

SEQUENCE OF CONSTRUCTION

NOTE: PLACE PAVEMENT SURFACE COURSE IN FINAL MOT PHASE

PRE-PHASE

- WORK TO BE COMPLETED IN THIS PHASE IS AS FOLLOWS:
1. CONSTRUCT TEMPORARY PAVEMENT ALONG OUTSIDE SHOULDER OF IR-77 SOUTHBOUND FOR USE IN PHASE 1
2. CONSTRUCT TEMPORARY PAVEMENT ALONG OUTSIDE SHOULDER OF IR-77 NORTHBOUND FOR USE IN PHASE 2
3. CONSTRUCT TEMPORARY PAVEMENT ALONG IR-271 RAMPS WITH IR-77 FOR USE IN PHASE 3 & PHASE 5.

MAINTAIN TRAFFIC AS FOLLOWS:

- 1. MAINTAIN TRAFFIC USING THE LATEST PERMITTED LANE CLOSURE CHART (PLCC) AVAILABLE FROM THE ODOT WEBSITE (http://plcm.dot.state.oh.us/)

PHASE 1

- WORK TO BE COMPLETED IN THIS PHASE IS AS FOLLOWS: (CONSTRUCTION SHALL BE LIMITED TO 1 WEEK PER CROSSOVER)
1. CONSTRUCT SINGLE-LANE CROSSOVERS AT SOUTH END OF PROJECT LIMITS FOR USE IN PHASE 2 THROUGH PHASE 5
2. CONSTRUCT SINGLE-LANE CROSSOVERS NORTH OF NORTH PROJECT LIMITS FOR USE IN PHASE 2 THROUGH PHASE 5
3. CONSTRUCT INSIDE WIDENING OF ALL PROJECT BRIDGES ALONG IR-77 SOUTHBOUND ROADWAY
4. CONSTRUCT TEMPORARY PAVEMENT ALONG INSIDE SHOULDER OF IR-77 SOUTHBOUND FOR USE IN PHASE 2

MAINTAIN TRAFFIC AS FOLLOWS:

- 1. PLACE TEMPORARY TRAFFIC CONTROL AS NOTED IN THE PLAN SHEETS FOR CONSTRUCTION OF THE SOUTHERN AND NORTHERN CROSSOVERS.
2. PLACE PORTABLE BARRIER AND MARKINGS ALONG IR-77 SOUTHBOUND ROADWAY (FOR USE AS CONTRAFLOW IN PHASE 2)
3. SHIFT TWO IR-77 SB LANES TO THE OUTSIDE ONTO EXISTING & TEMPORARY PAVEMENT CONSTRUCTED IN PRE-PHASE
4. REFER TO THE PLCC DURING CONSTRUCTION OF TEMPORARY PAVEMENT ALONG IR-77 NORTHBOUND
5. MAINTAIN ACCESS TO LOCAL AND SYSTEM INTERCHANGES

PHASE 2

- (TRAFFIC SHALL BE PLACED IN THIS PATTERN BY 6/30/2024)
WORK TO BE COMPLETED IN THIS PHASE IS AS FOLLOWS:
1. CONSTRUCT INSIDE ROADWAY IMPROVEMENTS ALONG IR-77 NORTHBOUND ROADWAY
2. CONSTRUCT IMPROVEMENTS & INSIDE WIDENING OF PROJECT BRIDGES ALONG NORTHBOUND ROADWAY

MAINTAIN TRAFFIC AS FOLLOWS:

- 1. ESTABLISH 3-LANE (2 SOUTHBOUND LANES/1 NORTHBOUND LANE) CONTRAFLOW ALONG IR-77 SOUTHBOUND ROADWAY USING EXISTING AND TEMPORARY PAVEMENT
2. USING CROSSOVERS, SHIFT 1 LANE OF IR-77 NORTHBOUND TRAFFIC ONTO SOUTHBOUND LANES, THROUGH PROJECT LIMITS AND BACK ONTO NORTHBOUND LANES
3. PLACE PORTABLE BARRIER AND MARKINGS TO PROVIDE A SINGLE NORTHBOUND LANE ALONG IR-77 NORTHBOUND ROADWAY THROUGH WORK ZONE

THESE PLANS ASSUME WINTER IN PHASE 2. THE CONTRACTOR MAY CHOOSE TO WINTER IN PHASE 3 PROVIDED THAT SR-176 RAMPS C & D AND SR-21 RAMP F REMAIN OPEN. THE CONTRACTOR SHALL GET ENGINEER APPROVAL FOR THE NECESSARY MODIFICATIONS TO PHASE 3 MOT. ANY ADDITIONAL COSTS ASSOCIATED WITH WINTERING IN PHASE 3 SHALL BE INCIDENTAL TO ITEM 614 - MAINTAINING TRAFFIC.

SEQUENCE OF CONSTRUCTION (CONTINUED)

PHASE 3

- WORK TO BE COMPLETED IN THIS PHASE IS AS FOLLOWS:
1. CONSTRUCT OUTSIDE ROADWAY IMPROVEMENTS ALONG IR-77 NORTHBOUND ROADWAY
2. CONSTRUCT IMPROVEMENTS FOR WHEATLEY ROAD RAMP C AND RAMP D
3. CONSTRUCT IR-271 RAMP IMPROVEMENTS (PHASES 3A/3B)
4. CONSTRUCT SR-21/BRECKSVILLE ROAD RAMP IMPROVEMENTS

MAINTAIN TRAFFIC AS FOLLOWS:

- 1. KEEP PHASE 2 CONTRAFLOW OPERATION ALONG IR-77 SOUTHBOUND ROADWAY
2. SHIFT PORTABLE BARRIER AND PLACE MARKINGS TO PROVIDE A SINGLE NORTHBOUND LANE ALONG IMPROVED IR-77 NORTHBOUND ROADWAY (INSIDE SHOULDER)
3. IMPLEMENT DETOUR AND FULL CLOSURE OF IR-77 NB TO WHEATLEY ROAD RAMP TO CONSTRUCT IMPROVEMENTS
4. IMPLEMENT DETOUR AND FULL CLOSURE OF WHEATLEY ROAD TO IR-77 NB RAMP TO CONSTRUCT IMPROVEMENTS
5. IMPLEMENT DETOUR AND CLOSE IR-77 NB RAMP TO SR-21
6. MAINTAIN 1 LANE IN EACH DIRECTION ALONG WHEATLEY ROAD EAST OF IR-77

PHASE 3/3A (IR-271 RAMP IMPROVEMENTS)

- 7. CONTINUE PHASE 3 MAINLINE IMPROVEMENTS
8. PRIORITIZE RAMP IMPROVEMENTS OF EXIT RAMP FROM IR-77 NB TO IR-271
9. PRIORITIZE RAMP IMPROVEMENTS OF ENTRANCE RAMP FROM IR-271 TO IR-77 NB.

PHASE 3/3B (IR-271 RAMP IMPROVEMENTS)

- 10. CONTINUE PHASE 3 MAINLINE IMPROVEMENTS
11. MAINTAIN ACCESS TO IR-271 RAMPS AS PER PLAN SHEETS

PHASE 4

- WORK TO BE COMPLETED IN THIS PHASE IS AS FOLLOWS:
1. CONSTRUCT INSIDE ROADWAY IMPROVEMENTS ALONG IR-77 SOUTHBOUND ROADWAY

MAINTAIN TRAFFIC AS FOLLOWS:

- 1. ESTABLISH 3-LANE (1 SOUTHBOUND LANE/2 NORTHBOUND LANES) CONTRAFLOW ALONG IR-77 NORTHBOUND ROADWAY
2. USING CROSSOVERS, SHIFT 1 LANE OF IR-77 SOUTHBOUND TRAFFIC ONTO NORTHBOUND LANES, THROUGH PROJECT LIMITS AND BACK ONTO SOUTHBOUND LANES
3. PLACE PORTABLE BARRIER AND MARKINGS TO PROVIDE A SINGLE SOUTHBOUND LANE ALONG IR-77 SOUTHBOUND ROADWAY THROUGH WORK ZONE

THESE PLANS ASSUME WINTER IN PHASE 4. THE CONTRACTOR MAY CHOOSE TO WINTER IN PHASE 5 PROVIDED THAT SR-176 RAMPS A, B & E AND SR-21 RAMP G REMAIN OPEN. THE CONTRACTOR SHALL GET ENGINEER APPROVAL FOR THE NECESSARY MODIFICATIONS TO PHASE 5 MOT. ANY ADDITIONAL COSTS ASSOCIATED WITH WINTERING IN PHASE 5 SHALL BE INCIDENTAL TO ITEM 614 - MAINTAINING TRAFFIC.

PHASE 5

- WORK TO BE COMPLETED IN THIS PHASE IS AS FOLLOWS:
1. CONSTRUCT OUTSIDE ROADWAY IMPROVEMENTS ALONG IR-77 SOUTHBOUND ROADWAY
2. CONSTRUCT IMPROVEMENTS FOR WHEATLEY ROAD RAMP A AND RAMP B
3. CONSTRUCT IR-271 RAMP IMPROVEMENTS (PHASES 5A/5B)
4. CONSTRUCT SR-21/BRECKSVILLE ROAD RAMP IMPROVEMENTS SOUTH OF SUM-77-32.27L BRIDGE.

SEQUENCE OF CONSTRUCTION (CONTINUED)

PHASE 5 (CONTINUED)

- MAINTAIN TRAFFIC AS FOLLOWS:
1. KEEP PHASE 4 CONTRAFLOW OPERATION ALONG IR-77 NORTHBOUND ROADWAY
2. SHIFT PORTABLE BARRIER AND PLACE MARKINGS TO PROVIDE A SINGLE SOUTHBOUND LANE ALONG IMPROVED IR-77 SOUTHBOUND ROADWAY (INSIDE SHOULDER)
3. IMPLEMENT DETOUR AND CLOSE SR-21 TO IR-77 SB RAMP
4. IMPLEMENT DETOUR AND FULL CLOSURE OF WHEATLEY ROAD TO IR-77 SB RAMP TO CONSTRUCT IMPROVEMENTS
5. IMPLEMENT DETOUR AND FULL CLOSURE OF IR-77 SB TO WHEATLEY ROAD RAMP TO CONSTRUCT IMPROVEMENTS
6. MAINTAIN 1 LANE IN EACH DIRECTION ALONG WHEATLEY ROAD WEST OF IR-77

PHASE 5/5A (IR-271 RAMP IMPROVEMENTS)

- 7. CONTINUE PHASE 5 MAINLINE IMPROVEMENTS
8. PRIORITIZE RAMP IMPROVEMENT OF EXIT RAMP FROM IR-77 SB TO IR-271
9. PRIORITIZE RAMP IMPROVEMENT TO ENTRANCE RAMP FROM IR-271 TO IR-77 SB

PHASE 5/5B (IR-271 RAMP IMPROVEMENTS)

- 10. CONTINUE PHASE 5 MAINLINE IMPROVEMENTS
11. MAINTAIN ACCESS TO IR-271 RAMPS AS PER PLAN SHEETS

FINAL

- (PROJECT COMPLETION BY 8/31/2026)
WORK TO BE COMPLETED IN THIS PHASE IS AS FOLLOWS:
1. PLACE SURFACE COURSE THROUGHOUT PROJECT LIMITS.
2. COMPLETE REMOVAL OF TEMPORARY PAVEMENT NOT IN USE BY THIS PROJECT OR ADJACENT PROJECT(S)
3. COMPLETE INSTALLATION OF PERMANENT TRAFFIC CONTROL

MAINTAIN TRAFFIC IN ACCORDANCE WITH "PERMITTED LANE CLOSURES I-77 THREE LANE PERMANENT CONFIGURATION" NOTE SHEET 32/927.

