

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

PROJECT DESCRIPTION

PAINT BASCULE SPANS AND PERFORM MISCELLANEOUS STRUCTURAL STEEL REPAIRS TO THE SUPPORT TOWERS, BASCULE STRINGERS, AND TENDER HOUSE ROOF. REPLACE CENTERLOCK, ENCASE SOUTH ABUTMENT PILES, AND PERFORM NECESSARY RELATED WORK.

PROJECT EARTH DISTURBED AREA: 0.1 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.1 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A
(NOI Not Required)

2013 SPECIFICATIONS

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

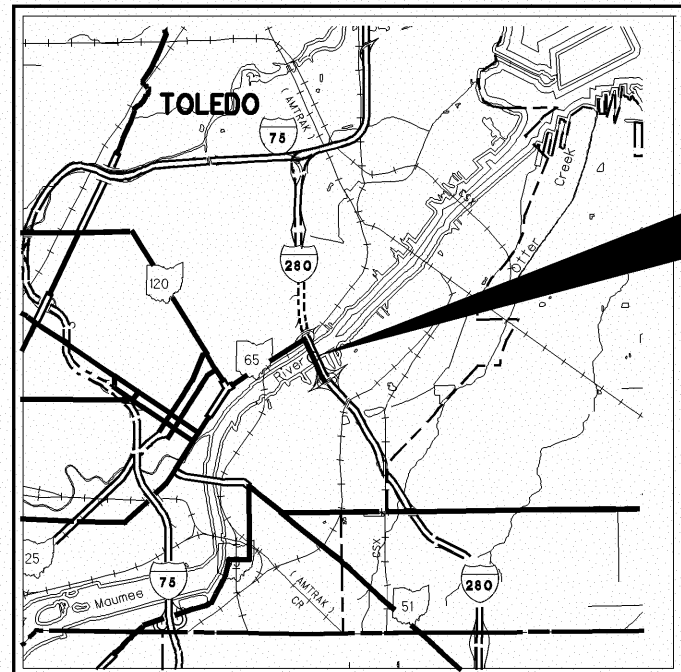
I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 4.

APPROVED *Tommy A. Anselmi* P.E.
DATE 12 MAR 13 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

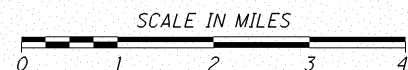
LUC-65-5.35

CITY OF TOLEDO
LUCAS COUNTY



LOCATION MAP

LATITUDE: N41°39'32" LONGITUDE: W83°30'39"



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

DESIGN DESIGNATION

CURRENT ADT (2013)	7120
DESIGN YEAR ADT (2033)	7920
DESIGN HOURLY VOLUME (2033)	710
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	6%
DESIGN SPEED	45MPH
LEGAL SPEED	45MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN PRINCIPAL ARTERIAL
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE REQUIRED

INDEX OF SHEETS:

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UNDERGROUND UTILITIES

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1-800-362-2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
ODOT - DISTRICT 2 - PRODUCTION

ENGINEERS SEAL:	ENGINEERS SEAL:	STANDARD CONSTRUCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS
 SIGNED: <i>James T. Bradley</i> DATE: 3-12-13	 SIGNED: <i>Joseph M. Labuzinski</i> DATE: 3-12-13	MT-95.30 7-20-12	800 4-19-2013
		MT-101.60 7-20-12	
			SPECIAL PROVISIONS

FEDERAL PROJECT NO.
E110 (124)

PID NO.
80556

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
NONE

LUC-65-05.35

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REFER TO THE FOLLOWING STANDARD DRAWINGS:

MT-95.30 DATED 7/17/09
MT-101.60 DATED 7/20/13

DESCRIPTION OF WORK:

THIS WORK SHALL CONSIST OF PROVIDING LABOR, EQUIPMENT, AND MATERIALS FOR LUC-65-0535 (CRAIG BRIDGE LOCATED IN TOLEDO OHIO OVER THE MAUMEE RIVER), A BASCULE SPAN DRAWBRIDGE. THE CONTRACTOR SHALL BE AWARE THAT SOME OF THE EXISTING COMPONENTS CONTAINED ON THIS STRUCTURE CONTAIN ASBESTOS AND PCB'S. THE INTENT OF THIS PLAN IS NOT TO DISTURB ANY OF THESE COMPONENTS, BUT SHOULD IT BE NECESSARY TO WORK ON ANY OF THESE ITEMS, THE CONTRACTOR SHALL COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE NATIONAL EMISSIONS STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS. THE DESCRIPTION OF WORK SHALL BE AS THE FOLLOWING:

1. PERFORM MISCELLANEOUS STEEL REPAIRS TO THE EXISTING SUPERSTRUCTURE AND TRUNNION PIERS.
2. PLATE AND ENCASE INTERNAL PILES INSIDE THE SOUTH ABUTMENT.
3. REPLACE AIR VENTS ON THE SOUTH ABUTMENT AND REPAIR THE SOUTH ABUTMENT EXPANSION JOINT BLADDERS.
4. ENCASE TRUNNION SUPPORTS TS-4 INSIDE BOTH NORTH AND SOUTH TRUNNION PIERS.
5. REPLACE BROKEN TIMBERS ON TRUNNION PIER FENDER SYSTEM.
6. CLEAN THE EXISTING RACK AND PINION GEARS OF EXCESSIVE OLD GREASE BUILD UP AND APPLY NEW LUBRICANT.
7. REPLACE THE LUBRICANT IN THE MAIN REDUCERS.
8. INSTALL A NEW ROOF OVER THE MACHINE ROOMS ON BOTH THE NORTH AND SOUTH TRUNNION PIERS.
9. INSTALL NEW ROOF, SOFFITS, AND FLASHINGS AROUND WINDOWS AND SILLS ON THE TENDER HOUSE.
10. PATCH CONCRETE SUBSTRUCTURES.
11. PAINT THE ENTIRE SUPERSTRUCTURE INCLUDING INSIDE THE TRUNNION PIERS AND MACHINERY ROOMS. AND GATE HOUSES.

DESIGN STRESSES:

CONCRETE CLASS QC/OA- COMPRESSIVE STRENGTH 4,000 PSI
REINFORCING STEEL-ASTM A615 OR A996 GRADE 60 MINIMUM
YIELD STRENGTH 60,000 PSI.

STRUCTURAL STEEL, ASTM A709 GRADE 50, YIELD STRENGTH
50,000 PSI.

ITEM 614, MAINTENANCE OF TRAFFIC:

THE INTENT OF THIS PROJECT IS TO MAINTAIN VEHICLE TRAFFIC ON THE BRIDGE WITH THE EXCEPTION OF PAINTING THE BASCULE SPANS AND PLACING THE ROOFS OVER THE TRUNNION PIER MACHINE ROOMS. DURING THESE PHASES OF WORK THE BRIDGE MAY BE CLOSED TO VEHICLE TRAFFIC. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING BARRICADES AT SUMMIT STREET AND FRONT STREET. THE DEPARTMENT WILL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE DETOUR. PRIOR TO CLOSING THE BRIDGE TO VEHICLE TRAFFIC THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING A MINIMUM OF 14 DAYS BEFORE THE CLOSING. ALL CLOSURES ARE SUBJECT TO THE ENGINEER'S APPROVAL. THE DURATION OF THE CLOSURES IS GIVEN IN THE FOLLOWING NOTES. DURING OTHER PHASES OF WORK WHEN TRAFFIC IS MAINTAINED A MINIMUM OF ONE LANE SHALL BE MAINTAINED IN EACH DIRECTION AT ALL TIMES.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING ITEMS TO BE PRESERVED.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND *513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 514, FIELD PAINTING OF EXISTING STRUCTURAL STEEL: FIELD PAINTING SHALL BE AS PER ITEM 514.

THE LIMITS OF STRUCTURAL STEEL PAINTING SHALL BE AS PER THE FOLLOWING.

1. UNIT 1, FROM THE SOUTH ABUTMENT TO THE SOUTH TRUNNION PIER NO. 4. WORK SHALL INCLUDE ALL MAIN GIRDERS, STRINGER BEAMS, FLOOR BEAMS, CROSSFRAMES, DIAGONAL BRACING, SIDEWALK SUPPORT BEAMS, FASCIA PLATES AND GATE HOUSES INTERIOR AND EXTERIOR.
2. MAIN BASCULE SPANS FROM THE FACE TO FACE OF THE COUNTERWEIGHTS. THIS SHALL INCLUDE THE MAIN GIRDERS, INCLUDING RACK GEARS, ALL UPPER AND LOWER DIAGONAL BRACING, FLOOR BEAMS AND STRINGERS BEAMS, INCLUDING TOP FLANGES, FASCIA PLATES AND SIDEWALK SUPPORTS, CAT WALKS AND HAND RAILS, AND CENTERLOCKS INCLUDING SHAFT, MOTOR AND SUPPORTS. THE EXISTING DECK GRATING SUPPORTED ON THE STRINGER BEAMS IS NOT INCLUDED.
3. INTERIOR OF THE TRUNNION PIERS:
 - A. TUNNION SUPPORTS FROM THE FLOOR OF THE COUNTERWEIGHT ROOM TO THE BOTTOM OF THE TRUNNION PIER DECK.
 - B. CATWALKS AND HANDRAILS
 - C. MACHINE FLOOR BEAMS AND MACHINERY SUPPORTS.
 - D. TRUNNION SUPPORTS
 - E. MAIN REDUCER COVER, FLOOR SUPPORTS AND DRIVE SHAFT.
 - F. MOTORS, BRAKE THRUSTER COVERS, AND PINION GEARS AND COVERS. WITH IN THE TRUNNION PIERS WITHIN THE TRUNNION PIERS THE CONTRACTOR SHALL USE A RECYCLABLE NATURAL MINERAL LOW DUSTING ABRASIVE.
4. UNIT 2, FROM THE NORTH TRUNNION PIER TO PIER BENT 8. WORK SHALL INCLUDE ALL MAIN GIRDERS, STRINGERS, FLOOR BEAMS, CROSSFRAMES, DIAGONAL BRACING SIDEWALK SUPPORT BEAMS, FASCIA PLATES AND GATE HOUSES INTERIOR AND EXTERIOR.
5. UNIT 3, FROM PIER BENT 8 TO THE NORTH ABUTMENT. WORK SHALL INCLUDE ALL MAIN GIRDERS, STRINGERS

THE CONTRACTOR SHALL PROTECT ALL PORTIONS OF THE STRUCTURE WHICH ARE NOT TO BE PAINTED AGAINST DAMAGE FROM OVER BLAST, DISFIGUREMENT BY SPLASHES, SPLATTERS, OVER SPRAYING AND SMIRCHES OF PAINT. THE CONTRACTOR SHALL PROVIDE PROTECTIVE AIRTIGHT COVERS OR ENCLOSURES FOR ALL OPERATING MACHINERY AND ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO: MOTORS, MOTOR COUPLINGS, MACHINE BEARINGS, GEARS, BRAKES AND THRUSTERS, AND ELECTRICAL ENCLOSURES. THE PROTECTION DEVICES SHALL PREVENT CONTAMINATION OF ALL MACHINERY AND EQUIPMENT FROM BLAST GRIT, SAND, DUST, DIRT, PAINT OR SOLVENTS. ANY EQUIPMENT FOUND TO HAVE ANY CONTAMINATE WITHIN THE EQUIPMENT OR ITS LUBRICANT SHALL BE IMMEDIATELY CLEANED AND ITS LUBRICANT REPLACED BEFORE ANY OPERATION OF FOUND EQUIPMENT. THE METHOD OF THE CLEANING PROCEDURE AND TYPE OF LUBRICANT REPLACEMENT SHALL BE AS DIRECTED BY THE ENGINEER AND AT THE CONTRACTOR'S COST.

PRIOR TO BEGINNING ANY WORK THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF THE OPERATING MACHINERY. APPROVAL OF THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF ANY DAMAGES OR EXPENSES CAUSED BY THE MALFUNCTION OF THESE PROTECTIVE DEVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF DAMAGED EQUIPMENT OR MACHINERY. PAYMENT FOR PROTECTIVE DEVICES FOR THE PROTECTION OF EQUIPMENT AND MACHINERY SHALL INCIDENTAL TO ITEM 514, FIELD PAINTING OF EXISTING STRUCTURAL STEEL.

EQUIPMENT OR MACHINERY THAT IS SPECIFIED TO BE PAINTED SHALL BE PROTECTED SO THAT NO GRIT, SAND, DUST, DIRT, PAINT SOLVENT OR OTHER FOREIGN MATERIAL ENTERS THE INTERIOR WORKING AREAS OF SAID DEVICES. EXISTING NAME PLATES ON EQUIPMENT AND MACHINERY ARE NOT TO BE PAINTED AND ARE TO BE PROTECTED DURING THE CLEANING AND COATING OPERATION. ANY CONTAMINATION OF THE INTERIOR AREAS OF EQUIPMENT AND MACHINERY SHALL BE CAUSE FOR THE DEVICES TO BE DISMANTLED, CLEANED AND REINSTALLED WITH NEW LUBRICATION PRIOR TO OPERATION. ALL CORRECTIVE WORK SHALL BE AS DIRECTED BY THE ENGINEER AND AT THE CONTRACTOR'S COST.

THE FINISH COLOR SHALL COMPLY WITH THE FEDERAL STANDARD PAINT SPECIFICATION, 595-FS 16440

ITEM SPECIAL 530, STRUCTURE MISC: MAINTENANCE OF RIVER TRAFFIC:

WHEN WORKING WITHIN THE MAUMEE RIVER NAVIGATION CHANNEL OR ON THE BRIDGE BASCULE SPANS OR WITHIN THE BRIDGE TRUNNION PIERS WHEN THE BRIDGE IS IN A CLOSED POSITION THE CONTRACTOR SHALL PREFORM HIS WORK IN SUCH A MANNER SO THAT THE BRIDGE CAN BE PLACED BACK INTO OPERATION WITHIN FOLLOWING ADVANCED NOTICE TIMES.

1. FROM MARCH 15TH TO DECEMBER 31ST, THREE (3) HOURS ADVANCE NOTICE.
2. FROM JANUARY 1ST TO MARCH 14TH, TWELVE (12) HOURS ADVANCE NOTICE.

THIS WORK WOULD INCLUDE MOVING EQUIPMENT AND MATERIALS, REMOVING AND REPLACING CONTAINMENT OR FALSEWORK WHICH OBSTRUCTS THE OPERATION OF THE BRIDGE OR BLOCKS COMMERCIAL SHIPPING WITHIN THE NAVIGATION CHANNEL. ONCE GIVEN NOTICE THAT THE BRIDGE NEEDS TO GO BACK INTO OPERATION, THE CONTRACTOR WILL NOT BE PERMITTED TO START ANY NEW WORK ITEM THAT EXTENDS BEYOND THE ABOVE ADVANCE NOTICE TIME LIMIT.

TO MINIMIZE THE NUMBER OF TIMES REQUIRED TO MOBILIZE FOR SHIPPING MOVEMENTS, THE CONTRACTOR SHALL COMPLETE ALL STRUCTURAL STEEL REPAIRS, TRUNNION PIER REPAIRS AND FENDER REPAIRS DURING TIME FROM JANUARY 1ST TO MARCH 14TH. THE CONTRACTOR SHALL HAVE THE OPTION TO PAINT WITHIN THE TRUNNION PIERS FROM JANUARY 1ST TO MARCH 14TH, IF CONDITIONS OF 514.06 ARE SATISFIED.

EXCEPT AS GIVEN IN ITEM 530, TRUNNION PIER MACHINE ROOF, THE CONTRACTOR SHALL MAINTAIN VEHICLE TRAFFIC ON THE BRIDGE AT ALL TIMES AS PER STD. DWG. MT-95.30. PAYMENT WILL BE MADE AS PER ITEM 614, LUMP SUM, MAINTENANCE OF TRAFFIC.

HISTORICALLY THE MONTHS OF APRIL THRU JUNE HAVE THE LEAST MARINE TRAFFIC DURING THE SHIPPING SEASON. WORK TO PAINT THE BASCULE SPANS OVER THE NAVIGATION CHANNEL SHALL BE COMPLETED FROM APRIL 1ST TO JUNE 30TH. THE CONTRACTOR WILL BE PERMITTED 45 DAYS TO COMPLETE PAINTING WORK WITHIN THE CHANNEL AND WITHIN THE BASCULE PIERS. THIS WORK SHALL INCLUDE ALL WORK WHICH REQUIRES MOBILIZATION OF EQUIPMENT OR MATERIALS DURING THE ABOVE TIME PERIOD TO MAKE THE BRIDGE OPERATIONAL. WORK EXTENDING BEYOND THE 45 DAYS WILL BE ACESSED LIQUIDATED DAMAGES AS PER 108.07.

DURING MOBILIZATION TO PLACE THE BRIDGE IN OPERATION THE CONTRACTOR SHALL TAKE CARE TO CLEAN THE BRIDGE OF ALL GRIT AND CONSTRUCTION DEBRIS AND TAKE PRECAUTIONS TO PREVENT ABOVE MATERIALS FROM ENTERING THE CHANNEL OR BRIDGE MACHINERY. DAMAGE TO BRIDGE EQUIPMENT AND MACHINERY FROM CONSTRUCTION DEBRIS SHALL BE AS DESCRIBED IN ITEM 514.


THE LIMIT OF THE NAVIGATION CHANNEL IS 200 FEET WIDE, WITH A MAXIMUM VERTICAL CLEARANCE OF 120' FROM NORMAL HIGH WATER (ELEVATION 576.50). THE VERTICAL CLEARANCES FROM NORMAL HIGH WATER TO THE BOTTOM OF STEEL VARY FROM A MAXIMUM OF 41' TO A MINIMUM OF 34' WHEN THE BRIDGE IS IN A CLOSED POSITION.

THE CONTRACTOR SHALL CONTACT THE U.S. COAST GUARD WITH A WRITTEN REQUEST 30 DAYS PRIOR OF WORK WITHIN THE RIVER CHANNEL THAT MAY INHIBIT MARINE TRAFFIC ON THE MAUMEE RIVER. WORK SHALL BE DEFINED AS ANY WORK IN THE RIVER OR WORK WHICH RESTRICTS THE OPERATION OF THE BRIDGE OR ENCROACHES ON THE ESTABLISHED NAVIGATION VERTICAL OR HORIZONTAL CLEARANCES. THE CONTRACTOR MUST PROVIDE WRITTEN REQUEST TO THE U.S.C.G. REQUESTING AUTHORIZATION TO WORK WITHIN THE ABOVE LIMITS OR TO CLOSE THE MAUMEE RIVER TO MARINE TRAFFIC ON SPECIFIC DAYS. ANY SUCH WORK MUST BE APPROVED BY AND COORDINATED WITH THE U.S.C.G. PRIOR TO PERFORMANCE.

