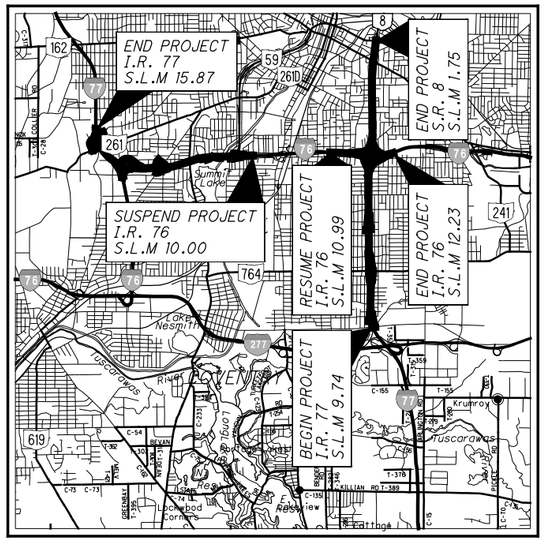
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUM-76-8.24
SUM-77-9.74
SUM-8-0.00

CITY OF AKRON
SUMMIT COUNTY



LOCATION MAP

LATITUDE: N 41° 03′ 43″ LONGITUDE: W 81° 30′ 17″

SCALE IN MILES
0 1 2 3 4

N

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

DESIGN DESIGNATION

MAITNENANCE OF TRAFFIC PLANS:
SEE BU-7

ROADWAY PLANS:
SEE BU-33B

DESIGN EXCEPTIONS

N/A

INDEX OF SHEETS:

ATTACHMENTS:
FINAL GEOTECHNICAL REPORT

PROJECT DESCRIPTION

THE AKRON CENTRAL INTERCHANGE PROJECT (PID 102329) INCLUDES RECONSTRUCTION OF IR-76 EB/WB PAVEMENT FROM SLM 11.05 (IR-76) TO SLM (IR-76) FOR APPROX. 1.16 MILES OF MAINLINE WORK. THIS PROJECT ALSO INCLUDES REPLACEMENT OF TWO FREEWAY STRUCTURES (RAMP N AND RAMP Q) ON NEW ALIGNMENTS, WIDENING OF TWO EXISTING BRIDGES (IR-76 EB OVER BROWN STREET AND IR-76 WB OVER INMAN STREET), CONSTRUCTION OF A NEW PEDESTRIAN/MULTI-USE OVERPASS SPANNING SR-8, AND CONSTRUCTION OF NOISE BARRIERS AT THE PERIMETER OF THE INTERCHANGE. PORTIONS OF SR-8, LANE O AND LANE S ARE TO BE RESURFACED. THE EXISTING IR-76 WB TO INMAN STREET AND IR-77 SB TO LOVERS LANE WILL BE REMOVED PERMANENTLY, AS WELL AS THE EXISTING LAFOLLETTE STREET BRIDGE OVER SR-8 (SUM-77-1184).

BUILDABLE UNIT 17 DESCRIPTION

THIS PROJECT INCLUDES THE REPLACEMENT OF FREEWAY STRUCTURE RAMP Q ON A NEW ALIGNMENT AND CONSTRUCTION OF MSE WALLS ALONG THE APPROACHES LEADING UP TO RAMP Q OVER IR-76 WB, LANE O, RAMP S & SR-8 NB/SB (SUM-76-1148Q) AND ALONG RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, AND LANE M (SUM-76-1152N).

LIMITED ACCESS

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

2019 SPECIFICATIONS

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

ISSUE RECORD:

NO.	DATE

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:
PARSONS PRIME AE

ENGINEERS SEAL:

FOR STRUCTURES OVER 20′
STATE OF OHIO · THOMAS E. STORA · 66634 · REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE:

FOR RETAINING WALLS
STATE OF OHIO · KELLY D. CHRISMAN · 68020 · REGISTERED PROFESSIONAL ENGINEER
SIGNED: Kelly D. Chrisman
DATE: 9/22/2021

STANDARD CONSTRUCTION DRAWINGS

SBR-1-20	7/17/20
AS-1-15	7/17/15
AS-2-15	1/18/19
A-1-69	7/19/02
EXJ-4-87	1/19/18
GSD-1-19	1/18/19
SBR-1-13	7/20/18
BP-2.2	1/15/21

SUPPLEMENTAL SPECIFICATIONS

800-2019	10/16/20
840	4/16/21
845	4/20/18
855	4/20/18

SPECIAL PROVISIONS

ruhlin S&S SHELLY & SANDS
AKRON BELTWAY JV

BU-17
STRUCTURES (SUM-76-1148Q) RETAINING WALLS (MSE WALL 3, 4, 8 & 11)

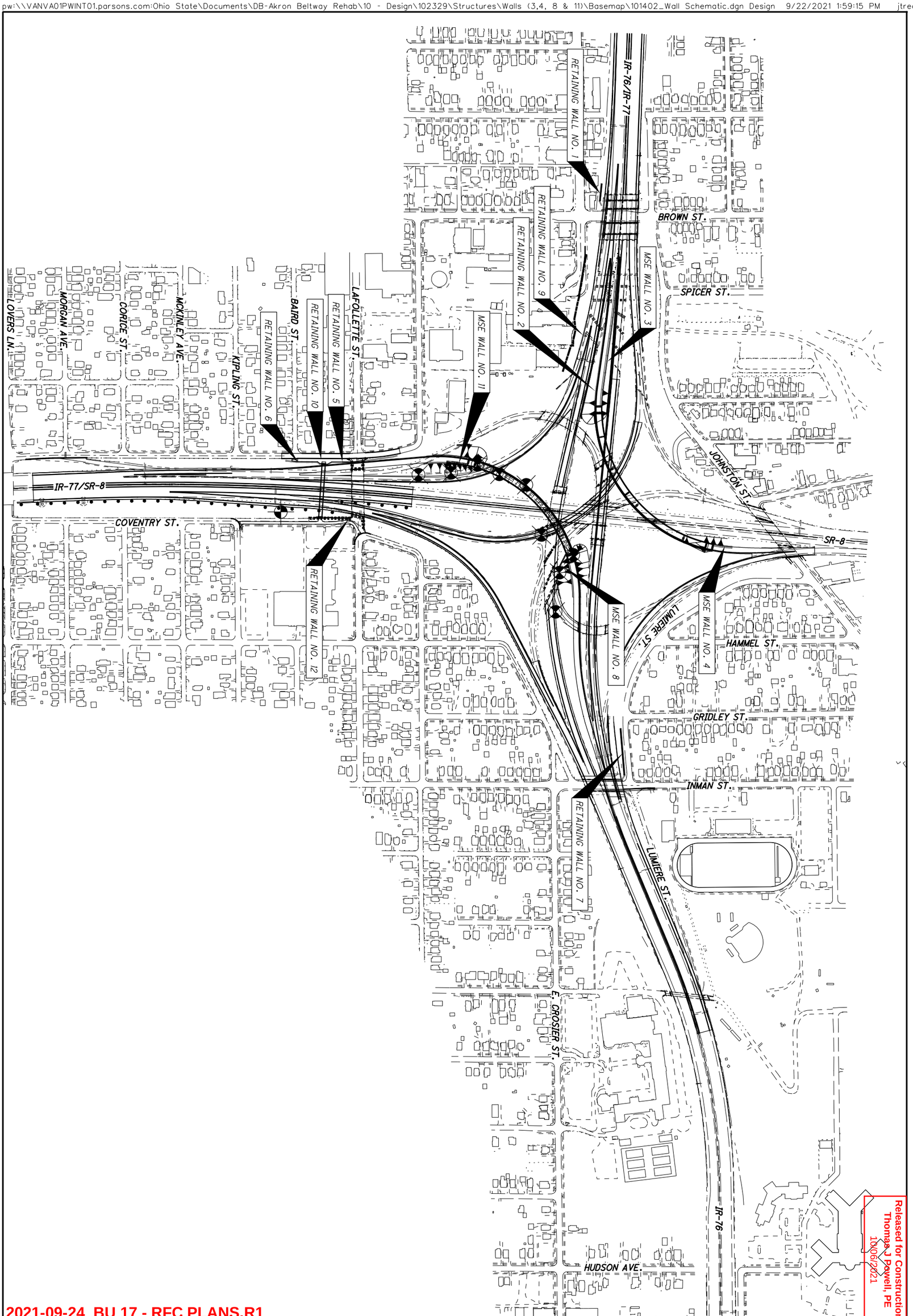
RELEASED FOR CONSTRUCTION JULY 7, 2021

2021-09-24_BU 17 - RFC PLANS.R1

FEDERAL PROJECT NO. E180(428)
PID NO. 102329
CONSTRUCTION PROJECT NO. 21-3000
RAILROAD INVOLVEMENT NONE
SUM-76/77/8-8.24/9.74/0.00

ISSUE RECORD:		
NO.	DATE	DESCRIPTION

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\Basemap\101402_Wall Schematic.dgn Design 9/22/2021 1:59:15 PM jtreasur



Released for Construction
Thomas J Powell, PE
10/06/2021

2021-09-24_BU 17 - RFC PLANS.R1

2/104	SUM-76/77/8-8.24/9.74/0.00	RETAINING WALL SCHEMATIC PLAN	CALCULATED KK/AG	CHECKED JFM	0 100 200 400 HORIZONTAL SCALE IN FEET	N

MSE WALL 3 CURVE DATA:

P.I. Sta. 300+21.40
Δ = 0° 06′ 25″ (RT)
Dc = 0° 15′ 00″
R = 22,930.35′
T = 21.40′
L = 42.80′
E = 0.01′
C = 42.80′
C.B. = S 85° 36′ 04″ E

P.I. Sta. 301+60.55
Δ = 3° 31′ 13″ (RT)
Dc = 1° 29′ 43″
R = 3,831.76′
T = 117.75′
L = 235.42′
E = 1.81′
C = 235.39′
C.B. = S 83° 47′ 15″ E

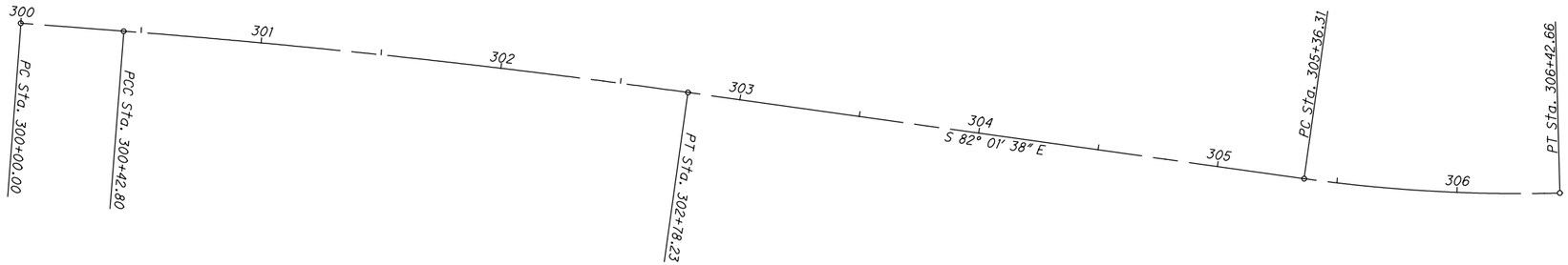
P.I. Sta. 305+89.61
Δ = 9° 28′ 46″ (LT)
Dc = 8° 54′ 50″
R = 642.77′
T = 53.29′
L = 106.34′
E = 2.21′
C = 106.22′
C.B. = S 86° 46′ 01″ E

MSE WALL 8 CURVE DATA:

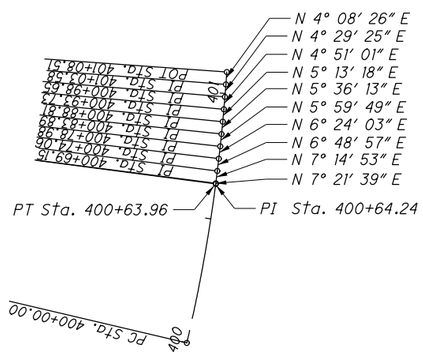
P.I. Sta. 400+32.01
Δ = 5° 42′ 05″ (LT)
Dc = 8° 54′ 50″
R = 642.77′
T = 32.01′
L = 63.96′
E = 0.80′
C = 63.93′
C.B. = N 10° 20′ 03″ E

MSE WALL 11 CURVE DATA:

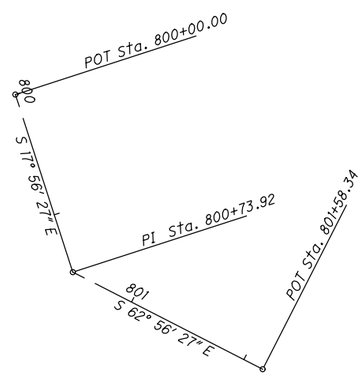
P.I. Sta. 1100+68.76
Δ = 12° 33′ 51″ (RT)
Dc = 9° 10′ 25″
R = 624.58′
T = 68.76′
L = 136.96′
E = 3.77′
C = 136.69′
C.B. = N 9° 43′ 19″ E



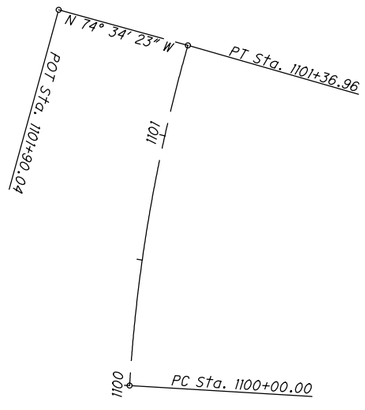
MSE WALL 3



MSE WALL 4



MSE WALL 8



MSE WALL 11

1

ISSUE RECORD:

NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED EAK
CHECKED KDC

GEOMETRIC LAYOUT - MSE WALLS

SUM-76/77/8-8.24/9.74/0.00

2021-09-24_BU 17 - RFC PLANS.R1

2A
104

GENERAL NOTES - MSE WALLS

Released for Construction
Thomas J Powell, PE
10/06/2021

STANDARD DRAWINGS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

SBR-1-20 REVISED 7/17/2020

SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING SUPPLEMENT SPECIFICATIONS:

SS840 DATED 4/16/2021

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 9TH EDITION, 2020, AND THE ODOT BRIDGE DESIGN MANUAL, 2020, EXCEPT AS NOTED ELSEWHERE IN THE PLANS.

DESIGN DATA:

CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (CIP COPING, MOMENT SLAB AND LEVELING PAD)
CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (PARAPET)
EPOXY COATED REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

PROPRIETARY RETAINING WALL DATA:

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH ITEM 840. THE FACTORED BEARING RESISTANCE AT THE BASE OF THE REINFORCED SOIL MASS IS

SHOWN ON SHEET 3 / 104 . FOR ADDITIONAL DETAILS

OF MSE WALLS SUPPORTING RAMP N BRIDGE (SUM-76-1152N), SEE BU-11.

ITEM 840 - DRAINAGE PIPE:

PROVIDE A MINIMUM SLOPE OF 1.00% ON ALL MSE WALL DRAINS UNLESS NOTED OTHERWISE.

LOCATE PIPE AS CLOSE AS POSSIBLE TO THE TOP OF THE LEVELING PAD. IT MAY BE LOCATED ABOVE THE BOTTOM ROW OF REINFORCING STRAPS, HOWEVER, AT NO TIME SHALL THE PIPE BE LOCATED WITHIN 1 FOOT OF THE PROPOSED GROUND LINE.

MSE WALL DESIGN CRITERIA:

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

FOUNDATION BEARING TABLE

WALL NUMBER	ALIGNMENT	LOCATION	FACTORED BEARING RESISTANCE (KSF)
3	RAMP Q	2527+50	2.80
		2529+00	2.77
		2531+63.90	5.00 1
4	RAMP Q	2540+46.04	13.53
		2541+35	13.70
8	RAMP N	FORWARD ABUTMENT	9.14
		3338+80	8.91
		3339+06	8.91
		3339+33	8.75
11	RAMP N	3331+50	2.63 1
		3332+40	16.49
		REAR ABUTMENT	17.88

WALL REINFORCMEMENT LENGTH TABLE

WALL NUMBER	LOCATION	MINIMUM REINFORCEMENT LENGTH
3	2527+50	9 FT.
	2529+00	9.5 FT.
	2531+63.90	16.5 FT.
4	2540+46.04	16.5 FT.
	2541+35	8 FT.
8	FORWARD ABUTMENT	28 FT.
	3338+80	27.5 FT.
	3339+06	21 FT.
	3339+33	10 FT.
11	3331+50	17 FT.
	3332+40	23 FT.
	REAR ABUTMENT	25 FT.

ITEM SPECIAL - FORM LINER:

USE FORM LINERS AT THE MSE WALLS AS SHOWN ON THE PLANS. FORM LINERS SHALL BE ARCHITECTURAL POLYMERS #9110, LARGE STONE OHIO DRY STACK OR EQUAL AS APPROVED BY THE ENGINEER. THE STONE FORM LINER PATTERN SHALL MATCH OTHER PARTS OF THE PROJECT (ABUTMENTS AND ROADWAY SIDE OF NOISE WALLS) TO ENSURE UNIFORM SURFACE TREATMENTS THROUGHOUT, AS DETERMINED BY THE ENGINEER.

FORM LINERS SHALL BE CAPABLE OF WITHSTANDING ANTICIPATED CONCRETE POUR PRESSURES WITHOUT LEAKAGE OR CAUSING PHYSICAL DEFECTS. FORM LINERS SHALL BE REMOVABLE WITHOUT CAUSING CONCRETE SURFACE DAMAGE. USE A FORM RELEASE PRODUCT AS RECOMMENDED BY THE FORM LINER MANUFACTURER. USE MANUFACTURER'S APPLICATION RATES AND ALL OTHER MANUFACTURER'S INSTRUCTIONS. FORM RELEASE PRODUCTS SHALL BE FULLY COMPATIBLE WITH THE FORM LINER MATERIAL AND THE EPOXY-URETHANE SEALER TO BE APPLIED TO THE FINISHED SURFACES.

ALIGN THE FORM LINER PATTERNS ACROSS ALL EXPANSION, CONTRACTION, AND CONSTRUCTION JOINTS.

FORM LINERS SHALL EXTEND A MINIMUM OF 1'-0" BELOW THE PROPOSED GROUND LINE AT THE FRONT FACE OF THE WALL. FORM LINERS MAY EXTEND MORE THAN 1'-0" BELOW THE PROPOSED GROUND LINE BUT THE PAY LIMITS SHALL BE 1'-0" BELOW THE PROPOSED GROUND LINE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR ITEM SPECIAL - FORM LINER, WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM AS SPECIFIED ABOVE AND IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN:

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE CONCRETE PARAPET AND MSE WALL AS SHOWN ON THE PLANS. THE COST OF SEALING THE ADDITIONAL SURFACE AREA OF THE AESTHETIC TREATMENT WILL BE CONSIDERED INCIDENTAL TO THIS ITEM. SEE AESTHETIC PLANS FOR SEALING REQUIREMENTS. SEAL MSE WALL, PARAPETS AND EXPOSED SURFACES OF THE ABUTMENTS OF SUM-76-1148Q WITH AN EPOXY-URETHANE SEALER MATCHING FEDERAL COLOR STANDARD 27769, GENERAL / LIGHT NEUTRAL.

ITEM 840 - CONCRETE COPING:

PROVIDE EPOXY COATED REINFORCING AND CLASS QC1 CONCRETE AS SHOWN IN THE PLANS. CONCRETE AND REINFORCING STEEL IN THE COPING, AND EXPANSION JOINTS SHALL BE INCLUDED IN THE QUANTITY FOR THIS ITEM.

PROPRIETARY MSE WALL DATA (BRIDGE SUM-76-1152N):

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO SUPPORT THE ABUTMENT. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE A NOMINAL (I.E. UNFACTORED) HORIZONTAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURE OF 7.43 K/FT AT WALL 8 AND 6.14 K/FT AT WALL 11 APPLIED PERPENDICULAR TO THE FACE OF THE WALL AT THE BASE OF THE CONCRETE FOOTING. THIS STRIP LOAD DOES NOT INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL. HOWEVER, THE PROPRIETARY WALL SUPPLIER SHALL INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL IN THE DESIGN CALCULATIONS. 1

ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

ABUT. - ABUTMENT
APPR. - APPROACH
BOT. - BOTTOM
BRG. - BEARING
BRGS. - BEARINGS
℄ - CENTERLINE
C/C - CENTER TO CENTER
CB - CATCH BASIN
CIP - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONST. - CONSTRUCTION
CU YD - CUBIC YARD
DIA. - DIAMETER
E.F. - EACH FACE
ELEV., EL. - ELEVATION
EQ. - EQUAL
EX. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
F.S. - FIELD SPLICE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
FWD. - FORWARD
GALV. = GALVANIZED
GEN. - GENERAL
GR - GUARDRAIL
LF - LEFT FORWARD
LT. - LEFT
MAX. - MAXIMUM
MGS - MIDWEST GUARDRAIL SYSTEM
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MOT - MAINTENANCE OF TRAFFIC
N.F. - NEAR FACE
NPCPP - NON-PERFORATED CORRUGATED PLASTIC PIPE
NO./# - NUMBER
O/O - OUT TO OUT
OVHD - OVERHEAD
PCPP - PERFORATED CORRUGATED PLASTIC PIPE
PEJF - PREFORMED EXPANSION JOINT FILLER
PG - PROFILE GRADE
PGL - PROFILE GRADE LINE
PROP. - PROPOSED
PT - POINT OF TANGENCY
PVC - POINT OF VERTICAL CURVATURE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY
R. - RADIUS
R.A. - REAR ABUTMENT
RCP - ROCK CHANNEL PROTECTION
RF - RIGHT FORWARD
RT. - RIGHT
R/W - RIGHT OF WAY
SAN. - SANITARY
SER. - SERIES
SHT. - SHEET
S.O. - SERIES OF
SPA. - SPACES OR SPACING
SR - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM
STR. - STRAIGHT
TBM - TEMPORARY BENCH MARK
TBR - TO BE REMOVED
T/C - TOP OF COPING
TEMP. - TEMPORARY
T.O.S. - TOE OF SLOPE
T&B- TOP AND BOTTOM
T/PARAPET - TOE OF PARAPET
T/T - TOE TO TOE
TYP. - TYPICAL
U.G. - UNDERGROUND
VAR. - VARIES
VC - VERTICAL CURVE
VERT. - VERTICAL
W/O - WITHOUT

ISSUE RECORD:

NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\Miscellaneous Details\101402_000_WN001.dgn Sheet 9/22/2021 1:59:27 PM

DESIGN AGENCY
PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT			

MSE WALL GENERAL NOTES (1 OF 2)
MSE WALLS 3, 4, 8 & 11
COMMON MSE WALL NOTES

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

3
104

2021-09-24_BU 17 - RFC PLANS.R1

GENERAL NOTES - MSE WALLS (CONTINUED)

ITEM SPECIAL - SETTLEMENT PLATFORMS:

SETTLEMENT PLATFORMS SHALL BE PLACED AT THE BOTTOM OF THE EMBANKMENT AT THE LOCATIONS INDICATED BELOW, UNLESS OTHERWISE DIRECTED BY DBT.

CONTRACTOR HAS THE OPTION OF USING EITHER STEEL OR PLYWOOD PLATFORM BASE.

CONTRACTOR SHALL FURNISH MATERIALS AND LABOR TO EXTEND PIPE THROUGH ENTIRE FILL.

SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.

SPECIFICATIONS:

DESCRIPTION:
THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE DBT. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT ADDITIONAL LOCATIONS.

SETTLEMENT READINGS SHALL BE TAKEN WEEKLY DURING CONSTRUCTION AND AT LEAST 3 TIMES PER WEEK DURING THE SPECIFIED WAITING PERIOD OF 30 TO 45 DAYS. IN ACCORDANCE TO ODOT SPECIFICATIONS, THE WAITING PERIOD IS CONSIDERED COMPLETE WHEN THE SETTLEMENT MEASURED IS EQUAL TO OR LESS THAN 1/8" PER WEEK FOR TWO CONSECUTIVE WEEKS AFTER THE COMPLETION OF THE MSE WALL FILL PLACEMENT. THE READINGS SHALL BE PLOTTED UTILIZING THE "SETTLEMENT PLATFORM READINGS" EXCEL SPREADSHEET AS DEVELOPED BY ODOT'S OFFICE OF GEOTECHNICAL ENGINEERING. A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO ODOT, AFTER EACH SETTLEMENT READING IS RECORDED.

VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS MAY BE CONSIDERED IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHOULD PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED PLATFORM AND CABLING LAYOUT TO ODOT AT LEAST 14 DAYS PRIOR TO CONSTRUCTION.

THE DESIGN DRAWINGS SHOULD ILLUSTRATE THE PROPOSED SETTLEMENT VIBRATING WIRE SETTLEMENT PLATFORM LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING WILL NOT CONFLICT WITH EXISTING FACILITIES, PROPOSED FACILITIES OR UTILITIES.

THE CONTRACTOR SHALL IDENTIFY, SET AND MAINTAIN AN APPROPRIATE NUMBER OF FIXED BENCHMARKS, REFERENCE POINTS, ETC. TO FACILITATE THE SURVEYING OF SETTLEMENT PLATFORMS.

MATERIALS:
SOUND LUMBER SUCH AS ¾" EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2-½" STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 3'-0"x 3'-0"x⅛" MAY BE SUBSTITUTED, FOR THE LUMBER TO CONSTRUCT THE PLATFORMS, AT THE CONTRACTORS OPTION.

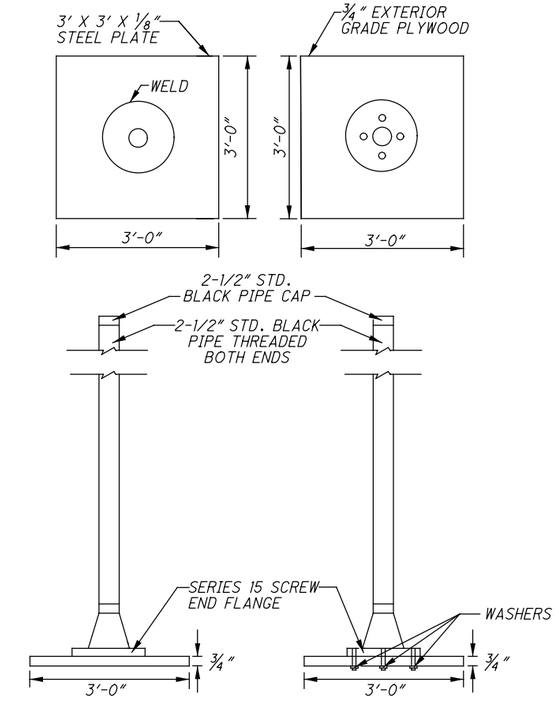
CONSTRUCTION METHODS:
THE PLATFORM SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS. IF EXISTING PAVEMENT IS ENCOUNTERED AT THE SPECIFIED LOCATIONS, THE PAVEMENT (INCLUDING ANY BASE MATERIAL) SHALL BE REMOVED AND THE SETTLEMENT PLATFORM SHALL BE SET ON THE EXPOSED SUBGRADE. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE CONSTRUCTION OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL.

THE CONTRACTOR SHALL PROTECT SETTLEMENT PLATFORMS FROM CONSTRUCTION TRAFFIC/ACTIVITIES USING APPROPRIATE METHODS SUCH AS BARRICADES, CONES, GUARD-STAKES WITH HIGH VISIBILITY RIBBON, ETC. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATIONS WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION.

PRIOR TO PAVING: THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET BELOW THE FINISHED ELEVATION SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE. WHICHEVER IS APPLICABLE.

ITEM SPECIAL - SETTLEMENT PLATFORMS (CONTINUED):

SETTLEMENT PLATE DESIGNATIONS	ALIGNMENT	STATION	OFFSET
P1	RAMP N	3332+40	℄
P2	RAMP Q	2531+50	5' LT
P3	RAMP Q	2530+00	5' LT



STEEL PLATE BASE PLYWOOD BASE

SETTLEMENT PLATFORM DETAILS

ITEM SPECIAL - SETTLEMENT MONUMENTS

SETTLEMENT MONUMENTS SHALL BE PLACED AT THE PLANNED SUBGRADE ELEVATIONS OF RAMP N AT THE LOCATIONS INDICATED BELOW, UNLESS OTHERWISE DIRECTED BY THE DBT.

SETTLEMENT MONUMENT DESIGNATIONS	ALIGNMENT	STATION	OFFSET
M1	RAMP N	3332+30	℄
M2	RAMP Q	2531+60	5' LT
M3	RAMP Q	2530+10	5' LT

DESCRIPTION:

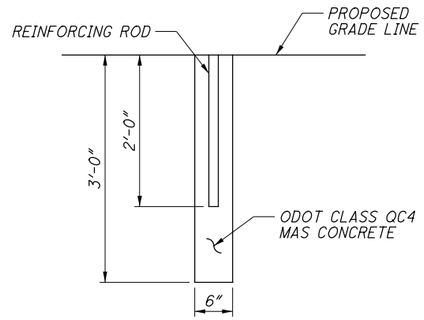
THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT MONUMENTS, AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE DBT. IN ORDER TO MONITOR THE TIME RATE OF SETTLEMENT OF THE EMBANKMENT FILL IN CONJUNCTION WITH THE SETTLEMENT PLATFORMS AND TO DETERMINE WHEN THE COPING FOR THE WALLS CAN BE CONSTRUCTED AND FINAL GRADING PERFORMED IN PREPARATION FOR THE PAVEMENT OPERATIONS. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT MONUMENTS MAY BE INSTALLED AT ADDITIONAL LOCATIONS.

SETTLEMENT READINGS SHALL BE TAKEN WEEKLY DURING CONSTRUCTION AND AT LEAST 3 TIMES PER WEEK DURING THE SPECIFIED WAITING PERIOD OF 30 TO 45 DAYS. IN ACCORDANCE TO ODOT SPECIFICATIONS, THE WAITING PERIOD IS CONSIDERED COMPLETE WHEN THE SETTLEMENT MEASURED IS EQUAL TO OR LESS THAN 1/8" PER WEEK FOR TWO CONSECUTIVE WEEKS AFTER THE COMPLETION OF THE MSE WALL FILL PLACEMENT. THE READINGS SHALL BE PLOTTED UTILIZING THE "SETTLEMENT PLATFORM READINGS" EXCEL SPREADSHEET AS DEVELOPED BY ODOT'S OFFICE OF GEOTECHNICAL ENGINEERING. A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO ODOT, AFTER EACH SETTLEMENT READING IS RECORDED.

THE CONTRACTOR SHALL IDENTIFY THE, SET AND MAINTAIN AN APPROPRIATE NUMBER OF FIXED BENCHMARKS, REFERENCE POINTS, ETC. TO FACILITATE THE SURVEYING OF THE SETTLEMENT MONUMENTS.

MATERIALS:

A 2-FOOT LONG REINFORCING ROD SHALL BE INSTALLED PLUMB WITHIN THE CENTER OF A 6-INCH DIAMETER AND 3-FOOT LONG BOREHOLE THAT IS BACKFILLED WITH ODOT CLASS QC 4 MASS CONCRETE AS INDICATED IN THE SCHEMATIC SHOWN BELOW.



CONSTRUCTION METHOD:

SET AND LEVEL THE SETTLEMENT MONUMENTS AT THE LOCATIONS INDICATED WITHIN A MINIMUM OF 7 DAYS OF COMPLETING THE FULL EMBANKMENT HEIGHT. IN THE EVENT THE MONUMENTS ARE DAMAGED OR DISTURBED DURING CONSTRUCTION OPERATIONS, THE MONUMENT IS TO BE RESTORED TO ITS PROPER CONDITION AND APPROPRIATE METHODS TO PROTECT THE SETTLEMENT MONUMENTS SUCH AS BARRICADES, CONES, GUARD STAKES WITH HIGH VISIBILITY RIBBONS, ETC. RE-ESTABLISHED. THE SURVEYING OF THE MONUMENTS WILL BE CONDUCTED UNTIL THE RATE OF SETTLEMENT HAS SLOWED TO A RATE CONSIDERED ACCEPTABLE TO THE GEOTECHNICAL ENGINEER OF RECORD. ONCE THE WAITING PERIOD HAS BEEN LIFTED BY THE GEOTECHNICAL ENGINEER OF RECORD, THE MONUMENTS ARE TO BE REMOVED.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

DESIGN AGENCY
PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

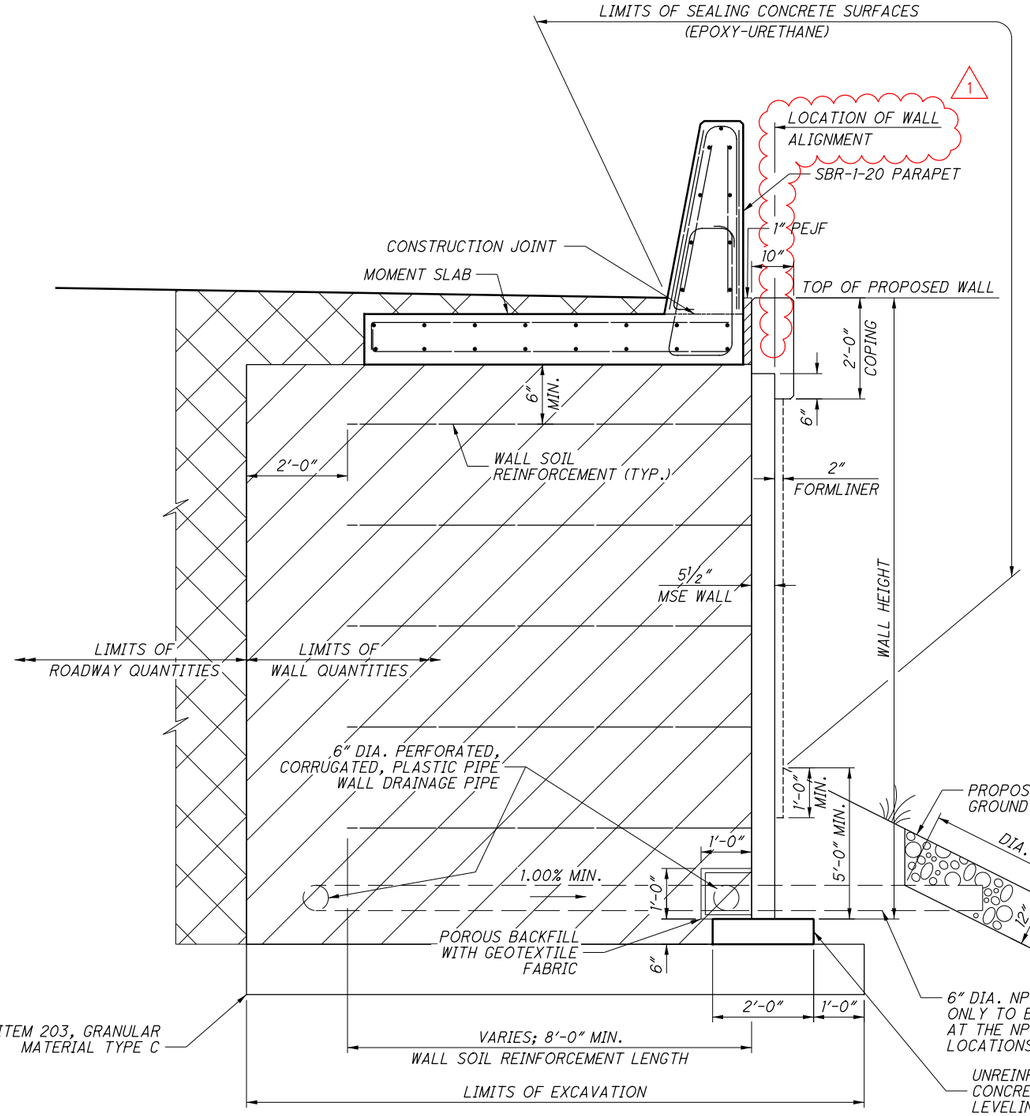
DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT			

MSE WALL GENERAL NOTES (2 OF 2)
MSE WALLS 3, 4, 8 & 11
COMMON MSE WALL NOTES

2021-09-24_BU 17 - RFC PLANS.R1

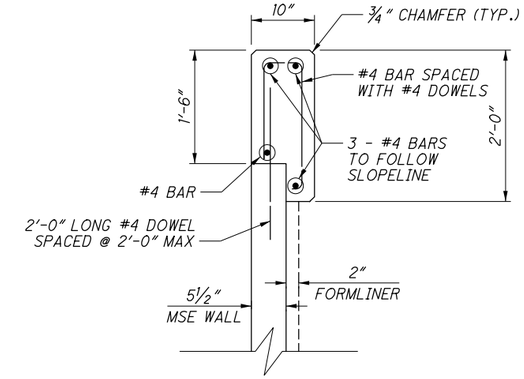
SUM-76/77/8-
8.24/9.74/0.00
PID No. 102329

ISSUE RECORD:		
NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

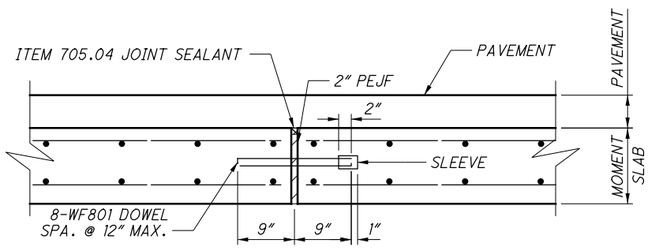


MSE WALL SECTION AT MOMENT SLAB

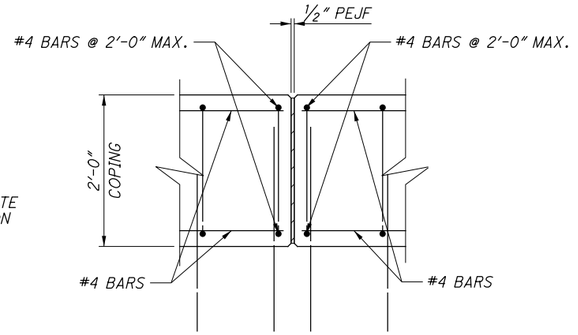
(MSE WALL 3, 4 AND 11)



MSE WALL COPING DETAIL



MOMENT SLAB JOINT DETAIL



MSE WALL COPING AT WALL PANEL JOINT

LEGEND:

- PAY LIMITS OF WALL QUANTITIES & SELECT GRANULAR MATERIAL
- PAY LIMITS OF ROADWAY QUANTITIES

NOTES:

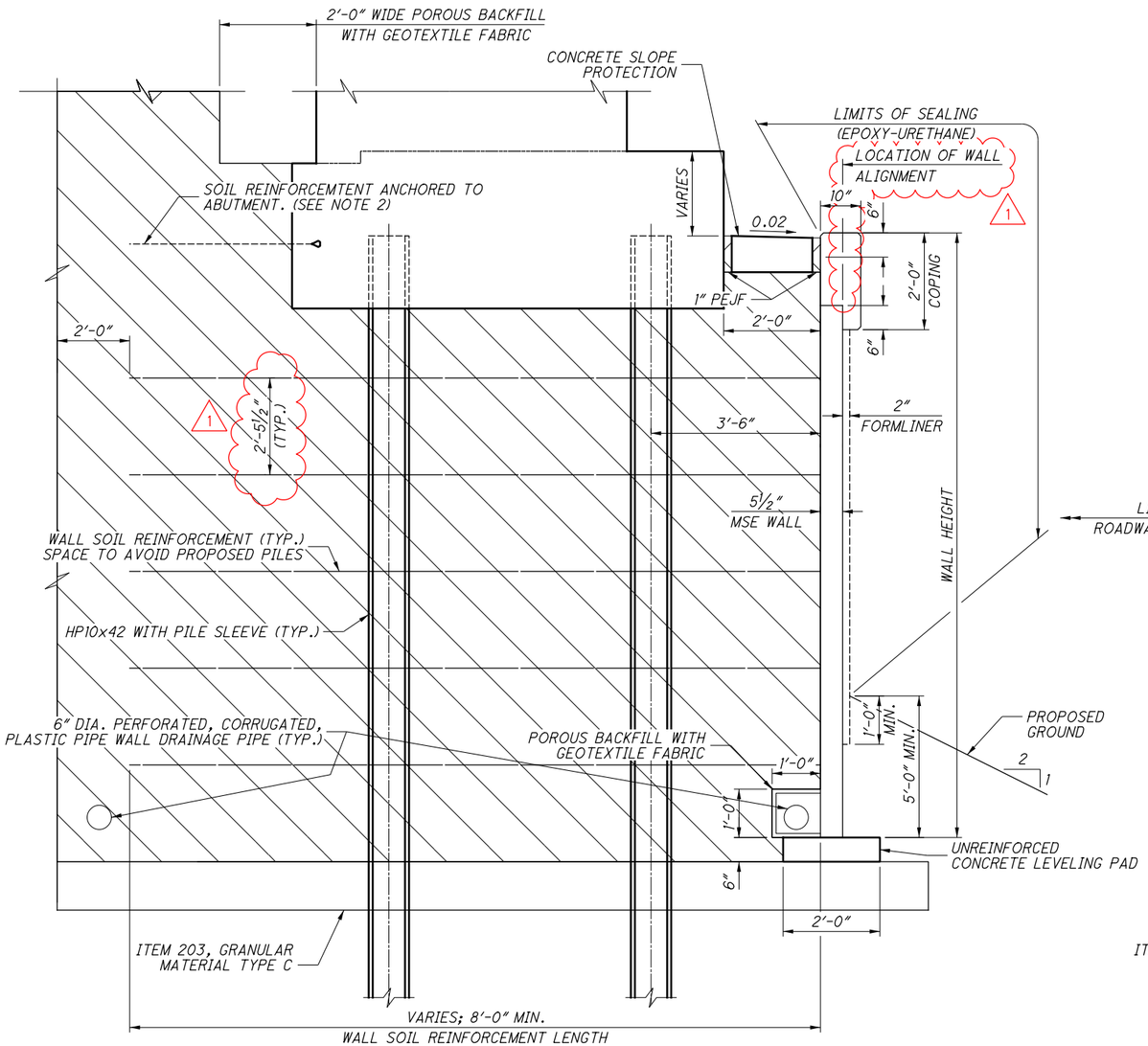
1. AT THE MOMENT SLAB EXPANSION JOINT LOCATIONS, PLACE 2" PEJF BETWEEN THE PARAPET SECTIONS.
2. FOR GENERAL NOTES, SEE SHEET 3 / 104 .
3. FOR PAVEMENT BUILD-UP, SEE BU-34 PLANS.
4. FOR ADDITIONAL MOMENT SLAB JOINT DETAILS, SEE STD. DWG. BP-2.2.

DESIGN AGENCY
PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT			

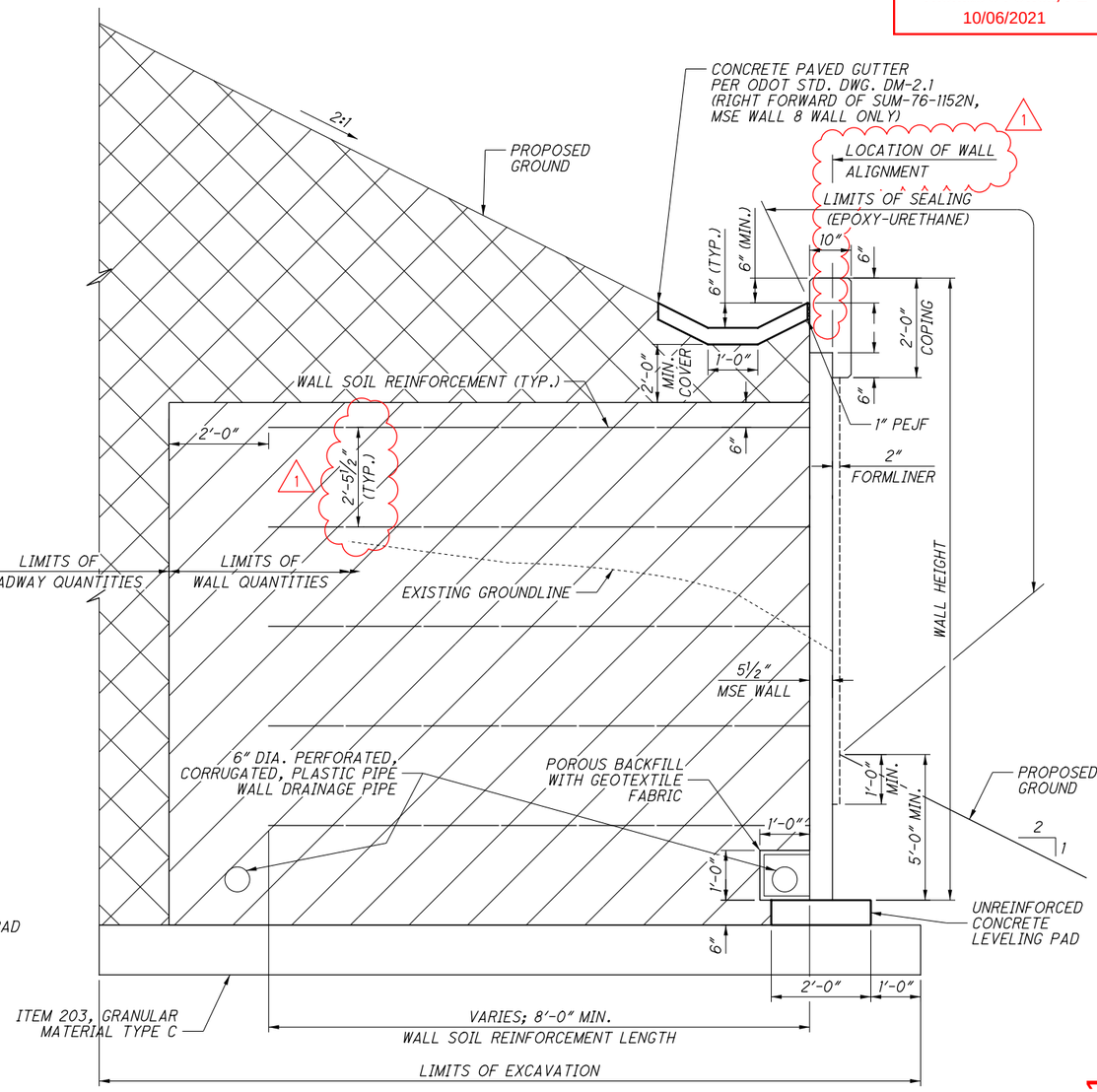
COMMON MSE WALL DETAILS (1 OF 2)
MSE WALLS 3, 4, 8 & 11
COMMON DETAILS

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329



MSE WALL SECTION AT SUM-76-1152N ABUTMENT

(MSE WALL 8 AND 11)



MSE WALL SECTION WITH NO ROADWAY

(MSE WALL 8 AND 11)

LEGEND:

- PAY LIMITS OF WALL QUANTITIES AND SELECT GRANULAR MATERIAL
- PAY LIMITS OF BRIDGE (SUM-76-1152N) QUANTITIES AND SELECT GRANULAR MATERIAL
- PAY LIMITS OF ROADWAY QUANTITIES

NOTES:

1. FOR ADDITIONAL NOTES AND DETAILS SEE SHEET 5 / 104 .
2. NOMINAL SOIL REINFORCEMENT LOAD = 6.14 K/FT AT THE REAR ABUTMENT OF SUM-76-1152N & 7.43 K/FT AT THE FORWARD ABUTMENT OF SUM-76-1152N DUE TO SUPERSTRUCTURE FRICTION LOADS (FR). STRAP CONNECTIONS TO ABUTMENTS TO BE PROVIDED BY MSE MANUFACTURER. SEE GENERAL NOTES FOR MORE INFORMATION.

ISSUE RECORD:		
NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\Miscellaneous Details\101402_000_WD002.dgn Sheet 9/22/2021 1:59:43 PM

2021-09-24_BU 17 - RFC PLANS.R1

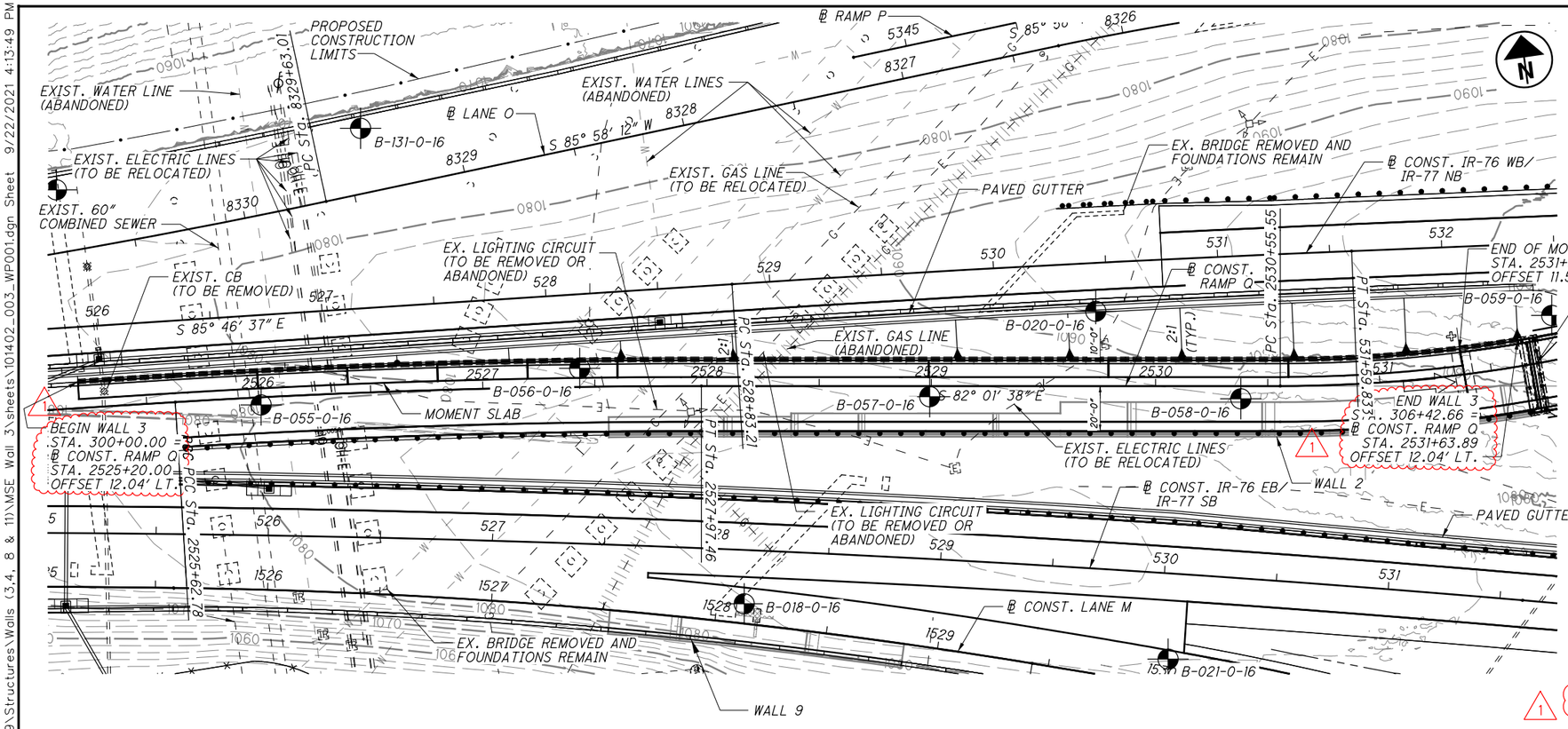
DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT			

COMMON MSE WALL DETAILS (2 OF 2)
MSE WALLS 8 & 11
COMMON DETAILS

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

6
104



PLAN

BENCHMARK DATA

POINT	NORTHING	EASTING	ELEVATION
BM-200	509553.932	2243436.787	1087.538

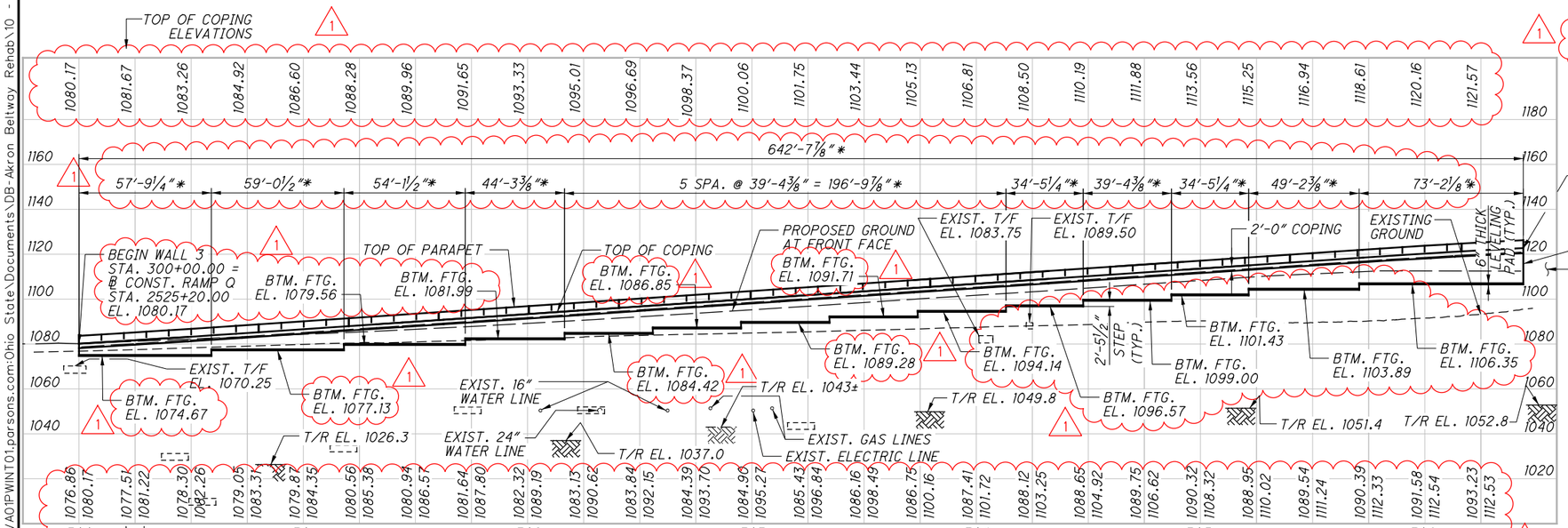
FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY PLANS.

NEW BORING LOCATIONS

BORING	STATION	OFFSET	TOP OF ROCK EL.
B-055-0-16	2526+00.95	3.39' RT.	1026.3
B-056-0-16	2527+43.32	8.23' LT.	1037.0
B-057-0-16	2528+99.29	4.75' RT.	1049.8
B-058-0-16	2530+38.00	5.70' RT.	1051.4
B-059-0-16	2531+81.14	19.82' LT.	1052.8

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. WALL ALIGNMENT IS DEFINED ALONG THE FRONT FACE OF MSE WALL EXCLUDING THE FORMLINER RELIEF AND ℄ CONST. RAMP Q.
3. FOR ROADWAY ALIGNMENT HORIZONTAL CURVE DATA, SEE ROADWAY PLANS.
4. MINIMUM DISTANCE FROM PROPOSED GROUND TO THE TOP OF FOOTING IS 5'-0".
5. ALL EXISTING UTILITIES TO REMAIN UNLESS NOTED OTHERWISE.
6. WALL ELEVATIONS, DIMENSIONS AND STATIONS ARE MEASURED ALONG FRONT FACE OF MSE WALL EXCLUDING THE FORMLINER RELIEF.



DEVELOPED ELEVATION ALONG FRONT FACE OF MSE WALL

LEGEND:

- ⌖ PROJECT BORING LOCATION
- T/F = TOP OF FOOTING
- T/R = TOP OF ROCK
- * = MEASURED ALONG FRONT FACE OF MSE WALL EXCLUDING THE FORMLINER RELIEF
- ✣ - END MOMENT SLAB STA. 2531+37.08, 11.50' LT.

ISSUE RECORD:

NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

WALL PLAN AND PROFILE
WALL NO. 3
MSE WALL 3 ALONG RAMP Q

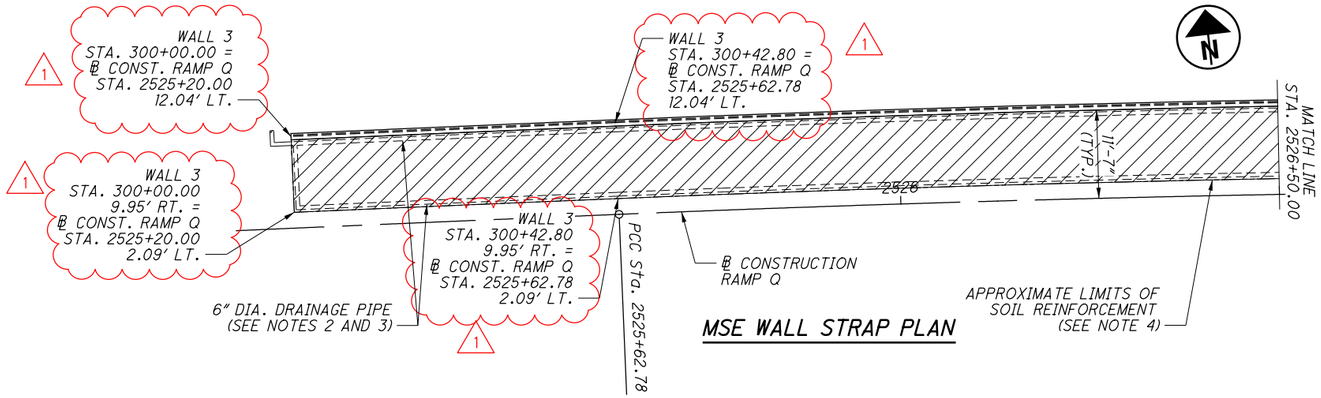
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

1 / 5

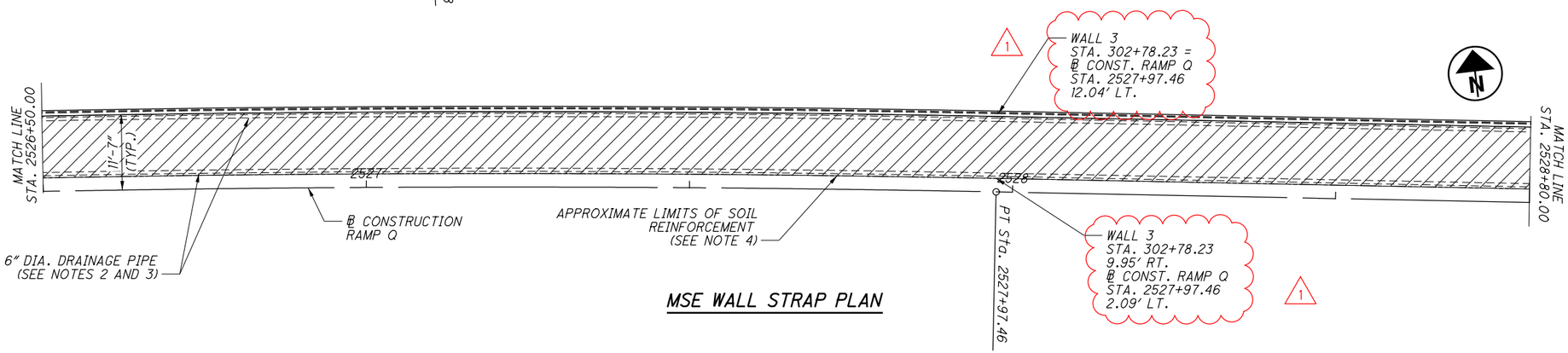
7 / 104

2021-09-24_BU 17 - RFC PLANS.R1

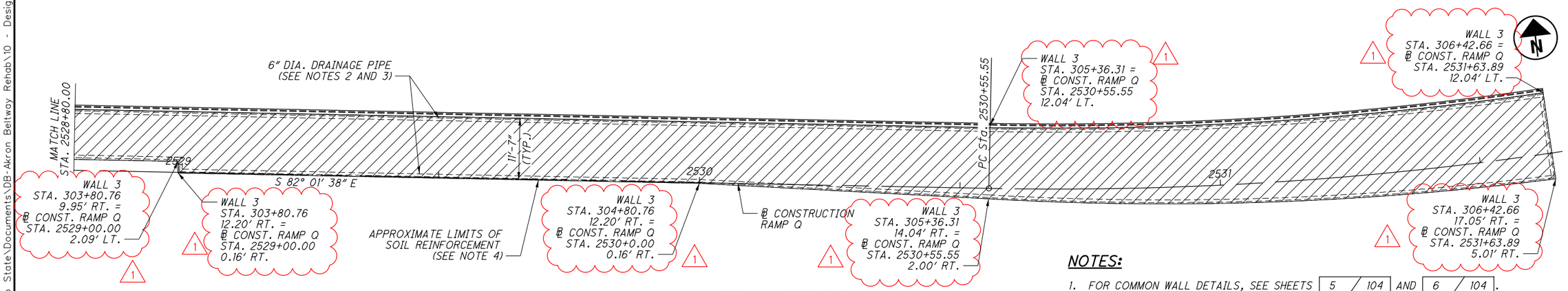
pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\MSE Wall 3\sheets\101402_003_WP001.dgn Sheet 9/22/2021 4:13:49 PM



MSE WALL STRAP PLAN



MSE WALL STRAP PLAN



MSE WALL STRAP PLAN

NOTES:

1. FOR COMMON WALL DETAILS, SEE SHEETS 5 / 104 AND 6 / 104.
2. USE PERFORATED CORRUGATED POLYETHELENE PIPE INSIDE POROUS BACKFILL. USE NON-PERFORATED CORRUGATED POLYETHELENE PIPE IN ALL OTHER LOCATIONS. ALL DRAINAGE PIPES SHALL SLOPE A MINIMUM OF 1.00%. TOWARDS THE OUTLET.
3. PROVIDE CRUSHED AGGREGATE SLOPE PROTECTION AT PIPE OUTLETS. FOR DETAILS, SEE SHEET 5 / 104.
4. EXCAVATION LIMITS ARE TO BE PROVIDED BY MSE WALL SUPPLIER'S DESIGN AND INTERNAL STABILITY ANALYSIS. BASED ON S&ME EXTERNAL ANALYSES, THE MSE WALL SHALL BE CONSTRUCTED WITH A MINIMUM SOIL REINFORCEMENT LENGTH RANGING FROM 0.86H TO 0.94H, WHERE H IS THE HEIGHT FROM THE TOP OF THE MSE WALL TO THE TOP OF THE LEVELING PAD. SEE SHEET 3 / 104 FOR ADDITIONAL DETAILS.
5. WALL ALIGNMENT IS DEFINED ALONG THE FRONT FACE OF MSE WALL EXCLUDING THE FORMLINER RELIEF AND ℄ CONST. RAMP Q.
6. SELECT GRANULAR BACKFILL SHALL EXTEND 2'-0" BEYOND LIMITS OF SOIL REINFORCEMENT.

LEGEND:

▨ - LIMITS OF SOIL REINFORCEMENT

2021-09-24_BU 17 - RFC PLANS.R1

ISSUE RECORD:

NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED		STRUCTURE FILE NUMBER
KDC			

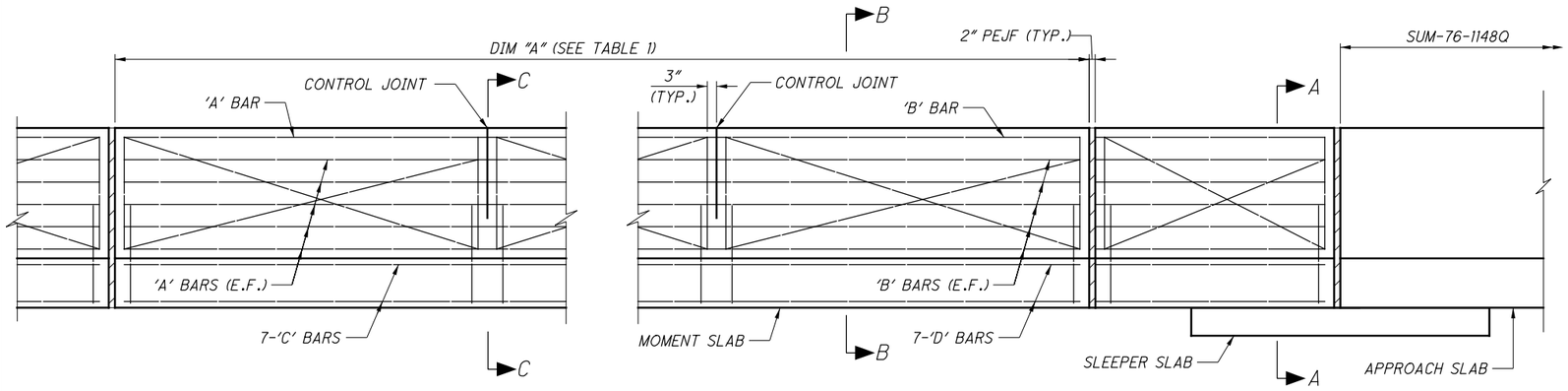
MSE WALL FOUNDATION AND STRAP PLAN
WALL NO. 3
MSE WALL 3 ALONG RAMP Q

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

2 / 5

8 / 104

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\MSE Wall 3\sheets\102329_003_WT001.dgn Sheet 9/22/2021 1:59:56 PM



RAILING AND MOMENT SLAB ELEVATION

TABLE 1					
*DIM "A"	CONTROL JOINT SPACINGS	'A' BARS	'B' BARS	'C' BARS	'D' BARS
80'-0"	8-SPA. @ 10'-0"	2 SETS OF R402	1-R403	2 SETS OF WF501	WF502
40'-0"	4-SPA. @ 10'-0"	1-R402	1-R404	WF501	WF503
58'-6⅞"	1-SPA. @ 14'-3⅜" (+), 3-SPA. @ 10'-0", 1-SPA. @ 14'-3⅜" (+)	2 SETS OF R402	-	WF501	WF504
76'-4⅞"	1-SPA. @ 13'-2⅜" (+), 5-SPA. @ 10'-0" 1-SPA. @ 13'-2⅜" (+)	2 SETS OF R402	1-R405	2 SETS OF WF501	WF505

* DIM 'A' IS THE DISTANCE BETWEEN EXPANSION JOINTS MEASURED ALONG THE BACK FACE OF PARAPET.

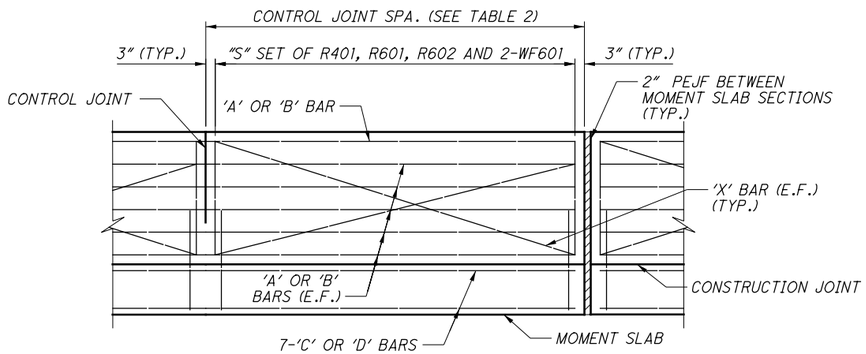
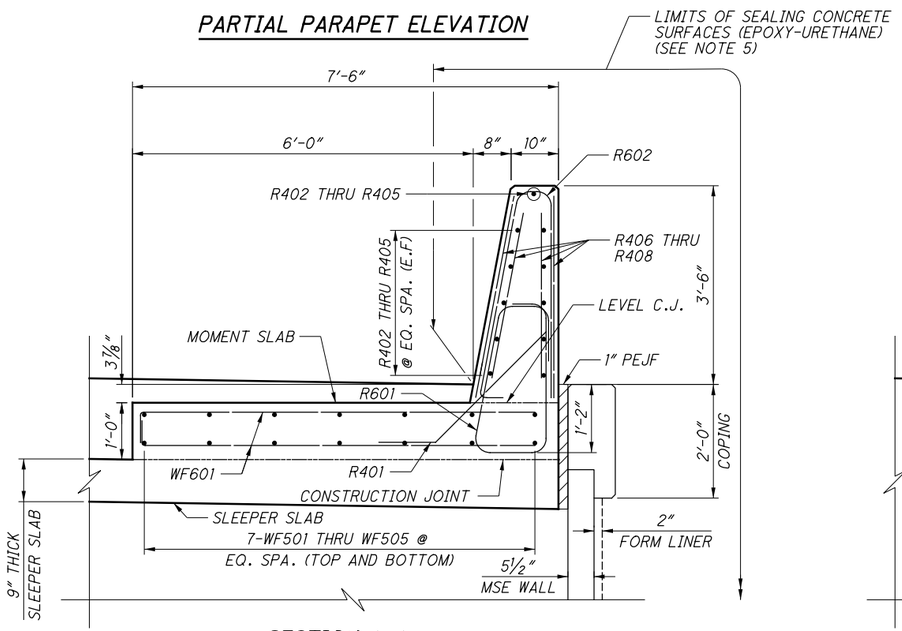
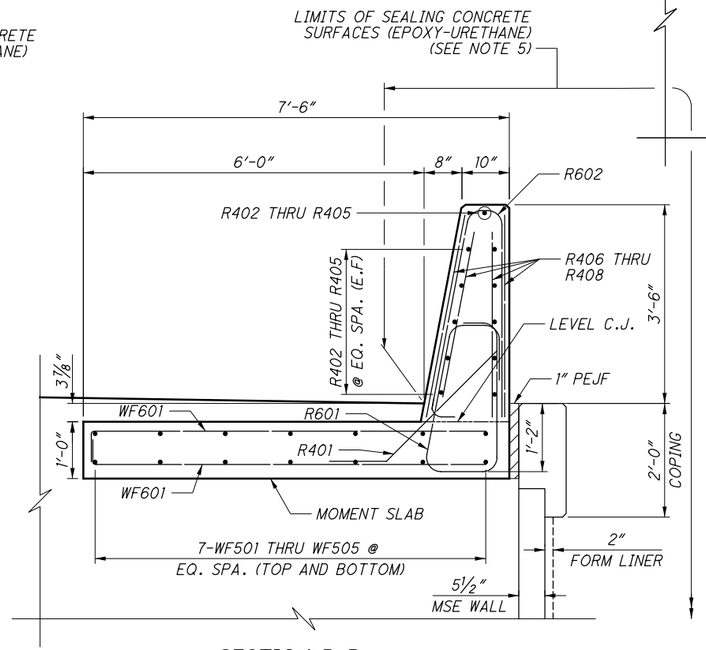


TABLE 2		
CONTROL JT. SPA.	"S" SETS EQ. SPA.	'X' BAR
10'-0"	11	R406
13'-2⅜"	14	R407
14'-3⅜"	16	R408

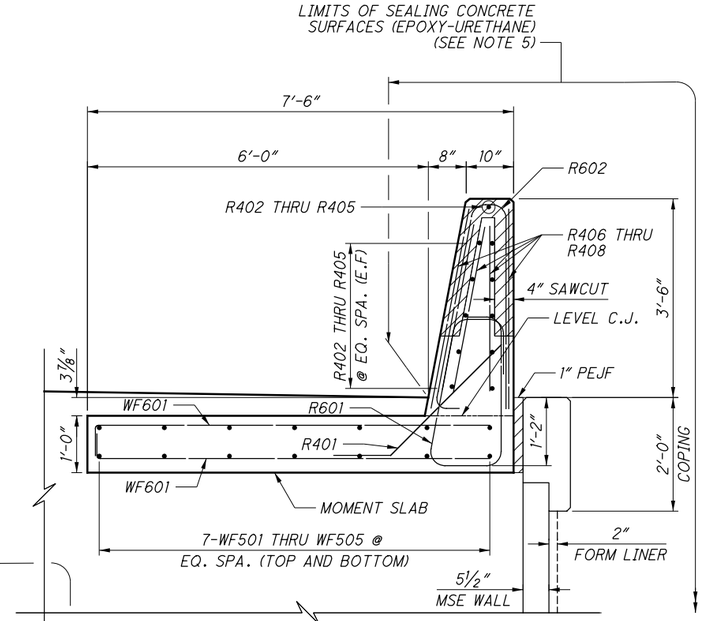
PARTIAL PARAPET ELEVATION



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

1. SEE STD. DWG SBR-1-20 FOR ADDITIONAL NOTES AND DETAILS.
2. MIN. REINFORCING STEEL LAP LENGTHS:
   #4 BARS = 1'-11"
   #5 BARS = 2'-6"
3. AT THE MOMENT SLAB EXPANSION JOINT LOCATIONS, PLACE 2" PEJF BETWEEN THE RAILING SECTIONS.
4. FOR PAVEMENT BUILD-UP, SEE BU-34 PLANS.
5. FOR SEALING NOTES, SEE SHEET 3 / 104 .

2021-09-24_BU 17 - RFC PLANS.R1

DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED		STRUCTURE FILE NUMBER
KDC			

RAILING AND MOMENT SLAB DETAILS
WALL NO. 3
MSE WALL 3 ALONG RAMP Q

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

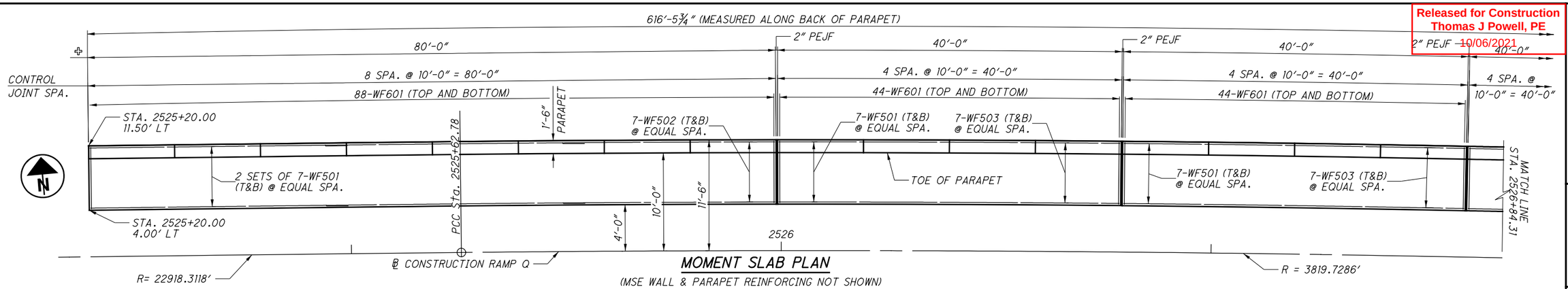
3 / 5

9 / 104

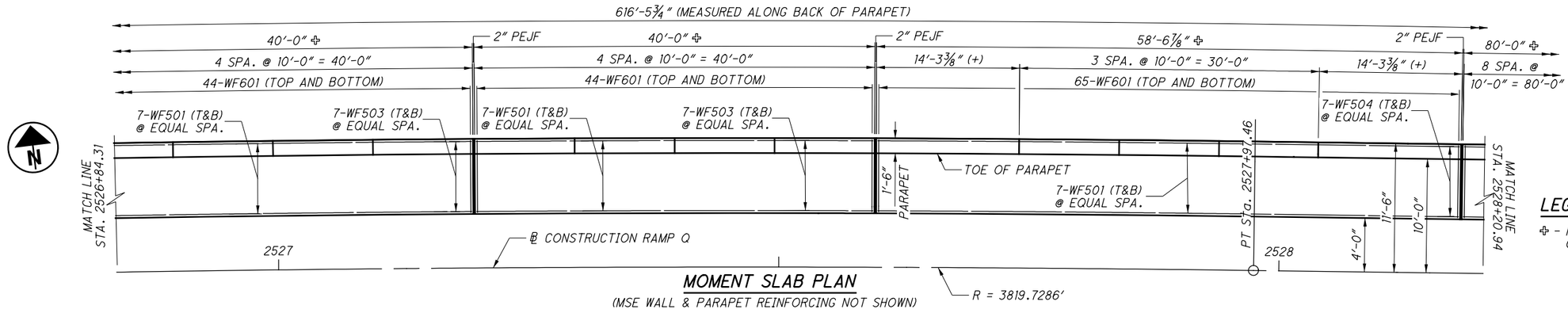
ISSUE RECORD:

NO.	DATE	DESCRIPTION

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\MSE Wall 3\sheets\102329_003_WM001.dgn Sheet 9/22/2021 2:00:12 PM

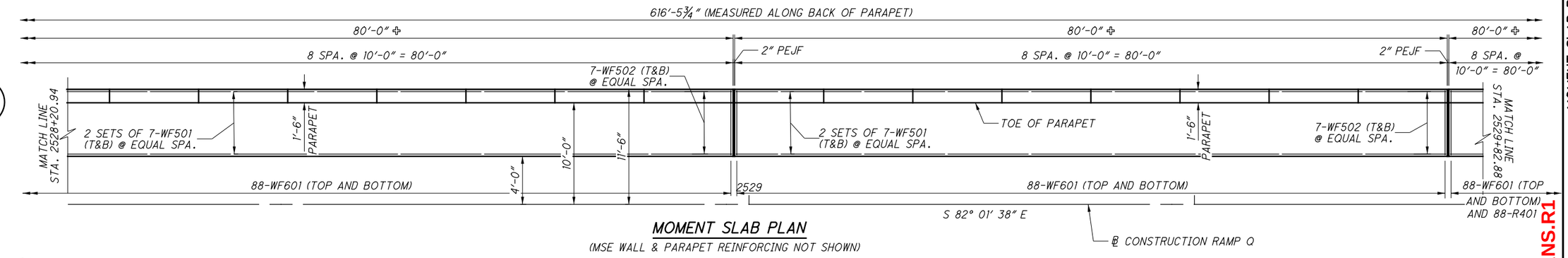


MOMENT SLAB PLAN
(MSE WALL & PARAPET REINFORCING NOT SHOWN)

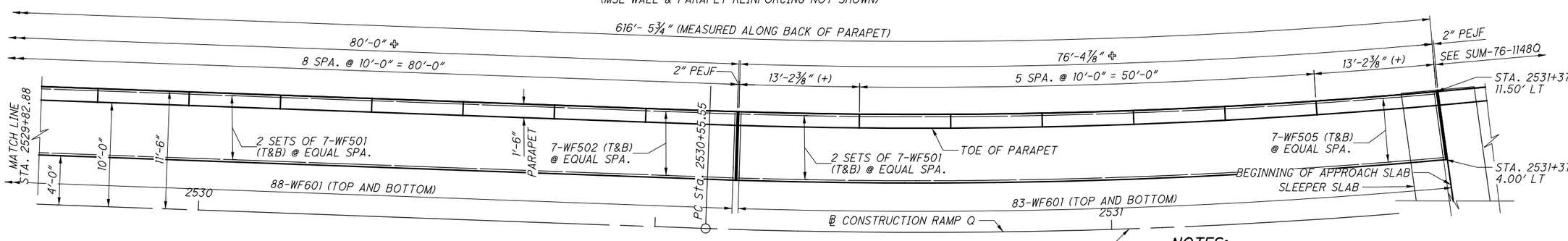


MOMENT SLAB PLAN
(MSE WALL & PARAPET REINFORCING NOT SHOWN)

LEGEND:
℄ - MEASURED ALONG BACK OF PARAPET



MOMENT SLAB PLAN
(MSE WALL & PARAPET REINFORCING NOT SHOWN)



MOMENT SLAB PLAN
(MSE WALL & PARAPET REINFORCING NOT SHOWN)

NOTES:
1. FOR ADDITIONAL MOMENT SLAB DETAILS, SEE SHEET 3 / 104.

ISSUE RECORD:

NO.	DESCRIPTION	DATE

DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT			

MOMENT SLAB PLAN
WALL NO. 3
MSE WALL 3 ALONG RAMP Q

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

4 / 5

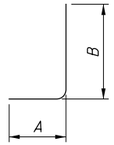
10 / 104

2021-09-24_BU 17 - RFC PLANS.R1

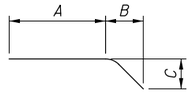
pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\MSE Wall 3\sheets\102329_003_WM003.dgn Sheet 9/22/2021 2:00:18 PM

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
WALL 3 PARAPET AND MOMENT SLAB											
R401	676	3′-9″	1693	19	2′-9″	8 ½″	8 ½″				
*R402	176	30′-0″	-	STR							
*R403	44	23′-6″	-	STR							
*R404	44	11′-7″	-	STR							
*R405	11	19′-11″	-	STR							
*R406	224	10′-0″	-	STR							
*R407	8	13′-2″	-	STR							
*R408	8	14′-3″	-	STR							
R601	676	8′-1″	8207	37	9½″	2′-7″	7″	1′-0″			
R602	676	7′-6″	7615	23	6″	3′-6″	3′-6″			2″	
WF501	210	30′-0″	6571	STR							
WF502	56	24′-8″	1441	STR							
WF503	56	12′-2″	711	STR							
WF504	14	30′-9″	449	STR							
WF505	14	21′-1″	308	STR							
WF601	1352	7′-4″	14892	1	7′-0″	6″					
**WF801	80	1′-6″	320	STR							
SUB-TOTAL			42,207								

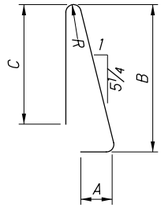
* - DENOTES GFRP REINFORCING BAR
** - DENOTES DOWEL BAR



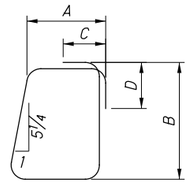
TYPE-1



TYPE-19



TYPE-23



TYPE-37

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH TWO OR THREE LETTERS OR NUMBERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

   EXAMPLE: SA1001
   SA = SUPERSTRUCTURE BAR
   10 = #10 BAR
   01 = BAR SEQUENCE NUMBER 1
3. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
4. STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.
5. RAD INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
6. INCR. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.
7. STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
8. FIELD BEND BARS AS NECESSARY TO MATCH CURVATURE OV ROADWAY.

DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

REINFORCING STEEL
WALL NO. 3
MSE WALL 3 ALONG RAMP Q

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

5 / 5

11
104

ISSUE RECORD:

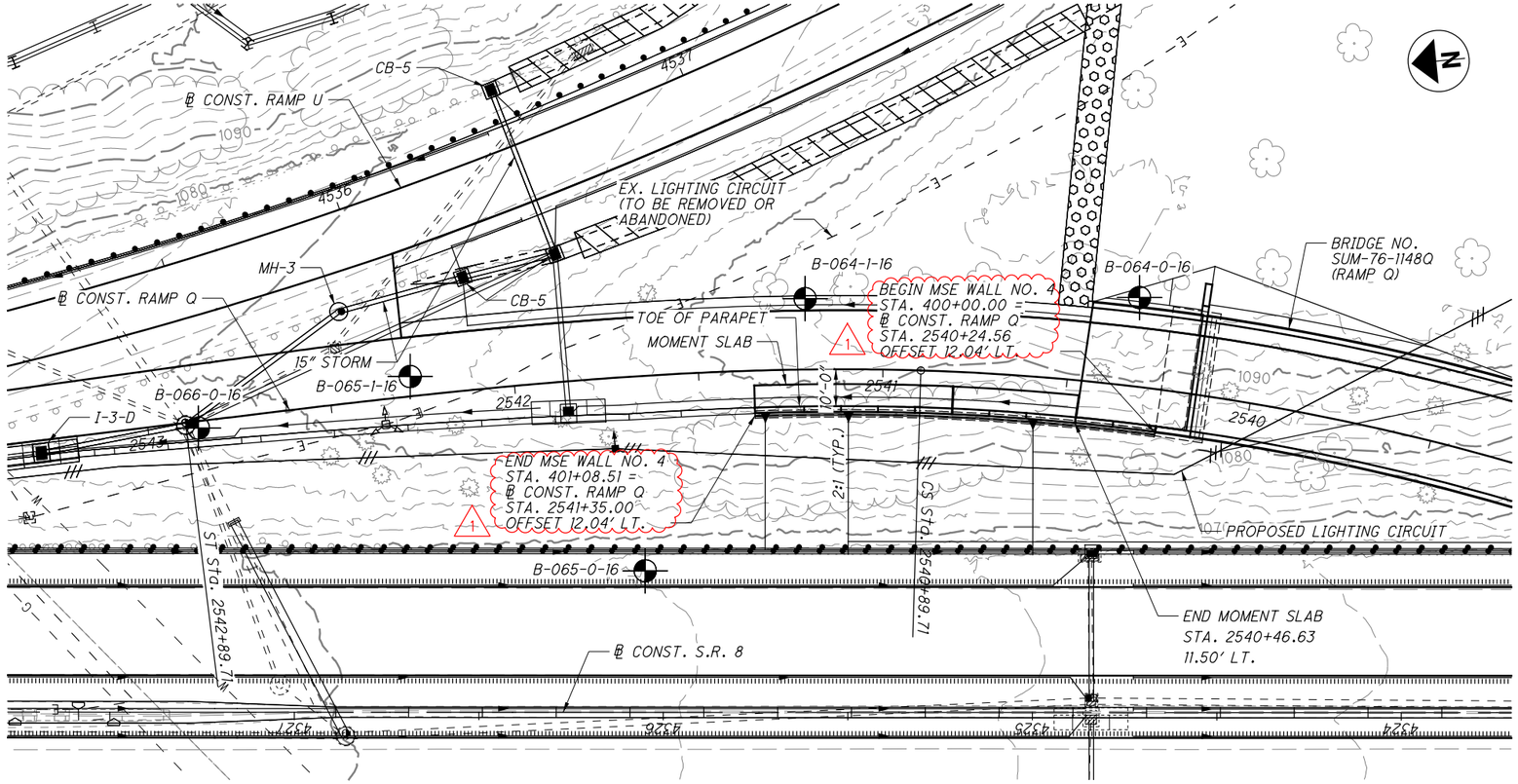
NO.	DATE	DESCRIPTION

Released for Construction
Thomas J Powell, PE
10/06/2021

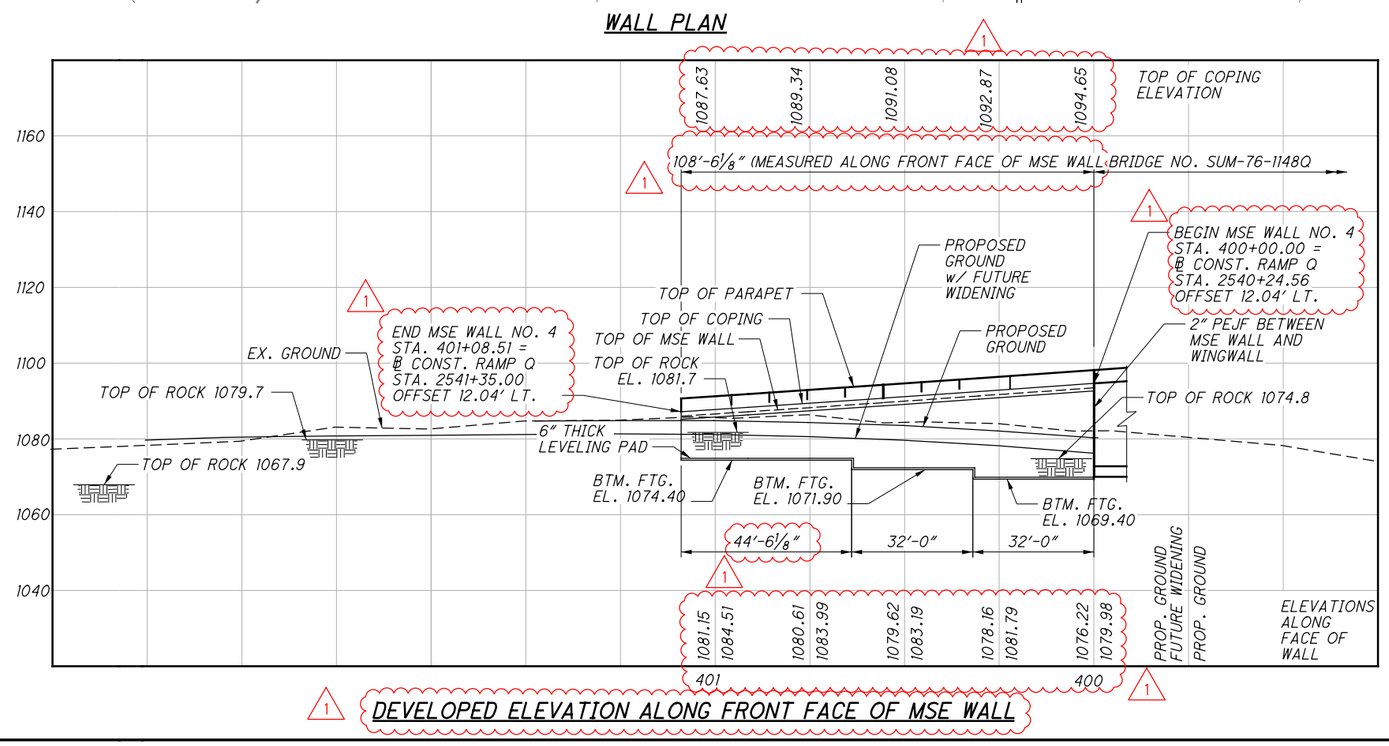
BENCHMARK DATA			
POINT	NORTHING	EASTING	ELEVATION
BM-200	509553.932	2243436.787	1087.538

FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY PLANS.

NEW BORING LOCATIONS			
BORING	STATION	OFFSET	TOP OF ROCK EL.
B-064-0-16	2540+33.10	24.08' RT.	1074.8
B-064-1-16	2541+20.81	19.21' RT.	1081.7
B-065-1-16	2542+27.83	5.35' RT.	1079.7
B-066-0-16	2542+86.41	1.83' LT.	1067.9



WALL PLAN



DEVELOPED ELEVATION ALONG FRONT FACE OF MSE WALL

LEGEND:

PROJECT BORING LOCATION

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. WALL ALIGNMENT IS DEFINED ALONG THE FRONT FACE OF MSE WALL EXCLUDING THE FORMLINER RELIEF AND ℄ CONSTRUCTION OF RAMP Q.
3. WALL ELEVATIONS, DIMENSIONS AND STATIONS ARE MEASURED ALONG FRONT FACE OF MSE WALL EXCLUDING THE FORMLINER RELIEF.
4. MINIMUM DISTANCE FROM PROPOSED GROUND TO THE TOP OF FOOTING IS 5'-0".
5. ALL EXISTING UTILITIES TO REMAIN UNLESS NOTED OTHERWISE.
6. FOR ROADWAY ALIGNMENT HORIZONTAL CURVE DATA, SEE ROADWAY PLANS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED		STRUCTURE FILE NUMBER
KDC			

WALL PLAN AND PROFILE
WALL NO. 4
WEST SIDE OF RAMP Q NEAR JOHNSTON ST.

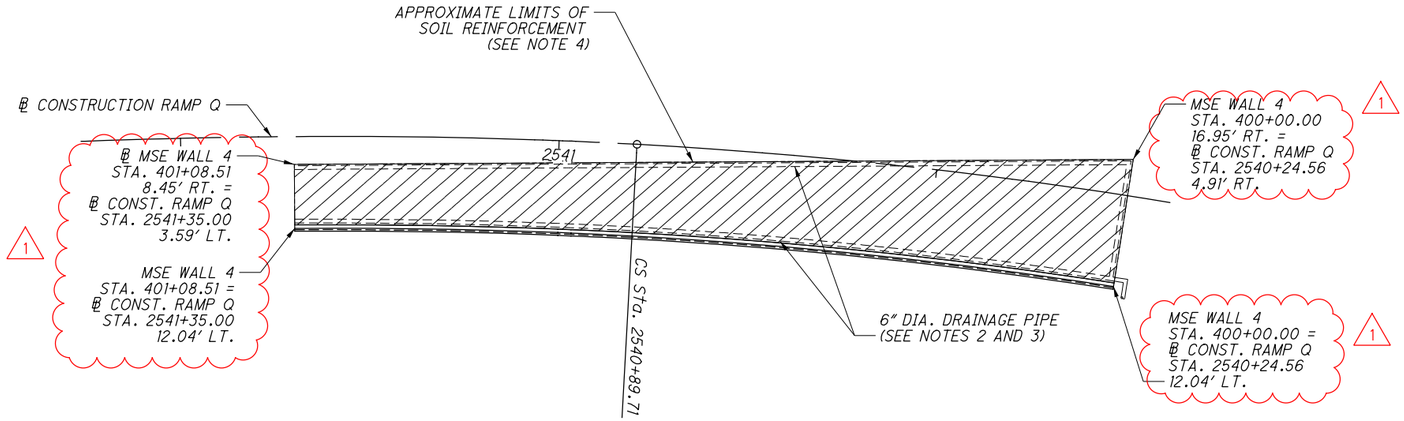
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

1 / 5

12 / 104

2021-09-24_BU 17 - RFC PLANS.R1

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3, 4, 8 & 11)\MSE Wall 4\sheets\101402 004 WP001.dgn Sheet 9/22/2021 4:14:26 PM



MSE WALL STRAP PLAN

LEGEND:

▨ - LIMITS OF SOIL REINFORCEMENT

NOTES:

1. FOR COMMON WALL DETAILS, SEE SHEETS 5 / 104 AND 6 / 104.
2. USE PERFORATED CORRUGATED POLYETHELENE PIPE INSIDE POROUS BACKFILL. USE NON-PERFORATED CORRUGATED POLYETHELENE PIPE IN ALL OTHER LOCATIONS. ALL DRAINAGE PIPES SHALL SLOPE A MINIMUM OF 1.00% TOWARDS THE OUTLET.
3. PROVIDE CRUSHED AGGREGATE SLOPE PROTECTION AT PIPE OUTLETS. FOR DETAILS, SEE SHEET 5 / 104.
4. EXCAVATION LIMITS ARE TO BE PROVIDED BY MSE WALL SUPPLIER'S DESIGN AND INTERNAL STABILITY ANALYSIS. BASED ON S&ME EXTERNAL ANALYSES, THE MSE WALL SHALL BE CONSTRUCTED WITH A MINIMUM SOIL REINFORCEMENT LENGTH RANGING FROM 0.72H TO 1.68H, WHERE H IS THE HEIGHT FROM THE TOP OF THE MSE WALL TO THE TOP OF THE LEVELING PAD. SEE SHEET 3 / 104 FOR ADDITIONAL DETAILS.
5. WALL ALIGNMENT IS DEFINED ALONG THE FRONT FACE OF MSE WALL EXCLUDING THE FORMLINER RELIEF AND ℄ CONSTRUCTION OF RAMP Q.
6. SELECT GRANULAR BACKFILL SHALL EXTEND 2′-0″ BEYOND LIMITS OF SOIL REINFORCEMENT.

