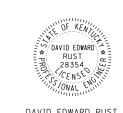
TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS **DAVIESS COUNTY** GLOVER CARY BRIDGE (030B00118N) KY 2262 OVER OHIO RIVER REPAIR PLANS

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														ES	MIT	ATE (OF BR	IDGE	QUAI	NTITIE	S								
BID ITEM CODE	02569	02568	24084E0	08510	08534	24094EC	08526	08504	08549	08550	03294	24879E0	08106	08104	23814E0	21529ND	24992ED	24113EC	08151	24112EC	08160	23386EC	22146EN	23744EC	25015EC	23378EC	21650NN	24983EC	03299
BIDITEM	DEMOBILIZATION	MOBILIZATION FOR CONCRETE SURFACE TREATMENT	SIKINGER REPAIK	REM EPOXY BIT FOREIGN OVERLAY	CONCRETE OVERLAY - LATEX	PARTIAL DEPTH PATCHING	CONC CLASS M FULL DEPTH PATCH	EPOXY-SAND SLURRY	BLAST CLEANING	HYDRODEMOLITION	EXPANSION JOINT REPLACEMENT 1-1/2 IN	STEEL REPAIR (1) (2) (3) (4) (5)	CONCRETE CLASS M1	CONCRETE CLASS AA	REMOVE EXISTING DECK	FINGER DAM REPAIR	STEEL GRID DECK (6)	SALVAGE AND RE-INSTALL CONDUIT	STEEL REINFORCEMENT - EPOXY COATED	STEEL REINFORCEMENT STAINLESS STEEL	STRUCTURAL STEEL *	JOINT SEAL REPLACEMENT	CONCRETE PATCHING REPAIR	EPOXY INJECT CRACK REPAIR	FRP WRAP	CONCRETE SEALING	BOLT/RIVET REPLACEMENT	BEARING LUBRICATION	ARMORED EDGE FOR CONCRETE
UNIT	LS	LS	EA	SQYD	CUYD	CUYD	CUYD	SQYD	SQYD	SQYD	LF	EA	CUYD	CUYD	LS	LS	SF	LF	LB	LB	LS	LF	SF	LF	SF	SF	EA	EA	LF
GENERAL	1	1																											
REPAIR 1: STRINGER REPAIR			21																										
REPAIR 2: STRINGER & FINGER EXPANSION JOINT REPAIR			5													1													
REPAIR 3: CONCRETE-FILLED STEEL GRID DECK REPLACEMENT														52	1		16045	1366		9714	1	44							
REPAIR 4: LATEX CONCRETE DECK OVERLAY				783	33	22	6	309	238	783									1000										
REPAIR 5: REINFORCED CONCRETE DECK REPLACEMENT											88			499	1				82772	65000	1								
REPAIR 6: JOINT REPLACEMENT																						506							
REPAIR 7: MISCELLANEOUS STEEL REPAIRS												13																	
REPAIR 8: REINFORCED CONCRETE SUBSTRUCTURE REPAIR													6										445	169	244	4725			
REPAIR 9: CURB/SIDEWALK REPAIR																							114						
REPAIR 10: MISSING RIVET/BOLT REPLACEMENT																											14		
REPAIR 11: CLEAN AND GREASE BEARINGS																												66	
REPAIR 12: GIRDER AND FLOORBEAM REPAIR												1	4						1251										22
REPAIR 13: GIRDER 1 CRACK REPAIR												1																	
REPAIR 14: CONCRETE-FILLED STEEL GRID DECK PATCHING						6	6																						
BRIDGE TOTALS	1	1	26	783	33	28	12	309	238	783	88	15	10	551	2	1	16045	1366	85023	74714	2	550	560	169	244	4725	14	66	22
	$\overline{}$																												

BRIDGE IOTALS	1 1 1	20 /83 :	33 28 12	309 238 783
	MAINTEN	ANCE OF	TRAFFIC C	QUANTITIES
BID ITEM CODE	02014	02562	02650	02671
BID ITEM	BARRICADE-TYPE III	TEMPORARY SIGNS	MAINTAIN AND CONTROL TRAFFIC	PORTABLE CHANGEABLE MESSAGE SIGN
UNIT	EA	SQ FT	LS	EA
GENERAL	4	119	1	12
BRIDGE TOTALS	4	119	1	12

- * REPAIR 3: ESTIMATED WEIGHT OF STRUCTURAL STEEL = 39,142 LB. (STUDS = 6,860 LB.)
 * REPAIR 5: ESTIMATED WEIGHT OF STRUCTURAL STEEL = 48,200 LB. (STUDS = 7,545 LB.)
- SUPPLEMENTAL DESCRIPTIONS:
- SLIDING PIN PLATE REPLACEMENT (2) WINDLOCK ANGLE REPLACEMENT
 - (QTY.=6)
- WELDED SLIDING PLATE REPAIR
- (4) GIRDER CRACK RETROFIT (5) GIRDER SPLICE/FLOORBEAM REPLACEMENT



DAVID EDWARD RUST P.E. 28354

David E. Rust 2024.12.13 19:17:58 -05'00'

STANDARD DRAWINGS BGX-009-04 Bridge Restoration with Concrete Overlays Armored Edges Expansion Joint Replacement I" - 3 BJE-005 Expansion Joint Replacement General Notes Expansion Joint Replacement 4" & 5" Expansion Joint Replacement 4" & 5" BJE-006

INDEX OF SHEETS

Bridge Elevation - Repair Locations

Repair 3 - Concrete Filled Steel Grid

Repair 7 - Miscellaneous Steel Repairs S19-S26 Repair 8 - Concrete Substructures

Repair 12 - Girder 1 & Floorbeam Repair

SPECIAL NOTES

Repair 13 - Girder I Crack Repair (Span 35)

Repairs 5&6 - Joint Replacement

Repair 9 - Sidewalk Repair

(at the KY Abutment)

Maintenance of Traffic Environmentally Cleared Area

Special Note for Bridge Plans & Project Information

Special Note for Painting Structural Steel Repairs Special Note for Stainless Steel Reinforcement Special Note for Bridge Deck Removal

Special Note for Epoxy Injection Crack Repairs

Special Note for Coordination with Other Contracts Special Note for Contract Completion and Liquidated Damages Special Note for Concrete-Filled Steel Grid Deck Patching

Special Note for Bearing Lubrication Special Note for Traffic Control

Special Note for Bridge Restoration with Concrete Overlays Special Note for Use of Hyndrodemolition Method Special Note for Joint Seal Replacement Special Note for Concrete Patching Special Note for Concrete Sealing

Special Note for Structures with Fiber Reinforced Polymer Wrap

SPECIAL PROVISIONS

Repair 4 - Latex Concrete Deck Overlay Repair 5 - Reinforced Concrete Deck

Existing Typical Sections Repair IA - PPI9 Stringer 3 Repair 1B - PP32 & PP44 Stringers S12-S13 Repair 2 - PP57 Stringers and Expansion Joint

Deck Replacement

Replacement

Special Note for Steel Repairs

Sheet No. SI

S2

S18

S27

Title Sheet

General Notes

Description

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction, with current supplemental specifications. 2002 AASHTO Standard Specifications for Highway Bridges.

DAVIESS

28812



	REVISION	DATE
₹>		
TUCKY ORTATION BINET		
MNET		

	PREPARED BY
3	Palmer

DATE:	DECEMBER, 2024	CHECKED BY	TITLE SHEET	ROUTE	ITEM NO. 2-10020.00
DESIGNED BY:	LD MUDDIN	D.E. RUST		_	2-10020.00
DESIGNED BY:	J.P. MURRIN	D.E. RUST	CROSSING	7 KY 2262	SHEET NO.
DETAILED BY:	M.B. HAGGARD	D.E. RUST	OHIO RIVER at OWENSBORO	111 2202	S01

GENERAL NOTES

SPECIFICATIONS: REFERENCES TO THE SPECIFICATIONS ARE TO THE 2019 EDITION OF THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION INCLUDING ANY CURRENT SUPPLEMENTAL SPECIFICATIONS. ALL REFERENCES TO THE AASHTO SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, WITH INTERIMS. ALL REFERENCES TO THE ASTM STANDARDS ARE TO THE CURRENT EDITION OF THE ASTM STANDARD SPECIFICATIONS, WITH INTERIMS.

MATERIALS DESIGN SPECIFICATIONS:

FOR CLASS AA CONCRETE: F'C = 4,000 PSI FOR CLASS M CONCRETE: F'C = 4,000 PSIFOR EPOXY COATED STEEL REINFORCEMENT: FY = 60.000 PSIFOR STAINLESS STEEL REINFORCEMENT: FY = 60.000 PSI

MAXIMUM AGGREGATE SIZE FOR CLASS AA CONCRETE IN CONCRETE-FILLED STEEL GRID DECK IS 3/4"

ASTM SPECIFICATIONS, CURRENT EDITION, AS DESIGNATED BELOW SHALL GOVERN THE FOLLOWING MATERIALS

ASTM, CURRENT ED. STRUCTURAL STEEL FOR ROLLED SHAPES AND PLATES A709 GRADE 36 MIN. ALTERNATE SPECIFICATION FOR W-SHAPES A992 GRADE 50 ALTERNATE SPECIFICATIONS FOR ANGLES, PLATES, AND CHANNELS A572 GRADE 50 BOLTS (UP TO 11/2" Ø) F3125 GRADE A325

ALL STRUCTURAL STEEL MATERIAL USED IN REPAIR 1 - STRINGER REPAIRS SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TOUGHNESS TEST APPLICABLE TO ZONE 2 IN ACCORDANCE WITH THE FOLLOWING, UNLESS OTHERWISE NOTED:

DIMENSIONS: DIMENSIONS SHOWN ON THESE PLANS ARE TAKEN FROM THE ORIGINAL CONSTRUCTION CONTRACT PLANS AND DO NOT NECESSARILY REFLECT REVISIONS MADE DURING CONSTRUCTION OR REPAIRS PREVIOUSLY INSTALLED. THE CONTRACTOR SHALL VERIFY ELEVATIONS AND DIMENSIONS, INCLUDING THICKNESS OF PARTS AND FASTENER SIZE/SPACING, WITH FIELD MEASUREMENTS PRIOR TO ORDERING MATERIALS OR FABRICATING STEELWORK. ALL PLAN DIMENSIONS ARE FOR A NORMAL TEMPERATURE OF 60°F. LAYOUT DIMENSIONS ARE HORIZONTAL

BRIDGE PLANS: A COPY OF AVAILABLE EXISTING BRIDGE PLANS WILL BE MADE AVAILABLE TO THE SUCCESSFUL

ON SITE INSPECTION: EACH CONTRACTOR SUBMITTING A BID FOR THIS WORK SHALL MAKE A THOROUGH INSPECTION OF THE BRIDGE AND THE WORK SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS SO THAT WORK CAN BE EXPEDITIOUSLY PERFORMED AFTER A CONTRACT IS AWARDED. A SUITABLE METHOD OF PERFORMING THE WORK DESCRIBED HEREIN SHOULD BE INVESTIGATED. SUBMISSION OF A BID WILL BE CONSIDERED EVIDENCE OF THIS INSPECTION HAVING BEEN MADE. ANY CLAIMS FROM SITE CONDITIONS WILL NOT BE HONORED BY THE DEPARTMENT OF HIGHWAYS.

VERIFYING FIELD CONDITIONS: PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE ARE VEHIFTING FIELD CONDITIONS: PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTION ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE THE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK; HOWEVER THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK. IN ADDITION, THE OVERRUN AND UNDERRUN FORMULAS MAY BE APPLIED TO APPROPRIATE REPAIRS PROVIDED THAT THE REQUIREMENTS OF ARTICLE 104.02.02 OF THE STANDARD SPECIFICATIONS ARE SATISFIED WITH ADDITION OF THE RIVET / BOLT REPLACEMENT

WORKING OVER THE OHIO RIVER: A MINIMUM LEVEL OF 3'-O" BELOW LOW STEEL SHALL BE MAINTAINED. THE CONTRACTOR SHALL CONTACT THE US COAST GUARD AND HAVE THEIR WORK PLAN APPROVED BEFORE ANY WORK ON THE BRIDGE COMMENCES.

IF ANY WORK IS CONDUCTED FROM A BARGE OR OTHER VESSEL ON THE OHIO RIVER, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL REGULATORY, STATUTORY, AND INSURANCE REQUIREMENTS THUS APPLICABLE. AGENCIES INVOLVED INCLUDE BUT ARE NOT LIMITED TO THE US ARMY CORPS OF ENGINEERS AND THE US COAST GUARD. THE DEPARTMENT ASSUMES NO OBLIGATIONS OR LIABILITIES FOR WORK STOPPAGES DUE TO ENFORCEMENT ACTIONS BY GOVERNMENT REGULATORY AGENCIES OR TO RELATED DELAYS THAT THE DEPARTMENT DEEMS NECESSARY.

AT LEAST 30 DAYS IN ADVANCE OF BEGINNING CONSTRUCTION, THE SUCCESSFUL CONTRACTOR SHALL SUBMIT TO THE DEPARTMENT (FOR SUBMITTAL TO THE COAST GUARD) A WORK PLAN FOR PERFORMING WORK OVER THE OHIO RIVER. THIS WORK PLAN SHALL INCLUDE BUT IS NOT LIMITED TO METHODS FOR CONTAINING DEBRIS, DEBRIS REMOVAL FROM STREAM, AND MAINTENANCE OF EXISTING NAVIGATIONAL TRAFFIC DURING CONSTRUCTION.

THE CONTRACTOR MUST ADVISE THE COAST GUARD OF THE CONTRACTOR'S PROPOSED SCHEDULE OF WORK AT LEAST IO DAYS PRIOR TO THE COMMENCEMENT OF ANY FIELD OPERATIONS. THE NOTIFICATION SHALL BE ADDRESSED TO:

WESTERN RIVERS BRIDGE BRANCH EIGHTH COAST GUARD DISTRICT 1222 SPRUCE STREET, SUITE 2, 102D ST. LOUIS. MISSOURI 63103 PHONE: 314-269-2378

TEMPORARY WORKS: PROVIDE FLOORING FOR WORKERS IN SITUATIONS WHERE THERE IS DANGER FROM A FALL AND FOR PROTECTION TO RIVER TRAFFIC BELOW. IF TEMPORARY FLOORING IS NECESSARY, THE FLOORING IS TO BE DESIGNED USING THE SUM OF DEAD LOAD AND LIVE VERTICAL LOADS. INCLUDE 50 PSF ON HORIZONTAL SURFACES AND THE WEIGHT OF ANY MATERIAL OR EQUIPMENT THAT IS PLACED OR ALLOWED TO FALL DURING CONSTRUCTION OR DEMOLITION IN THE LIVE LOAD COMPUTATION. SUBMIT THE FLOORING DESIGN ALONG WITH THE FALSEWORK DESIGN TO THE ENGINEER FOR APPROVAL. CONSIDER ALL PHASES OF FURNISHING AND REMOVING THE FLOORING AS INCIDENTAL TO THE CONTRACT. THIS ITEM MAY BE CONSIDERED IN ADDITION TO ANY REQUIREMENT SET FORTH IN SUBSECTION 107.01.01 OF THE SPECIFICATIONS.

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" UNLESS OTHERWISE NOTED.

BARS DESIGNATED BY SUFFIX (ss) SHALL BE STAINLESS STEEL IN ACCORDANCE WITH THE SPECIAL NOTE FOR STAINLESS STEEL REINFORCEMENT.

EXISTING STEEL REINFORCEMENT: THE COST OF CUTTING, BENDING, AND CLEANING EXISTING STEEL REINFORCEMENT SHALL BE INCIDENTAL TO THE REPAIR ITEM BEING COMPLETED.

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

MILL TEST REPORTS: NOTARIZED MILL TEST REPORTS SHALL BE FURNISHED IN TRIPLICATE TO THE DEPARTMENT SHOWING THAT ALL STRUCTURAL STEEL CONFORMS TO THE REQUIREMENTS OF THE SPECIFICATIONS.

WELDING SPECIFICATIONS: ALL WELDING AND WELDING MATERIALS EXCEPT FOR REINFORCEMENT, SHALL CONFORM TO "JOINT SPECIFICATION ANSI/AASHTO/AWS DI.1: 2020 BRIDGE WELDING CODE". MODIFICATION AND ADDITIONS AS STATED ON THE PLANS SHALL SUPERSEDE THE JOINT SPECIFICATIONS.

PROHIBITED FIELD WELDING: EXCEPT WHERE SHOWN IN 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 MAINTENANCE, AND THEN ONLY IN THE MANNER AND AT THE LOCATIONS DESIGNATED IN THE

WELDING REINFORCEMENT: THE WELDING AND WELD MATERIAL SHALL CONFORM TO THE "RECOMMENDED PRACTICES FOR WELDING REINFORCING STEEL", AMERICAN WELDING SOCIETY SPECIFICATIONS, CURRENT EDITION, NO DIRECT PAYMENT SHALL BE MADE FOR WELDING OR WELD MATERIAL, BUT THE COST OF THESE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE REPAIR BEING COMPLETED.

WELDING PROCEDURES: QUALIFICATION TEST OF ALL WELDING PROCEDURES, WHEN REQUIRED BY AWS, SHALL BE COMPLETED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO THE FINAL APPROVAL OF THE SHOP DRAWINGS AND THE START OF THE FABRICATION.

WELD SIZES: UNLESS SPECIFIED OTHERWISE, USE THE FOLLOWING FILLET WELD SIZES:

BASE METAL THICKNESS OF THICKER PART JOINED (IN.)	MINIMUM SIZE OF FILLET WELD (IN.)
TO 1/4" INCLUSIVE	1/8"
OVER 1/4" TO 1/2"	3/16 "
OVER 1/2" TO 3/4"	1/4"
OVER 3/4"	5/16 **

THE WELD SIZE NEED NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

REMOVAL OF EXISTING RIVETS AND BOLTS: THE CONTRACTOR WILL BE PERMITTED TO REMOVE RIVETS IN ANY MANNER THAT DOES NOT DAMAGE ADJACENT STRUCTURAL STEEL. THIS MAY INCLUDE MECHANICAL REMOVAL OR OTHER METHODS APPROVED BY THE ENGINEER. USE OF CUTTING TORCHES WILL NOT BE PERMITTED.

HIGH STRENGTH BOLT CONNECTIONS: UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL BOLTED CONNECTIONS SHALL BE ASTM F3125 GRADE A325 HIGH STRENGTH BOLTS, A563DH NUTS, AND F436 FLAT WASHERS. OPEN HOLES SHALL BE $\frac{1}{16}$ INCH GREATER THAN THE BOLT DIAMETER, UNLESS OTHERWISE NOTED. BOLT THREADS SHALL BE EXCLUDED FROM 100 JINCH GREATER THAN THE BOLT DIAMETER, UNLESS OTHERWISE NOIED. BULLI IHREADS SHALL BE EACLOSED THOM. THE SHEAR PLANE IN ALL BOLTED CONNECTIONS, UNLESS OTHERWISE NOTED. FROM AVAILABLE ORIGINAL DESIGN DRAWING INFORMATION, THE EXISTING RIVET SIZES BELOW ARE ANTICIPATED AND SHALL BE REPLACED WHERE NOTED WITH HIGH STRENGTH BOLTS OF EQUAL SIZE. CONTRACTOR TO VERIFY PRIOR TO ORDERING MATERIALS. I'DIA. IN MAIN TRUSS MEMBERS. 76 DIA. IN FLOOR SYSTEM, LATERAL AND SWAY BRACING, LACING AND STAY PLATES, DECK

ANY CONNECTION OR MIS-DRILLED HOLES IN STEEL MEMBERS THAT ARE NOT SPECIFIED TO RECEIVE ANY OTHER CONNECTED PART SHALL BE FILLED WITH A HIGH STRENGTH BOLT THAT IS TENSIONED PER THE SPECIFICATIONS.

TYPE I MECHANICALLY GALVANIZED BOLTS SHALL BE USED AS DESCRIBED IN AASHTO M 164, ALL HIGH STRENGTH BOLTED CONNECTIONS ARE TO BE INSTALLED USING DIRECT TENSION INDICATORS (DTI's) IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND ASTM F959. ALL DTI'S SHALL BE MECHANICALLY ZINC COATED. INSTALLATION DETAILS OF THE DTI'S SHALL BE SHOWN ON THE SHOP PLANS.

