

ORDER OF SHEETS

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

TOTAL SHEETS = 76



26

DESIGN DESIGNATION

A.A.D.T.	2024	=	760
A.A.D.T.	2044	=	900
D.H.V.		=	
D.D.		=	50/50
T.		=	5%
DESIGN SPEED		=	55MPH
ESALS		=	81,000

CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

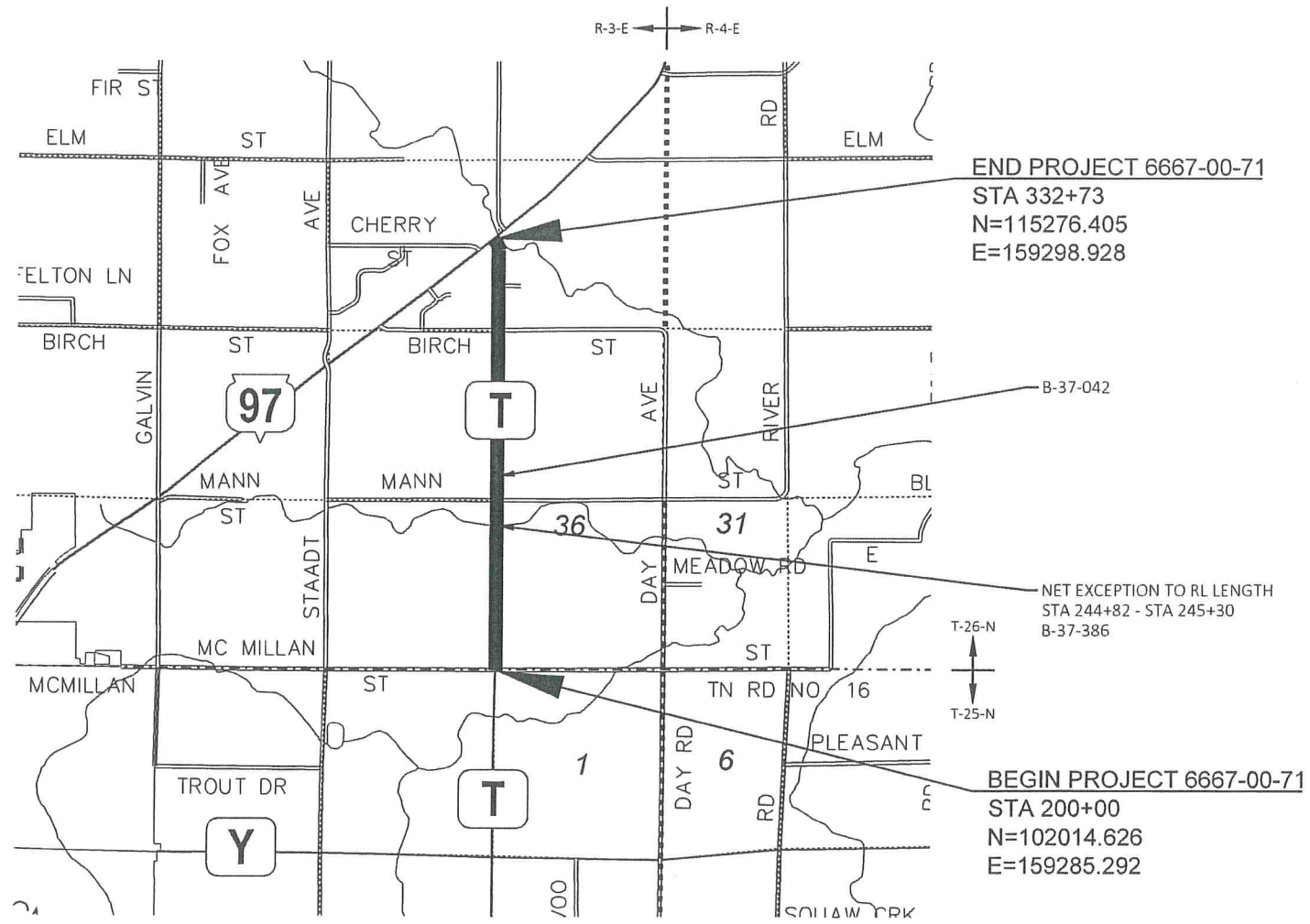
PLAN OF PROPOSED IMPROVEMENT

HEWITT - STH 97

SOUTH COUNTY LINE TO STH 97

CTH T
MARATHON COUNTY

STATE PROJECT NUMBER
6667-00-71



LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 2.505 MI

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

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6667-00-71	WISC 2024070	1

ACCEPTED FOR
MARATHON COUNTY

Date: 7/24/23
James A. Kunkel
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY
QUEST
Civil Engineers, LLC

ADAM J. OSYPOWSKI
E-38889
STEVENS POINT, WIS.
PROFESSIONAL ENGINEER

(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	QUEST CIVIL ENGINEERS
Designer	QUEST CIVIL ENGINEERS
Project Manager	MIKE GRAGE
Regional Examiner	MARATHON COUNTY
Regional Supervisor	DAN ERVA

APPROVED FOR THE DEPARTMENT

DATE: 7/24/2023
Michael J. ...
(Signature)

E

GENERAL NOTES

2

THE ALIGNMENT IN THIS PLAN IS BASED ON FIELD SURVEY SHOTS TAKEN ON THE EXISTING CENTERLINE.

PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF ALL LANDMARKS, BENCHMARKS, AND OTHER CONTROL POINTS IN ALL AREAS WHERE SUCH LANDMARKS, BENCHMARKS, OR OTHER CONTROL POINTS MAY EXIST.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. SURVEY MARKERS SHALL NOT BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

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

ALL WASTE MATERIAL RESULTING FROM THE VARIOUS CONSTRUCTION OPERATIONS SHALL BE ENTIRELY REMOVED AND PROPERLY DISPOSED OF IMMEDIATELY OR AS DIRECTED BY THE ENGINEER.

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

EROSION CONTROL ITEMS ARE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

HMA PAVEMENT AND ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 115 LB/SY/IN.

TACK COAT QUANTITIES WERE CALCULATED USING A TACK COAT APPLICATION RATE OF 0.065 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.

RUNOFF COEFFICIENT TABLE

HYDROLOGIC SOIL GROUP												
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70-.95											
CONCRETE	.80-.95											
BRICK	.70-.80											
DRIVES, WALKS	.75-.85											
ROOFS	.75-.85											
GRAVEL ROADS, SHOULDERS	.40-.60											

TOTAL PROJECT AREA = 9.15 ac

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES= 0.05 ac

MUNICIPAL CONTACTS

MARATHON COUNTY HIGHWAY DEPARTMENT
 JAMES GRIESBACH – HIGHWAY COMMISSIONER
 1430 WEST STREET
 WAUSAU, WI, 54401
 TELEPHONE: 715-261-1800
 james.griesbach@co.marathon.wi.us

DNR CONTACTS

WISCONSIN DEPARTMENT OF
 NATURAL RESOURCES

CASEY JONES
 625 COUNTY ROAD Y STE 700
 OSHKOSH, WI 54901
 TELEPHONE: 715.213.6571
 casey.jones@wisconsin.gov

UTILITY CONTACTS

ALLIANT ENERGY – ELECTRIC
 TRUDI BAKKEN
 2710 JEFFERSON ST, WI RAPIDS, WI, 54495
 715-460-4121 (MOBILE) / 715-424-7048 (OFFICE)
 TRUDI.BAKKEN@ALLIANTENERGY.COM

FRONTIER COMMUNICATIONS OF WI LLC– COMMUNICATIONS
 JEREMY ZEHM
 715-243-9243 (MOBILE)
 JEREMY.ZEHM@FTR.COM

MARSHFIELD UTILITIES – ELECTRIC
 CODY KOLPAK
 2000 S. CENTRAL AVE, MARSHFIELD, WI, 54449
 715-219-2262 (MOBILE) / 715-898-2143 (OFFICE)
 CODY.KOLPAK@MARSHFIELDUTILITIES.ORG

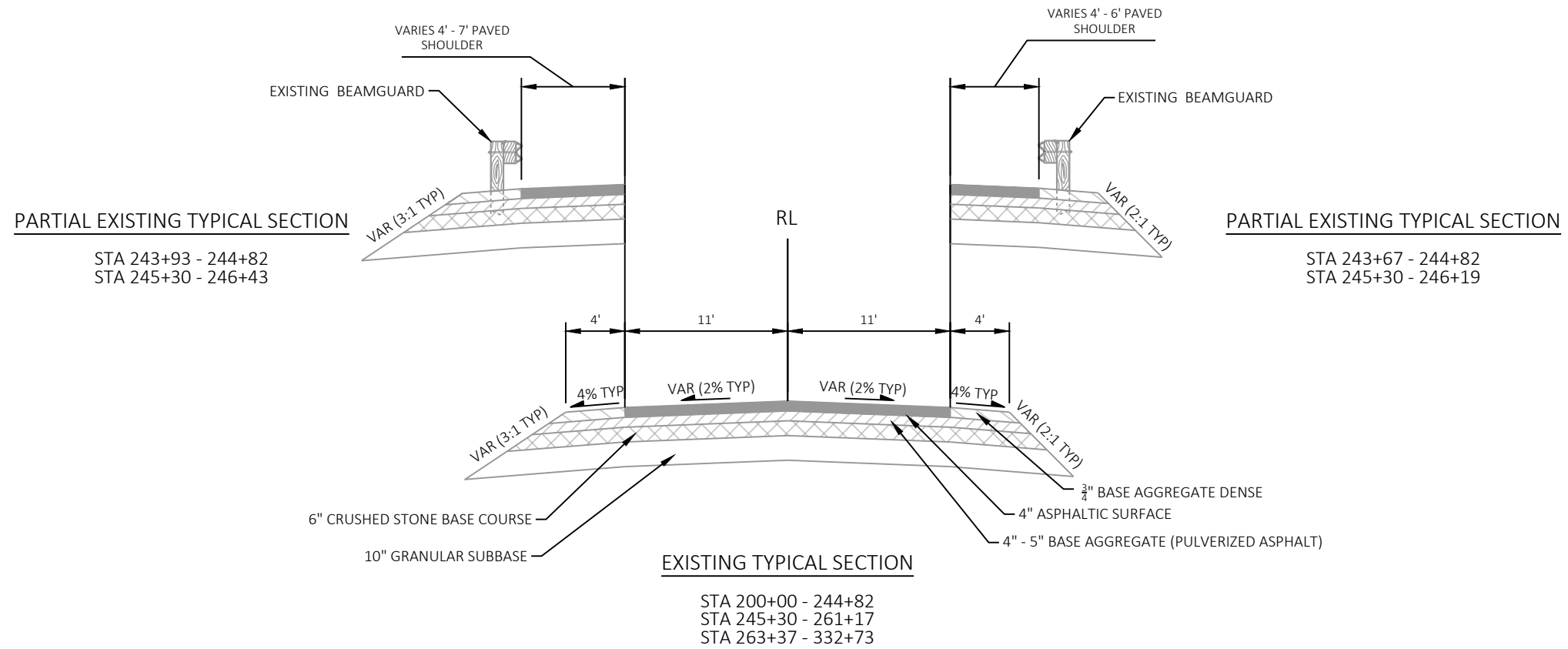
WE ENERGIES – GAS/PETROLEUM
 TRAVIS KAHL
 1921 8th ST SOUTH, WI RAPIDS, WI, 54495
 715-498-6180 (MOBILE) / 715-421-7256 (OFFICE)
 TRAVIS.KAHL@WE-ENERGIES.COM

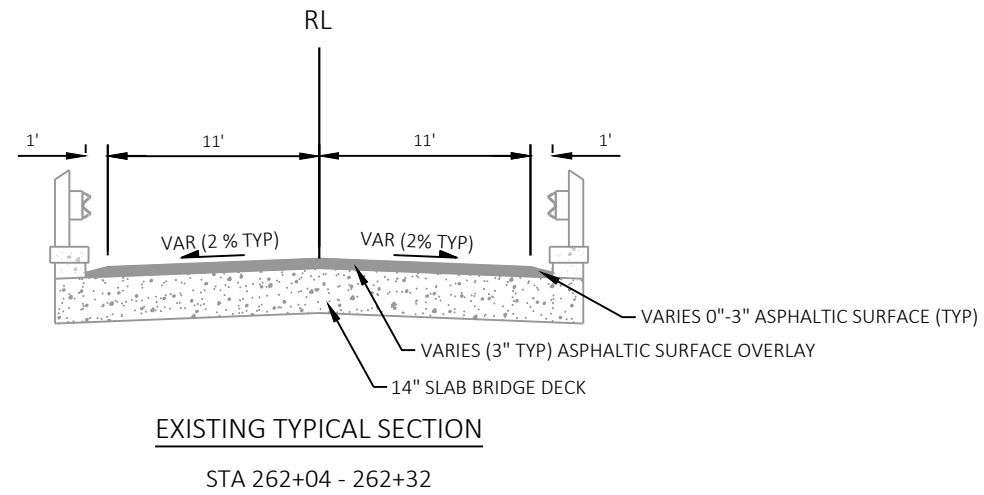
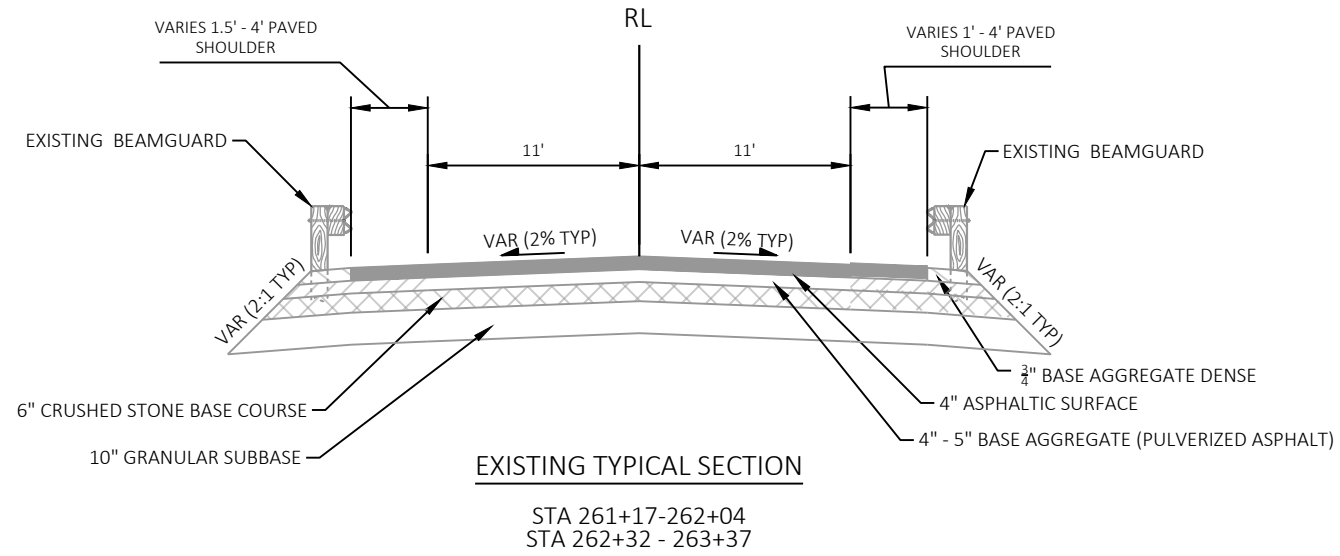


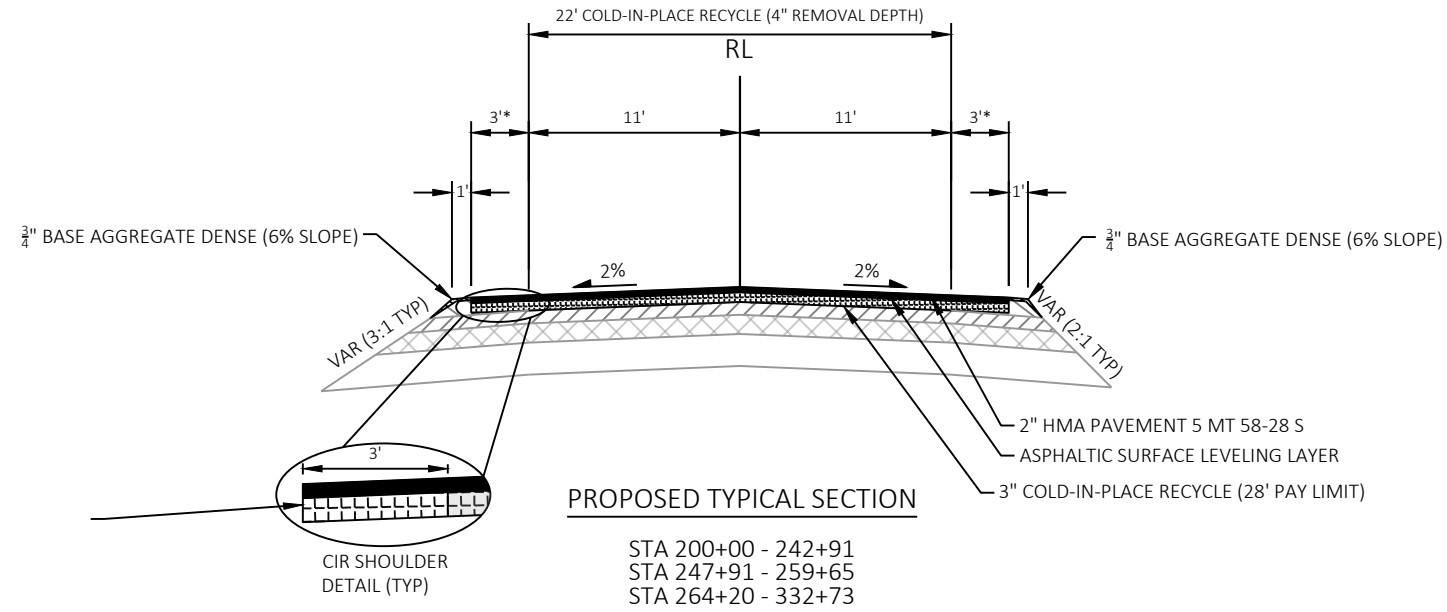
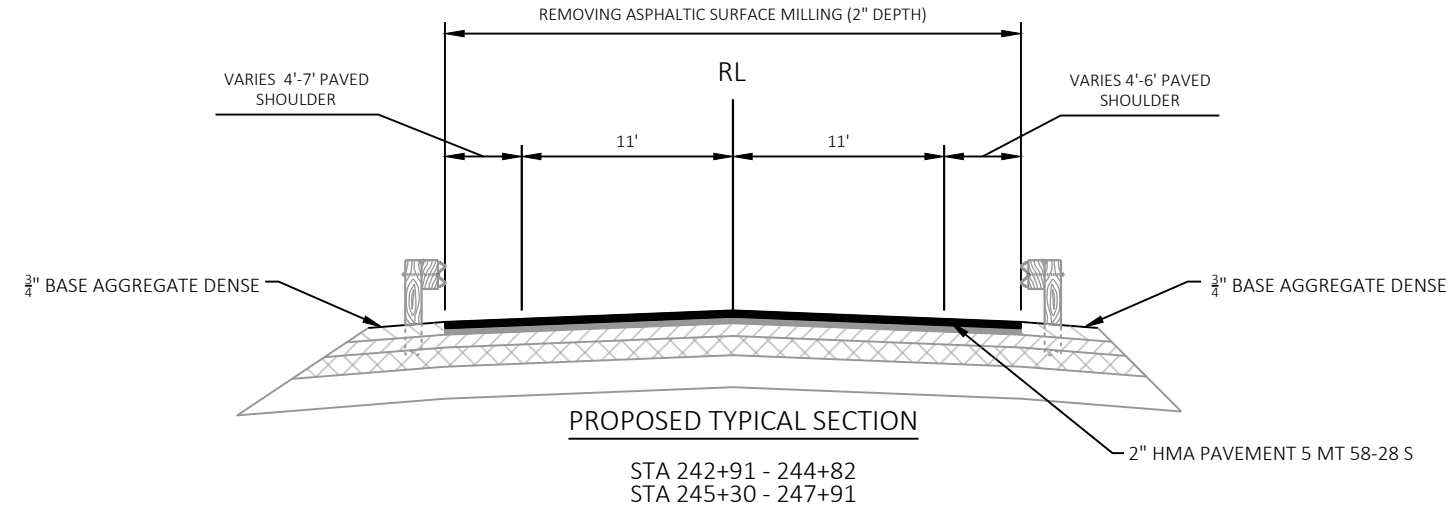
2



PROJECT NO: 6667-00-71	HWY: CTH T	COUNTY: MARATHON	PROJECT OVERVIEW	SHEET	E
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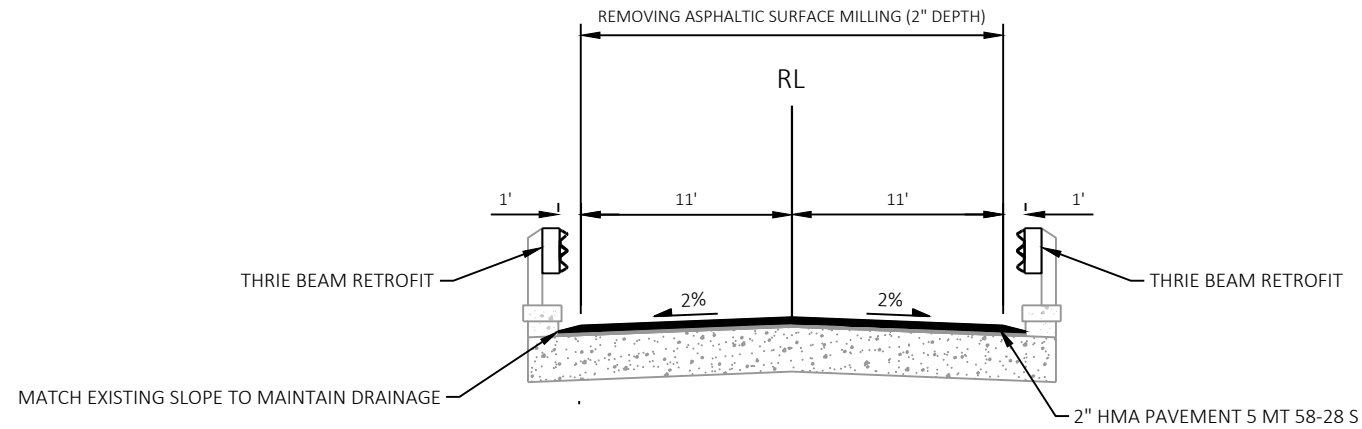


*SEE CONSTRUCTION DETAILS FOR INTERSECTIONS

REMOVE EXISTING SHOULDER GRAVEL AT 4" DEEP ALONG EXISTING PAVEMENT EDGE AND DISPOSE OF MATERIAL.
 GRADE AND COMPACT EXISTING GRAVEL PRIOR TO CIR OPERATIONS. (PAID UNDER ITEM: PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS).

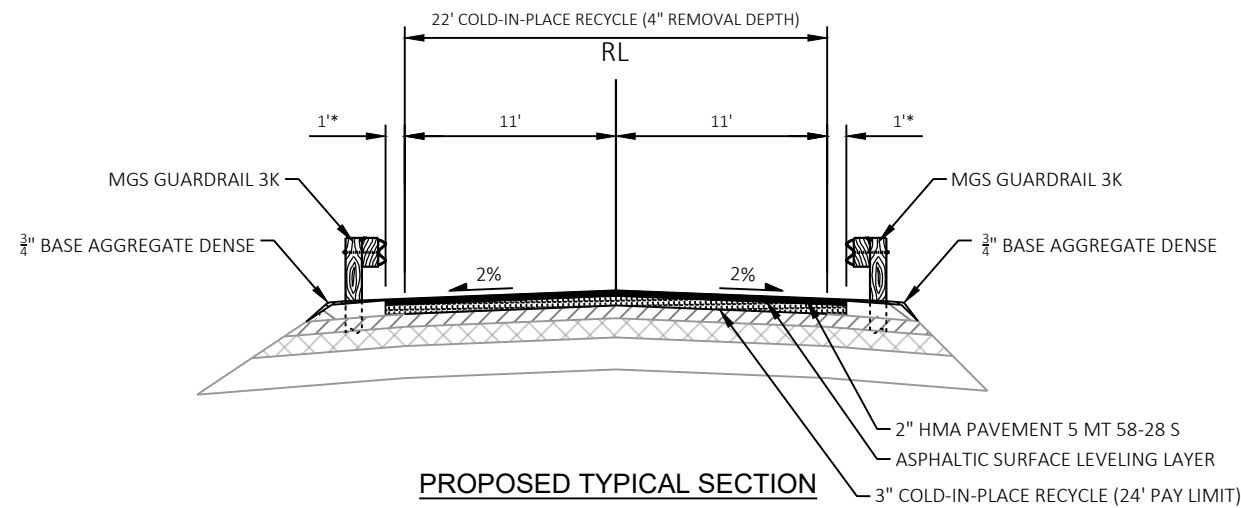
REMOVE EXISTING ASPHALT FULL DEPTH (4" TYP) DEEP THROUGH INTERSECTIONS PRIOR TO CIR OPERATIONS. (PAID UNDER ITEM: REMOVING ASPHALTIC SURFACE).

SPREAD CIR MATERIAL AT 28' PAY LIMIT.



PROPOSED TYPICAL SECTION

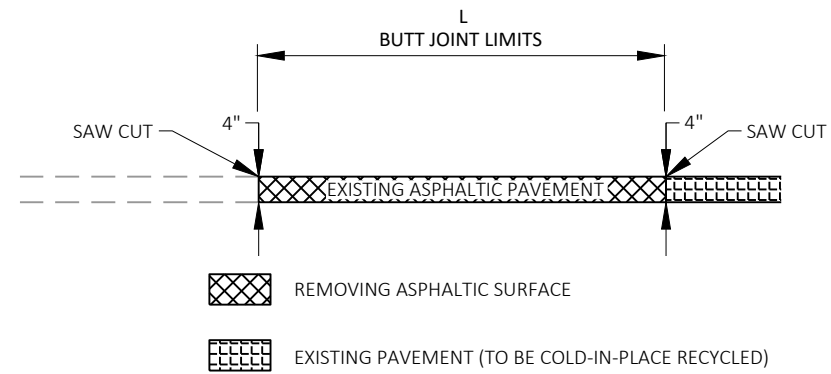
STA 262+04 - 262+32



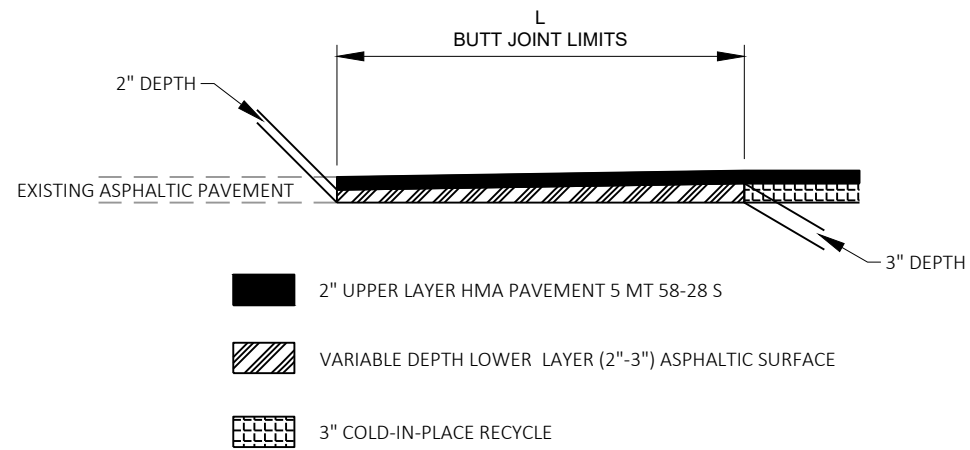
PROPOSED TYPICAL SECTION

STA 259+65 - 262+04
STA 262+32 - 264+20

REMOVE EXISTING SHOULDER GRAVEL AT 4" DEEP ALONG EXISTING PAVEMENT EDGE AND DISPOSE OF MATERIAL.
GRADE AND COMPACT EXISTING GRAVEL PRIOR TO CIR OPERATIONS. (PAID UNDER ITEM: PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS).
SPREAD CIR MATERIAL AT 24' PAY LIMIT.



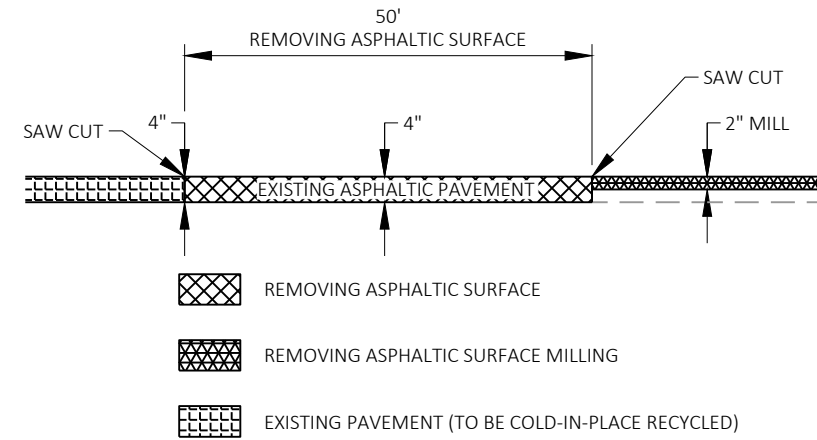
REMOVALS



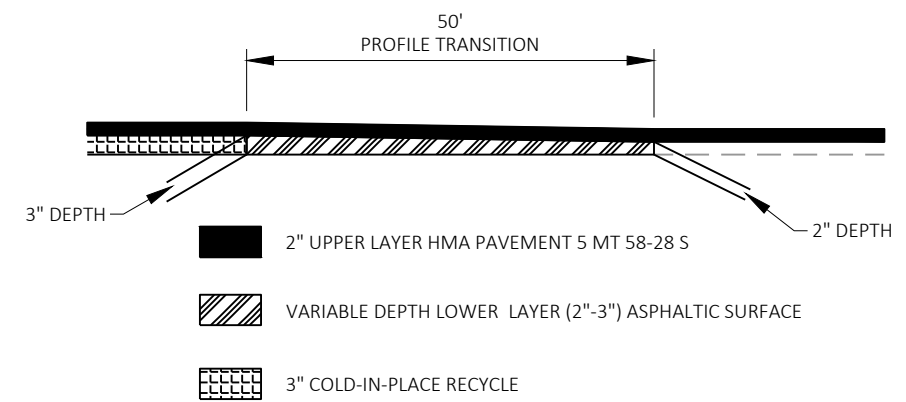
PAVING

MAINLINE BUTT JOINT DETAIL

STA 200+00 - 200+25, L = 25'
STA 332+23 - 332+73, L = 50' (DETAIL REVERSED)



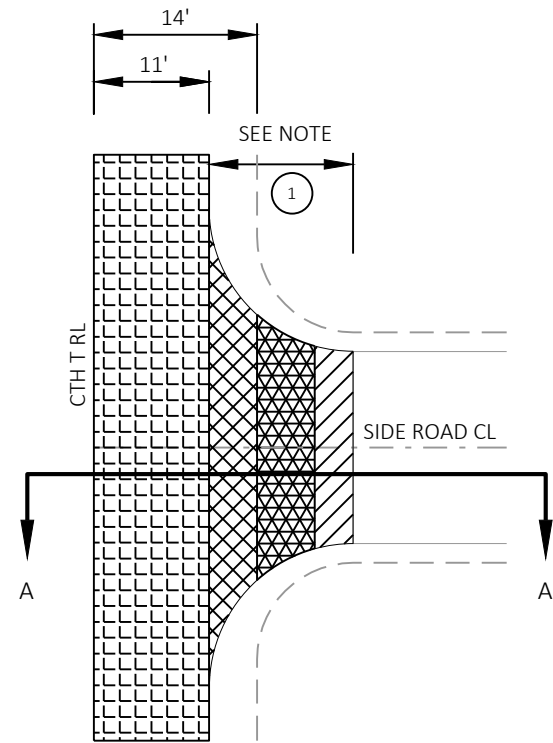
REMOVALS



PAVING

MAINLINE PROFILE TRANSITION DETAIL

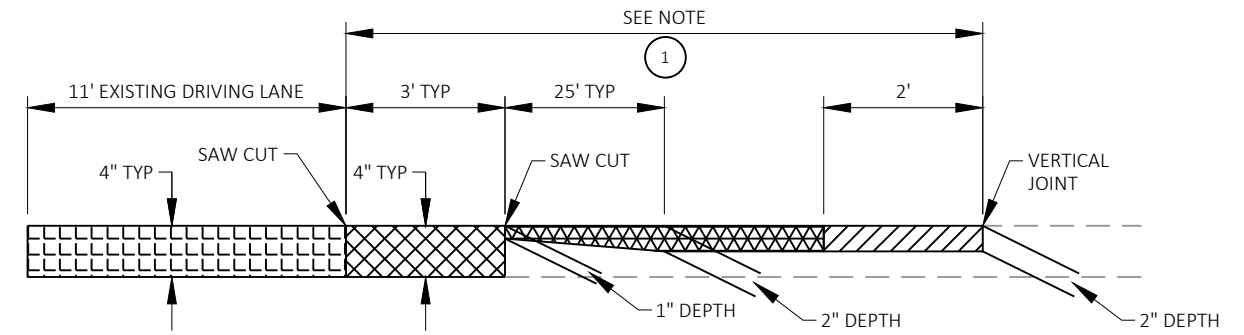
STA 242+91 - STA 243+41
STA 247+41 - 247+91 (REVERSED)
STA 261+54 - 262+04
STA 262+32 - STA 262+82 (REVERSED)



PAVED SIDE ROAD - REMOVAL DETAIL

LEGEND:

- EXISTING PAVEMENT (TO BE COLD-IN-PLACE RECYCLED)
- REMOVING ASPHALTIC SURFACE (FULL DEPTH) (PRIOR TO CIR OPERATIONS)
- REMOVING ASPHALTIC SURFACE MILLING (DEPTH VARIES FROM 1" - 2" AS DIRECTED BY THE ENGINEER)
- REMOVING ASPHALTIC SURFACE BUTT JOINTS



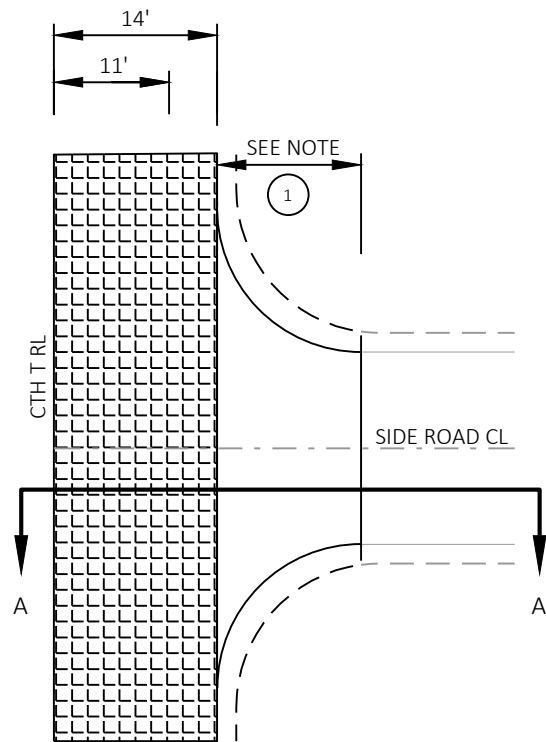
SECTION A-A
PAVED SIDE ROAD - BUTT JOINT DETAIL

NOTES:

① LENGTH TO FURTHEST RADIUS OR AS DIRECTED BY THE ENGINEER.

LOCATIONS:

MCMILLAN ST
BIRCH TREE RD
GILEAD CT

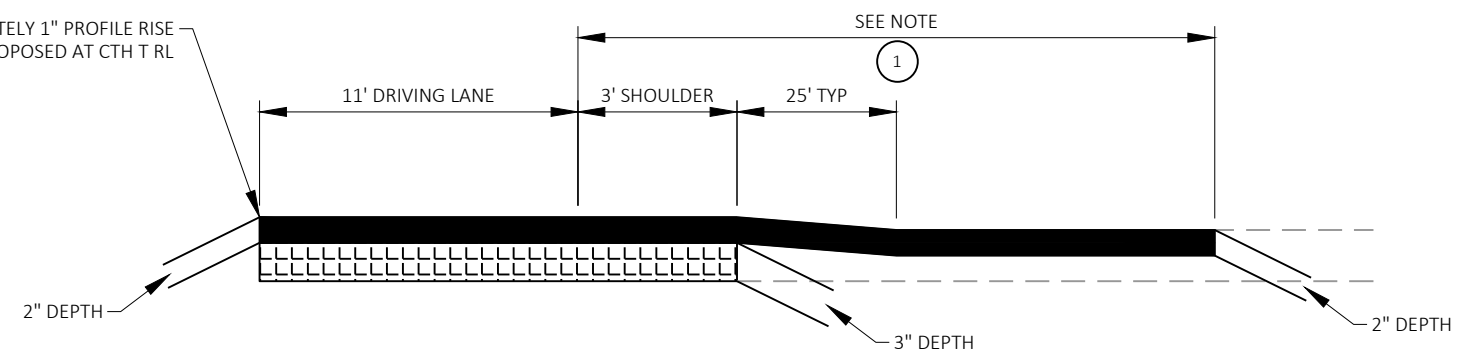


PAVED SIDE ROAD - PAVING DETAIL

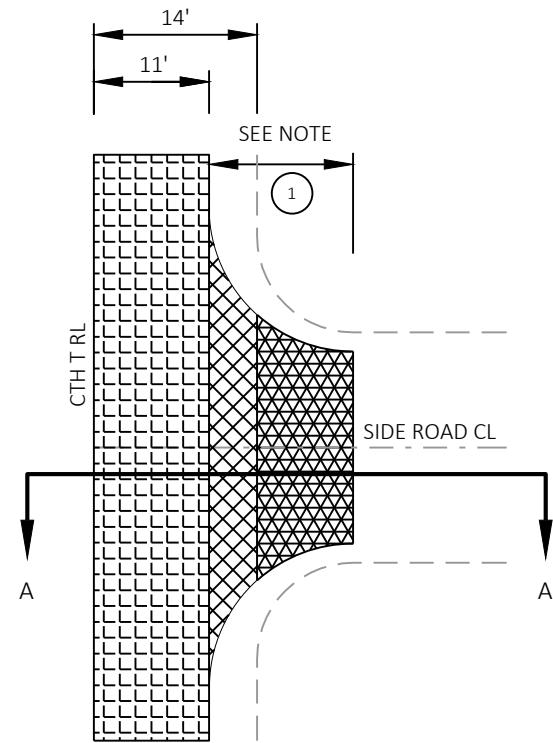
LEGEND:

- 3" COLD-IN-PLACE RECYCLED
- 2" HMA PAVEMENT 5 MT 58-28 S

APPROXIMATELY 1" PROFILE RISE FROM EXISTING TO PROPOSED AT CTH T RL



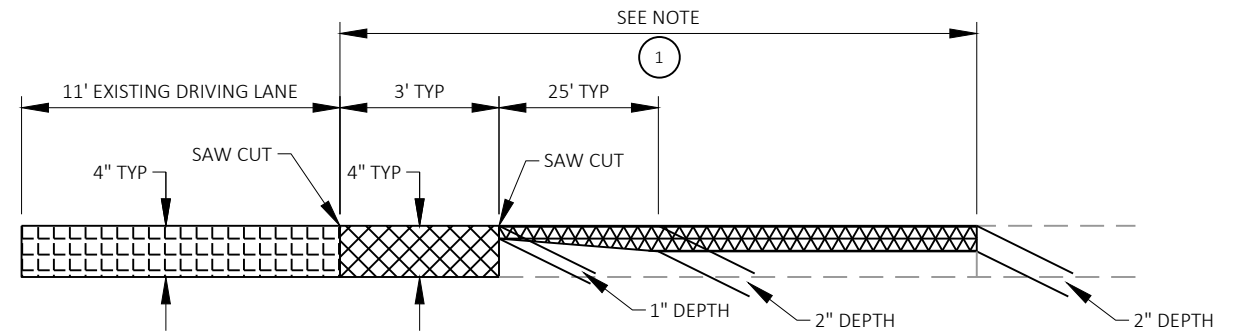
SECTION A-A
PAVED SIDE ROAD - PAVING DETAIL



LEGEND:

- EXISTING PAVEMENT (TO BE COLD-IN-PLACE RECYCLED)
- REMOVING ASPHALTIC SURFACE (FULL DEPTH) (PRIOR TO CIR OPERATIONS)
- REMOVING ASPHALTIC SURFACE MILLING (DEPTH VARIES FROM 1" - 2" AS DIRECTED BY THE ENGINEER)

UNPAVED SIDE ROAD WITH PAVED APPROACH - REMOVAL DETAIL

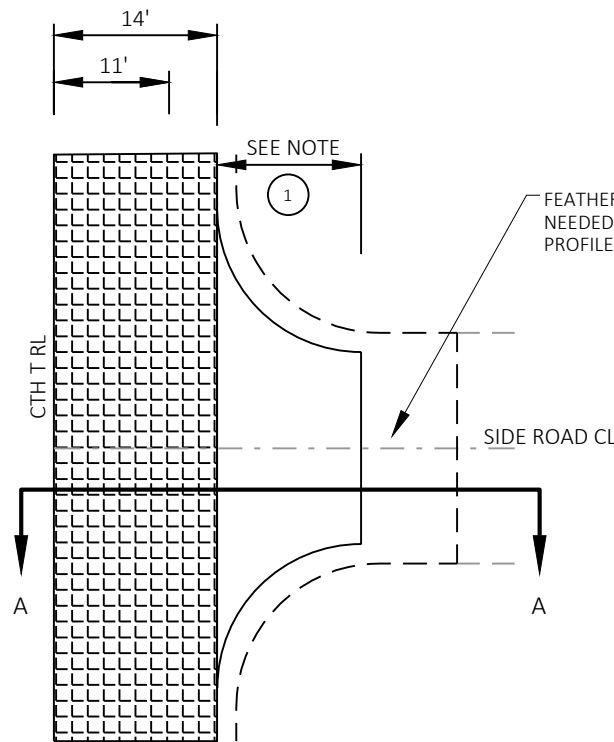


SECTION A-A
UNPAVED SIDE ROAD WITH PAVED APPROACH - REMOVAL DETAIL

NOTES:

1 EXTEND TO END OF PAVED APPROACH OR AS DIRECTED BY THE ENGINEER.

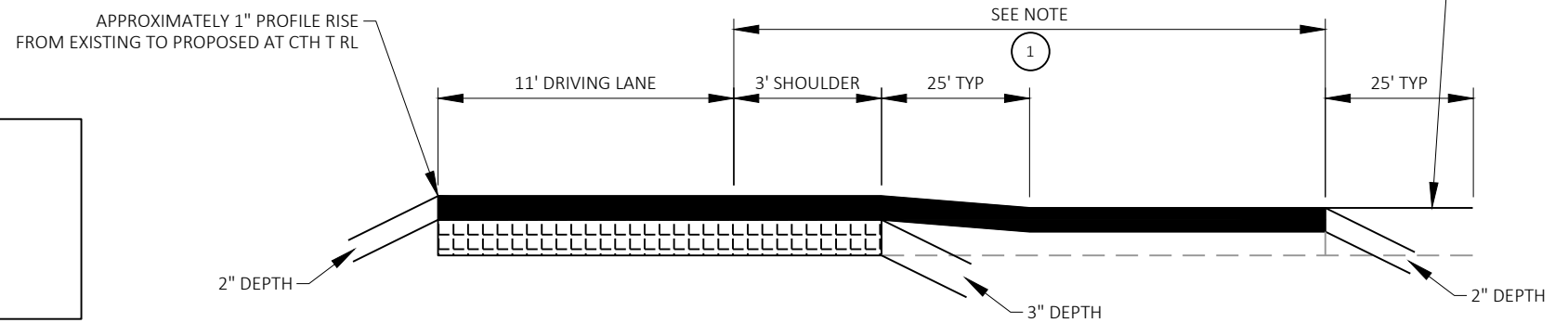
LOCATION:
MANN ST



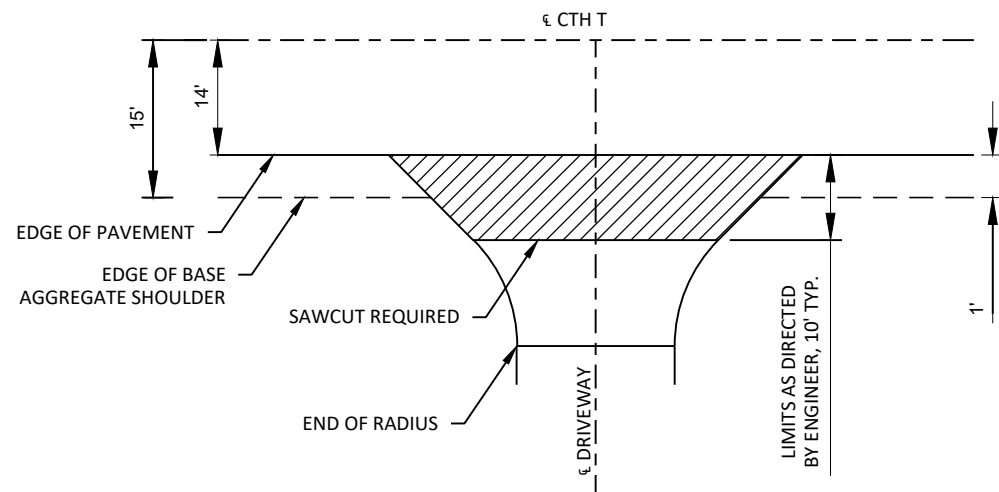
LEGEND:

- 3" COLD-IN-PLACE RECYCLED
- 2" HMA PAVEMENT 5 MT 58-28 S

UNPAVED SIDE ROAD WITH PAVED APPROACH - PAVING DETAIL



SECTION A-A
UNPAVED SIDE ROAD WITH PAVED APPROACH - PAVING DETAIL



REMOVING ASPHALTIC SURFACE (FULL DEPTH), REPLACE WITH 2" ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES.

