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**ITEM 614 - MAINTAINING TRAFFIC**

1. CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND APPROVED BY ODOT PERSONNEL. THE CONSTRUCTION INSPECTOR 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.

2. ALL SIGNS, BARRICADES, 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 REVISION, 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.

3. 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 OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) AND ODOT 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 THE 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.

4. STREET NAME SIGNS SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION WHERE THEY CURRENTLY EXIST. STREET NAME SIGNS SHALL BE MOUNTED ON EXISTING, TEMPORARY OR PROPOSED SUPPORTS IN A LOCATION THAT IS CLEARLY VISIBLE TO TRAFFIC.

**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](mailto:d06.pio@dot.ohio.gov), THE DISTRICT WORK ZONE TRAFFIC MANAGER VIA EMAIL AT [d06.mot@dot.ohio.gov](mailto:d06.mot@dot.ohio.gov) AND THE CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION VIA EMAIL AT [hauling.permits@dot.ohio.gov](mailto: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.

**FREEWAY LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS**

NO WORK SHALL BE PERFORMED AND ALL MOT LANES AND RAMPS SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS:

- CHRISTMAS
- NEW YEARS
- MEMORIAL DAY
- FOURTH OF JULY
- LABOR DAY
- THANKSGIVING

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

DAY OF HOLIDAY	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)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

**SPECIAL EVENTS**

RED, WHITE AND BOOM - DURING THE SCHEDULED EVENT HOURS (12PM ON JULY 3 TO 1AM ON JULY 4) NO WORK SHALL BE PERFORMED AND ALL AVAILABLE LANES SHALL BE OPEN TO TRAFFIC AT THE FOLLOWING LOCATIONS:

- FOURTH STREET
- GRANT AVENUE
- THIRD STREET
- FULTON STREET
- MOUND STREET
- I-70 FROM SR 315 TO ALUM CREEK DR
- I-71 FROM I-70 TO MORSE RD
- I-270 FROM US 23 TO MORSE RD

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

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

**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.

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO DISTRICT 6 COMMUNICATIONS OFFICE
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.



**INTERIM COMPLETION FOR I-71 SB MAINLINE**

THE CONTRACTOR SHALL MAINTAIN I-71 SB MAINLINE TRAFFIC FOR NO MORE THAN 365 CALENDAR DAYS ON TEMPORARY ROAD 1 (TR-1). THE CONTRACTOR MUST COMPLETE ALL NECESSARY WORK TO ENSURE TRAFFIC FOR I-71 SB MAINLINE IS SWITCHED FROM TR-1 AND ABLE TO BE MAINTAINED ON THE NEW BRIDGE 15.03L.

I-71 SB MAINLINE TRAFFIC SHALL BE SWITCHED TO (AND FROM) TR-1 USING AN OVERNIGHT CLOSURE (SEE CLOSURE CHART ON SHEET 70). I-70 EB TRAFFIC TO I-71 SB TRAFFIC (RAMP C-3) MAY REMAIN ON TR 1 IN EXCESS OF THE 365-CALENDAR DAY RESTRICTION.

IF I-71 SB MAINLINE TRAFFIC IS NOT REMOVED FROM TR-1 WITHIN 365 DAYS, THE CONTRACTOR WILL BE SUBJECT TO A DISINCENTIVE OF \$1,000/DAY.

I-70 EB TO I-71 SB (RAMP C-3) MAY REMAIN ON TR-1 AFTER I-71 SB MAINLINE HAS MOVED TO THE 1503L STRUCTURE. RAMP C-3 MAY BE CLOSED FOR UP TO 14 DAYS TO COMPLETE THE TIE IN TO THE PERMANENT RAMP C3. SEE CLOSURE CHART ON SHEET 229.

EXTENSIONS OF TIME WILL BE FOR CALENDAR DAYS AND CALCULATED IN ACCORDANCE WITH C&MS 108.06. THE CONTRACTOR MUST ACCOUNT FOR THE ANTICIPATED WEATHER DAYS, AS SHOWN IN C&MS TABLE 108.06-1, WITHIN THE CPM SCHEDULE'S ITEMS FOR THIS WORK.

**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 SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE PIO (D06.PIO@DOT.OHIO.GOV). 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 FRAME TABLE			
ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO DISTRICT 6 COMMUNICATIONS OFFICE	SIGN DISPLAYED TO PUBLIC
RAMP AND ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS AND < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE	7 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE	2 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 FRAME TABLE.

**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.

**OVERNIGHT TRENCH CLOSING**

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 1.5 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

NO.	DESCRIPTION	REV. BY	DATE
6	DELETED/ADD NEW NOTE	LM	12-2-2021

CALCULATED  
CHECKED

MAINTENANCE OF TRAFFIC - GENERAL NOTES

FRA-71-14.36

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TEMPORARY ROAD NAME	DESCRIPTION	PHASE IN	PHASE OUT
TR-1	TEMP. I-71 MAINLINE AND I-70 EB TO I-71 SB	1	3
TR-2	TEMP. I-71 SB CONNECTION TO TR-1	1	3

### DISINCENTIVE AMOUNTS FOR TYPICAL ROAD CLOSURES AND LANE RESTRICTIONS

ACTIVITY	AFFECTED ROADWAY(S)	RESTRICTION TYPE	SHEETS	RESTRICTION TIME	TIMES ALLOWED	DISINCENTIVE
S.R. 315 SB TO I-71 SB CLOSURE	S.R. 315 SB MAINLINE	ROAD CLOSURE	83-87	10PM TO 5AM DAILY	7	SEE LANE VALUE CONTRACT TABLE
I-71 NB TO I-70 WB CLOSURE	I-71 NB TO I-70 WB RAMP	ROAD CLOSURE	88-91	10PM TO 5AM DAILY	7	SEE LANE VALUE CONTRACT TABLE
I-71 NB TO SR 315 NB CLOSURE	I-71 NB TO SR 315 NB MAINLINE	ROAD CLOSURE	92-98	10PM TO 5AM DAILY	7	SEE LANE VALUE CONTRACT TABLE
I-70 EB MAINLINE CLOSURE	I-70 EB MAINLINE	ROAD CLOSURE	99-104	10PM TO 5AM DAILY	5	SEE LANE VALUE CONTRACT TABLE
I-70 WB TO I-71 SB CLOSURE	I-70 WB TO I-71 SB RAMP	ROAD CLOSURE	105-110	10PM TO 5AM DAILY	3	SEE LANE VALUE CONTRACT TABLE
				WEEKEND CLOSURE FRI 10PM - MON 5AM	2	SEE LANE VALUE CONTRACT TABLE
SR 315 SB TO I-70 EB CLOSURE	SR 315 SB TO I-70 EB RAMP	ROAD CLOSURE	111-115	10PM TO 5AM DAILY	5	SEE LANE VALUE CONTRACT TABLE
I-70 WB MAINLINE CLOSURE	I-70 WB MAINLINE	ROAD CLOSURE	116-122	10PM TO 5AM DAILY	7	SEE LANE VALUE CONTRACT TABLE
I-70 EB TO I-71 SB CLOSURE	I-70 EB TO I-71 SB RAMP	ROAD CLOSURE	123-125	10PM TO 5AM DAILY	5	SEE LANE VALUE CONTRACT TABLE
				WEEKEND CLOSURE FRI 10PM - MON 5AM	2	SEE LANE VALUE CONTRACT TABLE
I-70 WB TO SR 315 NB CLOSURE	I-70 WB TO SR 315 NB RAMP	ROAD CLOSURE	126-131A	10PM TO 5AM DAILY	5	SEE LANE VALUE CONTRACT TABLE
I-70 WB TO RICH/TOWN CLOSURE	I-70 WB TO RICH/TOWN RAMP	ROAD CLOSURE	131B-131F	10PM TO 5AM DAILY	3	SEE LANE VALUE CONTRACT TABLE

ADDITIONAL DISINCENTIVES FOR EACH PHASE CAN BE FOUND ON THEIR RESPECTIVE "PHASE SUMMARY" SHEET.

## ELONGATED ROUTE SHIELDS FOR PAVEMENT MARKINGS (PAVEMENT TATTOOS)

### INTERSTATE AND ROUTE SHIELDS USAGE

### STANDARD SIZES OF SHIELDS

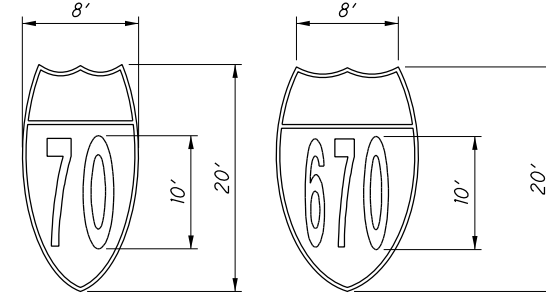
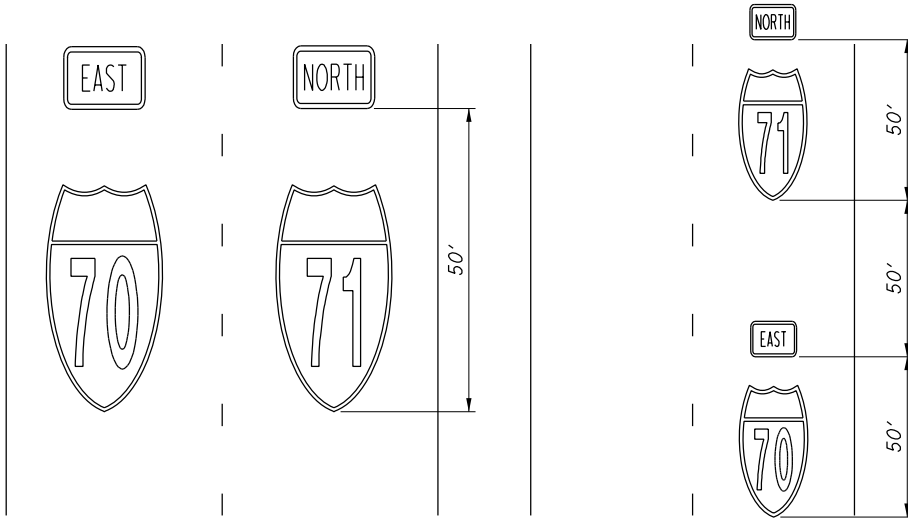
#### SINGLE SHIELD PER LANE

#### VERTICALLY STACKED SHIELDS (FOR DIVERGING LANES)

#### SINGLE SHIELD PER LANE:

#### TWO DIGITS

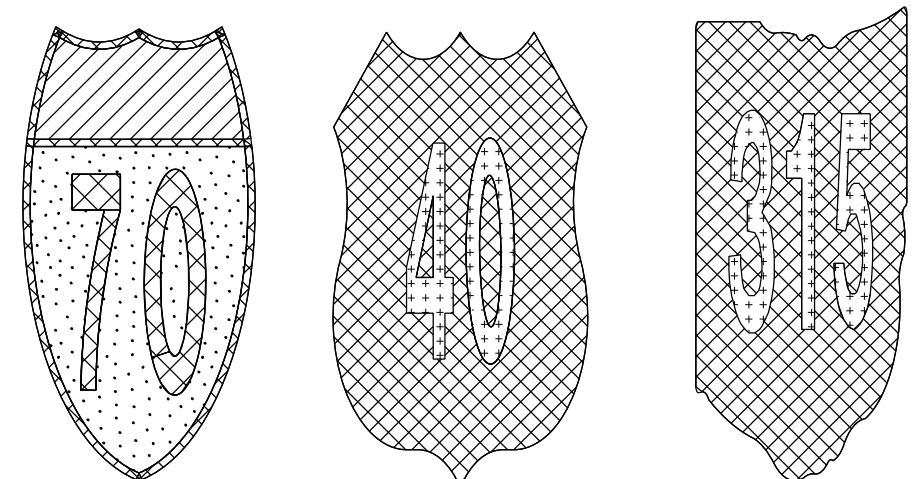
#### THREE DIGITS



#### CARDINAL DIRECTIONS

DIRECTION	WIDTH	HEIGHT
NORTH	9'-4"	8'-2"
SOUTH	9'-4"	8'-2"
WEST	7'-4"	8'-2"
EAST	7'-3 1/16"	8'-2 7/16"

#### STANDARD COLOR OF SHIELDS



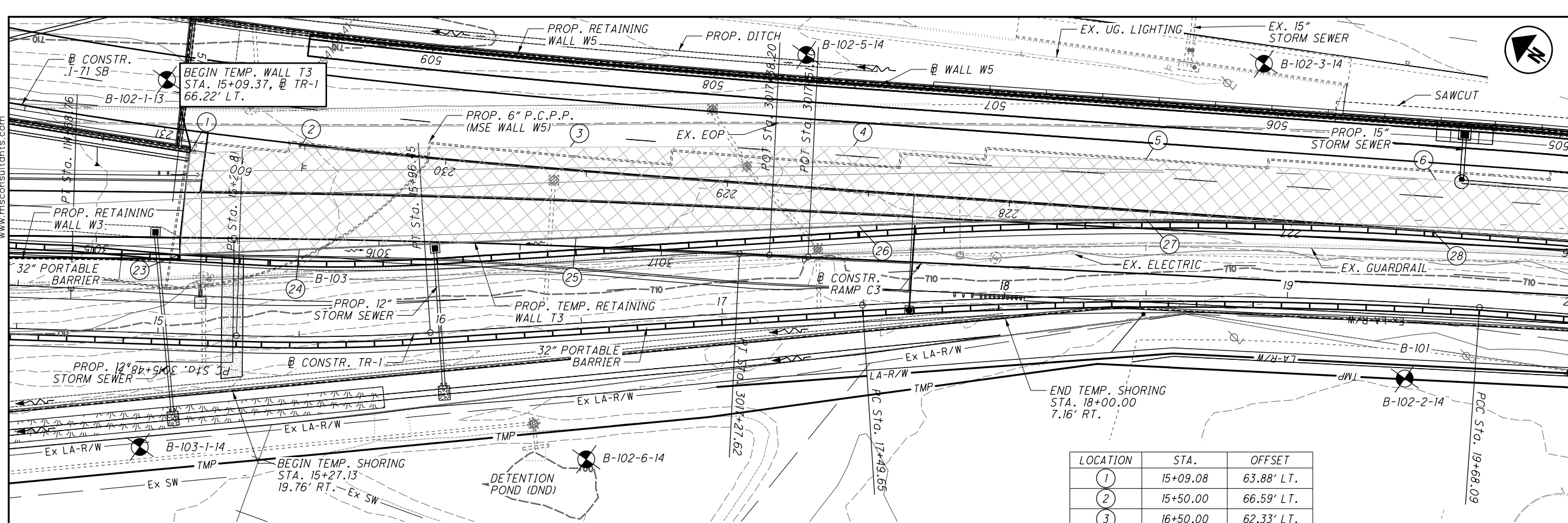
	- RED		- BLUE
	- WHITE		- BLACK

#### NOTES:

- INTERSTATE AND ROUTE SHIELDS PAVEMENT MARKINGS SHOULD BE DURABLE, HIGH SKID RESISTANT, AND RETROREFLECTIVE.
- THE MARKINGS MUST BE CAPABLE OF CONFORMING TO PAVEMENT CONTOURS, BREAKS, AND FAULTS THROUGH THE ACTION OF TRAFFIC AT NORMAL PAVEMENT TEMPERATURES.
- THE MARKINGS SHALL HAVE RESEALING CHARACTERISTICS, SUCH THAT IT IS CAPABLE OF FUSING WITH ITSELF.
- THE MARKINGS SHALL NOT HAVE MINIMUM AMBIENT ROAD TEMPERATURE REQUIREMENTS FOR APPLICATION, STORAGE, OR HANDLING.
- THE MATERIAL MUST BE ABLE TO BE APPLIED TO ASPHALT AND CONCRETE SURFACES WITHOUT PREHEATING THE APPLICATION SURFACE TO A SPECIFIC TEMPERATURE.
- THE MATERIAL MUST BE CAPABLE OF BEING AFFIXED TO GREEN CONCRETE (CONCRETE THAT HAS SET BUT NOT APPRECIABLY HARDENED).
- THE MATERIAL SHALL NOT REQUIRE THE PORTLAND CEMENT CONCRETE APPLICATION AREAS TO BE CURED OR DRIED OUT.
- THE A MATERIAL MUST BE CAPABLE OF BEING AFFIXED TO BITUMINOUS AND PORTLAND CEMENT CONCRETE PAVEMENT BY THE USE OF THE HEAT OF A PROPANE TORCH, INFRARED HEATER, OR BLUE-FLAME HEATER.
- THE PAVEMENT SHALL BE CLEAN, DRY AND FREE OF DEBRIS BEFORE MATERIAL IS APPLIED.
- THE MATERIAL MUST BE RESISTANT TO DETERIORATION DUE TO EXPOSURE TO SUNLIGHT, WATER, SALT OR ADVERSE WEATHER CONDITION AND IMPERVIOUS TO OIL AND GASOLINE.
- THE TOP SURFACE OF THE MATERIAL SHALL HAVE REGULARLY SPACED INDENTS.

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6	DESCRIPTION CHANGED	LM	12-2-2021

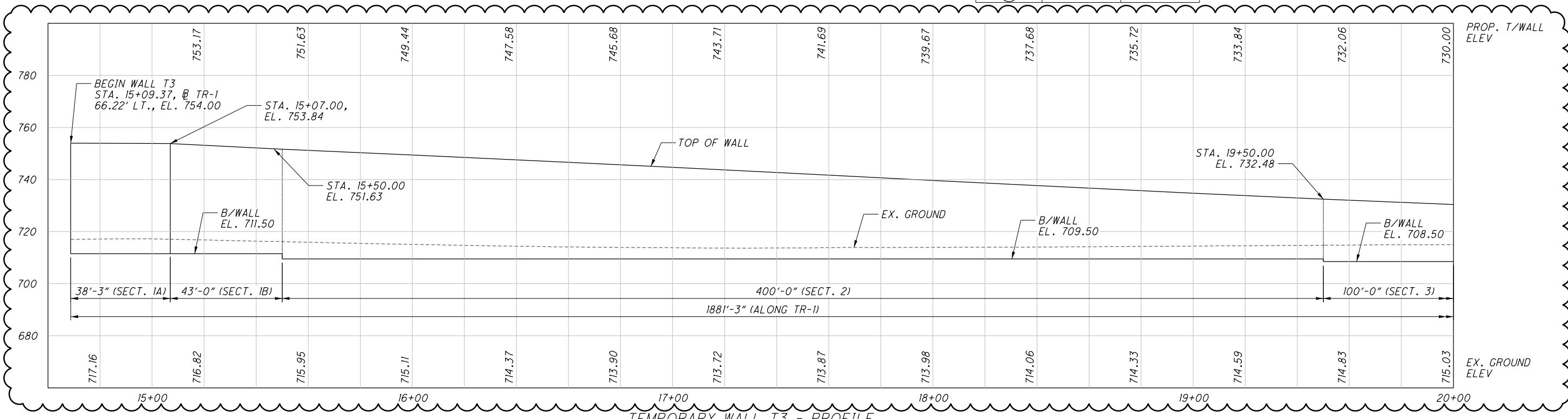
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LOCATION	STA.	OFFSET
1	15+09.08	63.88' LT.
2	15+50.00	66.59' LT.
3	16+50.00	62.33' LT.
4	17+50.00	56.26' LT.
5	18+50.00	48.11' LT.
6	19+50.00	44.04' LT.
23	15+07.00	28.08' LT.
24	15+50.00	30.90' LT.
25	16+50.00	30.22' LT.
26	17+50.00	28.12' LT.
27	18+50.00	26.74' LT.
28	19+50.00	25.95' LT.

NOTES:  
 1. FOR NOTES, SEE SHEET 199E/1228

NO.	DESCRIPTION	REV. BY	DATE
6	UPDATE WALL T3 PROFILE VIEW	DBL	12/02/21



DESIGN AGENCY  
 ms consultants, inc.  
 2221 Schrock Road  
 Columbus, Ohio 43229

DATE  
 JUNE-21

REVIEWED  
 YSU

DESIGNED  
 DBL

DRAWN  
 DBL

STRUCTURE FILE NUMBER

PLAN AND ELEVATION (1 OF 4)  
 TEMP. RETAINING WALL T3 - ALONG TEMPORARY RAMP TR-1  
 I-70/I-70 WEST INTERCHANGE PROJECT

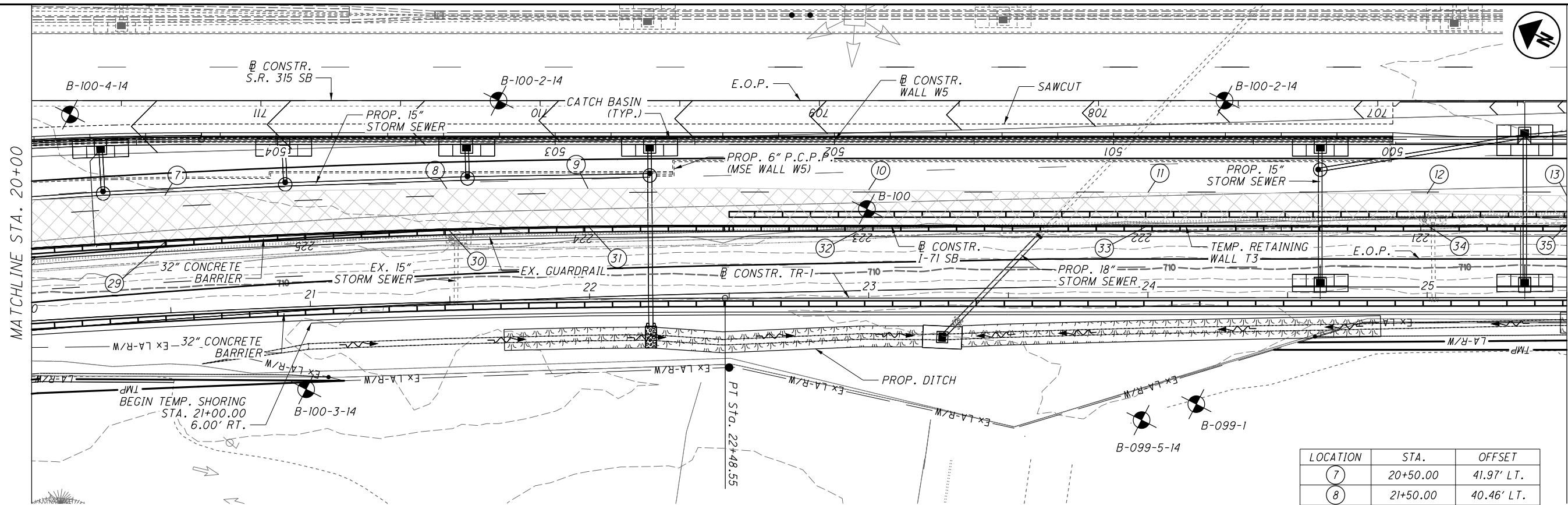
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TEMPORARY WALL T3 - PLAN

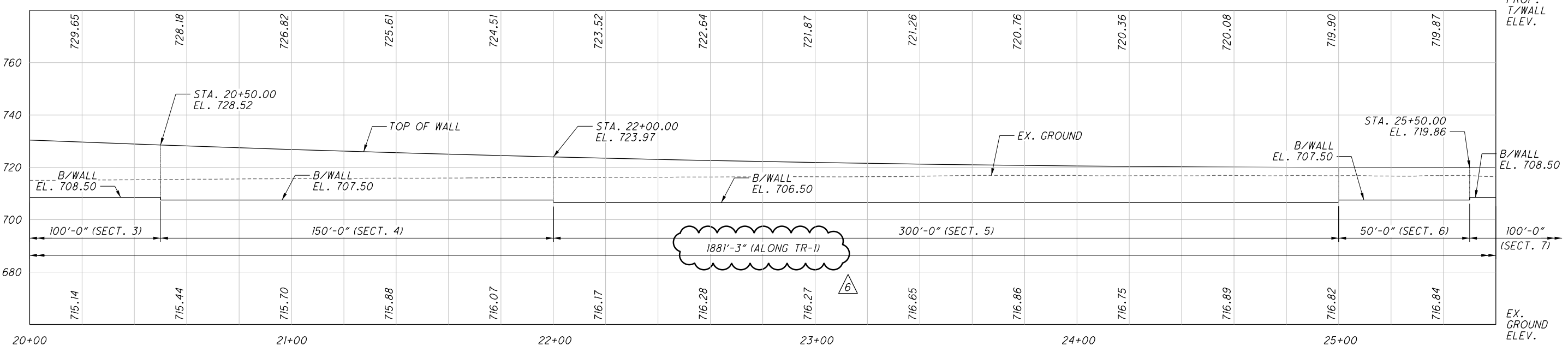
LEGEND:

- PROJECT BORING LOCATION
- PLAN BOUNDARY FOR ITEMS INCLUDED WITH WALL T3 FOR PAYMENT

NOTES:

1. FOR NOTES, SEE SHEET 199E/1228

LOCATION	STA.	OFFSET
7	20+50.00	41.97' LT.
8	21+50.00	40.46' LT.
9	22+00.00	39.53' LT.
10	23+00.00	38.72' LT.
11	24+00.00	37.67' LT.
12	25+00.00	37.12' LT.
13	25+50.00	36.43' LT.
29	20+50.00	25.97' LT.
30	21+50.00	26.01' LT.
31	22+00.00	26.01' LT.
32	23+00.00	25.96' LT.
33	24+00.00	25.90' LT.



TEMPORARY WALL T3 - PROFILE

(ALONG TR-1)

NO.	DESCRIPTION	REV. BY	DATE
6	UPDATE WALL T3 PROFILE VIEW	DBL	12/02/21

DESIGN AGENCY  
ms consultants, inc.  
2221 Schrock Road  
Columbus, Ohio 43229

DATE  
JUNE-21

REVIEWED  
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STRUCTURE FILE NUMBER

DRAWN  
DBL

CHECKED  
DEA

DESIGNED  
DBL

PLAN AND ELEVATION (2 OF 4)  
TEMP. RETAINING WALL T3 - ALONG TEMPORARY RAMP TR-1  
I-70/I-70 WEST INTERCHANGE PROJECT

FRA-70-14.56  
PID No. 77372

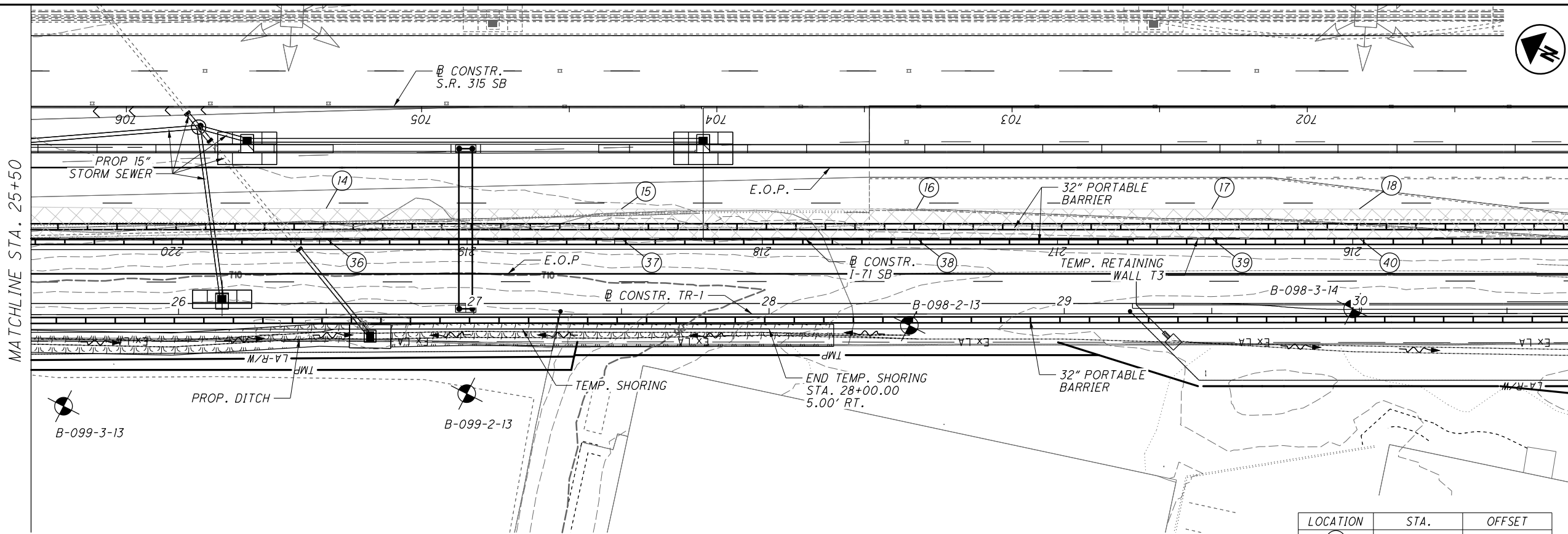
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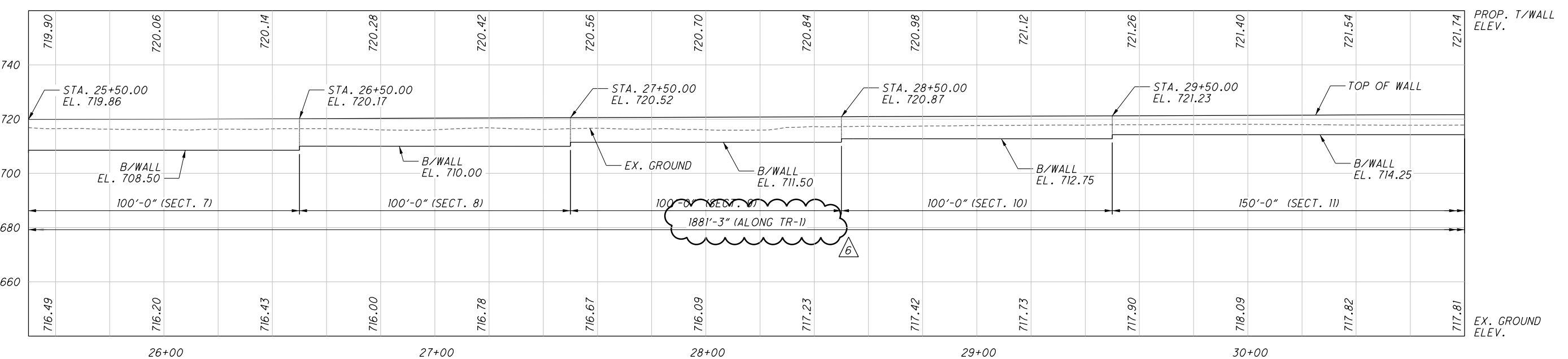


**LEGEND:**  
 PROJECT BORING LOCATION  
 PLAN BOUNDARY FOR ITEMS INCLUDED WITH WALL T3 FOR PAYMENT

TEMPORARY WALL T3 - PLAN

**NOTES:**  
 1. FOR NOTES, SEE SHEET 199E/1228

LOCATION	STA.	OFFSET
14	26+50.00	35.87' LT.
15	27+50.00	35.63' LT.
16	28+50.00	35.55' LT.
17	29+50.00	35.47' LT.
18	30+00.00	35.44' LT.
36	26+50.00	25.70' LT.
37	27+50.00	25.63' LT.
38	28+50.00	25.55' LT.
39	29+50.00	25.47' LT.
40	30+00.00	25.44' LT.



