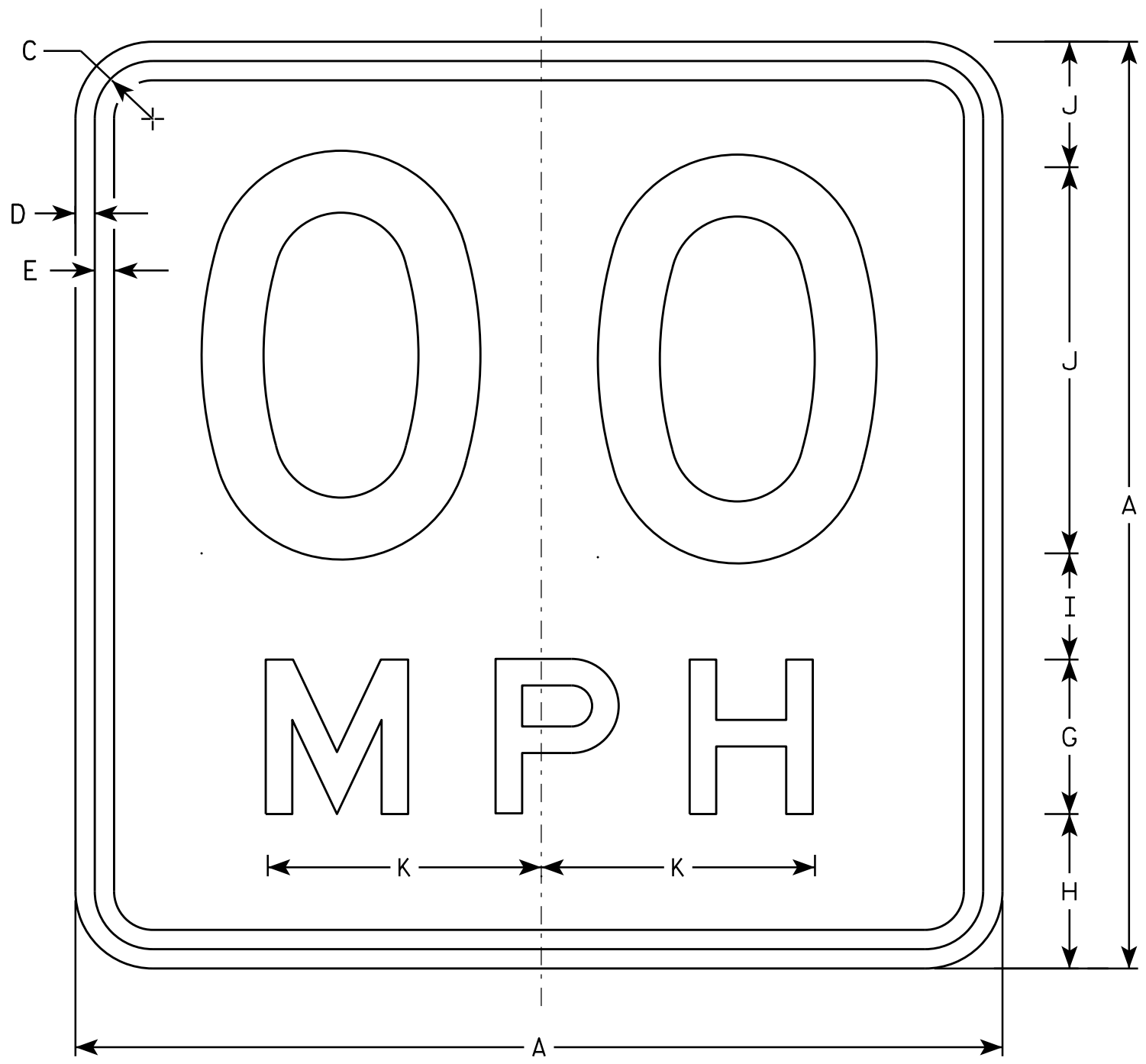
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	2 5/8	14 1/2		15 7/8	17																9.0
2S	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
2M	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
3	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
4	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
5	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0

