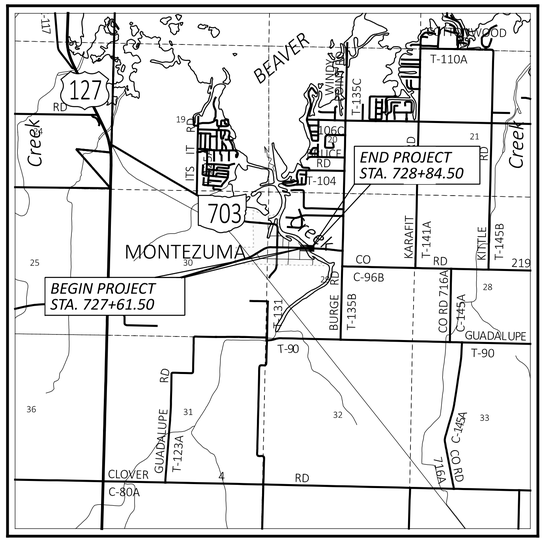
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MER-219-13.80

VILLAGE OF MONTEZUMA

FRANKLIN TOWNSHIP

MERCER COUNTY



LOCATION MAP

LATITUDE: 40°29'20.81" LONGITUDE: -84°32'43.91"

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

DESIGN DESIGNATION

CURRENT ADT (2024)	3900
DESIGN YEAR ADT (2044)	3900
DESIGN HOURLY VOLUME (2044)	450
DIRECTIONAL DISTRIBUTION	58.1%
TRUCKS (24 HOUR B&C)	4%
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH

DESIGN FUNCTIONAL CLASSIFICATION:
05 MAJOR COLLECTOR

NHS PROJECT ____ NO

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

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:
RIBWAY ENGINEERING GROUP, INC.
300 E. BROAD ST. SUITE 500
COLUMBUS, OHIO 43215
PH. NO. (614) 221-6009
FAX NO. (614) 221-9089

INDEX OF SHEETS:

FEDERAL PROJECT NUMBER

E220 (503)

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

THIS PROJECT INCLUDES THE REPLACEMENT OF THE MER-219-13.80 SUPERSTRUCTURE OVER BEAVER CREEK. THE PROJECT ALSO INVOLVES REPAIR OF THE PIER PILING, REBUILD PIER CAPS, MINIMAL ROADWAY APPROACH WORK, GUARDRAIL REPLACEMENT, PAVEMENT MARKING & SIGNING. MINIMUM WORK WILL OCCUR IN-STREAM.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.30 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.125 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (NOI NOT REQUIRED)

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 7 & 8.

John W. O'Brien
District 07 Deputy Director

Pamela Boratyn
Director, Department of Transportation

ENGINEER'S SEAL: ANDREW O. ERIBO E-55132 PROFESSIONAL ENGINEER REGISTERED
SIGNED:
DATE: 07/21/2025

ENGINEER'S SEAL: JON R. COX E-70549 PROFESSIONAL ENGINEER REGISTERED
SIGNED:
DATE: 07/21/2025

ENGINEER'S SEAL: LARRY IVORY E-57814 PROFESSIONAL ENGINEER REGISTERED
SIGNED:
DATE: 07/21/2025

ENGINEER'S SEAL: PANCHADSARAM ARUMUGASAAMY E-53588 PROFESSIONAL ENGINEER REGISTERED
SIGNED:
DATE: 07/21/2025

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	1/19/24	BD-1-11	7/20/18	MT-101.60	1/17/25				
BP-5.1	7/18/25			MT-105.10	1/17/20				
		CPP-1-08	7/21/17	MT-110.10	7/19/13				
DM-1.1	1/17/25								
		DS-1-92	7/15/22	TC-41.20	10/18/13				
F-3.1	7/19/13			TC-41.40	10/18/13				
		PSBD-2-07	7/20/18	TC-41.50	10/18/13				
GR-3.6	1/18/13			TC-42.20	10/18/13				
		TST-2-21	1/17/25	TC-52.10	10/18/13				
MGS-2.1	7/18/25			TC-52.20	1/15/21				
MGS-3.3	7/18/25								
MGS-5.2	7/15/16								
MGS-5.3	7/15/16								

SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
800	7/18/25	WPC	11/01/24
830	7/19/19	OPEA DEMO	
832	7/18/25		11/13/23
844	1/17/25		
930	7/19/19		

TITLE SHEET

DESIGN AGENCY
RIBWAY ENGINEERING GROUP, INC.
300 E. BROAD ST. SUITE 500
COLUMBUS, OHIO 43215
PH. NO. (614) 221-6009
FAX NO. (614) 221-9089

DESIGNER LI
REVIEWER AE 11/04/24
PROJECT ID 114949
SHEET 1 TOTAL 39

MER-219-13.80
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 11/24/2025 TIME: 9:44:17 AM USER: ATontoh
S:\Projects\MER219\114949\114949\400-Engineering\Roadway\Sheets\114949_GT001.dgn

SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
4	5	6	8	12	14	15	21				01/STR								
							36				36			507	00201	36	FT	STEEL PILES HP12X53, FURNISHED, AS PER PLAN	28
							111				111			SPECIAL	50771200	111	FT	PILE ENCASEMENT	
							4,116				4,116			509	10000	4,116	LB	EPOXY COATED STEEL REINFORCEMENT	
							14,508				14,508			509	26000	14,508	LB	GALVANIZED STEEL REINFORCEMENT	
							20				20			510	10000	20	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
							79				79			511	31610	79	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
							34				34			511	42510	34	CY	CLASS QC1 CONCRETE, PIER CAP	
							2				2			511	45710	2	CY	CLASS QC1 CONCRETE, ABUTMENT (WINGWALLS ONLY)	
							30				30			515	12030	30	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB17-48 (LENGTH=30')	
							22				22			516	13600	22	SF	1" PREFORMED EXPANSION JOINT FILLER	
							90				90			516	14020	90	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL (3' WIDE)	
							80				80			516	31011	80	FT	2" DEEP JOINT SEALER, AS PER PLAN	20
							60				60			516	41100	60	EACH	1/8" PREFORMED BEARING PAD, TYPE CDP	
							120				120			516	43100	120	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE), (1.82"x8"x10")	
							194				194			517	70100	194	FT	RAILING (THREE STEEL TUBE BRIDGE RAILING)	
							24				24			518	21200	24	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
							222				222			SPECIAL	51822300	222	FT	STEEL DRIP STRIP	
							100				100			518	40000	100	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
							14				14			518	40010	14	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
							260				260			519	11101	260	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	20
							36				36			844	20001	36	EACH	GALVANIC ANODE PROTECTION, AS PER PLAN	20
																		MAINTENANCE OF TRAFFIC	
		24									24			614	11110	24	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	6
											LS			614	12420	LS		DETOUR SIGNING	8 & 9
																		INCIDENTALS	
											LS			614	11000	LS		MAINTAINING TRAFFIC	6
8											8			619	16001	8	MNTH	FIELD OFFICE, TYPE A, AS PER PLAN	4
											LS			623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS			624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

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DESIGNER: LI

REVIEWER: AE 11/04/24

PROJECT ID: 114949

SHEET 11 TOTAL 39

MER-219-13.80

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 11/24/2025 TIME: 10:16:08 AM USER: ATontoh
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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

BD-1-11	REVISED	07-20-18
CPP-1-08	REVISED	07-21-17
DS-1-92	REVISED	07-15-22
PSBD-2-07	REVISED	07-20-18
TST-2-21	REVISED	01-17-25

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESING SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

DESIGN LOADING

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

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

CONCRETE FOR PRESTRESSED BEAMS:

COMPRESSIVE STRENGTH (FINAL) - 7.0 KSI

COMPRESSIVE STRENGTH (RELEASE) - 5.0 KSI

PRESTRESSING STRAND:

AREA = 0.167 SQ. IN.

ULTIMATE STRENGTH = 270 KSI

INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD

GALVANZIED COATED REINFORCING STEEL

2½" CONCRETE COVER

STEEL DRIP STRIP

MONOLITHIC WEARING SURFACE

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

EXISTING STRUCTURE PLANS

EXISTING STRUCTURE PLANS MAY BE INSPECTED IN THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO, OR AT THE ODOT DISTRICT 7 OFFICE IN SYDNEY, OHIO.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM FIELD SURVEY OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02. IN ADDITION, THE FABRICATOR IS REQUIRED TO ABIDE BY CMS SECTION 513.04.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS. DO NOT BEGIN WORK UNTIL THE ENGINEER ACCEPTS THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING CONCRETE REINFORCEMENT TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING CONCRETE REINFORCEMENT, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING STEEL REINFORCEMENT DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL

REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE DEPARTMENT WILL NOT PERMIT HYDRAULIC HOE-RAM TYPE HAMMERS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-IN LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

POST-CONSTRUCTION BRIDGE INSPECTION

AT LEAST TWO WEEKS PRIOR TO OPENING THE BRIDGE TO TRAFFIC, THE CONTRACTOR SHALL NOTIFY THE ODOT DISTRICT 7 BRIDGE INSPECTION ENGINEER (937-497-6738) TO ALLOW FOR THE NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) REQUIRED POST-CONSTRUCTION INITIAL INSPECTION OF THE BRIDGE.

ITEM 510 - DOWEL HOLES WITH NON SHRINK, NONMETALLIC GROUT

DRILL DOWEL HOLES WHERE SHOWN IN THE PLANS. INSTALL REINFORCING STEEL ACCORDANCE TO ITEM 510 USING EPOXY GROUT, 705.20. THE DIAMETER OF A DOWEL HOLE SHOULD BE 1/8" LARGER THAN THAT OF THE DOWEL BAR. PRIOR TO DRILLING DOWEL HOLES, LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER). IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE EXISTING BAR.

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 PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM LOAD OF 0.95 KIPS FOR A TOTAL MACHINE LOAD OF 7.6 KIPS.

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

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

519.01 DESCRIPTION

REPAIR DETERIORATED CONCRETE USING GALVANIC ANODES PER SUPPLEMENTAL SPECIFICATION 844. ALL PROVISIONS OF C&MS 519 APPLY EXCEPT AS MODIFIED BELOW.

519.02 MATERIALS

CONCRETE USED SHALL BE QC SCC PER C&MS 499, 511.

