

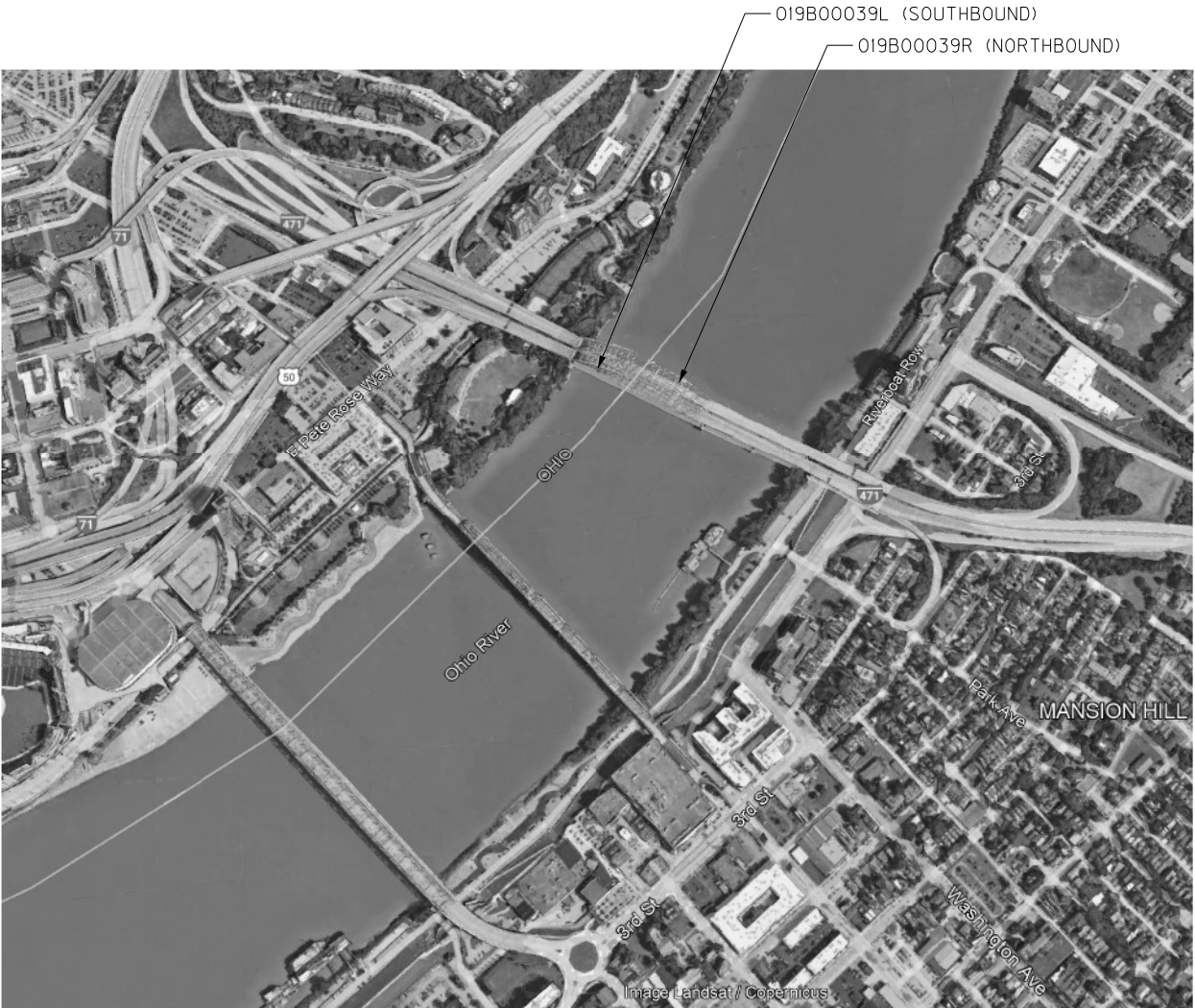
TRANSPORTATION CABINET

DEPARTMENT OF HIGHWAYS

CAMPBELL COUNTY

I-471 OVER OHIO RIVER

MISCELLANEOUS REPAIRS



SHEET INDEX	
S1	TITLE SHEET
S2	QUANTITIES
S3	GENERAL NOTES
S4-S5	LAYOUT
S6-S7	PIER 9 CONCRETE REPAIR
S8	SAFETY RAILING REPAIR
S9	TIE HATCH COVER RETROFIT
S10	RIB HATCH REPAIR
S11	SPAN 8 FRAMING PLAN
S12	SPAN 8 STRINGER DETAILS
S13	SPAN 8 STRINGER & DIAPHRAGM DETAILS
S14	SPAN 8 STRINGER EXP. JOINTS & MISC.
S15	STRIP SEAL DETAILS
S16	BARRIER WALL RETROFIT
S17	HANGER RETROFIT

STANDARD DRAWINGS	

SPECIAL NOTES	
FOR BRIDGE CLEANING AND CONCRETE COATING	
FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS	
FOR CONTRACT COMPLETION DATE AND LIQUIDATED DAMAGES	
ON BRIDGE REPAIR CONTRACT	
FOR STRUCTURAL STEEL CABLE CLEANING AND PAINTING	
FOR PRE-BID CONFERENCE	
FOR PORTABLE QUEUE WARNING ALERT SYSTEM	
FOR TRAFFIC QUEUE PROTECTION VEHICLE	

SPECIFICATIONS	
2019 Standard Specifications for Road and Bridge Construction including supplemental specifications.	
2020 AASHTO LRFD Bridge Design Specifications, Ninth Edition.	
2017 AASHTO LRFD Bridge Construction Specifications.	

ADDENDUM 1	09/20/23
REVISION	DATE

DATE: AUGUST 2023	CHECKED BY
DESIGNED BY: M BARON	-
DETAILED BY: MJ DWYER	-

Commonwealth of Kentucky

DEPARTMENT OF HIGHWAYS

COUNTY

CAMPBELL

ROUTE

I-471

CROSSING

OHIO RIVER

TITLE SHEET

PREPARED BY

Michael Baker INTERNATIONAL

1650 Lyndon Farm Court  
Louisville, KY 40223  
Phone: (502) 339-3557  
MBAKERINTL.COM

SHEET NO.

S1

DRAWING NO.

28694

STATE OF KENTUCKY

JASON CLARENCE STITH

28365

LICENSED PROFESSIONAL ENGINEER

Jason Stith

BY: JCS  
DATE: AUGUST 17, 2023

STATE OF KENTUCKY

MICHAEL BARON

20841

LICENSED PROFESSIONAL ENGINEER

Michael Baron

BY: MJB  
DATE: AUGUST 17, 2023

ITEM NUMBER

6-10035

ESTIMATE OF QUANTITIES																		
BID ITEM CODE	02650	08434	20544NC	2317IEC	23386EC	23580EC	24429EC	24429EC	24879EC	24879EC	24879EC	24981EC	24982EC	25075EC	25117EC	26136EC	26137EC	26138EC
BID ITEM	MAINTAIN & CONTROL TRAFFIC	CLEAN AND PAINT STRUCTURAL STEEL	JACK AND SUPPORT BEAM ENDS	CONCRETE REPAIR - PIER 9 BEARING PEDESTALS	JOINT SEAL REPLACEMENT	HANDRAIL CONNECTION REPAIR	REMOVE AND REPL STRINGER BEARINGS - EXPANSION	REMOVE AND REPL STRINGER BEARINGS - FIXED	STEEL REPAIR - ARCH HATCH DOOR	STEEL REPAIR - TIE CHORD COVERS	STEEL REPAIR - BIRD SCREENS	BRIDGE CLEANING	CONCRETE COATING	QUEUE PROTECTION VEHICLE	FURNISH QUEUE PROTECTION VEHICLES	PORTABLE QUEUE WARNING ALERT SYSTEM	QUEUE WARNING PCMS	QUEUE WARNING PORTABLE RADAR SENSORS
UNIT	LS	LS	EA	LS	LF	EA	EA	EA	EA	EA	EA	LS	LS	HOURL	MONTH	MONTH	MONTH	MONTH
19B00039L (SOUTHBOUND)	1	1	6	1	308	1	36	16	4	46	46	1	1	--	--	--	--	--
19B00039R (NORTHBOUND)	1	1	6	1	308	--	36	16	4	46	46	1	1	336	3	3	9	9
TOTALS	1	1	12	1	616	1	72	32	8	92	92	1	1	336	3	3	9	9

①

②

③

④

⑤

JACKING BRIDGE FOR BEARING REPLACEMENT

THIS BRIDGE WILL BE JACKED WHILE UNDER TRAFFIC TO PERFORM THE BEARING REPLACEMENT AT FLOORBEAM LOCATIONS R0, T4, T9, T14, T19 AND R23.

THIS WORK CONSISTS OF FURNISHING ALL LABOR, TOOLS, AND EQUIPMENT FOR JACKING AND SUPPORTING THE EXISTING STRINGERS WHILE REMOVING AND REPLACING THE BEARINGS. THE CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE DESIGN OF THE LIFTING PROCEDURES AND THE MATERIALS USED. FURNISH AND PLACE ALL BRACING, BLOCKING, TEMPORARY STRUCTURAL STEEL, SHIMS, WEDGES, HYDRAULIC JACKS, AND ANY OTHER MATERIALS AND EQUIPMENT NECESSARY FOR PROPER EXECUTION OF THE WORK.

THE CONTRACTOR SHALL DEVELOP A PLAN AND SUPPORTING CALCULATIONS FOR JACKING, BLOCKING, AND SUPPORTING BEAMS. ALL JACKS AND TEMPORARY SUPPORT SYSTEMS SHALL BE DESIGNED TO SUSTAIN TRAFFIC LOADINGS, DEAD LOAD, TEMPORARY CONSTRUCTION LOADS, AND ALL OTHER ANTICIPATED LOADING DURING WORK REQUIRING THE JACKING AND BLOCKING OF BEAMS. THE DESIGN OF THE TEMPORARY WORKS SHALL BE IN ACCORDANCE WITH CURRENT AASHTO BRIDGE DESIGN SPECIFICATIONS.

THE CONTRACTOR SHALL SUBMIT DETAILS AND CALCULATIONS OF THE PROPOSED JACKING SYSTEM AND TEMPORARY SUPPORT PROCEDURES FOR REVIEW BY THE ENGINEER BEFORE COMMENCING WORK. THE CONTRACTOR'S JACKING PLANS AND PROCEDURES SHALL BE DESIGNED AND SEALED BY A KENTUCKY LICENSED PROFESSIONAL ENGINEER.

THE CONTRACTOR SHALL MONITOR THE JACKING PROCEDURE TO ENSURE THAT JACKING DOES NOT CAUSE DAMAGE AT ANY LOCATION IN THE SPANS. IF THERE IS ANY EVIDENCE OF DAMAGE OR UNUSUAL SITUATION OCCURRING DURING THE JACKING OPERATIONS AT ANY LOCATION ALONG THE SPAN, THE CONTRACTOR SHALL TAKE CORRECTIVE ACTIONS AND NOTIFY THE ENGINEER IMMEDIATELY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE STRUCTURE CAUSED BY JACKING. NO STRUCTURAL ELEMENTS SHALL BE REMOVED FROM THE EXISTING STRUCTURE WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

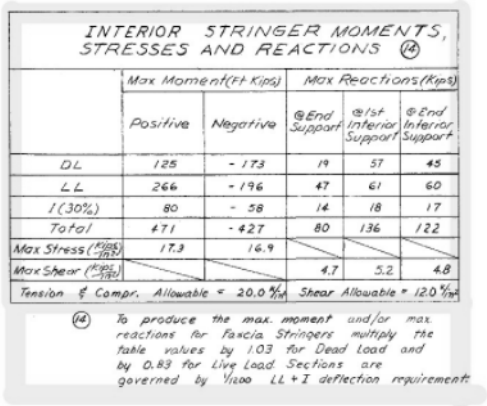
SIZE JACKS FOR AT LEAST 200 PERCENT OF THE CALCULATED LIFTING LOAD. THE MINIMUM JACK CAPACITY SHALL BE AS NOTED IN THE PLANS. THE JACKS AND THE JACKING SUPPORTS SHALL BE PLUMB AND PLACED AT LOCATIONS OF LEVEL AND SOUND MATERIAL. MONITOR LATERAL DEFLECTION OF THE JACKING SYSTEM TO ENSURE THAT THE JACKING SYSTEM REMAINS PLUMB. JACKING SHALL BE PERFORMED UNDER ACTIVE TRAFFIC CONDITIONS.

JACK ALL STRINGERS IN A SPAN ON AN INDIVIDUAL FLOORBEAM AT THE SAME TIME BY MEANS OF A HYDRAULIC SYSTEM CONNECTED SUCH THAT ALL JACKS LIFT SIMULTANEOUSLY. THE SUPERSTRUCTURE SHALL BE JACKED ONLY AS NECESSARY TO FACILITATE REMOVAL AND REPLACEMENT OF THE BEARINGS AND IN NO CASE MORE THAN 1/4" WHEN TRAFFIC REMAINS ON THE STRUCTURE DURING THE WORK. THE DIFFERENCE IN ELEVATION BETWEEN ADJACENT BEAMS DURING THE JACKING AND BLOCKING SHALL NOT BE GREATER THAN 1/8". SUITABLE GAUGES FOR THE MEASUREMENT OF SUPERSTRUCTURE MOVEMENT SHALL BE FURNISHED BY THE CONTRACTOR.

PROVIDE JACKS WITH ABILITY TO PROVIDE A LOCKING NUT SYSTEM TO RETAIN THE LOADS WITHOUT RELYING ON MAINTAINING THE HYDRAULIC PRESSURE FOR THE ENTIRE TIME THAT THE LOAD IS ENGAGED. PROVIDE A REDUNDANT SYSTEM OF SUPPORT DURING THE ENTIRE JACKING OPERATION. THE REDUNDANT SYSTEM SHALL INCLUDE STACKS OF STEEL PLATES OR OTHER STEEL SECTIONS.

PAYMENT FOR ALL LABOR, ENGINEERING, MATERIALS, TOOLS, EQUIPMENT, JACKING SYSTEM, ACCESS AND INCIDENTALS TO FURNISH AND INSTALL JACKING SUPPORTS AND REMOVE WHEN WORK IS COMPLETED SHALL BE INCLUDED IN THE "JACK AND SUPPORT BEAM ENDS" BID ITEM.

ORIGINAL STRINGER BEARING DESIGN LOADS (FOR INFORMATION ONLY)



ORIGINAL DEAD LOAD AND LIVE LOAD BASED ON LOADING PROVIDED IN THE ORIGINAL CONSTRUCTION PLANS (DN 18485).

① "CLEAN AND PAINT STRUCTURAL STEEL" ESTIMATED BID QUANTITY IS THE SUM TOTAL ESTIMATED COST TO CLEAN AND PAINT THE ARCH HANGERS. SEE SHEET NO. S17.

② "JACK AND SUPPORT BEAM ENDS" ESTIMATED BID QUANTITY IS THE COUNT OF FLOORBEAM LOCATIONS REQUIRING JACKING AND SUPPORTING FOR REMOVAL AND REPLACEMENT OF THE STRINGER BEARINGS.

NUMBER OF BEARINGS TO BE REMOVED AND REPLACED AT EACH FLOORBEAM (PER BRIDGE):  
R0 & R23: 4 BEARINGS EACH  
T4, T9, T14 & T19: 12 BEARINGS EACH

③ "JOINT SEAL REPLACEMENT" ESTIMATED BID QUANTITY IS THE SUM TOTAL ESTIMATED LENGTH OF PREFORMED COMPRESSION SEAL JOINTS AND NEOPRENE EXPANSION JOINT STRIP SEALS.

19B00039L (SOUTHBOUND)  
PREFORMED COMPRESSION SEAL JOINTS 205 LF  
NEOPRENE EXPANSION JOINT STRIP SEALS 103 LF

19B00039R (NORTHBOUND)  
PREFORMED COMPRESSION SEAL JOINTS 205 LF  
NEOPRENE EXPANSION JOINT STRIP SEALS 103 LF

④ "BRIDGE CLEANING" ESTIMATED BID QUANTITY IS THE SUM TOTAL ESTIMATED SQUARE FOOTAGE OF DEBRIS REMOVAL AND POWER WASHING AND THE SQUARE YARDAGE OF BLAST CLEANING.

19B00039L (SOUTHBOUND)  
DEBRIS REMOVAL AND POWER WASHING 13,217 SF  
BLAST CLEANING 125 SY

19B00039R (NORTHBOUND)  
DEBRIS REMOVAL AND POWER WASHING 13,217 SF  
BLAST CLEANING 108 SY

⑤ "CONCRETE COATING" ESTIMATED BID QUANTITY IS THE ESTIMATED SQUARE FOOTAGE OF CONCRETE COATING AREA.

19B00039L (SOUTHBOUND)  
CONCRETE COATING 13,217 SF

19B00039R (NORTHBOUND)  
CONCRETE COATING 13,217 SF

REVISION		DATE
DATE: AUGUST 2023	CHECKED BY	
DESIGNED BY: MJ DWYER	B CHAVEL	
DETAILED BY: MJ DWYER	B CHAVEL	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE I-471	CROSSING OHIO RIVER	
QUANTITIES		
PREPARED BY		SHEET NO.
Michael Baker INTERNATIONAL		S2
1650 Lyndon Farm Court Louisville, KY 40223 Phone: (502) 339-3557 mbakerintl.com		DRAWING NO. 28694

ITEM NUMBER
6-10035

FILE NAME:  
C:\BIG MAC\CADD\GENERAL NOTES.DGN

USER: Marv.io,Dwyer

E-SHEET NAME: S23464 006

DATE PLOTTED: August 7, 2023

MicroStation v8.11.9.919

DESIGN LOAD

THIS BRIDGE IS DESIGNED FOR HS20-44 LIVE LOAD.

SPECIFICATIONS

ALL REFERENCES TO THE STANDARD SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND CURRENT SUPPLEMENTAL SPECIFICATIONS. ALL REFERENCES TO THE AASHTO SPECIFICATIONS ARE TO THE FOURTH EDITION 2017 AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS AND THE 2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, NINTH EDITION.

REINFORCEMENT

DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS. CLEAR DISTANCE TO FACE OF CONCRETE IS 2 INCHES UNLESS OTHERWISE NOTED. EPOXY COAT BARS DESIGNATED BY SUFFIX (E) IN ACCORDANCE WITH SECTION 811.10 OF THE STANDARD SPECIFICATIONS. USE STIRRUP BEND DIAMETERS FOR BARS DESIGNATED BY SUFFIX (S) IN THE BILL OF REINFORCEMENT.

BEVELED EDGES

BEVEL ALL EXPOSED EDGES 3/4" UNLESS NOTED OTHERWISE.

COMPLETION OF THE STRUCTURE

THE CONTRACTOR IS REQUIRED TO COMPLETE THE STRUCTURE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. MATERIAL, LABOR OR CONSTRUCTION OPERATIONS NOT OTHERWISE SPECIFIED ARE TO BE INCLUDED IN THE BID ITEM MOST APPROPRIATE FOR THE WORK INVOLVED. THIS MAY INCLUDE COFFERDAMS, SHORING, EXCAVATIONS, BACKFILLING, REMOVAL OF ALL, OR PARTS, OF EXISTING STRUCTURES, PHASE CONSTRUCTION, INCIDENTAL MATERIALS, TEMPORARY WORKS, LABOR OR ANYTHING ELSE REQUIRED TO COMPLETE THE STRUCTURE.

DIMENSIONS

DIMENSIONS SHOWN ON THE PLANS ARE TAKEN FROM THE ORIGINAL CONTRACT PLANS, AND SUBSEQUENT RECONSTRUCTION PLANS. THE CONTRACTOR SHALL VERIFY DIMENSIONS, INCLUDING THICKNESSES OF PARTS, WITH FIELD MEASUREMENTS PRIOR TO ORDERING MATERIALS OR FABRICATING STEEL. ALL PLAN DIMENSIONS ARE FOR A NORMAL TEMPERATURE OF 60 DEG F. LAYOUT DIMENSIONS ARE HORIZONTAL MEASUREMENTS AND DO NOT NECESSARILY REFLECT REVISIONS.

ON-SITE INSPECTION

THE CONTRACTOR IS RESPONSIBLE FOR MAKING A SITE INSPECTION TO BECOME FAMILIAR WITH THE WORK TO BE DONE AND TO MAKE APPROPRIATE ALLOWANCES FOR ALL WORK INCLUDED IN LUMP SUM BIDS. A SUITABLE METHOD OF PERFORMING THE WORK DESCRIBED HEREIN SHOULD BE INVESTIGATED. SUBMISSION OF A BID WILL BE CONSIDERED EVIDENCE OF THIS INVESTIGATION HAVING BEEN MADE. THE CONTRACTOR WILL NOT BE PAID EXTRA BECAUSE OF SITE CONDITIONS.