NOTE ON DRAINAGE CONSTRUCTION AND MOT

THE MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION ALLOWS FOR THE PHASED CONSTRUCTION OF THE PROJECT'S DRAINAGE IMPROVEMENTS. HOWEVER, THE DRAINAGE DESIGN REQUIRES EXTENSIVE WORK NEAR THE THE IR-77 AND IR-271 INTERCHANGE. THESE IMPROVEMENTS REQUIRE DEEP MANHOLES ALONG THE IR-271 ALIGNMENT, INCLUDING THE PLACEMENT OF A TEMPORARY BORE PIT FOR USE IN JACKING AND BORING A 30-INCH CONDUIT ACROSS IR-271 RAMP C. THE BORE PIT IS TENTATIVELY PLACED IN THE IR-271 MEDIAN NEAR STA. 918+27 (340 FEET RT OFFSET/IR-77). REFER TO DRAINAGE SHEETS FOR DETAILS.

THE CONTRACTOR SHALL IMPLEMENT SCD MT-95.45 "CLOSING SHOULDER OF A MULTI-LANE DIVIDED HIGHWAY" TO PROTECT THE BORE PIT WORK ZONE. THE CONTRACTOR SHALL MAINTAIN THE EXISTING TRAFFIC LANES ALONG IR-271.

ALL COSTS ASSOCIATED WITH THE IMPLEMENTATION OF SCD MT-95.45 AND OTHER RELATED MOT COSTS FOR THE CONSTRUCTION OF THE DRAINAGE IMPROVEMENTS, NOT ALREADY QUANTIFIED, SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

DRAINAGE DURING MOT

IN ADDITION TO THE PROVISIONS IN CMS 105.14 AND CMS 614.02, THE CONTRACTOR MAY BE REQUIRED TO INSTALL TEMPORARY DRAINS AND CONDUITS TO ENSURE POSITIVE DRAINAGE FROM THE LOWERED MEDIAN PROFILE, EMERGENCY PULL-OFFS OR CROSSOVER CONSTRUCTION TO THE OUTSIDE SHOULDERS OF THE ROADWAY WHILE THE PERMANENT DRAINAGE FACILITIES ARE BEING CONSTRUCTED.

ALL TEMPORARY DRAINAGE ITEMS SHALL BE INCLUDED IN THE LUMP SUM MAINTAINING TRAFFIC ITEM AND NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR THIS WORK.

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.

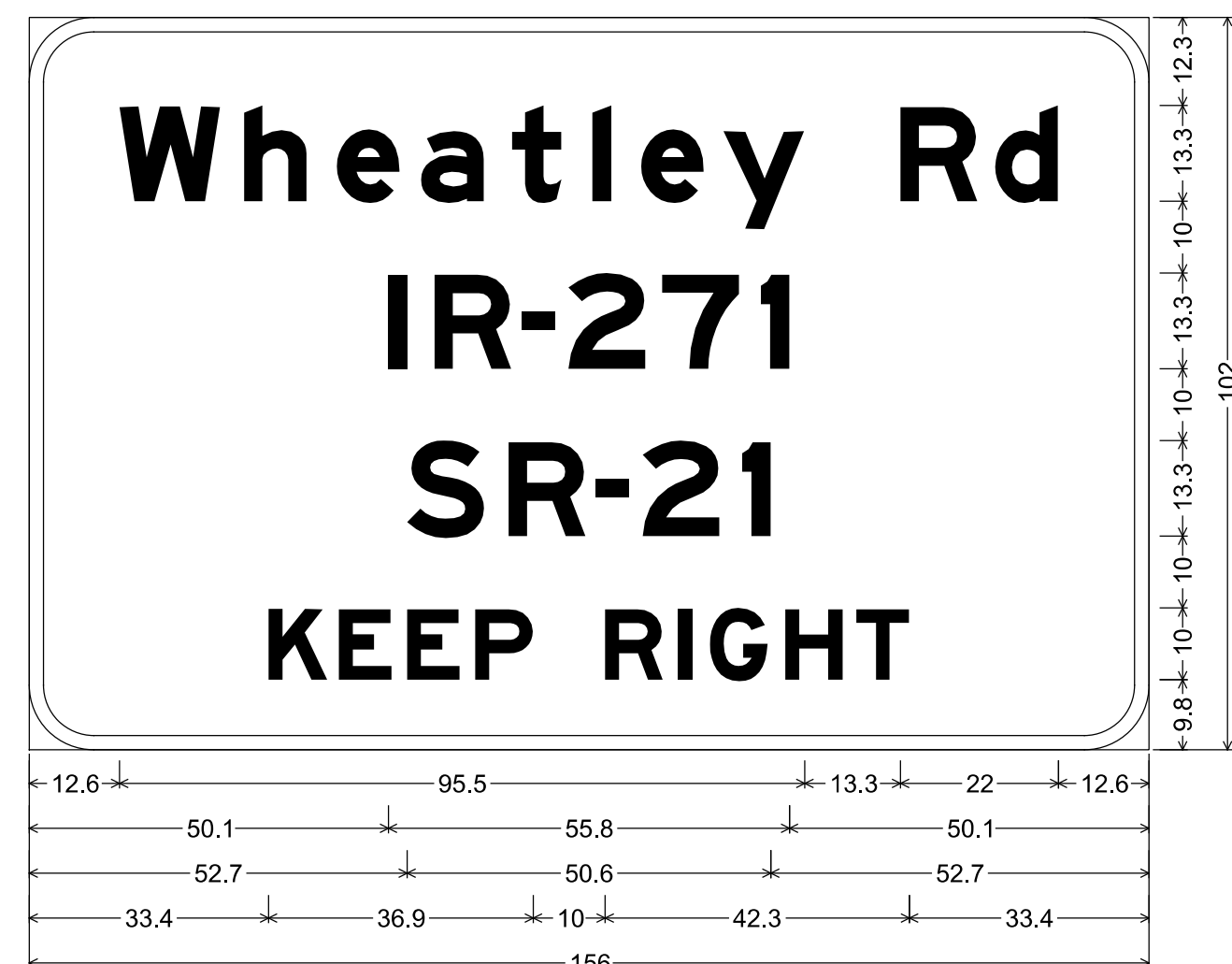
PROJECT COORDINATION - PERMANENT TRAFFIC CONTROL

CONTINGENCY QUANTITIES OF ITEM 614 WORK ZONE PAVEMENT MARKINGS AND ITEM 614 WORK ZONE RAISED PAVEMENT MARKER ARE PROVIDED FOR DISCRETIONARY USE BY THE ENGINEER TO COORDINATE THE TRANSITION OF THE FINAL PAVEMENT MARKINGS PLACEMENT BETWEEN THIS PROJECT AND THE ACTIVE PROJECT TO THE SOUTH.

DUE TO BEING ADJACENT PROJECTS, THE FINAL PAVEMENT MARKINGS AT THE INTERFACE OF PID 111404 AND PID 111405 REQUIRE COORDINATION. WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PLACE WORK ZONE PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS TO TRANSITION FROM THE ACTIVE WORK ZONE (PID 111404) TO THE FINAL ROADWAY ALIGNMENT (PID 111405). CONTINGENCY QUANTITIES ARE PROVIDED TO RESTRIPE BETWEEN STA. 826+00 AND STA. 842+00 (1600 FEET) FOR TWO 3-LANE SECTIONS AND ARE QUANTIFIED AS FOLLOWS:

- ITEM 614 - WORK ZONE PAVEMENT MARKING, MISC.:
LANE LINE, 6", SPRAY THERMOPLASTIC 1.21 MILE
ITEM 614 - WORK ZONE PAVEMENT MARKING, MISC.:
EDGE LINE, 6", SPRAY THERMOPLASTIC 1.21 MILE
ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN 52 EACH

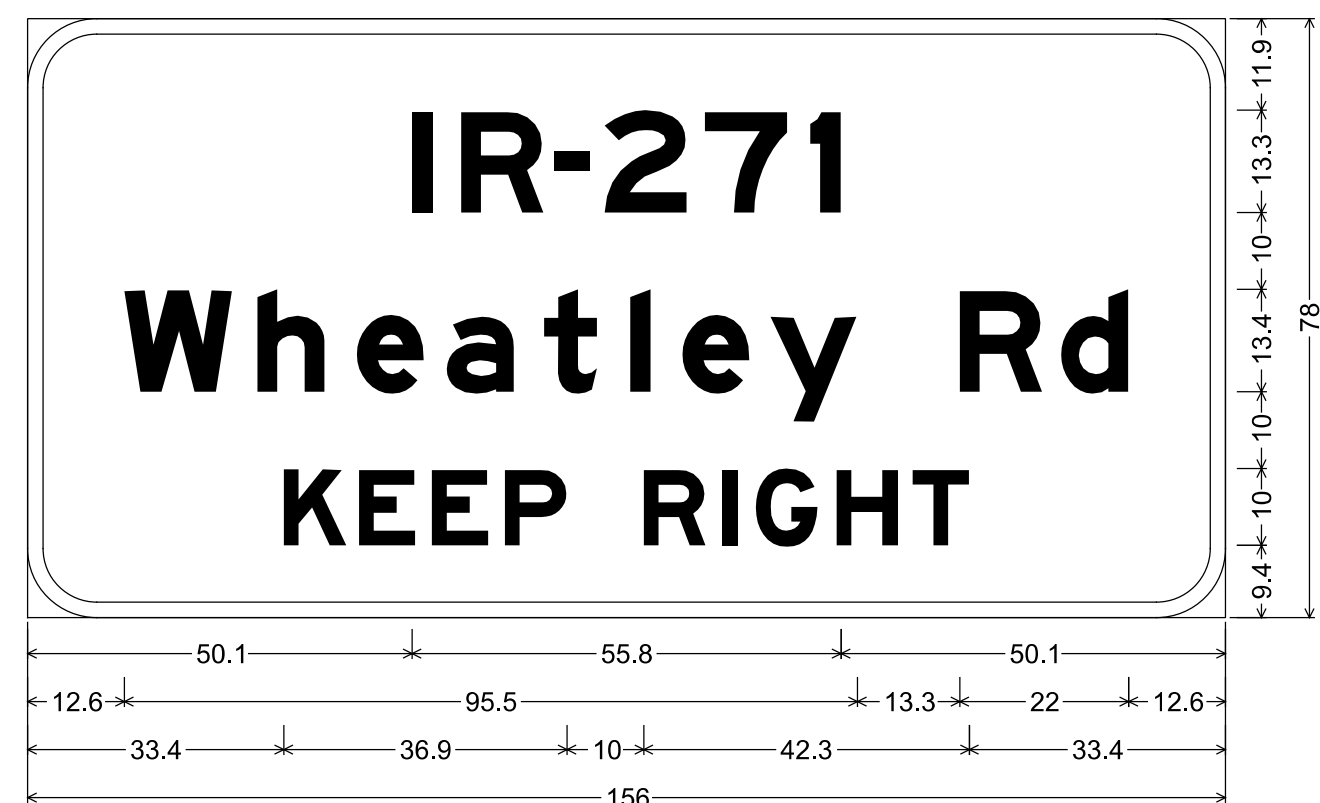
SPECIAL-A  
LEVEL 2 SIGN - GROUND MOUNTED



9.0" Radius, 2.0" Border, Black on Orange; "Wheatley Rd", E Mod 2K; "IR-271", E Mod 2K; "SR-21", E Mod 2K; "KEEP RIGHT", E Mod 2K; Table of widths and spaces

