

GENERAL NOTES

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE ARE ALSO UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO "DIGGERS HOTLINE" AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

WAIT TWO DAYS AFTER SEALING CRACKS BEFORE INSTALLING THE ASPHALTIC ENHANCED FRICTION SURFACE TREATMENT.

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

3.5" AND 4" HMA PAVEMENT FOR SHOULDERS MAY BE PLACED IN A SINGLE LAYER.

THE EXACT LOCATIONS AND LIMITS OF PRIVATE ENTRANCES AND FIELD ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

EROSION CONTROL ITEMS IN THE MISCELLANEOUS QUANTITIES, TYPICAL SECTIONS, AND EROSION CONTROL PLANS ARE SUGGESTED. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. MAINTAIN EROSION CONTROL ITEMS UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

ALL DISTURBED AREAS SHALL BE TOPSOILED, FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS INDICATED FOR REMOVAL BY THE ENGINEER.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

STANDARD ABBREVIATIONS

AGG	AGGREGATE	PROJ	PROJECT
AADT	ANNUAL AVERAGE DAILY TRAFFIC	RL	REFERENCE LINE
CL OR C/L	CENTER LINE	R/W	RIGHT OF WAY
CTH	COUNTY TRUNK HIGHWAY	RD	ROAD
CY	CUBIC YARD	RDWY	ROADWAY
DHV	DESIGN HOUR VOLUME	SHLDR	SHOULDER
EB	EASTBOUND	S	SOUTH
FE	FIELD ENTRANCE	SPECS	SPECIFICATIONS
FT	FOOT	SF	SQUARE FOOT
IN DIA	INCH DIAMETER	SY	SQUARE YARD
LIN FT OR LF	LINEAR FOOT	SDD	STANDARD DETAIL DRAWING
OH	OVERHEAD	TEL	TELEPHONE
PAVT	PAVEMENT	UG	UNDERGROUND
LB	POUND	W	WEST
PSI	POUNDS PER SQUARE INCH	WB	WESTBOUND

SECTION 2 ORDER OF SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
SNOW FENCE DETAILS
TRAFFIC CONTROL
PLAN DETAILS



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

UTILITY CONTACTS

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MADISON, WI 53717
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OTHER CONTACTS

AIRPORT CONTACT

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DESIGNER

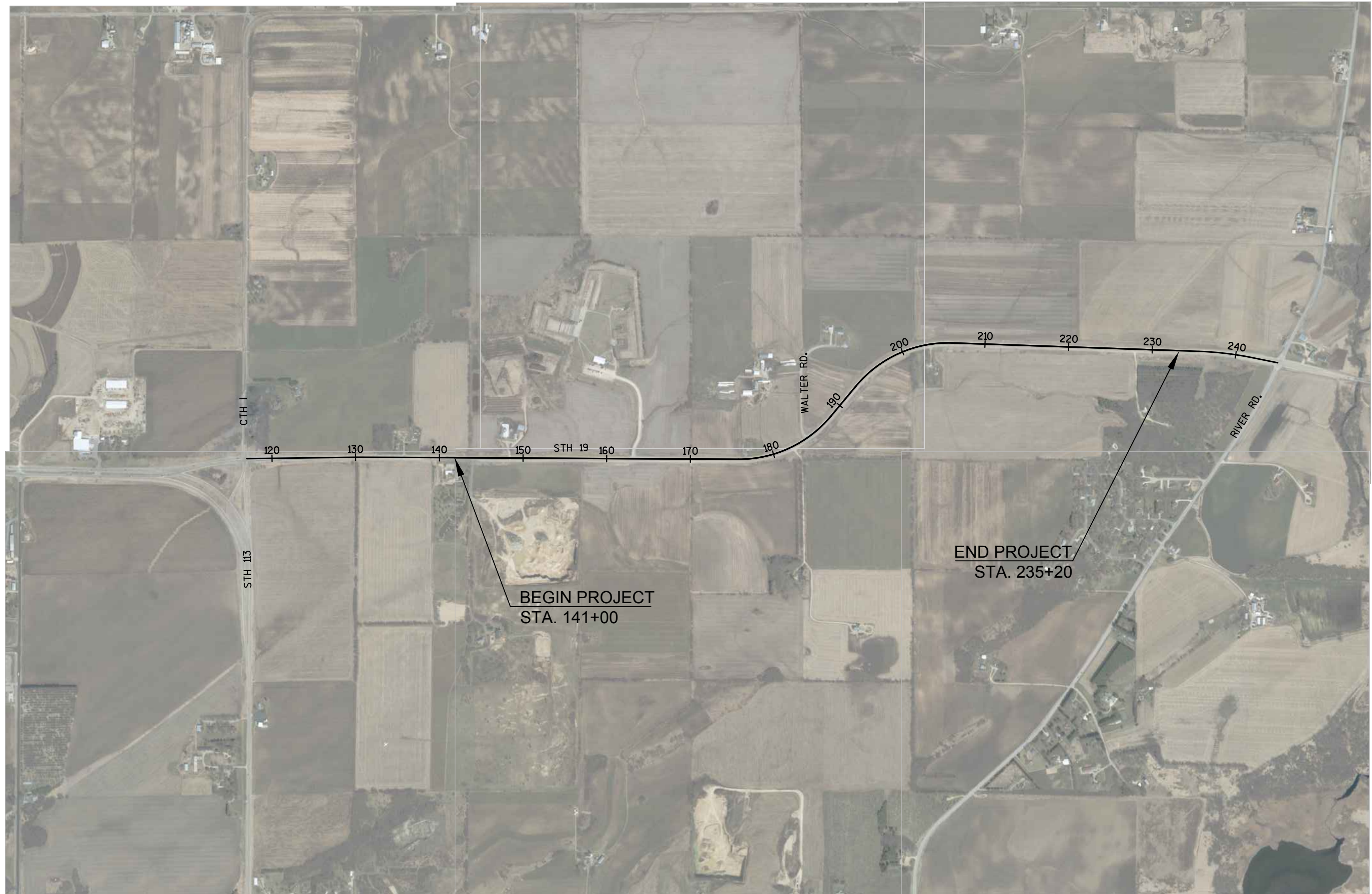
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DNR CONTACT

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3911 FISH HATCHERY RD
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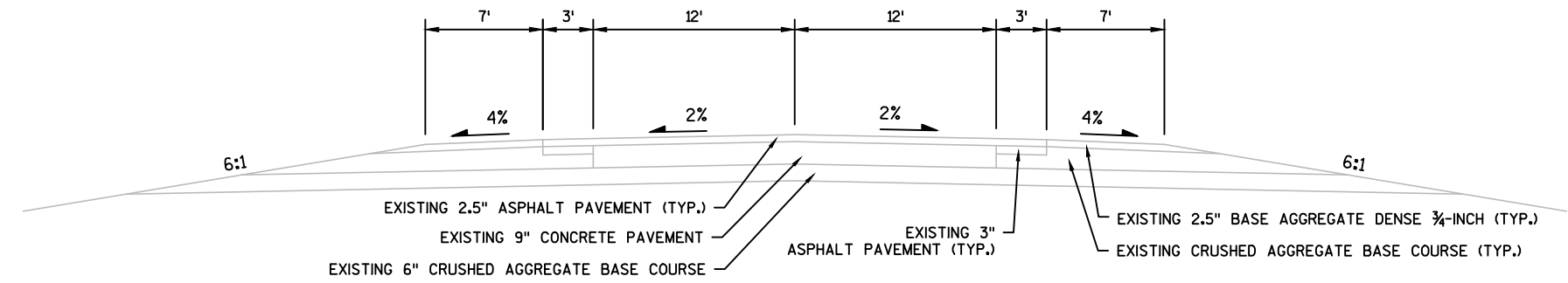
PROJECT MANAGER

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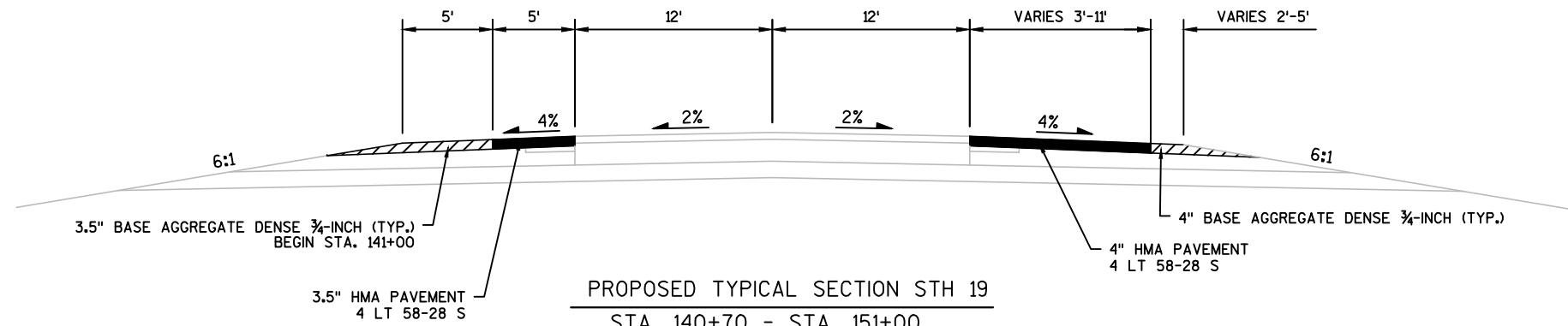


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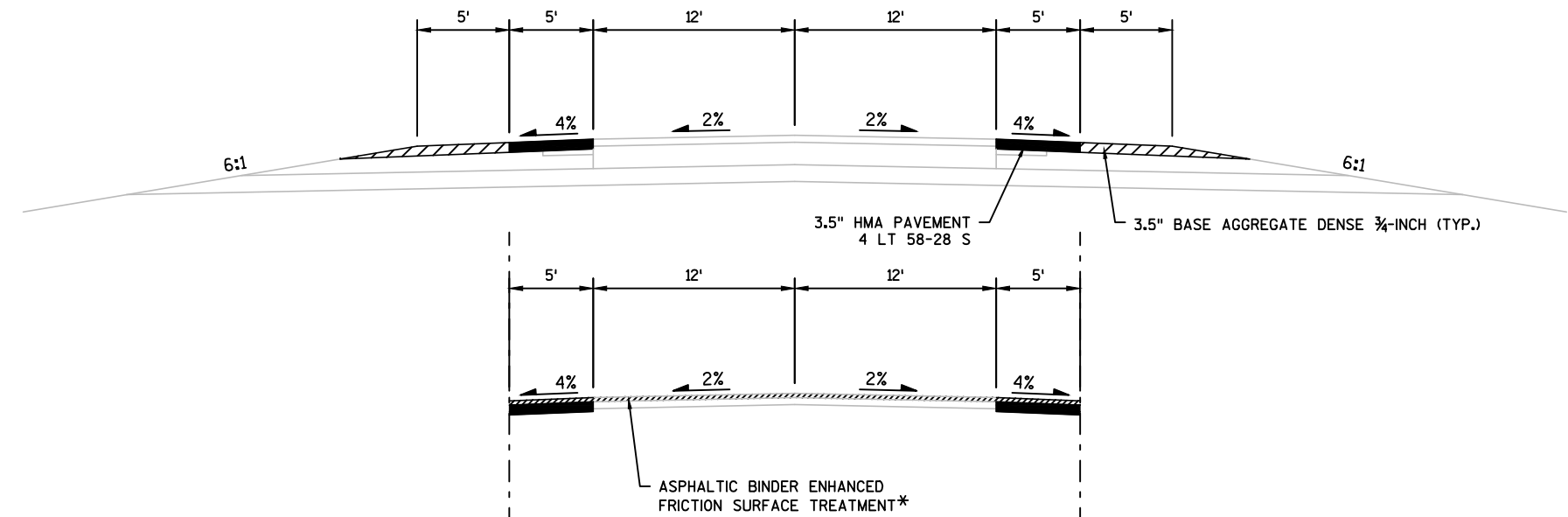
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EXISTING TYPICAL SECTION STH 19
STA. 141+00 - STA. 235+20

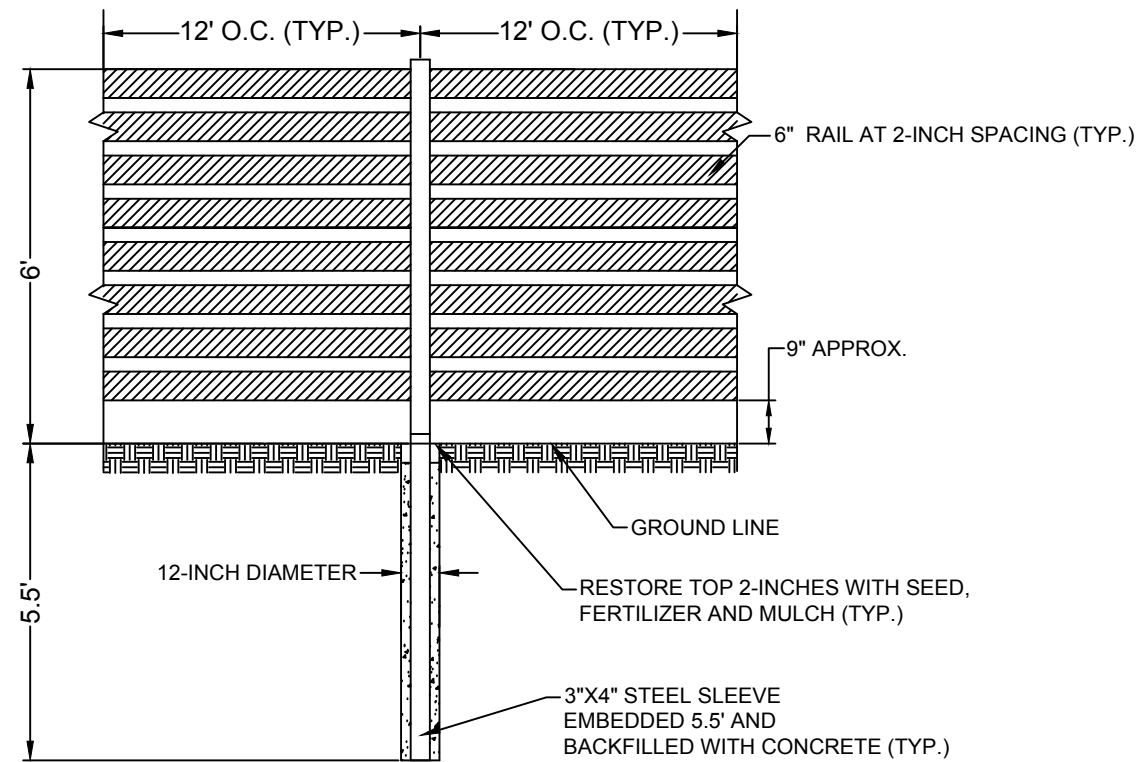


PROPOSED TYPICAL SECTION STH 19
STA. 140+70 - STA. 151+00

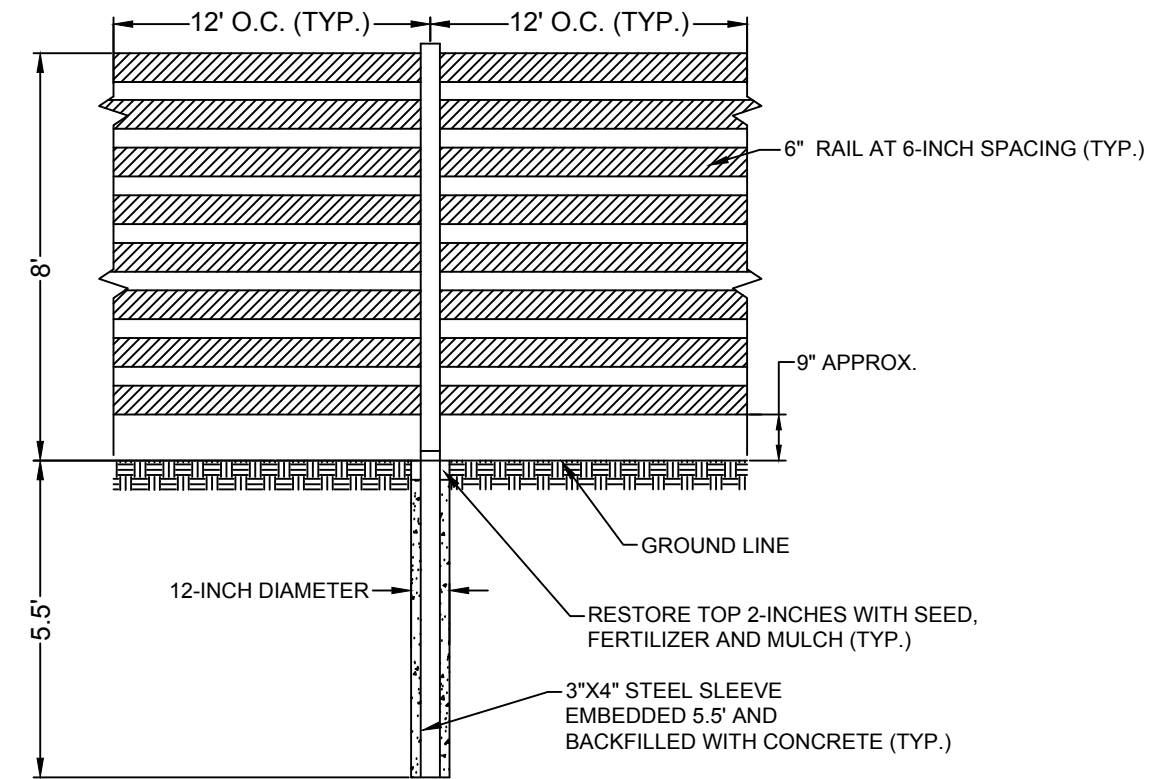


PROPOSED TYPICAL SECTION STH 19
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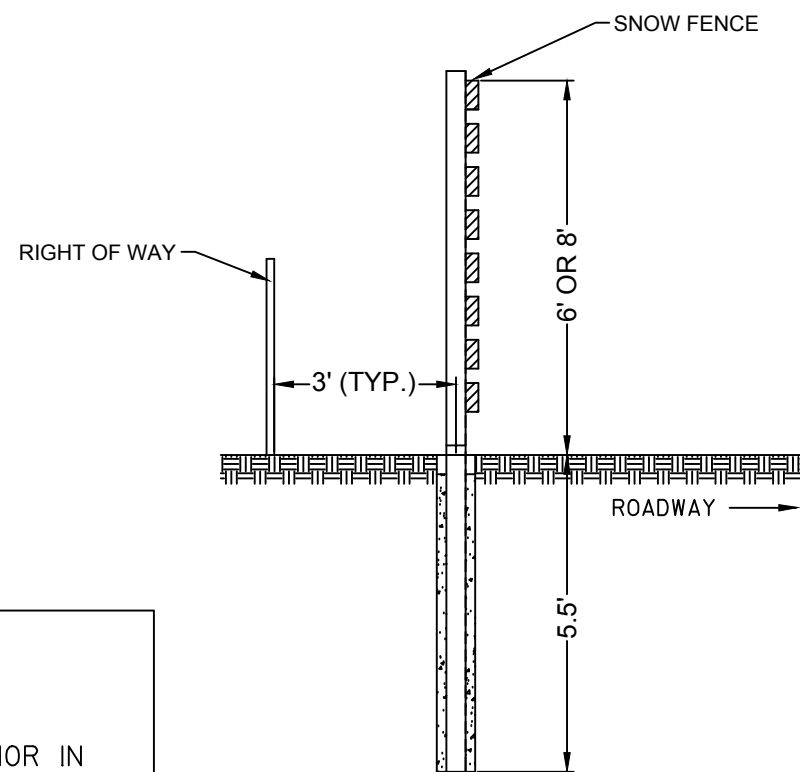
* INSTALL PRIOR TO PLACING
RUMBLE STRIPS



