

**DRUM REQUIREMENTS**

IN ADDITION TO THE REQUIREMENTS OF THE PLANS, SPECIFICATION AND PROPOSAL, DRUMS FURNISHED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AT THE TIME OF ARRIVAL ON THE PROJECT. ANY DRUMS BROUGHT ON THE PROJECT, WHICH HAVE PREVIOUSLY BEEN USED ELSEWHERE, WILL NOT BE ACCEPTED.

PAYMENT FOR DRUMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

**WEEKLY MAINTENANCE OF TRAFFIC MEETING**

AFTER THE INITIAL PRE-MAINTENANCE OF TRAFFIC MEETING, THE CONTRACTOR SHALL MEET WITH THE PROJECT ENGINEER ON A WEEKLY BASIS TO GO OVER A DETAILED MAINTENANCE OF TRAFFIC REPORT OF AT LEAST 7 CALENDER DAYS. THIS MEETING SHOULD BE HELD ON THE SAME DAY AND TIME OF EACH WEEK.

THE CONTRACTOR WILL PROVIDE TO THE PROJECT ENGINEER A WRITTEN DETAIL OF THE INFORMATION REQUIRED BY THE NOTIFICATION OF TRAFFIC RESTRICTIONS NOTE PRIOR TO THE MEETING.

IN ADDITION TO THE DETAILED MAINTENANCE OF TRAFFIC REPORT THE CONTRACTOR SHALL GIVE A GENERAL LOOK AHEAD OF THE ADDITIONAL 2 WEEKS OF UPCOMING WORK ACTIVITIES. THIS WILL INCLUDE ANY NOTIFICATION REQUIREMENTS FOR RESTRICTIONS THAT HAVE A DURATION GREATER THAN 12 HOURS.

**FLOODLIGHTING**

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

**TRENCH FOR WIDENING**

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

**ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**MAINTENANCE OF TRAFFIC FOR MARKING PAVEMENT REPAIRS**

PROVIDE LANE CLOSURES AS PER THE MAINTENANCE OF TRAFFIC NOTES IN THESE PLANS A MINIMUM OF 24 HOURS PRIOR TO PERFORMING PAVEMENT REPAIRS TO ALLOW THE ENGINEER TO IDENTIFY AND MARK THE AREAS OF THE PAVEMENT IN NEED OF REPAIRS.

PAYMENT FOR ALL LABOR, EQUIPMENT, LAW ENFORCEMENT OFFICERS AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

**EARTHWORK FOR MAINTAINING TRAFFIC**

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY.

EXCAVATION FOR MAINTAINING TRAFFIC 65 CU. YD.  
 EMBANKMENT FOR MAINTAINING TRAFFIC 1545 CU. YD.

WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

**ITEM 622, PORTABLE BARRIER, 50", AS PER PLAN**

THIS WORK SHALL CONSIST OF FURNISHING, MAINTAINING, AND SUBSEQUENTLY REMOVING A 50-INCH PORTABLE BARRIER AT THE LOCATIONS SHOWN ON THE PLANS. FOR DETAILS, SEE SCD RM-4.1.

PORTABLE STEEL BARRIER IS AN APPROVED ALTERNATIVE TO PORTABLE CONCRETE BARRIER. FOR INFORMATION ON APPROVED VENDORS, SEE THE APPROVED PRODUCTS LIST MAINTAINED BY THE OFFICE OF ROADWAY ENGINEERING.

PORTABLE BARRIER, 32 INCHES HIGH WITH AN 18-INCH MINIMUM HEIGHT GLARE SCREEN MAY BE USED AT THE OPTION OF THE CONTRACTOR. THE GLARE SCREEN SHALL BE CONSTRUCTED USING ONE OF THE SCREENS PROVIDED ON THE APPROVED LIST, AVAILABLE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

PADDLE OR INTERMITTENT TYPE GLARE SCREENS SHALL BE DESIGNED USING A 20 DEGREE CUT-OFF ANGLE BASED ON TANGENT ALIGNMENT. THAT SPACING SHALL BE USED THROUGHOUT THE BARRIER LENGTH WITHOUT REGARD TO BARRIER CURVATURE.

THE GLARE SCREEN SYSTEM SHALL BE SECURELY FASTENED TO THE 32-INCH PORTABLE BARRIER USING THE HARDWARE AND PROCEDURES SPECIFIED BY THE MANUFACTURER.

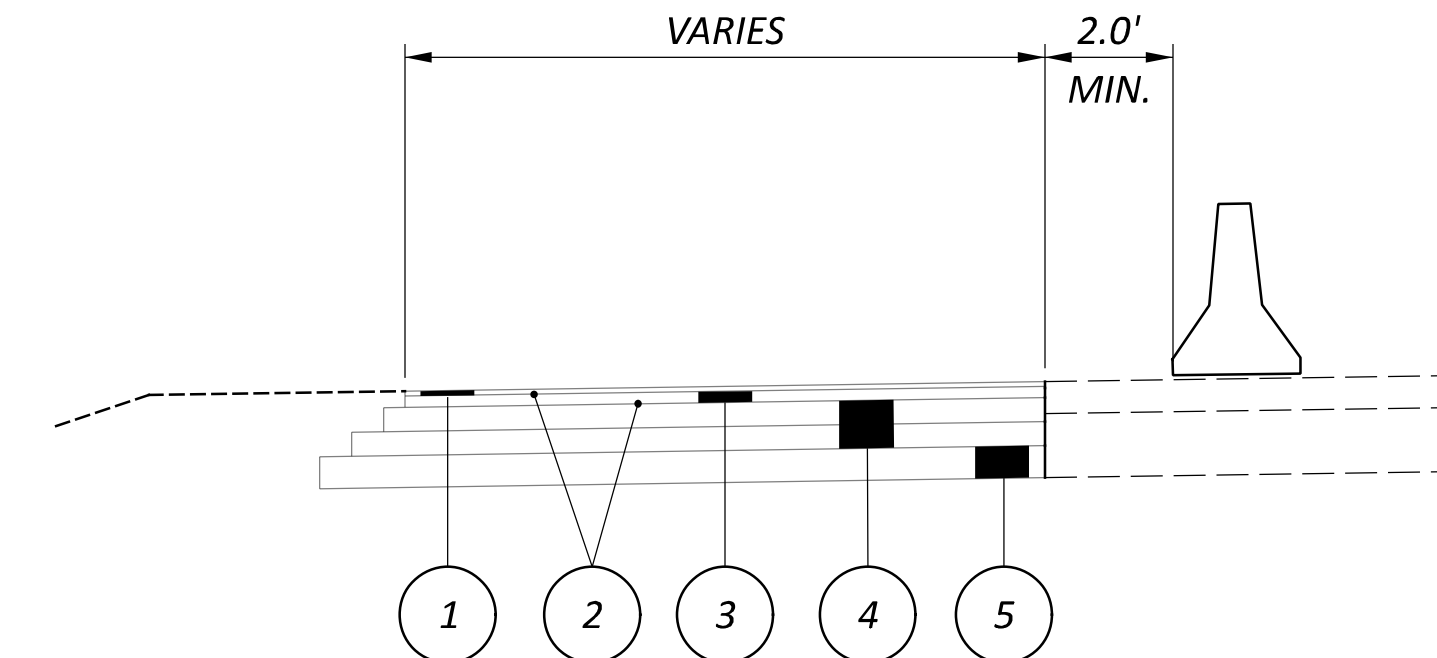
FOR DIRECTIONS ON HOW TO INSTALL THE GLARE SCREEN AND THE BARRIER, SEE THE MANUFACTURER'S INSTRUCTIONS.

PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM 622, PORTABLE BARRIER, 50", AS PER PLAN.

**ITEM 202 - CABLE BARRIER REMOVAL, AS PER PLAN**

THE CONTRACTOR SHALL REMOVE PORTIONS OF THE EXISTING CABLE BARRIER SYSTEM IMPACTED BY MAINTENANCE OF TRAFFIC CROSSOVERS. THE CONTRACTOR SHALL PLACE A TEMPORARY ANCHORAGE AT THE LIMITS OF DISTURBANCE. IF A CROSSOVER IS NOT IN USE FOLLOWING REMOVAL OF THE CABLE BARRIER, THE CONTRACTOR SHALL ERECT PORTABLE BARRIER TO PREVENT CROSSOVER COLLISIONS. UPON THE COMPLETION OF THE CONSTRUCTION AND REMOVAL OF THE CROSSOVER, THE CONTRACTOR SHALL RESTORE THE BARRIER SYSTEM TO THE ORIGINAL CONFIGURATION. ALL COSTS INCLUDING LABOR, MATERIALS, AND EQUIPMENT TO TEMPORARILY RECONFIGURE THE SYSTEM AND RESTORE THE ORIGINAL LAYOUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202 - CABLE BARRIER REMOVED, AS PER PLAN.

**SHOULDER WIDENING AND REPLACEMENT BUILDUP**



- 1 ITEM 442 - 1.50" ASPHALT CONCRETE SURFACE, 12.5 mm, TYPE A, (446)
- 2 ITEM 407 - NON-TRACKING TACK COAT
- 3 ITEM 442 - 2.25" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5mm, TYPE A, (446)
- 4 ITEM 302 - 10" ASPHALT CONCRETE BASE, PG64-22 (449)
- 5 ITEM 304 - 6" AGGREGATE BASE\*

\*NOTE: SUBSTITUTIONS FOR ITEM 304 ARE NOT ALLOWED FOR PERMANENT SHOULDER WIDENING.

I-270 NORTHBOUND				I-270 SOUTHBOUND			
INSIDE SHOULDER				INSIDE SHOULDER			
733+20.36	TO	746+95.96	Min. 7 ft.	740+81.11	TO	746+81.19	Min. 5 ft.
748+73.22	TO	777+89.09	Min. 7 ft.**	748+58.66	TO	778+14.36	Min. 6 ft. **
780+51.59	TO	785+81.59	Min. 5 ft. **	780+28.09	TO	792+66.59	Min. 6 ft.
841+94.97	TO	845+46.15	Min. 4 ft.	835+90.12	TO	839+28.77	Min. 4 ft.
848+80.30	TO	859+97.15	Min. 4 ft.	848+53.60	TO	865+50.00	Min. 4 ft.
859+97.15	TO	878+38.76	Min. 9 ft. **	865+50.00	TO	878+38.76	Min 10 ft. **
878+38.76	TO	881+24.64	Min. 4 ft. **	878+38.76	TO	881+31.96	Min. 4 ft.
882+17.09	TO	884+96.97	Min. 4 ft.	882+24.55	TO	885+14.11	Min. 4 ft. **
884+96.97	TO	909+91.80	Min. 8 ft. **	885+14.11	TO	909+00.00	Min. 9 ft. **
909+91.80	TO	912+70.26	Min. 4 ft. **	909+00.00	TO	912+18.52	Min. 4 ft. **
915+08.72	TO	920+69.07	Min. 4 ft.	914+31.87	TO	921+29.20	Min. 4 ft.
923+09.66	TO	926+09.97	Min. 4 ft. **	923+70.91	TO	927+49.78	Min. 4 ft. **
926+09.97	TO	958+30.55	Min. 9 ft. **	927+49.78	TO	972+29.09	Min. 10 ft. **

I-270 NORTHBOUND				I-270 SOUTHBOUND			
OUTSIDE SHOULDER				OUTSIDE SHOULDER			
730+17.81	TO	747+07.98	Min 10 ft.	739+86.11	TO	746+69.15	Min 10 ft.
748+85.38	TO	748+89.09	Min 10 ft.	748+46.91	TO	778+14.36	Min 10 ft.
780+51.59	TO	788+41.59	Min 10 ft.	780+27.09	TO	797+60.33	Min 10 ft.
824+27.71	TO	836+79.75	Min. 8 ft.	848+51.85	TO	849+13.94	Min. 4 ft.
865+69.25	TO	881+18.28	Min. 10 ft.	849+57.57	TO	862+15.89	Min. 15 ft. **
882+11.12	TO	913+08.49	Min. 10 ft.	861+24.77	TO	881+38.50	Min. 6 ft.
915+23.45	TO	920+21.92	Min. 10 ft.	882+30.27	TO	911+79.93	Min. 10 ft.
922+64.19	TO	953+51.55	Min. 10 ft.	913+94.68	TO	921+75.86	Min. 10 ft.
				923+19.05	TO	959+58.95	Min. 10 ft.

\*\* NOTE: DENOTES SHOULDER WIDENING FROM THE EXISTING SHOULDER WIDTH. ALL OTHER STATION RANGES TO MATCH EXISTING SHOULDER WIDTH.

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PROJECT ID

112798

SHEET TOTAL

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**ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM**

THIS WORK SHALL CONSIST OF FURNISHING, ERECTING, OPERATING, MAINTAINING AND REMOVING A WORK ZONE LIGHTING SYSTEM FOR A SINGLE CROSSOVER, OR OVERLAPPING A PAIR OF CROSSOVERS. THE SYSTEM SHALL BE AS SHOWN ON TRAFFIC SCD MT-100.00. THE CONTRACTOR SHALL ARRANGE FOR AND PAY FOR POWER. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH APPLICABLE PORTIONS OF 625 AND 725 EXCEPT: THE PERFORMANCE TEST OF 625.19F, AND CERTIFIED DRAWING REQUIREMENT OF 625.06, ARE WAIVED AND USED MATERIALS IN GOOD CONDITION ARE ACCEPTABLE.

POLES WHICH ARE NOT PROTECTED BY GUARDRAIL OR PORTABLE BARRIER SHALL BE LOCATED OUTSIDE THE CLEAR ZONE, AND SHOULD BE LOCATED AT LEAST 30 FEET (PREFERABLY 40 FEET) FROM THE EDGE OF PAVEMENT WHEN POSSIBLE. ADDITIONAL POLE LINES, CABLES AND APPURTENANCES NECESSARY TO FURNISH POWER TO THE LIGHTING SYSTEM SHALL BE INCLUDED IN THIS ITEM. SERVICE POLES SHALL BE POSITIONED WITH THE SAME CONSTRAINTS AS THE LIGHTING POLES AS A MINIMUM.

PAYMENT WILL BE MADE AT THE UNIT PRICE PER EACH FOR ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM THROUGHOUT ALL PHASES OF WORK WHEN THE CROSSOVER ROADWAYS ARE USED. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR IMPLEMENTATION OF A WORK ZONE CROSS OVER LIGHTING SYSTEM.