MATCH EXISTING PAVED SURFACE WIDTH, RADII AND TAPERS.

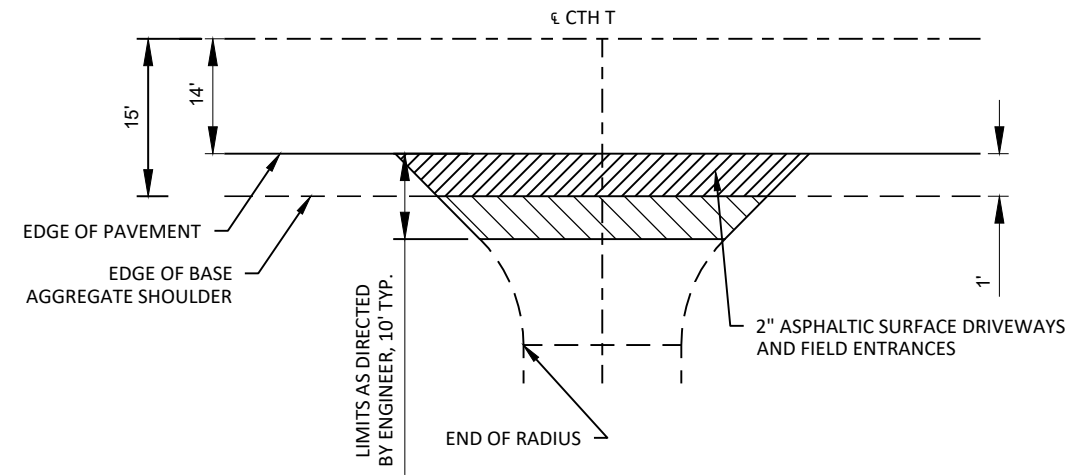
MATCH EXISTING PAVEMENT THICKNESS.

ANY ADDITIONAL BASE AGG. DENSE REQUIRED SHALL BE PAID UNDER ITEM - "BASE AGGREGATE DENSE 3/4-INCH"

SAWCUT PAID FOR UNDER ITEM "SAWING ASPHALT"

PAVED DRIVEWAY DETAIL

- 282+77
- 313+49
- 320+76
- 321+96
- 329+21

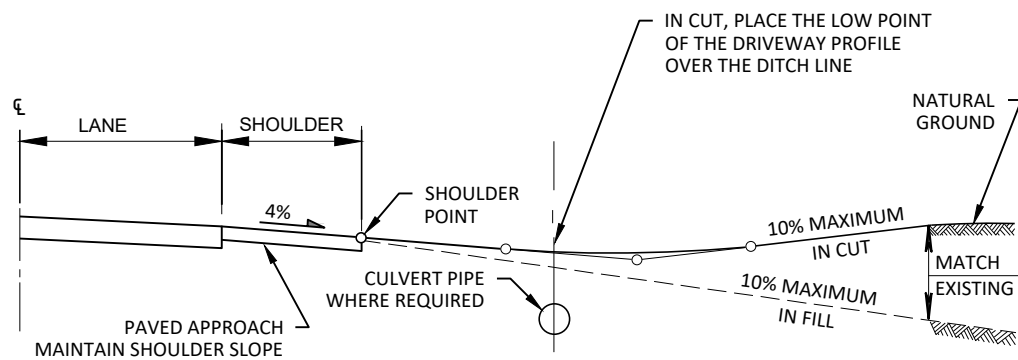


EACH ENTRANCE SHALL RECEIVE ADEQUATE 3/4-INCH BASE AGGREGATE DENSE OR DISINTEGRATED GRANITE AFTER MAINLINE PAVING AND SHAPING SHOULDERS TO BRING ENTRANCE UP TO SHOULDER PAVEMENT GRADE.

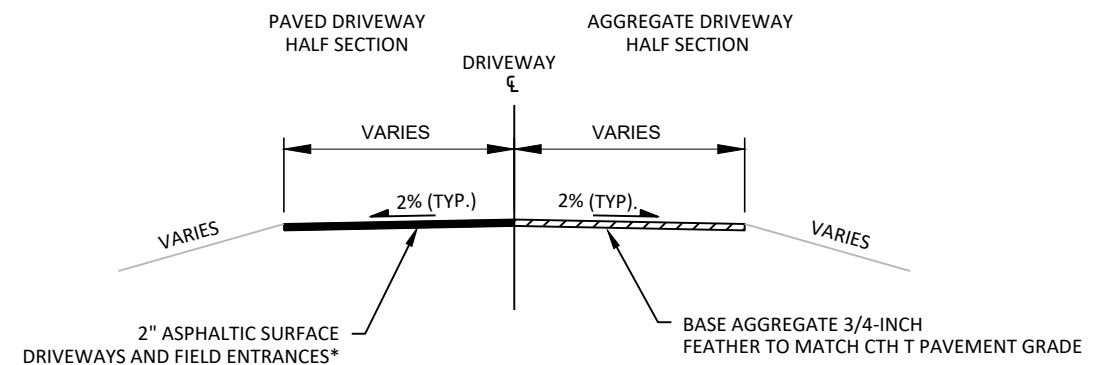
MATCH EXISTING DRIVEWAY WIDTH AND RADII.

AGGREGATE DRIVEWAY DETAIL

206+60	227+83	240+89	270+38	303+05	326+36	MCMILLIAN SE
206+65	228+13	254+27	278+57	310+38	328+70	
215+63	231+50	256+92	279+37	311+37	329+50	MANN SE
216+79	232+18	259+95	294+74	315+20	332+28	MANN NE
219+68	233+78	265+41	297+65	316+97		
223+40	234+72	265+58	300+29	323+11		
225+51	237+60	270+06	301+85	324+48		

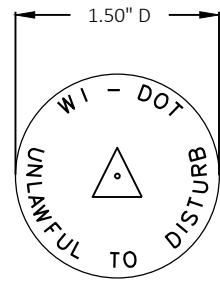


TYPICAL DRIVEWAY PROFILES

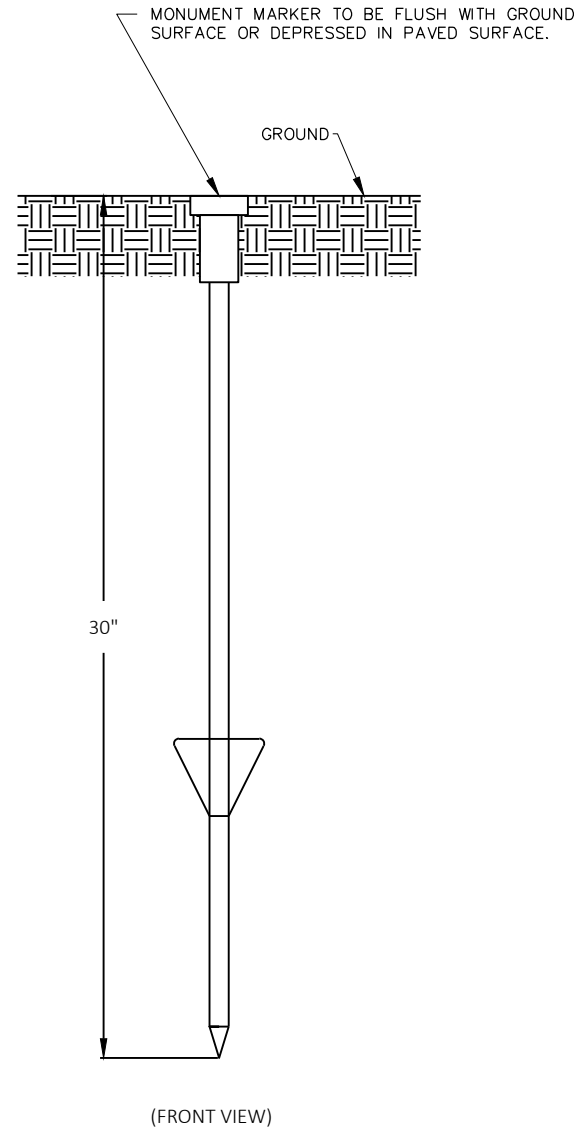


* ADJUST THICKNESS AS REQUIRED IN FIELD TO MATCH EXISTING CONDITIONS

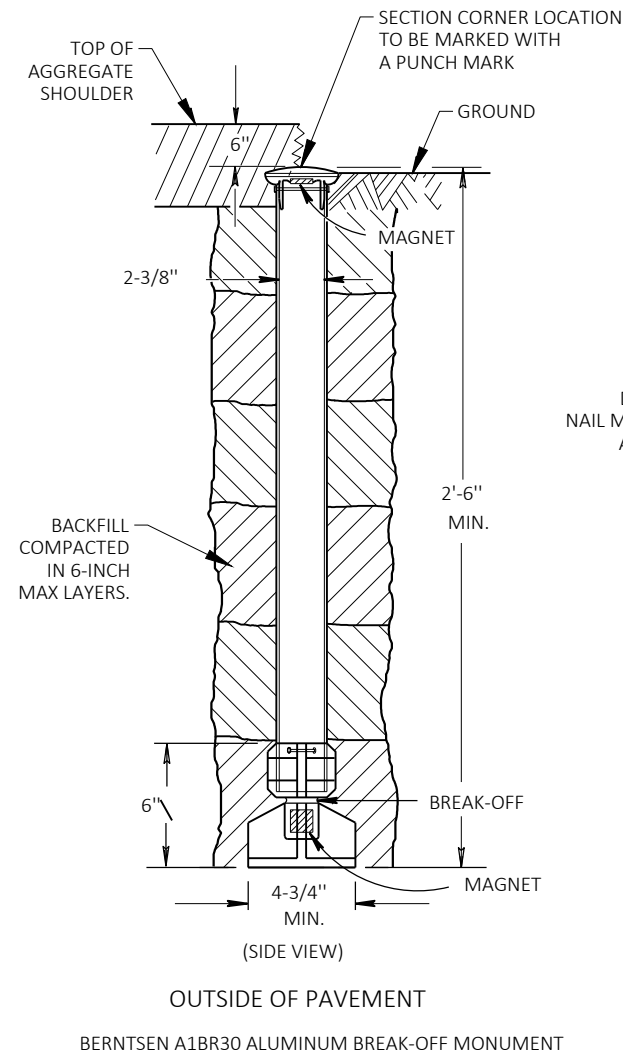
TYPICAL DRIVEWAY SECTION



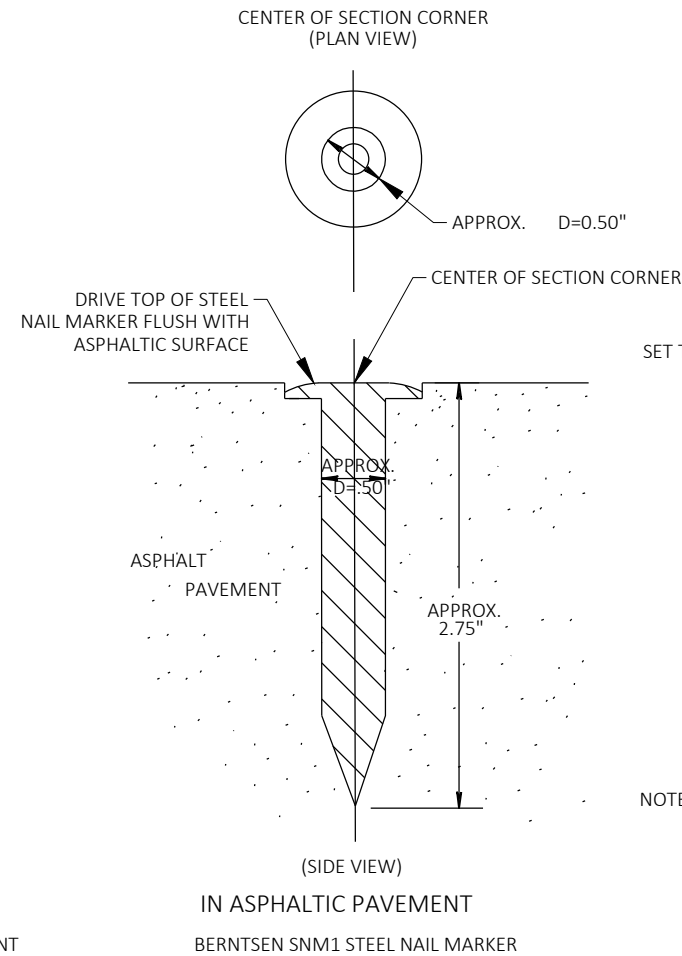
WIS DOT MONUMENT CAP MARKER LOGO (SSDR130)
 CONTRACTOR TO ORDER LANDMARK REFERENCE MONUMENTS WITH THE ABOVE STAMPING



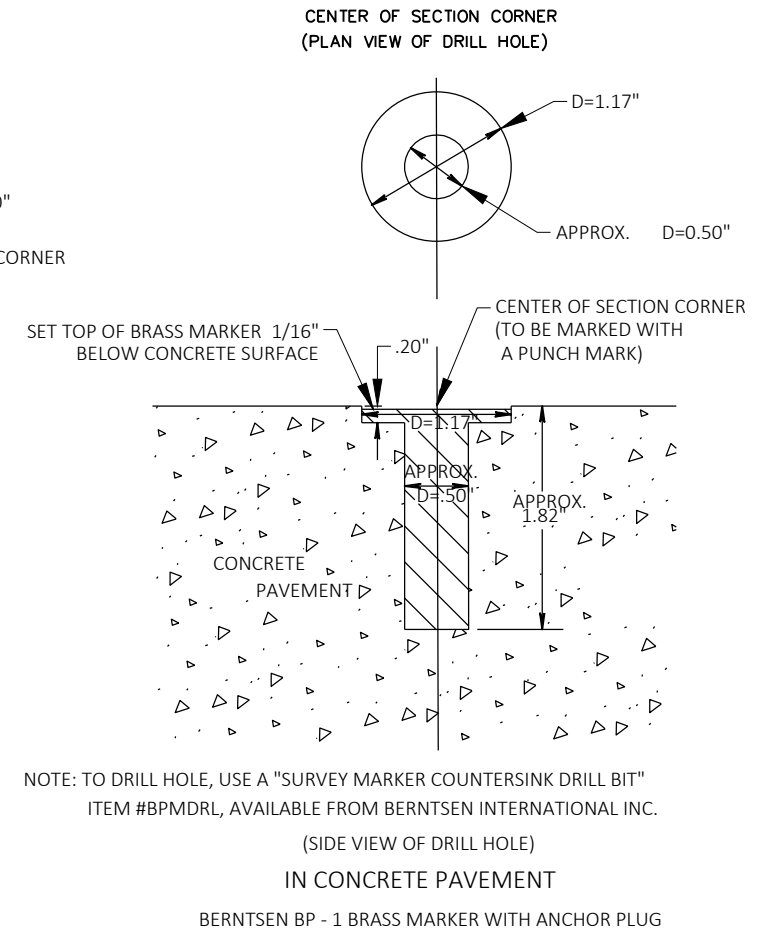
BERNSTEN DRIVABLE MONUMENT SSDR130
 LANDMARK REFERENCE MONUMENT (TIES ONLY)



OUTSIDE OF PAVEMENT
 BERNTSEN A1BR30 ALUMINUM BREAK-OFF MONUMENT



IN ASPHALTIC PAVEMENT
 BERNTSEN SNM1 STEEL NAIL MARKER



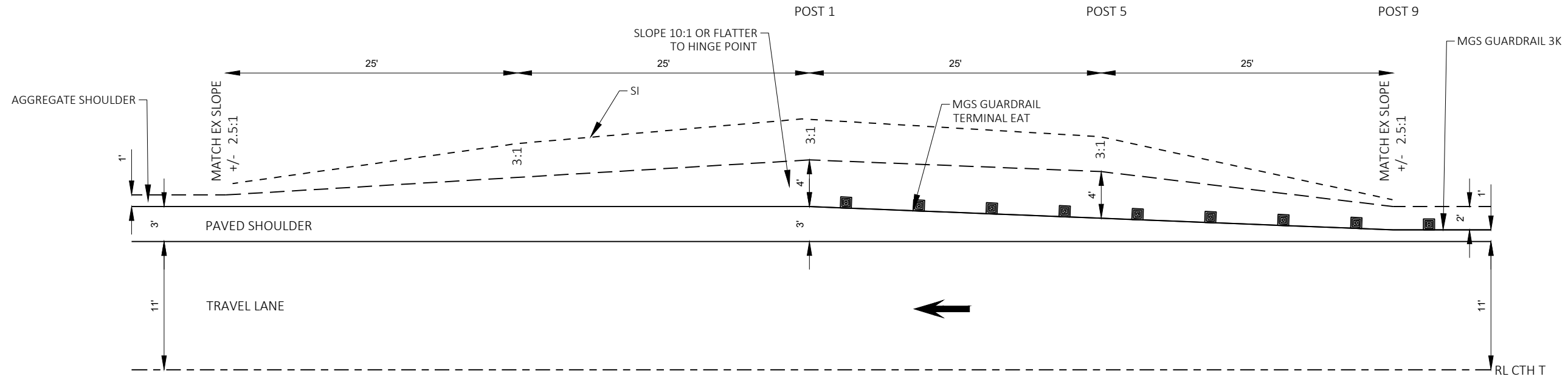
IN CONCRETE PAVEMENT
 BERNTSEN BP - 1 BRASS MARKER WITH ANCHOR PLUG

SECTION CORNER MONUMENTS

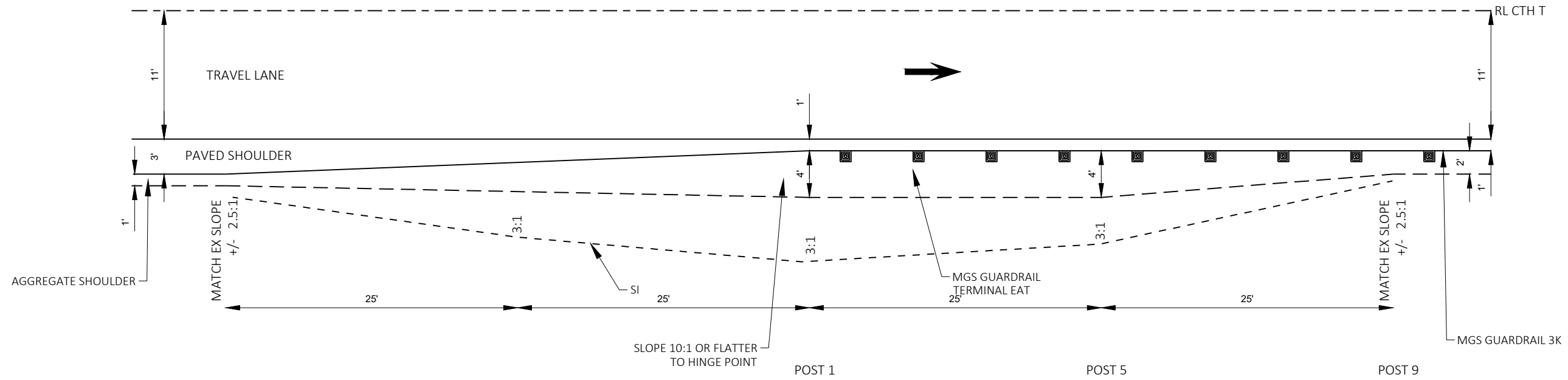
GENERAL NOTES

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.
 LOCATE LANDMARK REFERENCE MONUMENTS OUTSIDE THE CONSTRUCTION LIMITS AND WITHIN WISDOT RIGHT OF WAY. LOCATION TO BE APPROVED BY THE ENGINEER.
 CONTRACTOR WILL SUPPLY ALL REQUIRED SURVEY MONUMENTS.

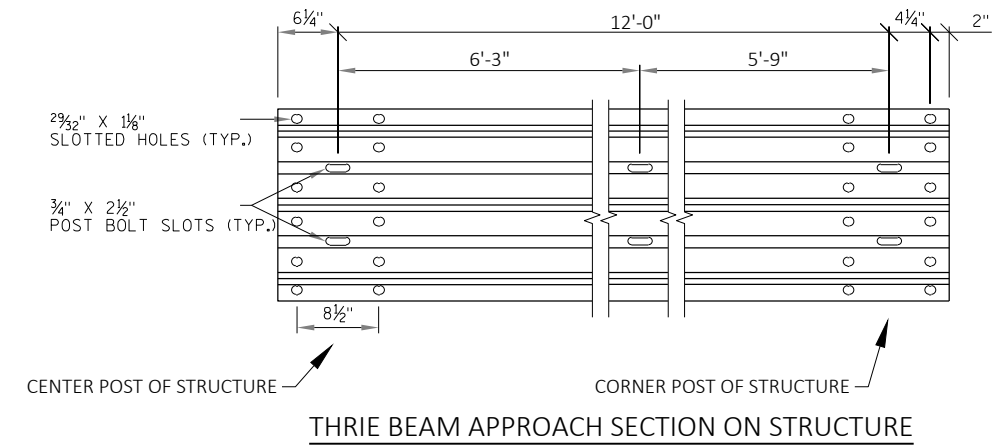
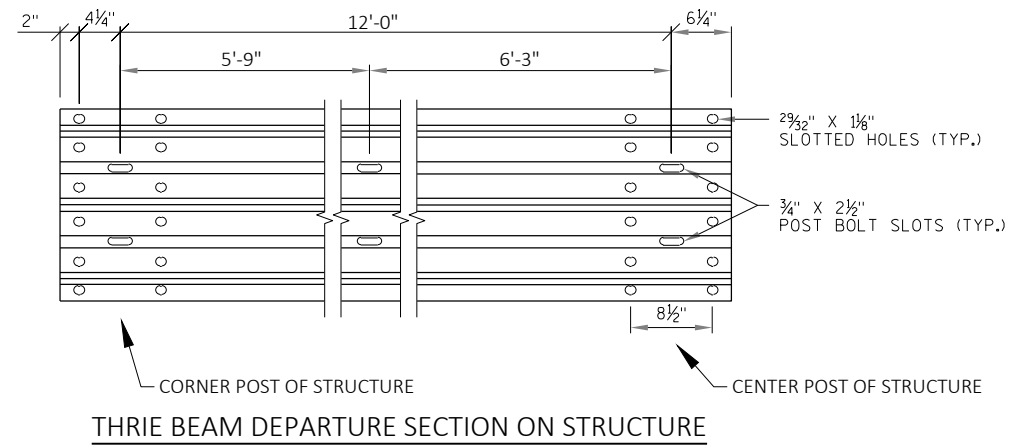
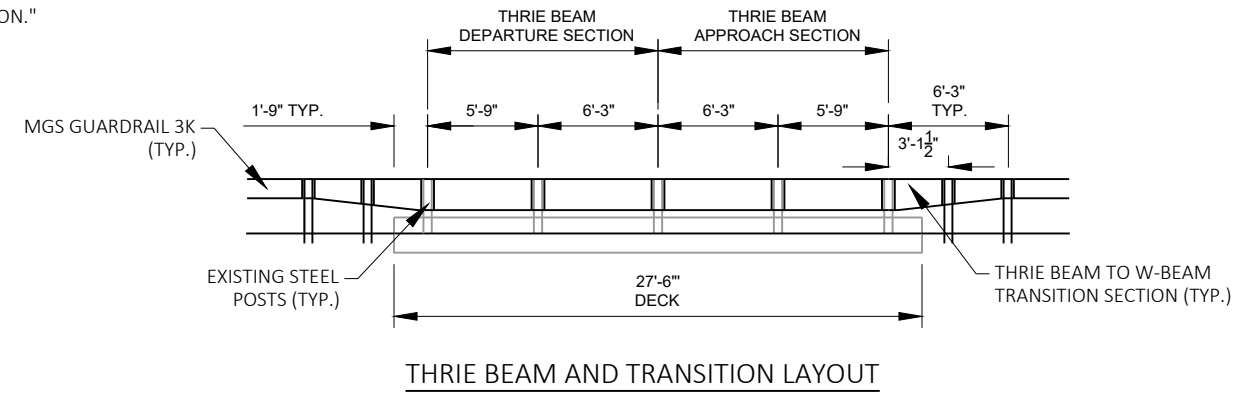
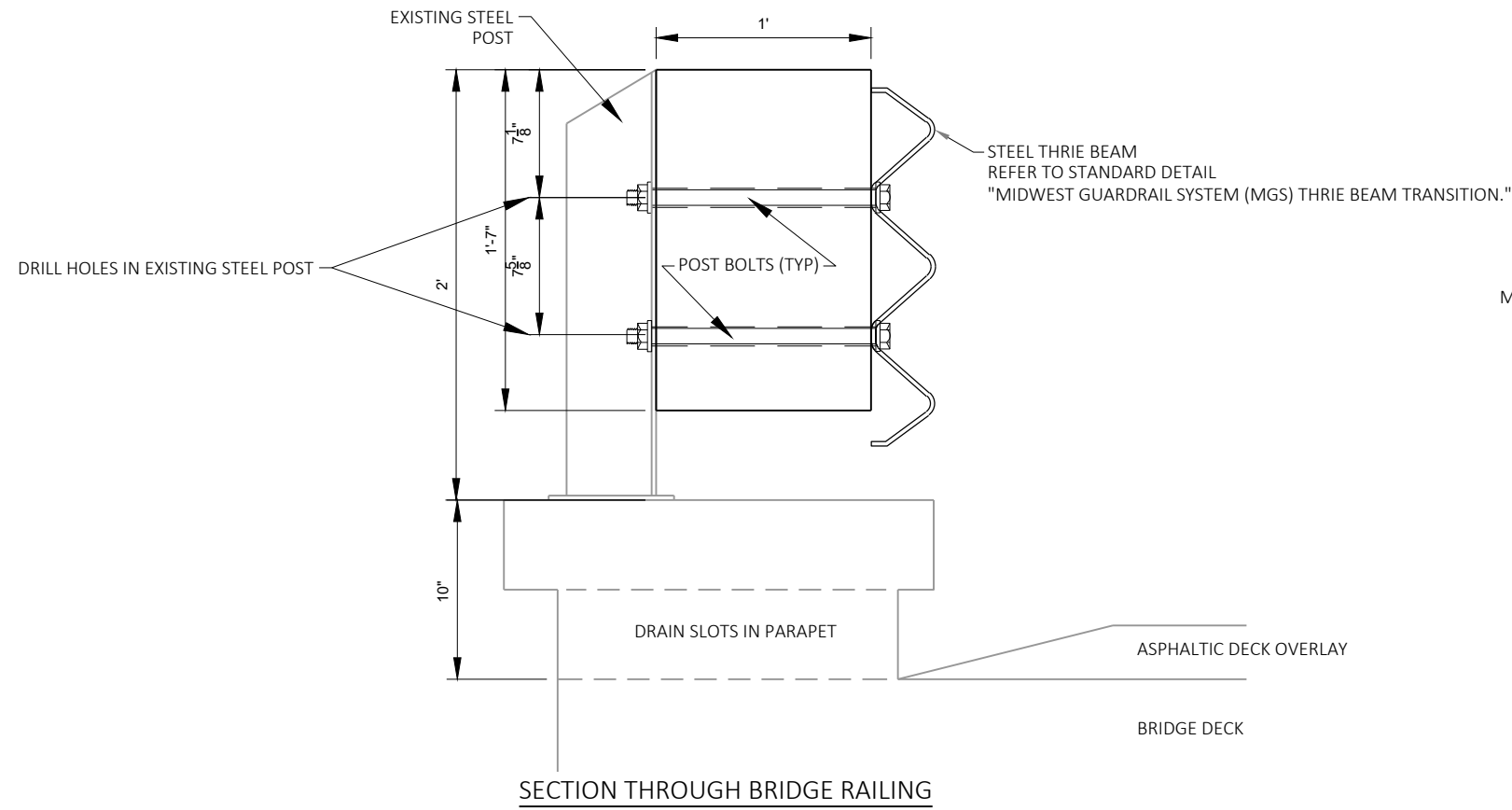
SECTION CORNER MONUMENT AND LANDMARK REFERENCE MONUMENT DETAIL



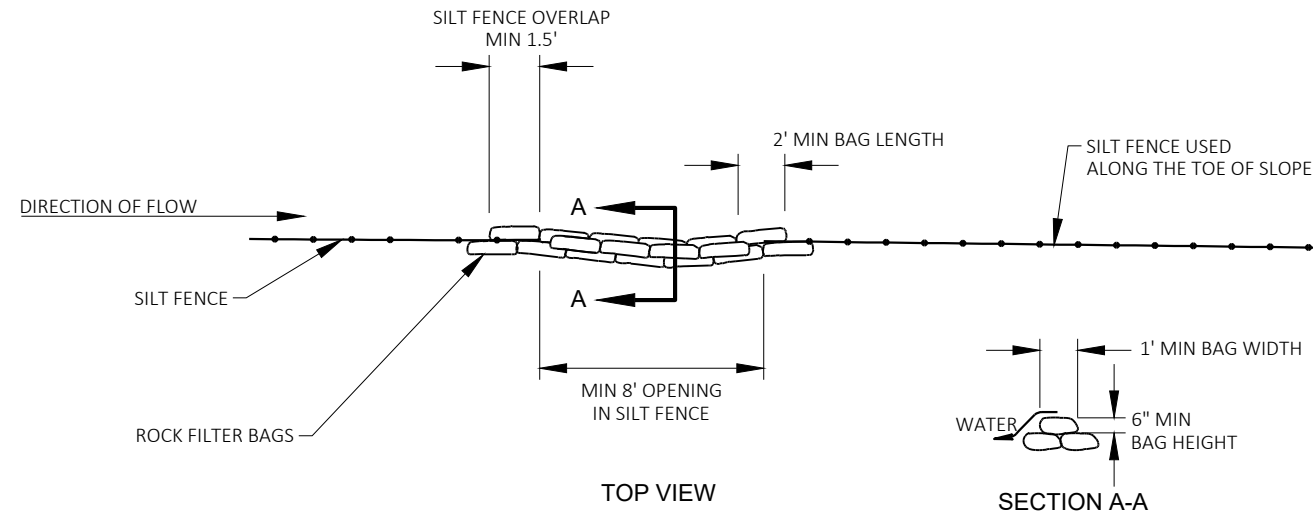
MGS GUARDRAIL TERMINAL GRADING AND PAVING AT B-37-042 (FLARED)
 SW APPROACH
 NW APPROACH (REVERSED)
 NE APPROACH



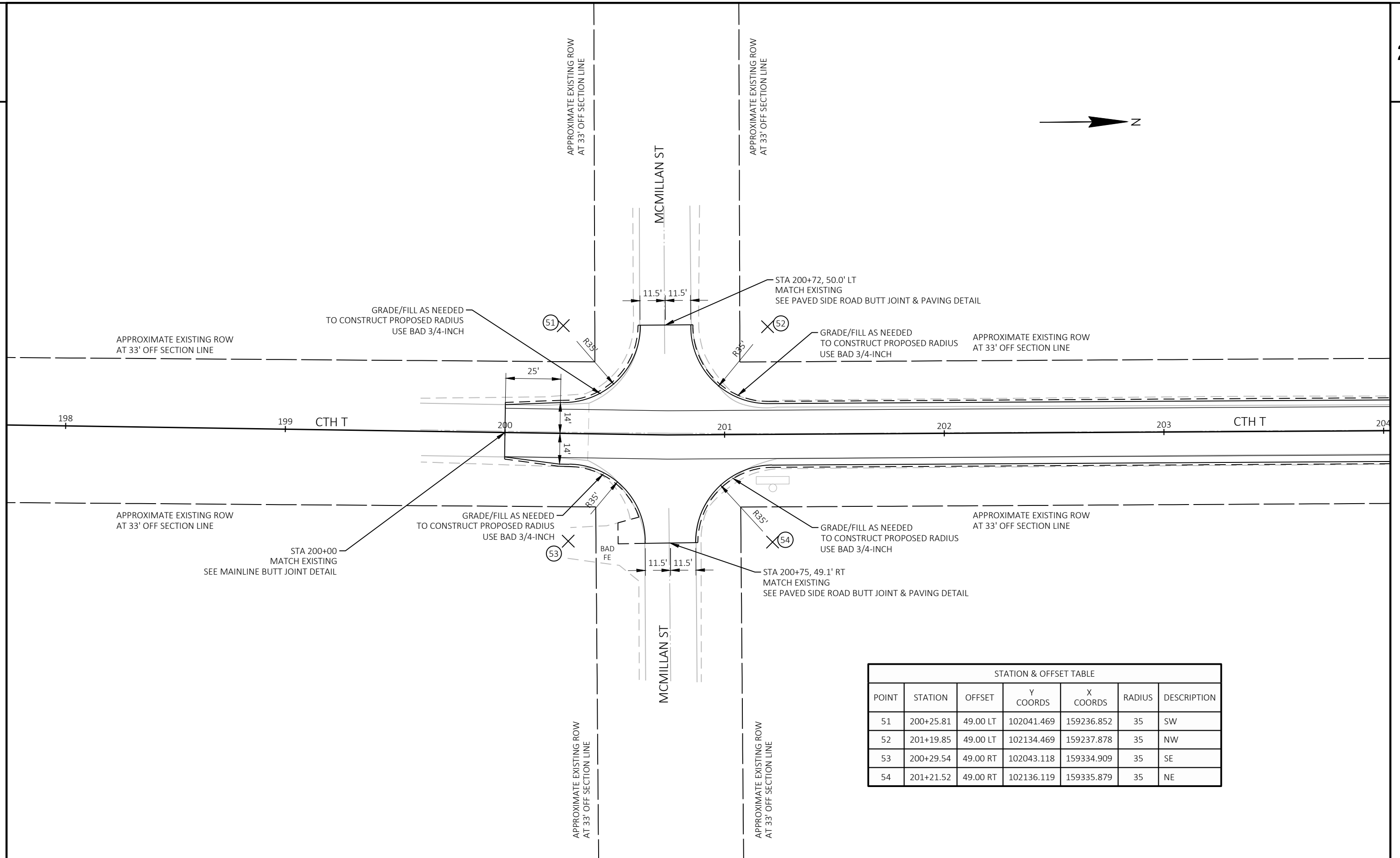
MGS GUARDRAIL TERMINAL GRADING AND PAVING AT B-37-042 (STRAIGHT)
 SE APPROACH



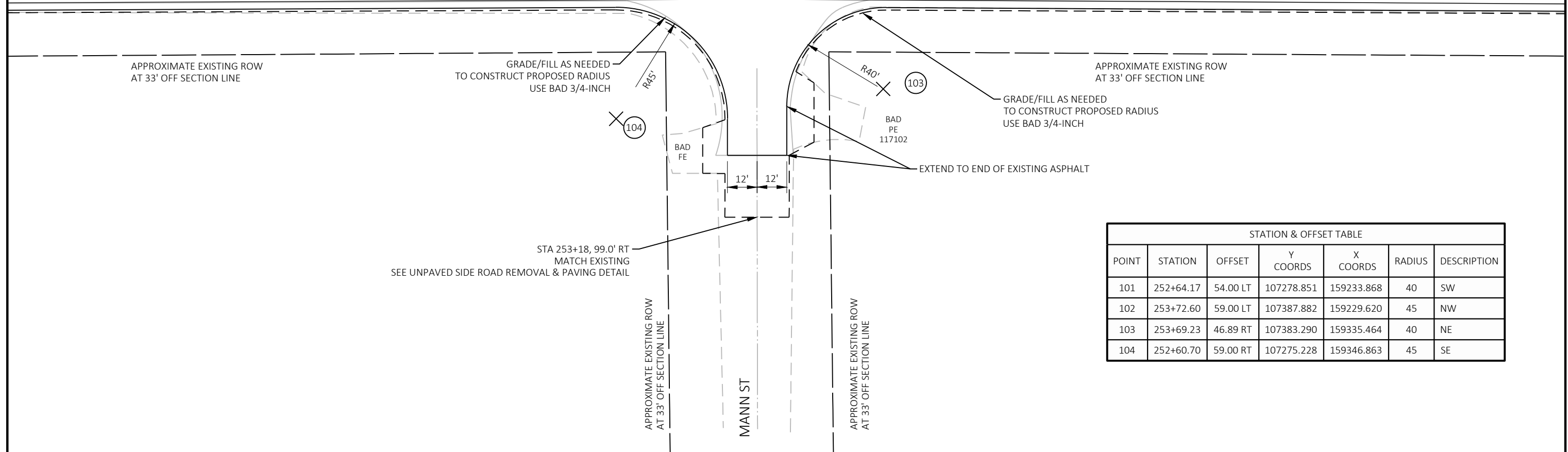
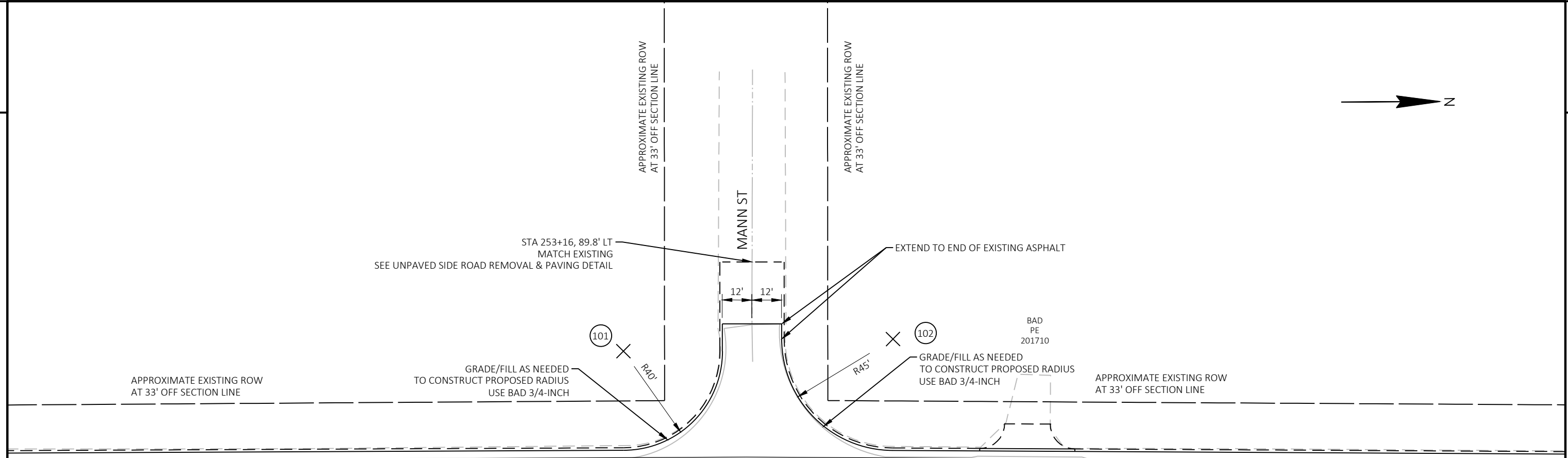
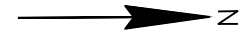
STEEL THRIE BEAM RAILING RETROFIT
B-37-042



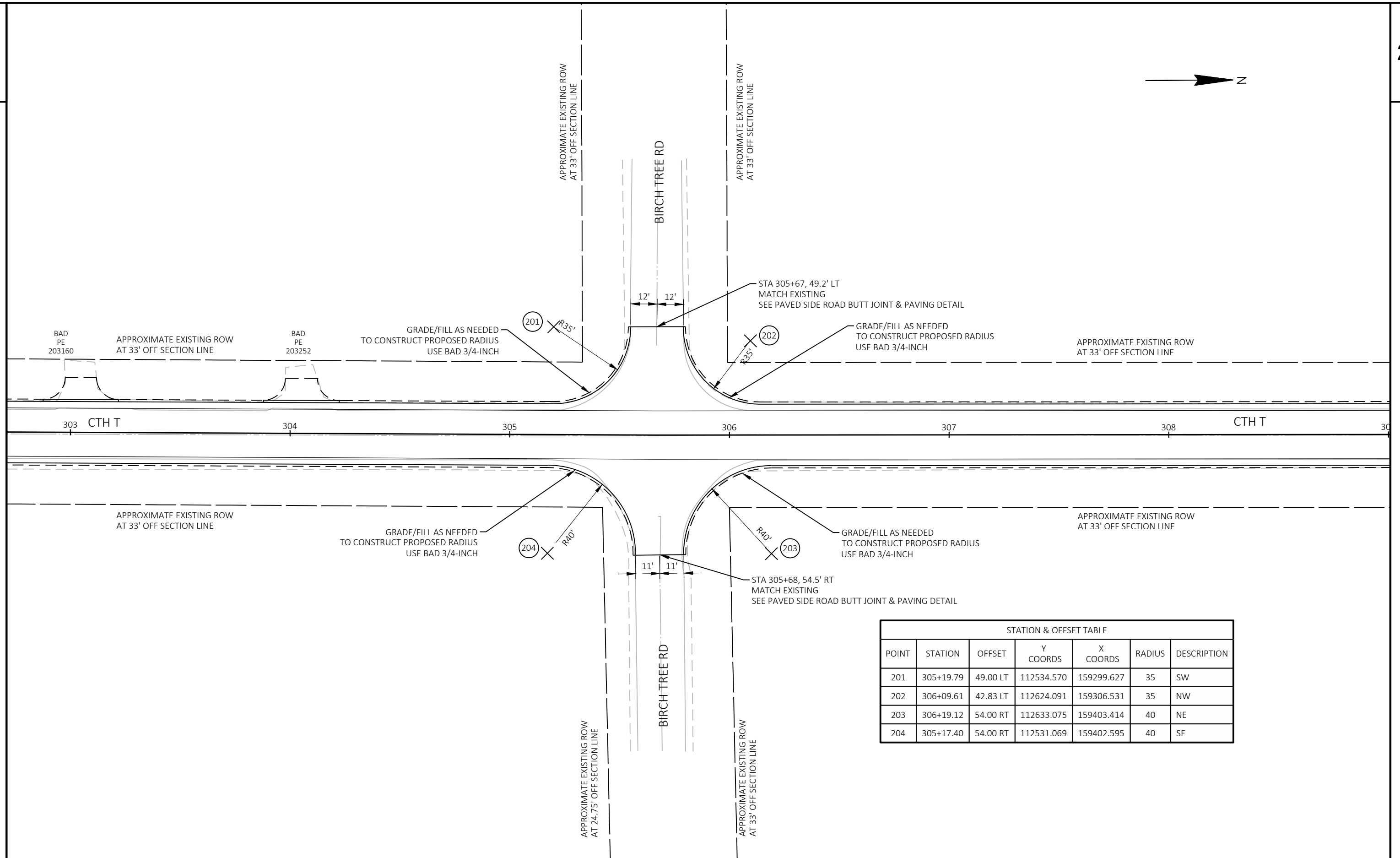
ROCK BAGS USED FOR SILT FENCE RELIEF



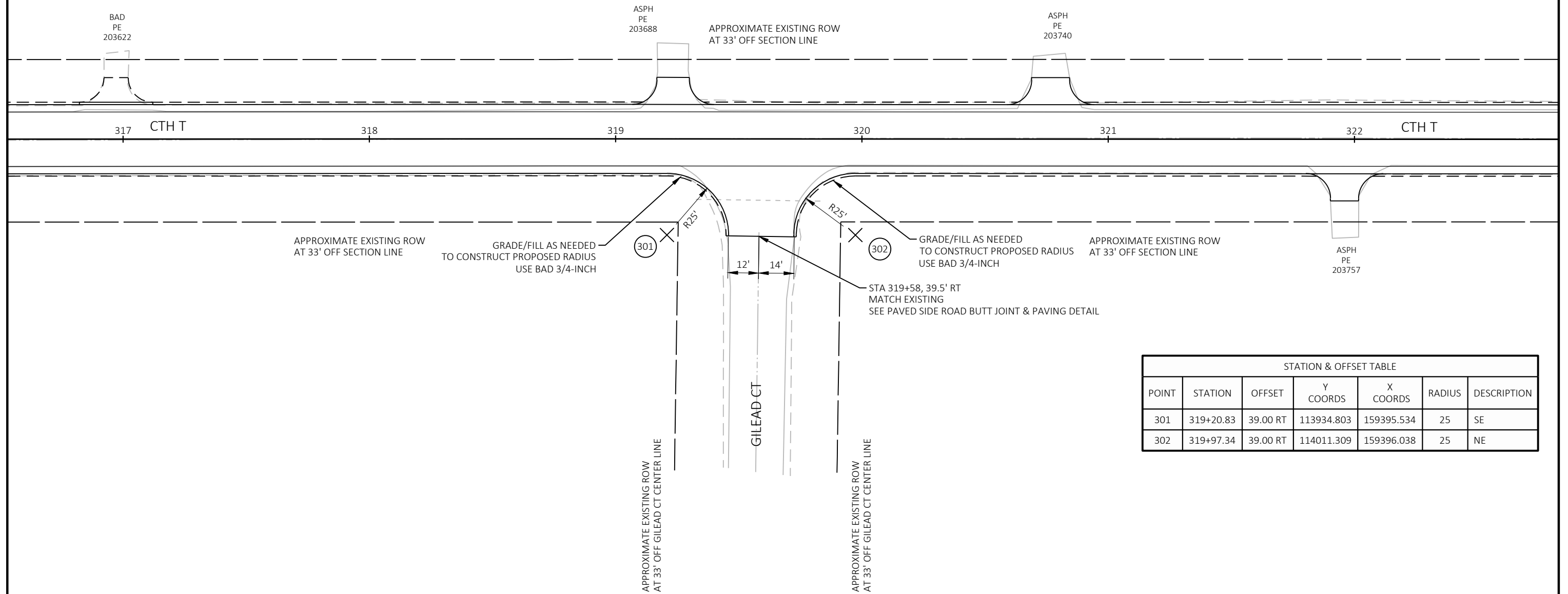
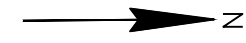
STATION & OFFSET TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	RADIUS	DESCRIPTION
51	200+25.81	49.00 LT	102041.469	159236.852	35	SW
52	201+19.85	49.00 LT	102134.469	159237.878	35	NW
53	200+29.54	49.00 RT	102043.118	159334.909	35	SE
54	201+21.52	49.00 RT	102136.119	159335.879	35	NE



