

**ITEM 614 - MAINTAINING TRAFFIC**

CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND APPROVED BY ODOT PERSONNEL. THE PROJECT ENGINEER SHALL APPROVE ALL TEMPORARY TRAFFIC CONTROL DEVICES FOR CONDITION AND LOCATION BEFORE THE CONTRACTOR WILL BE ALLOWED TO BEGIN WORK. IF THE CONTRACTOR DOES NOT COMPLY WITH THE STANDARDS, HIS PERMIT SHALL BE REVOKED AND ALL WORK SHALL BE TERMINATED.

ALL SIGNS, BARRACADES, SIGN SUPPORTS, DRUMS, FLAGGERS, WORK ZONE TRAFFIC SIGNALS AND INCIDENTALS FOR TRAFFIC CONTROL SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN CONFORMANCE WITH THE MOST RECENT REVISIONS, CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (OMUTCD). ALL SIGNS USED FOR THE MAINTENANCE OF TRAFFIC SHALL BE NEW OR LIKE NEW CONDITION SUBJECT TO THE APPROVAL OF THE ENGINEER. DEVICES USED TO MAINTAIN TRAFFIC SHALL BE REMOVED IMMEDIATELY AFTER THE TERMINATION OF SAID WORK. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

FOR WORK WHICH IS CONFINED TO THE SHOULDER, TRAFFIC CONTROL SHALL CONFORM TO FIGURES TA-1, TA-3, TA-4, AND TA-6 OF THE OMUTCD AND SCD MT-95.45. IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS AND PROVISIONS OF THE OMUTCD AND FAILURE RESULTS IN A CONDITION AT THE WORK SITE WHICH IS UNSAFE FOR TRAFFIC, THE ENGINEER HAS THE AUTHORITY TO SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 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 SEPERATELY ITEMIZED IN THE PLAN.

**NOTIFICATION OF CONSTRUCTION INITIATION**

AT LEAST FOURTEEN DAYS PRIOR TO STARTING INITIAL CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS VIA EMAIL AT D06.PIO@DOT.OHIO.GOV, THE DISTRICT WORK ZONE TRAFFIC MANAGER VIA EMAIL AT D06.MOT@DOT.OHIO.GOV AND THE CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION VIA EMAIL AT HAULING.PERMITS@DOT.OHIO.GOV OF THE ANTICIPATED START DATE OF ANY CONSTRUCTION ACTIVITIES INCLUDING BUT NOT LIMITED TO THE PLACING OF WORK ZONE SIGNS. THE NOTIFICATION SHALL ALSO INCLUDE THE PROJECT NUMBER, PID, NAME AND PHONE NUMBER OF THE CONTRACTOR, A POINT OF CONTACT AND THE ANTICIPATED IMPACT ON TRAFFIC. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT WORK ZONE TRAFFIC MANAGER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION INITIATION DATE.

**LANE CLOSURE/REDUCTION REQUIRED**

LENGTH AND DURATION OF LANE CLOSURES 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.

**PRE-MAINTENANCE OF TRAFFIC MEETING**

A PRE-MAINTENANCE OF TRAFFIC MEETING SHALL BE HELD (MINIMUM OF 10 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 TRAFFIC CONTROL COORDINATOR (614-645-6269 OR 614-645-5845) FROM THE CITY OF COLUMBUS TRANSPORTATION DIVISION.

**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 CALENDAR 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 AN ADDITIONAL 2 WEEKS OF UPCOMING WORK ACTIVITIES. THIS WILL INCLUDE ANY NOTIFICATION REQUIREMENTS FOR RESTRICTIONS THAT HAVE A DURATION GREATER THAN 12 HOURS.

**NOTICE OF CLOSURE SIGN**

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 OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP AND ROAD CLOSURES	≥ 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS AND < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	2 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.

**DUST CONTROL**

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER 1007 M. GAL.

**ITEM 614 MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)**

NO WORK SHALL BE PERFORMED AND THE SAME NUMBER OF LANES AS WERE AVAILABLE AT THE START OF THE PROJECT SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

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 EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

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

**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 TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO PERMITS AND PIO
RAMP AND ROAD CLOSURES	≥ 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS AND < 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 UNFORSEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

**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. DRUMS SHALL ALSO BE DOUBLE BALLASTED.

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

**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 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 50 EACH HAS BEEN CARRIED TO 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 300 EACH HAS BEEN CARRIED TO THE GENERAL SUMMARY.

**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.

**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, MATERIALS, LEO HOURS, AND INCIDENTALS NEEDED TO PERFORM THE ABOVE LISTED WORK IS CONSIDERED INCIDENTAL TO MAINTAINING TRAFFIC ON THE PROJECT AND WILL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

**ITEM 411 - STABILIZED CRUSHED AGGREGATE, AS PER PLAN**

ITEM 411 SHALL BE INSTALLED AT A DEPTH OF 6 INCHES AND 2 FEET IN WIDTH WHEREVER TRAFFIC WILL BE WITHIN 2 FEET OF THE EDGE OF AN EXISTING SHOULDER DURING CONSTRUCTION.

ALL COSTS ASSOCIATED WITH PREPARING THE SUBGRADE FOR INSTALLATION AND WITH THE INSTALLATION OF THE ITEM 411 SHALL BE INCIDENTAL TO ITEM 411 - STABILIZED CRUSHED AGGREGATE, AS PER PLAN.

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ITEM	EXTENSION	TOTAL FROM SHEET					TOTAL	UNIT	DESCRIPTION	SEE SHEET
		55	56	57	58	59				
202	35100			68			68	FT	PIPE REMOVED, 24" AND UNDER	
411	10001						477	CY	STABILIZED CRUSHED AGGREGATE, AS PER PLAN	46
611	04400			68			68	FT	12" CONDUIT, TYPE B	
614	11000						LS		MAINTAINING TRAFFIC	46
614	11110						1000	HOURL	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	50
614	11630						41560	FT	INCREASED BARRIER DELINEATION	47
614	12380						33	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	51
614	12420						LS		DETOUR SIGNING	
614	12484						42	EACH	WORK ZONE INCREASED PENALTIES SIGN	50
614	12500						50	EACH	REPLACEMENT SIGN	46
614	12600						300	EACH	REPLACEMENT DRUM	46
614	12801						2487	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	47
614	13310						2425	EACH	BARRIER REFLECTOR, TYPE 1, ONE-WAY	47
614	13312						497	EACH	BARRIER REFLECTOR, TYPE 2, ONE-WAY	47
614	13350						1329	EACH	OBJECT MARKER, ONE WAY	47
614	18601						2	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	49
614	20056	0.43	1.93	2.82	4.77	4.77	14.72	MILE	WORK ZONE LANE LINE, CLASS I, 6", 807 PAINT	
614	21050	0.81					0.81	MILE	WORK ZONE CENTER LINE, CLASS I, 807 PAINT, DOUBLE SOLID	
614	22056	1.81	3.88	2.10	3.82	3.76	15.37	MILE	WORK ZONE, EDGE LINE, CLASS I, 6", 807 PAINT, WHITE	
614	22056	1.08	3.98	1.88	3.96	3.19	14.09	MILE	WORK ZONE, EDGE LINE, CLASS I, 6", 807 PAINT, YELLOW	
614	23110	4898	16160	8727	9886	6846	46517	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 807 PAINT	
614	24102	907			2290	12110	15307	FT	WORK ZONE DOTTED LINE, CLASS I, 6", 807 PAINT	
614	25200	397	294	399	126		1216	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT	
614	98000				0.05	3.10	3.15	MILE	WORK ZONE PAVEMENT MARKING, MISC.: LANE LINE, CLASS I, 5" 642 PAINT	48
614	98000	0.94			0.09		1.03	MILE	WORK ZONE PAVEMENT MARKING, MISC.: EDGE LINE, CLASS I, 5", 642 PAINT, WHITE	48
614	98000	0.02					0.02	MILE	WORK ZONE PAVEMENT MARKING, MISC.: EDGE LINE, CLASS I, 5", 740.06, TYPE I, YELLOW	48
614	98100				394		394	FT	WORK ZONE PAVEMENT MARKING, MISC.: CHANNELIZING LINE, CLASS I, 10" PAINT	48
614	98100	69					69	FT	WORK ZONE PAVEMENT MARKING, MISC.: DOTTED LINE, 5", 740.06, TYPE I	48
614	98100	1659	1703	977	1308		5647	FT	WORK ZONE PAVEMENT MARKING, MISC.: DOTTED LINE, CLASS I, 12" 807 PAINT	47
614	98100	12					12	FT	WORK ZONE PAVEMENT MARKING, MISC.: STOP LINE, 20", 642 PAINT	48
615	10000						LS		ROADS FOR MAINTAINING TRAFFIC	
615	25000	1707	565	1926	91		4289	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	
616	10000						1007	MGAL	WATER	
622	41050						2	EACH	PORTABLE BARRIER, "Y" CONNECTOR	
622	41100	4050	8900	8640	14490	5480	41560	FT	PORTABLE BARRIER, UNANCHORED	
808	18700						120	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	49
TOTALS CARRIED TO GENERAL SUMMARY, SHEET 210										

CALCULATED  
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EMW

MAINTENANCE OF TRAFFIC SUBSUMMARY

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REF NO.	SHEET NO.		LOCATION	STATION TO STATION		614	614	614	614	614	614	614	614	614	614	614	615	622						
				WORK ZONE LANE LINE, CLASS I, 6", 807 PAINT	WORK ZONE CENTER LINE, CLASS I, 807 PAINT, DOUBLE SOLID	WORK ZONE, EDGE LINE, CLASS I, 6", 807 PAINT, WHITE	WORK ZONE, EDGE LINE, CLASS I, 6", 807 PAINT, YELLOW	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 807 PAINT	WORK ZONE DOTTED LINE, CLASS I, 6", 807 PAINT	WORK ZONE PAVEMENT MARKING, MISC.: DOTTED LINE, CLASS I, 12" 807 PAINT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT	WORK ZONE PAVEMENT MARKING, MISC.: LANE LINE, CLASS I, 5" 642 PAINT	WORK ZONE PAVEMENT MARKING, MISC.: EDGE LINE, CLASS I, 5", 5", 740.06, TYPE I, YELLOW	WORK ZONE PAVEMENT MARKING, MISC.: CHANNELIZING LINE, CLASS I, 10" PAINT	WORK ZONE PAVEMENT MARKING, MISC.: DOTTED LINE, 5", 740.06, TYPE I	WORK ZONE PAVEMENT MARKING, MISC.: STOP LINE, 20", 642 PAINT	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	PORTABLE BARRIER, UNANCHORED						
	TO			TO		MILE	MILE	MILE	MILE	FT	FT	FT	FT	MILE	MILE	MILE	FT	FT	FT	FT	SY	FT		
PHASE 1																								
ELW-1	68	TO	81	RAMP	2055+25.00	TO	1083+09.00																	
PB-1	70	TO	70	RAMP	100+31.00	TO	103+31.00																	
ELW-2	70	TO	72	RAMP	1016+93.00	TO	104+31.00																	
PB-1	70	TO	70	IR-70	531+49.00	TO	534+89.00																	
CH-1	72	TO	73	IR-270	1028+17.00	TO	1039+89.00																	
ELY-1	73	TO	75	IR-270	1031+17.00	TO	1069+97.00																	
ELW-3	73	TO	73	IR-270	1031+17.00	TO	1035+92.00																	
CH-2	73	TO	74	IR-270	1035+92.00	TO	1046+00.00																	
CV-1	73	TO	73	IR-270	1035+92.00	TO	1043+09.00																	
CH-3	73	TO	73	IR-270	1035+94.00	TO	1043+09.00																	
ELY-2	73	TO	81	RAMP	1035+94.00	TO	2039+08.00																	
PB-3	73	TO	81	RAMP	2035+10.00	TO	1059+29.00																	
LL-1	73	TO	75	IR-270	1039+89.00	TO	1062+75.00	0.43																
DL-1	74	TO	75	IR-270	1046+00.00	TO	1062+75.00																	
CH-4	75	TO	76	IR-270	1062+75.00	TO	1073+98.00																	
CH-5	75	TO	76	IR-270	1062+75.00	TO	1073+98.00																	
DL6-1	76	TO	77	IR-270	1077+05.00	TO	1086+12.00																	
TP-1	80	TO	81	RAMP A1	2027+27.55	TO	2037+22.93																	
ELW-4	82	TO	83	SCARBOROUGH BLVD	30+29.07	TO	36+00.00																	
CL-1	82	TO	87	SCARBOROUGH BLVD	30+29.07	TO	55+67.00																	
ELW-5	82	TO	87	SCARBOROUGH BLVD	30+29.07	TO	55+67.00																	
TP-2	82	TO	83	SCARBOROUGH BLVD	30+29.07	TO	36+00.00																	
DL6-1	87	TO	87	SCARBOROUGH BLVD	55+67.00	TO	56+33.00																	
ELY-3	87	TO	87	SCARBOROUGH BLVD	56+33.00	TO	57+12.00																	
TP-3	87	TO	87	SCARBOROUGH BLVD	56+33.00	TO	57+16.00																	
PHASE 1A																								
ELW-6	90	TO	91	SCARBOROUGH BLVD	29+68.00	TO	37+00.00																	
CL-2	90	TO	93	SCARBOROUGH BLVD	29+68.00	TO																		
ELW-7	91	TO	93	SCARBOROUGH BLVD	39+36.00	TO	47+70.00																	
SL-1	93	TO	93	SCARBOROUGH BLVD	46+44.00	TO	46+44.00																	
ELW-8	93	TO	93	SCARBOROUGH BLVD	55+59.00	TO	56+66.00																	
TOTALS CARRIED TO SUMMARY SHEET						54		0.43	0.81	1.81	1.08	4898	907	1659	397		0.94	0.02		69	12	1707	4050	

CALCULATED BPT CHECKED EMW	<b>MAINTENANCE OF TRAFFIC PHASE 1 SUBSUMMARY</b>	<b>FRA - 70 - 22.61</b>
55		1199







- EDGE LINE, WHITE\*
- EDGE LINE, YELLOW\*
- LANE LINE\*
- CHANNELIZING LINE\*\*
- DOTTED LINE, 12"
- DOTTED LINE, 6"
- CHEVRON LINE
- CENTERLINE, DOUBLE SOLID
- STOP LINE
- LANE ARROW
- PORTABLE BARRIER, 32"
- DRUMS (SPACING 80' TANGENTS & 40' TAPERS UNLESS STATED)  
SCARBOROUGH (SPACING 40' TANGENTS & 20' TAPERS UNLESS STATED)
- IMPACT ATTENUATOR (UNIDIRECTIONAL UNLESS STATED)
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B

- TRAFFIC FLOW ARROW
- PROPOSED SIGN
- EXISTING SIGN REMOVED
- EXISTING SIGN, TO REMAIN
- EXISTING SINGLE POST SIGN SUPPORT
- PROPOSED SINGLE POST SIGN SUPPORT
- EXISTING TWO POST SIGN SUPPORT
- PROPOSED TWO POST SIGN SUPPORT
- EXISTING TRUSS SIGN SUPPORT
- EXISTING CANTILEVER SIGN SUPPORT
- FLASHING ARROW BOARD
- TYPE 3 BARRICADE
- WORK AREA
- TEMPORARY PAVEMENT

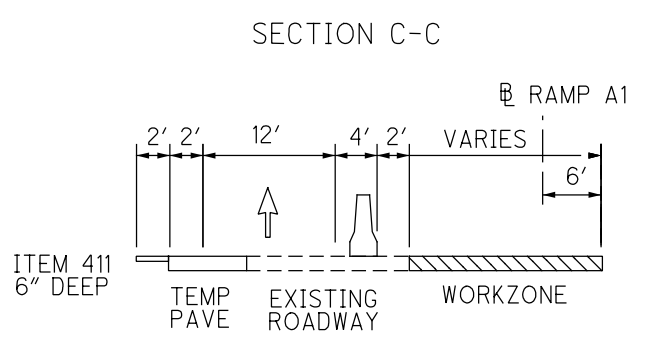
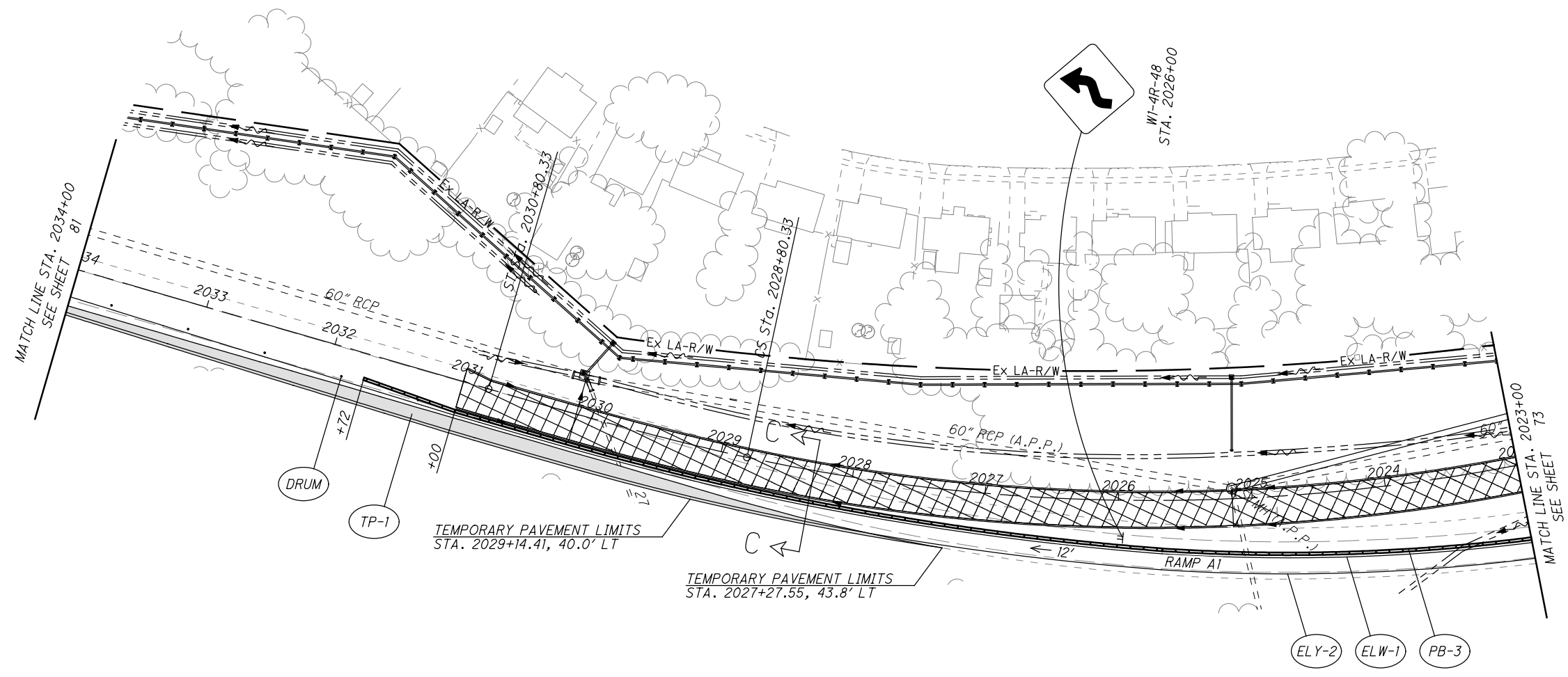
ITEM 644 - THERMOPLASTIC ON ALL ASPHALT SURFACE  
 ITEM 646 - EPOXY ON ALL CONCRETE SURFACE  
 \* 5" MARKINGS SHALL BE USED ON LOCAL ROADS  
 \*\* 10" MARKING SHALL BE USED ON LOCAL ROADS

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**MAINTENANCE OF TRAFFIC LEGEND**