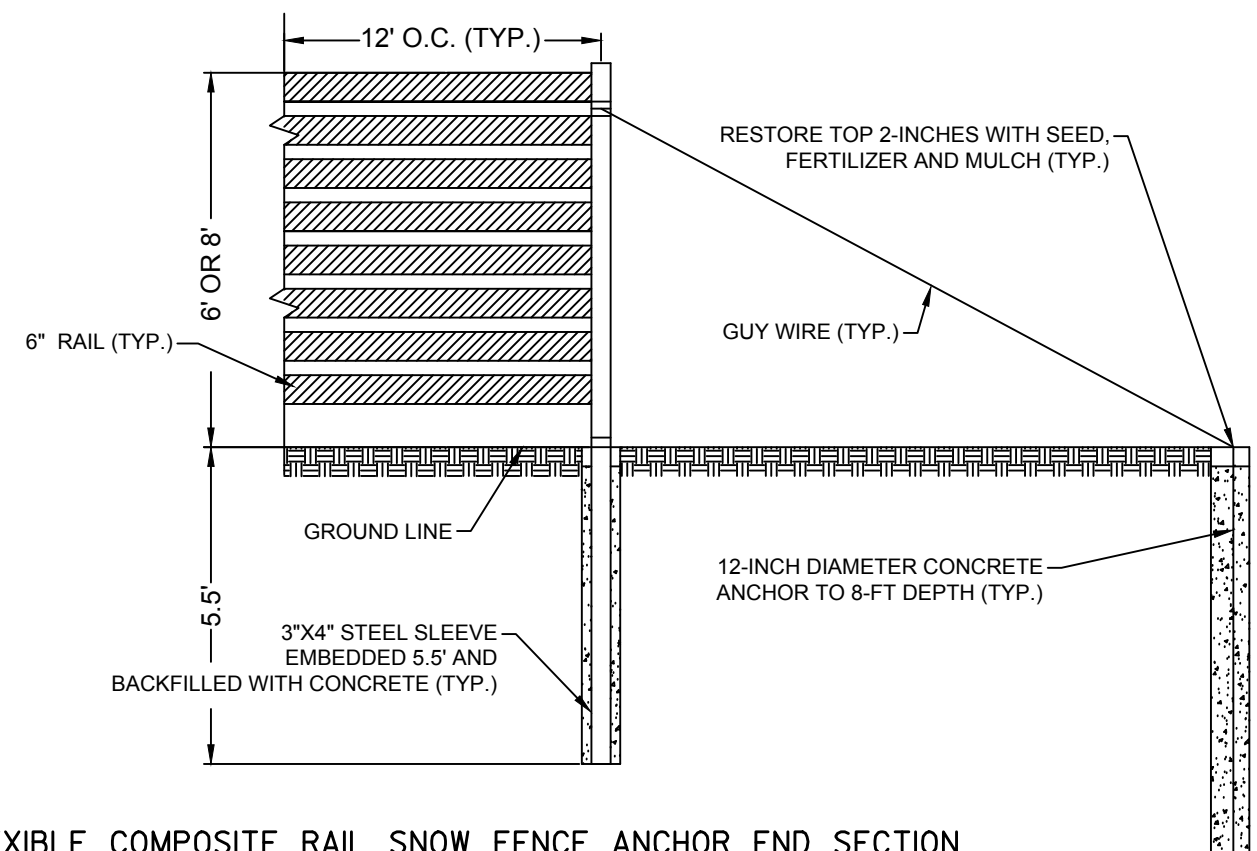
FLEXIBLE COMPOSITE RAIL SNOW FENCE 6-FT



FLEXIBLE COMPOSITE RAIL SNOW FENCE 8-FT



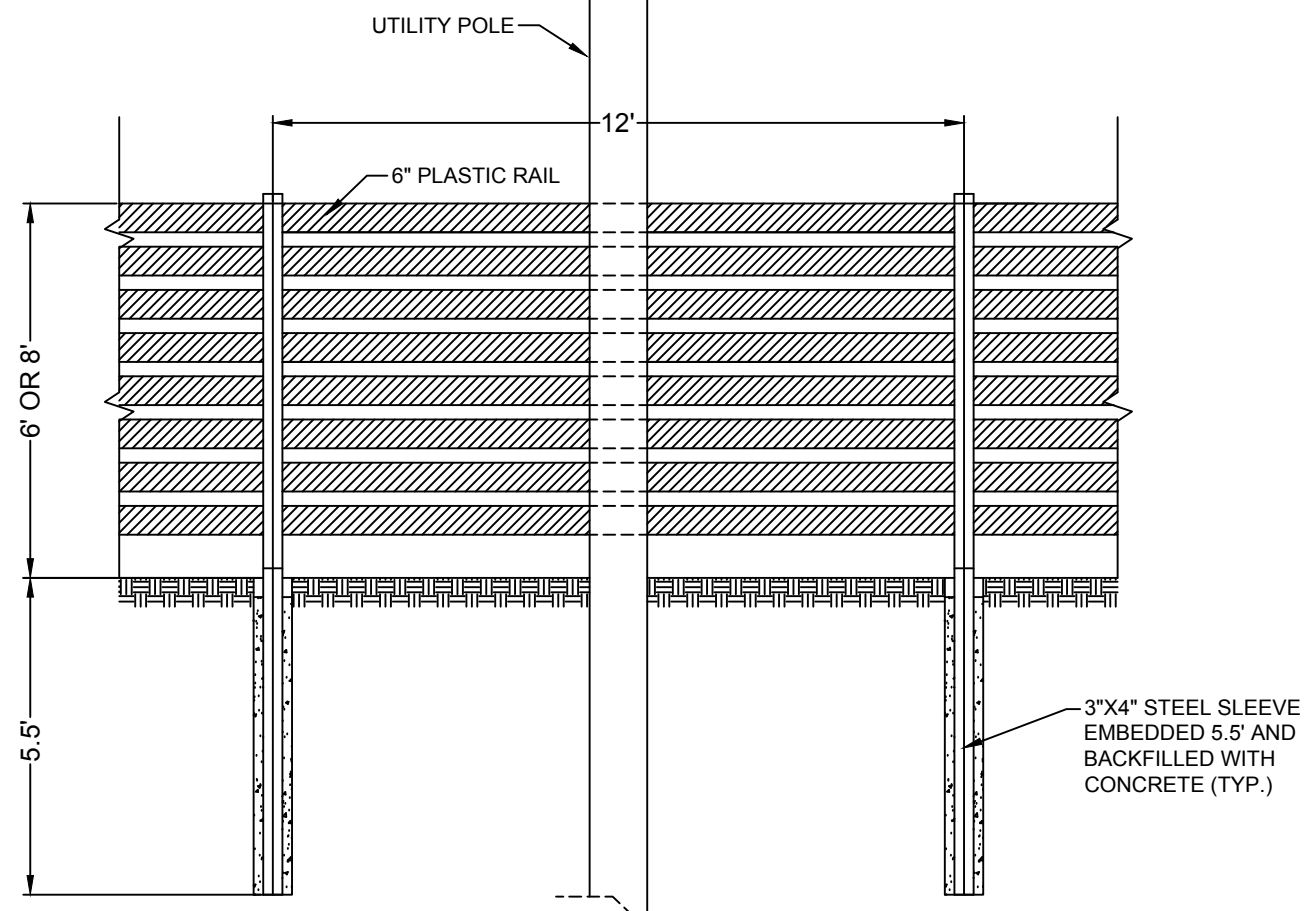
RIGHT OF WAY OFFSET



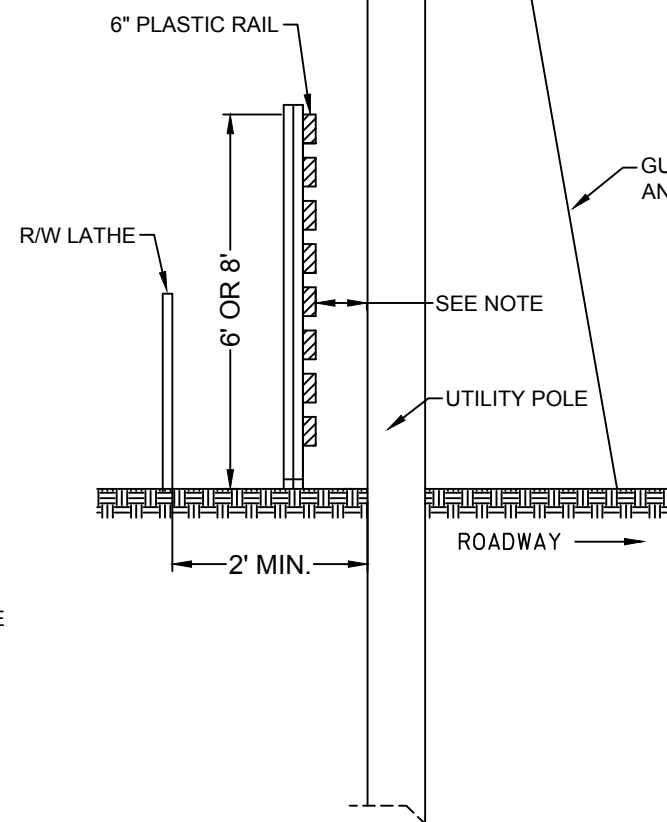
FLEXIBLE COMPOSITE RAIL SNOW FENCE ANCHOR END SECTION

NOTE:

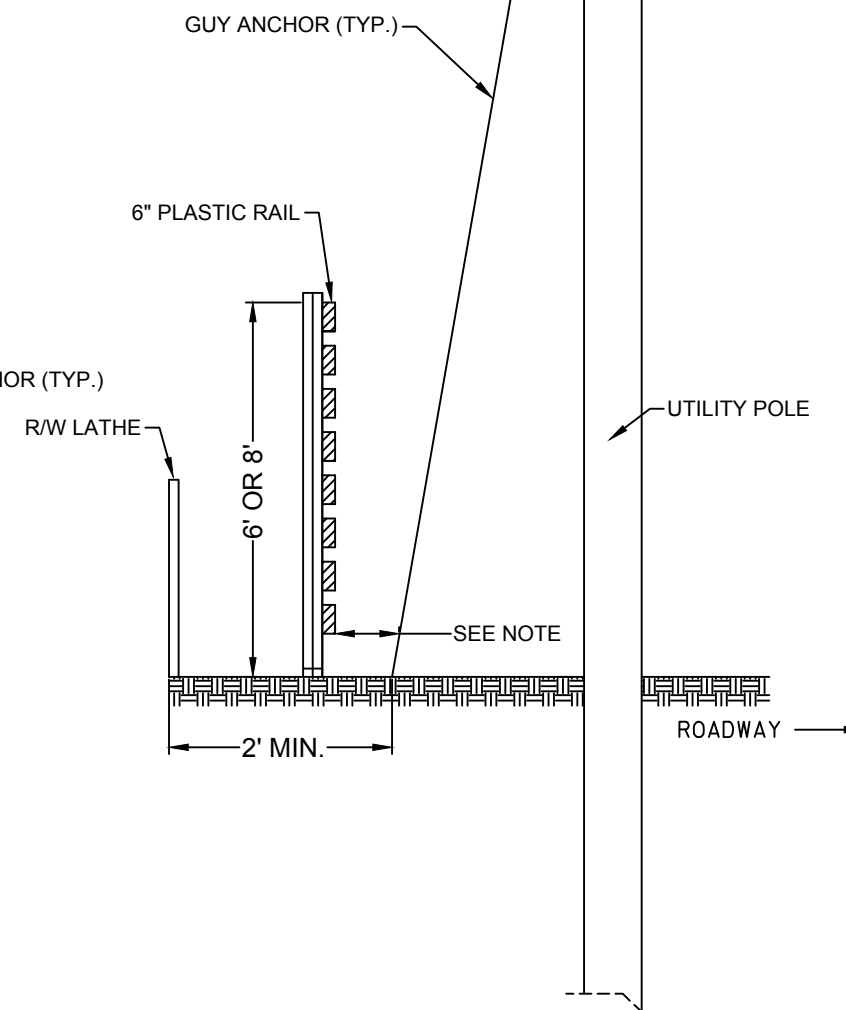
INSTALL SNOW FENCE AND ANCHOR IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.



FRONT VIEW



SIDE VIEW CASE 1



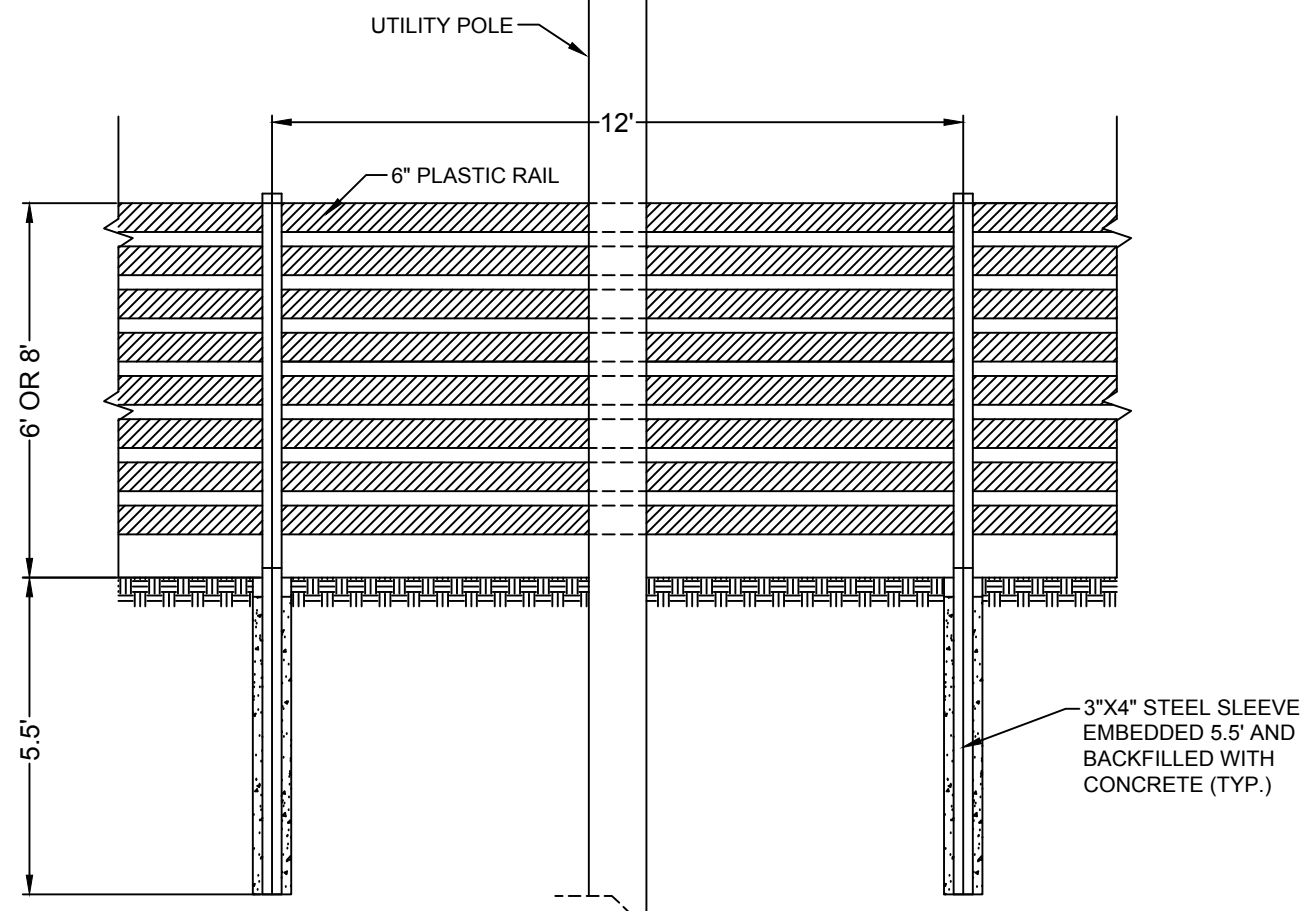
SIDE VIEW CASE 2

NOTE:

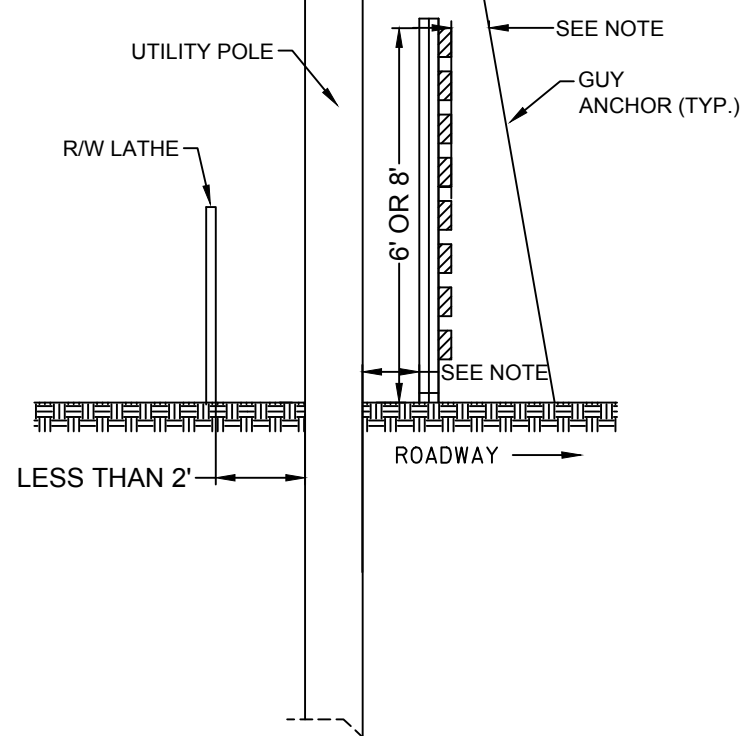
MINIMUM OFFSET FROM SNOW FENCE TO UTILITY POLE AND GUY ANCHOR IS 6" AFTER TENSIONING. IF CASE 1 AND 2 ARE NOT FEASIBLE, CASE 3 AND 4 APPLY.

