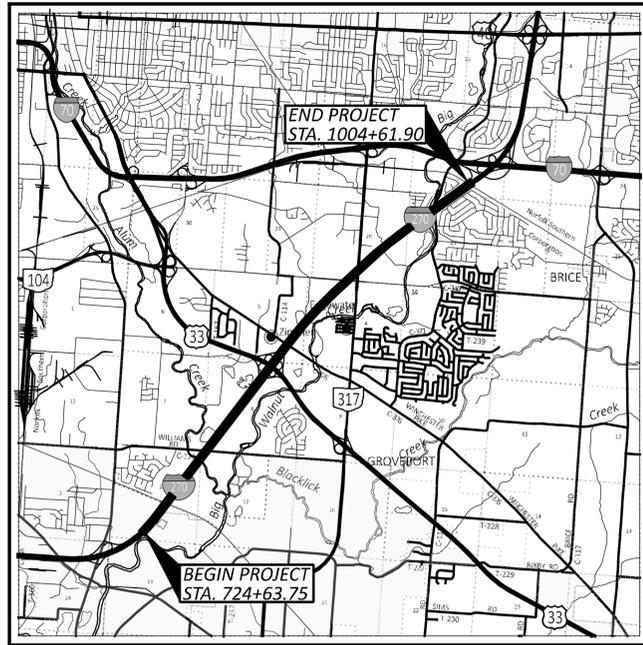


# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

## FRA-270-43.18

CITY OF COLUMBUS, VILLAGE OF OBETZ  
TRURO TOWNSHIP, MADISON TOWNSHIP  
FRANKLIN COUNTY



LOCATION MAP

LATITUDE: 39°54'29"N LONGITUDE: 82°53'34"



PORTION TO BE IMPROVED	=====
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	=====
STATE ROUTES	=====
COUNTY & TOWNSHIP ROADS	=====
OTHER ROADS	-----

### DESIGN DESIGNATION

CURRENT ADT (2023)	108000
DESIGN YEAR ADT (2035)	121000
DESIGN HOURLY VOLUME (2035)	14000
DIRECTIONAL DISTRIBUTION	68%
TRUCKS (24 HOUR B&C)	12960
DESIGN SPEED	65 MPH
LEGAL SPEED	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
01 INTERSTATE (URBAN)	
NHS PROJECT	YES

### DESIGN EXCEPTIONS

NONE REQUIRED

### ADA DESIGN WAIVERS

NONE REQUIRED

**UNDERGROUND UTILITIES**  
Contact Two Working Days  
Before You Dig

**OHIO811.org**  
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764  
(Non members must be called directly)

PLAN PREPARED BY:  
**E.L. ROBINSON**  
ENGINEERING

950 Goodale Blvd., Suite 180 • Grandview Heights, Ohio 43121  
www.elrobinsonengineering.com

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FRA-00270-48.020 L&R	P.591-P.617

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-2.5	1/21/22	MH-3	7/21/23	MT-95.30	7/19/19	TC-42.20	10/18/13	800-2023	1/19/24		
BP-3.1	1/21/22			MT-95.40	7/21/23	TC-52.20	1/15/21	808	1/18/19		
BP-3.2	1/18/19	RM-4.2	4/17/20	MT-95.70	7/21/23	TC-61.30	7/19/19	809	10/20/23		
BP-5.1	7/15/22			MT-95.72	7/21/23	TC-65.10	1/17/14	821	4/20/12		
BP-9.1	1/18/19	AS-1-15	1/20/23	MT-95.73	7/21/23	TC-65.11	7/15/22	829	1/20/17		
		AS-2-15	7/21/23	MT-98.20	4/19/19	TC-71.10	4/21/23	832	7/21/23		
CB-2-3, 2-4	1/20/23	BR-1-13	1/17/14	MT-99.20	4/19/19	TC-72.20	7/21/23	833	7/21/23		
		EXJ-4-87	7/21/23	MT-99.30	1/17/20			840	7/21/23		
DM-1.1	7/17/20	GSD-1-19	1/15/21	MT-100.00	10/20/23			844	4/20/18		
DM-4.1	7/17/20	PCB-91	7/17/20	MT-101.60	4/21/23			848	1/15/21		
		SBR-1-20	7/21/23	MT-101.70	4/21/23			850	7/21/23		
MGS-1.1	7/16/21	SICD-1-21	1/21/22	MT-101.75	7/21/23			863	7/21/23		
MGS-2.1	1/19/18	SICD-2-14	1/15/21	MT-101.80	7/17/20			875	1/18/19		
MGS-3.1	1/19/18	VPF-1-90	7/21/23	MT-101.90	7/17/20			896	7/21/17		
MGS-3.2	1/18/13			MT-102.10	7/21/23			899	1/20/23		
MGS-4.2	7/19/13	HL-50.21	7/15/22	MT-102.20	4/19/19			908	10/20/17		
MGS-4.3	1/18/13			MT-102.30	10/16/15			921	4/20/12		
MGS-5.2	7/15/16	ITS-14.50	7/21/23	MT-103.10	1/21/22			929	7/21/23		
MGS-5.3	7/15/16			MT-104.10	4/21/23			996	7/21/23		

### FEDERAL PROJECT NUMBER

E200816

### RAILROAD INVOLVEMENT

NORFOLK SOUTHERN AND IORY RR

### PROJECT DESCRIPTION

REHABILITATION OF 5.3 MILES OF I-270 IN FRANKLIN COUNTY INCLUDING PAVEMENT REPAIR AND RESURFACING AND BRIDGE REHABILITATION. PROJECT INCLUDES UPGRADES TO GUARDRAIL.

### EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	14.85 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	15.85 ACRES

### LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

### 2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEARBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS P.30-P.34, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

*Anthony C. Turowski*

Anthony C. Turowski, P.E.  
District 06 Deputy Director

*Jack Marchbanks*

Jack Marchbanks, PhD  
Director, Department of Transportation

<p>ENGINEER'S SEAL</p> <p>BRIDGE SHEETS 382A-382AB</p> <p>STATE OF OHIO</p> <p>MICHAEL R. VOGT</p> <p>E-75275</p> <p>REGISTERED PROFESSIONAL ENGINEER</p> <p>Digitally signed by Michael Vogt Date: 2024.04.15 15:58:30 -0400</p> <p>Michael Vogt</p>	<p>ENGINEER'S SEAL</p> <p>ROADWAY SHEETS 321-334, 342-343</p> <p>STATE OF OHIO</p> <p>MATTHEW PATRICK BAXENDALL</p> <p>E-77990</p> <p>REGISTERED PROFESSIONAL ENGINEER</p> <p>Digitally signed by Matthew Baxendall Date: 2024.04.15 15:58:30 -0400</p> <p>Matthew Baxendall</p>
<p>ENGINEER'S SEAL</p> <p>ROADWAY ALL OTHER SHEETS EXCEPT AS NOTED</p> <p>STATE OF OHIO</p> <p>ANGELA C. FEDAK</p> <p>E-77392</p> <p>REGISTERED PROFESSIONAL ENGINEER</p> <p>Digitally signed by Angela Fedak Date: 2024.04.15 16:09:42-0400</p> <p>Angela Fedak</p>	<p>ENGINEER'S SEAL</p> <p>BRIDGE SHEETS 345-382, 383-617</p> <p>STATE OF OHIO</p> <p>TIMOTHY ALAN SHELDON</p> <p>E-80180</p> <p>REGISTERED PROFESSIONAL ENGINEER</p> <p>Digitally signed by Timothy Alan Sheldon Date: 2024.04.15 16:09:42-0400</p> <p>Timothy Sheldon</p>
<p>ENGINEER'S SEAL</p> <p>ROADWAY SHEETS 5-6, 8-13, 16, 276-280, 282-284, 288-311</p> <p>STATE OF OHIO</p> <p>CHRISTOPHER LEE DEKLE</p> <p>E-82865</p> <p>REGISTERED PROFESSIONAL ENGINEER</p> <p>Digitally signed by Christopher L. Dekle Date: 2024.04.15 14:48:17-0400</p> <p>Christopher Dekle</p>	

TITLE SHEET

DESIGN AGENCY

**E.L. ROBINSON**  
ENGINEERING

1468 West 9th St., Suite 800  
Cleveland, Ohio 44115  
950 Goodale Blvd., Suite 180  
Grandview Heights, Ohio 43121

DESIGNER  
GKE

REVIEWER  
ACF 01/05/24

PROJECT ID  
112798

SHEET TOTAL  
P.1 617

FRA-270-43.18

MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 4/15/2024 TIME: 12:36:48 PM USER: afedak P:\CHDOT\CE\02\_Works\112798\400-Engineering\Roadway\Sheets\112798\_GTO01.dgn

**ITEM 614 - MAINTAINING TRAFFIC**

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS, AND THE FOLLOWING:

1. A MINIMUM OF THREE ELEVEN FOOT LANES OF TRAFFIC IN EACH DIRECTION ON IR 270 SHALL BE MAINTAINED BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC UNLESS PERMITTED BY NOTES OR SHOWN OTHERWISE IN THE PLANS.

2. NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR SPECIAL EVENTS:

NEW YEAR'S (OBSERVED)	GENERAL/REGULAR ELECTION DAY (NOV)
PRESIDENTIAL PRIMARY (MARCH)	SPECIAL ELECTIONS (MARCH/MAY/AUG/NOV)
TOTAL SOLAR ECLIPSE (4/8/24)	THANKSGIVING
PRIMARY ELECTION (MAY)	CHRISTMAS (OBSERVED)
MEMORIAL DAY	
FOURTH OF JULY (OBSERVED)	
LABOR DAY	

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR SPECIAL EVENT	TIMES ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00 NOON FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00 NOON FRIDAY THROUGH 6:00 AM TUESDAY
MONDAY (TOTAL SOLAR ECLIPSE)	12:00 NOON FRIDAY THROUGH 6:00 AM WEDNESDAY
TUESDAY	12:00 NOON MONDAY THROUGH 6:00 AM WEDNESDAY
TUESDAY (PRESIDENTIAL PRIMARY) (PRIMARY ELECTION) (GEN./REG. ELECTION) (SPECIAL ELECTIONS)	5:00 AM TUESDAY THROUGH 12:00 AM WEDNESDAY
WEDNESDAY	12:00 NOON TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00 NOON WEDNESDAY THROUGH 6:00 AM FRIDAY
THANKSGIVING	5:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00 NOON THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00 NOON FRIDAY THROUGH 6:00 AM MONDAY

DURING THE SAME PERIODS, MAINTAIN PEDESTRIAN ACCESS IF PEDESTRIAN ACCESS WAS PRESENT PRIOR TO CONSTRUCTION.

NEWLY CONSTRUCTED LANE ADDITIONS, ONCE COMPLETED AND INITIALLY OPENED TO TRAFFIC, SHALL BE OPEN TO TRAFFIC DURING ALL SUBSEQUENT DESIGNATED HOLIDAYS AND SPECIAL EVENTS, AND RELATED PERIODS OF TIME, SPECIFIED ABOVE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE PER THE LANE VALUE CONTRACT (PN 127).

3. ALL EXISTING LANES, INCLUDING RAMPS, SHALL BE OPENED AND AVAILABLE TO TRAFFIC IN THE ORIGINAL OR PROPOSED FINAL ALIGNMENT BETWEEN OCTOBER 15 AND APRIL 1. SHOULD THE CONTRACTOR FAIL TO MEET THESE REQUIREMENTS, A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$3,000 PER CALENDAR DAY.

4. NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

NOTIFICATION TIME FRAME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAY TO PUBLIC
RAMP & ROAD CLOSURES	>=2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	>12 HOURS & <2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<=12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

5. LENGTH AND DURATION OF LANE CLOSURE AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

6. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

**COORDINATION BETWEEN CONTRACTORS**

THE CONTRACTOR SHALL COORDINATE WORK WITH ODOT AND THE CONTRACTORS ON THE ADJACENT PROJECTS. COORDINATION SHALL BE MADE TO PREVENT CONFLICTING ADVANCE WARNING SIGNS. CONFLICTING DETOUR ROUTES, OVERLAPPING/CONFLICTING LANE CLOSURES, AND TO ENSURE THAT A MINIMUM DISTANCE OF 2 MILES BETWEEN ADJACENT LANE CLOSURES IS MAINTAINED. THIS IS NOT AN EXHAUSTED LIST OF COORDINATION ITEMS THAT MAY NEED TO BE RESOLVED BETWEEN PROJECTS. THE DEPARTMENT RESERVES THE RIGHT TO DECIDE WHICH PROJECT'S ACTIVITIES TAKE PRECEDENCE. PROJECTS THAT HAVE ACTIVITIES DELAYED DUE TO CONFLICTS WILL CONSIDER THIS AN EXCUSABLE, NON-COMPENSABLE DELAY PER 108.06.B. ON PROJECTS THAT HAVE ACTIVITIES DELAYED DUE TO CONFLICTS WHERE THE CONTRACTOR FAILED TO MEET THE NOTIFICATION REQUIREMENTS, THE DELAYS SHALL NOT BE CONSIDERED EXCUSABLE OR COMPENSABLE.

ATTENDANCE AT DEPARTMENT ORDERED TRAFFIC COORDINATION MEETINGS BETWEEN ADJACENT PROJECTS SHALL BE CONSIDERED MANDATORY FOR EACH PROJECT'S SUPERINTENDENT AND WORKSITE TRAFFIC SUPERVISOR (WTS)\*, AND INCIDENTAL TO THE LUMP SUM MAINTENANCE OF TRAFFIC PAYMENT ITEM.

THE FOLLOWING PROJECTS MAY HAVE CONFLICTS:

FRA-70-22.61 - 95639

FRA-70-22.85 - 98232

FRA-33-21.71 - 113744

**LANE VALUE CONTRACT TABLE**

THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE AS DESIGNATED IN THE LANE VALUE CONTRACT TABLE FOR EACH UNIT OF TIME A LANE/SHOULDER/RAMP IS CLOSED BY THE CONTRACTOR'S ACTION WHILE NOT OTHERWISE PERMITTED BY THE LANE VALUE CONTRACT TABLE.

**WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)**

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

THE R11-H5A-48 SIGNS SHALL BE MOUNTED ON 2 NO. 3 POSTS WHEN LOCATED WITHIN CLEAR ZONES.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF C&MS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 110 EACH

WORK ZONE INCREASED PENALTIES SIGNS WILL BE PLACED AT THE LOCATIONS SHOWN IN THE PLANS.

DESIGN AGENCY



E.L. ROBINSON ENGINEERING  
1466 West 9th St, Suite 800  
Cleveland, Ohio  
950 Goodale Blvd, Suite 160  
Grandview Heights, Ohio

DESIGNER

GKE

REVIEWER

MJC 01/05/24

PROJECT ID

112798

SHEET TOTAL

P.17 | 617

RAMP CLOSURE RESTRICTIONS					
INTERSTATE 270 IN FRANKLIN COUNTY					
SECONDARY ROUTE: US ROUTE 33		SLM ALONG 270: 43.13		(EAST SIDE)	
RAMP DESIGNATION	MOVEMENT	NO CLOSURES ALLOWED		DETOUR ROUTES	
		MON-FRI	SAT-SUN	PRIMARY DETOUR ROUTE	SECONDARY DETOUR ROUTE
A	I-270 NB TO US-33 EB	5AM-9PM	8AM-8PM	I-270 NB TO US-3 WB (RAMP G) TO I-270 SB (RAMP G) TO US 33 EB (RAMP E)	I-270 NB TO US-33 WB (RAMP G) TO OH-104 TO US-33 EB
B	US-33 WB TO I-270 NB	5AM-9PM	8AM-8PM	US-33 W TO 270 S (RAMP H) TO US-33 E (RAMP E) TO 270 N (RAMP F)	US-33 TO OH-104 TO US-33 E TO 270 N (RAMP F)
C	I-270 SB TO US-33 WB	5AM-9AM & 3PM-7PM	NO RESTRICTION	270 S TO U S-33 E (RAMP E) TO 270 N (RAMP F) TO US-33 W (RAMP G)	270 S TO ALUM CREEK DR. TO 270 N TO US 33 W (RAMP G)
D	US-33 EB TO I-270 SB	5AM-9AM & 3PM-7PM	NO RESTRICTION	US-33 E TO 270 N (RAMP F) TO US-33 W (RAMP G) TO 270 S (RAMP H)	US-33 TO OH-317 TO US-33 W TO 270 S (RAMP H)
E	I-270 SB TO US-33 EB	5AM-10PM	8AM-8PM	270 S TO ALUM CREEK DR. TO 270 N TO US-33 E (RAMP A)	270 S TO US-33 W (RAMP C) TO OH-104 TO US-33 E
F	US-33 EB TO I-270 NB	5AM-9AM & 3PM-7PM	NO RESTRICTION	US-33 E TO OH-317 TO US-33 W TO 270 N (RAMP B)	US-33 E TO 270 S (RAMP D) TO ALUM CREEK DR. TO 270 N
G	I-270 NB TO US-33 WB	5AM-9AM & 3PM-7PM	NO RESTRICTION	270 N TO 70 W TO 270 S TO US-33 W (RAMP C)	270 N TO US-33 E (RAMP A) TO OH-317 TO US-3 W
H	US-33 WB TO I-270 SB	5AM-7PM	8AM-7PM	US-33 WB TO OH-104 TO US-33 TO 270 SB	US-33 W TO I-270 NB TO I-70 WB (RAMP G) TO I-270 SB (RAMP H)

\* WITH APPROVAL FROM LOCAL ROAD AGENCY

RAMP CLOSURE RESTRICTIONS					
INTERSTATE 270 IN FRANKLIN COUNTY					
SECONDARY ROUTE: ALUM CREEK DR		SLM ALONG 270:		(EAST SIDE)	
RAMP DESIGNATION	MOVEMENT	NO CLOSURES ALLOWED		DETOUR ROUTES	
		MON-FRI	SAT-SUN	PRIMARY DETOUR ROUTE	SECONDARY DETOUR ROUTE
T	ALUM CREEK DR. SB TO I-270 WB	5AM-8PM	8AM-7PM	ALUM CREEK DR. TO 270 N (RAMP V) TO US-33 W TO 270 S	NONE
V	ALUM CREEK DR. TO I-270 EB	5AM-8PM	8AM-7PM	ALUM CREEK DR. TO 270 W TO US-23 TO 270 E	NONE
W	I-270 EB TO ALUM CREEK DR.	5AM-8PM	8AM-7PM	270 E/N TO US-33 W TO 270 S TO ALUM CREEK DR. (RAMP X)	NONE
X	I-270 WB TO ALUM CREEK DR.	5AM-7PM	8AM-7PM	270 W TO US-23 TO 270 E TO ALUM CREEK DR. (RAMP W)	NONE
Y	ALUM CREEK DR. NB TO I-270 WB	5AM-8PM	8AM-7PM	ALUM CREEK DR. TO 170 N (RAMP V) TO US-33 W TO 270 S	NONE

\* WITH APPROVAL FROM LOCAL ROAD AGENCY

WORK ZONE SPEED ZONES (WZSZS)

THE FOLLOWING WORK ZONE SPEED ZONE (WZSZ) SPEED LIMIT REVISION(S) HAVE BEEN APPROVED FOR USE ON THIS PROJECT WHEN WORK ZONE CONDITIONS AND FACTORS ARE MET AS DESCRIBED BELOW:

WZ-35794:

FROM	TO	DIRECTION			
		NB	SB	EB	WB
FRA-270-43.18	FRA-270-48.47	X			
FRA-270-42.42	FRA-270-48.47		X		

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRE-CONSTRUCTION) POSTED SPEED LIMIT OF 55 MPH OR GREATER, A QUALIFYING WORK ZONE CONDITION OF AT LEAST 0.5 MILE IN LENGTH, AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS, AND A WORK ZONE CONDITION IN PLACE THAT REDUCES THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS (I.E., LANE CLOSURE, LANE SHIFT, CROSSOVER, CONTRAFLOW AND/OR SHOULDER CLOSURE). THE LENGTH OF THE WORK ZONE CONDITION IS MEASURED FROM THE BEGINNING OF THE TAPER FOR THE SUBJECT WORK ZONE CONDITION IMPACTING THE TRAVEL LANES AND/OR SHOULDER TO THE END OF THE DOWNSTREAM TAPER, WHERE DRIVERS ARE RETURNED TO TYPICAL ALIGNMENT. AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS IS REQUIRED TO BALANCE THE ADDITIONAL EXPOSURE CREATED BY INSTALLING AND REMOVING WZSZ SIGNING WITH THE TIME NEEDED TO COMPLETE THE WORK.

IF THE WORK ZONE MEETS THESE MINIMUM CRITERIA, IT SHALL BE ANALYZED FURTHER USING TABLE 1 TO THE RIGHT TO DETERMINE IF AND WHEN IT QUALIFIES FOR A SPEED LIMIT REDUCTION. DEPENDING ON THE ORIGINAL POSTED SPEED LIMIT, THE TYPE OF TEMPORARY TRAFFIC CONTROL USED, AND WHETHER OR NOT WORKERS ARE PRESENT, A WARRANTED WZSZ WILL VARY IN THE APPROVED SPEED LIMIT TO BE POSTED OVER TIME.

C&MS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED LIMIT REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION. EACH DIRECTION SHALL BE ANALYZED INDEPENDENTLY FROM EACH OTHER.

ALL WZSZS FLUCTUATE BETWEEN TWO APPROVED REDUCED SPEED LIMITS OR BETWEEN AN APPROVED REDUCED SPEED LIMIT AND THE ORIGINAL POSTED SPEED LIMIT. ONLY ONE OF TWO SIGNING STRATEGIES SHALL BE USED TO IMPLEMENT A WZSZ.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THIS NOTE, APPROVED LIST, SUPPLEMENTAL SPECIFICATIONS (SS) 808 AND 908, AND TRAFFIC SCD MT-104.10.

ONLY ONE WARRANTED SPEED LIMIT APPLIES AT ANY ONE TIME; SPEED LIMIT REDUCTIONS ARE NOT CUMULATIVE. WZSZS SHALL NOT BE USED FOR MOVING/MOBILE ACTIVITIES, AS DEFINED IN OMUTCD PART 6.

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRECONSTRUCTION, POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT WORK ZONE SPEED LIMIT AS A LOOK UP VALUE IN THE TABLE. POSITIVE PROTECTION IS GENERALLY REGARDED AS PORTABLE BARRIER OR OTHER RIGID BARRIER IN USE ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WITHOUT POSITIVE PROTECTION IS GENERALLY REGARDED AS USING DRUMS, CONES, SHADOW VEHICLE, ETC., ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WORKERS ARE CONSIDERED AS BEING PRESENT WHEN ON-SITE, WORKING WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WHEN THE WORK ZONE CONDITION REDUCING THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS IS REMOVED, THE SPEED LIMIT DISPLAYED SHALL RETURN TO THE ORIGINAL POSTED SPEED LIMIT.

TABLE 1: WARRANTED WORK ZONE SPEED LIMITS (MPH) FOR WORK ZONES ON HIGH-SPEED (55 MPH OR GREATER) MULTI-LANE HIGHWAYS

ORIGINAL POSTED SPEED LIMIT	WITH POSITIVE PROTECTION		WITHOUT POSITIVE PROTECTION	
	WORKERS PRESENT	WORKERS NOT PRESENT	WORKERS PRESENT	WORKERS NOT PRESENT
70	60	65	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

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

- ITEM 808, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY 54 SIGN MNTH
- ASSUMING 6 DSL SIGN ASSEMBLIES FOR 1 MONTH FOR PRE-PHASE WORK
- ASSUMING 4 DSL SIGN ASSEMBLIES FOR 1 MONTH FOR WORK ZONE 0 WORK
- ASSUMING 2 DSL SIGN ASSEMBLIES FOR 1 MONTH FOR WORK ZONE 1 WORK
- ASSUMING 3 DSL SIGN ASSEMBLIES FOR 4 MONTHS FOR WORK ZONE 2 WORK
- ASSUMING 4 DSL SIGN ASSEMBLIES FOR 4 MONTH FOR WORK ZONE 3 WORK
- ASSUMING 1 DSL SIGN ASSEMBLIES FOR 1 MONTH FOR WORK ZONE 4 WORK
- ASSUMING 1 DSL SIGN ASSEMBLIES FOR 1 MONTH FOR WORK ZONE 5 WORK
- ASSUMING 12 DSL SIGN ASSEMBLIES FOR 1 MONTH FOR FINAL RESURFACING WORK

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**PROPOSAL NOTE 140 - WORK ZONE 0**

	DESCRIPTION OF CRITICAL WORK	HOURS TO COMPLETE	DISINCENTIVE \$ PER HOUR
WEEKEND 1	I-270 MAINLINE SINGLE LANE CLOSURE (2:1), BETWEEN THE HOURS OF 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH WEEKEND 1.	57 HOURS	\$2,000
WEEKEND 2	I-270 MAINLINE FULL CLOSURE AND I-270 COLLECTOR DISTRIBUTOR SINGLE LANE CLOSURE (2:1) AND RAMP C, BETWEEN THE HOURS OF 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH WEEKEND 2.	57 HOURS	\$4,500
WEEKEND 3	I-270 COLLECTOR DISTRIBUTOR SINGLE LANE CLOSURE (2:1) AND COMPLETE CLOSURE OF RAMP C BETWEEN THE HOURS OF 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH WEEKEND 3.	57 HOURS	\$2,500
WEEKEND 4	I-270 MAINLINE SINGLE LANE CLOSURE (2:1) AND I-270 COLLECTOR DISTRIBUTOR SINGLE LANE CLOSURE (2:1) AND COMPLETE CLOSURE OF RAMP C BETWEEN THE HOURS OF 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH WEEKEND 4.	57 HOURS	\$2,500

**PROPOSAL NOTE 140 - WORK ZONE 4**

	DESCRIPTION OF CRITICAL WORK	HOURS TO COMPLETE	DISINCENTIVE \$ PER HOUR
WEEKEND 1	I-270 MAINLINE SINGLE LANE CLOSURE (2:1) 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH PHASE 1A	57 HOURS	\$2,000
WEEKEND 2	I-270 MAINLINE SINGLE LANE CLOSURE (2:1) 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH PHASE 2A	57 HOURS	\$2,000
WEEKEND 3	I-270 COLLECTOR DISTRIBUTOR SINGLE LANE CLOSURE (2:1) AND COMPLETE CLOSURE OF RAMP C BETWEEN THE HOURS OF 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH PHASE 3A	57 HOURS	\$2,500
WEEKEND 4	I-270 COLLECTOR DISTRIBUTOR SINGLE LANE CLOSURE (2:1) AND COMPLETE CLOSURE OF RAMP C BETWEEN THE HOURS OF 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH PHASE 4A	57 HOURS	\$2,500

**PROPOSAL NOTE 129 - WORK ZONE 2**

DESCRIPTION OF CRITICAL WORK	CALENDAR DAYS TO COMPLETE (DAYS SHALL BE CONSECUTIVE)	DISINCENTIVE \$ PER DAY	WORK WINDOW	
			START	END
ALL WORK ASSOCIATED WITH WORK ZONE 2 - PHASE 1	30	\$27,000	CONTRACT EXECUTION DATE	PRIOR TO STARTING WORK ZONE 2 PHASE 2
ALL WORK ASSOCIATED WITH WORK ZONE 2 - PHASE 2	30	\$20,000	COMPLETION OF WORK ZONE 2 PHASE 1	PRIOR TO STARTING WORK ZONE 2 PHASE 3
ALL WORK ASSOCIATED WITH WORK ZONE 2 - PHASE 3	30	\$15,000	COMPLETION OF WORK ZONE 2 PHASE 2	PRIOR TO STARTING WORK ZONE 2 PHASE 4
ALL WORK ASSOCIATED WITH WORK ZONE 2 - PHASE 4	30	\$15,000	COMPLETION OF WORK ZONE 2 PHASE 3	PRIOR TO STARTING WORK ZONE 2 PHASE 5
ALL WORK ASSOCIATED WITH WORK ZONE 2 - PHASE 5	30	\$10,000	COMPLETION OF WORK ZONE 2 PHASE 4	PROJECT COMPLETION DATE

**PROPOSAL NOTE 140 - WORK ZONE 5**

	DESCRIPTION OF CRITICAL WORK	HOURS TO COMPLETE	DISINCENTIVE \$ PER HOUR
WEEKEND 1	I-270 MAINLINE SINGLE LANE CLOSURE (3:2), BETWEEN THE HOURS OF 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH WEEKEND 1.	57 HOURS	\$2,000
WEEKEND 2	I-270 MAINLINE SINGLE LANE CLOSURE (3:2), BETWEEN THE HOURS OF 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH WEEKEND 2.	57 HOURS	\$2,000
WEEKEND 3	I-270 MAINLINE SINGLE LANE CLOSURE (3:2), BETWEEN THE HOURS OF 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH WEEKEND 3.	57 HOURS	\$2,000
WEEKEND 4	I-270 MAINLINE DOUBLE LANE CLOSURE (3:1), BETWEEN THE HOURS OF 9 PM FRIDAY THROUGH 6 AM MONDAY TO PERFORM ALL WORK ASSOCIATED WITH WEEKEND 4.	57 HOURS	\$4,500

**PROPOSAL NOTE 129 - WORK ZONE 3**

DESCRIPTION OF CRITICAL WORK	CALENDAR DAYS TO COMPLETE (DAYS SHALL BE CONSECUTIVE)	DISINCENTIVE \$ PER DAY	WORK WINDOW	
			START	END
ALL WORK ASSOCIATED WITH WORK ZONE 3 - PHASE 1	30	\$15,000	CONTRACT EXECUTION DATE	PRIOR TO STARTING WORK ZONE 3 PHASE 2
ALL WORK ASSOCIATED WITH WORK ZONE 3 - PHASE 3	30	\$15,000	COMPLETION OF WORK ZONE 3 PHASE 2	PRIOR TO STARTING WORK ZONE 3 PHASE 4

MAINTENANCE OF TRAFFIC GENERAL NOTES

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**ITEM 614, REPLACEMENT SIGN**

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 13 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

**ITEM 614, REPLACEMENT DRUM**

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 125 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

**MAINTENANCE OF TRAFFIC CONTROL SIGNS**

THE CONTRACTOR SHALL MAINTAIN EXISTING SIGNS BY USE OF EXISTING OR TEMPORARY SUPPORTS UNTIL THE PROPOSED SIGNS ARE ERRECTED PER CMS 614.07. ALL COST ASSOCIATED WITH THE MAINTENANCE OF SIGNS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS WILL BE AS DIRECTED BY THE ENGINEER.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 48 SIGN MONTHS ASSUMING 8 PCMS FOR 6 MONTHS

**ITEM 614, WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN**

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614 OR C&MS 621 AS SPECIFIED HEREIN.

RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621.

RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 THROUGH APRIL 1.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO C&MS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER C&MS 621.08.

THE FOLLOWING BID ITEMS SHOULD BE INCLUDED IN THE PLANS:

ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN 5,065 EACH

**DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL**

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL; AND, ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET WITH A 25 FOOT OFFSET FROM THE BARRIER REFLECTORS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 2, ONE-WAY 368 EACH

ITEM 614, OBJECT MARKER, ONE-WAY 368 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEM(S).

**NOTIFICATION OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME FRAME TABLE		
ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO DISTRICT 6 COMMUNICATIONS OFFICE
RAMP & ROAD CLOSURES	>=2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	>12 HOURS & <2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<=12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>=2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

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**DELINEATION OF PORTABLE AND PERMANENT BARRIER**

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, INCREASED BARRIER DELINEATION 104,366 FEET

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

**PRE-MAINTENANCE OF TRAFFIC MEETING**

A PRE-MAINTENANCE OF TRAFFIC MEETING SHALL BE HELD (MINIMUM 14 WORK DAYS) PRIOR TO WORK BEGINNING OR ANY CHANGE OF PHASING. THIS MEETING SHALL INCLUDE THE DISTRICT WORK ZONE TRAFFIC MANAGER (D06.MOT@DOT.OHIO.GOV) AS WELL AS THE CONTRACTOR AND ANY OF HIS SUB-CONTRACTORS INVOLVED WITH TEMPORARY TRAFFIC CONTROL. FOR COLUMBUS SECTIONS OF ROADWAY, ALSO INCLUDE THE TEMPORARY CONTROL COORDINATOR (614-645-6269 OR 614-645-5845) FROM THE CITY OF COLUMBUS TRANSPORTATION DIVISION.

**SHORT DURATION RAMP CLOSURES**

FOR THE PURPOSE OF PERFORMING THE REQUIRED WORK OR WHEN REQUIRED BY THE INTERSTATE ENTRANCE RAMP CLOSURE NOTE, RAMPS MAY BE CLOSED FOR SHORT DURATIONS AND DETOURED IN ACCORDANCE WITH THE RAMP CLOSURE TABLE IF APPROVED BY THE ENGINEER. RAMP CLOSURES ARE SUBJECT TO DISINCENTIVES.

FOR ALL SERVICE RAMP CLOSURES LASTING MORE THAN 12 HOURS BUT LESS THAN 60 HOURS AND/OR, FOR ALL SYSTEM RAMP CLOSURES LASTING MORE THAN 12 HOURS BUT LESS THAN 24 HOURS

THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:

A MINIMUM OF TWO PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) PLACED, AS DIRECTED BY THE ENGINEER, TO WARN DRIVERS OF THE CLOSURE AND TO PROVIDE THE DESIGNATED DETOUR ROUTE.

POSITIVE GUIDANCE ALONG THE DETOUR ROUTE WITH DETOUR SIGNS (M4-9 SERIES) IN ACCORDANCE WITH THE DETOUR SIGNS NOTE.

FOR ALL RAMP CLOSURES LASTING LESS THAN 12 HOURS, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:

A MINIMUM OF TWO PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) PLACED, AS DIRECTED BY THE ENGINEER, TO WARN DRIVERS OF THE CLOSURE AND TO PROVIDE THE DESIGNATED DETOUR ROUTE.

WHEN CLOSING ENTRANCE RAMPS, CORRESPONDING LEAD-IN LANES AND TURN LANES SHALL ALSO BE CLOSED.

IF A DESIGNATED DETOUR ROUTE IS NOT PROVIDED IN THE PLANS, TRAFFIC SHALL BE DIRECTED TO THE NEXT INTERCHANGE, IF AVAILABLE, TO TURN AROUND. IF THE USE OF THE NEXT INTERCHANGE IS NOT POSSIBLE, AN ALTERNATIVE DETOUR ROUTE SHALL BE PROVIDED BY THE ENGINEER.

SERVICE RAMP: INTERCHANGE RAMPS BETWEEN FREEWAYS (OR EXPRESSWAYS) AND NON-FREEWAYS (OR NONEXPRESSWAYS). THESE RAMPS PROVIDE ACCESS (CONNECTIONS) BETWEEN FREEWAYS/EXPRESSWAYS AND OTHER PRINCIPAL/MINOR ARTERIALS, COLLECTORS OR LOCAL ROADS.

SYSTEM RAMP: INTERCHANGE RAMPS (OR CONNECTORS) BETWEEN FREEWAYS (OR EXPRESSWAYS) AND FREEWAYS (OR EXPRESSWAYS).

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS**

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

FOR OPERATIONS WITHOUT POSITIVE PROTECTION OCCURRING WITHIN 10 FEET OF AN OPEN TRAVELED LANE THAT MEET ALL OF THE FOLLOWING CRITERIA:

- ON A MULTI-LANE DIVIDED INTERSTATE, OTHER FREEWAY OR EXPRESSWAY; AND
- AN AUTHORIZED SPEED LIMIT OF 45 MPH OR GREATER THAT IS IN EFFECT AT THE TIME OF THE OPERATION; AND,
- AADT OF 50,000 (OR AADT OF 30,000 WITH 25% OR HIGHER PERCENT TRUCKS)

"WITHOUT POSITIVE PROTECTION" MEANS USE OF DRUMS, CONES, SHADOW VEHICLE, ETC, WITHOUT PROTECTION FROM PORTABLE BARRIER OR OTHER RIGID BARRIER ALONG THE WORK AREA. THIS PHRASE DOES NOT APPLY TO CASES WHERE POSITIVE PROTECTION IS REQUIRED. MOBILE OPERATIONS ARE REGARDED AS "WITHOUT POSITIVE PROTECTION". FOR WORK ZONES USING A COMBINATION OF BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES (CONES, DRUMS, ETC), THE DESIGNATION SHALL BE BASED UPON THE TYPE OF DEVICES USED IN THE AREA THAT WORKERS ARE LOCATED.

IF MULTIPLE ACTIVE LOCALIZED QUALIFYING WORK AREAS OCCUR WITHOUT POSITIVE PROTECTION, PER MAINLINE TRAFFIC DIRECTION, PROVIDE A UNIFORMED LEO AND OFFICIAL PATROL CAR IN ADVANCE OF:

- THE FIRST ACTIVE WORK AREA THAT DRIVERS WILL ENCOUNTER; OR
  - THE ACTIVE WORK AREA LATERALLY CLOSEST TO THE OPEN TRAVELED LANE; OR
  - OTHER LOCATION AS APPROVED BY THE ENGINEER.
- THE UNIFORMED LEO AND OFFICIAL PATROL CAR MAY RELOCATE AMONG THE LISTED LOCATIONS AS APPROPRIATE AS THE OPERATIONS PROCEED IN THE LOCALIZED QUALIFYING WORK AREAS.

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 1325 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

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**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.

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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.

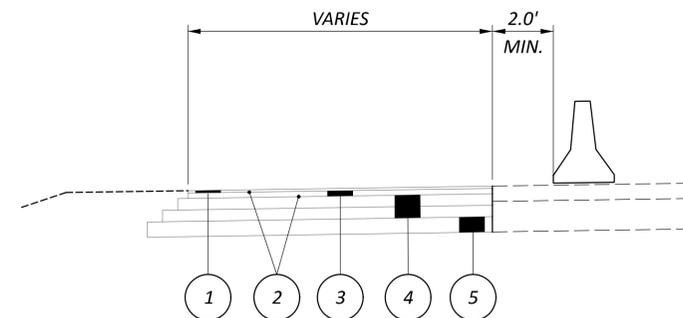
WZEWS SHALL BE USED IN ACCORDANCE WITH MT-103.10. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

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

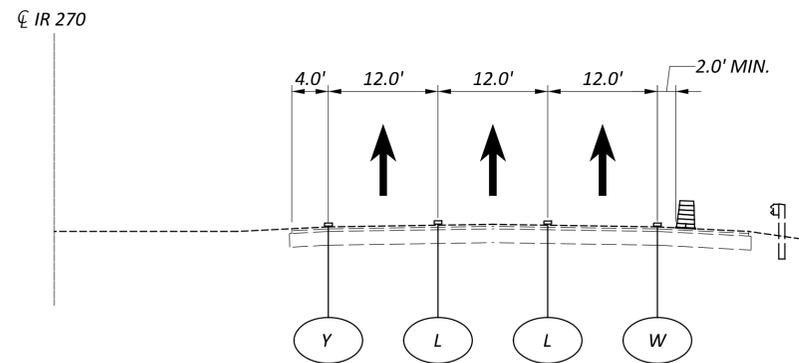
**SHOULDER WIDENING AND REPLACEMENT BUILDUP**



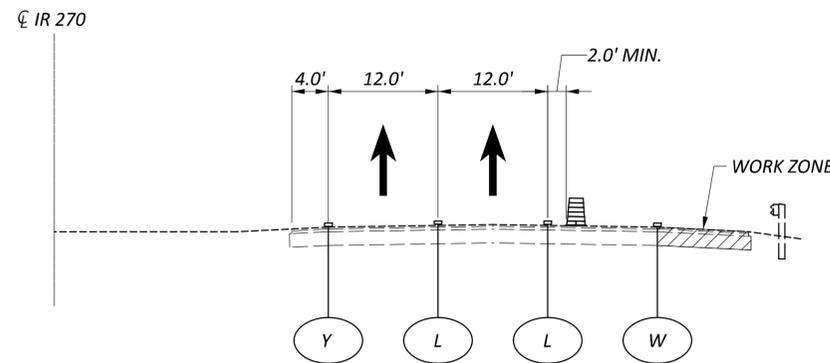
- 1 ITEM 442 - 1.50" ASPHALT CONCRETE SURFACE, 12.5 mm, TYPE A, (446)
- 2 ITEM 407 - NON-TRACKING TACK COAT
- 3 ITEM 442 - 2.25" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5mm, TYPE A, (446)
- 4 ITEM 302 - 10" ASPHALT CONCRETE BASE, PG64-22 (449)
- 5 ITEM 304 - 6" AGGREGATE BASE\*

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

**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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**SEQUENCE OF CONSTRUCTION**

THE FOLLOWING DESIGNATED WORK ZONES HAVE BEEN ESTABLISHED TO BE CONSTRUCTED INDEPENDENTLY OF EACH OTHER. WORK ZONE 0 SHALL BE COMPLETED PRIOR TO OR ALONG WITH PRE-PHASE PAVEMENT OPERATIONS. WORK ZONE 1 AND 4 CAN BE COMPLETED AT ANY TIME, INCLUDING CONCURRENTLY WITH WORK ZONE 2 OR WORK ZONE 3. WORK ZONE 2 AND WORK ZONE 3 SHALL NOT BE CONSTRUCTED AT THE SAME TIME DUE TO OVERLAP OF THE LANE SHIFTS/CLOSURES. IT IS ANTICIPATED THAT WORK ZONE 0, WORK ZONE 1 AND WORK ZONE 3 WILL BE COMPLETED DURING THE FIRST CONSTRUCTION SEASON AND WORK ZONE 2, WORK ZONE 4 AND WORK ZONE 5 WILL BE COMPLETED IN THE SECOND CONSTRUCTION SEASON. PAVEMENT RESURFACING SHALL ONLY OCCUR ONCE ALL WORK ZONES ARE COMPLETE AND ALL PAVEMENT REPAIRS ARE FINISHED.

PRE-PHASE PAVEMENT OPERATIONS

PRIOR TO SHIFTING TRAFFIC FOR ANY CONSTRUCTION ACTIVITIES WITHIN WORK ZONE 2 AND WORK ZONE 3, ALL INSIDE AND OUTSIDE SHOULDERS MUST BE REPLACED WITH FULL DEPTH PAVEMENT AND WIDENED AS SHOWN IN THE PLANS. SHOULDER REPLACEMENT REQUIRED PRIOR TO SHIFTING TRAFFIC IN WORK ZONE 1 AND WORK ZONE 4 SHALL BE DONE DURING ALLOWABLE LANE CLOSURE TIMES AS SHOWN IN THE LANE VALUE CONTRACT TABLE.

WORK ZONE 0 (SOUTHBOUND NOE BIXBY)

PHASE 1A

DROP THE INSIDE LANE OF SOUTHBOUND I-270 MAINLINE ALONG WITH THE INSIDE LANE OF SOUTHBOUND I-270 COLLECTOR DISTRIBUTOR AS SHOWN. COMPLETE PHASE 1A WORK ON THE SOUTHBOUND NOE BIXBY STRUCTURE. THESE LANE REDUCTIONS SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

PHASE 1B

CLOSE THE SOUTHBOUND I-270 MAINLINE LANES NORTH OF MAIN STREET AND DIVERT ALL TRAFFIC TO THE SOUTHBOUND I-270 COLLECTOR DISTRIBUTOR. CLOSE RAMP C AND REDUCE THE SOUTHBOUND COLLECTOR DISTRIBUTOR TO A SINGLE LANE AS SHOWN IN THE PLANS. COMPLETE PHASE 1B WORK ON THE SOUTHBOUND NOE BIXBY STRUCTURE. THESE LANE CLOSURES/REDUCTIONS SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

PHASE 2A

DROP THE OUTSIDE LANE OF SOUTHBOUND I-270 MAINLINE ALONG WITH THE OUTSIDE LANE OF SOUTHBOUND I-270 COLLECTOR DISTRIBUTOR AND SHIFT LANES TO THE INSIDE. COMPLETE PHASE 1B WORK ON THE SOUTHBOUND NOE BIXBY STRUCTURE. THESE LANE REDUCTIONS SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

PHASE 2B

DROP THE OUTSIDE LANE OF SOUTHBOUND I-270 MAINLINE ALONG WITH THE OUTSIDE LANE OF SOUTHBOUND I-270 COLLECTOR DISTRIBUTOR AND SHIFT LANES TO THE INSIDE. COMPLETE PHASE 1B WORK ON THE SOUTHBOUND NOE BIXBY STRUCTURE. THESE LANE REDUCTIONS SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

WORK ZONE 1 (IORY RAILROAD AND ALUM CREEK)

PHASE 1

DROP THE INSIDE LANE OF NORTHBOUND I-270 AND SHIFT REMAINING 2 LANES ONTO THE OUTSIDE SHOULDER. COMPLETE WORK ON THE IORY RAILROAD AND ALUM CREEK STRUCTURES AS SHOWN IN THE PLANS. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER THE LANE VALUE CONTRACT TABLE.

PHASE 2A

DROP THE OUTSIDE LANE OF NORTHBOUND I-270 AND SHIFT REMAINING 2 LANES ONTO THE INSIDE SHOULDER. COMPLETE WORK ON THE IORY RAILROAD AND ALUM CREEK STRUCTURES AS SHOWN IN THE PLANS. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER THE LANE VALUE CONTRACT TABLE.

PHASE 2B

REOPEN THE OUTSIDE LANE OF NORTHBOUND I-270 IN THE SHIFTED PHASE 2A CONFIGURATION AS SHOWN IN THE PLANS. COMPLETE ANY REMAINING WORK NOT FINISHED DURING THE PHASE 2A WEEKEND LANE CLOSURE.

PHASE 3

DROP THE INSIDE LANE OF SOUTHBOUND I-270 AND SHIFT REMAINING 2 LANES ONTO THE OUTSIDE SHOULDER. COMPLETE WORK ON THE IORY RAILROAD AND ALUM CREEK STRUCTURES AS SHOWN IN THE PLANS. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER THE LANE VALUE CONTRACT TABLE.

PHASE 4A

DROP THE OUTSIDE LANE OF SOUTHBOUND I-270 AND SHIFT REMAINING 2 LANES ONTO THE INSIDE SHOULDER. COMPLETE WORK ON THE IORY RAILROAD AND ALUM CREEK STRUCTURES AS SHOWN IN THE PLANS. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER THE LANE VALUE CONTRACT TABLE.

PHASE 4B

REOPEN THE OUTSIDE LANE OF SOUTHBOUND I-270 IN THE SHIFTED PHASE 4A CONFIGURATION AS SHOWN IN THE PLANS. COMPLETE ANY REMAINING WORK NOT FINISHED DURING THE PHASE 2A WEEKEND LANE CLOSURE.

WORK ZONE 2 (US 33)

PHASE 1

REDIRECT MIDDLE LANE OF NORTHBOUND I-270 ONTO THE CD RAMP AT THE US 33 INTERCHANGE. ENTRANCE RAMP FROM US 33 EAST TO I-270 NORTH SHALL BE CLOSED FOR PHASES 1-5 AND DETOURED AS SHOWN IN THE PLANS. CROSSOVER INSIDE LANE OF SOUTHBOUND I-270 TRAFFIC. SHIFT REMAINING TWO LANES OF SOUTHBOUND TRAFFIC ONTO THE OUTSIDE SHOULDER AND COMPLETE WORK ON THE SOUTHBOUND I-270 STRUCTURE AS SHOWN. ENTRANCE RAMP FROM US 33 EAST TO I-270 SOUTH SHALL BE CLOSED FOR PHASES 1-2 AND DETOURED AS SHOWN.

PHASE 2

NORTHBOUND I-270 TRAFFIC REMAINS IN THE PHASE 1 CONFIGURATION FOR PHASE 2. INSIDE SOUTHBOUND I-270 LANE CROSSES OVER IN THE SAME CONFIGURATION AS PHASE 1. SHIFT 2 REMAINING OUTSIDE I-270 SOUTHBOUND LANES ONTO THE INSIDE SHOULDER AND COMPLETE REMAINING WORK ON THE SOUTHBOUND STRUCTURE AS SHOWN.

PHASE 3

I-270 SOUTHBOUND TRAFFIC SHALL BE RETURNED TO ORIGINAL LANE CONFIGURATION PRIOR TO THE START OF PHASE 3. I-270 NORTHBOUND TRAFFIC REMAINS IN THE PHASE 1 CONFIGURATION. COMPLETE WORK ON THE I-270 NORTHBOUND STRUCTURE AS SHOWN IN THE PLANS.

PHASE 4

THE TWO OUTSIDE I-270 NORTHBOUND TRAFFIC REMAINS IN THE PHASE 1 CONFIGURATION. SHIFT THE INSIDE I-270 NORTHBOUND LANE TO THE INSIDE SHOULDER AND COMPLETE WORK ON THE I-270 NORTHBOUND STRUCTURE AS SHOWN IN THE PLANS.

PHASE 5 (NOT SHOWN)

RETURN NORTHBOUND I-270 TRAFFIC TO ORIGINAL CONFIGURATION PRIOR TO THE START OF PHASE 5. FULLY CLOSE THE I-270 CD STRUCTURE AND DETOUR US 33 EAST TO I-270 NORTH AND US 33 WEST TO I-270 NORTH. COMPLETE ALL STRUCTURES WORK AS SHOWN IN THE PLANS.

WORK ZONE 3 (MASON RUN, REFUGEE ROAD AND HAMILTON ROAD)

PHASE 1

DROP THE OUTSIDE LANE OF NORTHBOUND I-270 AND CROSSOVER REMAINING NORTHBOUND LANE AS SHOWN IN THE PLANS. SHIFT THE NORTHBOUND I-270 CD LANE TO THE OUTSIDE AND COMPLETE WORK ON THE MASON RUN, REFUGEE ROAD AND HAMILTON ROAD STRUCTURES AS SHOWN.

PHASE 2

CROSSOVER INSIDE NORTHBOUND LANE IN THE PHASE 1 CONFIGURATION. SHIFT OUTSIDE MAINLINE NORTHBOUND LANE AND THE I-270 CD LANE TO THE INSIDE AND COMPLETE WORK ON THE MASON RUN, REFUGEE ROAD AND HAMILTON ROAD STRUCTURES AS SHOWN.

PHASE 3

DROP THE OUTSIDE LANE OF SOUTHBOUND I-270 AND CROSSOVER INSIDE SOUTHBOUND LANE AS SHOWN IN THE PLANS. SHIFT REMAINING SOUTHBOUND LANE TO THE INSIDE AND COMPLETE WORK ON THE MASON RUN, REFUGEE ROAD AND HAMILTON ROAD STRUCTURES AS SHOWN.

PHASE 4

CROSSOVER I-270 INSIDE SOUTHBOUND LANE IN THE PHASE 3 CONFIGURATION. SHIFT REMAINING TWO SOUTHBOUND LANES TO THE OUTSIDE AND COMPLETE WORK ON THE MASON RUN, REFUGEE ROAD AND HAMILTON ROAD STRUCTURES AS SHOWN.

WORK ZONE 4 (NORFOLK SOUTHERN RAILROAD)

PHASE 1A

DROP THE OUTSIDE LANE OF SOUTHBOUND I-270 AND SHIFT REMAINING INSIDE LANE ONTO THE INSIDE SHOULDER. COMPLETE WORK ON THE NORFOLK SOUTHERN STRUCTURE AS SHOWN IN THE PLANS. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

PHASE 1B

INSIDE LANE OF I-270 SOUTHBOUND REMAINS IN THE 1A CONFIGURATION. OPEN THE OUTSIDE LANE AND COMPLETE OUTSIDE BARRIER WORK AS SHOWN. ANY LANE CLOSURES DURING THE BARRIER WORK SHALL ONLY OCCUR DURING THE ALLOWABLE TIMES IN THE LANE VALUE CONTRACT TABLES.

PHASE 2A

DROP THE INSIDE LANE OF SOUTHBOUND I-270 AND SHIFT REMAINING OUTSIDE LANE ONTO THE OUTSIDE SHOULDER. COMPLETE WORK ON THE NORFOLK SOUTHERN RAILROAD STRUCTURE AS SHOWN IN THE PLANS. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

PHASE 2B

OUTSIDE LANE OF I-270 SOUTHBOUND REMAINS IN THE 2A CONFIGURATION. OPEN THE INSIDE LANE AND COMPLETE INSIDE BARRIER WORK AS SHOWN. ANY LANE CLOSURES DURING THE BARRIER WORK SHALL ONLY OCCUR DURING THE ALLOWABLE TIMES IN THE LANE VALUE CONTRACT TABLES.

PHASE 3A

CLOSE THE ENTRANCE RAMP FROM I-70 EAST TO I-270 SOUTH PRIOR TO THE START OF PHASE 3 AND DETOUR AS SHOWN IN THE PLANS. DROP INSIDE LANE OF THE SOUTHBOUND I-270 CD PRIOR TO THE I-70 INTERCHANGE. SHIFT REMAINING OUTSIDE SOUTHBOUND I-270 CD LANE TO THE INSIDE AND COMPLETE WORK ON THE NORFOLK SOUTHERN STRUCTURE AS SHOWN. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

PHASE 3B

OPEN THE ENTRANCE RAMP FROM I-70 EAST TO I-270 SOUTH AND OPEN INSIDE LANE OF THE SOUTHBOUND I-270 CD PRIOR TO THE I-70 INTERCHANGE. SHIFT RAMP TRAFFIC AS SHOWN IN THE PLANS AND COMPLETE OUTSIDE BARRIER WORK. ANY LANE CLOSURES DURING THE BARRIER WORK SHALL ONLY OCCUR DURING THE ALLOWABLE TIMES IN THE LANE VALUE CONTRACT TABLES. ANY RAMP CLOSURES DURING THE BARRIER WORK SHALL ONLY OCCUR DURING THE ALLOWABLE TIMES IN THE RAMP CLOSURE RESTRICTIONS TABLES.

PHASE 4A

DROP THE INSIDE LANE OF THE SOUTHBOUND I-270 CD PRIOR TO THE I-70 INTERCHANGE. SHIFT REMAINING OUTSIDE SOUTHBOUND I-270 CD LANE TO THE OUTSIDE AND COMPLETE WORK ON THE NORFOLK SOUTHERN STRUCTURE AS SHOWN. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

PHASE 4B

OUTSIDE SOUTHBOUND I-270 CD LANE REMAINS IN THE PHASE 4A CONFIGURATION. OPEN INSIDE SOUTHBOUND I-270 CD LANE. COMPLETE INSIDE BARRIER WORK ON THE NORFOLK SOUTHERN RAILROAD STRUCTURE AS SHOWN. ANY LANE CLOSURES DURING THE BARRIER WORK SHALL ONLY OCCUR DURING THE ALLOWABLE TIMES IN THE LANE VALUE CONTRACT TABLES. ANY RAMP CLOSURES DURING THE BARRIER WORK SHALL ONLY OCCUR DURING THE ALLOWABLE TIMES IN THE RAMP CLOSURE RESTRICTIONS TABLES.

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112798

SHEET TOTAL

P.25 617

**SEQUENCE OF CONSTRUCTION (CONT'D)**

WORK ZONE 5 (NORTHBOUND NOE BIXBY)

PHASE 1A

DROP THE INSIDE LANE OF NORTHBOUND I-270 AS SHOWN. COMPLETE PHASE 1A WORK ON THE NORTHBOUND NOE BIXBY STRUCTURE. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

PHASE 1B

DROP THE INSIDE LANE OF NORTHBOUND I-270 AND SHIFT REMAINING TWO LANES OUTSIDE AS SHOWN. COMPLETE PHASE 1B WORK ON THE NORTHBOUND NOE BIXBY STRUCTURE. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

PHASE 2A

DROP THE OUTSIDE LANE OF NORTHBOUND I-270 AND SHIFT REMAINING TWO LANES INSIDE AS SHOWN. COMPLETE PHASE 2A WORK ON THE NORTHBOUND NOE BIXBY STRUCTURE. THIS LANE REDUCTION SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

PHASE 2B

DROP THE OUTSIDE TWO LANES OF NORTHBOUND I-270 IN ORDER TO REDUCE TRAFFIC TO A SINGLE LANE OVER THE NORTHBOUND NOE BIXBY STRUCTURE. COMPLETE PHASE 2B WORK AS SHOWN IN THE PLANS. THESE LANE REDUCTIONS SHALL LAST ONE WEEKEND AS PER PROPOSAL NOTE 140.

**APPROVED MAINTENANCE OF TRAFFIC (MOT) POLICY EXCEPTION(S):**

PORTIONS OF THE MOT PLANS AS DESCRIBED BELOW HAVE APPROVED MOT EXCEPTIONS PER TRAFFIC MANAGEMENT IN WORK ZONES POLICY (21-008(P)) AND STANDARD PROCEDURE (123-001(SP)).

APPROVED MOT EXCEPTION(S) INCLUDE:

WORK ZONE 0:

1) I-270 SOUTHBOUND MAINLINE 2 TO 1 LANE REDUCTION FOR 1 WEEKEND.

2) I-270 SOUTHBOUND COLLECTOR DISTRIBUTOR 2 TO 1 LANE REDUCTION AND I-70 EAST TO I-270 SOUTH RAMP C CLOSED FOR 3 WEEKENDS.

3) I-270 SOUTHBOUND MAINLINE CLOSED 1 WEEKEND.

WORK ZONE 2:

1) I-270 SOUTHBOUND MAINLINE 3 TO 2 LANE REDUCTION FOR 2 MONTHS.

2) I-270 NORTHBOUND MAINLINE 3 TO 2 LANE REDUCTION FOR 4 MONTHS.

3) US-33 WEST TO I-270 SOUTH RAMP CLOSURE FOR 2 MONTHS.

4) US-33 EAST TO I-270 NORTH RAMP CLOSURE FOR 5 MONTHS.

5) I-270 NORTH TO US-33 WEST RAMP CLOSURE FOR 1 MONTH.

WORK ZONE 3:

1) I-270 SOUTHBOUND 3 TO 2 LANE REDUCTION FOR 1 MONTH.

2) I-270 NORTHBOUND 3 TO 2 LANE REDUCTION FOR 1 MONTH.

3) US-33 EAST TO I-270 NORTH RAMP CLOSURE FOR 1 MONTH.

WORK ZONE 4:

1) I-270 SOUTHBOUND MAINLINE 2 TO 1 LANE REDUCTION FOR 2 WEEKENDS.

2) I-270 SOUTHBOUND COLLECTOR DISTRIBUTOR 2 TO 1 LANE REDUCTION FOR 2 WEEKENDS.

3) I-70 EAST TO I-270 SOUTH RAMP C CLOSED FOR 2 WEEKENDS.

WORK ZONE 5:

1) I-270 NORTHBOUND MAINLINE 3 TO 2 LANE REDUCTION FOR 3 WEEKENDS.

2) I-270 NORTHBOUND MAINLINE 3 TO 1 LANE REDUCTION FOR 1 WEEKEND.

PROPOSAL NOTES 129 AND 140 HAVE BEEN PROVIDED IN THESE PLANS ON SHEET 19A. CONTRACTOR TO REFER TO THESE TABLES FOR FURTHER INFORMATION FOR DISINCENTIVE AMOUNTS AND DURATIONS.

A MAINTENANCE OF TRAFFIC MEETING SHALL BE HELD A MINIMUM OF 30 CALENDAR DAYS PRIOR TO IMPLEMENTATION OF EACH APPROVED MOT EXCEPTION. THIS MEETING SHALL INCLUDE THE DISTRICT WORK ZONE TRAFFIC MANAGER AND CITY OF COLUMBUS AS WELL AS THE CONTRACTOR, WORKSITE TRAFFIC SUPERVISOR (WTS) AND ANY SUBCONTRACTORS INVOLVED WITH TEMPORARY TRAFFIC CONTROL.

IN ADDITION TO ANY NOTIFICATIONS REQUIRED IN OTHER NOTES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AT LEAST 3 BUSINESS DAYS IN ADVANCE OF IMPLEMENTATION OF THE APPROVED MOT EXCEPTIONS REFERENCED ABOVE SO THAT THE PROJECT ENGINEER CAN SEND EMAIL NOTIFICATION TO THE OFFICE OF ROADWAY ENGINEERING, STATEWIDE TMC, DWZTM AND SPECIAL HAULING PERMITS AT LEAST 2 BUSINESS DAYS IN ADVANCE OF THE IMPLEMENTATION OF THE APPROVED MOT EXCEPTIONS REFERENCED ABOVE. REFERENCE "EXCEPTION REQUEST APPROVAL DATED 02/05/2024 FOR PID 112798" IN THE NOTIFICATION AND OTHER CORRESPONDENCE.

ANY CHANGES TO THE MOT THAT IMPACT THE PREVIOUSLY APPROVED MOT EXCEPTIONS LISTED ABOVE SHALL BE APPROVED IN WRITING BY THE MOT EXCEPTION COMMITTEE (MOTEC). IN THE EVENT THAT SUCH CHANGES ARE PROPOSED, THE REQUEST SHALL BE COORDINATED THROUGH THE DISTRICT WORK ZONE TRAFFIC MANAGER (DWZTM) A MINIMUM OF 30 CALENDAR DAYS PRIOR TO THE DESIRED IMPLEMENTATION DATE. IF THE DISTRICT AGREES WITH THE PROPOSED CHANGES THE DWZTM SHALL SEEK APPROVAL FROM THE MOTEC. IN THE EVENT THE PROPOSED CHANGES ARE APPROVED IN WRITING, THE CLOSURES ARE STILL SUBJECT TO NOTIFICATION REQUIREMENTS WITHIN THIS NOTE PRIOR TO IMPLEMENTATION.

NOTIFICATIONS DURING CLOSURE REQUIRED

A DESIGNATED ON-SITE POINT OF CONTACT SHOULD COMMUNICATE WITH THE TMC AS THE STATUS OF THE CLOSURE CHANGES.

