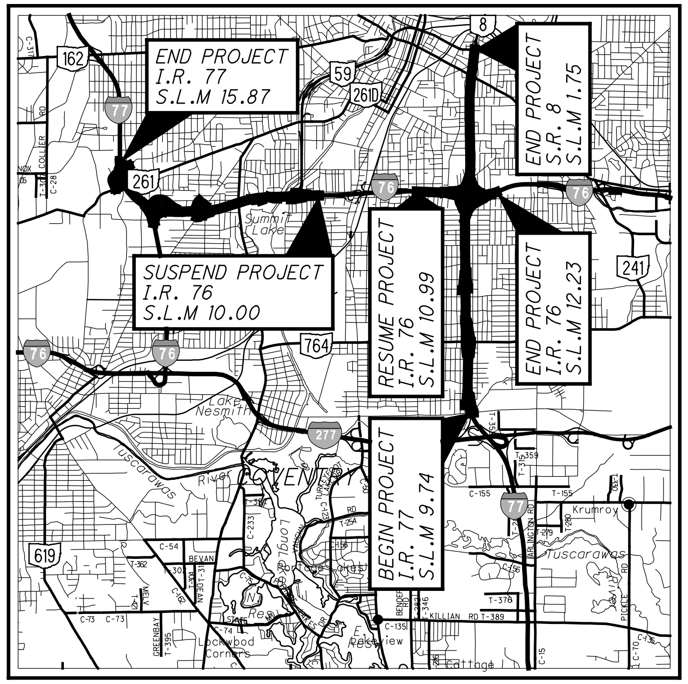
ISSUE RECORD:		
NO.	DATE	DESCRIPTION

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

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

SUMMIT COUNTY
CITY OF AKRON



LOCATION MAP

LATITUDE: 39° 09′ 03″ LONGITUDE: 84° 32′ 24″

SCALE IN MILES

0 1 2 3 4

N

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

INDEX OF SHEETS:

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 11 DESCRIPTION

THIS BUILDABLE UNIT COVERS THE CONSTRUCTION OF RAMP N (SUM-76-1152N) ON A NEW ALIGNMENT OVER RAMP S, LANES O & M, IR-76 EB, SR-8 NB/SB.

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.

DESIGN DESIGNATION

MAINTENANCE OF TRAFFIC PLANS:
SEE BU-7
ROADWAY PLANS:
SEE BU-34

DESIGN EXCEPTIONS

N/A

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:

ENGINEERS SEAL:
FOR STRUCTURES OVER 20′
STATE OF OHIO KELLY D. CHRISMAN 68020 REGISTERED PROFESSIONAL ENGINEER
SIGNED: Kelly D. Chrisman
DATE: 6-23-2021

STANDARD CONSTRUCTION DRAWINGS											
A-1-69	7/19/02										
AS-1-15	7/17/15										
AS-2-15	1/18/19										
SBR-1-13	7/20/18										

SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
800-2019	10/16/20	THERMAL INTEGRITY PROFILING (TIP)
840	1/15/21	
845	4/20/18	
		CROSSHOLE SONIC LOGGING (CSL)

ruhlin S&S SHELLY & SANDS
AKRON BELTWAY JV

BU-11
STRUCTURES

I-76/77 RAMP N
(SUM-76-1152N)

REALEASED FOR CONSTRUCTION JUNE 23, 2021

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

RAMP N CURVE DATA

HORIZONTAL CURVE N C20
P.I. STA. 3337+14.20
△ = 94°59'43" (RT.)
Dc = 9°00'00"
R = 636.62'
T = 694.69'
L = 1,055.50'
E = 305.65'
C = 938.69'
C.B. = N 42°34'09" E
P.C. STA.3330+19.51
P.T. STA.3340+75.01
e (MAX) = 0.060
V (DESIGN) = 45 MPH

KChrisman 6/23/2021 8:29:27 AM

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BENCHMARK DATA

BM #5 STA. 3322+30.18, ELEV. 1082.764, OFFSET 137.48' RT., CMON
BM #200 STA. 3338+59.87, ELEV. 1087.538, OFFSET 296.86' RT. IPIN
STATIONS AND OFFSETS GIVEN WITH RESPECT TO ℄ CONST. RAMP N

FOR ADDITIONAL BENCHMARK INFORMATION. SEE BU-34.

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. REFERENCE CHORD EXTENDS BETWEEN CENTERLINE REAR & FORWARD ABUTMENT BEARINGS AT THE ℄ CONSTRUCTION RAMP N.

DESIGN TRAFFIC:

2020 ADT = 14,590 2020 ADTT = 1,459
2040 ADT = 15,640 2040 ADTT = 1,564
DIRECTIONAL DISTRIBUTION = 100%

LEGEND

CONST. = CONSTRUCTION SHLDR. = SHOULDER
F.A. = FORWARD ABUTMENT T.O.R. = TOP OF ROCK
R.A. = REAR ABUTMENT

= PROJECT BORING LOCATIONS (SEE SHEET 2 / 60 FOR CHART AND ADDITIONAL INFORMATION.

= HISTORIC BORING LOCATIONS (SEE SHEET 2 / 60 FOR CHART AND ADDITIONAL INFORMATION.

= BENCHMARK LOCATION

△ = 16.0' MIN. REQUIRED
(18.7' REQUIRED OVER EXISTING BRIDGE TO ACCOMODATE FUTURE INTERCHANGE IMPROVEMENTS)
18.85'± MIN. CLEARANCE PROVIDED.

△△ = 16.5' MINIMUM REQUIRED, 27.5'± (OVER LANE M), 16.2'± (I-76 EB OVER LANE O), AND 38.3'± (OVER RAMP S) PROVIDED

● = POINT OF MINIMUM VERTICAL CLEARANCE

* = BASED ON HORIZONTAL SITE DISTANCE

** = BASED ON 4'-0" SHOULDER, 2'-0" TO FACE OF GUARDRAIL, 5'-0" CLEARANCE BEHIND GUARDRAIL.

*** = MINIMUM DRILLED SHAFT TIP ELEVATION:
PIER 3 - EL. 1031.80

▽ = TOP OF SLOPE ELEVATION, VARIES
EL. 1072.09 TO 1084.49 (REAR ABUTMENT)
EL. 1090.00 TO 1097.50 (FORWARD ABUTMENT)

▽▽ = CRUSHED AGGREGATE SLOPE PROTECTION

= MGS BRIDGE TERMINAL ASSEMBLY TYPE 2, 1st POST @ STA. 3332+11.36

= MGS BRIDGE TERMINAL ASSEMBLY TYPE 1, 1st POST @ STA. 3339+10.69

= PLACE THE PILES IN DRILLED HOLES THAT EXTEND A MINIMUM OF 5'-0" INTO BEDROCK

DRILLED SHAFT INFORMATION

LOCATION	SHAFT DIA. ABOVE ROCK	SHAFT DIA. IN ROCK	TOP OF SHAFT ELEV.	ROCK SOCKET LENGTH ***
PIER 1	4'-6"	4'-0"	1071.70	9'-0"
PIER 2	4'-6"	4'-0"	VARIES	15'-0"
PIER 3	-	8'-0"	1053.80	22'-0"
PIER 4	4'-6"	4'-0"	1077.40	13'-0"

EXISTING STRUCTURE - NONE

PROPOSED STRUCTURE

TYPE: 5-SPAN CONTINUOUS CURVED STEEL PLATE GIRDER WITH COMPOSITE REINFORCED CONCRETE DECK, STUB TYPE ABUTMENTS ON PILES WITH MSE WALLS, AND REINFORCED CONCRETE CAP-AND-COLUMN PIERS ON DRILLED SHAFTS
SPANS: 121'-9", 137'-2", 137'-4", 137'-0", AND 96'-0" c/c BEARINGS (SPANS MEASURED ALONG ℄ CONST. RAMP N)
ROADWAY: 30'-0" TOE/TOE PARAPET
LOADING: HL93 AND 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: 9°00'00" RIGHT CURVE
SUPERELEVATION: 0.06 FT./FT. DECK AREA: 21,323 SQ. FT.
COORDINATES: LATITUDE 41° 03' 38.06" N
LONGITUDE 81° 30' 17.28" W

PLAN

DEVELOPED ELEVATION ALONG PROFILE GRADE

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

DESIGNED	DRAWN	REVIEWED	DATE
KDC	JAT	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT		7705973	

SUMMIT COUNTY
STA. 3332+41.18
STA. 3338+79.43

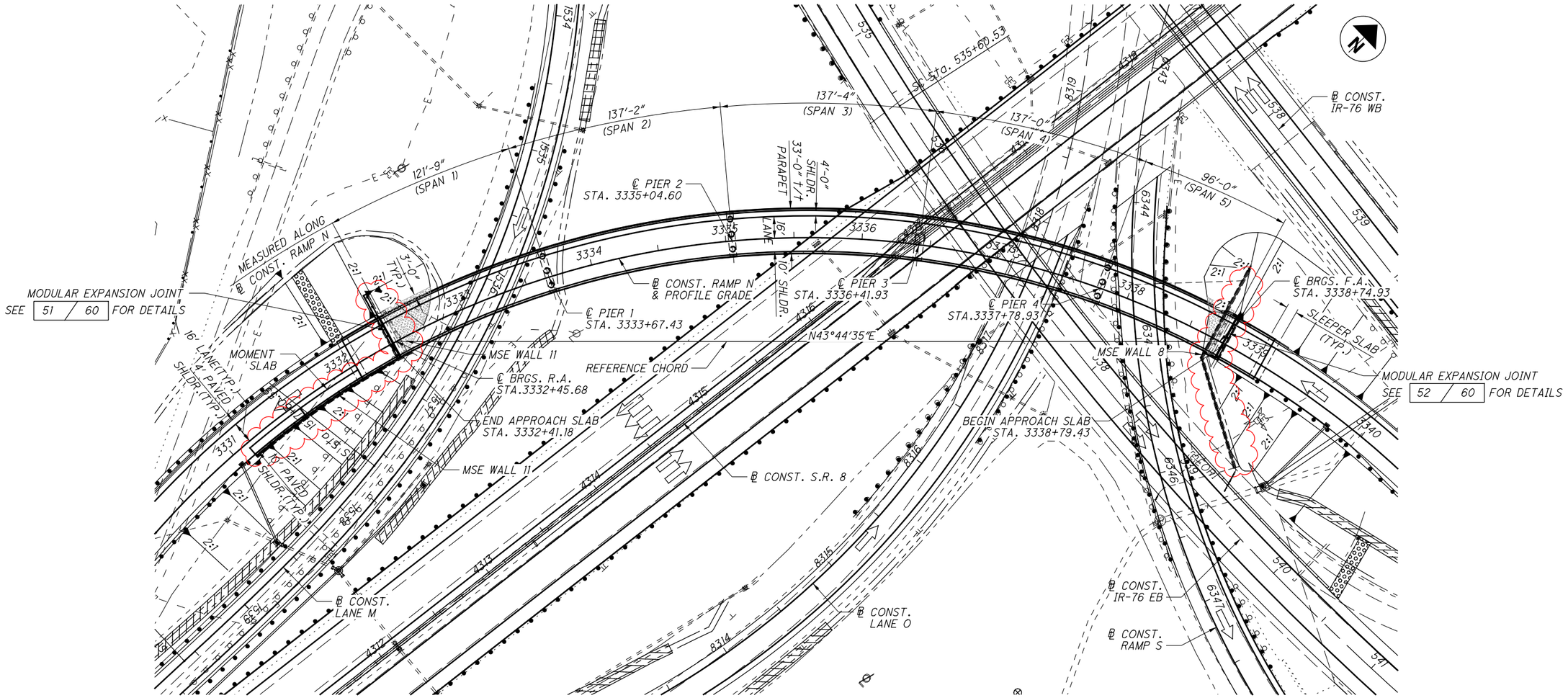
SITE PLAN
BRIDGE NO. SUM-76-1152N
RAMP N OVER RAMP S, LANES O & M, IR-76 EB, SR-8 NB/SB

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

1 / 60
2 / 61

ISSUE RECORD:

NO.	DATE	DESCRIPTION



GENERAL PLAN

HISTORIC BORING LOCATIONS AND TOP OF ROCK ELEVATIONS *			
BORING	STATION	OFFSET	T.O.R. ELEVATION
B-010-0-86	3336+92±	53'± LT.	1052.40'
B-011-0-86	3337+04±	68'± LT.	1052.40'
B-012-0-86	3337+50±	2'± LT.	1072.40'
B-013-0-86	3337+51±	23'± LT.	1071.90'
B-014-0-86	3338+20±	42'± RT.	1078.30'
B-015-0-86	3338+10±	25'± RT.	1078.80'
B-017-0-86	3338+63±	52'± RT	1077.70'
B-018-0-86	3339+75±	72'± RT.	1073.50'

(* = BORING DATA CAME FROM PREVIOUS PROJECTS AND BORING LOCATIONS ARE APPROXIMATE)

PROJECT BORING LOCATIONS AND TOP OF ROCK ELEVATIONS			
BORING	STATION	OFFSET	T.O.R. ELEVATION
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-035-0-16	3334+96.39	24.2' LT.	1070.8'
B-036-0-16	3338+80.46	17.9' LT.	1078.8'
B-037-0-16	3339+47.44	64.7' RT.	1080.7'
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-047-0-16	3337+28.21	78.8' RT.	1071.6'

NOTES

1. REFERENCE CHORD EXTENDS FROM ℄ BEARINGS REAR ABUTMENT TO ℄ BEARINGS FORWARD ABUTMENT.
2. SEE SHEET 3 / 60 FOR GEOMETRIC LAYOUT.
3. SEE SHEET 1 / 60 FOR LOCATIONS OF PROJECT BORINGS AND HISTORIC BORINGS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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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		7705973	

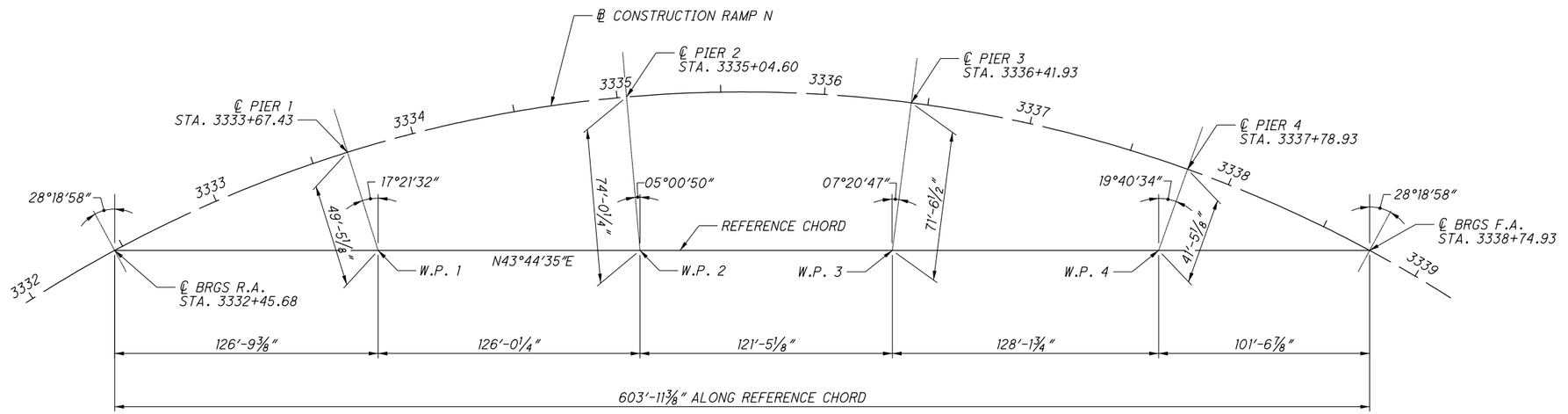
SUMMIT COUNTY
STA. 3332+41.18
STA. 3338+79.43

GENERAL PLAN
BRIDGE NO. SUM-76-1152N
RAMP N OVER RAMP S, LANES O & M, IR-76 EB, SR-8 NB/SB

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

2 / 60

3 / 61



BRIDGE LAYOUT DIAGRAM

NOTES:

1. SEE SHEET 1 / 60 FOR RAMP N CURVE DATA.
2. ALL SUBSTRUCTURES ARE ORIENTED RADIALLY TO ℄ CONSTRUCTION RAMP N.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

DESIGNED	DRAWN	REVIEWED	DATE
KK	KK	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7705973	

BRIDGE LAYOUT DIAGRAM
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

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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
SBR-1-13 REVISED 7-20-18

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

840 DATED 1/15/21
845 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: PIER 3.

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: PIER 3.

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, 2 & 4)
MASS CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE) (PIER 3)
CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS AT PIERS 1, 2 & 4)
MASS CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT AT PIER 3)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI
STEEL H-PILES - ASTM A572 GRADE 50 - YIELD STRENGTH 50 KSI

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.

PILE DRIVING CONSTRAINTS AT ABUTMENTS ADJACENT TO MSE WALLS: PRIOR TO DRIVING ABUTMENT PILES TO REFUSAL ON BEDROCK, CONSTRUCT THE MSE WALL AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE BOTTOM OF THE FOOTING FOR A MINIMUM DISTANCE OF 250' BEHIND THE ABUTMENT. THE CONTRACTOR MAY PRE-DRIVE ABUTMENT PILES BEFORE CONSTRUCTING MSE WALLS. PRE-DRIVING CONSISTS OF INSTALLING THE ABUTMENT PILES INTO THE SOIL ONLY AS FAR AS NECESSARY SO THAT THE PILE WILL REMAIN VERTICAL DURING MSE WALL CONSTRUCTION. IF PRE-DRIVING PILES, INSTALL PILE SLEEVES AROUND PILES BEFORE CONSTRUCTING THE MSE WALL. PROVIDE AT LEAST 3-FT OF PILE ABOVE THE TOP OF THE PILE SLEEVE TO MEET THE REQUIREMENTS OF C&MS 507.09 REGARDING SPLICES. DO NOT DRIVE ABUTMENT PILES TO REFUSAL ON BEDROCK UNTIL AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND A 30 CALENDAR DAY WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO REFUSAL ON BEDROCK. IN ORDER TO REMOVE ANY NEGATIVE SKIN FRICTION THAT HAS DEVELOPED DURING THE WAITING PERIOD, DRIVE EACH ABUTMENT PILE A DISTANCE OF AT LEAST 0.5-IN.

THE ABOVE NOTE DOES NOT APPLY AT THE FORWARD ABUTMENT WHERE THE PILES ARE TO BE PLACED IN HOLES, PREBORED INTO ROCK.

IF NOT PRE-DRIVING ABUTMENT PILES, INSTALL THE ABUTMENT PILES THROUGH PILE SLEEVES AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

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 219 KIPS PER PILE FOR THE REAR ABUTMENT PILES AND 209 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES.

REAR ABUTMENT PILES:
(12) - HP10X42 PILES, 50 FEET LONG, ORDER LENGTH (PILES 1-12)

FORWARD ABUTMENT PILES:
(10) - HP10X42 PILES, 45 FEET LONG, ORDER LENGTH (PILES 13-22)

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.

PILE DRIVING:

THE MINIMUM RATED ENERGY OF THE HAMMER USED TO INSTALL THE REAR ABUTMENT PILES SHALL BE 20,000 FOOT-POUNDS. ENSURE THAT STRESSES IN THE PILES DURING DRIVING DO NOT EXCEED 45,000 POUNDS PER SQUARE INCH.

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	1143	6754	6754
PIER 2	1063	6754	6754
PIER 3	2979	18679	18679
PIER 4	1013	3217	3217

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 MODULAR EXPANSION JOINT, SEE SHEET 51 / 60

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:

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.

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 PIER 3), ONE DRILLED SHAFT AT EACH MULTI-COLUMN PIER (AT PIERS 1, 2 & 4) 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 840 - CONCRETE COPING:

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

ITEM 524 - DRILLED SHAFTS, MISC.: CSL TESTING OF DRILLED SHAFT:

PERFORM INTEGRITY TESTING ON ALL DRILLED SHAFTS SUPPORTING SINGLE-COLUMN PIERS (AT PIER 3) 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.

DRILLED SHAFT ROCK SOCKET LENGTHS AND TIP ELEVATIONS:

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 3. BOTH CRITERIA SHALL BE MET.

AT PIER 3, 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. 1046.7, THE TIP ELEVATION SHOWN ON THE PLANS SHALL BE LOWERED BY AN AMOUNT EQUAL TO THE DIFFERENCE BETWEEN EL. 1046.7 AND THE TOP OF ROCK ELEVATION ENCOUNTERED IN THE FIELD AT THE LOCATION OF THE EXISTING STORM SEWER.

MECHANICAL CONNECTORS:

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES.

CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS.

MECHANICAL CONNECTORS SHALL CONFORM WITH ITEM 509, AND SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.

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 0.00 K/FT AT WALL 8 AND 0.00 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.

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:

FOR MSE WALL DESIGN CRITERIA, FACTORED BEARING RESISTANCE, AND DESIGN DETAILS, SEE BU-17 PLANS.

ITEM 507 - PREBORED HOLES, AS PER PLAN:

PLACE THE H-PILES AT FORWARD ABUTMENT IN PREBORED HOLES, WITHOUT DRIVING THE PILES AND FILL THE VOID WITH CLASS QC MISC. CONCRETE UP TO THE TOP OF BEDROCK ELEVATION AFTER PILE INSTALLATION. DRILL THE HOLES AT THE FORWARD ABUTMENT TO AN ELEVATION OF 1071.50 OR 5' INTO ROCK, WHICH EVER IS DEEPER. THE CLASS QC MISC. CONCRETE AND GRANULAR MATERIAL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 507-PREBORED HOLES, AS PER PLAN.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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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		7705973	

GENERAL NOTES - 1
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

4 / 60

5 / 61

2021-06-23_BU 11 - RFC PLANS

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

ABUTMENT JOINTS 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

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

DESIGNED BES | DRAWN AAA | REVIEWED JCS | DATE 4/29/19
CHECKED MAB | REVISED | STRUCTURE FILE NUMBER 7705973

GENERAL NOTES - 2

SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

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.

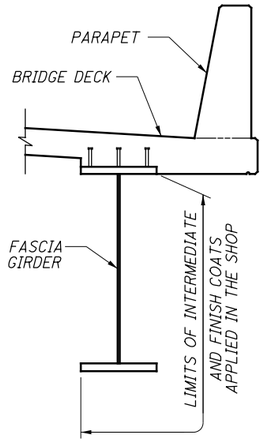
FOR THE URETHANE FINISH COAT, USE FEDERAL COLOR STANDARD NO. 10076.

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, 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-76-1148R 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
†/† = TOE-TO-TOE
U.N.O. = UNLESS NOTED OTHERWISE
VAR. = VARIES
WB = WESTBOUND
W.P. = WORK POINT

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

DESIGNED BES | DRAWN AAA | REVIEWED JCS | DATE 4/29/19
CHECKED MAB | REVISED | STRUCTURE FILE NUMBER 7705973

GENERAL NOTES - 3

SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

Released for Construction
Thomas J Powell, PE
06/28/2021

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	GENERAL	TOTAL	PARTICIPATION 07/IMS/BR	SHEET REF.
				CALC. JHL/ASG	DATE 5/19/20	CHK'D SJA		DATE 5/19/20		
			OPTION A							
202	11003	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	LS	LS	6 , 8 / 60
202	22900	SY	APPROACH SLAB REMOVED				111	111	111	
~~503~~	~~21100~~	~~CY~~	~~UNCLASSIFIED EXCAVATION~~	~~757~~				~~757~~	~~757~~	
505	11100	LS	PILE DRIVING EQUIPMENT MOBILIZATION	LS				LS	LS	
507	00100	FT	STEEL PILES HP10X42, FURNISHED	1050				1050	1050	
507	00150	FT	STEEL PILES HP10X42, DRIVEN	940				940	940	
~~507~~	~~00200~~	~~FT~~	~~STEEL PILES HP12X53, FURNISHED~~	~~880~~				~~880~~	~~880~~	
~~507~~	~~00250~~	~~FT~~	~~STEEL PILES HP12X53, DRIVEN~~	~~755~~				~~755~~	~~755~~	
509	10001	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	~~124900~~ 17874	78000	182900	~~35000~~35760	~~420800~~ 314534	~~420800~~ 314534	4 / 60
511	34446	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			640		640	640	
511	34451	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			~~208~~ 213		~~208~~ 213	~~208~~ 213	6 / 60
511	41012	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		173			173	173	
511	44112	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	~~635~~ 96				~~635~~ 96	~~635~~ 96	
511	45602	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA		122			122	122	
511	46512	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	~~485~~ 87				~~485~~ 87	~~485~~ 87	
512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	~~532~~ 169	754	1345	~~76~~ 104	~~2707~~ 2344	~~2707~~ 2372	
~~512~~	~~33000~~	~~SY~~	~~TYPE 2 WATERPROOFING~~	~~31~~				~~31~~	~~31~~	
513	10301	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5, AS PER PLAN			816300		816300	816300	6 / 60
513	17001	FT	STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN			67		67	67	5 / 60
513	20000	EACH	WELDED STUD SHEAR CONNECTORS			6543		6543	6543	
513	95030	EACH	STRUCTURAL STEEL, MISC.: PARAPET SLIDING PLATE JOINT			4		4	4	53 / 60
516	13600	SF	1" PREFORMED EXPANSION JOINT FILLER	~~107~~ 16				~~107~~ 16	~~107~~ 16	
516	44101	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-8" x 1'-5" x 2 7/8")		8			8	8	37-39 / 60
516	44201	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-8" x 1'-5" x 3 7/8")		4			4	4	37-39 / 60
516	44301	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-8" x 1'-5" x 4 15/16")		4			4	4	37-39 / 60
516	44401	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-8" x 1'-2" x 6 1/4")	4				4	4	37-39 / 60
516	44401	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-6" x 1'-2" x 6 15/16")	4				4	4	37-39 / 60
518	21200	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	~~355~~ 48				~~355~~ 48	~~355~~ 48	
518	40000	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	~~205~~ 88				~~205~~ 88	~~205~~ 88	
518	40010	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	~~45~~ 26				~~45~~ 26	~~45~~ 26	
524	95100	EACH	DRILLED SHAFTS, MISC.: THERMAL INTEGRITY PROFILER (T.I.P.) WIRE CABLE TESTING OF DRILLED SHAFTS	~~2~~	4			~~6~~ 4	~~6~~ 4	4 / 60
524	95100	EACH	DRILLED SHAFTS, MISC.: CSL TESTING, 96" DIAMETER SHAFT		1			1	1	4 / 60
524	95455	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN	~~207~~	111			~~318~~ 111	~~318~~ 111	4 / 60
524	95463	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	~~152~~	71			~~223~~ 71	~~223~~ 71	4 / 60
524	95535	FT	DRILLED SHAFTS, 96" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN		22			22	22	4 / 60
526	30011	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				~~220~~ 225	~~220~~ 225	~~220~~ 225	4 / 60
526	90010	FT	TYPE A INSTALLATION				~~66~~ 68	~~66~~ 68	~~66~~ 68	
~~SPECIAL~~	~~53013000~~	~~SF~~	~~FORM LINER~~	~~3524~~				~~3524~~	~~3524~~	~~4 / 60~~
601	20000	SY	CRUSHED AGGREGATE SLOPE PROTECTION	~~159~~ 3				~~159~~ 3	~~159~~ 3	
			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	

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

REVIEWED SAN DATE 6/14/21
STRUCTURE FILE NUMBER 7705973
DRAWN KDC
REVISED
DESIGNED KDC
CHECKED JAT

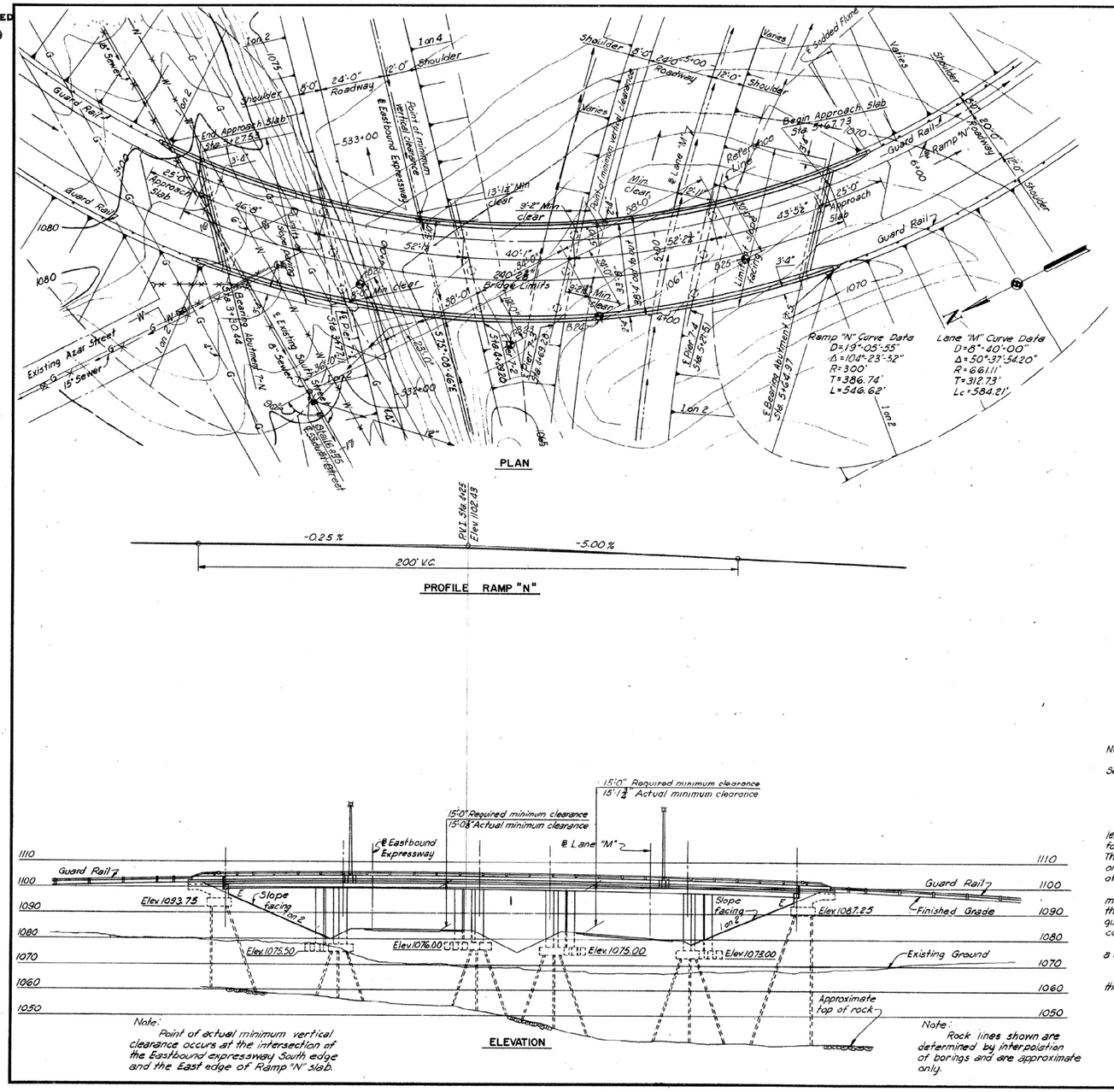
ESTIMATED QUANTITIES
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

7 / 60
8 / 61

ISSUE RECORD:

NO.	DATE	DESCRIPTION



Note: Point of actual minimum vertical clearance occurs at the intersection of the Eastbound expressway South edge and the East edge of Ramp "N" slab.

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

LEGEND

- Existing Manhole
- Existing Inlet
- Sewer Lines to be abandoned or removed.
- Existing Gas Lines
- Existing Hydrant or Valve
- Water Lines to be abandoned or removed.
- New Sewer
- New Manhole
- New Underdrain
- Boring

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

167
176

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

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.	190	295			485
5-1	Class "C" Concrete (Superstructure)	Cu. Yd.			715		715
5-1	Class "C" Concrete (Pier Columns)	Cu. Yd.		65			65
5-1	Class "E" Concrete (Stub Abutments)	Cu. Yd.	80				80
5-1	Class "E" Concrete (Footings)	Cu. Yd.	70	110			180
5-3	Type "C" Waterproofing	Sq. Yd.			860		860
5-4	Reinforcing Steel	Lbs.	8,570	42,700	207,430		258,700
5-9	Structural Steel Expansion joint	Lbs.			8300		8300
5-9	1" Rolled Phosphor Bronze, Sliding Plates	Lbs.			280		280
5-1d	Aluminum Handrail (Including Parapet)	Lin. Ft.	59		446		505
5-16	First Test Pile	Lump Sum					Lump Sum
5-18	Steel Bearing Piles (12BP53)	Lin. Ft.	1385	1895			3280
5-25	2" ϕ Rigid Metal Conduit	Lin. Ft.	34		236		270
5-29	Porous Backfill	Cu. Yd.	23				23
5-29	Subdrainage for Wearing Surface Course	Lin. Ft.			465		465
T-35	2½" Asphaltic Concrete Surface Course Type C (60-70)	Cu. Yd.			59		59
5-29	4' W. I. Scuppers	Each			22		22
5-29	Slope Facing (5-29.05 type)	Cu. Yd.	165				165
5-25	Standards, 24'x9¾" pole with 10'-0" bracket ①	Each			2		2
5-26	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.
Relocation or removal of existing utilities.
Approach grading, pavements, and slabs.
Guard rails.

All piles to be 12 BP53 with an estimated average vertical length of 30'-0" for Abutment 7-N, Pier 7-3, and Pier 7-4, 20'-0" for Pier 7-1, 25'-0" for Pier 7-2, and 50'-0" for Abutment 7-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 (5-29.05 type) shall be 12" thick and shall be placed within the limits shown on the plan of the structure.

PROPOSED STRUCTURE

Type: Five span continuous slab bridge with reinforced concrete deck and substructure.
Spans: 46'-8", 52'-1⅝", 40'-1", 52'-2⅜", and 43'-5½" = 234'-6½" ctr. to ctr. end bearings.
Rdwy.: 33'-8" c/c 1'-2" safety curbs.
Loading: CF 2000 (Adequate for A.A.S.H.O. alternate loading.
Skew: Varies 32°-00'-51.24" to 36°-15'-54.02"
Surface Course: 2½" Asphaltic concrete.
Approach Slabs: AS-1-54 (25'-0" long.

H.N.T.B. BR. NO. 7 PART 10

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

SITE PLAN

EASTBOUND EXPRESSWAY UNDER RAMP "N"
BR. NO. SUM-18-1206 STA. 3+27.53
SCALE: 1"=20' STA. 5+67.73
AKRON EXPRESSWAY SYSTEM
AKRON SUMMIT COUNTY OHIO

DRAWN SMA	TRACED	CHECKED JWL	REVIEWED TJP	REVISED
DATE 12-7-55	DATE	DATE 8-29-56	DATE 9-6-56	1018 SHEET 167

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.
2. THE EXISTING APPROACH SLABS ARE TO BE REMOVED AS PER ITEM 202 - APPROACH SLAB REMOVED.
3. SUM-18-1206 IS THE HISTORIC BRIDGE NUMBER. THE CURRENT BRIDGE NUMBER IS SUM-76-1148R AND THE STRUCTURE FILE NUMBER IS 7705972.

DESIGN AGENCY
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		7705973	

BRIDGE REMOVAL DETAILS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

8/60
9/61

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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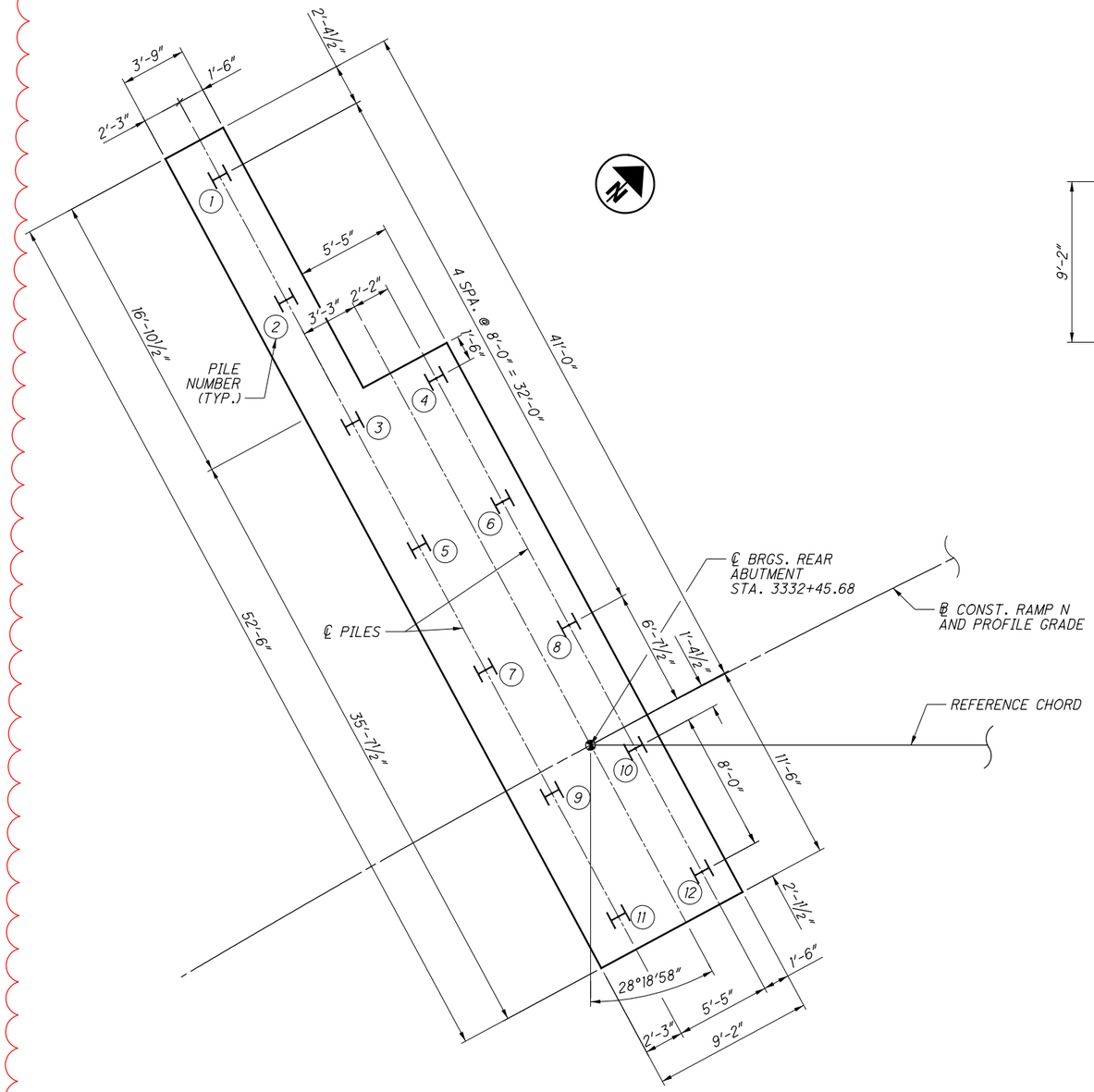
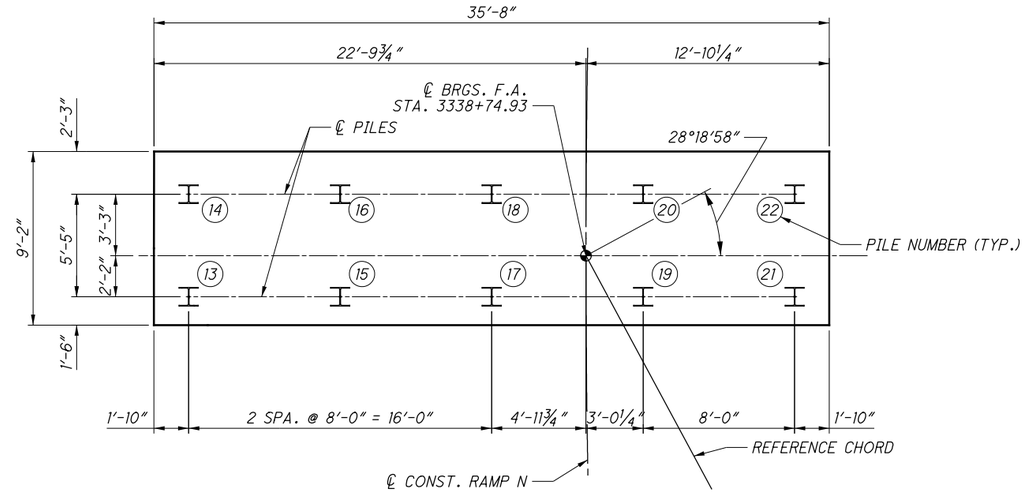


FOUNDATION PLAN - REAR ABUTMENT



FOUNDATION PLAN - FORWARD ABUTMENT

REAR ABUTMENT PILE LOCATION		
PILE NO.	STA.	OFFSET
1	3332+42.62	38.62' LT
2	3332+42.58	30.63' LT
3	3332+42.54	22.63' LT
4	3332+47.77	22.63' LT
5	3332+42.50	14.63' LT
6	3332+47.80	14.63' LT
7	3332+42.46	6.63' LT
8	3332+47.82	6.63' LT
9	3332+42.38	1.37' RT
10	3332+47.85	1.37' RT
11	3332+42.42	9.37' RT
12	3332+47.88	9.37' RT

FORWARD ABUTMENT PILE LOCATION		
PILE NO.	STA.	OFFSET
13	3338+72.83	20.98' LT
14	3338+78.08	20.98' LT
15	3338+72.80	12.98' LT
16	3338+78.11	12.98' LT
17	3338+72.78	4.98' LT
18	3338+78.15	4.98' LT
19	3338+72.75	3.02' RT
20	3338+78.19	3.02' RT
21	3338+72.72	11.02' RT
22	3338+78.24	11.02' RT

LEGEND:

I = PROPOSED HP10x42 STEEL PILE WITH YELLOW JACKET PILE SLEEVE (VERTICAL)

NOTES:

1. SEE SHEETS 10 / 60 AND 12 / 60 FOR DETAILS OF REAR ABUTMENT FOOTING.
2. SEE SHEETS 11 / 60 AND 14 / 60 FOR DETAILS OF FORWARD ABUTMENT FOOTING.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

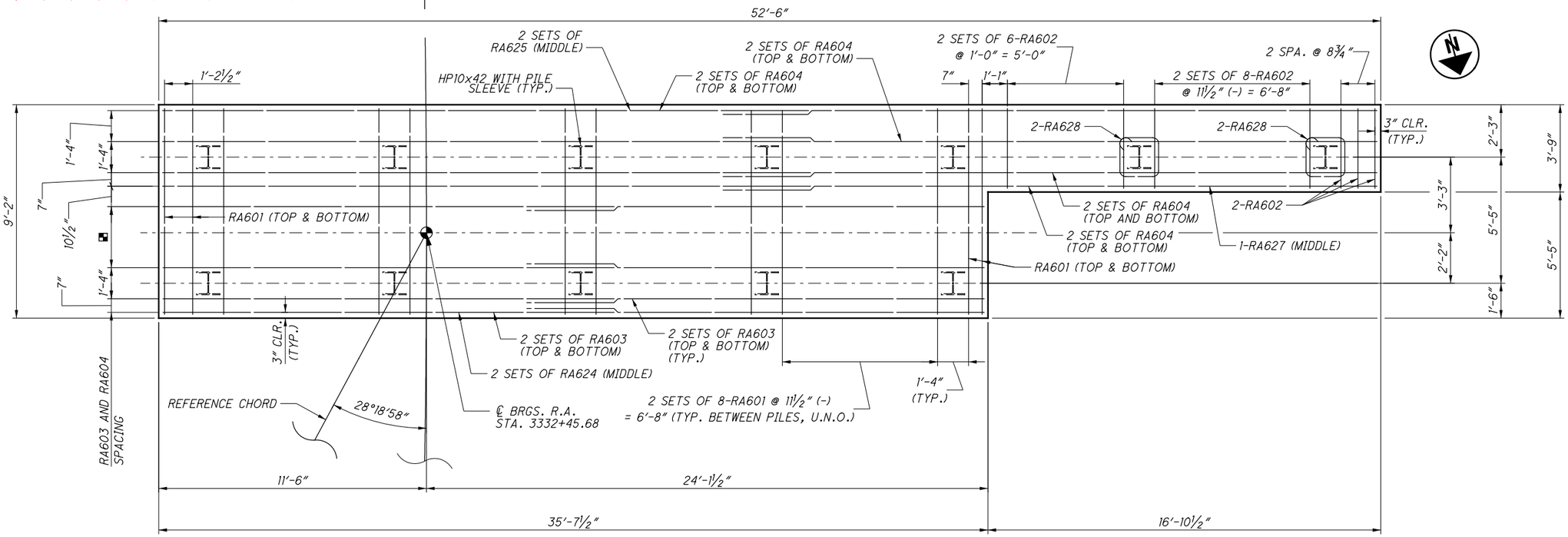
DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT		7705973	

FOUNDATION PLAN - REAR AND FORWARD ABUTMENTS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

9 / 60

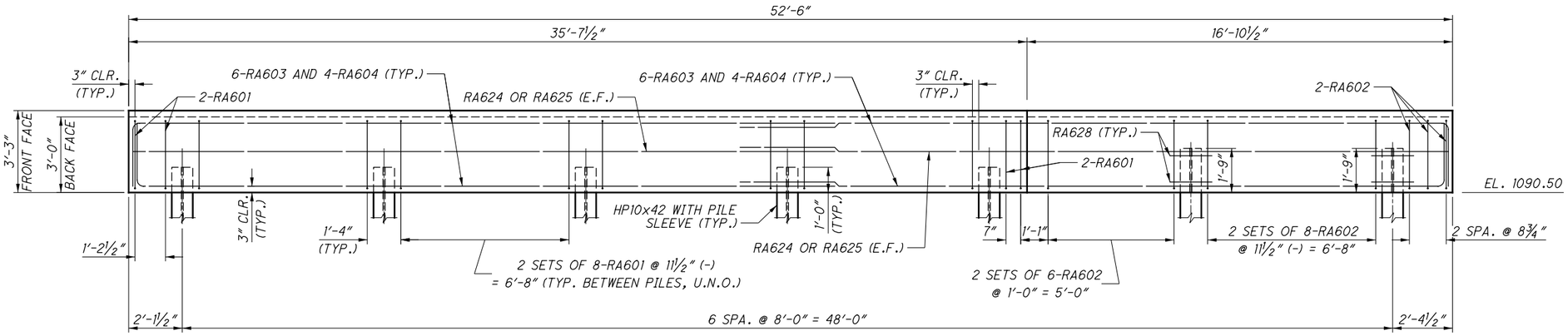
10 / 61



FOOTING PLAN

LEGEND:

- 3 SPA. @ 10½" = 2'-7½"
- HP10x42 STEEL PILE WITH YELLOW JACKET PILE SLEEVE



FOOTING ELEVATION

MINIMUM LAP LENGTHS:

#6 BAR = 3'-8"

NOTES:

1. SEE SHEET 9 / 60 FOR PILE LAYOUT AND ADDITIONAL FOOTING DIMENSIONS.

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
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JAT		7705973	

REAR ABUTMENT FOOTING PLAN
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

10 / 60

11 / 61

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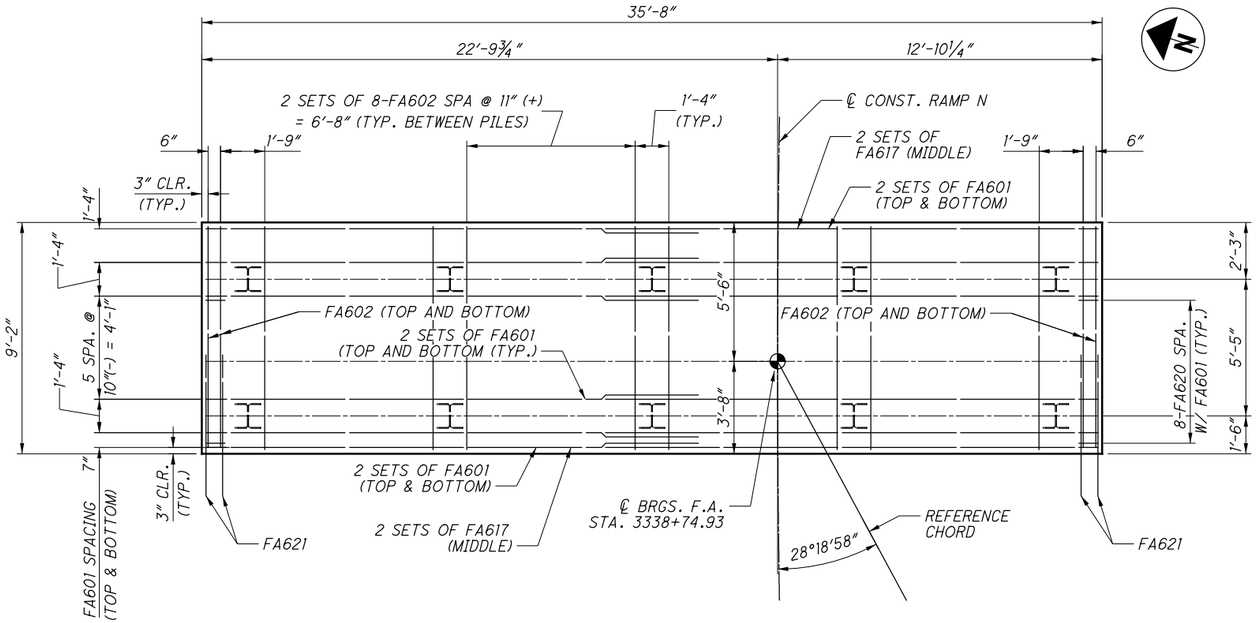
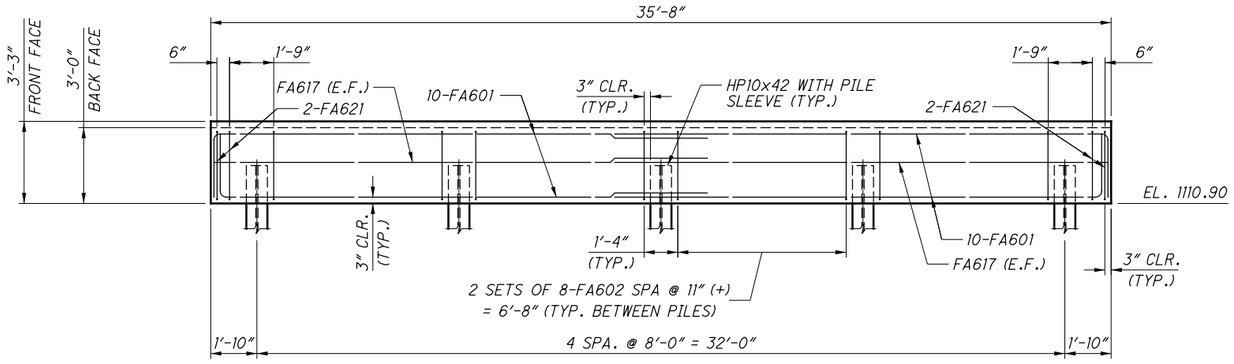


FORWARD ABUTMENT FOOTING PLAN



FORWARD ABUTMENT FOOTING ELEVATION

MINIMUM LAP LENGTHS:

#6 BAR = 3'-8"

LEGEND:

I - HP10x42 STEEL PILE WITH PILE SLEEVE

NOTES:

1. SEE SHEET 9 / 60 FOR PILE LAYOUT AND ADDITIONAL FOOTING DIMENSIONS.
2. FOR ADDITIONAL DETAILS ON PREBORED HOLES, SEE SHEET 4 / 60 .