ITEM 614 - WORK ZONE CROSSOVER LIGHTING SYSTEM - 3 EACH

**ITEM 618 - RUMBLE STRIPS (ASPHALT CONCRETE) REMOVAL, AS PER PLAN**

THE CONTRACTOR SHALL MILL 2 INCHES DEEP BY 2 FEET WIDE OF THE EXISTING ASPHALT SHOULDER IN ORDER TO REMOVE THE EXISTING RUMBLE STRIPS AT THE FOLLOWING LOCATIONS:

ALONG SOUTHBOUND I.R. 270 CD LANES

STA. 998+66 TO STA. 1002+70 (INSIDE SHOULDER) = 404 FT.  
STA. 1004+15 TO STA. 1010+84 (INSIDE SHOULDER) = 669 FT.

ALONG SOUTHBOUND I.R. 270 MAINLINE LANES

STA. 971+90 TO STA. 975+41 (OUTSIDE SHOULDER) = 351 FT.  
STA. 979+97 TO STA. 982+32 (OUTSIDE SHOULDER) = 235 FT.  
STA. 971+05 TO STA. 975+19 (INSIDE SHOULDER) = 414 FT.  
STA. 979+72 TO STA. 993+17 (INSIDE SHOULDER) = 1,345 FT.

ALONG NORTHBOUND I.R. 270 MAINLINE LANES

STA. 961+33 TO STA. 974+63 (OUTSIDE SHOULDER) = 1,330 FT.  
STA. 979+17 TO STA. 984+13 (OUTSIDE SHOULDER) = 496 FT.  
STA. 961+72 TO STA. 974+85 (INSIDE SHOULDER) = 1,313 FT.  
STA. 979+41 TO STA. 982+18 (INSIDE SHOULDER) = 277 FT.

THE CONTRACTOR SHALL THEN COAT ALL MILLED SURFACES (HORIZONTAL AND VERTICAL) WITH APPROVED AC LIQUID. NEXT THE CONTRACTOR SHALL PLACE 2 INCHES OF ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, (448).

AN ESTIMATED QUANTITY OF 6,834 FEET HAS BEEN CARRIED TO THE GENERAL SUMMARY.

**WORK ZONE QUEUE DETECTION WARNING SYSTEM**

THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN AN APPROVED WORK ZONE QUEUE DETECTION WARNING SYSTEM (WZQDWS) AS PER SUPPLEMENTAL SPECIFICATION 896.

THE INITIAL LOCATIONS OF THE PORTABLE NON-INTRUSIVE TRAFFIC SENSOR SHALL BE AT THE BEGINNING OF THE TAPER, 0.5 MILES FROM THE TAPER, 1 MILE FROM THE TAPER AND 1.5 MILES FROM THE TAPER. THE INITIAL LOCATION OF PCMS SHALL BE AT 2.5 MILES FROM THE TAPER. IT IS EXPECTED THAT THESE LOCATIONS WILL VARY BASED ON PLANNED OR UNPLANNED PHASE AND TRAFFIC PATTERN CHANGES. THE LOCATIONS AND PLACEMENT OF THE SENSORS AND PCMS SHALL BE DISCUSSED AT THE PRE-MAINTENANCE OF TRAFFIC MEETING. PLACEMENT, OPERATION, AND MAINTENANCE AND ALL ACTIVATION OF THE DEVICES BY THE CONTRACTOR SHALL BE DIRECTED BY THE ENGINEER.

THE FOLLOWING TRAFFIC SENSOR THRESHOLDS AND PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) MESSAGES SHALL BE USED:  
GREATER THAN OR EQUAL TO 50 MPH - USE FOUR CORNER CAUTION MODE  
BETWEEN 50 MPH AND 25 MPH - TRAFFIC AHEAD XX MPH/ SLOW DOWN  
BELOW OR EQUAL TO 25 MPH - TRAFFIC AHEAD XX MPH/ PREPARE TO STOP

FOUR CORNER FLASHING CAUTION MODE SHALL CONSIST OF THE USE OF ONE ASTERISK IN EACH CORNER OF THE PCMS DISPLAY (4 TOTAL ASTERISKS).

XX SHALL BE ROUNDED UP TO THE NEAREST MULTIPLE OF 5 MPH MINUS 1. OCCUPANCY MAY BE DIRECTED TO BE USED BASED ON CERTAIN TRAFFIC CONDITIONS AND SCENARIOS. ODOT WILL DIRECT THE CONTRACTOR OF THE THRESHOLDS TO BE USED FOR THOSE AREAS WHERE OCCUPANCY IS DIRECTED TO BE USED.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 896, PORTABLE NON-INTRUSIVE TRAFFIC SENSOR, CLASS II 30 SIGN MONTHS

ASSUMING 3 SENSORS FOR 1 MONTH FOR WORK ZONE 0 WORK

ASSUMING 3 SENSORS FOR 4 MONTHS FOR WORK ZONE 2 WORK

ASSUMING 3 SENSORS FOR 4 MONTHS FOR WORK ZONE 3 WORK

ASSUMING 3 SENSORS FOR 1 MONTH FOR WORK ZONE 5 WORK

ITEM 896, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 10 SIGN MONTHS

ASSUMING 1 PCMS SIGN FOR 1 MONTH FOR WORK ZONE 0 WORK

ASSUMING 1 PCMS SIGN FOR 4 MONTHS FOR WORK ZONE 2 WORK

ASSUMING 1 PCMS SIGN FOR 4 MONTHS FOR WORK ZONE 3 WORK

ASSUMING 1 PCMS SIGN FOR 1 MONTH FOR WORK ZONE 5 WORK

**MAINTENANCE OF TRAFFIC FOR JOINT REPAIRS:**

THE CONTRACTOR MAY PERFORM JOINT REPAIRS LOCATED WITHIN THE PREVIOUSLY DESCRIBED WORK ZONES DURING THE INDIVIDUAL PHASE SETUPS SHOWN IN THE PLANS AS LONG AS THE REPAIRS DO NOT VIOLATE THE LANE VALUE CONTRACT TABLES HEREIN, EXTEND PREVIOUSLY APPROVED WEEKEND CLOSURES, AND MEET THE REQUIREMENTS OF SCD MT-101.90. REPAIRS NOT COMPLETED WITHIN THE WORK ZONES ABOVE SHALL BE COMPLETED PRIOR TO FINAL RESURFACING USING LANE SHIFTS OR LANE CLOSURES PER THE LANE VALUE CONTRACT TABLES AND APPLICABLE STANDARD CONSTRUCTION DRAWINGS.

**WORK ZONE EGRESS WARNING SYSTEM**

THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN AN APPROVED WORK ZONE EGRESS WARNING SYSTEM (WZEWS) AS PER SUPPLEMENTAL SPECIFICATION 829.

THE PROBABLE INITIAL LOCATIONS OF THE WZEWS DEVICES ARE SHOWN IN THE PRE-PHASE PAVEMENT OPERATIONS OF THE PLAN. IT IS EXPECTED THAT THESE LOCATIONS WILL VARY BASED ON PLANNED OR UNPLANNED PHASE AND TRAFFIC PATTERN CHANGES. PLACEMENT, OPERATION, AND MAINTENANCE AND ALL ACTIVATION OF THE DEVICES BY THE CONTRACTOR SHALL BE DIRECTED BY THE ENGINEER.