519.04 PREPARATION OF SURFACE

PRIOR TO THE SURFACE CLEANING SPECIFIED IN C&MS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED STEEL REINFORCEMENT. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

519.05A PLACEMENT OF ANODES

INSTALL ANODES AS INDICATED IN THE PLANS PER SS844.

519.06A FORM SYSTEM

THE PROPOSED FORM SYSTEM AT EACH LOCATION MUST BE SUBMITTED AND ACCEPTED BY THE PROJECT ENGINEER PRIOR TO THE INSTALLATION OF THE FORMWORK. THE FORM SYSTEM SHALL NOT BE SUPPORTED THROUGH THE PATCH UNLESS APPROVED BY THE ENGINEER. THE FORM SYSTEM SHALL PROVIDE ENOUGH HEAD PRESSURE TO ENSURE THE PATCH IS FULLY CONSOLIDATED AND NULL OF VOIDS. VENTS ALONG THE TOP OF THE PATCH SHALL BE INCORPORATED TO ALLOW ENTRAPPED AIR TO ESCAPE DURING CONCRETE PLACEMENT.

519.08 BASIS OF PAYMENT

PAYMENT FOR THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 519 PATCHING CONCRETE STRUCTURE, AS PER PLAN. GALVANIC ANODES AND ANODE INSTALLATION SHALL BE INCLUDED IN ITEM 844.

ITEM 844 - GALVANIC ANODE PROTECTION, AS PER PLAN

REPAIR CONCRETE SHALL BE HYDRAULIC CEMENT-BASED MATERIAL WITH AN ELECTRICAL SENSITIVITY LESS THAN 50,000 OHM-CM ACCORDING TO ASTM C 1760. DO NOT USE NON-CONDUCTIVE REPAIR MATERIALS SUCH AS MAGNESIUM AMMONIUM PHOSPHATE CONCRETE AND EPOXY MORTARS OR BONDING AGENTS. CONCRETE MIXES CONTAINING HIGH LEVELS OF SUPPLEMENTARY CEMENTITIOUS MATERIALS SUCH AS SILICA FUME, GROUND-GRANULATED BLAST FURNACE SLAG, LATEX, FLY ASH OR METAKAOLIN MAY NOT MEET THE RESISTIVITY REQUIREMENT.

THE GALVANIC ANODE SIZE AND SPACING IS BASED ON ACHIEVING A CURRENT DENSITY FOR THE EXTREMELY HIGH CORROSION RISK CATEGORY WITH A 10 YEAR INSTALLATION. SUPPLY ANODES WITH A MINIMUM CORE OF 100 GRAMS OF ZINC.

ITEM 516 - 2" DEEP JOINT SEALER, AS PER PLAN

A 2" DEEP x ½" WIDE STRIP SHALL BE SAWCUT OUT OF THE ASPHALT ABUTTING CONCRETE AS DETAILED IN THE PLANS. IN LIEU OF SAWCUTTING AFTER CONSTRUCTION, THIS JOINT MAY BE FORMED DURING CONSTRUCTION. JOINT SEALER AS PER 705.04 SHALL BE USED TO SEAL THE JOINT CREATED.

ELASTOMERIC BEARINGS

ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND ARTICLES 18.2.5 THROUGH 18.2.8 OF SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIRMENTS CORRESPONDING TO DESIGN METHOD A. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.

BEARING PAD SHIMS

⅛" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 8" x 10", SHALL BE PLACED UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. THE AMOUNT SUPPLIED IS SUFFICIENT FOR 2 SHIMS PER BEAM. PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 -⅛" PREFORMED BEARING PAD, TYPE CDP.

DEWATERING

IT IS ANTICIPATED THAT REHABILITATION OF THE PIERS WILL OCCUR BELOW THE OHWM, AND THAT THE CONCRETE ENCASEMENT OF THE PILES WILL BE CONSTRUCTED BELOW THIS ELEVATION. THE INTERIOR AREAS OF THE PROPOSED COFFERDAM, SHOULD BE DEWATERED FOR CAP REMOVAL, REPAIR, AND CAP FORMWORK AND THE WATER LEVEL MAINTAINED AT LEAST THREE (3) FEET BELOW THE EXISTING GRADE IN ORDER TO EMBED AND ENCASE THE PILES.

PRIOR TO DEWATERING SYSTEM INSTALLATION, THE CONTRACTOR SHALL PROVIDE DRAWINGS AND WRITTEN TEXT WHICH ILLUSTRATES THE OPERATION CHARACTERISTICS, LOCATIONS, AND IDENTIFICATION OF COMPONENTS OF THE DEWATERING SYSTEM. THE PERSON RESPONSIBLE FOR THE GENERAL SUPERVISION OF THE INSTALLATION AND OPERATION OF THE DEWATERING SYSTEM SHALL BE A REGISTERED PROFESSIONAL ENGINEER IN OHIO, GRADUATE GEOLOGIST, OR PROFESSIONAL IN A RELATED FIELD WITH DEMONSTRATED COMPETENCE IN INSTALLATION AND OPERATION OF COMPARABLE SIZE DEWATERING SYSTEMS.