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT		7705973	

FORWARD ABUTMENT FOOTING PLAN
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

11 / 60

12 / 61

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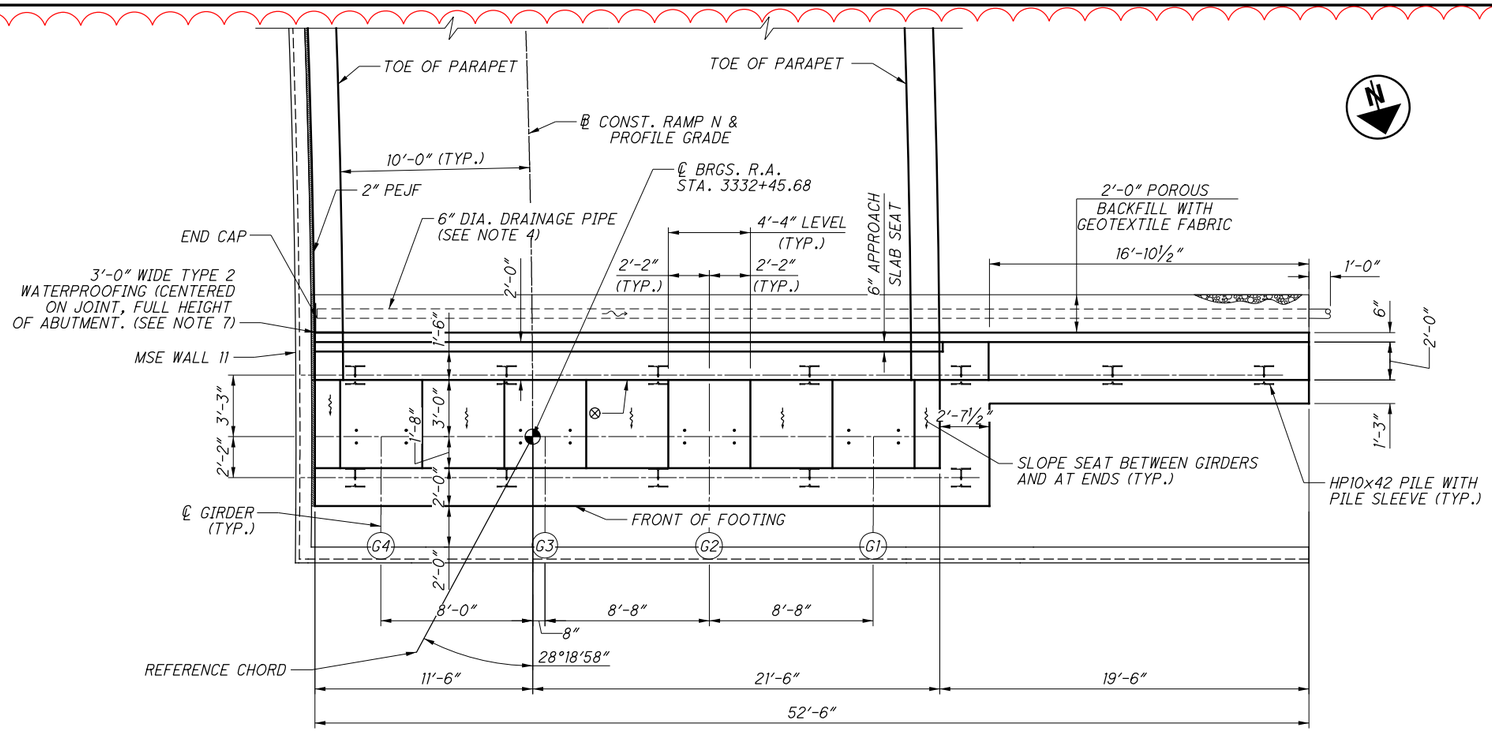
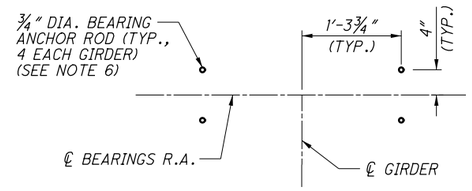
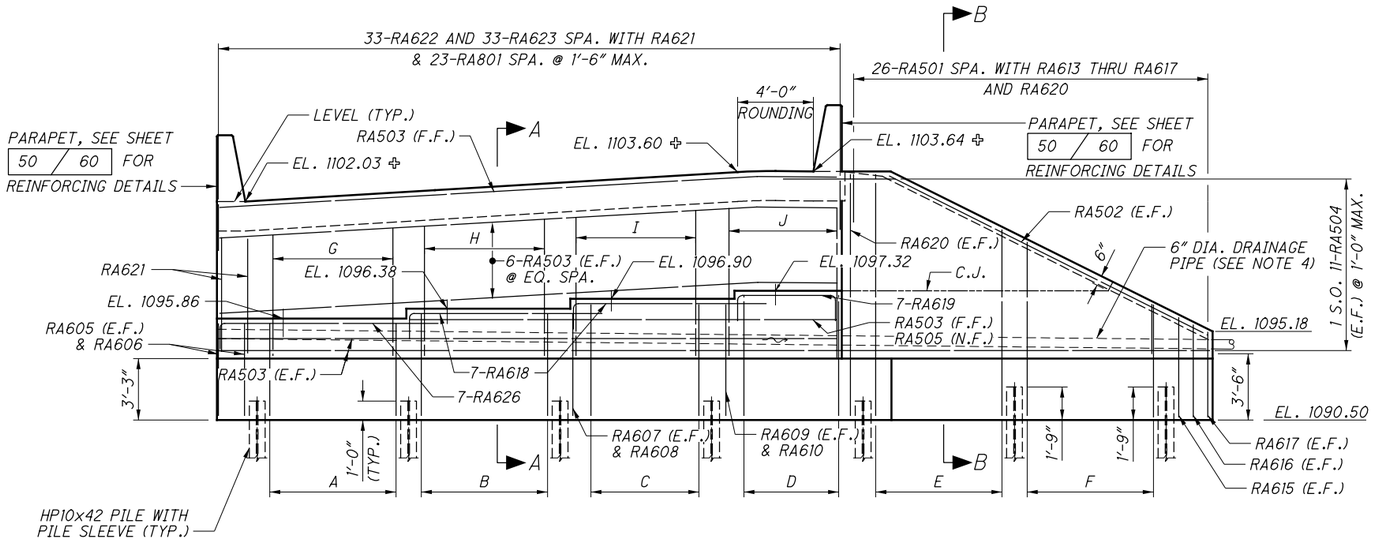


REAR ABUTMENT PLAN



BEARING ANCHOR PLAN



ELEVATION

(FOOTING REINFORCING STEEL NOT SHOWN)
(MSE WALL NOT SHOWN)

MINIMUM LAP LENGTHS:

#6 BAR = 3'-8" (HORIZONTAL)

#5 BAR = 3'-1" (HORIZONTAL)

LEGEND:

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

⊗ = FRONT FACE OF BACKWALL

A = 8-RA605 (E.F.) AND 8-RA606 SPA. W/ RA601

B = 8-RA607 (E.F.) AND 8-RA608 SPA. W/ RA601

C = 7-RA609 (E.F.) AND 7-RA610 SPA. W/ RA601

D = 6-RA611 (E.F.) AND 6-RA612 SPA. W/ RA601

E = 1 SER. OF 11-RA613 (E.F.) SPA. @ 8"

F = 1 SER. OF 11-RA614 (E.F.) SPA. @ 8"

G = 8-RA621 SPA. W/ RA605

H = 8-RA621 SPA. W/ RA607

I = 8-RA621 SPA. W/ RA607 OR RA609

J = 7-RA621 SPA. W/ RA609 OR RA611

NOTES:

1. SEE SHEET 9 / 60 FOR PILE LAYOUT AND ADDITIONAL FOOTING DIMENSIONS.
2. SEE SHEET 13 / 60 FOR SECTIONS A-A AND B-B AND TURNBACK MSE WALL DETAILS.
3. SEE BU-17 FOR MSE WALL 11 PLANS.
4. 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.
5. PROVIDE CRUSHED AGGREGATE SLOPE PROTECTION AT PIPE OUTLETS PER STANDARD DRAWING A-1-69.
6. SEE SHEET 38 / 60 FOR BEARING ANCHOR ROD DETAILS AND PAYMENT.
7. SECURE TYPE 2 WATERPROOFING TO THE ABUTMENT TO PREVENT MOVEMENT.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

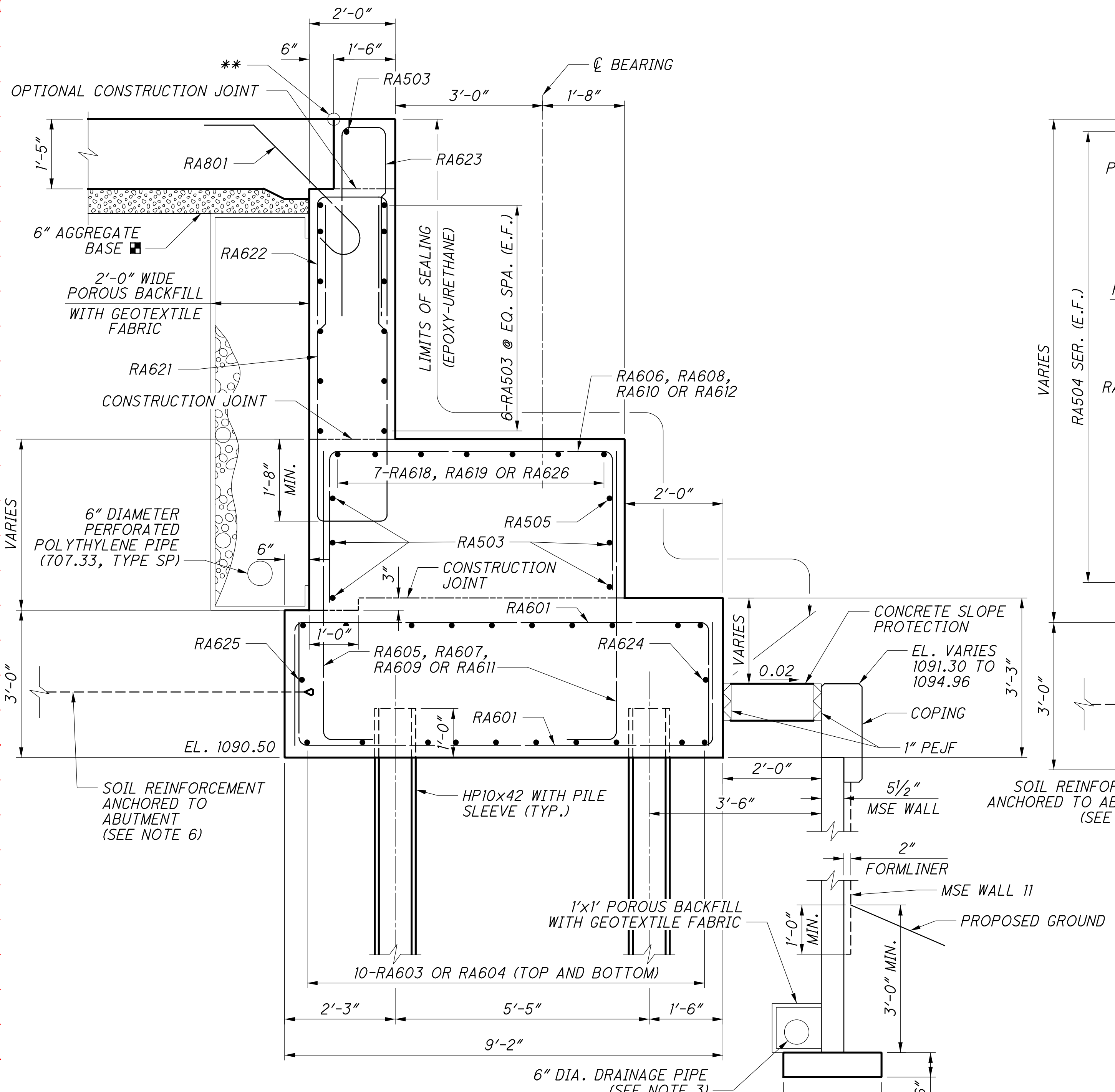
DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT		7705973	

REAR ABUTMENT PLAN AND ELEVATION
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

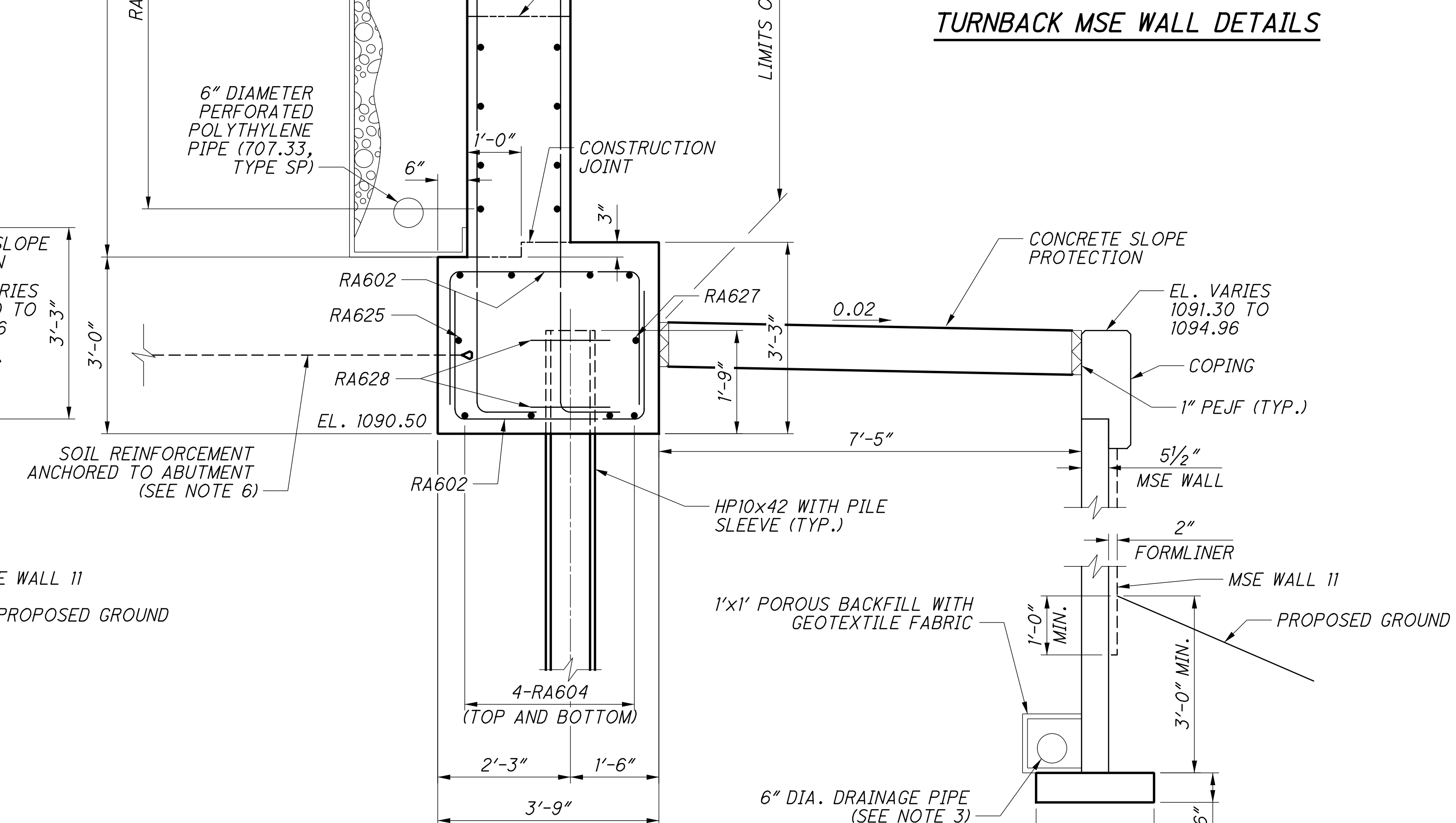
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

12 / 60

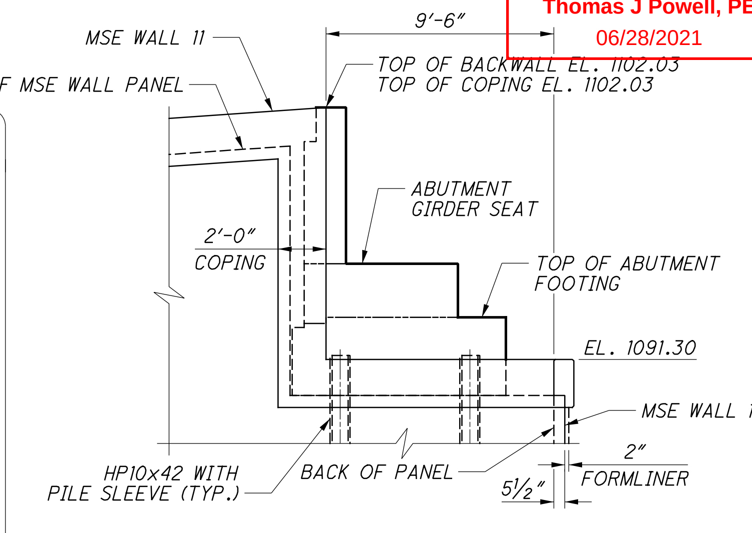
13 / 61



SECTION A-A THRU ABUTMENT



SECTION B-B THRU WINGWALL



TURNBACK MSE WALL DETAILS

MINIMUM LAP LENGTHS:

#6 BAR = 3'-8"

LEGEND:

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

▨ = SEE ROADWAY PLANS FOR DETAILS

NOTES:

1. SEE SHEET 9 / 60 FOR PILE LAYOUT AND ADDITIONAL FOOTING DIMENSIONS.
2. TURN GEOTEXTILE FABRIC UP 6" AT BASE OF WALL AND DOWN 6" AT TOP OF WALL.
3. SLOPE 6" DIA. PCPP AT ⅛" PER FOOT TOWARDS THE OUTLET.
4. SEE BU-17 FOR ADDITIONAL FORMLINER REQUIREMENTS.
5. FOR MSE WALL 11 DETAILS, SEE BU-17.
6. SOIL REINFORCEMENT LOAD = 6.14 KIPS/FT. STRAP CONNECTIONS TO ABUTMENTS TO BE PROVIDED BY MSE MANUFACTURER. SEE GENERAL NOTES FOR MORE INFORMATION.

Released for Construction
Thomas J Powell, PE
06/28/2021

ISSUE RECORD:

NO.	DATE	DESCRIPTION

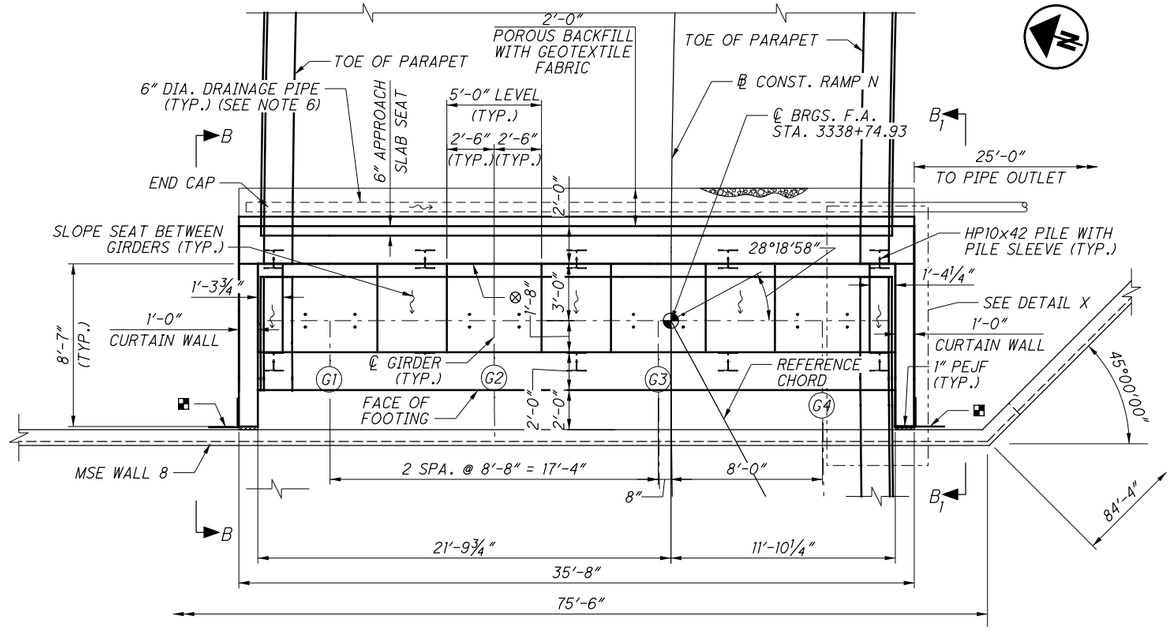
DESIGN AGENCY
PRIME AE
8415 Pulsar Place Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT		7705973	

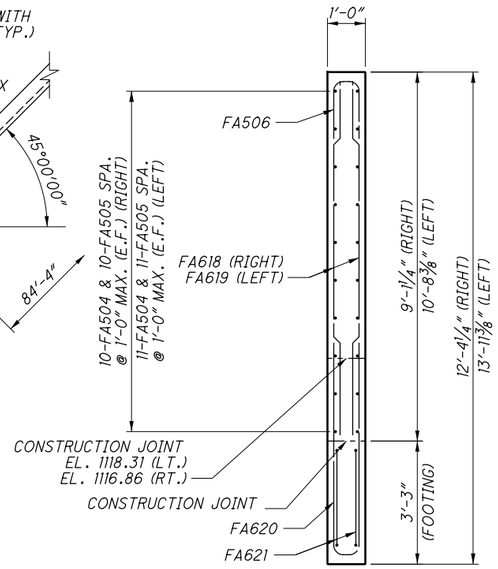
REAR ABUTMENT DETAILS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

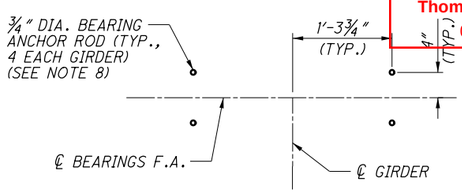
2021-06-23_BU 11 - RFC PLANS



PLAN

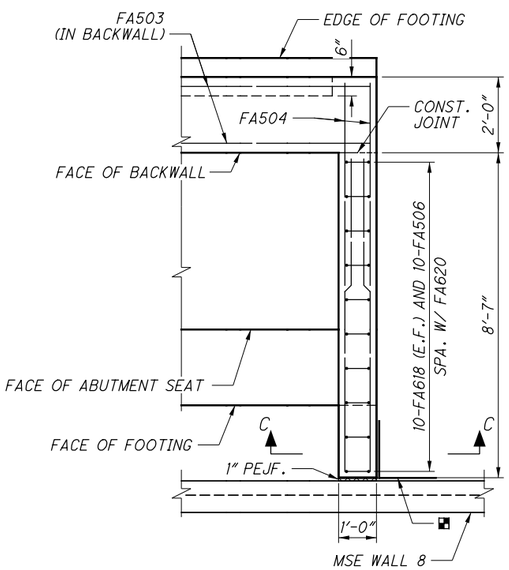


SECTION C-C THRU CURTAIN WALL



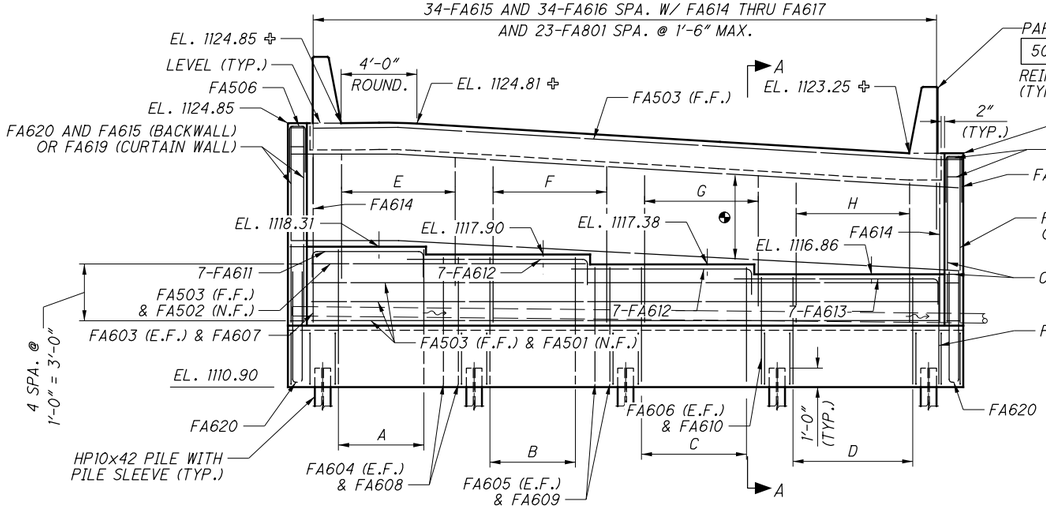
BEARING ANCHOR PLAN

SEE NOTE 5



DETAIL X

(RIGHT SIDE SHOWN, LEFT OPPOSITE HAND)



ELEVATION

(FOOTING REINFORCING STEEL NOT SHOWN)
(MSE WALL NOT SHOWN)

NOTES:

1. SEE SHEET 9 / 60 FOR PILE LAYOUT AND ADDITIONAL FOOTING DIMENSIONS.
2. SEE SHEET 11 / 60 FOR ADDITIONAL FOOTING REINFORCING DETAILS.
3. SEE SHEET 15 / 60 FOR SECTIONS A-A AND VIEWS B-B & B_1-B_1.
4. SEE BU-17 FOR MSE WALL 8 PLANS.
5. 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.
6. 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.
7. PROVIDE CRUSHED AGGREGATE SLOPE PROTECTION AT PIPE OUTLETS PER STANDARD DRAWING A-1-69.
8. SEE SHEET 39 / 60 FOR BEARING ANCHOR ROAD DETAILS AND PAYMENT.
9. SECURE TYPE 2 WATERPROOFING TO THE ABUTMENT TO PREVENT MOVEMENT.

MINIMUM LAP LENGTHS:

#6 BAR = 3'-8"

LEGEND:

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

⊗ = FRONT FACE OF BACKWALL

◕ = 6-FA503 @ EQUAL SPACING (E.F.)

▪ = 3'-0" WIDE TYPE 2 WATERPROOFING (CENTERED ON JOINT, FULL HEIGHT OF ABUTMENT. (SEE NOTE 9)

A = 6-FA603 SPA. W/ FA602 (E.F.) AND 6-FA607

B = 6-FA604 SPA. W/ FA602 (E.F.) AND 6-FA608

C = 7-FA605 SPA. W/ FA602 (E.F.) AND 7-FA609

D = 8-FA606 SPA. W/ FA602 (E.F.) AND 8-FA610

E = 8-FA614 SPA. W/ FA603 OR FA604

F = 8-FA614 SPA. W/ FA604 OR FA605

G = 8-FA614 SPA. W/ FA605 OR FA606

H = 8-FA614 SPA. W/ FA606

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		7705973	

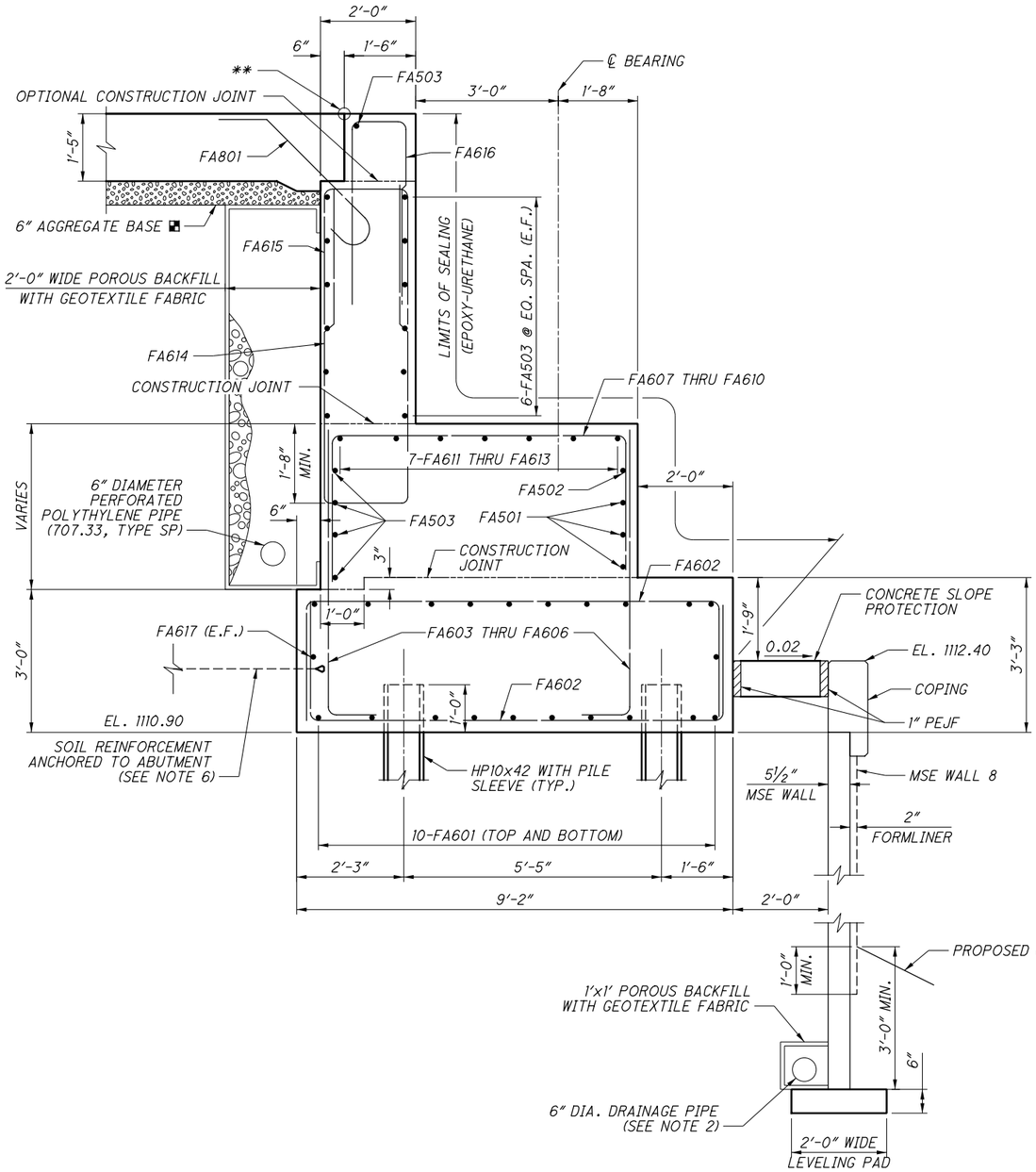
FORWARD ABUTMENT PLAN AND ELEVATION
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

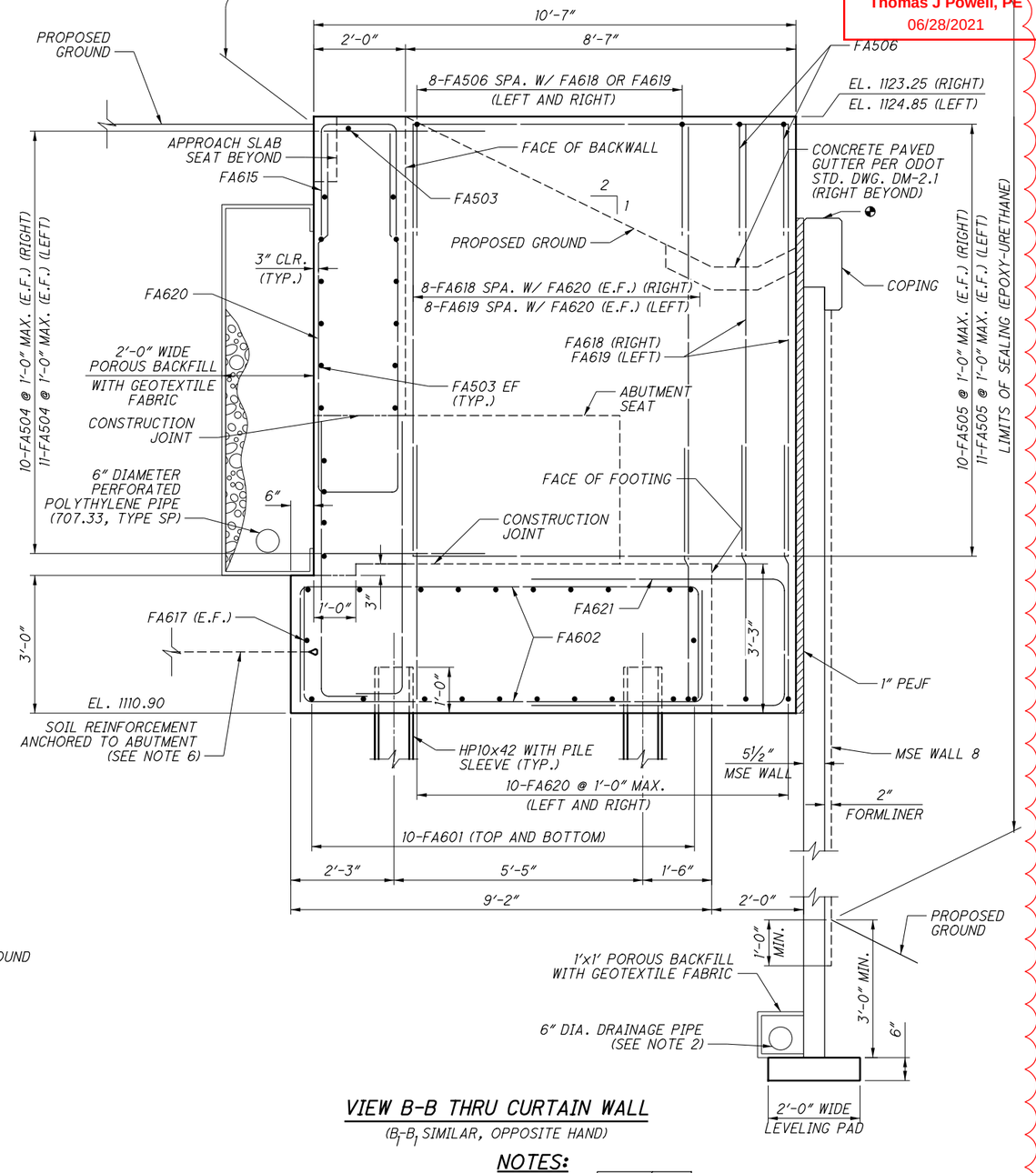
14 / 60

15 / 61

pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\SUM076_1152N\Sheets\076_1149R_SF007.dgn Sheet 6/23/2021 8:32:05 AM KChrisman



SECTION A-A THRU ABUTMENT



VIEW B-B THRU CURTAIN WALL

(B_1-B_1 SIMILAR, OPPOSITE HAND)

MINIMUM LAP LENGTHS:

#5 BAR = 3'-1"
#6 BAR = 3'-8"

LEGEND:

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

■ = SEE ROADWAY PLANS FOR DETAILS & PAYMENT

◔ = EL. 1121.15 (LEFT), EL. 1121.04 (RIGHT)

NOTES:

1. SEE SHEET 9 / 60 FOR PILE LAYOUT AND ADDITIONAL FOOTING DIMENSIONS.
2. SLOPE 6" DIA. PCPP AT ⅛" PER FOOT TOWARDS THE OUTLET.
3. TURN GEOTEXTILE FABRIC UP 6" AT BASE OF WALL AND DOWN 6" AT TOP OF WALL.
4. FOR MSE WALL 8 DETAILS, SEE BU-17.
5. SEE SHEET 14 / 60 FOR LOCATION OF SECTIONS A-A AND B-B.
6. SOIL REINFORCEMENT LOAD = 7.43 KIPS/FT. ADDITIONAL STRAPS MAY BE ANCHORED TO THE ABUTMENTS IF NECESSARY TO RESIST LOAD. STRAP CONNECTIONS TO ABUTMENTS TO BE PROVIDED BY MSE MANUFACTURER. SEE GENERAL NOTES FOR MORE INFORMATION.

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

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
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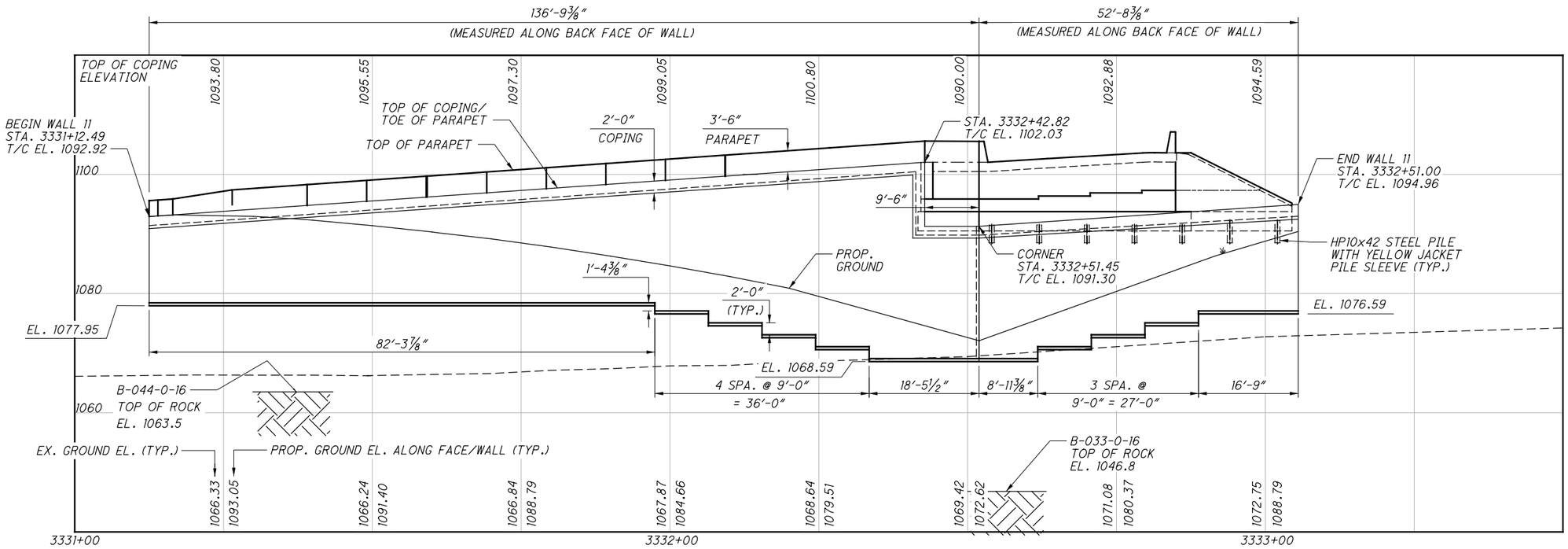
FORWARD ABUTMENT DETAILS - 1

SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

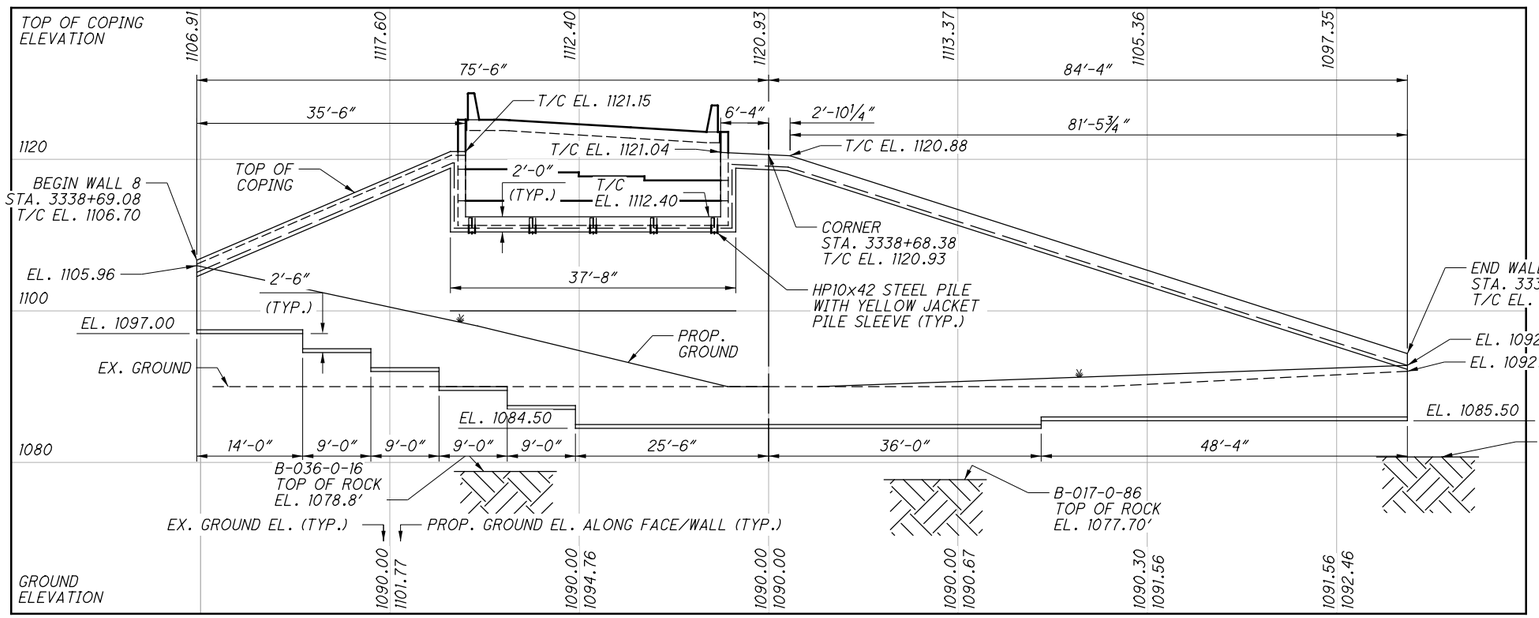
15 / 60

16 / 61



DEVELOPED ELEVATION ALONG FRONT FACE OF MSE WALL 11

(MSE WALL DRAINAGE NOT SHOWN)



DEVELOPED ELEVATION ALONG FRONT FACE OF MSE WALL 8

(MSE WALL DRAINAGE NOT SHOWN)

NOTE:

1. FOR MSE WALL DETAILS, SEE BU-17.

ISSUE RECORD:

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8415 Pulsar Place, Suite 300
Columbus Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
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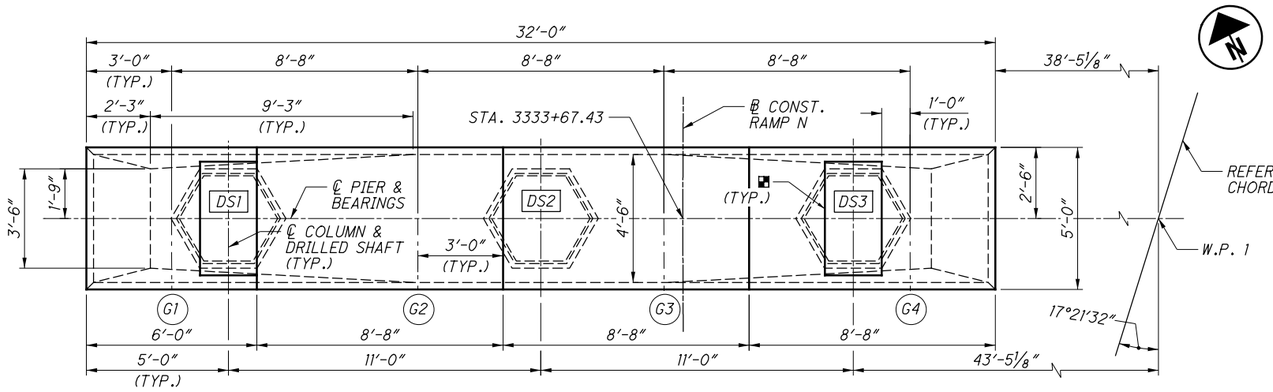
MSE WALL ELEVATIONS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

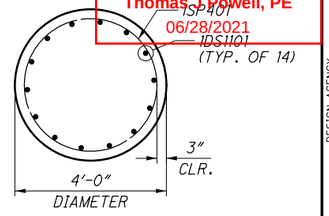
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

16/60
17/61

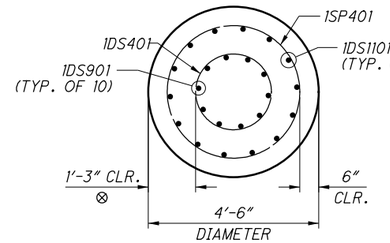


PLAN - PIER 1

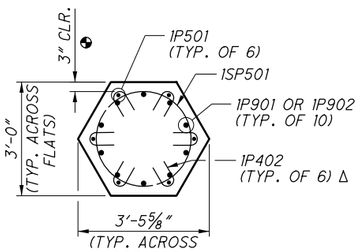
BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
G1	1106.09
G2	1105.66
G3	1105.14
G4	1104.60



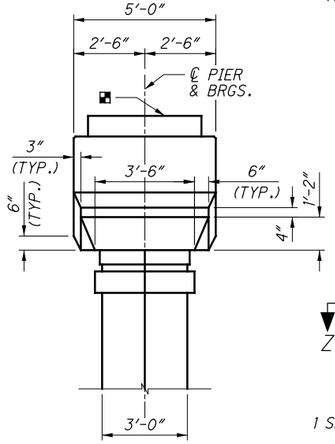
SECTION A-A



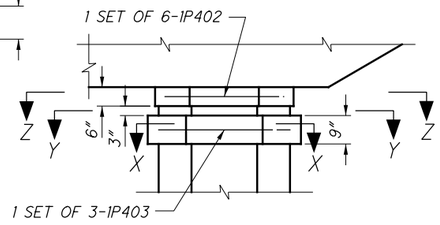
SECTION B-B



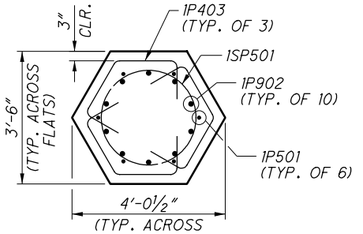
SECTION C-C



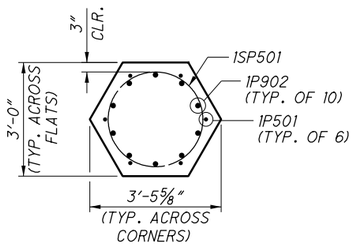
CAP END VIEW
(TYP. BOTH ENDS)



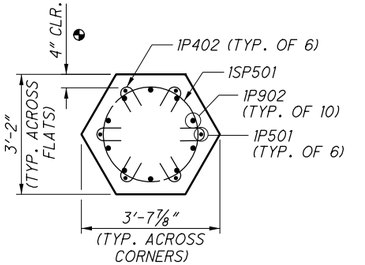
TOP OF COLUMN DETAIL



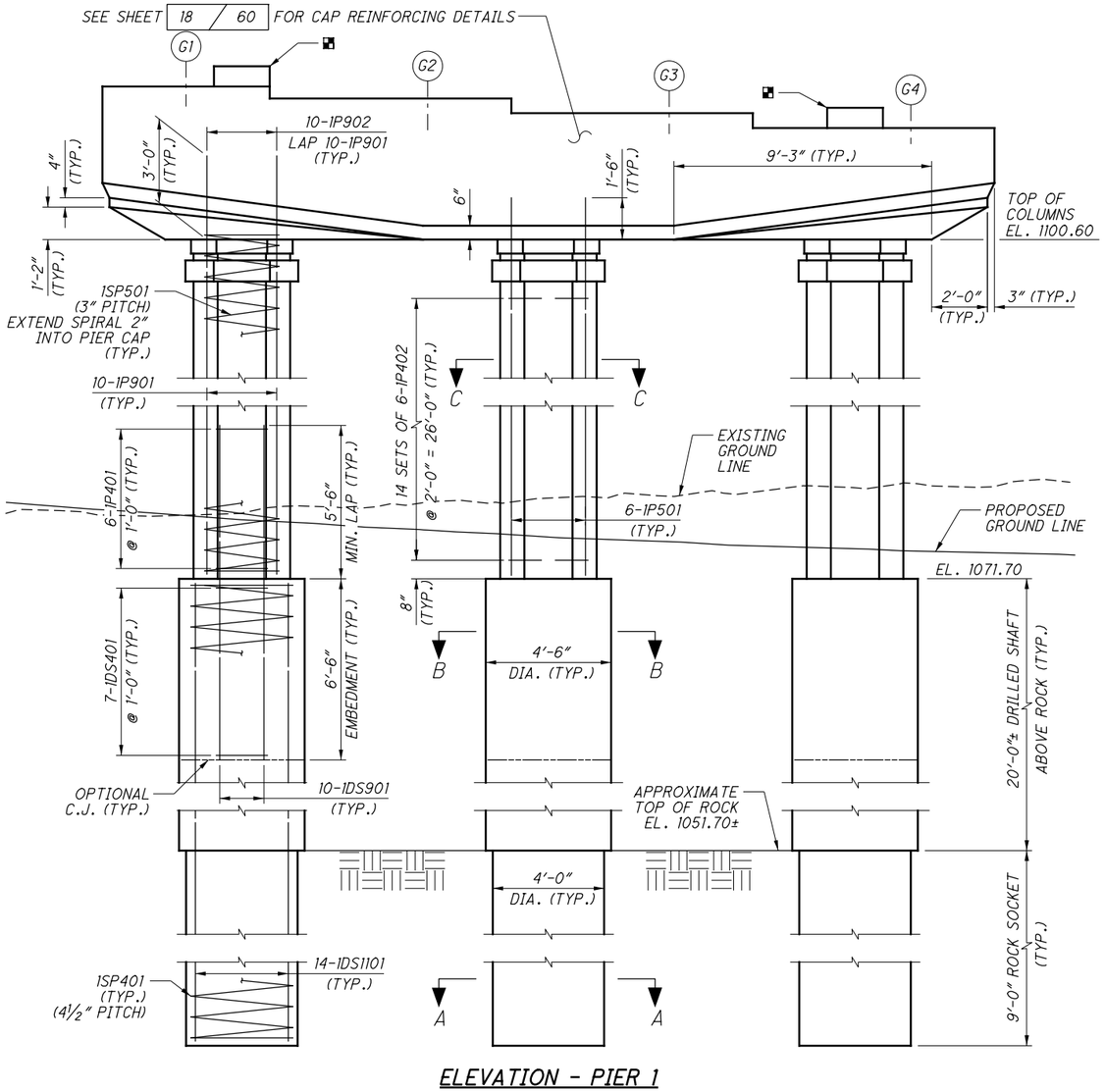
SECTION X-X



SECTION Y-Y



SECTION Z-Z



ELEVATION - PIER 1

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 / 60 FOR DETAILS.