**FRA - 70 - 22.61**

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ELY-2  
ELW-1  
PB-3

MI-4R-48  
STA. 2026+00

MATCH LINE STA. 2034+00  
SEE SHEET 81

MATCH LINE STA. 2023+00  
SEE SHEET 73

CALCULATED  
BPT  
CHECKED  
EMW

0 50 100  
HORIZONTAL  
SCALE IN FEET

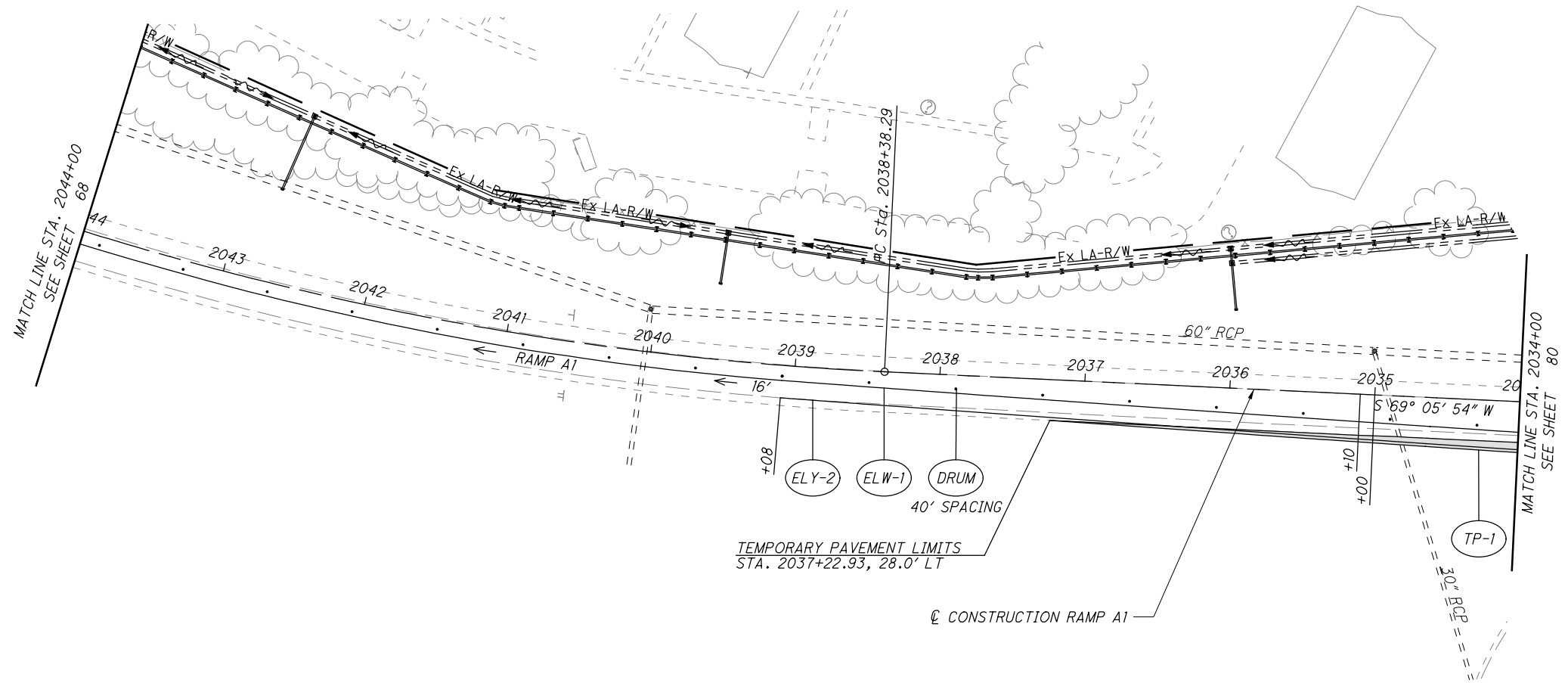
**MAINTENANCE OF TRAFFIC PLAN - PHASE 1**  
**STA. 2023+00 TO STA. 2034+00**

**FRA-70-22.61**

NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66 .



c:\pwworking\pitt@d1607344B95639\_M\PI010.dgn 3/29/2022 5:21:56 PM 1of1.mn



NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66 .

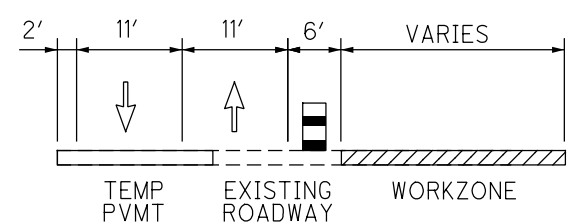
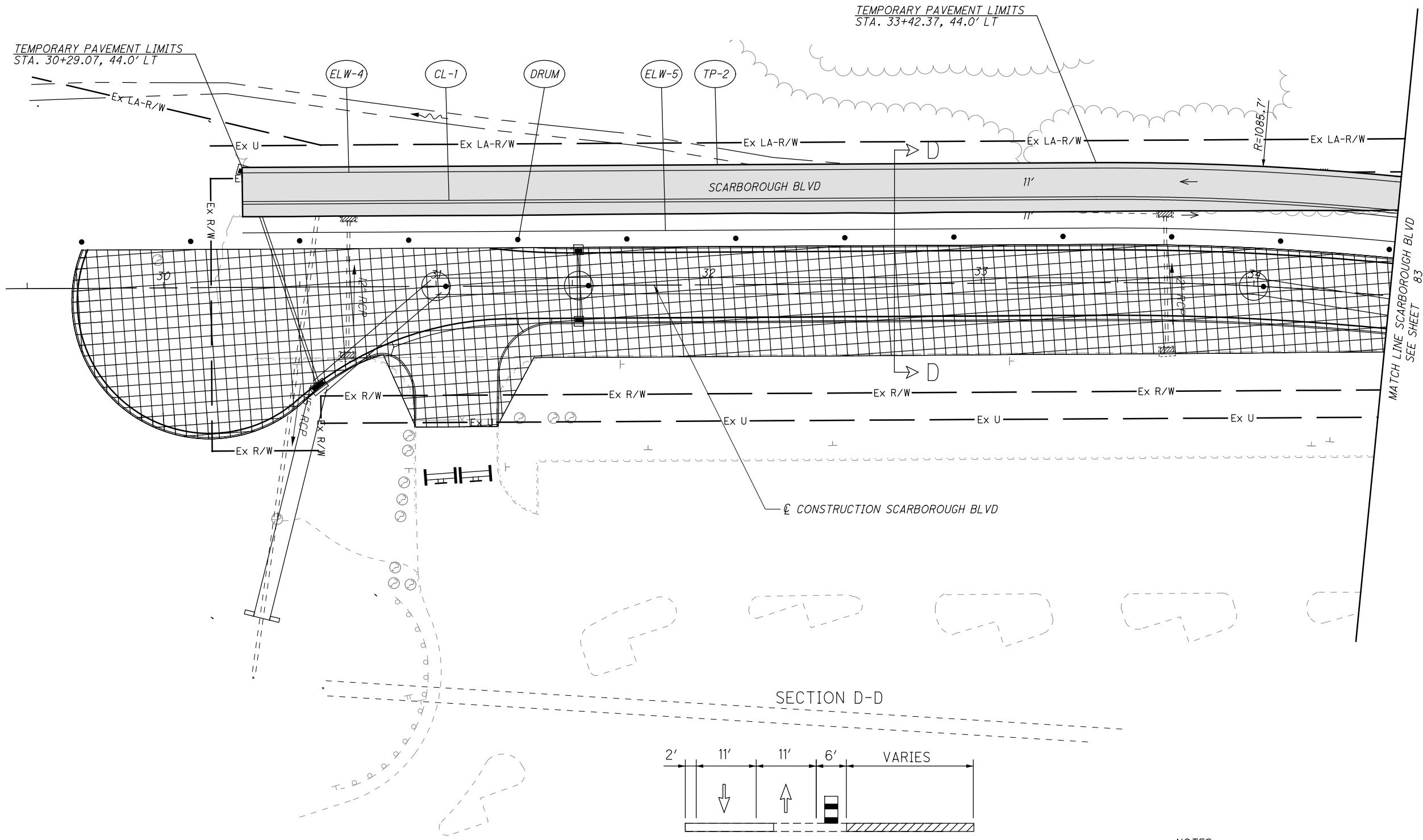


CALCULATED  
BPT  
CHECKED  
EMW

**MAINTENANCE OF TRAFFIC PLAN - PHASE 1  
STA. 2034+00 TO END WORK**

**FRA-70-22.61**

c:\pwworking\pitt@d1607344\B95639\_M\PI021.dgn 3/29/2022 5:23:27 PM tofman



NOTES:  
 1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66 .

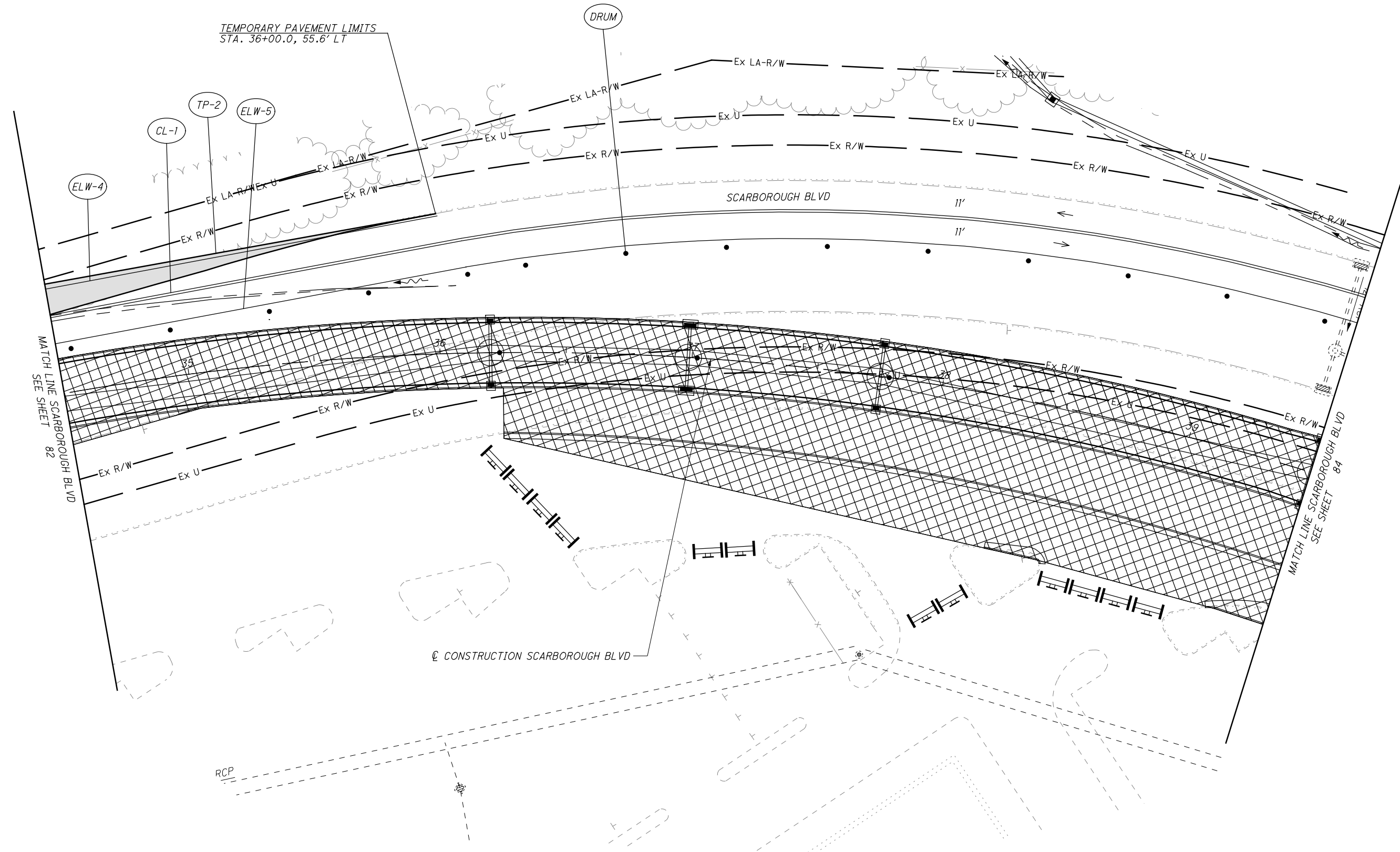
CALCULATED  
 BPT  
 CHECKED  
 EMW

0 20 40  
 HORIZONTAL  
 SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN - PHASE 1  
 BEGIN WORK TO STA. 34+50**

**FRA-70-22.61**

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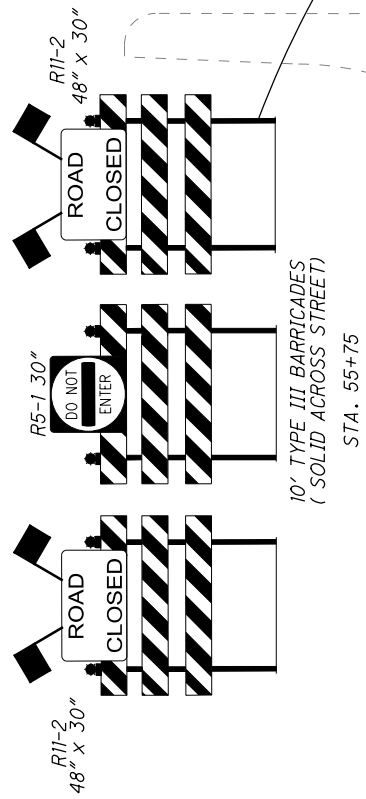


MAINTENANCE OF TRAFFIC PLAN - PHASE 1  
STA. 34+50 TO STA. 39+50

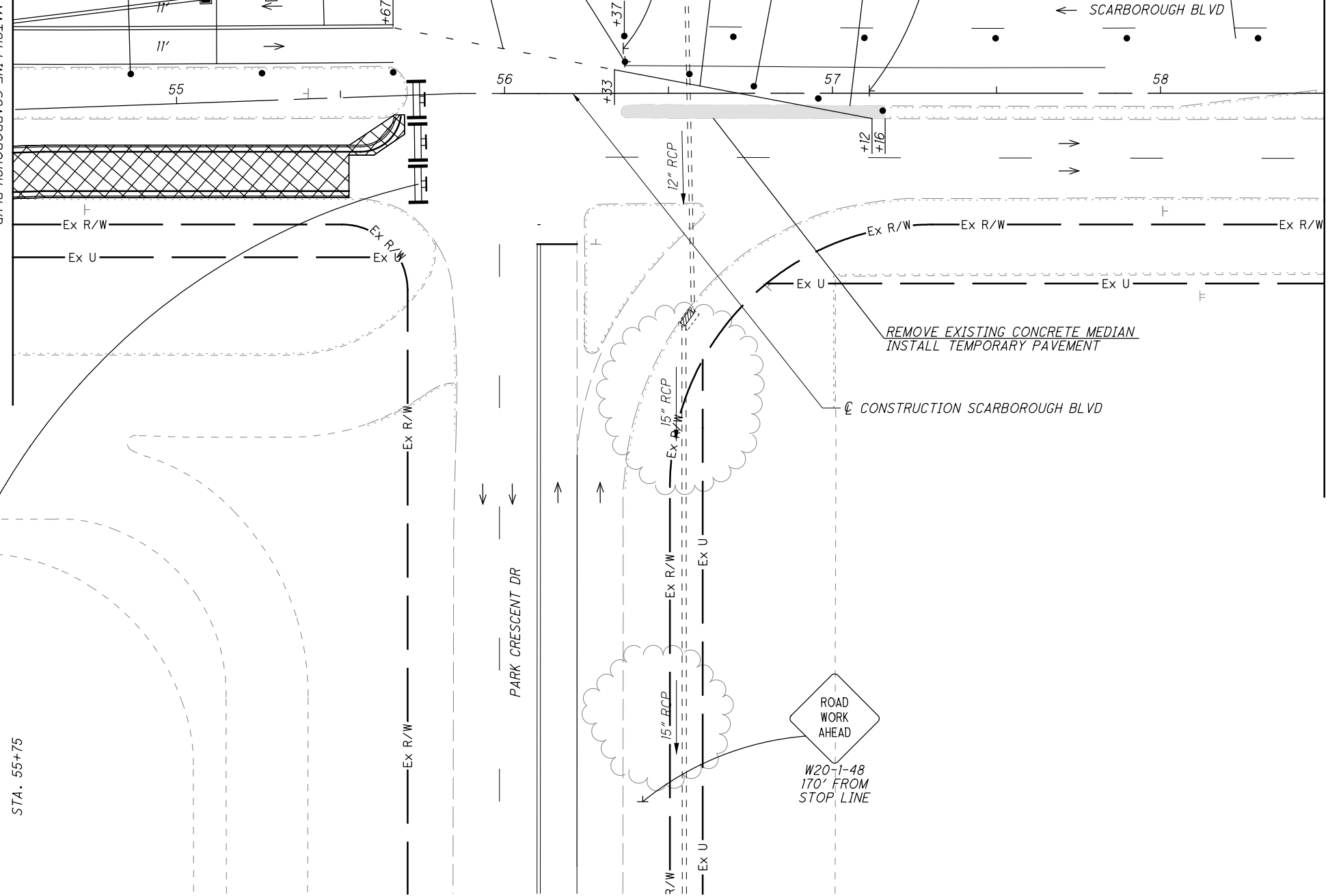
FRA-70-22.61

NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66.

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MATCH LINE SCARBOROUGH BLVD  
SEE SHEET 86



MATCH LINE SCARBOROUGH BLVD  
SEE SHEET 88

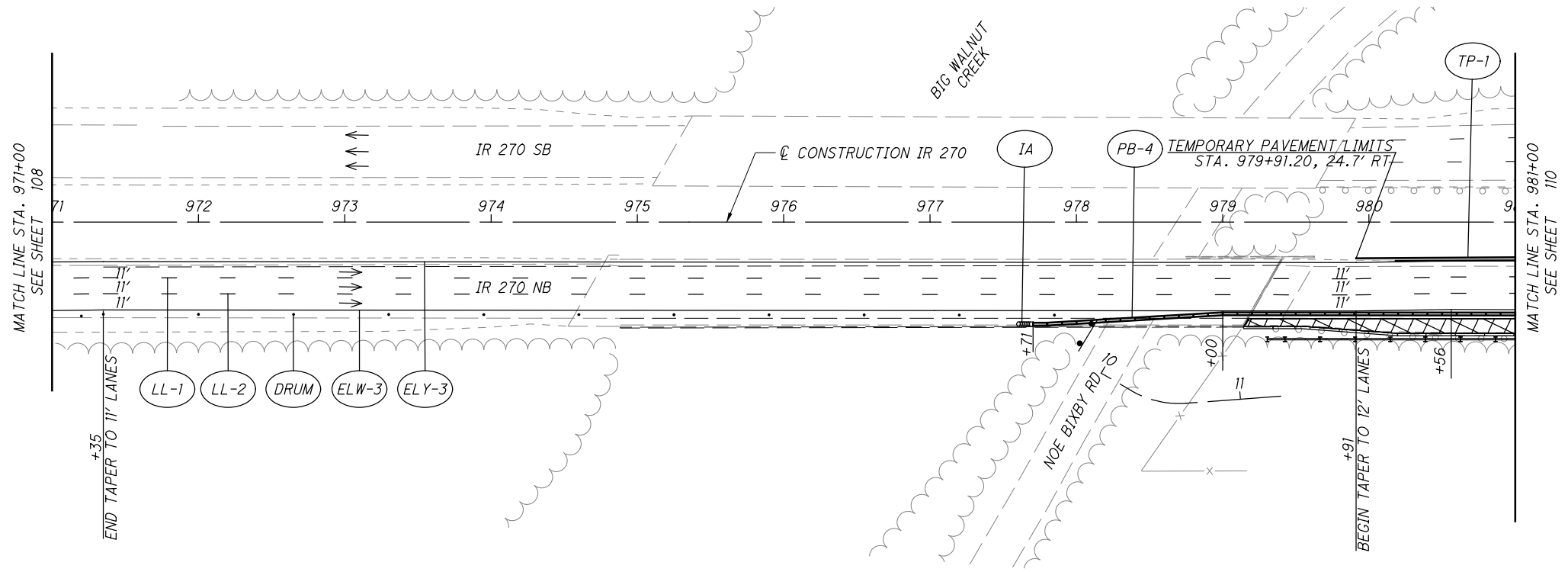
**MAINTENANCE OF TRAFFIC PLAN - PHASE 1**  
**STA. 54+50 TO STA. 58+50**

**FRA-70-22.61**

NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66.