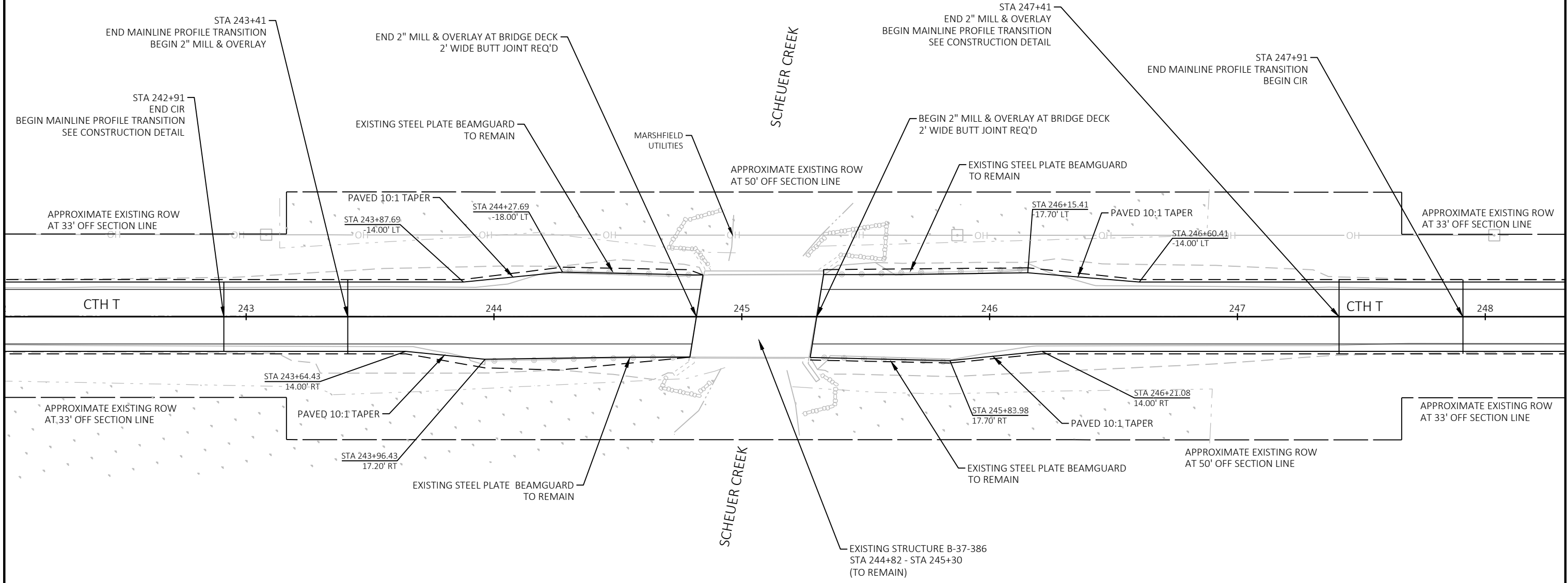
STATION & OFFSET TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	RADIUS	DESCRIPTION
101	252+64.17	54.00 LT	107278.851	159233.868	40	SW
102	253+72.60	59.00 LT	107387.882	159229.620	45	NW
103	253+69.23	46.89 RT	107383.290	159335.464	40	NE
104	252+60.70	59.00 RT	107275.228	159346.863	45	SE



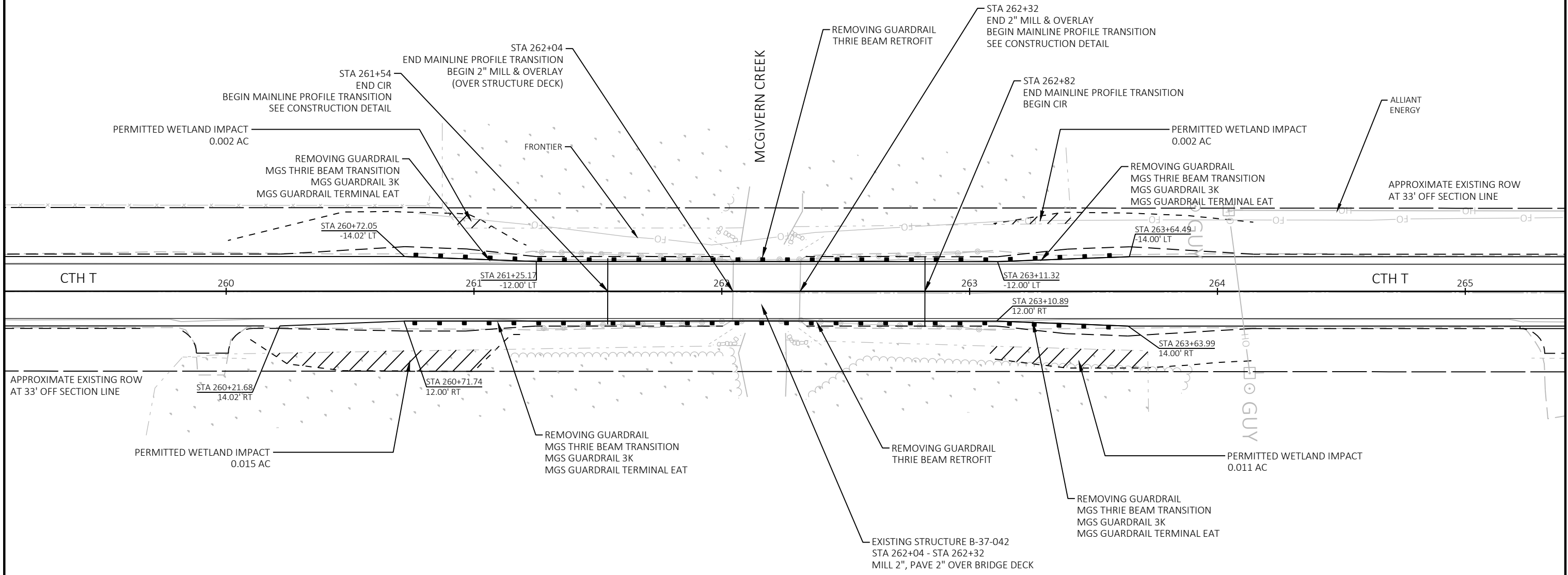
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201	305+19.79	49.00 LT	112534.570	159299.627	35	SW
202	306+09.61	42.83 LT	112624.091	159306.531	35	NW
203	306+19.12	54.00 RT	112633.075	159403.414	40	NE
204	305+17.40	54.00 RT	112531.069	159402.595	40	SE



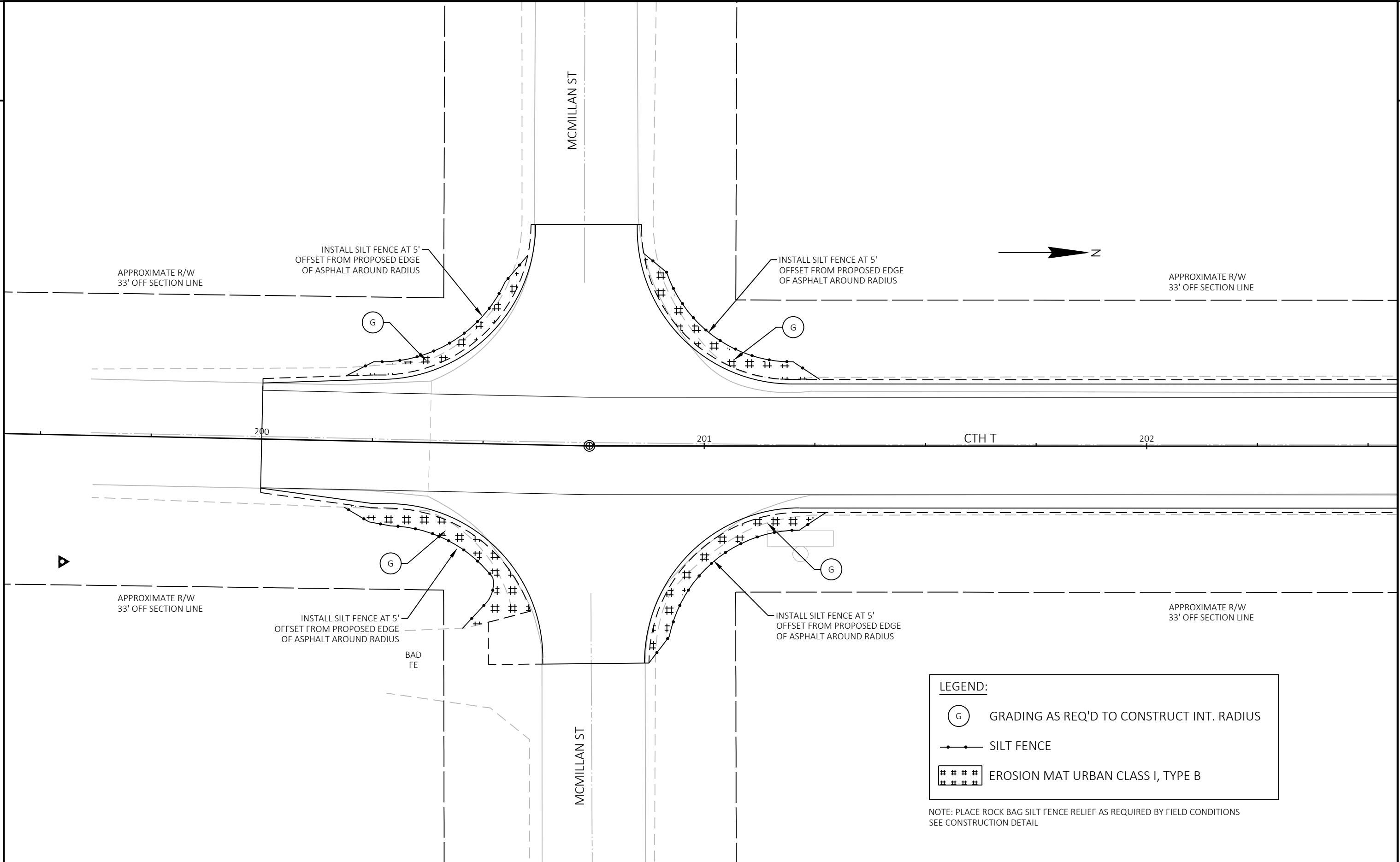
STATION & OFFSET TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	RADIUS	DESCRIPTION
301	319+20.83	39.00 RT	113934.803	159395.534	25	SE
302	319+97.34	39.00 RT	114011.309	159396.038	25	NE

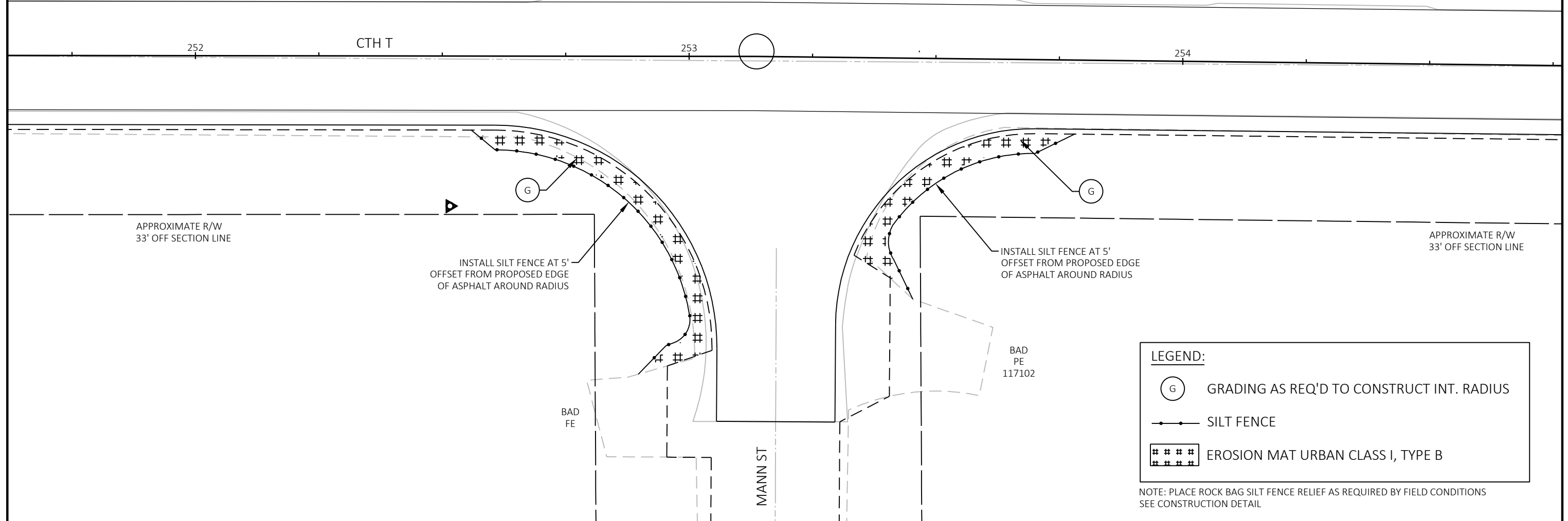
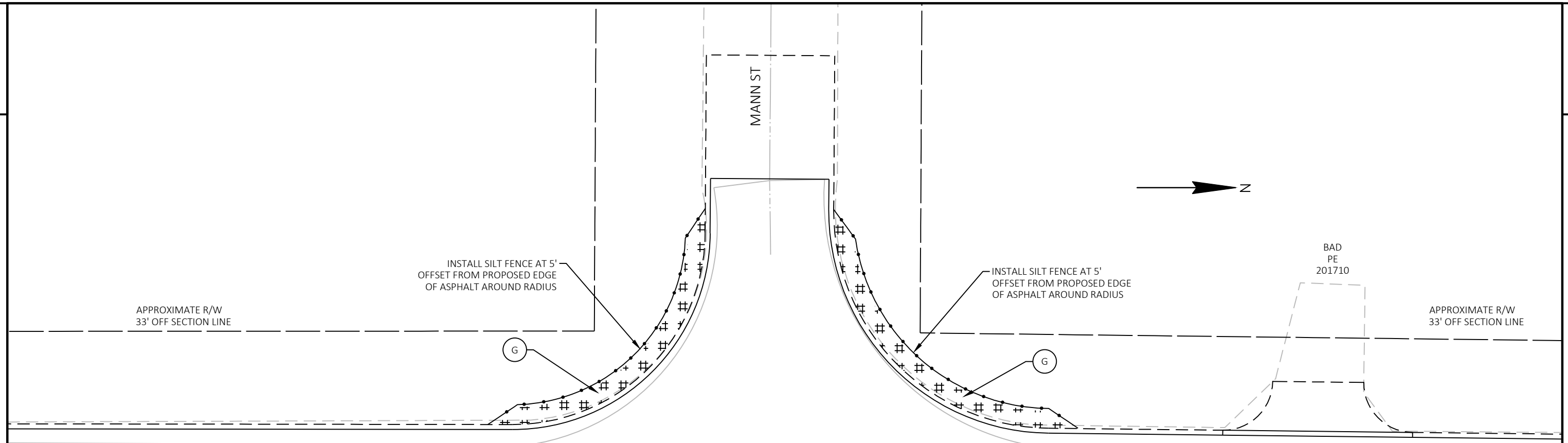


PROJECT NO: 6667-00-71	HWY: CTH T	COUNTY: MARATHON	PLAN DETAILS - B-37-386	SHEET	E
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PROJECT NO: 6667-00-71	HWY: CTH T	COUNTY: MARATHON	PLAN DETAILS - B-37-042	SHEET	E
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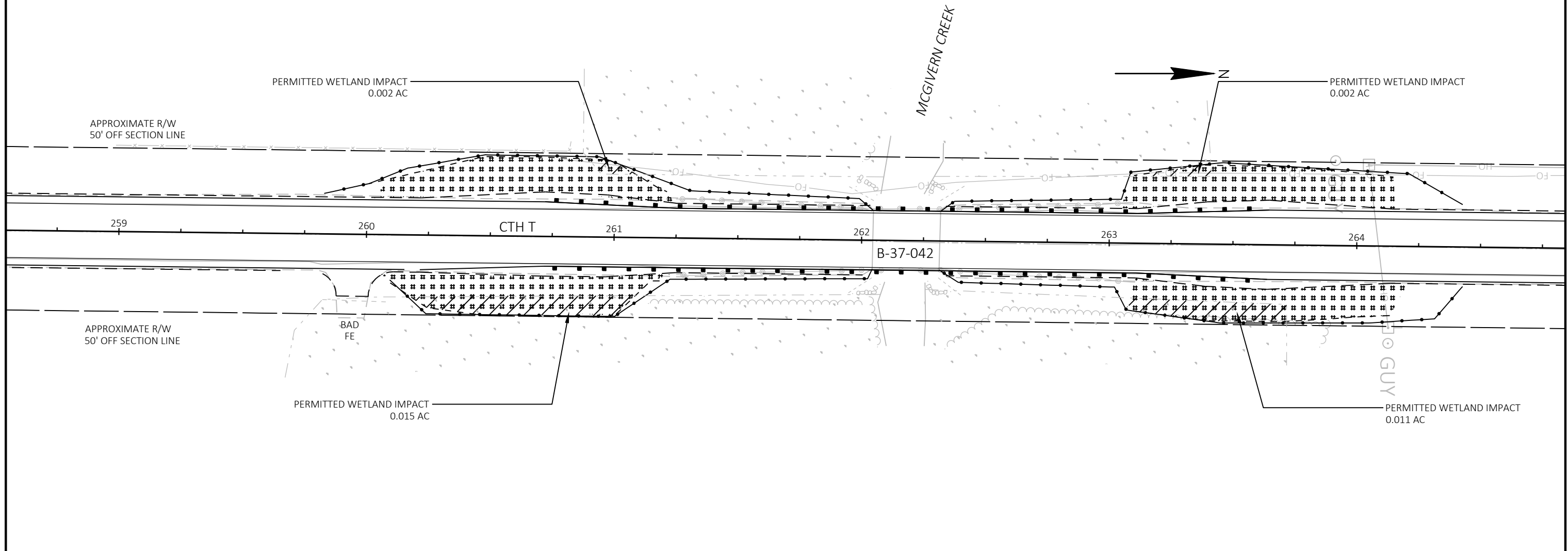





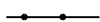
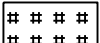
LEGEND:

- G GRADING AS REQ'D TO CONSTRUCT INT. RADIUS
- SILT FENCE
- # # # # EROSION MAT URBAN CLASS I, TYPE B

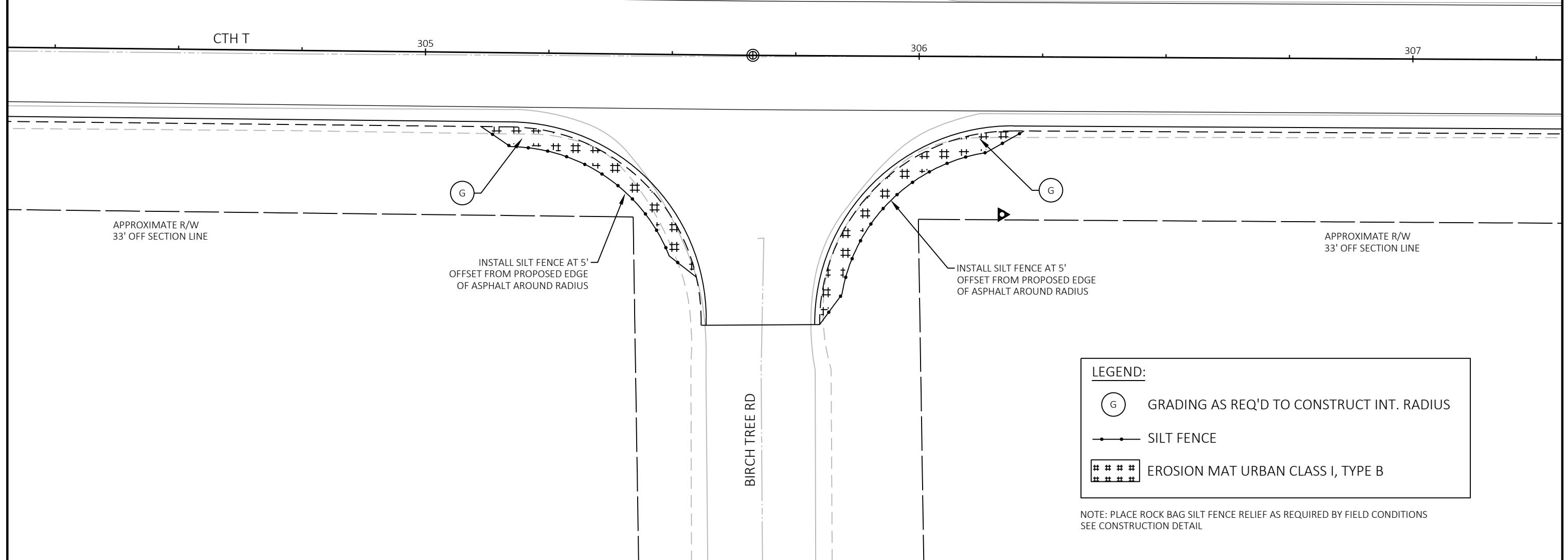
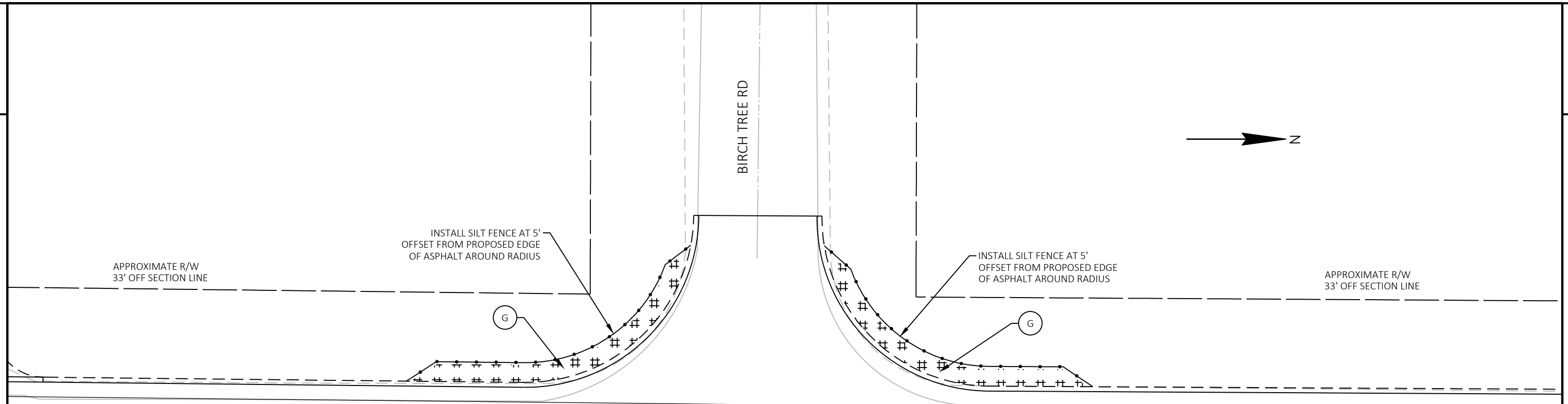
NOTE: PLACE ROCK BAG SILT FENCE RELIEF AS REQUIRED BY FIELD CONDITIONS
SEE CONSTRUCTION DETAIL

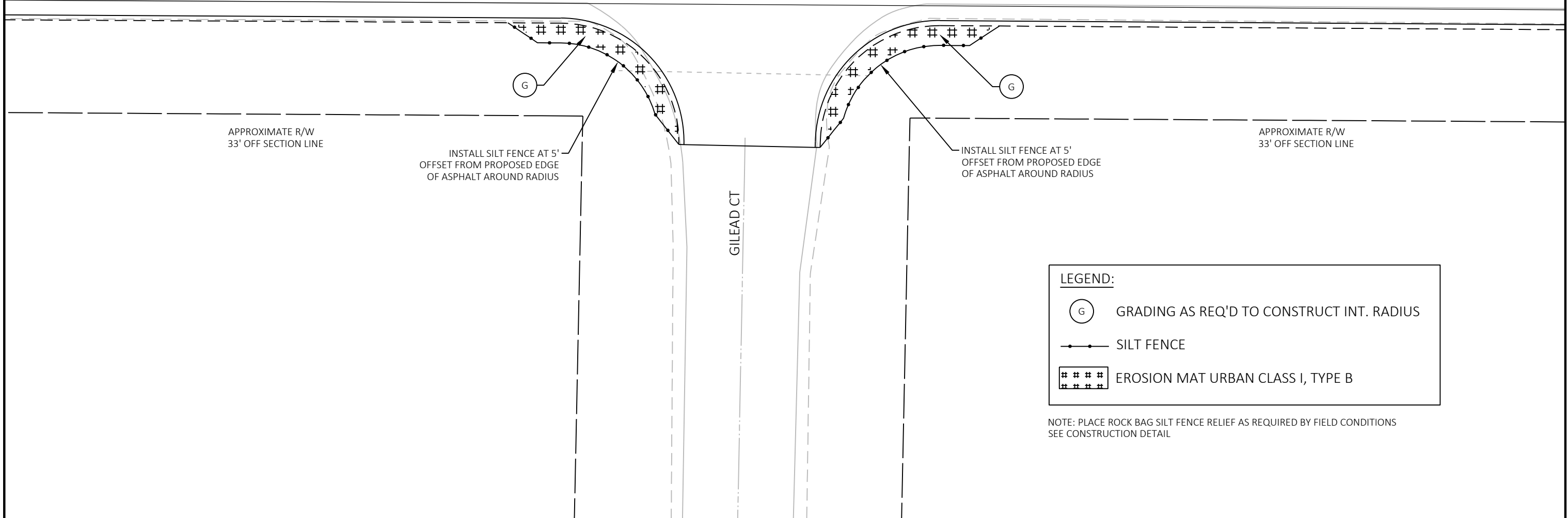
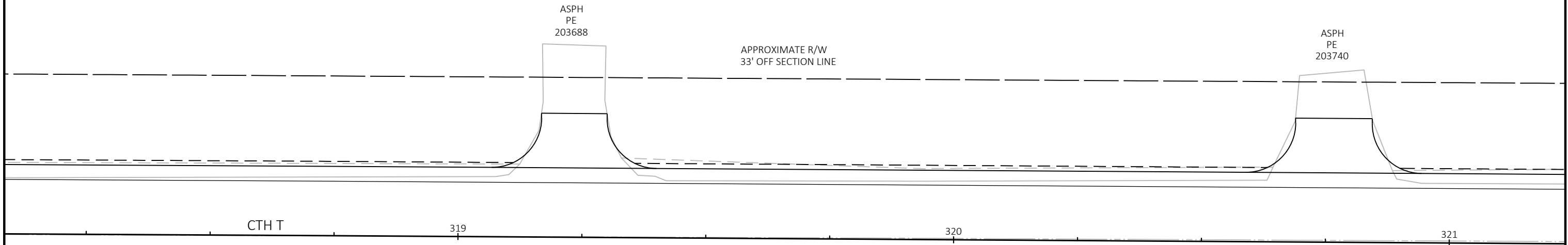


LEGEND:



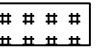
-  GRADING AS REQ'D TO CONSTRUCT INT. RADIUS
-  SILT FENCE
-  EROSION MAT URBAN CLASS I, TYPE B

NOTE: PLACE ROCK BAG SILT FENCE RELIEF AS REQUIRED BY FIELD CONDITIONS
SEE CONSTRUCTION DETAIL

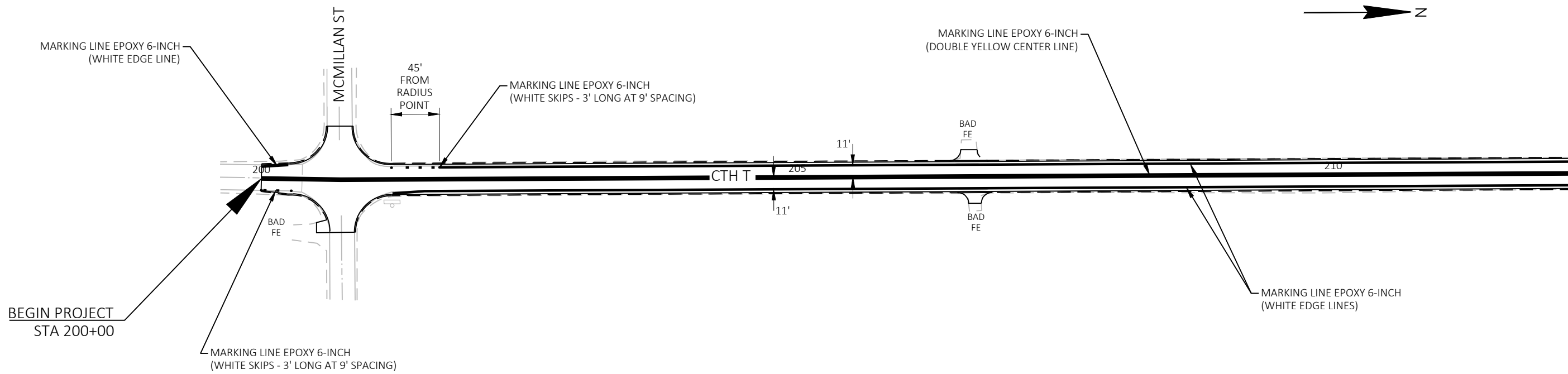




LEGEND:

-  GRADING AS REQ'D TO CONSTRUCT INT. RADIUS
-  SILT FENCE
-  EROSION MAT URBAN CLASS I, TYPE B

NOTE: PLACE ROCK BAG SILT FENCE RELIEF AS REQUIRED BY FIELD CONDITIONS
SEE CONSTRUCTION DETAIL



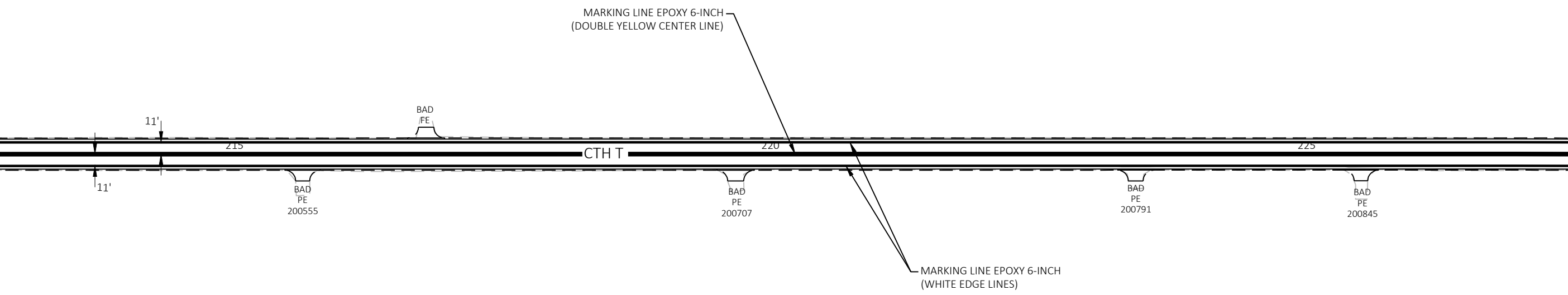
BEGIN PROJECT
STA 200+00

EXACT LOCATIONS OF NO PASSING ZONE LIMITS TO BE DETERMINED BY THE ITEM "LOCATING NO PASSING ZONES". SEE STANDARD DETAIL DRAWINGS.
ALL OTHER EXISTING SIGNS TO REMAIN UNLESS NOTED.

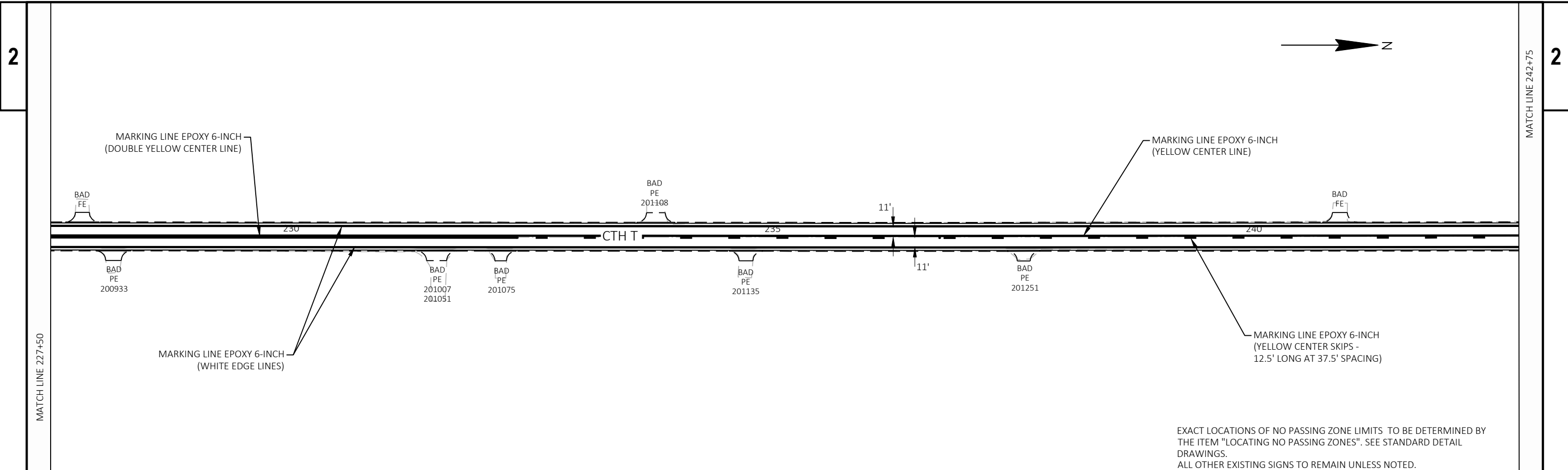
MATCH LINE 212+25

MATCH LINE 212+25

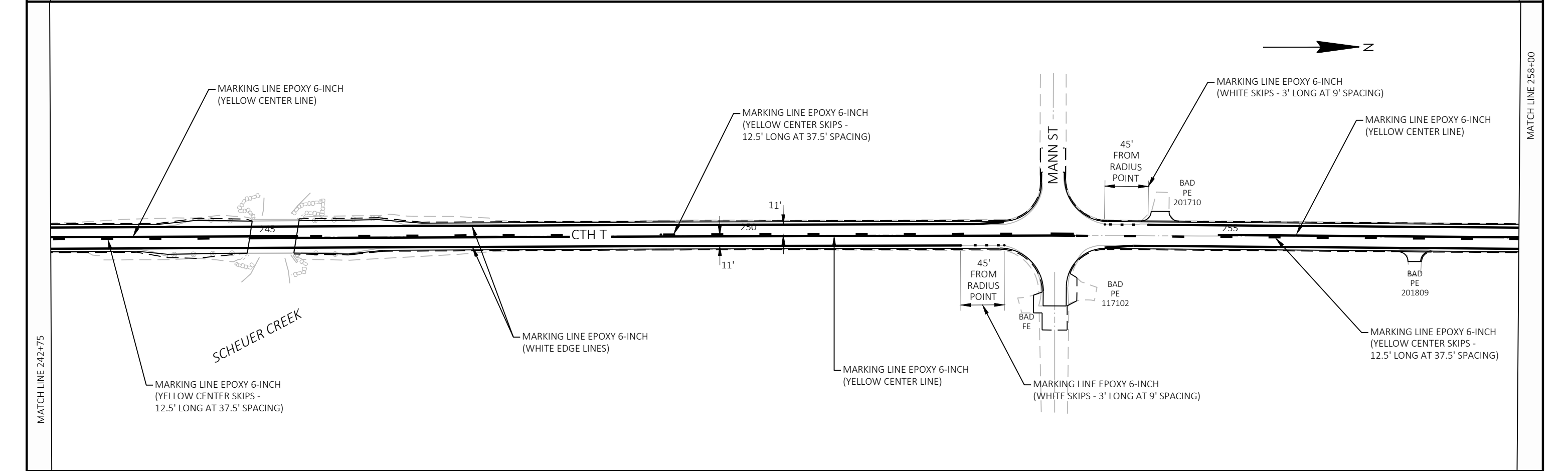
MATCH LINE 227+50



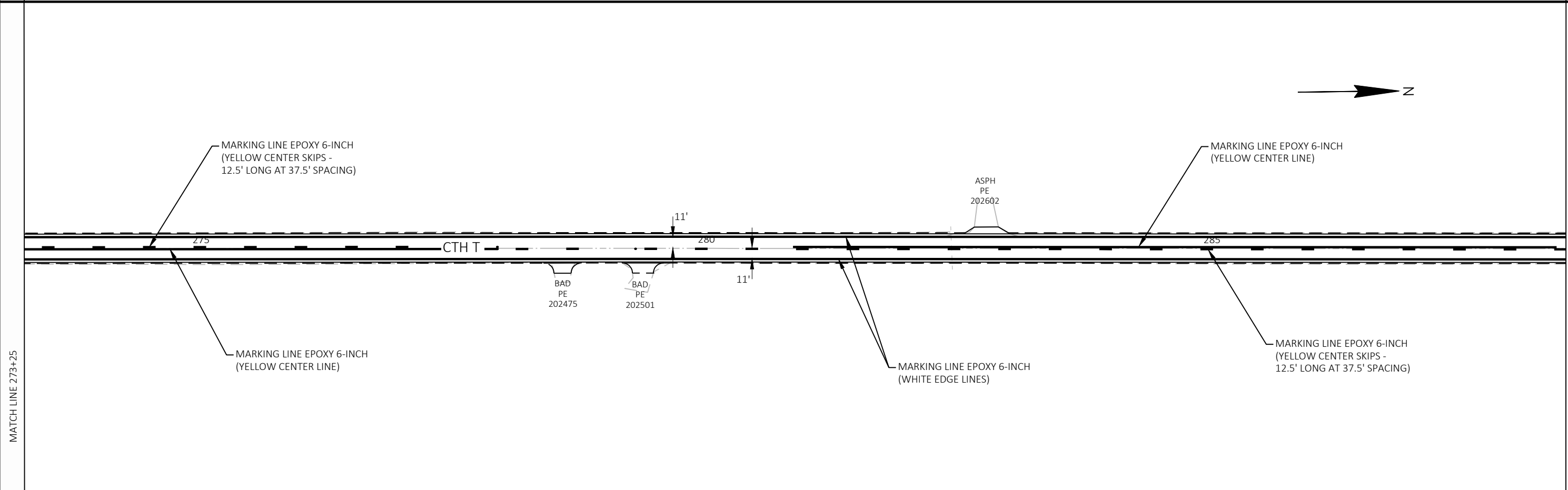
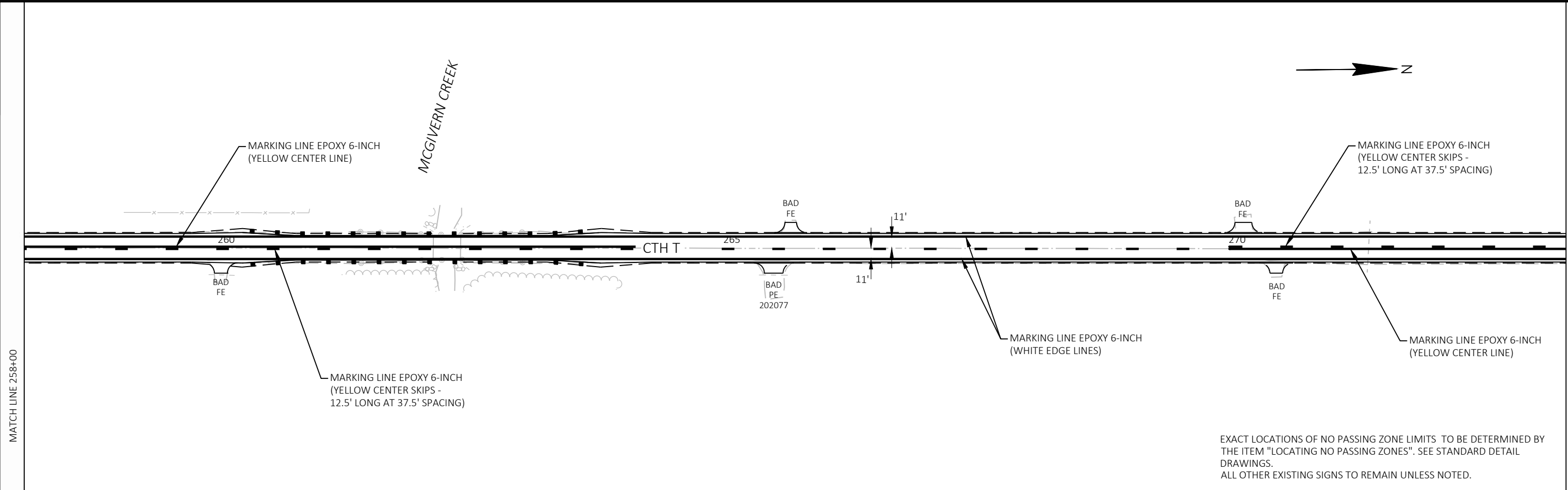
PROJECT NO: 6667-00-71	HWY: CTH T	COUNTY: MARATHON	PAVEMENT MARKING	SHEET	E
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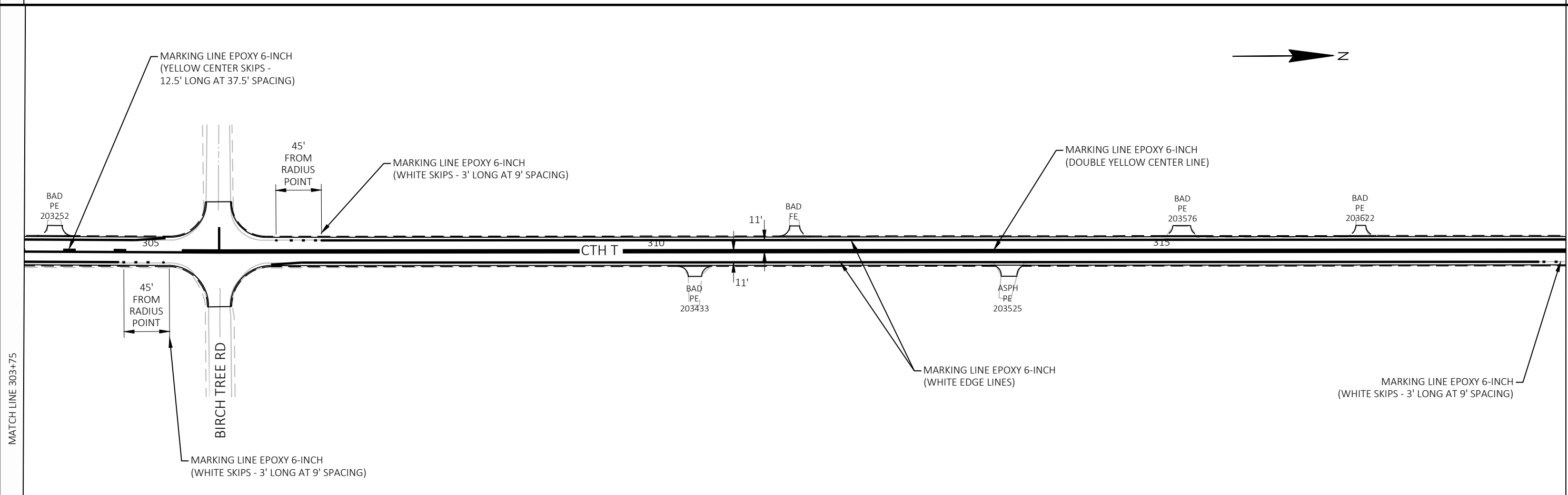
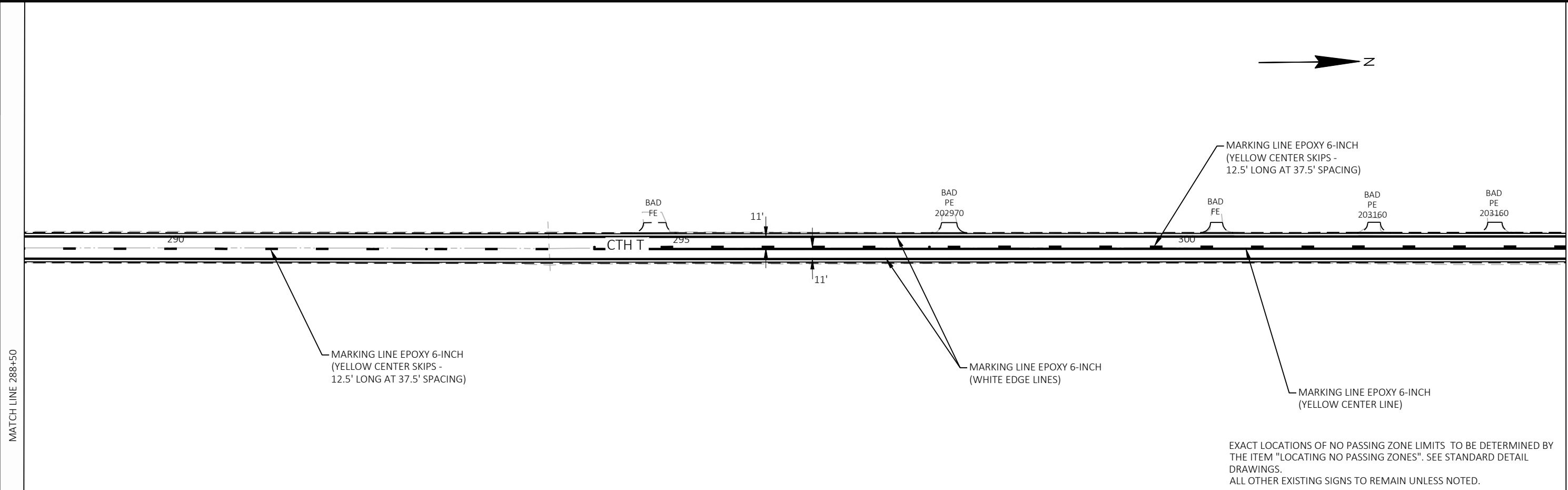
EXACT LOCATIONS OF NO PASSING ZONE LIMITS TO BE DETERMINED BY THE ITEM "LOCATING NO PASSING ZONES". SEE STANDARD DETAIL DRAWINGS.
ALL OTHER EXISTING SIGNS TO REMAIN UNLESS NOTED.