1

2021-09-24 BU 17 - RFC PLANS.R1

ISSUE RECORD:

NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	CHECKED
JAT	KDC

DRAWN	REVISED
JAT	

REVIEWED	DATE	STRUCTURE FILE NUMBER
SAN	6/14/21	

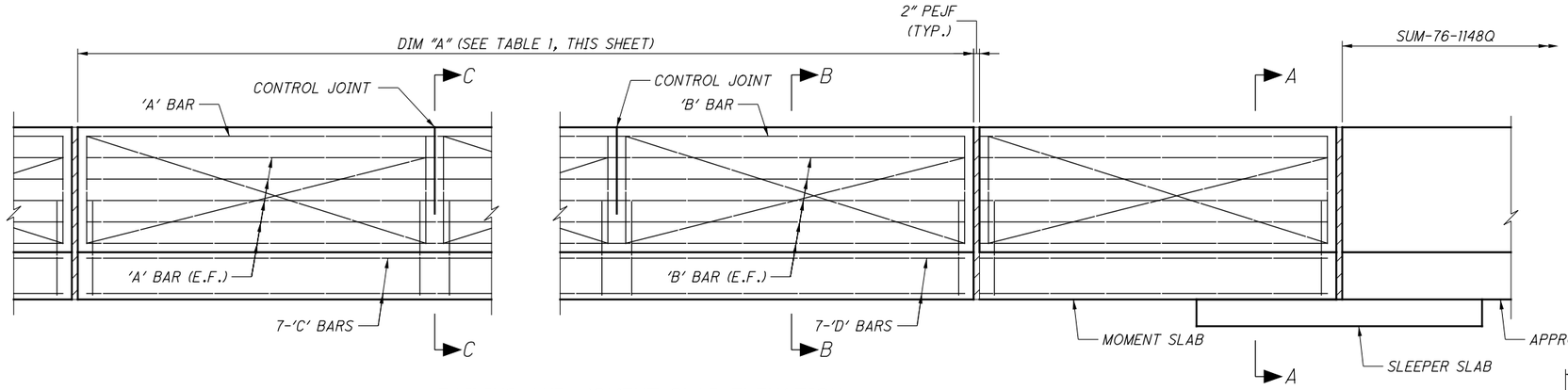
MSE WALL FOUNDATION AND STRAP PLAN
WALL NO. 4
WEST SIDE OF RAMP Q NEAR JOHNSTON ST.

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

2 / 5

13 / 104

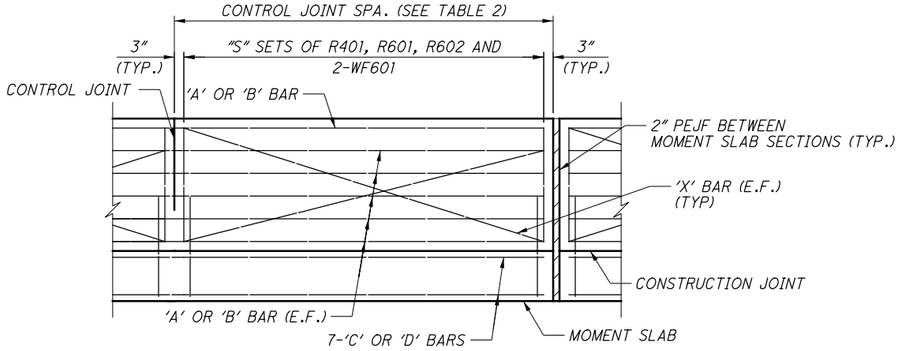
pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\MSE Wall 4\sheets\102329_004_WT001.dgn Sheet 9/22/2021 2:00:40 PM



RAILING AND MOMENT SLAB ELEVATION

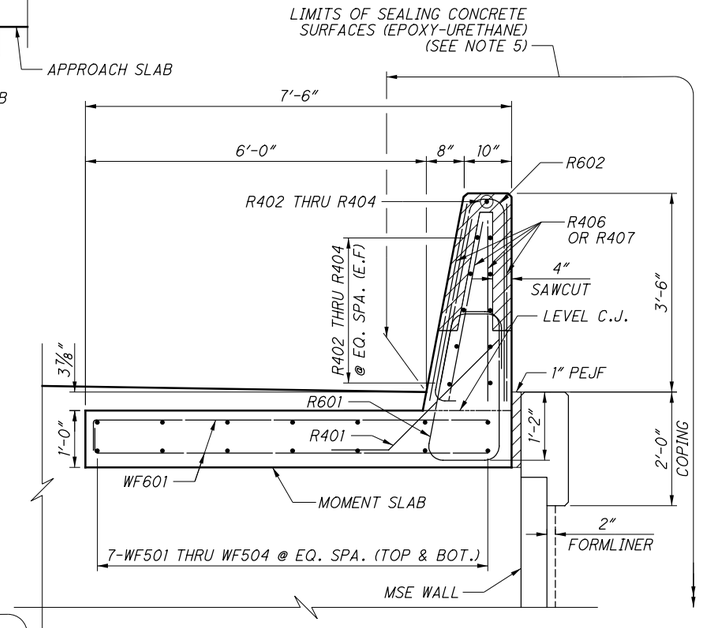
TABLE 1					
*DIM "A"	CONTROL JOINT SPACINGS	'A' BAR	'B' BAR	'C' BARS	'D' BARS
53'-3½"	4-SPA. @ 10'-0" 1 SPA. @ 13'-2½"	1-R402	1-R403	1-WF501	WF502
33'-3½"	2-SPA. @ 10'-0" 1-SPA. @ 13'-3½"	1-R402	1-R404	1-WF501	WF503

* DIM 'A' IS THE DISTANCE BETWEEN EXPANSION JOINTS MEASURED ALONG THE BACK FACE OF PARAPET.

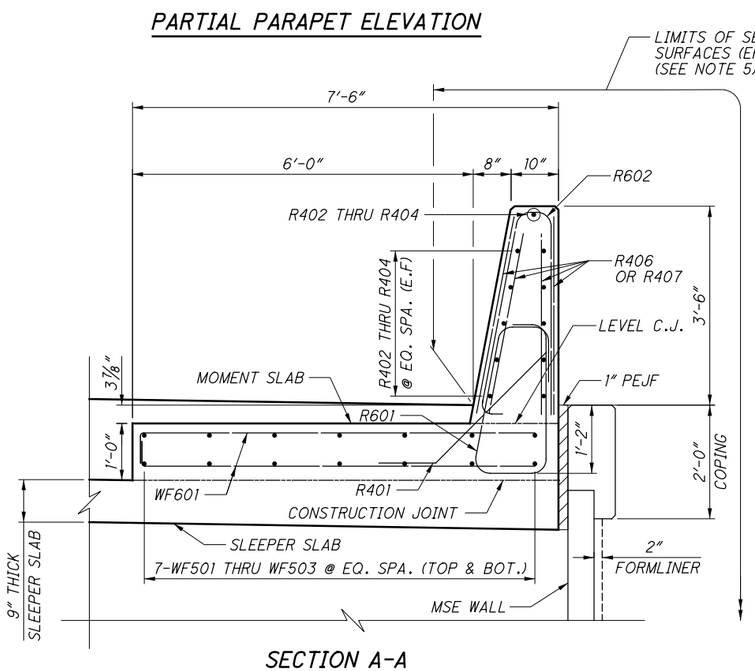


PARTIAL PARAPET ELEVATION

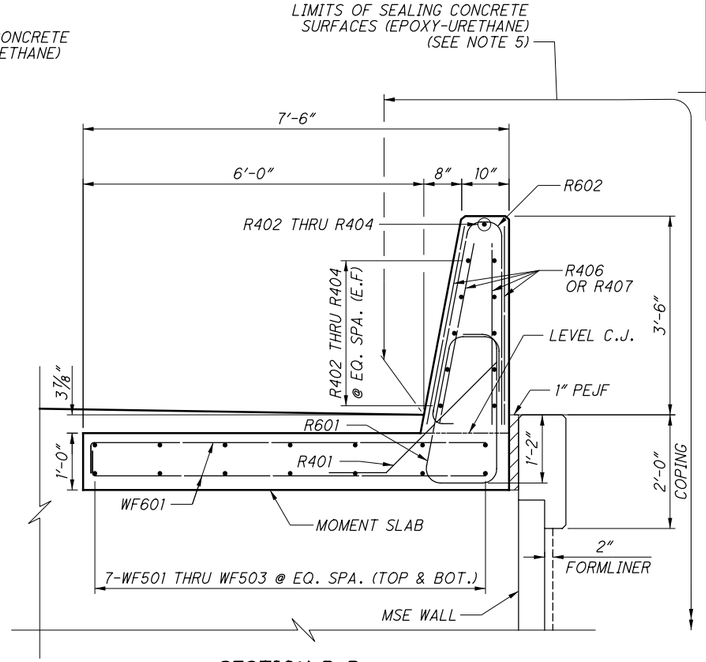
TABLE 2		
CONTROL JT. SPA.	"S" SETS EQ. SPA.	'X' BAR
10'-0"	11	R406
13'-3½"	14	R407



SECTION C-C



SECTION A-A



SECTION B-B

NOTES:

1. SEE STD. DWG SBR-1-20 FOR ADDITIONAL NOTES AND DETAILS.
2. MIN. REINFORCING STEEL LAP LENGTHS:
   #4 BARS = 1'-11"
   #5 BARS = 2'-6"
3. AT THE MOMENT SLAB EXPANSION JOINT LOCATIONS, PLACE 2" PEJF BETWEEN THE RAILING SECTIONS.
4. FOR PAVEMENT BUILD-UP, SEE BU-34 PLANS.
5. FOR SEALING NOTES, SEE SHEET 3 / 104 .

ISSUE RECORD:

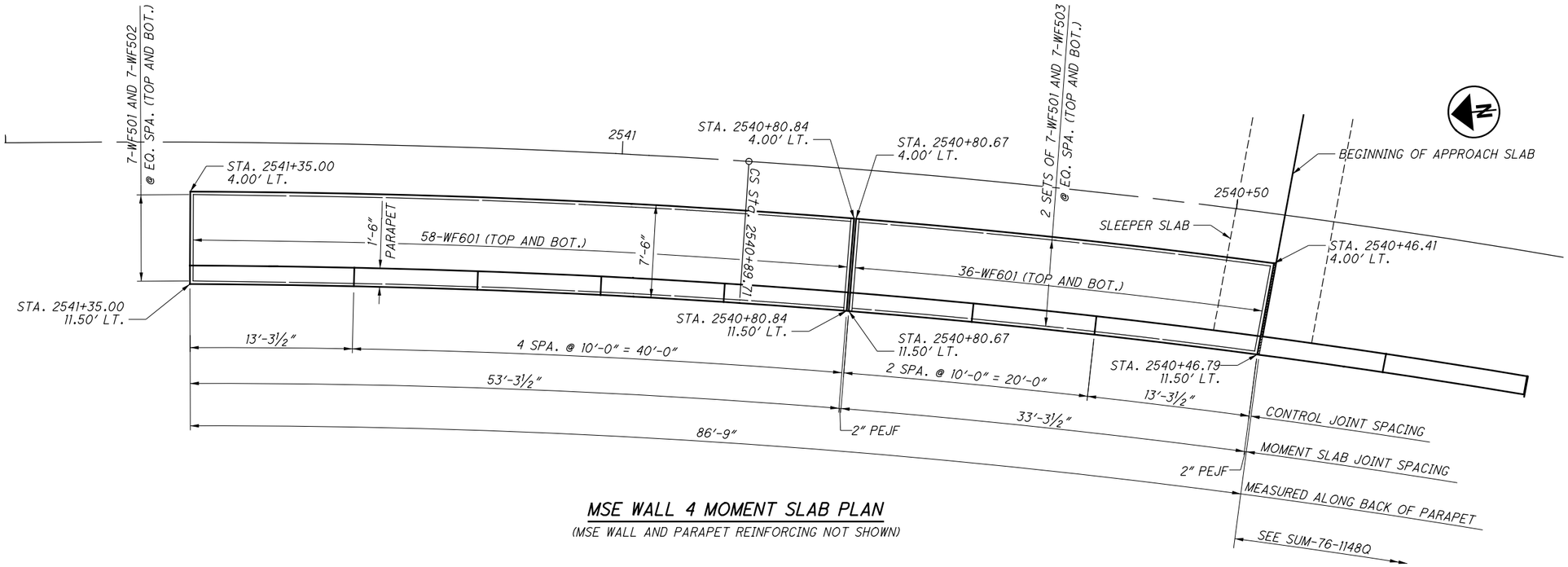
NO.	DATE	DESCRIPTION

DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED		STRUCTURE FILE NUMBER
KDC			

RAILING AND MOMENT SLAB DETAILS
WALL NO. 4
WEST SIDE OF RAMP Q NEAR JOHNSTON ST.

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329



MSE WALL 4 MOMENT SLAB PLAN

(MSE WALL AND PARAPET REINFORCING NOT SHOWN)

NOTES:

1. FOR ADDITIONAL MOMENT SLAB DETAILS, SEE SHEET 3 / 104 .

ISSUE RECORD:

NO.	DATE	DESCRIPTION

DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

MOMENT SLAB PLAN
WALL NO. 4
WEST SIDE OF RAMP Q NEAR JOHNSTON ST.

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

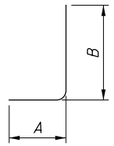
4 / 5

15 / 104

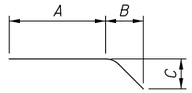
2021-09-24_BU 17 - RFC PLANS.R1

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
WALL 4 PARAPET AND MOMENT SLAB											
R401	94	3'-9"	235	19	2'-9"	8½"	8½"				
*R402	22	30'-0"	-	STR							
*R403	11	24'-11"	-	STR							
*R404	11	4'-11"	-	STR							
*R405	NOT USED		-	STR							
*R406	24	10'-0"	-	STR							
*R407	8	10'-5"	-	STR							
*R408	NOT USED		-	STR							
R601	94	8'-1"	1141	37	9½"	2'-7"	7"	1'-0"			
R602	94	7'-6"	1059	23	6"	3'-6"	3'-6"			2"	
WF501	28	30'-0"	876	STR							
WF502	14	25'-6"	372	STR							
WF503	14	5'-6"	80	STR							
WF504	NOT USED										
WF601	188	7'-4"	2071	1	7'-0"	6"					
**WF801	16	1'-6"	64	STR							
SUB-TOTAL			5,898								

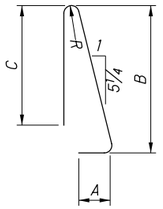
* - DENOTES GFRP REINFORCING BAR
** - DENOTES DOWEL BAR



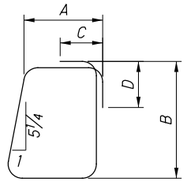
TYPE-1



TYPE-19



TYPE-23



TYPE-37

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH TWO OR THREE LETTERS OR NUMBERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

   EXAMPLE: SA1001
   SA = SUPERSTRUCTURE BAR
   10 = #10 BAR
   01 = BAR SEQUENCE NUMBER 1
3. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
4. STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.
5. RAD INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
6. INCR. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.
7. STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
8. FIELD BEND BARS AS NECESSARY TO MATCH CURVATURE OF ROADWAY.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

2021-09-24_BU 17 - RFC PLANS.R1

DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

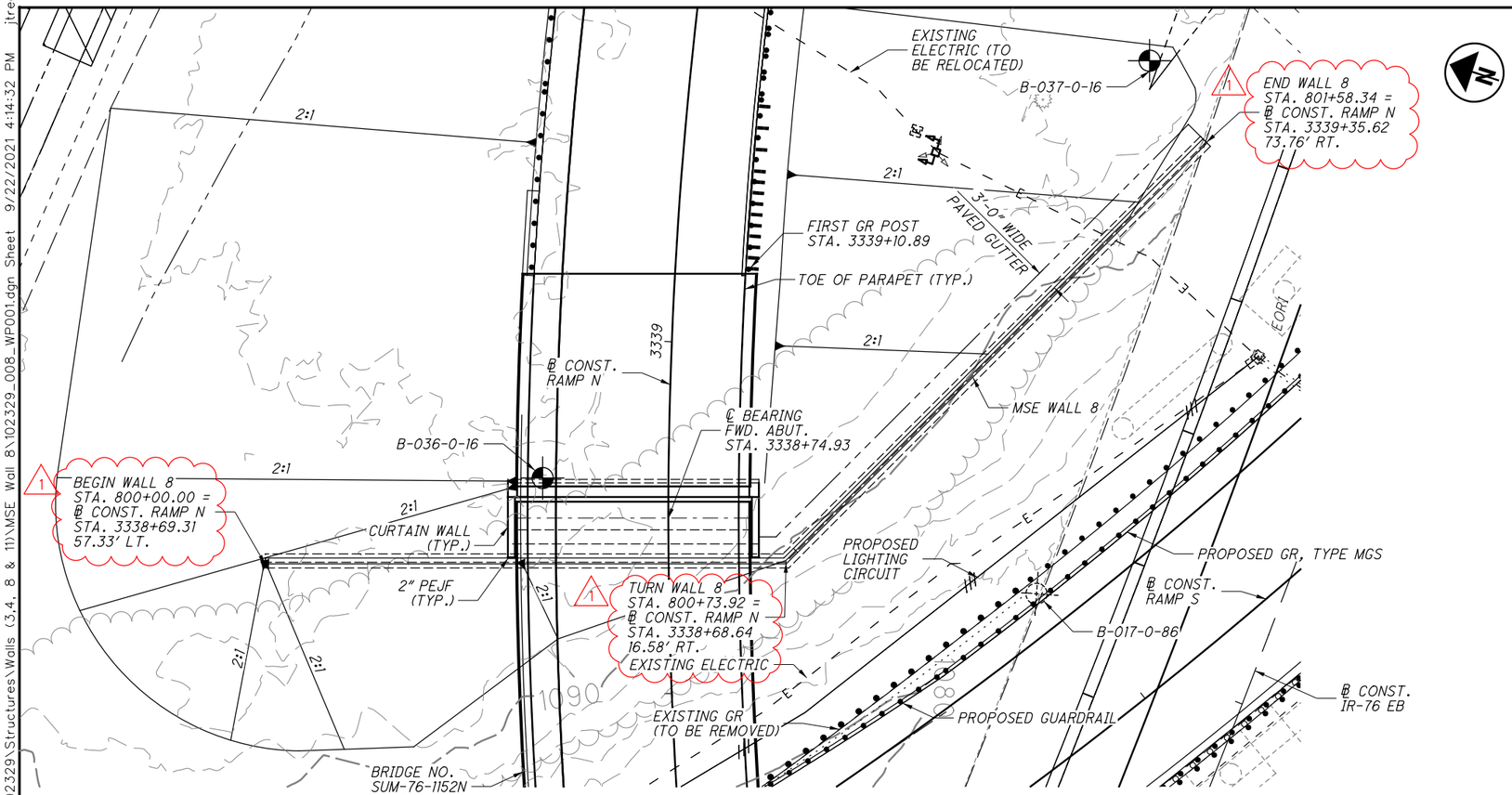
DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

REINFORCING STEEL LIST
WALL NO. 4
WEST SIDE OF RAMP Q NEAR JOHNSTON ST.

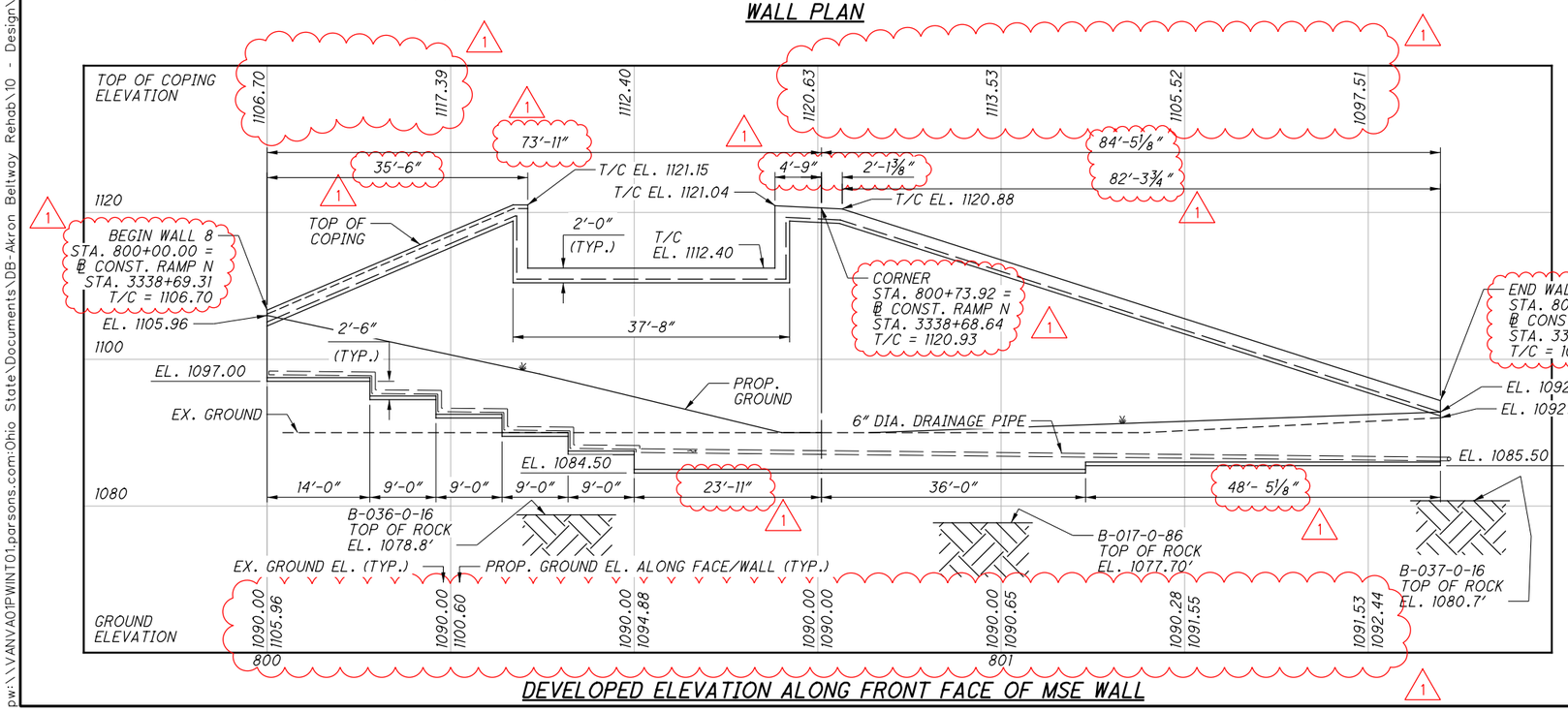
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

5 / 5

16
104



WALL PLAN



DEVELOPED ELEVATION ALONG FRONT FACE OF MSE WALL

BENCHMARK DATA			
POINT	NORTHING	EASTING	ELEVATION
BM-200	509553.932	2243436.787	1087.538

FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY PLANS

NEW BORING LOCATIONS			
BORING	RAMP N STATION	OFFSET	TOP OF ROCK EL.
B-036-0-16	3338+80.46	17.9' LT.	1078.8'
B-037-0-16	3339+47.44	64.7' RT.	1080.7'

HISTORIC BORING LOCATIONS			
BORING	RAMP N STATION	OFFSET	TOP OF ROCK EL.
B-017-0-86	3338+63±	52'± RT.	1077.70'

LEGEND:

= PROJECT BORING LOCATION

= HISTORIC BORING LOCATION

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. WALL ALIGNMENT IS DEFINED ALONG THE FRONT FACE OF THE MSE WALL EXCLUDING THE FORMLINER RELIEF AND ℄ CONST. RAMP N.
3. ALL EXISTING UTILITIES TO REMAIN UNLESS NOTED OTHERWISE.
4. FOR ROADWAY ALIGNMENT HORIZONTAL CURVE DATA, SEE ROADWAY PLANS.
5. MINIMUM DISTANCE FROM PROPOSED GROUND TO THE TOP OF FOOTING IS 5'-0".
6. SEE SHEET 3 / 104 FOR COMMON WALL GENERAL NOTES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

DESIGN AGENCY
PRIME AE
845 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

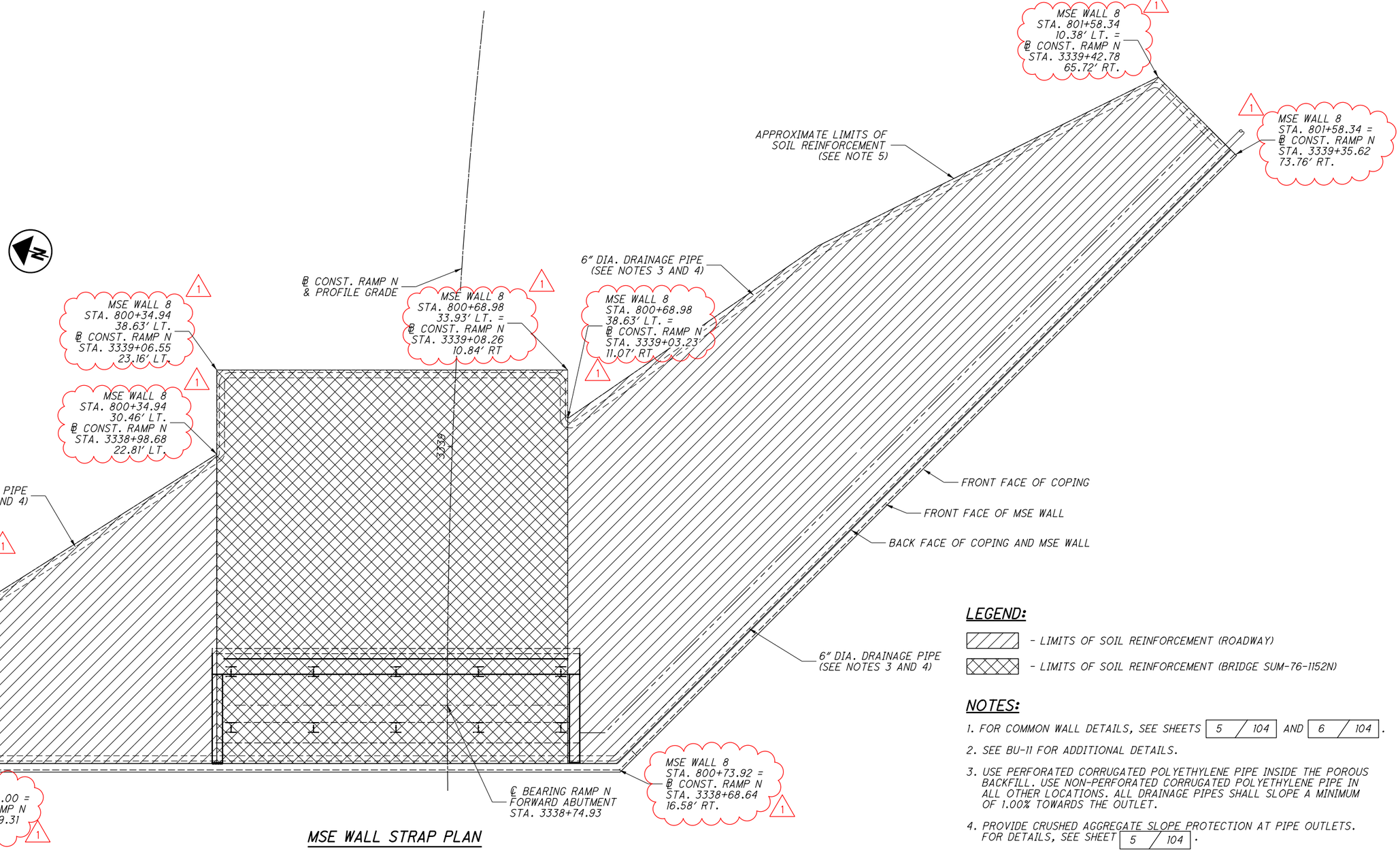
WALL PLAN AND PROFILE
WALL NO. 8
MSE WALL 8 ALONG RAMP N

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

1 / 2

17 / 104

2021-09-24 BU 17 - RFC PLANS.R1



MSE WALL STRAP PLAN

LEGEND:

- LIMITS OF SOIL REINFORCEMENT (ROADWAY)
- LIMITS OF SOIL REINFORCEMENT (BRIDGE SUM-76-1152N)

NOTES:

1. FOR COMMON WALL DETAILS, SEE SHEETS 5 / 104 AND 6 / 104.
2. SEE BU-11 FOR ADDITIONAL DETAILS.
3. USE PERFORATED CORRUGATED POLYETHYLENE PIPE INSIDE THE POROUS BACKFILL. USE NON-PERFORATED CORRUGATED POLYETHYLENE PIPE IN ALL OTHER LOCATIONS. ALL DRAINAGE PIPES SHALL SLOPE A MINIMUM OF 1.00% TOWARDS THE OUTLET.
4. PROVIDE CRUSHED AGGREGATE SLOPE PROTECTION AT PIPE OUTLETS. FOR DETAILS, SEE SHEET 5 / 104.
5. EXCAVATION LIMITS ARE TO BE PROVIDED BY MSE WALL SUPPLIER'S DESIGN AND INTERNAL STABILITY ANALYSIS. BASED ON S&ME EXTERNAL ANALYSES, THE MSE WALL SHALL BE CONSTRUCTED WITH A MINIMUM SOIL REINFORCEMENT LENGTH RANGING 0.71H TO 0.74H. WHERE H IS THE RETAINED HEIGHT. SEE SHEET 3 / 104 FOR ADDITIONAL DETAILS.
6. WALL ALIGNMENT IS DEFINED ALONG THE FRONT FACE OF THE MSE WALL EXCLUDING THE FORMLINER RELIEF AND ℄ CONST. RAMP N.
7. SELECT GRANULAR BACKFILL SHALL BE EXTENDED 2'-0" BEYOND LIMITS OF SOIL REINFORCEMENT.

ISSUE RECORD:

NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

DESIGN AGENCY
PRIME AE
845 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

MSE WALL FOUNDATION AND STRAP PLAN
WALL NO. 8
MSE WALL 8 ALONG RAMP N

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

2 / 2

18
104

2021-09-24_BU 17 - RFC PLANS.R1

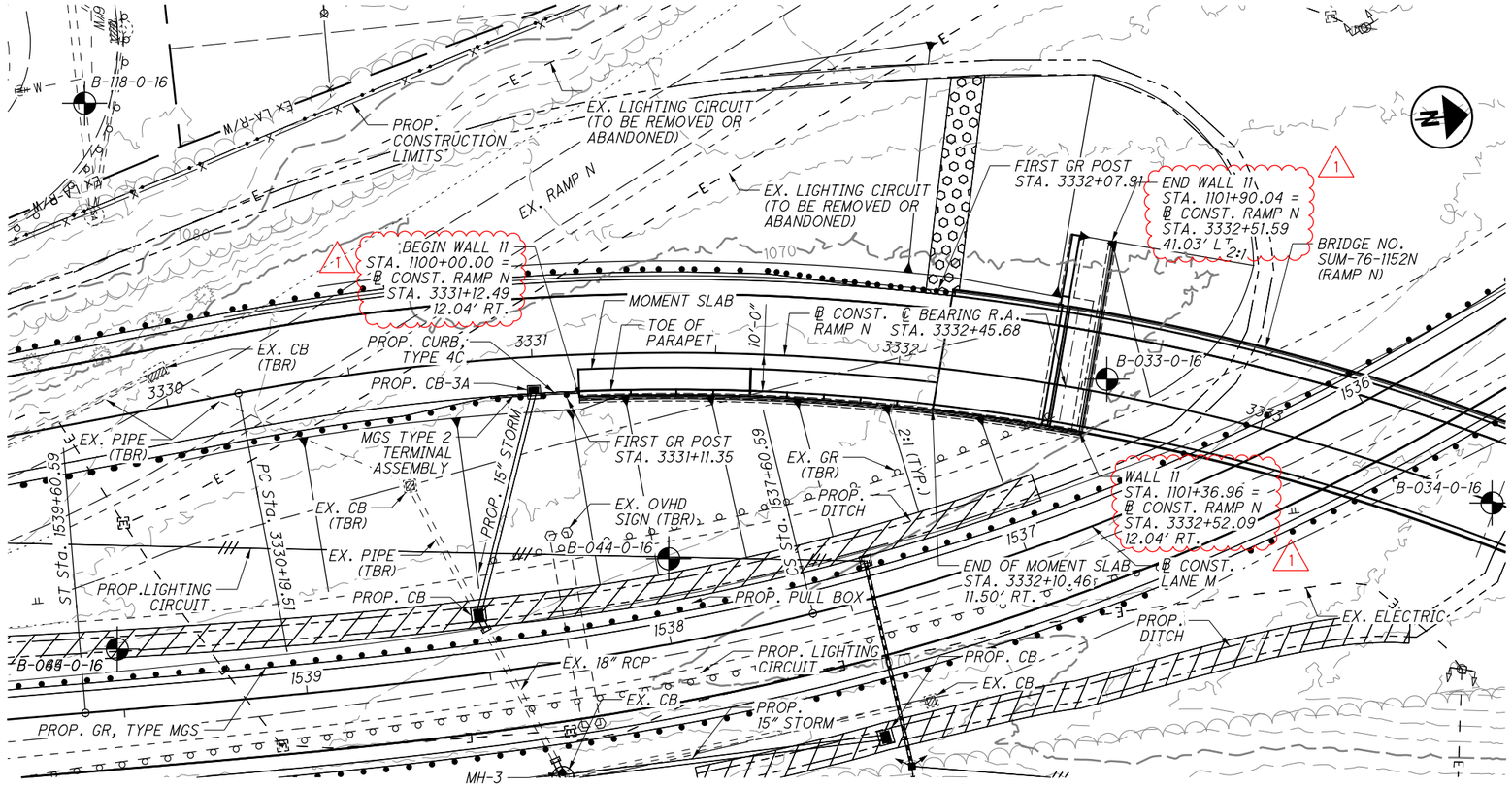
BENCHMARK DATA			
POINT	NORTHING	EASTING	ELEVATION
BM-200	509553.932	2243436.787	1087.538

FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY PLANS

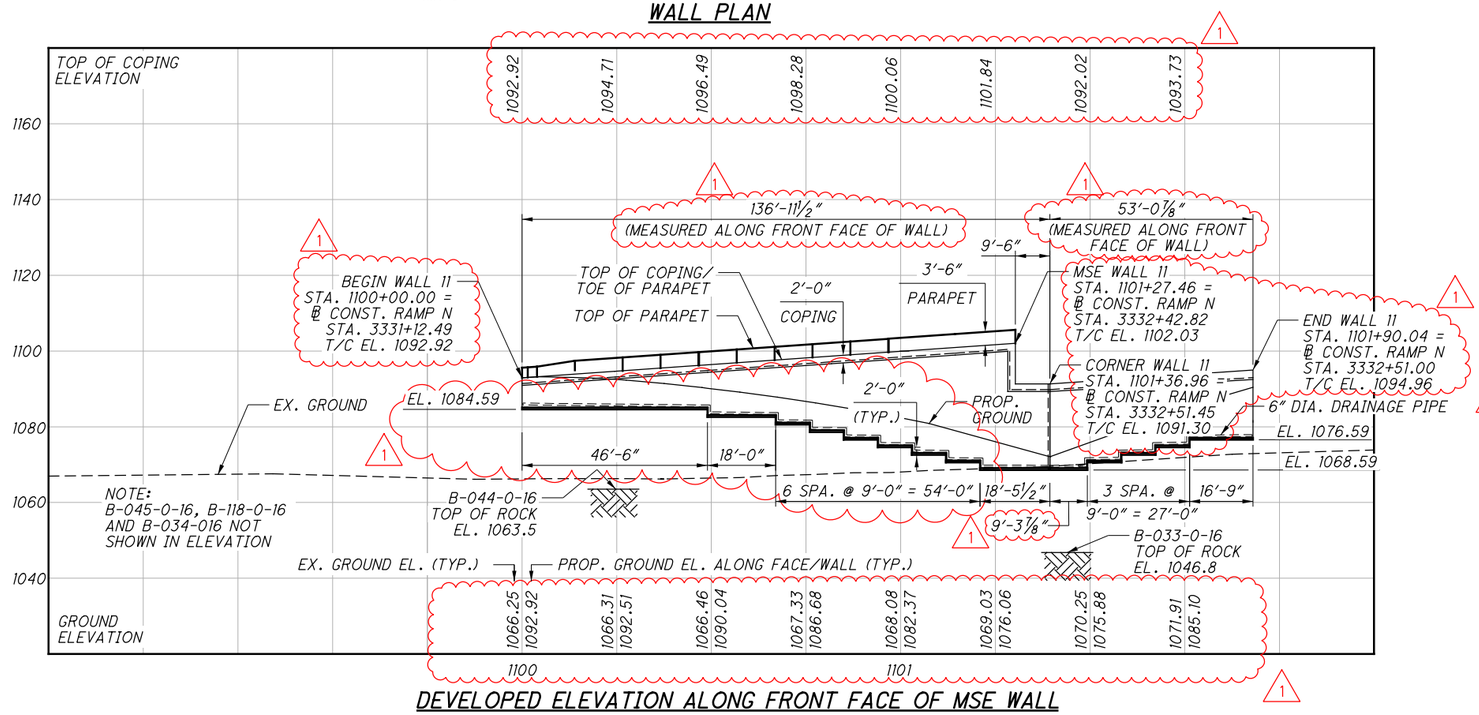
NEW BORING LOCATIONS			
BORING	RAMP N STATION	OFFSET	TOP OF ROCK EL.
B-033-0-16	3332+56.42	3.9' LT.	1046.8
B-034-0-16	3333+66.27	0.4 RT.	1051.7
B-044-0-16	3331+37.19	56.1' RT.	1063.5
B-045-0-16	3329+74.22	62.3' RT.	1062.9
B-118-0-16	3329+92.93	85.2' LT.	1067.1

LEGEND:

= PROJECT BORING LOCATION



WALL PLAN



DEVELOPED ELEVATION ALONG FRONT FACE OF MSE WALL

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. WALL ALIGNMENT IS DEFINED ALONG THE FRONT FACE OF THE MSE WALL EXCLUDING THE FORMLINER RELIEF AND ℄ CONST. RAMP N.
3. ALL EXISTING UTILITIES TO REMAIN UNLESS NOTED OTHERWISE.
4. FOR ROADWAY ALIGNMENT HORIZONTAL CURVE DATA, SEE ROADWAY PLANS.
5. MINIMUM DISTANCE FROM PROPOSED GROUND TO THE TOP OF FOOTING IS 5'-0".
6. SEE SHEET 3 / 104 FOR COMMON WALL GENERAL NOTES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

DESIGN AGENCY
PRIME AE
845 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

WALL PLAN AND PROFILE
WALL NO. 11
MSE WALL 11 ALONG RAMP N

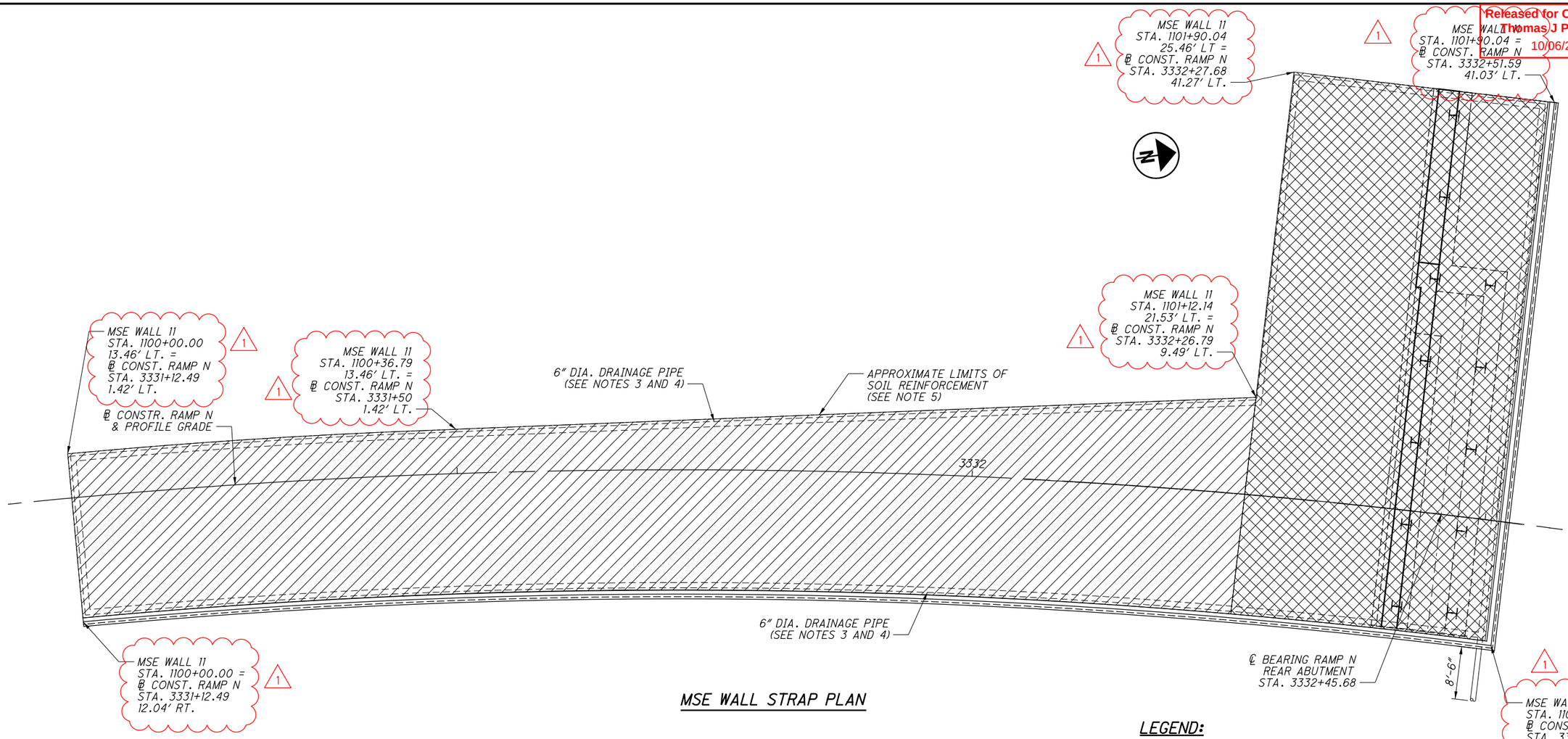
2021-09-24_BU 17 - RFC PLANS.R1

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

1 / 6

19 / 104

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\MSE Wall 11\sheets\102329_011_WP001.dgn Sheet 9/22/2021 4:14:38 PM jtaylor



MSE WALL STRAP PLAN

LEGEND:

- LIMITS OF SOIL REINFORCEMENT (ROADWAY)
- LIMITS OF SOIL REINFORCEMENT (BRIDGE SUM-76-1152N)

NOTES:

1. FOR COMMON WALL DETAILS, SEE SHEETS 5 / 104 AND 6 / 104.
2. SEE BU-11 FOR SUM-76-1152N (RAMP N) PLANS.
3. USE PERFORATED CORRUGATED POLYETHYLENE PIPE INSIDE THE POROUS BACKFILL. USE NON-PERFORATED CORRUGATED POLYETHYLENE PIPE IN ALL OTHER LOCATIONS. ALL DRAINAGE PIPES SHALL SLOPE A MINIMUM OF 1.00% TOWARDS THE OUTLET.
4. PROVIDE CRUSHED AGGREGATE SLOPE PROTECTION AT PIPE OUTLETS. FOR DETAILS, SEE SHEET 5 / 104.
5. EXCAVATION LIMITS ARE TO BE PROVIDED BY MSE WALL SUPPLIER'S DESIGN AND INTERNAL STABILITY ANALYSIS. BASED ON S&ME EXTERNAL ANALYSES, THE MSE WALL SHALL BE CONSTRUCTED WITH A MINIMUM SOIL REINFORCEMENT LENGTH RANGING FROM 0.70H TO 1.24H. WITHIN THE ABUTMENT LIMITS, H IS THE HEIGHT FROM THE PROFILE GRADE TO THE TOP OF THE LEVELING PAD. OUTSIDE OF THE ABUTMENT LIMITS, H IS HEIGHT OF THE MSE WALL TO THE TOP OF THE LEVELING PAD. SEE SHEET 3 / 104 FOR ADDITIONAL DETAILS.
6. WALL ALIGNMENT IS DEFINED ALONG THE FRONT FACE OF THE MSE WALL EXCLUDING THE FORMLINER RELIEF AND ℄ CONST. RAMP N.
7. SELECT GRANULAR BACKFILL SHALL EXTEND 2'-0" BEYOND LIMITS OF SOIL REINFORCEMENT.

ISSUE RECORD:

NO.	DATE	DESCRIPTION
1	9/22/21	UPDATED WALL ALIGNMENTS

DESIGN AGENCY
PRIME AE
845 Puison Place Suite 300
Columbus Ohio 43240

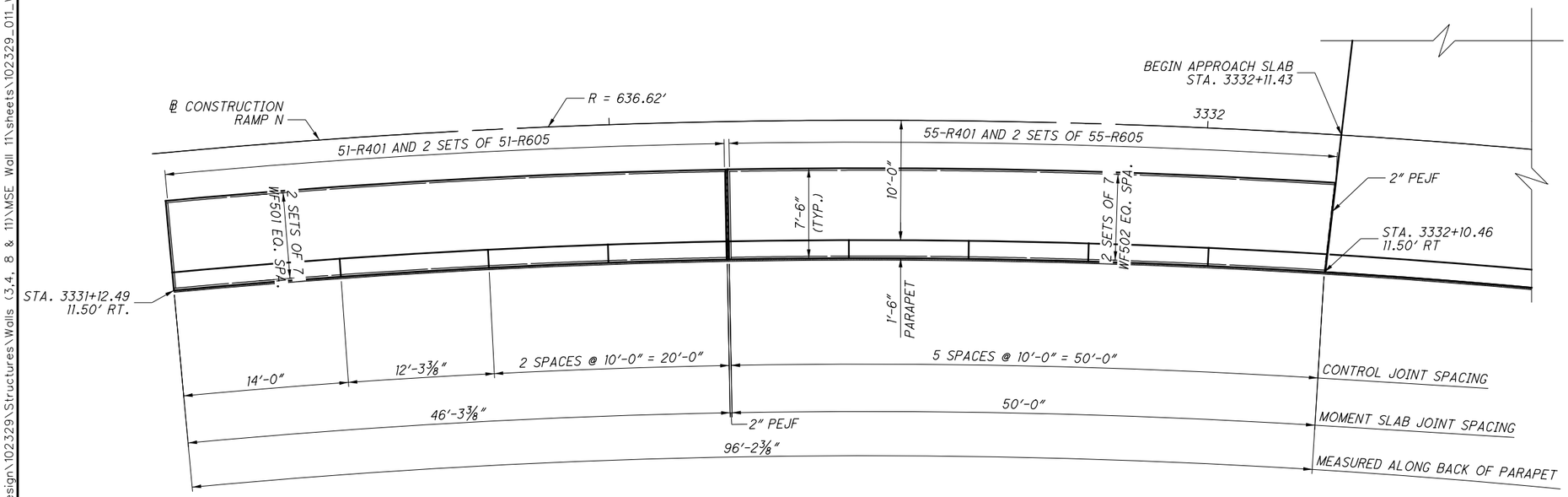
DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

MSE WALL FOUNDATION AND STRAP PLAN
WALL NO. 11
MSE WALL 11 ALONG RAMP N

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

2 / 6

20 / 104



MOMENT SLAB PLAN

(MSE WALL & PARAPET REINFORCING STEEL NOT SHOW)

NOTES:

1. FOR ADDITIONAL MOMENT SLAB DETAILS SEE SHEET 4 / 6 .

ISSUE RECORD:

NO.	DATE	DESCRIPTION

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\MSE Wall 11\sheets\102329_011_WD001.dgn Sheet 9/22/2021 2:01:36 PM jthomas

DESIGN AGENCY
PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

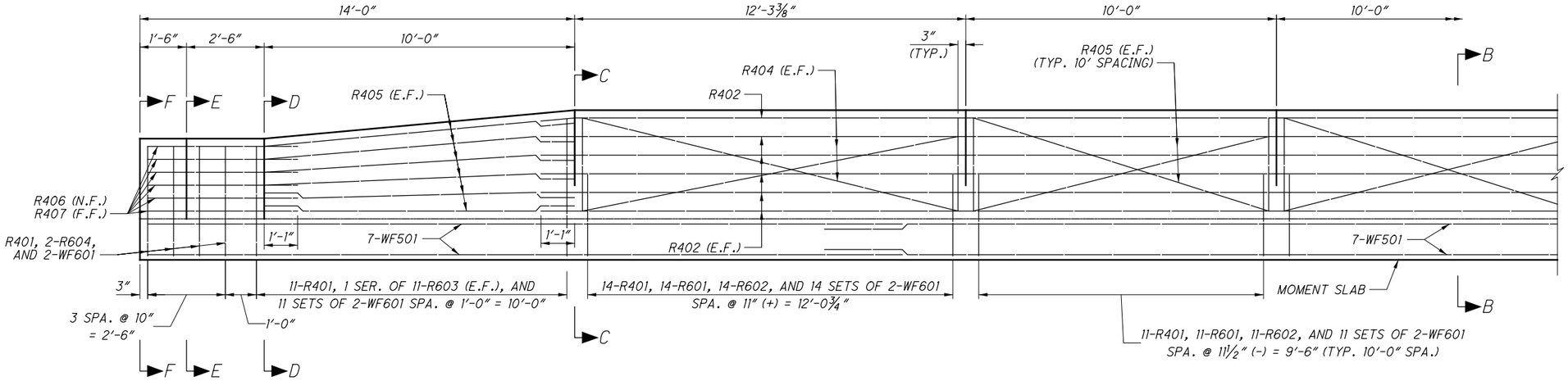
MOMENT SLAB DETAILS
WALL NO. 11
MSE WALL 11 ALONG RAMP N

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

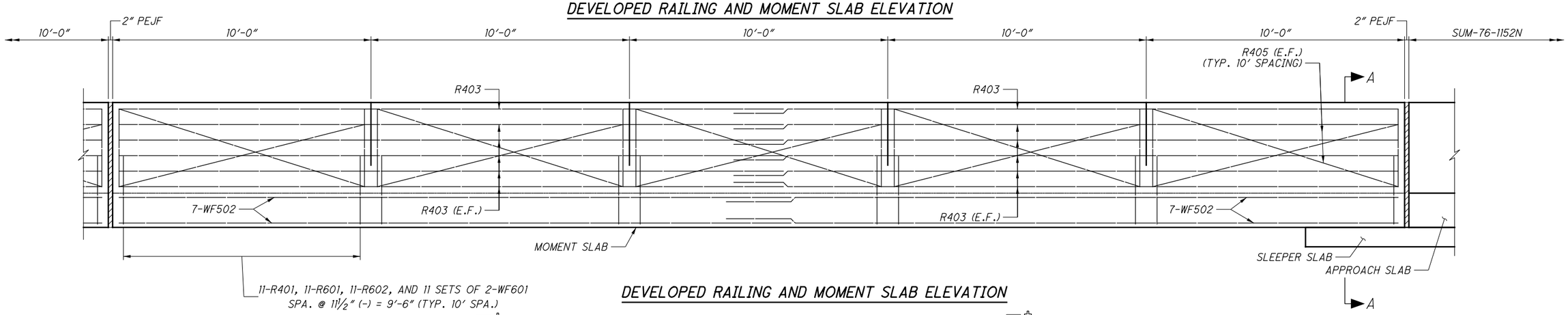
3 / 6

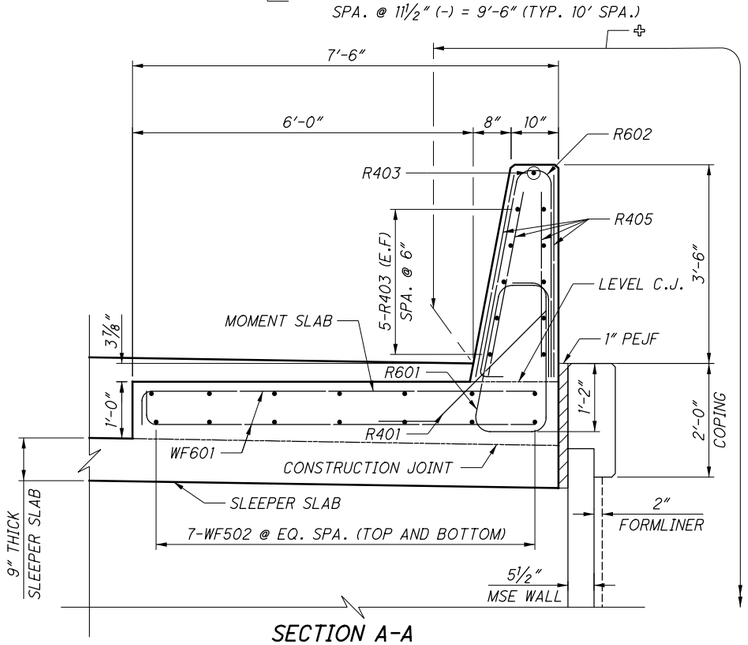
21
104

2021-09-24_BU 17 - RFC PLANS.R1



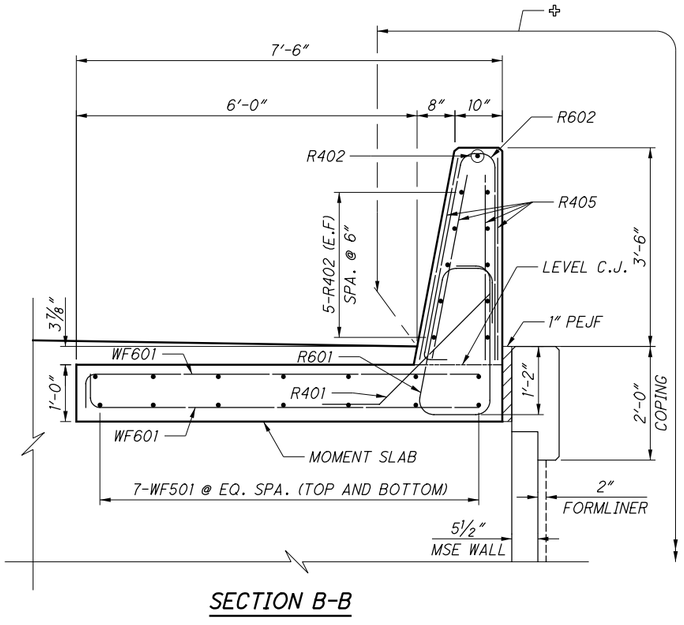
DEVELOPED RAILING AND MOMENT SLAB ELEVATION





SECTION A-A

DEVELOPED RAILING AND MOMENT SLAB ELEVATION



SECTION B-B

LEGEND:

⌖ - LIMITS OF SEALING CONCRETE SURFACES (EPOXY-URETHANE) (SEE NOTE 6)

NOTES:

1. SEE STD. DWG SBR-1-20 FOR ADDITIONAL NOTES AND DETAILS.
2. MIN. REINFORCING STEEL LAP LENGTHS:
   #4 BARS = 1′-11″
   #5 BARS = 2′-6″
3. AT THE MOMENT SLAB EXPANSION JOINT LOCATIONS, PLACE 2″ PEJF BETWEEN THE RAILING AND SLAB SECTIONS.
4. SEE SHEET 5 / 6 FOR SECTIONS C-C THRU F-F.
5. FOR PAVEMENT BUILD-UP, SEE BU-34 PLANS.
6. FOR SEALING NOTES, SEE SHEET 3 / 6 .

ISSUE RECORD:

NO.	DATE	DESCRIPTION

DESIGN AGENCY
PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

RAILING AND MOMENT SLAB DETAILS (1 OF 2)
WALL NO. 11
MSE WALL 11 ALONG RAMP N

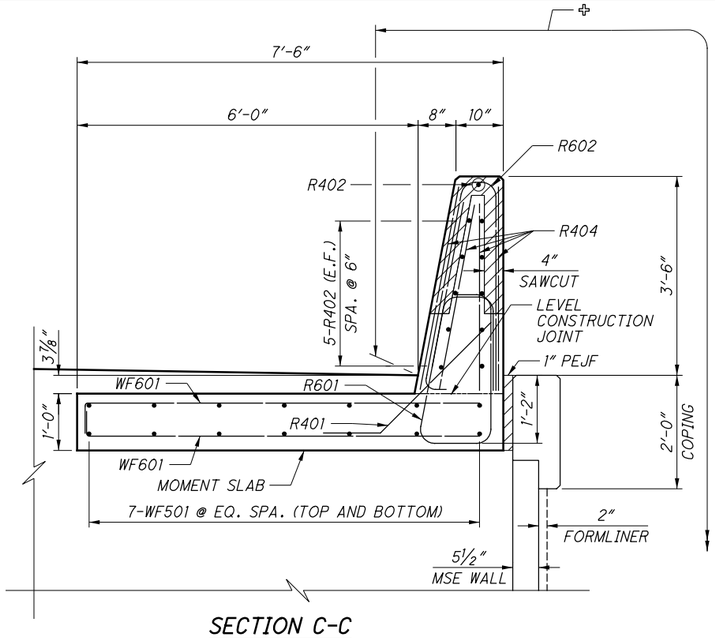
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

4 / 6

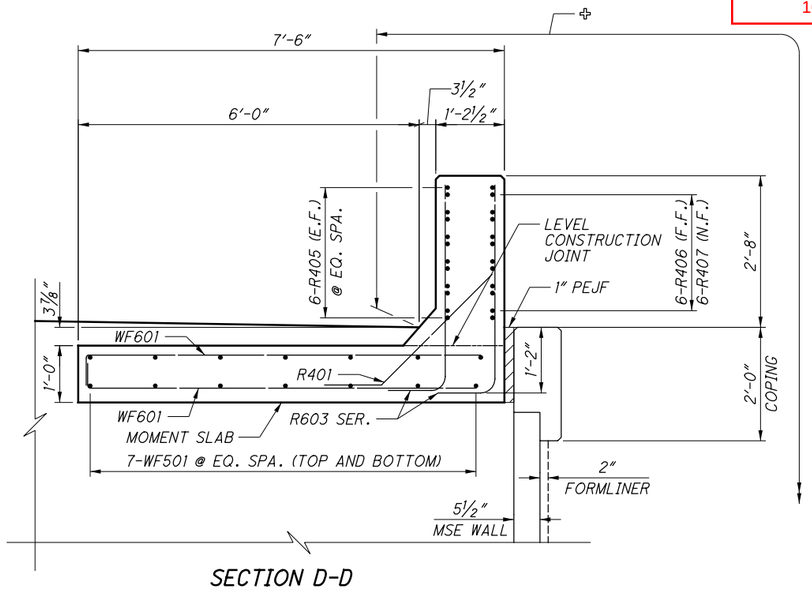
22
104

2021-09-24_BU 17 - RFC PLANS.R1

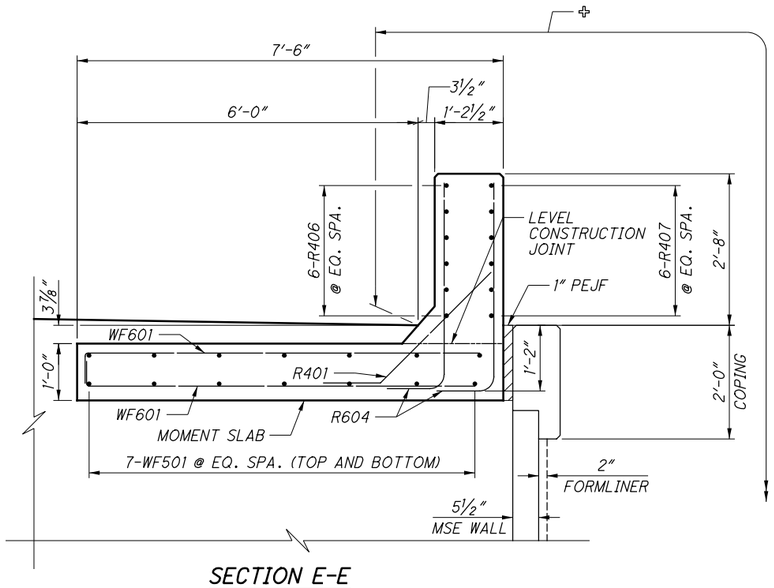
pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\MSE Wall 11\sheets\102329_011_WM001.dgn Sheet 9/22/2021 2:01:42 PM jj



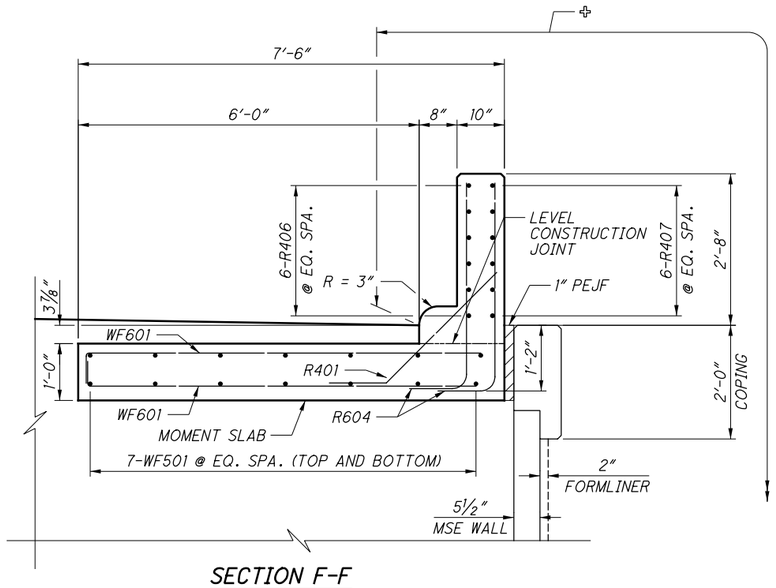
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

LEGEND:

⌖ - LIMITS OF SEALING CONCRETE SURFACES (EPOXY-URETHANE)

NOTES:

1. SEE SHEET 4 / 6 FOR LOCATION OF SECTIONS C-C THRU F-F AND ADDITIONAL NOTES.
2. FOR PAVEMENT BUILD-UP, SEE BU-34 PLANS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\MSE Wall 11\sheets\102329_011_WM002.dgn Sheet 9/22/2021 2:01:47 PM

DESIGN AGENCY
PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

RAILING AND MOMENT SLAB DETAILS (2 OF 2)
WALL NO. 11
MSE WALL 11 ALONG RAMP N

2021-09-24_BU 17 - RFC PLANS.R1

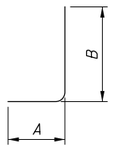
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

5 / 6

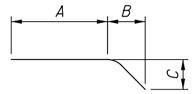
23
104

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
WALL 11 PARAPET AND MOMENT SLAB											
R401	106	3'-9"	266	19	2'-9"	8½"	8½"				
*R402	11	33'-3"	-	STR							
*R403	22	25'-10"	-	STR							
*R404	4	12'-3"	-	STR							
*R405	40	10'-0"	-	STR							
*R406	6	6'-4"	-	25	2'-6"	2'-5"	1'-4"	1½"	5"		
*R407	6	5'-1"	-	STR							
R601	91	8'-1"	1105	37	9½"	2'-7"	7"	1'-0"			
R602	91	7'-6"	1025	23	6"	3'-6"	3'-3"			2"	
	2 SR	4'-6"				3'-8"					
R603	OF	TO	162	1	1'-0"	TO					1"
	11	5'-4"				4'-6"					
R604	8	4'-6"	54	1	1'-0"	3'-8"					
WF501	28	24'-3"	708	STR							
WF502	28	26'-1"	762	STR							
WF601	212	7'-4"	2335	1	6"	7'-0"					
**WF801	16	1'-6"	64	STR							
		SUB-TOTAL	6,469								

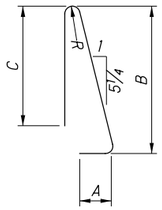
* - DENOTES GFRP REINFORCING BAR
** - DENOTES DOWEL BAR



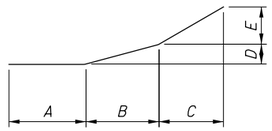
TYPE-1



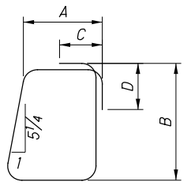
TYPE-19



TYPE-23



TYPE-25



TYPE-37

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH TWO OR THREE LETTERS OR NUMBERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

   EXAMPLE: SA1001
   SA = SUPERSTRUCTURE BAR
   10 = #10 BAR
   01 = BAR SEQUENCE NUMBER 1
3. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
4. STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.
5. RAD INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
6. INCR. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.
7. STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
8. FIELD BEND BARS AS NECESSARY TO MATCH CURVATURE OF ROADWAY.

Released for Construction
Thomas J Powell, PE
10/06/2021

ISSUE RECORD:

NO.	DATE	DESCRIPTION

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\Walls (3,4, 8 & 11)\MSE Wall 11\sheets\102329_011_WL001.dgn Sheet 9/22/2021 2:01:58 PM jt

DESIGN AGENCY
PRIME AE
8415 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
JAT	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC			

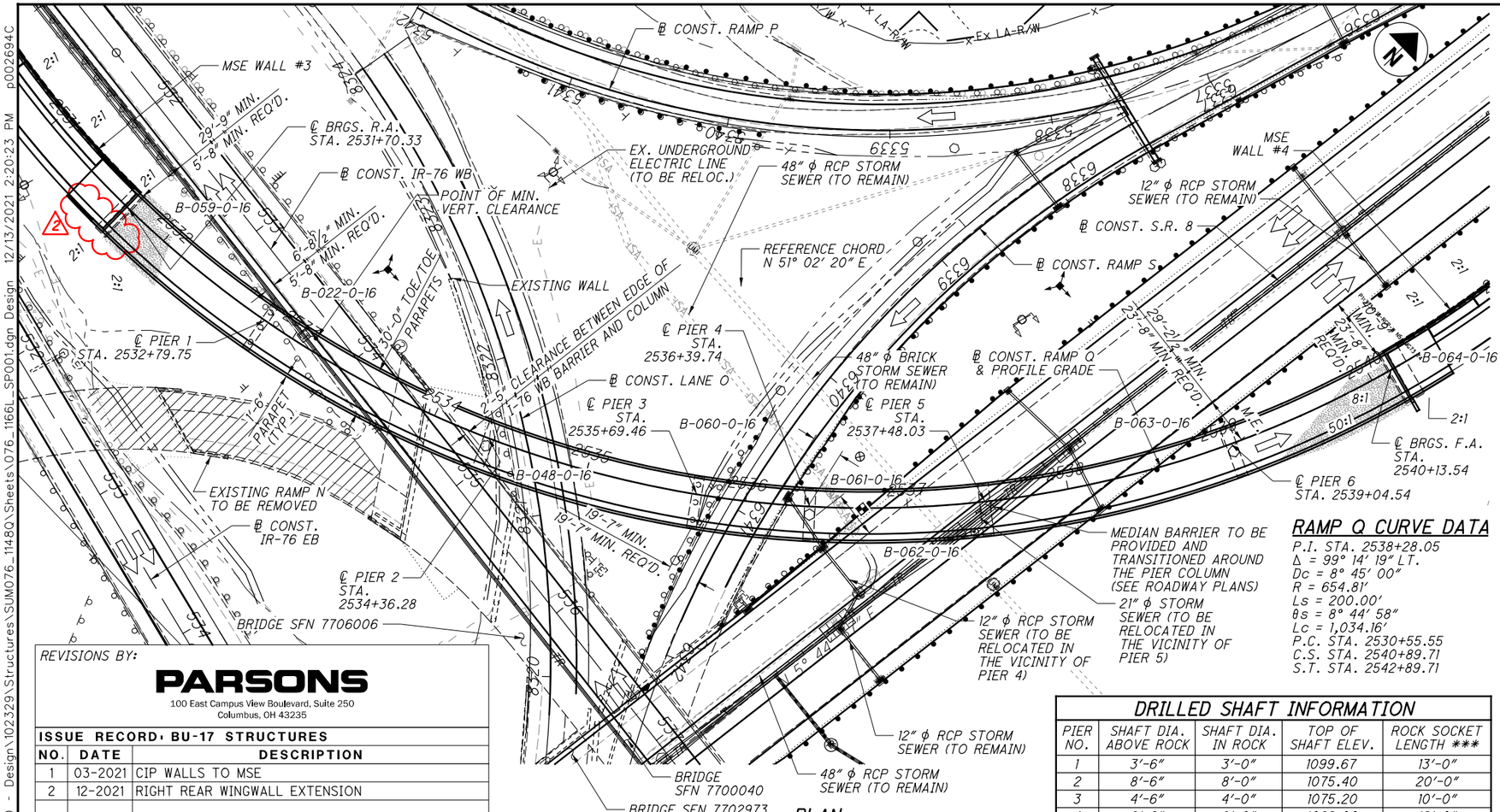
REINFORCING STEEL LIST
WALL NO. 11
MSE WALL 11 ALONG RAMP N

SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

6 / 6

24
104

2021-09-24_BU 17 - RFC PLANS.R1



PLAN

⊗ = 19'-2" MIN., 10'-3" MIN. REQ'D.
◪ = 28'-4½" MIN., 23'-8" MIN. REQ'D.

RAMP Q CURVE DATA

P.I. STA. 2538+28.05
Δ = 99° 14' 19" LT.
Dc = 8° 45' 00"
R = 654.81'
Ls = 200.00'
θs = 8° 44' 58"
Lc = 1,034.16'
P.C. STA. 2530+55.55
C.S. STA. 2540+89.71
S.T. STA. 2542+89.71

DRILLED SHAFT INFORMATION

PIER NO.	SHAFT DIA. ABOVE ROCK	SHAFT DIA. IN ROCK	TOP OF SHAFT ELEV.	ROCK SOCKET LENGTH ***
1	3'-6"	3'-0"	1099.67	13'-0"
2	8'-6"	8'-0"	1075.40	20'-0"
3	4'-6"	4'-0"	1075.20	10'-0"
4	8'-6"	8'-0"	1062.00	19'-0"
5	---	8'-0"	1058.20	24'-0"
6	---	8'-0"	1065.00	22'-0"

BENCHMARK DATA

BM-200, NORTHING 509553.932, EASTING 2243436.781,
ELEV. 1087.538

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET (4/1022)

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:

2020 ADT = 15,570 2020 ADTT = 1,246
2040 ADT = 15,580 2040 ADTT = 1,246
DIRECTIONAL DISTRIBUTION = 100%

LEGEND

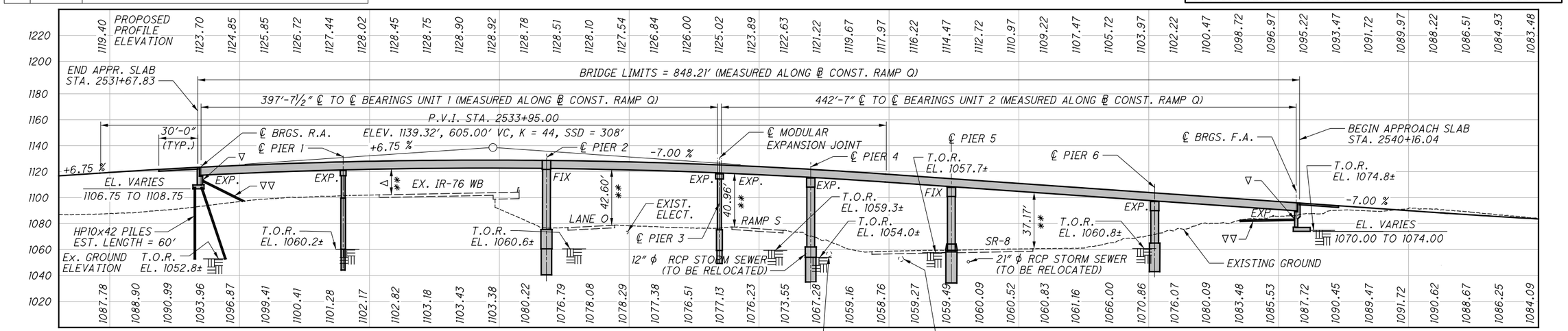
◈ = PROJECT BORING LOCATIONS, SEE SHEET 2 / 80 FOR TABLE WITH ADDITIONAL INFORMATION.

T.O.R. = TOP OF ROCK
Δ = 18.65' MINIMUM VERTICAL CLEARANCE
** = 18.60' MINIMUM VERTICAL CLEARANCE REQUIRED (ACCOUNTING FOR FUTURE INTERCHANGE IMPROVEMENTS)
*** = MAXIMUM DRILLED SHAFT TIP ELEVATIONS
PIER 4 = EL. 1035.00
PIER 5 = EL. 1034.20
PIER 6 = EL. 1043.00

EXISTING STRUCTURE - NONE

PROPOSED STRUCTURE

TYPE: 3 SPANS (UNIT 1), 4 SPANS (UNIT 2) CONTINUOUS CURVED STEEL PLATE GIRDER WITH REINFORCED CONCRETE DECK, CAST-IN-PLACE ABUTMENTS (R.A. ON PILES, F.A. SPREAD FOOTING), REINFORCED CONCRETE PIERS ON DRILLED SHAFTS
SPANS: UNIT 1: 109'-5", 156'-6⅜" AND 131'-8⅛"
UNIT 2: 68'-9⅜", 108'-3½", 156'-6⅛" AND 109'-0"
(SPANS MEASURED c/c BRGS. ALONG ℄ CONST. RAMP Q)
ROADWAY: 30'-0" TOE/TOE PARAPET
LOADING: HL93 (FUTURE WEARING SURFACE (FWS) OF 0.060 KSF)
SKEW: ALL SUBSTRUCTURES ARE RADIAL (SKEW ANGLE MEASURED TO REFERENCE CHORD VARIES, SEE LAYOUT DIAGRAM)
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 30'-0" LONG (AS-1-15 MODIFIED) (AS-2-15)
ALIGNMENT: HORIZONTALLY CURVED (RADIUS = 654.81') MEASURED ALONG ℄ (Dc = 8°45'00" LEFT)
SUPERELEVATION: 0.06 FT./FT. DECK AREA: 28,405 SQ. FT.
COORDINATES: LATITUDE N41°03'43.61" LONGITUDE W81°30'22.97"



▽ = TOP OF SLOPE, EL. VARIES
EL. 1112.04 TO 1116.20 (REAR ABUTMENT)
EL. 1079.76 TO 1088.50 (FORWARD ABUTMENT)
▽▽ = CRUSHED AGGREGATE SLOPE PROTECTION

PROFILE ALONG ℄ CONST. RAMP Q

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE
2	12-2021	RIGHT REAR WINGWALL EXTENSION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED JFM/BES | DRAWN JFM/AAA | REVIEWED JCS | DATE 4/29/19
CHECKED TMB/BDE | REVISED | STRUCTURE FILE NUMBER 7706066

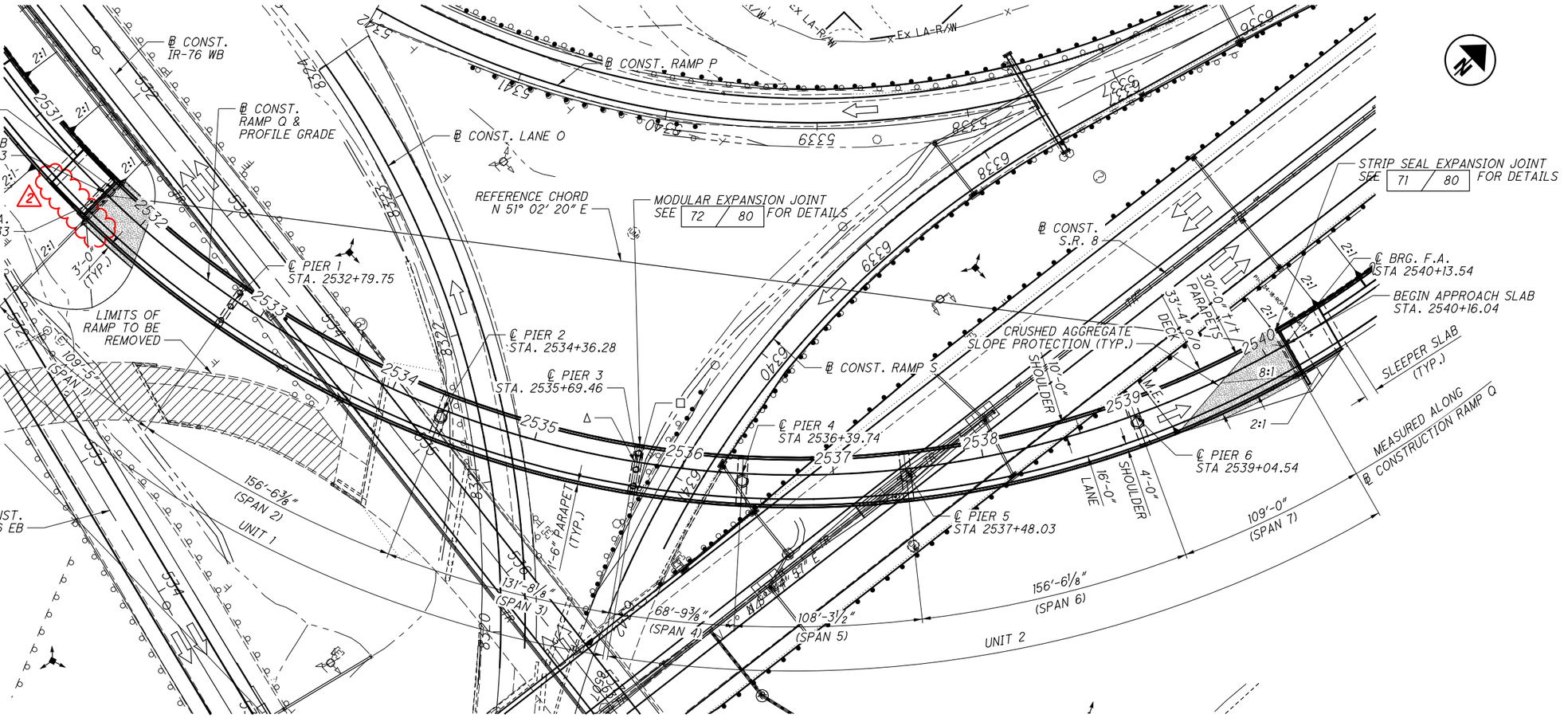
SUMMIT COUNTY
STA. 2531+67.83
STA. 2540+16.04

SITE PLAN
BRIDGE NO. SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

1 / 80
25 / 104

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\SUM076_1148Q\Sheets\076_1166L_SP001.dgn Design 12/13/2021 2:20:23 PM p002694C



GENERAL PLAN

PROJECT BORING LOCATIONS & TOP OF ROCK ELEVATIONS

BORING #	STATION	OFFSET	T.O.R. ELEVATION
B-022-0-16	2532+83.09	15.8′ LT.	1060.2
B-048-0-16	2534+57.54	1.3′ LT.	1060.6
B-059-0-16	2531+81.14	19.8′ LT.	1052.8
B-060-0-16	2536+06.52	33.8′ LT.	1059.3
B-061-0-16	2536+46.69	26.3′ LT.	1054.0
B-062-0-16	2537+35.86	15.1′ RT.	1057.7
B-063-0-16	2538+96.48	21.7′ LT	1060.8
B-064-0-16	2540+33.10	24.1′ RT	1074.8

LEGEND

△ = ℄ REAR BEARINGS PIER 3 STA. 2535+67.96
□ = ℄ FORWARD BEARINGS PIER 3 STA. 2535+70.96

NOTES:

1. REFERENCE CHORD EXTENDS FROM ℄ BEARINGS REAR ABUTMENT TO ℄ BEARINGS FORWARD ABUTMENT.
2. SEE SHEET 3 / 80 FOR GEOMETRIC LAYOUT.
3. SEE SHEET 1 / 80 FOR LOCATIONS OF PROJECT BORINGS.

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE
2	12-2021	RIGHT REAR WINGWALL EXTENSION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED BDE | DRAWN BDE | REVIEWED JCS | DATE 4/29/19
CHECKED JHL | REVISED | STRUCTURE FILE NUMBER 7706066

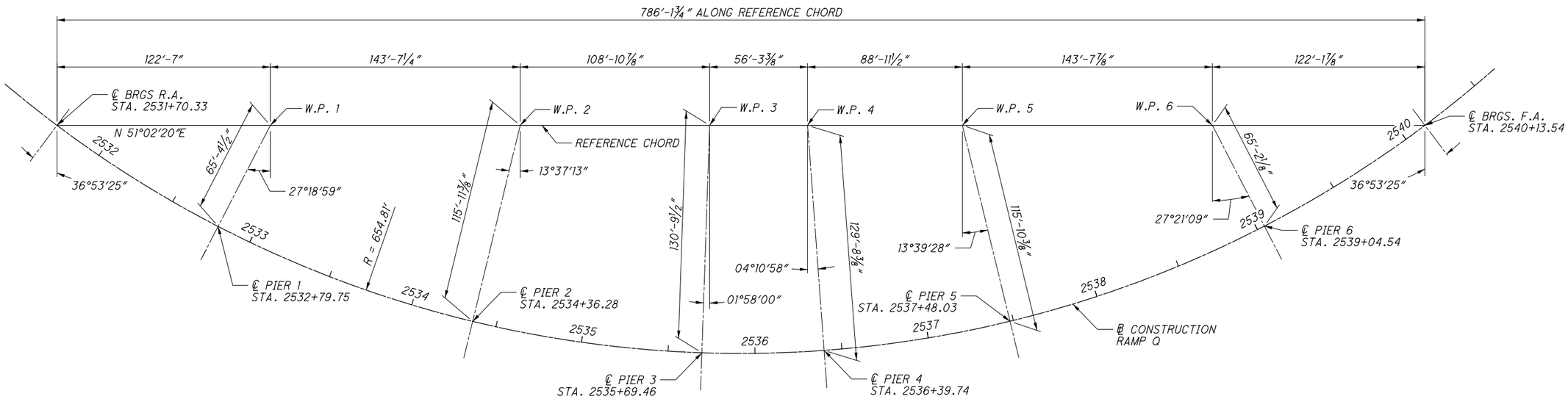
SUMMIT COUNTY
STA. 2531+67.83
STA. 2540+16.04

GENERAL PLAN
BRIDGE NO. SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

2 / 80

26
104



BRIDGE LAYOUT DIAGRAM

NOTES:

1. SEE SHEET 1 / 80 FOR RAMP Q CURVE DATA.
2. ALL SUBSTRUCTURES ARE ORIENTED RADIALLY TO ℄ CONSTRUCTION RAMP Q.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BDE	BDE	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

BRIDGE LAYOUT DIAGRAM
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

3 / 80

27
104

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

A-1-69 REVISED 7-19-02
AS-1-15 REVISED 7-17-15
AS-2-15 REVISED 1-18-19
EXJ-4-87 REVISED 1-19-18
GSD-1-19 DATED 1-18-19
SBR-1-13 REVISED 7-20-18

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

845 DATED 4/20/18
855 DATED 4/20/18

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 8TH EDITION, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2007 EDITION WITH REVISIONS THROUGH JULY 2018, EXCEPT AS NOTED ELSEWHERE IN THE PLANS.

SPECIAL DESIGN SPECIFICATIONS: THIS BRIDGE REQUIRED THE USE OF A THREE DIMENSIONAL MODEL USING THE FINITE ELEMENT DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MIDAS CIVIL 2019 (VERSION 1.1, BUILD 7/16/18). THIS PROGRAM WAS USED TO CALCULATE FORCES FOR THE DESIGN OF THE STEEL GIRDERS AND CROSSFRAMES AND TO CALCULATE REACTIONS FOR THE DESIGN OF THE BEARINGS AND SUBSTRUCTURES.

DEAD LOAD DISTRIBUTIONS: THE WEIGHT OF THE STEEL SUPERSTRUCTURE AND CONCRETE DECK WAS APPLIED TO EACH ELEMENT IN THE MODEL BASED ON LOCAL SECTION PROPERTIES. THE WEIGHT OF THE FUTURE WEARING SURFACE WAS APPLIED TO EACH GIRDER BASED ON TRIBUTARY AREA. PARAPET WEIGHT WAS APPLIED TO THE EXTERIOR GIRDERS.

UNIT LOADS USED IN THE ANALYSIS ARE LISTED BELOW:

FUTURE WEARING SURFACE	60 LB/SF
PARAPETS - EACH	613 LB/FT

LIVE LOAD DISTRIBUTION: THE DESIGN AND LOAD RATING ANALYSES WERE CARRIED OUT BY APPLYING TRUCK AND LANE LOADS DIRECTLY TO THE FINITE ELEMENT MODELS, RATHER THAN BY USING CALCULATED DISTRIBUTION FACTORS.

REDUNDANCY: THE FOLLOWING ITEMS WERE CONSIDERED NON-REDUNDANT FOR DESIGN AND INCLUDE A LOAD MODIFIER EQUAL TO 1.05 IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.4: PIERS 2, 4, 5 & 6.

REDUNDANCY: THE DRILLED SHAFTS SUPPORTING THE FOLLOWING SUBSTRUCTURES WERE CONSIDERED NON-REDUNDANT FOR DESIGN AND INCLUDE A MODIFIED RESISTANCE FACTOR FOR TIP RESISTANCE EQUAL TO 0.40 AND A MODIFIED RESISTANCE FACTOR FOR SIDE RESISTANCE EQUAL TO 0.44 IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 10.5.5.2.4: PIERS 2, 4, 5 & 6.

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KSF

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE) (ABUTMENTS AND PIERS 1 & 3)
MASS CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 5.5 KSI (SUBSTRUCTURE) (PIER 2 CAP)
MASS CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE) (PIER 2 COLUMN AND PIERS 4, 5 & 6 CAPS AND COLUMNS)
CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS AT PIERS 1 & 3)
MASS CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS AT PIERS 2, 4, 5 & 6)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI
STEEL H-PILES - ASTM A 572 GRADE 50 - YIELD STRENGTH 50 KSI

PRESTRESSING STRAND - UNCOATED GRADE 270, LOW RELAXATION, 7-WIRE STRAND MEETING THE REQUIREMENTS OF ASTM A416, 0.6" DIA., A = 0.217 SQ. IN., INITIAL STRESS = 189 KSI (PIER 2 CAP)

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
CLASS QC2 CONCRETE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

REAR ABUTMENT PILE DRIVING CONSTRAINTS: PRIOR TO DRIVING PILES AT THE REAR ABUTMENT, CONSTRUCT THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE LEVEL OF THE TOP OF THE ABUTMENT FOOTING AND TOP OF THE RETAINING WALL #2 AND #3 FOOTINGS FOR A MINIMUM DISTANCE OF 350 FEET BEHIND THE ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT AND RETAINING WALL FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A WAITING PERIOD OF 90 CALENDAR DAYS HAS ELAPSED. AFTER THE ABUTMENT FOOTING AND BREASTWALL AND RETAINING WALL FOOTINGS AND STEMS HAVE BEEN CONSTRUCTED, CONSTRUCT THE EMBANKMENT IMMEDIATELY BEHIND THE ABUTMENT UP TO THE BEAM SEAT ELEVATION AND ON A 1:1 SLOPE FROM THE BEAM SEAT UP TO THE SUBGRADE ELEVATION PRIOR TO SETTING THE BEAMS ON THE ABUTMENT.

FORWARD ABUTMENT CONSTRUCTION CONSTRAINTS: FILL THE VOID CREATED BY EXCAVATING FOR THE FORWARD ABUTMENT FOOTING WITH TYPE B GRANULAR MATERIAL, 703.16C. AFTER THE FORWARD ABUTMENT FOOTING AND BREASTWALL AND RETAINING WALL #4 FOOTING AND STEM HAVE BEEN CONSTRUCTED, CONSTRUCT THE EMBANKMENT IMMEDIATELY BEHIND THE ABUTMENT UP TO THE BEAM SEAT ELEVATION AND ON A 1:1 SLOPE FROM THE BEAM SEAT UP TO THE SUBGRADE ELEVATION PRIOR TO SETTING THE BEAMS ON THE ABUTMENT.

PILES TO BEDROCK: DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 250 KIPS PER PILE FOR THE REAR ABUTMENT PILES.

REAR ABUTMENT PILES:
(11) - HP10x42 PILES, 65 FEET LONG, ORDER LENGTH

PILE SPLICES: IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

FOUNDATION BEARING RESISTANCE: FORWARD ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 12.0 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 16.0 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 68.1 KIPS PER SQUARE FOOT.

FOOTINGS AT THE FORWARD ABUTMENT SHALL EXTEND A MINIMUM OF 3" INTO BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

DRILLED SHAFTS:

THE FOLLOWING TABLE SUMMARIZES THE DRILLED SHAFT FACTORED LOADS AND FACTORED RESISTANCES AT EACH SUBSTRUCTURE. THE MAXIMUM FACTORED LOAD AT EACH SUBSTRUCTURE IS FULLY SUPPORTED BY THE DRILLED SHAFTS IN TIP RESISTANCE, IGNORING ANY CONTRIBUTION FROM SIDE RESISTANCE. ALL INFORMATION IN THE TABLE IS GIVEN PER EACH DRILLED SHAFT.

LOCATION	MAXIMUM FACTORED LOAD (KIPS)	FACTORED TIP RESISTANCE (KIPS)	TOTAL FACTORED RESISTANCE (KIPS)
PIER 1	1164	4421	4421
PIER 2	3214	18116	18116
PIER 3	867	5661	5661
PIER 4	2198	18116	18116
PIER 5	2916	9912	9912
PIER 6	2956	25153	25153

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN:

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 509.

FIELD CUTTING IS REQUIRED AT THE FOLLOWING LOCATIONS:

AT PIER 2 CAP, SEE SHEET 22 / 80

AT MODULAR EXPANSION JOINT, SEE SHEET 57 / 80

ITEM 511 - CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA, AS PER PLAN:

THE MINIMUM COMPRESSIVE STRENGTH FOR THE PIER 2 CAP SHALL BE 5.5 KSI.

ITEM 524 - DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN:
ITEM 524 - DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN:
ITEM 524 - DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN:
ITEM 524 - DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN:

THE AGGREGATE SHALL BE ⅜" NOMINAL MAXIMUM SIZE.

ITEM 524 - DRILLED SHAFTS, 96" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN:
ITEM 524 - DRILLED SHAFTS, 102" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN:

CONCRETE SHALL BE CLASS QC4. THE PROVISIONS FOR MASS CONCRETE IN CMS 511.04.A SHALL APPLY. THE MINIMUM COMPRESSIVE STRENGTH SHALL BE 4.5 KSI. THE AGGREGATE SHALL BE ⅜" NOMINAL MAXIMUM SIZE.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

SEE AESTHETIC PLANS FOR SEALING COLOR FOR ABUTMENTS AND WINGWALLS. FOR PIERS AND PARAPETS, TINT SO THE FINAL COLOR IS FEDERAL COLOR STANDARD NO. 27769 - LIGHT NEUTRAL.

