

BENCHMARK DATA

BM-54 STA. 310+59.00, ELEV. 672.54, OFFSET 463.02' RT.,

& RAMP A1, CUT CROSS IN NORTH BONNET BOLT OF FIRE HYDRANT

BM-59 STA. 301+65.97, ELEV. 660.15, OFFSET 488.87' RT.,

& RAMP A1, MAG NAIL AT NOSE OF DRAINAGE CHANNEL

BM-62 STA. 303+26.43, ELEV. 672.11, OFFSET 354.64' LT.,

& RAMP A1, RAILROAD SPIKE IN EAST FACE OF POWER/LIGHT POLE

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

### NOTES

708

**WALL AD CURVE 3 DATA** 

 $\Delta = 25^{\circ}29'02'' RT$   $Dc = 40^{\circ}41'59''$  R = 140.78'

T = 31.83'

L = 62.61'

E = 3.55'

EX. OH. ELECTRIC

B-149-0-14

- END C.I.P. WALL AD

OFF 7.67' LT.

STA 603+63.97 ₺ WALL AD

₱ RAMP A1 STA 307+08.40

EX. FENCE

EX. OH. COMBINED

(TO BE RELOCATED)

WALL AD CURVE 1 DATA

 $\Delta = 30^{\circ}02'31'' RT$ 

 $Dc = 40^{\circ}03'19'$ R = 143.04'

T = 38.38

L = 75'

E = 5.06'

CONTRACTION JOINT

603

WALL AD CURVE 2 DATA
P.I. = Sta. 600+26.11
Δ = 21°04'32" RT
Dc = 40°49'42"

R = 140.33'

T = 26.1'

L = 51.26'

E = 2.41'

ZE#

(TO BE RELOCATED)

987

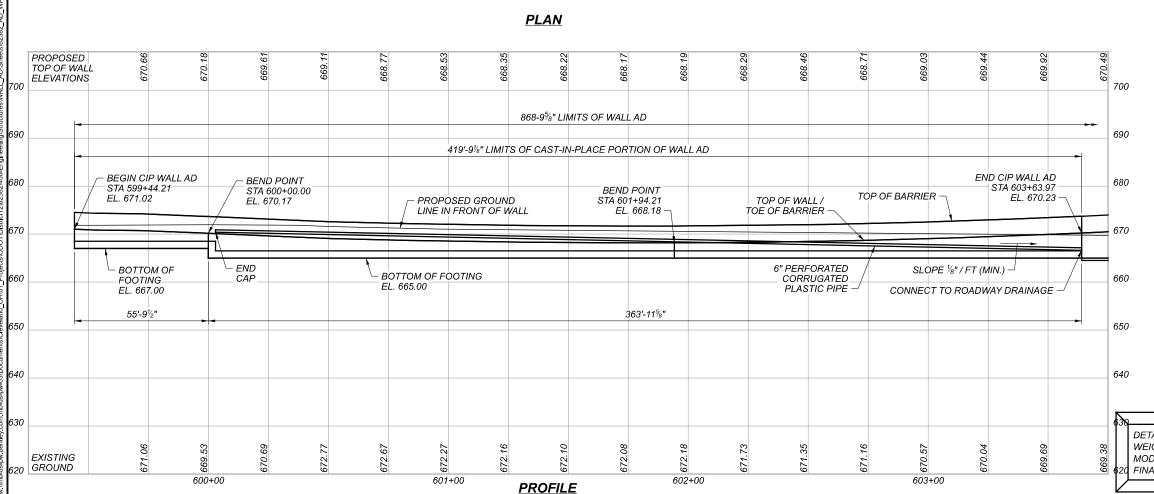
- 1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- 2. VERTICAL SCALE OF PROFILE VIEW IS EXAGGERATED FOR CLARITY.

### LEGEND

- HISTORIC BORING LOCATION
- ◆ PROJECT BORING LOCATION

BORING DATA										
BORING	STATION	OFFSET								
B-151-0-14	600+86.81	62.25' LT								
B-149-0-14	603+13.91	41.85' LT								
B-148-0-14	604+64.20	51.82' LT								
B-147-0-14	606+02.14	50.80' LT								
B-146-0-14	606+99.37	60.36' LT								
C-121-0-14	607+97.94	62.42' LT								
B-145-0-14*	301+99.88	9.70' LT								
B-144-0-14*	301+73.64	82.19' RT								

\* LOCATIONS MEASURED OFF & RAMP A1



EX. ELECTRIC (TO BE RELOCATED)

₽ RAMP A2

602

EX. OH. TELEPHONE (TO BE DETERMINED)

EX. FENCE

₽ RAMP A1

EX. POLE (TO BE RELOCATED) (TYP.)

B-151-0-14

EX. FENCE

(TO BE REMOVED)

- WALL AD CURVE 3

687

₡ EX. R/W E. 21ST ST.

EX. FENCE

WALL AE

EX. DRAINAGE

(TO BE REMOVED)

**FFATURE** 

EX. GAS

∭}/ (TO BE DETERMINED)

CUY-90-16.28 (CCG3A)

EX. LIGHT POLE (TO BE RELOCATED)

Þ

BEGIN C.I.P. WALL AD

POT 599+25.00 OFF 17.14' LT.