PROHIBITED FIELD WELDING

SECTION 106.10 OF THE STANDARD SPECIFICATIONS APPIES TO ALL FIELD WELDING. EXCEPT AS SHOWN ON THE PLANS, NO WELDING OF ANY NATURE SHALL BE PERFORMED ON THE LOAD CARRYING MEMBERS OF THE BRIDGE WITHOUT THE WRITTEN CONSENT OF THE DIRECTOR, DIVISION OF BRIDGE DESIGN, AND THEN ONLY IN THE MANNER AND AT THE LOCATIONS DESIGNATED IN THE AUTHORIZATION.

PLANS OF EXISTING STRUCTURE

PLANS OF THE EXISTING STRUCTURE ARE AVAILABLE AS AN AID TO THE CONTRACTOR AND SHALL BE USED TO SUPPLEMENT DETAILS NOT SHOWN ON THE PLANS. THE COMPLETENESS OF THESE DRAWINGS IS NOT GUARANTEED AND NO RESPONSIBILITY IS ASSUMED BY KYTC FOR THEIR ACCURACY. ORIGINAL PLANS INCLUDE:

PROJECT I 471-4 (7) 4	DN 18481
PROJECT I 471-4 (7) 4 CONTRACT B	DN 18484
PROJECT I 471-4 (7) 4 CONTRACT B	DN 18485
PROJECT I 471-4 (7) 4 CONTRACT B	DN 18486

COPIES OR PORTIONS OF SHEETS FROM THE AFOREMENTIONED PLANS WITH COMPONENTS MARKED FOR REPAIR ARE INTEGRATED INTO THE CONTRACT PLANS. THE CONTENT OF OTHER EXISTING SHEETS MAY COMPLEMENT THE REPAIRS AS NOTED IN THE PLANS.

RESIDUAL LEAD PAINT

RESIDUAL LEAD PAINT MAY STILL BE ON THE BRIDGE. THE CONTRACTOR IS ADVISED TO TAKE ALL NECESSARY PROTECTIVE MEASURES INCLUDING WORKER SAFETY AND ENVIRONMENTAL REGULATIONS WHEN PERFORMING SURFACE PREPARATION AND OTHER WORK. THE DEPARTMENT WILL NOT CONSIDER ANY CLAIMS BASED ON RESIDUAL LEAD PAINT.

REMOVE STEEL

ALL EXISTING STEEL THAT IS REMOVED AND NOT REUSED IN THE COMPLETED STRUCTURE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE BRIDGE SITE.

CONCRETE

SUPERSTRUCTURE: CLASS "AA" CONCRETE  
SUBSTRUCTURE: CLASS "A" CONCRETE, UNLESS NOTED OTHERWISE

EXISTING REINFORCEMENT

REINFORCEMENT THAT IS TO REMAIN AND BE REUSED SHALL BE CLEANED AND STRAIGHTENED. REINFORCEMENT THAT IS TO BE REUSED AND IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER.

SAWCUTTING

PRIOR TO THE REMOVAL OF EXISTING CONCRETE MASONRY, CUT THE SURFACE WITH A CONCRETE SAW TO THE DEPTH NOTED ON THE PLANS OR ONE INCH TO FACILITATE A NEAT LINE. PAYMENT FOR CUTTING CONCRETE SHALL BE INCIDENTAL TO THE APPROPRIATE PAY ITEM.

ALIGNMENT, STATIONING, PROFILE AND CROSS SLOPE

CENTERLINE ALIGNMENT, BRIDGE STATIONING, PROFILE GRADE, AND CROSS SLOPE DATA WHERE SHOWN ON THE PLANS IS BASED ON ORIGINAL CONSTRUCTION PLANS. NEW CONSTRUCTION SHALL BE ADJUSTED AS REQUIRED TO MATCH THE EXISTING STRUCTURE AS SHOWN.

MATERIAL DESIGN SPECIFICATIONS

FOR CLASS "AA" REINFORCED CONCRETE: f'c = 4,000 PSI  
FOR CLASS "A" REINFORCED CONCRETE: f'c = 3,500 PSI  
FOR CLASS "M" REINFORCED CONCRETE: f'c = 4,000 PSI  
FOR STEEL REINFORCEMENT Fy = 60,000 PSI

DAMAGE TO THE STRUCTURE

THE CONTRACTOR SHALL BEAR ALL RESPONSIBILITY AND EXPENSE FOR ANY AND ALL DAMAGE TO THE STRUCTURE DURING THE REPAIR AND RETROFIT WORK, EVEN TO THE REMOVAL AND REPLACEMENT OF THE FALLEN SPANS, SHOULD THE FALLEN SPANS RESULT FROM THE CONTRACTOR'S ACTIONS.

MAINTENANCE OF TRAFFIC

MAINTAIN TRAFFIC ON THE BRIDGE AT ALL TIMES IN ACCORDANCE WITH THE PLANS AND SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS.

PREFORMED NEOPRENE JOINT SEAL REPLACEMENT

THIS WORK SHALL CONSIST OF THE REMOVAL AND REPLACEMENT OF THE EXISTING PREFORMED COMPRESSION JOINT SEAL ACCORDING TO THE DETAILS AND AT THE LOCATIONS SHOWN ON THE PLANS. A PRE-COMPRESSED FOAM EXPANSION JOINT SYSTEM SHALL BE SUPPLIED IN PRE-COMPRESSED STICKS FOR EASY INSTALLATION. SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS CONCERNING APPROVED ADHESIVES, WELDS BETWEEN STICKS, APPURTENANCES AND ADHESION TO ARMORED EDGES AND SECTION 609 OF THE STANDARD SPECIFICATIONS, EXCEPT SHOP DRAWINGS ARE NOT REQUIRED.

NEOPRENE EXPANSION JOINT SEAL REPLACEMENT

THIS WORK SHALL CONSIST OF THE REMOVAL AND REPLACEMENT OF THE EXISTING STRIP SEAL GLAND ACCORDING TO THE DETAILS AND AT THE LOCATIONS SHOWN ON THE PLANS. THE NEOPRENE SEAL SHALL BE COMPATIBLE WITH THE EXISTING STRIP SEAL RAIL. NEOPRENE JOINT SEAL AND INSTALLATION SHALL CONFORM TO SECTION 609.03.04(E) OF THE STANDARD SPECIFICATIONS, EXCEPT SHOP DRAWINGS ARE NOT REQUIRED.

HIGH STRENGTH BOLTED CONNECTIONS

UNLESS SPECIFIED OTHERWISE, ALL BOLTED CONNECTIONS SHALL BE GALVANIZED ASTM F3125 GRADE A325 HIGH STRENGTH BOLTS, NUTS, AND WASHERS. INSTALL HIGH STRENGTH BOLTED CONNECTIONS USING DIRECT TENSION INDICATORS (DTI's) CONFORMING TO SECTION 607.02.05 OF THE STANDARD SPECIFICATIONS. MECHANICALLY ZINC COAT ALL DTI's.

PREPARATION OF BAR ENDS

SAW OR SHEAR BARS REQUIRING SPLICING. STRAIGHTEN THE ENDS OF SHEARED BARS. REMOVE BURRS, PAINT, OIL, RUST, SCALE, OR OTHER DELETERIOUS MATERIAL FROM SURFACES. USE WIRE BRUSHES, ABRASIVE BLASTING, OR OTHER CABINET APPROVED METHODS TO CLEAN 2 INCHES BEYOND SLEEVE LOCATIONS IMMEDIATELY BEFORE SPLICING. OBTAIN THE ENGINEER'S APPROVAL FOR BAR END SURFACE PREPARATIONS BEFORE PREPARATION.

PRESSURE WASHING

ALL WASTE MATERIALS GENERATED BY THIS PROJECT, INCLUDING, BUT NOT LIMITED TO, WASHING WITH CLEANING SOLVENTS, PRESSURE WASHING, SCRAPING, BRUSHING AND OTHER CLEANING OPERATIONS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CONTAINED, COLLECTED AND PROPERLY DISPOSED OF BY THE CONTRACTOR. CONTRACTOR AGREES TO FULLY COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL LAWS, REGULATIONS, STATUTES AND ORDINANCES AT ALL TIMES.

CONCRETE REMOVAL

PERFORM WORK CAREFULLY DURING CONCRETE REMOVAL TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. ALL REMOVAL SHALL BE TO NEAT SAW CUT LINES. FEATHER EDGES WILL NOT BE PERMITTED. SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVAL 1 INCH DEEP.

CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE PROPOSED STRUCTURE. REMOVE CONCRETE TO LIMITS AS SHOWN ON THE PLANS. LEAVE EXISTING REINFORCING STEEL IN PLACE AS SHOWN ON THE PLANS.

REINFORCING BARS WHICH ARE SHOWN ON THE PLANS AS REMAINING AND WHICH ARE DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH NEW BARS OF THE SAME SIZE AND SHAPE, AS APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THOSE BARS.

INCLUDE PAYMENT FOR THIS WORK IN THE APPROPRIATE BID ITEM FOR THE WORK INVOLVED.

BEARING REPLACEMENT

THIS WORK SHALL CONSIST OF REMOVAL AND REPLACEMENT IN KIND OF THE STRINGER BEARINGS IN SPAN 8 AS SHOWN ON THE PLANS. NEW BEARING ASSEMBLIES INCLUDE SOLE PLATES, FILL PLATES, BEARING PLATES AND BOLTS AS SHOWN ON THE PLAN SHEETS. PAYMENT FOR ALL LABOR, MATERIALS, AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "BEARING REPLACEMENT".

CONTRACTOR'S SUBMITTALS

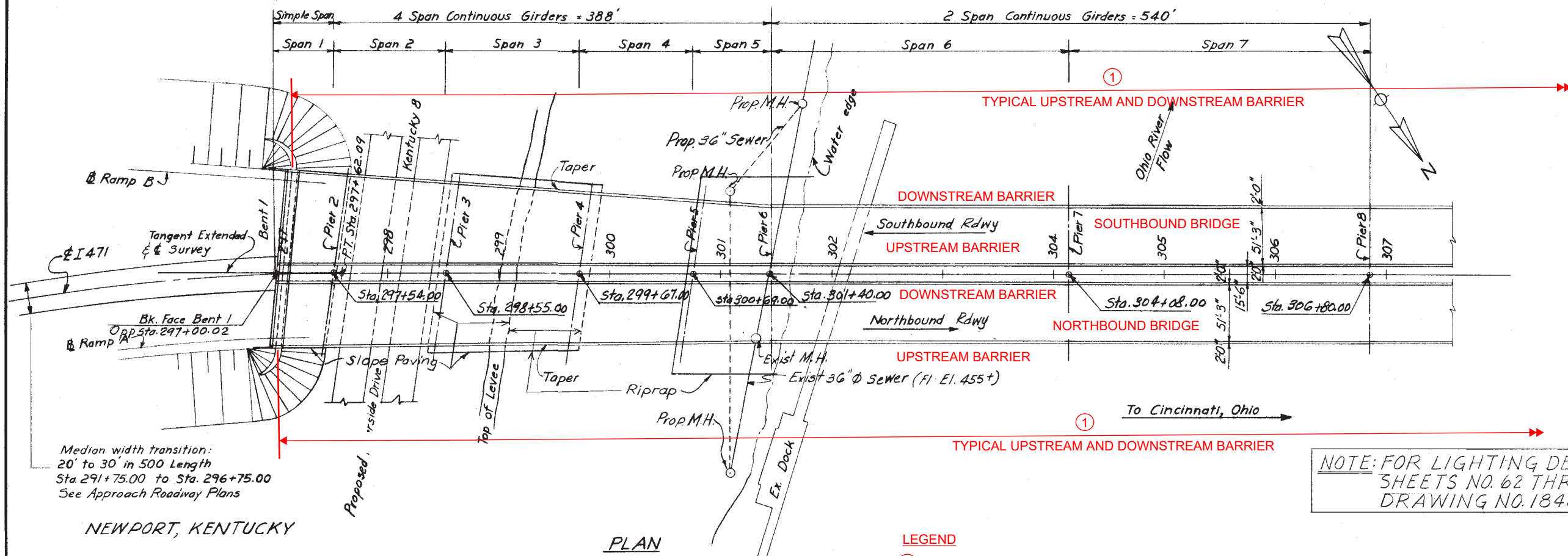
WHERE REQUIRED BY THE PLANS AND SPECIFICATIONS, SUBMIT DESCRIPTIVE INFORMATION THAT WILL ENABLE THE ENGINEER TO DETERMINE WHETHER PROPOSED MATERIALS, EQUIPMENT, AND WORK METHODS ARE IN GENERAL CONFORMANCE WITH THE PLANS.

SUBMIT SEQUENCES, TECHNIQUES AND PROCEDURES OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, MATERIALS, TEMPORARY STRUCTURES, TOOLS, CONSTRUCTION EQUIPMENT, AND ALL INCIDENTAL OR TEMPORARY DEVICES REQUIRED TO ACCOMPLISH THE RESULT INTENDED BY THIS CONTRACT.

ITEM NUMBER		
6-10035		

REVISION		DATE
DATE: AUGUST 2023	CHECKED BY	
DESIGNED BY: MJ DWYER	B CHAVEL	
DETAILED BY: MJ DWYER	B CHAVEL	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE I-471	CROSSING OHIO RIVER	
GENERAL NOTES		
PREPARED BY		SHEET NO.
Michael Baker INTERNATIONAL1650 Lyndon Farm Court Louisville, KY 40223 Phone: (502) 339-3557 MBAKERINTL.COM		S3
		DRAWING NO. 28694

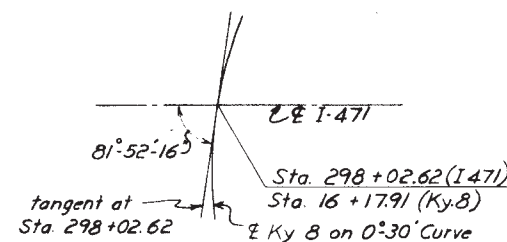
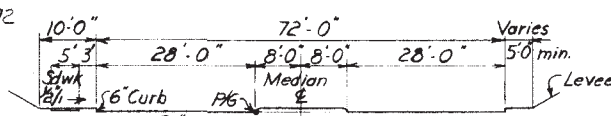
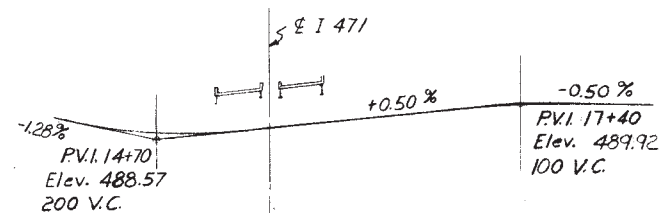
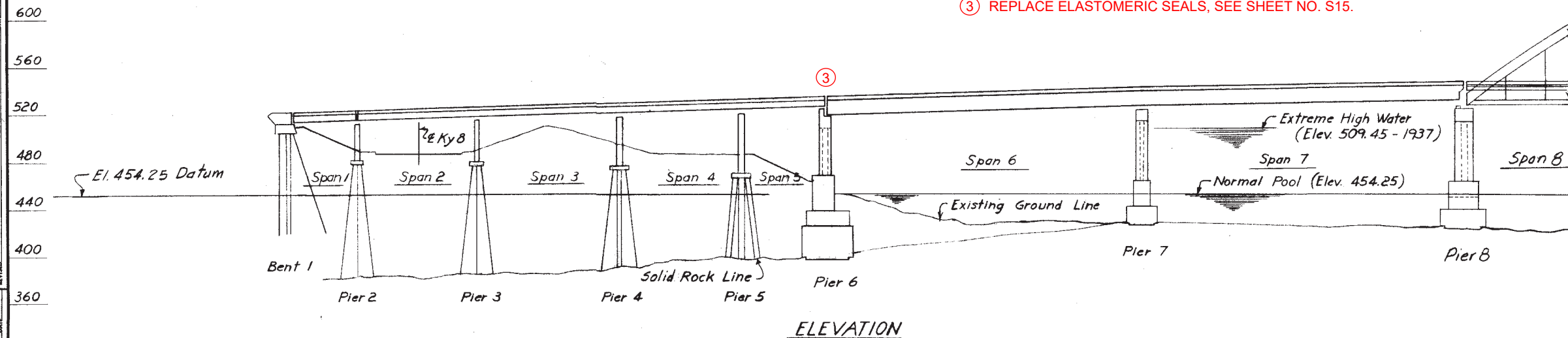
FED. ROAD DIST.	STATE	FED. AID PROG. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.	I471- 4(8)4			



NOTE: FOR LIGHTING DETAILS SEE  
SHEETS NO. 62 THRU 67 OF  
DRAWING NO. 18484

LEGEND

- ① CLEAN AND COAT BARRIER RAILS, SEE SHEET NO. S16.
- ③ REPLACE ELASTOMERIC SEALS, SEE SHEET NO. S15.



KENTUCKY 8  
CURVE DATA

$P.I. = 14 + 51.75$   
 $\Delta = 3^\circ 43' 40''$   
 $D = 0^\circ 30'$   
 $R = 11459.16$   
 $T = 372.91$   
 $L = 745.56$   
 $E = 5.07$

Work Sheets 10 & 11 Together

KENTUCKY DEPARTMENT OF HIGHWAYS  
OHIO DEPARTMENT OF HIGHWAYS

PROJECT 1471-4 ( )  
BRIDGE OVER OHIO RIVER ON I 471  
CAMPBELL COUNTY, KENTUCKY  
HAMILTON COUNTY, OHIO

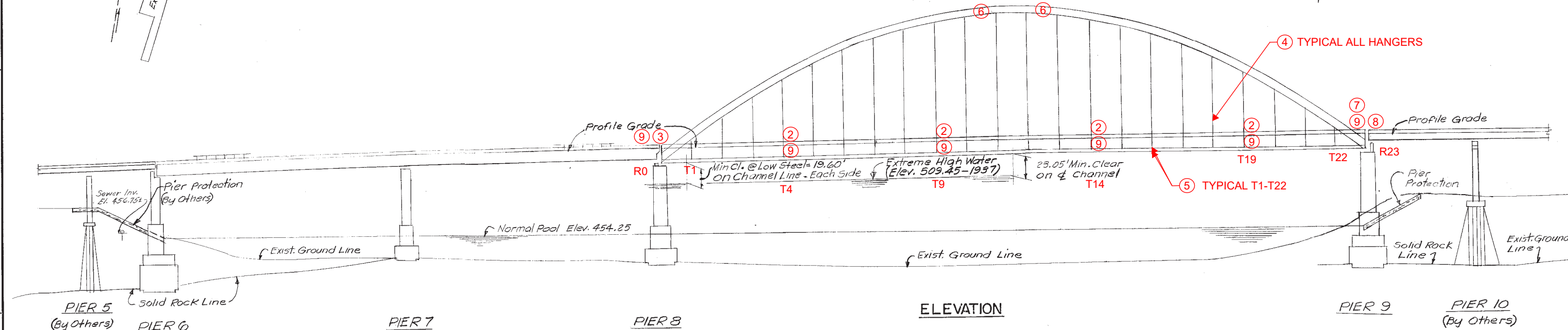
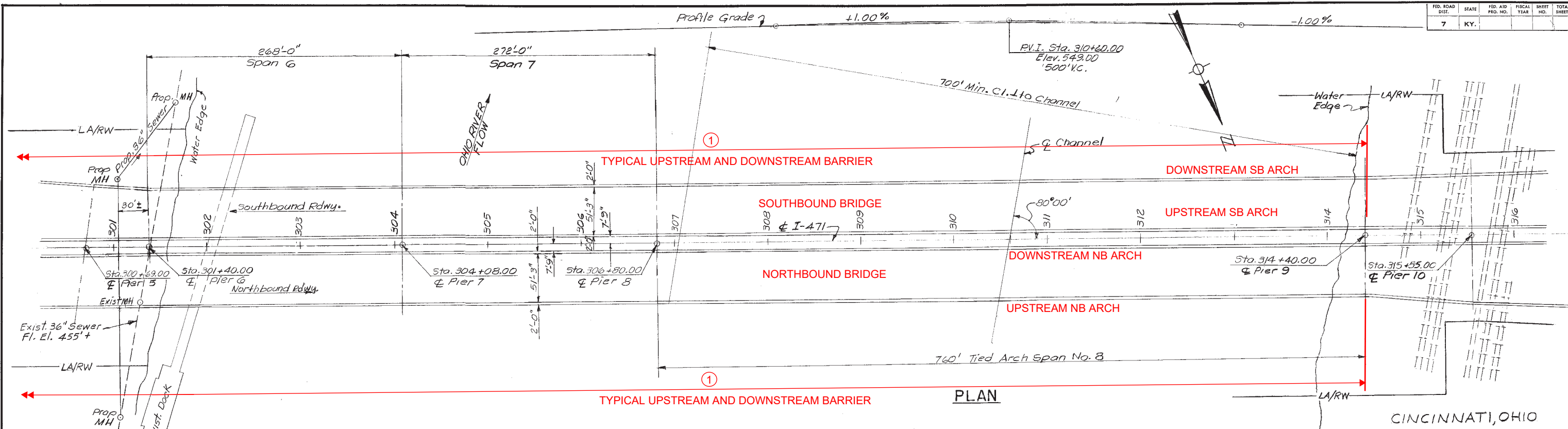
GENERAL PLAN  
SPANS 1 THRU 7

**HAZELET & ERDAL**  
Consulting Engineers  
File No. 889

BRIDGE  
NUMBER

DRAWING NO.  
18485

INDEX  
S4



# LEGEND

- |  |  |
|--|--|
| ① CLEAN AND COAT BARRIER RAILS, SEE SHEET NO. S16.                                 | ⑦ REPLACE SPALLED BEARING PEDESTAL, SOUTHBOUND BRIDGE, DOWNSTREAM BEARING, SEE SHEET NOS. S6-S7. |
| ② REPLACE COMPRESSION SEALS, SEE SHEET NO. S14.                                    | ⑧ REPAIR SAFETY RAILING, SEE SHEET NO. S8.   |
| ③ REPLACE ELASTOMERIC SEALS, SEE SHEET NO. S15.                                    | ⑨ REPLACE STRINGER BEARINGS, SEE SHEET NOS. S11-S13.   |
| ④ CLEAN AND COAT HANGERS, SEE SHEET NO. S17.                                       |  |
| ⑤ INSTALL NEW COVERS OVER TIE CHORD PERFORATIONS, SEE SHEET NO. S9.                |  |
| ⑥ REPLACE ARCH RIB HATCH, TYPICAL UPSTREAM AND DOWNSTREAM ARCH, SEE SHEET NO. S10. |  |

# NOTES

1. REPAIRS SHOWN IN ELEVATION APPLY TO THE NORTHBOUND AND SOUNDBOUND BRIDGE, UNLESS NOTED OTHERWISE.

SHEET 6

KENTUCKY DEPARTMENT OF HIGHWAYS  
OHIO DEPARTMENT OF HIGHWAYS

PROJECT 1471-4 ( )  
BRIDGE OVER OHIO RIVER ON 1471  
CAMPBELL COUNTY, KENTUCKY  
HAMILTON COUNTY, OHIO

HAZELEY & ERDAL  
Consulting Engineers  
File No. 889

BRIDGE  
NUMBER

DRAWING NO.  
18181

INDEX  
S5

LAYOUT



PIER 9 NORTHBOUND BRIDGE UPSTREAM BEARING



PIER 9 NORTHBOUND BRIDGE UPSTREAM BEARING

CONCRETE REPAIR NOTES

THIS WORK CONSISTS OF REMOVING THE DETERIORATED CONCRETE ADJACENT TO AND BELOW THE BEARING MASONRY PLATE AND REPLACING IT WITH NON-SHRINK GROUT. THE ANCHOR RODS SHALL REMAIN IN PLACE.