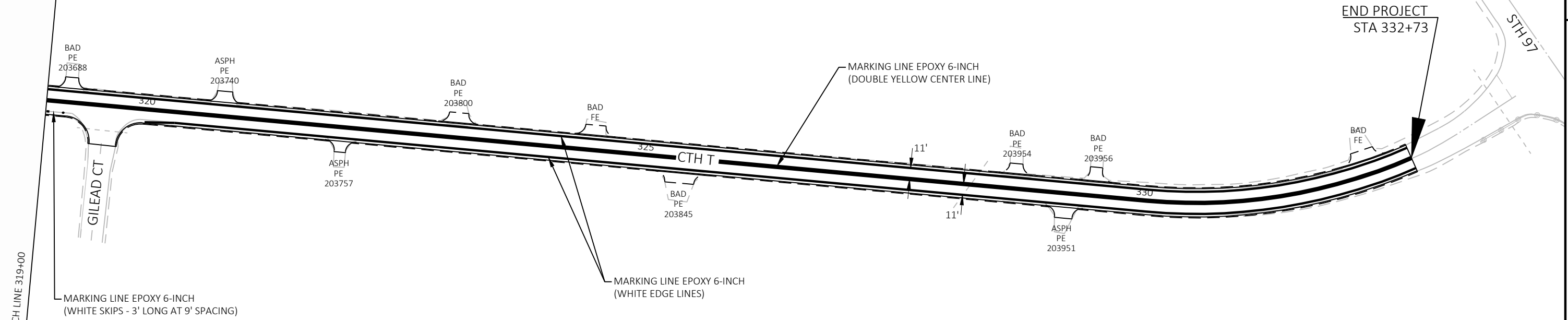
PROJECT NO: 6667-00-71	HWY: CTH T	COUNTY: MARATHON	PAVEMENT MARKING	SHEET	E
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PROJECT NO: 6667-00-71	HWY: CTH T	COUNTY: MARATHON	PAVEMENT MARKING	SHEET	E
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PROJECT NO: 6667-00-71	HWY: CTH T	COUNTY: MARATHON	PAVEMENT MARKING	SHEET	E
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END PROJECT
STA 332+73

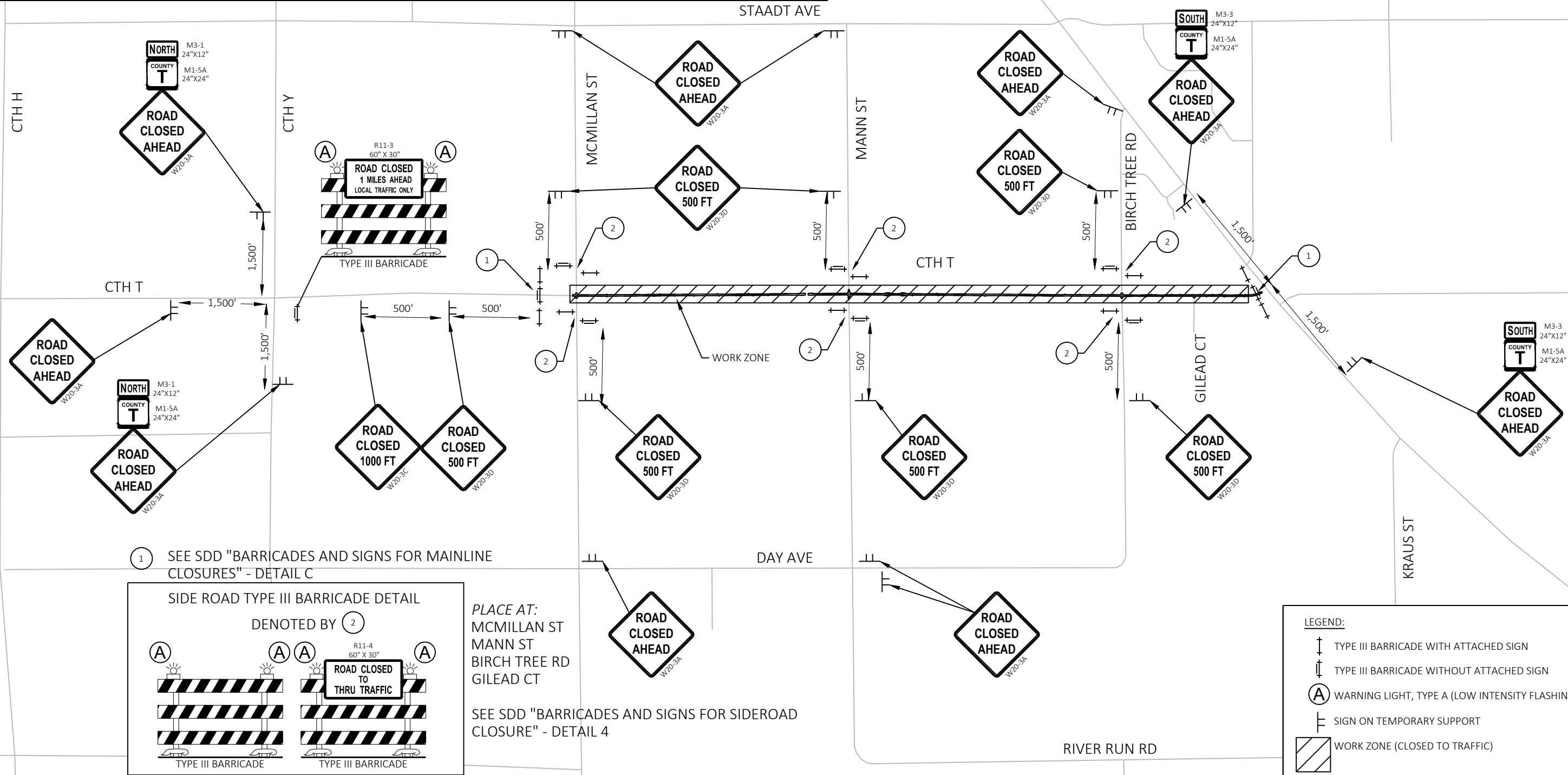
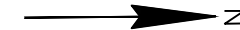
MATCH LINE 319+00

EXACT LOCATIONS OF NO PASSING ZONE LIMITS TO BE DETERMINED BY THE ITEM "LOCATING NO PASSING ZONES". SEE STANDARD DETAIL DRAWINGS.
ALL OTHER EXISTING SIGNS TO REMAIN UNLESS NOTED.

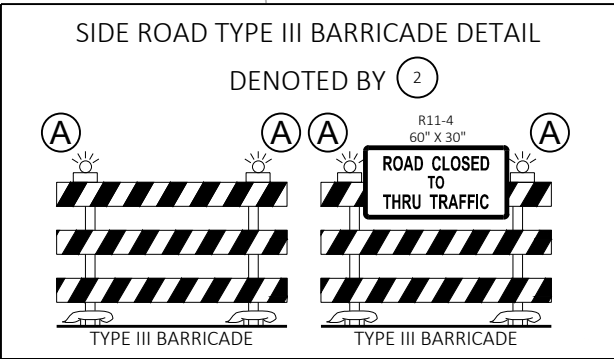
PROJECT NO: 6667-00-71	HWY: CTH T	COUNTY: MARATHON	PAVEMENT MARKING	SHEET	E
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TRAFFIC CONTROL NOTES

- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS OR AS DETERMINED BY THE ENGINEER. ADJUST SIGN SPACING TO AVOID CONFLICT WITH AND TO PROVIDE A MINIMUM SPACING OF 200 FEET (500 FEET DESIRABLE) TO EXISTING SIGNS.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- SIGNS DESIGNATED AS "WO" ARE THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- ALL SIDE STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES DURING CONSTRUCTION.
- ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.
- REFER TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC", AND "TRAFFIC CONTROL FOR LANE CLOSURE (WITH FLAGGING OPERATIONS)"
- DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A. WARNING LIGHTS SHALL NOT BE WORKING ON "COVERED" OR "DOWNED" SIGN OR BARRICADES.
- SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC/STAGING REQUIREMENTS.



1 SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" - DETAIL C



PLACE AT:
MCMILLAN ST
MANN ST
BIRCH TREE RD
GILEAD CT

SEE SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURE" - DETAIL 4

LEGEND:

- ↑ TYPE III BARRICADE WITH ATTACHED SIGN
- ↑ TYPE III BARRICADE WITHOUT ATTACHED SIGN
- (A) WARNING LIGHT, TYPE A (LOW INTENSITY FLASHING)
- ⊥ SIGN ON TEMPORARY SUPPORT
- ▨ WORK ZONE (CLOSED TO TRAFFIC)

Estimate Of Quantities

6667-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	204.0110	Removing Asphaltic Surface	SY	918.000	918.000
0004	204.0115	Removing Asphaltic Surface Butt Joints	SY	41.000	41.000
0006	204.0120	Removing Asphaltic Surface Milling	SY	2,297.000	2,297.000
0008	204.0165	Removing Guardrail	LF	372.000	372.000
0010	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 6667-00-71	EACH	1.000	1.000
0012	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	257.000	257.000
0014	211.0700.S	Prepare Foundation for CIR Base Layer (project) 01. 6667-00-71	EACH	1.000	1.000
0016	211.0800.S	Base Repair for CIR Layer	CY	500.000	500.000
0018	213.0100	Finishing Roadway (project) 01. 6667-00-71	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	373.000	373.000
0022	327.1000.S	CIR Asphaltic Base Layer	SY	39,106.000	39,106.000
0024	455.0605	Tack Coat	GAL	2,542.000	2,542.000
0026	455.0770.S	Asphalt Stabilizing Agent	TON	132.000	132.000
0028	460.2000	Incentive Density HMA Pavement	DOL	3,040.000	3,040.000
0030	460.6225	HMA Pavement 5 MT 58-28 S	TON	4,740.000	4,740.000
0032	465.0105	Asphaltic Surface	TON	110.000	110.000
0034	465.0110	Asphaltic Surface Patching	TON	50.000	50.000
0036	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	27.000	27.000
0038	614.0010	Barrier System Grading Shaping Finishing	EACH	4.000	4.000
0040	614.2330	MGS Guardrail 3 K	LF	300.000	300.000
0042	614.2500	MGS Thrie Beam Transition	LF	25.000	25.000
0044	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0046	618.0100	Maintenance and Repair of Haul Roads (project) 01. 6667-00-71	EACH	1.000	1.000
0048	619.1000	Mobilization	EACH	1.000	1.000
0050	621.0100	Landmark Reference Monuments	EACH	16.000	16.000
0052	624.0100	Water	MGAL	4.300	4.300
0054	625.0500	Salvaged Topsoil	SY	292.000	292.000
0056	628.1504	Silt Fence	LF	1,621.000	1,621.000
0058	628.1520	Silt Fence Maintenance	LF	1,621.000	1,621.000
0060	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0064	628.2008	Erosion Mat Urban Class I Type B	SY	292.000	292.000
0066	628.7570	Rock Bags	EACH	25.000	25.000
0068	629.0210	Fertilizer Type B	CWT	0.180	0.180
0070	630.0130	Seeding Mixture No. 30	LB	14.000	14.000
0072	630.0500	Seed Water	MGAL	6.500	6.500
0074	642.5001	Field Office Type B	EACH	1.000	1.000
0076	643.0300	Traffic Control Drums	DAY	1,050.000	1,050.000
0078	643.0420	Traffic Control Barricades Type III	DAY	798.000	798.000
0080	643.0705	Traffic Control Warning Lights Type A	DAY	1,512.000	1,512.000
0082	643.0900	Traffic Control Signs	DAY	1,512.000	1,512.000
0084	643.5000	Traffic Control	EACH	1.000	1.000
0086	646.2020	Marking Line Epoxy 6-Inch	LF	45,133.000	45,133.000
0088	648.0100	Locating No-Passing Zones	MI	2.510	2.510
0090	650.8000	Construction Staking Resurfacing Reference	LF	13,273.000	13,273.000
0092	650.9911	Construction Staking Supplemental Control (project) 01. 6667-00-71	EACH	1.000	1.000
0094	690.0150	Sawing Asphalt	LF	1,552.000	1,552.000
0096	740.0440	Incentive IRI Ride	DOL	5,028.000	5,028.000
0098	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0100	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000

Estimate Of Quantities

6667-00-71

Line	Item	Item Description	Unit	Total	Qty
0102	SPV.0060	Special 01. Reestablish Section Corner Monuments	EACH	4.000	4.000
0104	SPV.0090	Special 01. Steel Thrie Beam Railing Retrofit	LF	48.000	48.000

Removing Asphaltic Surface

STA	-	STA	Location	204.0110 Removing Asphaltic Surface	204.0115 Removing Asphaltic Surface Butt Joints SY	204.0120 Removing Asphaltic Surface Milling SY
200+00	-	200+25	CTH T, BOP	66	---	---
200+25	-	201+24	McMillan St Intersection LT	29	5	121
200+25	-	201+24	McMillan St Intersection RT	28	5	144
242+91	-	244+82	CTH T (B-37-386 South)	122	7	463
245+30	-	247+91	CTH T (B-37-386 North)	122	8	652
252+68	-	253+70	Mann St Intersection LT	30	---	202
252+65	-	253+64	Mann St Intersection RT	29	---	258
261+54	-	262+82	CTH T (B-37-042)	275	---	72
305+23	-	306+07	Birch Tree Rd Intersection LT	25	5	129
305+18	-	306+12	Birch Tree Rd Intersection RT	28	5	162
319+26	-	319+92	Gilead Ct Intersection RT	20	6	94
332+23	-	332+73	CTH T, EOP	144	---	---
Totals				918	41	2,297

Asphaltic Shoulders Preparation

STA	-	STA	Location	211.0400 Prepare Foundation for Asphaltic Shoulders STA
200+00	-	200+38	BOP - McMillan St LT & RT	1
201+07	-	244+28	McMillan St - B-37-386 (LT)	43
201+14	-	243+96	McMillan St - B-37-386 (RT)	43
246+15	-	252+79	B-37-386 - Mann St (LT)	7
245+84	-	252+74	B-37-386 - Mann St (RT)	7
253+60	-	262+04	Mann St - B-37-042 (LT)	8
253+53	-	262+04	Mann St - B-37-042 (RT)	9
262+32	-	305+33	B-37-042 - Birch Tree Rd (LT)	43
262+32	-	305+32	B-37-042 - Birch Tree Rd (RT)	43
305+98	-	332+73	Birch Tree Rd - EOP (LT)	27
306+04	-	319+31	Birch Tree Rd - Gilead Ct (RT)	13
319+85	-	332+73	Gilead Ct - EOP (RT)	13
Total				257

Prep and Finish

Location	211.0101 Prepare Foundation for Asphaltic Paving EACH	211.0700.S Prepare Foundation for CIR Base Layer EACH	211.0800.S Base Repair for CIR Layer CY	213.0100 Finishing Roadway EACH
CTH T	1	1	500	1
Totals	1	1	500	1

Removing Guardrail

STA	-	STA	Location	204.0165 Removing Guardrail LF
261+25	-	263+11	B-37-042, CTH T LT	186
261+25	-	263+11	B-37-042, CTH T RT	186
Total				372

Base Aggregate Shoulders

STA	-	STA	Location	305.0110 Base Aggregate Dense 3/4-Inch TON	624.0100 Water MGAL
200+00	-	200+38	BOP - McMillan St LT & RT	1	---
201+07	-	244+28	McMillan St - B-37-386 (LT)	40	0.5
201+14	-	243+96	McMillan St - B-37-386 (RT)	40	0.5
246+15	-	252+79	B-37-386 - Mann St (LT)	6	0.1
245+84	-	252+74	B-37-386 - Mann St (RT)	6	0.1
253+60	-	262+04	Mann St - B-37-042 (LT)	8	0.1
253+53	-	262+04	Mann St - B-37-042 (RT)	8	0.1
262+32	-	305+33	B-37-042 - Birch Tree Rd (LT)	40	0.5
262+32	-	305+32	B-37-042 - Birch Tree Rd (RT)	40	0.5
305+98	-	332+73	Birch Tree Rd - EOP (LT)	25	0.3
306+04	-	319+31	Birch Tree Rd - Gilead Ct (RT)	12	0.1
319+85	-	332+73	Gilead Ct - EOP (RT)	12	0.1
Project Private Driveways & Field Entrances				85	0.9
Intersection Widening				50	0.5
Totals				373	4.3

HMA Pavement

STA	-	STA	Location	455.0605 Tack Coat GAL	465.0105 Asphaltic Surface TON	460.6225 HMA Pavement 5 MT 58-28 S TON
200+00	-	200+25	CTH T, BOP	4	10	10
200+25	-	242+91	CTH T, CIR Zone	796	---	1,485
242+91	-	243+41	CTH T, Profile Transition	9	20	15
243+41	-	244+82	CTH T, Mill & Overlay Zone	30	---	55
245+30	-	247+41	CTH T, Mill & Overlay Zone	43	---	80
247+41	-	247+91	CTH T, Profile Transition	9	20	15
247+91	-	261+54	CTH T, CIR Zone	254	---	475
261+54	-	262+04	CTH T, Profile Transition	8	20	15
262+04	-	262+32	CTH T, Mill & Overlay Zone	4	---	10
262+32	-	262+82	CTH T, Profile Transition	8	20	15
262+82	-	332+23	CTH T, CIR Zone	1,296	---	2,420
332+23	-	332+73	CTH T, EOP	9	20	15
McMillan St Intersection LT & RT				18	---	35
Mann St Intersection LT & RT				28	---	50
Birch Tree Rd Intersection LT & RT				20	---	35
Gilead Ct Intersection RT				6	---	10
Totals				2,542	110	4,740

Cold In-Place Recycling (CIR)

STA	-	STA	Location	327.1000.S Cold In-Place Recycling (CIR) Asphalt Base Layer SY	455.0770.S Asphalt Stabilizing Agent TON
200+25	-	242+91	CTH T, CIR Zone	13,272	45
247+91	-	261+54	CTH T, CIR Zone	4,240	14
262+82	-	332+23	CTH T, CIR Zone	21,594	73
Totals				39,106	132

Asphaltic Surface Patching

Location	465.0110 Asphaltic Surface Patching TON	Remarks
CTH T	50	Undistributed
Total	50	

Asphalt Driveways

STA	Location	465.0120 Asphaltic Surface Driveways & Field Entrances TON
282+77 LT	Private Driveway, 202602	5
313+49 RT	Private Driveway, 203525	5
319+23 LT	Private Driveway, 203688	4
320+76 LT	Private Driveway, 203740	4
321+96 RT	Private Driveway, 203757	4
329+21 RT	Private Driveway, 203951	5
Total		27

Barrier System Grading Shaping Finishing

STA	-	STA	Location	614.0010 Barrier System Grading Shaping Finishing EACH	Borrow CY	Salvaged Topsoil SY	Erosion Mat Class I Type B SY	Fertilizer Type B CWT	Seeding Mixture No. 30 LB	Seed Water MGAL
260+16	-	262+04	LT B-37-042 SW Quadrant	1	60	160	160	0.10	3	9
262+32	-	263+68	RT B-37-042 SE Quadrant	1	65	150	150	0.09	3	8
260+15	-	262+04	LT B-37-042 NW Quadrant	1	72	150	150	0.09	3	8
262+32	-	263+70	RT B-37-042 NE Quadrant	1	77	150	150	0.09	3	8
Total				4						

The above items are incidental to the Item Barrier System Grading Shaping Finishing and listed for Bid Information Only.

Guardrail

STA	-	STA	LOC	614.2330 MGS Guardrail 3K LF	614.2500 MGS Thrie Beam Transition LF	614.2610 MGS Guardrial Terminal EAT EACH	SPV.0090.01 Steel Thrie Beam Railing Retrofit LF
260+72	-	262+06	LT	75.0	6.3	1	---
262+06	-	262+30	LT	---	---	---	24.0
262+30	-	263+64	LT	75.0	6.3	1	---
260+72	-	262+06	RT	75.0	6.3	1	---
262+06	-	262+30	RT	---	---	---	24.0
262+30	-	263+64	RT	75.0	6.3	1	---
Totals				300.0	25.0	4	48.0

Silt Fence

STA	-	STA	Location	628.1504 Silt Fence LF	628.152 Silt Fence Maintenance LF
200+19	-	200+59	LT McMillan St - SW Corner	52	52
200+19	-	200+62	RT McMillan St - SE Corner	52	52
200+86	-	201+26	LT McMillan St - NW Corner	51	51
200+87	-	201+27	RT McMillan St - NE Corner	56	56
252+60	-	253+04	LT Mann St - SW Corner	67	67
252+55	-	253+06	RT Mann St - SE Corner	79	79
253+28	-	253+78	LT Mann St - NW Corner	71	71
253+34	-	253+78	RT Mann St - NE Corner	59	59
259+83	-	262+04	LT B-37-042 SW Quadrant	228	228
260+04	-	262+04	RT B-37-042 SE Quadrant	208	208
262+32	-	264+00	LT B-37-042 NW Quadrant	178	178
262+32	-	264+00	RT B-37-042 NE Quadrant	180	180
304+96	-	305+53	LT Birch Tree Rd - SW Corner	69	69
305+11	-	305+55	RT Birch Tree Rd - SE Corner	56	56
305+80	-	306+35	LT Birch Tree Rd - NW Corner	66	66
305+80	-	306+21	RT Birch Tree Rd - NE Corner	60	60
319+10	-	319+45	RT Gilead Ct - SE Corner	42	42
319+73	-	320+09	RT Gilead Ct - NE Corner	47	47
Totals				1,621	1,621

Land Parcel Monuments

Location	621.0100 Landmark Reference Monuments EA	SPV.0060.01 Reestablish Section Corner Monuments EA
STA 200+74	4	1
STA 226+94	4	1
STA 279+29	4	1
STA 305+66	4	1
Totals	16	4

Rock Bags

Location	628.7570 Rock Bags EACH
Undistributed	25
Total	25

Mobilization Erosion Control

Project	628.1905 Mobilization Erosion Control EACH	628.1910 Mobilization Emergency Erosion Control EACH
CTH T	2	2
Totals	2	2

Landscaping Summary

STA	-	STA	Location	625.0500 Salvaged Topsoil SY	628.2008 Erosion Mat Urban Class I Type B SY	629.0210 Fertilizer Type B CWT	630.0130 Seeding Mixture No. 30 LB	630.0500 Seed Water MGAL
200+19	-	200+59	LT McMillan St - SW Corner	12	12	0.01	1	0.3
200+19	-	200+62	RT McMillan St - SE Corner	23	23	0.01	1	0.5
200+86	-	201+26	LT McMillan St - NW Corner	18	18	0.01	1	0.4
200+87	-	201+27	RT McMillan St - NE Corner	19	19	0.01	1	0.4
252+60	-	253+04	LT Mann St - SW Corner	24	24	0.02	1	0.5
252+55	-	253+06	RT Mann St - SE Corner	31	31	0.02	1	0.7
253+28	-	253+78	LT Mann St - NW Corner	25	25	0.02	1	0.6
253+34	-	253+78	RT Mann St - NE Corner	22	22	0.01	1	0.5
304+96	-	305+53	LT Birch Tree Rd - SW Corner	24	24	0.02	1	0.5
305+11	-	305+55	RT Birch Tree Rd - SE Corner	19	19	0.01	1	0.4
305+80	-	306+35	LT Birch Tree Rd - NW Corner	23	23	0.01	1	0.5
305+80	-	306+21	RT Birch Tree Rd - NE Corner	21	21	0.01	1	0.5
319+10	-	319+45	RT Gilead Ct - SE Corner	15	15	0.01	1	0.3
319+73	-	320+09	RT Gilead Ct - NE Corner	16	16	0.01	1	0.4
Totals				292	292	0.18	14	6.5

Traffic Control

Location	Project Duration DAY	643.5000 Traffic Control		643.0300 Traffic Control Drums		643.0420 Traffic Control Barricades Type III		643.0705 Traffic Control Warning Lights Type A		643.0900 Traffic Control Signs	
		EACH	# Req'd	DAY	# Req'd	DAY	# Req'd	DAY	# Req'd	DAY	
Project Limits	42	1	25	1,050	19	798	36	1,512	36	1,512	
Totals		1	1,050		798		1,512		1,512		

Pavement Marking

From	-	To	646.2020 Marking Line Epoxy 6-Inch	
			(Yellow) CL LF	(White) Edge LF
STA 200+00	-	Mann St	9,133	10,252
Mann St	-	Birch Tree St	4,891	10,220
Birch Tree St	-	STA 332+73	5,482	5,155
Subtotals			19,506	25,627
Totals			45,133	

Locate No-Passing Zones

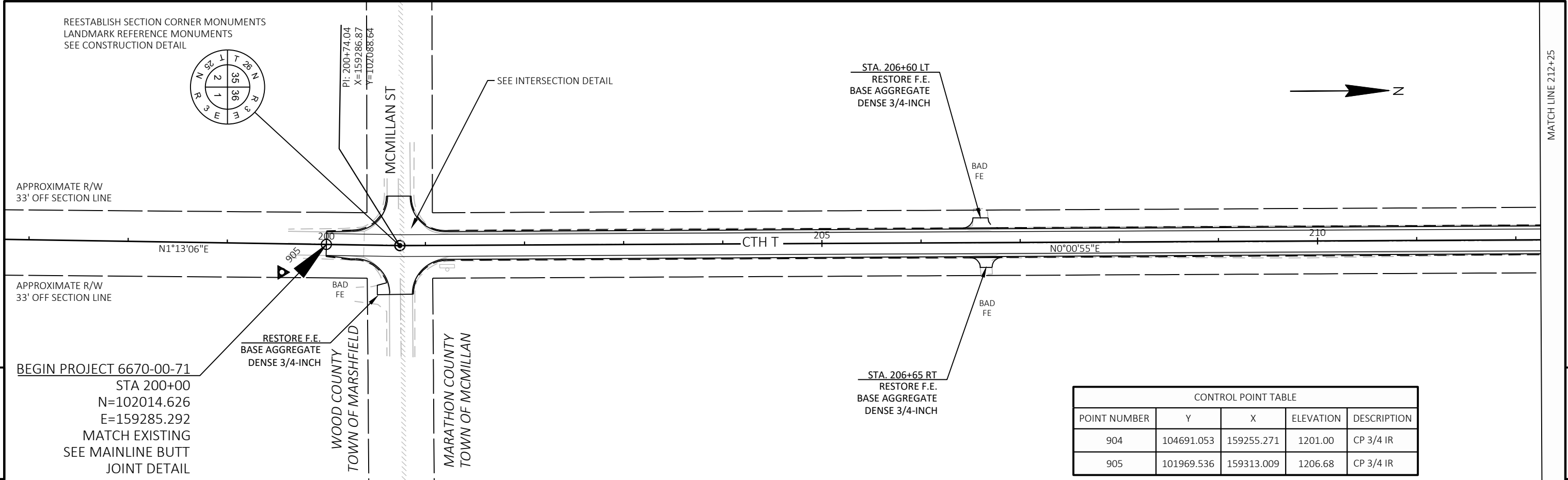
STA	-	STA	648.0100 Locating No-Passing Zones MI
200+00	-	332+73	2.51
Total			2.51

Construction Staking

STA	-	STA	Location	650.8000 Construction Staking Resurfacing Reference LF	650.9911 Construction Staking Supplimental Control EACH
200+00	-	332+73	CTH T	13,273	1
Totals				13,273	1

Sawcuts

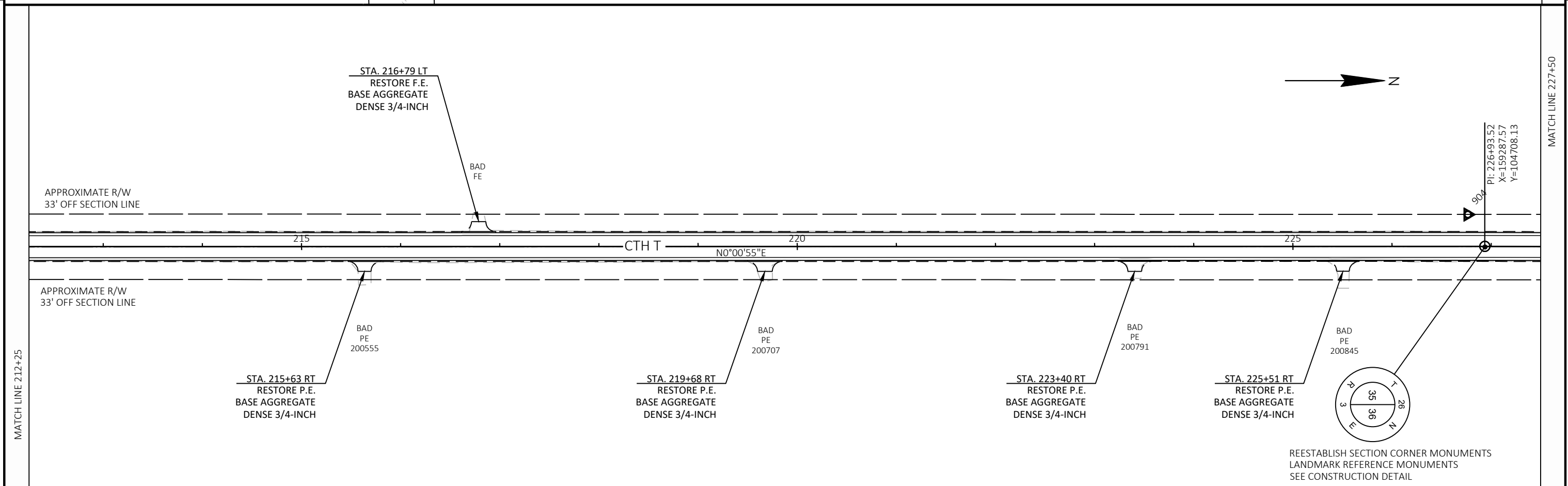
STA	-	STA	Location	690.0150 Sawing Asphalt LF	Remarks
200+25			CTH T	24	BOP
200+25			CTH T	24	End Profile Transition
200+25	-	201+24	McMillan St Intersection LT	227	Full-Depth Asphalt Removal
200+25	-	201+24	McMillan St Intersection RT	172	Full-Depth Asphalt Removal
242+91			CTH T (B-37-386 South)	24	Begin Profile Transition
243+41			CTH T (B-37-386 South)	24	End Profile Transition
247+41			CTH T (B-37-386 North)	22	Begin Profile Transition
247+91			CTH T (B-37-386 North)	23	End Profile Transition
252+68	-	253+70	Mann St Intersection LT	183	Full-Depth Asphalt Removal
252+65	-	253+64	Mann St Intersection RT	177	Full-Depth Asphalt Removal
261+54			CTH T (B-37-042 South)	22	Begin Profile Transition
262+04			CTH T (B-37-042 South)	22	End Profile Transition
262+32			CTH T (B-37-042 North)	22	Begin Profile Transition
262+82			CTH T (B-37-042 North)	22	End Profile Transition
282+77	LT		Private Driveway, 202602	24	Paved Driveway Connection
305+23	-	306+07	Birch Tree Rd Intersection LT	149	Full-Depth Asphalt Removal
305+18	-	306+12	Birch Tree Rd Intersection RT	166	Full-Depth Asphalt Removal
313+49	RT		Private Driveway, 203525	16	Paved Driveway Connection
319+23	LT		Private Driveway, 203688	13	Paved Driveway Connection
319+26	-	319+92	Gilead Ct Intersection RT	120	Full-Depth Asphalt Removal
320+76	LT		Private Driveway, 203740	15	Paved Driveway Connection
321+96	RT		Private Driveway, 203757	11	Paved Driveway Connection
329+21	RT		Private Driveway, 203951	18	Paved Driveway Connection
332+23			CTH T	28	Begin Profile Transition
332+73			CTH T	28	EOP
Total				1,552	



5

5

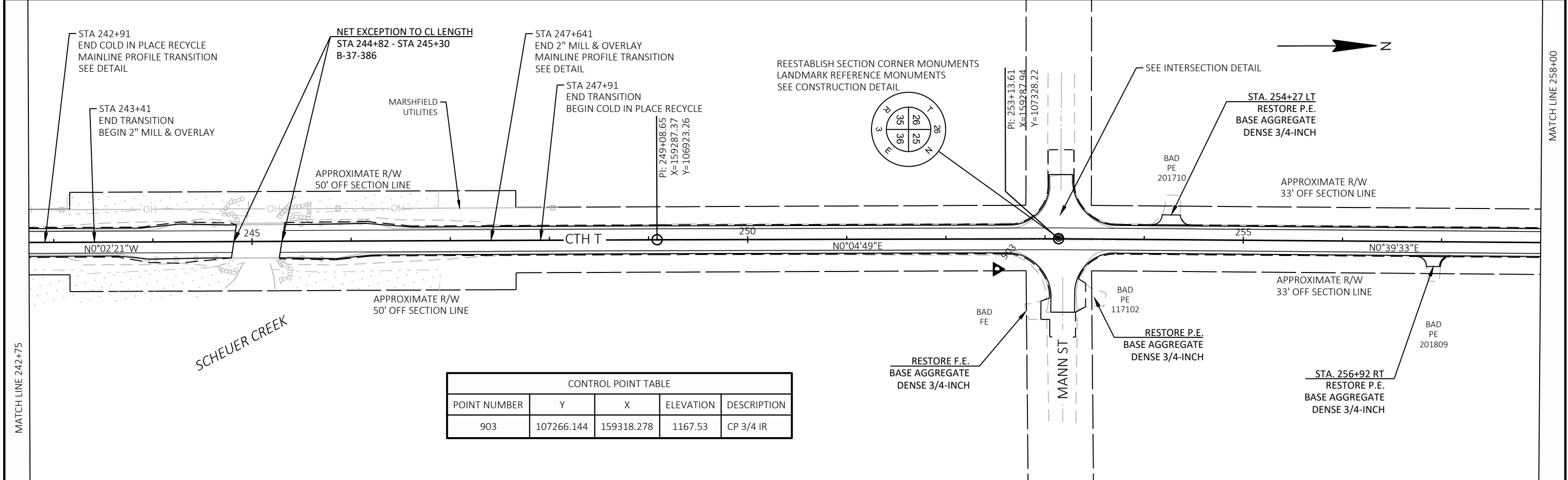
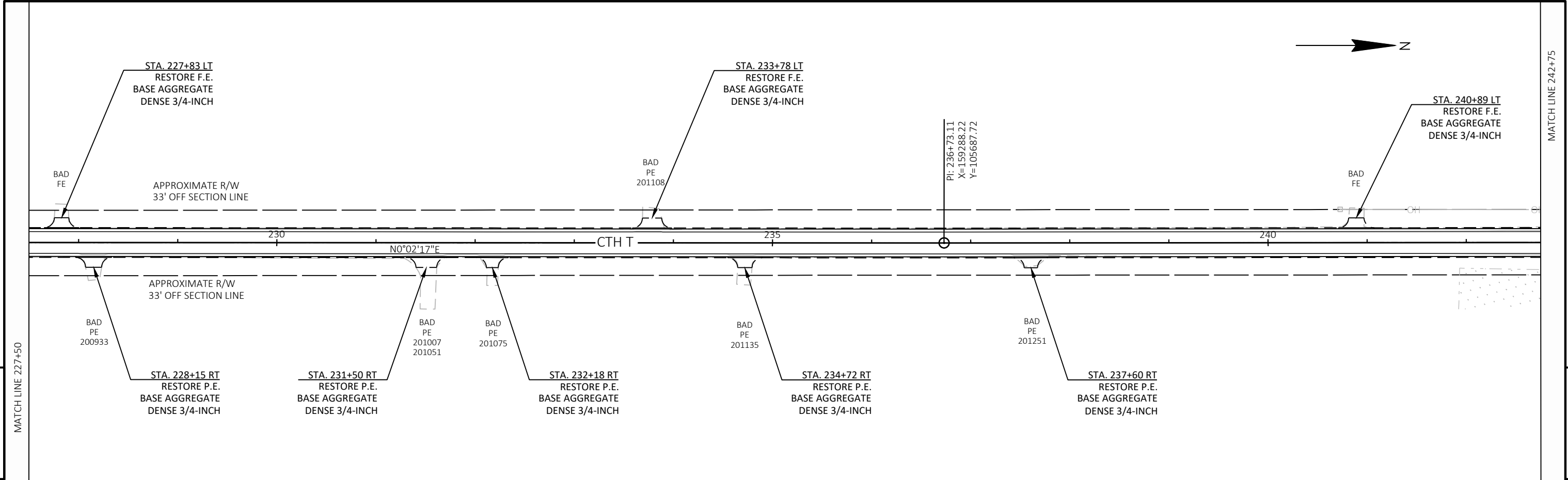
CONTROL POINT TABLE				
POINT NUMBER	Y	X	ELEVATION	DESCRIPTION
904	104691.053	159255.271	1201.00	CP 3/4 IR
905	101969.536	159313.009	1206.68	CP 3/4 IR



MATCH LINE 212+25

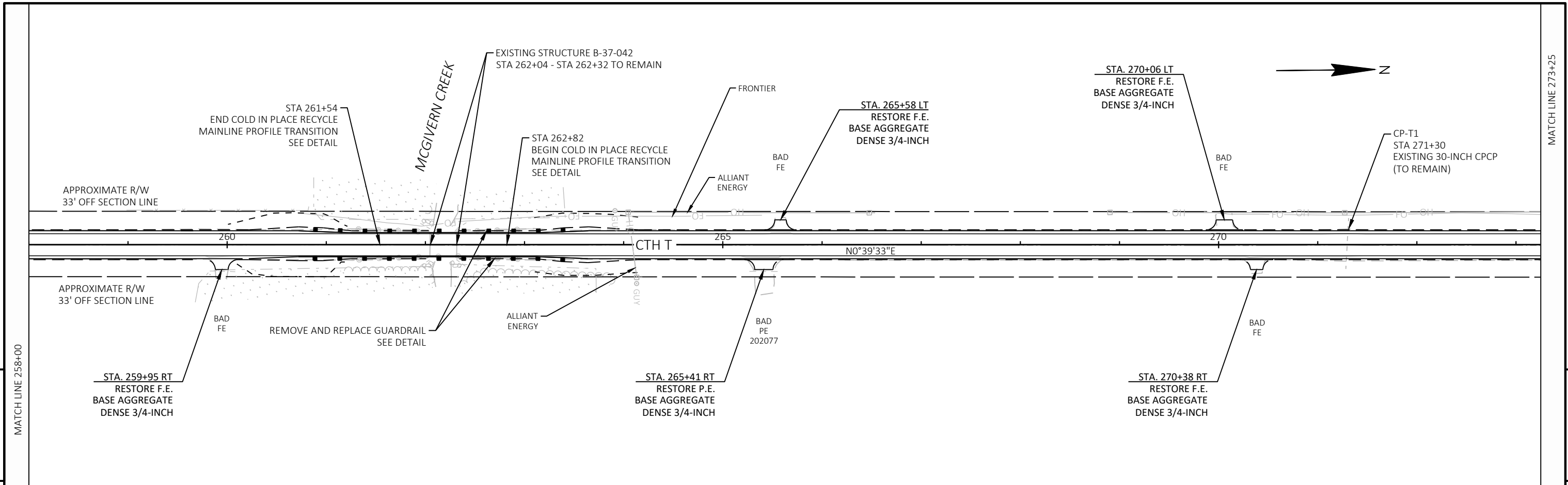
MATCH LINE 227+50

PROJECT NO: 6667-00-71	HWY: CTH T	COUNTY: MARATHON	PLAN - CTH T	SHEET	E
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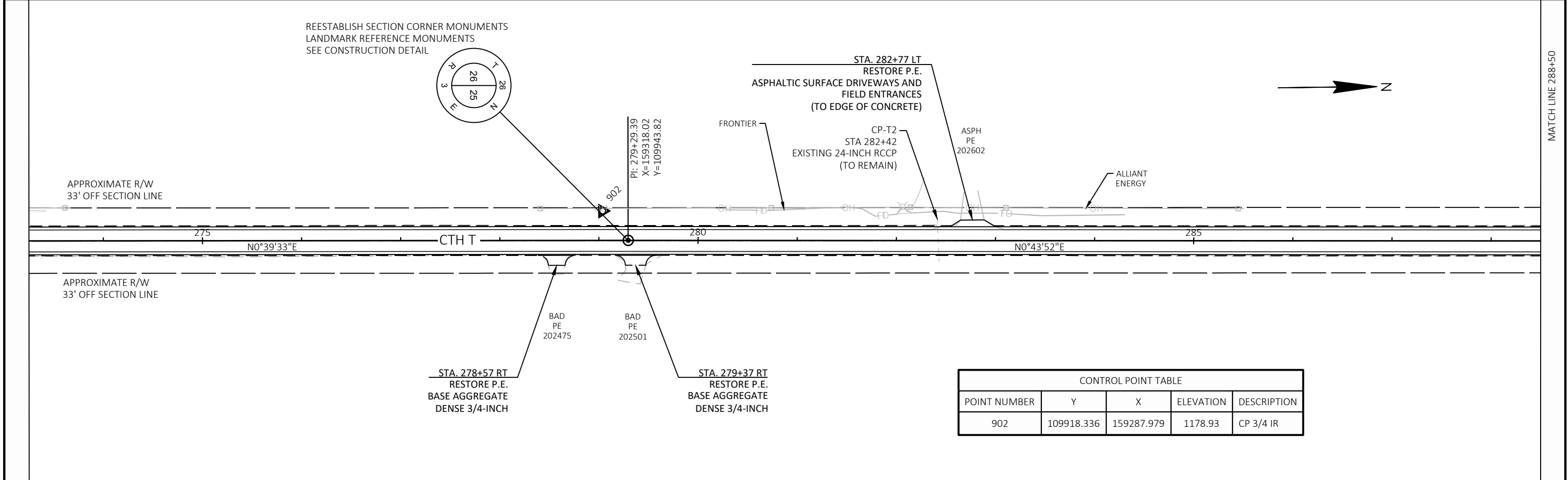
CONTROL POINT TABLE				
POINT NUMBER	Y	X	ELEVATION	DESCRIPTION
903	107266.144	159318.278	1167.53	CP 3/4 IR