PAYMENT FOR DEWATERING SHALL BE PAID FOR UNDER ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (LUMP SUM)

GENERAL NOTES
BRIDGE NO. MER-219-13.80
OVER BEAVER CREEK

SFN 5403341

DESIGN AGENCY
RIBWAY ENGINEERING GROUP, INC.
300 E. BROAD ST. SUITE 500
COLUMBUS, OHIO 43215
PH. NO. (614) 221-6009
FAX NO. (614) 221-9089

DESIGNER	CHECKER
PA	LI

REVIEWER JC/AE 11/04/24

PROJECT ID 114949

SUBSET	TOTAL
2	16

SHEET	TOTAL
20	39

MER-219-13.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 11/24/2025 TIME: 10:50:10 AM USER: ATontoh
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BRIDGE ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER.	REAR ABUT.	FWD. ABUT.	PIER 1	PIER 2	GENERAL	SEE SHEET NO.
202	11203		LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN							2 / 16
202	22900	133	SY	APPROACH SLAB REMOVED		66.5	66.5				
202	38500	182	FT	BRIDGE RAILING REMOVED		182					
503	11101		LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN						1	6 / 16
503	21100	93	CY	UNCLASSIFIED EXCAVATION		46	47				9 / 16
507	00201	36	FT	STEEL PILES HP 12 X 53, FURNISHED, AS PER PLAN				18	18		
SPECIAL	50771200	111	FT	PILE ENCASEMENT				58	53		
509	10000	4116	LB	EPOXY COATED REINFORCEMENT		49	49	2009	2009		
509	26000	14508	LB	GALVANIZED STEEL REINFORCEMENT	13733			387.5	387.5		
510	10000	20	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		10	10				2 / 16
511	31610	79	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	79						
511	42510	34	CY	CLASS QC1 CONCRETE, PIER CAP				17	17		
511	45710	2	CY	CLASS QC1 CONCRETE, ABUTMENT (WINGWALLS ONLY)		1	1				
515	12030	30	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB17-48 (LENGTH=30')	30						
516	13600	22	SF	1" PREFORMED EXPANSION JOINT FILLER		11	11				
516	14020	90	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL		45	45				
516	31011	80	FT	2" DEEP JOINT SEALER, AS PER PLAN		40	40				2 / 16
516	41100	60	EACH	1/8" PREFORMED BEARING PAD, TYPE CDP	60						2 / 16
516	43100	120	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE), 1.82"x8"x10"	120						2 / 16
517	70100	194	FT	RAILING (THREE STEEL TUBE BRIDGE RAILING)	194						
518	21200	24	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		12	12				
SPECIAL	51822300	222	FT	STEEL DRIP STRIP	222						
518	40000	100	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		50	50				
518	40010	14	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS		7	7				
519	11101	260	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN		130	130				2 / 16
844	20001	36	EACH	GALVANIC ANODE PROTECTION, AS PER PLAN		18	18				2 / 16

ABBREVIATIONS

ABUT. - ABUTMENT
A.S. - APPROACH SLAB
BRG. - BEARING
C/C - CENTER TO CENTER
C.J. - CONSTRUCTION JOINT
C.I.P. - CAST-IN-PLACE
CONC. - CONCRETE
CONST. - CONSTRUCTION
DIA. - DIAMETER
EL. - ELEVATION
EX. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F/F - FACE TO FACE
FWD. - FORWARD
IN. - INCH
IN-BET. - IN-BETWEEN
INCR. - INCREMENT
JNT. - JOINT
L.F. - LEFT FORWARD
LT. - LEFT
MID. - MIDDLE
MIN. - MINIMUM
NB - NORTHBOUND
NO. - NUMBER
NPCPP - NON-PERFORATED CORRUGATED PLASTIC PIPE
PCB - PORTABLE CONCRETE BARRIER
PCPP - PERFORATED CORRUGATED PLASTIC PIPE
PEJF - PREFORMED EXPANSION JOINT FILLER
PRESS. - PRESSURE
PROP. - PROPOSED
R.A. - REAR ABUTMENT
REQ'D - REQUIRED
RT. - RIGHT
SB - SOUTHBOUND
SPA. - SPACES
STA. - STATION
STR. - STRAIGHT
SUPER. - SUPERSTRUCTURE
TBR - TO BE RELOCATED
T/T - TOE TO TOE
TYP. - TYPICAL
VERT. - VERTICAL
W/ - WITH

ESTIMATED QUANTITIES
BRIDGE NO. MER-219-13.80
OVER BEAVER CREEK

SFN 5403341

DESIGN AGENCY
RIBWAY ENGINEERING GROUP, INC.
300 E. BROAD ST.
SUITE 500
COLUMBUS, OHIO 43215
PH. NO. (614) 221-6009
FAX NO. (614) 221-9089