THE CONTRACTOR SHALL SUBMIT A WRITTEN SEQUENCE OF THE SPECIFIC STEPS FOR THE CONCRETE REMOVAL TO THE ENGINEER PRIOR TO STARTING WORK. INCLUDE DETAILS OF ALL EQUIPMENT THAT WILL BE USED FOR THE CONCRETE REMOVAL, PAYING SPECIAL ATTENTION TO THE METHODS OF REMOVING THE CONCRETE BELOW THE MASONRY PLATE. CARE MUST BE TAKEN NOT TO DAMAGE THE EXISTING ANCHOR RODS AND MASONRY PLATE.

PLACE NON-SHRINK GROUT AND CURE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS. MATCH EXISTING TOP OF SURFACE AND ENSURE THAT THE NEW SURFACE DRAINS AWAY FROM THE BEARING MASONRY PLATE.

AFTER CONCRETE HAS CURED, APPLY CONCRETE COATING, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS, TO THE ENTIRE EXPOSED SURFACE OF THE PEDESTAL. SEE SPECIAL NOTE FOR BRIDGE CLEANING AND CONCRETE COATINGS.

PAYMENT FOR ALL MATERIALS, TOOLS, EQUIPMENT, LABOR, ACCESS AND INCIDENTALS TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR "CONCRETE REPAIR".

NON-SHRINK GROUT

THE FOLLOWING PRODUCTS HAVE BEEN PRE-APPROVED, AND ARE ON THE LIST OF APPROVED MATERIALS, FOR THE NON-SHRINK GROUT AT PIER 9.

- TAMMSGROUT SUPREME, HIGH STRENGTH NON-SHRINK GROUT BY THE EUCLID CHEMICAL COMPANY
- MASTERFLOW 928 BY MASTERFLOW BASF
- CERTI-VEX GROUT 100 BY VEXCON CHEMICAL, INC.

THE CONTRACTOR MAY PROPOSE AN ALTERNATE NON-SHRINK GROUT MATERIAL FROM KYTC'S LIST OF APPROVED MATERIALS TO THE ENGINEER FOR CONSIDERATION.

THE GROUT SHALL PROVIDE FULL CONTACT WITH THE MASONRY PLATE AND BE PLACED PER THE MANUFACTURER'S RECOMMENDATIONS. CURE PER MANUFACTURER'S REMCOMMENDATIONS FOR BASE PLATE APPLICATIONS AND HEAVY LOADS. THE SELECTED MATERIAL SHALL BE RECOMMENDED FOR BASE PLATE APPLICATIONS BY THE MANUFACTURER. THE GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.

CONCRETE REMOVAL AND PREPARATION

THE CONTRACTOR, AS DIRECTED BY THE ENGINEER, SHALL LOCATE AND REMOVE ALL LOOSE, SPALLED, DETERIORATED, AND DELAMINATED CONCRETE. SOUNDING SHALL BE USED TO LOCATE DELAMINATED AREAS. CARE SHALL BE EXERCISED NOT TO DAMAGE AREAS OF SOUND CONCRETE OR REINFORCING STEEL DURING CONCRETE REMOVAL OPERATIONS. CONCRETE REMOVAL SHALL BE IN ACCORDANCE WITH A SEQUENCE APPROVED BY THE ENGINEER.

CONCRETE REMOVAL SHALL BE ACCOMPLISHED BY CHIPPING WITH HAND PICKS, CHISELS, OR LIGHT DUTY PNEUMATIC OR ELECTRIC CHIPPING HAMMERS (NOT TO EXCEED 15 LBS.). WHEN REINFORCING STEEL IS EXPOSED, CONCRETE REMOVAL SHALL CONTINUE UNTIL THERE IS A 1-INCH CLEARANCE AROUND THE EXPOSED REINFORCING BAR. CARE SHALL BE TAKEN TO NOT DAMAGE BOND TO ADJACENT NON-EXPOSED REINFORCING STEEL DURING CONCRETE REMOVAL PROCESSES. UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER, DEPTH OF REMOVAL SHALL NOT EXCEED 6 INCHES UNDER THE MASONRY PLATE.

THE OUTER EDGES OF ALL CHIPPED AREAS SHALL BE CUT TO MINIMUM DEPTH OF 1 INCH TO PREVENT FEATHER EDGING UNLESS OTHERWISE APPROVED BY THE ENGINEER.

AFTER ALL DETERIORATED CONCRETE HAS BEEN REMOVED, THE REPAIR SURFACE TO RECEIVE CONCRETE PATCHING SHALL BE PREPARED BY ABRASIVE BLAST CLEANING. ABRASIVE BLAST CLEANING SHALL REMOVE ALL FRACTURED SURFACE CONCRETE AND ALL TRACES OF ANY UNSOUND MATERIAL OR CONTAMINANTS SUCH AS OIL, GREASE, DIRT, SLURRY, OR ANY MATERIALS WHICH COULD INTERFERE WITH THE BOND OF FRESHLY PLACED CONCRETE.

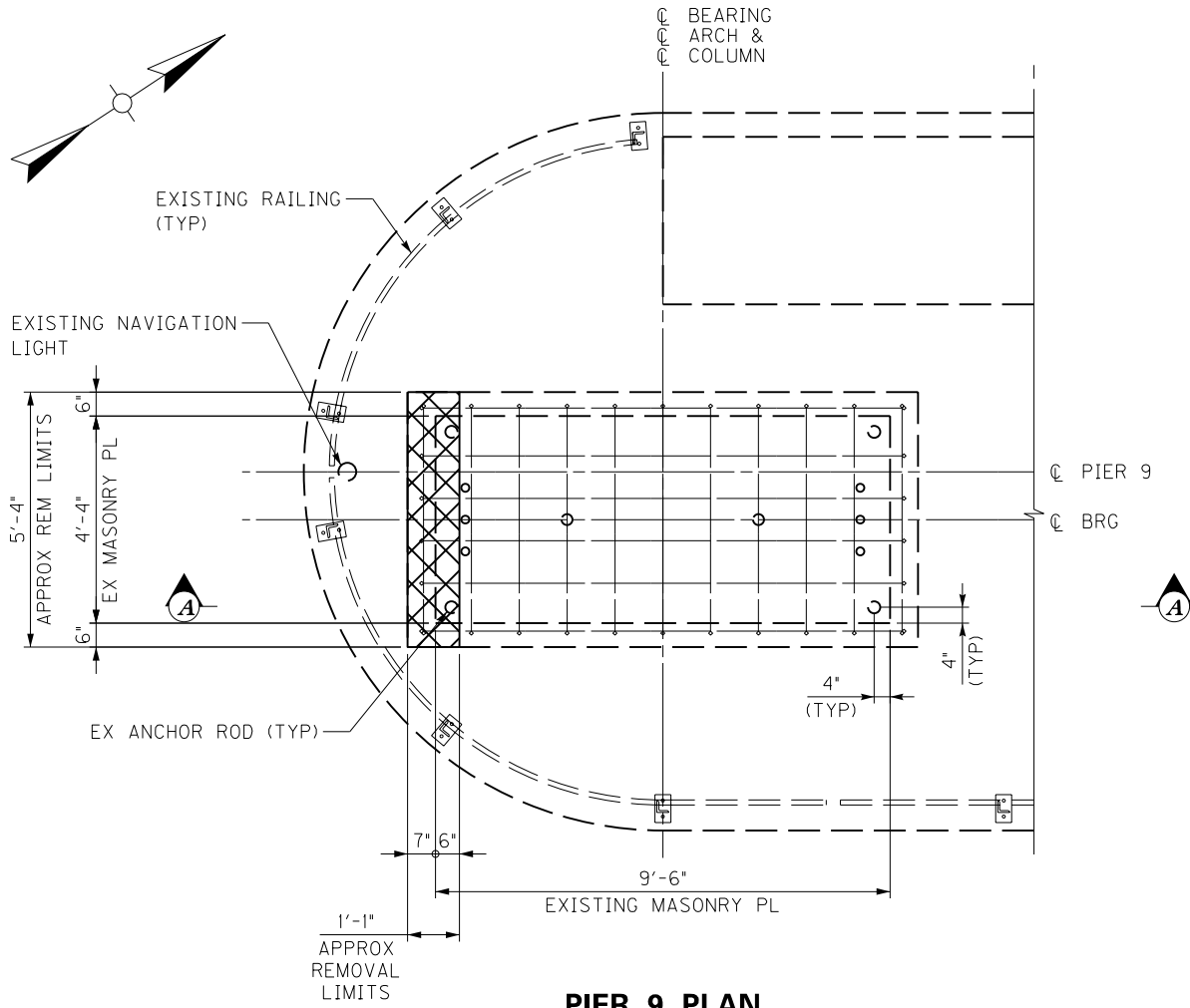
ENSURE THE SURFACE OF THE EXISTING CONCRETE IS IN A SATURATED SURFACE-DRY (SSD) CONDITION. REMOVE ALL FREE (PONDING) WATER JUST BEFORE PLACING THE CONCRETE. DO NOT USE AN EPOXY BOND COAT WITH THE FORMED CONCRETE REPAIR.



PIER 9 SOUTHBOUND BRIDGE DOWNSTREAM BEARING

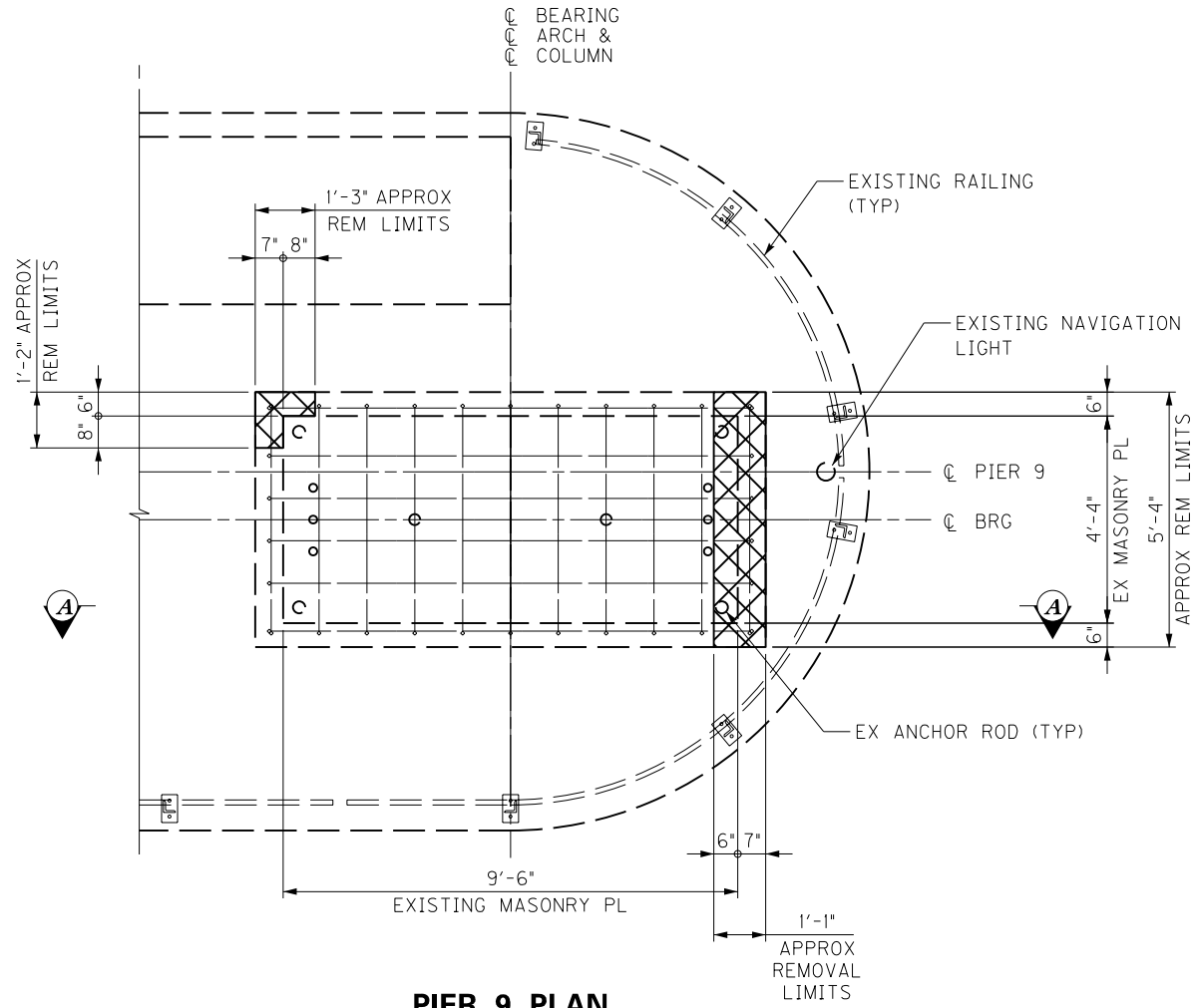
ITEM NUMBER		PREPARED BY		SHEET NO.	
6-10035		<div>Michael BakerINTERNATIONAL</div>		<div>1650 Lyndon Farm Court Louisville, KY 40223 Phone: (502) 339-3557 MBAKERINTL.COM</div>	
				<div>S6</div>	
				<div>DRAWING NO.</div>	
				<div>28694</div>	

REVISION		DATE	
DATE: AUGUST 2023		CHECKED BY	
DESIGNED BY: MJ DWYER		B CHAVEL	
DETAILED BY: MJ DWYER		B CHAVEL	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY CAMPBELL			
ROUTE I-471		CROSSING OHIO RIVER	
PIER 9 CONCRETE REPAIR – 1			
PREPARED BY		SHEET NO.	
<b>Michael Baker</b> INTERNATIONAL		1650 Lyndon Farm Court Louisville, KY 40223 Phone: (502) 339-3557 MBAKERINTL.COM	
		DRAWING NO. 28694	



**PIER 9 PLAN**

SOUTHBOUND BRIDGE DOWNSTREAM BEARING  
EXISTING PIER CAP STEEL REINFORCEMENT NOT SHOWN FOR CLARITY



**PIER 9 PLAN**

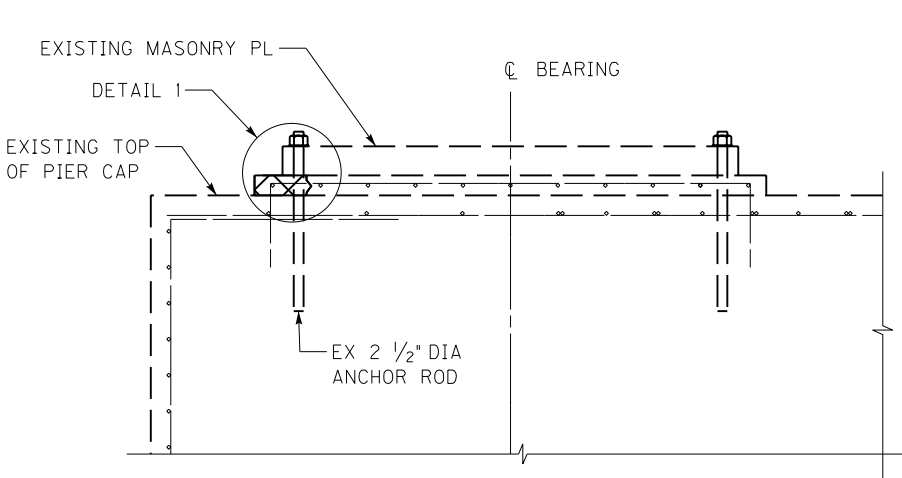
NORTHBOUND BRIDGE UPSTREAM BEARING  
EXISTING PIER CAP STEEL REINFORCEMENT NOT SHOWN FOR CLARITY