12.6	W	14.1	3.2	8.8	4.2	8.8	2.9	8.8	3.9	6.9	4.3	2.6	4.2	8.8	2.6	U	11.4	13.3	R	10.8	2.4	8.8	12.6
50.1	I	2.6	3.8	10.8	1.3	4.7	1.8	10.8	2.3	10.8	2.9	4.0	50.1										
52.7	S	10.8	3.3	10.8	1.3	4.7	1.9	10.8	3.0	4.0	52.7												
33.4	K	8.2	1.6	7.4	2.1	7.4	2.1	8.1	10.0	8.1	2.1	2.0	2.3	8.1	2.4	8.1	1.9	7.4	33.3				

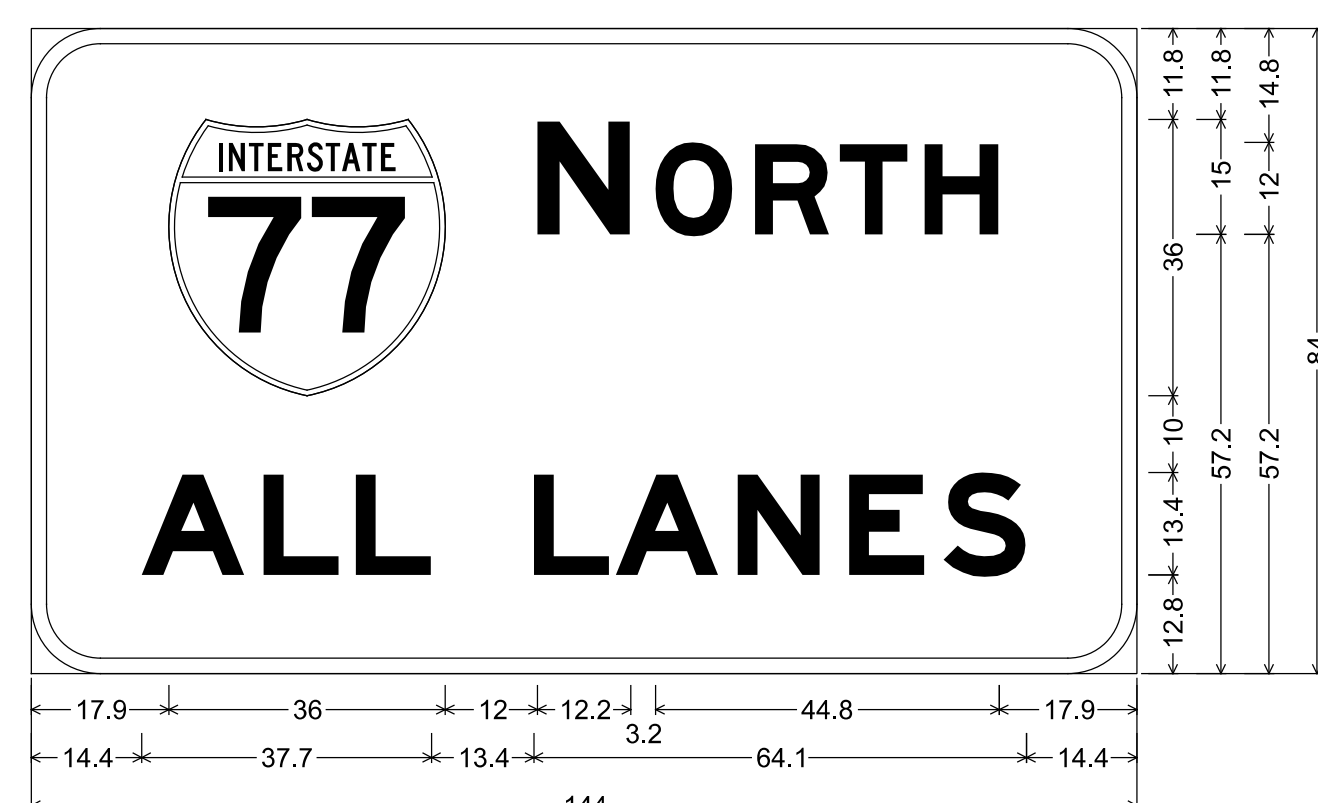
SPECIAL-C  
LEVEL 2 SIGN - GROUND MOUNTED



9.0" Radius, 2.0" Border, Black on Orange; "IR-271", E Mod 2K; "Wheatley Rd", E Mod 2K; "KEEP RIGHT", E Mod 2K; Table of widths and spaces

50.1	I	2.6	3.8	10.8	1.3	4.7	1.8	10.8	2.3	10.8	2.9	4.0	50.1										
12.6	W	14.1	3.2	8.8	4.2	8.8	2.9	8.8	3.9	6.9	4.3	2.6	4.2	8.8	2.6	U	11.4	13.3	R	10.8	2.4	8.8	12.6
33.4	K	8.2	1.6	7.4	2.1	7.4	2.1	8.1	10.0	8.1	2.1	2.0	2.3	8.1	2.4	8.1	1.9	7.4	33.3				

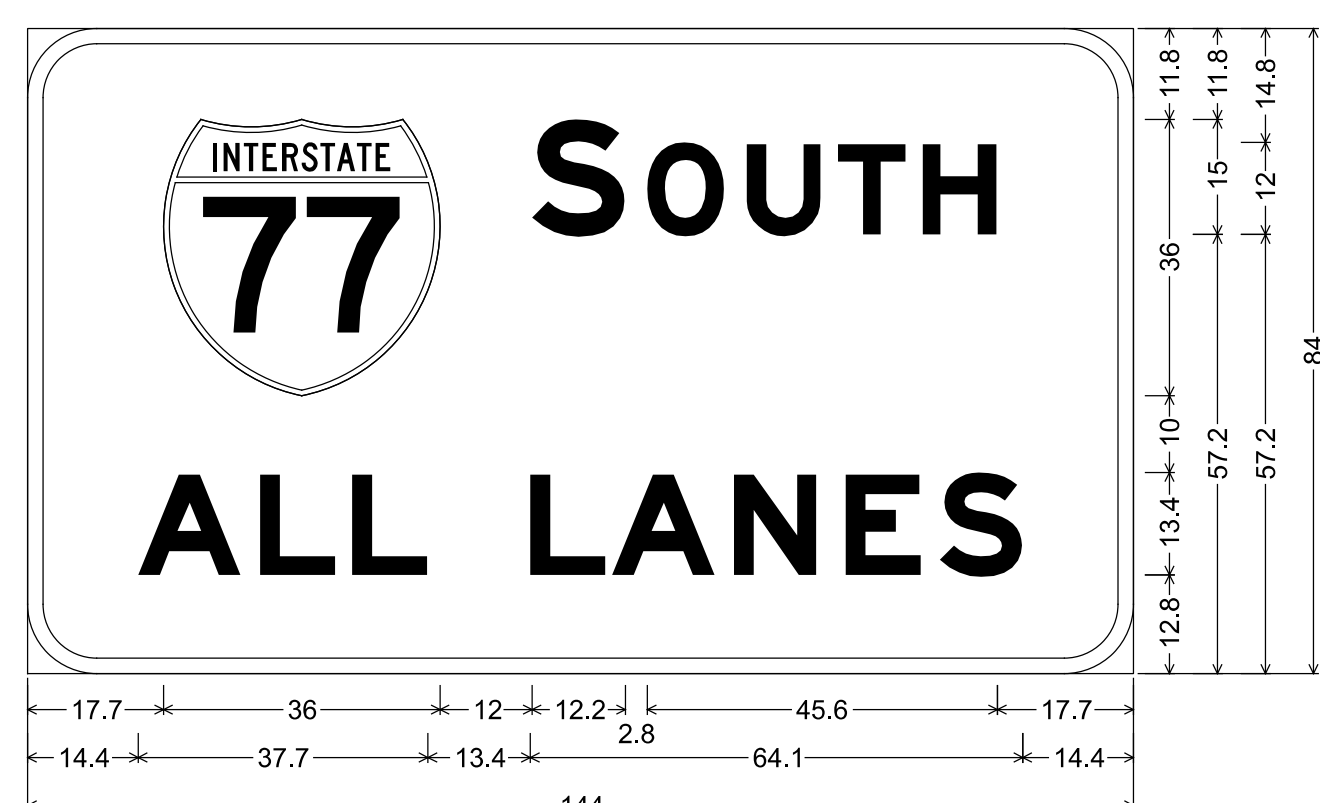
SPECIAL-B  
LEVEL 2 SIGN - GROUND MOUNTED



9.0" Radius, 2.0" Border, Black on Orange; Interstate 77 M1-1; "NORTH", E Mod 2K; "ALL LANES", E Mod 2K; Table of widths and spaces

17.9	36.0	12.0	12.2	3.2	10.1	2.9	9.7	1.3	8.9	2.2	9.7	17.9											
14.4	A	13.5	2.4	9.8	2.2	9.8	13.4	9.8	0.8	13.5	2.4	10.8	3.7	9.9	2.4	10.8	14.4						

SPECIAL-D  
LEVEL 2 SIGN - GROUND MOUNTED

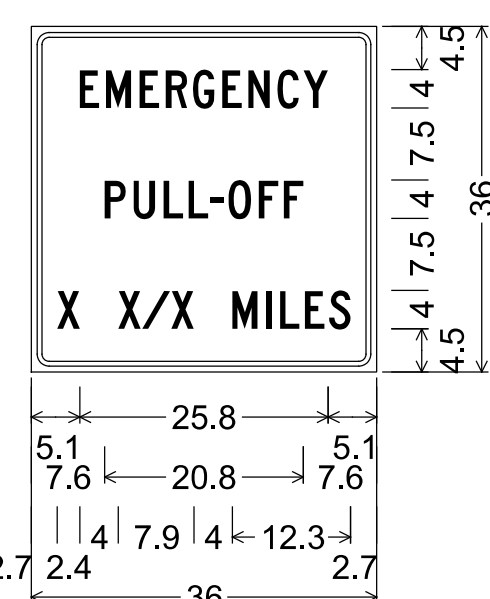


9.0" Radius, 2.0" Border, Black on Orange; Interstate 77 M1-1; "SOUTH", E Mod 2K; "ALL LANES", E Mod 2K; Table of widths and spaces

17.7	36.0	12.0	12.2	2.8	10.1	2.9	9.7	2.1	8.9	2.2	9.7	17.7											
14.4	A	13.5	2.4	9.8	2.2	9.8	13.4	9.8	0.8	13.5	2.4	10.8	3.7	9.9	2.4	10.8	14.4						

SPECIAL-E (GROUND MOUNTED)

ALL COSTS INCIDENTAL TO ITEM 614 - MAINTAINING TRAFFIC

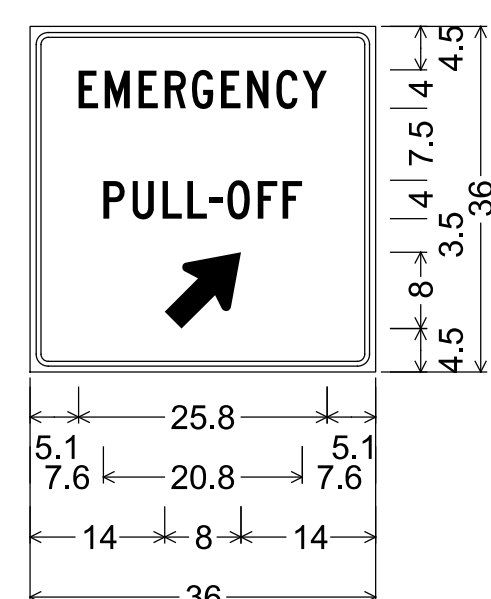


1.9" Radius, 0.5" Border, 0.6" Indent, Black on White; "EMERGENCY", C 2K; "PULL-OFF", C 2K; "X X/X MILES", C 2K; Table of widths and spaces