STA 599+44.21 ₽ RAMP A1 STA 311+39.71

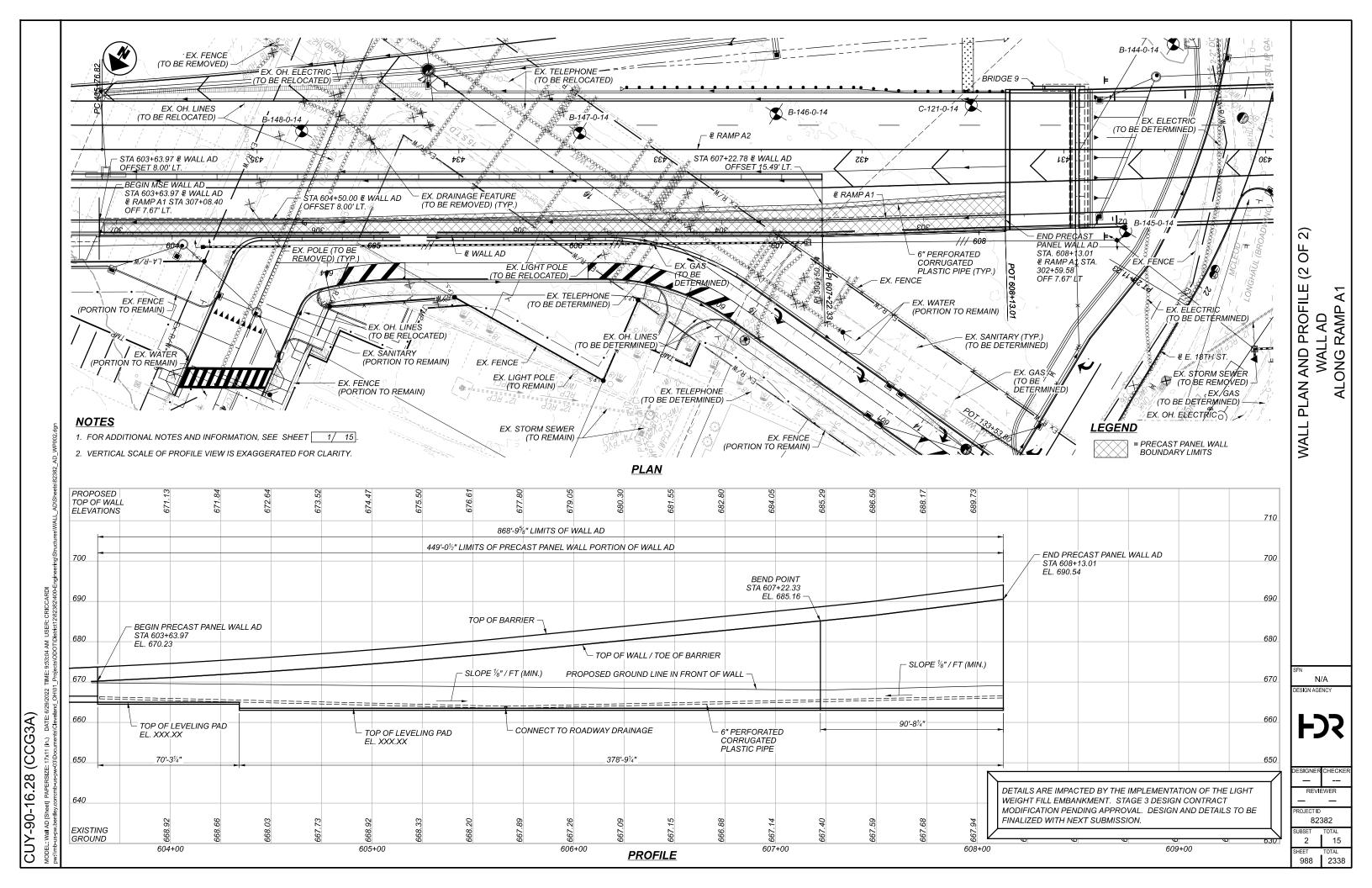
DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

N/A
DESIGN AGENCY

ESIGNER CHECKER

REVIEWER
ROJECT ID
82382
JBSET TOTAL
1 15

UBSET TOTAL
1 15
HEET TOTAL
987 2338



## GENERAL NOTES - PRECAST PANEL AND CAST-IN-PLACE PORTIONS OF WALL AD

### STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS: SBR-1-20 REVISED 07-17-20 SICD-1-21 REVISED 01-15-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

840	DATED	04-16-2
863	DATED	07-16-2
878	DATED	04-16-2

### **DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

### **DESIGN DATA:**

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (MOMENT SLAB AND PARAPET)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (CAST-IN-PLACE COPING, LEVELING PAD. AND FOOTING AND STEM OF WALL)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

GFRP - C&MS 705.28 (MODULUS = 8,700 KSI)

### WALL EXCAVATION:

LIMITS OF WALL EXCAVATION SHOWN IN WALL SECTIONS ARE FOR QUANTITY PURPOSES ONLY. CONTRACTOR HAS THE OPTION TO USE AN EXCAVATED SLOPE OR SUPPORTED EXCAVATION. SEE MAINTENANCE OF TRAFFIC PLANS FOR ANY REQUIRED WORK ZONE SHEETING.

### MAINTENANCE OF TRAFFIC:

REFER TO THE PROJECT OVERALL MAINTENANCE OF TRAFFIC FOR ADDITIONAL INFORMATION WITH RESPECT TO MAINTENANCE OF TRAFFIC.

### WALL DESIGN CRITERIA:

THE FACTORED BEARING RESISTANCE FOR EACH WALL IS LISTED IN THE TABLE BELOW:

F	ACTORED BEARIN	IG RESISTANCI	E
WALL	WALL LI	MITS	
LETTER	FROM STA.	TO STA.	(PSF)
AD	599+44.21	600+00.00	5,100
AD	600+00.00	603+63.97	5,500
AD	603+63.97	609+27.24	11,200

# ITEM 511, CLASS QC2 CONCRETE, MISC.: MOMENT SLAB

ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE MOMENT SLABS AND PARAPETS ALONG THE MSE WALLS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC2 CONCRETE. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL DOWEL RODS AND ALL JOINT MATERIALS IN CONTACT WITH THE MOMENT SLAB. ALL REINFORCING STEEL EMBEDDED IN THE MOMENT SLAB AND WITHIN THE PARAPET SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL FOR PAYMENT. THIS ITEM SHALL ALSO REQUIRE QUALITY CONTROL, MEETING THE REQUIREMENTS PER CMS 455 AND CMS 511.04.

# ITEM 511, CLASS QC2 CONCRETE, MISC.: PARAPET ON RETAINING WALL:

ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE PARAPET ON TOP OF THE CAST-IN-PLACE CONCRETE RETAINING WALL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC2 CONCRETE. ALL REINFORCING STEEL EMBEDDED IN THE RETAINING WALL AND LOCATED WITHIN THE PARAPET SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL FOR PAYMENT. THE QUALITY CONTROL REQUIREMENTS SHALL BE PER CMS 455.