**LEGEND**

 APPROXIMATE CONCRETE REMOVAL LIMITS

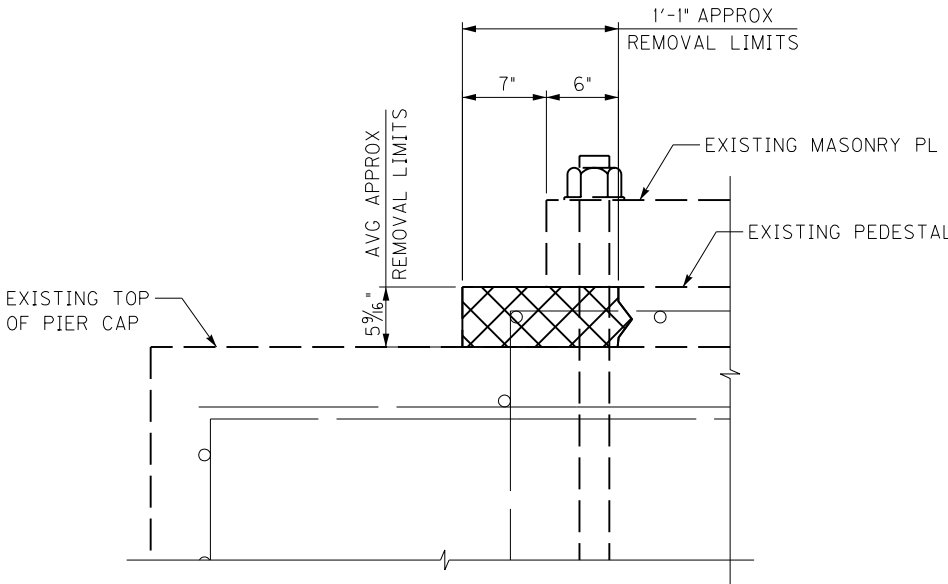
**NOTES**

1. FOR CONCRETE REPAIR NOTES, SEE SHEET NO. S6.



**SECTION A-A**

BEARING NOT SHOWN FOR CLARITY



**DETAIL 1**

ITEM NUMBER
6-10035

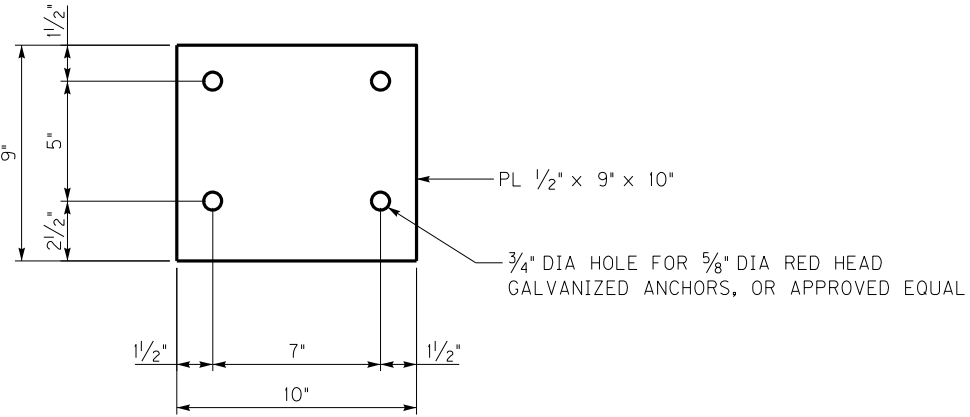
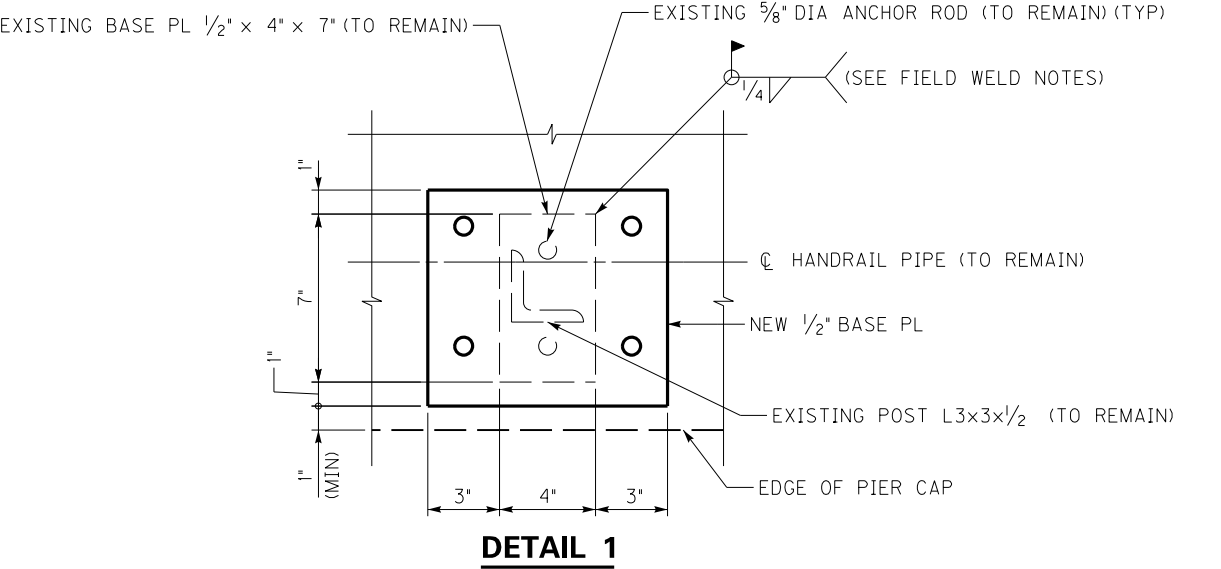
REVISION		DATE
DATE: AUGUST 2023	CHECKED BY	
DESIGNED BY: MJ DWYER	B CHAVEL	
DETAILED BY: MJ DWYER	B CHAVEL	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE I-471	CROSSING OHIO RIVER	
PIER 9 CONCRETE REPAIR – 2		
PREPARED BY		SHEET NO.
<div>Michael Baker</div> <div>INTERNATIONAL</div>		S7
1650 Lyndon Farm Court Louisville, KY 40223 Phoner: (502) 339-3557 MBAKERINTL.COM		DRAWING NO. 28694



FAILED ANCHOR BOLTS AT SAFETY RAILING



FAILED ANCHOR BOLTS AT SAFETY RAILING



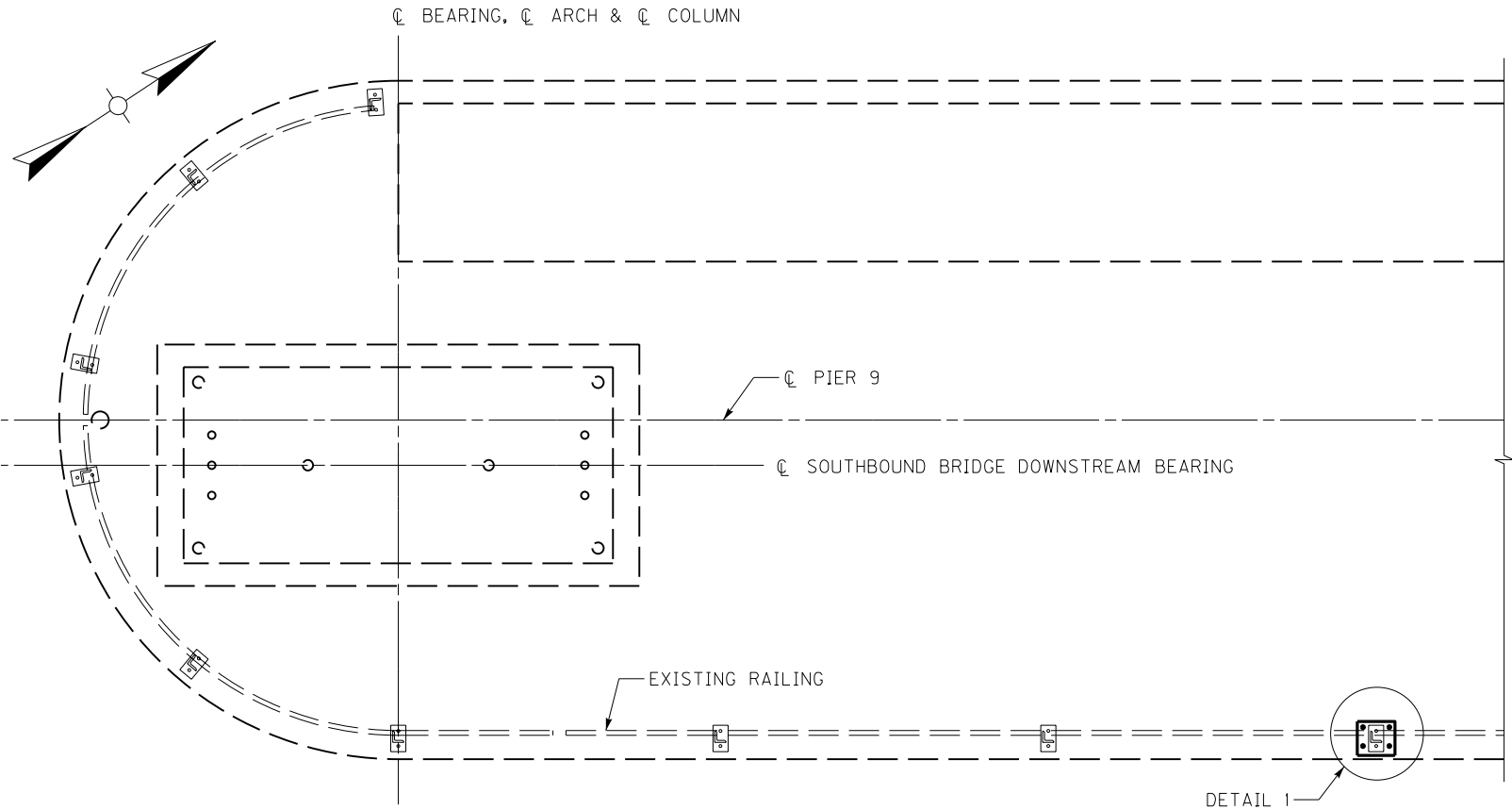
BASE PLATE DETAIL

FIELD WELD NOTES

1. USING HAND OR POWER TOOL CLEANING, REMOVE PAINT OR ANY OTHER COATING AT THE LOCATION OF FIELD WELDS PRIOR TO WELDING. PROVIDE CONTAINMENT, POLLUTION CONTROL, AND DISPOSAL OF PAINT AND DEBRIS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS WHEN REMOVING PAINT OR PRIMER AND WHEN PREPARING SURFACES AND APPLYING PAINT.
2. AFTER COMPLETION OF FIELD WELDING, THE WELDS AND AREAS WHERE PAINT HAS BEEN REMOVED OR DAMAGED SHALL RECEIVE A PRIME COAT IN ACCORDANCE WITH SECTION 614 OF THE STANDARD SPECIFICATIONS.
3. THE CONTRACTOR HAS THE OPTION OF REMOVING THE EXISTING BASE PLATE AND FIELD WELDING THE EXISTING POST TO THE NEW BASE PLATE AT NO ADDITIONAL COST TO THE DEPARTMENT.
4. WELDS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 607.03.07.

NOTES

1. NEW BASE PLATE SHALL BE ASTM A709 A36 STEEL, GALVANIZED IN ACCORDANCE WITH ASTM A123. CONTRACTOR HAS THE OPTION TO REPLACE ASTM A709 A36 STEEL WITH ASTM A709 GRADE 50 AT NO ADDITIONAL COST TO THE DEPARTMENT.
2. 5/8" DIAMETER ANCHORS SHALL BE EMBEDDED A MINIMUM OF 6".
3. PAYMENT FOR ALL MATERIALS, TOOLS, EQUIPMENT, LABOR, ACCESS AND INCIDENTALS TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "HANDRAIL CONNECTION REPAIR".

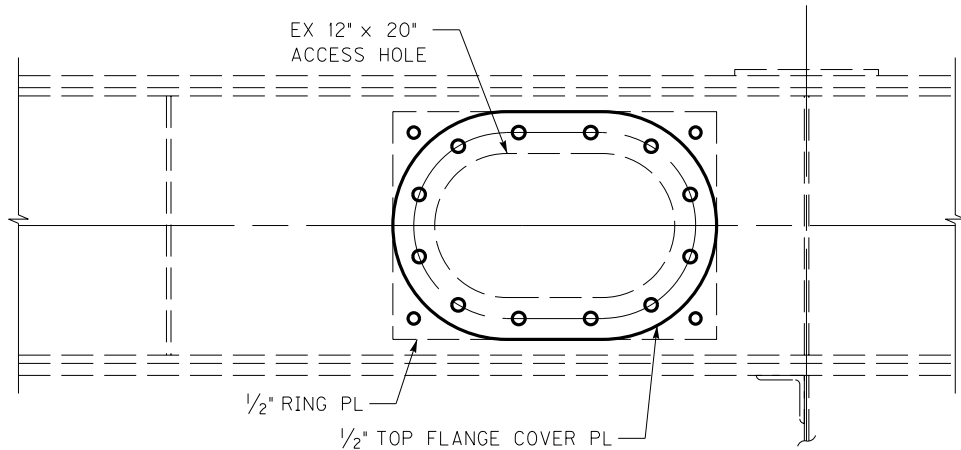


PIER 9 PLAN

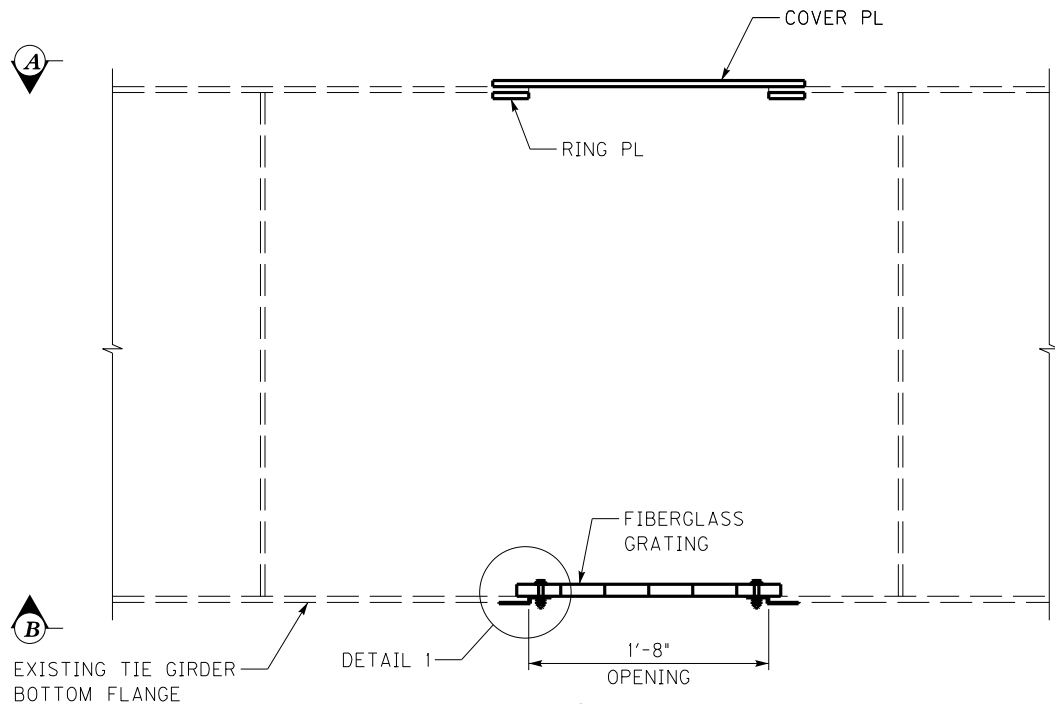
ITEM NUMBER
6-10035

REVISION		DATE
DATE: AUGUST 2023		CHECKED BY
DESIGNED BY: MJ DWYER		B CHAVEL
DETAILED BY: MJ DWYER		B CHAVEL
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE I-471	CROSSING OHIO RIVER	
SAFETY RAILING REPAIR		
PREPARED BY		SHEET NO.
<div>Michael Baker INTERNATIONAL</div>		S8
1650 Lyndon Farm Court Louisville, KY 40223 Phone: (502) 339-3557 MBAKERINTL.COM		DRAWING NO. 28694

FILE NAME: C:\BIG MAC\CADD\TIE HATCH OPTION 2.DGN  
USER: MaryJo.Dwyer  
DATE PLOTTED: August 7, 2023  
E-SHEET NAME: S23464 020  
MicroStation v8.11.9.919

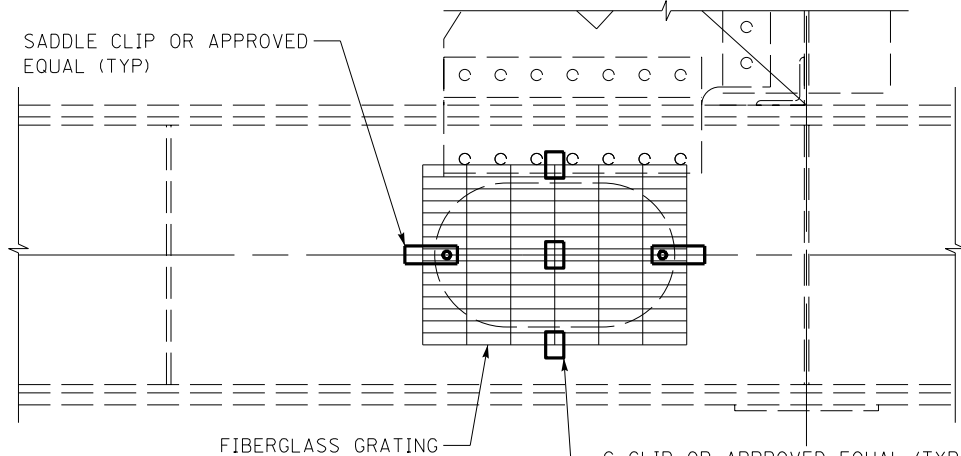


VIEW A-A



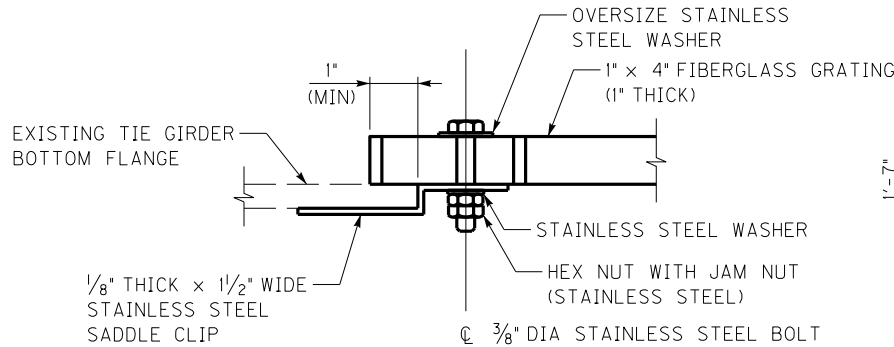
SECTION C-C

AT T1, T2, T3, T20, T21 & T22  
T4-T11, T12 & T13-T19 SIMILAR

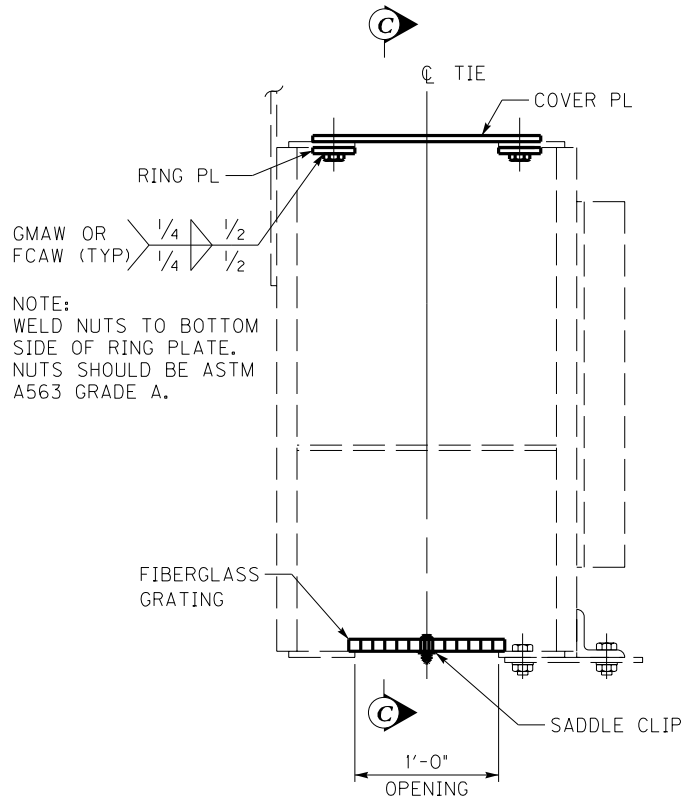


VIEW B-B

BOTTOM HATCH COVER



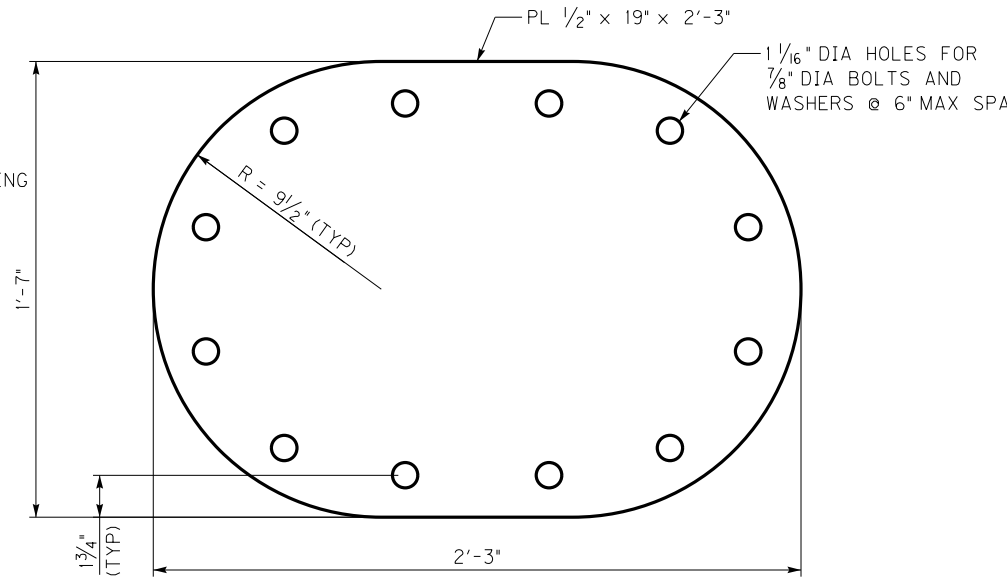
DETAIL 1



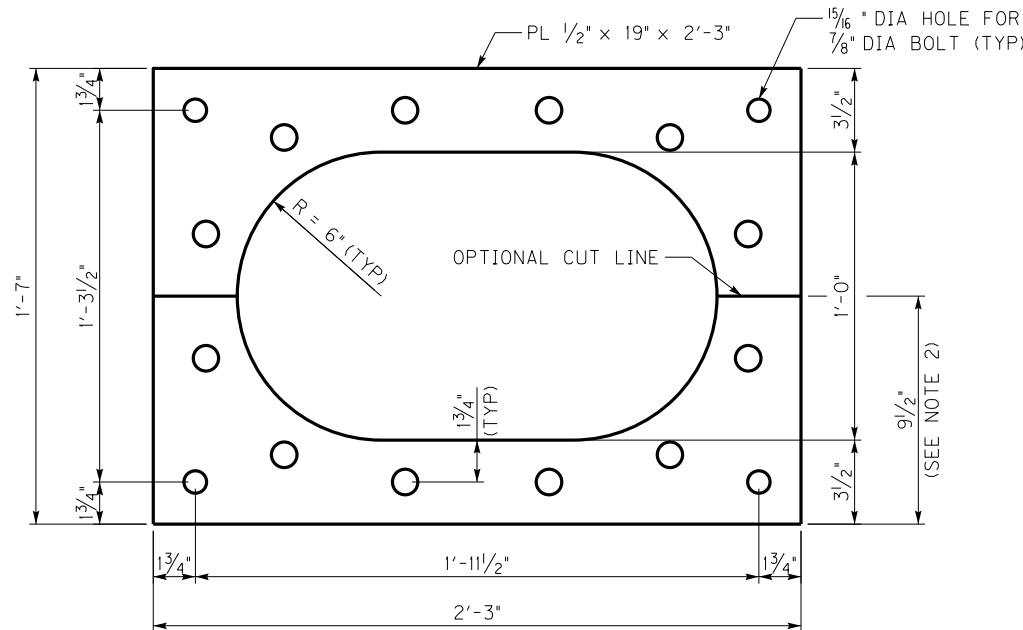
SECTION THROUGH TIE

### FIBERGLASS GRATING NOTES

1. STAINLESS STEEL HARDWARE SHALL BE ASTM A240, GRADE 30 TYPE 316.
2. INSTALL HEX NUT AND JAM NUT FOR THE HOLD DOWN CLIPS ON THE OUTSIDE OF THE BOX MEMBER. AFTER TIGHTENING HEX NUT, TIGHTEN THE HEX NUT FROM TURNING.
3. FIBERGLASS GRATING COLOR: GRAY.
4. CUT THE GRATING, IF REQUIRED, AND SEAL THE CUT EDGES PER THE MANUFACTURER'S INSTRUCTIONS. MAXIMUM 2 SECTIONS.
5. IF GRATING IS INSTALLED IN SECTIONS, CONNECT THE ENDS OF THE GRATING WITH C CLIPS MANUFACTURED BY BEDFORD REINFORCED PLASTICS OR EQUIVALENT PER THE MANUFACTURER'S INSTRUCTIONS. USE 3 CLIPS PER GRATING SCREEN.
6. FIBERGLASS GRATING TO BE MANUFACTURED WITH PROTECTION AGAINST ULTRAVIOLET (UV) ATTACK.