CALCULATED  
BPT  
CHECKED  
EMW

0 20 40  
HORIZONTAL  
SCALE IN FEET



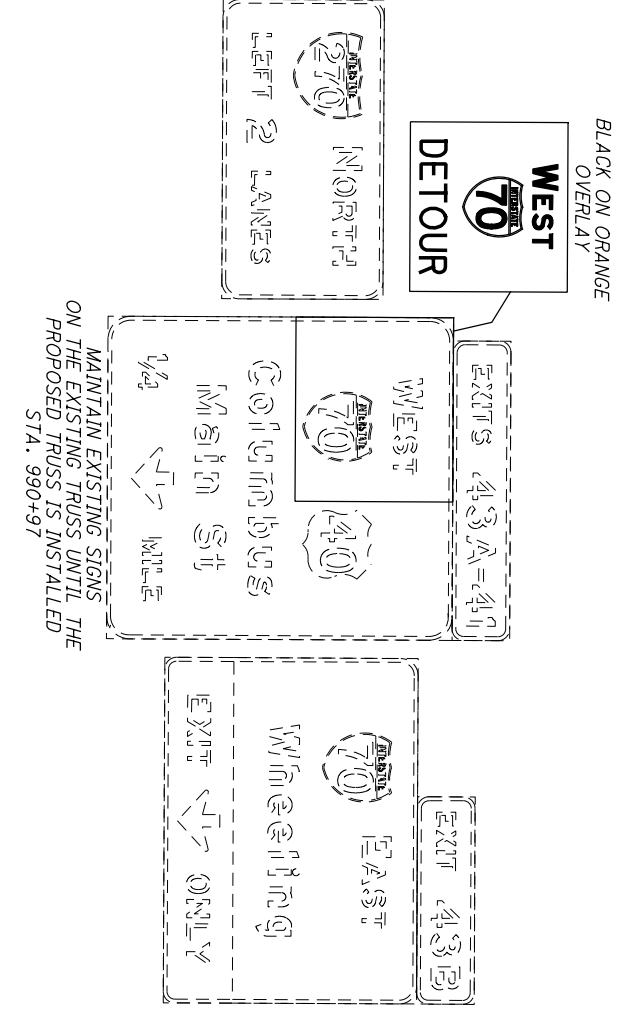
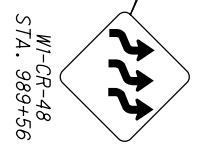
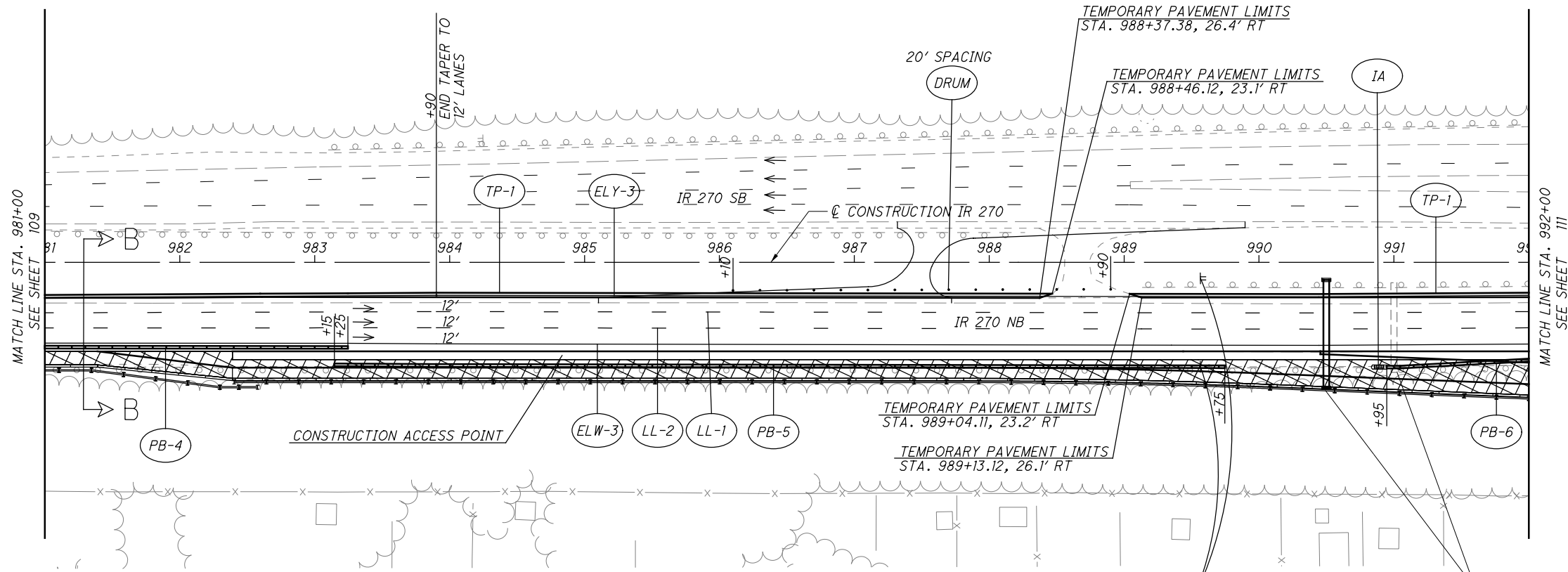
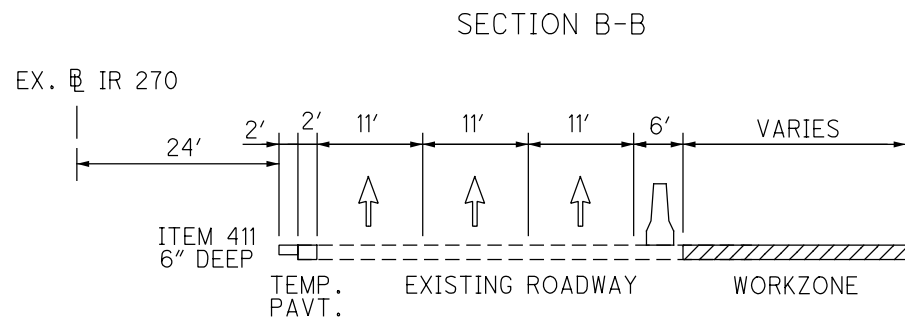
NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66 .

CALCULATED	BPT
CHECKED	EMW

0 50 100  
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN - PHASE 2**  
**STA. 971+00 TO STA. 981+00**

**FRA-70-22.61**

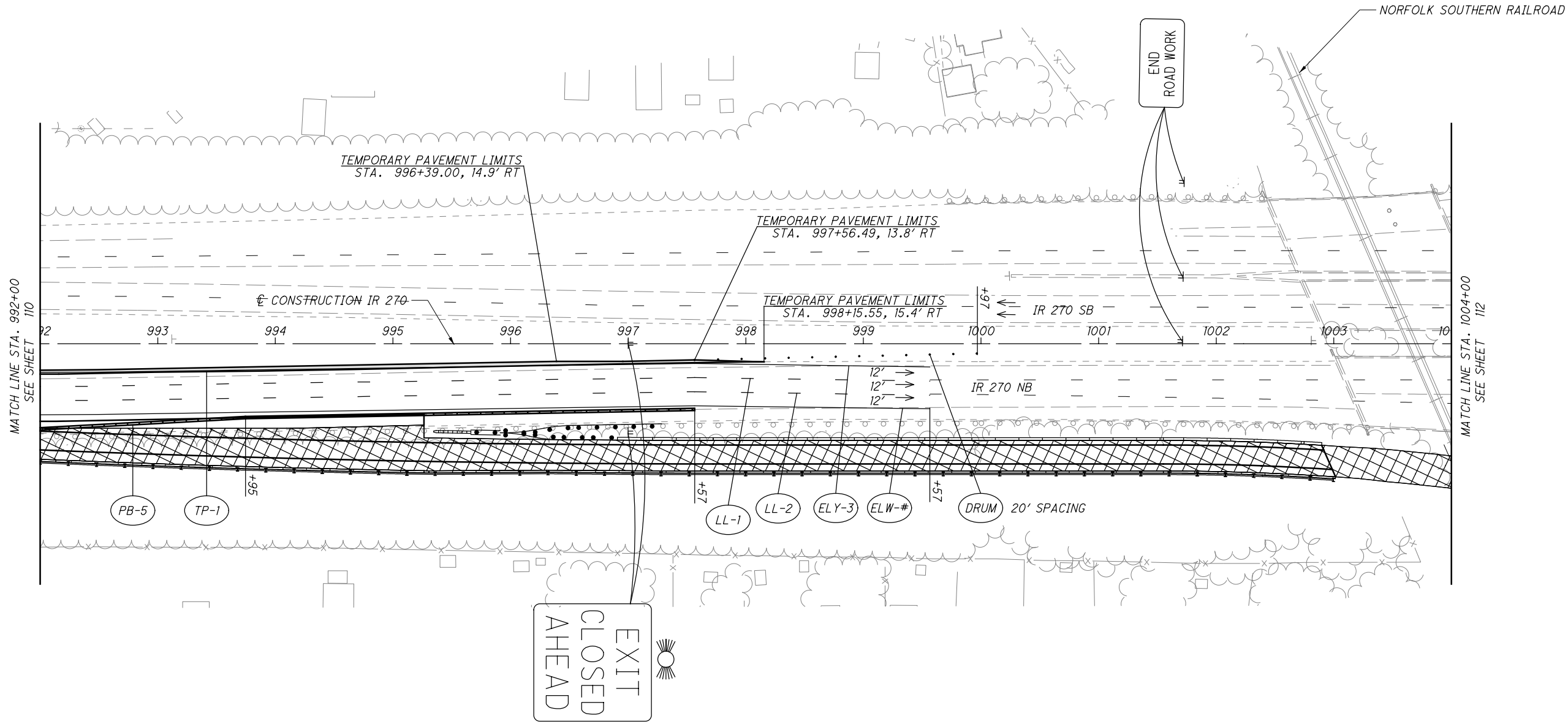


NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66 .



CALCULATED BPT CHECKED EMW

c:\pwworking\pitt@d1607344\B95639\_MP2005.dgn 3/29/2022 5:27:43 PM totman



CALCULATED BPT CHECKED EMW

0 50 100  
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN - PHASE 2**  
**STA. 992+00 TO STA. 1004+00**

**FRA-70-22.61**

111  
1199

NOTES:  
 1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66 .



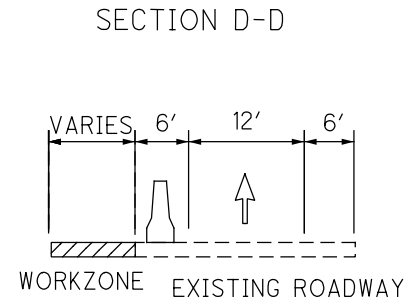
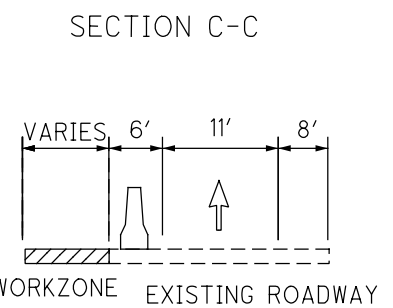
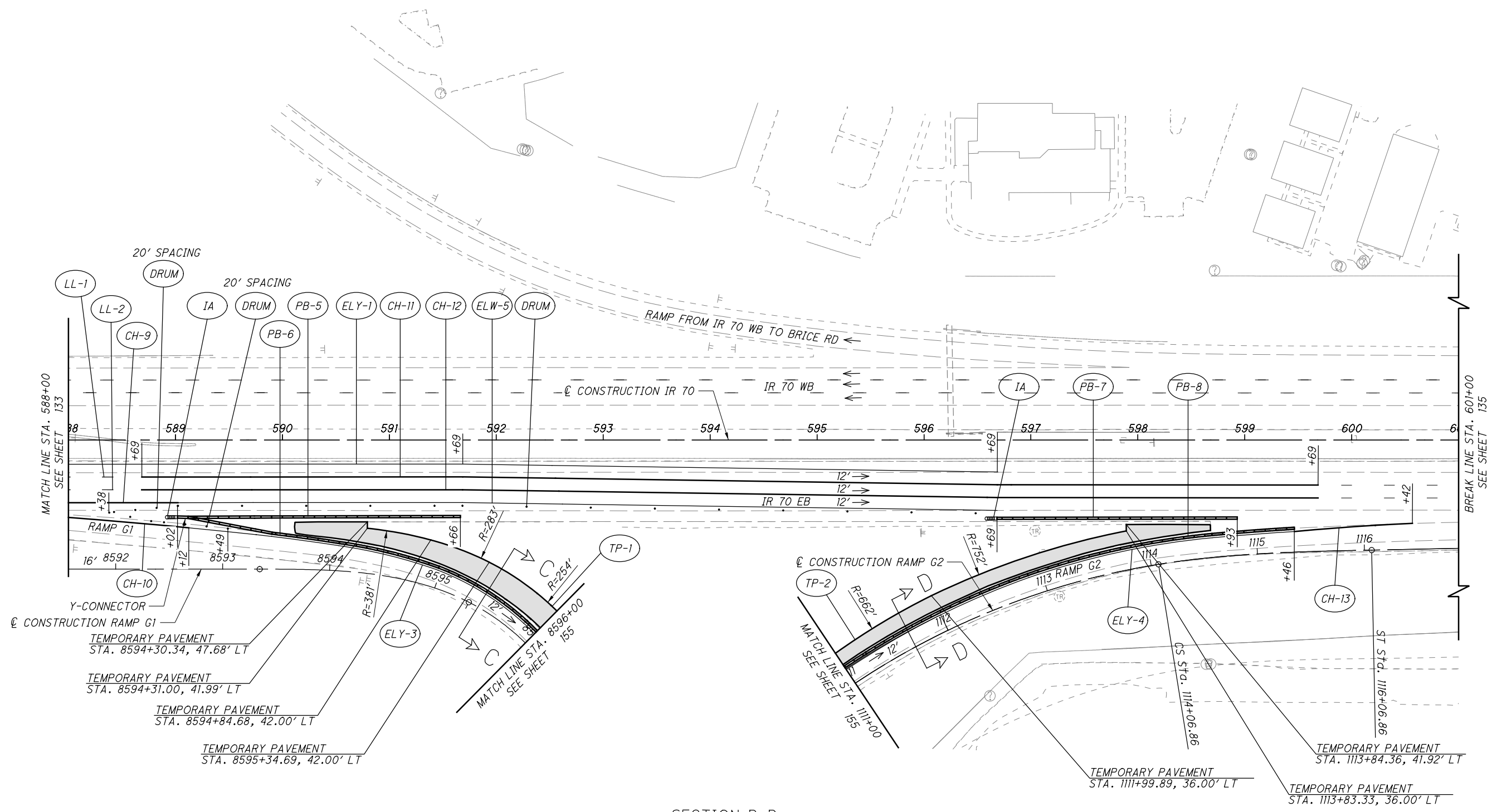
CALCULATED  
BPT  
CHECKED  
EMW

**MAINTENANCE OF TRAFFIC PLAN - PHASE 3**  
**STA. 588+00 TO STA. 601+00**

**FRA-70-22.61**

134  
1199

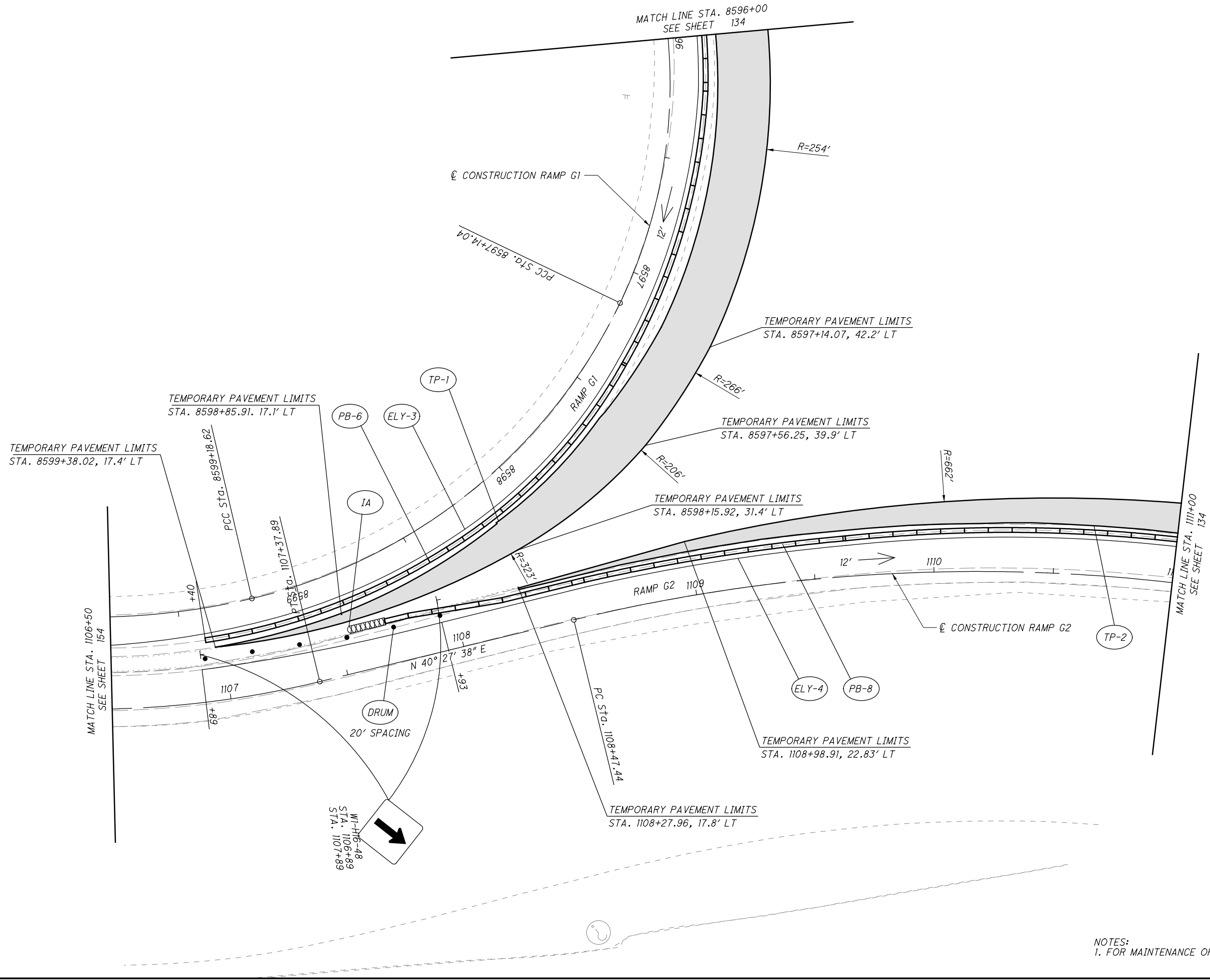
c:\pwworking\p111@d1607344\B95639\_MP3110.dgn 3/29/2022 5:27:51 PM To:man



NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66.



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MATCH LINE STA. 8596+00  
SEE SHEET 134

TEMPORARY PAVEMENT LIMITS  
STA. 8599+38.02, 17.4' LT

TEMPORARY PAVEMENT LIMITS  
STA. 8598+85.91, 17.1' LT

TEMPORARY PAVEMENT LIMITS  
STA. 8597+14.07, 42.2' LT

TEMPORARY PAVEMENT LIMITS  
STA. 8597+56.25, 39.9' LT

TEMPORARY PAVEMENT LIMITS  
STA. 8598+15.92, 31.4' LT

TEMPORARY PAVEMENT LIMITS  
STA. 1108+98.91, 22.83' LT

TEMPORARY PAVEMENT LIMITS  
STA. 1108+27.96, 17.8' LT

MATCH LINE STA. 1106+50  
SEE SHEET 154

MATCH LINE STA. 1111+00  
SEE SHEET 134

WI-HI-48  
STA. 1106+89  
STA. 1107+89

NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66 .