CONTACT INFORMATION FOR THE U.S. COAST GUARD IS AS FOLLOWS:

MR. SCOTT STRIFFLER
BRIDGE PROGRAM MANAGER
NINTH COAST GUARD DISTRICT
1240 EAST NINTH STREET
CLEVELAND, OH 44199-2060
PHONE: 216-902-6056

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DESIGNED JTB CHECKED		DRAWN JML REVIEWED		DATE 03-01-13	REVIEWED JML	STRUCTURE FILE NUMBER 4805917	 OHIO DEPARTMENT OF TRANSPORTATION DISTRICT NO. 2 PRODUCTION DEPARTMENT
GENERAL NOTES		LUC-65-05.35		BRIDGE NO. LUC-65-0535		OVER MAUMEE RIVER	
PID No. 80556		2		53			

THE CITY OF TOLEDO, STREETS, HARBOR AND BRIDGES SHALL ALSO BE NOTIFIED AT THE FOLLOWING:

CITY OF TOLEDO
TOLEDO STREETS HARBOR & BRIDGES
1189 WEST CENTRAL AVE.
TOLEDO, OH 43610
PHONE: 419-936-2508

THE U.S. ARMY CORPS OF ENGINEERS SHALL ALSO BE NOTIFIED OF ANY WORK THAT MAY INHIBIT MARINE TRAFFIC ON THE MAUMEE RIVER. CONTACT INFORMATION IS AS FOLLOWS:

USACE-BUFFALO DISTRICT
1035 EAST 9TH STREET
CLEVELAND, OH 44114
PHONE: 716-207-7893

THE ESTIMATED NUMBER OF MARINE OCCURANCES REQUIRING THE BRIDGE TO BE OPERATIONAL DURING THE MONTHS OF APRIL THROUGH JUNE IS 25. PAYMENT TO RELOCATE EQUIPMENT AND MATERIALS AND TO REMOVE AND REINSTALL FALSEWORK OR CONTAINMENT WILL BE MADE AT THE LUMP SUM PRICE BID FOR EACH OCCURANCE, AS APPROVED BY THE ENGINEER FOR ITEM 530, STRUCTURE, MISC.; MAINTENANCE OF RIVER TRAFFIC. THE DEPARTMENT WILL NOT BE RESPONSIBLE FOR DELAYS CAUSED BY SHIPPING SCHEDULES OR BRIDGE MALFUNCTION. OCCURANCES EXTENDING BEYOND THE PERMITTED 45 DAYS WILL BE AT THE CONTRACTORS EXPENSE, UNLESS APPROVED BY THE ENGINEER.

ITEM 513, STRUCTURAL STEEL MISC: RIVET REMOVAL AND REPLACEMENT WITH ASTM A-325 GALVANIZED BOLT:

RIVETS TO BE EXTRACTED FOR BOLT REPLACEMENT SHALL BE PERFORMED BY MECHANICAL METHODS. NO FLAME CUTTING OR PIERCING SHALL BE PERMITTED UNLESS AUTHORIZED BY THE ENGINEER. THE CONTRACTOR SHALL MAKE PROVISIONS TO CATCH RIVET HEADS WHEN WORKING OVER WATER OR OTHER AREAS WHERE THE PUBLIC MUST BE PROTECTED AS PER CMS 107.

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN REPAIR TYPE 101, LOWER DIAGONAL BRACE REPLACEMENT:

THIS WORK SHALL CONSIST OF THE REMOVAL AND REPLACEMENT OF A LOWER DIAGONAL WT 7X14 BRACE. REMOVAL SHALL CONSIST OF 12-7/8" DIA. RIVETS FROM EXISTING GUSSET PLATES TO REMAIN. ATTACHMENT OF THE NEW DIAGONAL BRACE SHALL BE MADE ON THE EXISTING GUSSET PLATES WITH NEW 7/8" DIA. ASTM -325 GALVANIZED BOLTS.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPLACEMENT OF THE LOWER DIAGONAL BRACE BY THE UNIT OF EACH ACCEPTED.

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 101, LOWER DIAGONAL BRACE REPLACEMENT.

513	95030	EACH	STRUCTURAL STEEL, MISC. RIVET REMOVAL AND REPLACEMENT WITH ASTM-325 BOLT.
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ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 102, REPAIR OF FLOOR BEAM STIFFNER:

THIS WORK SHALL CONSIST OF THE CUTTING THE EXISTING

STIFFNER ANGLE ABOVE THE SECTION LOSS AREA WITH CARE NOT TO DAMAGE THE EXISTING FILL PLATE UNDER THE ANGLE AND AGAINST THE WEB PLATE, REMOVE 3 EXISTING 7/8" DIA. RIVETS AND INSTALL AN NEW SECTION OF ANGLE USING 7/8" ASTM -325 GALVANIZED BOLTS.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR OF THE STIFFENER BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 102, REPAIR OF FLOOR BEAM STIFFNER.

513	95030	EACH	STRUCTURAL STEEL, MISC. RIVET REMOVAL AND REPLACEMENT WITH ASTM-325 BOLT.
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ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 103, REPAIR OF FLOOR BEAM STIFFNERS ON FLOOR BEAM LINE 7 EXTERIOR BAY:

THIS WORK SHALL CONSIST OF THE CUTTING THE EXISTING STIFFNER ANGLES ABOVE THE SECTION LOSS AREA WITH CARE NOT TO DAMAGE THE EXISTING FILL PLATE UNDER THE ANGLE AND AGAINST THE WEB PLATE, REMOVE 3 EXISTING 7/8" DIA. RIVETS AND INSTALL AN NEW SECTION OF ANGLE USING 7/8" ASTM -325 GALVANIZED BOLTS.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR OF THE FLOOR BEAM BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 103, REPAIR OF FLOOR BEAM STIFFNERS ON FLOOR BEAM LINE 7 EXTERIOR BAY

513	95030	EACH	STRUCTURAL STEEL, MISC. RIVET REMOVAL AND REPLACEMENT WITH ASTM-325 BOLT.
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ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 104A & 104B, REPAIR OF FLOOR BEAM BOTTOM FLANGE AND STIFFNERS:

THIS WORK SHALL CONSIST OF THE CUTTING OF 4 EXISTING STIFFNER ANGLES AT EACH REPAIR ABOVE THE SECTION LOSS AREA WITH CARE NOT TO DAMAGE THE EXISTING FILL PLATE UNDER THE ANGLE AND AGAINST THE WEB PLATE, REMOVE A PORTION OF THE BOTTOM FLOOR BEAM ANGLE FLANGE, REMOVE 40 EXISTING 7/8" DIA. RIVETS AT EACH REPAIR AND RECONSTRUCTING THE BEAM WITH NEW ANGLES USING 7/8" ASTM -325 GALVANIZED BOLTS.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR OF THE FLOOR BEAM BY THE UNIT OF EACH ACCEPTED.

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 104A, 104B REPAIR OF FLOOR BEAM BOTTOM FLANGE AND STIFFNERS

513	95030	EACH	STRUCTURAL STEEL, MISC. RIVET REMOVAL AND REPLACEMENT WITH ASTM-325 BOLT.
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ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 105, WEB PLATE FLOOR BEAM REPAIR:

THIS WORK SHALL CONSIST OF THE CUTTING THAN EXISTING STIFFNER ANGLE AND FILL PLATE EACH SIDE OF THE BEAM WITH CARE NOT TO DAMAGE THE EXISTING BEAM WEB PLATE, REMOVING 5/8" DIA. RIVETS AT EACH REPAIR, INSTALLING BOLTED COVER PLATES OVER THE WEB SECTION LOSS AND INSTALLING NEW STIFFNER ANGLES USING 7/8" ASTM -325 GALVANIZED BOLTS.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR OF THE WEB PLATE BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 105, WEB PLATE FLOOR BEAM REPAIR

513	95030	EACH	STRUCTURAL STEEL, MISC. RIVET REMOVAL AND REPLACEMENT WITH ASTM-325 BOLT.
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ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 106, REPAIR OF FLOOR BEAM STIFFNER:

THIS WORK SHALL CONSIST OF THE CUTTING II EXISTING STIFFNER ANGLES ABOVE THE SECTION LOSS AREA WITH CARE NOT TO DAMAGE THE EXISTING FILL PLATE UNDER THE ANGLE AND AGAINST THE WEB PLATE, REMOVING 2 EXISTING 7/8" DIA. RIVETS AT EACH STIFFNER AND INSTALL A NEW SECTION OF ANGLE USING 7/8" ASTM -325 GALVANIZED BOLTS.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR OF THE STIFFNER BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 106, REPAIR OF FLOOR BEAM STIFFNER

513	95030	EACH	STRUCTURAL STEEL, MISC. RIVET REMOVAL AND REPLACEMENT WITH ASTM-325 BOLT.
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ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 107, CROSSFRAME REPAIR:

THIS WORK SHALL CONSIST OF REMOVING AND REPLACING THE EXISTING CROSSFRAME MEMBERS LOCATED UNDER THE FLOOR BEAMS AND BRACING THE BOTTOM FLANGE OF THE BASCULE GIRDERS. EACH MEMBER REMOVED SHALL BE REPLACED BEFORE ANOTHER MEMBER ON THE FRAME IS REMOVED AND REPLACED. WHILE ANY OF THE CROSSFRAME MEMBERS ARE REMOVED THE BRIDGE SHALL NOT BE OPERATED. THE CONTRACTOR IS ADVISED TO SCHEDULE THIS WORK WITH ITEM SPECIAL, MAINTENANCE OF RIVER TRAFFIC.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR OF THE CROSSFRAME BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 107, CROSSFRAME REPAIR

513	95030	EACH	STRUCTURAL STEEL, MISC. RIVET REMOVAL AND REPLACEMENT WITH ASTM-325 BOLT.
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ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 108, CROSSFRAME REPAIR:

THIS WORK SHALL CONSIST OF REMOVING AND REPLACING THE EXISTING CROSSFRAME MEMBERS LOCATED UNDER THE FLOOR BEAMS AND BRACING THE BOTTOM FLANGE OF THE BASCULE GIRDERS. EACH MEMBER REMOVED SHALL BE REPLACED BEFORE ANOTHER MEMBER ON THE FRAME IS REMOVED AND REPLACED. WHILE ANY OF THE CROSSFRAME MEMBERS ARE REMOVED THE BRIDGE SHALL NOT BE OPERATED. THE CONTRACTOR IS ADVISED TO SCHEDULE THIS WORK WITH ITEM SPECIAL, MAINTENANCE OF RIVER TRAFFIC.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR OF THE CROSSFRAME BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 108, CROSSFRAME REPAIR

513	95030	EACH	STRUCTURAL STEEL, MISC. RIVET REMOVAL AND REPLACEMENT WITH ASTM-325 BOLT.
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ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 109, BASCULE GIRDER WEB PLATE REPAIR:

THIS WORK SHALL CONSIST OF DRILLING THE GIRDER WEB PLATE AT THE CORNERS OF THE SECTION LOSS, CUTTING OUT THE DETERIORATED SECTION OF PLATE AND WELDING IN A NEW PLATE AS PER PLAN.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR OF THE BASCULE

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GENERAL NOTES
BRIDGE NO. LUC-65-0535
OVER MAUMEE RIVER

LUC-65-05.35
PID No. 80556

DESIGN AGENCY
OHIO DEPARTMENT
OF TRANSPORTATION

REVIEWED
DATE 03-01-13
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ITEM 514 FIELD PAINTING OF EXISTING STRUCTURAL STEEL: In addition to Item 514 the contractor shall minimize the impact to river traffic by painting the bascule spans and moving parts within the trunnion piers while the spans are in a raised position. Both bascule spans will be placed in the open (up) position of not less than 70% of full opening and not more than 80% full open. The bridge will remain at this position for a maximum duration of 45 day, after which liquidated damages will be assessed as per 108.07 for painting work not completed along the bascule spans and extending the bridge opening beyond the 45 days. The contractor shall submit to the engineer in writing a minimum of 2 weeks prior to starting work on the bascule spans his request for the opening. The start of work and time of the bridge opening shall be as approved by the engineer and the USCG. All containment, platforms, scaffolds, materials, personnel, and equipment shall be located outside the limits of the navigable channel.

The limits of structural steel painting shall be as per the following.

1. Unit 1, from the south abutment to the south trunnion pier No. 4. Work shall include all main girders, stringers beams, floor beams, crossframes, diagonal bracing, sidewalk support beams, fascia plates and gate houses interior and exterior.
2. Main bascule spans from the face to face of the counterweights. This shall include the main girders, all upper and lower diagonal bracing, floor beams and stringers beams, fascia plates and side walk supports, cat walks and hand rails, and centerlocks including shaft, motor and supports.
3. In the interior of the tunction piers, included the bascule spans:
 - a. Tunction supports from the floor of the counterweight room to the bottom of the tunction pier deck.
 - b. Catwalks and handrails
 - c. Machine floor beams and machinery supports
 - d. Trunnion racks and supports
 - e. Main reducer cover and floor supports
4. Unit 2, from the north trunnion pier to pier bent 8. Work shall include all main girders, stringers, floor beams, crossframes, diagonal bracing sidewalk support beams, fascia plates and gate houses interior and exterior.
5. Unit 3, from pier bent 8 to the north abutment. Work shall include all main girders, stringers

The contractor shall protect all portions of the structure which are not to be painted against damage from over blast, disfigurement by splashes, splatters, over spraying and smirches of paint. The contractor shall provide protective airtight covers or enclosures for all operating machinery and electrical equipment including, but not limited to: motors, motor couplings, machine bearings, gears including racks and pinions, brakes and thrusters, junction boxes, conduits, limit switches, position switches and electrical enclosures. The protection devices shall prevent contamination of all machinery and equipment from blast grit, sand, dust, dirt, paint or solvents. Any equipment found to have any contaminate within the equipment or its lubricant shall be immediately cleaned and its lubricant replaced before any operation of found equipment. The method of the cleaning procedure and type of lubricant replacement shall be as directed by the engineer and at the contractors cost.

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GENERAL NOTES

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WEB PLATE BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 109, BASCULE WEB PLATE REPAIR

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 110, GRATE FLOOR BEAM STRINGER REPAIR:

THE WORK SHALL CONSIST OF REPAIRING THE EXISTING W14X38 FLOOR BEAM STRINGERS SUPPORTING THE STEEL DECK GRATING AT 3 LOCATIONS WITH BOLTED WEB COVER PLATES AS SHOWN IN PLAN.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR OF THE FLOOR BEAM STRINGERS THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 110, GRATE FLOOR BEAM STRINGER REPAIR

ITEM SPECIAL, STRUCTURAL MISC.: REPAIR TYPE 111, CENTERLOCK CATWALK GRATING REPLACEMENT:

THE WORK SHALL CONSIST OF REMOVING AND REPLACING THE GRATING LOCATED AT THE CENTERLOCKS BETWEEN THE BASCULE SPANS. NEW GRATING SHALL BE GALVANIZED AS PER 711.02 AND AS PER PLAN.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR OF THE CATWALK GRATING BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	10201	SQ. FT.	REPAIR TYPE 111, CENTERLOCK CATWALK GRATING REPLACEMENT.

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 112, CENTERLOCK HAND RAIL REPAIR:

THE WORK SHALL CONSIST OF REPLACING A SECTION OF ANGLE ON THE HANDRAIL IN THE NORTH LEAF NEAR THE CENTER LOCK REDUCER MACHINERY AND REPLACING 3 RIVETS WITH ASTM A-325 GALVANIZED BOLTS.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR OF THE HANDRAIL BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 112, CENTERLOCK HANDRAIL REPAIR

ITEM	EXTENSION	UNIT	DESCRIPTION
513	95030	EACH	STRUCTURAL STEEL, MISC. RIVET REMOVAL AND REPLACEMENT WITH ASTM-325 BOLT.

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 114, RACK BEARING STIFFNER REPAIR:

ON EACH RACK GEAR IN BOTH TRUNNION PIERS, REPAIR THE RACK STIFFNERS ON EACH SIDE OF THE BASCULE GIRDERS LOCATED NEAREST TO THE CHANNEL. WORK SHALL CONSIST OF GRINDING BACK THE DETERIORATED PORTION OF STIFFNER ANGLES AND REINFORCING WITH ADDITIONAL STEEL PLATES AND WELDMENTS. FLAME CUTTING WILL NOT BE PERMITTED AND CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING RACK BOLTS. STIFFNERS SHALL BE REPAIR ONE AT A TIME AND THE BRIDGE SHALL NOT BE OPERATED UNTIL THE REPAIR ON STIFFNER BEING WORKED ON IS COMPLETE.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR OF THE RACK BEARING STIFFNER BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 114, RACK BEARING STIFFNER REPAIR

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 115, BASCULE STIFFNER REPAIR:

ON EACH INTERIOR BASCULE GIRDER IN EACH TRUNNION PIER, ANGLE STIFFNERS LOCATED NEXT TO REPAIR 114 AND CHANNEL SIDE OF THE TRUNNION PIER WALL ARE TO BE REPAIRED. WORK SHALL CONSIST OF CUTTING OUT THE DETERIORATED LEG OF THE ANGLE AND REPLACING IT WITH A PLATE AND WELDMENT. REMOVAL BY MEANS OF FLAME CUTTING WILL NOT BE PERMITTED.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 115, BASCULE STIFFNER REPAIR BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 115, BASCULE STIFFNER REPAIR

ITEM SPECIAL, STRUCTURE MISC.: REPAIR TYPE 116, MACHINE FLOOR GRATING REPLACEMENT:

THE WORK SHALL CONSIST OF REMOVING AND REPLACING THE GRATING LOCATED IN THE BASCULE TRUNNION PIER MACHINE ROOMS. NEW GRATING SHALL BE GALVANIZED AS PER 711.02 AND AS PER PLAN.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR OF THE CATWALK GRATING BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	10201	SQ. FT.	REPAIR TYPE 116, MACHINE FLOOR GRATING REPLACEMENT.

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 117, UPPER TRUNNION SUPPORT TS-2 REPAIR:

LOCATED IN THE NORTH TRUNNION PIER, ON THE UPSTREAM TS-2 SUPPORT, ON THE UPSTREAM FACE, AT THE MACHINE ROOM FLOOR LEVEL, REPAIR THE UPPER FLANGE ANGLE BY GRINDING OR CUTTING BACK THE DETERIORATED LEG OF THE ANGLE AND REPLACING IT WITH A PLATE AND WELDMENT. REMOVAL BY MEANS OF FLAME CUTTING WILL NOT BE PERMITTED.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 117, UPPER TRUNNION SUPPORT TS-2 REPAIR BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 117, UPPER TRUNNION SUPPORT TS-2 REPAIR

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 118, TRUNNION SUPPORT TS-1 BELOW MACHINE ROOM FLOOR REPAIR:

LOCATED IN BOTH TRUNNION PIERS, ON EACH SIDE OF THE MACHINE ROOM, UPSTREAM AND DOWNSTREAM ON THE TS-1 SUPPORT, BELOW THE MACHINE ROOM FLOOR LEVEL, REPAIR THE LOWER FLANGE ANGLE BY GRINDING OR CUTTING BACK THE DETERIORATED LEG OF THE ANGLE AND REPLACING IT WITH A PLATE AND WELDMENT. REMOVAL BY MEANS OF FLAME CUTTING WILL NOT BE PERMITTED.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 118, TRUNNION SUPPORT TS-1 BELOW MACHINE ROOM FLOOR REPAIR, BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 118, TRUNNION SUPPORT TS-1 BELOW MACHINE ROOM FLOOR REPAIR

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 119, SUMP PUMP COVER REPLACEMENT:

WORK SHALL CONSIST OF FABRICATING AND REPLACING PUMP COVERS LOCATED IN EACH TRUNNION PIER COUNTERWEIGHT ROOM FLOOR.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 119, SUMP PUMP COVER REPLACEMENT BY THE UNIT EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	SQ. FT.	REPAIR TYPE 119, SUMP PUMP COVER REPLACEMENT.