NOTES:

1. UNLESS NOTED OTHERWISE, MINIMUM LAP LENGTHS SHALL BE AS SHOWN ON THE PLANS AND AS FOLLOWS:
   #9 COLUMN BARS: 4'-3"

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

ISSUE RECORD:

NO.	DATE	DESCRIPTION

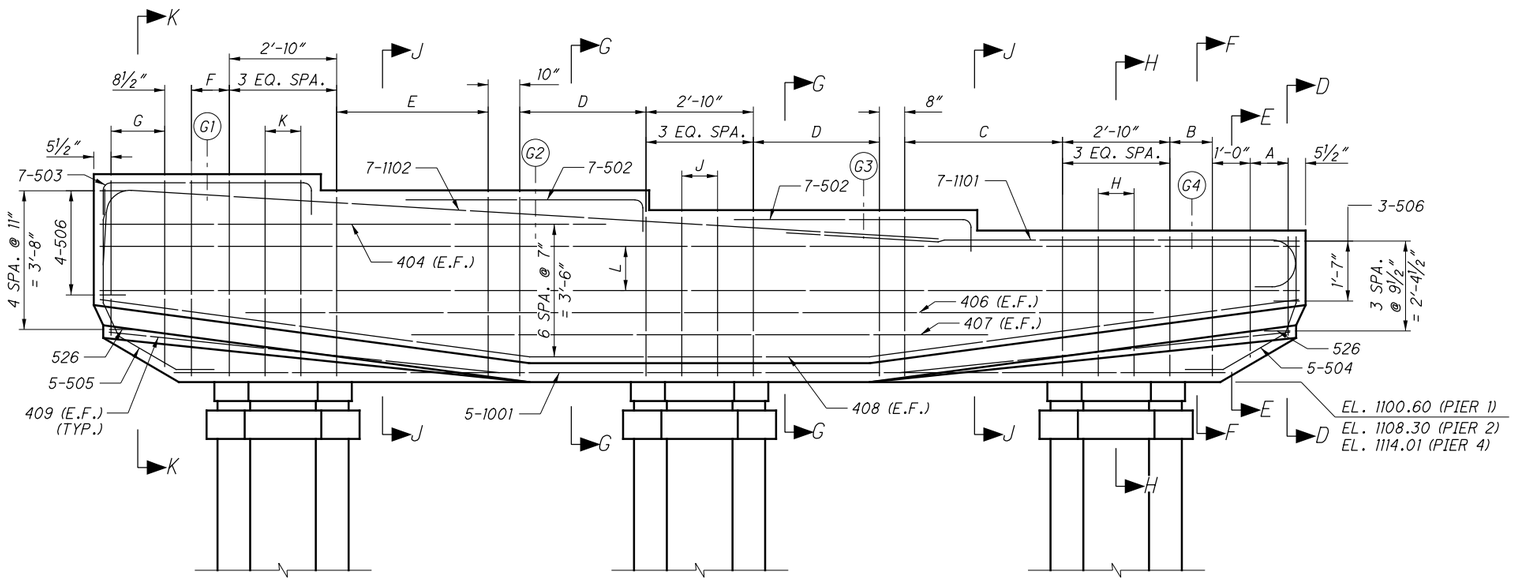
DESIGN AGENCY
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7705973	

PIER 1 PLAN AND ELEVATION
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

17 / 60
18 / 61



ELEVATION - PIER CAP

(SEISMIC PEDESTALS & BEARING ANCHOR RODS NOT SHOWN)

LEGEND:

* = ℄ PIER 1, 2 OR 4 AND BEARINGS
** = ANCHOR ROD (TYP., PIER 2 ONLY)

A= 2-509 (TOP) AND 510 & 511 (BOT.) @ 1'-0"

B = 4 SETS OF 2-508 (TOP) AND
4 SETS OF 2-512 (BOT.) @ 4½" = 1'-1½"

C = 6-507 (TOP) AND
1 S.O. 3-513 & 1 S.O. 3-514 (BOT.) @ 10" = 4'-2"

D = 5 SETS OF 2-515 (TOP) AND
5 SETS OF 2-516 (BOT.) @ 10" = 3'-4"

E = 5-507 (TOP) AND
1 S.O. 2-517 & 1 S.O. 3-518 (BOT.) @ 1'-0" = 4'-0"

F = 3 SETS OF 2-508 (TOP) AND
3 SETS OF 2-519 (BOT.) @ 6" = 1'-0"

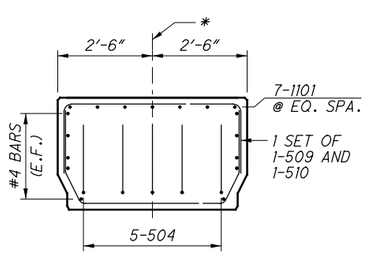
G = 3-507 (TOP) AND
520, 521 & 522 (BOT.) @ 8½" = 1'-5"

H = 2-507 (TOP) AND 2-523 (BOT.)

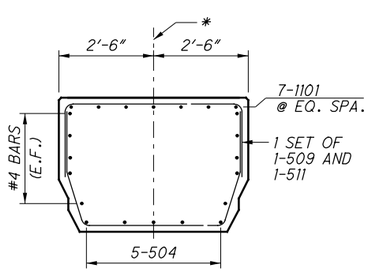
J = 2-507 (TOP) AND 2-524 (BOT.)

K = 2-507 (TOP) AND 2-525 (BOT.)

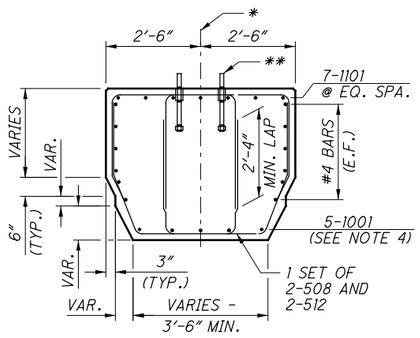
L = 3-405 (E.F.) @ 7" = 1'-2"



SECTION D-D

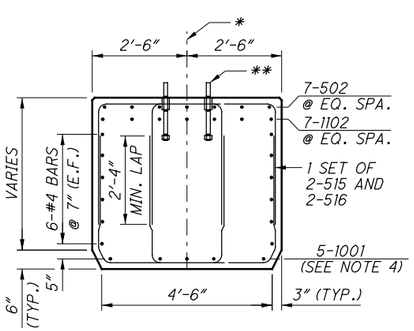


SECTION E-E

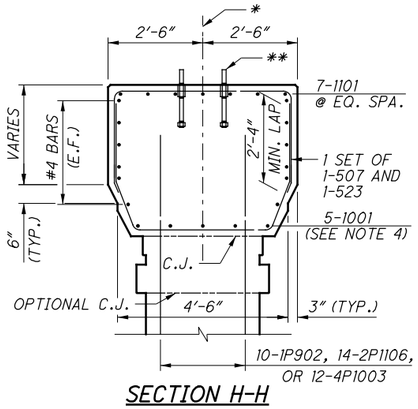


SECTION F-F

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

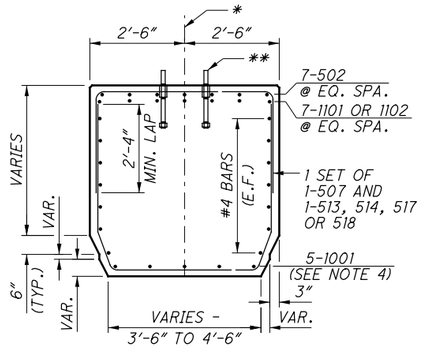


SECTION G-G

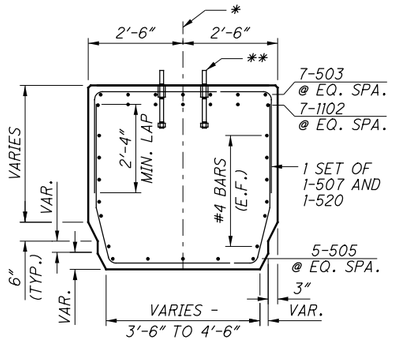


SECTION H-H

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



SECTION J-J



SECTION K-K

NOTES:

1. SEE SHEET 17 / 60 , 20 / 60 AND 24 / 60 FOR COLUMN DETAILS.
2. ALL REINFORCING STEEL AT THE PIER CAP SHALL BE PREFIXED AS FOLLOWS:
   PIER 1: 1P
   PIER 2: 2P
   PIER 4: 4P
3. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS:
   #11 CAP BARS: 4'-0"
4. SPRING OUTER 1001 BARS INTO CORNERS OF PIER CAP AS SHOWN.

ISSUE RECORD:

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

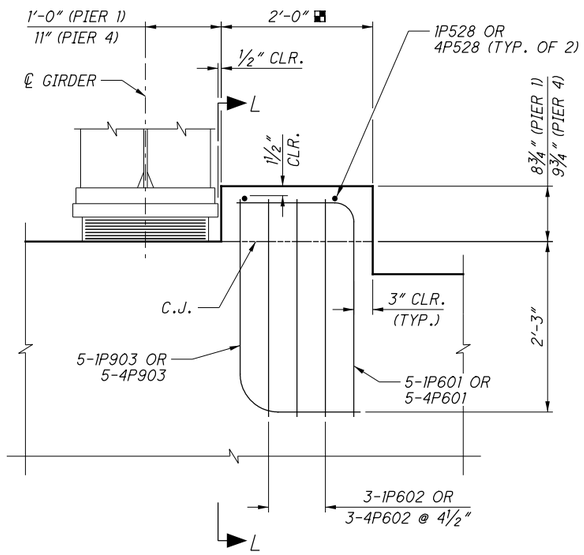
DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	JCS	4/29/19

CHECKED BES
REVISED
STRUCTURE FILE NUMBER 7705973

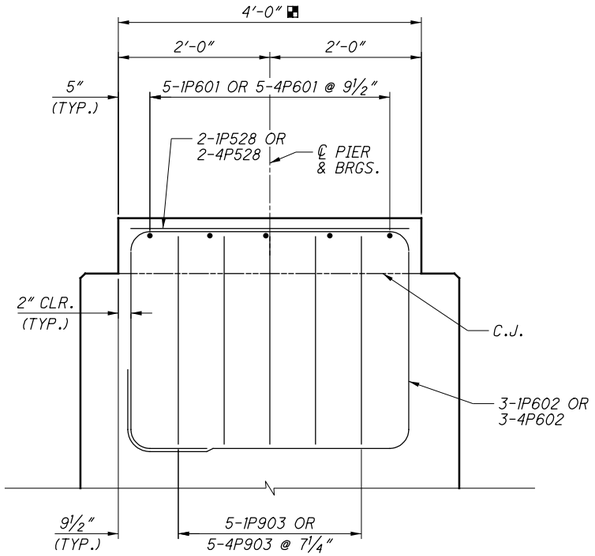
PIER 1, 2 AND 4 CAP DETAILS
SUM-76/152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

18 / 60
19 / 61



SEISMIC PEDESTAL DETAIL
(PIER 1 SHOWN, PIER 4 SIMILAR)



SECTION L-L

LEGEND:

■ = THE SURFACE OF THE BEAM SEAT C.J. IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE 1/4" DEEP MINIMUM.

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5085 REED ROAD, COLUMBUS, OHIO 43220

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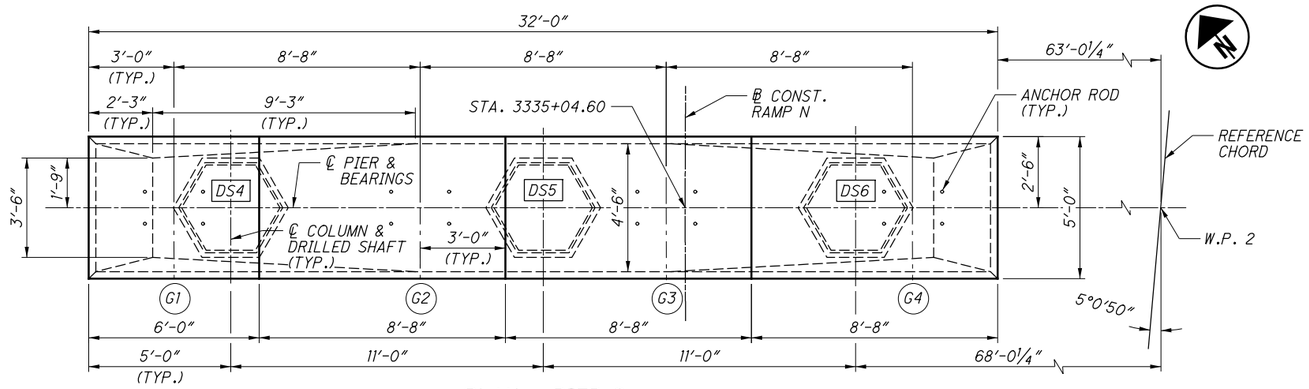
PIER 1 AND 4 CAP DETAILS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

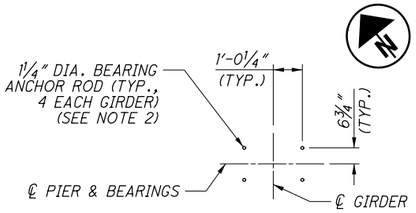
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

19 / 60

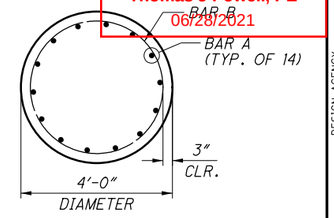
20
61



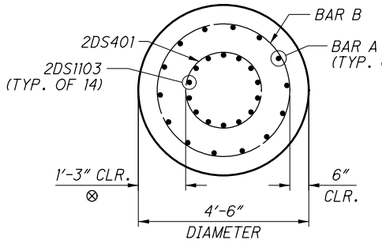
PLAN - PIER 2



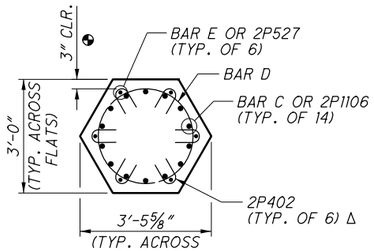
BEARING ANCHOR PLAN



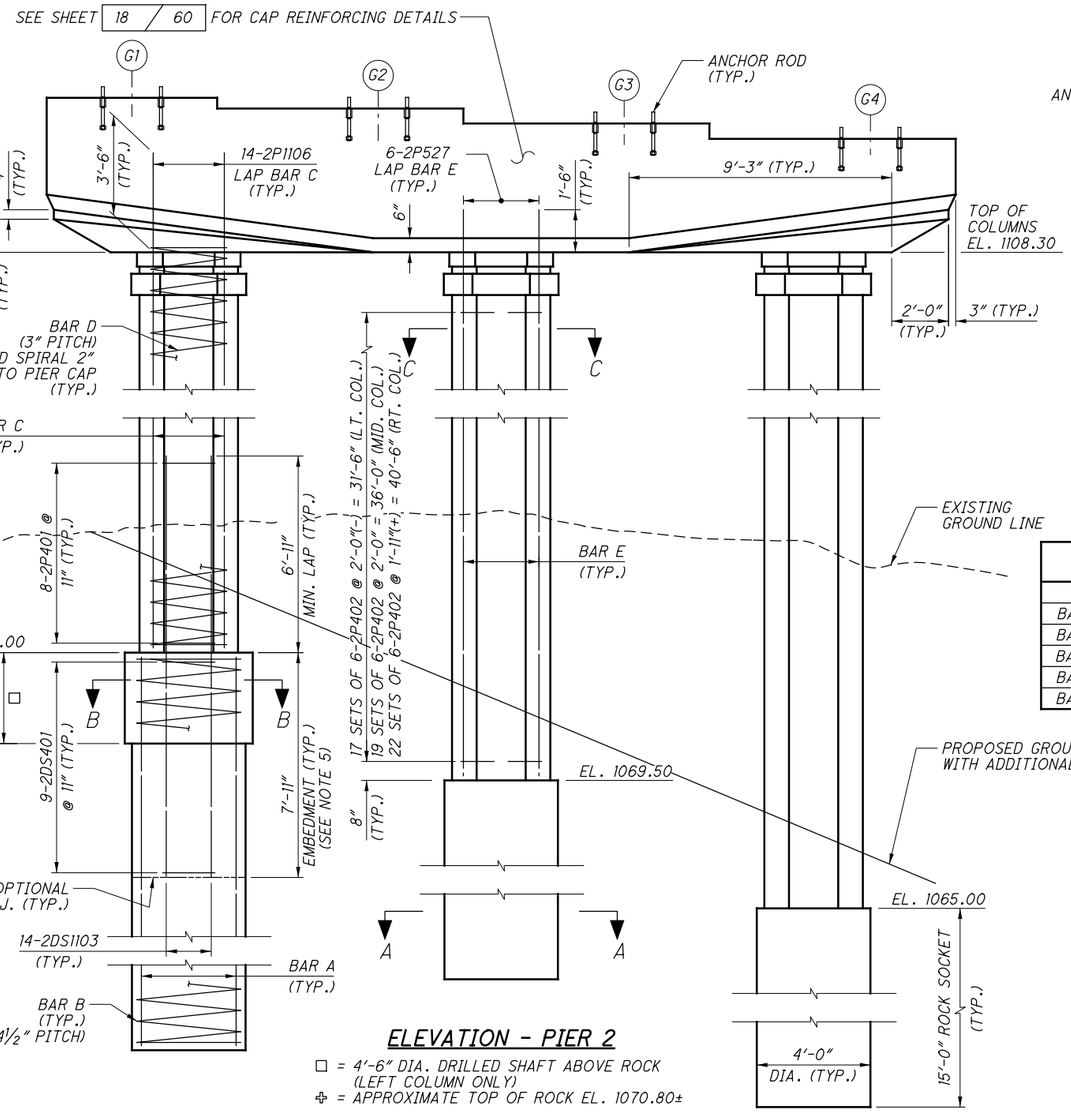
SECTION A-A



SECTION B-B

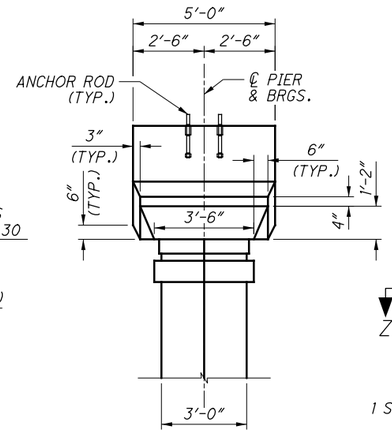


SECTION C-C



ELEVATION - PIER 2

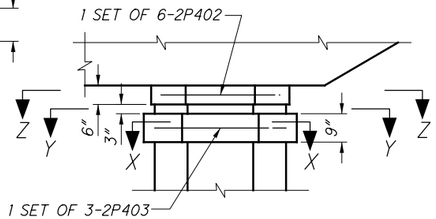
□ = 4'-6" DIA. DRILLED SHAFT ABOVE ROCK (LEFT COLUMN ONLY)
✣ = APPROXIMATE TOP OF ROCK EL. 1070.80±



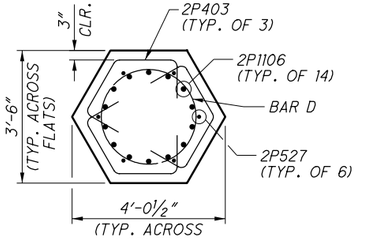
CAP END VIEW
(TYP. BOTH ENDS)

REINFORCING STEEL IN COLUMNS AND DRILLED SHAFTS			
	LEFT	MIDDLE	RIGHT
BAR A	14-2DS1101	14-2DS1102	14-2DS1102
BAR B	2SP401	2SP402	2SP402
BAR C	14-2P1103	14-2P1104	14-2P1105
BAR D	2SP501	2SP502	2SP503
BAR E	6-2P501	6-2P528	6-2P529

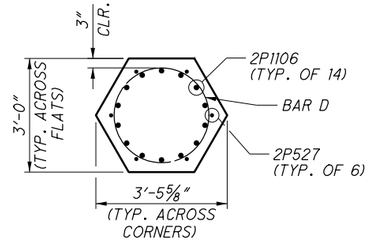
BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
G1	1113.74
G2	1113.36
G3	1112.84
G4	1112.30



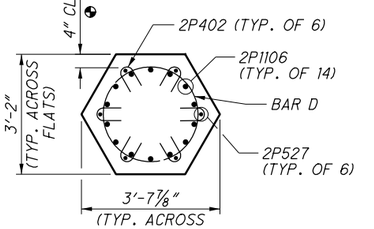
TOP OF COLUMN DETAIL



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"
   #11 COLUMN BARS: 6'-8"
2. SEE SHEET 37 / 60 FOR BEARING ANCHOR ROD DETAILS & PAYMENT.
3. 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.
4. REFER TO GENERAL NOTES FOR LIMITS OF SEALING OF CONCRETE SURFACES.
5. EMBEDMENT IS MEASURED FROM TOP OF ROCK SOCKET FOR MIDDLE AND RIGHT DRILLED SHAFTS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

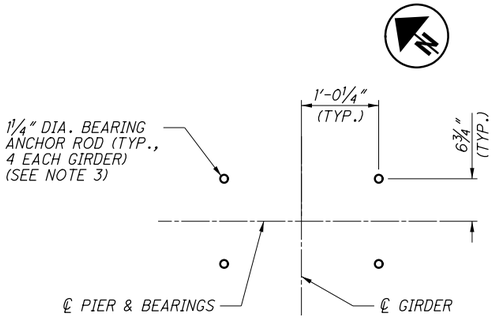
DESIGN AGENCY
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
JHL / JDH	JHL	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7705973	

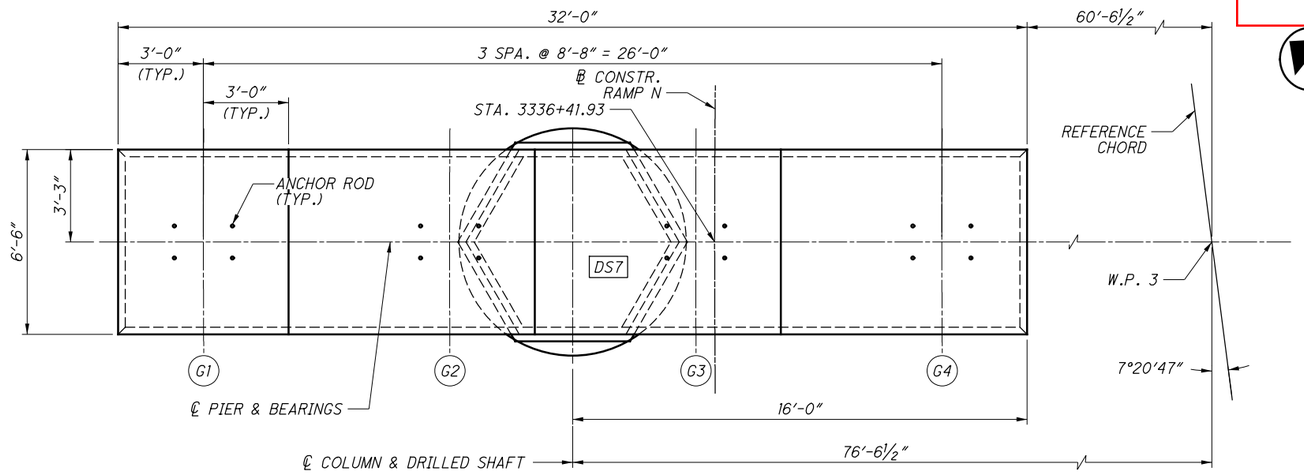
PIER 2 PLAN AND ELEVATION
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

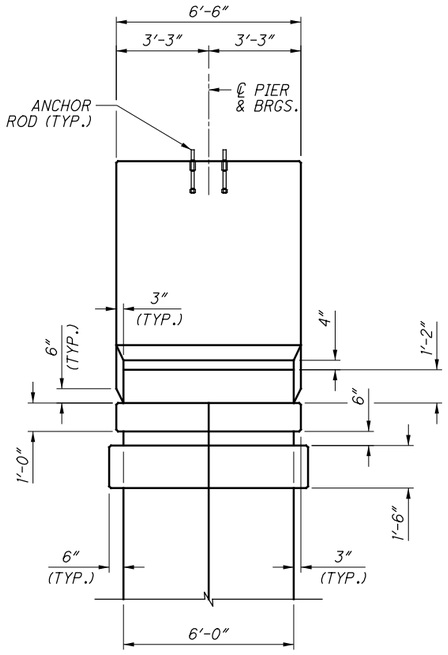
20/60
21/61



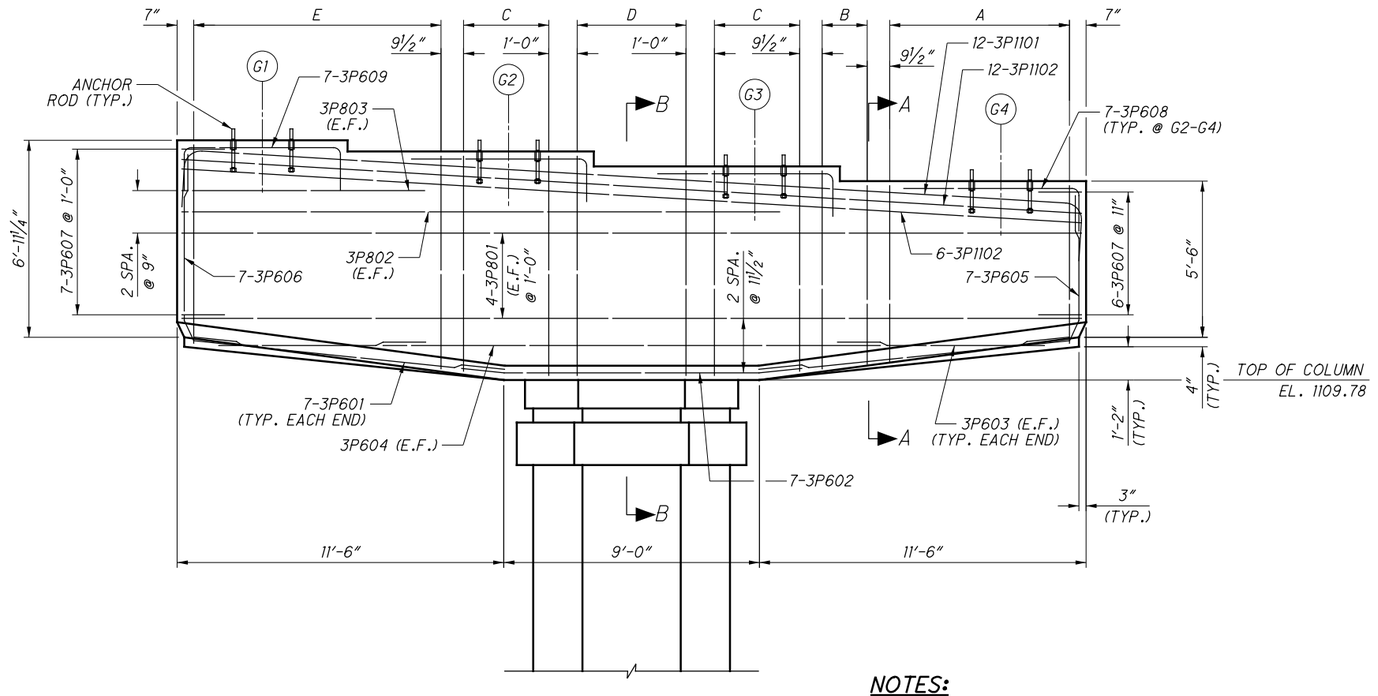
BEARING ANCHOR PLAN



PLAN - PIER 3



END ELEVATION - PIER 3



CAP ELEVATION - PIER 3

BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
G1	1118.22
G2	1117.82
G3	1117.30
G4	1116.78

LEGEND:

DS7 = DRILLED SHAFT NUMBER

A = 9 SETS OF 2-3P610 (TOP) & 2-3P611 (BOT.) @ 9½" = 6'-4"

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

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

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

E = 12 SETS OF 2-3P610 (TOP) & 2-3P614 (BOT.) @ 9½" = 8'-8½"

NOTES:

1. SEE SHEET 22 / 60 FOR SECTIONS A-A & B-B.
2. SEE SHEET 23 / 60 FOR COLUMN DETAILS.
3. SEE SHEET 37 / 60 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"

DESIGN AGENCY
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5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES	---	7705973	

PIER 3 PLAN AND CAP ELEVATION
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

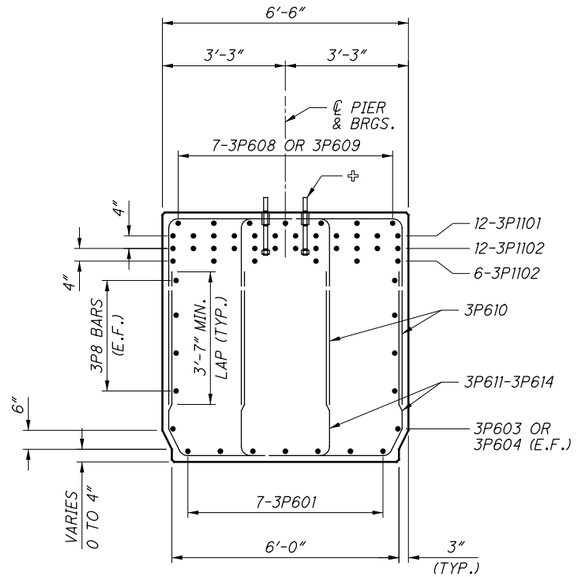
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

21 / 60

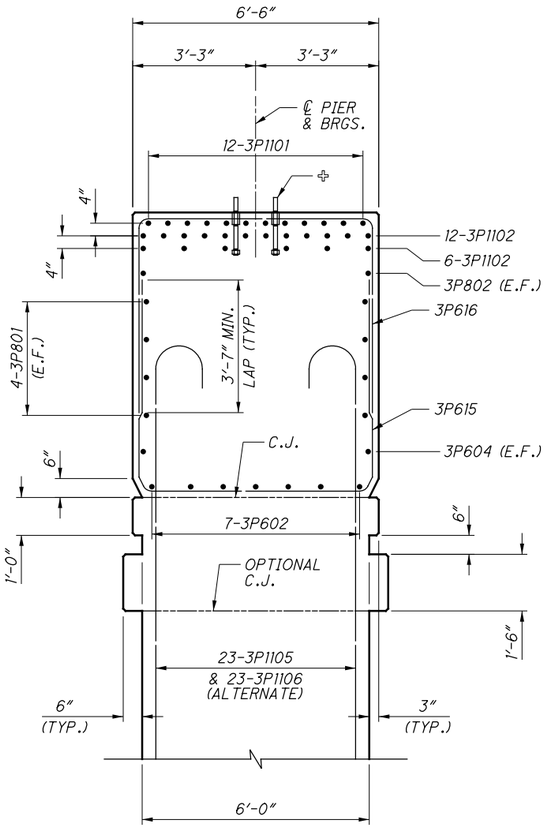
22 / 61

ISSUE RECORD:

NO.	DATE	DESCRIPTION



SECTION A-A



SECTION B-B
(COLUMN SPIRAL BARS NOT SHOWN)

LEGEND:

℄ = 1¼″ DIA. BEARING ANCHOR ROD (TYP.). SEE SHEET 37 / 60

FOR DETAILS & PAYMENT. SEE SHEET 21 / 60 FOR BEARING ANCHOR PLAN.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

DESIGN AGENCY
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	---	7705973	

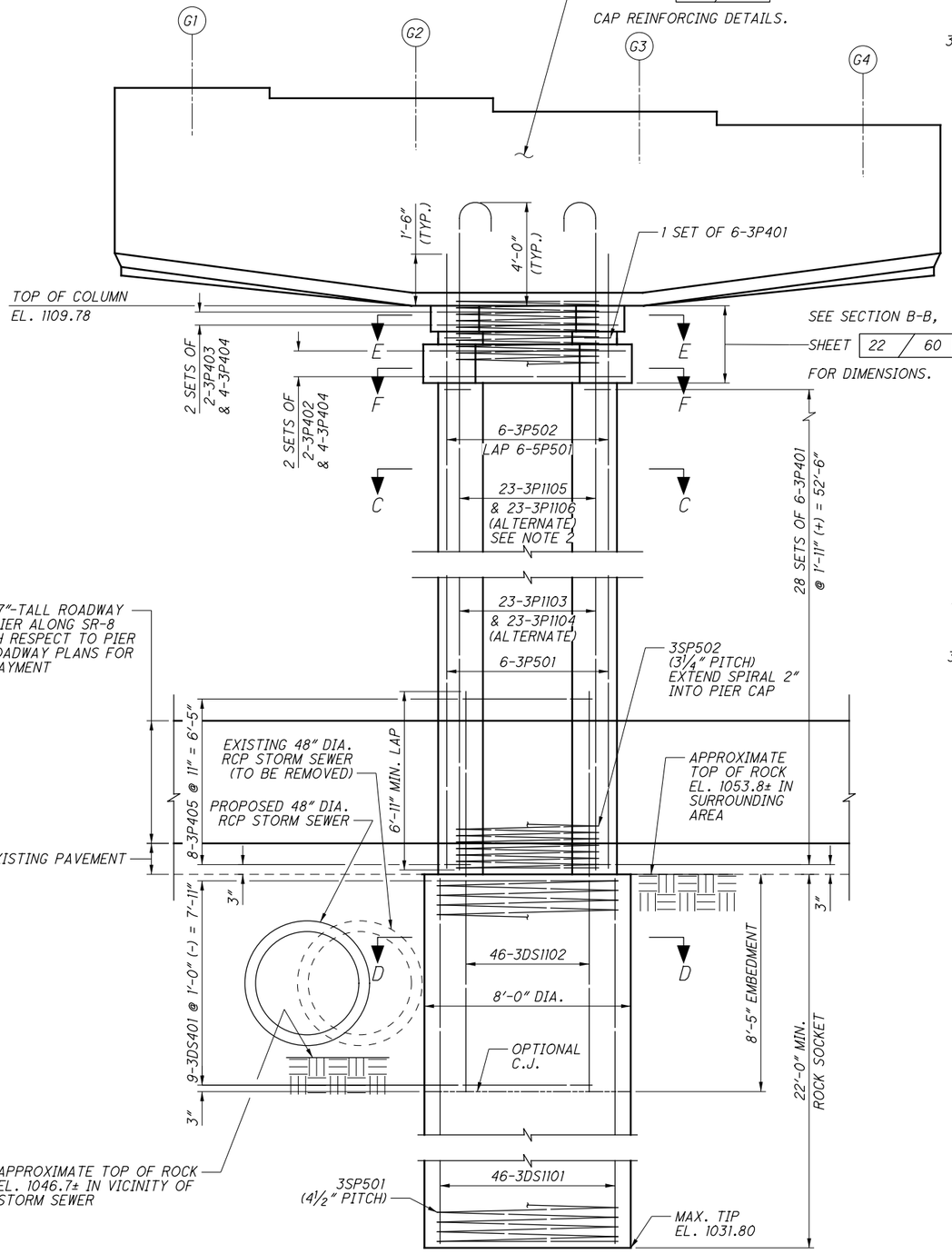
PIER 3 CAP DETAILS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

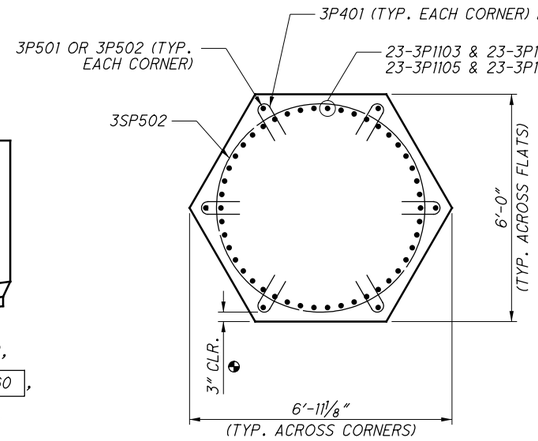
22 / 60

23 / 61

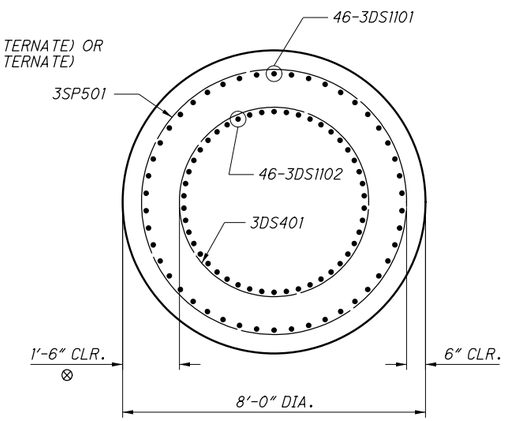
plw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\SUM076_1152N\Sheets\076_1149R_SI005.dgn Sheet 6/23/2021 8:32:49 AM KChrisman



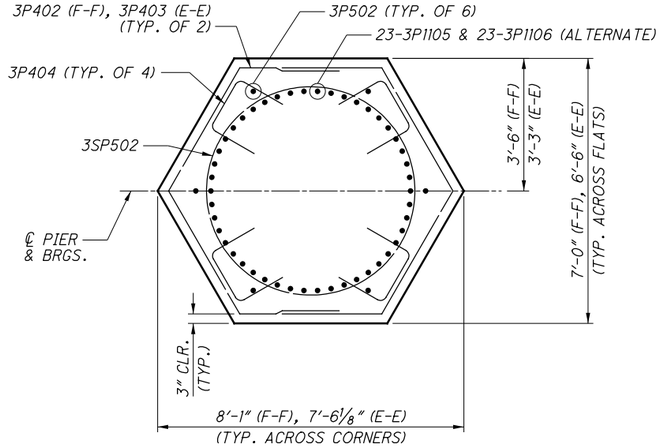
COLUMN ELEVATION - PIER 3



SECTION C-C



SECTION D-D



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

NOTES:

1. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS:
   #5 COLUMN BARS: 1'-3"
2. USE MECHANICAL CONNECTORS TO CONNECT 3P1105 TO 3P1103 BARS, AND 3P1106 TO 3P1104 BARS. MECHANICAL CONNECTORS ARE STAGGERED BY 3'-0" TO FACILITATE BAR COUPLING AND CONCRETE PLACEMENT.

