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 VISIBILE 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, 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.

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.

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC - GENERAL NOTES

FRA-71-14.36

61
1228

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

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

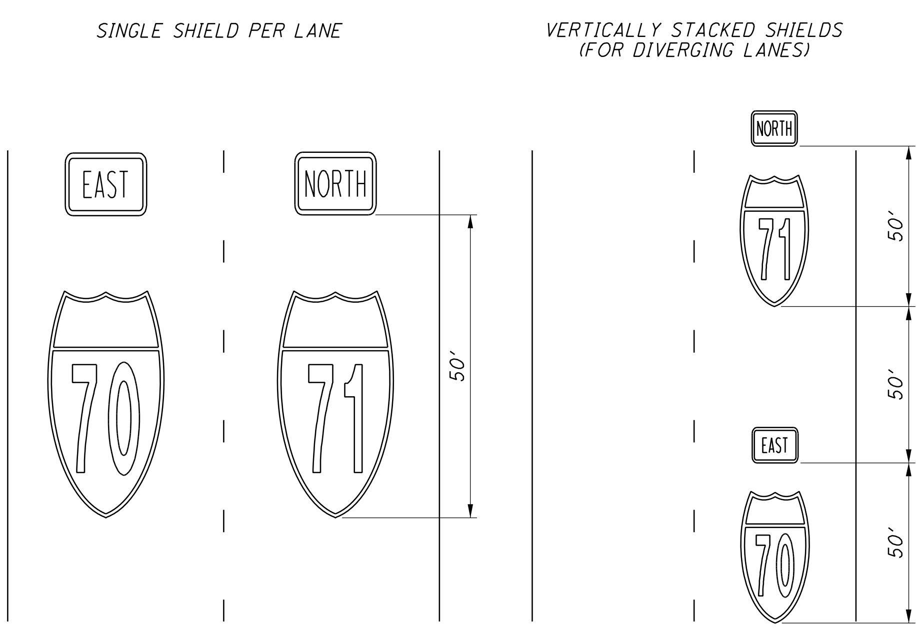
DISINCENTIVE AMOUNTS FOR TYPICAL ROAD CLOSURES AND LANE RESTRICTIONS

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

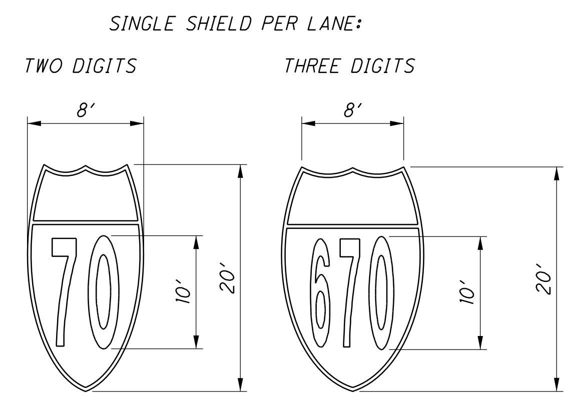
ADDITIONAL DISINCENTIVES FOR EACH PHASE CAN BE FOUND ON THEIR RESPECTIVE "PHASE SUMMARY" SHEET.

ELONGATED ROUTE SHIELDS FOR PAVEMENT MARKINGS (PAVEMENT TATTOOS)

INTERSTATE AND ROUTE SHIELDS USAGE



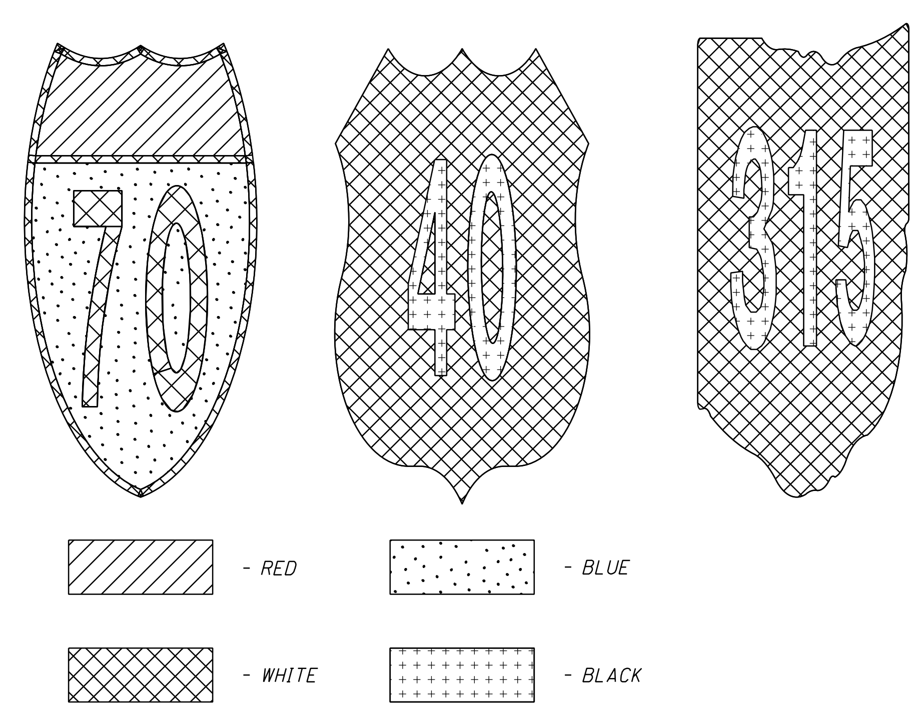
STANDARD SIZES OF SHIELDS



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



NOTES:

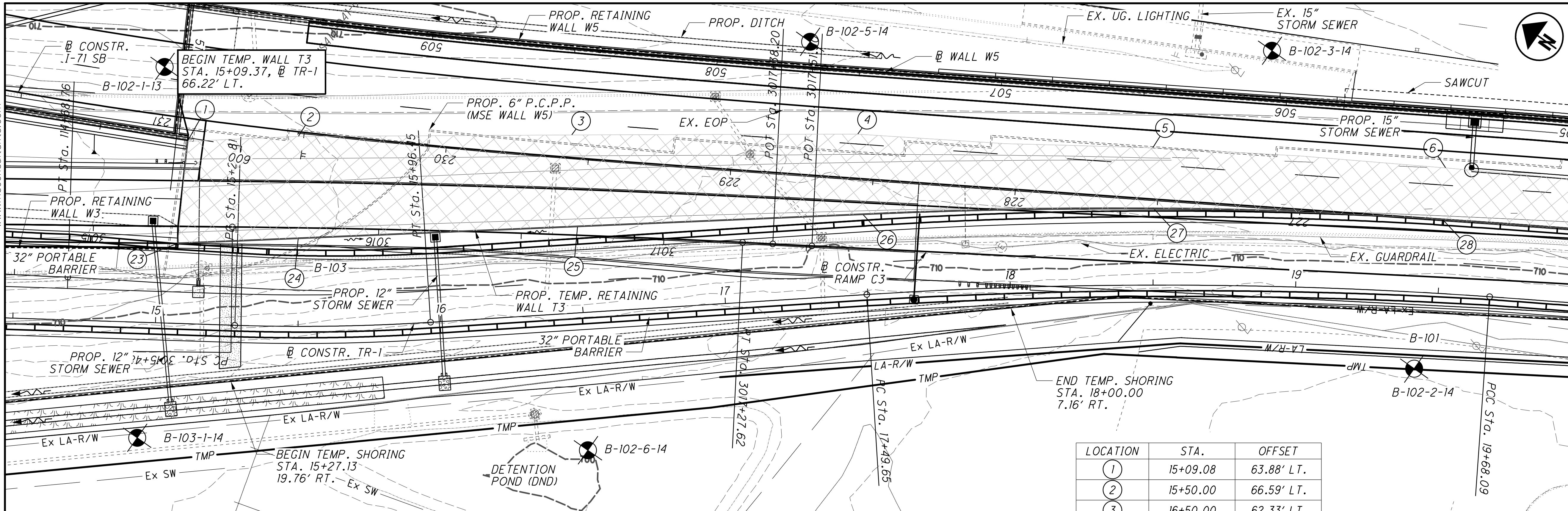
1. INTERSTATE AND ROUTE SHIELDS PAVEMENT MARKINGS SHOULD BE DURABLE, HIGH SKID RESISTANT, AND RETROREFLECTIVE.
2. THE MARKINGS MUST BE CAPABLE OF CONFORMING TO PAVEMENT CONTOURS, BREAKS, AND FAULTS THROUGH THE ACTION OF TRAFFIC AT NORMAL PAVEMENT TEMPERATURES.
3. THE MARKINGS SHALL HAVE RESEALING CHARACTERISTICS, SUCH THAT IT IS CAPABLE OF FUSING WITH ITSELF.
4. THE MARKINGS SHALL NOT HAVE MINIMUM AMBIENT ROAD TEMPERATURE REQUIREMENTS FOR APPLICATION, STORAGE, OR HANDLING.
5. THE MATERIAL MUST BE ABLE TO BE APPLIED TO ASPHALT AND CONCRETE SURFACES WITHOUT PREHEATING THE APPLICATION SURFACE TO A SPECIFIC TEMPERATURE.
6. THE MATERIAL MUST BE CAPABLE OF BEING AFFIXED TO GREEN CONCRETE (CONCRETE THAT HAS SET BUT NOT APPRECIABLY HARDENED).
7. THE MATERIAL SHALL NOT REQUIRE THE PORTLAND CEMENT CONCRETE APPLICATION AREAS TO BE CURED OR DRIED OUT.
8. 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.
9. THE PAVEMENT SHALL BE CLEAN, DRY AND FREE OF DEBRIS BEFORE MATERIAL IS APPLIED.
10. THE MATERIAL MUST BE RESISTANT TO DETERIORATION DUE TO EXPOSURE TO SUNLIGHT, WATER, SALT OR ADVERSE WEATHER CONDITION AND IMPERVIOUS TO OIL AND GASOLINE.
11. THE TOP SURFACE OF THE MATERIAL SHALL HAVE REGULARLY SPACED INDENTS.

NO.	DESCRIPTION	REV. BY	DATE
6	DESCRIPTION CHANGED	LM	12-2-2021

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC - GENERAL NOTES

FRA-71-14.36



TEMPORARY WALL T3 - PLAN

LEGEND:

PROJECT BORING LOCATION

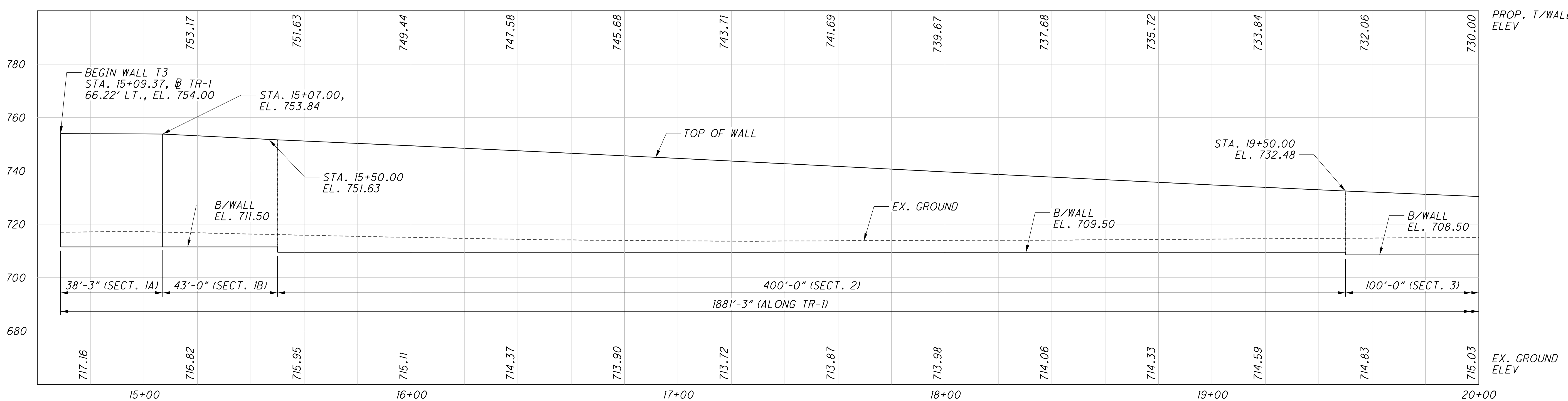
PLAN BOUNDARY FOR ITEMS INCLUDED WITH WALL T3 FOR PAYMENT

NOTES:

1. FOR NOTES, SEE SHEET 199E/1228

LOCATION	STA.	OFFSET
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.

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



TEMPORARY WALL T3 - PROFILE

(ALONG TR-1)

PLOT.CEL

ms consultants, inc.
msconsultants.com

www.msconsultants.com

Ohio DOT Workspace
70\71 West Interchange 6R

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

DESIGNED	DRAWN	REVIEWED	DATE
DBL	DBL	YSJ	JUNE-21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DEA			

PLAN AND ELEVATION (1 OF 4)

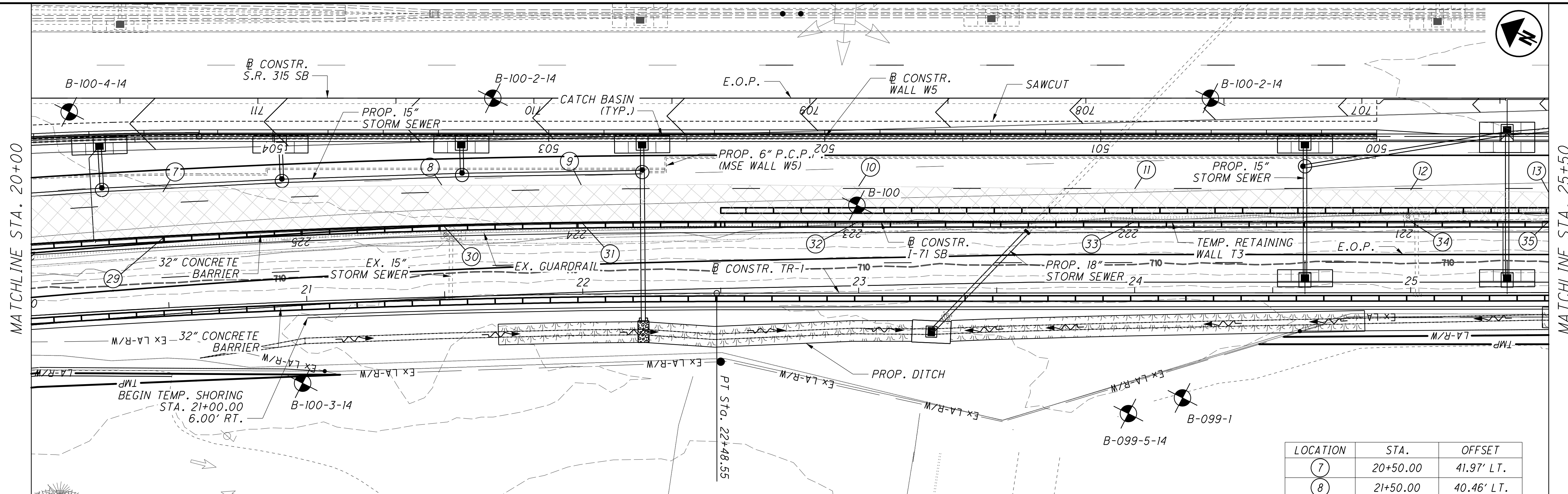
TEMP. RETAINING WALL T3 - ALONG TEMPORARY RAMP TR-1

I-70/I-71 WEST INTERCHANGE PROJECT

FRA-70-14.56

PID No. 77372

ms consultants, inc.



TEMPORARY WALL T3 - PLAN

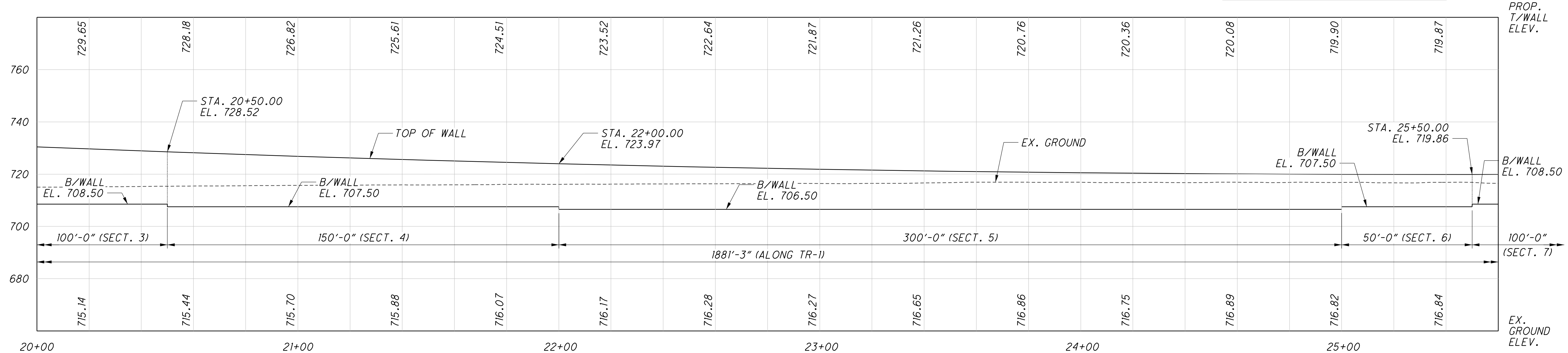
LEGEND:

- 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

DESIGNED DBL | CHECKED DEA | DRAWN DBL | REVIEWED YSJ | DATE JUNE-21

PLAN AND ELEVATION (2 OF 4)

TEMP. RETAINING WALL T3 - ALONG TEMPORARY RAMP TR-1

I-70/I-71 WEST INTERCHANGE PROJECT

FRA-70-14.56

PID No. 77372

3/5

199G/1228

Ohio DOT Workspace 70/71 West Interchange 6R

34" x 22"

Model: Sheet Printed: 12/2/2021

By: BLester

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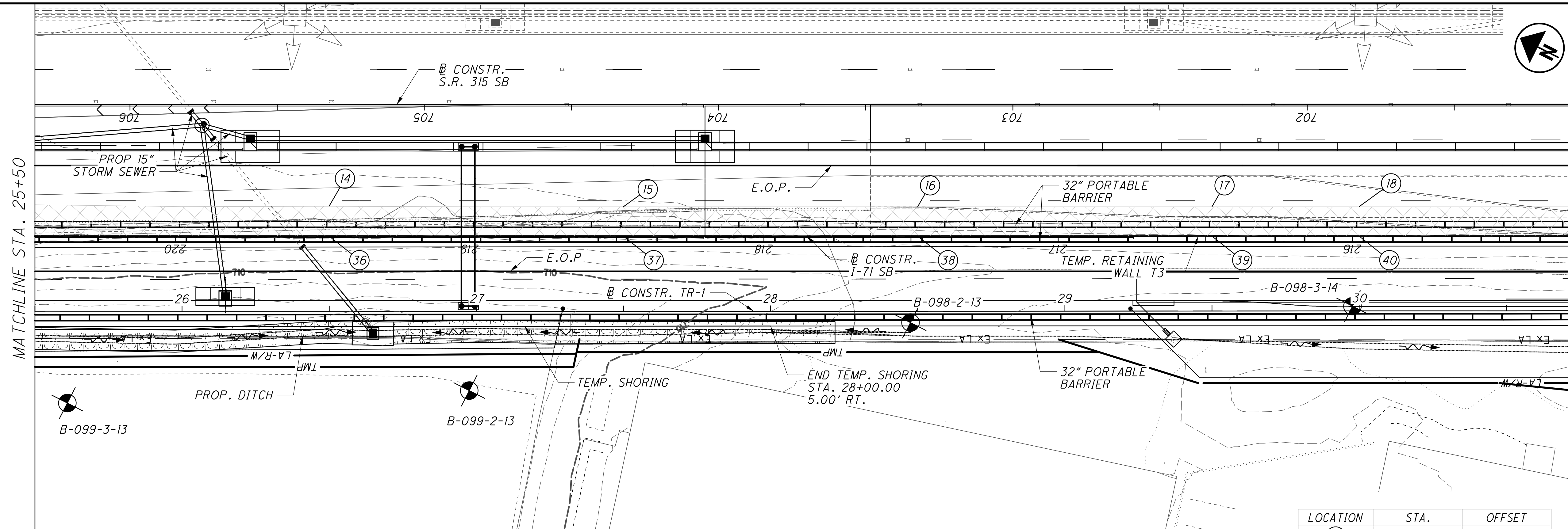


LOCATION	STA.	OFFSET
14	26+50.00	35.87' LT.
15	27+50.00	35.63' LT.
16	28+50.00	35.55' LT.
17	29+50.00	35.47' LT.
18	30+00.00	35.44' LT.
36	26+50.00	25.70' LT.
37	27+50.00	25.63' LT.
38	28+50.00	25.55' LT.
39	29+50.00	25.47' LT.
40	30+00.00	25.44' LT.