CONTACT THE TMC:

IF THE CLOSURE IS POSTPONED OR CANCELLED

AT THE TIME THE CLOSURE IS IMPLEMENTED

AT THE TIME THE CLOSURE IS REMOVED AND ALL LANES RESTORED

IF THE CLOSURE WILL NOT BE OPENING ON TIME

CONTACT CAN BE MADE WITH THE TMC IN THE FOLLOWING WAYS:

PHONE: 1-614-387-2438 OR 1-800-884-4030

EMAIL: STATEWIDETMC@DOT.OHIO.GOV

RADIO: XDOT MAIN

**RETURNING TRAFFIC TO EXISTING CONFIGURATION:**

AFTER EACH PHASE OF CONSTRUCTION THE CONTRACTOR SHALL RE-STRIPE ALL TRAFFIC LANES BACK TO EXISTING CONDITION. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED FOR EACH WORK ZONE:

PRE-PHASE PAVEMENT OPERATIONS:

ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 807 PAINT = 11.09 MI.

ITEM 614 - WORK ZONE LANE LINE, CLASS 1, 807 PAINT = 22.18 MI.

WORK ZONE 0 (SOUTHBOUND NOE BIXBY)

ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 807 PAINT = 0.94 MI.

ITEM 614 - WORK ZONE LANE LINE, CLASS 1, 807 PAINT = 2.98 MI.

WORK ZONE 1 (IORY RAILROAD AND ALUM CREEK)

ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 807 PAINT = 4.18 MI.

ITEM 614 - WORK ZONE LANE LINE, CLASS 1, 807 PAINT = 9.92 MI.

WORK ZONE 2 (US 33)

ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 807 PAINT = 6.71 MI.

ITEM 614 - WORK ZONE LANE LINE, CLASS 1, 807 PAINT = 5.85 MI.

WORK ZONE 3 (MASON RUN, REFUGEE ROAD AND HAMILTON ROAD)

ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 807 PAINT = 7.63 MI.

ITEM 614 - WORK ZONE LANE LINE, CLASS 1, 807 PAINT = 15.26 MI.

WORK ZONE 4 (NORFOLK SOUTHERN RAILROAD)

ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 807 PAINT = 1.97 MI.

ITEM 614 - WORK ZONE LANE LINE, CLASS 1, 807 PAINT = 2.58 MI.

WORK ZONE 5 (NORTHBOUND NOE BIXBY)

ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 807 PAINT = 0.82 MI.

ITEM 614 - WORK ZONE LANE LINE, CLASS 1, 807 PAINT = 2.50 MI.

THE FOLLOWING TOTALS HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 807 PAINT = 33.34 MI.

ITEM 614 - WORK ZONE LANE LINE, CLASS 1, 807 PAINT = 61.27 MI.

**MAINTENANCE OF TRAFFIC FOR RESURFACING:**

THE CONTRACTOR SHALL USE OFF PEAK LANE CLOSURES PER THE LANE VALUE CONTRACT TABLE TO COMPLETE THE RESURFACING SHOWN IN THE PLANS. THE CONTRACTOR SHALL COMPLY WITH THE DROP OFF REQUIREMENTS OF STANDARD CONSTRUCTION DRAWING MT-101.90 AND APPLICABLE LANE SHIFT/CLOSURE DRAWINGS.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR TEMPORARY STRIPING OF THE FINAL SURFACE COURSE PRIOR TO FINAL PAVEMENT MARKINGS BEING APPLIED:

ITEM 614 - WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT - 19.25 MI

ITEM 614 - WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT - 23.25 MI

ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS III, 12", 642 PAINT - 6,289

ITEM 614 - WORK ZONE DOTTED LINE, CLASS III, 6", 642 PAINT - 10,211

DESIGN AGENCY



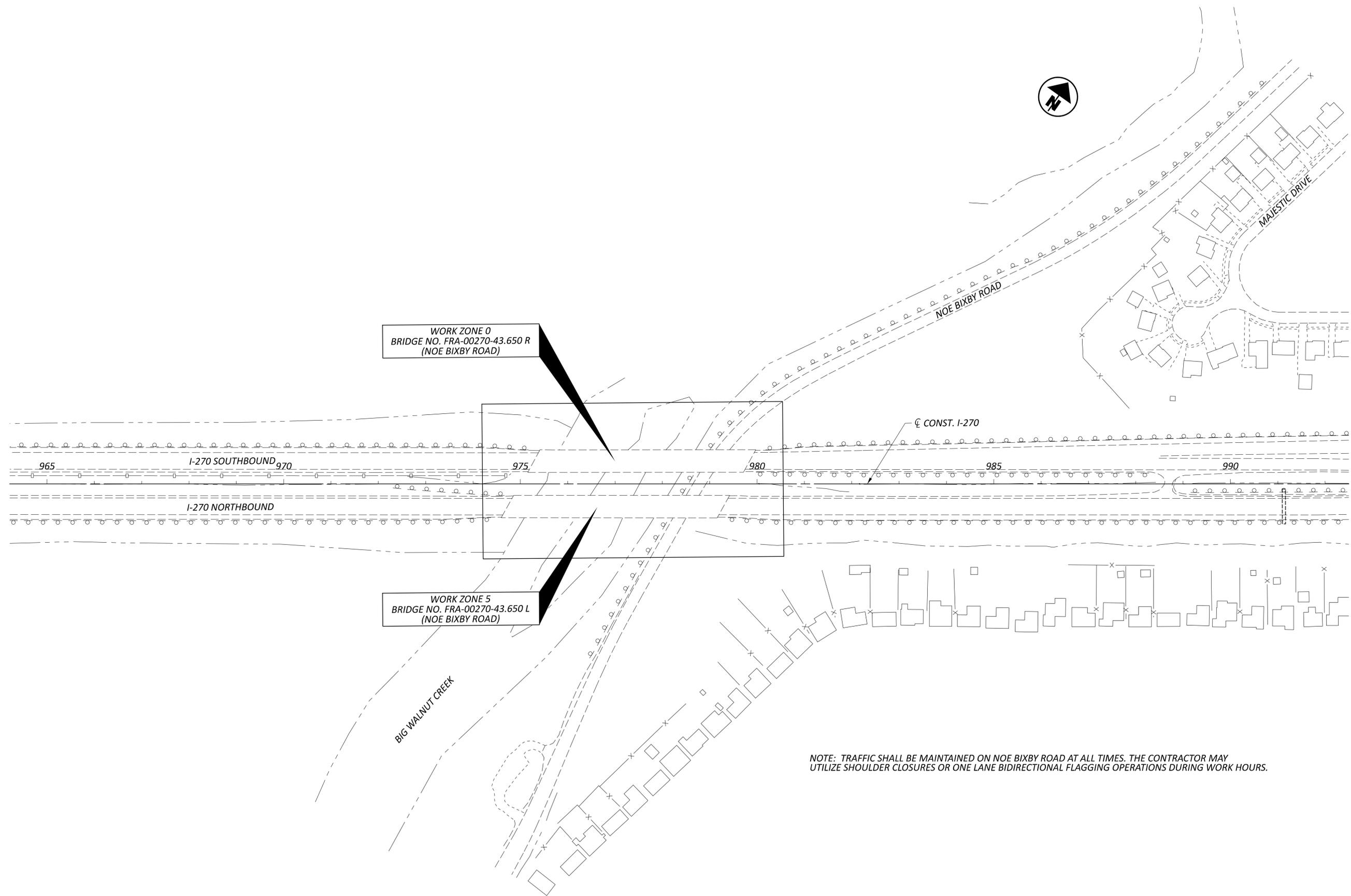
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PROJECT ID  
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SHEET TOTAL  
P.25A | 617



**WORK ZONE 0 AND WORK ZONE 5**  
**BRIDGE NO. FRA-00270-43.650 L&R**

NOTE: TRAFFIC SHALL BE MAINTAINED ON NOE BIXBY ROAD AT ALL TIMES. THE CONTRACTOR MAY UTILIZE SHOULDER CLOSURES OR ONE LANE BIDIRECTIONAL FLAGGING OPERATIONS DURING WORK HOURS.

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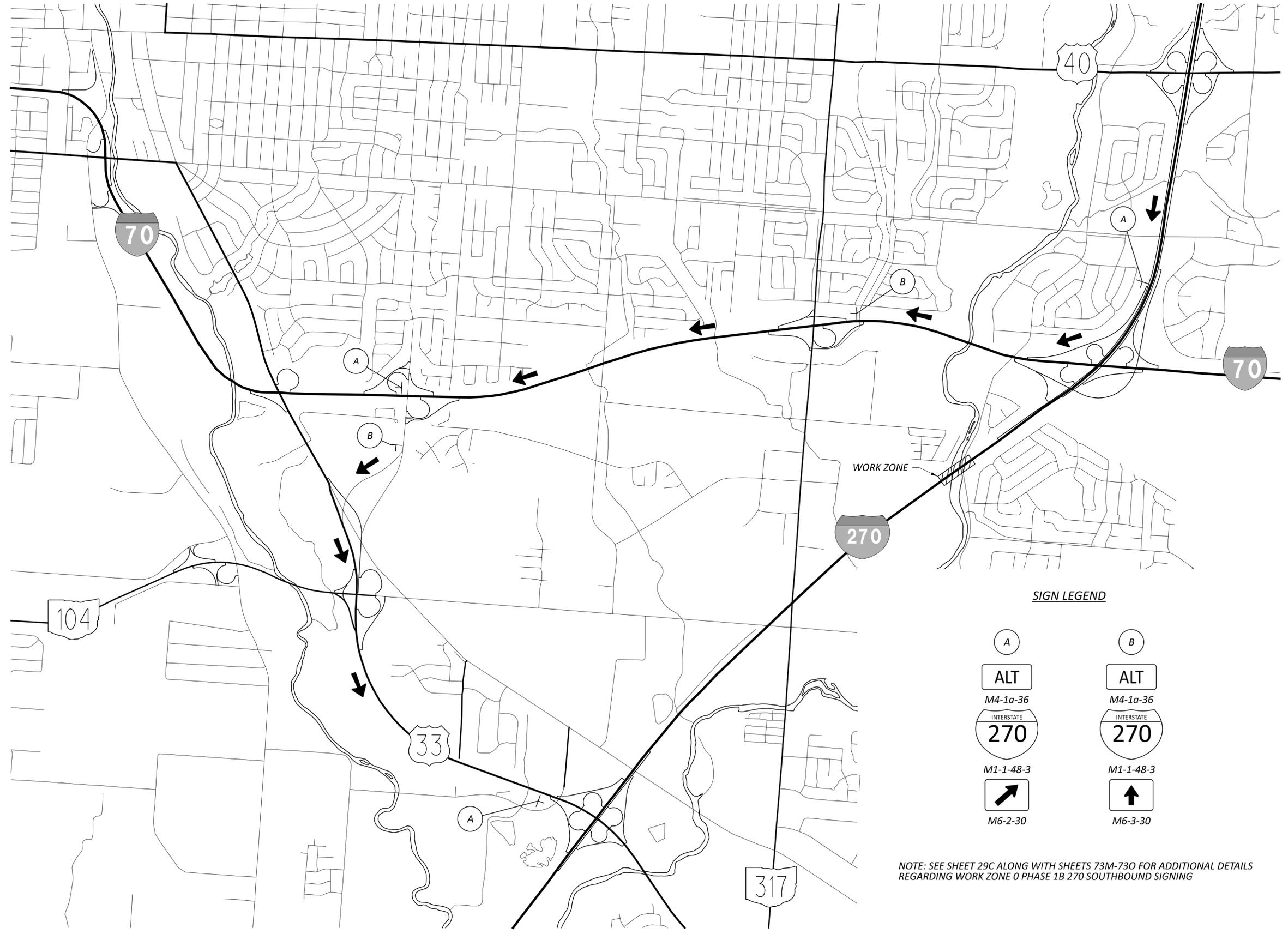
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SHEET TOTAL

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**SIGN LEGEND**

<p>A ALT M4-1a-36 INTERSTATE 270 M1-1-48-3 M6-2-30</p>	<p>B ALT M4-1a-36 INTERSTATE 270 M1-1-48-3 M6-3-30</p>
--	--

NOTE: SEE SHEET 29C ALONG WITH SHEETS 73M-73O FOR ADDITIONAL DETAILS REGARDING WORK ZONE 0 PHASE 1B 270 SOUTHBOUND SIGNING

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**P.29B 617**



**SIGN LEGEND**

A

LEFT 2  
LANES

CLOSED  
AHEAD

PORTABLE CHANGEABLE MESSAGE SIGN

B

I-270 TRAFFIC  
KEEP  
RIGHT

EXISTING DIGITAL CHANGEABLE  
MESSAGE SIGN

C

LEFT LANE  
CLOSED AHEAD  
KEEP RIGHT

EXISTING DIGITAL CHANGEABLE  
MESSAGE SIGN

D

EXPECT  
DELAYS  
AHEAD

ALT  
ROUTE  
USE 70W

PORTABLE CHANGEABLE MESSAGE SIGN

NOTE: SEE SHEET 29B ALONG WITH SHEETS 73M-73O FOR ADDITIONAL DETAILS  
REGARDING WORK ZONE 0 PHASE 1B 270 SOUTHBOUND SIGNING

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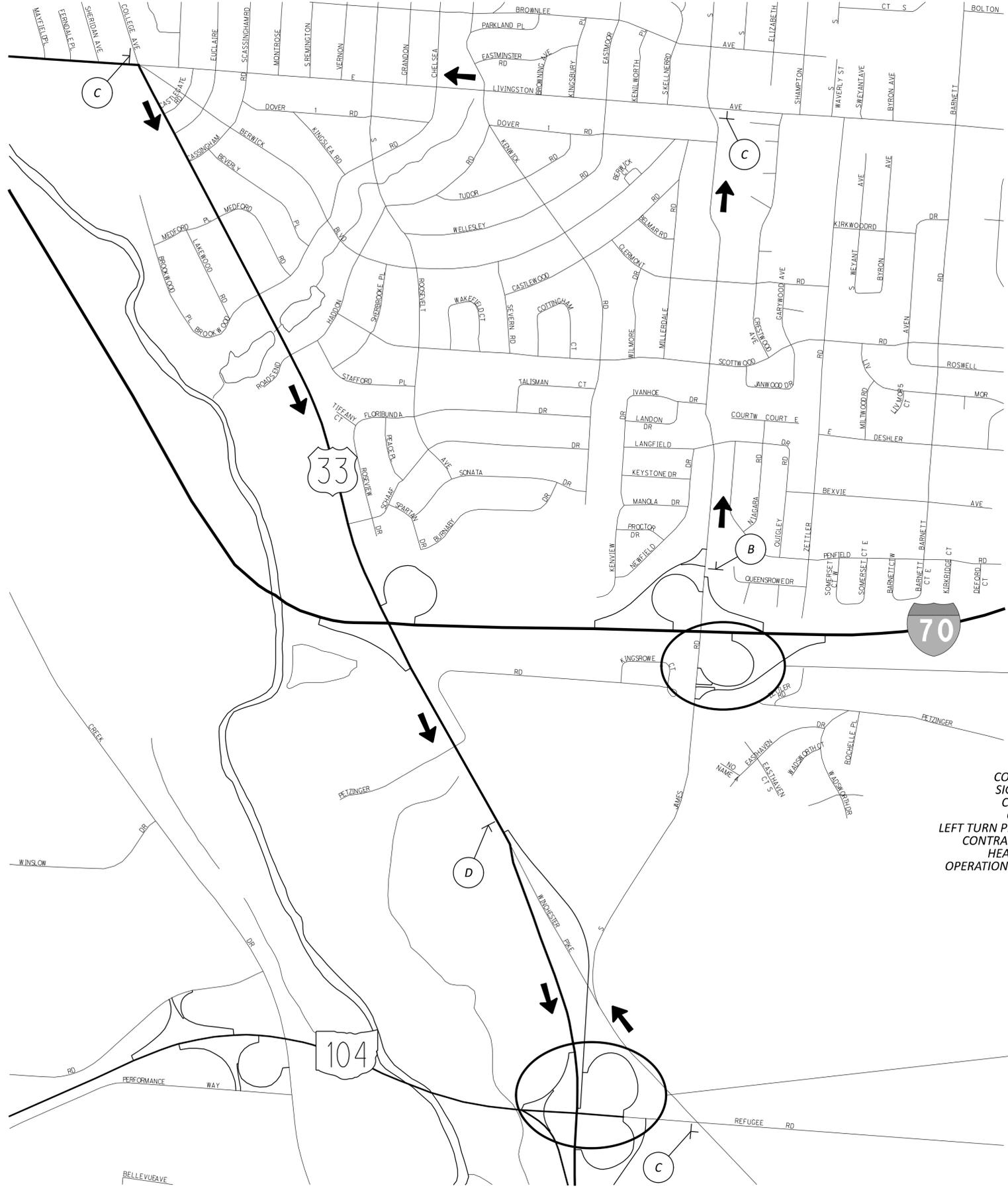
PROJECT ID

112798

SHEET TOTAL

P.29C 617

MAINTENANCE OF TRAFFIC - DETOUR PLANS  
 WORK ZONE 0 PHASE 1B ALTERNATE ROUTE (I-70 W TO US 33 E)



CONTRACTOR SHALL COORDINATE SIGNAL OPERATION WITH CITY OF COLUMBUS PRIOR TO THE START OF THIS PHASE TO DISCONNECT LEFT TURN PHASE FROM CONTROL CABINET. CONTRACTOR SHALL COVER THE SIGNAL HEAD AND COORDINATE RESTORED OPERATION PRIOR TO OPENING THE RAMP.

**SIGN LEGEND**

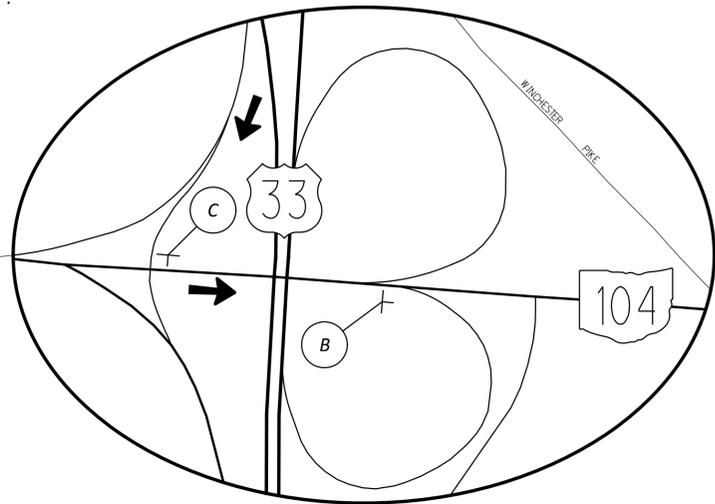
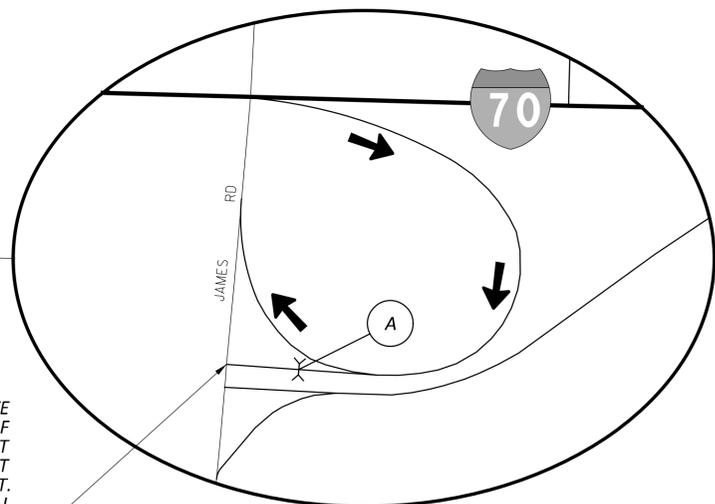
**A**  
 R11-2-48  
  
 M4-10R-48 MOUNTED ON TYPE III BARRICADE

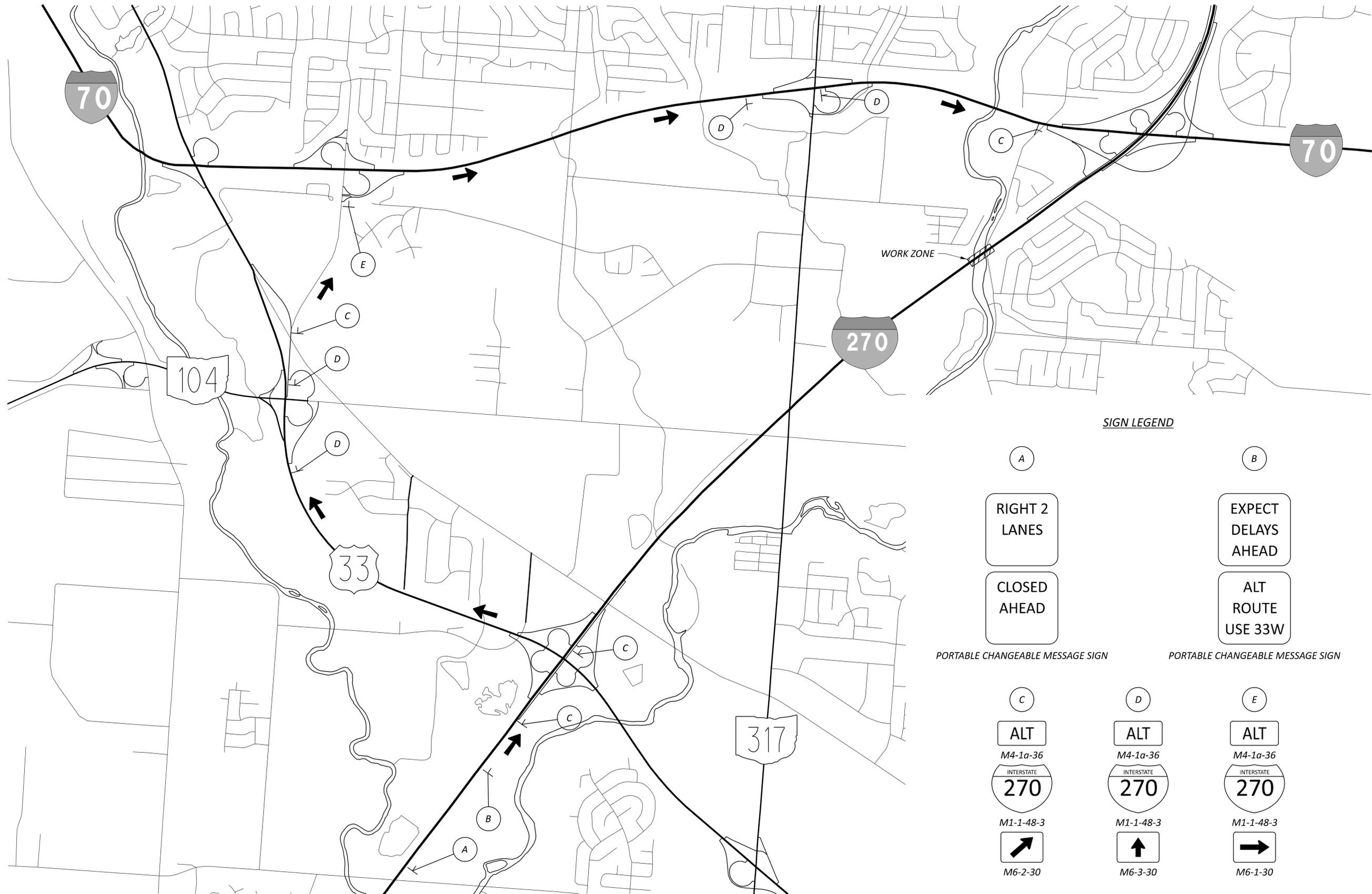
**B**  
 JAMES RD  
 D3-1-VAR  
  
 M4-9C-30

**C**  
 JAMES RD  
 D3-1-VAR  
  
 M4-9L-30

**D**  
 JAMES RD  
 D3-1-VAR  
  
 M4-9MOD-48

**E**  
 JAMES RD  
 D3-1-VAR  
  
 M4-8a-24





SIGN LEGEND

(A)	(B)	
RIGHT 2 LANES	EXPECT DELAYS AHEAD	
CLOSED AHEAD	ALT ROUTE USE 33W	
PORTABLE CHANGEABLE MESSAGE SIGN	PORTABLE CHANGEABLE MESSAGE SIGN	
(C)	(D)	(E)
ALT M4-1a-36	ALT M4-1a-36	ALT M4-1a-36
INTERSTATE 270	INTERSTATE 270	INTERSTATE 270
M1-1-48-3	M1-1-48-3	M1-1-48-3
M6-2-30	M6-3-30	M6-1-30

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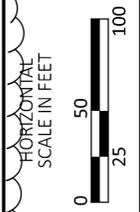
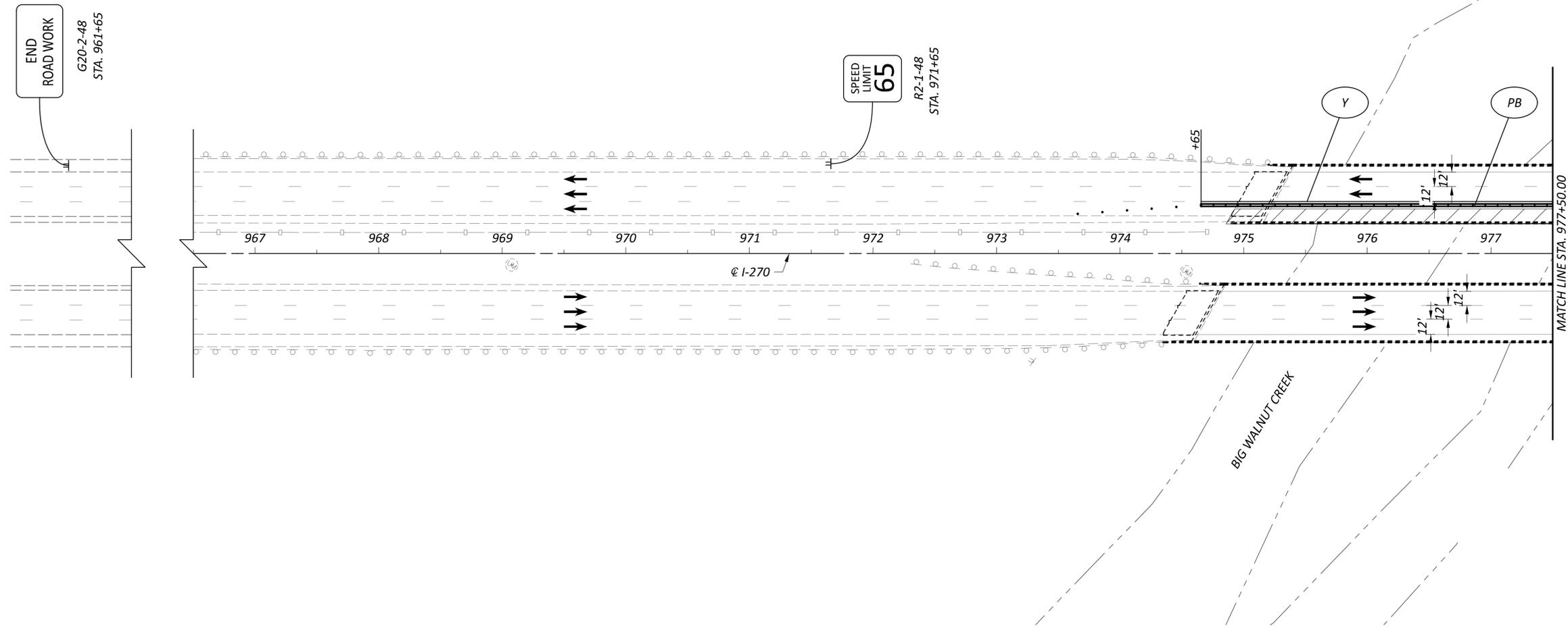
SHEET TOTAL  
P.34A 617





**LEGEND**

- |   |  |  |  |   |                               |   |                     |
|---|--|--|--|---|-------------------------------|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 1A - BEGIN WORK TO STA. 977+50**

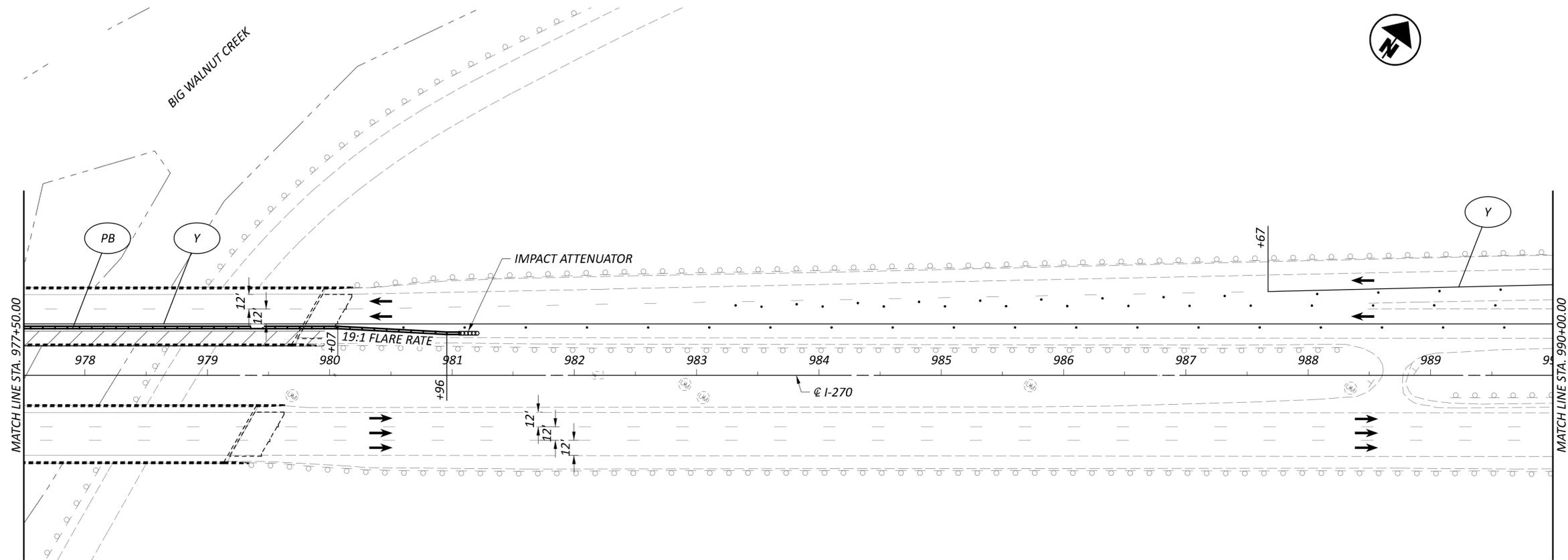
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SHEET TOTAL  
**P.73A 617**



LEGEND

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 1A - STA. 977+50 TO STA. 990+00

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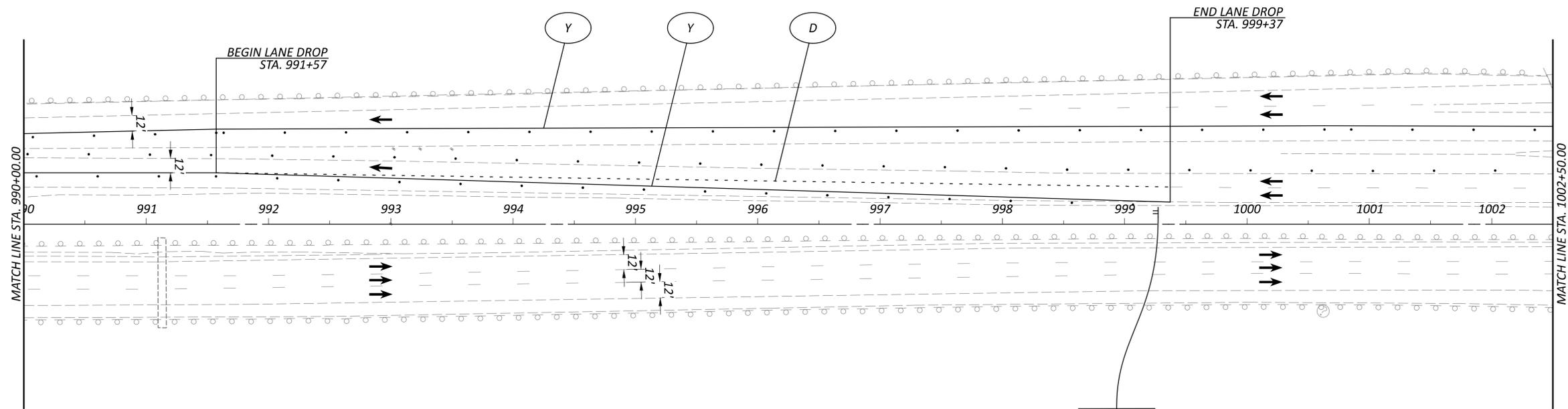
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PROJECT ID

112798

SHEET TOTAL

P.73B 617



**LEGEND**

- |   |  |    |  |  |                               |   |                     |
|---|--|----|--|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |   | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |   | PORTABLE BARRIER    |

**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 1A - STA. 990+00 TO STA. 1002+50**

DESIGN AGENCY



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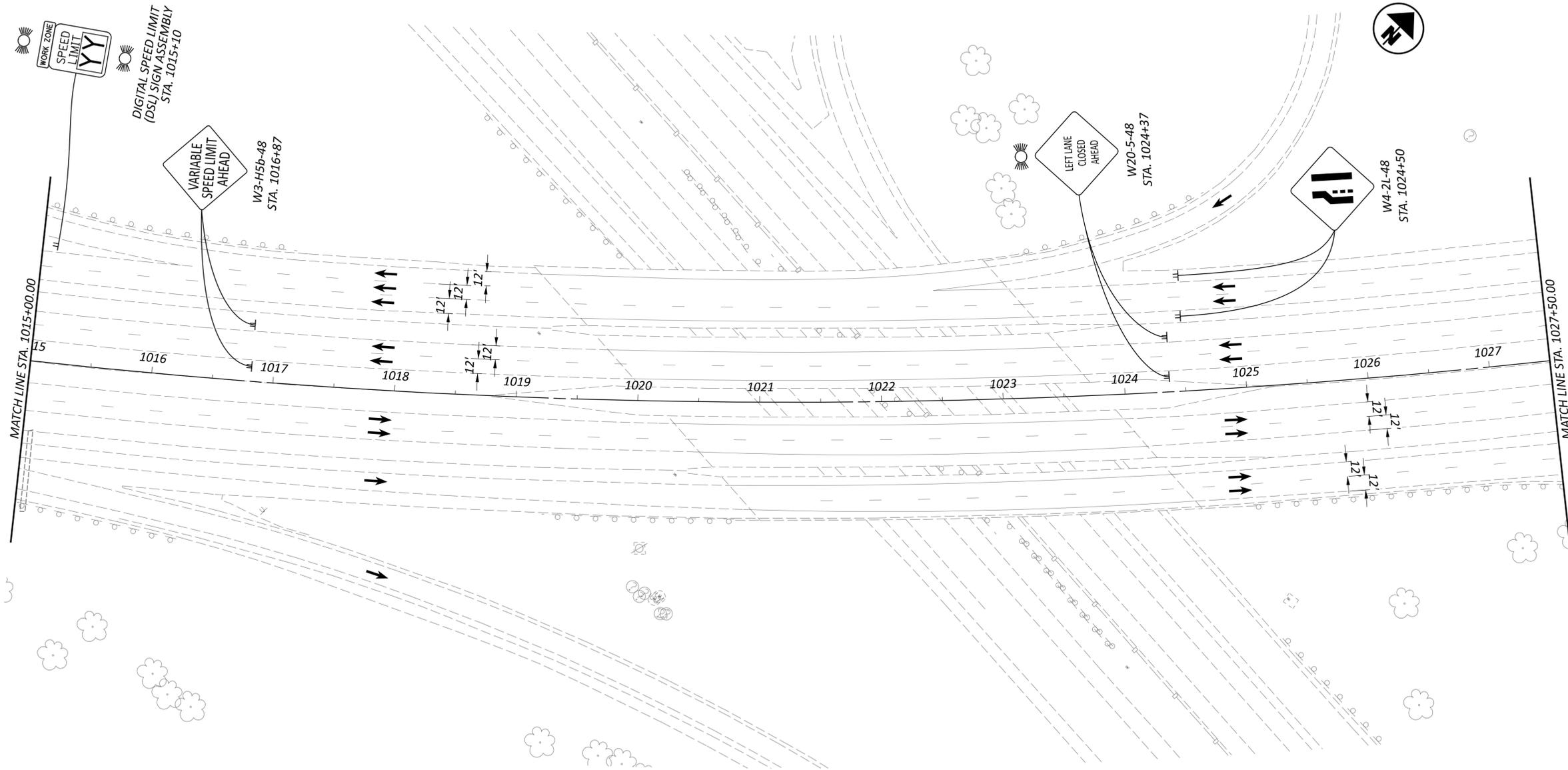
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PROJECT ID  
**112798**

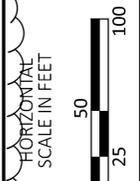
SHEET TOTAL  
**P.73C 617**





**LEGEND**

- |   |  |  |  |   |                               |   |                     |
|---|--|--|--|---|-------------------------------|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 1A - STA. 1015+00 TO STA. 1027+50**

DESIGN AGENCY



**E.L. ROBINSON**  
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 Cleveland, Ohio  
 950 Goodale Blvd, Suite 180  
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DESIGNER

SMB

REVIEWER

MJC 04/15/24

PROJECT ID

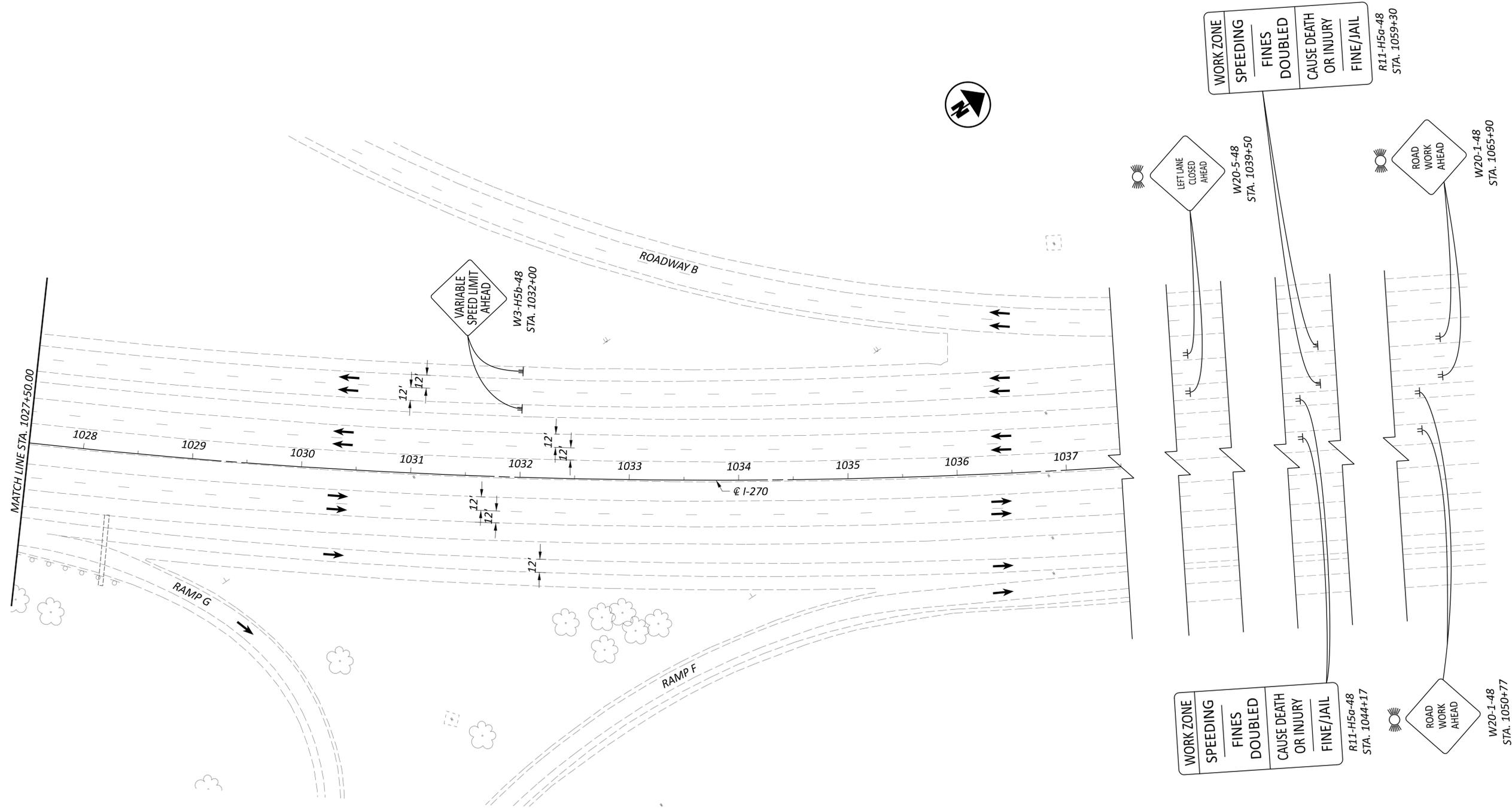
112798

SHEET TOTAL

P.73E 617

LEGEND

- |   |  |   |  |   |                               |   |                     |
|---|--|---|--|---|-------------------------------|---|---------------------|
|  W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 1A - STA. 1027+50 END WORK

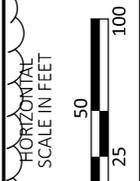
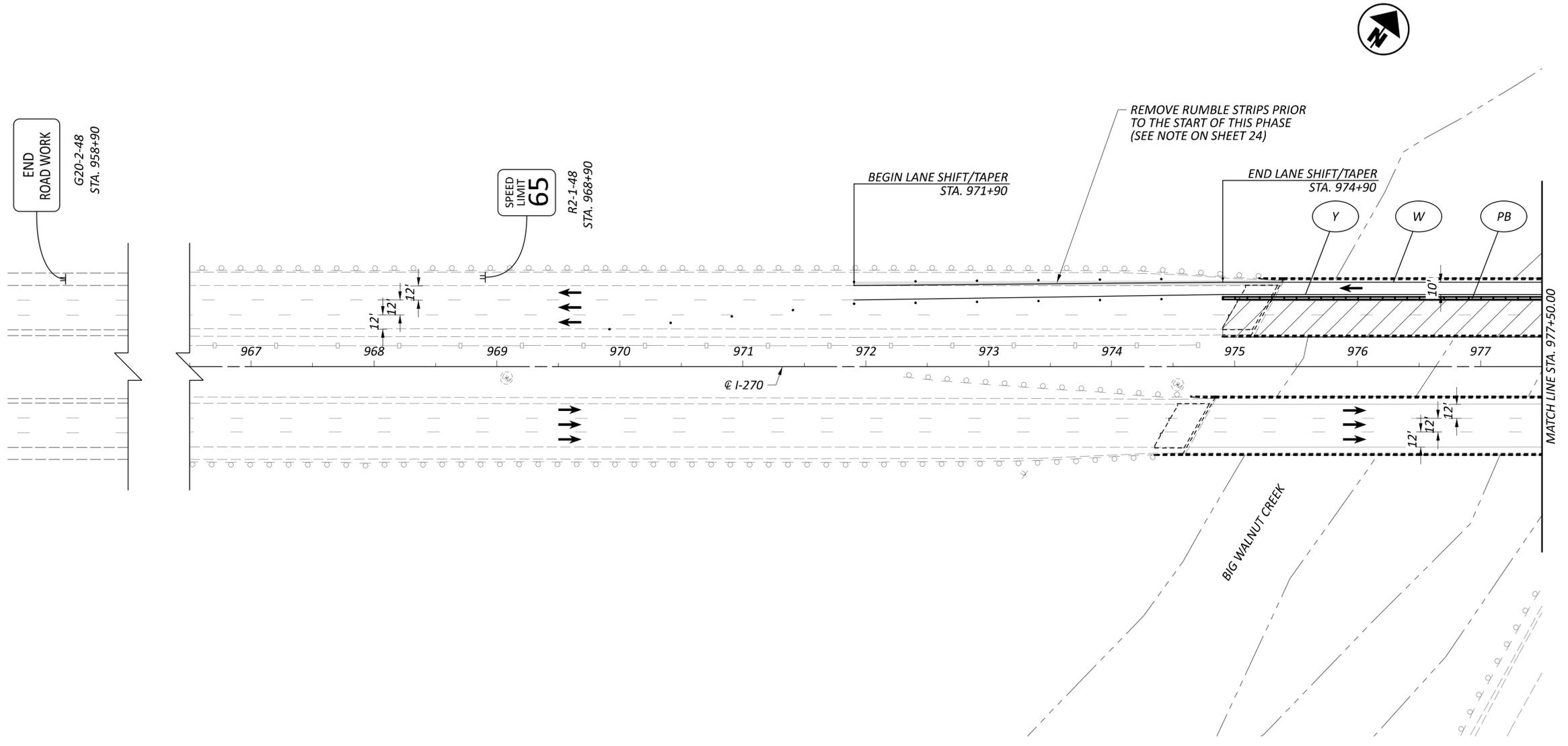
DESIGN AGENCY  
  
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PROJECT ID  
 112798

SHEET TOTAL  
 P.73F 617



MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 1B - BEGIN WORK TO STA. 977+50

LEGEND

- |     |  |      |  |                 |                               |     |                     |
|-----|--|------|--|-----------------|-------------------------------|-----|---------------------|
| (W) | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | (CH) | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT | [Grey Box]      | SHOULDER REPLACEMENT/WIDENING | (O) | CONSTRUCTION BARREL |
| (Y) | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | (D)  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       | [Dark Grey Box] | TEMPORARY PAVEMENT            | (→) | DIRECTION OF TRAVEL |
| (L) | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | (PB) | ITEM 622 - PORTABLE BARRIER                                | [Hatched Box]   | WORK ZONE                     | (=) | PORTABLE BARRIER    |

DESIGN AGENCY

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DESIGNER

SMB

REVIEWER

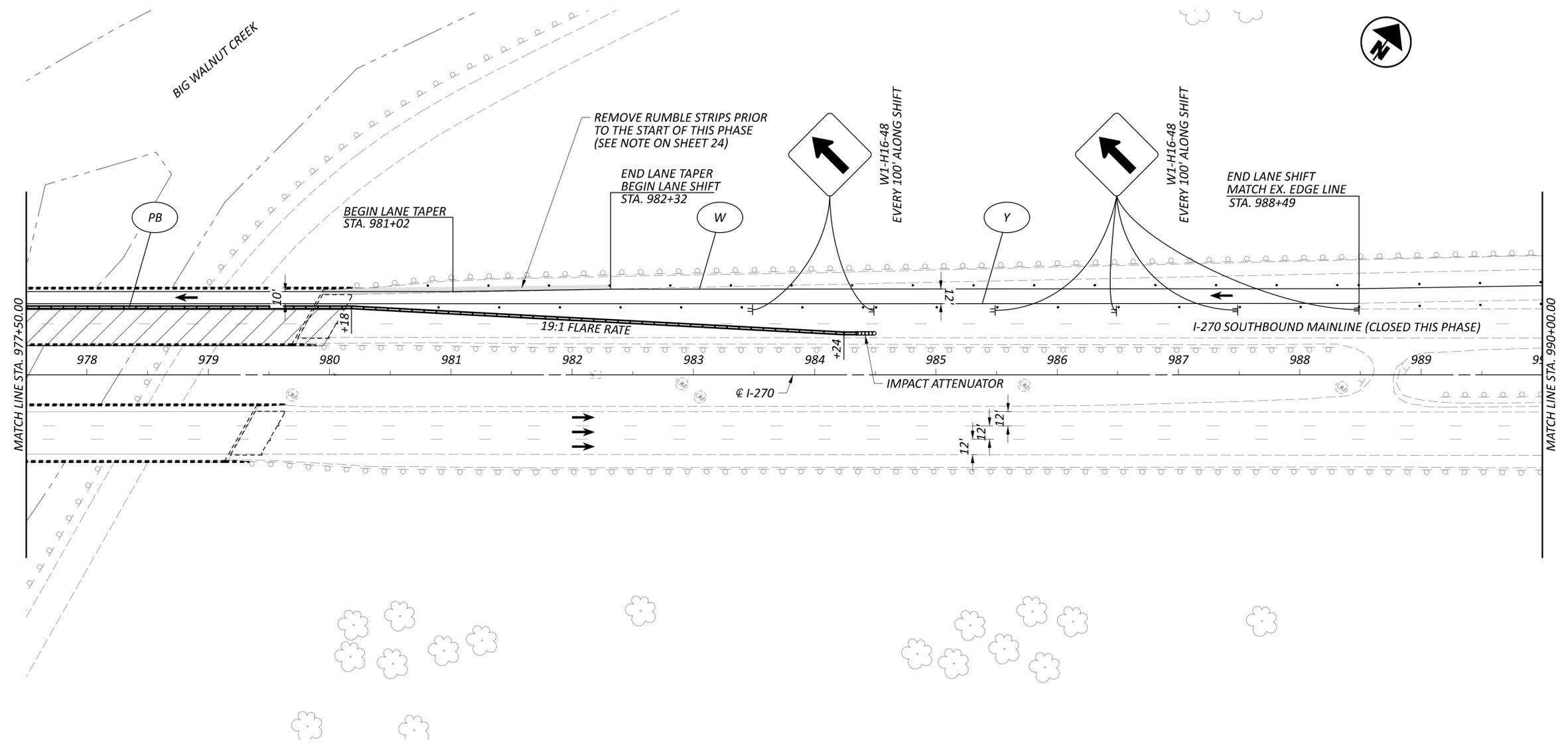
MJC 04/15/24

PROJECT ID

112798

SHEET TOTAL

P.73G 617



**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 1B - STA. 977+50 TO STA. 990+00**

**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |

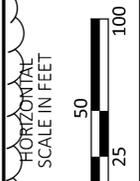
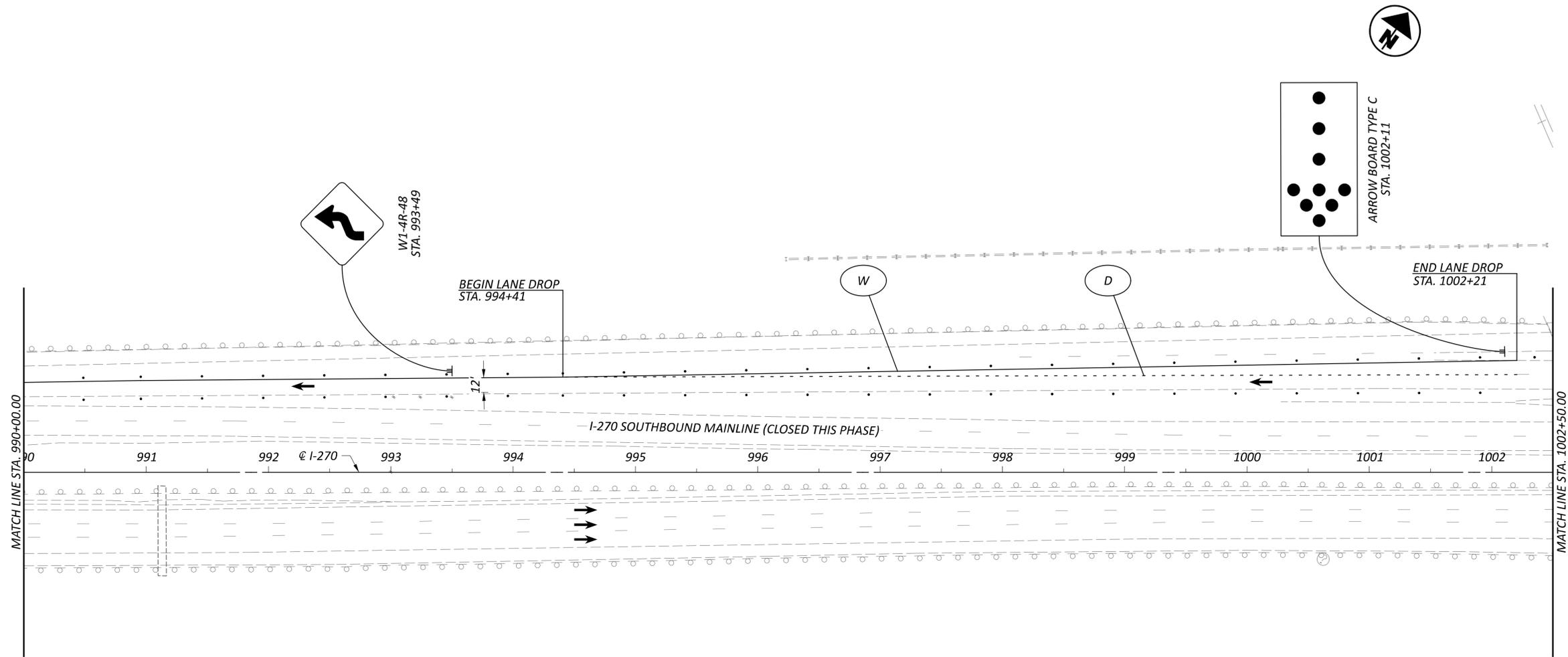
DESIGN AGENCY  
  
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DESIGNER  
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REVIEWER  
**MJC 04/15/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.73H 617**



**LEGEND**

- |   |  |    |  |  |                               |   |                     |
|---|--|----|--|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |   | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |   | PORTABLE BARRIER    |

**MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 1B - STA. 990+00 TO STA. 1002+50**

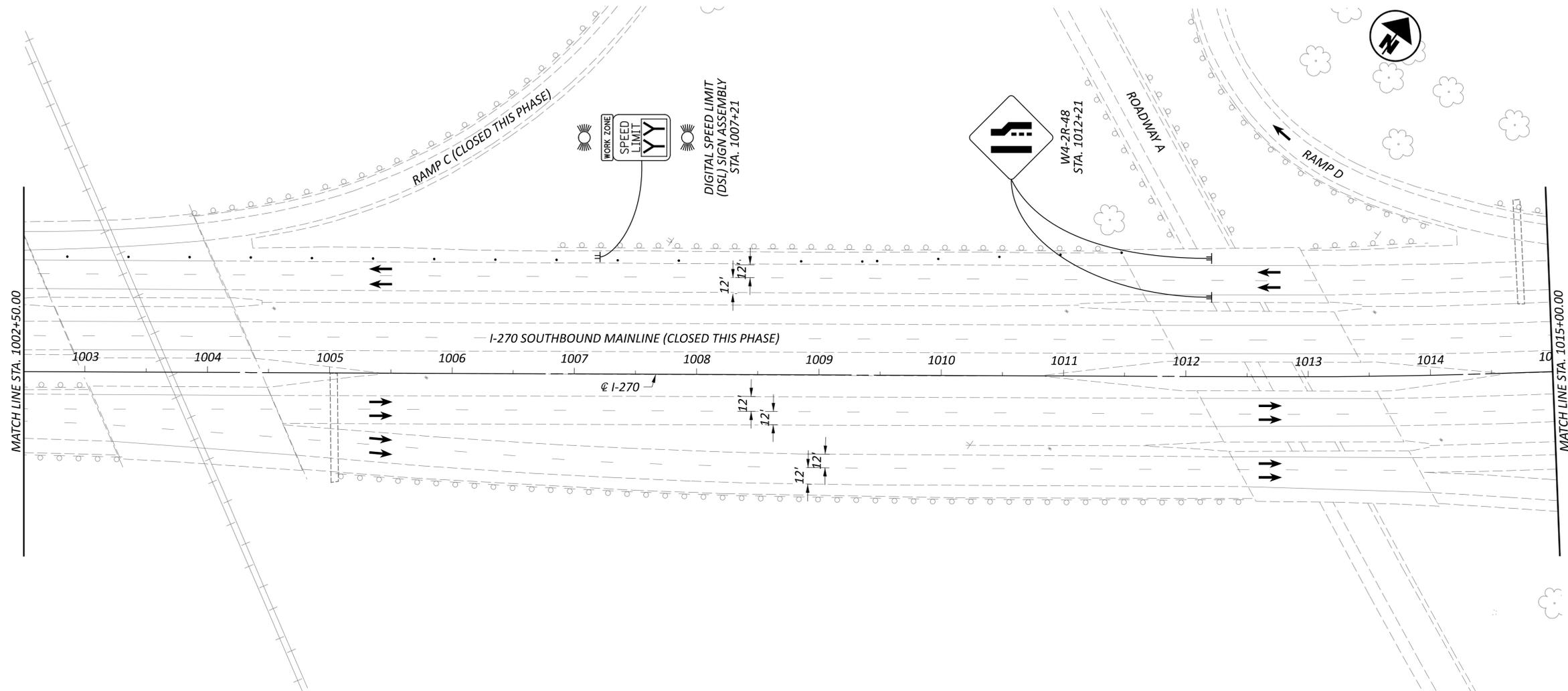
DESIGN AGENCY  
  
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DESIGNER  
**SMB**

REVIEWER  
**MJC 04/15/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.731 617**



**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 1B - STA. 1002+50 TO STA. 1015+00**

DESIGN AGENCY



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DESIGNER

SMB

REVIEWER

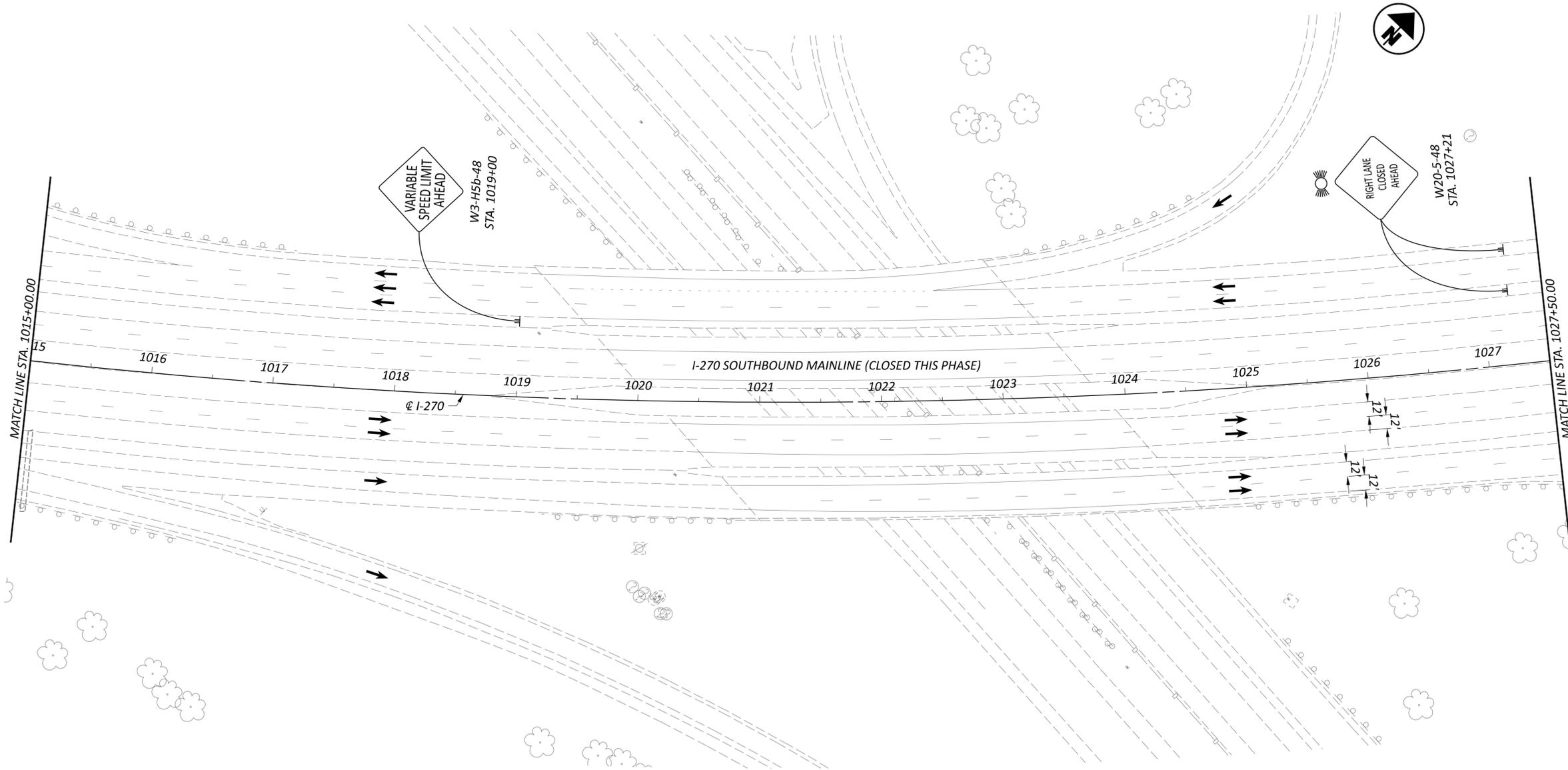
MJC 04/15/24

PROJECT ID

112798

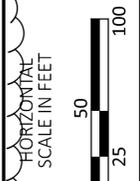
SHEET TOTAL

P.73J 617



**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 1B - STA. 1015+00 TO STA. 1027+50**

DESIGN AGENCY



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SMB

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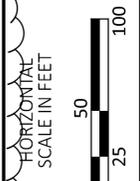
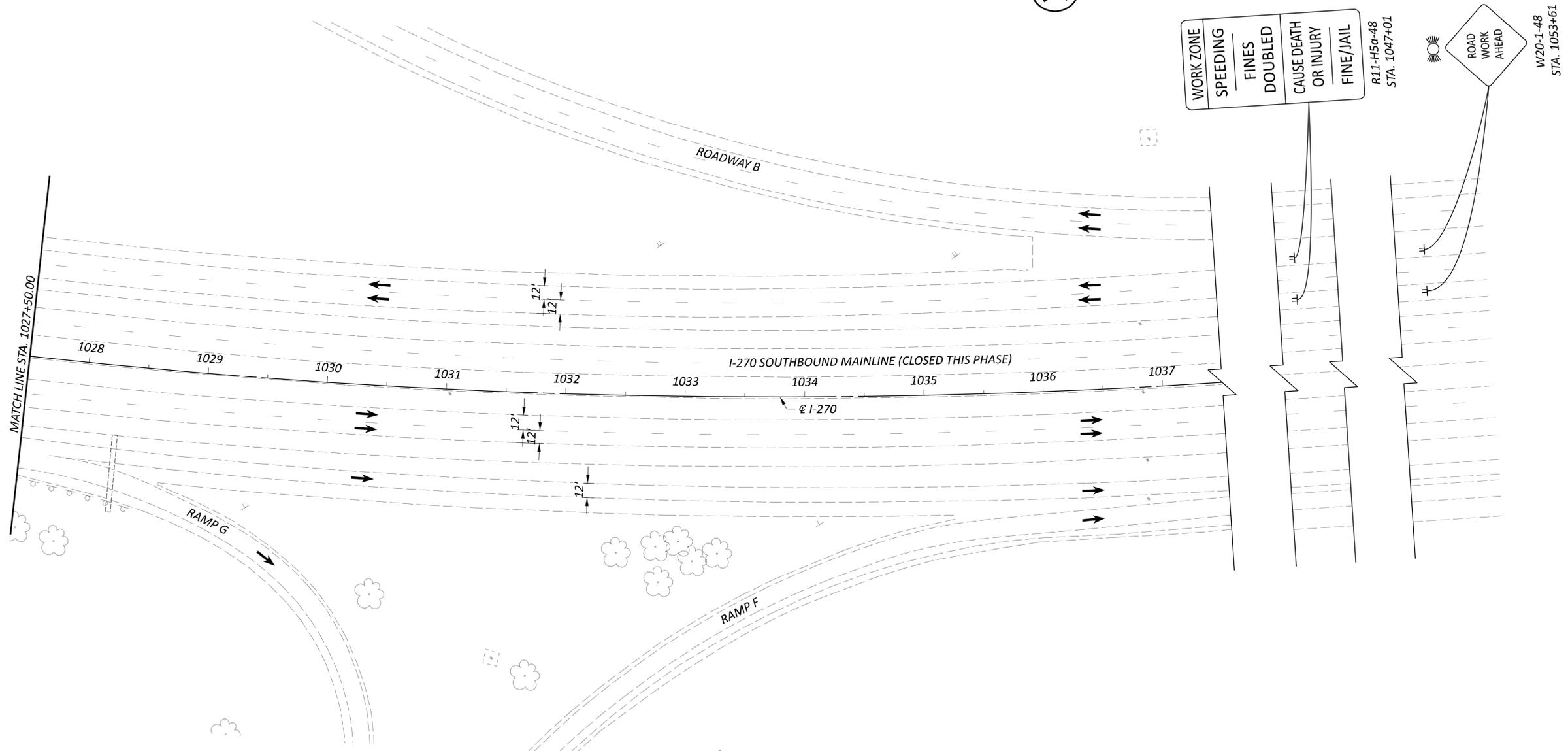
MJC 04/15/24