5.1	E	2.0	0.7	2.6	0.9	E	2.0	0.7	R	2.3	0.6	G	2.2	0.8	E	2.0	0.7	N	2.3	0.8	C	2.2	0.5	Y	2.5	5.1
7.6	P	2.3	0.8	U	2.2	0.9	L	2.0	0.6	L	2.0	0.3	-	1.4	0.5	O	2.3	0.8	F	2.1	0.5	F	2.1	7.6		
2.7	X	2.4	4.0	X	3	0.2	/	2.9	0.1	X	2.4	4.0	M	2.6	0.9	I	0.5	0.9	L	2.1	0.5	E	1.0	S	2.3	2.7

SPECIAL-F (GROUND MOUNTED)

ALL COSTS INCIDENTAL TO ITEM 614 - MAINTAINING TRAFFIC



1.9" Radius, 0.5" Border, 0.6" Indent, Black on White; "EMERGENCY", C 2K; "PULL-OFF", C 2K; Standard Arrow Custom 10.0" X 6.8" 45"; Table of widths and spaces

5.1	E	2.0	0.7	2.6	0.9	E	2.0	0.7	R	2.3	0.6	G	2.2	0.8	E	2.0	0.7	N	2.3	0.8	C	2.2	0.5	Y	2.5	5.1
7.6	P	2.3	0.8	U	2.2	0.9	L	2.0	0.6	L	2.0	0.3	-	1.4	0.5	O	2.3	0.8	F	2.1	0.5	F	2.1	7.6		
14.0	8.0	14.0																								

SPECIAL-F(L): SIGN WITH LEFT ARROW AT 45° LEFT OF TOP CENTER  
SPECIAL-F(R): SIGN WITH RIGHT ARROW AT 45° RIGHT OF TOP CENTER (SHOWN ABOVE)

ITEM 614 - MAINTAINING TRAFFIC, MISC.: BRIDGE DECK AND PAVEMENT PATCHING

THIS WORK WILL BE AS DIRECTED BY THE ENGINEER AND WILL INCLUDE ALL ASSOCIATED MOT COSTS WITH THE ACTIVITY. THE COST FOR EACH ITEM SHALL BE \$1.00. THE FIXED AMOUNT SHOWN IN THE PROPOSAL IS INCLUDED (AS ANY OTHER BID ITEMS) IN THE TOTAL BID AMOUNT. THIS FIXED AMOUNT IS THE DEPARTMENT'S ESTIMATE OF THE TOTAL COST OF BRIDGE DECK AND PAVEMENT PATCHING WORK REQUIRED TO BE PERFORMED WITHIN THE WORK LIMITS AS DIRECTED BY THE ENGINEER. C&MS TABLE 104.02-2 DOES NOT APPLY TO REDUCTIONS IN THIS CONTRACT ITEM. FORCE ACCOUNT RECORDS SHALL BE KEPT TO TRACK AND ULTIMATELY DETERMINE THE AMOUNT OF THE PAY ITEM USED. THE WORK ITEM SHALL INCLUDE ALL WORK, AS DIRECTED BY THE ENGINEER, NEEDED TO RE-ESTABLISH A REASONABLY SAFE AND PASSABLE CONDITION OF THE DECK AND/OR PAVEMENT FOR THE DURATION OF THE REQUIRED UPCOMING MOT PHASES. THE CONTRACTOR SHALL MEET WITH THE ENGINEER TO ESTABLISH THE WORK AFTER EXECUTION OF THE CONTRACT. THE CONTRACTOR'S PROPOSED PHASING AND PHASING DURATIONS WILL ASSIST THE ENGINEER IN DETERMINING THE EXTENT OF THE WORK. THIS WORK IS ONLY INTENDED TO ESTABLISH A SAFE AND DRIVABLE CONDITION FOR THE DURATION OF THE PROJECT. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITIES OF 614.02B.

ITEM 614 - MAINTAINING TRAFFIC, MISC.: BRIDGE DECK AND PAVEMENT PATCHING, 300,000 EACH

M447: ITEM 614 - MAINTAINING TRAFFIC, MISC.: SAFETY REPAIRS

FOR IMPACT ATTENUATORS OR GUARDRAIL DAMAGED BY THE MOTORING PUBLIC, THE CONTRACTOR SHALL FOLLOW THE PROCESS OUTLINED IN 107.15. IF NO ACCIDENT REPORT IS AVAILABLE, THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FROM THE VARIOUS POSSIBLE RESPONDING AGENCIES THAT NO ACCIDENT REPORT IS AVAILABLE. FOR INCIDENTS WITH AN ACCIDENT REPORT AVAILABLE, BUT THE OWNER OR INSURANCE COMPANY IS NON-RESPONSIVE, COPIES OF THE COMMUNICATION SHALL BE SUBMITTED TO THE PROJECT PER 107.15B. FOR BOTH CONDITIONS LISTED ABOVE, THE ENGINEER SHALL DETERMINE THE SAFETY ITEMS THAT MAY BE REPAIRED AND THE SAFETY ITEMS THAT SHALL BE REPLACED. THE WORK WILL BE AS DIRECTED BY THE ENGINEER AND WILL INCLUDE ALL MAINTENANCE OF TRAFFIC COSTS ASSOCIATED WITH THE ACTIVITY. THE COST FOR EACH ITEM SHALL BE \$1.00. THE FIXED AMOUNT SHOWN IN THE PROPOSAL IS INCLUDED (AS ANY OTHER BID ITEMS) IN THE TOTAL BID AMOUNT. THIS FIXED AMOUNT IS THE DEPARTMENT'S ESTIMATE OF THE TOTAL COST FOR THE REPAIR OR REPLACEMENT OF SAFETY ITEMS WITHIN THE WORK LIMITS AS DIRECTED BY THE ENGINEER. CMS TABLE 104.02-2 DOES NOT APPLY TO REDUCTIONS IN THIS CONTRACT ITEM. FORCE ACCOUNT RECORDS SHALL BE KEPT TO TRACK AND ULTIMATELY DETERMINE THE AMOUNT OF THE PAY ITEM USED. THIS ITEM SHALL INCLUDE PAYMENT FOR ALL WORK, INCIDENTALS, AND ALL ASSOCIATED COSTS FOR THE REPAIR OR REPLACEMENT OF DAMAGED SAFETY ITEMS AS DIRECTED BY THE ENGINEER.

ITEM 614 - MAINTAINING TRAFFIC, MISC.: SAFETY REPAIRS, 300,000 EACH

**PERMITTED LANE CLOSURES - I-77 THREE LANE PERMANENT CONFIGURATION**

THIS PROJECT WILL CONSTRUCT A NEW INSIDE MEDIAN LANE TO NORTHBOUND AND SOUTHBOUND I-77. AFTER THE COMPLETION OF PHASE 5 WORK, THE CONTRACTOR IS PERMITTED TO KEEP THE NEWLY BUILT INSIDE LANE OF EACH BOUND CLOSED UNTIL PROJECT COMPLETION. THE CONTRACTOR MAY ALSO USE THE NEWLY BUILT INSIDE LANE TO MAINTAIN TRAFFIC AS REQUIRED TO COMPLETE PROJECT CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, THE COMPLETION OF SURFACE COURSE, PAVEMENT STRIPING, TRAFFIC CONTROL, ETC.

WHEN UTILIZING THE NEW THREE-LANE SECTION, THE RIGHT LANE MAY NOT BE CLOSED BETWEEN HOURS OF 6AM - 8PM UNLESS THE CONTRACTOR PROVIDES A STRIPED DOUBLE LANE SHIFT TO THE NEW INSIDE LANE. ANY TEMPORARY STRIPING, SIGNING COSTS, OR EFFORTS ASSOCIATED WITH LANE SHIFTS PROVIDED FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE COST OF ITEM 614, MAINTAINING TRAFFIC AND NO ADDITIONAL COMPENSATION WILL BE PROVIDED.

THE CONTRACTOR IS ALSO PERMITTED TO REDUCE I-77 TRAFFIC TO ONE LANE OF TRAFFIC PER BOUND BETWEEN THE HOURS OF 8PM - 6AM TO COMPLETE REMAINING CONSTRUCTION ACTIVITIES. LANE CLOSURES FOR THIS WORK REDUCING I-77 TRAFFIC SHALL BE PERFORMED IN ACCORDANCE WITH SCD MT-95.30.

PAVEMENT MARKINGS FOR POST-MOT ROADWAY CONDITION

THE FOLLOWING PAVEMENT MARKING QUANTITIES ARE PROVIDED FOR USE BY THE CONTRACTOR IN PLACING BASIC PAVEMENT MARKINGS IN THE FINAL LAYOUT CONDITION THROUGHOUT THE PROJECT AS DIRECTED BY THE ENGINEER. FOR PLACEMENT OF THESE PAVEMENT MARKINGS, REFER TO THE TRAFFIC CONTROL PLANS STARTING ON SHEET 574. NOT ALL MARKINGS SHOWN ON THE TRAFFIC CONTROL PLANS ARE INTENDED TO BE INSTALLED AT THIS TIME.

THE FOLLOWING CLASS I PAVEMENT MARKINGS ARE INTENDED TO BE USED ON THE INTERMEDIATE COURSE OF PAVEMENT:

WORK ZONE LANE LINE, CLASS I, 6"	16.6 MILE
WORK ZONE EDGE LINE, CLASS I, 6"	20.5 MILE
WORK ZONE CHANNELIZING LINE, CLASS I, 12"	9280 FT
WORK ZONE DOTTED LINE, CLASS I	8100 FT
WORK ZONE STOP LINE, CLASS I	45 FT

THE FOLLOWING CLASS III PAVEMENT MARKINGS ARE INTENDED TO BE USED ON THE SURFACE COURSE OF PAVEMENT:

WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT	16.6 MILE
WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT	20.5 MILE
WORK ZONE CHANNELIZING LINE, CLASS III, 12", 642 PAINT	9280 FT
WORK ZONE DOTTED LINE, CLASS III, 4", 642 PAINT	8100 FT
WORK ZONE STOP LINE, CLASS III, 642 PAINT	45 FT

THESE ITEMS AND QUANTITIES ARE FORWARDED DIRECTLY TO THE MOT SUBSUMMARY, SHEET 33

MODEL: MN008 PAPER SIZE: 34x22 (in.) DATE: 8/22/2023 TIME: 8:30:12 AM USER: edues pvc:\gmet-pw\benley.com\gmet-pw-01\Documents\Projects\67490\11405401-Engineering-GF\MOT\Sheets\11405\_MN001.dgn