LEGEND:

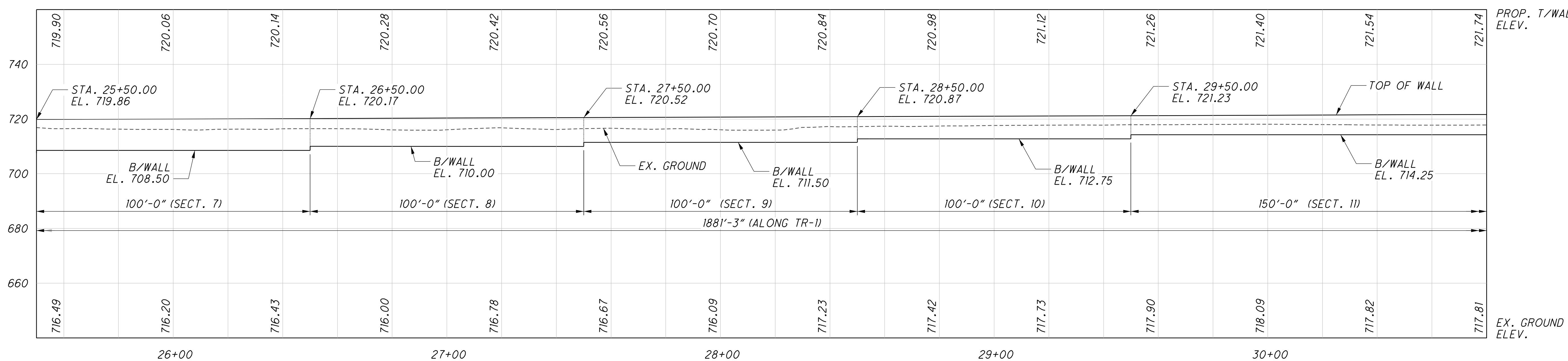
PROJECT BORING LOCATION

PLAN BOUNDARY FOR ITEMS INCLUDED WITH WALL T3 FOR PAYMENT

TEMPORARY WALL T3 - PLAN

NOTES:

1. FOR NOTES, SEE SHEET 199E/1228



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

TEMPORARY WALL T3 - PROFILE

(ALONG TR-1)

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Ohio DOT Workspace
70/71 West Interchange 6R

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

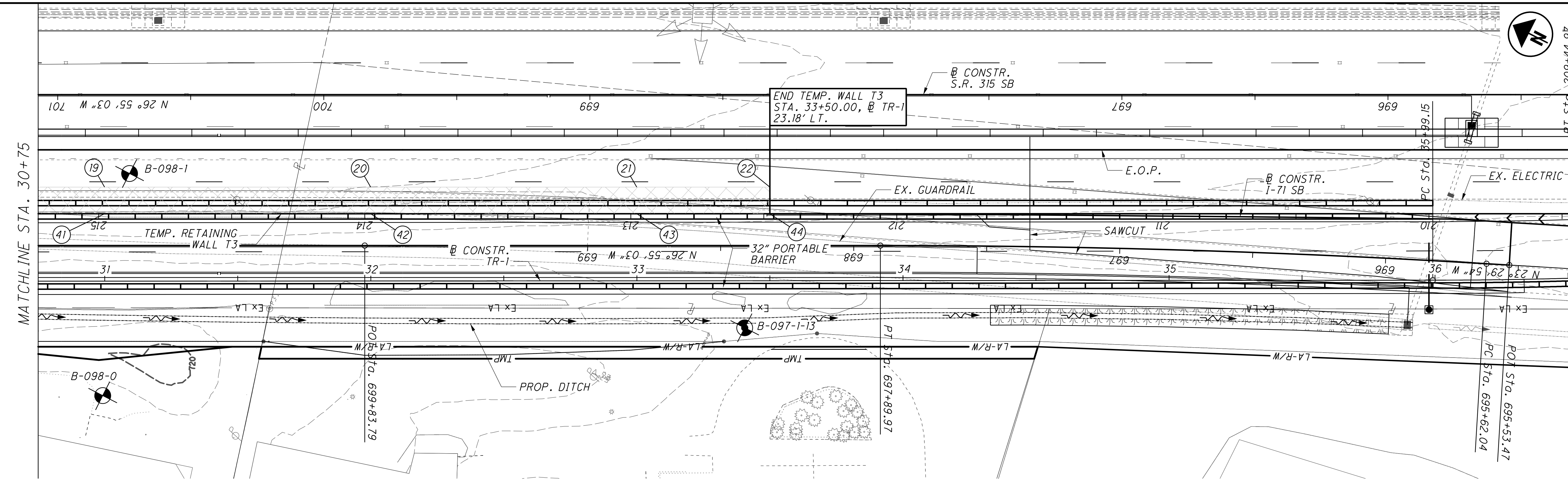
DESIGNED	DRAWN	REVIEWED	DATE
DBL	DBL	YSJ	JUNE-21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DEA			

PLAN AND ELEVATION (3 OF 4)

TEMP. RETAINING WALL T3 - ALONG TEMPORARY RAMP TR-1
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-70-14.56
PID No. 77372

ms consultants, inc.



TEMPORARY WALL T3 - PLAN

LEGEND:

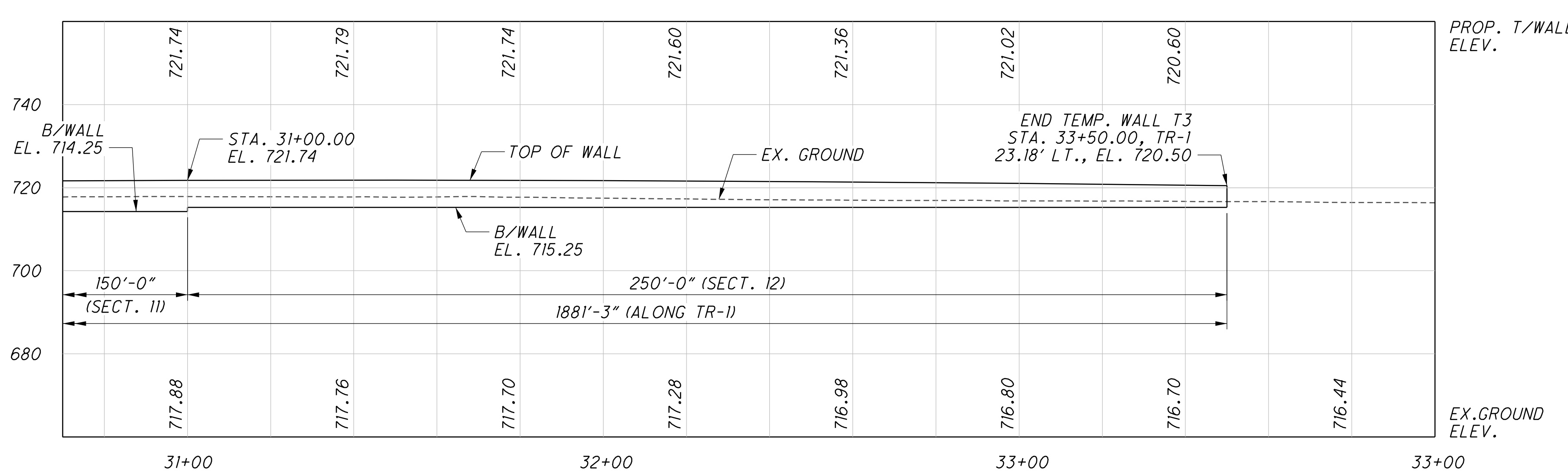
PROJECT BORING LOCATION

PLAN BOUNDARY FOR ITEMS INCLUDED WITH WALL T3 FOR PAYMENT

NOTES:

1. FOR NOTES, SEE SHEET 199E/1228

LOCATION	STA.	OFFSET
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

PLAN AND ELEVATION (4 OF 4)

TEMP. RETAINING WALL T3 - ALONG TEMPORARY RAMP TR-1

I-70/I-71 WEST INTERCHANGE PROJECT

DESIGNED DBL | CHECKED DEA | DRAWN DBL | REVISED | REVIEWED YSJ | DATE JUNE-21 | STRUCTURE FILE NUMBER

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

FRA-70-14.56

PID No. 77372

5 / 5

1991 / 1228

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SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
296	680	794	795	796						08/NHS/PV	08/NHS/PV.	08/NHS/PV..	11/NHS/PV/COL						
																		LIGHTING (CONT.)	
			290							145	145			625	98100	290	FT	LIGHTING, MISC.: MIS-400 OVERHEAD CIRCUIT, 3 WIRE-OPEN WIRE	793
			1,621	1,252						1,400	1,399		74	625	98100	2,873	FT	LIGHTING, MISC.: MIS-404 UNDERGROUND CIRCUIT, 3 WIRE	793
			1,229	831						999	997		64	625	98100	2,060	FT	LIGHTING, MISC.: MIS-700 2" CONDUIT, CONCRETE ENCASED	793
			97	304						201	200			625	98100	401	FT	LIGHTING, MISC.: MIS-702 3" RIGID STEEL WITH 2" CONDUIT INSERT	793
		LUMP								LUMP				625	98200	LS		LIGHTING, MISC.: MIS-901 EXISTING OVERHEAD CIRCUIT REMOVAL, AS PER PLAN	793
		LUMP								LUMP				625	98200	LS		LIGHTING, MISC.: MIS-902 EXISTING UNDERGROUND CIRCUIT REMOVAL, AS PER PLAN	793
																		ELECTRICAL	
11												11		202	98100	11	EACH	REMOVAL MISC.: ELECTRIC POLE REMOVED	657
4,614												4,614		202	98200	4,614	FT	REMOVAL MISC.: ELECTRIC CONDUCTOR REMOVED	657
549												549		252	01500	549	FT	FULL DEPTH PAVEMENT SAWING	
98												98		253	01000	98	SY	PAVEMENT REPAIR	
1												1		SPECIAL	69098000	1	EACH	14.4 KV 3 PHASE TERMINAL ASSEMBLY	657
3												3		SPECIAL	69098000	3	EACH	SINGLE PHASE 50 KVA POLE MOUNTED TRANSFORMER 14400Y/8320 120/208V	657
1												1		SPECIAL	69098000	1	EACH	SINGLE PHASE PAD MOUNT TRANSFORMER 25 KVA 14400Y/8320 120/240V	657
1												1		SPECIAL	69098000	1	EACH	SINGLE PHASE PAD MOUNT TRANSFORMER 50 KVA 14400Y/8320 480V	657
2												2		SPECIAL	69098000	2	EACH	SINGLE PHASE TRANSFORMER PAD	657
1												1		SPECIAL	69098000	1	EACH	SWITCHGEAR MANHOLE	661
1												1		SPECIAL	69098000	1	EACH	TYPE RPFI SF6 INSULATED PAD MOUNT SWITCH GEAR	661A
5												5		SPECIAL	69098000	5	EACH	WOOD POLE, 35' CLASS 3	658
3												3		SPECIAL	69098000	3	EACH	WOOD POLE, 55' CLASS 3	658
2												2		SPECIAL	69098000	2	EACH	WOOD POLE, 60' CLASS 3	658
2												2		SPECIAL	69098000	2	EACH	SPAN GUY	657
1												1		SPECIAL	69098000	1	EACH	TWO-WAY BUCK	657
1												1		SPECIAL	69098000	1	EACH	DEADEND ASSEMBLY	657
3												3		SPECIAL	69098000	3	EACH	DOWN GUY	657
7												7		SPECIAL	69098000	7	EACH	PRIMARY NEUTRAL ASSEMBLY	657
12												12		SPECIAL	69098000	12	EACH	SECONDARY, NEUTRAL AND MESSENGER SUPPORT ASSEMBLY	657
2												2		SPECIAL	69098000	2	EACH	4-WAY SEPARABLE CABLE JOINT	657
3												3		SPECIAL	69098000	3	EACH	TANGENT CROSSARM ASSEMBLY	657
3												3		SPECIAL	69098000	3	EACH	DISTRIBUTION CUTOUT	657
326												326		SPECIAL	69098100	326	FT	2-5" CONDUIT ENCASED	661
83												83		SPECIAL	69098100	83	FT	8-5" CONDUIT ENCASED	661
423												423		SPECIAL	69098100	423	FT	12-5" CONDUIT ENCASED	661
886												886		SPECIAL	69098100	886	FT	(3) 500MCM 15KV WITH 350MCM 600V NEUTRAL	657
443												443		SPECIAL	69098100	443	FT	(3) 750MCM 15KV WITH 500MCM 600V NEUTRAL	657
457												457		SPECIAL	69098100	457	FT	CABLE - #2 AWG CU 15KV	657
1,659												1,659		SPECIAL	69098100	1,659	FT	CABLE - 1/0 AAAc PRIMARY	657
940												940		SPECIAL	69098100	940	FT	CABLE - 1/0 AL TRIPLEX SECONDARY CABLE	657
180												180		SPECIAL	69098100	180	FT	CABLE - 4/0 AWG CU 15 KV	657
																		OTHER UTILITIES	
	5												5	SPECIAL	69098000	5	EACH	4" RISER	677A
	2												2	SPECIAL	69098000	2	EACH	COMMUNICATIONS PULLBOX, 13" X 24"	677A
	4												4	SPECIAL	69098000	4	EACH	JOINT USE MANHOLE, 8' X 6'	677A
	93												93	SPECIAL	69098100	93	FT	11-2" CONDUIT, ENCASED	677A
	207												207	SPECIAL	69098100	207	FT	3-4" CONDUIT, ENCASED	677A
	388												388	SPECIAL	69098100	388	FT	4" CONDUIT, ENCASED	677A
	564												564	SPECIAL	69098100	564	FT	6-4" CONDUIT, ENCASED	677A
	217												217	SPECIAL	69098100	217	FT	9-4" CONDUIT, ENCASED	677A
	781												781	SPECIAL	69098100	781	FT	1.5" CONDUIT WITH TRACING WIRE, ENCASED	680

NO.	DESCRIPTION	REV. BY	DATE
4	Update Funding Splits	TAZ	11-24-2021
6	Update Quantities	TAZ	12-03-2021

CALCULATED HRB
CHECKED TAZ

GENERAL SUMMARY

FRA-71-14.36

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NO.	DESCRIPTION	REV. BY	DATE
1	Change 203E98100 Desc.	TAZ	11-05-2021
3	Remove Item 846E28000	TAZ	11-19-2021
3	Update Item 509 To A.P.P.	TAZ	11-19-2021
4	Update Funding Splits	TAZ	11-24-2021
4	Update 203E98100 Qty.	TAZ	11-24-2021
6	Add 504E11101 Qty.	TAZ	12-03-2021
6	Update 203E20000 Qty.	TAZ	12-03-2021
6	Remove 203E35000 Qty.	TAZ	12-03-2021

SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
653	743	755	814	847						08/NHS/PV	08/NHS/PV.	10/ENH/OT/COL	11/NHS/PV/COL						
																		TRAFFIC SIGNALS (CONT.)	
	1									1				633	67100	1	EACH	CABINET FOUNDATION	
	2									1	1			633	99000	2	EACH	CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER, SHORT RANGE	737
	1									1				633	99000	1	EACH	CONTROLLER ITEM, MISC.: LAYER 2 ETHERNET SWITCH	738
		1,337								669	668			804	32060	1,337	FT	DROP CABLE, 24 FIBER	
	2									1	1			804	34023	2	EACH	FIBER TERMINATION PANEL, 24 FIBER, AS PER PLAN	736
		1								1				804	37000	1	EACH	SPLICE ENCLOSURE, BUTT STYLE	
	1									1				809	69101	1	EACH	STOP LINE RADAR DETECTION, AS PER PLAN	733
																		LANDSCAPING	
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
																		RETAINING WALLS (E4)	
				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
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GENERAL SUMMARY

FRA-71-14.36

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SHEET NUM.														PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE
857	864													08/NHS/PV.		EXT	TOTAL			SHEET NO.
																			RETAINING WALLS (E5)	
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	
																			RETAINING WALLS (E7)	
	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	844
	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

CALCULATED HRB
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GENERAL SUMMARY

FRA-71-14.36

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SHEET NUM.														PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE
874	884													08/NHS/PV.		EXT	TOTAL			SHEET NO.
																			RETAINING WALLS (E10)	
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	
	2,649													2,649	203	20000	2,649	CY	EMBANKMENT	
	LUMP													LUMP	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
	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	

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	Add Load Dist. Slab Qty.	TAZ	12-03-2021

CALCULATED HRB
CHECKED TAZ

GENERAL SUMMARY

FRA-71-14.36

275D
1228

ms consultants, inc.

Ohio DOT Workspace
70\71 West Interchange 6R
www.msconsultants.com

1" 0.5" 0

Batchplot Spec: \\msconsultants.com\files\Production\03\60\06634_6R\standards\plotdrv\batchplt.cfg
Pen Table: \\msconsultants.com\files\Standards\usin\ohdot\V8i\ms\plotting\pen\V8i_ms_std.tbl
Plot Driver: \\msconsultants.com\files\Standards\usin\ohdot\v8i\ms\plotting\PDF.pltcfg
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PCF: 60-06634_6R_Columbus

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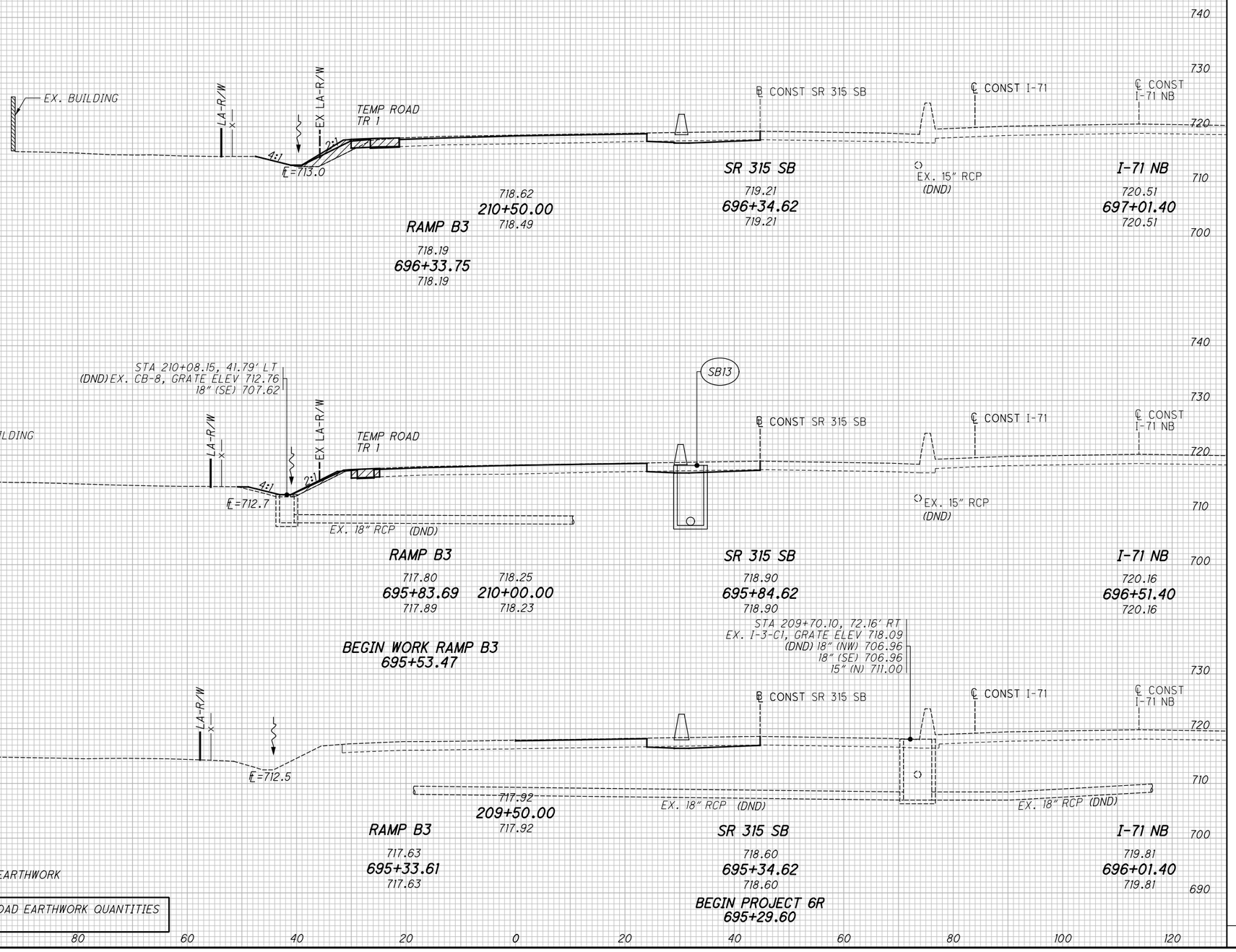
View: FENCE_VIEW1
By: tzangmeister

34" x 22"

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

SEEDING	
END WIDTH	SQ. YDS.
24	133
24	68
0	0
0	201



TEMPORARY ROAD EARTHWORK

FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

END AREA		VOLUME	
CUT	FILL	CUT	FILL
13	17	22	26
10	11	14	10
5	0	0	0
		36	36

CALCULATED CFR
CHECKED BSB

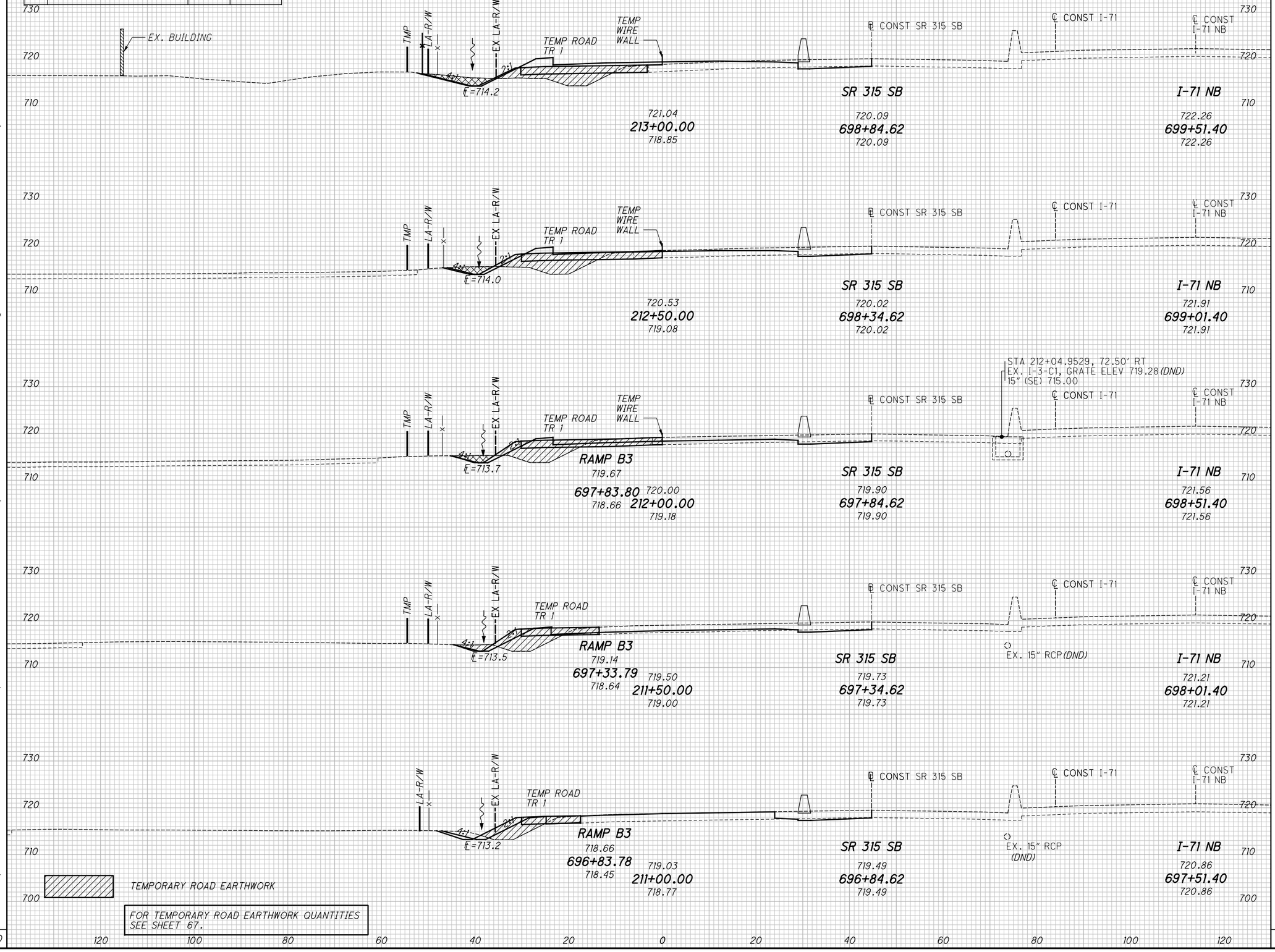
CROSS SECTIONS I-71 SB
STA. 209+50.00 TO STA. 210+50.00