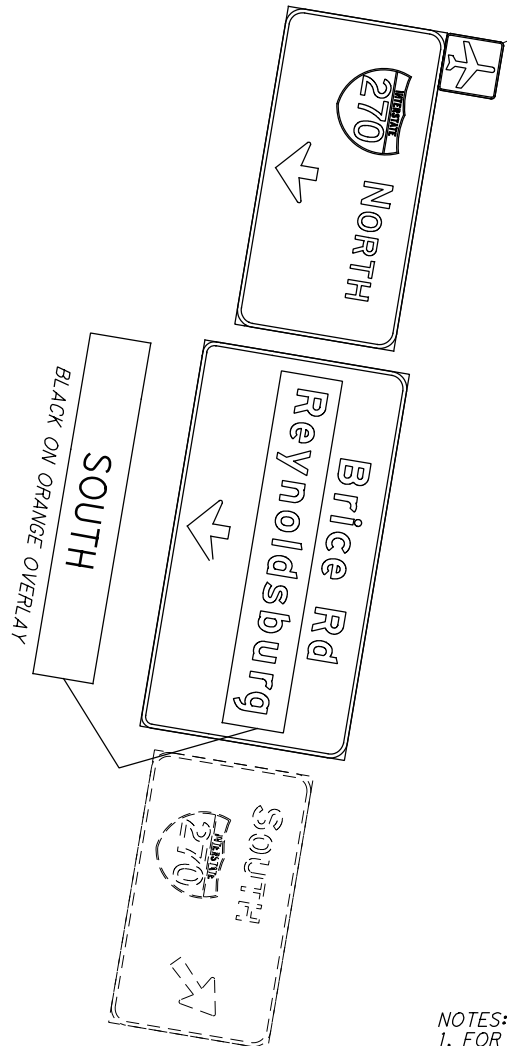
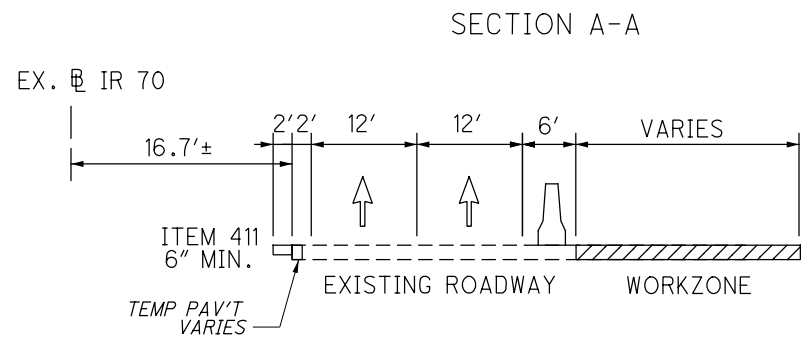
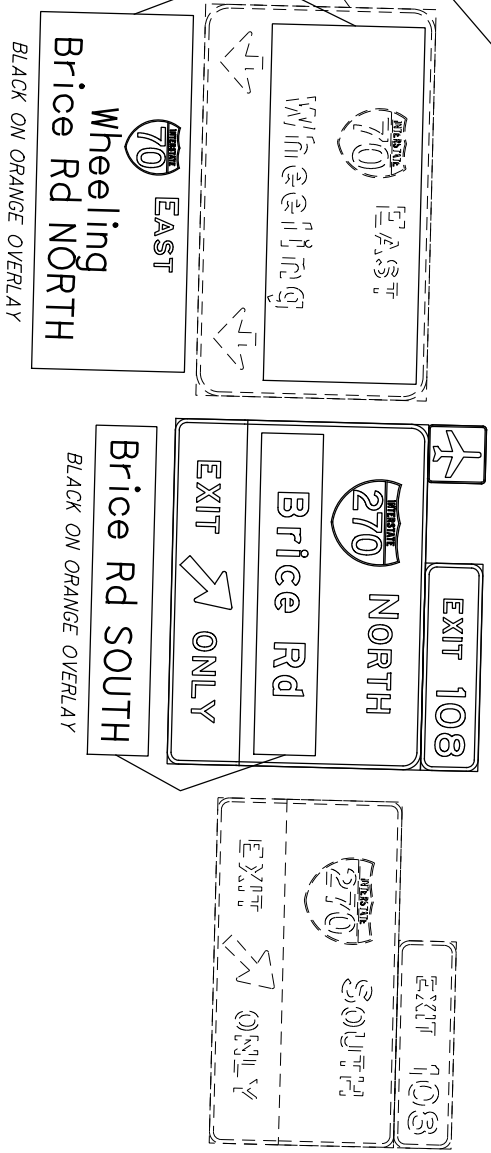
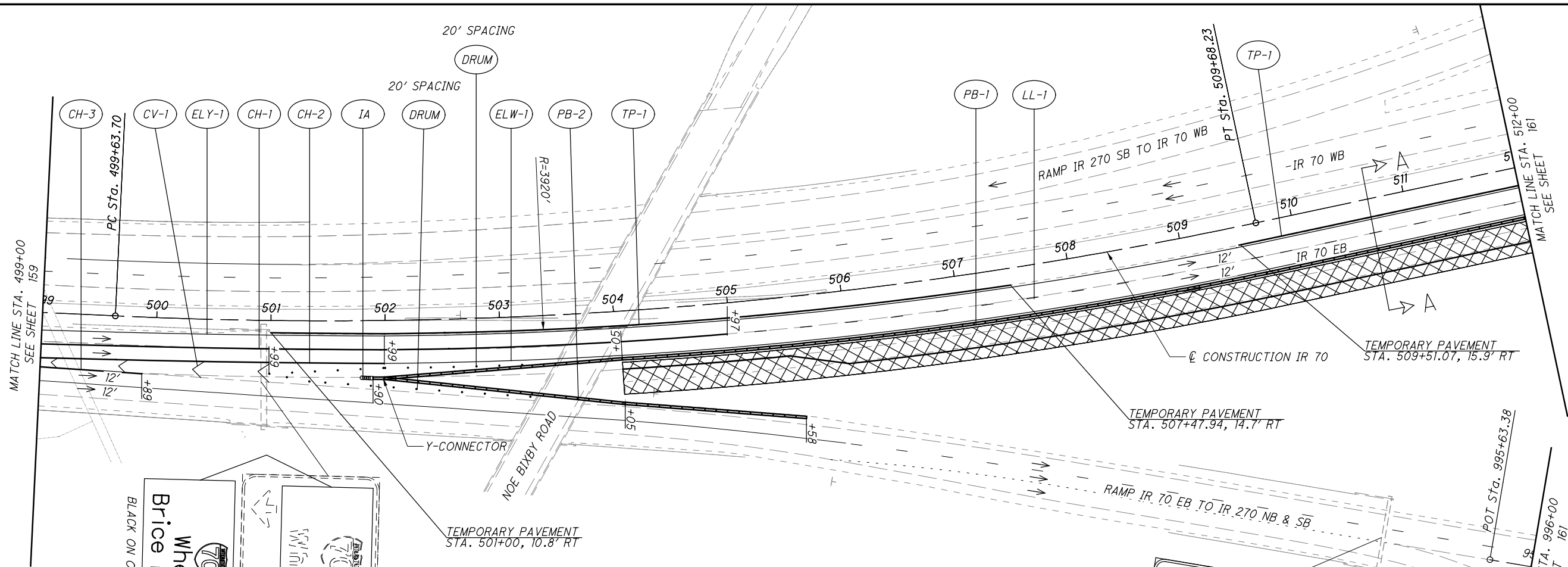


CALCULATED  
BPT  
CHECKED  
EMW

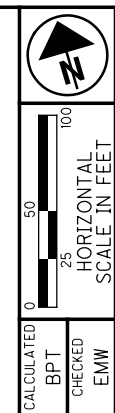
**MAINTENANCE OF TRAFFIC PLAN - PHASE 3**  
**STA. 1106+50 TO STA. 1111+00**

**FRA-70-22.61**

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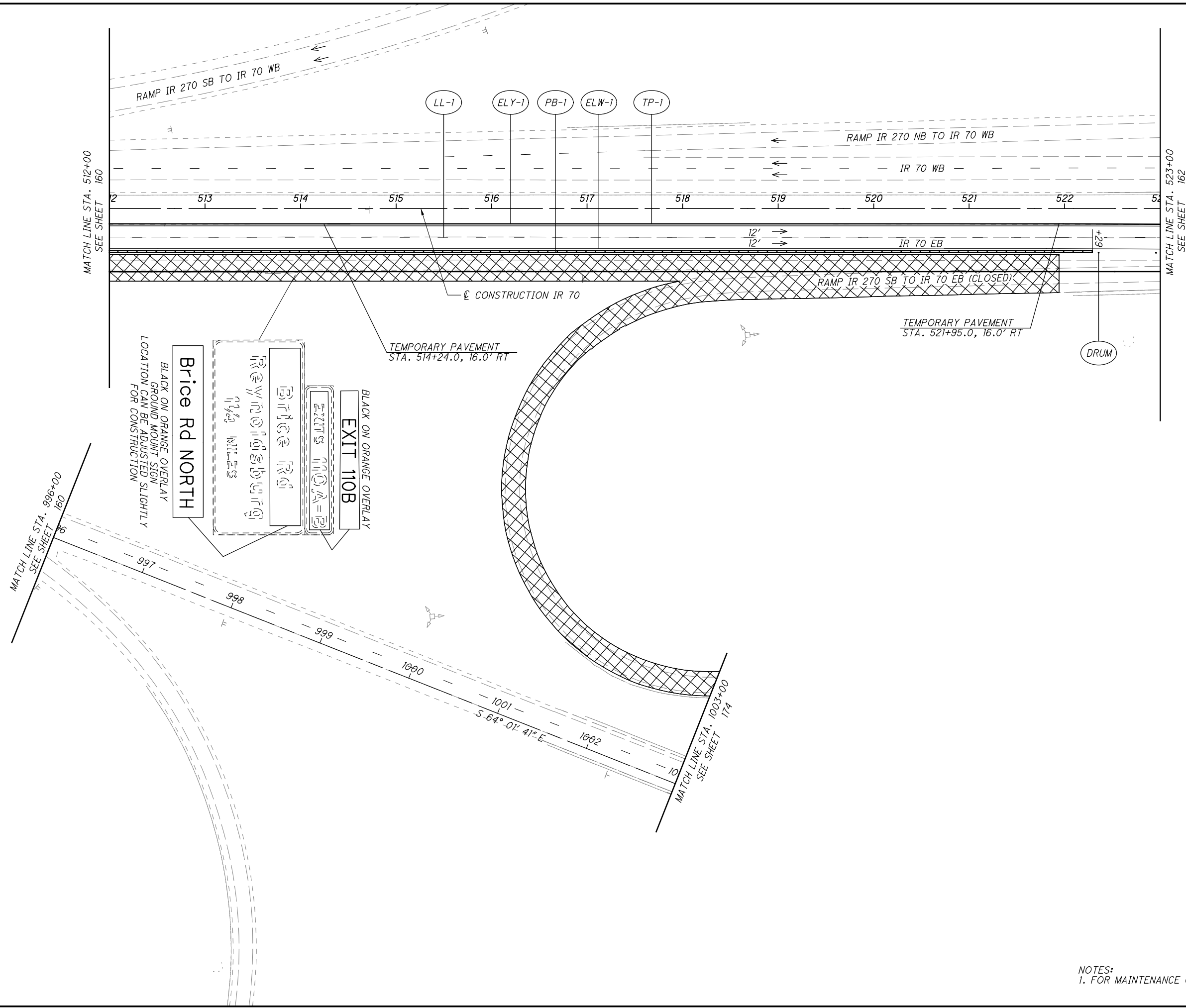
NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66 .



CALCULATED BPT  
 CHECKED EMW  
**MAINTENANCE OF TRAFFIC PLAN - PHASE 4**  
**STA. 499+00 TO STA. 512+00**

**FRA-70-22.61**  
 160  
 1199

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NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66 .

CALCULATED BPT CHECKED EMW

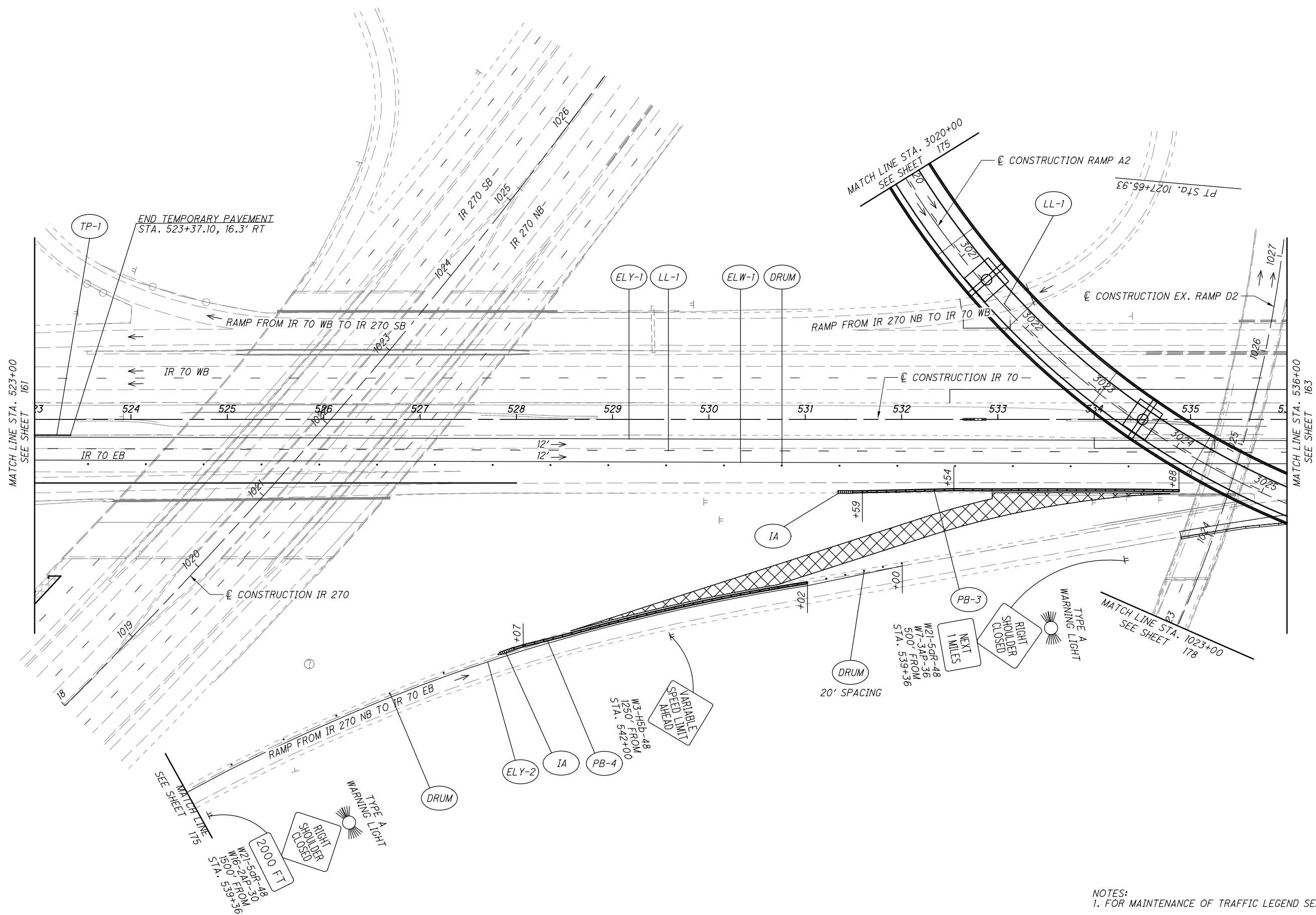
0 50 100  
25  
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN - PHASE 4**  
**STA. 512+00 TO STA. 523+00**

**FRA-70-22.61**

161  
1199

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MAINTENANCE OF TRAFFIC PLAN - PHASE 4  
STA. 523+00 TO STA. 536+00

FRA-70-22.61

162  
1199

NOTES:  
1. FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 66.

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Table with columns: SHEET NUM. (42-751), PART. (01/IMS/PV), ITEM, ITEM EXT, GRAND TOTAL, UNIT, DESCRIPTION, SEE SHEET NO. (43, 44, 43, 43, 43). Includes rows for DRAINAGE (CONT.), CONCRETE MASONRY, 4" BASE PIPE UNDERDRAINS, 6" SHALLOW PIPE UNDERDRAINS, 6" UNCLASSIFIED PIPE UNDERDRAINS, 6" BASE PIPE UNDERDRAINS, AGGREGATE DRAINS, 4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET, 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 6" CONDUIT, TYPE F, 12" CONDUIT, TYPE A, 12" CONDUIT, TYPE B, 12" CONDUIT, TYPE C, 15" CONDUIT, TYPE B, 15" CONDUIT, TYPE B, 706.02 WITH PREMIUM JOINTS, 15" CONDUIT, TYPE F, 707.05 TYPE C, 707.21, 18" CONDUIT, TYPE B, 18" CONDUIT, TYPE B, 706.02 WITH PREMIUM JOINTS, 18" CONDUIT, TYPE C, 18" CONDUIT, TYPE F, 707.05 TYPE C, 707.21, 21" CONDUIT, TYPE B, 24" CONDUIT, TYPE B, 24" CONDUIT, TYPE B, AS PER PLAN, 706.02, WITH NONSHRINK, NONMETALLIC GROUT, 24" CONDUIT, TYPE C, 24" CONDUIT, TYPE F, 707.05 TYPE C, 707.21, 27" CONDUIT, TYPE B, 27" CONDUIT, TYPE C, 27" CONDUIT, TYPE C, 706.02 WITH PREMIUM JOINTS, 30" CONDUIT, TYPE B, 30" CONDUIT, TYPE C, 36" CONDUIT, TYPE B, 36" CONDUIT, TYPE C, 42" CONDUIT, TYPE A, 706.02, 707.02 ALUMINIZED, 707.04, 707.33 WITH WELDED BELL, 48" CONDUIT, TYPE A, 706.02, 707.01 ALUMINIZED, 707.04, 707.33 WITH WELDED BELL, 48" CONDUIT, TYPE C, 54" CONDUIT, TYPE C, 60" CONDUIT, TYPE C, 72" CONDUIT, TYPE B, 72" CONDUIT, TYPE B, 706.02 WITH PREMIUM JOINTS, 706.11, 84" CONDUIT, TYPE B, 34" X 53" CONDUIT, TYPE C, 706.04, 9' X 5' CONDUIT, TYPE A, 706.05, CONDUIT, BORED OR JACKED, 18", TYPE B, CATCH BASIN, NO. 3, AS PER PLAN, CATCH BASIN, NO. 3A, AS PER PLAN, CATCH BASIN, NO. 5A, CATCH BASIN, NO. 8, CATCH BASIN, NO. 8A, INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C, INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D, INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D, AS PER PLAN, MANHOLE, NO. 3, MANHOLE, NO. 3, AS PER PLAN, MANHOLE, NO. 4, PRECAST REINFORCED CONCRETE OUTLET, WATER QUALITY BASIN, DETENTION.