IN ADDITION TO THE LIMITS OF SEALING SHOWN ON THE PLANS, SEAL ALL EXPOSED CONCRETE SURFACES OF ALL PROPOSED PIERS, EXCLUDING THE TOP HORIZONTAL SURFACES OF THE PIER CAPS. ADDITIONALLY, SEAL THE TOP HORIZONTAL SURFACES OF THE PIER CAP AT PROPOSED PIER 3.

REFER TO CMS 516.07 FOR SEALING REQUIREMENTS AT BEARING AREAS.

ITEM 526 - REINFORCED CONCRETE APPROCH SLABS (T=17"), AS PER PLAN:

THE REQUIREMENTS OF 511.03 AND 511.04 SHALL APPLY TO THIS ITEM OF WORK. THIS ITEM SHALL INCLUDE, BUT IS NOT LIMITED TO THE CONCRETE AND STEEL REINFORCEMENT NECESSARY TO FORM AND PLACE THE APPROACH SLABS AS SHOWN IN THE PLANS. PAYMENT FOR THIS ITEM SHALL ALSO INCLUDE THE ITEMS LISTED ON STANDARD DRAWING AS-1-15 AND ALL OTHER NECESSARY MATERIALS, LABOR, AND EQUIPMENT AND SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMATERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.2 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES.

ITEM 524 - DRILLED SHAFTS, MISC.: THERMAL INTEGRITY PROFILER (T.I.P.) WIRE CABLE TESTING OF DRILLED SHAFTS:

PERFORM INTEGRITY TESTING ON ALL DRILLED SHAFTS SUPPORTING SINGLE-COLUMN PIERS (AT PIERS 2, 4, 5 & 6) AND ONE DRILLED SHAFT AT EACH MULTI-COLUMN PIER (AT PIERS 1 & 3) BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949 "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS", METHOD B, AND PER THE PROJECT SPECIAL PROVISIONS.

ITEM 524 - DRILLED SHAFTS, MISC.: CSL TESTING, 96"/102" DIAMETER SHAFT:

PERFORM INTEGRITY TESTING ON ALL DRILLED SHAFTS SUPPORTING SINGLE-COLUMN PIERS (AT PIERS 2, 4, 5 & 6) BY CROSSHOLE SONIC LOGGING (CSL). PERFORM CSL TESTING PER ASTM D6760 "STANDARD TEST METHOD FOR INTEGRITY TESTING OF CONCRETE DEEP FOUNDATIONS BY ULTRASONIC CROSSHOLE TESTING" AND PER THE PROJECT SPECIAL PROVISIONS. WHERE DIFFERENT SHAFT DIAMETERS ARE USED ABOVE ROCK AND IN ROCK, THE CSL TESTING FOR THE ENTIRE COMBINED SHAFT (ABOVE ROCK AND IN ROCK) SHALL BE INCLUDED IN ONE SINGLE PAY ITEM.

ITEM 507 - PREBORED HOLES, AS PER PLAN:

PRIOR TO DRIVING PILES, BACKFILL THE PREBORED HOLES WITH DRY SAND.

ITEM SPECIAL - FORM LINER:

USE FORM LINERS AT THE REAR AND FORWARD ABUTMENTS AS SHOWN ON THE PLANS. FORM LINERS SHALL BE ARCHITECTURAL POLYMERS #9110, LARGE STONE OHIO DRY STACK OR EQUAL AS APPROVED BY THE ENGINEER. THE STONE FORM LINER PATTERN SHALL MATCH OTHER PARTS OF THE PROJECT (RETAINING WALLS AND ROADWAY SIDE OF NOISE WALLS) TO ENSURE UNIFORM SURFACE TREATMENTS THROUGHOUT, AS DETERMINED BY THE ENGINEER.

FORM LINERS SHALL BE CAPABLE OF WITHSTANDING ANTICIPATED CONCRETE POUR PRESSURES WITHOUT LEAKAGE OR CAUSING PHYSICAL DEFECTS. FORM LINERS SHALL BE REMOVABLE WITHOUT CAUSING CONCRETE SURFACE DAMAGE. USE A FORM RELEASE PRODUCT AS RECOMMENDED BY THE FORM LINER MANUFACTURER. USE MANUFACTURER'S APPLICATION RATES AND ALL OTHER MANUFACTURER'S INSTRUCTIONS. FORM RELEASE PRODUCTS SHALL BE FULLY COMPATIBLE WITH THE FORM LINER MATERIAL AND THE EPOXY-URETHANE SEALER TO BE APPLIED TO THE FINISHED SURFACES.

ALIGN THE FORM LINER PATTERNS ACROSS ALL EXPANSION, CONTRACTION, AND CONSTRUCTION JOINTS.

FORM LINERS SHALL EXTEND A MINIMUM OF 1'-0" BELOW THE PROPOSED GROUND LINE AT THE FRONT FACE OF THE WALL. FORM LINERS MAY EXTEND MORE THAN 1'-0" BELOW THE PROPOSED GROUND LINE BUT THE PAY LIMITS SHALL BE 1'-0" BELOW THE PROPOSED GROUND LINE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR ITEM SPECIAL - FORM LINER, WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM AS SPECIFIED ABOVE AND IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM SPECIAL - STRUCTURE, MISC.: TEMPORARY SUPPORTS FOR GIRDERS AT INTEGRAL PIER:

PROVIDE TEMPORARY SUPPORTS FOR GIRDERS ADJACENT TO THE INTEGRAL PIER (PIER 2) AS SHOWN ON SHEETS 35 / 80 TO 37 / 80 .

DRILLED SHAFT ROCK SOCKET LENGTHS AND TIP ELEVATIONS:

DUE TO THE POTENTIAL FUTURE WIDENING OF SR-8, BOTH A MINIMUM ROCK SOCKET LENGTH AND A MAXIMUM TIP ELEVATION ARE SHOWN AT PIERS 4 & 6. DUE TO THE PRESENCE OF AN EXISTING STORM SEWER IN THE SR-8 MEDIAN, BOTH A MINIMUM ROCK SOCKET LENGTH AND A MAXIMUM TIP ELEVATION ARE SHOWN AT PIER 5. AT PIERS 4, 5 & 6, BOTH REQUIREMENTS SHALL BE MET.

AT PIER 5, IN THE EVENT THAT THE TOP OF ROCK ELEVATION ENCOUNTERED IN THE FIELD AT THE LOCATION OF THE EXISTING STORM SEWER IS LOWER THAN EL. 1052.2, THE TIP ELEVATION SHOWN ON THE PLANS SHALL BE LOWERED BY AN AMOUNT EQUAL TO THE DIFFERENCE BETWEEN EL. 1052.2 AND THE TOP OF ROCK ELEVATION ENCOUNTERED IN THE FIELD AT THE LOCATION OF THE EXISTING STORM SEWER.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

GENERAL NOTES - 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

4 / 80

28
104

ITEM 513 - STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN:

THE EXPANSION JOINT AT PIER 3 SHALL BE WATSON BOWMAN ACME (WABO® MODULAR), DS BROWN (STEELFLEX® MODULAR), OR APPROVED ALTERNATE.

THE MANUFACTURER SHALL SUBMIT DESIGN CALCULATIONS SHOWING THAT THE DEVICE CAN MEET THE IMPACT AND FATIGUE DESIGN REQUIREMENTS SET FORTH BY THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

A. DESCRIPTION

FURNISH ALL MATERIALS, SERVICES, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO DESIGN, FABRICATE, INSPECT, TEST AND INSTALL MODULAR EXPANSION JOINTS IN ACCORDANCE WITH THE PLANS AND THESE NOTES. ALL REQUIREMENTS OF 513, UF LEVEL FABRICATION APPLY, UNLESS MODIFIED BY THESE NOTES.

B. DESIGN

1. PREPARE AND CHECK THE DESIGN UNDER THE AUTHORITY OF AN OHIO REGISTERED PROFESSIONAL ENGINEER. THE REGISTERED ENGINEER SHALL SEAL, SIGN AND DATE THE DESIGN CALCULATIONS AND SHOP DRAWINGS.
2. INCLUDE DESIGN CALCULATIONS WITH THE CONTRACTOR'S SUBMISSION OF SHOP DRAWINGS PER 513.06.
3. PROVIDE A DETAILED INSTALLATION PROCEDURE AND INCLUDE ANY SPECIFIC MANUFACTURER'S NOTES NECESSARY FOR COMPLETION OF THE WORK.
4. DESIGN AND TEST THE MODULAR JOINT COMPONENTS, JOINT ARMOR AND ANCHORAGES ACCORDING TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.
5. DESIGN TEMPORARY AND FIELD CONNECTIONS TO THE BRIDGE TO ACCOMMODATE ADJUSTMENTS FOR ROADWAY GEOMETRY AND VARYING TEMPERATURE.
6. DESIGN FOR THE PLAN SPECIFIED MOVEMENT PER AASHTO LRFD 3.12.2 FOR A COLD CLIMATE (TEMPERATE RANGE IS FROM -30° F TO +120° F WITH BASE TEMPERATURE SET TO 60° F).
7. SUPPLY SUPPORT BAR BEARINGS TO TRANSFER THE LOAD FROM THE SUPPORT BARS TO THE JOINT ARMOR.
8. FOR DESIGN OF THE DECK JOINT AT ALL LIMIT STATES, THE DYNAMIC LOAD ALLOWANCE (IM) SHALL BE TAKEN AS 125% OF THE STATIC EFFECT OF EITHER THE DESIGN TRUCK OR THE DESIGN TANDEM.
9. SUPPLY EQUALIZATION SPRINGS TO COUNTER THE COMPRESSION FORCES FROM THE SEALING ELEMENTS AND MAINTAIN EQUAL EXPANSION PROPERTIES FOR EACH SEALING ELEMENT ACROSS THE JOINT.
10. SUPPLY CONTROL SPRINGS WHICH WORK LONGITUDINALLY TO MAINTAIN EQUIDISTANT SPACING BETWEEN TRANSVERSE SEPARATION BEAMS.
11. SUPPLY SEPARATION BEAMS/TRANSVERSE DIVIDERS/CENTER BEAMS TO LIMIT TOTAL HORIZONTAL MOVEMENT IN ANY INDIVIDUAL STRIP SEAL.
12. SUPPLY A STRIP SEAL TYPE SEAL CONNECTED TO MATCHING RETAINERS CONNECTED TO THE JOINT ARMOR AND THE SEPARATION BEAMS. DO NOT EXCEED 3.15 INCHES OF TOTAL HORIZONTAL MOVEMENT IN ANY INDIVIDUAL STRIP SEAL.
13. SUPPLY REMOVABLE AND REPLACEABLE NEOPRENE SEALS, SUPPORT BAR BEARINGS AND EQUALIZATION SPRINGS.
14. SET SEALS AND RETAINERS 1/8" LOWER THAN THE ROADWAY SURFACE.

C. MATERIALS

1. SUPPLY STRUCTURAL STEEL MEETING ASTM A709 GRADE 50. SUPPLY SEPARATION BEAMS/TRANSVERSE DIVIDERS/CENTER BEAMS, EDGE BEAMS AND JOINT ARMOR MEETING CHARPY V NOTCH IMPACT REQUIREMENTS PER ASTM A709 TABLE S1.2 ZONE 2 TEMPERATURE RANGE. SUPPLY TUBE SECTIONS MEETING ASTM A501 OR A500 GRADE B.
2. SUPPLY ASTM A240, TYPE 304 STAINLESS STEEL, 13 GAGE MINIMUM THICKNESSES WITH AN 8.0µ IN MIRROR FINISH FOR SLIDING SURFACES IN CONTACT WITH PTFE.
3. SUPPLY TESTING AND REPORTS BY THE MANUFACTURER OR AN INDEPENDENT TESTING LABORATORY FOR ALL ELASTOMERIC, PTFE URETHANE AND PREFORMED FABRIC MATERIALS USED IN ALL BEARINGS AND SPRINGS. THE SUBMISSION OF MATERIAL CERTIFICATION AND TESTING DATA SHALL BE PER 513.08. THE MODULAR BRIDGE JOINT SYSTEM SHALL BE TESTED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS APPENDIX A19.
4. SUPPLY STRIP SEALS CONFORMING TO ASTM D5973. SUBMIT CERTIFIED TEST DATA PER 513.08 FROM THE MANUFACTURER OR AN ACCREDITED LABORATORY. D5973 SECTION 8, LOT SIZE IS ONE SAMPLE PER JOINT. A SAMPLE IS A PIECE 4 FEET LONG WITH ALL MANUFACTURES' MARKINGS. THE SEAL AND RETAINER ARE AN INTEGRAL SYSTEM SUPPLIED BY ONE MANUFACTURER.
5. SEAL RETAINERS: EXTRUDE, HOT ROLL OR MACHINE, STEEL RETAINERS INTO A SOLID SHAPE. RETAINERS MANUFACTURED FROM BENT PLATE OR BUILT UP PIECES ARE NOT ACCEPTABLE. THE INTERNAL DIMENSIONS OF THE RETAINER SHALL BE SPECIFIED BY THE MANUFACTURER TO ACHIEVE POSITIVE SEAL ANCHORAGE.
6. SEPARATION BEAMS/TRANSVERSE DIVIDERS/CENTER BEAMS SHALL BE A SOLID, MACHINED OR EXTRUDED STEEL SECTION.
7. LUBRICANT - ADHESIVE. ONE PART MOISTURE CURING POLYURETHANE COMPOUND MEETING THE REQUIREMENTS OF ASTM D4070 AND AS SPECIFIED BY THE SEAL MANUFACTURER.
8. HARDWARE SHALL BE ASTM F3125, GRADE A325 TYPE 1, GALVANIZED.

D. FABRICATION

1. THE MODULAR JOINTS SHALL BE FABRICATED ACCORDING TO C&MS 513.
2. SHOP ASSEMBLE THE MODULAR JOINT WITH ALL COMPONENTS EXCEPT, NEOPRENE SEALS, PER 513.24 EXCEPT THAT FULL ASSEMBLY IS REQUIRED WITH PHASED CONSTRUCTION.
3. JOINTS IN STRIP SEALS: NO JOINTS ARE ALLOWED.
4. JOINTS IN RETAINERS: WELDS ARE WATER TIGHT, PARTIAL PENETRATION WELDS AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. MAKE SPLICES ONLY IN COMPRESSION ZONES OF THE JOINT ARMOR. GRIND FLUSH ALL WELDS IN CONTACT WITH THE SEAL AND JOINT ARMOR. DO NOT USE SHORT PIECES OF RETAINERS LESS THAN 6'-0" LONG, UNLESS REQUIRED AT CURBS OR SIDEWALKS. DO NOT PROVIDE ADDITIONAL SPLICES IN RETAINERS AT CURB OR SIDEWALK SECTIONS OTHER THAN REQUIRED FOR GEOMETRY.
5. SHOP OR FIELD WELDS OF CENTER BEAMS , SHALL BE COMPLETE PENETRATION WELDS, GROUND TO PROVIDE SMOOTH TRANSITIONS AND BE 100% ULTRASONICALLY TESTED PER AASHTO/AWS BRIDGE WELDING CODE, WITH TENSION ACCEPTANCE CRITERIA, WITNESSED BY THE DEPARTMENT.
6. SUPPORT BAR CONNECTIONS SHALL BE COMPLETE PENETRATION WELDS GROUND TO PROVIDE SMOOTH TRANSITIONS AND BE 100% ULTRASONICALLY TESTED PER AASHTO/AWS BRIDGE WELDING CODE, WITH TENSION ACCEPTANCE CRITERIA, WITNESSED BY THE DEPARTMENT.
7. TEMPORARY SUPPORTS: FABRICATOR DESIGNED AND INSTALLED SUPPORTS ARE REQUIRED TO SUPPORT SHIPPING, ERECTION AND CONSTRUCTION FORCES WITHOUT DAMAGE TO THE STEEL ARMOR OR COATINGS. THESE SUPPORTS SHALL BE ADJUSTABLE FOR FIELD TEMPERATURE SETTING. PROVIDE PROTECTIVE LAYERS BETWEEN TEMPORARY SUPPORTS AND COATED SURFACES TO PREVENT DAMAGE.

E. COATING

1. GALVANIZE OR METALIZE ALL STEEL SURFACES AND COMPONENTS, EXCEPT AT STAINLESS STEEL AND PTFE SLIDING SURFACES. THESE COATING MAY BE MIXED ON ONE ASSEMBLY, IF ALL SIMILAR COMPONENTS OF THE ASSEMBLY HAVE THE SAME COATING TYPE.
2. PROVIDE A GALVANIZED COATING PER ASTM A123, WITH A MINIMUM THICKNESS OF 4 MILS. CLEAN EXCESSIVE GALVANIZING AS NECESSARY TO ACHIEVE MECHANICAL MOVEMENT AND SEAL INSTALLATION.
3. PROVIDE A METALIZED COATING PER SOCIETY FOR PROTECTIVE COATINGS (SSPC) SPECIFICATION SSPC-CS23.00 FOR THERMAL SPRAY METALLIC COATINGS. THE COATING SHALL BE A MINIMUM OF 8 MILS THICK. THE METALIZING WIRE SHALL BE 100% ZINC. AREAS OF STRUCTURAL STEEL THAT ARE IN CONTACT WITH CAST-IN-PLACE CONCRETE SHALL HAVE AN ADDITIONAL COATING. THE COATING SHALL BE THE EPOXY INTERMEDIATE COAT SPECIFIED IN CMS 514. THE COATING THICKNESS WILL COVER ALL PEAKS, VALLEYS AND SURFACE ROUGHNESS ATTRIBUTED TO METALIZING.
4. COATING REPAIRS: DAMAGED COATINGS SHALL BE REPAIRED BY ASTM A780, ANNEX "A1. REPAIR USING ZINC BASED ALLOYS". THE PROCEDURE SHALL BE AS FOLLOWS: REMOVE SURFACE CONTAMINATES, PREHEAT TO 600 DEGREES F, AND APPLY ZINC COATING BY RUBBING WITH PURE WITH A PURE ZINC STICK OR SPRINKLING ZINC POWDER ON THE PREHEATED SURFACE, TO ACHIEVE A MINIMUM COATING THICKNESS OF 6 MILS. MAKE COATING REPAIRS OF WELDED SURFACES PRIOR TO CONCRETE PLACEMENT OPERATIONS.
5. THE METALIZED OR GALVANIZED COATINGS SHOULD NOT BE FIELD PAINTED, EXCEPT FOR AREAS DAMAGED BY CONNECTION TO PAINTED SUPERSTRUCTURE STEEL MEMBERS. THESE AREAS SHALL BE PAINTED USING THE SAME SYSTEM SPECIFIED FOR THE SUPERSTRUCTURE.
6. PRIOR TO SHIPPING, RETAINER GROOVES SHALL BE PROTECTED FROM CONSTRUCTION DEBRIS BY THE INSTALLATION OF BACKER RODS OR OTHER EFFECTIVE MASKING TECHNIQUES.

F. INSTALLATION

1. A JOINT MANUFACTURER'S TECHNICAL REPRESENTATIVE TO PHYSICALLY OVERSEE THE FABRICATION, INSTALLATION, ADJUSTMENT AND TESTING DURING ALL OPERATIONS. WHERE SPECIAL INSTRUCTIONS ARE NOT CONTAINED HEREIN OR ELSEWHERE IN THESE NOTES, DIRECTION FOR THE INSTALLATION SHALL BE ACCORDING TO THE RECOMMENDATIONS OF THE TECHNICAL REPRESENTATIVE.
2. COORDINATE AND SCHEDULE THE TECHNICAL REPRESENTATIVE.
3. INSTALL THE SUPERSTRUCTURE SUPPORTING UNITS BEFORE INSTALLING THE MODULAR JOINT. POSITION THE JOINT TO MATCH ROADWAY GEOMETRY, SUPERSTRUCTURE CONNECTIONS AND TEMPERATURE OPENING. TAKE CARE TO MAINTAIN EXACT ALIGNMENT OF ADJACENT ENDS OF THE ARMOR AND SEPARATION BEAMS/TRANSVERSE DIVIDERS/CENTER BEAMS FOR FIELD WELDED UNITS. PROVIDE TEMPORARY SUPPORTS AS DIRECTED BY THE MANUFACTURER TO MAINTAIN THE PROPER POSITIONING. FOR PHASED CONSTRUCTION, THE CONTRACTOR'S METHODS FOR INSTALLATION AND TEMPORARY SUPPORTS SHALL ACHIEVE SEPARATION OF THE PHASES AND UNRESTRICTED TEMPERATURE MOVEMENT.
4. THE MODULAR EXPANSION JOINTS SHALL BE INSTALLED, ANCHORED, AND FUNCTIONING WITH UNRESTRICTED TEMPERATURE MOVEMENT PRIOR TO ENCASING IN CONCRETE. THE MODULAR EXPANSION JOINTS SHALL BE INSTALLED AFTER PLACING DECK CONCRETE IN THE MID-SPAN REGIONS, BUT PRIOR TO PLACING CONCRETE IN THE BLOCK OUTS.
5. PERFORM CONCRETE PLACEMENT USING VIBRATION AND HAND WORK AS NECESSARY TO ACHIEVE CONSOLIDATION AND ELIMINATE AIR VOIDS.
6. PLACE THE BLOCK OUT CONCRETE ON THE DECK SIDE FIRST. CHECK THE ABUTMENT OR ADJACENT SPAN SIDE OF THE MODULAR JOINT FOR ALIGNMENT AND TEMPERATURE ADJUSTMENT. TEMPERATURE SHALL BE MEASURED AT THE UNDERSIDE OF THE CONCRETE DECK AT EACH END AND MID-SPAN TO ACHIEVE THE AVERAGE SUPERSTRUCTURE TEMPERATURE. PLACE THE BACKWALL OR ADJACENT SPAN BLOCK OUT CONCRETE SECOND. THE MANUFACTURER'S REPRESENTATIVE SHALL CHECK THAT TEMPERATURE MOVEMENT HAS NOT CAUSED ANY DAMAGE TO THE BOND BETWEEN THE JOINT AND THE CONCRETE.
7. EXAMINE SEAL RETAINERS FOR SOIL OR DEFECTS THAT CAN DAMAGE THE SEAL. REPAIR ANY DEFECTS AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE.
8. SOLVENT CLEAN THE NEOPRENE SEAL ELEMENTS AND THE RETAINER GROOVES TO REMOVE OIL, GREASE OR OTHER SOIL IMMEDIATELY PRIOR TO INSTALLING THE SEALS. INSTALL SEALS USING PROCEDURES AND ADHESIVE SPECIFIED BY THE JOINT MANUFACTURER. KEEP THE BONDING SURFACES CLEAN, DRY AND WARMER THAN 45°F.
9. TEST THE INSTALLED MODULAR JOINT FOR LEAKS. FLOOD THE TOTAL EXPANSION JOINT LENGTH WITH WATER FOR A PERIOD OF NOT LESS THAN ONE HOUR. COVER THE ENTIRE JOINT SYSTEM BY EITHER PONDING OR FLOWING WATER. LOCATE ANY POINTS OF LEAKAGE AND TAKE ANY AND ALL MEASURES NECESSARY TO STOP THE LEAKAGE. PERFORM THIS WORK AT THE CONTRACTOR'S EXPENSE. PERFORM A SECOND WATER TEST AFTER ALL REPAIRS HAVE BEEN MADE.

G. METHOD OF MEASUREMENT

THE DEPARTMENT WILL MEASURE EACH ITEM BY THE NUMBER OF FEET HORIZONTALLY ALONG THE JOINT CENTERLINE AND BETWEEN THE OUTER LIMITS OF THE FABRICATED JOINT.

H. BASIS OF PAYMENT

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

ITEM	UNIT	DESCRIPTION
513	FT	STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

GENERAL NOTES - 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 5, AS PER PLAN:

PERFORM THE WORK PER CMS 513, EXCEPT AS NOTED BELOW.

SELECT ONE OF THE TWO OPTIONS DESCRIBED BELOW:

OPTION 1: FIELD PAINTING

APPLY SHOP COATING PER 513.27.

APPLY INTERMEDIATE AND FINISH COATS IN THE FIELD PER CMS 514 TO ALL STRUCTURAL STEEL SURFACES, INCLUDING BUT NOT LIMITED TO GIRDERS, CROSSFRAMES, STIFFENERS, CONNECTION PLATES, SPLICE PLATES, BOLTS, AND BEARING LOAD PLATES.

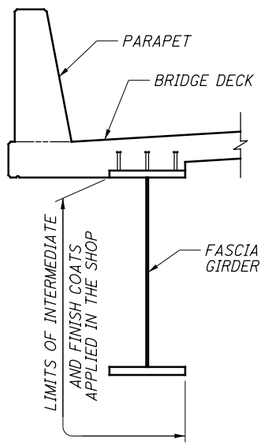
FOR THE URETHANE FINISH COAT, USE FEDERAL COLOR STANDARD NO. 10076.

FOR OPTION 1, SURFACE PREPARATION, PRIME COAT, INTERMEDIATE COAT, FINISH COAT, AND REPAIR WORK ARE CONSIDERED INCIDENTAL TO ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 5, AS PER PLAN. ALL APPLICABLE PROVISIONS OF CMS 514 SHALL APPLY.

OPTION 2: SHOP METALIZING AND SHOP PAINTING OF FASCIA GIRDERS

DELETE THE REQUIREMENTS OF 513.27. SHOP METALIZE ALL STRUCTURAL STEEL SURFACES PER SUPPLEMENTAL SPECIFICATION (SS) 845, INCLUDING BUT NOT LIMITED TO GIRDERS, CROSSFRAMES, STIFFENERS, CONNECTION PLATES, SPLICE PLATES, AND BEARING LOAD PLATES, EXCEPT DO NOT METALIZE THE TOP SURFACE OF GIRDER TOP FLANGES. APPLY A PRIME COAT, 708.01, IN THE SHOP TO THE TOP SURFACE OF GIRDER TOP FLANGES. THE PRIME COAT SHALL BE A MIST COATING FROM 0.5 TO 1.5 MILS.

APPLY INTERMEDIATE AND FINISH COATS IN THE SHOP PER CMS 514 TO THE SURFACES NOTED IN THE FOLLOWING DIAGRAM (APPLIES TO BOTH FASCIA GIRDERS IN EACH SUPERSTRUCTURE UNIT, AND INCLUDES STIFFENERS AND SPLICE PLATES/BOLTS ON THE OUTBOARD (FASCIA) SIDE AND BOTTOM OF FASCIA GIRDERS):



FOR THE URETHANE FINISH COAT, USE FEDERAL COLOR STANDARD NO. 10076.

REPAIR DAMAGE TO THE METALIZING CAUSED DURING STORAGE, TRANSPORTATION, ERECTION, BOLTING, WELDING, FORMING, CONCRETE PLACEMENT, AND FORM REMOVAL OPERATION, ACCORDING TO CMS 711.02. REPAIR DAMAGE TO THE GALVANIZED COATING ON THE NUTS, BOLTS, AND WASHERS, IN THE FIELD DUE TO THE BOLT TIGHTENING OPERATIONS, ACCORDING TO CMS 711.02. EXERCISE EXTREME CARE WHILE HANDLING THE STEEL DURING ERECTION, AND DURING SUBSEQUENT CONSTRUCTION OF THE BRIDGE. INSULATE THE STEEL FROM THE BINDING CHAINS BY SOFTENERS AND PAD ALL HOOKS AND SLINGS THAT ARE USED TO HOIST/ERECT THE STEEL MEMBERS.

FOR OPTION 2, SURFACE PREPARATION, METALIZING, SEALING, PRIME COAT, INTERMEDIATE COAT, FINISH COAT, AND REPAIR WORK ARE CONSIDERED INCIDENTAL TO ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 5, AS PER PLAN. ALL APPLICABLE PROVISIONS OF CMS 514 SHALL APPLY.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY OF BRIDGE NO. SUM-76-1165L WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER AT THE PRECONSTRUCTION MEETING. THE CONTRACTOR SHALL COMPLETE THE FORM AND RETURN IT TO THE DISTRICT CONSTRUCTION ENGINEER ALONG WITH THE PERMIT FEE IF APPLICABLE. THE COMPLETION OF THIS FORM MAY BE PERFORMED AT THE PRECONSTRUCTION MEETING. THE DISTRICT CONSTRUCTION ENGINEER SHALL SUBMIT THE FORM AND CONTRACTOR'S FEE TO THE OEPA DISTRICT OFFICE AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGE. THE DISTRICT CONSTRUCTION ENGINEER SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE CONTRACTOR. THE CONTRACTOR SHALL NOT COMMENCE DEMOLITION OF THE STRUCTURE UNTIL THE ABOVE REQUIREMENTS ARE MET.

INFORMATION ON THIS FORM WILL INCLUDE:
- THE CONTRACTOR'S NAME AND ADDRESS
- THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVALS
- A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHODS TO BE USED

A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT, DISTRICT 4 OFFICE AT 2088 S. ARLINGTON ROAD, AKRON, OHIO 44306.

BASIS FOR PAYMENT:
THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE BID ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN:

IN ADDITION TO THE REQUIREMENTS OF CMS 511, THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO FABRICATE AND INSTALL PARAPET AESTHETIC SIGNS AS SHOWN IN THE AESTHETIC PLANS, INCLUDING SIGNS, MOUNTING HARDWARE, SILICONE CAULK AND OTHER INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

STANDARD ABBREVIATIONS LIST:

APPROX. = APPROXIMATE
BOT. = BOTTOM
BRG. = BEARINGS
BRGS. = BEARINGS
B.S. = BOTH SIDES
B# = BEAM NUMBER
c/c = CENTER-TO-CENTER
C.J. = CONSTRUCTION JOINT
CJP = COMPLETE JOINT PENETRATION
CLR. = CLEAR
CMS OR C&MS = CONSTRUCTION AND MATERIALS SPECIFICATIONS
CONST. = CONSTRUCTION
CS = INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY
CVN = CHARPY V-NOTCH
DIA. = DIAMETER
EB = EASTBOUND
E.F. = EACH FACE
EL. = ELEVATION
EMBED. = EMBEDMENT
EQ. = EQUAL
EXP. = EXPANSION
F.A. = FORWARD ABUTMENT
F.F. = FAR FACE
F.S. = FIELD SPLICE
FWD = FORWARD
GFRP = GLASS FIBER REINFORCED POLYMER
G# = GIRDER NUMBER
HMWM = HIGH MOLECULAR WEIGHT METHACRYLATE
LT. = LEFT
MAX. = MAXIMUM
M.C. = MECHANICAL CONNECTOR
M.E. = MATCH EXISTING
MIN. = MINIMUM
MGS = MIDWEST GUARDRAIL SYSTEM
NB = NORTHBOUND
N.F. = NEAR FACE
NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
o/o = OUT-TO-OUT
PCB = PORTABLE CONCRETE BARRIER
PCPP = PERFORATED CORRUGATED PLASTIC PIPE
PEJF = PREFORMED EXPANSION JOINT FILLER
P.G. = PROFILE GRADE
R.A. = REAR ABUTMENT
RAD. = RADIUS
RT. = RIGHT
SB = SOUTHBOUND
SHLD. = SHOULDER
SHT. = SHEET
S.O. = SERIES OF
SPA. = SPACES
STA. = STATION
SYMM. = SYMMETRICAL
T&B = TOP AND BOTTOM
T/R = TOP OF ROCK
t/t = TOE-TO-TOE
U.N.O. = UNLESS NOTED OTHERWISE
VAR. = VARIES
WB = WESTBOUND
W.P. = WORK POINT

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

GENERAL NOTES - 3

SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

6 / 80

30
104

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	CALC. MDR GENERAL	DATE 5/19/20 TOTAL	CHK'D JHL PARTICIPATION 07/IMS/BR	DATE 5/19/2021 SHEET REF.
			OPTION A							
202	11003	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	LS	LS	6 , 9 / 80
202	22900	SY	APPROACH SLAB REMOVED				111	111	111	
503	21100	CY	UNCLASSIFIED EXCAVATION	341				341	341	
503	31120	CY	SHALE EXCAVATION	45				45	45	
505	11100	LS	PILE DRIVING EQUIPMENT MOBILIZATION	LS				LS	LS	
507	00100	FT	STEEL PILES HP10X42, FURNISHED	715				715	715	
507	00150	FT	STEEL PILES HP10X42, DRIVEN	660				660	660	
507	92201	FT	PREBORED HOLES, AS PER PLAN	195				195	195	4 / 80
509	10001	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	24900	119800	239000	45700	429400	429400	4 / 80
511	34446	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			850		850	850	
511	34451	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			277		277	277	6 / 80
511	41012	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		109			109	109	
511	44112	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	143				143	143	
511	45602	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA		357			357	357	
511	45603	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA, AS PER PLAN		44			44	44	4 ,23 / 80
511	46512	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	104				104	104	
512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	147	1008	1926		3081	3081	
513	10301	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5, AS PER PLAN			1106700		1106700	1106700	6 / 80
513	17001	FT	STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN			34		34	34	5 / 80
513	20000	EACH	WELDED STUD SHEAR CONNECTORS			10379		10379	10379	
513	95030	EACH	STRUCTURAL STEEL, MISC.: PARAPET SLIDING PLATE JOINT			2		2	2	73 / 80
516	11210	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			67		67	67	
516	13600	SF	1" PREFORMED EXPANSION JOINT FILLER				5	5	5	
516	44001	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-8" x 1'-4" x 1¾")		4			4	4	51-53 / 80
516	44101	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-8" x 1'-4" x 2¾")		8			8	8	51-53 / 80
516	44201	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-4" x 1'-1" x 3¾")		4			4	4	51-53 / 80
516	44201	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-4" x 1'-1" x 3⅞")		4			4	4	51-53 / 80
516	44301	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-2" x 1'-0" x 4⅝")		4			4	4	51-53 / 80
516	44301	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-4" x 1'-1" x 4⅝")	8				8	8	51-53 / 80
518	21200	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	90				90	90	
518	40000	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	97				97	97	
518	40010	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	17				17	17	
524	95100	EACH	DRILLED SHAFTS, MISC.: THERMAL INTEGRITY PROFILER (T.I.P.) WIRE CABLE TESTING OF DRILLED SHAFTS		6			6	6	4 / 80
524	95100	EACH	DRILLED SHAFTS, MISC.: CSL TESTING, 96"/102" DIAMETER SHAFT		4			4	4	4 / 80
524	95435	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN		39			39	39	4 / 80
524	95443	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN		119			119	119	4 / 80
524	95455	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN		30			30	30	4 / 80
524	95463	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN		48			48	48	4 / 80
524	95535	FT	DRILLED SHAFTS, 96" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN		85			85	85	4 / 80
524	95543	FT	DRILLED SHAFTS, 102" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN		23			23	23	4 / 80
526	30011	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				220	220	220	4 / 80
526	90010	FT	TYPE A INSTALLATION				67	67	67	
SPECIAL	53000200	LS	STRUCTURE, MISC.: TEMPORARY SUPPORTS FOR GIRDERS AT INTEGRAL PIER				LS	LS	LS	4 / 80
SPECIAL	53013000	SF	FORM LINER	527				527	527	4 / 80
601	20000	SY	CRUSHED AGGREGATE SLOPE PROTECTION	400				400	400	
855	00010	LB	POST-TENSIONING STRAND TENDON		1732			1732	1732	

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

REVIEWED JCS DATE 4/29/19
STRUCTURE FILE NUMBER 7706066
DRAWN AAA REVISED
DESIGNED BES CHECKED MAB

ESTIMATED QUANTITIES - 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

7 / 80
31 / 104

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\SUM076_1148Q\Sheets\076_1166L_SQ001.dgn Sheet 6/1/2021 9:07:34 AM p0026694C

ESTIMATED QUANTITIES

CALC.	DATE	CHK'D	DATE
MDR	5/19/20	JHL	5/19/2020

ITEM	ITEM EXT.	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	GENERAL	TOTAL	PARTICIPATION OT/IMS/BR	SHEET REF.
			OPTION B: ATC							
SPECIAL	20299000	LS	STRUCTURE REMOVED				LS	LS	LS	
SPECIAL	51299000	LS	SEALING OF CONCRETE	LS	LS	LS	LS	LS	LS	
SPECIAL	53099010	LS	SUBSTRUCTURE	LS	LS			LS	LS	
SPECIAL	53099020	LS	SUPERSTRUCTURE			LS		LS	LS	

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

ESTIMATED QUANTITIES - 2

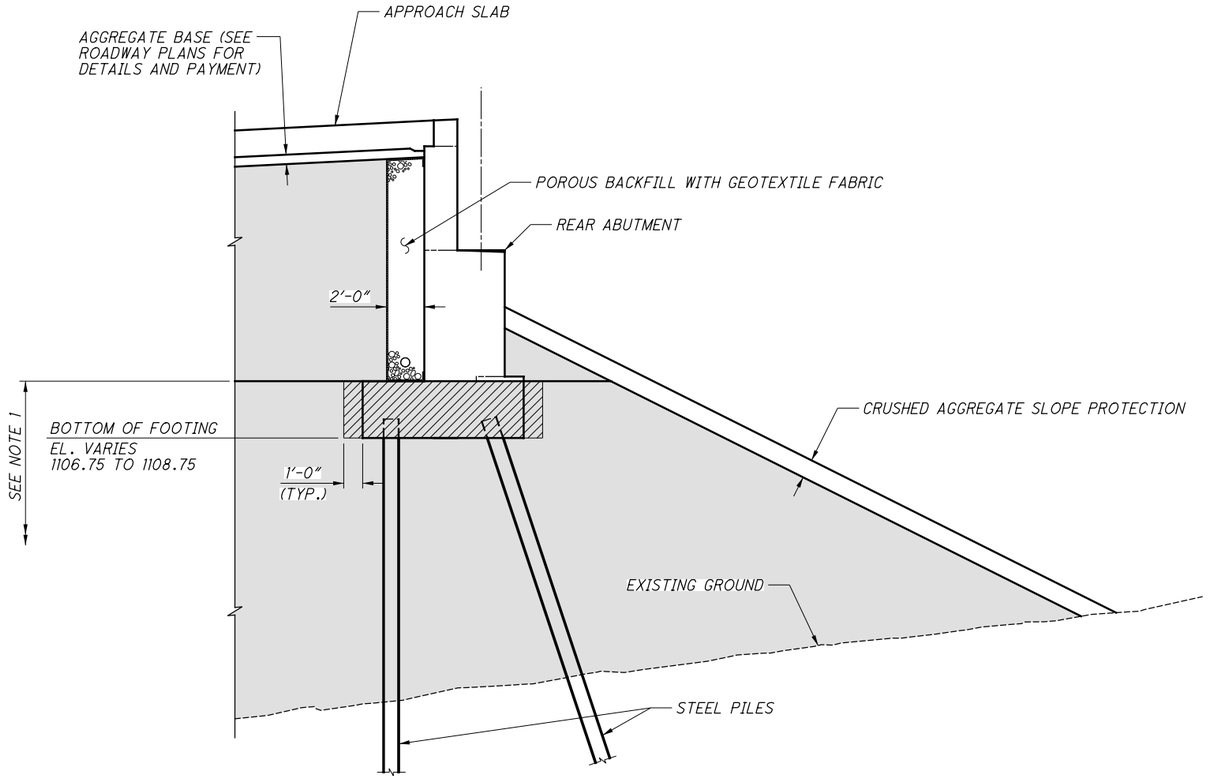
SUM-76-1148Q

RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

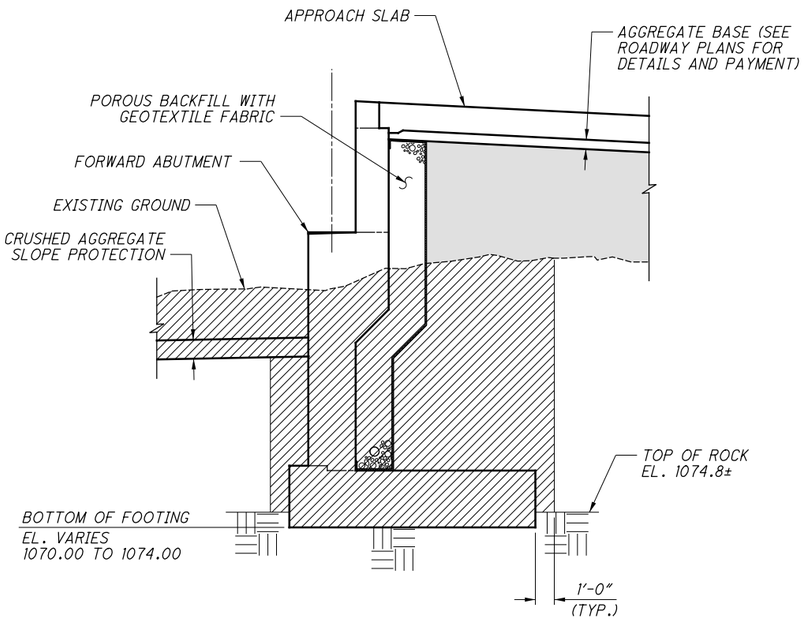
SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

7A / 80

31 A / 104



EXCAVATION & EMBANKMENT DIAGRAM - REAR ABUTMENT



EXCAVATION & EMBANKMENT DIAGRAM - FORWARD ABUTMENT

LEGEND:

= LIMITS OF ITEM 203 - EMBANKMENT, AS PER PLAN, SEE ROADWAY PLANS FOR ADDITIONAL DETAILS & PAYMENT

= LIMITS OF ITEM 503 - UNCLASSIFIED EXCAVATION

NOTES:

1. SEE GENERAL NOTES FOR REQUIREMENTS REGARDING CONSTRUCTION OF EMBANKMENT BELOW TOP OF REAR ABUTMENT FOOTING, AND REQUIRED WAITING PERIOD PRIOR TO DRIVING PILES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

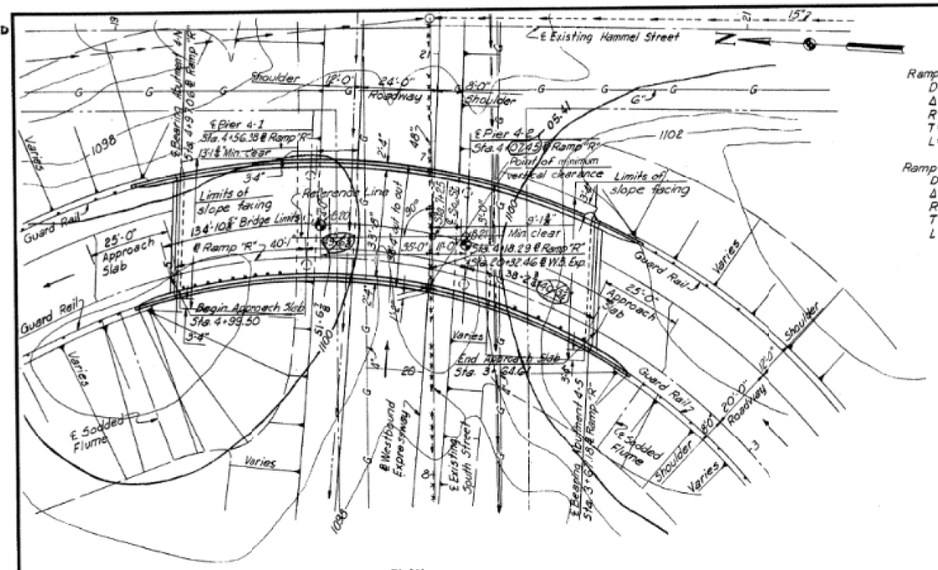
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ODW		7706066	

EXCAVATION & EMBANKMENT DIAGRAMS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

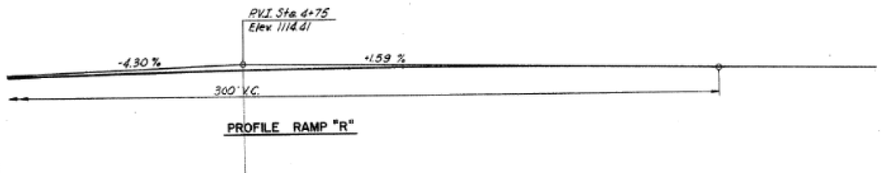
SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

FED. ROADS DIV. NO.	STATE	FED. AID PROJ. NO.	
2	OHIO		176

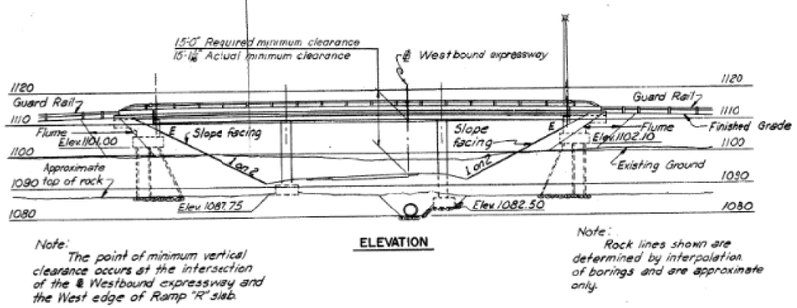
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
SUM-8-11.65



PLAN



PROFILE RAMP "R"



ELEVATION

Note:
The point of minimum vertical clearance occurs at the intersection of the ℄ Westbound expressway and the West edge of Ramp "R" slab.

Note:
Rock lines shown are determined by interpolation of borings and are approximate only.

LEGEND

- G—G Existing Gas Lines
- Existing Sewer
- New Sewer
- Existing Manhole
- Pipe Abandoned
- New Underdrain
- Boring

Ramp "R" Curve Data
D = 31°-16'-55"
Δ = 99°-22'-45"
R = 183.16'
T = 215.89'
L = 317.69'

Ramp "R" Curve Data
D = 9°-30'-00"
Δ = 21°-00'-00"
R = 603.11'
T = 111.78'
L = 221.05'

Westbound Expressway Curve Data
D = 2°-30'-00"
Δ = 23°-10'-46"
R = 2291.83'
T = 470.02'
L = 927.18'
θs = 2°-30'-00"
Ls = 200'
L.T. = 133.35'
S.T. = 66.68'

ESTIMATED QUANTITIES

Item	Description	Unit	Abut-ments	Piers	Super-structure	General	Total		
E-2	Cofferdams, Cribs and Sheeting	Lump Sum					Lump Sum		
E-2	Excavation for Structures (Unclassified)	Cu Yd.	220	(150)	139		(450)	359	
E-2	Excavation for Structures (Rock or Shale)	Cu Yd.		30			30		
S-1	Class "C" Concrete (Superstructure)	Cu Yd.			410		410		
S-1	Class "C" Concrete (Pier Columns)	Cu Yd.		36			36		
S-1	Class "E" Concrete (Stub Abutments)	Cu Yd.	70				70		
S-1	Class "E" Concrete (Footings)	Cu Yd.	67	(33)	38		(100)	105	
S-3	Type "C" Waterproofing	Sq Yd.			500		500		
S-4	Reinforcing Steel	Lbs.	4560	20,040	(26,880)	89,537	(121,480)	118,137	
S-9	Structural Steel Expansion Joint	Lbs.			7500		7500		
S-9	¾" Rolled Phosphor Bronze Sliding Plates	Lbs.			240		240		
S-14	Aluminum Handrail (Including Parapet)	Lin. Ft.	58		264		322		
S-16	First Test Pile	Lump Sum					Lump Sum		
S-18	Steel Bearing Piles (12BP53)	Lin. Ft.	510				510		
S-25	2" ϕ Rigid Metal Conduit	Lin. Ft.	30		140		170		
S-29	Porous Backfill	Cu Yd.	30				30		
S-29	Subdrainage for Wearing Surface Course	Lin. Ft.			260		260		
T-35	2½" Asphaltic Concrete Surface Course Type C (40-70)	Cu Yd.			34		34		
S-29	4" W. I. Scuppers	Each			13		13		
S-25	Standard 24'+9⅜" pole with 10'-0" bracket ①	Each			1		1		
S-29	Slope Facing (S-29.05 type)	Cu Yd.	140				140		
S-25	Electrical equipment	Lump Sum					Lump Sum		

① These quantities are not included in the summary of lighting on sheet 24 of the highway plans.

Notes:
The following items are not included in the bridge plans. See Roadway Plans for details.
Removal of existing pavements, etc.
Relocations or removal of existing utilities.
Approach grading, pavements, and slabs.
Guard rails.
All piles to be 12BP53 with an estimated average vertical length of 15'-0" for Abutments 4-N and 4-S. These estimates are based on boring data and are approximate only. The contractor shall assume full responsibility for lengths of piling selected for driving.
Boring information, logs and samples of materials encountered may be examined at the Division Office in Ravenna, Ohio, and at the Bridge Bureau Office at Columbus, Ohio, but the State does not guarantee these borings to present a complete picture of subsurface conditions to be encountered.
Foundation design and foundation quantities are based on a study of the borings.
The slope facing (S-29.05 type) shall be 12" thick, and shall be placed within the limits shown on the plan of the structure.

PROPOSED STRUCTURE
Type: Three span continuous slab bridge with reinforced concrete deck and substructure.
Spans: 40'-1", 49'-6⅝" and 40'-3½" = 129'-10⅝" ctr. to ctr. end bearings.
Rdwy.: 33'-8" ± 1'-2" safety curbs.
Loading: CF 2000 (Adequate for A.A.S.H.O. alternate loading.)
Skew: Varies 16°-16'-57" to 20°-21'-33.14"
Surface Course: 2½" Asphaltic concrete
Approach Slabs: AS-1-54 (25'-0" long)

H.N.T.B. BR. NO. 4 PART 10

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

SITE PLAN
WESTBOUND EXPRESSWAY UNDER RAMP "R"
BR. NO. SUM-18-1224 STA. 3+64.61
SCALE: 1" = 20' STA. 4+99.50
AKRON EXPRESSWAY SYSTEM
AKRON SUMMIT COUNTY OHIO

DRAWN S.M.A.	TRACED	CHECKED W.J.	REVIEWED J.F.	REVISED 10-14-59
DATE 2-9-58	DATE	DATE 8-29-58	DATE 9-8-58	1018 SHEET 15

ORIGINAL CONSTRUCTION PLANS SHOWN FOR INFORMATION ONLY

NOTES:

1. THE EXISTING BRIDGE IS TO BE REMOVED AS PER ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN. SEE SHEET (495/1022) FOR ADDITIONAL REMOVAL REQUIREMENTS.
2. THE EXISTING APPROACH SLABS ARE TO BE REMOVED AS PER ITEM 202 - APPROACH SLAB REMOVED.
3. SUM-18-1224 IS THE HISTORIC BRIDGE NUMBER. THE CURRENT BRIDGE NUMBER IS SUM-76-1165L AND THE STRUCTURE FILE NUMBER IS 7706065.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

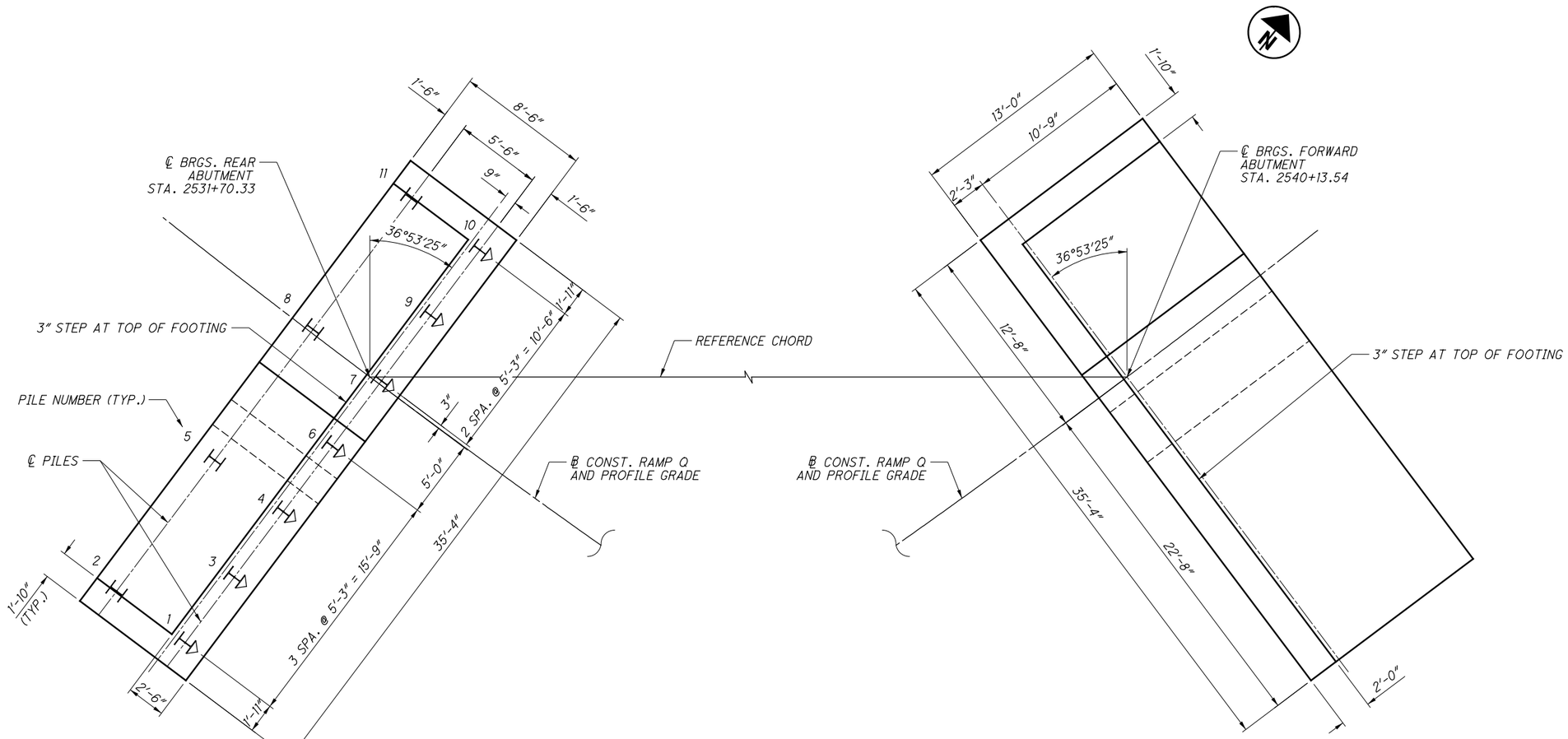
DESIGNED	DRAWN	REVIEWED	DATE
CAS	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

BRIDGE REMOVAL DETAILS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

9 / 80

33
104



FOUNDATION PLAN - ABUTMENTS

PREBORED HOLE LENGTHS	
PILE NUMBERS	HOLE LENGTH
1-5	21'
6-11	15'

LEGEND:

= PROPOSED HP10x42 STEEL PILE (VERTICAL)

= PROPOSED HP10x42 STEEL PILE (BATTERED AT 1:3)

NOTES:

1. SEE SHEETS 11 / 80 TO 13 / 80 FOR LOCATIONS AND DETAILS OF REAR ABUTMENT FOOTING STEPS.
2. SEE SHEETS 14 / 80 TO 17 / 80 FOR LOCATIONS AND DETAILS OF FORWARD ABUTMENT FOOTING STEPS.
3. USE PREBORED HOLES FOR THE PILES AT THE REAR ABUTMENT. SEE TABLE ON THIS SHEET FOR PREBORED HOLE LENGTHS. SEE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS FOR PREBORED HOLES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

FOUNDATION PLAN - ABUTMENTS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

10 / 80

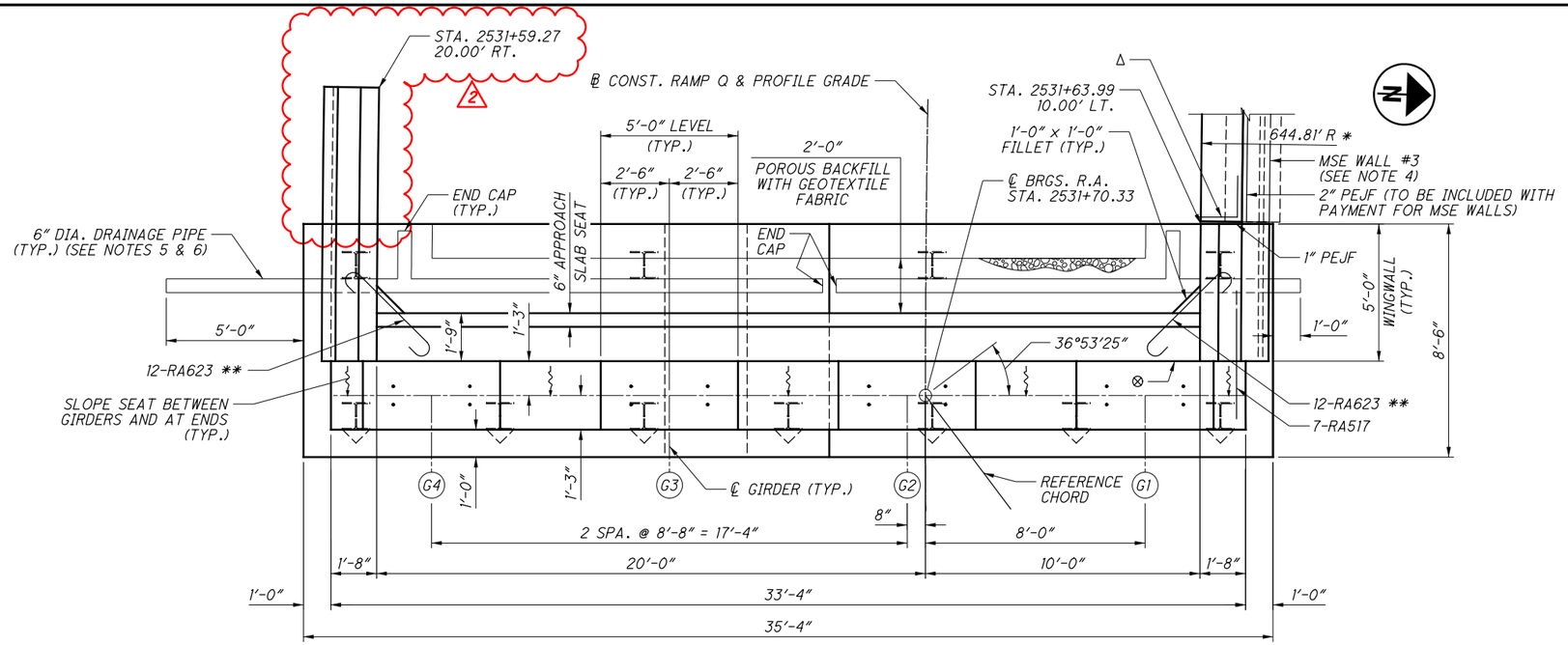
34 / 104

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

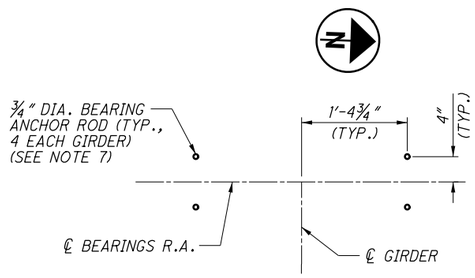
REVISIONS BY:

ISSUE RECORD: BU-17 STRUCTURES

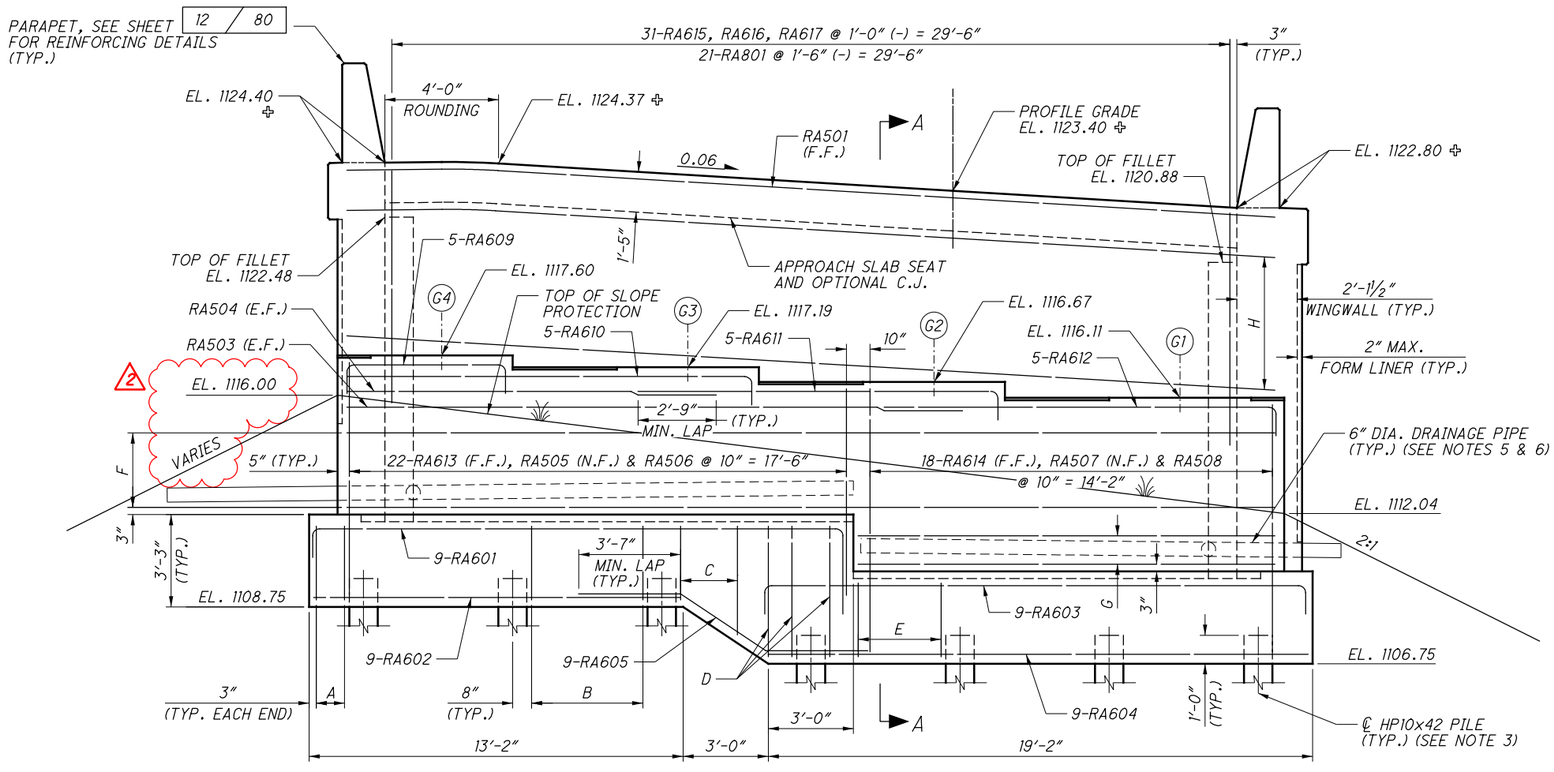
NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE
2	12-2021	WINGWALL EXTENDED 5'



REAR ABUTMENT PLAN



BEARING ANCHOR PLAN



REAR ABUTMENT ELEVATION

LEGEND:

* = RADIUS SHOWN IS AT BACK FACE OF WINGWALL (TOE OF PARAPET)

** = PLACE FILLET BARS WITH HORIZONTAL BARS IN WINGWALL

Δ = TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT BETWEEN WINGWALL AND RETAINING WALL, FROM TOP OF FOOTING TO 6" BELOW BOTTOM OF APPROACH SLAB (INCLUDED IN RETAINING WALL QUANTITIES) (TYP.)

✣ = TOP OF BACKWALL ELEVATIONS ARE GIVEN AT FRONT FACE OF BACKWALL

⊗ = FRONT FACE OF BACKWALL

A = 2-RA606 (T&B) @ 1'-0" (TYP. EACH END)

B = 5-RA606 (T&B) @ 1'-0" (-) = 3'-11" (TYP. BETWEEN PILES U.N.O.)

C = 1 S.O. 3-RA607 (T&B) @ 1'-0" = 2'-0"

D = RA608 (T&B)

E = 4-RA606 (T&B) @ 1'-0" = 3'-0"

F = 4-RA501 (E.F.) @ 10½" = 2'-7½"

G = 2-RA502 (E.F.) @ 1'-0"

H = 6-RA501 (E.F.) @ 1'-0" MAX.

NOTES:

1. SEE SHEET 10 / 80 FOR PILE LAYOUT AND ADDITIONAL FOOTING DIMENSIONS.
2. SEE SHEET 12 / 80 FOR WINGWALL ELEVATION VIEWS.
3. SEE SHEET 13 / 80 FOR SECTION A-A.
4. SEE RETAINING WALL PLANS FOR RETAINING WALL DETAILS & PAYMENT.
5. USE PERFORATED CORRUGATED POLYETHYLENE PIPE INSIDE THE POROUS BACKFILL. USE NON-PERFORATED CORRUGATED POLYETHYLENE PIPE IN ALL OTHER LOCATIONS. ALL DRAINAGE PIPES SHALL SLOPE ⅛" PER FT. TOWARDS THE OUTLET.
6. PROVIDE CRUSHED AGGREGATE SLOPE PROTECTION AT PIPE OUTLETS PER STANDARD DRAWING A-1-69.
7. SEE SHEET 52 / 80 FOR BEARING ANCHOR ROD DETAILS & PAYMENT.

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

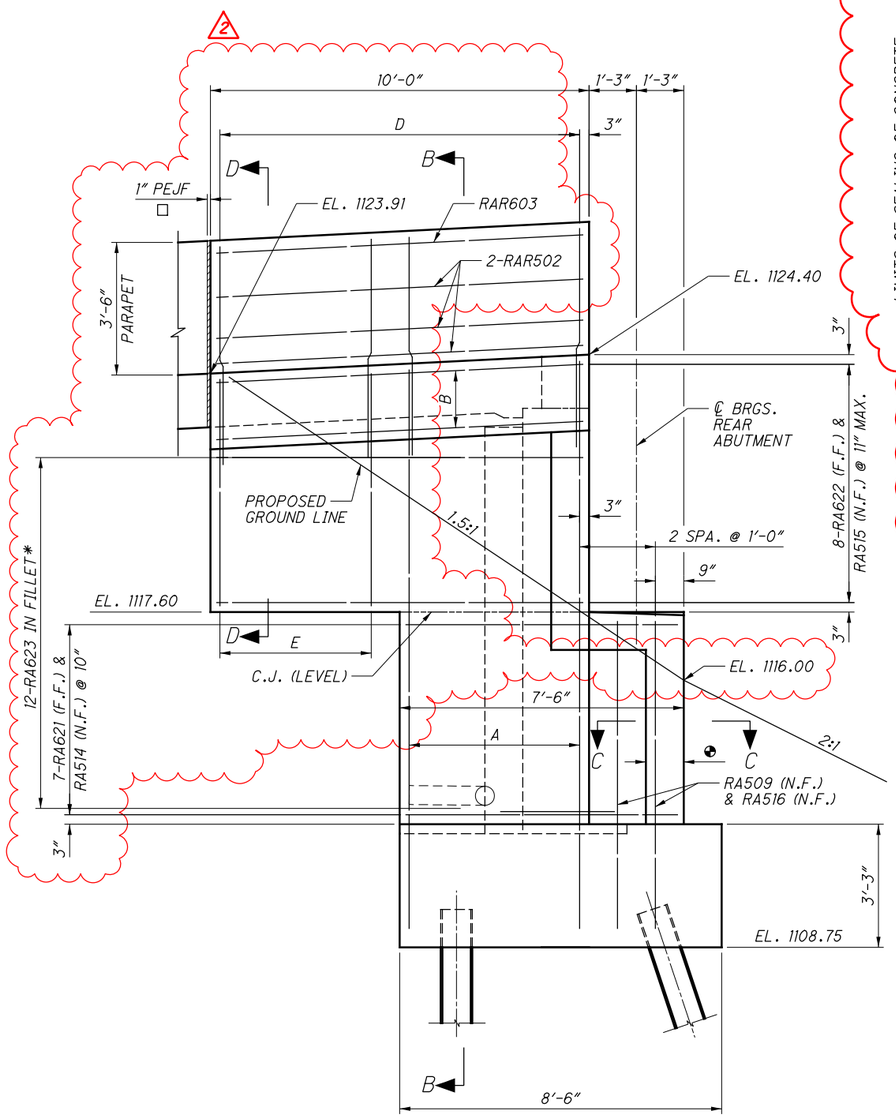
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ODW		7706066	

REAR ABUTMENT PLAN AND ELEVATION
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

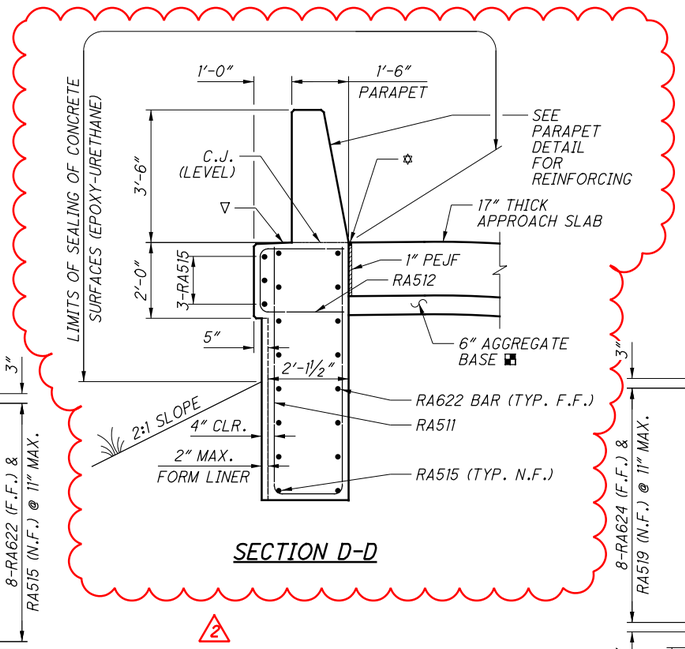
SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

11 / 80

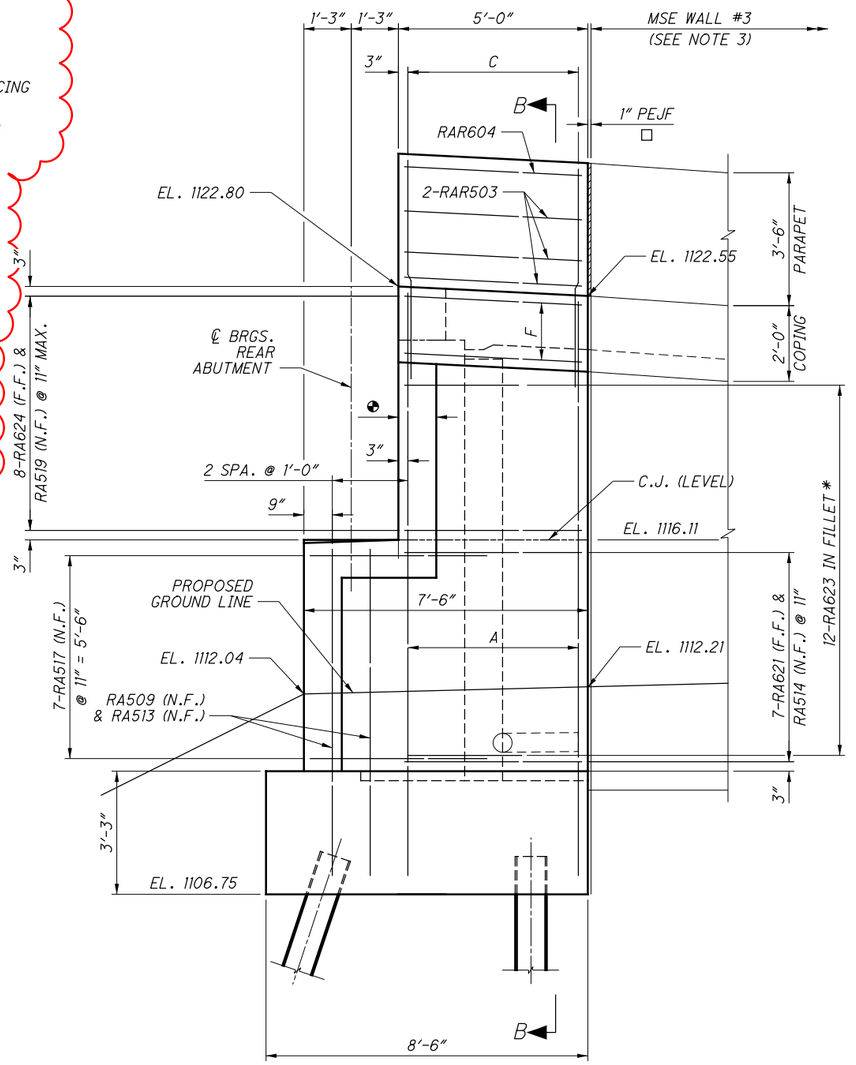
35
104



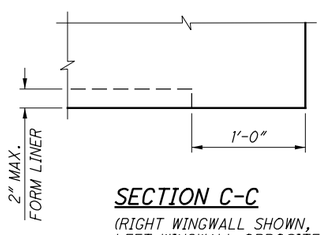
ELEVATION - RIGHT WINGWALL



SECTION D-D



ELEVATION - LEFT WINGWALL



SECTION C-C

(RIGHT WINGWALL SHOWN,
LEFT WINGWALL OPPOSITE HAND)
(REINFORCING STEEL NOT SHOWN)

LEGEND:

□ = INCLUDED IN RETAINING WALL QUANTITIES

✱ = PLACE FILLET BARS WITH RA621 AND RA622

◕ = 1'-0" WIDE x 2" DEEP BORDER (TYP.)

A = 11-RA618 (F.F.), RA619 (F.F.) & RA620 (F.F.) @ 5½" (-) = 4'-6"
6-RA509 (N.F.), RA510 (N.F.), RA511 (N.F.) & RA512 @ 11" (-) = 4'-6"

B = 3-RA515 @ 9" (IN COPING)

C = 6-RAR601 (F.F.), RAR602 (N.F.) & RAR501 @ 11" (-) = 4'-6"

D = 11-RAR601 (F.F.), RAR602 (N.F.) & RAR501 @ 11" (+) = 9'-6"

E = 5-RA512 & 5-RA518 @ 12" = 4'-0"

F = 3-RA519 @ 9" (IN COPING)

2

NOTES:

1. SEE SHEET 10 / 80 FOR PILE LAYOUT AND ADDITIONAL FOOTING DIMENSIONS.
2. SEE SHEET 13 / 80 FOR SECTION B-B.
3. SEE MSE WALL PLANS FOR MSE WALL DETAILS & PAYMENT.
4. PARAPETS MOUNTED ON WINGWALLS ARE INCLUDED FOR PAYMENT WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET). REINFORCING STEEL FOR PARAPETS MOUNTED ON WINGWALLS IS INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE
2	12-2021	WINGWALL EXTENDED 5'

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

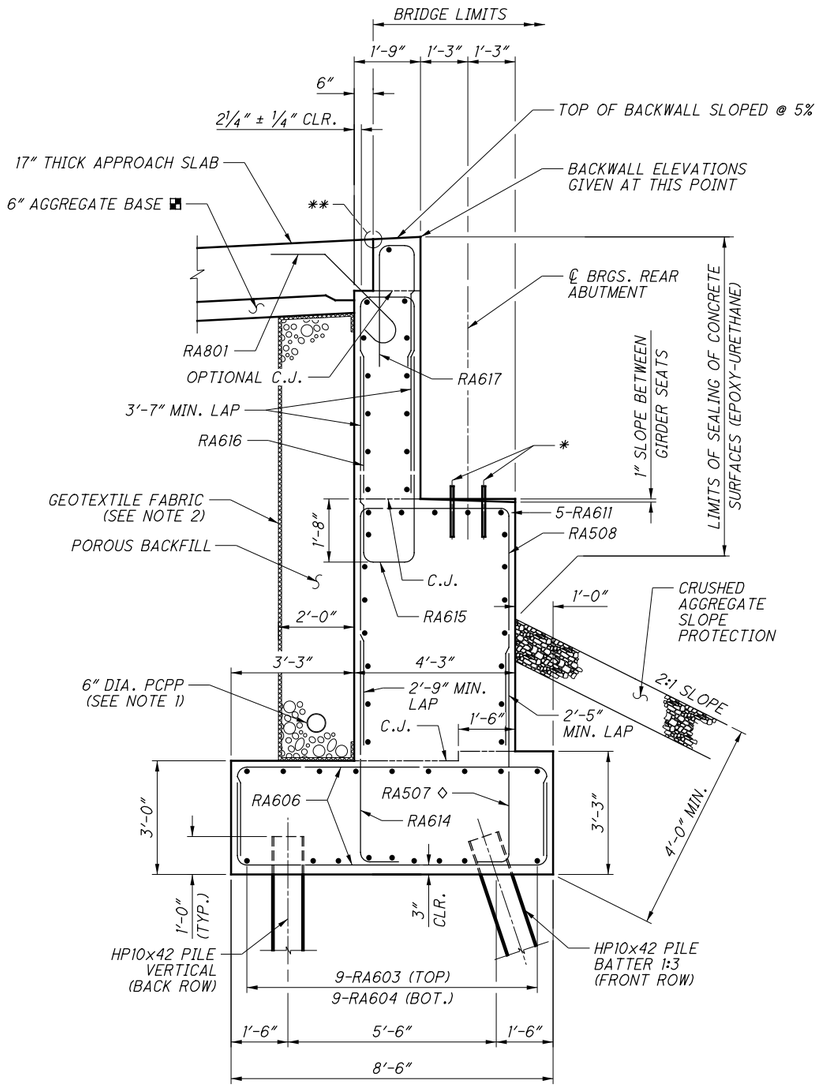
DESIGNED BES | DRAWN BES | CHECKED ODW | REVISED | REVIEWED JCS | DATE 4/29/19
STRUCTURE FILE NUMBER 7706066

REAR ABUTMENT WINGWALL ELEVATIONS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

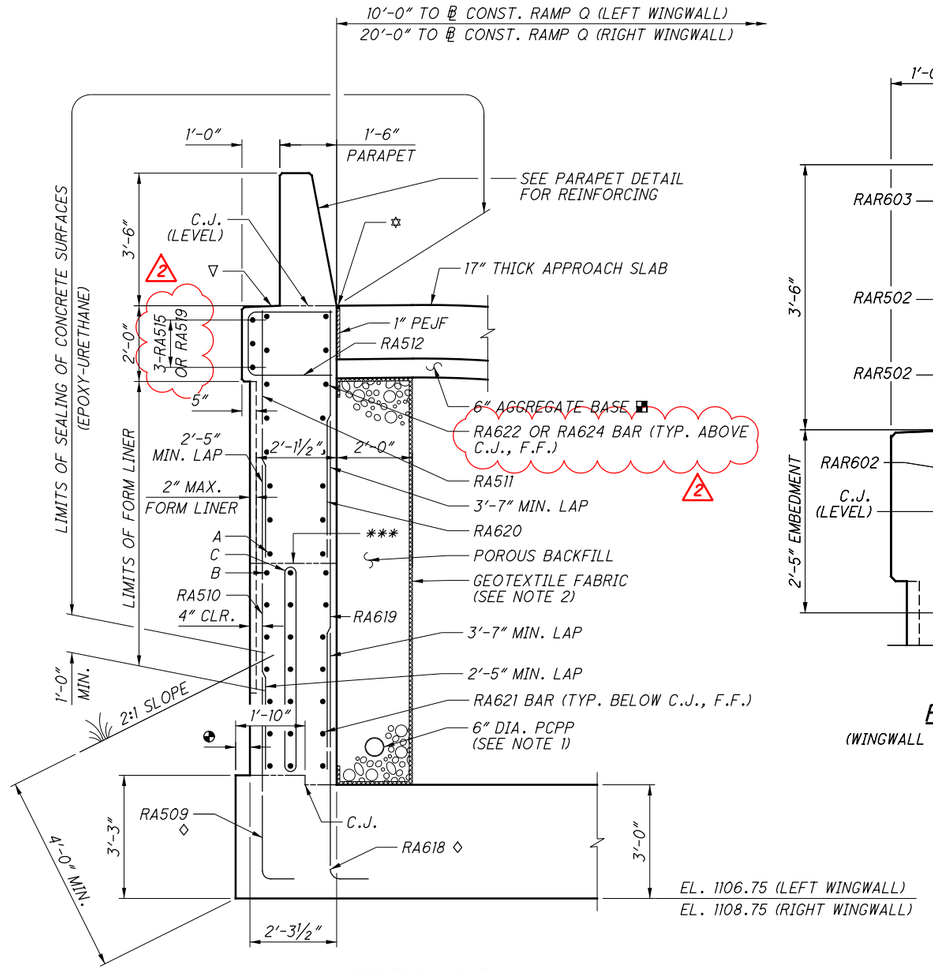
12 / 80

36 / 104



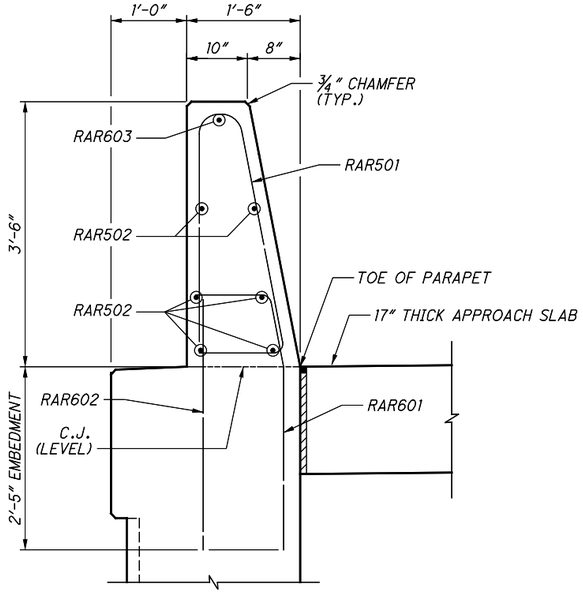
SECTION A-A

(ALL BARS NORMAL TO THE SECTION ARE RA5 BARS UNLESS NOTED OTHERWISE)



SECTION B-B

(PILES & FOOTING REINFORCING STEEL NOT SHOWN)



PARAPET DETAIL

(WINGWALL REINFORCING STEEL NOT SHOWN)

LEGEND:

◒ = DIMENSION VARIES FROM 4⅛" TO 4½" AT LEFT WINGWALL AND FROM 1'-0" TO 1'-0⅜" AT RIGHT WINGWALL

✡ = 1" DEEP x 1" WIDE HOT APPLIED JOINT SEALER, CMS 705.04

◘ = SEE ROADWAY PLANS FOR DETAILS & PAYMENT

◊ = WHERE PILE INTERFERES WITH PLACEMENT OF RA507, RA509 OR RA618, RAISE BAR SO THAT HORIZONTAL LEG IS ABOVE TOP OF PILE, BUT AT LEAST 1'-3" BELOW TOP OF FOOTING

▽ = SLOPE LEDGE AT ½" PER FOOT

* = ¾" DIA. BEARING ANCHOR RODS, SEE SHEET 52 / 80 FOR DETAILS & PAYMENT

** = SEE DETAIL B ON STANDARD DRAWING AS-1-15, SHEET 2/2

*** = C.J., EL. 1116.11 (LEFT WINGWALL), EL. 1117.60 (RIGHT WINGWALL)

2 A = RA515 OR RA519 BAR (TYP. ABOVE C.J., F.F.)

B = RA514 BAR (TYP. BELOW C.J., F.F.)

C = RA517 BAR (TYP. BELOW C.J.) TIE TO RA507, RA508, AND RA614

NOTES:

1. SLOPE 6" DIA. PCPP AT ⅛" PER FOOT TOWARDS THE OUTLET.
2. TURN GEOTEXTILE FABRIC UP 6" AT BASE OF WALL AND DOWN 6" AT TOP OF WALL.
3. SEE GENERAL NOTES FOR ADDITIONAL FORM LINER REQUIREMENTS. SEE AESTHETIC PLANS FOR ELEVATION VIEWS SHOWING LIMITS OF FORM LINER AREAS.
4. BRIDGE SEAT REINFORCING, SETTING ANCHORS: PRE-SET BEARING ANCHORS. PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE PRE-SET BEARING ANCHORS.

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE
2	12-2021	WINGWALL EXTENDED 5'

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

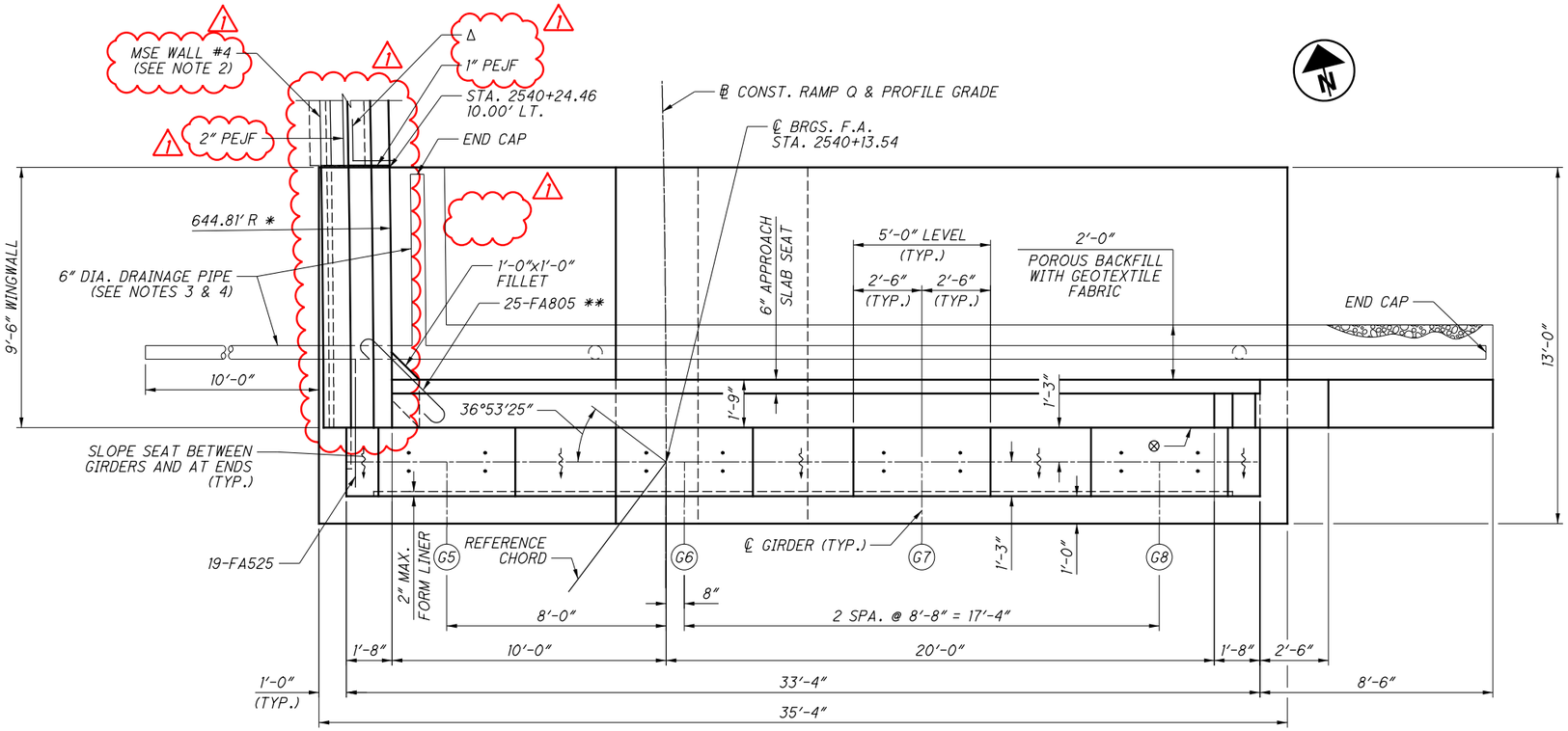
DESIGNED BES | DRAWN BES | REVIEWED JCS | DATE 4/29/19
CHECKED ODW | REVISED | STRUCTURE FILE NUMBER 7706066

REAR ABUTMENT DETAILS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

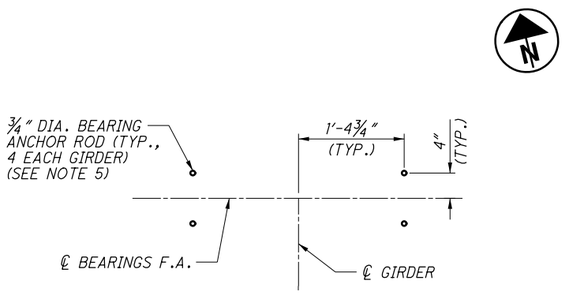
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

13 / 80

37 / 104



FORWARD ABUTMENT PLAN



BEARING ANCHOR PLAN

LEGEND:

* = RADIUS SHOWN IS AT BACK FACE OF WINGWALL (TOE OF PARAPET)

** = PLACE FILLET BARS WITH HORIZONTAL BARS IN WINGWALL

Δ = TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT BETWEEN WINGWALL AND RETAINING WALL, FROM TOP OF FOOTING TO 6" BELOW BOTTOM OF APPROACH SLAB (INCLUDED IN RETAINING WALL QUANTITIES)

⊗ = FRONT FACE OF BACKWALL

NOTES:

1. SEE SHEET 10 / 80 FOR ADDITIONAL FOOTING DIMENSIONS.
2. SEE RETAINING WALL PLANS FOR RETAINING WALL DETAILS & PAYMENT.
3. USE PERFORATED CORRUGATED POLYETHYLENE PIPE INSIDE THE POROUS BACKFILL. USE NON-PERFORATED CORRUGATED POLYETHYLENE PIPE IN ALL OTHER LOCATIONS. ALL DRAINAGE PIPES SHALL SLOPE ⅛" PER FT. TOWARDS THE OUTLET.
4. PROVIDE CRUSHED AGGREGATE SLOPE PROTECTION AT PIPE OUTLET PER STANDARD DRAWING A-1-69.
5. SEE SHEET 52 / 80 FOR BEARING ANCHOR ROD DETAILS & PAYMENT.
6. SEE SHEETS 15 / 80 & 16 / 80 FOR ELEVATION VIEWS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

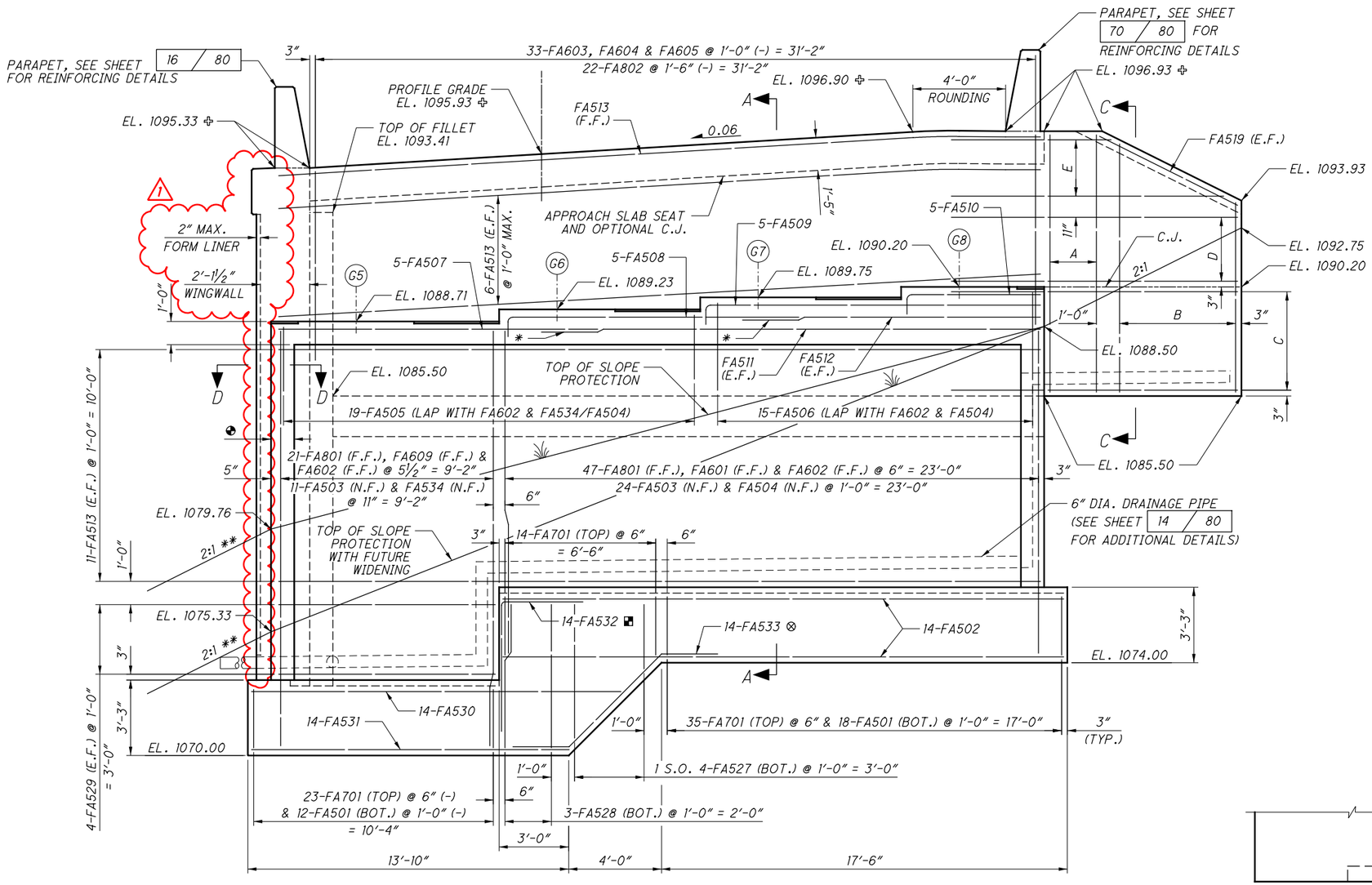
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

FORWARD ABUTMENT PLAN
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

14 / 80

38
104



FORWARD ABUTMENT ELEVATION

LEGEND:

A = 3-FA514 & FA515 @ 1'-0" = 2'-0"

B = 6-FA514 & 1 S.O. 6-FA516 @ 1'-0" = 5'-0"

C = 6-FA702 (F.F.) & FA517 (N.F.) @ 10" = 4'-2"

D = 4-FA702 (F.F.) & FA517 (N.F.) @ 11" = 2'-9"

E = 1 S.O. 4-FA703 (F.F.) & 1 S.O. 4-FA518 (N.F.) @ 10" = 2'-6"

* = 2'-5" MIN. LAP

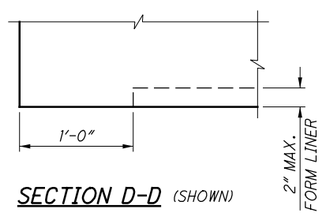
** = MEASURED PERPENDICULAR TO ℄ CONST. S.R. 8

⬛ = SPACE WITH FA502 (TOP) & FA530, PLACE LONGER LEG VERTICALLY

⊗ = SPACE WITH FA502 (BOT.) & FA531

✣ = TOP OF BACKWALL ELEVATIONS ARE GIVEN AT FRONT FACE OF BACKWALL

= 1'-0" WIDE x 2" DEEP BORDER (TYP.)