### ITEM 840 CONCRETE COPING, AS PER PLAN:

PROVIDE EPOXY COATED REINFORCING AND CLASS QC1 CONCRETE AS SHOWN IN THE PLANS. CONCRETE AND REINFORCING STEEL IN THE COPING, ADDITIONAL CONCRETE AND REINFORCING STEEL AT ROADWAY FEATURES, PEJF BETWEEN COPING AND BARRIER, AND EXPANSION JOINTS SHALL BE INCLUDED IN THE UNIT BID PRICE PER FOOT FOR THIS ITEM

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

SFN N/A
DESIGN AGENCY



DESIGNER CHECKER
CMR --REVIEWER --PROJECT ID
82382
SUBSET TOTAL
3 15
SHEET TOTAL

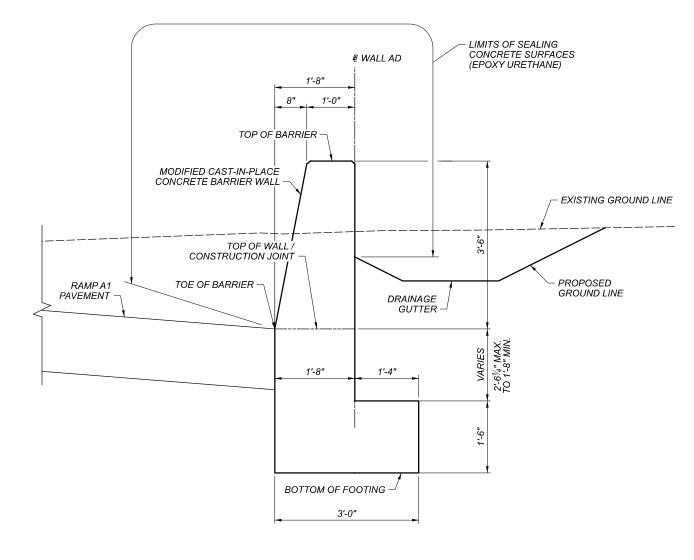
989 2338

DATE: XX/XX/202X CALCULATED BY: **ESTIMATED QUANTITIES** CHECKED BY: DATE: XX/XX/202X EXTENSION ITEM TOTAL UNIT DESCRIPTION **ABUTMENTS** PIERS SUPERSTR. GENERAL SHEET REF. 503 11100 LS COFFERDAMS AND EXCAVATION BRACING 503 21100 CY UNCLASSIFIED EXCAVATION 509 10000 LB EPOXY COATED REINFORCING STEEL 511 46212 CY CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL INCLUDING FOOTING 511 53012 CY CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET 53012 CY CLASS QC2 CONCRETE, MISC.: PARAPET ON RETAINING WALL 511 SY SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) 512 10100 512 33000 SY TYPE 2 WATERPROOFING 516 SF 1" PREFORMED EXPANSION JOINT FILLER 13600 518 21200 CY POROUS BACKFILL WITH GEOTEXTILE FABRIC 518 40000 FT 6" PERFORATED CORRUGATED PLASTIC PIPE 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS FT 518 40010 601 21001 SY CONCRETE SLOPE PROTECTION, AS PER PLAN

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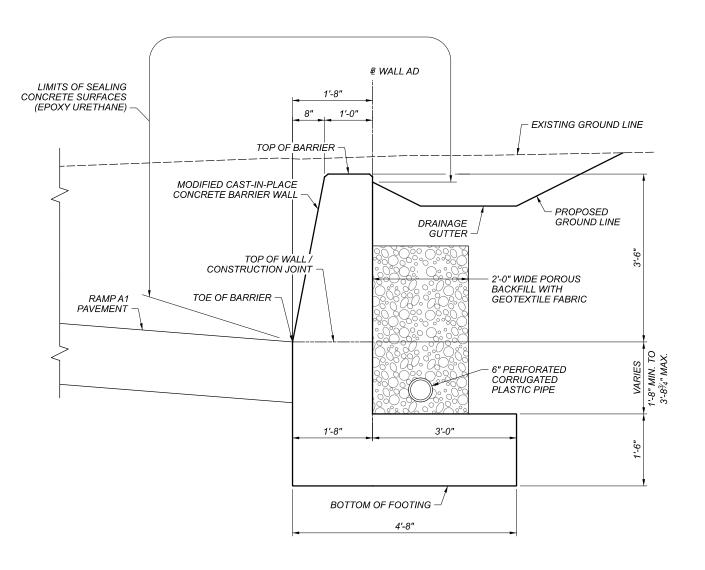
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# TYPICAL CAST-IN-PLACE WALL SECTION (SECTION 1)

(WALL AD STA. 599+44.23 TO WALL AD STA. 600+00.00) (REINFORCEMENT NOT SHOWN FOR CLARITY)



# TYPICAL CAST-IN-PLACE WALL SECTION (SECTION 2)

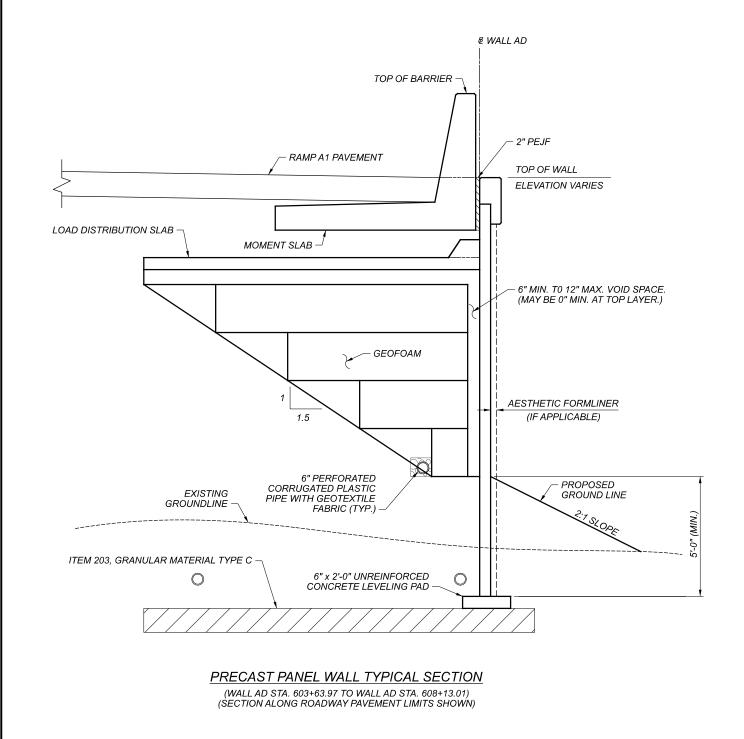
(WALL AD STA. 600+00.00 TO WALL AD STA. 603+63.97) (REINFORCEMENT NOT SHOWN FOR CLARITY)