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 120, REPAIR DIAGONAL BRACING ON UPPER TRUNNION SUPPORT:

LOCATED IN THE SOUTH TRUNNION PIER ON THE DOWNSTREAM TS-1 TRUNNION SUPPORT ALONG THE DECK SLAB SUPPORT, REPLACE DETERIORATED DIAGONAL BRACING STRAPS WITH A PLATE AND WELDMENT. RIVETS SHALL BE GROUND FLUSH WITH THE EXISTING CHANNEL FLANGES FOR A TIGHT FIT. REMOVAL BY MEANS OF FLAME CUTTING WILL NOT BE PERMITTED.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 120, REPAIR DIAGONAL BRACING ON UPPER TRUNNION SUPPORT, BY THE UNIT

FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 120, REPAIR DIAGONAL BRACING ON UPPER TRUNNION SUPPORT

REPAIR 121, ENCASUREMENT OF TRUNNION TS-4 LOWER COUNTER WEIGHT ROOM:

IN BOTH THE SOUTH AND NORTH TRUNNION PIERS, ENCASE BOTH UPSTREAM AND DOWNSTREAM TS-4 TRUNNION SUPPORTS IN CONCRETE AT THE COUNTERWEIGHT ROOM FLOOR. PRIOR TO ENCASING THE SUPPORT STEEL AND FLOOR AREA, THE AREA SHALL BE CLEANED OF ALL LOOSE RUST, PAINT AND DEBRIS. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM BLASTING. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES OF CLASS QA/QC CONCRETE, REINFORCING STEEL AND DOWEL HOLES FOR COMPLETE THE WORK.

ITEM SPECIAL, STRUCTURE MISC.: REPAIR TYPE 122, GRIND OUT AREAS OF SECTION LOSS:

LOCATED ON THE NORTH FIXED SPAN APPROACH END FRAME AND SUPPORTED ON THE NORTH TRUNNION PIER GRIND OUT AREAS OF SECTION LOSS ON THE EXISTING GUSSET PLATES AND WEB PLATES TO PROVIDE A MINIMUM OF A 2" DIAMETER HOLE OR 2 DIAMETER RADIUS AND CUT BACK TO 75% OF ITS ORIGINAL PLATE THICKNESS. ACCESS TO APPROACH SPAN IS THROUGH THE TRUNNION PIER COUNTERWEIGHT ROOM.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	SQ. FT.	REPAIR TYPE 122, GRIND OUT AREAS OF SECTION LOSS.

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GENERAL NOTES

BRIDGE NO. LUC-65-0535
OVER MAUMEE RIVER

LUC-65-05.35
PID No. 80556

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DESIGN AGENCY
OHIO DEPARTMENT
OF TRANSPORTATION

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ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 123, END FRAME DIAGONAL MEMBER REPLACEMENT:

LOCATED ON THE NORTH FIXED SPAN APPROACH END FRAME AND SUPPORTED ON THE NORTH TRUNNION PIER, REPLACE A DETERIORATED DIAGONAL MEMBER BY REMOVING THE EXISTING MEMBER FROM THE EXISTING GUSSET PLATES TO REMAIN, REMOVE AND GRIND EXISTING RIVETS FLUSH ON EXISTING GUSSET PLATES AND PLACE NEW DIAGONAL WITH WELDMENT. ACCESS TO THE APPROACH SPAN IS THROUGH THE TRUNNION PIER COUNTERWEIGHT ROOM.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 123, END FRAME DIAGONAL MEMBER REPLACEMENT BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 123, END FRAME DIAGONAL MEMBER REPLACEMENT

ITEM SPECIAL, STRUCTURE MISC.: REPAIR TYPE 124, FENDER TIMBERS REPLACEMENT:

THIS WORK SHALL CONSIST OF REPLACING EXISTING BROKEN FENDER TIMBERS ON THE TRUNNION PIERS ALONG THE NAVIGATION CHANNEL. THE CONTRACTOR SHALL SALVAGE EXISTING FENDER PLATES AND WALKWAY PLANKS. NEW FENDER TIMBERS AND REINSTALLATION OF EXISTING PLANKS SHALL BE INSTALLED WITH NEW GALVANIZED HARDWARE. ALL NEW TIMBERS SHALL BE ROUGH SAWN TO THE FULL DIMENSION OF THE COMPONENTS THAT THEY ARE REPLACING AND SHALL BE FURNISHED IN ACCORDANCE WITH SECTIONS 711.02 AND 712.06.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	SQ. FT.	REPAIR TYPE 124, FENDER TIMBERS REPLACEMENT.

ITEM SPECIAL, STRUCTURE MISC.: REPAIR TYPE 125, CLEANING OF RACK GEARS AND PINNION GEARS OF OLD LUBRICANT AND APPLICATION OF NEW LUBRICANT:

IN EACH TRUNNION PIER THE CONTRACTOR SHALL CLEAN BOTH SETS OF RACK GEARS AND PINION GEARS OF OLD LUBRICANTS AND REAPPLY NEW LUBRICANT. EACH SET OF GEARS SHALL CONSIST OF THE FOLLOWING:

- RACK GEAR-59 PITCHES(60 TEETH @ 5 1/4") STD. SPUR, 14" FACE
- SHAFT GEAR-14 PITCHES(15 TEETH @ 4 3/8") STD. SPUR, 11" FACE
- PINION DRIVE GEAR- 53 PITCHES(54 TEETH @ 4 3/8") STD. SPUR, 8" FACE
- PINION GEAR- 14 PITCHES (15 TEETH @ 5 1/4") STD. SPUR, 19" FACE

OLD THICK LUBRICANTS CAN BE REMOVED WITH FLAT BLADE SCRAPERS AND SOLVENTS. NO MECHANICAL SCRAPERS, ABRASIVES OR BLASTING WILL BE APPROVED. ALL OLD LUBRICANT SHALL BE COLLECTED WITHIN CONTAINMENT AND LEGALLY DISPOSED OF AS PER STATE AND LOCAL REQUIREMENTS. NEW LUBRICANT SHALL BE APPLIED AFTER THE GEAR SETS HAVE DRIED OF ANY SOLVENTS AND BE A HEAVY DUTY OPEN GEAR GREASE MEETING THE REQUIREMENTS OF GEAR STIX NGL1 OR EQUAL. THE APPLICATION MAY BE APPLIED BY AEROSOL OR BY OTHER METHODS WHICH ACHIEVE A UNIFORM APPLICATION THAT UNIFORMLY EVENLY COATS THE GEAR SETS. THE APPLICATION SHALL BE MADE WHILE THE BRIDGE SPAN IS STATIONARY. OPERATING OF THE BRIDGE WITH THE GEAR SETS DRY WILL NOT BE PERMITTED. AFTER THE NEW GREASE IS APPLIED THE BRIDGE SHALL BE OPERATED AND THE GEAR SETS CHECKED FOR DRY SPOTS AND LOCATIONS WHERE THE GREASE IS NOT EVENLY DISBURSED ON THE GEAR. EXCESS GEAR GREASE SHALL BE WIPED WITH A CLEAN RAG. SOLVENT CLEANING WILL NOT BE APPROVED UNLESS THE SOLVENT IS APPROVED BY THE MANUFACTURE. TO PREVENT POSSIBLE DELAY TO SHIPPING THIS WORK SHALL BE COMPLETED DURING THE WINTER SHUT DOWN FROM JANUARY 1ST TO MARCH 14TH. THE CONTRACTOR SHALL SCHEDULE THIS WORK WITH THE ENGINEER SO THAT A LOCK TENDER CAN BE ON SITE FOR TEST OPENINGS. THE DEPARTMENT WILL BE RESPONSIBLE FOR PROVIDING THE LOCK TENDER.

PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR: REPAIR TYPE 125, CLEANING OF RACK AND PINION OF OLD LUBRICANT AND APPLICATION OF NEW LUBRICANT AND SHALL INCLUDE ALL COST FOR REMOVAL AND REINSTALLATION OF ALL GUARDS, ACCESS PLATFORMS, LABOR, EQUIPMENT AND MATERIAL TO COMPLETE THE WORK TO THE SATISFACTION OF THE ENGINEER.

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	SQ. FT.	REPAIR TYPE 125, CLEANING OF RACK GEARS AND PINION GEARS OF OLD LUBRICANT AND APPLICATION OF NEW LUBRICANT

ITEM SPECIAL, STRUCTURE MISC.: REPAIR 126, DRAIN AND REPLACE LUBRICANT IN MAIN REDUCERS:

IN EACH TRUNNION PIER THE CONTRACTOR SHALL DRAIN AND REPLACE THE LUBRICANT IN THE MAIN REDUCER. THIS WORK SHALL BE COMPLETED DURING THE WINTER SHUT DOWN FROM JANUARY 1ST TO MARCH 14TH. THE CONTACTOR MAY ELECT TO REMOVE EXISTING LUBRICANT BY GRAVITY DRAINS, PUMPS OR OTHER METHOD APPROVED BY THE ENGINEER. PLACING HEATERS DIRECTLY IN THE REDUCER WILL NOT BE PERMITTED. ALL LUBRICANT COLLECTED SHALL BE LEGALLY DISPOSED OF AS PER STATE AND LOCAL REQUIREMENTS. PRIOR TO REDUCES BEING FILLED WITH NEW LUBRICANTS THE CONTRACTOR SHALL INSPECT THE INSIDE MACHINERY WITH A SCOPE CAMERA OR OTHER METHOD TO VERIFY ANY SUSPICIOUS MATERIALS LOCATED WITHIN THE SUMPS. ANYTHING FOUND SHALL BE REPORTED TO THE ENGINEER BEFORE WORK CONTINUES.

NEW LUBRICANT SHALL BE ALMASOL 604 OR APPROVED EQUAL. FILL THE REDUCERS SO THAT THE LEVEL OF OIL AFTER IT HAS STABILIZED IS A MINIMUM 3" ABOVE THE FLOOR OF THE REDUCER AND THAT ALL SUMPS ARE FILLED. THE APPROXIMATE AMOUNT OF LUBRICANT IN EACH REDUCER IS APPROXIMATELY 90 GALLONS.

PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR: REPAIR TYPE 126, DRAIN AND REPLACE LUBRICANT IN MAIN REDUCER AND SHALL INCLUDE ALL LABOR,

EQUIPMENT AND MATERIALS TO COMPLETE THIS WORK.

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	EACH	REPAIR TYPE 126, DRAIN AND REPLACE LUBRICANT IN MAIN REDUCERS

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 201, DIAGONAL GUSSET PLATE REPLACEMENT:

LOCATED ON THE SOUTH ABUTMENT END FRAME, GIRDER "G5", REPLACE THE UPSTREAM DIAGONAL GUSSET PLATE. REMOVE 17 RIVETS TO BE REPLACED WITH GALVANIZED BOLTS INCLUDED WITH ITEM 513, STRUCTURAL STEEL MISC., RIVET REMOVAL AND REPLACEMENT WITH ASTM A-325 GALVANIZED BOLT.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 201, END FRAME DIAGONAL MEMBER REPLACEMENT BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 201, DIAGONAL GUSSET PLATE REPLACEMENT

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 202, DIAGONAL GUSSET PLATE REPLACEMENT:

LOCATED ON THE SOUTH ABUTMENT END FRAME, GIRDER "G5", REPLACE THE DOWNSTREAM DIAGONAL GUSSET PLATE. REMOVE 17 RIVETS TO BE REPLACED WITH GALVANIZED BOLTS INCLUDED WITH ITEM 513, STRUCTURAL STEEL MISC., RIVET REMOVAL AND REPLACEMENT WITH ASTM A-325 GALVANIZED BOLT.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 202, END FRAME DIAGONAL MEMBER REPLACEMENT BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 202, DIAGONAL GUSSET PLATE REPLACEMENT

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 203, END FRAME BRACKET REPLACEMENT:

LOCATED ON THE SOUTH ABUTMENT END FRAME, GIRDER "G2", REPLACE THE DOWNSTREAM BRACKET LOCATED UNDER THE END FLOOR BEAM. REMOVE 26 RIVETS TO BE REPLACED WITH GALVANIZED BOLTS INCLUDED WITH ITEM 513, STRUCTURAL STEEL MISC., RIVET REMOVAL AND REPLACEMENT WITH ASTM A-325 GALVANIZED BOLT.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 203, END FRAME BRACKET REPLACEMENT BY THE UNIT FOR EACH

ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 203, END FRAME BRACKET REPLACEMENT

ITEM SPECIAL, STRUCTURE MISC.: REPAIR TYPE 204, BLADDER FUNNEL INSTALLATION:

TO REPAIR LEAKING EXPANSION JOINT BLADDERS UNDER THE SOUTH ABUTMENT JOINT, THE CONTRACTOR SHALL FABRICATE AND INSTALL STAINLESS STEEL FUNNELS TO BE PLACED INTO THE EXISTING STEEL DOWNSPOUTS.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	EACH	REPAIR TYPE 204, BLADDER FUNNEL INSTALLATION

ITEM SPECIAL, STRUCTURE MISC.: REPAIR TYPE 205, REPLACE SOUTH ABUTMENT BACKWALL VENT:

ON THE SOUTH ABUTMENT BACKWALL REMOVE EXISTING STEEL DETERIORATED AIR VENT AND PORTIONS OF THE FRAME AS PER ITEM 202 AND REPLACE NEW FABRICATED VENTS. PRIOR TO FABRICATION THE CONTRACTOR SHALL VERIFY THE EXISTING OPENING FOR FIT-UP AS PER EXISTING STRUCTURE VERIFICATION.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	EACH	REPAIR TYPE 205, REPLACE SOUTH ABUTMENT BACKWALL

ITEM SPECIAL, STRUCTURE MISC.: REPAIR TYPE 206, REPAIR AND ENCASEMENT OF SOUTH ABUTMENT PILES:

INSIDE THE SOUTH ABUTMENT, REPAIR THE SECTION LOSS ON SIX EXISTING 12" X 12" STEEL "H" PILES BY INSTALLING BOLTED STEEL SPLICE PLATES AND ENCASING THE REPAIR WITH CONCRETE. ACCESS INSIDE THE ABUTMENT IS THROUGH A MAN HOLE IN THE EAST SIDEWALK.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE REPAIR BY THE UNIT OF EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	EACH	REPAIR TYPE 206, REPAIR AND ENCASEMENT OF SOUTH ABUTMENT PILES

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 301, SHORT DIAGONAL BRACING REMOVAL AND REPLACEMENT:

AT THE NORTH ABUTMENT BETWEEN GIRDERS G-3 & G-4, REPLACE A WT 7X15 SHORT DIAGONAL BRACE. REMOVE 8 RIVETS TO BE REPLACED WITH GALVANIZED BOLTS INCLUDED WITH ITEM 513, STRUCTURAL STEEL MISC., RIVET REMOVAL AND REPLACEMENT WITH ASTM A-325 GALVANIZED BOLT.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 301, SHORT DIAGONAL BRACING REMOVAL AND REPLACEMENT BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 301, SHORT DIAGONAL BRACING AND REPLACEMENT

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 302, LONG DIAGONAL BRACING REMOVAL AND REPLACEMENT:

AT THE NORTH ABUTMENT BETWEEN GIRDERS G-3 & G-4, REPLACE A WT 7X15 LONG DIAGONAL BRACE. REMOVE 12 RIVETS TO BE REPLACED WITH GALVANIZED BOLTS INCLUDED WITH ITEM 513, STRUCTURAL STEEL MISC., RIVET REMOVAL AND REPLACEMENT WITH ASTM A-325 GALVANIZED BOLT.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 302, LONG DIAGONAL BRACING REMOVAL AND REPLACEMENT BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 302, LONG DIAGONAL BRACING AND REPLACEMENT

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 303, END FLOOR BEAM REPAIR:

AT THE NORTH ABUTMENT BETWEEN GIRDERS G-2 & G-3, REPAIR THE SECTION LOSS IN THE END FLOOR BEAM UNDER THE STRINGER BEAM WITH BOLTED SPLICE PLATES.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 303, END FLOOR BEAM REPAIR BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 303, END FLOOR BEAM REPAIR

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 304, LONG DIAGONAL BRACING AND GUSSET PLATE REMOVAL AND REPLACEMENT:

AT THE NORTH ABUTMENT BETWEEN GIRDERS G-1 & G-2, REPLACE A WT 7X15 LONG DIAGONAL BRACE AND GUSSET PLATE AT THE END FLOOR BEAM. REMOVE 16 RIVETS TO BE REPLACED WITH GALVANIZED BOLTS INCLUDED WITH ITEM 513, STRUCTURAL STEEL MISC., RIVET REMOVAL AND REPLACEMENT WITH ASTM A-325 GALVANIZED BOLT.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 304, LONG DIAGONAL BRACING AND GUSSET PLATE REMOVAL AND REPLACEMENT BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 304, LONG DIAGONAL BRACING AND GUSSET PLATE REPLACEMENT

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 305, GUSSET PLATE REPAIR:

IN UNIT 2, ALONG GIRDER G-1, AT SECTION LINE 8, REPLACE THE GUSSET PLATE ON THE NORTH FACE SUPPORTING THE FLOOR BEAM BETWEEN GIRDERS G-1 & G-7. REMOVE 8 RIVETS TO BE REPLACED WITH GALVANIZED BOLTS INCLUDED WITH ITEM 513, STRUCTURAL STEEL MISC., RIVET REMOVAL AND REPLACEMENT WITH ASTM A-325 GALVANIZED BOLT.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 305, GUSSET PLATE REPAIR BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 305, GUSSET PLATE REPAIR.

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 306, REPLACE DIAGONAL BRACE:

IN UNIT 2 BETWEEN SECTION LINE 7 & 8 AND GIRDERS G-1 AND G-7 REPLACE A SHORT WT 7 X15 DIAGONAL BRACE. REMOVE 12 RIVETS TO BE REPLACED WITH GALVANIZED BOLTS INCLUDED WITH ITEM 513, STRUCTURAL STEEL MISC., RIVET REMOVAL AND REPLACEMENT WITH ASTM A-325 GALVANIZED BOLT.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE REPAIR TYPE 306, REPLACE DIAGONAL BRACE BY THE UNIT FOR EACH ACCEPTED. PAYMENT WILL BE MADE FOR THE ACCEPTED QUANTITIES AT THE BID PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUNDS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 306, REPLACE DIAGONAL BRACE.