SECTION D-D (SHOWN)

SECTION E-E (OPPOSITE HAND)
(REINFORCING STEEL NOT SHOWN)

NOTES:

1. SEE SHEET 10 / 80 FOR ADDITIONAL FOOTING DIMENSIONS.
2. SEE SHEET 14 / 80 FOR PLAN VIEW.
3. SEE SHEET 16 / 80 FOR LEFT WINGWALL ELEVATION VIEW.
4. SEE SHEET 17 / 80 FOR SECTIONS A-A & C-C.

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

FORWARD ABUTMENT ELEVATION

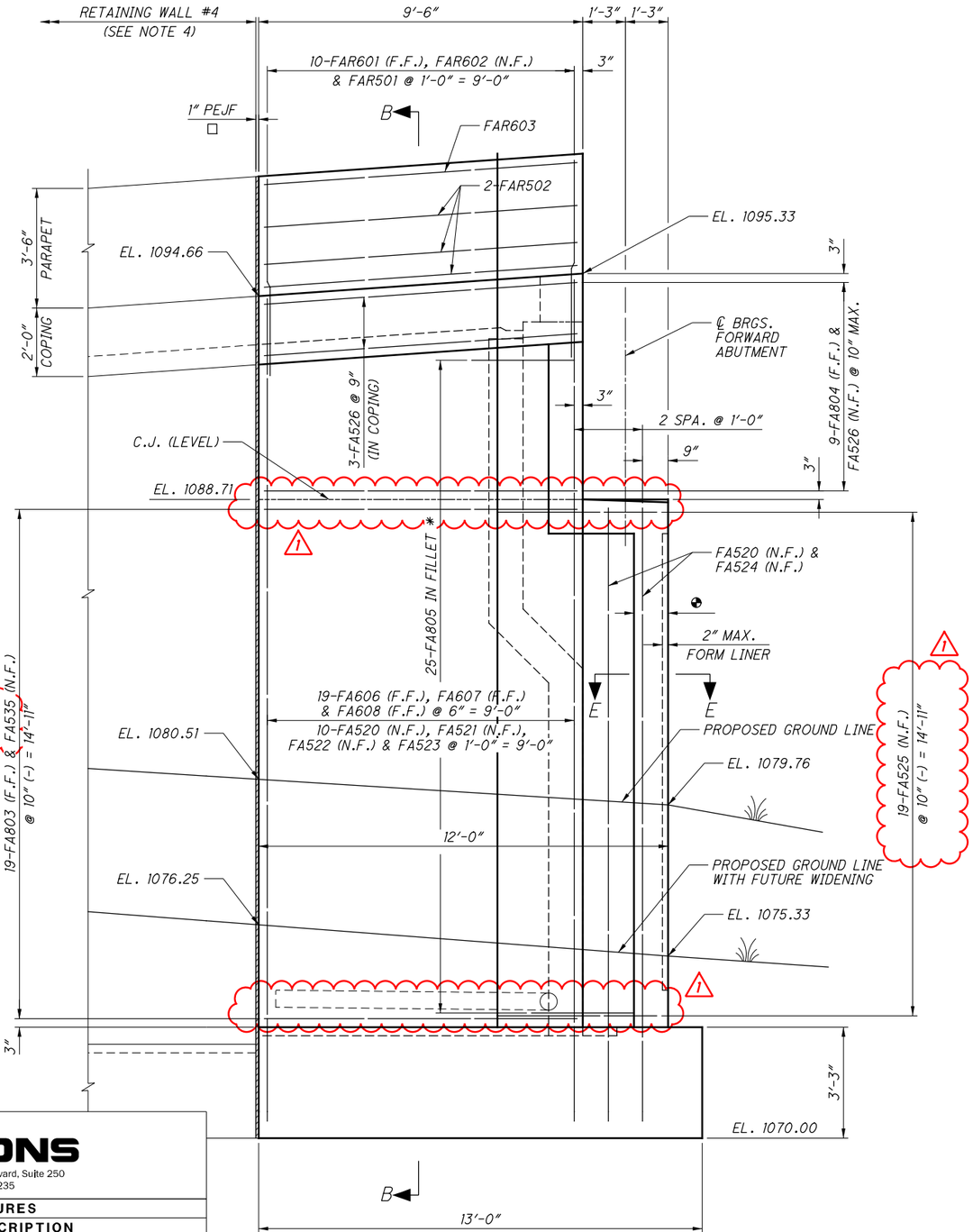
SUM-76-1148Q

RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

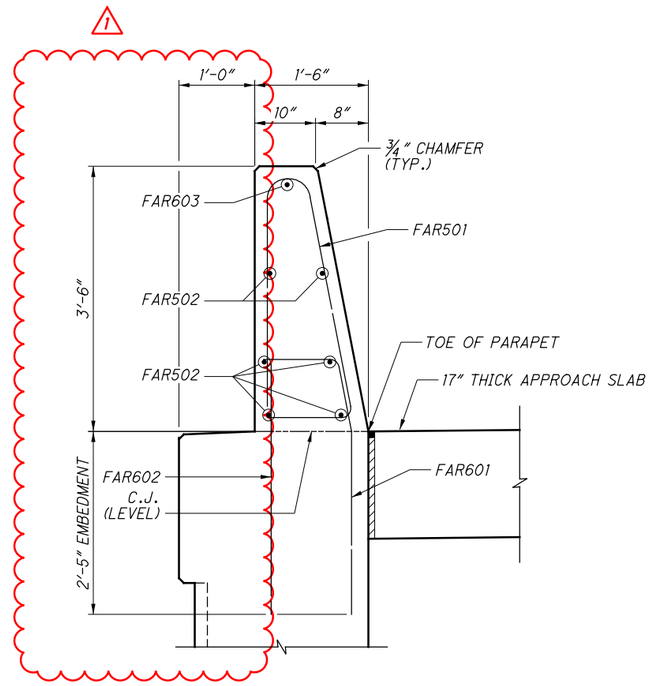
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

15 / 80

39 / 104



ELEVATION - LEFT WINGWALL



PARAPET DETAIL

(WINGWALL REINFORCING STEEL NOT SHOWN)

LEGEND:

□ = INCLUDED IN RETAINING WALL QUANTITIES

✱ = PLACE FILLET BARS WITH FA803 & FA804

◕ = 1'-0" WIDE x 2" DEEP BORDER (TYP.)

NOTES:

1. SEE SHEET 10 / 80 FOR ADDITIONAL FOOTING DIMENSIONS.
2. SEE SHEET 17 / 80 FOR SECTION B-B.
3. SEE SHEET 15 / 80 FOR SECTION E-E.
4. SEE RETAINING WALL PLANS FOR RETAINING WALL DETAILS & PAYMENT.
5. PARAPET MOUNTED ON WINGWALL IS INCLUDED FOR PAYMENT WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET). REINFORCING STEEL FOR PARAPET MOUNTED ON WINGWALL IS INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE

ISSUE RECORD:

NO.	DATE

DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

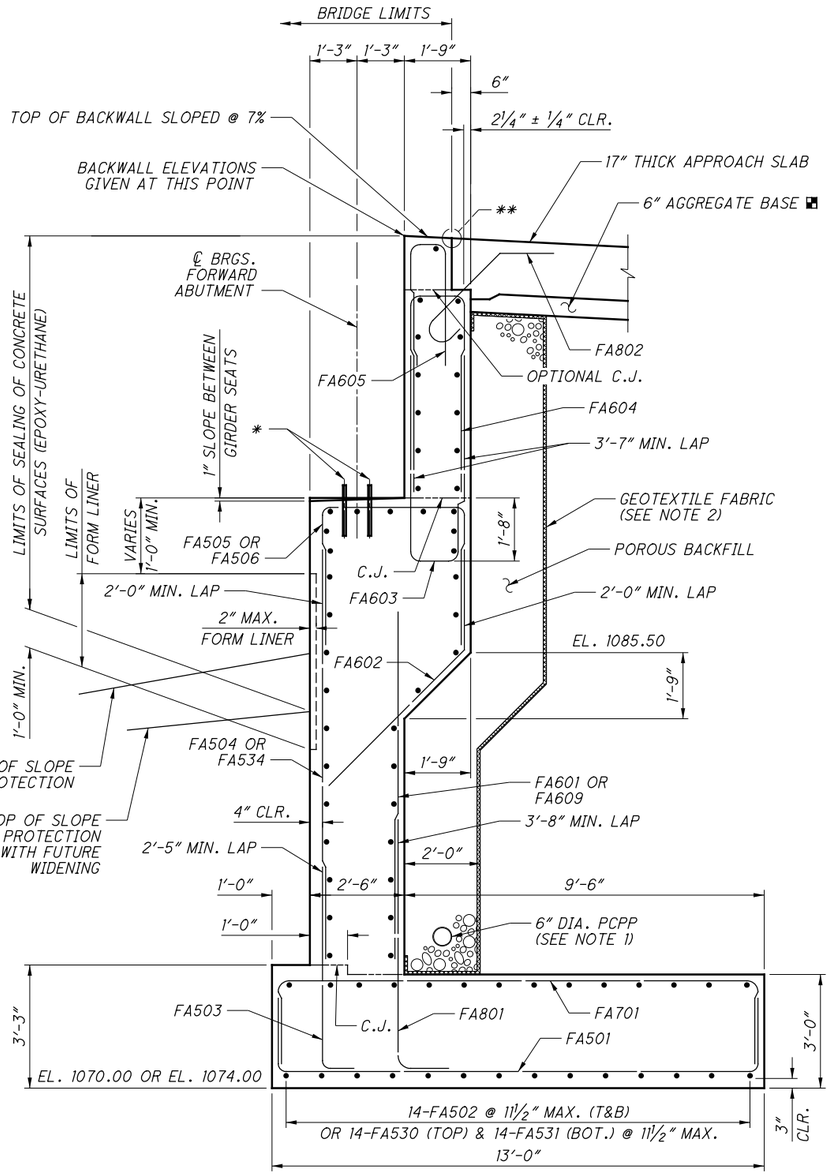
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

FORWARD ABUTMENT WINGWALL ELEVATIONS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

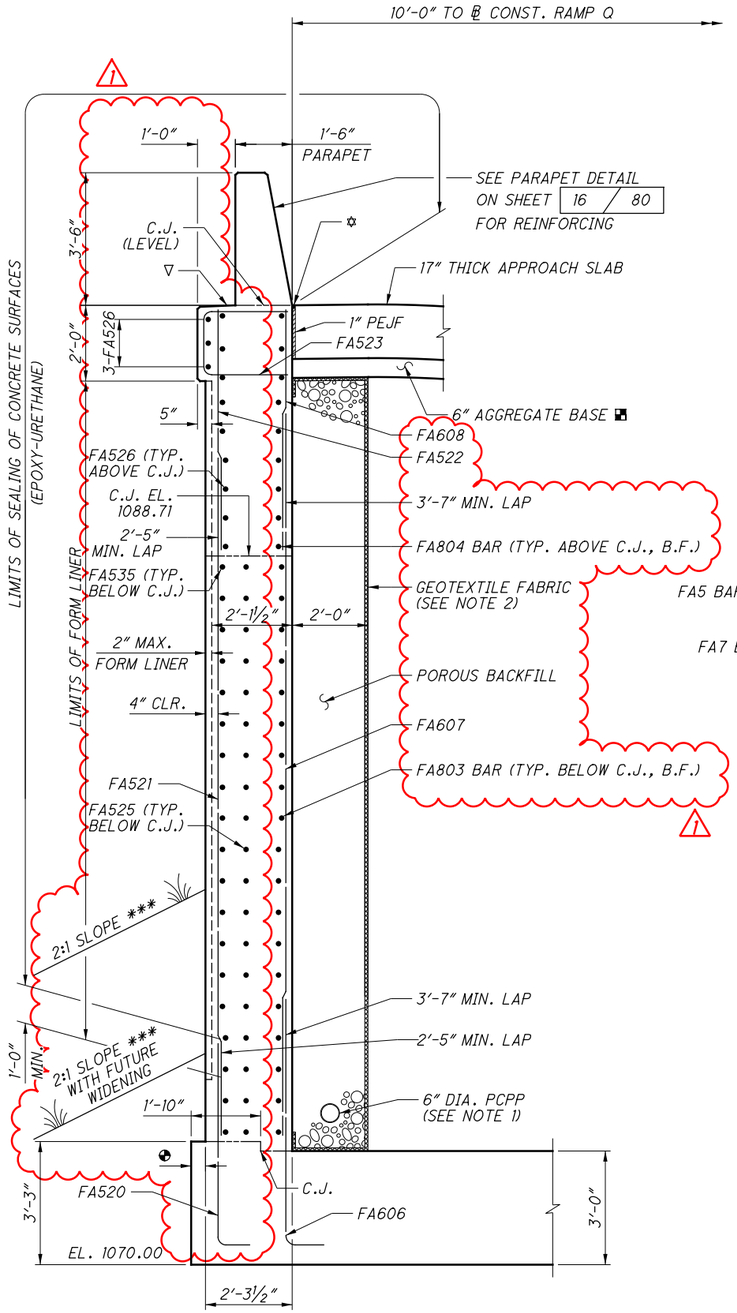
16 / 80

40
104



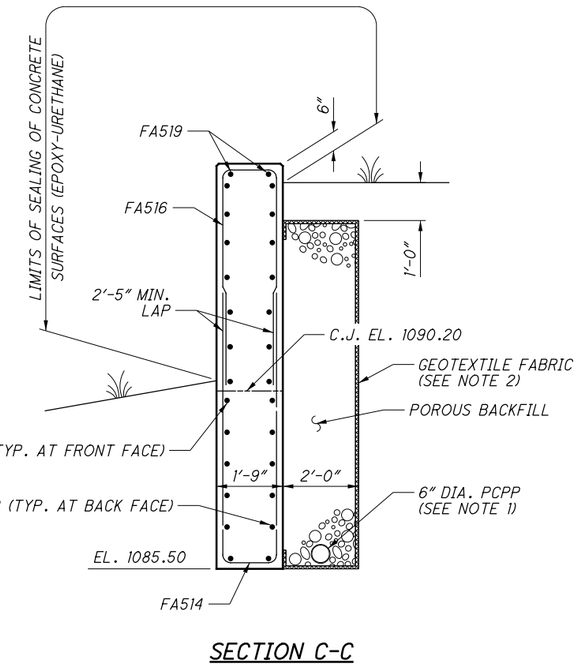
SECTION A-A

(ALL BARS NORMAL TO THE SECTION ARE FA5 BARS)



SECTION B-B

(FOOTING REINFORCING NOT SHOWN)



SECTION C-C

LEGEND:

* = ¾" DIA. BEARING ANCHOR RODS, SEE SHEET 52 / 80 FOR DETAILS & PAYMENT

** = SEE DETAIL B ON STANDARD DRAWING AS-1-15, SHEET 2/2

*** = MEASURED PERPENDICULAR TO ℄ CONST. S.R. 8

◕ = DIMENSION VARIES FROM 3⅜" TO 4½" AT LEFT WINGWALL

✡ = 1" DEEP x 1" WIDE HOT APPLIED JOINT SEALER, CMS 705.04

▪ = SEE ROADWAY PLANS FOR DETAILS & PAYMENT

▽ = SLOPE LEDGE AT ½" PER FOOT

NOTES:

1. SLOPE 6" DIA. PCPP AT ⅛" PER FOOT TOWARDS THE OUTLET.
2. TURN GEOTEXTILE FABRIC UP 6" AT BASE OF WALL AND DOWN 6" AT TOP OF WALL.
3. SEE GENERAL NOTES FOR ADDITIONAL FORM LINER REQUIREMENTS. SEE AESTHETIC PLANS FOR ELEVATION VIEWS SHOWING LIMITS OF FORM LINER AREAS.
4. BRIDGE SEAT REINFORCING, SETTING ANCHORS: PRE-SET BEARING ANCHORS. PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE PRE-SET BEARING ANCHORS.

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

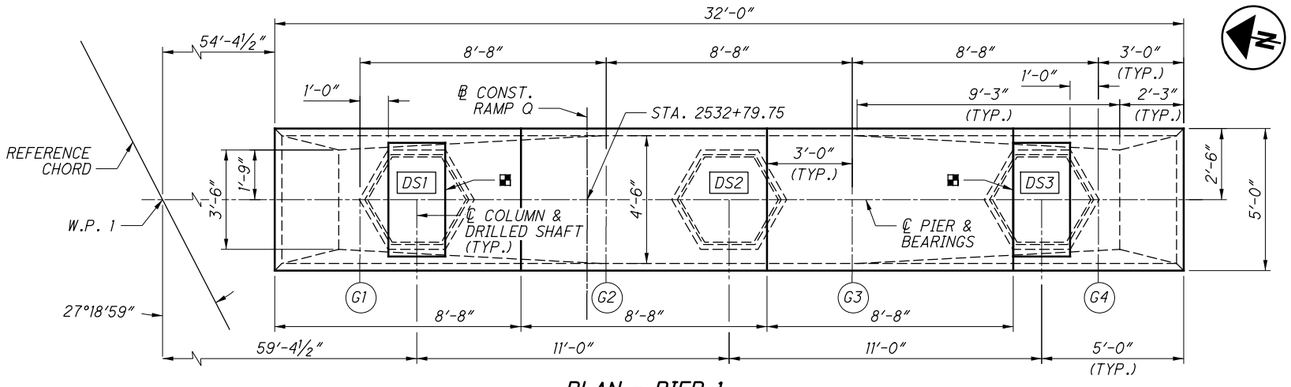
DESIGNED ODW | DRAWN ODW | REVIEWED JCS | DATE 4/29/19
CHECKED BES | REVISED | STRUCTURE FILE NUMBER 7706066

FORWARD ABUTMENT DETAILS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

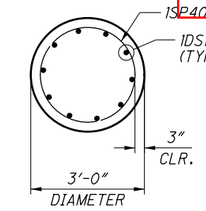
17 / 80

41 / 104

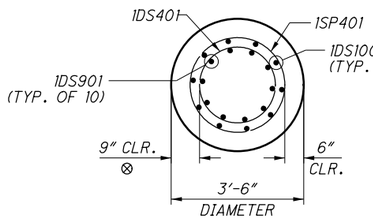


PLAN - PIER 1

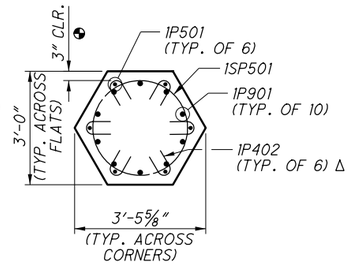
BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
G1	1120.45
G2	1120.97
G3	1121.49
G4	1121.94



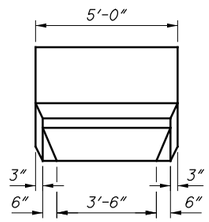
SECTION A-A



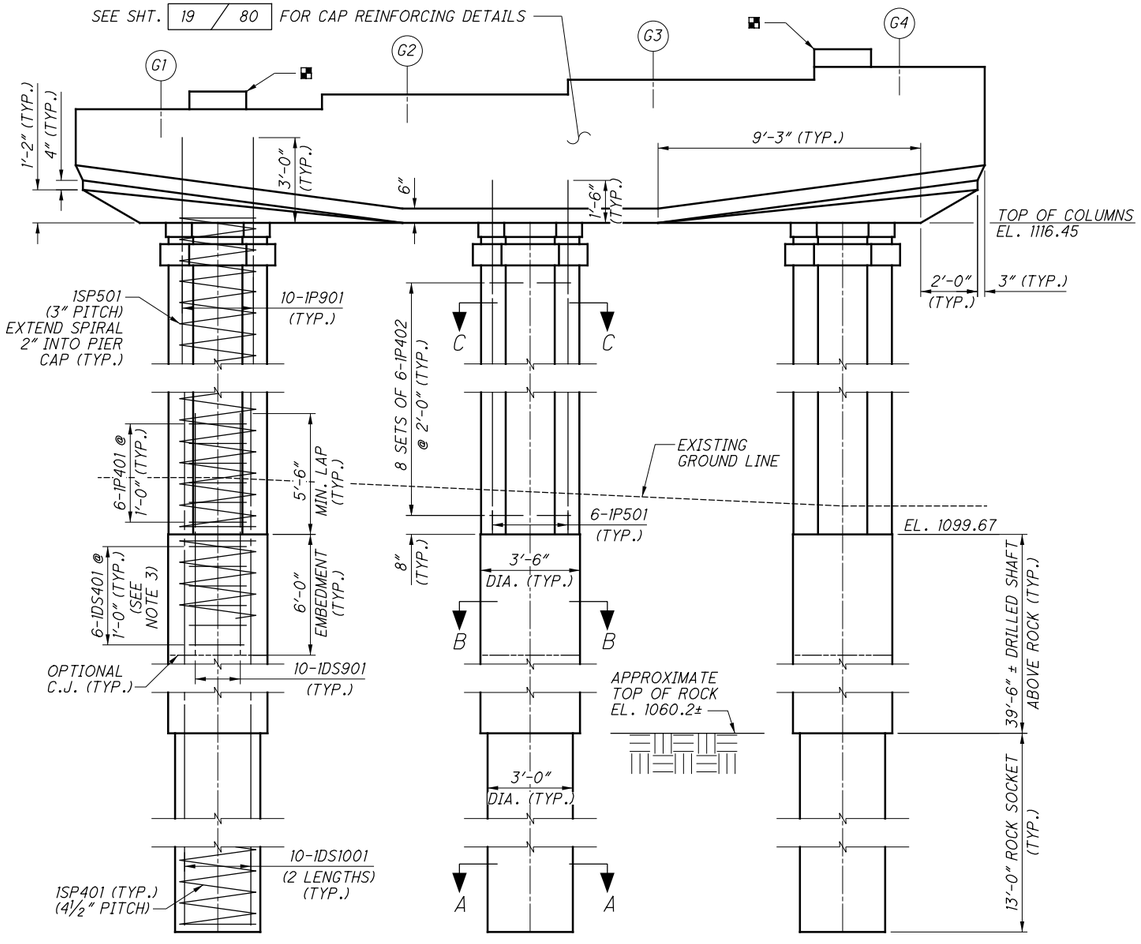
SECTION B-B



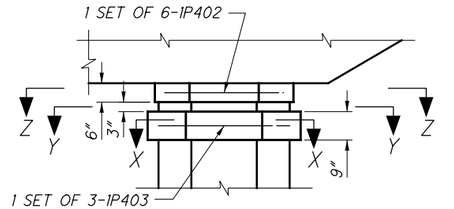
SECTION C-C



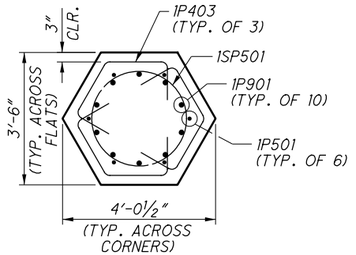
CAP END VIEW
(TYP. BOTH ENDS)



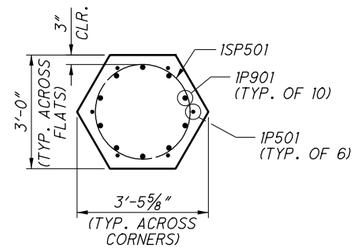
ELEVATION - PIER 1



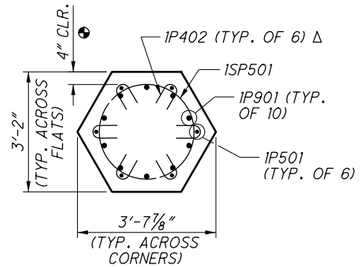
TOP OF COLUMN DETAIL



SECTION X-X



SECTION Y-Y



SECTION Z-Z

LEGEND:

DS# = DRILLED SHAFT NUMBER

◔ = TYP. FOR MAIN SPIRAL BARS AND SUPPLEMENTAL CORNER BARS

Δ = ROTATE BARS AS NEEDED TO CLEAR MAIN COLUMN VERTICAL BARS

⊗ = ADJUST CLEAR COVER FOR SPLICE CAGE TO ENSURE THAT SPLICE CAGE IS CENTERED ON COLUMN.

■ = SEISMIC PEDESTAL. SEE SHEET 19 / 80 FOR DETAILS.

NOTES:

1. UNLESS NOTED OTHERWISE, MINIMUM LAP LENGTHS SHALL BE AS SHOWN ON THE PLANS AND AS FOLLOWS:

   #10 SHAFT BARS: 6'-0"

2. REFER TO GENERAL NOTES FOR LIMITS OF SEALING OF CONCRETE SURFACES.

3. 1DS401 BARS IN SHAFT MAY BE PARTIALLY OR ENTIRELY REMOVED IF INTERFERENCE WITH OTHER SHAFT REINFORCING STEEL IS ENCOUNTERED.

DESCRIPTION

ISSUE RECORD:

NO.	DATE

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

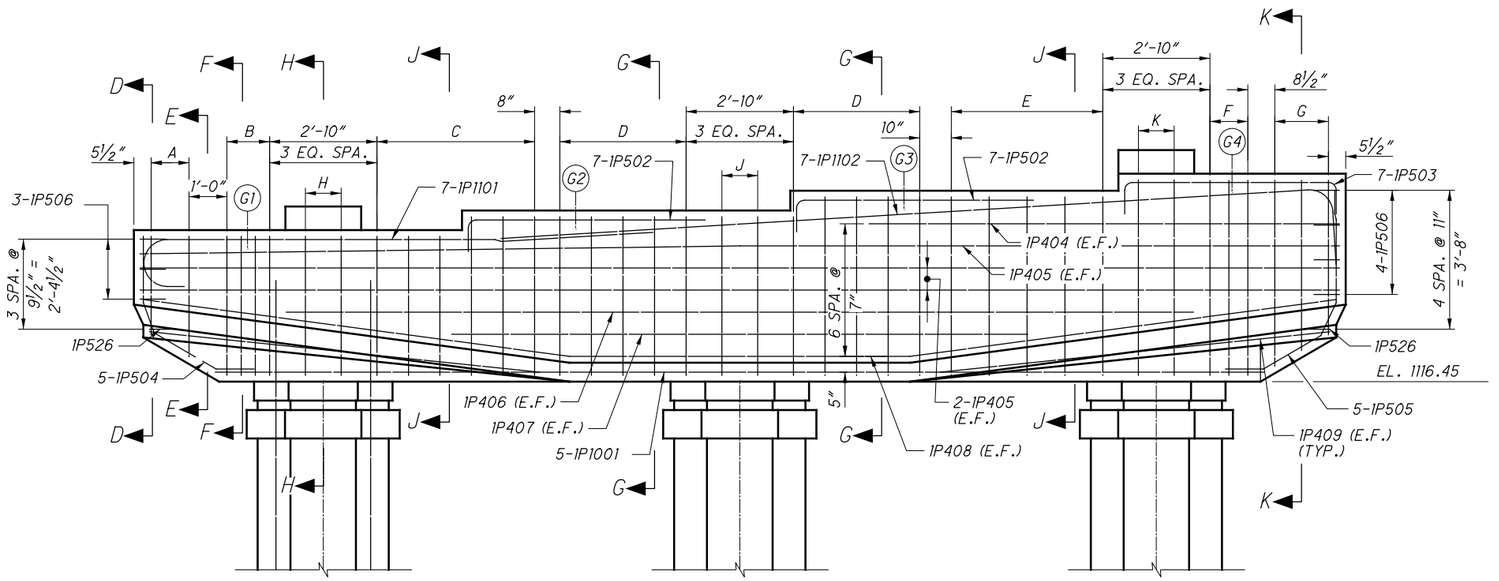
DESIGNED	DRAWN	REVIEWED	DATE
RMK	RMK	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

PIER 1 PLAN AND ELEVATION
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

18 / 80

42 / 104



ELEVATION - PIER 1 CAP

LEGEND:

A = 2-1P509 (TOP) AND 1P510 & 1P511 (BOT.) @ 1′-0″

B = 4 SETS OF 2-1P508 (TOP) AND
4 SETS OF 2-1P512 (BOT.) @ 4½″ = 1′-1½″

C = 6-1P507 (TOP) AND
1 S.O. 3-1P513 & 1 S.O. 3-1P514 (BOT.) @ 10″ = 4′-2″

D = 5 SETS OF 2-1P515 (TOP) AND
5 SETS OF 2-1P516 (BOT.) @ 10″ = 3′-4″

E = 5-1P507 (TOP) AND
1 S.O. 2-1P517 & 1 S.O. 3-1P518 (BOT.) @ 1′-0″ = 4′-0″

F = 3 SETS OF 2-1P508 (TOP) AND
3 SETS OF 2-1P519 (BOT.) @ 6″ = 1′-0″

G = 3-1P507 (TOP) AND
1P520, 1P521 & 1P522 (BOT.) @ 8½″ = 1′-5″

H = 2-1P507 (TOP) AND 2-1P523 (BOT.)

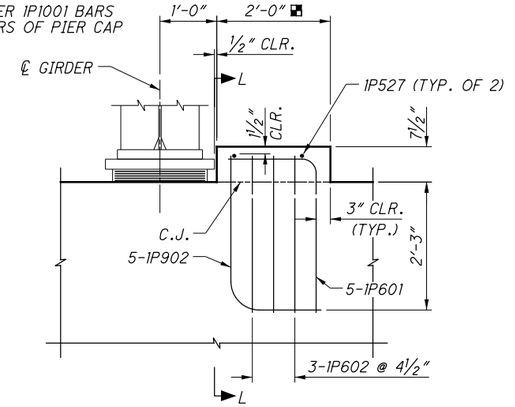
J = 2-1P507 (TOP) AND 2-1P524 (BOT.)

K = 2-1P507 (TOP) AND 2-1P525 (BOT.)

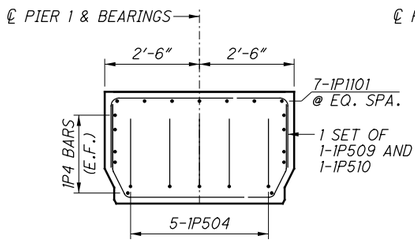
▪ = THE SURFACE OF THE BEAM SEAT C.J. IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼″ DEEP MINIMUM.

NOTES:

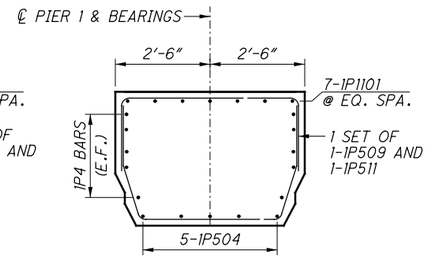
1. SEE SHEET 18 / 80 FOR COLUMN DETAILS.
2. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS:
#11 CAP BARS: 4′-0″
3. SPRING OUTER 1P1001 BARS INTO CORNERS OF PIER CAP AS SHOWN.



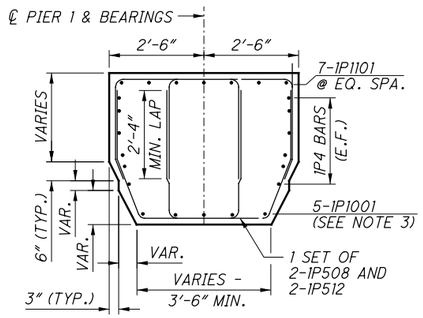
SEISMIC PEDESTAL DETAIL



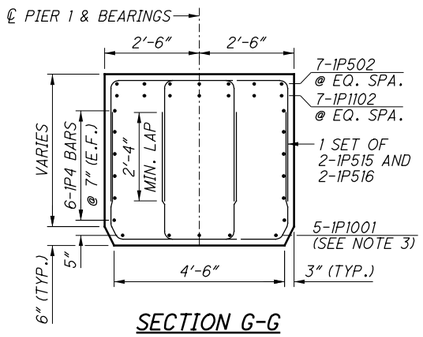
SECTION D-D



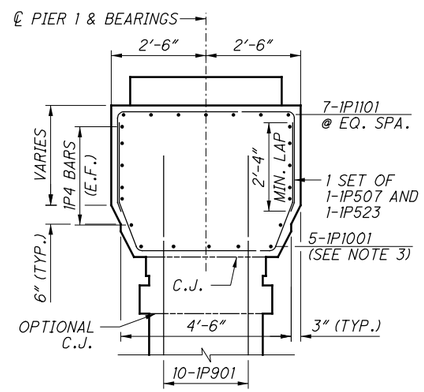
SECTION E-E



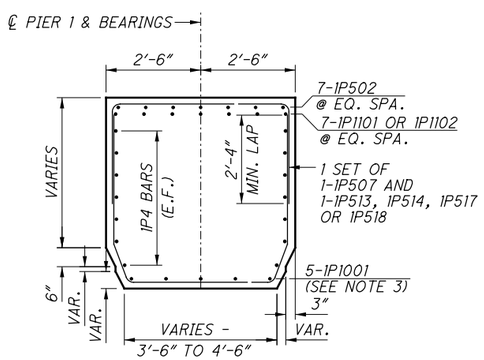
SECTION F-F
(FIELD BEND TOP STIRRUP BARS AS NEEDED TO PROVIDE 2″ CLEAR COVER)



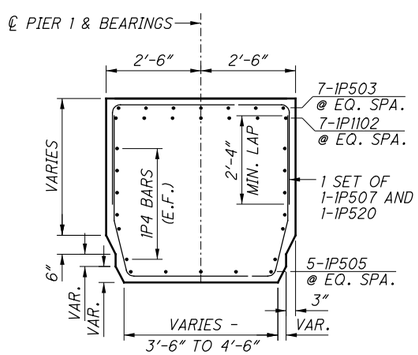
SECTION G-G



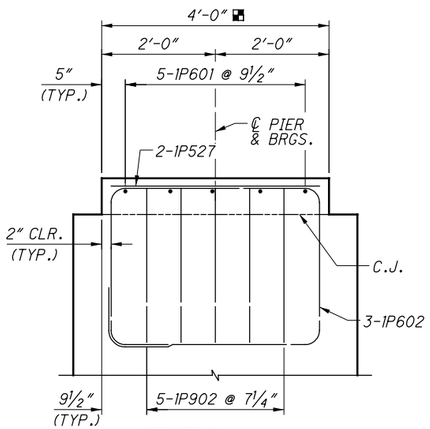
SECTION H-H
(COLUMN SPIRAL BARS NOT SHOWN)
(FIELD BEND TOP STIRRUP BARS AS NEEDED TO PROVIDE 2″ CLEAR COVER)



SECTION J-J



SECTION K-K



SECTION L-L

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
RMK	RMK	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

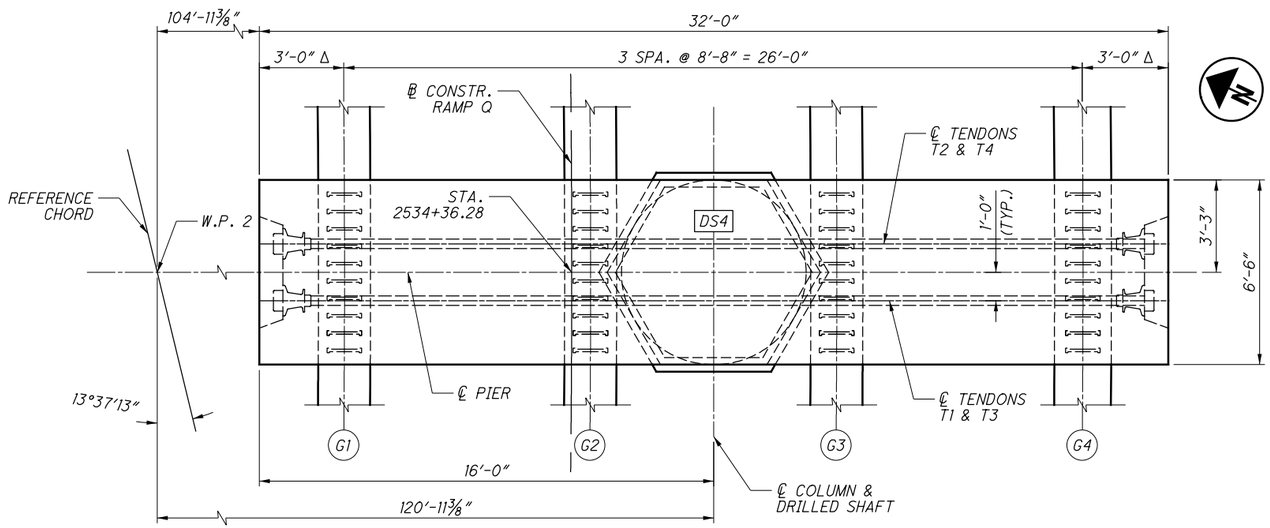
PIER 1 CAP DETAILS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

19 / 80

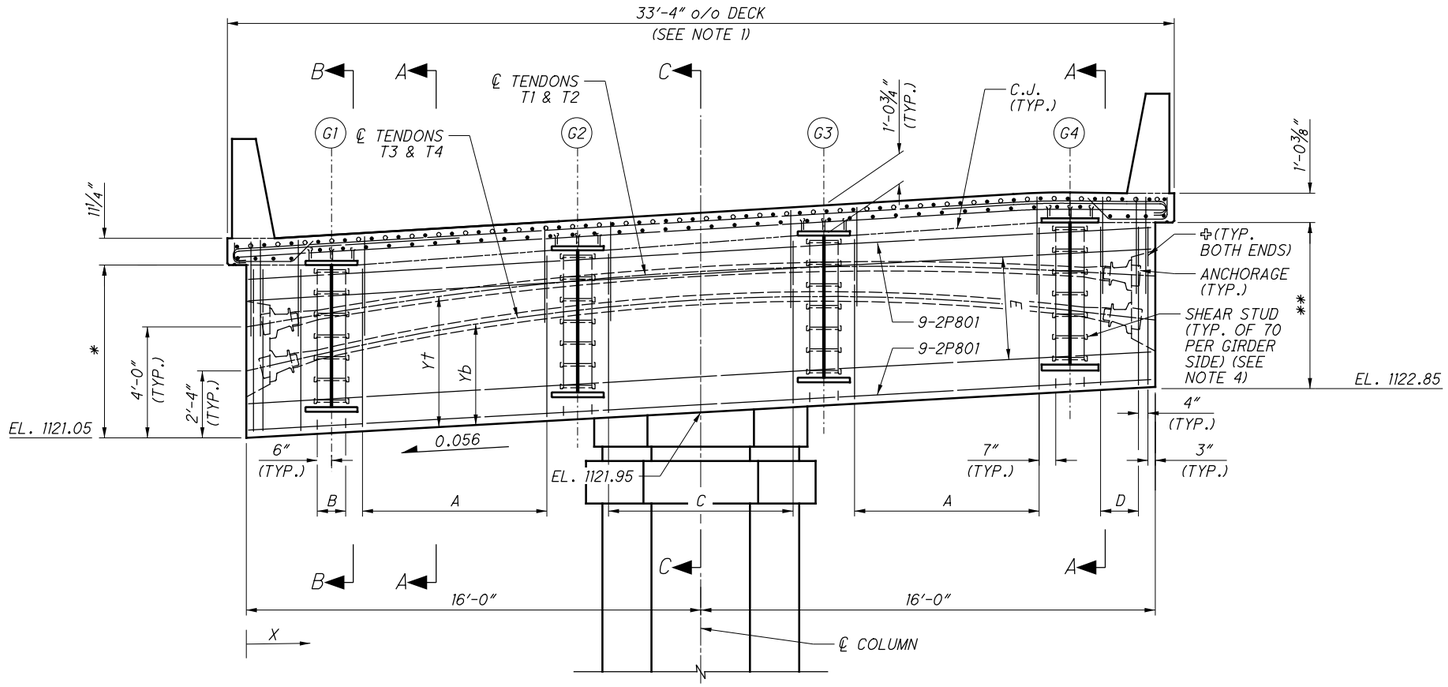
43
104

ISSUE RECORD:		
NO.	DATE	DESCRIPTION



PLAN - PIER 2

(DECK SLAB NOT SHOWN)



CAP ELEVATION - PIER 2

(LOOKING UPSTATION)
(SEE TABLE FOR DIMENSIONS Yt AND Yb)

POST-TENSIONING TENDONS PROFILE POINTS

X (FT.)	0.00	3.00	7.33	11.67	16.00	20.33	24.67	29.00	32.00	DISTANCE FROM LEFT END OF CAP
Yt (FT.)	4.00	4.32	4.69	4.92	5.00	4.92	4.69	4.31	4.00	℄ TENDONS T1 & T2
Yb (FT.)	2.33	2.86	3.49	3.87	4.00	3.87	3.49	2.86	2.33	℄ TENDONS T3 & T4

BOTTOM OF GIRDER ELEVATIONS AT ℄ PIER	
GIRDER	ELEVATION
G1	1121.97
G2	1122.49
G3	1123.01
G4	1123.43

LEGEND:

DS# = DRILLED SHAFT NUMBER

* = DIMENSION VARIES FROM 6′-0¾″ DOWNSTATION TO 5′-11⅞″ UPSTATION

** = DIMENSION VARIES FROM 5′-10⅝″ DOWNSTATION TO 5′-9¾″ UPSTATION

Δ = DIMENSION TAKEN AT ℄ PIER

✣ = SEE END OF CAP REINFORCEMENT DETAIL ON SHEET 23 / 80

G# = GIRDER DESIGNATION

A = 16 SETS OF 4-2P601 & 1-2P501 @ 5¼″(-) = 6′-6″

B = 2 SETS OF 1-2P603 (E.F.) & 1-2P502 @ 1′-0″ (TYP. AT EACH GIRDER)

C = 8 SETS OF 2-2P602 & 1-2P501 @ 11″(+), SHIFT BARS AS NEEDED TO CLEAR MAIN COLUMN VERTICAL BARS (SEE NOTE 3)

D = 4 SETS OF 4-2P601 & 1-2P501 @ 5½″(-) = 1′-4″ (TYP. AT EACH END)

E = 6-2P801 (E.F.)

NOTES:

1. SEE SHEET 54 / 80 FOR TYPICAL DECK DETAILS AND DECK SLAB REINFORCEMENT.
2. SEE SHEET 22 / 80 FOR SECTIONS A-A, B-B AND C-C.
3. SEE SHEET 21 / 80 FOR COLUMN DETAILS.
4. SEE SHEET 43 / 80 FOR HOLE AND STUD LOCATIONS IN GIRDER WEBS.

POST-TENSIONING NOTES:

1. ALL TENDONS CONSIST OF 19-0.6″ DIAMETER STRANDS WITH A TOTAL AREA OF 4.123″.
2. THE INITIAL JACKING FORCE FOR EACH TENDON IS 779 KIPS. JACK THE TENDONS FROM ONE END OF THE CAP (EITHER END).
3. DESIGN ASSUMPTIONS:
   FRICTION COEFFICIENT = 0.25
   WOBBLE COEFFICIENT = 0.0002
   ANCHOR SET = 0.25 INCHES

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

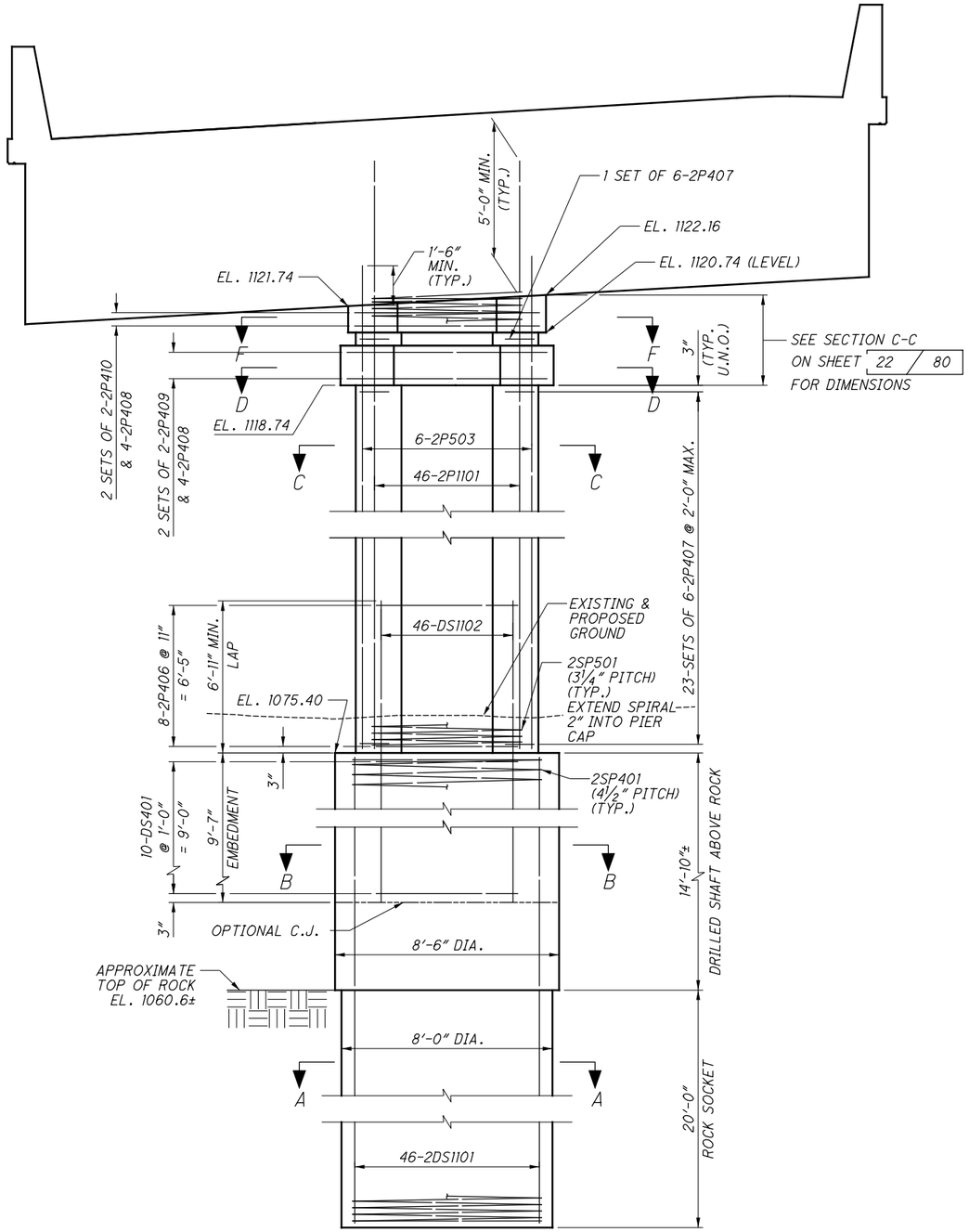
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TMB/RMK		7706066	

PIER 2 PLAN AND ELEVATION
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

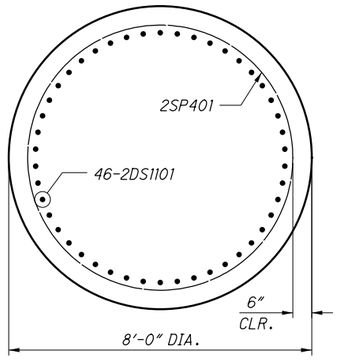
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

20 / 80

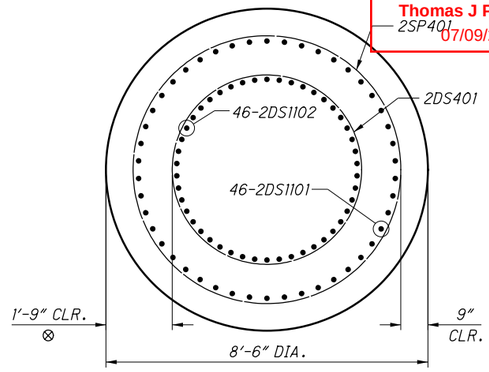
44 / 104



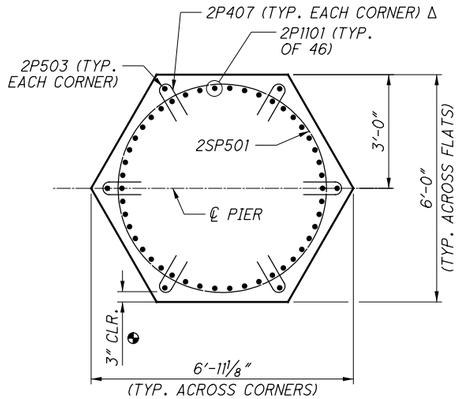
COLUMN ELEVATION - PIER 2
(LOOKING UPSTATION)



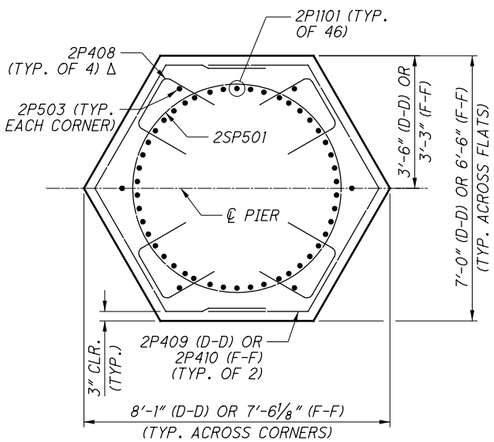
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D (SHOWN)
SECTION F-F (AS NOTED)

PIER 2 CAP CONSTRUCTION SEQUENCE:

1. CONSTRUCT TEMPORARY SUPPORTS FOR GIRDER PRIOR TO ERECTION AS SHOWN ON SHEETS 35 / 80 TO 37 / 80.
2. ERECT STEEL GIRDERS AND CROSSFRAMES.
3. CONSTRUCT PIER CAP FORMS SUPPORTED BY TEMPORARY FALSEWORK.
4. CONSTRUCT PIER 2 CAP TO THE BOTTOM OF THE TOP FLANGE OF THE GIRDERS.
5. WHEN CONCRETE STRENGTH REACHES 4 KSI, COMPLETE POST TENSIONING INCLUDING GROUTING OF DUCTS.
6. REMOVE PIER CAP FALSEWORK AND TEMPORARY SUPPORTS.
7. PLACE CONCRETE DECK AS SHOWN ON SHEET 58 / 80.

LEGEND:

◕ = TYP. FOR MAIN SPIRAL BARS AND SUPPLEMENTAL CORNER BARS

Δ = SHIFT BARS AS NEEDED TO CLEAR MAIN COLUMN VERTICAL BARS

⊗ = ADJUST CLEAR COVER FOR SPLICE CAGE AS NEEDED TO ENSURE THAT SPLICE CAGE IS CENTERED ON COLUMN

NOTES:

1. REFER TO GENERAL NOTES FOR LIMITS OF SEALING OF CONCRETE SURFACES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

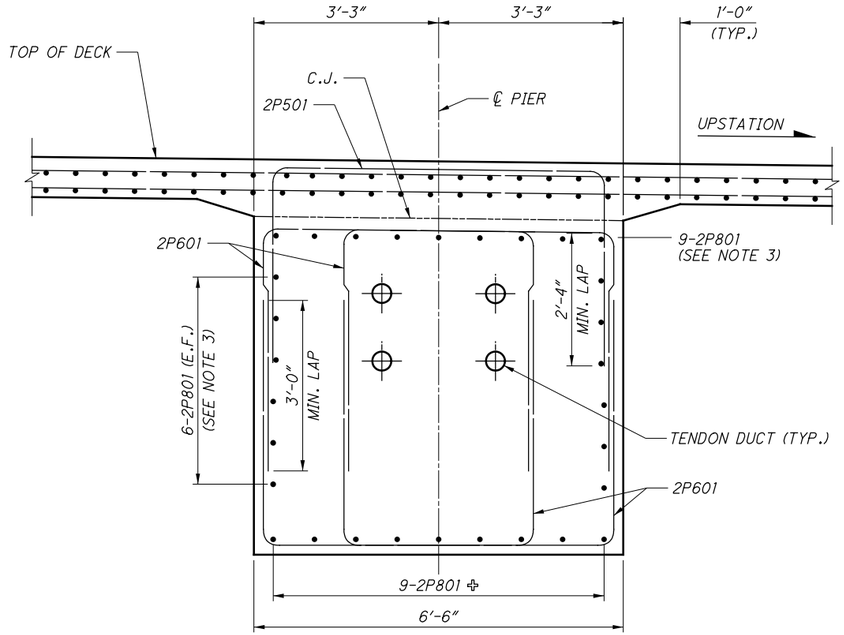
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TMB/RMK		7706066	

PIER 2 COLUMN & DRILLED SHAFT DETAILS
SUM-1166-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

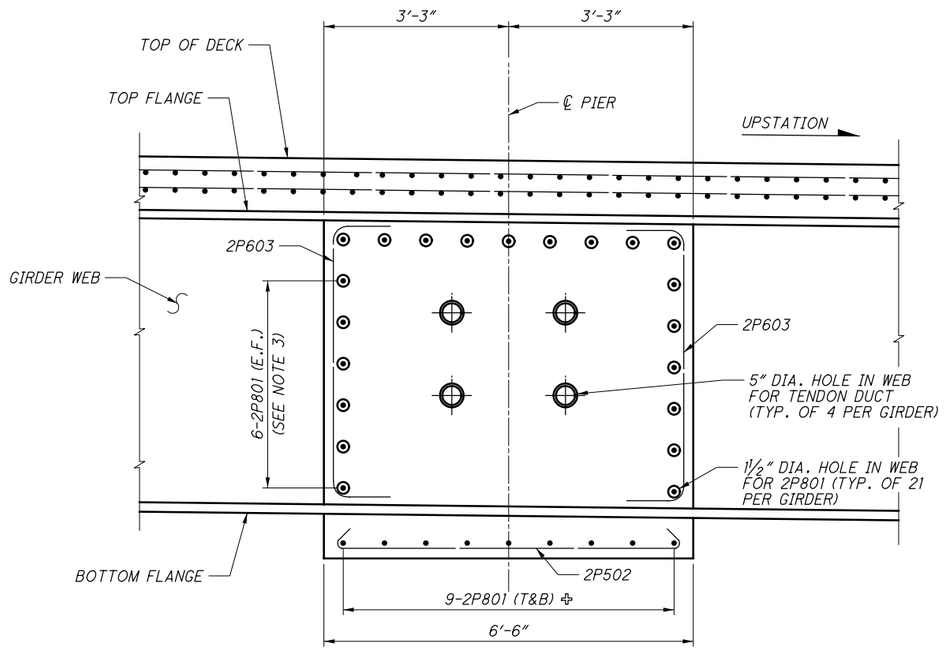
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

21 / 80

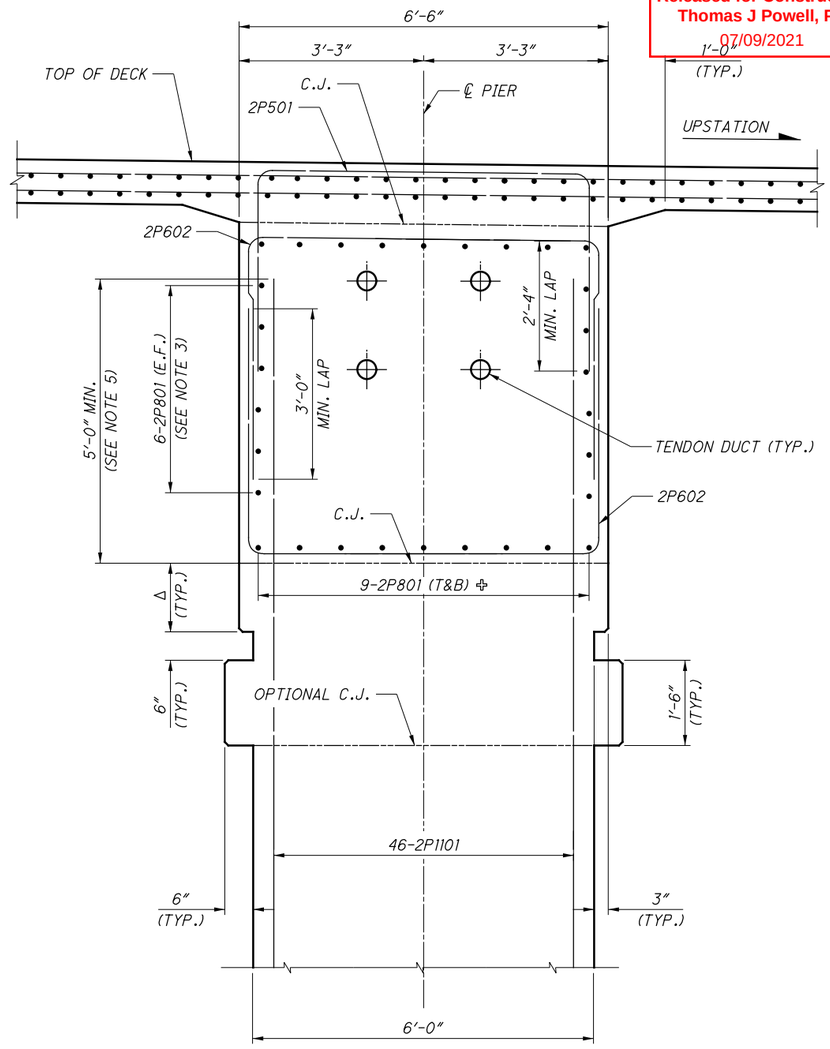
45
104



SECTION A-A



SECTION B-B



SECTION C-C
(SEE NOTE 4)

LEGEND:

Δ = DIMENSION VARIES FROM 1'-0" TO 1'-5", SEE SHEET 21 / 80

✣ = SHIFT BARS AS NEEDED TO CLEAR MAIN COLUMN VERTICAL BARS

NOTES:

1. SEE SHEET 20 / 80 FOR LOCATIONS OF SECTIONS A-A, B-B AND C-C.
2. SEE SHEET 54 / 80 FOR DECK REINFORCEMENT DETAILS.
3. CAP LONGITUDINAL REBAR SHALL BE CONTINUOUS AND SHALL RUN THROUGH PREDRILLED HOLES IN GIRDER WEBS (EXCEPT THE BOTTOM ROW). SEE SHEET 43 / 80 FOR DETAILS. FIELD BEND REBAR AS NECESSARY TO FIT THROUGH THE HOLES.
4. SEE SHEET 21 / 80 FOR COLUMN REINFORCEMENT DETAILS.
5. FIELD BEND AND/OR FIELD CUT MAIN COLUMN VERTICAL BARS THAT INTERFERE WITH TENDON DUCTS AS NECESSARY (MAXIMUM OF 8 BARS). REPAIR ALL DAMAGE TO THE EPOXY COATING ACCORDING TO CMS 709.00.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19

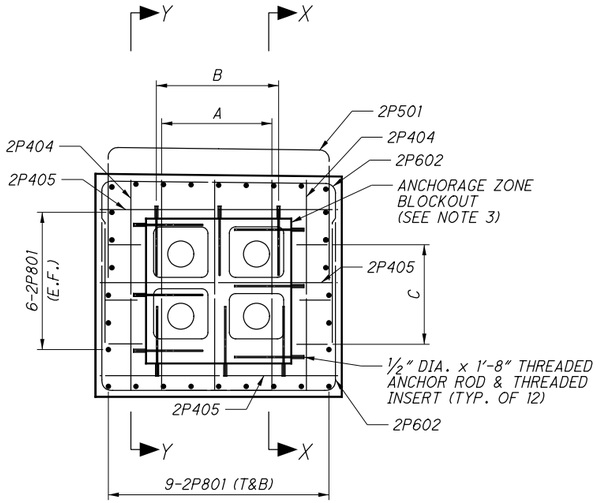
CHECKED: TMB/RMK
REVISED:
STRUCTURE FILE NUMBER 7706066

PIER 2 CAP SECTIONS
SUM-76-11.48Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

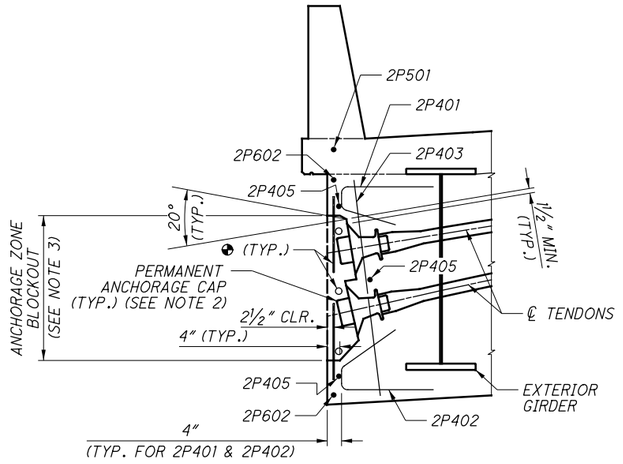
22 / 80

46 / 104



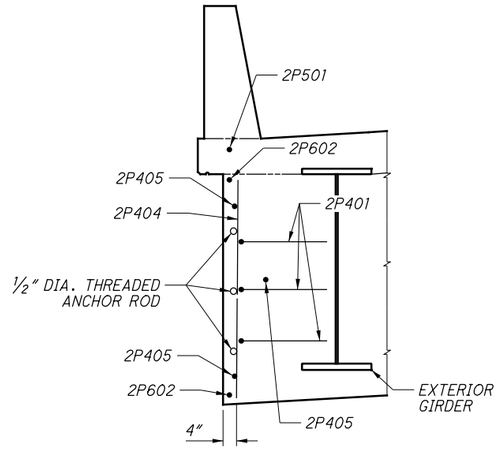
END OF CAP REINFORCEMENT

(DECK & PARAPET NOT SHOWN)



SECTION X-X

(GIRDER SHEAR STUDS NOT SHOWN)



SECTION Y-Y

(GIRDER SHEAR STUDS NOT SHOWN)

LEGEND:

● = ½" DIA. x 1'-8" THREADED ANCHOR ROD & THREADED INSERT (TYP. OF 12)

A = 3-2P401, 3-2P402 & 3-2P403 SPACED W/ EVERY OTHER 2P801

B = 3-½" DIA. THREADED ANCHOR RODS APPROX. EQ. SPACED (TYP. FOR E.F. OF BLOCKOUT), ADJUST SPACINGS AS NEEDED TO AVOID INTERFERENCE BETWEEN OPPOSITE FACE ANCHORS DURING INSTALLATION

C = 3-2P401 SPACED W/ EVERY OTHER 2P801 (TYP. E.F.)

NOTES:

1. ONLY ADDITIONAL END CAP REINFORCEMENT SHOWN. SEE SHEET 20 / 80 FOR OTHER REINFORCEMENT DETAILS.
2. PROVIDE A MINIMUM OF 3" COVER BETWEEN THE PERMANENT ANCHORAGE CAPS AND THE EDGE OF THE PIER CAP.
3. ROUGHEN SIDES OF BLOCKOUT TO AN AMPLITUDE OF ⅛". AFTER TENDONS HAVE BEEN STRESSED, FILL BLOCKOUT WITH EPOXY GROUT ACCORDING TO SUPPLEMENTAL SPECIFICATION 855.
4. THREADED ANCHOR RODS AND THREADED INSERTS SHALL BE GALVANIZED. THREADED ANCHOR RODS SHALL CONFORM TO 709.01, 709.03, OR 709.05 WITH THREADS FORMED PRIOR TO GALVANIZING. THREADED INSERTS SHALL HAVE A 3000-LB. MINIMUM WORKING LOAD. THREADED ANCHOR RODS AND THREADED INSERTS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511 - CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA, AS PER PLAN.

ISSUE RECORD:		
NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

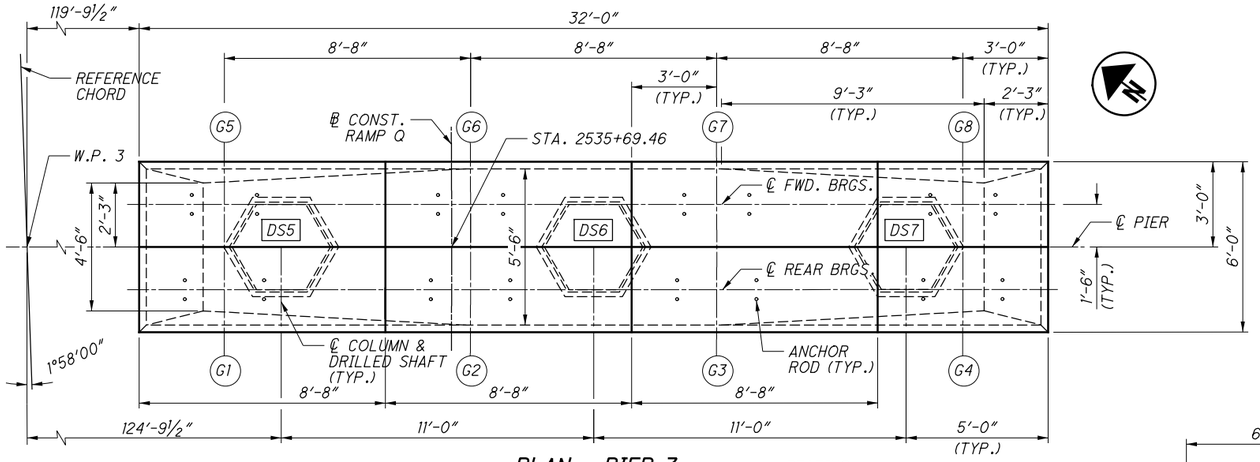
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RMK		7706066	

PIER 2 END CAP DETAILS
SUM-76-11.48Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

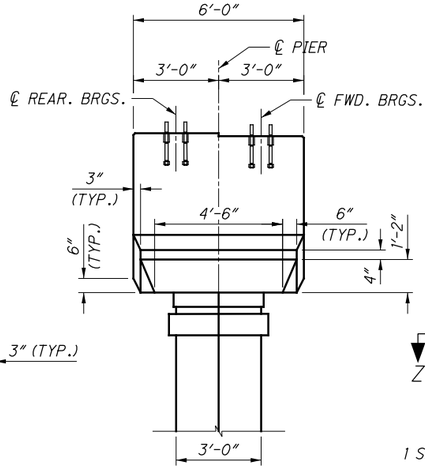
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

23 / 80

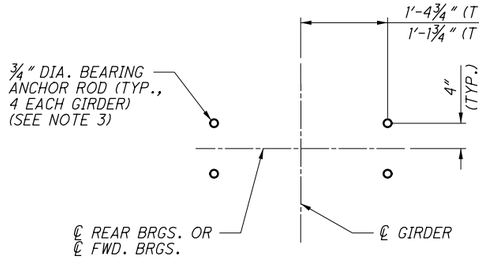
47 / 104



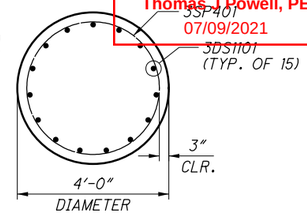
PLAN - PIER 3



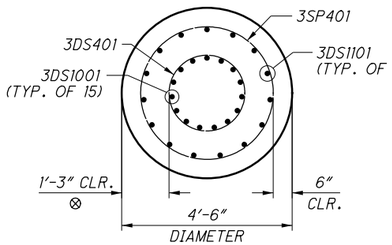
CAP END VIEW



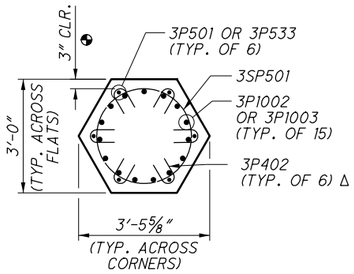
BEARING ANCHOR PLAN



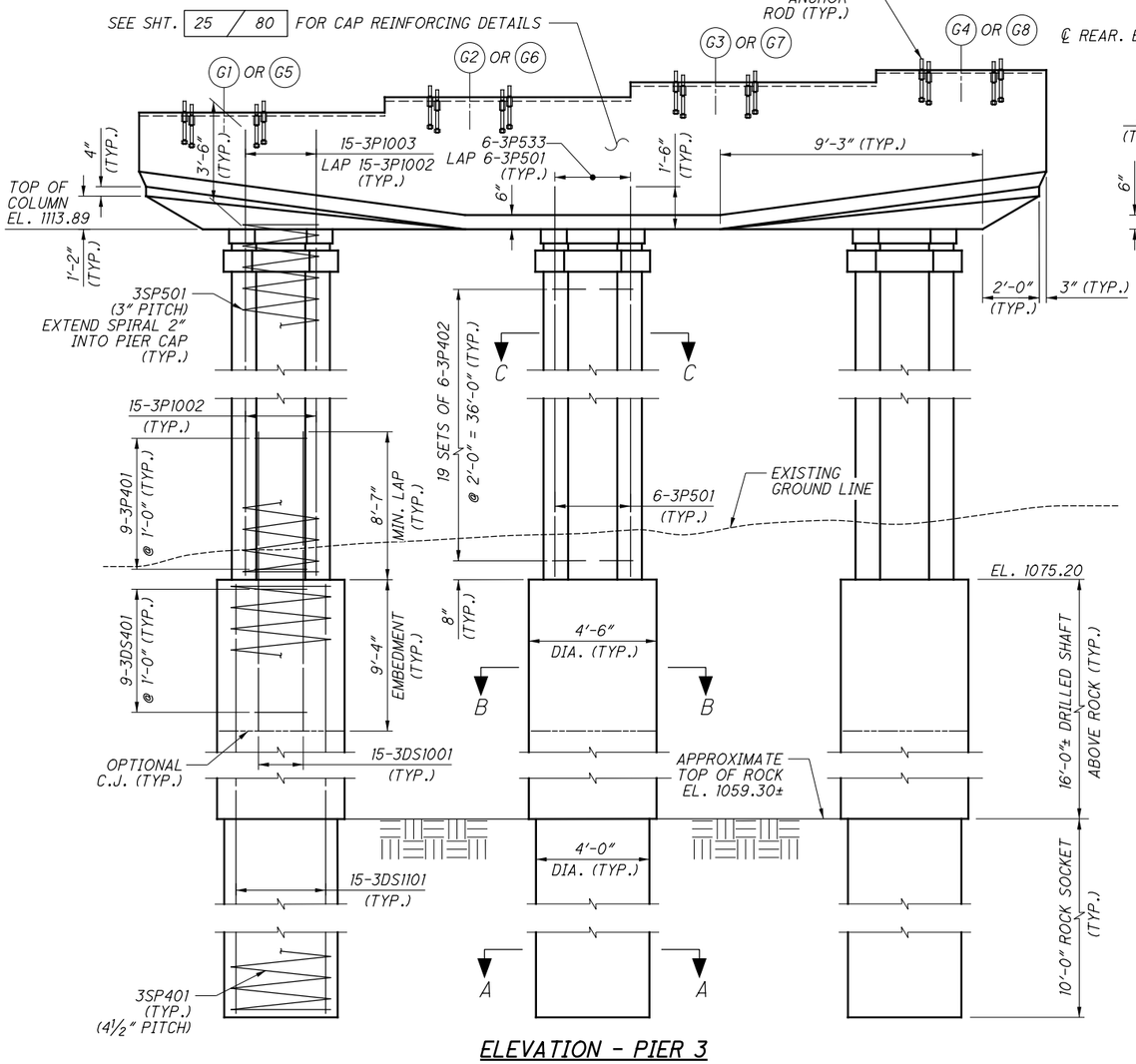
SECTION A-A



SECTION B-B

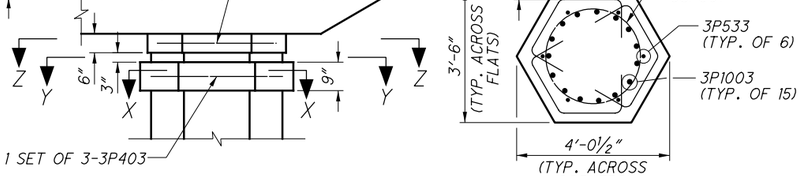


SECTION C-C

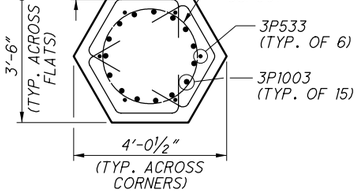


ELEVATION - PIER 3

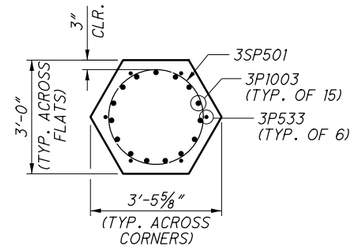
BEARING SEAT ELEVATIONS			
PIER 3 REAR BRGS.		PIER 3 FWD. BRGS.	
GIRDER	ELEVATION	GIRDER	ELEVATION
G1	1118.01	G5	1117.89
G2	1118.55	G6	1118.41
G3	1119.07	G7	1118.93
G4	1119.50	G8	1119.40



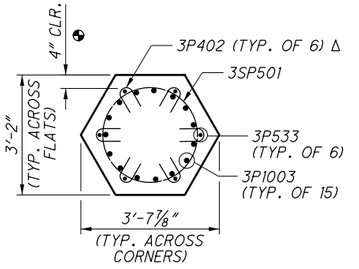
TOP OF COLUMN DETAIL



SECTION X-X



SECTION Y-Y



SECTION Z-Z

LEGEND:

DS# = DRILLED SHAFT NUMBER
◒ = TYP. FOR MAIN SPIRAL BARS AND SUPPLEMENTAL CORNER BARS
Δ = ROTATE BARS AS NEEDED TO CLEAR MAIN COLUMN VERTICAL BARS
⊗ = ADJUST CLEAR COVER FOR SPLICE CAGE TO ENSURE THAT SPLICE CAGE IS CENTERED ON COLUMN.

NOTES:

1. UNLESS NOTED OTHERWISE, MINIMUM LAP LENGTHS SHALL BE AS SHOWN ON THE PLANS AND AS FOLLOWS:
   #5 COLUMN BARS: 1'-3"
   #10 COLUMN BARS: 6'-7"
2. REFER TO GENERAL NOTES FOR LIMITS OF SEALING OF CONCRETE SURFACES.
3. SEE SHEET 52 / 80 FOR BEARING ANCHOR ROD DETAILS AND PAYMENT.
4. BRIDGE SEAT REINFORCING, SETTING ANCHORS: PRE-SET BEARING ANCHORS. PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE PRE-SET BEARING ANCHORS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

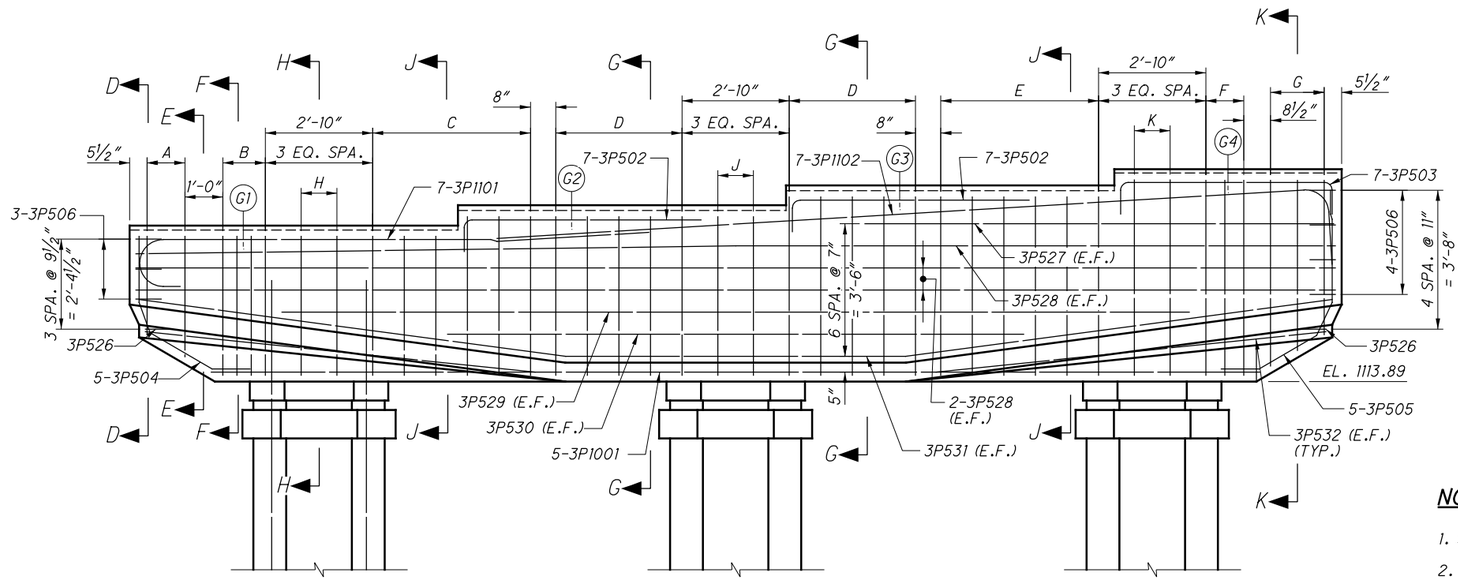
DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

PIER 3 PLAN AND ELEVATION
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

24 / 80

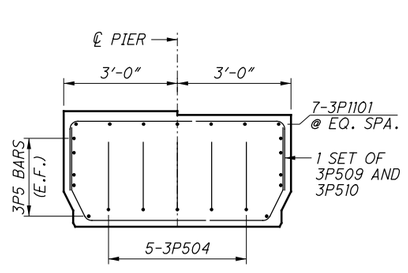
48 / 104



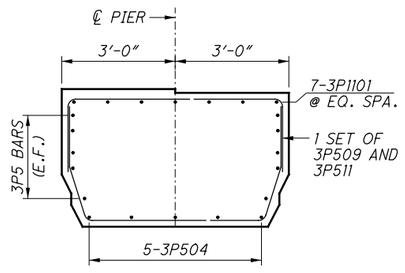
ELEVATION - PIER 3 CAP

NOTES:

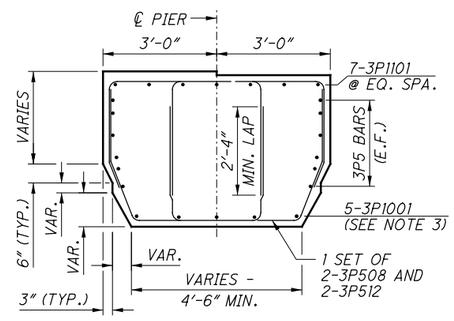
1. SEE SHEET 24 / 80 FOR COLUMN DETAILS.
2. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS:
   #11 CAP BARS: 4'-0"
3. SPRING OUTER 3P1001 BARS INTO CORNERS OF PIER CAP AS SHOWN.



SECTION D-D

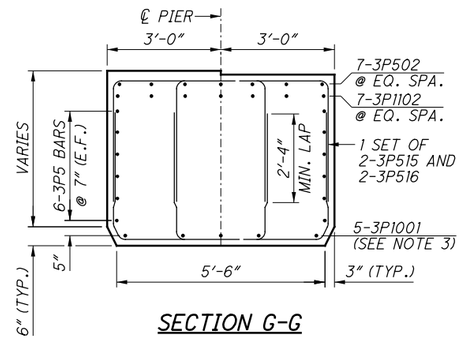


SECTION E-E

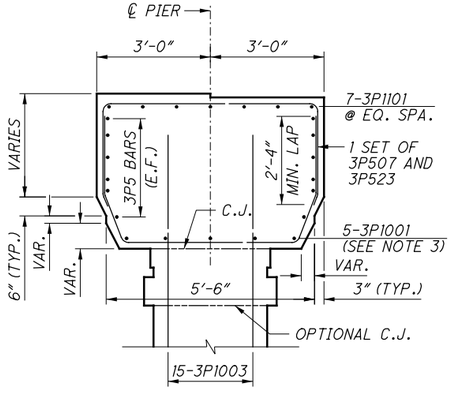


SECTION F-F

(FIELD BEND TOP STIRRUP BARS AS NEEDED TO PROVIDE 2" CLEAR COVER)

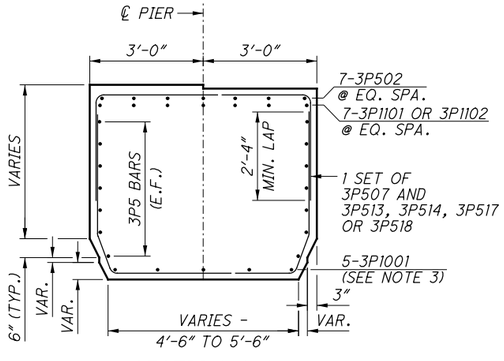


SECTION G-G

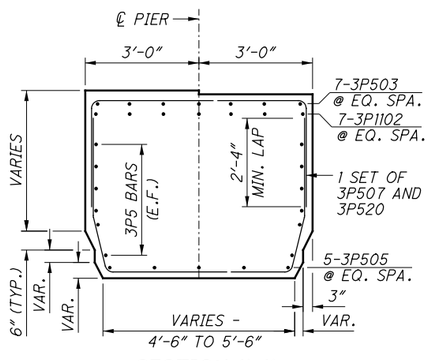


SECTION H-H

(COLUMN SPIRAL BARS NOT SHOWN)
(FIELD BEND TOP STIRRUP BARS AS NEEDED TO PROVIDE 2" CLEAR COVER)



SECTION J-J



SECTION K-K

LEGEND:

A = 2-3P509 (TOP) AND 3P510 & 3P511 (BOT.) @ 1'-0"

B = 4 SETS OF 2-3P508 (TOP) AND
4 SETS OF 2-3P512 (BOT.) @ 4½" = 1'-1½"

C = 6-3P507 (TOP) AND
1 S.O. 3-3P513 & 1 S.O. 3-3P514 (BOT.) @ 10" = 4'-2"

D = 5 SETS OF 2-3P515 (TOP) AND
5 SETS OF 2-3P516 (BOT.) @ 10" = 3'-4"

E = 6-3P507 (TOP) AND
1 S.O. 3-3P517 & 1 S.O. 3-3P518 (BOT.) @ 10" = 4'-2"

F = 3 SETS OF 2-3P508 (TOP) AND
3 SETS OF 2-3P519 (BOT.) @ 6" = 1'-0"

G = 3-3P507 (TOP) AND
3P520, 3P521 & 3P522 (BOT.) @ 8½" = 1'-5"

H = 2-3P507 (TOP) AND 2-3P523 (BOT.)

J = 2-3P507 (TOP) AND 2-3P524 (BOT.)

K = 2-3P507 (TOP) AND 2-3P525 (BOT.)