DESIGNER PA | CHECKER JC/AE
REVIEWER AE 11/04/24
PROJECT ID 114949
SUBSET 3 | TOTAL 16
SHEET 21 | TOTAL 39

MER-219-13.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 11/24/2025 TIME: 10:27:04 AM USER: ATontoh
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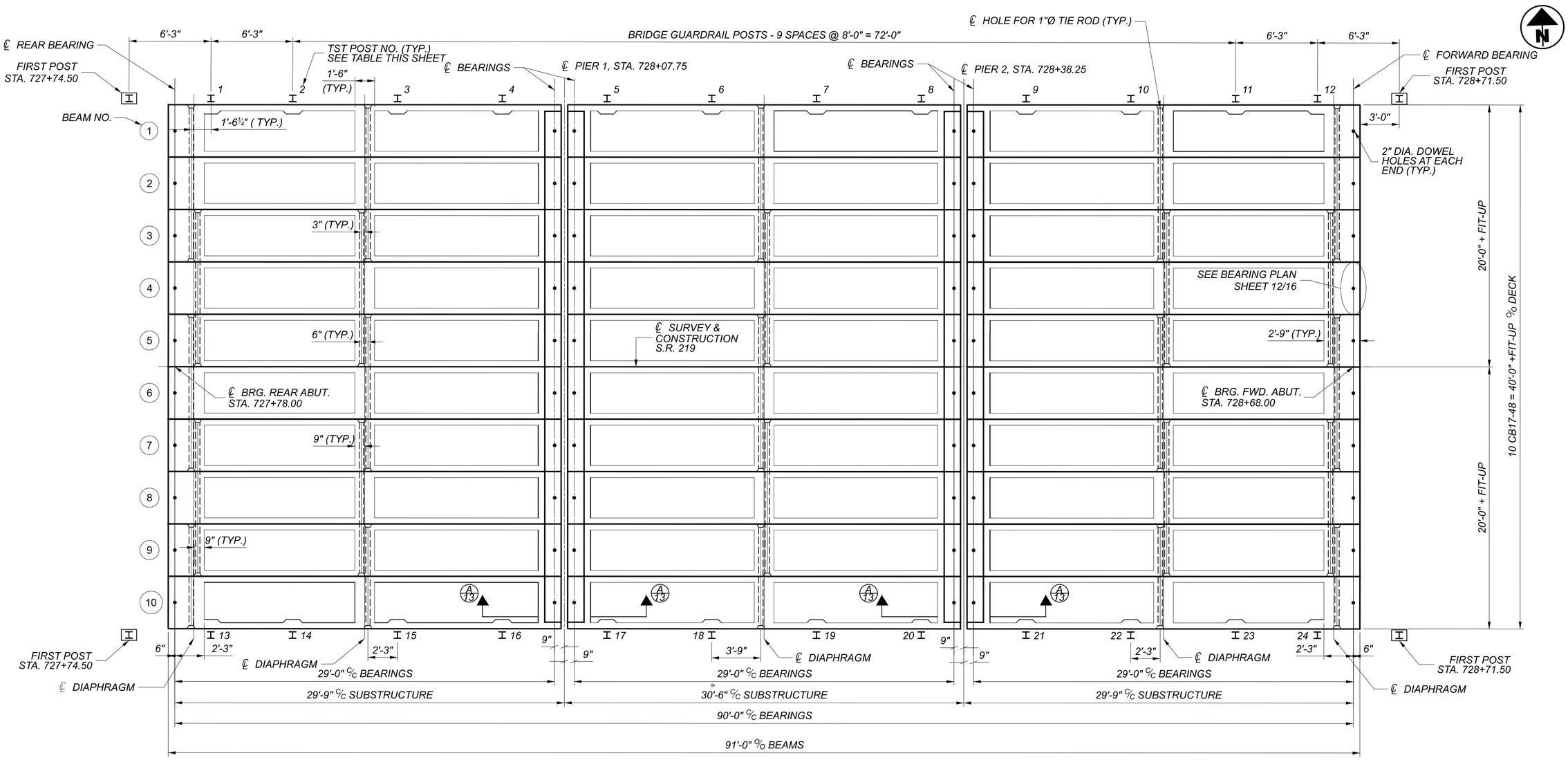
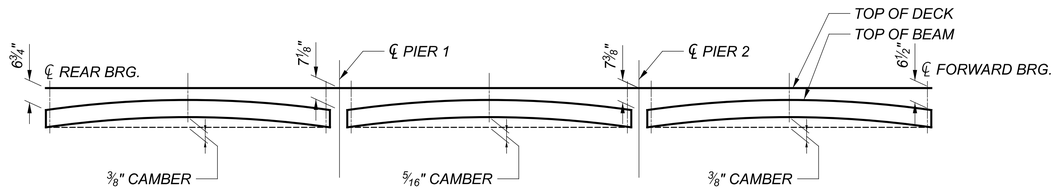


TST-2-21 POST NO.	HEIGHT OF POST (FT.)
1 & 13	5'-0 ⅝"
2 & 14	5'-0 ⅜"
3 & 15	5'-0 ⅜"
4 & 16	5'-0 ⅝"
5 & 17	5'-0 ⅝"
6 & 18	5'-0 ⅝"
7 & 19	5'-0 ⅝"
8 & 20	5'-0 ⅝"
9 & 21	5'-0 ⅝"
10 & 22	5'-0 ⅜"
11 & 23	5'-0 ⅜"
12 & 24	5'-0 ⅝"

BEAM LAYOUT PLAN



DEFLECTION AND CAMBER NOTES

CALCULATED CAMBER TIME OF ERECTION: 0.388-0.390

CALCULATED CAMBER AT FINAL (180 DAYS): 0.375

CAMBER DIAGRAM

LEGEND:

(XX) - BOX BEAM NUMBERS

NOTES:

1. FOR BOX BEAM STRAND LAYOUT AND ADDITIONAL DETAILS, SEE SHEETS 12/16 AND 13/16
2. REFER TO SHEET 14/16 FOR SLAB REINFORCING PLAN & TRANSVERSE DECK SECTION.
3. REFER TO STD. DRAWINGS PSBD-2-07 FOR ADDITIONAL REINFORCING BAR DETAILS.
4. REFER TO STD. DWG. TST-2-21 FOR ADDITIONAL RAILING DETAILS.