SHOP DRAWINGS: SUBMIT SHOP DRAWINGS DIRECTLY TO THE CONSULTANT. WHEN ANY CHANGES IN THE DESIGN PLANS ARE PROPOSED BY THE FABRICATOR OR SUPPLIER, SUBMIT THOSE CHANGES TO THE CONSULTANT.

SUBMIT FINAL APPROVED SHOP DRAWINGS TO THE ENGINEER.

SHOP DRAWINGS WILL BE REQUIRED FOR THE FOLLOWING REPAIRS:

REPAIR 1 - STRINGER REPAIRS

REPAIR 2 - FINGER EXPANSION JOINT REPAIR

REPAIR 3 - CONCRETE FILLED STEEL GRID DECK REPLACEMENT REPAIR 7 - MISCELLANEOUS STEEL REPAIRS

REPAIR 12 - GIRDER AND FLOORBEAM REPAIR

REPAIR 13 - GIRDER 1 CRACK REPAIR

STUDS: STUDS SHALL BE WELDED IN ACCORDANCE WITH AWS SPECIFICATIONS. STUD LENGTHS SHALL NOT BE LESS THAN 3.5 INCHES. PROVIDE MINIMUM COVER OF 1.5° FROM THE TOP OF THE DECK TO THE TOP OF THE SHEAR CONNECTOR UNLESS OTHERWISE SHOWN.

CLEANING AND PAINTING: REFER TO THE SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL

PAINTING DAMAGED AREAS: ALL AREAS OF NEW OR EXISTING STRUCTURAL STEEL ON WHICH THE PAINT HAS BEEN DAMAGED BY THE CONTRACTOR SHALL BE CLEANED AND SPOT PAINTED TO THE SATISFACTION OF THE ENGINEER AND IN ACCORDANCE WITH THE SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS. THE COST OF THIS TOUCH-UP PAINTING IS TO BE INCIDENTAL TO THE CONTRACT.

DISPOSAL OF MATERIALS: ALL MATERIALS AND DEBRIS REMOVED FROM OR BENEATH THE BRIDGE OR APPROACHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE RIGHT-OF-WAY.

UTILITIES: UTILITIES MAY BE ON THE BRIDGE OR IN THE EXISTING PLINTH AND ARE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, DEACTIVATE AND COORDINATE ACTIVITIES WITH THE UTILITY OWNER.

STABILITY OF THE STRUCTURE: THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE FROM THE TIME OF MOBILIZATION UNTIL AFTER THE BRIDGE HAS BEEN REOPENED TO NORMAL TRAFFIC FOLLOWING COMPLETION OF ALL WORK REQUIRED IN THE

DAMAGE OUTSIDE CONSTRUCTION LIMITS: ANY AREA THAT IS DISTURBED OUTSIDE THE LIMITS OF THE CONSTRUCTION DURING THE LIFE OF THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE, SHOULD SUCH DAMAGE RESULT FROM THE CONTRACTOR'S

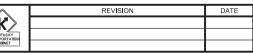
DAMAGE TO THE STRUCTURE: THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY AND EXPENSE FOR REPAIR OF ANY AND ALL DAMAGES TO THE STRUCTURE, SHOULD SUCH DAMAGE RESULT FROM THE CONTRACTOR'S ACTIONS. AFTER COMPLETION OF ALL OPERATIONS, THE STRUCTURE AND SITE SHALL BE LEFT IN A CONDITION THAT IS IN ACCORDANCE WITH SECTION 105.12 OF THE SPECIFICATIONS.

CONSTRUCTION LOAD: THE CONTRACTOR SHALL ABIDE BY THE BRIDGE POSTING LIMITS. STORAGE OF MATERIAL ON THE BRIDGE IS PROHIBITED WITHOUT WRITTEN APPROVAL OF THE

STEEL CURB FASCIA STRINGER: AS NOTED IN THE PLANS, REPLACE ALL STEEL CURB FASCIA STRINGERS AND ANGLES (UPSTREAM AND DOWNSTREAM SIDE) ON THE DECK REPLACEMENT SPAN 29 ONLY, ALL STRINGER LENGTHS, BOLT HOLE PATTERNS, AND BOLT DIAMETERS SHALL BE MEASURED IN THE FIELD BY THE CONTRACTOR, ALL STRINGER SPLICE PLATES SHALL BE REPLACED IN-KIND. ALL MATERIALS AND LABOR SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR STRUCTURAL STEEL. HANDRAIL AND POSTS SHALL REMAIN ATTACHED TO THE BRIDGE

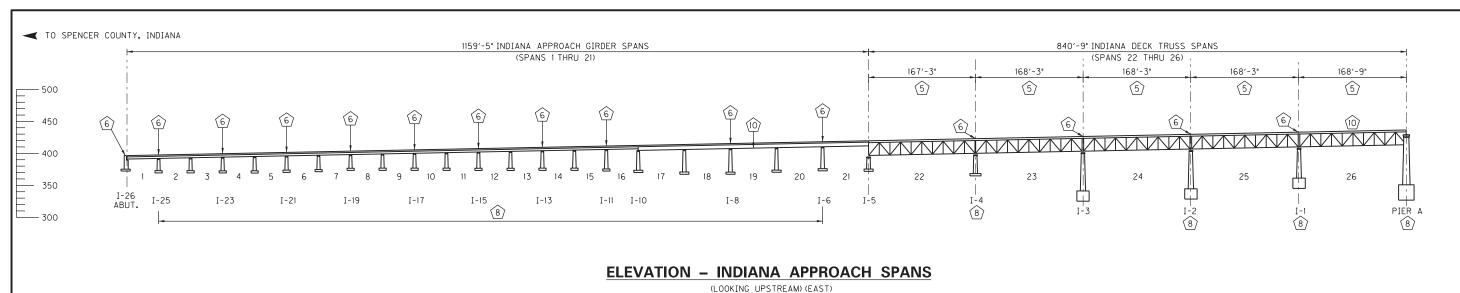
SALVAGE AND REINSTALL CONDUIT: SALVAGE THE EXISTING CONDUIT, CONNECTION, AND HANGER SYSTEM FOR THE BRIDGE LIGHTING UNDER THE SIDEWALK OVERHANG. THE CONDUIT MAY LAY AND REST ON EXISTING KNEE BRACES AND FLOOR BEAMS DURING RECONSTRUCTION OF THE DECK; SOME TEMPORARY SUPPORT MAY BE REQUIRED. TAKE CARE NOT TO DAMAGE THE CONDUIT OR HANGERS DURING CONSTRUCTION, ANY DAMAGE DUE TO THE CONTRACTOR MUST BE REPLACED AT NO COST TO THE DEPARTMENT. PROVIDE AND INSTALL INSERTS TO ACCEPT EXISTING HANGERS AND HARDWARE IN THE PROPOSED SLAB AT THE EXISTING HANGER LOCATIONS. THE CONTRACTOR IS TO ALLOW FOR NEW ALL-THREAD RODS, NUTS, AND WASHERS TO REPLACE EXISTING HARDWARE THAT CANNOT BE REUSED AT EACH LOCATION WITH THIS BID ITEM. REINSTALL CONDUIT AND HANGERS ONCE CONSTRUCTION OF THE DECK SLAB, CURB, AND SIDEWALK IS COMPLETE. INCLUDE ALL WORK FOR THIS ITEM IN THE BID FOR SALVAGE AND REINSTALL CONDUIT PER LINEAR FEET. SEE "SPECIAL NOTE FOR BRIDGE PLANS AND PROJECT INFORMATION."

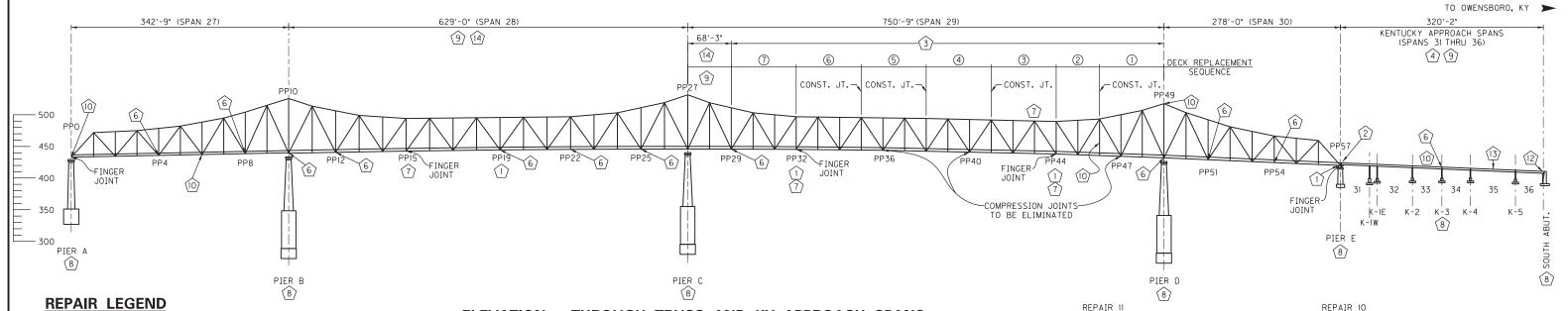
COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS





ATE:	DECEMBER, 2024	CHECKED BY	
ESIGNED BY:	J.P. MURRIN	D.E. RUST	
ETAILED BY:	J.A. ROSE	D.E. RUST	





STRINGER REPAIR

- STRINGER & FINGER EXPANSION JOINT REPAIR
- CONCRETE-FILLED STEEL GRID DECK REPLACEMENT
- LATEX CONCRETE DECK OVERLAY
- REINFORCED CONCRETE DECK REPLACEMENT
- JOINT REPLACEMENT
- MISCELLANEOUS STEEL REPAIRS
- REINFORCED CONCRETE SUBSTRUCTURE REPAIR
- CURB/SIDEWALK REPAIR
- MISSING RIVET / BOLT REPLACEMENT SEE TABLE FOR LOCATION & QUANTITIES
- CLEAN AND GREASE BEARINGS SEE TABLE FOR LOCATION & QUANTITES
- (12) GIRDER AND FLOORBEAM REPAIR
- (13) GIRDER I CRACK REPAIR
- (14) CONCRETE-FILLED STEEL GRID DECK PATCHING

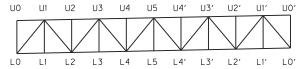
ELEVATION – THROUGH TRUSS AND KY APPROACH SPANS

(LOOKING UPSTREAM) (EAST)

- 3) DECK REPLACEMENT SEQUENCE NOTES:
 - FOR THROUGH TRUSS SPAN 29, REMOVE AND COMPLETELY REPLACE THE EXISTING LIGHTWEIGHT DECK FOR EACH NUMBERED SECTION IN THE SEQUENCE SHOWN PRIOR TO CONTINUING WITH THE NEXT SECTION IN THE SEQUENCE.
 - THE DECK REPLACEMENT SEQUENCE NOTED ABOVE MAY NOT BE MODIFIED UNLESS THE CONTRACTOR SUBMITS FOR THE WRITTEN APPROVAL OF THE ENGINEER, DRAWINGS, PLANS, DETAILS, AND CALCULATIONS PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF KENTUCKY SHOWING THAT TRUSS MEMBER STRESSES, UPLIFT FORCES AT PIERS A AND E, AND ANY OTHER CONSTRUCTION CONCERNS OCCURRING AS A RESULT OF THE MODIFIED REPLACEMENT SEQUENCE HAVE BEEN ADDRESSED.
 - THE CONTRACTOR SHALL USE CARE IN REMOVING THE EXISTING DECK ADJACENT TO THE EXISTING FINGER DAMS. ANY DAMAGE CAUSED BY THE DECK REMOVAL IS TO BE REPLACED AT THE CONTRACTORS EXPENSE. THE EXISTING HARDWARE FOR THESE LOCATIONS IS TO BE REUSED. TEMPORARY SUPPORT MAY BE REQUIRED.
- 5) DECK REPLACEMENT SEQUENCE NOTES:
 - FOR EACH DECK TRUSS SPAN (SPANS 22-26) REMOVE AND COMPLETELY REPLACE THE EXISTING REINFORCED CONCRETE DECK. THE NEW CONCRETE DECK SHOULD BE POURED ONE SPAN AT A TIME.
 - THE CONTRACTOR SHALL USE CARE IN REMOVING THE EXISTING DECK ADJACENT TO THE EXISTING FINGER DAM AT PIER A. ANY DAMAGE CAUSED BY THE DECK REMOVAL IS TO BE REPLACED AT THE CONTRACTORS EXPENSE. THE EXISTING HARDWARE FOR THIS LOCATION IS TO BE REUSED. TEMPORARY SUPPORT MAY BE REQUIRED.
- (14) SEE SPECIAL NOTE FOR "CONCRETE-FILLED STEEL GRID DECK PATCHING"

	(8)							
REPAIR 11								
BEARING LUBRICATION								
PIER	NUMBER OF BEARINGS							
I-25	4							
I-23	4							
I-21	4							
I-19	4							
I-17	4							
I-15	4							
I-13	4							
I-11	4							
1-9	2							
I-8	4							
I-6	4							
1-4	2							
I-3	2							
I-2	2							
I-1	2							
Α	4							
E	2							
K-1	2							
K-2	2							
K-3	2							
K-4	2							
K-5	2							
TOTAL	66							

		REPAIR 10								
				MISSIN	NG RIVE	T/BOI	LT REPLAC	EMEN	Т	
		SPAN		LOC	ATION		US/DS	NUN	/IBER O	F BOLTS
		19		SIRDER 1	AT MID	SPAN	US		1	
		26	L	J3'-U4', U3	3-U4, U	1'-FB1	DS		8	
		27		L)-U1		US		1	
		27			L6		US		1	
		29		L46	5-U46		DS		1	
		29		ı	J49		DS		1	
		33		GIRDER	2 AT F	В1	US		1	
U0	U1	U2	U3	U4	U5	U4′	U3′	U2'	UI'	UO'



TYPICAL DECK TRUSS

(SPANS 22-26)

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I	<i>((%</i>))	COMMONWEALTH OF KENTUCKY
ı	(s) W (s)	DEPARTMENT OF HIGHWAYS

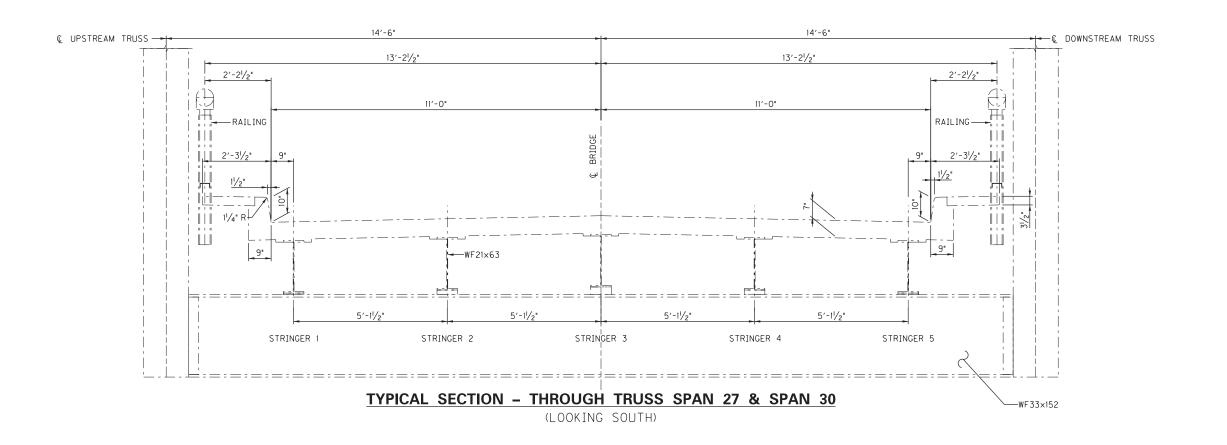
	REVISION	DATE
KENTUCKY TRANSPORTATION		
CABINET		