INSTALL SNOW FENCE USING CASE 1, 2, 3, 4 OR AS DIRECTED BY THE ENGINEER.

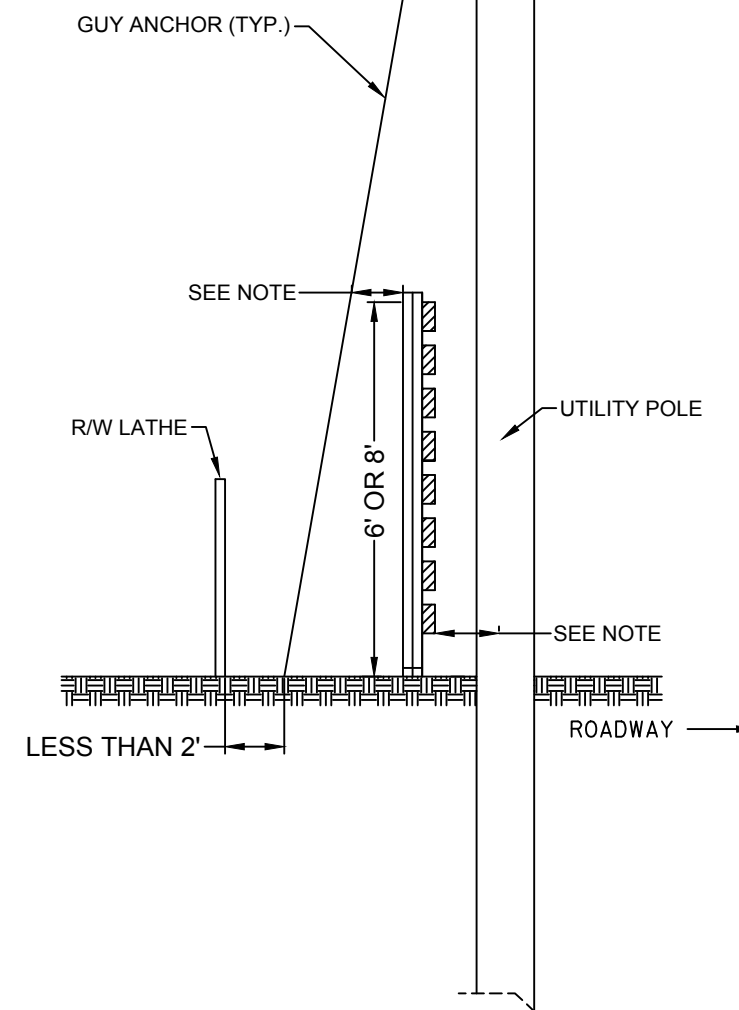
SNOW FENCE PLACEMENT AROUND UTILITY DETAIL



FRONT VIEW



SIDE VIEW CASE 3



SIDE VIEW CASE 4

NOTE:

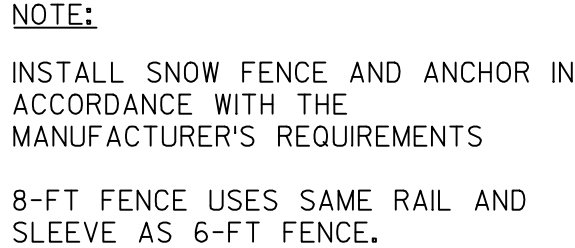
MINIMUM OFFSET FROM SNOW FENCE TO UTILITY POLE AND GUY ANCHOR IS 6" AFTER TENSIONING. IF CASE 3 AND 4 ARE NOT FEASIBLE, INSTALL SNOW FENCE CLOSER TO THE ROADWAY.

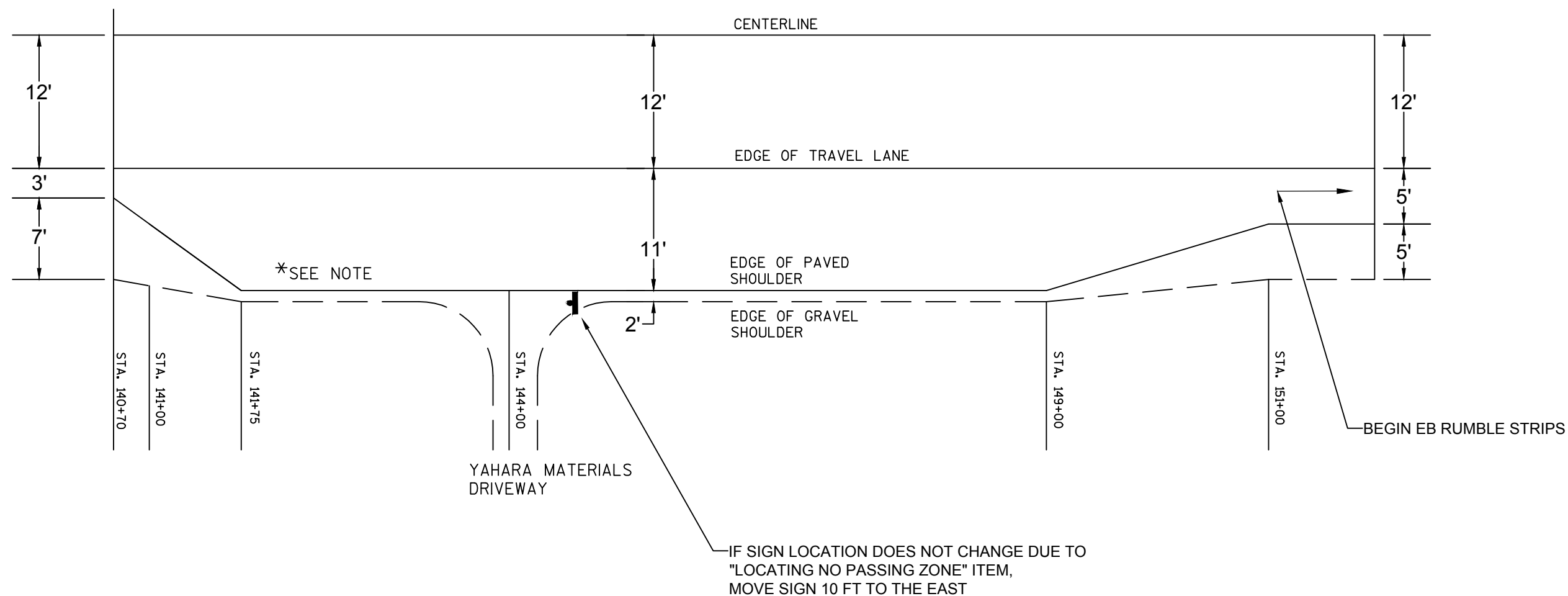
INSTALL SNOW FENCE USING CASE 1, 2, 3, 4 OR AS DIRECTED BY THE ENGINEER.

SNOW FENCE PLACEMENT AROUND UTILITY DETAIL

2

2



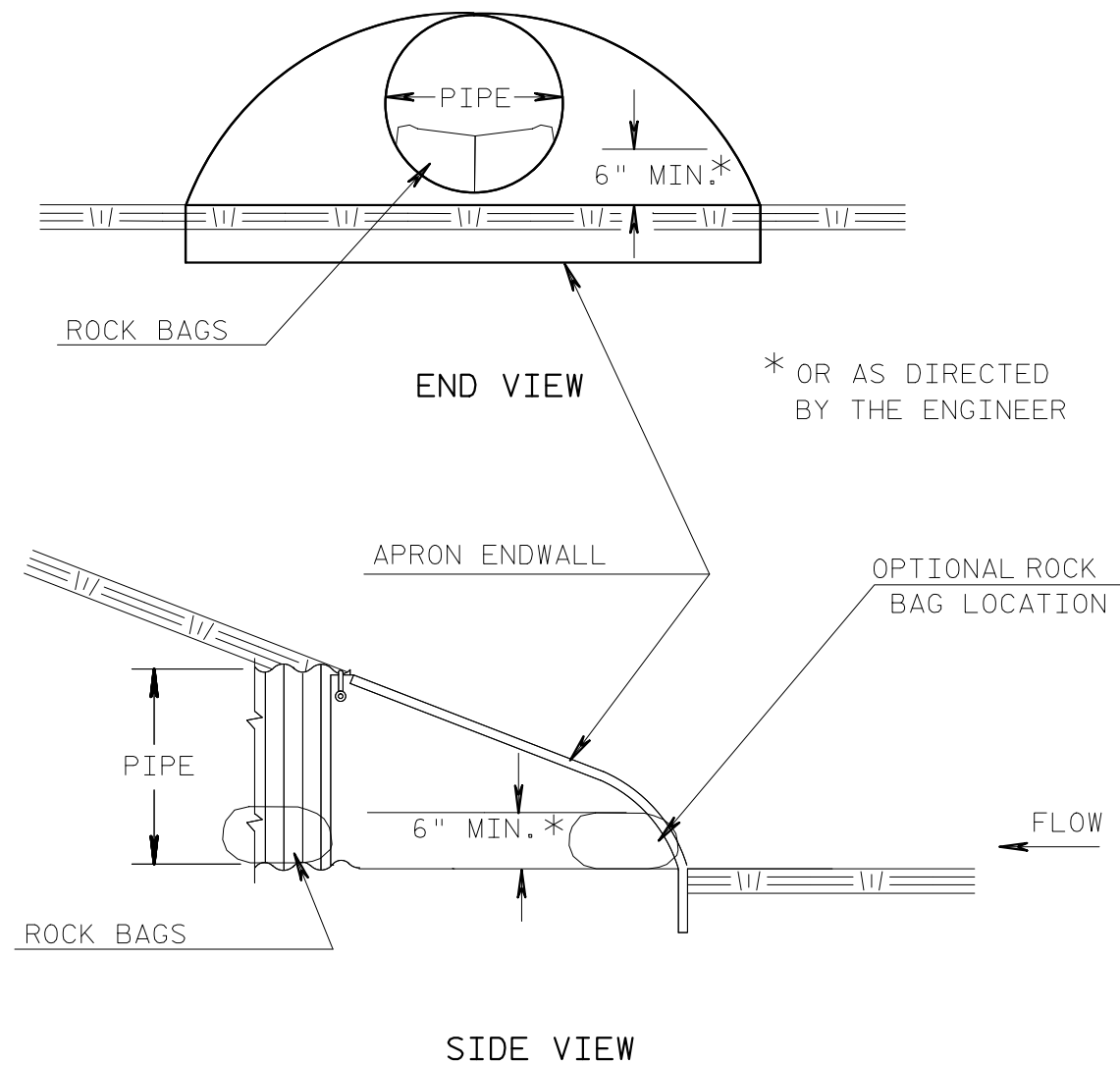


YAHARA MATERIALS WIDER SHOULDER DETAIL

NOTE:

*WIDER SHOULDER HMA PAVEMENT PAID AS SEPARATE CATEGORY

DO NOT DESIGNATE THE WIDER SHOULDER WITH PAVEMENT MARKINGS. MARK ONLY EDGE OF TRAVEL LANE WITH SOLID 4" WHITE MARKING.

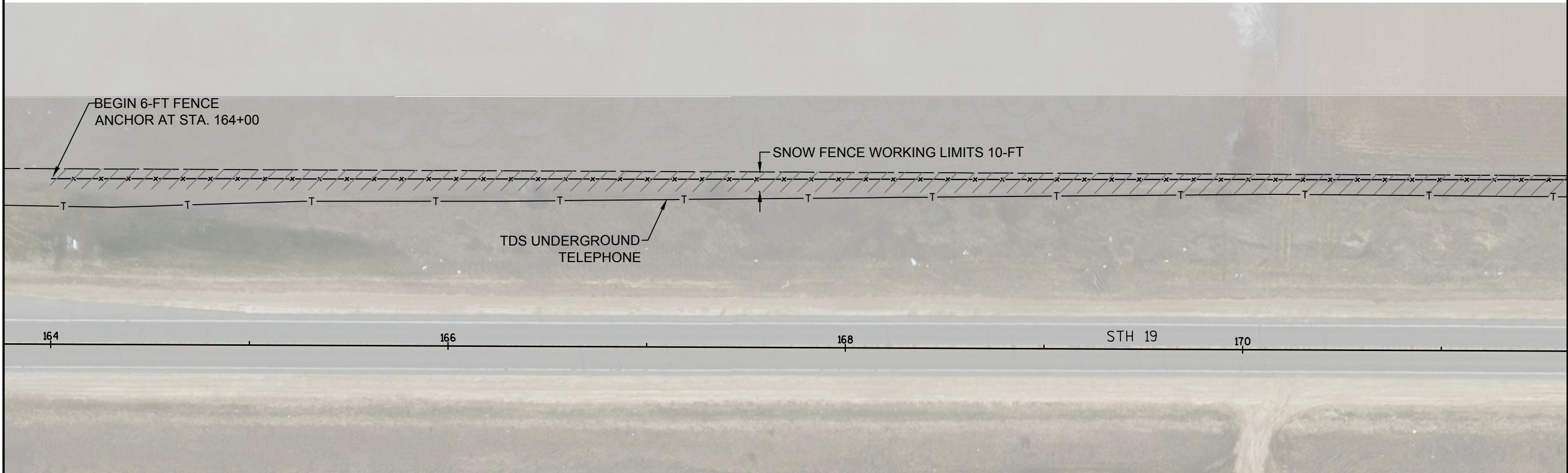


CULVERT PIPE CHECKS

ESTIMATED BAG SIZE = 18" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12"	1
15"	2
18"	2
21"	3
14" X 23"	3
24"	3
27"	4
30"	5
19" X 30"	5
36"	7
24" X 38"	8
42"	8
29" X 45"	10
48"	10
34" X 53"	10
38" X 60"	13
60"	13
66"	15
53" X 83"	19

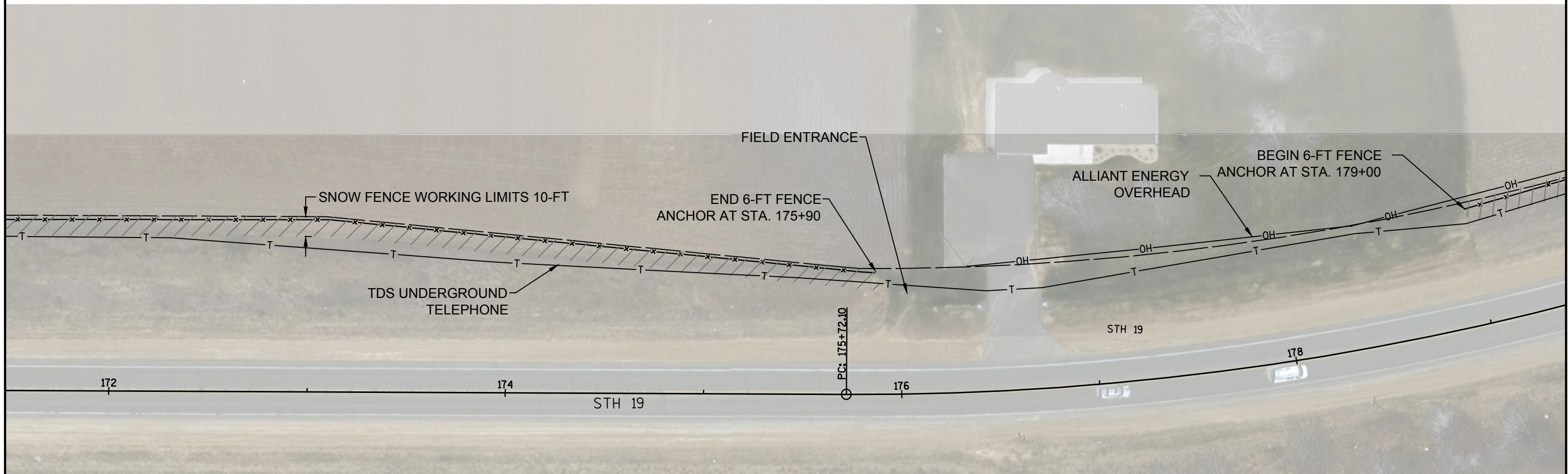
LEGEND

- — — RIGHT OF WAY
- x—x— SNOW FENCE
- OH—OH— OVERHEAD ELECTRIC
- T—T— UNDERGROUND TELEPHONE
- ////// SNOW FENCE WORKING LIMITS