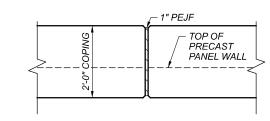
> DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

N/A



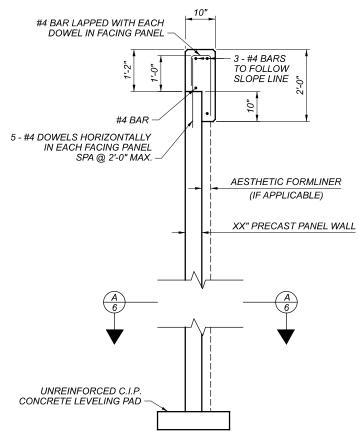
CMR — 06/–/22 82382 5 15 SHEET TOTAL 991 2338

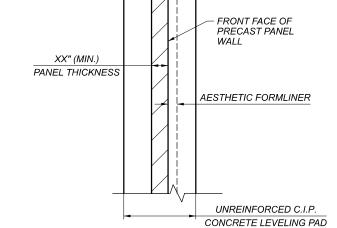




# **COPING EXPANSION JOINT - ELEVATION**

(MAX. JOINT SPACING IS 20'-0")





EQ. XX" EQ.

PRECAST PANEL WALL AND COPING DETAIL

(ALL REINFORCING STEEL TO BE EPOXY COATED)

SECTION A-A

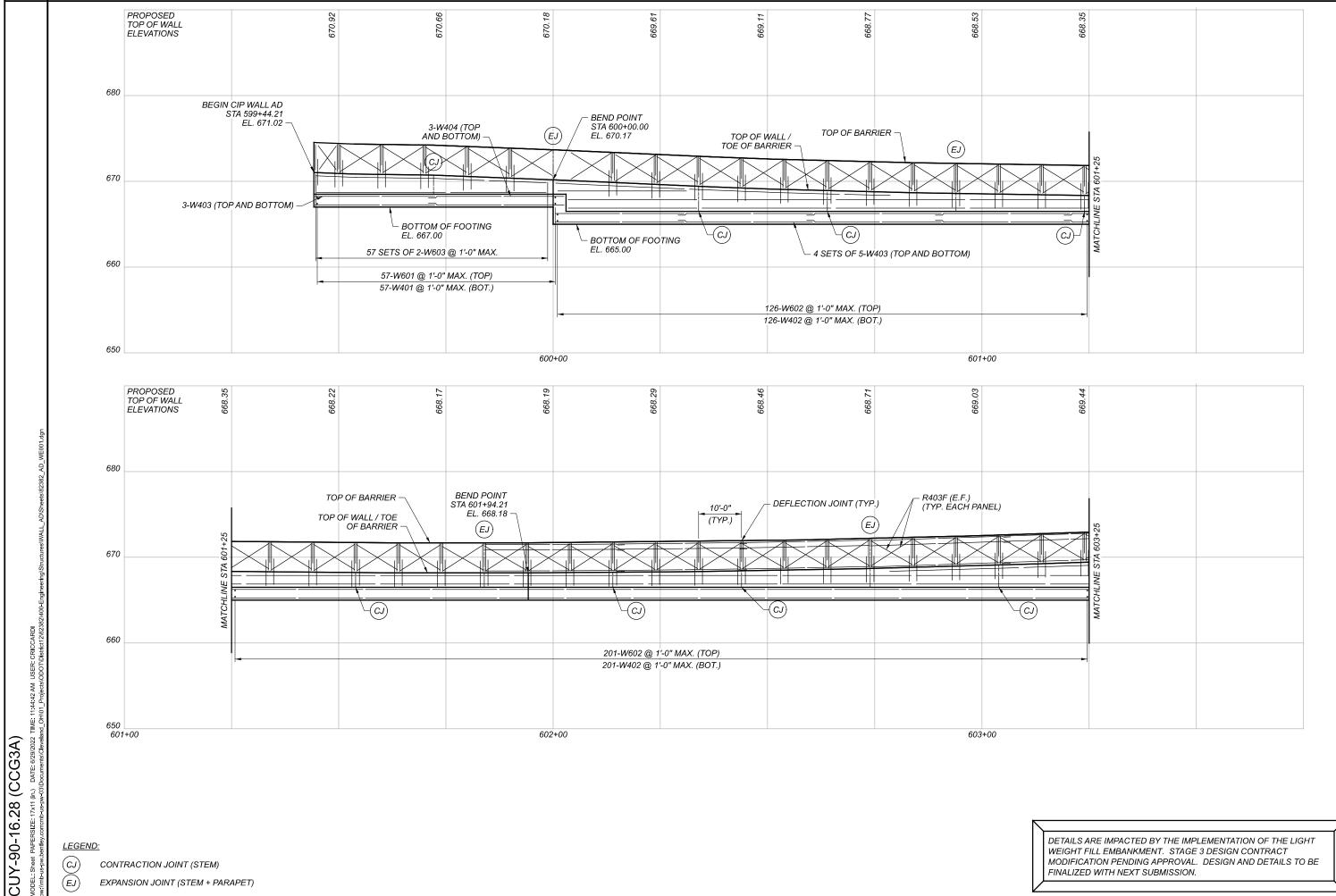
DETAILS FOR PRECAST PANEL PORTION OF WALL AD ARE LIMITED IN THIS SUBMISSION. DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

SFN N/A
DESIGN AGENCY



DESIGNER CHECKER
CMR -
REVIEWER
- 06/-/22
PROJECT ID

82382
SUBSET TOTAL
6 15
SHEET TOTAL
992 2338



LEGEND:

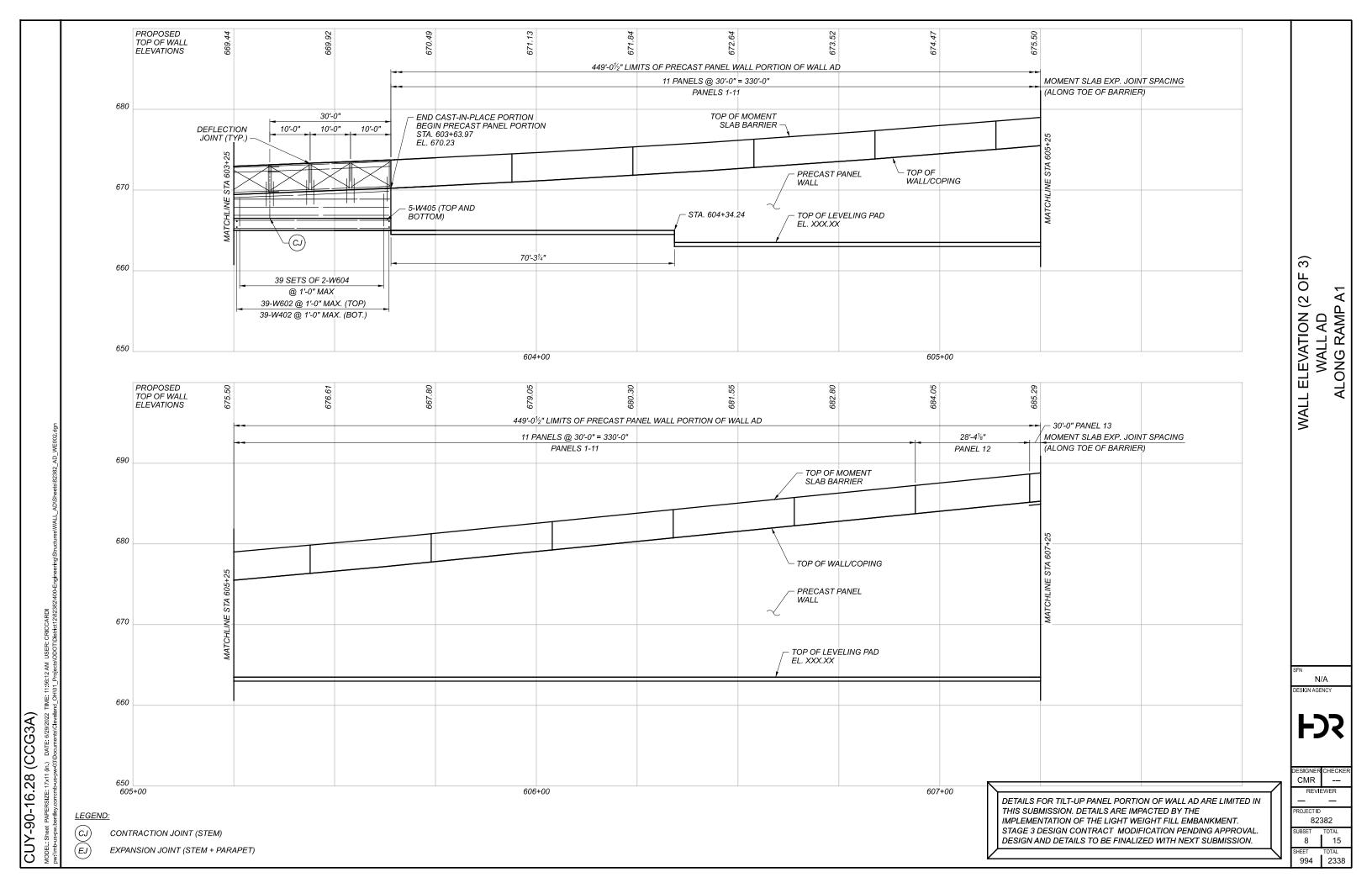
CONTRACTION JOINT (STEM)

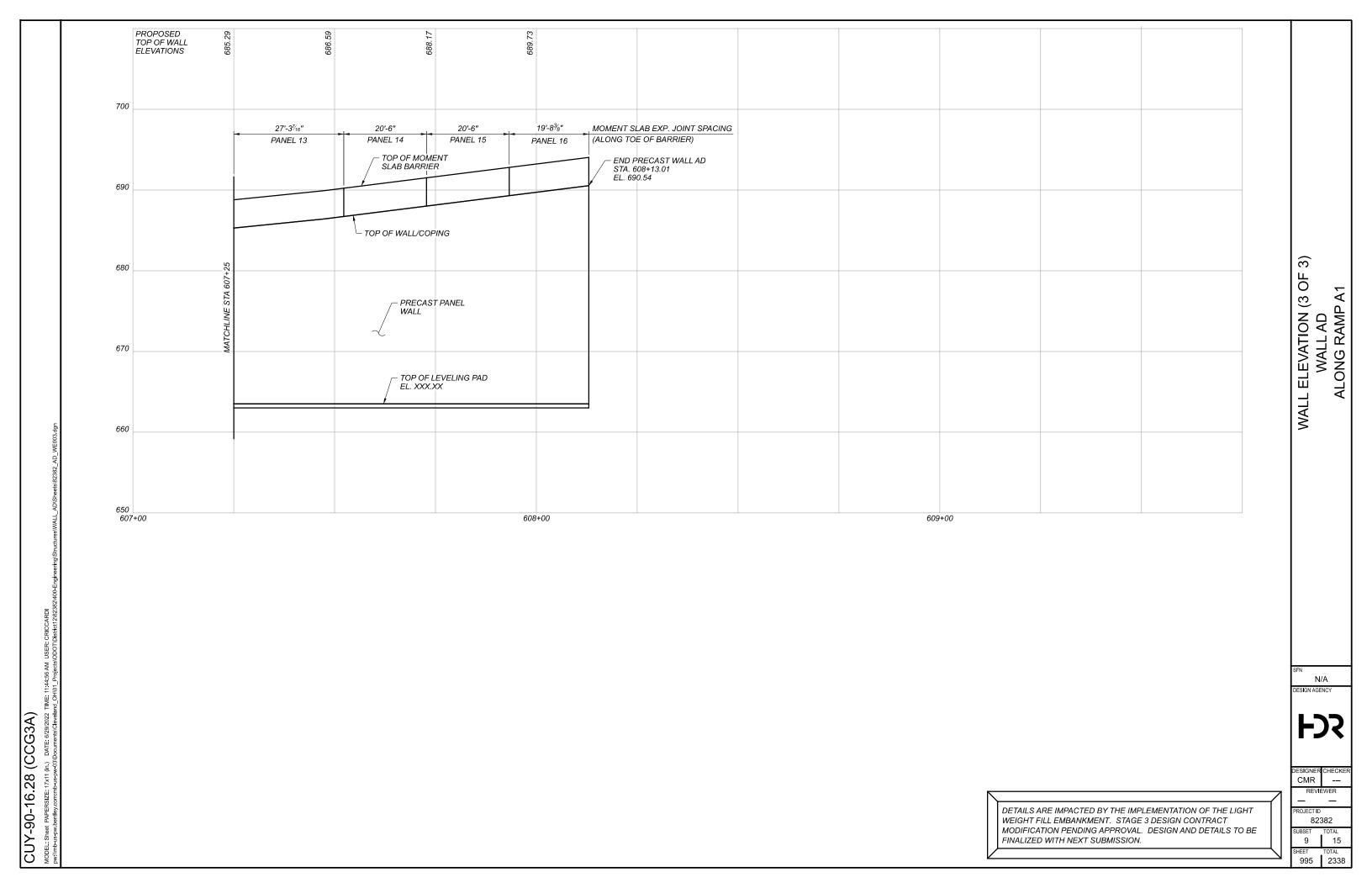
(EJ)EXPANSION JOINT (STEM + PARAPET) DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