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

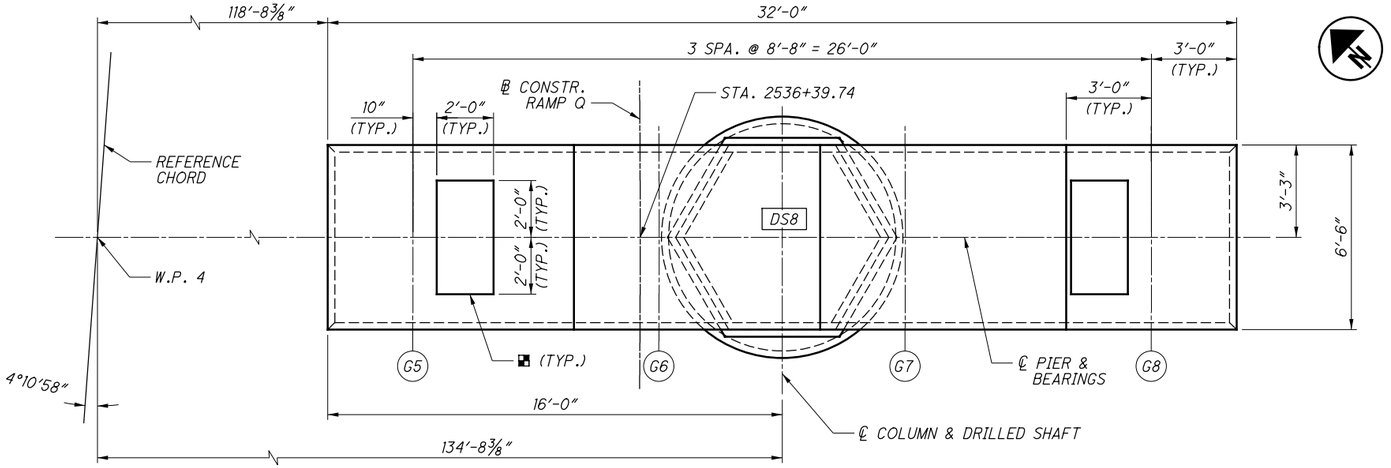
DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

PIER 3 CAP DETAILS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

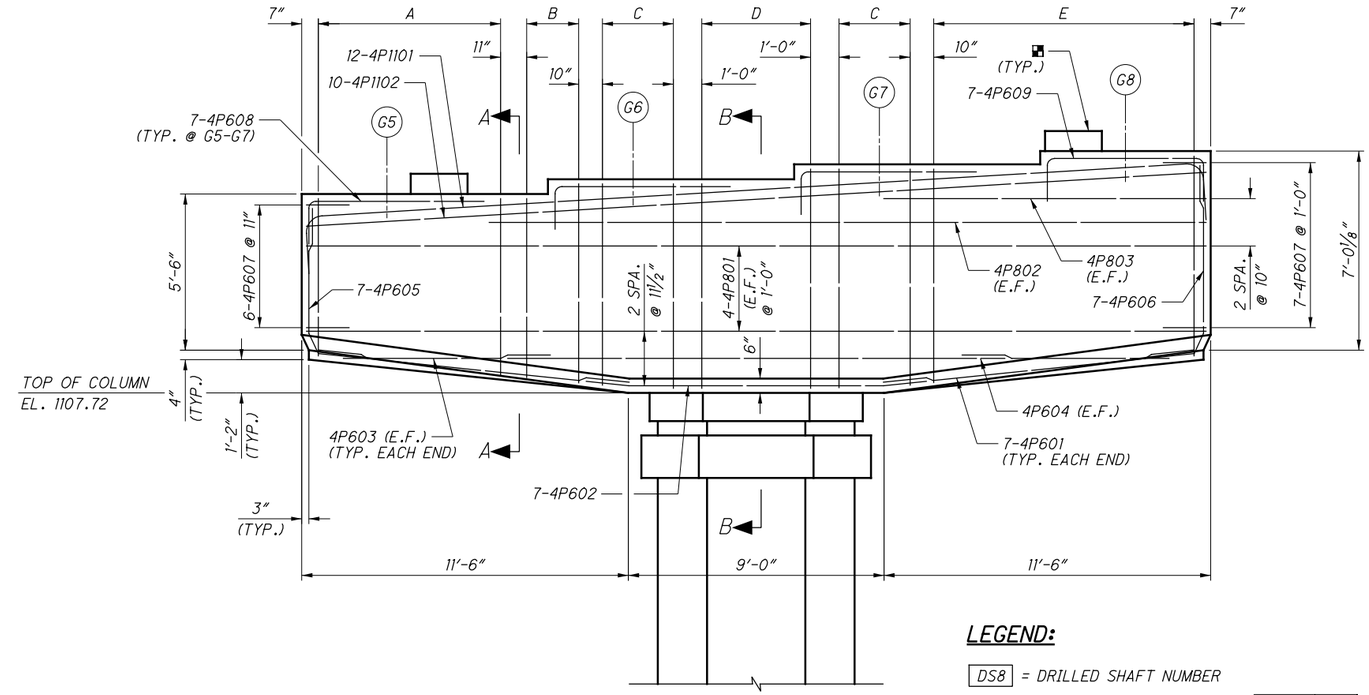
25 / 80

49 / 104

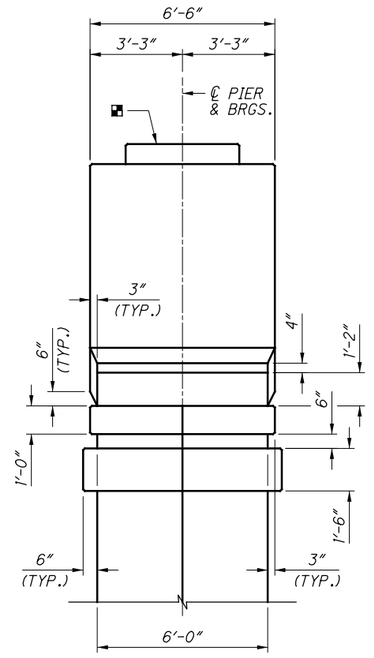


PLAN - PIER 4

BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
G5	1114.72
G6	1115.24
G7	1115.76
G8	1116.23



CAP ELEVATION - PIER 4



END ELEVATION - PIER 4

LEGEND:

DS8 = DRILLED SHAFT NUMBER

■ = SEISMIC PEDESTAL, SEE SHEET 27 / 80 FOR DETAILS

A = 8 SETS OF 2-4P610 (TOP) & 2-4P611 (BOT.) @ 11″ = 6′-5″

B = 3 SETS OF 2-4P610 (TOP) & 2-4P612 (BOT.) @ 11″ = 1′-10″

C = 4 SETS OF 2-4P610 (TOP) & 2-4P613 (BOT.) @ 10″ = 2′-6″

D = 5 SETS OF 1-4P618 (TOP) & 1-4P615 (BOT.) @ 11½″ = 3′-10″

E = 11 SETS OF 2-4P610 (TOP) & 2-4P614 (BOT.) @ 11″ = 9′-2″

NOTES:

1. SEE SHEET 27 / 80 FOR SECTIONS A-A & B-B.
2. SEE SHEET 28 / 80 FOR COLUMN DETAILS.
3. REFER TO GENERAL NOTES FOR LIMITS OF SEALING OF CONCRETE SURFACES.
4. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS:
   #6 HORIZONTAL BARS: 1′-6″

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

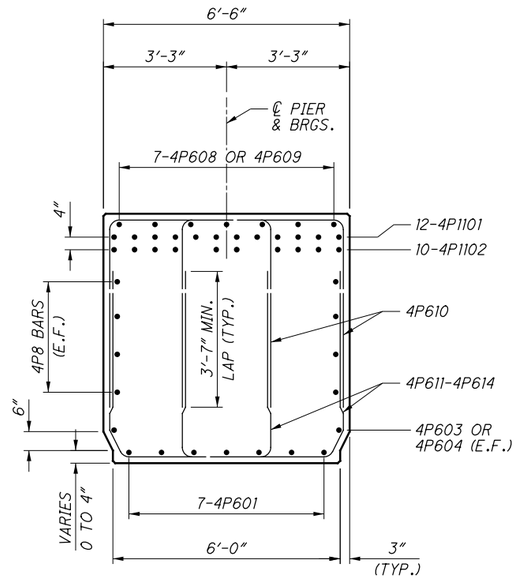
DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

PIER 4 PLAN AND CAP ELEVATION
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

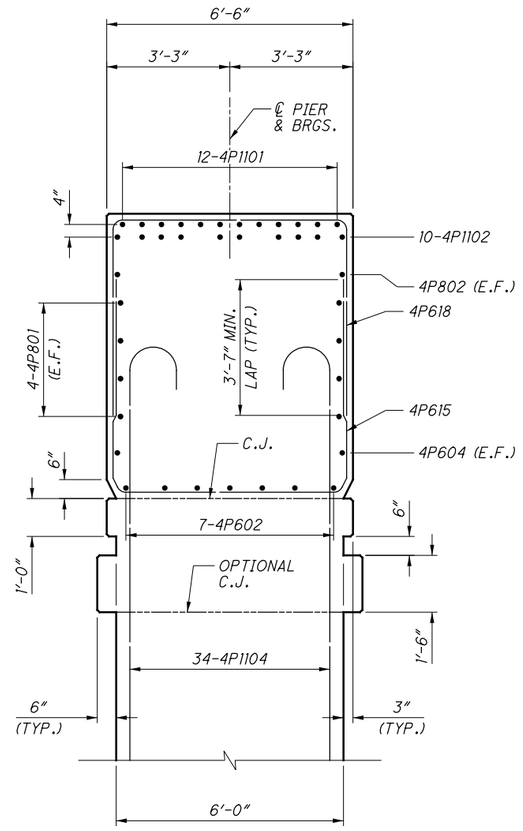
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

26 / 80

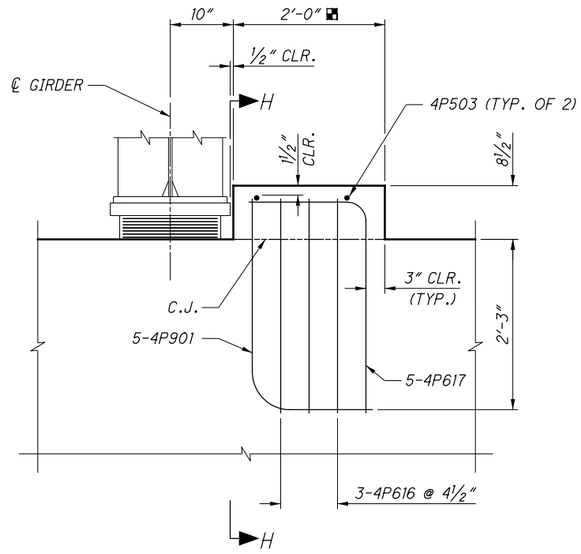
50 / 104



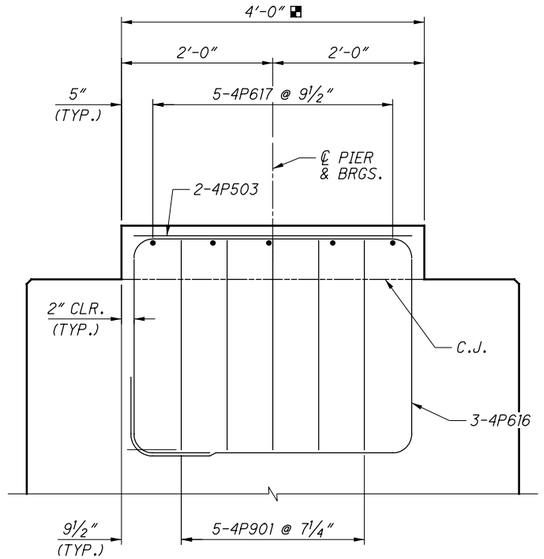
SECTION A-A



SECTION B-B
(COLUMN SPIRAL BARS NOT SHOWN)



SEISMIC PEDESTAL DETAIL



SECTION H-H

LEGEND:

■ = THE SURFACE OF THE BEAM SEAT C.J. IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼″ DEEP MINIMUM.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

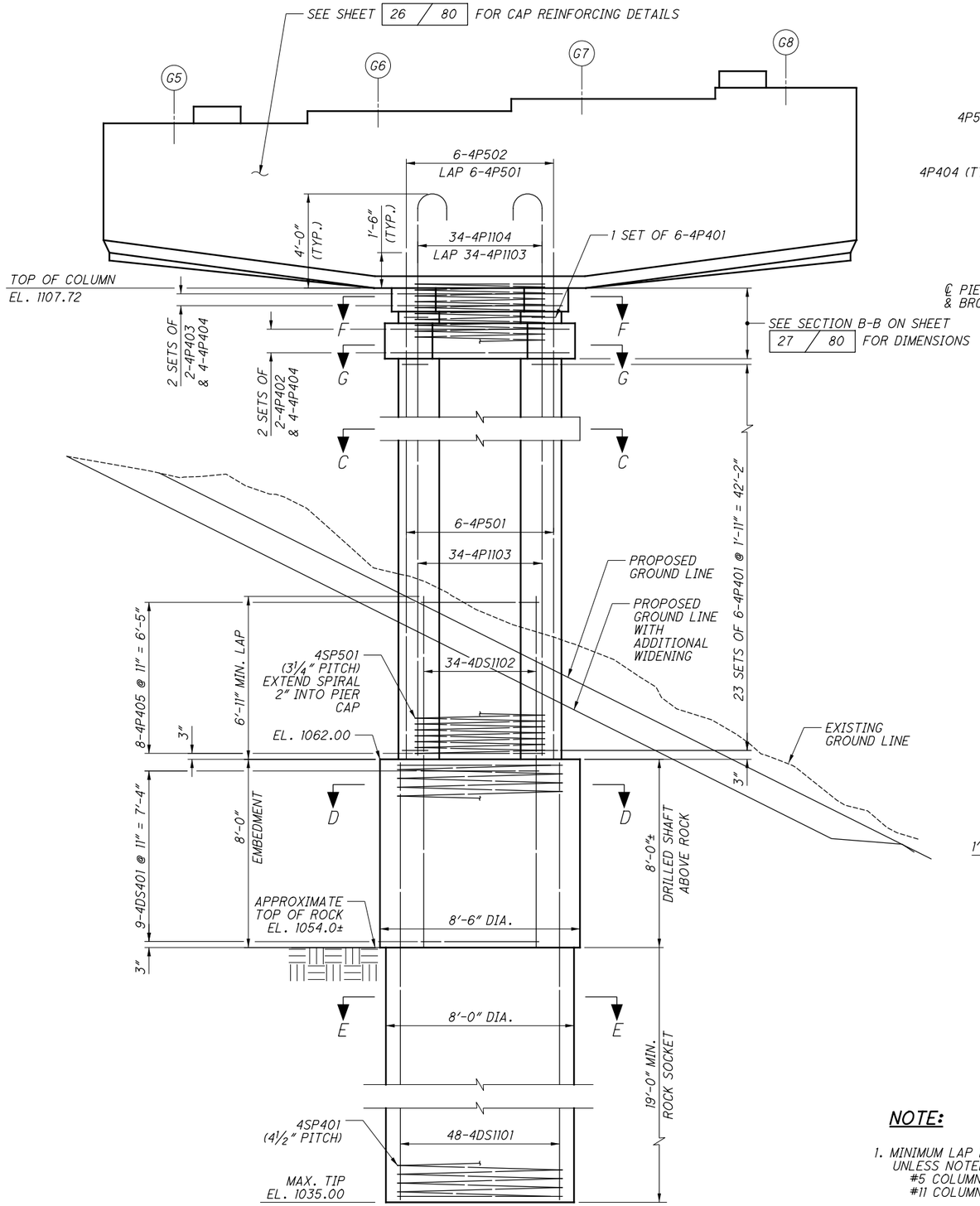
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

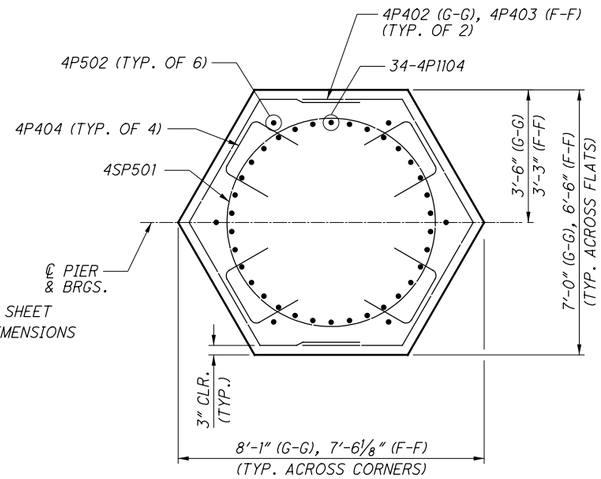
PIER 4 CAP DETAILS

SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

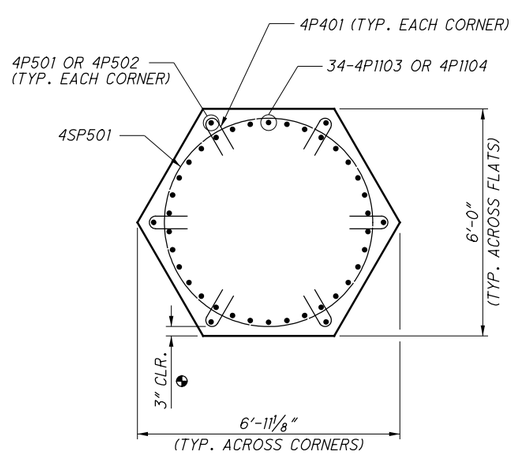
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402



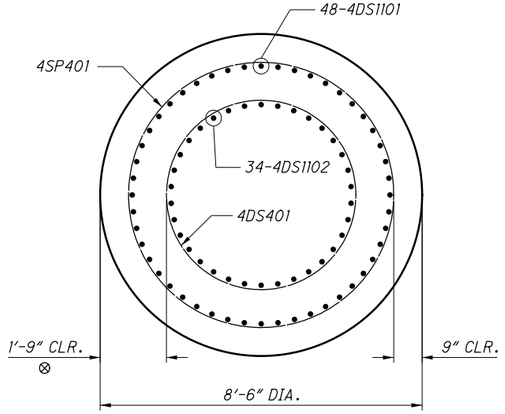
COLUMN ELEVATION - PIER 4



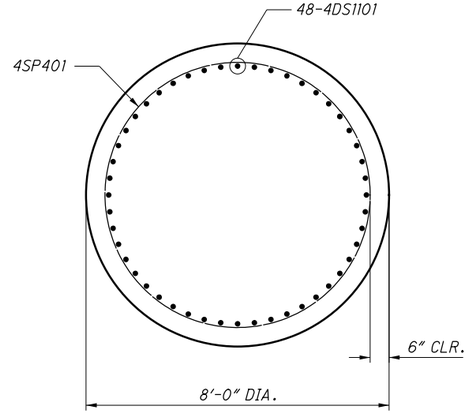
SECTION G-G (SHOWN)
SECTION F-F (AS NOTED)



SECTION C-C



SECTION D-D



SECTION E-E

NOTE:

1. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
   #5 COLUMN BARS: 1'-3"
   #11 COLUMN BARS: 6'-8"

LEGEND:

◕ = TYP. FOR MAIN SPIRAL BARS AND SUPPLEMENTAL CORNER BARS

Δ = ROTATE BARS AS NEEDED TO CLEAR MAIN COLUMN VERTICAL BARS

⊗ = ADJUST CLEAR COVER FOR SPLICE CAGE AS NEEDED TO ENSURE THAT SPLICE CAGE IS CENTERED ON COLUMN

ISSUE RECORD:

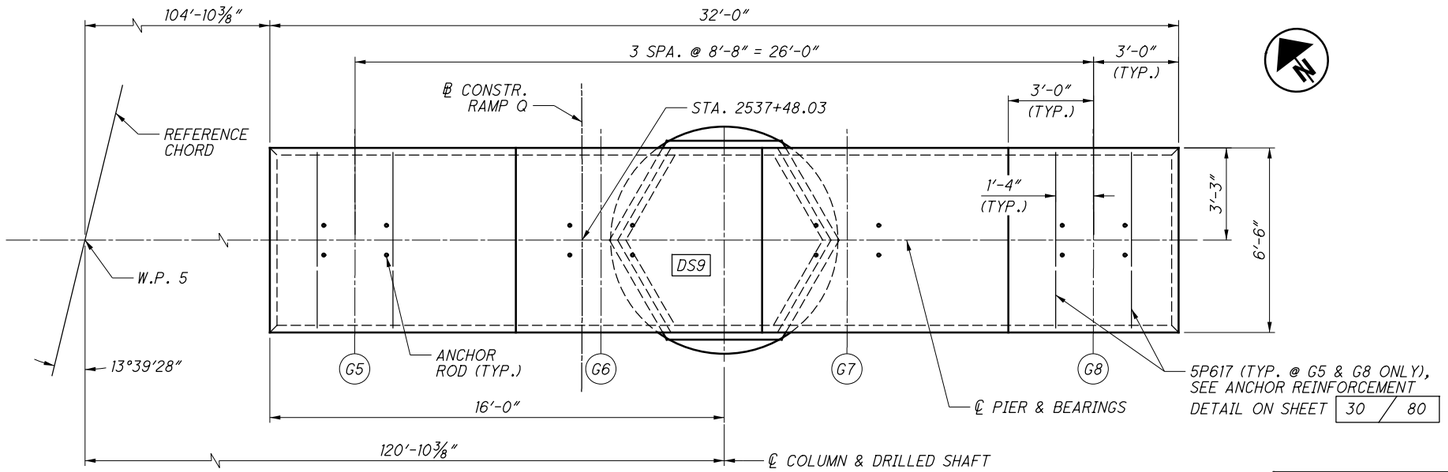
NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

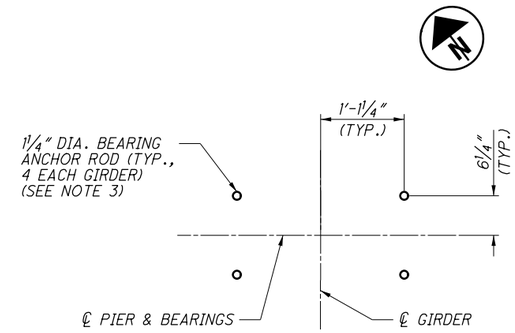
DESIGNED	DRAWN	REVIEWED	DATE
JHL/JDH	JHL/JDH	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

PIER 4 COLUMN & DRILLED SHAFT DETAILS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

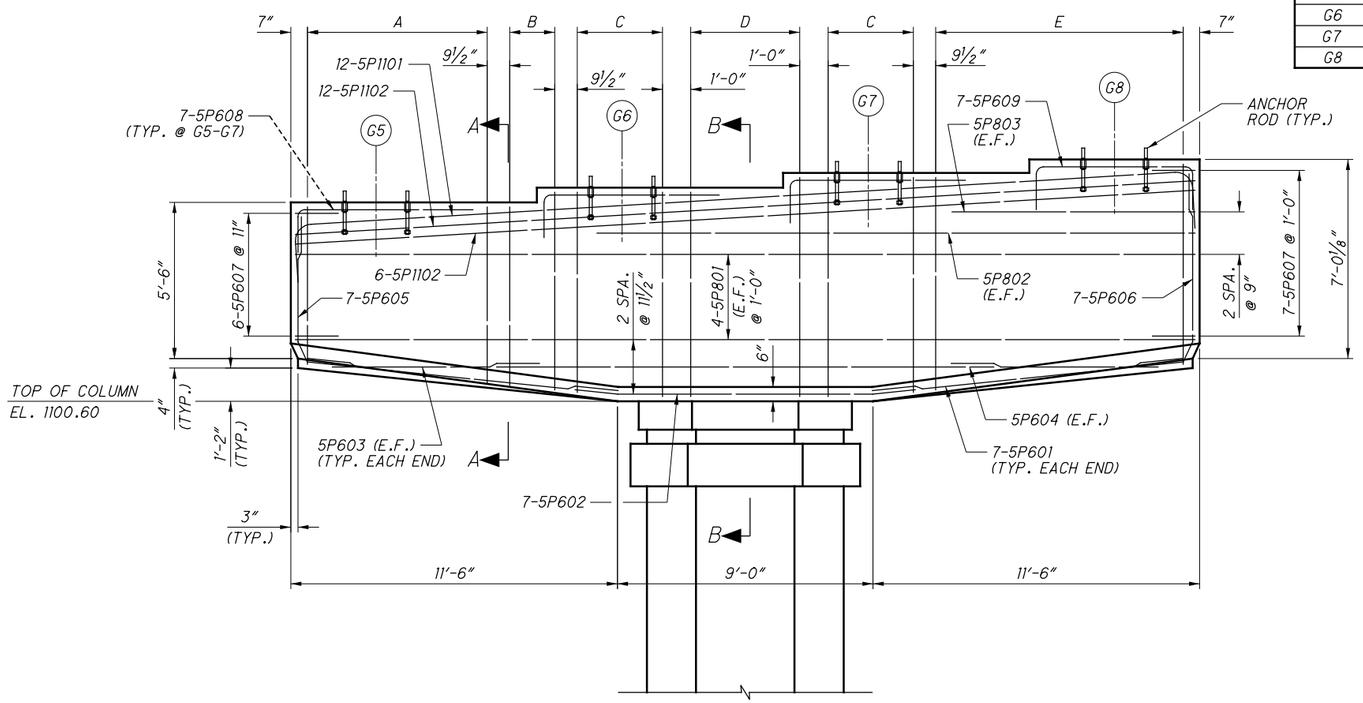


PLAN - PIER 5

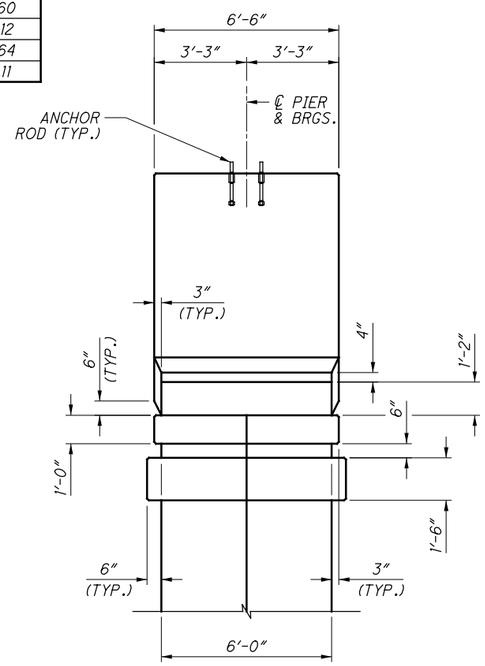


BEARING ANCHOR PLAN

BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
G5	1107.60
G6	1108.12
G7	1108.64
G8	1109.11



CAP ELEVATION - PIER 5



END ELEVATION - PIER 5

LEGEND:

DS9 = DRILLED SHAFT NUMBER

A = 9 SETS OF 2-5P610 (TOP) & 2-5P611 (BOT.) @ 9½" = 6'-4"

B = 3 SETS OF 2-5P610 (TOP) & 2-5P612 (BOT.) @ 9½" = 1'-7"

C = 7 SETS OF 2-5P610 (TOP) & 2-5P613 (BOT.) @ 6" = 3'-0"

D = 5 SETS OF 1-5P616 (TOP) & 1-5P615 (BOT.) @ 11½" = 3'-10"

E = 12 SETS OF 2-5P610 (TOP) & 2-5P614 (BOT.) @ 9½" = 8'-8½"

NOTES:

1. SEE SHEET 30 / 80 FOR SECTIONS A-A & B-B.
2. SEE SHEET 31 / 80 FOR COLUMN DETAILS.
3. SEE SHEET 51 / 80 FOR BEARING ANCHOR ROD DETAILS & PAYMENT.
4. BRIDGE SEAT REINFORCING, SETTING ANCHORS: PRE-SET BEARING ANCHORS. PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE PRE-SET BEARING ANCHORS.
5. REFER TO GENERAL NOTES FOR LIMITS OF SEALING OF CONCRETE SURFACES.
6. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS:
   #6 HORIZONTAL BARS: 1'-6"

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

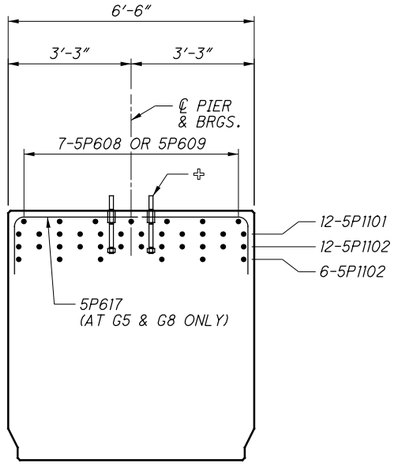
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RMK		7706066	

PIER 5 PLAN AND CAP ELEVATION
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

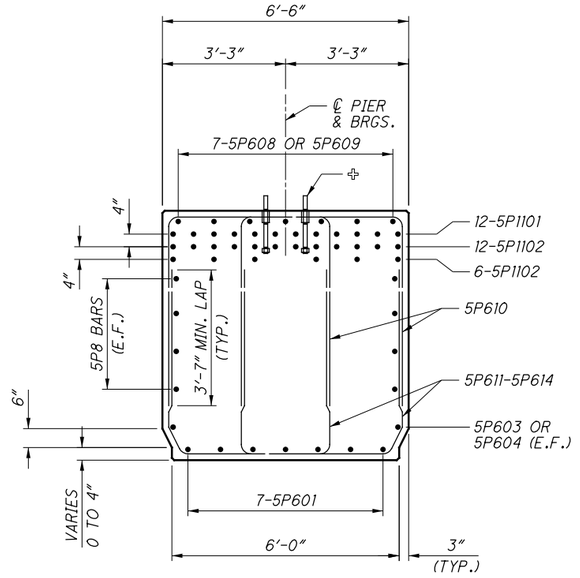
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

29 / 80

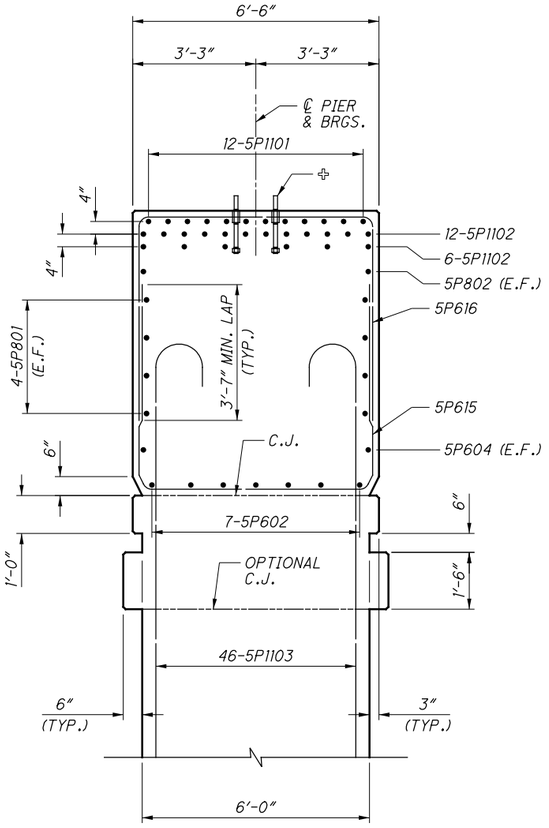
53 / 104



ANCHOR REINFORCEMENT DETAIL



SECTION A-A



SECTION B-B

(COLUMN SPIRAL BARS NOT SHOWN)

LEGEND:

℄ = 1¼″ DIA. BEARING ANCHOR ROD (TYP.). SEE SHEET 51 / 80 FOR DETAILS & PAYMENT. SEE SHEET 29 / 80 FOR BEARING ANCHOR PLAN.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

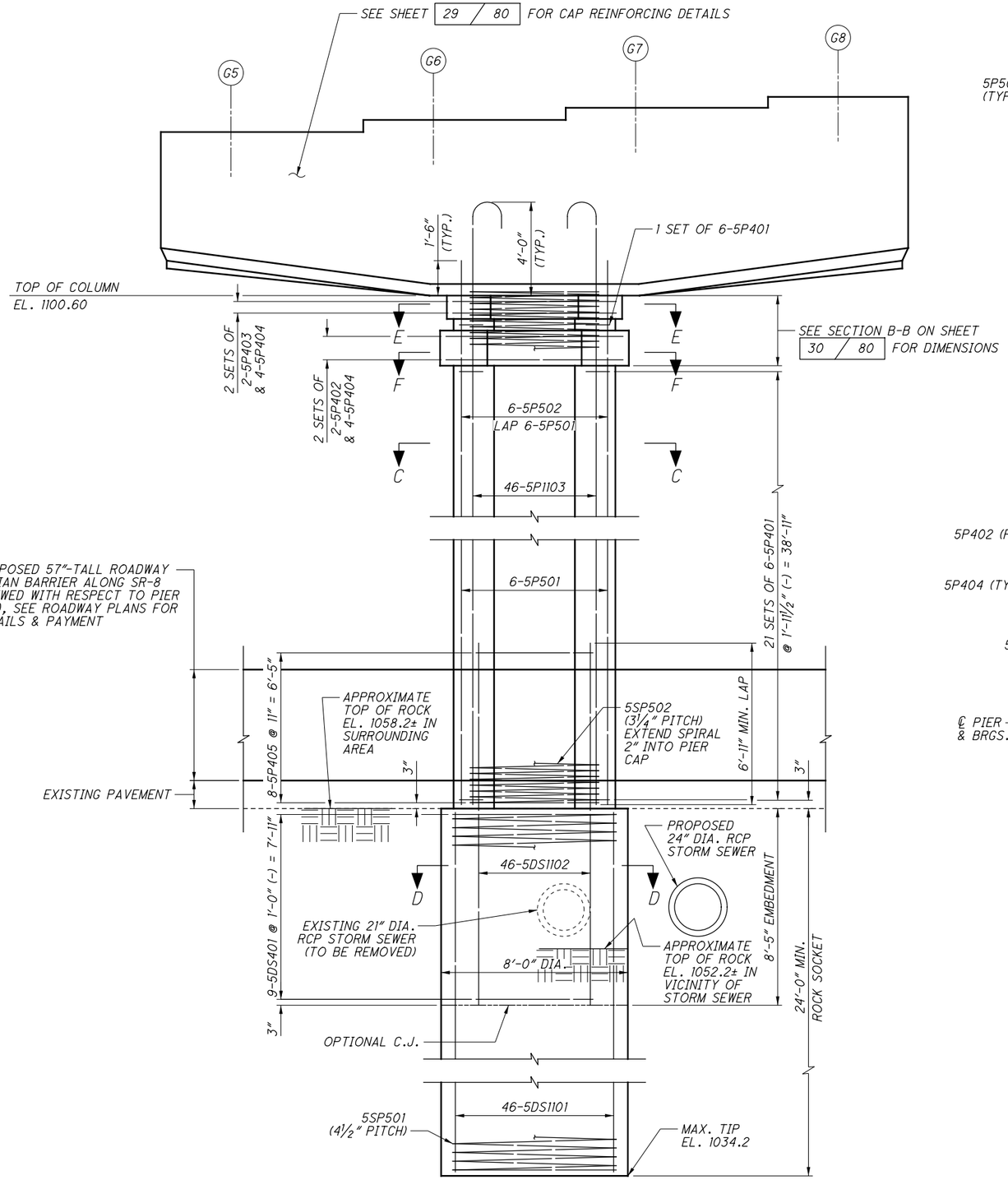
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RMK		7706066	

PIER 5 CAP DETAILS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

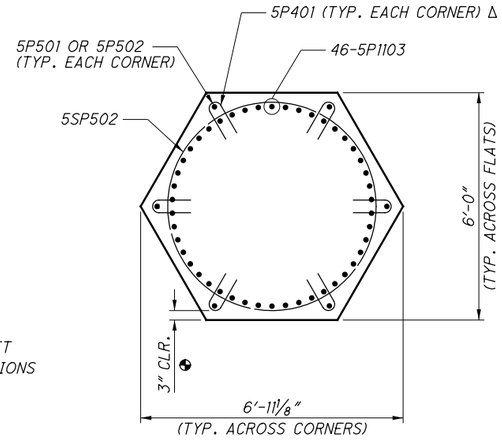
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

30 / 80

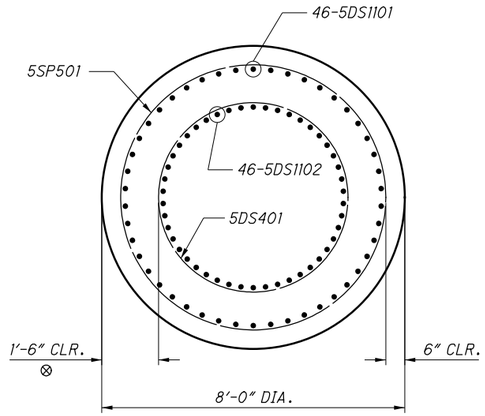
54 / 104



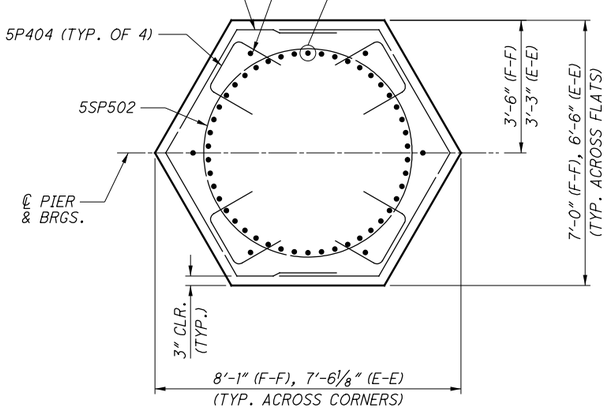
COLUMN ELEVATION - PIER 5



SECTION C-C



SECTION D-D



SECTION F-F (SHOWN)
SECTION E-E (AS NOTED)

NOTE:

1. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS:
   #5 COLUMN BARS: 1'-3"

LEGEND:

◕ = TYP. FOR MAIN SPIRAL BARS AND SUPPLEMENTAL CORNER BARS

Δ = ROTATE BARS AS NEEDED TO CLEAR MAIN COLUMN VERTICAL BARS

⊗ = ADJUST CLEAR COVER FOR SPLICE CAGE AS NEEDED TO ENSURE THAT SPLICE CAGE IS CENTERED ON COLUMN

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

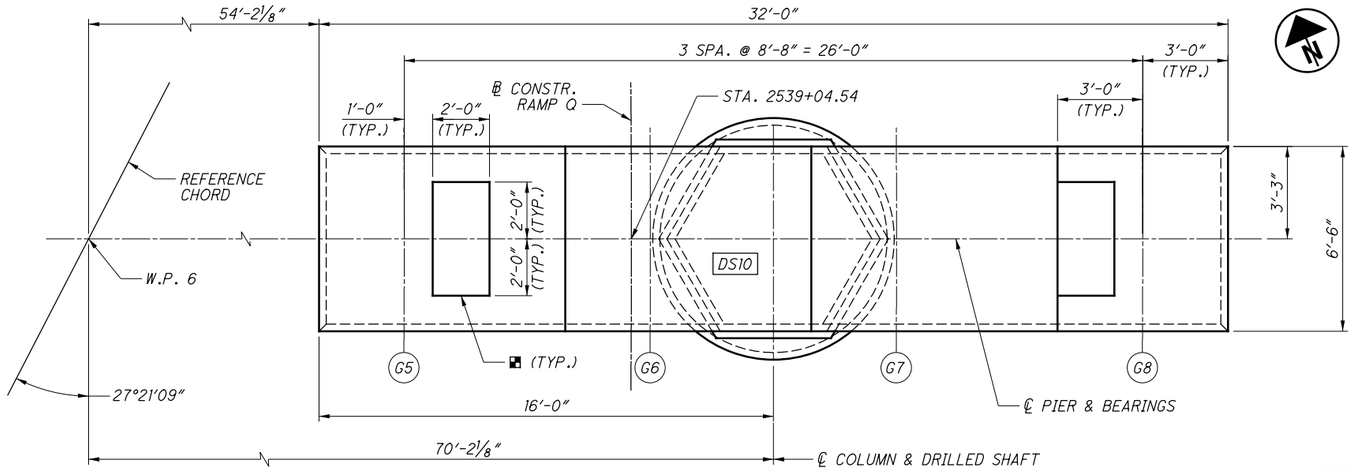
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RMK		7706066	

PIER 5 COLUMN & DRILLED SHAFT DETAILS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

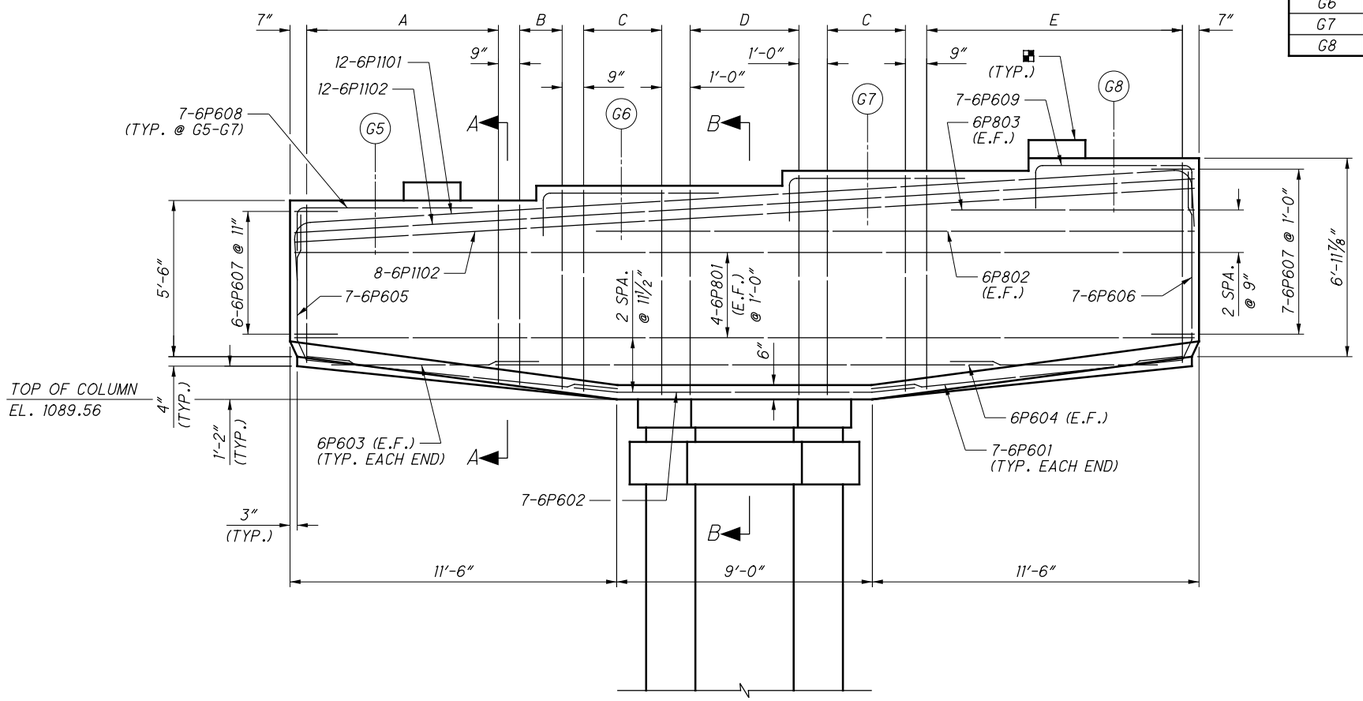
31 / 80

55
104

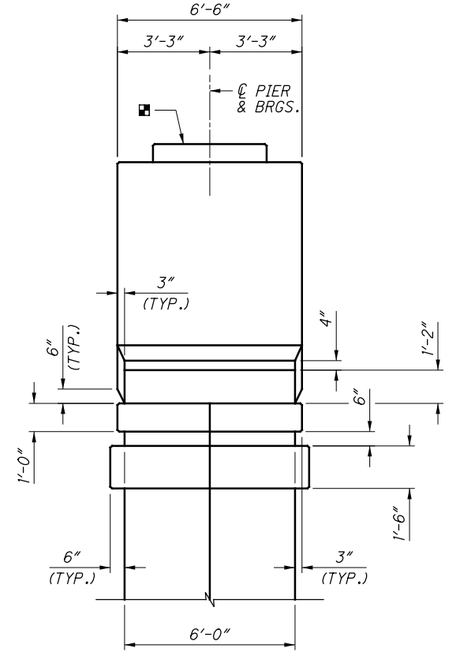


PLAN - PIER 6

BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
G5	1096.56
G6	1097.08
G7	1097.60
G8	1098.05



CAP ELEVATION - PIER 6



END ELEVATION - PIER 6

LEGEND:

DS10 = DRILLED SHAFT NUMBER

■ = SEISMIC PEDESTAL, SEE SHEET 33 / 80 FOR DETAILS

A = 10 SETS OF 2-6P610 (TOP) & 2-6P611 (BOT.) @ 9″ = 6′-9″

B = 3 SETS OF 2-6P610 (TOP) & 2-6P612 (BOT.) @ 9″ = 1′-6″

C = 7 SETS OF 2-6P610 (TOP) & 2-6P613 (BOT.) @ 5½″ = 2′-9″

D = 5 SETS OF 1-6P618 (TOP) & 1-6P615 (BOT.) @ 11½″ = 3′-10″

E = 13 SETS OF 2-6P610 (TOP) & 2-6P614 (BOT.) @ 9″ = 9′-0″

NOTES:

1. SEE SHEET 33 / 80 FOR SECTIONS A-A & B-B.
2. SEE SHEET 34 / 80 FOR COLUMN DETAILS.
3. REFER TO GENERAL NOTES FOR LIMITS OF SEALING OF CONCRETE SURFACES.
4. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS:
   #6 HORIZONTAL BARS: 1′-6″

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

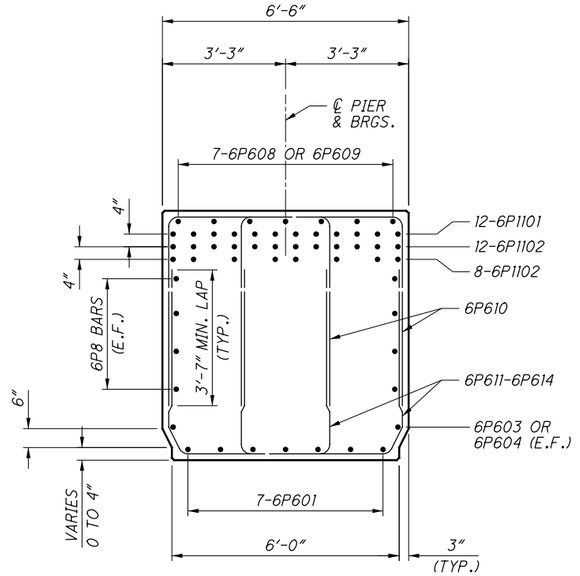
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		7706066	

PIER 6 PLAN AND CAP ELEVATION
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

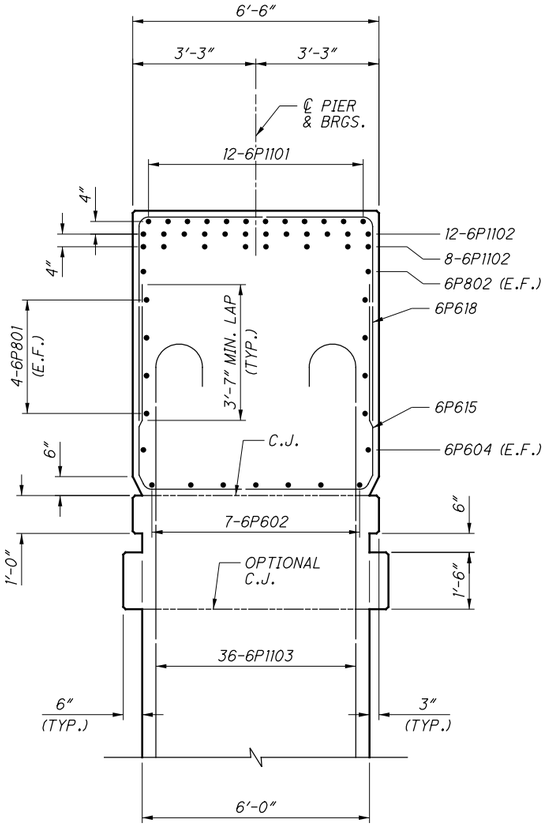
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

32 / 80

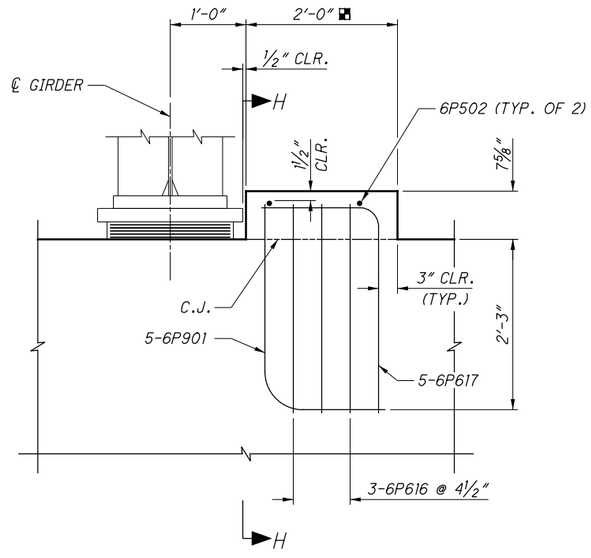
56 / 104



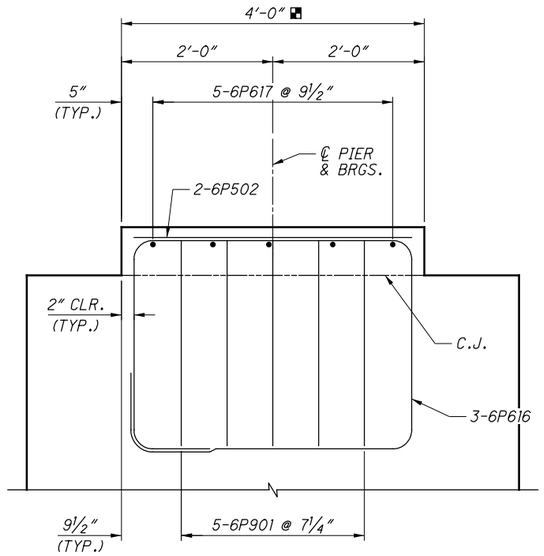
SECTION A-A



SECTION B-B
(COLUMN SPIRAL BARS NOT SHOWN)



SEISMIC PEDESTAL DETAIL



SECTION H-H

LEGEND:

■ = THE SURFACE OF THE BEAM SEAT C.J. IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼″ DEEP MINIMUM.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

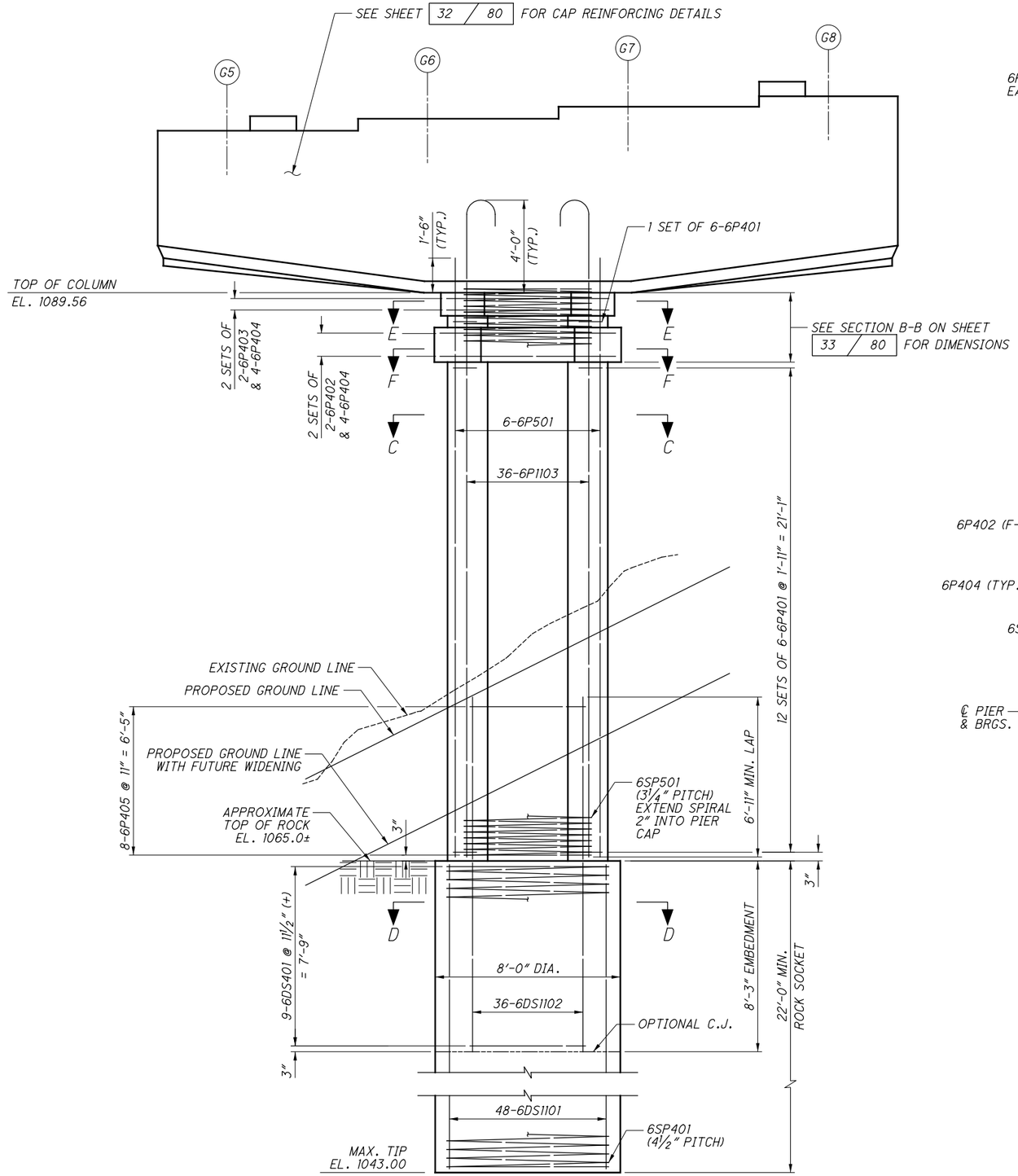
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		7706066	

PIER 6 CAP DETAILS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

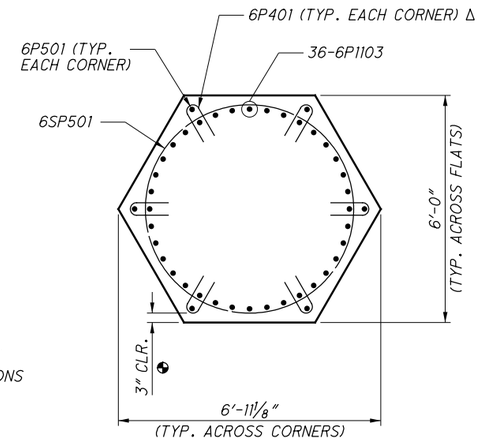
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

33 / 80

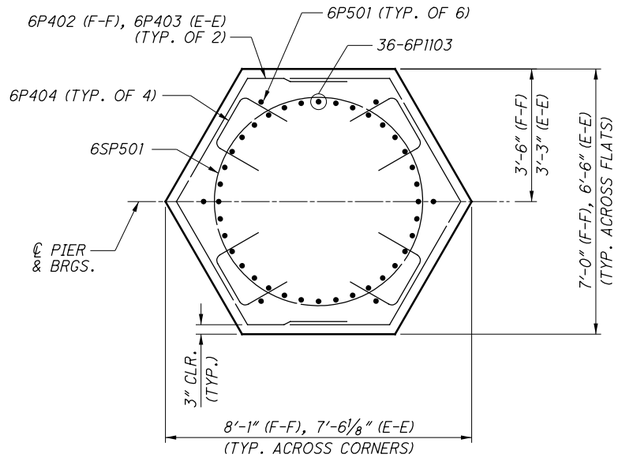
57 / 104



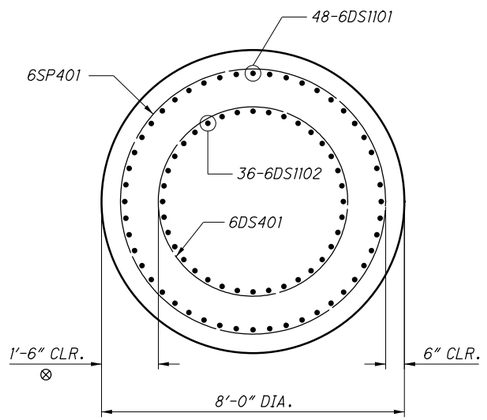
COLUMN ELEVATION - PIER 6



SECTION C-C



SECTION F-F (SHOWN)
SECTION E-E (AS NOTED)



SECTION D-D

LEGEND:

◕ = TYP. FOR MAIN SPIRAL BARS AND SUPPLEMENTAL CORNER BARS

Δ = ROTATE BARS AS NEEDED TO CLEAR MAIN COLUMN VERTICAL BARS

⊗ = ADJUST CLEAR COVER FOR SPLICE CAGE AS NEEDED TO ENSURE THAT SPLICE CAGE IS CENTERED ON COLUMN

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL/JDH		7706066	

DETAILS

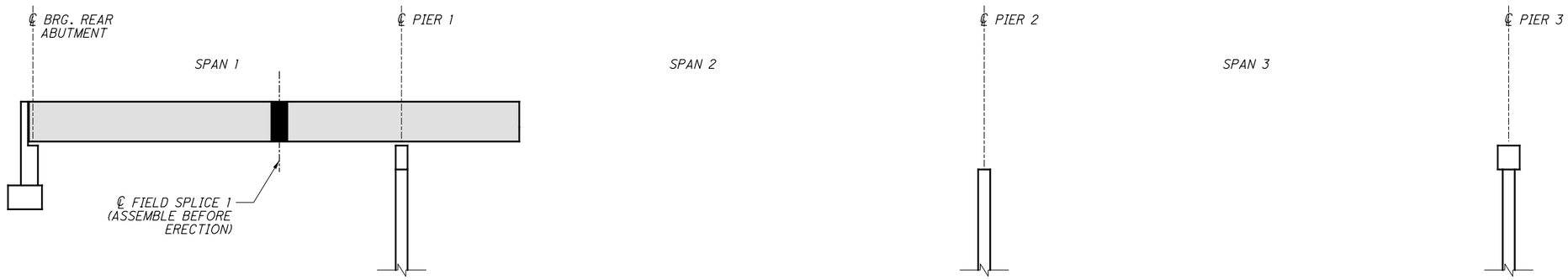
PIER 6 COLUMN & DRILLED SHAFT DETAILS

SUM-76-11.48Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

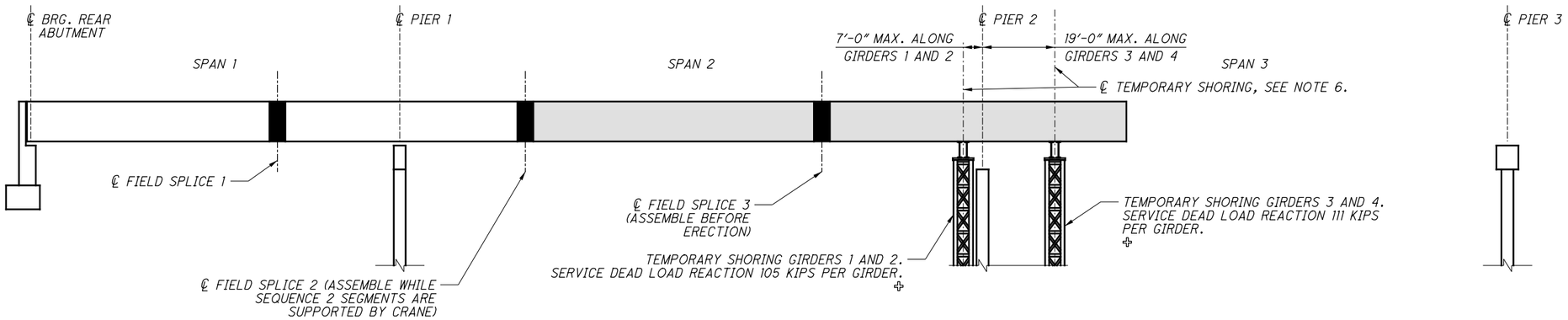
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

34 / 80

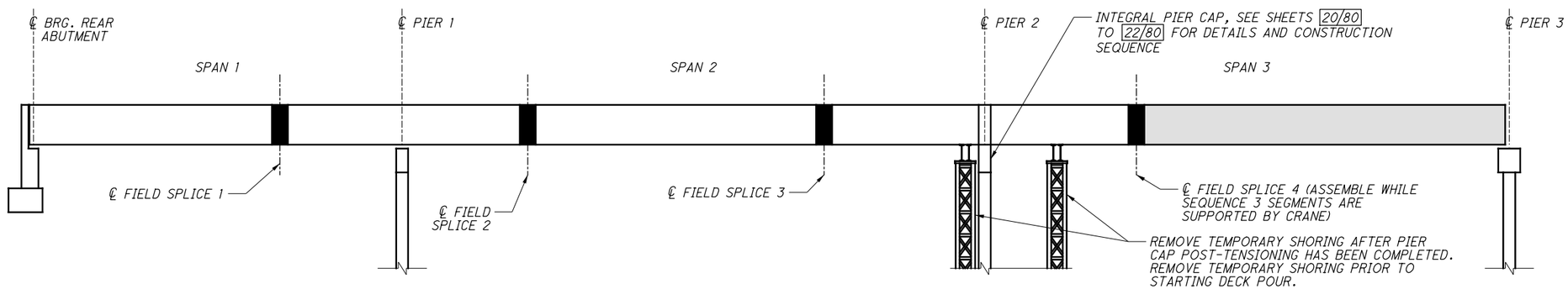
58 / 104



GIRDER ERECTION - SEQUENCE 1 - UNIT 1



GIRDER ERECTION - SEQUENCE 2 - UNIT 1



GIRDER ERECTION - SEQUENCE 3 - UNIT 1

LEGEND:

✣ = DESIGN TEMPORARY SHORING IN ACCORDANCE WITH THE AASHTO GUIDE DESIGN SPECIFICATIONS FOR BRIDGE TEMPORARY WORKS, LATEST EDITION. PROVIDE TEMPORARY CROSS BRACING BETWEEN GIRDERS AT TEMPORARY SHORING LOCATIONS. TEMPORARY CROSS BRACING SHALL HAVE ADEQUATE STRENGTH AND STIFFNESS TO RESIST WIND AND CONSTRUCTION LOADS AND SHALL PROVIDE ADEQUATE GIRDER STABILITY. ADDITIONAL PERMANENT STIFFENER PLATES MAY BE NEEDED TO CONNECT TEMPORARY CROSS BRACING TO GIRDERS. REMOVE TEMPORARY CROSS BRACING AFTER PIER CAP POST-TENSIONING HAS BEEN COMPLETED. SUBMIT ENGINEERED DRAWINGS FOR TEMPORARY SHORING AND TEMPORARY CROSS BRACING PER CMS 501.05. PAYMENT FOR DESIGN, INSTALLATION, AND REMOVAL OF TEMPORARY SHORING AND TEMPORARY CROSS BRACING SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: TEMPORARY SUPPORTS FOR GIRDERS AT INTEGRAL PIER.

NOTES:

1. THE CONSTRUCTION SEQUENCE SHOWN DEMONSTRATES ONE FEASIBLE ALTERNATIVE TO ERECT THE CURVED GIRDERS. THE CONTRACTOR HAS THE OPTION OF USING AN ALTERNATIVE METHOD OF GIRDER ERECTION.
2. SUBMIT ENGINEERED DRAWINGS WITH PROPOSED GIRDER ERECTION DETAILS IN CONFORMANCE WITH CMS 501 AND 513.
3. VERTICAL AND HORIZONTAL STABILITY SHALL BE MAINTAINED FOR EACH SEQUENCE BY THE CONTRACTOR PER CMS 501.05.B.4.
4. THE ERECTION OF THE GIRDERS SHALL BE CONDUCTED AS FOLLOWS FOR EACH SEQUENCE:
   - A. ERECT GIRDERS 3 AND 4 AS A SINGLE UNIT WITH ALL CROSSFRAMES FULLY CONNECTED.
   - B. ERECT GIRDER 2 AND CONNECT CROSSFRAMES BETWEEN GIRDERS 2 AND 3.
   - C. ERECT GIRDER 1 AND CONNECT CROSSFRAMES BETWEEN GIRDERS 1 AND 2.
5. UNIT 1 SEQUENCE IS INDEPENDENT OF UNIT 2 SEQUENCE. THE CONTRACTOR MAY ELECT TO ERECT EITHER UNIT FIRST.
6. FOR TEMPORARY SHORING PLAN VIEW, SEE SHEET 37/80.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\00 - RFP\Reference Files\SUM-102329-SOS-Att-T-2-CADD-FILES-P2\Structures\Sheets\Ramp Q\076_1166L_SS019.dgn Sheet 6/1

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

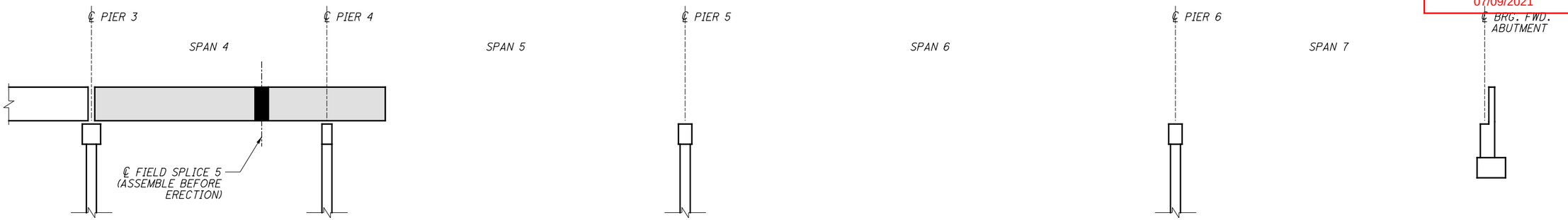
DESIGNED	DRAWN	REVIEWED	DATE
MAB	BCS	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

GIRDER ERECTION SEQUENCE - 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

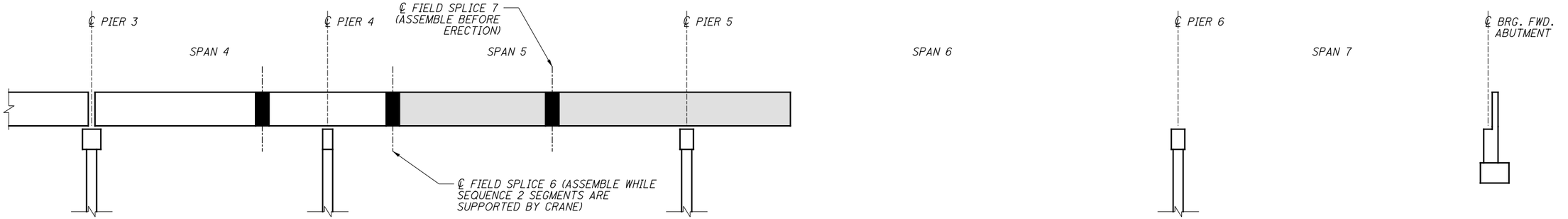
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

35 / 80

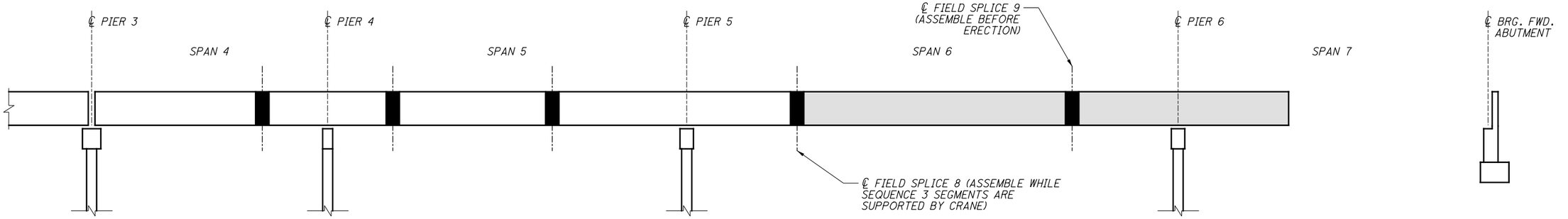
59 / 104



GIRDER ERECTION - SEQUENCE 1 - UNIT 2



GIRDER ERECTION - SEQUENCE 2 - UNIT 2



GIRDER ERECTION - SEQUENCE 3 - UNIT 2

NOTES:

1. THE CONSTRUCTION SEQUENCE SHOWN DEMONSTRATES ONE FEASIBLE ALTERNATIVE TO ERECT THE CURVED GIRDERS. THE CONTRACTOR HAS THE OPTION OF USING AN ALTERNATIVE METHOD OF GIRDER ERECTION.
2. SUBMIT ENGINEERED DRAWINGS WITH PROPOSED GIRDER ERECTION DETAILS IN CONFORMANCE WITH CMS 501 AND 513.
3. VERTICAL AND HORIZONTAL STABILITY SHALL BE MAINTAINED FOR EACH SEQUENCE BY THE CONTRACTOR PER CMS 501.05.B.4.
4. THE ERECTION OF THE GIRDERS SHALL BE CONDUCTED AS FOLLOWS FOR EACH SEQUENCE:
   A. ERECT GIRDERS 7 AND 8 AS A SINGLE UNIT WITH ALL CROSSFRAMES FULLY CONNECTED.
   B. ERECT GIRDER 6 AND CONNECT CROSSFRAMES BETWEEN GIRDERS 6 AND 7.
   C. ERECT GIRDER 5 AND CONNECT CROSSFRAMES BETWEEN GIRDERS 5 AND 6.
5. UNIT 2 SEQUENCE IS INDEPENDENT OF UNIT 1 SEQUENCE. THE CONTRACTOR MAY ELECT TO ERECT EITHER UNIT FIRST.

ISSUE RECORD:

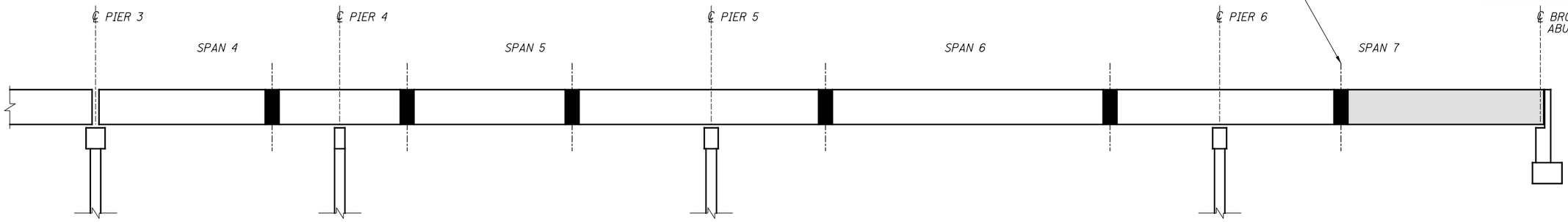
NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

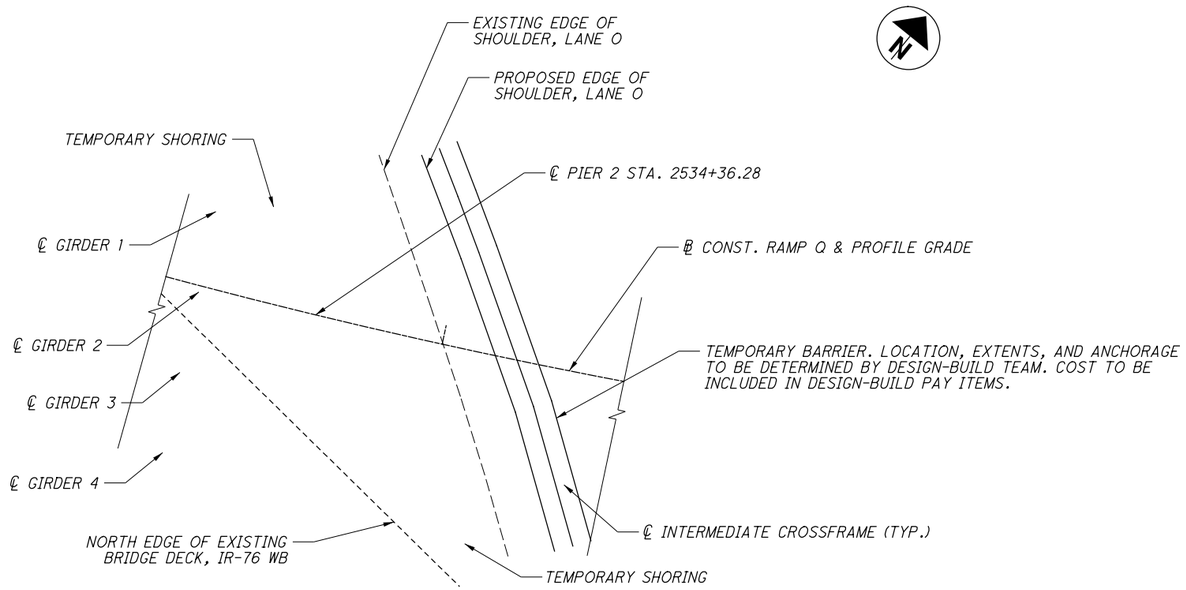
DESIGNED	DRAWN	REVIEWED	DATE
MAB	BCS	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

GIRDER ERECTION SEQUENCE - 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402



GIRDER ERECTION - SEQUENCE 4 - UNIT 2



PIER 2 TEMPORARY SHORING PLAN VIEW

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

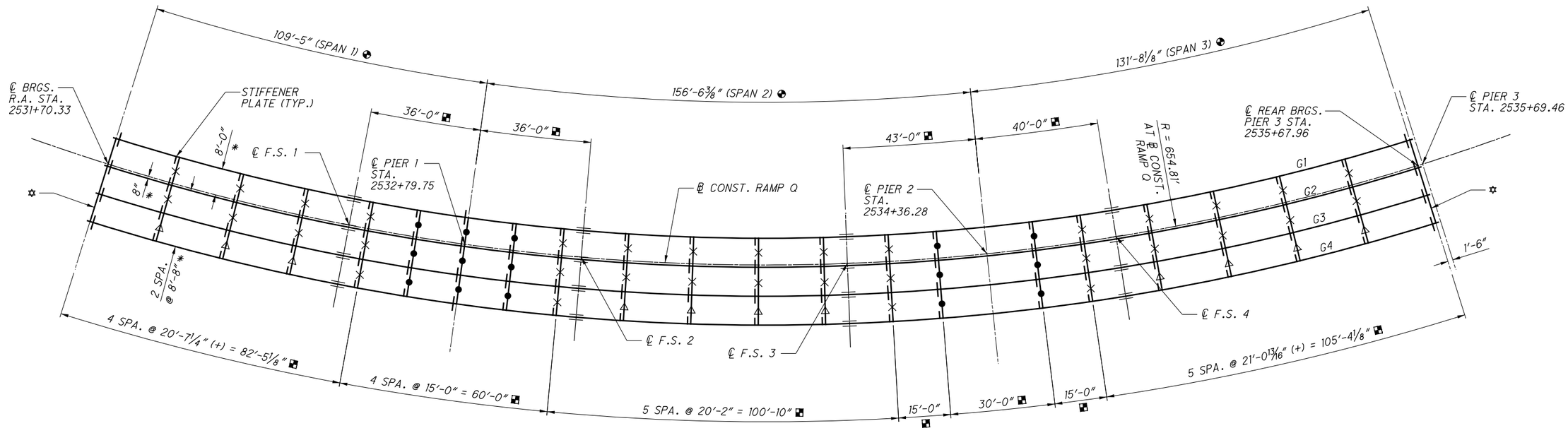
DESIGNED	DRAWN	REVIEWED	DATE
MAB	BCS	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

GIRDER ERECTION SEQUENCE - 3
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

37 / 80

61 / 104



FRAMING PLAN - UNIT 1

LEGEND:

* = MEASURED RADIALLY

◓ = MEASURED ALONG ℄ CONST. RAMP Q

◪ = MEASURED ALONG ℄ GIRDER G4

✡ = END CROSSFRAME, SEE SHEET 50 / 80 FOR DETAILS (TYP.)

= TYPE 1 INTERMEDIATE CROSSFRAME SEE SHEET 49 / 80 FOR DETAILS

= TYPE 2 INTERMEDIATE CROSSFRAME SEE SHEET 49 / 80 FOR DETAILS

= TYPE 3 INTERMEDIATE CROSSFRAME SEE SHEET 49 / 80 FOR DETAILS

NOTES:

1. ℄ BRGS. AT ABUTMENTS, ℄ PIERS, ℄ FIELD SPLICES, AND ALL INTERMEDIATE CROSSFRAMES ARE ORIENTED RADIALLY TO ℄ CONST. RAMP Q. SEE LAYOUT DIAGRAM ON SHEET 3 / 80 FOR ADDITIONAL SUBSTRUCTURE LAYOUT DETAILS.
2. GIRDERS ARE CONCENTRIC WITH ℄ CONST. RAMP Q.
3. ALL DIMENSIONS ARE HORIZONTAL.
4. PROVIDE 1" DIA. BOLTS WITH OVERSIZED HOLES (1 1/4" DIA.) AT THE LOCATIONS LISTED:
   - CROSSFRAME STIFFENERS
   - BEARING STIFFENERS AT PIER 1
   - CROSSFRAME CONNECTION PLATES
5. BOLTS SHALL BE ASTM F3125, GRADE A325, TYPE I (GALVANIZED).
6. INSTALL TWO HARDENED WASHERS AT EACH BOLT WITH OVERSIZED HOLES, ONE AT THE BOLT HEAD AND ONE AT THE NUT.
7. CYLINDRICAL DRIFT PINS ACCORDING TO ODOT CMS 513.20C WITH A DIAMETER RANGING FROM 1 31/32" TO 1 1/4" SHALL BE USED DURING INSTALLATION OF ALL MEMBERS WITH OVERSIZED HOLES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

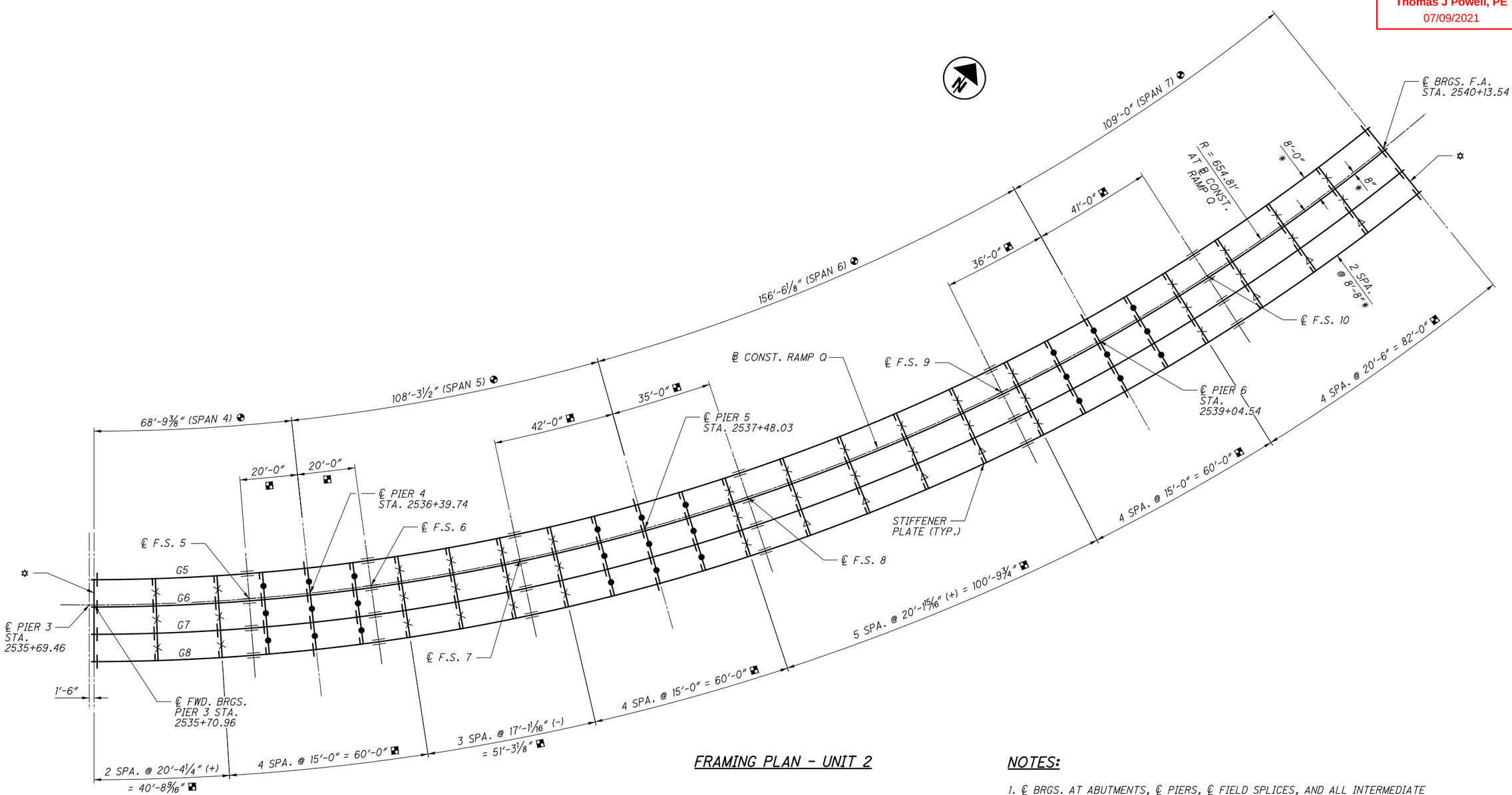
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

FRAMING PLAN - UNIT 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

38 / 80

62 / 104



FRAMING PLAN – UNIT 2

LEGEND:

* = MEASURED RADIALLY

◕ = MEASURED ALONG ℄ CONST. RAMP Q

■ = MEASURED ALONG ℄ GIRDER G8

✡ = END CROSSFRAME, SEE SHEET 50 / 80 FOR DETAILS (TYP.)

= TYPE 1 INTERMEDIATE CROSSFRAME
SEE SHEET 49 / 80 FOR DETAILS

= TYPE 2 INTERMEDIATE CROSSFRAME
SEE SHEET 49 / 80 FOR DETAILS

= TYPE 3 INTERMEDIATE CROSSFRAME
SEE SHEET 49 / 80 FOR DETAILS

NOTES:

1. ℄ BRGS. AT ABUTMENTS, ℄ PIERS, ℄ FIELD SPLICES, AND ALL INTERMEDIATE CROSSFRAMES ARE ORIENTED RADIALLY TO ◕ CONST. RAMP Q. SEE LAYOUT DIAGRAM ON SHEET 3 / 80 FOR ADDITIONAL SUBSTRUCTURE LAYOUT DETAILS.
2. GIRDERS ARE CONCENTRIC WITH ◕ CONST. RAMP Q.
3. ALL DIMENSIONS ARE HORIZONTAL.
4. PROVIDE 1″ DIA. BOLTS WITH OVERSIZED HOLES (1 1/4″ DIA.) AT THE LOCATIONS LISTED:
   - CROSSFRAME STIFFENERS
   - BEARING STIFFENERS AT PIERS 4, 5 & 6
   - CROSSFRAME CONNECTION PLATES
5. BOLTS SHALL BE ASTM F3125, GRADE A325, TYPE I (GALVANIZED).
6. INSTALL TWO HARDENED WASHERS AT EACH BOLT WITH OVERSIZED HOLES, ONE AT THE BOLT HEAD AND ONE AT THE NUT.
7. CYLINDRICAL DRIFT PINS ACCORDING TO ODOT CMS 513.20C WITH A DIAMETER RANGING FROM 1 1/32″ TO 1 1/4″ SHALL BE USED DURING INSTALLATION OF ALL MEMBERS WITH OVERSIZED HOLES.

ISSUE RECORD:

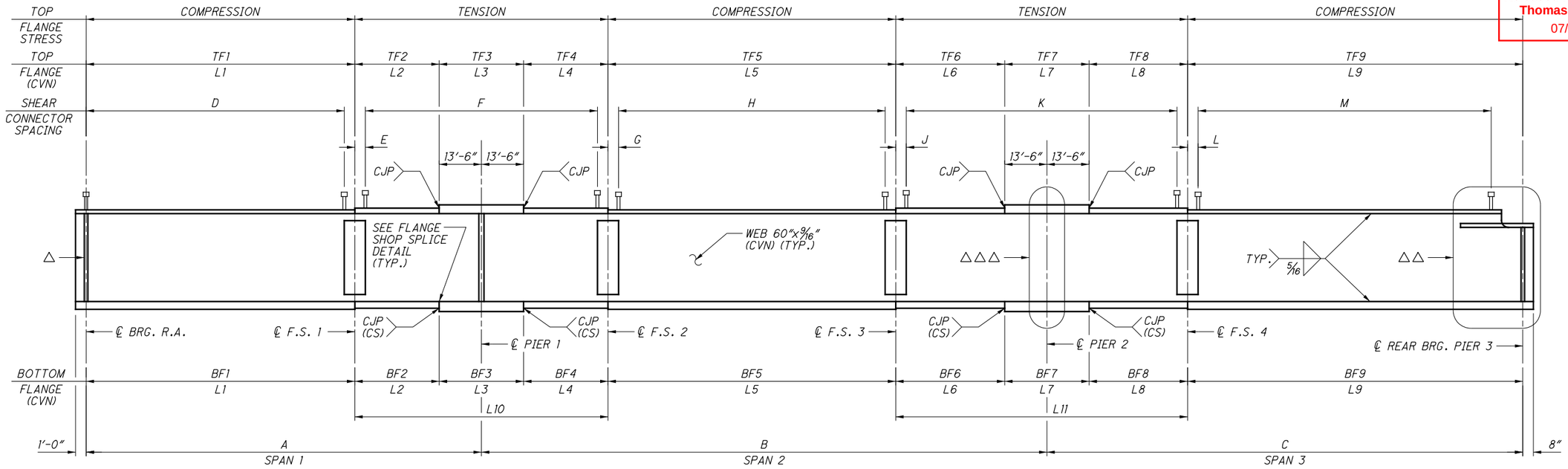
NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

FRAMING PLAN – UNIT 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402



GIRDER ELEVATION - UNIT 1

GIRDER	SPAN LENGTHS (FT.) MEASURED ALONG ℄ GIRDER		
	A	B	C
G1	108.080	154.615	130.056
G2	109.529	156.687	131.819
G3	110.976	158.758	133.582
G4	112.424	160.830	135.344

GIRDER RADIUS AT ℄ OF GIRDER	
GIRDER	RADIUS
G1	646.809
G2	655.476
G3	664.142
G4	672.809

GIRDER	SEGMENT LENGTH (FT.) MEASURED ALONG ℄ OF GIRDER										
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11
G1	73.471	21.109	27.000	21.109	78.668	27.838	27.000	24.954	91.602	69.218	79.792
G2	74.456	21.573	27.000	21.573	79.722	28.392	27.000	25.470	92.849	70.146	80.862
G3	75.440	22.036	27.000	22.036	80.776	28.946	27.000	25.985	94.097	71.072	81.931
G4	76.424	22.500	27.000	22.500	81.830	29.500	27.000	26.500	95.344	72.000	83.000

GIRDER	GIRDER TOP FLANGE DIMENSIONS								
	TF1	TF2	TF3	TF4	TF5	TF6	TF7	TF8	TF9
G1	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"	22" X 1"	22" X 1.75"	22" X 1"	16" X 0.875"
G2	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"	22" X 1"	22" X 1.75"	22" X 1"	16" X 0.875"
G3	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"	22" X 1"	22" X 1.75"	22" X 1"	16" X 0.875"
G4	16" X 0.875"	22" X 1.25"	22" X 2"	22" X 1.25"	18" X 1"	24" X 1.25"	24" X 2.25"	24" X 1.25"	16" X 0.875"

GIRDER	GIRDER BOTTOM FLANGE DIMENSIONS								
	BF1	BF2	BF3	BF4	BF5	BF6	BF7	BF8	BF9
G1	18" X 1.5"	18" X 1.25"	18" X 2"	18" X 1.25"	18" X 1.5"	22" X 1.25"	22" X 2"	22" X 1.25"	20" X 1.5"
G2	18" X 1"	18" X 1.25"	18" X 2"	18" X 1.25"	18" X 1"	22" X 1.25"	22" X 2"	22" X 1.25"	18" X 1.25"
G3	18" X 1"	18" X 1.25"	18" X 2"	18" X 1.25"	18" X 1"	22" X 1.25"	22" X 2"	22" X 1.25"	18" X 1.25"
G4	24" X 1.75"	22" X 1.5"	22" X 2.25"	22" X 1.5"	22" X 1.75"	24" X 1.75"	24" X 2.5"	24" X 1.75"	24" X 1.75"

GIRDER	SHEAR CONNECTOR SPACING									
	D	E	F	G	H	J	K	L	M	
G1	72 SPA @ 12" = 72'-0"	15"	66 SPA @ 12" = 66'-0"	15"	53 SPA @ 17" = 75'-1"	15"	71 SPA @ 13" = 76'-11"	15"	66 SPA @ 16" = 88'-0"	
G2	73 SPA @ 12" = 73'-0"	15"	73 SPA @ 11" = 66'-11"	15"	57 SPA @ 16" = 76'-0"	15"	58 SPA @ 16" = 77'-4"	15"	72 SPA @ 15" = 90'-0"	
G3	59 SPA @ 15" = 73'-9"	15"	48 SPA @ 17" = 68'-0"	15"	55 SPA @ 17" = 77'-11"	15"	59 SPA @ 16" = 78'-8"	15"	73 SPA @ 15" = 91'-3"	
G4	69 SPA @ 13" = 74'-9"	15"	75 SPA @ 11" = 68'-9"	15"	67 SPA @ 14" = 78'-2"	15"	87 SPA @ 11" = 79'-9"	15"	79 SPA @ 14" = 92'-2"	

LEGEND:

△ = BEARING STIFFENER, EACH SIDE OF WEB (TYP. AT ABUTMENTS & PIERS, EXCEPT PIER 2). SEE SHEET 42 / 80 FOR SIZES.

△△ = SEE END CROSSFRAME DETAILS ON SHEET 50 / 80 FOR ADDITIONAL DETAILS AT GIRDER ENDS AT PIER 3.

△△△ = SEE SHEET 43 / 80 FOR ADDITIONAL GIRDER DETAILS AT PIER 2.

NOTES:

1. ALL DIMENSIONS ARE HORIZONTAL AND REQUIRE ADJUSTMENT FOR CAMBER AND FINISH GRADE.
2. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
3. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 5/16".
4. CROSSFRAME STIFFENERS NOT SHOWN IN ELEVATION. SEE FRAMING PLAN FOR LOCATIONS.
5. COMPLETE JOINT PENETRATION WELDS SHALL BE GROUND SMOOTH IN THE LONGITUDINAL DIRECTION TO REMOVE WELD REINFORCEMENT.
6. ADJUST SHEAR CONNECTOR SPACING LOCALLY AS REQUIRED TO CLEAR FLANGE SHOP SPLICES.
7. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50.
8. SEE GENERAL NOTES FOR COATING REQUIREMENTS.
9. GIRDER ENDS SHALL BE FABRICATED TO BE VERTICAL AFTER ERECTION.
10. SEE SHEET 42 / 80 FOR ADDITIONAL GIRDER DETAILS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

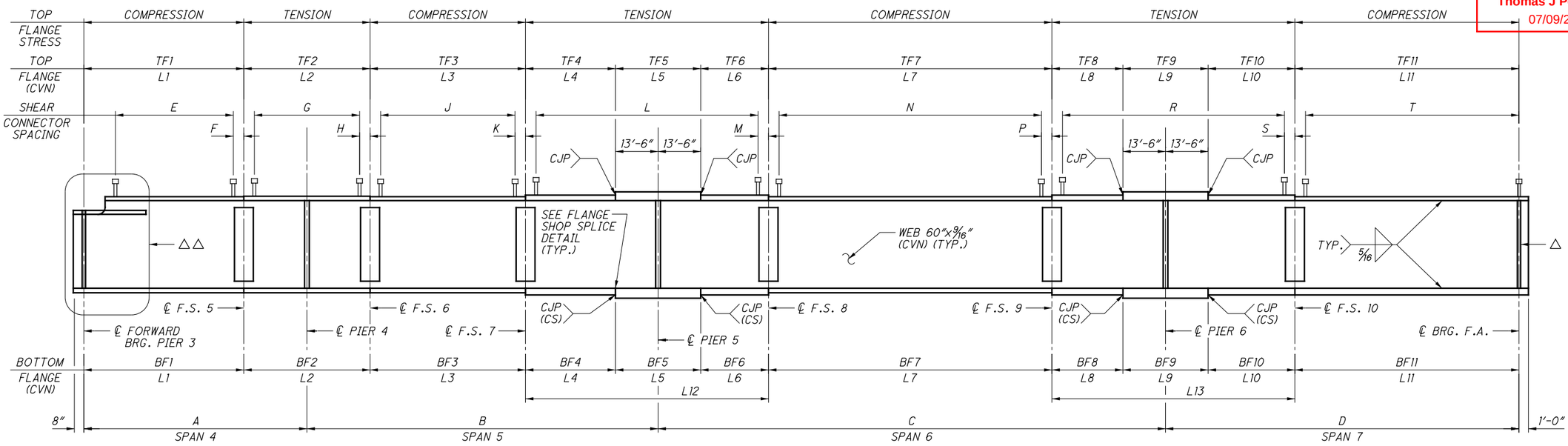
DESIGNED JDH | DRAWN JDH | REVIEWED JCS 4/29/19 | STRUCTURE FILE NUMBER 7706066 | CHECKED BES/BCS

GIRDER ELEVATION - UNIT 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

40 / 80

64 / 104



GIRDER ELEVATION - UNIT 2

GIRDER	SEGMENT LENGTH (FT.) MEASURED ALONG ℄ OF GIRDER												
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13
G5	48.694	38.454	47.359	26.877	27.000	20.148	86.342	21.109	27.000	25.916	68.256	74.025	74.025
G6	49.366	38.970	47.994	27.418	27.000	20.598	87.499	21.573	27.000	26.444	69.171	75.016	75.017
G7	50.039	39.485	48.628	27.959	27.000	21.049	88.656	22.036	27.000	26.972	70.085	76.008	76.008
G8	50.711	40.000	49.263	28.500	27.000	21.500	89.813	22.500	27.000	27.500	71.000	77.000	77.000

GIRDER	SPAN LENGTHS (FT.) MEASURED ALONG ℄ GIRDER			
	A	B	C	D
G5	67.921	106.963	154.599	107.672
G6	68.851	108.397	156.670	109.115
G7	69.782	109.830	158.741	110.557
G8	70.711	111.263	160.813	112.000

GIRDER RADIUS AT ℄ OF GIRDER	
GIRDER	RADIUS
G5	646.809
G6	655.476
G7	664.142
G8	672.809

GIRDER	GIRDER TOP FLANGE DIMENSIONS										
	TF1	TF2	TF3	TF4	TF5	TF6	TF7	TF8	TF9	TF10	TF11
G5	16" X 0.875"	18" X 1"	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"
G6	16" X 0.875"	18" X 1"	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"
G7	16" X 0.875"	18" X 1"	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"
G8	16" X 0.875"	18" X 1"	16" X 0.875"	22" X 1"	22" X 1.75"	22" X 1"	18" X 1"	22" X 1.25"	22" X 2"	22" X 1.25"	16" X 0.875"

GIRDER	GIRDER BOTTOM FLANGE DIMENSIONS										
	BF1	BF2	BF3	BF4	BF5	BF6	BF7	BF8	BF9	BF10	BF11
G5	16" X 1"	18" X 1"	18" X 1"	18" X 1.25"	18" X 2"	18" X 1.25"	18" X 1.25"	18" X 1.25"	18" X 2"	18" X 1.25"	20" X 1.25"
G6	16" X 1"	18" X 1"	16" X 1"	18" X 1.25"	18" X 2"	18" X 1.25"	16" X 1"	18" X 1.25"	18" X 2"	18" X 1.25"	18" X 1.25"
G7	16" X 1"	18" X 1"	16" X 1"	18" X 1.25"	18" X 2"	18" X 1.25"	16" X 1"	18" X 1.25"	18" X 2"	18" X 1.25"	18" X 1.25"
G8	18" X 1"	18" X 1"	20" X 1.25"	22" X 1.25"	22" X 2"	22" X 1.25"	22" X 1.5"	22" X 1.5"	22" X 2.25"	22" X 1.5"	24" X 1.5"

GIRDER	SHEAR CONNECTOR SPACING												
	E	F	G	H	J	K	L	M	N	P	R	S	T
G5	79 SPA @ 7" = 46'-1"	15"	61 SPA @ 7" = 35'-7"	15"	44 SPA @ 12" = 44'-0"	15"	78 SPA @ 11" = 71'-6"	15"	59 SPA @ 17" = 83'-7"	15"	71 SPA @ 12" = 71'-0"	15"	67 SPA @ 12" = 67'-0"
G6	80 SPA @ 7" = 46'-8"	15"	62 SPA @ 7" = 36'-2"	15"	49 SPA @ 11" = 44'-11"	15"	87 SPA @ 10" = 72'-6"	15"	63 SPA @ 16" = 84'-0"	15"	72 SPA @ 12" = 72'-0"	15"	74 SPA @ 11" = 67'-10"
G7	81 SPA @ 7" = 47'-3"	15"	63 SPA @ 7" = 36'-9"	15"	50 SPA @ 11" = 45'-10"	15"	80 SPA @ 11" = 73'-4"	15"	60 SPA @ 17" = 85'-0"	15"	55 SPA @ 16" = 73'-4"	15"	55 SPA @ 15" = 68'-9"
G8	82 SPA @ 7" = 47'-10"	15"	64 SPA @ 7" = 37'-4"	15"	46 SPA @ 12" = 46'-0"	15"	81 SPA @ 11" = 74'-3"	15"	74 SPA @ 14" = 86'-4"	15"	81 SPA @ 11" = 74'-3"	15"	59 SPA @ 14" = 68'-10"

NOTES:

SEE SHEET 40 / 80 FOR NOTES AND LEGEND.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

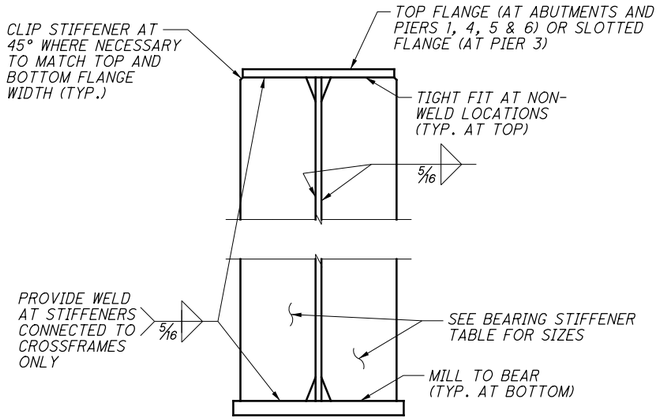
DESIGNED	DRAWN	REVIEWED	DATE
JDH	JDH	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES/BCS		7706066	

GIRDER ELEVATION - UNIT 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

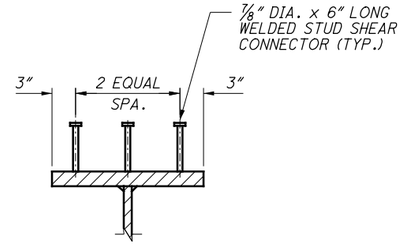
BEARING STIFFENERS (UNIT 1)				
LOCATION	GIRDER	WIDTH	THICKNESS	HEIGHT
REAR ABUTMENT	1	8″	7/8″	60″
PIER 1		8″	1″	60″
PIER 3 REAR		9″	7/8″	51 1/4″
REAR ABUTMENT	2	8″	7/8″	60″
PIER 1		8″	1″	60″
PIER 3 REAR		9″	7/8″	51 1/4″
REAR ABUTMENT	3	8″	7/8″	60″
PIER 1		8″	1″	60″
PIER 3 REAR		9″	7/8″	51 1/4″
REAR ABUTMENT	4	11″	1″	60″
PIER 1		10″	1″	60″
PIER 3 REAR		11″	1″	51 1/4″

BEARING STIFFENERS (UNIT 2)				
LOCATION	GIRDER	WIDTH	THICKNESS	HEIGHT
PIER 3 FORWARD	5	9″	7/8″	51 1/4″
PIER 4		8″	1″	60″
PIER 5		8″	1″	60″
PIER 6		8″	1″	60″
FORWARD ABUTMENT		9″	7/8″	60″
PIER 3 FORWARD	6	9″	7/8″	51 1/4″
PIER 4		8″	1″	60″
PIER 5		8″	1″	60″
PIER 6		8″	1″	60″
FORWARD ABUTMENT		8″	7/8″	60″
PIER 3 FORWARD	7	9″	7/8″	51 1/4″
PIER 4		8″	1″	60″
PIER 5		8″	1″	60″
PIER 6		8″	1″	60″
FORWARD ABUTMENT		8″	7/8″	60″
PIER 3 FORWARD	8	9″	7/8″	51 1/4″
PIER 4		8″	1″	60″
PIER 5		10″	1″	60″
PIER 6		10″	1″	60″
FORWARD ABUTMENT		11″	1″	60″

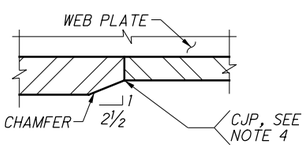


BEARING STIFFENER

(CROSSFRAMES NOT SHOWN, SEE NOTE 6)



SHEAR CONNECTOR DETAIL



FLANGE SHOP SPLICE DETAIL

BOTTOM FLANGE SHOWN,
TOP FLANGE SIMILAR

NOTES:

1. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50.
2. SEE GENERAL NOTES FOR COATING REQUIREMENTS.
3. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
4. COMPLETE JOINT PENETRATION WELDS SHALL BE GROUND SMOOTH IN THE LONGITUDINAL DIRECTION TO REMOVE WELD REINFORCEMENT.
5. INSTALL STIFFENERS ACCORDING TO ODOT CMS 513.13.
6. SEE SHEET 49 / 80 FOR CROSSFRAME STIFFENER DETAILS AND ADDITIONAL BEARING STIFFENER DETAILS AT CROSSFRAME LOCATIONS. BEARING STIFFENERS AT CROSSFRAME LOCATIONS SHALL BE DESIGNATED AS (CVN).
7. SEE SHEETS 40 / 80 AND 41 / 80 FOR SHEAR STUD SPACING.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
JDH	JDH	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

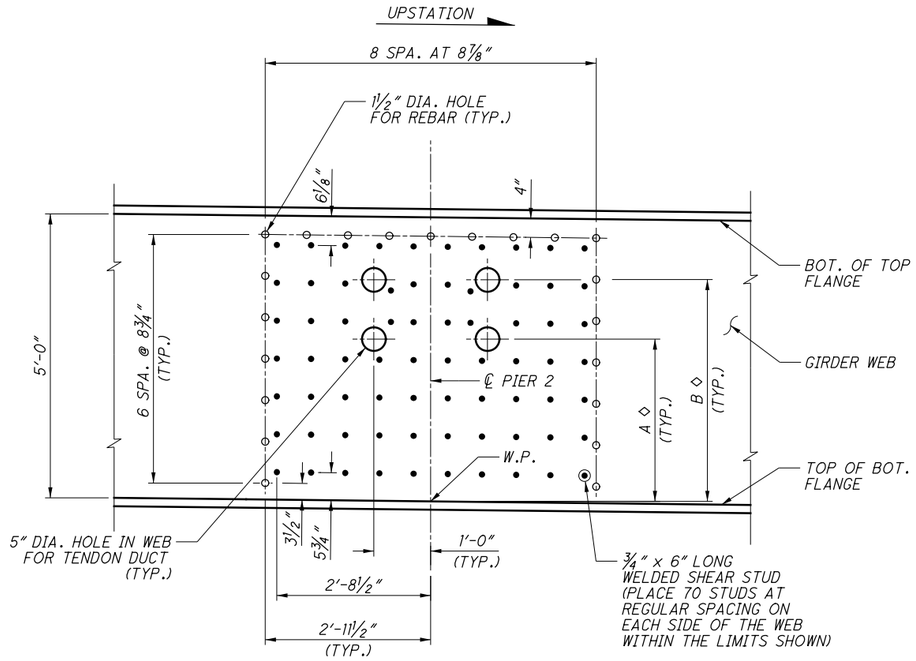
GIRDER DETAILS - 1

SUM-76-1148Q

RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00

PID No. 101402



HOLE AND SHEAR STUD LOCATIONS IN GIRDER WEBS

(PIER 2, ALL GIRDERS)
(SEE TABLE FOR DIMENSIONS A & B)

HOLE LOCATIONS AT PIER 2

GIRDER	A	B
G1	1.94′	3.40′
G2	2.92′	3.97′
G3	2.88′	3.94′
G4	1.89′	3.35′

LEGEND:

◇ = MEASURED TO W.P. (HOLES IN WEB FOR TENDONS SHALL BE LEVEL AT THE OFFSET DIMENSION FROM THE W.P.)