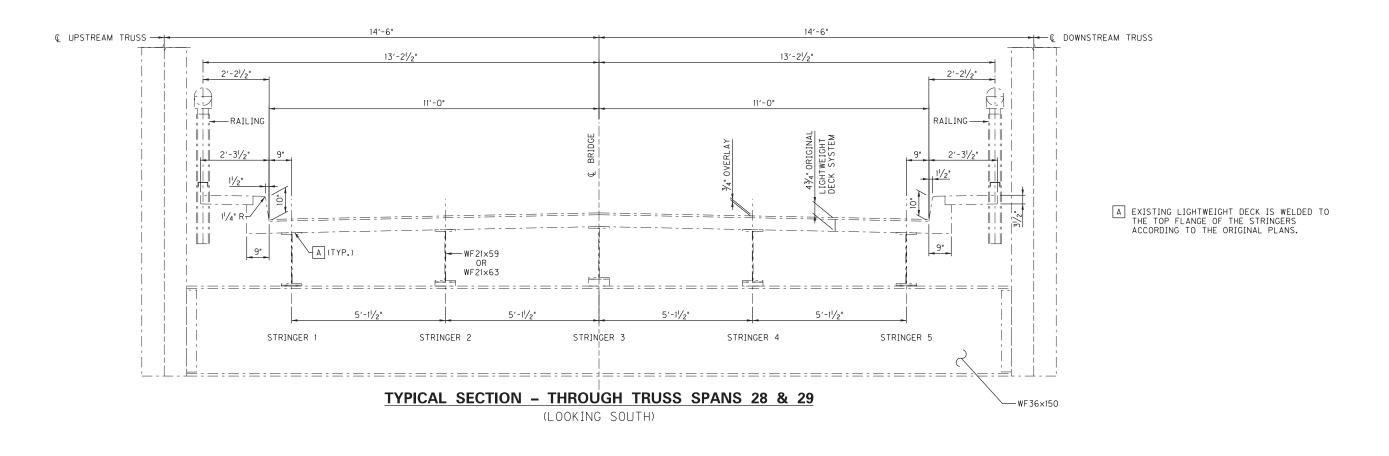
3	Palmer
	PREPARED BY

DATE:	DECEMBER, 2024	CHECKED BY	Γ
DESIGNED BY:	J.P. MURRIN	D.E. RUST	H
DETAILED BY:	M.B. HAGGARD	D.E. RUST	ı

BRIDGE ELEVATION - REPAIR LOCATIONS
CROSSING
OHIO RIVER at OWENSBORO

	ROUTE KY 2262	2-10020.00	COUNTY OF DAVIES
		SHEET NO. S03	DRAWING NUMB 28812





DESIGNED BY: J.P. MURRIN

DETAILED BY: M.B. HAGGARD

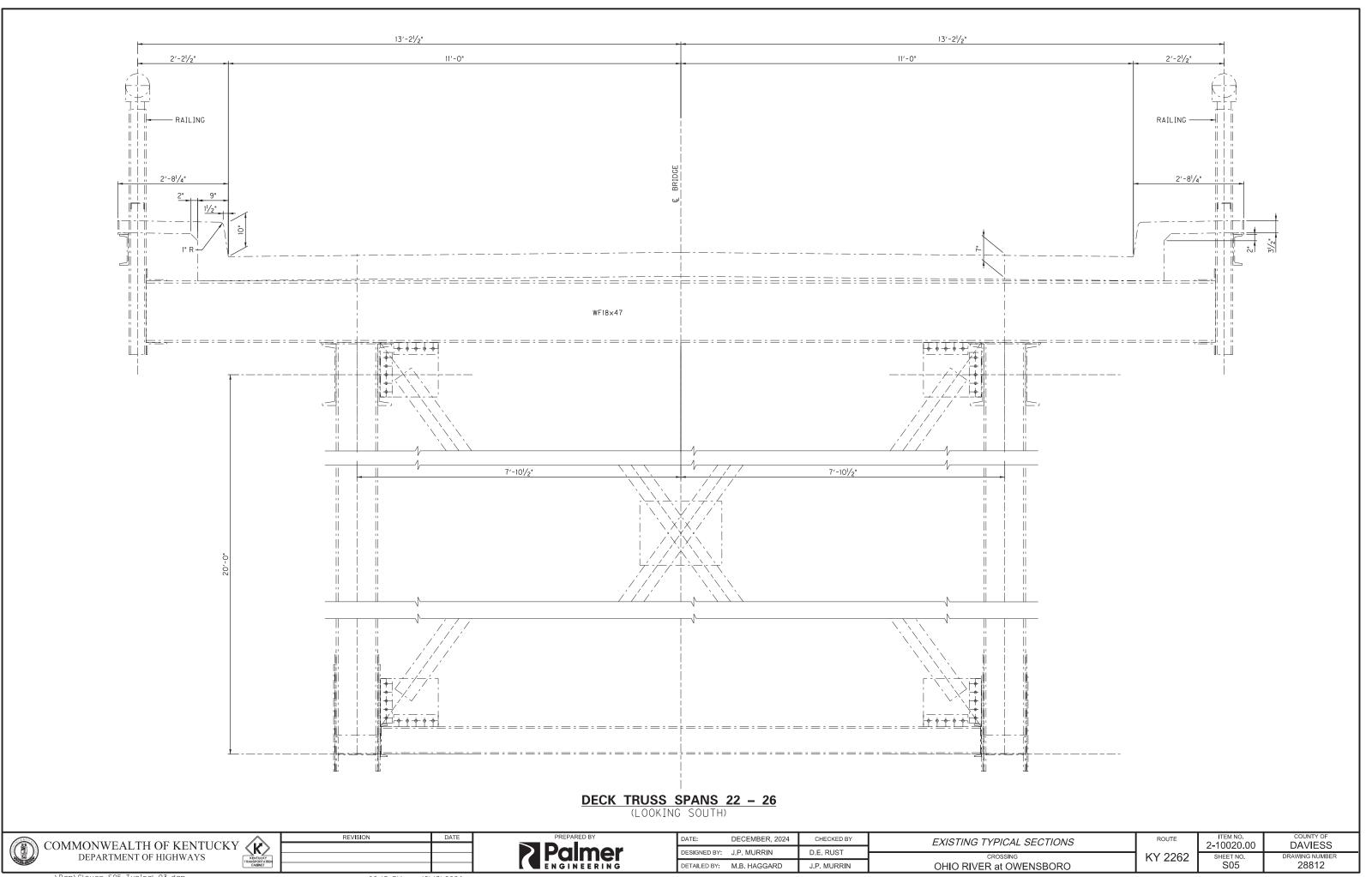
CHECKED BY

D.E. RUST

COMMONWEALTH OF KENTUCKY

DEPARTMENT OF HIGHWAYS

REVISION



STRINGER 3 REPAIR AT PP19

BOLTED ANGLE RETROFIT SEQUENCE

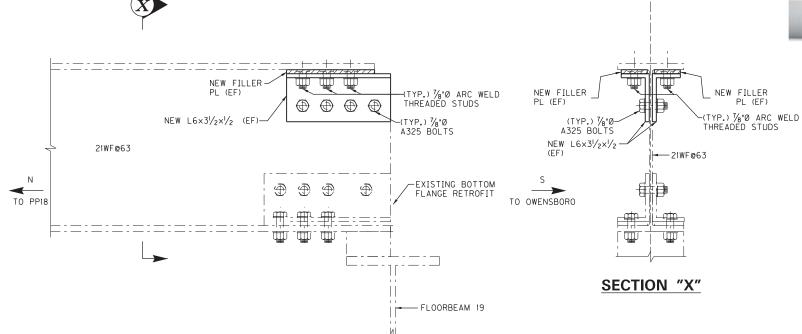
- 1. REMOVE CORROSION AND PAINT FROM THE AREA AROUND THE CORROSION HOLE.
- 2. USE STUD GUN TO ATTACH 1/8° DIA, THREADED ARCH WELD STUDS (6 TOTAL) TO THE TOP FLANGE OF THE STRINGER. ALL WELDING AND WELDING MATERIALS SHALL CONFORM TO AWS SPECIFICATIONS.
- 3. DRILL HOLES THROUGH STRINGER WEB (4 TOTAL).
- 4. USE DEPICTED FILL PLATE WITH OVERSIZED HOLES TO AVOID FITTING ISSUES FROM WELDED THREADED STUDS.
- 5. ATTACH ANGLES WITH 7_8 $^{\circ}$ $^{\circ}$ A325 BOLTS THROUGH THE STRINGER WEB.

CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE ANY MEMBERS AROUND THE REPAIR LOCATION. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S

SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS."

SEE "SPECIAL NOTE FOR STEEL REPAIRS."

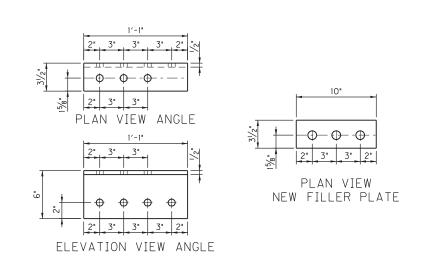
NOTE: THE CONCRETE-FILLED STEEL GRID DECK TO BE LEFT IN PLACE FOR THE DURATION OF THIS REPAIR.



STRINGER 3 REPAIR AT PP19



LOOKING SOUTHEAST AT THE NORTH FACE OF FLOORBEAM 19



NEW L6 X 3 1/2" X 1/2" AND FILLER PLATE

	\wedge	
Y.	(K)	
	KENTUCKY TRANSPORTATION	
	CABINET	

$\overline{}$	REVISION	DATE
K>		
KENTUCKY NSPORTATION		
CABINET		



DATE:	DECEMBER, 2024	CHECKED BY
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN

REPAIR 1A - PP19 STRINGER 3 REPAIR	
CROSSING	_
OHIO RIVER at OWENSBORO	

PREPARATION - DISASSEMBLY OF EXPANSION JOINT AND STRINGER ENDS AT PP44 (SEE SHEET 2 OF THIS REPAIR)

- REMOVE CONCRETE LIGHTWEIGHT DECK TO ALLOW ADEQUATE ACCESS TO STRINGER ENDS BELOW.
- DISPLACE JOINT SUPPORT CHANNELS BY REMOVING RIVETS ON CONNECTION ANGLES 3A AND 3C.
- (2B) REMOVE RIVETS ATTACHING FINGER JOINT CHANNELS TO CONNECTION ANGLES 3A AND 3C. 8 RIVETS EACH FACE OF STRINGER.
- REMOVE RIVETS THROUGH TOP FLANGE OF THE STRINGERS THAT IMPEDE CHANNEL SLIDING. 5 RIVETS EACH FACE OF STRINGER.
- REMOVE FILL PLATES BETWEEN BOOT (CUT CHANNEL) TOP FLANGE AND JOINT CHANNELS, FEACH FACE OF STRINGER.
- REMOVE CONNECTION ANGLES 3A AND 3C BY REMOVING RIVETS THROUGH THE STRINGER WEBS. 2 ANGLES EACH FACE OF STRINGER
- REMOVE RIVETS ATTACHING ANGLES 3A AND 3C TO THE STRINGER WEBS, 6 RIVETS TOTAL.
 - STEPS ITHROUGH 3B SHOULD BE DONE TO ALL 5 STRINGER ENDS. THE FINGER PLATES SHOULD BE DISCONNECTED AND FREE TO SLIDE TO THE NORTH AND SOUTH ON TOP OF THE STRINGERS.
- SLIDE SOUTH FINGER PLATE, WITH SUPPORT CHANNELS, ALONG EXISTING STRINGERS TO THE SOUTH IN ORDER TO ACHIEVE ENOUGH CLEARANCE TO REMOVE THE MIDDLE CHANNEL.
- SLIDE NORTH FINGER PLATE, WITH SUPPORT CHANNELS, ALONG EXISTING STRINGERS TO THE NORTH IN ORDER TO ACHIEVE ENOUGH CLEARANCE TO REMOVE THE MIDDLE CHANNEL.
- REMOVE MIDDLE CHANNEL BY REMOVING RIVETS ON CONNECTION ANGLE 6B.
- (6B) REMOVE RIVETS ATTACHING ANGLE 6B TO THE CHANNEL WEB (8 TOTAL). COMPLETE AT ALL 5 STRINGER ENDS AND THEN PULL OUT MIDDLE CHANNEL.
- REMOVE RIVETS ATTACHING ANGLE 6B TO THE STRINGER WEBS (6 TOTAL) AND REMOVE ANGLE 6B.
- SLIDE NORTH FINGER JOINT TO THE SOUTH SIDE OF THE FLOORBEAM TO ALLOW ENOUGH CLEARANCE FOR THE STRINGER END REPLACEMENTS TO THE NORTH AND BOOT REPLACEMENTS TO THE SOUTH.
- REMOVE DETERIORATED BOOTS (CUT CHANNELS) BY REMOVING RIVETS THROUGH WEB AND BOTTOM FLANGE OF STRINGER.
- (8B) REMOVE RIVETS THROUGH WEB AND BOTTOM FLANGE, (16 RIVETS TOTAL).
- REMOVE CRACKED STRINGER SECTION BY REMOVING BOLTS THROUGH FLOORBEAM AND CUT OUT DAMAGED SECTION OF STRINGER.
- REMOVE BOLTS HOLDING STRINGER TO FLOORBEAM. BEARING ASSEMBLY AND RIVETS MAY NEED TO BE REMOVED FOR CLEANING AND EASIER PLACEMENT OF NEW STRINGER.
- MECHANICALLY CUT OR USE A PLASMA TORCH TO REMOVE THE STRINGER, TO THE EXTENT SHOWN ON SHEET 4 OF THIS REPAIR. GRIND EDGE SMOOTH TO THE SATISFACTION OF THE ENGINEER. USE OF OXY-ACETYLENE TORCHES WILL NOT

REPAIR - STRINGER ENDS AND EXPANSION JOINT RE-ASSEMBLY (SEE SHEETS 3 AND 4 OF THIS REPAIR)

- REPLACE CUT OUT SECTION OF STRINGER WITH NEW ROLLED SHAPE (W21x59).
- BOLT NEW SHAPE TO FLOORBEAM 44 WITH NEW HIGH STRENGTH BOLTS AND TIGHTEN PER THE STANDARD
- A2 INSTALL NEW SPLICE PLATES TO CONNECT THE NEW SHAPE TO THE EXISTING WF21x59. SEE SHEET 4 OF THIS REPAIR FOR SPLICE PLATE DIMENSIONS AND DETAILS.
- INSTALL NEW MC18×45.8 BOOTS (CUT CHANNELS) WITH NEW HIGH STRENGTH BOLTS (1 BOOT EF OF STRINGER). SEE SHEET 4 OF THIS REPAIR FOR NEW BOOT (CUT CHANNELS) DIMENSIONS AND DETAILS.
- INSTALL NEW HIGH STRENGTH BOLTS THROUGH THE WEB AND BOTTOM FLANGE AND TIGHTEN PER THE STANDARD SPECIFICATIONS (16 BOLTS TOTAL).
- SLIDE NORTH FINGER PLATE WITH SUPPORT CHANNELS BACK TO THE NORTH SIDE OF FLOORBEAM 44. ALLOW FOR ENOUGH CLEARANCE TO RE-INSTALL THE MIDDLE CHANNEL.
- RE-INSTALL THE MIDDLE CHANNEL AND ANGLE 6B.
- INSTALL NEW HIGH STRENGTH BOLTS CONNECTING ANGLE 6B TO THE NEW STRINGER WEB AND TIGHTEN PER THE STANDARD SPECIFICATIONS. (6 BOLTS TOTAL).
- INSTALL NEW HIGH STRENGTH BOLTS CONNECTING THE MIDDLE CHANNEL WEB TO ANGLE 6B AND TIGHTEN PER THE STANDARD SPECIFICATIONS (8 BOLTS TOTAL).
- SLIDE NORTH FINGER PLATE WITH SUPPORT CHANNELS BACK INTO POSITION TO FASTEN OVER NEW STRINGER ON THE NORTH SIDE OF FLOORBEAM 44.
- INSTALL NEW HIGH STRENGTH BOLTS TO ATTACH THE JOINT TO THE TOP FLANGE OF THE STRINGER AND TIGHTEN PER THE STANDARD SPECIFICATIONS (2 BOLTS EF OF STRINGER).
- RE-INSTALL ANGLE 3A.
- INSTALL NEW HIGH STRENGTH BOLTS THROUGH THE STRINGER AND CHANNEL WEBS AND TIGHTEN PER THE STANDARD SPECIFICATIONS (II BOLTS TOTAL).
- SLIDE SOUTH FINGER PLATE WITH SUPPORT CHANNELS BACK INTO POSITION TO FASTEN OVER NEW BOOT (CUT CHANNEL) ON THE SOUTH SIDE OF FLOORBEAM 44.
- INSTALL NEW HIGH STRENGTH BOLTS TO ATTACH THE JOINT TO THE TOP FLANGE OF THE NEW BOOT (CUT CHANNEL) AND TIGHTEN TO THE STANDARD SPECIFICATIONS (3 BOLTS EF OF STRINGER).
- INSTALL NEW HIGH STRENGTH BOLTS THROUGH THE STRINGER AND CHANNEL WEBS AND TIGHTEN PER THE STANDARD SPECIFICATIONS (II BOLTS TOTAL).
- PERFORM "PP44 STRINGER 1&5 CORROSION HOLE REPAIR" ON SHEET 5 OF THIS REPAIR. (2 LOCATIONS ONLY)
- SEE SHEET SI3 FOR LIGHTWEIGHT DECK REPLACEMENT TO BE COMPLETED AFTER REPAIRS TO THE SUPERSTRUCTURE

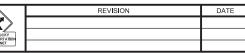
NOTES:

- SOME STEPS SHOWN IN MULTIPLE VIEWS FOR CLARITY.
- 2.
- THE TOTAL NUMBER OF RIVETS OR BOLTS SHOWN IS THE TOTAL AT EACH INDIVIDUAL INTERIOR STRINGER LOCATION. EXTERIOR STRINGERS VARY.
- TEMPORARY SHORING IS REQUIRED ON BOTH SIDES OF FB44 IN ORDER TO COMPLETE REPAIRS.
- CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE ANY MEMBERS TO REMAIN. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE
- 10 TOTAL STRINGER REPAIRS AT THIS LOCATION (PP4).

SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS."

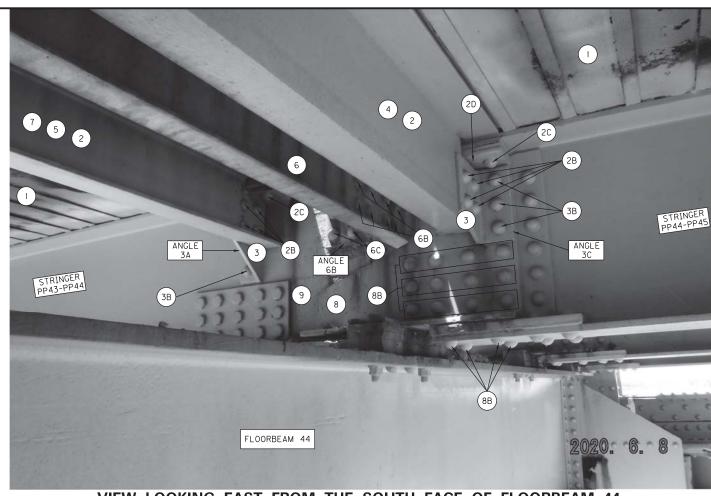
SEE "SPECIAL NOTE FOR STEEL REPAIRS."

**THIS REPAIR IS DESCRIBED AND DEPICTED ON SHEETS SO7-SIO AS THE STRINGERS AS PP44. THE SAME REPAIR SHALL BE PERFORMED AT PP32. PP32 IS A MIRROR OF PP44.

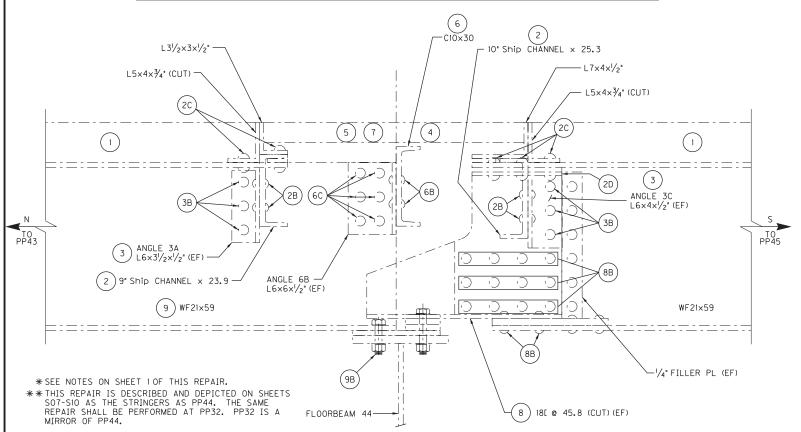




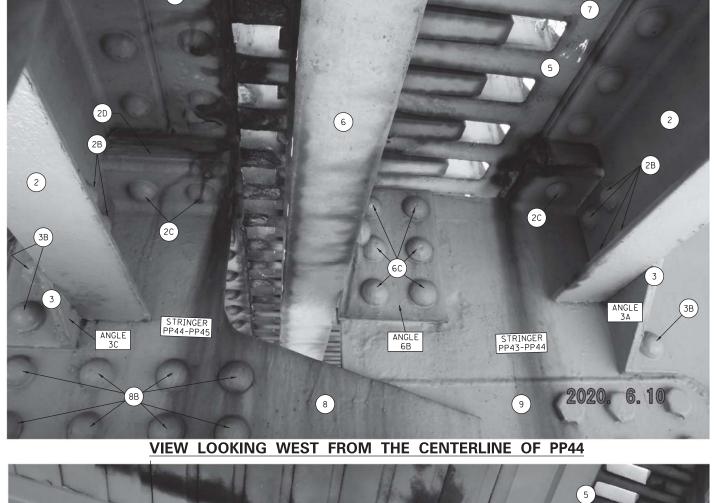
DATE:	DECEMBER, 2024	CHECKED BY
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	J.A. ROSE	J.P. MURRIN

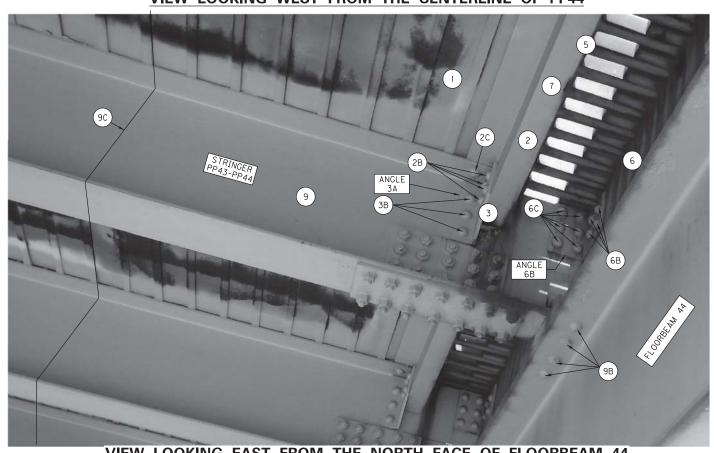


VIEW LOOKING EAST FROM THE SOUTH FACE OF FLOORBEAM 44



EXISTING STRINGER ENDS & EXPANSION JOINT AT PP44





VIEW LOOKING EAST FROM THE NORTH FACE OF FLOORBEAM 44

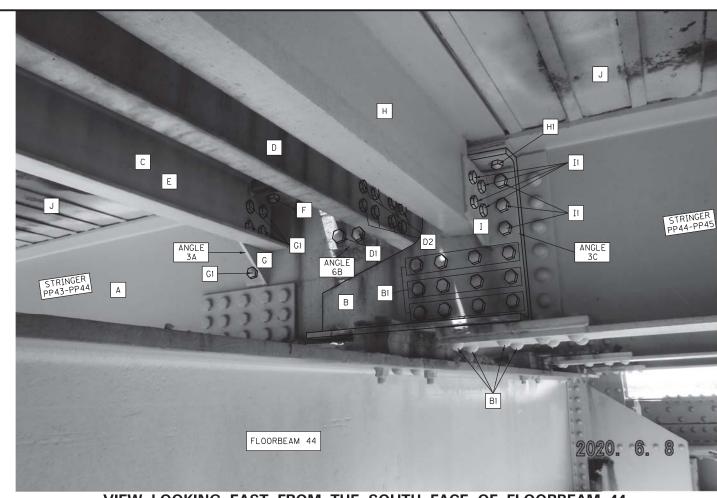


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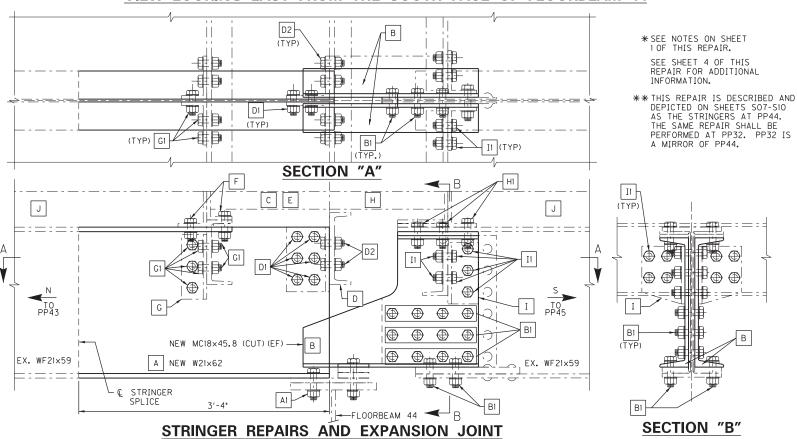
DECEMBER, 2024 DESIGNED BY: J.P. MURRIN D.E. RUST DETAILED BY: J.A. ROSE J.P. MURRIN REPAIR 1B - STRINGER REPAIRS PP32&PP44 - SHEET 2 CROSSING
OHIO RIVER at OWENSBORO