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

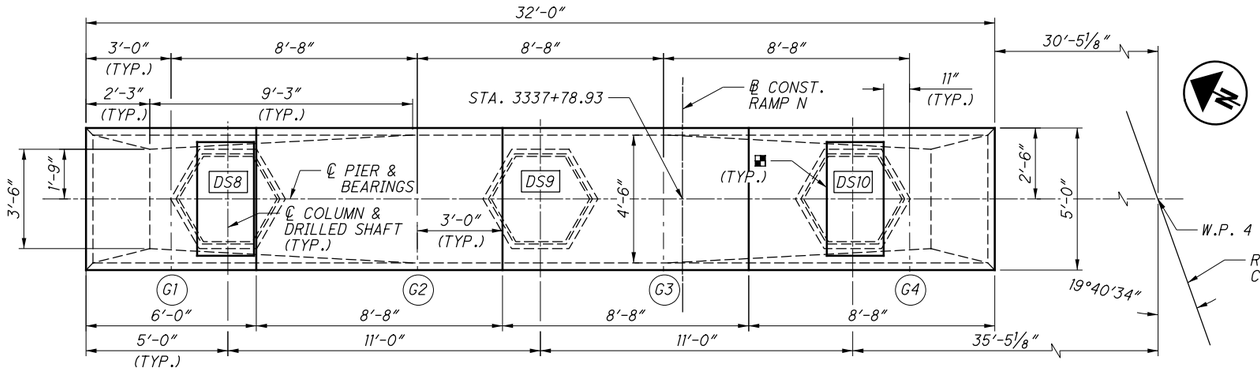
DESIGN AGENCY
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED JDH | DRAWN JDH | REVIEWED JCS | DATE 4/29/19
CHECKED BES | REVISED --- | STRUCTURE FILE NUMBER 7705973

PIER 3 COLUMN AND DRILLED SHAFT DETAILS

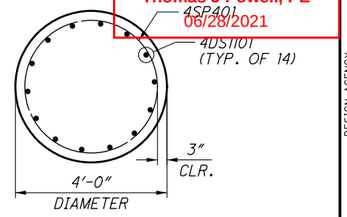
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

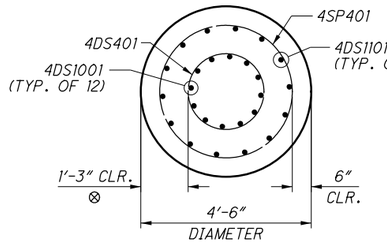


PLAN - PIER 4

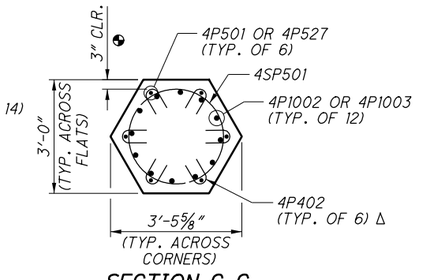
BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
G1	1119.46
G2	1119.05
G3	1118.53
G4	1118.01



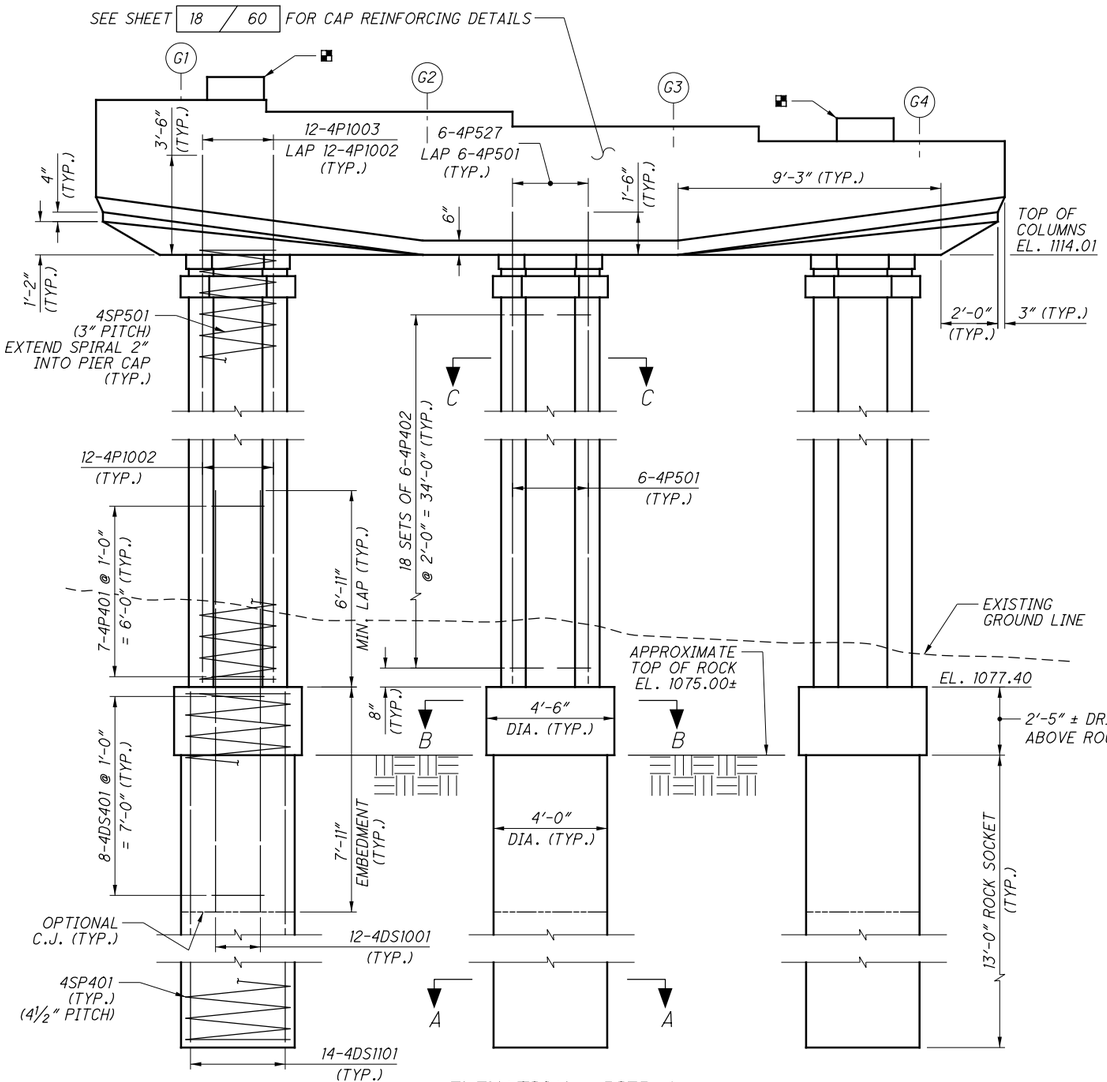
SECTION A-A



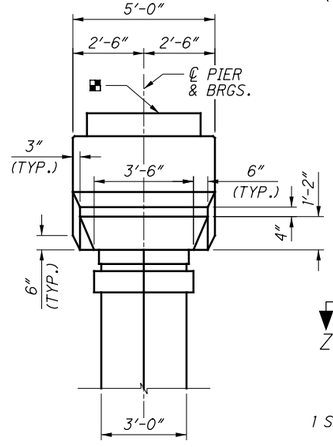
SECTION B-B



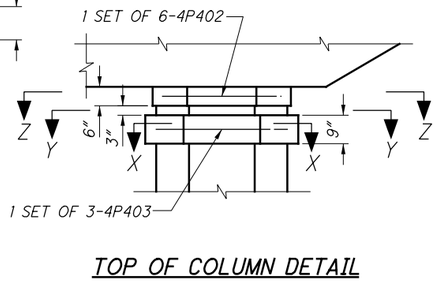
SECTION C-C



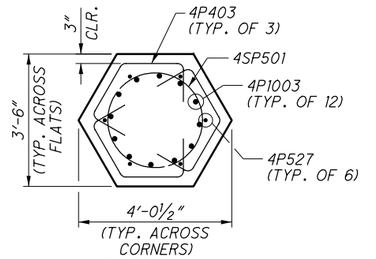
ELEVATION - PIER 4



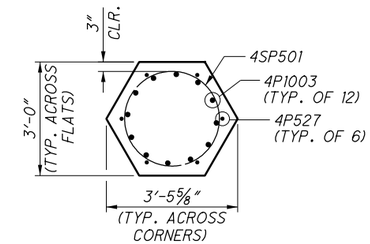
CAP END VIEW
(TYP. BOTH ENDS)



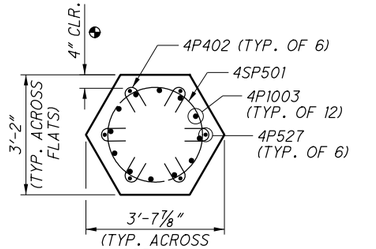
TOP OF COLUMN DETAIL



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 / 60 FOR DETAILS.

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'-0"
2. REFER TO GENERAL NOTES FOR LIMITS OF SEALING OF CONCRETE SURFACES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

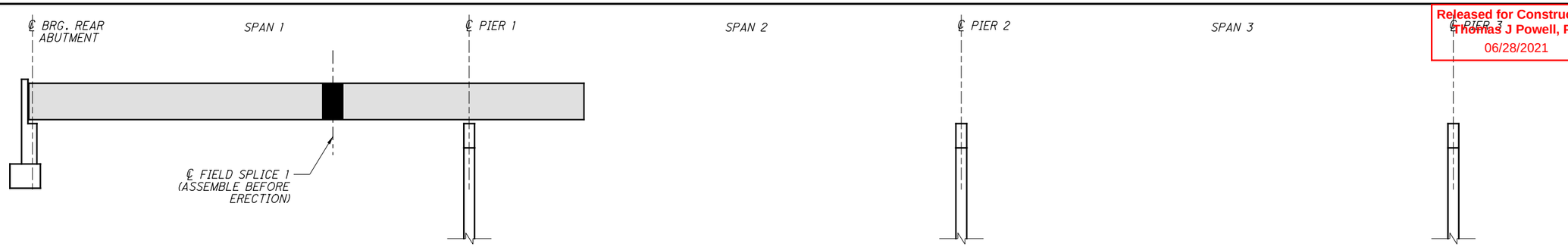
DESIGN AGENCY
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7705973	

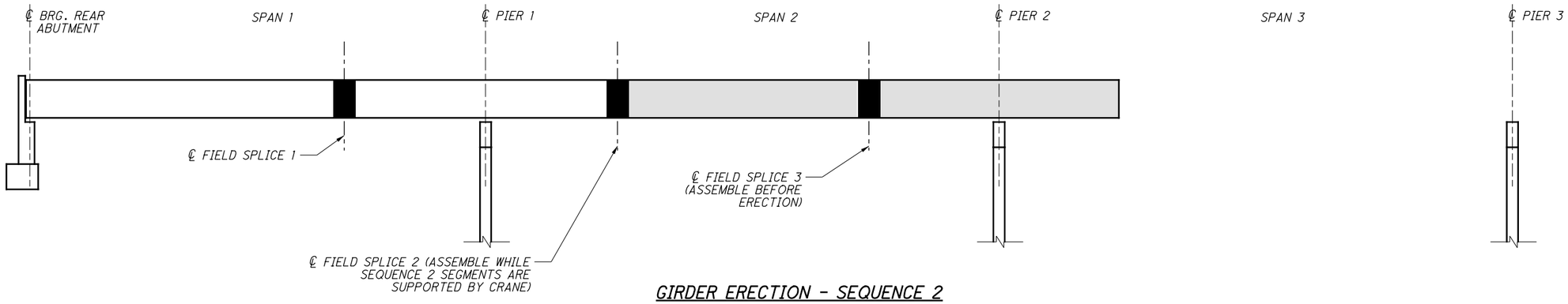
PIER 4 PLAN AND ELEVATION
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

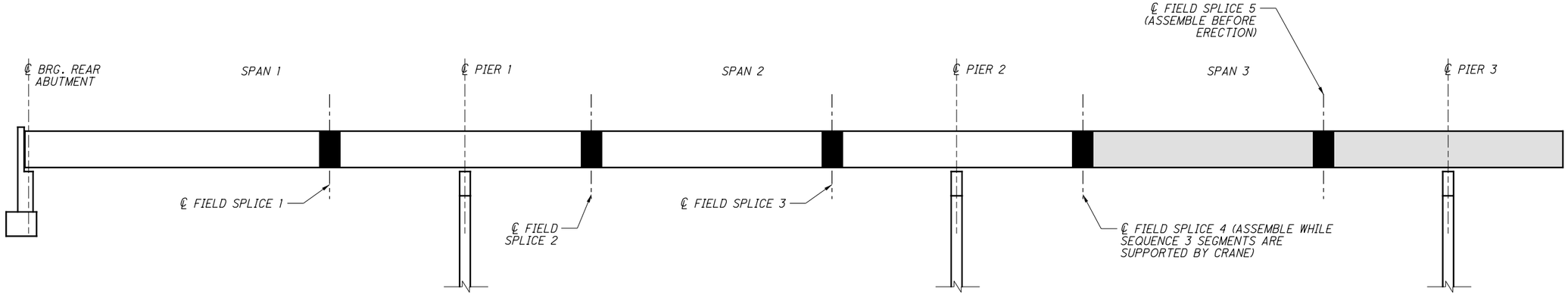
24 / 60
25 / 61



GIRDER ERECTION - SEQUENCE 1



GIRDER ERECTION - SEQUENCE 2



GIRDER ERECTION - SEQUENCE 3

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 1 AND 2 AS A SINGLE UNIT WITH ALL CROSSFRAMES FULLY CONNECTED.
   - B. ERECT GIRDER 3 AND CONNECT CROSSFRAMES BETWEEN GIRDERS 2 AND 3.
   - C. ERECT GIRDER 4 AND CONNECT CROSSFRAMES BETWEEN GIRDERS 3 AND 4.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

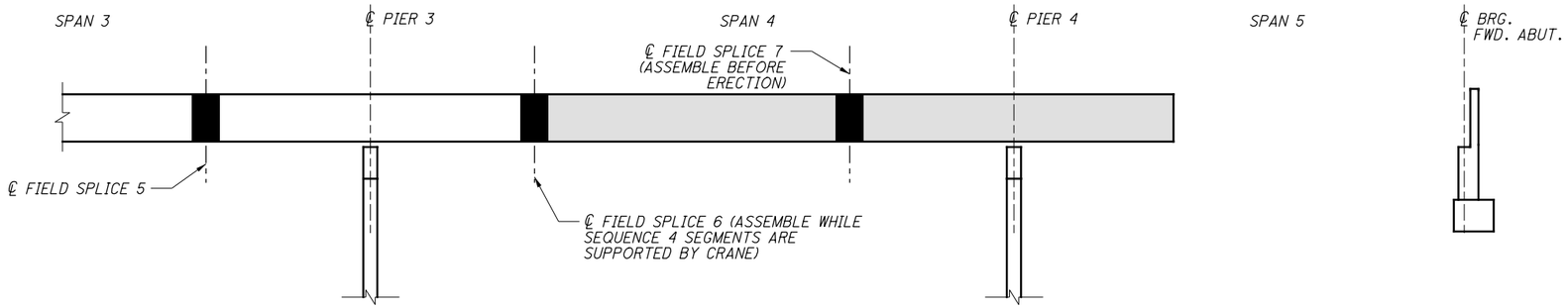
DESIGNED	DRAWN	REVIEWED	DATE
MAB	BCS	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7705973	

GIRDER ERECTION SEQUENCE - 1
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

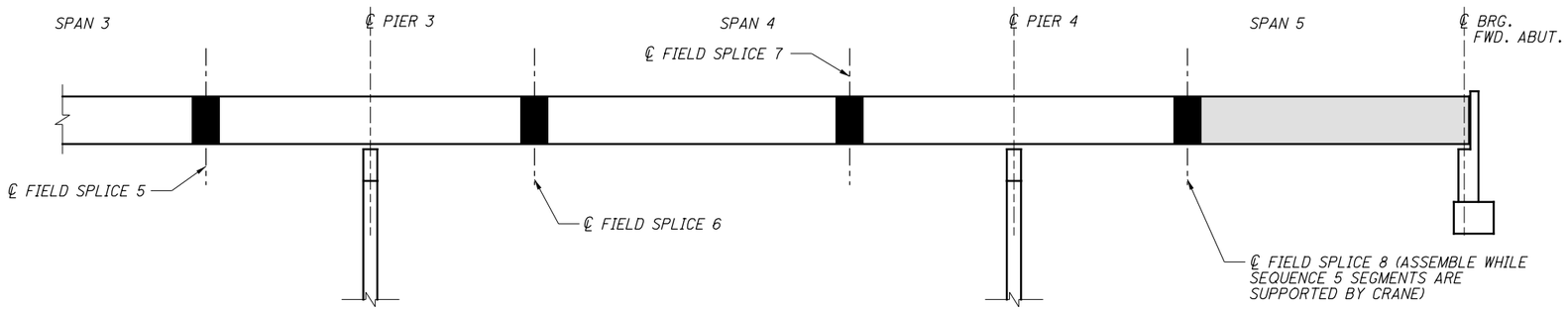
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

25/60

26/61



GIRDER ERECTION - SEQUENCE 4



GIRDER ERECTION - SEQUENCE 5

NOTE:

1. SEE SHEET 25 / 60 FOR NOTES.

ISSUE RECORD:

NO.	DATE

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

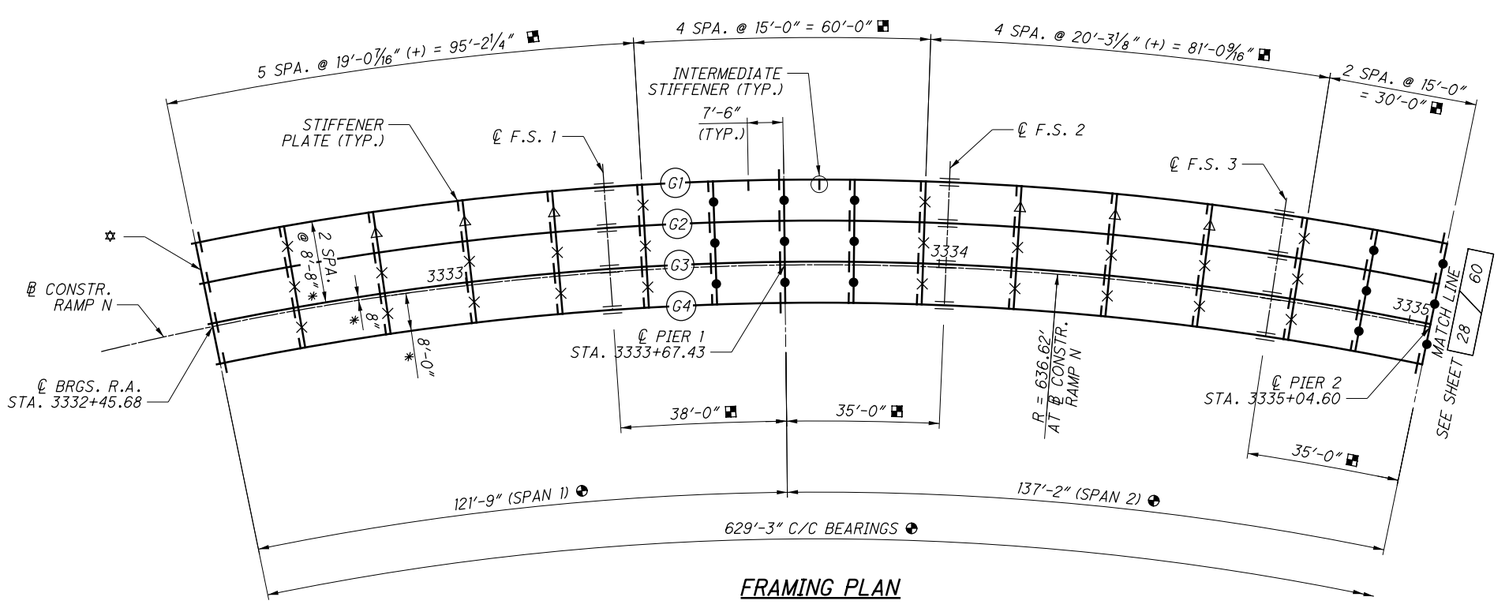
DESIGNED	DRAWN	REVIEWED	DATE
MAB	BES	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7705973	

GIRDER ERECTION SEQUENCE - 2
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

26 / 60

27 / 61



FRAMING PLAN

LEGEND:

* = MEASURED RADIALLY

◒ = MEASURED ALONG ℄ CONST. RAMP N

◪ = MEASURED ALONG ℄ GIRDER G1

✡ = END CROSSFRAME, SEE SHEET 36 / 60 FOR DETAILS (TYP.)

= TYPE 1 INTERMEDIATE CROSSFRAME
SEE SHEET 35 / 60 FOR DETAILS

= TYPE 2 INTERMEDIATE CROSSFRAME
SEE SHEET 35 / 60 FOR DETAILS

= TYPE 3 INTERMEDIATE CROSSFRAME
SEE SHEET 35 / 60 FOR DETAILS

NOTES:

1. ℄ BRGS. AT ABUTMENTS, ℄ PIERS, ℄ FIELD SPLICES, AND ALL INTERMEDIATE CROSSFRAMES ARE ORIENTED RADIALLY TO ℄ CONST. RAMP N. SEE LAYOUT DIAGRAM ON SHEET 3 / 60 FOR ADDITIONAL SUBSTRUCTURE LAYOUT DETAILS.
2. GIRDERS ARE CONCENTRIC WITH ℄ CONST. RAMP N.
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
   - 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

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

DESIGNED	DRAWN	REVIEWED	DATE
CAS/MAB	KK	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDH		7705973	

FRAMING PLAN - 1
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

27 / 60

28 / 61

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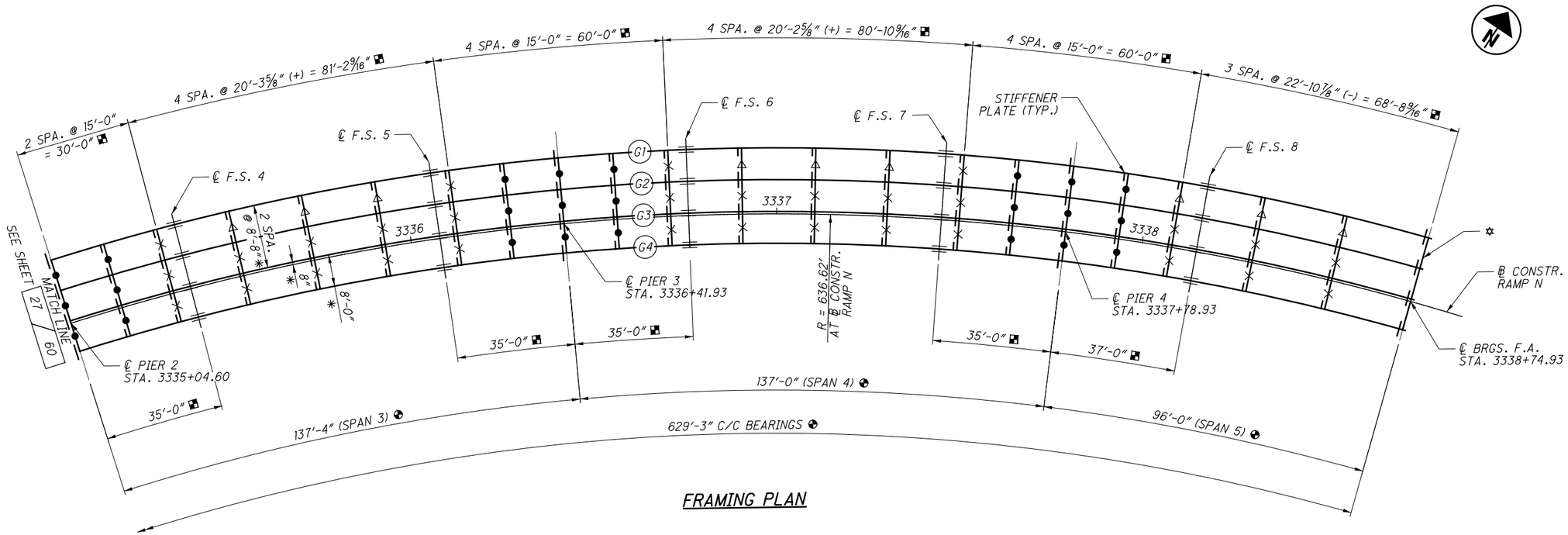


FRAMING PLAN

LEGEND:

* = MEASURED RADIALLY

◕ = MEASURED ALONG ℄ CONST. RAMP N

◘ = MEASURED ALONG ℄ GIRDER G1

✡ = END CROSSFRAME, SEE SHEET 36 / 60 FOR DETAILS (TYP.)

= TYPE 1 INTERMEDIATE CROSSFRAME
SEE SHEET 35 / 60 FOR DETAILS

= TYPE 2 INTERMEDIATE CROSSFRAME
SEE SHEET 35 / 60 FOR DETAILS

= TYPE 3 INTERMEDIATE CROSSFRAME
SEE SHEET 35 / 60 FOR DETAILS

NOTES:

1. ℄ BRGS. AT ABUTMENTS, ℄ PIERS, ℄ FIELD SPLICES, AND ALL INTERMEDIATE CROSSFRAMES ARE ORIENTED RADIALLY TO ℄ CONST. RAMP N. SEE LAYOUT DIAGRAM ON SHEET 3 / 60 FOR ADDITIONAL SUBSTRUCTURE LAYOUT DETAILS.
2. GIRDERS ARE CONCENTRIC WITH ℄ CONST. RAMP N.
3. ALL DIMENSIONS ARE HORIZONTAL.
4. PROVIDE 1" DIA. BOLTS WITH OVERSIZED HOLES (1¼" DIA.) AT THE LOCATIONS LISTED:
   - CROSSFRAME STIFFENERS
   - BEARING STIFFENERS AT PIERS
   - 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 1¼" SHALL BE USED DURING INSTALLATION OF ALL MEMBERS WITH OVERSIZED HOLES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

DESIGNED CAS/MAB | DRAWN KK | REVIEWED JCS | DATE 4/29/19
CHECKED JDH | REVISED | STRUCTURE FILE NUMBER 7705973

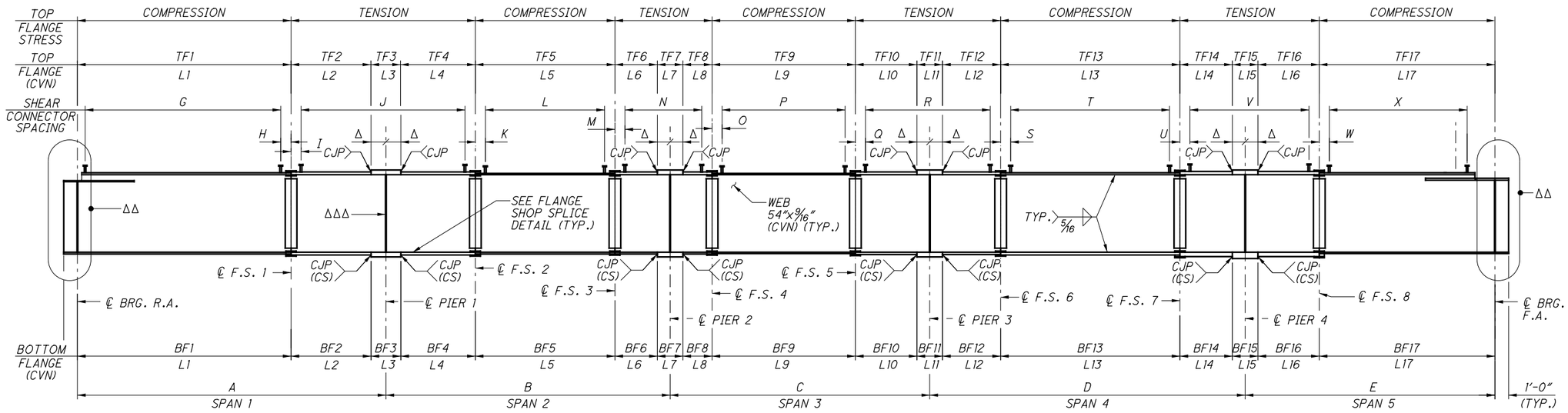
FRAMING PLAN - 2

SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

28 / 60

29 / 61



GIRDER ELEVATION

GIRDER	GIRDER TOP FLANGE DIMENSIONS																
	TF1	TF2	TF3	TF4	TF5	TF6	TF7	TF8	TF9	TF10	TF11	TF12	TF13	TF14	TF15	TF16	TF17
G1	18" X 0.875"	20" X 1.25"	20" X 2.25"	20" X 1.25"	16" X 0.875"	20" X 1"	20" X 2"	20" X 1"	16" X 0.875"	20" X 1"	20" X 2"	20" X 1"	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"
G2	16" X 0.875"	18" X 1"	18" X 1.5"	18" X 1"	16" X 0.875"	18" X 1"	18" X 1.5"	18" X 1"	16" X 0.875"	20" X 1"	20" X 1.5"	20" X 1"	16" X 0.875"	20" X 1"	20" X 1.5"	20" X 1"	16" X 0.875"
G3	16" X 0.875"	18" X 1"	18" X 1.5"	18" X 1"	16" X 0.875"	18" X 1"	18" X 1.5"	18" X 1"	16" X 0.875"	20" X 1"	20" X 1.5"	20" X 1"	16" X 0.875"	20" X 1"	20" X 1.5"	20" X 1"	16" X 0.875"
G4	16" X 0.875"	18" X 1"	18" X 1.75"	18" X 1"	16" X 0.875"	18" X 1"	18" X 1.5"	18" X 1"	16" X 0.875"	20" X 1"	20" X 1.5"	20" X 1"	16" X 0.875"	20" X 1"	20" X 1.5"	20" X 1"	16" X 0.875"

GIRDER	GIRDER BOTTOM FLANGE DIMENSIONS																
	BF1	BF2	BF3	BF4	BF5	BF6	BF7	BF8	BF9	BF10	BF11	BF12	BF13	BF14	BF15	BF16	BF17
G1	22" X 2"	22" X 1.5"	22" X 2.5"	22" X 1.5"	20" X 2"	20" X 1.5"	20" X 2.5"	20" X 1.5"	20" X 2"	20" X 1.5"	20" X 2.5"	20" X 1.5"	20" X 2"	20" X 1.25"	20" X 2.25"	20" X 2"	22" X 2"
G2	18" X 1.5"	18" X 1.25"	18" X 2"	18" X 1.25"	18" X 1"	20" X 1"	20" X 1.5"	20" X 1"	18" X 1"	20" X 1.25"	20" X 1.75"	20" X 1.25"	18" X 1"	20" X 1"	20" X 1.5"	20" X 1"	18" X 1.25"
G3	18" X 1.5"	18" X 1.25"	18" X 2"	18" X 1.25"	18" X 1"	20" X 1"	20" X 1.5"	20" X 1"	18" X 1"	20" X 1.25"	20" X 1.75"	20" X 1.25"	18" X 1"	20" X 1"	20" X 1.5"	20" X 1"	18" X 1.25"
G4	18" X 1.5"	18" X 1.5"	18" X 2.25"	18" X 1.5"	20" X 1.25"	20" X 1"	20" X 1.75"	20" X 1.25"	20" X 1.25"	20" X 1.25"	20" X 1.75"	20" X 1.25"	20" X 1.25"	20" X 1"	20" X 1.5"	20" X 1.25"	20" X 1.25"

GIRDER	SEGMENT LENGTH (FT.) MEASURED ALONG ℄ OF GIRDER																
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17
G1	87.191	24.500	27.000	21.500	71.045	21.500	27.000	21.500	71.218	21.500	27.000	21.500	70.872	21.500	27.000	23.500	61.714
G2	86.036	23.997	27.000	21.037	70.104	21.037	27.000	21.037	70.275	21.037	27.000	21.037	69.933	21.037	27.000	23.010	60.897
G3	84.882	23.494	27.000	20.573	69.164	20.573	27.000	20.573	69.332	20.573	27.000	20.573	68.995	20.573	27.000	22.520	60.080
G4	83.728	22.991	27.000	20.110	68.223	20.110	27.000	20.110	68.389	20.110	27.000	20.110	68.057	20.110	27.000	22.030	59.263

GIRDER	SHEAR CONNECTOR SPACING									
	G	H	I	J	K	L	M	N	O	P
G1	85 SPA @ 12" = 85'-0"	15"	15"	93 SPA @ 9" = 69'-9"	15"	54 SPA @ 15" = 67'-6"	15"	89 SPA @ 9" = 66'-9"	15"	54 SPA @ 15" = 67'-6"
G2	63 SPA @ 16" = 84'-0"	15"	15"	52 SPA @ 16" = 69'-4"	15"	47 SPA @ 17" = 66'-7"	15"	49 SPA @ 16" = 65'-4"	15"	50 SPA @ 16" = 66'-8"
G3	62 SPA @ 16" = 82'-8"	15"	15"	51 SPA @ 16" = 68'-0"	15"	49 SPA @ 16" = 65'-4"	15"	49 SPA @ 16" = 65'-4"	15"	49 SPA @ 16" = 65'-4"
G4	57 SPA @ 17" = 80'-9"	15"	15"	67 SPA @ 12" = 67'-0"	15"	46 SPA @ 17" = 65'-2"	15"	70 SPA @ 11" = 64'-2"	15"	46 SPA @ 17" = 65'-2"

GIRDER	SHEAR CONNECTOR SPACING (CONTINUED)							
	Q	R	S	T	U	V	W	X
G1	15"	80 SPA @ 10" = 66'-8"	15"	54 SPA @ 15" = 67'-6"	15"	92 SPA @ 9" = 69'-0"	15"	51 SPA @ 14" = 59'-6"
G2	15"	46 SPA @ 17" = 65'-2"	15"	50 SPA @ 16" = 66'-8"	15"	68 SPA @ 12" = 68'-0"	15"	54 SPA @ 13" = 58'-6"
G3	15"	49 SPA @ 16" = 65'-4"	15"	49 SPA @ 16" = 65'-4"	15"	67 SPA @ 12" = 67'-0"	15"	52 SPA @ 14" = 60'-8"
G4	15"	64 SPA @ 12" = 64'-0"	15"	46 SPA @ 17" = 65'-2"	15"	72 SPA @ 11" = 66'-0"	15"	53 SPA @ 13" = 57'-5"

LEGEND:

△ = 13'-6"

△△ = SEE END CROSSFRAME DETAILS ON SHEET 36 / 60 FOR ADDITIONAL DETAILS AT GIRDER ENDS.

△△△ = BEARING STIFFENER, EACH SIDE OF WEB (TYP. AT ABUTMENTS & PIERS), SEE SHEET 30 / 60 FOR SIZES.

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. INTERMEDIATE AND CROSSFRAME STIFFENERS NOT SHOWN IN ELEVATION. SEE FRAMING PLAN FOR LOCATIONS.
5. ADJUST SHEAR CONNECTOR SPACING LOCALLY AS REQUIRED TO CLEAR FLANGE SHOP SPLICES.
6. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50.
7. SEE GENERAL NOTES FOR COATING REQUIREMENTS.
8. GIRDER ENDS SHALL BE FABRICATED TO BE VERTICAL AFTER ERECTION.
9. SEE SHEET 30 / 60 FOR ADDITIONAL GIRDER DETAILS.

GIRDER	SPAN LENGTHS (FT.) MEASURED ALONG ℄ GIRDER				
	A	B	C	D	E
G1	125.191	141.045	141.218	140.872	98.714
G2	123.533	139.178	139.349	139.007	97.407
G3	121.876	137.310	137.478	137.141	96.100
G4	120.219	135.443	135.609	135.277	94.793

GIRDER	GIRDER RADIUS AT ℄ OF GIRDER	
	GIRDER	RADIUS
	G1	654.620
	G2	645.953
	G3	637.286
	G4	628.620

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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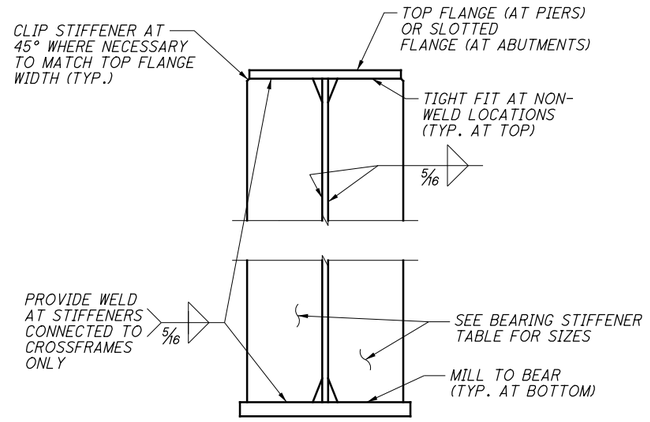
DESIGN AGENCY
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

REVIEWED JCS DATE 4/29/19
STRUCTURE FILE NUMBER 7705973
DRAWN MAB
REVISED
DESIGNED MAB
CHECKED JDH

GIRDER ELEVATION
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

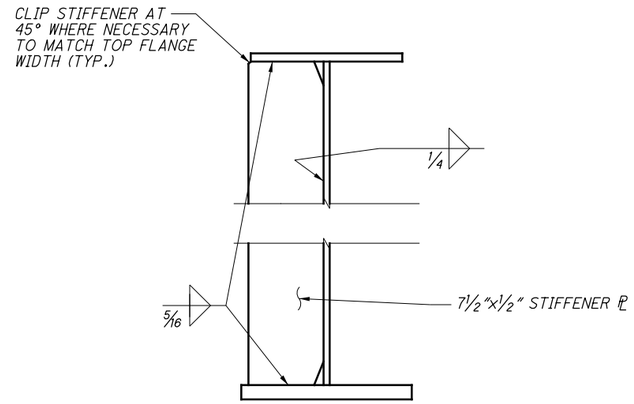
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

BEARING STIFFENERS				
LOCATION	GIRDER	WIDTH	THICKNESS	HEIGHT
REAR ABUTMENT	1	10″	⅞″	46⅛″
PIER 1		10″	⅞″	54″
PIER 2		9″	⅞″	54″
PIER 3		9″	⅞″	54″
PIER 4		9″	⅞″	54″
FORWARD ABUTMENT		10″	⅞″	46⅛″
REAR ABUTMENT	2	8″	⅞″	46⅛″
PIER 1		8″	⅞″	54″
PIER 2		9″	⅞″	54″
PIER 3		9″	⅞″	54″
PIER 4		9″	⅞″	54″
FORWARD ABUTMENT		8″	⅞″	46⅛″
REAR ABUTMENT	3	8″	⅞″	46⅛″
PIER 1		8″	⅞″	54″
PIER 2		9″	⅞″	54″
PIER 3		9″	⅞″	54″
PIER 4		9″	⅞″	54″
FORWARD ABUTMENT		8″	⅞″	46⅛″
REAR ABUTMENT	4	8″	⅞″	46⅛″
PIER 1		8″	⅞″	54″
PIER 2		9″	⅞″	54″
PIER 3		9″	⅞″	54″
PIER 4		9″	⅞″	54″
FORWARD ABUTMENT		9″	⅞″	46⅛″



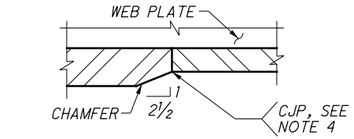
BEARING STIFFENER

(CROSSFRAMES NOT SHOWN, SEE NOTE 6)



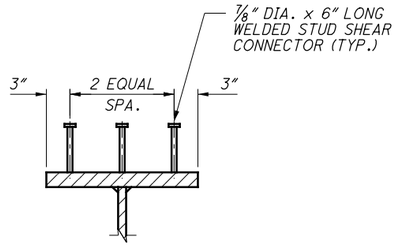
INTERMEDIATE STIFFENER

(PLACE STIFFENER NORMAL TO THE GIRDER WEB)



FLANGE SHOP SPLICE DETAIL

BOTTOM FLANGE SHOWN,
TOP FLANGE SIMILAR



SHEAR CONNECTOR DETAIL

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 35 / 60 FOR CROSSFRAME STIFFENER DETAILS AND ADDITIONAL BEARING STIFFENER DETAILS AT CROSSFRAME LOCATIONS. BEARING STIFFENERS AT CROSSFRAME LOCATIONS SHALL BE DESIGNATED AS (CVN).
7. SEE SHEET 29 / 60 FOR SHEAR CONNECTOR SPACING.
8. SEE FRAMING PLAN FOR LOCATION OF STIFFENERS.

ISSUE RECORD:

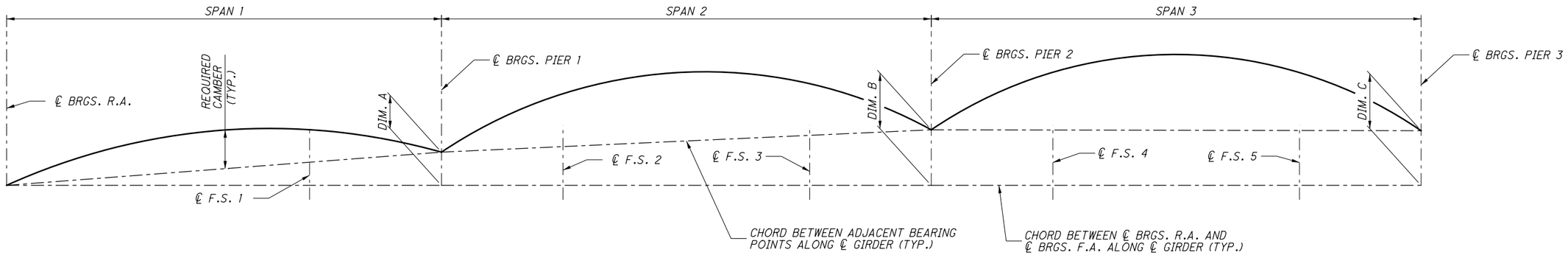
NO.	DATE	DESCRIPTION

DESIGN AGENCY
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	
JDH		7705973	

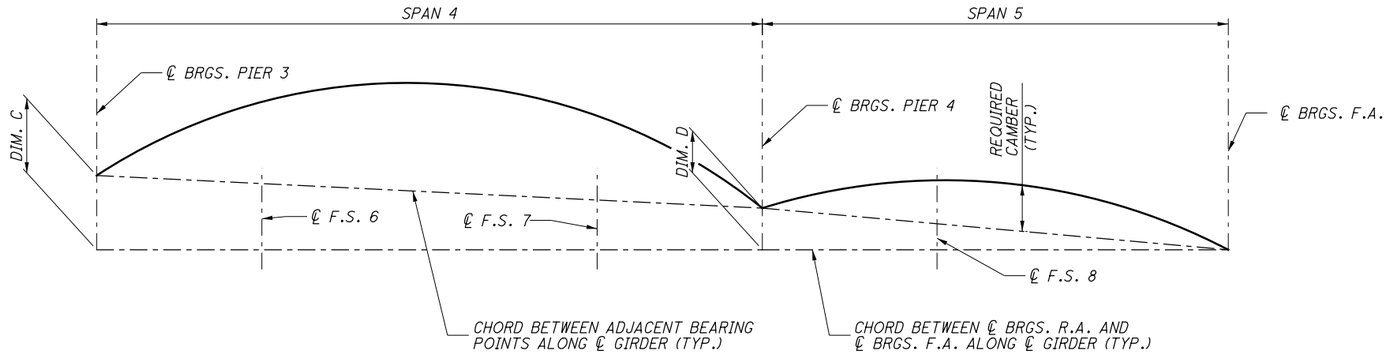
GIRDER DETAILS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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



CAMBER AND BLOCKING DIAGRAM

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



CAMBER AND BLOCKING DIAGRAM (CONT.)