FRA-71-14.36

414
1228

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

SEEDING	
END WIDTH	SQ. YDS.
31	157
25	139
25	134
24	135
25	135
	700



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	
CUT	FILL	CUT	FILL
20	124		
		32	129
15	99		
		29	79
16	70		
		27	99
13	37		
		30	59
20	27		
		31	41
		149	407

CALCULATED CFR
CHECKED BSB

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

FRA-71-14.36

415
1228

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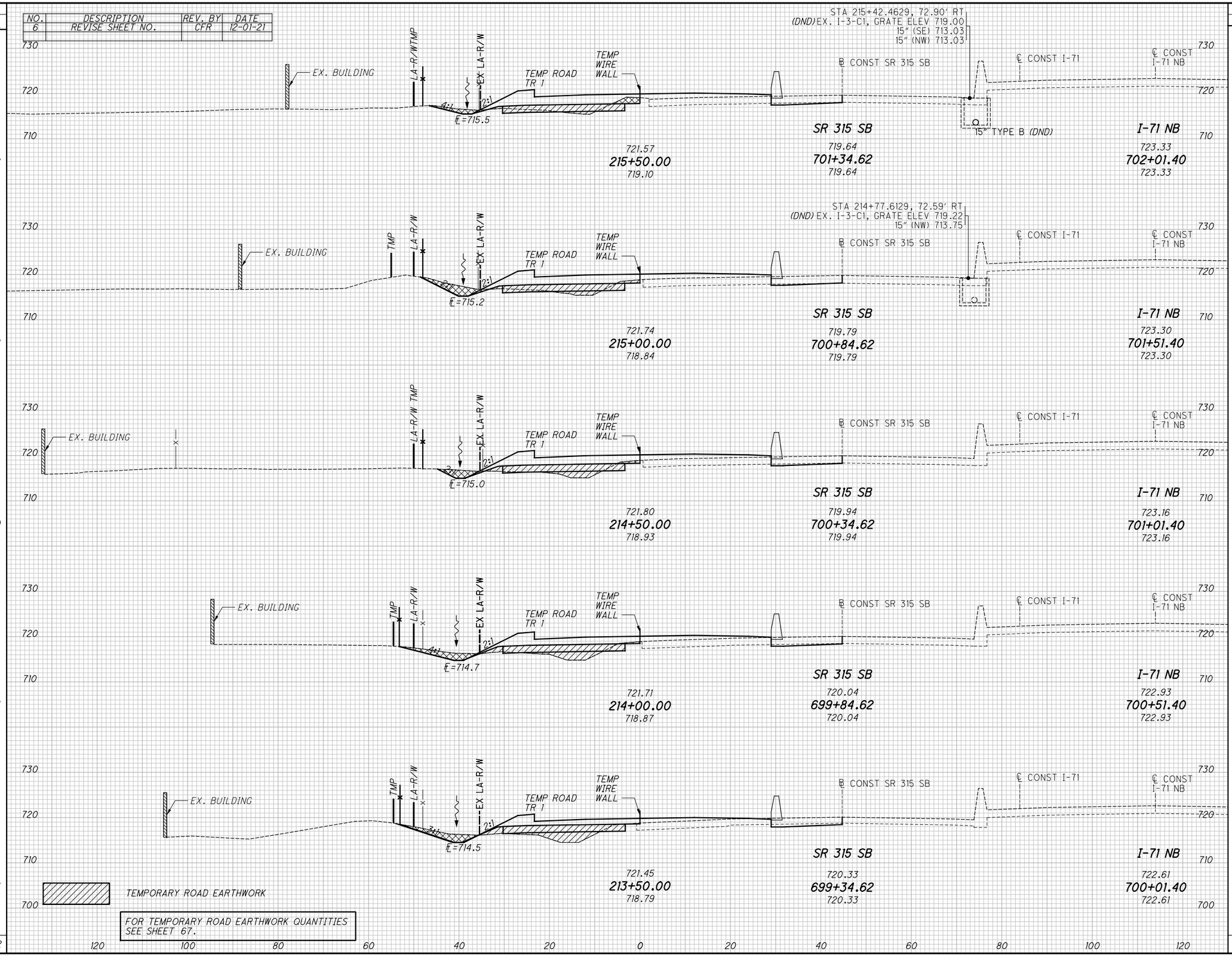
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

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



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 CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
11	142		
		28	271
19	151		
		30	258
14	128		
		32	266
20	153		
		42	271
25	140		
		42	245
		174	1311

CALCULATED CFR
CHECKED BSB

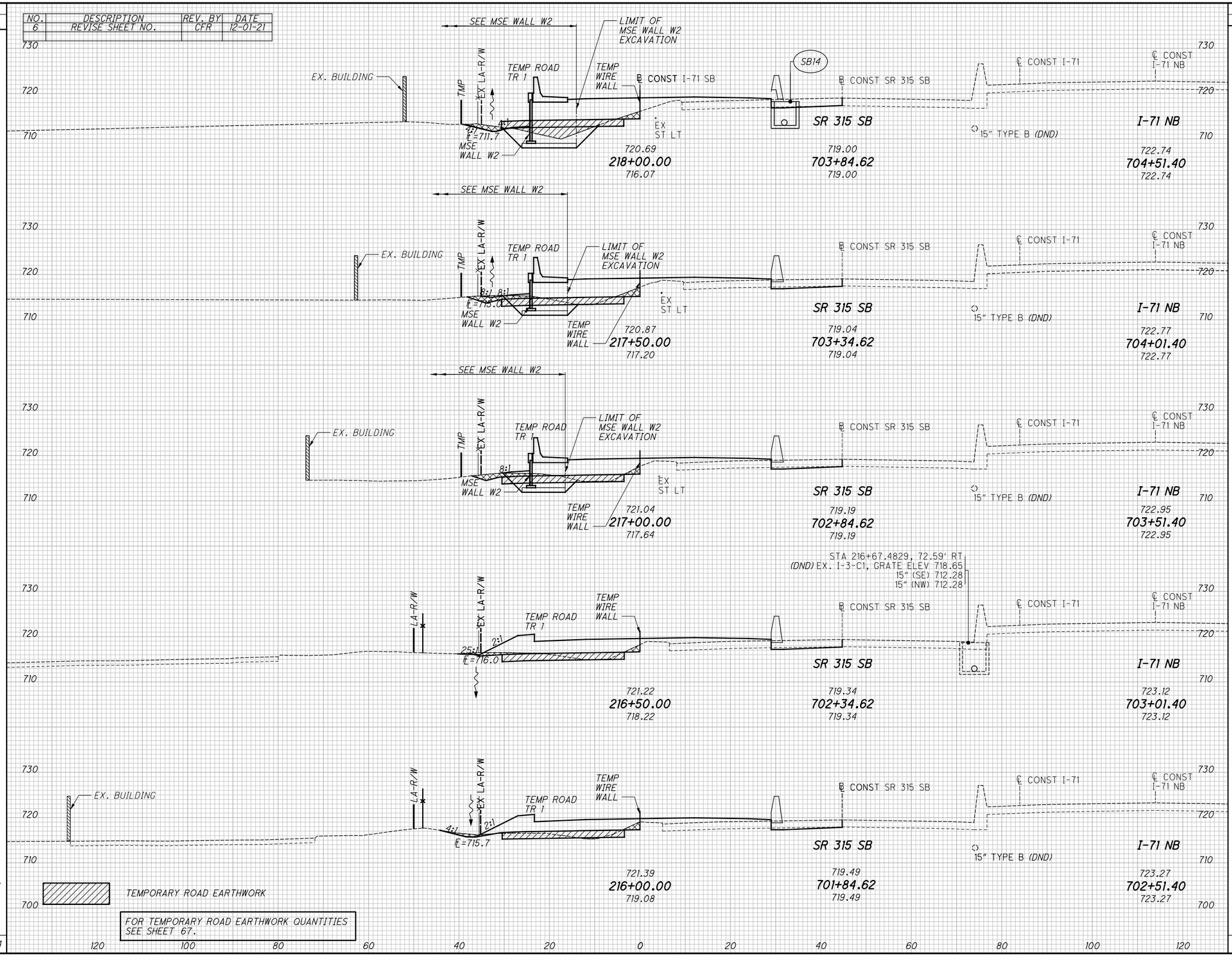
CROSS SECTIONS I-71 SB
STA. 213+50.00 TO STA. 215+50.00

FRA-71-14.36

416
1228

SEEDING	
END WIDTH	SQ. YDS.
14	70
11	47
6	70
19	119
23	138
	444

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



TEMPORARY ROAD EARTHWORK

FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

END AREA		VOLUME	
CUT	FILL	CUT	FILL
10	127		
7	118		
		16	227
9	117		
		15	217
6	155		
		13	252
7	147		
		12	280
		17	267
		73	1243

CALCULATED CFR
CHECKED BSB

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

FRA-71-14.36

417
1228

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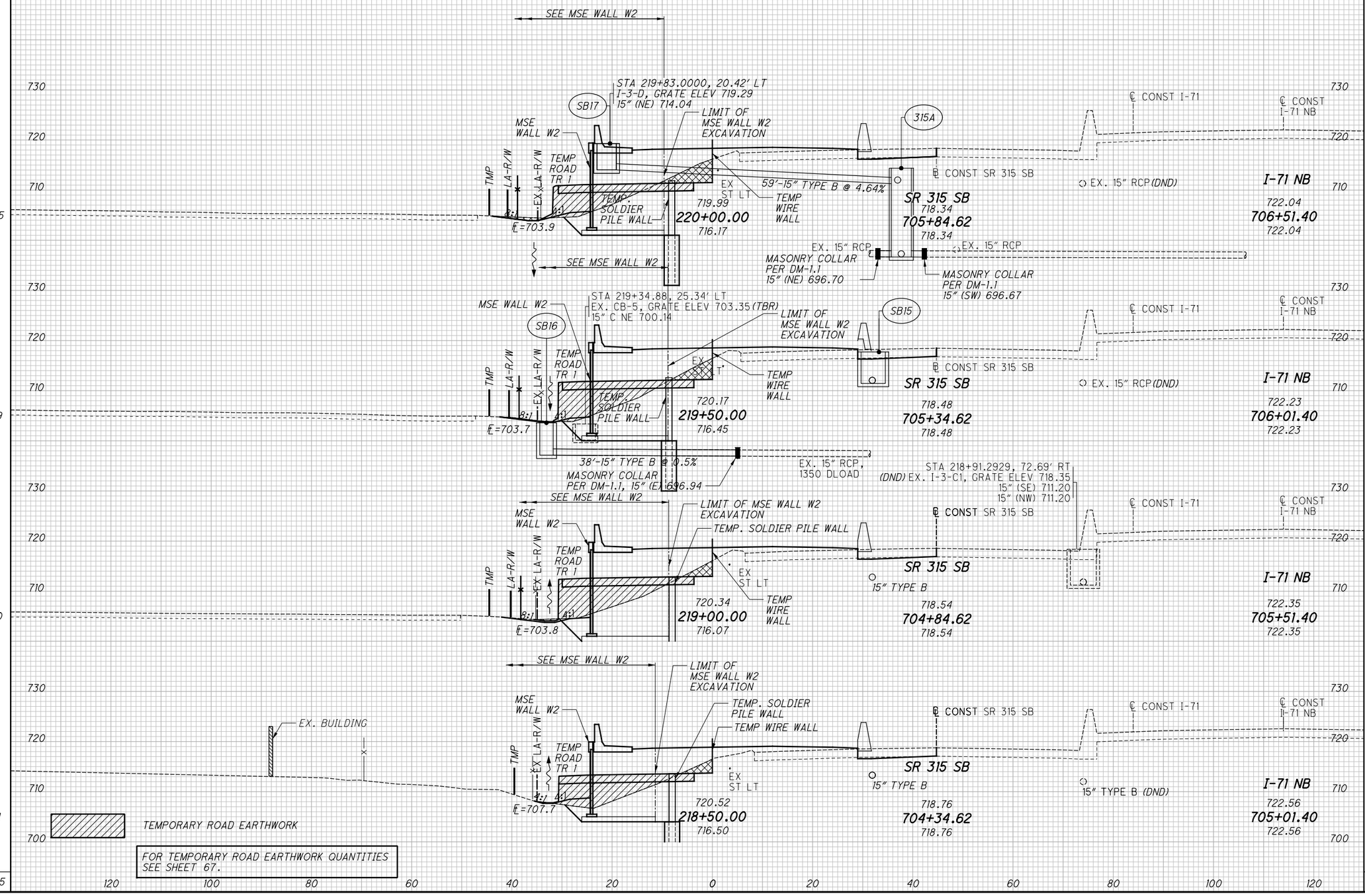
SEEDING	
END WIDTH	SQ. YDS.
20	105
18	99
18	80
11	71
	355

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



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

CALCULATED CFR
CHECKED BSB

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

FRA-71-14.36

418
1228

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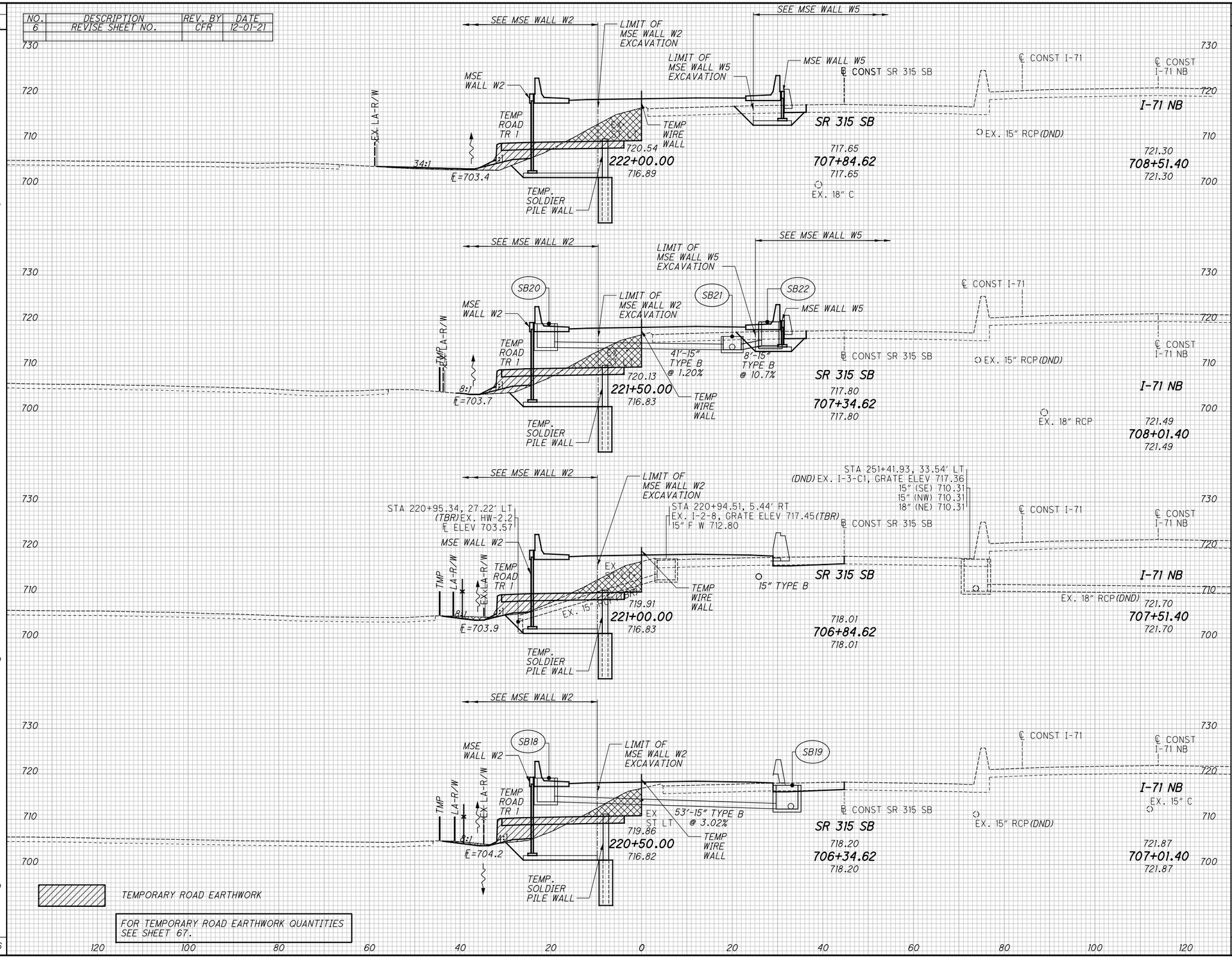
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
34	134	42	117	79	208
14	94	43	108	78	202
20	109	42	110	80	201
20	109	44	106	76	204
446				313	815

CALCULATED CFR
CHECKED BSB

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

FRA-71-14.36

419
1228

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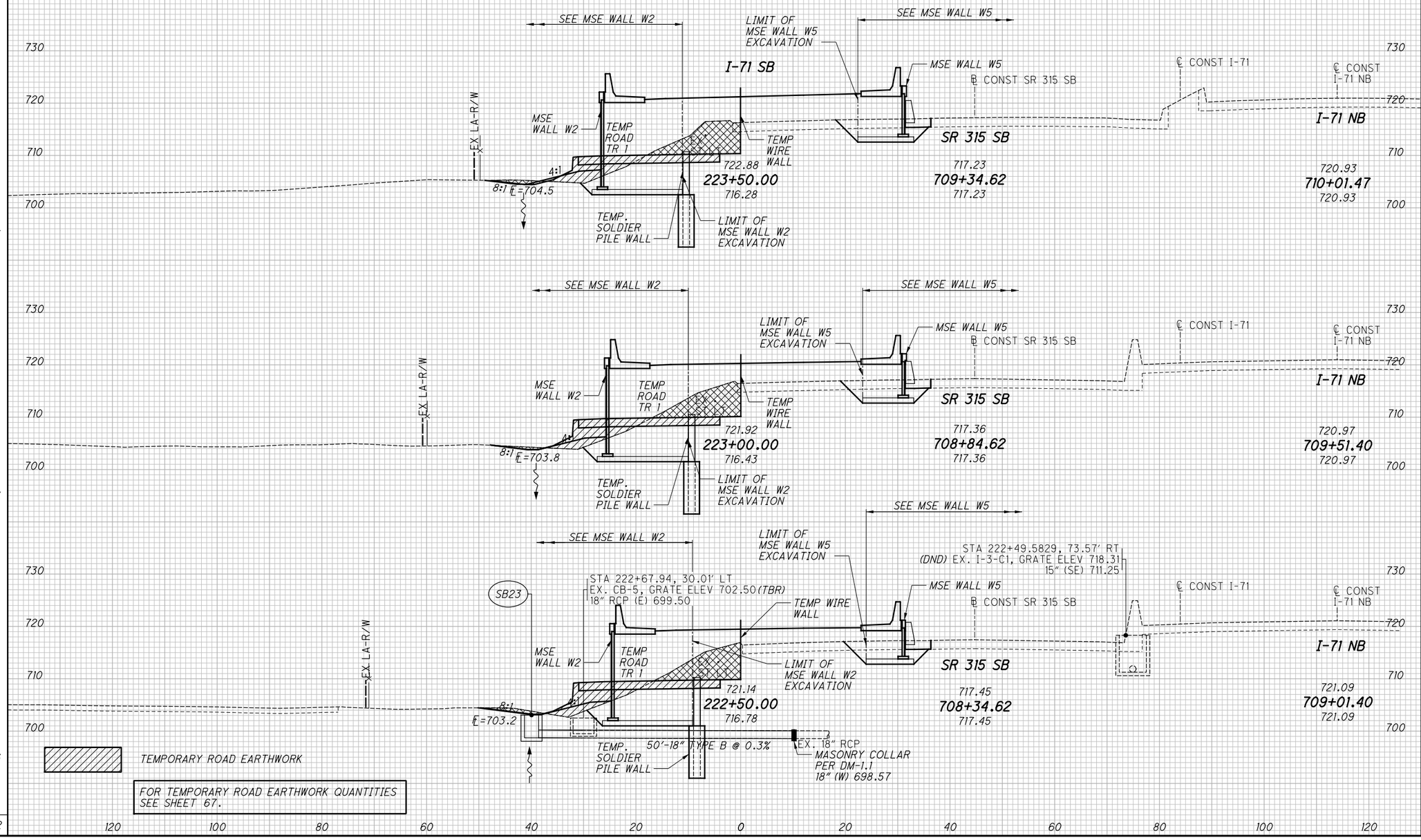
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

SEEDING	
END WIDTH	SQ. YDS.
22	123
22	133
26	166
	422



FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

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

CALCULATED CFR
CHECKED BSB

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

FRA-71-14.36

420
1228

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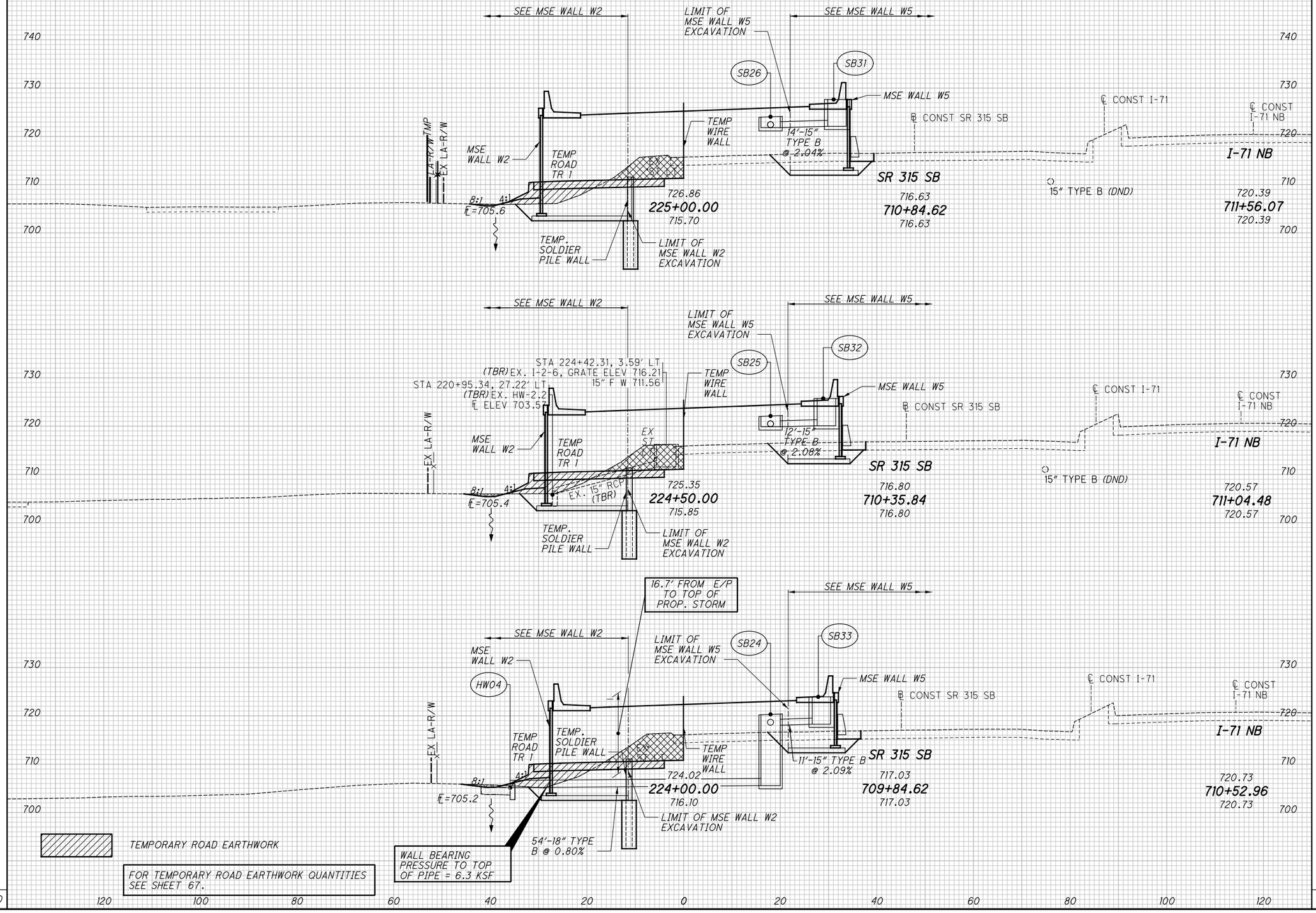
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	CFR	BSB
15	88	28	199	49	326		
17	98	25	153	44	283		
19	114	23	152	48	268		
	300			141	877		