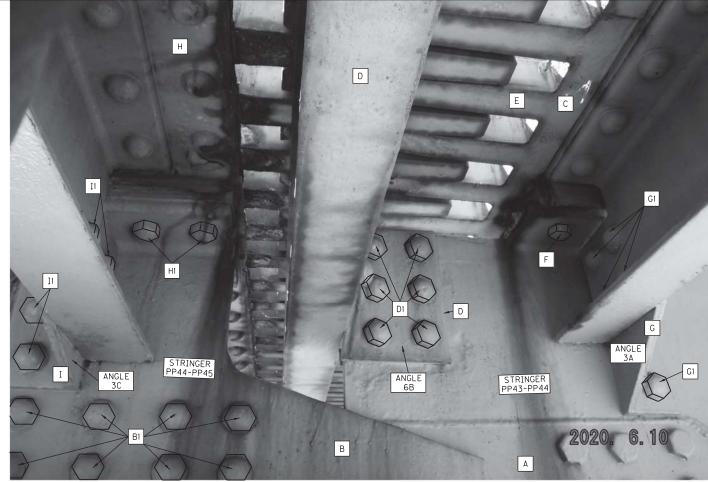
KY 2262

2-10020.00 **DAVIESS** 28812

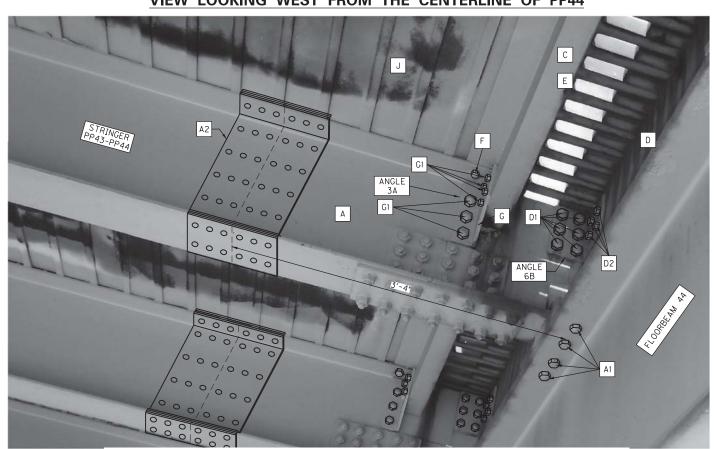


VIEW LOOKING EAST FROM THE SOUTH FACE OF FLOORBEAM 44





VIEW LOOKING WEST FROM THE CENTERLINE OF PP44



VIEW LOOKING EAST FROM THE NORTH FACE OF FLOORBEAM 44



RE-INSTALLATION AT PP44

CUCKY RANDUCKY REVISION DATE

TO CHARGE T

Palmer

 DATE:
 DECEMBER, 2024
 CHECKED BY

 DESIGNED BY:
 J.P. MURRIN
 D.E. RUST

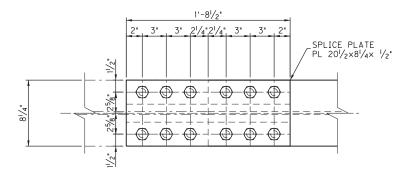
 DETAILED BY:
 J.A. ROSE
 J.P. MURRIN

REPAIR 1B - STRINGER REPAIRS PP32&PP44 - SHEET 3

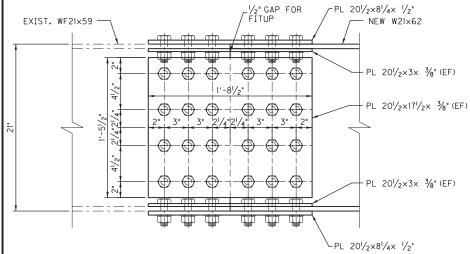
CROSSING

OHIO RIVER at OWENSBORO

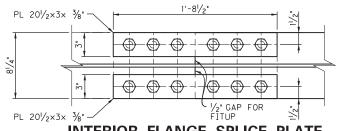
KY 2262



TOP AND BOTTOM FLANGE



WEB SPLICE PLATE ELEVATION

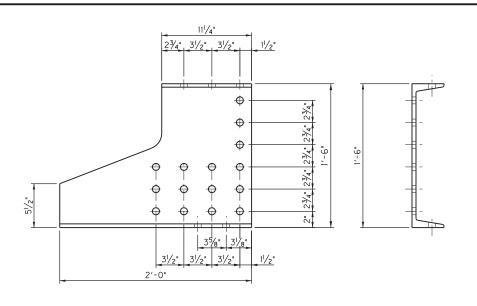


INTERIOR FLANGE SPLICE PLATE

A2 STRINGER REPAIR SPLICE PLATES DETAILS

ALL HOLES IN OLD AND NEW STRUCTURAL STEEL SHALL BE DRILLED ACCORDING TO STANDARD SPECIFICATIONS.

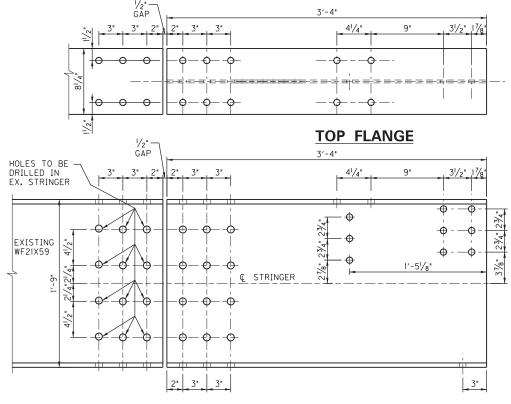
- *SEE NOTES ON SHEET 1 OF THIS REPAIR.
- ** THIS REPAIR IS DESCRIBED AND DEPICTED ON SHEETS SO7-SIO AS THE STRINGERS AT PP44. THE SAME REPAIR SHALL BE PERFORMED AT PP32. PP32 IS A MIRROR OF PP44.



NEW BOOT (CUT CHANNEL MC18x45.8)

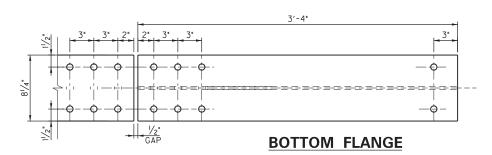
5 TOTAL BOOTS NEEDED EACH ORIENTATION. ALL DIMENSIONS AND HOLE LOCATIONS TO DUPLICATE EXISTING RIVET LOCATIONS SHALL BE FIELD VERIFIED

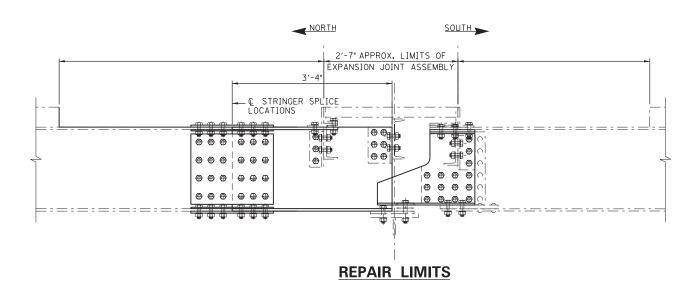
NOTE: FRONT FACE IS SHOWN LOOKING EAST, BACK FACE IS MIRRORED.



NEW STRINGER W21x62 – ELEVATION

LOCATION OF HOLES THROUGH THE NEW STEEL THAT ARE TO DUPLICATE EXISTING RIVET LOCATIONS SHALL BE FIELD VERIFIED BEFORE DRILLING.







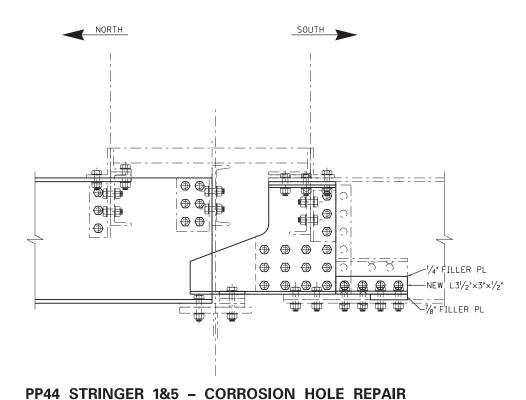
REVISION DATE

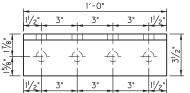
PREPARED BY		
3	Palmer	

DECEMBER, 2024 CHECKED BY D.E. RUST DESIGNED BY: J.P. MURRIN J.P. MURRIN

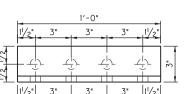
REPAIR 1B - STRINGER REPAIRS PP32&PP44 - SHEET OHIO RIVER at OWENSBORO

2-10020.00 DAVIESS KY 2262 28812 S10

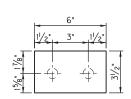




PLAN VIEW OF $3\frac{1}{2}$ "x3"x $\frac{1}{2}$ " ANGLE (2 ANGLES NEED PER REPAIR, 1 PER SIDE)

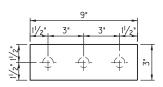


ELEVATION VIEW OF $3\frac{1}{2}$ "x3"x $\frac{1}{2}$ " ANGLE (2 ANGLES NEED PER REPAIR, 1 PER SIDE)



PLAN VIEW OF \%" FILLER PLATE

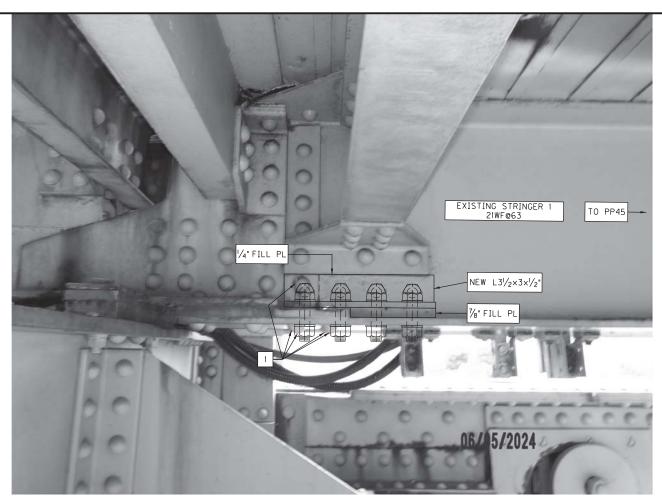
(2 PLATES NEED PER REPAIR, 1 PER SIDE)



ELEVATION VIEW OF 1/4"

FILLER PLATE

(2 PLATES NEED PER REPAIR, 1 PER SIDE)



VIEW LOOKING EAST FROM THE SOUTH FACE OF FLOORBEAM 44

REMOVE RIVETS FOR REPAIR ACCESS AND REPLACE WITH HIGH STRENGTH BOLTS. 5 RIVETS TOTAL EACH STRINGER. THIS REPAIR IS ONLY TO BE COMPLETED ON STRINGER 1&5 AT PP44.





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DATE: DECEMBER, 20		CHECKED BY
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN

EXPANSION JOINT TEMPORARY REMOVAL AND STRINGER PREPARATION

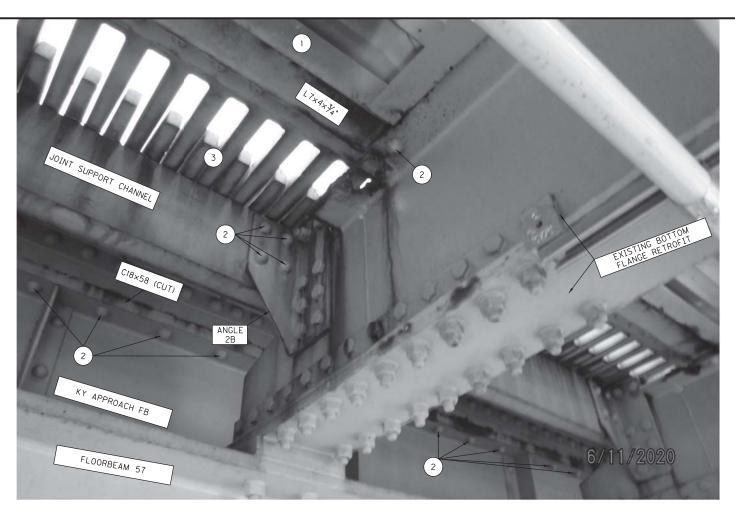
- REMOVE CONCRETE TO THE EXTENT OF THE BLOCKOUTS SHOWN ON THIS SHEET. EDGES OF CONCRETE SHALL BE NEAT AND SOUARE. STEEL EXTENDING INTO BLOCKOUT SHALL REMAIN AND BE CLEANED FREE OF DEBRIS AND RUST.
- 2 DISPLACE JOINT SUPPORT CHANNELS AND CONNECTION ANGLES BY REMOVING RIVETS ON CONNECTION ANGLE 2B (4 RIVETS EF STRINGER), THE EXISTING L7x4x¾*(IRIVET EF STRINGER), AND C18x58(CUT) (RIVETS SPACED ~9* ENTIRE LENGTH OF THE KY APPROACH FLOORBEAM).
- (3) REMOVE EXISTING EXPANSION JOINT ASSEMBLY.
- (3B) REMOVE $1^{1}/2 \times \frac{3}{9}$ " PLATES WITH 2" HOOK, FROM THE C18×58(CUT) AND L7×4× $\frac{3}{4}$ ". GRIND LEGS OF ANGLES SMOOTH.

NOTE:

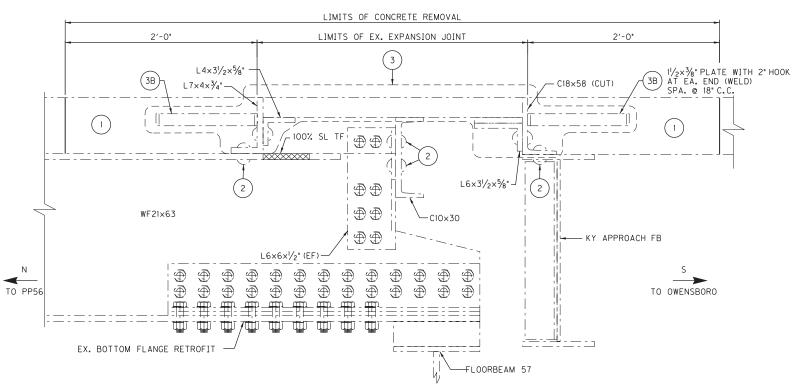
- 1. THE TOTAL NUMBER OF RIVETS OR BOLTS SHOWN IS THE TOTAL AT EACH INDIVIDUAL INTERIOR STRINGER LOCATION.
- 2. CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE EXISTING JOINTS, DECK REINFORCEMENT, OR ANY STEEL MEMBERS TO REMAIN IN PLACE. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- 3. CLEAN RUST AT STRINGER ENDS WITHIN THE LIMITS OF THE REPAIR.
- 4. 5 TOTAL STRINGER REPAIRS AT THIS LOCATION (PP57).

SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS."

SEE "SPECIAL NOTE FOR STEEL REPAIRS."



LOOKING SOUTHWEST FROM THE NORTH FACE OF FLOORBEAM 57



EXISTING SECTION FOR EXPANSION JOINT AND STRINGER ENDS AT PP57 - PIER E



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KENTUCKY TRANSPORTATION		
CABINET		

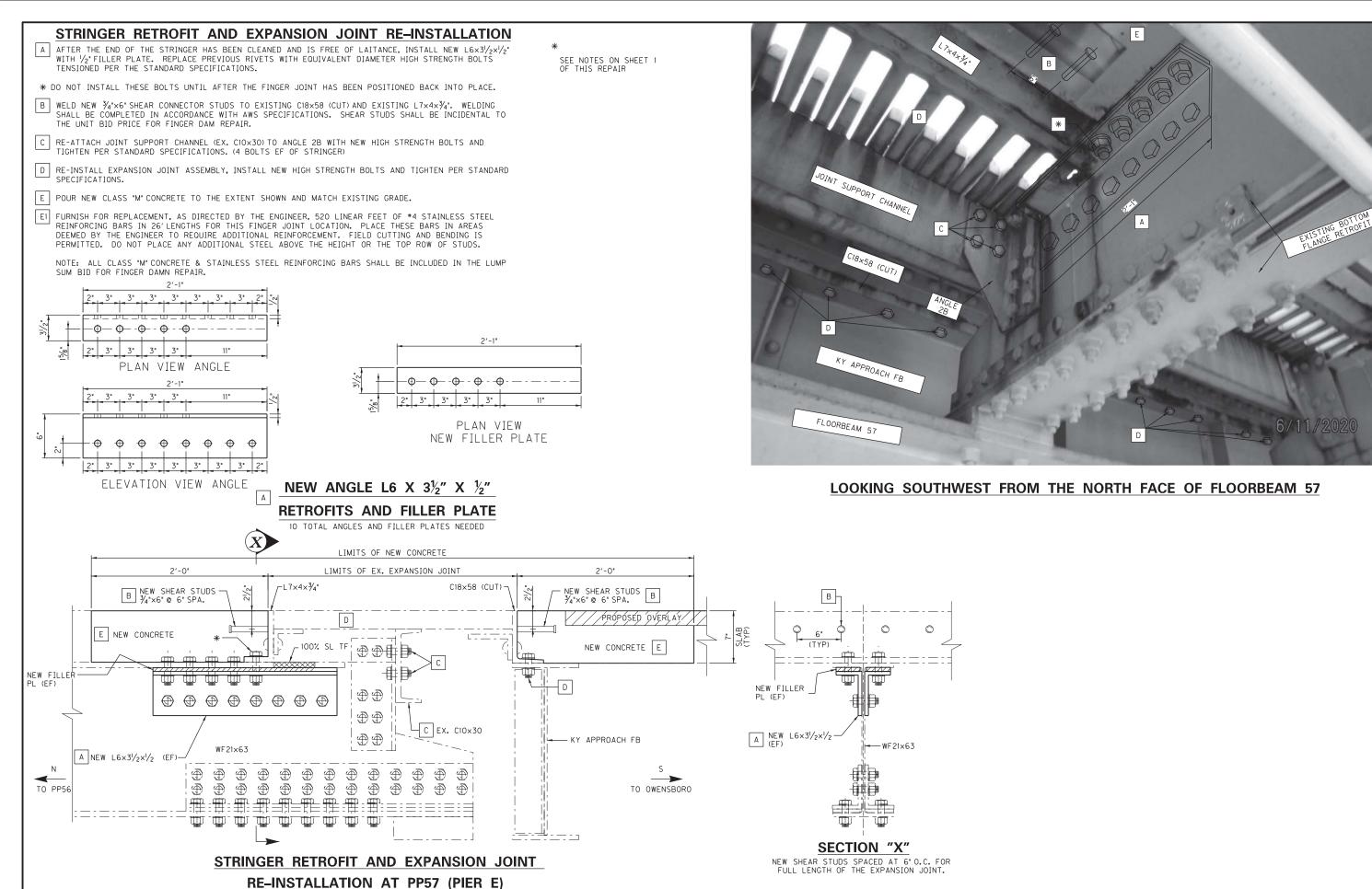


DATE:	DECEMBER, 2024	CHECKED BY	
DESIGNED BY:	J.P. MURRIN	D.E. RUST	
DETAILED BY:	J.A. ROSE	J.P. MURRIN	

REPAIR 2 - PP57 STRINGERS AND EXPANSION JOINT PIER E - SHEET 1	ROUTE	2-100
CROSSING	KY 2262	SHEE
OHIO RIVER at OWENSBORO		S