WZEWS SHALL BE USED IN ACCORDANCE WITH MT-103.10. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

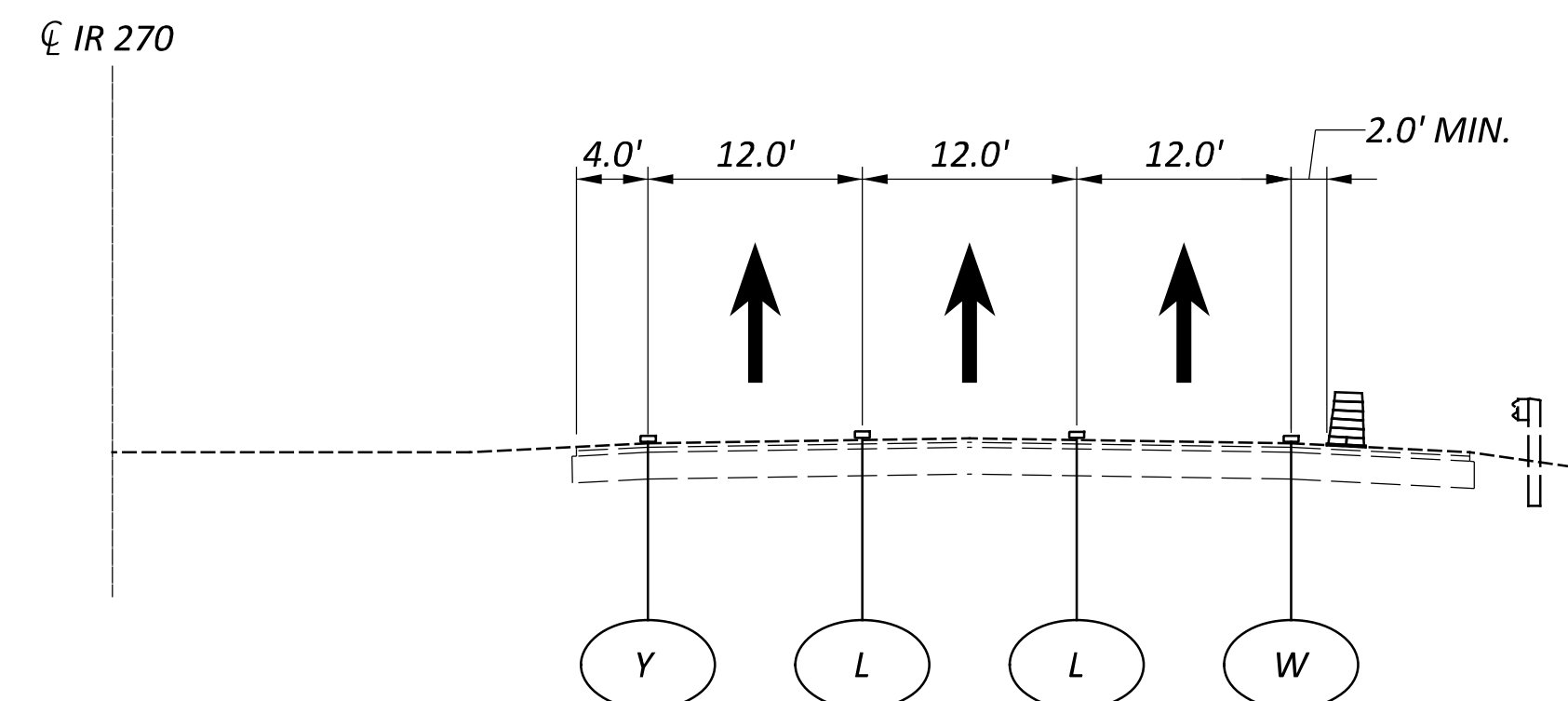
ITEM 829, WORK ZONE EGRESS WARNING SYSTEM 7 SIGN MONTHS

ASSUMING 3 WORK ZONE EGRESS WARNING SYSTEMS FOR 1 MONTH FOR PRE-PHASE STEP 1 WORK

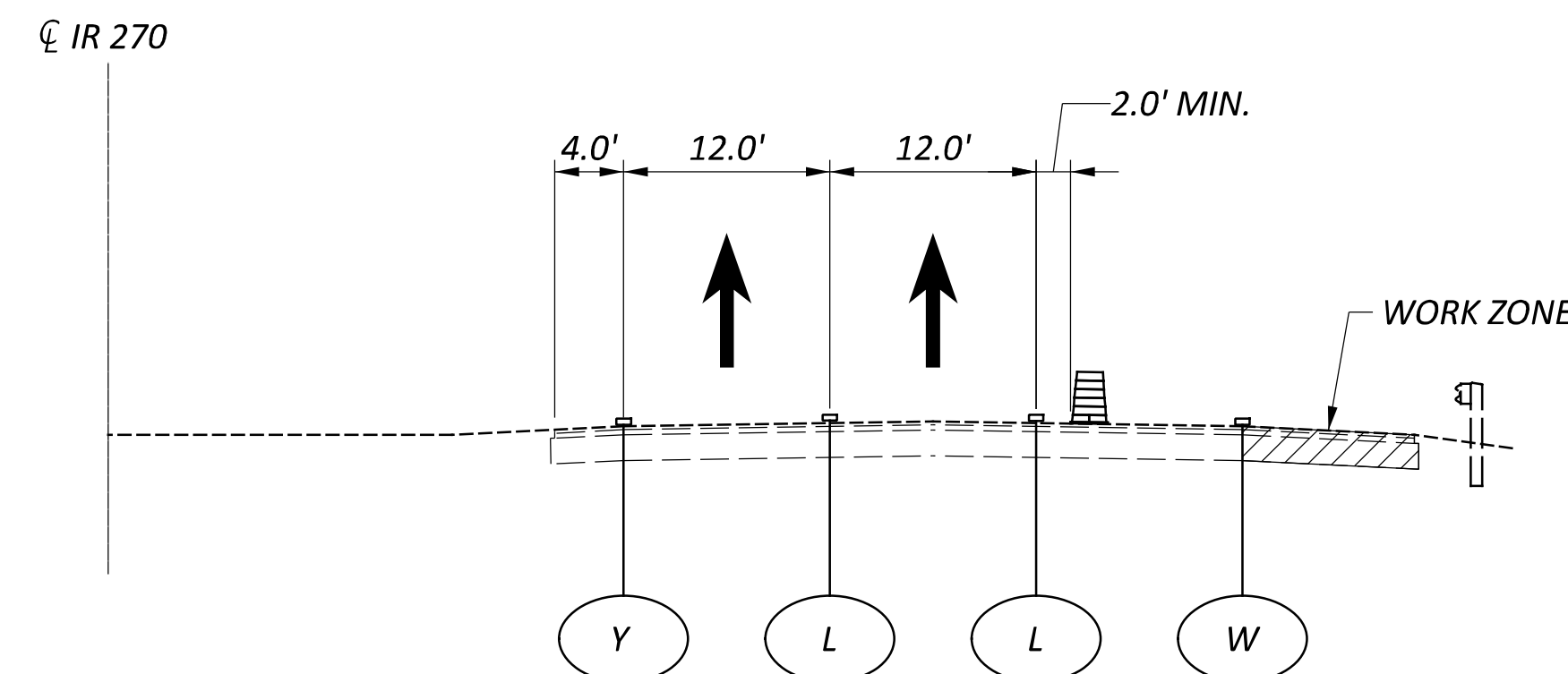
ASSUMING 4 WORK ZONE EGRESS WARNING SYSTEMS FOR 1 MONTH FOR PRE-PHASE STEP 2 WORK



**SHOULDER WORK NOT OTHERWISE SPECIFIED IN THE PLANS**



**NON-WORKING HOURS**



**WORKING HOURS**

NOTE: DURING THE HOURS LISTED IN THIS PLAN, NIGHTTIME LANE CLOSURES SHALL BE IMPLEMENTED PER MT 95.30 FOR SHOULDER WORK AND TEMPORARY PAVEMENT WORK ADJACENT TO IR 270. SEE THE WORKING AND NON-WORKING HOURS IN THE LANE VALUE CONTRACT TABLES FOR DETAILS. SHOULDER WORK SHALL BE LIMITED TO THE LENGTH OF WORK THAT CAN BE COMPLETED IN THE SAME DAY.