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

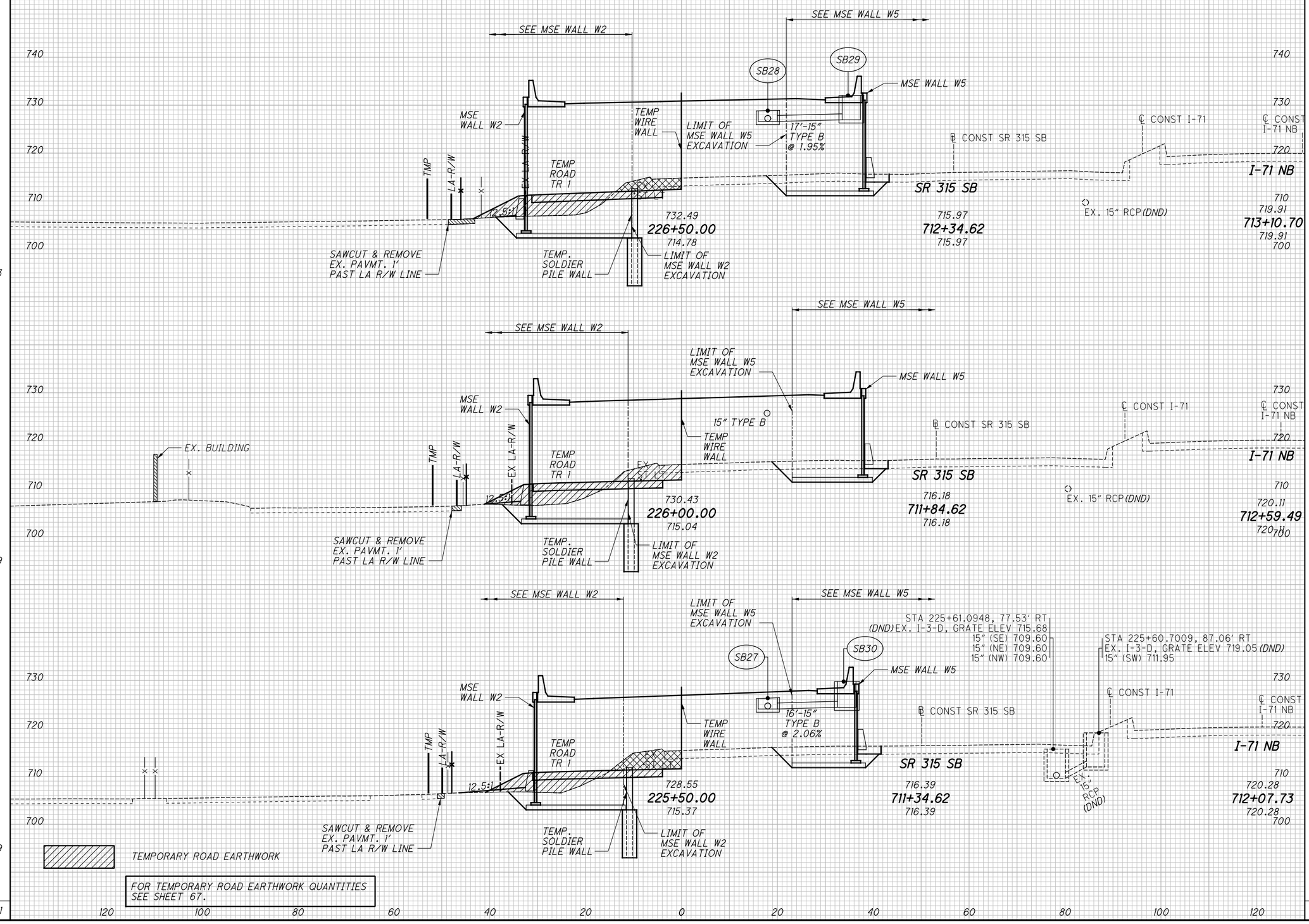
FRA-71-14.36

421
1228

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

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
4	33	25	201	45	359
8	59	24	187	51	479
14	79	31	331	55	490
	171			151	1320

CALCULATED CFR
CHECKED BSB



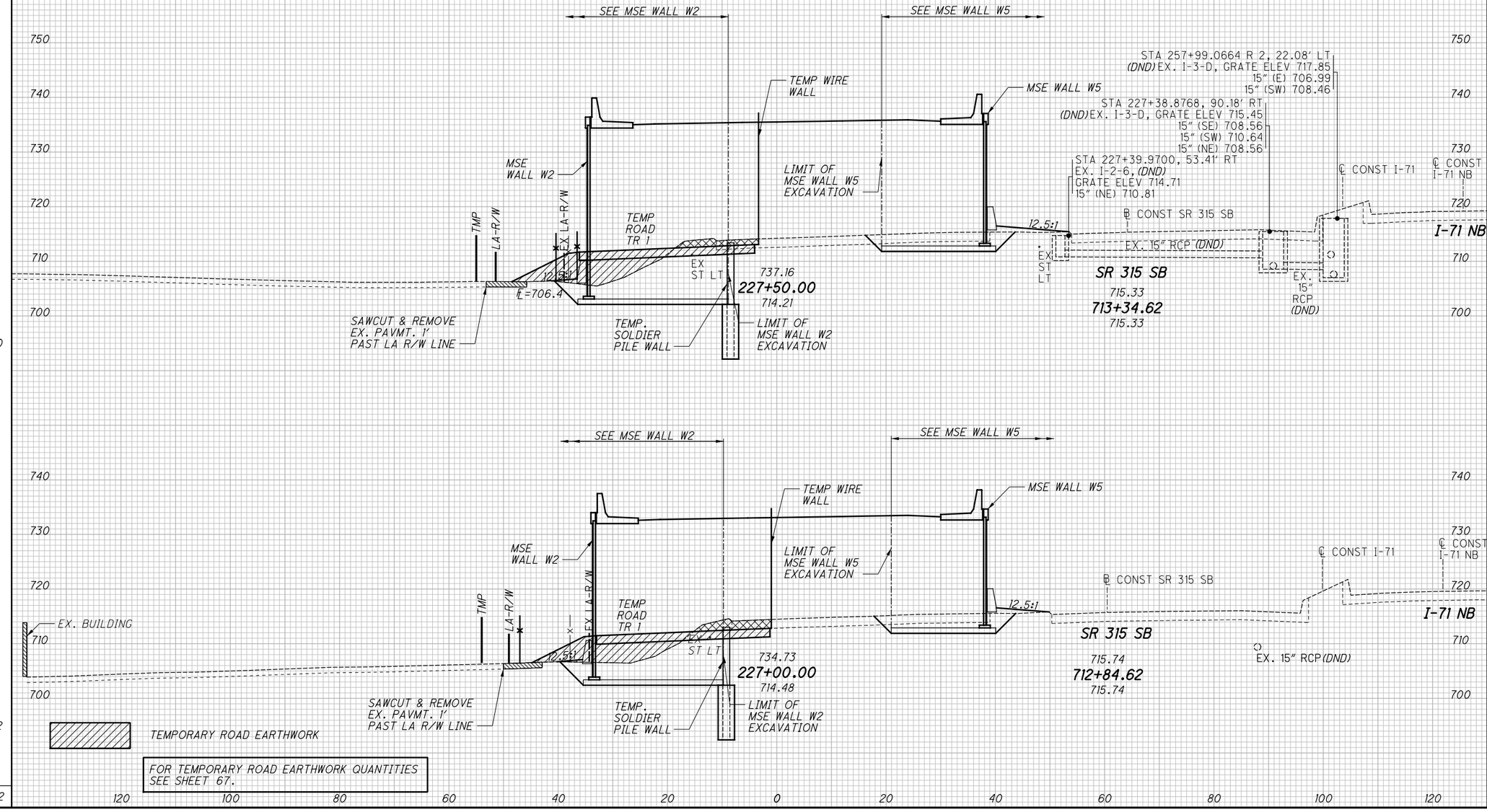
CROSS SECTIONS I-71 SB
STA. 225+50.00 TO STA. 226+50.00

FRA-71-14.36

422
1228

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

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



END AREA		VOLUME	
CUT	FILL	CUT	FILL
19	140		
40	303		
24	187		
44	359		
84	662		

CALCULATED CFR
CHECKED BSB

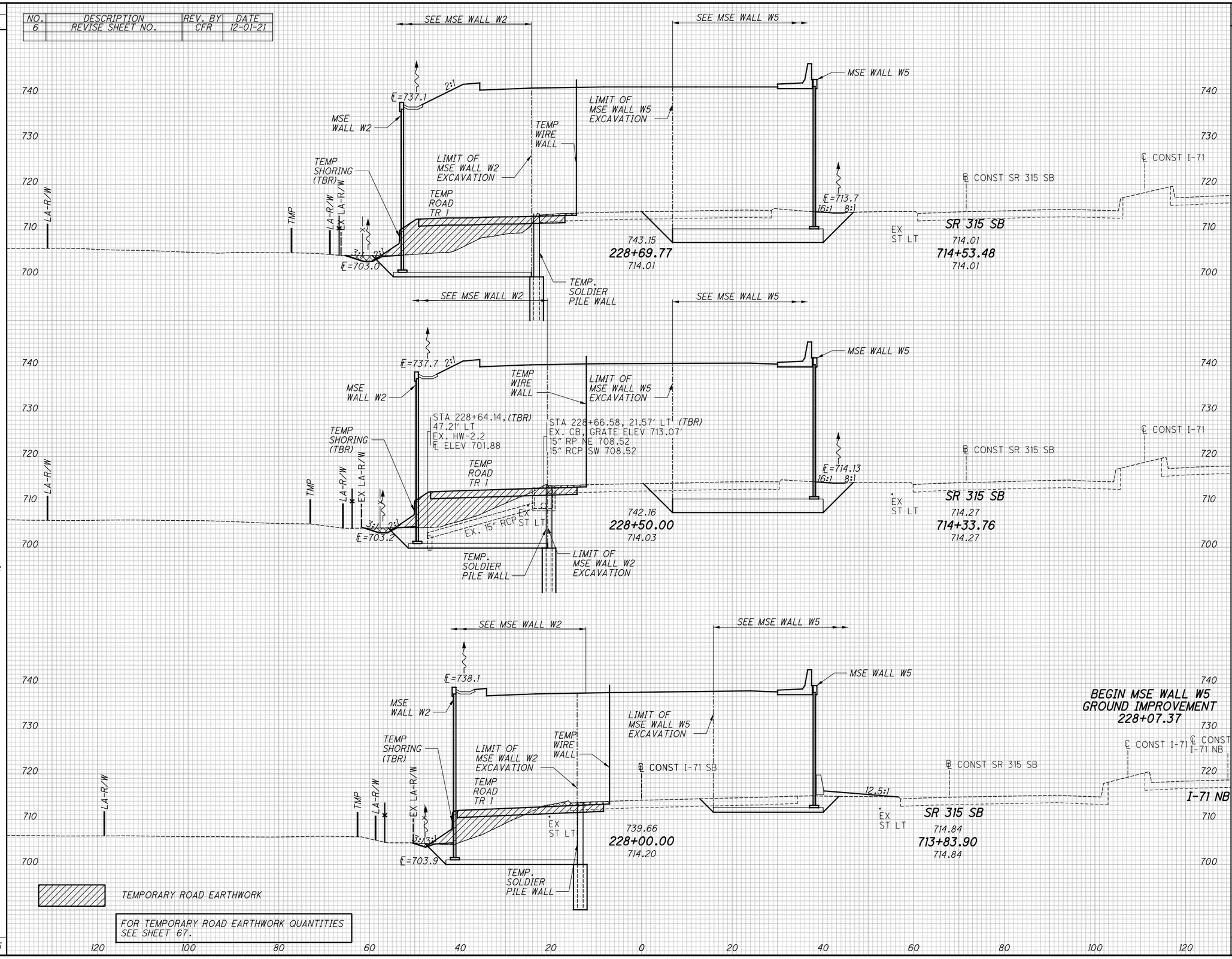
CROSS SECTIONS I-71 SB
STA. 227+00.00 TO STA. 227+50.00

FRA-71-14.36

423
1228

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

SEEDING END WIDTH	SEEDING SQ. YDS.
35	71
30	163
29	131
	365



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
34	323		
22	264		
		38	375
26	211		
		7	56
27	201		
		42	316
		108	962

CALCULATED CFR
CHECKED BSB

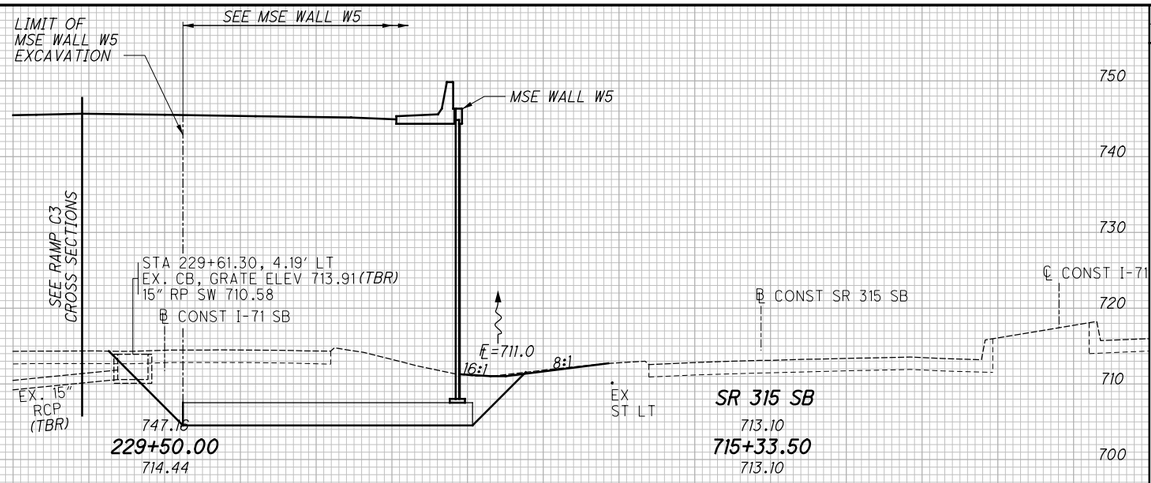
CROSS SECTIONS I-71 SB
STA. 228+00.00 TO STA. 228+69.77

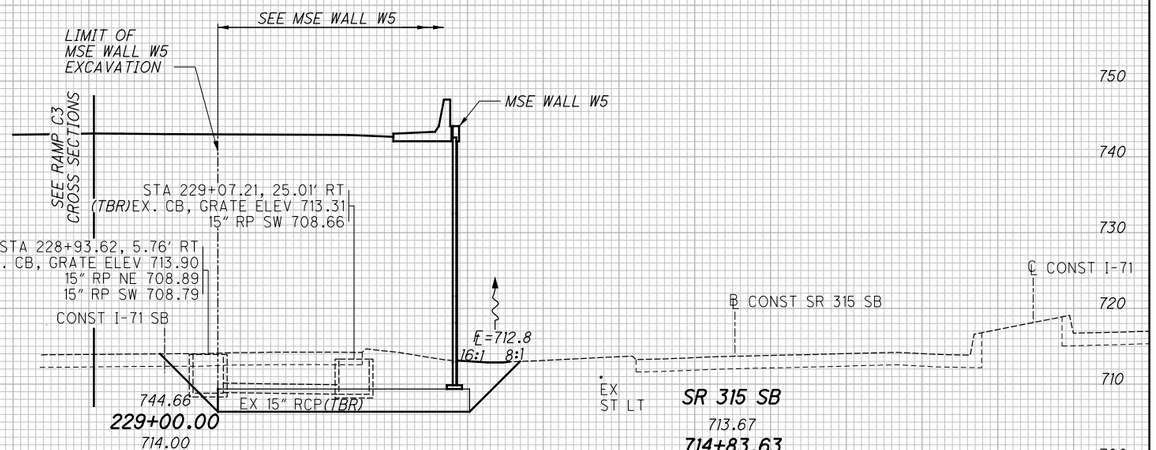
FRA-71-14.36

424
1228

SEEDING	
END WIDTH	SQ. YDS.
64	289
40	73
40	59
	421

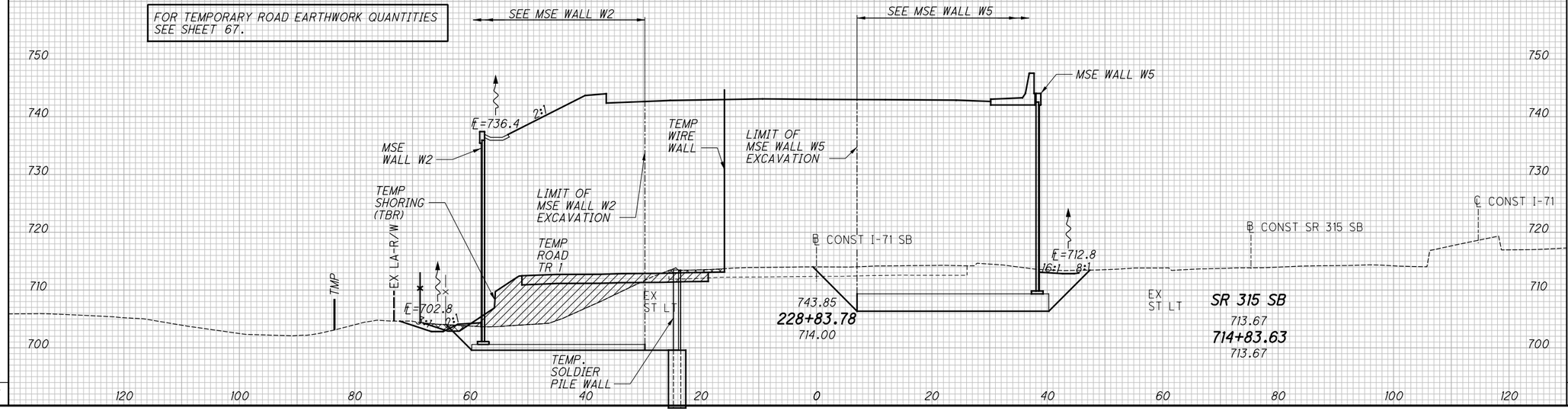
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21





TEMPORARY ROAD EARTHWORK

FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
54	416		
90	512		
		133	859
		37	251
34	324		
		18	168
		188	1278

CALCULATED CFR
CHECKED BSB

CROSS SECTIONS I-71 SB
STA. 228+83.78 TO STA. 229+50.00

FRA-71-14.36

425
1228

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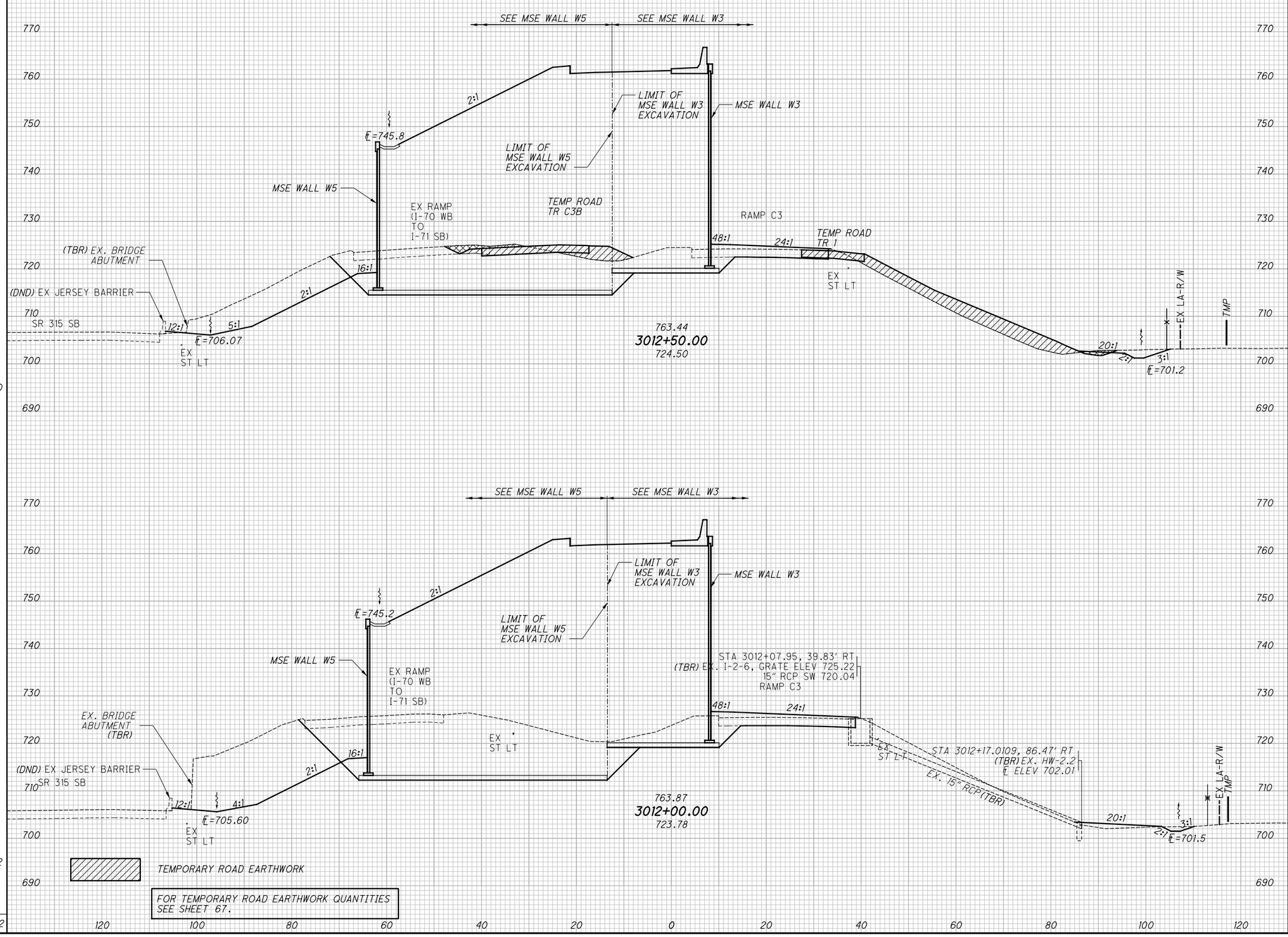
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
134	770	59	54	103	122
144	802	52	77	99	146
·	1572	·	·	202	268