ROUTE 1TEM NO. 2-10020.00 DAVIESS

KY 2262 SHEET NO. DRAWING NUMBER 28812



COMMONWEALTH OF KENTUCKY (K) DEPARTMENT OF HIGHWAYS

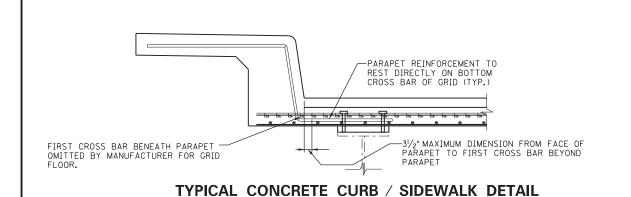
...\Glover_SI3_P57_Repair-01.dgn

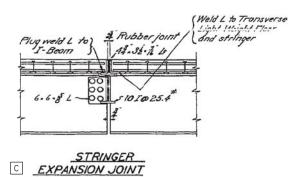
REVISION

Palmer

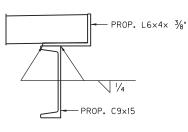
DECEMBER, 2024 D.E. RUST DESIGNED BY: J.P. MURRIN DETAILED BY: J.A. ROSE J.P. MURRIN REPAIR 2 - PP57 STRINGERS AND EXPANSION JOINT PIER E - SHEET 2 OHIO RIVER at OWENSBORO

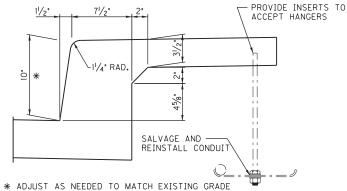
2-10020.00 DAVIESS KY 2262 SHEET NO 28812





(Light Weight Floor)

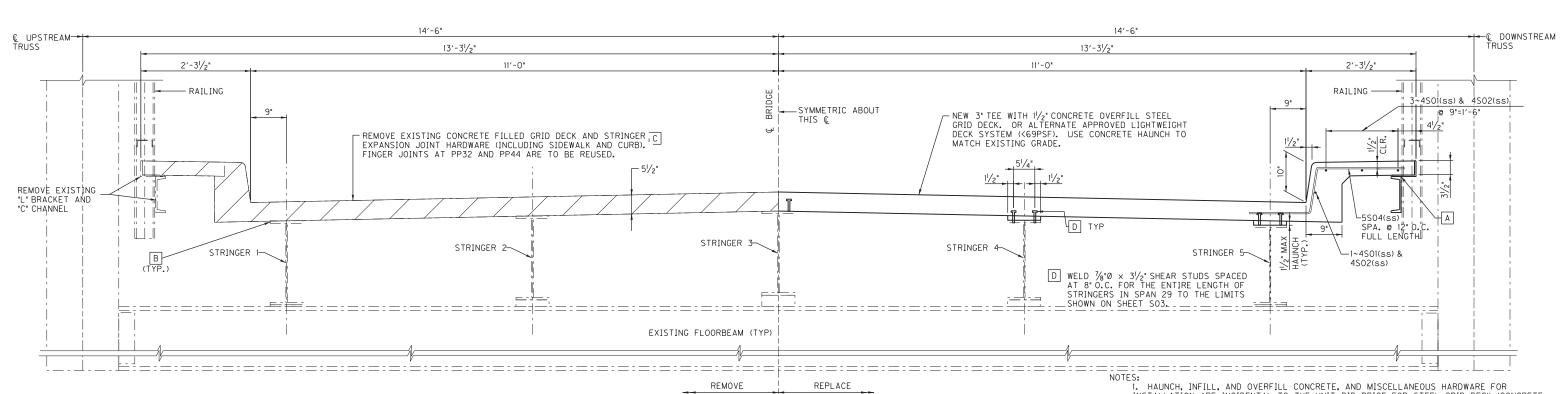




A WELD DETAIL

CURB DETAIL (TYP. BOTH CURBS)

SEE "SPECIAL NOTE FOR SALVAGE AND REINSTALL CONDUIT"

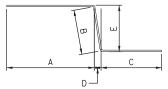


CONCRETE FILLED STEEL GRID DECK REPLACEMENT MAIN TRUSS SPAN 29

(LOOKING SOUTH)

1. HAUNCH, INFILL, AND OVERFILL CONCRETE, AND MISCELLANEOUS HARDWARE FOR INSTALLATION ARE INCIDENTAL TO THE UNIT BID PRICE FOR STEEL GRID DECK (CONCRETE FILLED).

- 2. REUSE EXISTING DRAINS. CONTRACTOR IS TO FORM AROUND EXISTING DECK DRAINS AND REPLICATE EXISTING DRAWDOWN TO THE DRAIN IN THE PROPOSED SLAB. THIS WORK IS INCIDENTAL TO THE UNIT BID PRICE FOR STEEL GRID DECK (CONCRETE FILLED).
- 3. FOR TYPICAL EXPANSION JOINT DETAILS AND LOCATIONS REFER TO SHEET SI7.
- \fbox{A} PROPOSED C9x15 CURB FASCIA STRINGER AND L6x4x $\%^*$ angle on upstream and downstream curb and sidewalk.
- B EXISTING LIGHTWEIGHT DECK IS WELDED TO THE TOP FLANGE OF THE STRINGERS ACCORDING TO THE ORIGINAL PLANS. COMPLETELY REMOVE EXISTING WELDS AS PART OF GRID DECK REMOVAL.
- C EXISTING STRINGER EXPANSION JOINT DETAILS TAKEN DIRECTLY FROM THE ORIGINAL PLANS



SEE "SPECIAL NOTE FOR BRIDGE DECK REMOVAL"

** LOCATION OF BARS
CORRESPOND TO THE BAYS
IN THE DECK REPLACEMENT
SEQUENCE ON SHEET SO3

2'-6" MINIMUM SPLICE LENGTH FOR NO. 4 BARS

	BILL OF REINFORCEMENT - CURB / SIDEWALK										
	MARK	TYPE	NUMBER	SIZE	LENGTH	LOCATION * *	Α	В	С	D	E
ı	4S01(ss)	STR	32	4	53'-9 "	BAYS 1&7					
-	4S02(ss)	STR	112	4	36'-8"	BAYS 2,3,4,5,&6					
	5S04(ss)	21	1367	5	4'-1"	TOP OF SLAB/SIDEWALK	1'-10"	0'-113/4"	1'-3"	0'-2"	0'-115/8"
۱.											

COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	_
COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	Y

- ^	REVISION	DATE
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KENTUCKY TRANSPORTATION		
CABINET		

PREPARED BY			
Palmer			

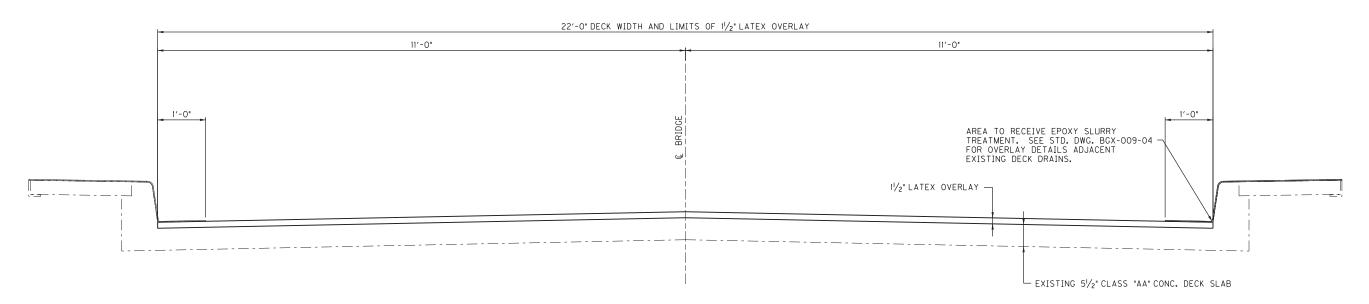
DATE:	DECEMBER, 2024	CHECKED BY	
DESIGNED BY:	J.P. MURRIN	D.E. RUST	
DETAILED BY:	IA POSE	I D MI IDDIN	l

REPAIR 3 - CONCRETE FILLED
STEEL GRID DECK REPLACEMENT

CROSSING
OHIO RIVER at OWENSBORO

COUNTY OF 2-10020.00
DAVIESS

KY 2262
SHEET NO. DRAWING NUMBER 28812



LATEX CONCRETE OVERLAY CONSTRUCTION KY APPROACH SPANS 31–36

(SHOWING OVERLAY LIMITS)
(SUPERSTRUCTURE NOT SHOWN FOR CLARITY)

OVERLAY NOTES

- 1. LIMITS OF OVERLAY REPLACEMENT ARE FROM PIER E TO THE END OF BRIDGE AT THE KENTUCKY ABUTMENT (SPANS 31-36).
- 2. SEE "SPECIAL NOTE FOR BRIDGE RESTORATION WITH CONCRETE OVERLAYS" AND "SPECIAL NOTE FOR USE OF THE HYDRODEMOLITION METHOD" FOR ADDITIONAL INFORMATION.
- 3. THE CONTRACTOR SHALL PROTECT EXISTING EXPANSION JOINTS DURING OVERLAY PLACEMENT.
- 4. LONGITUDINAL CONSTRUCTION JOINTS SHALL COMPLY WITH SECTION 606.03.08 OF THE SPECIFICATIONS.

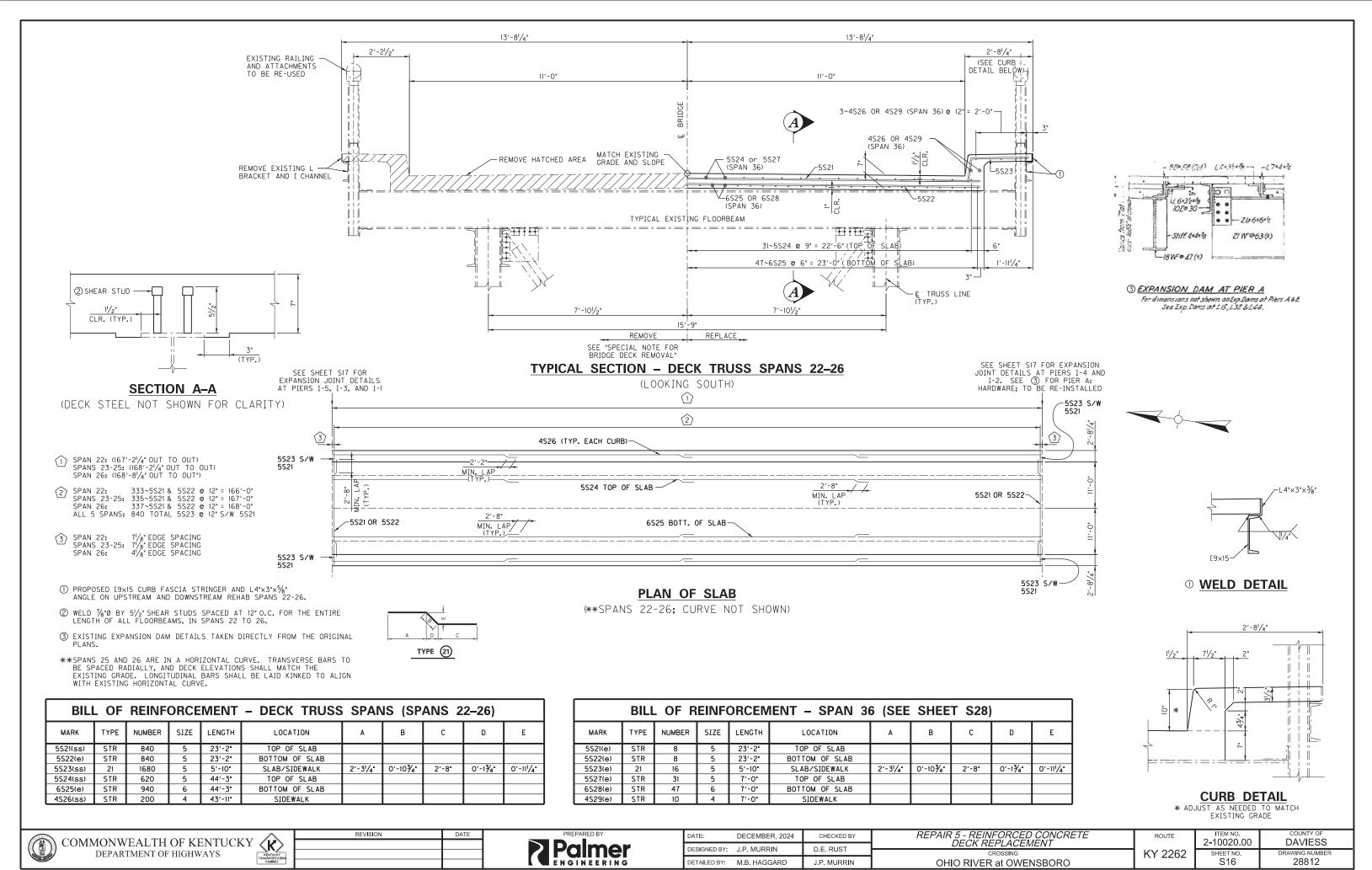
NOTE: EPOXY SLURRY APPLICATION WILL NOT BEGIN UNTIL CURB \prime SIDEWALK PATCHING REPAIRS (SEE REPAIR 9, SHEET S27) HAVE BEEN COMPLETED.

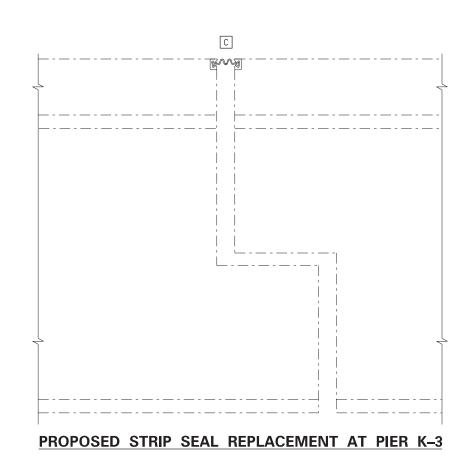
	COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	_
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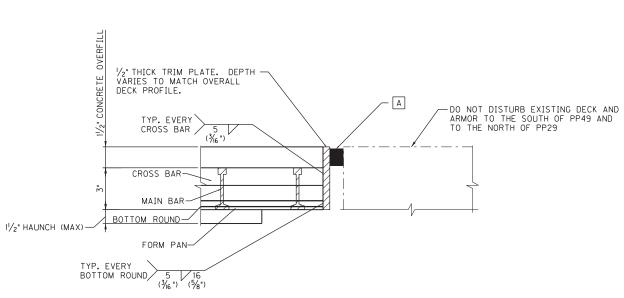
REVISION



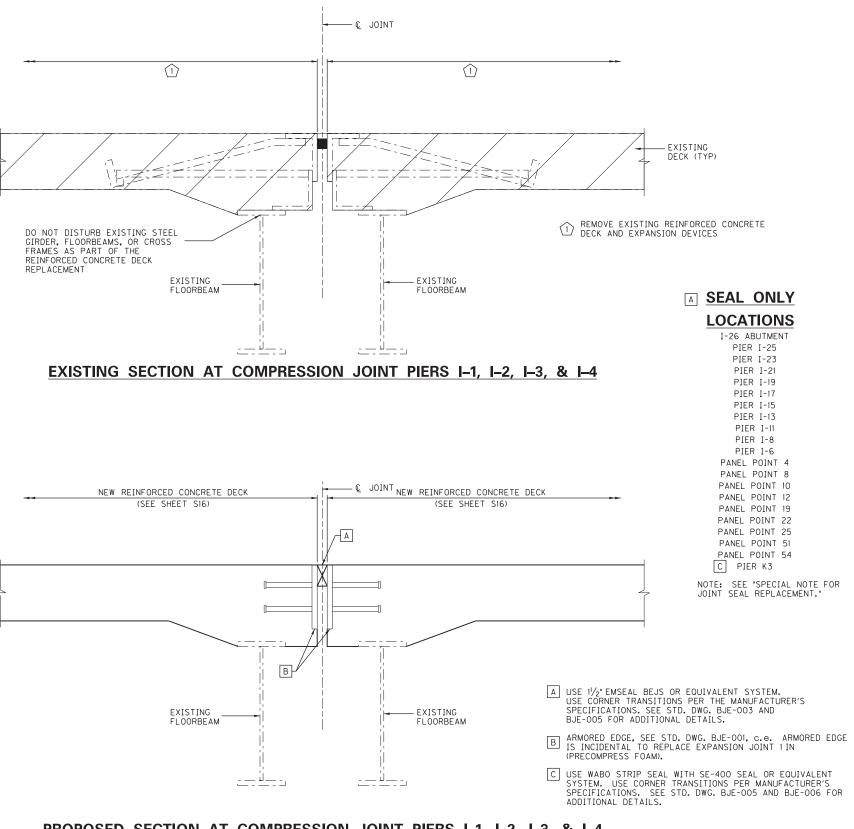
	DECEMBER, 2024	CHECKED BY	REPAIR 4 - LATEX CONCRETE DECK OVERLAY	ROUTE
D BY:	J.P. MURRIN	D.E. RUST	CROSSING	KY 226
) BY:	JA ROSE	J.P. MURRIN	OHIO RIVER at OWENSBORO	1 111 220



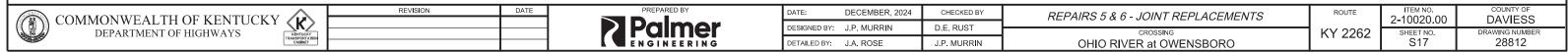


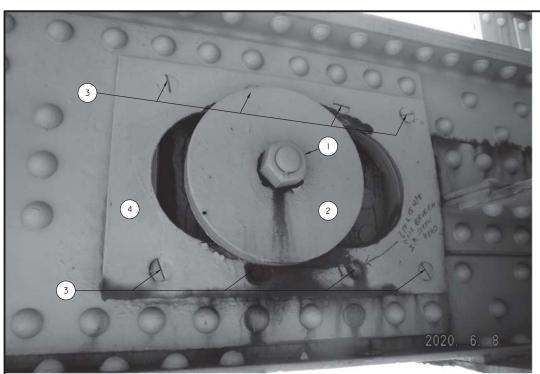


PROPOSED SECTION AT JOINT SEAL REPLACEMENT AT L49 (L29 MIRRORED) (SEE SHEET SI4 FOR CONCRETE-FILLED STEEL GRID DECK DETAILS)



PROPOSED SECTION AT COMPRESSION JOINT PIERS I-1, I-2, I-3, & I-4





REPAIR 7A - PIN SLIDING PLATE - DISASSEMBLY

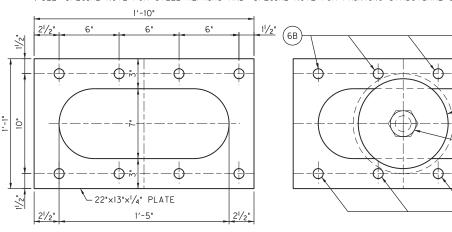
(L14-L15 UPSTREAM, INBOARD DEPICTED. TYPICAL FOR L-15, L32, & L44) NOTE: CONTRACTOR SHOULD TAKE EXTREME CARE WHEN REMOVING THE INBOARD NUT AND WASHER SO THE PIN DOES NOT "WALK OUT" THE OUTBOARD SIDE.

- REMOVE NUT FROM END OF PIN ASSEMBLY.
- REMOVE WASHER FROM THE PIN.
- REMOVE COUNTERSUNK RIVETS.
- REMOVE DETERIORATED PLATE.
- CLEAN RUST FROM AREA OF DETERIORATED PLATE.