STANDARD SIGN
W08-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W08-52.1



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

W013-1

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

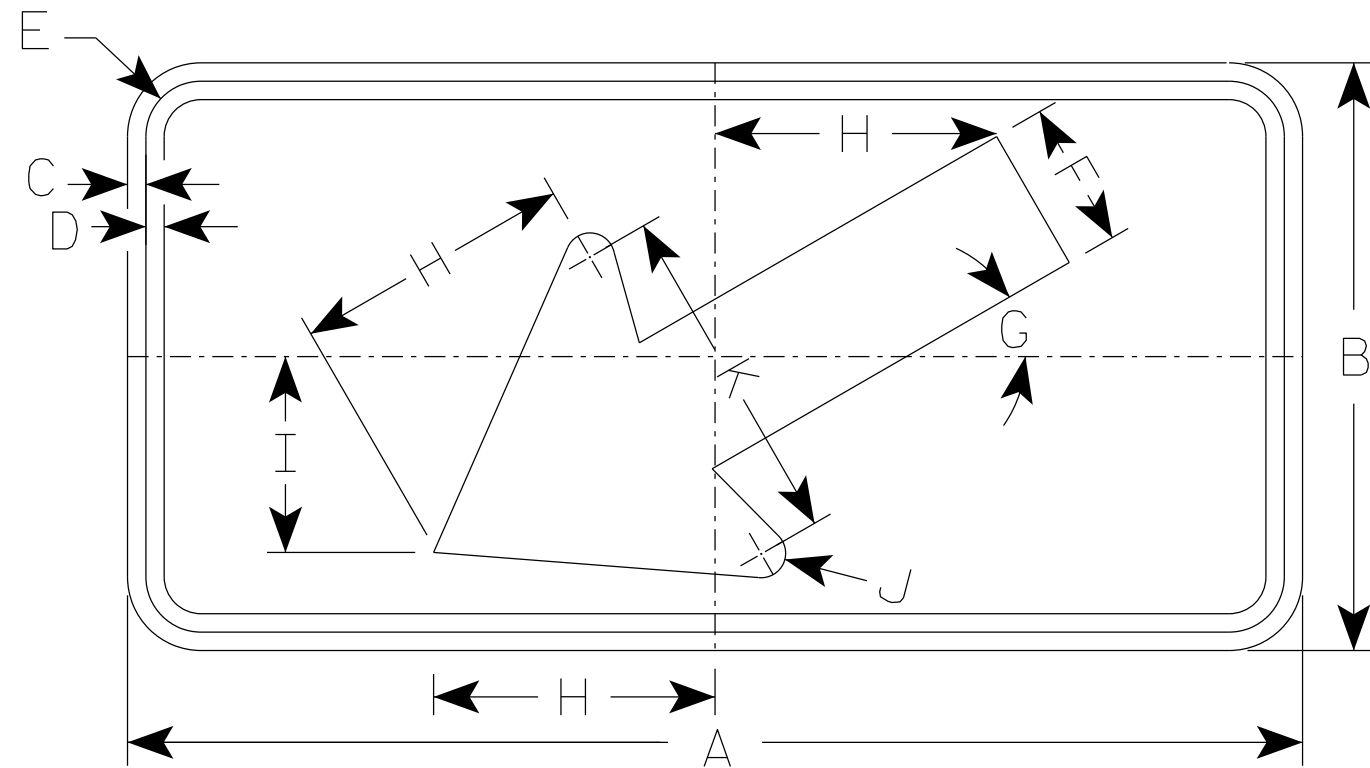
APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 11/21/13 PLATE NO. W013-1.1

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

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded but corners shall be rounded when base material is metal.
4. W016-7R is the same as W016-L except the arrow is reversed along the vertical centerline.



W016-7L

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
2S	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
2M	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
3	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
4	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
5	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0

STANDARD SIGN
W016-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/11/18 PLATE NO. W016-7.1

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

Notes



Wisconsin Department of Transportation

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