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112798

SHEET TOTAL

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REF NO.	SHEET NO.	STATION	614	614	614	614	614	614	622	202	202	442	407	442	302	304	411	615	202	202	611	611	611	611	611	611		
			WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	WORK ZONE LANE LINE, CLASS I, 6", 807 PAINT	WORK ZONE EDGE LINE, CLASS I, 6", 807 PAINT (WHITE)	WORK ZONE EDGE LINE, CLASS I, 6", 807 PAINT (YELLOW)	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 807 PAINT	WORK ZONE DOTTED LINE, CLASS I, 6", 807 PAINT	PORTABLE BARRIER, UNANCHORED	PAVEMENT REMOVED	CABLE BARRIER REMOVED, AS PER PLAN	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	NON-TRACKING TACK COAT	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)	ASPHALT CONCRETE BASE, PG64-22, (449)	AGGREGATE BASE	STABILIZED CRUSHED AGGREGATE	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	PIPE REMOVED, 24" AND UNDER	CATCH BASIN REMOVED	CATCH BASIN, NO. 2-2B	MANHOLE, NO. 3	MANHOLE RECONSTRUCTED TO GRADE	12" CONDUIT, TYPE B	12" CONDUIT, TYPE C	15" CONDUIT, TYPE B	24" CONDUIT, TYPE B, 706.02	
			EACH	FT	FT	FT	FT	FT	FT	SY	FT	CY	GAL	CY	CY	CY	CY	SY	FT	EACH	EACH	EACH	EACH	FT	FT	FT	FT	
I-270																												
PRE-PHASE																												
SS-1	35	838+87.00 C/L 840+66.00 LT																	180	1	1				180			
SS-2	36	868+00.00 LT 869+00.00 RT																	115	1	1		1			115		
SS-3	36	870+11.00 LT 870+25.00 RT																	37	2	2			27	10			
SS-4	36	870+07.00 RT 870+42.00 RT																	20			1	1				16	
SS-5	37	943+75.00 C/L 945+93.00 LT																	218	1	1			218				
SS-6	37	945+93.00 RT 945+93.00 LT																	29	1	1			29				
SS-7	37	945+93.00 LT 950+00.00 C/L																	409	1	1					409		
STEP 1																												
44		815+00.00 TO 827+50.00					215																					
45		827+50.00 TO 840+00.00	1	743	1165	2330	2755		548	162	100	7	19	10	51	35	16	345										
46		840+00.00 TO 852+50.00		3750	1250	2500		2500	533	370	22	64	33	168	116	19	599											
47		852+50.00 TO 865+00.00		3750	1250	2500		286	2500	1111	85	246	128	614	403													
48		865+00.00 TO 877+50.00	2	4285	715	2500		22	2500	1111	900	114	329	171	807	519	67	1375										
49		877+50.00 TO 890+00.00		5000		2500			2500	1022		87	251	131	623	405												
50		890+00.00 TO 902+50.00	2	5000		2500			2500	1111		106	305	159	750	485												
51		902+50.00 TO 915+00.00		5000		2500			2500	889		84	243	127	599	387												
52		915+00.00 TO 927+50.00		5000		2500			2500	844		53	153	80	389	260												
53		927+50.00 TO 940+00.00		5000		2500			2500	1111		106	305	159	751	485												
54		940+00.00 TO 952+50.00	2	5000		2500			2500	1111	790	115	332	173	813	522	54	1389										
55		952+50.00 TO 965+00.00		4552		2276			1855	814		87	250	130	612	393												
56		965+00.00 TO 977+50.00	1	2458		1250	21		875	322		35	102	53	248	159												
57		977+50.00 TO 990+00.00				669	1338																					
STEP 2																												
62		852+50.00 TO 865+00.00	1	1730	2027	1706	803	253	487	259		11	31	16	79	52												
63		865+00.00 TO 877+50.00		3761	3487	3201	642	69	2500	2515		105	302	157	742	479												
64		877+50.00 TO 890+00.00		5000	2500	2500			2500	2651		110	318	166	776	496												
65		890+00.00 TO 902+50.00	2	5000	2500	2500			2500	2946		123	353	184	863	553												
66		902+50.00 TO 915+00.00		5000	2500	2500			2500	2497		104	300	156	739	478												
67		915+00.00 TO 927+50.00		5000	2500	2500			2500	2301		96	276	144	673	430												
68		927+50.00 TO 940+00.00	2	5000	2500	2500			2500	2917		122	350	182	855	548												
69		940+00.00 TO 952+00.00		5000	2500	2500			250	2959		123	355	185	867	555												
70		952+50.00 TO 965+00.00	1	3514	1831	1831	148		926	889		37	107	56	261	168												
71		965+00.00 TO 977+50.00			726	726	1452																					
SUBTOTAL			14	88543	27451	51489	7374	630	42441	30076	2160	1733	4991	2600	12282	7930	156	3709	1008	7	7	1	2	454	10	524	16	
TOTALS CARRIED TO GENERAL SUMMARY			14	16.77 MI	14.96 MI	7374	630	42441	30076	2160	1733	4991	2600	12282	7930	156	3709	1008	7	7	1	2	454	10	524	16		