ITEM 530, SPECIAL, TRUNNION PIER MACHINE ROOM ROOF, EACH SIDE, LUMP SUM:

THE CONTRACTOR SHALL CLEAN THE EXISTING ROOFS OF ALL DEBRIS AND INSTALL A 24 GAUGE STAINLESS STEEL STANDING SEAM PANEL ROOF OVER TYPE 30 HEAVY ASPHALT FELT ON THE EXISTING STEEL PLATE ROOF AS SHOWN IN THE ATTACHED PLAN DETAILS. EXISTING STEEL PLATE FASCIA SHALL BE COVERED WITH 2 1/2" RIB 26 GAUGE STAINLESS STEEL SIDING THAT EXTENDS A MINIMUM OF 6" ONTO THE CONCRETE WALL. THE STAINLESS STEEL ROOF AND OTHER ACCESSORIES SHALL BE TYPE 304 (NON-MAGNETIC) STAINLESS STEEL AND SHALL BE COVERED ON BOTH SIDES WITH A ZT ALLOY (50% ZINC, 50% TIN) TO A THICKNESS OF 20 MICRONS. ALL ADDITIONAL SEAMS AND JOINTS SHALL BE CAULKED WITH A POLYSULFIDE SEALANT. ALL FASTENERS FOR THE ASSEMBLY AND MOUNTING SHALL BE STAINLESS STEEL CONFORMING TO ASTM F593-02E2. ACCESS FOR INSTALLATION WILL BY MAINTAINING THE BRIDGE IN AN OPEN POSITION FOR EACH DAY OF WORK. HOURS FOR THE OPENING SHALL BE 9:00 AM TO 3:00 PM FOR A DURATION NOT TO EXCEED 21 CONSECUTIVE DAYS. AFTER 21 DAYS LIQUIDATED DAMAGES WILL BE ACCESSED AS PER CMS 108.07. PAYMENT SHALL BE MADE LUMP SUM AND SHALL INCLUDE ALL COST FOR MATERIALS, LABOR AND EQUIPMENT TO INSTALL NEW TRUNNION MACHINE ROOM ROOFS ON EACH PIER.

THE DEPARTMENT WILL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE DETOUR. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING BARRICADES AS PER MT- 101.60 AT ENDS OF THE BRIDGE (SUMMIT ST. AND FRONT ST.). TWO WEEKS PRIOR TO STARTING THE TRUNNION PIER ROOFS THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE ENGINEER.

ITEM 530, SPECIAL, OPERATOR HOUSE ROOF & WINDOW FLASHING, LUMP SUM:

THE CONTRACTOR SHALL INSTALL A 24 GAUGE STAINLESS STEEL STANDING SEAM PANEL ROOF OVER TYPE 30 HEAVY ASPHALT FELT ON THE EXISTING CONCRETE ROOF. ON THE EXISTING FASCIAS THE CONTRACTOR SHALL REMOVE EXISTING WINDOW WASH SUPPORTS AND SHALL FLASH THE FASCIAS WITH 26 GAUGE BENT STAINLESS STEEL PLATE. EXISTING SOFFITS SHALL BE COVERED WITH PERFORATED ALUMINUM PANEL THAT IS FACTORY FINISHED A LIGHT GREY COLOR. THE CONTRACTOR SHALL REMOVE AND REINSTALL 2 EXISTING ANTENNAS THAT MUST REMAIN IN SERVICE DURING THE ROOF INSTALLATION. THE 2 EXISTING SPEAKERS SHALL BE REMOVED AND THE EXISTING WIRING ROUTED SO THAT THEY CAN BE REINSTALLED BY OTHERS. AROUND THE PERIMETER OF THE TENDER HOUSE WINDOWS THE CONTRACTOR SHALL FLASH THE EXISTING STONE SILLS WITH 26 GAUGE BENT STAINLESS STEEL PLATE FASTENED TO THE BUILDING WITH 1/4" X 1 3/4" STAINLESS STEEL WEDGE ANCHORS SPACED NOT TO EXCEED 15". SPLICES IN THE SILL PLATE SHALL BE LAPPED A MINIMUM 3 INCHES AND CAULKED TO PROVIDE A WEATHER PROOF SEAL. THE STAINLESS STEEL ROOF AND OTHER ACCESSORIES SHALL BE TYPE 304 (NON-MAGNETIC) STAINLESS STEEL AND SHALL BE COVERED ON BOTH SIDES WITH A ZT ALLOY (50% ZINC, 50% TIN) TO A THICKNESS OF 20 MICRONS. ALL ADDITIONAL SEAMS AND JOINTS SHALL BE CAULKED WITH A POLYSULFIDE SEALANT. ALL FASTENERS FOR THE ASSEMBLY AND MOUNTING SHALL BE STAINLESS STEEL CONFORMING TO ASTM F593-02E2.

ITEM 511 - CONCRETE MISC.: EMBEDDED GALVANIC ANODE:

DESCRIPTION:
THE GALVANIC PROTECTION SYSTEM IS INTENDED TO EXTEND THE SERVICE LIFE OF THE CONCRETE PATCHES BY MITIGATING CHLORIDE-ION INDUCED CORROSION ACTIVITY

THROUGH THE EXISTING STEEL REINFORCEMENT.

GENERAL DESCRIPTION:

THE WORK UNDER THIS SECTION SHALL CONSIST OF SUPPLYING AND INSTALLING A ZINC-BASED GALVANIC CORROSION PROTECTION SYSTEM FOR THE CONCRETE PATCHING APPLICATIONS ON THE EXISTING SUBSTRUCTURES.

THE GALVANIC CORROSION PROTECTION SYSTEM SHALL CONSIST OF INTERCONNECTED GALVANIC ANODES THAT ARE PLACED WITHIN THE CONCRETE PATCHES AND ARE CONNECTED TO THE EXISTING STEEL REINFORCEMENT THROUGH A HEADER WIRE OR STRAP. AFTER THE ANODES ARE INSTALLED AND ENCASED IN THE CONCRETE PATCH, THE ANODES WILL PROVIDE GALVANIC PROTECTION TO THE REINFORCING STEEL IN THE CONCRETE PATCH.

REFERENCES:

- ACI 222R PROTECTION OF METALS IN CONCRETE AGAINST CORROSION.
- ASTM B6 STANDARD SPECIFICATION FOR ZINC.
- ASTM B69 STANDARD SPECIFICATION FOR ROLLED ZINC.
- ASTM B418 STANDARD SPECIFICATION FOR CAST AND WROUGH GALVANIC ANODES
- SSPC-10 NEAR-WHITE BLAST CLEANING.
- ACI/ICRI 2008 CONCRETE REPAIR MANUAL.
- ICRI GUIDELINE 310.IR-2008 GUIDE FOR SURFACE PREPARATION FOR REPAIR OF DETERIORATED CONCRETE RESULTING FROM REINFORCING STEEL CORROSION.
- ASTM A615/A615M-09 STANDARD SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BAR FOR CONCRETE.

MATERIALS:

EMBEDDED GALVANIC ANODES SHALL HAVE THE APPROXIMATE NOMINATION DIMENSION OF 2.5 INCHES LONG BY 3 INCHES LONG BY 1.25 INCHES DEEP, PREMANUFACTURED, AND CONSIST OF A MINIMUM OF 3.5 OZ (100 GRAMS) OF ZINC IN COMPLIANCE WITH ASTM B6, SPECIAL HIGH GRADE CAST AROUND A PAIR OF STEEL TIE WIRES IN COMPLIANCE WITH BRIGHT ANNEALED ASTM A82 AND ENCASED IN A HIGHLY CEMENTITIOUS SHELL WITH A PH OF 14 OR GREATER. THE CEMENTOUS SHELL SHALL CONTAIN NO ADDED SULFATE NOR SHALL IT CONTAIN CHLORIDE, BROMIDE OR OTHER CONSTITUENTS THAT ARE CORROSIVE TO REINFORCING STEEL, ANODES UNITS SHALL BE SUPPLIED WITH INTEGRAL UNSPLICED WIRES WITH LOOP TIES DIRECTLY TO THE REINFORCING STEEL.

APPLICATIONS FOR EQUALS TO INCLUDE:

- A HIGHLY ALKALINE CEMENTITIOUS SHELL WITH A PH OF 14 OR GREATER
- PROVIDE A MINIMUM OF 10 YEARS SERVICE LIFE.
- CONTAIN NO ADDED CONSTITUENTS CORROSIVE TO REINFORCING STEEL OR DETRIMENTAL TO CONCRETE, E.G. CHLORIDE, BROMIDE, SULFATES, ETC.
- ANODES UNITS SHALL BE SUPPLIED WITH SOLID ZINC (ASTM B6 SPECIAL HIGH GRADE) CORE CAST AROUND INTEGRAL BRIGHT ANNEALED STEEL (ASTM A82) TIE WIRES FOR TYING TO REINFORCEMENT STEEL.
- ANODE UNITS SHALL BE SUPPLIED WITH INTEGRAL INSPLICED TIE WIRES SUCH THAT THE ZINC ANODE IS CONNECTED TO THE REINFORCEMENT WITH A CONTINUOUS, UNSPLICED WIRE.

STORAGE AND HANDLING OF ALL ANODE MATERIALS SHALL BE IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS.

EXECUTION:

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GENERAL NOTES
BRIDGE NO. LUC-65-0535
OVER MAUMEE RIVER

LUC-65-05.35
PID No. 80556

DESIGN AGENCY
OHIO DEPARTMENT
OF TRANSPORTATION

REVIEWED
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CONCRETE REMOVAL:

- A. REMOVE LOOSE OR DLAMINATED CONCRETE AS PER ITEM 519.
- B. UNDER CUT ALL EXPOSED REINFORCING STEEL BY REMOVING CONCRETE FROM THE FULL CIRCUMFERENCE OF THE STEEL AS PER ICRI R310.1R. THE MINIMUM CLEARANCE BETWEEN THE CONCRETE SUBSTRATE AND THE REINFORCING STEEL SHALL BE *" LARGER THAN THE TOP SIZE AGGREGATE IN THE REPAIR MATERIAL.
- C. CONCRETE REMOVAL SHALL CONTINUE ALONG THE REINFORCEMENT UNTIL THERE IS NO VISIBLE SIGNS OF CORROSION AS PER ICRI R310.1R.

CLEANING REINFORCING STEEL:

- A. CONCRETE PATCHES SHALL BE SQUARE OR IN SHAPE WITH SQUARE CORNERS.
- B. IF SIGNIFICANT REDUCTION IN THE CROSS SECTION OF THE REINFORCING STEEL HAS OCCURRED IN THE BEAM, CONTACT THE FIELD ENGINEER.
- C. SECURE LOOSE REINFORCING STEEL BY TYING TIGHTLY TO OTHER BARS WITH PLASTIC COATED OR EPOXY COATED STEEL TIES.

SURFACE CONDITIONING OF CONCRETE:

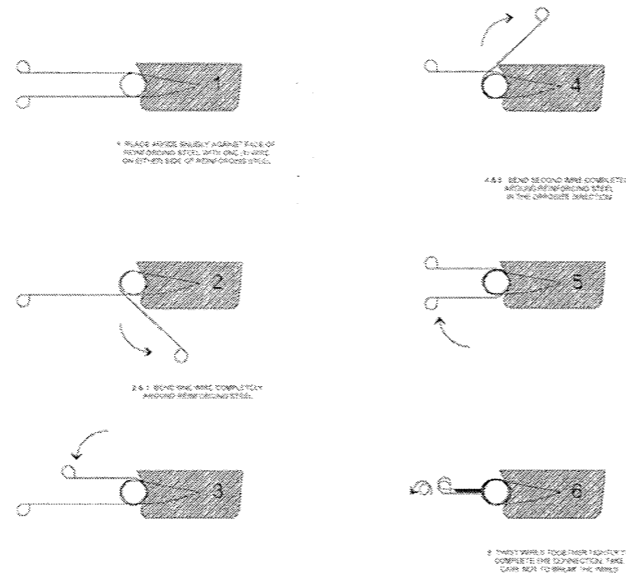
- A. CONCRETE PATCHES SHALL BE SQUARE OR RECTANGULAR WITH SQUARE CORNERS AND HAVE THE COVER AS SHOWN IN THE PLANS.
- B. SAW CUT BOUNDARYS SHALL BE AS PER ITEM 519, PATCHING CONCRETE STRUCTURE.
- C. CREATE A CLEAN, SOUND SUBSTRATE BY REMOVING BOND-INHIBITING MATETIALS IN THE PATCH AREA WITH HIGH PRESSURE WATER BLASTING OR ABRASIVE MATERIALS. ALL WASTE MATERIALS SHALL BE COLLECTED AND DISPOSED OF AWAY FROM SITE OR AS APPROVED BY THE ENGINEER.

GALVANIC ANODE INTALLATION:

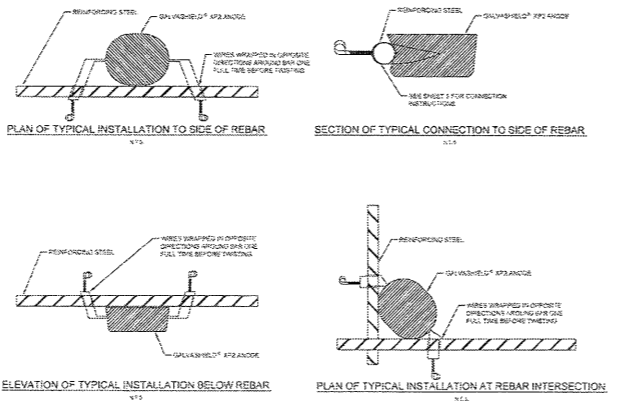
- A. INSTALL ANODE UNITS AND CONCRETE PATCH MATERIAL WITHIN 24 HOURS OF PREPARATION OF THE PATCH AREA SUBSTRATE AND CLEANING OF REINFORCEMENT AND STRAND.
- B. GALVANIC ANODES SHALL BE INSTALLED ALONG THE PERIMETER OF THE PATCH AREA AT A SPACING APPROMATELY 18 INCHES ON CENTER. THE ENGINEER MAY NEED TO ADJUST THE NUMBER OF ANODES IN THE REPAIR BASED ON CHANGES IN THE REINFORCEMENT DENSITY AND LEVEL OF CHLORIDE IN THE CONCRETE.
- C. PROVIDE SUFFICIENT CLEARANCE BETWEEN THE ANODE AND SUBSTRATE TO ALLOW REPAIR MATERIAL TO ENCASE THE ANODE.
- D. SECURE THE GALVANIC ANODES AS CLOSE AS POSSIBLE TO THE PATCH EDGE USING THE ANODE TIE WIRES. IF BAR FIT GROOVES ARE PROVIDE, PLACE THE ANODE SO THAT THE GROOVE FITS ALONG THE BAR. THE TIE WIRES SHALL BE WRAPPED AROUND CLEANED REINFORCEMENT AND TWISTED TIGHT TO ALLOW LITTLE OR NO FREE MOVEMENT IN THE FOLLOWING METHOD:
 - 1. IF LESS THAN 1" OF CONCRETE COVER, PLACE THE ANODE BESIDE THE STRAND OR BAR.
 - 2. IF SUFFICIENT CONCRETE COVER EXISTS, THE ANODE MAY BE PLACED ALONG THE BOTTOM OF THE BAR OR STRAND OR AT THE INTERSECTIONS OF BOTH.
- E. ELECTRICAL CONTINUITY:
 - 1. CONFIRM ELECTRICAL CONNECTION BETWEEN THE ANODE TIE WIRE AND REINFORCING STEEL OR STRAND BY MEASURING DC RESISTANCE (OHM,O) OR POTENTIAL (MV) WITH A MULTI-METER.

- 2. ELECTRICAL CONNECTION IS ACCEPTABLE IF THE DC RESISTANCE IS MEASURED TO BE LESS THAN 1 MOHM OR THE DC POTENTIAL IS LESS THAN 1 MV.
- 3. CONFIRM ELECTRICAL CONTINUITY OF THE EXPOSED REINFORCING STEEL OR STRAND WITHIN THE REPAIR AREA. IF NECESSARY, ELECTRICAL CONTINUITY SHALL BE ESTABLISHED WITH STEEL TIE WIRE.
- 4. ELECTRICAL CONTINUITY ON THE PATCH AREA IS ACCEPTABLE IF THE DC RESISTANCE IS LESS THAN 1M OHM OR THE POTENTIAL IS LESS THAN 1 MV.
- F. PLACE CONCRETE PATCH MATERIAL AS PER ITEM 519, PATCHING CONCRETE STRUCTURE.

INSTALLATION PROCEDURE:



INSTALLATION PROCEDURE:



MANUFACTURE TECHNICAL ASSISTANCE REQUIREMENTS:

THE CONTRACTOR SHALL ENLIST AND PAY FOR THE SERVICES OF A NACE CERTIFIED CATHODIC PROTECTION TECHNICIAN WHO IS

AN EMPLOYEE OF THE GALVANIC ANODE MANUFACTURE TO PROVIDE TRAINING AND ON-SITE ASSISTANCE DURING THE INTIAL INSTALLATION OF THE GALVANIC PROTECTION SYSTEM. THE CATHODIC PROTECTION TECHNICIAN SHALL HAVE VERIFIABLE EXPERIENCE IN THE INSTALLATION AND TESTING OF THE EMBEDDED GALVANIC PROTECTION SYSTEMS FOR REINFORCED CONCRETE STRUCTURES. THE CONTRACTOR SHALL CORROINATE HIS WORK WITH THE DESIGNATED CATHODIC PROTECTION TECHICIAN TO ALLOW FOR SITE SUPPORT DURING INSTALLATION AND TESTING. THE TECHNICIAN SHALL PROVIDE THE CONTRACTOR TRAINING AND SUPPORT FOR THE DEVELOPMENT OF APPLICATION PROCEDURES, RELATED TO SUBMITTALS, ANODE INSTALLATION, REINFORCING OR STRAND STEEL CONNECTION PROCEEDURES AND ELECTRICAL CONTINUITY OF EMBEDDED GALVANIC ANODES.

BID QUANTITY:

THE ESTIMATED QUANTITY OF ANODES IS ESTIMATED FROM THE ESTIMATED SIZE OF THE CONCRETE PATCH AT A SPACING OF APPROXIMATELY OF 18 INCHES AROUND THE PERIMETER OF THE PATCH. THE AREA WAS DETERMINED FROM INSPECTION AND EXISTING PLANS AND IS AS SHOWN ON THE CONSTRUCTION DRAWINGS. THE FINAL AREA AND NUMBER OF ANODES REQUIRED SHALL BE AS DETERMINED BY THE FIELD ENGINEER. PAYMENT SHALL BE BASED ON THE BID PRICE FOR EACH ANODE INSTALLED AND SHALL INCLUDE ALL COST FOR LABOR, MATERAL AND EQUIPMENT TO COMPETE THE WORK TO THE SATISFACTION OF THE ENGINEER,

ITEM 514, FIELD PAINTING, MISC: POWER WASH OR STEAM CLEANING EXISTING STRUCTURAL STEEL:

POWER WASH OR STEAM CLEANING EXISTING STRUCTURAL STEEL, PRIOR TO ABRASIVE BLASTING REQUIRED FOR PAINTING SURFACE PREPARATION, THE CONTRACTOR SHALL CLEAN ALL GREASE AND OILS FROM THE EXISTING STEEL SURFACES IN THE TRUNNION PIER MACHINE ROOMS, TRUNNION BEARING SUPPORTS, GATE HOUSES AND CENTER LOCKS. ALL WASTE WATER AND DEBRIS SHALL BE COLLECTED AND LEGALLY DISPOSED OF AS PER 107.19. PAYMENT FOR THE ABOVE CLEANING SHALL BE MADE AT THE LUMP SUM PRICE BID.