WALL ELEVATION (1 OF 3 WALL AD ALONG RAMP A1

N/A

SHEET TOTAL 993 2338





CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x1 (nr.) DATE: 6/29/2022 TIME: 11:48:11 AM USER: CRICCARDI parilimb-us-payabentaly.com:mib-us-pay-330/Documents/Gevaland\_OH/01\_Projects/ODOT/District/12823 N/A DESIGN AGENCY DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

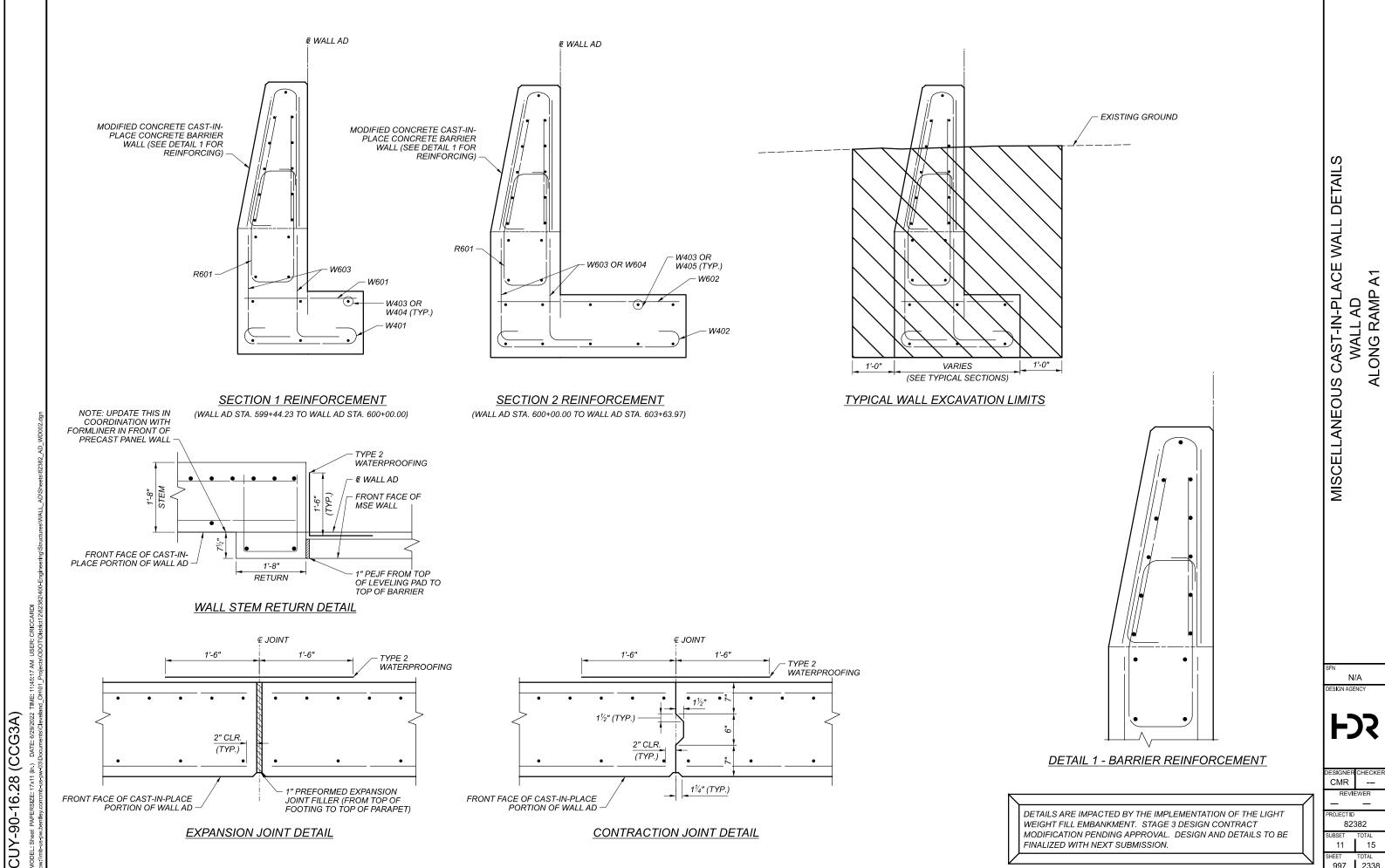
MISCELLANEOUS PRECAST PANEL WALL DETAILS
WALL AD
ALONG RAMP A1

DESIGNER CHECKER
CMR --REVIEWER

ROJECT ID 82382

SUBSET TOTAL
10 15

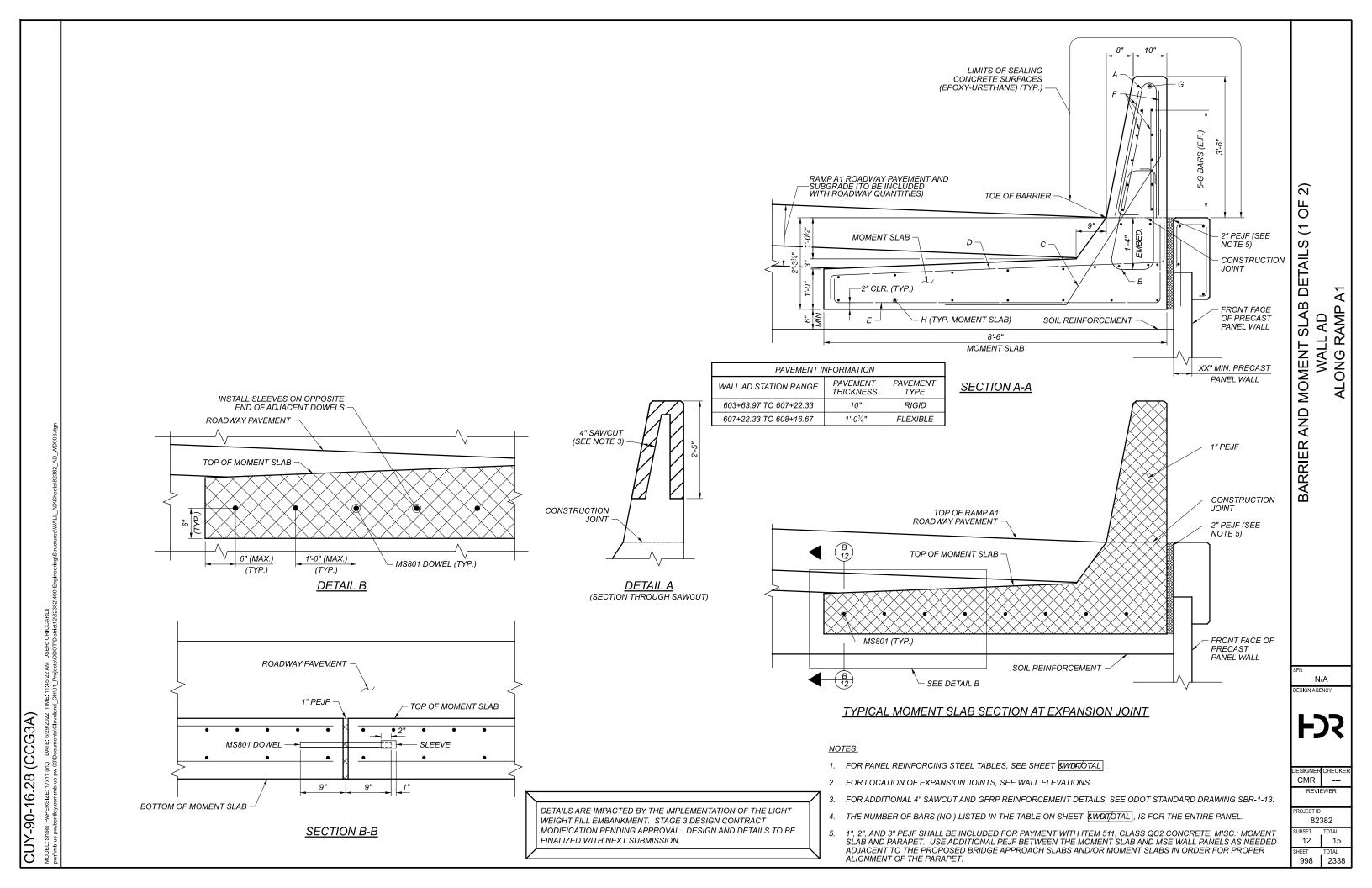
SHEET TOTAL
996 2338

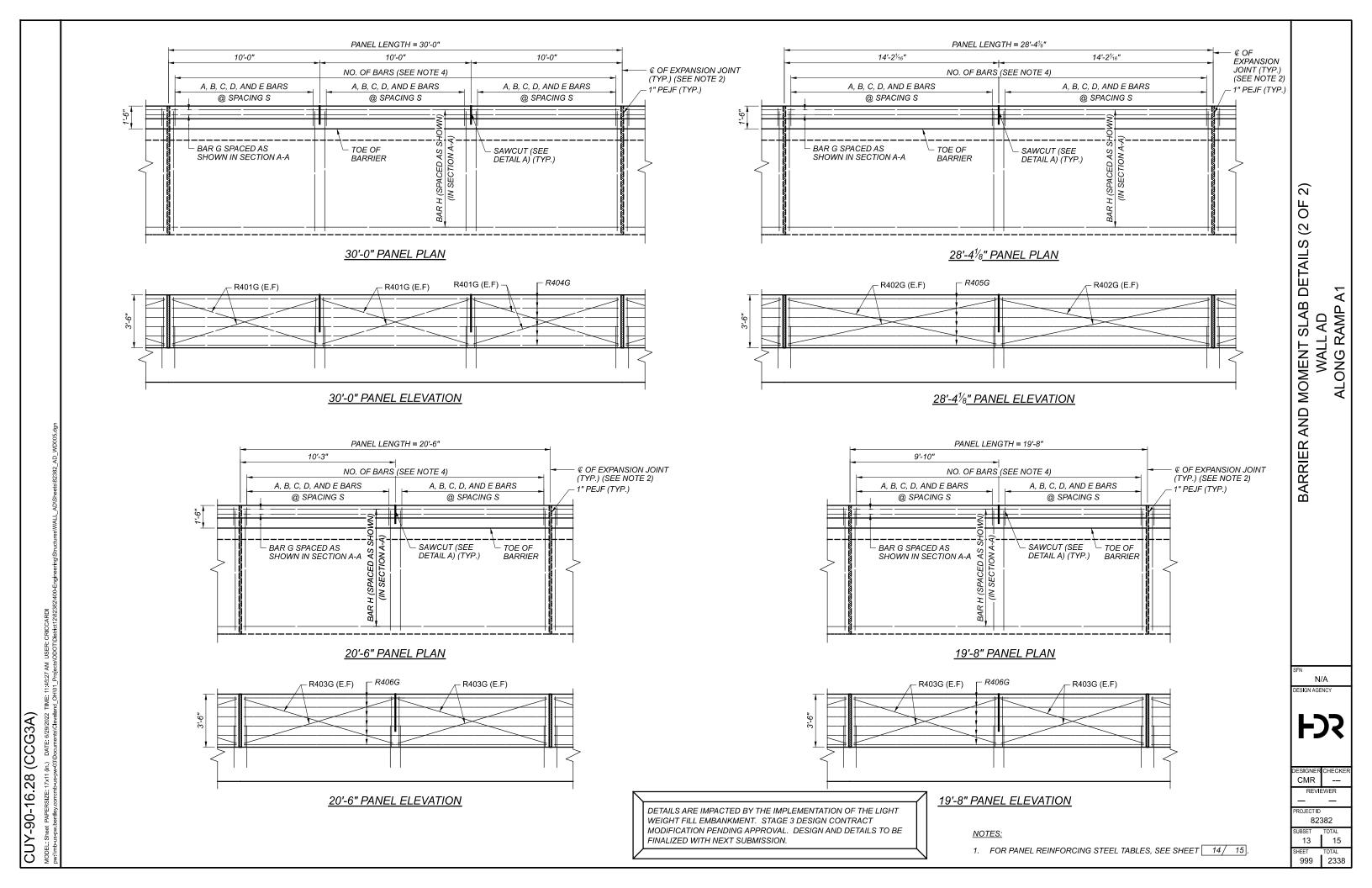


N/A

**FDS** 

CMR





CUY-90-16.28 (CCG3A)	MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/29/2022 TIME: 11:46:33 AM USER: CRICCARDI pw://unb-us-pw.bentley.com:mb-us-pw-d3/Documents/Cleveland_OH/01_Projects/ODOT/District12/82382/400-Engin
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										WALL AD												
PANEL	PANEL PANEL A BARS		BARS	B BARS			C BARS		D BARS		E BARS		F BARS		G BARS		H BARS					
NUMBER	LENGTH	NO.	MARK	SPACING "S"	NO.	MARK	SPACING "S"	NO.	MARK	SPACING "S"	NO.	MARK	SPACING "S"	NO.	MARK	SPACING "S"	NO.	MARK	NO.	MARK	NO.	MARK