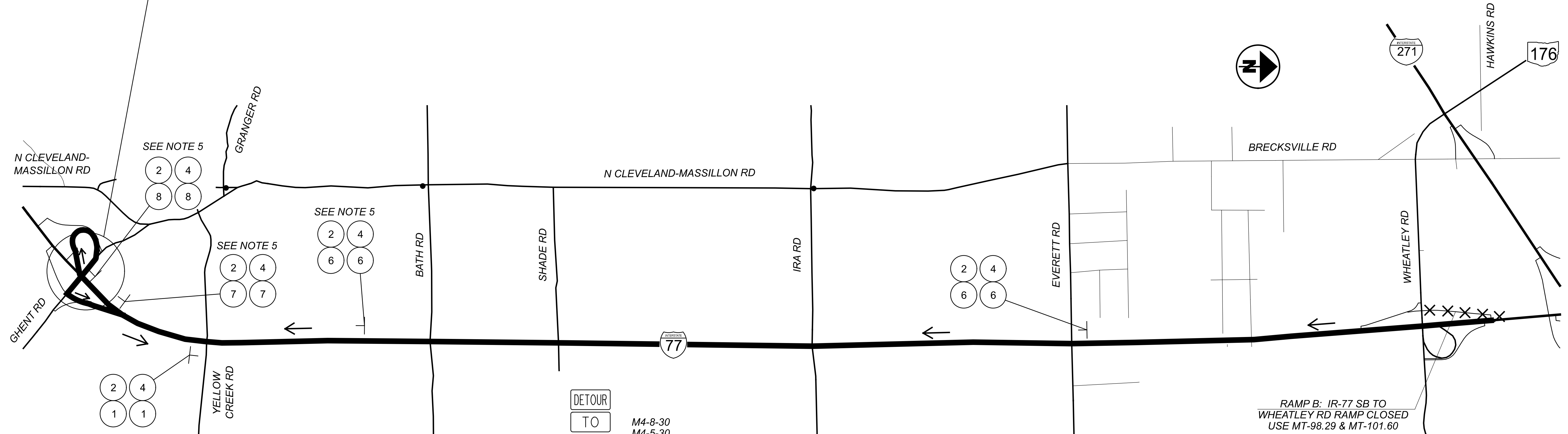
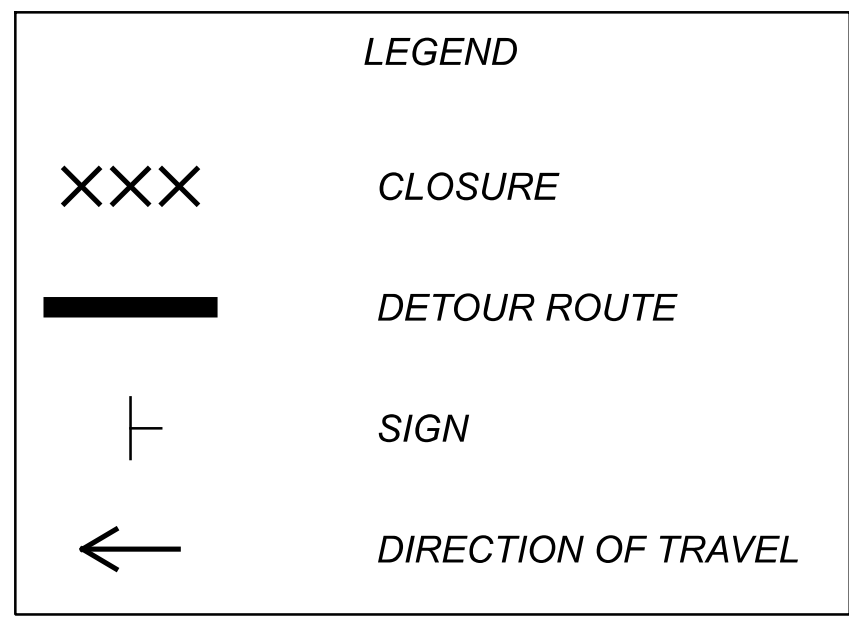
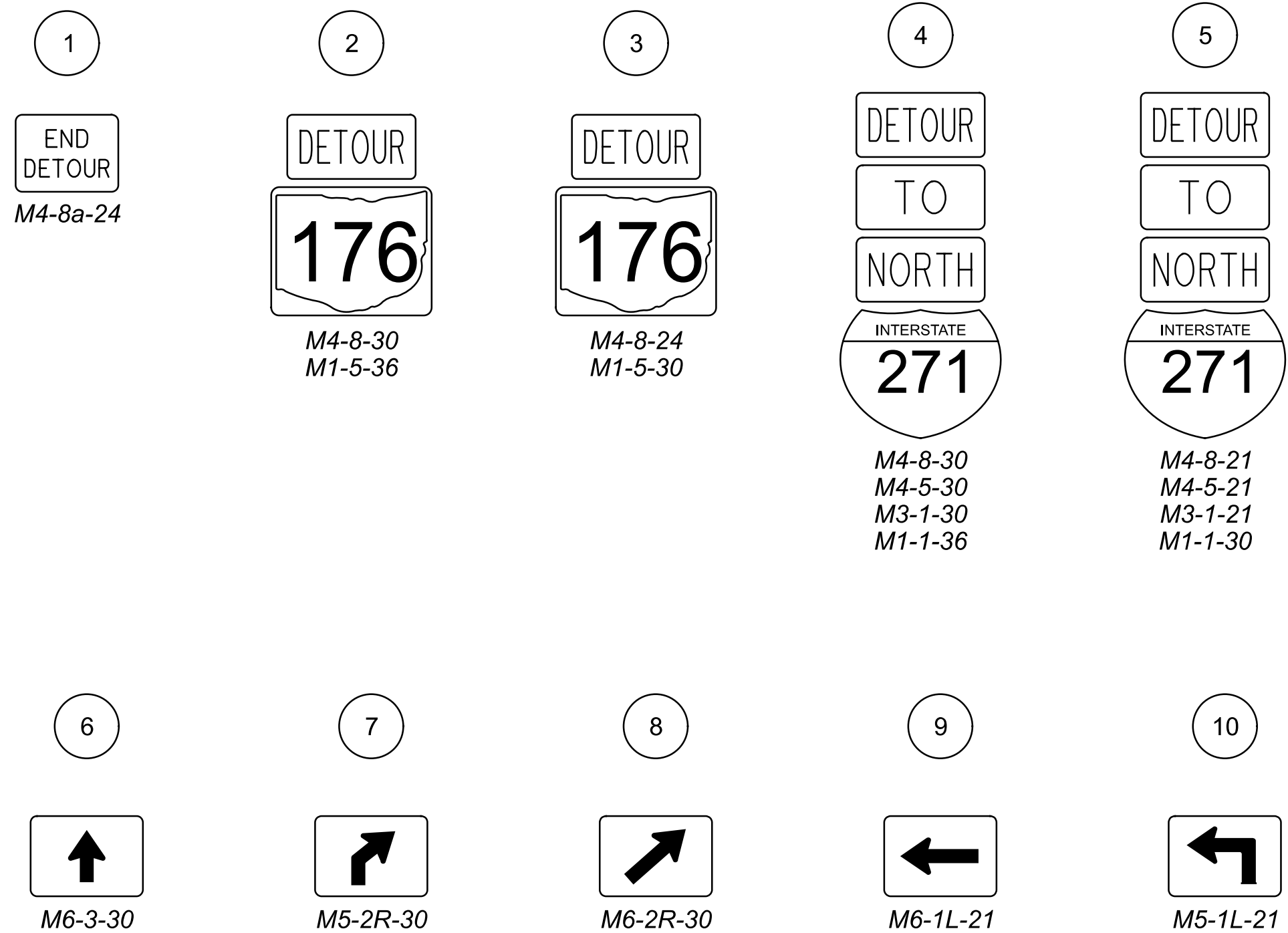
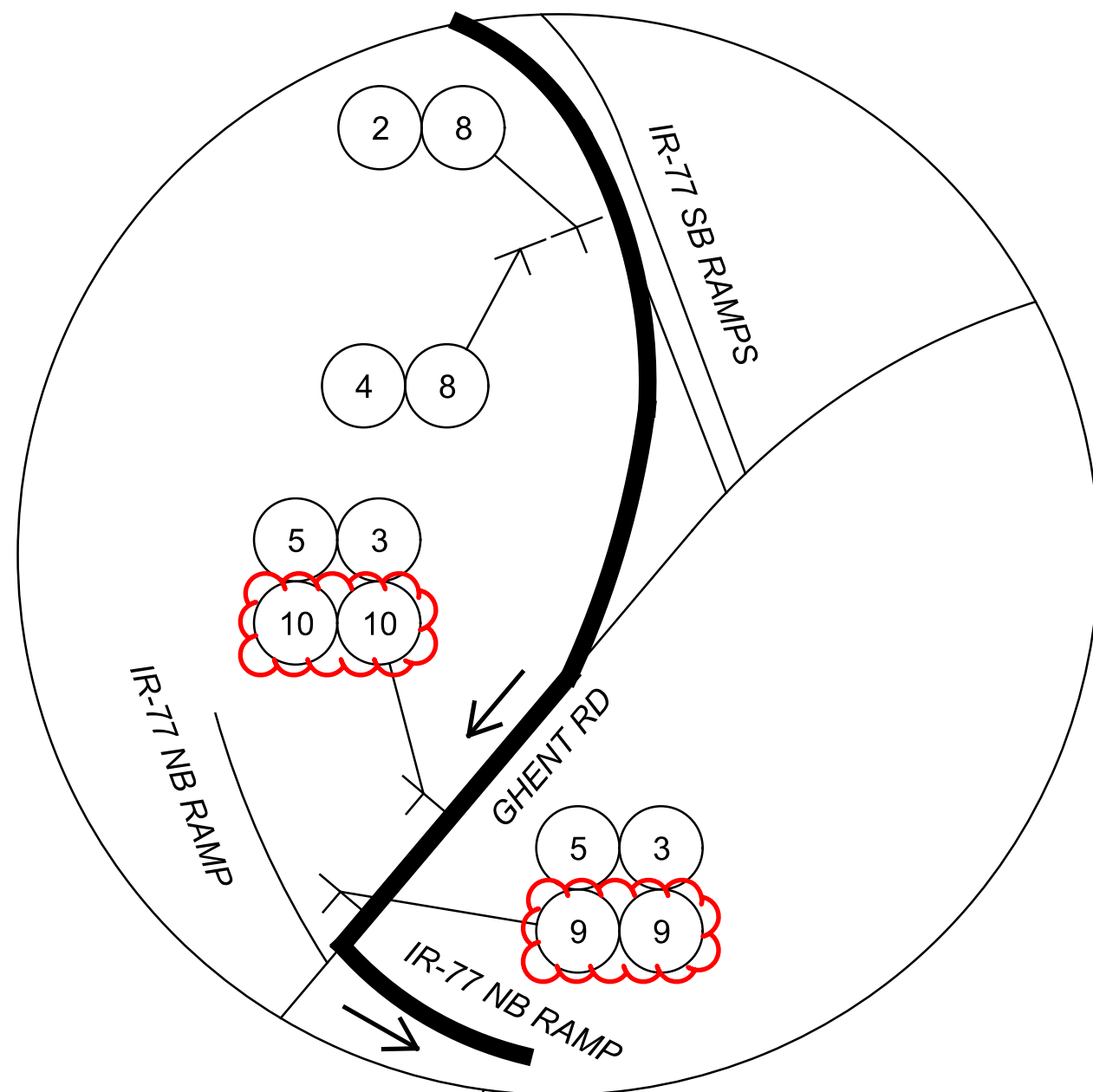
DESIGN AGENCY  
**GANNETT FLEMING**  
2500 Corporate Exchange Dr.  
Suite 230  
Columbus, OH 43231