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OHIO DEPARTMENT
OF TRANSPORTATION

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GENERAL NOTES
BRIDGE NO. LUC-65-0535
OVER MAUMEE RIVER

LUC-65-05.35
PID No. 80556

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PAINTING OF "BIG LUCAS" AND "LITTLE LUCAS" CRANES AT GENERAL CARGO DOCK OF TOLEDO-LUCAS COUNTY PORT AUTHORITY:

ITEM 514 FIELD PAINTING OF EXISTING STRUCTURAL STEEL: THE LIMITS OF STRUCTURAL STEEL PAINTING SHALL BE AS PER THE FOLLOWING:

- "LITTLE LUCAS" CRANE (CLYDE IRON WORKS WHIRLEY MODEL 24-DE): INCLUDING FROM SIX FEET BELOW THE BASE OF THE CRANE; THE CRANE PEDESTAL INCLUDING SUPPORT LEG BEAM COLUMNS, FLOORBEAMS, CROSSFRAMES, DIAGONALS, AND GUSSET PLATES; THE CAB SECTION OF THE CRANE; AND THE BOOM ARM OF THE CRANE.
- "BIG LUCAS" CRANE (AMERICAN HOIST AND DERRICK MODEL 254 REVOLVER): INCLUDING FROM SIX FEET BELOW THE BASE OF THE CRANE; THE CRANE PEDESTAL INCLUDING SUPPORT LEG BEAM COLUMNS, FLOORBEAMS, CROSSFRAMES, DIAGONALS, AND GUSSET PLATES; THE CAB SECTION OF THE CRANE; AND THE BOOM ARM OF THE CRANE.

FIELD PAINTING OF EXISTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN:

THE COLORS OF SECTIONS OF THE "LUCAS" CRANES TO BE PAINTED SHALL BE AS FOLLOWS:

SECTION	DESCRIPTION	RGB HEX CODE
6 FOOT BASE	SAFETY YELLOW/ BLUE ANGELS YELLOW	FSI3655 FDD31D
CRANE PEDESTAL	PMS COOL GRAY 7C/ AIRCRAFT GREY	FSI6473 9EA2A3
CRANE CAB SECTION	PMS 302C DARK BLUE/ DARK BLUE	FSI5102 023457
CRANE BOOMS	PMS 2905C LIGHT BLUE/ SKY BLUE	FSI5200 7CBCE0

ALL ITEMS OF THE "CONSTRUCTION AND MATERIAL SPECIFICATION", SECTION 514 AND REFERENCES SHALL APPLY. THE LIMITS OF WORK FOR PAINTING THE CRANES SHALL BE ALL EXPOSED STEEL SURFACES INCLUDING:

- TRACK BASES
- CRANE PEDESTALS INCLUDING CATWALKS, LADDERS AND RAILINGS.
- CAB, MACHINERY ENCLOSURES AND COUNTERWEIGHTS.
- BOOM AND SUPPORTS ABOVE CAB.

AREAS NOT TO BE PAINTED SHALL BE:

- INSIDE MACHINERY ENCLOSURES.
- INSIDE CAB.
- BOOM CABLES OR BOOM ATTACHMENTS.
- SPROCKETS OR GEARS THAT MAY BE PARTLY EXPOSED ON THE MACHINERY ENCLOSURES.
- MINOR PAINT OVER SPRAY ON THE EXPOSED TRUNNION GEARS LOCATED ON THE CRANE PEDESTAL CAN BE PERMITTED IF IS DETERMINED BY THE ENGINEER TO HAVE NO EFFECT ON THE OPERATION OF THE CRANE.

THE EXISTING PAINT SYSTEM ON THE CRANES IS A RED LEAD SYSTEM. CRANES SHALL BE PAINTED ONE AT A TIME, MULTIPLE WORK OPERATIONS ON BOTH CRANES WILL NOT BE PERMITTED AND ALL WORK ON THE CRANE BEING PAINTED SHALL BE ACCEPTED BY THE ENGINEER BEFORE WORK BEGINS ON THE OTHER CRANE. THE ORDER IN WHICH THE CRANES WILL BE

PAINTED WILL BE DETERMINED BY THE PORT AUTHORITY. THE TOLEDO PORT AUTHORITY WILL LOCATE THE CRANES TO AN OFF-SITE WORK LOCATION WITH A 2" DIAMETER POTABLE WATER SUPPLY. CRANE BOOMS WILL BE LOWERED TO THE LOWEST POSSIBLE POSITION. THE CONTRACTOR WILL BE REQUIRED TO COORDINATE THE LOCATION OF HIS EQUIPMENT SO NOT TO INTERFERE WITH PORT OPERATIONS. OPERATORS TO REPOSITION THE CRANE WILL BE PROVIDED BY THE TOLEDO PORT AUTHORITY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WITH A ONE WORKING DAY NOTICE TO HAVE AN OPERATOR ON SITE. APPLICATION OF LUBRICANTS ON TRUNNION GEARS, TRACK GEARS OR OTHER LOCATIONS WHERE LUBRICANTS WERE REMOVED DURING THE PAINTING PROCESS WILL BE BY THE PORT AUTHORITY.

THE PAINT SCHEME WILL BE AS GIVEN IN THE COLORS SECTION ABOVE. GRAPHICS WILL BE BY OTHERS

SURFACE AREAS CONTAINING GREASE, OIL, DIRT AND OTHER DEBRIS SHALL BE STEAMED CLEANED OR POWER WASHED TO PRODUCE SATISFACTORY RESULTS PRIOR TO BLASTING CLEANING THE STEEL SURFACES. ALL WASH WATER AND DEBRIS SHALL BE COLLECTED AND LEGALLY DISPOSED AS PER 107.19. DURING THE CLEANING OPERATION THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY AREAS OF HEAVY CORROSION OR STRUCTURE DAMAGE. ASSESSMENT AND REPAIR OF FOUND LOCATIONS WILL BE BY OTHERS.

PRIOR TO BEGINNING WORK THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF AREAS NOT TO BE PAINTED AGAINST DAMAGE FROM OVER BLAST, DISFIGUREMENT BY SPLASHES, SPLATTERS, OVER SPRAYING AND SMIRCHES OF PAINT. THE CONTRACTOR SHALL PROVIDE AIR TIGHT COVERS OR ENCLOSURES AT ALL LOCATIONS WHERE ARE OPENINGS TO THE OPERATING MACHINERY OR ELECTRICAL EQUIPMENT. ALL AREAS NEAR OPENINGS ON THE MACHINERY ENCLOSURES, TRUNNION GEARS AND TRACK BASES SHALL BE ABRASIVELY CLEANED WITH RECYCLABLE NATURAL MINERAL LOW DUSTING ABRASIVE. EXISTING NAME PLATES ON THE MACHINERY ARE NOT TO BE PAINTED OVER AND ARE TO BE PROTECTED DURING THE CLEANING AND COATING OPERATION.

ABRASIVE BLASTING SHALL CONFORM TO 514.13 WITH THE EXCEPTION THAT WHERE THERE IS LIMITED ACCESS AT PEDESTAL CONNECTIONS AND ACCESS OPENING. AT THESE LOCATIONS THE CONTRACTOR MAY COMMERCIAL BLAST CLEAN TO SSPC-SP6 WITH THE APPROVAL OF THE ENGINEER.

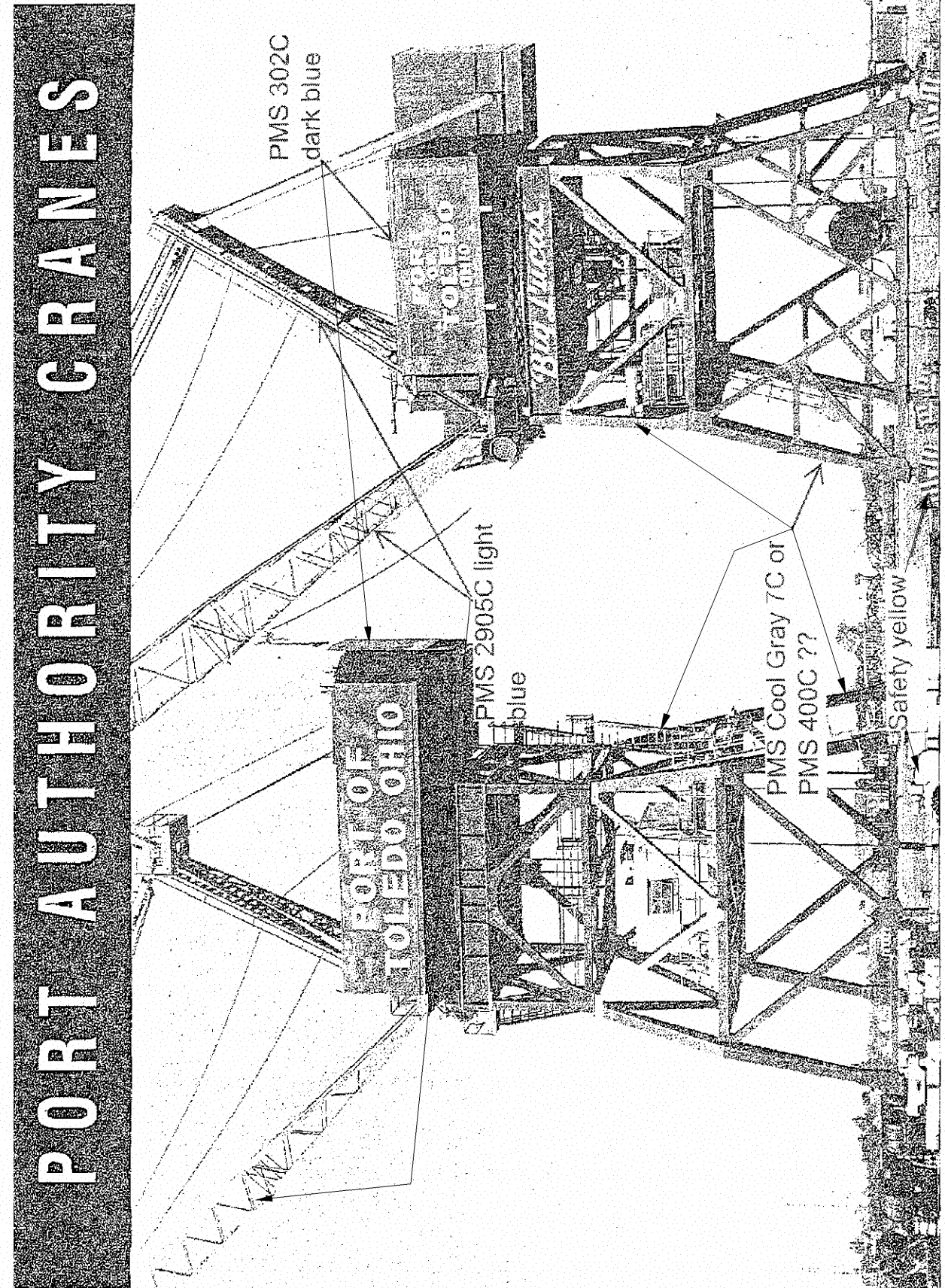
FINAL INSPECTION WILL CONSIST OF A MINIMUM 16 LOCATIONS PER CRANE AS PER 514.21 AND AT LOCATIONS AS DETERMINED BY THE ENGINEER.

ONCE A CRANE IS TAKEN OUT OF OPERATION, THE CONTRACTOR SHALL HAVE 45 DAYS PER CRANE TO COMPLETE THE WORK. THE DATE WHEN ALL WORK NEEDS TO BE COMPLETED WILL BE SEPTEMBER 30, 2013. LIQUIDATED DAMAGES WILL BE ASSESSED AS PER 108.07 IF A CRANE IS OUT SERVICE BEYOND THE 45 DAYS OR IF THE WORK ON BOTH CRANES EXCEEDS THE COMPLETION DATE.

PAYMENT FOR ENCLOSURES, CONTAINMENT, AND PROTECTION OF EQUIPMENT, FINAL INSPECTIONS AND OTHER WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 514. PAYMENT WILL BE MADE AT THE LUMP SUM PRICE BID TO PAINT TWO CRANES WITH A THREE COAT SYSTEM AS PER ITEM 514.

CONTACT INFORMATION FOR THE TOLEDO PORT AUTHORITY IS AS FOLLOWS:

MR. JOE CAPPEL
TOLEDO-LUCAS COUNTY PORT AUTHORITY
ONE MARITIME PLAZA, 7TH FLOOR
TOLEDO, OH 43604
PHONE NO. 419-243-8251



"BIG LUCAS"
American Hoist & Derrick Model 254 Revolver

"LITTLE LUCAS"
Clyde Iron Works Whirley Model 24-DE

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT No. 2
PRODUCTION DEPARTMENT



DATE
03-01-13

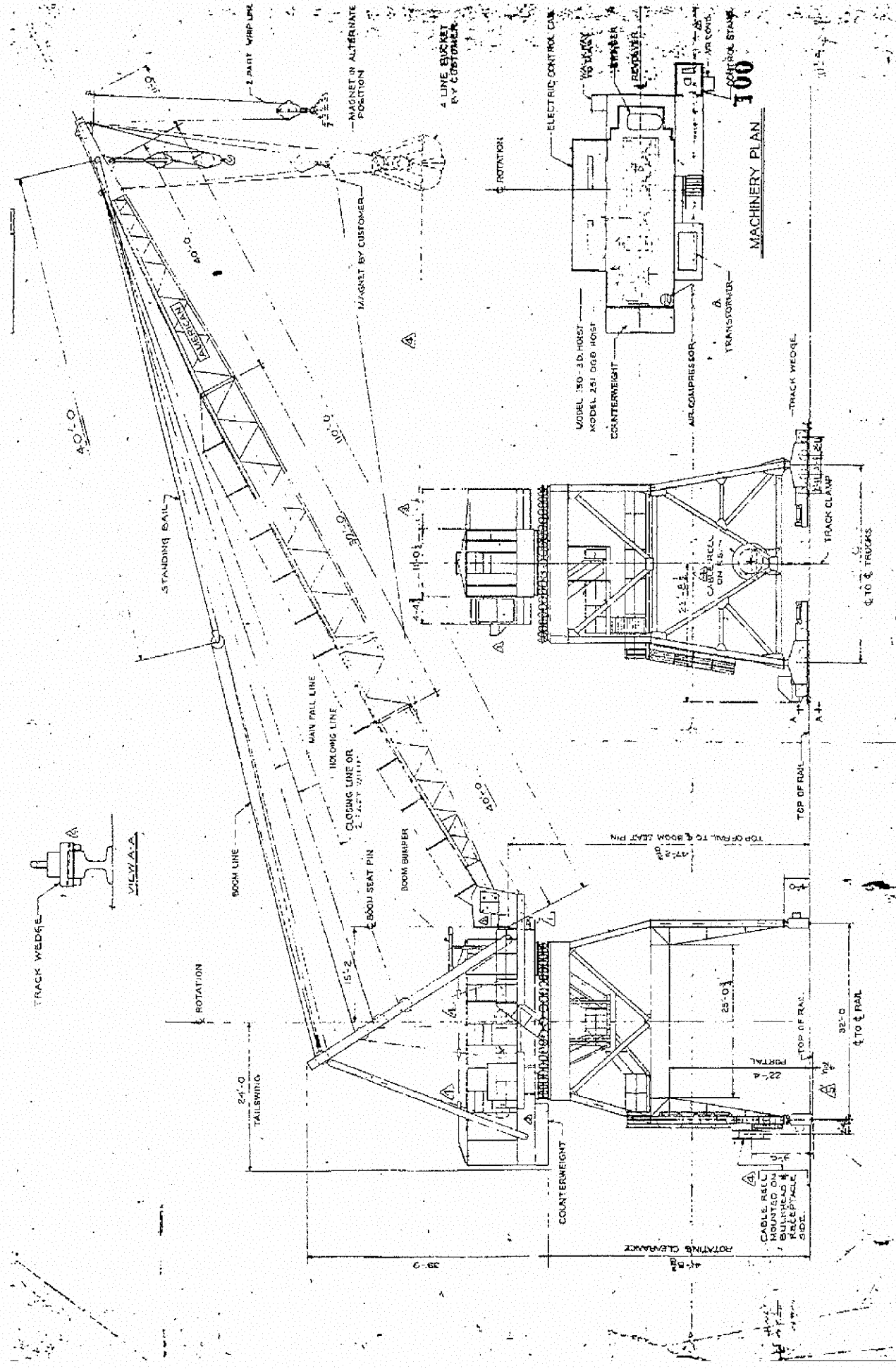
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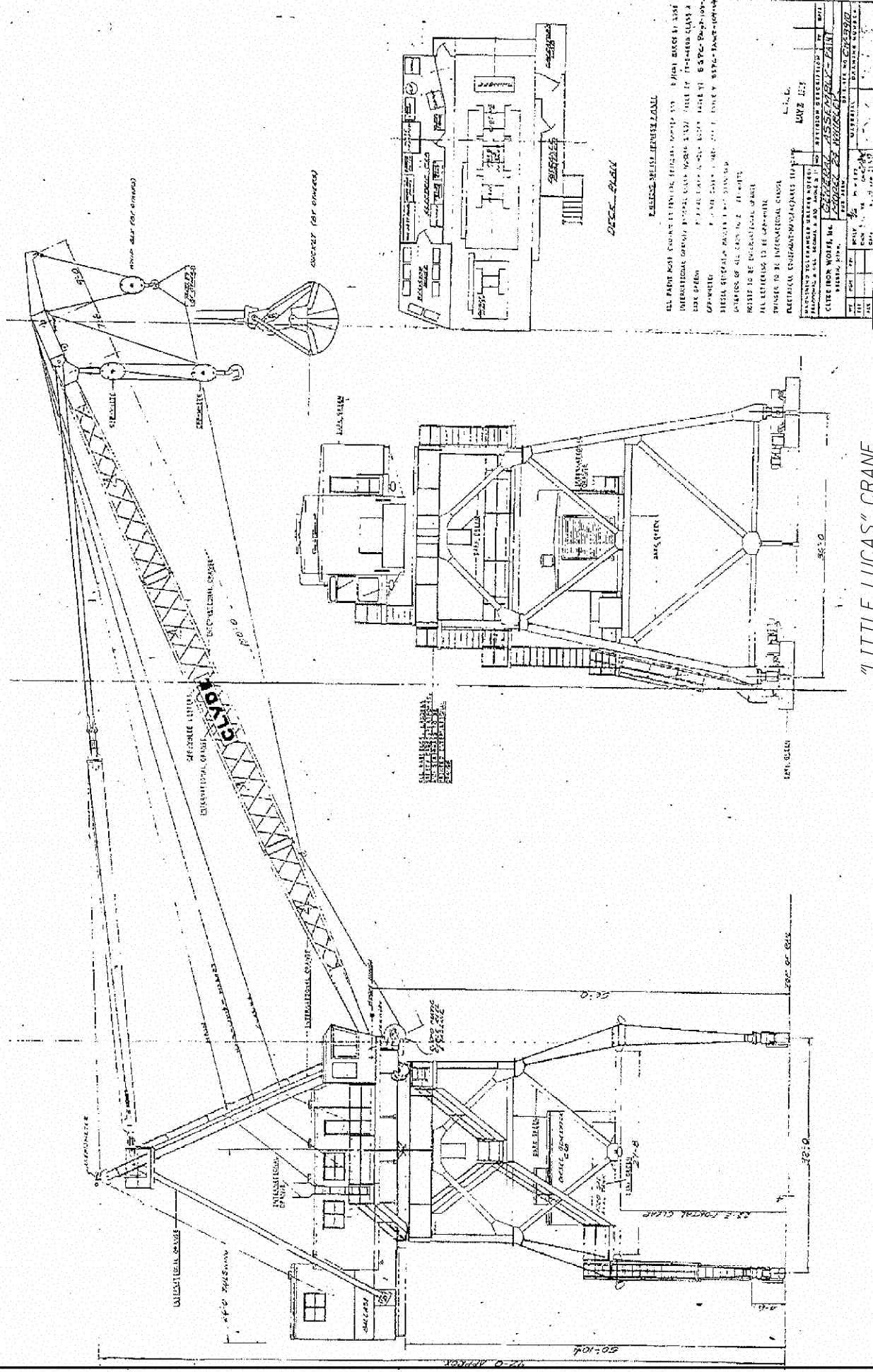
DESIGNED
JTB
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GENERAL NOTES
BRIDGE NO. LUC-65-0535
OVER MAUMEE RIVER