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

BLOCKING TABLE (VALUES IN INCHES)

GIRDER	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"
G1	52.91	88.57	87.20	48.87
G2	52.91	88.57	87.20	48.87
G3	52.91	88.57	87.20	48.87
G4	52.91	88.57	87.20	48.87

NOTES:

1. POSITIVE CAMBER VALUES INDICATE CAMBER ABOVE CHORD BETWEEN ADJACENT BEARINGS.
2. SEE SHEET 44 / 60 FOR GIRDER NUMBER AND CAMBER VALUE LOCATIONS.
3. SEE SHEETS 32 / 60 AND 33 / 60 FOR CAMBER TABLES
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

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

DESIGNED	DRAWN	REVIEWED	DATE
ASG	ASG	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7705973	

CAMBER AND BLOCKING DIAGRAMS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

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32
61

CAMBER TABLE (VALUE IN INCHES)

GIRDER NUMBER		℄ BRG. R.A.	SPAN 1										℄ BRG. PIER 1	SPAN 2										℄ BRG. 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	0.27	0.50	0.68	0.73	0.72	0.63	0.47	0.46	0.28	0.11	0	-0.02	0.03	0.07	0.12	0.20	0.26	0.23	0.18	0.14	0.09	0.02	0
	B	0	0.94	1.71	2.33	2.49	2.43	2.11	1.57	1.55	0.92	0.37	0	-0.01	0.25	0.43	0.64	0.95	1.17	1.06	0.81	0.63	0.45	0.11	0
	C	0	0.05	0.10	0.15	0.19	0.24	0.29	0.34	0.34	0.39	0.34	0	1.67	2.96	3.45	3.89	4.44	4.63	4.44	3.89	3.45	2.96	1.67	0
	D	0	1.26	2.31	3.16	3.41	3.39	3.03	2.38	2.35	1.59	0.82	0	1.64	3.24	3.95	4.65	5.59	6.06	5.73	4.88	4.22	3.50	1.80	0
℄ GIRDER 2	A	0	0.24	0.44	0.60	0.64	0.63	0.55	0.42	0.41	0.25	0.10	0	-0.01	0.05	0.09	0.14	0.21	0.27	0.24	0.19	0.14	0.10	0.03	0
	B	0	0.83	1.52	2.06	2.21	2.16	1.88	1.41	1.39	0.83	0.32	0	0.02	0.30	0.47	0.67	0.97	1.17	1.05	0.81	0.63	0.45	0.13	0
	C	0	0.05	0.10	0.15	0.19	0.24	0.29	0.34	0.34	0.39	0.34	0	1.67	2.96	3.45	3.89	4.44	4.63	4.44	3.89	3.45	2.96	1.67	0
	D	0	1.12	2.06	2.81	3.04	3.03	2.72	2.17	2.14	1.47	0.76	0	1.68	3.31	4.01	4.70	5.62	6.07	5.73	4.89	4.22	3.51	1.83	0
℄ GIRDER 3	A	0	0.21	0.38	0.51	0.55	0.54	0.47	0.36	0.35	0.21	0.08	0	0.00	0.07	0.11	0.16	0.23	0.27	0.25	0.19	0.15	0.11	0.03	0
	B	0	0.75	1.38	1.87	2.00	1.96	1.70	1.26	1.25	0.74	0.28	0	0.05	0.35	0.53	0.73	1.02	1.21	1.09	0.84	0.66	0.48	0.14	0
	C	0	0.05	0.10	0.15	0.19	0.24	0.29	0.34	0.34	0.39	0.34	0	1.67	2.96	3.45	3.89	4.44	4.63	4.44	3.89	3.45	2.96	1.67	0
	D	0	1.01	1.86	2.53	2.74	2.74	2.46	1.96	1.94	1.34	0.70	0	1.72	3.38	4.09	4.78	5.69	6.11	5.78	4.92	4.26	3.55	1.84	0
℄ GIRDER 4	A	0	0.17	0.31	0.43	0.46	0.45	0.39	0.29	0.29	0.17	0.07	0	0.01	0.08	0.12	0.17	0.23	0.27	0.25	0.19	0.15	0.11	0.03	0
	B	0	0.70	1.27	1.72	1.84	1.79	1.55	1.15	1.13	0.66	0.25	0	0.10	0.43	0.62	0.81	1.11	1.29	1.16	0.90	0.72	0.52	0.16	0
	C	0	0.05	0.10	0.15	0.19	0.24	0.29	0.34	0.34	0.39	0.34	0	1.67	2.96	3.45	3.89	4.44	4.63	4.44	3.89	3.45	2.96	1.67	0
	D	0	0.92	1.68	2.30	2.49	2.48	2.23	1.78	1.76	1.22	0.66	0	1.78	3.47	4.19	4.87	5.78	6.19	5.85	4.98	4.32	3.59	1.86	0

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

GIRDER NUMBER		℄ BRG. PIER 2	SPAN 3											℄ BRG. PIER 3	SPAN 4										℄ BRG. PIER 4
			0.1 SPAN	0.2 SPAN	F.S. 4	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	0.2 SPAN	F.S. 6	0.3 SPAN	0.4 SPAN	MIDSPAN	0.6 SPAN	0.7 SPAN	F.S. 7	0.8 SPAN	0.9 SPAN	
℄ GIRDER 1	A	0	0.07	0.19	0.25	0.31	0.40	0.44	0.38	0.28	0.22	0.15	0.04	0	0.05	0.17	0.24	0.31	0.41	0.48	0.43	0.35	0.28	0.21	0.08	0
	B	0	0.24	0.68	0.92	1.14	1.46	1.62	1.40	1.04	0.80	0.56	0.15	0	0.24	0.73	0.99	1.27	1.68	1.93	1.77	1.42	1.17	0.90	0.35	0
	C	0	1.67	2.97	3.46	3.90	4.45	4.64	4.45	3.90	3.46	2.97	1.67	0	1.66	2.95	3.45	3.88	4.43	4.62	4.43	3.88	3.45	2.95	1.66	0
	D	0	1.98	3.84	4.63	5.35	6.31	6.70	6.23	5.22	4.48	3.68	1.86	0	1.95	3.85	4.68	5.46	6.52	7.03	6.63	5.65	4.90	4.06	2.09	0
℄ GIRDER 2	A	0	0.06	0.18	0.23	0.29	0.37	0.40	0.35	0.26	0.20	0.15	0.04	0	0.05	0.17	0.23	0.29	0.38	0.44	0.40	0.32	0.26	0.20	0.08	0
	B	0	0.22	0.63	0.85	1.06	1.36	1.51	1.30	0.97	0.74	0.53	0.15	0	0.22	0.67	0.91	1.16	1.54	1.78	1.62	1.30	1.07	0.82	0.32	0
	C	0	1.67	2.97	3.46	3.90	4.45	4.64	4.45	3.90	3.46	2.97	1.67	0	1.66	2.95	3.45	3.88	4.43	4.62	4.43	3.88	3.45	2.95	1.66	0
	D	0	1.95	3.78	4.54	5.25	6.18	6.55	6.10	5.13	4.40	3.65	1.86	0	1.93	3.79	4.59	5.33	6.35	6.84	6.45	5.50	4.78	3.97	2.06	0
℄ GIRDER 3	A	0	0.06	0.16	0.21	0.26	0.33	0.37	0.32	0.24	0.19	0.14	0.04	0	0.05	0.15	0.21	0.27	0.35	0.41	0.37	0.30	0.24	0.18	0.07	0
	B	0	0.20	0.61	0.82	1.02	1.30	1.45	1.26	0.94	0.73	0.52	0.15	0	0.21	0.64	0.87	1.11	1.46	1.68	1.53	1.23	1.01	0.77	0.30	0
	C	0	1.67	2.97	3.46	3.90	4.45	4.64	4.45	3.90	3.46	2.97	1.67	0	1.66	2.95	3.45	3.88	4.43	4.62	4.43	3.88	3.45	2.95	1.66	0
	D	0	1.93	3.74	4.49	5.18	6.08	6.46	6.03	5.08	4.38	3.63	1.86	0	1.92	3.74	4.53	5.26	6.24	6.71	6.33	5.41	4.70	3.90	2.03	0
℄ GIRDER 4	A	0	0.05	0.14	0.19	0.23	0.30	0.33	0.29	0.22	0.17	0.13	0.04	0	0.05	0.14	0.19	0.24	0.32	0.37	0.33	0.27	0.22	0.17	0.07	0
	B	0	0.21	0.60	0.81	1.00	1.28	1.43	1.25	0.95	0.75	0.54	0.17	0	0.22	0.64	0.86	1.09	1.42	1.62	1.48	1.19	0.98	0.75	0.30	0
	C	0	1.67	2.97	3.46	3.90	4.45	4.64	4.45	3.90	3.46	2.97	1.67	0	1.66	2.95	3.45	3.88	4.43	4.62	4.43	3.88	3.45	2.95	1.66	0
	D	0	1.93	3.71	4.46	5.13	6.03	6.40	5.99	5.07	4.38	3.64	1.88	0	1.93	3.73	4.50	5.21	6.17	6.61	6.24	5.34	4.65	3.87	2.03	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 31 / 60 FOR CAMBER DIAGRAM AND ADDITONAL NOTES.
2. SEE SHEET 33 / 60 FOR SPAN 5 CAMBER TABLE.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

DESIGNED	DRAWN	REVIEWED	DATE
ASG	ASG	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7705973	

CAMBER TABLE - 1
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

32 / 60

33 / 61

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

GIRDER NUMBER		℄ BRG. PIER 4	SPAN 5										℄ BRG. F.A.
			0.1 SPAN	0.2 SPAN	0.3 SPAN	F.S. 8	0.4 SPAN	MIDSPAN	0.6 SPAN	0.7 SPAN	0.8 SPAN	0.9 SPAN	
℄ GIRDER 1	A	0	0.01	0.04	0.08	0.12	0.13	0.17	0.17	0.16	0.13	0.07	0
	B	0	0.01	0.10	0.25	0.39	0.43	0.57	0.59	0.56	0.47	0.24	0
	C	0	0.82	1.45	1.90	2.12	2.18	2.27	2.18	1.90	1.45	0.82	0
	D	0	0.84	1.59	2.23	2.63	2.74	3.01	2.94	2.62	2.05	1.13	0
℄ GIRDER 2	A	0	0.01	0.03	0.07	0.11	0.12	0.15	0.16	0.15	0.12	0.06	0
	B	0	0.01	0.08	0.22	0.35	0.38	0.51	0.54	0.51	0.42	0.21	0
	C	0	0.82	1.45	1.90	2.12	2.18	2.27	2.18	1.90	1.45	0.82	0
	D	0	0.84	1.56	2.19	2.58	2.68	2.93	2.88	2.56	1.99	1.09	0
℄ GIRDER 3	A	0	0.01	0.03	0.07	0.10	0.11	0.14	0.14	0.13	0.11	0.06	0
	B	0	0.01	0.09	0.23	0.35	0.38	0.50	0.53	0.50	0.41	0.21	0
	C	0	0.82	1.45	1.90	2.12	2.18	2.27	2.18	1.90	1.45	0.82	0
	D	0	0.84	1.57	2.20	2.57	2.67	2.91	2.85	2.53	1.97	1.09	0
℄ GIRDER 4	A	0	0.01	0.03	0.06	0.09	0.09	0.12	0.12	0.12	0.10	0.05	0
	B	0	0.04	0.12	0.27	0.39	0.42	0.54	0.56	0.53	0.43	0.22	0
	C	0	0.82	1.45	1.90	2.12	2.18	2.27	2.18	1.90	1.45	0.82	0
	D	0	0.87	1.60	2.23	2.60	2.69	2.93	2.86	2.55	1.98	1.09	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 31 / 60 FOR CAMBER DIAGRAM AND ADDITONAL NOTES.
2. SEE SHEET 32 / 60 FOR SPANS 1 - 4 CAMBER TABLE.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

DESIGNED	DRAWN	REVIEWED	DATE
ASG	ASG	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7705973	

CAMBER TABLE - 2
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

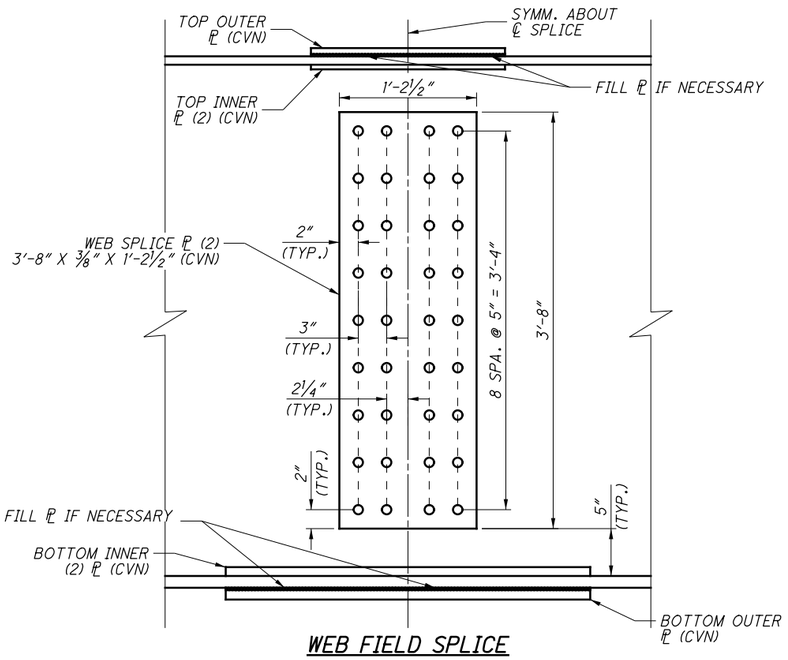
SUM-76/77/8-
8.24/9.74/0.00
PID No. 102329

33 / 60

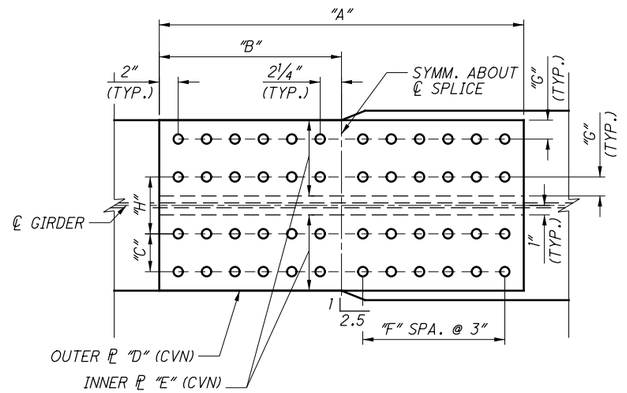
34 / 61

FIELD SPLICE INFORMATION

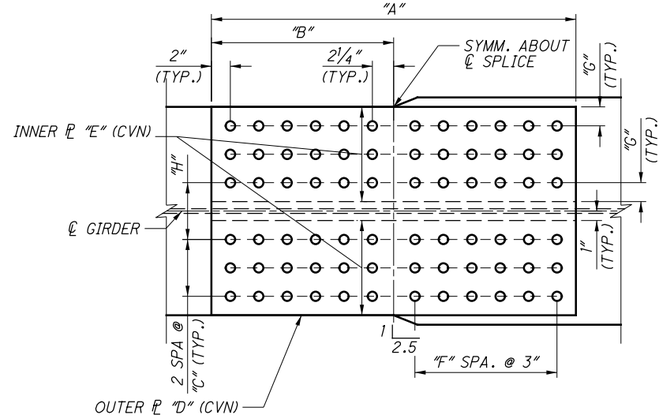
FIELD SPLICE NO.	GIRDER NO.	TOP FLANGE SPLICE DIMENSIONS									BOTTOM FLANGE SPLICE DIMENSIONS									TOP FLANGE FILL PLATE	BOTTOM FLANGE FILL PLATE
		SPLICE TYPE	A	B	C	D	E	F	G	H	SPLICE TYPE	A	B	C	D	E	F	G	H		
1	1	A	2′-2½″	1′-1¼″	4″	½″ X 1′-6″ X 2′-2½″	⅝″ X 8″ X 2′-2½″	3	2″	6″	B	2′-2½″	1′-1¼″	3″	⅛″ X 1′-10″ X 2′-2½″	1″ X 10″ X 2′-2½″	3	2″	6″	⅜″ x 1′-1¼″ x 1′-6″	½″ x 1′-1¼″ x 1′-10″
1	2	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-8½″	1′-4¼″	4″	⅛″ X 1′-6″ X 2′-8½″	⅞″ X 8″ X 2′-8½″	4	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-4¼″ x 1′-6″
1	3	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-8½″	1′-4¼″	4″	⅞″ X 1′-6″ X 2′-8½″	⅞″ X 8″ X 2′-8½″	4	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-4¼″ x 1′-6″
1	4	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-8½″	1′-4¼″	4″	⅞″ X 1′-6″ X 2′-8½″	⅞″ X 8″ X 2′-8½″	4	2″	6″	⅛″ x 10¼″ x 1′-4″	-
2	1	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-8½″	1′-10¼″	4″	1⅛″ X 1′-8″ X 3′-8½″	1¼″ X 9″ X 3′-8½″	6	2½″	7″	⅜″ x 10¼″ x 1′-4″	½″ x 1′-10¼″ x 1′-8″
2	2	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-8½″	1′-4¼″	4″	⅞″ X 1′-6″ X 2′-8½″	⅞″ X 8″ X 2′-8½″	4	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-4¼″ x 1′-6″
2	3	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-8½″	1′-4¼″	4″	⅞″ X 1′-6″ X 2′-8½″	⅞″ X 8″ X 2′-8½″	4	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-4¼″ x 1′-6″
2	4	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-8½″	1′-4¼″	4″	⅞″ X 1′-6″ X 2′-8½″	⅞″ X 8″ X 2′-8½″	4	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-4¼″ x 1′-6″
3	1	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-8½″	1′-10¼″	4″	1⅛″ X 1′-8″ X 3′-8½″	1¼″ X 9″ X 3′-8½″	6	2½″	7″	⅛″ x 10¼″ x 1′-4″	½″ x 1′-10¼″ x 1′-8″
3	2	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	-
3	3	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	-
3	4	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-2½″	1′-7¼″	4″	¾″ X 1′-8″ X 3′-2½″	¾″ X 9″ X 3′-2½″	5	2½″	7″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-7¼″ x 1′-8″
4	1	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-8½″	1′-10¼″	4″	1⅛″ X 1′-8″ X 3′-8½″	1¼″ X 9″ X 3′-8½″	6	2½″	7″	⅛″ x 10¼″ x 1′-4″	½″ x 1′-10¼″ x 1′-8″
4	2	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	-
4	3	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	-
4	4	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-2½″	1′-7¼″	4″	¾″ X 1′-8″ X 3′-2½″	¾″ X 9″ X 3′-2½″	5	2½″	7″	⅛″ x 10¼″ x 1′-4″	-
5	1	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-8½″	1′-10¼″	4″	1⅛″ X 1′-8″ X 3′-8½″	1¼″ X 9″ X 3′-8½″	6	2½″	7″	⅛″ x 10¼″ x 1′-4″	½″ x 1′-10¼″ x 1′-8″
5	2	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-1¼″ x 1′-6″
5	3	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-1¼″ x 1′-6″
5	4	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-2½″	1′-7¼″	4″	¾″ X 1′-8″ X 3′-2½″	¾″ X 9″ X 3′-2½″	5	2½″	7″	⅛″ x 10¼″ x 1′-4″	-
6	1	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-8½″	1′-10¼″	4″	1⅛″ X 1′-8″ X 3′-8½″	1¼″ X 9″ X 3′-8½″	6	2½″	7″	⅛″ x 10¼″ x 1′-4″	½″ x 1′-10¼″ x 1′-8″
6	2	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-1¼″ x 1′-6″
6	3	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-1¼″ x 1′-6″
6	4	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-2½″	1′-7¼″	4″	¾″ X 1′-8″ X 3′-2½″	¾″ X 9″ X 3′-2½″	5	2½″	7″	⅛″ x 10¼″ x 1′-4″	-
7	1	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-2½″	1′-7¼″	4″	¾″ X 1′-8″ X 3′-2½″	¾″ X 9″ X 3′-2½″	5	2½″	7″	⅛″ x 10¼″ x 1′-4″	¾″ x 1′-7¼″ x 1′-8″
7	2	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	-
7	3	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	-
7	4	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-2½″	1′-7¼″	4″	¾″ X 1′-8″ X 3′-2½″	¾″ X 9″ X 3′-2½″	5	2½″	7″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-7¼″ x 1′-8″
8	1	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-8½″	1′-10¼″	4″	1⅛″ X 1′-8″ X 3′-8½″	1¼″ X 9″ X 3′-8½″	6	2½″	7″	⅛″ x 10¼″ x 1′-4″	-
8	2	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-1¼″ x 1′-6″
8	3	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	2′-2½″	1′-1¼″	4″	¾″ X 1′-6″ X 2′-2½″	¾″ X 8″ X 2′-2½″	3	2″	6″	⅛″ x 10¼″ x 1′-4″	¼″ x 1′-1¼″ x 1′-6″
8	4	A	1′-8½″	10¼″	3″	½″ X 1′-4″ X 1′-8½″	⅝″ X 7″ X 1′-8½″	2	2″	6″	A	3′-2½″	1′-7¼″	4″	¾″ X 1′-8″ X 3′-2½″	¾″ X 9″ X 3′-2½″	5	2½″	7″	⅛″ x 10¼″ x 1′-4″	-



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.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

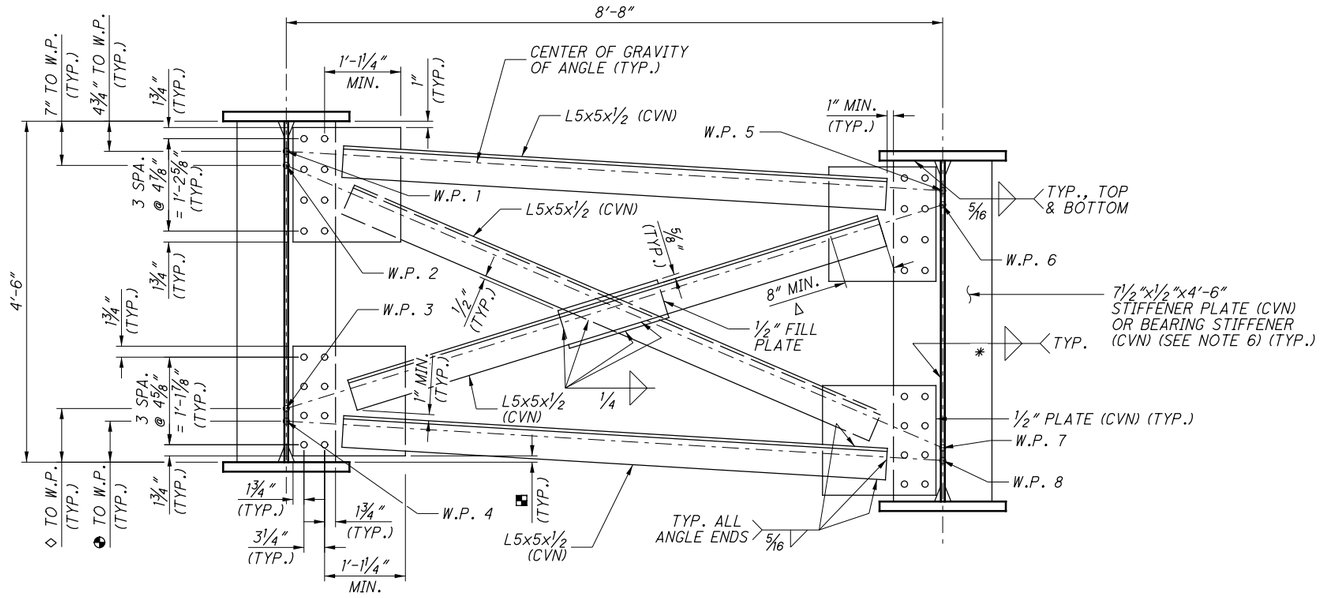
DESIGN AGENCY
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
BDE	BDE	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7705973	

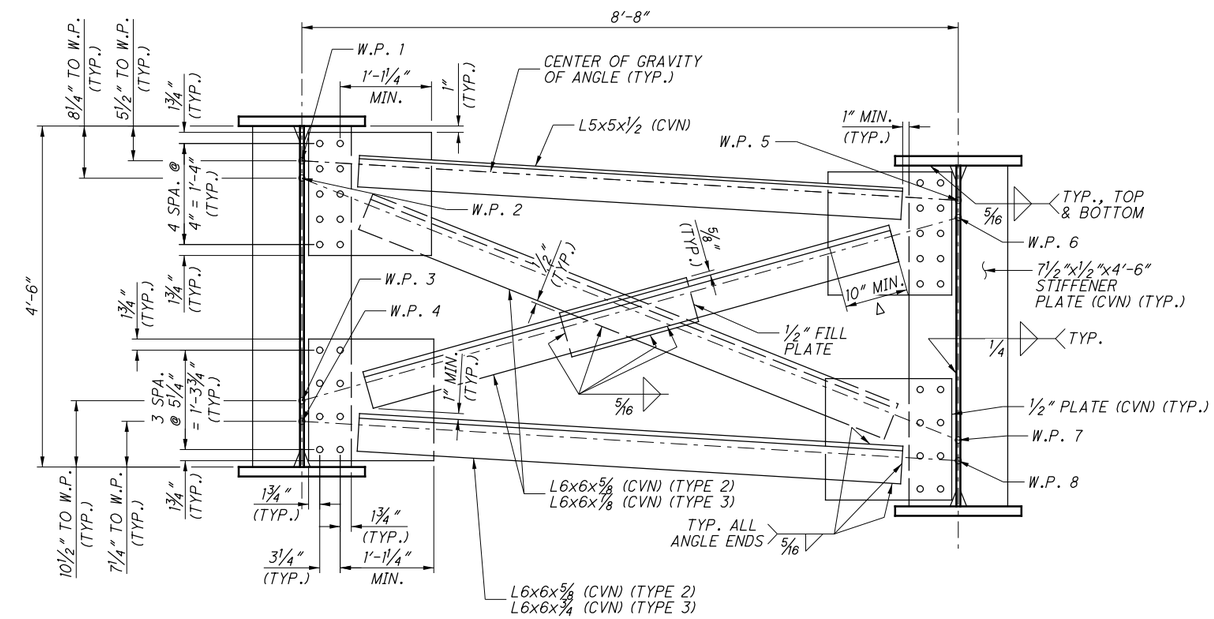
FIELD SPLICE DETAILS

SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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



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.

◇ = 10½" AT THE FOLLOWING CROSSFRAME LOCATIONS:
℄ PIER 1 AND ℄ PIER 4

8½" AT ALL OTHER TYPE 1 CROSSFRAME LOCATIONS.

◓ = 8½" AT THE FOLLOWING CROSSFRAME LOCATIONS:
℄ PIER 1 AND ℄ PIER 4

6½" AT ALL OTHER TYPE 1 CROSSFRAME LOCATIONS.

◘ = 3" AT THE FOLLOWING CROSSFRAME LOCATIONS:
℄ PIER 1 AND ℄ PIER 4

1" AT ALL OTHER TYPE 1 CROSSFRAME LOCATIONS.

NOTES:

1. SEE SHEET 27 / 60 AND 28 / 60 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 30 / 60 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

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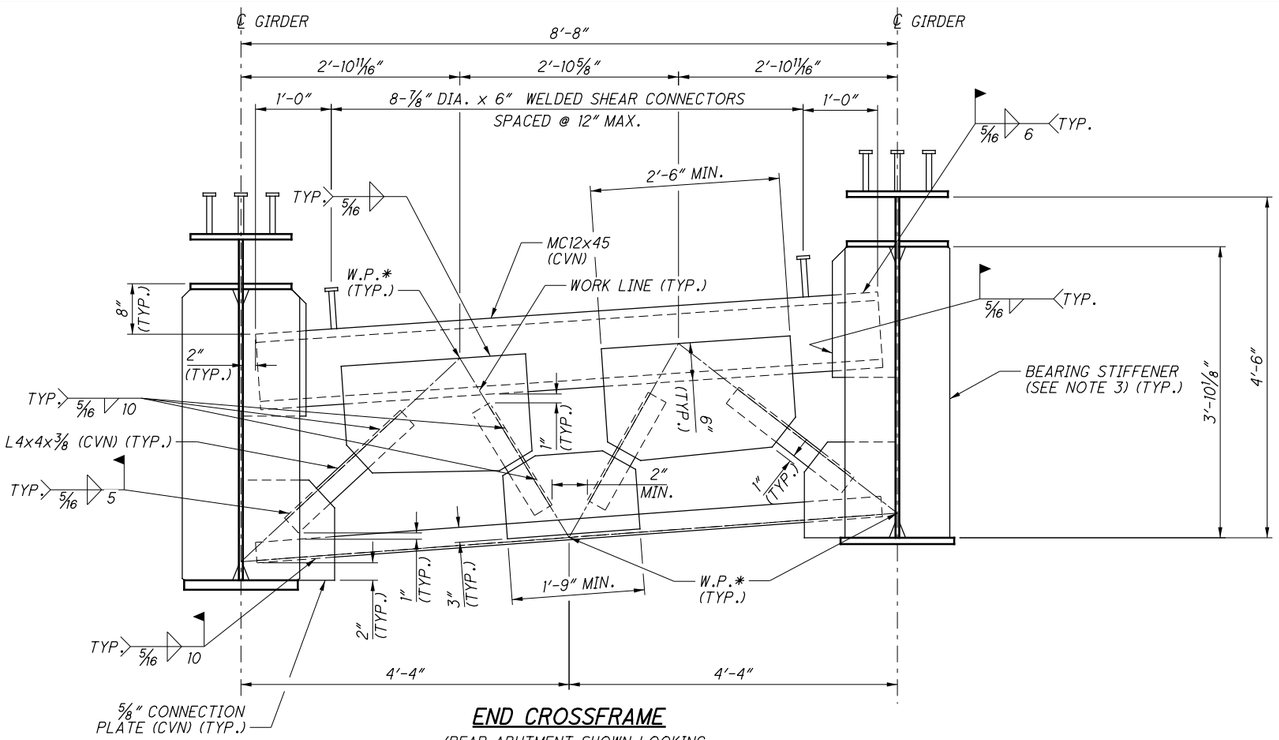
DESIGN AGENCY
BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED MAB | DRAWN MAB | CHECKED JDH | REVIEWED JCS | DATE 4/29/19 | REVISED | STRUCTURE FILE NUMBER 7705973

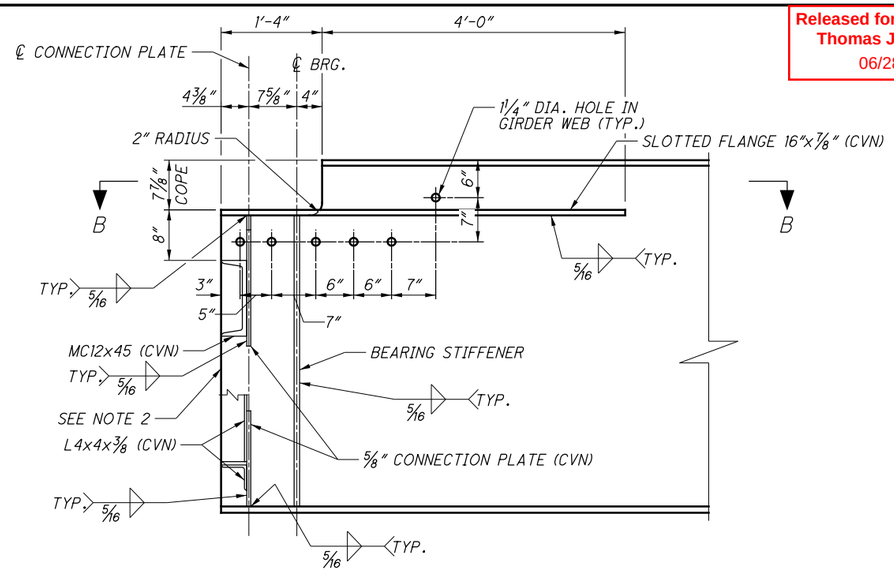
INTERMEDIATE CROSSFRAME DETAILS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

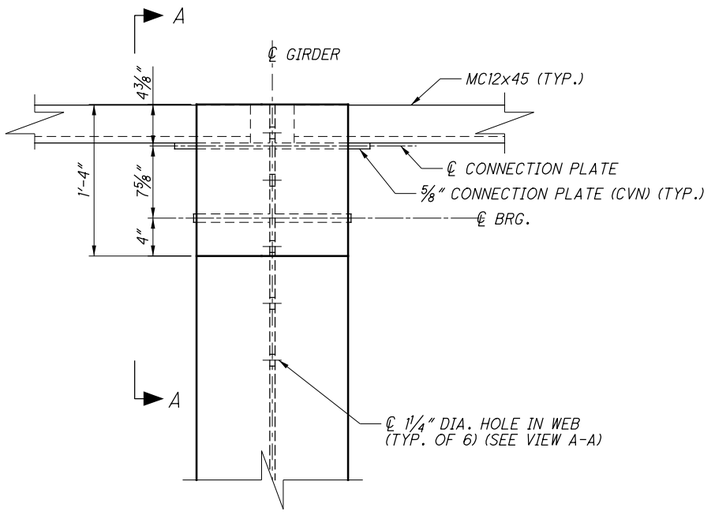


END CROSSFRAME

(REAR ABUTMENT SHOWN LOOKING DOWNSTATION, FORWARD ABUTMENT SIMILAR)

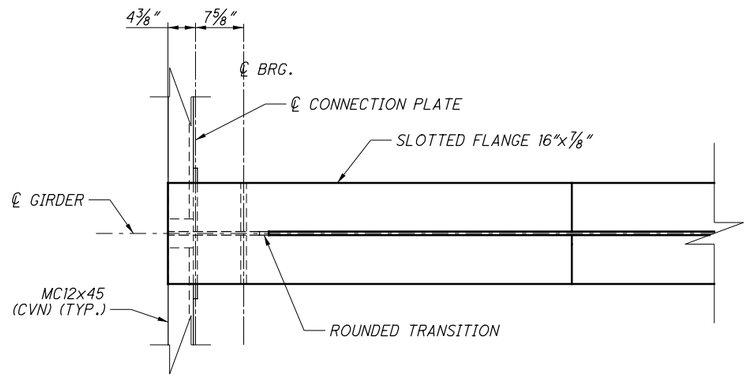


VIEW A-A



GIRDER END DETAIL

(INTERIOR GIRDER SHOWN, EXTERIOR GIRDER SIMILAR)



VIEW B-B

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 30 / 60 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. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50.
6. SEE GENERAL NOTES FOR COATING REQUIREMENTS.

ISSUE RECORD:

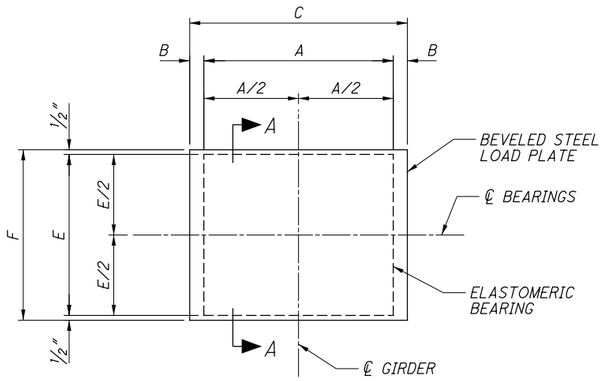
NO.	DATE	DESCRIPTION

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

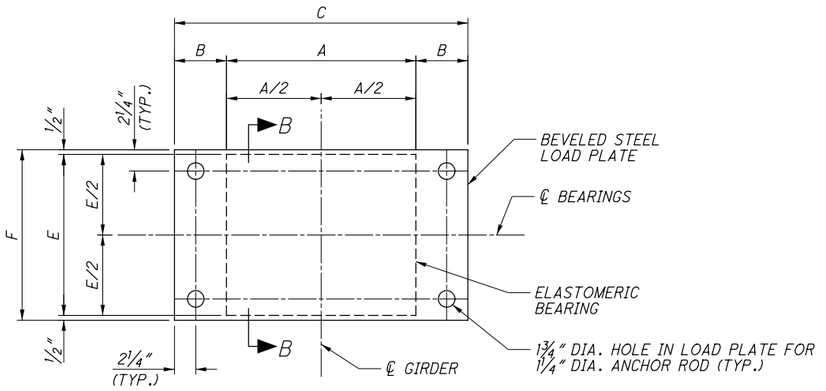
DESIGNED BCS | DRAWN BCS | CHECKED SJA | REVIEWED JCS | DATE 4/29/19
STRUCTURE FILE NUMBER 7705973

END CROSSFRAME DETAILS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

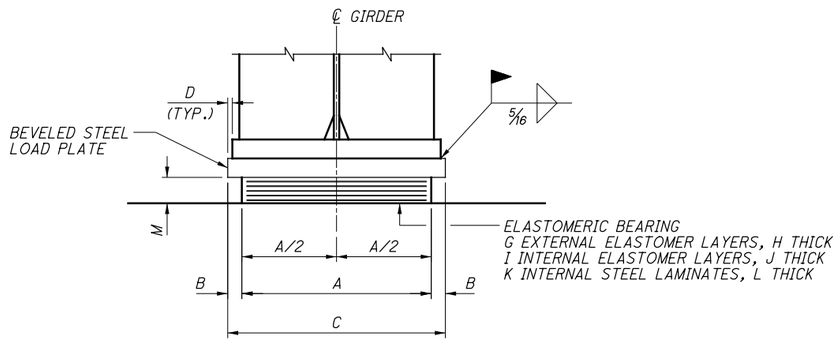
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329



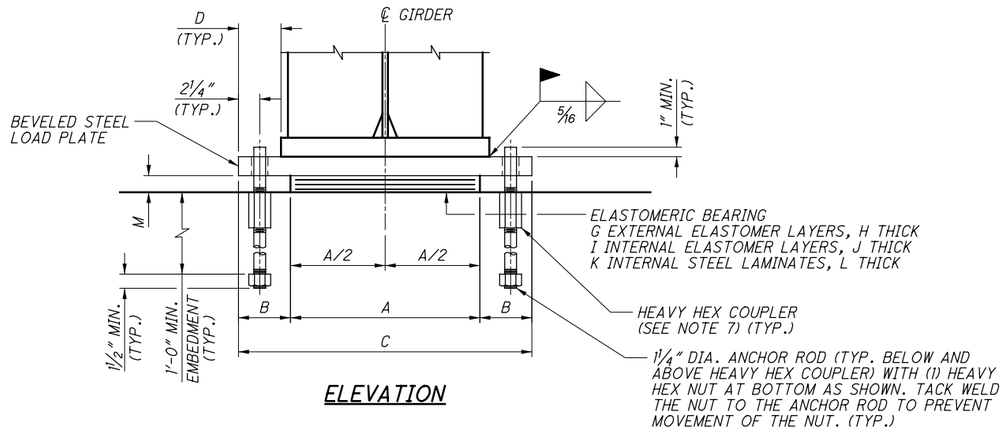
PLAN
(EXPANSION BEARING)
(PIERS 1 AND 4)
(GIRDER NOT SHOWN)



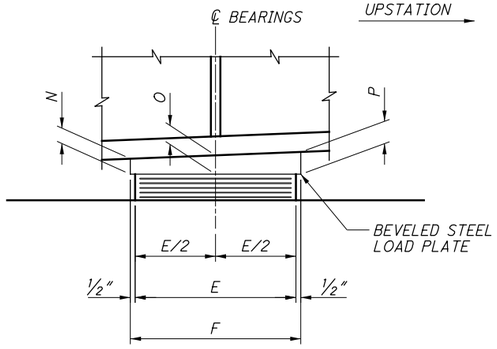
PLAN
(FIXED BEARING)
(PIERS 2 AND 3)
(GIRDER NOT SHOWN)



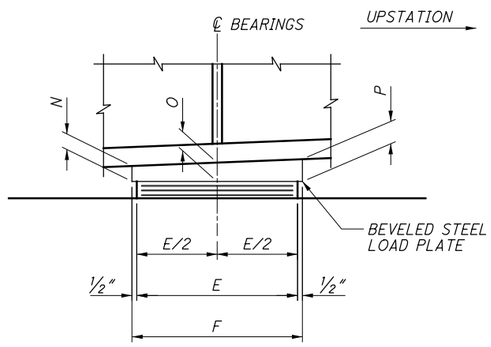
ELEVATION



ELEVATION



SECTION A-A



SECTION B-B
(ANCHOR RODS NOT SHOWN)

NOTES:

1. SEE SHEET 39 / 60 FOR NOTES AND TABLE OF DIMENSIONS.

DESIGN AGENCY
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5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
SJA	BCS	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BCS		7705973	

ELASTOMERIC BEARING DETAILS - 1
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

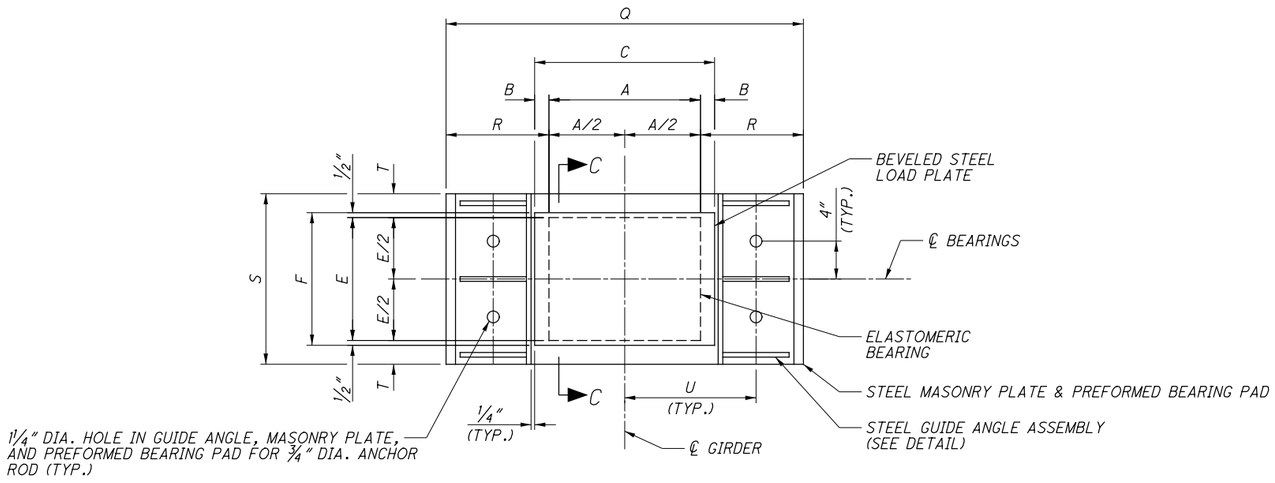
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

37 / 60

38 / 61

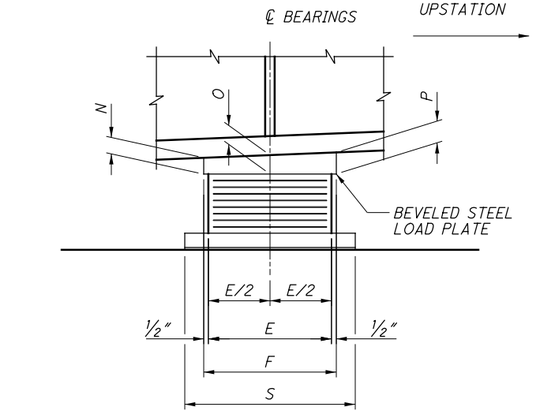
ISSUE RECORD:

NO.	DATE	DESCRIPTION



PLAN

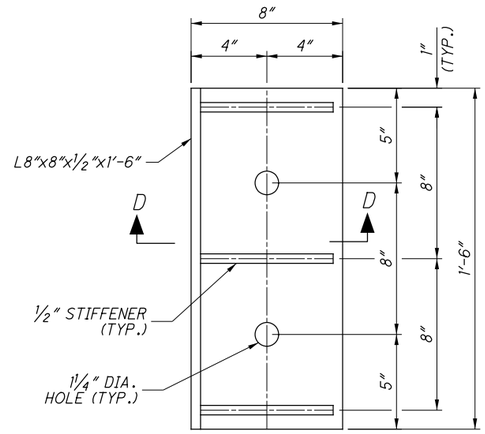
(GUIDED AND ANCHORED EXPANSION BEARING)
(REAR ABUTMENT AND FORWARD ABUTMENT)
(GIRDER NOT SHOWN)



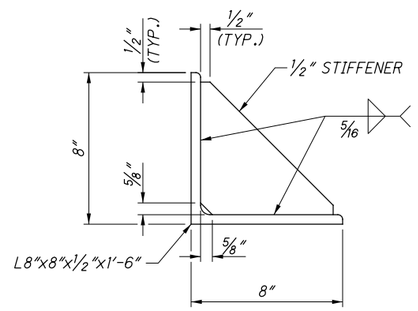
SECTION C-C

(ANCHOR RODS & STEEL GUIDE ANGLE ASSEMBLIES NOT SHOWN)

ELEVATION



GUIDE ANGLE ASSEMBLY DETAIL



SECTION D-D

NOTES:

1. SEE SHEET 39 / 60 FOR NOTES AND TABLE OF DIMENSIONS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

DESIGNED	DRAWN	REVIEWED	DATE
SJA	BCS	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BCS		7705973	

ELASTOMERIC BEARING DETAILS - 2
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

38 / 60

39 / 61

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′-8″	1½″	1′-11″	0½″	1′-2″	1′-3″	0	--	9	0.625″	8	0.0747″	6¼″	1½″	2″	2½″	3′-4½″	0′-10½″	1′-6″	1½″	1′-3¾″	130.9	100.8	231.7
	G2				2½″																		96.4	80.1	176.5
	G3				2½″																		93.1	84.5	177.6
	G4				2½″																		92.6	71.2	163.8
PIER 1	G1	1′-8″	1½″	1′-11″	0½″	1′-5″	1′-6″	1	0.306″	7	0.4375″	7	0.0747″	3⅜″	1½″	2⅛″	2¾″	--	--	--	--	--	347.1	173.5	520.5
	G2				2½″																		292.3	140.6	432.9
	G3				2½″																		266.4	137.3	403.7
	G4				2½″																		341.2	155.0	496.1
PIER 2	G1	1′-8″	4½″	2′-5″	4½″	1′-5″	1′-6″	1	0.306″	5	0.4375″	5	0.0747″	2⅞″	1⅝″	2″	2⅜″	--	--	--	--	--	310.7	173.7	484.4
	G2				4½″																		258.4	140.3	398.7
	G3				4½″																		243.2	134.0	377.2
	G4				4½″																		312.8	154.6	467.4
PIER 3	G1	1′-8″	4½″	2′-5″	4½″	1′-5″	1′-6″	1	0.306″	5	0.4375″	5	0.0747″	2⅞″	1⅝″	2″	2⅜″	--	--	--	--	--	321.6	171.3	493.0
	G2				4½″																		281.8	142.8	424.6
	G3				4½″																		264.4	137.0	401.3
	G4				4½″																		323.3	154.4	477.7
PIER 4	G1	1′-8″	0½″	1′-9″	0½″	1′-5″	1′-6″	1	0.306″	9	0.4375″	9	0.0747″	4¹⁵⁄₁₆″	2″	2″	2″	--	--	--	--	--	297.6	162.0	459.6
	G2				0½″																		261.0	136.9	397.9
	G3				0½″																		242.5	131.8	374.2
	G4				0½″																		293.1	143.2	436.3
FORWARD ABUTMENT	G1	1′-6″	2½″	1′-11″	0½″	1′-2″	1′-3″	0	--	10	0.625″	9	0.0747″	6¹⁵⁄₁₆″	2¼″	2⅛″	2″	3′-4½″	0′-11½″	1′-6″	1½″	1′-3¾″	90.5	91.0	181.5
	G2				0½″																		68.4	75.7	144.1
	G3				0½″																		68.4	78.6	147.1
	G4				0½″																		76.0	68.0	144.0

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

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

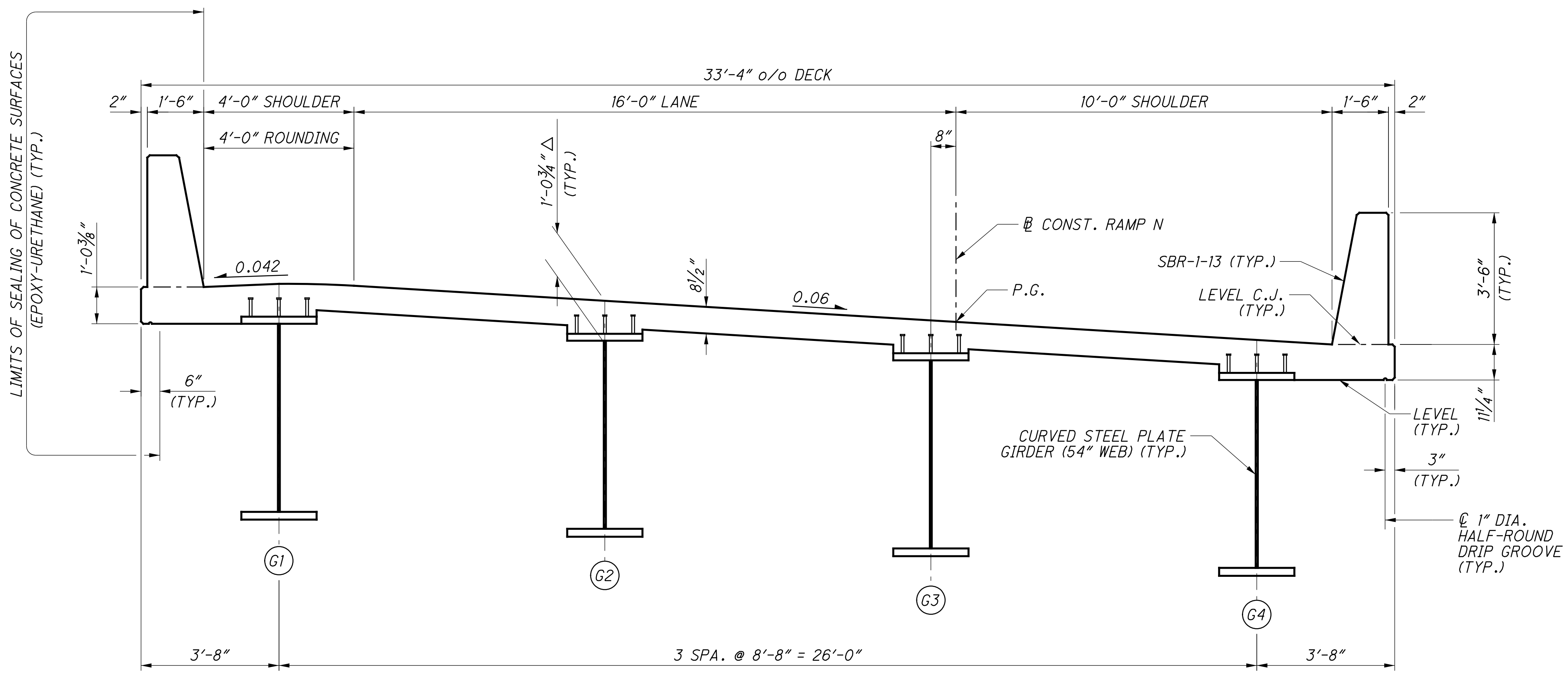
DESIGNED	DRAWN	REVIEWED	DATE
SJA	BCS	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BCS		7705973	

ELASTOMERIC BEARING DETAILS - 3
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

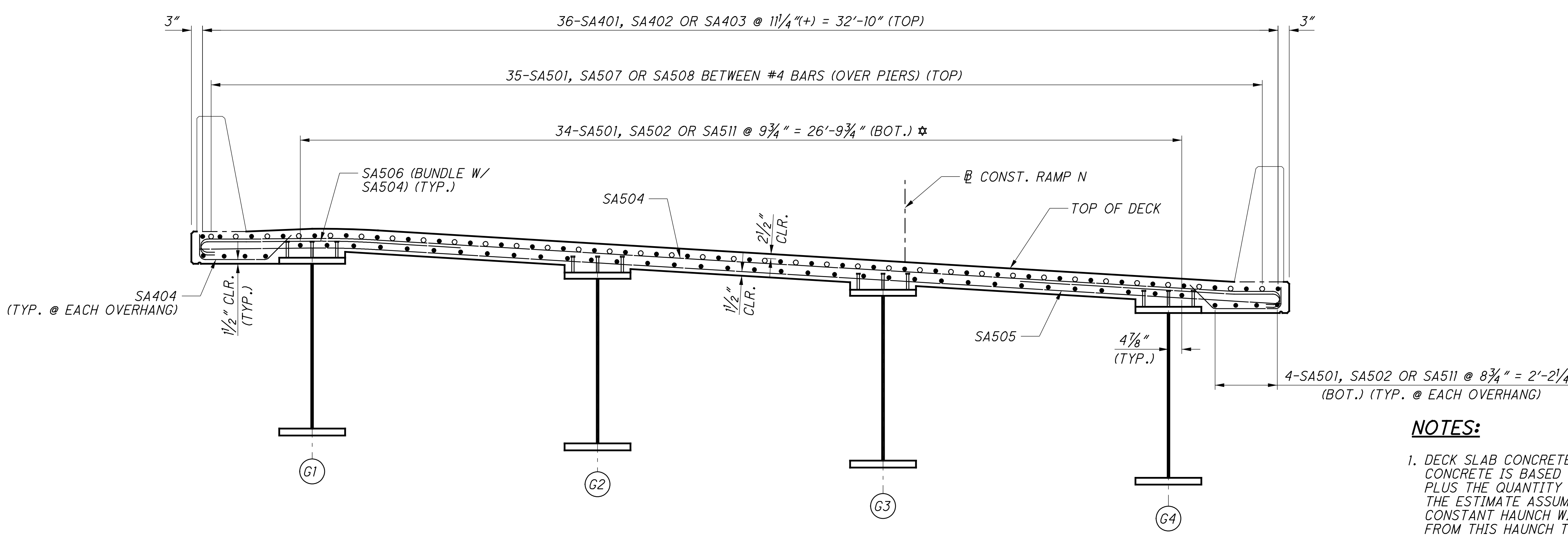
39/60

40/61



TYPICAL SECTION

(CROSSFRAMES NOT SHOWN)
(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)



DECK SLAB REINFORCING STEEL DETAILS

(CROSSFRAMES NOT SHOWN)
(SEE SHEETS 48/60 TO 50/60 FOR PARAPET REINFORCING STEEL DETAILS)
(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)

LEGEND:

△ = TOP OF WEB TO TOP OF DECK

(G#) = GIRDER DESIGNATION

✡ = 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" 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.