1 - 11	30'-0"	33	B601	1'-0" MAX.	33	B602	1'-0" MAX.	63	B603	0'-6" MAX.	63	B604	0'-6" MAX.	33	B605	1'-0" MAX.	12	B401	11	B404	18	B501
12	28'-4 1/8"	30	B601	1'-0" MAX.	30	B602	1'-0" MAX.	60	B603	0'-6" MAX.	60	B604	0'-6" MAX.	30	B605	1'-0" MAX.	8	B402	11	B405	18	B502
13	30'-0"	33	B601	1'-0" MAX.	33	B602	1'-0" MAX.	63	B603	0'-6" MAX.	63	B604	0'-6" MAX.	33	B605	1'-0" MAX.	12	B401	11	B404	18	B501
14-15	20'-6"	22	B601	1'-0" MAX.	22	B602	1'-0" MAX.	42	B603	0'-6" MAX.	42	B604	0'-6" MAX.	22	B605	1'-0" MAX.	8	B403	11	B406	18	B503
16	19'-8 <sup>3</sup> %"	22	B601	1'-0" MAX.	22	B602	1'-0" MAX.	42	B603	0'-6" MAX.	42	B604	0'-6" MAX.	22	B605	1'-0" MAX.	8	B403	11	B406	18	B503

# MOMENT SLAB AND BARRIER PANEL REINFORCEMENT TABLES

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

- 1. FOR BAR LOCATIONS AND MOMENT SLAB DETAILS, SEE SHEETS  $\boxed{12/15}$  AND  $\boxed{13/15}$ .
- 2. FOR PANEL NUMBERS AND LOCATIONS, SEE SHEETS  $\boxed{8/15}$  AND  $\boxed{9/15}$  .
- 3. THE NUMBER OF BARS (NO.) LISTED IN THE TABLE IS PER PANEL.

**FDR** DESIGNER CHECKE CMR ---

82382

SHEET TOTAL 1000 2338

			IIAL		Lu							
MARK	NUMBER	LENGTH	MATERIAL	WEIGHT	TYPE	А	В	С	D	E	R	INC.
	•			V	VALL AL	O - CAST-IN-PI	LACE PORT	ION				