BEAM LAYOUT PLAN
BRIDGE NO. MER-219-13.80
OVER BEAVER CREEK

SFN 5403341

DESIGN AGENCY

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300 E. BROAD ST. SUITE 500
COLUMBUS, OHIO 43215
PH. NO. (614) 221-6009
FAX NO. (614) 221-9089

DESIGNER	CHECKER
PA	LI

REVIEWER JC/AE 11/04/24

PROJECT ID 114949

SUBSET	TOTAL
11	16

SHEET	TOTAL
29	39

MER-219-13.80

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 11/24/2025 TIME: 9:49:35 AM USER: ATontoh
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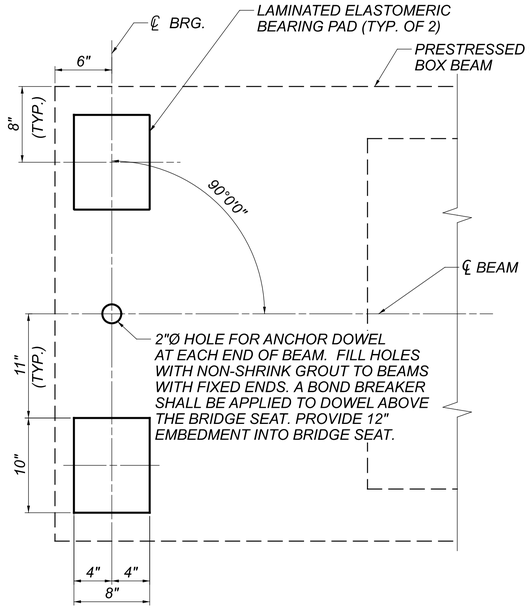
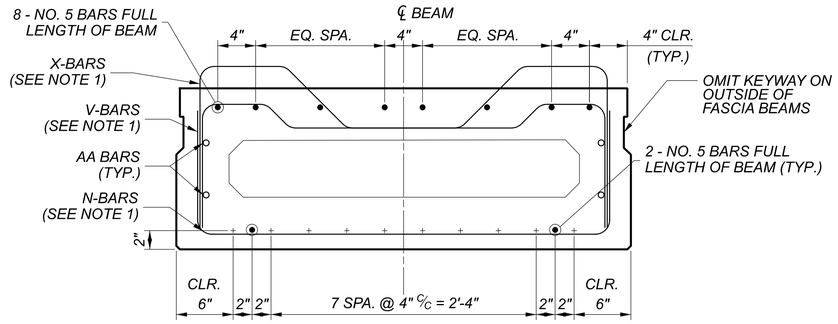
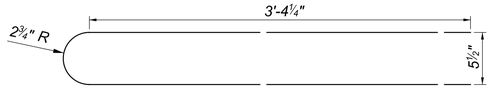


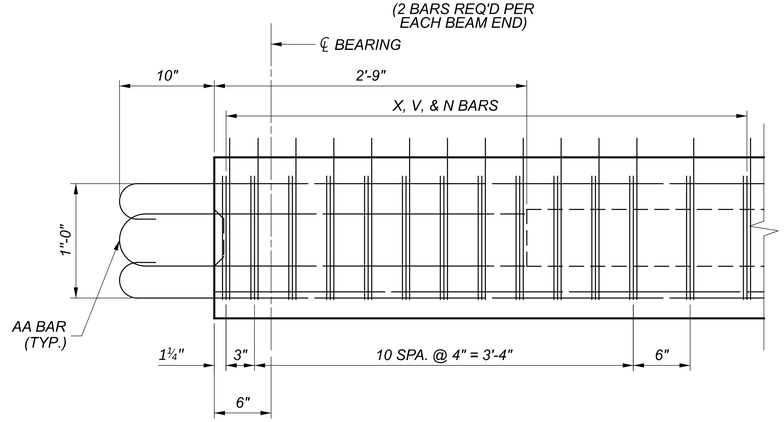
BEARING PLAN



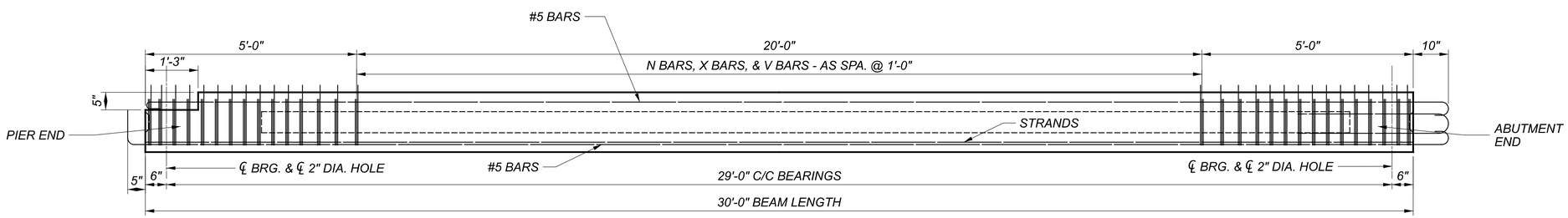
BEAMS 1 THRU 10 CB17-48
(10 STRANDS)