DESIGN AGENCY
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Engineers ■ Architects ■ Planners
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CAS	KK	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		7705973	

TRANSVERSE SECTION
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

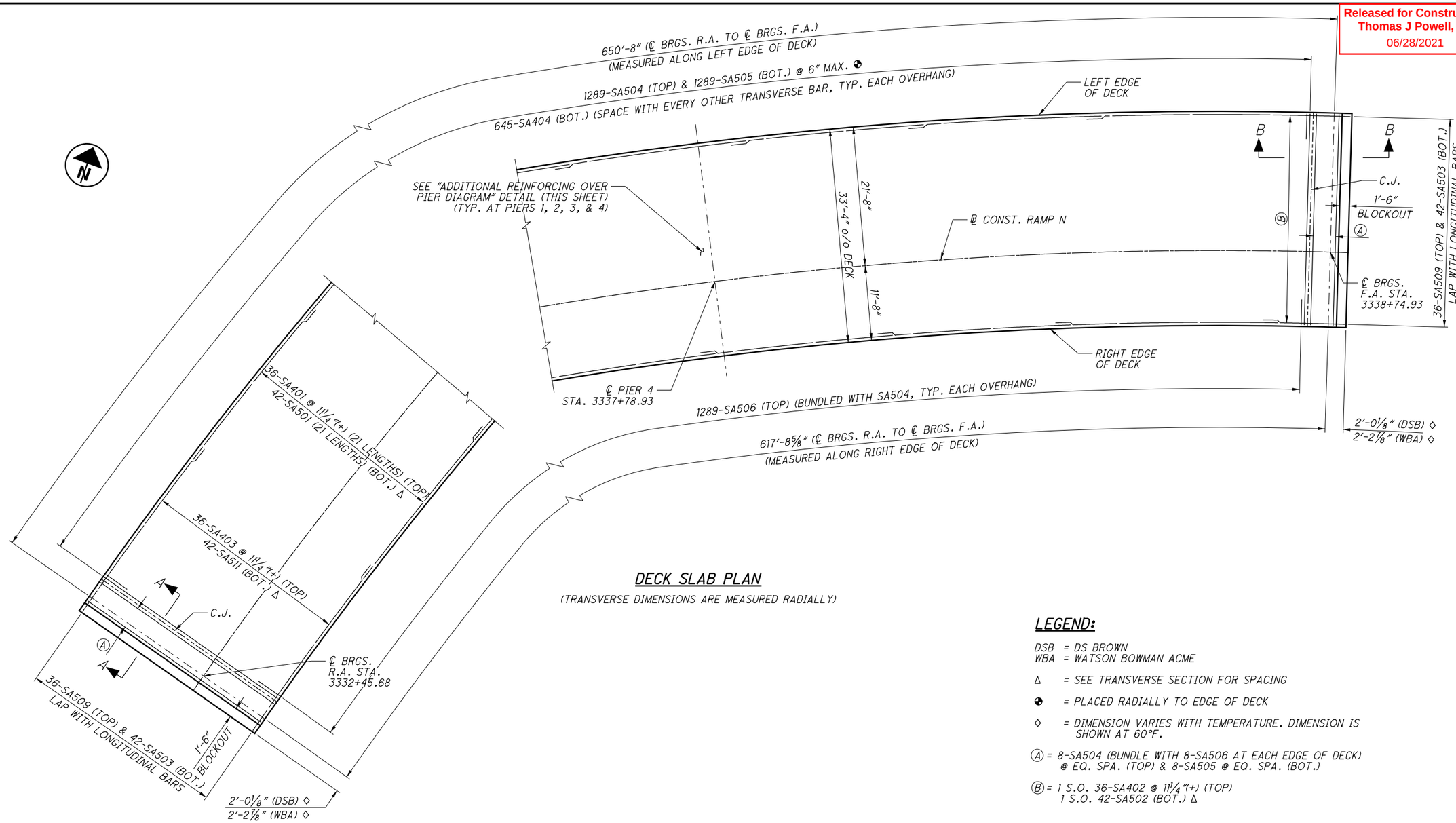
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

40/60

41/61

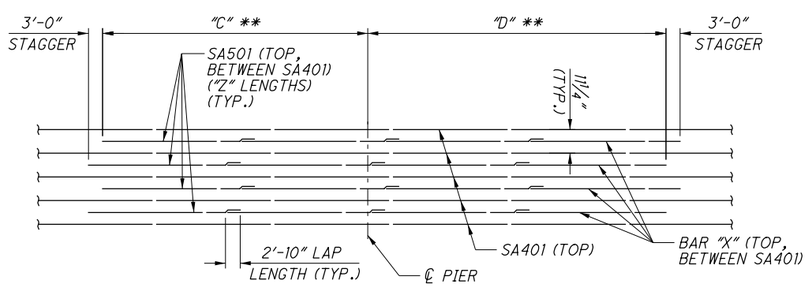
ISSUE RECORD:

NO.	DATE	DESCRIPTION



DECK SLAB PLAN

(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)



ADDITIONAL REINFORCING OVER PIER DIAGRAM

(** = EVERY OTHER BAR)

	PIER 1	PIER 2	PIER 3	PIER 4
DIM. "C"	49'-0"	51'-0"	48'-0"	29'-0"
DIM. "D"	51'-0"	49'-0"	49'-0"	50'-0"
BAR "X"	SA507	SA507	SA508	N/A
LENGTHS "Z"	3	3	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.

Ⓐ = 8-SA504 (BUNDLE WITH 8-SA506 AT EACH EDGE OF DECK) @ EQ. SPA. (TOP) & 8-SA505 @ EQ. SPA. (BOT.)

Ⓑ = 1 S.O. 36-SA402 @ 11¼"(+) (TOP)
1 S.O. 42-SA502 (BOT.) Δ

NOTES:

1. SEE TRANSVERSE SECTION ON SHEET 40 / 60 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 42 / 60 FOR SECTIONS A-A & B-B AND ADDITIONAL REINFORCING STEEL AT ABUTMENT MODULAR JOINTS.
4. SEE SHEET 43 / 60 FOR DECK POUR SEQUENCE.
5. TRANSVERSE BARS SHALL BE PLACED RADIALLY TO THE EDGE OF DECK. SPACINGS ARE PROVIDED ALONG THE LEFT EDGE OF DECK.

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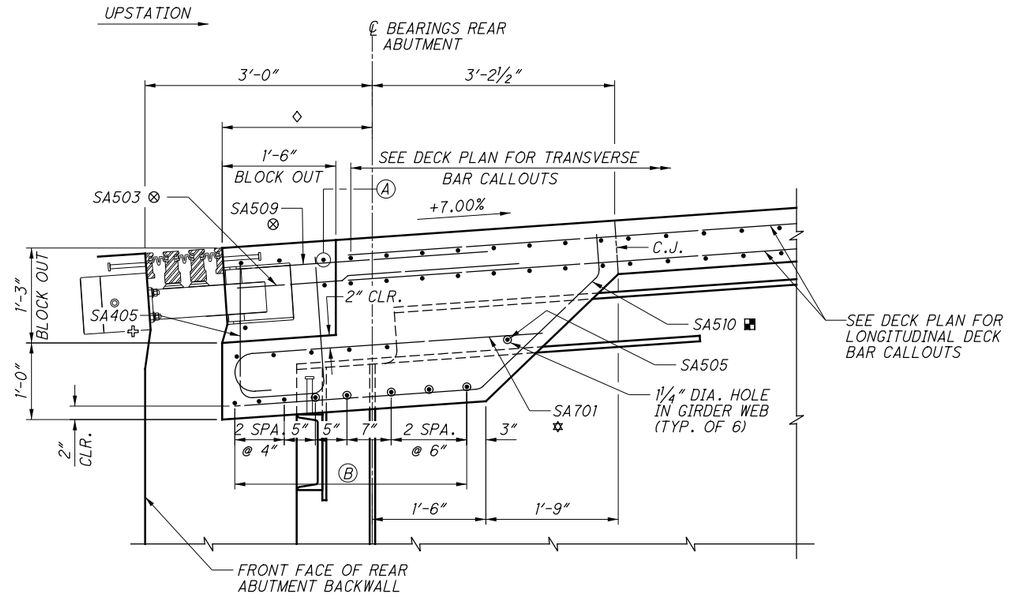
DECK SLAB PLAN
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

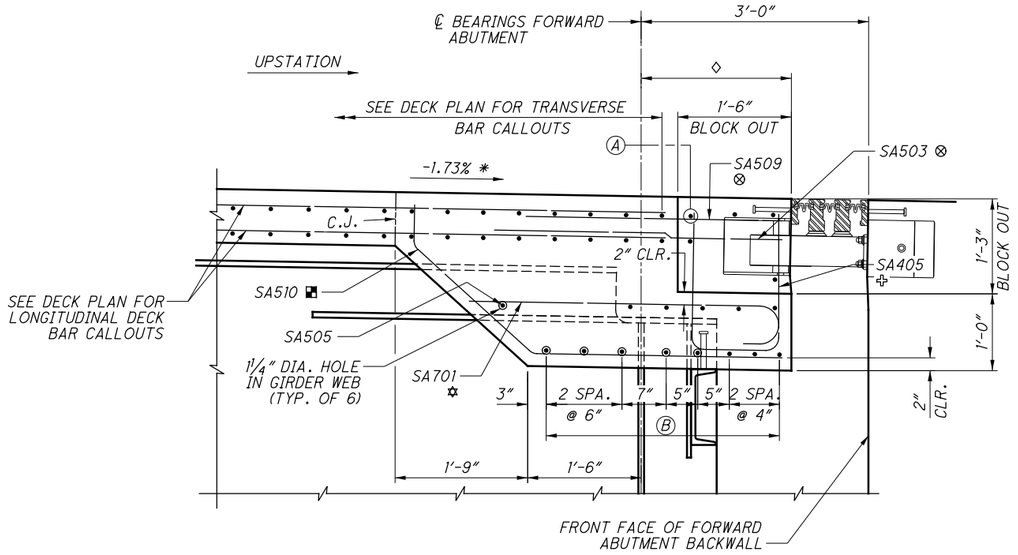
41 / 60

42 / 61



SECTION A-A

(ALL HORIZONTAL DIMENSIONS ARE MEASURED NORMAL TO ℄ BEARINGS)



SECTION B-B

(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 THE FRONT FACE OF THE FORWARD ABUTMENT BACKWALL.

◇ = 2′-0⅛″ (DS BROWN), 2′-2⅞″ (WBA), AT 60° F. SEE SHEET 51 / 60 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 SA509 BARS BELOW TOP TRANSVERSE BARS AS SHOWN.

✣ = SPACE SA405 BARS WITH BOTTOM LONGITUDINAL DECK BARS AND OMIT SA405 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 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.

(A) = SA406 (TYP. OF 5 WITHIN BLOCK OUT)

(B) = 5-SA504 (TOP)
8-SA505 (BOTTOM)
BUNDLE 1-SA506 WITH TOP BARS AT EACH END, SIMILAR TO HOW SHOWN ON DECK SLAB REINFORCING STEEL DETAILS ON SHEET 40 / 60

NOTES:

1. SEE SHEETS 51 / 60 AND 52 / 60 FOR ADDITIONAL MODULAR JOINT DETAILS.

ISSUE RECORD:

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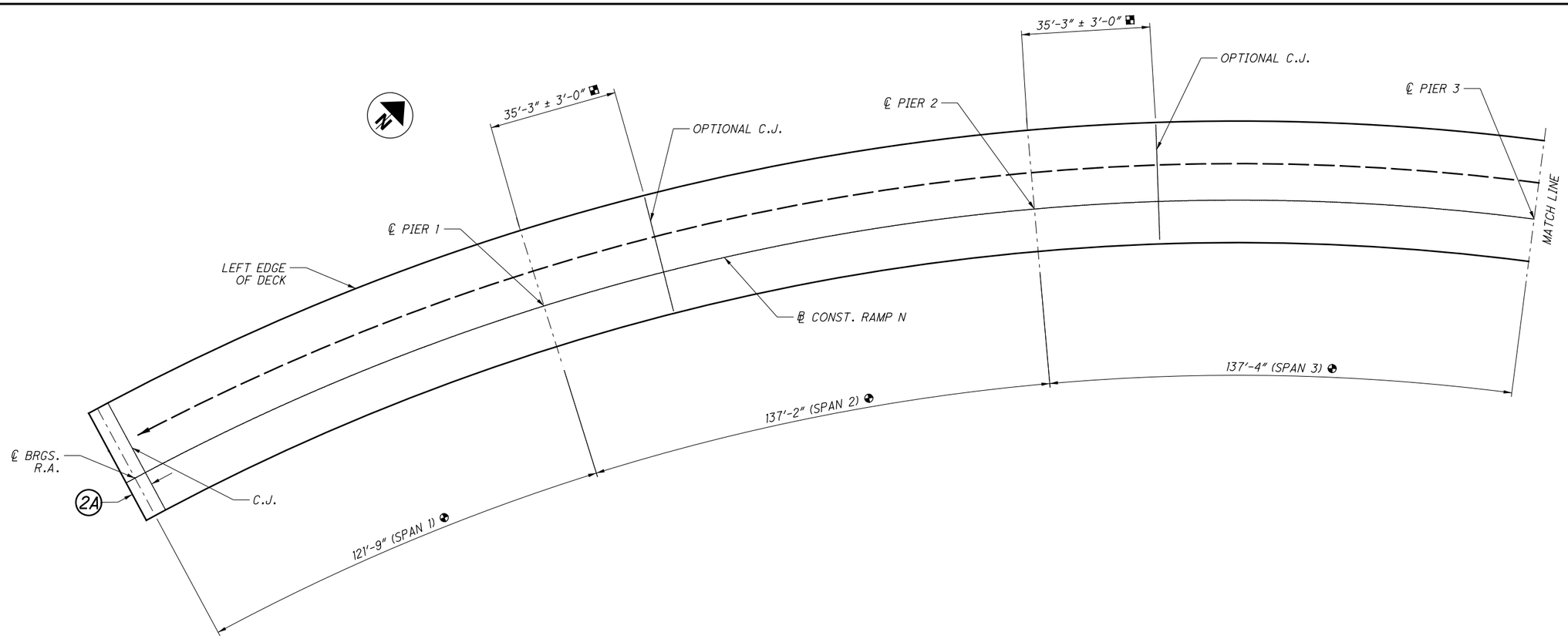
DECK DETAILS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

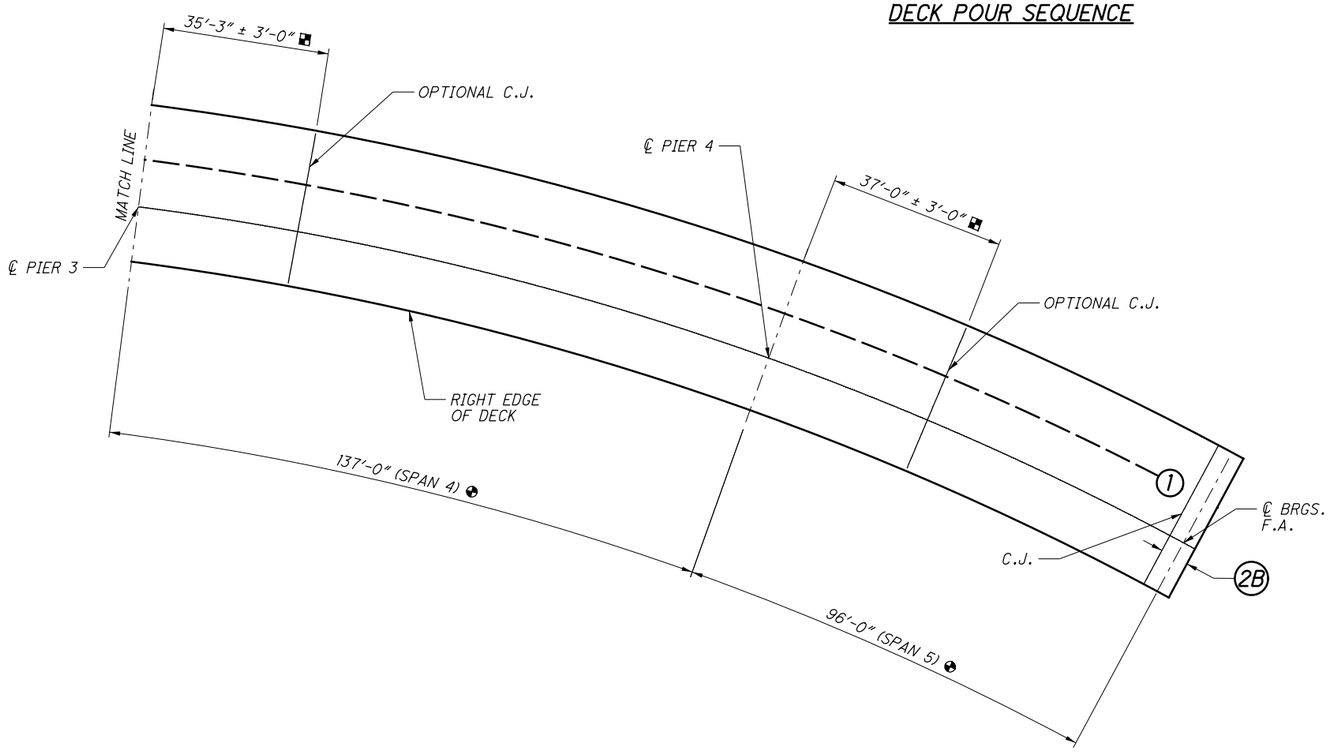
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

42 / 60

43 / 61



DECK POUR SEQUENCE



LEGEND:

(#) = DECK POUR SEQUENCE NUMBER AND DIRECTION OF POUR

■ = MEASURED ALONG LEFT EDGE OF DECK
◔ = MEASURED ALONG ℄ CONST. RAMP N

NOTES:

1. THE ENCIRCLED NUMBERS INDICATE THE SEQUENCE FOR PLACING THE SLAB SECTIONS. PLACEMENTS WITH THE SAME NUMBER BUT DIFFERENT LETTER DESIGNATIONS MAY BE MADE SIMULTANEOUSLY OR SEPARATELY IN ANY ORDER. 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 42 / 60 FOR DECK DETAILS AT MODULAR EXPANSION JOINTS.

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JDH		7705973	

DECK POUR SEQUENCE
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

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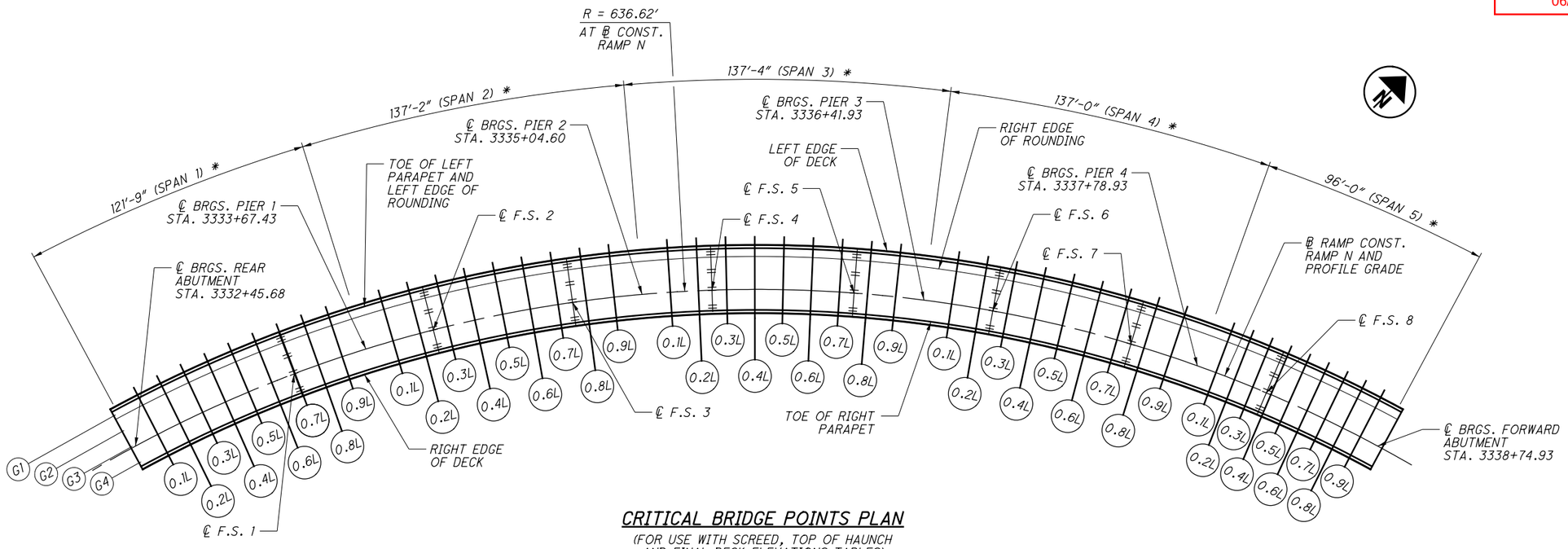
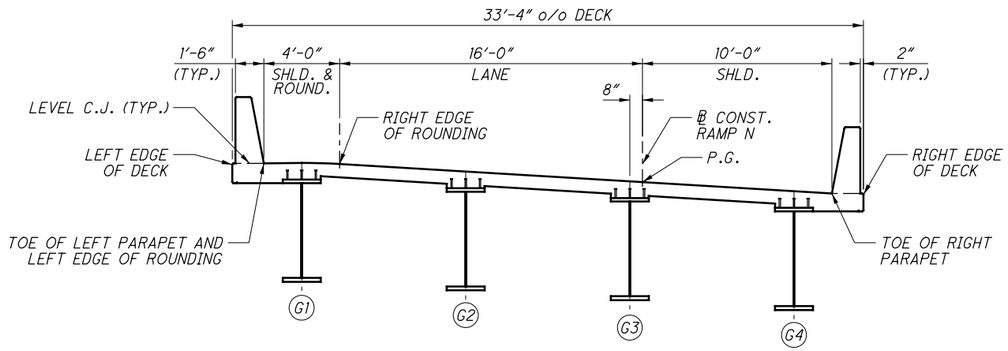
61



CRITICAL BRIDGE POINTS PLAN

(FOR USE WITH SCREED, TOP OF HAUNCH AND FINAL DECK ELEVATIONS TABLES)



CRITICAL BRIDGE POINTS TRANSVERSE SECTION

(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)

LEGEND:

* = MEASURED ALONG ℄ CONST. RAMP N
L = SPAN LENGTH

NOTES:

1. SEE SHEET 46 / 60 FOR TOP OF HAUNCH ELEVATION TABLES.
2. SEE SHEET 47 / 60 FOR FINISHED DECK ELEVATION TABLES.
3. SEE SHEET 45 / 60 FOR SCREED ELEVATION TABLES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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BURGESS & NIPLE
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5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
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CRITICAL BRIDGE POINTS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

SCREED ELEVATIONS

LOCATION	LEFT EDGE OF ROUNDING / TOE OF LEFT PARAPET		RIGHT EDGE OF ROUNDING		PROFILE GRADE		TOE OF RIGHT PARAPET	
	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.
℄ BRGS. R. A.	3332+45.68	1103.85	3332+45.68	1103.81	3332+45.68	1102.85	3332+45.68	1102.25
0.1	3332+57.86	1104.77	3332+57.86	1104.74	3332+57.86	1103.76	3332+57.86	1103.16
0.2	3332+70.03	1105.69	3332+70.03	1105.65	3332+70.03	1104.67	3332+70.03	1104.06
0.3	3332+82.21	1106.60	3332+82.21	1106.56	3332+82.21	1105.56	3332+82.21	1104.95
0.4	3332+94.38	1107.46	3332+94.38	1107.42	3332+94.38	1106.42	3332+94.38	1105.81
0.5	3333+06.56	1108.31	3333+06.56	1108.27	3333+06.56	1107.27	3333+06.56	1106.66
0.6	3333+18.73	1109.13	3333+18.73	1109.10	3333+18.73	1108.10	3333+18.73	1107.49
F.S. 1	3333+30.47	1109.91	3333+30.47	1109.87	3333+30.47	1108.89	3333+30.47	1108.28
0.7	3333+30.91	1109.94	3333+30.91	1109.90	3333+30.91	1108.92	3333+30.91	1108.31
0.8	3333+43.08	1110.74	3333+43.08	1110.70	3333+43.08	1109.73	3333+43.08	1109.12
0.9	3333+55.26	1111.54	3333+55.26	1111.50	3333+55.26	1110.53	3333+55.26	1109.93
℄ PIER 1	3333+67.43	1112.33	3333+67.43	1112.29	3333+67.43	1111.33	3333+67.43	1110.73
0.1	3333+81.15	1113.22	3333+81.15	1113.18	3333+81.15	1112.23	3333+81.15	1111.63
0.2	3333+94.86	1114.11	3333+94.86	1114.07	3333+94.86	1113.12	3333+94.86	1112.52
F.S. 2	3334+01.47	1114.53	3334+01.47	1114.49	3334+01.47	1113.54	3334+01.47	1112.95
0.3	3334+08.58	1114.97	3334+08.58	1114.93	3334+08.58	1113.98	3334+08.58	1113.39
0.4	3334+22.30	1115.80	3334+22.30	1115.76	3334+22.30	1114.81	3334+22.30	1114.22
0.5	3334+36.02	1116.59	3334+36.02	1116.55	3334+36.02	1115.60	3334+36.02	1115.00
0.6	3334+49.73	1117.32	3334+49.73	1117.28	3334+49.73	1116.33	3334+49.73	1115.73
0.7	3334+63.45	1118.01	3334+63.45	1117.97	3334+63.45	1117.02	3334+63.45	1116.42
F.S. 3	3334+70.56	1118.35	3334+70.56	1118.31	3334+70.56	1117.36	3334+70.56	1116.76
0.8	3334+77.17	1118.66	3334+77.17	1118.62	3334+77.17	1117.67	3334+77.17	1117.07
0.9	3334+90.88	1119.28	3334+90.88	1119.24	3334+90.88	1118.28	3334+90.88	1117.69
℄ PIER 2	3335+04.60	1119.89	3335+04.60	1119.85	3335+04.60	1118.89	3335+04.60	1118.29
0.1	3335+18.33	1120.49	3335+18.33	1120.46	3335+18.33	1119.49	3335+18.33	1118.89
0.2	3335+32.07	1121.09	3335+32.07	1121.05	3335+32.07	1120.08	3335+32.07	1119.48
F.S. 4	3335+38.64	1121.36	3335+38.64	1121.33	3335+38.64	1120.36	3335+38.64	1119.76
0.3	3335+45.80	1121.65	3335+45.80	1121.61	3335+45.80	1120.64	3335+45.80	1120.04
0.4	3335+59.53	1122.17	3335+59.53	1122.14	3335+59.53	1121.16	3335+59.53	1120.56
0.5	3335+73.27	1122.65	3335+73.27	1122.61	3335+73.27	1121.64	3335+73.27	1121.04
0.6	3335+87.00	1123.06	3335+87.00	1123.03	3335+87.00	1122.05	3335+87.00	1121.45
0.7	3336+00.73	1123.43	3336+00.73	1123.40	3336+00.73	1122.43	3336+00.73	1121.83
F.S. 5	3336+07.89	1123.61	3336+07.89	1123.57	3336+07.89	1122.61	3336+07.89	1122.01
0.8	3336+14.46	1123.77	3336+14.46	1123.73	3336+14.46	1122.77	3336+14.46	1122.17
0.9	3336+28.20	1124.07	3336+28.20	1124.03	3336+28.20	1123.07	3336+28.20	1122.48
℄ PIER 3	3336+41.93	1124.37	3336+41.93	1124.33	3336+41.93	1123.37	3336+41.93	1122.77
0.1	3336+55.63	1124.66	3336+55.63	1124.63	3336+55.63	1123.67	3336+55.63	1123.07
0.2	3336+69.33	1124.95	3336+69.33	1124.91	3336+69.33	1123.95	3336+69.33	1123.35
F.S. 6	3336+75.97	1125.08	3336+75.97	1125.05	3336+75.97	1124.08	3336+75.97	1123.47
0.3	3336+83.03	1125.21	3336+83.03	1125.18	3336+83.03	1124.20	3336+83.03	1123.60
0.4	3336+96.73	1125.43	3336+96.73	1125.39	3336+96.73	1124.42	3336+96.73	1123.81
0.5	3337+10.43	1125.61	3337+10.43	1125.57	3337+10.43	1124.59	3337+10.43	1123.98
0.6	3337+24.13	1125.72	3337+24.13	1125.68	3337+24.13	1124.70	3337+24.13	1124.10
0.7	3337+37.83	1125.78	3337+37.83	1125.74	3337+37.83	1124.77	3337+37.83	1124.16
F.S. 7	3337+44.89	1125.80	3337+44.89	1125.76	3337+44.89	1124.79	3337+44.89	1124.18
0.8	3337+51.53	1125.80	3337+51.53	1125.76	3337+51.53	1124.79	3337+51.53	1124.19
0.9	3337+65.23	1125.78	3337+65.23	1125.75	3337+65.23	1124.78	3337+65.23	1124.18
℄ PIER 4	3337+78.93	1125.76	3337+78.93	1125.72	3337+78.93	1124.76	3337+78.93	1124.16
0.1	3337+88.53	1125.74	3337+88.53	1125.70	3337+88.53	1124.74	3337+88.53	1124.14
0.2	3337+98.13	1125.71	3337+98.13	1125.68	3337+98.13	1124.71	3337+98.13	1124.12
0.3	3338+07.73	1125.68	3338+07.73	1125.64	3338+07.73	1124.68	3338+07.73	1124.08
F.S. 8	3338+14.91	1125.64	3338+14.91	1125.61	3338+14.91	1124.64	3338+14.91	1124.05
0.4	3338+17.33	1125.63	3338+17.33	1125.59	3338+17.33	1124.63	3338+17.33	1124.03
0.5	3338+26.93	1125.56	3338+26.93	1125.52	3338+26.93	1124.56	3338+26.93	1123.96
0.6	3338+36.53	1125.47	3338+36.53	1125.43	3338+36.53	1124.47	3338+36.53	1123.87
0.7	3338+46.13	1125.36	3338+46.13	1125.32	3338+46.13	1124.36	3338+46.13	1123.76
0.8	3338+55.73	1125.23	3338+55.73	1125.19	3338+55.73	1124.23	3338+55.73	1123.63
0.9	3338+65.33	1125.07	3338+65.33	1125.03	3338+65.33	1124.07	3338+65.33	1123.47
℄ BRGS. F.A.	3338+74.93	1124.90	3338+74.93	1124.86	3338+74.93	1123.90	3338+74.93	1123.30

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 SHEET 44 / 60 FOR ELEVATION LOCATIONS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

DESIGN AGENCY
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Engineers ■ Architects ■ Planners
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DESIGNED	DRAWN	REVIEWED	DATE
ASG	ASG	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7705973	

SCREED ELEVATIONS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

SUM-76/77/8-8.24/9.74/0.00
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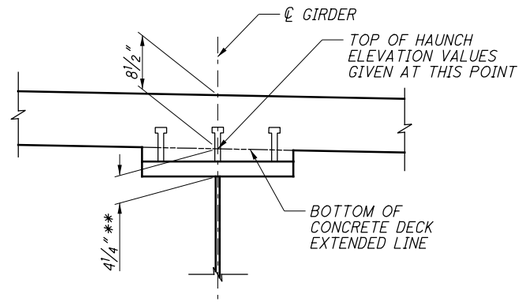
TOP OF HAUNCH ELEVATIONS

LOCATION	℄ GIRDER 1		℄ GIRDER 2		℄ GIRDER 3		℄ GIRDER 4	
	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.
℄ BRGS. R. A.	3332+45.68	1101.63 *	3332+45.68	1101.16 *	3332+45.68	1100.64 *	3332+45.68	1100.12 *
0.1	3332+57.86	1104.10	3332+57.86	1103.62	3332+57.86	1103.09	3332+57.86	1102.57
0.2	3332+70.03	1105.01	3332+70.03	1104.53	3332+70.03	1104.00	3332+70.03	1103.47
0.3	3332+82.21	1105.92	3332+82.21	1105.43	3332+82.21	1104.89	3332+82.21	1104.36
0.4	3332+94.38	1106.78	3332+94.38	1106.29	3332+94.38	1105.76	3332+94.38	1105.22
0.5	3333+06.56	1107.63	3333+06.56	1107.14	3333+06.56	1106.60	3333+06.56	1106.07
0.6	3333+18.73	1108.46	3333+18.73	1107.97	3333+18.73	1107.43	3333+18.73	1106.90
F.S. 1	3333+30.47	1109.23	3333+30.47	1108.75	3333+30.47	1108.22	3333+30.47	1107.69
0.7	3333+30.91	1109.26	3333+30.91	1108.78	3333+30.91	1108.25	3333+30.91	1107.72
0.8	3333+43.08	1110.06	3333+43.08	1109.59	3333+43.08	1109.06	3333+43.08	1108.53
0.9	3333+55.26	1110.86	3333+55.26	1110.39	3333+55.26	1109.86	3333+55.26	1109.34
℄ PIER 1	3333+67.43	1111.65	3333+67.43	1111.18	3333+67.43	1110.66	3333+67.43	1110.14
0.1	3333+81.15	1112.54	3333+81.15	1112.08	3333+81.15	1111.56	3333+81.15	1111.04
0.2	3333+94.86	1113.43	3333+94.86	1112.97	3333+94.86	1112.45	3333+94.86	1111.94
F.S. 2	3334+01.47	1113.85	3334+01.47	1113.38	3334+01.47	1112.87	3334+01.47	1112.36
0.3	3334+08.58	1114.29	3334+08.58	1113.83	3334+08.58	1113.31	3334+08.58	1112.80
0.4	3334+22.30	1115.12	3334+22.30	1114.66	3334+22.30	1114.14	3334+22.30	1113.63
0.5	3334+36.02	1115.91	3334+36.02	1115.44	3334+36.02	1114.93	3334+36.02	1114.42
0.6	3334+49.73	1116.64	3334+49.73	1116.18	3334+49.73	1115.66	3334+49.73	1115.14
0.7	3334+63.45	1117.33	3334+63.45	1116.87	3334+63.45	1116.35	3334+63.45	1115.83
F.S. 3	3334+70.56	1117.67	3334+70.56	1117.21	3334+70.56	1116.69	3334+70.56	1116.17
0.8	3334+77.17	1117.98	3334+77.17	1117.51	3334+77.17	1117.00	3334+77.17	1116.48
0.9	3334+90.88	1118.60	3334+90.88	1118.14	3334+90.88	1117.62	3334+90.88	1117.10
℄ PIER 2	3335+04.60	1119.21	3335+04.60	1118.74	3335+04.60	1118.22	3335+04.60	1117.70
0.1	3335+18.33	1119.82	3335+18.33	1119.35	3335+18.33	1118.83	3335+18.33	1118.31
0.2	3335+32.07	1120.41	3335+32.07	1119.94	3335+32.07	1119.42	3335+32.07	1118.90
F.S. 4	3335+38.64	1120.68	3335+38.64	1120.21	3335+38.64	1119.69	3335+38.64	1119.17
0.3	3335+45.80	1120.97	3335+45.80	1120.50	3335+45.80	1119.98	3335+45.80	1119.45
0.4	3335+59.53	1121.49	3335+59.53	1121.02	3335+59.53	1120.49	3335+59.53	1119.97
0.5	3335+73.27	1121.97	3335+73.27	1121.49	3335+73.27	1120.97	3335+73.27	1120.45
0.6	3335+87.00	1122.38	3335+87.00	1121.91	3335+87.00	1121.39	3335+87.00	1120.87
0.7	3336+00.73	1122.76	3336+00.73	1122.28	3336+00.73	1121.76	3336+00.73	1121.24
F.S. 5	3336+07.89	1122.93	3336+07.89	1122.46	3336+07.89	1121.94	3336+07.89	1121.42
0.8	3336+14.46	1123.09	3336+14.46	1122.62	3336+14.46	1122.10	3336+14.46	1121.58
0.9	3336+28.20	1123.39	3336+28.20	1122.93	3336+28.20	1122.41	3336+28.20	1121.89
℄ PIER 3	3336+41.93	1123.69	3336+41.93	1123.22	3336+41.93	1122.70	3336+41.93	1122.18
0.1	3336+55.63	1123.99	3336+55.63	1123.52	3336+55.63	1123.00	3336+55.63	1122.48
0.2	3336+69.33	1124.27	3336+69.33	1123.80	3336+69.33	1123.28	3336+69.33	1122.76
F.S. 6	3336+75.97	1124.40	3336+75.97	1123.93	3336+75.97	1123.41	3336+75.97	1122.89
0.3	3336+83.03	1124.53	3336+83.03	1124.06	3336+83.03	1123.53	3336+83.03	1123.01
0.4	3336+96.73	1124.75	3336+96.73	1124.28	3336+96.73	1123.75	3336+96.73	1123.22
0.5	3337+10.43	1124.93	3337+10.43	1124.45	3337+10.43	1123.92	3337+10.43	1123.40
0.6	3337+24.13	1125.04	3337+24.13	1124.56	3337+24.13	1124.03	3337+24.13	1123.51
0.7	3337+37.83	1125.10	3337+37.83	1124.63	3337+37.83	1124.10	3337+37.83	1123.58
F.S. 7	3337+44.89	1125.12	3337+44.89	1124.64	3337+44.89	1124.12	3337+44.89	1123.59
0.8	3337+51.53	1125.12	3337+51.53	1124.65	3337+51.53	1124.12	3337+51.53	1123.60
0.9	3337+65.23	1125.11	3337+65.23	1124.64	3337+65.23	1124.12	3337+65.23	1123.59
℄ PIER 4	3337+78.93	1125.08	3337+78.93	1124.61	3337+78.93	1124.09	3337+78.93	1123.57
0.1	3337+88.53	1125.06	3337+88.53	1124.59	3337+88.53	1124.07	3337+88.53	1123.56
0.2	3337+98.13	1125.03	3337+98.13	1124.57	3337+98.13	1124.05	3337+98.13	1123.53
0.3	3338+07.73	1125.00	3338+07.73	1124.53	3338+07.73	1124.01	3338+07.73	1123.49
F.S. 8	3338+14.91	1124.96	3338+14.91	1124.49	3338+14.91	1123.97	3338+14.91	1123.46
0.4	3338+17.33	1124.95	3338+17.33	1124.48	3338+17.33	1123.96	3338+17.33	1123.44
0.5	3338+26.93	1124.88	3338+26.93	1124.41	3338+26.93	1123.89	3338+26.93	1123.37
0.6	3338+36.53	1124.79	3338+36.53	1124.32	3338+36.53	1123.80	3338+36.53	1123.28
0.7	3338+46.13	1124.68	3338+46.13	1124.21	3338+46.13	1123.69	3338+46.13	1123.17
0.8	3338+55.73	1124.55	3338+55.73	1124.08	3338+55.73	1123.56	3338+55.73	1123.04
0.9	3338+65.33	1124.39	3338+65.33	1123.92	3338+65.33	1123.40	3338+65.33	1122.88
℄ BRGS. F.A.	3338+74.93	1122.68 *	3338+74.93	1122.21 *	3338+74.93	1121.69 *	3338+74.93	1121.17 *



HAUNCH DETAIL

** = TOP OF WEB TO BOTTOM OF CONCRETE DECK EXTENDED LINE

LEGEND:

* = BOTTOM OF CONCRETE DECK ELEVATION AT THICKENED DECK, SEE SECTIONS A-A & B-B ON SHEETS 51 / 60 & 52 / 60 RESPECTIVELY.

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.

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

DESIGNED	DRAWN	REVIEWED	DATE
ASG	ASG	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7705973	

TOP OF HAUNCH ELEVATIONS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

ISSUE RECORD:

NO.	DATE	DESCRIPTION

FINAL DECK SURFACE ELEVATIONS

LOCATION	TOE OF LEFT PARAPET / LEFT EDGE OF ROUNDING		℄ GIRDER 1		RIGHT EDGE OF ROUNDING		℄ GIRDER 2		℄ GIRDER 3		PROFILE GRADE		℄ GIRDER 4		TOE OF RIGHT PARAPET	
	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.	STA.	ELEV.
℄ BRGS. R. A.	3332+45.68	1103.84	3332+45.68	1103.87	3332+45.68	1103.81	3332+45.68	1103.41	3332+45.68	1102.89	3332+45.68	1102.85	3332+45.68	1102.37	3332+45.68	1102.25
0.1	3332+57.86	1104.70	3332+57.86	1104.73	3332+57.86	1104.66	3332+57.86	1104.26	3332+57.86	1103.74	3332+57.86	1103.70	3332+57.86	1103.22	3332+57.86	1103.10
0.2	3332+70.03	1105.55	3332+70.03	1105.58	3332+70.03	1105.51	3332+70.03	1105.11	3332+70.03	1104.59	3332+70.03	1104.55	3332+70.03	1104.07	3332+70.03	1103.95
0.3	3332+82.21	1106.40	3332+82.21	1106.43	3332+82.21	1106.36	3332+82.21	1105.96	3332+82.21	1105.44	3332+82.21	1105.40	3332+82.21	1104.92	3332+82.21	1104.80
0.4	3332+94.38	1107.25	3332+94.38	1107.28	3332+94.38	1107.22	3332+94.38	1106.82	3332+94.38	1106.30	3332+94.38	1106.26	3332+94.38	1105.78	3332+94.38	1105.66
0.5	3333+06.56	1108.11	3333+06.56	1108.14	3333+06.56	1108.07	3333+06.56	1107.67	3333+06.56	1107.15	3333+06.56	1107.11	3333+06.56	1106.63	3333+06.56	1106.51
0.6	3333+18.73	1108.96	3333+18.73	1108.99	3333+18.73	1108.92	3333+18.73	1108.52	3333+18.73	1108.00	3333+18.73	1107.96	3333+18.73	1107.48	3333+18.73	1107.36
F.S. 1	3333+30.47	1109.78	3333+30.47	1109.81	3333+30.47	1109.74	3333+30.47	1109.34	3333+30.47	1108.82	3333+30.47	1108.78	3333+30.47	1108.30	3333+30.47	1108.18
0.7	3333+30.91	1109.81	3333+30.91	1109.84	3333+30.91	1109.77	3333+30.91	1109.37	3333+30.91	1108.85	3333+30.91	1108.81	3333+30.91	1108.33	3333+30.91	1108.21
0.8	3333+43.08	1110.66	3333+43.08	1110.69	3333+43.08	1110.63	3333+43.08	1110.23	3333+43.08	1109.71	3333+43.08	1109.67	3333+43.08	1109.19	3333+43.08	1109.07
0.9	3333+55.26	1111.51	3333+55.26	1111.54	3333+55.26	1111.47	3333+55.26	1111.07	3333+55.26	1110.55	3333+55.26	1110.51	3333+55.26	1110.03	3333+55.26	1109.91
℄ PIER 1	3333+67.43	1112.33	3333+67.43	1112.36	3333+67.43	1112.29	3333+67.43	1111.89	3333+67.43	1111.37	3333+67.43	1111.33	3333+67.43	1110.85	3333+67.43	1110.73
0.1	3333+81.15	1113.22	3333+81.15	1113.25	3333+81.15	1113.18	3333+81.15	1112.78	3333+81.15	1112.26	3333+81.15	1112.22	3333+81.15	1111.74	3333+81.15	1111.62
0.2	3333+94.86	1114.09	3333+94.86	1114.12	3333+94.86	1114.05	3333+94.86	1113.65	3333+94.86	1113.13	3333+94.86	1113.09	3333+94.86	1112.61	3333+94.86	1112.49
F.S. 2	3334+01.47	1114.49	3334+01.47	1114.52	3334+01.47	1114.45	3334+01.47	1114.05	3334+01.47	1113.53	3334+01.47	1113.49	3334+01.47	1113.01	3334+01.47	1112.89
0.3	3334+08.58	1114.92	3334+08.58	1114.95	3334+08.58	1114.88	3334+08.58	1114.48	3334+08.58	1113.96	3334+08.58	1113.92	3334+08.58	1113.44	3334+08.58	1113.32
0.4	3334+22.30	1115.72	3334+22.30	1115.75	3334+22.30	1115.68	3334+22.30	1115.28	3334+22.30	1114.76	3334+22.30	1114.72	3334+22.30	1114.24	3334+22.30	1114.12
0.5	3334+36.02	1116.49	3334+36.02	1116.52	3334+36.02	1116.46	3334+36.02	1116.06	3334+36.02	1115.54	3334+36.02	1115.50	3334+36.02	1115.02	3334+36.02	1114.90
0.6	3334+49.73	1117.23	3334+49.73	1117.26	3334+49.73	1117.20	3334+49.73	1116.80	3334+49.73	1116.28	3334+49.73	1116.24	3334+49.73	1115.76	3334+49.73	1115.64
0.7	3334+63.45	1117.94	3334+63.45	1117.97	3334+63.45	1117.91	3334+63.45	1117.51	3334+63.45	1116.99	3334+63.45	1116.95	3334+63.45	1116.47	3334+63.45	1116.35
F.S. 3	3334+70.56	1118.30	3334+70.56	1118.33	3334+70.56	1118.26	3334+70.56	1117.86	3334+70.56	1117.34	3334+70.56	1117.30	3334+70.56	1116.82	3334+70.56	1116.70
0.8	3334+77.17	1118.62	3334+77.17	1118.65	3334+77.17	1118.59	3334+77.17	1118.19	3334+77.17	1117.67	3334+77.17	1117.63	3334+77.17	1117.15	3334+77.17	1117.03
0.9	3334+90.88	1119.27	3334+90.88	1119.30	3334+90.88	1119.23	3334+90.88	1118.83	3334+90.88	1118.31	3334+90.88	1118.27	3334+90.88	1117.79	3334+90.88	1117.67
℄ PIER 2	3335+04.60	1119.89	3335+04.60	1119.92	3335+04.60	1119.85	3335+04.60	1119.45	3335+04.60	1118.93	3335+04.60	1118.89	3335+04.60	1118.41	3335+04.60	1118.29
0.1	3335+18.33	1120.47	3335+18.33	1120.50	3335+18.33	1120.44	3335+18.33	1120.04	3335+18.33	1119.52	3335+18.33	1119.48	3335+18.33	1119.00	3335+18.33	1118.88
0.2	3335+32.07	1121.03	3335+32.07	1121.06	3335+32.07	1120.99	3335+32.07	1120.59	3335+32.07	1120.07	3335+32.07	1120.03	3335+32.07	1119.55	3335+32.07	1119.43
F.S. 4	3335+38.64	1121.29	3335+38.64	1121.32	3335+38.64	1121.25	3335+38.64	1120.85	3335+38.64	1120.33	3335+38.64	1120.29	3335+38.64	1119.81	3335+38.64	1119.69
0.3	3335+45.80	1121.56	3335+45.80	1121.59	3335+45.80	1121.52	3335+45.80	1121.12	3335+45.80	1120.60	3335+45.80	1120.56	3335+45.80	1120.08	3335+45.80	1119.96
0.4	3335+59.53	1122.05	3335+59.53	1122.08	3335+59.53	1122.01	3335+59.53	1121.61	3335+59.53	1121.09	3335+59.53	1121.05	3335+59.53	1120.57	3335+59.53	1120.45
0.5	3335+73.27	1122.51	3335+73.27	1122.54	3335+73.27	1122.48	3335+73.27	1122.08	3335+73.27	1121.56	3335+73.27	1121.52	3335+73.27	1121.04	3335+73.27	1120.92
0.6	3335+87.00	1122.95	3335+87.00	1122.98	3335+87.00	1122.91	3335+87.00	1122.51	3335+87.00	1121.99	3335+87.00	1121.95	3335+87.00	1121.47	3335+87.00	1121.35
0.7	3336+00.73	1123.35	3336+00.73	1123.38	3336+00.73	1123.31	3336+00.73	1122.91	3336+00.73	1122.39	3336+00.73	1122.35	3336+00.73	1121.87	3336+00.73	1121.75
F.S. 5	3336+07.89	1123.55	3336+07.89	1123.58	3336+07.89	1123.51	3336+07.89	1123.11	3336+07.89	1122.59	3336+07.89	1122.55	3336+07.89	1122.07	3336+07.89	1121.95
0.8	3336+14.46	1123.72	3336+14.46	1123.75	3336+14.46	1123.68	3336+14.46	1123.28	3336+14.46	1122.76	3336+14.46	1122.72	3336+14.46	1122.24	3336+14.46	1122.12
0.9	3336+28.20	1124.06	3336+28.20	1124.09	3336+28.20	1124.02	3336+28.20	1123.62	3336+28.20	1123.10	3336+28.20	1123.06	3336+28.20	1122.58	3336+28.20	1122.46
℄ PIER 3	3336+41.93	1124.37	3336+41.93	1124.40	3336+41.93	1124.33	3336+41.93	1123.93	3336+41.93	1123.41	3336+41.93	1123.37	3336+41.93	1122.89	3336+41.93	1122.77
0.1	3336+55.63	1124.64	3336+55.63	1124.67	3336+55.63	1124.61	3336+55.63	1124.21	3336+55.63	1123.69	3336+55.63	1123.65	3336+55.63	1123.17	3336+55.63	1123.05
0.2	3336+69.33	1124.89	3336+69.33	1124.92	3336+69.33	1124.85	3336+69.33	1124.45	3336+69.33	1123.93	3336+69.33	1123.89	3336+69.33	1123.41	3336+69.33	1123.29
F.S. 6	3336+75.97	1125.00	3336+75.97	1125.03	3336+75.97	1124.96	3336+75.97	1124.56	3336+75.97	1124.04	3336+75.97	1124.00	3336+75.97	1123.52	3336+75.97	1123.40
0.3	3336+83.03	1125.11	3336+83.03	1125.14	3336+83.03	1125.07	3336+83.03	1124.67	3336+83.03	1124.15	3336+83.03	1124.11	3336+83.03	1123.63	3336+83.03	1123.51
0.4	3336+96.73	1125.29	3336+96.73	1125.32	3336+96.73	1125.26	3336+96.73	1124.86	3336+96.73	1124.34	3336+96.73	1124.30	3336+96.73	1123.82	3336+96.73	1123.70
0.5	3337+10.43	1125.45	3337+10.43	1125.48	3337+10.43	1125.41	3337+10.43	1125.01	3337+10.43	1124.49	3337+10.43	1124.45	3337+10.43	1123.97	3337+10.43	1123.85
0.6	3337+24.13	1125.57	3337+24.13	1125.60	3337+24.13	1125.53	3337+24.13	1125.13	3337+24.13	1124.61	3337+24.13	1124.57	3337+24.13	1124.09	3337+24.13	1123.97
0.7	3337+37.83	1125.66	3337+37.83	1125.69	3337+37.83	1125.63	3337+37.83	1125.23	3337+37.83	1124.71	3337+37.83	1124.67	3337+37.83	1124.19	3337+37.83	1124.07
F.S. 7	3337+44.89	1125.70	3337+44.89	1125.73	3337+44.89	1125.66	3337+44.89	1125.26	3337+44.89	1124.74	3337+44.89	1124.70	3337+44.89	1124.22	3337+44.89	1124.10
0.8	3337+51.53	1125.72	3337+51.53	1125.75	3337+51.53	1125.69	3337+51.53	1125.29	3337+51.53	1124.77	3337+51.53	1124.73	3337+51.53	1124.25	3337+51.53	1124.13
0.9	3337+65.23	1125.76	3337+65.23	1125.79	3337+65.23	1125.72	3337+65.23	1125.32	3337+65.23	1124.80	3337+65.23	1124.76	3337+65.23	1124.28	3337+65.23	1124.16
℄ PIER 4	3337+78.93	1125.76	3337+78.93	1125.79	3337+78.93	1125.72	3337+78.93	1125.32	3337+78.93	1124.80	3337+78.93	1124.76	3337+78.93	1124.28	3337+78.93	1124.16
0.1	3337+88.53	1125.74	3337+88.53	1125.77	3337+88.53	1125.70	3337+88.53	1125.30	3337+88.53	1124.78	3337+88.53	1124.74	3337+88.53	1124.26	3337+88.53	1124.14
0.2	3337+98.13	1125.70	3337+98.13	1125.73	3337+98.13	1125.67	3337+98.13	1125.27	3337+98.13	1124.75	3337+98.13	1124.71	3337+98.13	1124.23	3337+98.13	1124.11
0.3	3338+07.73	1125.66	3338+07.73	1125.69	3338+07.73	1125.62	3338+07.73	1125.22	3338+07.73	1124.70	3338+07.73	1124.66	3338+07.73	1124.18	3338+07.73	1124.06
F.S. 8	3338+14.91	1125.61	3338+14.91	1125.64	3338+14.91	1125.57	3338+14.91	1125.17	3338+14.91	1124.65	3338+14.91	1124.61	3338+14.91	1124.13	3338+14.91	1124.01
0.4	3338+17.33	1125.59	3338+17.33	1125.62	3338+17.33	1125.56	3338+17.33	1125.16	3338+17.33	1124.64	3338+17.33	1124.60	3338+17.33	1124.12	3338+17.33	1124.00
0.5	3338+26.93	1125.51	3338+26.93	1125.54	3338+26.93	1125.48	3338+26.93	1125.08	3338+26.93	1124.56	3338+26.93	1124.52	3338+26.93	1124.04	3338+26.93	1123.92
0.6	3338+36.53	1125.42	3338+36.53	1125.45	3338+36.53	1125.38	3338+36.53	1124.98	3338+36.53	1124.46	3338+36.53	1124.42	3338+36.53	1123.94	3338+36.53	1123.82
0.7	3338+46.13	1125.31	3338+46.13	1125.34	3338+46.13	1125.28	3338+46.13	1124.88	3338+46.13	1124.36	3338+46.13	1124.32	3338+46.13	1123.84	3338+46.13	1123.72
0.8	3338+55.73	1125.19	3338+55.73	1125.22	3338+55.73	1125.15	3338+55.73	1124.75	3338+55.73	1124.23	3338+55.73	1124.19	3338+55.73	1123.71	3338+55.73	1123.59
0.9	3338+65.33	1125.05	3338+65.33	1125.08	3338+65.33	1125.01	3338+65.33	1124.61	3338+65.33	1124.09	3338+65.33	1124.05	3338+65.33	1123.57	3338+65.33	1123.45
℄ BRGS. F.A.	3338+74.93	1124.90	3338+74.93	1124.93	3338+74.93	1124.86	3338+74.93	1124.46	3338+74.93	1123.94	3338+74.93	1123.90	3338+74.93	1123.42	3338+74.93	1123.30