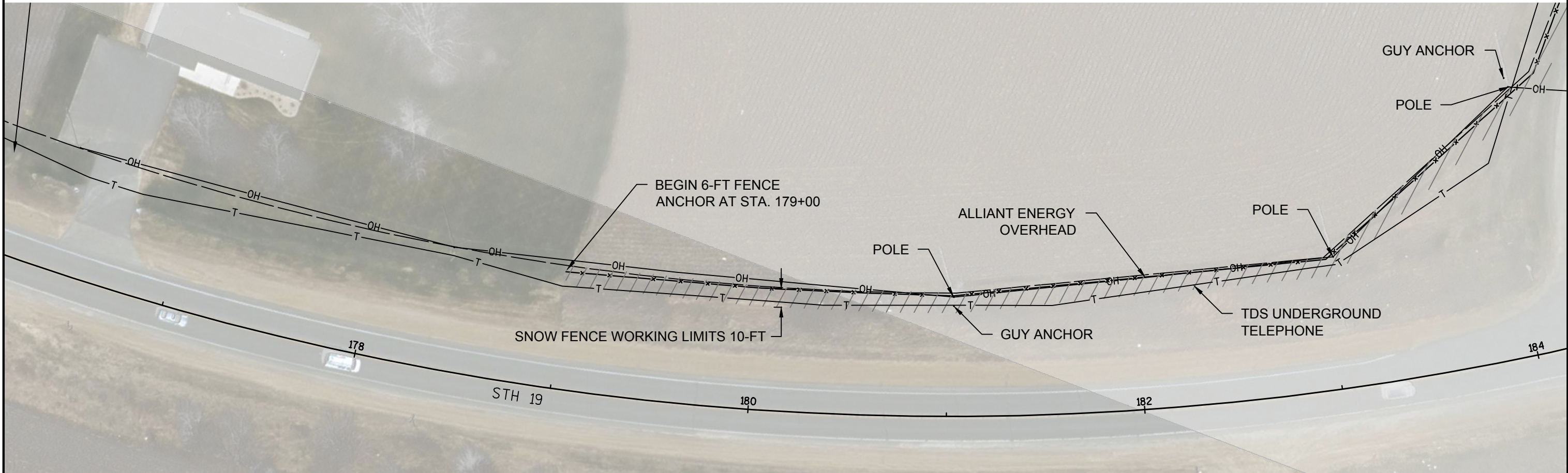
LEGEND

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- ////// SNOW FENCE WORKING LIMITS



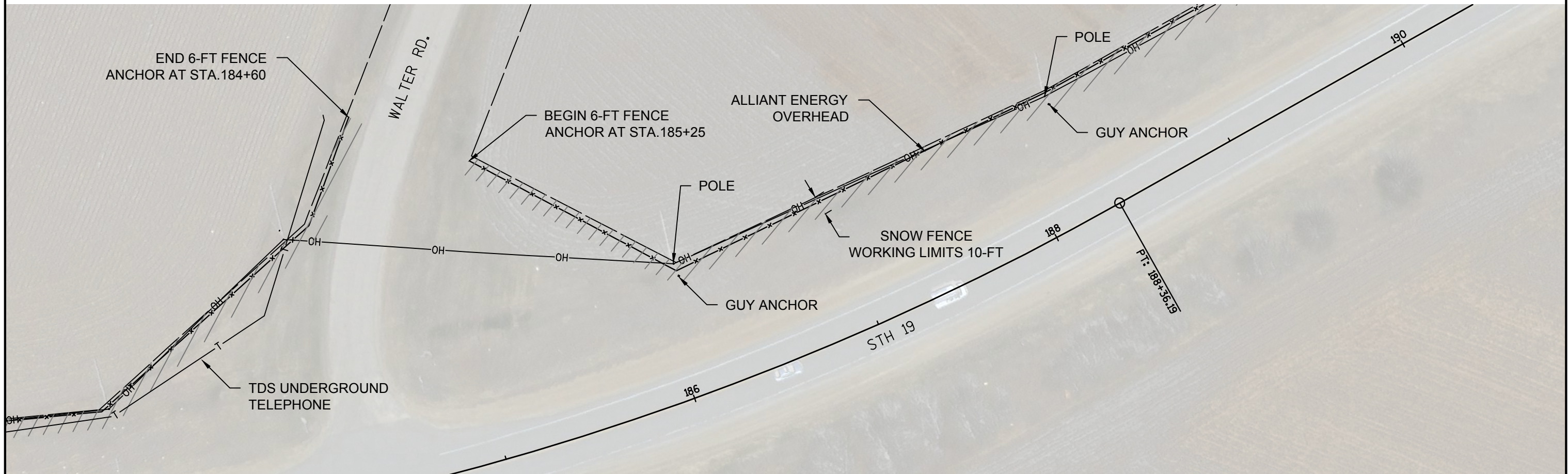
LEGEND

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- T—T— UNDERGROUND TELEPHONE
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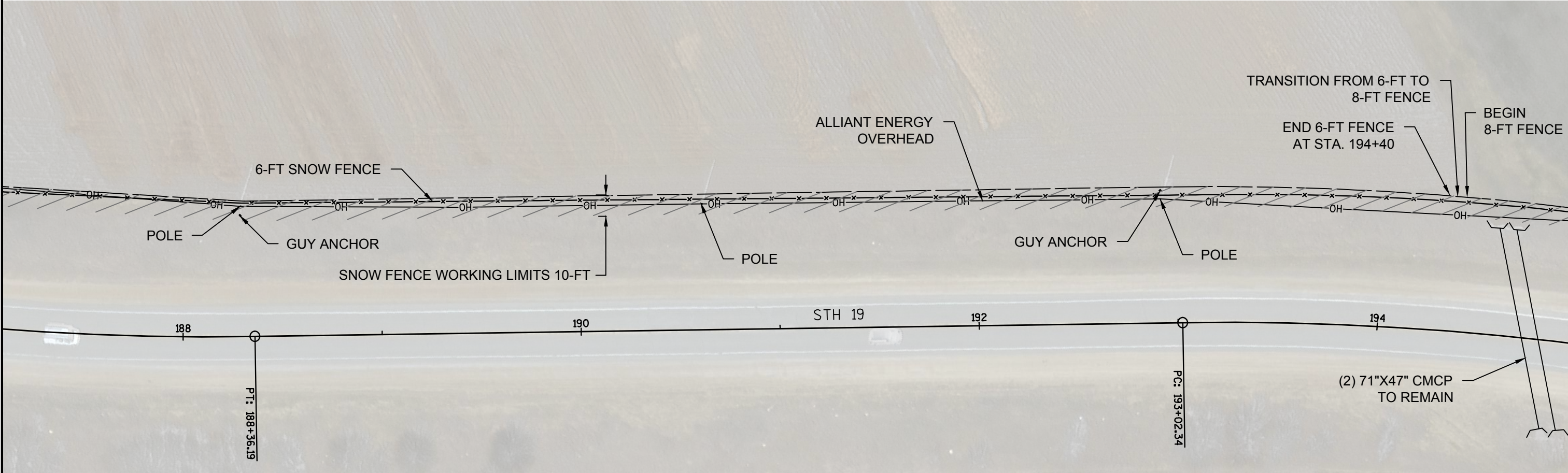
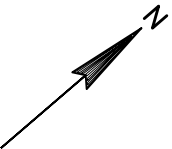
LEGEND

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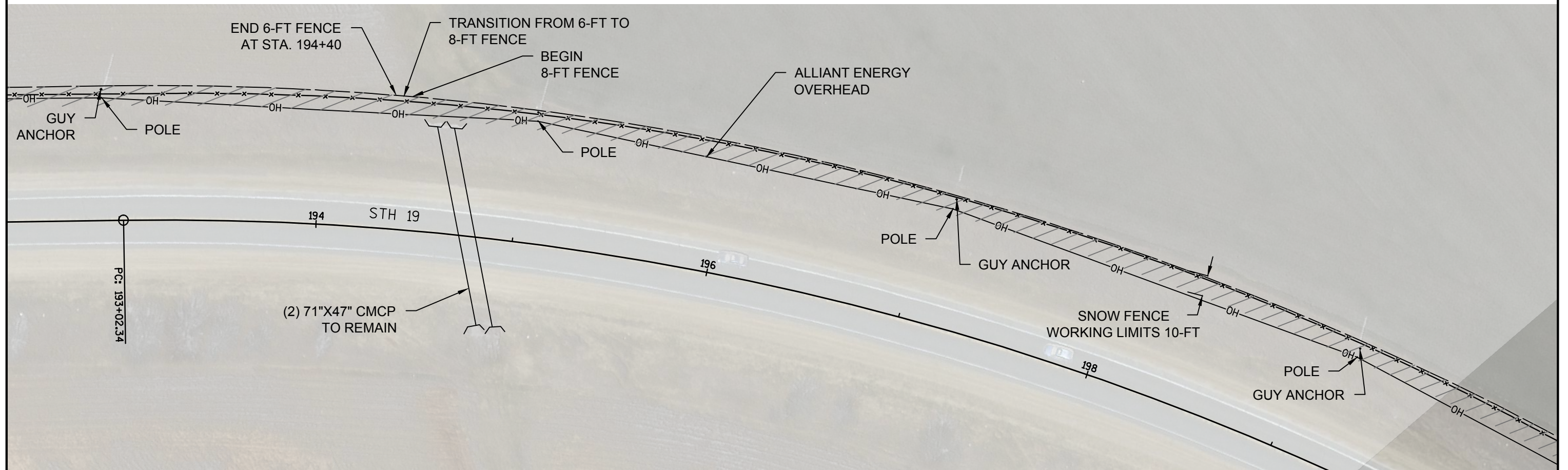
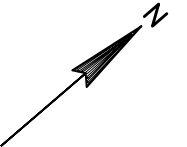
LEGEND

- — — RIGHT OF WAY
- x—x— SNOW FENCE
- OH—OH— OVERHEAD ELECTRIC
- T—T— UNDERGROUND TELEPHONE
- \\\\\\\\\\\\\\\\ SNOW FENCE WORKING LIMITS



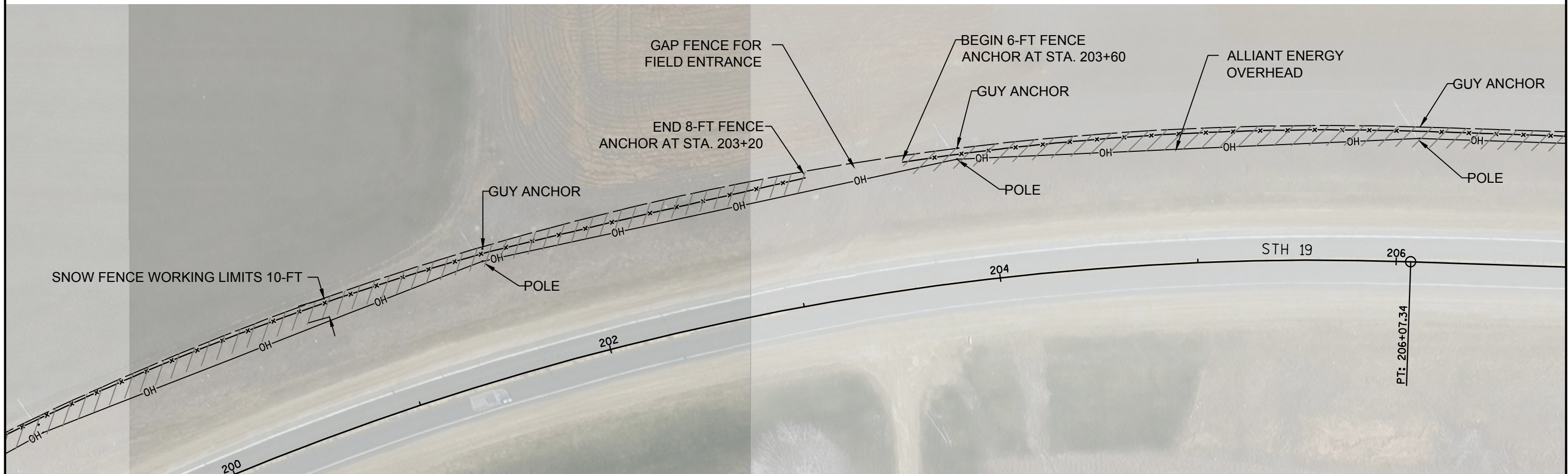
LEGEND

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- x—x— SNOW FENCE
- OH—OH— OVERHEAD ELECTRIC
- T—T— UNDERGROUND TELEPHONE
- ////// SNOW FENCE WORKING LIMITS



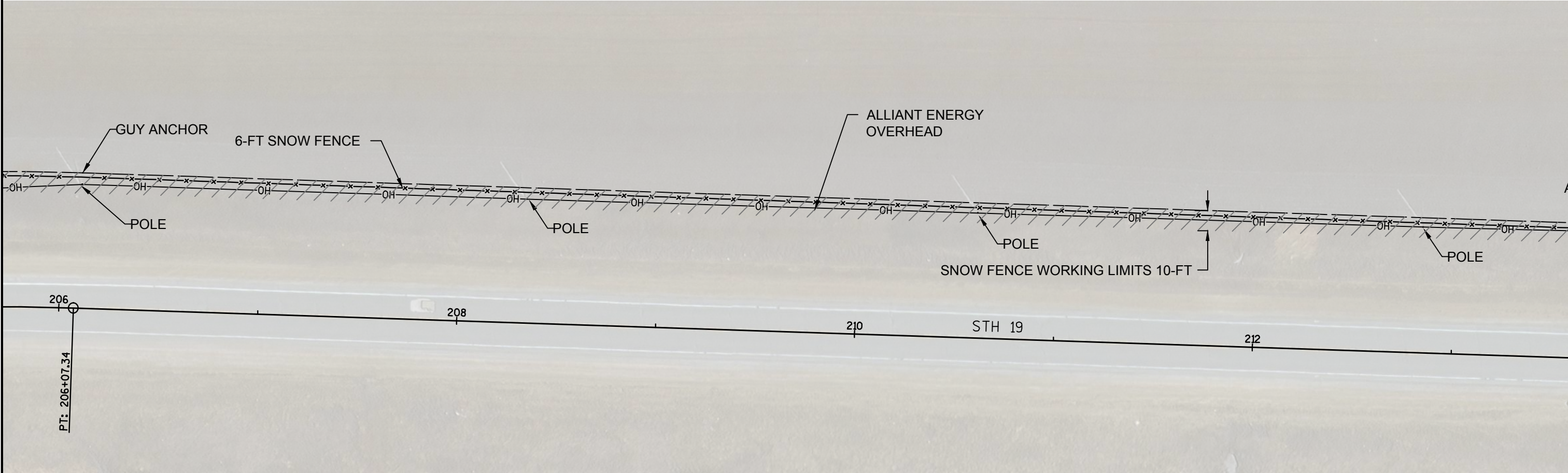
LEGEND

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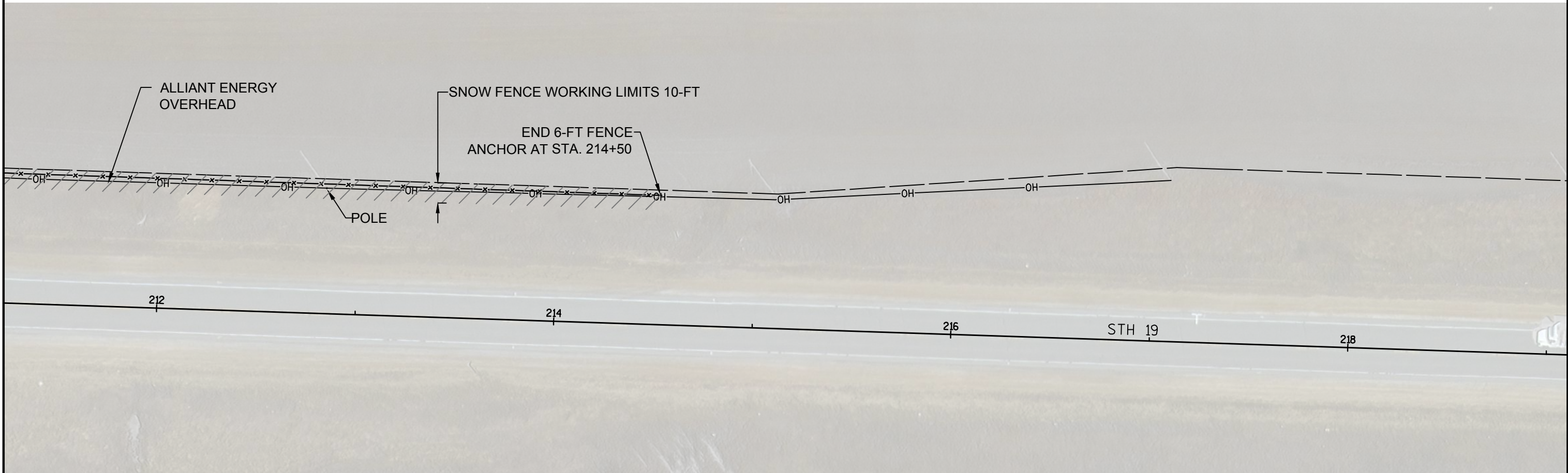
LEGEND

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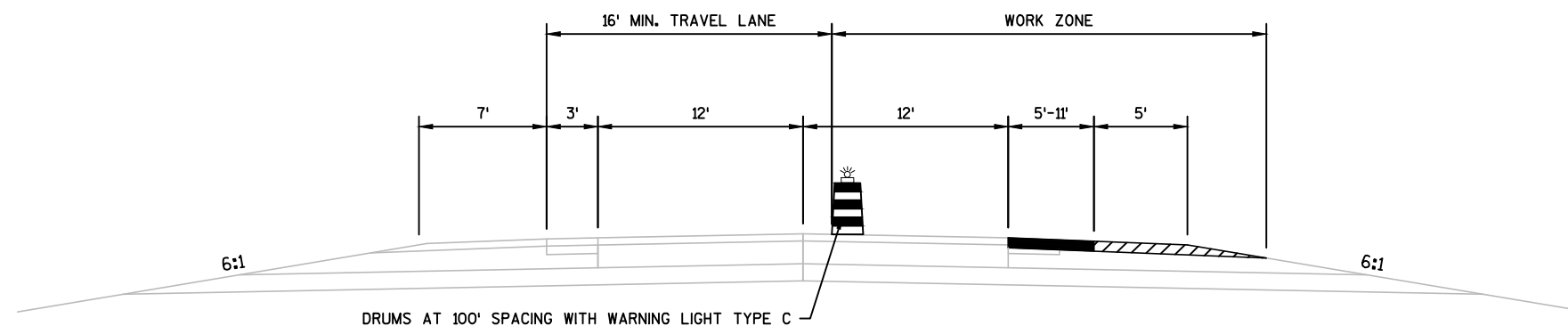
LEGEND

- — — RIGHT OF WAY
- x—x— SNOW FENCE
- OH—OH— OVERHEAD ELECTRIC
- T—T— UNDERGROUND TELEPHONE
- ////// SNOW FENCE WORKING LIMITS



NOTES

MIRROR STAGE 1 AND 2 TYPICAL
SECTIONS FOR OPPOSITE SIDE WORK.