PROJECT ID

112798

SHEET TOTAL

P.73K 617



**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |

**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 1B - STA. 1027+50 TO END WORK**

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DESIGNER  
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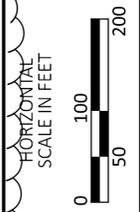
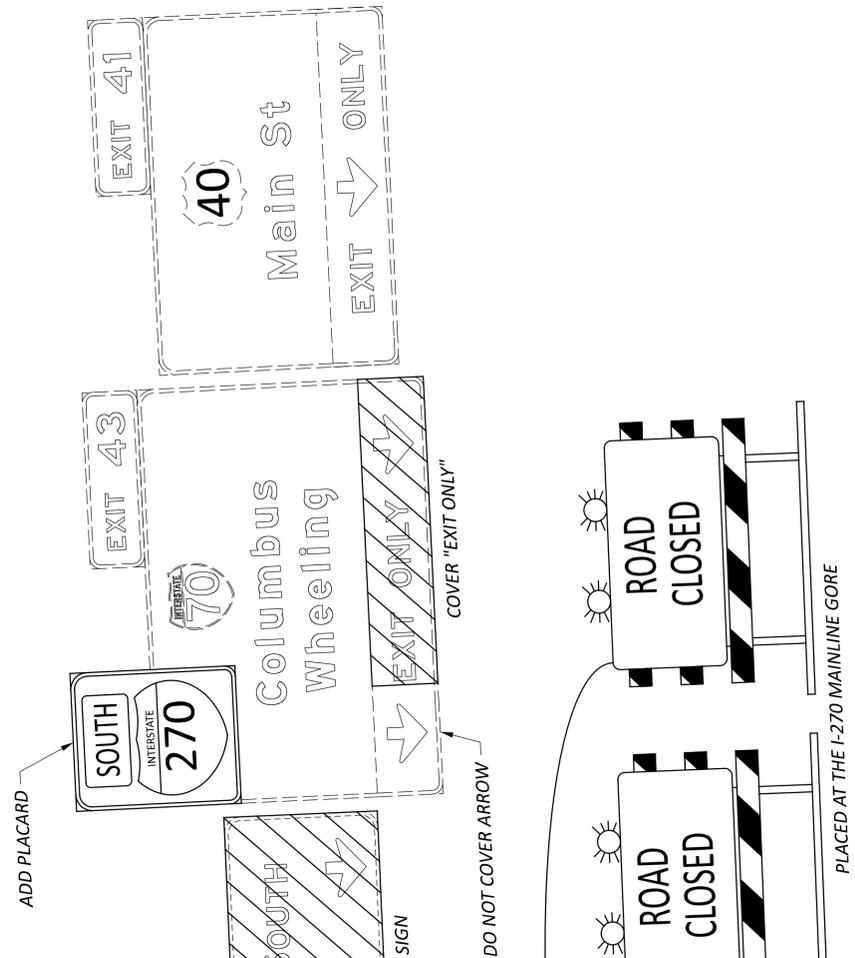
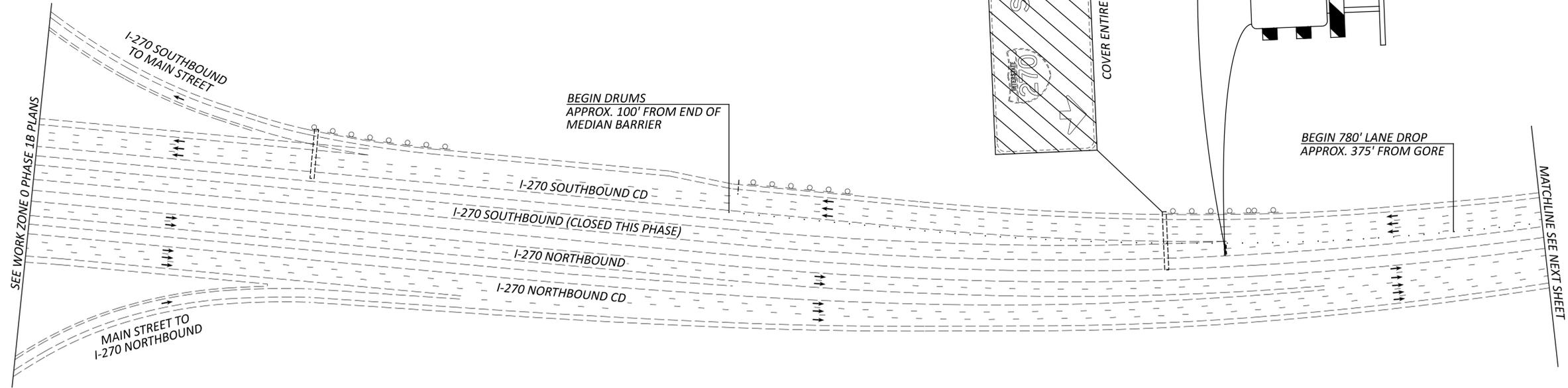
REVIEWER  
**MJC 04/15/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.73L 617**

LEGEND

- CONSTRUCTION BARREL
- ➔ DIRECTION OF TRAVEL
- ▬ PORTABLE BARRIER



**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 1B - I-270 SOUTHBOUND MAINLINE CLOSURE**

DESIGN AGENCY  
  
**EL. ROBINSON**  
 ENGINEERING  
 1468 West 9th St, Suite 800  
 Cleveland, Ohio  
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 Grandview Heights, Ohio

DESIGNER  
**SMB**

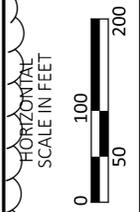
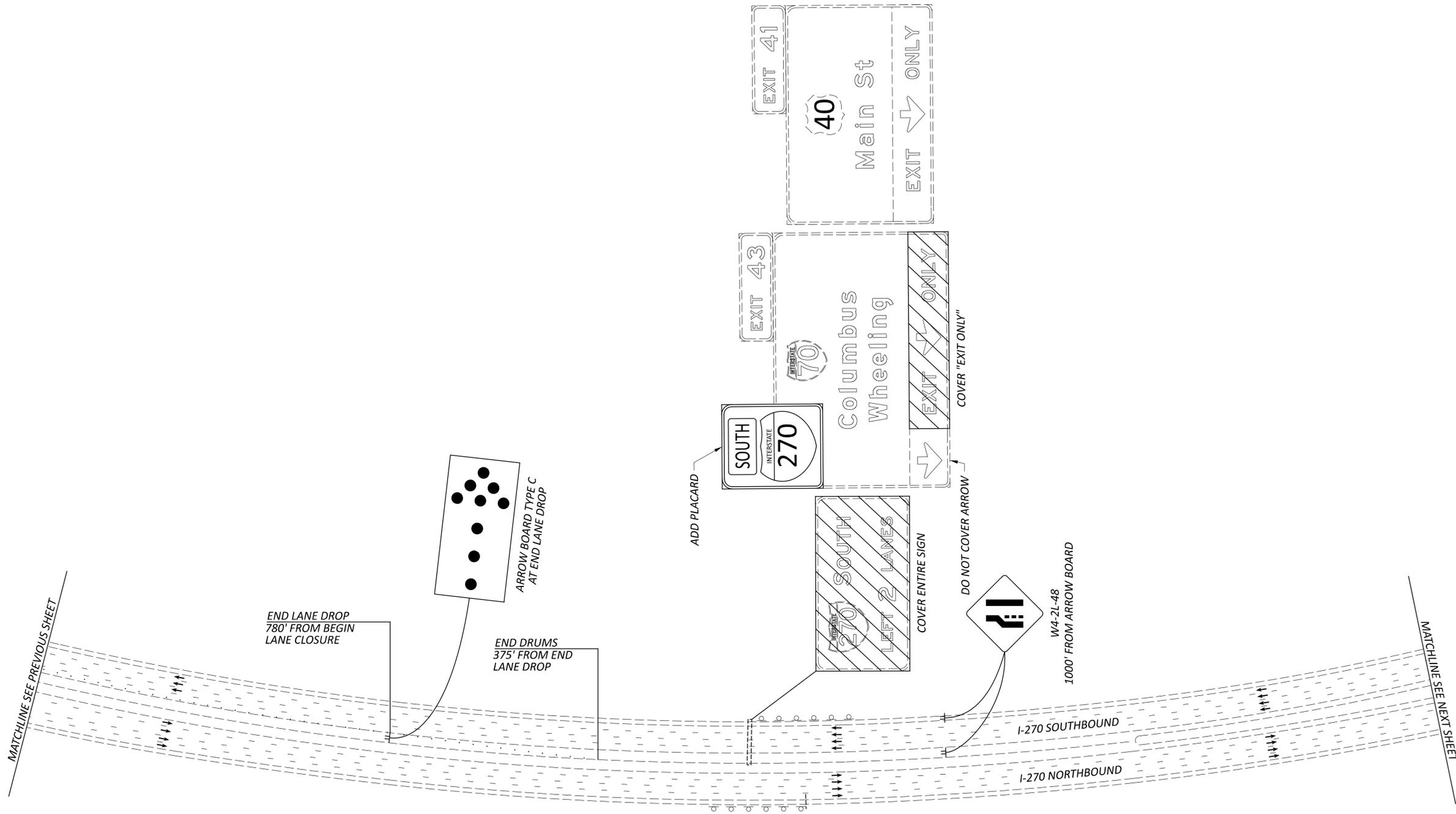
REVIEWER  
**MJC 04/15/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.73M | 617**

LEGEND

- CONSTRUCTION BARREL
- ➔ DIRECTION OF TRAVEL
- ▬ PORTABLE BARRIER



**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 1B - I-270 SOUTHBOUND MAINLINE CLOSURE**

DESIGN AGENCY



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 Cleveland, Ohio  
 950 Goodale Blvd, Suite 180  
 Grandview Heights, Ohio

DESIGNER

SMB

REVIEWER

MJC 04/15/24

PROJECT ID

112798

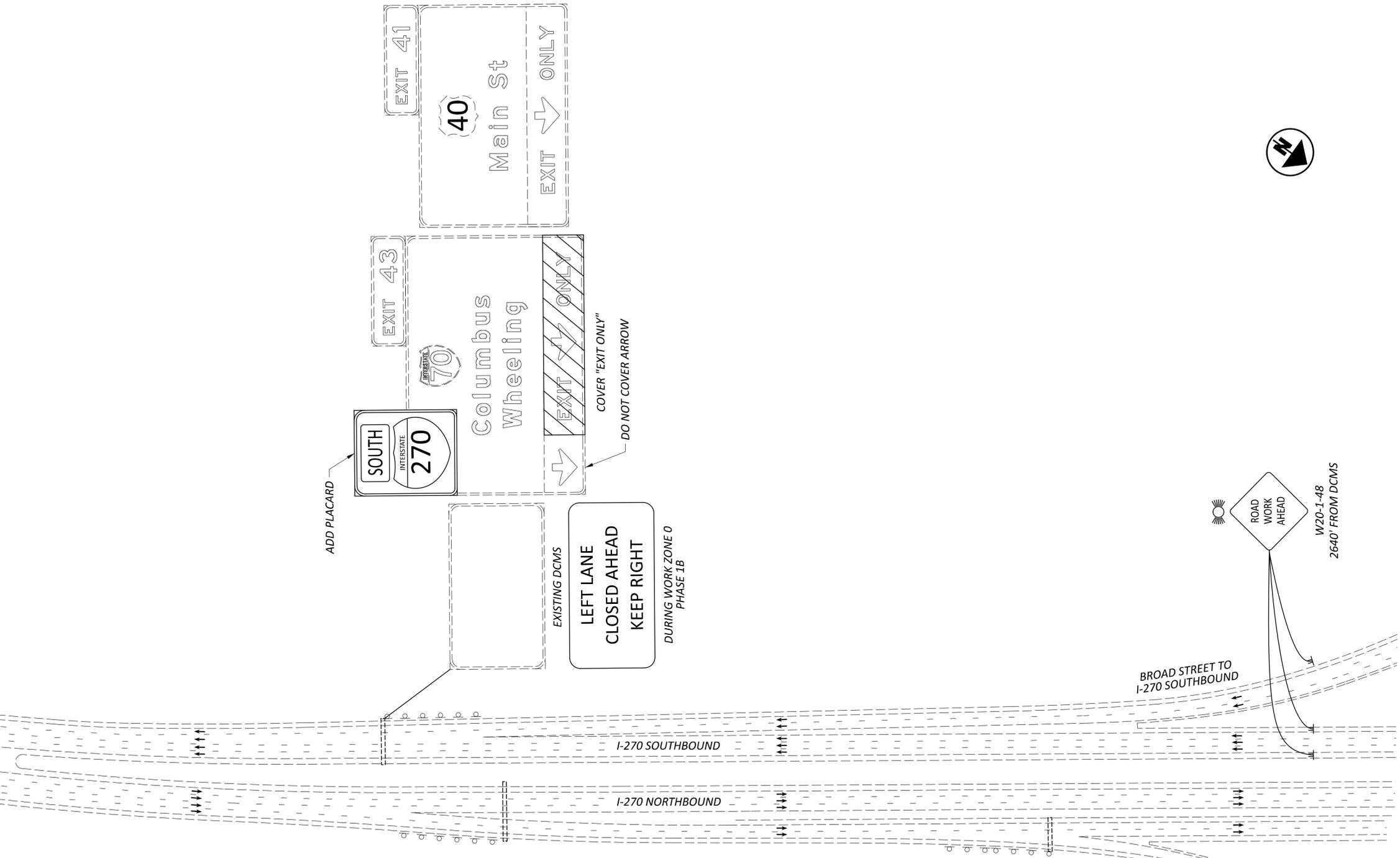
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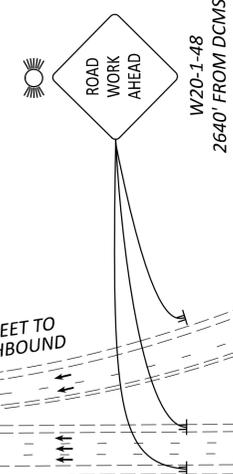
**LEGEND**

- CONSTRUCTION BARREL
- ➔ DIRECTION OF TRAVEL
- ▬ PORTABLE BARRIER

MATCHLINE SEE PREVIOUS SHEET



BROAD STREET TO I-270 SOUTHBOUND



I-270 NORTHBOUND TO BROAD STREET

**MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 1B - I-270 SOUTHBOUND MAINLINE CLOSURE**

DESIGN AGENCY



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DESIGNER

SMB

REVIEWER

MJC 04/15/24

PROJECT ID

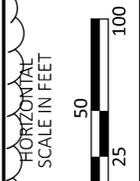
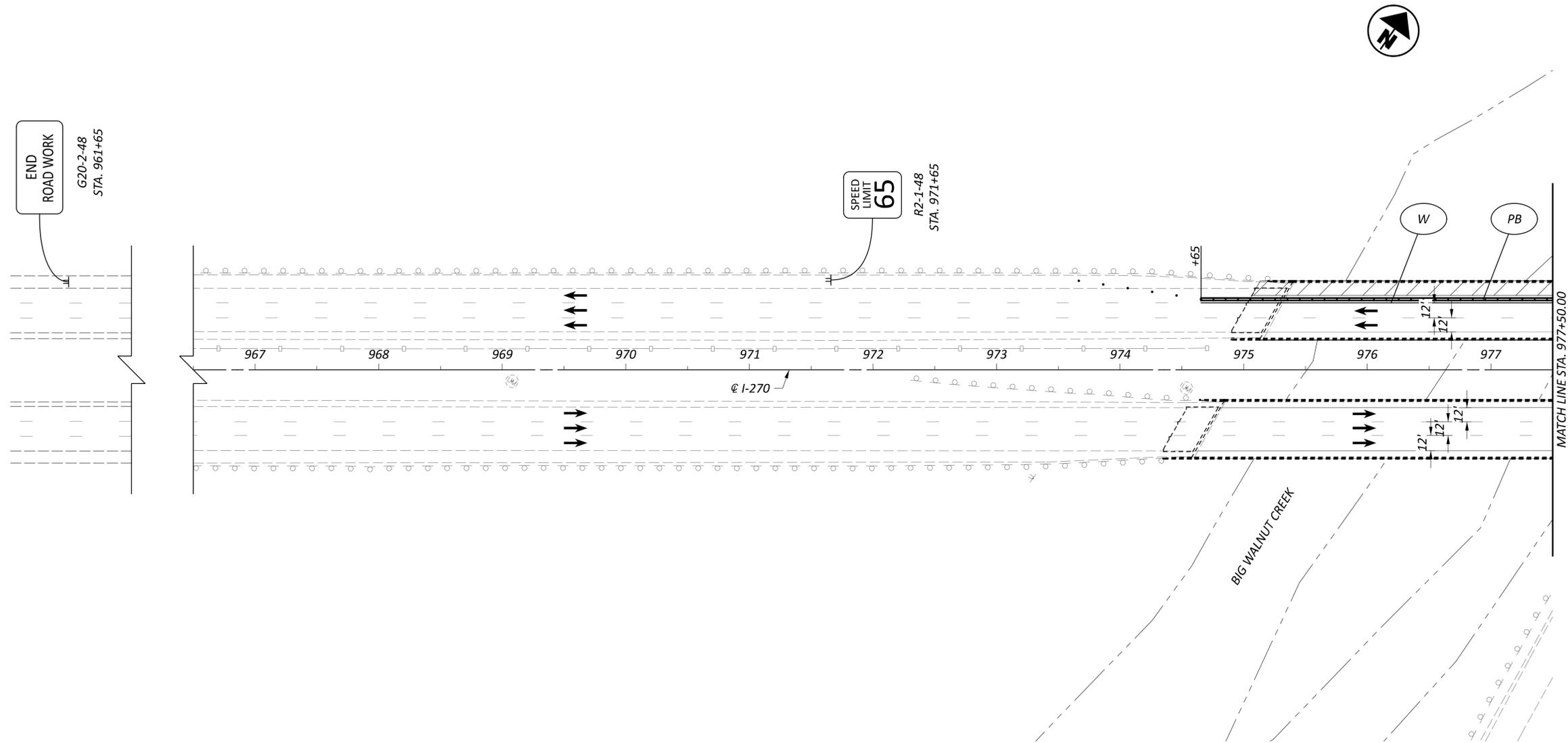
112798

SHEET TOTAL

P.730 617

**LEGEND**

- |   |  |  |  |   |                               |   |                     |
|---|--|--|--|---|-------------------------------|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 2A - BEGIN WORK TO STA. 977+50**

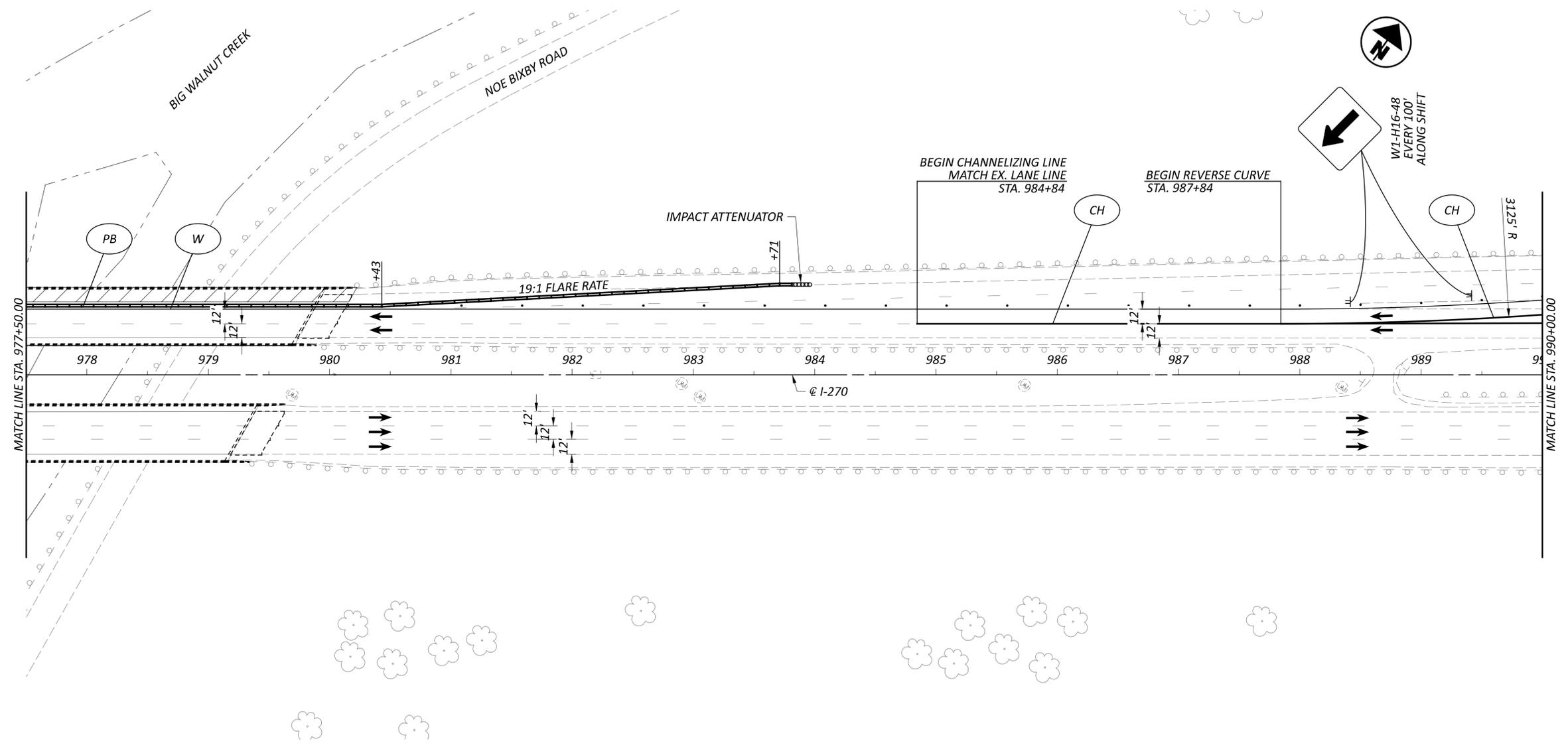
DESIGN AGENCY  
  
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DESIGNER  
**SMB**

REVIEWER  
**MJC 04/15/24**

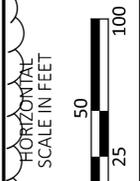
PROJECT ID  
**112798**

SHEET TOTAL  
**P.73P 617**



LEGEND

- |   |  |    |  |  |                               |   |                     |
|---|--|----|--|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |   | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |   | PORTABLE BARRIER    |



MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 2A - STA. 977+50 TO STA. 990+00

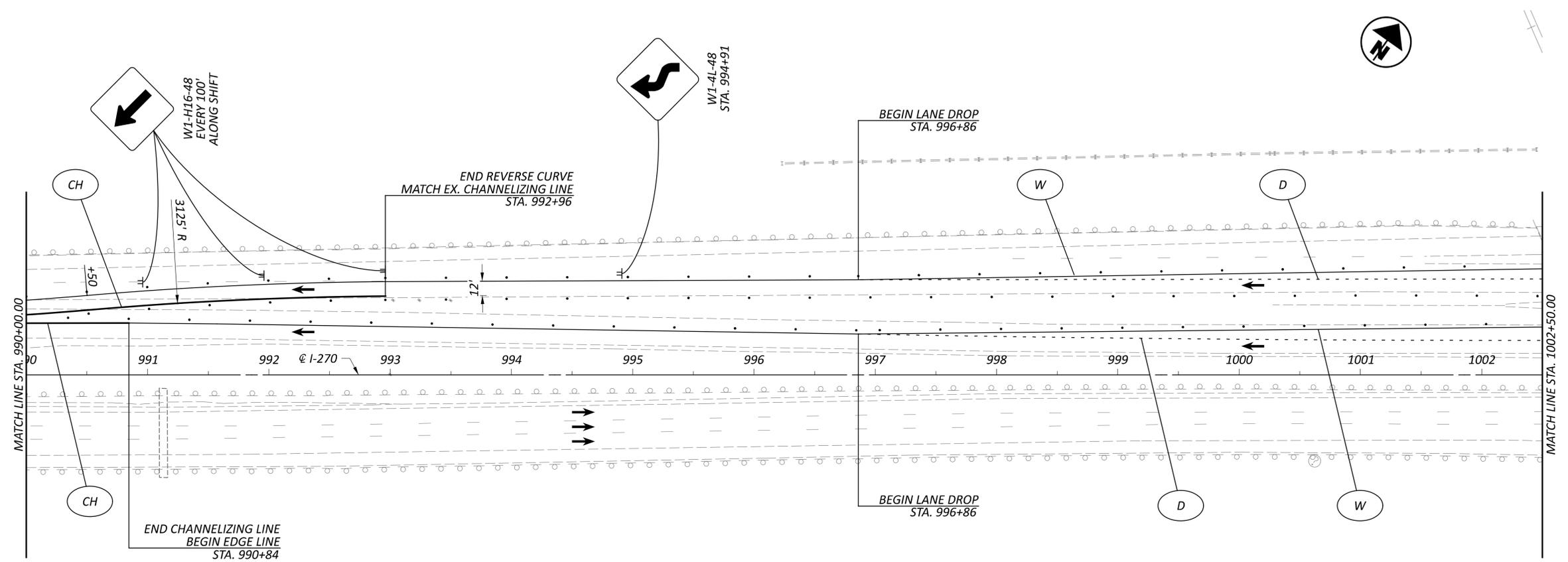
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DESIGNER  
**SMB**

REVIEWER  
**MJC 04/15/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.73Q 617**



LEGEND

- |   |  |  |  |   |                               |   |                     |
|---|--|--|--|---|-------------------------------|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |

MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 2A - STA. 990+00 TO STA. 1002+50

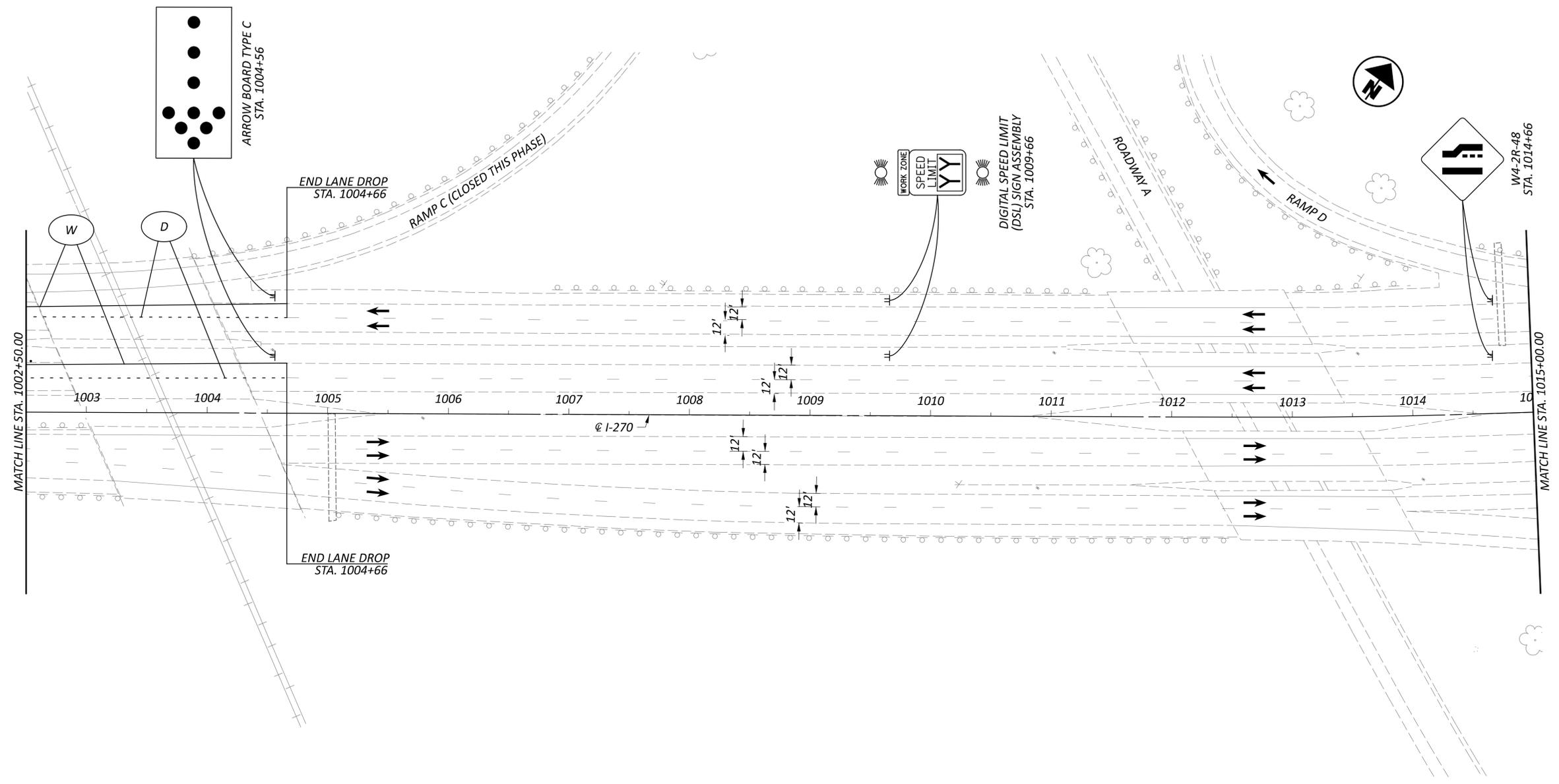
DESIGN AGENCY  
  
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DESIGNER  
**SMB**

REVIEWER  
**MJC 04/15/24**

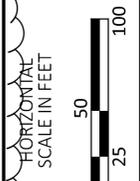
PROJECT ID  
**112798**

SHEET TOTAL  
**P.73R 617**



**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 2A - STA. 1002+50 TO STA. 1015+00**

DESIGN AGENCY  
  
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DESIGNER  
 SMB

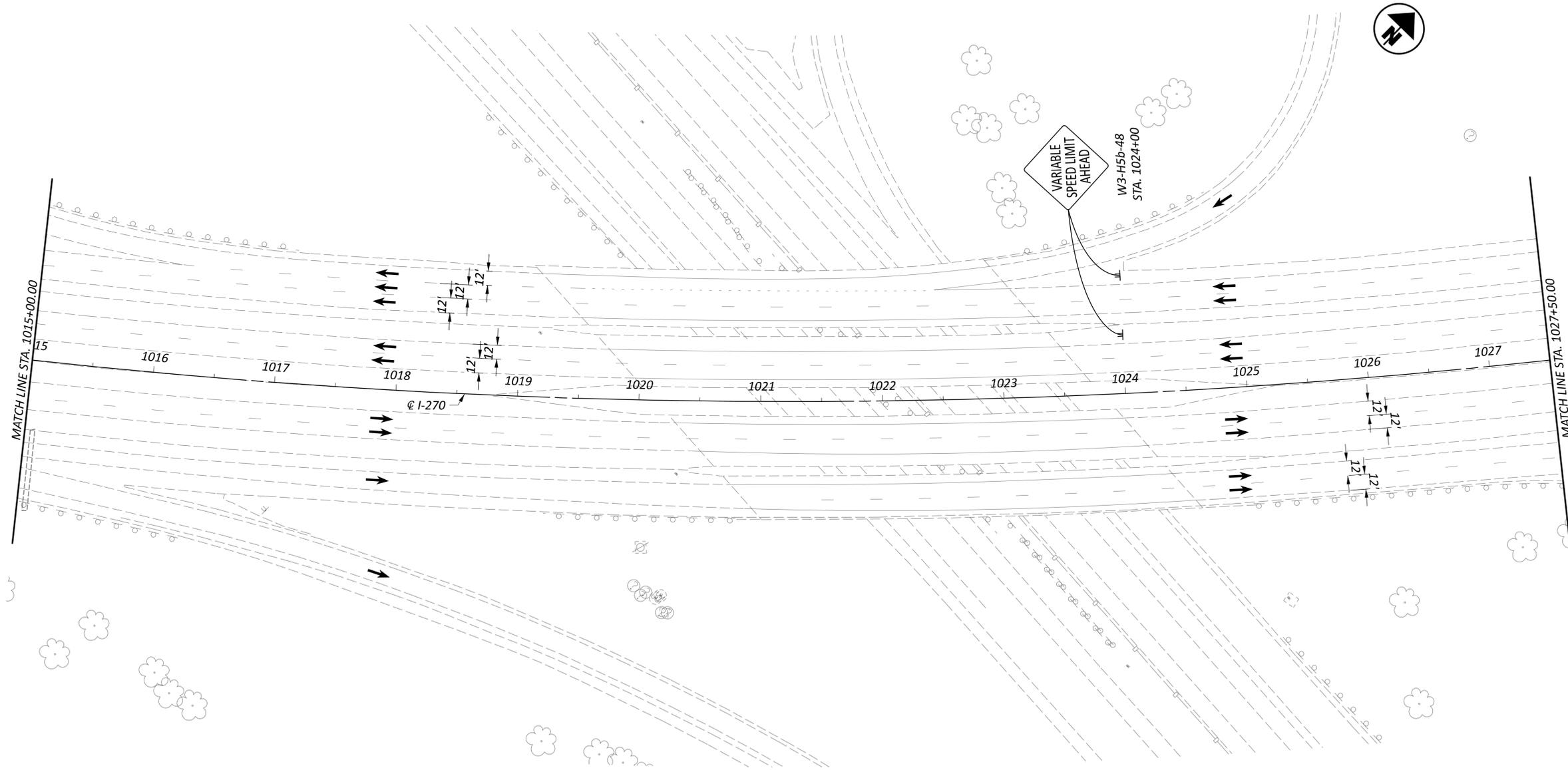
REVIEWER  
 MJC 04/15/24

PROJECT ID  
 112798

SHEET TOTAL  
 P.735 617

**LEGEND**

- |   |  |  |  |   |                               |   |                     |
|---|--|--|--|---|-------------------------------|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



SIGNS SHALL BE PLACED ALONG RAMP H AND SPACED 500' APART



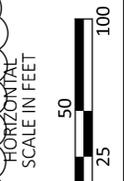
W20-1-48

WORK ZONE
SPEEDING
FINES DOUBLED
CAUSE DEATH OR INJURY
FINE/JAIL

R11-H5a-48



W3-H5b-48  
STA. 1024+00



MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 2A - STA. 1015+00 TO STA. 1027+50

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DESIGNER

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REVIEWER

MJC 04/15/24

PROJECT ID

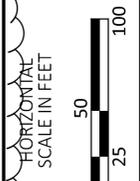
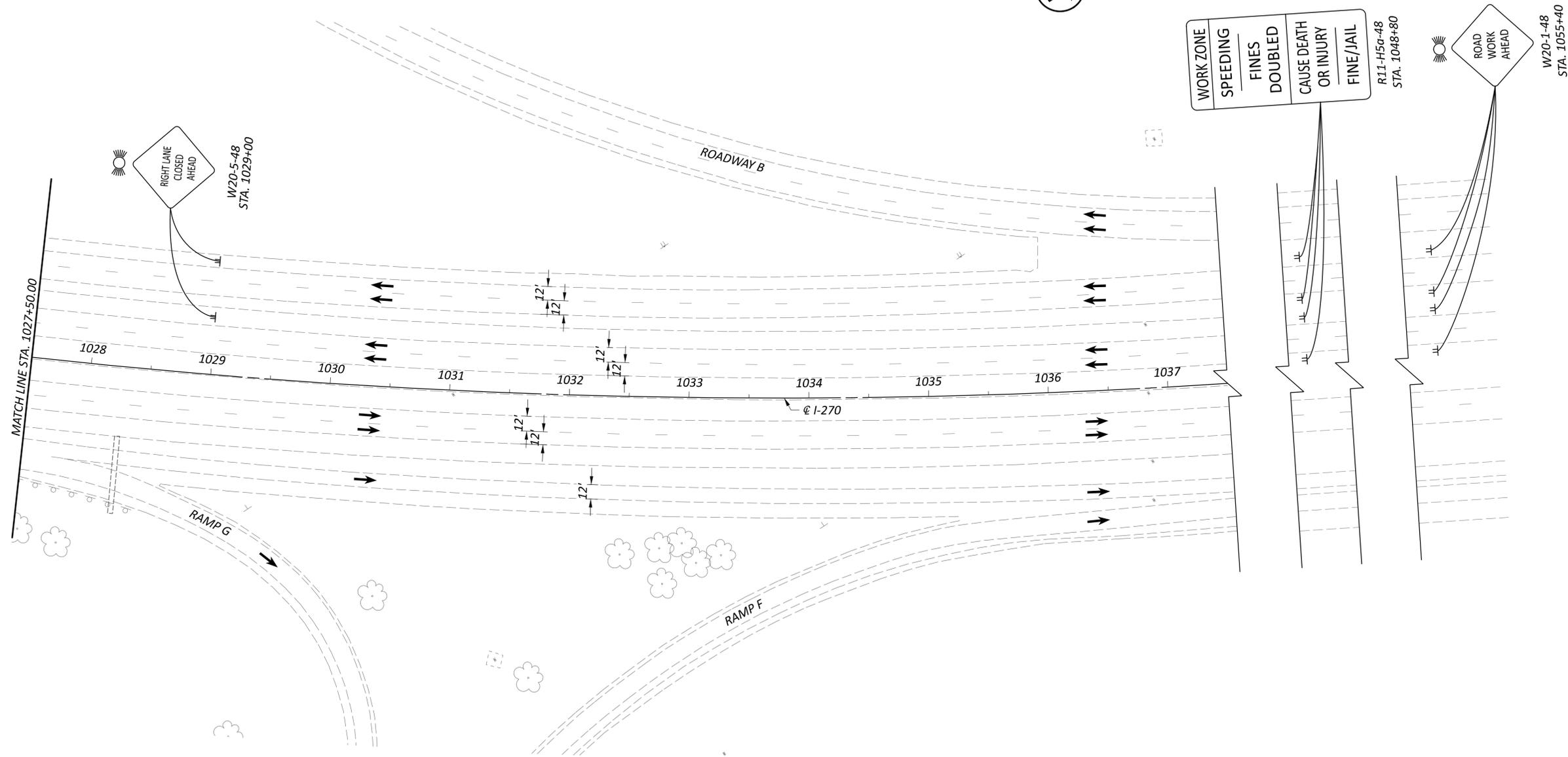
112798

SHEET TOTAL

P.73T 617

**LEGEND**

- |   |  |   |  |   |                               |   |                     |
|---|--|---|--|---|-------------------------------|---|---------------------|
|  W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 2A - STA. 1027+50 TO END WORK**

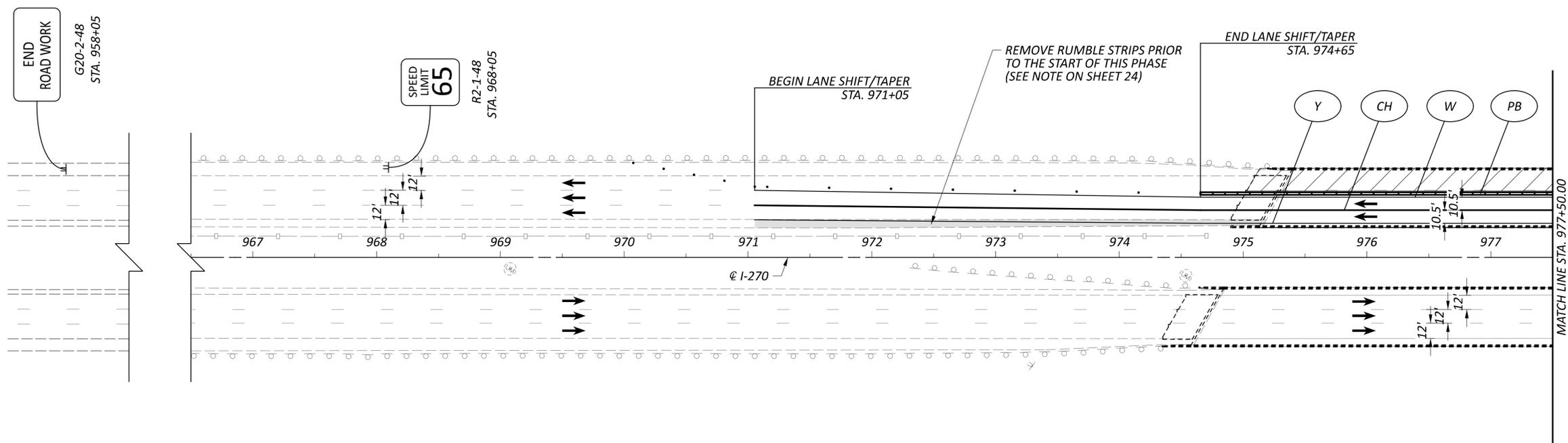
DESIGN AGENCY  
  
**E.L. ROBINSON**  
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 1468 West 9th St, Suite 800  
 Cleveland, Ohio 44115  
 950 Goodale Blvd, Suite 180  
 Grandview Heights, Ohio 44131

DESIGNER  
**SMB**

REVIEWER  
**MJC 04/15/24**

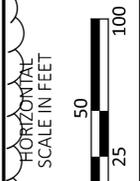
PROJECT ID  
**112798**

SHEET TOTAL  
**P.73U 617**



**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 2B - BEGIN WORK TO STA. 977+50**

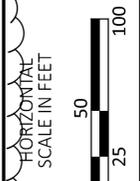
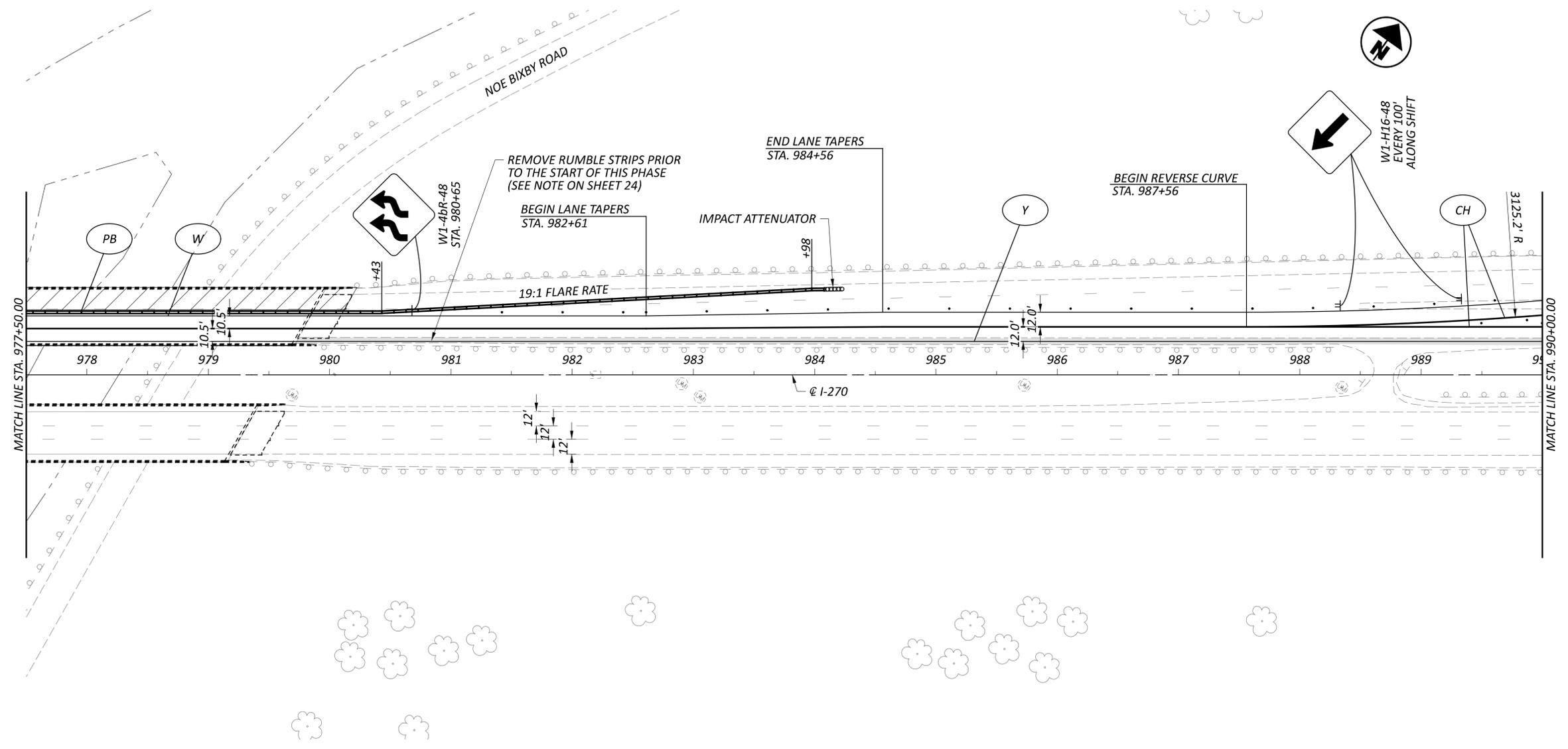
DESIGN AGENCY  
  
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 950 Goodale Blvd, Suite 180  
 Grandview Heights, Ohio

DESIGNER  
 SMB

REVIEWER  
 MJC 04/15/24

PROJECT ID  
 112798

SHEET TOTAL  
 P.73V 617



MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 2B - STA. 977+50 TO STA. 990+00

LEGEND

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |

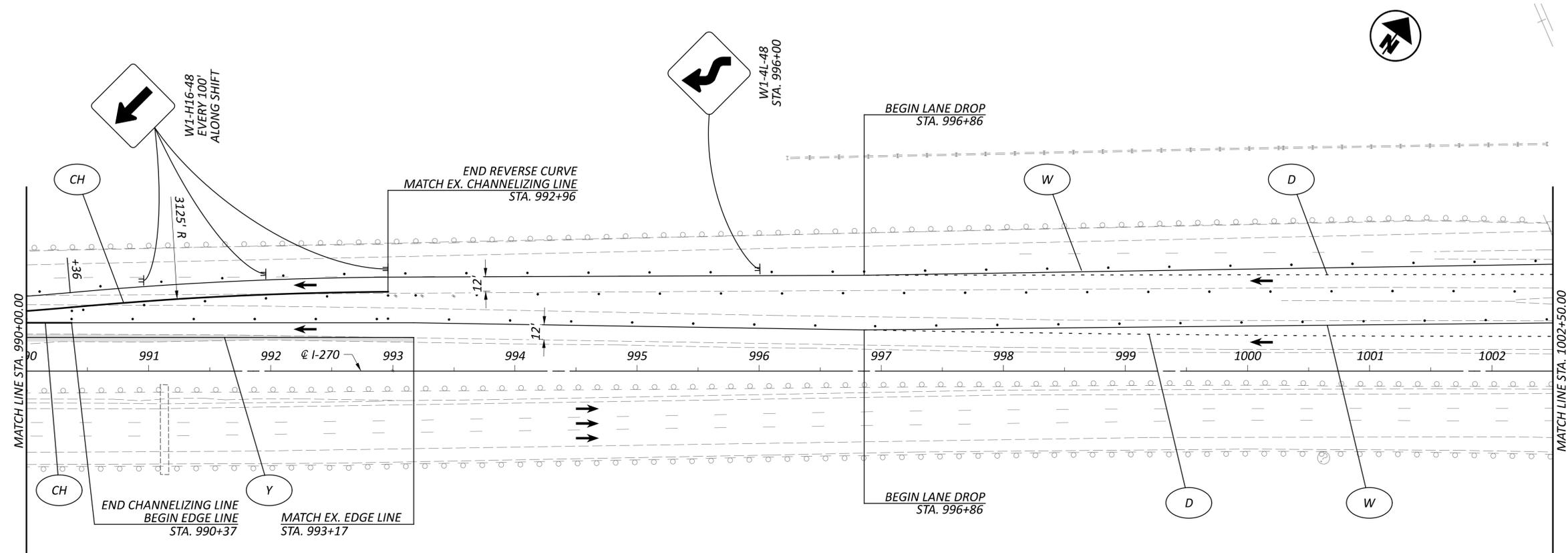
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 Cleveland, Ohio  
 950 Goodale Blvd, Suite 180  
 Grandview Heights, Ohio

DESIGNER  
**SMB**

REVIEWER  
**MJC 04/15/24**

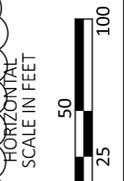
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**112798**

SHEET TOTAL  
**P.73W | 617**



**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 2B - STA. 990+00 TO STA. 1002+50**

DESIGN AGENCY



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DESIGNER

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REVIEWER

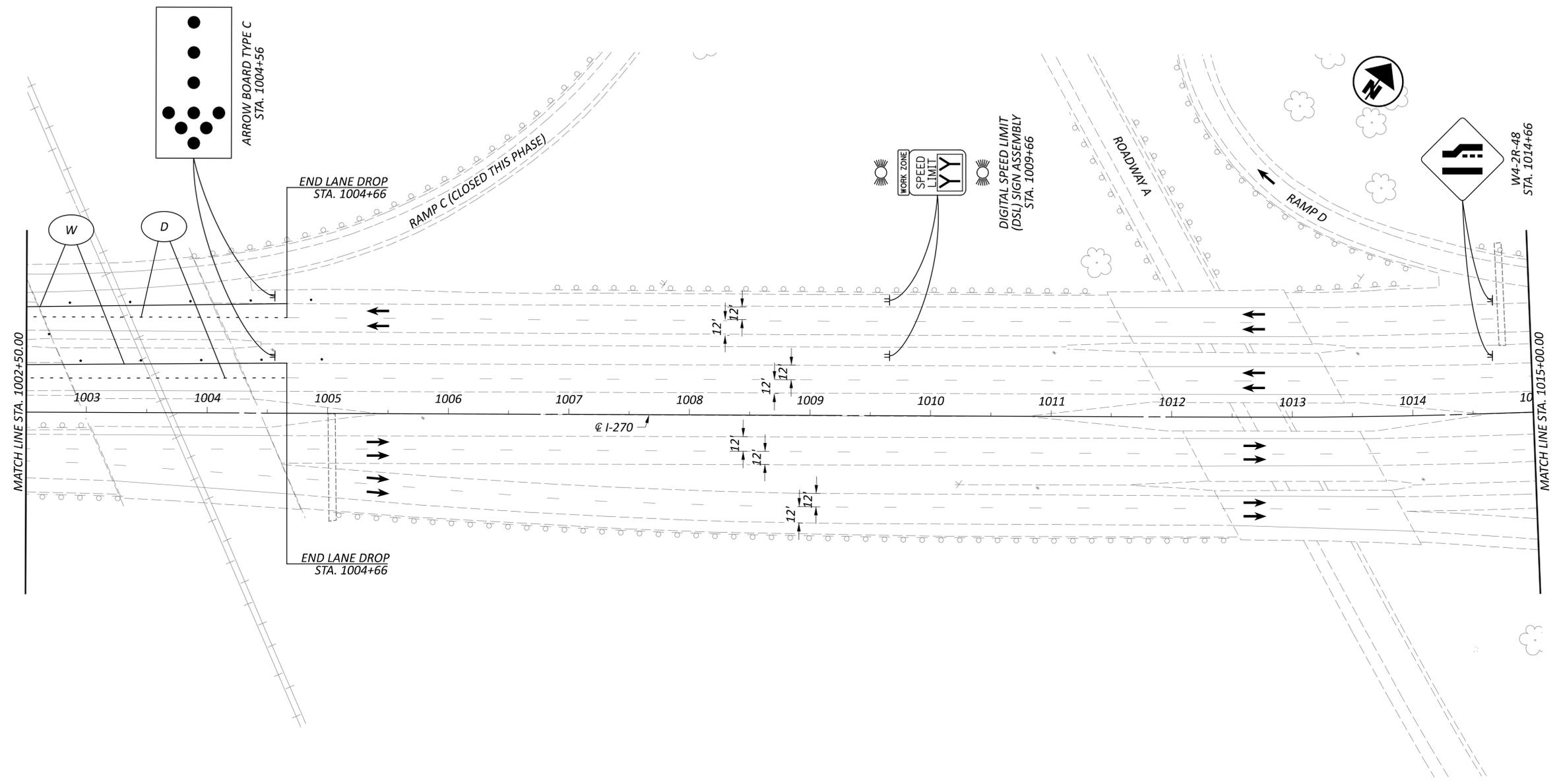
MJC 04/15/24

PROJECT ID

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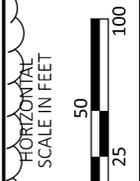
SHEET TOTAL

P.73X 617



**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0  
 PHASE 2B - STA. 1002+50 TO STA. 1015+00**

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DESIGNER  
**SMB**

REVIEWER  
**MJC 04/15/24**

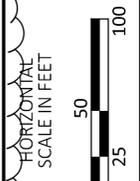
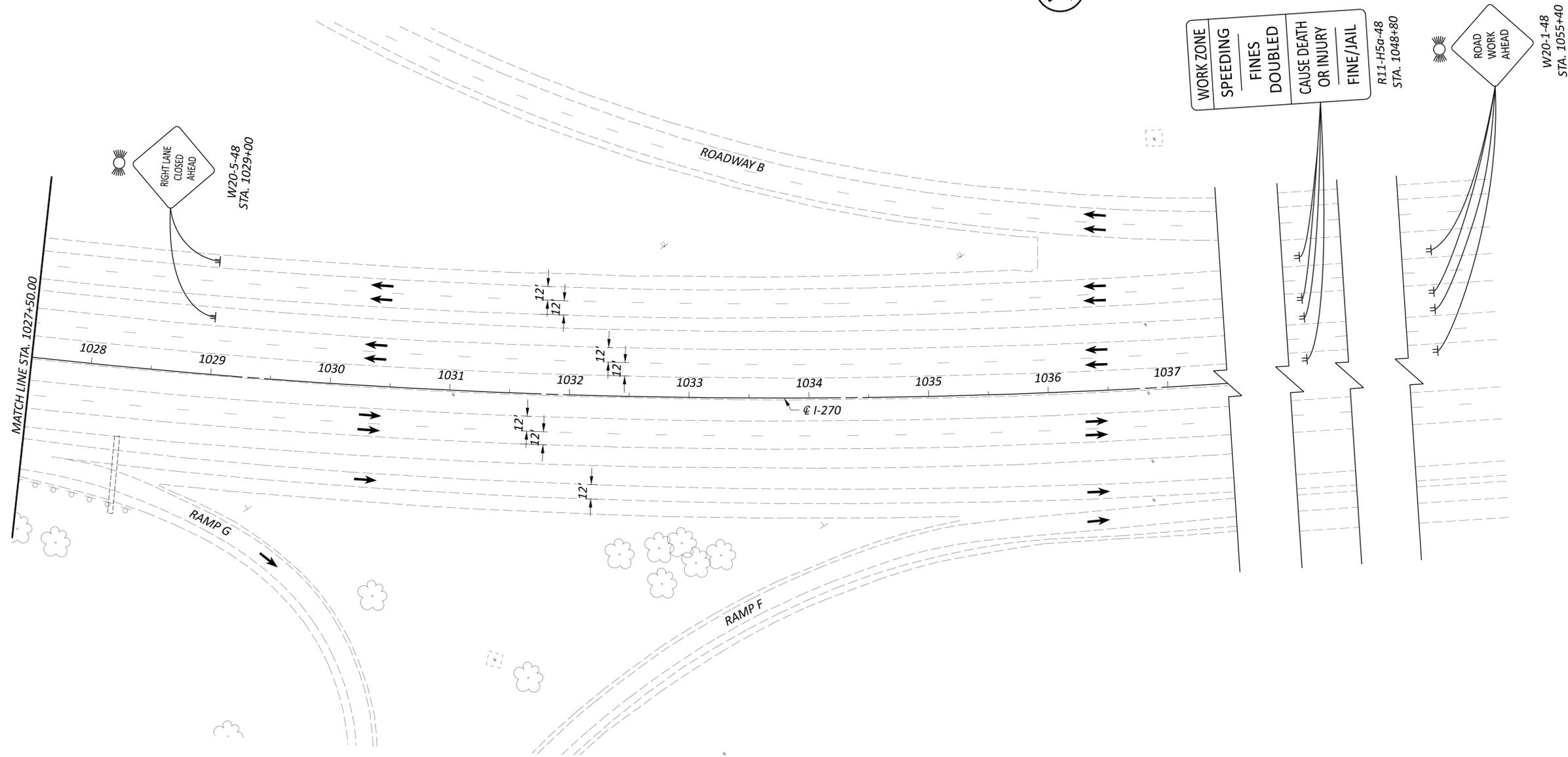
PROJECT ID  
**112798**

SHEET TOTAL  
**P.73Y 617**



**LEGEND**

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|---|--|---|--|---|-------------------------------|---|---------------------|
|  W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 0**  
**PHASE 2B - STA. 1027+50 TO END WORK**

DESIGN AGENCY  
  
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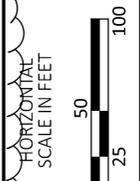
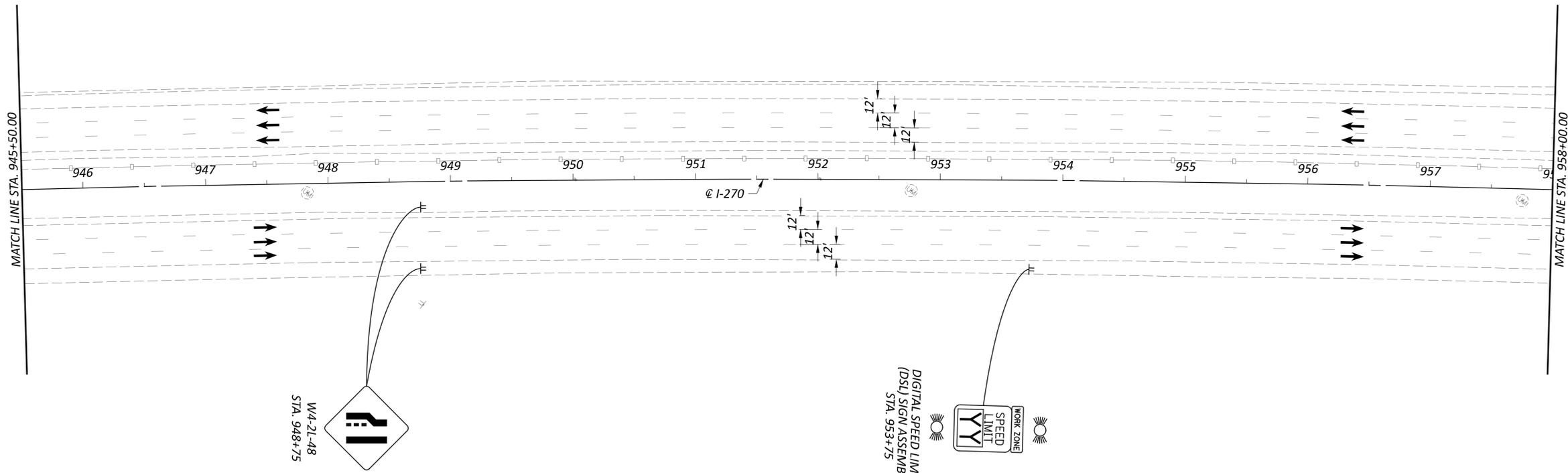
DESIGNER  
**SMB**

REVIEWER  
**MJC 04/15/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.73AA 617**





**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 1A - STA. 945+50 TO STA. 958+00**

**LEGEND**

- |   |  |  |  |   |                               |   |                     |
|---|--|--|--|---|-------------------------------|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |

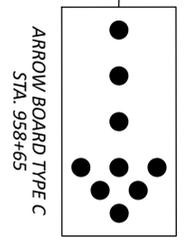
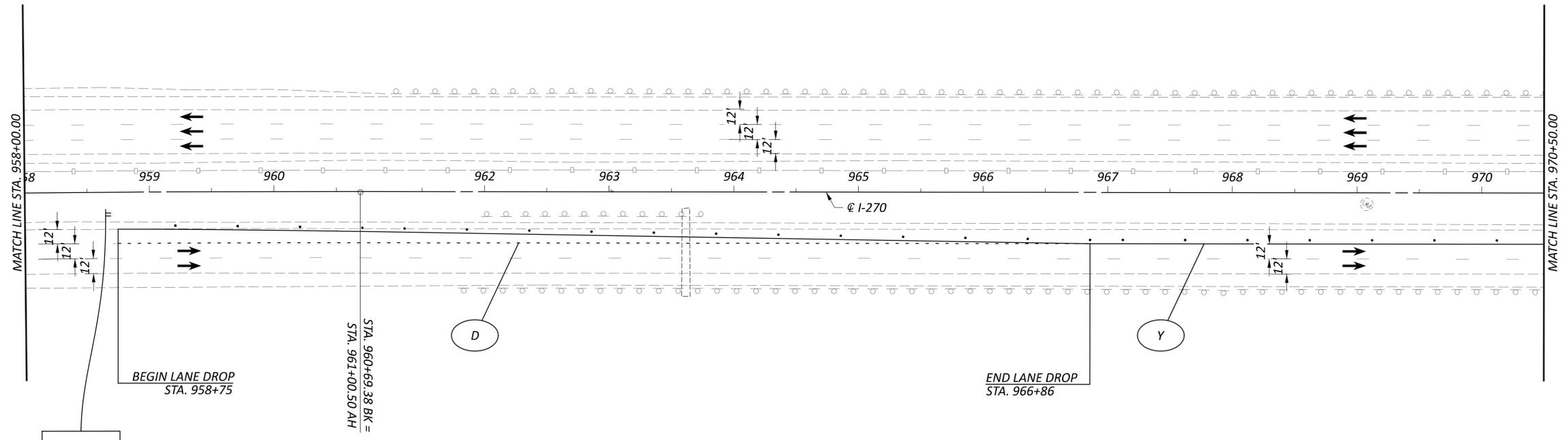
DESIGN AGENCY  
  
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DESIGNER  
**SMB**

REVIEWER  
**MJC 04/15/24**

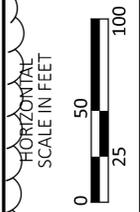
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**112798**

SHEET TOTAL  
**P.263B 617**



**LEGEND**

- |   |  |    |  |  |                               |   |                     |
|---|--|----|--|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |   | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |   | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 1A - STA. 958+00 TO STA. 970+50**

DESIGN AGENCY



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SMB

REVIEWER

MJC 04/15/24

PROJECT ID

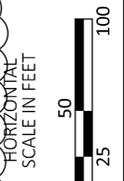
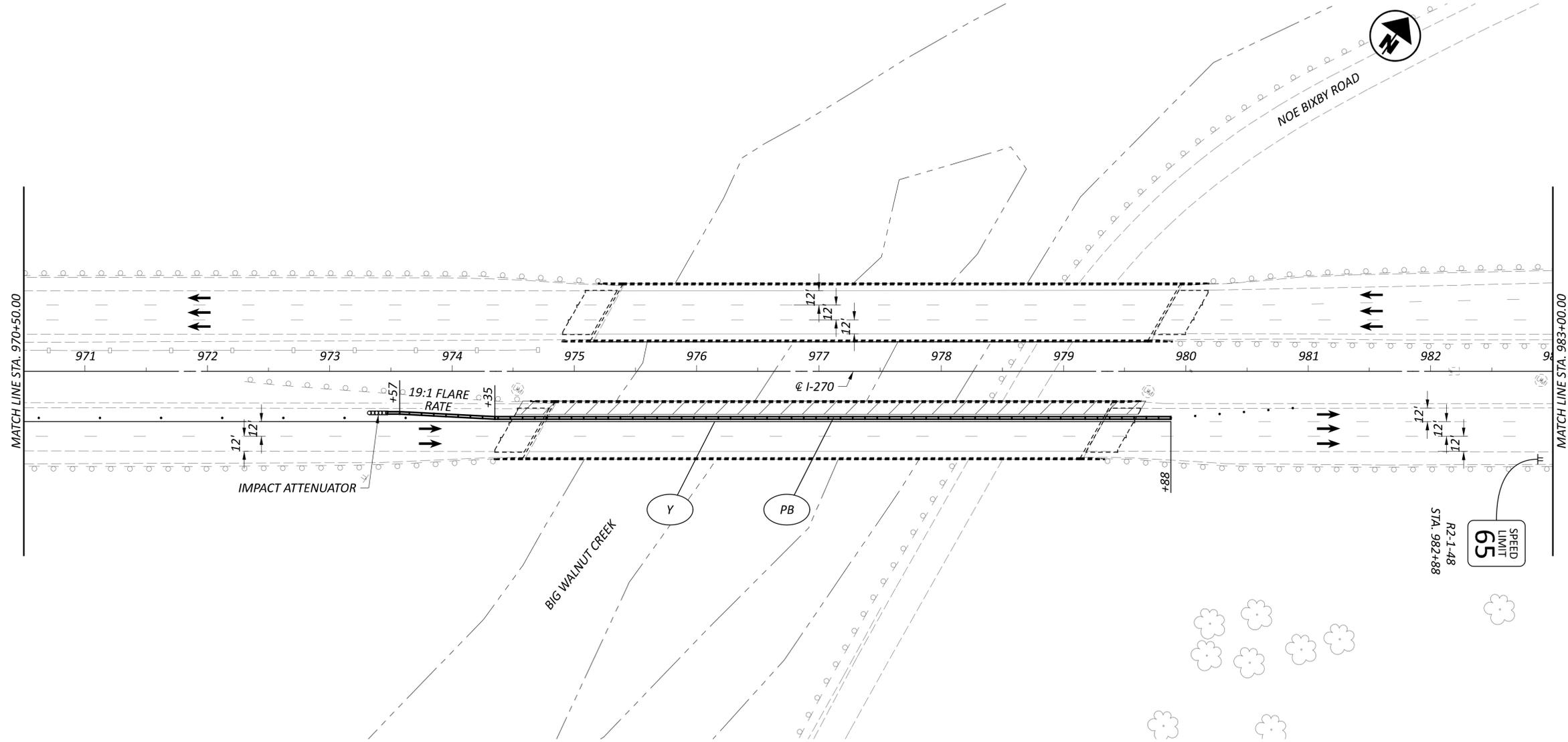
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SHEET TOTAL

P.263C 617

LEGEND

- |   |  |   |  |   |                               |   |                     |
|---|--|---|--|---|-------------------------------|---|---------------------|
|  W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



MAINTENANCE OF TRAFFIC - WORK ZONE 5  
 PHASE 1A - STA. 970+50 TO STA. 983+00

DESIGN AGENCY



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DESIGNER

SMB

REVIEWER

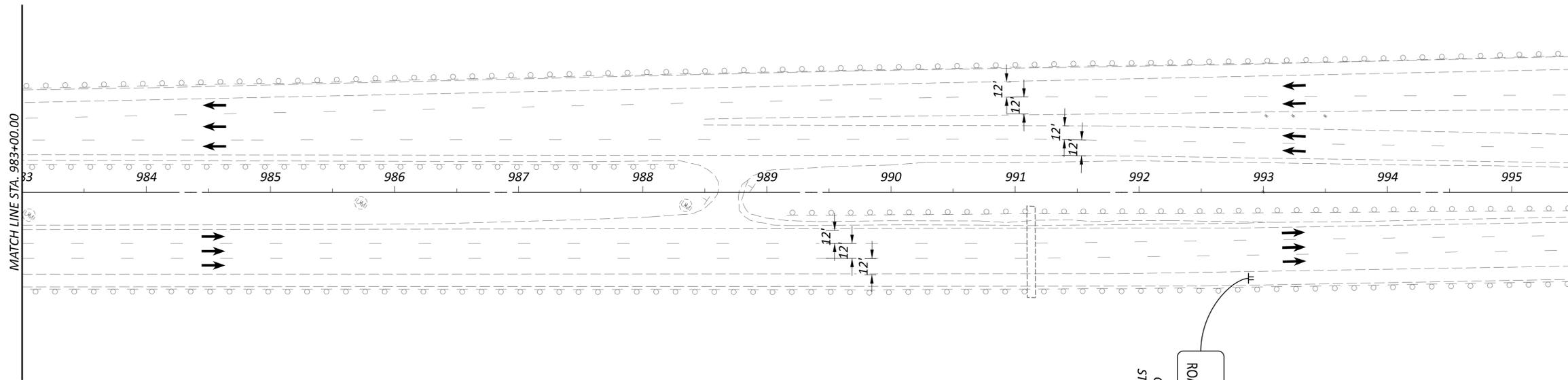
MJC 04/15/24

PROJECT ID

112798

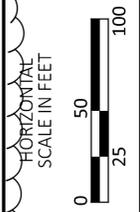
SHEET TOTAL

P.263D 617



**LEGEND**

- |   |  |    |  |  |                               |   |                     |
|---|--|----|--|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |   | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |   | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 1A - STA. 983+00 TO END WORK**

DESIGN AGENCY  
  
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DESIGNER  
**SMB**

REVIEWER  
**MJC 04/15/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.263E 617**

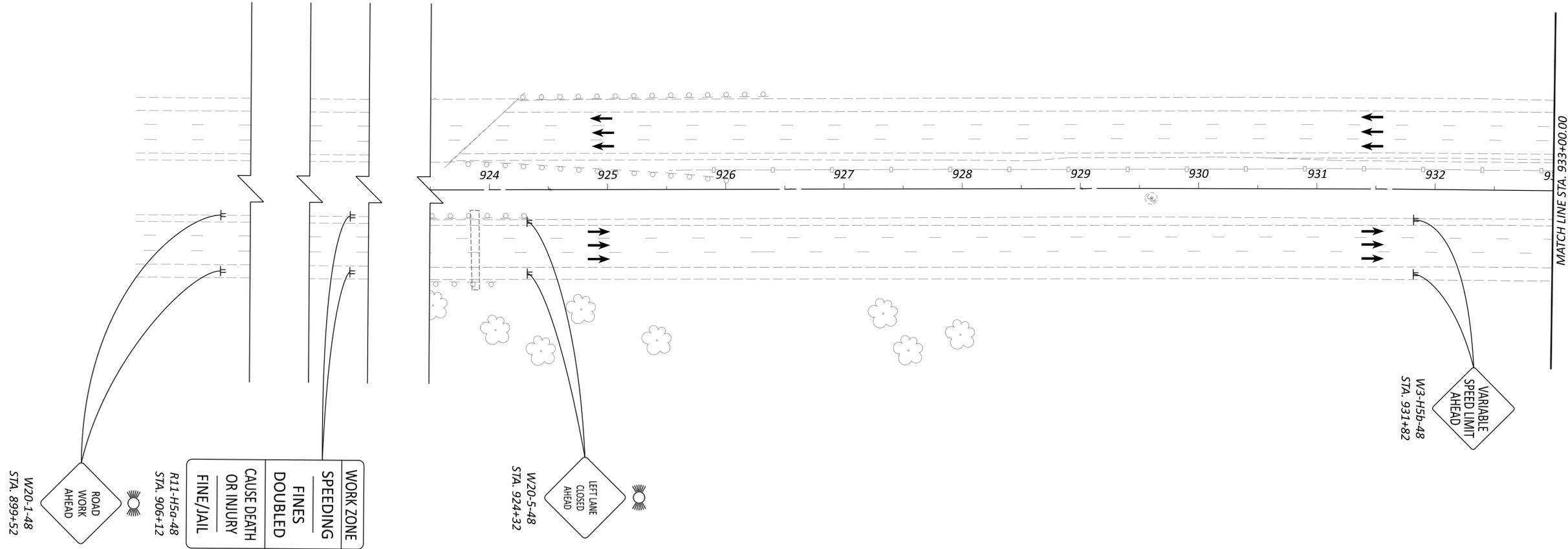
LEGEND

- W ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT
- Y ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT
- L ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT

- CH ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
- D ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT
- PB ITEM 622 - PORTABLE BARRIER

- SHOULDER REPLACEMENT/WIDENING
- TEMPORARY PAVEMENT
- WORK ZONE

- CONSTRUCTION BARREL
- ➔ DIRECTION OF TRAVEL
- PORTABLE BARRIER



W20-1-48  
STA. 899+52

R11-H50-48  
STA. 906+12

WORK ZONE  
SPEEDING  
FINES  
DOUBLED  
CAUSE DEATH  
OR INJURY  
FINE/JAIL

W20-5-48  
STA. 924+32

W3-H5B-48  
STA. 931+82

MATCH LINE STA. 933+00.00



MAINTENANCE OF TRAFFIC - WORK ZONE 5  
 PHASE 1B - BEGIN WORK TO STA. 933+00

DESIGN AGENCY



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DESIGNER

SMB

REVIEWER

MJC 04/15/24

PROJECT ID

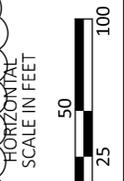
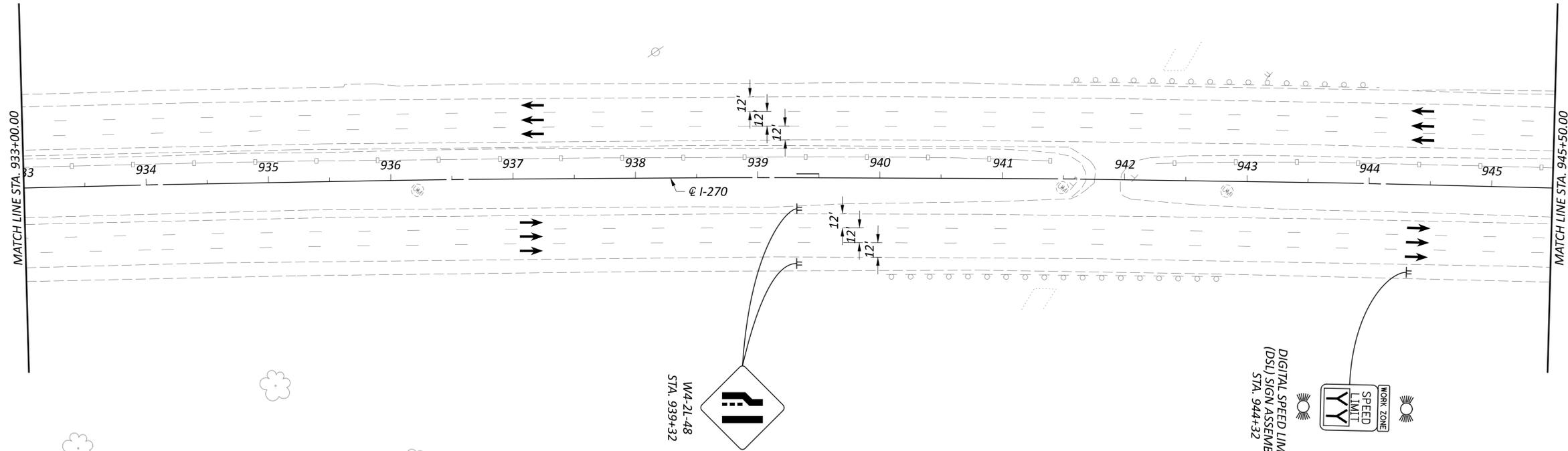
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SHEET TOTAL

P.263F 617

LEGEND

- |   |  |  |  |   |                               |   |                     |
|---|--|--|--|---|-------------------------------|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



MAINTENANCE OF TRAFFIC - WORK ZONE 5  
 PHASE 1B - STA. 933+00 TO STA. 945+50

DESIGN AGENCY



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DESIGNER

SMB

REVIEWER

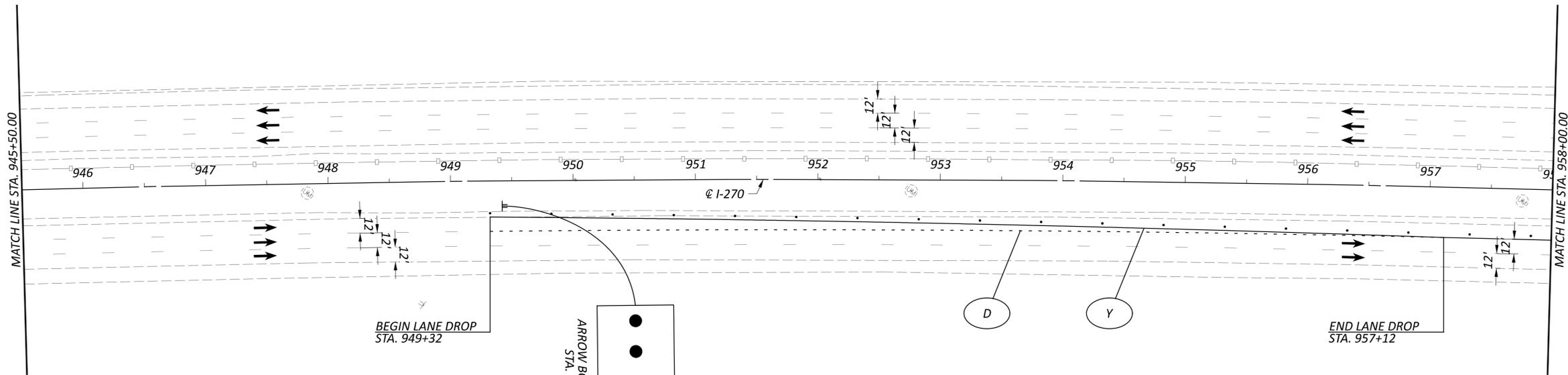
MJC 04/15/24

PROJECT ID

112798

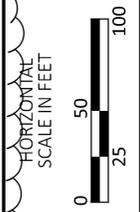
SHEET TOTAL

P.263G 617



**LEGEND**

- |   |  |    |  |  |                               |   |                     |
|---|--|----|--|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |   | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |   | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 1B - STA. 945+50 TO STA. 958+00**

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DESIGNER  
**SMB**

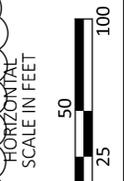
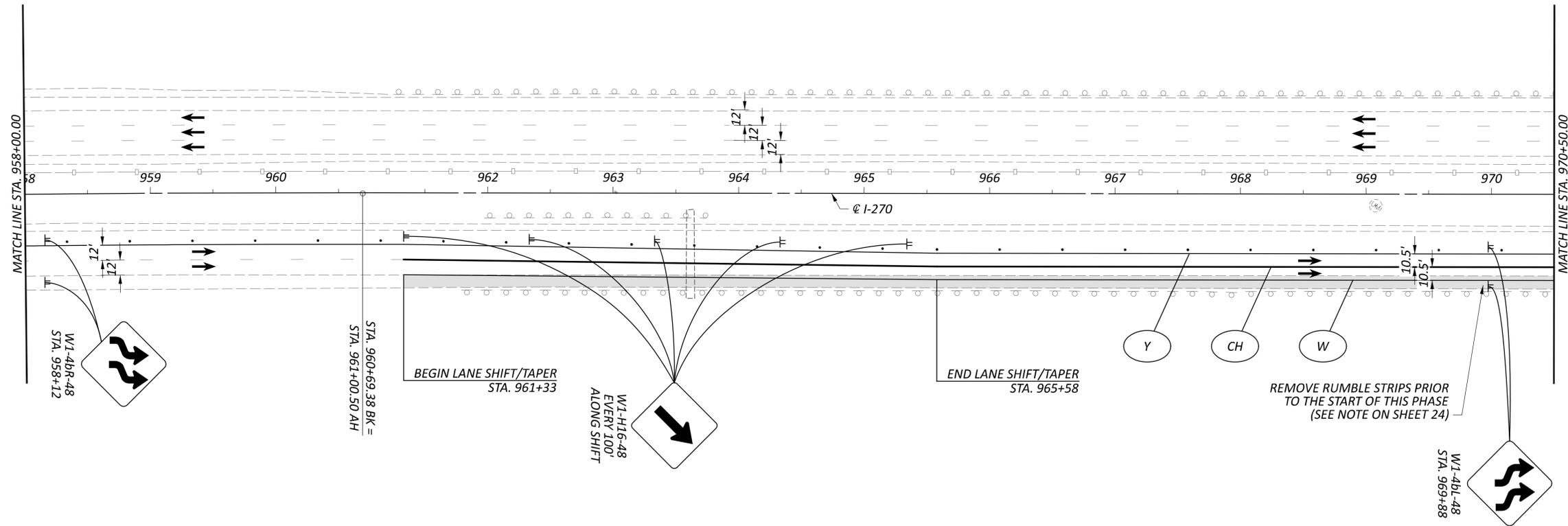
REVIEWER  
**MJC 04/15/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.263H | 617**

LEGEND

- |  |  |  |  |  |                               |  |                     |
|--|--|--|--|--|-------------------------------|--|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



MAINTENANCE OF TRAFFIC - WORK ZONE 5  
 PHASE 1B - STA. 958+00 TO STA. 970+50

DESIGN AGENCY



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 1468 West 9th St, Suite 800  
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DESIGNER

SMB

REVIEWER

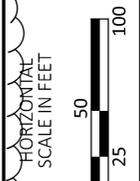
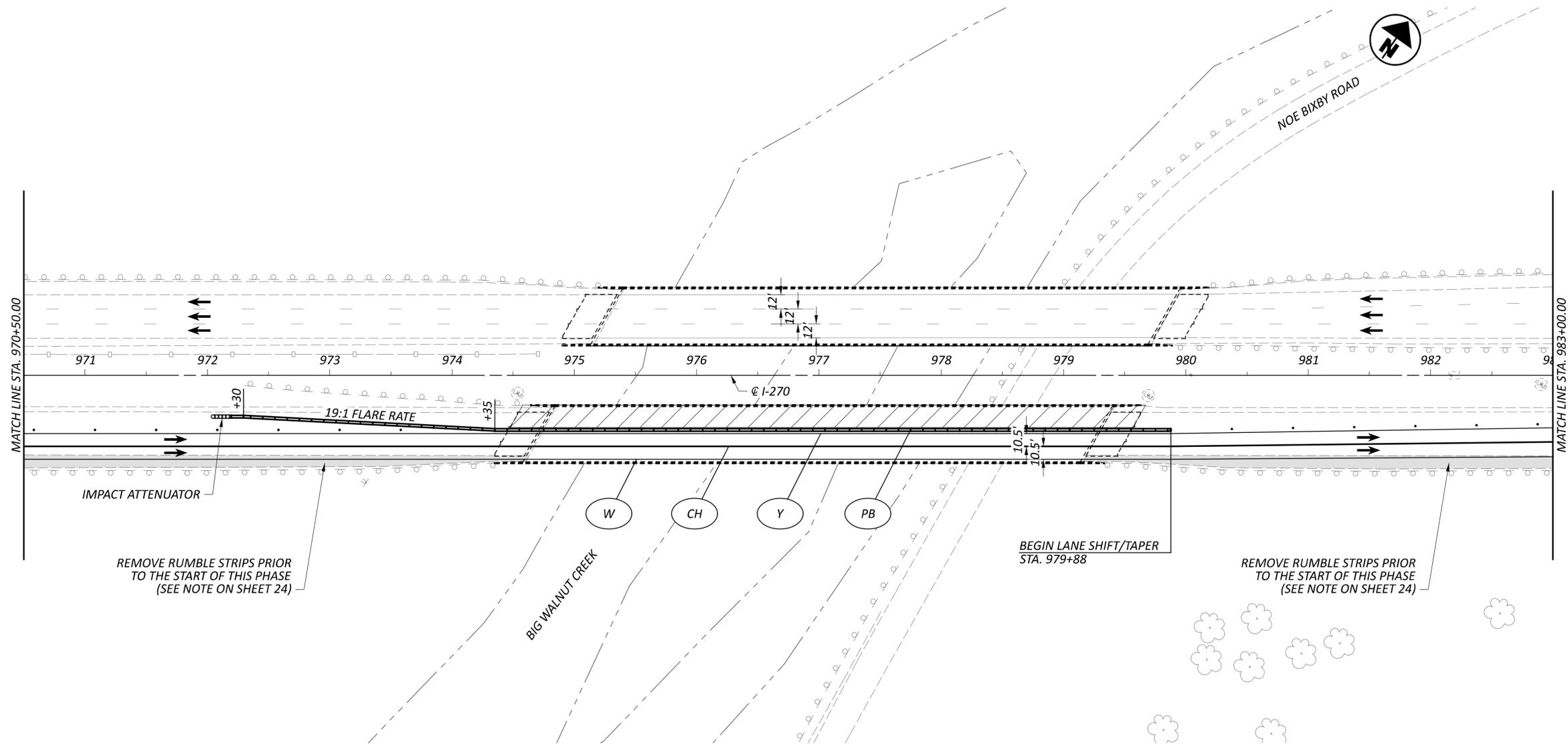
MJC 04/15/24

PROJECT ID

112798

SHEET TOTAL

P.2631 617



**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 1B - STA. 970+50 TO STA. 983+00**

**LEGEND**

- |   |  |    |  |                               |   |                     |
|---|--|----|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       | TEMPORARY PAVEMENT            | → | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                | WORK ZONE                     | = | PORTABLE BARRIER    |

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PROJECT ID

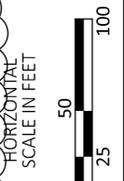
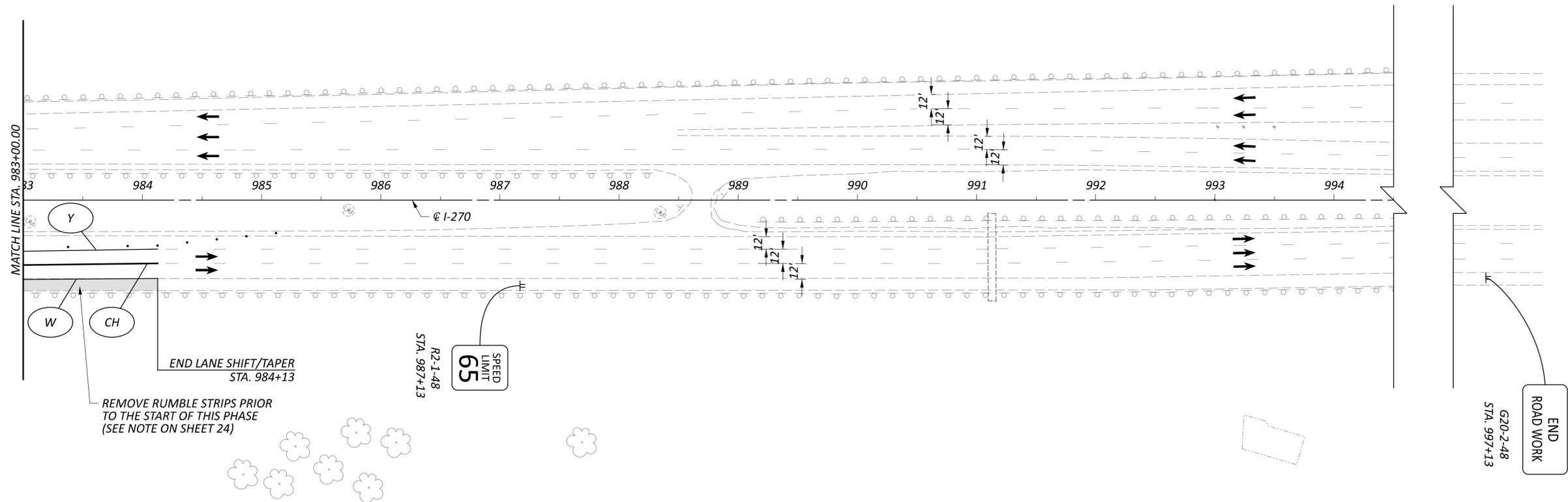
112798

SHEET TOTAL

P.263J 617

**LEGEND**

- |   |  |  |  |   |                               |   |                     |
|---|--|--|--|---|-------------------------------|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 1B - STA. 983+00 TO END WORK**

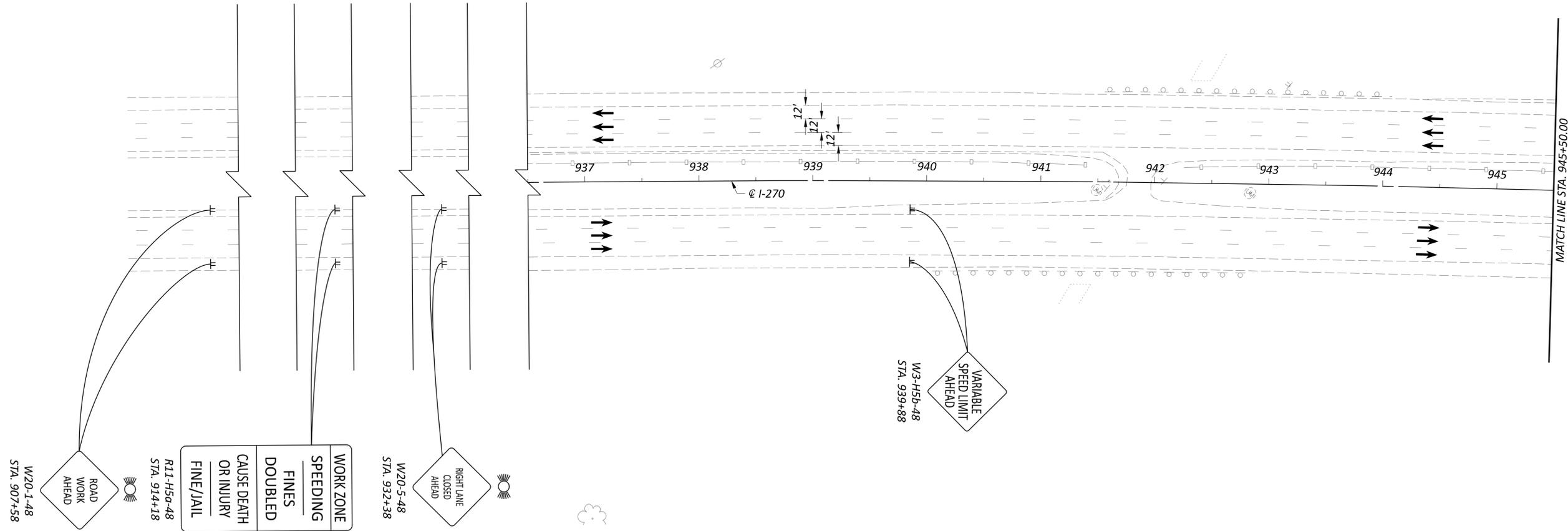
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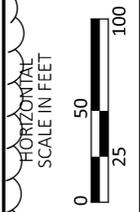
PROJECT ID  
**112798**

SHEET TOTAL  
**P.263K 617**



LEGEND

- |   |  |  |  |   |                               |   |                     |
|---|--|--|--|---|-------------------------------|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



MAINTENANCE OF TRAFFIC - WORK ZONE 5  
 PHASE 2A - BEGIN WORK TO STA. 945+50

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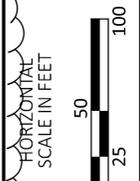
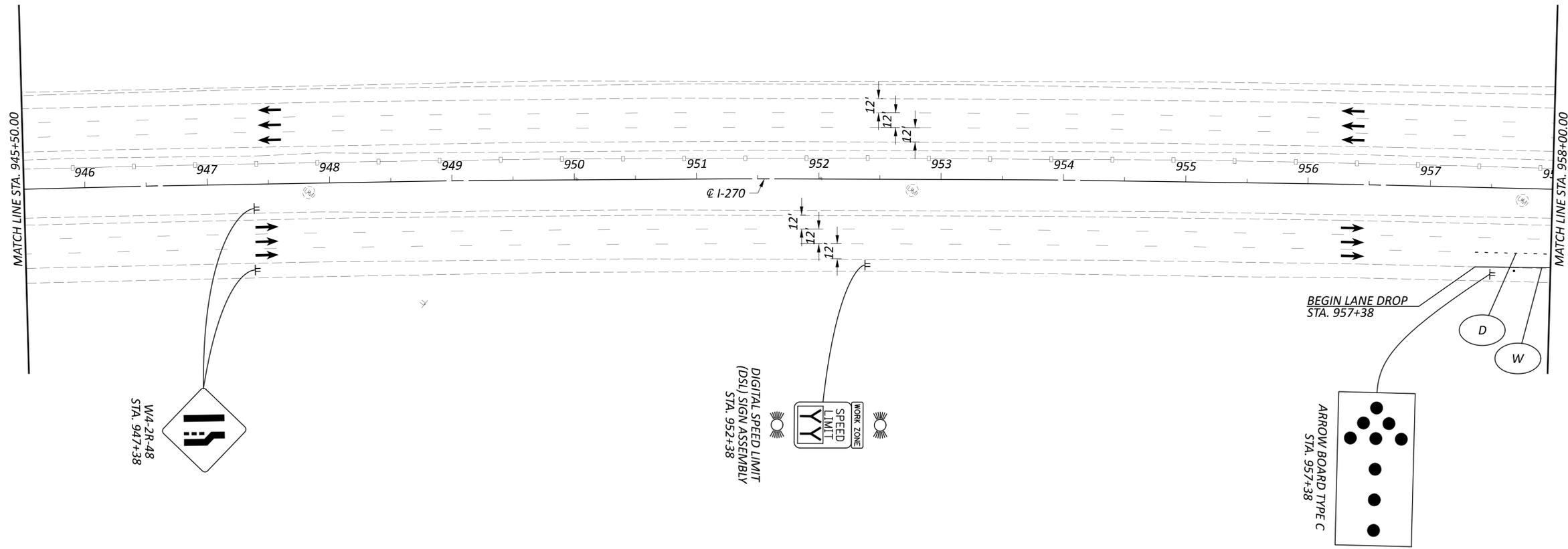
REVIEWER  
**MJC 04/15/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.263L 617**

**LEGEND**

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|---|--|--|--|---|-------------------------------|---|---------------------|
|  | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 2A - STA. 945+50 TO STA. 958+00**

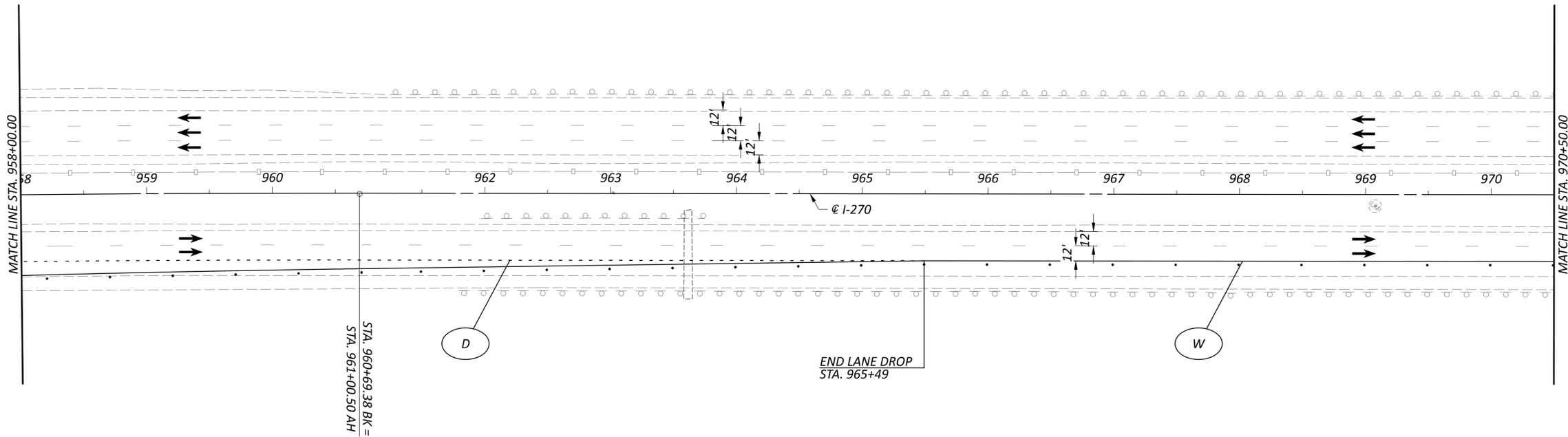
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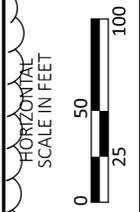
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**112798**

SHEET TOTAL  
**P.263M 617**



**LEGEND**

- |   |  |    |  |  |                               |   |                     |
|---|--|----|--|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |   | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |   | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 2A - STA. 958+00 TO STA. 970+50**

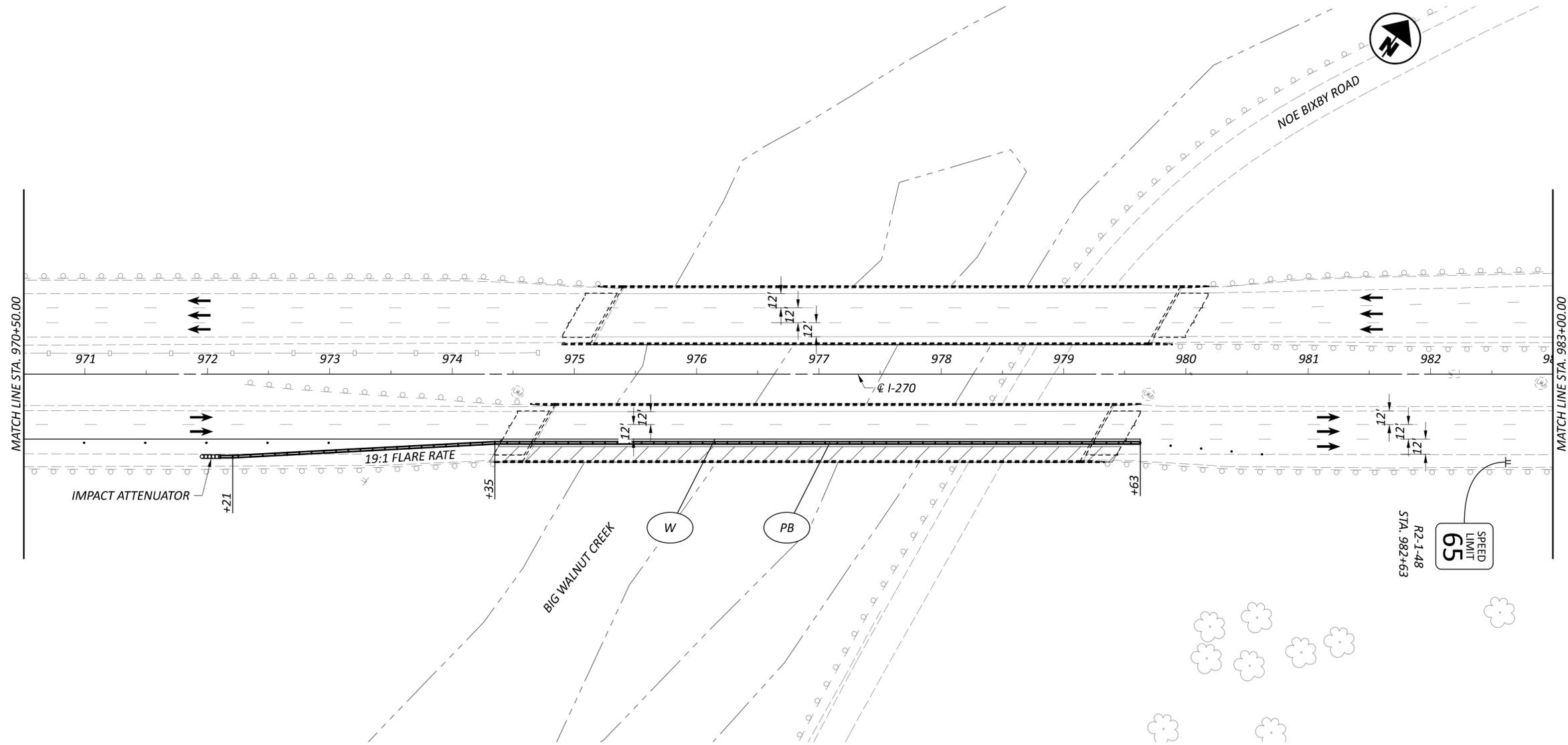
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PROJECT ID  
**112798**

SHEET TOTAL  
**P.263N 617**



LEGEND

- |  |  |                               |                     |
|--|--|-------------------------------|---------------------|
| ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT | SHOULDER REPLACEMENT/WIDENING | CONSTRUCTION BARREL |
| ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       | TEMPORARY PAVEMENT            | DIRECTION OF TRAVEL |
| ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | ITEM 622 - PORTABLE BARRIER                                | WORK ZONE                     | PORTABLE BARRIER    |



MAINTENANCE OF TRAFFIC - WORK ZONE 5  
 PHASE 2A - STA. 970+50 TO STA. 983+00

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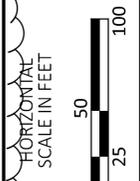
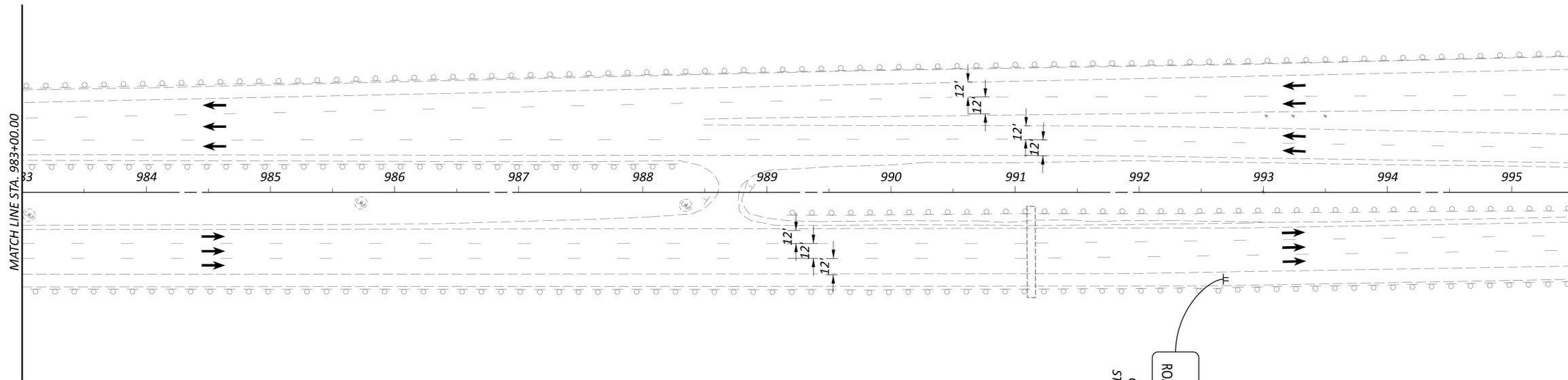
MJC 04/15/24

PROJECT ID

112798

SHEET TOTAL

P.2630 617



**LEGEND**

- |   |  |    |  |  |                               |   |                     |
|---|--|----|--|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |   | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |   | PORTABLE BARRIER    |

**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 2A - STA. 983+00 TO END WORK**

DESIGN AGENCY



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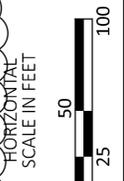
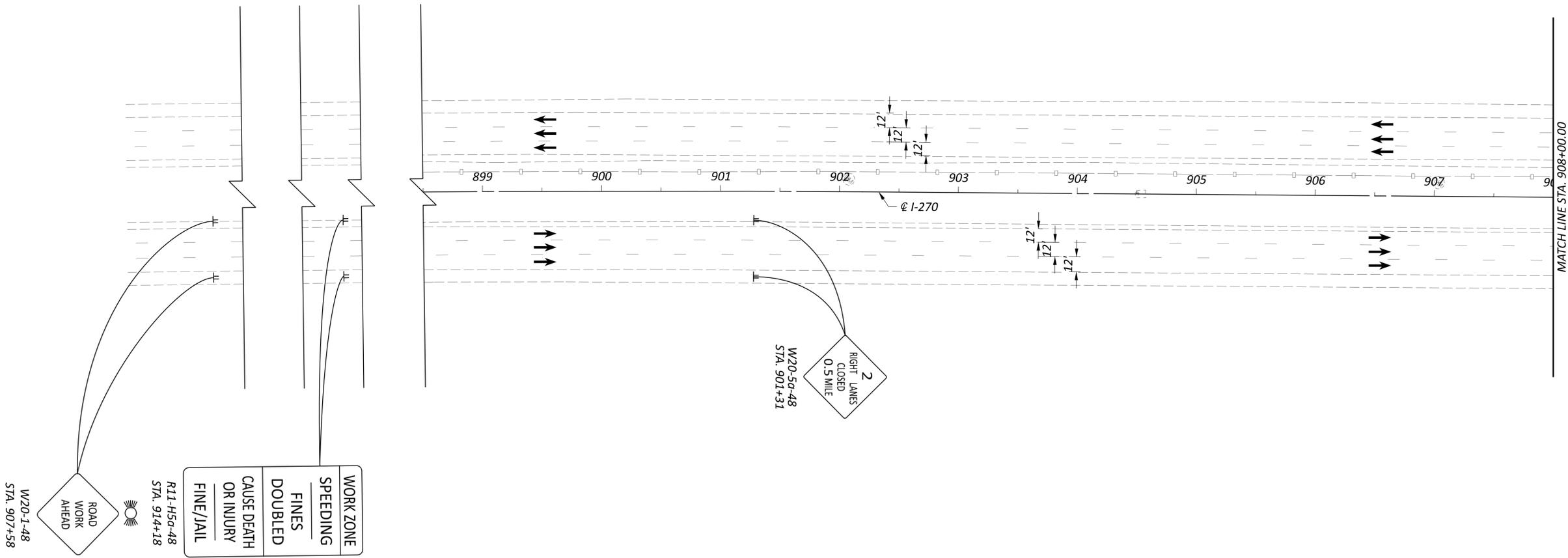
REVIEWER  
**MJC 04/15/24**

PROJECT ID  
**112798**

SHEET TOTAL  
**P.263P 617**

LEGEND

- |   |  |   |  |   |                               |   |                     |
|---|--|---|--|---|-------------------------------|---|---------------------|
|  W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
|  Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
|  L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



MAINTENANCE OF TRAFFIC - WORK ZONE 5  
 PHASE 2B - BEGIN WORK TO STA. 908+00

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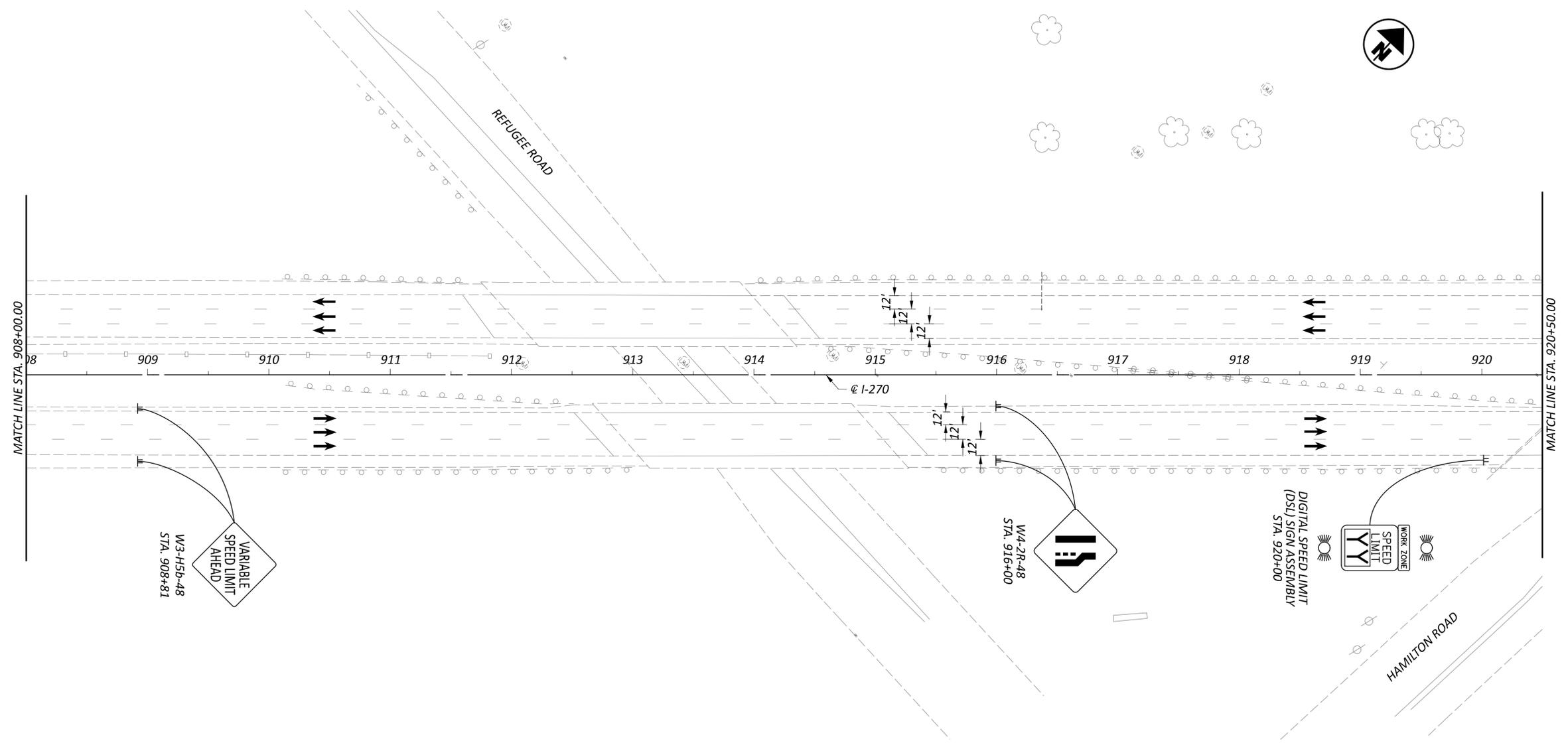
PROJECT ID

112798

SHEET TOTAL

P.2630 617

MAINTENANCE OF TRAFFIC - WORK ZONE 5  
 PHASE 2B - STA. 908+00 TO STA. 920+50



LEGEND

- |  |   |   |   |
|--|---|---|---|
|  ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  |  ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  SHOULDER REPLACEMENT/WIDENING |  CONSTRUCTION BARREL |
|  ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT |  ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  TEMPORARY PAVEMENT            |  DIRECTION OF TRAVEL |
|  ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              |  ITEM 622 - PORTABLE BARRIER                                |  WORK ZONE                     |  PORTABLE BARRIER    |

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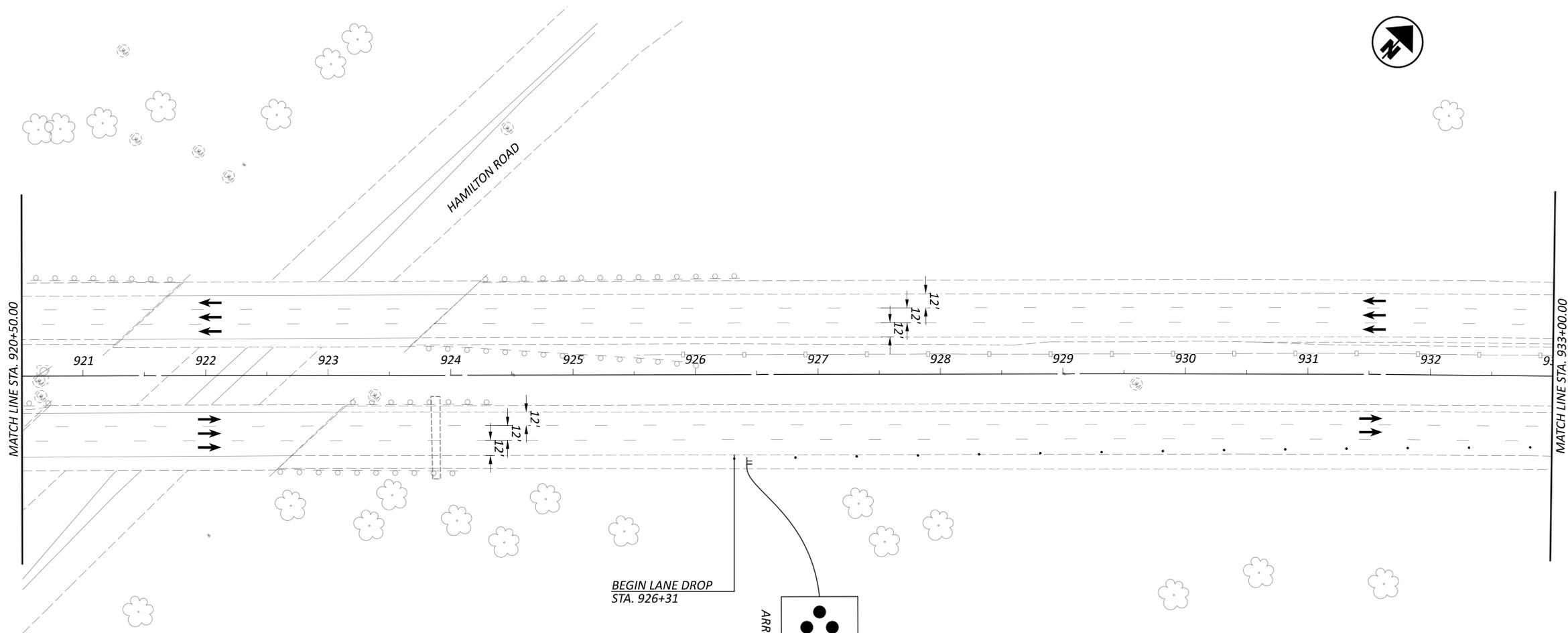
MJC 04/15/24

PROJECT ID

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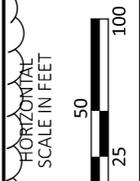
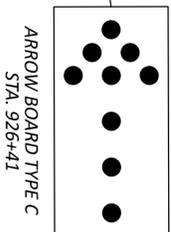
SHEET TOTAL

P.263R 617



**LEGEND**

- |   |  |    |  |  |                               |   |                     |
|---|--|----|--|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |   | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |   | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 2B - STA. 920+50 TO STA. 933+00**

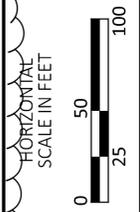
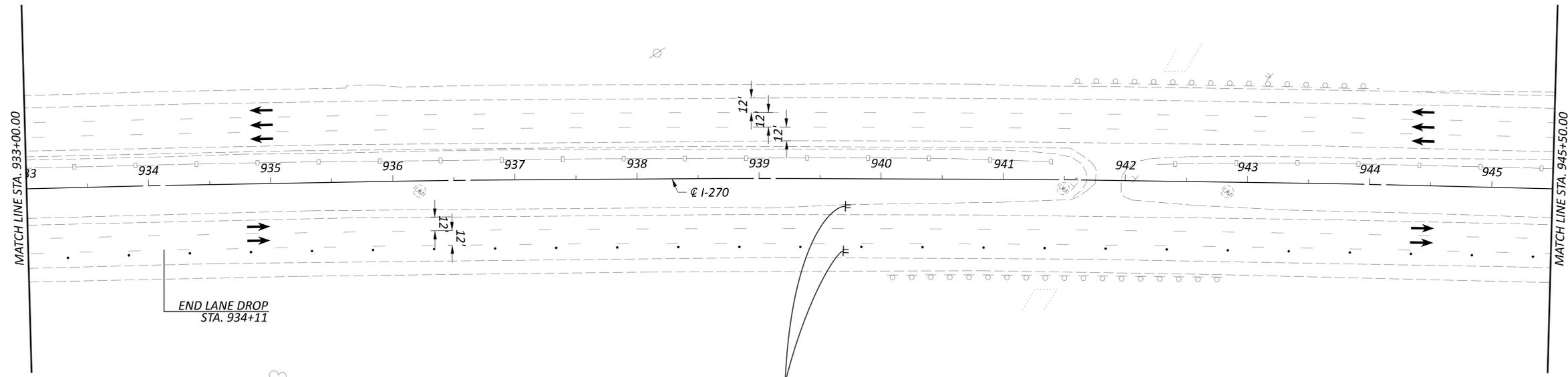
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PROJECT ID  
**112798**

SHEET TOTAL  
**P.2635 617**



**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |

**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 2B - STA. 933+00 TO STA. 945+50**

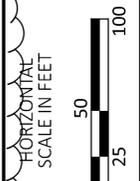
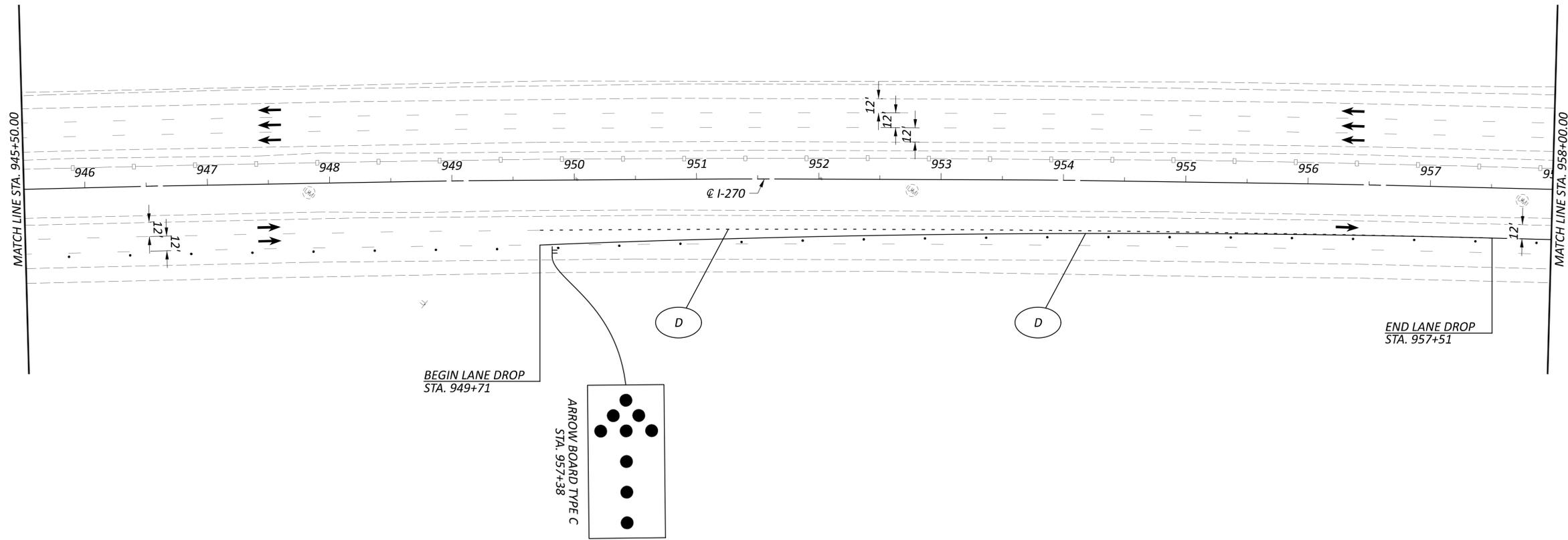
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PROJECT ID  
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SHEET TOTAL  
**P.263T 617**



MAINTENANCE OF TRAFFIC - WORK ZONE 5  
 PHASE 2B - STA. 945+50 TO STA. 958+00

LEGEND

W	ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT	CH	ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT		SHOULDER REPLACEMENT/WIDENING	O	CONSTRUCTION BARREL
Y	ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT	D	ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT		TEMPORARY PAVEMENT		DIRECTION OF TRAVEL
L	ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT	PB	ITEM 622 - PORTABLE BARRIER		WORK ZONE		PORTABLE BARRIER

DESIGN AGENCY



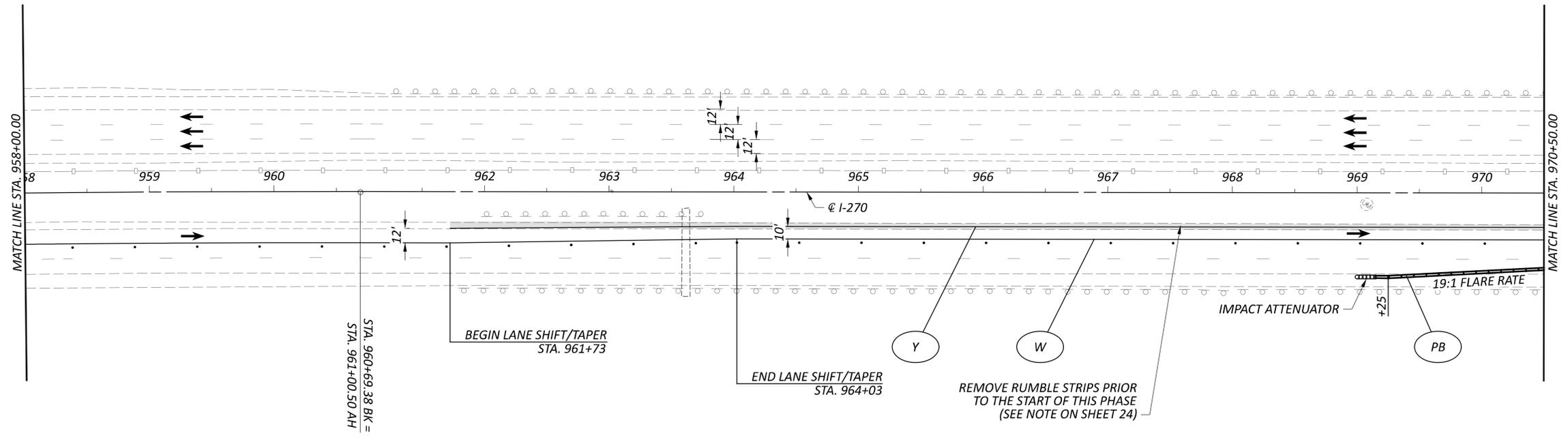
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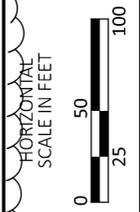
PROJECT ID  
 112798