PROJECT NO: 6667-00-71 HWY: CTH T COUNTY: MARATHON PLAN - CTH T SHEET **E**



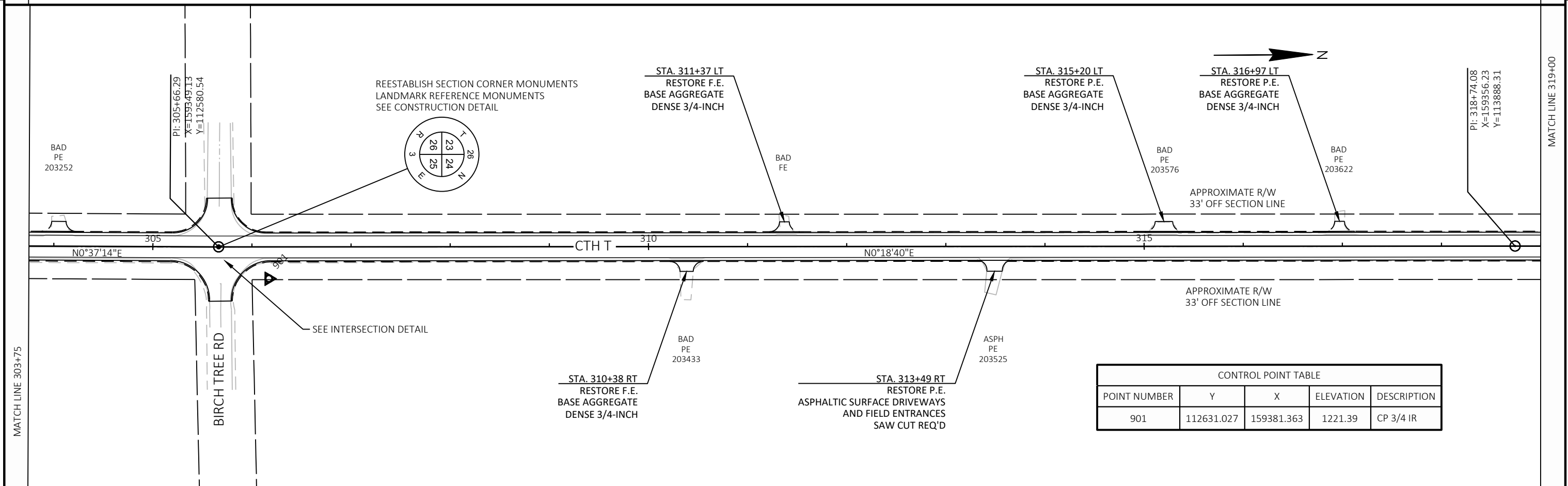
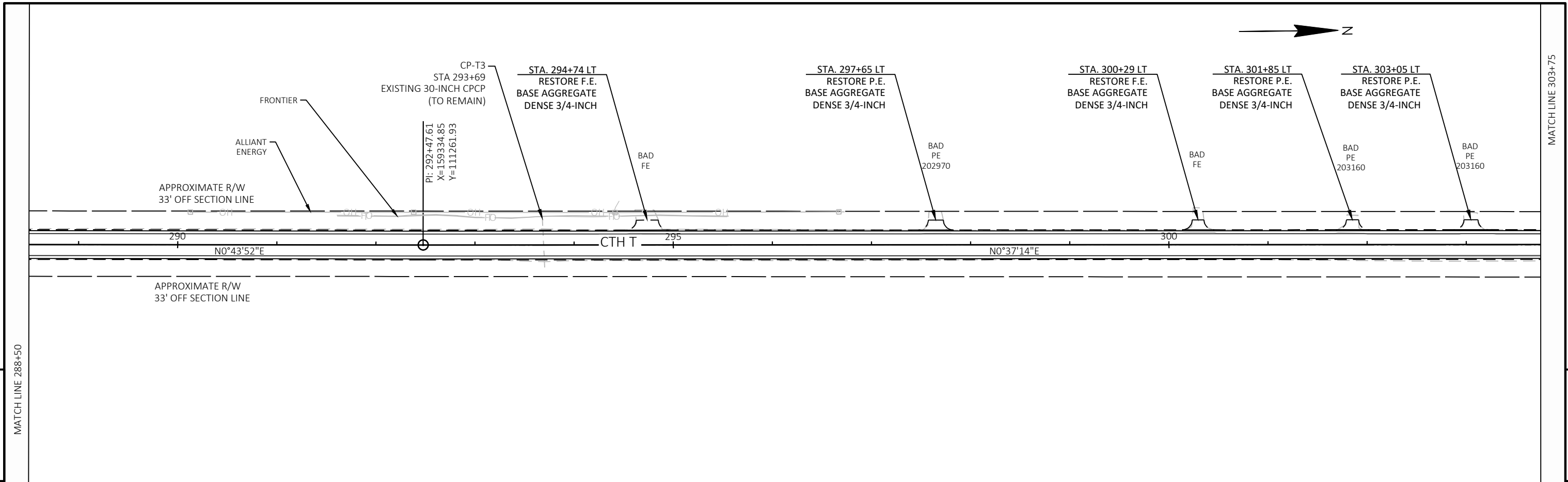
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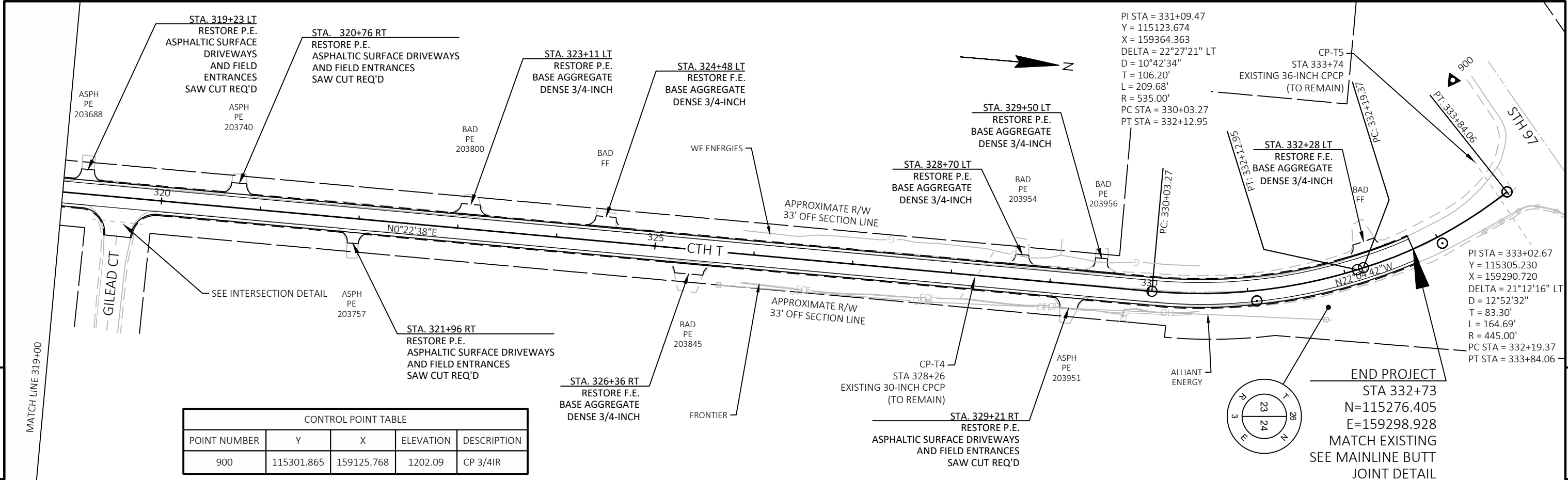
CONTROL POINT TABLE				
POINT NUMBER	Y	X	ELEVATION	DESCRIPTION
902	109918.336	159287.979	1178.93	CP 3/4 IR

PROJECT NO: 6667-00-71 HWY: CTH T COUNTY: MARATHON PLAN - CTH T SHEET E



CONTROL POINT TABLE				
POINT NUMBER	Y	X	ELEVATION	DESCRIPTION
901	112631.027	159381.363	1221.39	CP 3/4 IR

PROJECT NO: 6667-00-71 HWY: CTH T COUNTY: MARATHON PLAN - CTH T SHEET E

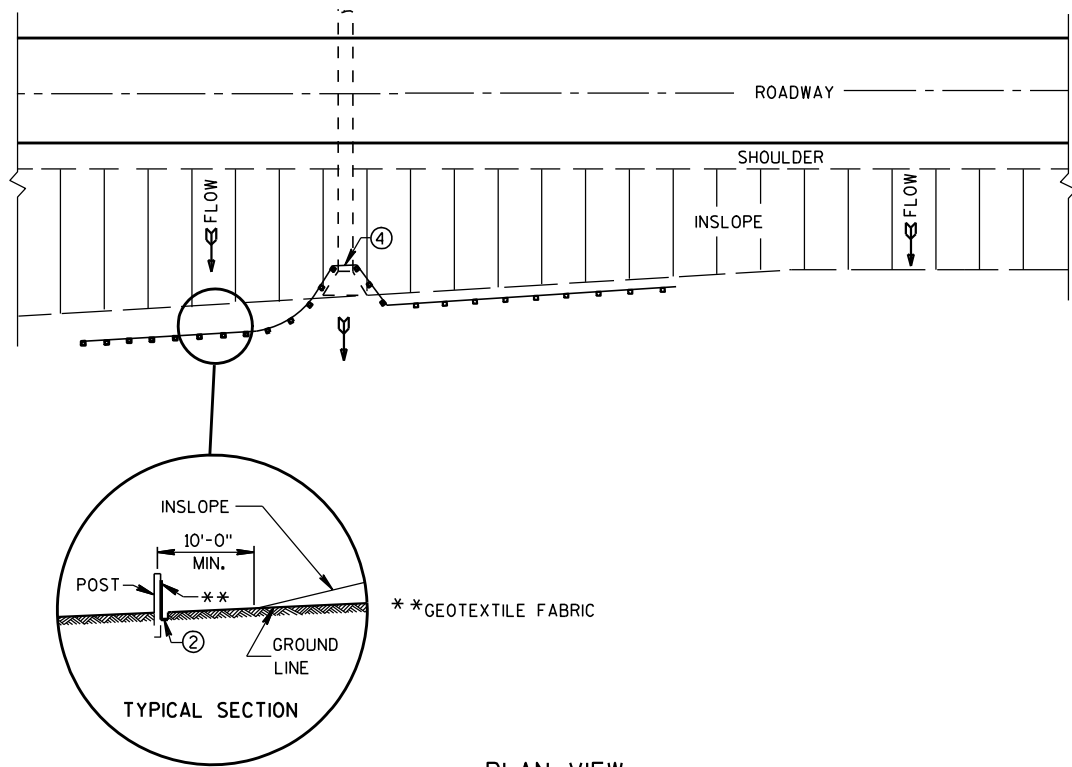


CONTROL POINT TABLE				
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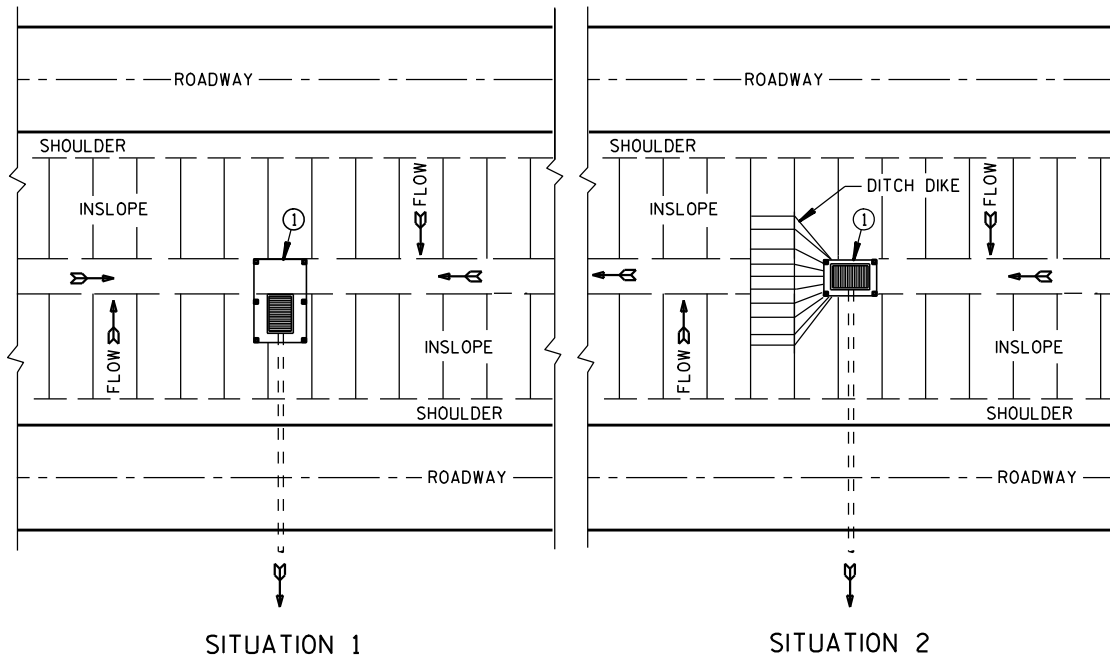
THIS WINDOW INTENTIONALLY LEFT BLANK

Standard Detail Drawing List

08E09-06	SILT FENCE
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C12-09B	TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE
15C19-08A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

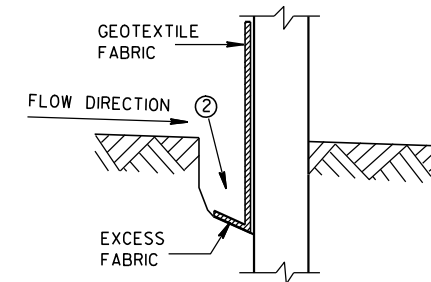


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

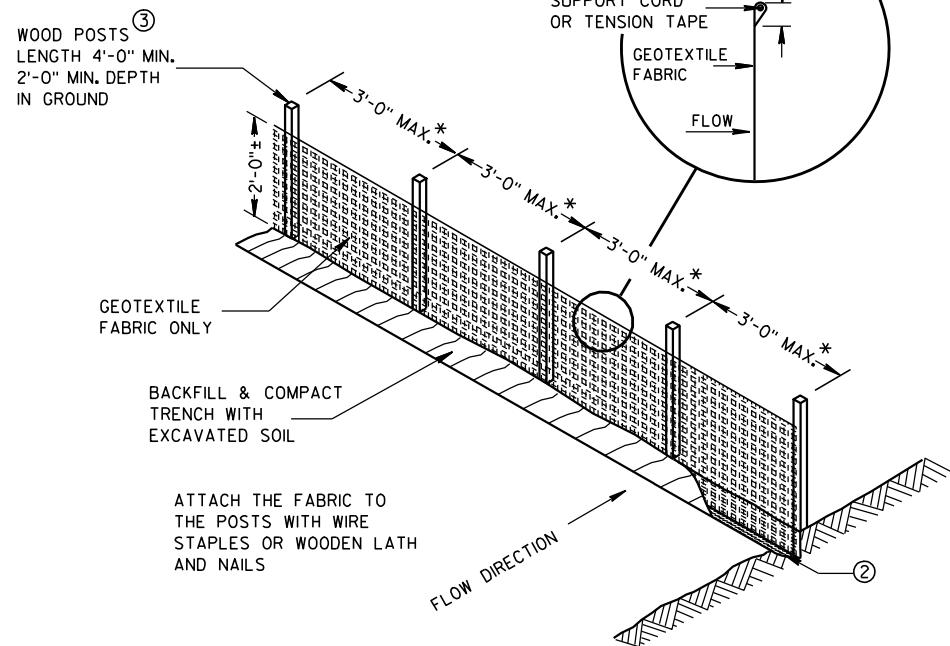
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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



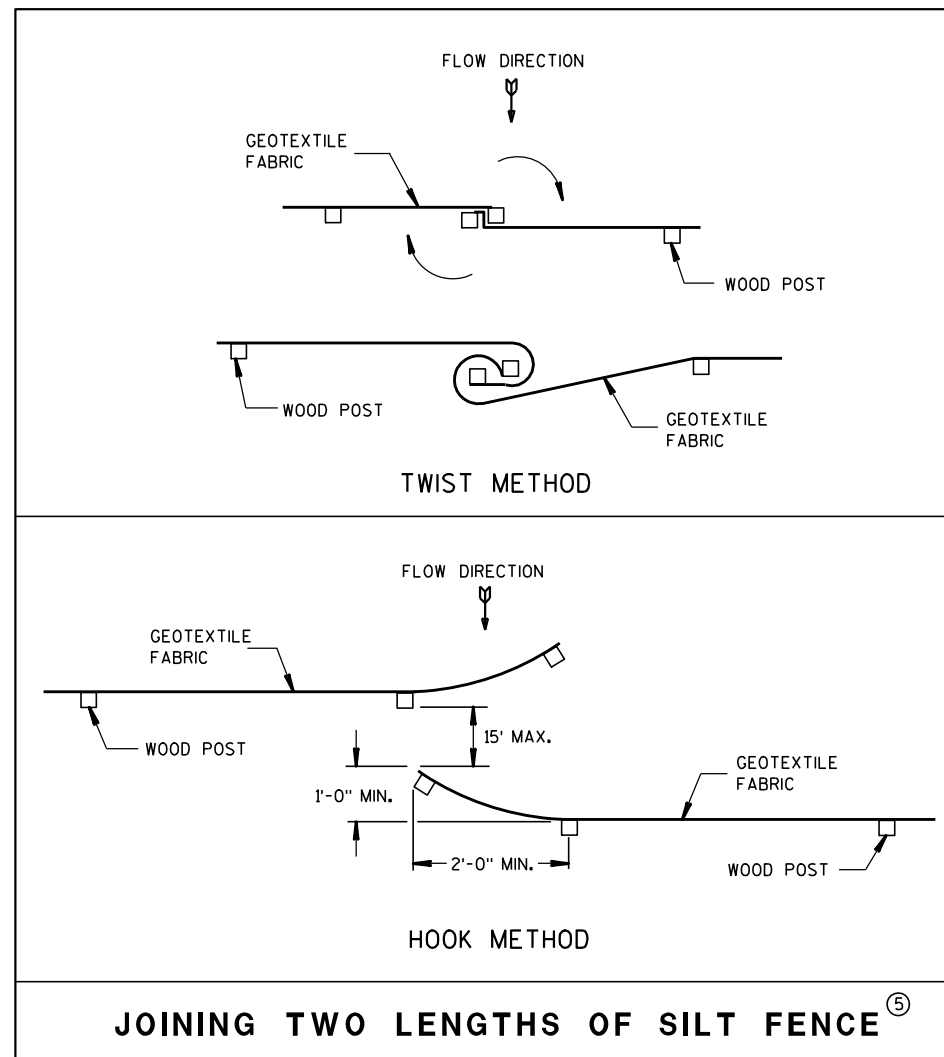
TRENCH DETAIL

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

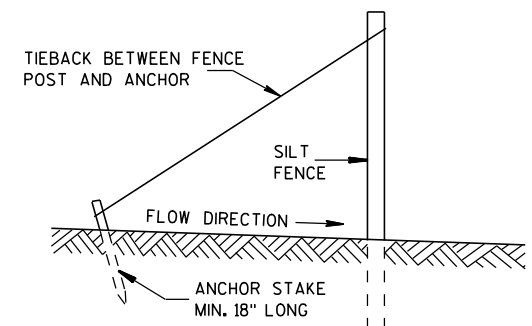


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

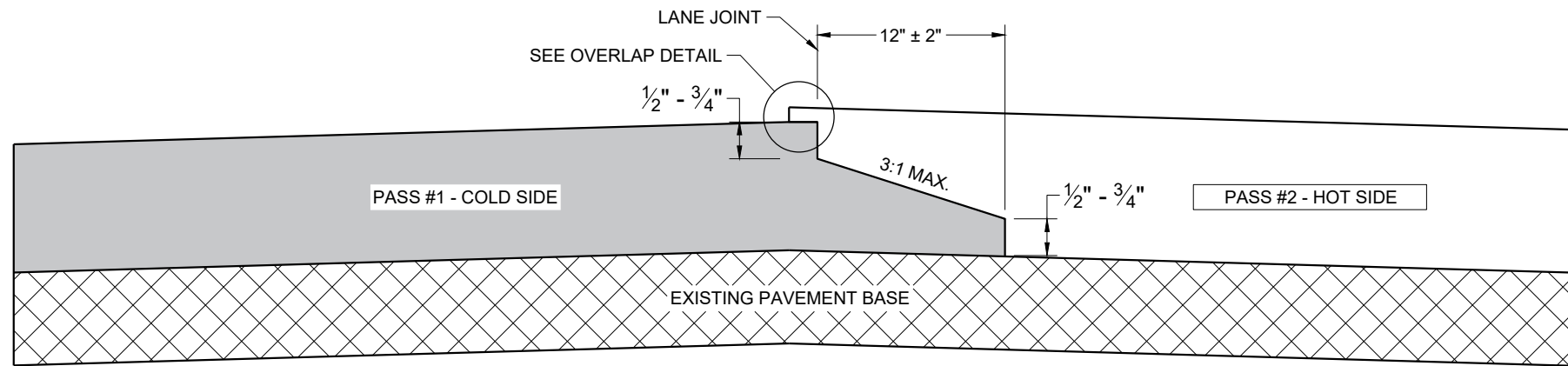


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

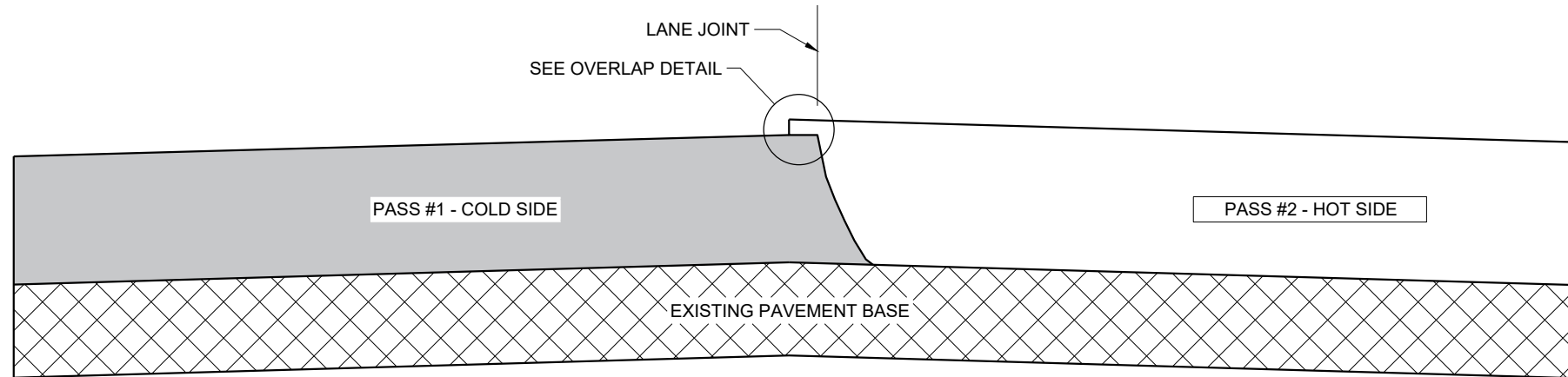
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

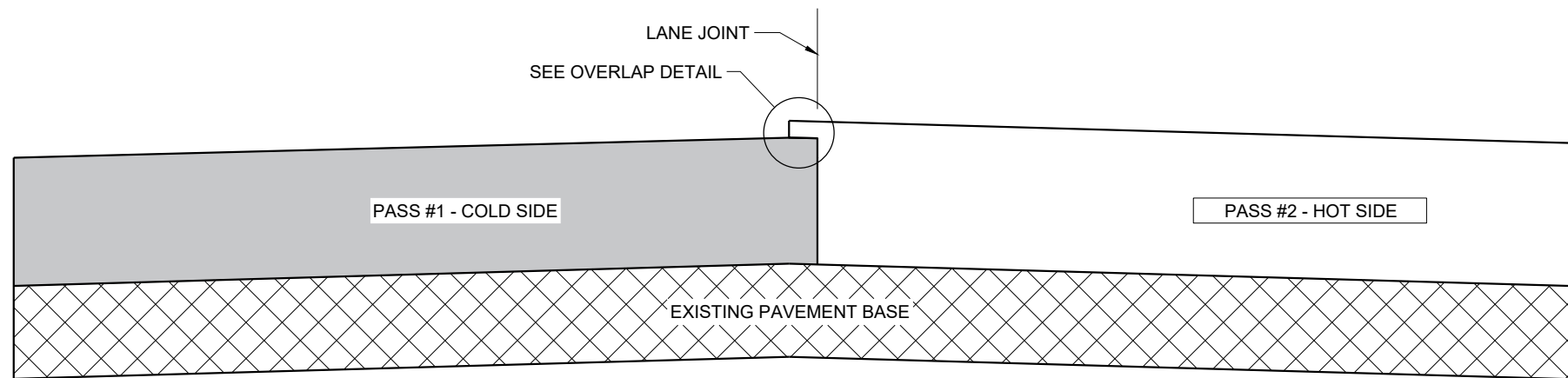
APPROVED
4-29-05 /S/ Beth Canestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



TYPICAL PAVEMENT CROSS SECTION NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION VERTICAL JOINT (MILLED)

GENERAL NOTES

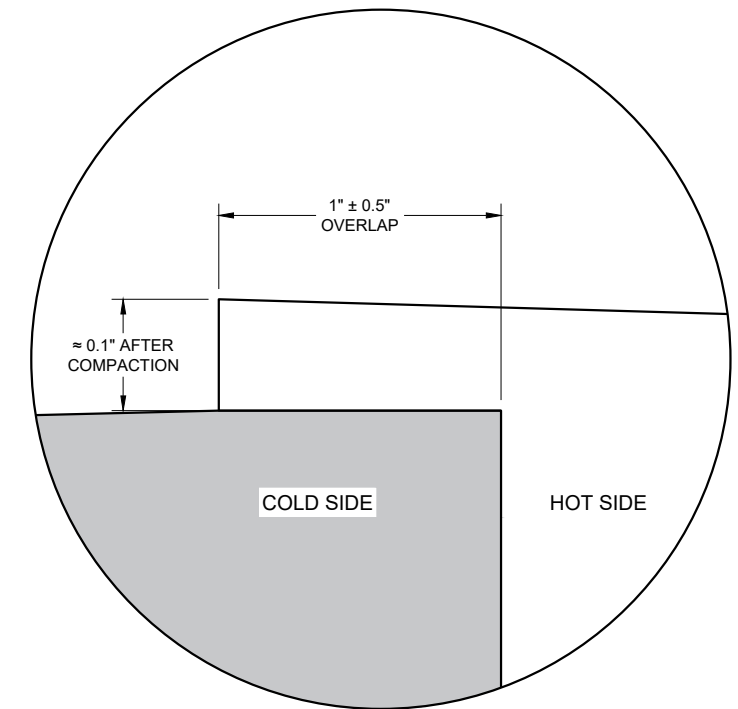
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

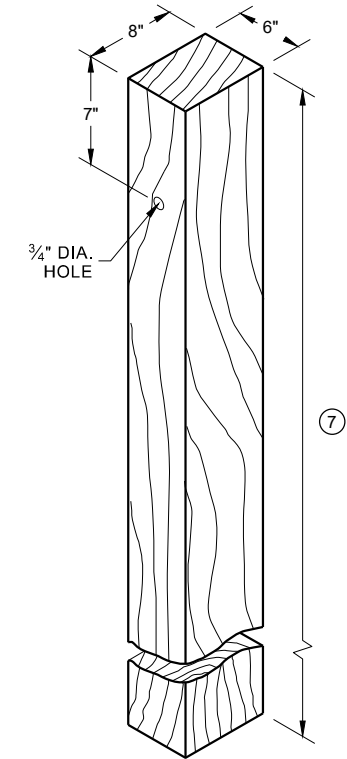
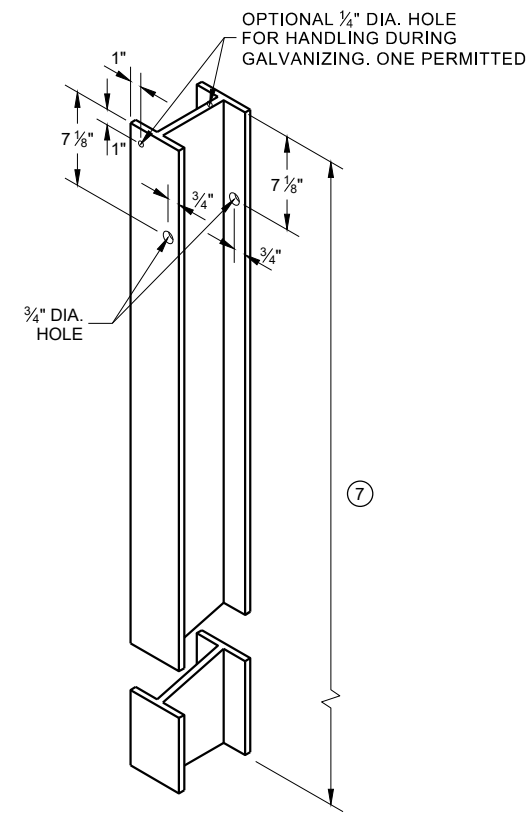
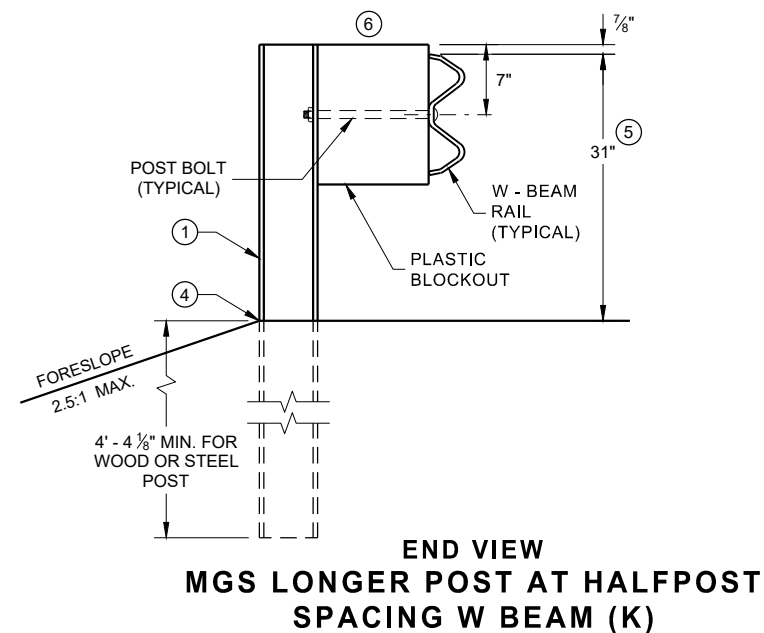
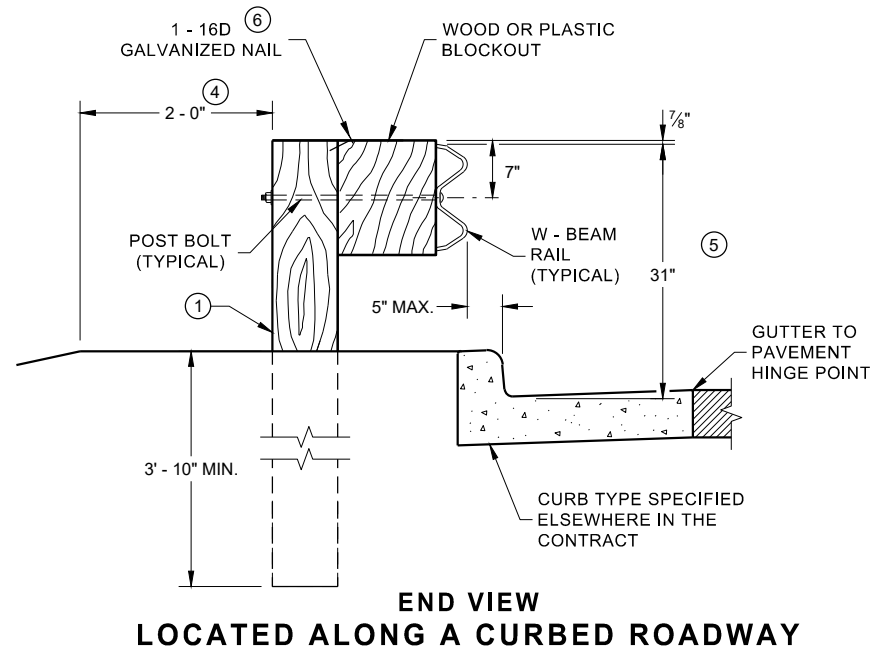
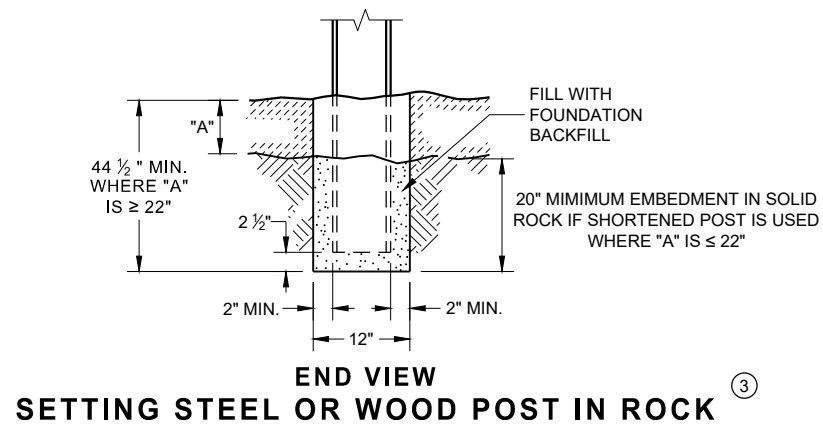
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SDD 13C19 - 03

SDD 13C19 - 03

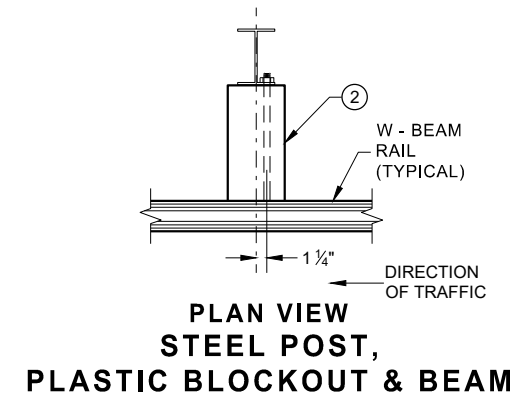
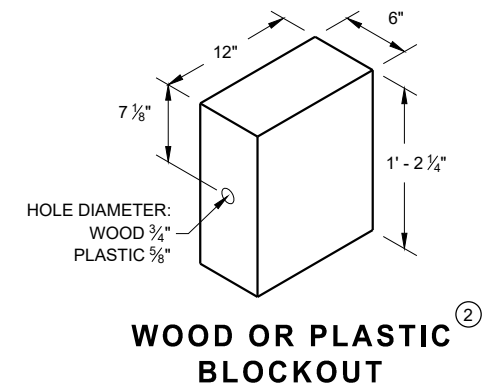
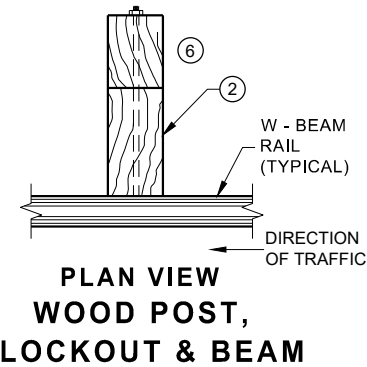
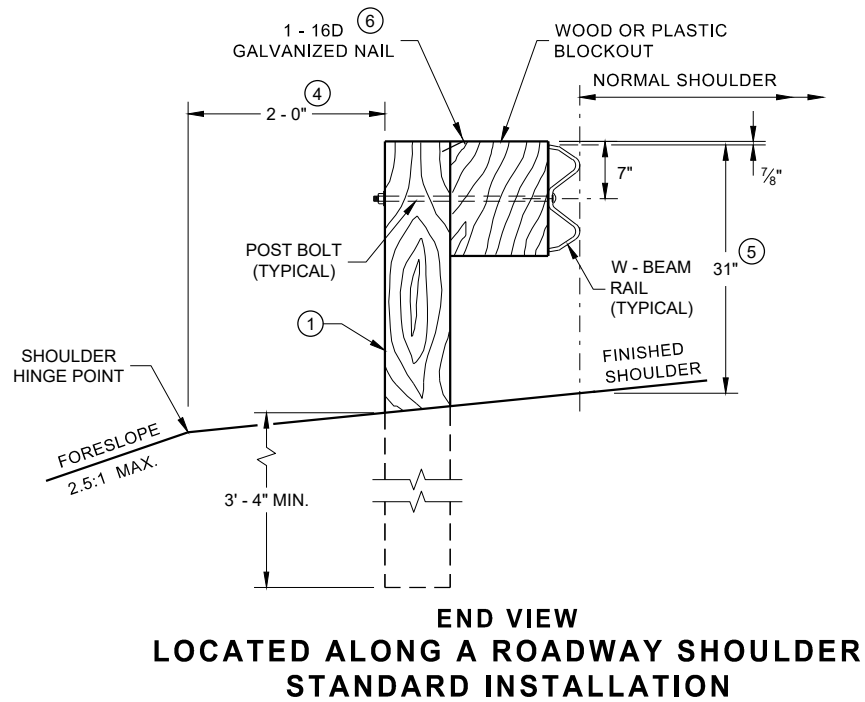
HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	

- 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".