CALCULATED CFR
CHECKED BSB



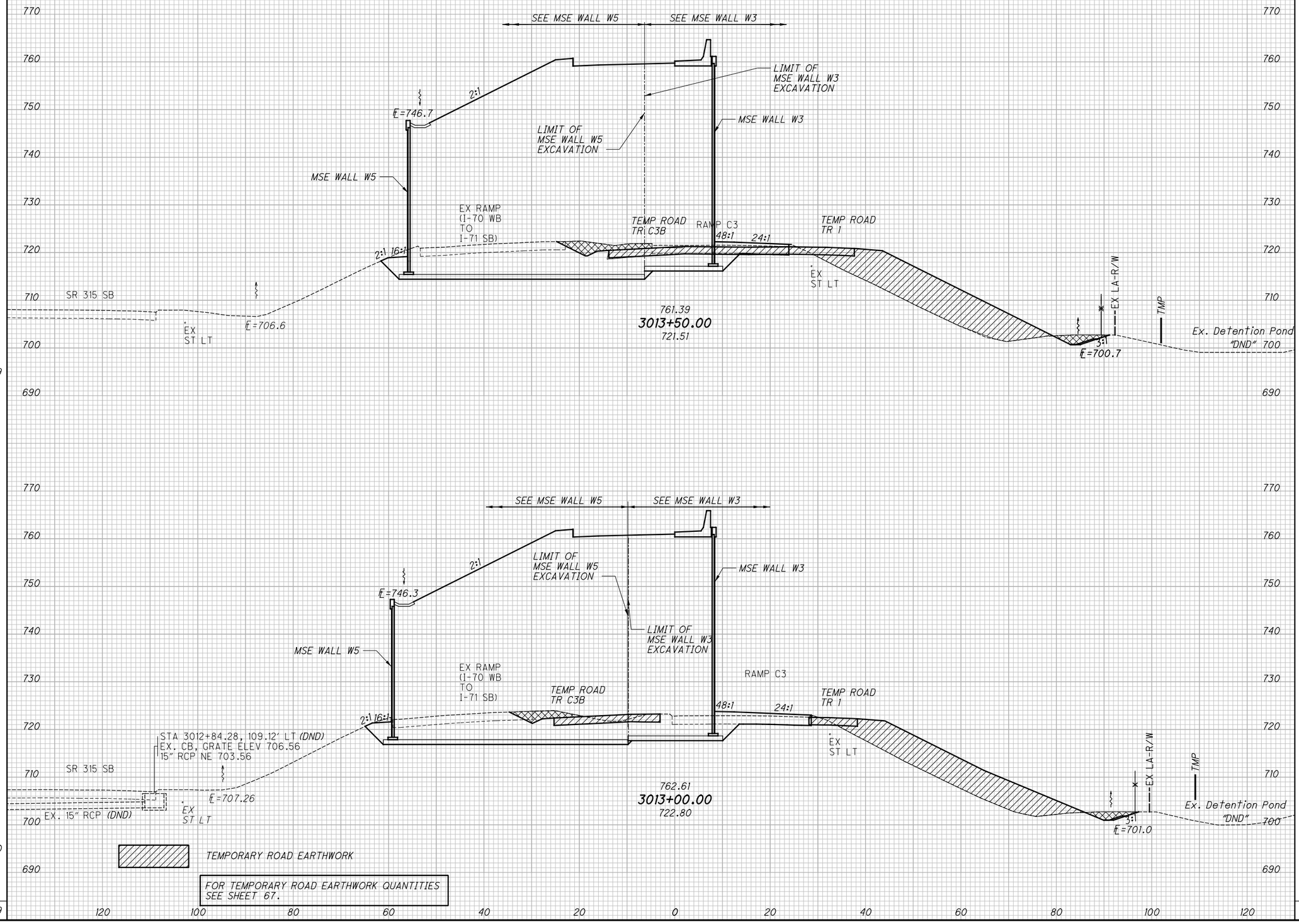
CROSS SECTIONS RAMP C3
STA. 3012+00.00 TO STA. 3012+50.00

FRA-71-14.36

448
1228

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

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



TEMPORARY ROAD EARTHWORK

FOR TEMPORARY ROAD EARTHWORK QUANTITIES SEE SHEET 67.

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
41	55		
		79	106
44	59		
		96	105
		175	211

CALCULATED CFR
CHECKED BSB

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

FRA-71-14.36

449
1228

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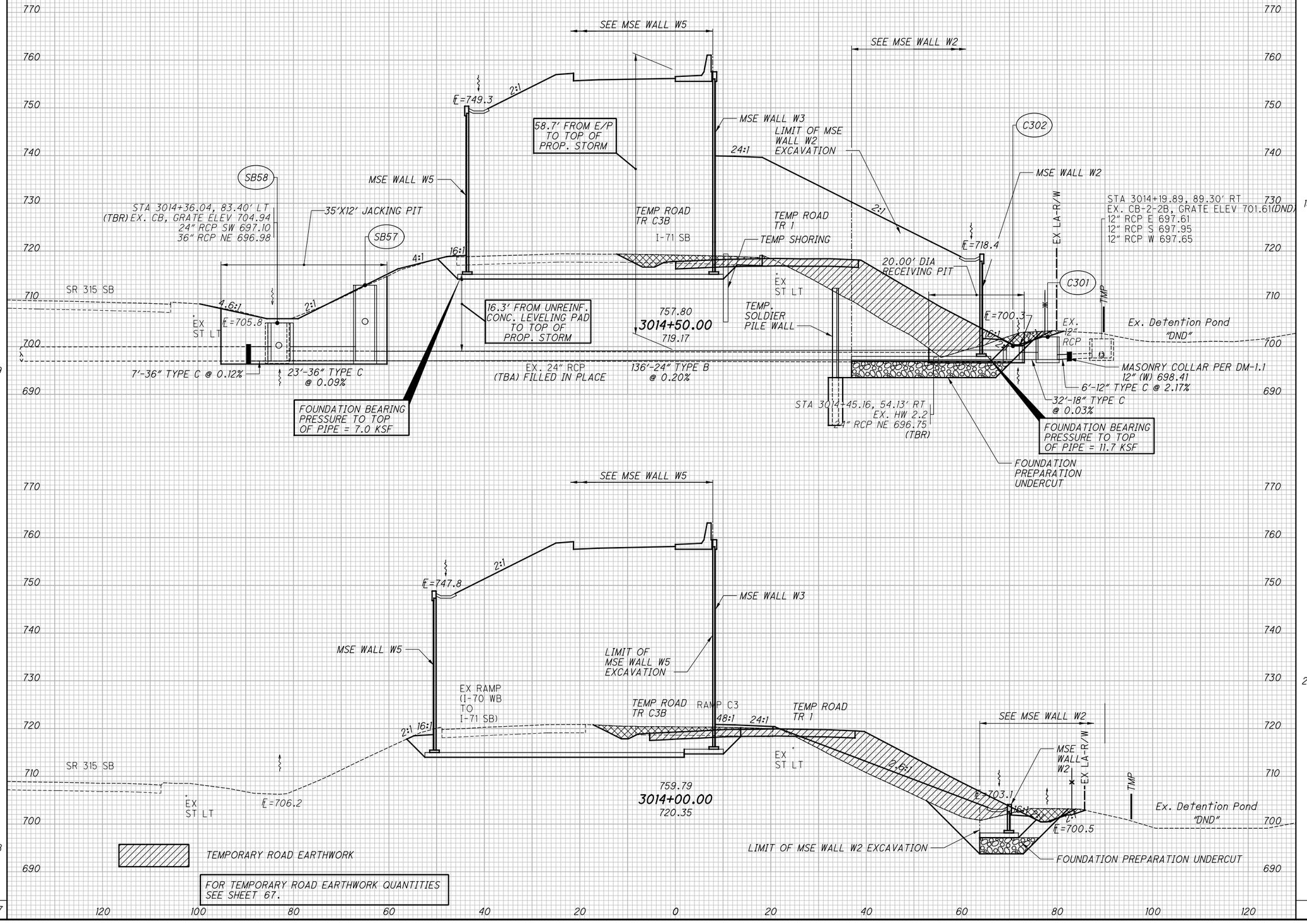
SEEDING	
END WIDTH	SQ. YDS.
152	
	739
115	
	498
	1237

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



END AREA		VOLUME	
CUT	FILL	CUT	FILL
151	583		
		382	642
261	111		
		280	153
		662	795

CALCULATED CFR
CHECKED BSB

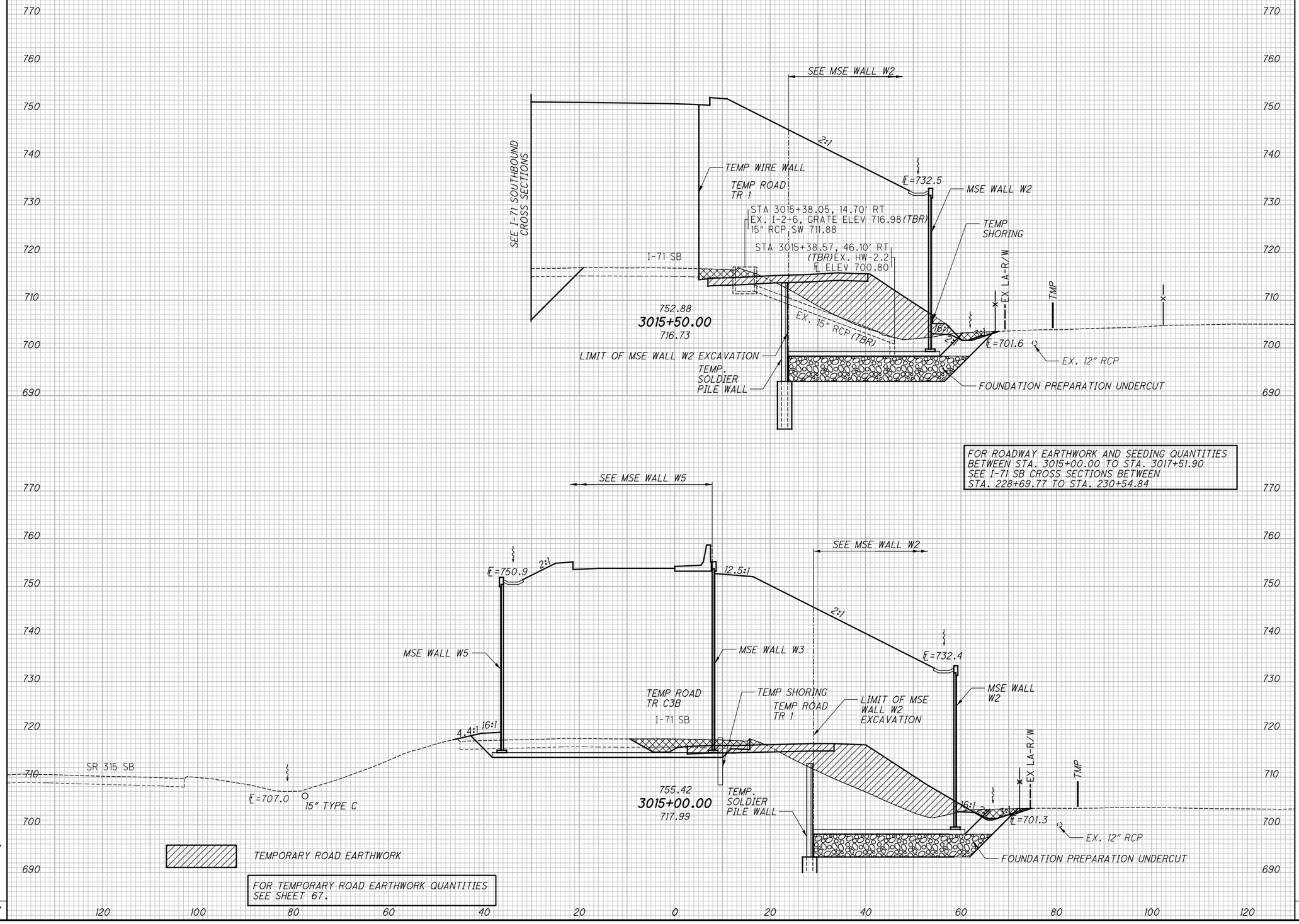
CROSS SECTIONS RAMP C3
STA. 3014+00.00 TO STA. 3014+50.00

FRA-71-14.36

450
1228

SEEDING	
END WIDTH	SQ. YDS.
89	667
	667

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



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

CALCULATED CFR
CHECKED BSB

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

FRA-71-14.36

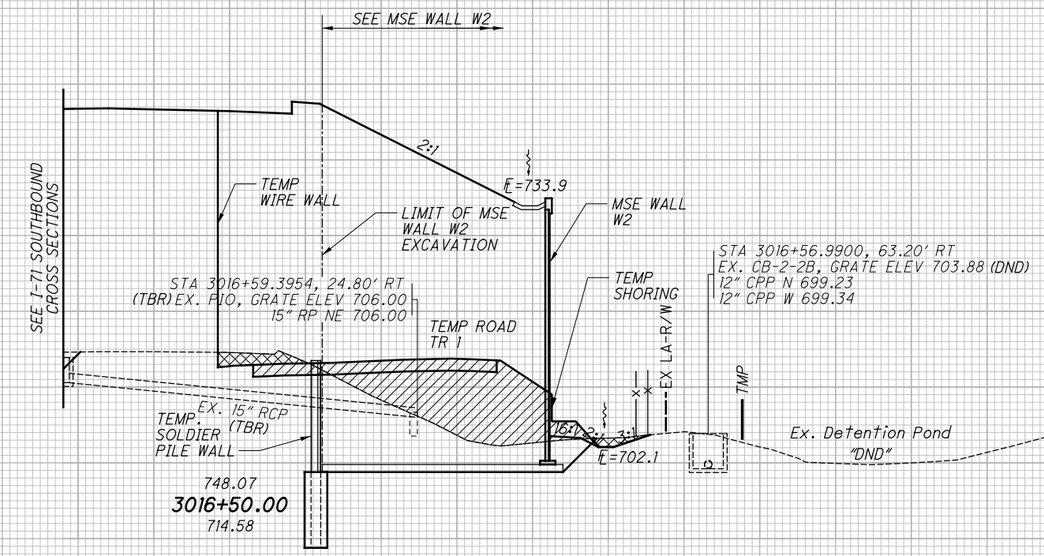
451
1228

SEEDING	
END WIDTH	SQ. YDS.

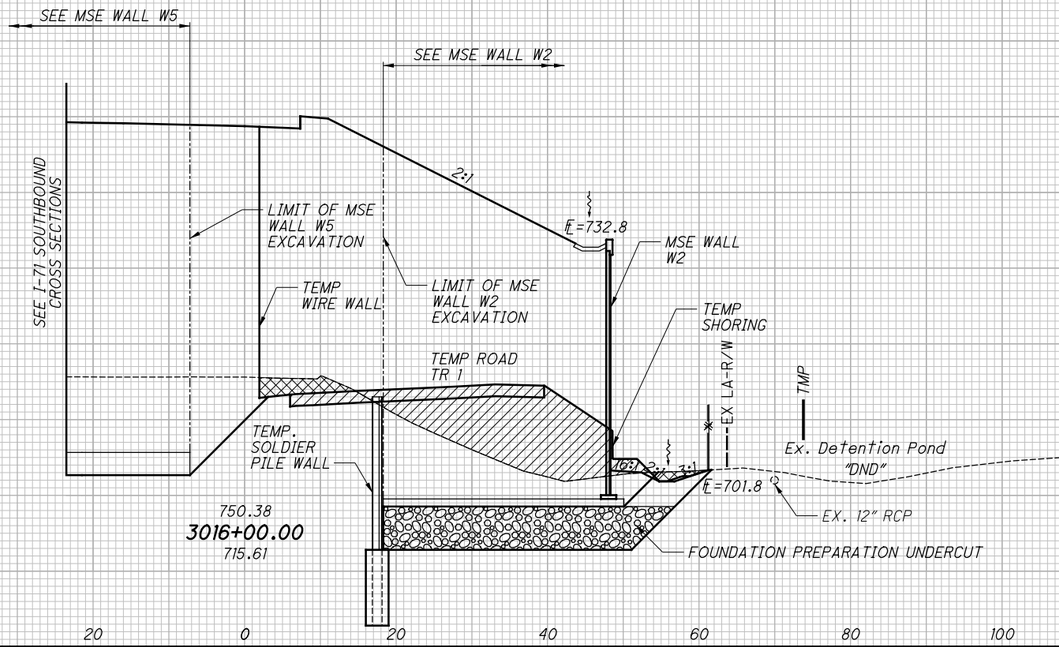
NO.	DESCRIPTION	REV. BY	DATE
6	REVISE SHEET NO.	CFR	12-01-21

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED CFR
CHECKED 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.

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

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

FRA-71-14.36

452
1228

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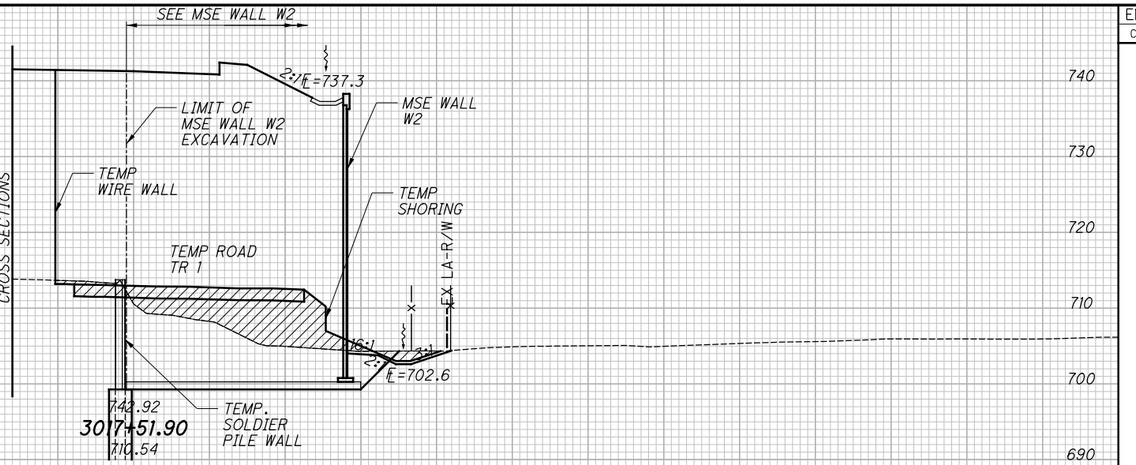
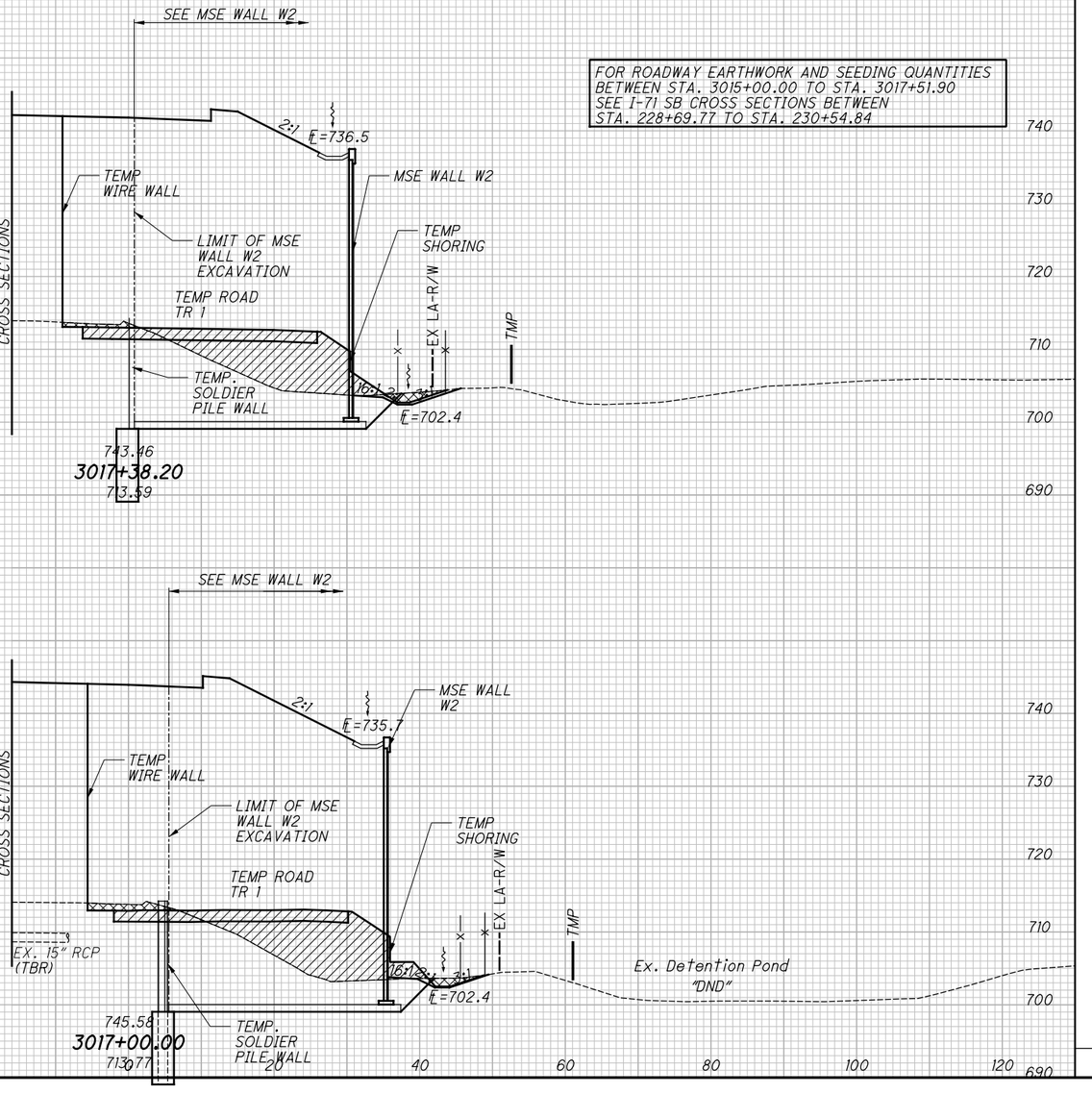
SEEDING	
END WIDTH	SQ. YDS.