COVER PLATE



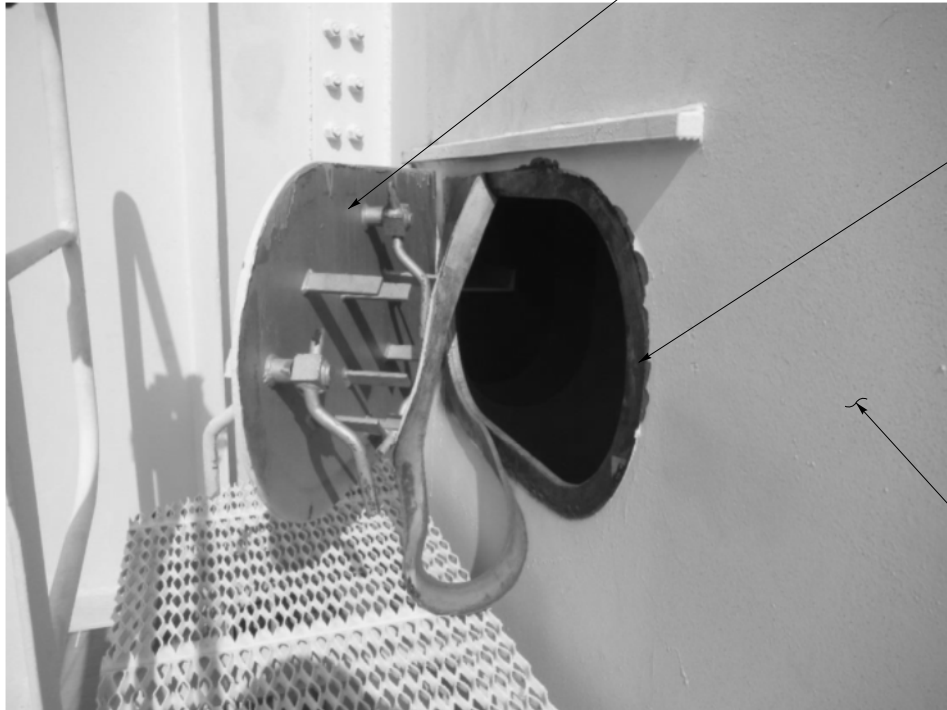
RING PLATE

### STEEL COVER PLATE NOTES

1. STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. CONTRACTOR HAS THE OPTION TO REPLACE ASTM A709 GRADE 36 STEEL WITH ASTM A709 GRADE 50 STEEL AT NO ADDITIONAL COST TO THE DEPARTMENT.
2. BOLTS SHALL BE GALVANIZED 7/8" DIAMETER F3125 GRADE A325 HIGH STRENGTH BOLTS. GALVANIZED WASHERS PER ASTM F436.
3. CONTRACTOR HAS THE OPTION TO FABRICATE THE RING PLATE IN TWO HALVES TO ASSIST WITH INSTALLATION.
4. COVER PLATE AND RING PLATE TO RECEIVE SHOP APPLIED PRIME COAT ONLY IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 607.03.23 (A), (B), (C) AND (F). CONTRARY TO THE STANDARD SPECIFICATIONS SECTION 607.05, ALL LABOR, MATERIALS, AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "STEEL REPAIR - TIE CHORD COVERS".

ITEM NUMBER
6-10035

REVISION		DATE
DATE: AUGUST 2023	CHECKED BY	
DESIGNED BY: MJ DWYER	B CHAVEL	
DETAILED BY: MJ DWYER	B CHAVEL	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE I-471	CROSSING OHIO RIVER	
TIE HATCH COVER RETROFIT		
PREPARED BY		SHEET NO.
Michael Baker INTERNATIONAL		S9
1650 Lyndon Farm Court Louisville, KY 40223 Phone: (502) 339-3557 mbakerintl.com		DRAWING NO. 28694



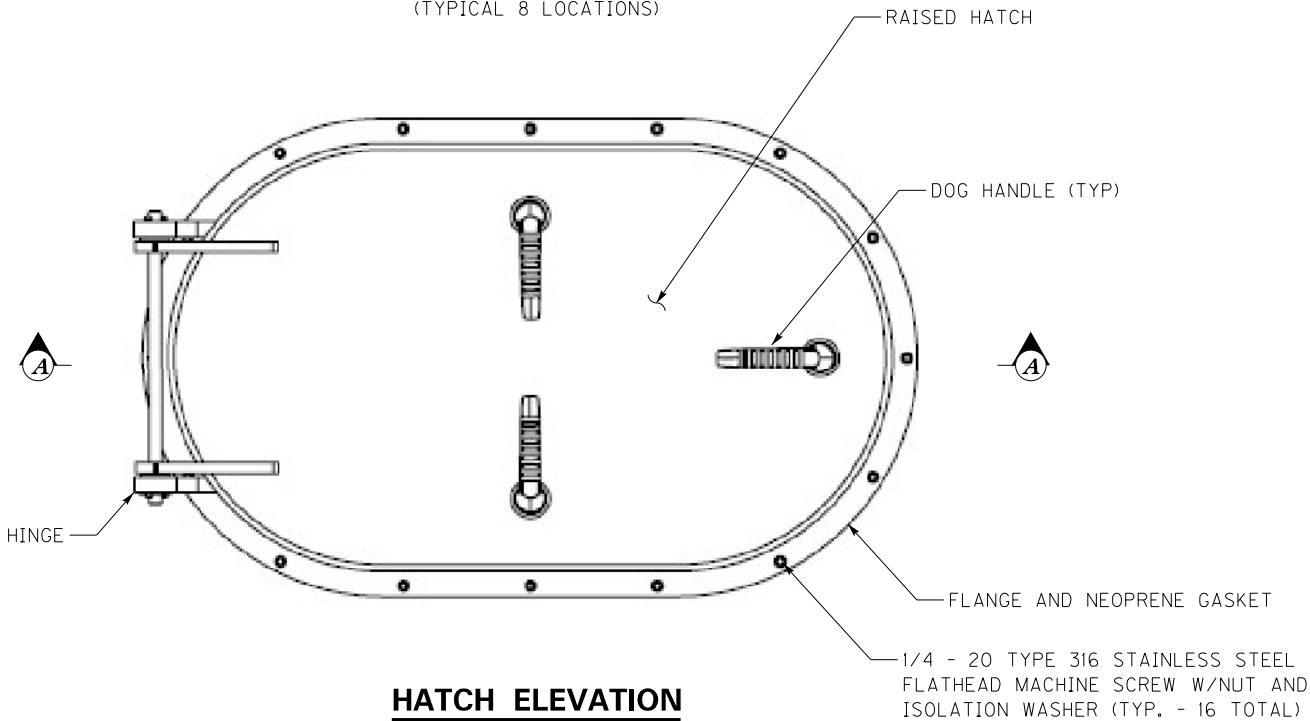
REMOVE AND REPLACE ARCH RIB HATCH WITH NEW ADVANTEC MARINE, SERIES 3212, P0009934-001, OR APPROVED EQUIVALENT

REMOVE AND REPLACE EXISTING GASKET WITH NEW NEOPRENE GASKET (SEE NOTE 3)

ARCH RIB PLATE

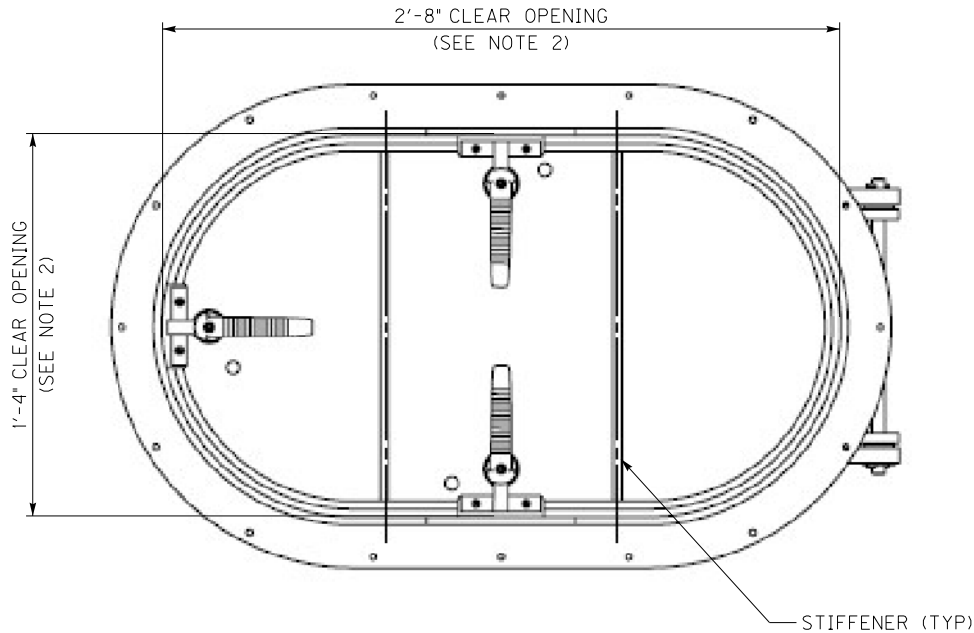
**ARCH RIB HATCH**

(TYPICAL 8 LOCATIONS)



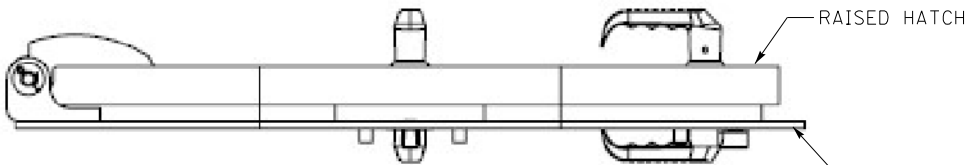
**HATCH ELEVATION**

EXTERIOR VIEW



**HATCH ELEVATION**

INTERIOR VIEW



**SECTION A-A**

**NOTES**

1. REMOVE EXISTING ARCH RIB HATCH AND GASKET. CLEAN AND PREPARE SURFACE AREA IN THE VICINITY OF THE AREA EXPOSED BY THE REMOVAL OF THE GASKET, AND PRIME COAT THE SURFACE AREA IN ACCORDANCE WITH SECTION 614 OF THE STANDARD SPECIFICATIONS.
2. CONTRACTOR TO VERIFY CLEAR OPENING DIMENSIONS OF THE ARCH RIB. CLEAR OPENING OF NEW HATCH ASSEMBLY TO MATCH THE EXISTING ARCH RIB CLEAR OPENING.
3. PROVIDE AND INSTALL NEW GASKET BETWEEN THE ARCH RIB AND NEW HATCH ASSEMBLY TO PROTECT AGAINST GALVANIC CORROSION. NEW GASKET TO BE 60A DUROMETER, 0.25 INCH THICK, 2.5 INCH WIDE.
4. FIT HATCH ASSEMBLY TO ARCH RIB OPENING. MARK AND FIELD DRILL 5/16" DIA. HOLES IN ARCH RIB PLATE.
5. ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO REMOVE AND REPLACE THE EXISTING ARCH RIB HATCH WITH A NEW HATCH ASSEMBLY IS INCLUDED IN THE BID ITEM "STEEL REPAIR - ARCH HATCH DOOR".
6. PROVIDE AND INSTALL NEW ALUMINUM ARCH HATCH DOOR ASSEMBLY. NEW ASSEMBLY TO RECEIVE MANUFACTURER APPLIED PRIME COAT.

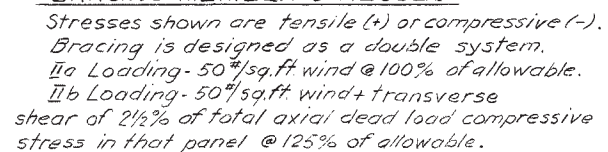
ADDENDUM 1 - ADDED NOTE 6		09/20/23
REVISION		DATE
DATE: AUGUST 2023	CHECKED BY	
DESIGNED BY: MJ DWYER	M BARON	
DETAILED BY: MJ DWYER	M BARON	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE I-471	CROSSING OHIO RIVER	
RIB HATCH REPLACEMENT		
PREPARED BY		SHEET NO.
Michael Baker INTERNATIONAL		S10
1650 Lyndon Farm Court Louisville, KY 40223 Phone: (502) 339-3557 MBAKERINTL.COM		DRAWING NO. 28694

ITEM NUMBER

6-10035



**SPAN 8**  
**FRAMING PLAN**



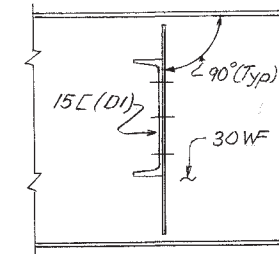
PLAN OF BOTTOM LATERAL BRACING





TABLE OF SOLE PLATE BEVELS "a"

PANEL POINT	"a"
R <sub>0</sub> , T <sub>1</sub> , T <sub>2</sub> , T <sub>3</sub> , T <sub>4</sub> , T <sub>19</sub> , T <sub>20</sub> , T <sub>21</sub> , T <sub>22</sub> , R <sub>23</sub>	1/8"
T <sub>5</sub> , T <sub>6</sub> , T <sub>7</sub> , T <sub>8</sub> , T <sub>15</sub> , T <sub>16</sub> , T <sub>17</sub> , T <sub>18</sub>	1/16"
T <sub>9</sub> , T <sub>10</sub> , T <sub>11</sub> , T <sub>12</sub> , T <sub>13</sub> , T <sub>14</sub>	0



SECT C-C  
TYP DETAIL AT DIAPH DI

TABLE OF STRINGER BEARING DATA

STRINGERS		A&M				F&G				B,C,K&L				D,E,H&J			
FLOORBEAM		FB11	FB12	FB13	FB14	FB11	FB12	FB13	FB14	FB11	FB12	FB13	FB14	FB11	FB12	FB13	FB14
Sole Pl	"s"(inches)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Brg Pl	"b"(inches)	0	0	0	0	0	0	0	0	3/16	3/16	3/16	3/16	3/16	3/16	3/16	3/16
Fill Pl	"t"(inches)	13/16	3/16	9/16	15/16	1 1/16	1 1/16	1 1/16	1 1/16	*	0	3/8	3/4	5/8	7/8	1 1/4	1 5/8

\* 3/8" Stringers B&L  
1/4" Stringers C&K

‡ 2 1/8" Stringers D&J  
1 1/2" Stringers E&H

STRINGER AND DIAPHRAGM NOTES

H.S. Bolts - 7/8" φ  
Material - A36 Steel  
Stringers are not to be cambered.  
Steel in contact with concrete shall not be painted or oiled.  
See Sheet 2 for General Notes.  
See Sheet 31 for Framing Plan.  
~~Sliding surfaces of stringer expansion bearings shall be shop coated with a hot mixture of white lead and tallow or other approved coating.~~  
Diaphragms D4, D5, CB4 and CB5 support the Modular Expansion Joints. See sheets 17 thru 20 for details and connections.

SLIDING SURFACES OF STRINGER EXPANSION BEARINGS SHALL BE FABRICATED IN ACCORDANCE TO SECTION 607.03.08 OF THE STANDARD SPECIFICATIONS.

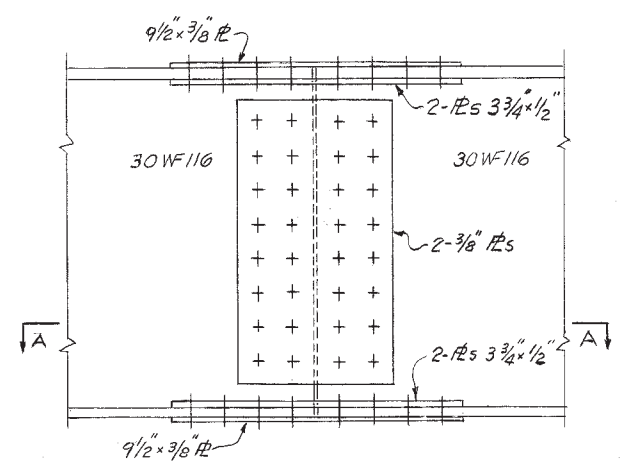
Work Sheets 45 thru 48 together

SHEET 46

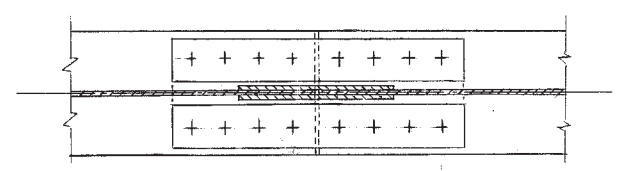
KENTUCKY DEPARTMENT OF HIGHWAYS  
OHIO DEPARTMENT OF HIGHWAYS  
PROJECT I471-4 ( )  
BRIDGE OVER OHIO RIVER ON I 471  
CAMPBELL COUNTY, KENTUCKY  
HAMILTON COUNTY, OHIO

SPAN 8  
STRINGER & DIAPHRAGM  
DETAILS

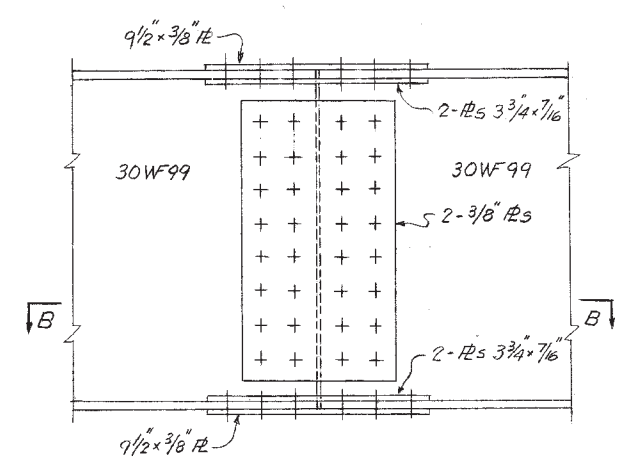
HAZELET & ERDAL Consulting Engineers File No. 889	BRIDGE NUMBER	DRAWING NO. 18485	INDEX S13
---	------------------	----------------------	--------------