REPAIR 7A - PIN SLIDING PLATE REPAIR

(L14-L15 UPSTREAM, INBOARD DEPICTED. TYPICAL FOR L-15, L32, & L44) 6 STEEL REPAIR LOCATIONS

- INSTALL NEW 1/4" PLATE.
- INSTALL NEW HIGH STRENGTH COUNTERSUNK BOLTS OF MATCHING DIAMETER.
- RE-INSTALL EXISTING WASHER.
- RE-INSTALL EXISTING NUT.
- *SEE "SPECIAL NOTE FOR STEEL REPAIRS" AND "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS".



NEW PIN SLIDING PLATE

COMMONWEALTH OF KENTUCKY

DEPARTMENT OF HIGHWAYS

RE-INSTALLATION

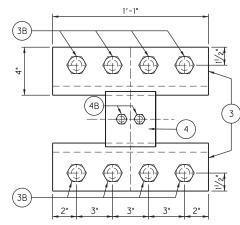
ALL DIMENSIONS AND HOLE LOCATIONS TO DUPLICATE EXIST. SLIDING PLATE SHALL BE FIELD VERIFIED



REPAIR 7B - UNDERSIDE OF WINDLOCK ANGLE REPAIRS L15, L32, AND L44 (UPSTREAM AND DOWNSTREAM)

6 STEEL REPAIR LOCATIONS

- REMOVE WINDLOCK CAP PLATE BY REMOVING (2) BOLTS.
- REMOVE BOLTS FROM CAP.
- REMOVE DETERIORATED / CRACKED ANGLES BY REMOVING RIVETS. ONE ANGLE TO BE REMOVED AT A TIME.
- REMOVE RIVETS HOLDING EXISTING DETERIORATED ANGLES ON BEARING PLATES.
- INSTALL NEW L4 \times 2 \times 3/4" ANGLES WITH NEW HIGH STRENGTH BOLTS.
- (3B) INSTALL NEW HIGH STRENGTH BOLTS OF EQUIVALENT DIAMETER. TIGHTEN BOLTS ACCORDING TO THE STANDARD SPECIFICATIONS.
- INSTALL NEW CAP PLATE WITH NEW HIGH STRENGTH BOLTS.
- (4B) INSTALL NEW HIGH STRENGTH BOLTS OF EQUIVALENT DIAMETER. TIGHTEN BOLTS ACCORDING TO THE STANDARD SPECIFICATIONS.
- *SEE "SPECIAL NOTE FOR STEEL REPAIRS" AND "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS".



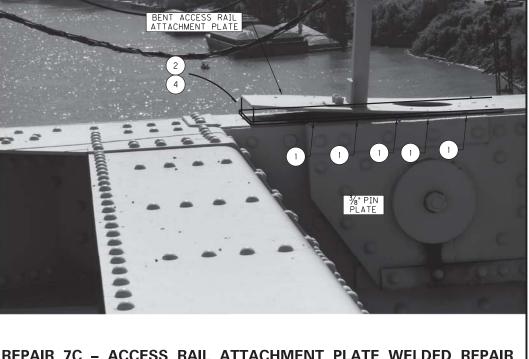
NEW ANGLES & RE-INSTALLATION

ALL DIMENSIONS AND HOLE LOCATIONS TO DUPLICATE EXIST. PLATES & ANGLES SHALL BE FIELD VERIFIED

CHECKED BY

D.E. RUST

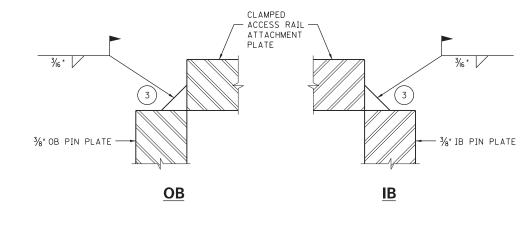
J.P. MURRIN



REPAIR 7C - ACCESS RAIL ATTACHMENT PLATE WELDED REPAIR **U43 UPSTREAM TRUSS**

1 STEEL REPAIR LOCATION

- CLEAN SURFACE OF STEEL AND GRIND DOWN ORIGINAL TACK WELDS WITH ROTARY BURR. (5 LOCATIONS EACH SIDE OF PLATE) OBTAIN UNIFORM SURFACE ON BOTH THE BENT ACCESS RAIL ATTACHMENT PLATE AND THE 3/8" PIN PLATE.
- CLAMP THE BENT ACCESS RAIL ATTACHMENT PLATE TO THE UPPER CHORD, INTO THE PLATES ORIGINAL INTENDED POSITION.
- FILLET WELD ALONG THE INTERFACE WITH E7018 ELECTRODES. CHECK EACH PASS VISUALLY FOR FREEDOM FROM CRACKS OR OTHER DEFECTS. OBTAIN $\frac{3}{16}$ "THICKNESS.
- (4) LEAVE CLAMPS IN PLACE FOR 2 HOURS BEFORE REMOVING.
 - *SEE "SPECIAL NOTE FOR STEEL REPAIRS" AND "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS".



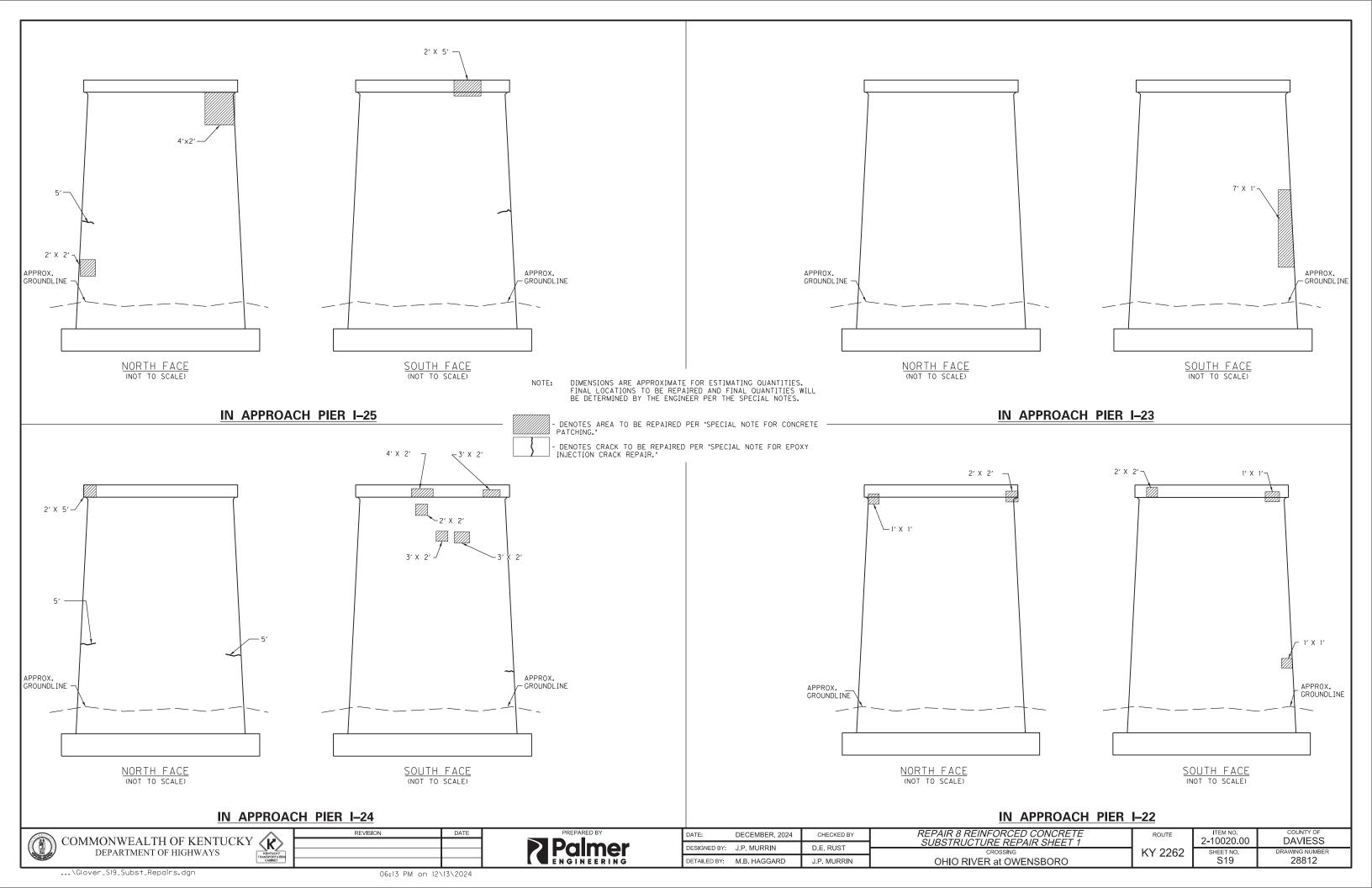
| Palmer DESIGNED BY: J.P. MURRIN DETAILED BY: J.A. ROSE

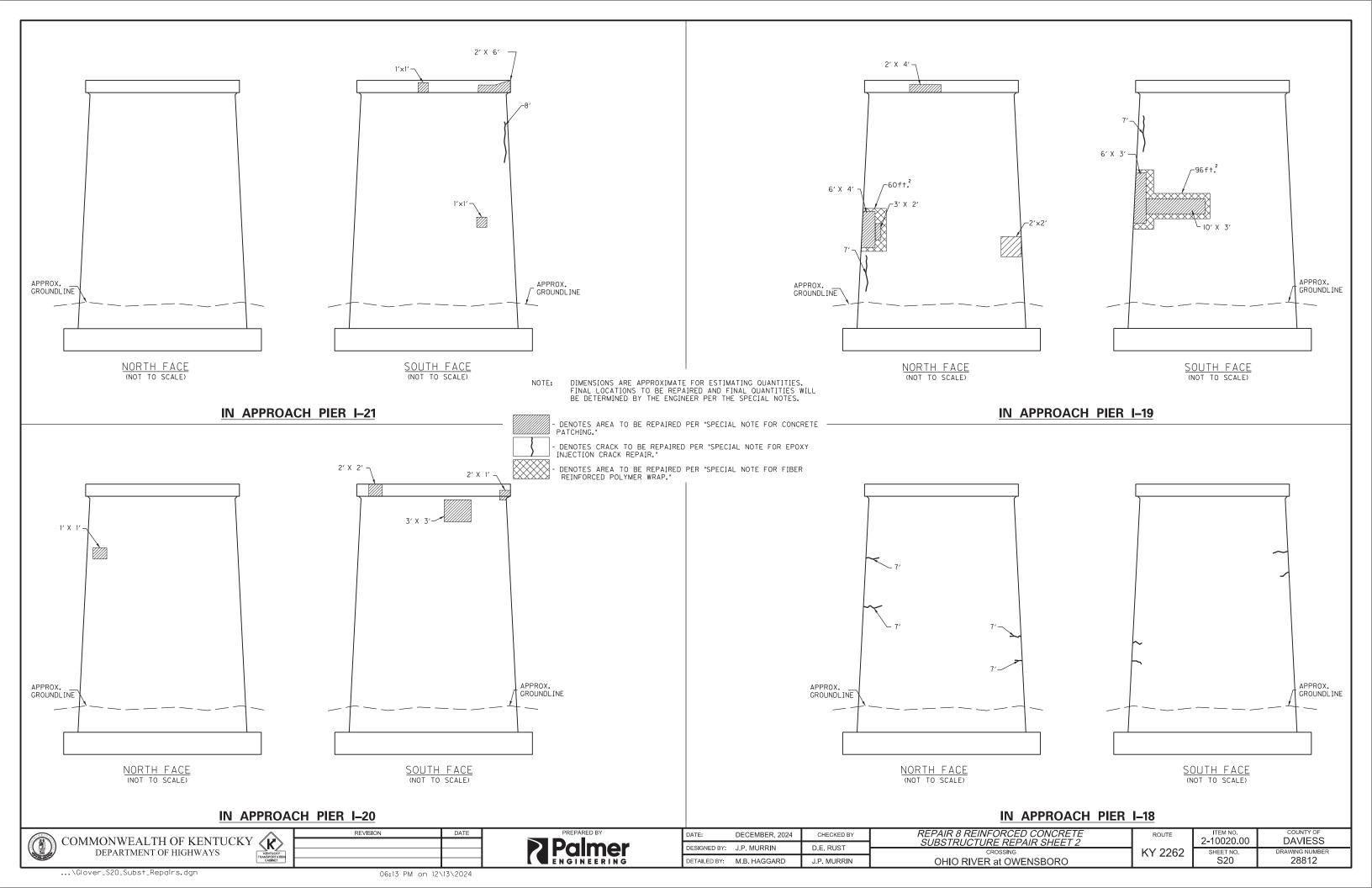
REPAIR 7 - MISCELLANEOUS STEEL REPAIRS OHIO RIVER at OWENSBORO

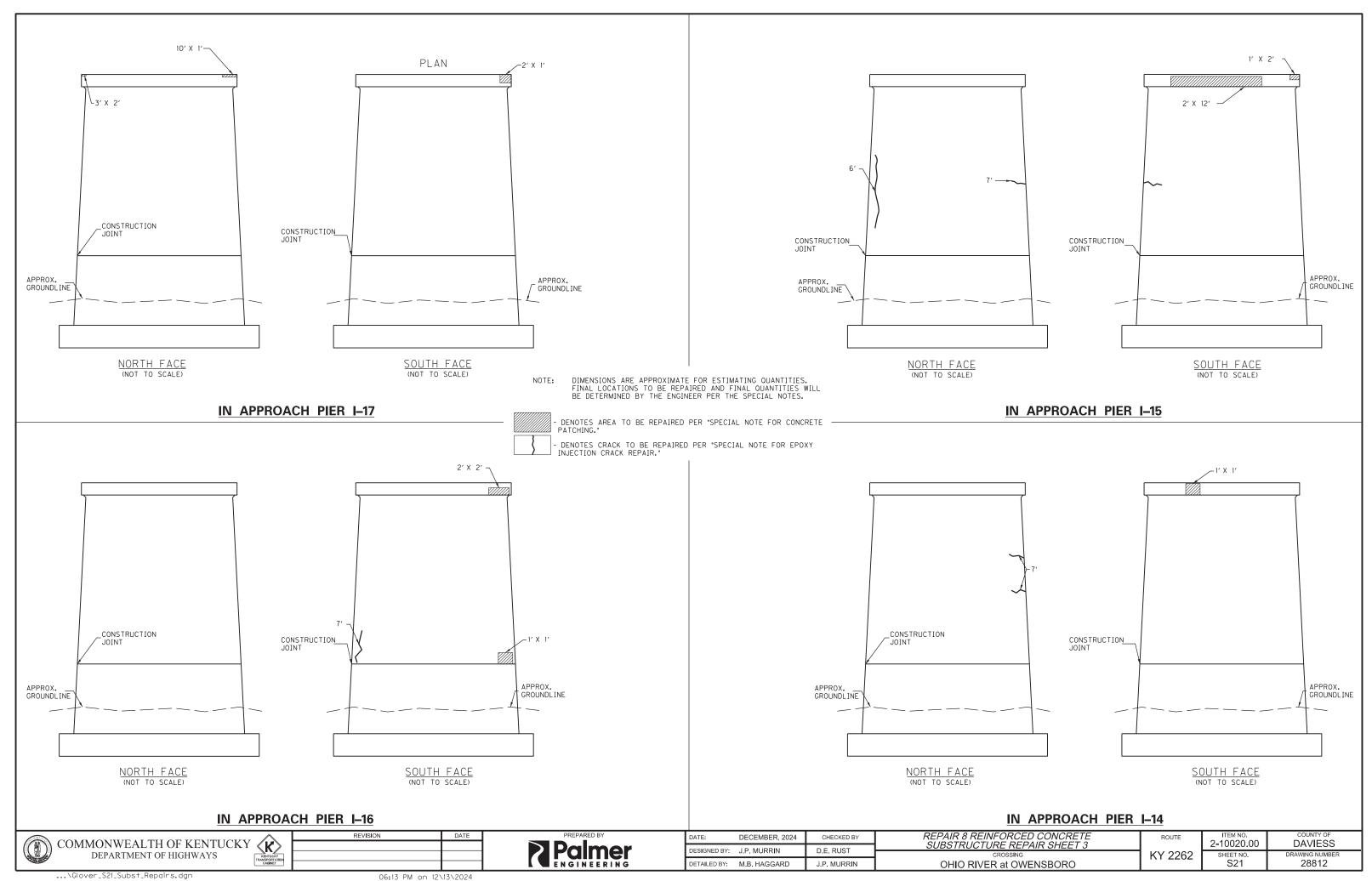
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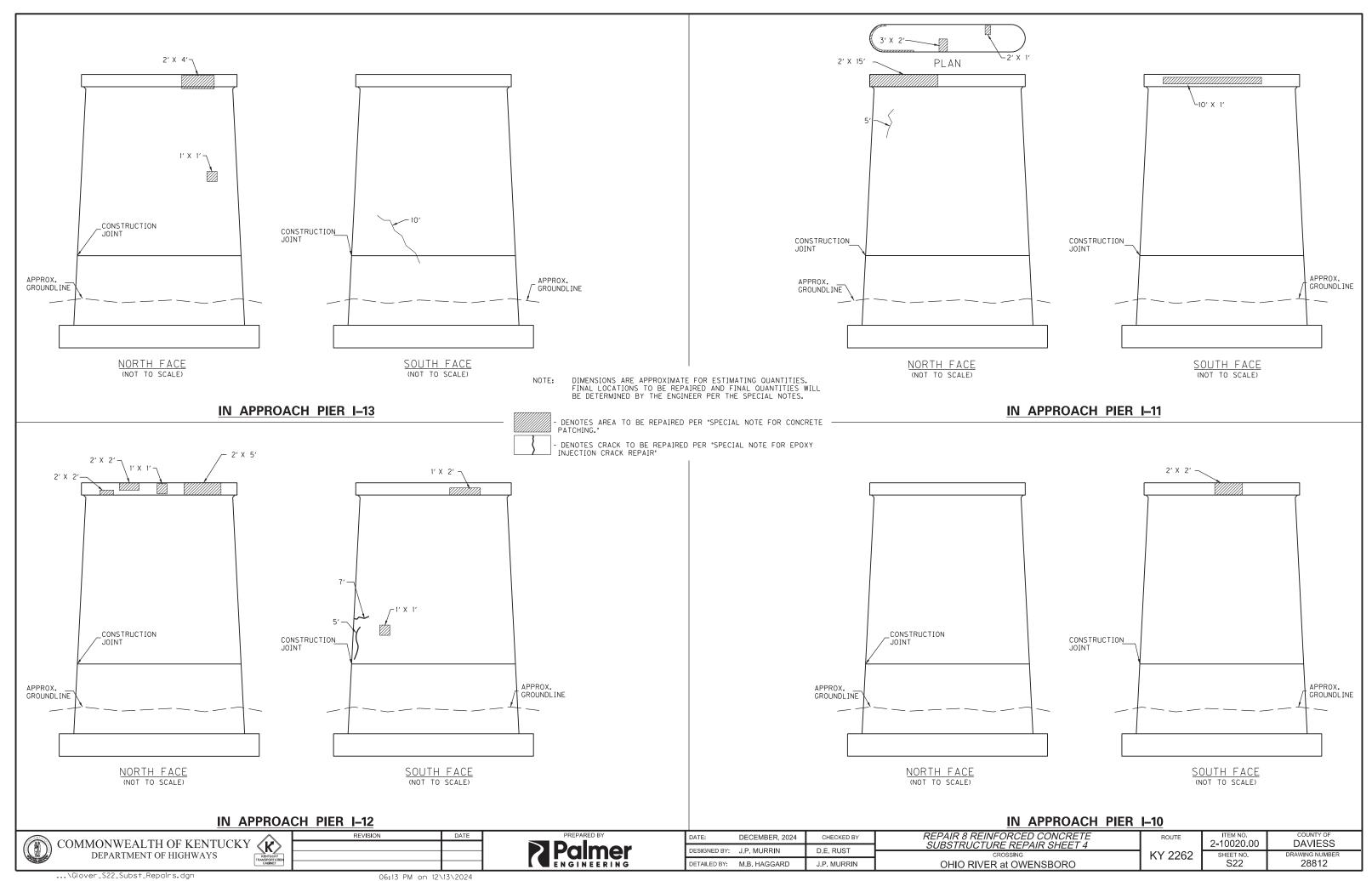
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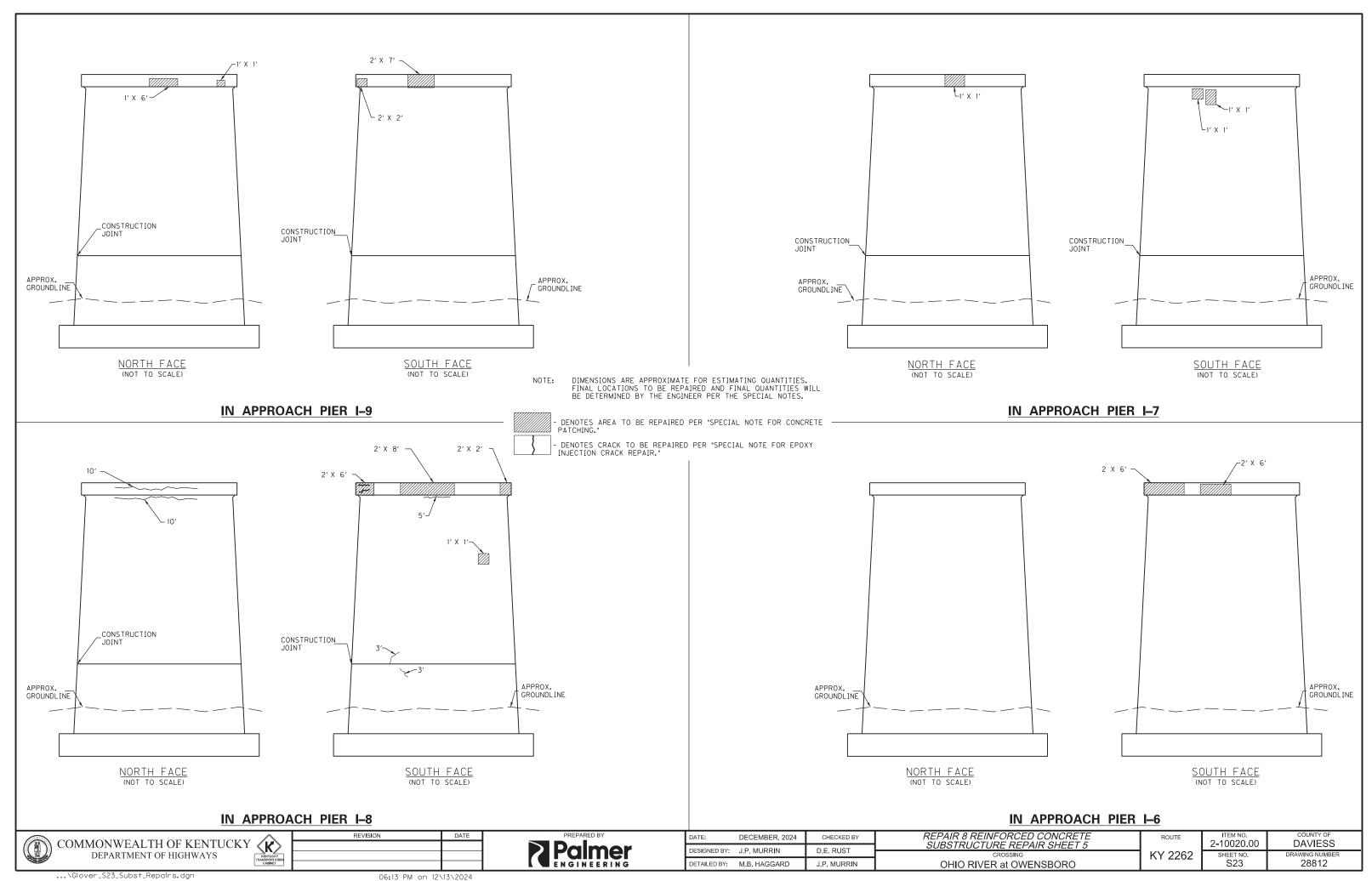
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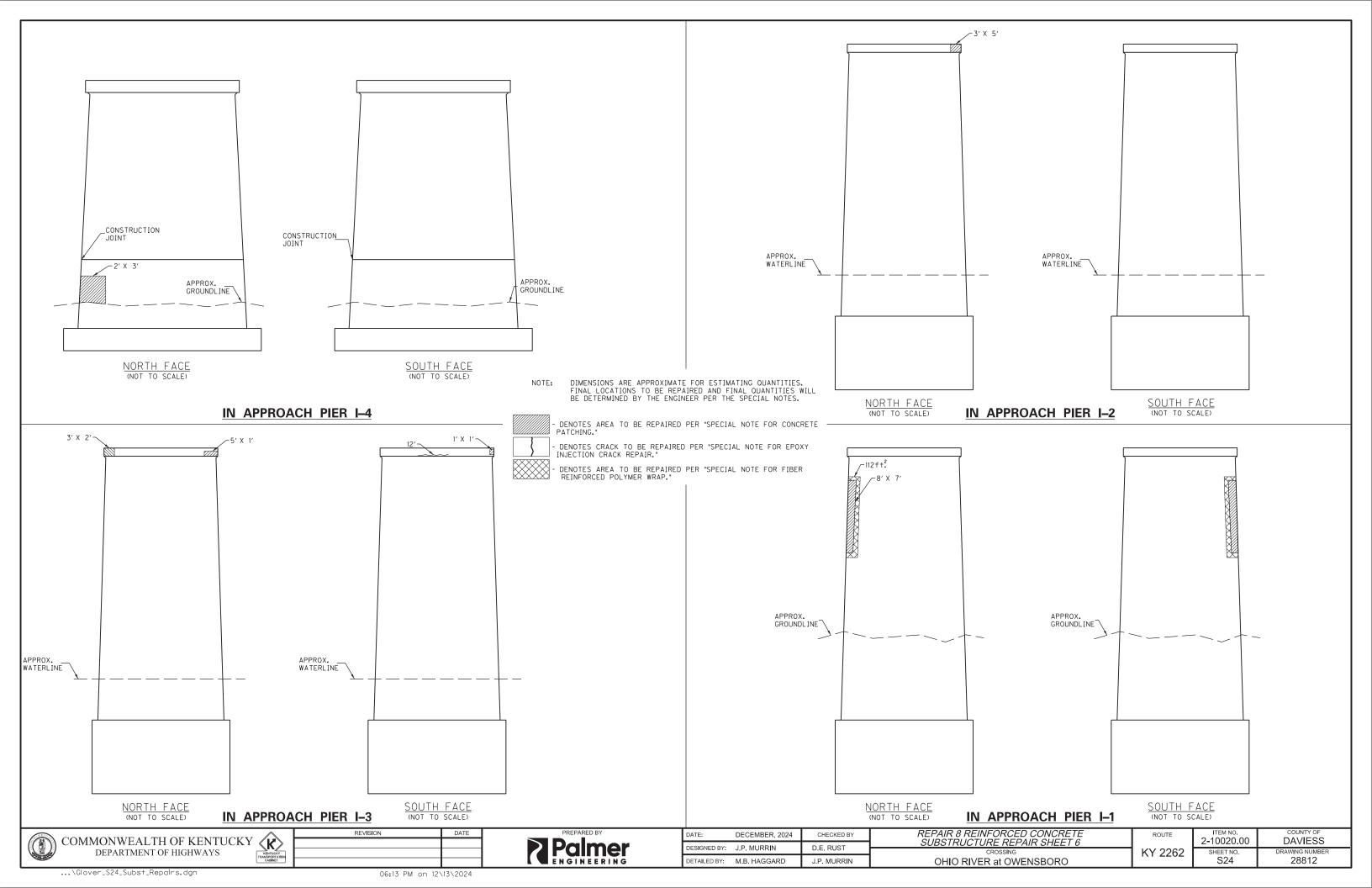