STAGE 1

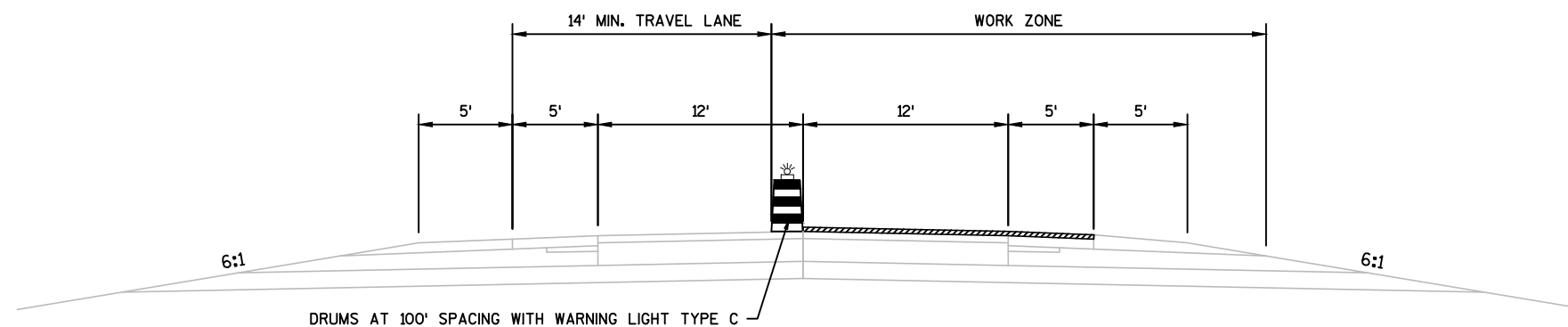
STA. 141+00 - STA. 235+20

CONSTRUCTION ACTIVITY

MILL, ASPHALT SHOULDER,
AGGREGATE SHOULDER

PRIMARY TRAFFIC CONTROL

NIGHTTIME FLAGGING OPERATION



STAGE 2

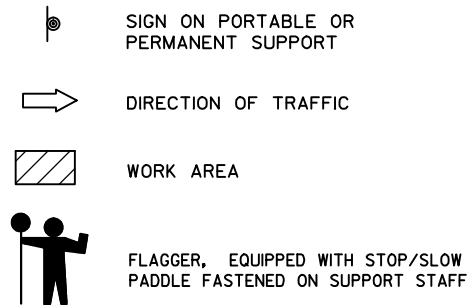
STA. 173+00 - STA. 208+50

CONSTRUCTION ACTIVITY

SEALING SURFACE CRACKS AND
INSTALLING SURFACE FRICTION
TREATMENT

PRIMARY TRAFFIC CONTROL

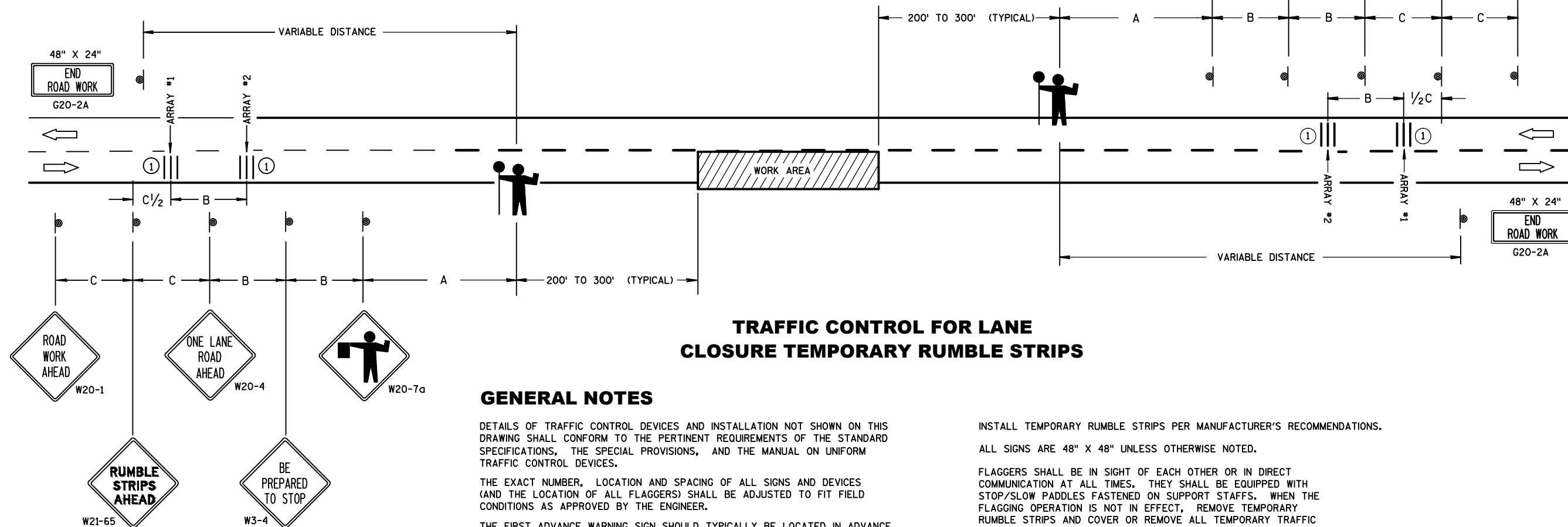
NIGHTTIME FLAGGING OPERATION

LEGEND

SPEED LIMIT (MPH)	ADT	SIGN SPACING A,B,C	TAPER LENGTH (FT)	BUFFER ZONE (FT)	DEVICE SPACING (FT)	WORK ZONE LENGTH
35 OR LESS	LESS THAN 2,500	200'	50'	200'	40'	2.5 MI.
	2,500 - 5,000	200'	50'	200'	40'	2.0 MI.
	GREATER THAN 5,000	200'	50'	200'	40'	1.5 MI.
40-45	LESS THAN 2,500	350'	100'	200'	80'	2.5 MI.
	2,500 - 5,000	350'	100'	200'	80'	2.0 MI.
	GREATER THAN 5,000	700'	100'	300'	80'	1.5 MI.
50 OR GREATER	LESS THAN 2,500	500'	100'	300'	100'	2.5 MI.
	2,500 - 5,000	500'	100'	300'	100'	2.0 MI.
	GREATER THAN 5,000	1000'	100'	300'	100'	1.5 MI.



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.

**TRAFFIC CONTROL FOR LANE CLOSURE TEMPORARY RUMBLE STRIPS****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.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE 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.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

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

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 RUMBLE STRIPS AND COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

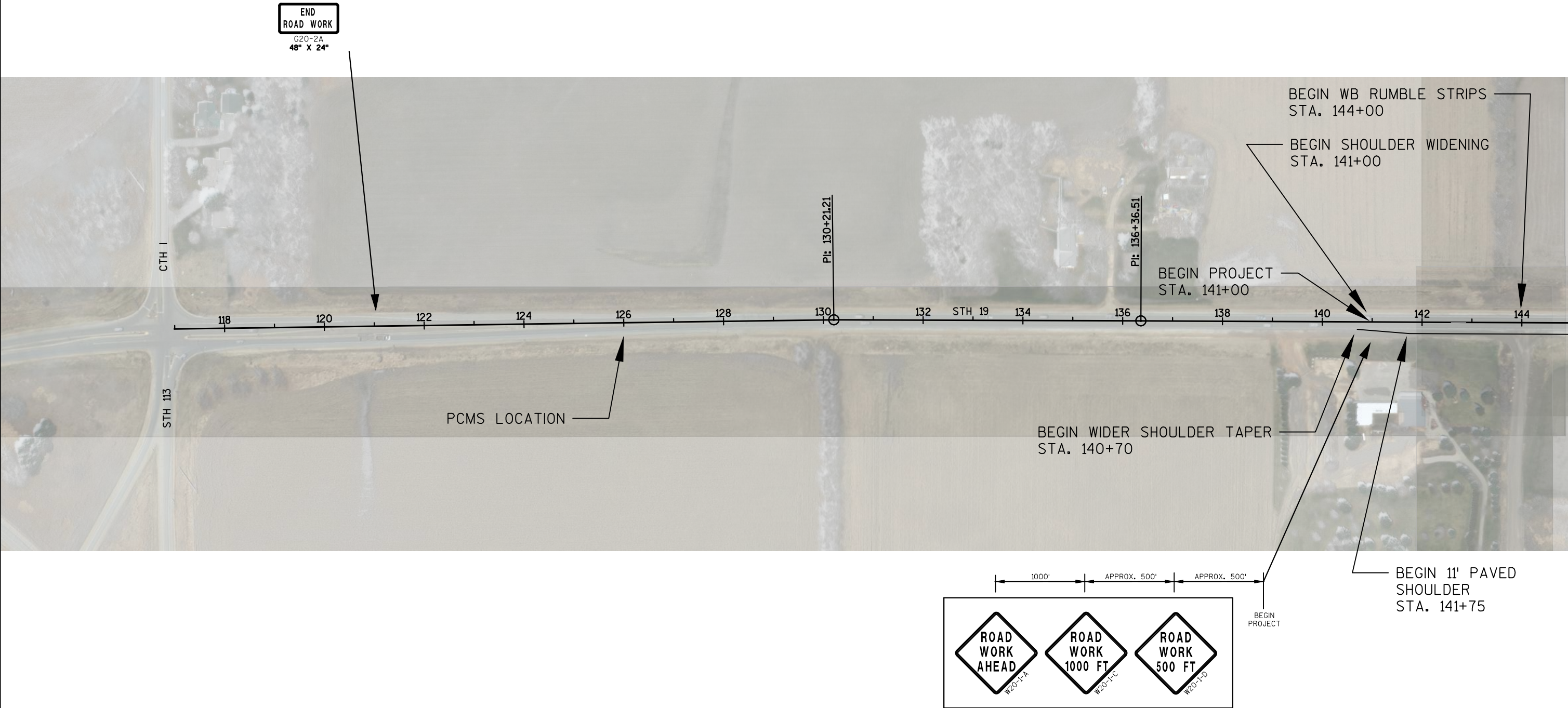
COSTS FOR FLAGGING AND GUIDANCE SERVICES, AND SIGNS ASSOCIATED WITH FLAGGING AND GUIDANCE, ARE INCIDENTAL TO THE CONTRACT.

- ① EACH RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED 8 - 10 FEET CENTER TO CENTER, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

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

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



TRAFFIC CONTROL NOTES

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

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

EXISTING R/W (TYP.)

BEGIN SNOW FENCE
164+00 "EB"

142 144 146 148 150 152 154 STH 19 156 158 160 162 164 166 168 170 172

END 11' PAVED
SHOULDER
STA. 149+00END TAPER
STA. 151+00BEGIN EB RUMBLE STRIPS
STA. 151+00

TRAFFIC CONTROL NOTES

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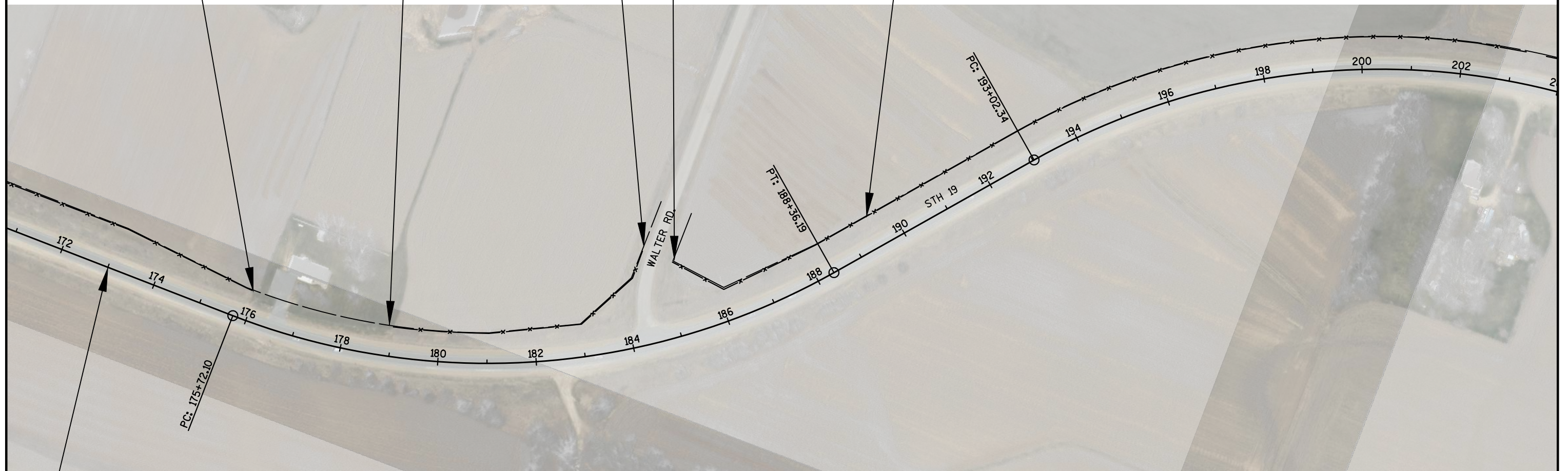
END SNOW FENCE
175+90 "EB"

BEGIN SNOW FENCE
179+00 "EB"

END SNOW FENCE
184+60 "EB"

BEGIN SNOW FENCE
185+25 "EB"

EXISTING R/W (TYP.)

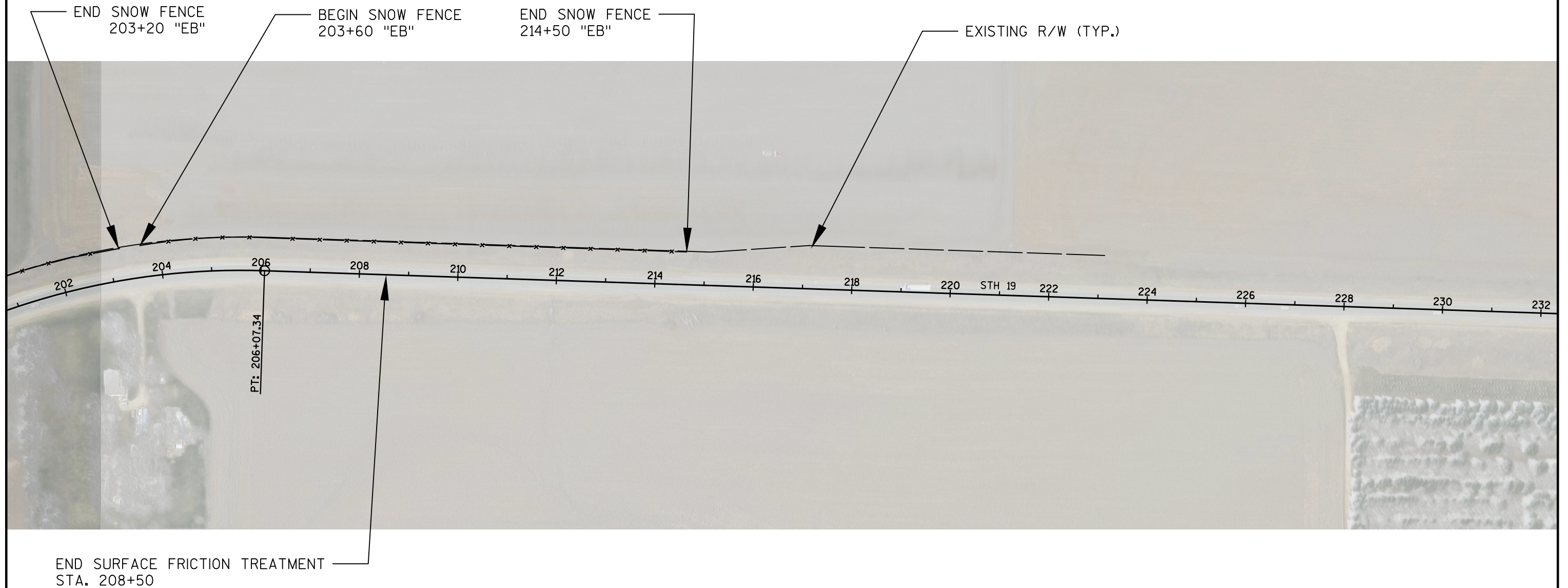


BEGIN SURFACE FRICTION TREATMENT
STA. 173+00

TRAFFIC CONTROL NOTES

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

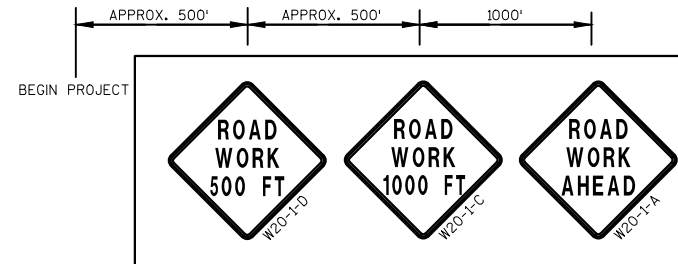
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END
ROAD WORK
G20-2A
48" X 24"