NOTES:

1. MAINTAIN A MINIMUM OF 1" CLEAR DISTANCE FROM EDGE OF SHEAR STUD TO EDGE OF WEB HOLE.
2. FOR THE OUTSIDE FACE OF THE EXTERIOR GIRDERS, DO NOT PLACE STUDS IN LOCATIONS THAT WILL CONFLICT WITH POST-TENSIONING ANCHORAGE HARDWARE. COORDINATE WITH THE POST-TENSIONING SUPPLIER TO IDENTIFY CONFLICTS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

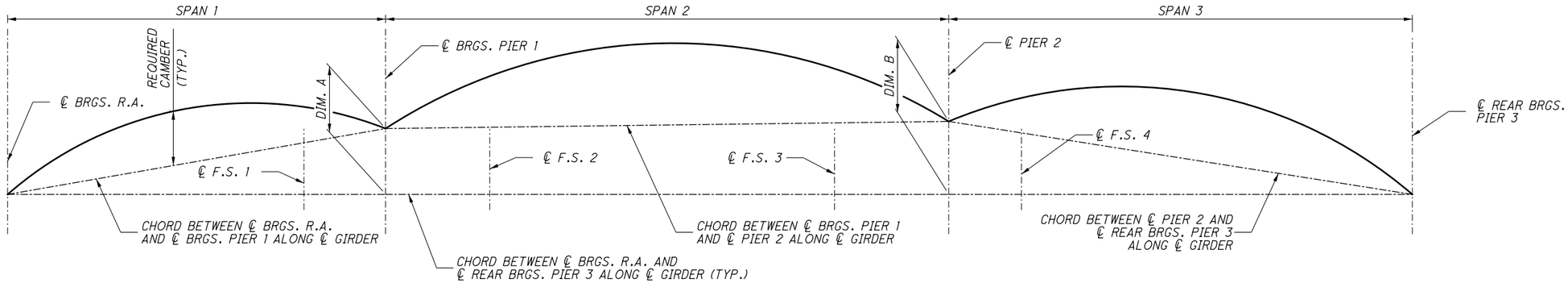
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TMB		7706066	

GIRDER DETAILS - 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

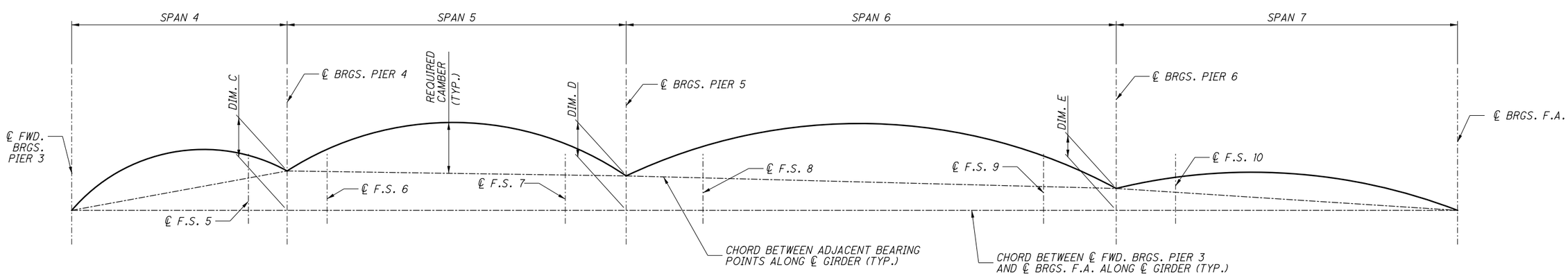
43 / 80

67 / 104



CAMBER AND BLOCKING DIAGRAM - UNIT 1

(ALL CHORDS REFERENCED TO TOP OF WEB)
(NOT TO SCALE)



CAMBER AND BLOCKING DIAGRAM - UNIT 2

(ALL CHORDS REFERENCED TO TOP OF WEB)
(NOT TO SCALE)

BLOCKING TABLE (VALUES IN INCHES)

GIRDER	DIM. "A"	DIM. "B"	GIRDER	DIM. "C"	DIM. "D"	DIM. "E"
G1	43.00	47.75	G5	13.89	13.10	5.38
G2	43.00	47.76	G6	13.89	13.10	5.38
G3	43.01	47.76	G7	13.90	13.10	5.38
G4	43.01	47.77	G8	13.90	13.11	5.38

NOTES:

1. POSITIVE CAMBER VALUES INDICATE CAMBER ABOVE CHORD BETWEEN ADJACENT SUPPORTS.
2. SEE SHEETS 60 / 80 AND 61 / 80 FOR GIRDER NUMBER AND CAMBER VALUE LOCATIONS.
3. SEE SHEET 45 / 80 FOR UNIT 1 CAMBER TABLE
   AND SHEET 46 / 80 FOR UNIT 2 CAMBER TABLE.
4. IF HEAT CURVING IS USED TO FABRICATE THE GIRDERS, THE FABRICATOR SHALL ADJUST GIRDER CAMBER IN THE AFFECTED AREAS AND SUBMIT CALCULATIONS FOR CAMBER ADJSUTMENTS PER CMS 513.15. ADDITIONALLY, THE CONTRACTOR SHALL ADJUST SCREED AND TOP OF HAUNCH ELEVATIONS FOR THE EFFECTS OF HEAT CURVING, IF USED.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
MAB	MAB	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ASG		7706066	

CAMBER AND BLOCKING DIAGRAMS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

UNIT 1 CAMBER TABLE (VALUE IN INCHES)

GIRDER NUMBER		℄ BRG. R.A.	SPAN 1										℄ BRG. PIER 1	SPAN 2										℄ PIER 2
			0.1 SPAN	0.2 SPAN	0.3 SPAN	0.4 SPAN	MIDSPAN	0.6 SPAN	F.S. 1	0.7 SPAN	0.8 SPAN	0.9 SPAN		0.1 SPAN	0.2 SPAN	F.S. 2	0.3 SPAN	0.4 SPAN	MIDSPAN	0.6 SPAN	0.7 SPAN	F.S.3	0.8 SPAN	0.9 SPAN	
℄ GIRDER 1	A	0	0.07	0.14	0.17	0.18	0.17	0.13	0.09	0.08	0.04	0.01	0	0.08	0.21	0.25	0.34	0.43	0.45	0.40	0.30	0.25	0.16	0.05	0
	B	0	0.31	0.59	0.73	0.80	0.72	0.58	0.41	0.37	0.17	0.03	0	0.35	0.91	1.05	1.47	1.82	1.90	1.71	1.29	1.10	0.71	0.23	0
	C	0	1.47	2.61	3.43	3.92	4.08	3.92	3.55	3.43	2.61	1.47	0	3.01	5.35	5.80	7.02	8.02	8.35	8.02	7.02	6.55	5.35	3.01	0
	D	0	1.85	3.34	4.33	4.90	4.97	4.63	4.05	3.88	2.82	1.51	0	3.44	6.47	7.10	8.83	10.27	10.70	10.13	8.61	7.90	6.22	3.29	0
℄ GIRDER 2	A	0	0.08	0.16	0.19	0.21	0.19	0.15	0.10	0.09	0.04	0.01	0	0.09	0.23	0.26	0.37	0.46	0.48	0.43	0.31	0.26	0.16	0.05	0
	B	0	0.32	0.60	0.74	0.81	0.73	0.57	0.40	0.35	0.15	0.02	0	0.34	0.89	1.03	1.46	1.81	1.89	1.69	1.24	1.05	0.65	0.19	0
	C	0	1.47	2.61	3.43	3.92	4.08	3.92	3.55	3.43	2.61	1.47	0	3.01	5.35	5.80	7.02	8.02	8.35	8.02	7.02	6.55	5.35	3.01	0
	D	0	1.87	3.37	4.36	4.94	5.00	4.64	4.05	3.87	2.80	1.50	0	3.44	6.47	7.09	8.85	10.29	10.72	10.14	8.57	7.86	6.16	3.25	0
℄ GIRDER 3	A	0	0.09	0.17	0.21	0.23	0.20	0.16	0.11	0.10	0.04	0.01	0	0.09	0.24	0.28	0.39	0.49	0.51	0.45	0.32	0.27	0.16	0.04	0
	B	0	0.34	0.64	0.78	0.85	0.76	0.60	0.42	0.37	0.16	0.03	0	0.34	0.90	1.04	1.48	1.83	1.90	1.68	1.21	1.02	0.62	0.17	0
	C	0	1.47	2.61	3.43	3.92	4.08	3.92	3.55	3.43	2.61	1.47	0	3.01	5.35	5.80	7.02	8.02	8.35	8.02	7.02	6.55	5.35	3.01	0
	D	0	1.90	3.42	4.42	5.00	5.04	4.68	4.08	3.90	2.81	1.51	0	3.44	6.49	7.12	8.89	10.34	10.76	10.15	8.55	7.84	6.13	3.22	0
℄ GIRDER 4	A	0	0.10	0.19	0.23	0.25	0.22	0.17	0.12	0.11	0.05	0.01	0	0.10	0.25	0.29	0.42	0.51	0.53	0.47	0.33	0.28	0.16	0.04	0
	B	0	0.37	0.70	0.86	0.93	0.83	0.66	0.47	0.41	0.19	0.04	0	0.36	0.93	1.09	1.53	1.89	1.96	1.72	1.23	1.02	0.61	0.15	0
	C	0	1.47	2.61	3.43	3.92	4.08	3.92	3.43	3.43	2.61	1.47	0	3.01	5.35	5.35	7.02	8.02	8.35	8.02	7.02	7.02	5.35	3.01	0
	D	0	1.94	3.50	4.52	5.10	5.13	4.75	4.02	3.95	2.85	1.52	0	3.47	6.53	6.73	8.97	10.42	10.84	10.21	8.58	8.32	6.12	3.20	0

UNIT 1 CAMBER TABLE (VALUE IN INCHES) (CONT'D)

GIRDER NUMBER		℄ PIER 2	SPAN 3										℄ REAR BRG. PIER 3
			0.1 SPAN	0.2 SPAN	F.S. 4	0.3 SPAN	0.4 SPAN	MIDSPAN	0.6 SPAN	0.7 SPAN	0.8 SPAN	0.9 SPAN	
℄ GIRDER 1	A	0	0.05	0.14	0.25	0.26	0.36	0.43	0.45	0.42	0.31	0.17	0
	B	0	0.18	0.55	0.99	1.01	1.42	1.71	1.77	1.67	1.25	0.68	0
	C	0	2.13	3.78	4.92	4.97	5.67	5.91	5.67	4.97	3.78	2.13	0
	D	0	2.36	4.47	6.16	6.24	7.45	8.05	7.89	7.06	5.34	2.98	0
℄ GIRDER 2	A	0	0.06	0.17	0.30	0.30	0.42	0.51	0.53	0.50	0.37	0.20	0
	B	0	0.19	0.60	1.08	1.11	1.57	1.89	1.96	1.86	1.38	0.76	0
	C	0	2.13	3.78	4.92	4.97	5.67	5.91	5.67	4.97	3.78	2.13	0
	D	0	2.38	4.55	6.30	6.38	7.66	8.31	8.16	7.33	5.53	3.09	0
℄ GIRDER 3	A	0	0.07	0.19	0.34	0.35	0.49	0.59	0.61	0.57	0.43	0.23	0
	B	0	0.23	0.68	1.21	1.24	1.75	2.11	2.19	2.08	1.55	0.85	0
	C	0	2.13	3.78	4.92	4.97	5.67	5.91	5.67	4.97	3.78	2.13	0
	D	0	2.43	4.65	6.47	6.56	7.91	8.61	8.47	7.62	5.76	3.21	0
℄ GIRDER 4	A	0	0.07	0.22	0.38	0.39	0.55	0.66	0.69	0.65	0.49	0.27	0
	B	0	0.27	0.78	1.37	1.39	1.97	2.39	2.48	2.35	1.76	0.96	0
	C	0	2.13	3.78	4.92	4.97	5.67	5.91	5.67	4.97	3.78	2.13	0
	D	0	2.47	4.78	6.67	6.75	8.19	8.96	8.84	7.97	6.03	3.36	0

LEGEND:

A = DEFLECTION DUE TO WEIGHT OF STEEL
B = DEFLECTION DUE TO REMAINING DEAD LOAD
C = ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE
D = TOTAL (REQUIRED SHOP CAMBER)

NOTES:

1. SEE SHEET 44 / 80 FOR CAMBER DIAGRAM AND ADDITONAL NOTES.

DESCRIPTION

ISSUE RECORD:

NO.	DATE

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED MAB | DRAWN AAA | REVIEWED JCS 4/29/19 | DATE | STRUCTURE FILE NUMBER 7706066 | CHECKED ASG | REVISED

CAMBER TABLE - UNIT 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

45 / 80

69
104

UNIT 2 CAMBER TABLE (VALUE IN INCHES)

GIRDER NUMBER		℄ FWD. BRG. PIER 3	SPAN 4										℄ BRG. PIER 4	SPAN 5										℄ BRG. PIER 5
			0.1 SPAN	0.2 SPAN	0.3 SPAN	0.4 SPAN	MIDSPAN	0.6 SPAN	0.7 SPAN	F.S. 5	0.8 SPAN	0.9 SPAN		0.1 SPAN	F.S. 6	0.2 SPAN	0.3 SPAN	0.4 SPAN	MIDSPAN	0.6 SPAN	F.S.7	0.7 SPAN	0.8 SPAN	0.9 SPAN	
℄ GIRDER 5	A	0	0.01	0.03	0.04	0.04	0.04	0.04	0.03	0.02	0.01	0.01	0	0.02	0.02	0.04	0.05	0.05	0.04	0.02	0.02	-0.01	-0.02	-0.02	0
	B	0	0.07	0.14	0.19	0.19	0.19	0.18	0.13	0.12	0.08	0.05	0	0.07	0.08	0.15	0.21	0.23	0.17	0.08	0.06	-0.04	-0.11	-0.10	0
	C	0	0.37	0.89	1.27	1.51	1.61	1.57	1.43	1.39	1.07	0.60	0	1.10	1.88	2.25	2.33	2.46	2.26	1.82	1.36	1.00	0.91	0.45	0
	D	0	0.45	1.06	1.50	1.74	1.84	1.79	1.59	1.53	1.16	0.66	0	1.19	1.98	2.44	2.59	2.74	2.47	1.92	1.44	0.95	0.78	0.33	0
℄ GIRDER 6	A	0	0.02	0.03	0.05	0.05	0.05	0.04	0.03	0.03	0.02	0.01	0	0.01	0.02	0.03	0.04	0.04	0.03	0.00	0.00	-0.03	-0.04	-0.03	0
	B	0	0.07	0.13	0.19	0.19	0.19	0.17	0.13	0.12	0.08	0.04	0	0.05	0.06	0.10	0.14	0.14	0.08	-0.02	-0.04	-0.13	-0.18	-0.15	0
	C	0	0.37	0.89	1.27	1.51	1.61	1.57	1.43	1.39	1.07	0.60	0	1.10	1.88	2.25	2.33	2.46	2.26	1.82	1.36	1.00	0.91	0.45	0
	D	0	0.46	1.05	1.51	1.75	1.85	1.78	1.59	1.54	1.17	0.65	0	1.16	1.96	2.38	2.51	2.64	2.37	1.80	1.32	0.84	0.69	0.27	0
℄ GIRDER 7	A	0	0.02	0.04	0.05	0.05	0.05	0.05	0.04	0.04	0.02	0.01	0	0.01	0.01	0.02	0.03	0.03	0.01	-0.02	-0.02	-0.05	-0.06	-0.05	0
	B	0	0.08	0.15	0.21	0.21	0.21	0.20	0.15	0.15	0.10	0.05	0	0.04	0.04	0.08	0.11	0.09	0.02	-0.08	-0.11	-0.19	-0.23	-0.18	0
	C	0	0.37	0.89	1.27	1.51	1.61	1.57	1.43	1.39	1.07	0.60	0	1.10	1.88	2.25	2.33	2.46	2.26	1.82	1.36	1.00	0.91	0.45	0
	D	0	0.47	1.08	1.53	1.77	1.87	1.82	1.62	1.58	1.19	0.66	0	1.15	1.93	2.35	2.47	2.58	2.29	1.72	1.23	0.76	0.62	0.22	0
℄ GIRDER 8	A	0	0.02	0.04	0.06	0.06	0.06	0.06	0.04	0.04	0.03	0.01	0	0.01	0.01	0.02	0.02	0.01	-0.01	-0.04	-0.05	-0.07	-0.08	-0.06	0
	B	0	0.10	0.19	0.28	0.28	0.28	0.27	0.21	0.19	0.13	0.07	0	0.04	0.04	0.08	0.10	0.08	-0.01	-0.12	-0.15	-0.24	-0.27	-0.21	0
	C	0	0.37	0.89	1.27	1.51	1.61	1.57	1.43	1.39	1.07	0.60	0	1.10	1.88	2.25	2.33	2.46	2.26	1.82	1.36	1.00	0.91	0.45	0
	D	0	0.49	1.12	1.61	1.85	1.95	1.90	1.68	1.62	1.23	0.68	0	1.15	1.93	2.35	2.45	2.55	2.24	1.66	1.16	0.69	0.56	0.18	0

UNIT 2 CAMBER TABLE (VALUE IN INCHES) (CONT'D)

GIRDER NUMBER		℄ BRG. PIER 5	SPAN 6											℄ BRG. PIER 6	SPAN 7										℄ BRG. F.A.
			0.1 SPAN	0.2 SPAN	F.S. 8	0.3 SPAN	0.4 SPAN	MIDSPAN	0.6 SPAN	0.7 SPAN	F.S.9	0.8 SPAN	0.9 SPAN		0.1 SPAN	0.2 SPAN	0.3 SPAN	F.S. 10	0.4 SPAN	MIDSPAN	0.6 SPAN	0.7 SPAN	0.8 SPAN	0.9 SPAN	
℄ GIRDER 5	A	0	0.12	0.29	0.32	0.45	0.56	0.59	0.55	0.43	0.31	0.27	0.11	0	0.00	0.02	0.06	0.09	0.11	0.14	0.16	0.15	0.12	0.07	0
	B	0	0.54	1.27	1.40	1.98	2.44	2.58	2.40	1.91	1.36	1.18	0.48	0	-0.03	0.05	0.21	0.34	0.41	0.55	0.63	0.60	0.49	0.26	0
	C	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	D	0	0.66	1.56	1.72	2.43	3.00	3.17	2.95	2.34	1.67	1.45	0.59	0	-0.03	0.07	0.27	0.43	0.52	0.69	0.79	0.75	0.61	0.33	0
℄ GIRDER 6	A	0	0.15	0.34	0.38	0.53	0.65	0.69	0.64	0.50	0.36	0.31	0.12	0	-0.01	0.01	0.05	0.08	0.10	0.14	0.16	0.16	0.13	0.07	0
	B	0	0.59	1.37	1.52	2.15	2.65	2.80	2.59	2.05	1.46	1.26	0.51	0	-0.07	-0.02	0.13	0.26	0.32	0.47	0.57	0.54	0.46	0.24	0
	C	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	D	0	0.74	1.71	1.90	2.68	3.30	3.49	3.23	2.55	1.82	1.57	0.63	0	-0.08	-0.01	0.18	0.34	0.42	0.61	0.73	0.70	0.59	0.31	0
℄ GIRDER 7	A	0	0.17	0.39	0.43	0.61	0.75	0.79	0.73	0.57	0.41	0.35	0.14	0	-0.02	0.00	0.04	0.07	0.09	0.13	0.16	0.16	0.13	0.07	0
	B	0	0.65	1.51	1.67	2.35	2.89	3.06	2.83	2.24	1.60	1.38	0.57	0	-0.10	-0.06	0.08	0.21	0.27	0.43	0.54	0.53	0.45	0.24	0
	C	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	D	0	0.82	1.90	2.10	2.96	3.64	3.85	3.56	2.81	2.01	1.73	0.71	0	-0.12	-0.06	0.12	0.28	0.36	0.56	0.70	0.69	0.58	0.31	0
℄ GIRDER 8	A	0	0.19	0.44	0.49	0.69	0.84	0.88	0.81	0.64	0.46	0.40	0.16	0	-0.03	-0.02	0.02	0.06	0.08	0.12	0.16	0.16	0.13	0.07	0
	B	0	0.74	1.69	1.87	2.62	3.20	3.37	3.11	2.46	1.76	1.53	0.63	0	-0.12	-0.09	0.05	0.18	0.26	0.43	0.56	0.56	0.48	0.26	0
	C	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	D	0	0.93	2.13	2.36	3.31	4.04	4.25	3.92	3.10	2.22	1.93	0.79	0	-0.15	-0.11	0.07	0.24	0.34	0.55	0.72	0.72	0.61	0.33	0

LEGEND:

A = DEFLECTION DUE TO WEIGHT OF STEEL
B = DEFLECTION DUE TO REMAINING DEAD LOAD
C = ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE
D = TOTAL (REQUIRED SHOP CAMBER)

NOTES:

1. SEE SHEET 44 / 80 FOR CAMBER DIAGRAM AND ADDITONAL NOTES.

ISSUE RECORD:

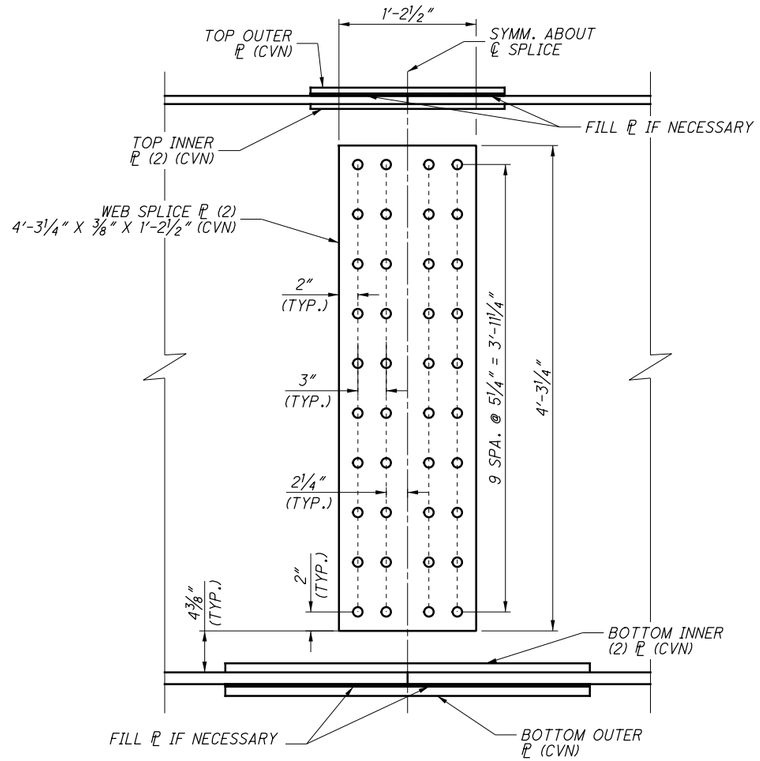
NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

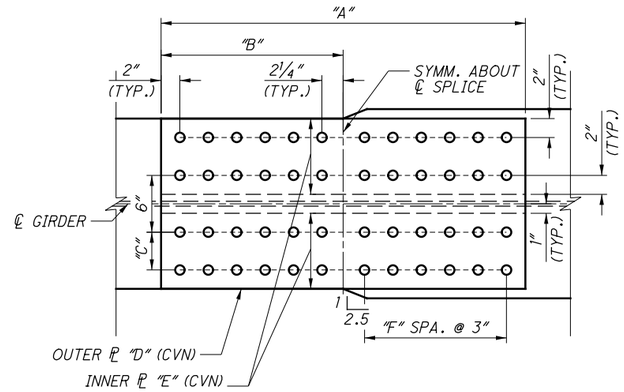
DESIGNED MAB | DRAWN AAA | CHECKED ASG | REVIEWED JCS | DATE 4/29/19 | REVISED | STRUCTURE FILE NUMBER 7706066

CAMBER TABLE - UNIT 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

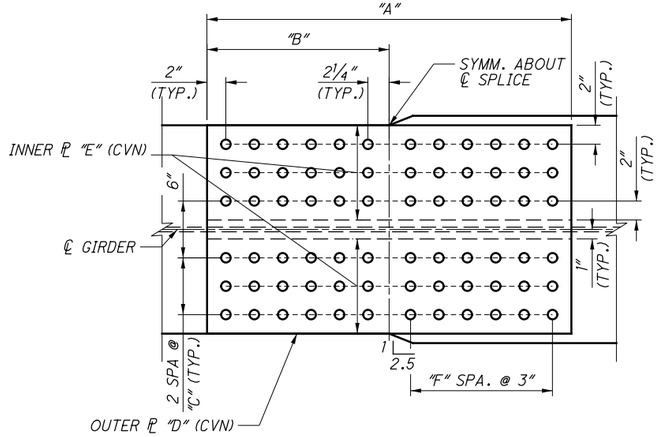
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402



WEB FIELD SPLICE



FLANGE SPLICE TYPE A



FLANGE SPLICE TYPE B

NOTES:

1. WHERE A PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. STRUCTURAL STEEL FOR SPLICE PLATES SHALL BE ASTM A709, GRADE 50 (CVN).
3. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER. HOLES SHALL BE 1⅛" DIAMETER.
4. ALL BOLTS, NUTS, AND WASHERS SHALL BE ASTM F3125 GRADE A325, TYPE I (GALVANIZED).
5. SPLICE PLATES HAVE BEEN DESIGNED FOR BOLT THREADS TO BE INCLUDED IN THE SHEAR PLANE AT ALL CONNECTIONS.
6. FOR FIELD SPLICE INFORMATION TABLES SEE SHEET 48 / 80 .

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BDE	BDE	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

FIELD SPLICE DETAILS - 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

47 / 80

71
104

UNIT 1 SPLICE INFORMATION

FIELD SPLICE NO.	GIRDER NO.	TOP FLANGE SPLICE DIMENSIONS							BOTTOM FLANGE SPLICE DIMENSIONS							TOP FLANGE FILL PLATE	BOTTOM FLANGE FILL PLATE
		SPLICE TYPE	A	B	C	D	E	F	SPLICE TYPE	A	B	C	D	E	F		
1	1	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
1	2	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
1	3	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
1	4	A	2'-2½"	1'-1¼"	3"	¾" X 1'-4" X 2'-2½"	¾" X 7" X 2'-2½"	3	B	3'-2½"	1'-7¼"	3"	1⅜" X 1'-10" X 3'-2½"	1" X 10" X 3'-2½"	5	⅜" x 1'-1¼" x 1'-4"	¼" x 1'-7¼" x 1'-10"
2	1	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
2	2	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
2	3	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
2	4	A	2'-2½"	1'-1¼"	4"	⅝" X 1'-6" X 2'-2½"	⅝" X 8" X 2'-2½"	3	B	3'-2½"	1'-7¼"	3"	1⅜" X 1'-10" X 3'-2½"	1" X 10" X 3'-2½"	5	¼" x 1'-1¼" x 1'-6"	¼" x 1'-7¼" x 1'-10"
3	1	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
3	2	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
3	3	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
3	4	A	2'-2½"	1'-1¼"	4"	⅝" X 1'-6" X 2'-2½"	⅝" X 8" X 2'-2½"	3	B	3'-2½"	1'-7¼"	3"	1⅜" X 1'-10" X 3'-2½"	1" X 10" X 3'-2½"	5	¼" x 1'-1¼" x 1'-6"	-
4	1	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	5"	⅞" X 1'-8" X 3'-2½"	⅞" X 9" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-8"
4	2	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	-
4	3	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	-
4	4	A	2'-2½"	1'-1¼"	3"	¾" X 1'-4" X 2'-2½"	¾" X 7" X 2'-2½"	3	B	3'-2½"	1'-7¼"	3½"	1" X 2'-0" X 3'-2½"	1⅛" X 11" X 3'-2½"	5	⅜" x 1'-1¼" x 1'-4"	-

UNIT 2 SPLICE INFORMATION

FIELD SPLICE NO.	GIRDER NO.	TOP FLANGE SPLICE DIMENSIONS							BOTTOM FLANGE SPLICE DIMENSIONS							TOP FLANGE FILL PLATE	BOTTOM FLANGE FILL PLATE
		SPLICE TYPE	A	B	C	D	E	F	SPLICE TYPE	A	B	C	D	E	F		
5	1	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	-
5	2	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	-
5	3	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	-
5	4	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	-
6	1	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	-
6	2	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	-
6	3	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	-
6	4	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
7	1	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	¼" x 1'-7¼" x 1'-6"
7	2	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	¼" x 1'-4¼" x 1'-4"
7	3	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	¼" x 1'-4¼" x 1'-4"
7	4	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	5"	⅞" X 1'-8" X 3'-2½"	⅞" X 9" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	-
8	1	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	-
8	2	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	¼" x 1'-4¼" x 1'-4"
8	3	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	¼" x 1'-4¼" x 1'-4"
8	4	A	2'-2½"	1'-1¼"	4"	⅝" X 1'-6" X 2'-2½"	⅝" X 8" X 2'-2½"	3	B	3'-2½"	1'-7¼"	3"	1⅜" X 1'-10" X 3'-2½"	1" X 10" X 3'-2½"	5	-	¼" x 1'-7¼" x 1'-10"
9	1	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	-
9	2	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	¼" x 1'-4¼" x 1'-4"
9	3	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	2'-8½"	1'-4¼"	3"	1" X 1'-4" X 2'-8½"	⅞" X 7" X 2'-8½"	4	⅛" x 10¼" x 1'-4"	¼" x 1'-4¼" x 1'-4"
9	4	A	2'-2½"	1'-1¼"	4"	⅝" X 1'-6" X 2'-2½"	⅝" X 8" X 2'-2½"	3	B	3'-2½"	1'-7¼"	3"	1⅜" X 1'-10" X 3'-2½"	1" X 10" X 3'-2½"	5	¼" x 1'-1¼" x 1'-6"	-
10	1	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	-
10	2	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	-
10	3	A	1'-8½"	10¼"	3"	⅝" X 1'-4" X 1'-8½"	½" X 7" X 1'-8½"	2	A	3'-2½"	1'-7¼"	4"	1" X 1'-6" X 3'-2½"	1" X 8" X 3'-2½"	5	⅛" x 10¼" x 1'-4"	-
10	4	A	2'-2½"	1'-1¼"	3"	¾" X 1'-4" X 2'-2½"	¾" X 7" X 2'-2½"	3	B	3'-2½"	1'-7¼"	3"	1⅜" X 1'-10" X 3'-2½"	1" X 10" X 3'-2½"	5	⅜" x 1'-1¼" x 1'-4"	-

NOTES:

1. FOR FIELD SPLICE DETAILS AND NOTES SEE SHEET 47 / 80 .

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

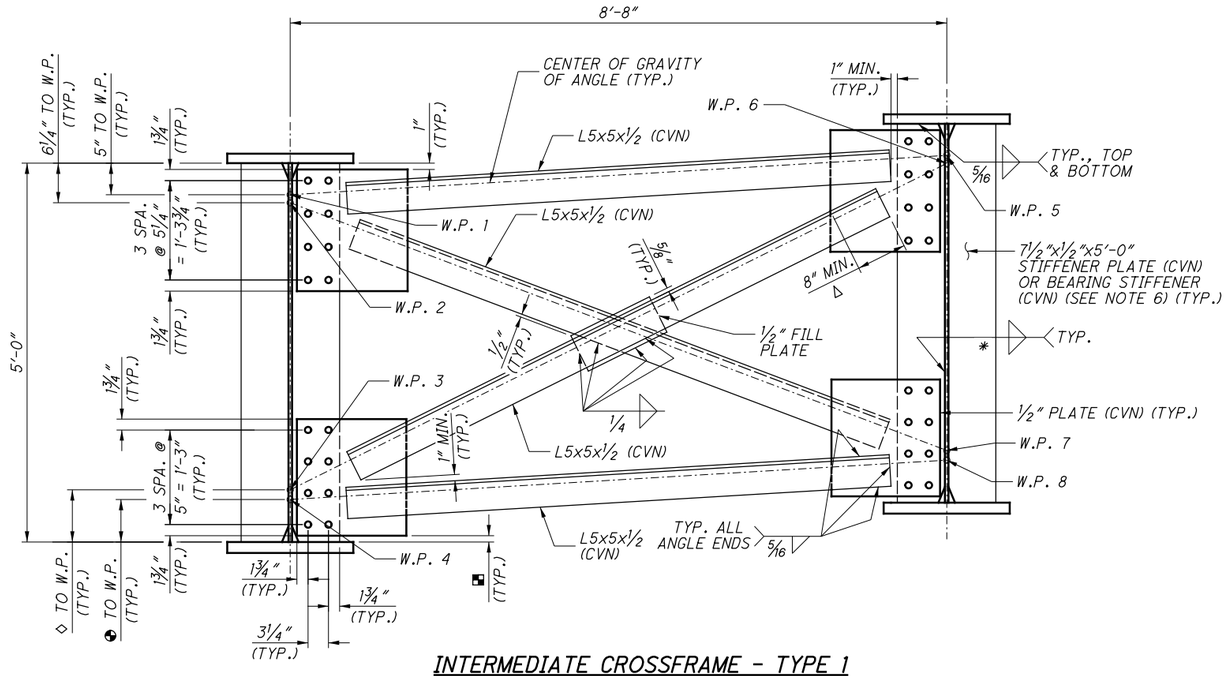
DESIGNED	DRAWN	REVIEWED	DATE
BDE	BDE	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

FIELD SPLICE DETAILS - 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

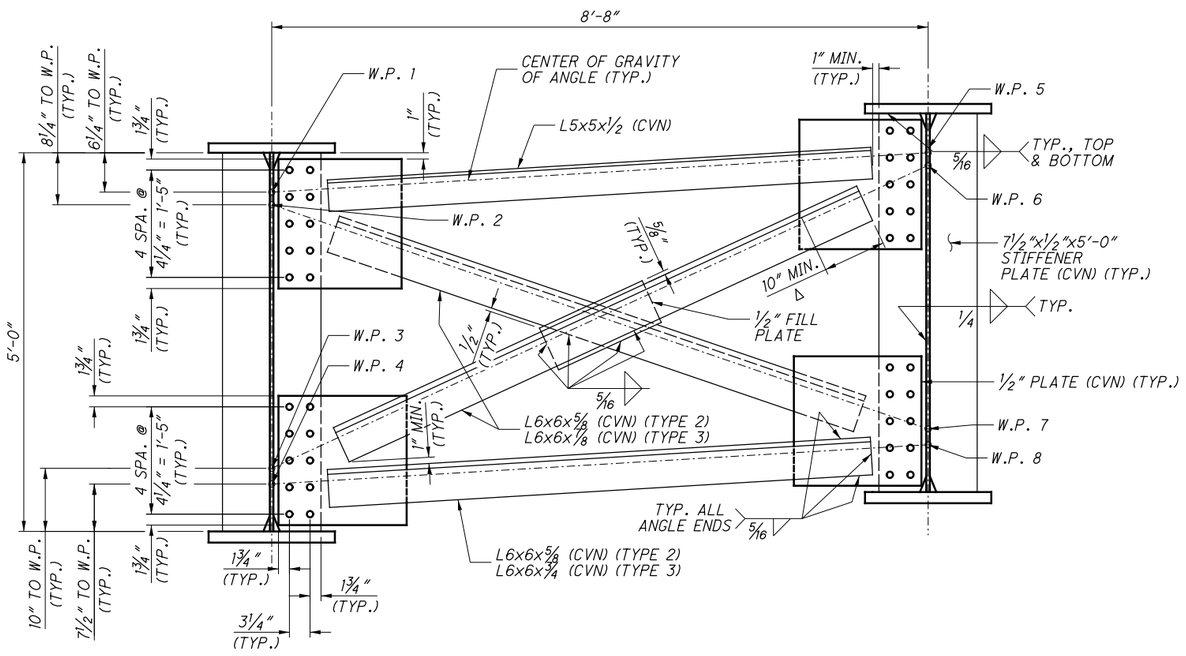
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

48 / 80

72 / 104



INTERMEDIATE CROSSFRAME - TYPE 1



INTERMEDIATE CROSSFRAME - TYPE 2 & 3

LEGEND:

* = ¼" WELD FOR INTERMEDIATE STIFFENER PLATE AND 5/16" WELD FOR BEARING STIFFENER PLATE

Δ = TYP. MINIMUM TOP & BOTTOM WELD LENGTH AT EACH END OF EACH MEMBER. WELD THE ENTIRE LENGTH OF THE JOINT ALONG THE THREE EDGES AS SHOWN.

◇ = 10¼" AT THE FOLLOWING CROSSFRAME LOCATIONS:
℄ PIER 1, ℄ PIER 4 AND ℄ PIER 6

8¼" AT ALL OTHER TYPE 1 CROSSFRAME LOCATIONS.

◓ = 8¾" AT THE FOLLOWING CROSSFRAME LOCATIONS:
℄ PIER 1, ℄ PIER 4 AND ℄ PIER 6

6¾" AT ALL OTHER TYPE 1 CROSSFRAME LOCATIONS.

◪ = 3" AT THE FOLLOWING CROSSFRAME LOCATIONS:
℄ PIER 1, ℄ PIER 4 AND ℄ PIER 6

1" AT ALL OTHER TYPE 1 CROSSFRAME LOCATIONS.

NOTES:

1. SEE SHEET 38 / 80 AND 39 / 80 FOR LOCATION OF CROSSFRAME TYPES AND ADDITIONAL NOTES.
2. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
3. WORK POINTS ARE LOCATED AT THE CENTERLINE OF GIRDERS.
4. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50.
5. SEE GENERAL NOTES FOR COATING REQUIREMENTS.
6. SEE SHEET 42 / 80 FOR BEARING STIFFENER SIZES.
7. EXCEPT AS NOTED BELOW, STIFFENER PLATES AT INTERMEDIATE CROSSFRAME LOCATIONS SHALL BE PROVIDED ON BOTH SIDES OF THE WEB FOR INTERIOR GIRDERS AND ONLY ON THE INSIDE FACE OF WEB FOR EXTERIOR GIRDERS. BEARING STIFFENERS SHALL BE PROVIDED ON BOTH SIDES OF THE WEB FOR ALL GIRDERS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

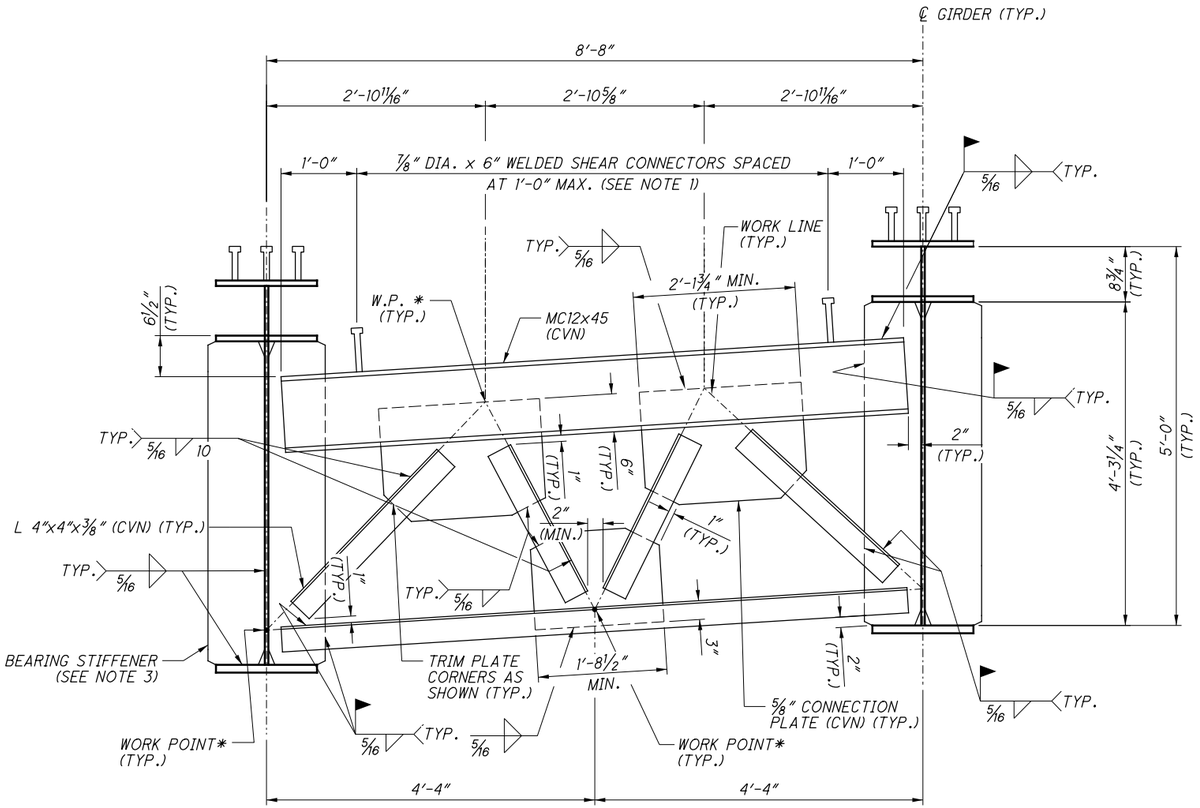
DESIGNED	DRAWN	REVIEWED	DATE
MAB	MAB	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

INTERMEDIATE CROSSFRAME DETAILS
SUM-76-11480
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

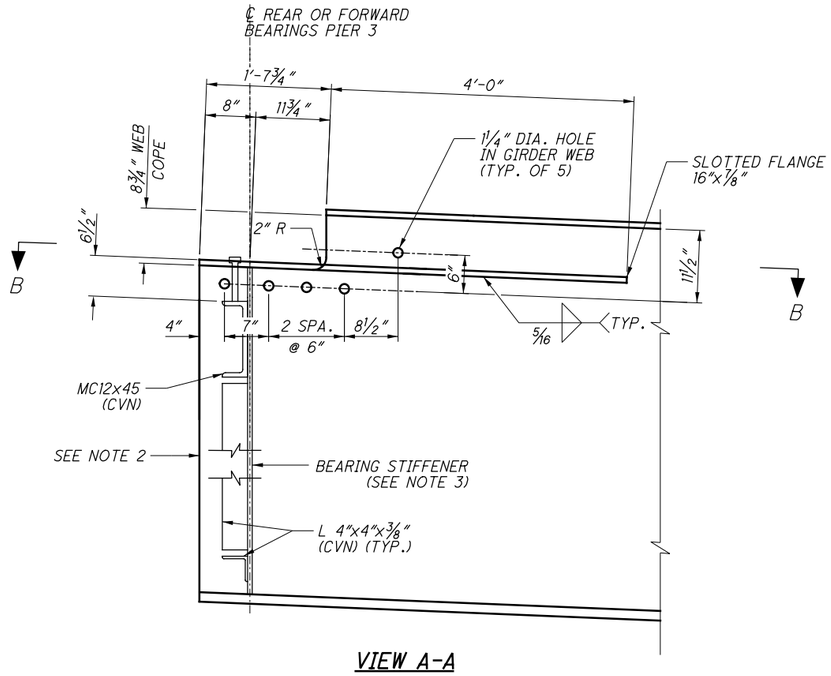
49 / 80

73 / 104



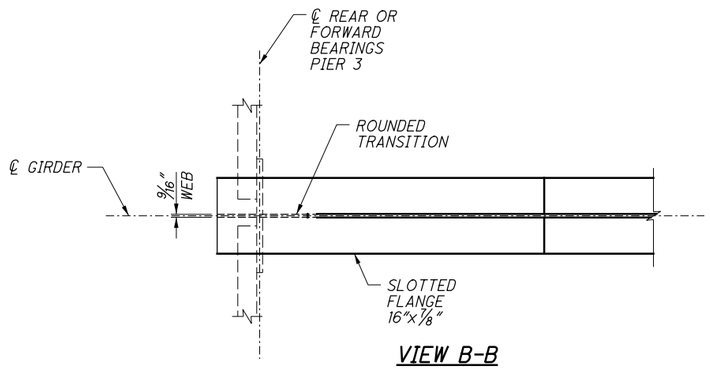
END CROSSFRAME - PIER 3

(UNIT 2 LOOKING UPSTATION, SHOWN
UNIT 1 LOOKING DOWNSTATION, OPPOSITE HAND)

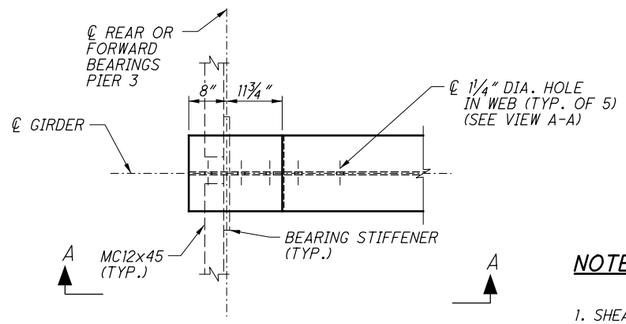


VIEW A-A

(UNIT 2 SHOWN, UNIT 1 SIMILAR EXCEPT
GRADE IS UPWARD EXTENDING AWAY FROM
℄ BEARINGS TOWARDS MID-SPAN)



VIEW B-B



GIRDER END DETAIL - PIER 3

LEGEND:

* = THE WORK LINE SHALL BE THE INSIDE FACE OF THE PROTRUDING ANGLE LEG EXTENDED AS SHOWN

NOTES:

1. SHEAR STUD SPACING MAY BE ADJUSTED TO ACCOMMODATE TEMPORARY SUPPORT AND INSTALLATION OF THE MODULAR EXPANSION JOINT. THE TOTAL NUMBER OF SHEAR STUDS PER MC12X45 SHALL NOT BE REDUCED FROM THAT REQUIRED BY THE INDICATED SPACING.
2. GIRDER ENDS SHALL BE FABRICATED TO BE VERTICAL AFTER ERECTION.
3. SEE SHEET 42 / 80 FOR BEARING STIFFENER SIZES.
4. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
5. SEE STANDARD DRAWING GSD-1-19 FOR END CROSSFRAME DETAILS AT REAR AND FORWARD ABUTMENTS.
6. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50.
7. SEE GENERAL NOTES FOR COATING REQUIREMENTS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

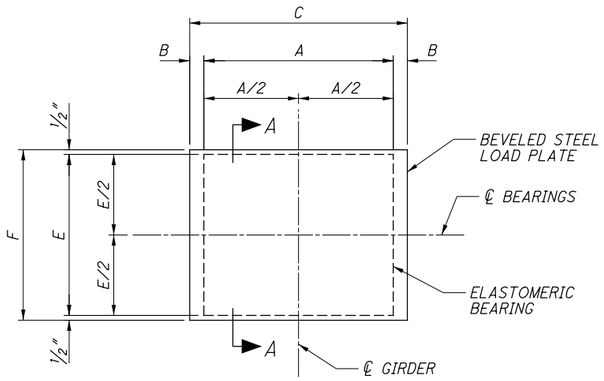
DESIGNED	DRAWN	REVIEWED	DATE
MAB	MAB	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

END CROSSFRAME DETAILS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

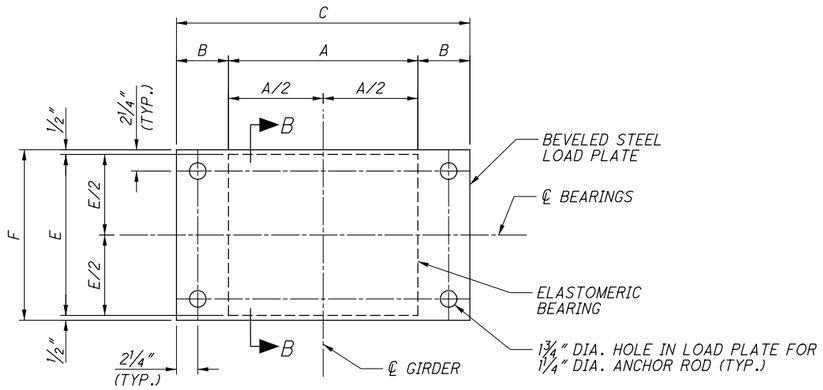
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

50 / 80

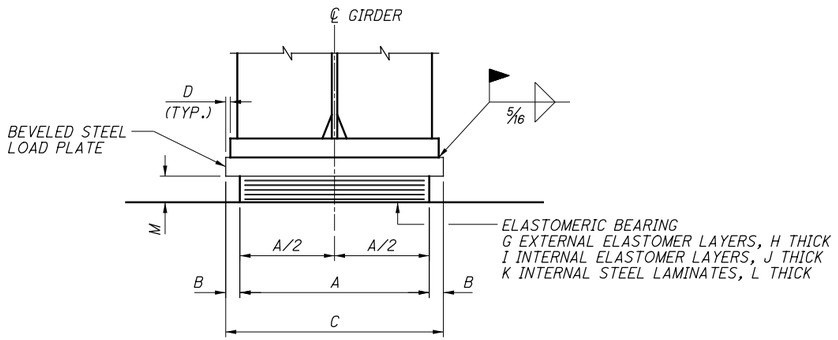
74 / 104



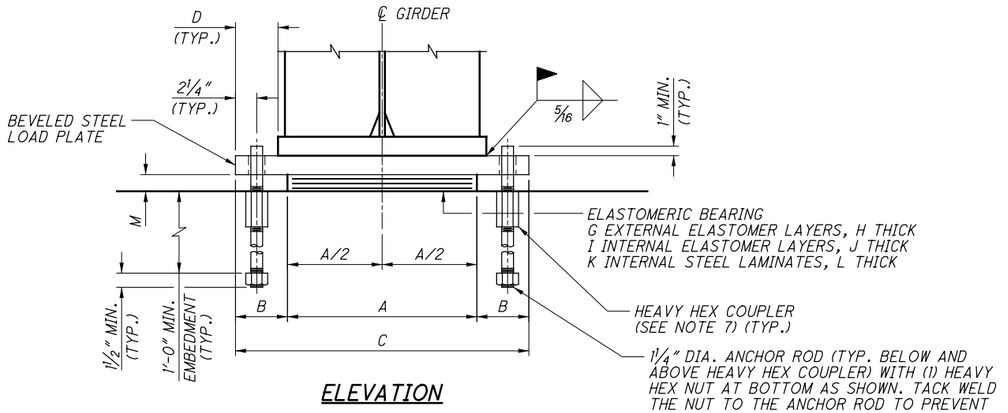
PLAN
(EXPANSION BEARING)
(PIERS 1, 4, AND 6)
(GIRDER NOT SHOWN)



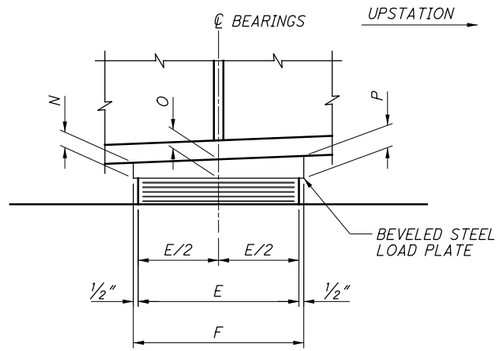
PLAN
(FIXED BEARING)
(PIER 5)
(GIRDER NOT SHOWN)



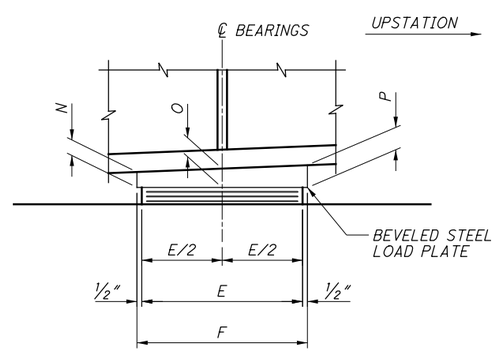
ELEVATION



ELEVATION



SECTION A-A



SECTION B-B
(ANCHOR RODS NOT SHOWN)

NOTES:

1. SEE SHEET 53 / 80 FOR NOTES AND TABLE OF DIMENSIONS.

DESCRIPTION

ISSUE RECORD:

NO.	DATE

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\00 - RFP\Reference Files\SUM-102329-SOS-Att-T-2-CADD-FILES-P2\Structures\Sheets\Ramp Q\076_1166L_SB001.dgn Sheet 6/1

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

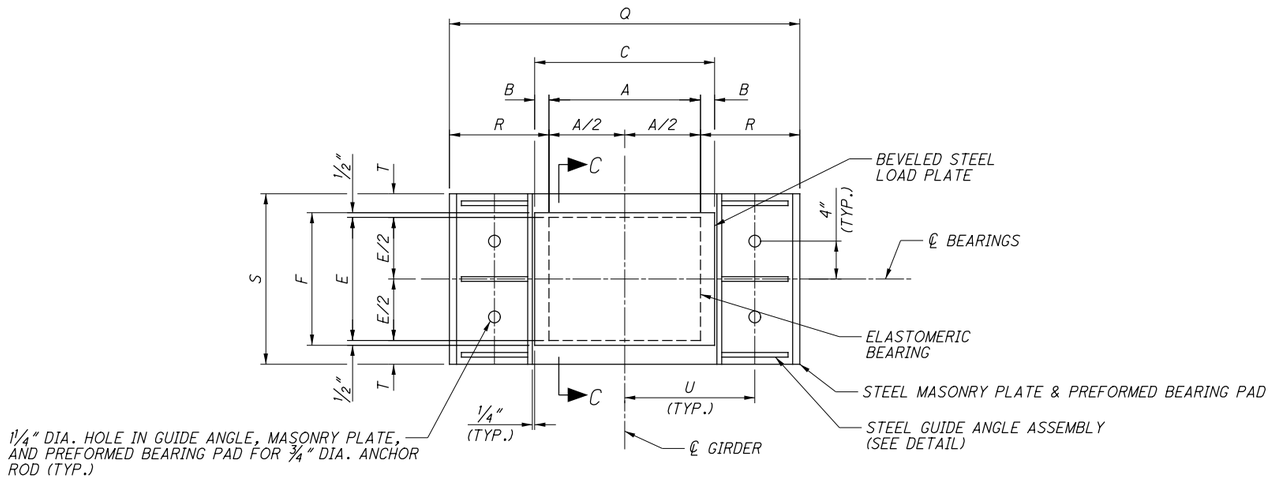
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		7706066	

ELASTOMERIC BEARING DETAILS - 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

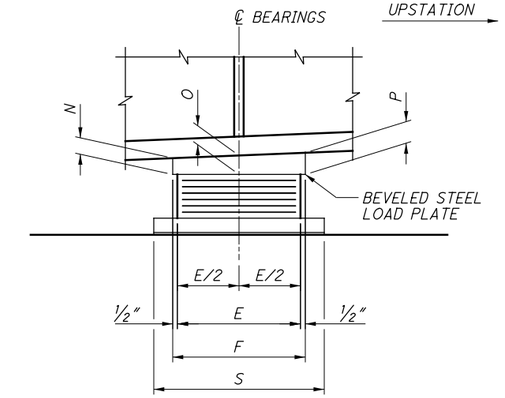
51 / 80

75
104



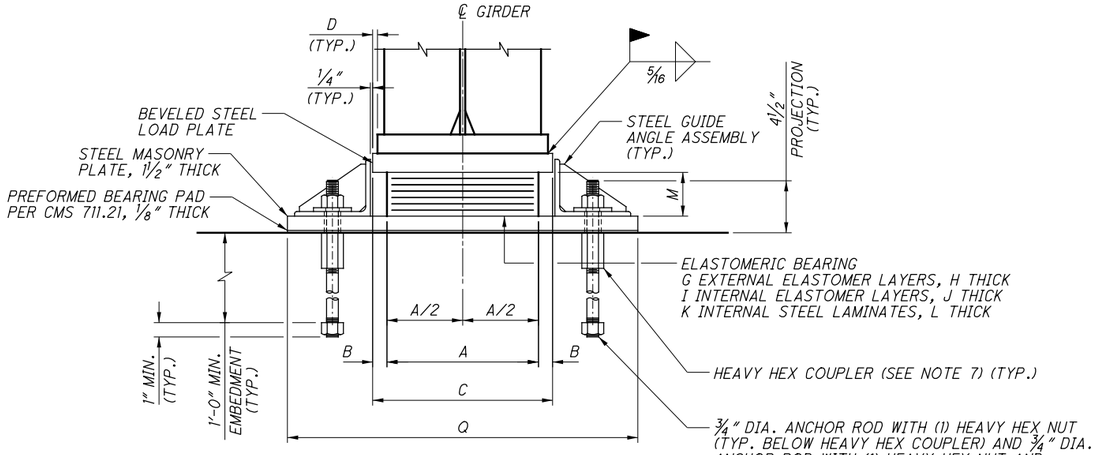
PLAN

(GUIDED AND ANCHORED EXPANSION BEARING)
(REAR ABUTMENT, PIER 3 REAR, PIER 3 FORWARD, AND FORWARD ABUTMENT)
(GIRDER NOT SHOWN)

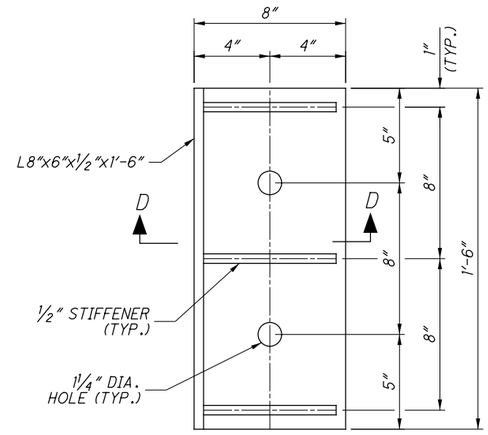


SECTION C-C

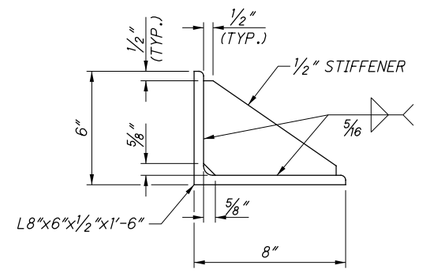
(ANCHOR RODS & STEEL GUIDE ANGLE ASSEMBLIES NOT SHOWN)



ELEVATION



GUIDE ANGLE ASSEMBLY DETAIL



SECTION D-D

NOTES:

1. SEE SHEET 53 / 80 FOR NOTES AND TABLE OF DIMENSIONS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		7706066	

ELASTOMERIC BEARING DETAILS - 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

Released for Construction
Thomas J Powell, PE
07/09/2021

BEARING DIMENSIONS

SUBSTRUCTURE	GIRDER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	DESIGN LOADS SERVICE LIMIT STATE (KIPS) DL	LL	TOTAL
REAR ABUTMENT	G1	1′-4″	4½″	2′-1″	3½″	1′-1″	1′-2″	0	--	7	0.597″	6	0.0747″	4⅝″	1⅝″	2″	2⅜″	3′-7″	1′-1½″	1′-6″	2½″	1′-4¾″	80.0	70.6	150.5
	G2				3½″																		68.2	79.0	147.2
	G3				3½″																		70.1	75.2	145.3
	G4				0½″																		99.3	96.9	196.1
PIER 1	G1	1′-8″	1½″	1′-11″	2½″	1′-4″	1′-5″	1	0.293″	5	0.418″	5	0.0747″	2¾″	1 13/16″	2″	2 3/16″	--	--	--	--	--	337.0	154.4	491.3
	G2				2½″																		274.5	135.7	410.2
	G3				2½″																		296.5	143.4	439.9
	G4				0½″																		336.9	171.9	508.8
PIER 3 REAR	G1	1′-4″	4½″	2′-1″	2½″	1′-1″	1′-2″	0	--	8	0.418″	7	0.0747″	3⅞″	2 5/16″	2″	1 1/16″	3′-7″	1′-1½″	1′-6″	2½″	1′-4¾″	98.8	75.9	174.7
	G2				3½″																		93.7	88.1	181.8
	G3				3½″																		98.9	83.7	182.5
	G4				0½″																		135.6	105.2	240.7
PIER 3 FORWARD	G5	1′-2″	2½″	1′-7″	1½″	1′-0″	1′-1″	0	--	7	0.597″	6	0.0747″	4⅝″	2¼″	2″	1¾″	3′-1″	0′-11½″	1′-6″	3″	1′-1¾″	60.2	62.3	122.5
	G6				1½″																		55.3	73.0	128.3
	G7				1½″																		57.0	70.5	127.5
	G8				0½″																		69.7	79.8	149.5
PIER 4	G5	1′-4″	1½″	1′-7″	0½″	1′-1″	1′-2″	1	0.293″	7	0.418″	7	0.0747″	3¾″	2⅜″	2″	1⅝″	--	--	--	--	--	192.1	116.4	308.5
	G6				0½″																		158.4	117.4	275.8
	G7				0½″																		164.9	118.0	282.9
	G8				0½″																		189.3	134.0	323.3
PIER 5	G5	1′-8″	5½″	2′-7″	6½″	1′-4″	1′-5″	1	0.293″	3	0.418″	3	0.0747″	1¾″	2¾″	2⅛″	1½″	--	--	--	--	--	324.1	153.2	477.3
	G6				6½″																		268.5	137.5	406.0
	G7				6½″																		293.9	145.3	439.2
	G8				4½″																		319.0	166.3	485.3
PIER 6	G5	1′-8″	1½″	1′-11″	2½″	1′-4″	1′-5″	1	0.293″	5	0.418″	5	0.0747″	2¾″	2¾″	2⅛″	1½″	--	--	--	--	--	347.5	155.1	502.6
	G6				2½″																		285.7	141.4	427.1
	G7				2½″																		314.1	145.0	459.1
	G8				0½″																		349.2	169.5	518.7
FORWARD ABUTMENT	G5	1′-4″	4½″	2′-1″	2½″	1′-1″	1′-2″	0	--	7	0.597″	6	0.0747″	4⅝″	2½″	2″	1½″	3′-7″	1′-1½″	1′-6″	2½″	1′-4¾″	75.6	69.6	145.3
	G6				3½″																		67.5	80.5	148.0
	G7				3½″																		68.2	76.7	144.9
	G8				0½″																		87.3	92.5	179.8

NOTES:

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.5 (METHOD B) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. PERFORM THE LONG-TERM COMPRESSION PROOF LOAD TEST IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6 AND 18.7.4.5.

2. STEEL LOAD PLATES, MASONRY PLATES, GUIDE ANGLE ASSEMBLIES, AND PLATE WASHERS SHALL BE ASTM A709, GRADE 50. STEEL LOAD PLATES SHALL BE FIELD PAINTED (ALTERNATE 1) OR GALVANIZED ACCORDING TO 711.02 (ALTERNATE 2). MASONRY PLATES, GUIDE ANGLE ASSEMBLIES, AND PLATE WASHERS SHALL BE GALVANIZED ACCORDING TO 711.02. ANCHOR RODS SHALL BE ASTM F1554, GRADE 105, GALVANIZED ACCORDING TO 711.02. HEAVY HEX NUTS AND COUPLERS SHALL BE ASTM A563, GRADE DH OR DH3, GALVANIZED ACCORDING TO 711.02, AND LUBRICATED WITH A LUBRICANT CONTAINING A VISIBLE DYE.

3. VULCANIZE THE LOAD PLATE AND MASONRY PLATE (WHERE APPLICABLE) TO THE ELASTOMER DURING THE MOLDING PROCESS.

4. SHOP MARK THE LOAD PLATES WITH THE FOLLOWING INFORMATION: TOP, UPSTATION DIRECTION, AND SUBSTRUCTURE LOCATION (R.A., PIER 1, PIER 3 REAR, ETC.). ALL MARKS SHALL BE PERMANENT AND VISIBLE AFTER THE BEARING IS INSTALLED.

NOTES, CONTINUED:

5. WHERE A MASONRY PLATE IS BONDED TO THE ELASTOMER AT THE BOTTOM OF THE BEARING AND A LOAD PLATE IS BONDED TO THE ELASTOMER AT THE TOP OF THE BEARING, ALL ELASTOMER LAYERS SHALL BE DESIGNATED AS INTERNAL LAYERS. WHERE A LOAD PLATE IS BONDED TO THE ELASTOMER AT THE TOP OF THE BEARING, AND NO MASONRY PLATE IS PRESENT, ONLY THE BOTTOM ELASTOMER LAYER SHALL BE DESIGNATED AS AN EXTERIOR LAYER.

6. ANCHOR RODS SHALL BE CAST-IN-PLACE. DRILLING AND GROUTING WILL NOT BE PERMITTED.

7. UPPER AND LOWER ANCHOR RODS SHALL BE THREADED INTO HEAVY HEX COUPLER BY 1″ MINIMUM FOR ¾″ DIA. ANCHOR RODS AND 1½″ MINIMUM FOR 1¼″ DIA. ANCHOR RODS.

8. BASIS OF PAYMENT: THE UNIT PRICE INCLUDES ALL MATERIAL, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS INCLUDING BEVELED STEEL LOAD PLATES, MASONRY PLATES, GUIDE ANGLE ASSEMBLIES, PREFORMED BEARING PADS, ANCHOR RODS, NUTS, AND WASHERS. PAYMENT WILL BE INCLUDED WITH THE APPROPRIATE 516 ITEM.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

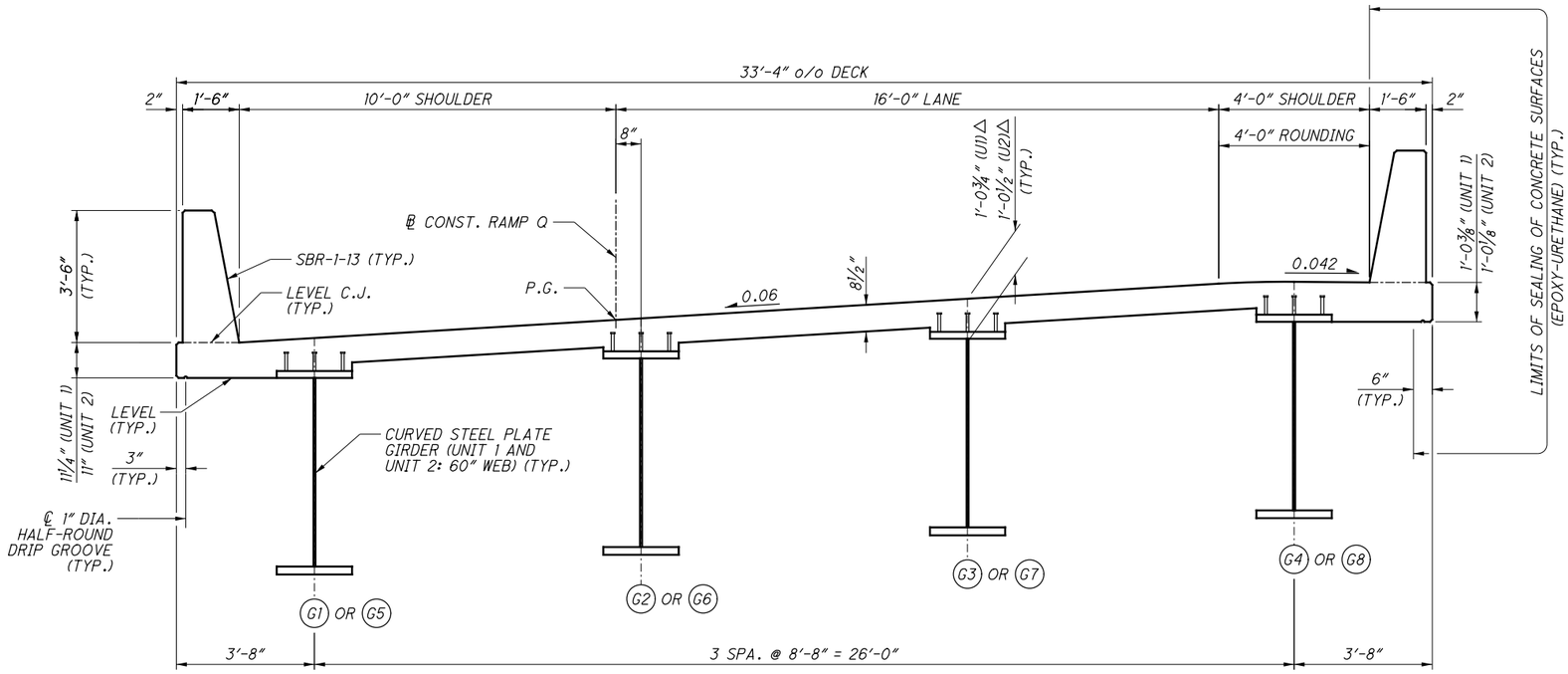
DESIGNED BES | DRAWN BES | CHECKED SJA | REVIEWED JCS | DATE 4/29/19
REVISED | STRUCTURE FILE NUMBER 7706066

ELASTOMERIC BEARING DETAILS - 3
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

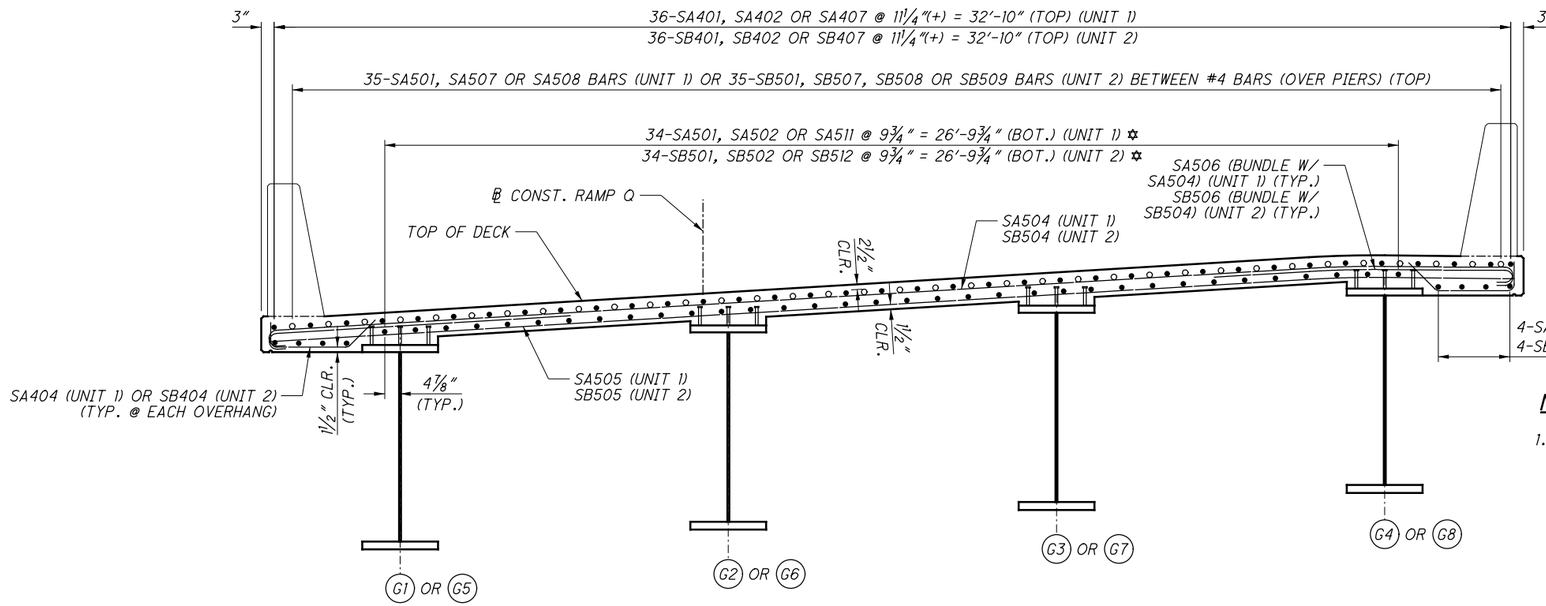
53 / 80

77
104



TYPICAL SECTION

(CROSSFRAMES NOT SHOWN)
(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)



DECK SLAB REINFORCING STEEL DETAILS

(CROSSFRAMES NOT SHOWN)
(SEE SHEETS 66 / 80 TO 70 / 80 FOR PARAPET REINFORCING STEEL DETAILS)
(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)

LEGEND:

△ = TOP OF WEB TO TOP OF DECK

(G#) = GIRDER DESIGNATION

U1 = UNIT 1
U2 = UNIT 2

✡ = ADJUST BAR SPACING AS NEEDED TO CLEAR SHEAR STUDS

NOTES:

1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 4¼" (UNIT 1) OR 4" (UNIT 2) AND A CONSTANT HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.

ISSUE RECORD:	
NO.	DATE / DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

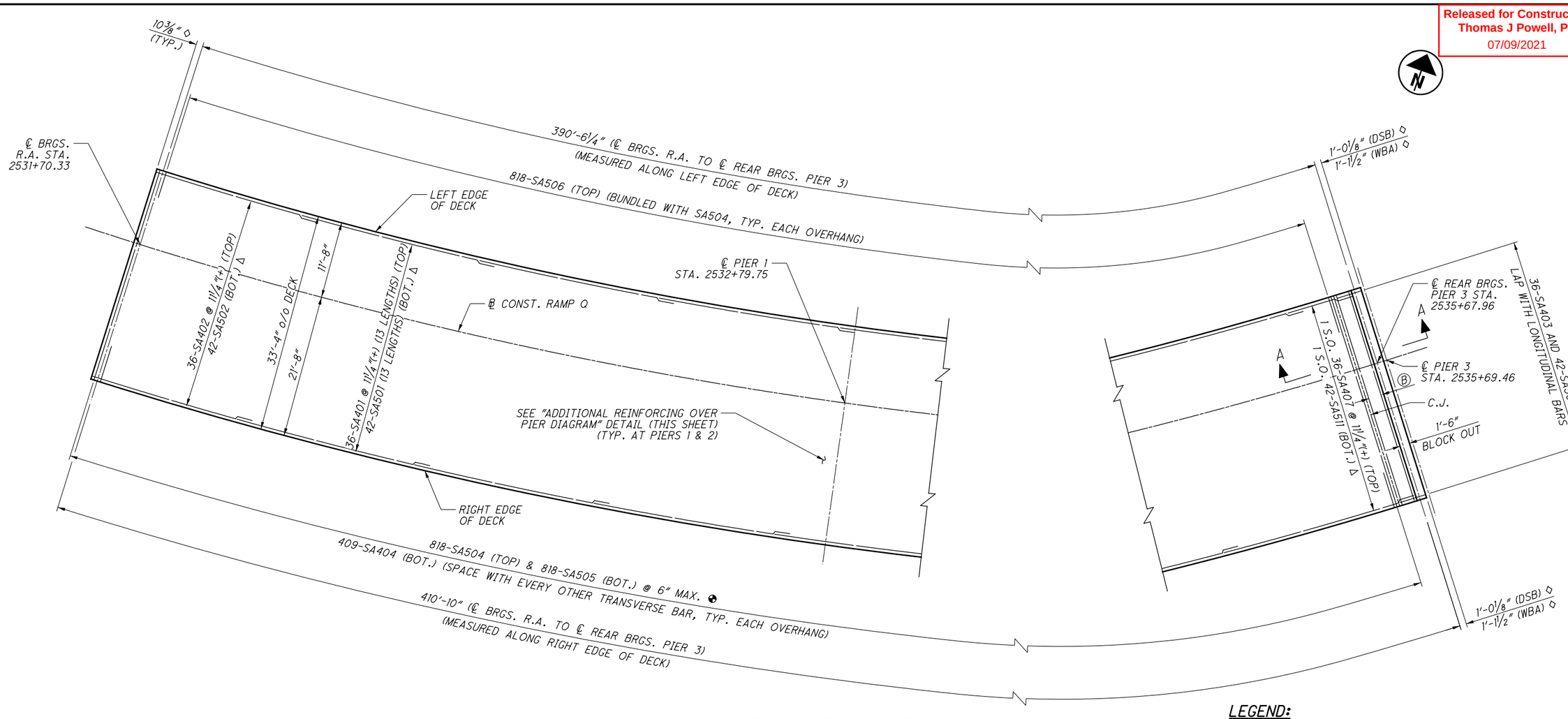
DESIGNED	DRAWN	REVIEWED	DATE
MAB	MAB	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDE/BES		7706066	

TRANSVERSE SECTION
SUM-76-11.48Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

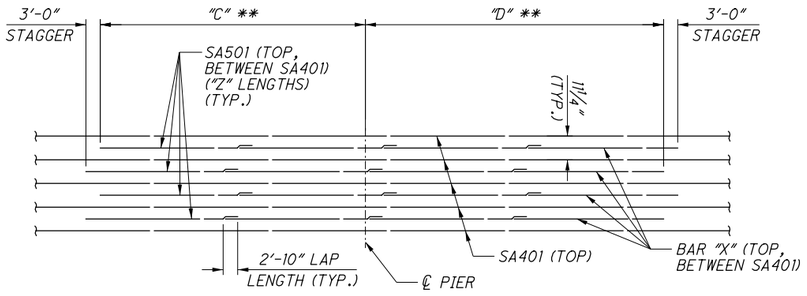
54 / 80

78 / 104



DECK SLAB PLAN - UNIT 1

(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)



ADDITIONAL REINFORCING OVER PIER DIAGRAM

(** = EVERY OTHER BAR)

	PIER 1	PIER 2
DIM. "C"	60'-0"	55'-0"
DIM. "D"	35'-0"	62'-0"
BAR "X"	SA507	SA508
LENGTHS "Z"	3	4

LEGEND:

DSB = DS BROWN
WBA = WATSON BOWMAN ACME

Δ = SEE TRANSVERSE SECTION FOR SPACING

◕ = PLACED RADIALLY TO EDGE OF DECK

◇ = DIMENSION VARIES WITH TEMPERATURE. DIMENSION IS SHOWN AT 60°F.

Ⓑ = 6-SA504 (BUNDLE WITH 6-SA506 AT EACH EDGE OF DECK) @ EQ. SPA. (TOP) & 6-SA505 @ EQ. SPA. (BOT.)

NOTES:

1. SEE TRANSVERSE SECTION ON SHEET 54 / 80 FOR ADDITIONAL DECK REINFORCING STEEL DETAILS.
2. LAP REINFORCING STEEL THE FOLLOWING MINIMUM LENGTHS:
   LONGITUDINAL STEEL:
   #4 BARS (TOP) = 1'-10"
   #5 BARS (BOT) = 2'-3"
3. SEE SHEET 57 / 80 FOR SECTION A-A AND ADDITIONAL REINFORCING STEEL AT PIER 3 MODULAR JOINT.
4. SEE SHEET 58 / 80 FOR DECK POUR SEQUENCE.
5. TRANSVERSE BARS SHALL BE PLACED RADIALLY TO THE EDGE OF DECK. SPACINGS ARE PROVIDED ALONG THE RIGHT EDGE OF DECK.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

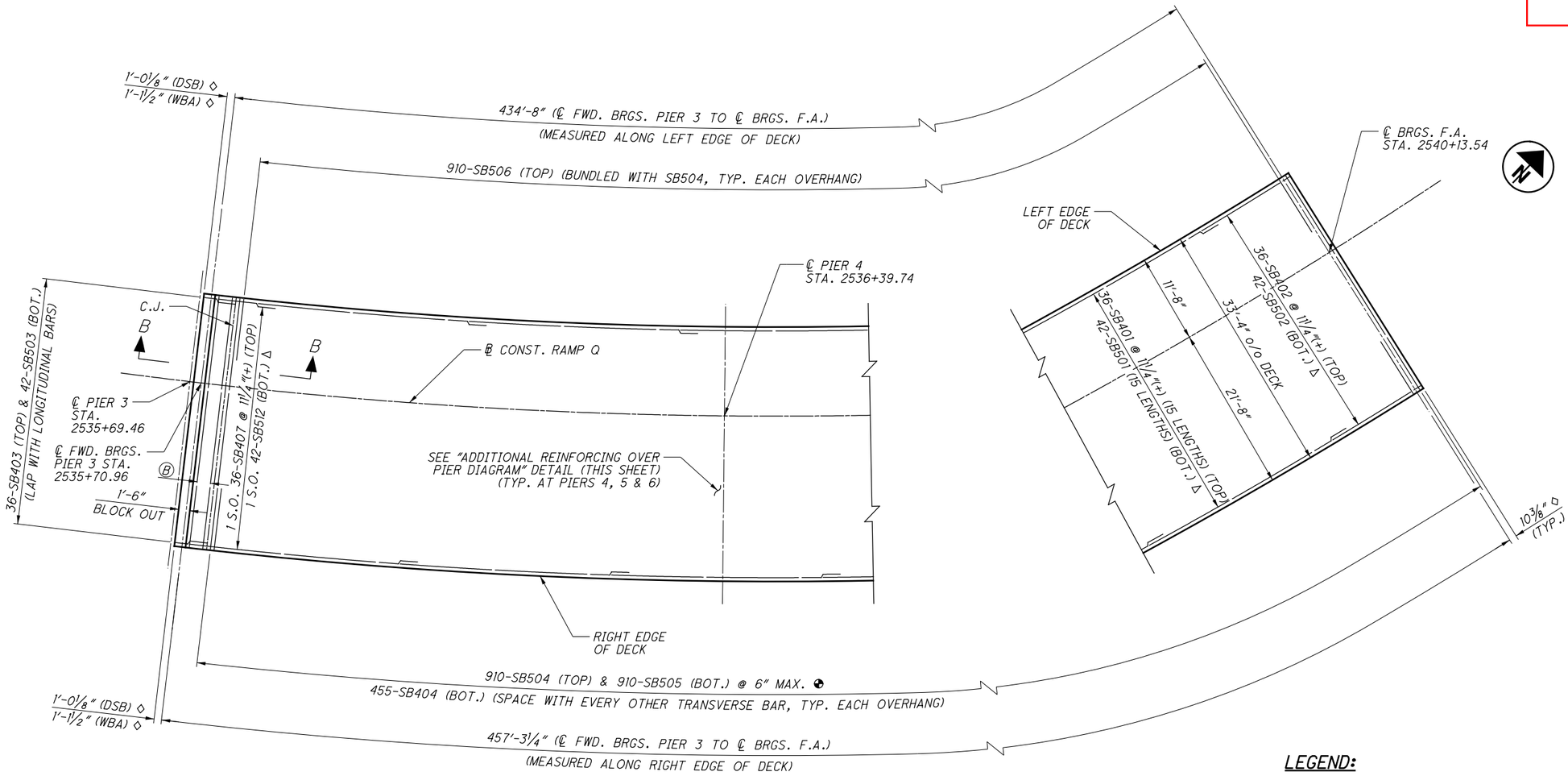
DESIGNED	DRAWN	REVIEWED	DATE
MAB	MAB	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

DECK SLAB PLAN - UNIT 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

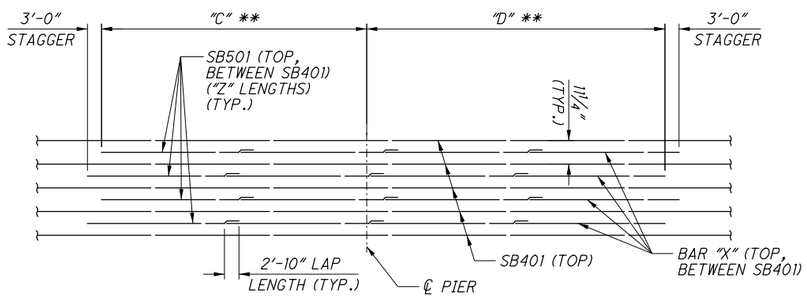
55 / 80

79 / 104



DECK SLAB PLAN - UNIT 2

(TRANSVERSE DIMENSIONS
ARE MEASURED RADIALLY)



ADDITIONAL REINFORCING OVER PIER DIAGRAM

(** = EVERY OTHER BAR)

	PIER 4	PIER 5	PIER 6
DIM. "C"	20'-0"	55'-0"	36'-0"
DIM. "D"	12'-0"	31'-0"	61'-0"
BAR "X"	SB507	SB508	SB509
LENGTHS "Z"	1	3	3

LEGEND:

DSB = DS BROWN
WBA = WATSON BOWMAN ACME

Δ = SEE TRANSVERSE SECTION FOR SPACING

◓ = PLACED RADIALLY TO EDGE OF DECK

◇ = DIMENSION VARIES WITH TEMPERATURE. DIMENSION IS SHOWN AT 60°F.

(B) = 6-SB504 (BUNDLE WITH 6-SB506 AT EACH EDGE OF DECK) @ EQ. SPA. (TOP) & 6-SB505 @ EQ. SPA. (BOT.)

NOTES:

1. SEE TRANSVERSE SECTION ON SHEET 54 / 80 FOR ADDITIONAL DECK REINFORCING STEEL DETAILS.
2. LAP REINFORCING STEEL THE FOLLOWING MINIMUM LENGTHS:
   LONGITUDINAL STEEL:
   #4 BARS (TOP) = 1'-10"
   #5 BARS (BOT) = 2'-3"
3. SEE SHEET 57 / 80 FOR SECTION B-B AND ADDITIONAL REINFORCING STEEL AT PIER 3 MODULAR JOINT.
4. SEE SHEET 59 / 80 FOR DECK POUR SEQUENCE.
5. TRANSVERSE BARS SHALL BE PLACED RADIALLY TO THE EDGE OF DECK. SPACINGS ARE PROVIDED ALONG THE RIGHT EDGE OF DECK.

ISSUE RECORD:

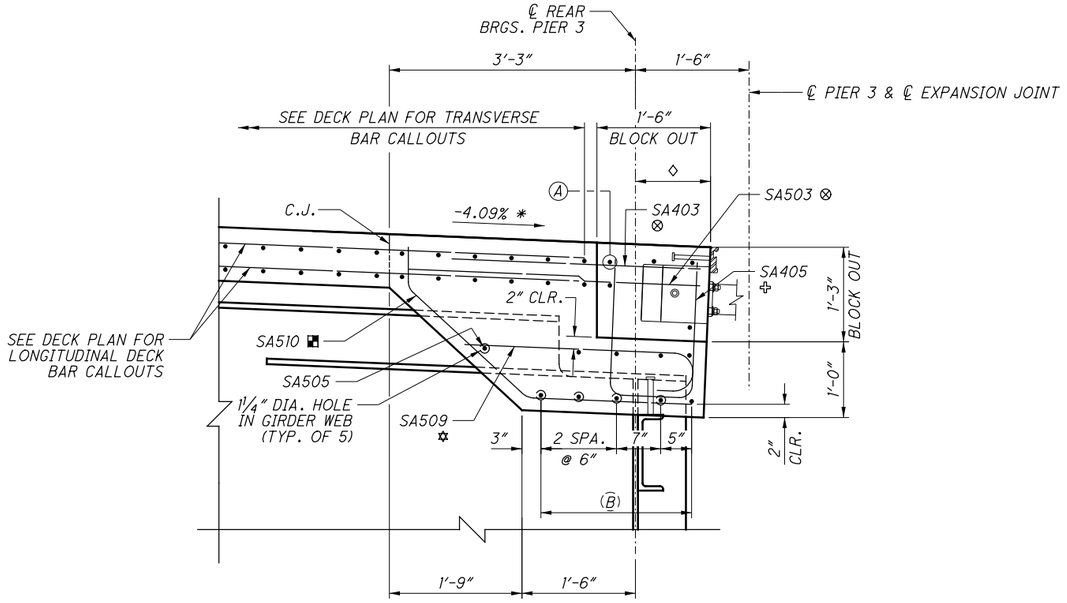
NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
MAB	MAB	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

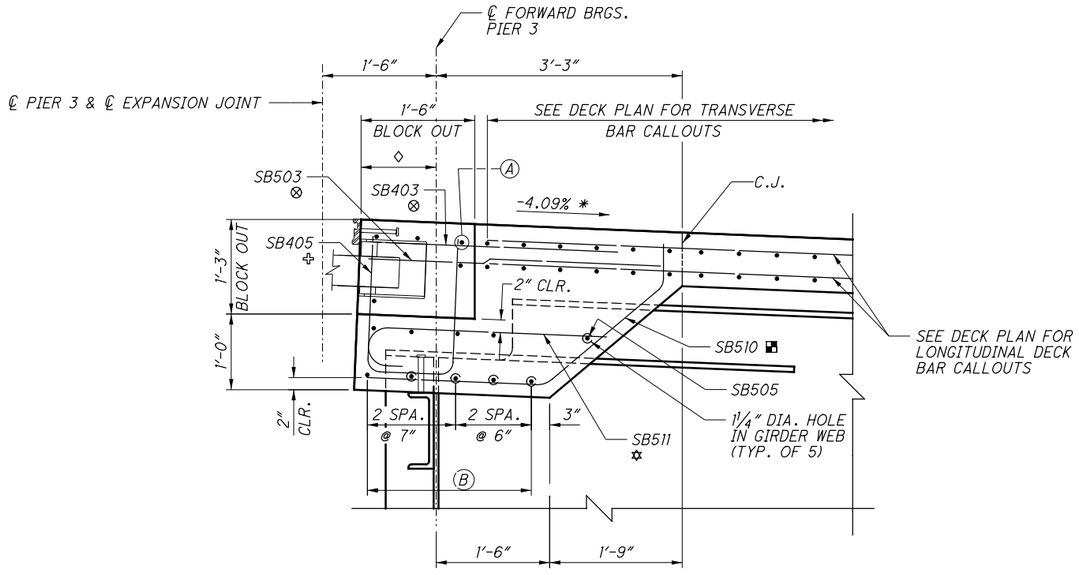
DECK SLAB PLAN - UNIT 2
SUM-76-11.48Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402



SECTION A-A

(MODULAR JOINT STRIP SEALS AND CENTER BEAMS NOT SHOWN)
(ALL HORIZONTAL DIMENSIONS ARE MEASURED NORMAL TO ℄ BEARINGS)



SECTION B-B

(MODULAR JOINT STRIP SEALS AND CENTER BEAMS NOT SHOWN)
(ALL HORIZONTAL DIMENSIONS ARE MEASURED NORMAL TO ℄ BEARINGS)

LEGEND:

WBA = WATSON BOWMAN ACME

* = GRADE VARIES DUE TO VERTICAL CURVE. THE GRADE SHOWN IS THE INSTANTANEOUS GRADE AT ℄ PIER 3 & ℄ EXPANSION JOINT.