DESIGNER  
ACW

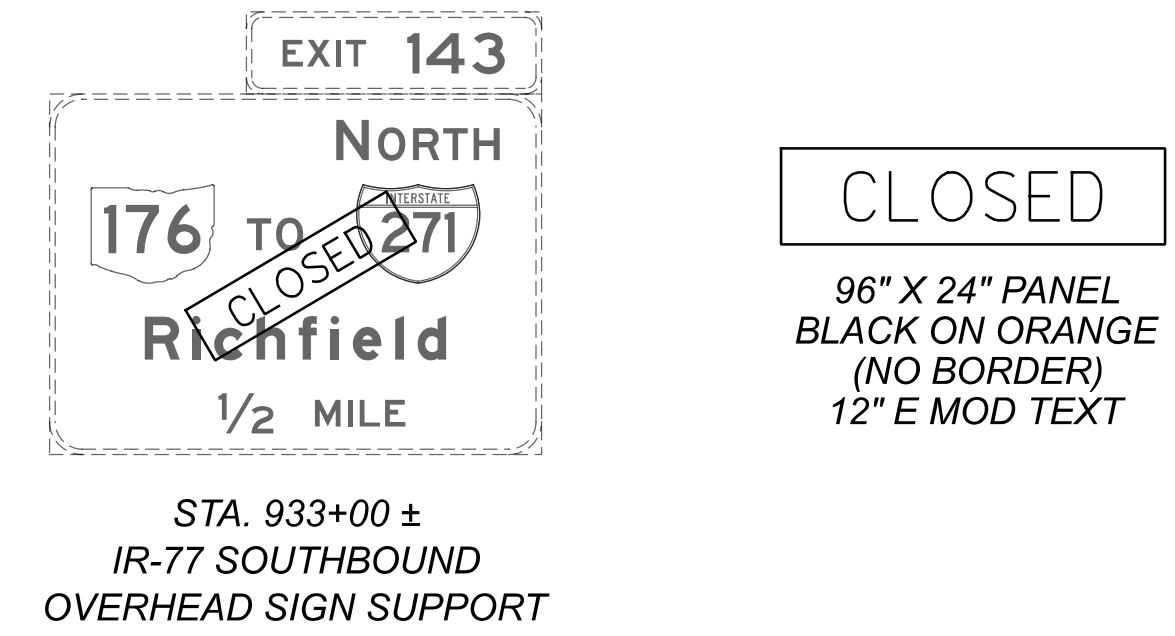
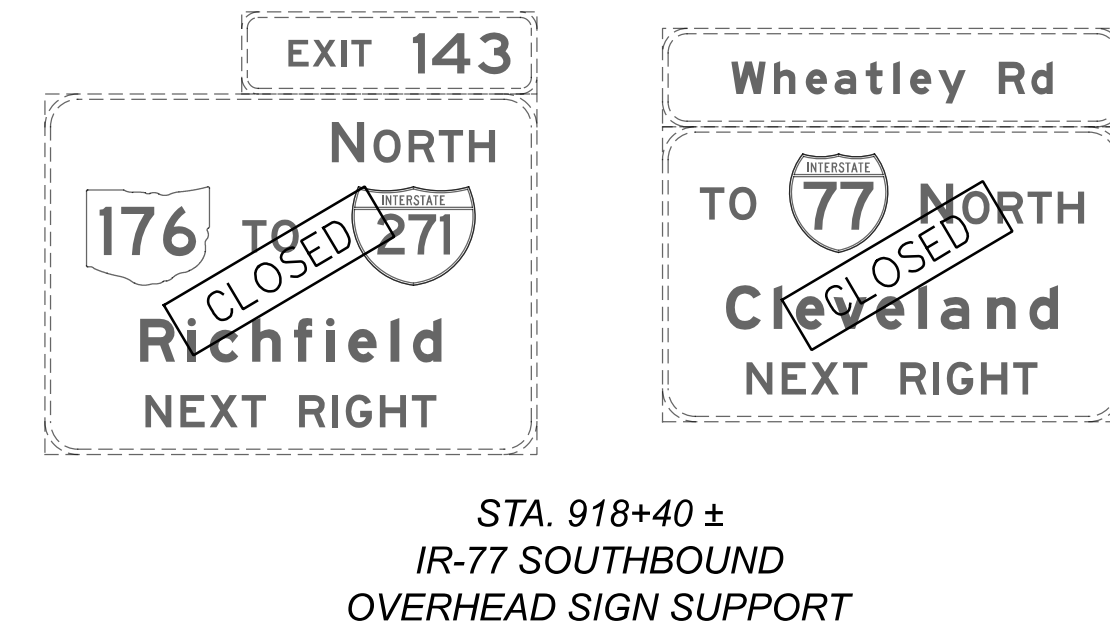
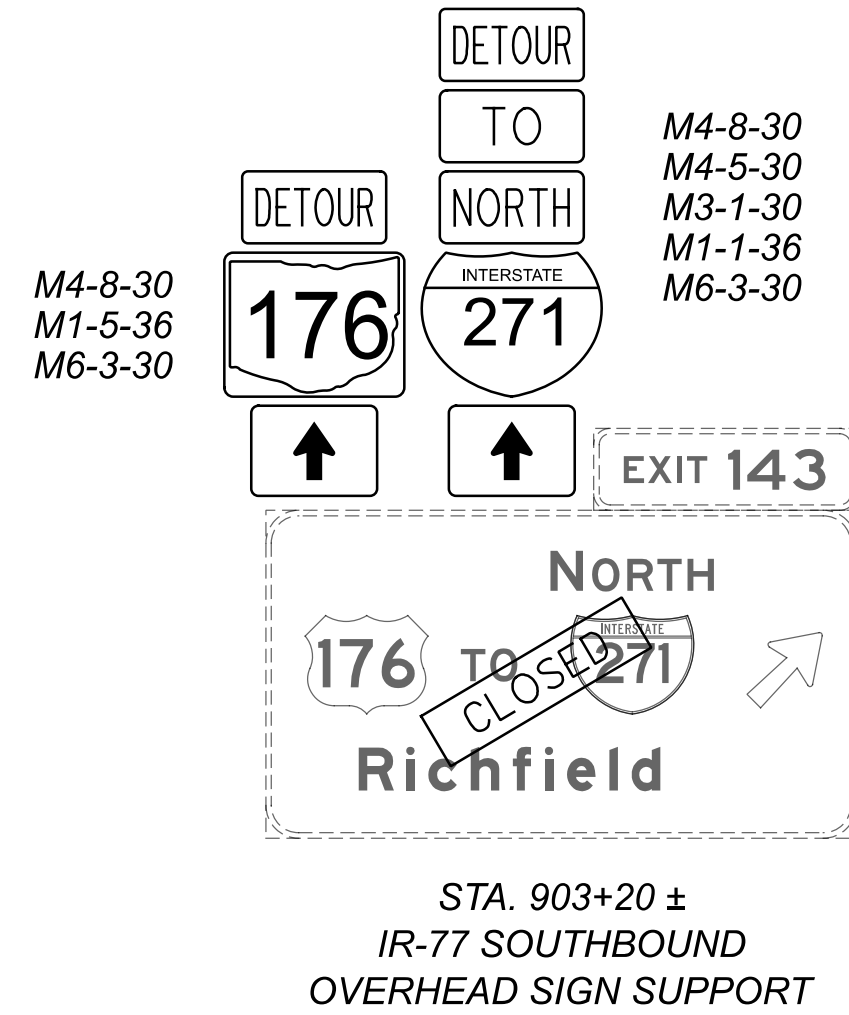
REVIEWER  
DRJ 08-26-22

PROJECT ID  
111405

SHEET TOTAL  
32 | 927



- NOTES:
1. IMPLEMENT THIS DETOUR PLAN WHEN THE RAMP FROM IR-77 SOUTHBOUND TO SR-176 (WHEATLEY ROAD) IS CLOSED. CLOSE RAMP USING MT-98.29 AND MT-101.60 (PHASE 5)
  2. PLACE "CLOSED" PLACARD DIAGONALLY ON OVERHEAD SIGN AS SHOWN.
  3. SIGN SPACING PER OMUTCD TABLE 6C-1 "RECOMMENDED ADVANCE WARNING SIGN MINIMUM SPACING".
  4. COVER CONFLICTING SIGNAGE.
  5. CO-LOCATE DETOUR SIGNS WITH EXISTING "EXIT 138 / GHENT RD" SIGNAGE







SHEET NUMBER	REF. NO.	LOCATION					ELEV. #1	ELEV. #2	ELEV. #3	ELEV. #4	ELEV. #5	ELEV. #6	ELEV. #7	ELEV. #8	ELEV. AT INTERMEDIATE BEND OR WYE	ELEV. AT FINAL OUTLET	601	605	605	605	611	611	611	620	REMARKS
		STATION		ROAD	SIDE	TIED CONCRETE BLOCK MAT, TYPE 1 WITH UNDERLAYMENT											6' SHALLOW PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	6" CONDUIT, BORED OR JACKED, 748.06	PRECAST REINFORCED CONCRETE OUTLET	DELINEATOR, POST GROUND MOUNTED, AS PER PLAN		
		FROM	TO			SY											FT	FT	FT	FT	FT	EACH	EACH		
202	UD-1	842+00	853+05	*	I-77	LT	1158.68							1157.15	1156.86	2		1105		29		1	1		
202	UD-2	842+00	853+05	*	I-77	LT		1158.25						1157.25	1156.86		1105			10					
202	UD-3	842+00	853+05	*	I-77	LT			1158.73				1155.68	1155.45				1105		23					
202	UD-4	842+00	853+05	*	I-77	RT				1158.73			1155.68	1155.45				1105		23					
202	UD-5	842+00	853+05	*	I-77	RT					1158.25		1158.25	1155.45		1105					41			MUST PIPE UNDER I-77 TO OUTLET	
202	UD-6	842+00	853+05	*	I-77	RT						1158.68	1157.68	1155.45				1105		10					
203	UD-7	853+15	860+95	*	I-77	LT	1153.15							1152.15	1148.76	2		780		54		1	1		
203	UD-8	853+15	860+95	*	I-77	LT		1152.72						1152.72	1148.76		780			10					
203	UD-9	853+15	860+95	*	I-77	LT			1153.20				1150.66	1150.43				780		23					
203	UD-10	853+15	860+95	*	I-77	RT				1153.20			1150.66	1150.43				780		23					
203	UD-11	853+15	860+95	*	I-77	RT					1152.72		1151.72	1150.43		780					41			MUST PIPE UNDER I-77 TO OUTLET	
203	UD-12	853+15	860+95	*	I-77	RT						1153.15	1152.15	1150.43				780		10					
204	UD-13	861+05	872+05	*	I-77	LT	1139.91							1138.91	1108.00	2		1100		99		1	1		
204	UD-14	861+05	872+05	*	I-77	LT		1139.39						1138.89	1108.00		1100			10					
204	UD-14A	867+00	872+05	*	I-77	LT						1140.39	1140.39	1108.00				505		11					
204	UD-15	861+05	872+05	*	I-77	LT			1140.23				1137.73	1137.50				1100		23					
204	UD-16	861+05	872+05	*	I-77	RT				1140.23			1137.73	1137.50				1100		23					
204	UD-17	861+05	872+05	*	I-77	RT					1139.75		1138.75	1137.50		1100					41			MUST PIPE UNDER I-77 TO OUTLET	
204	UD-18	861+05	872+05	*	I-77	RT						1140.18	1139.18	1137.50				1100		10					
205	UD-19	872+15	881+85	*	I-77	LT	1119.56							1118.56	1116.50			970		10					
205	UD-20	872+15	881+85	*	I-77	LT		1119.13						1118.13	1116.50		970				41			MUST PIPE UNDER I-77 TO OUTLET	
205	UD-21	872+15	881+85	*	I-77	LT			1119.61				1116.73	1116.50				970		23					
205	UD-22	872+15	881+85	*	I-77	RT				1119.61			1116.73	1116.50				970		23					
205	UD-23	872+15	881+85	*	I-77	RT					1119.13		1119.13	1113.00		970				10					
205	UD-24	872+15	881+85	*	I-77	RT						1119.56	1118.56	1113.00	2			970		53		1	1		
205	UD-25	881+95	886+35	*	I-77	LT	1111.28							1110.28	1109.00			440		10					
205	UD-26	881+95	886+35	*	I-77	LT		1110.85						1109.85	1109.00		440				41			MUST PIPE UNDER I-77 TO OUTLET	
205	UD-27	881+95	886+35	*	I-77	LT			1111.33				1109.24	1109.00				440		24					
205	UD-28	881+95	886+35	*	I-77	RT				1111.33			1109.24	1109.00				440		24					
205	UD-29	881+95	886+35	*	I-77	RT					1110.65		1109.65	1109.00		440					53			MUST PIPE UNDER I-77 TO OUTLET	
205	UD-30	881+95	886+35	*	I-77	RT						1111.17	1110.17	1109.00				440		9					
206	UD-31	886+45	894+10	*	I-77	LT	1105.10							1104.10	1101.80			765		10					
206	UD-32	886+45	894+10	*	I-77	LT		1104.67						1103.67	1101.80		765				41			MUST PIPE UNDER I-77 TO OUTLET	
206	UD-33	886+45	894+10	*	I-77	LT			1105.15				1102.03	1101.80				765		23					
206	UD-34	886+45	894+10	*	I-77	RT				1105.15			1102.03	1101.80				765		23					
206	UD-35	886+45	894+10	*	I-77	RT					1104.67		1104.67	1103.93		765				10					
206	UD-36	886+45	894+10	*	I-77	RT						1105.10	1104.60	1103.93	2			765		67		1	1		
206	UD-37	894+15	898+99	*	I-77	LT	1100.52							1094.94	1094.74			484		20					
206	UD-38	894+15	898+99	*	I-77	LT		1100.09						1095.04	1094.74		484			10					
206	UD-39	894+15	898+84	*	I-77	LT			1100.72				1096.53	1096.25				469		28					
206	UD-40	894+15	899+00	*	I-77	RT				1100.72			1096.48	1096.25				485		23					
206	UD-41	894+15	898+85	*	I-77	RT					1100.24		1100.24	1094.65		470				10				OUTLETS VIA UD-161	
206	UD-42	894+15	898+85	*	I-77	RT						1100.67	1099.67	1094.65				470		9				OUTLETS VIA UD-161	
207	UD-43	898+99	901+18	*	I-77	LT	1100.52							1094.93	1094.73			219		20					
207	UD-44	898+99	901+18	*	I-77	LT		1100.09						1095.03	1094.73			219		10					
SUB-TOTALS CARRIED TO UNDERDRAIN SUBSUMMARY SHEET 568																10	11493	23272		840	299	5	5		
* DENOTES OUTLET LOCATION																									