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 44 / 60 FOR ELEVATION LOCATIONS.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

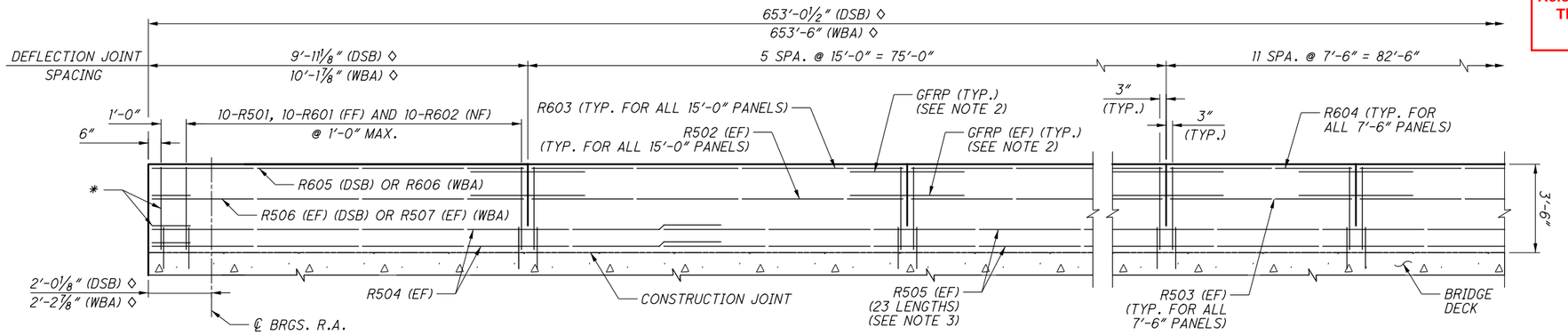
DESIGNED	DRAWN	REVIEWED	DATE
ASG	ASG	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAB		7705973	

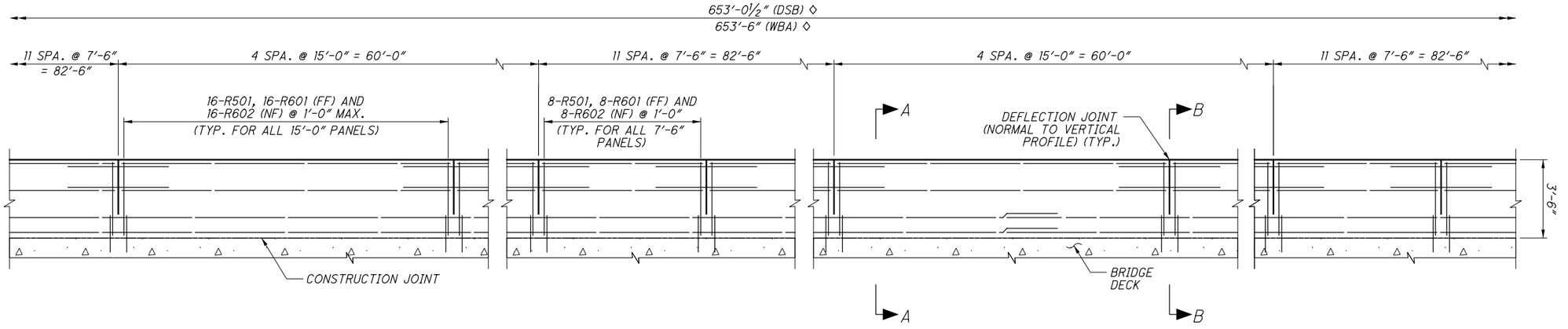
FINAL DECK SURFACE ELEVATIONS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

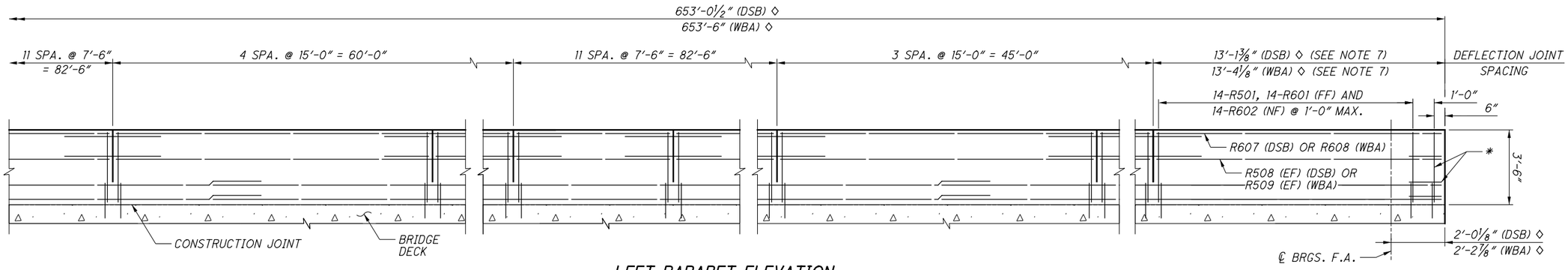
SUM-76/77/8-
8.24/9.74/0.00
PID No. 102329

47 / 60

48
61







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:

◊ = DIMENSION VARIES WITH TEMPERATURE. DIMENSION IS SHOWN AT 60°F.

* = SEE DETAIL A ON SHEET 50 / 60

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 195 BARS, TO BE CENTERED ON DEFLECTION JOINT.
3. MINIMUM REINFORCING STEEL LAP LENGTH FOR NO. 5 BARS SHALL BE 2′-3″.
4. SEE SHEET 50 / 60 FOR SECTIONS A-A AND B-B.
5. FOR MODULAR JOINT DETAILS AT REAR ABUTMENT, SEE SHEET 51 / 60.
6. FOR MODULAR JOINT DETAILS AT FORWARD ABUTMENT, SEE SHEET 52 / 60.
7. DUE TO THE VERTICAL PROFILE OF THE BRIDGE, THE LENGTH OF THE LAST PANEL IS 7″ 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

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

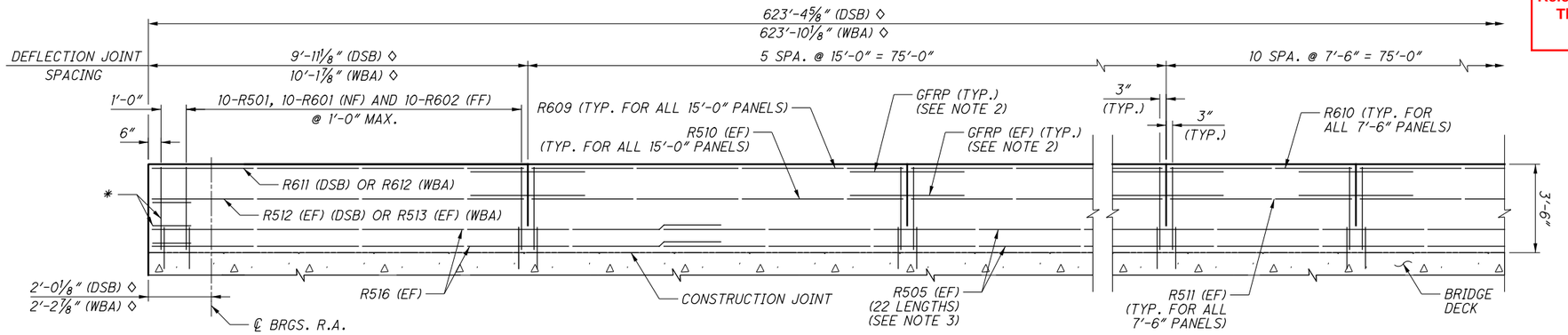
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BCS		7705973	

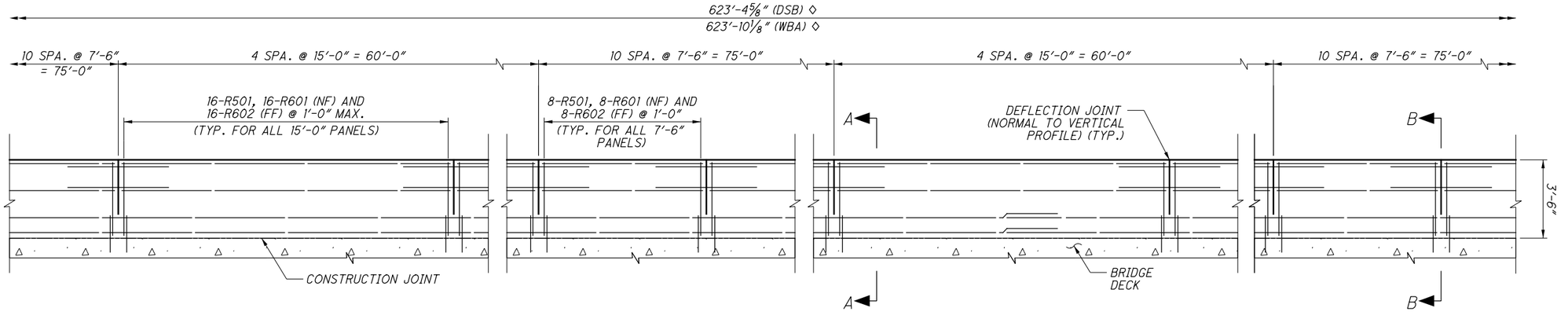
PARAPET DETAILS - 1
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

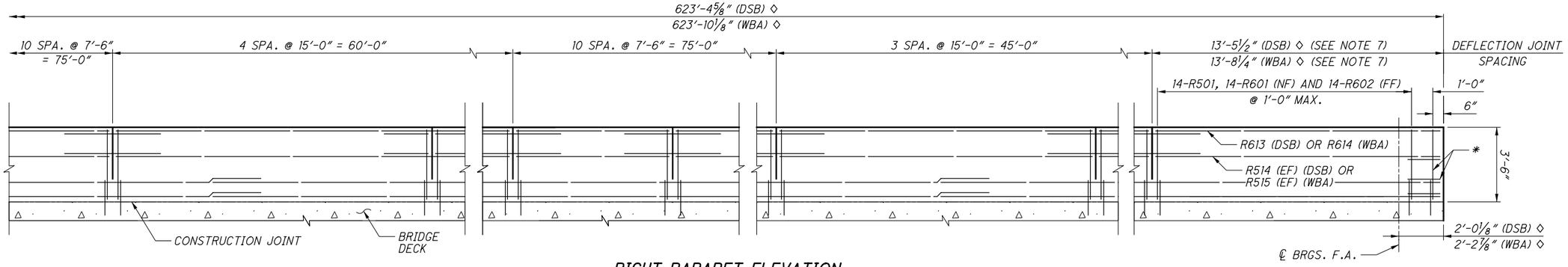
SUM-76/77/8-8.24/9.74/0.00
PID No. 102329

48 / 60

49 / 61







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:

◊ = DIMENSION VARIES WITH TEMPERATURE. DIMENSION IS SHOWN AT 60°F.

* = SEE DETAIL A ON SHEET 50 / 60

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 183 BARS, TO BE CENTERED ON DEFLECTION JOINT.
3. MINIMUM REINFORCING STEEL LAP LENGTH FOR NO. 5 BARS SHALL BE 2'-3".
4. SEE SHEET 50 / 60 FOR SECTIONS A-A AND B-B.
5. FOR MODULAR JOINT DETAILS AT REAR ABUTMENT, SEE SHEET 51 / 60.
6. FOR MODULAR JOINT DETAILS AT FORWARD ABUTMENT, SEE SHEET 52 / 60.
7. DUE TO THE VERTICAL PROFILE OF THE BRIDGE, THE LENGTH OF THE LAST PANEL IS 7⅜" 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

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

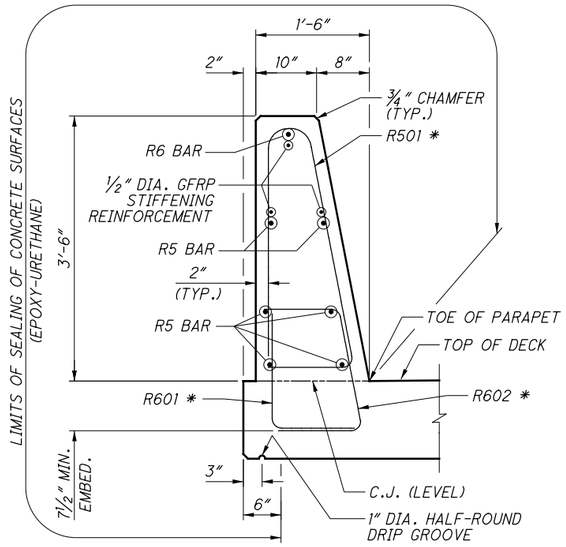
DESIGNED	DRAWN	REVIEWED	DATE
ODW	ODW	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BCS		7705973	

PARAPET DETAILS - 2
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

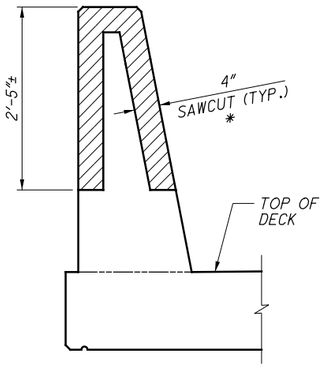
49 / 60

50 / 61



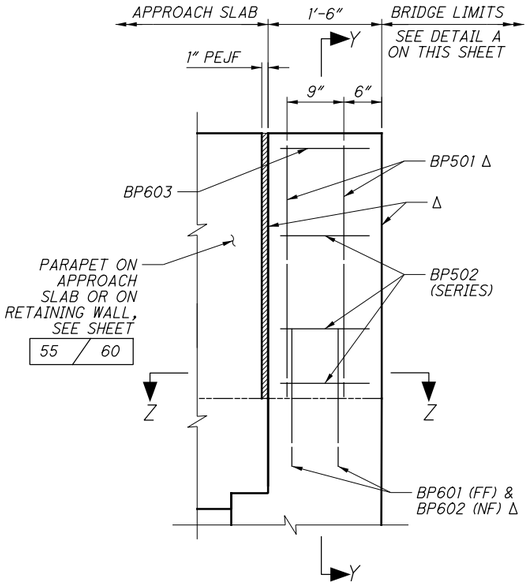
SECTION A-A

(DECK REINFORCING STEEL NOT SHOWN)
(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)



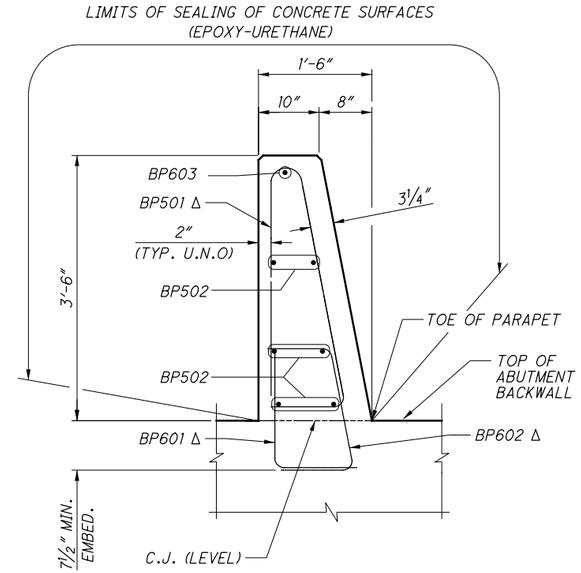
SECTION B-B

(DECK AND PARAPET REINFORCING STEEL NOT SHOWN)



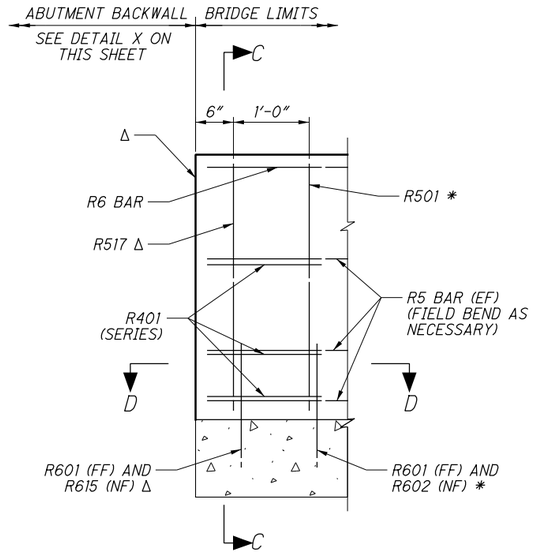
DETAIL X
PARAPET REINFORCING ON ABUTMENT BACKWALL ELEVATION

(BACKWALL REINFORCING STEEL NOT SHOWN)
(LOOKING AT TRAFFIC FACE OF PARAPET)
(SEE NOTE 1)



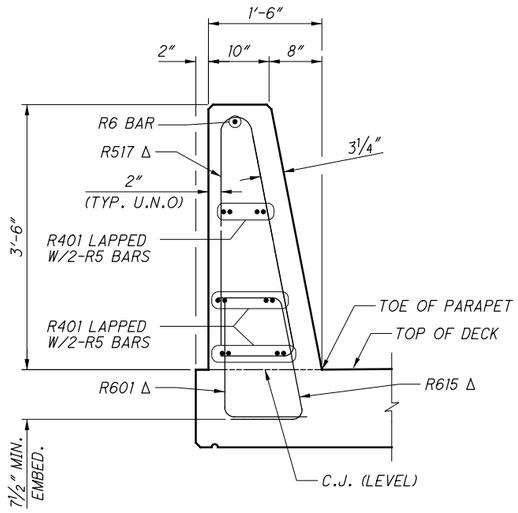
SECTION Y-Y

(BACKWALL & WINGWALL REINFORCING STEEL NOT SHOWN)
(PLATES AND STUDS EMBEDDED IN THE PARAPET NOT SHOWN) (SEE NOTE 2)
(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)



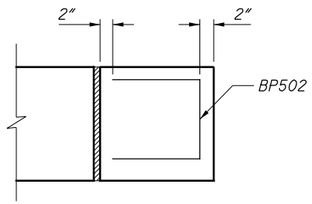
DETAIL A
PARAPET REINFORCING AT DECK ENDS ELEVATION

(DECK REINFORCING STEEL NOT SHOWN)
(LOOKING AT TRAFFIC FACE OF PARAPET)
(SEE NOTE 1)



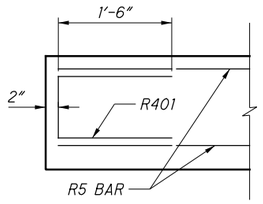
SECTION C-C

(DECK REINFORCING STEEL NOT SHOWN)
(PLATES AND STUDS EMBEDDED IN THE PARAPET NOT SHOWN) (SEE NOTE 2)
(TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY)



SECTION Z-Z

(VERTICAL REBAR NOT SHOWN)
(PLATES AND STUDS EMBEDDED IN THE PARAPET NOT SHOWN) (SEE NOTE 2)



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 AT R.A. AND RIGHT PARAPET AT F.A. SHOWN, LEFT PARAPET AT F.A. AND RIGHT PARAPET AT R.A. SHALL BE MIRRORED.
2. SEE SHEET 53 / 60 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:

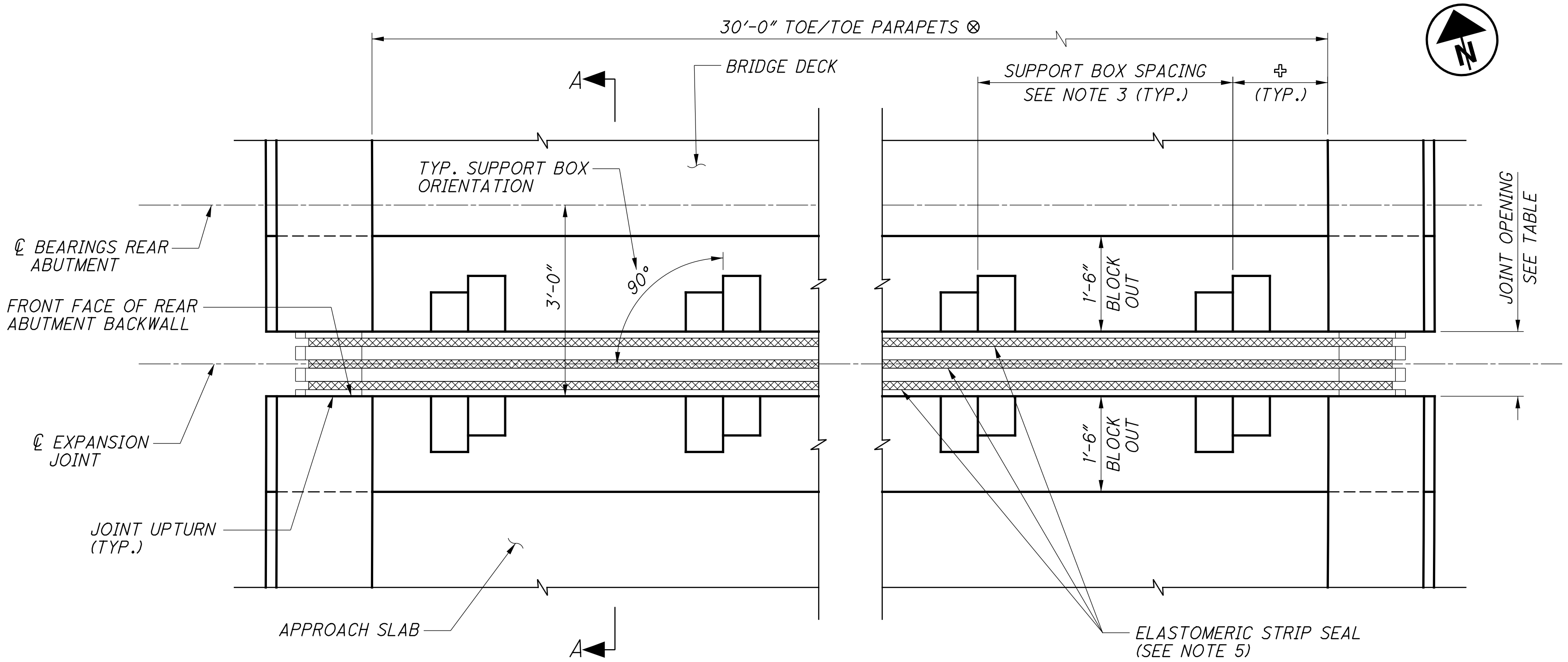
NO.	DATE	DESCRIPTION

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

DESIGNED ODW | DRAWN ODW | REVIEWED JCS | DATE 4/29/19
CHECKED BCS | REVISED | STRUCTURE FILE NUMBER 7705973

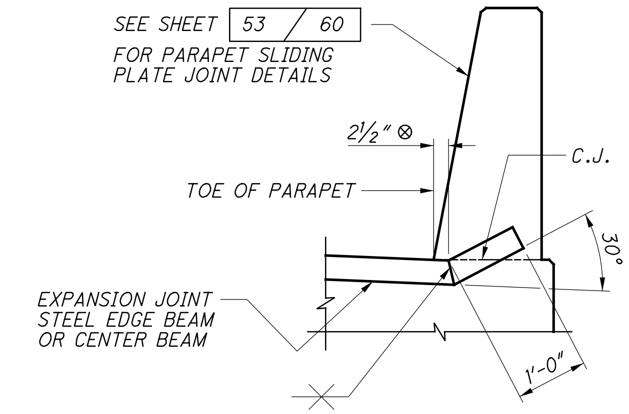
PARAPET DETAILS - 3
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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



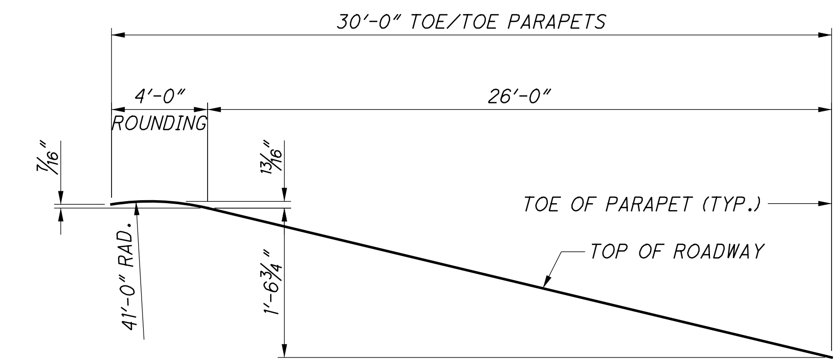
PLAN - REAR ABUTMENT

(JOINT ANCHORAGE NOT SHOWN, SEE NOTE 4)
(PARAPET SLIDING PLATES NOT SHOWN)



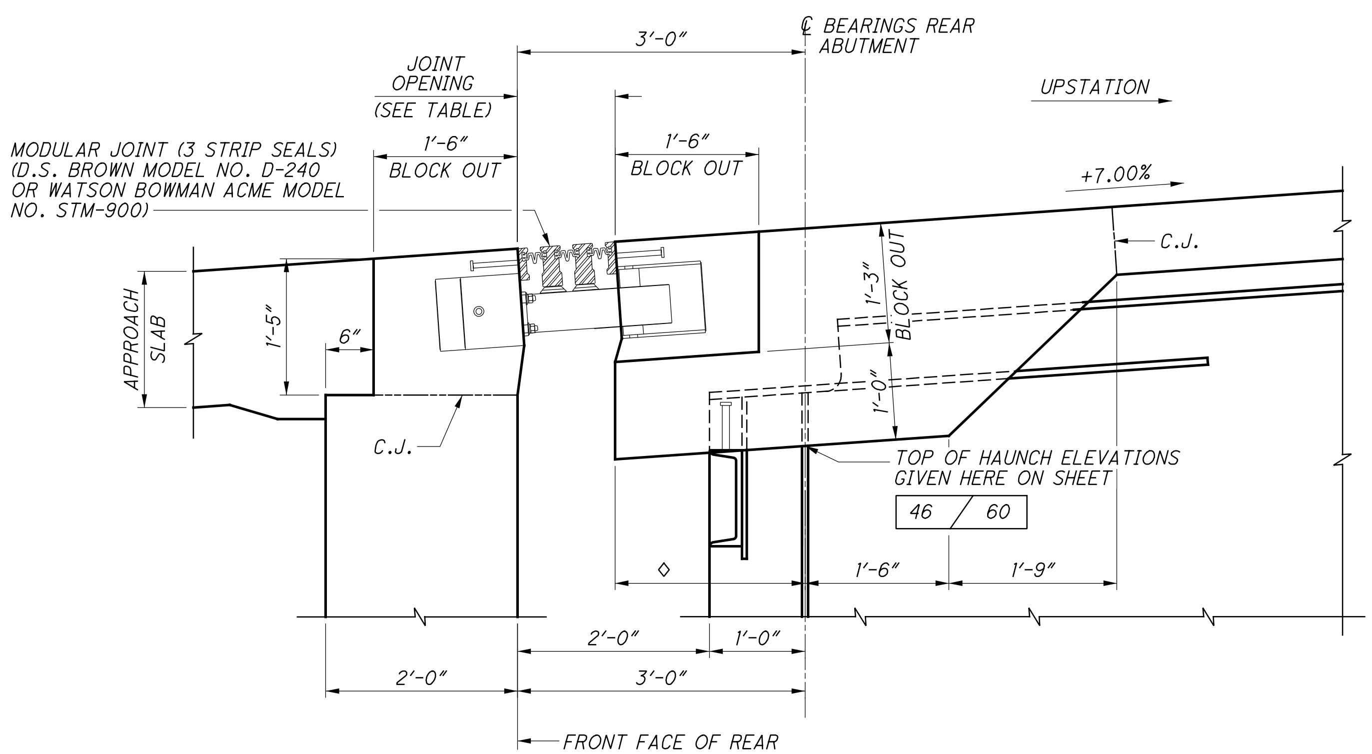
UPTURN DETAIL

(JOINT ANCHORAGE NOT SHOWN, SEE NOTE 4)
(PARAPET SLIDING PLATES NOT SHOWN)



JOINT PROFILE

(LOOKING UPSTATION)
(HORIZONTAL DIMENSIONS ARE MEASURED ALONG ℄ EXPANSION JOINT)
(JOINT UPTURNS AT PARAPETS NOT SHOWN, SEE UPTURN DETAIL FOR REQUIREMENTS)
(NOT TO SCALE)



SECTION A-A - REAR ABUTMENT

(HORIZONTAL DIMENSIONS ARE MEASURED NORMAL TO ℄ BEARINGS)
(GIRDER SHEAR STUDS NOT SHOWN)

REAR ABUTMENT EXPANSION JOINT OPENING

TEMPERATURE ° F	DS BROWN	WBA
30	1'-0¾"	10"
40	1'-0 7/16"	9 11/16"
50	1'-0 3/16"	9 7/16"
60	11⅞"	9⅛"
70	11 9/16"	8 13/16"
80	11 5/16"	8 9/16"
90	11"	8¼"

NOTES:

1. SEE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS FOR MODULAR JOINTS.

2. THE MODULAR JOINTS SHALL BE DESIGNED FOR A TOTAL LONGITUDINAL MOVEMENT RANGE OF 6¾" (NORMAL TO ℄ OF THE ABUTMENTS) AND A LATERAL MOVEMENT RANGE OF ±½" (PARALLEL TO ℄ BEARINGS OF THE ABUTMENT). 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.

6. SEE SHEET 53 / 60 FOR PARAPET SLIDING PLATES.

LEGEND:

WBA = WATSON BOWMAN ACME

⊗ = MEASURED ALONG ℄ EXPANSION JOINT

✣ = 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 THE FRONT FACE OF THE FORWARD ABUTMENT BACKWALL.

◇ = 2'-0⅛" (DS BROWN), 2'-2⅞" (WBA), AT 60° F.

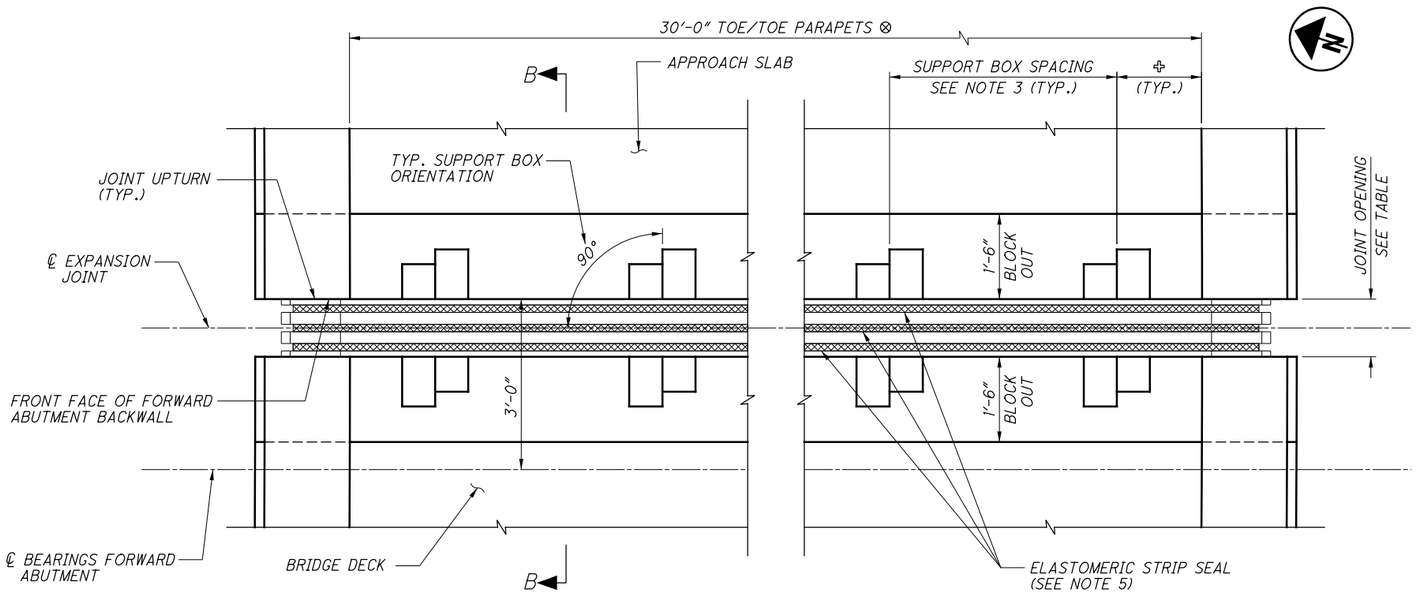
ISSUE RECORD:		
NO.	DATE	DESCRIPTION

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

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
CAS/BES	XAC/CAS	AAA		JCS	4/29/19	7705973

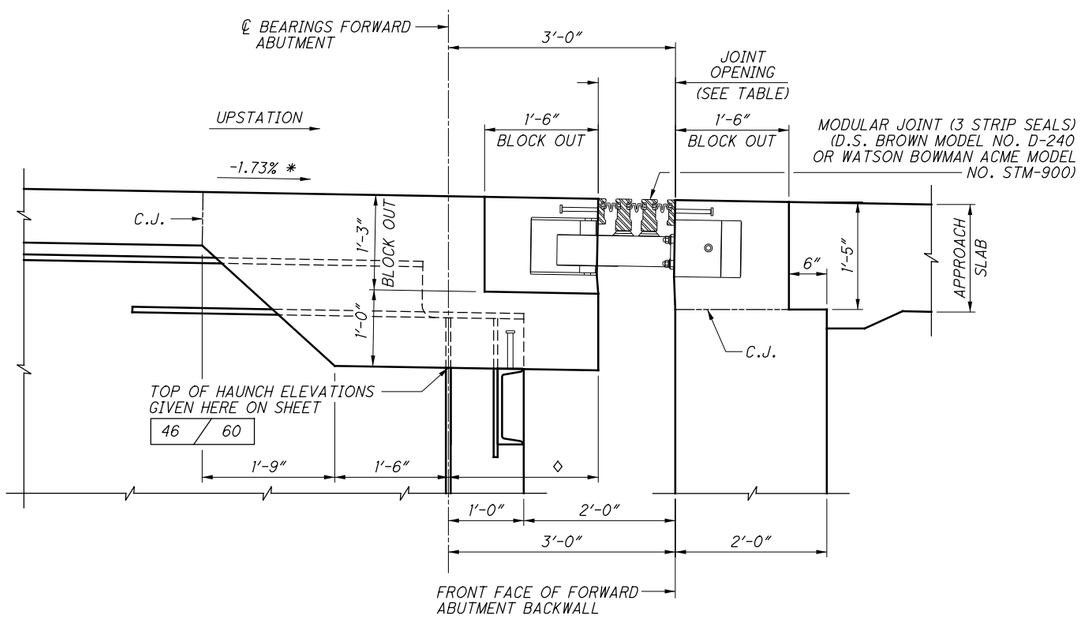
MODULAR JOINT DETAILS - REAR ABUTMENT
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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



PLAN - FORWARD ABUTMENT

(JOINT ANCHORAGE NOT SHOWN, SEE NOTE 4)
(PARAPET SLIDING PLATES NOT SHOWN)



SECTION B-B - FORWARD ABUTMENT

(HORIZONTAL DIMENSIONS ARE MEASURED NORMAL TO ℄ BEARINGS)
(GIRDER SHEAR STUDS NOT SHOWN)

NOTES:

1. SEE SHEET 51 / 60 FOR UPTURN DETAIL, JOINT PROFILE, NOTES AND LEGEND.

FORWARD ABUTMENT EXPANSION JOINT OPENING

TEMPERATURE °F	DS BROWN	WBA
30	1'-0 3/4"	10"
40	1'-0 7/16"	9 11/16"
50	1'-0 3/16"	9 7/16"
60	11 7/8"	9 1/8"
70	11 9/16"	8 13/16"
80	11 1/4"	8 1/2"
90	10 15/16"	8 3/16"

DESCRIPTION

ISSUE RECORD:

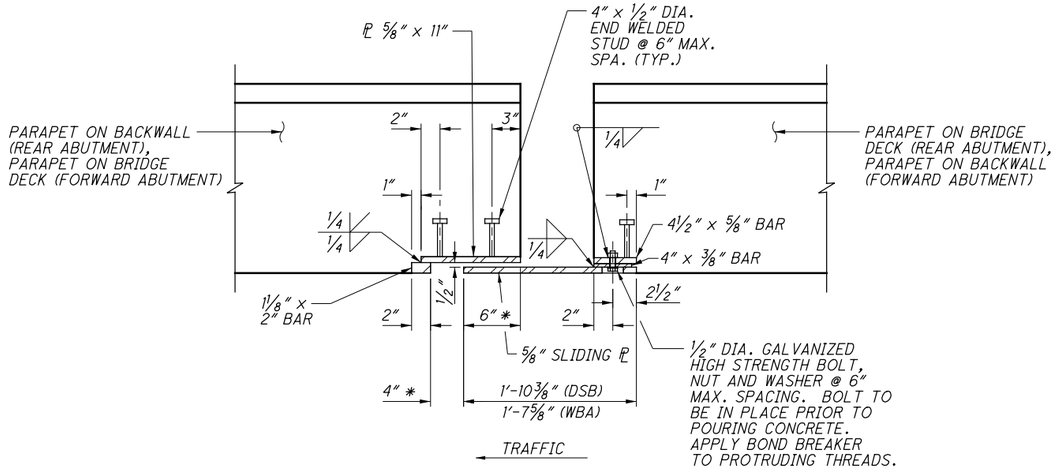
NO.	DATE

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

DESIGNED	DRAWN	REVIEWED	DATE
CAS/BES	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC/CAS		7705973	

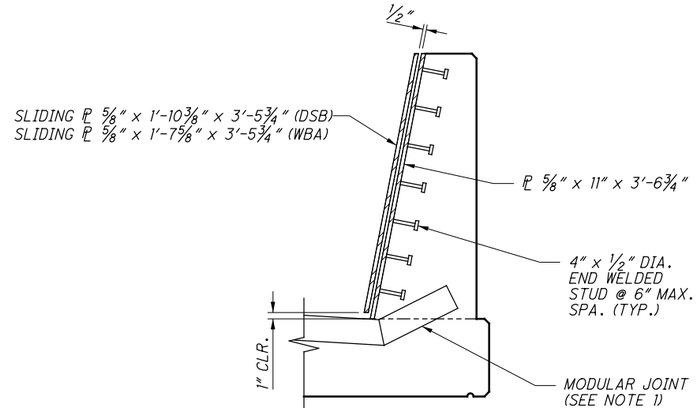
MODULAR JOINT DETAILS - FORWARD ABUTMENT
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

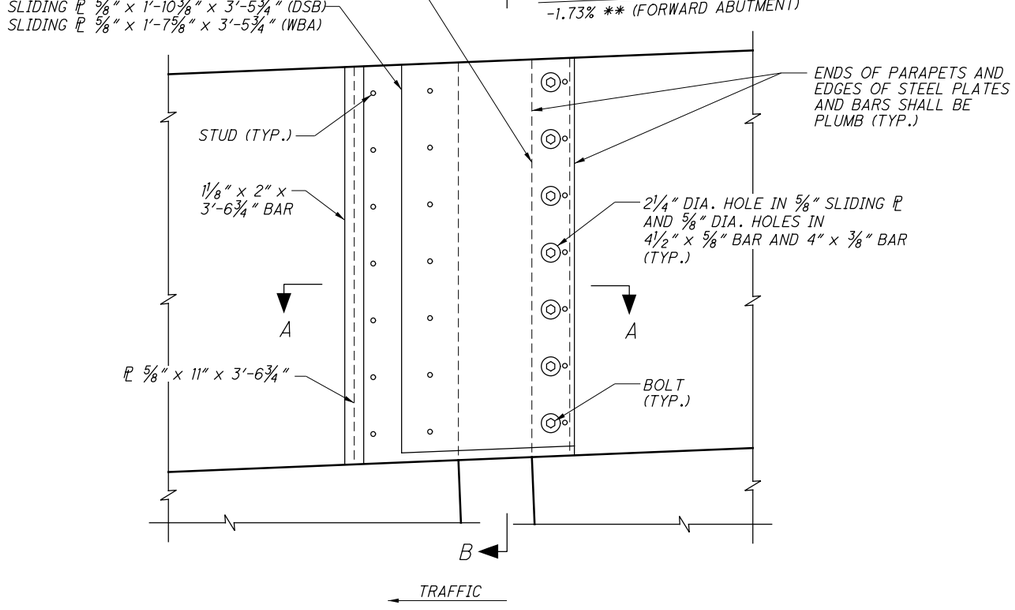


SECTION A-A

* = @ 60°F
(LEFT PARAPET SHOWN, RIGHT PARAPET OPPOSITE HAND)



SECTION B-B



TRAFFIC FACE ELEVATION

(MODULAR JOINT & UPTURN OF JOINT NOT SHOWN)
(LEFT PARAPET SHOWN, RIGHT PARAPET OPPOSITE HAND)

NOTES:

1. FOR MODULAR JOINT DETAILS, SEE SHEETS 51 / 60 & 52 / 60 .
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 THE FRONT FACE OF THE FORWARD ABUTMENT BACKWALL.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