CALCULATED  
TJS  
CHECKED  
CO

GENERAL SUMMARY

FRA -70-22.61

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SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.			
54	42	213	214	215	234	778	785	804	832	01/IMS/PV	02/IMS/BR											
																		PAVEMENT				
												19,571			19,571	254	01000	19,571	SY	PAVEMENT PLANING, ASPHALT CONCRETE, VARIABLE DEPTH		
												19,597			19,597	255	20001	19,597	FT	FULL DEPTH PAVEMENT SAWING, AS PER PLAN	43	
												19,394			19,394	301	46000	19,394	CY	ASPHALT CONCRETE BASE, PG64-22		
												10,204			10,204	302	46000	10,204	CY	ASPHALT CONCRETE BASE, PG64-22.		
												24,614			24,614	304	20000	24,614	CY	AGGREGATE BASE		
												7,225			7,225	305	12010	7,225	SY	8" CONCRETE BASE, CLASS QC 1P		
												24,072			24,072	407	20000	24,072	GAL	NON-TRACKING TACK COAT		
477												477			477	411	10001	477	CY	STABILIZED CRUSHED AGGREGATE, AS PER PLAN	46	
												45			45	441	50400	45	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)		
												60			60	441	50600	60	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)		
												5,715			5,715	442	00100	5,715	CY	ANTI-SEGREGATION EQUIPMENT		
												2,127			2,127	442	10001	2,127	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG76-22M	43	
												5,625			5,625	442	10100	5,625	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)		
												2,173			2,173	442	10301	2,173	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (447), AS PER PLAN	43	
												407			407	442	20000	407	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)		
												407			407	442	20200	407	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)		
												99			99	452	12010	99	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P		
												10,247			10,247	452	13010	10,247	SY	9" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P		
3.25												3.25			3.25	618	40600	3.25	MILE	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)		
												74			74	875	10000	74	LB	LONGITUDINAL JOINT ADHESIVE		
																				WATER WORK		
													86		86	SPECIAL	63820040	86	FT	6" WATER MAIN DIP CLASS 52 MECHANICAL JOINTS AND FITTINGS (COL. 801)		
													17		17	SPECIAL	63820080	17	FT	8" WATER MAIN DIP CLASS 52 MECHANICAL JOINTS AND FITTINGS (COL. 801)		
													2,712		2,712	SPECIAL	63820168	2,712	FT	12" WATER MAIN DIP CLASS 52 MECHANICAL JOINTS AND FITTINGS (COL. 801)		
													398		398	SPECIAL	63820464	398	FT	24" STEEL PIPE ENCASEMENT, BORED OR JACKED (COL. 806)		
													10		10		638	98000	10	EACH	WATER WORK, MISC. 6" WATCH VALVE WITH VALVE BOX (COL. 802)	783
													2		2	SPECIAL	63820554	2	EACH	8" GATE VALVE WITH VALVE BOX (COL. 802)		
													6		6	SPECIAL	63820586	6	EACH	12" GATE VALVE WITH VALVE BOX (COL. 802)		
													10		10	SPECIAL	63820750	10	EACH	6" FIRE HYDRANT (COL. 809)		
													1		1	SPECIAL	63821400	1	EACH	FIRE HYDRANT ADJUSTED TO GRADE (COL. 810)		
													498		498		611	03100	498	FT	10" CONDUIT, TYPE B	
													2		2		611	99574	2	EACH	MANHOLE, NO. 3 (SANITARY)	
													2		2		611	99654	2	EACH	MANHOLE ADJUSTED TO GRADE (SANITARY)	
													406		406	SPECIAL	63820464	406	FT	24" STEEL PIPE ENCASEMENT, BORED OR JACKED (COL. 806)		
													55	15	70		626	00102	70	EACH	BARRIER REFLECTOR, TYPE 1, ONE-WAY	
													55	238	237	71	626	00102	308	EACH	BARRIER REFLECTOR, TYPE 1, BI-DIRECTIONAL	
													9		9		626	00110	9	EACH	BARRIER REFLECTOR, TYPE 2, ONE-WAY	
													29	101	146		626	00110	146	EACH	BARRIER REFLECTOR, TYPE 2, BI-DIRECTIONAL	
														1	1		626	00118	1	EACH	BARRIER REFLECTOR, TYPE 6, BI-DIRECTIONAL	
												79,340	21,400	100,740		SPECIAL	60610210	100,740	SF	NOISE BARRIER (REFLECTIVE)	799 & 831	

CALCULATED TJS  
 CHECKED CO  
**GENERAL SUMMARY**  
**FRA - 70 - 22.61**  
 210  
 1199

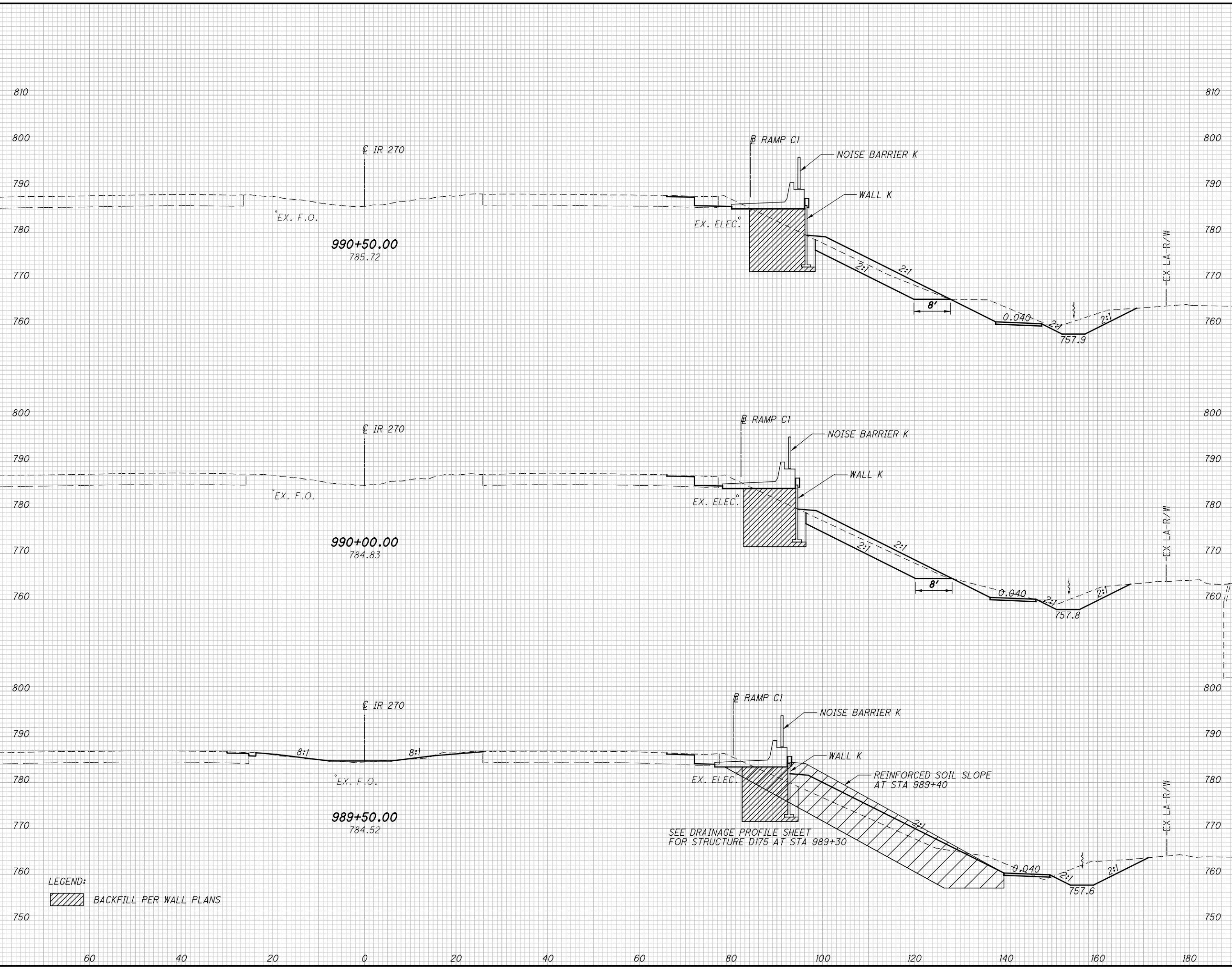






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SEEDING	END AREA		VOLUME		CALCULATED	CHECKED
	CUT	FILL	CUT	FILL		
71		169		102		
395		295		197		
550		149		111		
127		97		99		
689		189		103		
1634		712		495		



END AREA	VOLUME		CALCULATED	CHECKED
	CUT	FILL		
169	102			
295	197			
149	111			
97	99			
189	103		369	
712	495		1199	

**CROSS SECTIONS IR-270**  
**STA. 989+50.00 TO STA. 990+50.00**

**FRA-70-22.61**

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SEEDING	END AREA		VOLUME		CALCULATED	CHECKED
	CUT	FILL	CUT	FILL		
65	143	81	259	151		
67	137	83	270	164		
68	154	94	299	182		
367			828	497		
375						
386						
1128						

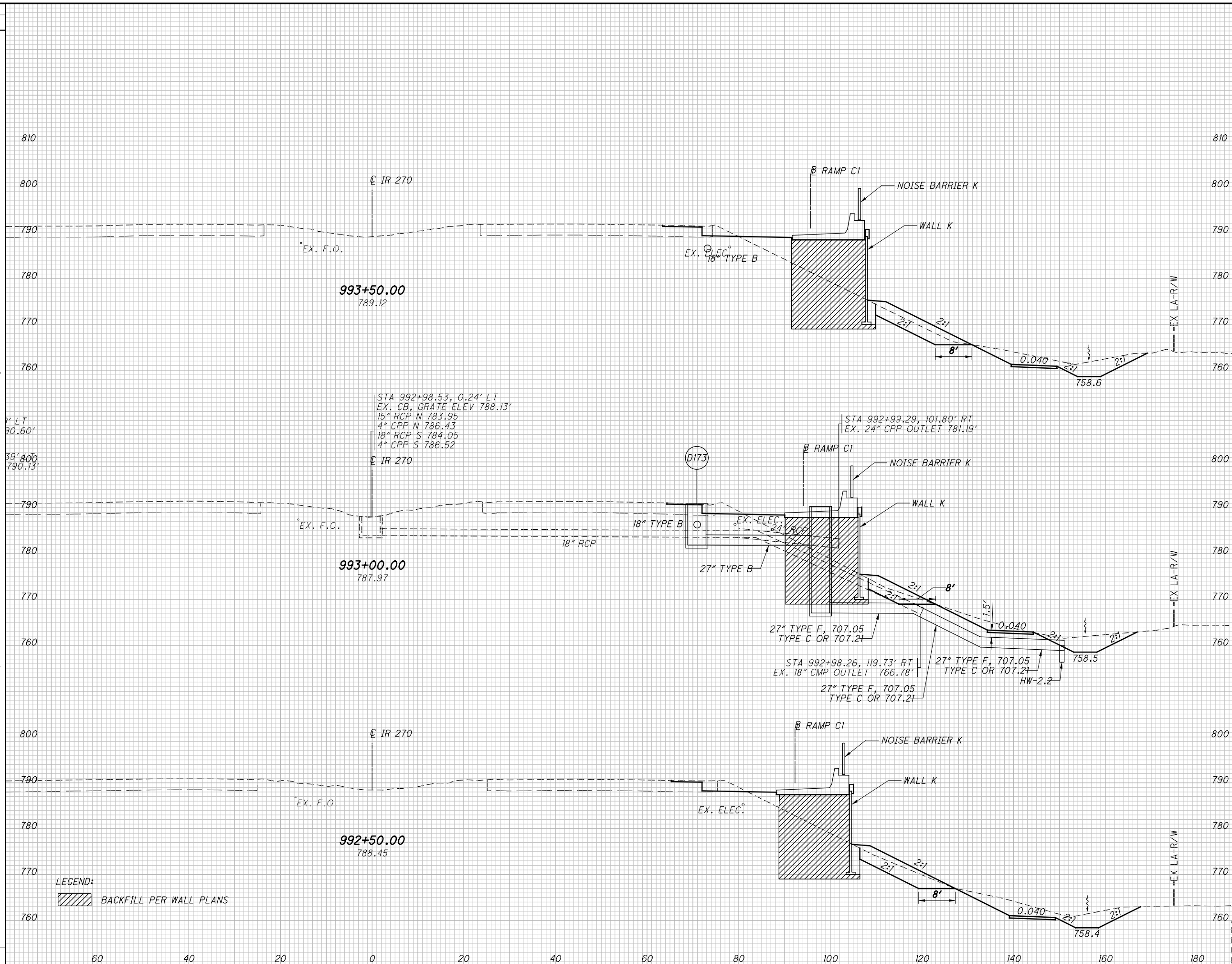


**CROSS SECTIONS IR-270**  
**STA. 991+00.00 TO STA. 992+00.00**

**FRA-70-22.61**

370  
1199

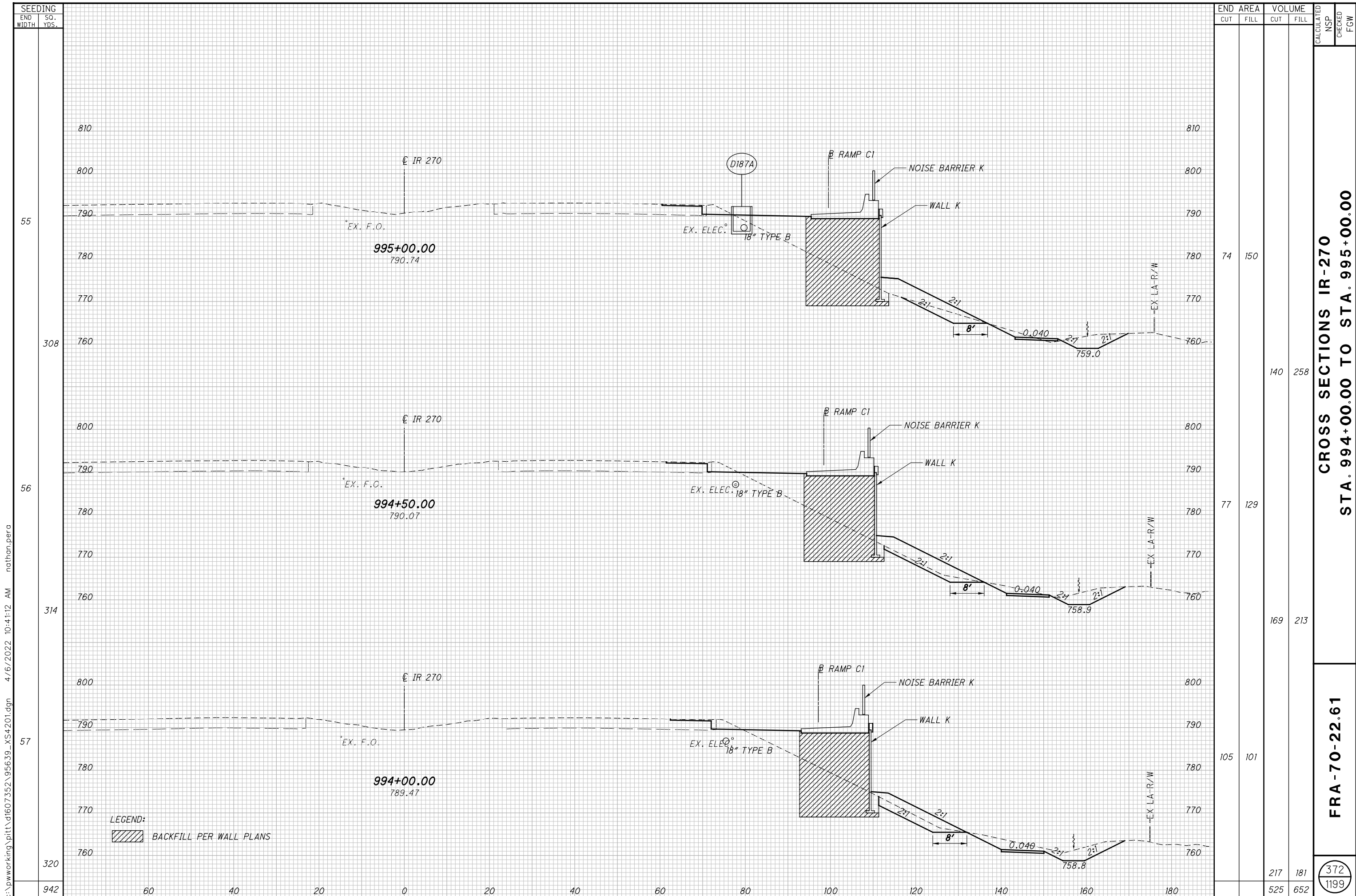
SEEDING  
END SO.  
WIDTH YDS.  
60  
60  
58  
322  
58  
328  
60  
347  
997



END AREA		VOLUME	
CUT	FILL	CUT	FILL
129	94	216	143
104	60	224	129
138	79	260	148
		700	420

CALCULATED NSP CHECKED FGW  
**CROSS SECTIONS IR-270**  
**STA. 992+50.00 TO STA. 993+50.00**  
**FRA -70-22.61**  
371  
1199

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SEEDING	
END WIDTH	SO. YDS.
55	
308	
56	
314	
57	
320	
942	

END AREA		VOLUME		CALCULATED NSP	CHECKED FGW
CUT	FILL	CUT	FILL		
74	150	140	258		
77	129	169	213		
105	101	217	181		
		525	652	372	1199

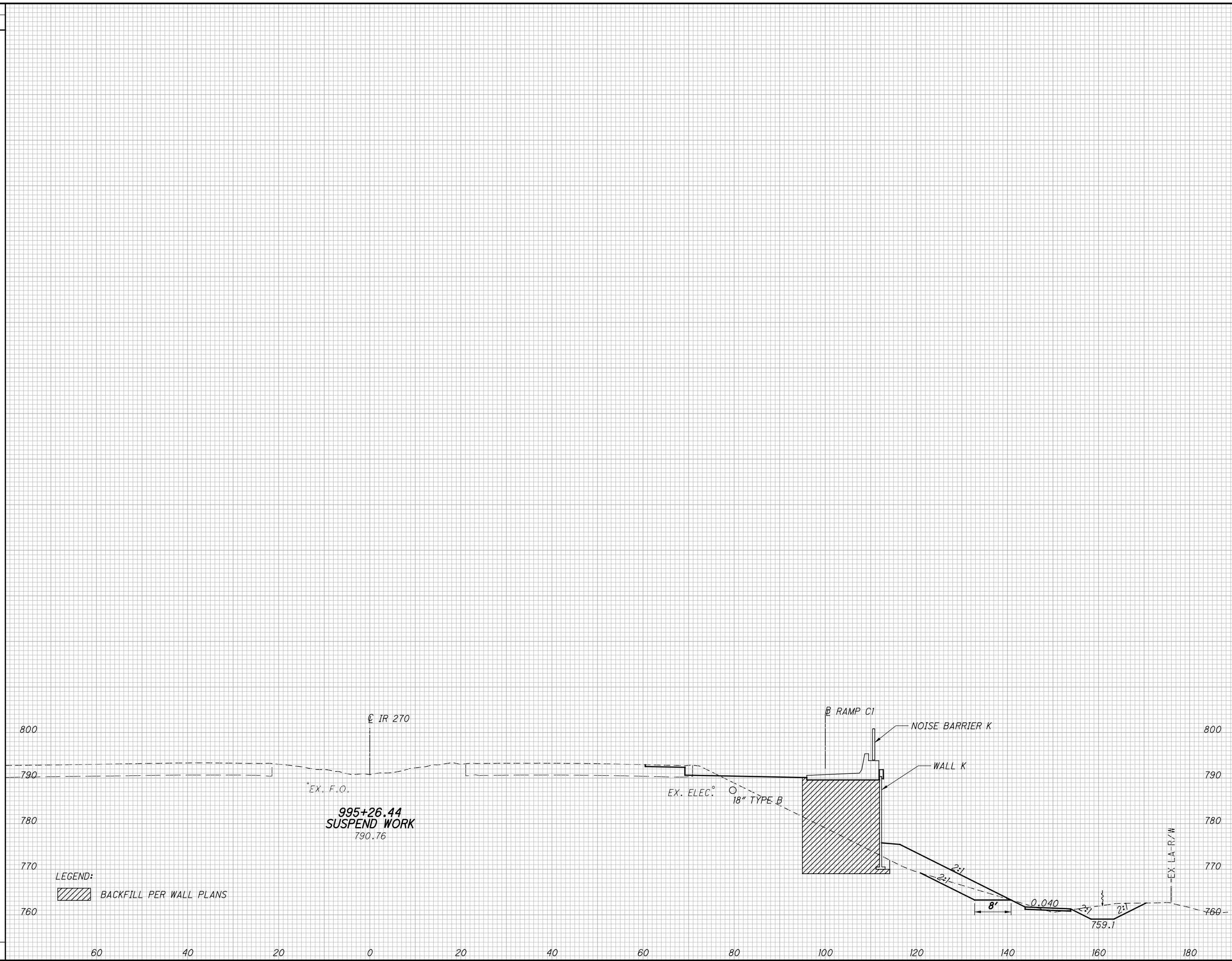
**CROSS SECTIONS IR-270  
 STA. 994+00.00 TO STA. 995+00.00**