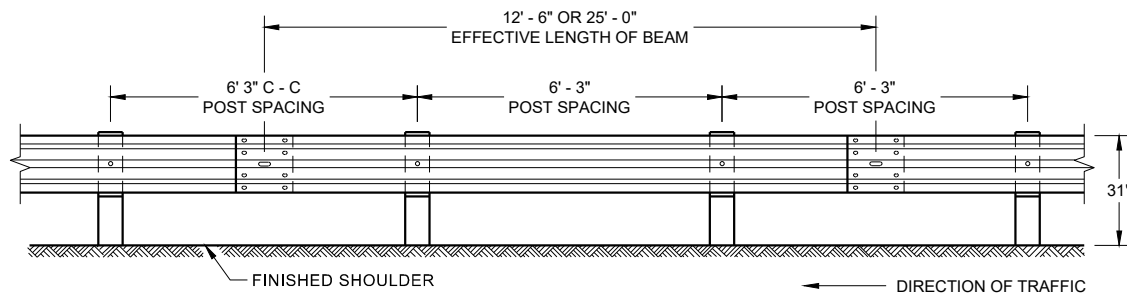
STEEL POST & HOLE PUNCHING DETAIL
(W 6 X 9) ①

WOOD POST (6" X 8") NOMINAL ①

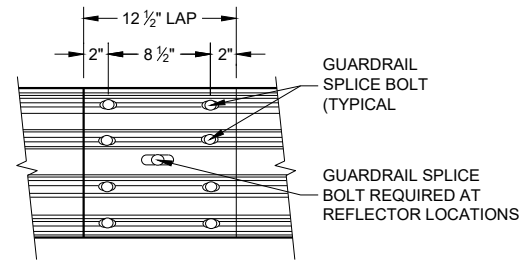


MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



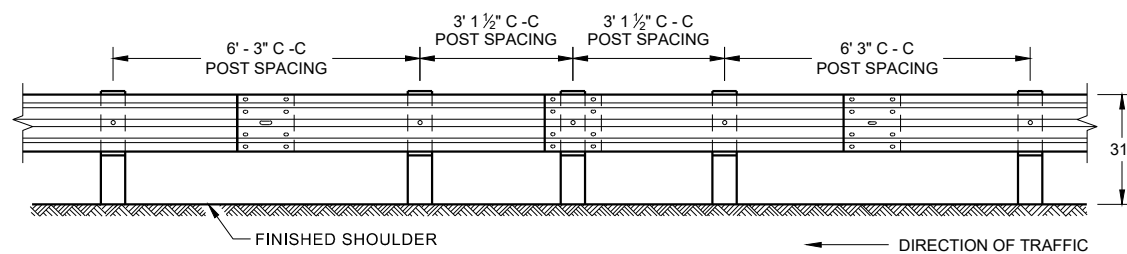
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



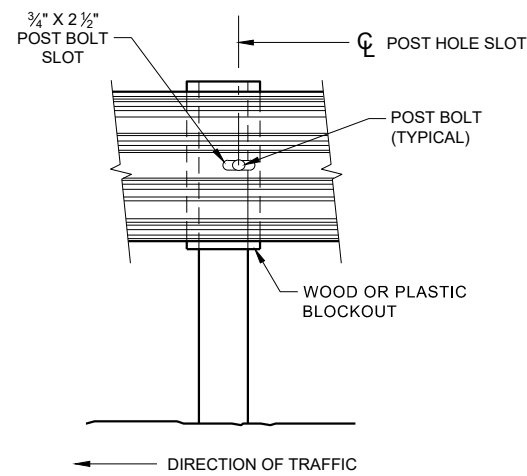
**FRONT VIEW
MID-SPAN BEAM SPLICE**

GENERAL NOTES

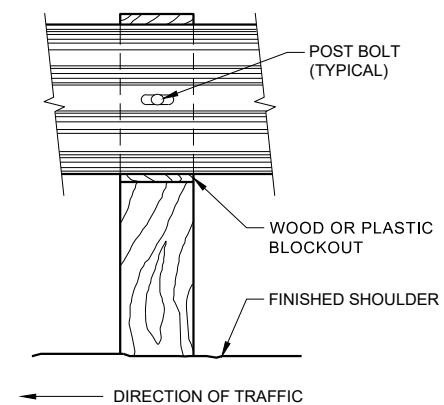
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
 - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



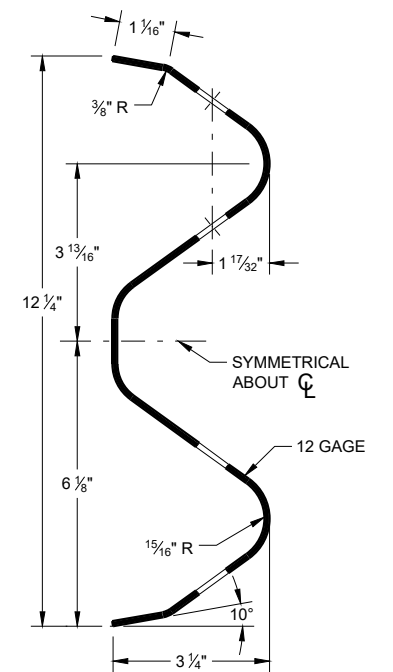
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



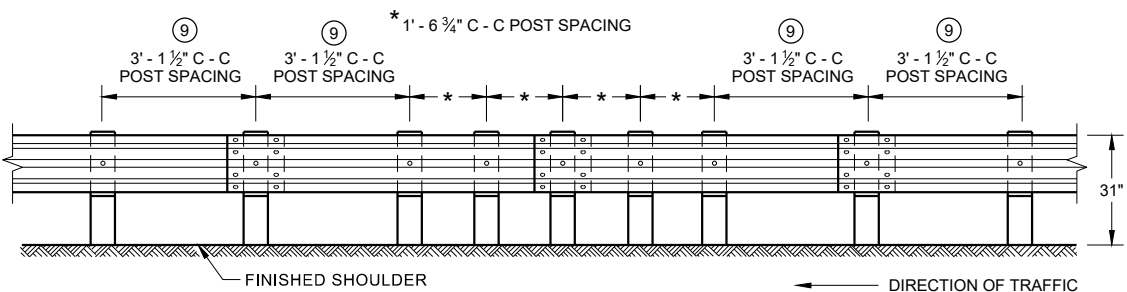
FRONT VIEW AT STEEL POST



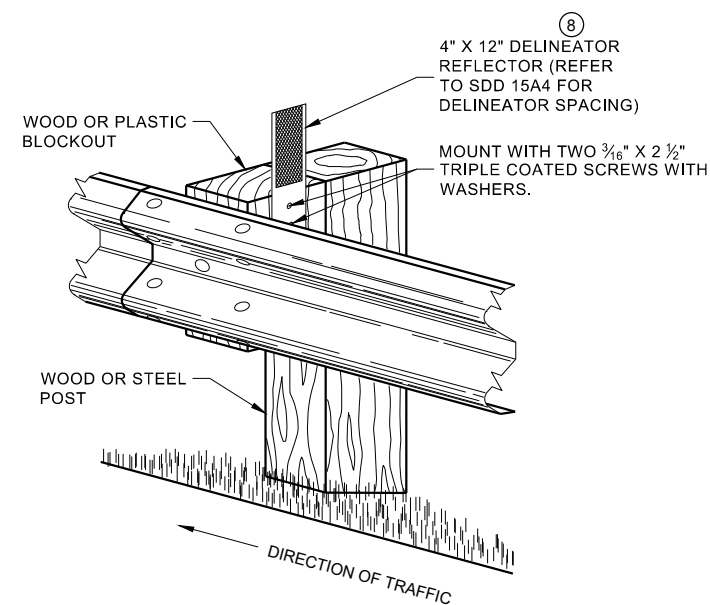
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



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



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

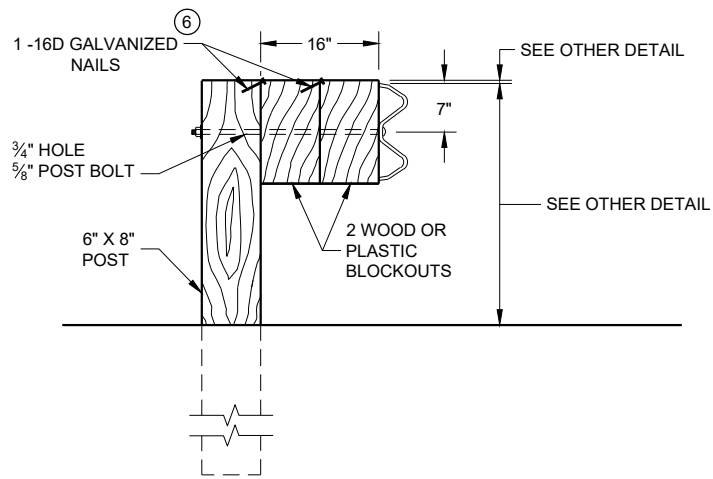
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

6

SDD 14B42 - 07b

SDD 14B42 - 07b

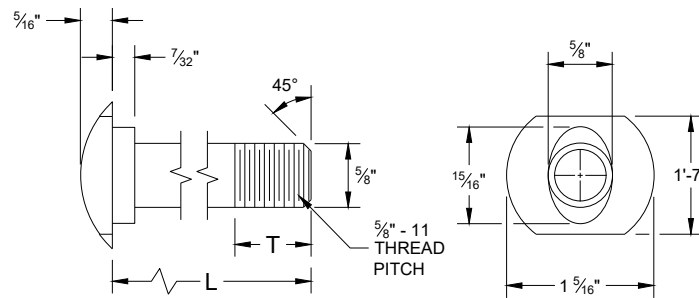


DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

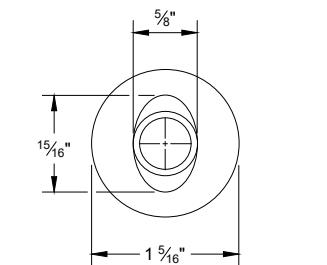
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

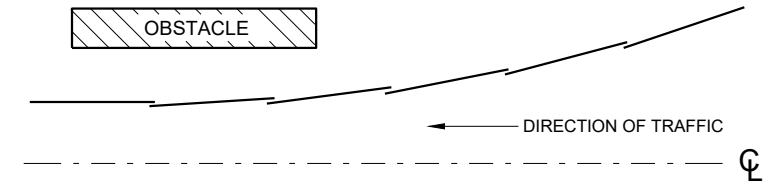


POST BOLT TABLE

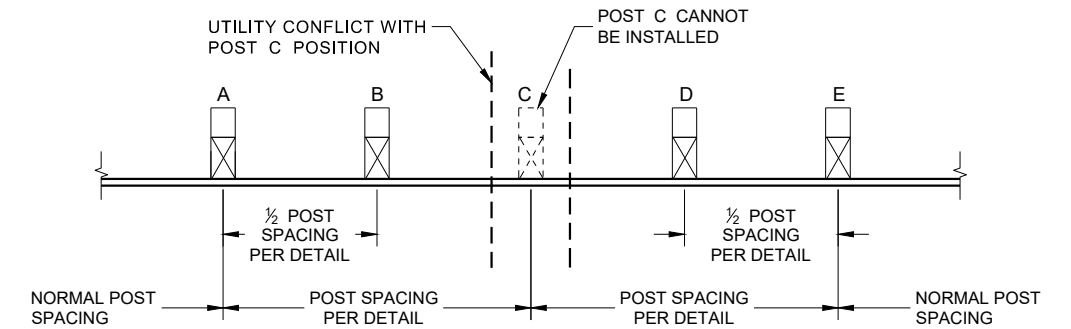
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



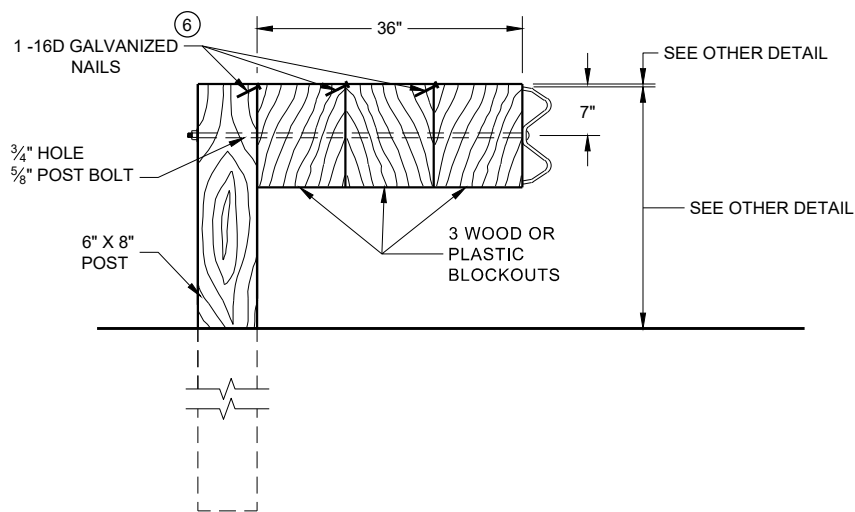
ALTERNATE BOLT HEAD



**PLAN VIEW
BEAM LAPPING DETAIL**

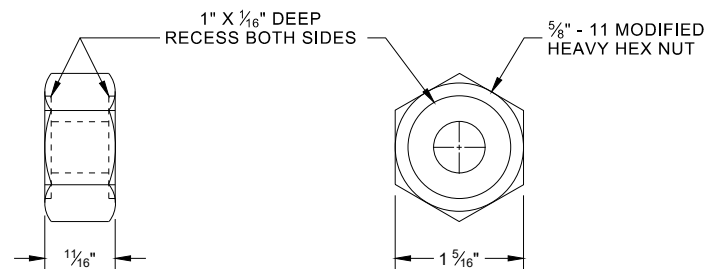


**POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION**

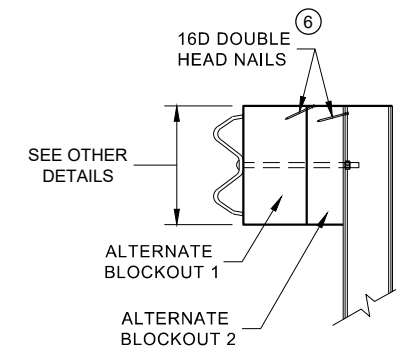


DETAIL FOR 36" BLOCKOUT DEPTH

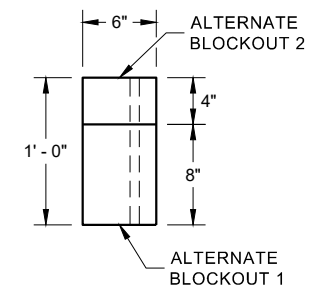
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT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



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



SIDE VIEW



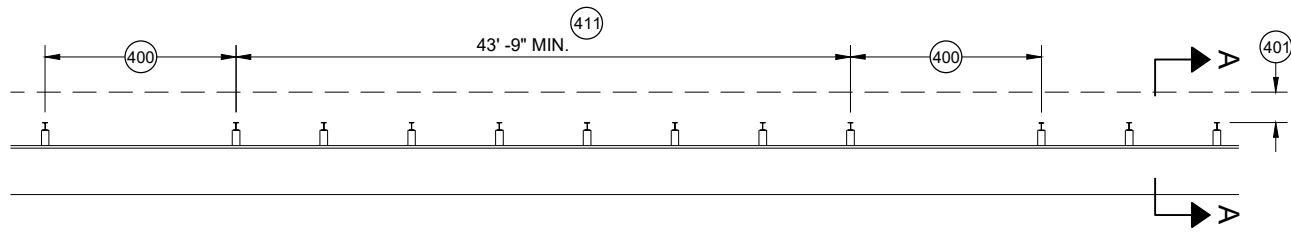
PLAN VIEW

**ALTERNATE WOOD
BLOCKOUT DETAIL**

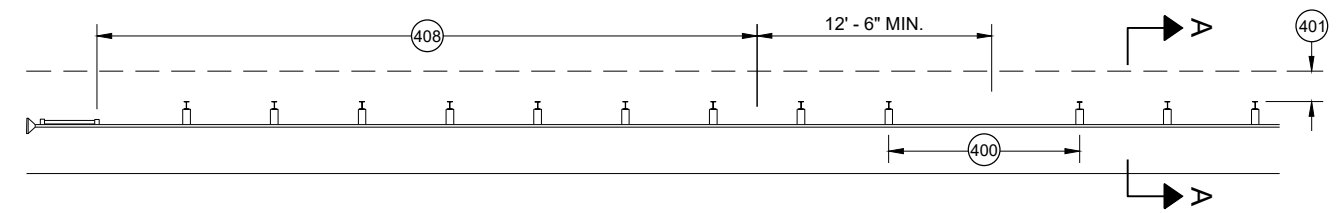
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

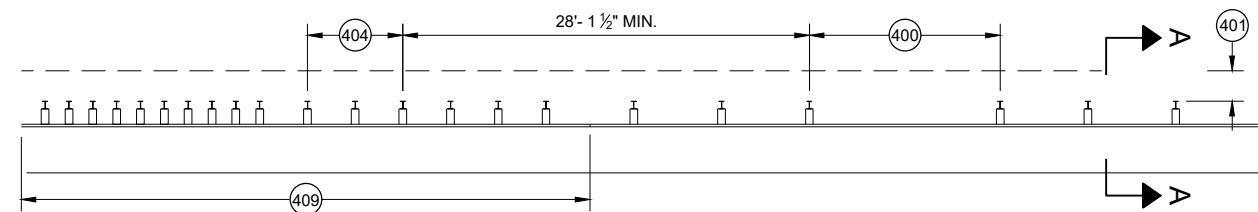
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



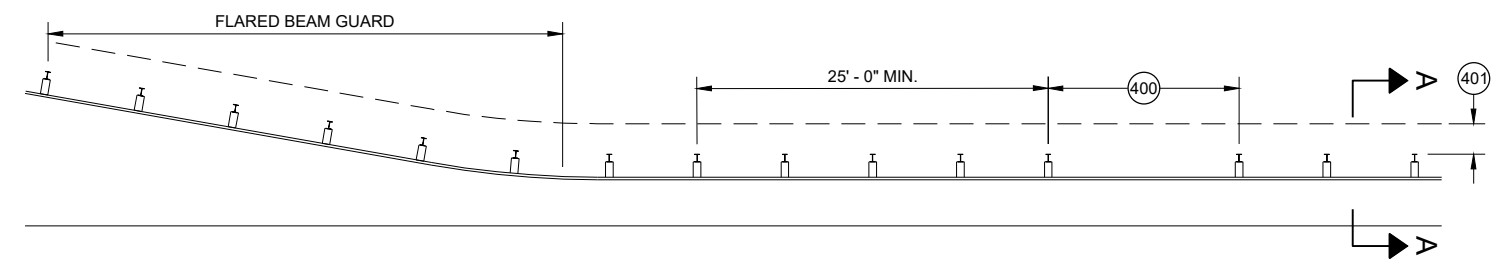
MISSING POST IN MGS GUARDRAIL



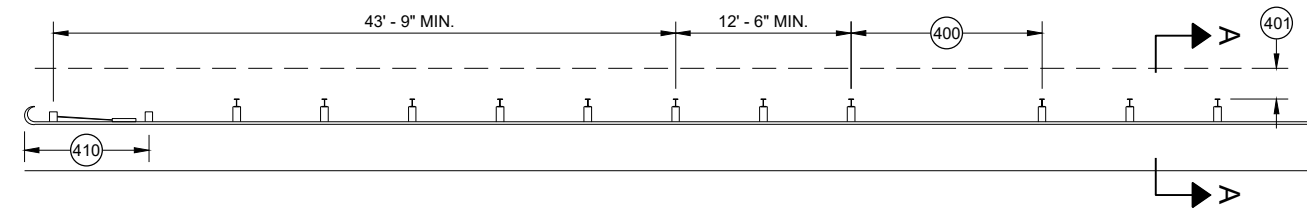
MISSING POST IN MGS GUARDRAIL NEAR EAT



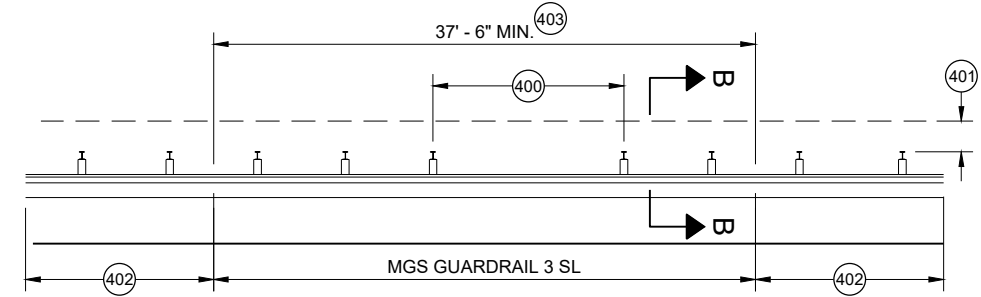
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

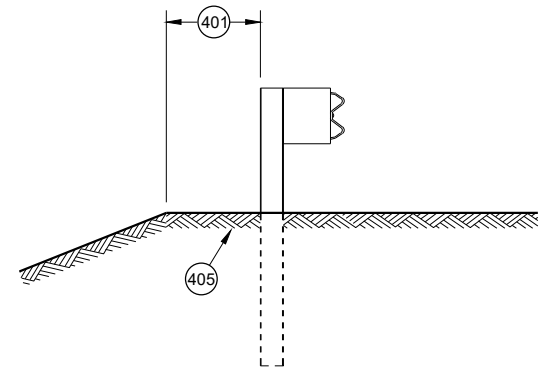


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

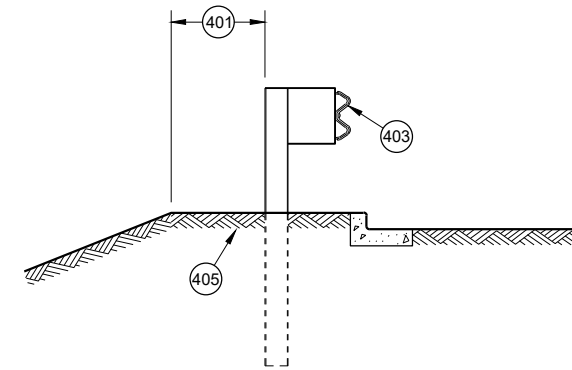


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

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



SECTION A - A



SECTION B - B

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE May 2021	/s/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
 - (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
 - (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
 - (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
 - (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

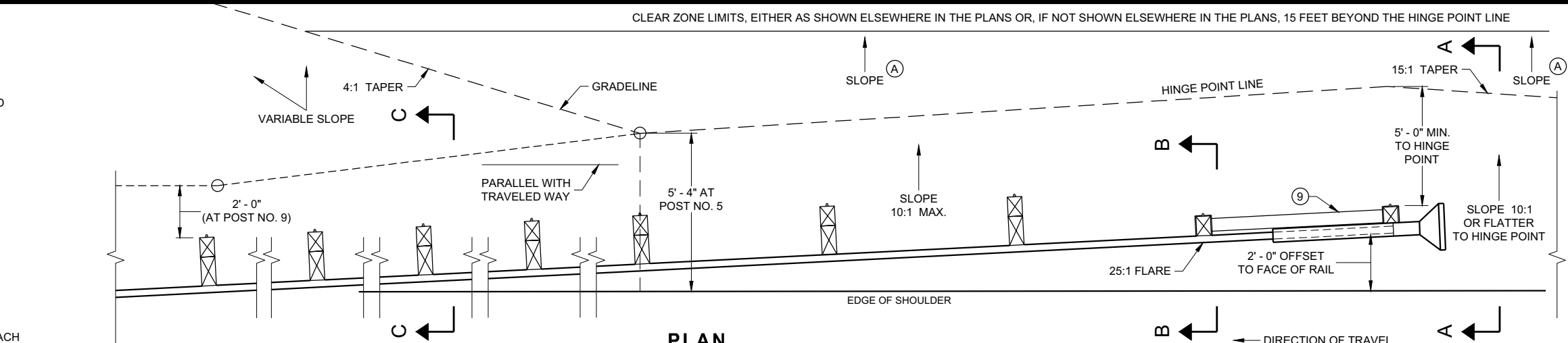
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

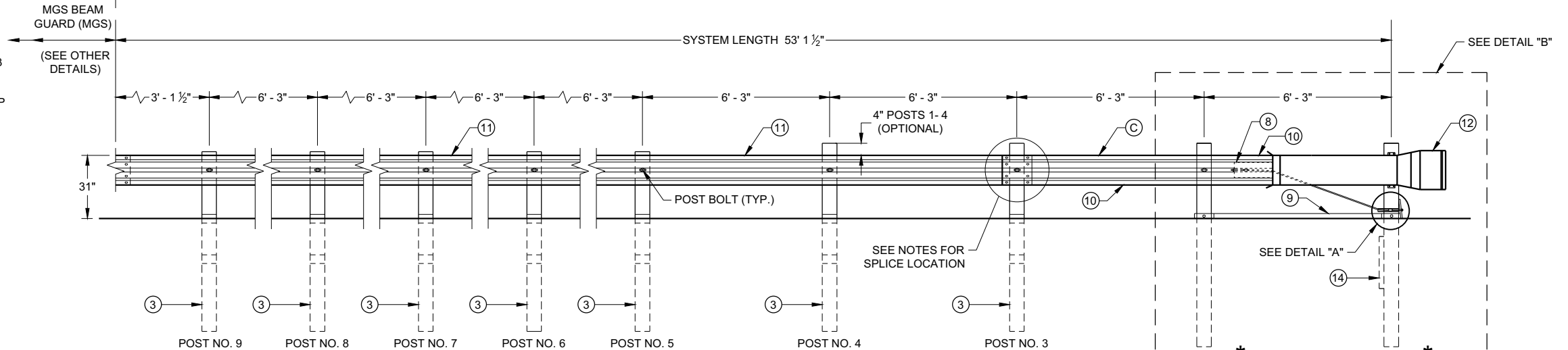
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

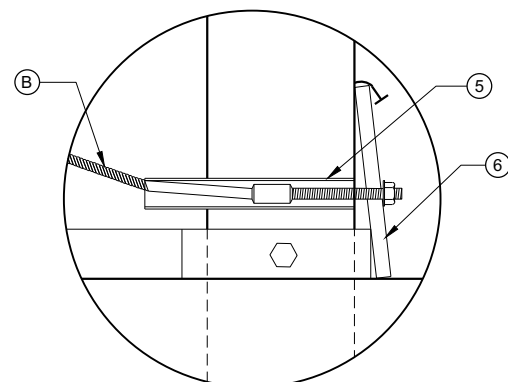
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



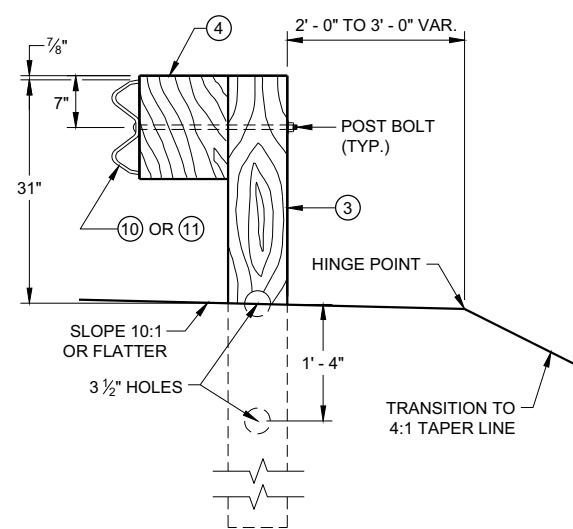
PLAN



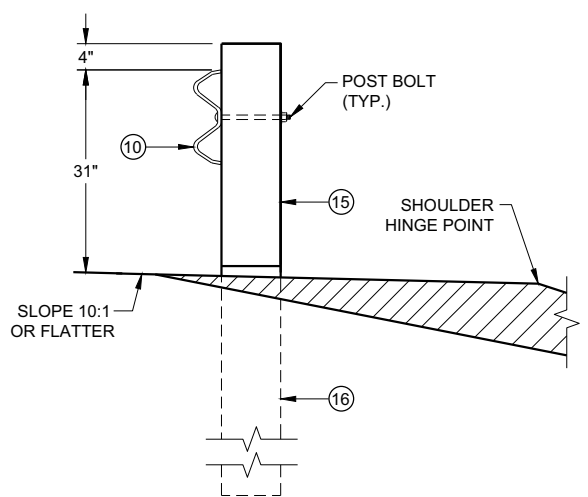
ELEVATION



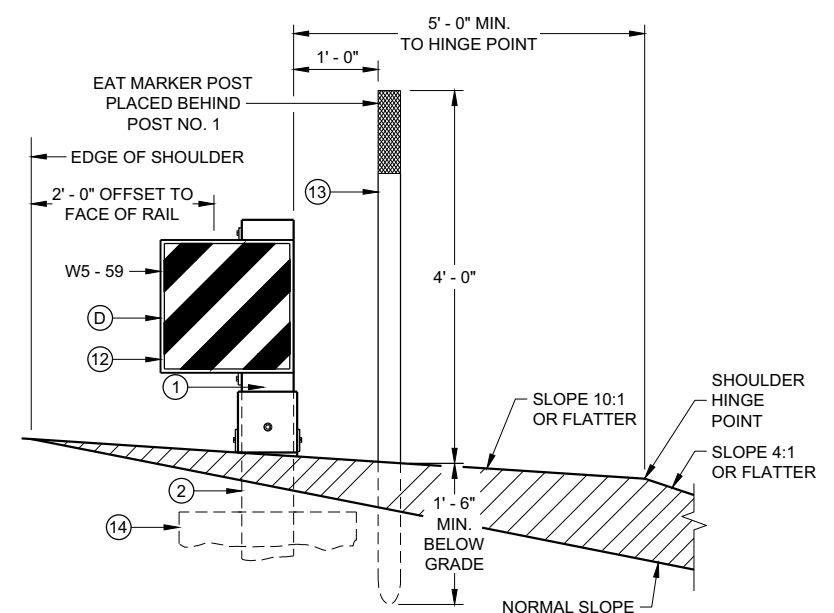
DETAIL "A"



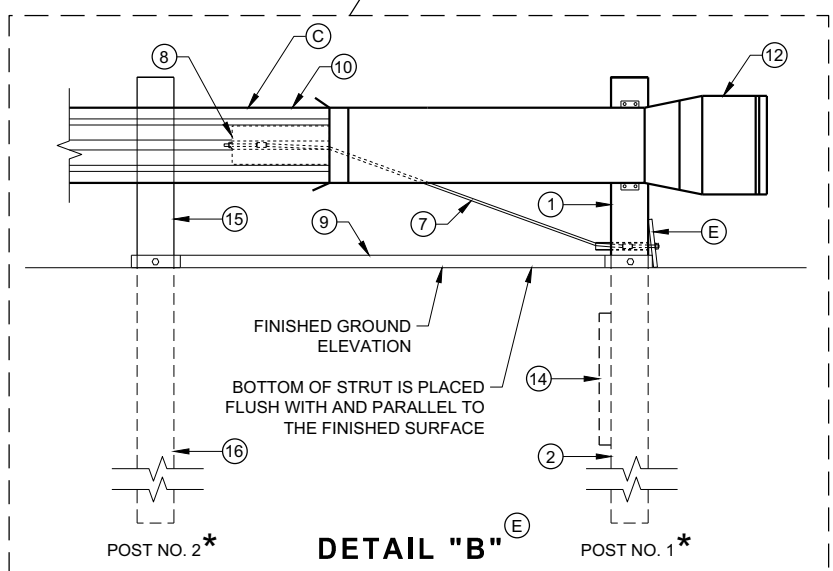
**SECTION C - C
TYPICAL AT POST NOS. 3 - 9**



**SECTION B - B
TYPICAL AT POST NO. 2***



**SECTION A - A
TYPICAL AT POST NO. 1***



DETAIL "B"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

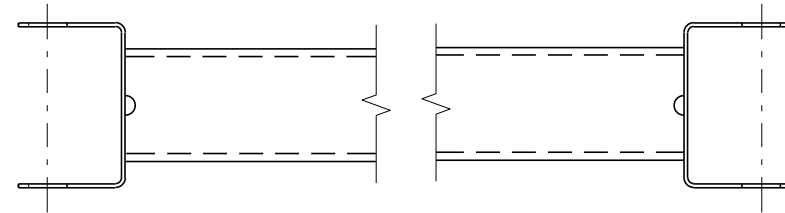
6

SDD 14B44 - 04a

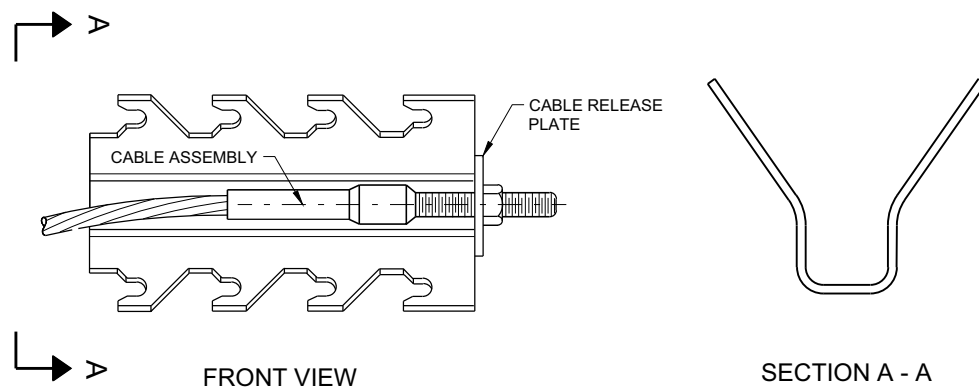
SDD 14B44 - 04a

BILL OF MATERIALS

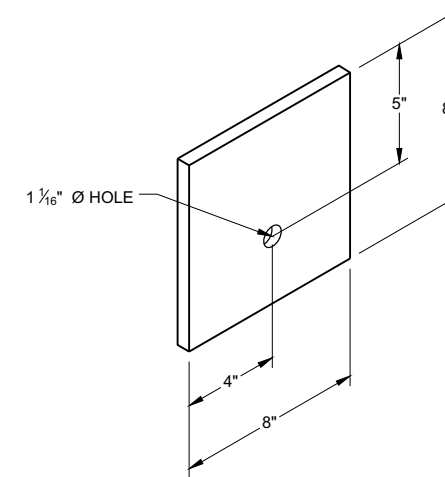
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



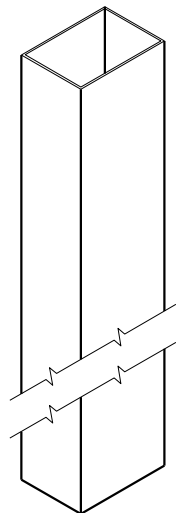
GENERIC GROUND STRUT ⑨ ⑤



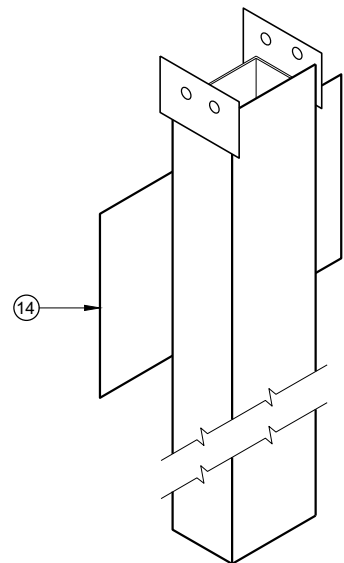
GENERIC ANCHOR CABLE BOX ⑨ ⑤



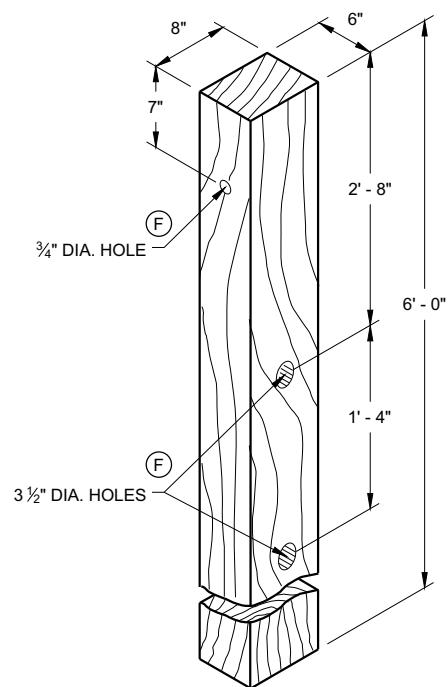
BEARING PLATE ⑥ ⑤



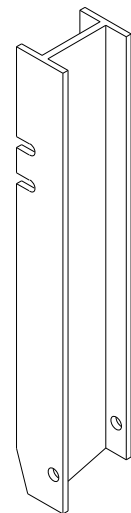
UPPER POST NO. 1 ⁽¹⁾ (E)



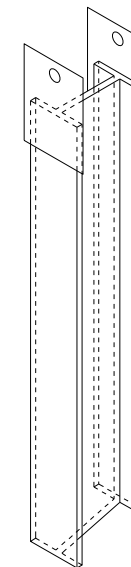
LOWER POST NO. 1 ⁽²⁾ (E)



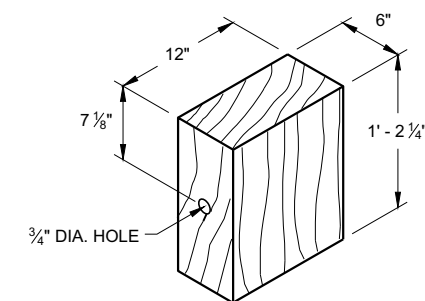
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



UPPER POST NO. 2 ⁽¹⁵⁾ (E)

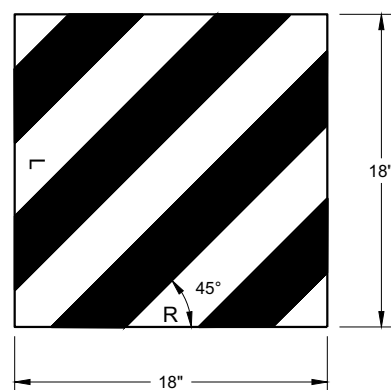


LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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

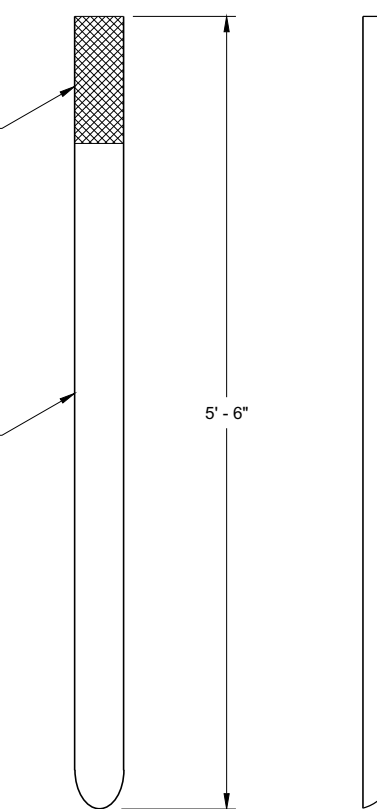
6



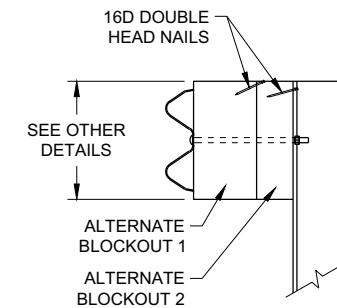
W5 - 59
REFLECTIVE SHEETING DETAIL ^(E)

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

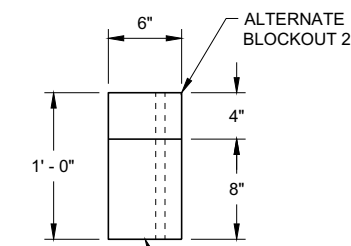
E.A.T. MARKER
POST (YELLOW)



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



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

6

SDD 14B44 - 04c

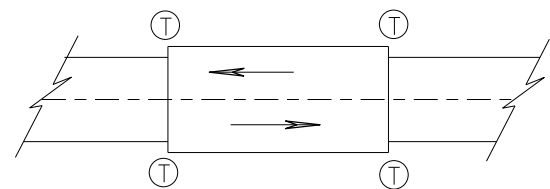
SDD 14B44 - 04c

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

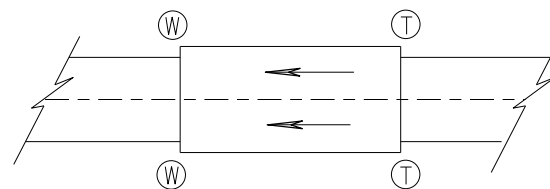
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

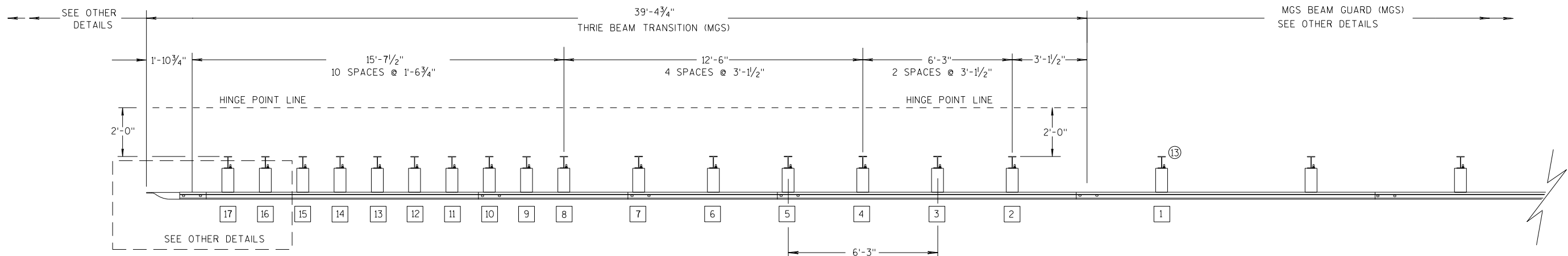
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

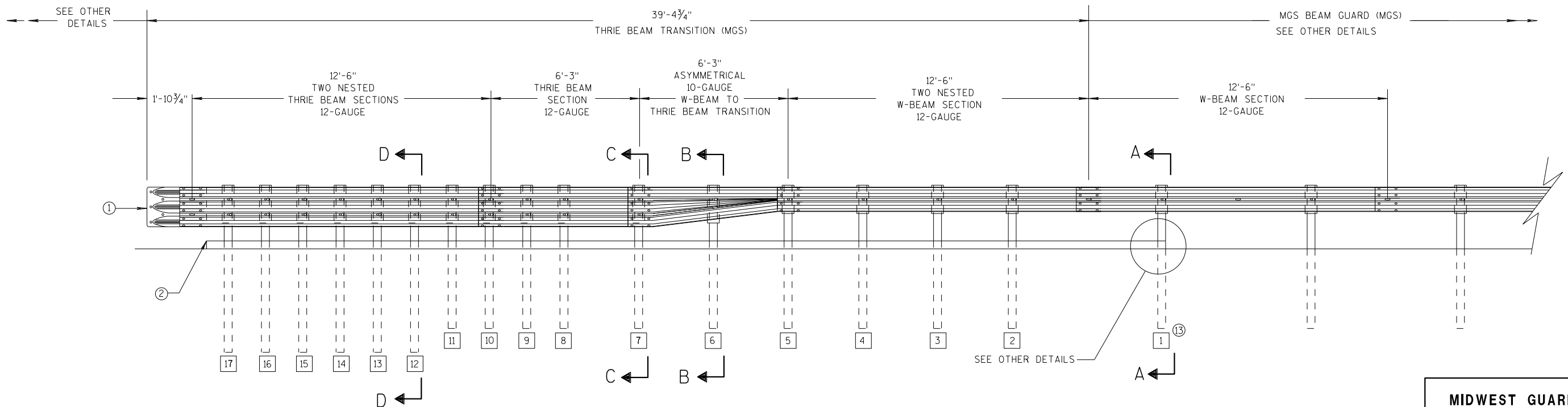
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

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



PLAN VIEW



ELEVATION VIEW

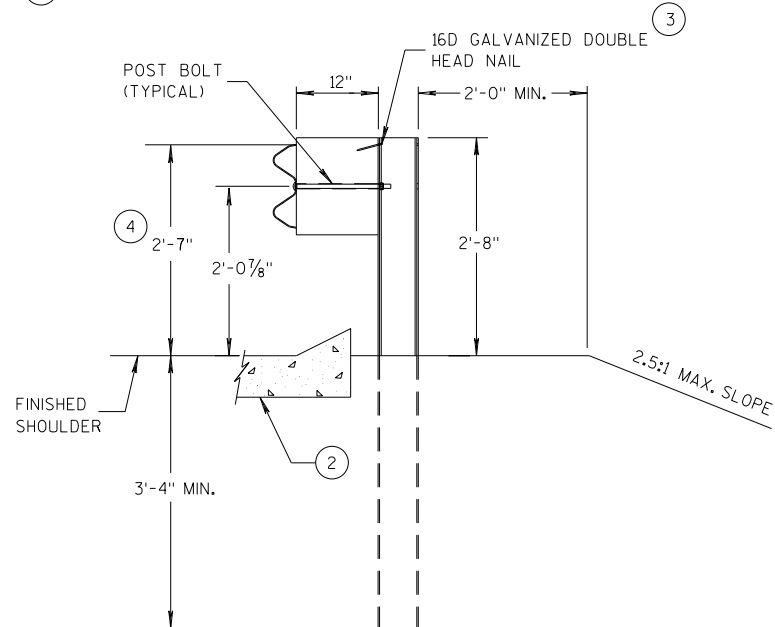
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

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

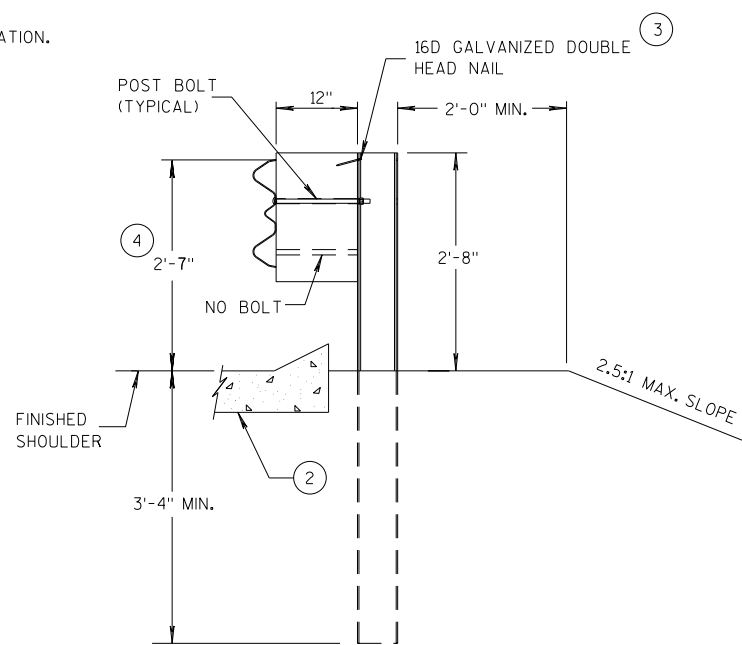
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

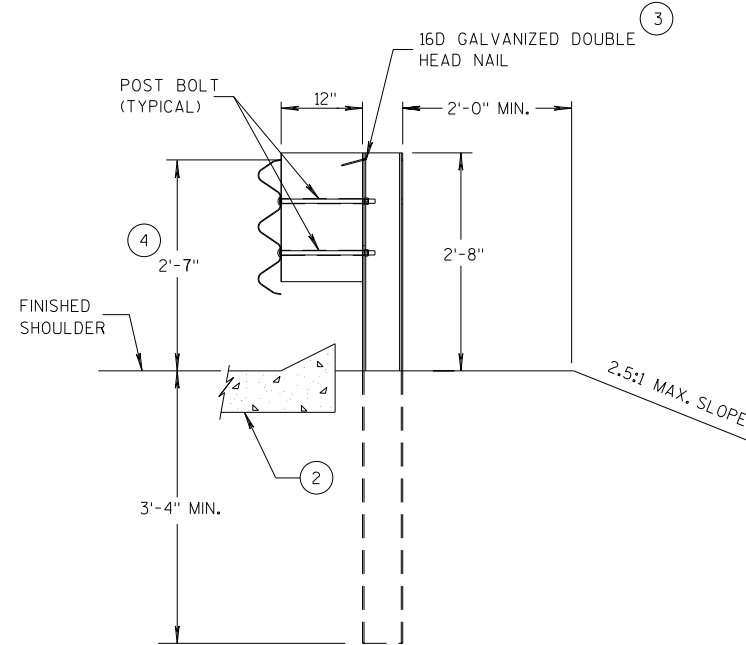
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".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