DATE 07MAR16		E S T I M A T E O F Q U A N T I T I E S			
LINE					5290-02-60
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	204.0120	Removing Asphaltic Surface Milling	SY	6,280.000	6,280.000
0020	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	190.000	190.000
0030	213.0100	Finishing Roadway (project) 01. 5290-02-60	EACH	1.000	1.000
0040	305.0110	Base Aggregate Dense 3/4-Inch	TON	2,036.000	2,036.000
0050	455.0605	Tack Coat	GAL	440.000	440.000
0060	460.2000	Incentive Density HMA Pavement	DOL	1,642.000	1,642.000
0070	460.5224	HMA Pavement 4 LT 58-28 S	TON	2,197.000	2,197.000
0080	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	60.000	60.000
0090	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	18,240.000	18,240.000
0100	492.2010.S	Sealing Cracks and Joints with Hot-Applied Sealant	GAL	270.000	270.000
0110	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5290-02-60	EACH	1.000	1.000
0120	619.1000	Mobilization	EACH	1.000	1.000
0130	625.0500	Salvaged Topsoil	SY	2,100.000	2,100.000
0140	627.0200	Mulching	SY	2,100.000	2,100.000
0150	628.2004	Erosion Mat Class I Type B	SY	50.000	50.000
0160	628.7555	Culvert Pipe Checks	EACH	50.000	50.000
0170	629.0205	Fertilizer Type A	CWT	1.400	1.400
0180	630.0130	Seeding Mixture No. 30	LB	38.000	38.000
0190	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	3.000	3.000
0200	638.2102	Moving Signs Type II	EACH	3.000	3.000
0210	638.3000	Removing Small Sign Supports	EACH	3.000	3.000
0220	642.5001	Field Office Type B	EACH	1.000	1.000
0230	643.0100	Traffic Control (project) 01. 5290-02-60	EACH	1.000	1.000
0240	643.0300	Traffic Control Drums	DAY	1,805.000	1,805.000
0250	643.0715	Traffic Control Warning Lights Type C	DAY	1,760.000	1,760.000
0260	643.0900	Traffic Control Signs	DAY	320.000	320.000
0270	643.1050	Traffic Control Signs PCMS	DAY	100.000	100.000
0280	646.0106	Pavement Marking Epoxy 4-Inch	LF	33,059.000	33,059.000
0290	646.0690.S	Removing Pavement Markings Water Blasting	LF	50.000	50.000
0300	648.0100	Locating No-Passing Zones	MI	2.000	2.000
0310	649.2100	Temporary Raised Pavement Markers	EACH	284.000	284.000
0320	650.8000	Construction Staking Resurfacing Reference	LF	9,420.000	9,420.000
0330	650.9910	Construction Staking Supplemental Control (project) 01. 5290-02-60	LS	1.000	1.000
0340	690.0150	Sawing Asphalt	LF	235.000	235.000
0350	SPV.0060	Special 01. Temporary Portable Rumble Strip Array	EACH	4.000	4.000
0360	SPV.0090	Special 01. Flexible Composite Rail Snow Fence 6-FT	LF	3,825.000	3,825.000
0370	SPV.0090	Special 02. Flexible Composite Rail Snow Fence 8-FT	LF	900.000	900.000
0380	SPV.0180	Special 01. Asphaltic Binder Enhanced Friction Surface Treatment	SY	13,412.000	13,412.000

SNOW FENCE ITEMS										
			625.0500	627.0200	629.0205	630.0130	SPV.0090.01	SPV.0090.02	*	
			SALVAGED TOPSOIL	MULCHING	FERTILIZER TYPE A	SEEDING MIXTURE NO. 30	SPECIAL (01. FLEXIBLE COMPOSITE RAIL SNOW FENCE 6-FT)	SPECIAL (02. FLEXIBLE COMPOSITE RAIL SNOW FENCE 8-FT)	CLASS II ANCILLARY CONCRETE	
STATION TO	STATION	LOCATION	SY	SY	CWT	LB	LF	LF	CY	REMARKS
164+00 -	175+90	MAINLINE LT	529	529	0.3	10	1190		14	* INCIDENTAL TO ITEMS SPV.0090.01 AND SPV.0090.02
179+00 -	184+60	MAINLINE LT	260	260	0.2	5	585		7	
185+25 -	194+40	MAINLINE LT	422	422	0.3	8	950		12	
194+40 -	203+25	MAINLINE LT	400	400	0.3	7		900	11	
203+50 -	214+50	MAINLINE LT	489	489	0.3	9	1100		13	
TOTAL			2100	2100	1.4	38	3825	900	57	

ASPHALT SHOULDER ITEMS										
				204.0120	211.0400	455.0605	460.5224	465.0425		
				REMOVING ASPHALTIC SURFACE MILLING	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS	TACK COAT	HMA PAVEMENT 4 LT 58-28 S	ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL		
CATEGORY	STATION TO	STATION	LOCATION	SY	STA	GAL	TON	LF	REMARKS	
0010	141+00 -	235+20	MAINLINE RT	3140	95	220	1026			
0010	141+00 -	235+20	MAINLINE LT	3140	95	220	1026			
0010	144+00 -	235+20	MAINLINE RT					9120		
0010	144+00 -	235+20	MAINLINE LT					9120		
TOTAL 0010				6280	190	440	2052	18240		
0020	141+00 -	151+00	MAINLINE RT				145		WIDER SHOULDER AT YAHARA MATERIALS DRIVEWAY	
TOTAL 0020				0	0	0	145	0		

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES					FRICTION SURFACE TREATMENT ITEMS					BASE AGGREGATE DENSE 3/4-INCH				
				465.0120					492.2010.S	SPV.0180.01				
				TON					SEALING CRACKS AND JOINTS WITH HOT-APPLIED SEALANT	SPECIAL 01. ASPHALTIC ENHANCED FRICTION SURFACE TREATMENT				
STATION TO	STATION	LOCATION			STATION TO	STATION	LOCATION		GAL	SY	STATION TO	STATION	LOCATION	305.0110
148+15 -	148+70	DRIVEWAY LT		9							141+00 -	235+20	MAINLINE RT	1018
162+80 -	163+65	DRIVEWAY LT		42							141+00 -	235+20	MAINLINE LT	1018
176+40 -	176+85	DRIVEWAY LT		9	173+00 -	208+50	MAINLINE		270	13412	TOTAL			2036
TOTAL				60	TOTAL				270	13412				

| NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED | | | | | | | | | | | | | | |
| PROJECT NO: 5920-02-60 | | | | HWY: STH19 | | | COUNTY: DANE | | | MISCELLANEOUS QUANTITIES | | | | SHEET: E |

3

PAVEMENT MARKING ITEMS									
		646.0106		646.0106		649.2100		646.0690.S	
		PAVEMENT MARKING EPOXY 4-INCH (WHITE)		PAVEMENT MARKING EPOXY 4-INCH (YELLOW)		TEMPORARY RAISED PAVEMENT MARKERS (YELLOW)		REMOVING PAVEMENT MARKINGS WATER BLASTING	
STATION	TO STATION	LOCATION	LF	LF	EACH		LF	REMARKS	
141+00	- 173+00	MAINLINE	6400	4643					
173+00	- 208+50	MAINLINE	7100	6529	284			PLACE 2 RAISED MARKERS AT 6 INCHES SIDE BY SIDE AT 25-FT SPACING ALONG CENTERLINE	
208+50	- 235+20	MAINLINE UNDISTRIBUTED	5340	3047			50		
TOTAL			18840	14219	284		50		

TRAFFIC CONTROL ITEMS									
		643.0300		643.0715		643.0900		643.1050	
		TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL WARNING LIGHTS TYPE C		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL SIGNS PCMS	
		SPV.0060.01							
		SPECIAL (01. TEMPORARY PORTABLE RUMBLE STRIP ARRAY)							
STATION	TO STATION	LOCATION	DAY	DAY	DAY	DAY	EACH	REMARKS	
141+00	- 235+20	MAINLINE LT & RT	880	880				STAGE 1	
173+00	- 208+50	MAINLINE LT & RT	160	160				STAGE 2	
141+00	- 235+20	MAINLINE LT & RT	220	220				RUMBLE STRIPS	
164+00	- 214+50	WB SHOULDER	45					SNOW FENCE	
141+00	- 235+20	MAINLINE LT & RT	500	500	320	100	4	PROJECT WIDE	
TOTAL			1805	1760	320	100	4		

<u>PERMANENT SIGNING ITEMS</u>					
		634.0616 POSTS WOOD 4X6- INCH X 16-FT	638.2102 MOVING SIGNS TYPE II	638.3000 REMOVING SMALL SIGN SUPPORTS	
STATION	LOCATION	EACH	EACH	EACH	REMARKS
144+25	MAINLINE RT	1	1	1	NO PASSING ZONE SIGN
	UNDISTRIBUTED	2	2	2	NO PASSING ZONE SIGNS
	TOTAL	<u>3</u>	<u>3</u>	<u>3</u>	

LOCATING NO-PASSING ZONES				
STATION TO STATION		LOCATION	648.0100 MI	
141+00	- 235+20	MAINLINE	2	
TOTAL			2	

SAWING ASPHALT				
STATION TO STATION		LOCATION	690.0150 LF	
148+15	- 148+70	DRIVEWAY LT	55	
162+80	- 163+65	DRIVEWAY LT	85	
176+40	- 176+85	DRIVEWAY LT	45	
184+10	- 184+60	WALTER DR	50	
TOTAL			235	

<u>CONSTRUCTION STAKING ITEMS</u>					
			650.8000	650.9910	
			CONSTRUCTION STAKING RESURFACING REFERENCE	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (5290-02-60)	
STATION TO	STATION	LOCATION	LF	LS	
141+00	- 235+20	MAINLINE	9420	1	
TOTAL			9420	1	

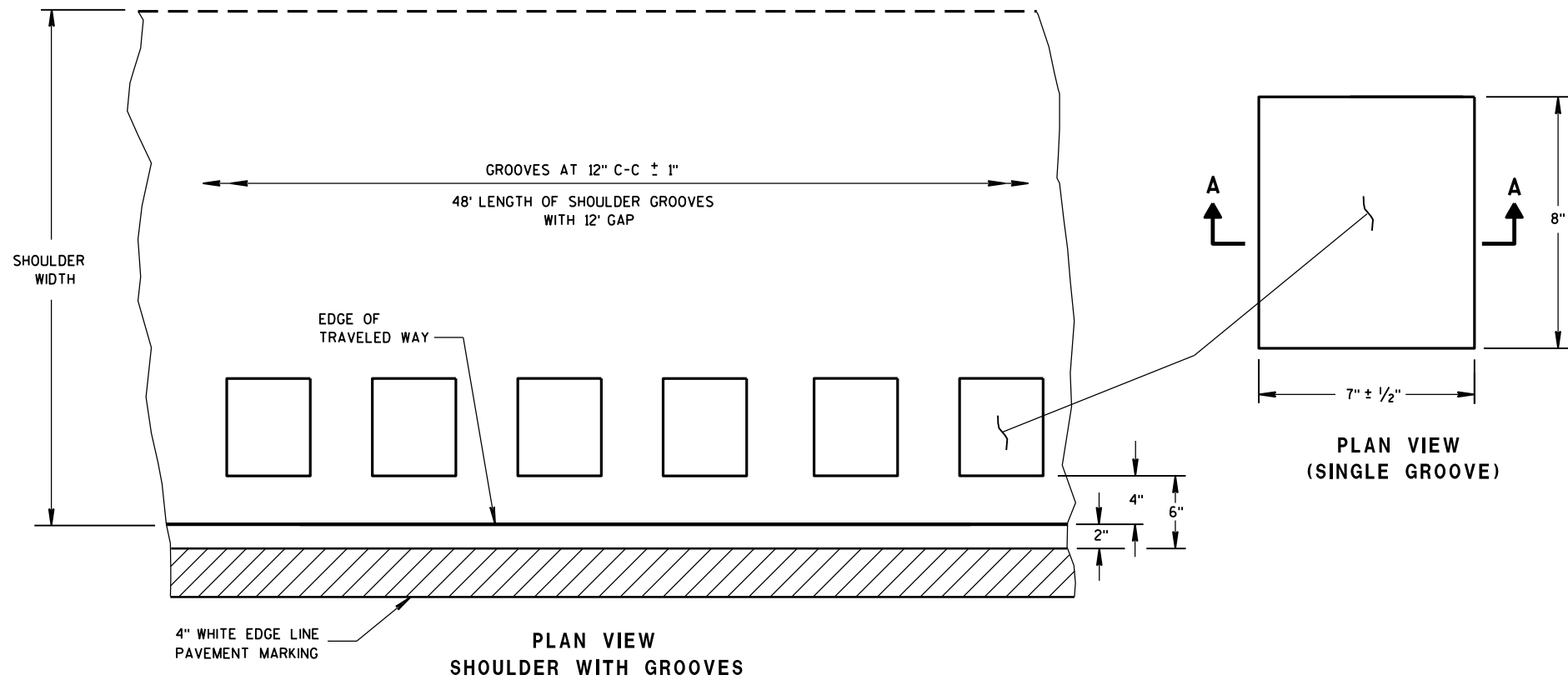
EROSION CONTROL ITEMS			
		628.2004	628.7555
		EROSION MAT CLASS I TYPE B	CULVERT PIPE CHECKS
		SY	EACH
LOCATION			
UNDISTRIBUTED		50	50
TOTAL		50	50

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED					
PROJECT NO: 5920-02-60		HWY: STH19		COUNTY: DANE	
MISCELLANEOUS QUANTITIES			SHEET:		E

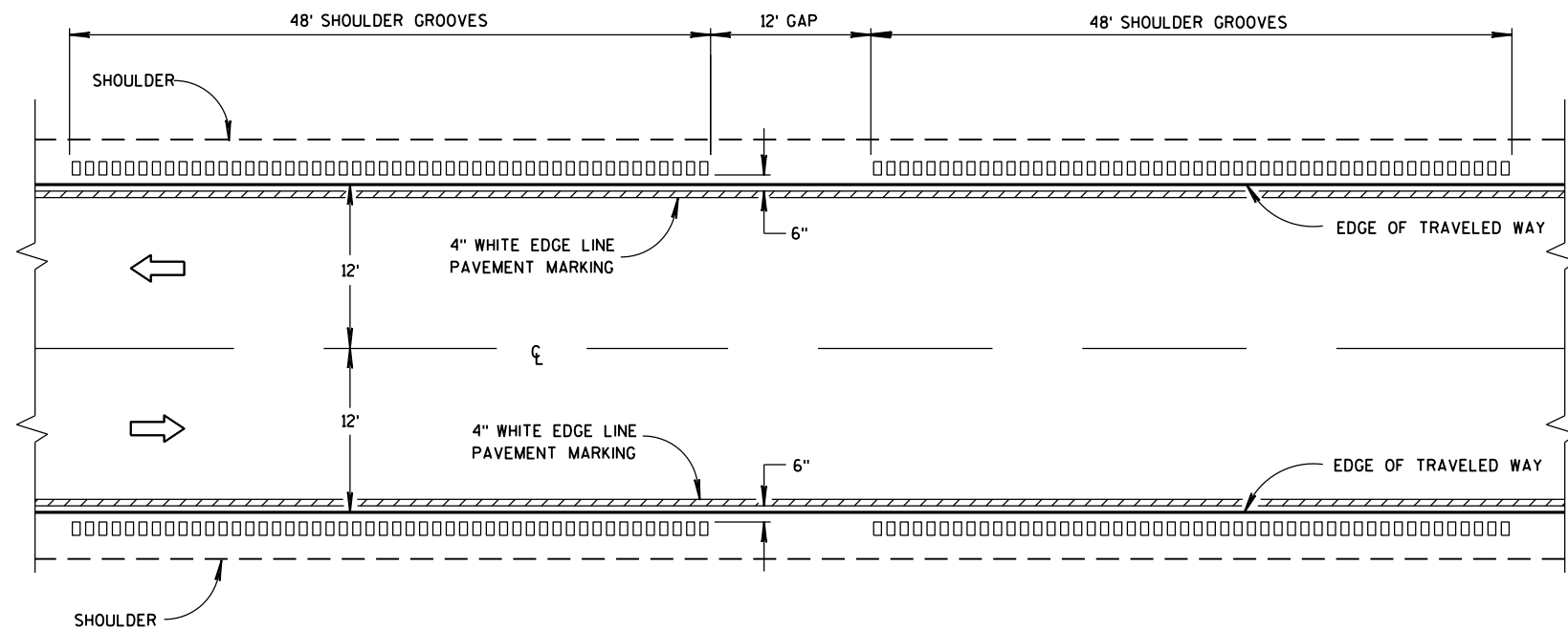
3

Standard Detail Drawing List

13A10-01A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M. P. H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C19-03A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



6
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



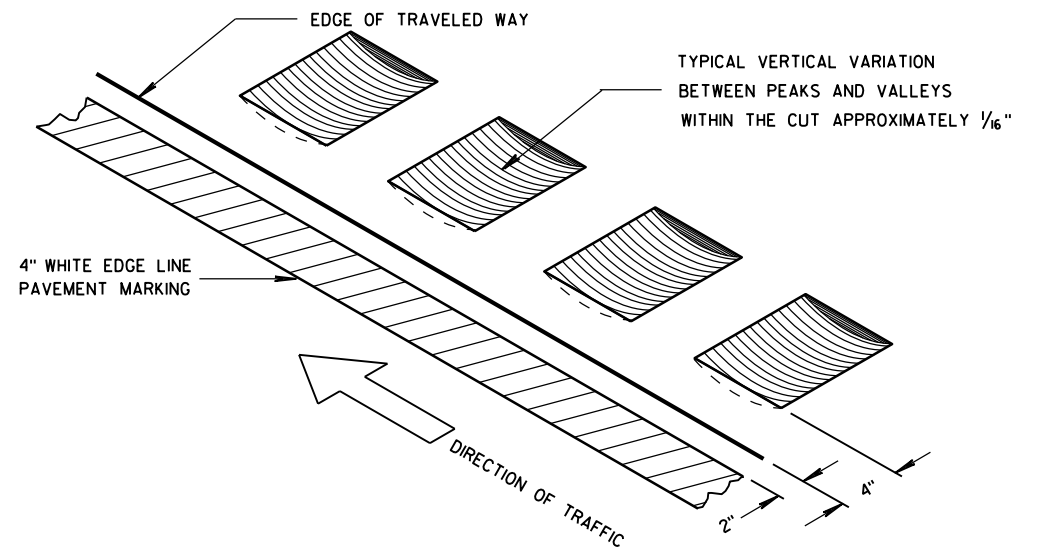
TYPE 1
2-LANE SHOULDER RUMBLE STRIP

GENERAL NOTES

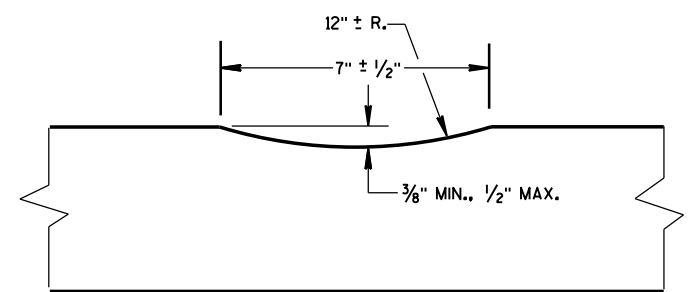
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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



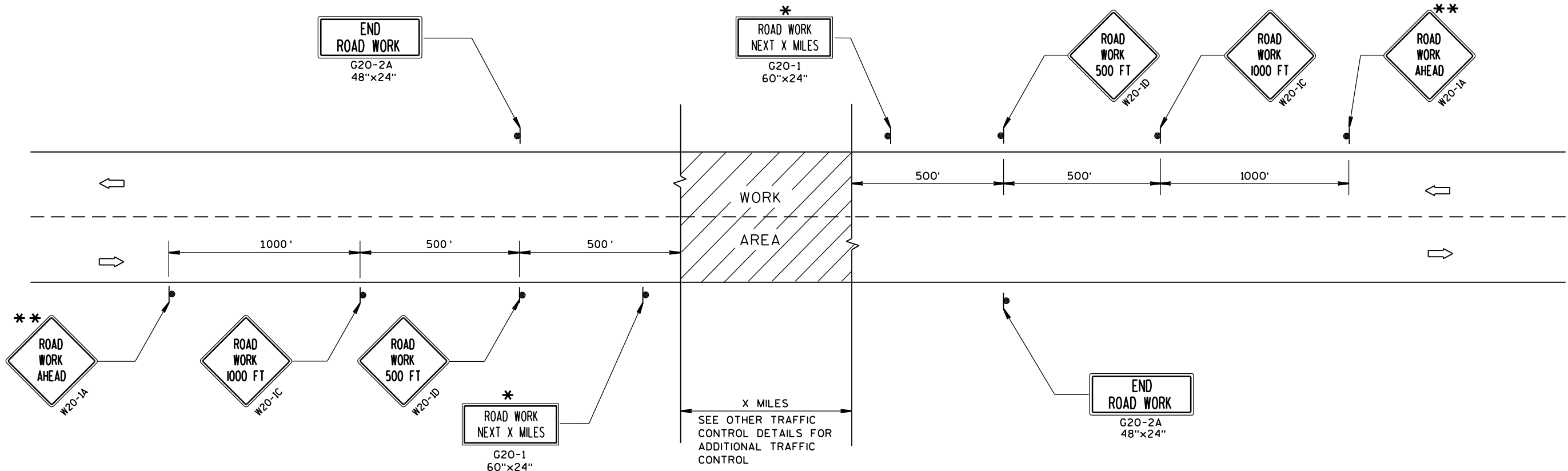
ISOMETRIC



SECTION A-A

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

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.