MAINTENANCE OF TRAFFIC SUBSUMMARY

DESIGN AGENCY



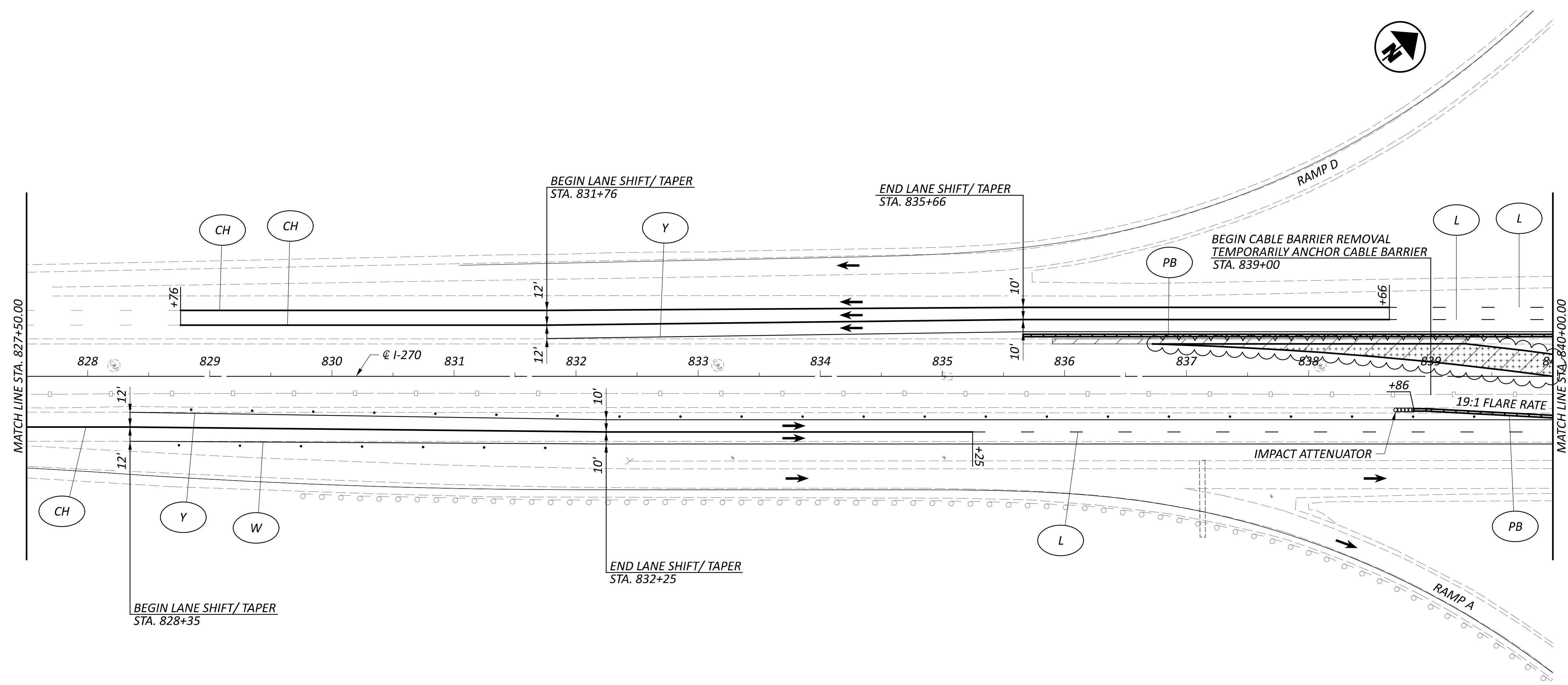
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DESIGNER  
**CJS**

REVIEWER  
**MJC 01/05/24**

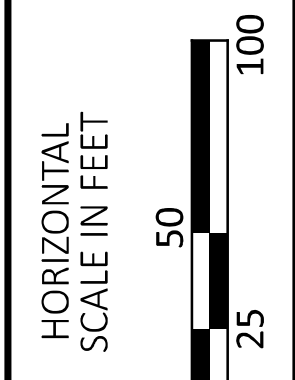
PROJECT ID  
**112798**

SHEET TOTAL  
**P.38 617**



LEGEND

- |   |  |    |  |  |   |  |                     |
|---|--|----|--|--|---|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 807 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 807 PAINT |  | SHOULDER REPLACEMENT/WIDENING                   |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 807 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 807 PAINT       |  | TEMPORARY PAVEMENT                              |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 807 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                                       |  | PORTABLE BARRIER    |
|   |  |    |  |  | TEMPORARY PAVEMENT TO BE CONSTRUCTED THIS PHASE |  |                     |



MAINTENANCE OF TRAFFIC - IR 270 PRE-PHASE  
 STEP 1 - STA. 827+50 TO STA. 840+00

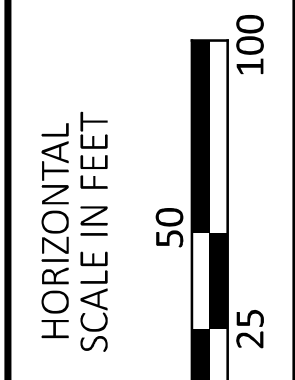
DESIGN AGENCY  
  
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 Cleveland, Ohio  
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 Grandview Heights, Ohio

DESIGNER  
 SMB

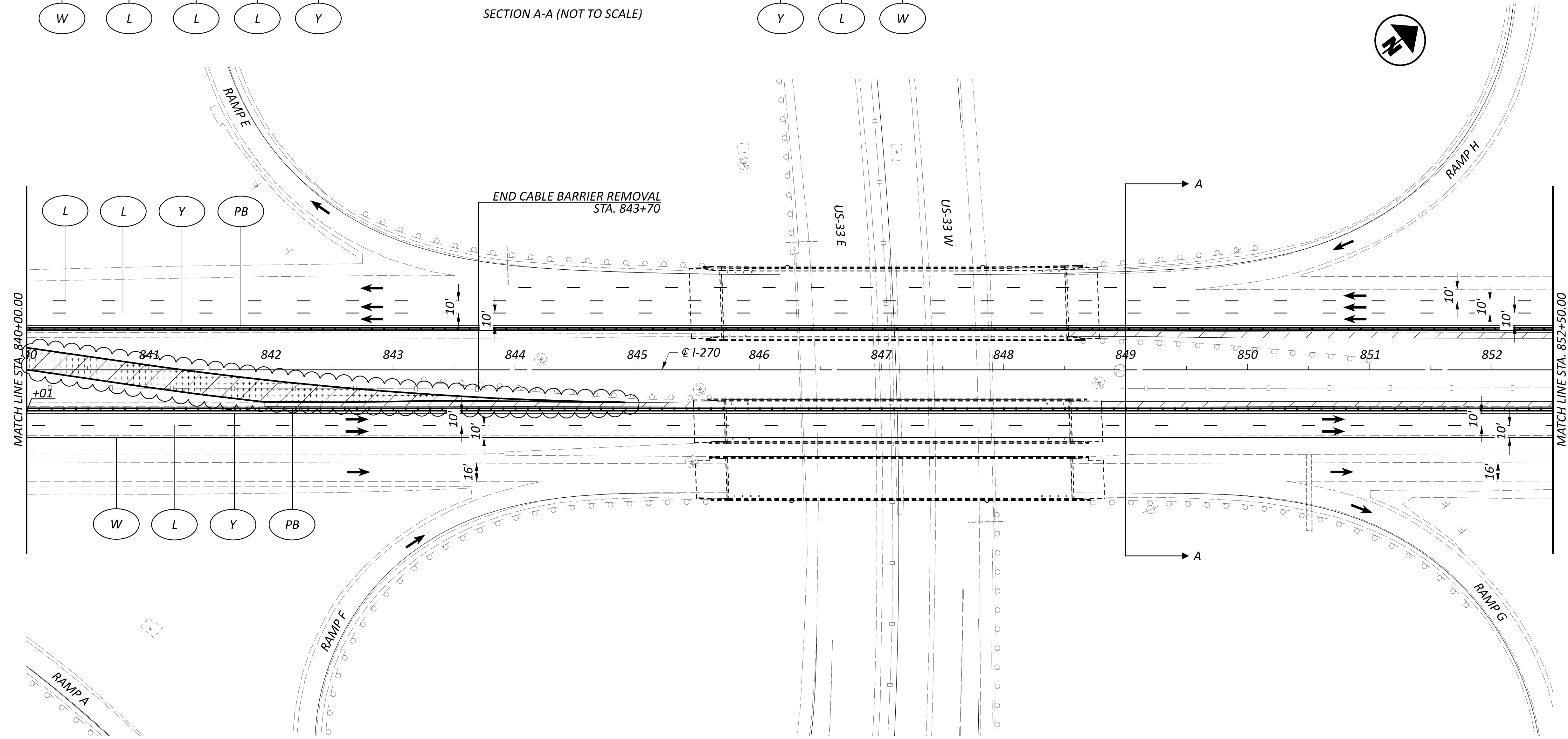
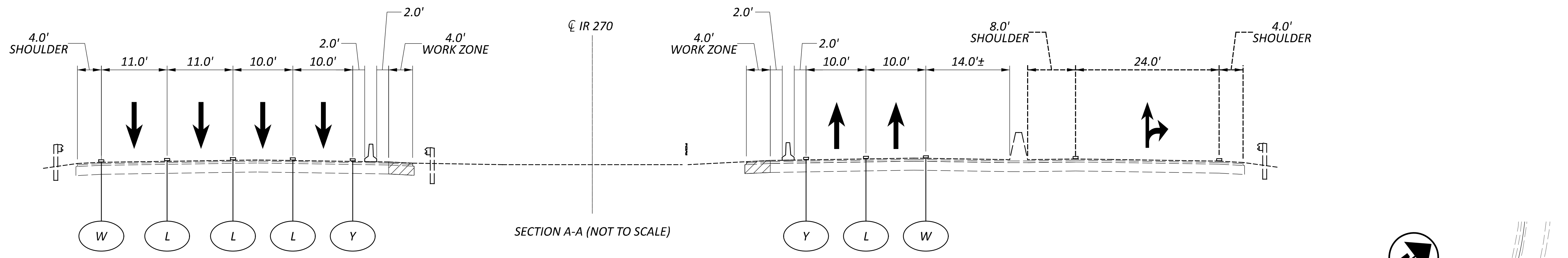
REVIEWER  
 MJC 01/05/24