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	
CUT	FILL	CUT	FILL

CALCULATED CFR
CHECKED BSB

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

FRA-71-14.36

453
1228

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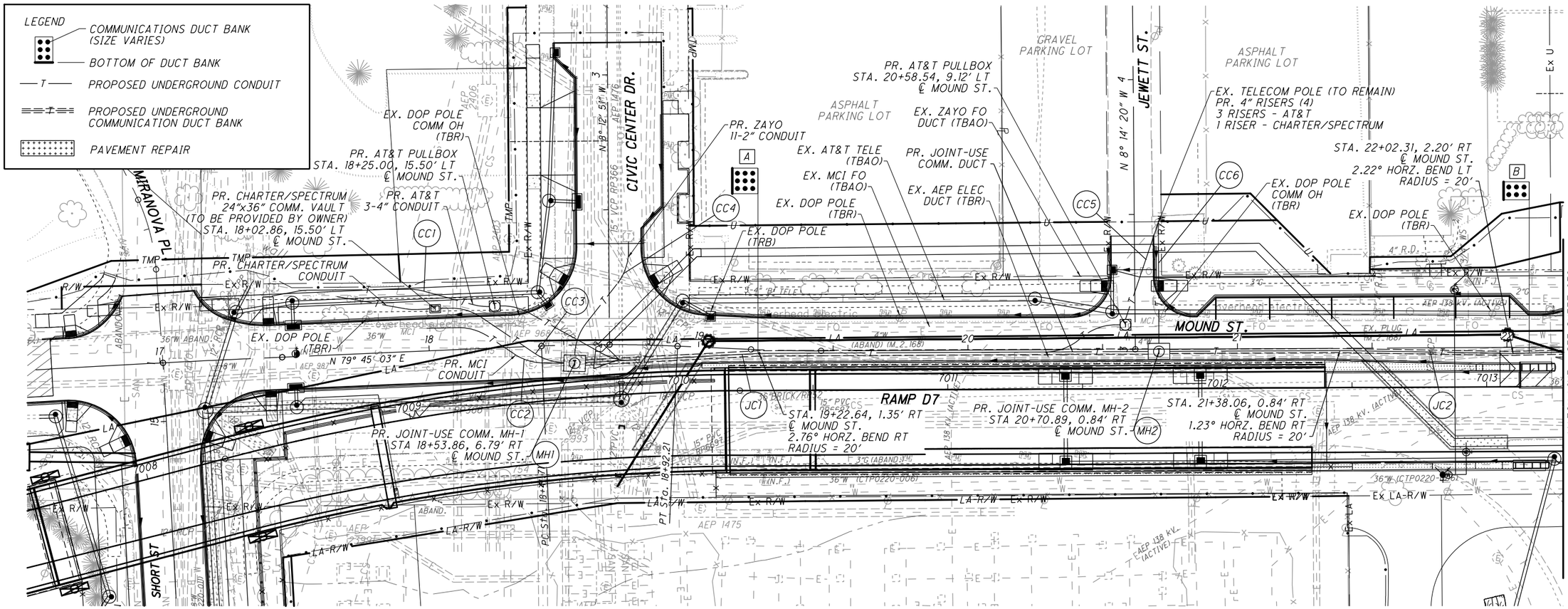
By: patton
34" x 22"

LEGEND

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



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

CALCULATED

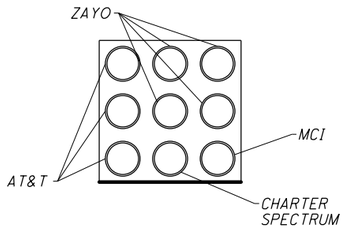
CHECKED

0 10 20 40 HORIZONTAL SCALE IN FEET

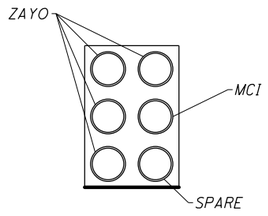
JOINT-USE COMMUNICATION - PLAN & PROFILE
CIVIC CENTER DR. TO 2ND ST.

FRA-71-14.36

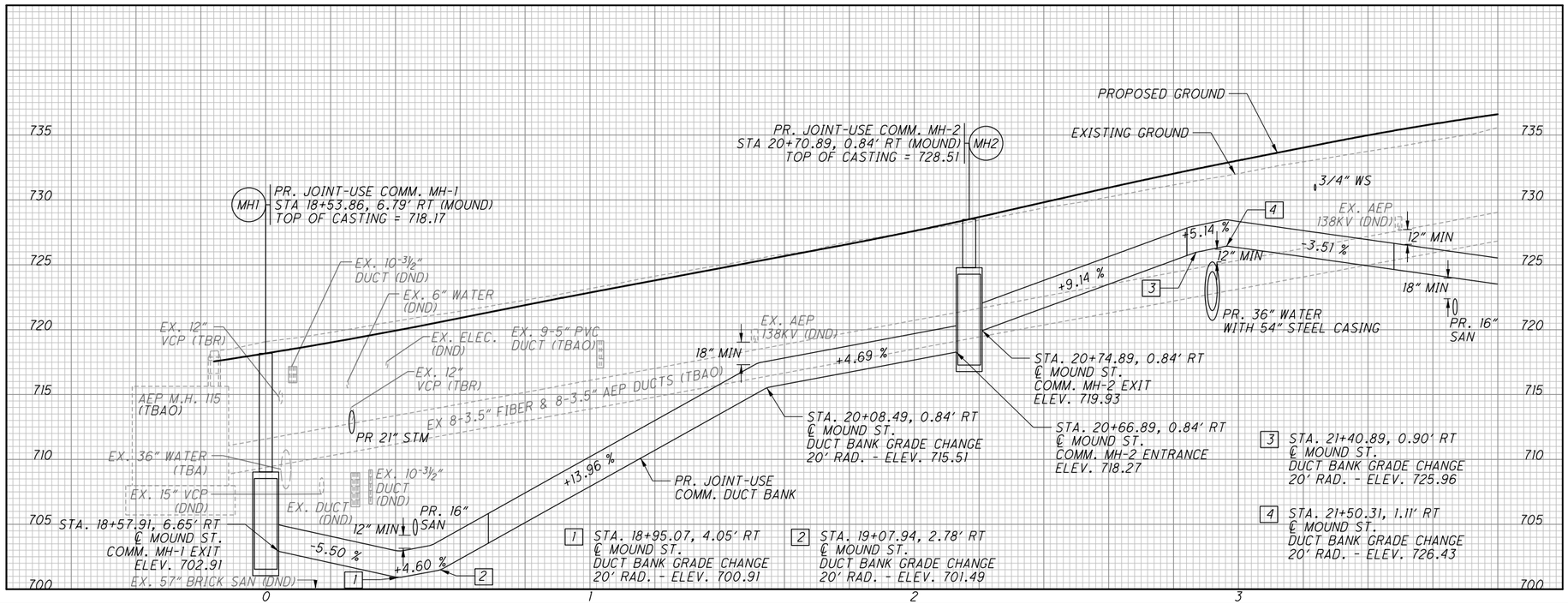
678
1228

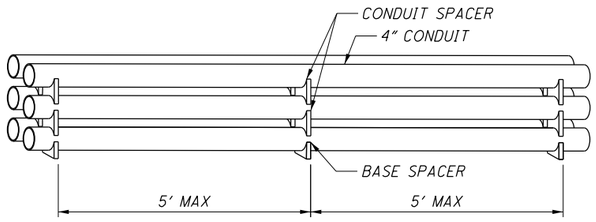


3x3: 9-4" CONDUIT, ENCASED
STA. 18+53.86 TO STA. 20+70.89
A



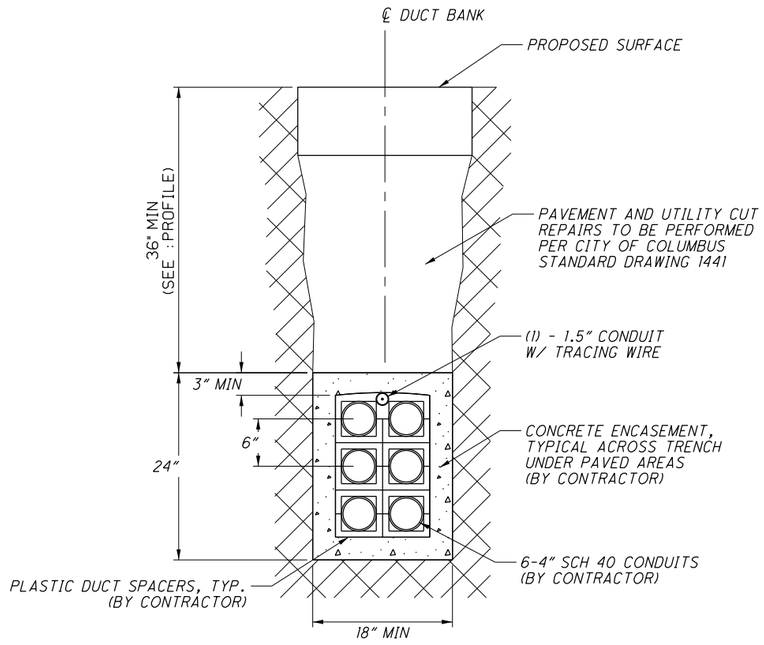
2x3: 6-4" CONDUIT, ENCASED
STA. 20+70.89 TO STA. 26+38.62
B





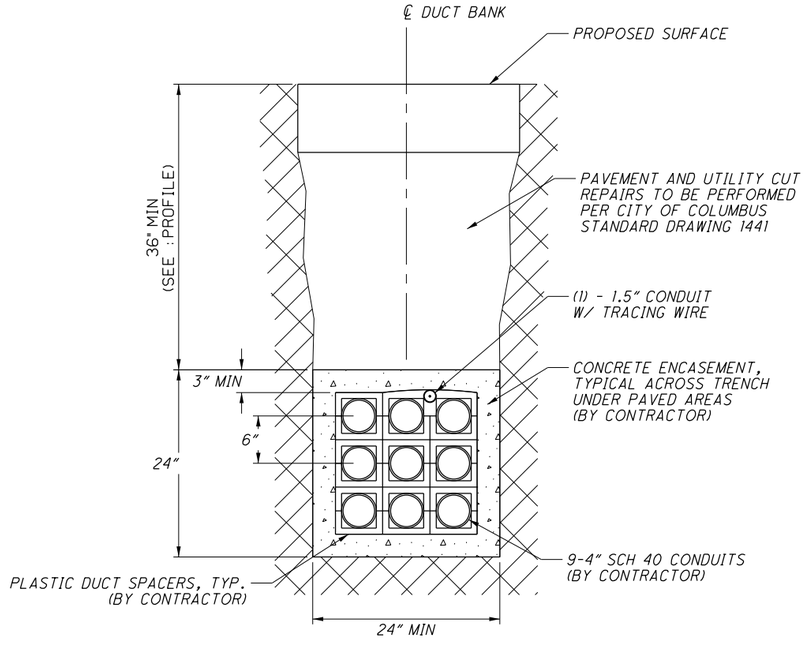
TYPICAL CONDUIT STACKING DETAIL [TYP]

NTS



2x3: 6-4" CONDUIT, ENCASED DETAIL

NTS



3x3: 9-4" CONDUIT, ENCASED DETAIL

NTS

REF NO.	SHEET NO.	STATION TO STATION (MOUND ST. = (M); CIVIC CENTER DR. = (CC); JEWETT ST. = (J); LUDLOW ST. = (L))	253 PAVEMENT REPAIR, AS PER PLAN (SY)	252 FULL DEPTH PAVEMENT SAWING (FT)	SPECIAL 4" RISER (EACH)	SPECIAL JOINT-USE MANHOLE, 8'x6' (EACH)	SPECIAL COMMUNICATIONS PULLBOX, 13"x24" (EACH)	SPECIAL 1.5" CONDUIT WITH TRACING WIRE, ENCASED (FT)	SPECIAL 4" CONDUIT, ENCASED (FT)	SPECIAL 11-2" CONDUIT, ENCASED (FT)	SPECIAL 3-4" CONDUIT, ENCASED (FT)	SPECIAL 6-4" CONDUIT, ENCASED (FT)	SPECIAL 9-4" CONDUIT, ENCASED (FT)
JC1	678	18+53.86 (M) RT TO 20+70.89 (M) RT	17	74				217					217
JC2	678-679	20+70.89 (M) RT TO 26+38.62 (M) RT	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 18+75.15 (M) RT					1				135		
CC2	678	17+99.42 (M) LT TO 18+49.81 (M) RT							55				
CC3	678	17+66.69 (M) LT TO 18+49.81 (M) RT							86				
CC4	678	2+38.11 (CC) RT TO 18+53.86 (M) RT								48			
CC5	678	20+28.60 (M) RT TO 3+46.99 (J) RT			3		1				72		
CC6	678	20+70.89 (M) RT TO 3+46.99 (J) RT			1				48				
CC7	679	24+58.65 (M) RT TO 6+38.36 (L) LT	22		1				155				
CC8	679	26+42.62 (M) RT TO 26+82.91 (M) LT							44				
CC9	679	26+42.62 (M) RT TO 26+83.12 (M) LT								45			
TOTALS CARRIED TO GENERAL SUMMARY			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

CALCULATED

CHECKED

JOINT-USE COMMUNICATION DETAILS

FRA-71-14.34

680
1228

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 UNDAMAGEDPORTION 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 ½" 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.

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

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

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 ABVE 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 ENVIORNMENTAL 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^3 (481 KG/M^3)	36 LB/FT^3 (577 KG/M^3)
**-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
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

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

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

RETAINING WALL NOTES 4 OF 9
RETAINING WALLS
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-71-14.36
PID No. 105588

4 / 9

841
1228

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	
203	35110	246	CU YD	GRANULAR MATERIAL, TYPE B	
203	65000	2	EACH	SPECIAL - SETTLEMENT PLATFORM	
203	98100	5680	SQ YD	ROADWAY MISC.: COLUMN SUPPORTED WALLS *	
503	11101	LS	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	838
504	11101	1800	SQ FT	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN	848
509	10001	14932	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
511	53012	93	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
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

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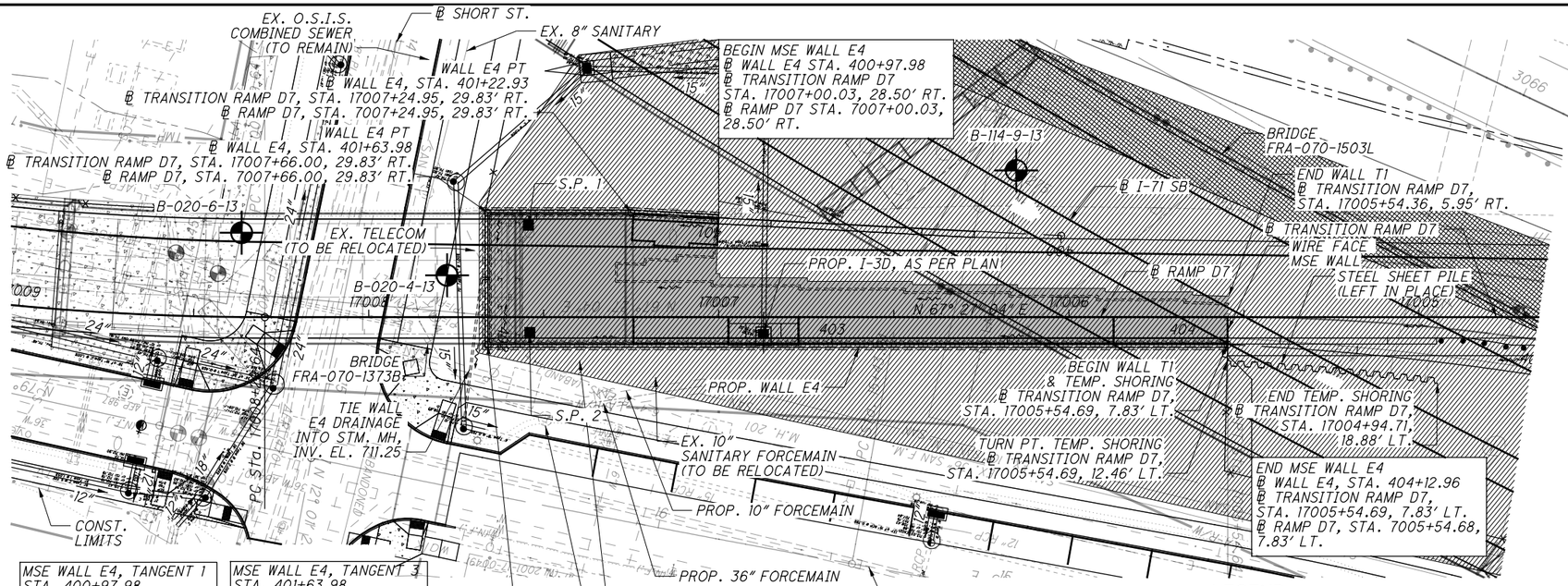
ESTIMATED QUANTITIES

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

FRA-71-14.36
PID No. 105588



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

PLAN

LEGEND:

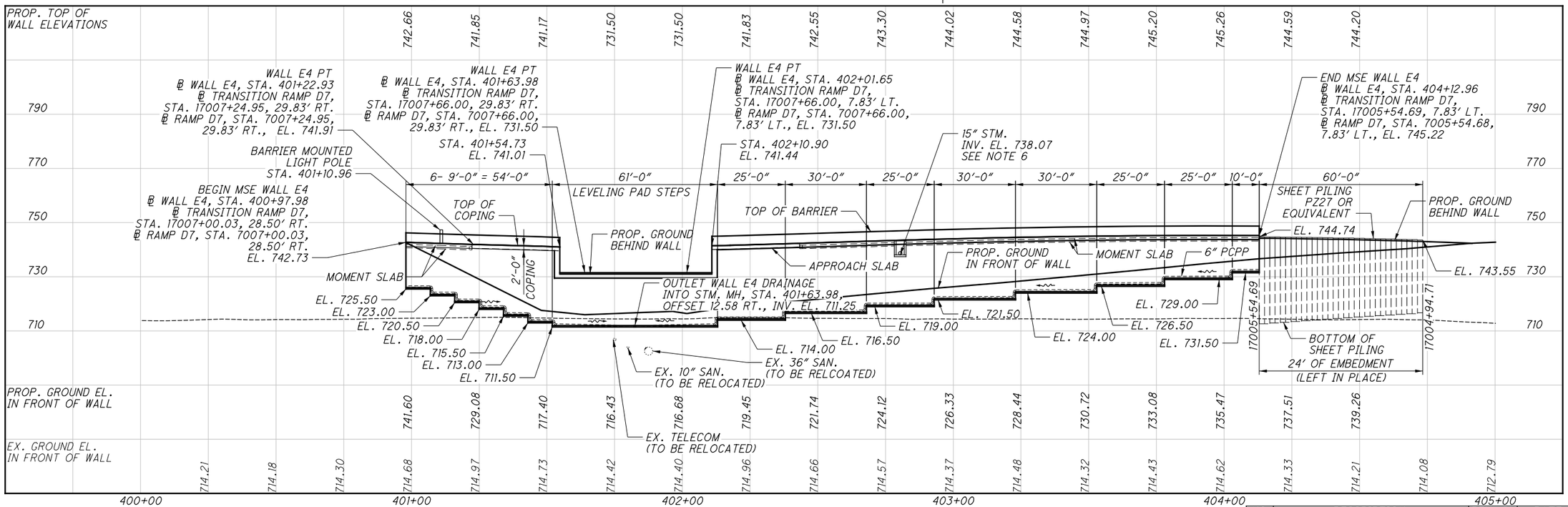
- 6" DIA PERF CPP
- PROJECT BORING LOCATION
- SETTLEMENT PLATFORM
- HISTORIC BORING LOCATION
- LIGHT POLE LOCATION
- = LIMIT OF GROUND IMPROVEMENT NEEDED OVER EXIST. I-70 EMBANKMENT: 1310 SQ. YD.
- = LIMIT OF GROUND IMPROVEMENT NEEDED: 4,370 SQ. YD.
- = PLAN BOUNDARY FOR ITEMS INCLUDED WITH MSE WALL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

HORIZONTAL SCALE IN FEET
0 10 20 40

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:

1. 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 EXCAVTIONS. 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 PALCE. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.
2. LEVELING PAD ELEVATIONS ARE GIVEN AT BOTTOM OF PAD.
3. ALL EXISTING UTILILITIES TO BE REMOVED/RELOCATED UNLESS NOTED OTHERWISE.
4. STATIONING IS ALONG ℄ WALL E4.
5. STATIONS AND OFFSETS ARE GIVEN AT BACK FACE OF THE WALL.
6. TOP OF WALL ELEVATIONS ARE GIVEN AT TOP OF COPING.
7. SOIL REINFORCEMENT SHALL BE CONSTRUCTED SO AS TO AVOID INTERFERENCE WITH PROPOSED DRAINAGE STRUCTURES.
8. 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 .
9. FOR TEMPORARY WIRE MESH WALL T1 DETAIL, SEE SHEET 852 .