SHEET TOTAL  
 P.263U 617



**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |



**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 2B - STA. 958+00 TO STA. 970+50**

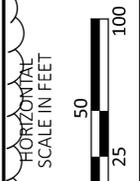
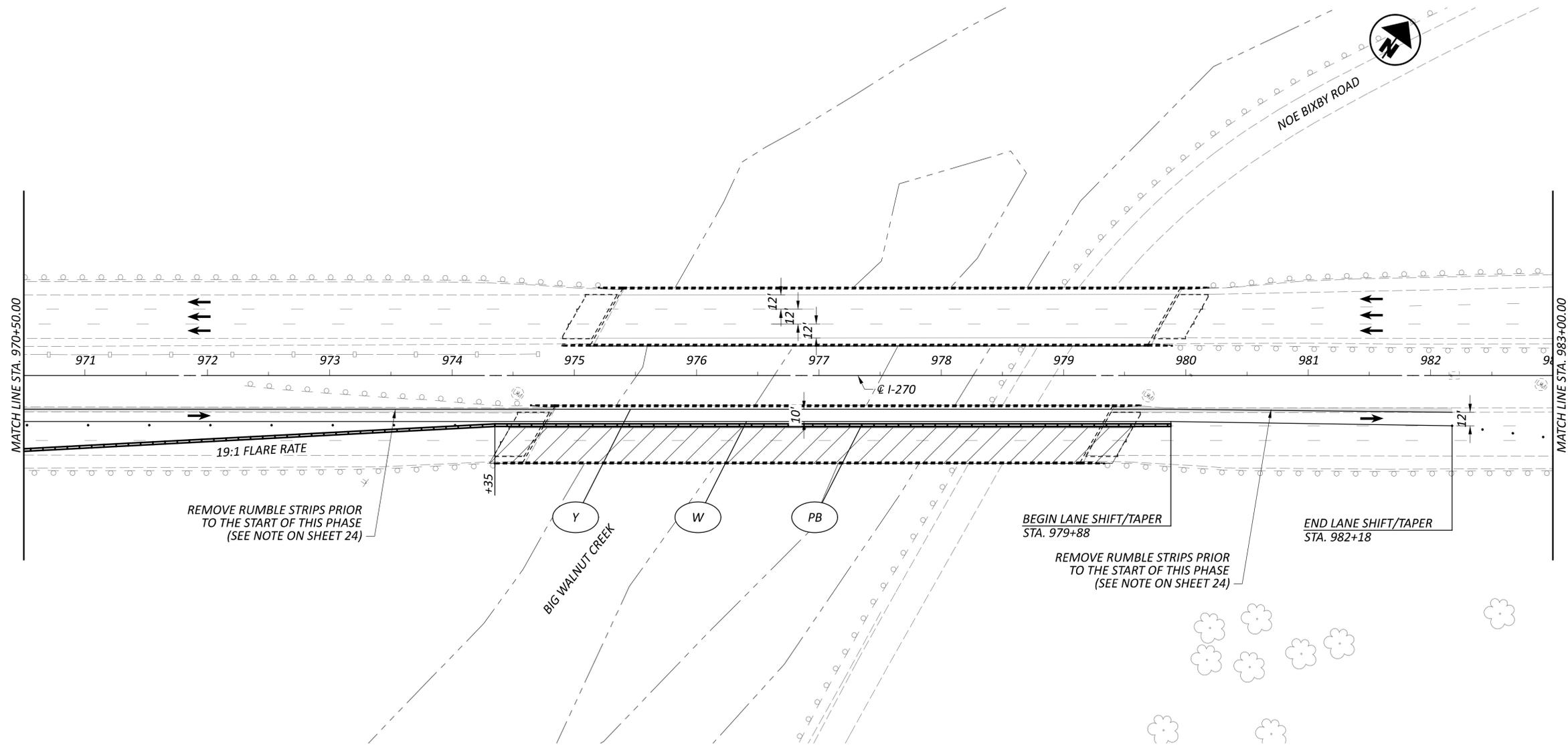
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**MJC 04/15/24**

PROJECT ID  
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SHEET TOTAL  
**P.263V 617**



**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 2B - STA. 970+50 TO STA. 983+00**

**LEGEND**

- |   |  |    |  |  |                               |  |                     |
|---|--|----|--|--|-------------------------------|--|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING |  | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |  | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |  | PORTABLE BARRIER    |

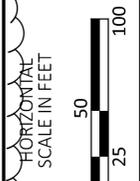
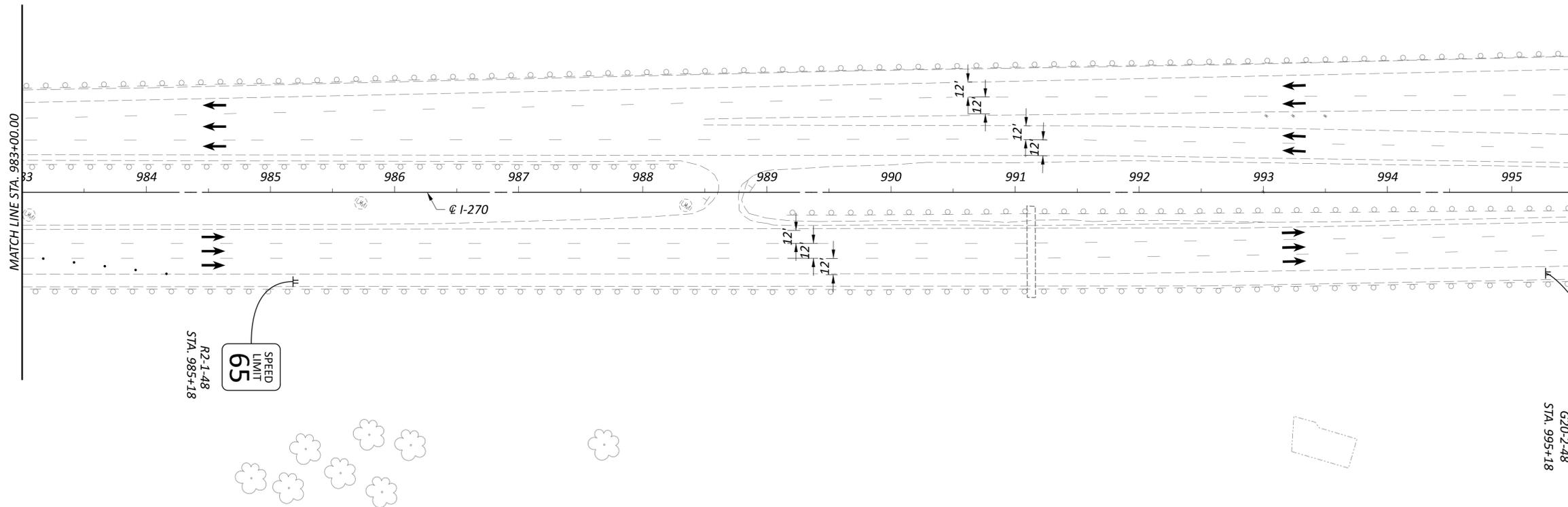
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PROJECT ID  
**112798**

SHEET TOTAL  
**P.263W 617**



**LEGEND**

- |   |  |    |  |  |                               |   |                     |
|---|--|----|--|--|-------------------------------|---|---------------------|
| W | ITEM 614 - WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT  | CH | ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT |  | SHOULDER REPLACEMENT/WIDENING | O | CONSTRUCTION BARREL |
| Y | ITEM 614 - WORK ZONE EDGE LINE, YELLOW, CLASS I, 642 PAINT | D  | ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 642 PAINT       |  | TEMPORARY PAVEMENT            |   | DIRECTION OF TRAVEL |
| L | ITEM 614 - WORK LANE LINE, CLASS I, 642 PAINT              | PB | ITEM 622 - PORTABLE BARRIER                                |  | WORK ZONE                     |   | PORTABLE BARRIER    |

**MAINTENANCE OF TRAFFIC - WORK ZONE 5**  
**PHASE 2B - STA. 983+00 TO END WORK**

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PROJECT ID  
**112798**

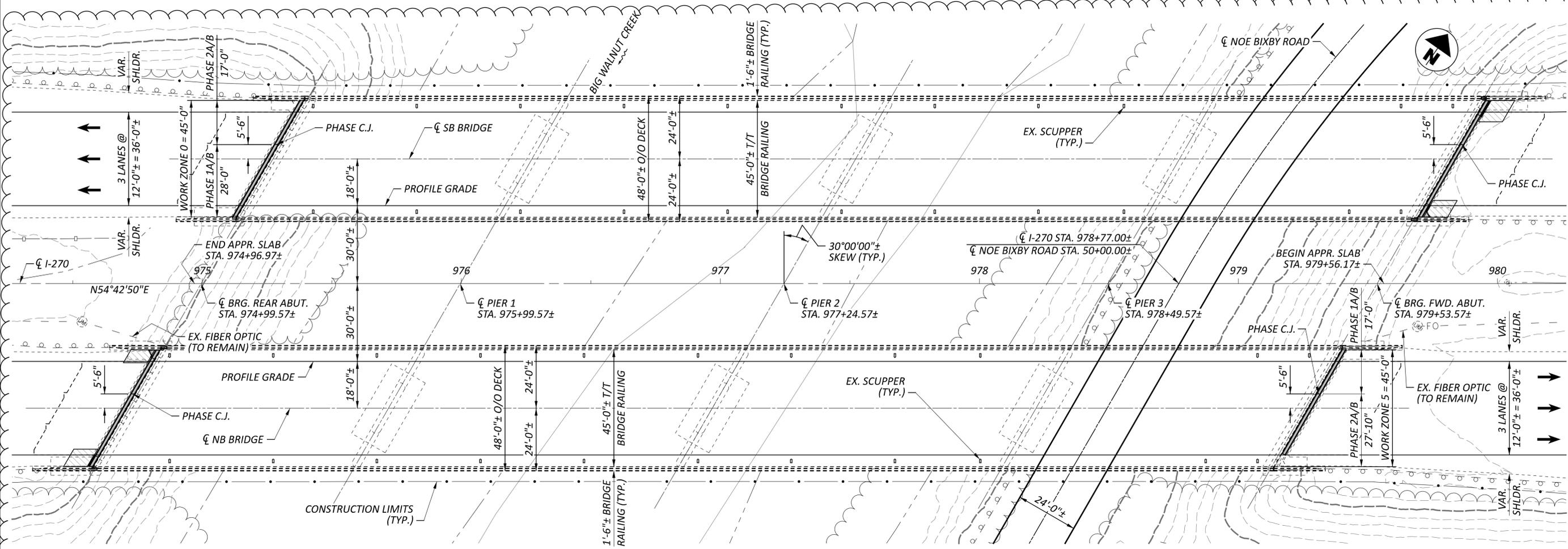
SHEET TOTAL  
**P.263X 617**







MODEL: Sheet\_SurvFt\_PAPER: 17x11 (in.) DATE: 4/15/2024 TIME: 12:41:53 PM USER: fbawani  
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PLAN

**GENERAL PLAN**  
**BRIDGE NO. FRA-00270-43.650L&R**  
**I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK**

**PROPOSED WORK:**

1. STABILIZE THE SOIL USING HIGH DENSITY POLYURETHANE FOAM BEHIND THE NB BRIDGE REAR ABUTMENT AND THE SB BRIDGE FORWARD ABUTMENT AS DETAILED.
2. REMOVE THE PORTIONS OF THE ABUTMENT BACKWALL AND EXPANSION JOINT AS INDICATED IN THE PLANS.
3. RECONSTRUCT THE PORTIONS OF THE ABUTMENT BACKWALL AND EXPANSION JOINT AS INDICATED IN THE PLANS.

**NOTES:**

1. SEE EXISTING PLANS FOR MORE INFORMATION.
2. FOR RIGHT-OF-WAY INFORMATION, REFER TO ROADWAY PLANS.

**DESIGN TRAFFIC:**  
 NB: 2023 ADT = 40,399      2023 ADTT = 5,667  
 SB: 2023 ADT = 35,959      2023 ADTT = 5,175  
 TRAFFIC DATA PROVIDED BY ODOT TIMS.

BENCHMARK DATA			
BM #1 STA.	976+44.54,	ELEV.	750.57,    OFFSET 376.72', RT.
BM #2 STA.	979+43.28,	ELEV.	751.75,    OFFSET 119.74', LT.

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN SHEETS.

**LEGEND:**

- PROPOSED WORK AREA
- SOIL STABILIZATION AREA

**EXISTING STRUCTURE**

**TYPE:** 4-SPAN CONTINUOUS STEEL PLATE GIRDER WITH REINFORCED NON-COMPOSITE CONCRETE DECK SUPPORTED BY STUB ABUTMENTS AND HAMMERHEAD PIERS ON CAST-IN-PLACE PILES

**SPANS:** 100'-0"±, 125'-0"±, 125'-0"±, 104'-0"± C/C BEARINGS  
**ROADWAY:** 45'-0"± T/T BRIDGE RAILING  
**LOADING:** CF-2000 (57) & AASHTO ALT. LOADING  
**SKEW:** 30°00'00"± LEFT FORWARD  
**WEARING SURFACE:** 1¾"± MICRO-SILICA MODIFIED CONCRETE  
**APPROACH SLABS:** 25'-0"± LONG (AS-1-54) MODIFIED  
**ALIGNMENT:** TANGENT  
**CROWN:** ¾"±/FT.±  
**STRUCTURE FILE NUMBER:** 2514494 (FRA-00270-43.650L)  
 2514435 (FRA-00270-43.650R)

**DATE BUILT:** 1968  
**REHABILITATED:** 1985, 2002, 2012  
**DISPOSITION:** TO BE REHABILITATED

**PROPOSED STRUCTURE**

**TYPE:** 4-SPAN CONTINUOUS STEEL PLATE GIRDER WITH REINFORCED NON-COMPOSITE CONCRETE DECK SUPPORTED BY STUB ABUTMENTS AND HAMMERHEAD PIERS ON CAST-IN-PLACE PILES

**SPANS:** 100'-0"±, 125'-0"±, 125'-0"±, 104'-0"± C/C BEARINGS  
**ROADWAY:** 45'-0"± T/T BRIDGE RAILING  
**LOADING:** CF-2000 (57) & AASHTO ALT. LOADING  
**SKEW:** 30°00'00"± LEFT FORWARD  
**WEARING SURFACE:** 1¾"± MICRO-SILICA MODIFIED CONCRETE  
**APPROACH SLABS:** 25'-0"± LONG (AS-1-54) MODIFIED  
**ALIGNMENT:** TANGENT  
**CROWN:** ¾"±/FT.±  
**DECK AREA:** 21871 SF  
 21871 SF

**COORDINATES:** LATITUDE 39°55'34.79" N  
 LONGITUDE 82°51'57.38" W

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	MGB
CHECKER	MRV
REVIEWER	RER
PROJECT ID	112798
SUBSET	TOTAL
1	28
SHEET	TOTAL
P.382A	617



**ITEM 530 - SPECIAL - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM):**

**DESCRIPTION:**

THIS WORK IS TO CONSIST OF SOIL DENSIFICATION TO STRENGTHEN BASE AND SUB-BASE SOILS UNDER FLEXIBLE ASPHALT, CONCRETE, OR COMPOSITE PAVEMENT, AND STRUCTURES SUCH AS BRIDGE APPROACHES WITH SLEEPER SLABS, BY FURNISHING AND INJECTING EXPANSIVE POLYURETHANE MATERIAL INTO THE FOUNDATION SOILS BENEATH THE PAVEMENT THROUGH HOLES OR INJECTION TUBES INSERTED INTO DRILLED HOLES AT LOCATIONS AND DEPTHS, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, WHILE MONITORING FOR MOVEMENT AT THE SURFACE.

**MATERIAL:**

- HIGH DENSITY POLYURETHANE FOAM (HDPF)

CERTIFY THAT THE MATERIAL CONFORMS TO THE FOLLOWING REQUIREMENTS LISTED IN THIS SECTION:

PROPERTY	TEST	RESULTS
DENSITY, LBS./CU. FT.	ASTM D1622	3.5 - 4.5
COMPRESSIVE STRENGTH, PSI (MIN.)	ASTM D1621	55
TENSILE STRENGTH, PSI (MIN.)	ASTM D1623	90
SHEAR STRENGTH, PSI (MIN.)	ASTM C273	45
FLEXURAL STRENGTH, PSI (MIN.)	ASTM D790	90
CLOSED CELL CONTENT (%)	ASTM D6226	+85

HDPF IS TO REACH 90% COMPRESSIVE STRENGTH WITHIN 30 MINUTES OF INJECTION. THE MATERIAL USED IS TO BE A TWO-PART 1:1 BY VOLUME HDPF. POLYURETHANES SUBMITTED MUST MEET ALL OF THE REQUIRED SPECIFICATIONS AND BE PRE-APPROVED BY THE ENGINEER. THE MATERIAL IS TO BE WATER BLOWN, NOT CHEMICALLY BLOWN. THE MATERIAL IS TO BE A POLYURETHANE-FORMING MIXTURE, HAVING WATER INSOLUBLE DILUTANTS, WHICH PERMITS THE FORMATION OF POLYURETHANES IN THE PRESENCE OF WATER. WATER INSOLUBLE DILUTANTS ARE TO PROVIDE POLYURETHANE FOAM WITH IMPROVED DIMENSIONAL STABILITY PROPERTIES. THE PRESENCE OF WATER INSOLUBLE DILUTANTS AND THE CHARACTERISTICS AND PROPERTIES LISTED ABOVE MUST BE CERTIFIED BY THE MANUFACTURER (PARAGRAPH 3). THE CERTIFICATION FROM THE POLYURETHANE MANUFACTURER AND AN INDEPENDENT THIRD-PARTY TESTING LABORATORY MUST BE SUBMITTED WITH THE BID DOCUMENTS. ANY BIDS THAT DO NOT INCLUDE THE CERTIFICATION WILL NOT BE ACCEPTED.

- AQUATIC AND TERRESTRIAL TOXICITY TESTING

POLYURETHANE MUST PASS AQUATIC AND TERRESTRIAL TOXICITY TESTING AND CHEMICAL ANALYSIS (RCRA METALS, TOC, AND COD). THE POLYURETHANE MUST SHOW A LACK OF TOXICITY AT 200 PPM TCLP LEACHATE AND SHOW NON-TOXIC FOR ALL TEST SPECIES. TESTING MUST HAVE BEEN PERFORMED BY AN INDEPENDENT THIRD-PARTY TESTING LABORATORY. THE CERTIFICATION FROM THE INDEPENDENT THIRD-PARTY TESTING LABORATORY MUST BE SUBMITTED WITH THE BID DOCUMENTS.

- PANEL TEST FOR HYDRO-INSENSITIVITY OF HIGH-DENSITY POLYURETHANE GROUT

THE POLYURETHANE MUST PASS THE PANEL TEST FOR HYDRO-INSENSITIVITY OF HIGH-DENSITY POLYURETHANE GROUT. THE PANEL TEST MUST BE PERFORMED BY AN INDEPENDENT THIRD-PARTY TESTING LABORATORY, UNDER THE SUPERVISION AND REVIEW OF A LICENSED PROFESSIONAL ENGINEER, AND MUST CERTIFY THAT THE POLYURETHANE MATERIAL MEETS OR EXCEEDS THE LIMITS SET FORTH IN THE PANEL TEST SPECIFICATION. THE CERTIFICATION FROM THE INDEPENDENT THIRD-PARTY TESTING LABORATORY MUST BE SUBMITTED WITH THE BID DOCUMENTS.

- ASTM D1621 AND ASTM D1622 REQUIREMENTS

PRIOR TO BEGINNING WORK AND WITH THE INSPECTOR OBSERVING, THE CONTRACTOR MUST PREPARE 5 MACHINE MIXED FIELD SAMPLES FOR DENSITY AND COMPRESSIVE STRENGTH DETERMINATION. THE SAMPLES ARE TO THEN BE TRANSPORTED TO AN INDEPENDENT THIRD-PARTY TESTING LABORATORY AT THE CONTRACTOR'S EXPENSE. AT THE LABORATORY, A NOMINAL 2" x 2" x 2" SAMPLE IS TO BE TAKEN FROM THE CENTER OF EACH OF THE FIELD SAMPLES AND THE DENSITY OF THE MATERIAL IS TO BE DETERMINED IN ACCORDANCE WITH ASTM D1622. THE COMPRESSIVE STRENGTH IS TO THEN BE DETERMINED BY TESTING IN ACCORDANCE WITH ASTM D1621.

THE CONTRACTOR IS TO SUBMIT ELECTRONIC COPIES TO THE ENGINEER OF THE STRESS STRAIN CURVES (ASTM D1621 SHOWING FORCE, POUNDS VS. DEFLECTION, %) AS WELL AS DENSITY CALCULATIONS, INCLUDING MEASURED SPECIMEN DIMENSIONS (ASTM D1622) FOR EACH SPECIMEN TESTED. FIELD SAMPLES ARE TO BE PREPARED AND SENT FOR TESTING FOR EACH INDIVIDUAL BATCH/LOT NUMBER OF RESIN COMPONENT USED ON THE PROJECT.

THE COMPRESSIVE STRENGTH AND DENSITY DETERMINED FROM ASTM D1621 AND ASTM D1622 ARE TO BE USED TO DETERMINE THE PERCENT OF PAY FOR THIS ITEM AS OUTLINED IN MEASUREMENT AND PAYMENT.

- NON-SHRINK GROUT TO PATCH DRILL HOLES

NON-SHRINK GROUT, USED TO REPAIR THE INJECTION HOLES, IS TO CONFORM TO C&MS 705.20.

**PRE-BID SITE VISIT:**

ALL PROPOSALS AND RESPONSES REQUIRE THE CONTRACTOR TO CONDUCT A SITE VISIT PRIOR TO SUBMITTING A BID. THE PRE-BID SITE VISIT MUST BE COORDINATED BY THE OWNER'S REPRESENTATIVE.

**EQUIPMENT:**

- ELECTRIC OR PNEUMATIC DRILL

ELECTRIC OR PNEUMATIC DRILL CAPABLE OF DRILLING 5/8" DIAMETER HOLES THROUGH THE APPROACH SLAB OR APPROACH PAVEMENT.

- PUMPING UNITS

ENSURE THAT ALL PUMPING UNITS USED ARE EQUIPPED WITH CERTIFIED FLOW METERS TO PRECISELY MEASURE THE AMOUNT OF EACH COMPONENT INJECTED AND THE FLOW RATE, SO THAT THE 1:1 RATIO BY VOLUME IS MAINTAINED FOR QUALITY CONTROL AND A CERTIFIED VOLUME OF INJECTED POLYURETHANE MATERIAL IS OBTAINED FOR PROPER PAYMENT. THE FLOW METER IS TO HAVE A DIGITAL OUTPUT TO SHOW BOTH POUNDS AND GALLONS OF EACH COMPONENT MATERIAL. FLOW METERS MUST BE RECERTIFIED ANNUALLY (ONCE EVERY 12 MONTHS) TO ENSURE ACCURACY. CERTIFICATIONS FROM THE MANUFACTURER (OR AN INDEPENDENT THIRD PARTY) DEMONSTRATING THAT EACH FLOW METER INTENDED FOR USE HAS BEEN TESTED WITHIN THE PAST 12 MONTHS IS TO BE SUBMITTED WITH THE BID DOCUMENTS.

- LASER-LEVELING UNIT

LASER-LEVELING UNIT TO ENSURE THAT THE APPROACH SLAB IS RAISED ON AN EVEN PLANE AND TO THE REQUIRED ELEVATIONS.

**QUALITY MANAGEMENT:**

- SHOP DRAWINGS:

ANY INJECTION HOLE PLAN DETAILED IN THESE CONTRACT PLANS IS TO BE CONSIDERED PRELIMINARY IN NATURE. THE CONTRACTOR IS TO PROVIDE THE ENGINEER SHOP DRAWINGS DETAILING THE FINAL INJECTION PLAN A MINIMUM OF 10 BUSINESS DAYS PRIOR TO PERFORMING THE WORK DESCRIBED FOR APPROVAL. THESE SHOP DRAWINGS ARE TO BE CONSIDERED THE FINAL DESIGN AND ARE TO INCLUDE MINIMUM INFORMATION:

- EXISTING ELEVATIONS OF THE APPROACH SLAB AND ADJACENT PAVEMENT.
- PROPOSED ELEVATIONS OF THE APPROACH SLAB AND ADJACENT PAVEMENT.
- INJECTION HOLE LAYOUT (INCLUDING DEPTHS OF HOLES AND INJECTIONS TUBES)
- MAPPING OF EXISTING CRACKS (PHOTOS TO BE TAKEN AND PROVIDED TO THE STATE)
- CONTRACTOR'S WRITTEN STANDARD INSTALLATION PROCEDURE

- MANUFACTURER'S SHIPPING RECORD.

PROVIDE MANUFACTURER BATCH NUMBERS AND SHIPPING INVOICES. MARK EACH COMPONENT CONTAINER WITH THE FOLLOWING INFORMATION:

- NUMBER OF GALLONS (LITERS)
- NET WEIGHT OF MATERIAL
- BATCH NUMBER
- DATE OF PRODUCTION
- EFFECTIVE SHELF LIFE OF THE PRODUCT
- COMPANY NAME AND ADDRESS
- COMPONENT TRADE NAME AS GIVEN IN THE MATERIAL TEST DATA
- MATERIAL SAFETY DATA SHEETS (MSDS)

- DRILLING HOLES AND INSTALLATION OF INJECTION TUBES

DRILL INJECTION HOLES IN THE PATTERN SHOWN ON THE SHOP DRAWINGS. DRILL 5/8" TO 2" DIAMETER HOLES, VERTICAL AND ROUND, AND TO A DEPTH INDICATED ON THE SHOP DRAWINGS INSTALL INJECTION TUBES TO THE PRESCRIBED INJECTION DEPTH(S). TUBES MUST BE PUSHED A MINIMUM OF 4" BELOW THE GRADE OF THE BOTTOM OF THE APPROACH PAVEMENT OR APPROACH SLAB PRIOR TO THE COMMENCEMENT OF INJECTIONS.

- INJECTION OF THE HDPF

RESET FLOW METERS ON MATERIAL PUMPING UNITS TO ZERO, PRIOR TO PERFORMING THE WORK EACH DAY. PERFORM A TEST SHOT OF MATERIAL OF A MINIMUM OF 1 GALLON. COMPARE THE DIGITAL OUTPUT IN GALLONS OF EACH COMPONENT TO DETERMINE THE ACTUAL RATIO. IF RATIO IS LESS THAN 0.95 OR GREATER THAN 1.05, CHECK SYSTEM FOR PROBLEMS, FIX, AND RECHECK RATIO.

INJECT THE HDPF THROUGH HOLES, VIA INJECTION TUBES WHEN NEEDED, TO FILL VOIDS AND INTO THE FOUNDATION SOILS BENEATH THE PAVEMENT TO THE PRESCRIBED INJECTION DEPTH(S) AS DICTATED BY THE SHOP DRAWINGS. AS THE HDPF CHEMICALLY REACTS, IT EXPANDS AND HARDENS, EXERTING THE NECESSARY LIFTING FORCES.

LIMIT THE AMOUNT OF PAVEMENT RISE BY REGULATING THE RATE OF INJECTION OF THE HDPF MATERIAL. CONTINUOUSLY MONITOR FOR MOVEMENT OF THE APPROACH SLAB OR APPROACH PAVEMENT. FOUNDATIONS SOILS ARE SUFFICIENTLY STABILIZED WHEN MOVEMENT OF THE OF THE PAVEMENT IS DETECTED. TAKE PRECAUTIONS TO PREVENT DAMAGE TO THE EXISTING APPROACH SLABS AND ABUTMENT.

UNLESS OTHERWISE ACCEPTED BY THE ENGINEER, CONTROL LIFTING AS FOLLOWS. DO NOT RAISE THE APPROACH PAVEMENT OR APPROACH SLABS MORE THAN A TOTAL OF 1/4" WHILE PUMPING THE SOIL BEHIND THE ABUTMENT. KEEP THE ENTIRE APPROACH SLAB AND APPROACH PAVEMENT IN THE SAME PLANE AT ALL TIMES WITHIN 1/4" TOLERANCE. STOP THE OPERATION IF CRACKING OCCURS DURING THE RAISING OF THE SLAB AND INFORM THE ENGINEER. ALTER THE OPERATIONS TO PREVENT ADDITIONAL CRACKING.

REPAIR APPROACH SLAB AND PAVEMENT AREAS THAT DO NOT MEET PROPOSED ELEVATIONS. REPAIR ALL AREAS DAMAGED AS A RESULT OF THE WORK. MAKE REPAIRS TO THE SATISFACTION OF THE ENGINEER.

DO NOT PERFORM WORK WHEN THE SUBGRADE TEMPERATURE IS BELOW 32°F (0°C) OR VISIBLY FROZEN.

RECORD MATERIAL USED FROM THE VOLUMETRIC METERS ON MATERIAL PUMPING UNITS. REMOVE ANY EXCESSIVE POLYURETHANE MATERIAL FROM THE INJECTION AREA.

- HOLE PATCHING

AFTER INSTALLATION OF THE HDPF IS COMPLETE, THE CONTRACTOR IS TO CLEAN DRILL OUT AND REMOVE ANY REMAINING DEBRIS FROM THE HOLES IN THE APPROACH PAVEMENT/APPROACH SLAB TO INSTALL A RAPID SET, NON-SHRINK PATCHING MATERIAL INTO THE DRILLED-OUT HOLE AND STRIKE PATCHES FLUSH WITH THE SURFACE OF THE SURROUNDING PAVEMENT.

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	LB/MV
CHECKER	JOL
REVIEWER	RER
PROJECT ID	112798
SUBSET	3
TOTAL	28
SHEET	P.382C
TOTAL	617

**EXPERIENCE:**

THE CONTRACTOR PERFORMING THE WORK DESCRIBED IS TO HAVE A MINIMUM 3 YEARS OF EXPERIENCE INJECTING 1:1 BY VOLUME, TWO-PART, EXPANSIVE POLYURETHANE THROUGH HOLES OR TUBES INTO SOILS WHILE MONITORING AT THE SURFACE OF THE PAVEMENT FOR MOVEMENT TO DEMONSTRATE SUFFICIENT DENSIFICATION OF THE SOILS. EVIDENCE OF PRIOR EXPERIENCE IS TO BE SUBMITTED WITH THE BID DOCUMENTS: 5 AWARDED CONTRACTS WITHIN EACH OF THE PREVIOUS 3 YEARS.

THE CONTRACTOR PERFORMING THE WORK DESCRIBED IS TO HAVE AS AN EMPLOYEE OF THE COMPANY, A LICENSED PROFESSIONAL ENGINEER (P.E.) WITH A MINIMUM OF 3 YEARS OF EXPERIENCE IN STABILIZATION OF PAVEMENT FOUNDATION SOILS BY INJECTING 1:1 BY VOLUME, TWO-PART, EXPANSIVE POLYURETHANE THROUGH HOLES OR TUBES INTO SOILS WHILE MONITORING AT THE SURFACE OF THE PAVEMENT FOR MOVEMENT TO DEMONSTRATE SUFFICIENT DENSIFICATION OF THE SOILS. THE NAME, HIRE DATE, AND RESUME OF THE LICENSED PROFESSIONAL ENGINEER IS TO BE SUBMITTED WITH THE BID DOCUMENTS.

**MEASUREMENT AND PAYMENT:**

HDPF WILL BE MEASURED TO THE NEAREST POUND AS DISPLAYED BY THE CERTIFIED FLOW METER AND PAID FOR AT THE ADJUSTED CONTRACT UNIT PRICE PER POUND OF POLYURETHANE INJECTED, INCLUDING ALL MATERIALS, TOOLS, EQUIPMENT, LABOR, WARRANTY, AND INCIDENTALS NECESSARY TO PERFORM THE WORK.

PAYMENT PER POUND IS TO BE DETERMINED AND/OR ADJUSTED PER THE FOLLOWING TABLES.<sup>1</sup>

PAYMENT ADJUSTMENT FOR HYDRO-INSENSITIVITY PANEL TEST

HYDRO-INSENSITIVITY PANEL TEST VERIFIED BY 3RD PARTY TESTING LABORATORY	PASS	FAIL	CONTRACTOR DOES NOT PROVIDE <sup>2</sup>
% PAY	100%	50%	50%

PAYMENT ADJUSTMENT FOR DENSITY

DENSITY, LB./CU. FT.	< 3.5	3.5 TO 4.5	> 4.5
% PAY	0%	100%	SEE FORMULA BELOW <sup>3</sup>

PAYMENT ADJUSTMENT FOR UNCONFINED COMPRESSIVE STRENGTH

UNCONFINED COMPRESSIVE STRENGTH	< 55	≥ 55
% PAY	0% <sup>3</sup>	100%

<sup>1</sup> THE TOTAL PAYMENT WILL BE THE LOWEST OF THE PERCENT PAYMENTS FOR DENSITY AND COMPRESSIVE STRENGTH PER INDIVIDUAL BATCH/LOT NUMBER USED ON THE PROJECT OR PASS/FAIL OF THE HYDRO-INSENSITIVITY PANEL TEST.

<sup>2</sup> IF THE CONTRACTOR DOES NOT PROVIDE THE PANEL TEST FOR HYDRO-INSENSITIVITY OF HIGH-DENSITY POLYURETHANE GROUT (MATERIAL – PARAGRAPH 3) THAT IS VERIFIED PASS/SATISFACTORY BY AN INDEPENDENT THIRD-PARTY TESTING LABORATORY, FINAL PAYMENT PER POUND WILL BE REDUCED BY 50%.

<sup>3</sup> THE ADJUSTMENT IN PAY FOR DENSITY AND COMPRESSIVE STRENGTH IS TO BE APPLIED TO THE POUNDS OF MATERIAL USED AS BASED ON THE UNIT PRICE OF THE POLYURETHANE MATERIAL INDICATED BY BATCH/LOT NUMBER.

PERCENT PAY = (4.5 / DENSITY) \* 100  
 DENSITY = AVERAGE DENSITY (LB./CU. FT.) PER INDIVIDUAL BATCH/LOT NUMBER PER ASTM D1622 (ROUND TO 1 DECIMAL PLACE)

**DOCUMENT SUBMITTALS - TO BE INCLUDED IN THE QUOTE/BID SUBMISSION:**

- CERTIFICATION BY THE MANUFACTURER THAT THE POLYURETHANE TO BE USED MEETS ALL THE REQUIREMENTS IN THE MATERIAL SECTION, INCLUDING THAT IT IS A 1:1 BY VOLUME, TWO-PART, WATER BLOWN POLYURETHANE.
- TOXICITY TESTING RESULTS BY AN INDEPENDENT LABORATORY DEMONSTRATING THAT THE POLYURETHANE SHOWS A LACK OF TOXICITY AT 200 PPM TCLP LEACHATE AND SHOW NON-TOXIC FOR ALL TEST SPECIES.
- CERTIFICATION BY A THIRD-PARTY TESTING LAB THAT THE POLYURETHANE HAS PASSED THE PANEL TEST FOR HYDRO-INSENSITIVITY OF HIGH-DENSITY POLYURETHANE GROUT CONFIRMING THAT THE POLYURETHANE IS EFFECTIVE IN WET OR DRY CONDITIONS.
- CERTIFICATIONS FROM THE MANUFACTURER (OR AN INDEPENDENT THIRD PARTY) DEMONSTRATING THAT EACH FLOW METER INTENDED FOR USE HAS BEEN TESTED WITHIN THE PAST 12 MONTHS.
- EVIDENCE OF PRIOR EXPERIENCE: 5 AWARDED CONTRACTS WITHIN EACH OF THE PREVIOUS 3 YEARS INJECTING 1:1 BY VOLUME, TWO-PART, EXPANSIVE POLYURETHANE THROUGH HOLES OR TUBES INTO SOILS WHILE MONITORING AT THE SURFACE OF THE PAVEMENT FOR MOVEMENT TO DEMONSTRATE SUFFICIENT DENSIFICATION OF THE SOILS.
- NAME, HIRE DATE, AND RESUME OF THE LICENSED PROFESSIONAL ENGINEER (P.E.) EMPLOYED BY THE CONTRACTOR WITH A MINIMUM OF 3 YEARS OF EXPERIENCE IN INJECTING 1:1 BY VOLUME, TWO-PART, EXPANSIVE POLYURETHANE THROUGH HOLES OR TUBES INTO SOILS WHILE MONITORING AT THE SURFACE OF THE PAVEMENT FOR MOVEMENT TO DEMONSTRATE SUFFICIENT DENSIFICATION OF THE SOILS.

**ABBREVIATIONS:**

- ABUT. - ABUTMENT
- ADT - AVERAGE DAILY TRAFFIC
- ADTT - AVERAGE DAILY TRUCK TRAFFIC
- APPR. - APPROACH
- B - BOTTOM
- Ⓟ - BASELINE
- B.F. - BACK FACE
- BM - BENCHMARK
- BOT. OR BTM. - BOTTOM
- BRG. - BEARING
- Ⓢ - CENTERLINE
- C/C - CENTER TO CENTER
- C.I.P. - CAST-IN-PLACE
- C.J. - CONSTRUCTION JOINT
- CLR. - CLEAR
- C&MS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
- CONC. - CONCRETE
- CONSTR. - CONSTRUCTION
- CVN - CHARPY V-NOTCH
- DIA. - DIAMETER
- DWG. - DRAWING
- E - EAST
- EB - EASTBOUND
- E.F. - EACH FACE
- EL. OR ELEV. - ELEVATION
- EOP - EDGE OF PAVEMENT
- EQ. - EQUAL
- EST. - ESTIMATED
- EX. - EXISTING
- EXP. - EXPANSION
- F.A. - FORWARD ABUTMENT
- F/F - FACE TO FACE
- F.F. - FRONT FACE
- F.S. - FIELD SPLICE
- FT. - FOOT OR FEET
- FWD. - FORWARD
- HDPF - HIGH DENSITY POLYURETHANE FOAM
- HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
- HW - HIGH WATER
- IN. - INCH
- JT. - JOINT
- LB - LEFT BRIDGE
- LBS - POUNDS
- LEOD - LEFT EDGE OF DECK
- L.F. - LEFT FORWARD
- LMC - LATEX MODIFIED CONCRETE
- LT. - LEFT
- LTBR - LEFT TOE BRIDGE RAILING
- MAX. - MAXIMUM
- MIN. - MINIMUM
- MISC. - MISCELLANEOUS
- MSE - MECHANICALLY STABILIZED EARTH
- N - NORTH
- NB - NORTHBOUND
- NO. - NUMBER
- N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
- OHWM - ORDINARY HIGH WATER MARK
- O/O - OUT TO OUT
- P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
- P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
- PG - PROFILE GRADE
- PGL - PROFILE GRADE LINE
- PR./PROP. - PROPOSED
- PSF - POUNDS PER SQUARE FOOT
- P.V.I. - POINT OF VERTICAL INTERSECTION
- Q - FLOW RATE
- R - RADIUS
- R.A. - REAR ABUTMENT
- RB - RIGHT BRIDGE
- RCP - ROCK CHANNEL PROTECTION
- REOD - RIGHT EDGE OF DECK
- REQD. - REQUIRED
- R.F. - RIGHT FORWARD
- R.R. - RAILROAD
- RT. - RIGHT
- RTBR - RIGHT TOE BRIDGE RAILING
- R/W - RIGHT OF WAY
- S - SOUTH
- SB - SOUTHBOUND
- SDC - SUPERPLASTICIZED DENSE CONCRETE
- SER. - SERIES
- SHLDR - SHOULDER
- SLPR. - SLEEPER
- SPA. - SPACE OR SPACES
- STA. - STATION
- STD. - STANDARD
- STR - STRAIGHT
- T - TOP
- T&B - TOP & BOTTOM
- TBR - TO BE REMOVED
- TEMP. - TEMPORARY
- T.O.S. OR T/S - TOP OF SLOPE
- T/T - TOE TO TOE
- TYP. - TYPICAL
- U.N.O. - UNLESS NOTED OTHERWISE
- VAR. - VARIES
- V - VELOCITY
- W - WEST
- WB - WESTBOUND
- WW - WINGWALL
- WWR - WELDED WIRE REINFORCEMENT
- °F - DEGREES FAHRENHEIT

GENERAL NOTES (3 OF 3)

BRIDGE NO. FRA-00270-43.650L&R

I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	LB/MV
CHECKER	JOL
REVIEWER	RER
DATE	04/15/24
PROJECT ID	112798
SUBSET	4
TOTAL	28
SHEET	P.382D
TOTAL	617

MADE BY: MGB		DATE: 3/25/2024		ESTIMATED QUANTITIES							STRUCTURAL FILE NUMBER: 2514494			
CHECKED BY: MRV		DATE: 3/28/2024		ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.	REFERENCE SHEET NO.	
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN					LUMP					2, 11, 13, 15-17 / 28
509	20001	100	LB	CONCRETE REINFORCEMENT, REPLACEMENT OF EXISTING CONCRETE REINFORCEMENT, AS PER PLAN								100		2 / 28
509	26001	867	LB	GALVANIZED STEEL REINFORCEMENT, AS PER PLAN					867					2 / 28
510	10001	86	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN (6" DOWELS)					86					2, 23 / 28
511	44111	15	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN					15					2 / 28
512	10050	36	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)					36					
516	12201	104	FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN					104					23 / 28
SPECIAL	53000300	2,720	LB	STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)									2,720	3-4, 11, 13, 15, 17 / 28
624	15001	2	EACH	MOBILIZATION, AS PER PLAN									2	5 / 28

ESTIMATED QUANTITIES - NORTHBOUND BRIDGE

BRIDGE NO. FRA-00270-43.650L&R

I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK

SFN 2514494

SFN 2514435

DESIGN AGENCY



**E.L. ROBINSON**  
ENGINEERING  
1488 West 9th St, Suite 800  
Cleveland, Ohio  
950 Goodale Blvd, Suite 160  
Grandview Heights, Ohio

DESIGNER: MGB  
CHECKER: MRV

REVIEWER: RER  
DATE: 04/15/24

PROJECT ID: 112798

SUBSET TOTAL: 5 / 28

SHEET TOTAL: P.382E / 617

**NOTES:**

- ITEM 624 - MOBILIZATION, AS PER PLAN COVERS THE MOBILIZATION SETUP AND COST FOR THE HDPF PLACED BEHIND THE ABUTMENTS.

FRA-270-43.18

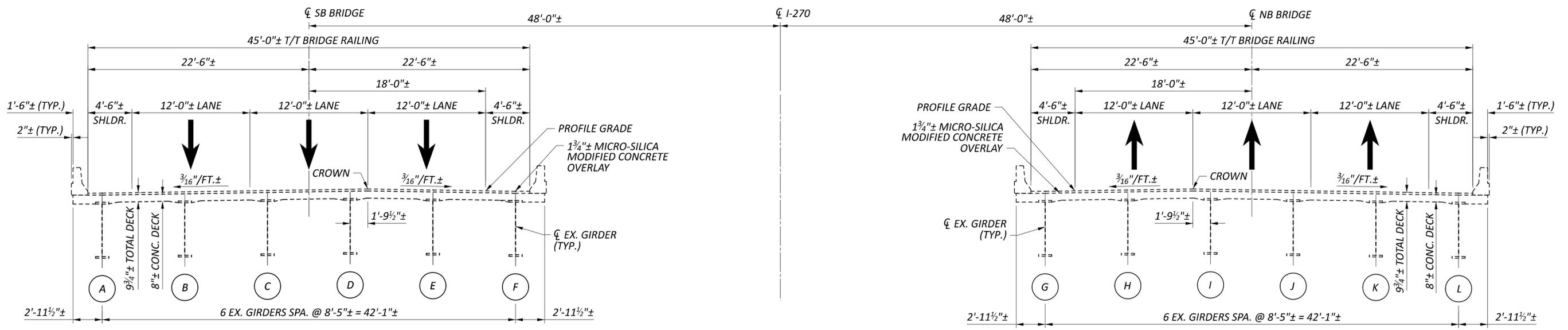
MODEL: Sheet\_SurvFt\_PAPER: 17x11 (in.) DATE: 4/15/2024 TIME: 12:42:29 PM USER: fbawani  
 \\col\j01\projects\OHDOT\CE\02\_Worksets\112798\400-Engineering\Structures\SEN\_2514494\Sheets\112798\_SF1\_2514494\_S0002.dgn

MADE BY: MGB		DATE: 3/25/2024		ESTIMATED QUANTITIES						STRUCTURAL FILE NUMBER: 2514435				
CHECKED BY: MRV		DATE: 3/28/2024		ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.	REFERENCE SHEET NO.	
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN					LUMP					2, 8-9, 18-20 / 28
509	20001	100	LB	CONCRETE REINFORCEMENT, REPLACEMENT OF EXISTING CONCRETE REINFORCEMENT, AS PER PLAN								100		2 / 28
509	26001	1,092	LB	GALVANIZED STEEL REINFORCEMENT, AS PER PLAN					1,092					2 / 28
510	10001	91	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN (6" DOWELS)					91					2, 26 / 28
511	44111	17	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN					17					2 / 28
512	10050	36	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)					36					
516	12201	104	FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN					104					26 / 28
SPECIAL	53000300	3,520	LB	STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)									3,520	3-4, 7, 9, 19-20 / 28
624	15001	2	EACH	MOBILIZATION, AS PER PLAN									2	6 / 28

ESTIMATED QUANTITIES - SOUTHBOUND BRIDGE  
 BRIDGE NO. FRA-00270-43.650L&R  
 I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK

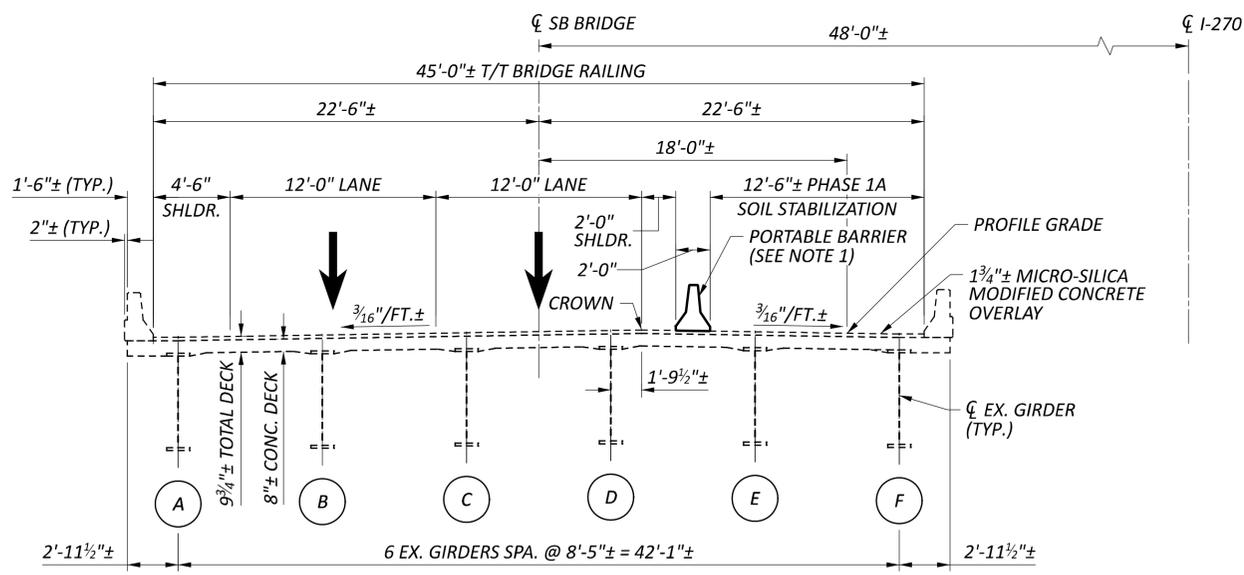
SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	MGB
CHECKER	MRV
REVIEWER	RER
DATE	04/15/24
PROJECT ID	112798
SUBSET	6
TOTAL	28
SHEET	P.382F
TOTAL	617

**NOTES:**  
 1. ITEM 624 - MOBILIZATION, AS PER PLAN COVERS THE MOBILIZATION SETUP AND COST FOR THE HDPF PLACED BEHIND THE ABUTMENTS.

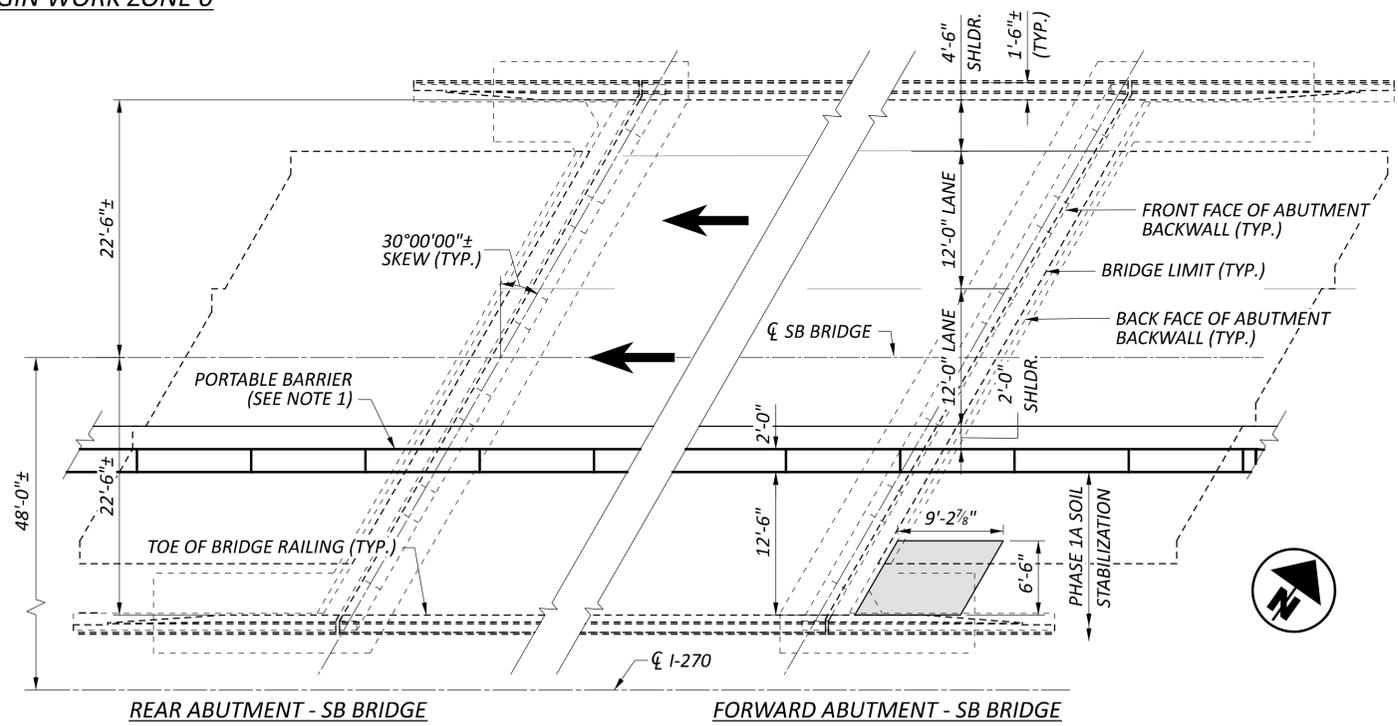


**EXISTING TRAFFIC - ORIGINAL CONFIGURATION (I-270 NB & SB)**  
 (LOOKING UPSTATION)

**BEGIN WORK ZONE 0**



**I-270 SB TRANSVERSE SECTION**  
 (LOOKING UPSTATION)



**PHASE 1A - SOIL STABILIZATION & TRAFFIC (I-270 SB)**

1. INSTALL PORTABLE BARRIER, STRIPE TEMPORARY LANES (IF NECESSARY), AND SHIFT TRAFFIC AS SHOWN TO COMPLETE WEEKEND WORK.
2. STABILIZE SOIL BEHIND THE ABUTMENT WITH HIGH DENSITY POLYURETHANE FOAM.
3. REMOVE PORTABLE BARRIER AND RETURN TRAFFIC TO ORIGINAL CONFIGURATION.

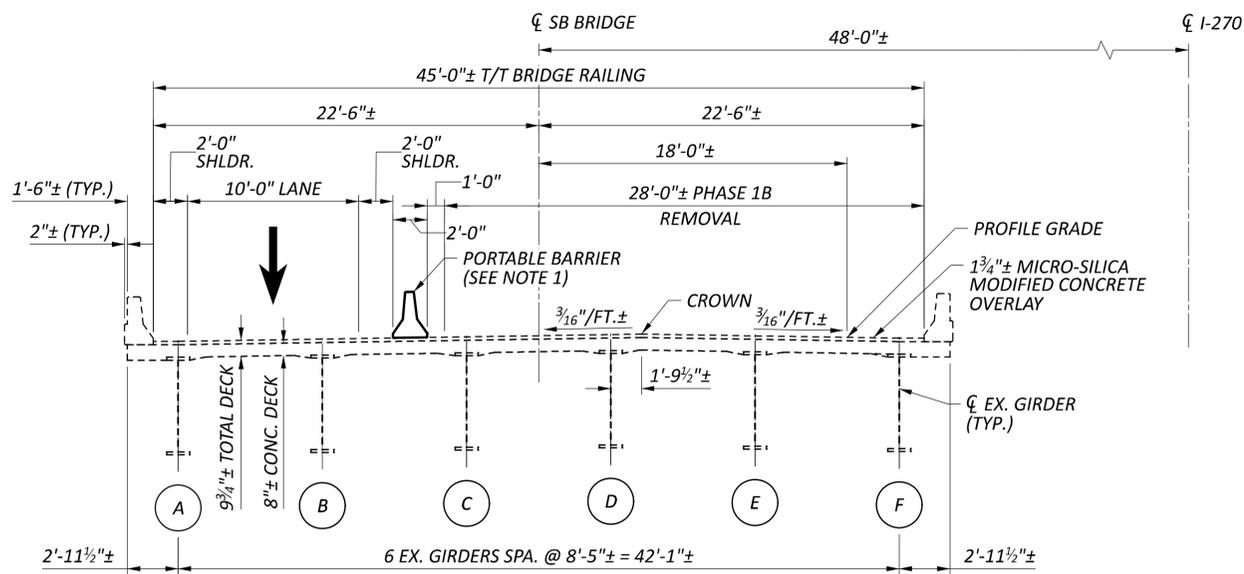
**LEGEND:**

- (G) - GIRDER LINE DESIGNATION
- [Shaded Area] - SOIL STABILIZATION USING HIGH DENSITY POLYURETHANE FOAM PER ITEM 530 - STABILIZATION - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)

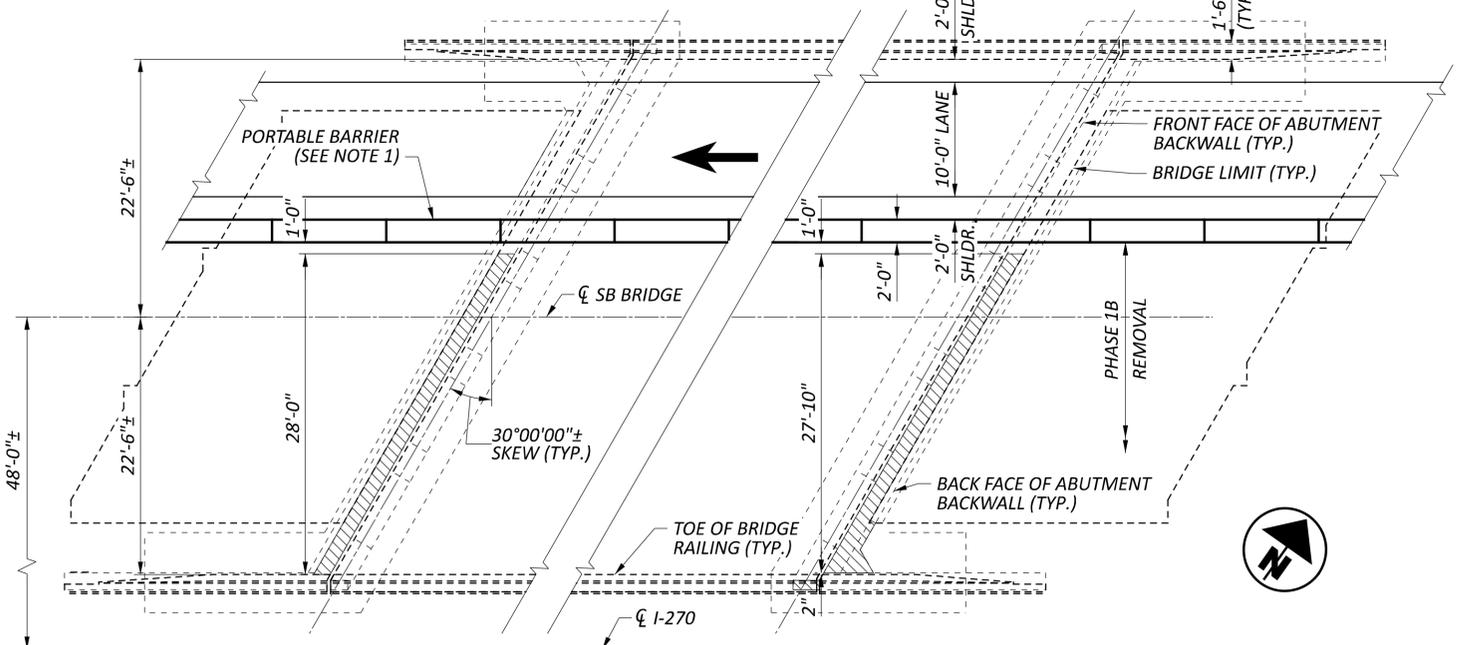
**NOTES:**

1. FOR PORTABLE BARRIER INFORMATION, REFER TO ODOT STD. DWG. PCB-91 OR RM-4.2.

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	LB/MV
CHECKER	MGB
REVIEWER	RER
PROJECT ID	112798
SUBSET	7
TOTAL	28
SHEET	P.382G
TOTAL	617



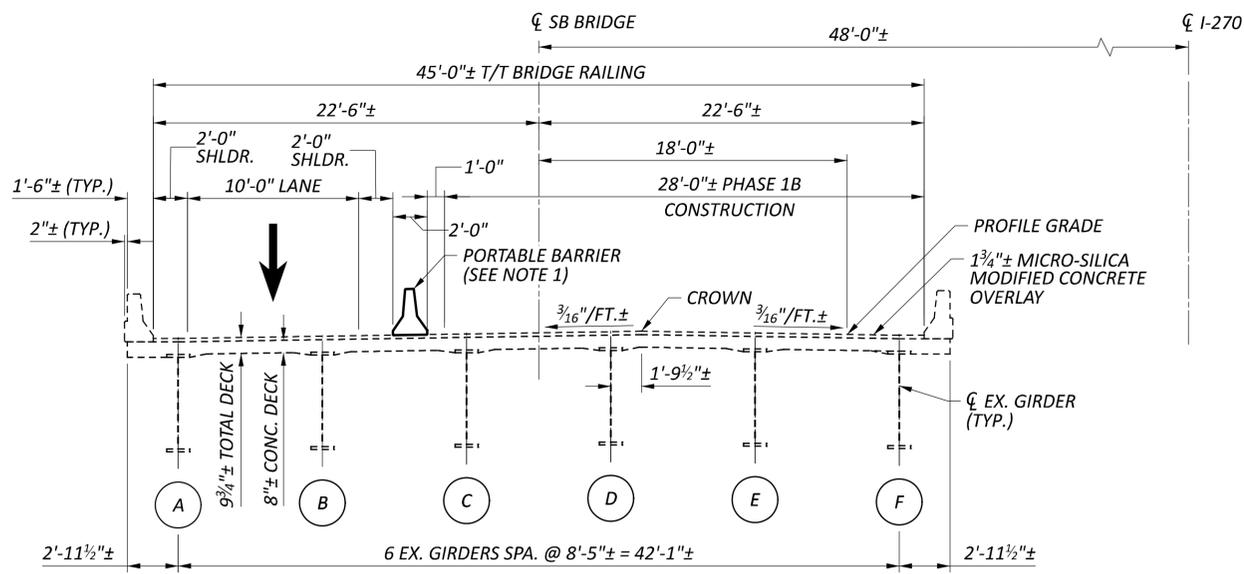
I-270 SB TRANSVERSE SECTION  
(LOOKING UPSTATION)



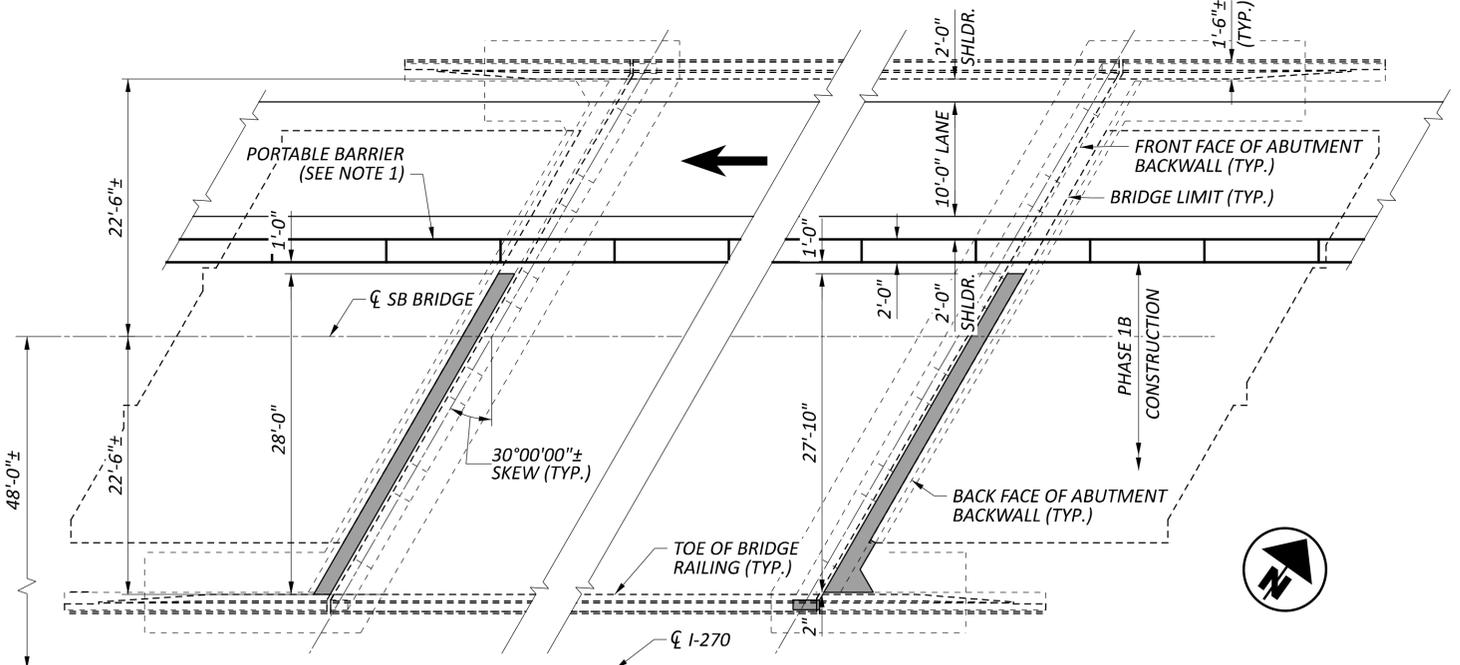
REAR ABUTMENT - SB BRIDGE FORWARD ABUTMENT - SB BRIDGE

**PHASE 1B - REMOVAL & TRAFFIC (I-270 SB)**

1. INSTALL PORTABLE BARRIER, STRIPE TEMPORARY LANES (IF NECESSARY), AND SHIFT TRAFFIC AS SHOWN TO COMPLETE WEEKEND WORK.
2. REMOVE PORTIONS OF THE EXISTING SUBSTRUCTURE AS INDICATED IN THE PLANS.