PROJECT ID  
 112798

SHEET TOTAL  
 P.45 617



MAINTENANCE OF TRAFFIC - IR 270 PRE-PHASE  
 STEP 1 - STA. 840+00 TO STA. 852+50



LEGEND

- |   |  |    |  |  |   |  |                     |
|---|--|----|--|--|---|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 807 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 807 PAINT |  | SHOULDER REPLACEMENT/WIDENING                   |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 807 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 807 PAINT       |  | TEMPORARY PAVEMENT                              |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 807 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                                       |  | PORTABLE BARRIER    |
|   |  |    |  |  | TEMPORARY PAVEMENT TO BE CONSTRUCTED THIS PHASE |  |                     |

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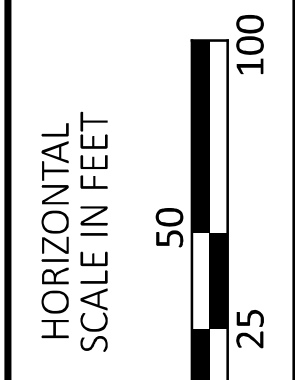
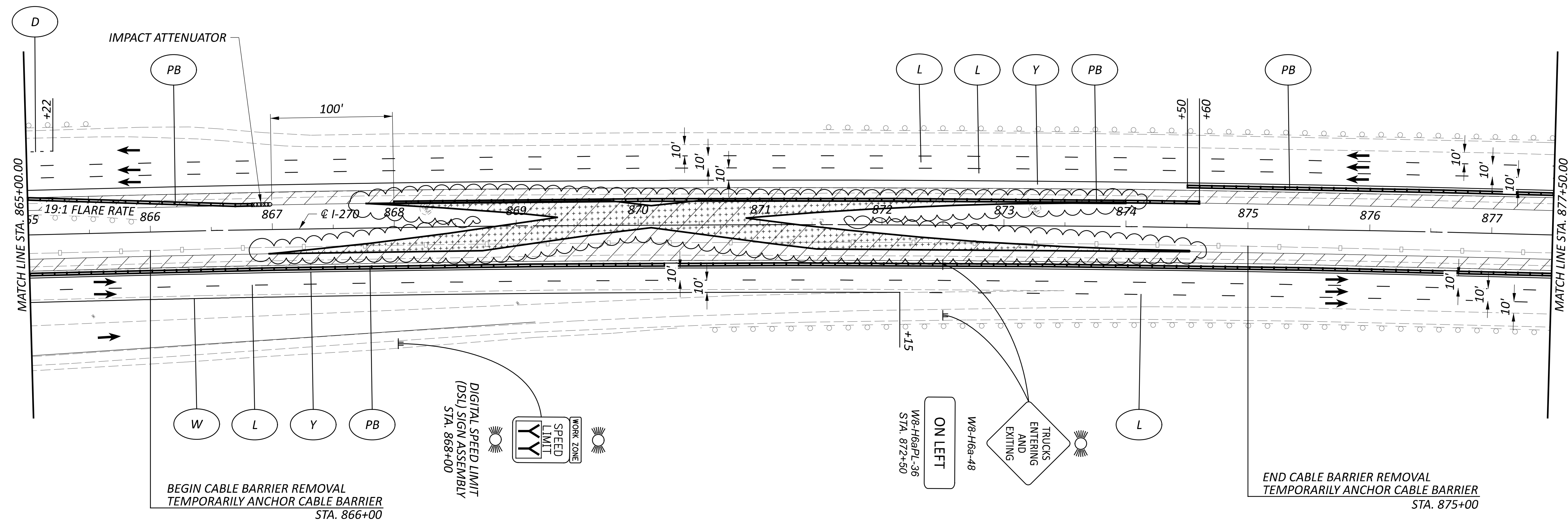
REVIEWER  
 MJC 01/05/24

PROJECT ID  
 112798

SHEET TOTAL  
 P.46 617

LEGEND

- |  |  |  |  |  |   |  |                     |
|--|--|--|--|--|---|--|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 807 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 807 PAINT |  | SHOULDER REPLACEMENT/WIDENING                   |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 807 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 807 PAINT       |  | TEMPORARY PAVEMENT                              |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 807 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                                       |  | PORTABLE BARRIER    |
|  |  |  |  |  | TEMPORARY PAVEMENT TO BE CONSTRUCTED THIS PHASE |  |                     |