LUC-65-05.35
PID No. 80556



'BIG LUCAS' CRANE
(AMERICAN HOIST AND DERRICK MODEL 254 REVOLVER)



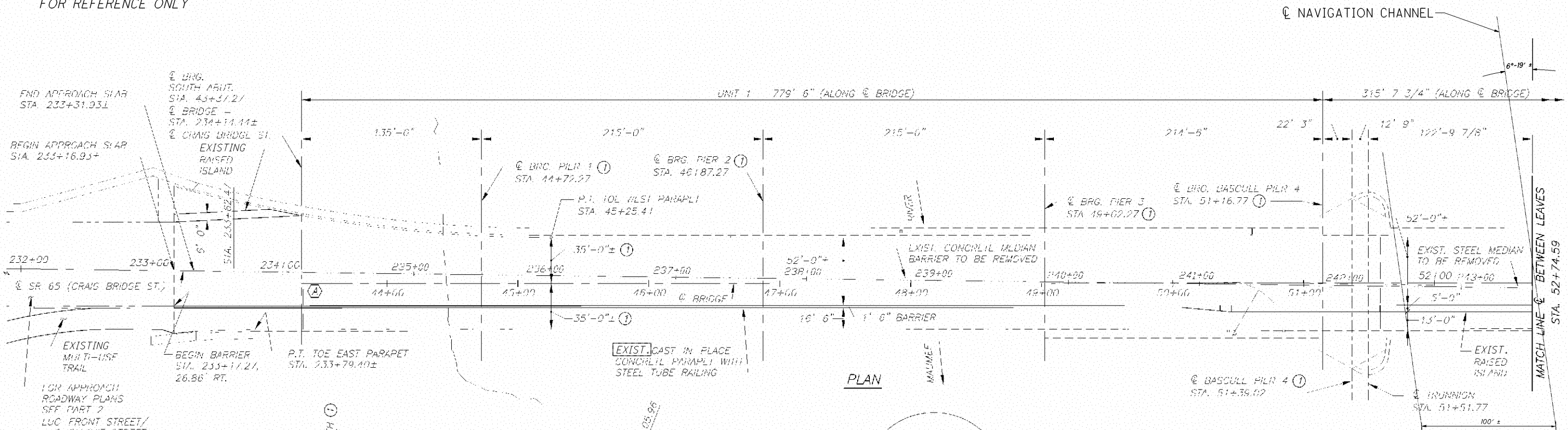
'LITTLE LUCAS' CRANE
(CLYDE IRON WORKS WHIRLEY MODEL 24-DE)

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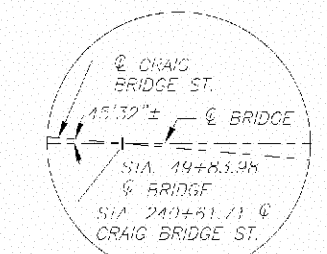
ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	GEN	UNIT 1	SOUTH TRUN. PIER	BASCULE SPAN	NORTH TRUN. PIER	UNIT 2	UNIT 3	SHEET #
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	LUMP							2
509	10000	960	POUND	EPOXY COATED REINFORCING STEEL, REPAIR TYPE 121, CONCRETE ENCASEMENT OF TRUNNION TS-4, LOWER COUNTERWEIGHT ROOM			480		480			27
510	10000	96	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, REPAIR TYPE 121, CONCRETE ENCASEMENT OF TRUNNION TS-4, LOWER COUNTERWEIGHT ROOM			48		48			27
511	53010	22	CU YD	CLASS QC1 CONCRETE, MISC.:REPAIR TYPE 121, CONCRETE ENCASEMENT OF TRUNNION TS-4,LOWER COUNTERWEIGHT ROOM			11		11			
511	81300	1596	EACH	CONCRETE, MISC.: EMBEDDED GALVANIC ANODE		726		240		242	388	
513	95030	433	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVAL AND REPLACEMENT WITH ASTM A325 GALVANIZED BOLT		60		313		20	40	
513	10201	268	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 101, LOWER DIAGONAL REPLACEMENT				268				16
513	10201	139	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 102, FLOOR BEAM STIFFNER REPAIR				139				16
513	10201	232	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 103, FLOOR BEAM STIFFNER REPAIR				232				17
513	10201	384	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 104A&B, BOTTOM FLANGE FLOOR BEAM REPAIR				384				16
513	10201	221	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 105, WEB PLATE FLOOR BEAM REPAIR				221				17
513	10201	71	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 106, FLOOR BEAM STIFFNER REPAIR				71				18
513	10201	4534	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 107, CROSSFRAME REPAIR				4534				19,20,21
513	10201	2130	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 108, CROSSFRAME REPAIR				2130				19,20,21
513	10201	54	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 109, MAIN GIRDER WEB PLATE REPAIR				54				21
513	10201	183	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 110, GRATING STRINGER REPAIR				183				18
SPECIAL	53000600	553	SO FT	STRUCTURE, MISC.: REPAIR TYPE 111, CENTERLOCK CATWALK GRATING REPLACEMENT				553				22
513	10201	24	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 112, CENTERLOCK CATWALK RAILING REPLACEMENT				24				21
513	10201	816	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 114, RACK BEARING STIFFNERS REPLACEMENT			408		408			23
513	10201	160	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 115,GIRDER STIFFNER REPAIR			80		80			24
SPECIAL	53000600	108	SO FT	STRUCTURE, MISC.: REPAIR TYPE 116, MACHINE FLOOR GRATING REPLACEMENT			54		54			25
513	10201	81	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 117, UPPER TRUNNION SUPPORT TS-2 REPAIR					81			25
513	10201	372	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 118, TRUNNION SUPPORT TS-1 BELOW MACHINE ROOM FLOOR REPAIR			186		186			26
513	10201	126	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 119, SUMP PUMP COVER REPLACEMENT			63		63			24
513	10201	131	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 120, DIAGONAL BRACING ON UPPER TRUNNION SUPPORT REPAIR			131					26
SPECIAL	53000400	2	EACH	STRUCTURE, MISC.: REPAIR TYPE 122, GRIND OUT OF SECTION LOSS AREAS						2		28
513	10201	417	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 123, END FRAME DIAGONAL MEMBER REPLACEMENT						417		28
SPECIAL	53000400	6	EACH	STRUCTURE, MISC.: REPAIR TYPE 124, FENDER TIMBERS REPLACEMENT			4		2			29
SPECIAL	53000400	4	EACH	STRUCTURE, MISC.: REPAIR TYPE 125, CLEANING OF RACK GEAR AND PINNION GEARS OF OLD LUBRICANT AND APPLICATION OF NEW LUBRICANT			2		2			24
SPECIAL	53000400	2	EACH	STRUCTURE, MISC.: REPAIR TYPE 126, DRAIN AND REPLACE LUBRICANT IN MAIN REDUCERS			1		1			4A
513	10201	94	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 201, DIAGONAL GUSSET PLATE REPLACEMENT		94						30
513	10201	75	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 202, DIAGONAL GUSSET PLATE REPLACEMENT		75						30
513	10201	274	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 203, END FRAME BRACKET REPLACEMENT		274						31
SPECIAL	53000400	3	EACH	STRUCTURE, MISC.: REPAIR TYPE 204, BLADDER FUNNEL INSTALLATION		3						32
SPECIAL	53000400	4	EACH	STRUCTURE, MISC.: REPAIR TYPE 205, REPLACE SOUTH ABUTMENT BACKWALL VENTS		4						33
SPECIAL	53000400	6	EACH	STRUCTURE, MISC.: REPAIR TYPE 206, REPAIR AND ENCASEMENT OF SOUTH ABUTMENT PILES		6						37
513	10201	173	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 301, SHORT DIAGONAL BRACING REMOVAL AND REPLACEMENT							173	35
513	10201	366	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 302, LONG DIAGONAL BRACING REMOVAL AND REPLACEMENT							366	35
513	10201	25	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 303, END FLOOR BEAM REPAIR							25	36
513	10201	410	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 304, LONG DIAGONAL BRACING AND GUSSET PLATE REMOVAL AND REPLACEMENT							410	35
513	10201	33	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 305, GUSSET PLATE REPAIR						33		34
513	10201	146	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 306, REPLACE DIAGONAL BRACE						146		34
514	27800	LUMP		FIELD PAINTING, MISC.: POWERWASH OR STEAM CLEANING EXISTING STRUCTURAL STEEL		LUMP	LUMP	LUMP	LUMP	LUMP		
514	00051	527450	SO FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN		226790	25805	121000	25805	87970	40080	
514	00056	527450	SO FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT		226790	25805	121000	25805	87970	40080	
514	00060	527450	SO FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT		226790	25805	121000	25805	87970	40080	
514	00066	527450	SO FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT		226790	25805	121000	25805	87970	40080	
514	00504	370	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL		150	40	90	40	60	30	
514	10000	186	EACH	FINAL INSPECTION REPAIR		90		34		44	18	
SPECIAL	51912600	2165	FT	CONCRETE REPAIR BY EPOXY INJECTION		1025		920		220		
519	11100	330	SO FT	PATCHING CONCRETE STRUCTURE				330				
SPECIAL	51911900	80	CU YD	PATCHING CONCRETE STRUCTURE, MISC.: PATCHING CONCRETE SUBSTRUCTURE WITH GALVANIC ANODES		37		15		10	18	
SPECIAL	53000400	25	EACH	STRUCTURE, MISC.: MAINTENANCE OF RIVER TRAFFIC				25				2
SPECIAL	53000400	6	EACH	STRUCTURE, MISC.: REPAIR TYPE 206, PLATE AND ENCASE "H" PILE, SOUTH ABUTMENT		6						37
SPECIAL	53000400		EACH	STRUCTURE, MISC.: MOBILIZATION FOR RAISING AND LOWERING BRIDGE, AS PER PLAN				EACH				4C
SPECIAL	53000200	LUMP		STRUCTURE, MISC.: TRUNNION PIER MACHINE ROOM ROOF, EACH SIDE			LUMP		LUMP			49,51,52,53
SPECIAL	53000200	LUMP		STRUCTURE, MISC.: OPERATOR HOUSE ROOF & WINDOW FLASHING					LUMP			50
MAINTENANCE OF TRAFFIC												
4	614	11000	LUMP	MAINTENANCE OF TRAFFIC	LUMP							
	624	10000	LUMP	MOBILIZATION	LUMP							

CALCULATED JTB CHECKED JML
GENERAL SUMMARY
LUC-65-5.35
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NOTE: EXISTING PLANS SHOWN FOR REFERENCE ONLY



PLAN



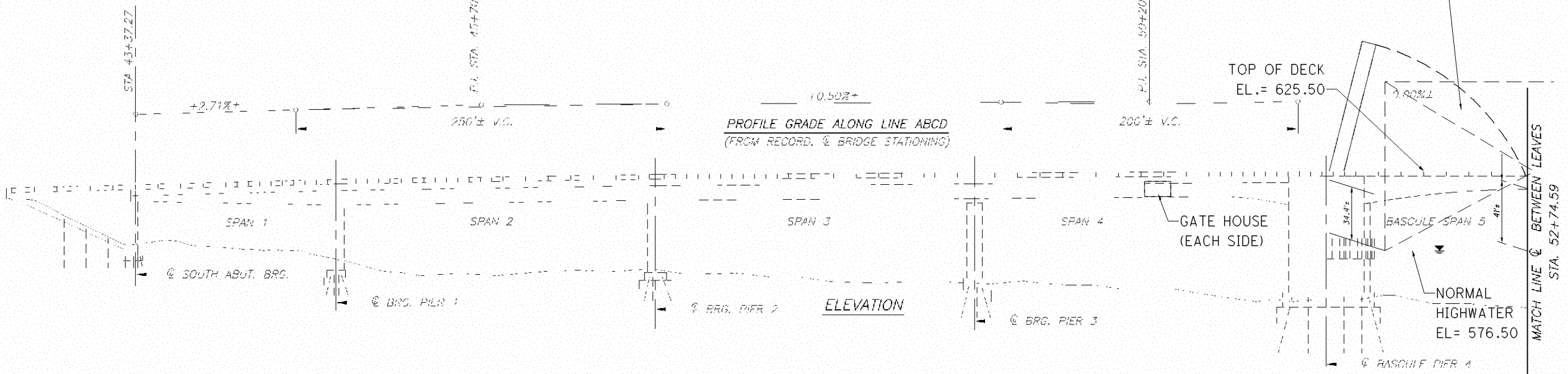
INTERSECTION OF @ BRIDGE AND @ CRAIG BRIDGE ST.

LEGEND:

- ① NORMAL TO @ BRIDGE TANGENT
- ② NORMAL TO @ CRAIG BRIDGE ST.

BRIDGE LAYOUT LINES (SEE NOTES)

CLEAR OPENING FOR NAVIGATION CHANNEL
200'± WIDE X 120' HIGH
FROM NORMAL HIGH WATER



ELEVATION

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DATE	03-01-13
REVIEWED	JML
DESIGNED	JTB
DRAWN	JML
CHECKED	
STRUCTURE FILE NUMBER	4805917

GENERAL PLAN AND ELEVATION
BRIDGE NO. LUC-65-0535
OVER MAUMEE RIVER

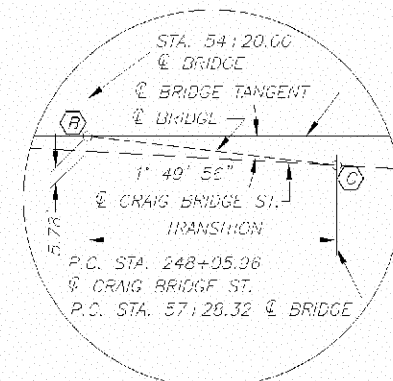
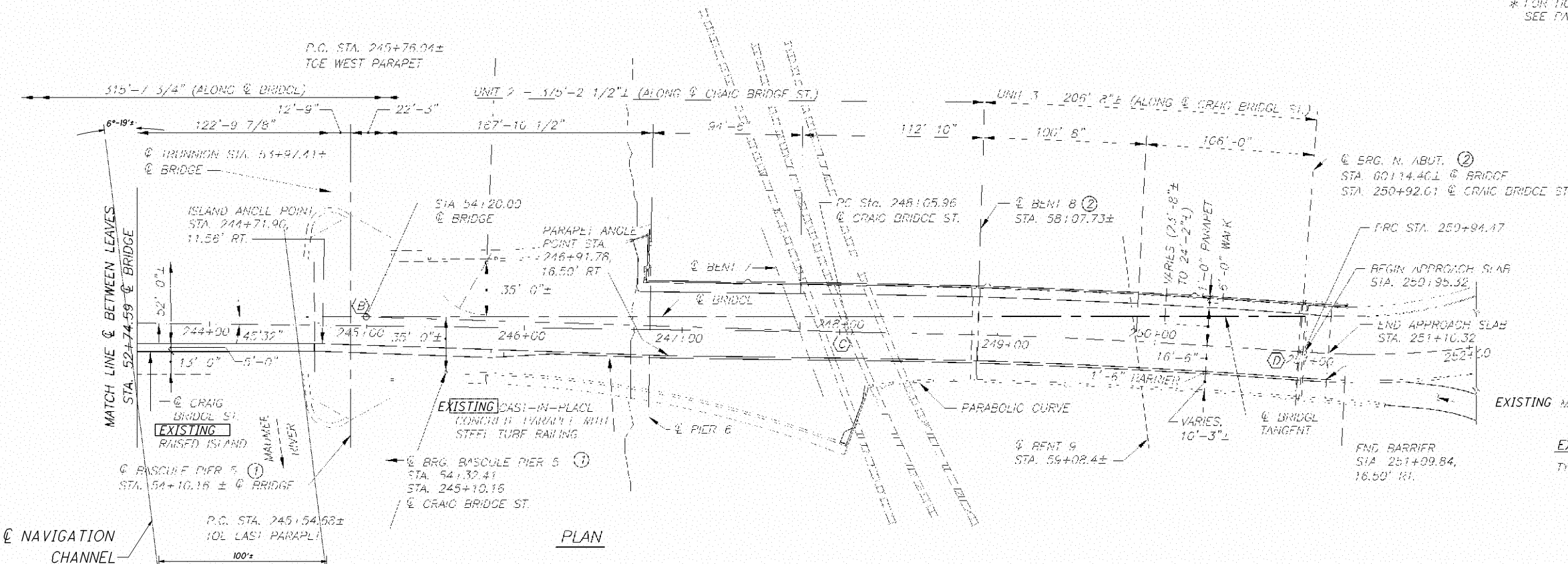
LUC-65-05.35
PID No. 80556

NOTE: EXISTING PLANS SHOWN FOR REFERENCE ONLY

NOTES:
1. FOR SHEET NOTES, SEE SHEET 1/63

LEGEND:
① NORMAL TO @ BRIDGE TANGENT
② NORMAL TO @ CRAIG BRIDGE ST ±

CRAIG BRIDGE ST. CURVE DATA*
P.I. STA = 249+50.26 P.I. STA = 252+24.15
D = 5' 38" 15" (R1) D = 2' 57" 37" (L1)
Dc = 1' 14" 58" Dc = 1' 00" 00"
R = 4,585.26' R = 520.57'
l = 144.30' l = 125.68'
L = 288.51' L = 254.18'
C = 2.27' C = 15.90'
* FOR HORIZONTAL CONTROL POINTS, SEE PART 2 PLANS.



EXISTING BRIDGE DATA
TYPE: FIXED SPAN UNITS 1, 2 & 3
INCLUDE REINFORCED CONCRETE DECK WITH RIVETED PLATE GIRDERS AND ROLLED BEAM STRINGERS AND FLOOR BEAMS SUPPORTED BY REINFORCED CONCRETE SUBSTRUCTURE ON PIERS. MOVABLE SPAN CONSISTS OF A TWO LEAF BASCULE WITH OPEN GRID STEEL DECK SUPPORTED BY REINFORCED CONCRETE BASCULE PIERS ON PIERS.

SPANS: 135'-0" L, 2 AT 215'-0" L, 214'-0" L, 245'-7 3/4" L, 167'-10 1/2" L, 94'-6" L, 112'-10" L, 106'-8" L, 106'-0" L

ROADWAY: 70'-0"± AND VARIES UNIT 1 & UNIT 2, 70'-0"± BASCULE SPAN, 55'-0"± UNIT 3 TOP TO TOP OF PARAPETS.