**FRA-70-22.61**

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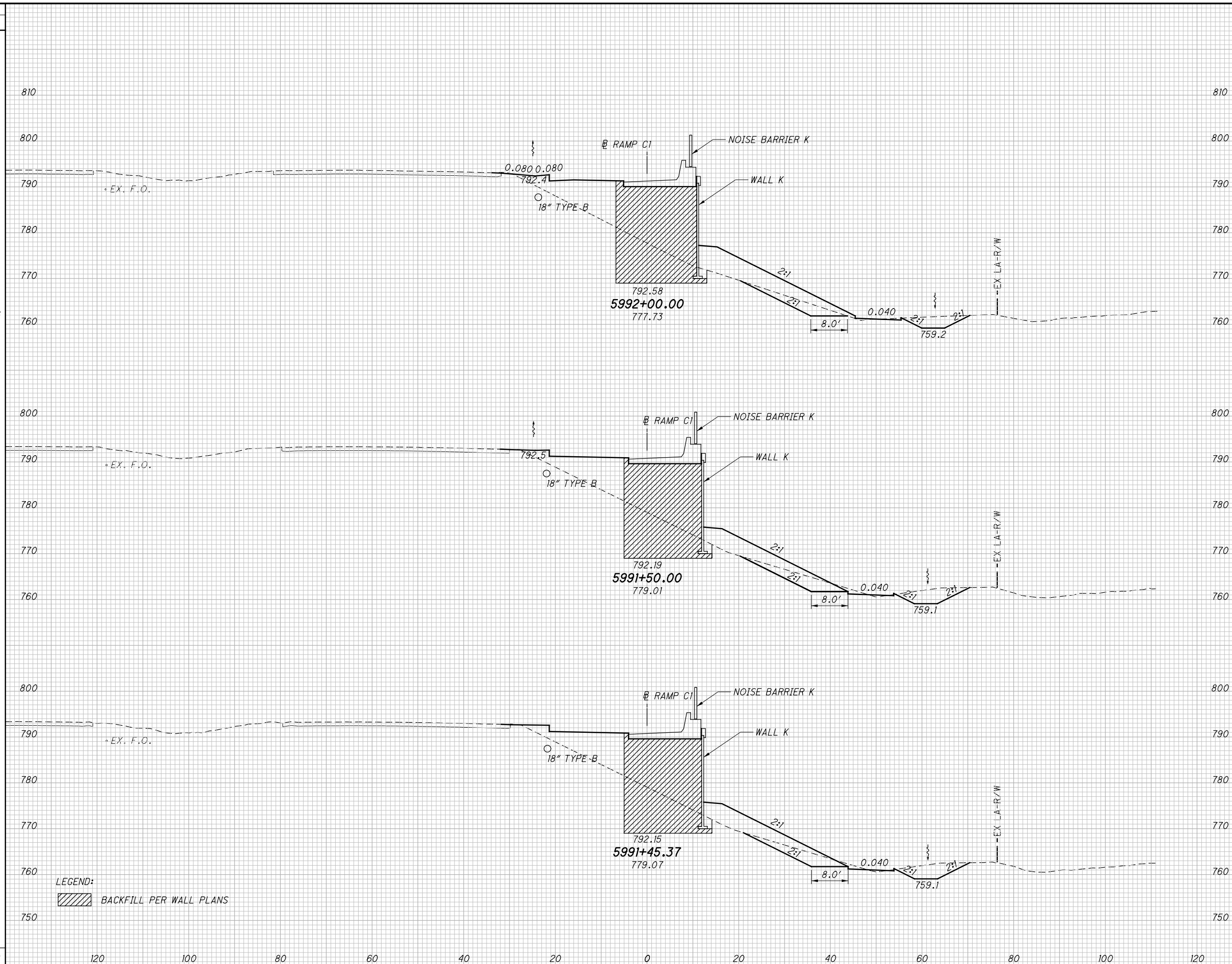
SEEDING	
END WIDTH	SO. YDS.
162	
162	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
74	171	70	157
70	157	70	157

CALCULATED	
NSP	CHECKED
<b>CROSS SECTIONS IR-270</b>	
<b>STA. 995+50.00 TO STA. 995+26.44</b>	
<b>FRA-70-22.61</b>	
373	1199

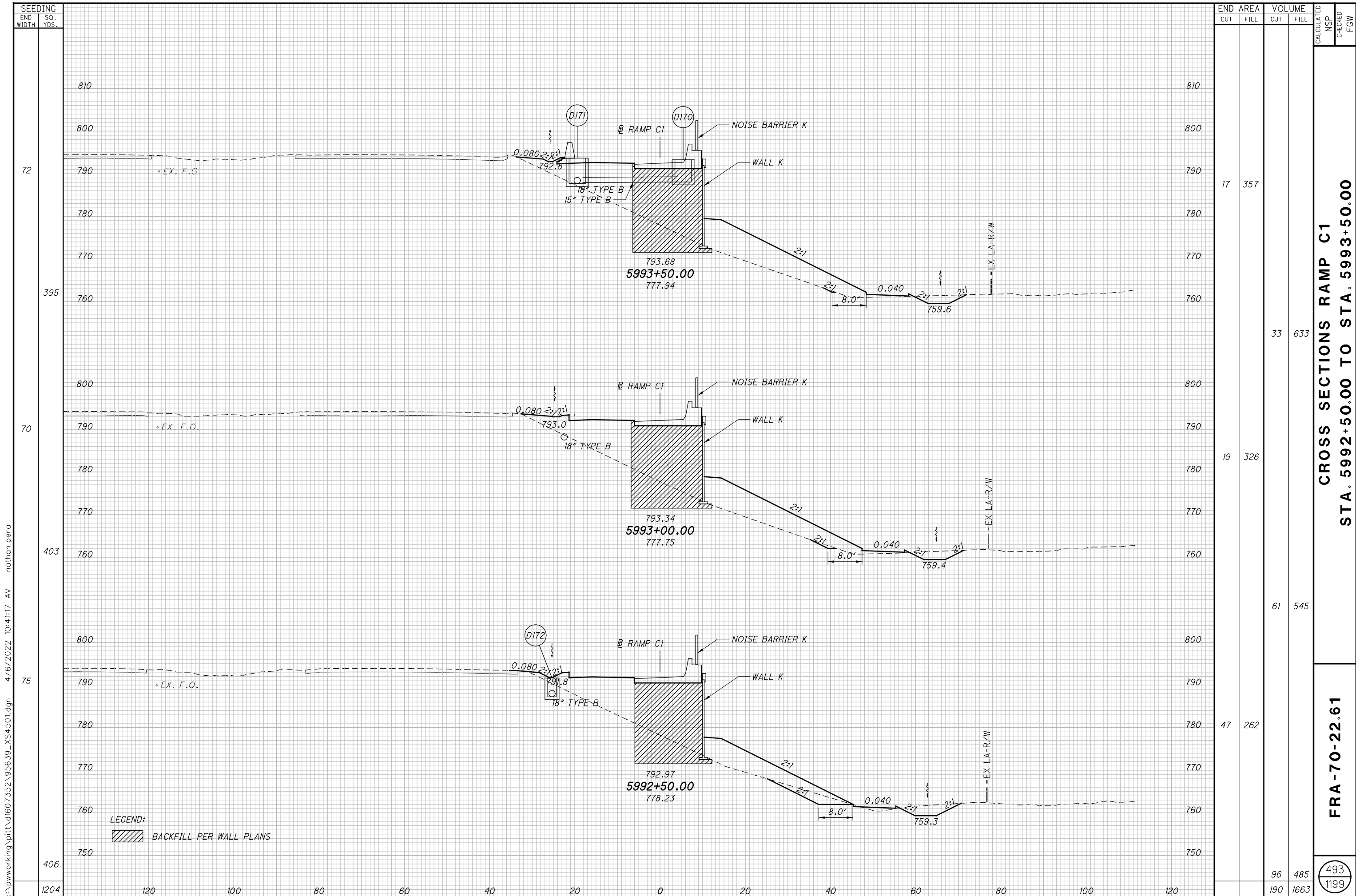
SEEDING  
END WIDTH SO. YDS.  
420 120 100 80 60 40 20 0 20 40 60 80 100 120



END AREA	VOLUME		CALCULATED NSP	CHECKED FGW
	CUT	FILL		
57	262			
75	206	122	433	
71	205	13	35	
	135	468		

**CROSS SECTIONS RAMP C1**  
**STA. 5991+45.37 TO STA. 5992+00.00**  
**FRA-70-22.61**  
 492  
 1199

c:\pwworking\pitt\df607352\95639\_XS4501.dgn 4/6/2022 10:41:16 AM nathan.pera



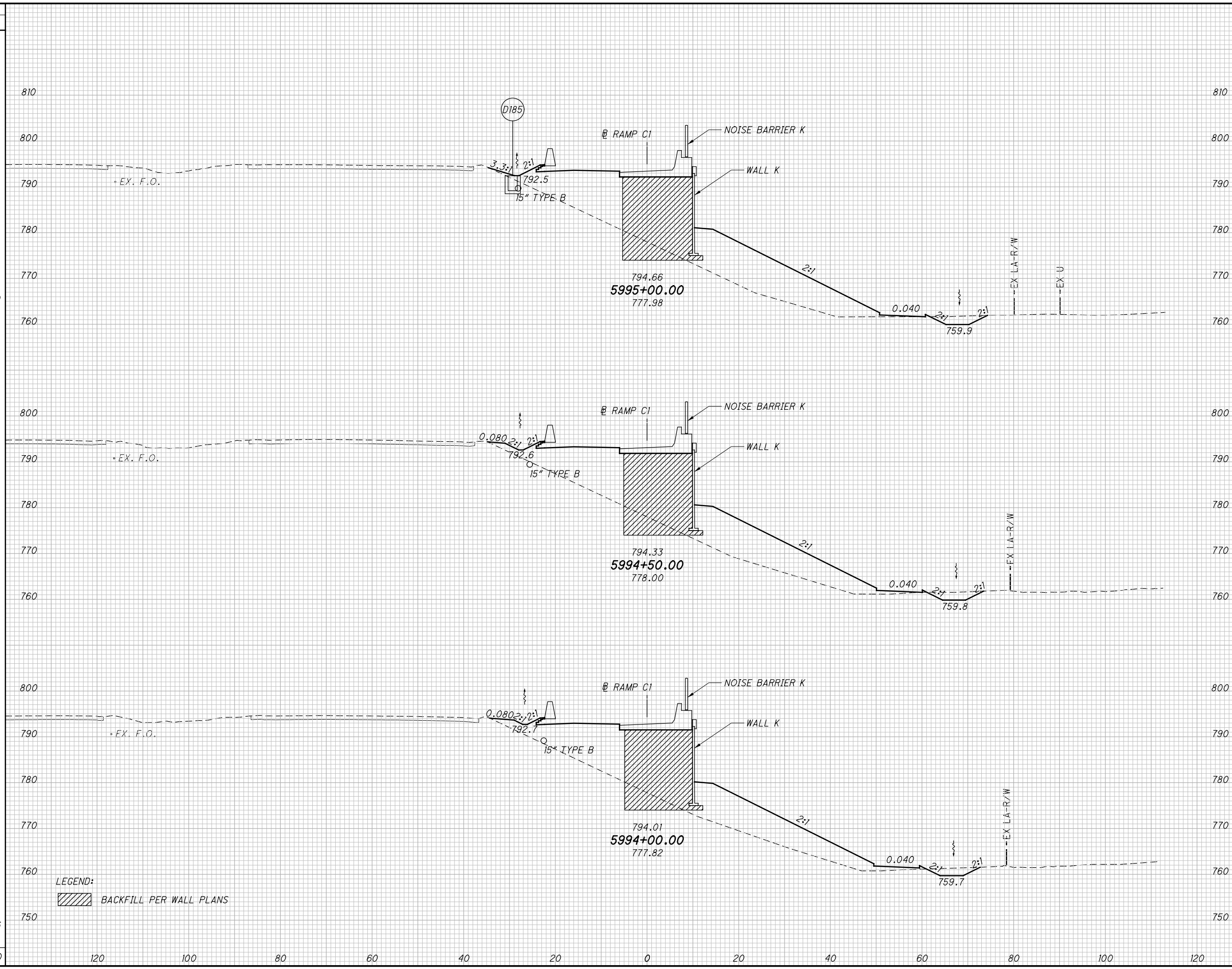
**CROSS SECTIONS RAMP C1**  
**STA. 5992+50.00 TO STA. 5993+50.00**

**FRA-70-22.61**

493  
1199

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SEEDING  
 END SO.  
 WIDTH YDS.  
 76  
 420  
 75  
 414  
 74  
 406  
 1240



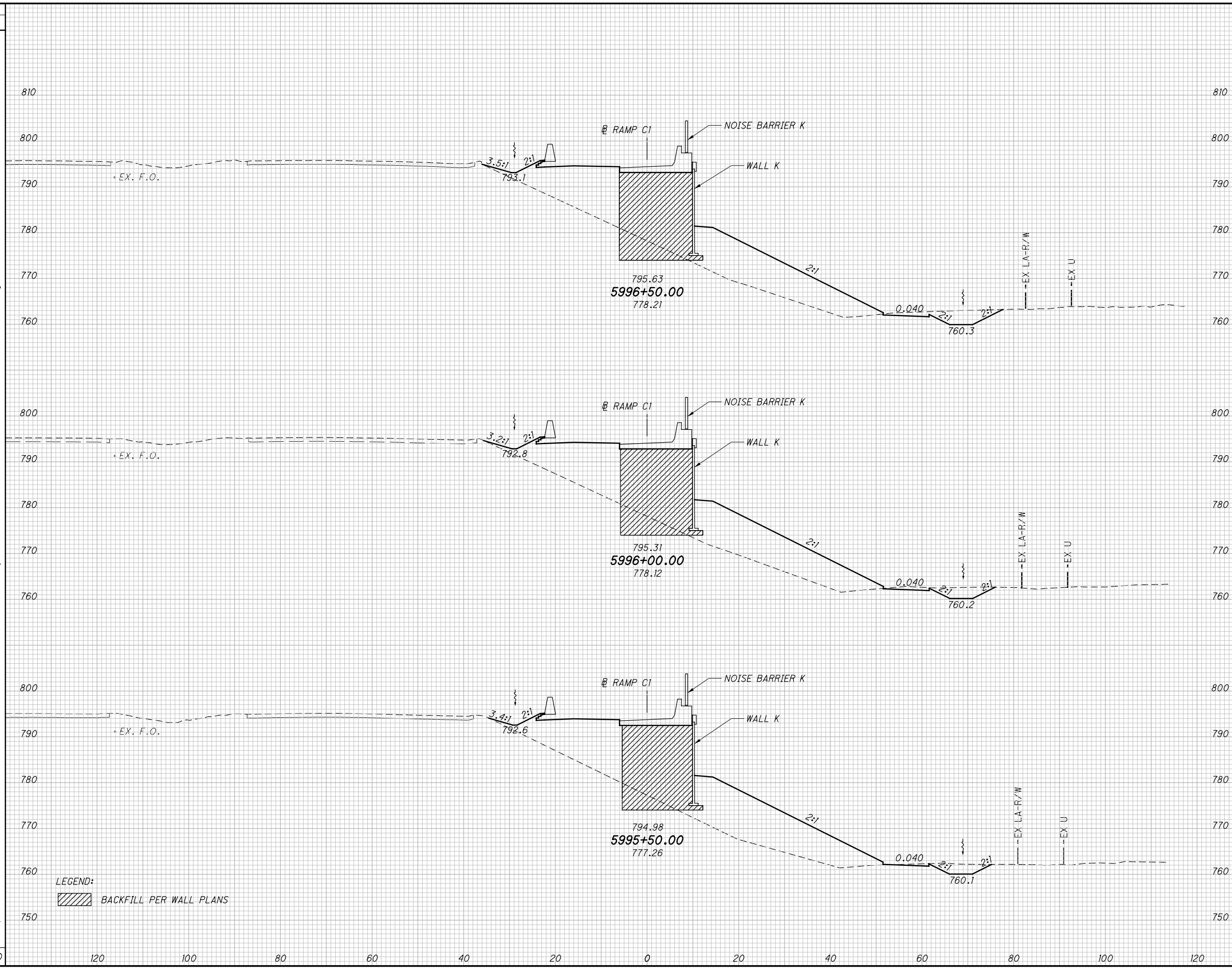
END AREA	VOLUME	CALCULATED	
		CUT	FILL
16	467		
29	830		
15	429		
27	769		
14	401		
29	702		
85	2301		

CHECKED  
 NSP  
 FGW  
**CROSS SECTIONS RAMP C1**  
**STA. 5994+00.00 TO STA. 5995+00.00**  
**FRA-70-22.61**  
 494  
 1199

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SEEDING  
 END SO.  
 WIDTH YDS.  
 1300  
 425  
 77  
 433  
 80  
 81  
 442

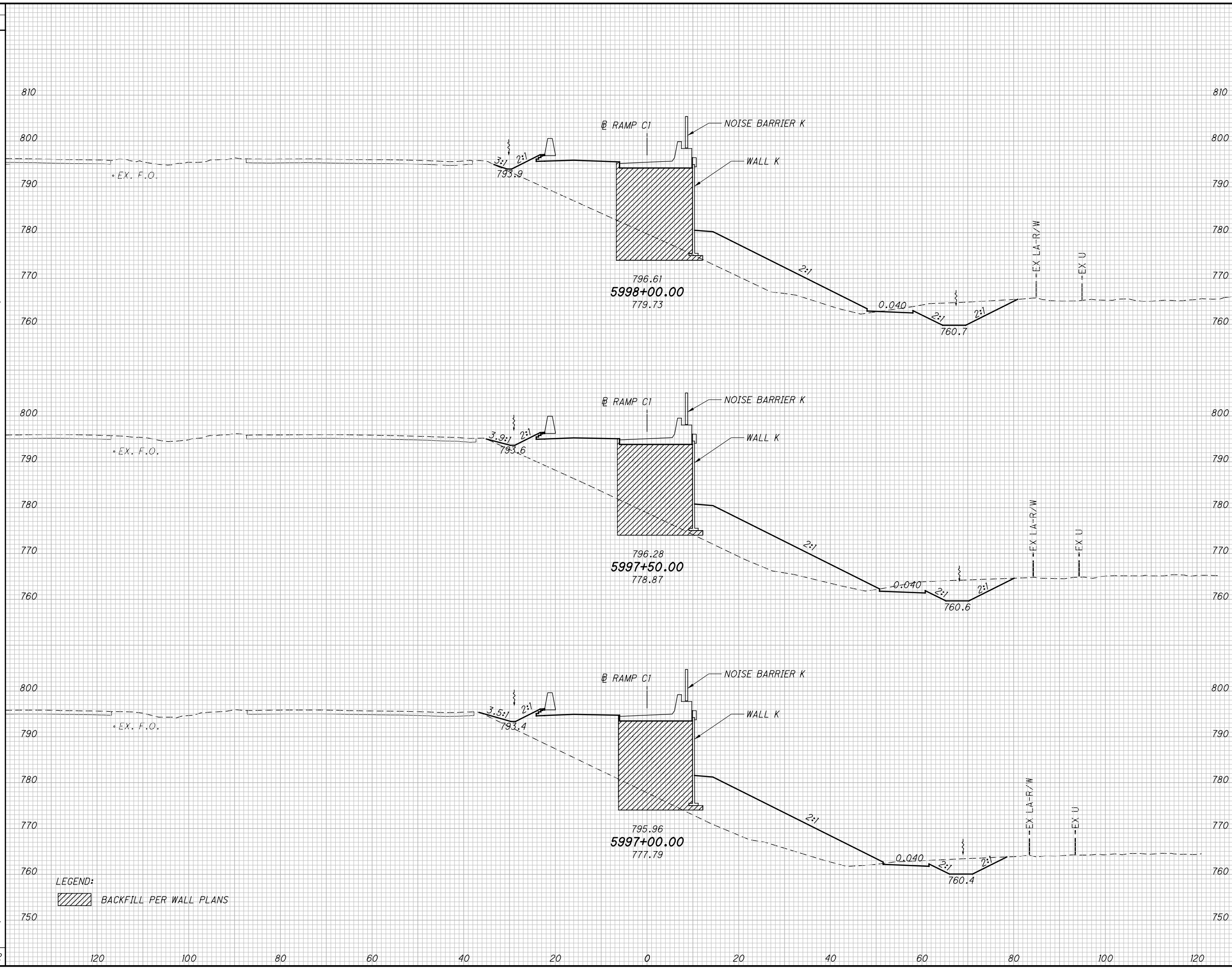


END	AREA		VOLUME		CALCULATED	CHECKED
	CUT	FILL	CUT	FILL		
810						
800						
790						
780	41	478				
770						
760						
750						
442			65	891		
800						
790						
780	29	484				
770						
760						
750						
433			48	938		
800						
790						
780						
770						
760						
750						
77						
800						
790						
780						
770						
760						
750						
425			23	529		
1300			36	922	495	1199
120			149	2751		