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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DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	NCK	6/23/202
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MMS			

PLAN AND ELEVATION 1 OF 1
RETAINING WALL E4 (RAMP D7, SHORT ST., MOUND ST.)
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-71-14.36
PID No. 105588

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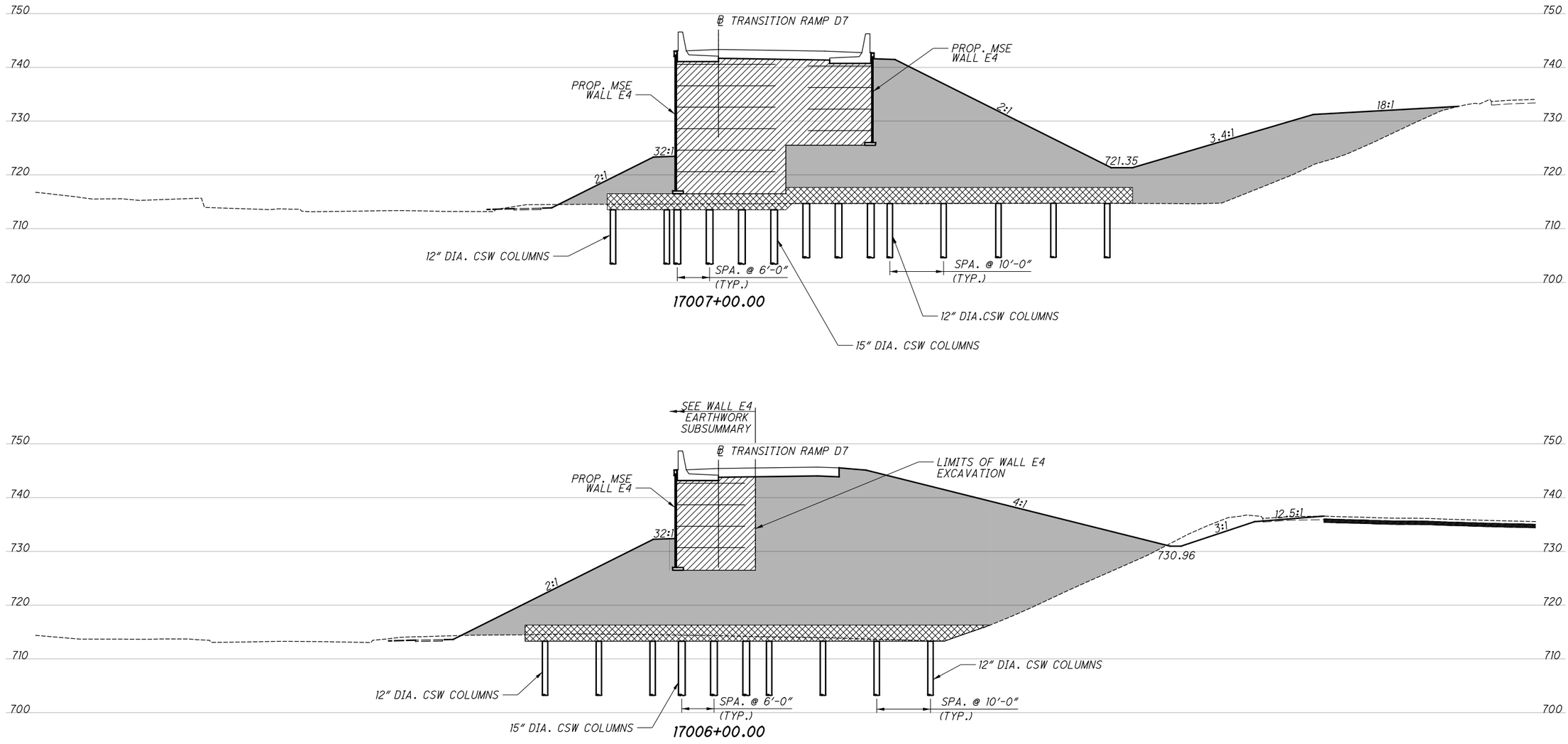
G:\projects\2013\W-13-072 FRA-70-13.10 6A\89464\structures\wall_0E4\sheets\105588_0E4WP001.dgn 12/1/2021 4:26:03 PM meets



COLUMN SUPPORTED WALLS

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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6350 PRESIDENTIAL GATEWAY
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DESIGNED KSJ | DRAWN KSJ | REVIEWED NCK | DATE 6/23/2021
CHECKED NCK | REVISED | STRUCTURE FILE NUMBER

CROSS SECTIONS OF CONTROLLED MODULUS COLUMNS

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

FRA-71-14.36
PID No. 105588

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851
1228

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	
503	11101	LS	LS	COFFERDAMS 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 QC/QA	
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

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(614) 823-4949

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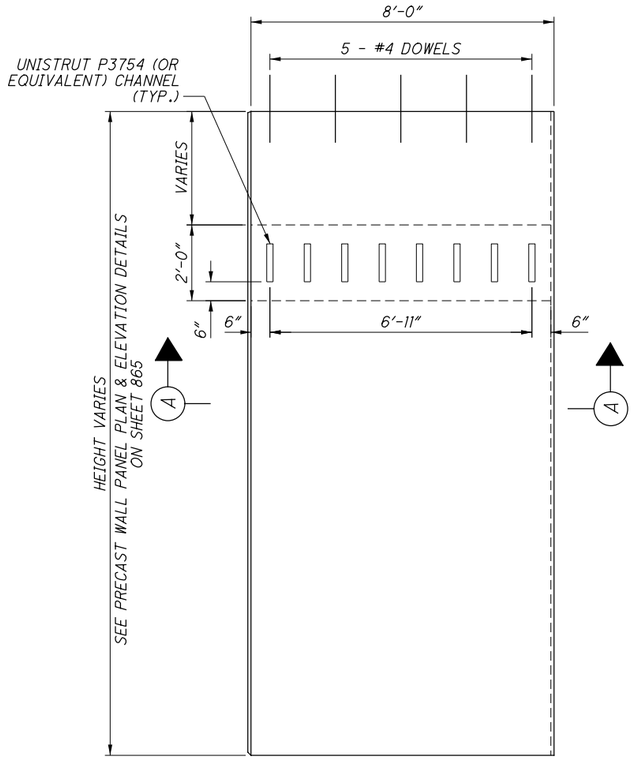
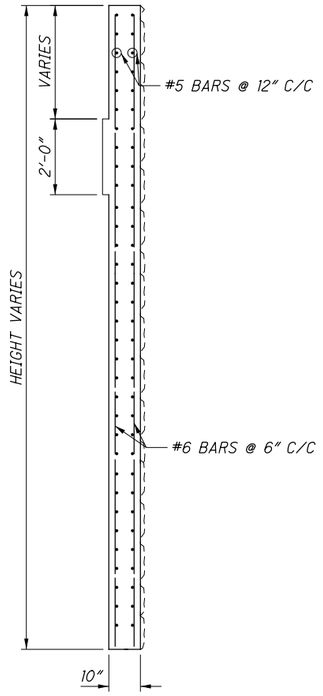
ESTIMATED QUANTITIES

RETAINING WALL E7
I-70/I-71 WEST INTERCHANGE PROJECT

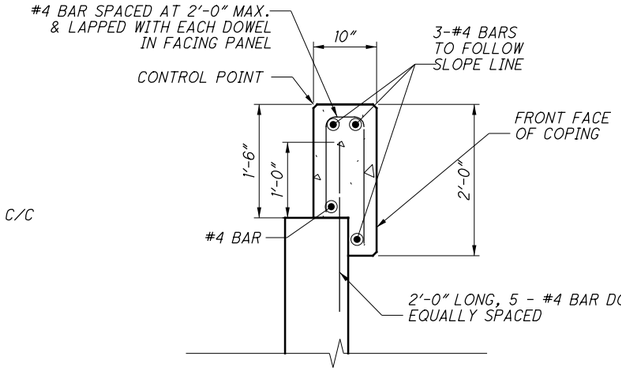
FRA-71-14.36
PID No. 105588



PRECAST PANEL DETAILS



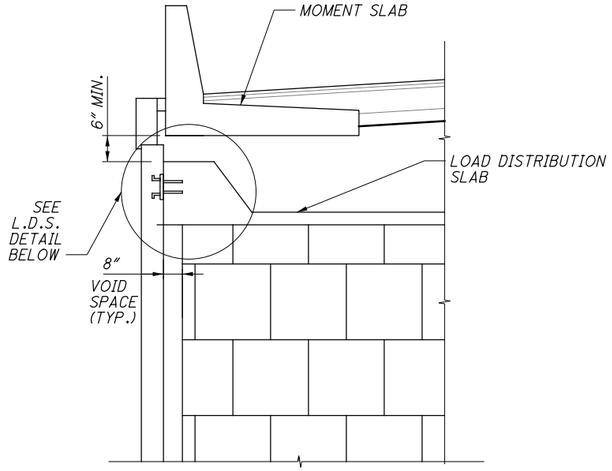
SECTION



COPING DETAIL

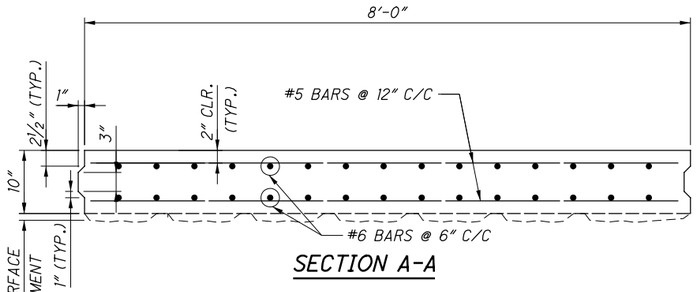
PRECAST CONCRETE PANELS *				
	STA.	OFFSET	B/L	TOP OF WALL
BEGIN	703+01.44	0.33' LT.	E7	755.38
END	704+21.44	0.33' LT.	E7	760.86

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

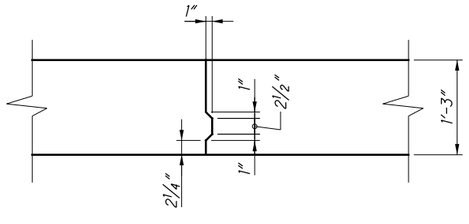


GEOFOAM WALL WITH MOMENT SLAB

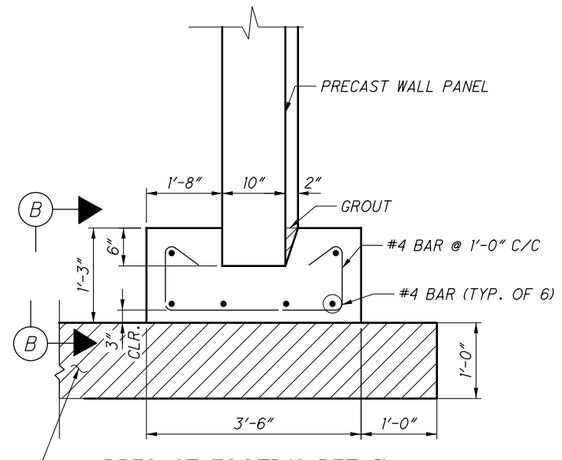
NO.	DESCRIPTION	REV. BY	DATE
6	MODIFIED PRECAST PANEL AND FOOTING DETAIL	MMS	12/2/21
6	UPDATED COPING DETAIL	MMS	12/2/21
6	UPDATED GEOFOAM WALL SECTION	MMS	12/2/21
6	MIRRORED L.D.S. DETAIL	MMS	12/2/21
6	REMOVED TIE STRIP DETAIL	MMS	12/2/21
6	ADDED WALL BEGIN AND END STATION	MMS	12/3/21



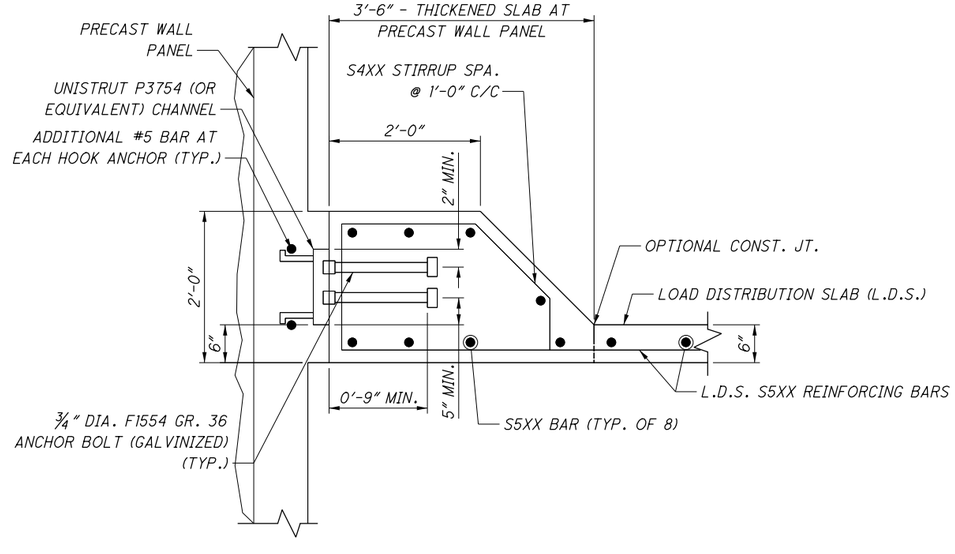
SECTION A-A



VIEW B-B



PRECAST FOOTING DETAIL



L.D.S. CONNECTION DETAIL

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

DESIGNED	DRAWN	REVIEWED	DATE
MMS	MMS	NCK	6/23/202
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM			

PRECAST CONCRETE PANEL DETAILS
RETAINING WALL E7
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-71-14.36
PID No. 105588

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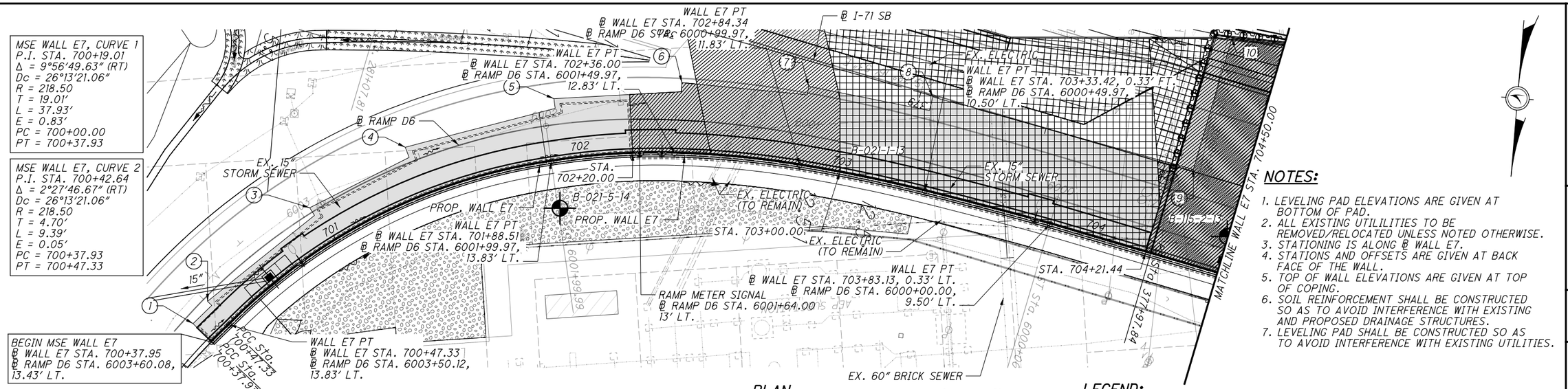


MSE WALL E7, CURVE 3
P.I. STA. 701+20.50
Δ = 37°09'38.88" (RT)
Dc = 26°19'22.59"
R = 217.66
T = 73.17'
L = 141.17'
E = 11.97'
PC = 700+47.33
PT = 701+88.51

MSE WALL E7, CURVE 4
P.I. STA. 702+12.32
Δ = 10°50'57.51" (RT)
Dc = 22°50'42.06"
R = 250.80
T = 23.82'
L = 47.49'
E = 1.13'
PC = 701+88.51
PT = 702+36.00

MSE WALL E7, CURVE 5
P.I. STA. 702+60.20
Δ = 7°45'01.77" (RT)
Dc = 16°01'59.41"
R = 357.36
T = 24.21'
L = 48.34'
E = 0.82'
PC = 702+36.00
PT = 702+84.34

MSE WALL E7, CURVE 6
P.I. STA. 703+08.89
Δ = 4°39'13.93" (RT)
Dc = 9°28'51.13"
R = 604.33
T = 24.56'
L = 49.09'
E = 0.50'
PC = 702+84.34
PT = 703+33.42

MSE WALL E7, CURVE 7
P.I. STA. 703+58.28
Δ = 1°33'25.47" (RT)
Dc = 3°07'55.79"
R = 1,829.27
T = 24.86'
L = 49.71'
E = 0.17'
PC = 703+33.42
PT = 703+83.14

PLAN

MSE WALL E7, TANGENT 1
STA. 703+83.14
STA. 704+66.26
L = 83.12'
BRG. = N 78°16'53" W

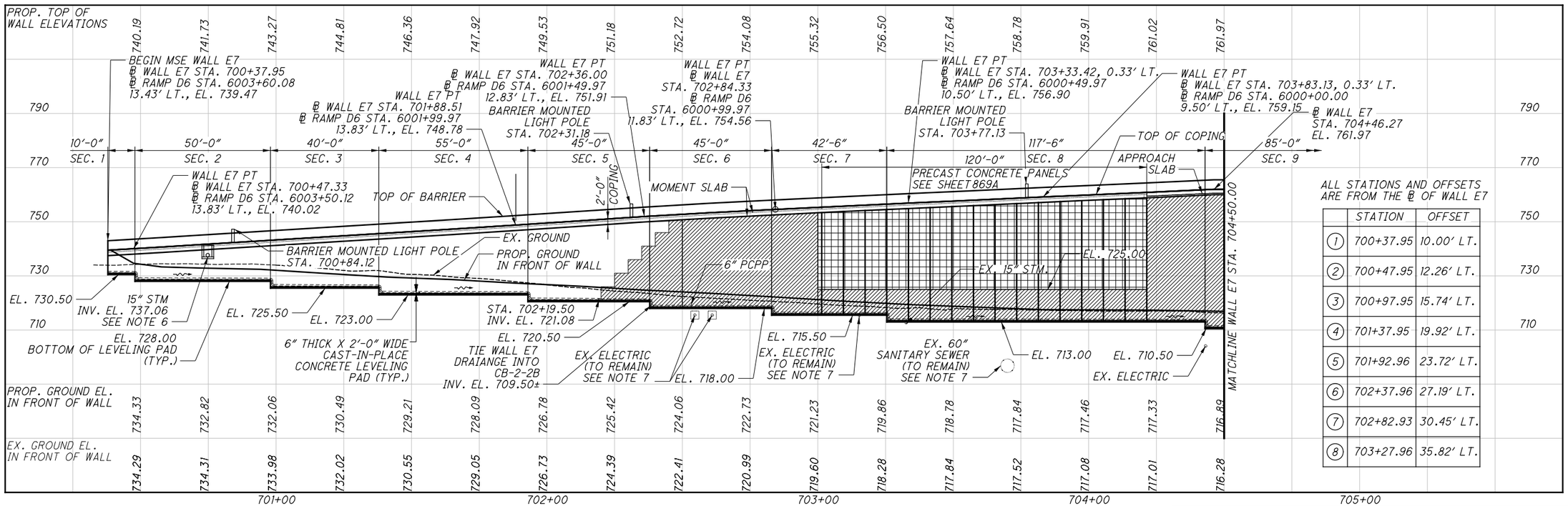
MSE WALL E7, TANGENT 2
STA. 704+66.26
STA. 705+60.87
L = 94.62'
BRG. = S 11°43'07" W

HORIZONTAL SCALE IN FEET
0 10 20 40

- LIGHT POLE LOCATION
- PLEASE REFER TO SITE PLAN SHEET 2/2 FOR EXCAVATION STATIONS AND OFFSET

LEGEND:

- 6" DIA PERF CPP
- PROJECT BORING LOCATION
- SETTLEMENT PLATFORM
- HISTORIC BORING LOCATION
- = PLAN BOUNDARY FOR ITEMS INCLUDED WITH MSE WALL E7 FOR PAYMENT
- = LIMITS OF GEOFOAM BACKFILL
- = LIMITS OF CELLULAR CONCRETE FILL



ALL STATIONS AND OFFSETS ARE FROM THE ℄ OF WALL E7

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

ELEVATION ALONG FACE OF WALL

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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DESIGNED JGM | DRAWN JGM | CHECKED MMS | REVIEWED NCK 6/23/202 | REVISED | STRUCTURE FILE NUMBER

PLAN AND ELEVATION 1 OF 2
RETAINING WALL E7 (RAMP D6 & SHORT ST.)
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-71-14.36
PID No. 105588

2 / 11

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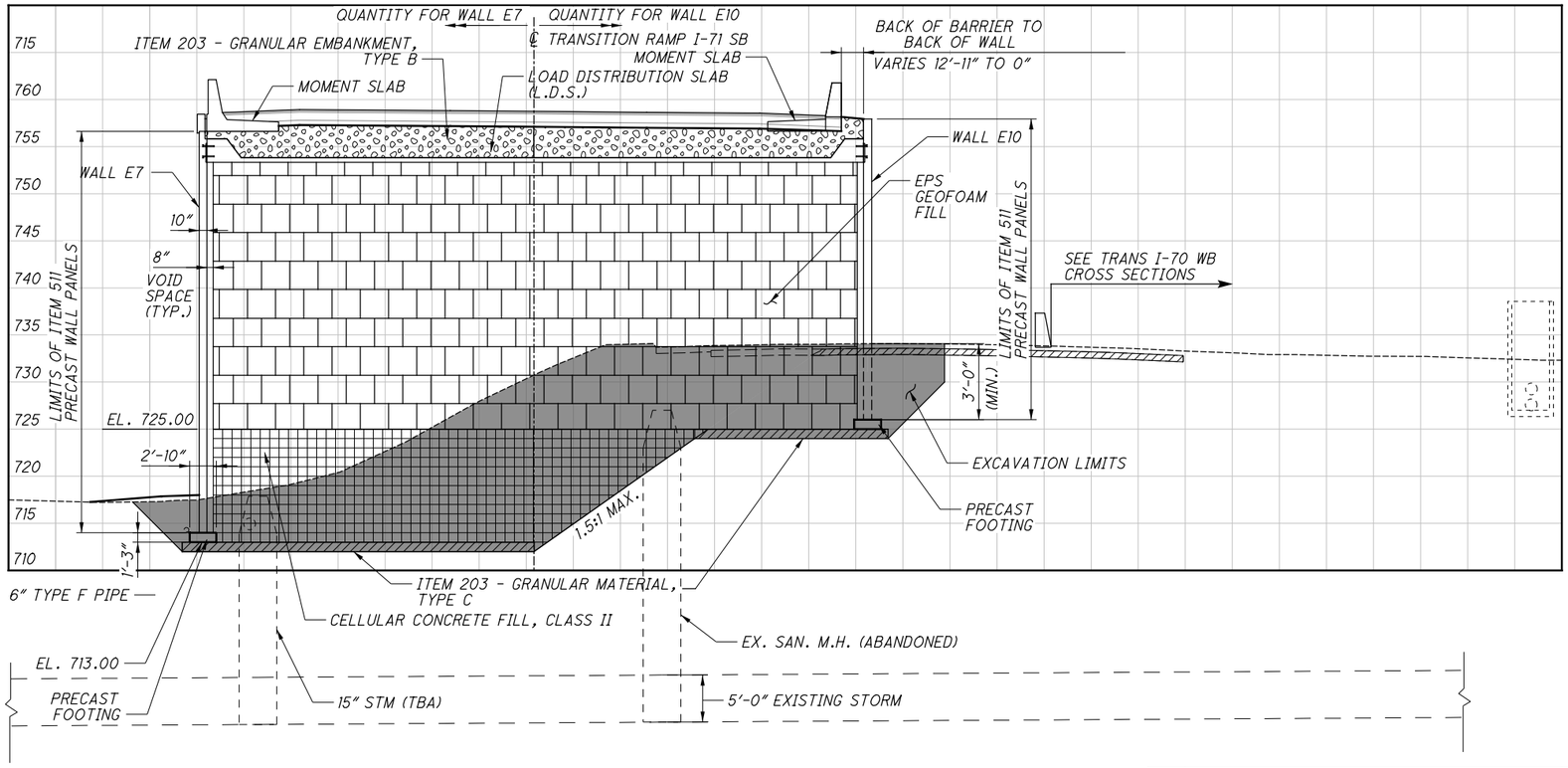
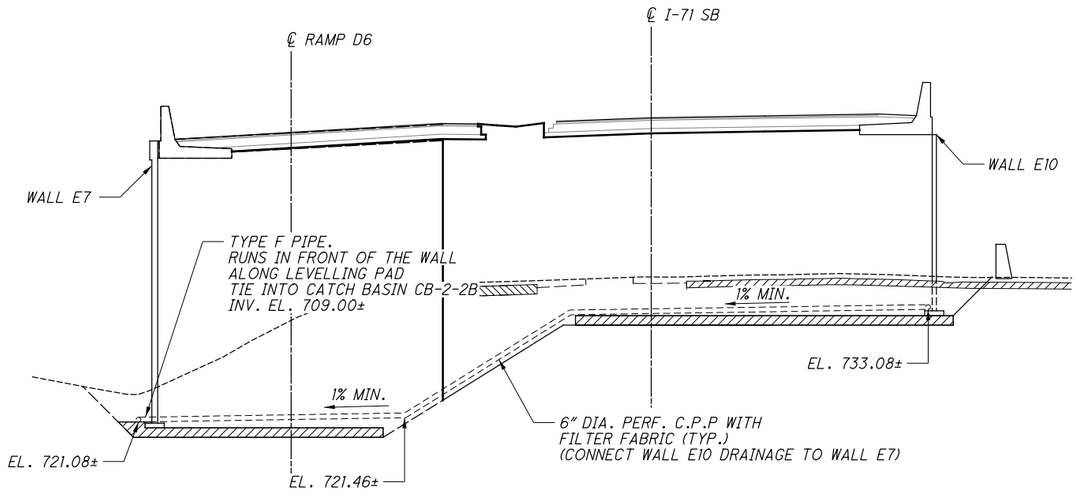