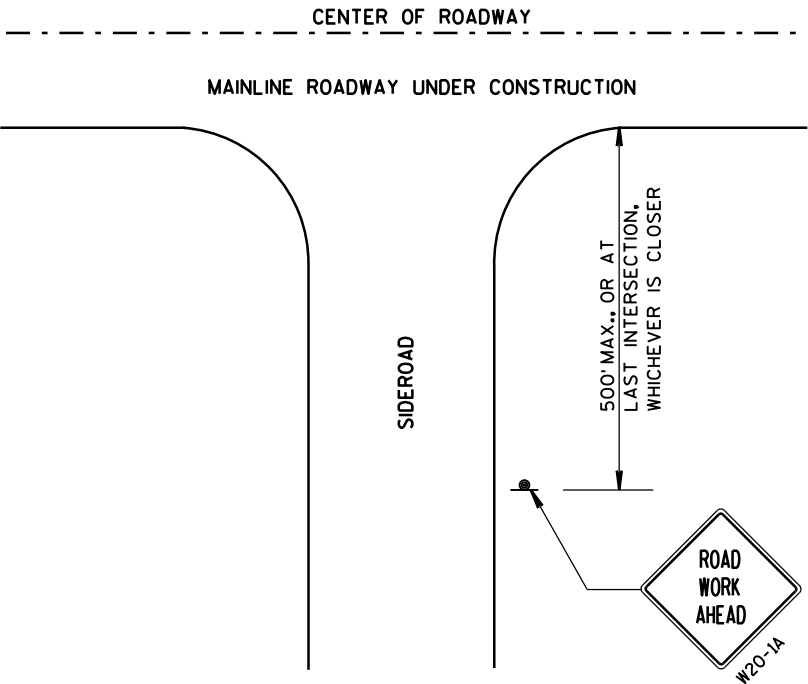
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 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 RE-ESTABLISHED.

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

** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



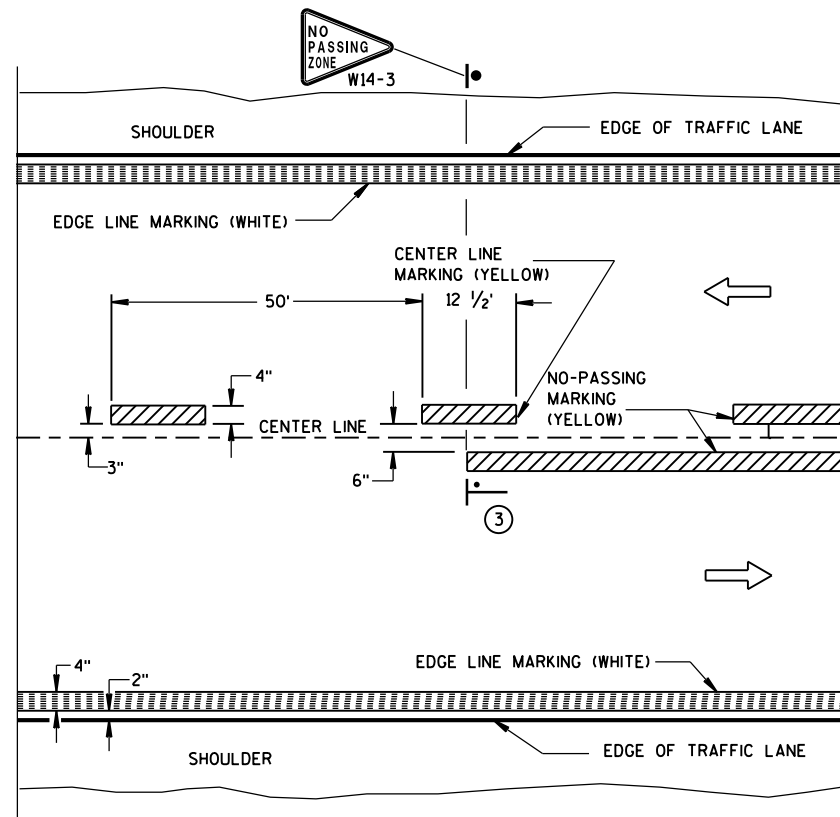
LEGEND

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

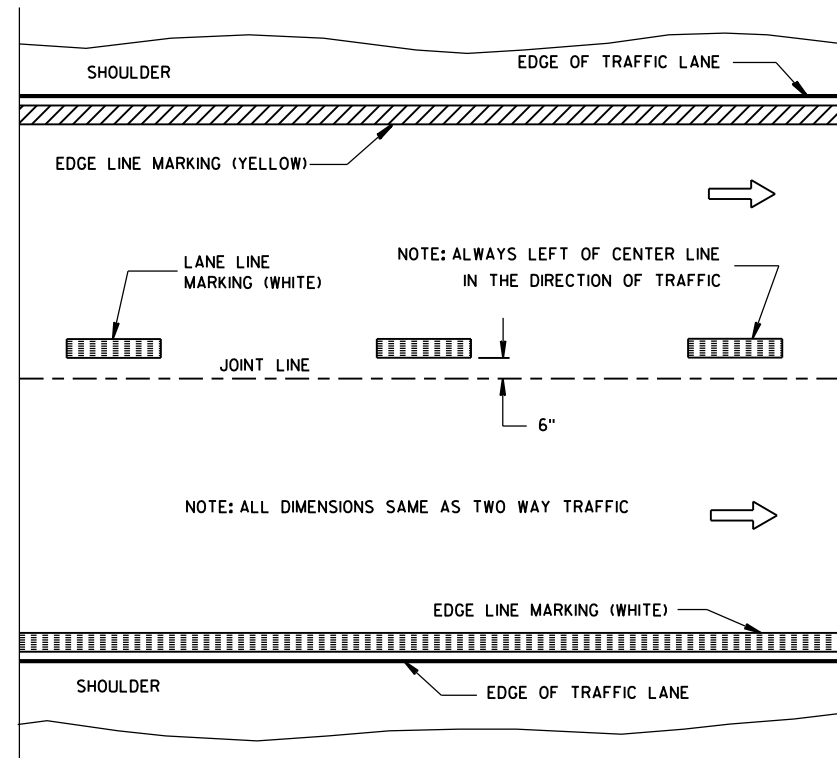
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER

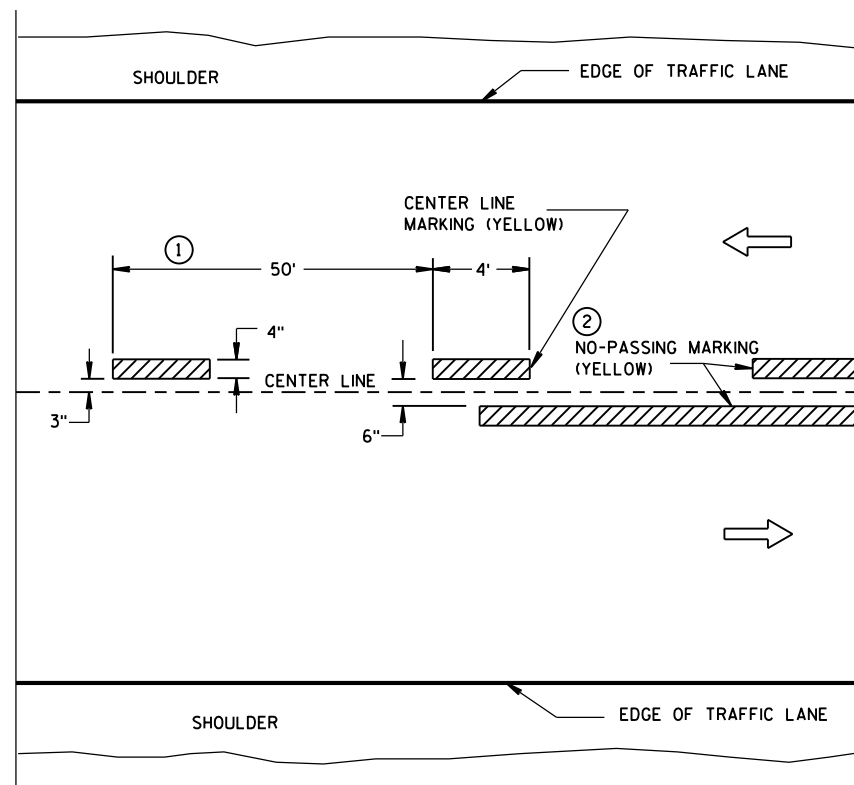


TWO WAY TRAFFIC

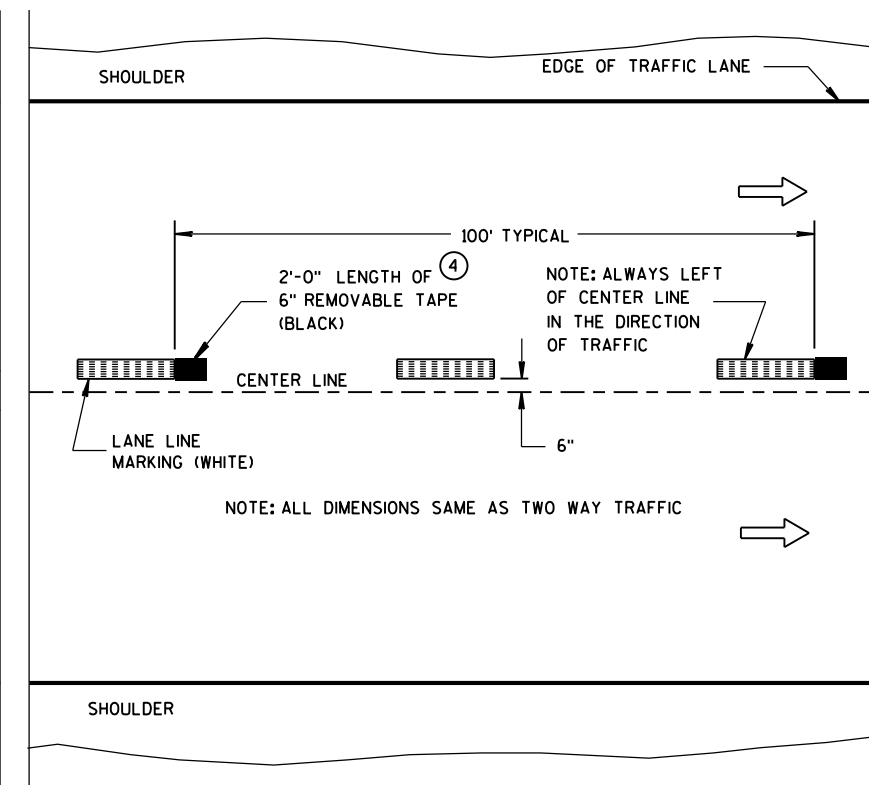


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

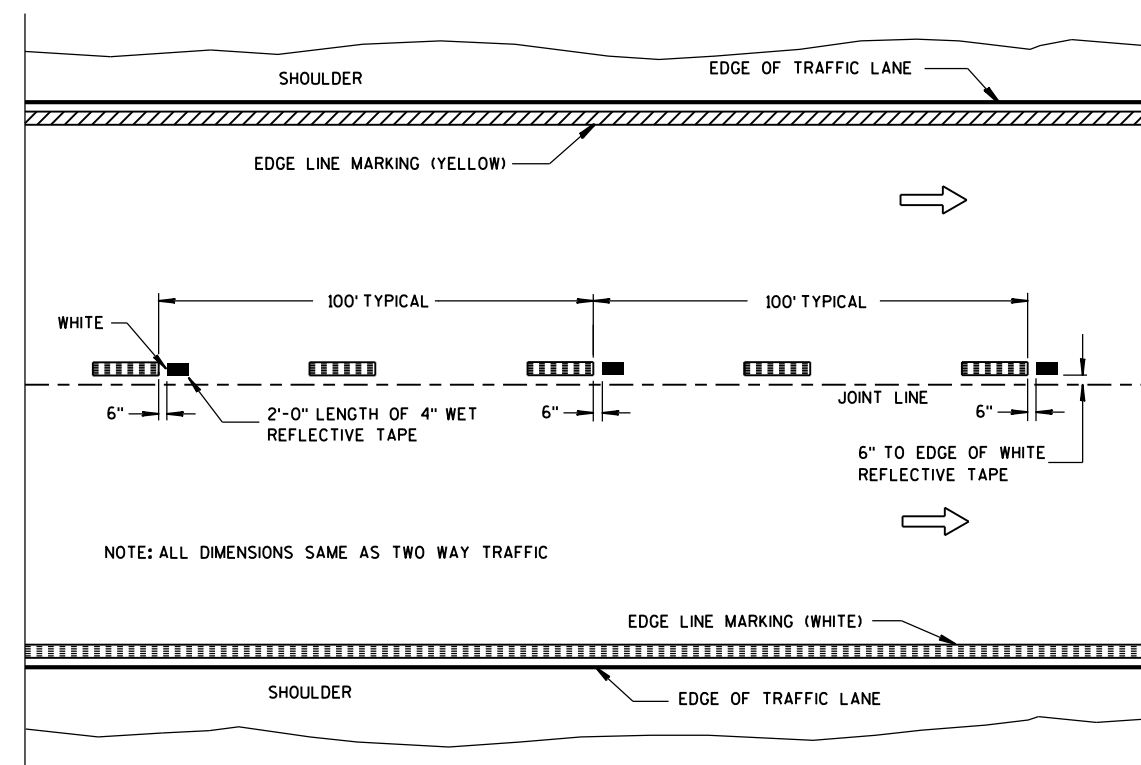
GENERAL NOTES

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

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

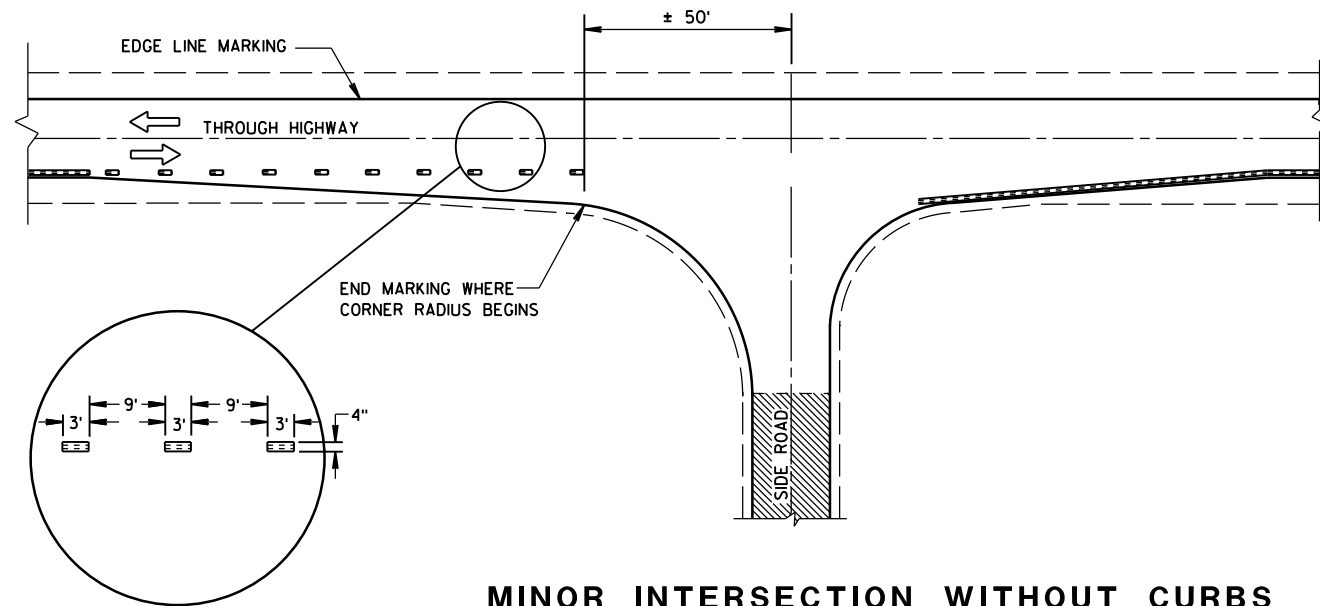
- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013
DATE
FHWA