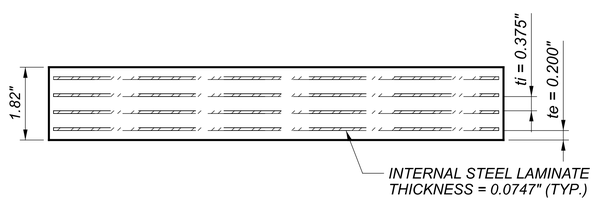
AA BAR DETAIL
(2 BARS REQ'D PER EACH BEAM END)



TYPICAL BEAM AND STIRRUP DETAILS
(AT ABUTMENTS)



BEAM ELEVATION
(FULL LENGTH LONGITUDINAL BARS NOT SHOWN)
(SPANS 1 & 3)



LAMINATED ELASTOMERIC BEARING DETAILS 1.82"x8"x10" (50 DUROMETER)
(SEE NOTE 3)

ELASTOMERIC BEARING DATA				
LOCATION	NO. REQ'D.	DL (KIP)	LL W/O IMPACT (KIP)	MAX DESIGN LOAD (DL+LL)
REAR & FWD. ABUT.	120	11.3	14.8	26.1

LEGEND:

+ - THIS SYMBOL SIGNIFIES A ½" DIAMETER, 270 GRADE, LOW RELAXATION, UNCOATED, SEVEN WIRE STRAND WITH A OF 0.167 SQ IN.

NOTES:

1. FOR BAR CLEARANCES; DETAILS OF BARS X, V, AND N; AND NOTES, SEE STANDARD DRAWING PSBD-2-07.
2. SEE STANDARD DRAWING PSBD-2-07 FOR INSERT AND THREADED ROD ADDITIONAL DETAILS.
3. THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
4. REBARS PROJECTING FROM THE BOX BEAM INTO THE COMPOSITE SLAB SHALL BE EPOXY COATED BARS.

PRESTRESSED BOX BEAM DETAILS
BRIDGE NO. MER-219-13.80
OVER BEAVER CREEK

SFN 5403341

DESIGN AGENCY
RIBWAY ENGINEERING GROUP, INC.
300 E. BROAD ST. SUITE 500
COLUMBUS, OHIO 43215
PH. NO. (614) 221-6009
FAX NO. (614) 221-9089