TEMPORARY WALL T3 - PROFILE  
(ALONG TR-1)

NO.	DESCRIPTION	REV. BY	DATE
6	UPDATE WALL T3 PROFILE VIEW	DBL	12/02/21

DESIGN AGENCY: ms consultants, inc.  
 2221 Schrock Road  
 Columbus, Ohio 43229

DATE: JUNE-21  
 Y.S.U. STRUCTURE FILE NUMBER

DRAWN: DBL  
 CHECKED: DEB

DESIGNED: DBL  
 CHECKED: DEB

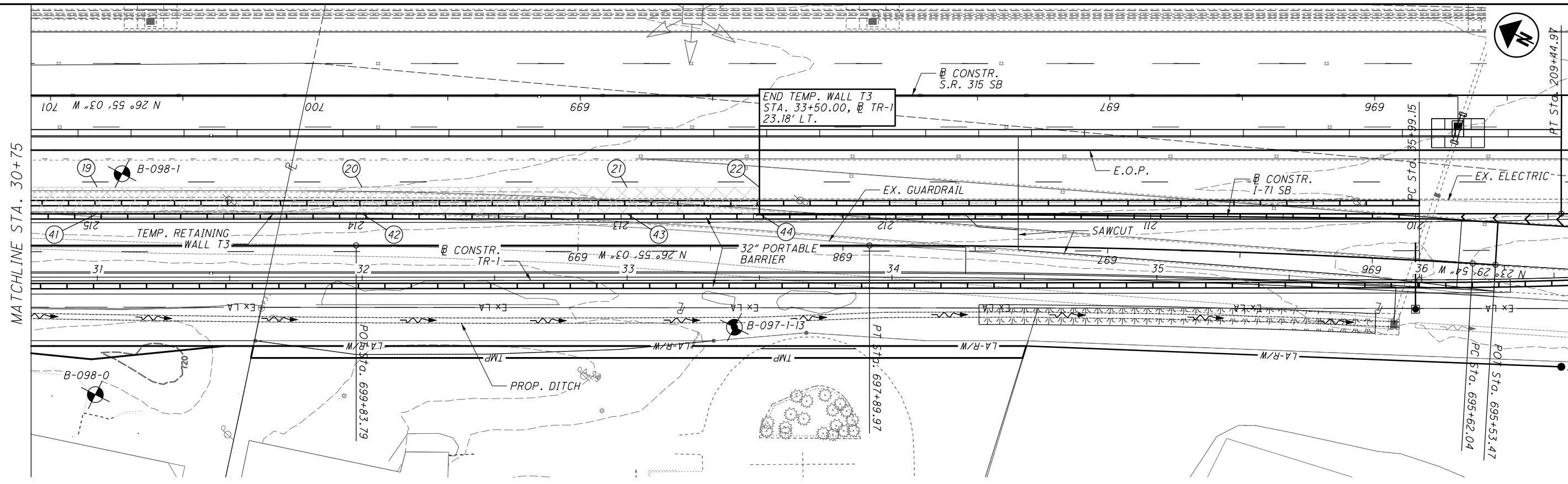
PLAN AND ELEVATION (3 OF 4)  
 TEMP. RETAINING WALL T3 - ALONG TEMPORARY RAMP TR-1  
 I-70/I-70 WEST INTERCHANGE PROJECT

FRA-70-14.56  
 PID No. 77372



4 / 5

199H  
 1228

ms consultants, inc.



**LEGEND:**

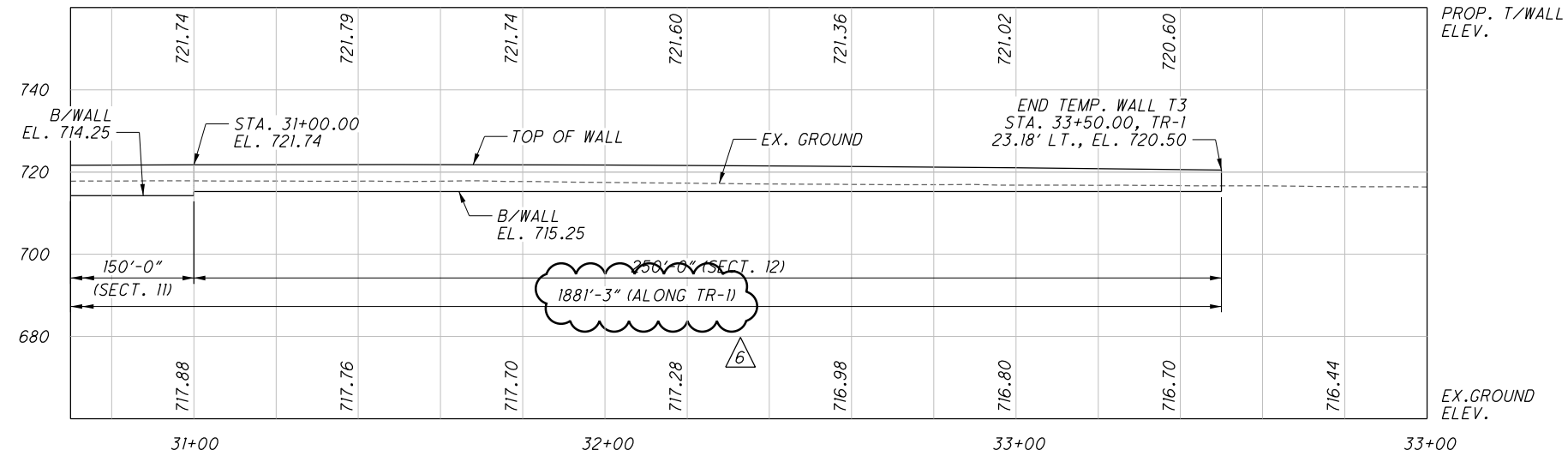
-  PROJECT BORING LOCATION
-  PLAN BOUNDARY FOR ITEMS INCLUDED WITH WALL T3 FOR PAYMENT

**TEMPORARY WALL T3 - PLAN**

**NOTES:**

1. FOR NOTES, SEE SHEET 199E/1228

LOCATION	STA.	OFFSET
19	31+00.00	35.36' LT.
20	32+00.00	35.28' LT.
21	33+00.00	35.22' LT.
22	33+50.00	35.18' LT.
41	31+00.00	25.36' LT.
42	32+00.00	25.28' LT.
43	33+00.00	25.22' LT.
44	33+50.00	25.18' LT.



**TEMPORARY WALL T3 - PROFILE**  
(ALONG TR-1)

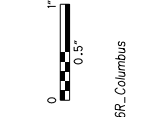
NO.	DESCRIPTION	REV. BY	DATE
6	UPDATE WALL T3 PROFILE VIEW	DBL	12/02/21





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Ohio DOT Workspace  
70171 West Interchange 6R  
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34" x 22"

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SHEET NUM.					PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
653	743	755	814	847	08/NHS/P V	08/NHS/P V	10/ENH/O T/COL	11/NHS/P V/COL						
<b>TRAFFIC SIGNALS (CONT.)</b>														
	1								633	67100	1	EACH	CABINET FOUNDATION	
	2								633	99000	2	EACH	CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER, SHORT RANGE	737
	1								633	99000	1	EACH	CONTROLLER ITEM, MISC.: LAYER 2 ETHERNET SWITCH	738
	2	1,337							804	32060	1,337	FT	DROP CABLE, 24 FIBER	
	2								804	34023	2	EACH	FIBER TERMINATION PANEL, 24 FIBER, AS PER PLAN	736
									804	37000	1	EACH	SPLICE ENCLOSURE, BUTT STYLE	
	1								809	69101	1	EACH	STOP LINE RADAR DETECTION, AS PER PLAN	733
<b>LANDSCAPING</b>														
40								40	661	20020	40	EACH	DECIDUOUS SHRUB, 18" HEIGHT, (#3 CONTAINER) (RHUS AROMATICA 'GRO-LOW')	654
			40				40		661	20041	40	EACH	DECIDUOUS SHRUB, 2' HEIGHT, AS PER PLAN, RIBES ALPINUM 'GREEN MOUND'	824-824B
			95				95		661	30061	95	EACH	EVERGREEN SHRUB, 2' HEIGHT, AS PER PLAN, JUNIPERIS CHINENSIS 'SEA GREEN'	824-824B
			12				12		661	40081	12	EACH	DECIDUOUS TREE, 2" CALIPER, AS PER PLAN, MALUS X'GOLDEN RAINDROPS'	824-824B
			8				8		661	40121	8	EACH	DECIDUOUS TREE, 3" CALIPER, AS PER PLAN, ACER RUBRUM 'FRANKSRED'	824-824B
			8				8		661	40141	8	EACH	DECIDUOUS TREE, 4" CALIPER, AS PER PLAN, ACER XFREEMANII 'ARMSTRONG'	824-824B
			45				45		661	40141	45	EACH	DECIDUOUS TREE, 4" CALIPER, AS PER PLAN, PLATANUS XACERFOLIA	824-824B
			4				4		661	50160	4	EACH	EVERGREEN TREE, 8' HEIGHT, THUJA OCCIDENTALIS 'EMERALD'	824-824B
			32				32		661	50170	32	EACH	EVERGREEN TREE, 10' HEIGHT, PICEA OMORIKA	824-824B
			1,575				788	787	661	99900	1,575	EACH	PLANTING, MISC.: BULB, NARCISSUS 'ICE FOLLIES'	824
			1,575				788	787	661	99900	1,575	EACH	PLANTING, MISC.: PERENNIAL, HEMEROCALLIS X'HAPPY RETURNS'	824
			23				23		SPECIAL	69098000	23	EACH	TREE GRATE, 4'X8'	824A-824B
			18				18		SPECIAL	69098700	18	CY	TURFGRASS SOIL MIX FURNISHED AND PLACED (12" DEPTH UPPER HORIZON)	824-826
			7				7		SPECIAL	69098700	7	CY	TURFGRASS BASE MIX FURNISHED AND PLACED (4 1/2" DEPTH LOWER HORIZON)	824-826
			622				622		SPECIAL	69098700	622	CY	TREE AND PLANTS SOIL MIX FURNISHED AND PLACED (24" DEPTH UPPER HORIZON)	824-826
			233				233		SPECIAL	69098700	233	CY	TREE AND PLANTS BASE MIX FURNISHED AND PLACED (9" DEPTH LOWER HORIZON)	824-826
			765				765		SPECIAL	69098700	765	CY	SAND-BASED STRUCTURAL SOIL FURNISHED AND PLACED (24" DEPTH UPPER HORIZON)	824-826
			287				287		SPECIAL	69098700	287	CY	SAND BASED STRUCTURAL SOIL BASE MIX FURNISHED AND PLACED (9" DEPTH LOWER HORIZON)	824 826
<b>RETAINING WALLS (E4)</b>														
			73				73		203	20000	73	CY	EMBANKMENT	
			246				246		203	35110	246	CY	GRANULAR MATERIAL, TYPE B	
			2				2		SPECIAL	20365000	2	EACH	SETTLEMENT PLATFORM	844
			5,680				5,680		203	98100	5,680	SY	ROADWAY, MISC.: COLUMN SUPPORTED WALLS	848
			LUMP				LUMP		503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	838
			1,800				1,800		504	11101	1,800	SF	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN	848
			14,932				14,932		509	10001	14,932	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
			93				93		511	53012	93	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	838
			348				348		512	10001	348	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)	838
			703				703		512	10100	703	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
			56				56		516	13200	56	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
			518				518		516	13900	518	SF	2" PREFORMED EXPANSION JOINT FILLER	
			6,894				6,894		840	20001	6,894	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839, 843
			630				630		840	21000	630	CY	WALL EXCAVATION	
			547				547		840	22000	547	SY	FOUNDATION PREPARATION	
			3,908				3,908		840	23000	3,908	CY	SELECT GRANULAR BACKFILL	
			608				608		840	25010	608	FT	6" DRAINAGE PIPE, PERFORATED	
			315				315		840	26000	315	FT	CONCRETE COPING	
			6,264				6,264		840	26050	6,264	SF	AESTHETIC SURFACE TREATMENT	
			5				5		840	27000	5	DAY	ON-SITE ASSISTANCE	
			LUMP				LUMP		867	00101	LS		TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839

CALCULATED HRB CHECKED TAZ

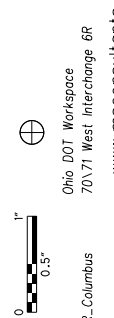
**GENERAL SUMMARY**

**FRA - 71 - 14.36**

275B  
1228

ms consultants, inc.

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 70\71 West Interchange 6R  
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34" x 22"

SHEET NUM.										PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
857	864									08/NHS/P V.	ITEM	EXT	TOTAL			
<b>RETAINING WALLS (E5)</b>																
438										438	203	20000	438	CY	EMBANKMENT	
24,388										24,388	509	10001	24,388	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
150										150	511	53012	150	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	838
449										449	512	10001	449	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)	838
698										698	512	10100	698	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
875										875	516	13900	875	SF	2" PREFORMED EXPANSION JOINT FILLER	
179										179	607	39901	179	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	838
5,533										5,533	840	20001	5,533	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	843
1,162										1,162	840	21000	1,162	CY	WALL EXCAVATION	
691										691	840	22000	691	SY	FOUNDATION PREPARATION	
2,164										2,164	840	23000	2,164	CY	SELECT GRANULAR BACKFILL	
997										997	840	25010	997	FT	6" DRAINAGE PIPE, PERFORATED	
438										438	840	26000	438	FT	CONCRETE COPING	
4,658										4,658	840	26050	4,658	SF	AESTHETIC SURFACE TREATMENT	
5										5	840	27000	5	DAY	ON-SITE ASSISTANCE	
<b>RETAINING WALLS (E7)</b>																
9,684										9,684	SPECIAL	20302000	9,684	CY	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II	841
451										451	SPECIAL	20302000	451	CY	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III	841
436										436	203	20000	436	CY	EMBANKMENT	
935										935	203	35110	935	CY	GRANULAR MATERIAL TYPE B	
2										2	SPECIAL	20365000	2	EACH	SETTLEMENT PLATFORM	841
4,687										4,687	203	98000	4,687	CY	ROADWAY, MISC.: EPS GEOFOAM FILL	840
LUMP										LUMP	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	838
31,202										31,202	509	10001	31,202	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
199										199	511	53012	199	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	838
132										132	511	53012	132	CY	CLASS QC2 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB	838
5,058										5,058	511	71200	5,058	SF	CONCRETE, MISC.: PRECAST WALL PANELS	838
121										121	511	81100	121	FT	CONCRETE, MISC.: PRECAST FOOTING	838
2,080										2,080	512	10100	2,080	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
76										76	516	13200	76	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
857										857	516	13900	857	SF	2" PREFORMED EXPANSION JOINT FILLER	
363										363	607	39901	363	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	838
17,809										17,809	840	20001	17,809	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839, 843
4,995										4,995	840	21000	4,995	CY	WALL EXCAVATION	
1,485										1,485	840	22000	1,485	SY	FOUNDATION PREPARATION	
2,660										2,660	840	23000	2,660	CY	SELECT GRANULAR BACKFILL	
506										506	840	25010	506	FT	6" DRAINAGE PIPE, PERFORATED	
523										523	840	26000	523	FT	CONCRETE COPING	
16,763										16,763	840	26050	16,763	SF	AESTHETIC SURFACE TREATMENT	
5										5	840	27000	5	DAY	ON-SITE ASSISTANCE	

NO.	DESCRIPTION	REV. BY	DATE
1	Removal of Item 203E35120	TAZ	11-05-2021
3	Remove Item 840E28000	TAZ	11-19-2021
3	Update Item 509 to A.P.P.	TAZ	11-19-2021
4	Update Funding Splits	TAZ	11-24-2021
6	Update 511E53012 Qty.	TAZ	12-03-2021
6	Remove Item 503E11100	TAZ	12-03-2021

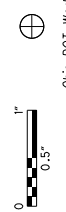
GENERAL SUMMARY

FRA - 71 - 14.36

275C  
1228



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34" x 22"

SHEET NUM.										PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
874	884									08/NHSP V.	ITEM	EXT	TOTAL			
<b>RETAINING WALLS (E10)</b>																
1,346										1,346	SPECIAL	20302000	1,346	CY	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II	841
122										122	SPECIAL	20302000	122	CY	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III	841
678										678	203	20000	678	CY	EMBANKMENT	
827										827	203	35110	827	CY	GRANULAR MATERIAL TYPE B	
6,138										6,138	203	98000	6,138	CY	ROADWAY, MISC.: EPS GEOFOAM FILL	840
LUMP										LUMP	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	838
39,409										39,409	509	10001	39,409	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
247										247	511	53012	247	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	838
129										129	511	53012	129	CY	CLASS QC2 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB	838
4,628										4,628	511	71200	4,628	SF	CONCRETE, MISC.: PRECAST WALL PANELS	838
152										152	511	81100	152	FT	CONCRETE, MISC.: PRECAST FOOTING	838
1,240										1,240	512	10100	1,240	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
10,345										10,345	840	20001	10,345	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839
4,104										4,104	840	21000	4,104	CY	WALL EXCAVATION	
743										743	840	22000	743	SY	FOUNDATION PREPARATION	
1,748										1,748	840	23000	1,748	CY	SELECT GRANULAR BACKFILL	
455										455	840	25010	455	FT	6" DRAINAGE PIPE, PERFORATED	
5										5	840	27000	5	DAY	ON-SITE ASSISTANCE	
<b>RETAINING WALLS (W2)</b>																
2,649										2,649	203	20000	2,649	CY	EMBANKMENT	
LUMP										LUMP	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	838
87,095										87,095	509	10001	87,095	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
560										560	511	53012	560	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	838
1,627										1,627	512	10001	1,627	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)	838
4,459										4,459	512	10100	4,459	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
216										216	516	13200	216	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
2,217										2,217	516	13900	2,217	SF	2" PREFORMED EXPANSION JOINT FILLER	
431										431	601	37500	431	FT	PAVED GUTTER, TYPE 1-2	
36,756										36,756	840	20001	36,756	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	843
6,905										6,905	840	21000	6,905	CY	WALL EXCAVATION	
3,332										3,332	840	22000	3,332	SY	FOUNDATION PREPARATION	
27,781										27,781	840	23000	27,781	CY	SELECT GRANULAR BACKFILL	
924										924	840	23050	924	CY	NATURAL SOIL	
3,135										3,135	840	25010	3,135	FT	6" DRAINAGE PIPE, PERFORATED	
1,555										1,555	840	26000	1,555	FT	CONCRETE COPING	
33,647										33,647	840	26050	33,647	SF	AESTHETIC SURFACE TREATMENT	
5										5	840	27000	5	DAY	ON-SITE ASSISTANCE	

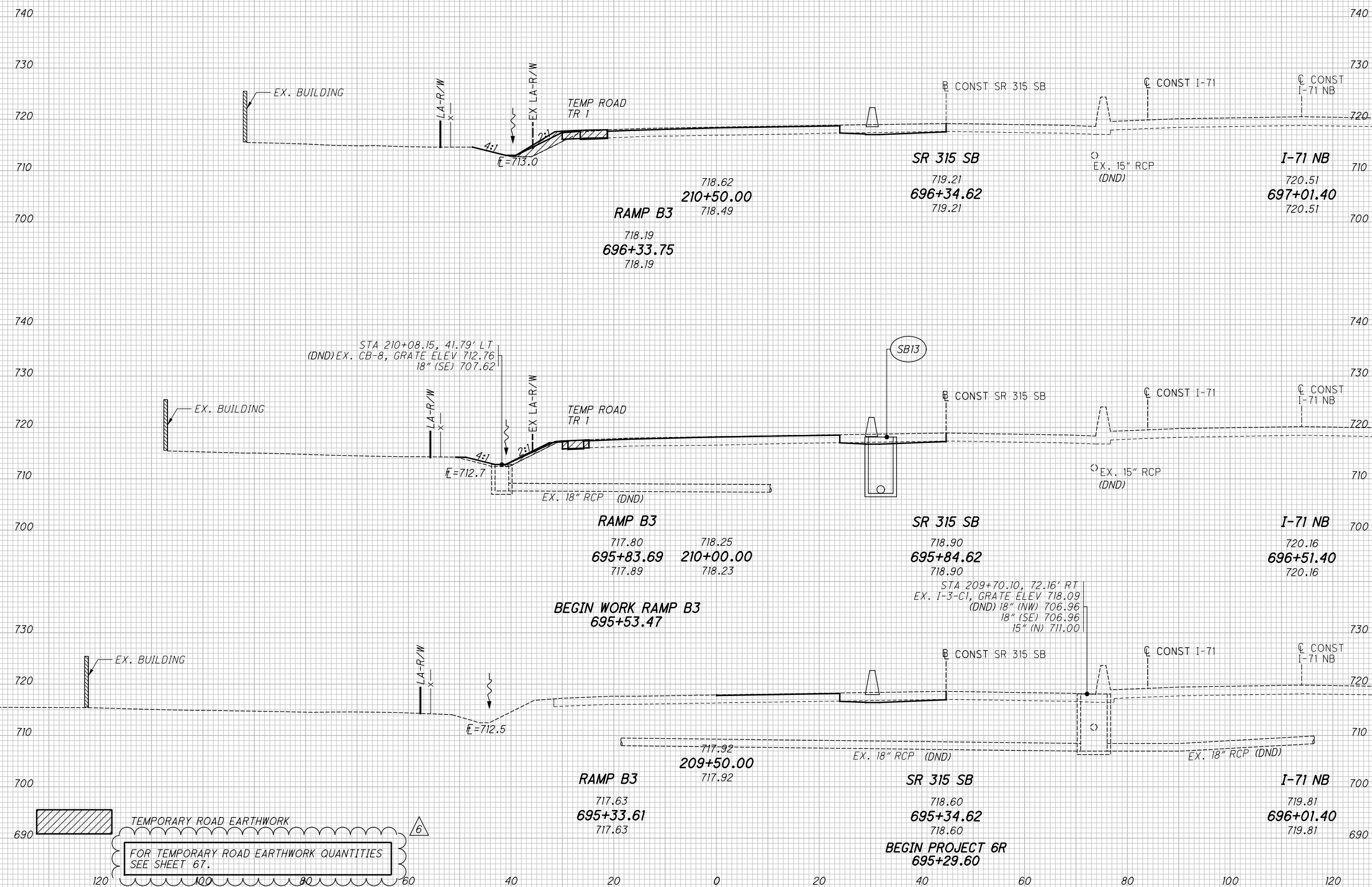
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3	Remove Item 840E28000	TAZ	11-19-2021
3	Update Item 509 to A.P.P.	TAZ	11-19-2021
4	Update Funding Splits	TAZ	11-24-2021
6	Add Load Dist. Slab Qty.	TAZ	12-03-2021

CALCULATED HRB CHECKED TAZ  
**GENERAL SUMMARY**  
**FRA-71-14.36**  
275D  
1228  
ms consultants, inc.

SEEDING  
 END SO.  
 WIDTH YDS.  
 6  
 24  
 133  
 24  
 68  
 0  
 0  
 0  
 201

NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA	VOLUME	CALCULATED	CHECKED	BSB
13	17			
10	11			
5	0			
36	36			



TEMPORARY ROAD EARTHWORK  
 FOR TEMPORARY ROAD EARTHWORK QUANTITIES  
 SEE SHEET 67.

CROSS SECTIONS I-71 SB  
 STA. 209+50.00 TO STA. 210+50.00

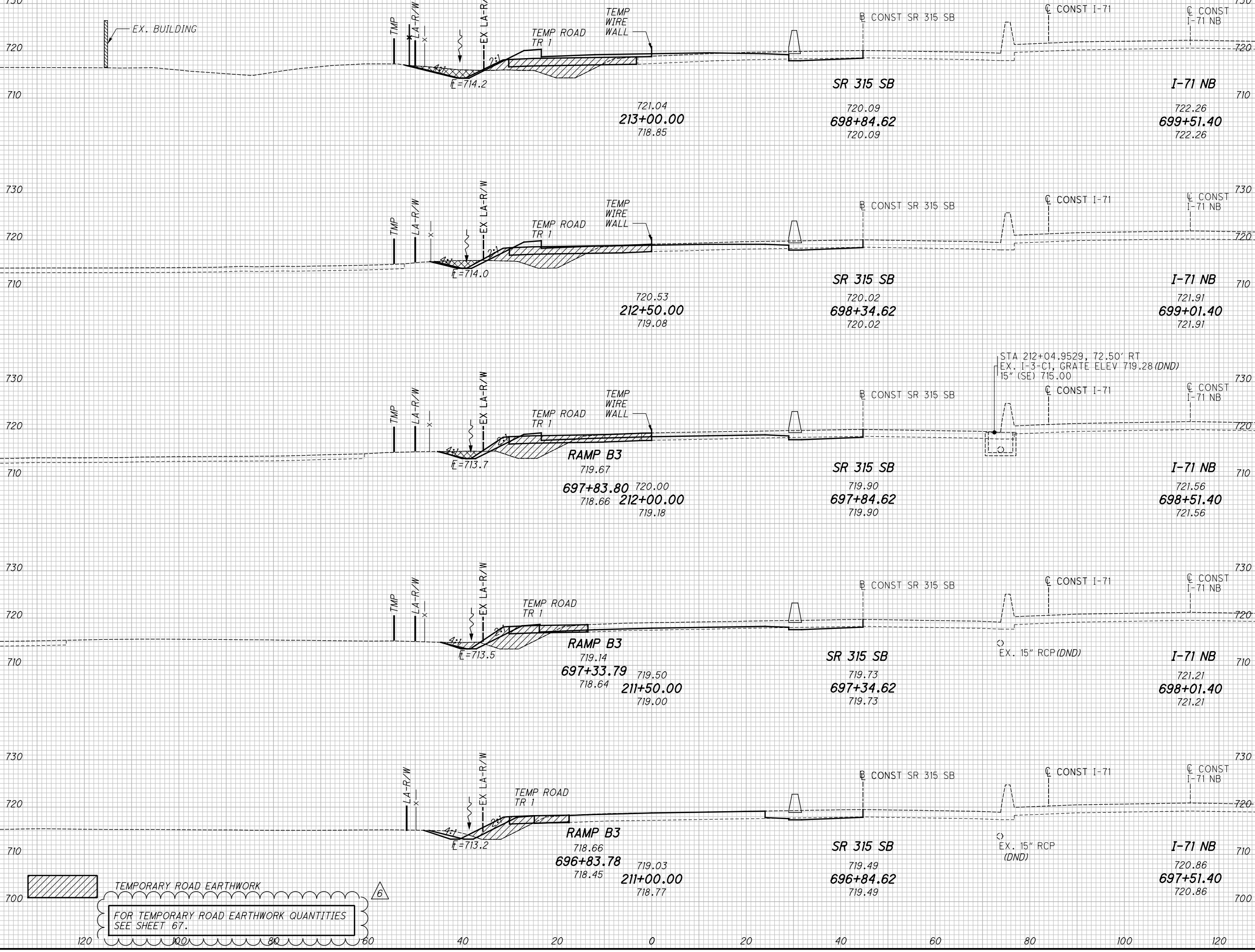
FRA-71-14.36

414  
 1228

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SEEDING  
 END WIDTH SO. YDS.  
 31 157 25 25 134 24 135 25 135 700

NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21



END AREA	VOLUME		CALCULATED	CFR	CHECKED	BSB
	CUT	FILL				
20	124					
32		129				
15	99					
29		79				
16	70					
27		99				
13	37					
30		59				
20	27					
31		41				
	149	407				

TEMPORARY ROAD EARTHWORK  
 FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

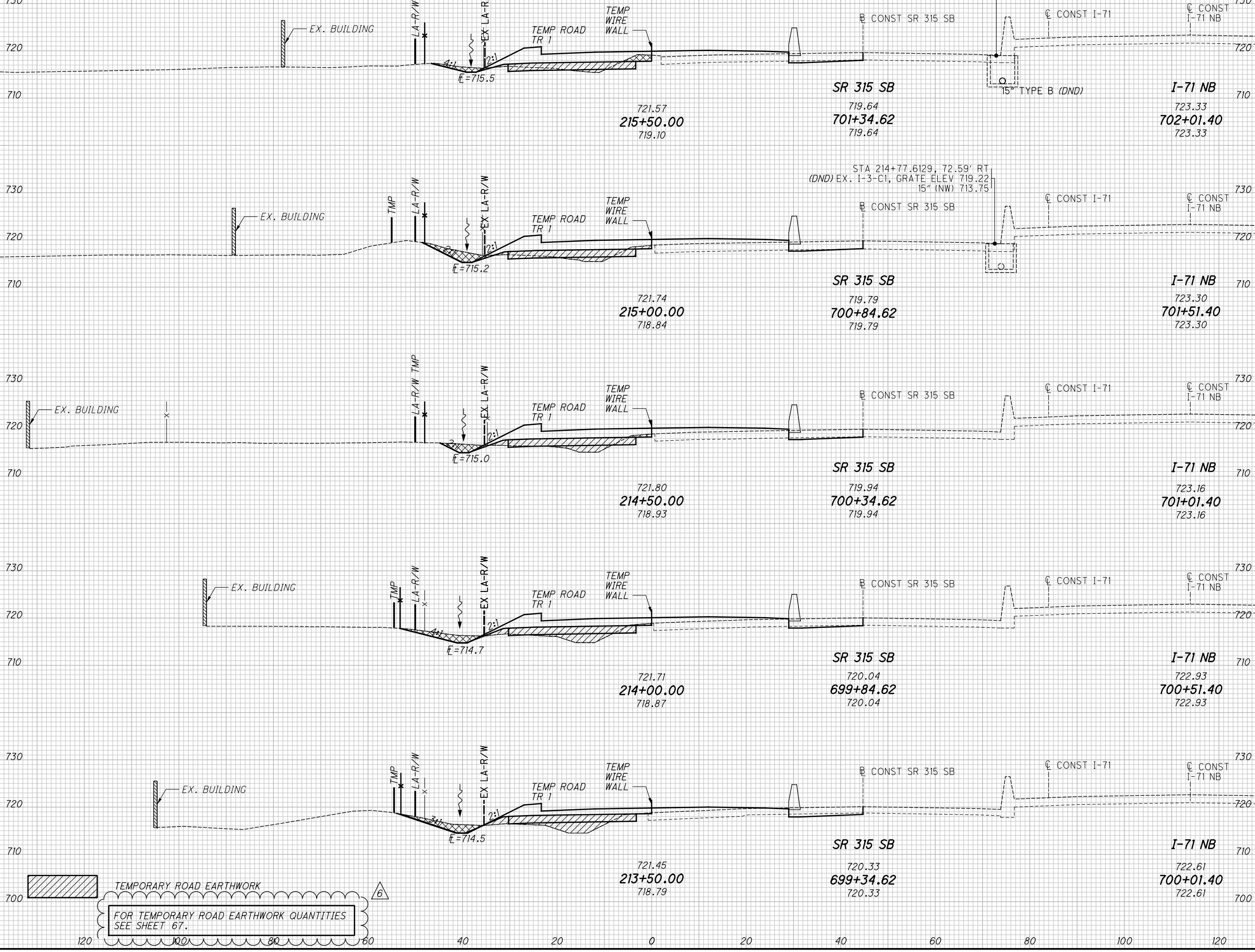
CROSS SECTIONS I-71 SB  
 STA. 211+00.00 TO STA. 213+00.00  
 FRA-71-14.36

415  
 1228

c:\projects\2013\W-13-072 FRA-70-13-10 6A\89464\71SB PHASE\_3\roadway\sheets PH3\105588XS151.dgn 12/1/2021 1:48:59 PM colnr

SEEDING  
 END WIDTH SO. YDS.  
 26  
 152  
 29  
 148  
 25  
 160  
 33  
 184  
 33  
 178  
 822

NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21



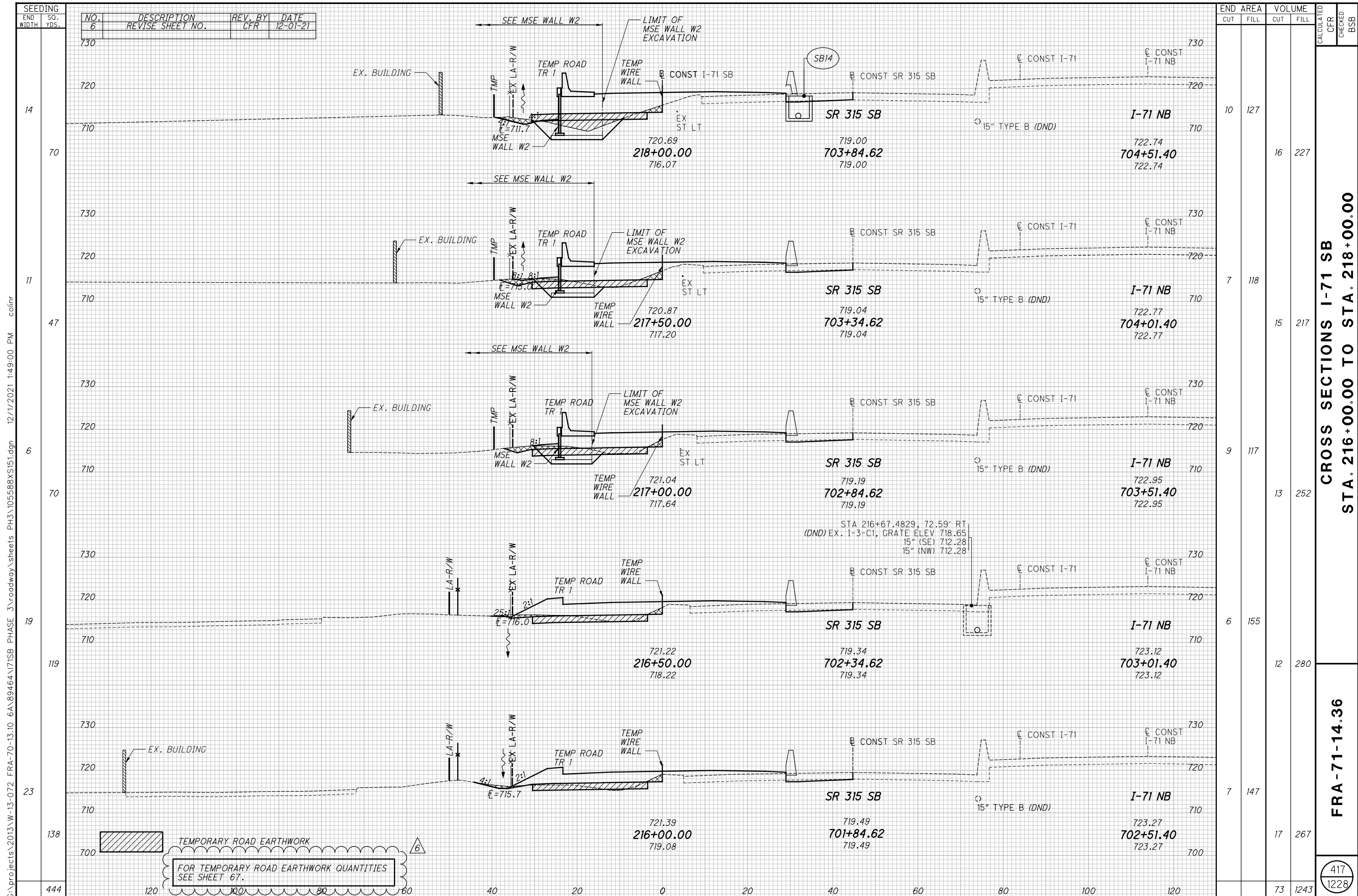
END AREA	VOLUME	CALCULATED	CFR	CHECKED	BSB
11	142				
28	271				
19	151				
30	258				
14	128				
32	266				
20	153				
42	271				
25	140				
42	245				
174	1311				

**CROSS SECTIONS I-71 SB**  
**STA. 213+50.00 TO STA. 215+50.00**

**FRA-71-14.36**

416  
 1228

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**CROSS SECTIONS I-71 SB**  
**STA. 216+00.00 TO STA. 218+00.00**

**FRA-71-14.36**

417  
 1228

TEMPORARY ROAD EARTHWORK  
 FOR TEMPORARY ROAD EARTHWORK QUANTITIES  
 SEE SHEET 67.