℄ RAMP D6, STA. 6000+11.70

℄ 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



℄ RAMP D6, STA. 6001+67.73

℄ WALL E7, STA. 702+19.50
℄ I-71 TRANSITION SB RAMP, STA. 380+20.00

LEGEND:

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

RESOURCE INTERNATIONAL INC.
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COLUMBUS, OHIO 43231
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DESIGNED MMS | DRAWN MMS | REVIEWED NCK | DATE 6/23/2021
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CROSS SECTIONS 2 OF 2
RETAINING WALL E7
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-71-14.36
PID No. 105588

6 / 11

869
1228

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	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	
503	11101	LS	LS	COFFERDAMS AND EXCAVATION, AS PER PLAN	838
509	10001	39409	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
511	53012	247	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
511	53012	129	CU YD	CLASS QC2 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB	
511	71200	4628	SQ FT	CONCRETE MISC.: PRECAST WALL PANELS	
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

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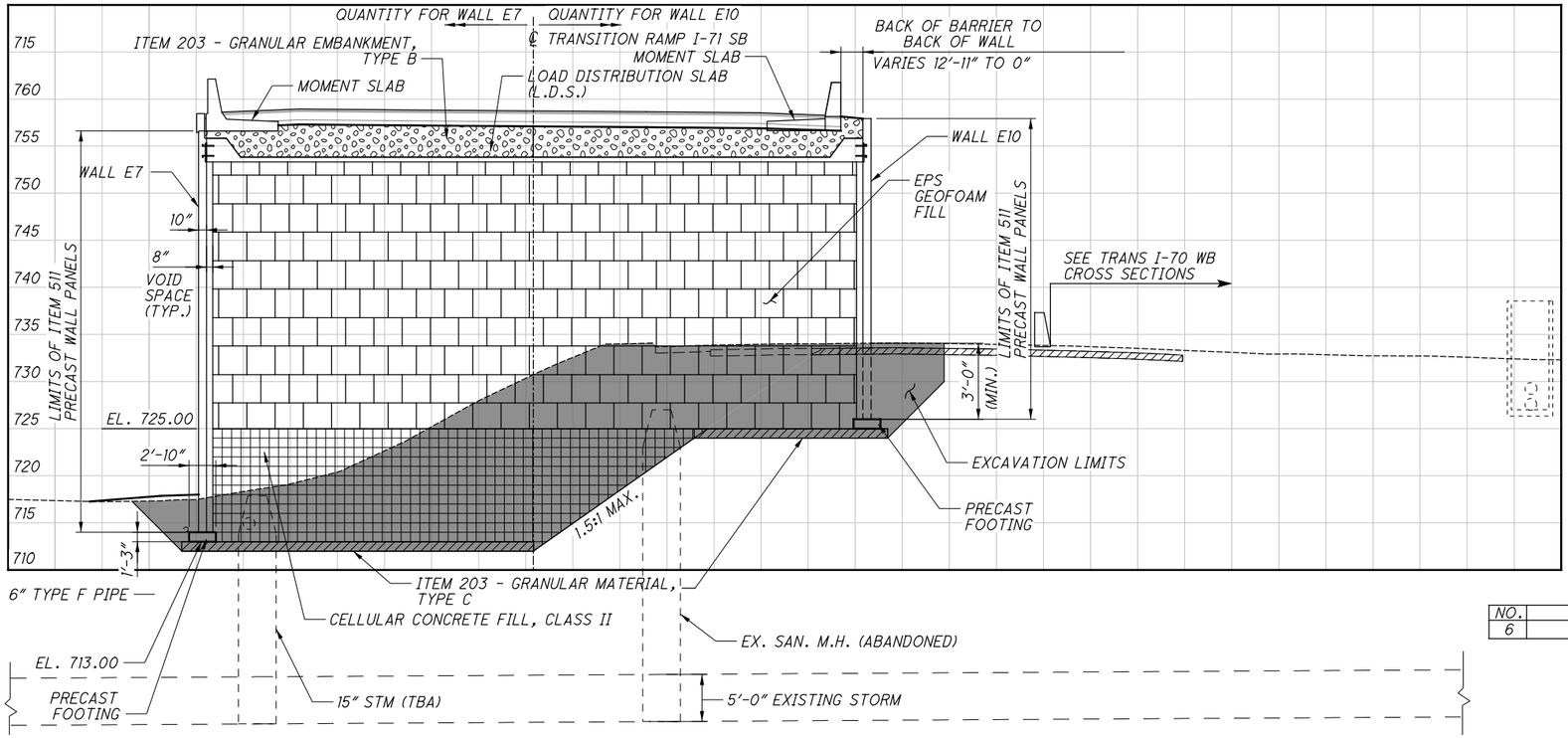
DESIGNED KSJ | CHECKED MMS
DRAWN MMS | REVISED
REVIEWED NCK 6/23/2021 | STRUCTURE FILE NUMBER

ESTIMATED QUANTITIES

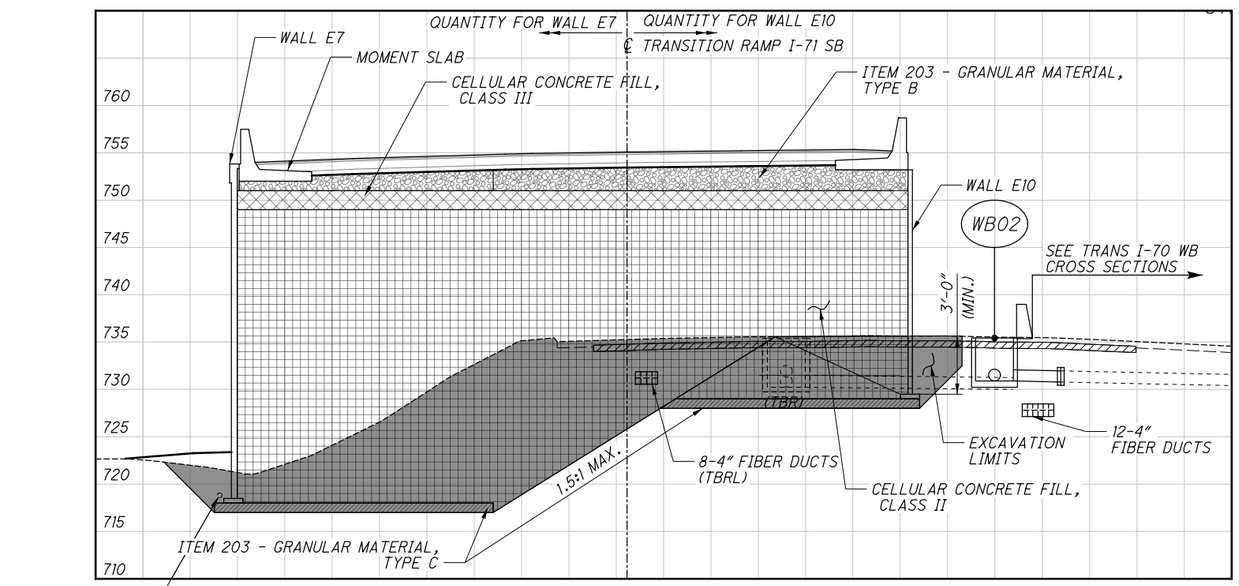
RETAINING WALL E10
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-71-14.36
PID No. 105588



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

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



WALL E10, ℄ I-71 SB STA. 379+50.00

NOTES:

1. SEE BRIDGE PLANS FOR ADDITIONAL ABUTMENT AND WINGWALL DETAILS.
2. SOIL REINFORCEMENT SHALL BE CONSTRUCTED SO AS TO AVOID INTERFERENCE WITH BRIDGE PILING.
3. 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

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CHECKED JGM | REVISED | STRUCTURE FILE NUMBER

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

FRA-71-14.36
PID No. 105588

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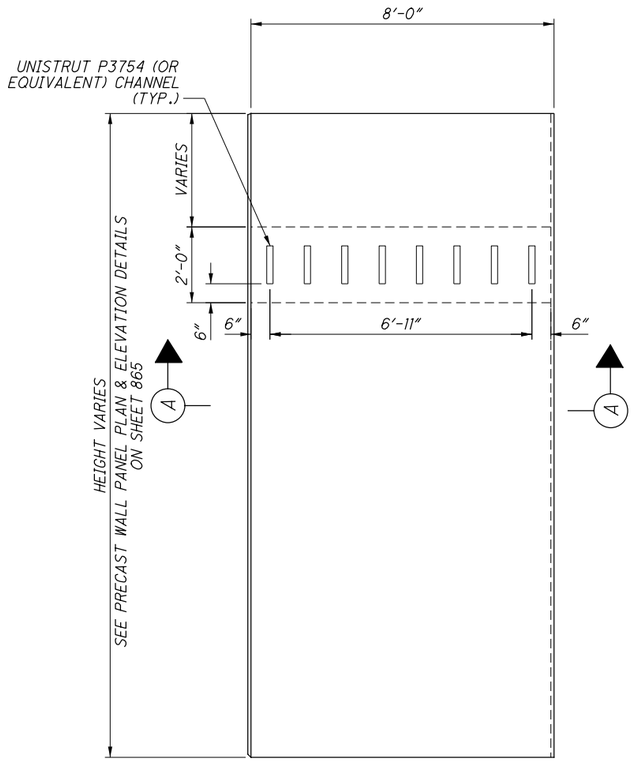
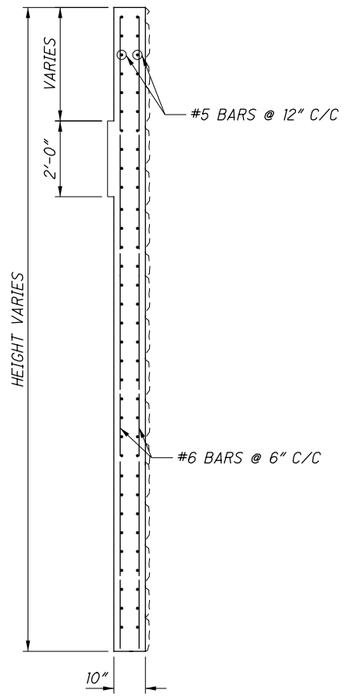


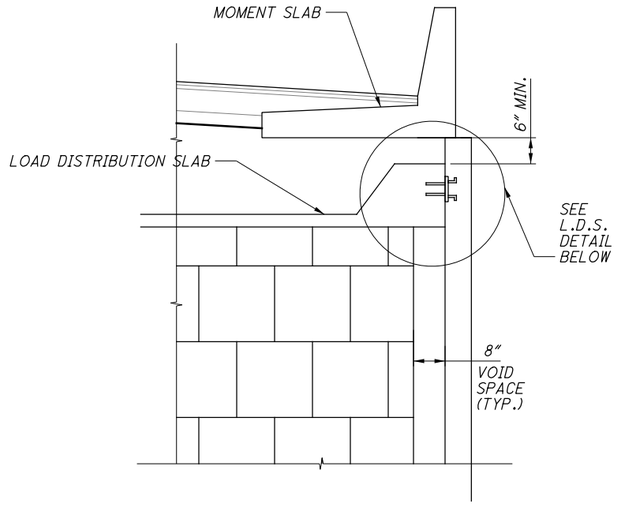
PRECAST PANEL DETAILS



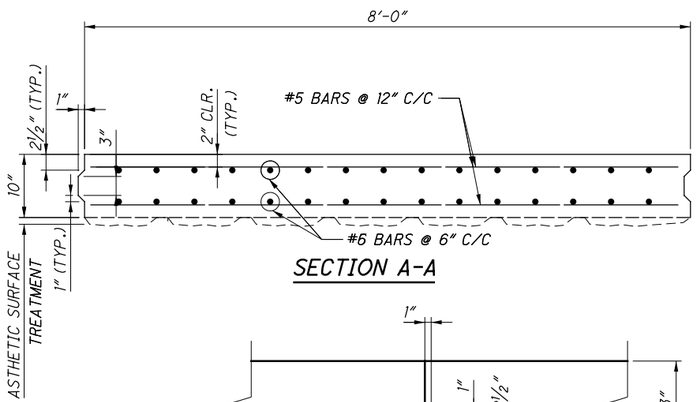
SECTION

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

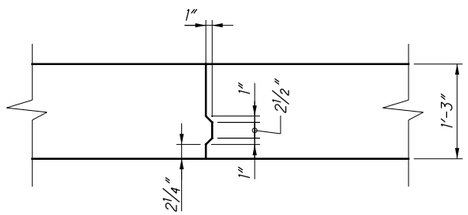
* - ALL STATIONS, OFFSETS AND ELEVATIONS ARE TO THE BACK FACE OF THE PRECAST WALL.



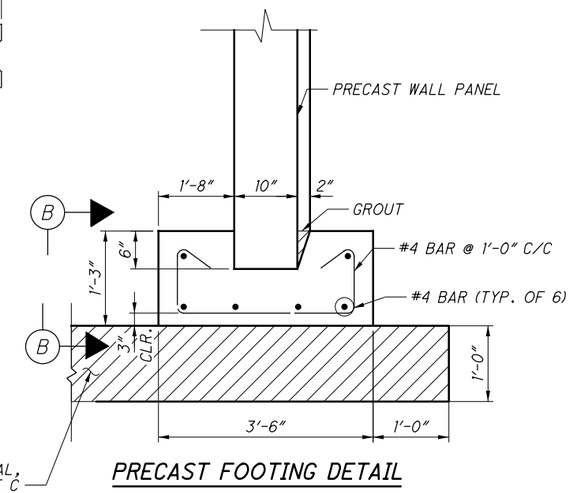
GEOFOAM WALL WITH MOMENT SLAB



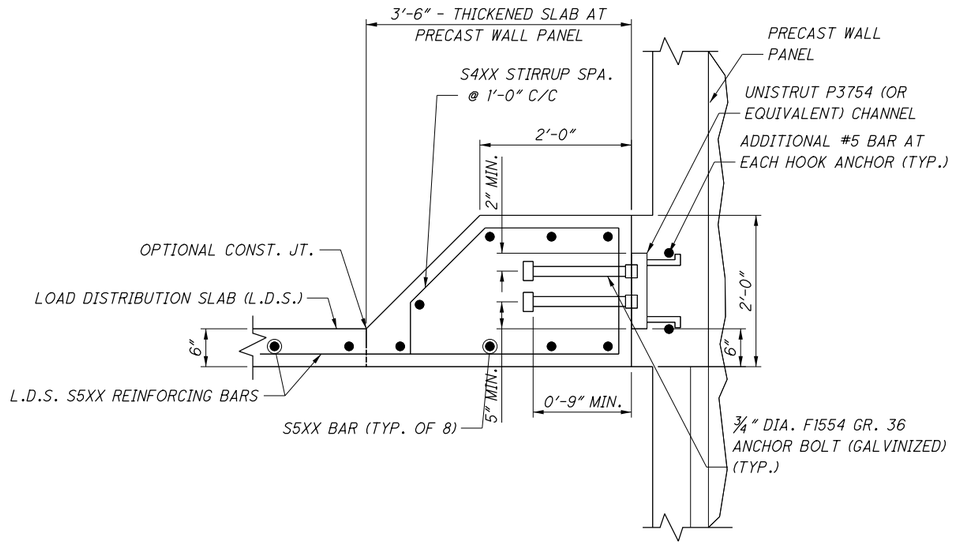
SECTION A-A



VIEW B-B



PRECAST FOOTING DETAIL



L.D.S. CONNECTION DETAIL

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

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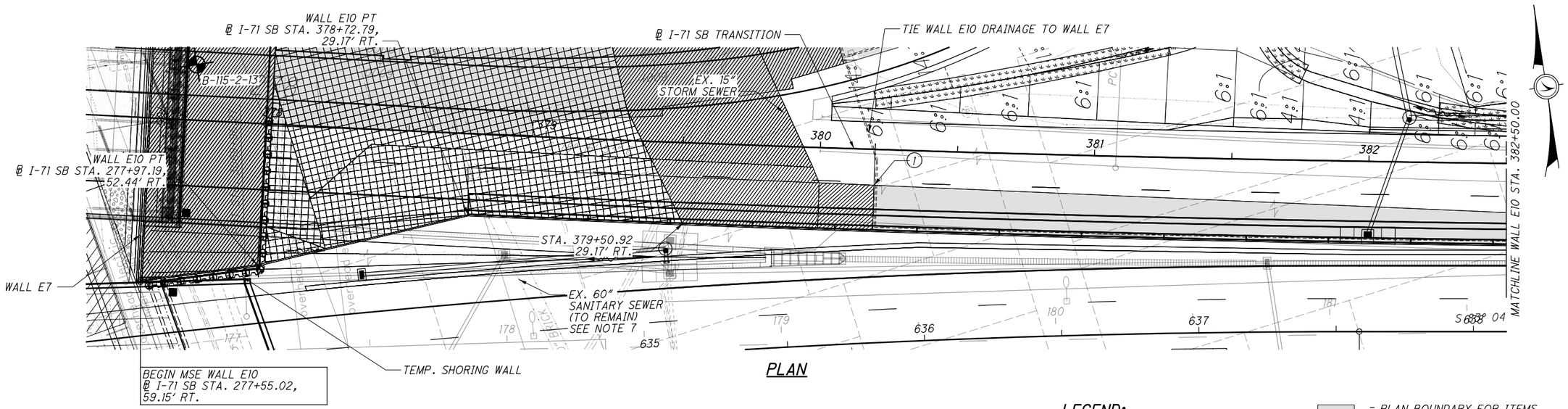
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM			

PRECAST CONCRETE PANEL DETAILS
RETAINING WALL E10
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-71-14.36
PID No. 105588



	STATION	OFFSET
1	380+20.00	13.05' RT.

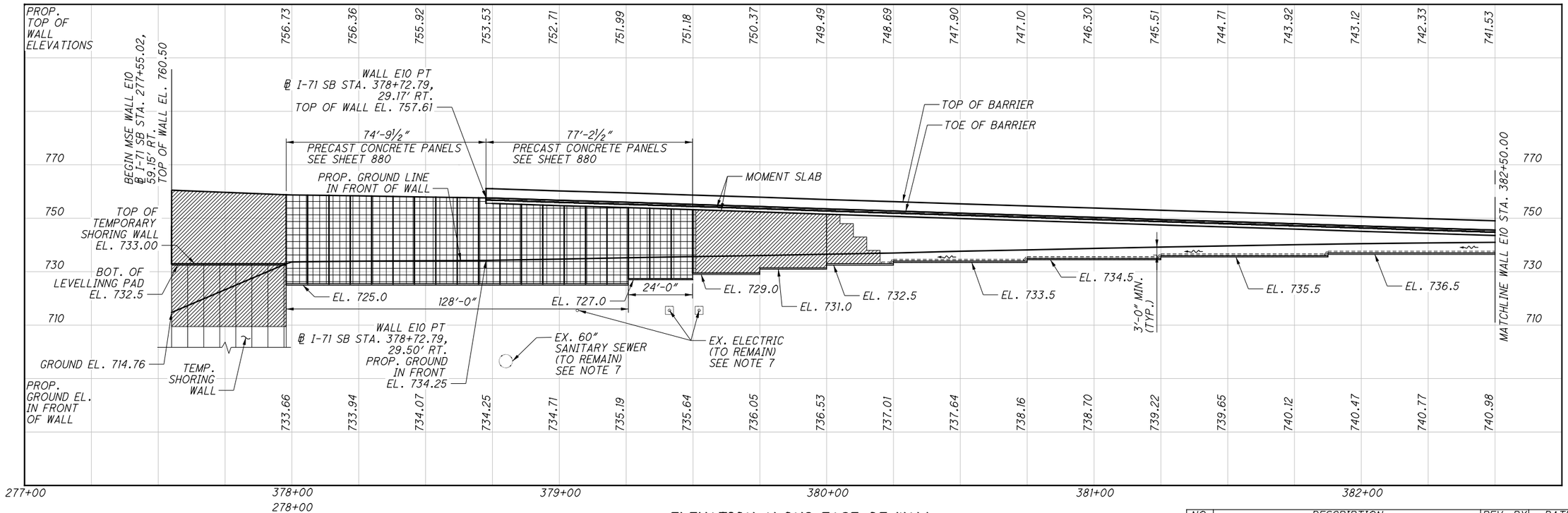
NOTES:

1. LEVELLING PAD ELEVATIONS ARE GIVEN AT BOTTOM OF PAD.
2. ALL EXISTING UTILILITIES 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. LEVELING PAD SHALL BE CONSTRUCTED SO AS TO AVOID INTERFERENCE WITH EXISTING UTILITIES.

0 20 10 40
HORIZONTAL SCALE IN FEET

LEGEND:

- 6" DIA PERF CPP
- PROJECT BORING LOCATION
- SETTLEMENT PLATFORM
- HISTORIC BORING LOCATION
- = PLAN BOUNDARY FOR ITEMS INCLUDED WITH MSE WALL E10 FOR PAYMENT
- = LIMITS OF GEOFOAM BACKFILL
- = 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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PLAN AND ELEVATION 1 OF 2
RETAINING WALL E10 (MAINLINE I-71 SB, I-70WB & SHORT ST.)
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-71-14.36
PID No. 105588

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1228

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	53012	524	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
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

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MMS			

ESTIMATED QUANTITIES

RETAINING WALL W5
1-70/1-71 WEST INTERCHANGE PROJECT

FRA-71-14.36
PID No. 105588

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