**CROSS SECTIONS RAMP C1**  
**STA. 5995+50.00 TO STA. 5996+50.00**  
**FRA-70-22.61**

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SEEDING  
END WIDTH SO. YDS.  
82  
458  
82  
461  
82  
453  
1372



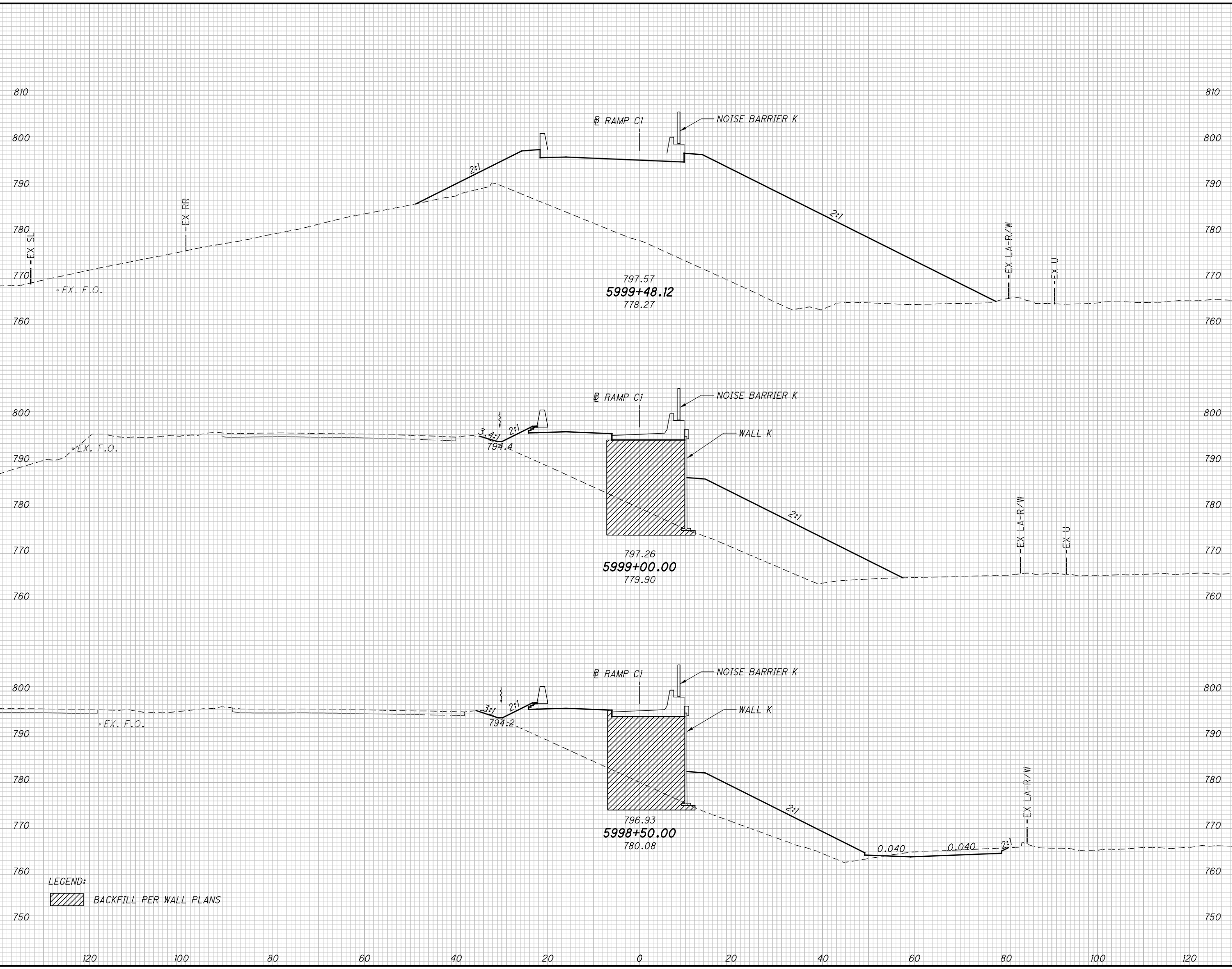
END AREA	VOLUME	CALCULATED	
		CUT	FILL
78	360		
75	413		
47	503		
81	908	81	908
142	716	336	2472

CROSS SECTIONS RAMP C1  
 STA. 5997+00.00 TO STA. 5998+00.00  
 FRA-70-22.61  
 496  
 1199

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SEEDING	
END WIDTH	SO. YDS.
109	537
92	431
63	403
1371	

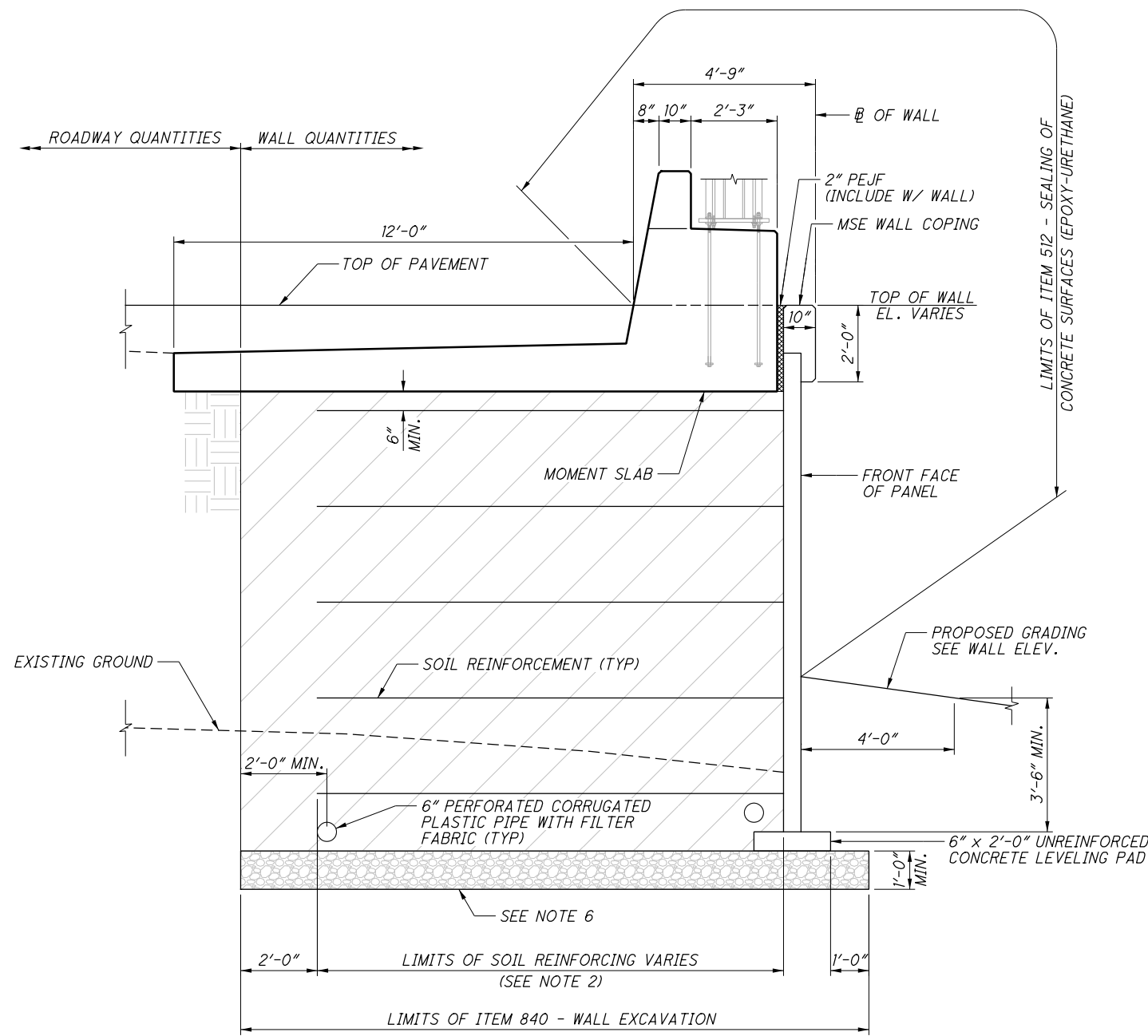


END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	1708	0	2146
0	700	24	1040
26	423	96	725
		120	3911

**CROSS SECTIONS RAMP C1**  
**STA. 5998+50.00 TO STA. 5999+48.12**

**FRA-70-22.61**

CALCULATED	497
CHECKED	1199

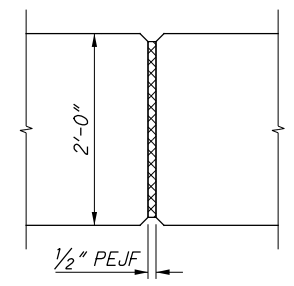


**TYPICAL SECTION**  
 MSE PORTION OF THE WALL

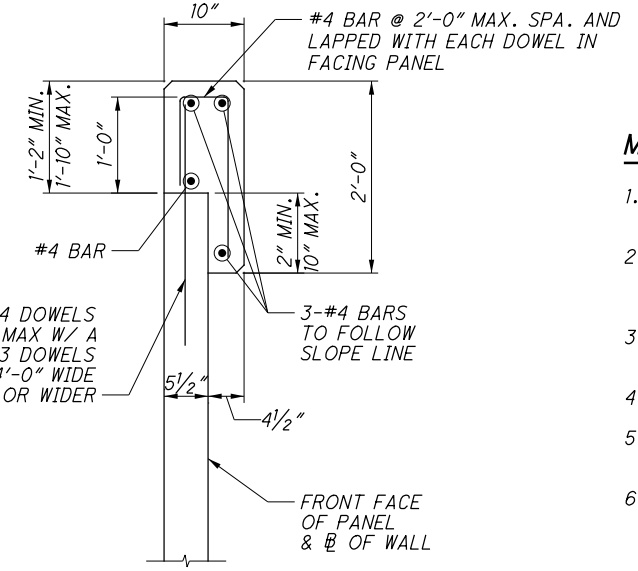
**LEGEND:**

- ITEM 203, EMBANKMENT
- SELECT GRANULAR BACKFILL PER SUPPLEMENTAL SPECIFICATION 840
- ITEM 203, GRANULAR MATERIAL TYPE C

\* - GFRP BARS PER SBR-1-13 STD. DWG. TO BE USED AT PARAPET JOINTS 1/2" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT.



**COPING EXPANSION JOINT**



**MSE WALL COPING**

**MSE WALL NOTES:**

1. FLOW LINE OF 6" φ PERFORATED PLASTIC PIPE WILL VARY TO PROVIDE POSITIVE DRAINAGE AT OUTLET. MINIMUM SLOPE OF PIPE SHALL BE 1/8" PER FOOT.
2. SOIL REINFORCEMENT LENGTH TO BE DETERMINED BY WALL SUPPLIER ON THE APPROVED WALL SYSTEM, BUT SHALL NOT BE LESS THAN 0.7H WHERE H IS THE DESIGN HEIGHT OF THE WALL OR 8'-0", WHICHEVER IS GREATER.
3. THE MAXIMUM DESIGN HEIGHT OF THE TURNBACK PORTION OF MSE WALLS IS AS SHOWN IN THE PLANS, FINAL HEIGHT TO BE DETERMINED BY WALL SUPPLIER.
4. THE THICKNESS OF MSE WALL PANELS IS ASSUMED AT 5 1/2".
5. COPING EXPANSION JOINTS SHALL BE SPACED NO MORE THAN 20 FEET APART AND ALIGNED WITH JOINTS BETWEEN FALLING PANELS.
6. COMPACT EXPOSED BEARING SURFACE WITH VIBRATORY EQUIPMENT TO THE REQUIREMENTS OF CMS 204 AND SS 840.

WALL K					REF. SHEET
ITEM	EXT.	TOTAL	UNIT	DESCRIPTION	
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING	
509	10000	288,455	LB	EPOXY COATED REINFORCING STEEL	
511	53010	2,341	CY	CLASS QC1 CONCRETE, MISC.: MOMENT SLAB AND PARAPET	8/9
512	10100	4,403	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
516	13200	112	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13600	674	SF	1" PREFORMED EXPANSION JOINT FILLER	
516	13900	4,126	SF	2" PREFORMED EXPANSION JOINT FILLER	
840	20000	25,861	SF	MECHANICALLY STABILIZED EARTH WALL	
840	21000	5,643	CY	WALL EXCAVATION	
840	22000	2,701	SY	FOUNDATION PREPARATION	
840	23000	14,559	CY	SELECT GRANULAR BACKFILL	
840	25010	2,704	FT	6" DRAINAGE PIPE, PERFORATED	
840	26000	1,352	FT	CONCRETE COPING	
840	27000	5	DAY	ON-SITE ASSISTANCE	
840	28000	LS	LS	SGB INSPECTION AND COMPACTION TESTING	

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CALCULATED BY: THS DATE: 8/13/20  
 CHECKED BY: KRH DATE: 8/13/20

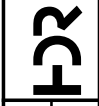
SFN: 2511300

ESTIMATED QUANTITIES

PARTICIPATION			ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.	REF.
01/IMS/PV	02/IMS/BR	03/IMS/BR										
	LUMP		503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP	
	LUMP		503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
	LUMP		505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
	1600		507	00200	1600	FT	STEEL PILES HP12X53, FURNISHED	1600				
	1440		507	00250	1440	FT	STEEL PILES HP12X53, DRIVEN	1440				
	1200		507	00300	1200	FT	STEEL PILES HP14X73, FURNISHED		1200			
	940		507	00350	940	FT	STEEL PILES HP14X73, DRIVEN		940			
	1681231		509	10001	1681231	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	27056	649610	1004565		20-23, 81, 89 AND 107 / 113
	2383		511	34447	2383	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			2383		9 / 113
	500		511	34450	500	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			500		
	120		511	41012	120	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		120			
	180		511	44112	180	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	180				
	2686		511	45602	2686	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA		2686			
	114		511	46512	114	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	114				
	5791		512	10100	5791	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	292	1947	3552		
	34		512	33000	34	SY	TYPE 2 WATERPROOFING	34				
	5496000		513	10301	5496000	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5, AS PER PLAN			5496000		53 / 113
	17880		513	20000	17880	EACH	WELDED STUD SHEAR CONNECTORS			17880		
	3136		514	00060	3136	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			3136		9 / 113
	3136		514	00066	3136	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			3136		9 / 113
	97		516	10010	97	FT	ARMORLESS PREFORMED JOINT SEAL				97	
	100		SPECIAL	51612400	100	FT	SPECIAL - MODULAR EXPANSION JOINT			100		10 AND 93 / 113
	17		516	13600	17	SF	1" PREFORMED EXPANSION JOINT FILLER				17	
	2		518	12301	2	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN			2		90 / 113
	95		518	21200	95	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	95				
	100		518	40000	100	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	100				
	2		523	20000	2	EACH	DYNAMIC LOAD TESTING	1	1			
	517		524	94935	517	FT	DRILLED SHAFTS, 66" DIAMETER, INTO BEDROCK, AS PER PLAN		517			9 / 113
	691		524	94946	691	FT	DRILLED SHAFTS, 72" DIAMETER, ABOVE BEDROCK		691			
	122		524	94947	122	FT	DRILLED SHAFTS, 72" DIAMETER, ABOVE BEDROCK, AS PER PLAN		122			9 / 113
	326		526	30011	326	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				326	103 AND 104 / 113
	97		526	90030	97	FT	TYPE C INSTALLATION				97	
	45		869	00101	45	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS, AS PER PLAN			45		74 / 113
	19		894	10000	19	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST		19			9 / 113

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DESIGN AGENCY  
 HRS ENGINEERING, INC.  
 2802 CORPORATE EXCHANGE DR.,  
 SUITE 100  
 COLUMBUS, OHIO 43231  
 614-833-5770



DATE: 8/13/20  
 REVIEWED BY: BTA  
 STRUCTURE FILE NUMBER: 2511300

DRAWN BY: THS  
 CHECKED BY: KRH

DESIGNED BY: THS  
 CHECKED BY: KRH

ESTIMATED QUANTITY TABLE  
 BRIDGE NO. FRA-270-4262  
 RAMP A2 OVER IR 270, IR 70 AND RAMP D2

FRA-70-22.61  
 PID No. 95639

11 / 113





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PARTICIPATION			ITEM ODOT	EXT.	TOTAL	UNIT	DESCRIPTION	QUANTITIES		CALC BY:	ERM	7/28/2020		
01/IMS/PV	02/IMS/BR	03/IMS/BR						FRA-270-4318C				CHECK BY:	GAD	7/29/2020
								ABUTMENTS		PIERS	SUPER.	GENERAL	REF. SHEET	
		REAR	FWD.											
	LS		503	11101	LS	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN							
	555		503	21100	555	CY	UNCLASSIFIED EXCAVATION	206	215	134		LS	3/32	
	LS		505	11100	LS	LS	PILE DRIVING EQUIPMENT MOBILIZATION					LS		
	720		507	00500	720	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	360	360					
	800		507	00550	800	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	400	400					
	1,200		507	00700	1,200	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN			1200				
	1,300		507	00750	1,300	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED			1300				
	76		507	92200	76	FT	PREBORED HOLES	17	59					
	93,083		509	10000	93,083	LB	EPOXY COATED REINFORCING STEEL	4038	4181	24392	60472			
	187		511	34446	187	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK				187			
	56		511	34450	56	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK (PARAPET)				56			
	120		511	41012	120	CY	CLASS QC1 CONCRETE WITH QC/OA, PIER ABOVE FOOTINGS			120				
	80		511	43512	80	CY	CLASS QC1 CONCRETE WITH QC/OA, ABUTMENT INCLUDING FOOTING	39	41					
	43		511	46512	43	CY	CLASS QC1 CONCRETE WITH QC/OA, FOOTING			43				
	757		512	10100	757	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	37	39	297	384			
	129,212		513	10240	129,212	LB	STRUCTURAL STEEL MEMBERS, LEVEL 2				129212			
	1,664		513	20000	1,664	EACH	WELDED STUD SHEAR CONNECTORS				1664			
	1,118		514	00060	1,118	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT				1118			
	1,118		514	00066	1,118	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT				1118			
	1		514	10000	1	EACH	FINAL INSPECTION REPAIR				1			
	74		516	13200	74	SF	1/2" PREFORMED EXPANSION JOINT FILLER	36	38					
	121		516	13600	121	SF	1" PREFORMED EXPANSION JOINT FILLER	60	61					
	6		516	13900	6	SF	2" PREFORMED EXPANSION JOINT FILLER	3	3					
	90		516	14014	90	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL	44	46					
	8		516	44201	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (11" x 11" x 2.0" WITH 12" x 12" x 1.5" PLATE)	4	4				14/32	
	8		516	44200	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (15" x 15" x 2.5" WITH 16" x 16" x 1.5" PLATE)			8				
	63		518	21200	63	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	31	32					
	115		518	40000	115	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	56	59					
	12		518	40010	12	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	6	6					
	2		523	20000	2	EACH	DYNAMIC LOAD TESTING	1		1				
	196		526	30001	196	SY	REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN				196	26/32	27/32	
	61		526	90010	61	FT	TYPE A INSTALLATION				61			
	537		601	20000	537	SY	CRUSHED AGGREGATE SLOPE PROTECTION	253	284					
	26		846	00110	26	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM				26			