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SEEDING  
END WIDTH SO. YDS.  
6

12/1/2021 1:49:01 PM colinr

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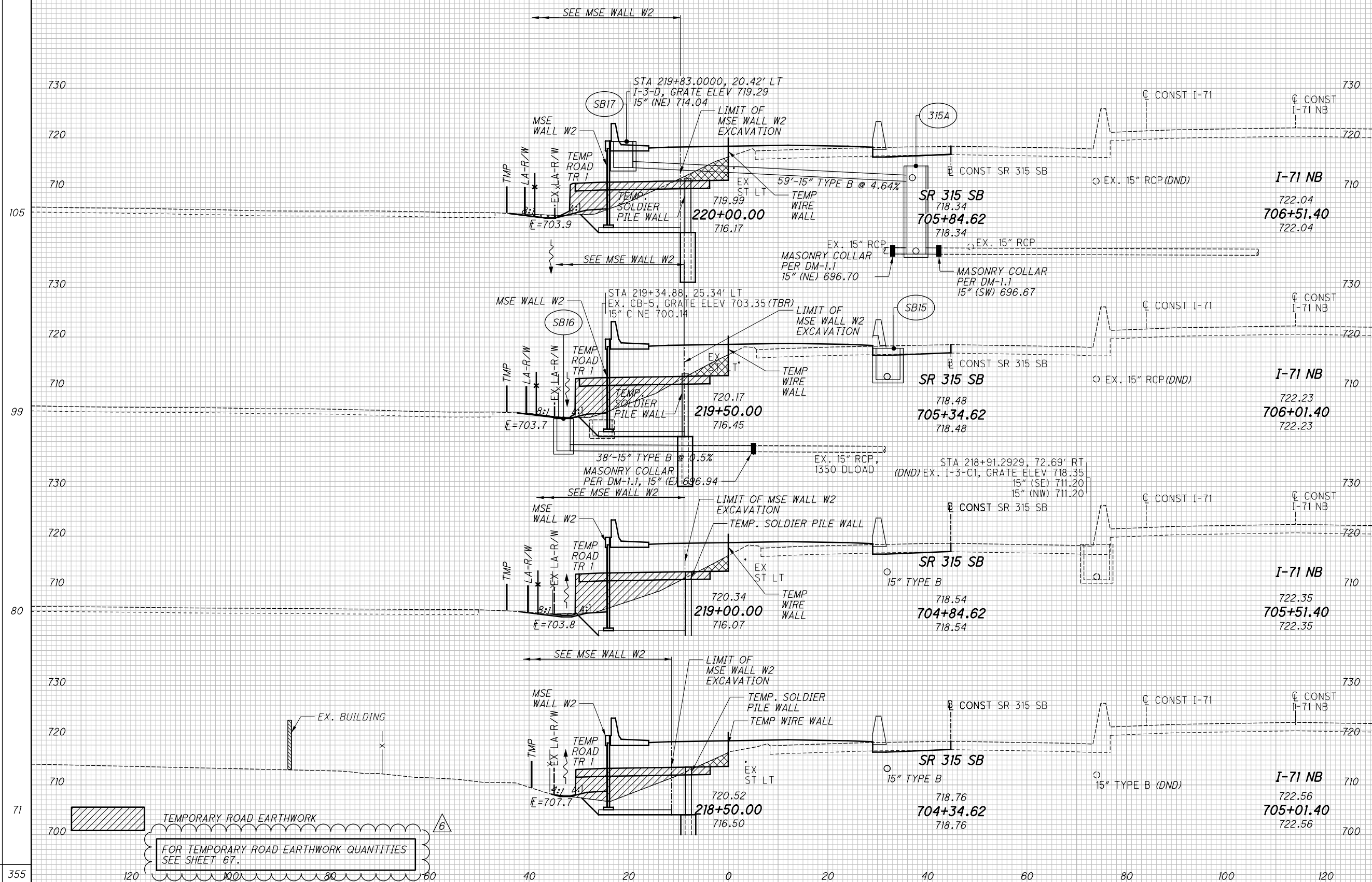
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA	VOLUME	CALCULATED	CHECKED	BSB
37	114			
55	197			
22	98			
48	196			
29	113			
67	224			
43	129			
49	237			
219	854			

CROSS SECTIONS I-71 SB  
STA. 218+50.00 TO STA. 220+00.00

FRA-71-14.36

418  
1228



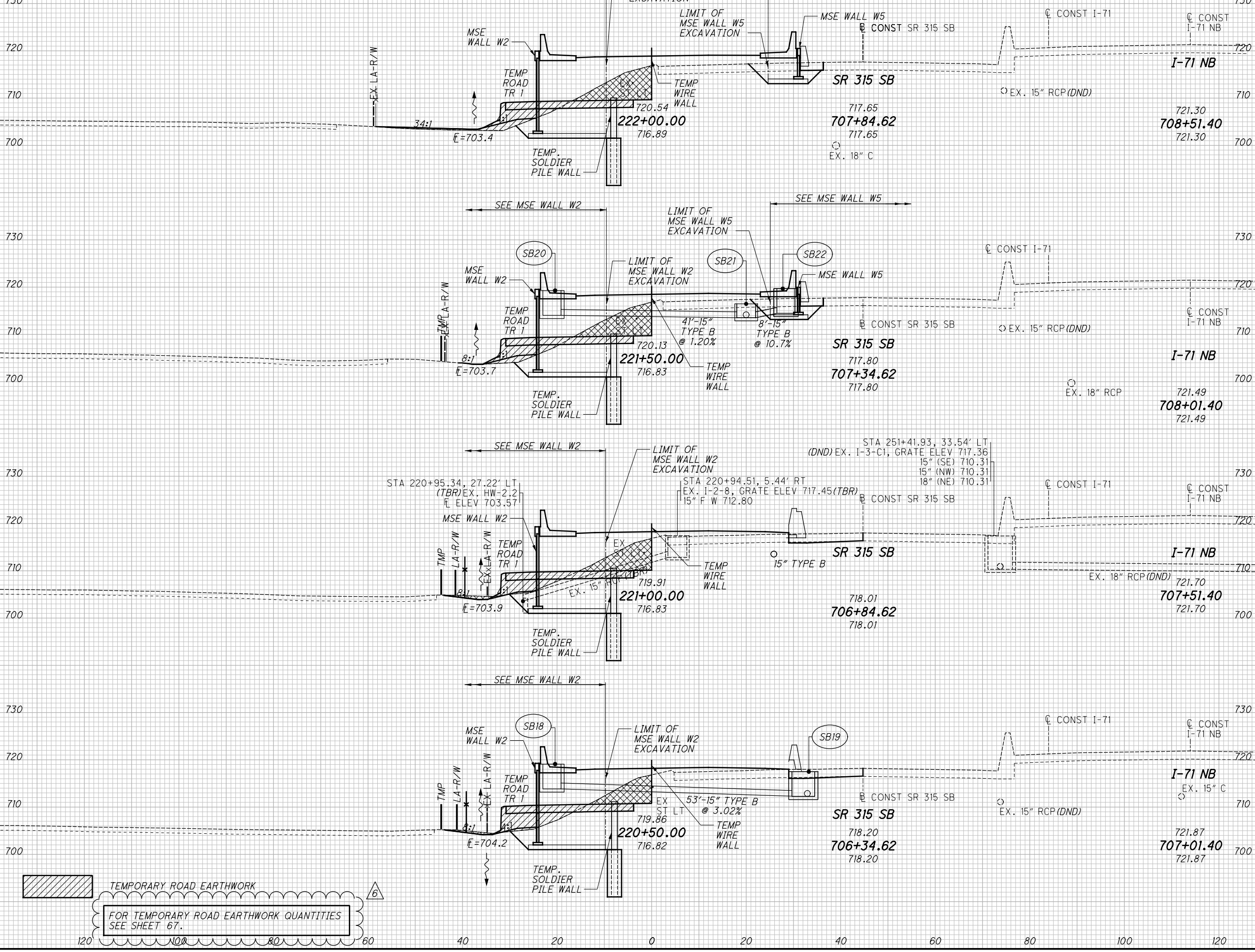
TEMPORARY ROAD EARTHWORK  
FOR TEMPORARY ROAD EARTHWORK QUANTITIES  
SEE SHEET 67.

SEEDING  
END WIDTH SO. YDS.

34  
134  
14  
94  
20  
109  
20  
109  
446

colinr  
12/1/2021 1:49:01 PM  
PHASE\_3\roadway\sheets PH3\105588XS151.dgn  
FRA-70-13-072 FRA-70-13-10 6A\89464\71SB PHASE\_3\roadway\sheets PH3\105588XS151.dgn

NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21



TEMPORARY ROAD EARTHWORK

FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA	VOLUME	CALCULATED	CFR	CHECKED	BSB
42	117				
43	108				
42	110				
44	106				
313	815				

CROSS SECTIONS I-71 SB  
STA. 220+50.00 TO STA. 222+00.00

FRA-71-14.36

419  
1228

SEEDING  
 END SO. NO.  
 WIDTH YDS.  
 22  
 123  
 22  
 133  
 26  
 166  
 422

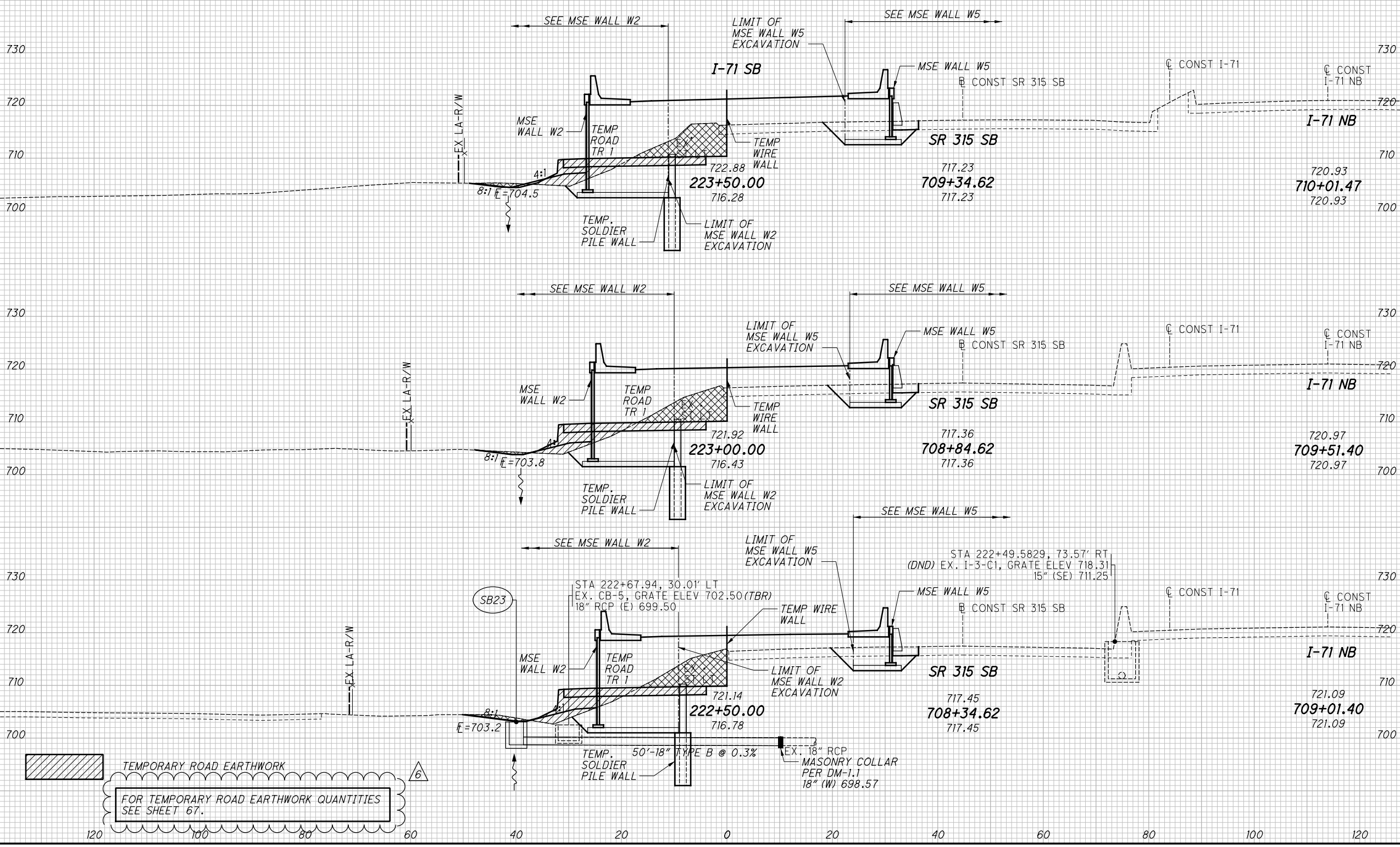
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA	VOLUME	CALCULATED	CHECKED						
				CUT	FILL	CUT	FILL	CFR	BSB
28	138								
55	221								
31	101								
61	200								
35	115								
71	214								
	187	635							

CROSS SECTIONS I-71 SB  
 STA. 222+50.00 TO STA. 223+50.00

FRA-71-14.36

420  
 1228



FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

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SEEDING  
 END SO. NO.  
 WIDTH YDS.  
 15  
 88  
 17  
 98  
 19  
 114  
 300

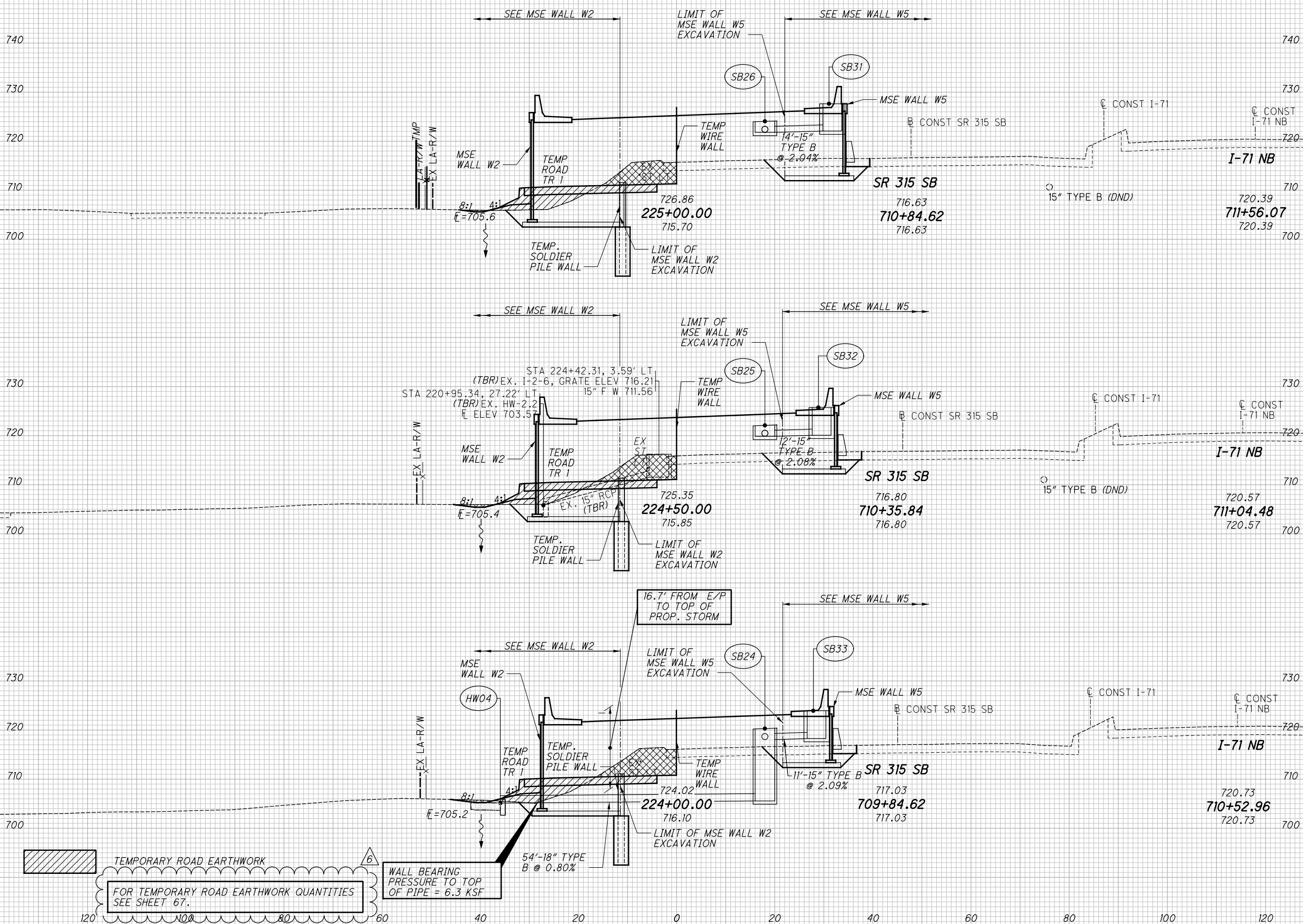
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA	VOLUME	CALCULATED	CFR	CHECKED	BSB
28	199				
49	326				
25	153				
44	283				
23	152				
48	268				
	141	877			

CROSS SECTIONS I-71 SB  
 STA. 224+00.00 TO STA. 225+00.00

FRA-71-14.36

421  
 1228



TEMPORARY ROAD EARTHWORK  
 FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.  
 WALL BEARING PRESSURE TO TOP OF PIPE = 6.3 KSF

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SEEDING  
 END WIDTH SO. YDS.  
 6  
 33  
 8  
 59  
 14  
 79  
 171

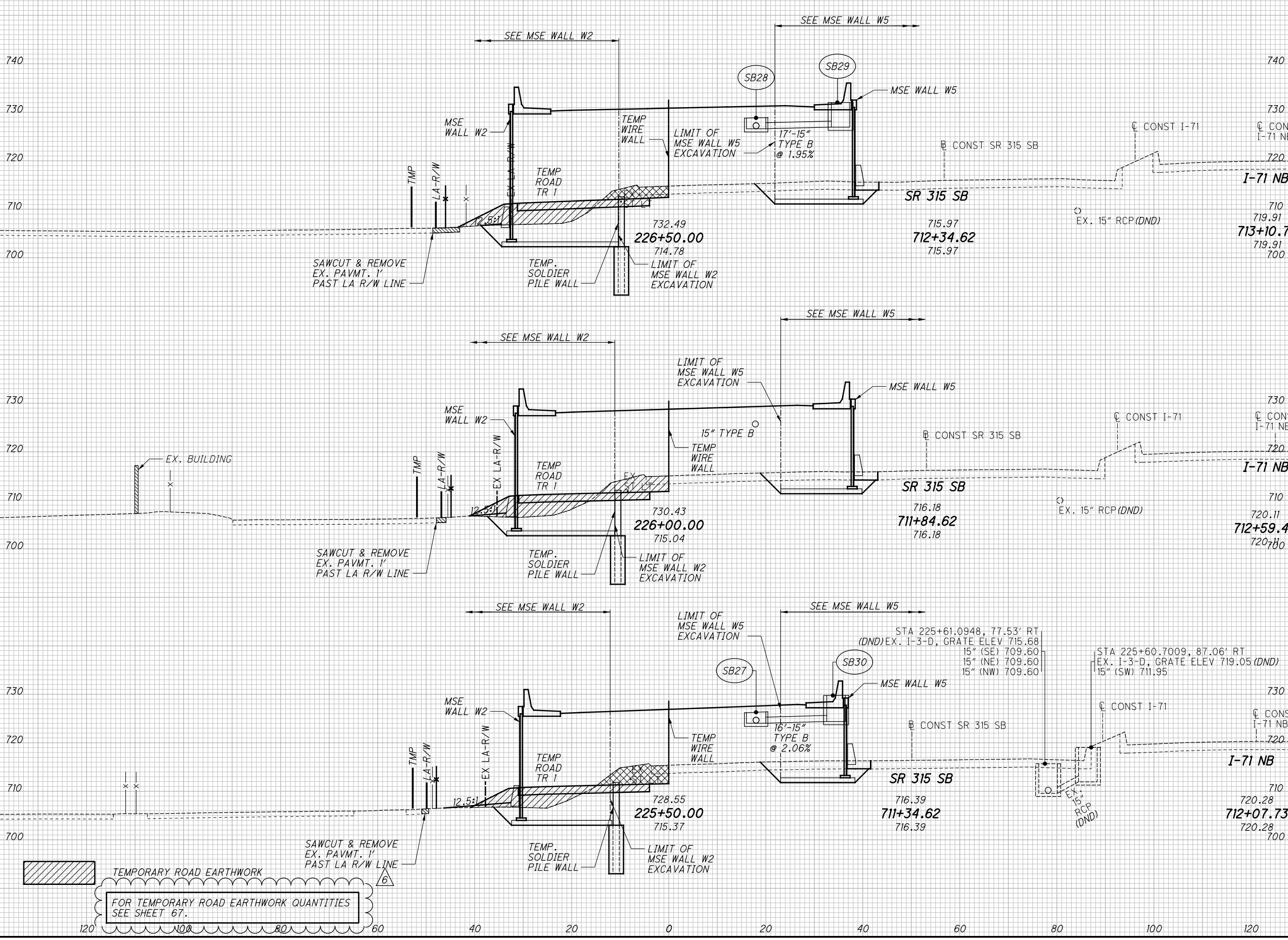
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA	VOLUME	CALCULATED	CFR	CHECKED	BSB
25	201				
45	359				
24	187				
51	479				
31	331				
55	490				
	151	1320			

CROSS SECTIONS I-71 SB  
 STA. 225+50.00 TO STA. 226+50.00

FRA-71-14.36

422  
 1228



SAWCUT & REMOVE EX. PAVMT. 1' PAST LA R/W LINE  
 TEMPORARY ROAD EARTHWORK  
 FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

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SEEDING	
END WIDTH	SO. YDS.
18	90
14	52
142	

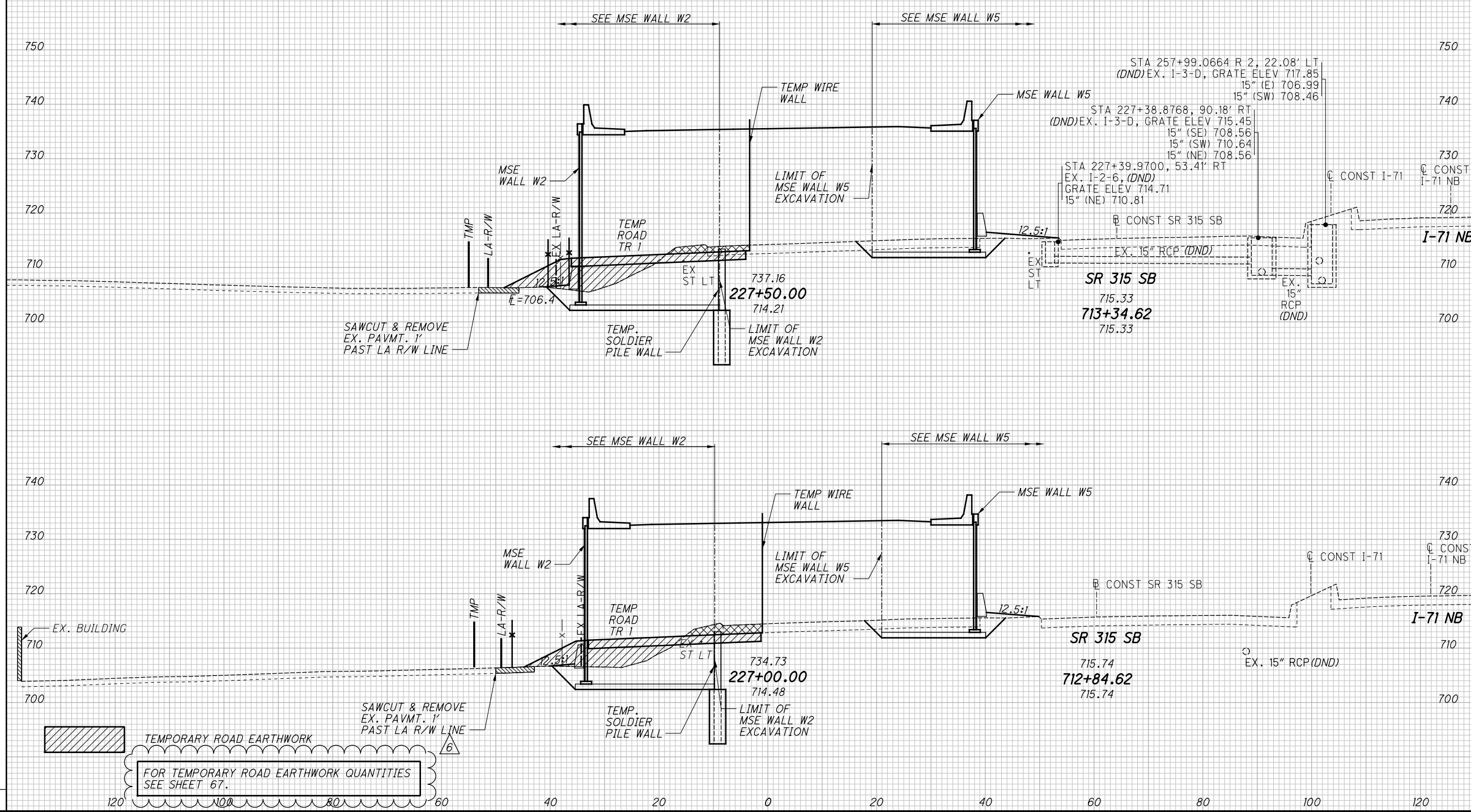
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA	VOLUME	CALCULATED	CHECKED						
				CUT	FILL	CUT	FILL	CFR	BSB
19	140								
24	187								
44	359								
84	662								

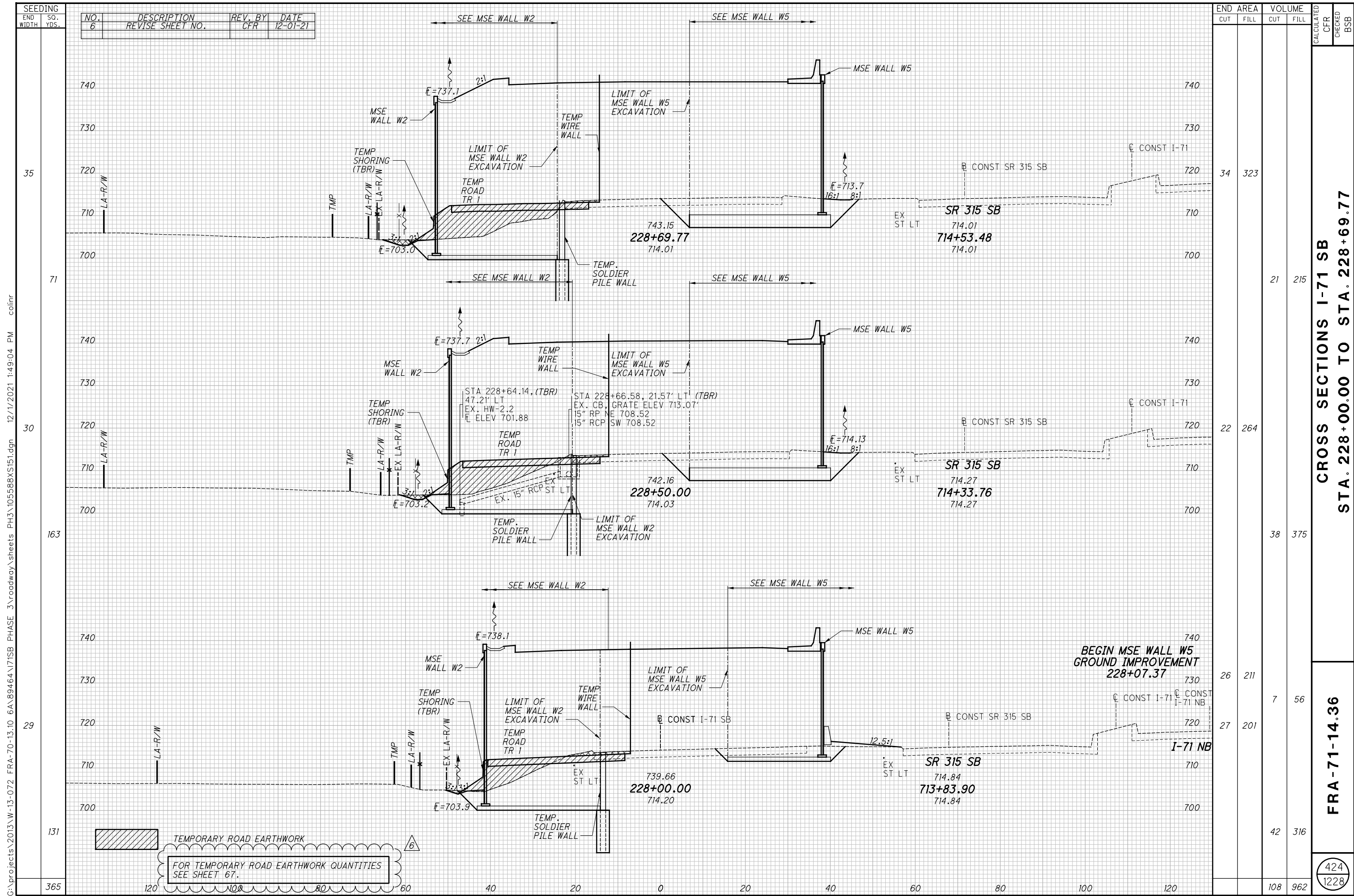
**CROSS SECTIONS I-71 SB**  
**STA. 227+00.00 TO STA. 227+50.00**

**FRA-71-14.36**

423  
1228



FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.



NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA	VOLUME	CALCULATED	CFR	CHECKED	BSB
34	323				
22	264				
26	211				
27	201				
42	316				
108	962				

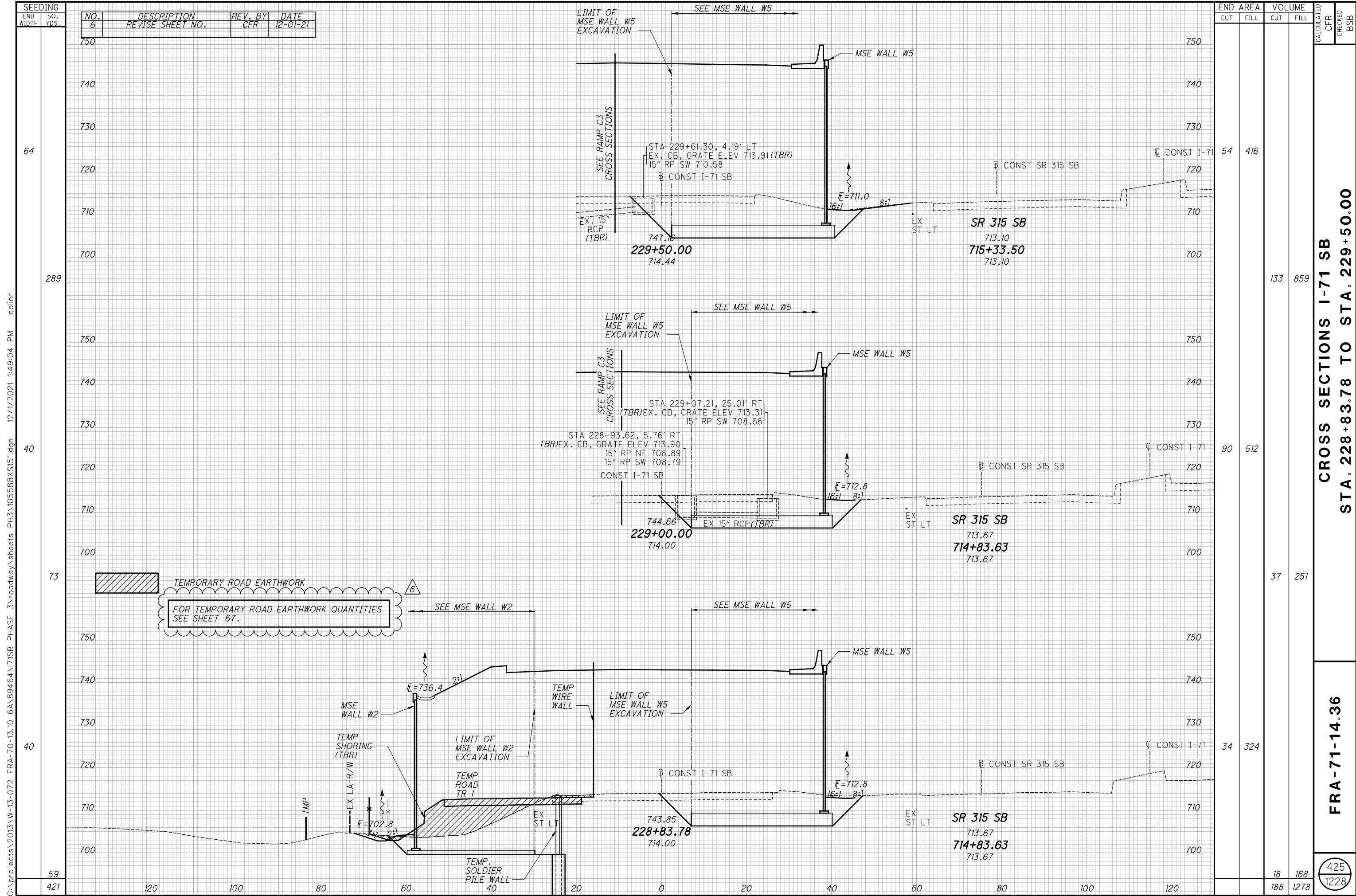
TEMPORARY ROAD EARTHWORK  
 FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

CROSS SECTIONS I-71 SB  
 STA. 228+00.00 TO STA. 228+69.77

FRA-71-14.36

424  
 1228

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SEEDING  
END WIDTH SO. YDS.  
1572

NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

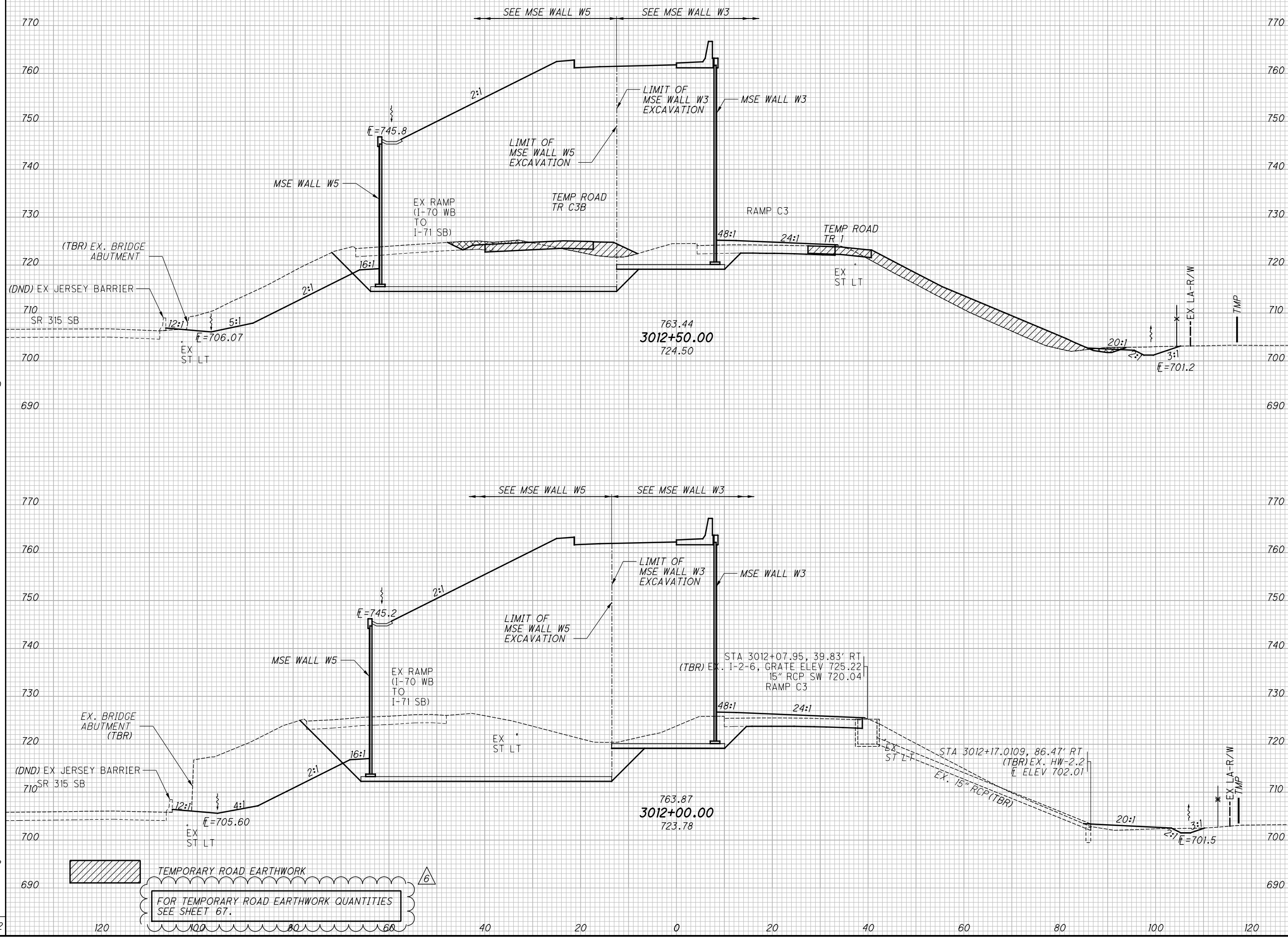
END AREA		VOLUME		CALCULATED	CFR	CHECKED	BSB
CUT	FILL	CUT	FILL				
59	54	103	122				
52	77	99	146				
		202	268				

CROSS SECTIONS RAMP C3  
STA. 3012+00.00 TO STA. 3012+50.00

FRA-71-14.36

448  
1228

134  
770  
690  
144  
770  
690  
802  
120  
100  
80  
60  
40  
20  
0  
20  
40  
60  
80  
100  
120



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SEEDING  
 END WIDTH SO. YDS.  
 65  
 379  
 72  
 570  
 949

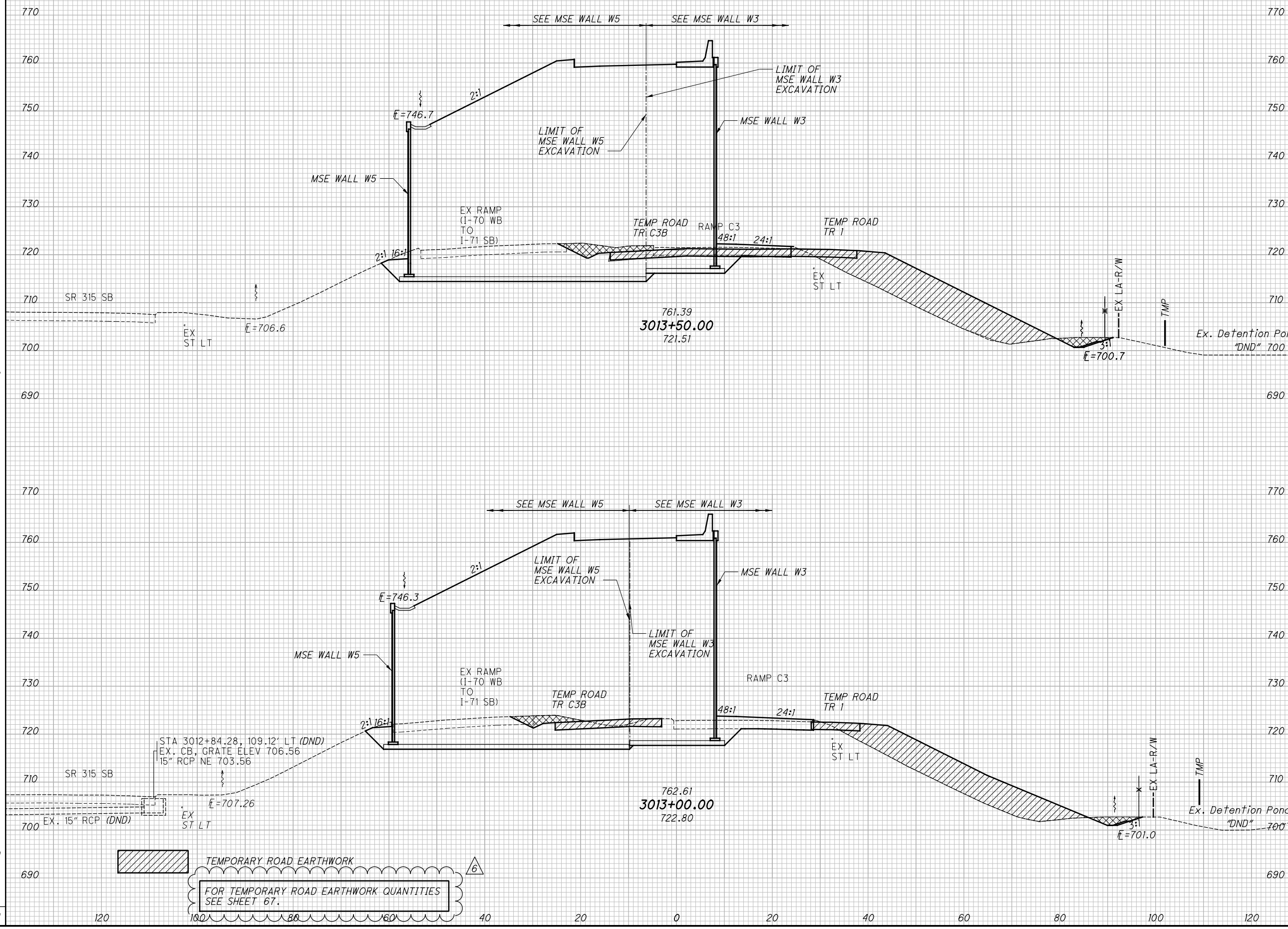
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA		VOLUME		CALCULATED	CFR	CHECKED	BSB
CUT	FILL	CUT	FILL				
41	55	79	106				
44	59	96	105				
		175	211				

CROSS SECTIONS RAMP C3  
 STA. 3013+00.00 TO STA. 3013+50.00

FRA-71-14.36

449  
 1228



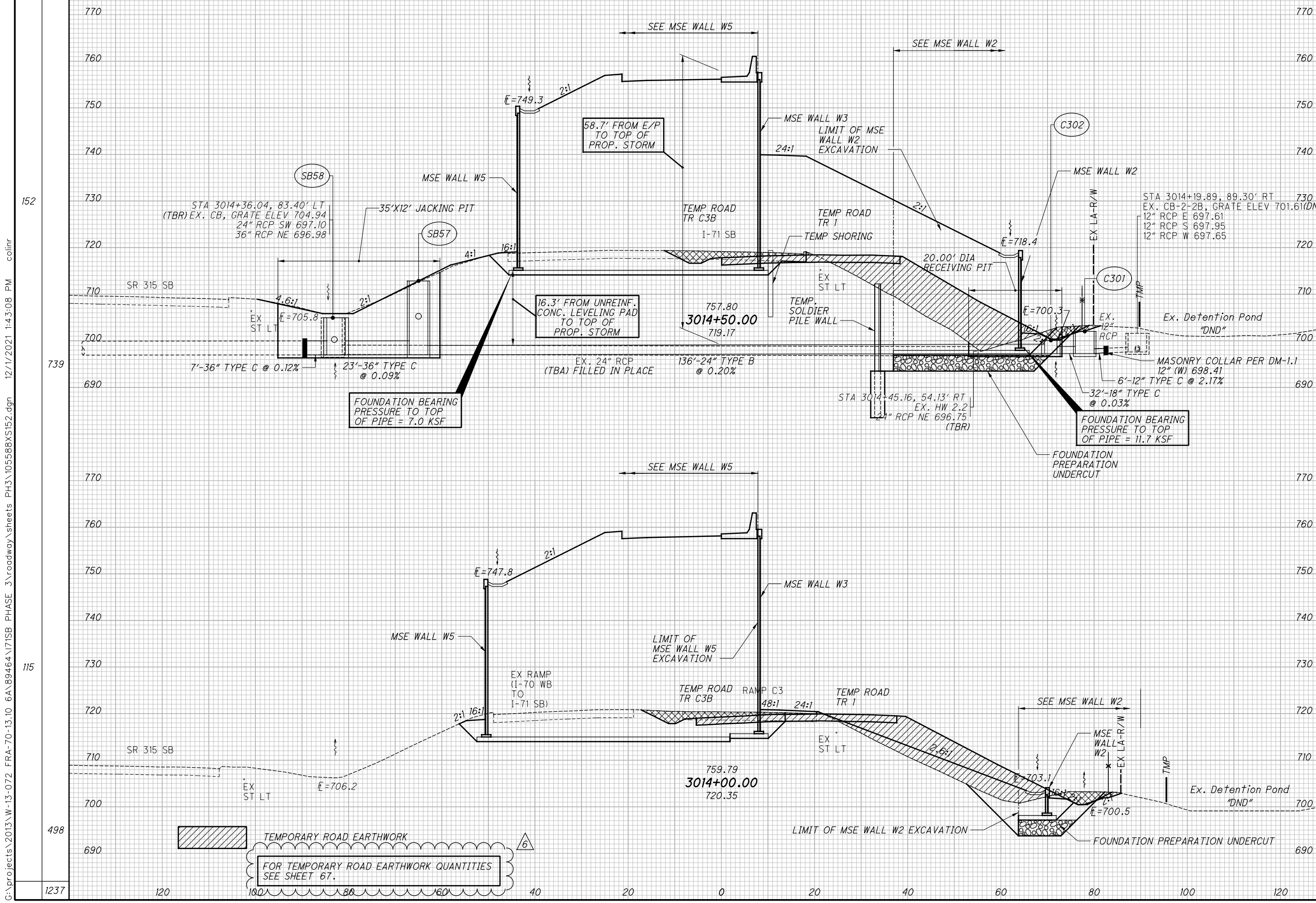
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SEEDING  
END WIDTH SO. YDS.

NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA		VOLUME		CALCULATED	CFR	CHECKED	BSB
CUT	FILL	CUT	FILL				
151	583	382	642				
115	261	111					
498	280	153					
1237	662	795					



**CROSS SECTIONS RAMP C3**  
**STA. 3014+00.00 TO STA. 3014+50.00**

**FRA-71-14.36**

450  
 1228

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c:\projects\2013\w-13-072\_FRA-70-13-10\_6A\89464\71SB\_PHASE\_3\roadway\sheets\_PH3\105588XS152.dgn 12/1/2021 1:43:08 PM colnr

SEEDING	
END WIDTH	SO. YDS.
667	89
667	667

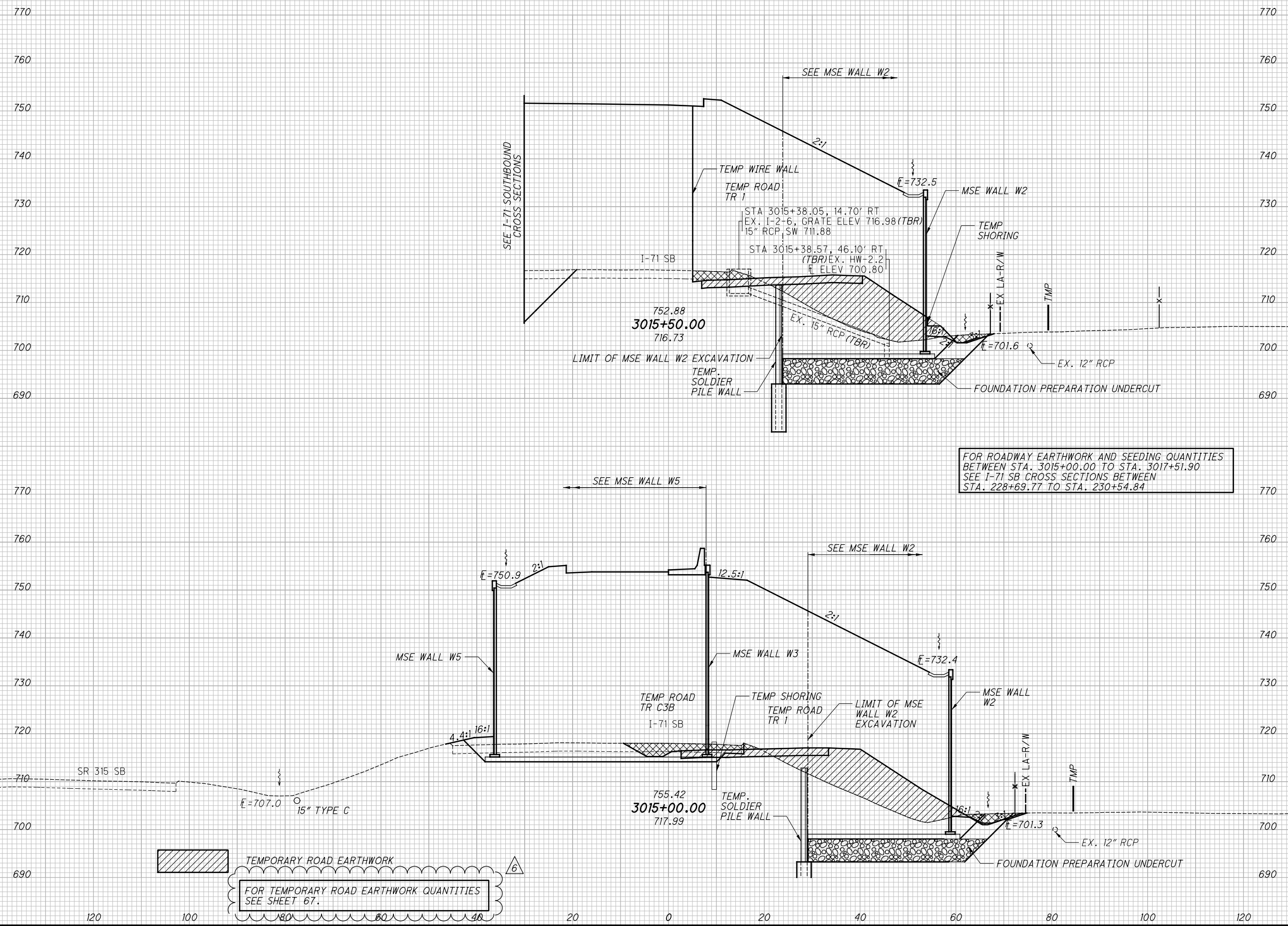
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL		
77	620	211	1114		
		211	1114		

**CROSS SECTIONS RAMP C3  
STA. 3015+00.00 TO STA. 3015+50.00**

**FRA-71-14.36**

451  
1228



FOR ROADWAY EARTHWORK AND SEEDING QUANTITIES BETWEEN STA. 3015+00.00 TO STA. 3017+51.90 SEE I-71 SB CROSS SECTIONS BETWEEN STA. 228+69.77 TO STA. 230+54.84

FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

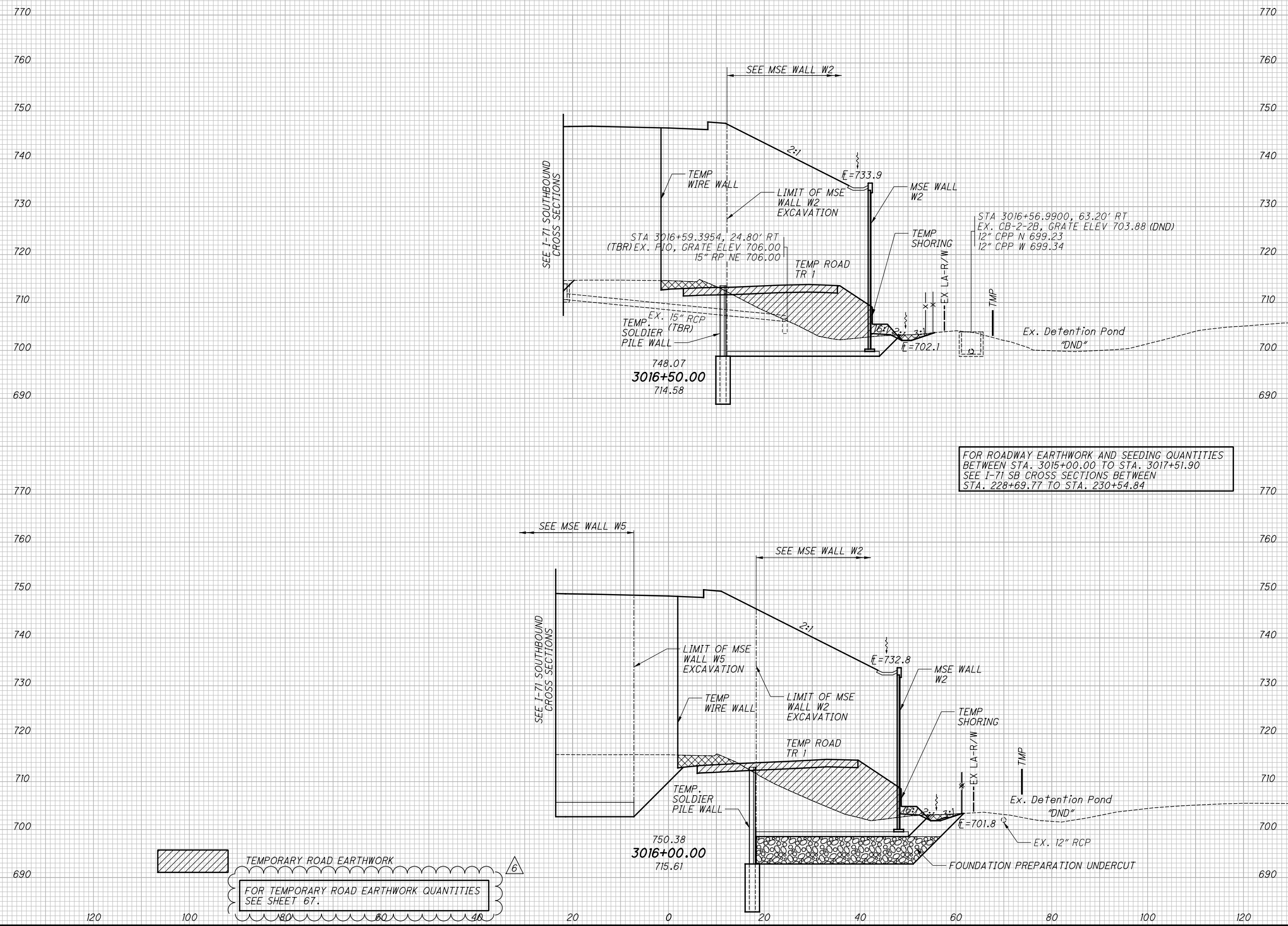


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SEEDING	
END WIDTH	SO. YDS.

NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA	VOLUME	CALCULATED	CHECKED						
				CUT	FILL	CUT	FILL	CFR	BSB



FOR ROADWAY EARTHWORK AND SEEDING QUANTITIES BETWEEN STA. 3015+00.00 TO STA. 3017+51.90 SEE I-71 SB CROSS SECTIONS BETWEEN STA. 228+69.77 TO STA. 230+54.84

TEMPORARY ROAD EARTHWORK  
 FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

CROSS SECTIONS RAMP C3  
 STA. 3016+00.00 TO STA. 3016+50.00

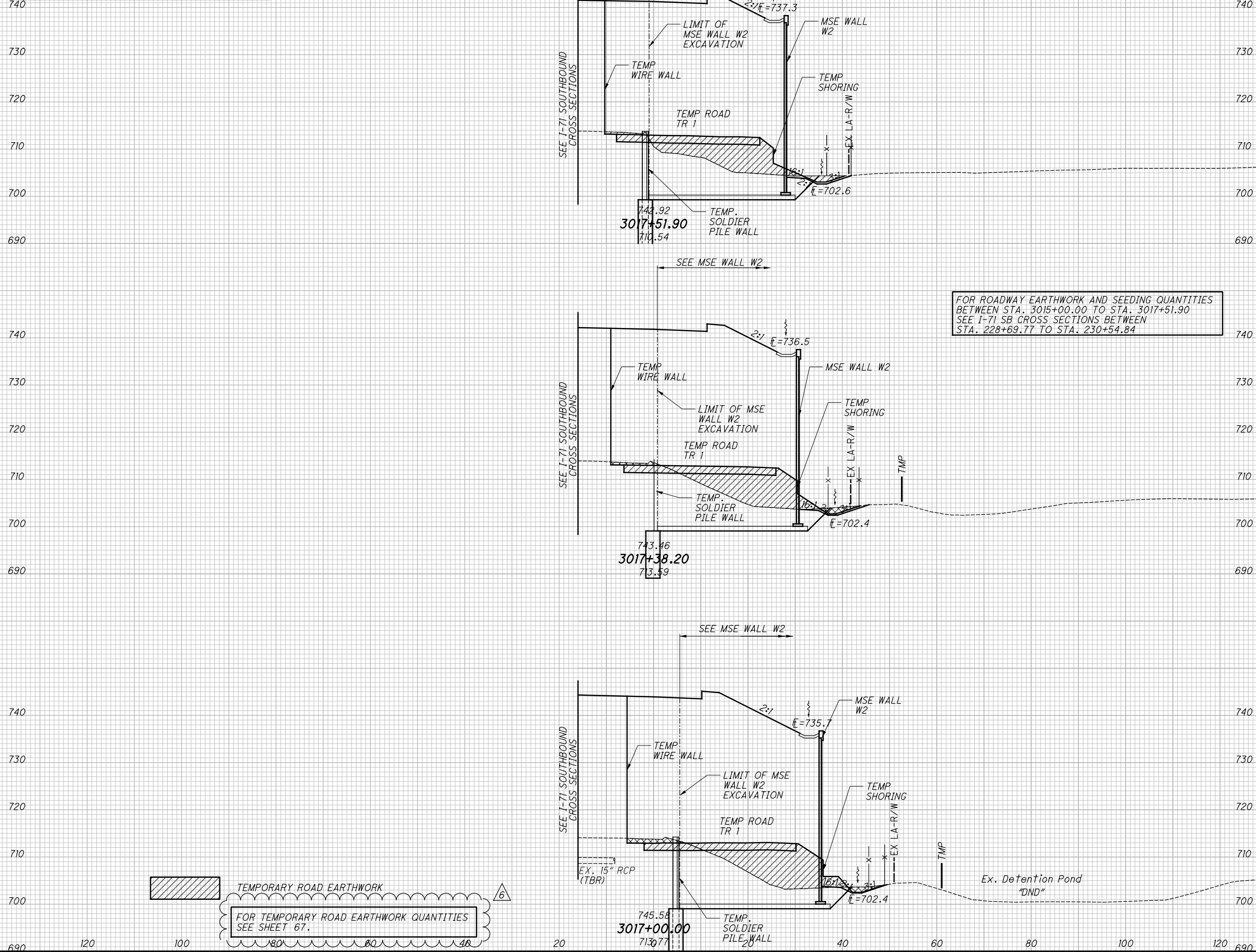
FRA-71-14.36

452  
1228

C:\projects\2013\W-13-072\_FRA-70-13-10\_6A\89464\71SB\_PHASE\_3\roadway\sheets\_PH3\105588XS152.dgn 12/1/2021 1:43:10 PM colnr

SEEDING	
END WIDTH	SO. YDS.

NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21



FOR ROADWAY EARTHWORK AND SEEDING QUANTITIES BETWEEN STA. 3015+00.00 TO STA. 3017+51.90 SEE I-71 SB CROSS SECTIONS BETWEEN STA. 228+69.77 TO STA. 230+54.84

TEMPORARY ROAD EARTHWORK  
 FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

END AREA	VOLUME	CALCULATED	CFR	CHECKED	BSB

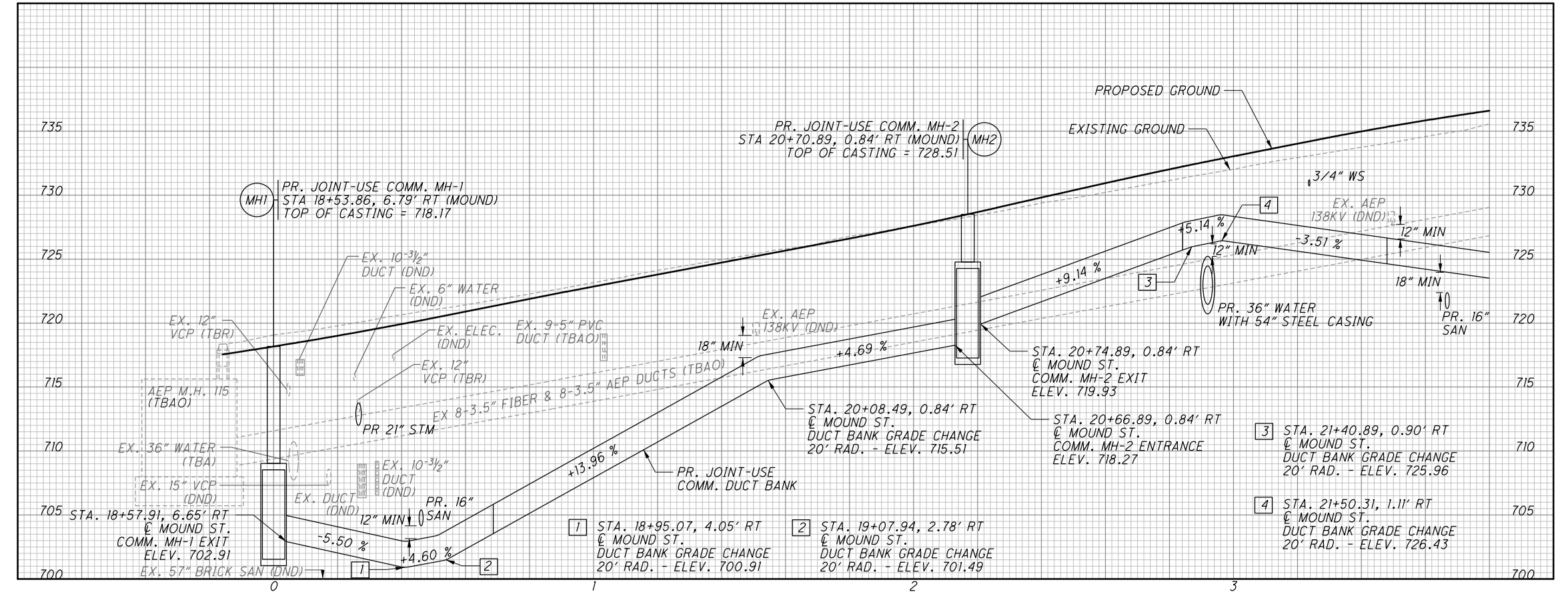
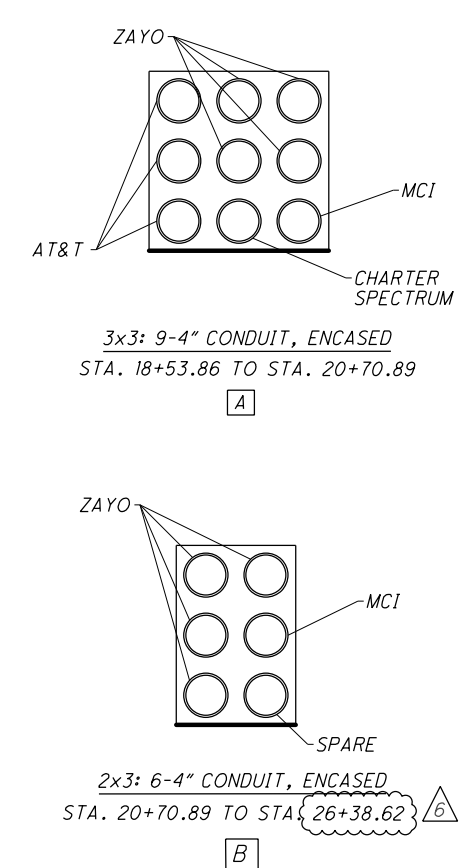
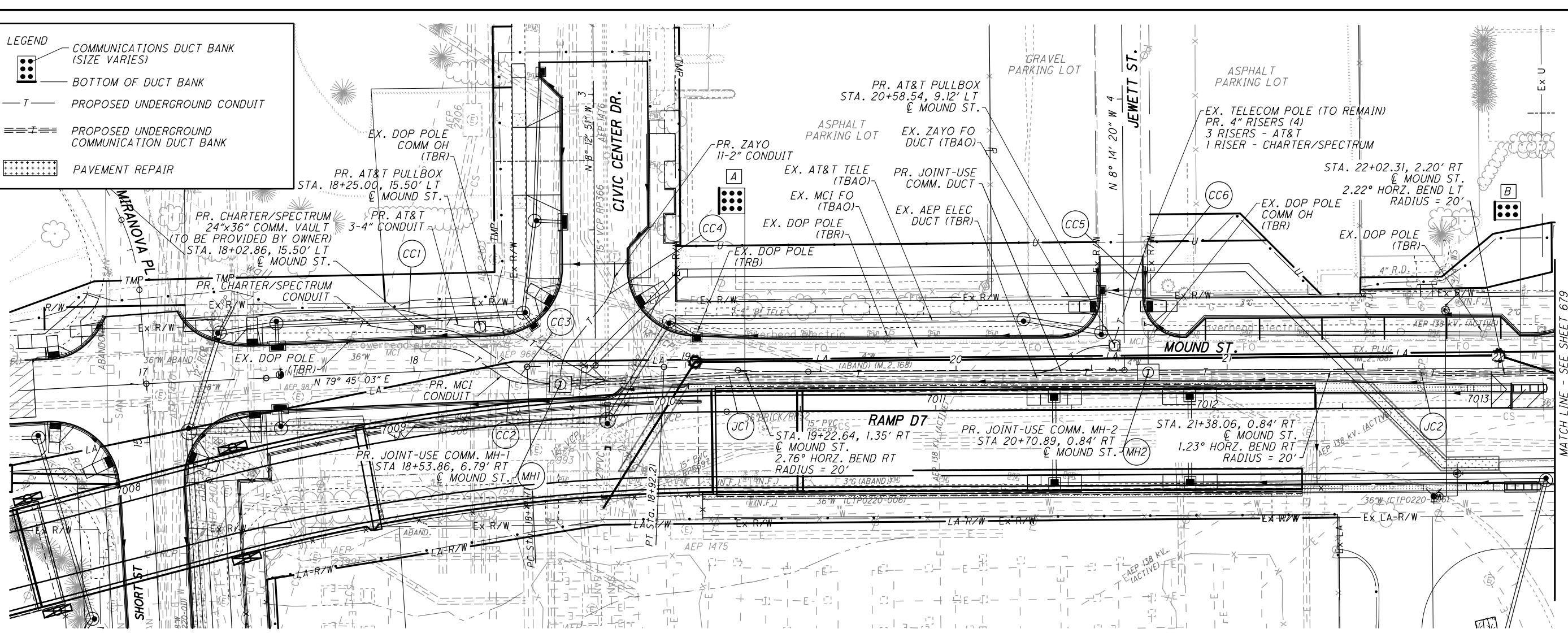
CROSS SECTIONS RAMP C3  
 STA. 3017+00.00 TO STA. 3017+51.90

FRA-71-14.36

453  
1228

**LEGEND**

- COMMUNICATIONS DUCT BANK (SIZE VARIES)
- BOTTOM OF DUCT BANK
- PROPOSED UNDERGROUND CONDUIT
- PROPOSED UNDERGROUND COMMUNICATION DUCT BANK
- PAVEMENT REPAIR



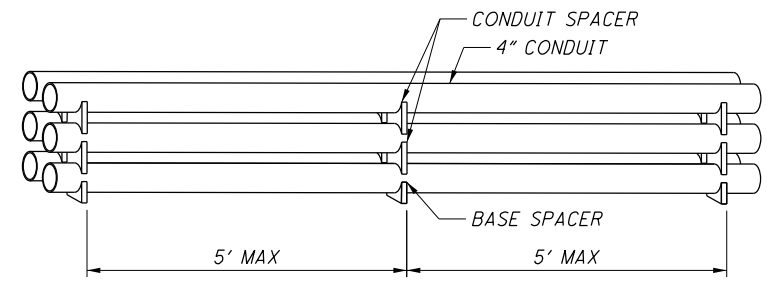
MATCH LINE - SEE SHEET 679

NO.	DESCRIPTION	REV. BY	DATE
6	Revise end station	JAP	12-01-2021

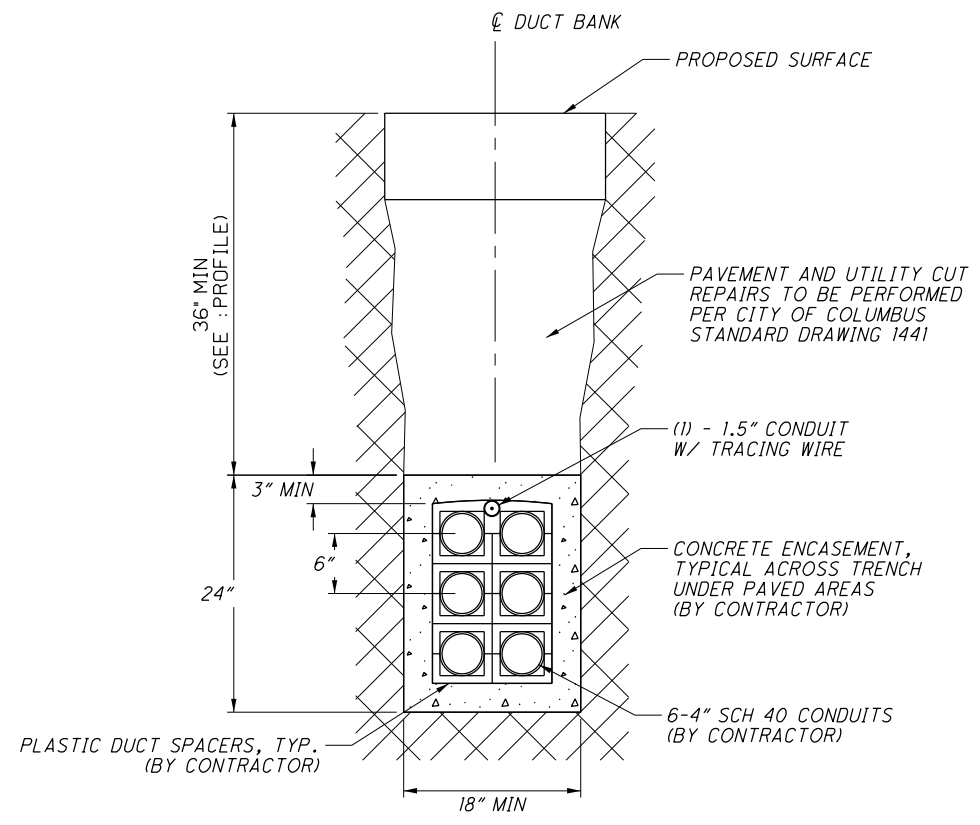


**JOINT-USE COMMUNICATION - PLAN & PROFILE  
CIVIC CENTER DR. TO 2ND ST.**

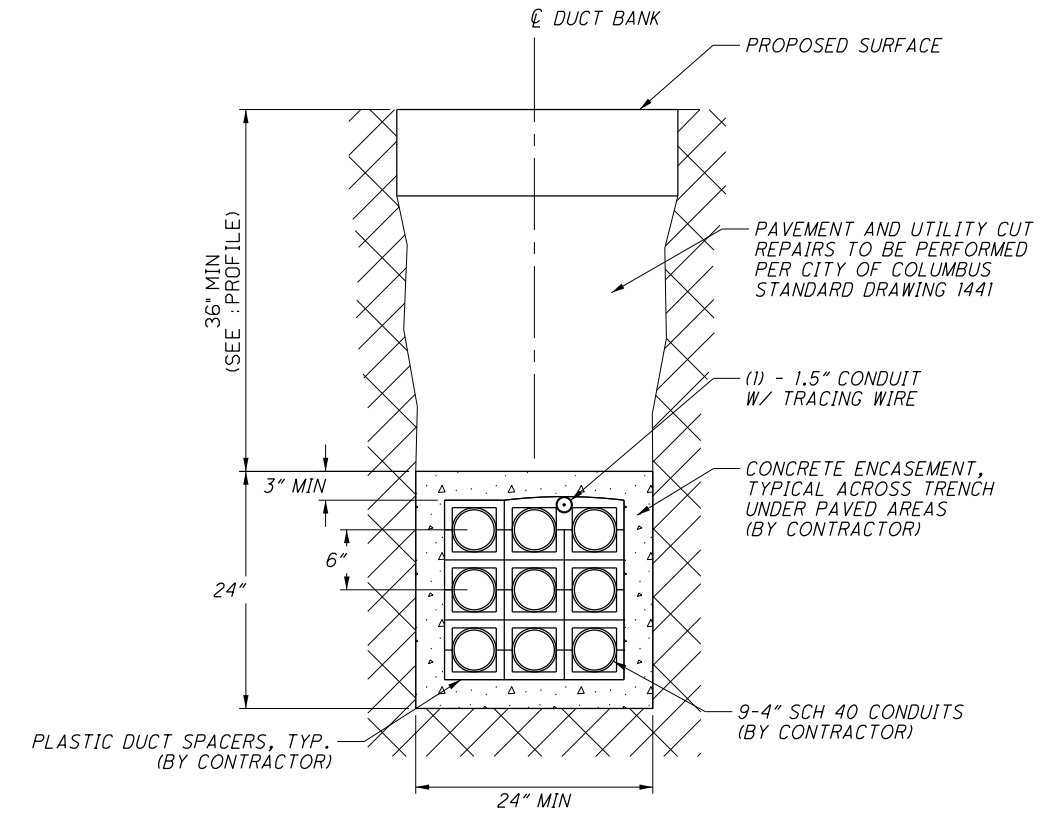
**FRA-71-14.36**



**TYPICAL CONDUIT STACKING DETAIL (TYP)**  
NTS



**2x3: 6-4" CONDUIT, ENCASED DETAIL**  
NTS



**3x3: 9-4" CONDUIT, ENCASED DETAIL**  
NTS

REF NO.	SHEET NO.	STATION TO STATION			QUANTITIES											
					PAVEMENT REPAIR, AS PER PLAN	FULL DEPTH PAVEMENT SAVING	4" RISER	Joint-Use Manhole, 8'x6'	Communications Pullbox, 13"x24"	1.5" Conduit with Tracing Wire, Encased	4" Conduit, Encased	11-2" Conduit, Encased	3-4" Conduit, Encased	6-4" Conduit, Encased	9-4" Conduit, Encased	
					SY	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	
JC1	678	18+53.86 (M)	RT	TO	17	74				217					217	
JC2	678-679	20+70.89 (M)	RT	TO	42	205				564				564		
MH1	678	18+53.86 (M)	RT						1							
MH2	678	20+70.89 (M)	RT						1							
MH3	679	22+45.83 (M)	RT						1							
MH4	679	26+38.62 (M)	RT						1							
CC1	678	17+42.51 (M)	LT	TO									135			
CC2	678	17+99.42 (M)	LT	TO						55						
CC3	678	17+66.69 (M)	LT	TO						86						
CC4	678	2+38.11 (CC)	RT	TO							48					
CC5	678	20+28.60 (M)	RT	TO			3		1				72			
CC6	678	20+70.89 (M)	RT	TO			1			48						
CC7	679	24+58.65 (M)	RT	TO	22		1			155						
CC8	679	26+42.62 (M)	RT	TO						44						
CC9	679	26+42.62 (M)	RT	TO							45					
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>					81	279	5	4	2	781	388	93	207	564	217	

NO.	DESCRIPTION	REV. BY	DATE
4	Revise Item Description	TAZ	11-24-2021
6	Revise conduit quantities	JAP	12-01-2021



**ITEM 203 ROADWAY MISC.: EPS GEOFOAM FILL (PORTIONS OF WALL E7 AND WALL E10)**

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND PLACING EPS GEOFOAM CONFORMING TO ASTM D6817 TYPE 19 EPS GEOFOAM. THE MATERIAL SHALL HAVE A MINIMUM DENSITY OF 1.15 POUNDS PER CUBIC FEET, AND A MINIMUM COMPRESSIVE RESISTANCE OF 5.8 PSI AT 1% STRAIN DEFORMATION. FOR DESIGN CALCULATIONS, THE AVERAGE DENSITY OF THE EPS GEOFOAM WAS ASSUMED TO BE 1.5 POUNDS PER CUBIC FEET.

ALL EPS GEOFOAM BLOCKS SHALL BE TREATED BY THE MANUFACTURER WITH A TESTED AND PROVEN TERMITE TREATMENT FOR BELOW GRADE APPLICATIONS. THE TREATMENT SHALL BE EPA REGISTERED, MEET REQUIREMENTS OF ICC ES AC239, AND BE RECOGNIZED IN AN ICC ES REPORT.

PRIOR TO ORDERING THE MATERIAL FOR THIS ITEM OF WORK, THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH THE FOLLOWING ITEMS:

- EPS GEOFOAM MANUFACTURERS PRODUCT LITERATURE AND TECH DATA INCLUDING PHYSICAL PROPERTIES IN COMPLIANCE WITH THE ASTM D6817 TYPE SPECIFIED.
- SUMMARY OF TEST COMPLIANCE WITH SPECIFIED PERFORMANCE CHARACTERISTICS AND PHYSICAL PROPERTIES.
- PRODUCT CERTIFICATE SHOWING EVIDENCE OF THIRD PARTY QUALITY CONTROL.
- A SIGNED/NOTARIZED CERTIFICATION FROM THE MANUFACTURER THAT THEIR EPS GEOFOAM MATERIAL MEETS THE PLAN REQUIREMENTS.
- SHOP DRAWINGS SHOWING BLOCK THICKNESS, WIDTH, LENGTH, AND LAYING PATTERN OR SCHEDULE.

A GEOMEMBRANE SHALL BE PLACED ON THE TOP AND SIDES OF THE GEOFOAM FILL. THE CONTRACTOR SHALL NOT PLACE THE CELLULAR CONCRETE FILL DIRECTLY AGAINST THE GEOFOAM. THE GEOMEMBRANE MATERIAL SHALL BE TRI-POLYMER CONSISTENT WITH POLYVINYL CHLORIDE, ETHYLENE INTERPOLYMER ALLOY, AND A POLYURETHANE, OR A COMPARABLE POLYMER COMBINATION. THE MATERIAL SHALL MEET THE FOLLOWING PHYSICAL AND CHEMICAL REQUIREMENTS.

- THICKNESS: MIN. 28 MILS (ATSM D751)
- UNLEADED GASOLINE VAPOR MAXIMUM 0.40 TRANSMISSION RATE, OZ. PER SQUARE PER 24 HOURS (ASTM D814)
- GRAB TENSILE STRENGTH: MIN. 600 LBS. BOTH MACHINE AND CROSS DIRECTION (1" GRIP 4' x 8' SAMPLE ASTM D751)
- ELONGATION AT BREAK: 20% MIN. (ASTM D751)
- TOUGHNESS: 14,000 MIN. (GRAB TENSILE STRENGTH x PERCENT ELONGATION)
- PUNCTURE RESISTANCE: 800 LB. MIN. (ASTM D751 BALL TIP)
- COLD CRACK: PASS -30° FAHRENHEIT (ASTM D2136 1" MANDREL, 4 HR)
- FACTORY SEAMS: 2 INCH MIN. BONDED WIDTH
- SHEAR: 320 LBS. MIN. (ASTM D751)

A SIGNED/NOTARIZED CERTIFICATION OF COMPLIANCE SHALL BE FURNISHED BY THE MANUFACTURER STATING THE SELECTED GEOMEMBRANE HAS BEEN TESTED AND MEETS THE ABOVE REQUIREMENTS. JOINTS IN THE GEOMEMBRANE WRAP SHALL BE LAPPED A MINIMUM OF 18 INCHES.

AT WALL E7 STA. 703+00.00 TO STA. 704+21.44, THE GEOFOAM SHALL BE PLACED ON A BASE OF CELLULAR CONCRETE FILL, CLASS II. AT WALL E10 STA. 277+91.69 TO STA. 379+50.59, THE GEOFOAM FILL SHALL BE PLACED ON A BASE OF GRANULAR MATERIAL CONFORMING TO SIZE NO. 9 OF TABLE 703.01-1 OF THE CMS. THE GRANULAR BASE SHALL ALSO BE PLACED ALONG THE SIDES OF THE GEOFOAM FILL THAT ARE IN CONTACT WITH SOIL (NORTH AND EAST SIDES OF THE GEOFOAM).

CARE SHALL BE TAKEN TO PROTECT THE GEOFOAM BLOCKS FROM EXPOSURE TO GASOLINE, SOLVENT NAPHTHA, FUEL OIL, MINERAL OIL, TURPENTINE, OR ANY OTHER SOLVENT. THE BLOCKS SHALL ALSO BE PROTECTED FROM EXPOSURE TO ANY HEAT SOURCE WHICH WOULD REACH 175 DEGREES (F). GEOFOAM SHALL BE STORED ABOVE GROUND, AND PROTECTED FROM MOISTURE AND SUNLIGHT PRIOR TO INSTALLATION.

DAMAGE TO GEOFOAM SHALL BE CORRECTED AS FOLLOWS:

- SLIGHT DAMAGE (< 0.12 CU FT) WITH NO LINEAR DIMENSION GREATER THAN 1 FOOT MAY BE LEFT IN PLACE AS IS.
- MODERATE DAMAGE (< 0.35 CU FEET) WITH NO LINEAR DIMENSION GREATER THAN 1 FOOT SHALL BE FILLED IN WITH SAND.
- GEOFOAM BLOCKS WITH EXCESSIVE DAMAGE (I.E. EXCEEDING THE MODERATE CATEGORY) SHALL BE REPLACED WITH GEOFOAM BLOCKS WHICH MEET THE DAMAGE CRITERIA. GEOFOAM BLOCKS NOT MEETING THE CRITERIA MAY BE CUT TO ELIMINATE THE EXCESSIVE DAMAGE AND THE REMAINING UNDAMAGED PORTION OF THE BLOCK MAY BE USED WITHIN THE FILL, PROVIDED THE UNDAMAGED PORTION OF THE BLOCK MEETS ALL OTHER REQUIREMENTS. SEE SHEETS 865 & 866 FOR SITE PREPARATION, AREA OF APPLICATION, AND EMBANKMENT TO BE PLACED ON TOP OF THE GEOFOAM BLOCK LOAD DISTRIBUTION SLAB.

**PLACEMENT:**

THE SURFACE OF A LAYER OF GEOFOAM BLOCKS TO RECEIVE ADDITIONAL GEOFOAM BLOCKS SHALL BE CONSTRUCTED WITH A VARIATION IN SURFACE TOLERANCE OF NO MORE THAN 1/2" IN ANY 10 FOOT INTERVAL. ALL BLOCKS SHALL BE ACCURATELY FIT RELATIVE TO ADJACENT BLOCKS. NO GAPS GREATER THAN 1" WILL BE ALLOWED ON VERTICAL JOINTS. THE FINISHED SURFACE OF THE GEOFOAM FILL BENEATH PAVEMENT SECTIONS SHALL BE CONSTRUCTED TO WITHIN THE TOLERANCE OF ZERO MINUS 2.5" OF THE INDICATED GRADE.

BLOCKS PLACED IN A ROW IN A PARTICULAR LAYER SHALL BE OFFSET 2 FEET RELATIVE TO BLOCKS PLACED IN ADJACENT ROWS OF THE SAME LAYER. IN ORDER TO AVOID CONTINUOUS JOINTS, EACH SUBSEQUENT LAYER OF BLOCKS SHALL BE ROTATED ON THE HORIZONTAL PLANE 90 DEGREES FROM THE DIRECTION OF PLACEMENT OF THE PREVIOUS LAYER.

THE LONGITUDINAL AXES OF THE UPPERMOST LAYER OF BLOCKS MUST BE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE ROAD ALIGNMENT.

CONNECTOR PLATES SHALL BE PLACED BETWEEN HORIZONTAL LAYERS OF BLOCK. A MINIMUM OF TWO CONNECTOR PLATES SHALL BE USED BETWEEN BLOCKS.

CONNECTORS SHALL BE GALVANIZED STEEL OR STAINLESS STEEL TWO SIDED MULTI-BARBED CONNECTORS. EACH CONNECTOR SHALL HAVE A LATERAL HOLDING STRENGTH OF AT LEAST 60 LBS. PROVIDE A SIGNED/NOTARIZED CERTIFICATION FROM THE MANUFACTURER THAT THE CONNECTOR PLATES MEET MATERIAL, DESIGN AND STRENGTH REQUIREMENTS OF THESE PLANS.

BLOCKS SHALL BE CUT USING A SAW OR HOT WIRE.

TO PREVENT THE COMPLETED GEOFOAM STRUCTURE FROM DISLODGING OR SHIFTING, CONSTRUCTION OF EMBANKMENT ADJACENT TO THE GEOFOAM SHALL BE DONE SO THAT THE LATERAL EARTH PRESSURES FROM OPPOSITE SIDES REMAIN APPROXIMATELY EQUAL.

NO VEHICLE OR CONSTRUCTION EQUIPMENT SHALL TRAVERSE DIRECTLY ON THE EPS BLOCKS OR ON ANY SEPARATION MATERIAL PLACED BETWEEN THE EPS BLOCKS AND THE PAVEMENT SYSTEM. SOIL FOR THE PAVEMENT SYSTEM SHALL BE PUSHED ONTO THE EPS BLOCKS OR SEPARATION LAYER USING APPROPRIATE EQUIPMENT. A MINIMUM OF 12 INCHES OF FILL SHALL COVER THE TOP OF THE GEOFOAM BLOCK OR SEPARATION LAYER BEFORE COMPACTION COMMENCES. THE CONTRACTOR'S EQUIPMENT USED DURING COMPACTION SHALL NOT PLACE A PRESSURE GREATER THAN 18 PSI ON THE GEOFOAM BLOCKS AT ANY TIME DURING CONSTRUCTION. ANY DAMAGE TO THE GEOFOAM BLOCKS RESULTING FROM THE CONTRACTOR'S VEHICLES, EQUIPMENT, OR OPERATIONS SHALL BE REPLACED BY THE CONTRACTOR.

PAYMENT FOR THIS ITEM OF WORK SHALL BE PAID FOR BY THE UNIT PRICE BID PER CUBIC YARD OF ITEM SPECIAL ROADWAY MISC.: EPS GEOFOAM FILL, WHICH PRICE AND PAYMENT INCLUDES ALL MATERIALS, SITE PREPARATION (EXCLUDING EXCAVATION), GRANULAR BASE, GEOMEMBRANE WRAP, TOOLS, EQUIPMENT, AND LABOR TO COMPLETE THIS ITEM OF WORK IN PLACE.

ALL QUANTITIES AND COSTS ASSOCIATED WITH THIS ITEM BETWEEN STA. 703+00.00 AND STA. 705+60.87 (@ WALL E7) SHALL BE INCLUDED IN THE ESTIMATED QUANTITIES AND COST ESTIMATE FOR WALL E7.

ALL QUANTITIES AND COSTS ASSOCIATED WITH THIS ITEM BETWEEN STA. 277+97.19 AND STA. 379+50.92 (@ I-71 S.B.) SHALL BE INCLUDED IN THE ESTIMATED QUANTITIES AND COST ESTIMATE FOR WALL E10.

6

NO.	DESCRIPTION	REV. BY	DATE
1	UPDATED SHEET TITLE	MMS	11/5/21
6	MODIFIED NOTE	MMS	12/1/21

RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949



DATE 6/23/2021  
REVIEWED NCK  
STRUCTURE FILE NUMBER

DRAWN MMS  
REVISED

DESIGNED MMS  
CHECKED JGM

RETAINING WALL NOTES 3 OF 9  
RETAINING WALLS E7 & E10  
I-70/I-71 WEST INTERCHANGE PROJECT

FRA - 71 - 14.36  
PID No. 105588

3 / 9

840  
1228

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**ITEM 203, SPECIAL - ENGINEERED FILL (LIGHTWEIGHT CELLULAR CONCRETE FILL): (WALL E7 AND WALL E10)**

**A. DESCRIPTION.**

THIS WORK CONSISTS OF FURNISHING AND PLACING A LOW DENSITY, LIGHTWEIGHT, FLOWABLE, LOW ABSORBABILITY, CEMENTITIOUS FILL MATERIAL, HEREIN REFERRED TO AS CELLULAR CONCRETE FILL (CCF).

**B. QUALIFICATIONS.**

1. SUPPLIER/PRODUCER.  
PROVIDE CCF FROM A SUPPLIER/PRODUCER REGULARLY ENGAGED IN THE PLACEMENT OF CCF MATERIAL, WHO HAS IN THE PAST THREE YEARS COMPLETED MASS FILLS HAVING A COMBINED QUANTITY OF AT LEAST 10,000 TOTAL CUBIC YARDS (7650 CUBIC METERS).

DOCUMENTATION FOR THE ABOVE QUALIFICATIONS SHALL BE SUBMITTED AT OR BEFORE THE PRECONSTRUCTION CONFERENCE ACCORDING TO C&MS 108.02.

2. CCF MATERIAL.

PROVIDE CCF MATERIAL, MEETING THE REQUIREMENT OF SECTION C OF THIS SPECIFICATION, WHICH HAS BEEN SUCCESSFULLY PLACED ON AT LEAST 5 PROJECTS THAT HAVE PERFORMED SATISFACTORY FOR AT LEAST FIVE YEARS.

PREAPPROVAL OF THE CCF MATERIAL WILL BE BASED ON DOCUMENTATION FOR THE ABOVE QUALIFICATIONS. THIS DOCUMENTATION SHALL BE SUBMITTED TO THE LABORATORY. PREAPPROVED CCF MATERIALS WILL BE LISTED ON THE DEPARTMENT'S QUALIFIED PROJECT LIST AND WILL NEED TO BE REAPPROVED YEARLY.

**C. MATERIALS**

1. FOAM.  
USE A FOAMING AGENT CONFORMING TO ASTM C796.

2. CEMENT.  
USE PORTLAND CEMENT COMPLYING WITH ASTM C150 (TYPE I, II OR III).

3. WATER.  
USE WATER ACCORDING TO C&MS 499.02. POTABLE WATER IS SATISFACTORY FOR USE IN CCF. WATER SHALL BE FREE FROM DELETERIOUS SUBSTANCES.

4. ADMIXTURES.  
USE ADMIXTURES CONFORMING TO C&MS 499.02 FOR WATER REDUCING, RETARDING, ACCELERATING, ANTI-WASHOUT, IMPROVING THE BOND, OR FOR OTHER SPECIFIC PROPERTIES, WHEN SPECIFICALLY APPROVED BY THE MANUFACTURER OF THE PRE-FORMED FOAM.