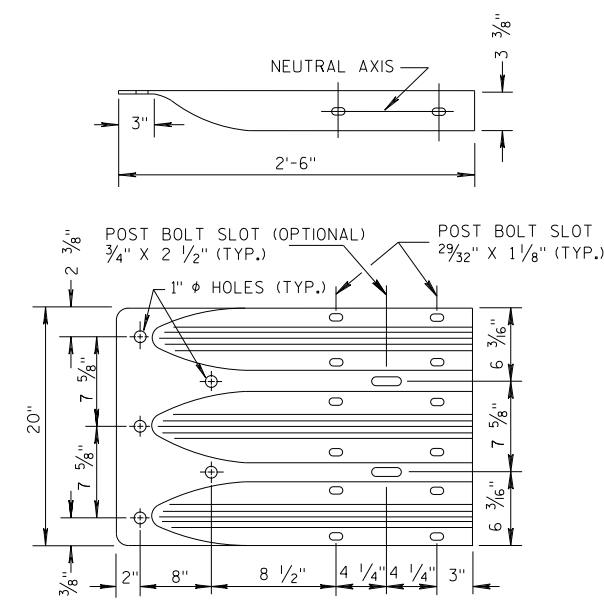
**SECTION A-A
POSTS 1-5**



**SECTION B-B
POST 6**



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



**THRIE BEAM
TERMINAL CONNECTOR**

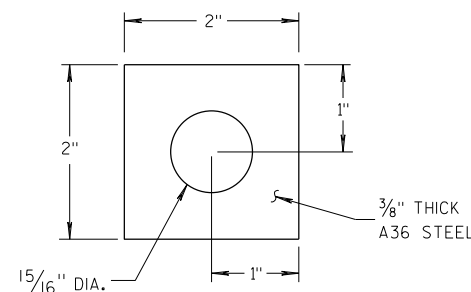
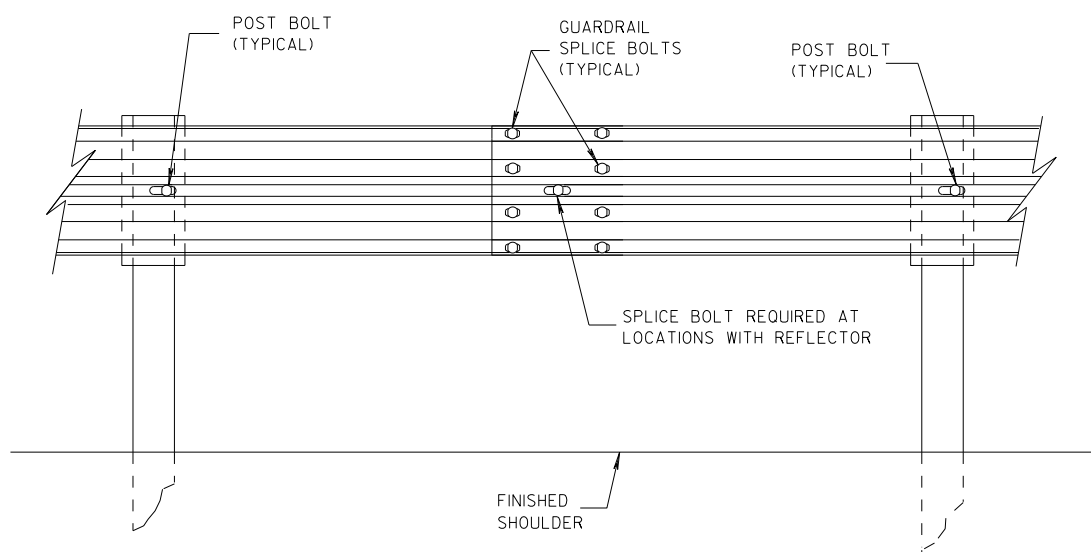
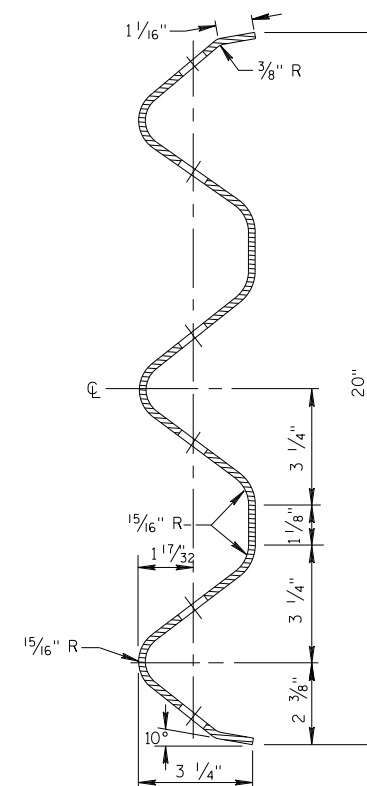


PLATE WASHER DETAIL



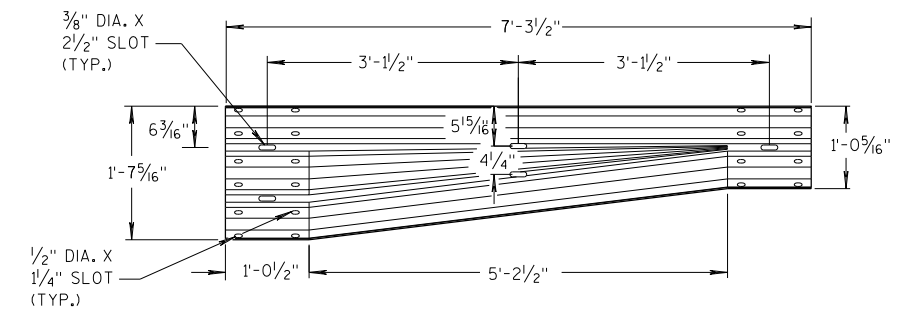
SPLICE DETAIL



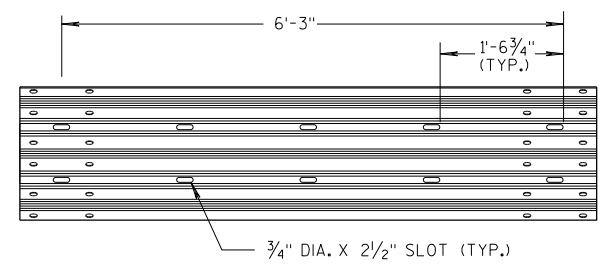
**SECTION THRU THRIE
BEAM RAIL ELEMENT**

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

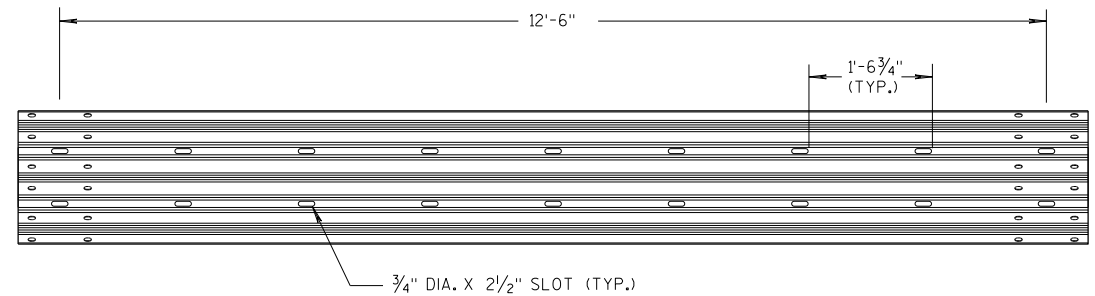
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



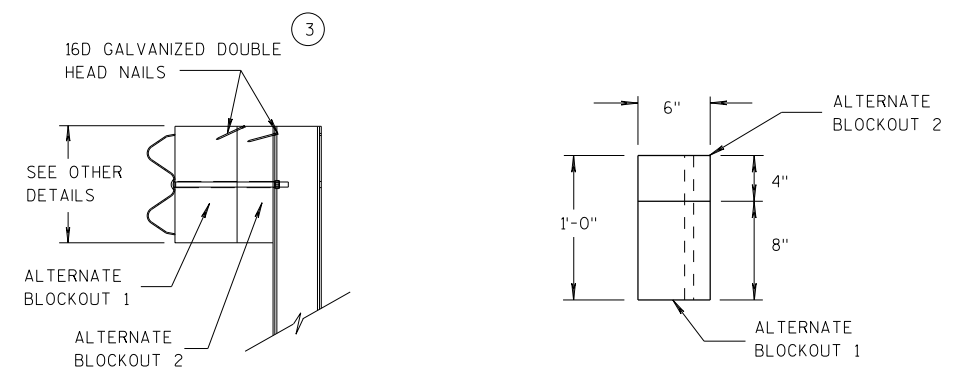
W-BEAM TO THRIE BEAM TRANSITION SECTION



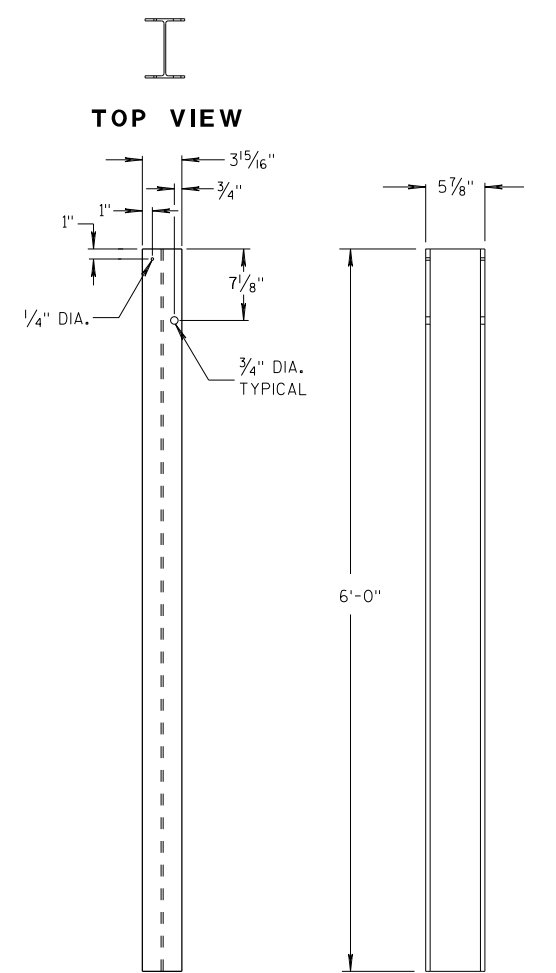
6'-3\"/>



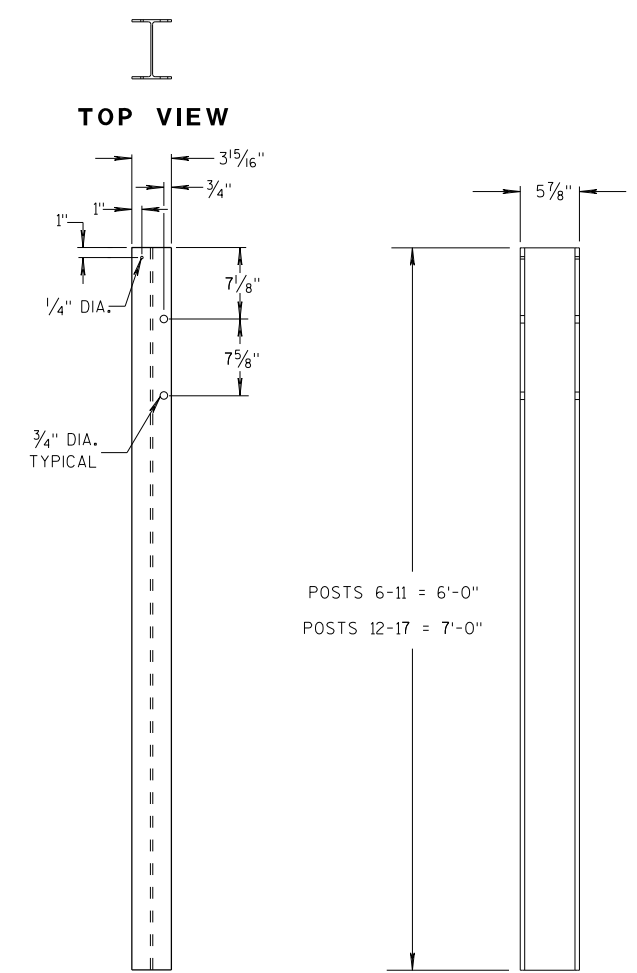
12'-6\"/>



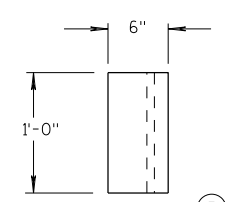
ALTERNATE WOOD BLOCKOUT DETAIL



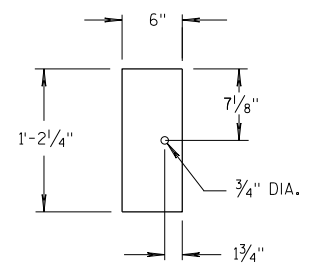
STEEL POSTS 1-5



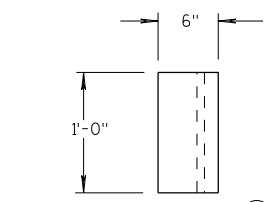
STEEL POSTS 6-17



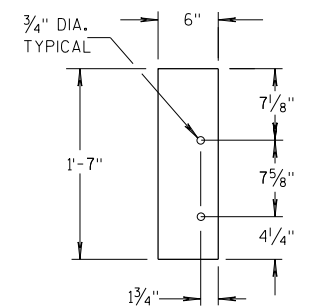
TOP VIEW



**FRONT VIEW
BLOCKOUT
POSTS 1-5**



TOP VIEW



**FRONT VIEW
BLOCKOUT
POSTS 6-17**

GENERAL NOTES

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

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

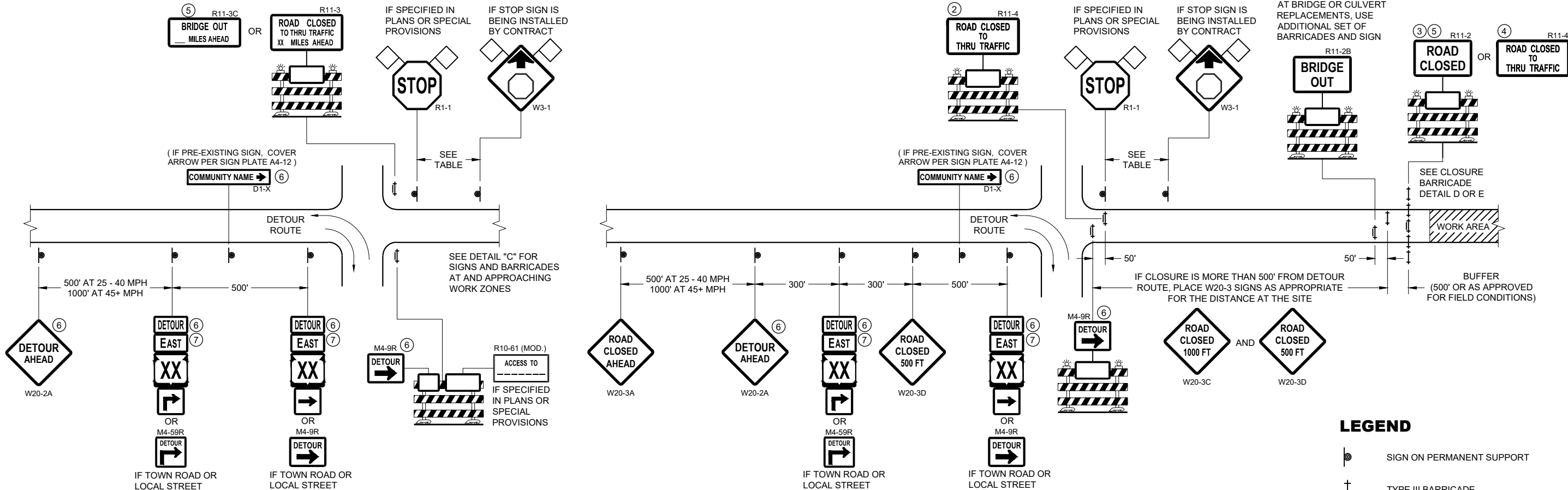
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

6

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

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



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

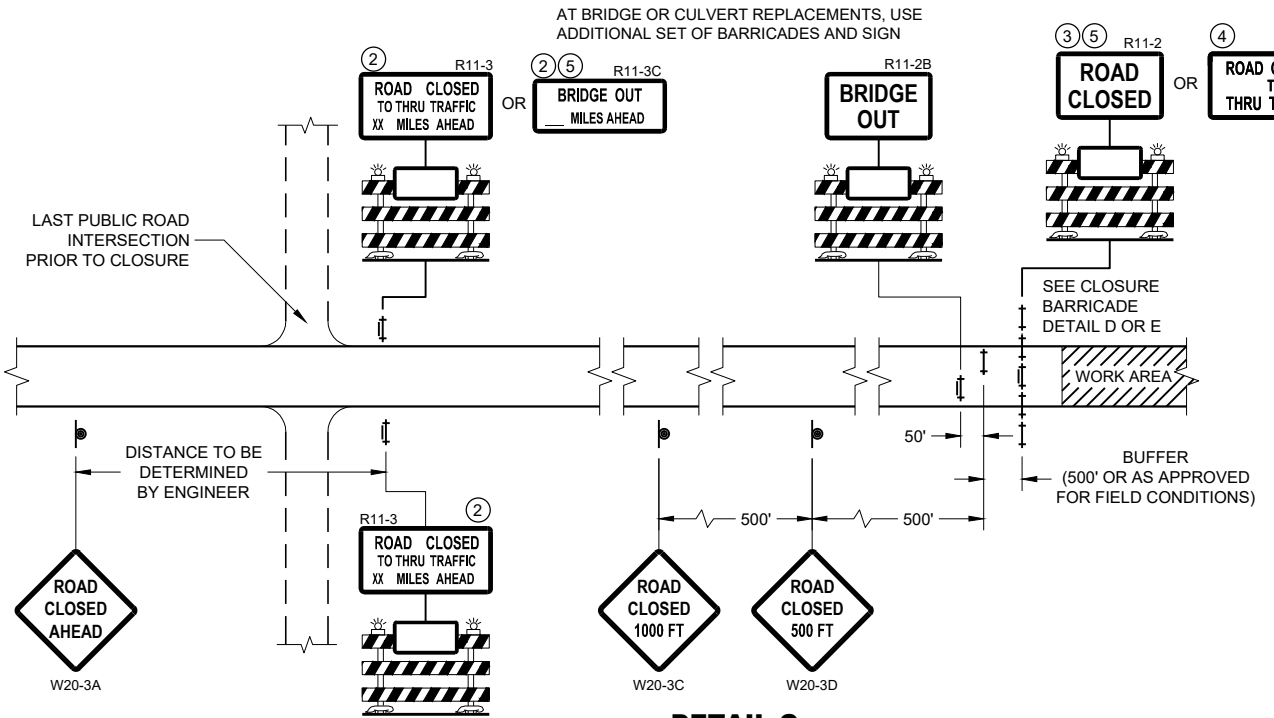
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

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

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



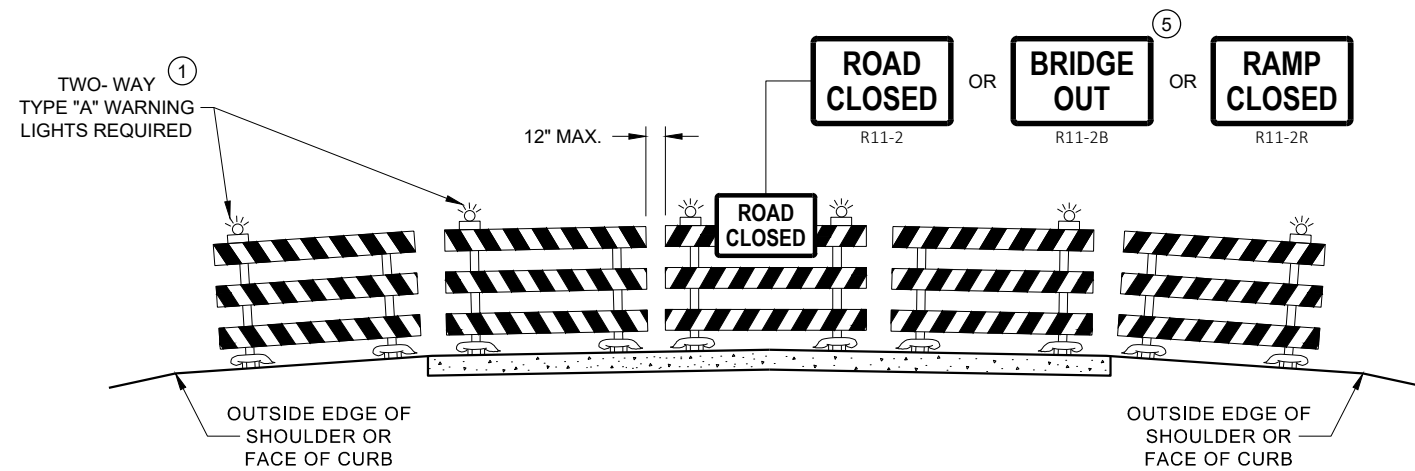
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

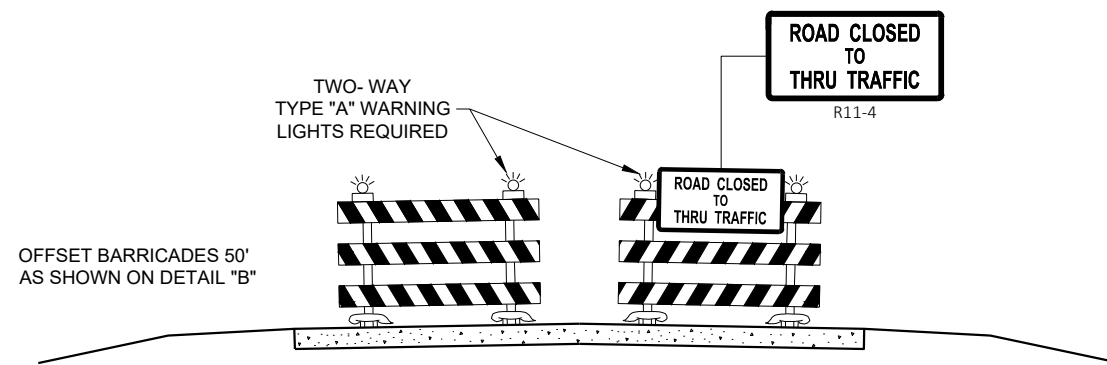
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



**DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW**



**DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

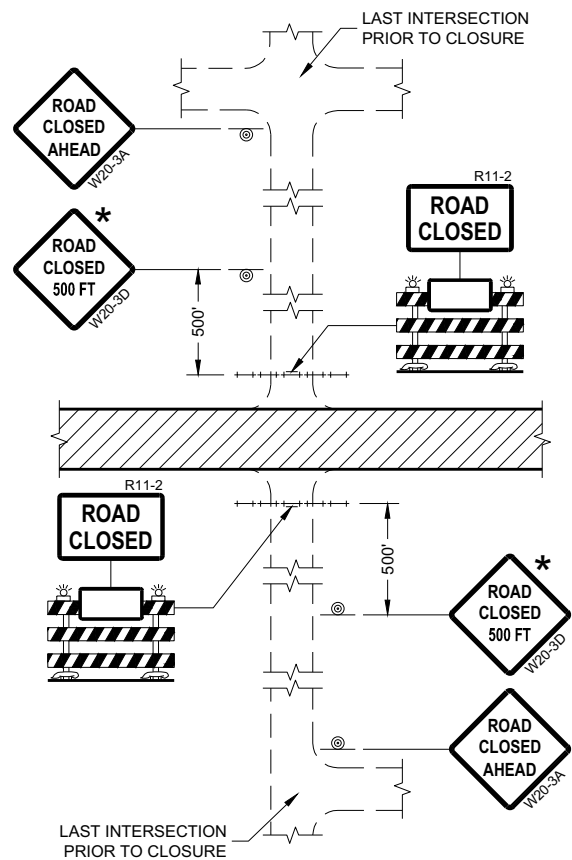
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

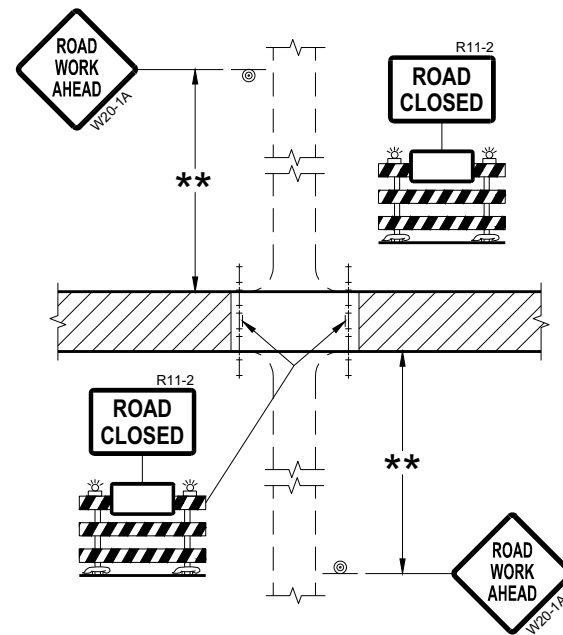
**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

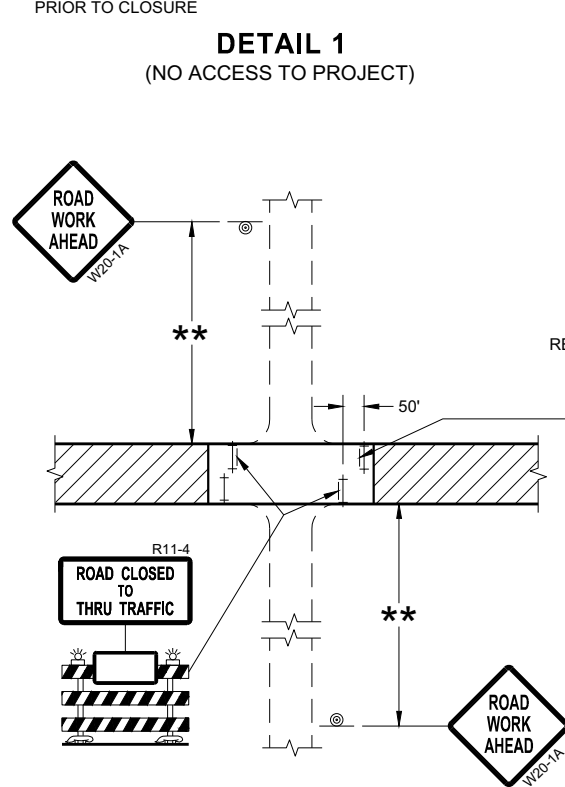
APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER



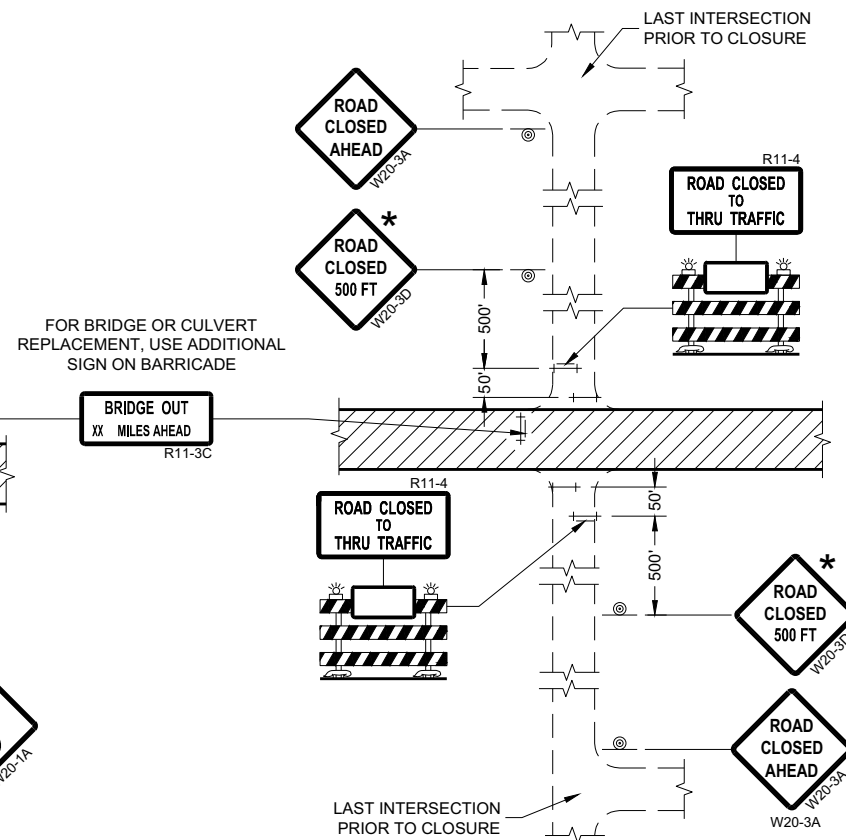
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

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

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

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

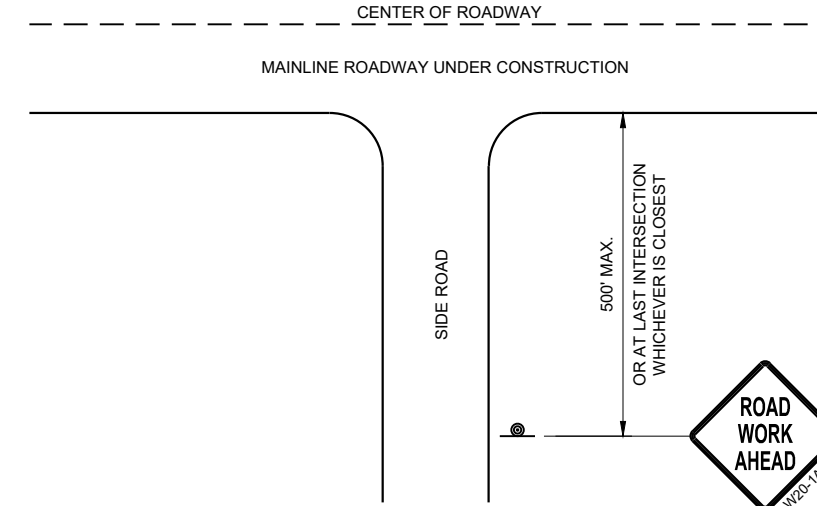
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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.

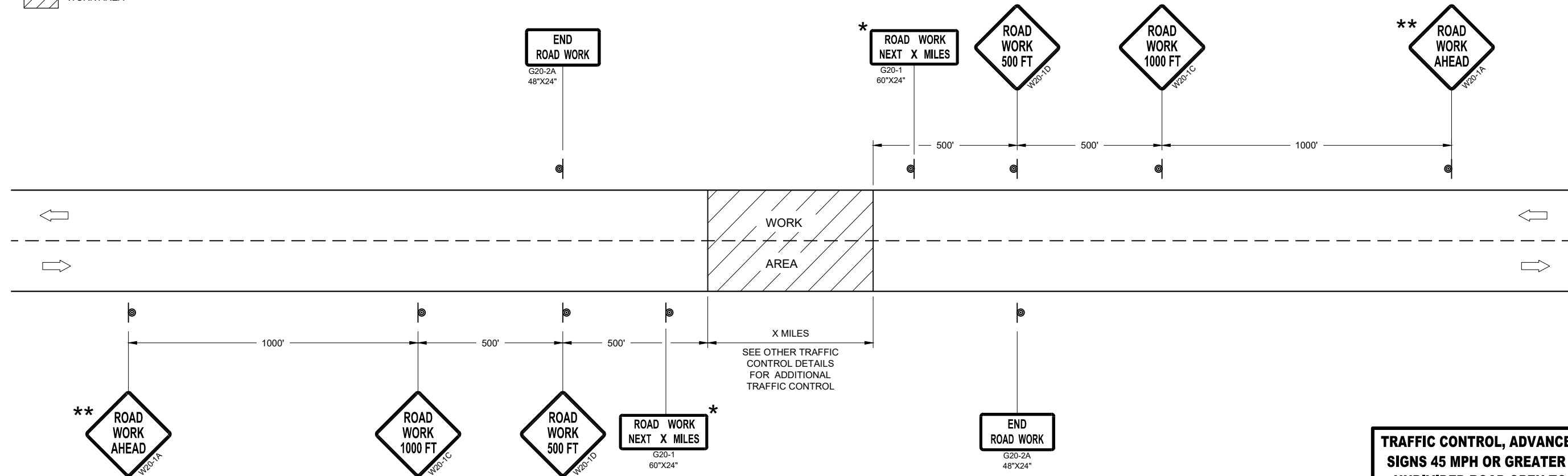
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



**TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL**

LEGEND

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



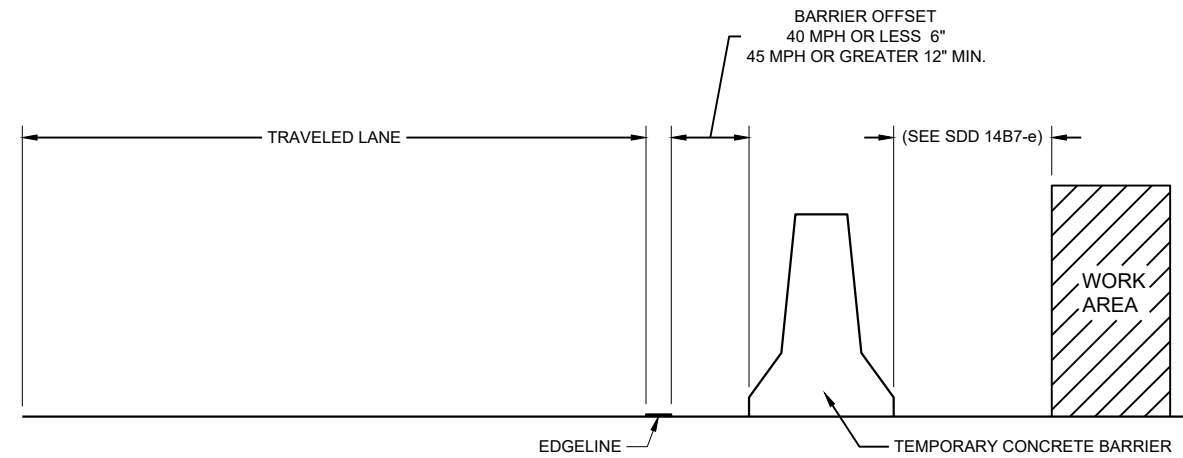
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



TEMPORARY BARRIER OFFSET FROM EDGE LINE

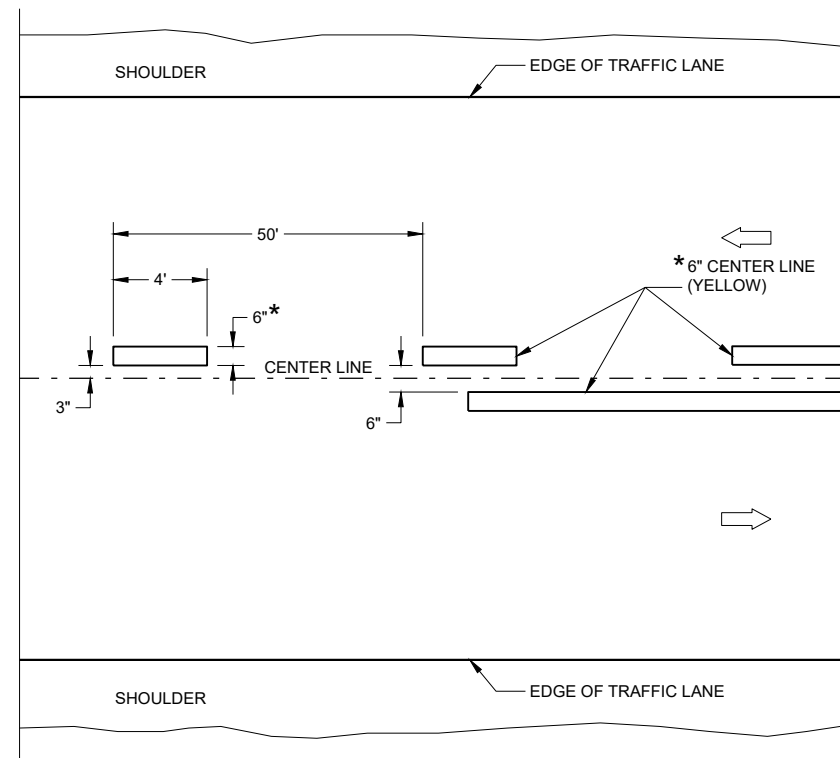
GENERAL NOTES

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

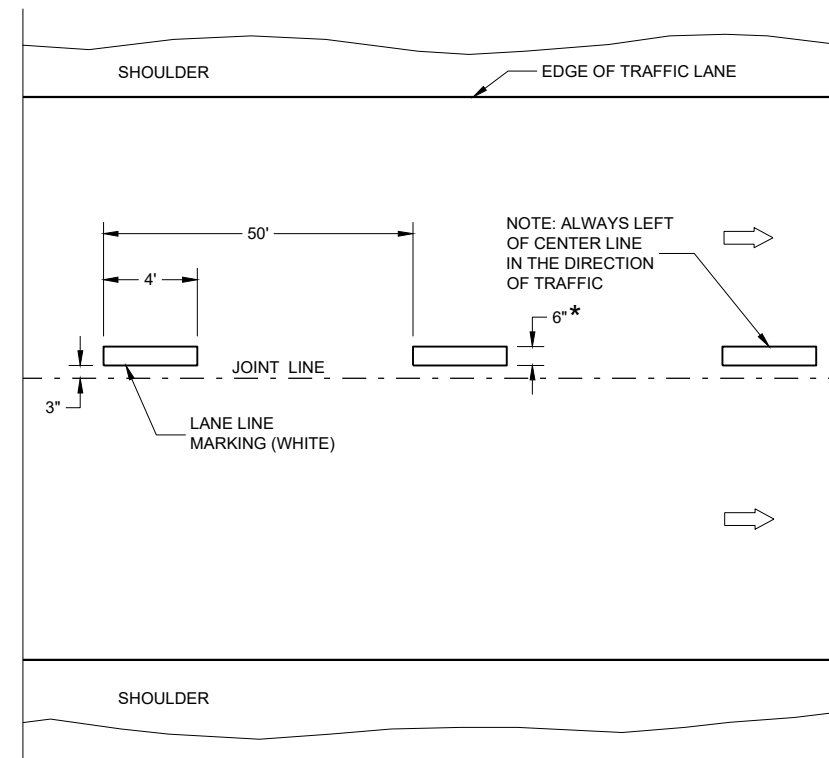
LEGEND

➡ DIRECTION OF TRAFFIC

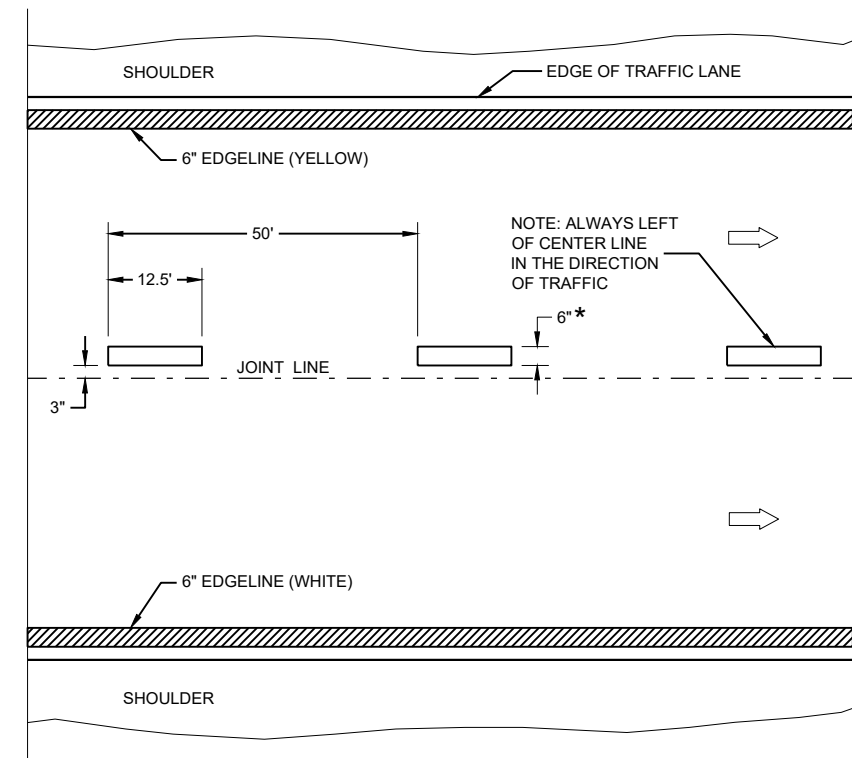
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

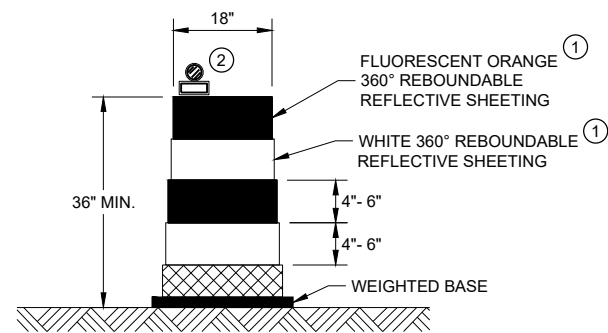
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

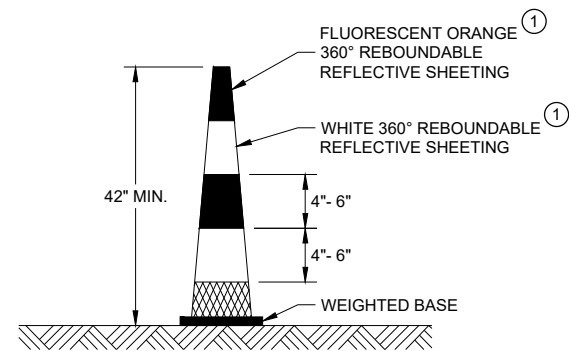
GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



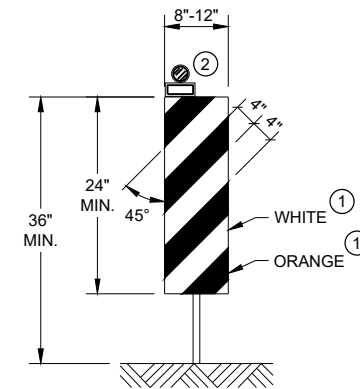
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



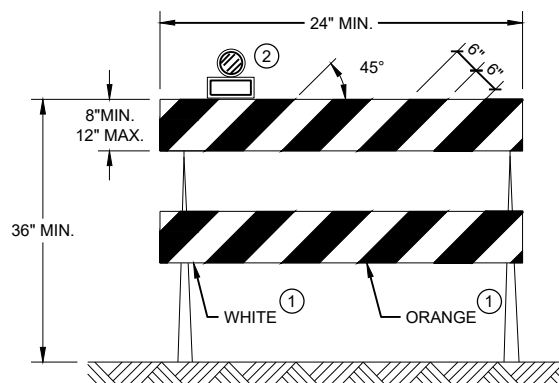
42" CONE

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



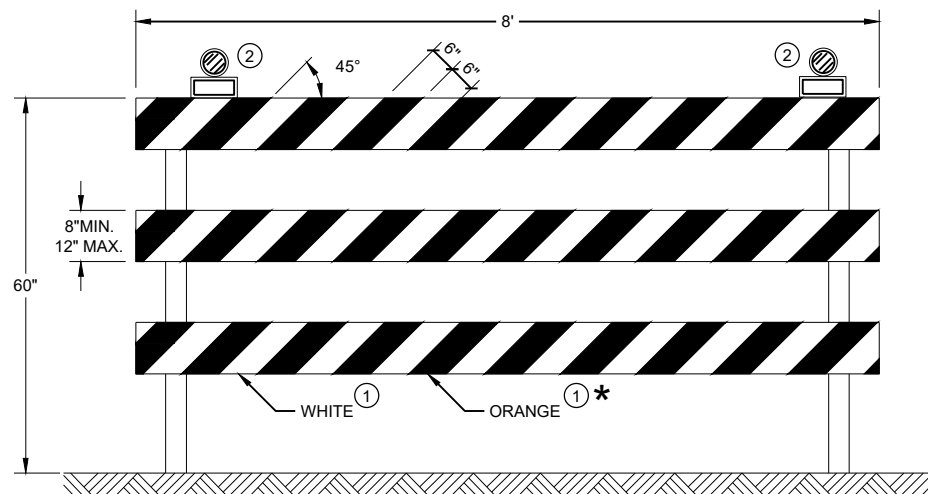
VERTICAL PANEL

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



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.








TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

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

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

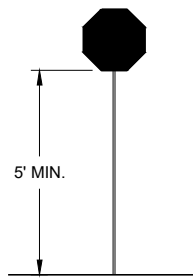
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



STOP/SLOW PADDLE ON SUPPORT STAFF

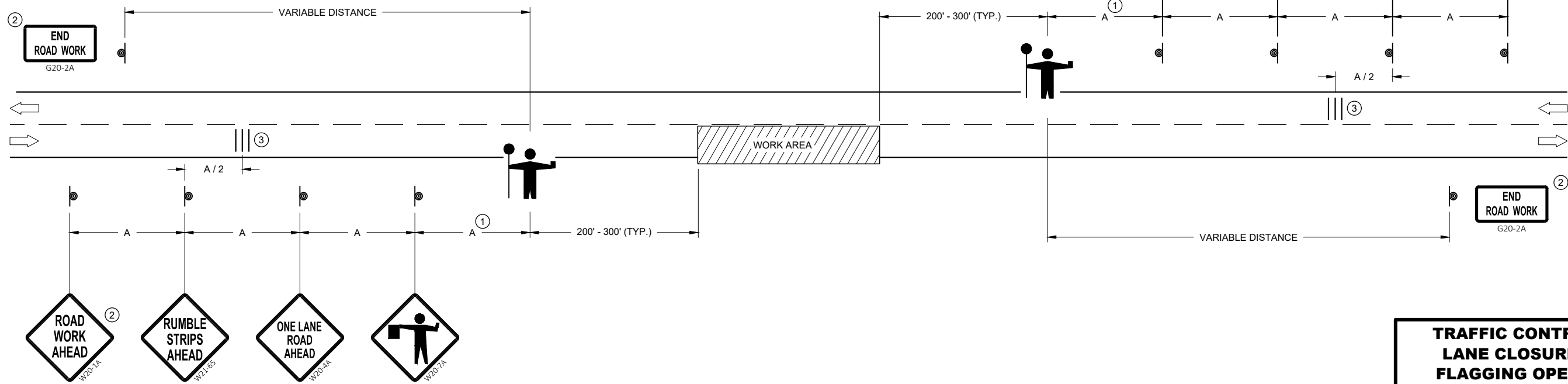
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



W03-4

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










TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

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

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

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

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

TEMPORARY PORTABLE RUMBLE STRIPS

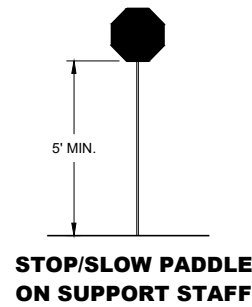
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

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

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

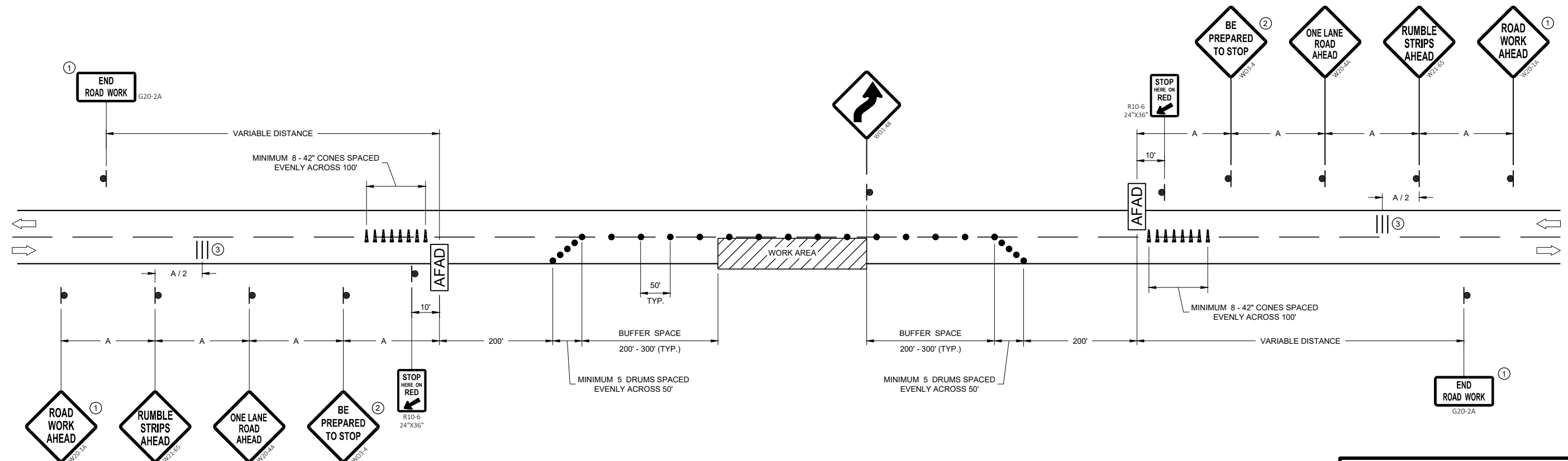
DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

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



SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA





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SDD 15C12 - 09b

SDD 15C12 - 09b

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

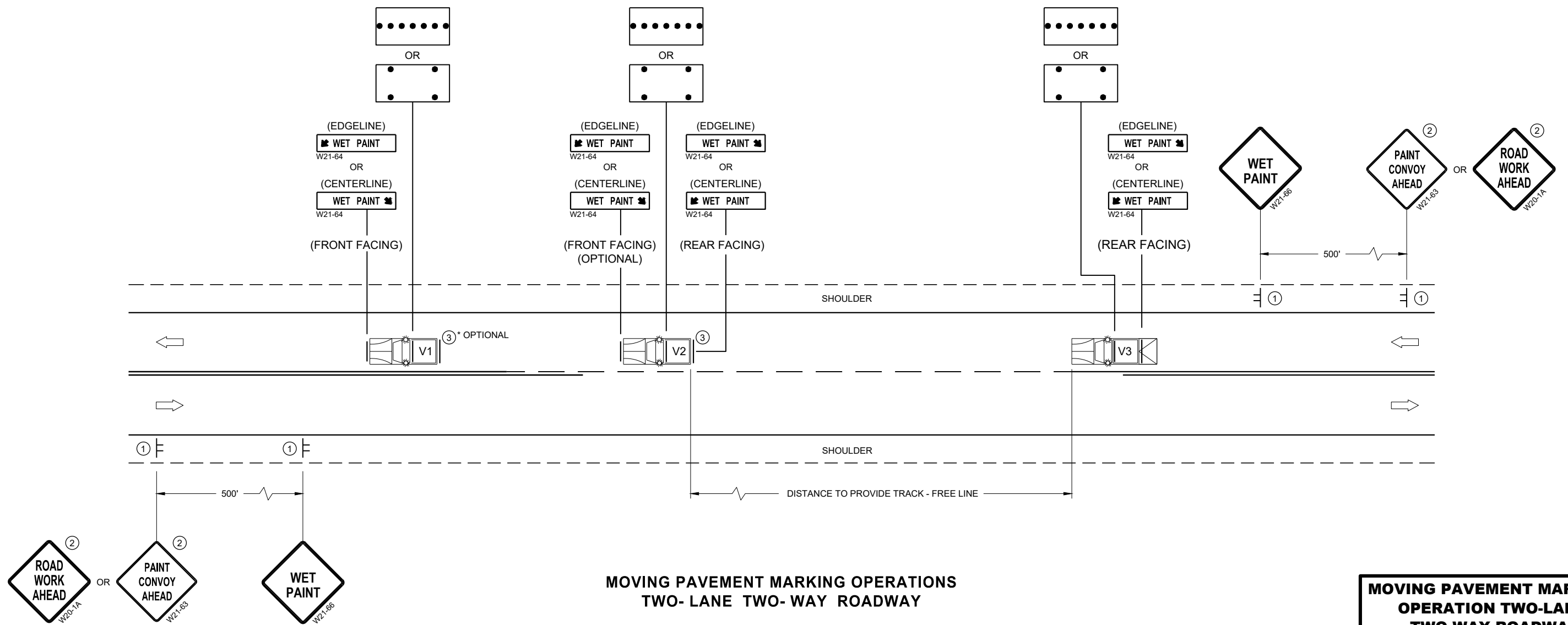
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

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

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

6

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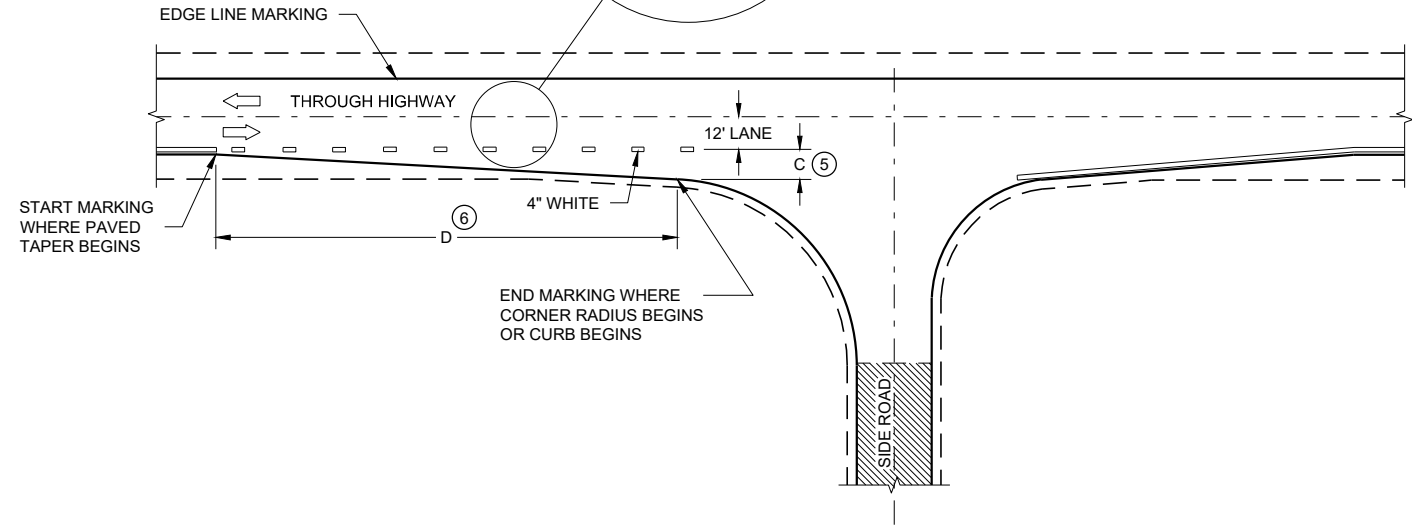
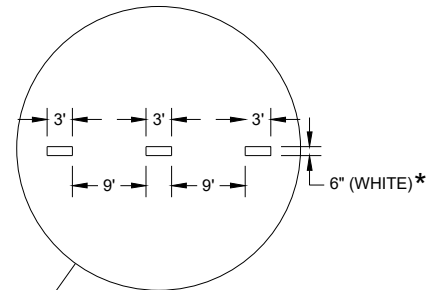


**MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY**

SDD 15C19-08a

SDD 15C19-08a

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



MINOR INTERSECTION

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

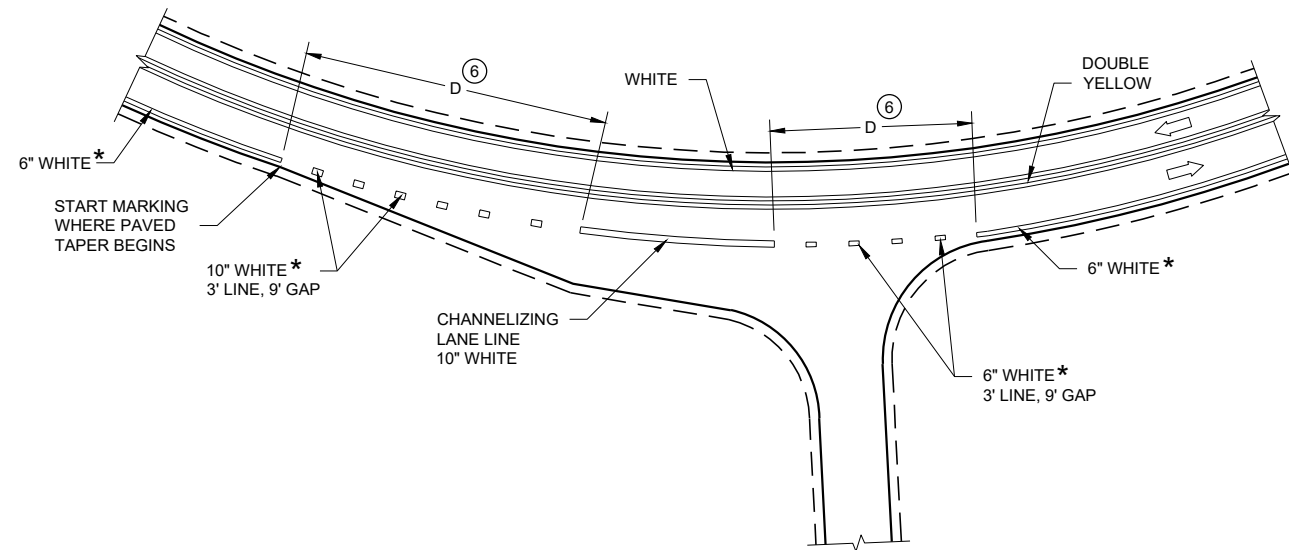
GENERAL NOTES

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

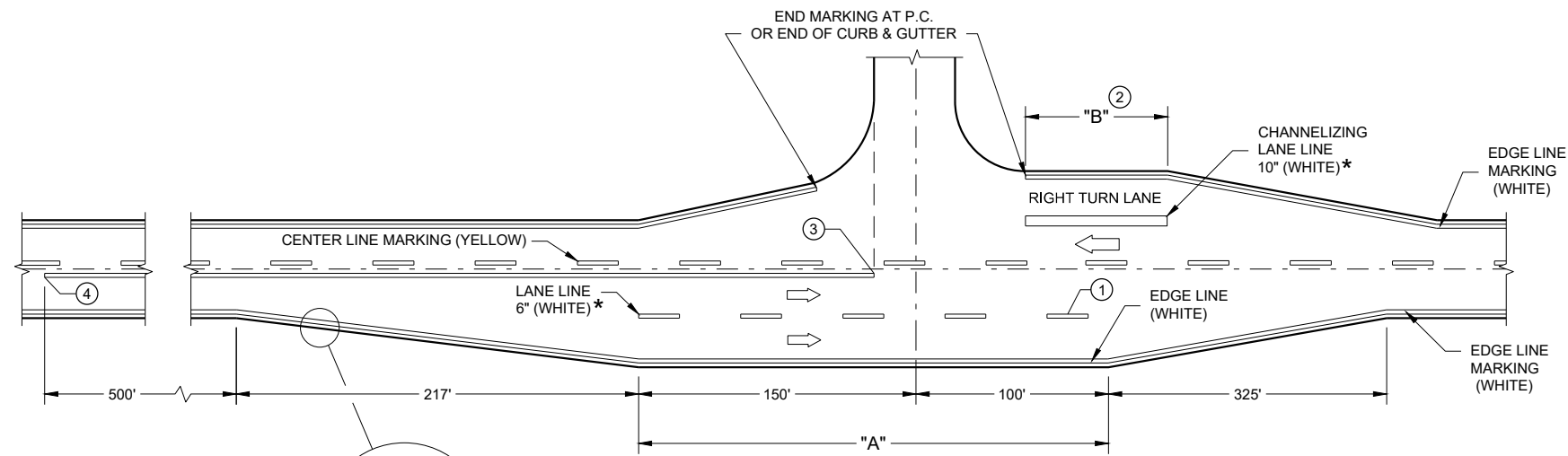
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4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

LEGEND

➡ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE



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

**PAVEMENT MARKING
(INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

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

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

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



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

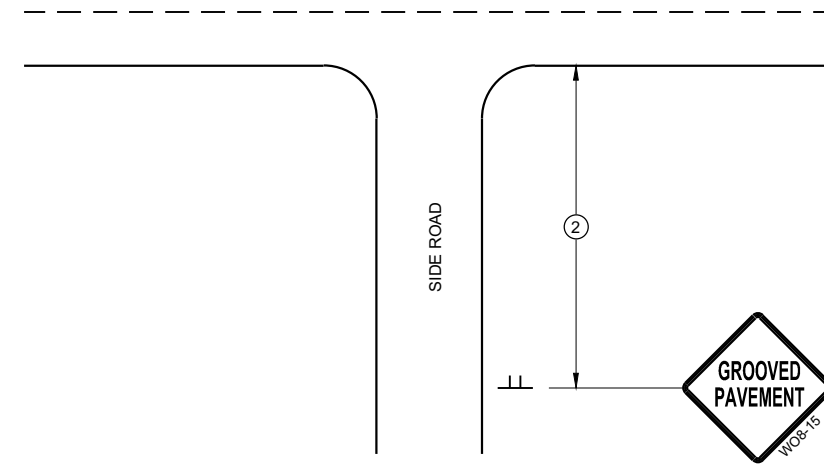
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

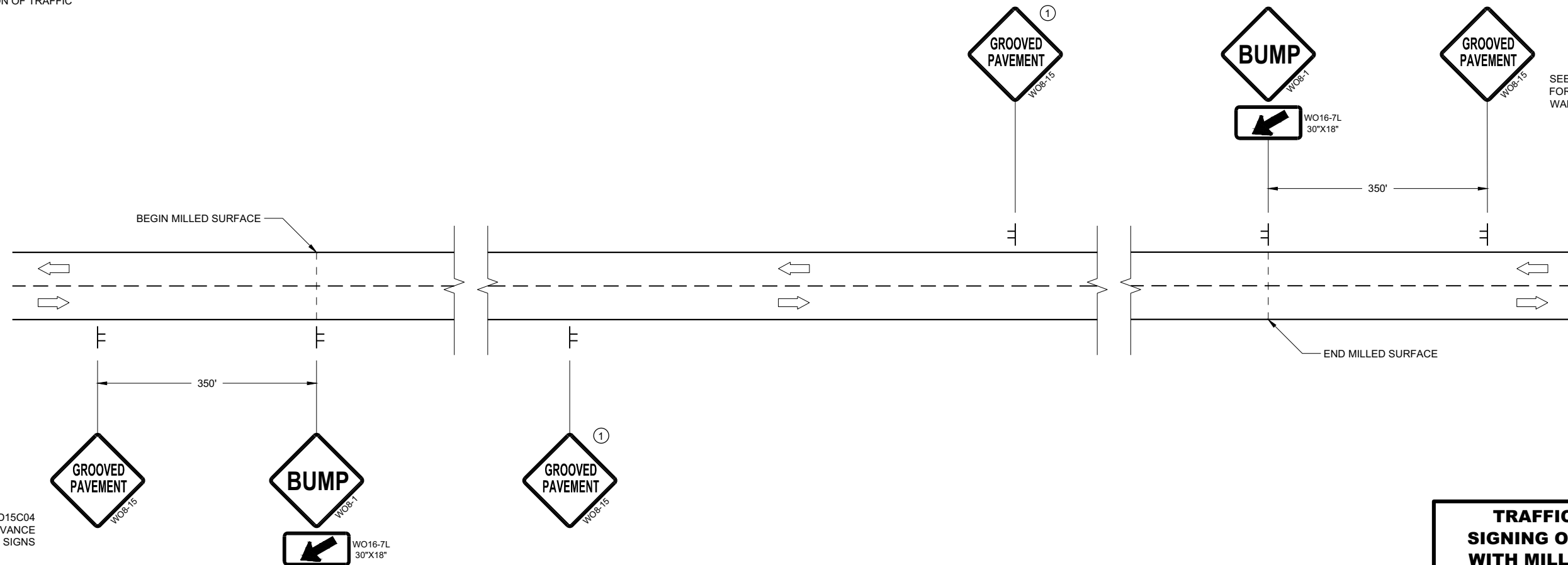
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2020 DATE	/s/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

GENERAL NOTES

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

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

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

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



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

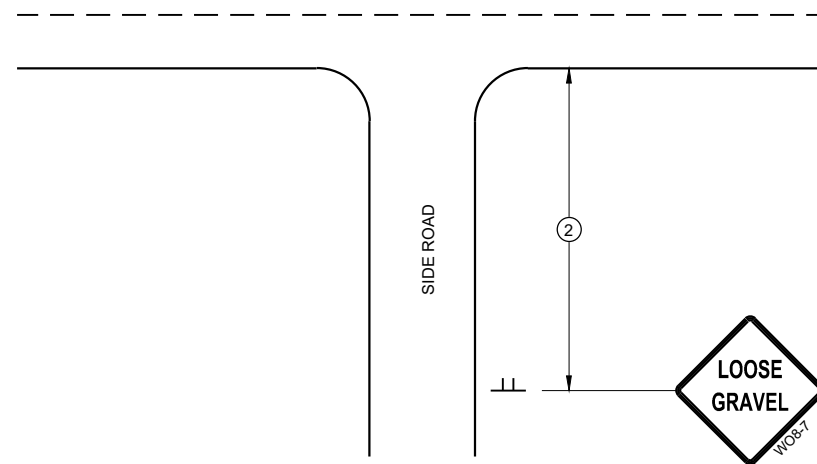
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

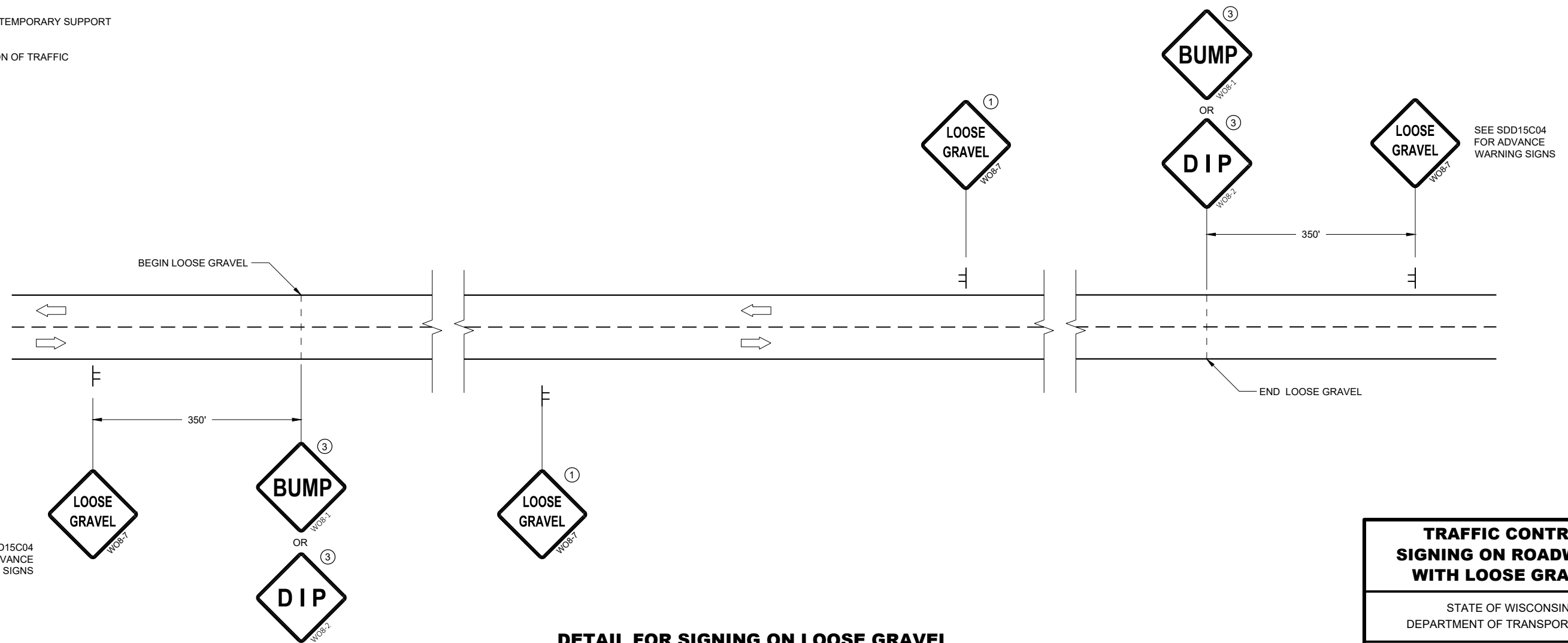
- ① PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- ③ ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES

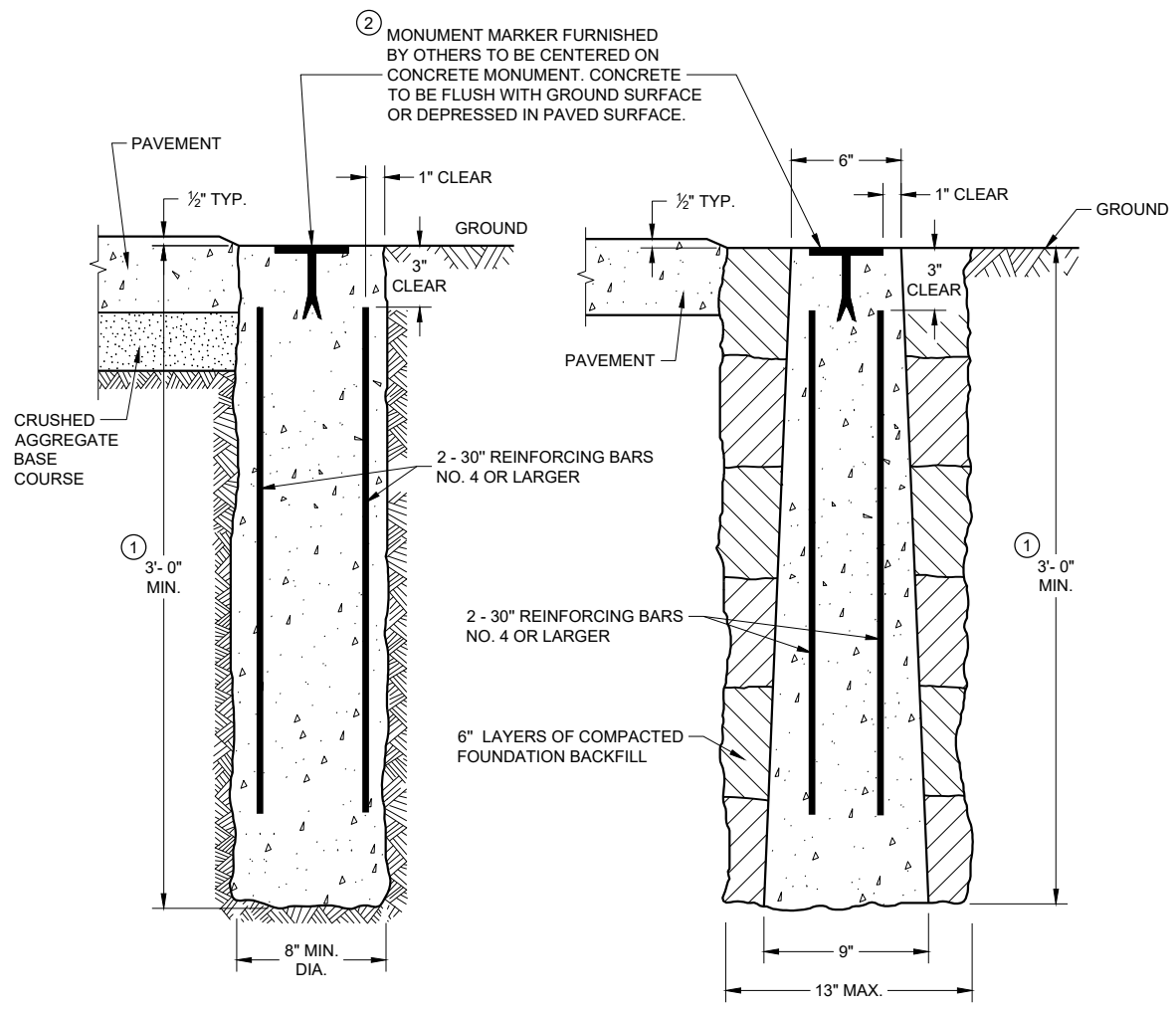
SEE SDD15C04 FOR ADVANCE WARNING SIGNS

TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL

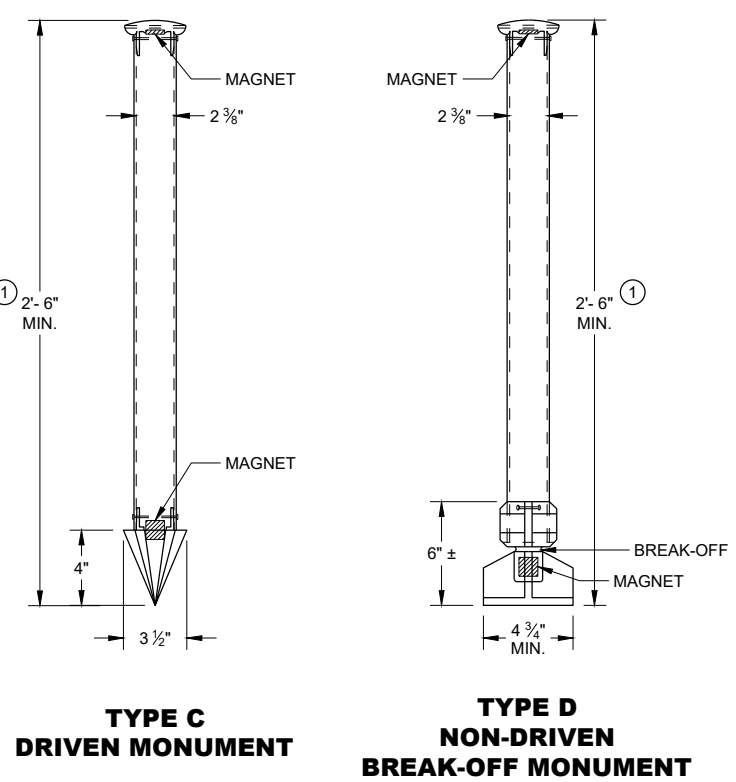
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



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



**ALUMINUM MONUMENTS
(INCLUDES MARKER)**

GENERAL NOTES

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

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

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

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

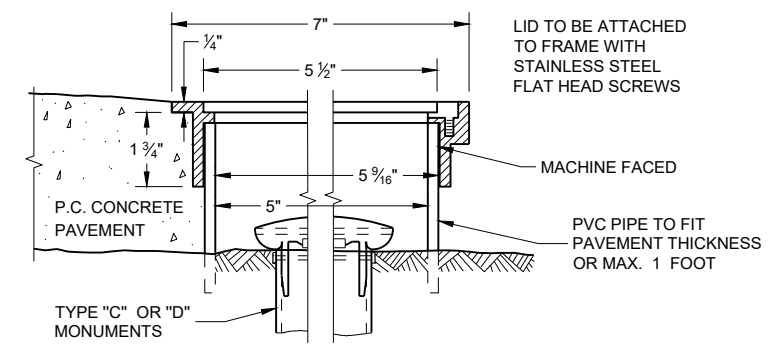
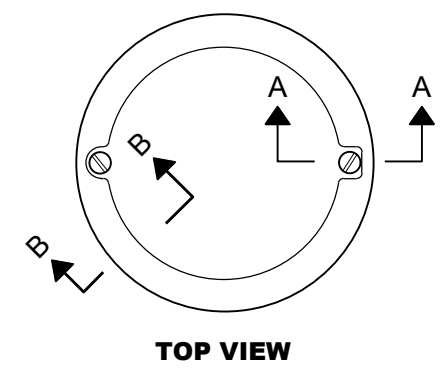
MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

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

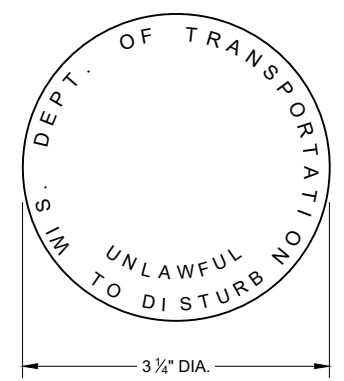
THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

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

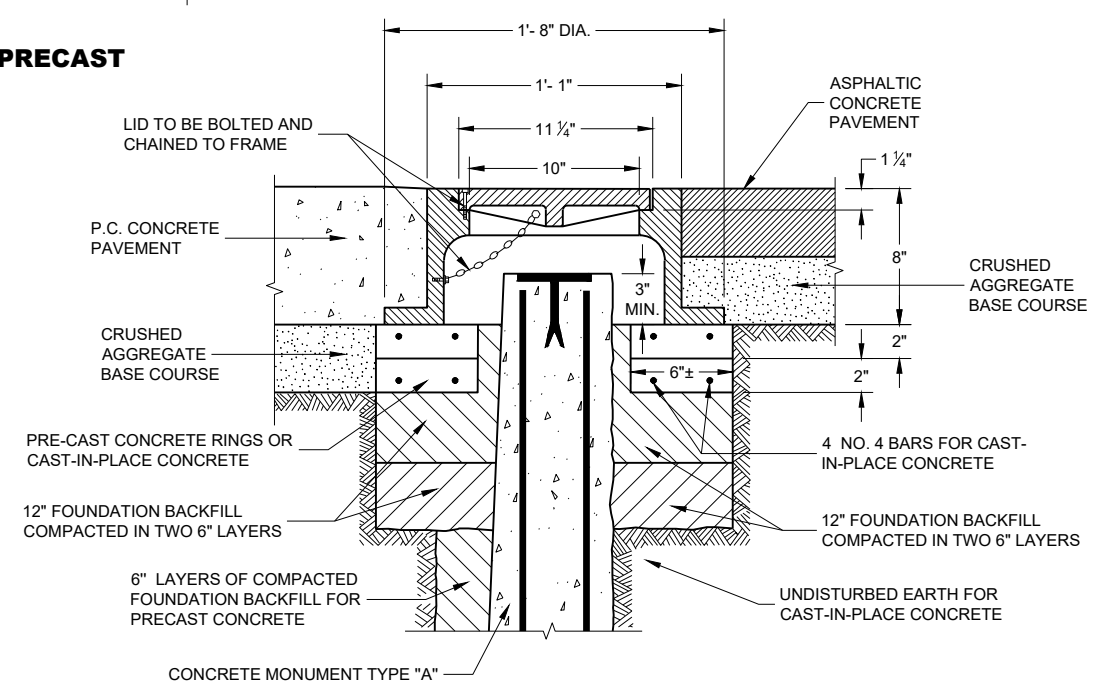
- ① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.
- ② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WISDOT MARKER.



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

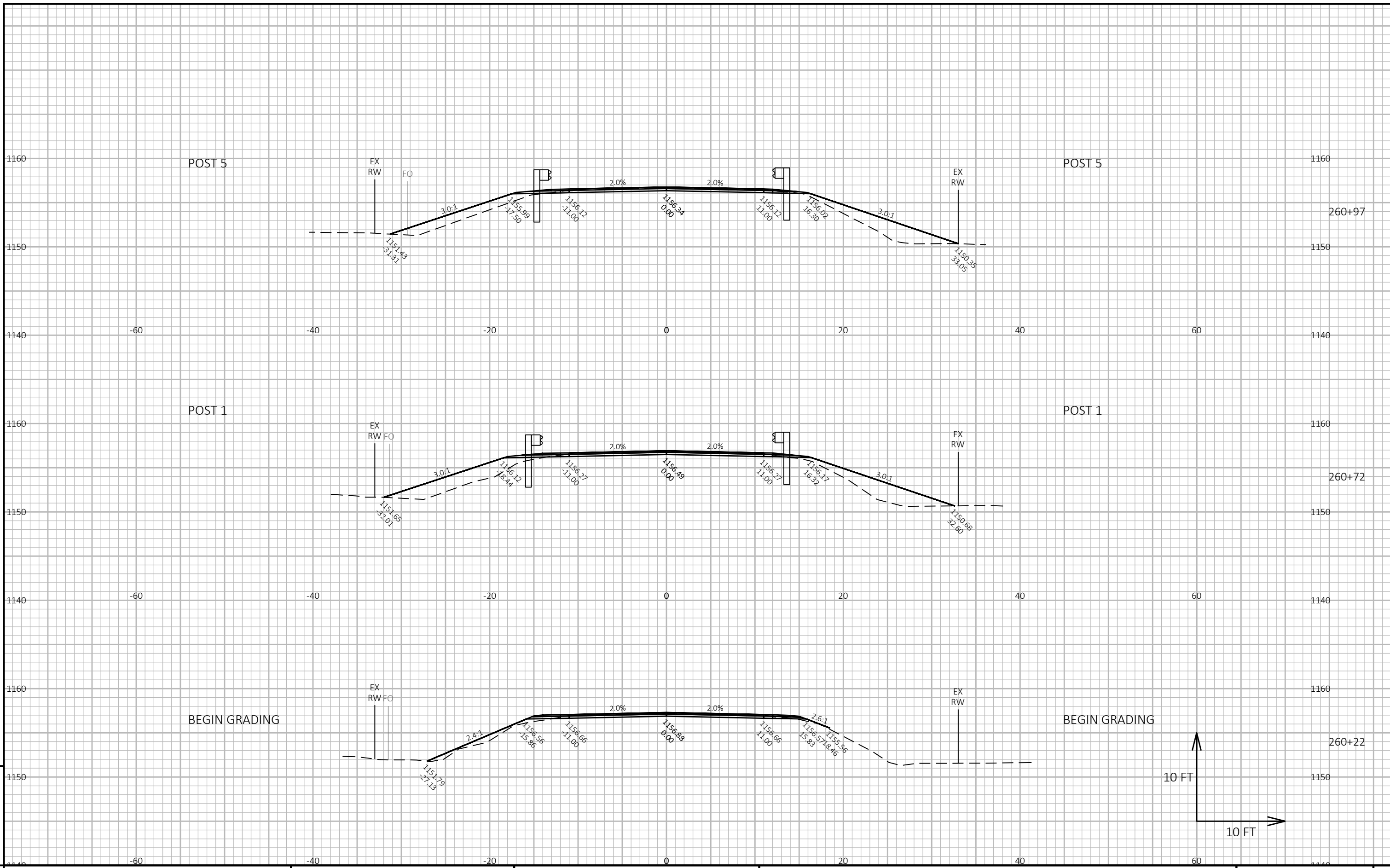


② **WIS DOT MONUMENT MARKER LOGO**
FOR TYPES "A", "C" & "D"



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

LANDMARK REFERENCE MONUMENTS AND COVERS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2018 DATE	/s/ Raymond A. Kumapayil CHIEF SURVEYING AND MAPPING ENGINEER
FHWA	

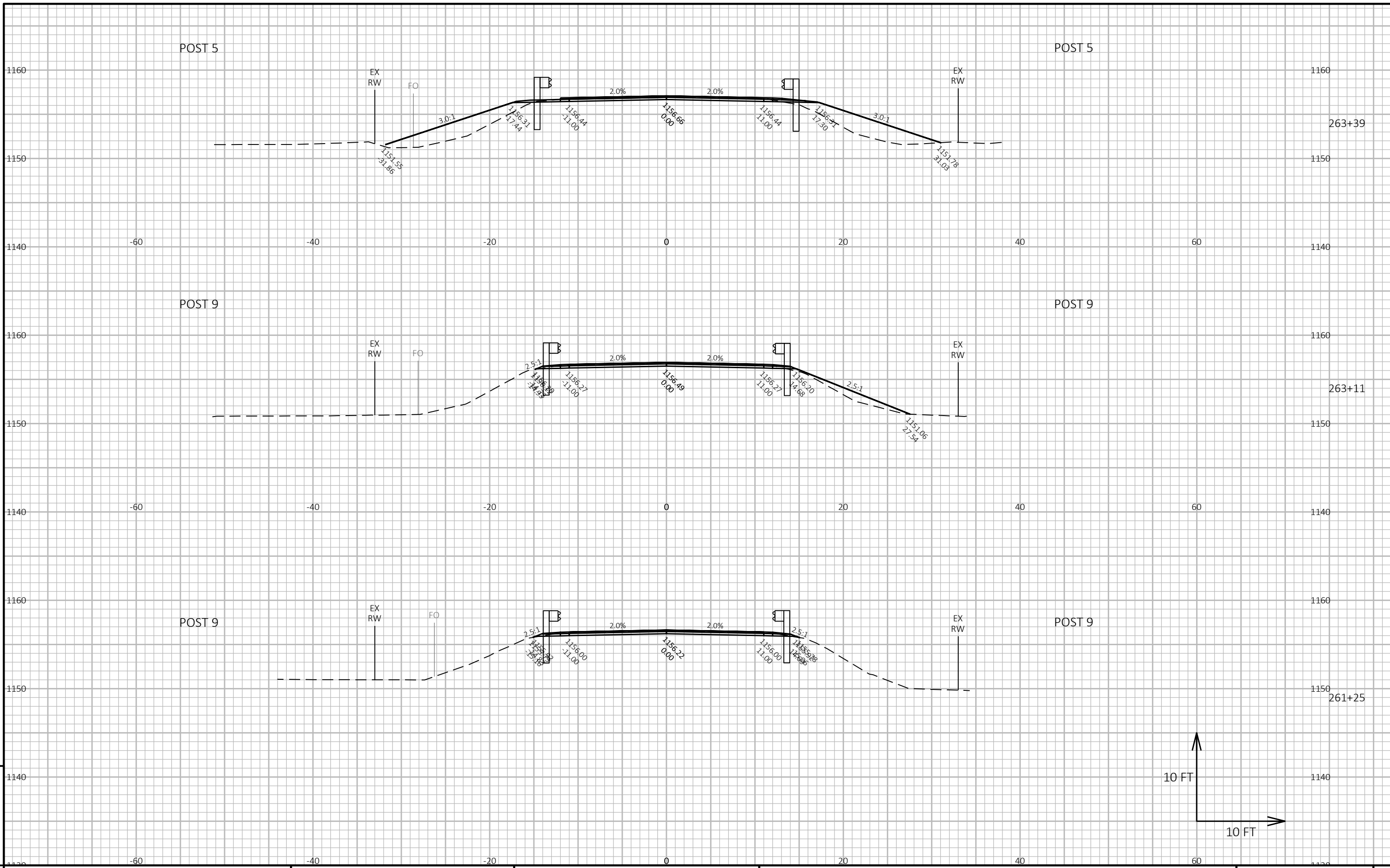


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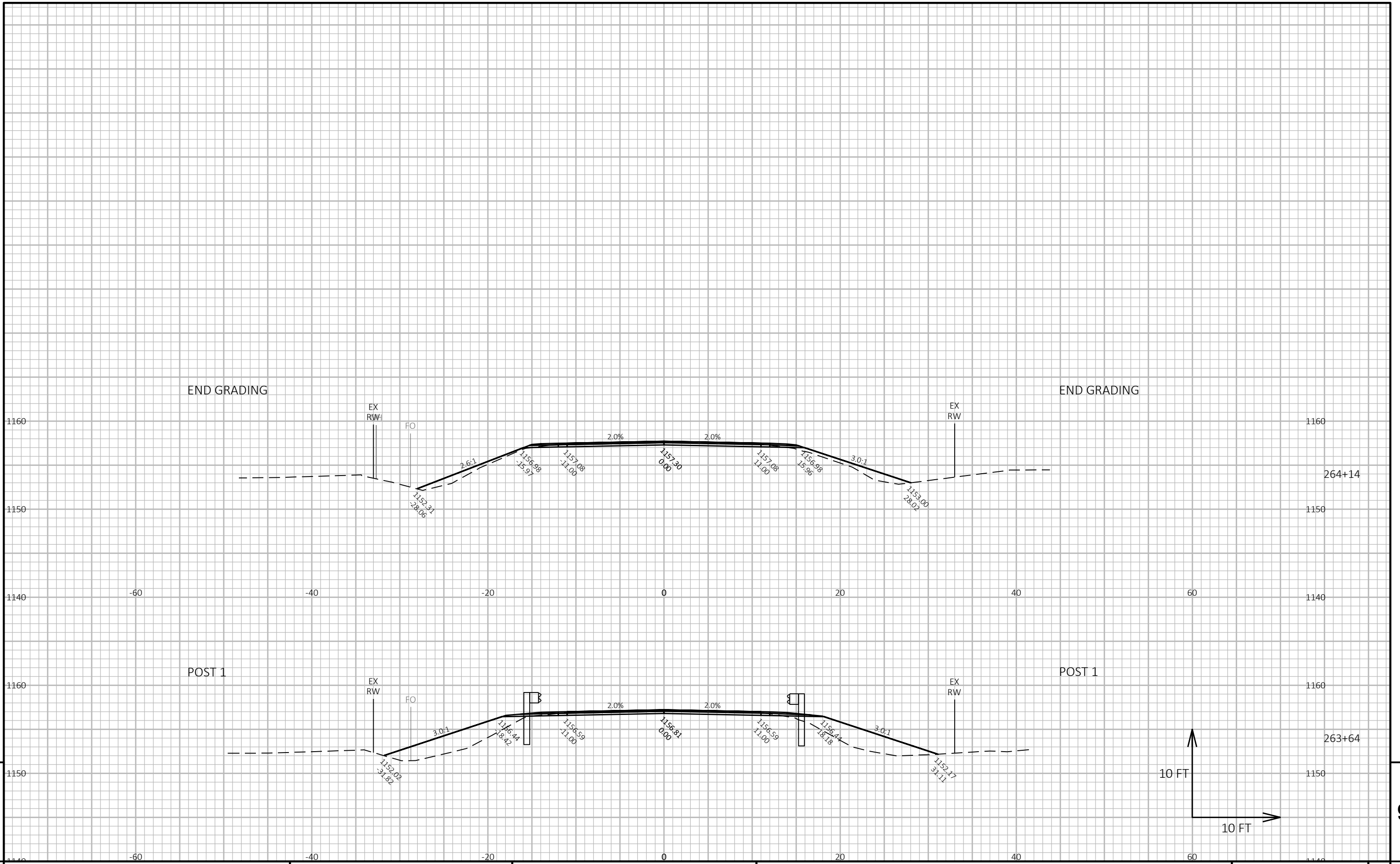
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PROJECT NO: 6667-00-71 HWY: CTH T COUNTY: MARATHON CROSS SECTIONS: CTH T SHEET E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\COUNTY PROJECTS\DSN 2021-002_MARA_CO_CTH T\C3D\SHEETSPAN\090201_XS_CTHT.DWG PLOT DATE : 7/21/2023 7:33 AM PLOT BY : ADAM OSYPOWSKI PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49



PROJECT NO: 6667-00-71 HWY: CTH T COUNTY: MARATHON CROSS SECTIONS: CTH T SHEET 9



9

9

PROJECT NO: 6667-00-71 HWY: CTH T COUNTY: MARATHON CROSS SECTIONS: CTH T SHEET E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\COUNTY PROJECTS\DSN 2021-002_MARA_CO_CTH T\C3D\SHEETSPLAN\090201_XS_CTH.T.DWG PLOT DATE : 7/21/2023 7:33 AM PLOT BY : ADAM OSYPOWSKI PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>