I-270 SB TRANSVERSE SECTION  
(LOOKING UPSTATION)



REAR ABUTMENT - SB BRIDGE FORWARD ABUTMENT - SB BRIDGE

**PHASE 1B - CONSTRUCTION & TRAFFIC (I-270 SB)**

1. RE-CONSTRUCT PORTIONS OF THE ABUTMENT AND INSTALL EXPANSION JOINT ARMOR AS INDICATED IN THE PLANS.
2. REMOVE PORTABLE BARRIER AND RETURN TRAFFIC TO ORIGINAL CONFIGURATION.

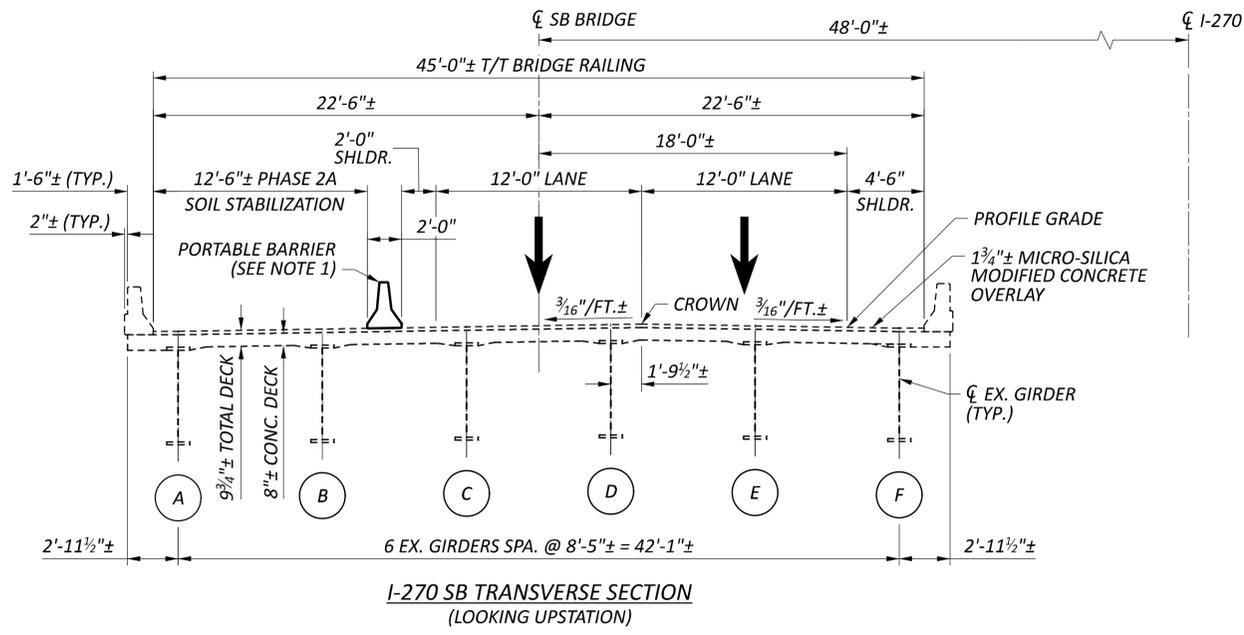
**LEGEND:**

- G - GIRDER LINE DESIGNATION
- INDICATES AREAS TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- PROPOSED SUBSTRUCTURE WORK

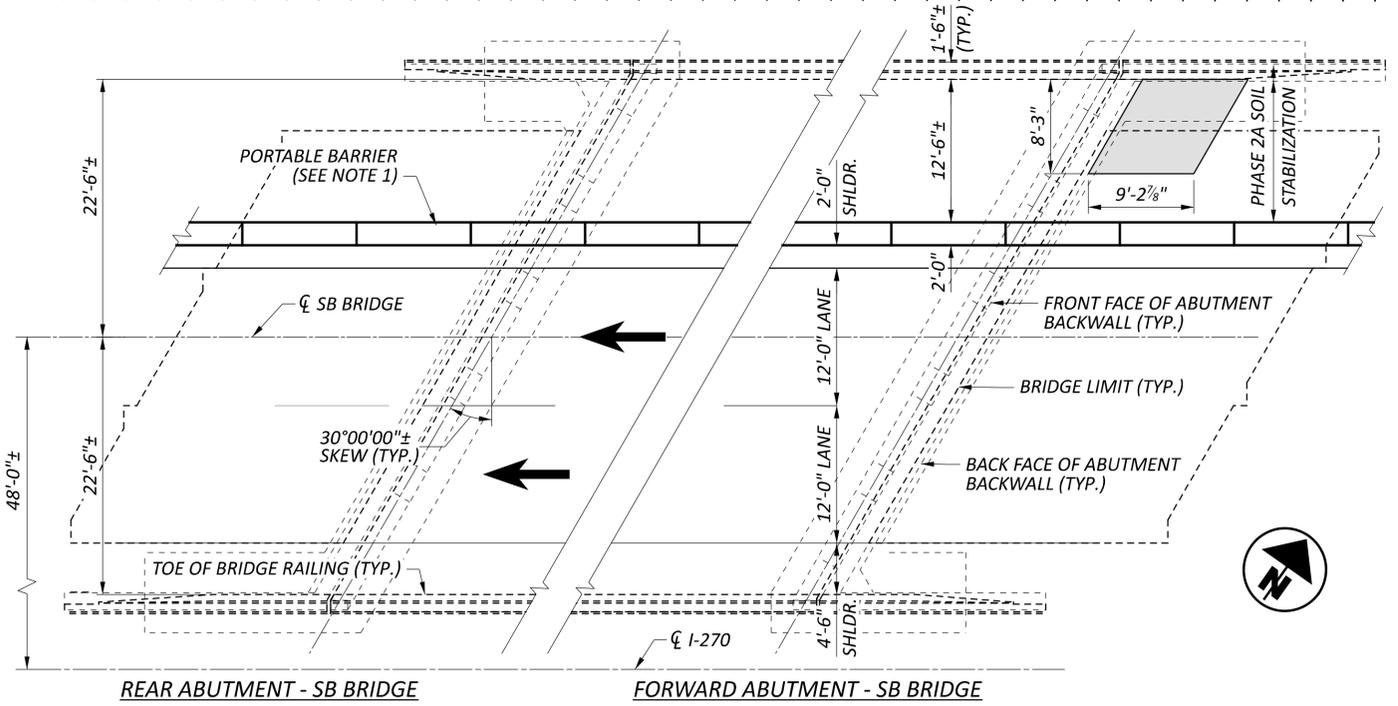
**NOTES:**

1. FOR PORTABLE BARRIER INFORMATION, REFER TO ODOT STD. DWG. PCB-91 OR RM-4.2.

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	LB/MV
CHECKER	MGB
REVIEWER	RER
PROJECT ID	112798
SUBSET TOTAL	8 / 28
SHEET TOTAL	P.382H / 617



I-270 SB TRANSVERSE SECTION  
(LOOKING UPSTATION)

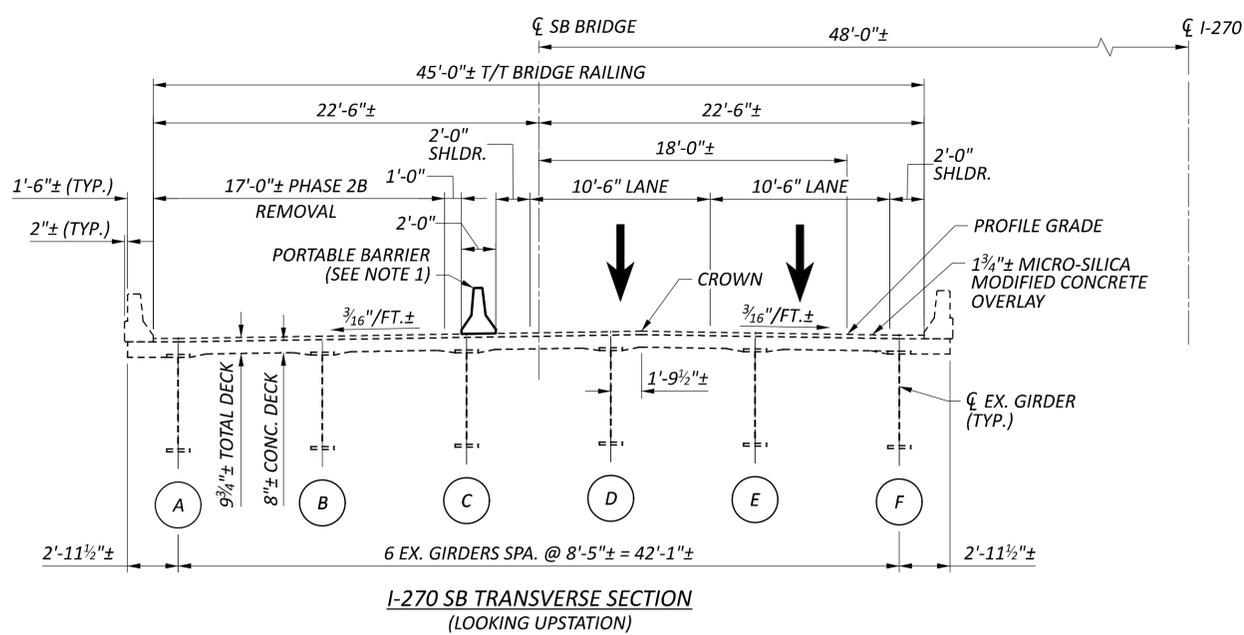


REAR ABUTMENT - SB BRIDGE

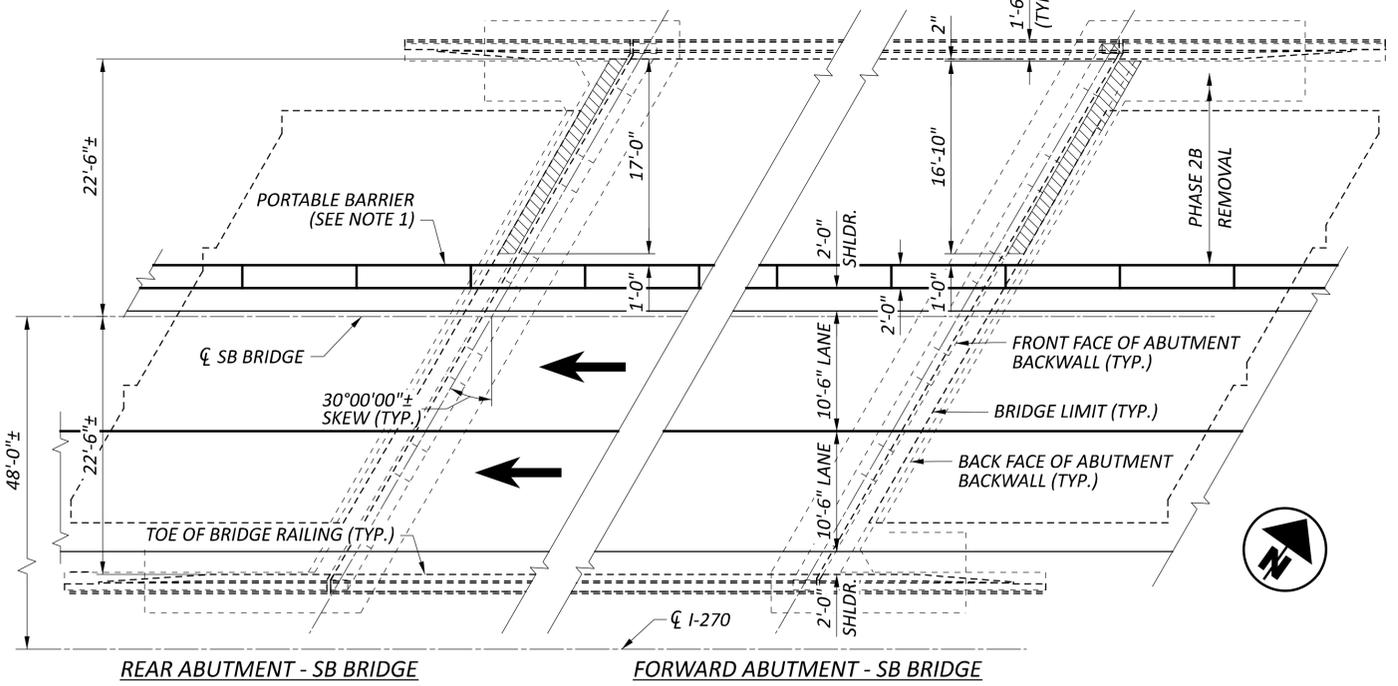
FORWARD ABUTMENT - SB BRIDGE

**PHASE 2A - SOIL STABILIZATION & TRAFFIC (I-270 SB)**

1. INSTALL PORTABLE BARRIER, STRIPE TEMPORARY LANES (IF NECESSARY), AND SHIFT TRAFFIC AS SHOWN TO COMPLETE WEEKEND WORK.
2. STABILIZE SOIL BEHIND THE ABUTMENT WITH HIGH DENSITY POLYURETHANE FOAM.
3. REMOVE PORTABLE BARRIER AND RETURN TRAFFIC TO ORIGINAL CONFIGURATION.



I-270 SB TRANSVERSE SECTION  
(LOOKING UPSTATION)



REAR ABUTMENT - SB BRIDGE

FORWARD ABUTMENT - SB BRIDGE

**PHASE 2B - REMOVAL & TRAFFIC (I-270 SB)**

1. INSTALL PORTABLE BARRIER, STRIPE TEMPORARY LANES (IF NECESSARY), AND SHIFT TRAFFIC AS SHOWN TO COMPLETE WEEKEND WORK.
2. REMOVE PORTIONS OF THE EXISTING SUBSTRUCTURE AS INDICATED IN THE PLANS.

**LEGEND:**

- G - GIRDER LINE DESIGNATION
- SOIL STABILIZATION USING HIGH DENSITY POLYURETHANE FOAM PER ITEM 530 - STABILIZATION-STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)
- INDICATES AREAS TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

**NOTES:**

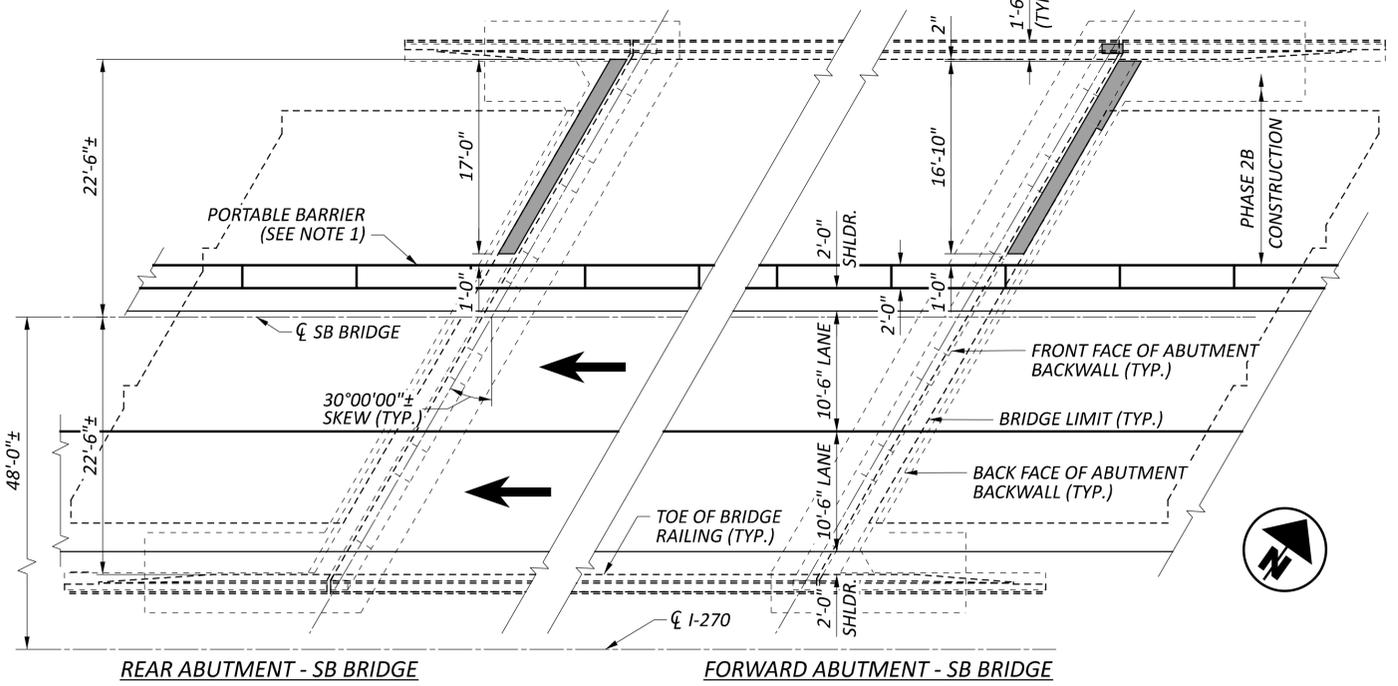
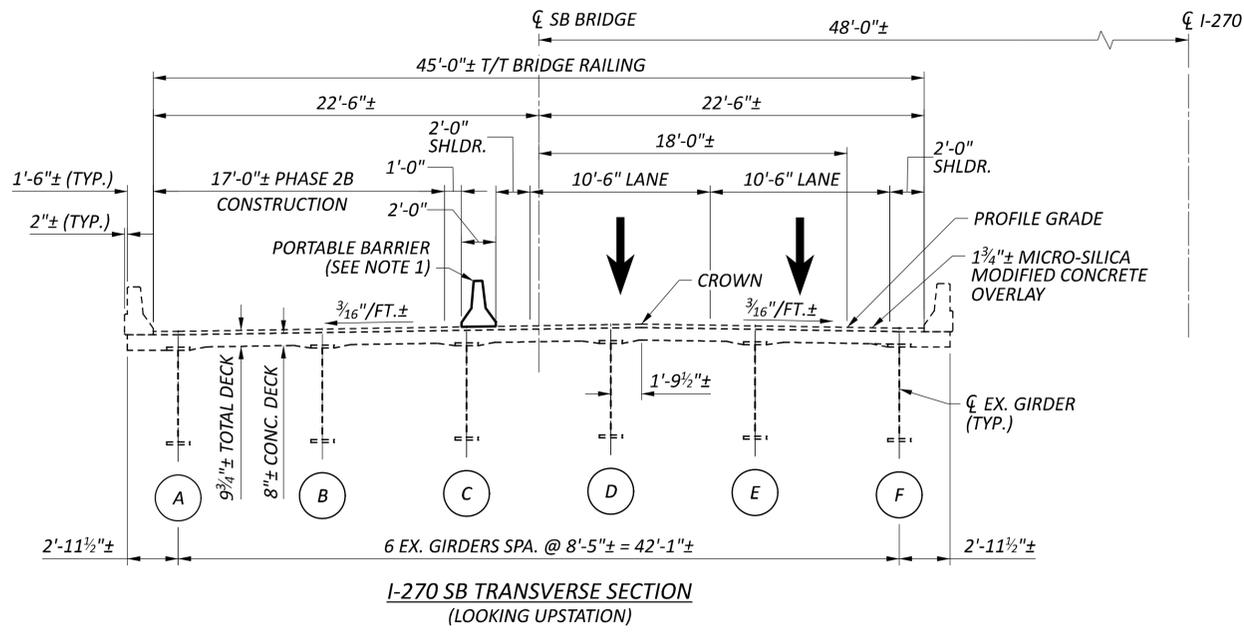
1. FOR PORTABLE BARRIER INFORMATION, REFER TO ODOT STD. DWG. PCB-91 OR RM-4.2.

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	LB/MV
CHECKER	MGB
REVIEWER	
PROJECT ID	112798
SUBSET	9
TOTAL	28
SHEET	P.3821
TOTAL	617



**E.L. ROBINSON**  
ENGINEERING

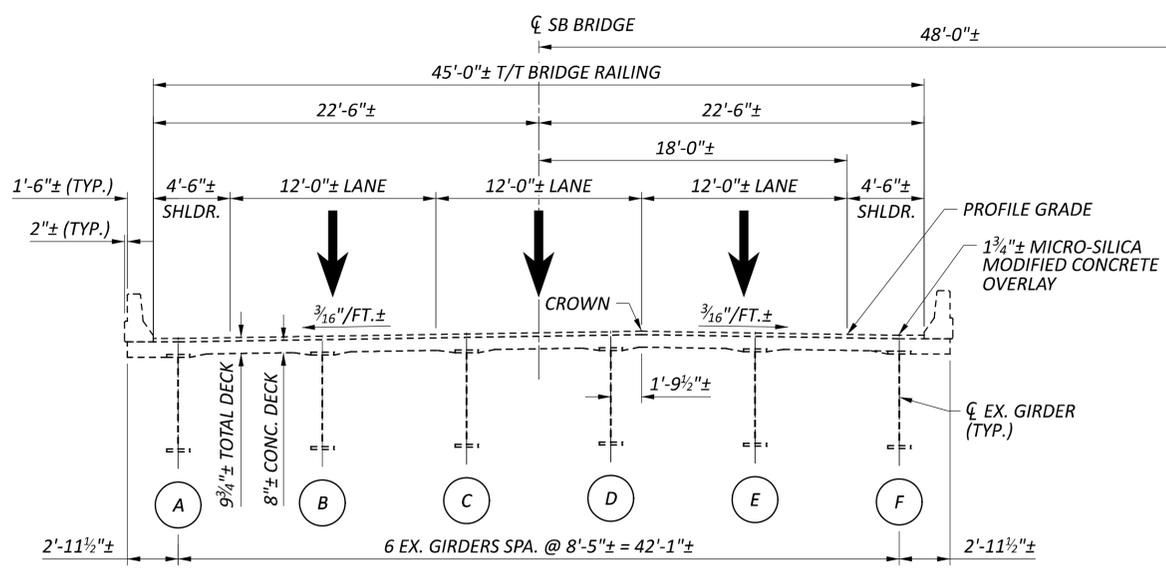
1488 West 9th St, Suite 800  
Cleveland, Ohio 44115  
950 Goodale Blvd, Suite 160  
Grandview Heights, Ohio 44131



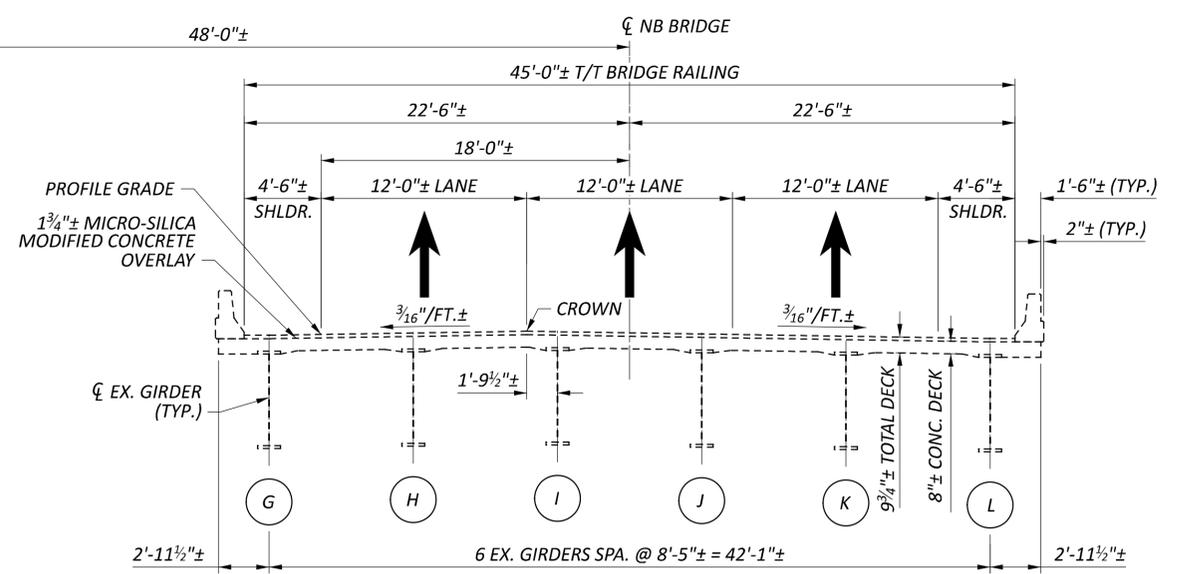
**PHASE 2B - CONSTRUCTION & TRAFFIC (I-270 SB)**

- RE-CONSTRUCT PORTIONS OF THE ABUTMENT AND INSTALL EXPANSION JOINT ARMOR AS INDICATED IN THE PLANS.
- REMOVE PORTABLE BARRIER AND RETURN TRAFFIC TO ORIGINAL CONFIGURATION.

**END WORK ZONE 0**



**TRAFFIC BETWEEN CONSTRUCTION SEASONS - ORIGINAL CONFIGURATION (I-270 NB & SB)**  
(LOOKING UPSTATION)



**LEGEND:**

- (G) - GIRDER LINE DESIGNATION
- (Grey Box) - PROPOSED SUBSTRUCTURE WORK

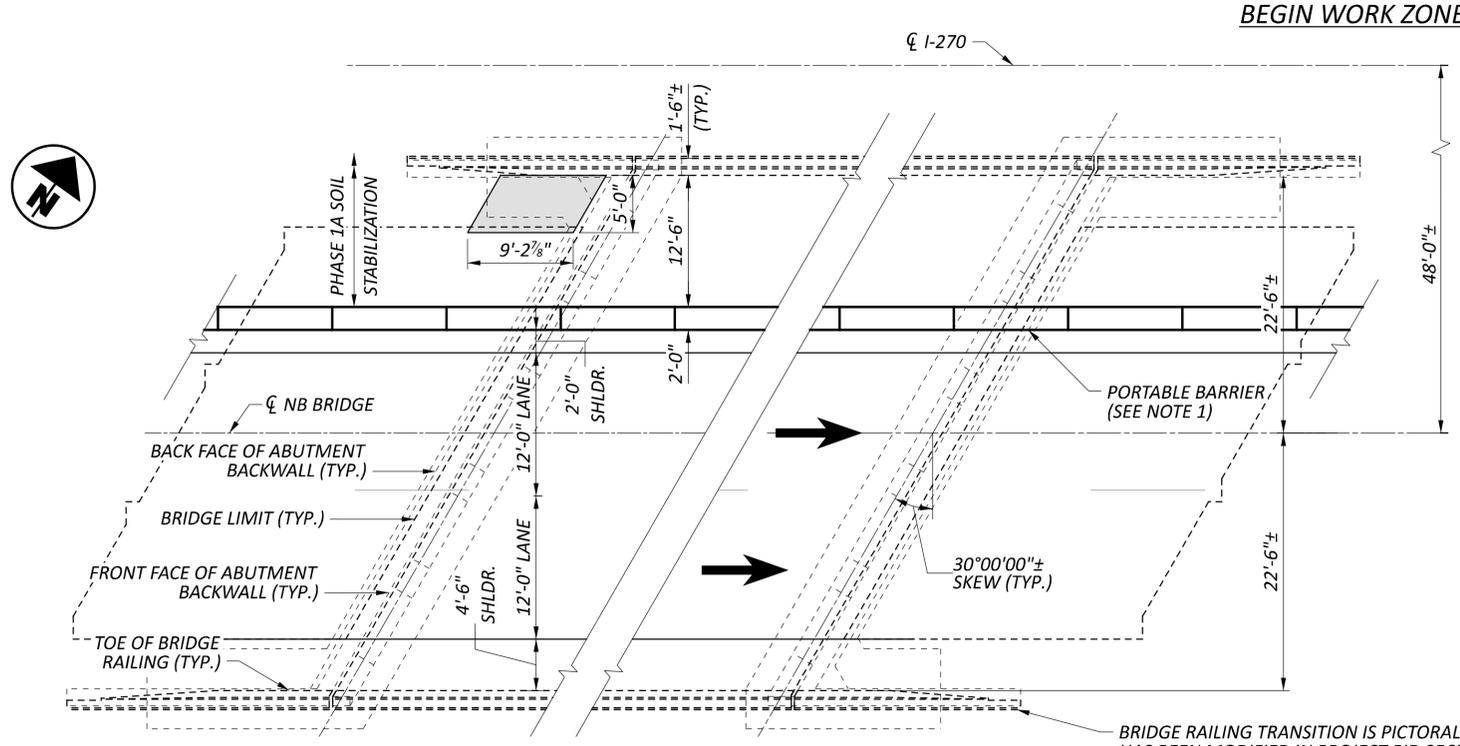
**NOTES:**

- FOR PORTABLE BARRIER INFORMATION, REFER TO ODOT STD. DWG. PCB-91 OR RM-4.2.

**PHASE CONSTRUCTION DETAILS (4 OF 8)**  
 BRIDGE NO. FRA-00270-43.650L&R  
 I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	LB/MV
CHECKER	MGB
REVIEWER	RER
PROJECT ID	112798
SUBSET TOTAL	10 / 28
SHEET TOTAL	P.382J / 617

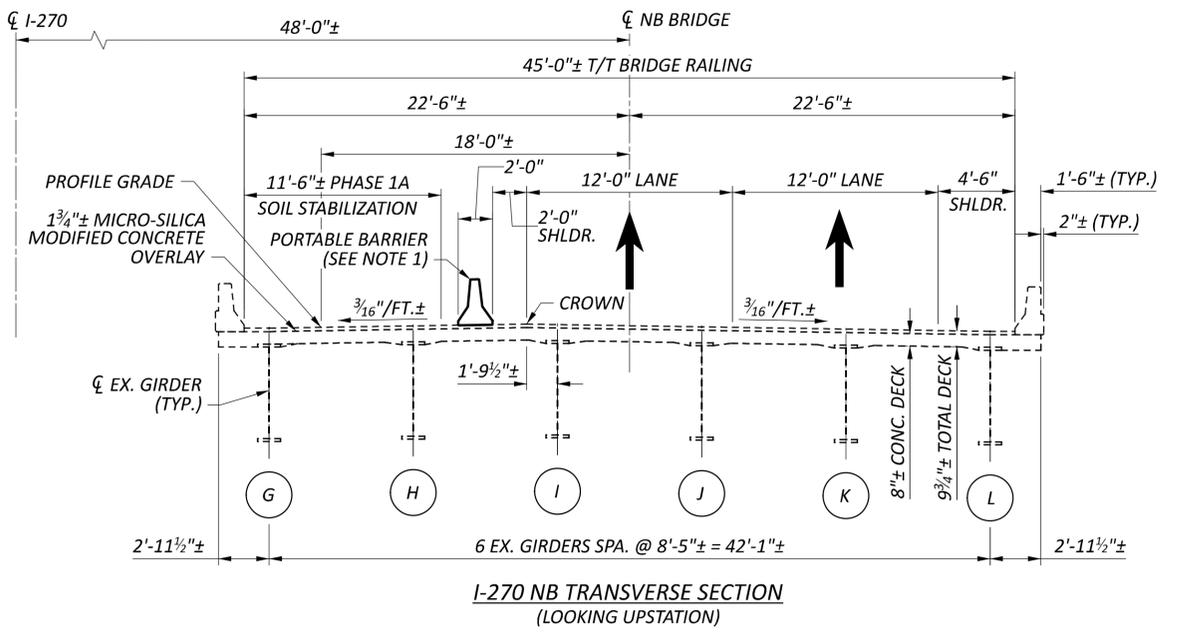




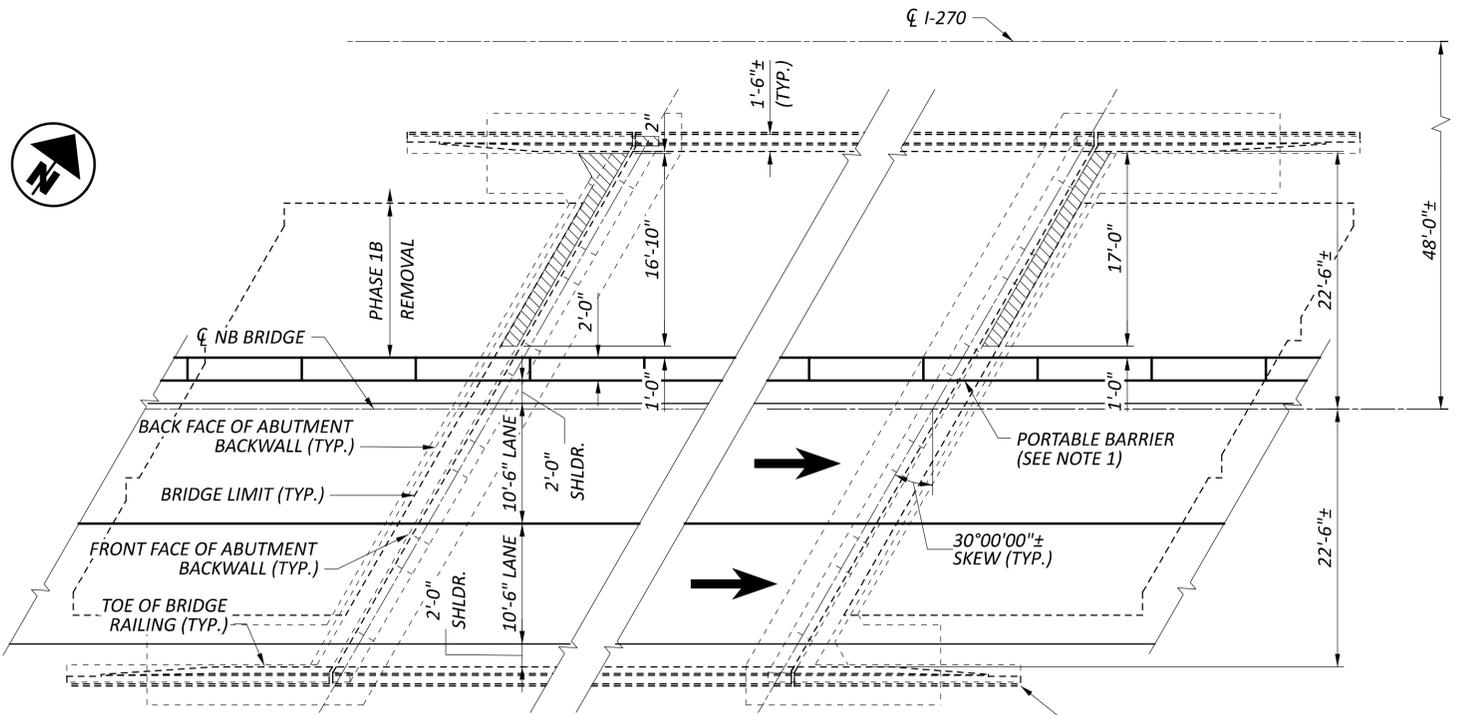
REAR ABUTMENT - NB BRIDGE FORWARD ABUTMENT - NB BRIDGE

**PHASE 1A - SOIL STABILIZATION & TRAFFIC (I-270 NB)**

1. INSTALL PORTABLE BARRIER, STRIPE TEMPORARY LANES (IF NECESSARY), AND SHIFT TRAFFIC AS SHOWN TO COMPLETE WEEKEND WORK.
2. STABILIZE SOIL BEHIND THE ABUTMENT WITH HIGH DENSITY POLYURETHANE FOAM.
3. REMOVE PORTABLE BARRIER AND RETURN TRAFFIC TO ORIGINAL CONFIGURATION.



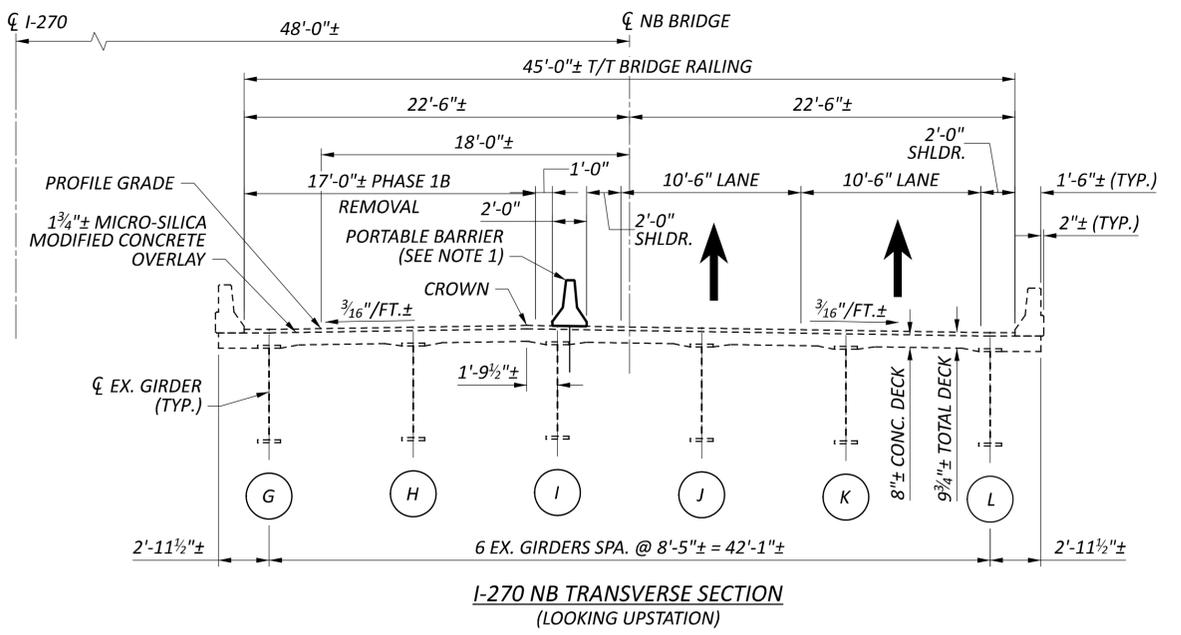
I-270 NB TRANSVERSE SECTION (LOOKING UPSTATION)



REAR ABUTMENT - NB BRIDGE FORWARD ABUTMENT - NB BRIDGE

**PHASE 1B - REMOVAL & TRAFFIC (I-270 NB)**

1. INSTALL PORTABLE BARRIER, STRIPE TEMPORARY LANES (IF NECESSARY), AND SHIFT TRAFFIC AS SHOWN TO COMPLETE WEEKEND WORK.
2. REMOVE PORTIONS OF THE EXISTING SUBSTRUCTURE AS INDICATED IN THE PLANS.



I-270 NB TRANSVERSE SECTION (LOOKING UPSTATION)

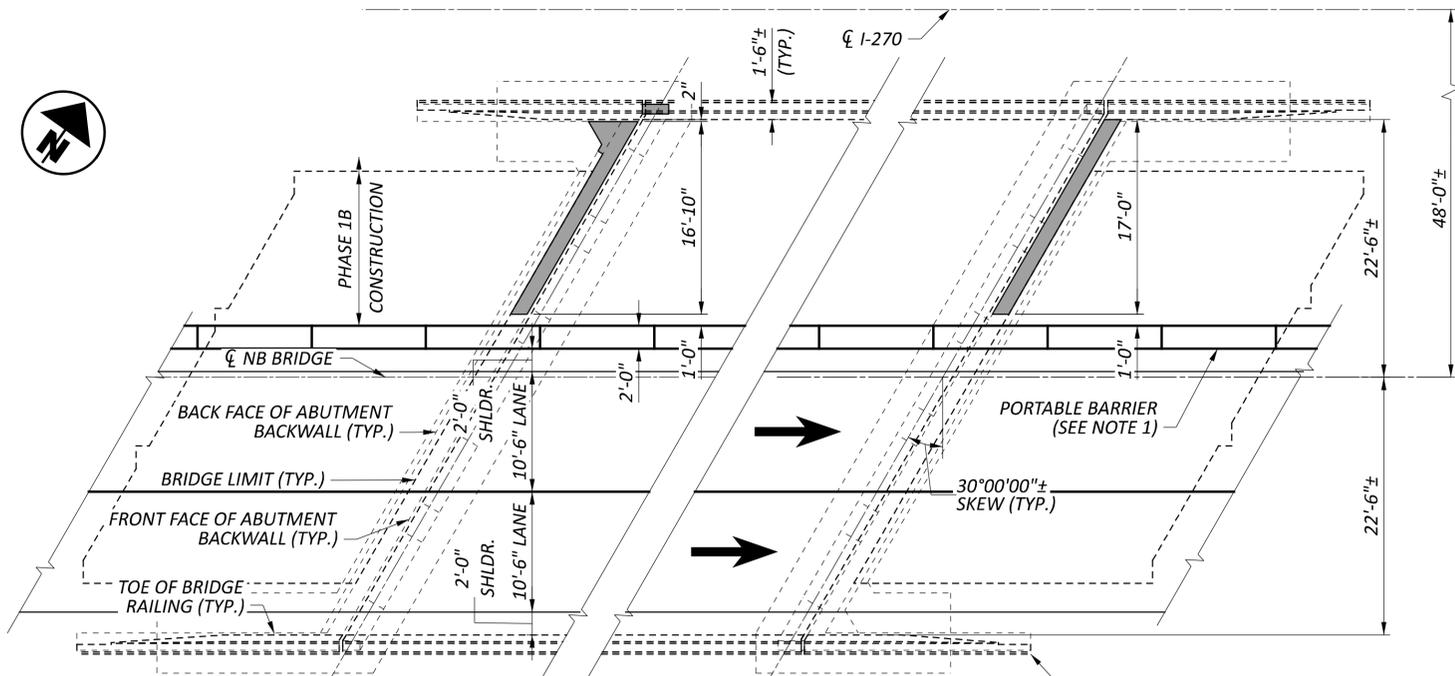
**LEGEND:**

- G - GIRDER LINE DESIGNATION
- SOIL STABILIZATION USING HIGH DENSITY POLYURETHANE FOAM PER ITEM 530 - STABILIZATION - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)
- INDICATES AREAS TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

**NOTES:**

1. FOR PORTABLE BARRIER INFORMATION, REFER TO ODOT STD. DWG. PCB-91 OR RM-4.2.

SN	2514494
SN	2514435
DESIGN AGENCY	
<b>EL. ROBINSON</b> ENGINEERING	
1488 West 9th St, Suite 800 Cleveland, Ohio 44115 950 Goodale Blvd, Suite 160 Grandview Heights, Ohio 44131	
DESIGNER	CHECKER
LB/MV	MGB
REVIEWER	
RER	04/15/24
PROJECT ID	112798
SUBSET	TOTAL
11	28
SHEET	TOTAL
P.382K	617



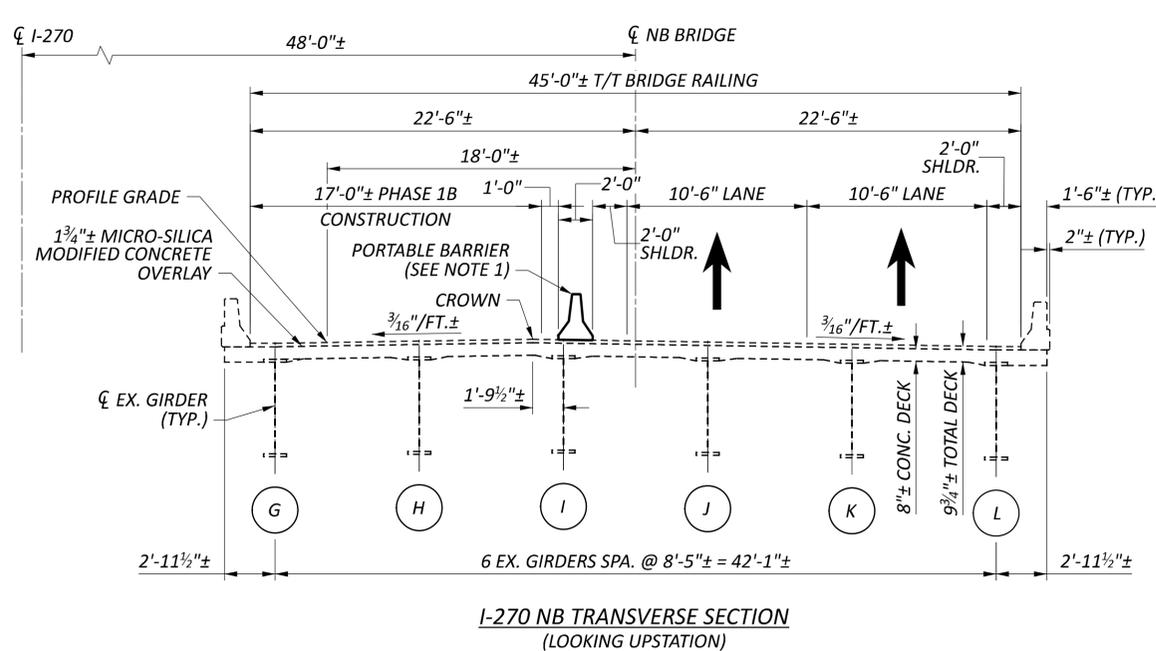
REAR ABUTMENT - NB BRIDGE

FORWARD ABUTMENT - NB BRIDGE

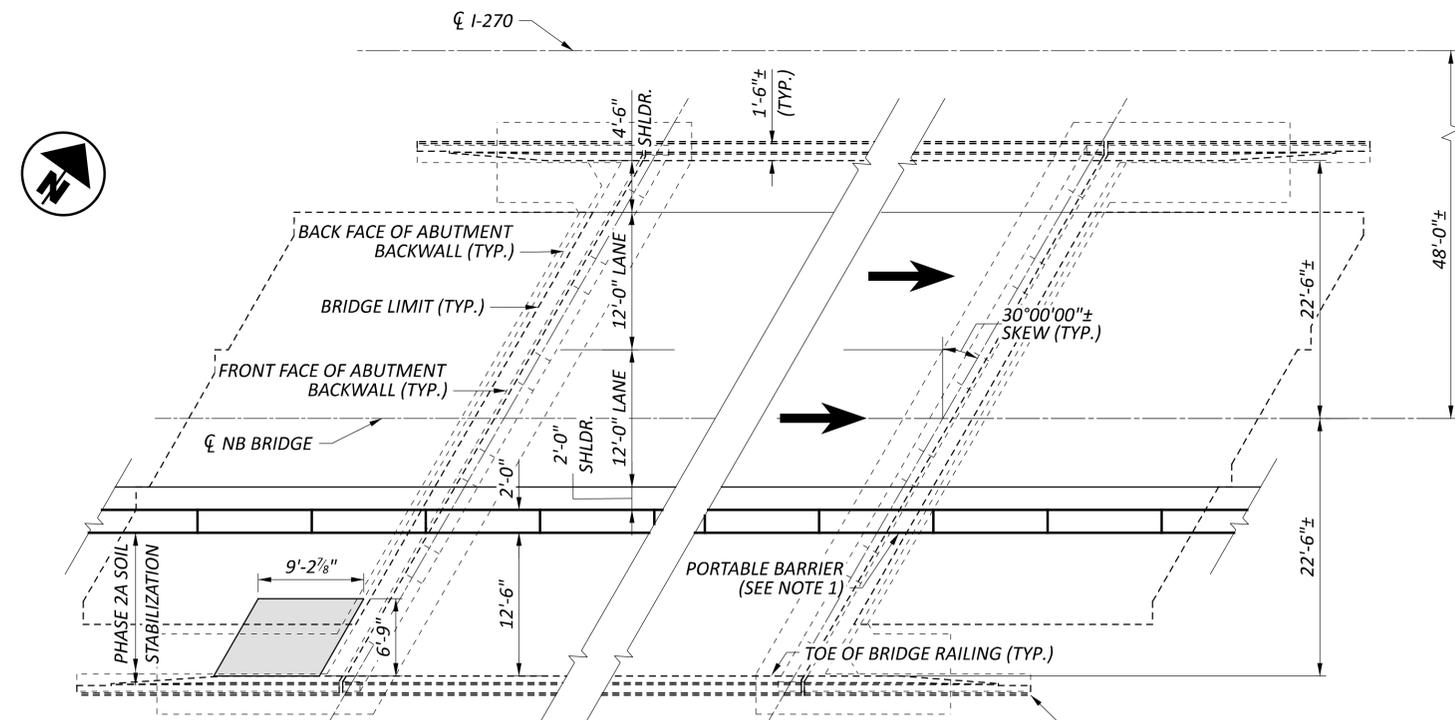
BRIDGE RAILING TRANSITION IS PICTORAL ONLY AND HAS BEEN MODIFIED IN PROJECT PID 95639.

**PHASE 1B - CONSTRUCTION & TRAFFIC (I-270 NB)**

1. RE-CONSTRUCT PORTIONS OF THE ABUTMENT AND INSTALL EXPANSION JOINT ARMOR AS INDICATED IN THE PLANS.
2. REMOVE PORTABLE BARRIER AND RETURN TRAFFIC TO ORIGINAL CONFIGURATION.



**I-270 NB TRANSVERSE SECTION (LOOKING UPSTATION)**



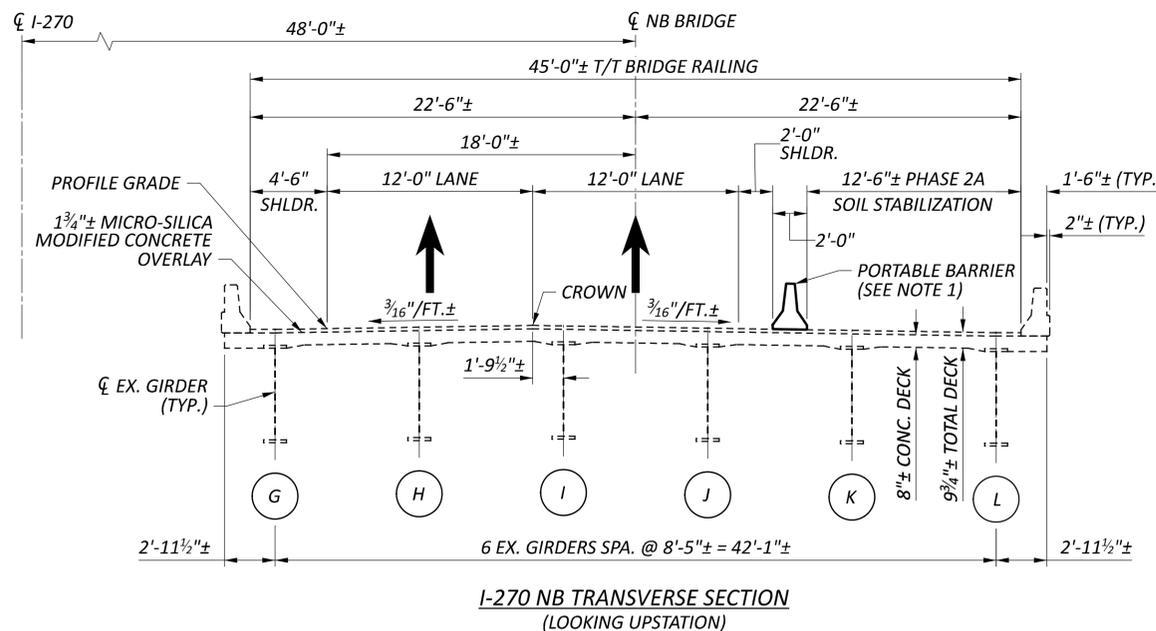
REAR ABUTMENT - NB BRIDGE

FORWARD ABUTMENT - NB BRIDGE

BRIDGE RAILING TRANSITION IS PICTORAL ONLY AND HAS BEEN MODIFIED IN PROJECT PID 95639.

**PHASE 2A - SOIL STABILIZATION & TRAFFIC (I-270 NB)**

1. INSTALL PORTABLE BARRIER, STRIPE TEMPORARY LANES (IF NECESSARY), AND SHIFT TRAFFIC AS SHOWN TO COMPLETE WEEKEND WORK.
2. STABILIZE SOIL BEHIND THE ABUTMENT WITH HIGH DENSITY POLYURETHANE FOAM.
3. REMOVE PORTABLE BARRIER AND RETURN TRAFFIC TO ORIGINAL CONFIGURATION.



**I-270 NB TRANSVERSE SECTION (LOOKING UPSTATION)**

**LEGEND:**

- G - GIRDER LINE DESIGNATION
- PROPOSED SUBSTRUCTURE WORK
- SOIL STABILIZATION USING HIGH DENSITY POLYURETHANE FOAM PER ITEM 530 - STABILIZATION - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)

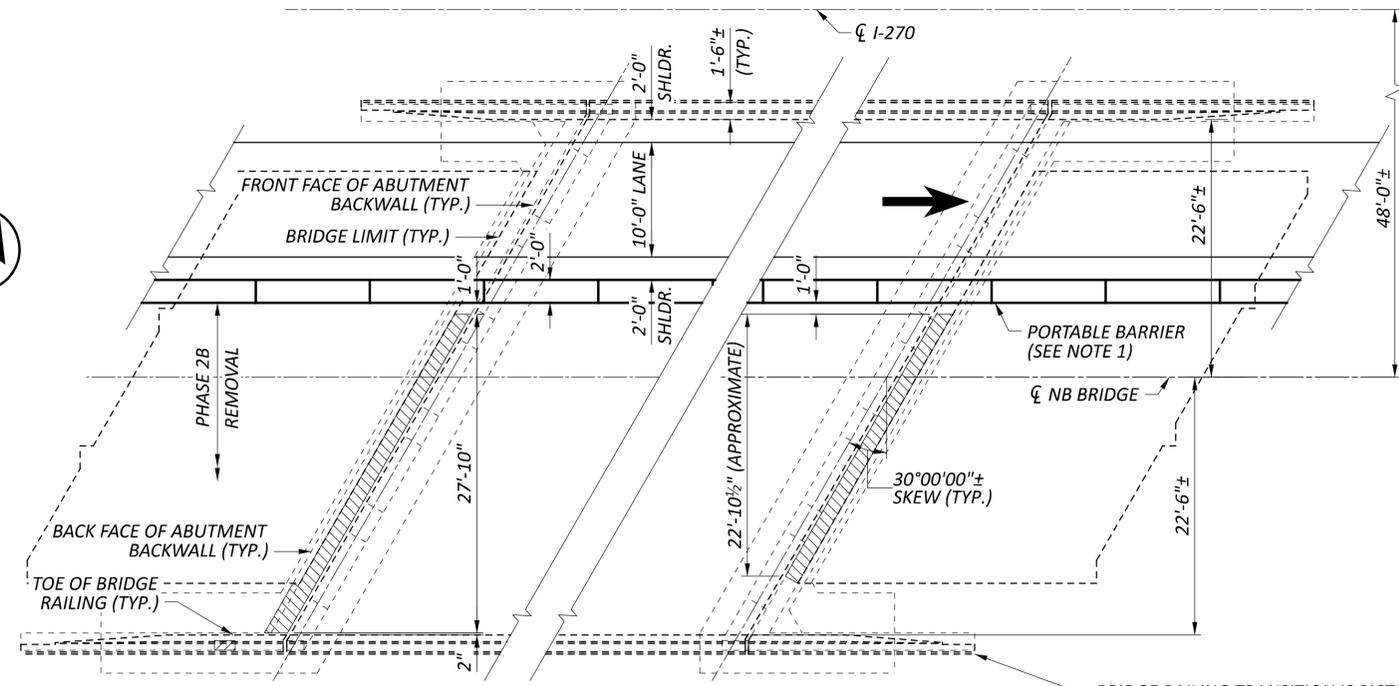
**NOTES:**

1. FOR PORTABLE BARRIER INFORMATION, REFER TO ODOT STD. DWG. PCB-91 OR RM-4.2.

SFN	2514494
DESIGN AGENCY	2514435
DESIGNER	LB/MV
CHECKER	MGB
REVIEWER	RER
PROJECT ID	112798
SUBSET	12
TOTAL	28
SHEET	P.382L
TOTAL	617



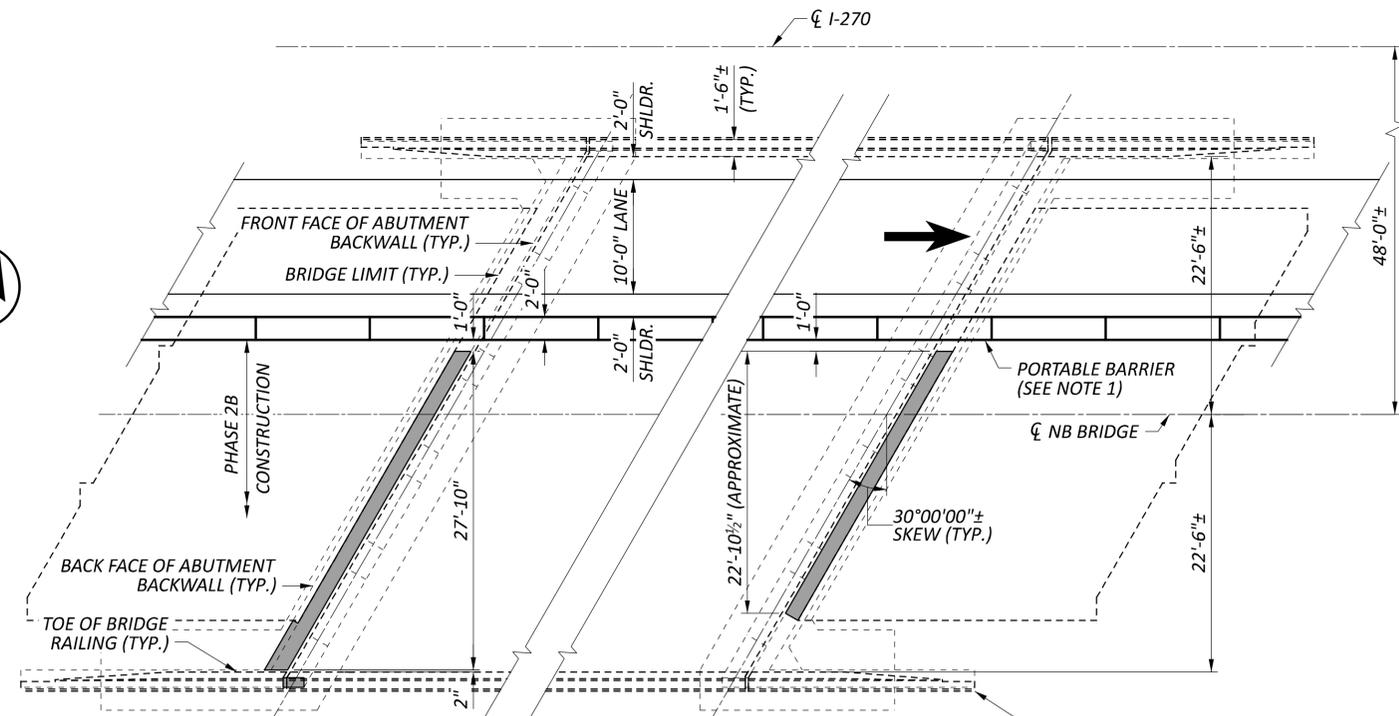
**E.L. ROBINSON ENGINEERING**  
 1468 West 9th St, Suite 800  
 Cleveland, Ohio 44115  
 950 Goodale Blvd, Suite 160  
 Grandview Heights, Ohio



REAR ABUTMENT - NB BRIDGE FORWARD ABUTMENT - NB BRIDGE

**PHASE 2B - REMOVAL & TRAFFIC (I-270 NB)**

1. INSTALL PORTABLE BARRIER, STRIPE TEMPORARY LANES (IF NECESSARY), AND SHIFT TRAFFIC AS SHOWN TO COMPLETE WEEKEND WORK.
2. REMOVE PORTIONS OF THE EXISTING SUBSTRUCTURE AS INDICATED IN THE PLANS.