701.10 MICRO-SILICA, 701.11 GGBF SLAG, OR FLY ASH SHALL BE CLASS C OR CLASS F AND COMPATIBLE WITH FOAMING AGENT.

**D. MIX DESIGN.**

DESIGN OF THE PROPOSED CCF MIX WILL BE PROVIDED BY THE SUPPLIER/PRODUCER. THE PROPOSED MIX DESIGN MUST MEET THE PROPERTIES OF TABLE A.

MIX DESIGNS MUST BE APPROVED BY THE LABORATORY PRIOR TO USE. A MINIMUM OF 30 DAYS PRIOR TO PLACING CCF, SUBMIT A PROPOSED MIX DESIGN, WITH CERTIFIED TEST DATA FROM THE SUPPLIER/PRODUCER, TO THE LABORATORY, WITH A COPY TO THE ENGINEER.

**E. QUALITY CONTROL.**

PERFORM CAST DENSITY MEASUREMENTS ON A MINIMUM OF 8 BATCHES PER PRODUCTION DAY. MAINTAIN A LOG OF THE CAST DENSITY MEASUREMENTS.

**F. QUALITY ASSURANCE.**

QUALITY ASSURANCE WILL BE BASED ON THE CAST DENSITY AND COMPRESSIVE STRENGTH AT THE POINT OF PLACEMENT. ANY MIXES NOT MEETING THE TABLE A PROPERTIES WILL BE REJECTED.

1. CAST DENSITY

AT A MINIMUM, THE DEPARTMENT WILL CHECK ONE OF THE BATCHES EACH DAY AS FOLLOWS:

A) WEIGH THE CONTAINER OF KNOWN VOLUME AND RECORD THE WEIGHT. A STANDARD CONCRETE CYLINDER MOLD MAY BE USED AS THE CONTAINER.

B) FILL THE CONTAINER WITH CCF, TAPPING THE CONTAINER SIDES BRISKLY WITH A RUBBER HAMMER DURING THE FILLING.

C) OVERFILL THE CONTAINER, STRIKING OFF THE EXCESS CCF. WIPE OFF THE OUTSIDE SURFACE OF THE CONTAINER.

D) WEIGH THE FULL CONTAINER.

E) SUBTRACT THE WEIGHT OF THE EMPTY CONTAINER FROM THE FULL CONTAINER.

F) CALCULATE THE CAST DENSITY AND COMPARE IT TO THE MAXIMUM DENSITY FOR THE CLASS OF CCF.

IF THE CCF MATERIAL EXCEEDS THE MAXIMUM DENSITY FOR THE CLASS OF CCF, ADJUST THE MIX AND RECHECK THE CAST DENSITY.

2. COMPRESSIVE STRENGTH.

TAKE AT LEAST FOUR (4) TEST SPECIMENS FOR EACH 300 CUBIC YARDS (230 CUBIC METERS) OF CCF PLACED OR FOR EACH DAY'S PRODUCTION, PREPARE, CURE, AND TEST THE SPECIMENS IN ACCORDANCE WITH ASTM C796 EXCEPT AS FOLLOWS:

A) FILL AN APPROPRIATE 3-INCH BY 6-INCH (75 MM BY 150 MM) CYLINDER MOLD ACCORDING TO ASTM C796, EXCEPT STRIKE OFF THE EXCESS CCF WITH A TROWEL.

B) CURE THE MOLDS IN A CURING BOX.

C) AFTER CURING, DO NOT OVEN DRY THE SPECIMENS THAT ARE TO BE LOAD TESTED. AIR DRY THE SPECIMENS FOR 1 TO 3 DAYS PRIOR TO TESTING.

D) WHILE SPECIMENS MAY BE TESTED AT ANY AGE TO MONITOR COMPRESSIVE STRENGTH OF THE CCF, TEST A MINIMUM OF TWO SPECIMENS AT 28 DAYS FOR ACCEPTANCE.

E) PROVIDE THE 28 DAY TEST RESULTS TO THE ENGINEER.

REVIEW THE STATUS OF THE CCF MATERIAL THAT FAILS TO MEET THE MINIMUM COMPRESSIVE STRENGTH FOR THE CLASS OF CCF TO DETERMINE IF IT IS ACCEPTABLE AT THAT LOCATION.

**G. CONSTRUCTION METHODS.**

PORTABLE PLANT SHALL COMPLY WITH C&MS ITEM 107.11.C AND ALL APPLICABLE ENVIRONMENTAL PERMITS AND REGULATIONS.

PLACEMENT OF CCF SHALL BE ACCORDING TO PROCEDURES PROVIDED BY THE SUPPLIER/PRODUCER.

1. PREPARATION.

THE ENGINEER WILL EXAMINE THE SUBSOIL CONDITIONS IN THE PLACEMENT AREAS. CORRECT UNSUITABLE SOIL CONDITIONS PRIOR TO PLACING THE CCF. PROPERTY FIX IN PLAN POSITION ITEMS TO BE ENCASED IN THE CCF. COAT ANY ALUMINUM TO PREVENT OXIDATION FROM THE FRESH CONCRETE.

2. WEATHER.

DO NOT PLACE CCF IF THE SUBSOIL IS FROZEN. WHEN THE AMBIENT TEMPERATURE IS LESS THAN 32°F (0°C), FOLLOW THE MANUFACTURER'S RECOMMENDATIONS SUCH AS HEATED MIX WATER OR TYP III CEMENT.

TAKE PRECAUTIONS TO AVOID DAMAGE TO THE CCF FROM FREEZING TEMPERATURES PER THE MANUFACTURER'S RECOMMENDATIONS.

3. MIXING AND CONVEYING.

USE JOB SITE MIXING AND CONVEYING EQUIPMENT FOR PROPORTIONING, MIXING AND PLACING THE CCF APPROVED BY THE SUPPLIER/PRODUCER. MIX THE MATERIALS ACCORDING TO THE SUPPLIER/PRODUCER MIX DESIGN PROCEDURES AND, PROMPTLY AFTER MIXING, CONVEY THE CCF TO ITS FINAL POSITION. AVOID EXCESSIVE HANDLING OF THE CCF.

4. PLACEMENT.

1) TOP OF THE CLASS III CCF SHALL NOT BE LESS THAN 2'-0" BELOW THE TOP OF PAVEMENT.

2) THE TOP OF THE CLASS II CCF SHALL NOT BE LESS THAN 4'-0" FROM THE TOP OF PAVEMENT.

DO NOT PLACE CCF INTO AN AREA OF STANDING WATER. PROVIDE AN INVERTED CROWN IN THE CLASS III CCF, AND PIPE UNDERDRAINS, AS SHOWN IN THE DETAILS.

CONTRACTOR SHALL PROVIDE WORKING DRAWINGS SHOWING THE FINAL WEIGHT TO BE USED IN THE FIELD, PLAN AND SECTIONS LOCATING THE CROWNS, AND LOCATIONS OF THE STEPS IN THE CLASS III CCF LIFT.

DO NOT PLACE REINFORCEMENTS AT COLD JOINTS. SUPPORT REINFORCEMENTS IN A LEVEL POSITION THROUGHOUT THEIR LENGTH AND KEEP THEM AT LEAST 6 INCHES ABOVE THE PREVIOUS DAY'S COLD JOINT.

**FINISHING THE CCF:**

THE TOP SURFACE OF THE CCF SHALL BE FINISHED TO DRAIN AS SHOWN ON THE PLANS. THE FINISHING MAY BE EXECUTED DURING PLACEMENT, OR GRADED AFTERWARDS, AT THE CONTRACTOR'S DISCRETION. THE FINISHED SURFACE SHALL NOT EXHIBIT EXCESSIVE CRACKING SUBJECT TO THE APPROVAL OF THE ENGINEER.

5. LOADING.

DO NOT APPLY ANY LOAD ONTO THE CCF UNTIL IT HAS ATTAINED A COMPRESSIVE STRENGTH OF AT LEAST 20 PSI (0.14 MPA).

TABLE A - CELLULAR CONCRETE FILL PROPERTIES		
PROPERTY	CLASS II	CLASS III
*-CAST DENSITY, MAX	30 LB/FT <sup>3</sup> (481 KG/M <sup>3</sup> )	36 LB/FT <sup>3</sup> (577 KG/M <sup>3</sup> )
**--COMPRESSIVE STRENGTH, MIN. @ 28 DAYS	40 PSI (0.28 MPA)	80 PSI (0.55 MPA)
***-WATER ABSORPTION, ASTM C796, MAX.	20 PERCENT	16 PERCENT

\* - SPECIFIED IN SECTION F.1 OF THIS SPECIFICATION  
\*\* - SPECIFIED IN SECTION F.2 OF THIS CLASSIFICATION  
\*\*\* - EXPRESSED AS PERCENT OF CAST DENSITY

**H. METHOD OF MEASUREMENT.**

THE DEPARTMENT WILL MEASURE EACH CLASS OF CCF BY THE NUMBER OF CUBIC YARDS COMPLETE IN PLACE.

**I. BASIS OF PAYMENT.**

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
SPECIAL	CUBIC YARD	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II

ITEM	UNIT	DESCRIPTION
SPECIAL	CUBIC YARD	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III

ALL QUANTITIES AND COSTS ASSOCIATED WITH THIS ITEM BETWEEN STA. 702+19.50 AND STA. 705+60.87 (WALL E7) SHALL BE INCLUDED IN THE ESTIMATED QUANTITIES AND COST ESTIMATE FOR WALL E7.

ALL QUANTITIES AND COSTS ASSOCIATED WITH THIS ITEM BETWEEN STA. 277+97.19 AND STA. 380+20.00 (I-71 S.B.) SHALL BE INCLUDED IN THE ESTIMATED QUANTITIES AND COST ESTIMATE FOR WALL E10.

NO.	DESCRIPTION	REV. BY	DATE
1	UPDATED SHEET TITLE	MMS	11/5/21
1	MODIFIED NOTES	MMS	11/5/21
6	MODIFIED TITLE	MMS	12/1/21
6	MODIFIED NOTE	MMS	12/1/21

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RESOURCE INTERNATIONAL, INC.  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
  
 DATE: 6/23/2021  
 REVISED NCK: 6/23/2021  
 DRAWN MMS  
 DESIGNED MMS  
 CHECKED JGM  
 STRUCTURE FILE NUMBER  
 RETAINING WALLS  
 I-70/1-71 WEST INTERCHANGE PROJECT  
 RETAINING WALL NOTES 4 OF 9  
 FRA - 71 - 14.36  
 PID No. 105588  
 4 / 9  
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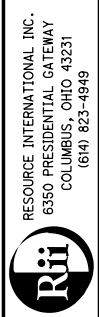
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CALCULATED BY: KSJ DATE: 03/04/2020  
 CHECKED BY: MMS DATE: 03/04/2020

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	20000	73	CU YD	EMBANKMENT	
<del>203</del>	<del>35710</del>	<del>246</del>	<del>CU YD</del>	<del>GRANULAR MATERIAL, TYPE B</del>	
203	65000	2	EACH	SPECIAL SETTLEMENT PLATFORM	
203	98100	5680	SQ YD	ROADWAY MISC.: COLUMN SUPPORTED WALLS*	
503	1101	LS	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	838
504	1101	1800	SQ FT	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN	848
509	10001	14932	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	839
511	53012	93	CU YD	CLASS CC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH GC/GA	
512	10001	348	SQ YD	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	838
512	10100	703	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	56	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	518	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
840	20001	6894	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839 & 843
840	21000	630	CU YD	WALL EXCAVATION	
840	22000	547	SQ YD	FOUNDATION PREPARATION	
840	23000	3908	CU YD	SELECT GRANULAR BACKFILL	
840	25010	608	FT	6" DRAINAGE PIPE, PERFORATED	
840	26000	315	FT	CONCRETE COPING	
840	26050	6264	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON-SITE ASSISTANCE	
867	00101	LS	LS	TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN (WALL T1)	839

\* - QUANTITY FOR COLUMN SUPPORTED WALLS INCLUDE GROUND IMPROVEMENT UP TO RAMP D7 STA. 7002+25.00

NO.	DESCRIPTION	REV. BY	DATE
1	CHANGED CONTROLLED MODULUS COLUMNS TO COLUMN SUPPORTED WALLS	MMS	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21
4	UPDATED CSW QUANTITY	MMS	11/24/21
6	UPDATED EMBANKMENT QUANTITY	MMS	12/1/21
6	REMOVED GRANULAR EMBANKMENT	MMS	12/1/21
6	ADDED ITEM-504 , STEEL SHEET PILE	MMS	12/1/21



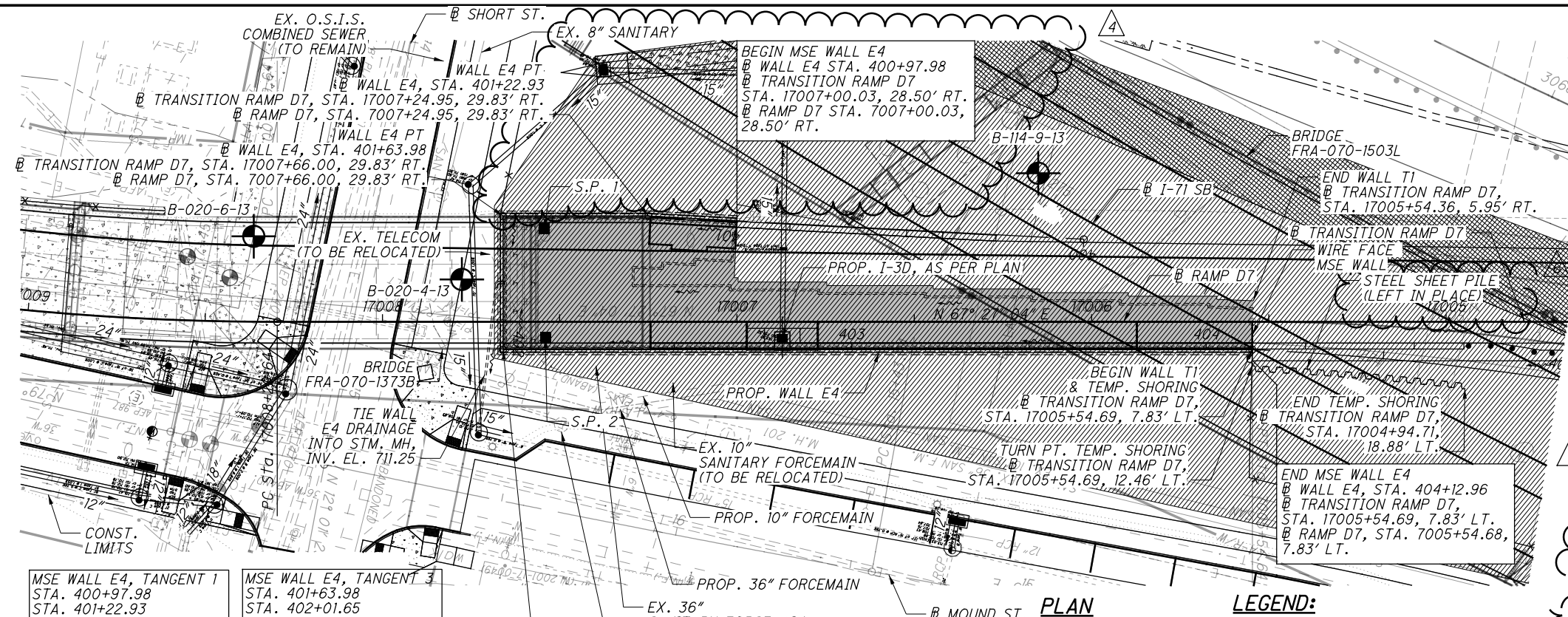
REVIEWED DATE: 6/23/2021  
 NCK: 6/23/2021  
 STRUCTURE FILE NUMBER: 43231

DESIGNED BY: KSJ  
 CHECKED BY: MMS

ESTIMATED QUANTITIES  
 RETAINING WALL E4  
 I-70/I-71 WEST INTERCHANGE PROJECT

FRA-71-14.36  
 PID No. 105588

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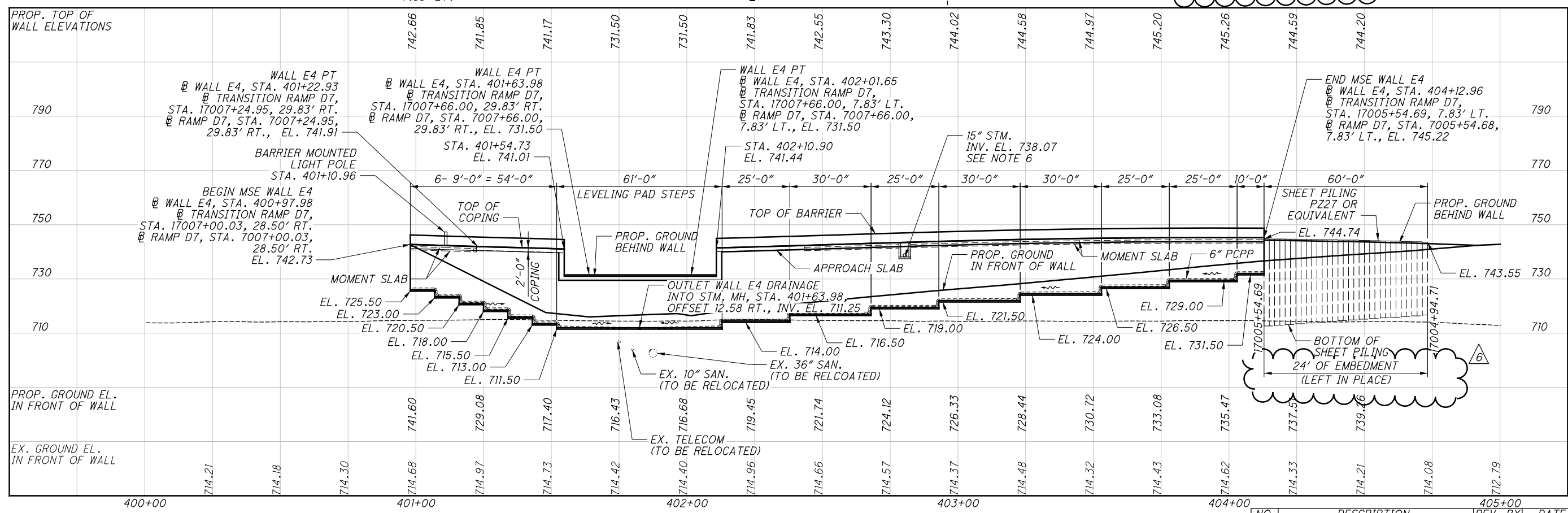
NO.	DESCRIPTION	REV. BY	DATE
1	CHANGED CONTROLLED MODULUS COLUMNS TO COLUMN SUPPORTED WALLS (CSW)	MMS	11/5/21
4	UPDATED GROUND IMPROVEMENT AREA	MMS	11/24/21
4	UPDATED NOTE	MMS	11/24/21

- NOTES:**
- ITEM 504, STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN: THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT PRICE FOR STEEL SHEET PILING LEFT IN PLACE. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.
  - LEVELING PAD ELEVATIONS ARE GIVEN AT BOTTOM OF PADA.
  - ALL EXISTING UTILITIES TO BE REMOVED/RELOCATED UNLESS NOTED OTHERWISE.
  - STATIONING IS ALONG WALL E4.
  - STATIONS AND OFFSETS ARE GIVEN AT BACK FACE OF THE WALL.
  - TOP OF WALL ELEVATIONS ARE GIVEN AT TOP OF COPING.
  - SOIL REINFORCEMENT SHALL BE CONSTRUCTED SO AS TO AVOID INTERFERENCE WITH PROPOSED DRAINAGE STRUCTURES.
  - GROUND IMPROVEMENT SHALL BE IN THE FORM OF CSW COLUMNS AND DENSE GRADE AGGREGATE LOAD TRANSFER PLATFORM (LTP). THE BOTTOM 1'-0" OF THE LTP IS CONSIDERED A WORKING PLATFORM FOR ADDITIONAL INFORMATION, SEE NOTES FROM SHEET 842. FOR SECTION VIEWS, SEE SHEET 851.
  - FOR TEMPORARY WIRE MESH WALL T1 DETAIL, SEE SHEET 852.

MSE WALL E4, TANGENT 1 STA. 400+97.98 STA. 401+22.93 L = 24.95' BRG. = N 70°30'27" E	MSE WALL E4, TANGENT 3 STA. 401+63.98 STA. 402+01.65 L = 37.67' BRG. = S 22°32'56" E
MSE WALL E4, TANGENT 2 STA. 401+22.93 STA. 401+63.98 L = 41.05' BRG. = N 67°27'04" E	MSE WALL E4, TANGENT 4 STA. 402+01.65 STA. 404+12.96 L = 211.31' BRG. = N 67°27'04" E

WALL E4 PT  
WALL E4, STA. 402+01.65  
TRANSITION RAMP D7,  
STA. 17007+66.00, 7.83' LT.  
RAMP D7, STA. 7007+66.00,  
7.83' LT.

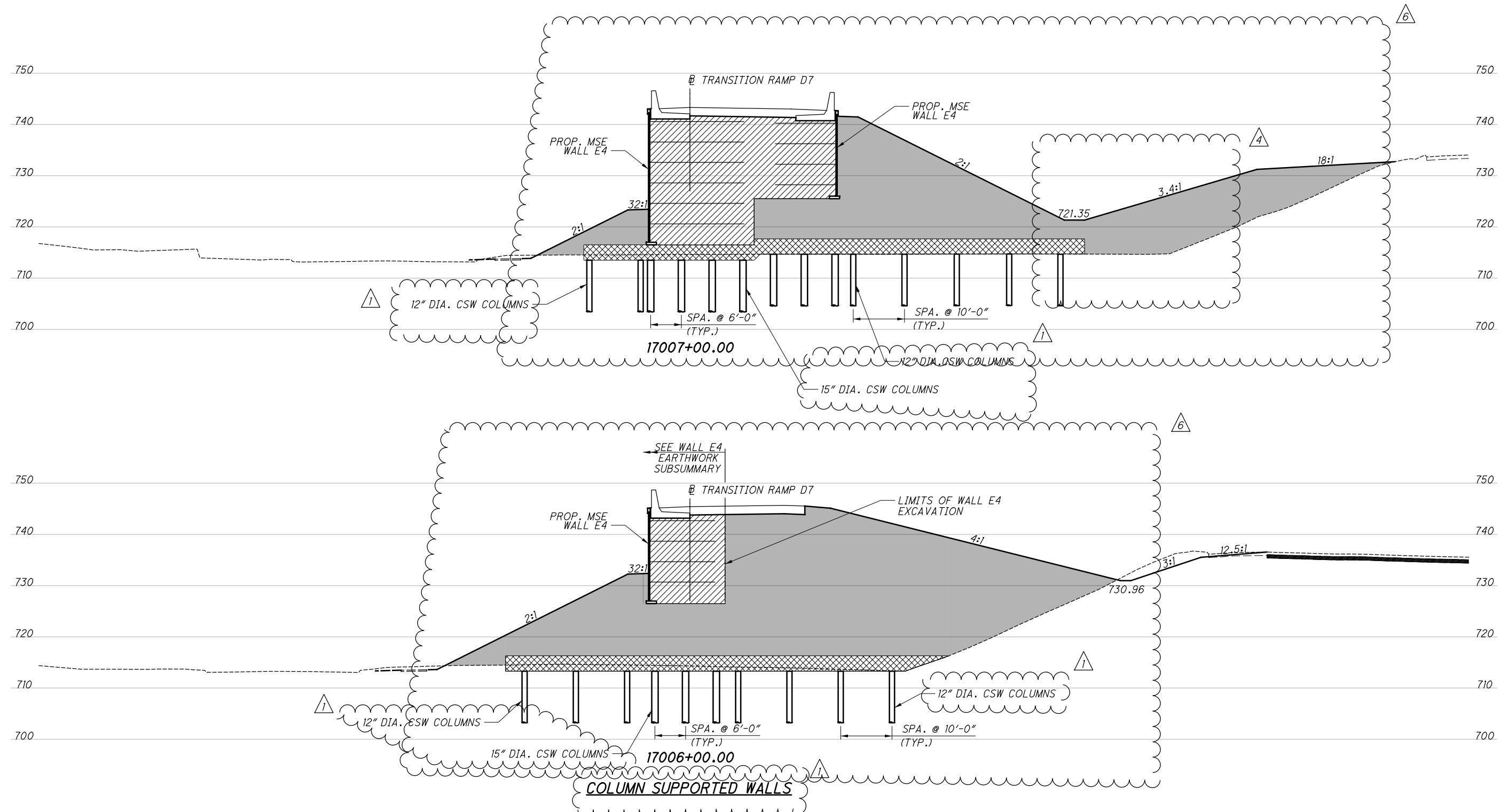
- LEGEND:**
- 6" DIA PERF CPP
  - PROJECT BORING LOCATION
  - SETTLEMENT PLATFORM
  - HISTORIC BORING LOCATION
  - LIMIT OF GROUND IMPROVEMENT NEEDED OVER EXIST. I-70 EMBANKMENT: 1310 SQ. YD.
  - LIMIT OF GROUND IMPROVEMENT NEEDED: 4,370 SQ. YD.
  - PLAN BOUNDARY FOR ITEMS INCLUDED WITH MSE WALL E4 FOR PAYMENT






**ELEVATION ALONG BACK OF WALL**

NO.	DESCRIPTION	REV. BY	DATE
6	UPDATED NOTE	MMS	12/1/21
6	UPDATED CALLOUT	MMS	12/1/21

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**LEGEND:**

-  SELECT GRANULAR BACKFILL
-  DENSE GRADE AGGREGATE LOAD TRANSFER PLATFORM
-  ITEM 203 EMBANKMENT

NO.	DESCRIPTION	REV. BY	DATE
1	CHANGED CONTROLLED MODULUS COLUMNS TO COLUMN SUPPORTED WALLS (CSW)	MMS	11/5/21
4	UPDATED GROUND IMPROVEMENT LIMITS	MMS	11/24/21
6	UPDATED EMBANKMENT LIMITS	MMS	12/1/21
6	REMOVED GRANULAR EMBANKMENT	MMS	12/1/21

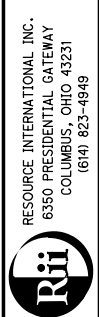
**NOTES:**  
 1. SIZE AND SPACING OF CSW COLUMNS ARE SHOWN FOR REPRESENTATION ONLY. ACTUAL SIZE AND SPACING TO BE DETERMINED BY CONTRACTOR.

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CALCULATED BY: KSJ DATE: 06/08/2020  
 CHECKED BY: MMS DATE: 06/08/2020

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	02000	9684	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II	
203	02000	451	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III	
203	20000	436	CU YD	EMBANKMENT	
203	35110	935	CU YD	GRANULAR MATERIAL, TYPE B	
203	65000	2	EACH	SPECIAL - SETTLEMENT PLATFORM	
203	98000	4687	CU YD	ROADWAY MISC.: EPS GEOFOAM FILL	
508	11001	15	LS	SOFFERDAMS AND EXCAVATION, AS PER PLAN	838
509	10001	31202	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
511	53012	199	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC2A	
511	53012	132	CU YD	CLASS QC2 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB	
511	71200	5058	SQ FT	CONCRETE MISC.: PRECAST WALL PANELS	
511	81100	121	FT	CONCRETE MISC.: PRECAST FOOTING	
512	10100	2080	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	76	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	857	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
607	39901	363	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	838
840	20001	17809	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839 & 843
840	21000	4995	CU YD	WALL EXCAVATION	
840	22000	1485	SQ YD	FOUNDATION PREPARATION	
840	23000	2660	CU YD	SELECT GRANULAR BACKFILL	
840	25010	506	FT	6" DRAINAGE PIPE, PERFORATED	
840	26000	523	FT	CONCRETE COPING	
840	26050	16763	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON-SITE ASSISTANCE	

NO.	DESCRIPTION	REV. BY	DATE
1	REMOVED ITEM 203 - GRANULAR MATERIAL, TYPE C QUANTITY	KSJ	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21
6	UPDATED QUANTITY	MMS	12/1/21



REVIEWED DATE: 6/23/2021  
 NCK: 6/23/2021  
 STRUCTURE FILE NUMBER

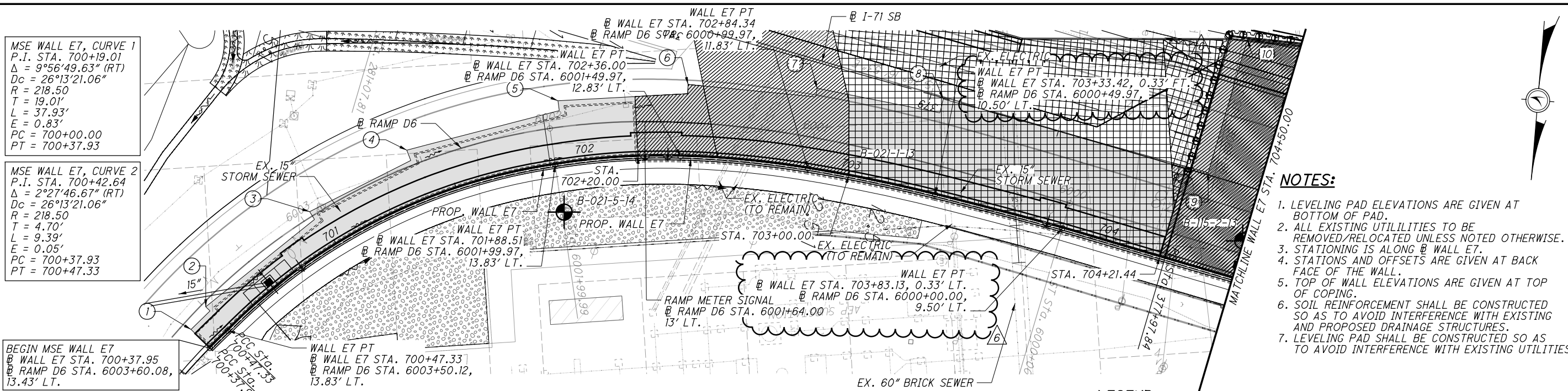
DESIGNED BY: KSJ  
 CHECKED BY: MMS

ESTIMATED QUANTITIES  
 RETAINING WALL ET  
 I-70/I-71 WEST INTERCHANGE PROJECT

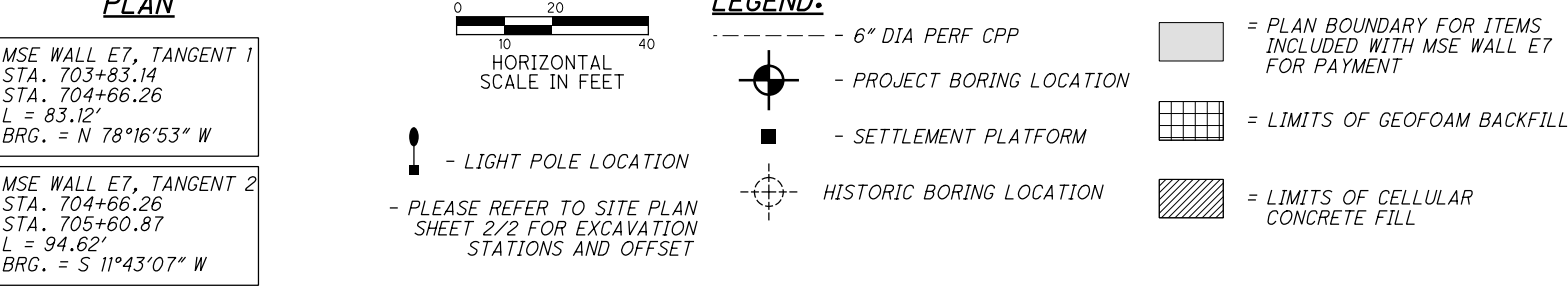
FRA-71-14.36  
 PID No. 105588



G:\projects\2013\W-13-072\_FRA-70-13-10\_6A\89464\_structures\_wall\_OE7\sheets\105588\_OE7WP001.dgn 12/3/2021 9:57:04 AM meets