UNDERDRAIN SUBSUMMARY

DESIGN AGENCY  
**ARCADIS**  
 222 SOUTH MAIN STREET, SUITE 200  
 ARDEN, PA 15306  
 (717) 330-1344  
 www.arcadis.com

DESIGNER  
**MJB**

REVIEWER  
**PSB 6-8-22**

PROJECT ID  
**111405**

SHEET TOTAL  
 564 927




SUM-77-28.75

MODEL: DS503 PAPER: 17x11 (in.) DATE: 8/21/2023 TIME: 8:17:33 AM USER: MHebebrand p:\gnet-pw\benley.com\gnet-pw-01\Documents\Projects\6749011405\402-Engineering-ARCADIS\Drawings\Sheets\111405\_DS503.dgn

SHEET NUMBER	REF. NO.	LOCATION					ELEV. #1	ELEV. #2	ELEV. #3	ELEV. #4	ELEV. #5	ELEV. #6	ELEV. #7	ELEV. #8	ELEV. AT INTERMEDIATE BEND OR WYE	ELEV. AT FINAL OUTLET	601 TIED CONCRETE BLOCK MAT, TYPE 1 WITH UNDERLAYMENT	605 6" SHALLOW PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	605 6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	611 6" CONDUIT, BORED OR JACKED, 748:06	611 PRECAST REINFORCED CONCRETE OUTLET	620 DELINEATOR, POST GROUND MOUNTED, AS PER PLAN	REMARKS
		STATION		ROAD	SIDE																				
		FROM	TO																						
212	UD-86	970+05	978+00	*	I-77	LT	1010.62							1009.62	1009.35	2		795	795	27		1	1		
212	UD-87	970+05	978+00	*	I-77	LT		1010.19						1010.19	1009.35		795			10					
212	UD-88	970+05	977+85	*	I-77	LT			1010.92					1008.53	1008.30			780		23					
212	UD-89	970+05	977+80	*	I-77	RT				1011.01				1008.53	1008.30			775		23					
212	UD-90	970+05	977+80	*	I-77	RT					1010.53			1008.89	1008.50		775		10						
212	UD-91	970+05	977+80	*	I-77	RT						1010.96		1008.79	1008.50	2		775		29		1	1		
213	UD-92	978+05	988+90	*	I-77	LT	998.90							997.90	994.51			1085		10					
213	UD-93	978+05	988+90	*	I-77	LT		998.47						997.47	994.51		1085			41				MUST PIPE UNDER I-77 TO OUTLET	
213	UD-94	977+90	988+90	*	I-77	LT			998.95					994.75	994.51			1100		24					
213	UD-95	977+90	988+85	*	I-77	RT				998.98				994.67	994.51			1095		16					
213	UD-96	977+90	988+85	*	I-77	RT					998.50			993.95	993.50		1095		10						
213	UD-97	977+90	988+85	*	I-77	RT						998.93		993.85	993.50	2		1095		35		1	1		
214	UD-97A	988+95	991+30	*	I-77	LT	997.69							996.21	996.00	2		235		21		1	1		
214	UD-97B	988+95	991+30	*	I-77	LT		997.26						996.31	996.00		235			10					
214	UD-97C	989+64	991+30	*	I-77	LT			997.70					996.73	996.00			166			41			MUST PIPE UNDER I-77 TO OUTLET	
214	UD-97D	989+47	991+30	*	I-77	RT				997.74				996.83	996.00			183			41			MUST PIPE UNDER I-77 TO OUTLET	
214	UD-97E	988+95	991+30	*	I-77	RT					997.26			996.41	996.00		235			10					
214	UD-97F	988+95	991+30	*	I-77	RT						997.69		996.31	996.00	2		235		31		1	1		
214	UD-98	991+50	1002+10	*	I-77	LT	992.25							987.01	986.25			1060		10					
214	UD-99	991+50	1002+10	*	I-77	LT		991.82						986.91	986.25		1060				41			MUST PIPE UNDER I-77 TO OUTLET	
214	UD-100	991+50	1002+10	*	I-77	LT			992.30					986.50	986.25			1060		26					
214	UD-101	991+50	1002+05	*	I-77	RT				992.32				986.51	986.25			1055		26					
214	UD-102	991+50	1002+05	*	I-77	RT					991.84			991.37	969.50		1055		10						
214	UD-103	991+50	1002+05	*	I-77	RT						992.27		991.27	969.50	2		1055		57		1	1		
215	UD-104	1002+15	1005+60	*	I-77	LT	990.48							989.75	989.50	2		345		25		1	1		
215	UD-105	1002+15	1005+60	*	I-77	LT		990.05						990.05	989.50		345			10					
215	UD-106	1002+15	1005+00	*	I-77	LT			990.84					988.23	988.00			285		23					
215	UD-107	1002+15	1004+95	*	I-77	RT				990.86				988.23	988.00			280		23					
215	UD-108	1002+15	1004+95	*	I-77	RT					990.38			989.38	970.00		280			10					
215	UD-109	1002+15	1004+95	*	I-77	RT						990.81		989.81	970.00	2		280		56		1	1		
215	UD-110	1007+25	1007+58	*	I-77	RT					989.69			987.05	986.80			33		25					
215	UD-111	1007+50	1008+59	*	I-77	LT	989.27							984.25	984.00	2		109		25		1	1		
215	UD-112	1007+50	1008+59	*	I-77	LT		988.84						985.25	984.00		109			10					
215	UD-113	1007+37	1008+59	*	I-77	LT			989.32					985.66	984.00			122			41			MUST PIPE UNDER I-77 TO OUTLET	
215	UD-114	1007+70	* 1010+65	*	I-77	RT				989.69				989.15	972.50			295			41			MUST PIPE UNDER I-77 TO OUTLET	
215	UD-115	1007+70	* 1010+35	*	I-77	RT					989.21			988.74	972.50		265			10					
215	UD-116	1007+70	* 1010+33	*	I-77	RT						989.64		988.64	972.50	2		263		57		1	1		
216	UD-116A	1008+59	* 1011+14	*	I-77	LT	989.27							984.25	984.00			255							
216	UD-116B	1008+59	* 1011+14	*	I-77	LT		988.84						985.25	984.00		255								
216	UD-116C	1008+59	* 1010+98	*	I-77	LT			989.32					985.66	984.00			239							
216	UD-117	1013+42	* 1023+05	*	I-77	LT	994.14							992.71	992.58	2		963		13		1	1		
216	UD-118	1013+42	* 1023+05	*	I-77	LT		993.62						992.79	992.58		963			8					
216	UD-118A	1013+42	* 1023+05	*	I-77	LT						994.51		992.83	992.58			963		4					
216	UD-119	1013+13	* 1023+05	*	I-77	LT			993.59					990.99	990.80			992		19					
216	UD-120	1013+05	* 1023+05	*	I-77	RT				999.12				991.13	990.80			1000		33					
SUB-TOTALS CARRIED TO UNDERDRAIN SUBSUMMARY SHEET 568																22	8552	18973		769	246	11	11		