MAINTENANCE OF TRAFFIC - IR 270 PRE-PHASE  
 STEP 1 - STA. 865+00 TO STA. 877+50

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


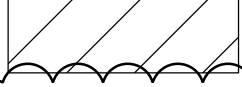


DESIGNER  
 SMB

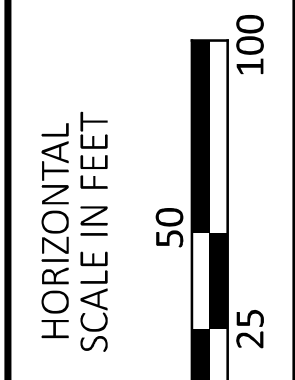
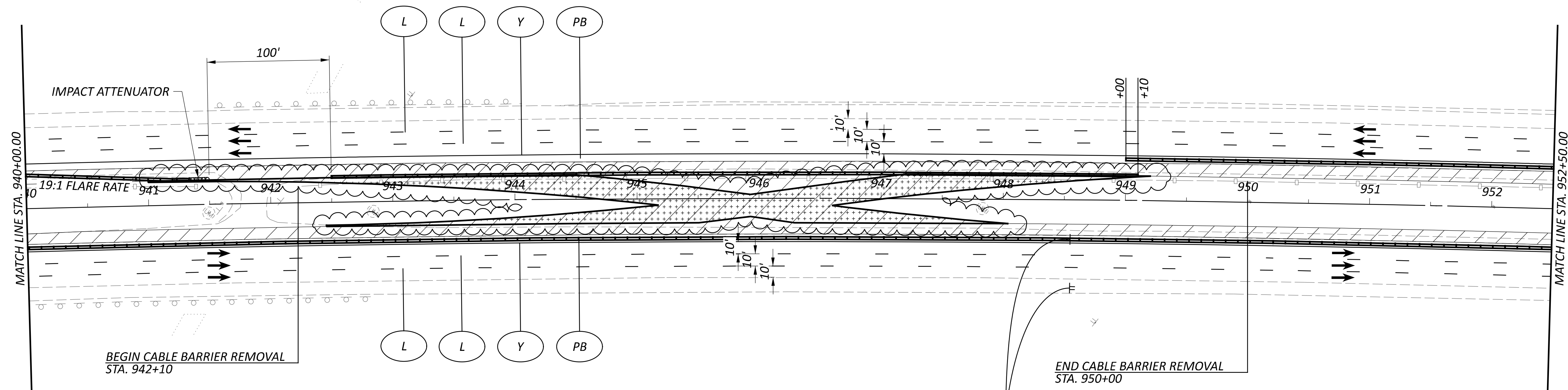
REVIEWER  
 MJC 01/05/24

PROJECT ID  
 112798

SHEET TOTAL  
 P.48 617

LEGEND

- |   |  |  |  |   |   |   |                     |
|---|--|--|--|---|---|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 807 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 807 PAINT |  | SHOULDER REPLACEMENT/WIDENING                   |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 807 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 807 PAINT       |  | TEMPORARY PAVEMENT                              |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 807 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                                       |  | PORTABLE BARRIER    |
|   |  |  |  |  | TEMPORARY PAVEMENT TO BE CONSTRUCTED THIS PHASE |   |                     |



MAINTENANCE OF TRAFFIC - IR 270 PRE-PHASE  
 STEP 1 - STA. 940+00 TO STA. 952+50

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DESIGNER  
**SMB**

REVIEWER  
**MJC 01/05/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.54 617**

SHEET NUM.															PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
15	16	38	39	41	42	276	277	279	280	281	284	334	343	344	01/IMS/05	02/IMS/13						
<b>PAVEMENT</b>																						
20											3,520				3,540		251	01021	3,540	SY	PARTIAL DEPTH PAVEMENT REPAIR (442), AS PER PLAN, 2" - 2' W	15
20											3,377				3,397		251	01021	3,397	SY	PARTIAL DEPTH PAVEMENT REPAIR (442), AS PER PLAN, 4"	15
	250														250		251	01031	250	CY	PARTIAL DEPTH PAVEMENT REPAIR (442), AS PER PLAN, 5.25"	16
								203,791	109,723	24,642					338,156		254	01000	338,156	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.50"	
								4,131	2,660	466					7,257		254	01000	7,257	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.75" AVG.	
								588	502						1,090		254	01000	1,090	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 2.00"	
20											257				277		255	10161	277	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC MS, AS PER PLAN, 13"	15
20															20		255	10501	20	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, 13"	15
	21														21		255	10501	21	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN	16
															772		255	20000	772	FT	FULL DEPTH PAVEMENT SAWING	
	27														257		257	10001	284	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN	15
		12,282	5,544	323	453			43	94						137	18,602	302	56000	18,739	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
		7,930	3,630	222	304			27	71						98	12,086	304	20000	12,184	CY	AGGREGATE BASE	
		4,991	2,229	124	178			12,539	6,988	1,507					21,034	7,522	407	20000	28,556	GAL	NON-TRACKING TACK COAT	
		156													156		411	10000	156	CY	STABILIZED CRUSHED AGGREGATE	
								7,015	3,949	1,775					12,739		442	00100	12,739	CY	ANTI-SEGREGATION EQUIPMENT	
		1,733	774	43	63											2,613	442	10000	2,613	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
											1,395				1,395		442	10001	1,395	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, 76-22M	15
		2,600	1,204	65	93			8	18						26	3,962	442	10080	3,988	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)	
									40						40		442	10300	40	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (447)	
								11,593	6,239						17,832		442	10301	17,832	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (447), AS PER PLAN	16
						288	360								648		609	24510	648	FT	CURB, TYPE 4-C	
								211	132						343		617	10100	343	CY	COMPACTED AGGREGATE	
1,814								33,920	17,745						53,479		618	40100	53,479	FT	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)	
<b>TRAFFIC CONTROL</b>																						
													981	123	1,104		621	00100	1,104	EACH	RPM	
													1,025	123	1,148		621	54000	1,148	EACH	RAISED PAVEMENT MARKER REMOVED	
							29								29		626	00102	29	EACH	BARRIER REFLECTOR, TYPE 1, (ONE-WAY)	
							3								3		626	00102	3	EACH	BARRIER REFLECTOR, TYPE 1, (BI-DIRECTIONAL)	
						255	171								426		626	00110	426	EACH	BARRIER REFLECTOR, TYPE 2, (ONE-WAY)	
												33			33		630	04100	33	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
												1			1		630	79610	1	EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED	
												32			32		630	80100	32	SF	SIGN, FLAT SHEET	
													200		200		644	00700	200	FT	TRANSVERSE/DIAGONAL LINE, 20" (YELLOW)	
													1		1		644	01350	1	EACH	LANE REDUCTION ARROW	
20															20		644	40000	20	EACH	SPEED MEASUREMENT MARKING	
													1.05		1.05		807	12010	1.05	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6" (WHITE)	
													0.88		0.88		807	12010	0.88	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6" (YELLOW)	
													1.49		1.49		807	12110	1.49	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6"	
													435		435		807	12310	435	FT	WET REFLECTIVE EPOXY PAVEMENT MARKING, CHANNELIZING LINE, 12"	
															644		807	12410	644	FT	WET REFLECTIVE EPOXY PAVEMENT MARKING, DOTTED LINE, 6"	
													10.64	1.81	12.45		807	14010	12.45	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6" (WHITE)	
													10.62	1.81	12.43		807	14010	12.43	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6" (YELLOW)	
													17.91		17.91		807	14110	17.91	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"	
													5,989		5,989		807	14310	5,989	FT	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, CHANNELIZING LINE, 12"	
															7,595		807	14410	7,595	FT	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 6"	
													40.61	3.62	44.23		850	10010	44.23	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)	
													5,989		5,989		850	10130	5,989	FT	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (ASPHALT)	
													3.55		3.55		850	20010	3.55	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)	
													435		435		850	20130	435	FT	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (CONCRETE)	
<b>TRAFFIC SIGNALS</b>																						
LUMP															LUMP		809	70000	LS		MAINTAINING ITS DURING CONSTRUCTION	

GENERAL SUMMARY

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DESIGNER  
**ACF**

REVIEWER  
**MJC 01/05/24**

PROJECT ID  
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SHEET TOTAL  
P.265 | 617