DESIGN AGENCY: AECOM  
 AGRON CLEVELAND COLUMBUS  
 271 WEST NATIONWIDE BOULEVARD  
 OHIO 43126-2586  
 (614) 464-4600

DATE: 10/20  
 REVIEWED: JTH  
 STRUCTURE FILE NUMBER: 2511304

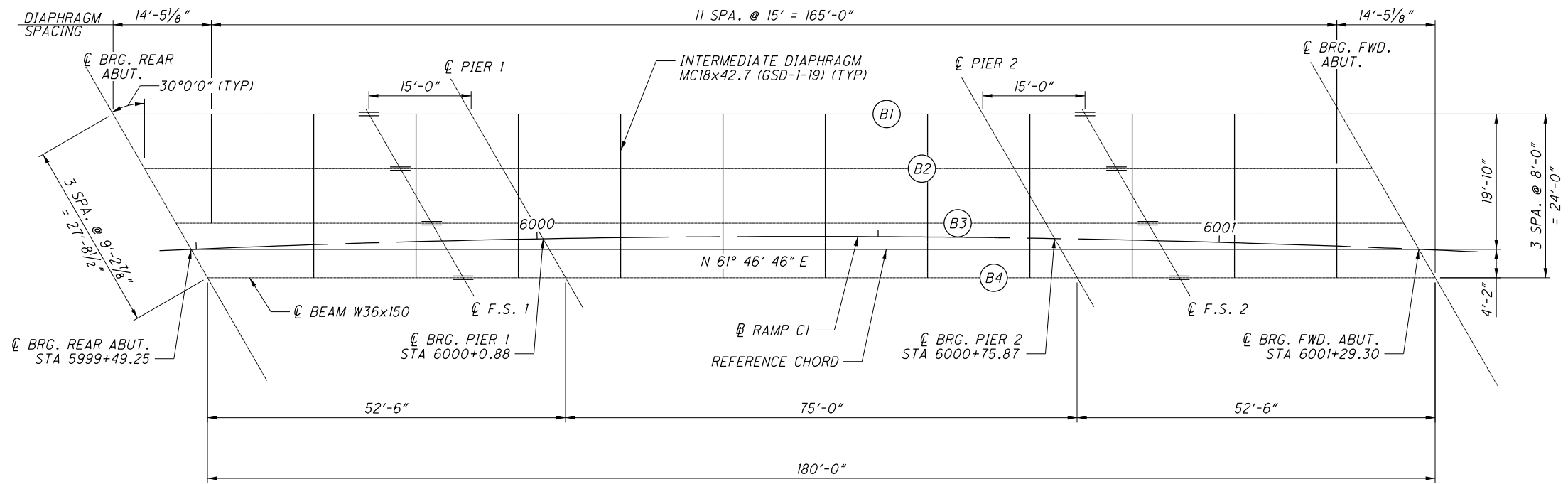
DESIGNED: ERM  
 CHECKED: GAD

DRAWN: ERM  
 REVISIONS: REVISED

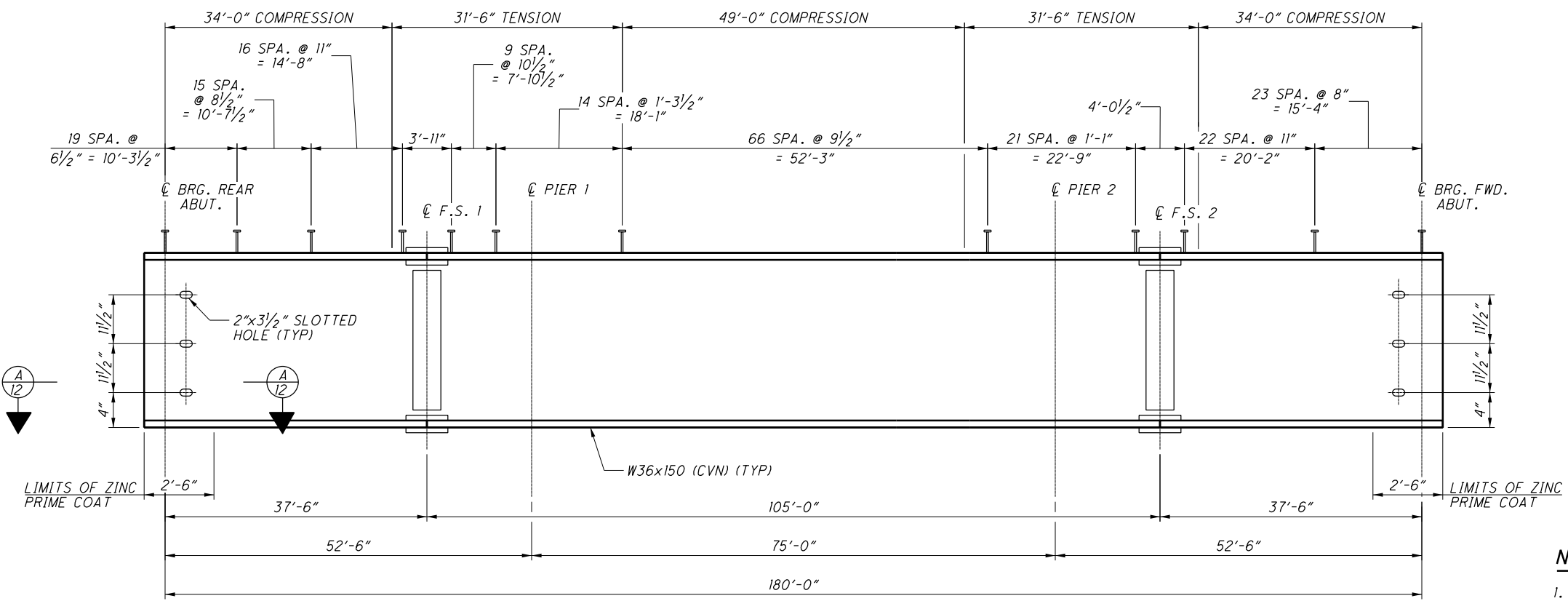
ESTIMATED QUANTITIES  
 BRIDGE NO. FRA-270-4318C  
 RAMP C1 OVER NORFOLK SOUTHERN RR

FRA-70-22.61  
 PID No. 95639

4/32  
 1109  
 1199



**FRAMING PLAN**



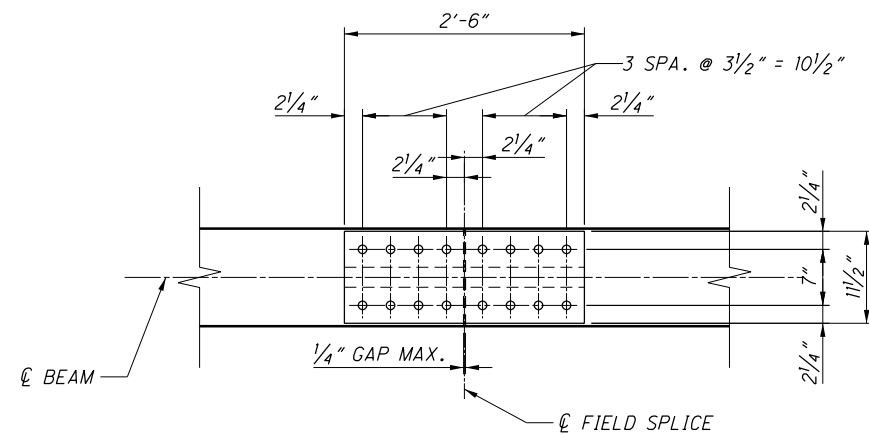
**BEAM ELEVATION**

**NOTES:**

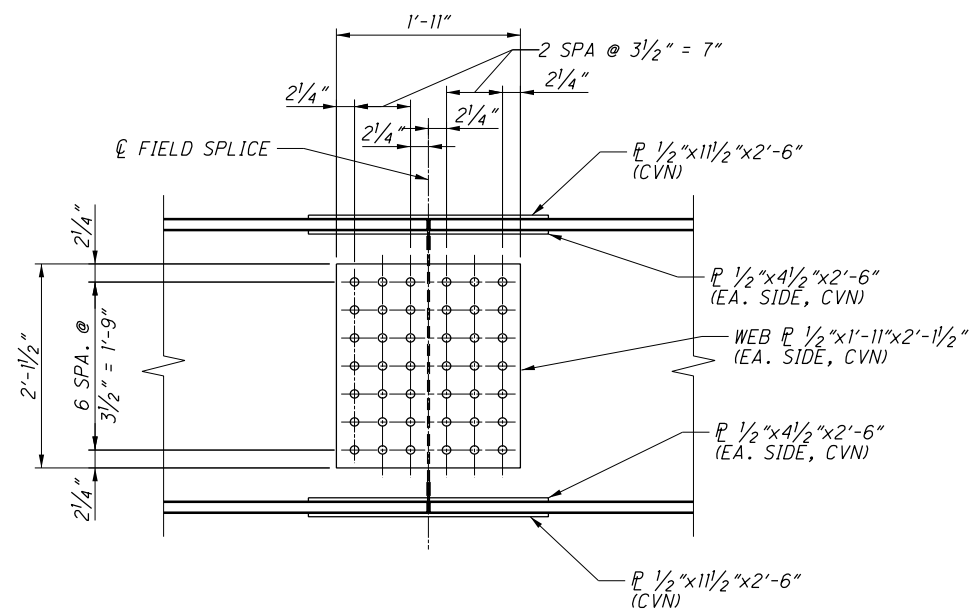
- 1. BEAM MEASUREMENTS, TO BE TAKEN ALONG REFERENCE CHORD
- 2. FOR ADDITIONAL DETAILS, SEE SHEET 12/32.

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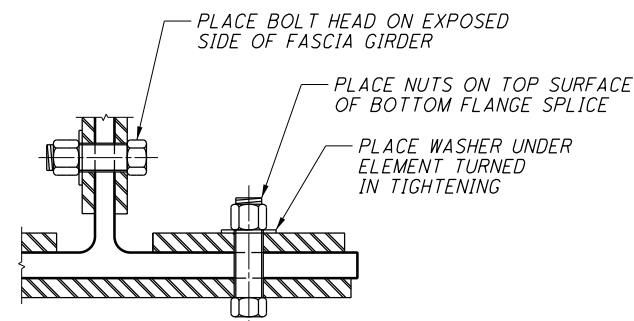




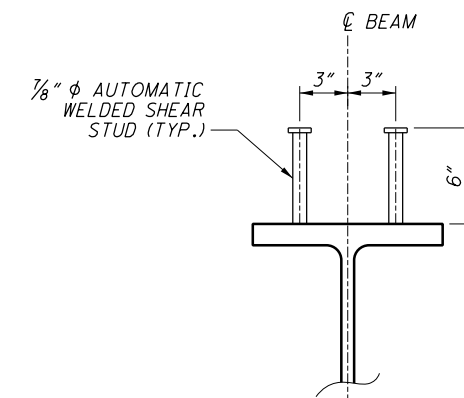
**FLANGE SPLICE**  
FIELD SPLICE 1 AND FIELD SPLICE 2



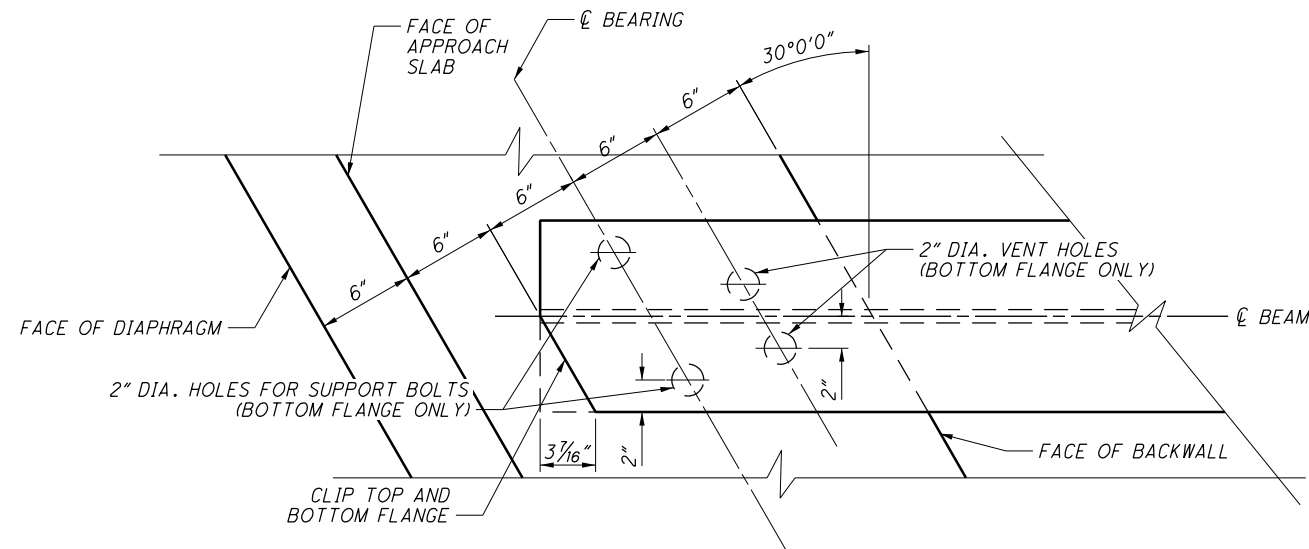
**WEB SPLICE**  
FIELD SPLICE 1 AND FIELD SPLICE 2



**BOLT ORIENTATION DETAIL**



**STUD SHEAR CONNECTOR DETAIL**



**SECTION 11**  
(TYPICAL AT EACH ABUT)

**NOTES:**

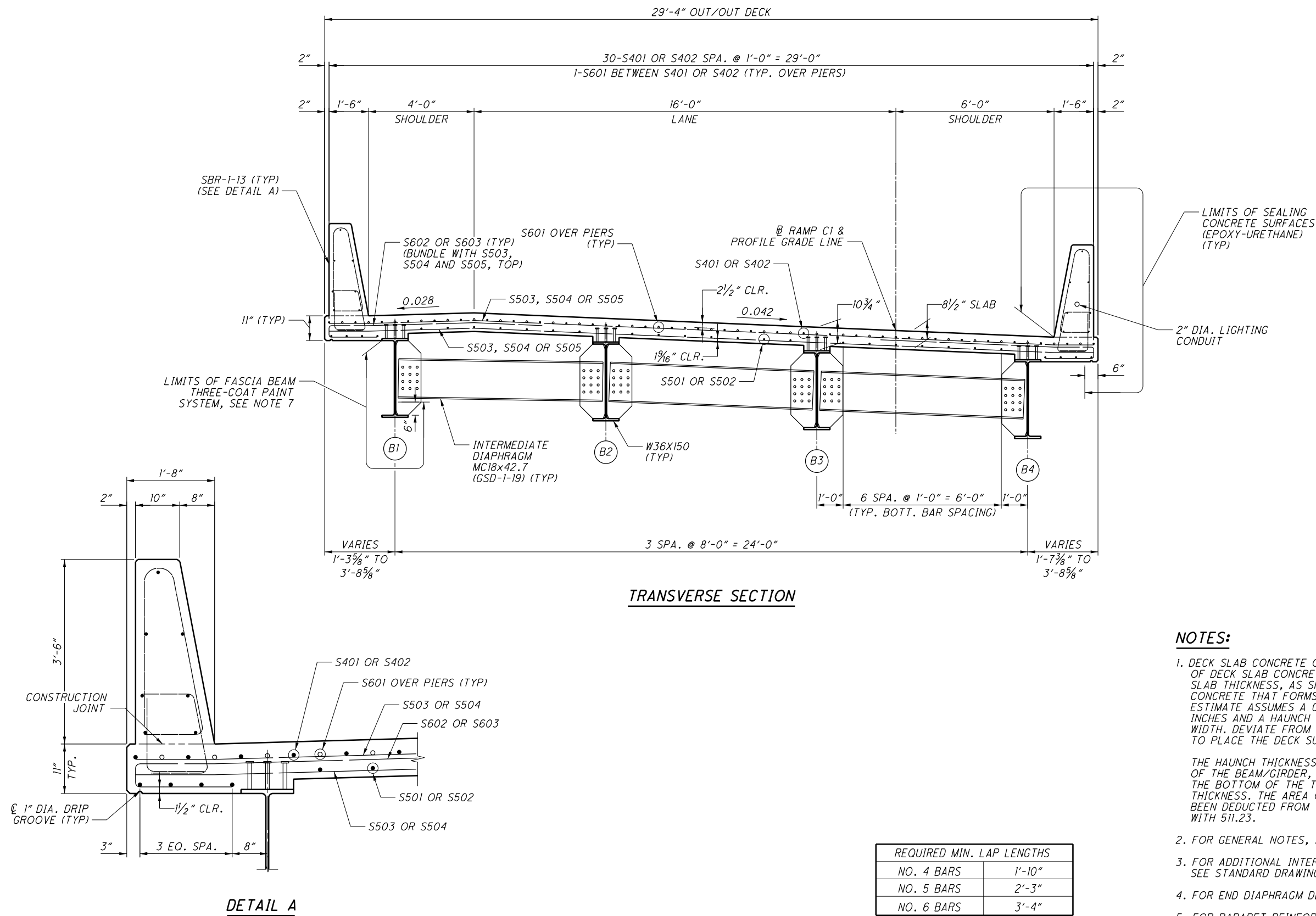
1. ALL BOLTS IN FIELD SPLICES SHALL BE 1" DIAMETER HIGH STRENGTH BOLTS PER ASTM A325 TYPE 1. ALL BOLT HOLES SHALL BE 1/16" DIAMETER.
2. FIELD SPLICE BOLTS FOR BEAM 1 SHALL BE GALVANIZED.
3. ALL SPLICE PLATES SHALL BE ASTM A709 GRADE 50W.
4. ALL SPLICE PLATES, EXCLUDING FILL PLATES, SHALL BE DESIGNATED (CVN). THE MATERIAL SHALL MEET THE SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.
5. THE OPENING BETWEEN GIRDER ENDS AFTER ASSEMBLY SHALL NOT EXCEED 1/4".
6. FOR LOCATIONS OF FIELD SPLICES, SEE FRAMING PLAN SHEET 11/32.
7. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.

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DESIGNED	TLN	CHECKED	ERM
DRAWN	ERM	REVISED	
REVIEWED	JTH	STRUCTURE FILE NUMBER	2511304
DATE	10/20		

**BEAM DETAILS**  
BRIDGE NO. FRA-270-4318C  
RAMP C1 OVER NORFOLK SOUTHERN RR

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**TRANSVERSE SECTION**

**DETAIL A**

REQUIRED MIN. LAP LENGTHS	
NO. 4 BARS	1'-10"
NO. 5 BARS	2'-3"
NO. 6 BARS	3'-4"

**NOTES:**

1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2 1/8 INCHES AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.  
  
THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.
2. FOR GENERAL NOTES, SEE SHEET [3/32].
3. FOR ADDITIONAL INTERMEDIATE DIAPHRAGM INFORMATION, SEE STANDARD DRAWING GSD-1-19.
4. FOR END DIAPHRAGM DETAILS, SEE SHEETS [15/32] AND [16/32].
5. FOR PARAPET REINFORCING DETAILS, SEE SHEET [22/32].
6. FOR REINFORCING STEEL LISTS, SEE SHEET [31/32].
7. FASCIA PAINT FOR BEAM 1 ONLY, SEE BDM FIGURE 308-1 FOR ADDITIONAL PAINT LIMITS AT SPLICE LOCATIONS.

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**TRANSVERSE SECTION**  
 BRIDGE NO. FRA-70-4318C  
 RAMP C1 OVER NORFOLK SOUTHERN RR

**FRA-70-22.61**  
 PID No. 95639

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