\* DENOTES OUTLET LOCATION

UNDERDRAIN SUBSUMMARY

DESIGN AGENCY  
  
 222 SOUTH MAIN STREET, SUITE 200  
 ARKON, PA 15016  
 (717) 331-1838  
 www.arcadis.com

DESIGNER  
 MJB

REVIEWER  
 PSB 6-8-22

PROJECT ID  
 111405

SHEET TOTAL  
 566 927





SHEET NUMBER	REF. NO.	LOCATION				ELEV. #1	ELEV. #2	ELEV. #3	ELEV. #4	ELEV. #5	ELEV. #6	ELEV. #7	ELEV. #8	ELEV. AT INTERMEDIATE BEND OR WYE	ELEV. AT FINAL OUTLET	601	605	605	605	611	611	611	620	REMARKS				
		STATION		ROAD	SIDE											TIED CONCRETE BLOCK MAT, TYPE 1 WITH UNDERLAYMENT	6' SHALLOW PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6' BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6' UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	6" CONDUIT, BORED OR JACKED, 748.06	PRECAST REINFORCED CONCRETE OUTLET	DELINEATOR, POST GROUND MOUNTED, AS PER PLAN					
		FROM	TO													SY	FT	FT	FT	FT	FT	EACH	EACH					
228	UD-162A	6915+00	6915+25 *	IR-271 RAMP D	LT	1078.53								1077.91	1077.00									UD PROFILE GRADE OF 8%; BEGIN ELEVATION = 1080.53				
228	UD-162	6915+25	6916+04 *	IR-271 RAMP D	LT	1078.53								1077.91	1077.00	2			79	35		1	1	UD PROFILE GRADE OF 0.2%; BEGIN ELEVATION = 1078.66				
228	UD-163	6915+00	6916+04 *	IR-271 RAMP D	RT					1078.99				1078.99	1077.00										OUTLETS VIA UD-164			
228	UD-164	6916+04	6916+44 *	IR-271 RAMP D	LT	1078.66								1078.66	1077.00				40						UD PROFILE GRADE OF 5%; BEGIN ELEVATION = 1080.66			
228	UD-165	6916+04	6919+82 *	IR-271 RAMP D	RT					1078.99				1078.99	1077.00				378						OUTLETS VIA UD-164			
228	UD-166	6920+34	6930+75 *	IR-271 RAMP D	RT					1083.38				1082.38	1079.74													
228	UD-167	6920+34	6930+75 *	IR-271 RAMP D	RT					1083.89				1079.91	1079.74													
227	UD-168	5908+80	5913+29 *	IR-271 RAMP C	RT					1085.67				1085.50	1085.00				449			7						
227	UD-169	5913+29	5914+18 *	IR-271 RAMP C	RT					1085.67				1085.50	1085.00				89			19						
227	UD-170	5908+80	5913+29 *	IR-271 RAMP C	RT									1085.31	1085.00													
227	UD-171	5913+29	5914+18 *	IR-271 RAMP C	RT									1085.31	1085.00				89			6						
227	UD-172	5906+15	5913+29 *	IR-271 RAMP C	LT	1086.14								1085.25	1085.00													
227	UD-172A	5913+29	5914+18 *	IR-271 RAMP C	LT	1086.14								1085.25	1085.00	2							25		1	1		
226	UD-173	7933+24	7941+10 *	IR-271 RAMP A	RT					1062.39				1061.99	1051.30				786							8		
226	UD-174	7933+24	7941+10 *	IR-271 RAMP A	RT									1061.91	1051.30	2										34		
226	UD-175	8936+71	8939+05 *	IR-271 RAMP B	RT					1062.31				1062.31	1060.40				234							8		
226	UD-176	8933+09	8939+05 *	IR-271 RAMP B	RT									1061.82	1060.40											15		
231	UD-177	9019+10	9020+50 *	SR-21 RAMP F	LT	1016.56								1015.56	1010.00											28		
231	UD-178	9019+12	9020+50 *	SR-21 RAMP F	RT									1015.19	1010.00	2										23		
231	UD-179	9020+60	9028+98 *	SR-21 RAMP F	LT	1020.84								1015.61	1015.50											11		
231	UD-180	9020+60	9028+98 *	SR-21 RAMP F	RT									1019.47	1005.00	2										46		
231	UD-181	9029+00	9035+88 *	SR-21 RAMP F	LT	1046.26								1041.10	1040.50	2										60		
231	UD-182	9029+00	9036+00 *	SR-21 RAMP F	RT									1043.36	1043.00	2										36		
SUB-TOTALS UNDERDRAIN SUBSUMMARY THIS SHEET															14	2599	6750	144	451							7	7	
SUB-TOTALS CARRIED FROM UNDERDRAIN SUBSUMMARY SHEET 564															10	11493	23272		840	299	5	5						
SUB-TOTALS CARRIED FROM UNDERDRAIN SUBSUMMARY SHEET 565															8	13778	23663	920	778	164	4	4						
SUB-TOTALS CARRIED FROM UNDERDRAIN SUBSUMMARY SHEET 566															22	8552	18973		769	246	11	11						
SUB-TOTALS CARRIED FROM UNDERDRAIN SUBSUMMARY SHEET 567															14	2092	13863	647	915	41	7	7						
TOTALS CARRIED TO DRAINAGE SUBSUMMARY															68	38514	86521	1711	3753	750	34	34						

\* DENOTES OUTLET LOCATION  
 ITALICS DENOTES THE ELEVATION IS NOT AT STANDARD DEPTH

UNDERDRAIN SUBSUMMARY

DESIGN AGENCY  
**ARCADIS**  
 222 SOUTH MAIN STREET, SUITE 200  
 ARROWHEAD, ARIZONA 85508  
 (303) 434-1955  
 www.arcadis.com

DESIGNER  
**MJB**

REVIEWER  
**PSB 6-8-22**

PROJECT ID  
**111405**

SHEET TOTAL  
**568 | 927**

PENTABLE: 111405\_OHDOT\_Pen.tbl

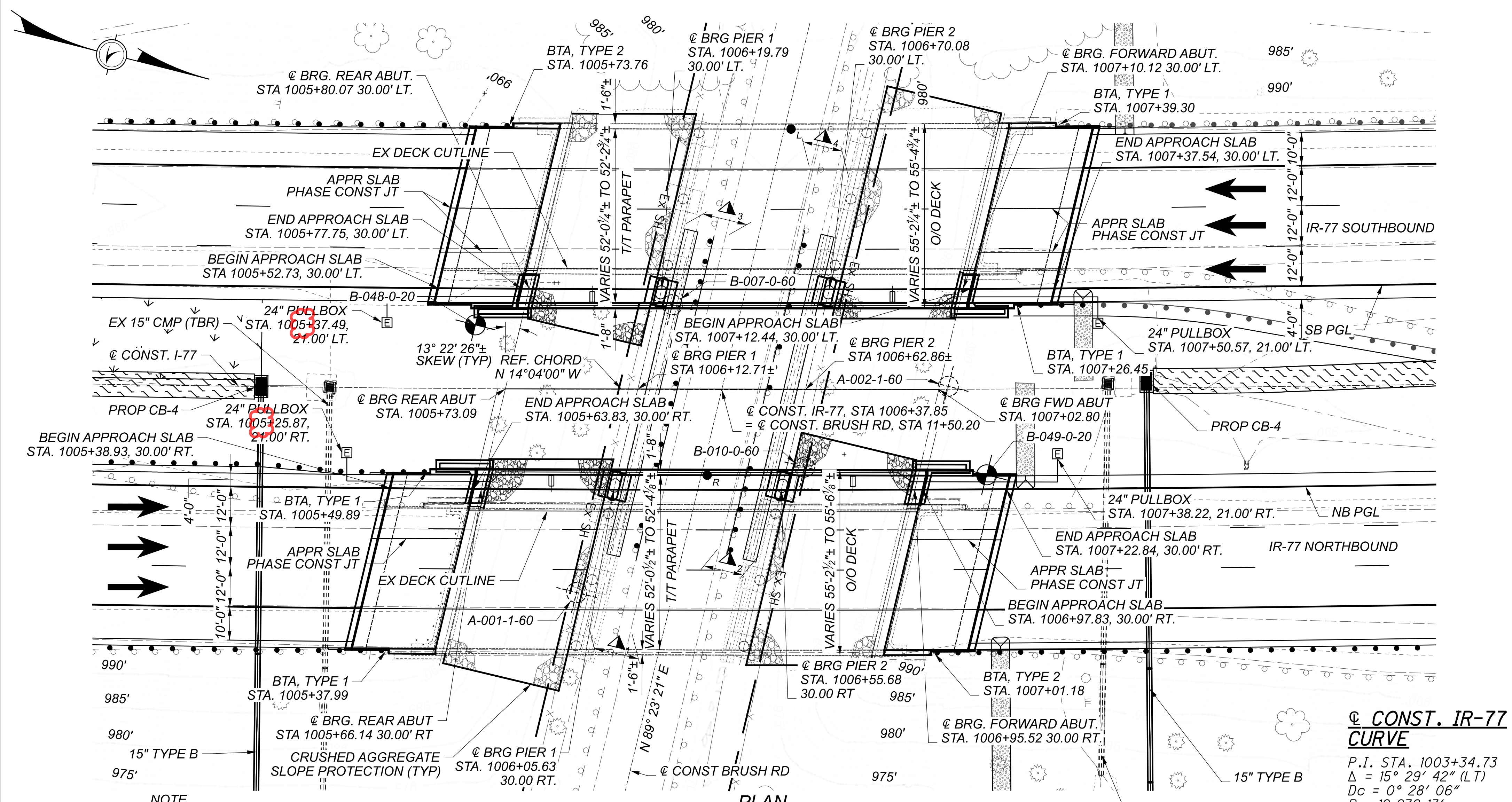
PLOT DRIVER: OHDOT\_PDF.plt

SUBMITTAL: Tracings

PENTABLE SUBSET: 2

SUM-77-28.75

MODEL: Sheet PAPER: SIZE: 34x22 (in.) DATE: 8/21/2023 TIME: 8:01:03 AM USER: edues  
pww:\gnet-pw\benley.com\gnet-pw-01\Documents\Projects\67490\11405401-Engineering-GP-Structures\3187L-SFN\_7704593\Sheets\002.sp001



BENCHMARK DATA			
BM #120 STA 1000+00.25,	OFFSET 85.45' RT	ELEV 995.78,	
BM #121 STA 1036+81.45,	OFFSET 83.94' RT	ELEV 1048.90,	

FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY SHEET 9/927

**NOTES**

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:  
2028 ADT = 63,670    2028 ADTT = 4,457  
2048 ADT = 74,190    2048 ADTT = 5,193  
DIRECTIONAL DISTRIBUTION = 51%

**HORIZONTAL AND VERTICAL CLEARANCES**

• 14.56' EXIST. ACTUAL	14.56' PROP. ACTUAL	14.50' REQ'D (SB)
• 17.22' EXIST. ACTUAL	16.83' PROP. ACTUAL	14.50' REQ'D (NB)
▲ 12.26' ACTUAL	9.50' REQ'D	8.00' CLEAR ZONE (RAILING PROTECTED) TYPICAL ALL LOCATIONS
▲ 13.01' ACTUAL	9.50' REQ'D	
▲ 12.30' ACTUAL	9.50' REQ'D	
▲ 12.48' ACTUAL	9.50' REQ'D	

- LEGEND**
- PROJECT BORING LOCATION
  - HISTORIC BORING LOCATION
  - EXISTING AGGREGATE SLOPE PROTECTION (TO REMAIN)
  - PROPOSED AGGREGATE SLOPE PROTECTION (INSTALLED WITH THIS PROJECT)
  - EROSION CONTROL FLUME PER SCD DM-4.1

EXISTING STRUCTURE	
TYPE:	CONTINUOUS COMPOSITE STEEL BEAMS WITH CONCRETE DECK AND SUBSTRUCTURES
SPANS:	39'-8"±, 50'-2"±, 39'-11"± C/C BRGS. ALONG REF. CHORD
ROADWAY:	42'-0" T/T BARRIERS (EACH STRUCTURES)
LOADING:	HS25 CASE I AND ALTERNATE MILITARY LOADING, (SUPERSTRUCTURE), HS20-44 AND ALTERNATE MILITARY LOADING (SUBSTRUCTURE), 60 PSF FWS
SKEW:	13°22'26" LF (TO REFERENCE CHORD)
WEARING SURFACE:	1" MONOLITHIC CONCRETE
APPROACH SLABS:	AS-1-81 (25' LONG, MODIFIED)
ALIGNMENT:	CURVE LT. Dc = 0°28'06"
CROWN:	0.016±
STRUCTURE FILE NUMBER:	7704593 (LEFT) / 7704623 (RIGHT)
DATE BUILT:	1964, REHABILITATED 2011
DISPOSITION:	TO BE REHABILITATED AND WIDENED

PROPOSED STRUCTURE	
TYPE:	WIDENED CONTINUOUS STEEL BEAMS WITH COMPOSITE CONCRETE DECK ON WIDENED PIERS AND WIDENED SEMI-INTEGRAL ABUTMENTS
SPANS:	39'-8"±, 50'-2"±, 39'-11"± C/C BRGS ALONG REFERENCE CHORD.
ROADWAY:	VARIES 52'-0 1/4"± TO 52'-2 3/4"± TOE/TOE PARAPET (LEFT) VARIES 52'-0 1/2"± TO 52'-4 1/8"± TOE/TOE PARAPET (RIGHT)
LOADING:	SEE GENERAL NOTES
SKEW:	13°22'26" LF (TO REFERENCE CHORD)
WEARING SURFACE:	1" MONOLITHIC CONCRETE
APPROACH SLABS:	25'-0" LONG (AS-1-15, AS-2-15, TYPE C INSTALLATION)
ALIGNMENT:	CURVE LT. Dc = 0°28'06"
CROWN:	0.016±
DECK AREA:	SB - 7,427 SF (LEFT) (INCL. 1624 SF NEW DECK AREA) NB - 7,442 SF (RIGHT) (INCL. 1679 SF NEW DECK AREA)
COORDINATES:	LATITUDE 41°15'10.73" LONGITUDE 81°37'49.06"

SITE PLAN  
 BRIDGE NO. SUM-77-3187 L & R  
 IR-77 OVER BRUSH RD.