		SU	JB-TOTAL				IEM 509E10	0000, EPOXY C	OATED REI	NFORCING	SIEEL	

			IIAL	WEIGHT	III	DIMENSIONS									
MARK	NUMBER	LENGTH	MATERIAL	OR LENGTH	TYPE	А	В	С	D	Е	R	INC.			
	•	•		WA	LL AD	- MOMENT SL	AB AND BAF	RRIER		•	•	•			
			B-TOTAL					0000, EPOXY C							
		SU.	B-TOTAL				11EM 509	9E30020, NO. 4	4 GFRP DEF	ORMED BA	KS .				

# BAR BENDING DIAGRAMS

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

# NOTES:

- FOR GENERAL NOTES, SEE SHEET 3/15.
- THE LETTER PREFIX INDICATES BAR LOCATION. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE TWO DIGITS WHEN FOUR DIGITS ARE USED INDICATES BAR SIZE NUMBER. ALL REINFORCING IS ASSUMED EPOXY COATED UNLESS OTHERWISE INDICATED BY A LETTER SUFFIX. IF A LETTER SUFFIX IS PROVIDED, IT INDICATES BAR OR BAR COATING TYPE. EXAMPLE: W401G
  - W: THE LOCATION OF THE BARS IN THE STRUCTURE (WALL)
    4: BAR SIZE DIMENSION NO. 4
    01: SEQUENCE NUMBER

THE FOLLOWING IS A LIST OF BAR LOCATION PREFIXES:
R: RAILING
W: WALL

THE FOLLOWING IS A LIST OF BAR MATERIAL SUFFIXES:

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

"STL" = GRADE 60 STEEL "GFRP" = GLASS FIBER REINFORCED POLYMER

REINFORCING SCHEDULE WALL AD ALONG RAMP A1

N/A DES**I**GN AGENCY

CMR REVIEWER 82382 15 15 SHEET TOTAL 1001 2338