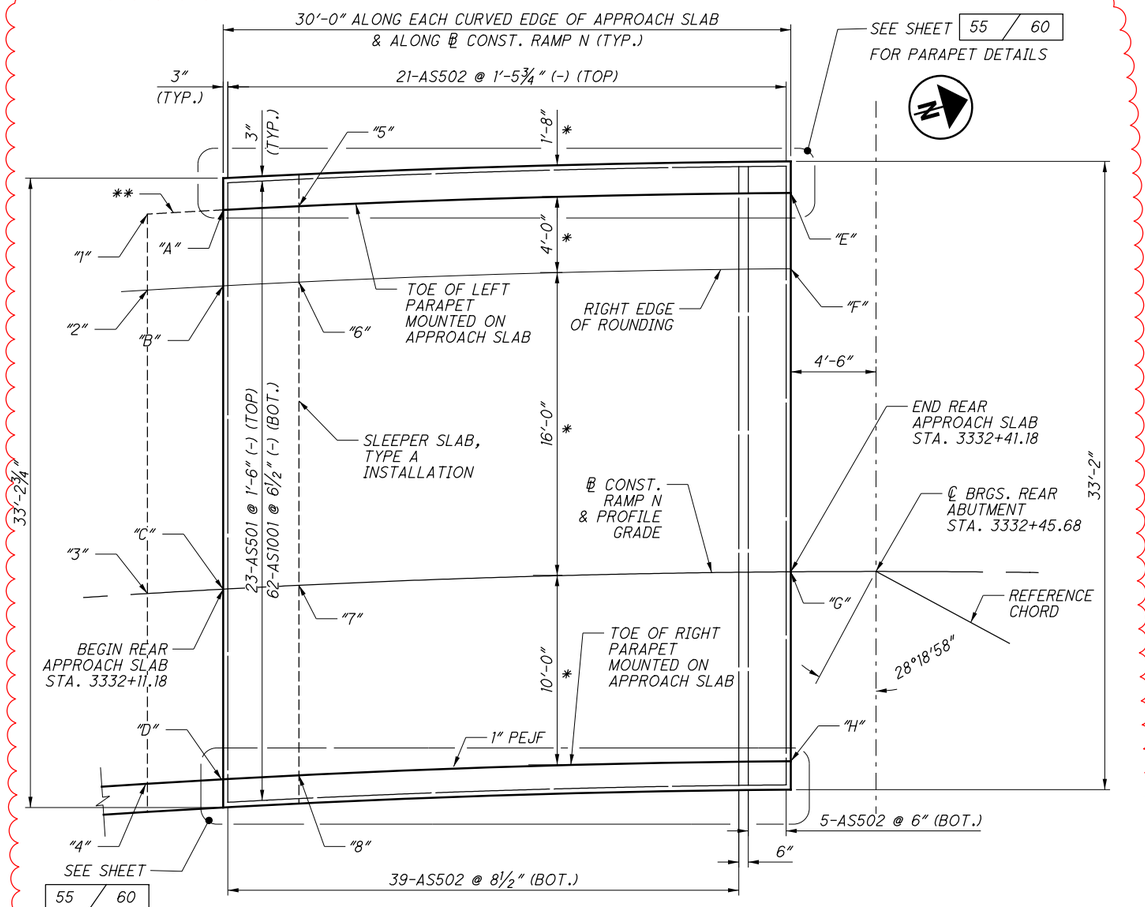
DESIGNED	DRAWN	REVIEWED	DATE
CAS/BES	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BCS/CAS		7705973	

PARAPET SLIDING PLATE JOINT DETAILS
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

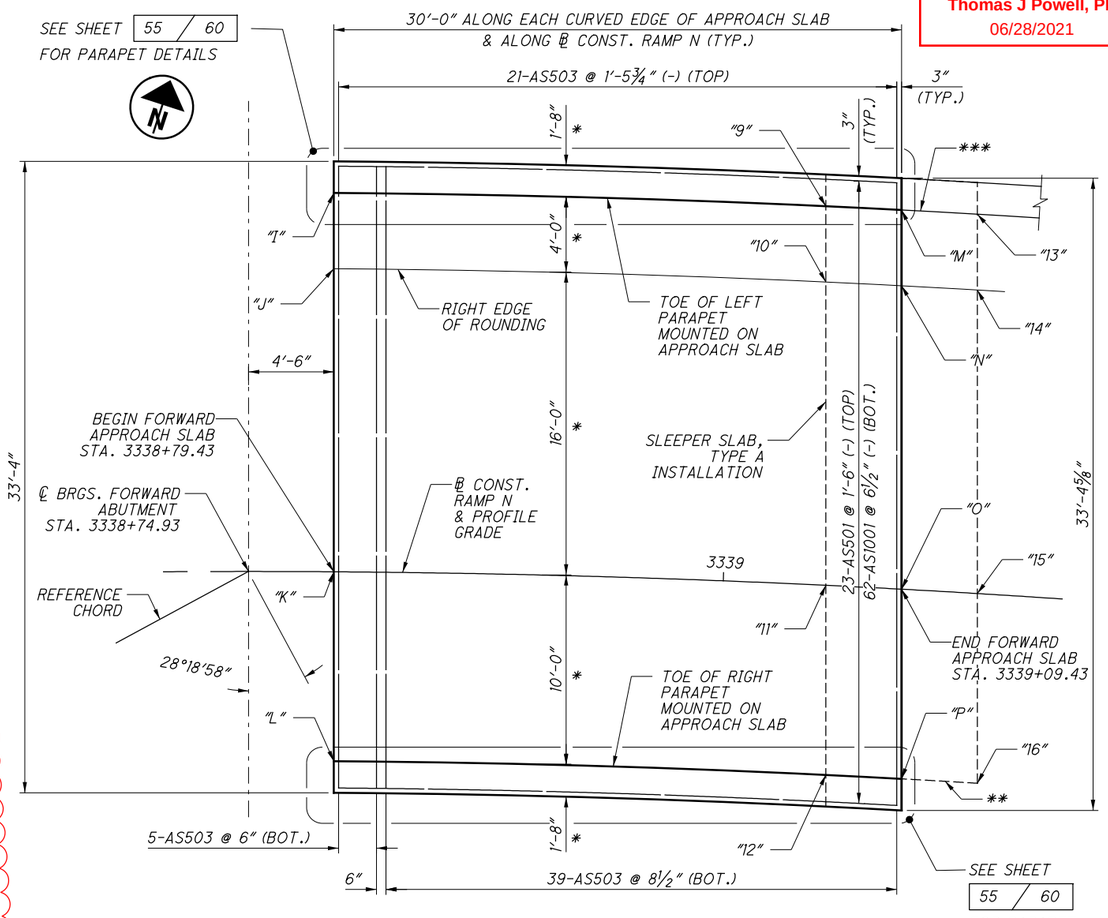
53 / 60

54 / 61



REAR APPROACH SLAB PLAN

(MSE WALL NOT SHOWN)



FORWARD APPROACH SLAB PLAN

TOP OF APPROACH SLAB ELEVATIONS

REAR APPROACH SLAB			FORWARD APPROACH SLAB		
LOCATION	STATION	ELEVATION	LOCATION	STATION	ELEVATION
"A"	3332+12.23	1101.50	"I"	3338+79.29	1124.82
"B"	3332+12.03	1101.45	"J"	3338+79.32	1124.78
"C"	3332+11.18	1100.43	"K"	3338+79.43	1123.82
"D"	3332+10.63	1099.79	"L"	3338+79.50	1123.22
"E"	3332+41.32	1103.54	"M"	3339+08.38	1124.24
"F"	3332+41.29	1103.50	"N"	3339+08.58	1124.20
"G"	3332+41.18	1102.53	"O"	3339+09.43	1123.22
"H"	3332+41.11	1101.93	"P"	3339+09.98	1122.61

TOP OF SLEEPER SLAB ELEVATIONS

REAR SLEEPER SLAB			FORWARD SLEEPER SLAB		
LOCATION	STATION	ELEVATION	LOCATION	STATION	ELEVATION
"1"	3332+08.35	1099.81	"9"	3339+04.50	1122.91
"2"	3332+08.12	1099.76	"10"	3339+04.68	1122.87
"3"	3332+07.17	1098.74	"11"	3339+05.42	1121.89
"4"	3332+06.56	1098.09	"12"	3339+05.91	1121.28
"5"	3332+16.11	1100.36	"13"	3339+12.26	1122.74
"6"	3332+15.93	1100.31	"14"	3339+12.49	1122.69
"7"	3332+15.19	1099.30	"15"	3339+13.44	1121.71
"8"	3332+14.70	1098.66	"16"	3339+14.05	1121.10

LEGEND:

* = MEASURED RADIALLY

** = 1'-8" x 4'-0" NOTCH IN SLEEPER SLAB FOR GUARDRAIL POSTS

*** = TOE OF TYPE D ROADWAY BARRIER, (SEE ROADWAY PLANS FOR DETAILS AND PAYMENT)

NOTES:

1. CROSS-SLOPES AND ROUNDING USED ON APPROACH SLABS SHALL MATCH THE BRIDGE DECK SLAB.
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 33'-2" (REAR) AND 33'-4" (FORWARD) AND USE SKEW ANGLE OF 0°. FIELD CUT BARS AT NOTCH IN SLEEPER SLAB AS NEEDED TO PROVIDE 3" CLEAR COVER. REPAIR FIELD-CUT BAR ENDS PER 509.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

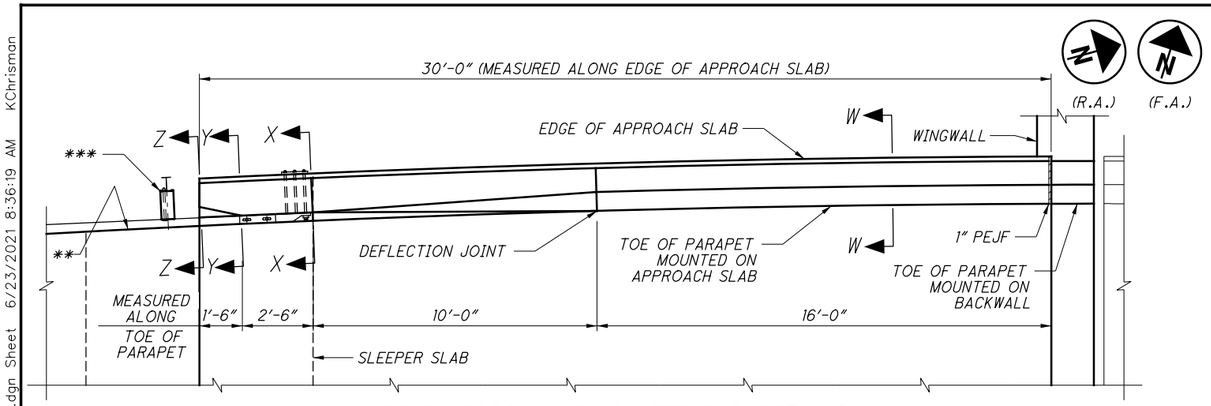
pw:\\VANVA01PWINT01.parsons.com:Ohio State\Documents\DB-Akron Beltway Rehab\10 - Design\102329\Structures\SUM076_1152N\Sheets\076_1149R_SM001.dgn Sheet 6/23/2021 8:36:13 AM KChrisman

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

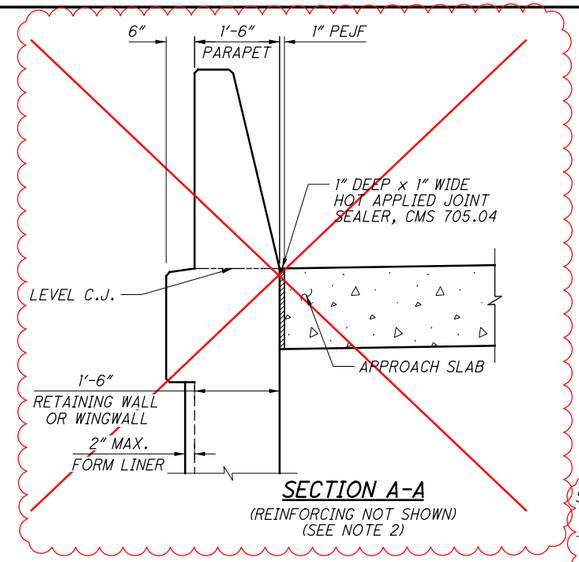
DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	SAN	6/14/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAT		7705973	

APPROACH SLAB DETAILS - 1
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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



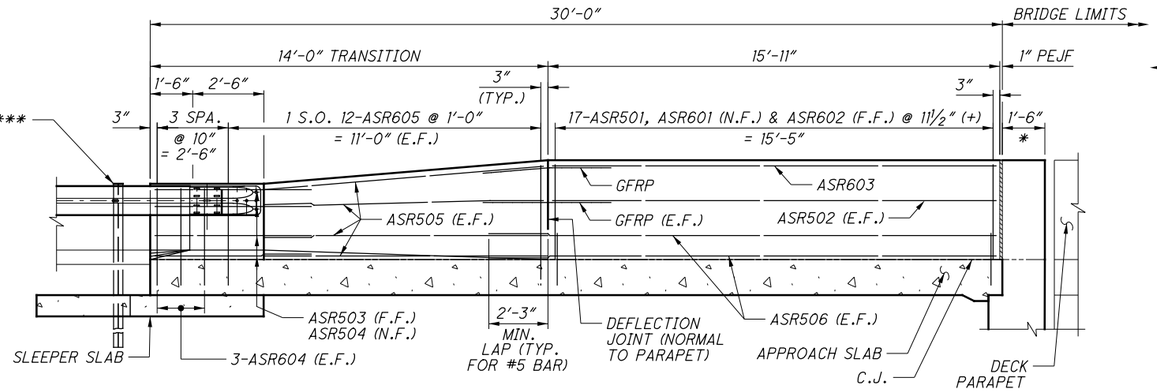
REAR APPROACH SLAB LEFT PARAPET AND FORWARD APPROACH SLAB RIGHT PARAPET PLAN

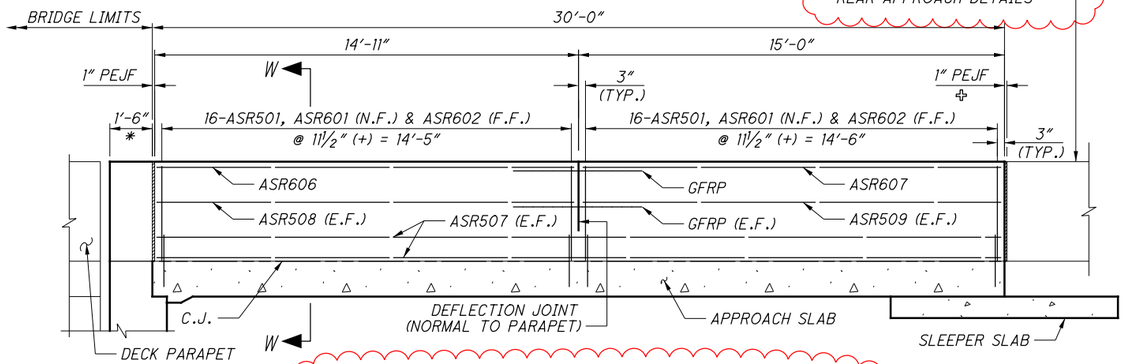


SECTION A-A

(REINFORCING NOT SHOWN)
(SEE NOTE 2)

SEE ROADWAY PLANS FOR SINGLE SLOPE BARRIER, TYPE D FOR FORWARD APPROACH DETAILS
SEE BU-17 FOR RIGHT REAR APPROACH DETAILS



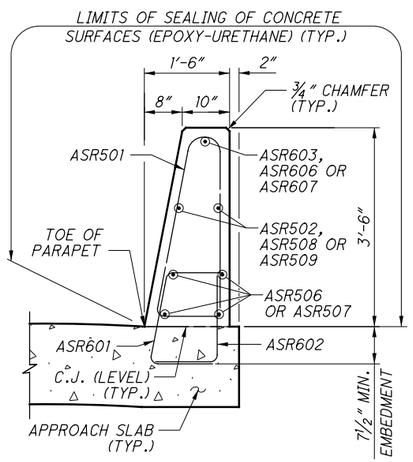


REAR APPROACH SLAB LEFT PARAPET AND FORWARD APPROACH SLAB RIGHT PARAPET ELEVATION

(LOOKING AT TRAFFIC FACE OF PARAPET)
(APPROACH SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY)
(DIMENSIONS ARE GIVEN ALONG THE TOE OF PARAPET)

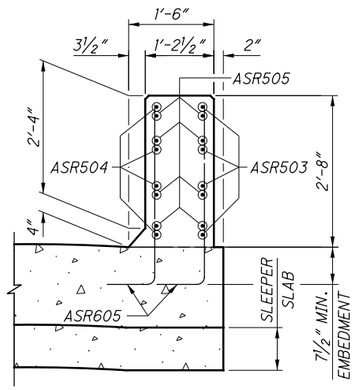
REAR APPROACH SLAB RIGHT PARAPET AND FORWARD APPROACH SLAB LEFT PARAPET ELEVATION

(LOOKING AT TRAFFIC FACE OF PARAPET)
(APPROACH SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY)
(DIMENSIONS ARE GIVEN ALONG THE TOE OF PARAPET)



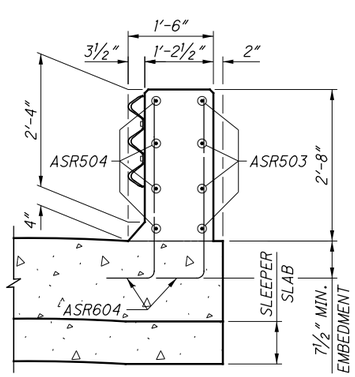
SECTION W-W

(APPROACH SLAB REINFORCING NOT SHOWN)



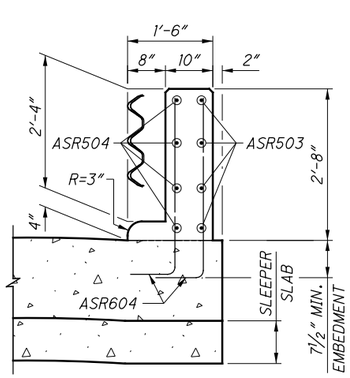
SECTION X-X

(APPROACH SLAB REINFORCING NOT SHOWN)



SECTION Y-Y

(APPROACH SLAB REINFORCING NOT SHOWN)



SECTION Z-Z

(APPROACH SLAB REINFORCING NOT SHOWN)

LEGEND:

* = SEE DETAIL X ON SHEET 50 / 60

** = 1'-8" x 4'-0" NOTCH IN SLEEPER SLAB FOR GUARDRAIL POSTS

*** = MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 (FORWARD APPROACH SLAB) SHOWN OR TYPE 2 (REAR APPROACH SLAB). SEE STANDARD DRAWING MGS-3.1 OR MGS-3.2 FOR BRIDGE TERMINAL ASSEMBLY DETAILS. SEE ROADWAY PLANS FOR PAYMENT.

✣ = INCLUDED FOR PAYMENT WITH BRIDGE QUANTITIES

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 9 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 (ALL ASR BARS) IS INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.

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		7705973	

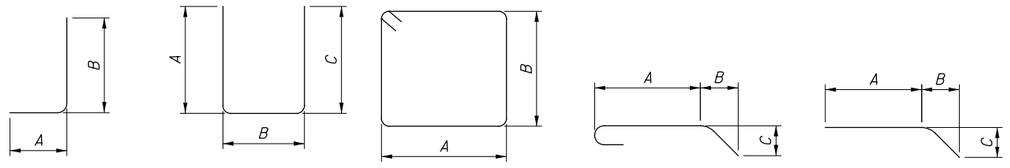
APPROACH SLAB DETAILS - 2
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

55 / 60

56 / 61

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
REAR ABUTMENT											
RA501	26	4′-3″	115	2	1′-6″	1′-6″	1′-6″				
RA502	2	18′-10″	39	STR							
RA503	18	32′-8″	613	STR							
	2 SR	6′-1″									
RA504	OF	TO	329	STR							1′-7¾″
	11	22′-7″									
RA505	1	22′-6″	23	STR							
RA601	72	13′-4″	1442	2	2′-6″	8′-8″	2′-6″				
RA602	34	8′-5″	430	2	2′-9″	3′-3″	2′-9″				
RA603	24	21′-9″	784	1	2′-6″	19′-5″					
RA604	16	30′-2″	725	1	2′-6″	27′-10″					
RA605	20	5′-7″	168	1	1′-0″	4′-9″					
RA606	10	10′-1″	151	2	1′-11″	6′-4″	2′-2″				
RA607	18	6′-1″	164	1	1′-0″	5′-3″					
RA608	9	11′-1″	150	2	2′-5″	6′-4″	2′-8″				
RA609	16	6′-7″	158	1	1′-0″	5′-9″					
RA610	8	12′-1″	145	2	2′-11″	6′-4″	3′-2″				
RA611	12	7′-1″	128	1	1′-0″	6′-3″					
RA612	6	13′-1″	118	2	3′-5″	6′-4″	3′-8″				
	2 SR	10′-5″				9′-7″					
RA613	OF	TO	394	1	1′-0″	TO					3½″
	11	13′-4″				12′-6″					
	2 SR	6′-6″				5′-8″					
RA614	OF	TO	270	1	1′-0″	TO					4″
	11	9′-9″				8′-11″					
RA615	2	5′-10″	18	1	1′-0″	5′-0″					
RA616	2	5′-5″	16	1	1′-0″	4′-7″					
RA617	2	5′-1″	15	1	1′-0″	4′-3″					
RA618	14	13′-2″	277	1	1′-0″	12′-4″					
RA619	7	7′-0″	74	2	1′-0″	5′-4″	1′-0″				
RA620	2	13′-5″	40	1	1′-0″	12′-7″					
RA621	33	14′-0″	694	2	6′-5″	1′-6″	6′-5″				
RA622	33	6′-10″	339	2	2′-10′	1′-6″	2′-10″				
RA623	33	10′-4″	512	2	4′-10″	1′-0″	4′-10″				
RA624	2	19′-5″	58	STR							
RA625	2	27′-10″	84	STR							
RA626	7	14′-6″	152	1	1′-0″	13′-8″					
RA627	1	20′-4″	31	STR							
RA628	4	6′-2″	37	3	1′-4″	1′-4″					
RA801	23	5′-0″	307	18	2′-10″	1′-0″	1′-0″				
SUB-TOTAL			9,000								



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:

* = REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT, EXCEPT AT PIER COLUMNS, WHERE BAR LENGTH IS MEASURED TO THE CENTER OF THE MECHANICAL CONNECTOR. EXTRA BAR LENGTH AND/OR BAR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

Δ = REINFORCING BAR IS INCLUDED FOR PAYMENT WITH DRILLED SHAFTS. WEIGHT IS NOT INCLUDED IN TOTAL.

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.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

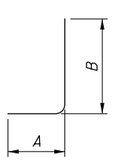
DESIGN AGENCY
PRIME AE
845 Pulsar Place, Suite 300
Columbus Ohio 43240

REVIEWED SAN | DATE 6/14/21 | STRUCTURE FILE NUMBER 7705973
DRAWN KDC | REVISED
DESIGNED KDC | CHECKED JAT

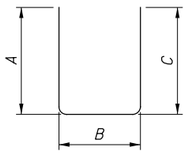
REAR ABUTMENT REINFORCING SCHEDULE
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

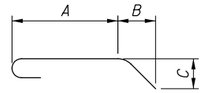
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
FORWARD ABUTMENT											
FA501	3	33'-4"	104	STR							
FA502	1	14'-9"	15	STR							
FA503	17	35'-4"	626	STR							
FA504	42	5'-1"	223	STR							
FA505	42	8'-3"	361	STR							
FA506	20	3'-3"	68	2	1'-6"	6	1'-6"				
FA601	40	21'-9"	1307	1	2'-6"	19'-5"					
FA602	72	13'-4"	1442	2	2'-6"	8'-8"	2'-6"				
FA603	14	7'-10"	165	1	1'-0"	7'-0"					
FA604	16	7'-5"	178	1	1'-0"	6'-7"					
FA605	18	6'-10"	185	1	1'-0"	6'-0"					
FA606	20	6'-5"	193	1	1'-0"	5'-6 1/2"					
FA607	7	12'-9"	134	2	4'-0"	5'-4"	3'-9"				
FA608	8	11'-11"	143	2	3'-7"	5'-4"	3'-4"				
FA610	9	10'-9"	145	2	3'-0"	5'-4"	2'-9"				
FA610	10	9'-10"	148	2	2'-6 1/2"	5'-4"	2'-3 1/2"				
FA611	7	11'-1"	117	2	2'-8"	6'-1"	2'-8"				
FA612	14	14'-10"	312	1	2'-8"	12'-4"					
FA613	7	16'-4"	172	1	2'-8"	13'-10"					
FA614	34	14'-10"	758	2	6'-10"	1'-6"	6'-10"				
FA615	38	6'-10"	390	2	2'-10"	1'-6"	2'-10"				
FA616	34	10'-4"	528	2	4'-10"	1'-0"	4'-10"				
FA617	4	19'-5"	117	STR							
FA618	20	8'-9"	263	STR							
FA619	20	10'-4"	310	STR							
FA620	4	13'-6"	81	2	6'-8"	6"	6'-8"				
FA621	4	13'-7"	82	2	5'-7"	2'-9"	5'-7"				
FA801	23	5'-0"	307	18	2'-10"	1'-0"	1'-0"				
SUB-TOTAL			8,874								



TYPE-1



TYPE-2



TYPE-18

NOTES:

1. SEE SHEET 56 / 60 FOR LEGEND AND NOTES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

DESIGNED KDC | DRAWN KDC | REVIEWED SAN | DATE 6/14/21
CHECKED JAT | REVISED | STRUCTURE FILE NUMBER 7705973

FORWARD ABUTMENT REINFORCING SCHEDULE

SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

REINFORCING STEEL LIST - PIER 1

	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
Δ	1DS1101	42	28′-8″	6397	STR						
Δ	1DS401	21	8′-2″	115	38	2′-0″	1′-11″				
Δ	1DS901	30	12′-2″	1241	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	270	1′-6″	271	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	30′-5″	571	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				NOT USED						
	1P528	4	3′-8″	15	STR						
	1P601	10	4′-3″	64	1	2′-10½″	1′-7″				
	1P602	6	14′-4″	129	35	3′-8″	2′-11″	1′-0″	1′-0″		
	1P901	30	30′-0″	3060	STR						
	1P902	30	6′-3″	637	STR						
	1P903	10	4′-2″	142	1	2′-10½″	1′-7″				
Δ	1SP401	3	28′-8″	1735	15	3′-6″	0′-4½″				
	1SP501	3	28′-11″	2864	15	2′-6″	0′-3″				
			TOTAL	11632							

REINFORCING STEEL LIST - PIER 2

	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
Δ	2DS1101	14	17′-10″	1326	STR						
Δ	2DS1102	28	14′-8″	2182	STR						
Δ	2DS1103	42	15′-0″	3347	STR						
Δ	2DS401	27	8′-2″	147	38	2′-0″	1′-11″				
	2P1001	5	27′-7″	593	STR						
	2P1101	7	14′-11″	555	40	9′-5″	4′-0″	0′-3″			
	2P1102	7	23′-8″	880	1	22′-0″	2′-0″				
	2P1103	14	21′-0″	1562	STR						
	2P1104	14	25′-6″	1897	STR						
	2P1105	14	30′-0″	2231	STR						
	2P1106	42	23′-7″	5263	STR						
	2P401	24	8′-2″	131	38	2′-0″	1′-11″				
	2P402	366	1′-6″	367	21	0′-4″	0′-8″				
	2P403	9	5′-1″	31	39A	1′-4¾″	0′-9¾″	0′-10½″	0′-6″		
	2P404	2	12′-5″	17	STR						
	2P405	6	31′-7″	127	STR						
	2P406	2	24′-0″	32	STR						
	2P407	2	15′-3″	20	STR						
	2P408	2	31′-8″	42	26	1′-6″	11′-3″	9′-0″	11′-3″	1′-6″	
	2P409	4	10′-4″	28	STR						
	2P501	6	21′-0″	131	STR						
	2P502	14	7′-0″	102	1	6′-3″	0′-10″				
	2P503	7	7′-0″	51	18	5′-7″	0′-10″	0′-10″			
	2P504	5	5′-5″	28	90						
	2P505	5	6′-8″	35	90						
	2P506	7	5′-7″	41	18	4′-6″	0′-8″	0′-8″			
	2P507	20	9′-9″	203	18	4′-8″	2′-8″	2′-8″			
	2P508	14	8′-4″	122	18	3′-3″	2′-8″	2′-8″			
	2P509	2	8′-1″	17	18	4′-8″	1′-10″	1′-10″			
	2P510	1	8′-10″	9	7	1′-9″	3′-10½″	0′-4¼″	0′-8½″		
	2P511	1	9′-7″	10	7	1′-10″	3′-5″	0′-7″	1′-2″		
	2P512	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″		
	2P513	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″		
	2P514	S.O.	TO	37	7	TO	TO	TO	TO		0′-1″
		3	12′-0″			3′-6″	4′-2″	0′-2½″	0′-5″		
	2P515	20	10′-0″	209	18	3′-3″	3′-6″	3′-6″			
	2P516	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″		
	2P517	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″		
	2P518	S.O.	TO	40	7	TO	TO	TO	TO		0′-1½″
		3	12′-10″			3′-9″	3′-11″	0′-4″	0′-8½″		
	2P519	6	12′-2″	76	6	3′-3″	2′-7″	4′-10″	1′-7″	0′-7″	
	2P520	1	12′-11″	13	7	3′-2″	3′-6″	0′-6½″	1′-6″		
	2P521	1	12′-4″	13	7	2′-9″	3′-10″	0′-4½″	1′-6″		
	2P522	1	11′-7″	12	7	3′-1″	3′-10″	0′-4½″	0′-9″		
	2P523	2	10′-4″	22	7	2′-1″	3′-7″	0′-6″	1′-3″		
	2P524	2	12′-0″	25	7	3′-6″	4′-3½″	0′-2¼″	0′-4½″		
	2P525	2	13′-4″	28	7	3′-7″	3′-7″	0′-6″	1′-3″		
	2P526	2	5′-1″	11	18	4′-0″	0′-8″	0′-8″			
	2P527	18	16′-2″	304	STR						
	2P528	6	25′-6″	160	STR						
	2P529	6	30′-0″	188	STR						
Δ	2SP401	1	17′-10″	368	15	3′-6″	0′-4½″				
Δ	2SP402	2	14′-8″	613	15	3′-6″	0′-4½″				
	2SP501	1	34′-3″	1126	15	2′-6″	0′-3″				
	2SP502	1	38′-9″	1271	15	2′-6″	0′-3″				
	2SP503	1	43′-3″	1416	15	2′-6″	0′-3″				
			TOTAL	19828							

NOTES:

1. SEE SHEET 56 / 60 FOR NOTES AND LEGEND.
2. SEE SHEET 59 / 60 FOR REINFORCING BAR TYPES.

ISSUE RECORD:

NO.	DATE	DESCRIPTION

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

DESIGNED	DRAWN	REVIEWED	DATE
JHL	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7705973	

REINFORCING STEEL LIST - 3

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

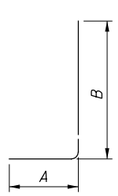
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

58 / 60

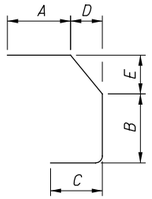
59 / 61

REINFORCING STEEL LIST - PIER 3

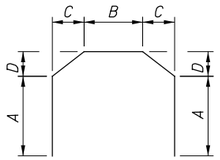
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
Δ	3DS1101	46	21′-8″	5295	STR						
Δ	3DS1102	46	15′-6″	3788	STR						
Δ	3DS401	9	17′-7″	106	38	5′-0″	1′-11″				
	3P1101	12	34′-11″	2226	18	31′-7″	2′-0″	2′-0″			
	3P1102	18	31′-7″	3020	STR						
*	3P1103	23	30′-0″	3666	STR						
*	3P1104	23	27′-0″	3299	STR						
*	3P1105	23	31′-7″	3859	19	30′-0″					
*	3P1106	23	34′-7″	4226	19	33′-0″					
	3P401	174	2′-2″	252	21	0′-4″	1′-0″				
	3P402	4	13′-3″	35	39	3′-3″	1′-11″	2′-11″			
	3P403	4	12′-4″	33	39	3′-0″	1′-9″	2′-9″			
	3P404	16	4′-4″	46	18	1′-6″	1′-6″	1′-6″			
	3P405	8	17′-7″	94	38	5′-0″	1′-11″				
	3P501	6	30′-0″	188	STR						
	3P502	6	28′-10″	180	STR						
	3P601	14	11′-0″	231	STR						
	3P602	7	12′-0″	126	26	0′-2″	1′-6″	9′-0″	1′-6″	0′-2″	
	3P603	4	7′-4″	44	STR						
	3P604	2	17′-6″	53	STR						
	3P605	7	6′-7″	69	11	0′-8″	0′-4″	0′-2″	4′-5″	1′-6″	
	3P606	7	8′-1″	85	11	0′-8″	0′-4″	0′-2″	5′-11″	1′-6″	
	3P607	13	8′-8″	169	18	6′-0″	1′-6″	1′-6″			
	3P608	21	7′-6″	237	1	1′-6″	6′-2″				
	3P609	7	8′-2″	86	18	5′-6″	1′-6″	1′-6″			
	3P610	76	13′-5″	1532	18	4′-3″	4′-9″	4′-9″			
	3P611	18	14′-1″	381	6	4′-6″	3′-11″	5′-2″	0′-8″	0′-4″	
	3P612	6	15′-11″	143	6	5′-5″	3′-11″	6′-1″	0′-8″	0′-4″	
	3P613	28	17′-3″	725	6	6′-4″	4′-1″	6′-8″	0′-4″	0′-2″	
	3P614	24	16′-11″	610	6	5′-11″	3′-11″	6′-7″	0′-8″	0′-4″	
	3P615	5	19′-1″	143	7	6′-4″	5′-10″	0′-2″	0′-4″		
	3P616	5	15′-4″	115	18	6′-2″	4′-9″	4′-9″			
	3P801	8	31′-7″	675	STR						
	3P802	2	21′-1″	113	STR						
	3P803	2	8′-7″	46	STR						
Δ	3SP501	1	21′-8″	1388	15	7′-0″	0′-4½″				
	3SP502	1	56′-0″	3724	15	5′-6″	0′-3¼″				
			TOTAL	30431							



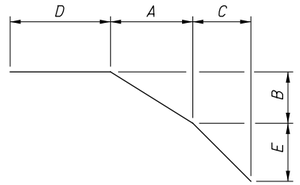
TYPE 1



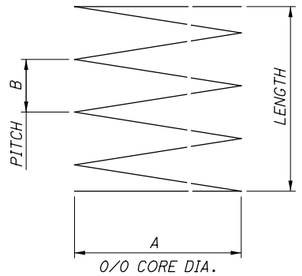
TYPE 6



TYPE 7



TYPE 11



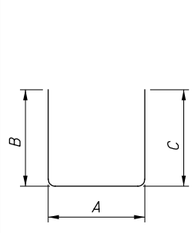
TYPE 15

REINFORCING STEEL LIST - PIER 4

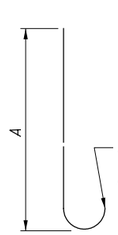
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
Δ	4DS1001	36	15′-0″	2324	STR						
Δ	4DS1101	42	15′-1″	3366	STR						
Δ	4DS401	24	8′-2″	131	38	2′-0″	1′-11″				
	4P1001	5	27′-7″	593	STR						
	4P1002	36	30′-0″	4647	STR						
	4P1003	36	16′-3″	2517	STR						
	4P1101	7	14′-11″	555	40	9′-5″	4′-0″	0′-3″			
	4P1102	7	23′-8″	880	1	22′-0″	2′-0″				
	4P401	21	8′-2″	115	38	2′-0″	1′-11″				
	4P402	342	1′-6″	343	21	0′-4″	0′-8″				
	4P403	9	5′-1″	31	39A	1′-4¾″	0′-9¾″	0′-10½″	0′-6″		
	4P404	2	12′-5″	17	STR						
	4P405	6	31′-7″	127	STR						
	4P406	2	24′-0″	32	STR						
	4P407	2	15′-3″	20	STR						
	4P408	2	31′-8″	42	26	1′-6″	11′-3″	9′-0″	11′-3″	1′-6″	
	4P409	4	10′-4″	28	STR						
	4P501	18	30′-0″	563	STR						
	4P502	14	7′-0″	102	1	6′-3″	0′-10″				
	4P503	7	7′-0″	51	18	5′-7″	0′-10″	0′-10″			
	4P504	5	5′-5″	28	90	1′-9″					
	4P505	5	6′-8″	35	90	3′-0″					
	4P506	7	5′-7″	41	18	4′-6″	0′-8″	0′-8″			
	4P507	20	9′-9″	203	18	4′-8″	2′-8″	2′-8″			
	4P508	14	8′-4″	122	18	3′-3″	2′-8″	2′-8″			
	4P509	2	8′-1″	17	18	4′-8″	1′-10″	1′-10″			
	4P510	1	8′-10″	9	7	1′-9″	3′-10½″	0′-4¼″	0′-8½″		
	4P511	1	9′-7″	10	7	1′-10″	3′-5″	0′-7″	1′-2″		
	4P512	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″		
	4P513	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″		
	4P514	S.O.	TO	37	7	TO	TO	TO	TO		0′-1″
		3	12′-0″			3′-6″	4′-2″	0′-2½″	0′-5″		
	4P515	20	10′-0″	209	18	3′-3″	3′-6″	3′-6″			
	4P516	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″		
	4P517	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″		
	4P518	S.O.	TO	40	7	TO	TO	TO	TO		0′-1½″
		3	12′-10″			3′-9″	3′-11″	0′-4″	0′-8½″		
	4P519	6	12′-2″	76	6	3′-3″	2′-7″	4′-10″	1′-7″	0′-7″	
	4P520	1	12′-11″	13	7	3′-2″	3′-6″	0′-6½″	1′-6″		
	4P521	1	12′-4″	13	7	2′-9″	3′-10″	0′-4½″	1′-6″		
	4P522	1	11′-7″	12	7	3′-1″	3′-10″	0′-4½″	0′-9″		
	4P523	2	10′-4″	22	7	2′-1″	3′-7″	0′-6″	1′-3″		
	4P524	2	12′-0″	25	7	3′-6″	4′-3½″	0′-2¼″	0′-4½″		
	4P525	2	13′-4″	28	7	3′-7″	3′-7″	0′-6″	1′-3″		
	4P526	2	5′-1″	11	18	4′-0″	0′-8″	0′-8″			
	4P527	18	9′-6″	178	STR						
	4P528	4	3′-8″	15	STR						
	4P601	10	4′-4″	65	1	2′-11½″	1′-7″				
	4P602	6	14′-6″	131	35	3′-8″	3′-0″	1′-0″	1′-0″		
	4P901				NOT USED						
	4P902				NOT USED						
	4P903	10	4′-3″	144	1	2′-11½″	1′-7″				
Δ	4SP401	3	15′-1″	944	15	3′-6″	0′-4½″				
	4SP501	3	36′-7″	3605	15	2′-6″	0′-3″				
			TOTAL	16104							

NOTES:

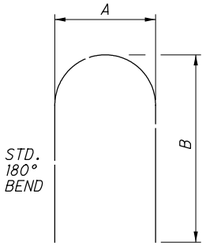
1. SEE SHEET 56 / 60 FOR NOTES AND LEGEND.



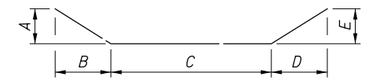
TYPE 18



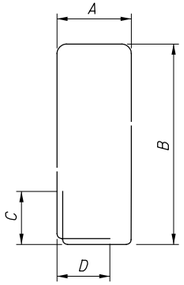
TYPE 19



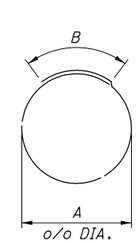
TYPE 21



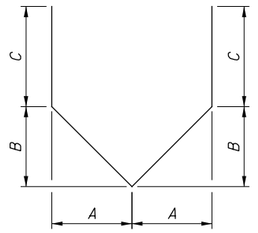
TYPE 26



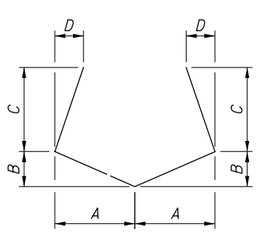
TYPE 35



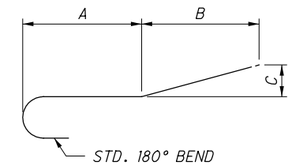
TYPE 38



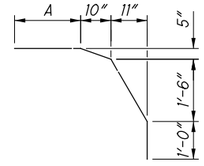
TYPE 39



TYPE 39A



TYPE 40



TYPE 90

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

DESIGNED	DRAWN	REVIEWED	DATE
JHL	AAA	JCS	4/29/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		7705973	

REINFORCING STEEL LIST - 4
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

59 / 60

60 / 61

ISSUE RECORD:

NO.	DATE	DESCRIPTION

REINFORCING STEEL LIST - DECK

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
SA401	756	30'-0"	15150	STR						
	1	3'-0"								
SA402	S.O.	TO	469	STR						0'-11⅜"
	36	36'-0"								
SA403	36	27'-0"	649	STR						
SA404	1290	3'-6"	3016	3	0'-8"	0'-8"	2'-1"	0'-7"		
SA405	68	4'-5"	201	18	1'-1"	1'-9"	1'-9"			
SA406	10	33'-0"	220	STR						
SA501	1302	30'-0"	40740	STR						
	1	9'-0"								
SA502	S.O.	TO	1117	STR						0'-9⅝"
	42	42'-0"								
SA503	84	3'-9"	329	STR						
SA504	1315	34'-2"	46861	22	33'-0"					
SA505	1323	33'-0"	45536	STR						
SA506	2630	8'-7"	23545	19	8'-0"					
SA507	70	21'-6"	1570	STR						
SA508	35	18'-6"	675	STR						
SA509	72	3'-4"	250	STR						
SA510	68	5'-11"	420	26	0'-4½"	0'-4½"	2'-2"	2'-6"	2'-1"	
SA511	42	30'-0"	1314	STR						
SA701	84	4'-10"	830	19	4'-0"					
		TOTAL	182892							

REINFORCING STEEL LIST - APPROACH SLABS △ △

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
AS1001	124	30'-11"	16496	19	29'-6"					
AS501	46	29'-6"	1415	STR						
AS502	65	32'-8"	2215	STR						
AS503	65	32'-10"	2226	STR						
		TOTAL	22352							

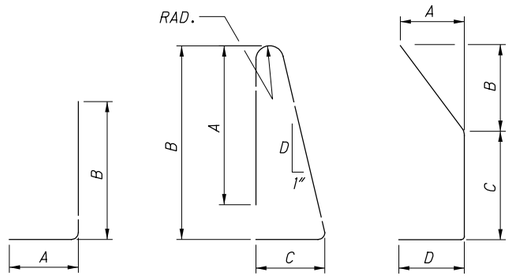
REINFORCING STEEL LIST - PARAPETS

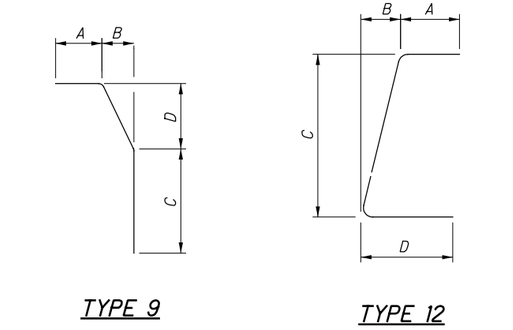
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
ASR501	98	7'-4"	750	2	3'-0"	3'-3"	0'-11"	0'-5¼"	0'-2¾"	
ASR502	4	15'-7"	65	STR						
ASR503	8	5'-8"	47	STR						
ASR504	8	5'-8"	47	26	0'-1⅛"	1'-10"	2'-5"	1'-4½"	0'-4⅛"	
ASR505	16	10'-0"	167	STR						
ASR506	8	18'-0"	150	STR						
ASR507	8	29'-7"	247	STR						
ASR508	4	14'-7"	61	STR						
ASR509	4	14'-8"	61	STR						
ASR601	98	3'-2"	466	12	0'-11"	0'-3½"	1'-6½"	1'-0"		
ASR602	98	2'-5"	356	1	1'-0"	1'-7"				
ASR603	2	15'-7"	47	STR						
ASR604	12	4'-0"	72	1	1'-0"	3'-2"				
	4	3'-11"				3'-1"				
ASR605	S.O.	TO	315	1	1'-0"	TO				0'-1"
	12	4'-10"				4'-0"				
ASR606	2	14'-7"	44	STR						
ASR607	2	14'-8"	44	STR						
BP501	8	7'-1"	59	2	3'-0"	3'-3"	0'-10"	0'-5¼"	0'-2"	
	4	2'-7"			0'-5½"					
BP502	S.O.	TO	35	18	TO	1'-2"	1'-2"			0'-2"
	3	2'-11"			0'-9½"					
BP601	8	2'-5"	29	1	1'-0"	1'-7"				
BP602	8	3'-0"	36	12	0'-10"	0'-3½"	1'-6½"	0'-11"		
BP603	4	1'-2"	7	STR						
	4	3'-4"			0'-5½"					
R401	S.O.	TO	28	18	TO	1'-6"	1'-6"			0'-2"
	3	3'-8"			0'-9½"					
R501	1360	7'-4"	10402	2	3'-0"	3'-3"	0'-11"	0'-5¼"	0'-2¾"	
R502	40	14'-8"	612	STR						
R503	88	7'-2"	658	STR						
R504	4	15'-7"	65	STR						
R505	180	30'-0"	5632	STR						
R506	2	9'-7"	20	STR						
R507	2	9'-10"	21	STR						
R508	2	13'-4"	28	STR						
R509	2	13'-7"	28	STR						
R510	40	14'-7"	608	STR						
R511	80	7'-1"	591	STR						
R512	2	9'-6"	20	STR						
R513	2	9'-9"	20	STR						
R514	2	13'-8"	29	STR						
R515	2	13'-11"	29	STR						
R516	4	13'-9"	57	STR						
R517	4	7'-1"	30	2	3'-0"	3'-3"	0'-10"	0'-5¼"	0'-2"	
R601	1364	2'-5"	4951	1	1'-0"	1'-7"				
R602	1360	3'-2"	6469	12	0'-11"	0'-3½"	1'-6½"	1'-0"		
R603	20	14'-8"	441	STR						
R604	44	7'-2"	474	STR						
R605	1	9'-7"	14	STR						
R606	1	9'-10"	15	STR						
R607	1	13'-4"	20	STR						
R608	1	13'-7"	20	STR						
R609	20	14'-7"	438	STR						
R610	40	7'-1"	426	STR						
R611	1	9'-6"	14	STR						
R612	1	9'-9"	15	STR						
R613	1	13'-8"	21	STR						
R614	1	13'-11"	21	STR						
R615	4	3'-0"	18	12	0'-10"	0'-3½"	1'-6½"	0'-11"		
RAR501	16	7'-4"	122	2	3'-0"	3'-3"	0'-11"	0'-5¼"	0'-2¾"	
RAR502	6	15'-2"	95	STR						
RAR601	16	3'-4"	80	STR						
RAR602	16	4'-2"	100	9	0'-11"	0'-2"	2'-5"	0'-11"		
RAR603	1	15'-2"	23	STR						
		TOTAL	35760							

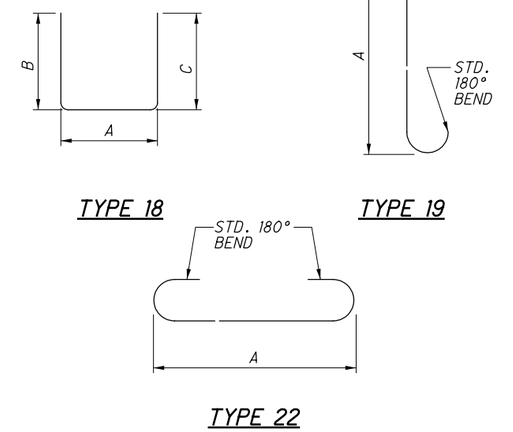
Released for Construction
Thomas J Powell, PE
06/28/2021

NOTES:

1. SEE SHEET 56 / 60 FOR NOTES AND LEGEND.







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		7705973	

REINFORCING STEEL LIST - 5
SUM-76-1152N
RAMP N OVER RAMP S, LANE O, IR-76 EB, SR-8 NB/SB, LANE M

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

60 / 60

61 / 61

ISSUE RECORD:

NO.	DATE	DESCRIPTION

2021-06-23_BU 11 - RFC PLANS