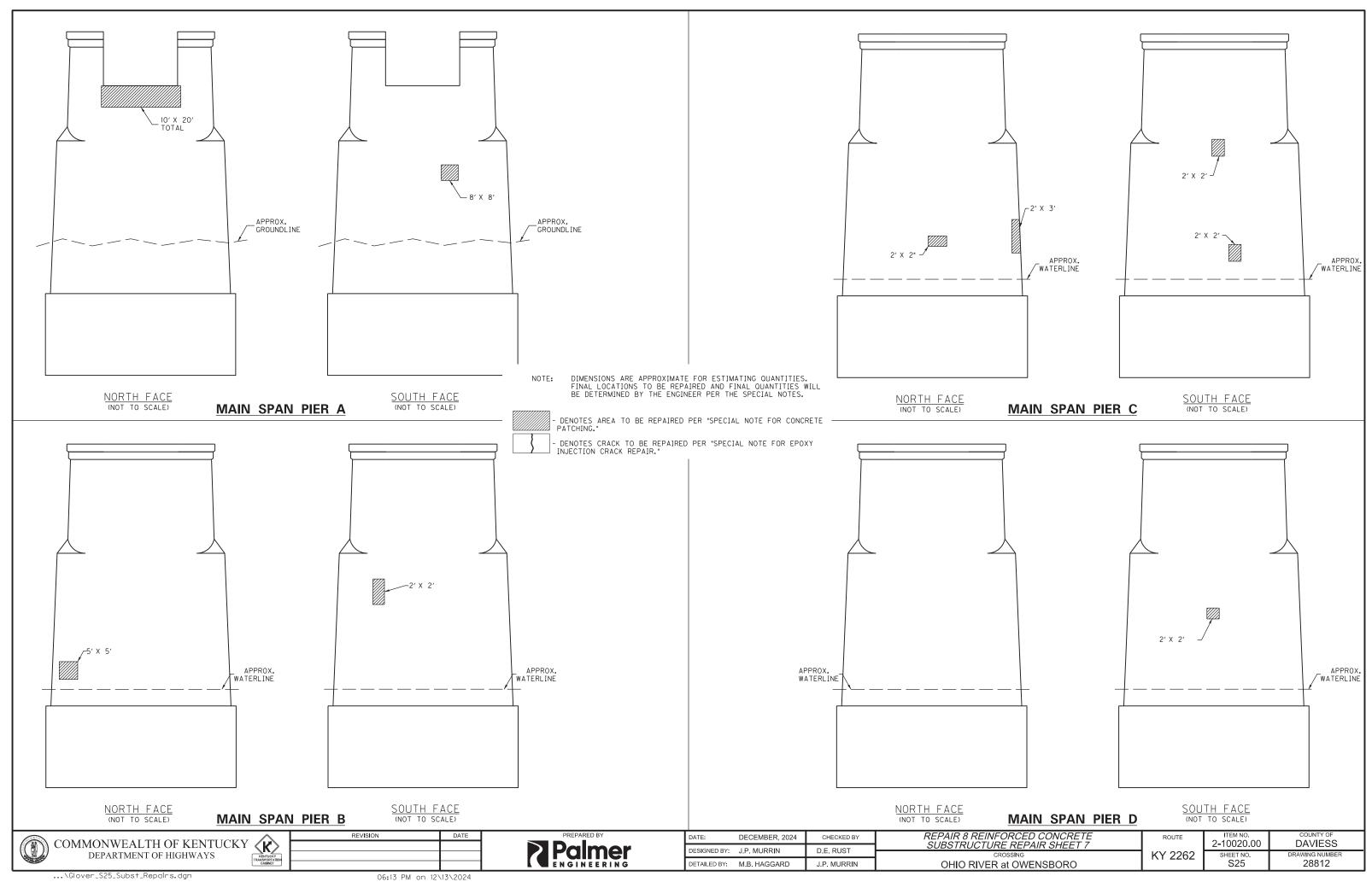


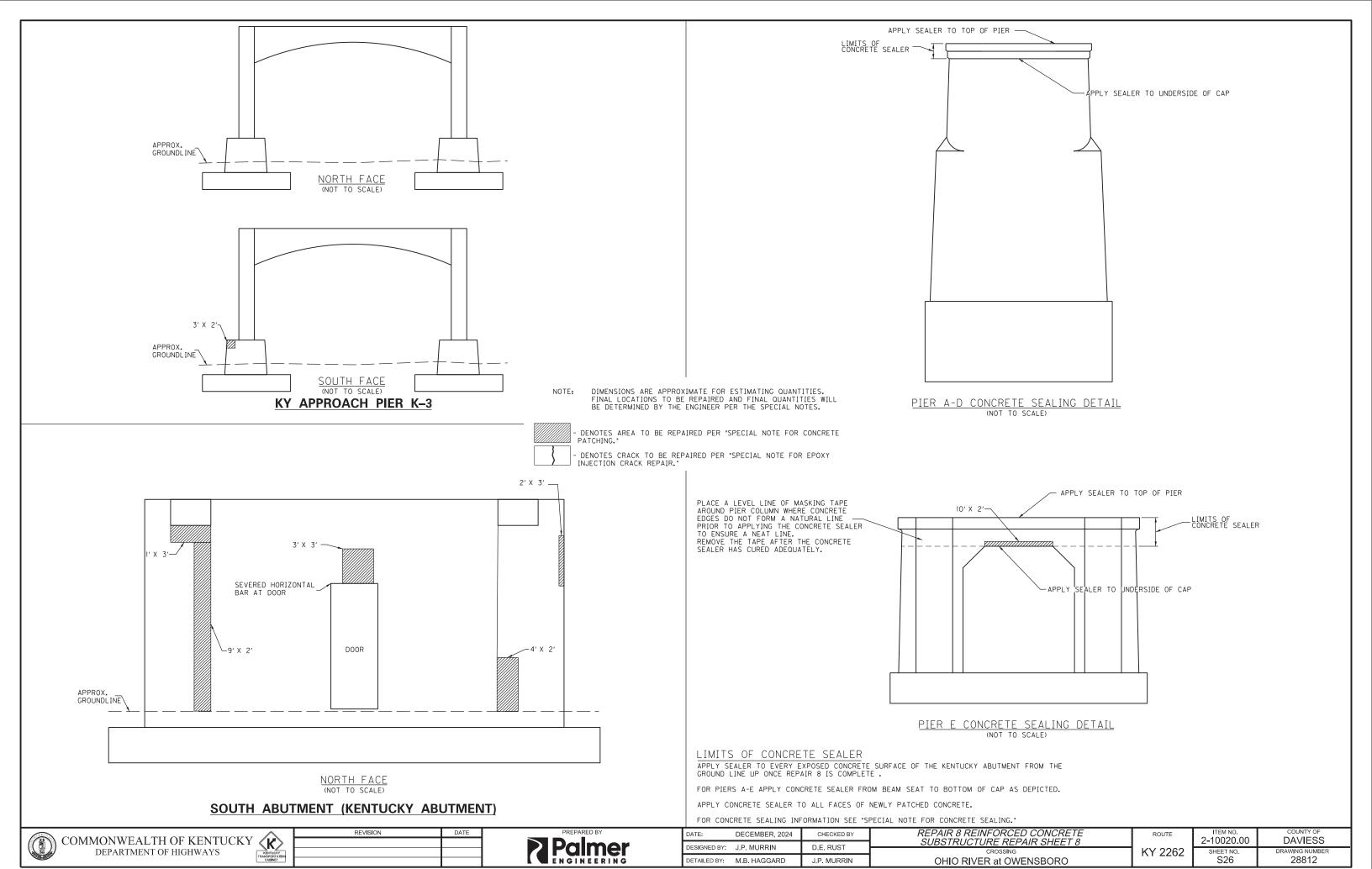


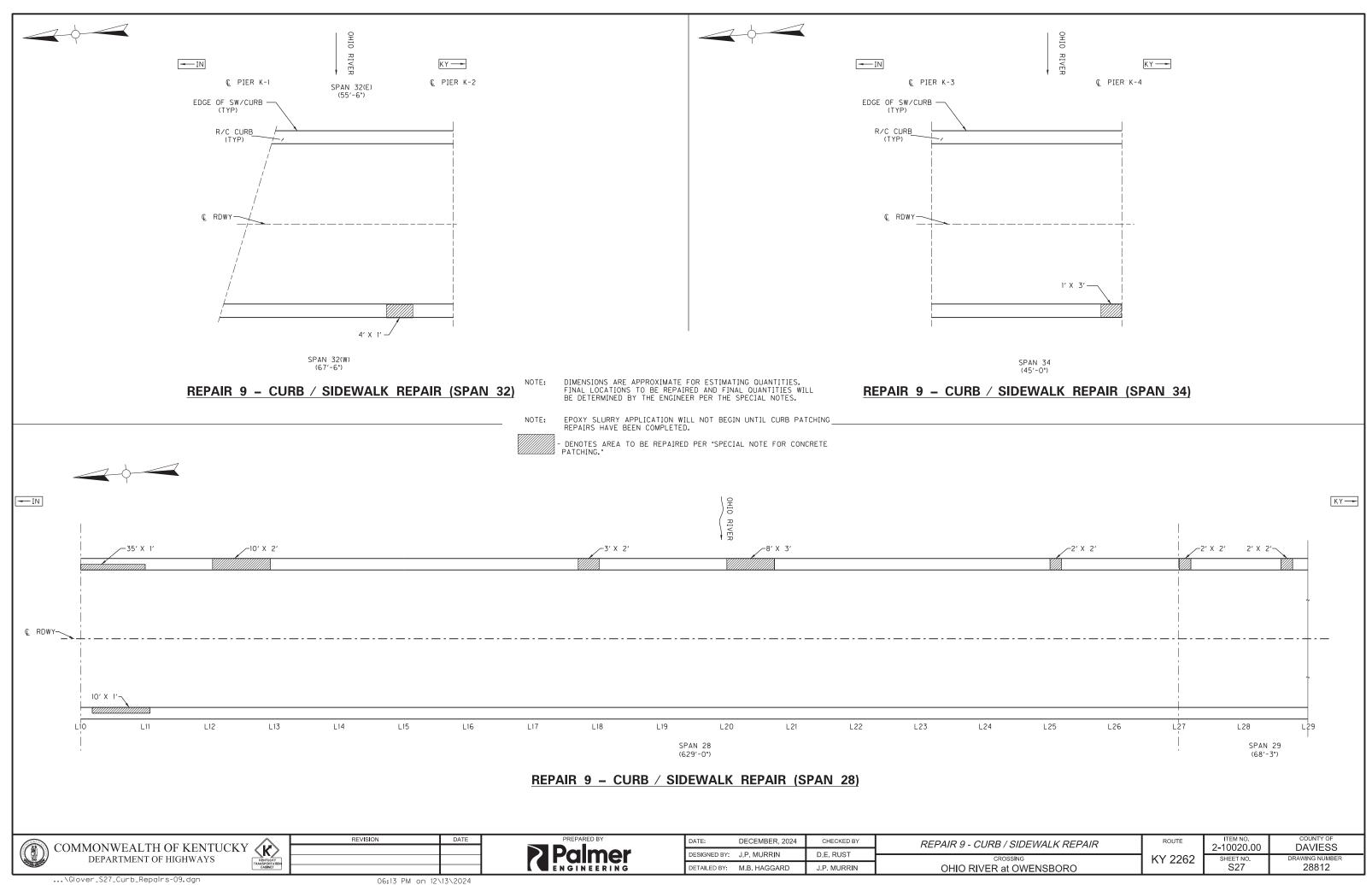










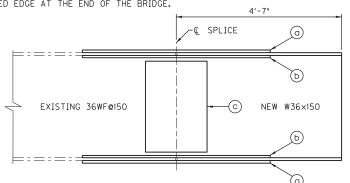


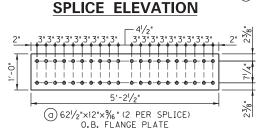
CONSTRUCTION SEQUENCE, PREPARATION

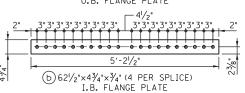
- REMOVE REINFORCED CONCRETE DECK AND CURB BACK TO THE SECOND TO LAST FLOORBEAM TO ALLOW ADEQUATE ACCESS TO THE GIRDER END BELOW. THE RAILPOST CONNECTED TO GIRDER I OUTBOARD FACE AT THE ABUTMENT WILL NEED TO BE TEMPORARILY REMOVED. EDGES OF CONCRETE SHALL BE NEAT AND SQUARE. STEEL IN THIS AREA SHALL REMAIN AND BE CLEANED.
- (2) REMOVE RIVETS CONNECTING FLOORBEAM AB TO BOTH GIRDER 1 AND GIRDER 2 (2) RIVETS TOTAL PER GIRDER).
- (3) MECHANICALLY CUT OR USE A PLASMA TORCH TO REMOVE THE GIRDER TO THE EXTENT SHOWN. GRIND EDGE SMOOTH TO THE SATISFACTION OF THE ENGINEER. USE OF OXY-ACETYLENE TORCHES WILL NOT BE PERMITTED. THIS STEP WILL INVOLVE DETACHING THE GIRDER FROM THE BEARING.