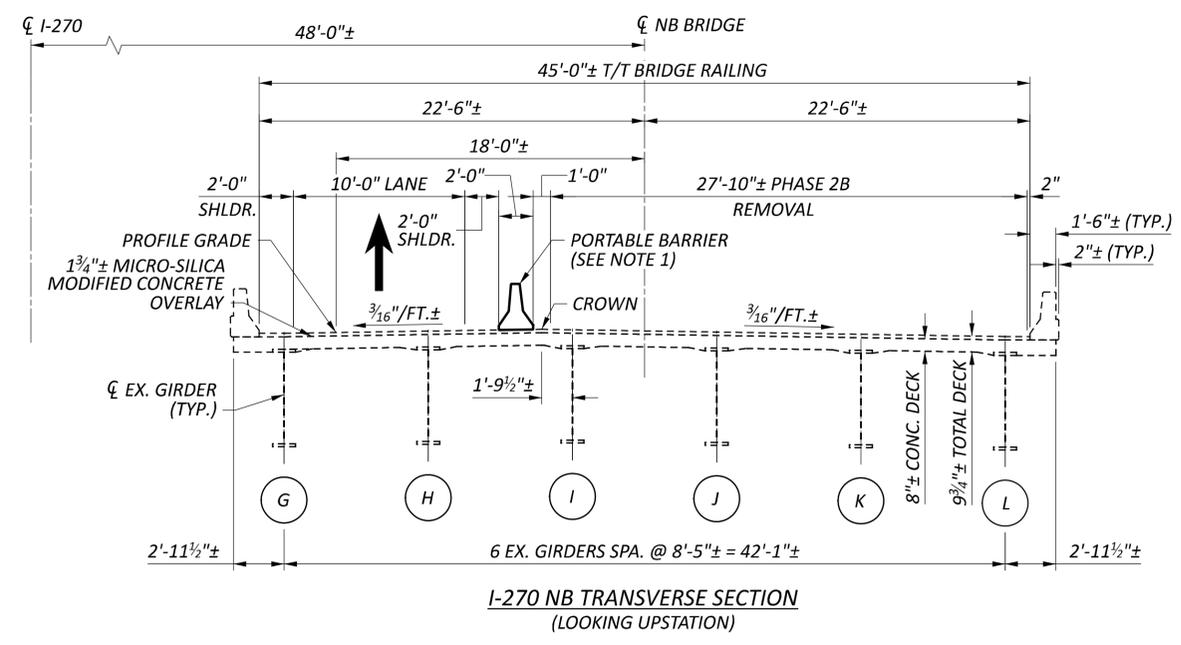


REAR ABUTMENT - NB BRIDGE FORWARD ABUTMENT - NB BRIDGE

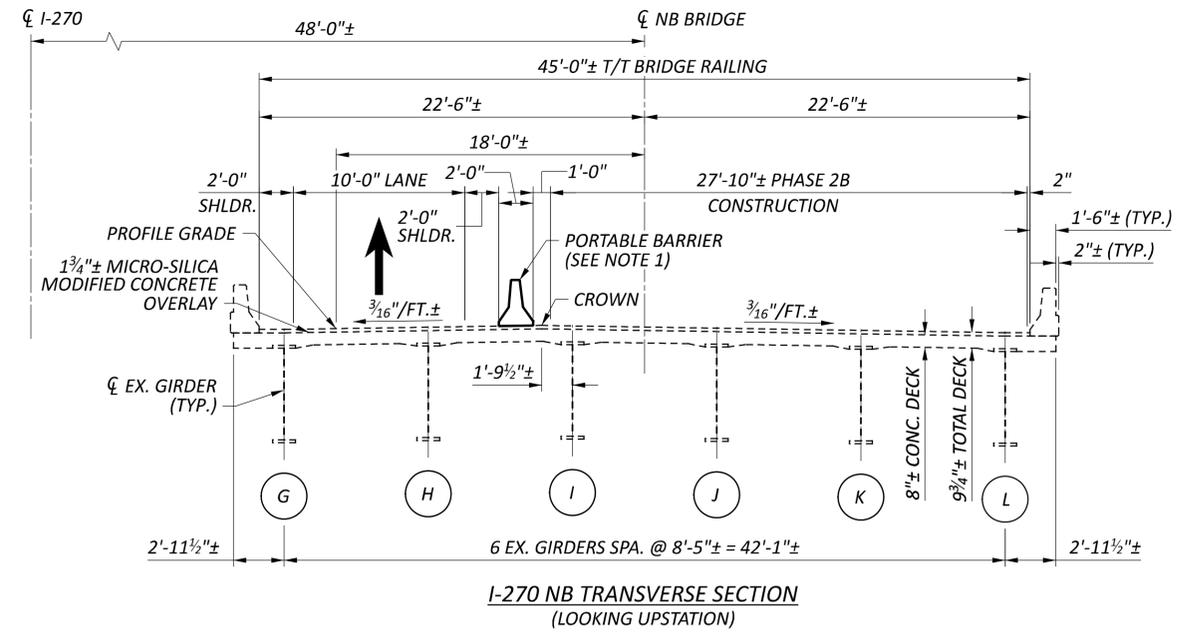
**PHASE 2B - CONSTRUCTION & TRAFFIC (I-270 NB)**

1. RE-CONSTRUCT PORTIONS OF THE ABUTMENT AND INSTALL EXPANSION JOINT ARMOR AS INDICATED IN THE PLANS.
2. REMOVE PORTABLE BARRIER AND RETURN TRAFFIC TO ORIGINAL CONFIGURATION.

END WORK ZONE 5



I-270 NB TRANSVERSE SECTION (LOOKING UPSTATION)



I-270 NB TRANSVERSE SECTION (LOOKING UPSTATION)

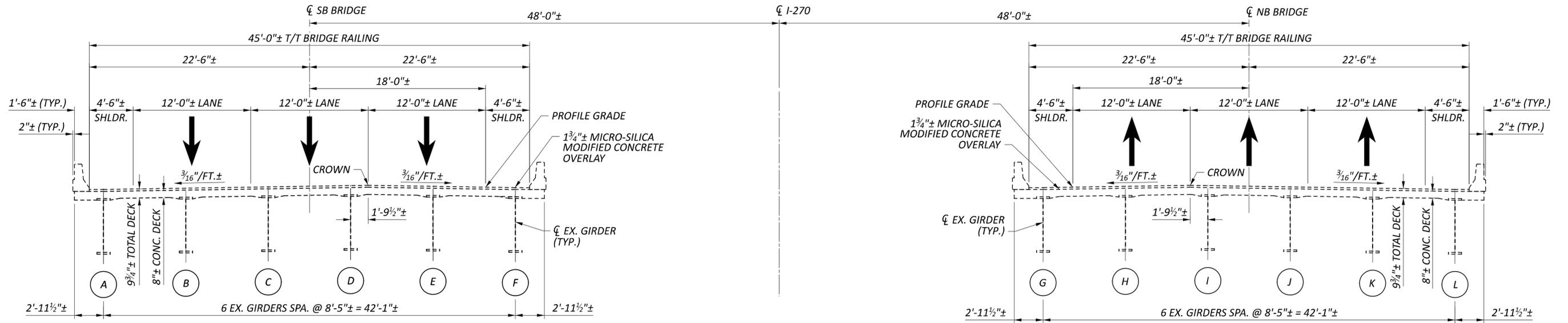
**LEGEND:**

- (G) - GIRDER LINE DESIGNATION
- [Hatched Box] - INDICATES AREAS TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- [Solid Grey Box] - PROPOSED SUBSTRUCTURE WORK

**NOTES:**

1. FOR PORTABLE BARRIER INFORMATION, REFER TO ODOT STD. DWG. PCB-91 OR RM-4.2.

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	LB/MV
CHECKER	MGB
REVIEWER	RER
DATE	04/15/24
PROJECT ID	112798
SUBSET	13
TOTAL	28
SHEET	P.382M
TOTAL	617



FINAL TRAFFIC - ORIGINAL CONFIGURATION (I-270 NB & SB)  
 (LOOKING UPSTATION)

LEGEND:

(G) - GIRDER LINE DESIGNATION

SFN 2514494

SFN 2514435

DESIGN AGENCY



**E.L. ROBINSON**  
 ENGINEERING  
 1488 West 9th St, Suite 800  
 Cleveland, Ohio  
 950 Goodale Blvd, Suite 160  
 Grandview Heights, Ohio

DESIGNER LB/MV CHECKER MGB

REVIEWER RER 04/15/24

PROJECT ID 112798

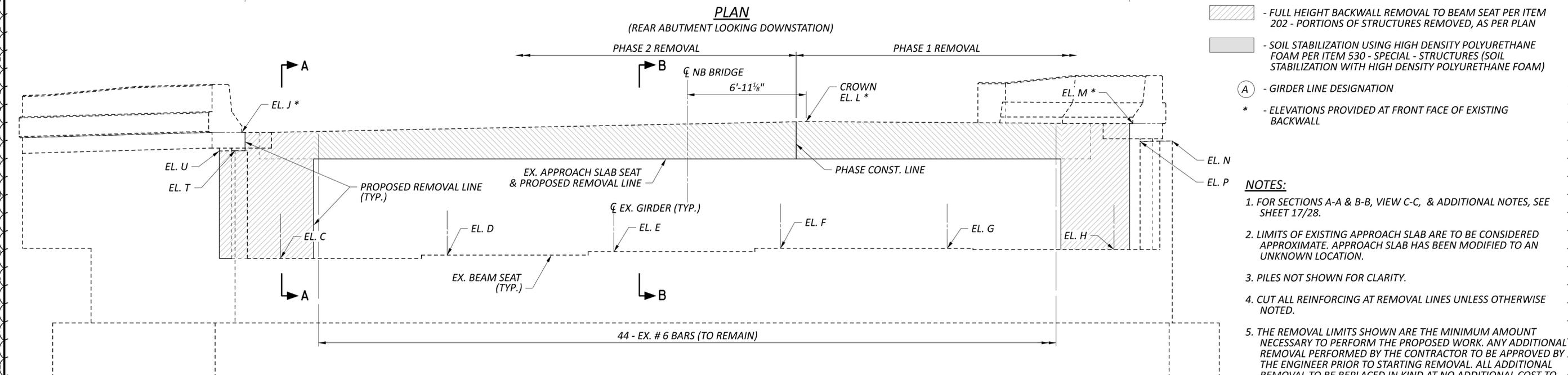
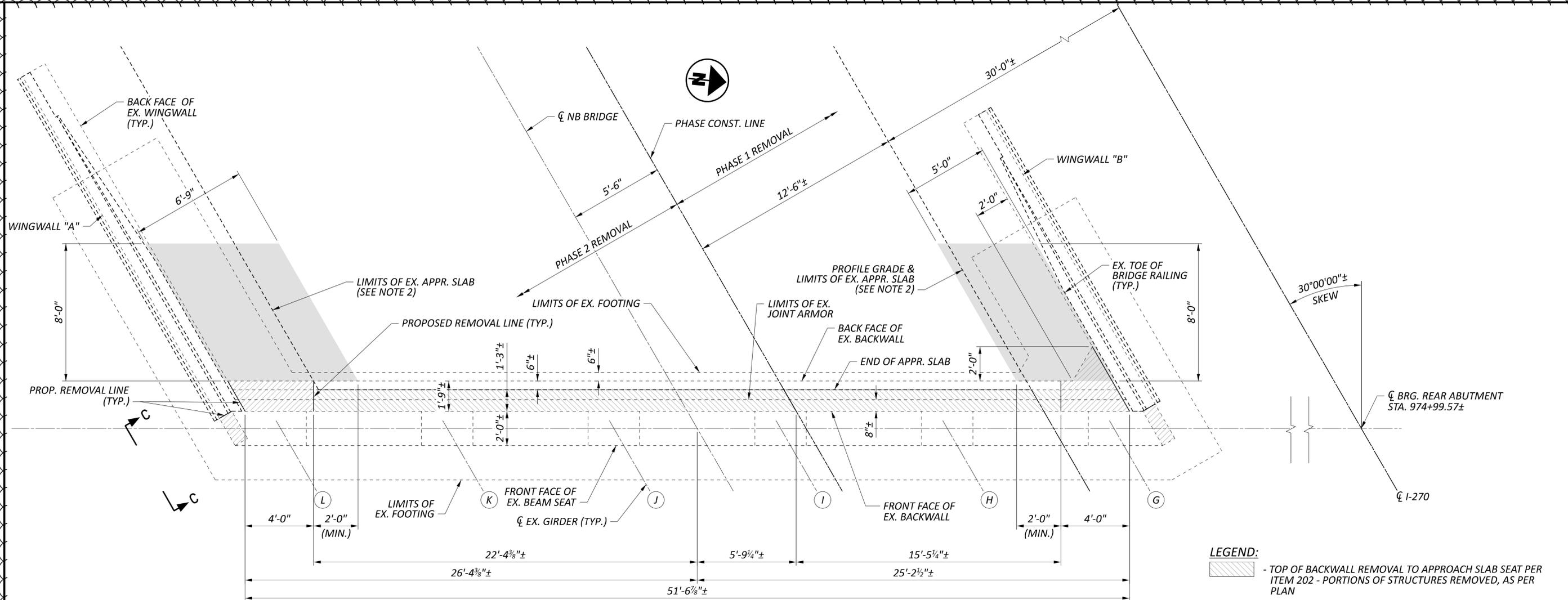
SUBSET TOTAL 14 28

SHEET TOTAL P.382N 617

PHASE CONSTRUCTION DETAILS (8 OF 8)

BRIDGE NO. FRA-00270-43.650L&R

I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK



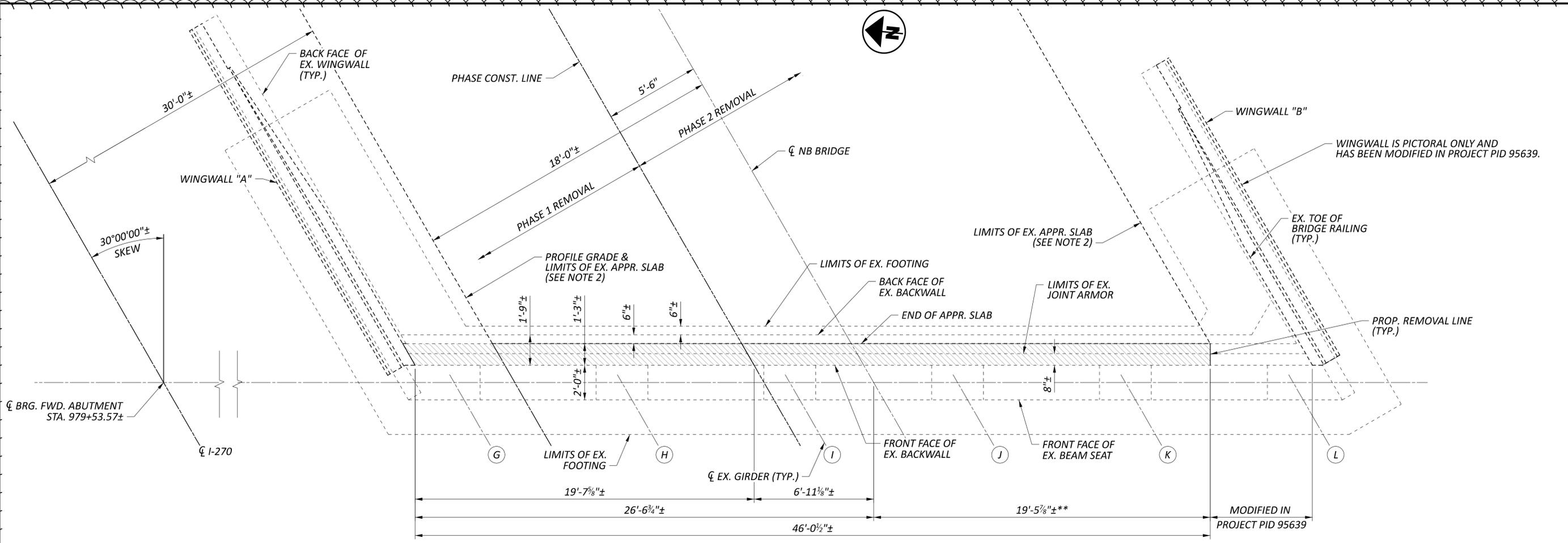
- LEGEND:**
- TOP OF BACKWALL REMOVAL TO APPROACH SLAB SEAT PER ITEM 202 - PORTIONS OF STRUCTURES REMOVED, AS PER PLAN
  - FULL HEIGHT BACKWALL REMOVAL TO BEAM SEAT PER ITEM 202 - PORTIONS OF STRUCTURES REMOVED, AS PER PLAN
  - SOIL STABILIZATION USING HIGH DENSITY POLYURETHANE FOAM PER ITEM 530 - SPECIAL - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)
  - (A)** - GIRDER LINE DESIGNATION
  - \*** - ELEVATIONS PROVIDED AT FRONT FACE OF EXISTING BACKWALL

- NOTES:**
1. FOR SECTIONS A-A & B-B, VIEW C-C, & ADDITIONAL NOTES, SEE SHEET 17/28.
  2. LIMITS OF EXISTING APPROACH SLAB ARE TO BE CONSIDERED APPROXIMATE. APPROACH SLAB HAS BEEN MODIFIED TO AN UNKNOWN LOCATION.
  3. PILES NOT SHOWN FOR CLARITY.
  4. CUT ALL REINFORCING AT REMOVAL LINES UNLESS OTHERWISE NOTED.
  5. THE REMOVAL LIMITS SHOWN ARE THE MINIMUM AMOUNT NECESSARY TO PERFORM THE PROPOSED WORK. ANY ADDITIONAL REMOVAL PERFORMED BY THE CONTRACTOR TO BE APPROVED BY THE ENGINEER PRIOR TO STARTING REMOVAL. ALL ADDITIONAL REMOVAL TO BE REPLACED IN KIND AT NO ADDITIONAL COST TO THE DEPARTMENT.
  6. THE EXISTING ELEVATIONS PROVIDED ARE TO BE CONSIDERED APPROXIMATE AND ARE BASED ON EXISTING PLANS AS SURVEY IS NOT AVAILABLE. PRIOR TO REMOVAL OF EXISTING BRIDGE COMPONENTS, FIELD VERIFY ALL EXISTING ELEVATIONS AT THE LOCATIONS SHOWN IN THESE PLANS. NOTIFY THE ENGINEER OF ANY DEVIATION IN PLAN ELEVATIONS PRIOR TO CONSTRUCTING THE PROPOSED WORK.

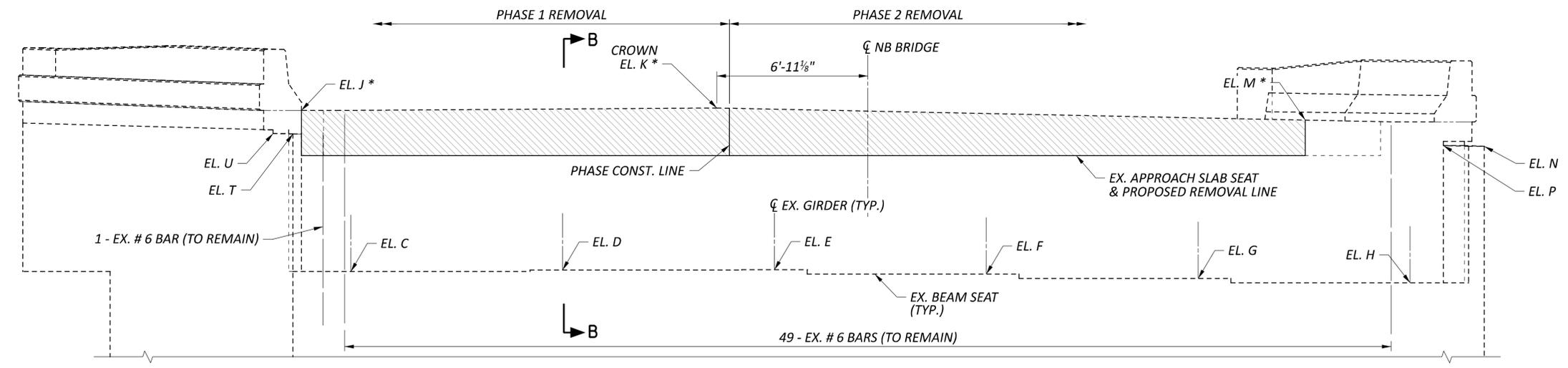
ELEVATIONS												
C	D	E	F	G	H	J	L	M	N	P	T	U
759.70±	759.89±	760.09±	760.29±	760.28±	760.22±	767.16±	767.74±	767.67±	766.53±	766.50±	765.97±	765.95±

**REAR ABUTMENT REMOVAL DETAILS - NORTHBOUND BRIDGE**  
**BRIDGE NO. FRA-00270-43.65L&R**  
**I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK**

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	DA/MV
CHECKER	JOL
REVIEWER	RER
PROJECT ID	112798
SUBSET	15 / 28
SHEET	P.3820 / 617



**PLAN**  
(FORWARD ABUTMENT LOOKING UPSTATION)



**ELEVATION**

ELEVATIONS												
C	D	E	F	G	H	J	K	M	N	P	T	U
766.39±	766.46±	766.47±	766.27±	766.07±	765.87±	773.88±	773.95±	773.47±	772.12±	772.15±	772.68±	772.70±

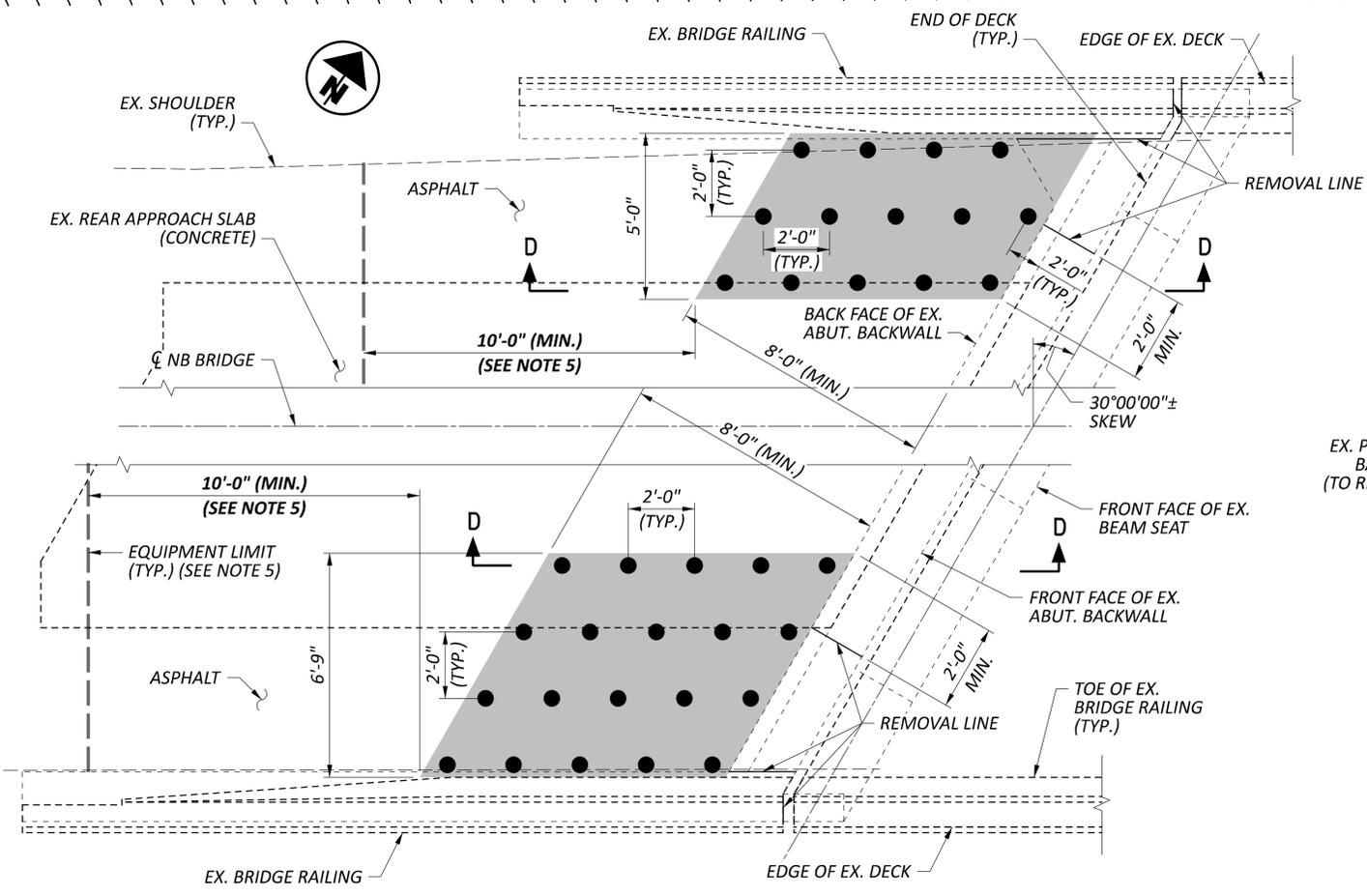
- LEGEND:**
- TOP OF BACKWALL REMOVAL TO APPROACH SLAB SEAT PER ITEM 202 - PORTIONS OF STRUCTURES REMOVED, AS PER PLAN
  - (A) - GIRDER LINE DESIGNATION
  - \* - ELEVATIONS PROVIDED AT FRONT FACE OF EXISTING BACKWALL
  - \*\* - REMOVAL LIMITS TO BE FIELD VERIFIED BY CONTRACTOR. IF THEY DIFFER, NOTIFY THE ENGINEER.

- NOTES:**
1. FOR SECTION B-B & ADDITIONAL NOTES, SEE SHEET 17/28.
  2. LIMITS OF EXISTING APPROACH SLAB ARE TO BE CONSIDERED APPROXIMATE. APPROACH SLAB HAS BEEN MODIFIED TO AN UNKNOWN LOCATION.
  3. PILES AND FOUNDATION NOT SHOWN FOR CLARITY.
  4. CUT ALL REINFORCING AT REMOVAL LINES UNLESS OTHERWISE NOTED.
  5. THE REMOVAL LIMITS SHOWN ARE THE MINIMUM AMOUNT NECESSARY TO PERFORM THE PROPOSED WORK. ANY ADDITIONAL REMOVAL PERFORMED BY THE CONTRACTOR TO BE APPROVED BY THE ENGINEER PRIOR TO STARTING REMOVAL. ALL ADDITIONAL REMOVAL TO BE REPLACED IN KIND AT NO ADDITIONAL COST TO THE DEPARTMENT.
  6. THE EXISTING ELEVATIONS PROVIDED ARE TO BE CONSIDERED APPROXIMATE AND ARE BASED ON EXISTING PLANS AS SURVEY IS NOT AVAILABLE. PRIOR TO REMOVAL OF EXISTING BRIDGE COMPONENTS, FIELD VERIFY ALL EXISTING ELEVATIONS AT THE LOCATIONS SHOWN IN THESE PLANS. NOTIFY THE ENGINEER OF ANY DEVIATION IN PLAN ELEVATIONS PRIOR TO CONSTRUCTING THE PROPOSED WORK.

**FORWARD ABUTMENT REMOVAL DETAILS - NORTHBOUND BRIDGE**  
 BRIDGE NO. FRA-00270-43.650L&R  
 I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK

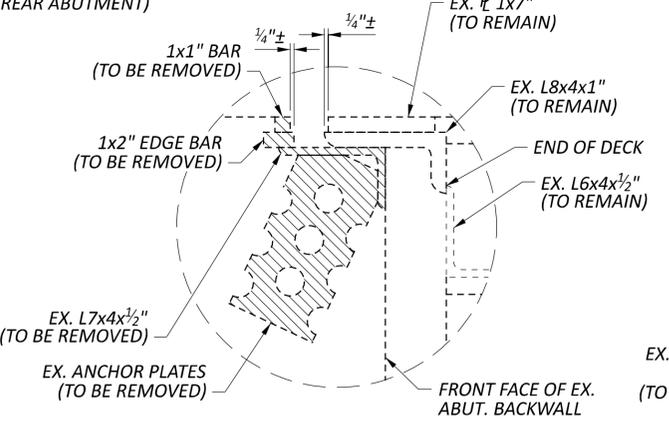
SFN	2514494
DESIGN AGENCY	EL. ROBINSON ENGINEERING
DESIGNER	DA/MV
CHECKER	JOL
REVIEWER	RER
PROJECT ID	112798
SUBSET TOTAL	16 / 28
SHEET TOTAL	P.382P / 617

MODEL: Sheet\_SurvFt\_PAPER: 17x11 (in.) DATE: 4/15/2024 TIME: 12:42:57 PM USER: fbawani  
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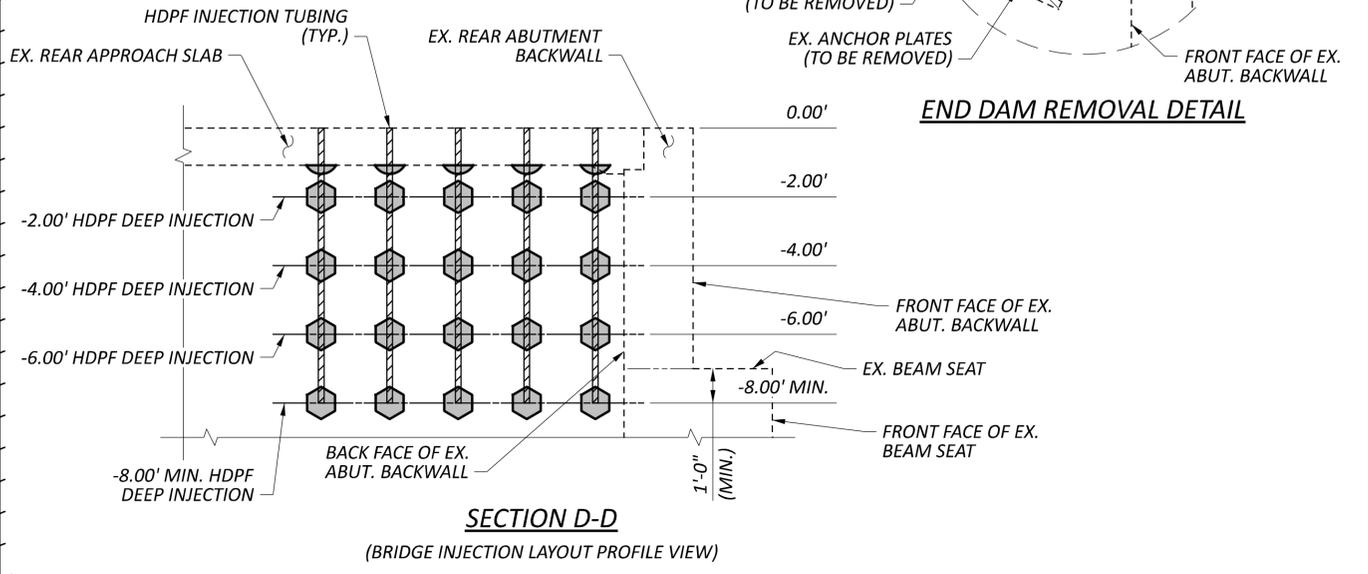


**NB BRIDGE PROPOSED HIGH DENSITY POLYURETHANE FOAM INJECTION PLAN LAYOUT**

(REAR ABUTMENT)

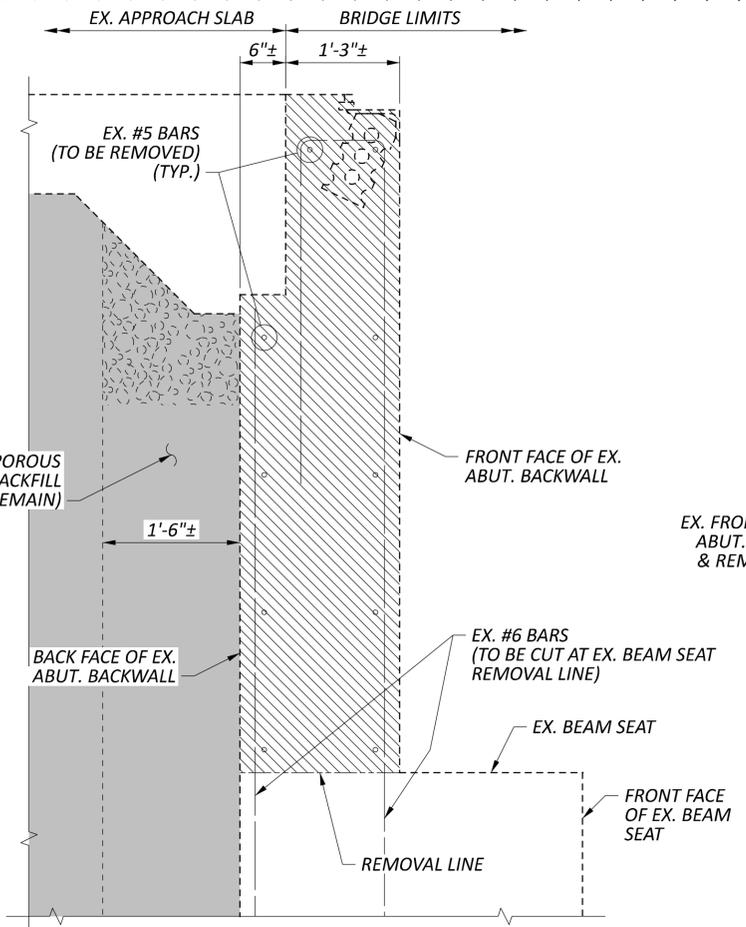


**END DAM REMOVAL DETAIL**

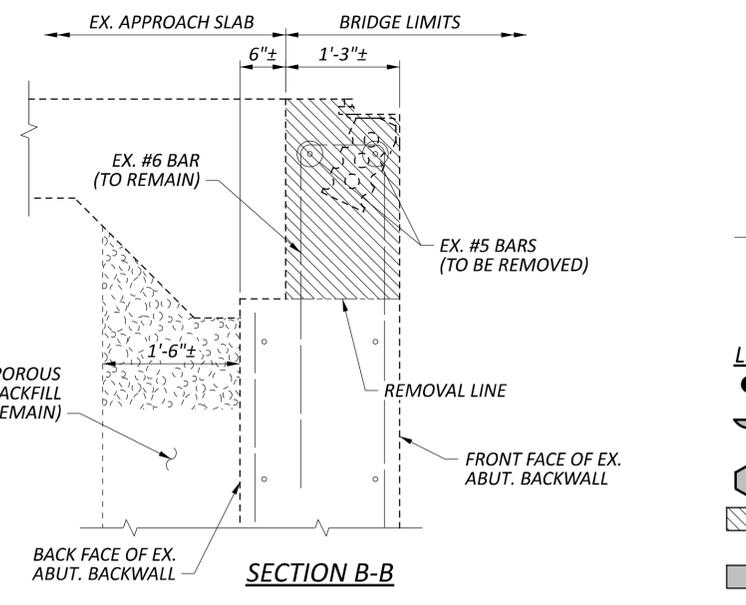


**SECTION D-D**

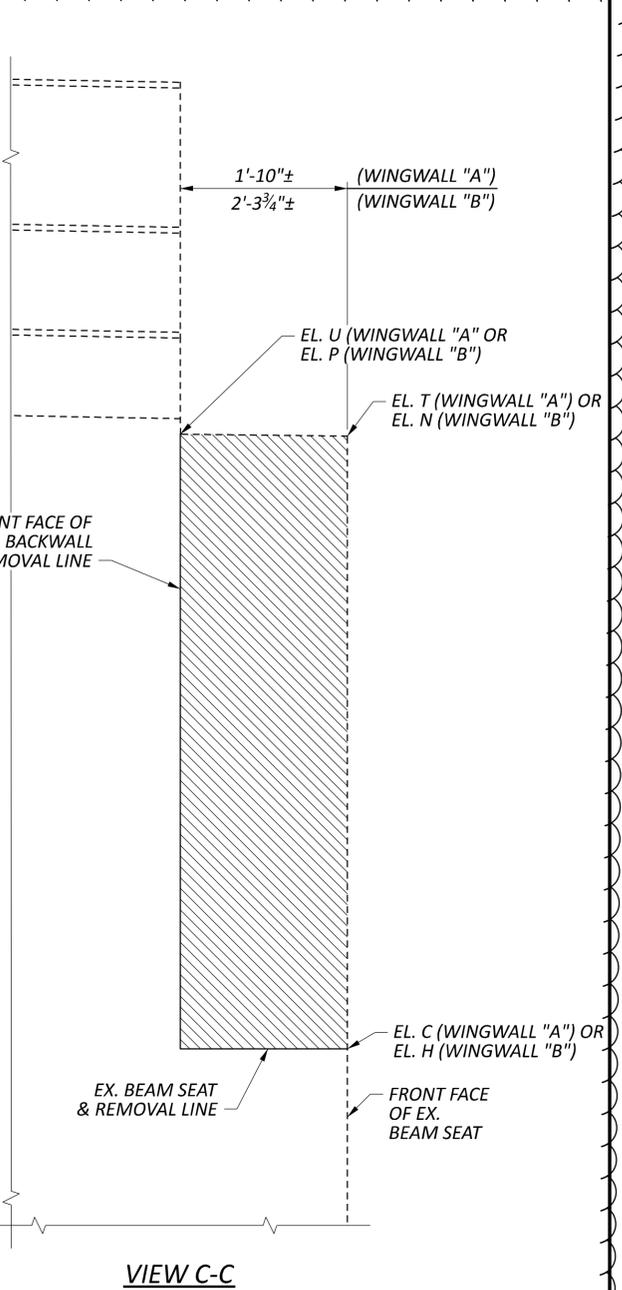
(BRIDGE INJECTION LAYOUT PROFILE VIEW)



**SECTION A-A**



**SECTION B-B**



**VIEW C-C**

**LEGEND:**

- - HDPF DEEP INJECTIONS
- ◐ - CONCRETE METHOD USED TO FILL VOIDS DIRECTLY UNDER THE SURFACE
- ◑ - POLYMER GROUT BULB
- ▨ - INDICATES AREAS TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- - SOIL STABILIZATION USING HIGH DENSITY POLYURETHANE FOAM PER ITEM 530 - SPECIAL - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)

**NOTES:**

1. HDPF MATERIAL IS TO BE INJECTED AT 0.00' AND DOWN WHEN UNDER CONCRETE APPROACH SLAB. HDPF MATERIAL IS TO BE INJECTED AT -2.00' AND DOWN WHEN UNDER ASPHALT SHOULDER WHICH IS NOT DETAILED BUT IS SIMILAR TO SECTION D-D.
2. PAVEMENT IS NOT TO BE RAISED MORE THAN 3/4".
3. FOR LOCATIONS OF SECTION A-A, SECTION B-B, VIEW C-C, AND ADDITIONAL HDPF INFORMATION SEE SHEETS 15/28 AND 16/28.
4. EMBANKMENT MATERIAL BEHIND ABUTMENT IS UNKNOWN. ASSUME MATERIAL IS GRAVEL A-1-a FOR DESIGN PURPOSES.
5. CONTRACTOR IS TO KEEP EQUIPMENT A MINIMUM OF 10'-0" BEHIND THE HDPF INJECTION ZONE LOCATED BEHIND THE FULL HEIGHT PORTION OF THE BACKWALL DURING REMOVAL AND CONSTRUCTION. EQUIPMENT LOAD MAY BE PLACED UP TO THE BACKWALL AFTER THE PROPOSED BACKWALL HAS ACHIEVED A 12 HOUR WET CURE STRENGTH OF 3000 PSI OR AFTER TWO TEST BEAMS HAVE ATTAINED A MODULUS OF RUPTURE OF 400 PSI.
6. FOR FURTHER INFORMATION, SEE ITEM 530 - SPECIAL - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM) ON SHEET 3/28.

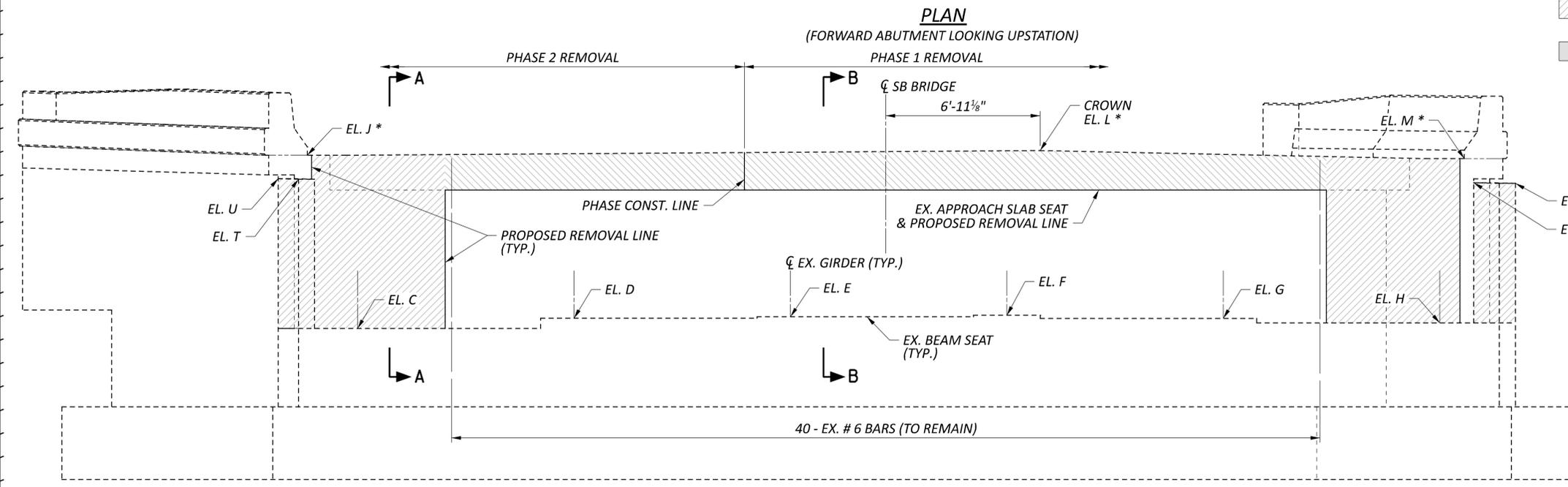
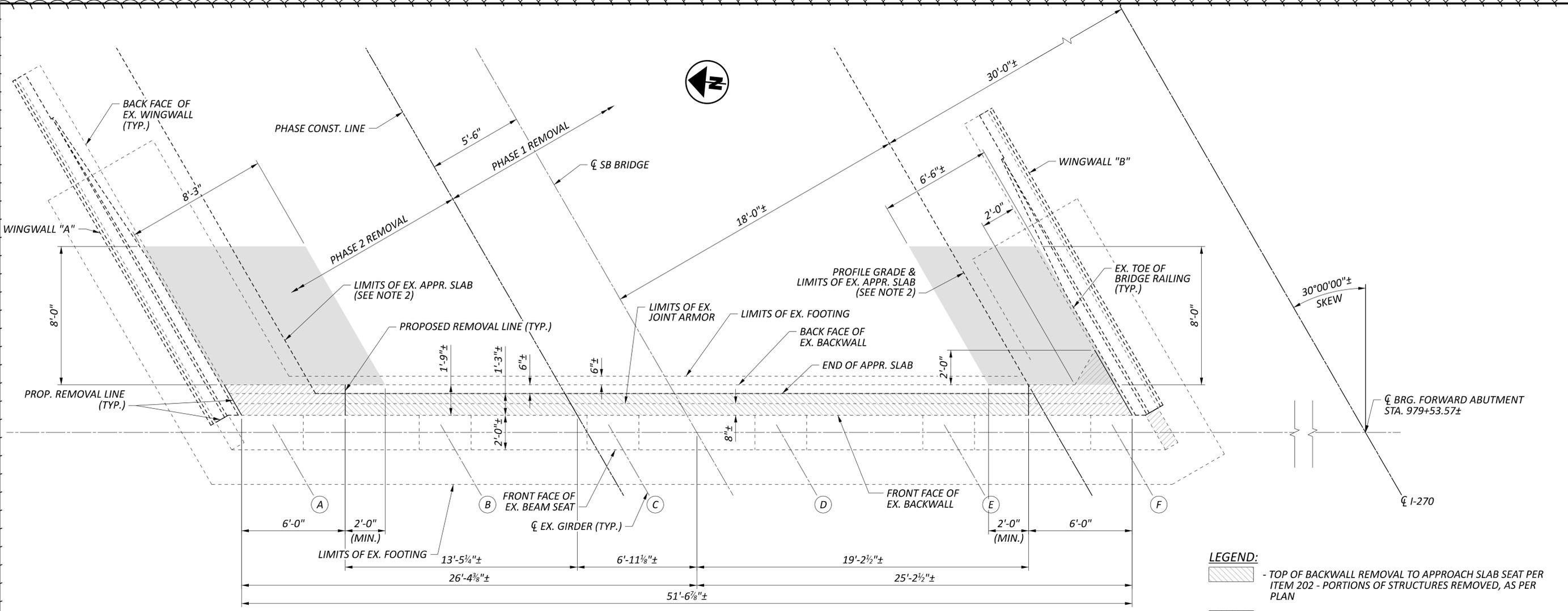
MISCELLANEOUS ABUTMENT REMOVAL DETAILS - NORTHBOUND BRIDGE

BRIDGE NO. FRA-00270-43.650L&R

I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK

SFN	2514494
DESIGN AGENCY	EL. ROBINSON ENGINEERING
DESIGNER	MRV
CHECKER	JOL
REVIEWER	RER
DATE	04/15/24
PROJECT ID	112798
SUBSET	17
TOTAL	28
SHEET	P.382Q
TOTAL	617



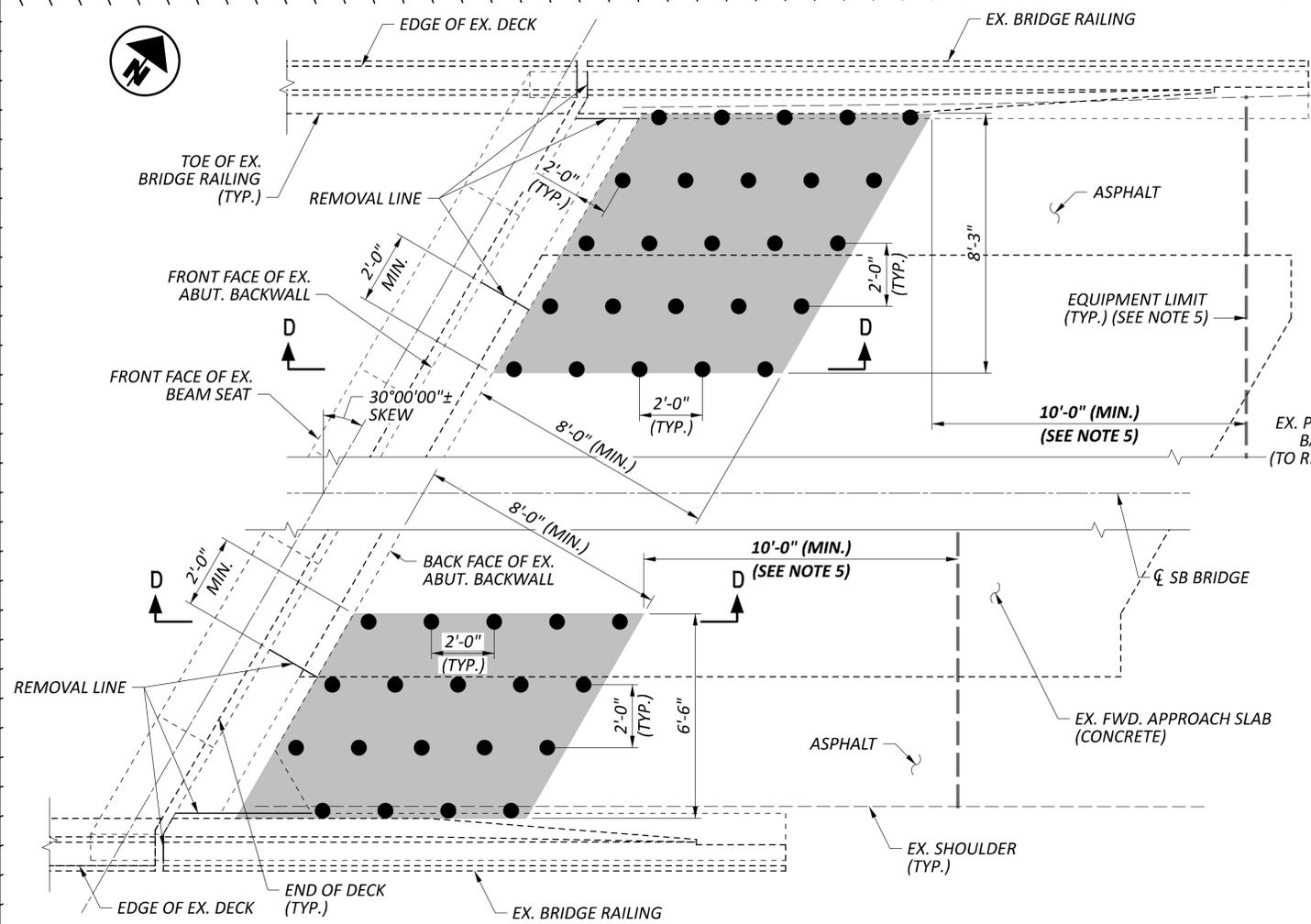


- LEGEND:**
- TOP OF BACKWALL REMOVAL TO APPROACH SLAB SEAT PER ITEM 202 - PORTIONS OF STRUCTURES REMOVED, AS PER PLAN
  - FULL HEIGHT BACKWALL REMOVAL TO BEAM SEAT PER ITEM 202 - PORTIONS OF STRUCTURES REMOVED, AS PER PLAN
  - SOIL STABILIZATION USING HIGH DENSITY POLYURETHANE FOAM PER ITEM 530 - SPECIAL - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)
  - GIRDER LINE DESIGNATION
  - \* - ELEVATIONS PROVIDED AT FRONT FACE OF EXISTING BACKWALL

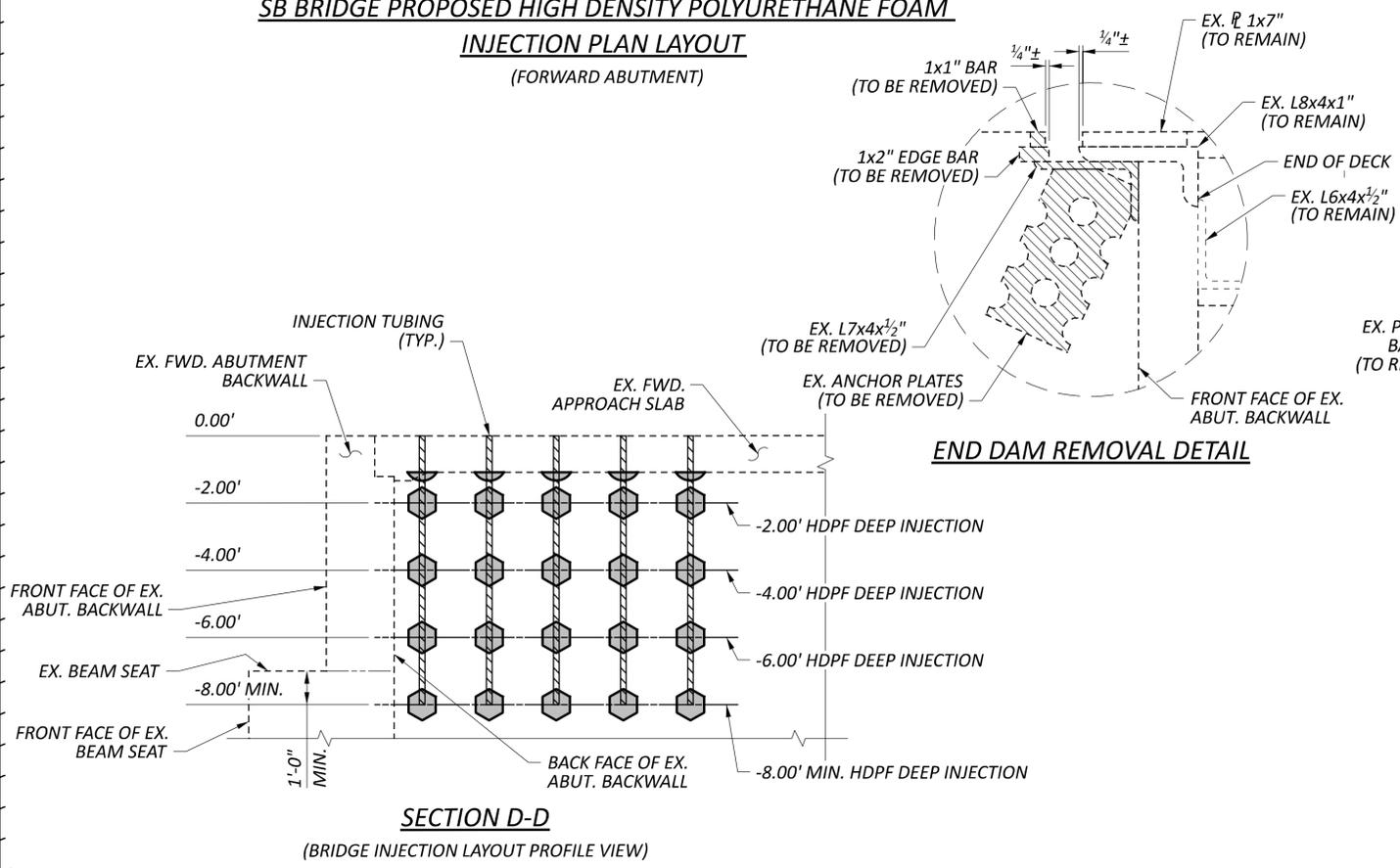
- NOTES:**
1. FOR SECTION B-B, VIEW C-C, & ADDITIONAL NOTES, SEE SHEET 20/28.
  2. LIMITS OF EXISTING APPROACH SLAB ARE TO BE CONSIDERED APPROXIMATE. APPROACH SLAB HAS BEEN MODIFIED TO AN UNKNOWN LOCATION.
  3. PILES NOT SHOWN FOR CLARITY.
  4. CUT ALL REINFORCING AT REMOVAL LINES UNLESS OTHERWISE NOTED.
  5. THE REMOVAL LIMITS SHOWN ARE THE MINIMUM AMOUNT NECESSARY TO PERFORM THE PROPOSED WORK. ANY ADDITIONAL REMOVAL PERFORMED BY THE CONTRACTOR TO BE APPROVED BY THE ENGINEER PRIOR TO STARTING REMOVAL. ALL ADDITIONAL REMOVAL TO BE REPLACED IN KIND AT NO ADDITIONAL COST TO THE DEPARTMENT.
  6. THE EXISTING ELEVATIONS PROVIDED ARE TO BE CONSIDERED APPROXIMATE AND ARE BASED ON EXISTING PLANS AS SURVEY IS NOT AVAILABLE. PRIOR TO REMOVAL OF EXISTING BRIDGE COMPONENTS, FIELD VERIFY ALL EXISTING ELEVATIONS AT THE LOCATIONS SHOWN IN THESE PLANS. NOTIFY THE ENGINEER OF ANY DEVIATION IN PLAN ELEVATIONS PRIOR TO CONSTRUCTING THE PROPOSED WORK.

ELEVATIONS												
C	D	E	F	G	H	J	L	M	N	P	T	U
766.96±	767.02±	767.09±	767.15±	767.01±	766.81±	774.45±	774.61±	774.30±	773.06±	773.09±	773.25±	773.27±

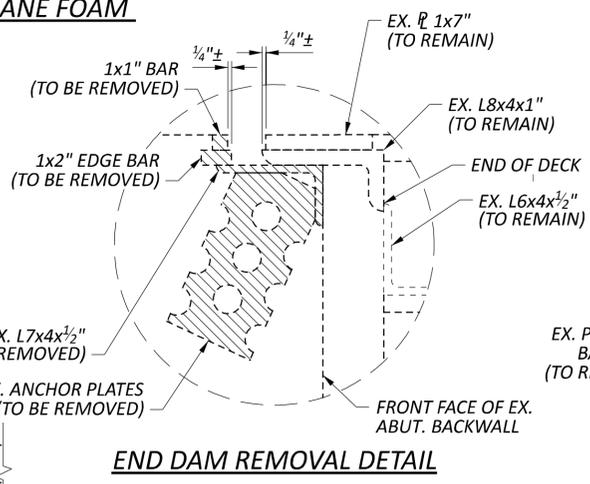
SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	CHECKER
DA/MV	JOL
REVIEWER	RER
PROJECT ID	112798
SUBSET	TOTAL
19	28
SHEET	TOTAL
P.3825	617



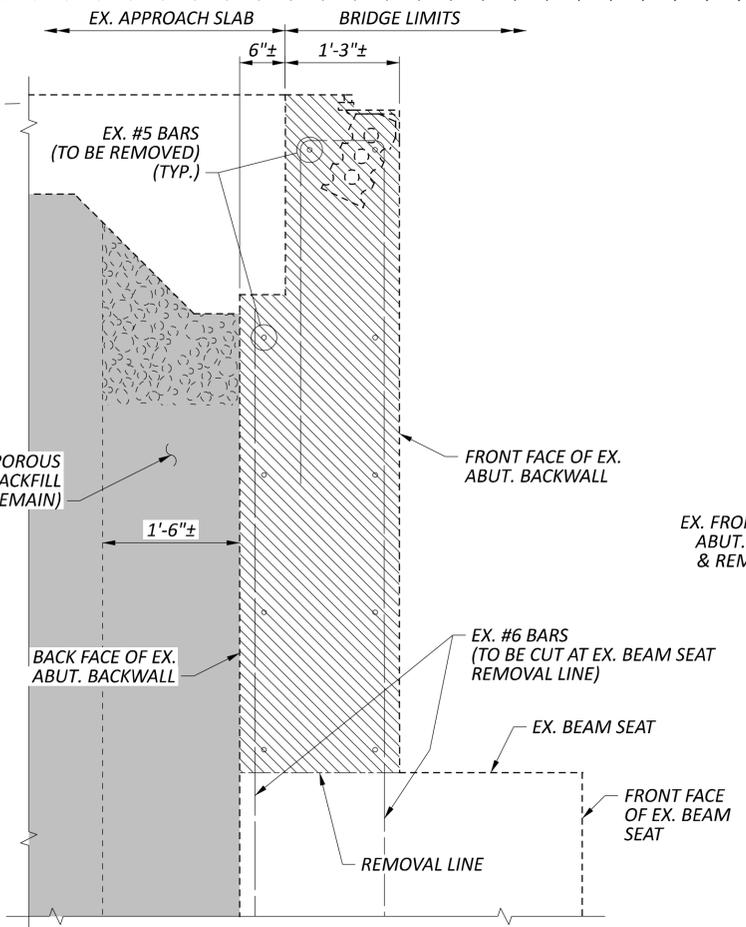
**SB BRIDGE PROPOSED HIGH DENSITY POLYURETHANE FOAM INJECTION PLAN LAYOUT (FORWARD ABUTMENT)**



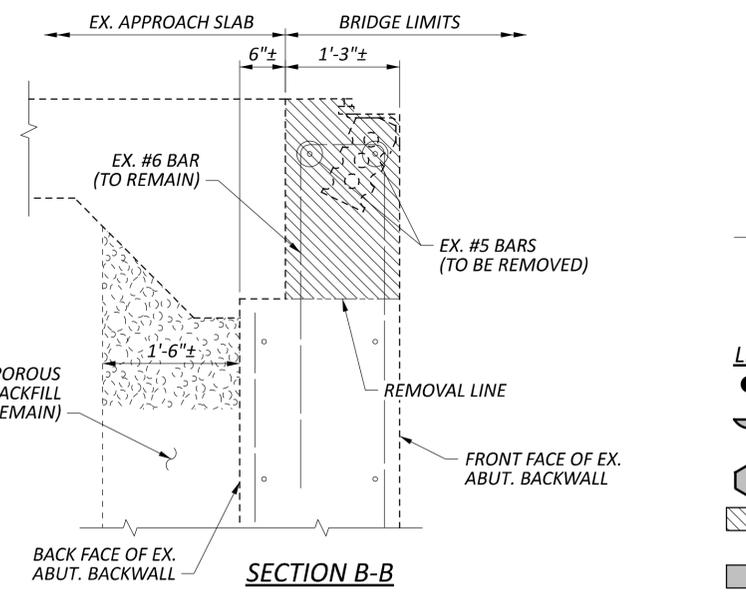
**SECTION D-D (BRIDGE INJECTION LAYOUT PROFILE VIEW)**



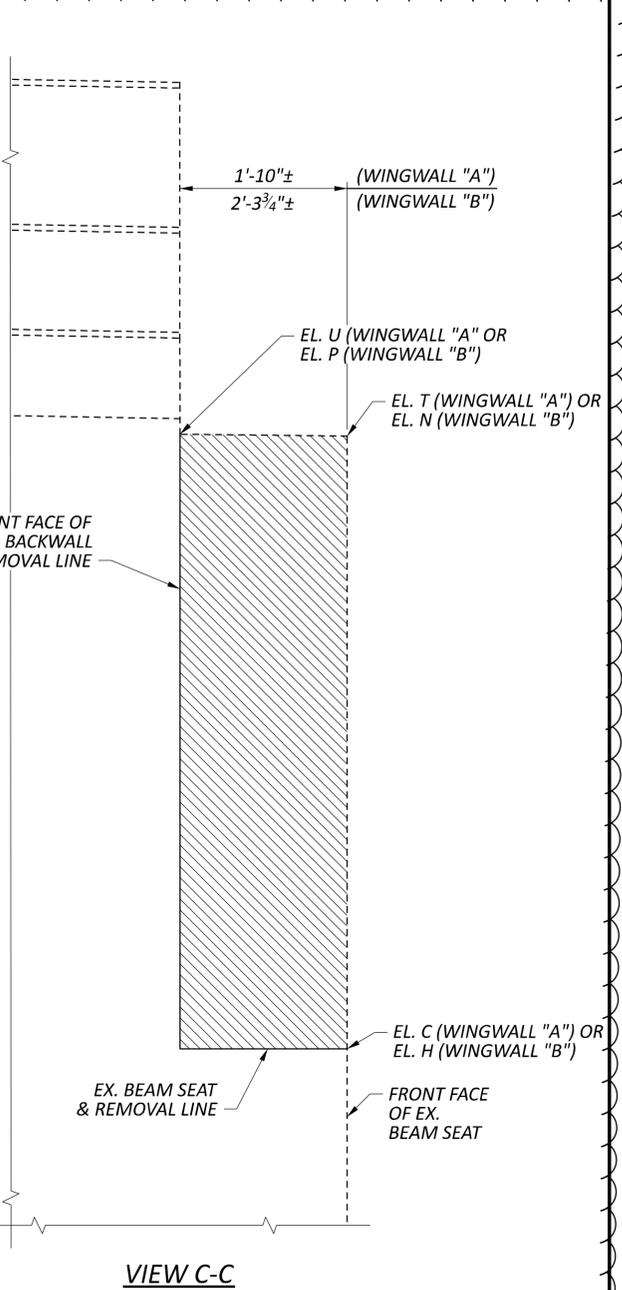
**END DAM REMOVAL DETAIL**



**SECTION A-A**



**SECTION B-B**



**VIEW C-C**

- LEGEND:**
- - HDPF DEEP INJECTIONS
  - ◐ - CONCRETE METHOD USED TO FILL VOIDS DIRECTLY UNDER THE SURFACE
  - ◑ - POLYMER GROUT BULB
  - ▨ - INDICATES AREAS TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
  - - SOIL STABILIZATION USING HIGH DENSITY POLYURETHANE FOAM PER ITEM 530 - SPECIAL - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)

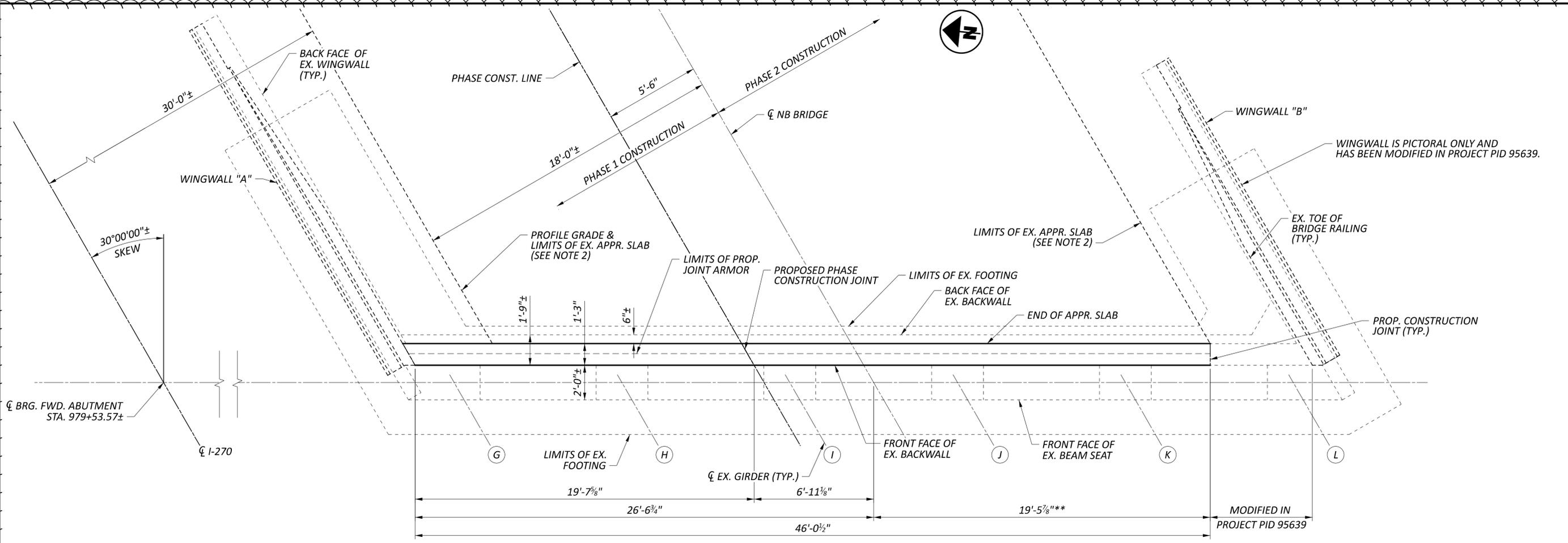
- NOTES:**
1. HDPF MATERIAL IS TO BE INJECTED AT 0.00' AND DOWN WHEN UNDER CONCRETE APPROACH SLAB. HDPF MATERIAL IS TO BE INJECTED AT -2.00' AND DOWN WHEN UNDER ASPHALT SHOULDER WHICH IS NOT DETAILED BUT IS SIMILAR TO SECTION D-D.
  2. PAVEMENT IS NOT TO BE RAISED MORE THAN 3/4".
  3. FOR LOCATIONS OF SECTION A-A, SECTION B-B, VIEW C-C, AND ADDITIONAL HDPF INFORMATION SEE SHEETS 18/28 AND 19/28.
  4. EMBANKMENT MATERIAL BEHIND ABUTMENT IS UNKNOWN. ASSUME MATERIAL IS GRAVEL A-1-a FOR DESIGN PURPOSES.
  5. CONTRACTOR IS TO KEEP EQUIPMENT A MINIMUM OF 10'-0" BEHIND THE HDPF INJECTION ZONE LOCATED BEHIND THE FULL HEIGHT PORTION OF THE BACKWALL DURING REMOVAL AND CONSTRUCTION. EQUIPMENT LOAD MAY BE PLACED UP TO THE BACKWALL AFTER THE PROPOSED BACKWALL HAS ACHIEVED A 12 HOUR WET CURE STRENGTH OF 3000 PSI OR AFTER TWO TEST BEAMS HAVE ATTAINED A MODULUS OF RUPTURE OF 400 PSI.
  6. FOR FURTHER INFORMATION, SEE ITEM 530 - SPECIAL - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM) ON SHEET 3/28.