<p><b>MSE WALL E7, CURVE 1</b>  P.I. STA. 700+19.01  <math>\Delta = 9^{\circ}56'49.63''</math> (RT)  <math>D_c = 26^{\circ}13'21.06''</math>  <math>R = 218.50</math>  <math>T = 19.01'</math>  <math>L = 37.93'</math>  <math>E = 0.83'</math>  <math>PC = 700+00.00</math>  <math>PT = 700+37.93</math></p>	<p><b>MSE WALL E7, CURVE 2</b>  P.I. STA. 700+42.64  <math>\Delta = 2^{\circ}27'46.67''</math> (RT)  <math>D_c = 26^{\circ}13'21.06''</math>  <math>R = 218.50</math>  <math>T = 4.70'</math>  <math>L = 9.39'</math>  <math>E = 0.05'</math>  <math>PC = 700+37.93</math>  <math>PT = 700+47.33</math></p>	<p><b>MSE WALL E7, CURVE 3</b>  P.I. STA. 701+20.50  <math>\Delta = 37^{\circ}09'38.88''</math> (RT)  <math>D_c = 26^{\circ}19'22.59''</math>  <math>R = 217.66</math>  <math>T = 73.17'</math>  <math>L = 141.17'</math>  <math>E = 11.97'</math>  <math>PC = 700+47.33</math>  <math>PT = 701+88.51</math></p>	<p><b>MSE WALL E7, CURVE 4</b>  P.I. STA. 702+12.32  <math>\Delta = 10^{\circ}50'57.51''</math> (RT)  <math>D_c = 22^{\circ}50'42.06''</math>  <math>R = 250.80</math>  <math>T = 23.82'</math>  <math>L = 47.49'</math>  <math>E = 1.13'</math>  <math>PC = 701+88.51</math>  <math>PT = 702+36.00</math></p>	<p><b>MSE WALL E7, CURVE 5</b>  P.I. STA. 702+60.20  <math>\Delta = 7^{\circ}45'01.77''</math> (RT)  <math>D_c = 16^{\circ}01'59.41''</math>  <math>R = 357.36</math>  <math>T = 24.21'</math>  <math>L = 48.34'</math>  <math>E = 0.82'</math>  <math>PC = 702+36.00</math>  <math>PT = 702+84.34</math></p>	<p><b>MSE WALL E7, CURVE 6</b>  P.I. STA. 703+08.89  <math>\Delta = 4^{\circ}39'13.93''</math> (RT)  <math>D_c = 9^{\circ}28'51.13''</math>  <math>R = 604.33</math>  <math>T = 24.56'</math>  <math>L = 49.09'</math>  <math>E = 0.50'</math>  <math>PC = 702+84.34</math>  <math>PT = 703+33.42</math></p>	<p><b>MSE WALL E7, CURVE 7</b>  P.I. STA. 703+58.28  <math>\Delta = 1^{\circ}33'25.47''</math> (RT)  <math>D_c = 3^{\circ}07'55.79''</math>  <math>R = 1,829.27</math>  <math>T = 24.86'</math>  <math>L = 49.71'</math>  <math>E = 0.17'</math>  <math>PC = 703+33.42</math>  <math>PT = 703+83.14</math></p>
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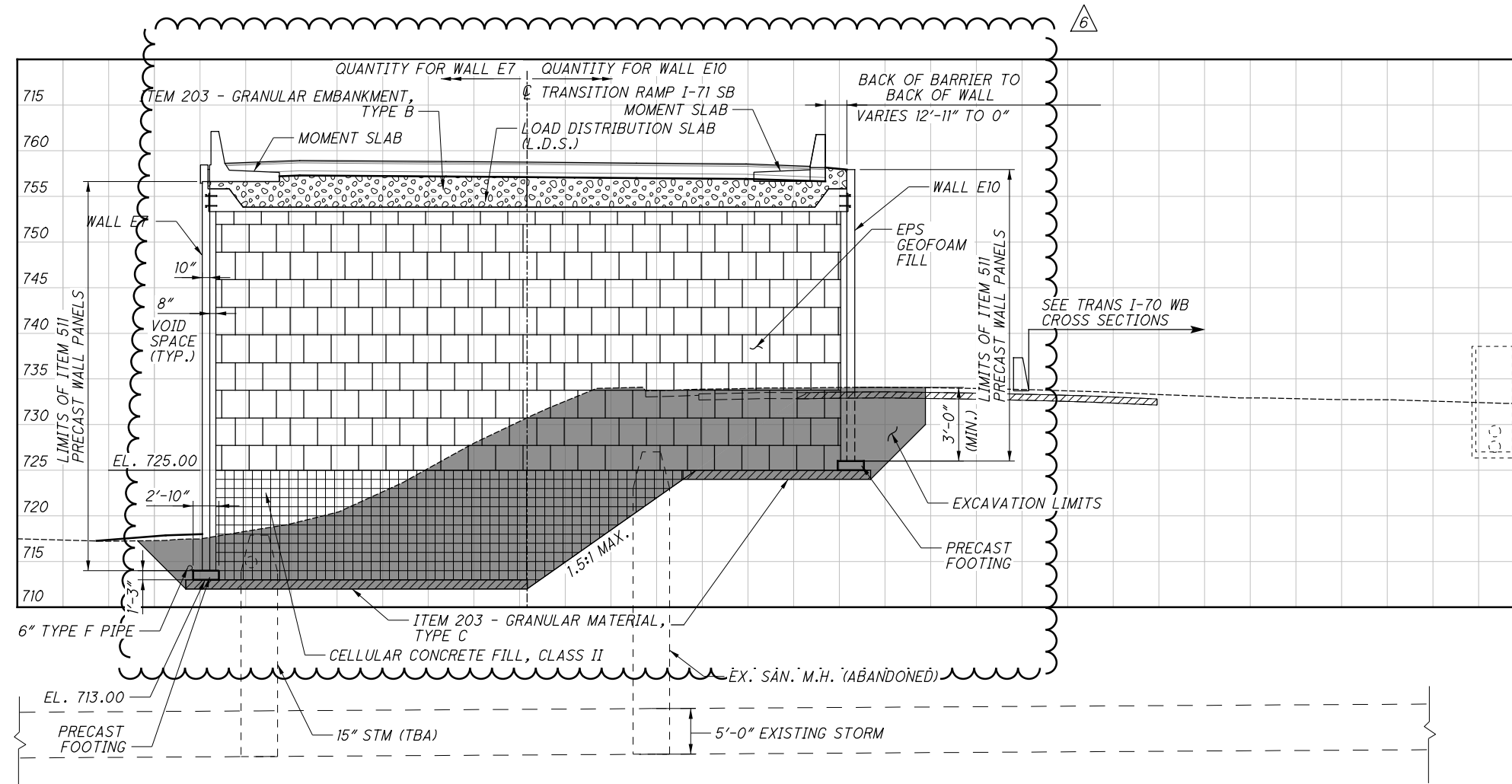


STATION	OFFSET	ELEVATION
①	700+37.95 10.00' LT.	730
②	700+47.95 12.26' LT.	730
③	700+97.95 15.74' LT.	710
④	701+37.95 19.92' LT.	710
⑤	701+92.96 23.72' LT.	710
⑥	702+37.96 27.19' LT.	710
⑦	702+82.93 30.45' LT.	710
⑧	703+27.96 35.82' LT.	710

NO.	DESCRIPTION	REV. BY	DATE
6	MODIFIED PRECAST PANEL DETAIL	MMS	12/2/21
6	UPDATED WALL STATIONS	MMS	12/2/21

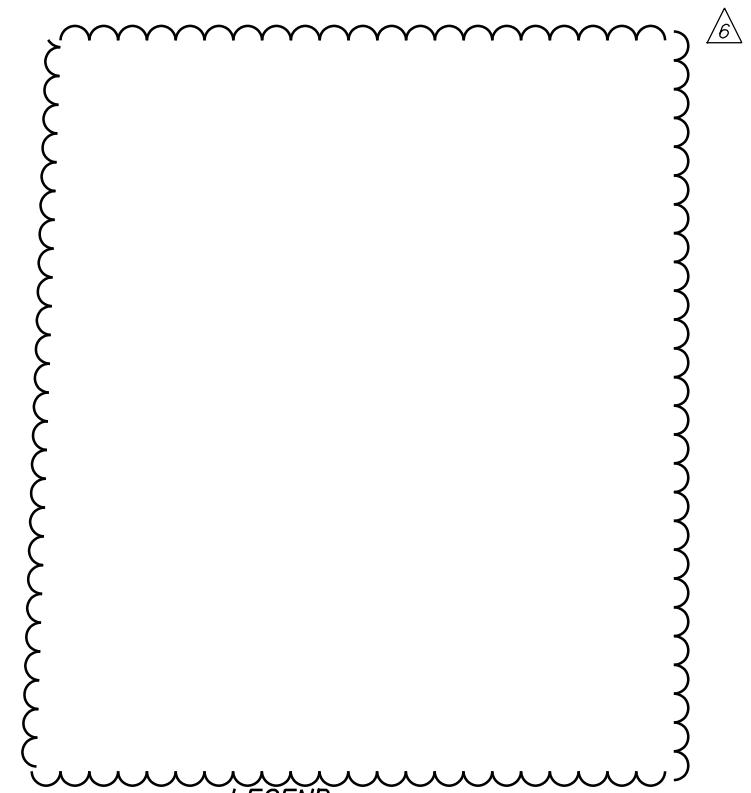


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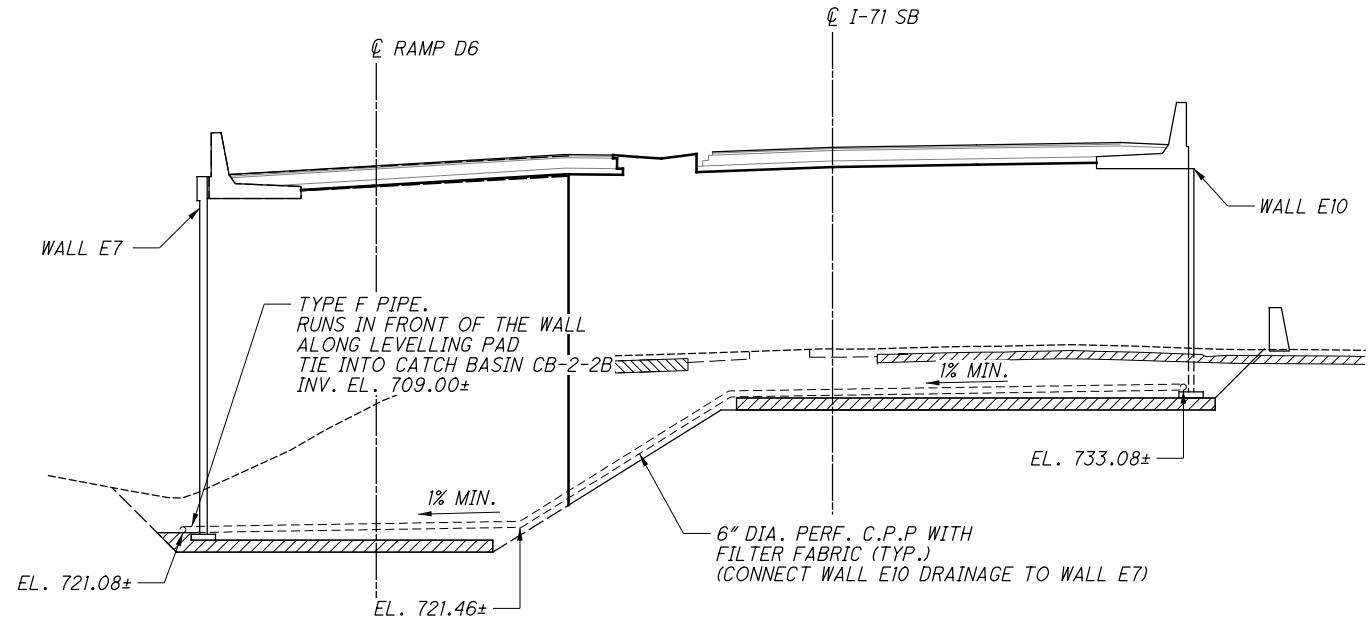


**RAMP D6, STA. 6000+11.70**  
 @ WALL E7, STA. 703+71.43  
 @ I-71 TRANSITION SB RAMP, STA. 378+50.00

NO.	DESCRIPTION	REV. BY	DATE
6	UPDATED SECTION	MMS	12/2/21
6	REMOVED REDUNDANT GEOFOAM WALL SECTION	MMS	12/2/21
6	REMOVED REDUDANT L.D.S. DETAIL	MMS	12/2/21



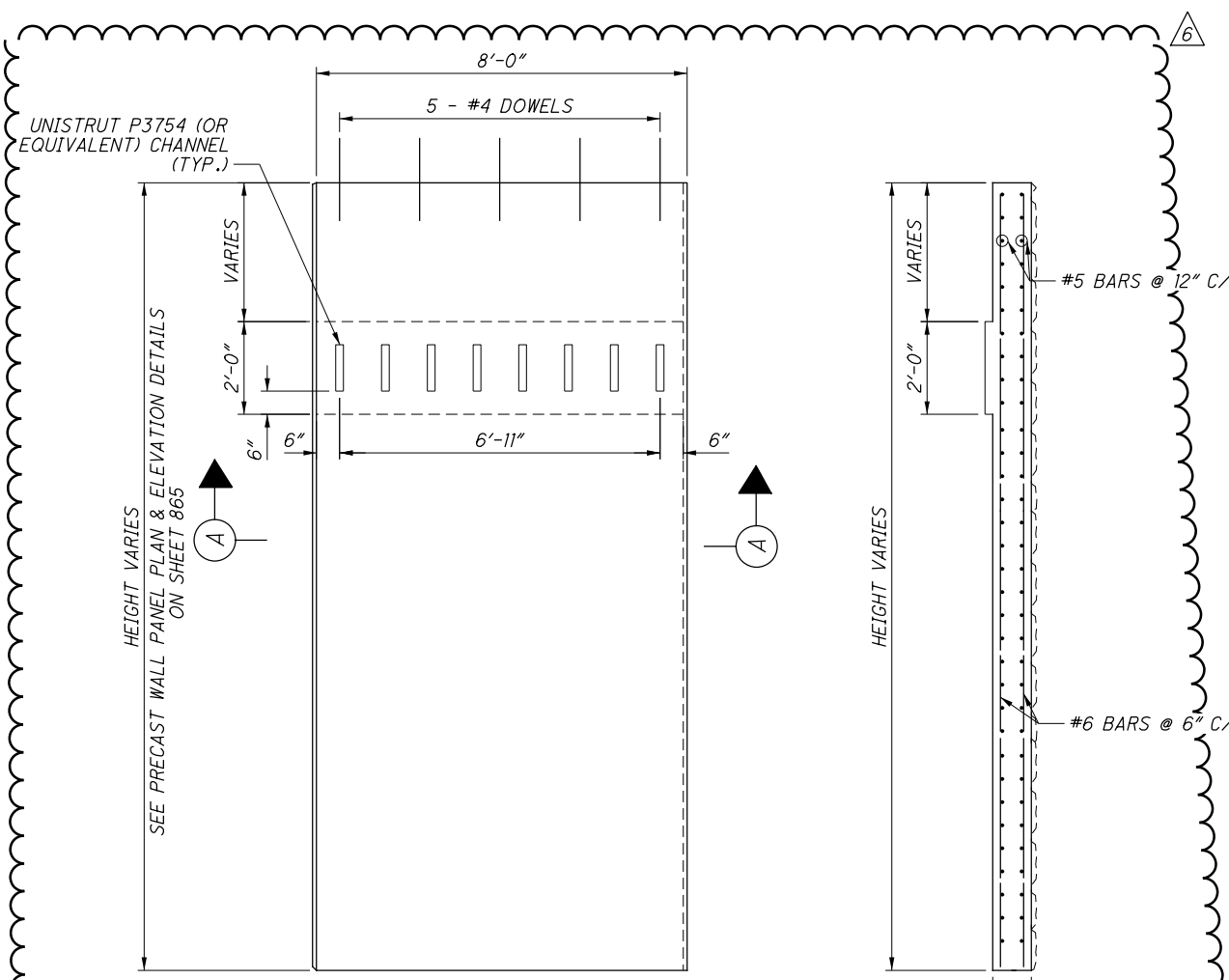
- LEGEND:**
- CELLULAR CONCRETE FILL, CLASS II
  - GRANULAR EMBANKMENT, TYPE B
  - EPS GEOFOAM FILL
  - EXCAVATION LIMITS
  - GRANULAR MATERIAL, TYPE C



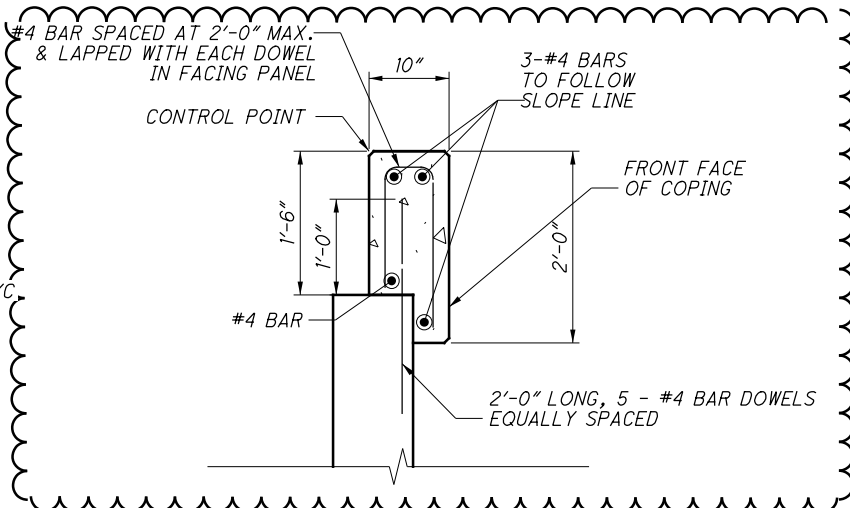
**RAMP D6, STA. 6001+67.73**  
 @ WALL E7, STA. 702+19.50  
 @ I-71 TRANSITION SB RAMP, STA. 380+20.00



G:\projects\2013\W-13-072\_FRA-70-13.10\_6A\89464\_structures\_wall\_OE7\sheets\105588\_OE7WD009.dgn 12/3/2021 9:57:09 AM meets



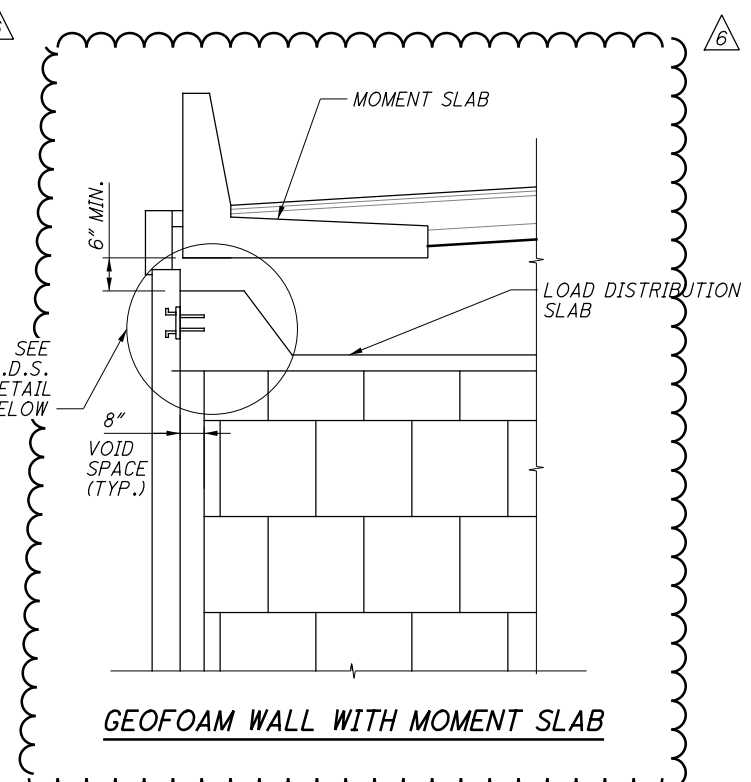
**PRECAST PANEL DETAILS**



**COPING DETAIL**

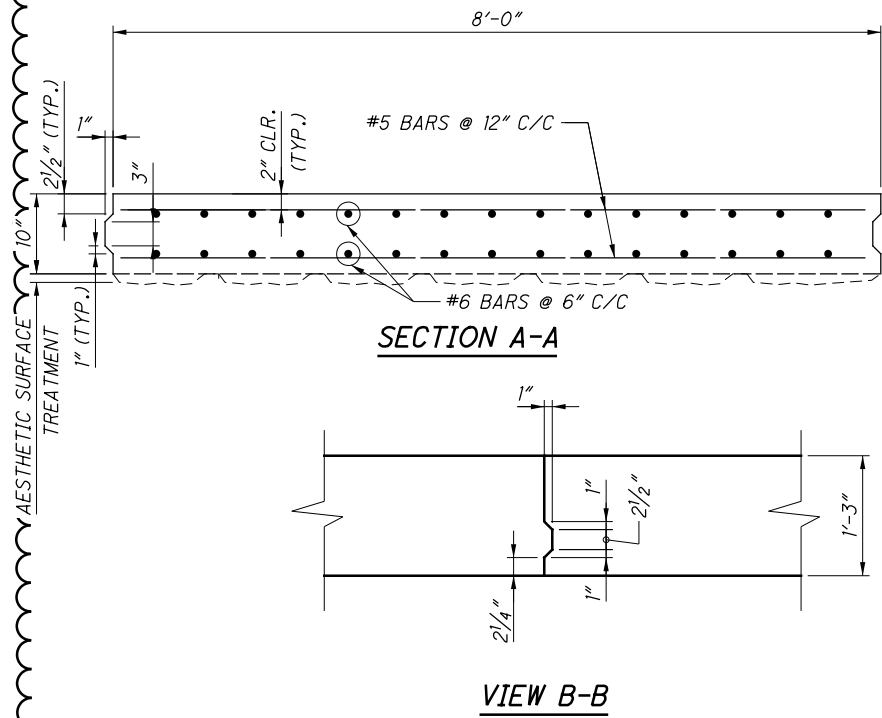
PRECAST CONCRETE PANELS*				
	STA.	OFFSET	B/L	TOP OF WALL
BEGIN	703+01.44	0.33' LT.	E7	755.38
END	704+21.44	0.33' LT.	E7	760.86

\* - ALL STATIONS, OFFSETS AND ELEVATIONS ARE TO THE BACK FACE OF THE PRECAST WALL.



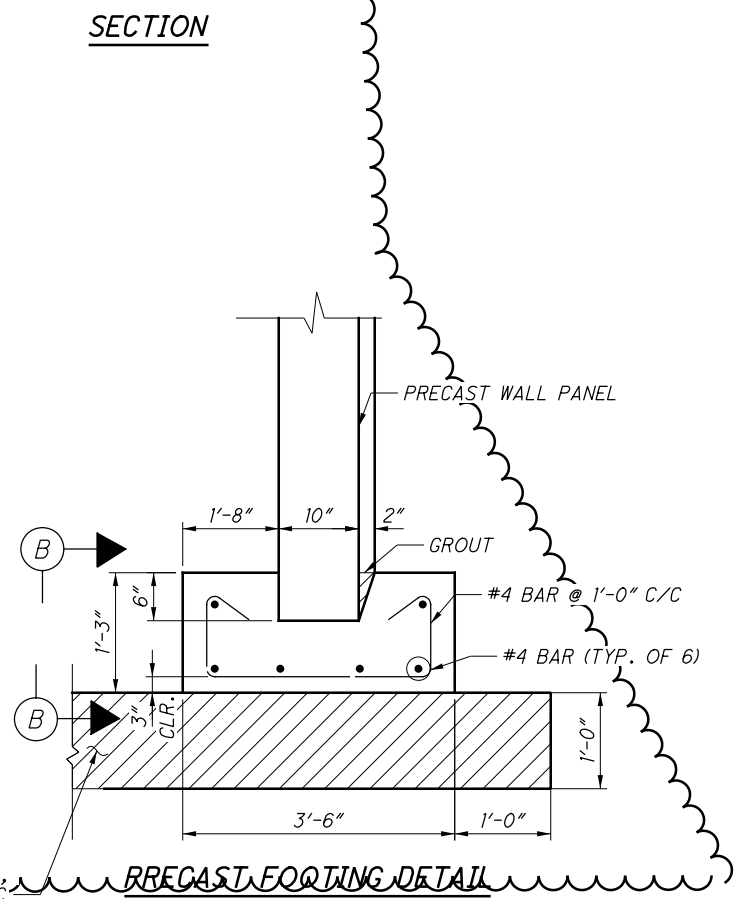
**GEOFOAM WALL WITH MOMENT SLAB**

NO.	DESCRIPTION	REV. BY	DATE
6	MODIFIED PRECAST PANEL AND FOOTING DETAIL	MMS	12/2/21
6	UPDATED COPING DETAIL	MMS	12/2/21
6	UPDATED GEOFOAM WALL SECTION	MMS	12/2/21
6	MIRRORED L.D.S. DETAIL	MMS	12/2/21
6	REMOVED TIE STRIP DETAIL	MMS	12/2/21
6	ADDED WALL BEGIN AND END STATION	MMS	12/3/21

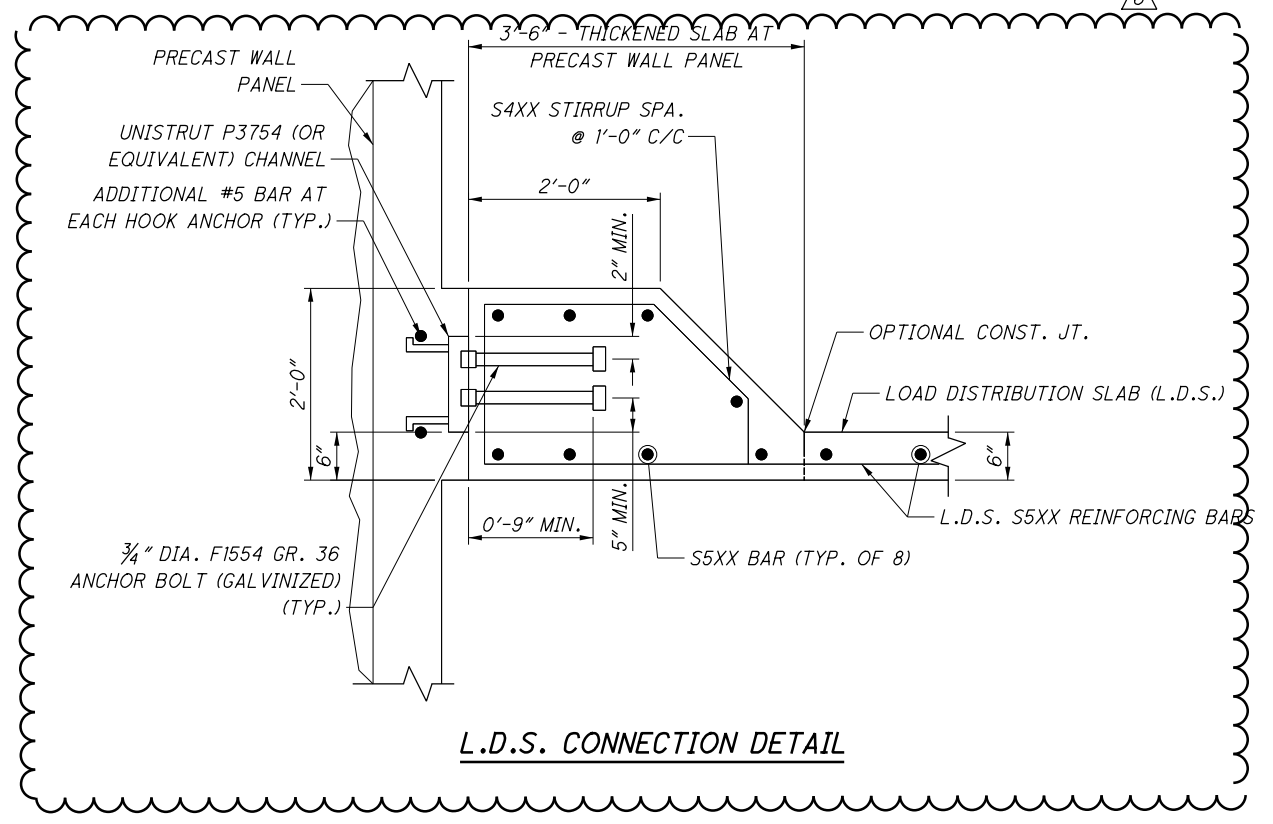


**SECTION A-A**

**VIEW B-B**



**PRECAST FOOTING DETAIL**



**L.D.S. CONNECTION DETAIL**

G:\projects\2013\W-13-072\_FRA-70-13-10\_6A\89464\_structures\wall\_OE10\sheets\105588\_OE10\W0001.dgn 12/2/2021 10:58:11 AM meets

CALCULATED BY: KSJ DATE: 03/04/2020  
 CHECKED BY: MMS DATE: 03/04/2020

ESTIMATED QUANTITIES

AS PER PLAN  
 REFERENCE  
 SHEET

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN REFERENCE SHEET
203	02000	1346	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II	
203	02000	122	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III	
203	20000	678	CU YD	EMBANKMENT	
203	35110	827	CU YD	GRANULAR MATERIAL, TYPE B	
203	98000	6138	CU YD	ROADWAY MISC.: EPS GEOFOAM FILL	
<del>503</del>	<del>11101</del>	<del>LS</del>	<del>LS</del>	<del>COFFERDAMS AND EXCAVATION, AS PER PLAN</del>	<del>838</del>
509	10001	39409	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
<del>51</del>	<del>53012</del>	<del>247</del>	<del>CU YD</del>	<del>CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH OC/DA</del>	
511	53012	129	CU YD	CLASS QC2 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB	
<del>511</del>	<del>71200</del>	<del>1628</del>	<del>SQ FT</del>	<del>CONCRETE MISC.: PRECAST WALL PANELS</del>	
511	81100	152	FT	CONCRETE MISC.: PRECAST FOOTING	
512	10100	1240	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
					839
840	20001	10345	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	
840	21000	4104	CU YD	WALL EXCAVATION	
840	22000	743	SQ YD	FOUNDATION PREPARATION	
840	23000	1748	CU YD	SELECT GRANULAR BACKFILL	
840	25010	455	FT	6" DRAINAGE PIPE, PERFORATED	
840	27000	5	DAY	ON-SITE ASSISTANCE	

NO.	DESCRIPTION	REV. BY	DATE
1	REMOVED ITEM 203 - GRANULAR MATERIAL, TYPE C QUANTITY	KSJ	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21
6	ADDED ITEM-511 LOAD DISTRIBUTION SLAB	MMS	12/1/21

RESOURCE INTERNATIONAL INC.  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949



REVIEWED DATE  
 NCK 6/23/2021  
 STRUCTURE FILE NUMBER

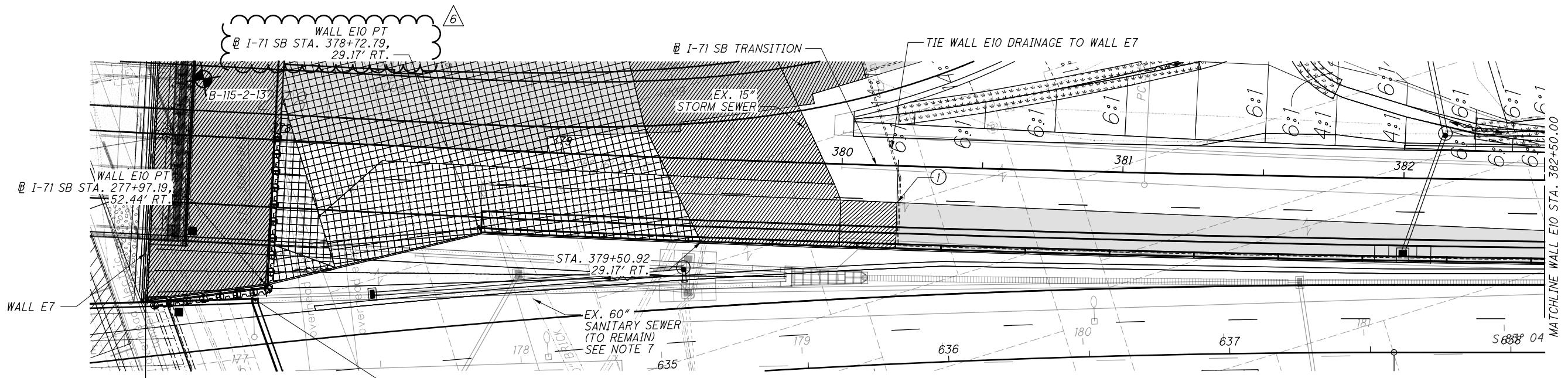
DRAWN  
 MMS  
 REVISED

DESIGNED  
 KSJ  
 CHECKED  
 MMS

ESTIMATED QUANTITIES  
 RETAINING WALL E10  
 I-70/I-71 WEST INTERCHANGE PROJECT

FRA - 71 - 14.36  
 PID No. 105588

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PLAN

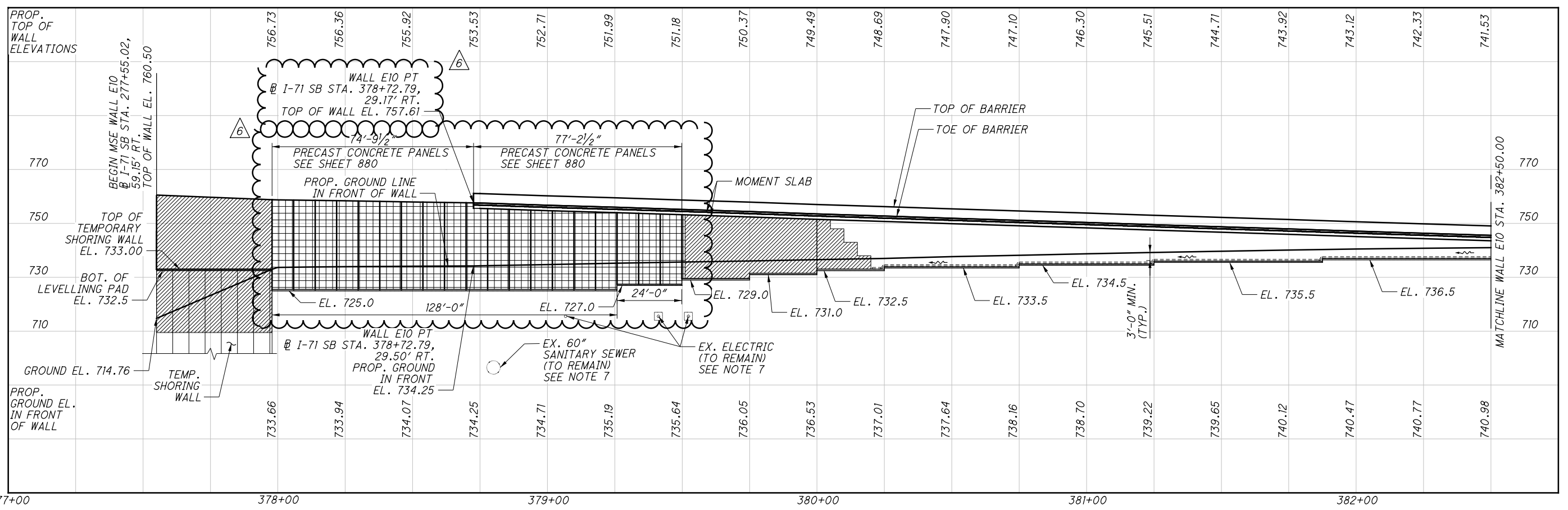
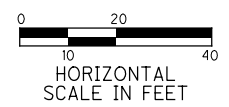
STATION	OFFSET
① 380+20.00	13.05' RT.