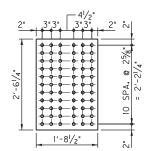
REPAIR - GIRDER SPLICE AND NEW FLOORBEAM

- A REPLACE CUT OUT SECTION OF GIRDER WITH NEW ROLLED SHAPE (W36×150).
- AII INSTALL NEW SPLICE PLATES TO CONNECT THE NEW SHAPE TO THE EXISTING 36WF@150. SEE DETAILS BELOW FOR SPLICE PLATE DIMENSIONS AND DETAILS. THIS STEP WILL INVOLVE RE-ATTACHING NEW GIRDER SHAPE TO THE BEARING.
- B INSTALL NEW FLOORBEAM (W24×84).
- BI ATTACH NEW FLOORBEAM BY ATTACHING NEW FLOORBEAM CONNECTION ANGLES. USE HIGH STRENGTH BOLTS AND TIGHTEN PER THE STANDARD SPECIFICATIONS.
- C POUR NEW CLASS 'M' CONCRETE TO THE EXTENT REMOVED AND MATCH EXISTING GRADE. REINFORCEMENT ACCOUNTED FOR IN BARBILL ON SHEET SIG. SEE STD. DWG. BJE-001-14 FOR ARMORED EDGE AT THE END OF THE BRIDGE.









© 301/4"×201/2"×7/16" (2 PER SPLICE)

WEB PLATE AI GIRDER 1 REPAIR SPLICE PLATE DETAILS

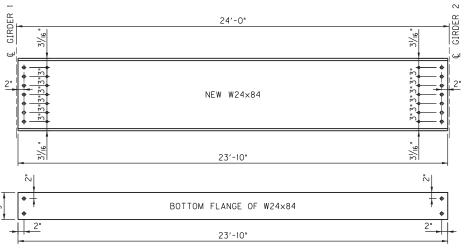
ALL HOLES IN OLD AND NEW STEEL SHALL BE DRILLED ACCORDING TO STANDARD SPECIFICATIONS. ALL HOLES TO BE $^{10}\!\!/_{\!16}$ $^{10}\!\!/_{\!10}$. LOCATION OF HOLES SHALL BE FIELD VERIFIED BEFORE DRILLING.



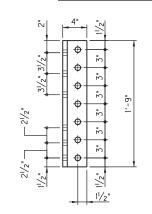
VIEW LOOKING SOUTHEAST AT GIRDER 1, AT THE KY ABUTMENT

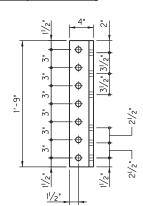


VIEW LOOKING SOUTHEAST AT GIRDER 1, AT THE KY ABUTMENT



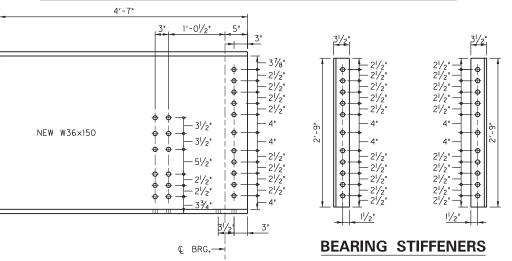
B NEW FLOORBEAM W24x84 (1 TOTAL)





NEW FB CONNECTION ANGLES

$L4"x3\frac{1}{2}"x\frac{3}{8}"$ (4 TOTAL ANGLES; 2 EACH PER FB END)



<u>(1 TOTAL)</u>

A NEW GIRDER

 $L5''x3\frac{1}{2}''x\frac{1}{2}''$

(2 TOTAL ANGLES; 1 EACH)

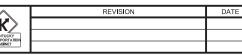
NOTES:

- . TEMPORARY SHORING IS REQUIRED WITH GIRDER 1 IN ORDER TO PERFORM REPAIRS.
- 2. CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE ANY MEMBERS TO REMAIN OR ELEMENTS AROUND THE REPAIR LOCATION. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTORS EXPENSE.
- 3. BEARING STIFFENERS TO BE ATTACHED TO NEW GIRDER PRIOR TO SPLICING NEW GIRDER TO EXISTING. CAN BE DONE IN SHOP.

SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS". SEE "SPECIAL NOTE FOR STEEL REPAIRS".



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TRANSPORTATE
THE PROPERTY OF T





DATE:	DECEMBER, 2024	CHECKED BY
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN

 REPAIR 12 - GIRDER 1 & FLOORBEAM REPAIR AT THE KY ABUTMENT
 ROUTE
 ITEM NO. 2-10020.00
 COUNTY OF DAVIESS

 CROSSING OHIO RIVER at OWENSBORO
 KY 2262
 SHEET NO. S28
 DRAWING NUMBER 28812

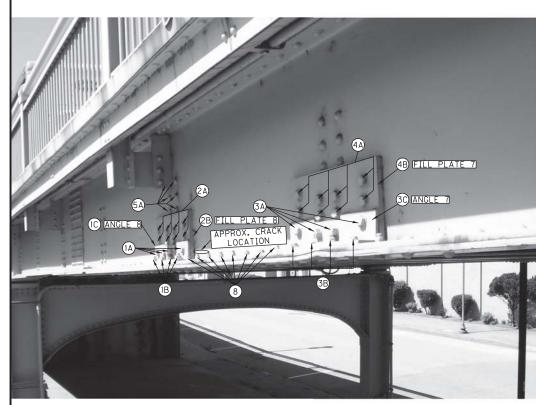
PREPARATION, CONSTRUCTION SEQUENCE

OUTBOARD FACE OF GIRDER

- (A) REMOVE 4 BOLTS AND NUTS THAT CONNECT ANGLE 8 TO THE WEB OF THE GIRDER.
- (B) REMOVE 4 NUTS WHILE KEEPING THE BOLTS IN PLACE THAT CONNECT ANGLE 8 TO THE BOTTOM FLANGE OF THE GIRDER
- (1C) REMOVE ANGLE 8.
- (2A) REMOVE 8 REMAINING BOLTS THAT CONNECT FILL PLATE 8 TO THE WEB OF THE GIRDER.
- (2B) REMOVE FILL PLATE 8.
- (3A) REMOVE 4 BOLTS AND NUTS THAT CONNECT ANGLE 7 TO THE WEB OF THE GIRDER.
- (3B) REMOVE 4 NUTS, WHILE KEEPING THE BOLTS IN PLACE THAT CONNECT ANGLE 7 TO THE BOTTOM FLANGE OF THE GIRDER.
- (3C) REMOVE ANGLE 7.
- (4A) REMOVE 8 REMAINING BOLTS THAT CONNECT FILL PLATE 7 TO THE WEB OF THE GIRDER.
- (4B) REMOVE FILL PLATE 7.

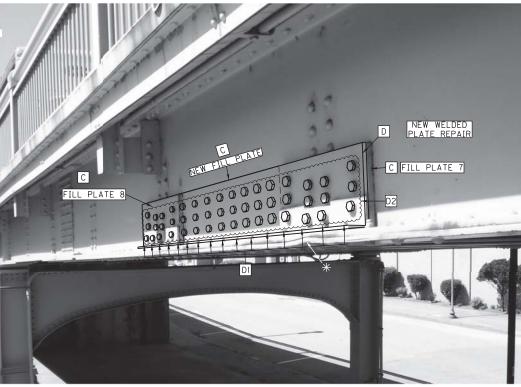
INBOARD FACE OF GIRDER 1

- (A) REMOVE REMAINING RIVETS THAT ATTACH FLOORBEAM 8 WEB TO GIRDER 1(13 TOTAL) VIA THE INBOARD ANGLES.
- (5B) REMOVE BOTH INBOARD ANGLES ATTACHING FLOORBEAM 8 WEB TO GIRDER 1. THIS SHOULD EXPOSE BOTH ENDS OF THE CRACK. THE FLOORBEAM WILL REMAIN IN PLACE, THROUGHOUT THIS REPAIR.
- (6) INSPECT CRACK LIMITS ON GIRDER LAT FLOORBEAM 8 CAREFULLY USING NDE METHODS, SUCH AS MAGNETIC PARTICLE TESTING (MT) OR PENETRANT TESTING (PT), TO IDENTIFY LIMITS OF CRACKING.
- (7) CUT 34" DIAMETER CRACK ARREST HOLE IN THE WEB OF THE GIRDER, AT THE END OF THE CRACK. EXTREME CARE SHALL BE TAKEN TO REMOVE ONLY WEB MATERIAL IN THIS STEP. REPEAT THIS STEP AT BOTH ENDS OF THE CRACK. WHEN BOTH ENDS OF THE CRACK ARE ARRESTED, INSPECT AREA AGAIN USING NDE METHODS TO VERIFY NO CRACKS REMAIN.
- (8) REMOVE HEX NUTS (8 TOTAL) FROM THE OUTBOARD BOTTOM FLANGE OF GIRDER I BETWEEN FLOORBEAMS 7&8. KEEP THE BOLTS IN PLACE THROUGH THE BOTTOM FLANGE AND COVER PLATE.



OUTBOARD FACE OF GIRDER 1, SPAN 35, AT FLOORBEAMS 7&8 LOOKING SOUTHWEST

(FILL PLATES AND ANGLES LABELLED BASED ON FLOORBEAM LOCATION)



OUTBOARD FACE OF GIRDER 1, SPAN 35, AT FLOORBEAMS 7&8 LOOKING SOUTHWEST

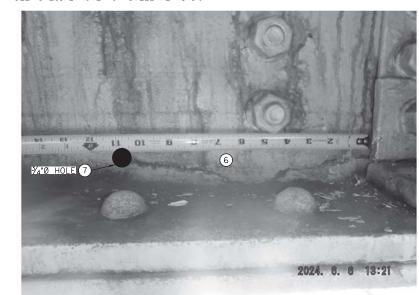
(FILL PLATES AND ANGLES LABELLED BASED ON FLOORBEAM LOCATION)

NOTES:

1. SOME STEPS SHOWN IN MULTIPLE VIEWS FOR CLARITY.

2. CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE ANY MEMBERS AROUND THE REPAIR LOCATION. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

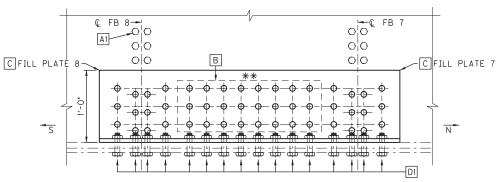
SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS". SEE "SPECIAL NOTE FOR STEEL REPAIRS".



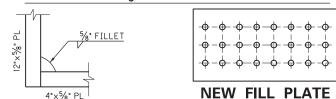
INBOARD FACE OF GIRDER 1, SPAN 35 AT FLOORBEAM 8

INSTALL REPAIRS, CONSTRUCTION SEQUENCE

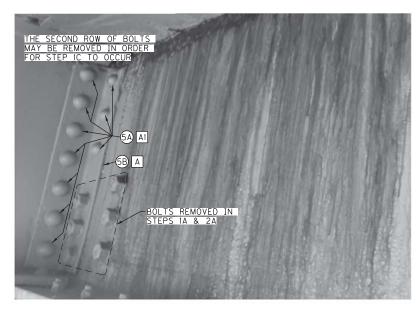
- A RE-INSTALL BOTH INBOARD ANGLES ATTACHING FLOORBEAM 8 WEB TO GIRDER 1.
- AI INSTALL NEW HIGH STRENGTH BOLTS AND TIGHTEN PER STANDARD SPECIFICATIONS.
- B DRILL HOLES FOR FILL PLATE AND WELDED REPAIR PLATE (24 TOTAL).
- C RE-POSITION FILL PLATE 7, THE NEW FILL PLATE, AND FILL PLATE 8 INTO PLACE USING NEW HIGH
- D INSTALL NEW WELDED REPAIR PLATE.
- DI REPLACE THE BOLTS IN THE BOTTOM FLANGE, ONE AT A TIME, WITH EXTENDED LENGTH BOLTS. TIGHTEN THE BOLTS/HEX NUTS PER STANDARD SPECIFICATIONS.
- D2 INSTALL THE WEB NUTS AND TIGHTEN PER STANDARD SPECIFICATIONS.



GIRDER 1 OUTBOARD FACE NEW 12"x4"x5%" WELDED REPAIR PLATE

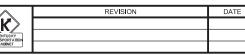


- * HEAT STRAIGHTENING OF THE BOTTOM FLANGE MAY BE REQUIRED TO INSTALL WELDED REPAIR PLATE.
- ** CONTRACTOR TO FIELD VERIFY ALL EXISTING PLATE DIMENSIONS, THICKNESS, AND BOLT SPACINGS, AND MATCH NEW REPAIRS TO FIELD CONDITIONS. BOLT SPACING TO BE UNIFORM AND \leq 7" MIN. EDGE DISTANCE FOR %0" BOLTS IS 1.5"



INBOARD FACE OF GIRDER 1, SPAN 35 AT FLOORBEAM 8







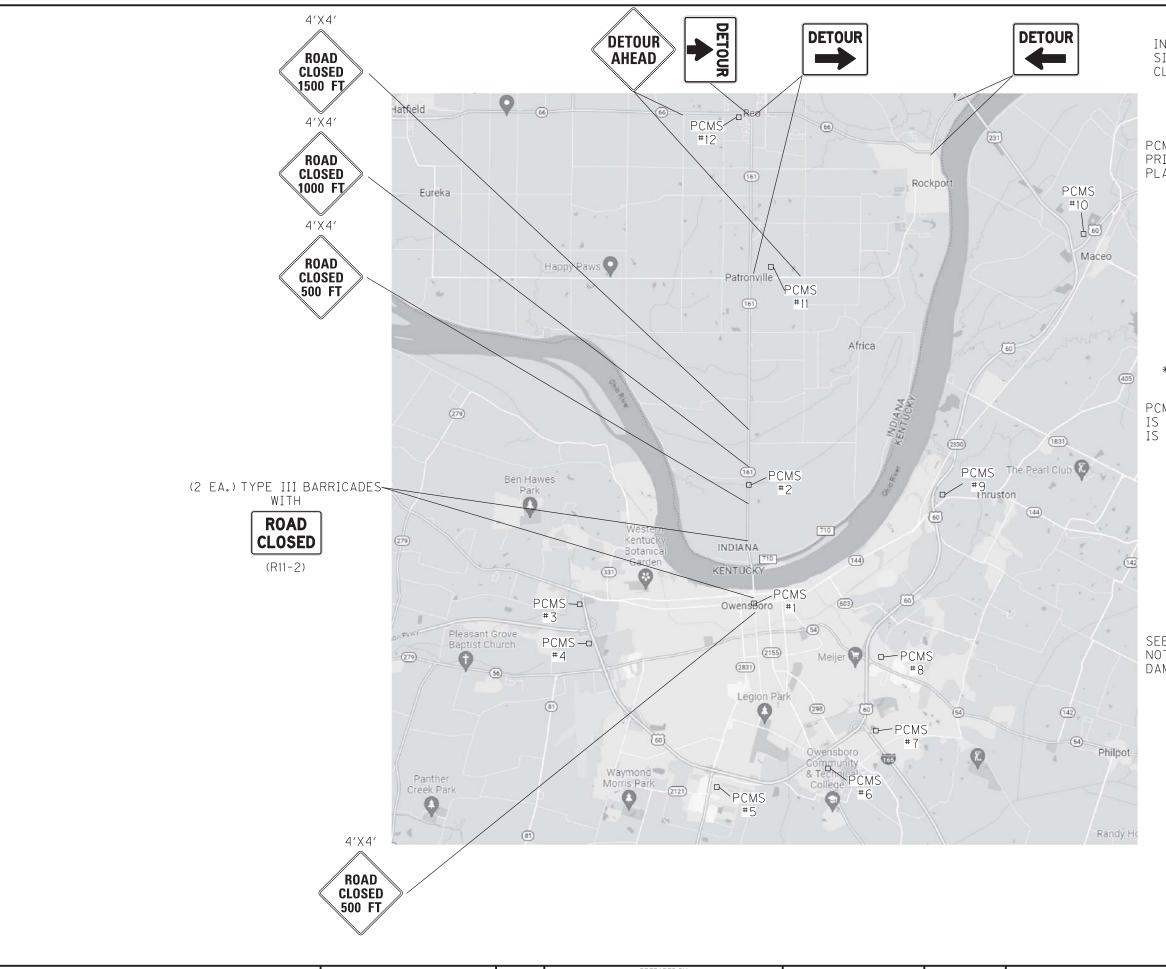
ATE:	DECEMBER, 2024	CHECKED BY
SIGNED BY:	J.P. MURRIN	D.E. RUST
ETAILED BY:	M.B. HAGGARD	J.P. MURRIN

REPAIR 13 - GIRDER 1 CRACK REPAIR, SPAN 35

CROSSING
OHIO RIVER at OWENSBORO

ROUTE ITEM NO. 2-10020.00 DAVIESS

KY 2262 SHEET NO. DRAWING NUMBER S29 28812



PORTABLE CHANGEABLE MESSAGE SIGNS

INSTALL AND OPERATE PORTABLE CHANGEABLE MESSAGE SIGN(s) TO NOTIFY TRAVELERS OF UPCOMING BRIDGE CLOSURE.

PCMS #1 AND #2 SHALL BE IN PLACE AT LEAST TWO (2) WEEKS PRIOR TO THE BRIDGE CLOSURE AND SHALL REMAIN IN PLACE UNTIL THE BRIDGE IS CLOSED.

MESSAGE	DISPLAY
PHASE 1	PHASE 2
BRIDGE TO BE CLOSED	* BEGIN THROUGH **END

*CONTRACTOR SHALL USE SELECTED CLOSURE DATE

**CONTRACTOR SHALL USE PLANNED REOPEN DATE

PCMS #1 THROUGH #12 SHALL BE IN PLACE WHEN THE BRIDGE IS CLOSED AND SHALL REMAIN IN PLACE UNTIL THE BRIDGE IS REOPENED.

MESSAGE	DISPLAY
PHASE 1	PHASE 2
DOWNTOWN BRIDGE CLOSED	DETOUR VIA US 231

SEE "SPECIAL NOTE FOR TRAFFIC CONTROL" AND "SPECIAL NOTE FOR CONTRACT COMPLETION DATE, LIQUIDATED DAMAGES, AND PENALTIES" FOR ADDITIONAL INFORMATION.

_ ^	REVISION	DATE
Y (K)		
KENTUCKY TRANSPORTATION		
CABINET		

PREPARED BY Palmer ENGINEERING

	DATE:	DECEMBER, 2024	CHECKED BY	MAINTENANCE OF TRAFFIC	
	DESIGNED BY:	J.P. MURRIN	D.E. RUST	CROSSING	
ı	DETAILED BY:	J.A. ROSE	D.E. RUST	OHIO RIVER at OWENSBORO	

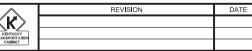
ENVIRONMENTALLY CLEARED AREA COORDINATES

Lat	Long
37.77400549	-87.10877736
37.77454053	-87.10881237
37.77480805	-87.10876568
37.7802461	-87.10919172
37.78114091	-87.10935514
37.78187891	-87.10946603
37.78657966	-87.11084309
37.78660272	-87.11072053
37.78190269	-87.10938397
37.78115086	-87.10925557
37.78024219	-87.10908631
37.77479493	-87.10867196
37.77401082	-87.10860777
37.77400549	-87.10877736

NOTE: THE AREA BENEATH THE BRIDGE IS NOT INCLUDED IN THE ENVIRONMENTALLY CLEARED AREA AND SHALL NOT BE DISTURBED









DATE:	DECEMBER, 2024	CHECKED BY	ENVIRONMENTALLY CLEARED AREA	ROUTE	ITEM NO. 2-10020.00	COUNTY OF DAVIESS
DESIGNED BY:			CROSSING	KY 2262	SHEET NO.	DAVILOG DRAWING NUMBER
DETAILED BY:	J.A. ROSE	D.E. RUST	OHIO RIVER at OWENSBORO	E01	E01	28812