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	CHECKER
MRV	JOL
REVIEWER	
RER	04/15/24
PROJECT ID	112798
SUBSET	TOTAL
20	28
SHEET	TOTAL
P.382T	617

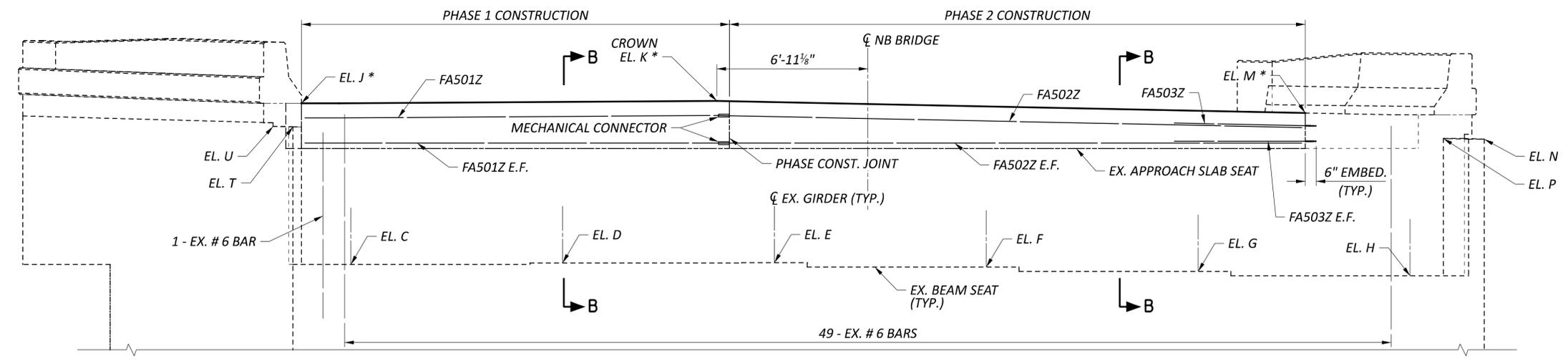


**EL. ROBINSON ENGINEERING**  
 1486 West 9th St, Suite 800  
 Cleveland, Ohio  
 950 Goodale Blvd, Suite 180  
 Grandview Heights, Ohio





**PLAN**  
(FORWARD ABUTMENT LOOKING UPSTATION)



**ELEVATION**

ELEVATIONS												
C	D	E	F	G	H	J	K	M	N	P	U	
766.39±	766.46±	766.47±	766.27±	766.07±	765.87±	773.88±	773.95±	773.47±	772.12±	772.15±	772.68±	772.70±

- LEGEND:**
- (A) - GIRDER LINE DESIGNATION
  - \* - ELEVATIONS PROVIDED AT FRONT FACE OF EXISTING BACKWALL
  - \*\* - CONSTRUCTION LIMITS TO BE FIELD VERIFIED BY THE CONTRACTOR. IF THEY DIFFER, NOTIFY THE ENGINEER.

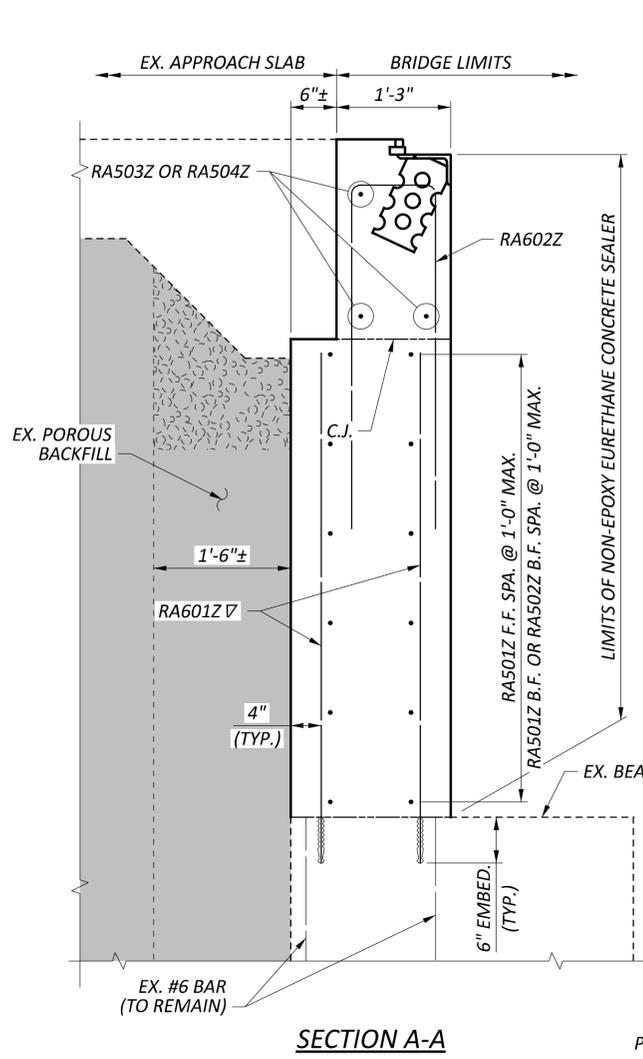
- NOTES:**
1. FOR SECTION B-B & ADDITIONAL NOTES, SEE SHEET 23/28.
  2. LIMITS OF EXISTING APPROACH SLAB ARE TO BE CONSIDERED APPROXIMATE. APPROACH SLAB HAS BEEN MODIFIED TO AN UNKNOWN LOCATION.
  3. PILES AND FOUNDATION NOT SHOWN FOR CLARITY.
  4. THE EXISTING ELEVATIONS PROVIDED ARE TO BE CONSIDERED APPROXIMATE AND ARE BASED ON EXISTING PLANS AS SURVEY IS NOT AVAILABLE. PRIOR TO REMOVAL OF EXISTING BRIDGE COMPONENTS, FIELD VERIFY ALL EXISTING ELEVATIONS AT THE LOCATIONS SHOWN IN THESE PLANS. NOTIFY THE ENGINEER OF ANY DEVIATION IN PLAN ELEVATIONS PRIOR TO CONSTRUCTING THE PROPOSED WORK.

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	DA/MV
CHECKER	JOL
REVIEWER	JOL
PROJECT ID	112798
SUBSET	22
TOTAL	28
SHEET	P.382V
TOTAL	617

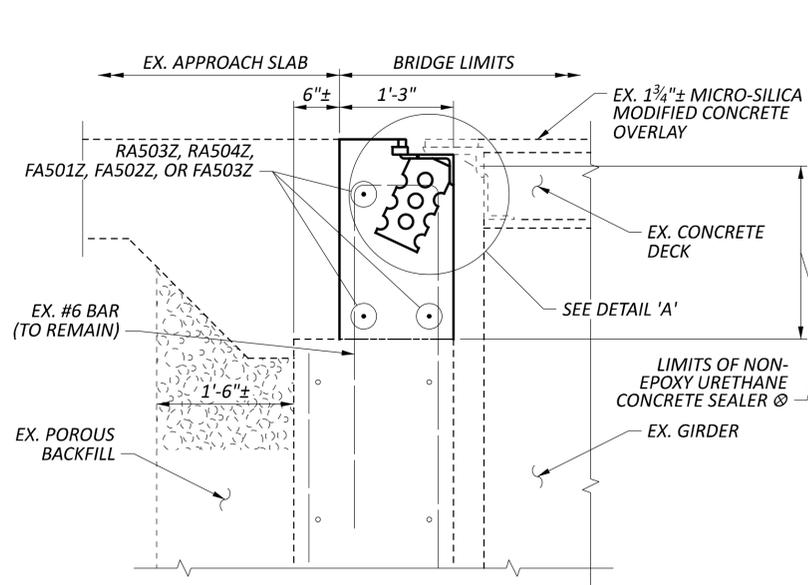
FORWARD ABUTMENT DETAILS - NORTHBOUND BRIDGE  
 BRIDGE NO. FRA-00270-43.650L&R  
 I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK

WINGWALL IS PICTORIAL ONLY AND HAS BEEN MODIFIED IN PROJECT PID 95639.

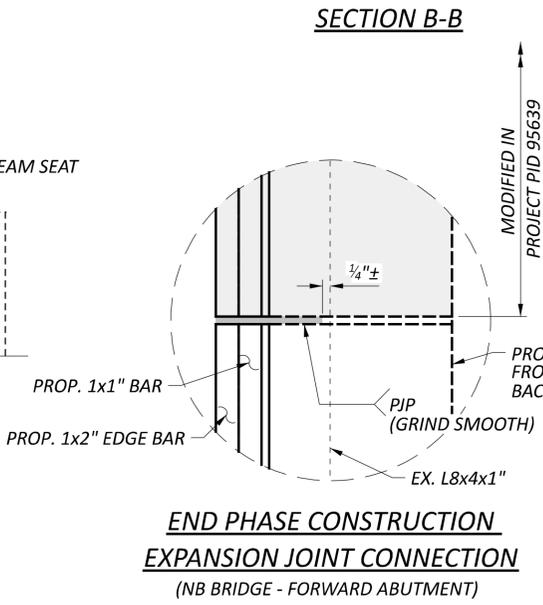
MODIFIED IN PROJECT PID 95639



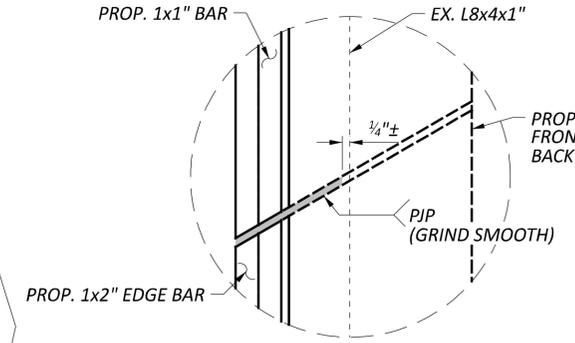
**SECTION A-A**



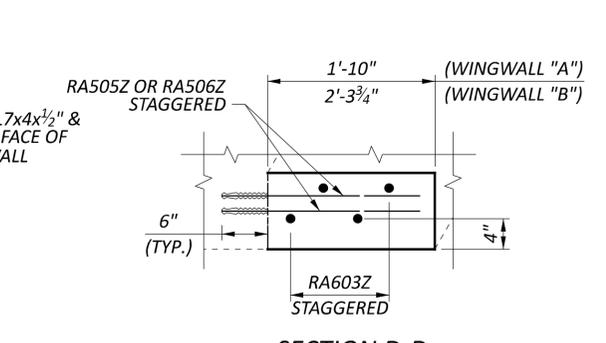
**SECTION B-B**



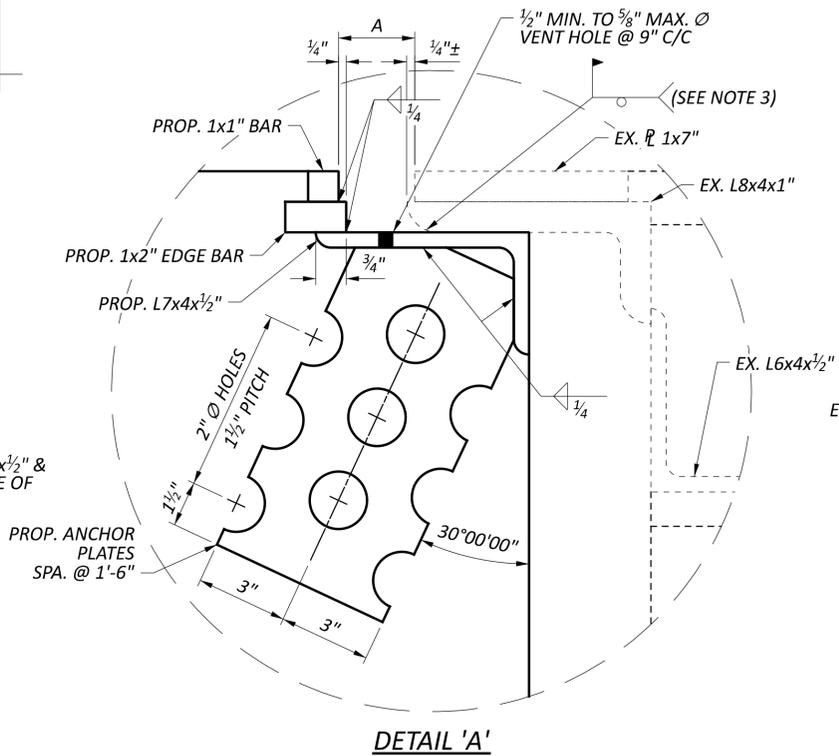
**END PHASE CONSTRUCTION  
EXPANSION JOINT CONNECTION  
(NB BRIDGE - FORWARD ABUTMENT)**



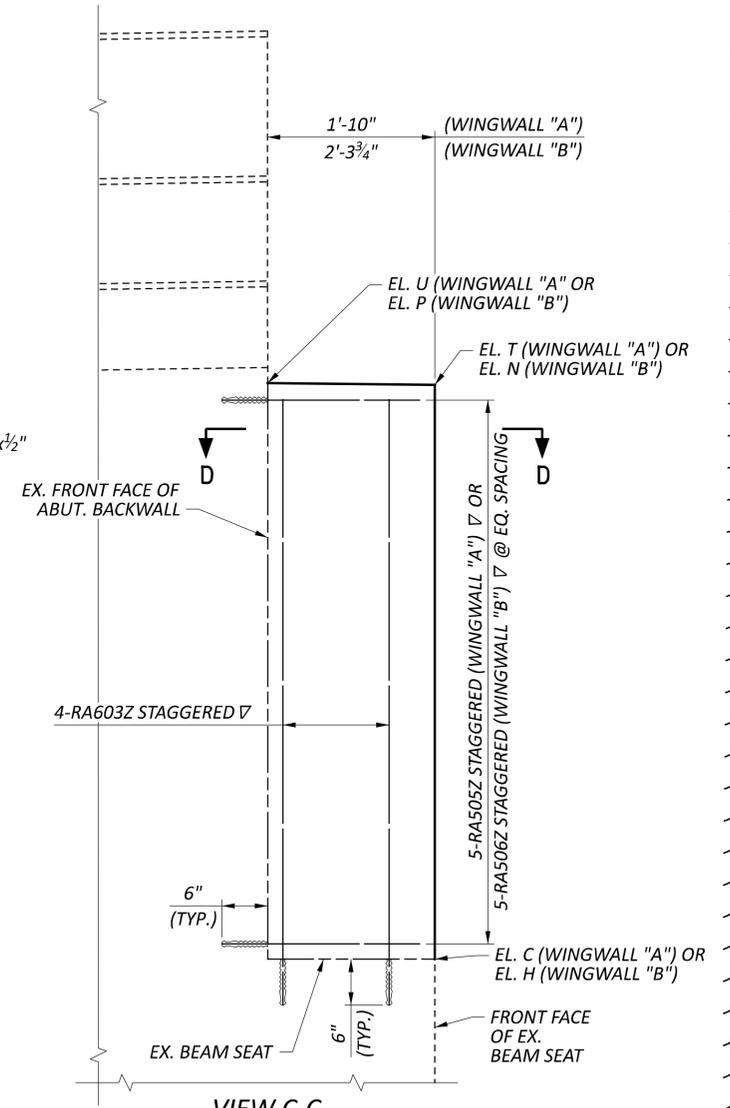
**PHASE CONSTRUCTION  
EXPANSION JOINT CONNECTION**



**SECTION D-D**



**DETAIL 'A'**

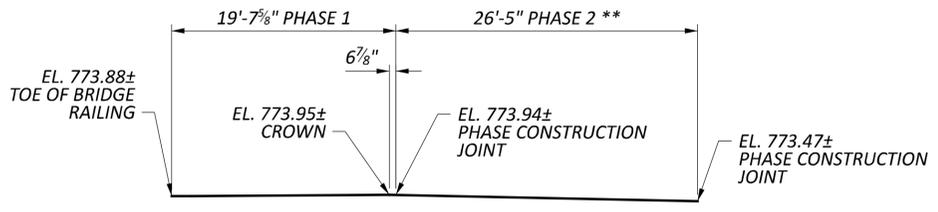


**VIEW C-C**

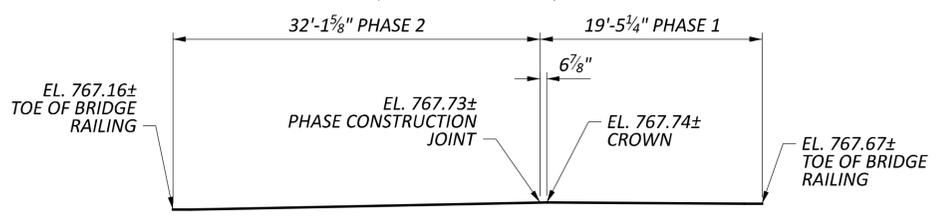
(ALL SURFACES OF PROPOSED CONCRETE IN THE CHEEK WALL ARE TO BE SEALED WITH NON-EPOXY URETHANE CONCRETE SEALER)

**LEGEND:**

- SOIL STABILIZATION USING HIGH DENSITY POLYURETHANE FOAM PER ITEM 530 - SPECIAL - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)
- ALL DOWELS TO HAVE A 6" EMBEDMENT. SEE SHEET 2/28 FOR MORE INFORMATION UNDER ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN.
- CONTRACTOR IS TO PLACE THE NON-EPOXY URETHANE CONCRETE SEALER IN THIS AREA IF POSSIBLE.
- \*\* - CONTRACTOR TO FIELD VERIFY. IF ELEVATIONS DIFFER, NOTIFY THE ENGINEER.



**PROFILE - FORWARD ABUTMENT EXPANSION JOINT  
(DIMENSIONS MEASURED ALONG FRONT FACE OF BACKWALL)  
(LOOKING UPSTATION)**



**PROFILE - REAR ABUTMENT EXPANSION JOINT  
(DIMENSIONS MEASURED ALONG FRONT FACE OF BACKWALL)  
(LOOKING DOWNSTATION)**

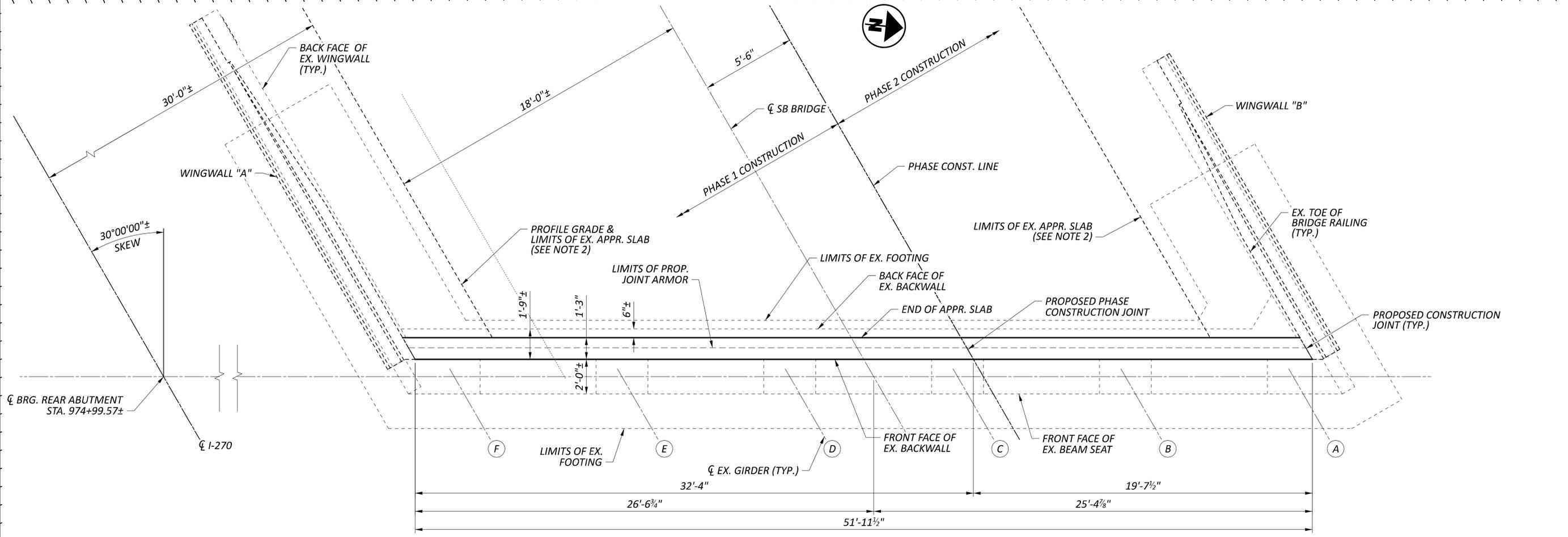
**NOTES:**

1. FOR LOCATIONS OF SECTION A-A AND SECTION B-B, SEE SHEETS 21/28 & 22/28.
2. FOR LOCATION OF VIEW C-C, SEE SHEET 21/28.
3. CONTRACTOR IS TO TEMPORARILY TACK WELD THE PROPOSED LOWER SLIDING PLATE ANGLE ASSEMBLY TO EXISTING UPPER SLIDING PLATE ASSEMBLY TO REMAIN SUFFICIENTLY TO HOLD THE ARMOR IN PLACE TEMPORARILY FOR THE RECONSTRUCTION OF THE NEW PORTIONS OF THE BACKWALL. AFTER THE CONCRETE HAS ACHIEVED SUFFICIENT STRENGTH TO SUPPORT THE LOWER PORTION OF THE ARMOR, THE CONTRACTOR IS TO REMOVE THE TEMPORARY TACK WELDS AND GRIND THEM FLUSH PER C&MS 513.12 PRIOR TO OPENING THE RECONSTRUCTED PORTION OF THE STRUCTURE TO TRAFFIC.
4. ALL STEEL USED TO CONSTRUCT THE PROPOSED LOWER SLIDING PLATE ANGLE IS TO BE ASTM A709 GRADE 36 OR 50 STEEL.
5. ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO CONSTRUCT THE LOWER PORTION OF THE EXPANSION JOINT SLIDING PLATE ARE TO BE PAID FOR UNDER ITEM 516 - STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN.
6. DIMENSION "A" IS TO BE A 3" @ 60°F. CONTRACTOR TO ADJUST ACCORDINGLY TO ACCOMMODATE EXPANSION AND CONTRACTION.  
  
EXPANSION LENGTHS FOR ADJUSTMENTS TO DIMENSION "A":  
R.A. - 225'-0"  
F.A. - 229'-0"  
  
IF A SUITABLE OPENING CANNOT BE ACHIEVED, NOTIFY THE ENGINEER.
7. THE EXISTING ELEVATIONS PROVIDED ARE TO BE CONSIDERED APPROXIMATE AND ARE BASED ON EXISTING PLANS AS SURVEY IS NOT AVAILABLE. PRIOR TO REMOVAL OF EXISTING BRIDGE COMPONENTS, FIELD VERIFY ALL EXISTING ELEVATIONS AT THE LOCATIONS SHOWN IN THESE PLANS. NOTIFY THE ENGINEER OF ANY DEVIATION IN PLAN ELEVATIONS PRIOR TO CONSTRUCTING THE PROPOSED WORK.

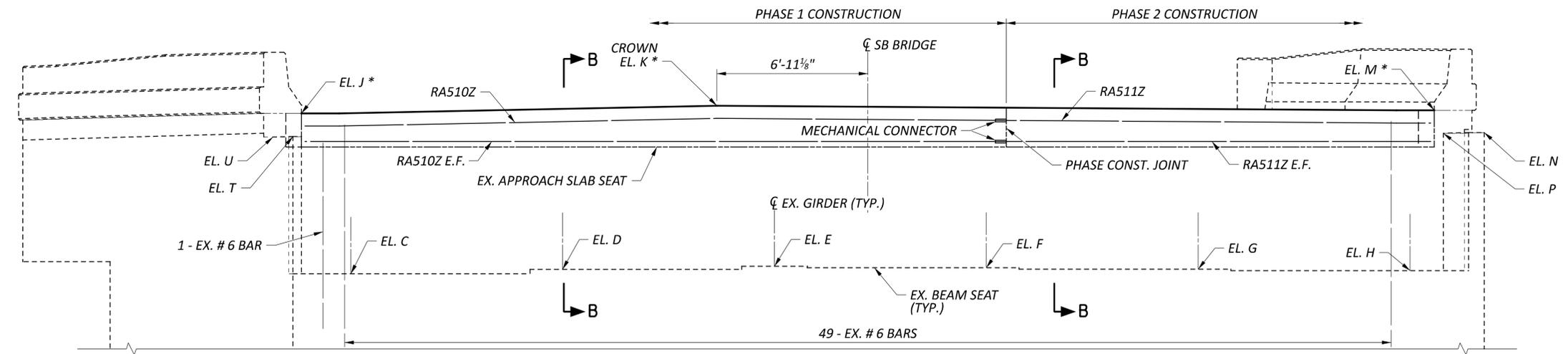
SFN	2514494
DESIGN AGENCY	MGB
DESIGNER	JOL
CHECKER	JOL
REVIEWER	JOL
PROJECT ID	112798
SUBSET	23
TOTAL	28
SHEET	P.382W
TOTAL	617



EL. ROBINSON ENGINEERING  
 1488 West 9th St, Suite 800  
 Cleveland, Ohio 44115  
 950 Goodale Blvd, Suite 160  
 Grandview Heights, Ohio 44131



**PLAN**  
(REAR ABUTMENT LOOKING DOWNSTATION)



**ELEVATION**

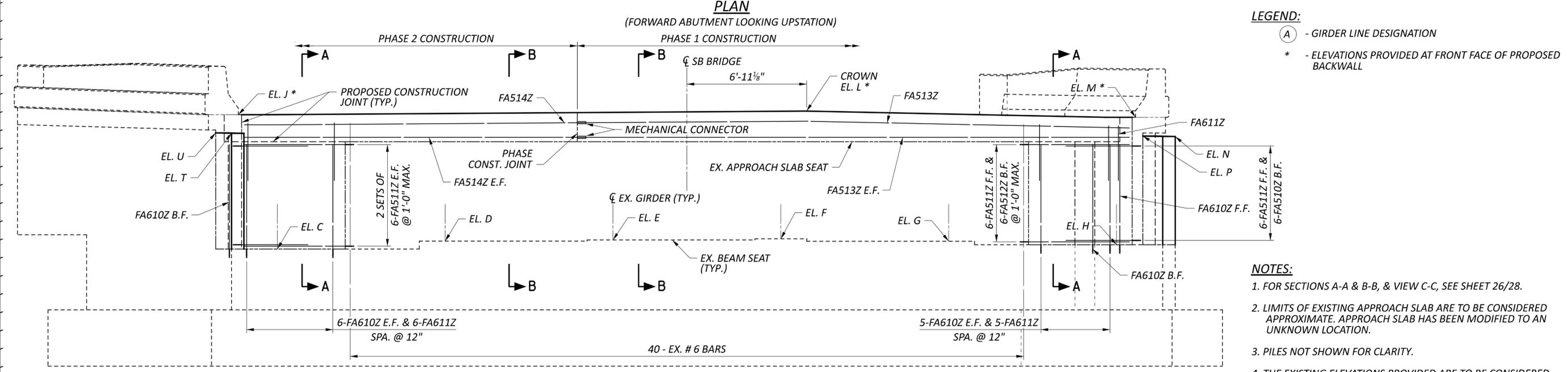
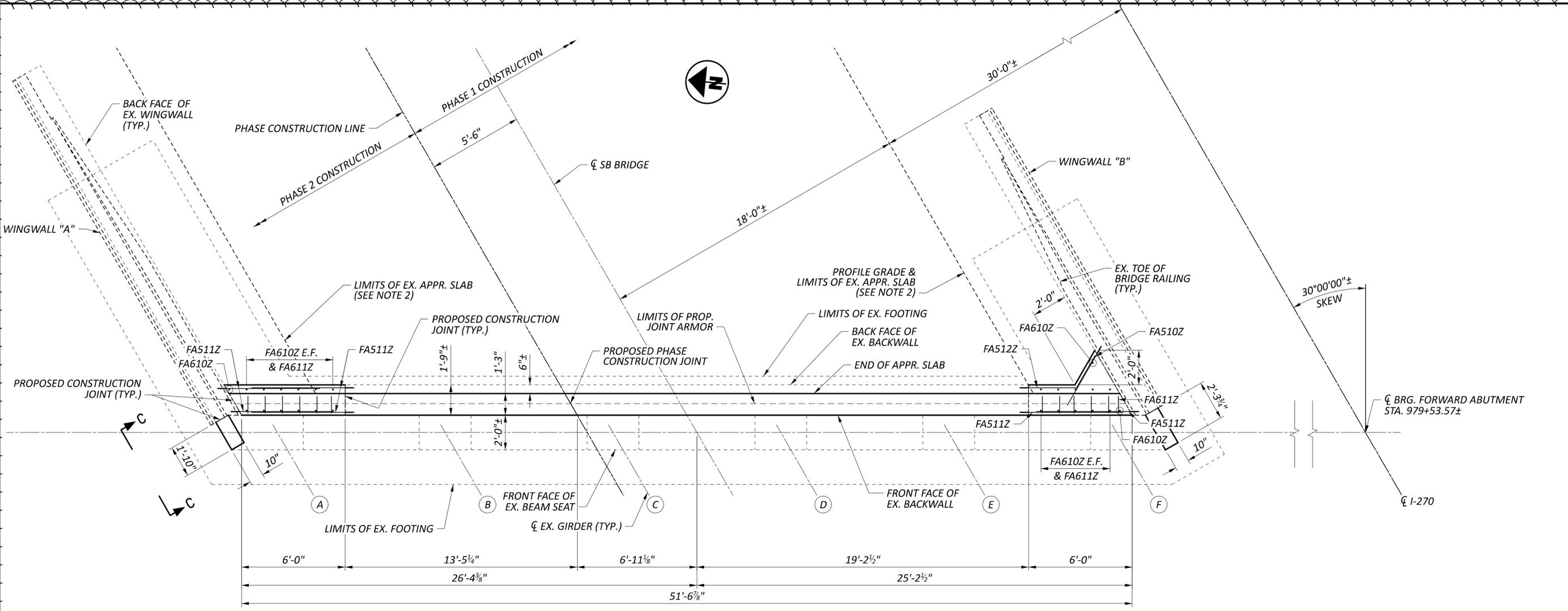
ELEVATIONS												
C	D	E	F	G	H	J	K	M	N	P	T	U
760.64±	760.84±	760.98±	760.91±	760.85±	760.78±	768.10±	768.40±	768.24±	767.09±	767.06±	766.91±	766.89±

**LEGEND:**  
 (A) - GIRDER LINE DESIGNATION  
 \* - ELEVATIONS PROVIDED AT FRONT FACE OF EXISTING BACKWALL

- NOTES:**
- FOR SECTION B-B & ADDITIONAL NOTES, SEE SHEET 26/28.
  - LIMITS OF EXISTING APPROACH SLAB ARE TO BE CONSIDERED APPROXIMATE. APPROACH SLAB HAS BEEN MODIFIED TO AN UNKNOWN LOCATION.
  - PILES AND FOUNDATION NOT SHOWN FOR CLARITY.
  - THE EXISTING ELEVATIONS PROVIDED ARE TO BE CONSIDERED APPROXIMATE AND ARE BASED ON EXISTING PLANS AS SURVEY IS NOT AVAILABLE. PRIOR TO REMOVAL OF EXISTING BRIDGE COMPONENTS, FIELD VERIFY ALL EXISTING ELEVATIONS AT THE LOCATIONS SHOWN IN THESE PLANS. NOTIFY THE ENGINEER OF ANY DEVIATION IN PLAN ELEVATIONS PRIOR TO CONSTRUCTING THE PROPOSED WORK.

**REAR ABUTMENT DETAILS - SOUTHBOUND BRIDGE**  
**BRIDGE NO. FRA-00270-43.650L&R**  
**I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK**

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	MGB
CHECKER	JOL
REVIEWER	JOL
DATE	04/15/24
PROJECT ID	112798
SUBSET	24
TOTAL	28
SHEET	P.382X
TOTAL	617



**LEGEND:**

- (A) - GIRDER LINE DESIGNATION
- \* - ELEVATIONS PROVIDED AT FRONT FACE OF PROPOSED BACKWALL

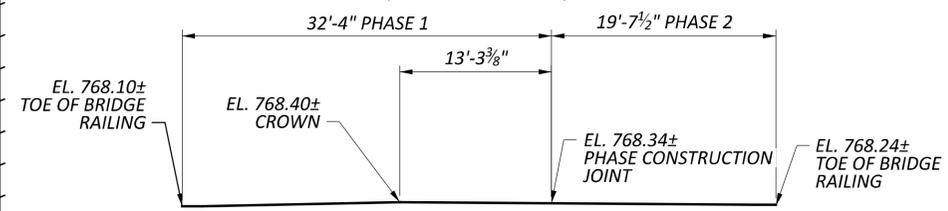
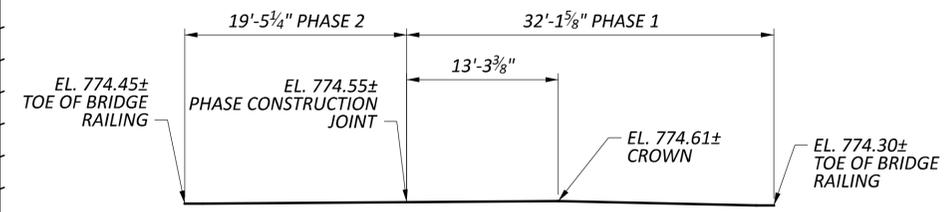
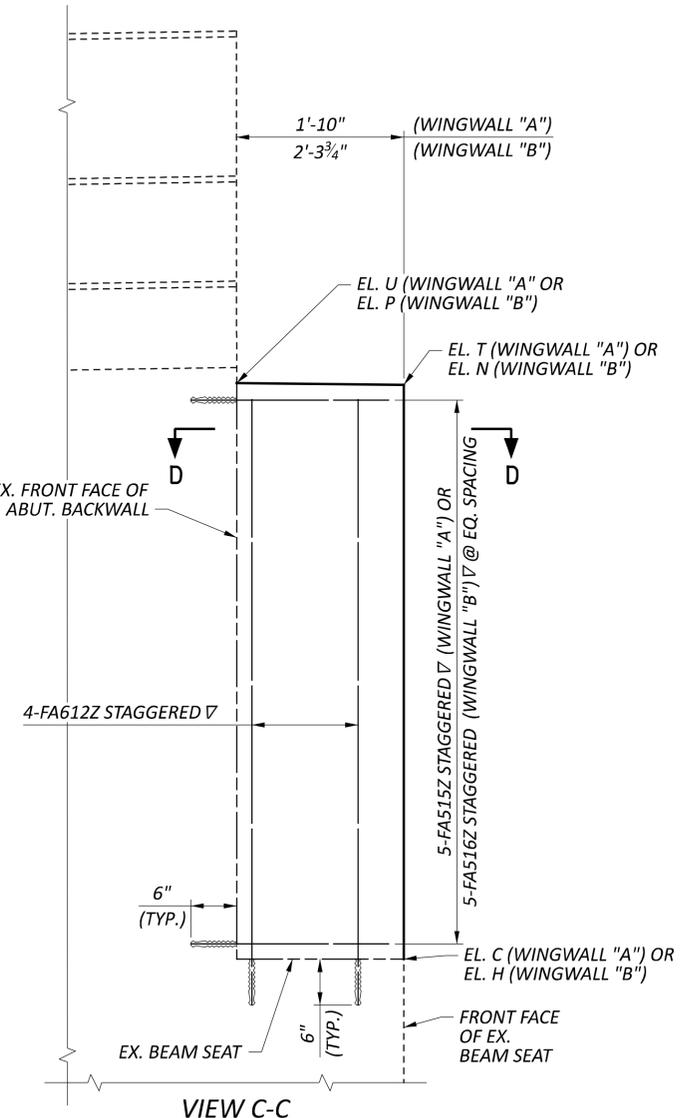
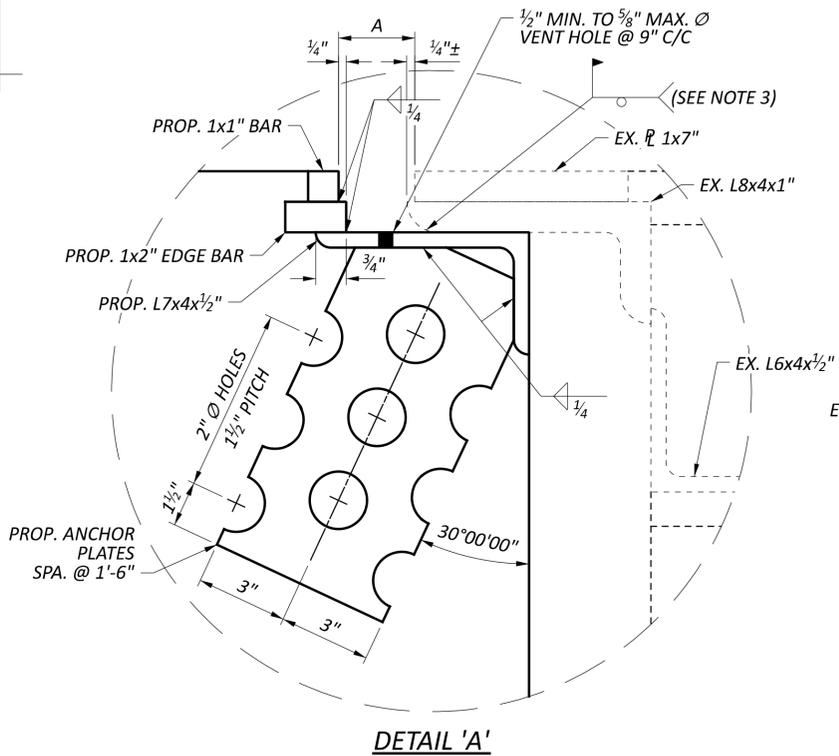
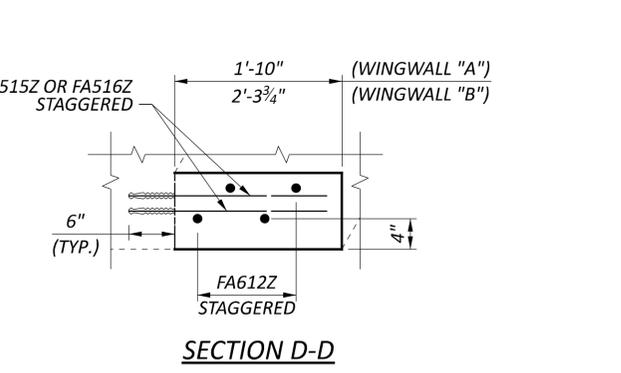
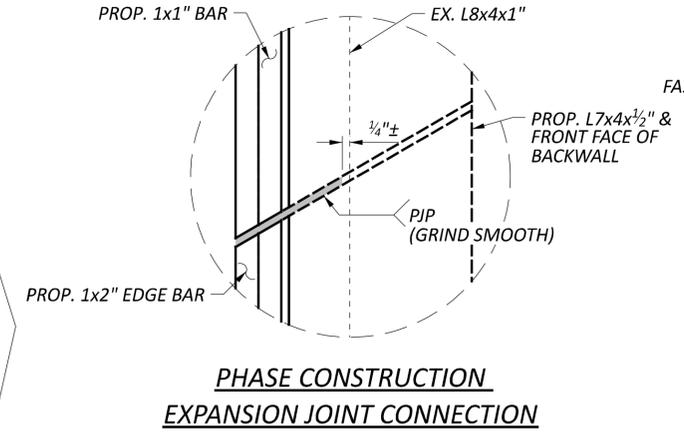
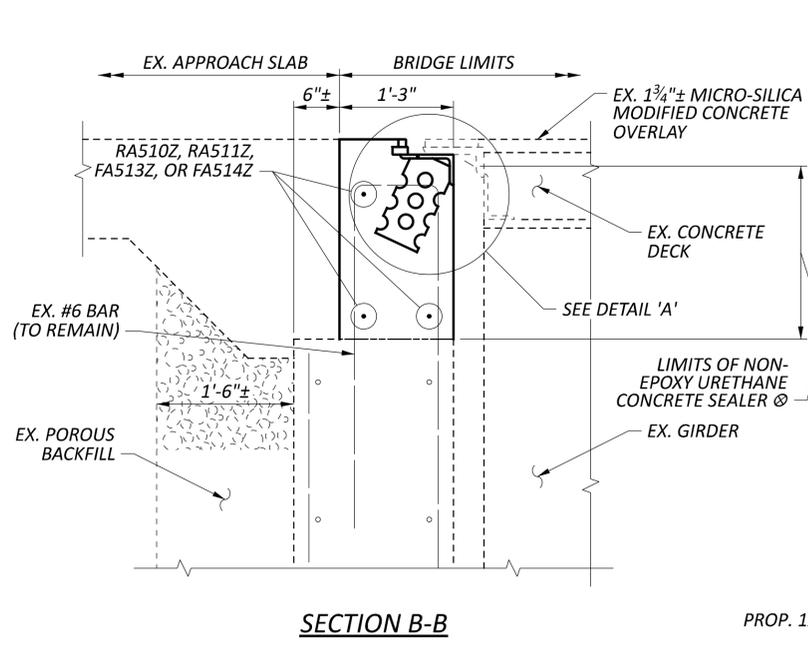
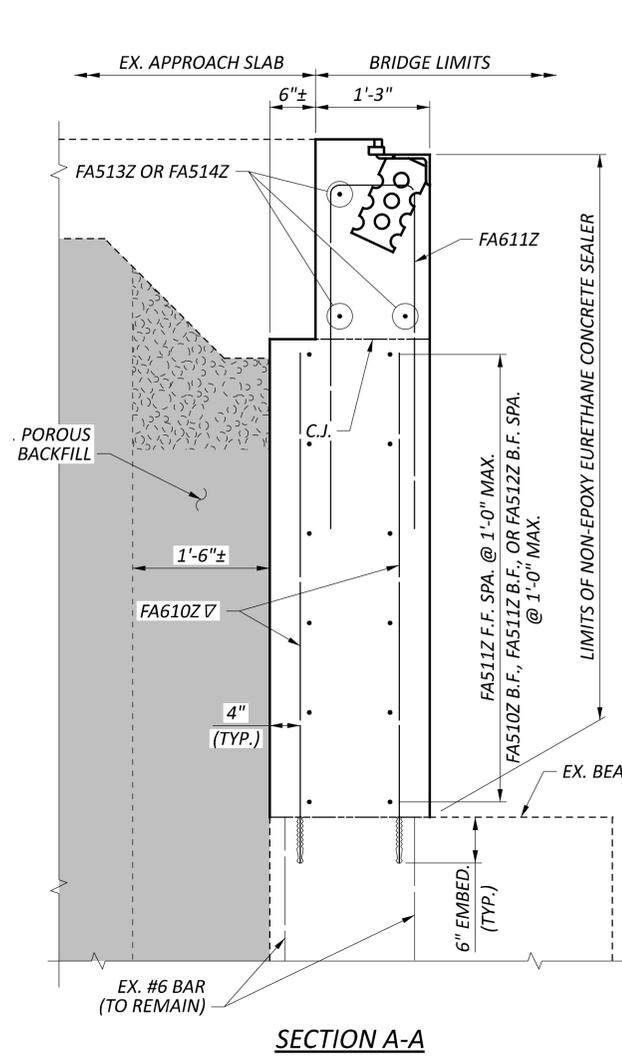
**NOTES:**

- FOR SECTIONS A-A & B-B, & VIEW C-C, SEE SHEET 26/28.
- LIMITS OF EXISTING APPROACH SLAB ARE TO BE CONSIDERED APPROXIMATE. APPROACH SLAB HAS BEEN MODIFIED TO AN UNKNOWN LOCATION.
- PILES NOT SHOWN FOR CLARITY.
- THE EXISTING ELEVATIONS PROVIDED ARE TO BE CONSIDERED APPROXIMATE AND ARE BASED ON EXISTING PLANS AS SURVEY IS NOT AVAILABLE. PRIOR TO REMOVAL OF EXISTING BRIDGE COMPONENTS, FIELD VERIFY ALL EXISTING ELEVATIONS AT THE LOCATIONS SHOWN IN THESE PLANS. NOTIFY THE ENGINEER OF ANY DEVIATION IN PLAN ELEVATIONS PRIOR TO CONSTRUCTING THE PROPOSED WORK.

ELEVATIONS												
C	D	E	F	G	H	J	L	M	N	P	T	U
766.96±	767.02±	767.09±	767.15±	767.01±	766.81±	774.45±	774.61±	774.30±	773.06±	773.09±	773.25±	773.27±

**FORWARD ABUTMENT DETAILS - SOUTHBOUND BRIDGE**  
**BRIDGE NO. FRA-00270-43.650L&R**  
**I-270 OVER NOE BIXBY ROAD AND BIG WALNUT CREEK**

SN	2514494
SN	2514435
DESIGN AGENCY	
<b>EL. ROBINSON</b> ENGINEERING	
1488 West 9th St, Suite 800 Cleveland, Ohio 950 Goodale Blvd, Suite 160 Grandview Heights, Ohio	
DESIGNER	CHECKER
MGB	JOL
REVIEWER	04/15/24
PROJECT ID	112798
SUBSET	TOTAL
25	28
SHEET	TOTAL
P.382Y	617



**NOTES:**

- FOR LOCATIONS OF SECTION A-A AND SECTION B-B, SEE SHEETS 24/28 & 25/28.
- FOR LOCATION OF VIEW C-C, SEE SHEET 24/28.
- CONTRACTOR IS TO TEMPORARILY TACK WELD THE PROPOSED LOWER SLIDING PLATE ANGLE ASSEMBLY TO EXISTING UPPER SLIDING PLATE ASSEMBLY TO REMAIN SUFFICIENTLY TO HOLD THE ARMOR IN PLACE TEMPORARILY FOR THE RECONSTRUCTION OF THE NEW PORTIONS OF THE BACKWALL. AFTER THE CONCRETE HAS ACHIEVED SUFFICIENT STRENGTH TO SUPPORT THE LOWER PORTION OF THE ARMOR, THE CONTRACTOR IS TO REMOVE THE TEMPORARY TACK WELDS AND GRIND THEM FLUSH PER C&MS 513.12 PRIOR TO OPENING THE RECONSTRUCTED PORTION OF THE STRUCTURE TO TRAFFIC.
- ALL STEEL USED TO CONSTRUCT THE PROPOSED LOWER SLIDING PLATE ANGLE IS TO BE ASTM A709 GRADE 36 OR 50 STEEL.
- ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO CONSTRUCT THE LOWER PORTION OF THE EXPANSION JOINT SLIDING PLATE ARE TO BE PAID FOR UNDER ITEM 516 - STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN.  
  
EXPANSION LENGTHS FOR ADJUSTMENTS TO DIMENSION "A":  
R.A. - 225'-0"  
F.A. - 229'-0"  
  
IF A SUITABLE OPENING CANNOT BE ACHIEVED, NOTIFY THE ENGINEER.
- THE EXISTING ELEVATIONS PROVIDED ARE TO BE CONSIDERED APPROXIMATE AND ARE BASED ON EXISTING PLANS AS SURVEY IS NOT AVAILABLE. PRIOR TO REMOVAL OF EXISTING BRIDGE COMPONENTS, FIELD VERIFY ALL EXISTING ELEVATIONS AT THE LOCATIONS SHOWN IN THESE PLANS. NOTIFY THE ENGINEER OF ANY DEVIATION IN PLAN ELEVATIONS PRIOR TO CONSTRUCTING THE PROPOSED WORK.

**LEGEND:**

- SOIL STABILIZATION USING HIGH DENSITY POLYURETHANE FOAM PER ITEM 530 - SPECIAL - STRUCTURES (SOIL STABILIZATION WITH HIGH DENSITY POLYURETHANE FOAM)
- ALL DOWELS TO HAVE A 6" EMBEDMENT. SEE SHEET 2/28 FOR MORE INFORMATION UNDER ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN.
- CONTRACTOR IS TO PLACE THE NON-EPOXY URETHANE CONCRETE SEALER IN THIS AREA IF POSSIBLE.

SFN	2514494
DESIGN AGENCY	
DESIGNER	MGB
CHECKER	JOL
REVIEWER	
PROJECT ID	112798
SUBSET	26
TOTAL	28
SHEET	P.382Z
TOTAL	617



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950 Goodale Blvd, Suite 160  
Grandview Heights, Ohio

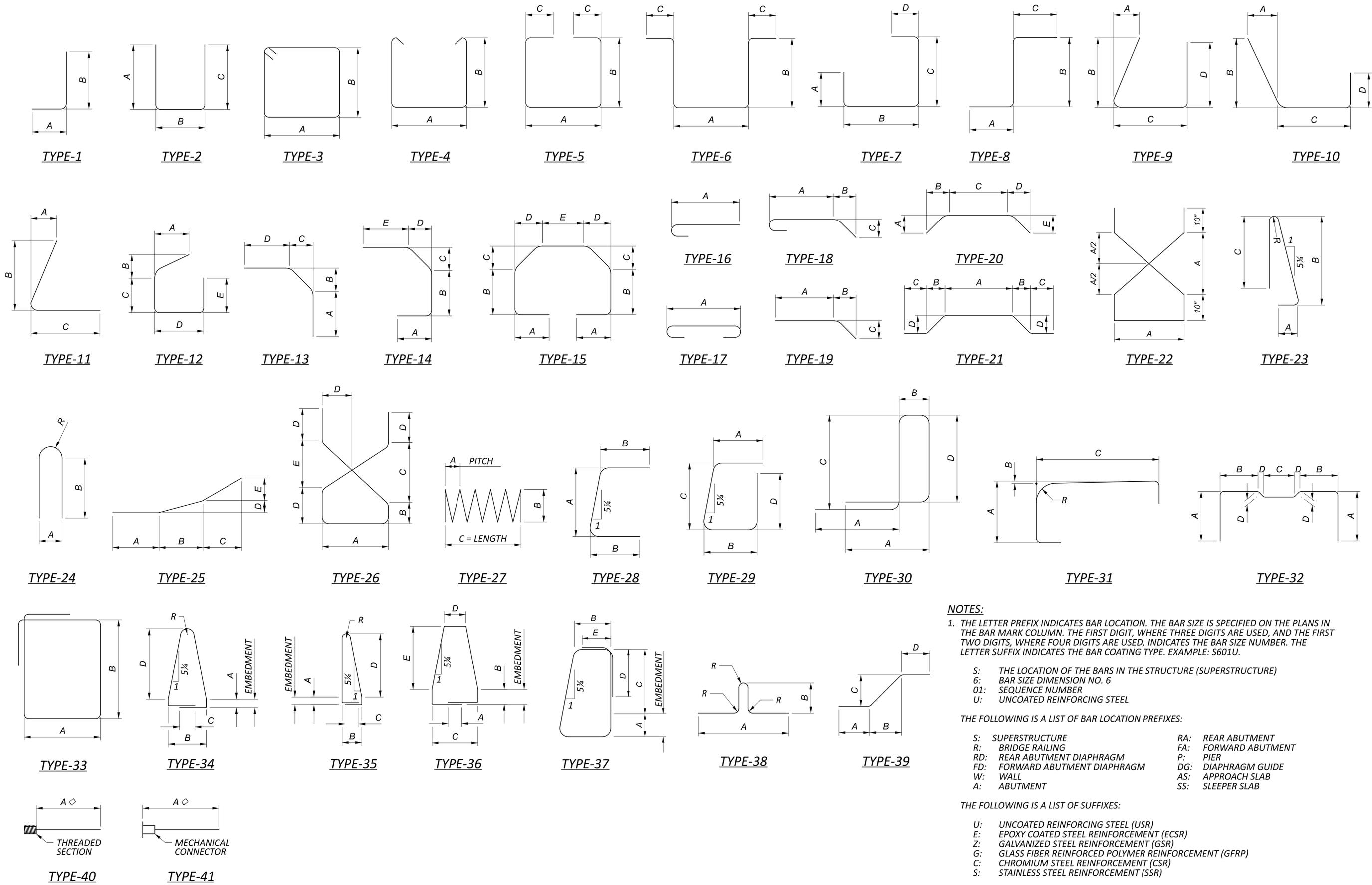
MARK	MAT'RL TYPE	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
		TOTAL				A	B	C	D	E	R	INC
<b>REAR ABUTMENT - NORTHBOUND BRIDGE (60 KSI, GALVANIZED)</b>												
RA501Z	GSR	42	3'-11"	172	STR							
RA502Z	GSR	6	3'-3"	20	19	1'-3"	1'-0"	1'-10"				
RA503Z	GSR	3	19'-3"	60	41							
RA504Z	GSR	3	32'-0"	100	40							
RA505Z	GSR	5	2'-2"	11	STR							
RA506Z	GSR	5	2'-7"	13	STR							
RA601Z	GSR	17	6'-1"	155	STR							
RA602Z	GSR	8	7'-11"	95	2	3'-8"	11"	3'-8"				
RA603Z	GSR	8	6'-7"	79	STR							
		<b>SUBTOTAL</b>		<b>705</b>		<b>ITEM 509 - GALVANIZED STEEL REINFORCEMENT</b>						

MARK	MAT'RL TYPE	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
		TOTAL				A	B	C	D	E	R	INC
<b>FORWARD ABUTMENT - NORTHBOUND BRIDGE (60 KSI, GALVANIZED)</b>												
FA501Z	GSR	3	19'-5"	61	41							
FA502Z	GSR	3	26'-3"	82	40							
FA503Z	GSR	3	6'-0"	19	STR							
		<b>SUBTOTAL</b>		<b>162</b>		<b>ITEM 509 - GALVANIZED STEEL REINFORCEMENT</b>						

MARK	MAT'RL TYPE	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
		TOTAL				A	B	C	D	E	R	INC
<b>REAR ABUTMENT - SOUTHBOUND BRIDGE (60 KSI, GALVANIZED)</b>												
RA510Z	GSR	3	32'-2"	101	41							
RA511Z	GSR	3	19'-5"	61	40							
		<b>SUBTOTAL</b>		<b>162</b>		<b>ITEM 509 - GALVANIZED STEEL REINFORCEMENT</b>						

MARK	MAT'RL TYPE	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
		TOTAL				A	B	C	D	E	R	INC
<b>FORWARD ABUTMENT - SOUTHBOUND BRIDGE (60 KSI, GALVANIZED)</b>												
FA510Z	GSR	6	3'-11"	25	STR							
FA511Z	GSR	36	5'-11"	222	STR							
FA512Z	GSR	6	5'-3"	33	19	3'-3"	1'-0"	1'-10"				
FA513Z	GSR	3	32'-0"	100	41							
FA514Z	GSR	3	19'-3"	60	40							
FA515Z	GSR	5	2'-2"	11	STR							
FA516Z	GSR	5	2'-7"	13	STR							
FA610Z	GSR	25	6'-6"	244	STR							
FA611Z	GSR	12	7'-11"	143	2	3'-8"	11"	3'-8"				
FA612Z	GSR	8	6'-7"	79	STR							
		<b>SUBTOTAL</b>		<b>930</b>		<b>ITEM 509 - GALVANIZED STEEL REINFORCEMENT</b>						

SFN	2514494
SFN	2514435
DESIGN AGENCY	
DESIGNER	
CHECKER	JOL
REVIEWER	RER
PROJECT ID	112798
SUBSET	27
TOTAL	28
SHEET	P.382AA
TOTAL	617



**NOTES:**

1. THE LETTER PREFIX INDICATES BAR LOCATION. THE BAR SIZE IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT, WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS, WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. THE LETTER SUFFIX INDICATES THE BAR COATING TYPE. EXAMPLE: S601U.

S: THE LOCATION OF THE BARS IN THE STRUCTURE (SUPERSTRUCTURE)  
 6: BAR SIZE DIMENSION NO. 6  
 01: SEQUENCE NUMBER  
 U: UNCOATED REINFORCING STEEL

THE FOLLOWING IS A LIST OF BAR LOCATION PREFIXES:

S: SUPERSTRUCTURE	RA: REAR ABUTMENT
R: BRIDGE RAILING	FA: FORWARD ABUTMENT
RD: REAR ABUTMENT DIAPHRAGM	P: PIER
FD: FORWARD ABUTMENT DIAPHRAGM	DG: DIAPHRAGM GUIDE
W: WALL	AS: APPROACH SLAB
A: ABUTMENT	SS: SLEEPER SLAB

THE FOLLOWING IS A LIST OF SUFFIXES:

U: UNCOATED REINFORCING STEEL (USR)
E: EPOXY COATED STEEL REINFORCEMENT (ECSR)
Z: GALVANIZED STEEL REINFORCEMENT (GSR)
G: GLASS FIBER REINFORCED POLYMER REINFORCEMENT (GFRP)
C: CHROMIUM STEEL REINFORCEMENT (CSR)
S: STAINLESS STEEL REINFORCEMENT (SSR)

2. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BAR BEND AT THE END OF THE BAR. STRAIGHT BARS ARE INDICATED BY "STR."

◇ - REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH ADJUSTMENT AND/OR END PREPARATION MAY BE NECESSARY DEPENDING ON THE TYPE OF CONNECTOR USED.

SFN	2514494
SFN	2514435
DESIGN AGENCY	
<b>EL. ROBINSON</b> ENGINEERING	
1488 West 9th St. Suite 800 Cleveland, Ohio 950 Goodale Blvd. Suite 160 Grandview Heights, Ohio	
DESIGNER	CHECKER
DTA	MRV
REVIEWER	
RER	04/15/24
PROJECT ID	112798
SUBSET	TOTAL
28	28
SHEET	TOTAL
P.382A	617