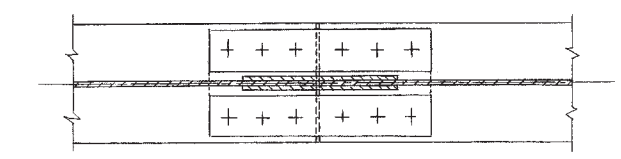
INTERIOR STRINGER SPLICE



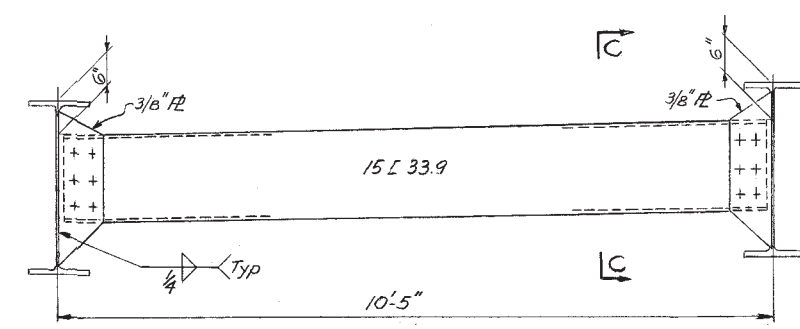
SECT. A-A



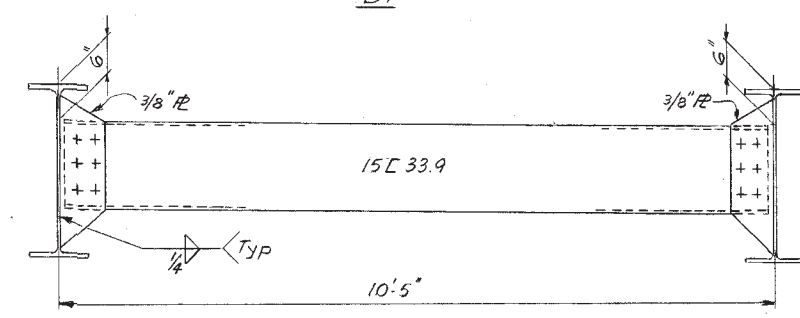
FASCIA STRINGER SPLICE



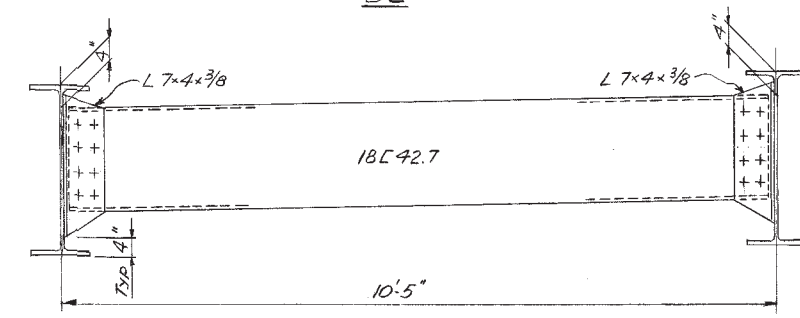
SECT. B-B



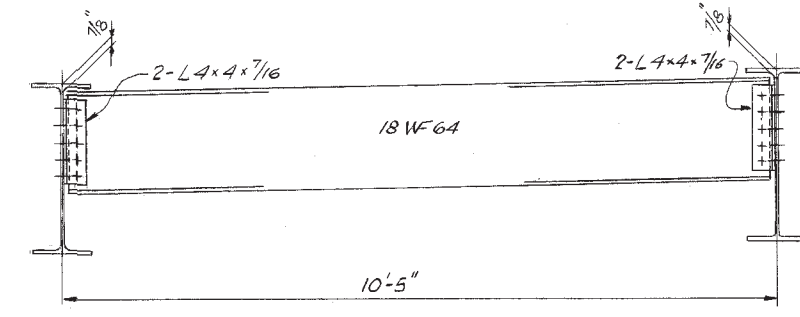
D1



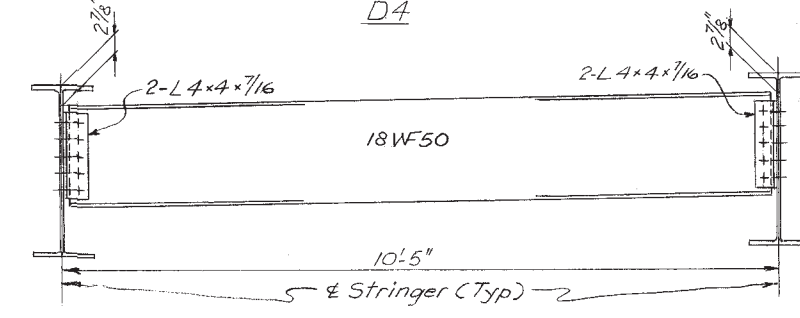
D2



D3



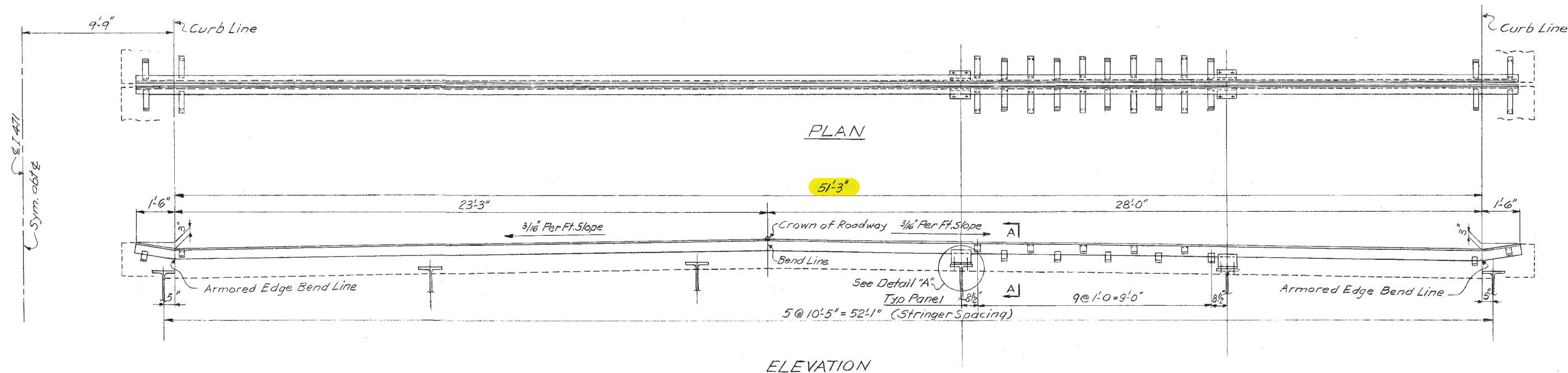
D4



D5

DIAPHRAGM DETAILS

DESIGNED BY: HEB  
CHECKED BY: CGH  
DATE: 10/22  
TRACED BY: FM  
DATE: 10/22



### STRINGER EXPANSION JOINT

AT T4, T9, T14 & T19

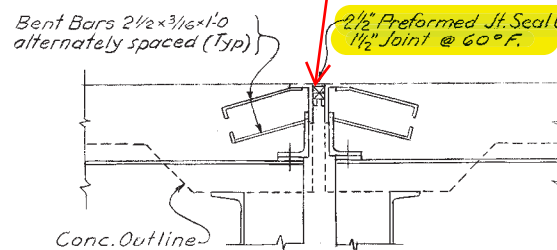
### STRINGER EXP. JOINT NOTES:

H.S. Bolts -  $\frac{1}{8}$ "  
Material - A36 Steel  
The stringer expansion joints are to be erected after all other steel has been erected and after the concrete slabs (between transverse construction joints) of Units I thru V have been placed. The joints shall be set to match the roadway surface and with the indicated opening.  
For details of Armored Edge see "Standard Armored Edge for Joints in concrete", Std. AE2, current edition.  
For details of  $\frac{1}{2}$ " Preformed Joint seal see "Preformed Joint Seal Details for concrete Bridge Floors", Std. G 353, current edition.

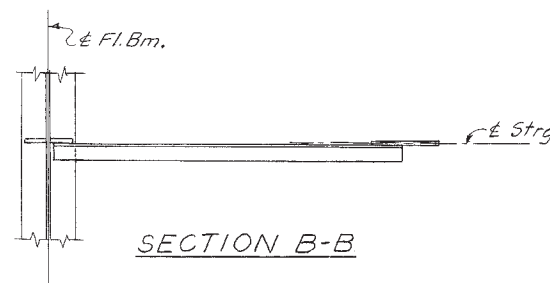
### NOTES

- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS BEFORE ORDERING ANY MATERIAL. NEW MATERIAL THAT IS UNSUITABLE DUE TO VARIATION IN EXISTING STRUCTURE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- USE A PRE-COMPRESSED FOAM EXPANSION JOINT SEAL SYSTEM FOR THE SPECIFIED WIDTH IN ACCORDANCE WITH SECTION 807 OF THE STANDARD SPECIFICATIONS.
- THE COMPONENTS (ARMORED EDGE, RESTRAINER BLOCK, BENT BARS AND UPTURN) ARE TO REMAIN. CONTRACTOR IS TO TAKE CARE TO NOT DAMAGE COMPONENTS. IF A COMPONENT IS DAMAGED, THE CONTRACTOR SHALL REPLACE AT NO ADDITIONAL COST TO THE CABINET AND AT THE DIRECTION OF THE ENGINEER.
- PAY LIMITS FOR "JOINT SEAL REPLACEMENT" SHALL BE MEASURED FROM CURBLINE TO CURBLINE ALONG THE CENTERLINE OF JOINT.
- PAYMENT AT THE CONTRACT UNIT PRICE PER LINEAR FOOT SHALL BE FULL COMPENSATION FOR REMOVING EXISTING SEAL, FURNISHING AND INSTALLING THE NEW SEAL, AND ALL INCIDENTAL ITEMS NECESSARY TO COMPLETE THE WORK. SEE SHEET NO. S2.

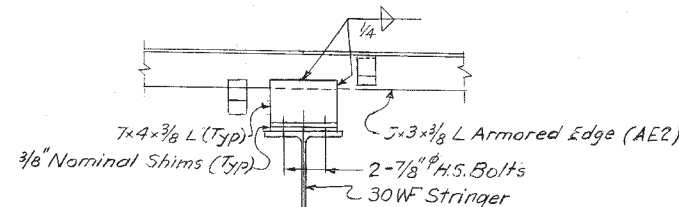
REMOVE EXISTING SEAL AND INSTALL NEW PRE-COMPRESSED FOAM EXPANSION SEAL



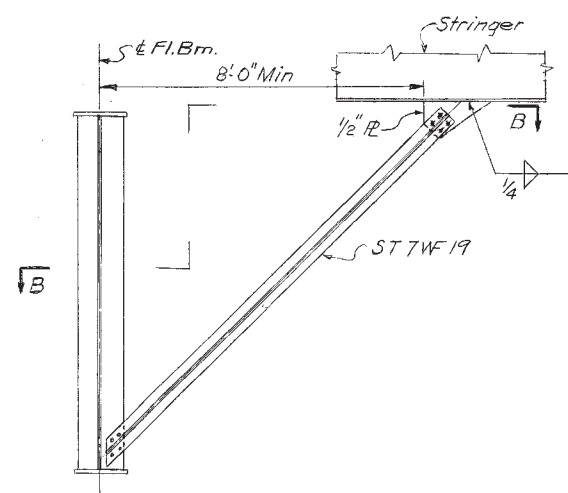
SECTION A-A



SECTION B-B



DETAIL "A"



LONGITUDINAL FORCE BRACE  
(See Framing Plan for Location)

Work Sheets 45 thru 48 together

SHEET 48

KENTUCKY DEPARTMENT OF HIGHWAYS  
OHIO DEPARTMENT OF HIGHWAYS

PROJECT I 471-4 ( )  
BRIDGE OVER OHIO RIVER ON I 471  
CAMPBELL COUNTY, KENTUCKY  
HAMILTON COUNTY, OHIO

SPAN 8  
STRINGER EXP. JOINTS & MISC.