◇ = 1'-0⅛" (DS BROWN), 1'-1½" (WBA), AT 60° F. SEE SHEET 72 / 80 FOR ADJUSTMENT OF JOINT OPENINGS AT TEMPERATURES OTHER THAN 60° F.

⊗ = LAP WITH LONGITUDINAL DECK BARS (SEE DECK PLANS FOR LAP LENGTHS) AND FIELD CUT AS NECESSARY TO AVOID INTERFERENCE WITH JOINT SUPPORT BOXES. REPAIR FIELD-CUT BAR ENDS PER 509. PLACE SA403 (UNIT 1) OR SB403 (UNIT 2) BARS BELOW TOP TRANSVERSE BARS AS SHOWN.

✣ = SPACE SA405 (UNIT 1) OR SB405 (UNIT 2) BARS WITH BOTTOM LONGITUDINAL DECK BARS AND OMIT SA405 OR SB405 BARS WHERE INTERFERENCE WITH TOP FLANGE OR JOINT SUPPORT BOXES OCCURS. AS AN ALTERNATIVE TO OMITTING BARS AT JOINT SUPPORT BOXES, THE CONTRACTOR MAY FIELD CUT SA405 OR SB405 BARS AT OR NEAR THE BOTTOM OF THE BLOCK OUT. REPAIR FIELD-CUT BAR ENDS PER 509.

✡ = SPACE DESIGNATED BARS WITH BOTTOM LONGITUDINAL DECK BARS.

◪ = SPACE DESIGNATED BARS WITH BOTTOM LONGITUDINAL DECK BARS AND OMIT BARS WHERE INTERFERENCE WITH TOP FLANGE OCCURS.

Ⓐ = SA406 (UNIT 1) OR SB406 (UNIT 2) (TYP. OF 5 WITHIN BLOCK OUT)

Ⓑ = 4-SA504 (UNIT 1) OR SB504 (UNIT 2) (TOP)
5-SA505 (UNIT 1) OR SB505 (UNIT 2) (BOTTOM)
BUNDLE 1-SA506 (UNIT 1) OR 1-SB506 (UNIT 2) WITH TOP BARS AT EACH END, SIMILAR TO HOW SHOWN ON DECK SLAB REINFORCING STEEL DETAILS ON SHEET 54 / 80

NOTES:

1. SEE SHEET 72 / 80 FOR ADDITIONAL MODULAR JOINT DETAILS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

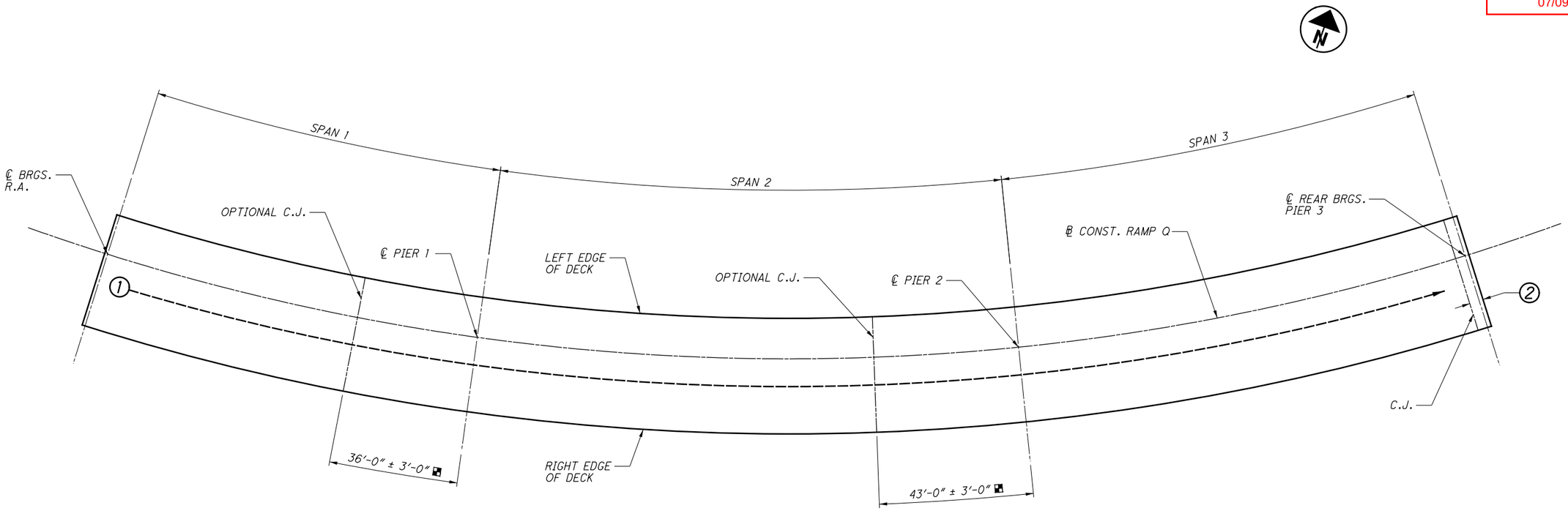
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

DECK DETAILS
SUM-76-11.48Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

57 / 80

81 / 104



DECK POUR SEQUENCE - UNIT 1

LEGEND:

(#) = DECK POUR SEQUENCE NUMBER AND DIRECTION OF POUR

■ = MEASURED ALONG RIGHT EDGE OF DECK

NOTES:

1. THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED ONLY AT THE LOCATIONS SHOWN. CONSTRUCTION JOINTS NOT INDICATED TO BE OPTIONAL ARE REQUIRED.
2. CONTRACTOR PROPOSED CHANGES TO THE DECK PLACEMENT SEQUENCE MUST BE SUBMITTED WITH PLANS AND COMPUTATIONS PREPARED IN ACCORDANCE WITH CMS 501.05. COMPUTATIONS MUST INCLUDE A STRUCTURAL ANALYSIS DEMONSTRATING THAT THE PROPOSED DECK PLACEMENT SEQUENCE WILL NOT CAUSE UPLIFT AN ANY BEARING LOCATION AND THAT THE FORCES PRODUCED IN THE STEEL SUPERSTRUCTURE DO NOT EXCEED THOSE PERMITTED BY THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE STRUCTURAL ANALYSIS SHALL INCLUDE ALL GIRDERS AND CROSSFRAMES (A 2-DIMENSIONAL GRILLAGE MODEL SHALL BE USED AT A MINIMUM).
3. SEE SHEET 57 / 80 FOR DECK DETAILS AT MODULAR EXPANSION JOINT.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

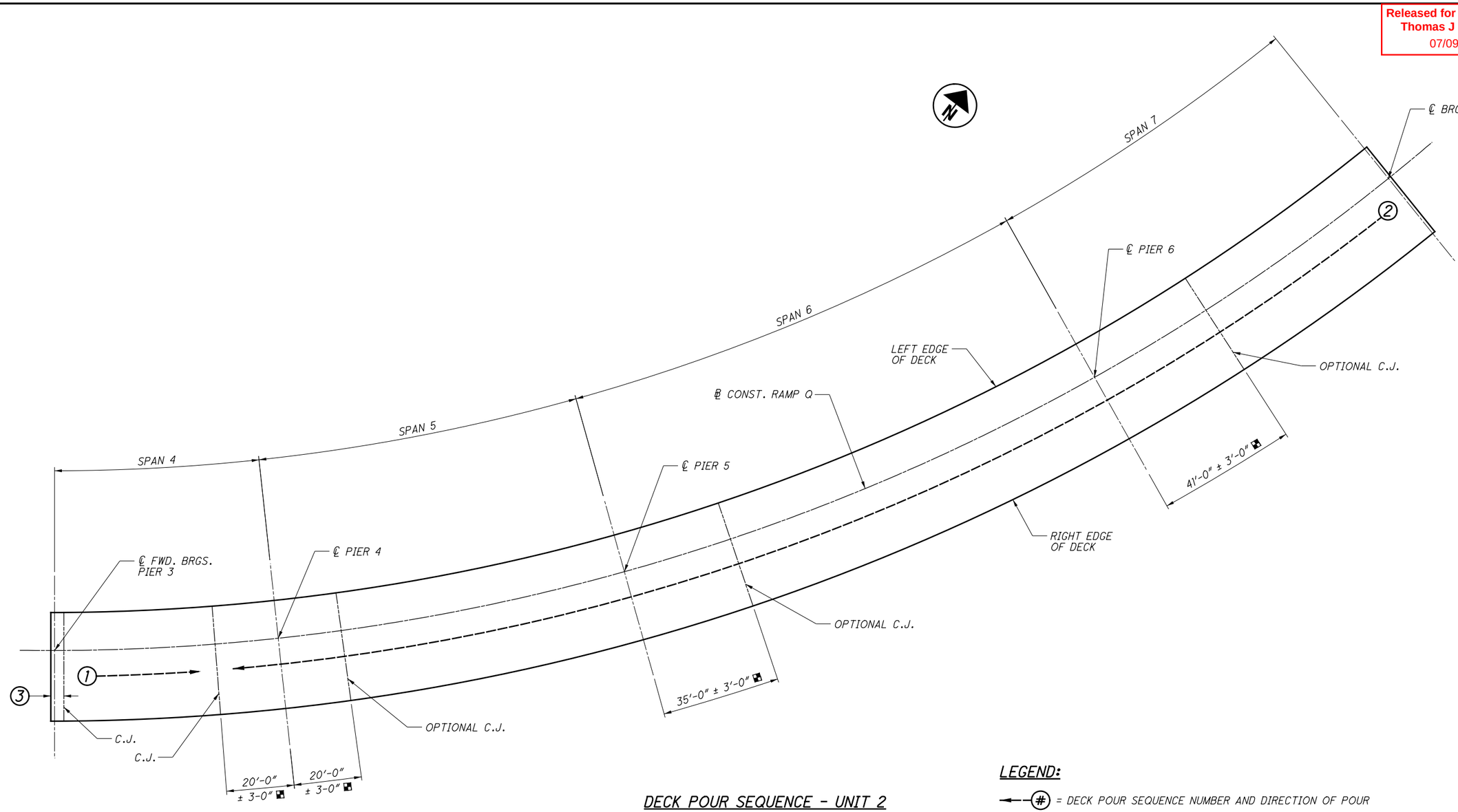
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

DECK POUR SEQUENCE - UNIT 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

58 / 80

82
104



DECK POUR SEQUENCE - UNIT 2

LEGEND:

(#) = DECK POUR SEQUENCE NUMBER AND DIRECTION OF POUR

■ = MEASURED ALONG RIGHT EDGE OF DECK

NOTES:

1. THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED ONLY AT THE LOCATIONS SHOWN. CONSTRUCTION JOINTS NOT INDICATED TO BE OPTIONAL ARE REQUIRED.
2. CONTRACTOR PROPOSED CHANGES TO THE DECK PLACEMENT SEQUENCE MUST BE SUBMITTED WITH PLANS AND COMPUTATIONS PREPARED IN ACCORDANCE WITH CMS 501.05. COMPUTATIONS MUST INCLUDE A STRUCTURAL ANALYSIS DEMONSTRATING THAT THE PROPOSED DECK PLACEMENT SEQUENCE WILL NOT CAUSE UPLIFT AN ANY BEARING LOCATION AND THAT THE FORCES PRODUCED IN THE STEEL SUPERSTRUCTURE DO NOT EXCEED THOSE PERMITTED BY THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE STRUCTURAL ANALYSIS SHALL INCLUDE ALL GIRDERS AND CROSSFRAMES (A 2-DIMENSIONAL GRILLAGE MODEL SHALL BE USED AT A MINIMUM).
3. SEE SHEET 57 / 80 FOR DECK DETAILS AT MODULAR EXPANSION JOINT.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

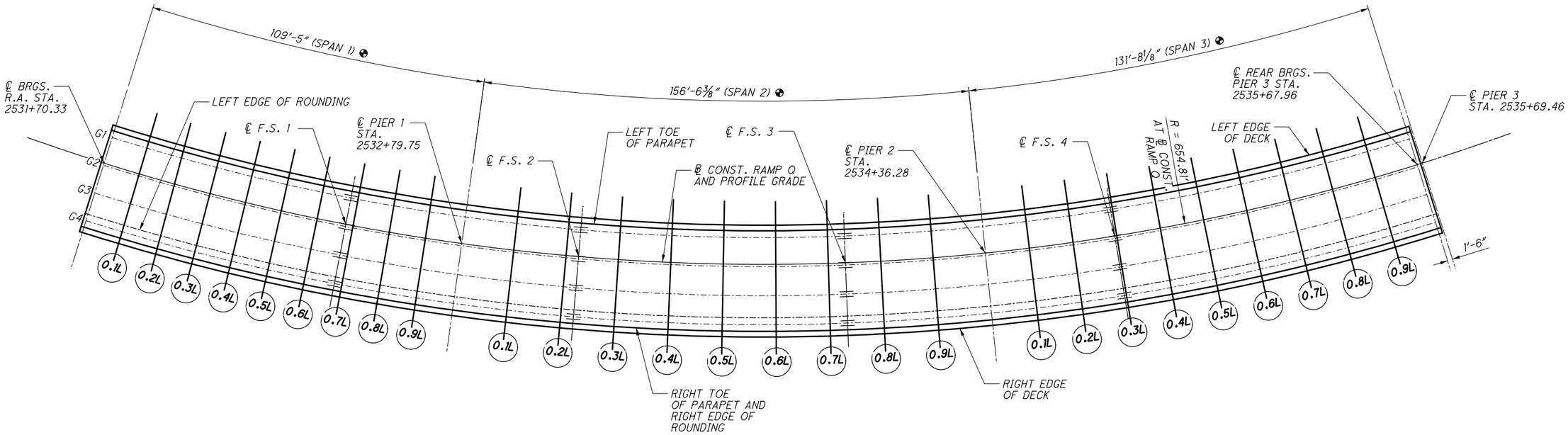
DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

DECK POUR SEQUENCE - UNIT 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

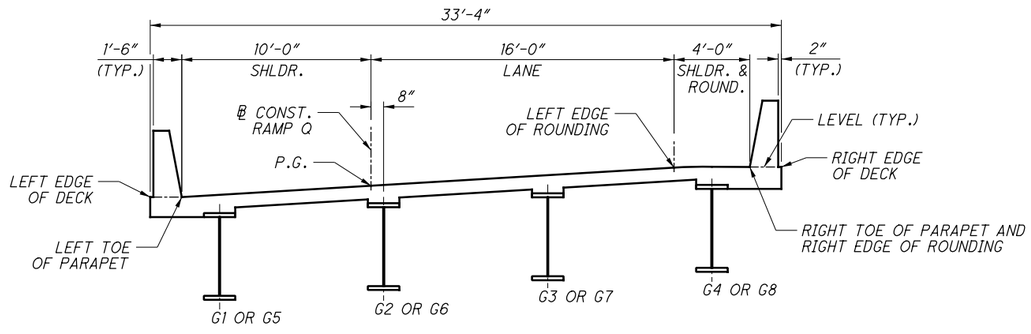
59 / 80

83
104



CRITICAL BRIDGE POINTS PLAN - UNIT 1

(FOR USE WITH SCREED, TOP OF HAUNCH AND FINAL DECK ELEVATION TABLES)



CRITICAL BRIDGE POINTS TRANSVERSE SECTION

(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)

LEGEND:

℄ = MEASURED ALONG ℄ CONST. RAMP Q
L = SPAN LENGTH

NOTES:

1. SEE SHEET 63 / 80 FOR TOP OF HAUNCH ELEVATION TABLES.
2. SEE SHEET 64 / 80 FOR FINISHED DECK ELEVATION TABLES.
3. SEE SHEET 62 / 80 FOR SCREED ELEVATION TABLES.

ISSUE RECORD:

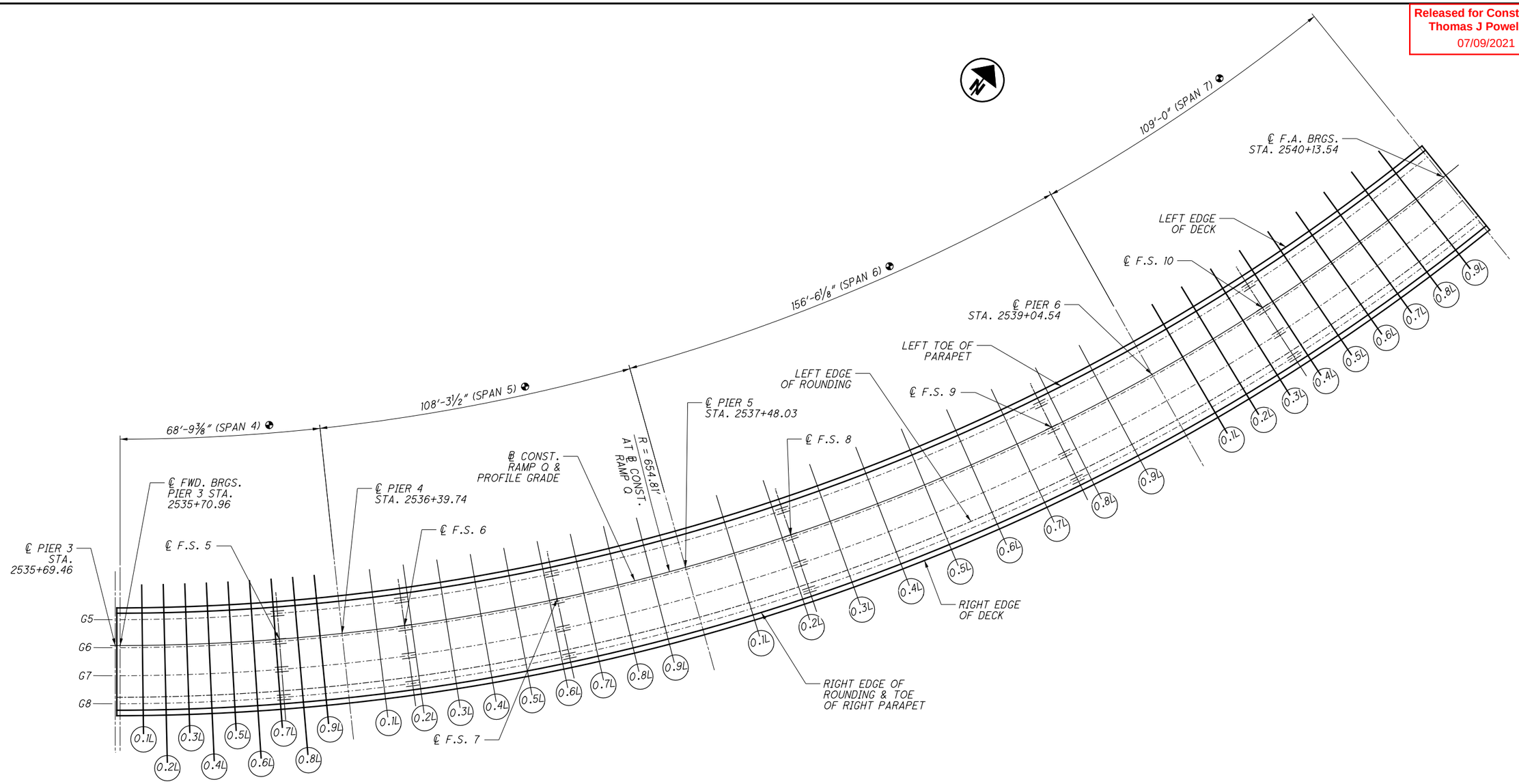
NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
MAB	MAB	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDE		7706066	

CRITICAL BRIDGE POINTS LOCATION PLAN - UNIT 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402



CRITICAL BRIDGE POINTS PLAN - UNIT 2

(FOR USE WITH SCREED, TOP OF HAUNCH AND FINAL DECK ELEVATION TABLES)

LEGEND:

◔ = MEASURED ALONG ℄ CONST. RAMP Q
L = SPAN LENGTH

NOTES:

1. SEE SHEET 63 / 80 FOR TOP OF HAUNCH ELEVATION TABLES.
2. SEE SHEET 65 / 80 FOR FINISHED DECK ELEVATION TABLES.
3. SEE SHEET 62 / 80 FOR SCREED ELEVATION TABLES.
4. SEE SHEET 60 / 80 FOR CRITICAL LOCATIONS TRANSVERSE SECTION.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
MAB	MAB	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDE		7706066	

CRITICAL BRIDGE POINTS LOCATION PLAN - UNIT 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

SCREED ELEVATIONS - UNIT 1

LOCATION	TOE OF LEFT PARAPET		PROFILE GRADE		LEFT EDGE OF ROUNDING		RIGHT EDGE OF ROUNDING AND TOE OF RIGHT PARAPET	
	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.
℄ BRGS. R. A.	2531+70.33	1122.87	2531+70.33	1123.47	2531+70.33	1124.43	2531+70.33	1124.46
0.1	2531+81.27	1123.42	2531+81.27	1124.02	2531+81.27	1124.99	2531+81.27	1125.03
0.2	2531+92.21	1123.95	2531+92.21	1124.55	2531+92.21	1125.52	2531+92.21	1125.56
0.3	2532+03.16	1124.44	2532+03.16	1125.04	2532+03.16	1126.01	2532+03.16	1126.05
0.4	2532+14.10	1124.90	2532+14.10	1125.50	2532+14.10	1126.47	2532+14.10	1126.50
0.5	2532+25.04	1125.31	2532+25.04	1125.91	2532+25.04	1126.88	2532+25.04	1126.92
0.6	2532+35.98	1125.69	2532+35.98	1126.29	2532+35.98	1127.26	2532+35.98	1127.30
F.S. 1	2532+44.71	1125.98	2532+44.71	1126.58	2532+44.71	1127.54	2532+44.71	1127.58
0.7	2532+46.92	1126.05	2532+46.92	1126.64	2532+46.92	1127.61	2532+46.92	1127.65
0.8	2532+57.87	1126.37	2532+57.87	1126.97	2532+57.87	1127.93	2532+57.87	1127.97
0.9	2532+68.81	1126.67	2532+68.81	1127.27	2532+68.81	1128.23	2532+68.81	1128.27
℄ PIER 1	2532+79.75	1126.96	2532+79.75	1127.56	2532+79.75	1128.52	2532+79.75	1128.56
0.1	2532+95.40	1127.35	2532+95.40	1127.95	2532+95.40	1128.91	2532+95.40	1128.95
0.2	2533+11.06	1127.70	2533+11.06	1128.30	2533+11.06	1129.26	2533+11.06	1129.30
F.S. 2	2533+14.79	1127.78	2533+14.79	1128.38	2533+14.79	1129.34	2533+14.79	1129.38
0.3	2533+26.71	1128.00	2533+26.71	1128.60	2533+26.71	1129.56	2533+26.71	1129.60
0.4	2533+42.36	1128.22	2533+42.36	1128.82	2533+42.36	1129.79	2533+42.36	1129.83
0.5	2533+58.02	1128.37	2533+58.02	1128.97	2533+58.02	1129.94	2533+58.02	1129.97
0.6	2533+73.67	1128.44	2533+73.67	1129.04	2533+73.67	1130.00	2533+73.67	1130.04
0.7	2533+89.32	1128.43	2533+89.32	1129.03	2533+89.32	1129.99	2533+89.32	1130.02
F.S. 3	2533+94.43	1128.41	2533+94.43	1129.01	2533+94.43	1129.97	2533+94.43	1130.00
0.8	2534+04.97	1128.36	2534+04.97	1128.95	2534+04.97	1129.91	2534+04.97	1129.95
0.9	2534+20.63	1128.23	2534+20.63	1128.83	2534+20.63	1129.79	2534+20.63	1129.82
℄ PIER 2	2534+36.28	1128.08	2534+36.28	1128.68	2534+36.28	1129.64	2534+36.28	1129.68
0.1	2534+49.45	1127.93	2534+49.45	1128.53	2534+49.45	1129.50	2534+49.45	1129.54
0.2	2534+62.61	1127.76	2534+62.62	1128.37	2534+62.62	1129.34	2534+62.63	1129.38
F.S. 4	2534+75.21	1127.57	2534+75.21	1128.18	2534+75.21	1129.16	2534+75.21	1129.20
0.3	2534+75.78	1127.56	2534+75.78	1128.17	2534+75.79	1129.15	2534+75.80	1129.19
0.4	2534+88.94	1127.32	2534+88.95	1127.93	2534+88.97	1128.93	2534+88.97	1128.96
0.5	2535+02.11	1127.03	2535+02.12	1127.64	2535+02.14	1128.64	2535+02.14	1128.68
0.6	2535+15.27	1126.67	2535+15.29	1127.29	2535+15.31	1128.29	2535+15.32	1128.33
0.7	2535+28.44	1126.27	2535+28.46	1126.89	2535+28.48	1127.89	2535+28.49	1127.92
0.8	2535+41.61	1125.80	2535+41.62	1126.41	2535+41.65	1127.40	2535+41.66	1127.44
0.9	2535+54.77	1125.28	2535+54.79	1125.88	2535+54.82	1126.86	2535+54.83	1126.90
℄ REAR BRGS. PIER 3	2535+67.94	1124.71	2535+67.96	1125.31	2535+68.00	1126.27	2535+68.01	1126.30

SCREED ELEVATIONS - UNIT 2

LOCATION	TOE OF LEFT PARAPET		PROFILE GRADE		LEFT EDGE OF ROUNDING		RIGHT EDGE OF ROUNDING AND TOE OF RIGHT PARAPET	
	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.
℄ FWD. BRGS. PIER 3	2535+70.98	1124.58	2535+70.96	1125.18	2535+70.92	1126.15	2535+70.91	1126.18
0.1	2535+77.86	1124.30	2535+77.84	1124.90	2535+77.81	1125.86	2535+77.80	1125.90
0.2	2535+84.73	1124.00	2535+84.72	1124.61	2535+84.69	1125.57	2535+84.68	1125.61
0.3	2535+91.61	1123.70	2535+91.59	1124.30	2535+91.57	1125.27	2535+91.56	1125.31
0.4	2535+98.49	1123.38	2535+98.47	1123.98	2535+98.45	1124.95	2535+98.44	1124.98
0.5	2536+05.36	1123.05	2536+05.35	1123.65	2536+05.33	1124.61	2536+05.33	1124.65
0.6	2536+12.24	1122.70	2536+12.23	1123.30	2536+12.21	1124.27	2536+12.21	1124.31
0.7	2536+19.11	1122.34	2536+19.11	1122.95	2536+19.10	1123.91	2536+19.09	1123.95
F.S. 5	2536+20.27	1122.28	2536+20.27	1122.88	2536+20.27	1123.85	2536+20.27	1123.89
0.8	2536+25.99	1121.98	2536+25.98	1122.58	2536+25.98	1123.54	2536+25.97	1123.58
0.9	2536+32.86	1121.60	2536+32.86	1122.20	2536+32.86	1123.16	2536+32.86	1123.20
℄ PIER 4	2536+39.74	1121.21	2536+39.74	1121.81	2536+39.74	1122.77	2536+39.74	1122.81
0.1	2536+50.57	1120.59	2536+50.57	1121.18	2536+50.57	1122.14	2536+50.57	1122.18
F.S. 6	2536+59.20	1120.07	2536+59.20	1120.66	2536+59.20	1121.62	2536+59.20	1121.66
0.2	2536+61.40	1119.94	2536+61.40	1120.53	2536+61.40	1121.49	2536+61.40	1121.53
0.3	2536+72.23	1119.26	2536+72.23	1119.85	2536+72.23	1120.81	2536+72.23	1120.85
0.4	2536+83.06	1118.55	2536+83.06	1119.14	2536+83.06	1120.10	2536+83.06	1120.14
0.5	2536+93.89	1117.81	2536+93.89	1118.40	2536+93.89	1119.36	2536+93.89	1119.39
0.6	2537+04.71	1117.05	2537+04.71	1117.64	2537+04.71	1118.59	2537+04.71	1118.63
F.S. 7	2537+07.14	1116.87	2537+07.14	1117.47	2537+07.14	1118.42	2537+07.14	1118.45
0.7	2537+15.54	1116.28	2537+15.54	1116.87	2537+15.54	1117.82	2537+15.54	1117.86
0.8	2537+26.37	1115.52	2537+26.37	1116.11	2537+26.37	1117.06	2537+26.37	1117.10
0.9	2537+37.20	1114.76	2537+37.20	1115.35	2537+37.20	1116.31	2537+37.20	1116.35
℄ PIER 5	2537+48.03	1114.01	2537+48.03	1114.61	2537+48.03	1115.57	2537+48.03	1115.61
0.1	2537+63.68	1112.96	2537+63.68	1113.56	2537+63.68	1114.53	2537+63.68	1114.57
0.2	2537+79.33	1111.92	2537+79.33	1112.53	2537+79.33	1113.52	2537+79.33	1113.55
F.S. 8	2537+82.09	1111.74	2537+82.09	1112.35	2537+82.09	1113.34	2537+82.09	1113.38
0.3	2537+94.98	1110.89	2537+94.98	1111.50	2537+94.98	1112.50	2537+94.98	1112.54
0.4	2538+10.63	1109.83	2538+10.63	1110.45	2538+10.63	1111.45	2538+10.63	1111.49
0.5	2538+26.29	1108.75	2538+26.29	1109.36	2538+26.29	1110.37	2538+26.29	1110.41
0.6	2538+41.94	1107.63	2538+41.94	1108.25	2538+41.94	1109.25	2538+41.94	1109.29
0.7	2538+57.59	1106.50	2538+57.59	1107.11	2538+57.59	1108.10	2538+57.59	1108.14
F.S. 9	2538+69.50	1105.62	2538+69.50	1106.23	2538+69.50	1107.21	2538+69.50	1107.25
0.8	2538+73.24	1105.34	2538+73.24	1105.95	2538+73.24	1106.93	2538+73.24	1106.97
0.9	2538+88.89	1104.19	2538+88.89	1104.79	2538+88.89	1105.76	2538+88.89	1105.80
℄ PIER 6	2539+04.54	1103.05	2539+04.54	1103.65	2539+04.54	1104.61	2539+04.54	1104.65
0.1	2539+15.44	1102.29	2539+15.44	1102.88	2539+15.44	1103.84	2539+15.44	1103.88
0.2	2539+26.34	1101.53	2539+26.34	1102.12	2539+26.34	1103.08	2539+26.34	1103.12
0.3	2539+37.24	1100.78	2539+37.24	1101.37	2539+37.24	1102.33	2539+37.24	1102.36
F.S. 10	2539+44.44	1100.29	2539+44.44	1100.88	2539+44.44	1101.83	2539+44.44	1101.87
0.4	2539+48.14	1100.03	2539+48.14	1100.63	2539+48.14	1101.58	2539+48.14	1101.62
0.5	2539+59.04	1099.28	2539+59.04	1099.88	2539+59.04	1100.83	2539+59.04	1100.87
0.6	2539+69.94	1098.53	2539+69.94	1099.12	2539+69.94	1100.08	2539+69.94	1100.12
0.7	2539+80.84	1097.76	2539+80.84	1098.36	2539+80.84	1099.32	2539+80.84	1099.35
0.8	2539+91.74	1096.99	2539+91.74	1097.59	2539+91.74	1098.55	2539+91.74	1098.58
0.9	2540+02.64	1096.21	2540+02.64	1096.81	2540+02.64	1097.77	2540+02.64	1097.80
℄ BRGS. F.A.	2540+13.54	1095.42	2540+13.54	1096.02	2540+13.54	1096.98	2540+13.54	1097.02

NOTES:

1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SEE CRITICAL BRIDGE POINTS PLAN ON SHEETS 60 / 80 AND 61 / 80 FOR ELEVATION LOCATIONS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
MAB	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ASG		7706066	

SCREED ELEVATIONS
SUM-76-11.48Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

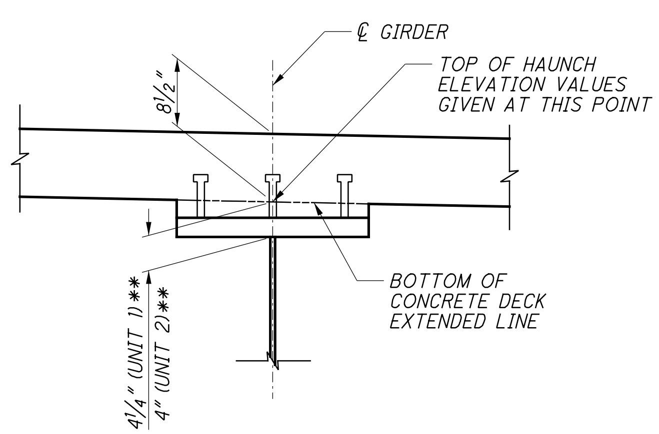
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

62 / 80

86 / 104

TOP OF HAUNCH ELEVATIONS - UNIT 1

LOCATION	℄ GIRDER 1		℄ GIRDER 2		℄ GIRDER 3		℄ GIRDER 4	
	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.
℄ BRGS. R. A.	2531+70.33	1122.28	2531+70.33	1122.80	2531+70.33	1123.32	2531+70.33	1123.79
0.1	2531+81.27	1122.84	2531+81.27	1123.36	2531+81.27	1123.88	2531+81.27	1124.35
0.2	2531+92.21	1123.36	2531+92.21	1123.88	2531+92.21	1124.41	2531+92.21	1124.88
0.3	2532+03.16	1123.85	2532+03.16	1124.37	2532+03.16	1124.90	2532+03.16	1125.37
0.4	2532+14.10	1124.31	2532+14.10	1124.83	2532+14.10	1125.35	2532+14.10	1125.83
0.5	2532+25.04	1124.72	2532+25.04	1125.24	2532+25.04	1125.77	2532+25.04	1126.24
0.6	2532+35.98	1125.11	2532+35.98	1125.63	2532+35.98	1126.15	2532+35.98	1126.62
F.S. 1	2532+44.71	1125.39	2532+44.71	1125.91	2532+44.71	1126.43	2532+44.71	1126.90
0.7	2532+46.92	1125.46	2532+46.92	1125.98	2532+46.92	1126.50	2532+46.92	1126.97
0.8	2532+57.87	1125.78	2532+57.87	1126.30	2532+57.87	1126.82	2532+57.87	1127.29
0.9	2532+68.81	1126.08	2532+68.81	1126.60	2532+68.81	1127.12	2532+68.81	1127.59
℄ PIER 1	2532+79.75	1126.37	2532+79.75	1126.89	2532+79.75	1127.41	2532+79.75	1127.88
0.1	2532+95.40	1126.76	2532+95.40	1127.28	2532+95.40	1127.80	2532+95.40	1128.27
0.2	2533+11.06	1127.11	2533+11.06	1127.63	2533+11.06	1128.15	2533+11.06	1128.62
F.S. 2	2533+14.79	1127.19	2533+14.79	1127.71	2533+14.79	1128.23	2533+14.79	1128.70
0.3	2533+26.71	1127.41	2533+26.71	1127.93	2533+26.71	1128.45	2533+26.71	1128.93
0.4	2533+42.36	1127.64	2533+42.36	1128.16	2533+42.36	1128.68	2533+42.36	1129.15
0.5	2533+58.02	1127.78	2533+58.02	1128.30	2533+58.02	1128.82	2533+58.02	1129.30
0.6	2533+73.67	1127.85	2533+73.67	1128.37	2533+73.67	1128.89	2533+73.67	1129.36
0.7	2533+89.32	1127.84	2533+89.32	1128.36	2533+89.32	1128.88	2533+89.32	1129.35
F.S. 3	2533+94.43	1127.83	2533+94.43	1128.34	2533+94.43	1128.86	2533+94.43	1129.33
0.8	2534+04.97	1127.77	2534+04.97	1128.28	2534+04.97	1128.80	2534+04.97	1129.27
0.9	2534+20.63	1127.65	2534+20.63	1128.16	2534+20.63	1128.68	2534+20.63	1129.15
℄ PIER 2	2534+36.28	1127.49	2534+36.28	1128.01	2534+36.28	1128.53	2534+36.28	1129.00
0.1	2534+49.45	1127.34	2534+49.45	1127.86	2534+49.45	1128.39	2534+49.45	1128.86
0.2	2534+62.61	1127.18	2534+62.62	1127.70	2534+62.62	1128.23	2534+62.62	1128.70
F.S. 4	2534+75.21	1126.98	2534+75.21	1127.51	2534+75.21	1128.04	2534+75.21	1128.52
0.3	2534+75.78	1126.97	2534+75.78	1127.50	2534+75.79	1128.03	2534+75.80	1128.52
0.4	2534+88.94	1126.73	2534+88.95	1127.26	2534+88.96	1127.80	2534+88.97	1128.29
0.5	2535+02.11	1126.44	2535+02.12	1126.97	2535+02.13	1127.51	2535+02.14	1128.00
0.6	2535+15.28	1126.09	2535+15.29	1126.62	2535+15.30	1127.16	2535+15.31	1127.65
0.7	2535+28.44	1125.68	2535+28.46	1126.22	2535+28.47	1126.75	2535+28.48	1127.25
0.8	2535+41.61	1125.21	2535+41.63	1125.74	2535+41.64	1126.28	2535+41.66	1126.76
0.9	2535+54.78	1124.69	2535+54.79	1125.22	2535+54.81	1125.74	2535+54.83	1126.22
℄ REAR BRGS. PIER 3	2535+67.94	1122.58*	2535+67.96	1123.10*	2535+67.98	1123.62*	2535+68.00	1124.08*



HAUNCH DETAIL

** = TOP OF WEB TO BOTTOM OF CONCRETE DECK EXTENDED LINE

TOP OF HAUNCH ELEVATIONS - UNIT 2

LOCATION	℄ GIRDER 5		℄ GIRDER 6		℄ GIRDER 7		℄ GIRDER 8	
	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.
℄ FWD. BRGS. PIER 3	2535+70.98	1122.45*	2535+70.96	1122.97*	2535+70.94	1123.49*	2535+70.92	1123.96*
0.1	2535+77.85	1123.71	2535+77.84	1124.23	2535+77.82	1124.75	2535+77.80	1125.22
0.2	2535+84.73	1123.42	2535+84.71	1123.94	2535+84.70	1124.46	2535+84.68	1124.93
0.3	2535+91.61	1123.11	2535+91.59	1123.63	2535+91.58	1124.15	2535+91.57	1124.63
0.4	2535+98.48	1122.79	2535+98.47	1123.31	2535+98.46	1123.83	2535+98.45	1124.31
0.5	2536+05.36	1122.46	2536+05.35	1122.98	2536+05.34	1123.50	2536+05.33	1123.98
0.6	2536+12.24	1122.11	2536+12.23	1122.63	2536+12.22	1123.16	2536+12.21	1123.63
0.7	2536+19.11	1121.76	2536+19.11	1122.28	2536+19.10	1122.80	2536+19.09	1123.27
F.S. 5	2536+20.27	1121.70	2536+20.27	1122.22	2536+20.27	1122.74	2536+20.27	1123.21
0.8	2536+25.99	1121.39	2536+25.98	1121.91	2536+25.98	1122.43	2536+25.98	1122.90
0.9	2536+32.86	1121.01	2536+32.86	1121.53	2536+32.86	1122.05	2536+32.86	1122.52
℄ PIER 4	2536+39.74	1120.62	2536+39.74	1121.14	2536+39.74	1121.66	2536+39.74	1122.13
0.1	2536+50.57	1120.00	2536+50.57	1120.52	2536+50.57	1121.03	2536+50.57	1121.50
F.S. 6	2536+59.20	1119.48	2536+59.20	1120.00	2536+59.20	1120.51	2536+59.20	1120.98
0.2	2536+61.40	1119.35	2536+61.40	1119.86	2536+61.40	1120.38	2536+61.40	1120.85
0.3	2536+72.23	1118.67	2536+72.23	1119.19	2536+72.23	1119.70	2536+72.23	1120.17
0.4	2536+83.06	1117.96	2536+83.06	1118.48	2536+83.06	1118.99	2536+83.06	1119.46
0.5	2536+93.89	1117.22	2536+93.89	1117.73	2536+93.89	1118.25	2536+93.89	1118.72
0.6	2537+04.71	1116.46	2537+04.71	1116.97	2537+04.71	1117.48	2537+04.71	1117.95
F.S. 7	2537+07.14	1116.29	2537+07.14	1116.80	2537+07.14	1117.31	2537+07.14	1117.78
0.7	2537+15.54	1115.69	2537+15.54	1116.20	2537+15.54	1116.72	2537+15.54	1117.18
0.8	2537+26.37	1114.93	2537+26.37	1115.44	2537+26.37	1115.96	2537+26.37	1116.42
0.9	2537+37.20	1114.17	2537+37.20	1114.69	2537+37.20	1115.20	2537+37.20	1115.67
℄ PIER 5	2537+48.03	1113.42	2537+48.03	1113.94	2537+48.03	1114.46	2537+48.03	1114.93
0.1	2537+63.68	1112.37	2537+63.68	1112.89	2537+63.68	1113.42	2537+63.68	1113.89
0.2	2537+79.33	1111.33	2537+79.33	1111.86	2537+79.33	1112.39	2537+79.33	1112.88
F.S. 8	2537+82.09	1111.15	2537+82.09	1111.68	2537+82.09	1112.21	2537+82.09	1112.70
0.3	2537+94.98	1110.30	2537+94.98	1110.83	2537+94.98	1111.37	2537+94.98	1111.86
0.4	2538+10.63	1109.24	2538+10.63	1109.78	2538+10.63	1110.32	2538+10.63	1110.81
0.5	2538+26.29	1108.16	2538+26.29	1108.70	2538+26.29	1109.24	2538+26.29	1109.73
0.6	2538+41.94	1107.05	2538+41.94	1107.58	2538+41.94	1108.12	2538+41.94	1108.61
0.7	2538+57.59	1105.91	2538+57.59	1106.44	2538+57.59	1106.98	2538+57.59	1107.47
F.S. 9	2538+69.50	1105.03	2538+69.50	1105.56	2538+69.50	1106.09	2538+69.50	1106.57
0.8	2538+73.24	1104.75	2538+73.24	1105.28	2538+73.24	1105.81	2538+73.24	1106.29
0.9	2538+88.89	1103.60	2538+88.89	1104.12	2538+88.89	1104.65	2538+88.89	1105.12
℄ PIER 6	2539+04.54	1102.47	2539+04.54	1102.99	2539+04.54	1103.51	2539+04.54	1103.98
0.1	2539+15.44	1101.70	2539+15.44	1102.21	2539+15.44	1102.73	2539+15.44	1103.20
0.2	2539+26.34	1100.94	2539+26.34	1101.46	2539+26.34	1101.97	2539+26.34	1102.44
0.3	2539+37.24	1100.19	2539+37.24	1100.71	2539+37.24	1101.22	2539+37.24	1101.69
F.S. 10	2539+44.44	1099.70	2539+44.44	1100.21	2539+44.44	1100.73	2539+44.44	1101.20
0.4	2539+48.14	1099.45	2539+48.14	1099.96	2539+48.14	1100.47	2539+48.14	1100.94
0.5	2539+59.04	1098.69	2539+59.04	1099.21	2539+59.04	1099.72	2539+59.04	1100.19
0.6	2539+69.94	1097.94	2539+69.94	1098.45	2539+69.94	1098.97	2539+69.94	1099.44
0.7	2539+80.84	1097.17	2539+80.84	1097.69	2539+80.84	1098.21	2539+80.84	1098.68
0.8	2539+91.74	1096.40	2539+91.74	1096.92	2539+91.74	1097.44	2539+91.74	1097.91
0.9	2540+02.64	1095.62	2540+02.64	1096.14	2540+02.64	1096.66	2540+02.64	1097.13
℄ BRGS. F.A.	2540+13.54	1094.83	2540+13.54	1095.35	2540+13.54	1095.87	2540+13.54	1096.34

LEGEND:

* = BOTTOM OF CONCRETE DECK ELEVATION AT THICKENED DECK, SEE SECTION A-A ON SHEET 72 / 80.

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE ℄ OF THE GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

Released for Construction
Thomas J Powell, PE
07/09/2021

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED MAB | CHECKED ASG | DRAWN AAA | REVISED | REVIEWED JCS | DATE 4/29/19 | STRUCTURE FILE NUMBER 7706066

TOP OF HAUNCH ELEVATIONS
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

63/80

87/104

ISSUE RECORD:

NO.	DATE	DESCRIPTION

FINAL DECK SURFACE ELEVATIONS - UNIT 1

LOCATION	TOE OF LEFT PARAPET		℄ GIRDER 1		PROFILE GRADE		℄ GIRDER 2		℄ GIRDER 3		LEFT EDGE OF ROUNDING		℄ GIRDER 4		RIGHT EDGE OF ROUNDING/ TOE OF RIGHT PARAPET	
	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.
℄ BRGS. R. A.	2531+70.33	1122.87	2531+70.33	1122.99	2531+70.33	1123.47	2531+70.33	1123.51	2531+70.33	1124.03	2531+70.33	1124.43	2531+70.33	1124.50	2531+70.33	1124.46
0.1	2531+81.27	1123.40	2531+81.27	1123.52	2531+81.27	1124.00	2531+81.27	1124.04	2531+81.27	1124.56	2531+81.27	1124.96	2531+81.27	1125.03	2531+81.27	1124.99
0.2	2531+92.21	1123.90	2531+92.21	1124.02	2531+92.21	1124.50	2531+92.21	1124.54	2531+92.21	1125.06	2531+92.21	1125.46	2531+92.21	1125.53	2531+92.21	1125.50
0.3	2532+03.16	1124.38	2532+03.16	1124.50	2532+03.16	1124.98	2532+03.16	1125.02	2532+03.16	1125.54	2532+03.16	1125.94	2532+03.16	1126.01	2532+03.16	1125.98
0.4	2532+14.10	1124.83	2532+14.10	1124.95	2532+14.10	1125.43	2532+14.10	1125.47	2532+14.10	1125.99	2532+14.10	1126.39	2532+14.10	1126.46	2532+14.10	1126.43
0.5	2532+25.04	1125.25	2532+25.04	1125.37	2532+25.04	1125.85	2532+25.04	1125.89	2532+25.04	1126.41	2532+25.04	1126.81	2532+25.04	1126.88	2532+25.04	1126.85
0.6	2532+35.98	1125.65	2532+35.98	1125.77	2532+35.98	1126.25	2532+35.98	1126.29	2532+35.98	1126.81	2532+35.98	1127.21	2532+35.98	1127.28	2532+35.98	1127.24
F.S. 1	2532+44.71	1125.94	2532+44.71	1126.06	2532+44.71	1126.54	2532+44.71	1126.58	2532+44.71	1127.10	2532+44.71	1127.50	2532+44.71	1127.57	2532+44.71	1127.54
0.7	2532+46.92	1126.02	2532+46.92	1126.14	2532+46.92	1126.62	2532+46.92	1126.66	2532+46.92	1127.18	2532+46.92	1127.58	2532+46.92	1127.64	2532+46.92	1127.61
0.8	2532+57.87	1126.36	2532+57.87	1126.48	2532+57.87	1126.96	2532+57.87	1127.00	2532+57.87	1127.52	2532+57.87	1127.92	2532+57.87	1127.99	2532+57.87	1127.95
0.9	2532+68.81	1126.67	2532+68.81	1126.79	2532+68.81	1127.27	2532+68.81	1127.31	2532+68.81	1127.83	2532+68.81	1128.23	2532+68.81	1128.30	2532+68.81	1128.27
℄ PIER 1	2532+79.75	1126.96	2532+79.75	1127.08	2532+79.75	1127.56	2532+79.75	1127.60	2532+79.75	1128.12	2532+79.75	1128.52	2532+79.75	1128.59	2532+79.75	1128.55
0.1	2532+95.40	1127.32	2532+95.40	1127.44	2532+95.40	1127.92	2532+95.40	1127.96	2532+95.40	1128.48	2532+95.40	1128.88	2532+95.40	1128.95	2532+95.40	1128.92
0.2	2533+11.06	1127.63	2533+11.06	1127.75	2533+11.06	1128.23	2533+11.06	1128.27	2533+11.06	1128.79	2533+11.06	1129.19	2533+11.06	1129.25	2533+11.06	1129.22
F.S. 2	2533+14.79	1127.69	2533+14.79	1127.81	2533+14.79	1128.29	2533+14.79	1128.33	2533+14.79	1128.85	2533+14.79	1129.25	2533+14.79	1129.32	2533+14.79	1129.29
0.3	2533+26.71	1127.88	2533+26.71	1128.00	2533+26.71	1128.48	2533+26.71	1128.52	2533+26.71	1129.04	2533+26.71	1129.44	2533+26.71	1129.51	2533+26.71	1129.47
0.4	2533+42.36	1128.07	2533+42.36	1128.19	2533+42.36	1128.67	2533+42.36	1128.71	2533+42.36	1129.23	2533+42.36	1129.63	2533+42.36	1129.70	2533+42.36	1129.67
0.5	2533+58.02	1128.21	2533+58.02	1128.33	2533+58.02	1128.81	2533+58.02	1128.85	2533+58.02	1129.37	2533+58.02	1129.77	2533+58.02	1129.84	2533+58.02	1129.81
0.6	2533+73.67	1128.30	2533+73.67	1128.42	2533+73.67	1128.90	2533+73.67	1128.94	2533+73.67	1129.46	2533+73.67	1129.86	2533+73.67	1129.93	2533+73.67	1129.89
0.7	2533+89.32	1128.32	2533+89.32	1128.44	2533+89.32	1128.92	2533+89.32	1128.96	2533+89.32	1129.48	2533+89.32	1129.88	2533+89.32	1129.95	2533+89.32	1129.92
F.S. 3	2533+94.43	1128.32	2533+94.43	1128.44	2533+94.43	1128.92	2533+94.43	1128.96	2533+94.43	1129.48	2533+94.43	1129.88	2533+94.43	1129.95	2533+94.43	1129.92
0.8	2534+04.97	1128.30	2534+04.97	1128.42	2534+04.97	1128.90	2534+04.97	1128.94	2534+04.97	1129.46	2534+04.97	1129.86	2534+04.97	1129.93	2534+04.97	1129.89
0.9	2534+20.63	1128.21	2534+20.63	1128.33	2534+20.63	1128.81	2534+20.63	1128.85	2534+20.63	1129.37	2534+20.63	1129.77	2534+20.63	1129.84	2534+20.63	1129.81
℄ PIER 2	2534+36.28	1128.08	2534+36.28	1128.20	2534+36.28	1128.68	2534+36.28	1128.72	2534+36.28	1129.24	2534+36.28	1129.64	2534+36.28	1129.71	2534+36.28	1129.67
0.1	2534+49.45	1127.92	2534+49.45	1128.04	2534+49.45	1128.52	2534+49.45	1128.56	2534+49.45	1129.08	2534+49.45	1129.48	2534+49.45	1129.55	2534+49.45	1129.51
0.2	2534+62.61	1127.72	2534+62.61	1127.84	2534+62.62	1128.32	2534+62.62	1128.36	2534+62.62	1128.88	2534+62.62	1129.28	2534+62.62	1129.35	2534+62.63	1129.31
F.S. 4	2534+75.21	1127.49	2534+75.21	1127.61	2534+75.21	1128.09	2534+75.21	1128.13	2534+75.21	1128.65	2534+75.21	1129.05	2534+75.21	1129.12	2534+75.21	1129.09
0.3	2534+75.78	1127.48	2534+75.78	1127.60	2534+75.78	1128.08	2534+75.78	1128.12	2534+75.79	1128.64	2534+75.79	1129.04	2534+75.80	1129.11	2534+75.80	1129.08
0.4	2534+88.94	1127.20	2534+88.94	1127.32	2534+88.95	1127.80	2534+88.95	1127.84	2534+88.96	1128.36	2534+88.97	1128.76	2534+88.97	1128.83	2534+88.97	1128.80
0.5	2535+02.11	1126.88	2535+02.11	1127.00	2535+02.12	1127.48	2535+02.12	1127.52	2535+02.13	1128.04	2535+02.14	1128.44	2535+02.14	1128.51	2535+02.14	1128.48
0.6	2535+15.27	1126.53	2535+15.28	1126.65	2535+15.29	1127.13	2535+15.29	1127.17	2535+15.30	1127.69	2535+15.31	1128.09	2535+15.31	1128.16	2535+15.32	1128.12
0.7	2535+28.44	1126.13	2535+28.44	1126.25	2535+28.46	1126.73	2535+28.46	1126.77	2535+28.47	1127.29	2535+28.48	1127.69	2535+28.48	1127.76	2535+28.49	1127.73
0.8	2535+41.61	1125.70	2535+41.61	1125.82	2535+41.62	1126.30	2535+41.63	1126.34	2535+41.64	1126.85	2535+41.65	1127.25	2535+41.66	1127.32	2535+41.66	1127.29
0.9	2535+54.77	1125.22	2535+54.78	1125.34	2535+54.79	1125.82	2535+54.79	1125.86	2535+54.81	1126.38	2535+54.82	1126.78	2535+54.83	1126.85	2535+54.83	1126.82
℄ REAR BRGS. PIER 3	2535+67.94	1124.71	2535+67.94	1124.83	2535+67.96	1125.31	2535+67.96	1125.35	2535+67.98	1125.87	2535+68.00	1126.26	2535+68.00	1126.33	2535+68.01	1126.30

NOTES:

1. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.
2. SEE CRITICAL BRIDGE POINTS PLAN ON SHEET 60 / 80 FOR ELEVATION LOCATIONS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED MAB | DRAWN AAA | REVIEWED JCS 4/29/19 | CHECKED BDE | REVISED | STRUCTURE FILE NUMBER 7706066

FINAL DECK SURFACE ELEVATIONS - UNIT 1
SUM-76-11.48Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

64 / 80

88 / 104

FINAL DECK SURFACE ELEVATIONS - UNIT 2

LOCATION	TOE OF LEFT PARAPET		℄ GIRDER 5		PROFILE GRADE		℄ GIRDER 6		℄ GIRDER 7		LEFT EDGE OF ROUNDING		℄ GIRDER 8		RIGHT EDGE OF ROUNDING/ TOE OF RIGHT PARAPET	
	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.
℄ FWD. BRGS. PIER 3	2535+70.98	1124.58	2535+70.98	1124.70	2535+70.96	1125.18	2535+70.96	1125.22	2535+70.94	1125.74	2535+70.92	1126.14	2535+70.92	1126.21	2535+70.91	1126.18
0.1	2535+77.86	1124.29	2535+77.85	1124.41	2535+77.84	1124.89	2535+77.84	1124.93	2535+77.82	1125.45	2535+77.81	1125.86	2535+77.80	1125.92	2535+77.80	1125.89
0.2	2535+84.73	1123.99	2535+84.73	1124.11	2535+84.72	1124.59	2535+84.71	1124.63	2535+84.70	1125.16	2535+84.69	1125.56	2535+84.68	1125.63	2535+84.68	1125.59
0.3	2535+91.61	1123.68	2535+91.61	1123.80	2535+91.59	1124.28	2535+91.59	1124.32	2535+91.58	1124.84	2535+91.57	1125.25	2535+91.57	1125.31	2535+91.56	1125.28
0.4	2535+98.49	1123.36	2535+98.48	1123.48	2535+98.47	1123.96	2535+98.47	1124.00	2535+98.46	1124.52	2535+98.45	1124.92	2535+98.45	1124.99	2535+98.44	1124.96
0.5	2536+05.36	1123.03	2536+05.36	1123.15	2536+05.35	1123.63	2536+05.35	1123.67	2536+05.34	1124.19	2536+05.33	1124.59	2536+05.33	1124.66	2536+05.33	1124.63
0.6	2536+12.24	1122.69	2536+12.24	1122.81	2536+12.23	1123.29	2536+12.23	1123.33	2536+12.22	1123.85	2536+12.21	1124.25	2536+12.21	1124.32	2536+12.21	1124.29
0.7	2536+19.11	1122.33	2536+19.11	1122.45	2536+19.11	1122.93	2536+19.11	1122.97	2536+19.10	1123.49	2536+19.10	1123.89	2536+19.09	1123.96	2536+19.09	1123.93
F.S. 5	2536+20.27	1122.27	2536+20.27	1122.39	2536+20.27	1122.87	2536+20.27	1122.91	2536+20.27	1123.43	2536+20.27	1123.83	2536+20.27	1123.90	2536+20.27	1123.87
0.8	2536+25.99	1121.97	2536+25.99	1122.09	2536+25.98	1122.57	2536+25.98	1122.61	2536+25.98	1123.13	2536+25.98	1123.53	2536+25.98	1123.60	2536+25.97	1123.57
0.9	2536+32.86	1121.59	2536+32.86	1121.71	2536+32.86	1122.19	2536+32.86	1122.23	2536+32.86	1122.75	2536+32.86	1123.16	2536+32.86	1123.22	2536+32.86	1123.19
℄ PIER 4	2536+39.74	1121.21	2536+39.74	1121.33	2536+39.74	1121.81	2536+39.74	1121.85	2536+39.74	1122.37	2536+39.74	1122.77	2536+39.74	1122.84	2536+39.74	1122.81
0.1	2536+50.57	1120.58	2536+50.57	1120.70	2536+50.57	1121.18	2536+50.57	1121.22	2536+50.57	1121.74	2536+50.57	1122.14	2536+50.57	1122.21	2536+50.57	1122.18
F.S. 6	2536+59.20	1120.06	2536+59.20	1120.18	2536+59.20	1120.66	2536+59.20	1120.70	2536+59.20	1121.22	2536+59.20	1121.62	2536+59.20	1121.69	2536+59.20	1121.66
0.2	2536+61.40	1119.92	2536+61.40	1120.04	2536+61.40	1120.52	2536+61.40	1120.56	2536+61.40	1121.08	2536+61.40	1121.48	2536+61.40	1121.55	2536+61.40	1121.52
0.3	2536+72.23	1119.24	2536+72.23	1119.36	2536+72.23	1119.84	2536+72.23	1119.88	2536+72.23	1120.40	2536+72.23	1120.80	2536+72.23	1120.87	2536+72.23	1120.84
0.4	2536+83.06	1118.53	2536+83.06	1118.65	2536+83.06	1119.13	2536+83.06	1119.17	2536+83.06	1119.69	2536+83.06	1120.09	2536+83.06	1120.16	2536+83.06	1120.13
0.5	2536+93.89	1117.80	2536+93.89	1117.92	2536+93.89	1118.40	2536+93.89	1118.44	2536+93.89	1118.96	2536+93.89	1119.36	2536+93.89	1119.43	2536+93.89	1119.39
0.6	2537+04.71	1117.04	2537+04.71	1117.16	2537+04.71	1117.64	2537+04.71	1117.68	2537+04.71	1118.20	2537+04.71	1118.60	2537+04.71	1118.67	2537+04.71	1118.64
F.S. 7	2537+07.14	1116.87	2537+07.14	1116.99	2537+07.14	1117.47	2537+07.14	1117.51	2537+07.14	1118.03	2537+07.14	1118.43	2537+07.14	1118.50	2537+07.14	1118.47
0.7	2537+15.54	1116.28	2537+15.54	1116.40	2537+15.54	1116.88	2537+15.54	1116.92	2537+15.54	1117.44	2537+15.54	1117.84	2537+15.54	1117.91	2537+15.54	1117.88
0.8	2537+26.37	1115.52	2537+26.37	1115.64	2537+26.37	1116.12	2537+26.37	1116.16	2537+26.37	1116.68	2537+26.37	1117.08	2537+26.37	1117.15	2537+26.37	1117.12
0.9	2537+37.20	1114.77	2537+37.20	1114.89	2537+37.20	1115.37	2537+37.20	1115.41	2537+37.20	1115.93	2537+37.20	1116.33	2537+37.20	1116.40	2537+37.20	1116.36
℄ PIER 5	2537+48.03	1114.01	2537+48.03	1114.13	2537+48.03	1114.61	2537+48.03	1114.65	2537+48.03	1115.17	2537+48.03	1115.57	2537+48.03	1115.64	2537+48.03	1115.60
0.1	2537+63.68	1112.91	2537+63.68	1113.03	2537+63.68	1113.51	2537+63.68	1113.55	2537+63.68	1114.07	2537+63.68	1114.47	2537+63.68	1114.54	2537+63.68	1114.51
0.2	2537+79.33	1111.82	2537+79.33	1111.94	2537+79.33	1112.42	2537+79.33	1112.46	2537+79.33	1112.98	2537+79.33	1113.38	2537+79.33	1113.45	2537+79.33	1113.41
F.S. 8	2537+82.09	1111.62	2537+82.09	1111.74	2537+82.09	1112.22	2537+82.09	1112.26	2537+82.09	1112.78	2537+82.09	1113.18	2537+82.09	1113.25	2537+82.09	1113.22
0.3	2537+94.98	1110.72	2537+94.98	1110.84	2537+94.98	1111.32	2537+94.98	1111.36	2537+94.98	1111.88	2537+94.98	1112.28	2537+94.98	1112.35	2537+94.98	1112.32
0.4	2538+10.63	1109.63	2538+10.63	1109.75	2538+10.63	1110.23	2538+10.63	1110.27	2538+10.63	1110.79	2538+10.63	1111.19	2538+10.63	1111.25	2538+10.63	1111.22
0.5	2538+26.29	1108.53	2538+26.29	1108.65	2538+26.29	1109.13	2538+26.29	1109.17	2538+26.29	1109.69	2538+26.29	1110.09	2538+26.29	1110.16	2538+26.29	1110.13
0.6	2538+41.94	1107.43	2538+41.94	1107.55	2538+41.94	1108.03	2538+41.94	1108.07	2538+41.94	1108.59	2538+41.94	1108.99	2538+41.94	1109.06	2538+41.94	1109.03
0.7	2538+57.59	1106.34	2538+57.59	1106.46	2538+57.59	1106.94	2538+57.59	1106.98	2538+57.59	1107.50	2538+57.59	1107.90	2538+57.59	1107.97	2538+57.59	1107.94
F.S. 9	2538+69.50	1105.51	2538+69.50	1105.63	2538+69.50	1106.11	2538+69.50	1106.15	2538+69.50	1106.67	2538+69.50	1107.07	2538+69.50	1107.13	2538+69.50	1107.10
0.8	2538+73.24	1105.24	2538+73.24	1105.36	2538+73.24	1105.84	2538+73.24	1105.88	2538+73.24	1106.40	2538+73.24	1106.80	2538+73.24	1106.87	2538+73.24	1106.84
0.9	2538+88.89	1104.15	2538+88.89	1104.27	2538+88.89	1104.75	2538+88.89	1104.79	2538+88.89	1105.31	2538+88.89	1105.71	2538+88.89	1105.78	2538+88.89	1105.74
℄ PIER 6	2539+04.54	1103.05	2539+04.54	1103.17	2539+04.54	1103.65	2539+04.54	1103.69	2539+04.54	1104.21	2539+04.54	1104.61	2539+04.54	1104.68	2539+04.54	1104.65
0.1	2539+15.44	1102.29	2539+15.44	1102.41	2539+15.44	1102.89	2539+15.44	1102.93	2539+15.44	1103.45	2539+15.44	1103.85	2539+15.44	1103.92	2539+15.44	1103.89
0.2	2539+26.34	1101.53	2539+26.34	1101.65	2539+26.34	1102.13	2539+26.34	1102.17	2539+26.34	1102.69	2539+26.34	1103.09	2539+26.34	1103.16	2539+26.34	1103.12
0.3	2539+37.24	1100.76	2539+37.24	1100.88	2539+37.24	1101.36	2539+37.24	1101.40	2539+37.24	1101.92	2539+37.24	1102.32	2539+37.24	1102.39	2539+37.24	1102.36
F.S. 10	2539+44.44	1100.26	2539+44.44	1100.38	2539+44.44	1100.86	2539+44.44	1100.90	2539+44.44	1101.42	2539+44.44	1101.82	2539+44.44	1101.89	2539+44.44	1101.86
0.4	2539+48.14	1100.00	2539+48.14	1100.12	2539+48.14	1100.60	2539+48.14	1100.64	2539+48.14	1101.16	2539+48.14	1101.56	2539+48.14	1101.63	2539+48.14	1101.60
0.5	2539+59.04	1099.24	2539+59.04	1099.36	2539+59.04	1099.84	2539+59.04	1099.88	2539+59.04	1100.40	2539+59.04	1100.80	2539+59.04	1100.87	2539+59.04	1100.83
0.6	2539+69.94	1098.47	2539+69.94	1098.59	2539+69.94	1099.07	2539+69.94	1099.11	2539+69.94	1099.63	2539+69.94	1100.03	2539+69.94	1100.10	2539+69.94	1100.07
0.7	2539+80.84	1097.71	2539+80.84	1097.83	2539+80.84	1098.31	2539+80.84	1098.35	2539+80.84	1098.87	2539+80.84	1099.27	2539+80.84	1099.34	2539+80.84	1099.31
0.8	2539+91.74	1096.95	2539+91.74	1097.07	2539+91.74	1097.55	2539+91.74	1097.59	2539+91.74	1098.11	2539+91.74	1098.51	2539+91.74	1098.58	2539+91.74	1098.54
0.9	2540+02.64	1096.19	2540+02.64	1096.31	2540+02.64	1096.79	2540+02.64	1096.83	2540+02.64	1097.35	2540+02.64	1097.75	2540+02.64	1097.81	2540+02.64	1097.78
℄ F.A.	2540+13.54	1095.42	2540+13.54	1095.54	2540+13.54	1096.02	2540+13.54	1096.06	2540+13.54	1096.58	2540+13.54	1096.98	2540+13.54	1097.05	2540+13.54	1097.02

NOTES:

1. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.
2. SEE CRITICAL BRIDGE POINTS PLAN ON SHEET 61 / 80 FOR ELEVATION LOCATIONS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

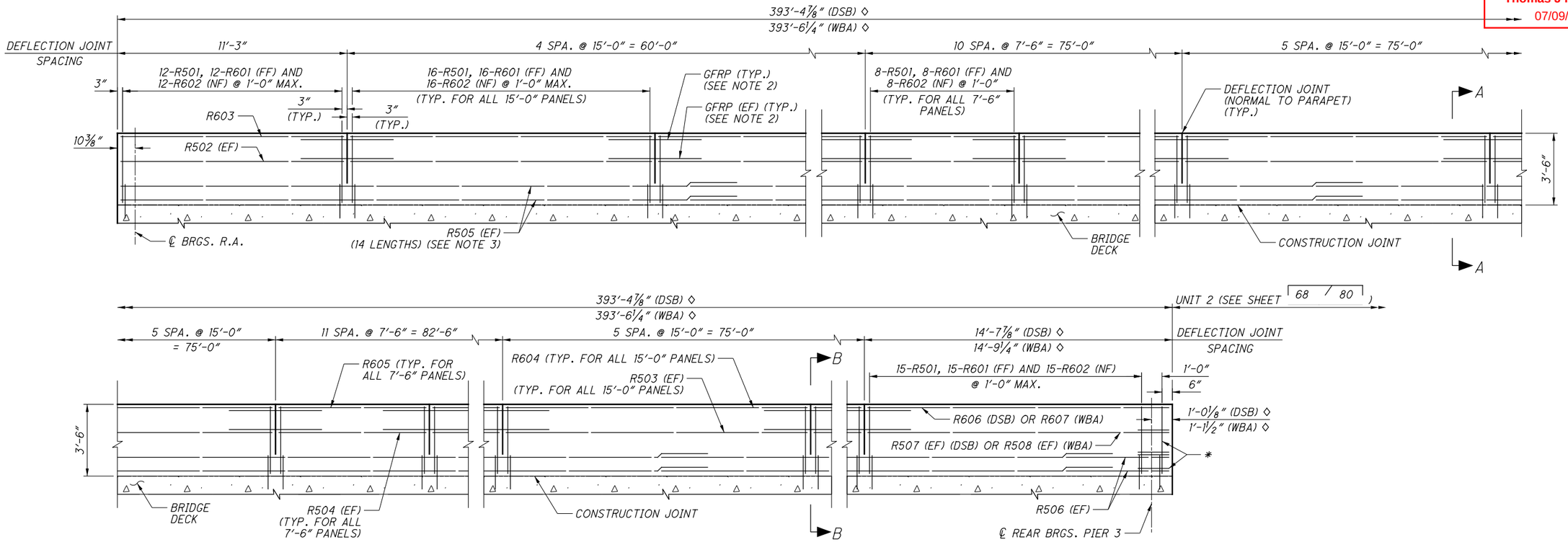
DESIGNED	DRAWN	REVIEWED	DATE
MAB	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDE		7706066	

FINAL DECK SURFACE ELEVATIONS - UNIT 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

65 / 80

89
104



UNIT 1 LEFT PARAPET ELEVATION

(LOOKING AT TRAFFIC FACE OF PARAPET)
(ALL DIMENSIONS ARE GIVEN ALONG THE TOE OF THE PARAPET)

LEGEND:

* = SEE DETAIL A ON SHEET 70 / 80

◇ = DIMENSION VARIES WITH TEMPERATURE. DIMENSION IS SHOWN AT 60°F.

DSB = DS BROWN MODULAR JOINT

WBA = WATSON BOWMAN ACME MODULAR JOINT

NOTES:

1. FOR ADDITIONAL INFORMATION SEE STD. DWG. SBR-1-13.
2. ½" DIA. GFRP STIFFENING REINFORCEMENT, 4'-6" LONG, A TOTAL OF 108 BARS, TO BE CENTERED ON DEFLECTION JOINT.
3. MINIMUM REINFORCING STEEL LAP LENGTH FOR NO. 5 BARS SHALL BE 2'-3".
4. SEE SHEET 70 / 80 FOR SECTIONS A-A AND B-B.
5. FOR MODULAR JOINT DETAILS, SEE SHEET 72 / 80 .

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		7706066	

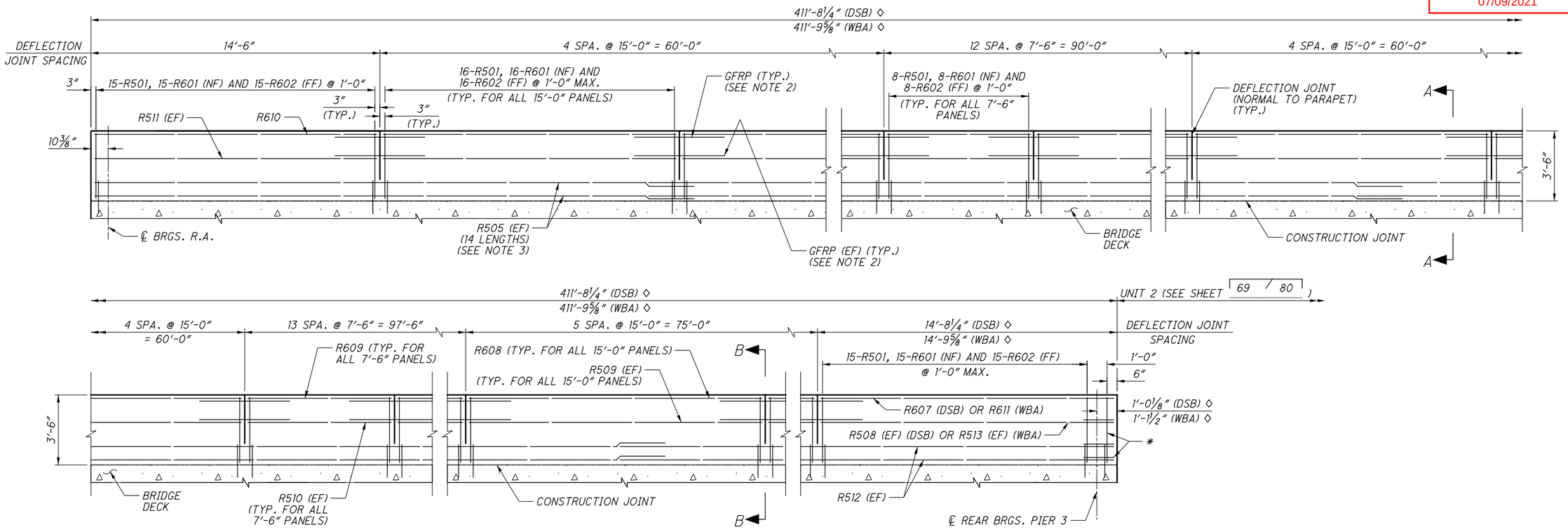
LEFT PARAPET DETAILS - UNIT 1

SUM-76-11480
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

66 / 80

90 / 104



UNIT 1 RIGHT PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)
(ALL DIMENSIONS ARE GIVEN ALONG THE TOE OF THE PARAPET)

LEGEND:

SEE SHEET 66 / 80 FOR LEGEND.

NOTES:

1. FOR ADDITIONAL INFORMATION SEE STD. DWG. SBR-1-13.
2. ½" DIA. GFRP STIFFENING REINFORCEMENT, 4'-6" LONG, A TOTAL OF 117 BARS, TO BE CENTERED ON DEFLECTION JOINT.
3. MINIMUM REINFORCING STEEL LAP LENGTH FOR NO. 5 BARS SHALL BE 2'-3".
4. SEE SHEET 70 / 80 FOR SECTIONS A-A AND B-B.
5. FOR MODULAR JOINT DETAILS, SEE SHEET 72 / 80 .

ISSUE RECORD:

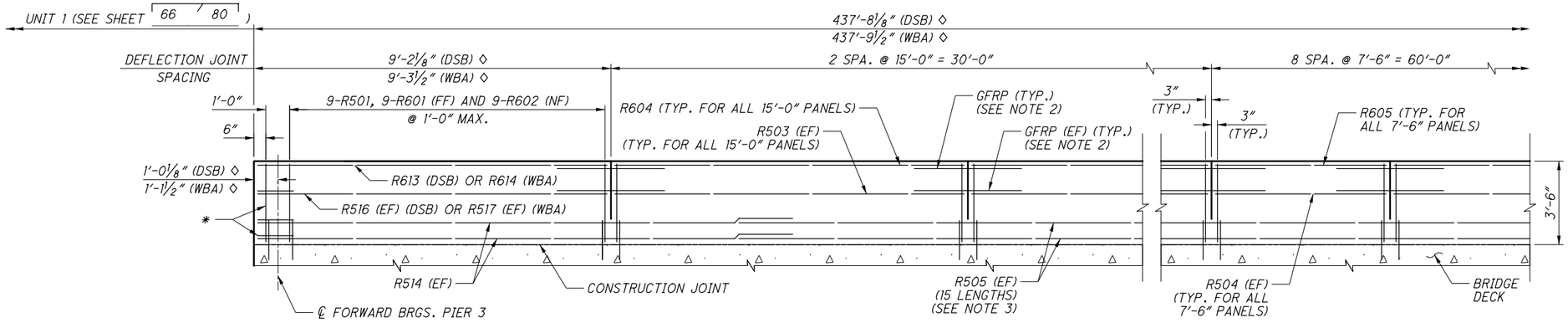
NO.	DATE	DESCRIPTION

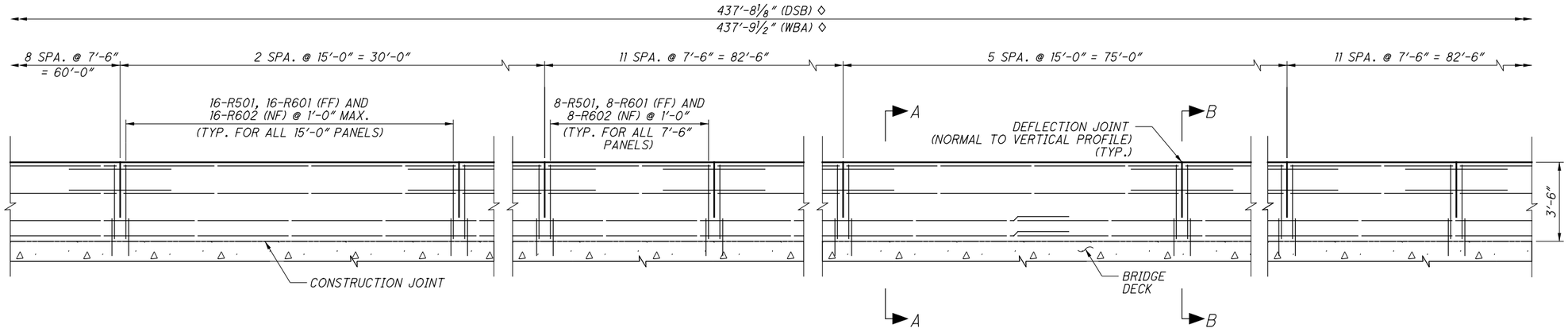
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

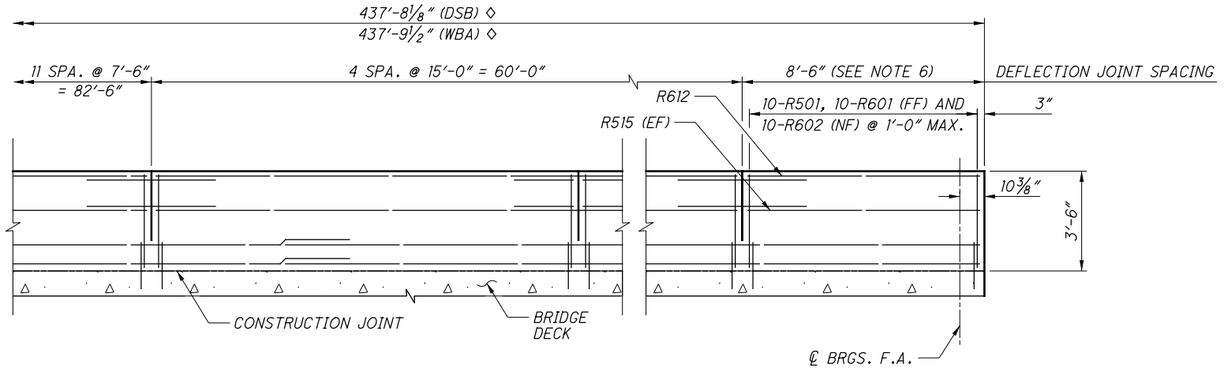
DESIGNED ODW | DRAWN ODW | CHECKED JHL | REVIEWED JCS | DATE 4/29/19 | REVISED | STRUCTURE FILE NUMBER 7706066

RIGHT PARAPET DETAILS - UNIT 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402







UNIT 2 LEFT PARAPET ELEVATION

(LOOKING AT TRAFFIC FACE OF PARAPET)
(ALL DIMENSIONS ARE GIVEN ALONG THE TOE OF PARAPET)
(ALL DIMENSIONS ARE GIVEN ALONG THE HORIZONTAL)

LEGEND:

SEE SHEET 66 / 80 FOR LEGEND.

NOTES:

1. FOR ADDITIONAL INFORMATION SEE STD. DWG. SBR-1-13.
2. 1/2" DIA. GFRP STIFFENING REINFORCEMENT, 4'-6" LONG, A TOTAL OF 132 BARS, TO BE CENTERED ON DEFLECTION JOINT.
3. MINIMUM REINFORCING STEEL LAP LENGTH FOR NO. 5 BARS SHALL BE 2'-3".
4. SEE SHEET 70 / 80 FOR SECTIONS A-A AND B-B.
5. FOR MODULAR JOINT DETAILS, SEE SHEET 72 / 80 .
6. DUE TO THE VERTICAL PROFILE OF UNIT 2, THE LENGTH OF THE LAST PANEL IS 11 7/8" LONGER THAN THE DIMENSION SHOWN ALONG THE HORIZONTAL. REINFORCEMENT OF THE LAST PANEL IS DETAILED ACCORDING TO THE ACTUAL LENGTH OF THE PANEL.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

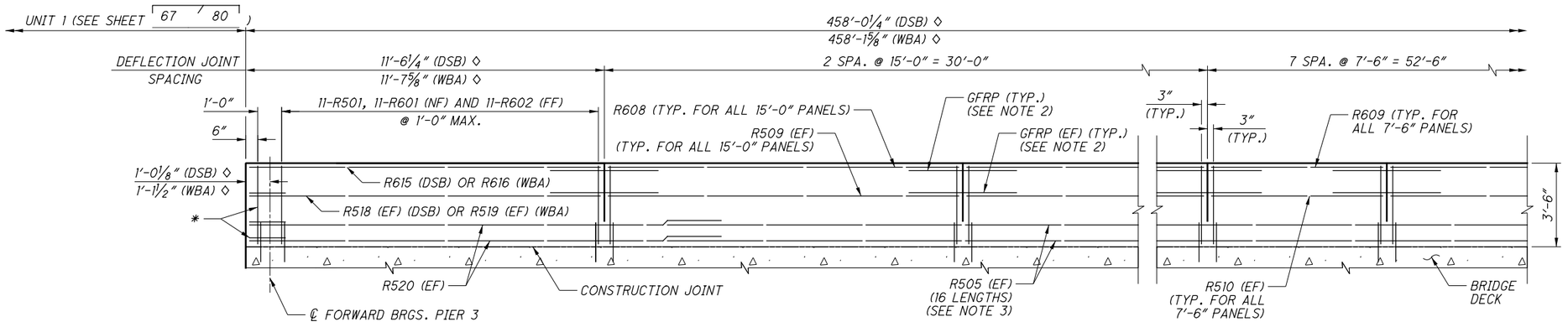
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		7706066	

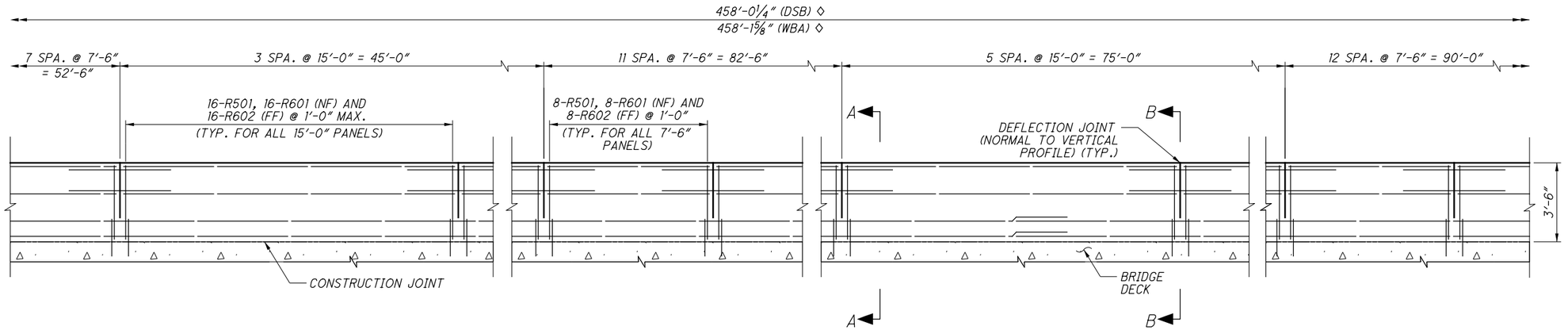
LEFT PARAPET DETAILS - UNIT 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

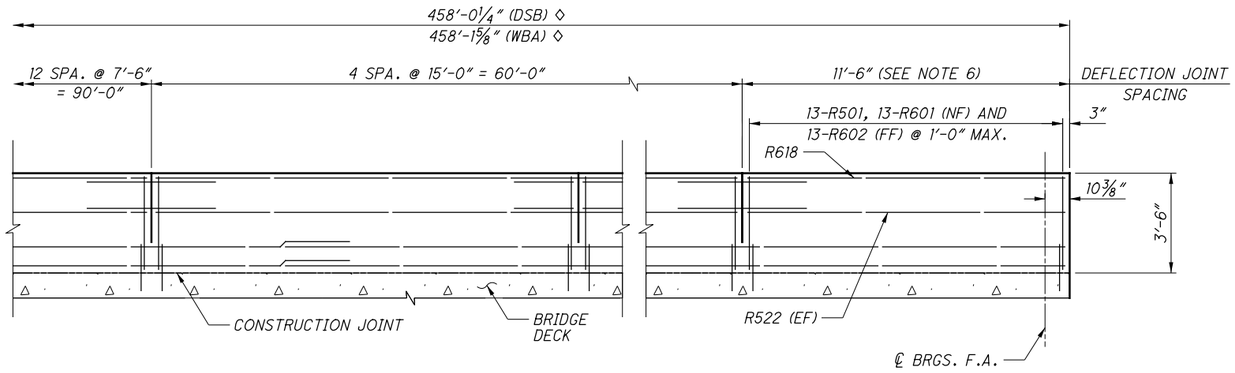
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

68 / 80

92 / 104







UNIT 2 RIGHT PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)
(ALL DIMENSIONS ARE GIVEN ALONG THE TOE OF PARAPET)
(ALL DIMENSIONS ARE GIVEN ALONG THE HORIZONTAL)

LEGEND:

SEE SHEET 66 / 80 FOR LEGEND.

NOTES:

1. FOR ADDITIONAL INFORMATION SEE STD. DWG. SBR-1-13.
2. ½" DIA. GFRP STIFFENING REINFORCEMENT, 4'-6" LONG, A TOTAL OF 135 BARS, TO BE CENTERED ON DEFLECTION JOINT.
3. MINIMUM REINFORCING STEEL LAP LENGTH FOR NO. 5 BARS SHALL BE 2'-3".
4. SEE SHEET 70 / 80 FOR SECTIONS A-A AND B-B.
5. FOR MODULAR JOINT DETAILS, SEE SHEET 72 / 80.
6. DUE TO THE VERTICAL PROFILE OF UNIT 2, THE LENGTH OF THE LAST PANEL IS 11⅜" LONGER THAN THE DIMENSION SHOWN ALONG THE HORIZONTAL. REINFORCEMENT OF THE LAST PANEL IS DETAILED ACCORDING TO THE ACTUAL LENGTH OF THE PANEL.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

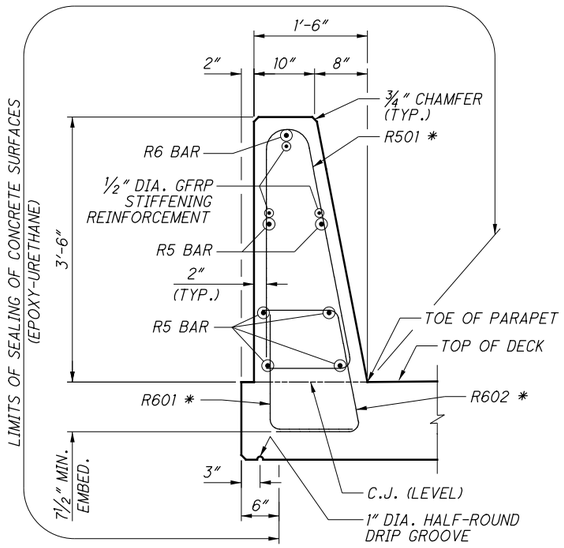
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		7706066	

RIGHT PARAPET DETAILS - UNIT 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

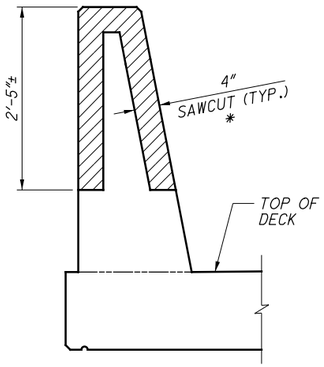
69 / 80

93
104



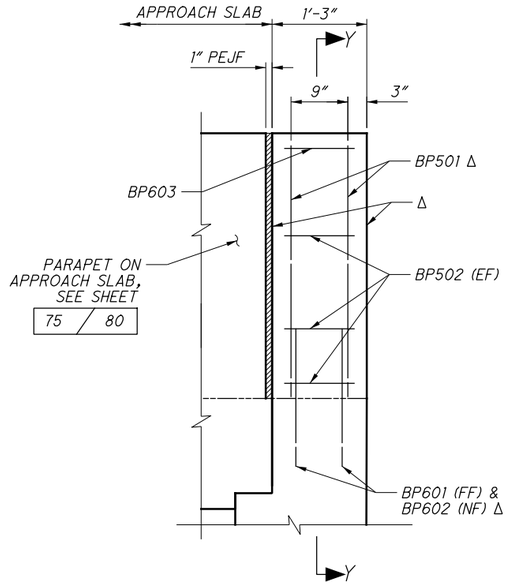
SECTION A-A

(DECK REINFORCING STEEL NOT SHOWN)
(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)



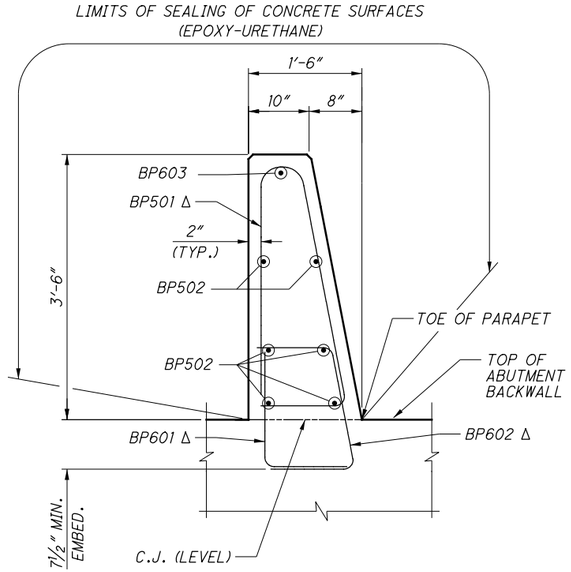
SECTION B-B

(DECK AND PARAPET REINFORCING STEEL NOT SHOWN)



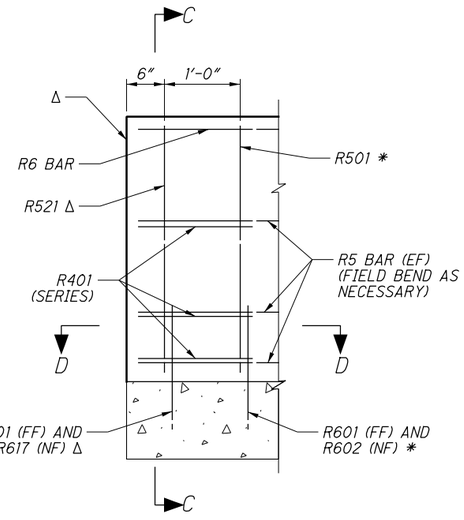
DETAIL X
PARAPET REINFORCING ON ABUTMENT BACKWALL ELEVATION

(BACKWALL REINFORCING STEEL NOT SHOWN)
(LOOKING AT TRAFFIC FACE OF PARAPET)
(RIGHT PARAPET AT F.A. ONLY)



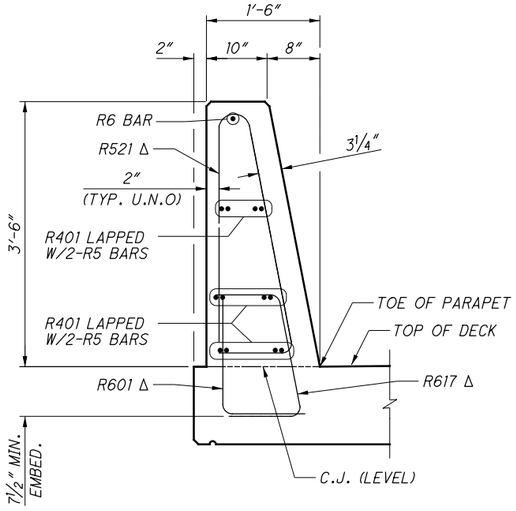
SECTION Y-Y

(BACKWALL & WINGWALL REINFORCING STEEL NOT SHOWN)
(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)



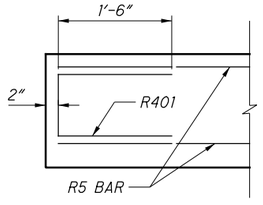
DETAIL A
PARAPET REINFORCING AT DECK ENDS AT PIER 3 - ELEVATION

(DECK REINFORCING STEEL NOT SHOWN)
(LOOKING AT TRAFFIC FACE OF PARAPET)
(SEE NOTE 1)



SECTION C-C

(DECK REINFORCING STEEL NOT SHOWN)
(PLATES AND STUDS EMBEDDED IN THE PARAPET NOT SHOWN) (SEE NOTE 2)
(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)



SECTION D-D

(VERTICAL REBAR NOT SHOWN)
(PLATES AND STUDS EMBEDDED IN THE PARAPET NOT SHOWN) (SEE NOTE 2)

LEGEND:

* = PLACE DESIGNATED VERTICAL REBAR NORMAL TO THE VERTICAL PROFILE OF THE BRIDGE. PERFORM SAWCUTS NORMAL TO THE VERTICAL PROFILE OF THE BRIDGE.