LOADING: CI 1200-S1 (HORIZONTAL RATING)

SKWF: VARIES

SLABING SURFAC: MONOLITHIC CONCRETE

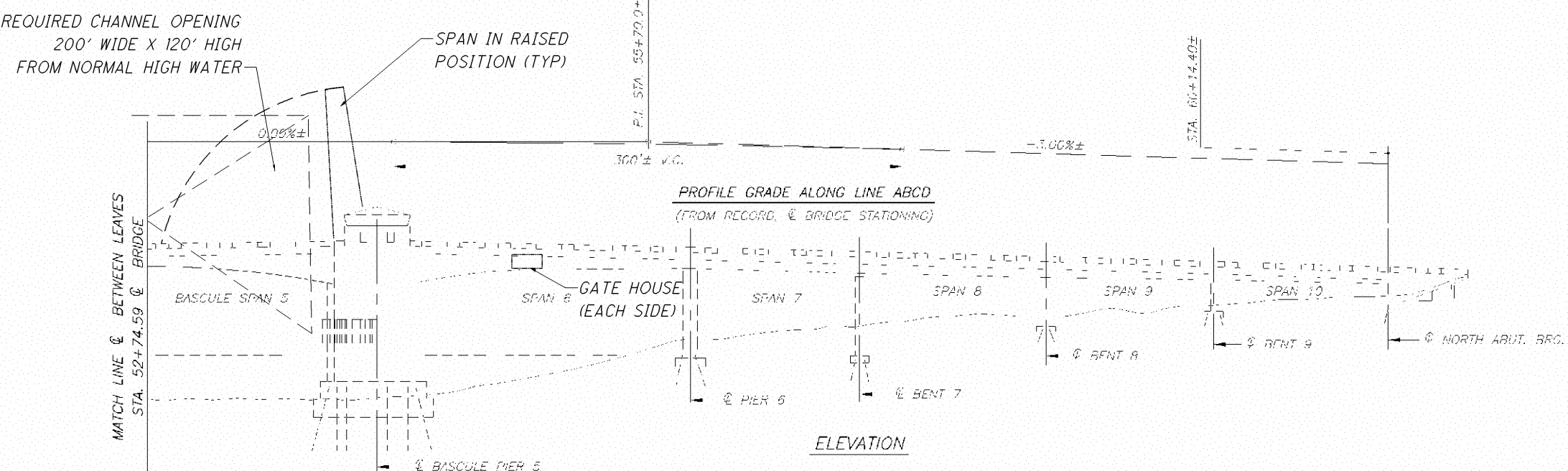
ALIGNMENT: TANGENT AND CURVE RIGHT

APPROACH SLABS: 15' 0" L

COORDINATES: N 41° 39' 30" W 83° 30' 36"

STRUCTURE FILE NO.: 4805917

TRAFFIC DATA
CURRENT YEAR ADT (2008)..... 22,800
CURRENT YEAR ADT (2008)..... 1,824
DESIGN YEAR ADT (2028)..... 27,350
DESIGN YEAR ADT (2028)..... 2,191



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DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION DISTRICT NO. 2 PRODUCTION DEPARTMENT

DATE: 03-01-13

REVIEWED: JML

DRAWN: JML

DESIGNED: JTB

STRUCTURE FILE NUMBER: 4805917

GENERAL PLAN AND ELEVATION

BRIDGE NO. LUC-65-0535

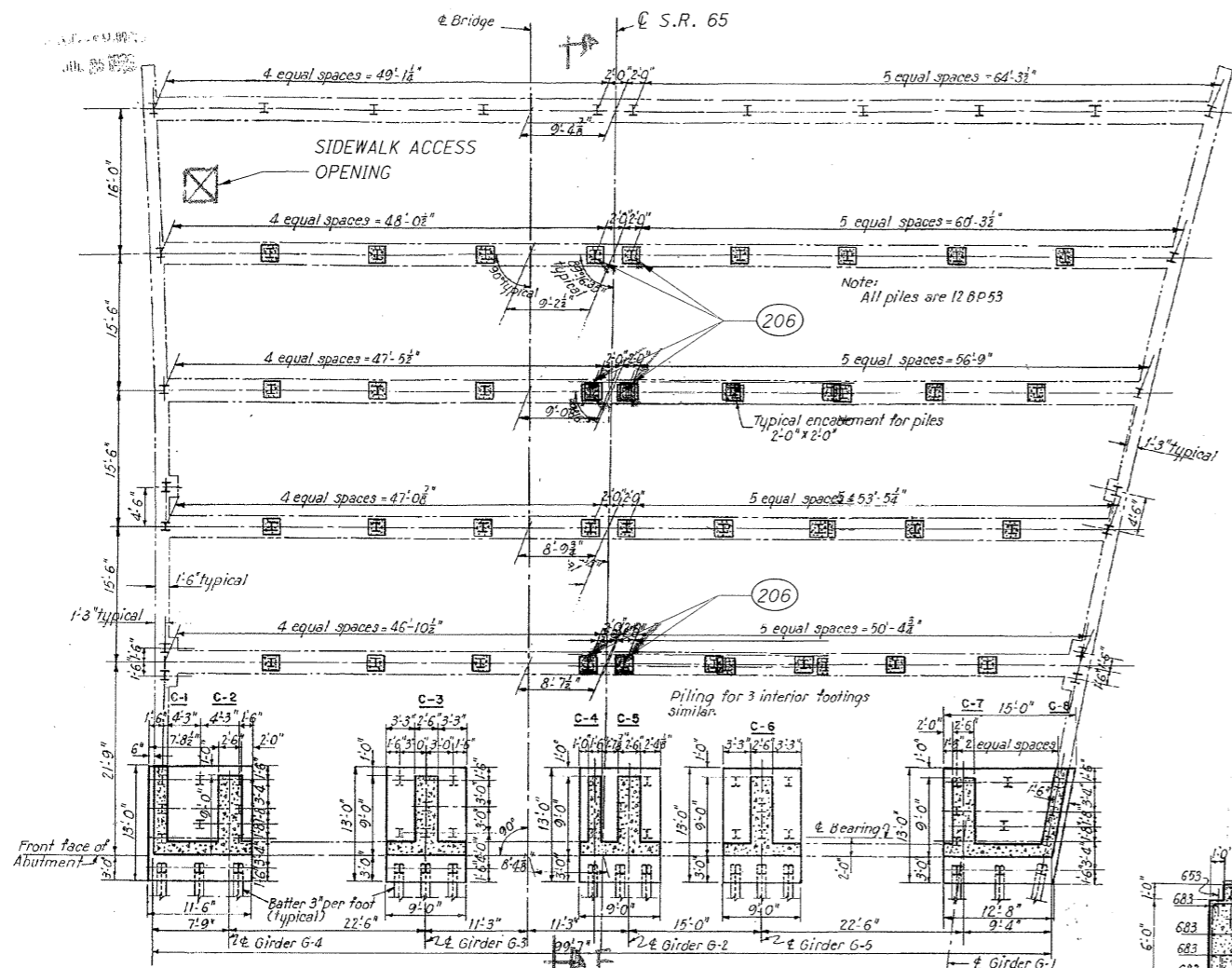
OVER MAUMEE RIVER

LUC-65-05.35

PID No. 80556

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REPAIR TYPE	SCOPE OF WORK	SHEET NO.	NO. REQUIRED
205	REPLACE EXISTING BACKWALL AIR VENTS	33	4
206	PLATE AND CONCRETE ENCASE EXISTING STEEL "H" PILES	37	6



FRAMING PLAN

REPAIR TYPE	SCOPE OF WORK	SHEET NO.	NUMBER OF LOCATIONS
201	REPLACE DIAGONAL GUSSET P	30	1
202	REPLACE DIAGONAL GUSSET P	30	1
203	REPLACE END FRAME BRACKET	31	1
204	INSTALL BLADDER FUNNEL	32	3

SOUTH APPROACH SPANS UNIT 1
 BRIDGE NO. LUC-65-0535
 OVER MAUMEE RIVER

DESIGNED JTB	DRAWN JML	REVIEWED JML
CHECKED	REVISED	STRUCTURE FILE NUMBER 4805917
DATE 03-01-13		
DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT NO. 2 PRODUCTION DEPARTMENT		

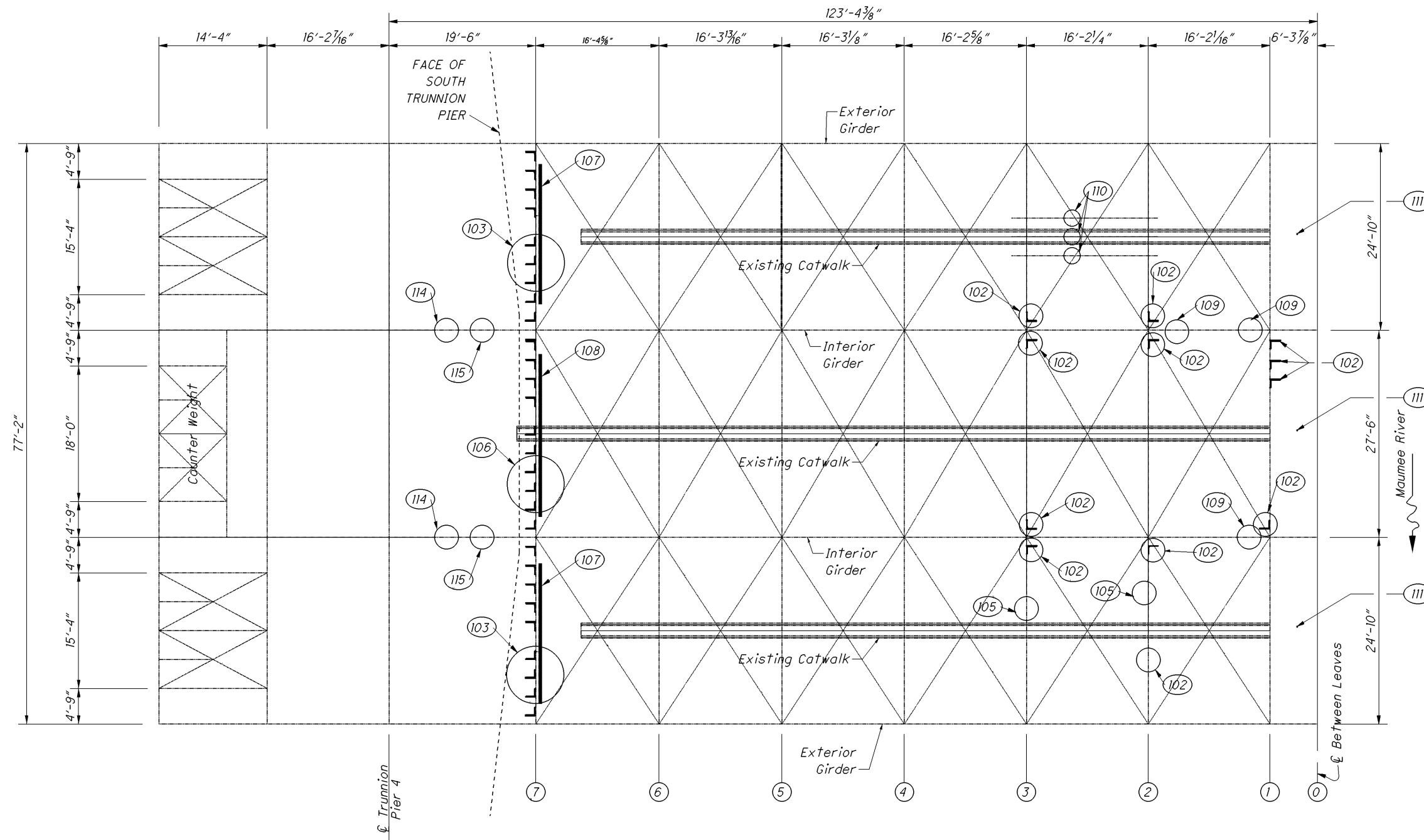
LUC-65-05.35

PID No. 80556

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REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.	NO. OF LOCATIONS
102	REPAIR STIFFNER, FLOOR BEAM	16	12
103	REPAIR STIFFNERS ON BUILT-UP FLOOR BEAM	17	2
105	REPAIR WEB PLATE FLOOR BEAM	17	2
106	REPAIR STIFFNER ON BUILT-UP FLOOR BEAM	18	1
107	REMOVE AND REPLACE BOTTOM CROSSFRAME	18 THRU 21	2
108	REMOVE AND REPLACE BOTTOM CROSSFRAME	19 THRU 21	1
109	REPAIR WEB PLATE IN MAIN GIRDER	21	3
110	REPAIR GRATE FLOOR BEAM STRINGER	18	3
111	REPLACE GRATING	22	3
114*	REPAIR RACK BEARING STIFFNERS	23	2
115*	GIRDER STIFFNER REPAIR	24	2

NOTE:

REPAIR 113 NOT USED

* INDICATES LOCATION INSIDE TRUNNION PIER

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT NO. 2
PRODUCTION DEPARTMENT

DATE
03-01-13

REVIEWED
JML

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DESIGNED
JTB

STRUCTURE FILE NUMBER
4805917

REPAIRED
JML

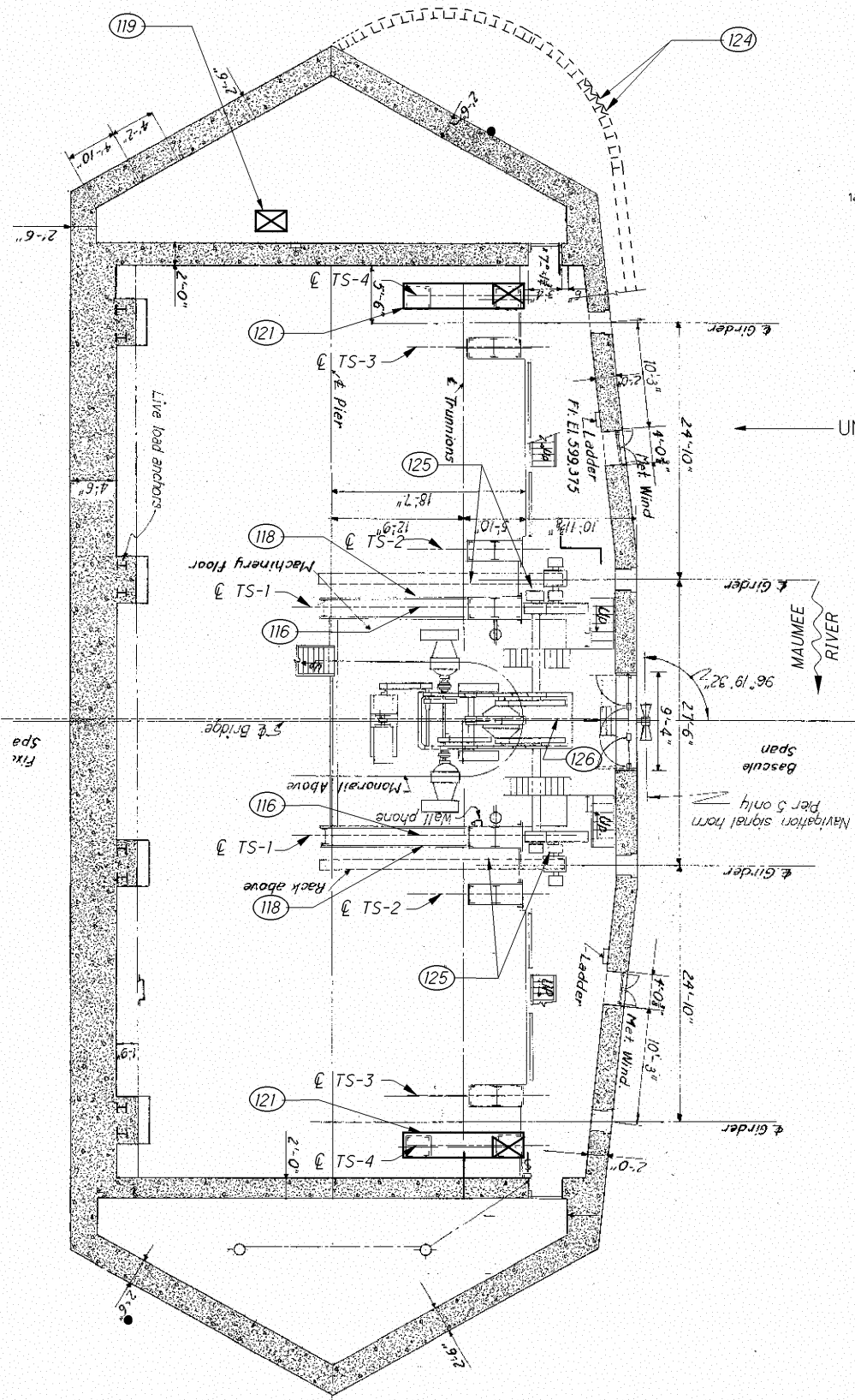
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JTB

REPAIR DETAILS - SOUTH BASCULE SPAN
BRIDGE NO. LUC-65-0535
OVER MAUMEE RIVER

LUC-65-05.35
PID No. 80556

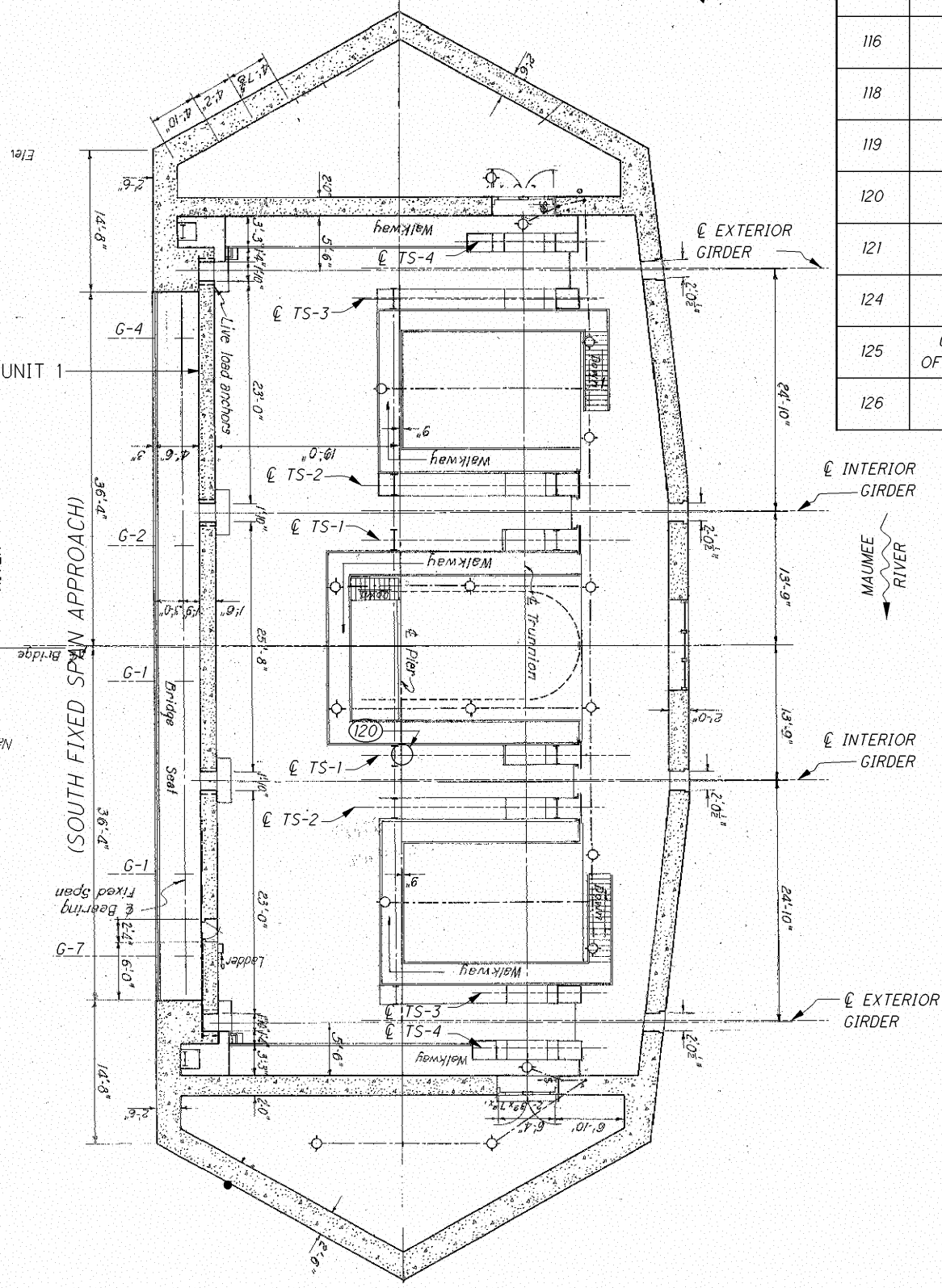
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ITEM 519 - ESTIMATED AREA ON COUNTERWEIGHT ROOM INTERIOR WALLS TO BE PATCHED = 75 SQ. FT.