DESIGNER	CHECKER
PA	LI

REVIEWER: JC/AE 11/04/24

PROJECT ID: 114949

SUBSET	TOTAL
12	16

SHEET	TOTAL
30	39

MER-219-13.80

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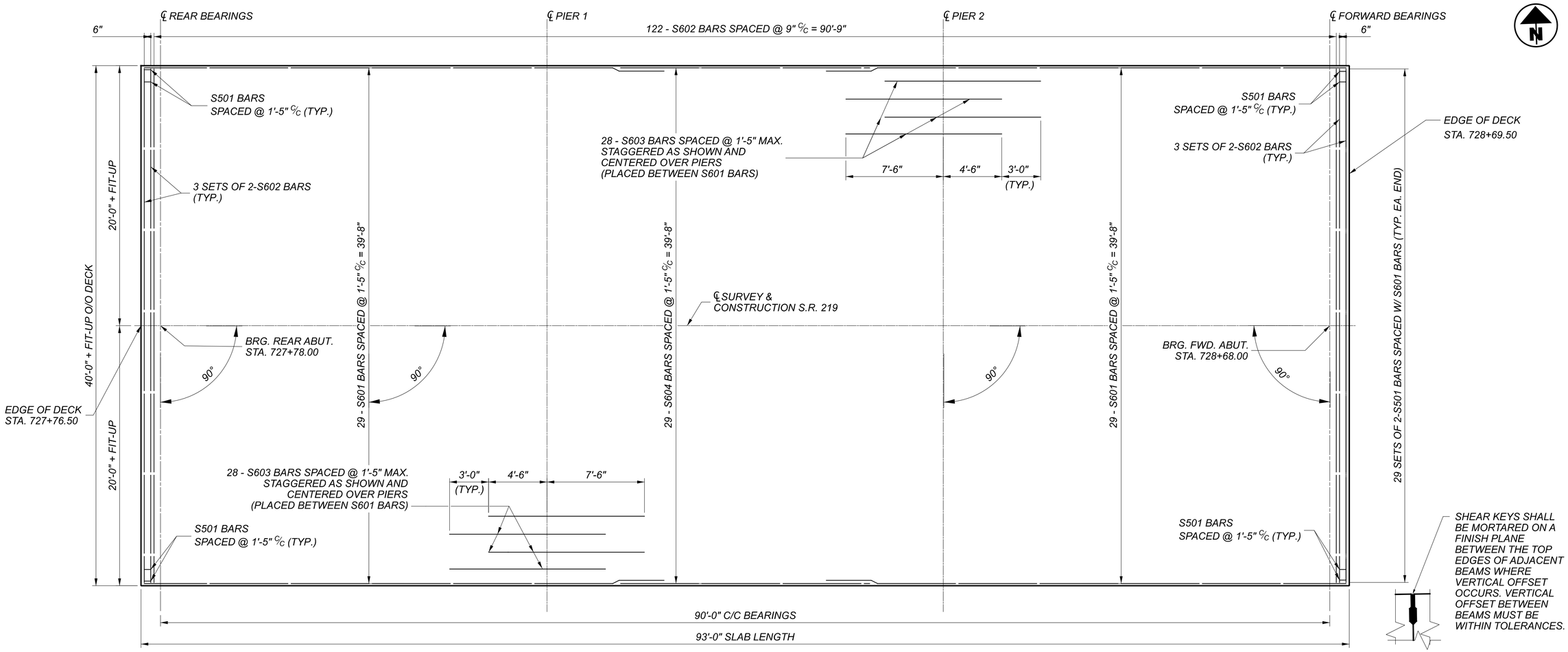
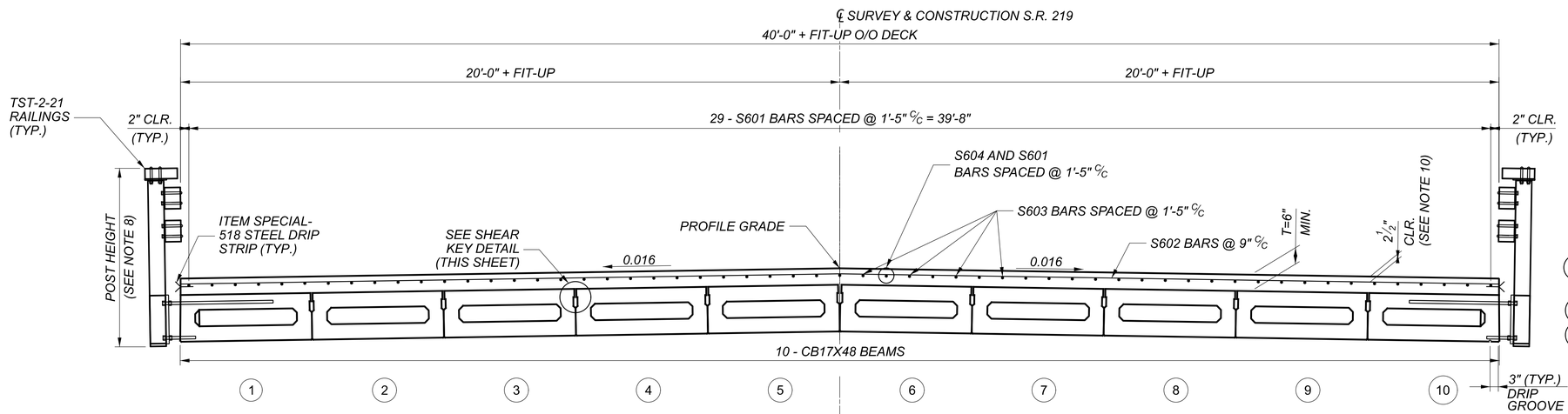


SLAB PLAN

SHEAR KEY DETAIL



TRANSVERSE DECK SECTION
(LOOKING UPSTATION)

NOTES:

1. FOR DRIP STRIP DETAILS, REFER TO STANDARD DRAWING DS-1-92.
2. FOR ADDITIONAL RAILING DETAILS, REFER TO STANDARD DRAWING TST-2-21.
3. REBARS PROJECTING FROM THE BOX BEAM INTO THE COMPOSITE SLAB SHALL BE EPOXY COATED. ALL SUPERSTRUCTURE STEEL SHALL BE GALVANIZED COATED REINFORCING.
4. MINIMUM BAR LAP:
   #6 BARS = 3'-4"
5. FIELD BEND TRANSVERSE BARS AS NECESSARY TO FIT THE CROWN.
6. FOR PRESTRESSED BOX BEAM DETAILS, REFER TO STANDARD DRAWING PSBD-2-07.
7. FOR BOX BEAM DIMENSIONS NOT SHOWN, BAR CLEARANCES, DETAILS OF BARS N, X, AND V, AND NOTES, SEE STANDARD DRAWING PSBD-2-07.
8. FOR TST-2-21 POST HEIGHT, SEE SHEET 11/16
9. SET BEAM 5 OR 6 FIRST
10. SEE BOX BEAM DECK REBAR COVER DETAIL, SHEET 16/16

LEGEND:

XX - BOX BEAM NUMBERS

SLAB PLAN & TRANSVERSE DECK SECTION
BRIDGE NO. MER-219-13.80
OVER BEAVER CREEK

SFN 5403341

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DESIGNER	CHECKER
PA	LI

REVIEWER JC/AE 11/04/24

PROJECT ID 114949

SUBSET	TOTAL
14	16

SHEET	TOTAL
32	39

MER-219-13.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 11/24/2025 TIME: 10:00:53 AM USER: ATontoh
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