Δ = CONSTRUCT ENDS OF PARAPETS (MOUNTED ON DECK, BACKWALLS, WINGWALLS, AND APPROACH SLABS) PLUMB. PLACE VERTICAL REBAR PLUMB AT THE FOLLOWING LOCATIONS: ALL VERTICAL BARS IN PARAPETS MOUNTED ON BACKWALLS AND WINGWALLS, AND END VERTICAL BARS IN PARAPETS MOUNTED ON DECK AND APPROACH SLABS.

NOTES:

1. LEFT PARAPET IN UNIT 2 AND RIGHT PARAPET IN UNIT 1 SHOWN, LEFT PARAPET IN UNIT 1 AND RIGHT PARAPET IN UNIT 2 SHALL BE MIRRORED.
2. SEE SHEET 73 / 80 FOR PARAPET SLIDING PLATE JOINT DETAILS.
3. PARAPET MOUNTED ON ABUTMENT BACKWALL IS INCLUDED FOR PAYMENT WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET). REINFORCING STEEL FOR PARAPET MOUNTED ON ABUTMENT BACKWALL (ALL BP BARS) IS INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

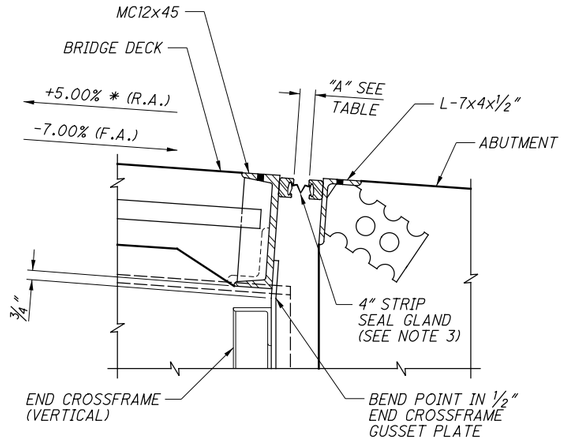
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

PARAPET DETAILS
SUM-76-11.48Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

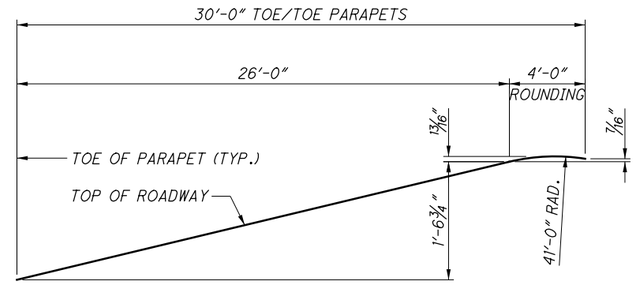
70 / 80

94 / 104



SECTION X-X

(SEE NOTE 1)
(F.A. GRADE SHOWN, R.A. GRADE OPPOSITE HAND)



JOINT PROFILE

(LOOKING UPSTATION)
(HORIZONTAL DIMENSIONS ARE MEASURED ALONG FRONT FACE OF ABUTMENT BACKWALL)
(JOINT UPTURNS AT PARAPETS NOT SHOWN, SEE ODOT STANDARD DRAWING EXJ-4-87 AND NOTE 2 FOR REQUIREMENTS)
(NOT TO SCALE)

EXPANSION JOINT OPENING (DIMENSION "A")

TEMPERATURE °F	REAR ABUTMENT	FORWARD ABUTMENT
30	2 3/16"	2 3/16"
40	2 5/16"	2 5/16"
50	2 1/8"	2 1/8"
60	1 7/8"	1 7/8"
70	1 5/8"	1 5/8"
80	1 7/16"	1 7/16"
90	1 3/16"	1 3/16"

NOTES:

1. SEE ODOT STANDARD DRAWING EXJ-4-87 FOR ADDITIONAL DETAILS AND NOTES.
2. 1/2" PLATES AT PARAPETS, AS SHOWN IN SECTIONS A-A & B-B ON ODOT STANDARD DRAWING EXJ-4-87, SHALL BE MODIFIED TO ACCOMMODATE THE SINGLE-SLOPE PARAPET SHAPE SHOWN ON SHEET 70 / 80.
3. ELASTOMERIC STRIP SEALS SHALL BE ONE PIECE ACROSS THE ENTIRE WIDTH OF THE BRIDGE. SPLICES ARE NOT PERMITTED.

LEGEND:

* = GRADE AT REAR ABUTMENT VARIES DUE TO VERTICAL CURVE. THE GRADE SHOWN IS THE INSTANTANEOUS GRADE AT THE FRONT FACE OF THE REAR ABUTMENT BACKWALL.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

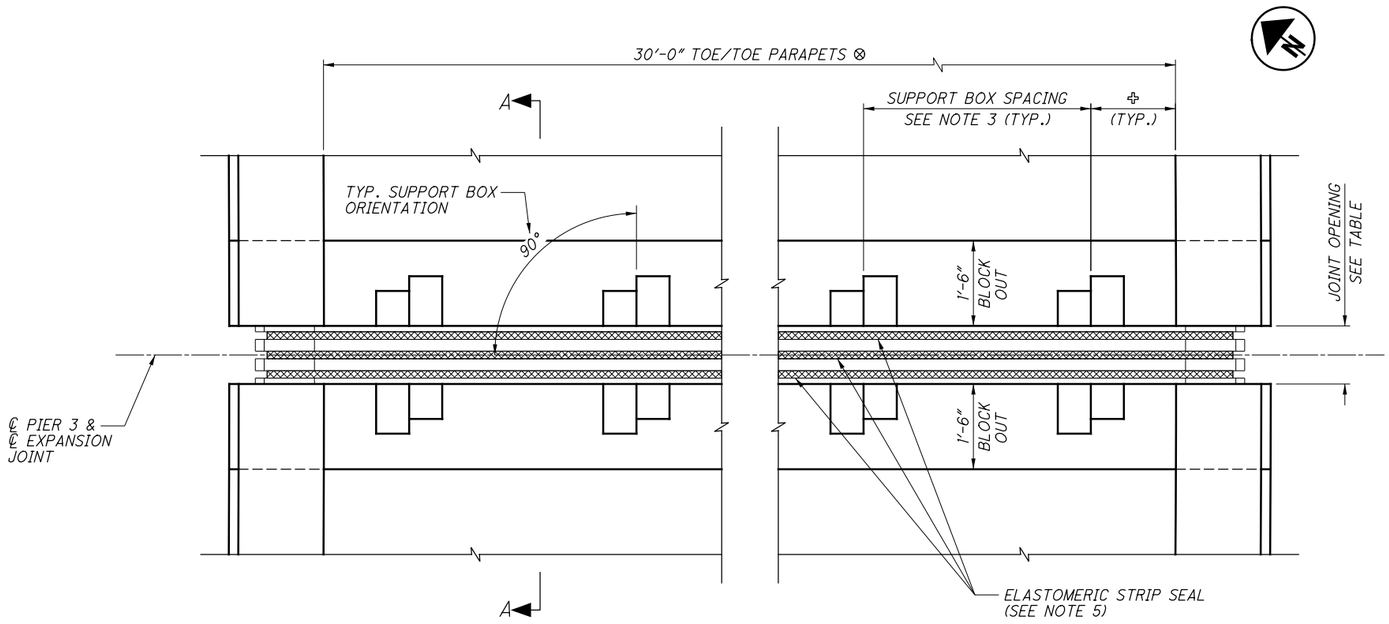
STRIP SEAL JOINT DETAILS - ABUTMENTS

SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

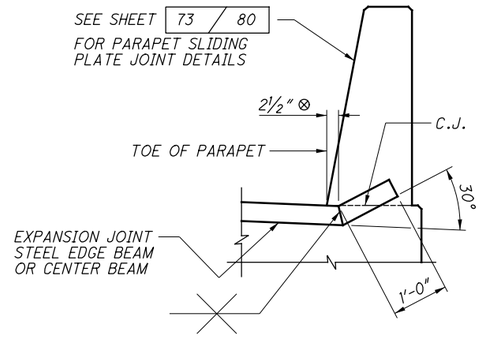
71 / 80

95
104



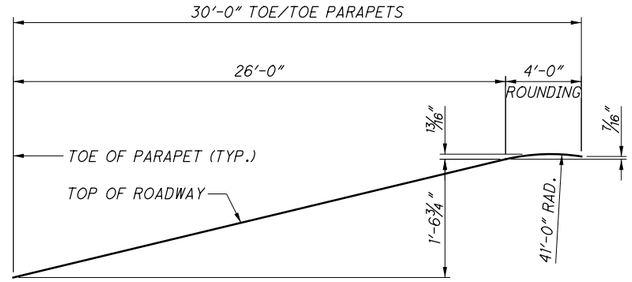
PLAN

(JOINT ANCHORAGE NOT SHOWN, SEE NOTE 4)



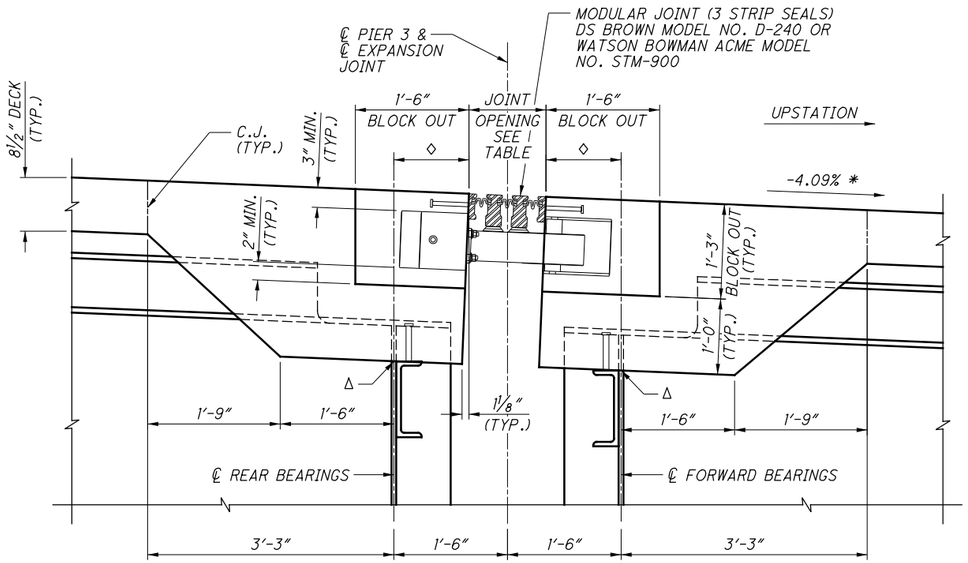
UPTURN DETAIL

(JOINT ANCHORAGE NOT SHOWN, SEE NOTE 4)



JOINT PROFILE

(LOOKING UPSTATION)
(HORIZONTAL DIMENSIONS ARE MEASURED ALONG ℄ PIER 3)
(JOINT UPTURNS AT PARAPETS NOT SHOWN, SEE UPTURN DETAIL FOR REQUIREMENTS)
(NOT TO SCALE)



SECTION A-A

(HORIZONTAL DIMENSIONS ARE MEASURED NORMAL TO ℄ BEARINGS)
(GIRDER SHEAR STUDS NOT SHOWN)

PIER 3 EXPANSION JOINT OPENING

TEMPERATURE ° F	DS BROWN	WBA
30	1'-1"	10¼"
40	1'-0 9/16"	9 3/16"
50	1'-0 3/16"	9 1/16"
60	11¾"	9"
70	11⅜"	8⅝"
80	11"	8¼"
90	10 9/16"	7 3/16"

NOTES:

1. SEE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS FOR MODULAR JOINTS.
2. THE MODULAR JOINT AT PIER 3 SHALL BE DESIGNED FOR A TOTAL LONGITUDINAL MOVEMENT RANGE OF 7¾" (NORMAL TO ℄ PIER 3) AND A LATERAL MOVEMENT RANGE OF ±½" (PARALLEL TO ℄ PIER 3). THIS MOVEMENT RANGE IS BASED ON A COLD CLIMATE AS SPECIFIED IN TABLE 3.12.2.1-1 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE MOVEMENT RANGE INCLUDES A FACTOR OF 1.2 PER TABLE 3.4.1-1, INCLUDES MOVEMENT DUE TO WIND ON STRUCTURE, INCLUDES AN ADDITIONAL 1" OF MOVEMENT PER TABLE 14.5.6.9.2-1, AND SATISFIES THE 1" MINIMUM OPENING REQUIREMENT ACCORDING TO SECTION 14.5.3.2 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
3. SEE GENERAL NOTES FOR DESIGN REQUIREMENTS AND SUPPORT BOX SPACING LIMITATIONS.
4. THE MODULAR JOINT SUPPLIER SHALL DETERMINE THE JOINT ANCHORAGE REQUIREMENTS. SEE GENERAL NOTES FOR DESIGN REQUIREMENTS.
5. ELASTOMERIC STRIP SEALS SHALL BE ONE PIECE ACROSS THE ENTIRE WIDTH OF THE BRIDGE. SPLICES ARE NOT PERMITTED.

LEGEND:

WBA = WATSON BOWMAN ACME

⊗ = MEASURED ALONG ℄ PIER 3

✣ = DIMENSION FROM TOE OF PARAPET TO FIRST SUPPORT BOX TO BE DETERMINED BY JOINT SUPPLIER. SEE GENERAL NOTES FOR DESIGN REQUIREMENTS.

* = GRADE VARIES DUE TO VERTICAL CURVE. THE GRADE SHOWN IS THE INSTANTANEOUS GRADE AT ℄ PIER 3 & ℄ EXPANSION JOINT.

◇ = 1'-0⅛" (DS BROWN), 1'-1½" (WBA), AT 60° F.

Δ = TOP OF HAUNCH ELEVATIONS GIVEN HERE ON SHEET 63 / 80 .

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

MODULAR JOINT DETAILS - PIER 3

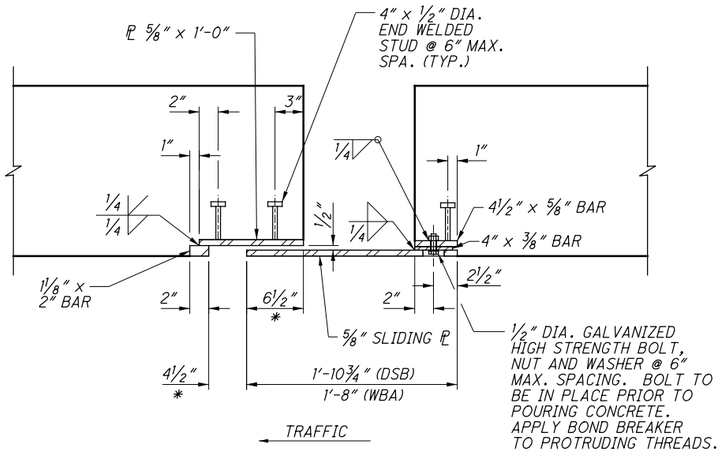
SUM-76-1148Q

RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

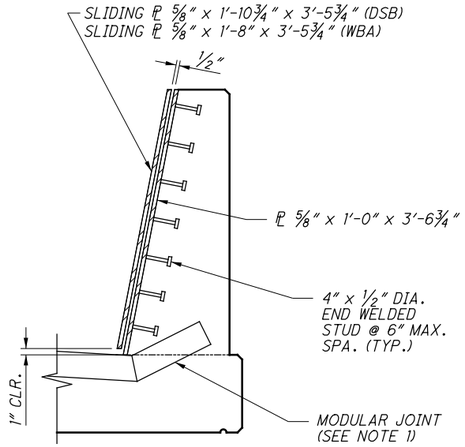
72 / 80

96 / 104

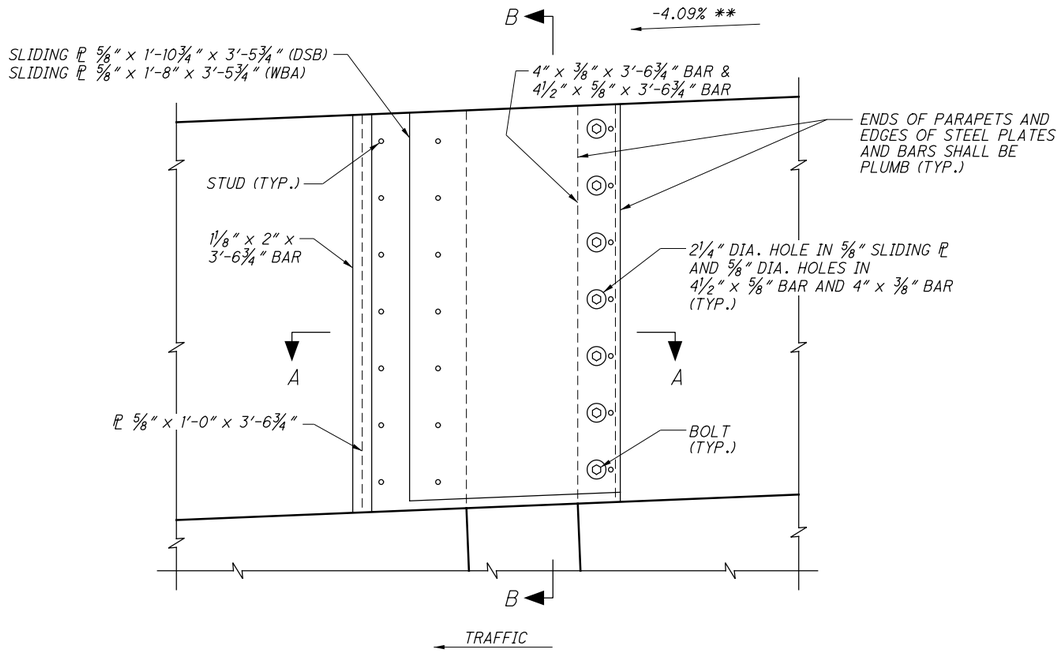


SECTION A-A

* = @ 60°F
(RIGHT PARAPET SHOWN, LEFT PARAPET OPPOSITE HAND)



SECTION B-B



TRAFFIC FACE ELEVATION

(MODULAR JOINT & UPTURN OF JOINT NOT SHOWN)
(RIGHT PARAPET SHOWN, LEFT PARAPET OPPOSITE HAND)

NOTES:

1. FOR MODULAR JOINT DETAILS, SEE SHEET 72 / 80.
2. ALL STEEL PLATES AND BARS FOR THE SLIDING PLATE JOINT ASSEMBLIES SHALL BE ASTM A709, GRADE 50. THE FINISHED STEEL ASSEMBLIES SHALL BE GALVANIZED OR METALIZED AND SHALL MATCH THE CORROSION PROTECTION USED ON THE MODULAR JOINT. SEE ITEM 513 - STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN FOR ADDITIONAL REQUIREMENTS.
3. BOLTS SHALL BE ASTM F3125, GRADE A325, GALVANIZED PER CMS 711.02.
4. ALL MATERIALS, LABOR, AND EQUIPMENT FOR THE SLIDING PLATE JOINT ASSEMBLIES SHALL CONFORM WITH 513, LEVEL UF, AND SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: PARAPET SLIDING PLATE JOINT FOR PAYMENT.

LEGEND:

DSB = DS BROWN
WBA = WATSON BOWMAN ACME

** = GRADE VARIES DUE TO VERTICAL CURVE. THE GRADE SHOWN IS THE INSTANTANEOUS GRADE AT ℄ PIER 3 & ℄ EXPANSION JOINT.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7706066	

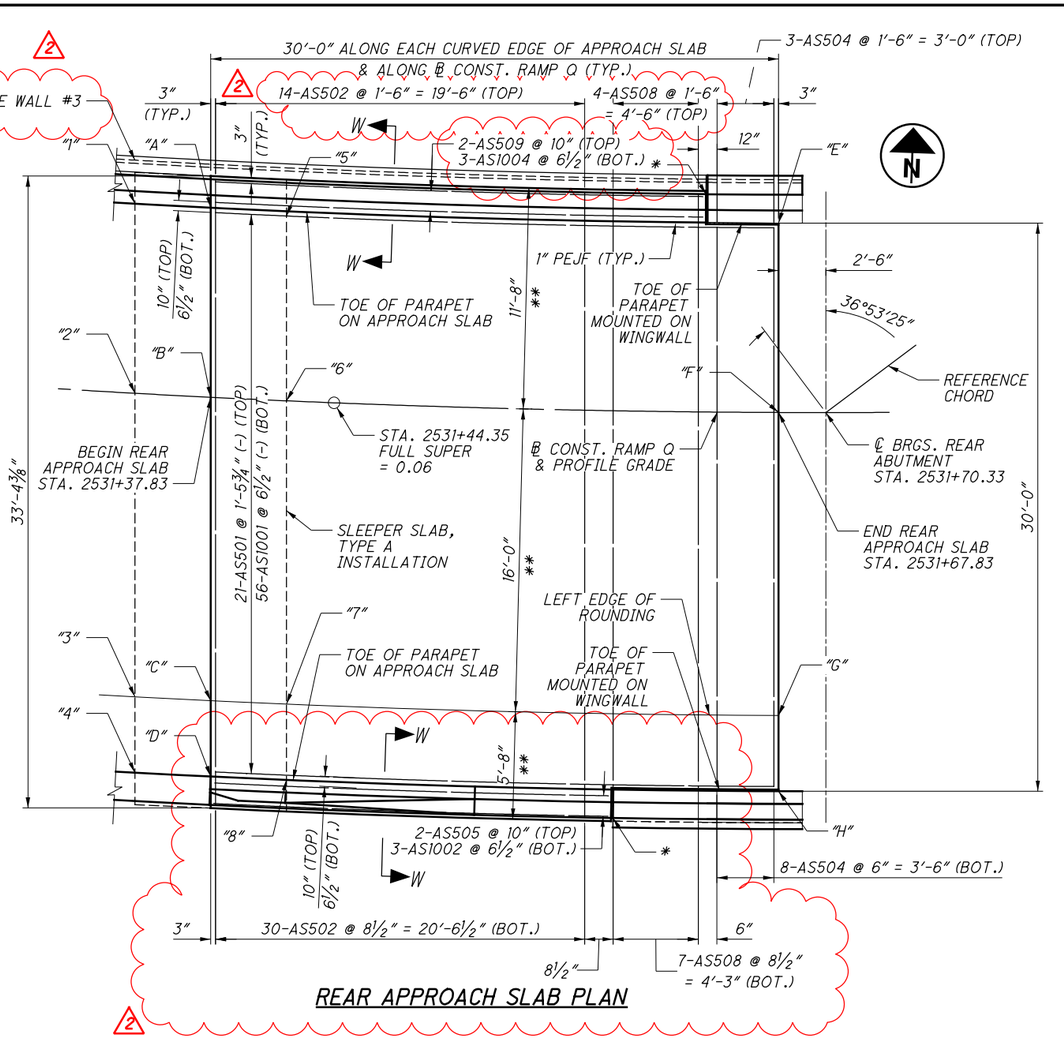
PARAPET SLIDING PLATE JOINT DETAILS - PIER 3

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

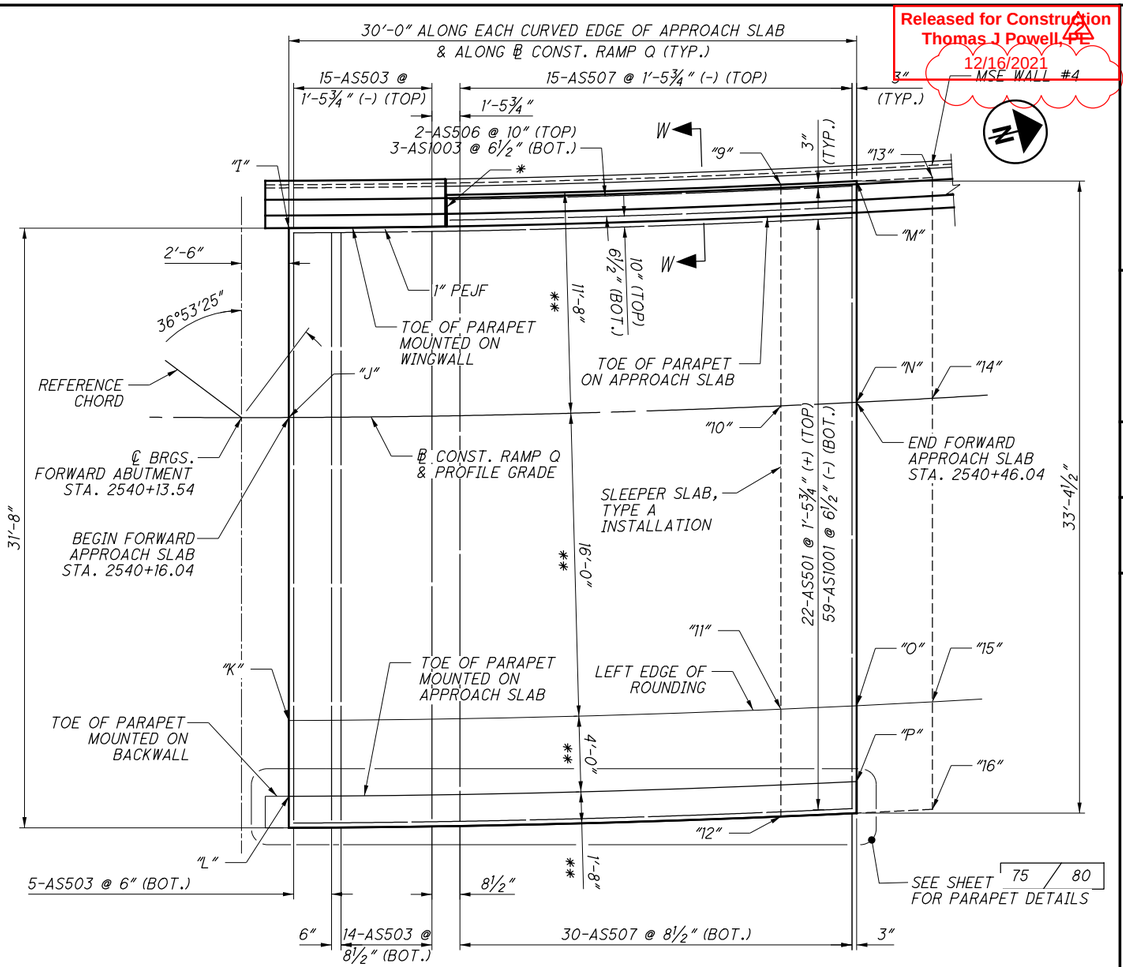
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

73 / 80

97 / 104



REAR APPROACH SLAB PLAN



FORWARD APPROACH SLAB PLAN

TOP OF APPROACH SLAB ELEVATIONS

REAR APPROACH SLAB			FORWARD APPROACH SLAB		
LOCATION	STATION	ELEVATION	LOCATION	STATION	ELEVATION
"A"	2531+37.33	1121.12	"I"	2540+16.08	1095.24
"B"	2531+37.83	1121.73	"J"	2540+16.04	1095.85
"C"	2531+38.61	1122.70	"K"	2540+15.98	1096.81
"D"	2531+38.79	1122.75	"L"	2540+15.97	1096.85
"E"	2531+67.79	1122.74	"M"	2540+46.54	1093.11
"F"	2531+67.83	1123.34	"N"	2540+46.04	1093.75
"G"	2531+67.89	1124.30	"O"	2540+45.26	1094.76
"H"	2531+67.90	1124.34	"P"	2540+45.08	1094.81

TOP OF SLEEPER SLAB ELEVATIONS

REAR SLEEPER SLAB			FORWARD SLEEPER SLAB		
LOCATION	STATION	ELEVATION	LOCATION	STATION	ELEVATION
"1"	2531+33.26	1119.49	"9"	2540+42.48	1091.98
"2"	2531+33.83	1120.08	"10"	2540+42.04	1092.61
"3"	2531+34.70	1121.03	"11"	2540+41.36	1093.62
"4"	2531+34.91	1121.08	"12"	2540+41.12	1093.67
"5"	2531+41.40	1119.92	"13"	2540+50.61	1091.41
"6"	2531+41.84	1120.54	"14"	2540+50.05	1092.05
"7"	2531+42.52	1121.53	"15"	2540+49.18	1093.07
"8"	2531+42.68	1121.57	"16"	2540+48.88	1093.13

LEGEND:

* = 1" PEJF

** = MEASURED RADIALLY

NOTES:

1. CROSS-SLOPES AND ROUNDING USED ON APPROACH SLABS SHALL MATCH THE BRIDGE DECK SLAB, EXCEPT THE CROSS-SLOPE VARIES FROM 0.058 AT BEGIN REAR APPROACH SLAB TO 0.06 AT STA. 2531+44.35.
2. REINFORCING STEEL IN THE APPROACH SLABS SHALL BE AS SHOWN ON THE PLANS. REINFORCING STEEL IN THE SLEEPER SLABS SHALL BE AS SHOWN ON STANDARD DRAWING AS-2-15, EXCEPT AS NOTED ON THE PLANS.
3. SEE STD. DWG. AS-1-15 AND STD. DWG. AS-2-15 FOR ADDITIONAL DETAILS AND INFORMATION NOT SHOWN.
4. FOR CALCULATING REINFORCING STEEL BAR LENGTHS FOR SLEEPER SLABS PER STD. DWG. AS-2-15, SHEET 1/14, USE APPROACH SLAB WIDTH, W OF 29'-10" (REAR) AND 31'-7" (FORWARD) AND USE SKEW ANGLE OF 0°.
5. FOR SECTION W-W, SEE SHEET 75 / 80 .

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE
2	12-2021	WINGWALL EXTENDED 5'

Released for Construction
Thomas J Powell, PE
12/16/2021

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

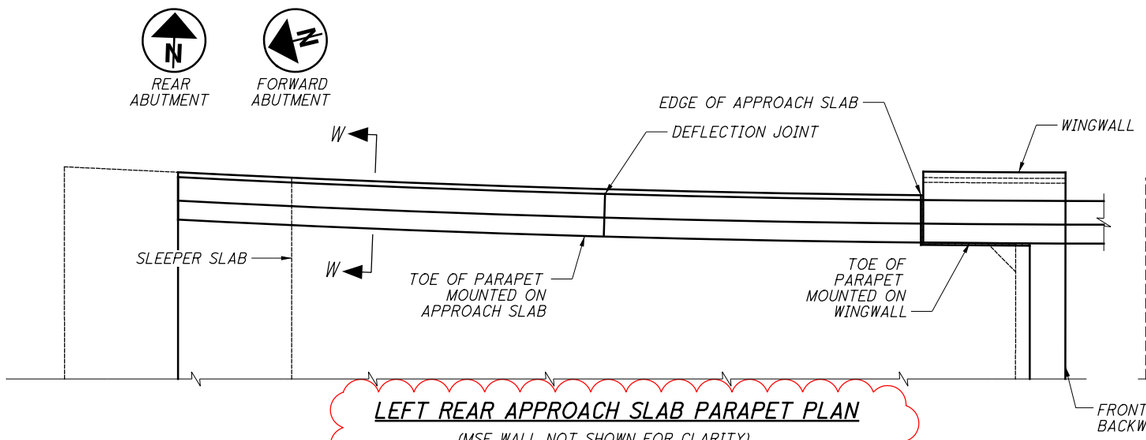
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

APPROACH SLAB DETAILS - 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

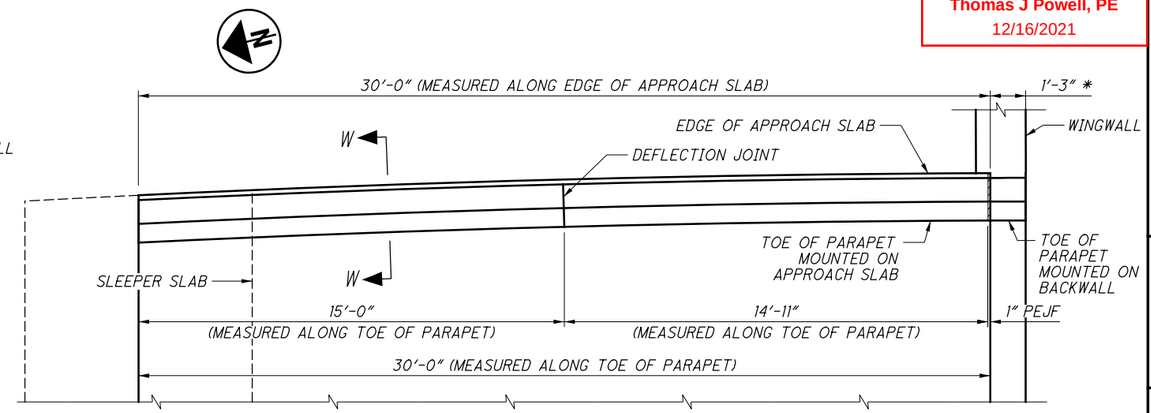
74 / 80

98 / 104

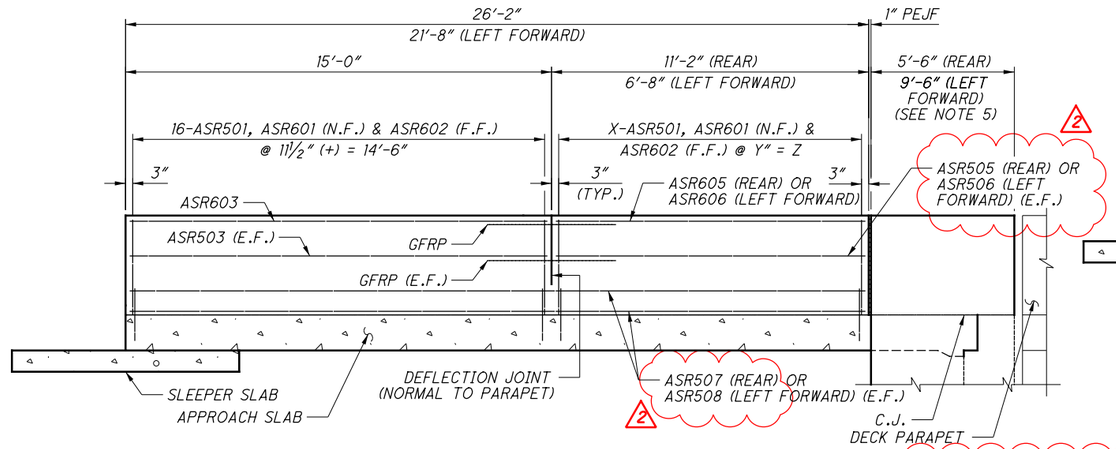


LEFT REAR APPROACH SLAB PARAPET PLAN

(MSE WALL NOT SHOWN FOR CLARITY)
(LEFT FORWARD SIMILAR)



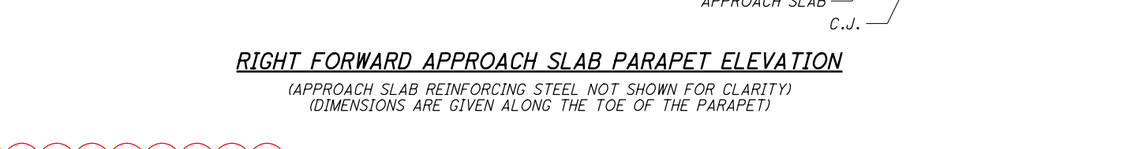
RIGHT FORWARD APPROACH SLAB PARAPET PLAN



LEFT REAR APPROACH SLAB PARAPET ELEVATION

(APPROACH SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY)
(DIMENSIONS ARE GIVEN ALONG THE TOE OF THE PARAPET)
(LEFT FORWARD SIMILAR)

	X	Y	Z
REAR	12	11⅝" (+)	10'-8"
LEFT FORWARD	8	10⅝" (+)	6'-2"



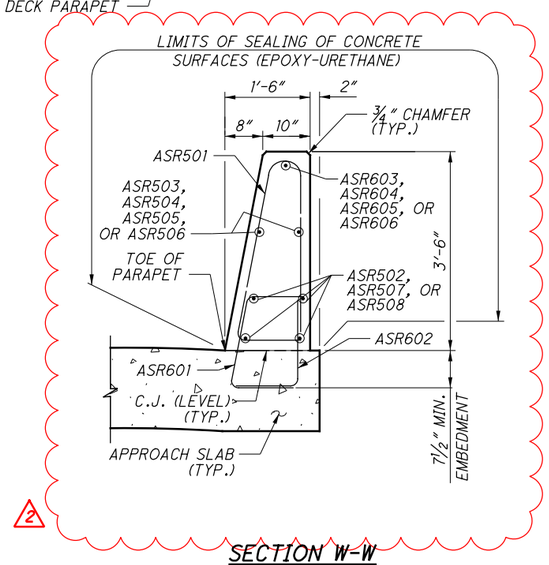
RIGHT FORWARD APPROACH SLAB PARAPET ELEVATION

(APPROACH SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY)
(DIMENSIONS ARE GIVEN ALONG THE TOE OF THE PARAPET)

REINFORCING STEEL LIST - APPROACH SLABS Δ Δ

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
AS1001	115	30'-11"	15299	19	29'-6"					
AS1002	3	22'-2"	572	19	20'-9"					
AS1003	3	22'-8"	293	19	21'-3"					
AS1004	3	27'-2"	351	19	25'-9"					
AS501	43	29'-6"	1323	STR						
AS502	44	32'-10"	1514	STR						
AS503	29	31'-1"	940	STR						
AS504	11	29'-6"	338	STR						
AS505	2	20'-9"	86	STR						
AS506	2	21'-3"	44	STR						
AS507	45	32'-10"	1549	STR						
AS508	11	31'-4"	359	STR						
AS509	2	25'-9"	54	STR						
		TOTAL	22722							

Δ Δ = ALL APPROACH SLAB REINFORCING BARS ARE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN.



SECTION W-W

(APPROACH SLAB REINFORCING NOT SHOWN)

NOTES:

1. SEE STD. DWGS. SBR-1-13, AS-1-15 AND AS-2-15 FOR ADDITIONAL DETAILS AND INFORMATION NOT SHOWN.
2. SEE STD. DWG. SBR-1-13 FOR DETAILS REGARDING INSTALLATION AND SEALING OF DEFLECTION JOINTS, AND NOTES FOR THE GFRP STIFFENING REINFORCEMENT. A TOTAL OF 3 GFRP STIFFENING REINFORCEMENT BARS, ½" DIA. x 4'-6" LONG, ARE REQUIRED FOR THE APPROACH SLAB PARAPETS.
3. PARAPET MOUNTED ON APPROACH SLAB IS INCLUDED FOR PAYMENT WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET). REINFORCING STEEL FOR PARAPET MOUNTED ON APPROACH SLAB IS INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.
4. FOR BARRIER REINFORCING ON WINGWALL, SEE ABUTMENT SHEETS.

LEGEND:

* = SEE DETAIL X ON SHEET 70 / 80

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE
2	12-2021	WINGWALL EXTENDED 5'

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

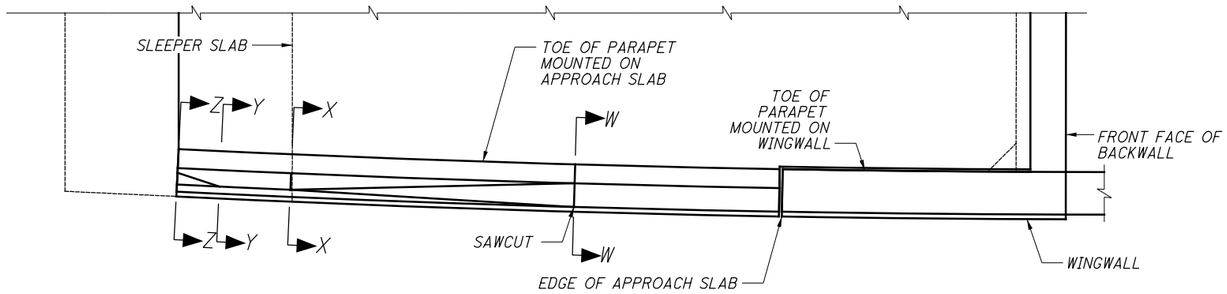
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

APPROACH SLAB DETAILS - 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

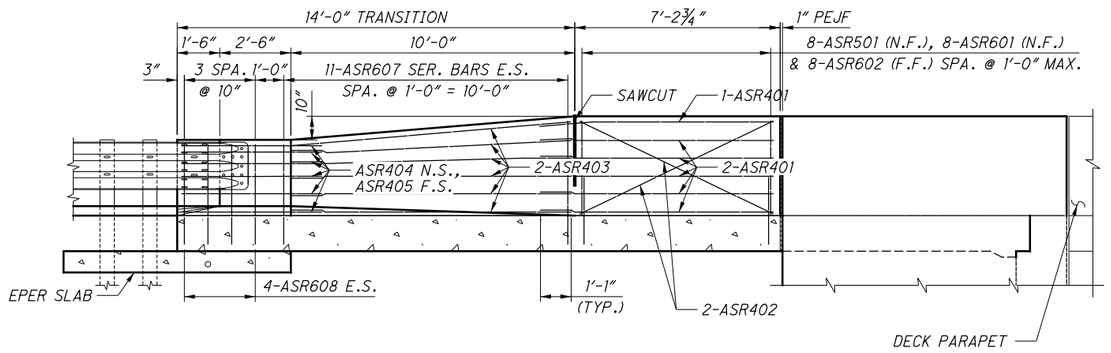
SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

75 / 80

99 / 104

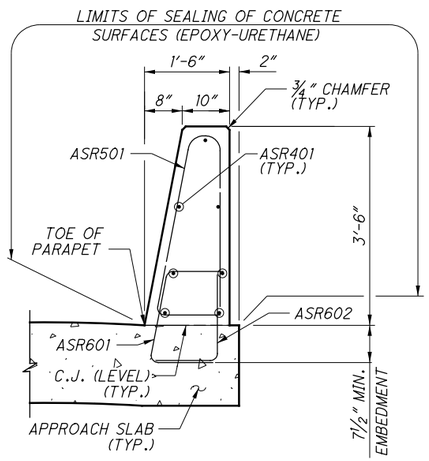


RIGHT REAR APPROACH SLAB PARAPET PLAN



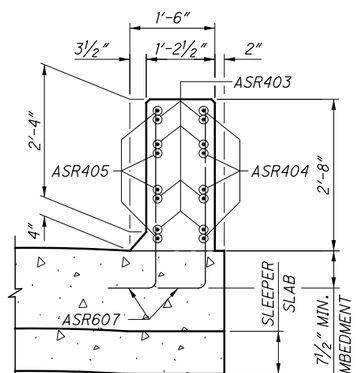
RIGHT REAR APPROACH SLAB PARAPET ELEVATION

(APPROACH SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY)
(DIMENSIONS ARE GIVEN ALONG THE TOE OF THE PARAPET)



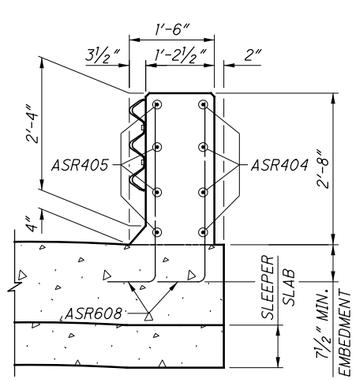
SECTION W-W

(APPROACH SLAB REINFORCING NOT SHOWN)



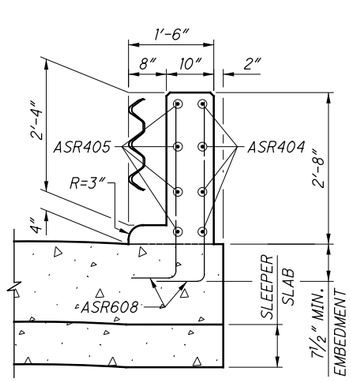
SECTION X-X

(APPROACH SLAB REINFORCING NOT SHOWN)



SECTION Y-Y

(APPROACH SLAB REINFORCING NOT SHOWN)



SECTION Z-Z

(APPROACH SLAB REINFORCING NOT SHOWN)

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE
2	12-2021	WINGWALL EXTENDED 5'

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7706066	

APPROACH SLAB DETAILS - 3
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

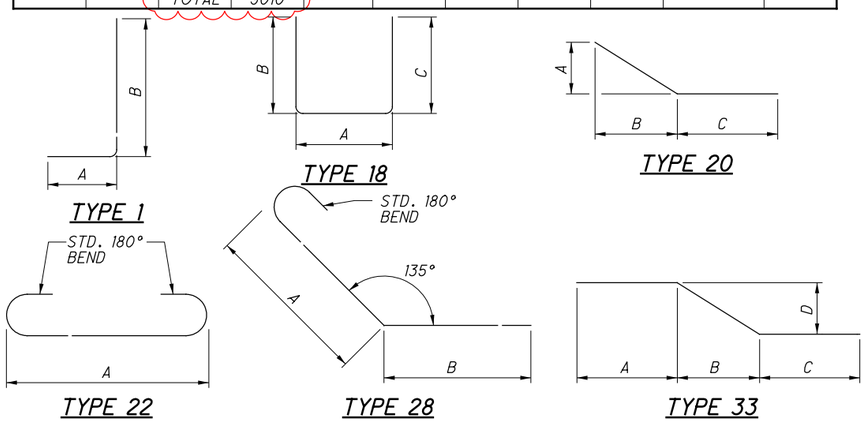
75A / 80
99A / 104

REINFORCING STEEL LIST - REAR ABUTMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
RA501	21	32'-7"	714	STR						
RA502	4	14'-7"	61	STR						
RA503	2	21'-8"	45	STR						
RA504	2	13'-0"	27	STR						
RA505	22	7'-6"	172	1	0'-10"	6'-9"				
RA506	22	12'-0"	275	18	3'-11"	4'-2"	4'-2"			
RA507	18	7'-1"	133	1	0'-10"	6'-4"				
RA508	18	14'-10"	278	18	3'-11"	5'-7"	5'-7"			
RA509	16	6'-5"	107	1	0'-10"	5'-8"				
RA510	12	8'-11"	112	STR						
2 RA511	12	6'-1"	76	STR						
RA512	17	5'-9"	102	18	1'-8"	2'-2"	2'-2"			
2 RA513	2	5'-9"	12	STR						
RA514	14	7'-1"	103	1	2'-6"	4'-8"				
RA515	11	12'-0"	138	1	2'-6"	9'-7"				
RA516	2	5'-3"	11	STR						
RA517	7	4'-8"	34	STR						
2 RA518	5	13'-6"	70	18	1'-9"	6'-0"	6'-0"			
RA519	11	7'-0"	104	1	2'-6"	6'-0"				
RA601	11	22'-4"	369	18	18'-8"	1'-0"	3'-0"			
RA602	9	13'-2"	178	STR						
RA603	9	20'-8"	279	18	19'-0"	1'-0"	1'-0"			
RA604	9	19'-0"	257	STR						
RA605	9	10'-8"	144	33	3'-7"	3'-0"	3'-7"	2'-0"		
RA606	56	12'-6"	1051	18	8'-2"	2'-4"	2'-4"			
	2	12'-6"				2'-4"	2'-4"			
RA607	S.O.	TO	119	18	8'-2"	TO	TO			0'-8"
	3	13'-10"				3'-0"	3'-0"			
RA608	6	14'-6"	131	18	8'-2"	3'-4"	3'-4"			
RA609	5	7'-3"	54	18	5'-7"	1'-0"	1'-0"			
RA610	5	15'-1"	113	1	1'-0"	14'-3"				
RA611	5	13'-6"	101	1	1'-0"	12'-8"				
RA612	5	14'-8"	110	1	1'-0"	13'-10"				
RA613	22	7'-11"	262	1	1'-0"	7'-1"				
RA614	18	7'-6"	203	1	1'-0"	6'-8"				
RA615	31	13'-5"	625	18	1'-5"	6'-2"	6'-2"			
RA616	31	10'-7"	493	18	1'-5"	4'-9"	4'-9"			
RA617	31	7'-1"	330	18	0'-11"	3'-3"	3'-3"			
RA618	22	7'-8"	253	1	1'-0"	6'-10"				
RA619	22	10'-1"	333	STR						
RA620	22	6'-1"	201	STR						
2 RA621	14	7'-1"	149	STR						
RA622	8	11'-0"	132	22	9'-8"					
2 RA623	24	5'-4"	192	22	4'-0"					
RA624	8	6'-0"	72	STR						
RA801	21	5'-1"	285	28	2'-10"	1'-5"				
		TOTAL	9010							

REINFORCING STEEL LIST - FORWARD ABUTMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
FA501	30	16'-9"	524	18	12'-8"	2'-2"	2'-2"			
FA502	28	24'-1"	703	STR						
FA503	35	6'-5"	234	1	0'-10"	5'-8"				
FA504	24	10'-11"	273	STR						
FA505	19	9'-0"	178	18	3'-9"	2'-9"	2'-9"			
FA506	15	11'-2"	175	18	3'-9"	3'-10"	3'-10"			
FA507	5	13'-9"	72	STR						
FA508	5	13'-5"	70	1	0'-10"	12'-8"				
FA509	5	15'-2"	79	1	0'-10"	14'-5"				
FA510	5	6'-6"	34	1	0'-10"	5'-9"				
FA511	2	21'-6"	45	STR						
FA512	2	12'-10"	27	STR						
FA513	35	32'-9"	1196	STR						
FA514	9	15'-8"	147	18	1'-5"	7'-3"	7'-3"			
FA515	3	13'-10"	43	18	1'-5"	6'-4"	6'-4"			
	1	8'-2"				3'-6"	3'-6"			
FA516	S.O.	TO	67	18	1'-5"	TO	TO			1'-0"
	6	13'-2"				6'-0"	6'-0"			
FA517	10	10'-9"	112	STR						
	1	5'-2"								
FA518	S.O.	TO	32	STR						1'-8"
	4	10'-2"								
FA519	2	6'-8"	14	STR						
FA520	12	6'-5"	80	1	0'-10"	5'-8"				
FA521	10	18'-8"	195	STR						
FA522	10	5'-8"	59	STR						
FA523	10	5'-9"	60	18	1'-8"	2'-2"	2'-2"			
FA524	2	15'-1"	31	STR						
FA525	19	7'-1"	140	1	2'-6"	4'-8"				
FA526	12	11'-6"	144	1	2'-6"	9'-1"				
	1	18'-3"				2'-11"	2'-11"			
FA527	S.O.	TO	89	18	12'-8"	TO	TO			2'-0"
	4	24'-3"				5'-11"	5'-11"			
FA528	3	24'-9"	77	18	12'-8"	6'-2"	6'-2"			
FA529	8	9'-3"	77	STR						
FA530	14	15'-11"	232	STR						
FA531	14	13'-5"	196	STR						
FA532	14	9'-0"	131	1	3'-6"	5'-7"				
FA533	14	10'-5"	152	33	2'-5"	4'-0"	2'-5"	4'-0"		
FA534	11	14'-11"	171	STR						
FA601	47	9'-6"	671	STR						
FA602	68	7'-8"	783	20	3'-6"	3'-6"	2'-9"			
FA603	33	13'-5"	665	18	1'-5"	6'-2"	6'-2"			
FA604	33	10'-7"	525	18	1'-5"	4'-9"	4'-9"			
FA605	33	7'-1"	351	18	0'-11"	3'-3"	3'-3"			
FA606	19	7'-8"	219	1	1'-0"	6'-10"				
FA607	19	19'-10"	566	STR						
FA608	19	5'-8"	162	STR						
FA609	21	13'-6"	426	STR						
FA701	72	16'-8"	2453	18	12'-8"	2'-2"	2'-2"			
FA702	10	12'-4"	252	STR						
	1	6'-9"								
FA703	S.O.	TO	76	STR						1'-8"
	4	11'-9"								
FA801	68	8'-0"	1452	1	1'-4"	6'-11"				
FA802	22	5'-1"	299	28	2'-10"	1'-5"				
FA803	19	11'-5"	579	STR						
FA804	9	10'-11"	262	22	9'-1"					
FA805	25	5'-10"	389	22	4'-0"					
FA535	19	9'-2"	182	STR						
		TOTAL	16171							



NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH TWO OR THREE LETTERS OR NUMBERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

   EXAMPLE: SA1001
   SA = SUPERSTRUCTURE BAR
   10 = #10 BAR
   01 = BAR SEQUENCE NUMBER 1
3. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
4. STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.
5. RAD. INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
6. INCR. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.
7. STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
8. SPIRAL REINFORCING BARS: THE "LENGTH" SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE LENGTH ALONG THE AXIS OF THE SPIRAL. PROVIDE ONE AND ONE-HALF CLOSED-COIL TURNS AT THE ENDS OF EACH SPIRAL UNIT.

LEGEND:

Δ = REINFORCING BAR IS INCLUDED FOR PAYMENT WITH DRILLED SHAFTS. WEIGHT IS NOT INCLUDED IN TOTAL.

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE
2	12-2021	WINGWALL EXTENDED 5'

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED BES | DRAWN AAA | REVIEWED JCS 4/29/19 | DATE | STRUCTURE FILE NUMBER 7706066 | CHECKED JHL | REVISED

REINFORCING STEEL LIST - 1
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

76 / 80

100
104

REINFORCING STEEL LIST - PIER 1

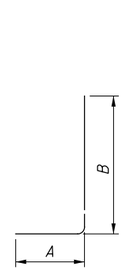
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
Δ	1DS1001	60	29′-3″	7552	STR						
Δ	1DS401	18	8′-2″	98	38	2′-0″	1′-11″				
Δ	1DS901	30	11′-8″	1190	STR						
	1P1001	5	27′-7″	593	STR						
	1P1101	7	14′-11″	555	40	9′-5″	4′-0″	0′-3″			
	1P1102	7	23′-8″	880	1	22′-0″	2′-0″				
	1P401	18	8′-2″	98	38	2′-0″	1′-11″				
	1P402	162	1′-6″	162	21	0′-4″	0′-8″				
	1P403	9	5′-1″	31	39A	1′-4¾″	0′-9¾″	0′-10½″	0′-6″		
	1P404	2	12′-5″	17	STR						
	1P405	6	31′-7″	127	STR						
	1P406	2	24′-0″	32	STR						
	1P407	2	15′-3″	20	STR						
	1P408	2	31′-8″	42	26	1′-6″	11′-3″	9′-0″	11′-3″	1′-6″	
	1P409	4	10′-4″	28	STR						
	1P501	18	18′-4″	344	STR						
	1P502	14	7′-0″	102	1	6′-3″	0′-10″				
	1P503	7	7′-0″	51	18	5′-7″	0′-10″	0′-10″			
	1P504	5	5′-5″	28	90	1′-9″					
	1P505	5	6′-8″	35	90	3′-0″					
	1P506	7	5′-7″	41	18	4′-6″	0′-8″	0′-8″			
	1P507	20	9′-9″	203	18	4′-8″	2′-8″	2′-8″			
	1P508	14	8′-4″	122	18	3′-3″	2′-8″	2′-8″			
	1P509	2	8′-1″	17	18	4′-8″	1′-10″	1′-10″			
	1P510	1	8′-10″	9	7	1′-9″	3′-10½″	0′-4¼″	0′-8½″		
	1P511	1	9′-7″	10	7	1′-10″	3′-5″	0′-7″	1′-2″		
	1P512	8	9′-4″	78	6	1′-10″	2′-7″	3′-5″	1′-7″	0′-7″	
		1	10′-5″			2′-3″	3′-9″	0′-5″	1′-1″		
	1P513	S.O.	TO	33	7	TO	TO	TO	TO		0′-2″
		3	10′-9″			2′-8″	3′-11″	0′-4″	0′-9″		
		1	11′-10″			3′-2″	4′-0″	0′-3½″	0′-9″		
	1P514	S.O.	TO	37	7	TO	TO	TO	TO		0′-1″
		3	12′-0″			3′-6″	4′-2″	0′-2½″	0′-5″		
	1P515	20	10′-0″	209	18	3′-3″	3′-6″	3′-6″			
	1P516	20	10′-3″	214	6	3′-3″	3′-1″	3′-8″	0′-4½″	0′-2″	
		1	12′-11″			3′-10″	4′-1″	0′-3″	0′-7″		
	1P517	S.O.	TO	27	7	TO	TO	TO	TO		0′-1″
		2	13′-0″			4′-0″	4′-2″	0′-2½″	0′-5″		
		1	12′-7″			3′-4″	3′-9″	0′-5″	1′-1″		
	1P518	S.O.	TO	40	7	TO	TO	TO	TO		0′-1½″
		3	12′-10″			3′-9″	3′-11″	0′-4″	0′-8½″		
	1P519	6	12′-2″	76	6	3′-3″	2′-7″	4′-10″	1′-7″	0′-7″	
	1P520	1	12′-11″	13	7	3′-2″	3′-6″	0′-6½″	1′-6″		
	1P521	1	12′-4″	13	7	2′-9″	3′-10″	0′-4½″	1′-6″		
	1P522	1	11′-7″	12	7	3′-1″	3′-10″	0′-4½″	0′-9″		
	1P523	2	10′-4″	22	7	2′-1″	3′-7″	0′-6″	1′-3″		
	1P524	2	12′-0″	25	7	3′-6″	4′-3½″	0′-2¼″	0′-4½″		
	1P525	2	13′-4″	28	7	3′-7″	3′-7″	0′-6″	1′-3″		
	1P526	2	5′-1″	11	18	4′-0″	0′-8″	0′-8″			
	1P527	4	3′-8″	15	STR						
	1P601	10	4′-2″	63	1	2′-9″	1′-7″				
	1P602	6	14′-2″	128	35	3′-8″	2′-10″	1′-0″	1′-0″		
	1P901	30	19′-10″	2023	STR						
	1P902	10	4′-0″	136	1	2′-9″	1′-7″				
Δ	1SP401	3	52′-2″	2208	15	2′-6″	0′-4½″				
	1SP501	3	16′-9″	1689	15	2′-6″	0′-3″				
			TOTAL	8439							

REINFORCING STEEL LIST - PIER 2

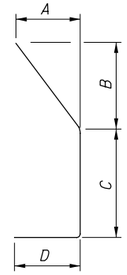
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
Δ	2DS1101	46	34′-6″	8432	STR						
Δ	2DS1102	46	16′-8″	4073	STR						
Δ	2DS401	10	17′-7″	117	38	5′-0″	1′-11″				
	2P1101	46	51′-10″	12668	STR						
	2P401	18	4′-4″	52	3	1′-5″	0′-5″	0′-7″	2′-5″		
	2P402	6	4′-8″	19	3	1′-5″	1′-0″	0′-7″	2′-5″		
	2P403	6	5′-8″	23	STR						
	2P404	4	5′-5″	14	STR						
	2P405	6	6′-2″	25	STR						
	2P406	8	17′-7″	94	38	5′-0″	1′-11″				
	2P407	144	2′-2″	208	21	0′-4″	1′-0″				
	2P408	16	4′-4″	46	18	1′-6″	1′-6″	1′-6″			
	2P409	4	13′-3″	35	39	3′-3″	1′-11″	2′-11″			
	2P410	4	12′-4″	33	39	3′-0″	1′-9″	2′-9″			
	2P501	50	12′-11″	674	12	3′-6″	0′-0¾″	6′-2″	3′-6″		
	2P502	8	7′-1″	59	100	6′-2″					
	2P503	6	48′-4″	302	STR						
	2P601	160	13′-1″	3144	18	4′-9″	4′-4″	4′-4″			
	2P602	20	14′-6″	436	18	6′-2″	4′-4″	4′-4″			
	2P603	16	6′-4″	152	18	4′-8″	1′-0″	1′-0″			
	2P801	30	31′-7″	2530	STR						
Δ	2SP401	1	34′-6″	1391	15	7′-0″	0′-4½″				
	2SP501	1	45′-6″	3036	15	5′-6″	0′-3¼″				
			TOTAL	23550							

NOTES:

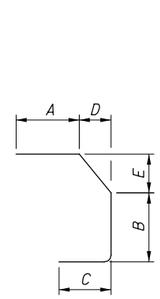
1. SEE SHEET 76 / 80 FOR NOTES AND LEGEND.



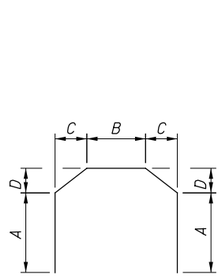
TYPE 1



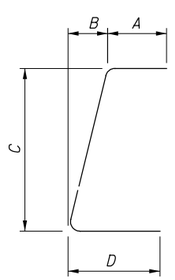
TYPE 3



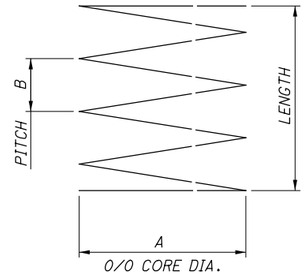
TYPE 6



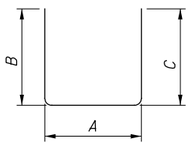
TYPE 7



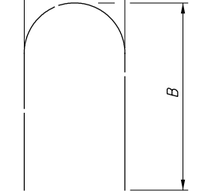
TYPE 12



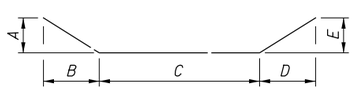
TYPE 15



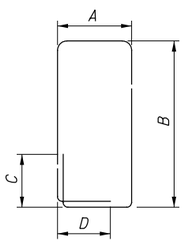
TYPE 18



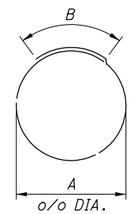
TYPE 21



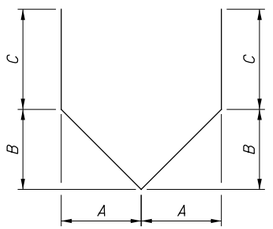
TYPE 26



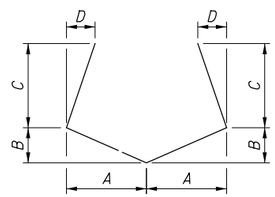
TYPE 35



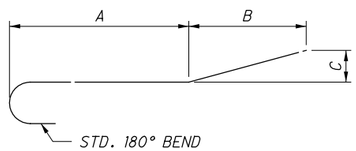
TYPE 38



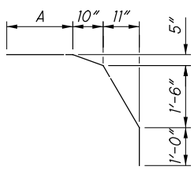
TYPE 39



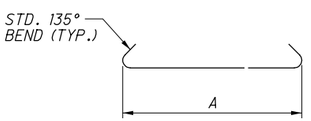
TYPE 39A



TYPE 40



TYPE 90



TYPE 100

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
JHL/ODW	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES/RMK		7706066	

REINFORCING STEEL LIST - 2
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

77 / 80

101
104

REINFORCING STEEL LIST - PIER 3

	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
Δ	3DS1001	45	18′-1″	3502	STR						
Δ	3DS1101	45	25′-8″	6137	STR						
Δ	3DS401	27	8′-2″	147	38	2′-0″	1′-11″				
	3P1001	5	27′-7″	593	STR						
	3P1002	45	30′-0″	5809	STR						
	3P1003	45	18′-11″	3663	STR						
	3P1101	7	14′-11″	555	40	9′-5″	4′-0″	0′-3″			
	3P1102	7	23′-8″	880	1	22′-0″	2′-0″				
	3P401	27	8′-2″	147	38	2′-0″	1′-11″				
	3P402	360	1′-6″	361	21	0′-4″	0′-8″				
	3P403	9	5′-1″	31	39A	1′-4¾″	0′-9¾″	0′-10½″	0′-6″		
	3P501	18	30′-0″	563	STR						
	3P502	14	7′-0″	102	1	6′-3″	0′-10″				
	3P503	7	7′-0″	51	18	5′-7″	0′-10″	0′-10″			
	3P504	5	5′-5″	28	90	1′-9″					
	3P505	5	6′-8″	35	90	3′-0″					
	3P506	7	6′-7″	48	18	5′-6″	0′-8″	0′-8″			
	3P507	21	10′-9″	235	18	5′-8″	2′-8″	2′-8″			
	3P508	14	9′-1″	133	18	4′-0″	2′-8″	2′-8″			
	3P509	2	9′-1″	19	18	5′-8″	1′-10″	1′-10″			
	3P510	1	9′-10″	10	7	1′-9″	4′-10½″	0′-4¼″	0′-8½″		
	3P511	1	10′-7″	11	7	1′-10″	4′-5″	0′-7″	1′-2″		
	3P512	8	10′-2″	85	6	1′-10″	3′-5″	3′-5″	1′-7″	0′-7″	
		1	11′-5″			2′-3″	4′-9″	0′-5″	1′-1″		
	3P513	S.O.	TO	36	7	TO	TO	TO	TO		0′-2″
		3	11′-9″			2′-8″	4′-11″	0′-4″	0′-9″		
		1	12′-10″			3′-2″	5′-0″	0′-3½″	0′-9″		
	3P514	S.O.	TO	40	7	TO	TO	TO	TO		0′-1″
		3	13′-0″			3′-6″	5′-2″	0′-2½″	0′-5″		
	3P515	20	10′-9″	224	18	4′-0″	3′-6″	3′-6″			
	3P516	20	11′-0″	229	6	3′-3″	3′-10″	3′-8″	0′-4½″	0′-2″	
		1	13′-11″			3′-10″	5′-1″	0′-3″	0′-7″		
	3P517	S.O.	TO	44	7	TO	TO	TO	TO		0′-0½″
		3	14′-0″			4′-0″	5′-2″	0′-2½″	0′-5″		
		1	13′-7″			3′-4″	4′-9″	0′-5″	1′-1″		
	3P518	S.O.	TO	43	7	TO	TO	TO	TO		0′-1½″
		3	13′-10″			3′-9″	4′-11″	0′-4″	0′-8½″		
	3P519	6	13′-0″	81	6	3′-3″	3′-5″	4′-10″	1′-7″	0′-7″	
	3P520	1	13′-11″	15	7	3′-2″	4′-6″	0′-6½″	1′-6″		
	3P521	1	13′-4″	14	7	2′-9″	4′-10″	0′-4½″	1′-6″		
	3P522	1	12′-7″	13	7	3′-1″	4′-10″	0′-4½″	0′-9″		
	3P523	2	11′-4″	24	7	2′-1″	4′-7″	0′-6″	1′-3″		
	3P524	2	12′-11″	27	7	3′-6″	5′-3″	0′-2¼″	0′-4½″		
	3P525	2	14′-4″	30	7	3′-7″	4′-7″	0′-6″	1′-3″		
	3P526	2	6′-1″	13	18	5′-0″	0′-8″	0′-8″			
	3P527	2	12′-5″	26	STR						
	3P528	6	31′-7″	198	STR						
	3P529	2	24′-0″	50	STR						
	3P530	2	15′-3″	32	STR						
	3P531	2	31′-8″	66	26	1′-6″	11′-3″	9′-0″	11′-3″	1′-6″	
	3P532	4	10′-4″	43	STR						
	3P533	18	11′-6″	216	STR						
Δ	3SP401	3	25′-8″	1561	15	3′-6″	0′-4½″				
	3SP501	3	38′-8″	3806	15	2′-6″	0′-3″				
			TOTAL	18629							

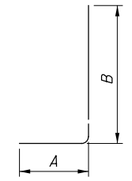
REINFORCING STEEL LIST - PIER 4

	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
Δ	4DS1101	48	26′-6″	6758	STR						
Δ	4DS1102	34	15′-2″	2740	STR						
Δ	4DS401	9	17′-7″	106	38	5′-0″	1′-11″				
	4P1101	12	34′-11″	2226	18	31′-7″	2′-0″	2′-0″			
	4P1102	10	31′-7″	1678	STR						
	4P1103	34	30′-0″	5419	STR						
	4P1104	34	28′-1″	5073	19	26′-6″					
	4P401	144	2′-2″	208	21	0′-4″	1′-0″				
	4P402	4	13′-3″	35	39	3′-3″	1′-11″	2′-11″			
	4P403	4	12′-4″	33	39	3′-0″	1′-9″	2′-9″			
	4P404	16	4′-5″	47	18	1′-7″	1′-6″	1′-6″			
	4P405	8	17′-7″	94	38	5′-0″	1′-11″				
	4P501	6	30′-0″	188	STR						
	4P502	6	18′-8″	117	STR						
	4P503	4	3′-8″	15	STR						
	4P601	14	11′-0″	231	STR						
	4P602	7	12′-0″	126	26	0′-2″	1′-6″	9′-0″	1′-6″	0′-2″	
	4P603	4	7′-4″	44	STR						
	4P604	2	17′-6″	53	STR						
	4P605	7	6′-7″	69	11	0′-8″	0′-4″	0′-2″	4′-5″	1′-6″	
	4P606	7	8′-1″	85	11	0′-8″	0′-4″	0′-2″	5′-11″	1′-6″	
	4P607	13	8′-8″	169	18	6′-0″	1′-6″	1′-6″			
	4P608	21	7′-6″	237	1	1′-6″	6′-2″				
	4P609	7	8′-2″	86	18	5′-6″	1′-6″	1′-6″			
	4P610	60	13′-5″	1209	18	4′-3″	4′-9″	4′-9″			
	4P611	16	14′-1″	338	6	4′-6″	3′-11″	5′-2″	0′-8″	0′-4″	
	4P612	6	15′-11″	143	6	5′-5″	3′-11″	6′-1″	0′-8″	0′-4″	
	4P613	16	17′-3″	415	6	6′-4″	4′-1″	6′-8″	0′-4″	0′-2″	
	4P614	22	16′-11″	559	6	5′-11″	3′-11″	6′-7″	0′-8″	0′-4″	
	4P615	5	19′-1″	143	7	6′-4″	5′-10″	0′-2″	0′-4″		
	4P616	6	14′-4″	129	35	2′-11″	3′-8″	1′-0″	1′-0″		
	4P617	10	4′-3″	64	1	1′-7″	2′-10″				
	4P618	5	15′-4″	115	18	6′-2″	4′-9″	4′-9″			
	4P801	8	31′-7″	675	STR						
	4P802	2	25′-3″	135	STR						
	4P803	2	11′-5″	61	STR						
	4P901	10	4′-1″	139	1	1′-7″	2′-10″				
Δ	4SP401	1	26′-6″	1079	15	7′-0″	0′-4½″				
	4SP501	1	45′-9″	3052	15	5′-6″	0′-3¼″				
			TOTAL	23410							

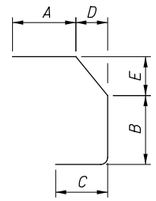
Released for Construction
Thomas J Powell, PE
07/09/2021

NOTES:

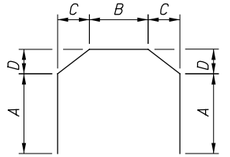
1. SEE SHEET 76 / 80 FOR NOTES AND LEGEND.



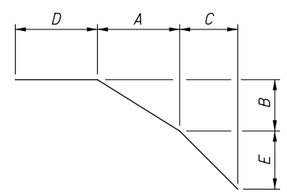
TYPE 1



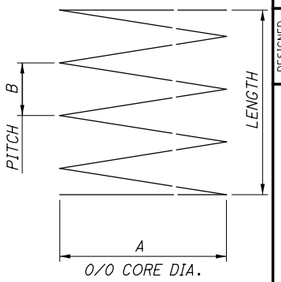
TYPE 6



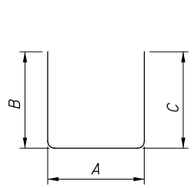
TYPE 7



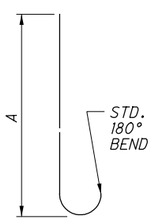
TYPE 11



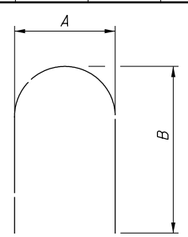
TYPE 15



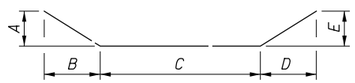
TYPE 18



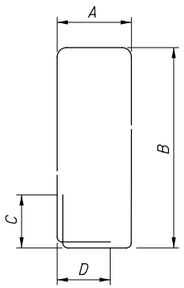
TYPE 19



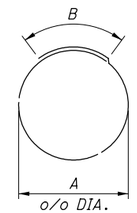
TYPE 21



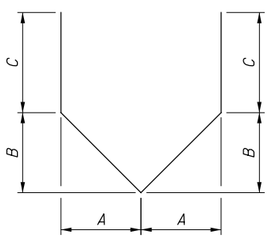
TYPE 26



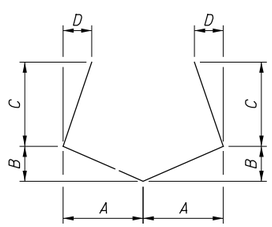
TYPE 35



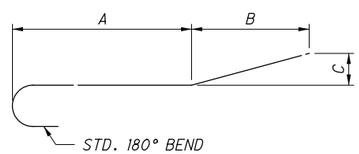
TYPE 38



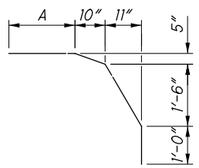
TYPE 39



TYPE 39A



TYPE 40



TYPE 90

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

REVIEWED	DATE
JCS	4/29/19
STRUCTURE FILE NUMBER	
7706066	
DRAWN	REVISED
AAA	
DESIGNED	CHECKED
JHL	BES

REINFORCING STEEL LIST - 3
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-
10.99/11.54/0.00
PID No. 101402

78 / 80

102
104

ISSUE RECORD:

NO.	DATE	DESCRIPTION

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\00 - RFP\Reference Files\SUM-102329-SOS-Att-T-2-CADD-FILES-P2\Structures\Sheets\Ramp Q\076_1166L_SL003.dgn Sheet 6/1

2021-07-07_BU 17 - RFC PLANS

REINFORCING STEEL LIST - PIER 5

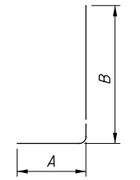
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
Δ	5DS1101	46	23′-8″	5784	STR						
Δ	5DS1102	46	15′-6″	3788	STR						
Δ	5DS401	9	17′-7″	106	38	5′-0″	1′-11″				
	5P1101	12	34′-11″	2226	18	31′-7″	2′-0″	2′-0″			
	5P1102	18	31′-7″	3020	STR						
	5P1103	46	48′-1″	11751	19	46′-6″					
	5P401	132	2′-2″	191	21	0′-4″	1′-0″				
	5P402	4	13′-3″	35	39	3′-3″	1′-11″	2′-11″			
	5P403	4	12′-4″	33	39	3′-0″	1′-9″	2′-9″			
	5P404	16	4′-4″	46	18	1′-6″	1′-6″	1′-6″			
	5P405	8	17′-7″	94	38	5′-0″	1′-11″				
	5P501	6	30′-0″	188	STR						
	5P502	6	15′-3″	95	STR						
	5P601	14	11′-0″	231	STR						
	5P602	7	12′-0″	126	26	0′-2″	1′-6″	9′-0″	1′-6″	0′-2″	
	5P603	4	7′-4″	44	STR						
	5P604	2	17′-6″	53	STR						
	5P605	7	6′-7″	69	11	0′-8″	0′-4″	0′-2″	4′-5″	1′-6″	
	5P606	7	8′-1″	85	11	0′-8″	0′-4″	0′-2″	5′-11″	1′-6″	
	5P607	13	8′-8″	169	18	6′-0″	1′-6″	1′-6″			
	5P608	21	7′-6″	237	1	1′-6″	6′-2″				
	5P609	7	8′-2″	86	18	5′-6″	1′-6″	1′-6″			
	5P610	76	13′-5″	1532	18	4′-3″	4′-9″	4′-9″			
	5P611	18	14′-1″	381	6	4′-6″	3′-11″	5′-2″	0′-8″	0′-4″	
	5P612	6	15′-11″	143	6	5′-5″	3′-11″	6′-1″	0′-8″	0′-4″	
	5P613	28	17′-3″	725	6	6′-4″	4′-1″	6′-8″	0′-4″	0′-2″	
	5P614	24	16′-11″	610	6	5′-11″	3′-11″	6′-7″	0′-8″	0′-4″	
	5P615	5	19′-1″	143	7	6′-4″	5′-10″	0′-2″	0′-4″		
	5P616	5	15′-4″	115	18	6′-2″	4′-9″	4′-9″			
	5P617	4	8′-10″	53	18	6′-2″	1′-6″	1′-6″			
	5P801	8	31′-7″	675	STR						
	5P802	2	21′-1″	113	STR						
	5P803	2	8′-7″	46	STR						
Δ	5SP501	1	23′-8″	1509	15	7′-0″	0′-4½″				
	5SP502	1	42′-5″	2834	15	5′-6″	0′-3¼″				
			TOTAL	26149							

REINFORCING STEEL LIST - PIER 6

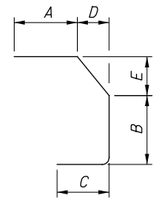
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
Δ	6DS1101	48	21′-6″	5483	STR						
Δ	6DS1102	36	15′-4″	2933	STR						
Δ	6DS401	9	17′-7″	106	38	5′-0″	1′-11″				
	6P1101	12	34′-11″	2226	18	31′-7″	2′-0″	2′-0″			
	6P1102	20	31′-7″	3356	STR						
	6P1103	36	30′-2″	5770	19	28′-7″					
	6P401	78	2′-2″	113	21	0′-4″	1′-0″				
	6P402	4	13′-3″	35	39	3′-3″	1′-11″	2′-11″			
	6P403	4	12′-4″	33	39	3′-0″	1′-9″	2′-9″			
	6P404	16	4′-4″	46	18	1′-6″	1′-6″	1′-6″			
	6P405	8	17′-7″	94	38	5′-0″	1′-11″				
	6P501	6	26′-2″	164	STR						
	6P502	4	3′-8″	15	STR						
	6P601	14	11′-0″	231	STR						
	6P602	7	12′-0″	126	26	0′-2″	1′-6″	9′-0″	1′-6″	0′-2″	
	6P603	4	7′-4″	44	STR						
	6P604	2	17′-6″	53	STR						
	6P605	7	6′-7″	69	11	0′-8″	0′-4″	0′-2″	4′-5″	1′-6″	
	6P606	7	8′-1″	85	11	0′-8″	0′-4″	0′-2″	5′-11″	1′-6″	
	6P607	13	8′-8″	169	18	6′-0″	1′-6″	1′-6″			
	6P608	21	7′-6″	237	1	1′-6″	6′-2″				
	6P609	7	8′-2″	86	18	5′-6″	1′-6″	1′-6″			
	6P610	80	13′-5″	1612	18	4′-3″	4′-9″	4′-9″			
	6P611	20	14′-1″	423	6	4′-6″	3′-11″	5′-2″	0′-8″	0′-4″	
	6P612	6	15′-11″	143	6	5′-5″	3′-11″	6′-1″	0′-8″	0′-4″	
	6P613	28	17′-3″	725	6	6′-4″	4′-1″	6′-8″	0′-4″	0′-2″	
	6P614	26	16′-11″	661	6	5′-11″	3′-11″	6′-7″	0′-8″	0′-4″	
	6P615	5	19′-1″	143	7	6′-4″	5′-10″	0′-2″	0′-4″		
	6P616	6	14′-2″	128	35	2′-10″	3′-8″	1′-0″	1′-0″		
	6P617	10	4′-2″	63	1	1′-7″	2′-9″				
	6P618	5	15′-4″	115	18	6′-2″	4′-9″	4′-9″			
	6P801	8	31′-7″	675	STR						
	6P802	2	21′-1″	113	STR						
	6P803	2	8′-7″	46	STR						
	6P901	10	4′-0″	136	1	1′-7″	2′-9″				
Δ	6SP401	1	21′-6″	883	15	7′-0″	0′-4½″				
	6SP501	1	24′-7″	1665	15	5′-6″	0′-3¼″				
			TOTAL	19600							

NOTES:

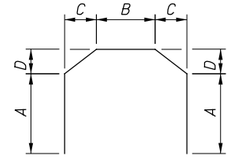
1. SEE SHEET 76 / 80 FOR NOTES AND LEGEND.



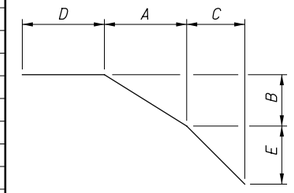
TYPE 1



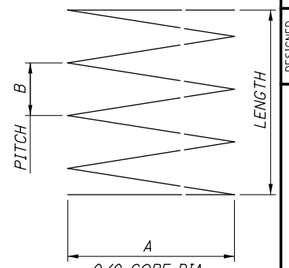
TYPE 6



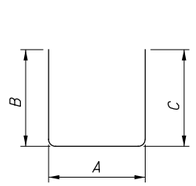
TYPE 7



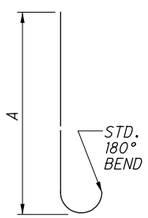
TYPE 11



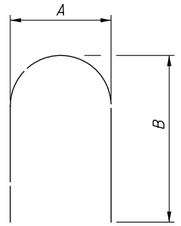
TYPE 15



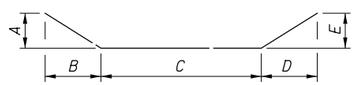
TYPE 18



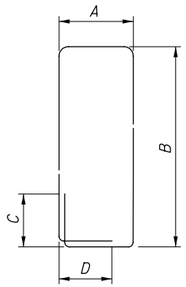
TYPE 19



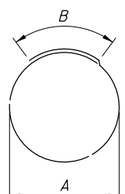
TYPE 21



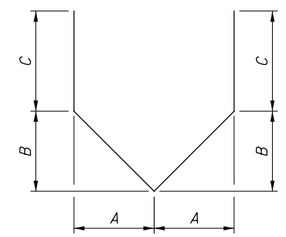
TYPE 26



TYPE 35



TYPE 38



TYPE 39

ISSUE RECORD:

NO.	DATE	DESCRIPTION

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BES	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		7706066	

REINFORCING STEEL LIST - 4
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

79 / 80

103 / 104

pw:\\VANVAOIPWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\00 - RFP\Reference Files\SUM-102329-SOS-Att-T-2-CADD-FILES-P2\Structures\Sheets\Ramp Q\076_1166L_SL004.dgn Sheet 6/1

REINFORCING STEEL LIST - DECK - UNIT 1

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
SA401	468	30'-0"	9379	STR						
SA402	36	16'-10"	405	STR						
SA403	36	3'-4"	80	STR						
SA404	818	3'-6"	1912	3	0'-8"	0'-8"	2'-1"	0'-7"		
SA405	34	4'-5"	100	18	1'-1"	1'-9"	1'-9"			
SA406	5	33'-0"	110	STR						
	1	10'-0"								
SA407	S.O.	TO	481	STR						0'-6 7/8"
	36	30'-0"								
SA501	791	30'-0"	24750	STR						
SA502	42	22'-8"	993	STR						
SA503	42	3'-9"	164	STR						
SA504	828	34'-2"	29506	22	33'-0"					
SA505	830	33'-0"	28568	STR						
SA506	1656	8'-7"	14825	19	8'-0"					
SA507	35	16'-6"	602	STR						
SA508	35	11'-4"	414	STR						
SA509	42	3'-6"	153	19	2'-11"					
SA510	34	4'-10"	171	26	0'-4 1/2"	0'-4 1/2"	2'-2"	1'-8"	1'-5"	
	1	10'-0"								
SA511	S.O.	TO	876	STR						0'-5 7/8"
	42	30'-0"								
		TOTAL	113489							

REINFORCING STEEL LIST - DECK - UNIT 2

SB401	540	30'-0"	10822	STR						
SB402	36	7'-10"	188	STR						
SB403	36	3'-4"	80	STR						
SB404	910	3'-6"	2128	3	0'-8"	0'-8"	2'-1"	0'-7"		
SB405	34	4'-6"	102	18	1'-2"	1'-9"	1'-9"			
SB406	5	33'-0"	110	STR						
	1	7'-6"								
SB407	S.O.	TO	451	STR						0'-7 3/4"
	36	30'-0"								
SB501	875	30'-0"	27379	STR						
SB502	42	14'-6"	635	STR						
SB503	42	3'-9"	164	STR						
SB504	920	34'-2"	32785	22	33'-0"					
SB505	922	33'-0"	31734	STR						
SB506	1840	8'-7"	16472	19	8'-0"					
SB507	35	7'-10"	286	STR						
SB508	35	7'-6"	274	STR						
SB509	35	18'-6"	675	STR						
SB510	34	4'-10"	171	26	0'-4 1/2"	0'-4 1/2"	2'-0"	1'-9"	1'-7"	
SB511	42	3'-6"	153	19	2'-11"					
	1	7'-6"								
SB512	S.O.	TO	821	STR						0'-6 5/8"
	42	30'-0"								
		TOTAL	125430							

REINFORCING STEEL LIST - PARAPETS

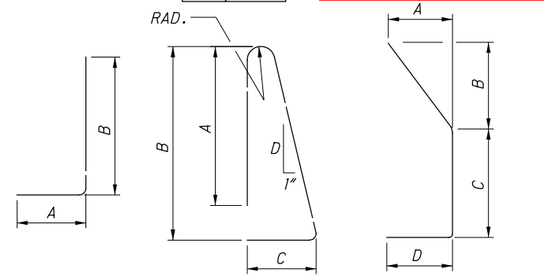
ASR401	11	8'-3"	62	STR						
ASR402	4	7'-6"	20	STR						
ASR403	12	10'-0"	80	STR						
ASR404	6	6'-4"	25	25	2'-6"	2'-5"	1'-4 1/4"	0'-1 1/2"	0'-5"	
ASR405	6	5'-1"	20	STR						
ASR501	92	7'-4"	705	2	3'-0"	3'-3"	0'-11"	0'-5 1/4"	0'-2 3/4"	
ASR502	4	29'-7"	123	STR						
ASR503	6	14'-8"	92	STR						
ASR504	2	14'-7"	30	STR						
ASR505	2	10'-10"	28	STR						
ASR506	2	6'-4"	13	STR						
ASR507	2	25'-10"	54	STR						
ASR508	2	21'-4"	45	STR						
ASR601	92	3'-2"	438	12	0'-11"	0'-3 1/2"	1'-6 1/2"	1'-0"		
ASR602	92	2'-5"	334	1	1'-0"	1'-7"				
ASR603	3	14'-8"	66	STR						
ASR604	1	14'-7"	22	STR						

REINFORCING STEEL LIST - PARAPETS

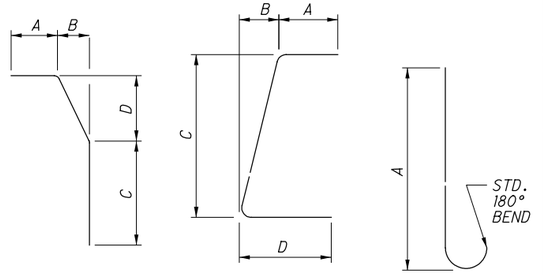
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
ASR605	1	10'-10"	16	STR						
ASR606	1	6'-4"	10	STR						
	1	4'-2"				3'-4"				
ASR607	S.O.	TO	76	1	1'-0"	TO				
	11	5'-0"				4'-2"				
ASR608	8	4'-4"	52	1	1'-0"	3'-6"				
BP501	2	7'-4"	15	2	3'-0"	3'-3"	0'-11"	0'-5 1/4"	0'-2 3/4"	
BP502	6	0'-11"	6	STR						
BP601	2	2'-5"	7	1	1'-0"	1'-7"				
BP602	2	3'-2"	10	12	0'-11"	0'-3 1/2"	1'-6 1/2"	1'-0"		
BP603	1	0'-11"	1	STR						
FAR501	10	7'-4"	76	2	3'-0"	3'-3"	0'-11"	0'-5 1/4"	0'-2 3/4"	
FAR502	6	9'-2"	57	STR						
FAR601	10	4'-2"	63	9	0'-11"	0'-2"	2'-5"	0'-11"		
FAR602	10	3'-4"	50	STR						
FAR603	1	9'-2"	14	STR						
	4	3'-4"			0'-5 1/2"					
R401	S.O.	TO	28	18	TO	1'-6"	1'-6"			0'-2"
	3	3'-8"			0'-9 1/2"					
R501	1812	7'-4"	13859	2	3'-0"	3'-3"	0'-11"	0'-5 1/4"	0'-2 3/4"	
R502	2	10'-10"	23	STR						
R503	54	14'-7"	821	STR						
R504	102	7'-1"	754	STR						
R505	236	30'-0"	7384	STR						
R506	4	5'-1"	21	STR						
R507	2	14'-3"	30	STR						
R508	4	14'-4"	60	STR						
R509	54	14'-8"	826	STR						
R510	110	7'-2"	822	STR						
R511	2	14'-2"	30	STR						
R512	4	24'-3"	101	STR						
R513	2	14'-5"	30	STR						
R514	4	22'-7"	94	STR						
R515	2	9'-0"	19	STR						
R516	2	8'-9"	18	STR						
R517	2	8'-11"	19	STR						
R518	2	11'-2"	23	STR						
R519	2	11'-3"	23	STR						
R520	4	15'-2"	63	STR						
R521	4	7'-1"	30	2	3'-0"	3'-3"	0'-10"	0'-5 1/4"	0'-2"	
R522	2	12'-1"	25	STR						
R601	1816	2'-5"	6592	1	1'-0"	1'-7"				
R602	1812	3'-2"	8618	12	0'-11"	0'-3 1/2"	1'-6 1/2"	1'-0"		
R603	1	10'-10"	16	STR						
R604	27	14'-7"	591	STR						
R605	51	7'-1"	543	STR						
R606	1	14'-3"	21	STR						
R607	2	14'-4"	43	STR						
R608	27	14'-8"	595	STR						
R609	55	7'-2"	592	STR						
R610	1	14'-2"	21	STR						
R611	1	14'-5"	22	STR						
R612	1	9'-0"	14	STR						
R613	1	8'-9"	13	STR						
R614	1	8'-11"	13	STR						
R615	1	11'-2"	17	STR						
R616	1	11'-3"	17	STR						
R617	4	3'-0"	18	12	0'-10"	0'-3 1/2"	1'-6 1/2"	0'-11"		
R618	1	12'-1"	18	STR						
RAR501	17	7'-4"	130	2	3'-0"	3'-3"	0'-11"	0'-5 1/4"	0'-2 3/4"	
RAR502	6	9'-8"	60	STR						
RAR503	6	4'-8"	29	STR						
RAR601	17	4'-2"	106	9	0'-11"	0'-2"	2'-5"	0'-11"		
RAR602	17	3'-4"	85	STR						
RAR603	1	9'-8"	29	STR						
RAR604	1	4'-8"	7	STR						
		TOTAL	45902							

NOTES:

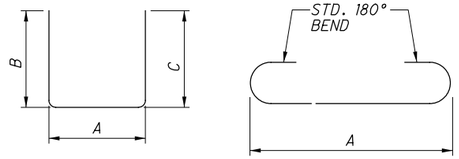
1. SEE SHEET 76 / 80 FOR NOTES AND LEGEND.



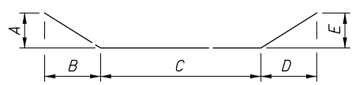
TYPE 1 TYPE 2 TYPE 3



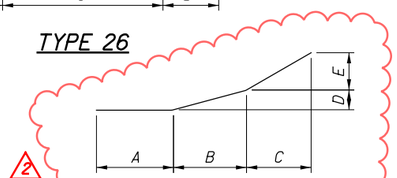
TYPE 9 TYPE 12 TYPE 19



TYPE 18 TYPE 22



TYPE 26



TYPE-25

REVISIONS BY:

PARSONS
100 East Campus View Boulevard, Suite 250
Columbus, OH 43235

ISSUE RECORD: BU-17 STRUCTURES

NO.	DATE	DESCRIPTION
1	03-2021	CIP WALLS TO MSE
2	12-2021	WINGWALL EXTENDED 5'

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
ODW	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL/BES		7706066	

REINFORCING STEEL LIST - 5
SUM-76-1148Q
RAMP Q OVER IR-76 WB, LANE O, RAMP S, SR-8 NB/SB

SUM-76/77/8-10.99/11.54/0.00
PID No. 101402

80 / 80

104
104