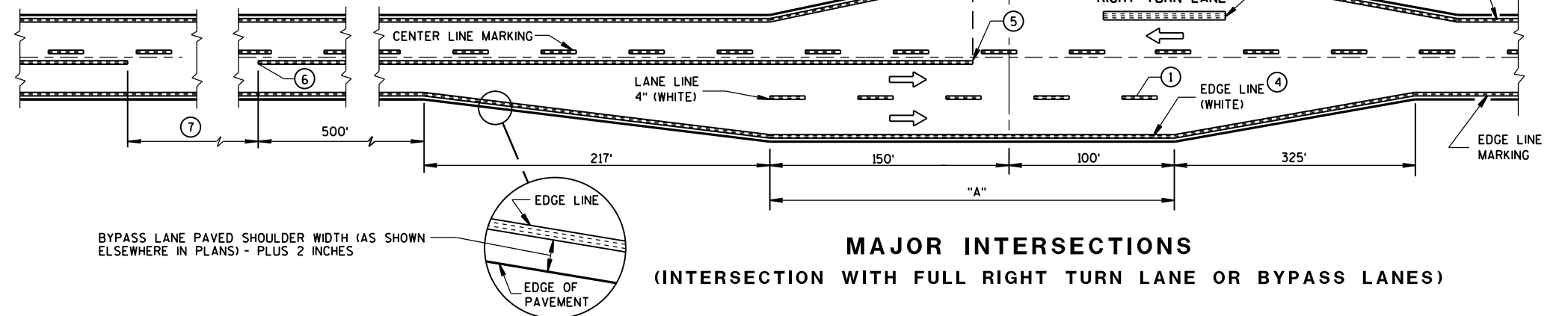
/S/ Travis Feltes
STATE TRAFFIC ENGINEER



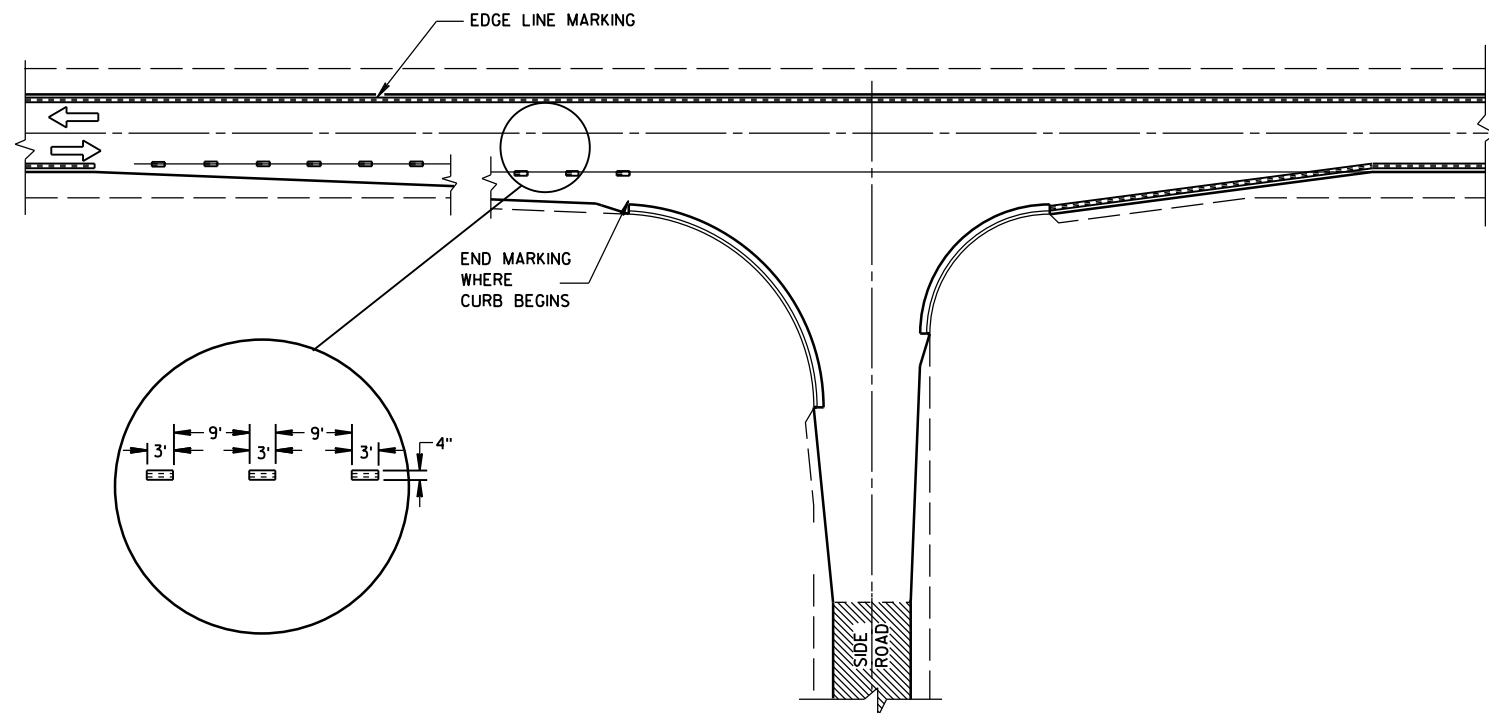
MINOR INTERSECTION WITHOUT CURBS

⑦

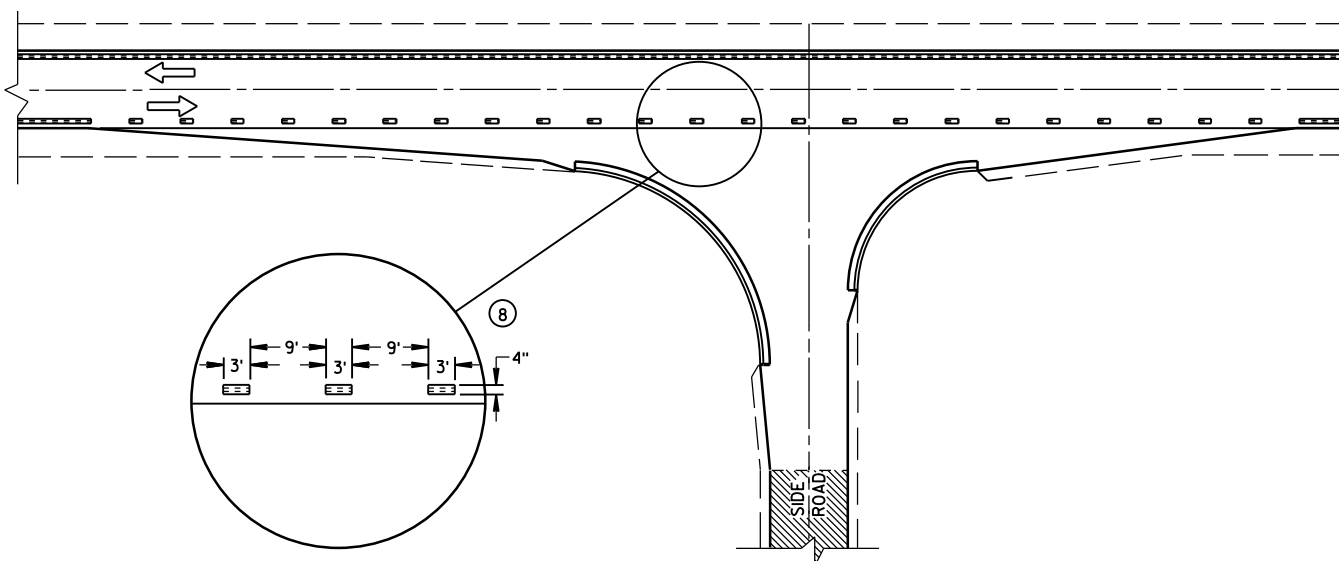
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED 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 ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

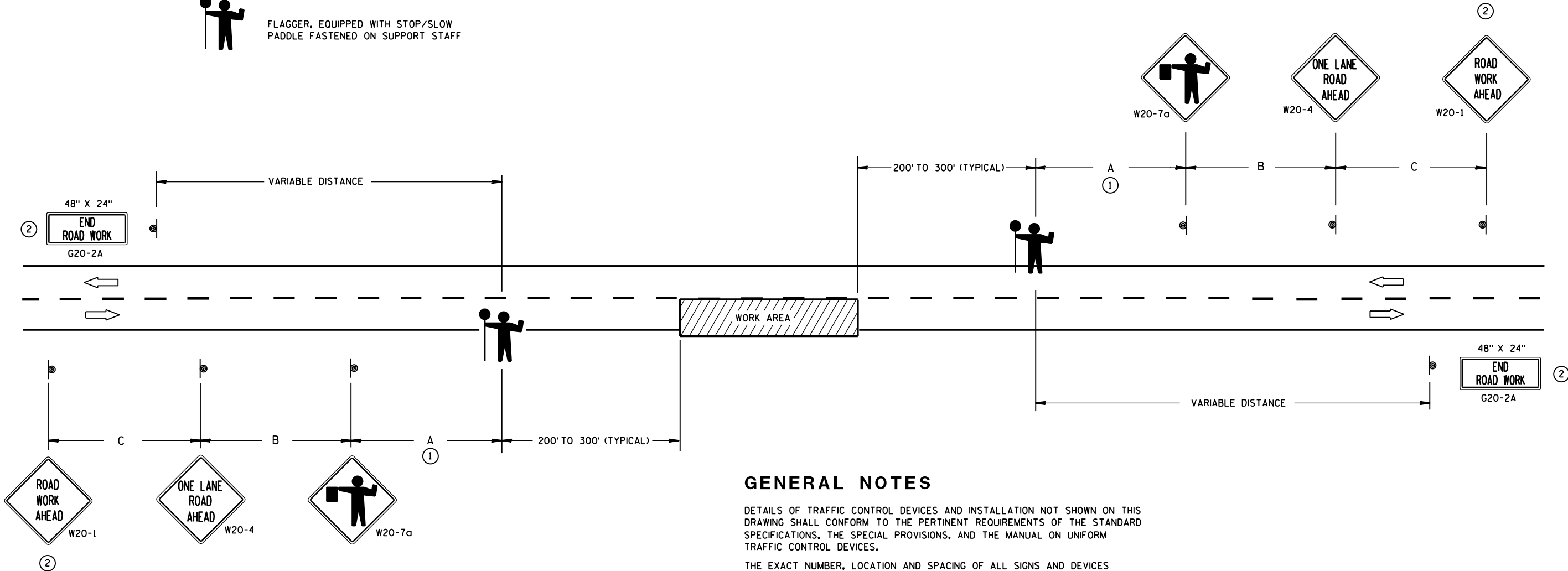
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



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.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE 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.

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

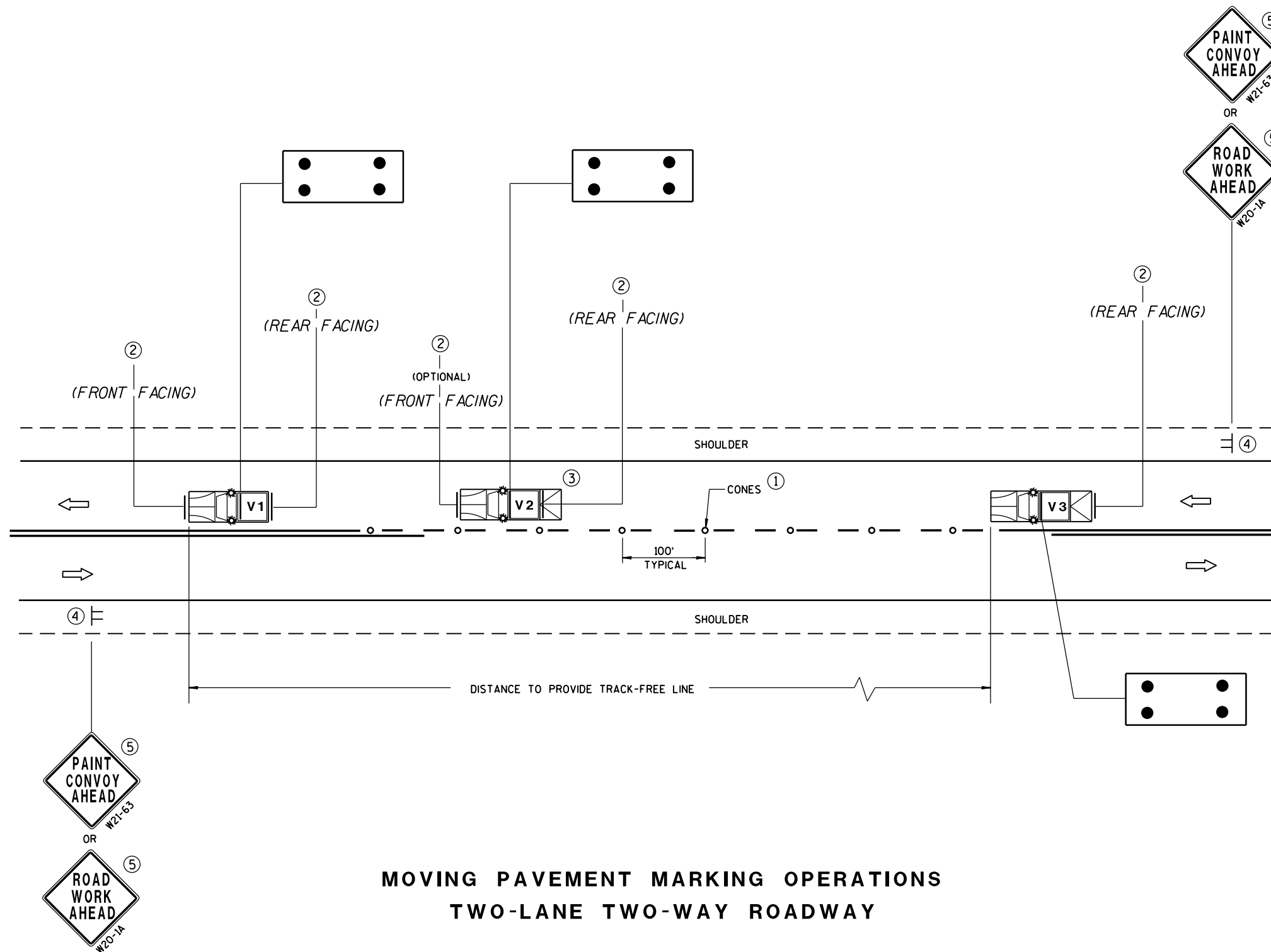
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT 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.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



MOVING PAVEMENT MARKING OPERATIONS TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

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

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

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

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

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

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

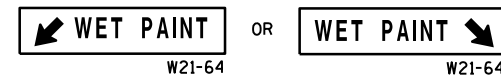
THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

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

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

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.



③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

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

LEGEND

V1 LEAD VEHICLE

V2 SHADOW VEHICLE

V3 TRAIL VEHICLE WITH TMA

TMA TRUCK-MOUNTED ATTENUATOR

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

CONES

FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

DATE /S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

FHWA

GENERAL NOTES

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

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

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

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

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

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

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

TABLE A

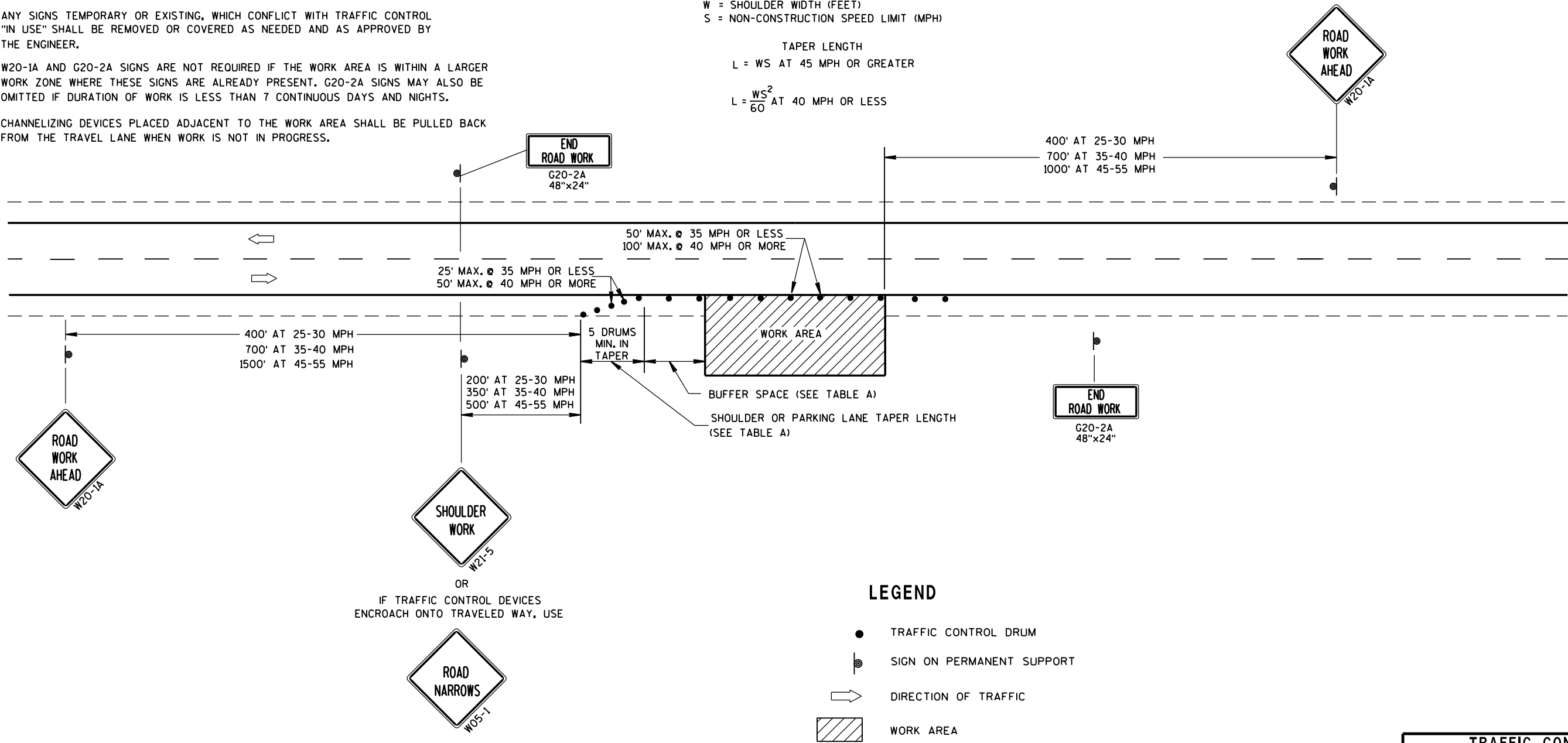
SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S	W	4	6	8	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH
L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED July 14, 2015 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



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