HAZELET & ERDAL  
Consulting Engineers  
File No. 889

BRIDGE  
NUMBER

DRAWING NO.  
18485

INDEX  
S14

448625-71

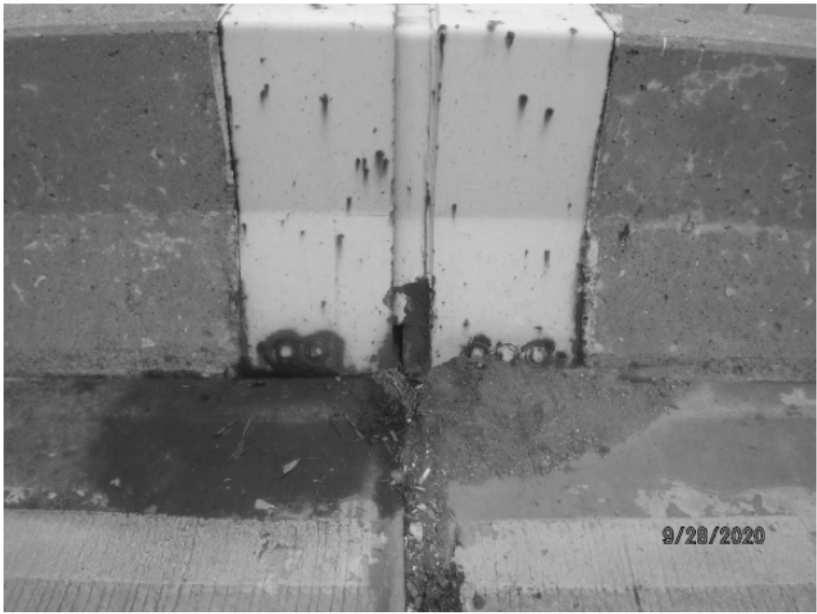
DESIGNED BY: CGH  
CHECKED BY: FM  
DATE: 10/7/76  
REVISIONS: 1  
DATE: 10/7/76  
REVISIONS: 2  
DATE: 10/7/76  
REVISIONS: 3  
DATE: 10/7/76  
REVISIONS: 4  
DATE: 10/7/76  
REVISIONS: 5  
DATE: 10/7/76  
REVISIONS: 6  
DATE: 10/7/76  
REVISIONS: 7  
DATE: 10/7/76  
REVISIONS: 8  
DATE: 10/7/76  
REVISIONS: 9  
DATE: 10/7/76  
REVISIONS: 10  
DATE: 10/7/76  
REVISIONS: 11  
DATE: 10/7/76  
REVISIONS: 12  
DATE: 10/7/76  
REVISIONS: 13  
DATE: 10/7/76  
REVISIONS: 14  
DATE: 10/7/76  
REVISIONS: 15  
DATE: 10/7/76  
REVISIONS: 16  
DATE: 10/7/76  
REVISIONS: 17  
DATE: 10/7/76  
REVISIONS: 18  
DATE: 10/7/76  
REVISIONS: 19  
DATE: 10/7/76  
REVISIONS: 20  
DATE: 10/7/76  
REVISIONS: 21  
DATE: 10/7/76  
REVISIONS: 22  
DATE: 10/7/76  
REVISIONS: 23  
DATE: 10/7/76  
REVISIONS: 24  
DATE: 10/7/76  
REVISIONS: 25  
DATE: 10/7/76  
REVISIONS: 26  
DATE: 10/7/76  
REVISIONS: 27  
DATE: 10/7/76  
REVISIONS: 28  
DATE: 10/7/76  
REVISIONS: 29  
DATE: 10/7/76  
REVISIONS: 30  
DATE: 10/7/76  
REVISIONS: 31  
DATE: 10/7/76  
REVISIONS: 32  
DATE: 10/7/76  
REVISIONS: 33  
DATE: 10/7/76  
REVISIONS: 34  
DATE: 10/7/76  
REVISIONS: 35  
DATE: 10/7/76  
REVISIONS: 36  
DATE: 10/7/76  
REVISIONS: 37  
DATE: 10/7/76  
REVISIONS: 38  
DATE: 10/7/76  
REVISIONS: 39  
DATE: 10/7/76  
REVISIONS: 40  
DATE: 10/7/76  
REVISIONS: 41  
DATE: 10/7/76  
REVISIONS: 42  
DATE: 10/7/76  
REVISIONS: 43  
DATE: 10/7/76  
REVISIONS: 44  
DATE: 10/7/76  
REVISIONS: 45  
DATE: 10/7/76  
REVISIONS: 46  
DATE: 10/7/76  
REVISIONS: 47  
DATE: 10/7/76  
REVISIONS: 48  
DATE: 10/7/76  
REVISIONS: 49  
DATE: 10/7/76  
REVISIONS: 50  
DATE: 10/7/76  
REVISIONS: 51  
DATE: 10/7/76  
REVISIONS: 52  
DATE: 10/7/76  
REVISIONS: 53  
DATE: 10/7/76  
REVISIONS: 54  
DATE: 10/7/76  
REVISIONS: 55  
DATE: 10/7/76  
REVISIONS: 56  
DATE: 10/7/76  
REVISIONS: 57  
DATE: 10/7/76  
REVISIONS: 58  
DATE: 10/7/76  
REVISIONS: 59  
DATE: 10/7/76  
REVISIONS: 60  
DATE: 10/7/76  
REVISIONS: 61  
DATE: 10/7/76  
REVISIONS: 62  
DATE: 10/7/76  
REVISIONS: 63  
DATE: 10/7/76  
REVISIONS: 64  
DATE: 10/7/76  
REVISIONS: 65  
DATE: 10/7/76  
REVISIONS: 66  
DATE: 10/7/76  
REVISIONS: 67  
DATE: 10/7/76  
REVISIONS: 68  
DATE: 10/7/76  
REVISIONS: 69  
DATE: 10/7/76  
REVISIONS: 70  
DATE: 10/7/76  
REVISIONS: 71  
DATE: 10/7/76  
REVISIONS: 72  
DATE: 10/7/76  
REVISIONS: 73  
DATE: 10/7/76  
REVISIONS: 74  
DATE: 10/7/76  
REVISIONS: 75  
DATE: 10/7/76  
REVISIONS: 76  
DATE: 10/7/76  
REVISIONS: 77  
DATE: 10/7/76  
REVISIONS: 78  
DATE: 10/7/76  
REVISIONS: 79  
DATE: 10/7/76  
REVISIONS: 80  
DATE: 10/7/76  
REVISIONS: 81  
DATE: 10/7/76  
REVISIONS: 82  
DATE: 10/7/76  
REVISIONS: 83  
DATE: 10/7/76  
REVISIONS: 84  
DATE: 10/7/76  
REVISIONS: 85  
DATE: 10/7/76  
REVISIONS: 86  
DATE: 10/7/76  
REVISIONS: 87  
DATE: 10/7/76  
REVISIONS: 88  
DATE: 10/7/76  
REVISIONS: 89  
DATE: 10/7/76  
REVISIONS: 90  
DATE: 10/7/76  
REVISIONS: 91  
DATE: 10/7/76  
REVISIONS: 92  
DATE: 10/7/76  
REVISIONS: 93  
DATE: 10/7/76  
REVISIONS: 94  
DATE: 10/7/76  
REVISIONS: 95  
DATE: 10/7/76  
REVISIONS: 96  
DATE: 10/7/76  
REVISIONS: 97  
DATE: 10/7/76  
REVISIONS: 98  
DATE: 10/7/76  
REVISIONS: 99  
DATE: 10/7/76  
REVISIONS: 100  
DATE: 10/7/76  
REVISIONS: 101  
DATE: 10/7/76  
REVISIONS: 102  
DATE: 10/7/76  
REVISIONS: 103  
DATE: 10/7/76  
REVISIONS: 104  
DATE: 10/7/76  
REVISIONS: 105  
DATE: 10/7/76  
REVISIONS: 106  
DATE: 10/7/76  
REVISIONS: 107  
DATE: 10/7/76  
REVISIONS: 108  
DATE: 10/7/76  
REVISIONS: 109  
DATE: 10/7/76  
REVISIONS: 110  
DATE: 10/7/76  
REVISIONS: 111  
DATE: 10/7/76  
REVISIONS: 112  
DATE: 10/7/76  
REVISIONS: 113  
DATE: 10/7/76  
REVISIONS: 114  
DATE: 10/7/76  
REVISIONS: 115  
DATE: 10/7/76  
REVISIONS: 116  
DATE: 10/7/76  
REVISIONS: 117  
DATE: 10/7/76  
REVISIONS: 118  
DATE: 10/7/76  
REVISIONS: 119  
DATE: 10/7/76  
REVISIONS: 120  
DATE: 10/7/76  
REVISIONS: 121  
DATE: 10/7/76  
REVISIONS: 122  
DATE: 10/7/76  
REVISIONS: 123  
DATE: 10/7/76  
REVISIONS: 124  
DATE: 10/7/76  
REVISIONS: 125  
DATE: 10/7/76  
REVISIONS: 126  
DATE: 10/7/76  
REVISIONS: 127  
DATE: 10/7/76  
REVISIONS: 128  
DATE: 10/7/76  
REVISIONS: 129  
DATE: 10/7/76  
REVISIONS: 130  
DATE: 10/7/76  
REVISIONS: 131  
DATE: 10/7/76  
REVISIONS: 132  
DATE: 10/7/76  
REVISIONS: 133  
DATE: 10/7/76  
REVISIONS: 134  
DATE: 10/7/76  
REVISIONS: 135  
DATE: 10/7/76  
REVISIONS: 136  
DATE: 10/7/76  
REVISIONS: 137  
DATE: 10/7/76  
REVISIONS: 138  
DATE: 10/7/76  
REVISIONS: 139  
DATE: 10/7/76  
REVISIONS: 140  
DATE: 10/7/76  
REVISIONS: 141  
DATE: 10/7/76  
REVISIONS: 142  
DATE: 10/7/76  
REVISIONS: 143  
DATE: 10/7/76  
REVISIONS: 144  
DATE: 10/7/76  
REVISIONS: 145  
DATE: 10/7/76  
REVISIONS: 146  
DATE: 10/7/76  
REVISIONS: 147  
DATE: 10/7/76  
REVISIONS: 148  
DATE: 10/7/76  
REVISIONS: 149  
DATE: 10/7/76  
REVISIONS: 150  
DATE: 10/7/76  
REVISIONS: 151  
DATE: 10/7/76  
REVISIONS: 152  
DATE: 10/7/76  
REVISIONS: 153  
DATE: 10/7/76  
REVISIONS: 154  
DATE: 10/7/76  
REVISIONS: 155  
DATE: 10/7/76  
REVISIONS: 156  
DATE: 10/7/76  
REVISIONS: 157  
DATE: 10/7/76  
REVISIONS: 158  
DATE: 10/7/76  
REVISIONS: 159  
DATE: 10/7/76  
REVISIONS: 160  
DATE: 10/7/76  
REVISIONS: 161  
DATE: 10/7/76  
REVISIONS: 162  
DATE: 10/7/76  
REVISIONS: 163  
DATE: 10/7/76  
REVISIONS: 164  
DATE: 10/7/76  
REVISIONS: 165  
DATE: 10/7/76  
REVISIONS: 166  
DATE: 10/7/76  
REVISIONS: 167  
DATE: 10/7/76  
REVISIONS: 168  
DATE: 10/7/76  
REVISIONS: 169  
DATE: 10/7/76  
REVISIONS: 170  
DATE: 10/7/76  
REVISIONS: 171  
DATE: 10/7/76  
REVISIONS: 172  
DATE: 10/7/76  
REVISIONS: 173  
DATE: 10/7/76  
REVISIONS: 174  
DATE: 10/7/76  
REVISIONS: 175  
DATE: 10/7/76  
REVISIONS: 176  
DATE: 10/7/76  
REVISIONS: 177  
DATE: 10/7/76  
REVISIONS: 178  
DATE: 10/7/76  
REVISIONS: 179  
DATE: 10/7/76  
REVISIONS: 180  
DATE: 10/7/76  
REVISIONS: 181  
DATE: 10/7/76  
REVISIONS: 182  
DATE: 10/7/76  
REVISIONS: 183  
DATE: 10/7/76  
REVISIONS: 184  
DATE: 10/7/76  
REVISIONS: 185  
DATE: 10/7/76  
REVISIONS: 186  
DATE: 10/7/76  
REVISIONS: 187  
DATE: 10/7/76  
REVISIONS: 188  
DATE: 10/7/76  
REVISIONS: 189  
DATE: 10/7/76  
REVISIONS: 190  
DATE: 10/7/76  
REVISIONS: 191  
DATE: 10/7/76  
REVISIONS: 192  
DATE: 10/7/76  
REVISIONS: 193  
DATE: 10/7/76  
REVISIONS: 194  
DATE: 10/7/76  
REVISIONS: 195  
DATE: 10/7/76  
REVISIONS: 196  
DATE: 10/7/76  
REVISIONS: 197  
DATE: 10/7/76  
REVISIONS: 198  
DATE: 10/7/76  
REVISIONS: 199  
DATE: 10/7/76  
REVISIONS: 200  
DATE: 10/7/76  
REVISIONS: 201  
DATE: 10/7/76  
REVISIONS: 202  
DATE: 10/7/76  
REVISIONS: 203  
DATE: 10/7/76  
REVISIONS: 204  
DATE: 10/7/76  
REVISIONS: 205  
DATE: 10/7/76  
REVISIONS: 206  
DATE: 10/7/76  
REVISIONS: 207  
DATE: 10/7/76  
REVISIONS: 208  
DATE: 10/7/76  
REVISIONS: 209  
DATE: 10/7/76  
REVISIONS: 210  
DATE: 10/7/76  
REVISIONS: 211  
DATE: 10/7/76  
REVISIONS: 212  
DATE: 10/7/76  
REVISIONS: 213  
DATE: 10/7/76  
REVISIONS: 214  
DATE: 10/7/76  
REVISIONS: 215  
DATE: 10/7/76  
REVISIONS: 216  
DATE: 10/7/76  
REVISIONS: 217  
DATE: 10/7/76  
REVISIONS: 218  
DATE: 10/7/76  
REVISIONS: 219  
DATE: 10/7/76  
REVISIONS: 220  
DATE: 10/7/76  
REVISIONS: 221  
DATE: 10/7/76  
REVISIONS: 222  
DATE: 10/7/76  
REVISIONS: 223  
DATE: 10/7/76  
REVISIONS: 224  
DATE: 10/7/76  
REVISIONS: 225  
DATE: 10/7/76  
REVISIONS: 226  
DATE: 10/7/76  
REVISIONS: 227  
DATE: 10/7/76  
REVISIONS: 228  
DATE: 10/7/76  
REVISIONS: 229  
DATE: 10/7/76  
REVISIONS: 230  
DATE: 10/7/76  
REVISIONS: 231  
DATE: 10/7/76  
REVISIONS: 232  
DATE: 10/7/76  
REVISIONS: 233  
DATE: 10/7/76  
REVISIONS: 234  
DATE: 10/7/76  
REVISIONS: 235  
DATE: 10/7/76  
REVISIONS: 236  
DATE: 10/7/76  
REVISIONS: 237  
DATE: 10/7/76  
REVISIONS: 238  
DATE: 10/7/76  
REVISIONS: 239  
DATE: 10/7/76  
REVISIONS: 240  
DATE: 10/7/76  
REVISIONS: 241  
DATE: 10/7/76  
REVISIONS: 242  
DATE: 10/7/76  
REVISIONS: 243  
DATE: 10/7/76  
REVISIONS: 244  
DATE: 10/7/76  
REVISIONS: 245  
DATE: 10/7/76  
REVISIONS: 246  
DATE: 10/7/76  
REVISIONS: 247  
DATE: 10/7/76  
REVISIONS: 248  
DATE: 10/7/76  
REVISIONS: 249  
DATE: 10/7/76  
REVISIONS: 250  
DATE: 10/7/76  
REVISIONS: 251  
DATE: 10/7/76  
REVISIONS: 252  
DATE: 10/7/76  
REVISIONS: 253  
DATE: 10/7/76  
REVISIONS: 254  
DATE: 10/7/76  
REVISIONS: 255  
DATE: 10/7/76  
REVISIONS: 256  
DATE: 10/7/76  
REVISIONS: 257  
DATE: 10/7/76  
REVISIONS: 258  
DATE: 10/7/76  
REVISIONS: 259  
DATE: 10/7/76  
REVISIONS: 260  
DATE: 10/7/76  
REVISIONS: 261  
DATE: 10/7/76  
REVISIONS: 262  
DATE: 10/7/76  
REVISIONS: 263  
DATE: 10/7/76  
REVISIONS: 264  
DATE: 10/7/76  
REVISIONS: 265  
DATE: 10/7/76  
REVISIONS: 266  
DATE: 10/7/76  
REVISIONS: 267  
DATE: 10/7/76  
REVISIONS: 268  
DATE: 10/7/76  
REVISIONS: 269  
DATE: 10/7/76  
REVISIONS: 270  
DATE: 10/7/76  
REVISIONS: 271  
DATE: 10/7/76  
REVISIONS: 272  
DATE: 10/7/76  
REVISIONS: 273  
DATE: 10/7/76  
REVISIONS: 274  
DATE: 10/7/76  
REVISIONS: 275  
DATE: 10/7/76  
REVISIONS: 276  
DATE: 10/7/76  
REVISIONS: 277  
DATE: 10/7/76  
REVISIONS: 278  
DATE: 10/7/76  
REVISIONS: 279  
DATE: 10/7/76  
REVISIONS: 280  
DATE: 10/7/76  
REVISIONS: 281  
DATE: 10/7/76  
REVISIONS: 282  
DATE: 10/7/76  
REVISIONS: 283  
DATE: 10/7/76  
REVISIONS: 284  
DATE: 10/7/76  
REVISIONS: 285  
DATE: 10/7/76  
REVISIONS: 286  
DATE: 10/7/76  
REVISIONS: 287  
DATE: 10/7/76  
REVISIONS: 288  
DATE: 10/7/76  
REVISIONS: 289  
DATE: 10/7/76  
REVISIONS: 290  
DATE: 10/7/76  
REVISIONS: 291  
DATE: 10/7/76  
REVISIONS: 292  
DATE: 10/7/76  
REVISIONS: 293  
DATE: 10/7/76  
REVISIONS: 294  
DATE: 10/7/76  
REVISIONS: 295  
DATE: 10/7/76  
REVISIONS: 296  
DATE: 10/7/76  
REVISIONS: 297  
DATE: 10/7/76  
REVISIONS: 298  
DATE: 10/7/76  
REVISIONS: 299  
DATE: 10/7/76  
REVISIONS: 300  
DATE: 10/7/76  
REVISIONS: 301  
DATE: 10/7/76  
REVISIONS: 302  
DATE: 10/7/76  
REVISIONS: 303  
DATE: 10/7/76  
REVISIONS: 304  
DATE: 10/7/76  
REVISIONS: 305  
DATE: 10/7/76  
REVISIONS: 306  
DATE: 10/7/76  
REVISIONS: 307  
DATE: 10/7/76  
REVISIONS: 308  
DATE: 10/7/76  
REVISIONS: 309  
DATE: 10/7/76  
REVISIONS: 310  
DATE: 10/7/76  
REVISIONS: 311  
DATE: 10/7/76  
REVISIONS: 312  
DATE: 10/7/76  
REVISIONS: 313  
DATE: 10/7/76  
REVISIONS: 314  
DATE: 10/7/76  
REVISIONS: 315  
DATE: 10/7/76  
REVISIONS: 316  
DATE: 10/7/76  
REVISIONS: 317  
DATE: 10/7/76  
REVISIONS: 318  
DATE: 10/7/76  
REVISIONS: 319  
DATE: 10/7/76  
REVISIONS: 320  
DATE: 10/7/76  
REVISIONS: 321  
DATE: 10/7/76  
REVISIONS: 322  
DATE: 10/7/76  
REVISIONS: 323  
DATE: 10/7/76  
REVISIONS: 324  
DATE: 10/7/76  
REVISIONS: 325  
DATE: 10/7/76  
REVISIONS: 326  
DATE: 10/7/76  
REVISIONS: 327  
DATE: 10/7/76  
REVISIONS: 328  
DATE: 10/7/76  
REVISIONS: 329  
DATE: 10/7/76  
REVISIONS: 330  
DATE: 10/7/76  
REVISIONS: 331  
DATE: 10/7/76  
REVISIONS: 332  
DATE: 10/7/76  
REVISIONS: 333  
DATE: 10/7/76  
REVISIONS: 334  
DATE: 10/7/76  
REVISIONS: 335  
DATE: 10/7/76  
REVISIONS: 336  
DATE: 10/7/76  
REVISIONS: 337  
DATE: 10/7/76  
REVISIONS: 338  
DATE: 10/7/76  
REVISIONS: 339  
DATE: 10/7/76  
REVISIONS: 340  
DATE: 10/7/76  
REVISIONS: 341  
DATE: 10/7/76  
REVISIONS: 342  
DATE: 10/7/76  
REVISIONS: 343  
DATE: 10/7/76  
REVISIONS: 344  
DATE: 10/7/76  
REVISIONS: 345  
DATE: 10/7/76  
REVISIONS: 346  
DATE: 10/7/76  
REVISIONS: 347  
DATE: 10/7/76  
REVISIONS: 348  
DATE: 10/7/76  
REVISIONS: 349  
DATE: 10/7/76  
REVISIONS: 350  
DATE: 10/7/76  
REVISIONS: 351  
DATE: 10/7/76  
REVISIONS: 352  
DATE: 10/7/76  
REVISIONS: 353  
DATE: 10/7/76  
REVISIONS: 354  
DATE: 10/7/76  
REVISIONS: 355  
DATE: 10/7/76  
REVISIONS: 356  
DATE: 10/7/76  
REVISIONS: 357  
DATE: 10/7/76  
REVISIONS: 358  
DATE: 10/7/76  
REVISIONS: 359  
DATE: 10/7/76  
REVISIONS: 360  
DATE: 10/7/76  
REVISIONS: 361  
DATE: 10/7/76  
REVISIONS: 362  
DATE: 10/7/76  
REVISIONS: 363  
DATE: 10/7/76  
REVISIONS: 364  
DATE: 10/7/76  
REVISIONS: 365  
DATE: 10/7/76  
REVISIONS: 366  
DATE: 10/7/76  
REVISIONS: 367  
DATE: 10/7/76  
REVISIONS: 368  
DATE: 10/7/76  
REVISIONS: 369  
DATE: 10/7/76  
REVISIONS: 370  
DATE: 10/7/76  
REVISIONS: 371  
DATE: 10/7/76  
REVISIONS: 372  
DATE: 10/7/76  
REVISIONS: 373  
DATE: 10/7/76  
REVISIONS: 374  
DATE: 10/7/76  
REVISIONS: 375  
DATE: 10/7/76  
REVISIONS: 376  
DATE: 10/7/76  
REVISIONS: 377  
DATE: 10/7/76  
REVISIONS: 378  
DATE: 10/7/76  
REVISIONS: 379  
DATE: 10/7/76  
REVISIONS: 380  
DATE: 10/7/76  
REVISIONS: 381  
DATE: 10/7/76  
REVISIONS: 382  
DATE: 10/7/76  
REVISIONS: 383  
DATE: 10/7/76  
REVISIONS: 384  
DATE: 10/7/76  
REVISIONS: 385  
DATE: 10/7/76  
REVISIONS: 386  
DATE: 10/7/76  
REVISIONS: 387  
DATE: 10/7/76  
REVISIONS: 388  
DATE: 10/7/76  
REVISIONS: 389  
DATE: 10/7/76  
REVISIONS: 390  
DATE: 10/7/76  
REVISIONS: 391  
DATE: 10/7/76  
REVISIONS: 392  
DATE: 10/7/76  
REVISIONS: 393  
DATE: 10/7/76  
REVISIONS: 394  
DATE: 10/7/76  
REVISIONS: 395  
DATE: 10/7/76  
REVISIONS: 396  
DATE: 10/7/76  
REVISIONS: 397  
DATE: 10/7/76  
REVISIONS: 398  
DATE: 10/7/76  
REVISIONS: 399  
DATE: 10/7/76  
REVISIONS: 400  
DATE: 10/7/76  
REVISIONS: 401  
DATE: 10/7/76  
REVISIONS: 402  
DATE: 10/7/76  
REVISIONS: 403  
DATE: 10/7/76  
REVISIONS: 404  
DATE: 10/7/76  
REVISIONS: 405  
DATE: 10/7/76  
REVISIONS: 406  
DATE: 10/7/76  
REVISIONS: 407  
DATE: 10/7/76  
REVISIONS: 408  
DATE: 10/7/76  
REVISIONS: 409  
DATE: 10/7/76  
REVISIONS: 410  
DATE: 10/7/76  
REVISIONS: 411  
DATE: 10/7/76  
REVISIONS: 412  
DATE: 10/7/76  
REVISIONS: 413  
DATE: 10/7/76  
REVISIONS: 414  
DATE: 10/7/76  
REVISIONS: 415  
DATE: 10/7/76  
REVISIONS: 416  
DATE: 10/7/76  
REVISIONS: 417  
DATE: 10/7/76  
REVISIONS: 418  
DATE: 10/7/76  
REVISIONS: 419  
DATE: 10/7/76  
REVISIONS: 420  
DATE: 10/7/76  
REVISIONS: 421  
DATE: 10/7/76  
REVISIONS: 422  
DATE: 10/7/76  
REVISIONS: 423  
DATE: 10/7/76  
REVISIONS: 424  
DATE: 10/7/76  
REVISIONS: 425  
DATE: 10/7/76  
REVISIONS: 426  
DATE: 10/7/76  
REVISIONS: 427  
DATE: 10/7/76  
REVISIONS: 428  
DATE: 10/7/76  
REVISIONS: 429  
DATE: 10/7/76  
REVISIONS: 430  
DATE: 10/7/76  
REVISIONS: 431  
DATE: 10/7/76  
REVISIONS: 432  
DATE: 10/7/76  
REVISIONS: 433  
DATE: 10/7/76  
REVISIONS: 434  
DATE: 10/7/76  
REVISIONS: 435  
DATE: 10/7/76  
REVISIONS: 436  
DATE: 10/7/76  
REVISIONS: 437  
DATE: 10/7/76  
REVISIONS: 438  
DATE: 10/7/76  
REVISIONS: 439  
DATE: 10/7/76  
REVISIONS: 440  
DATE: 10/7/76  
REVISIONS: 441  
DATE: 10/7/76  
REVISIONS: 442  
DATE: 10/7/76  
REVISIONS: 443  
DATE: 10/7/76  
REVISIONS: 444  
DATE: 10/7/76  
REVISIONS: 445  
DATE: 10/7/76  
REVISIONS: 446  
DATE: 10/7/76  
REVISIONS: 447  
DATE: 10/7/76  
REVISIONS: 448  
DATE: 10/7/76  
REVISIONS: 449  
DATE: 10/7/76  
REVISIONS: 450  
DATE: 10/7/76  
REVISIONS: 451  
DATE: 10/7/76  
REVISIONS: 452  
DATE: 10/7/76  
REVISIONS: 453  
DATE: 10/7/76  
REVISIONS: 454  
DATE: 10/7/76  
REVISIONS: 455  
DATE: 10/7/76  
REVISIONS: 456  
DATE: 10/7/76  
REVISIONS: 457  
DATE: 10/7/76  
REVISIONS: 458  
DATE: 10/7/76  
REVISIONS: 459  
DATE: 10/7/76  
REVISIONS: 460  
DATE: 10/7/76  
REVISIONS: 461  
DATE: 10/7/76  
REVISIONS: 462  
DATE: 10/7/76  
REVISIONS: 463  
DATE: 10/7/76  
REVISIONS: 464  
DATE: 10/7/76  
REVISIONS: 465  
DATE: 10/7/76  
REVISIONS: 466  
DATE: 10/7/76  
REVISIONS

FILE NAME:  
C:\BIG MAC\CADD\BARRIER & SEAL.DGN

USER: Mrcylo,Dwyer  
DATE PLOTTED: August 7, 2023

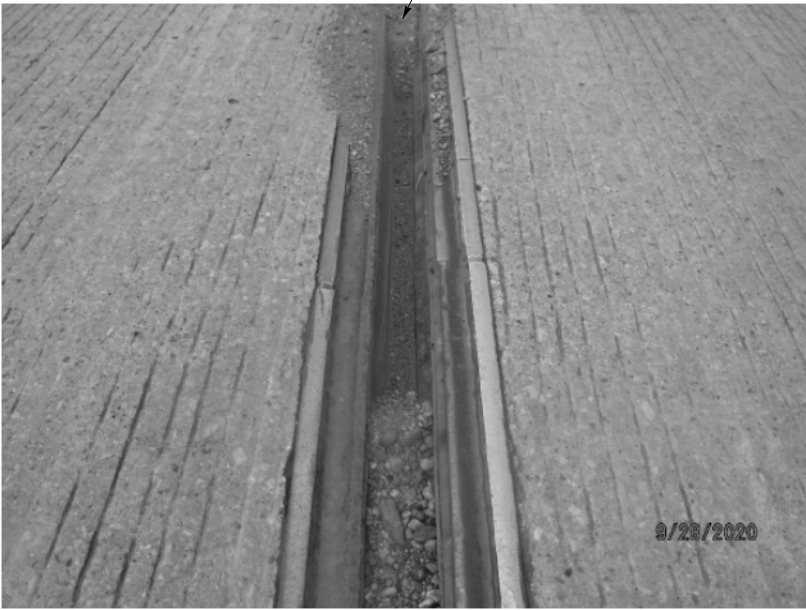
E-SHEET NAME: S23464 020

MicroStation v8.11.9.919



EXISTING EXPANSION JOINT STRIP SEAL AT PIER 8 BARRIER

STRIP SEAL AT PIER 6 SIMILAR



EXISTING EXPANSION JOINT STRIP SEAL AT PIER 8

STRIP SEAL AT PIER 6 SIMILAR

NOTES

1. CONTRACTOR SHALL VERIFY THE EXISTING NEOPRENE STRIP SEAL GLAND AND REPLACE IN KIND.
2. THE STEEL COMPONENTS (ARMORED EDGE, RESTRAINER BLOCK, CONCRETE STUDS AND UPTURN) ARE TO REMAIN. CONTRACTOR IS TO TAKE CARE NOT TO DAMAGE COMPONENTS. IF A COMPONENT IS DAMAGED, THE CONTRACTOR SHALL REPLACE AT NO ADDITIONAL COST TO THE CABINET AND AT THE DIRECTION OF THE ENGINEER.
3. PAY LIMITS FOR "JOINT SEAL REPLACEMENT" SHALL BE MEASURED FROM CURBLINE TO CURBLINE ALONG THE CENTERLINE OF THE JOINT.
4. PAYMENT AT THE CONTRACT UNIT PRICE PER LINEAR FOOT SHALL BE FULL COMPENSATION FOR REMOVING EXISTING SEAL, FURNISHING AND INSTALLING THE NEW SEAL, AND ALL INCIDENTAL ITEM NECESSARY TO COMPLETE THE WORK. SEE SHEET NO. S2.