**NOTES:**

1. LEVELLING PAD ELEVATIONS ARE GIVEN AT BOTTOM OF PAD.
2. ALL EXISTING UTILITIES TO BE REMOVED/RELOCATED UNLESS NOTED OTHERWISE.
3. STATIONING IS ALONG I-71 SB TRANSITION.
4. STATIONS AND OFFSETS ARE GIVEN AT BACK FACE OF THE WALL.
5. TOP OF WALL ELEVATIONS ARE GIVEN AT TOP OF MSE WALL PANEL.
6. SOIL REINFORCEMENT SHALL BE CONSTRUCTED SO AS TO AVOID INTERFERENCE WITH EXISTING AND PROPOSED DRAINAGE STRUCTURES.
7. LEVELLING PAD SHALL BE CONSTRUCTED SO AS TO AVOID INTERFERENCE WITH EXISTING UTILITIES.

**LEGEND:**

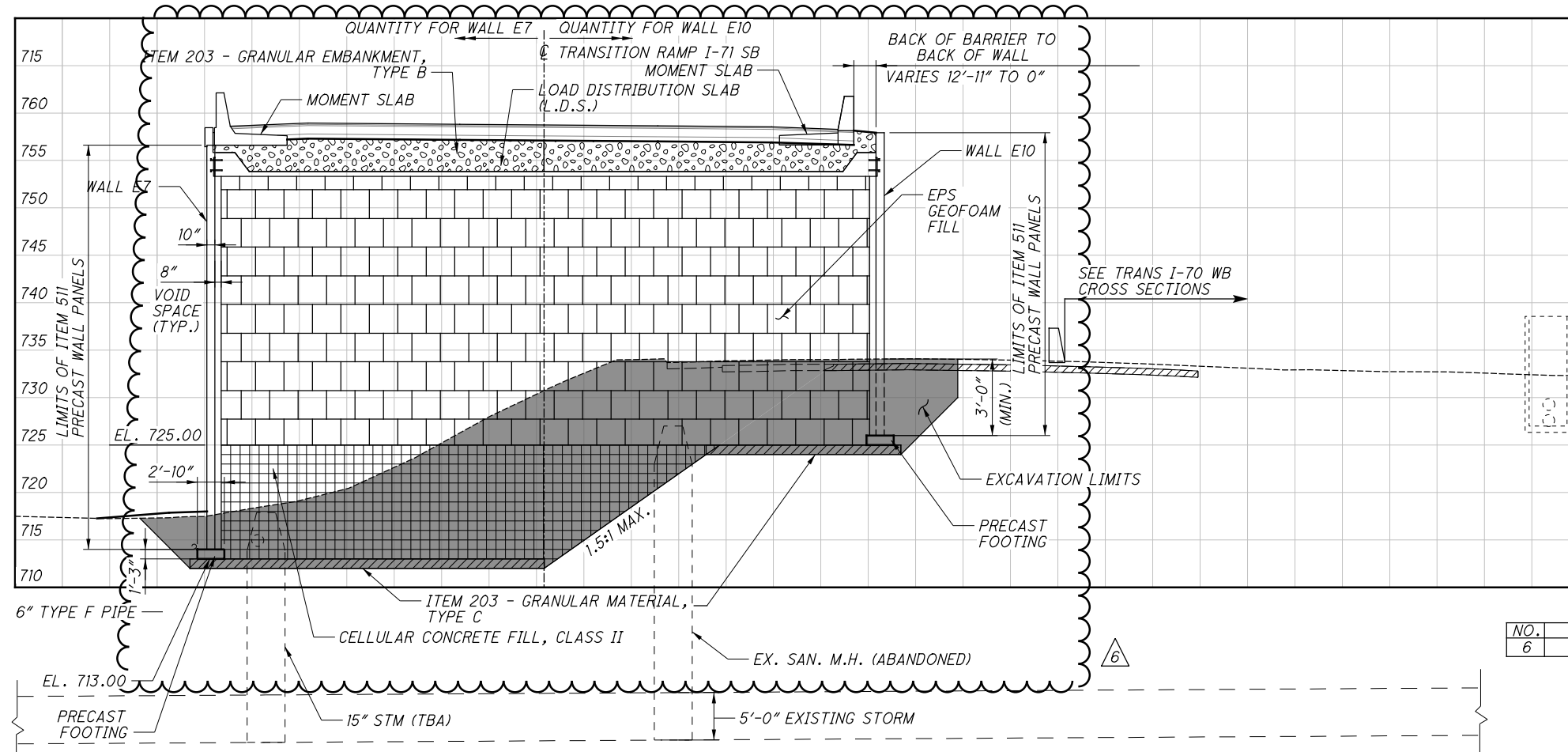
- - - - - 6" DIA PERF CPP
- - PROJECT BORING LOCATION
- - SETTLEMENT PLATFORM
- ⊕ - HISTORIC BORING LOCATION
- [Hatched Box] = PLAN BOUNDARY FOR ITEMS INCLUDED WITH MSE WALL E10 FOR PAYMENT
- [Grid Box] = LIMITS OF GEOFOAM BACKFILL
- [Diagonal Line Box] = LIMITS OF CELLULAR CONCRETE FILL



ELEVATION ALONG FACE OF WALL

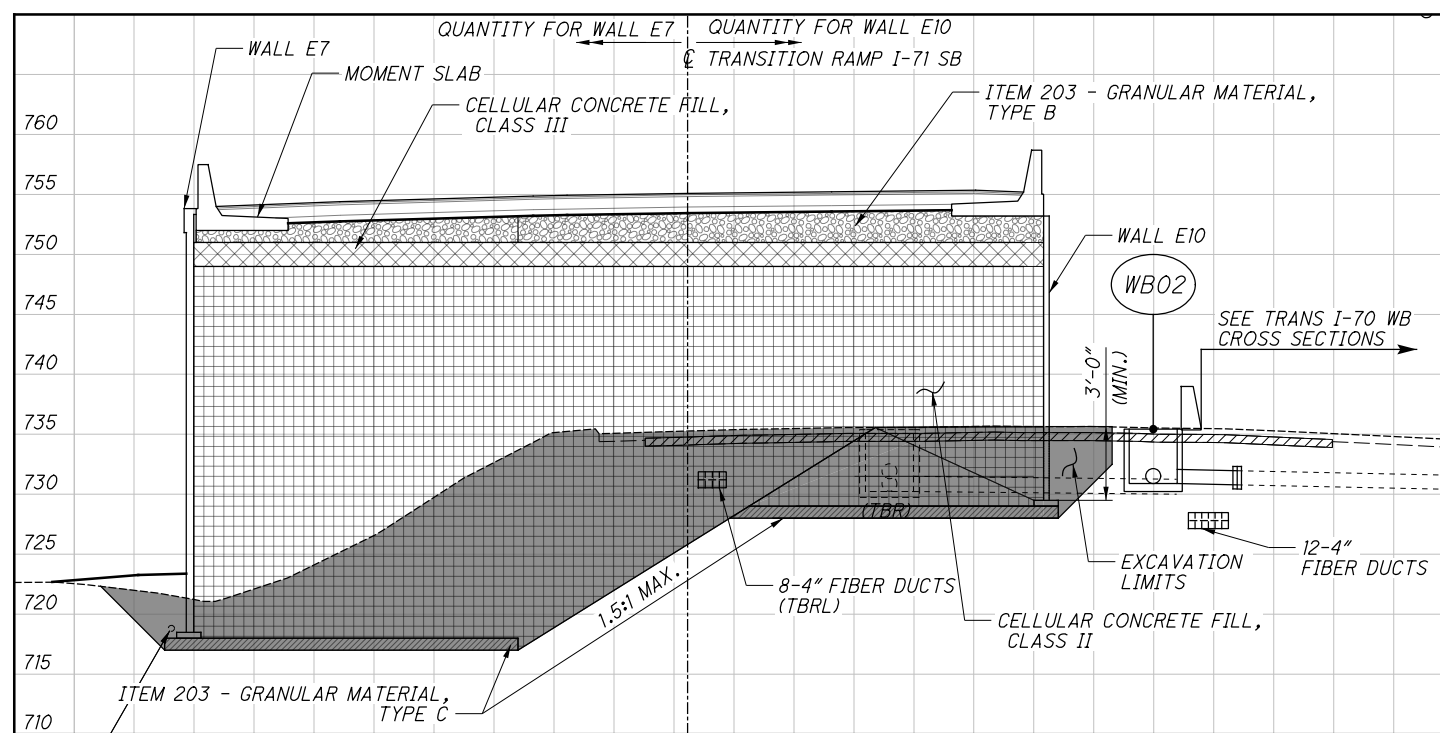
NO.	DESCRIPTION	REV. BY	DATE
6	MODIFIED PRECAST PANEL DETAIL	MMS	12/2/21
6	UPDATED WALL STATION OFFSETS	MMS	12/2/21

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NO.	DESCRIPTION	REV. BY	DATE
6	UPDATED SECTION	MMS	12/2/21

**B RAMP I-71 SB TRANSITION, WALL E10 STA. 277+97.84 TO STA. 379+50  
TYPICAL SECTION**



**WALL E10, B I-71 SB STA. 379+50.00**

**NOTES:**

- SEE BRIDGE PLANS FOR ADDITIONAL ABUTMENT AND WINGWALL DETAILS.
- SOIL REINFORCEMENT SHALL BE CONSTRUCTED SO AS TO AVOID INTERFERENCE WITH BRIDGE PILING.
- FOR ABBREVIATION LEGEND, SEE SHEET 838

**LEGEND:**

\* - LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION) SEAL ALL EXPOSED SURFACES EXTENDING 10'-0" VERTICAL FROM GROUND LINE.

- CELLULAR CONCRETE FILL, CLASS II
- CELLULAR CONCRETE FILL, CLASS III
- GRANULAR MATERIAL, TYPE B
- GRANULAR MATERIAL, TYPE C
- EXCAVATION LIMITS
- EPS GEOFOAM FILL

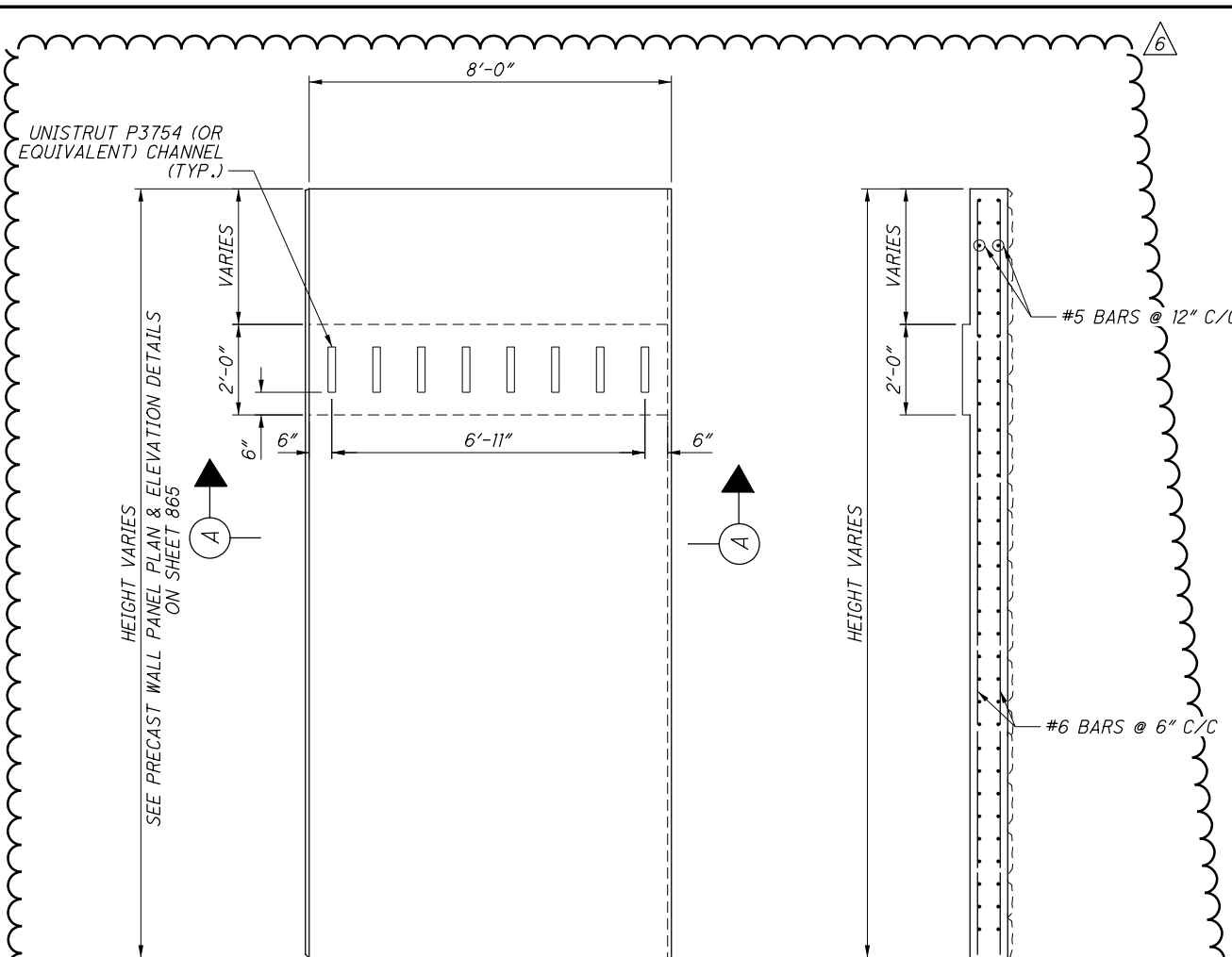


DESIGNED	DRAWN	REVIEWED	DATE
MMS	MMS	NCK	6/23/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM			

**CROSS SECTIONS**  
RETAINING WALL E10  
I-70/I-71 WEST INTERCHANGE PROJECT

**FRA-71-14.36**  
PID No. 105588

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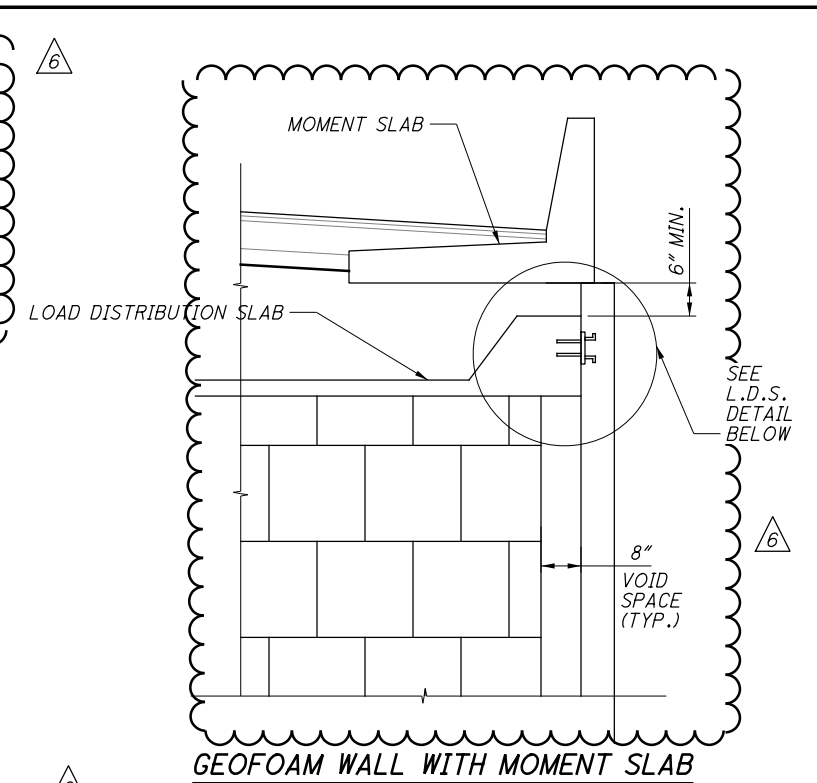
**PRECAST PANEL DETAILS**

**SECTION**

**PRECAST CONCRETE PANELS\***

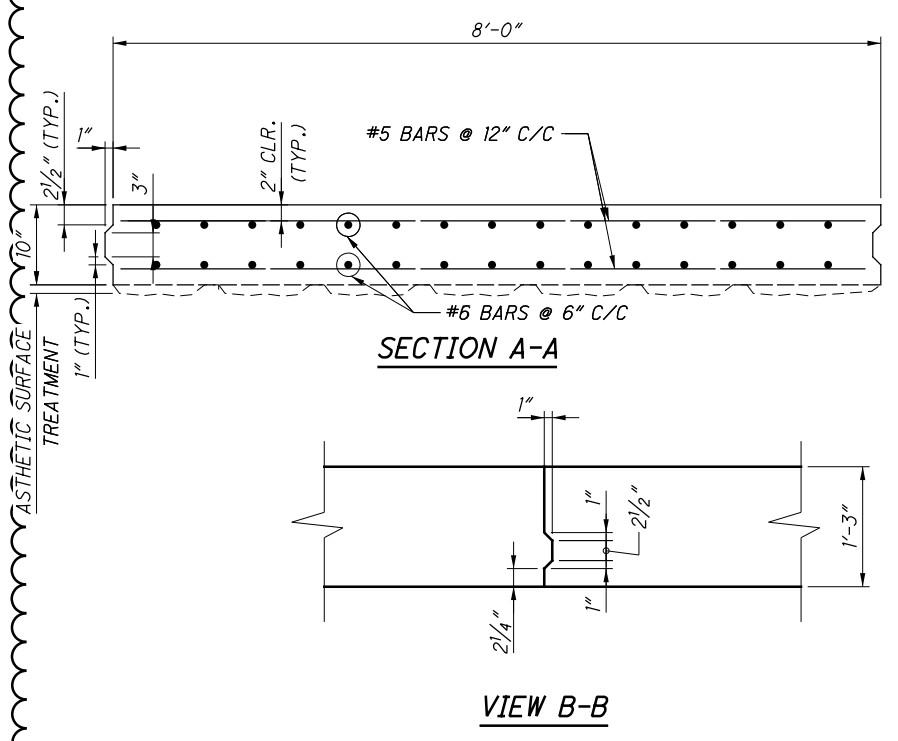
	STA.	OFFSET	B/L	TOP OF WALL
BEGIN	277+97.84	50.79' RT.	I-71 SB	756.75
END	379+50.92	29.17' RT.	I-71 SB	751.18

\* - ALL STATIONS, OFFSETS AND ELEVATIONS ARE TO THE BACK FACE OF THE PRECAST WALL.



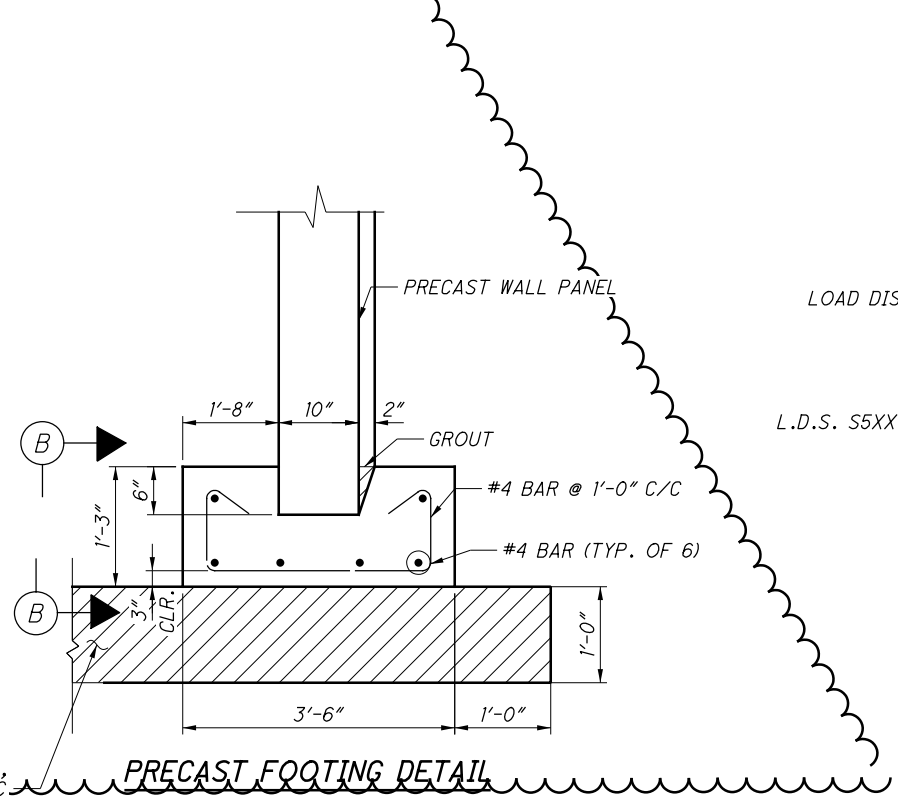
**GEOFOAM WALL WITH MOMENT SLAB**

NO.	DESCRIPTION	REV. BY	DATE
6	MODIFIED PRECAST PANEL AND FOOTING DETAIL	MMS	12/2/21
6	UPDATED SECTION TO SHOW 8" VOID	MMS	12/2/21
6	REMOVED TIE STRIP DETAIL	MMS	12/2/21
6	ADDED WALL BEGIN AND END STATION	MMS	12/3/21

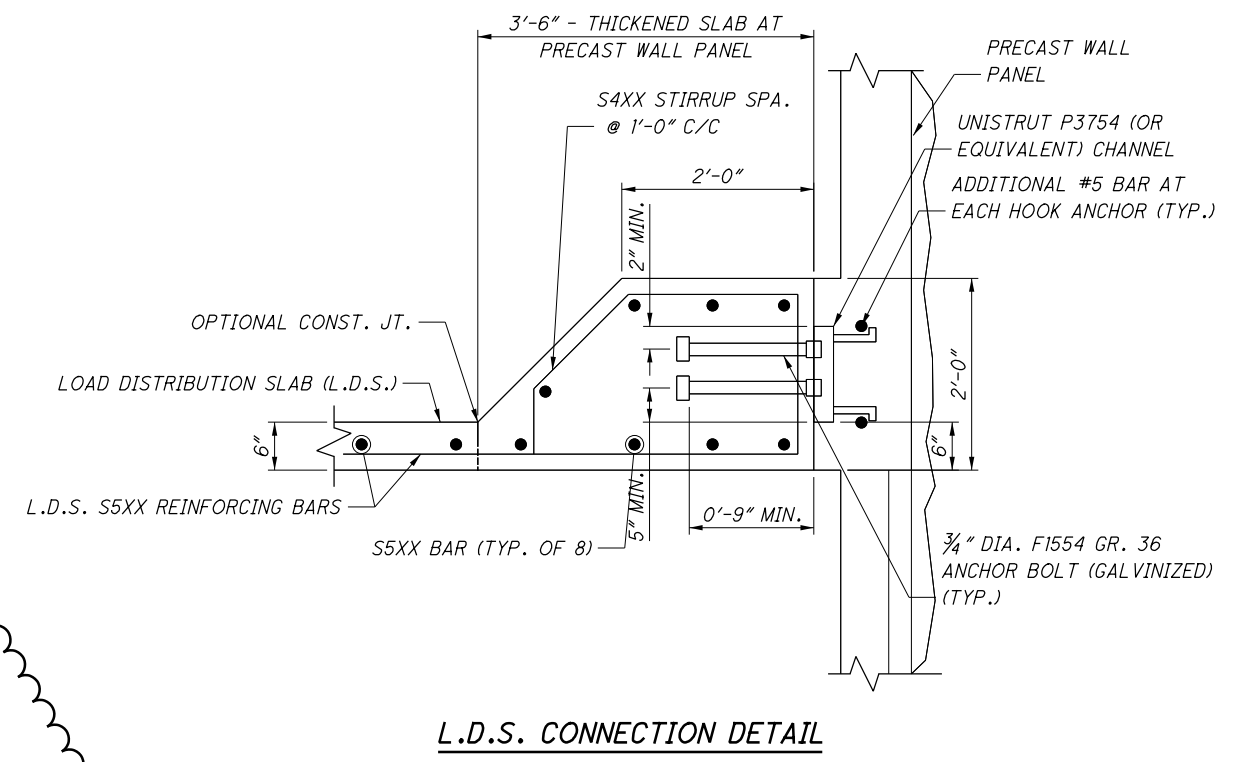


**SECTION A-A**

**VIEW B-B**



**PRECAST FOOTING DETAIL**



**L.D.S. CONNECTION DETAIL**

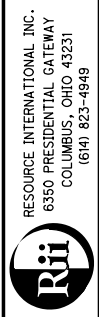
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CALCULATED BY: KSJ DATE: 03/04/2020  
 CHECKED BY: MMS DATE: 03/04/2020

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	20000	3578	CU YD	EMBANKMENT	
203	35110	278	CU YD	GRANULAR MATERIAL, TYPE B	
203	65000	2	EACH	SPECIAL SETTLEMENT PLATFORM	
203	98100	1912	SQ YD	ROADWAY, MISC: COLUMN SUPPORTED WALLS *	
509	10001	31723	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
511	83012	524	CU YD	CLASS 062 CONCRETE, MISC. PARAPET INCLUDING SLEEPER SLAB WITH SCQA	
512	10100	5418	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	419	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	1962	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
601	37500	746	FT	PAVED GUTTER, TYPE 1-2	
840	20001	47388	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	843
840	21000	12124	CU YD	WALL EXCAVATION	
840	22000	6296	SQ YD	FOUNDATION PREPARATION	
840	23000	62184	CU YD	SELECT GRANULAR BACKFILL	
840	23050	9690	CU YD	NATURAL SOIL	
840	25010	4033	FT	6" DRAINAGE PIPE, PERFORATED	
840	26000	1777	FT	CONCRETE COPING	
840	26050	43836	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON-SITE ASSISTANCE	

\* - QUANTITY FOR COLUMN SUPPORTED WALLS INCLUDES GROUND IMPROVEMENTS PERFORMED UNDER THIS SET OF PLANS. SEE SHEET 909K FOR LIMITS.

NO.	DESCRIPTION	REV. BY	DATE
1	REMOVED ITEM 203 - GRANULAR MATERIAL, TYPE C QUANTITY	KSJ	11/5/21
1	CHANGED CONTROLLED MODULUS COLUMNS TO COLUMN SUPPORTED WALLS	KSJ	11/5/21
1	NOTE ADDED	KSJ	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21
6	REMOVED ITEM 503E11101 - COFFERDAMS AND EXCAVATION, AS PER PLAN	MMS	12/3/21



DESIGNED: JGM  
 CHECKED: MMS  
 DRAWN: JGM  
 REVISED:  
 REVIEWED: NCK  
 DATE: 6/23/2021  
 STRUCTURE FILE NUMBER

ESTIMATED QUANTITIES  
 RETAINING WALL W5  
 I-70/I-71 WEST INTERCHANGE PROJECT

FRA - 71 - 14.36  
 PID No. 105588  
 1 / 16  
 894  
 1228

RESOURCE INTERNATIONAL INC.  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949