GENERAL NOTES

SPECIFICATIONS: ALL REFERENCES TO THE SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ALL REFERENCES TO THE AASHTO SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

INSTALLATION PROCEDURE: INSTALLATION PROCEDURE SHALL BE IN ACCORDANCE WITH SECTION 609 OF THE STANDARD SPECIFICATIONS.

MATERIAL SPECIFICATIONS: JOINT SEALING MATERIAL IS IN ACCORDANCE WITH SECTION 807 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS BEFORE ORDERING ANY MATERIAL. NEW MATERIAL THAT IS UNSUITABLE DUE TO VARIATION IN EXISTING STRUCTURE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

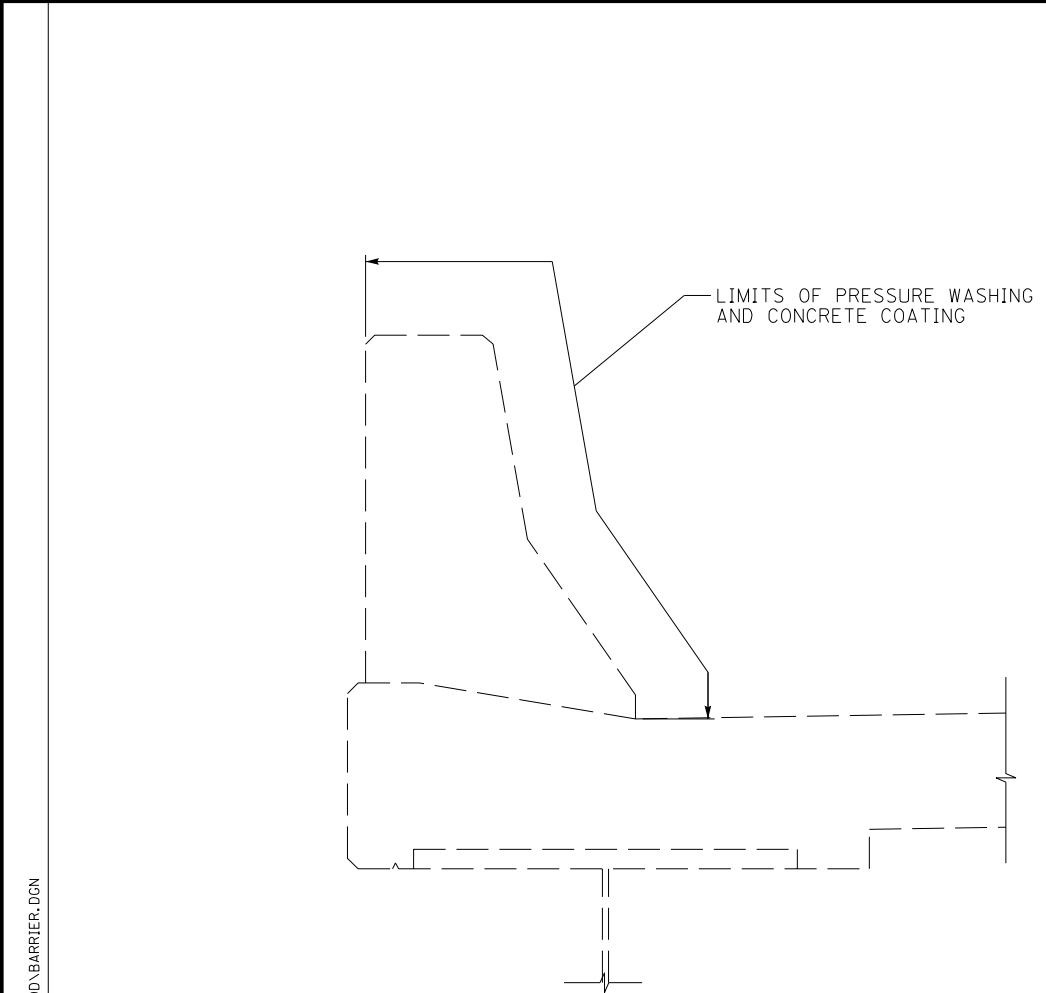
CLEANING: CLEAN ALL STRUCTURAL STEEL IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

SHOP DRAWINGS: CONTRARY TO THE SPECIFICATIONS, NO SHOP PLANS ARE REQUIRED.

THE SEALING ELEMENT SHALL BE SUPPLIED AND INSTALLED IN ONE CONTINUOUS LENGTH TO FIT THE FINAL DIMENSIONS OF THE JOINT AS IT OCCURS IN THE ROADWAY. NO FIELD SPLICES WILL BE PERMITTED.

REVISION		DATE
DATE: AUGUST 2023	CHECKED BY	
DESIGNED BY: MJ DWYER	B CHAVEL	
DETAILED BY: MJ DWYER	B CHAVEL	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE I-471	CROSSING OHIO RIVER	
STRIP SEAL DETAILS		
PREPARED BY		SHEET NO.
Michael Baker INTERNATIONAL		S15
1650 Lyndon Farm Court Louisville, KY 40223 Phone: (502) 339-3557 MBAKERINTL.COM		DRAWING NO. 28694

ITEM NUMBER
6-10035



SECTION THROUGH BARRIER



EXISTING BARRIER

NOTES

- 1. BLAST CLEAN, PRESSURE WASH AND COAT BARRIER WALLS IN ACCORDANCE WITH SPECIAL NOTE FOR BRIDGE CLEANING AND CONCRETE COATINGS.
- 2. BLAST CLEAN ALL AREAS OF THE BARRIER WALL FACE WITH EXPOSED STEEL REINFORCEMENT TO REMOVE RUST ON BOTH BARRIERS FROM BENT 1 TO PIER 9 ON THE NORTHBOUND AND SOUTHBOUND BRIDGES AND AS DETERMINED BY THE ENGINEER.
- 3. PRESSURE WASH THE FULL LENGTH OF BOTH BARRIERS FROM BENT 1 TO PIER 9 ON THE NORTHBOUND AND SOUTHBOUND BRIDGES.
- 4. APPLY CONCRETE COATING TO THE FULL LENGTH OF BOTH BARRIERS FROM BENT 1 TO PIER 9 ON THE NORTHBOUND AND SOUTHBOUND BRIDGES.

FILE NAME:  
C:\BIG MAC\CADD\BARRIER.DGN

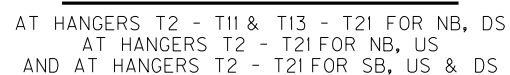
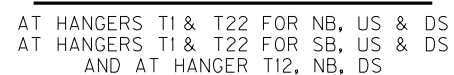
USER: Mary Jo Dwyer  
DATE PLOTTED: August 7, 2023

E-SHEET NAME: S23464 020

MicroStation v8.11.9.919


ITEM NUMBER
6-10035

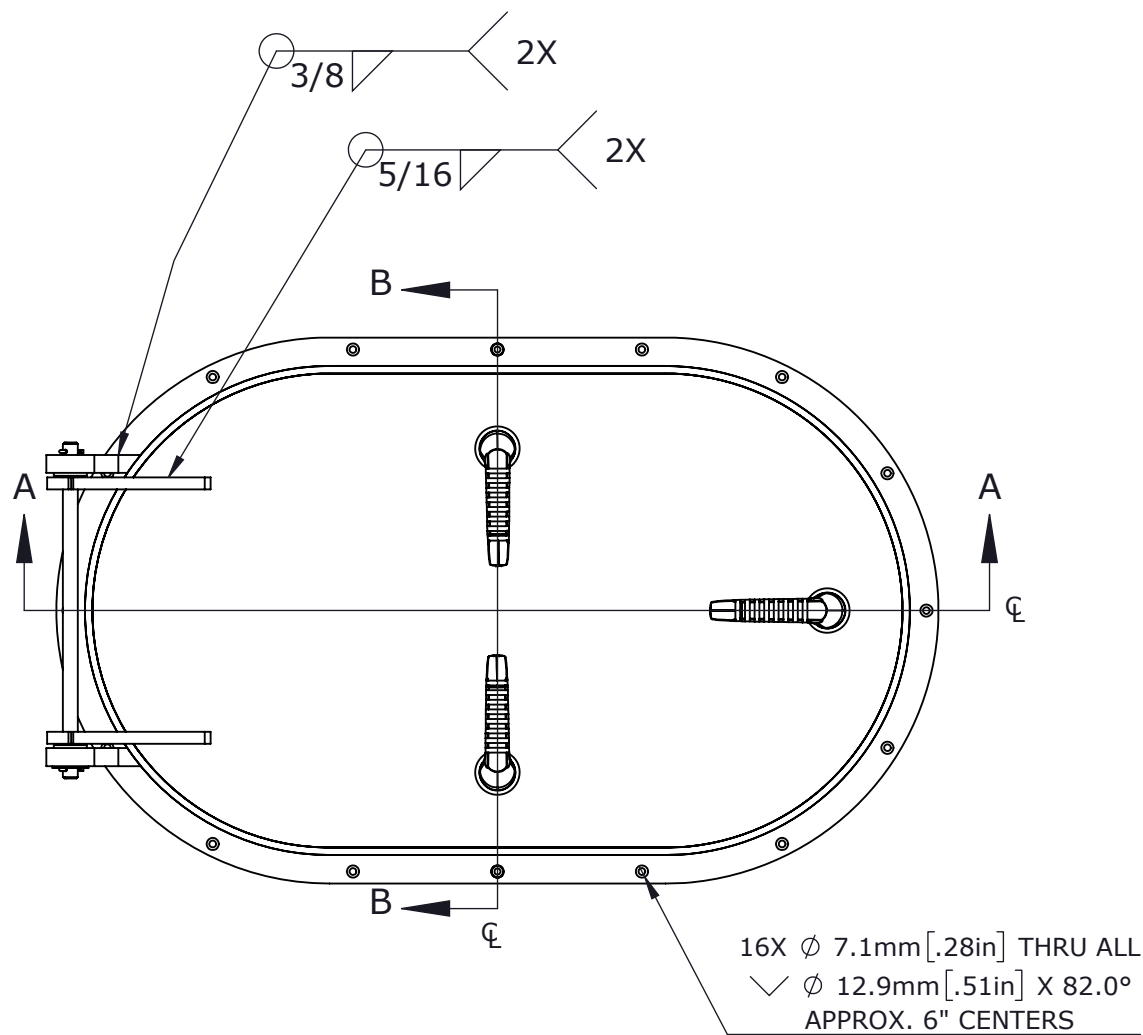
REVISION		DATE
DATE: AUGUST 2023	CHECKED BY	
DESIGNED BY: MJ DWYER	M BARON	
DETAILED BY: MJ DWYER	M BARON	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE I-471	CROSSING OHIO RIVER	
BARRIER WALL RETROFIT		
PREPARED BY		SHEET NO.
Michael Baker INTERNATIONAL		S16
1650 Lyndon Farm Court Louisville, KY 40223 Phone: (502) 339-3557 MBAKERINTL.COM		DRAWING NO. 28694



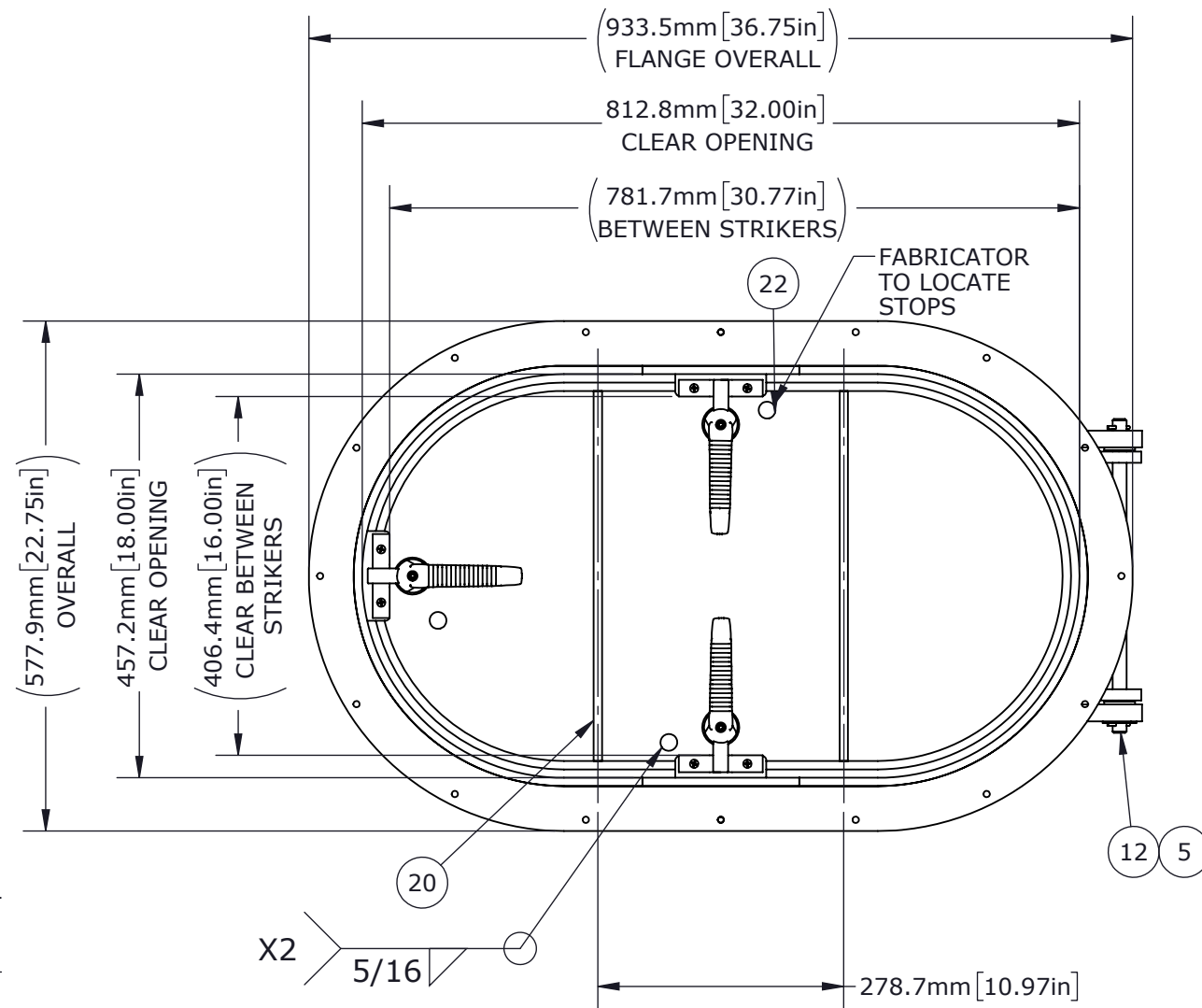
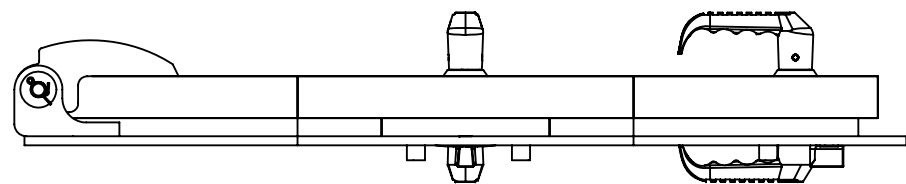
**FOR INFORMATION ONLY**

1. CLEAN AND PAINT TOP AND BOTTOM HANGER ASSEMBLIES AND STRUCTURAL STEEL CABLE IN ACCORDANCE WITH SPECIAL NOTE FOR STRUCTURAL STEEL CABLE CLEANING AND PAINTING.
2. THE 3 COAT PAINT SYSTEM CONSISTS OF A PRIME COAT, INTERMEDIATE COAT AND TOP COAT.
3. PAYMENT FOR ALL LABOR, MATERIALS, AND INCIDENTALS SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR "CLEAN AND PAINT STRUCTURAL STEEL".

ADDENDUM 1 - REVISED TYPE B PAINT LIMITS		09/20/23	
REVISION		DATE	
DATE: AUGUST 2023		CHECKED BY	
DESIGNED BY: MJ DWYER		M BARON	
DETAILED BY: MJ DWYER		M BARON	
<p align="center"><b>Commonwealth of Kentucky</b>  <b>DEPARTMENT OF HIGHWAYS</b></p>			
<p align="center">COUNTY  <b>CAMPBELL</b></p>			
ROUTE <b>I-471</b>	CROSSING <b>OHIO RIVER</b>		
<b>HANGER CLEAN AND PAINT</b>			
PREPARED BY		SHEET NO.	
		1650 Lyndon Farm Court Louisville, KY 40223 Phone: (502) 339-3557 MBAKERINTL.COM	
		<b>S17</b> DRAWING NO. <b>28694</b>	



**EXTERIOR VIEW**



**INTERIOR VIEW**

**REVISIONS**

REV.	DESCRIPTION	BY	DATE
00	CUSTOMER REVIEW	ZC	1/17/23
01	UPDATED NOTES	ZC	9/20/23

CONTACT INFORMATION:  
JAKE RICHARDS, SALES MANAGER  
ADVANTEC MARINE  
OFFICE: (425) 743-9550 EXT. 3124  
jake.richards@advantecglobal.com

**GENERAL NOTES**

1. INSTALLATION: WELD-IN
2. BUILD TO CLEAR OPENING.
3. APPROX WEIGHT: 25.7 kg. (57 lbs.)
4. FINISH:B - COMMERCIAL QUALITY  
PANEL/COAMING: PRIMER BASE COATS -  
AWLGRIP D1001 545 PRIMER GRAY
6. MATERIALS : PANEL/ALUM,  
COAMING/STEEL

FOR ADDITIONAL INFORMATION CONTACT  
YOUR SALES REPRESENTATIVE OR PROJECT  
MANAGER.

**CUSTOMER APPROVAL**

IMPORTANT! THIS DRAWING SUPERSEDES ALL OTHER DOCUMENTS. BY  
SIGNING THIS APPROVAL YOU ACCEPT AND AGREE THAT THE  
DIMENSIONS AND DETAILS SHOWN ARE CORRECT AND PROPERLY FIT  
YOUR APPLICATION, REGARDLESS OF ANY DIFFERENCES BETWEEN THIS  
DRAWING AND ANY PRIOR CONTRACT SPECIFICATIONS. SHOULD YOU  
HAVE ANY QUESTIONS OR SEE ANY ERRORS, DO NOT SIGN THIS  
APPROVAL UNTIL THE DRAWING IS CORRECTED.

SIGN \_\_\_\_\_ DATE \_\_\_\_\_

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN  
MILLIMETERS. TOLERANCES FOR ROUGH AND CLEAR  
OPENINGS ARE  $\pm 3$ mm (.125"). ALL OTHERS ARE:

	METRIC	X	.X	.XX	ANGLES
		$\pm 2.5$	$\pm .8$	$\pm .25$	$\pm 2^\circ$
IMPERIAL		.X	.XX	.XXX	ANGLES
		$\pm .1$	$\pm .03$	$\pm .010$	$\pm 2^\circ$

BAR CODE	CAGE CODE
	64747



COPYRIGHT 2016 ADVANTEC GLOBAL INNOVATIONS. ALL RIGHTS  
RESERVED. CONFIDENTIAL PROPERTY OF ADVANTEC GLOBAL  
INNOVATIONS. UNAUTHORIZED USE, REPRODUCTION OR DISTRIBUTION  
IS STRICTLY PROHIBITED. COPIES REMAIN THE PROPERTY OF ADVANTEC  
GLOBAL INNOVATIONS AND MUST BE RETURNED UPON REQUEST.

CLIENT \_\_\_\_\_

PROJECT TITLE \_\_\_\_\_

DWG TITLE						QTY
MODEL 3212 RAISED HATCH						
SCALE	DRAWN	DATE	CHECKED	DATE	SIZE	
1:8	ZC	1/17/2023	JK	1/17/2023	B	
S.O. NO	DWG NO				SHEET	REV
	P0009934-001				1 of 3	01

FOR INFORMATION ONLY