SOUTH TRUNNION PIER
MACHINE ROOM AND BASCULE
COUNTERWEIGHT ROOM



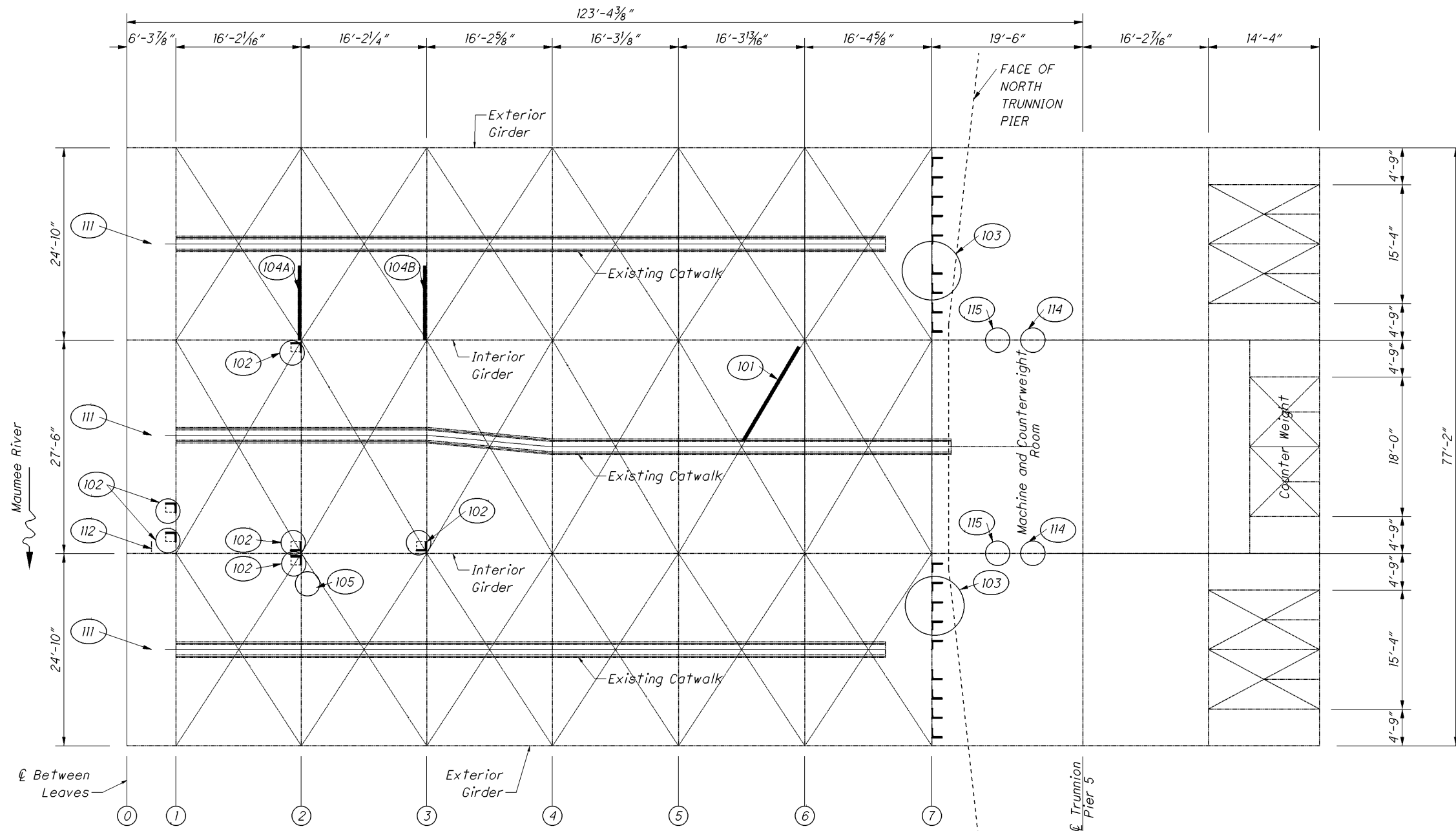
ITEM 519 - ESTIMATED AREA ON MACHINE ROOM INTERIOR WALLS TO BE PATCHED = 140 SQ. FT.

SOUTH TRUNNION PIER
MACHINE ROOM UPPER CATWALKS
AND TRUNNION SUPPORTS

REPAIR TYPE	SCOPE OF WORK	SHEET NO.	NO. LOCATIONS
116	REMOVE AND REPLACE MACHINE ROOM FLOOR GRATING	25	2
118	REPAIR OF TRUNNION SUPPORT TS-1 BELOW MACHINE ROOM FLOOR	26	2
119	REPLACE SUMP PUMP COVER	24	1
120	REPAIR DIAGONAL BRACING ON UPPER TRUNNION SUPPORT	26	1
121	ENCASEMENT OF TRUNNION TS-4 LOWER COUNTERWEIGHT ROOM	27	2
124	REPLACE FENDER TIMBERS	29	4
125	CLEAN RACK GEARS AND PINNION GEARS OF OLD GREASE AND APPLY NEW LUBRICANT	24	2
126	ENCASEMENT OF TRUNNION TS-4 LOWER COUNTERWEIGHT ROOM	2	1



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REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.	NO. OF LOCATIONS
101	REMOVE AND REPLACE LOWER WT DIAGONAL	16	1
102	REPAIR STIFFENER, FLOOR BEAM	16	6
103	REPAIR STIFFENERS ON BUILT-UP FLOOR BEAM	17	2
104A&B	REPAIR BOTTOM FLANGE, FLOOR BEAM	16	1 EACH
105	REPAIR WEB PLATE, FLOOR BEAM	17	1
111	REPLACE GRATING	22	3
112	REPLACE CENTERLINE CATWALK RAILING	21	1
114*	REPAIR RACK BEARING STIFFENERS	23	2
115*	GIRDER STIFFNER REPAIR	24	2

NOTE: REPAIR 113 NOT USED
 * INDICATES LOCATION INSIDE TRUNNION PIER

DESIGNED BY: JTB
 CHECKED BY: JTB

DRAWN BY: JML
 REVISED BY: JML

REVIEWED BY: JML
 DATE: 03-01-13
 STRUCTURE FILE NUMBER: 4805917

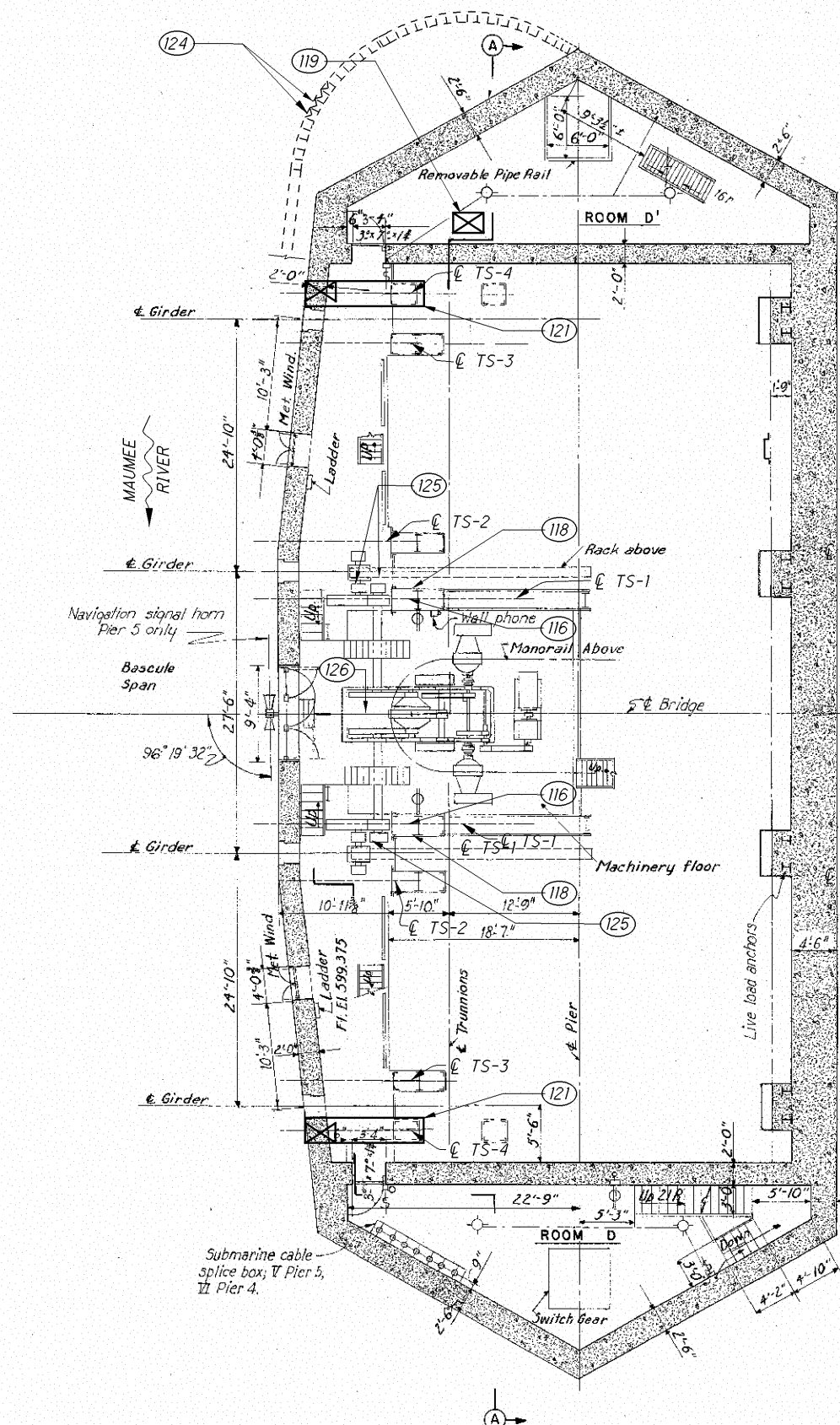
OHIO DEPARTMENT OF TRANSPORTATION
 DISTRICT NO. 2
 PRODUCTION DEPARTMENT

REPAIR DETAILS - NORTH BASCULE SPAN
 BRIDGE NO. LUC-65-0535
 OVER MAUMEE RIVER

LUC-65-05.35
PID No. 80556

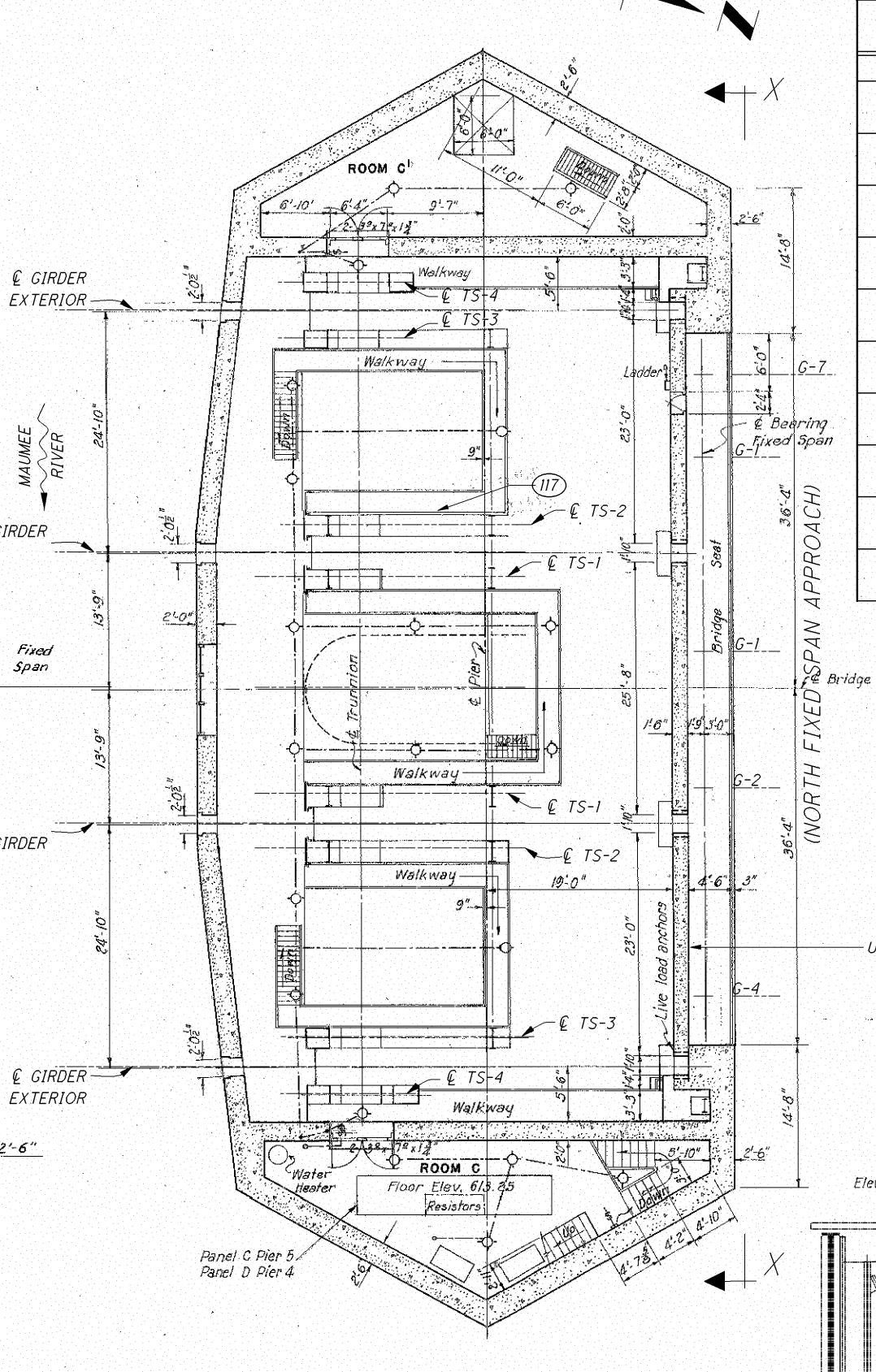
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53

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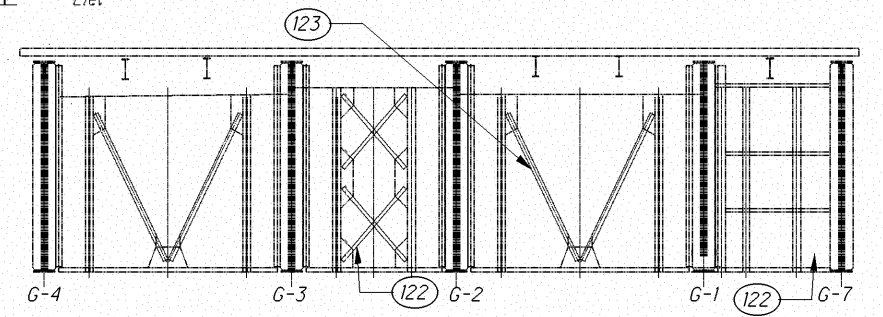
ITEM 519 - ESTIMATED AREA TO BE PATCHED ON COUNTER WEIGHT ROOM INTERIOR WALL = 40 SQ. FT.

NORTH TRUNNION PIER
MACHINE ROOM AND BASCULE
COUNTERWEIGHT ROOM



ITEM 519 - ESTIMATED AREA TO BE PATCHED ON MACHINE ROOM INTERIOR WALLS = 75 SQ. FT.

NORTH TRUNNION PIER
MACHINE ROOM UPPER CATWALKS
AND TRUNNION SUPPORTS



SECTION X-X
(NORTH APPROACH SPAN END FRAME)
(UNIT 2)

REPAIR TYPE	SCOPE OF WORK	SHEET NO.	NO. OF LOCATIONS
116	REMOVE AND REPLACE MACHINE ROOM FLOOR GRATING	25	2
117	REPAIR OF UPPER TRUNNION SUPPORT TS-2	25	1
118	REPAIR OF TRUNNION SUPPORT TS-1 BELOW MACHINE ROOM FLOOR	26	2
119	REPLACE SUMP PUMP COVER	24	1
121	ENCASEMENT OF TRUNNION TS-4 LOWER COUNTERWEIGHT ROOM	27	2
122	GRIND OUT SECTION LOSS AREAS	28	2
123	REPLACE END FRAME DIAGONAL MEMBER	28	1
124	REPLACE FENDER TIMBERS	29	2
125	CLEAN RACK GEAR AND PINNION GEARS OF OLD LUBRICANT AND APPLY NEW LUBRICANT	24	2
126	DRAIN AND REPLACE LUBRICANT IN MAIN REDUCER	2	1

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION DISTRICT NO. 2 PRODUCTION DEPARTMENT

DATE: 03-01-13

REVIEWED: JML (STRUCTURE FILE NUMBER: 4805917)

DRAWN: JML (REVISED)

DESIGNED: JTB (CHECKED)

NORTH TRUNNION PIER
BRIDGE NO. LUC-65-0535
OVER MAUMEE RIVER

LUC-65-05.35
PID No. 80556

13
53

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO	UI-1052(2)	POST WAR

LUCAS COUNTY
CITY OF TOLEDO
TOLEDO EXPRESSWAY SYSTEM
MAUMEE RIVER BRIDGE
LUC 120R-3.46

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT NO. 2
PRODUCTION DEPARTMENT



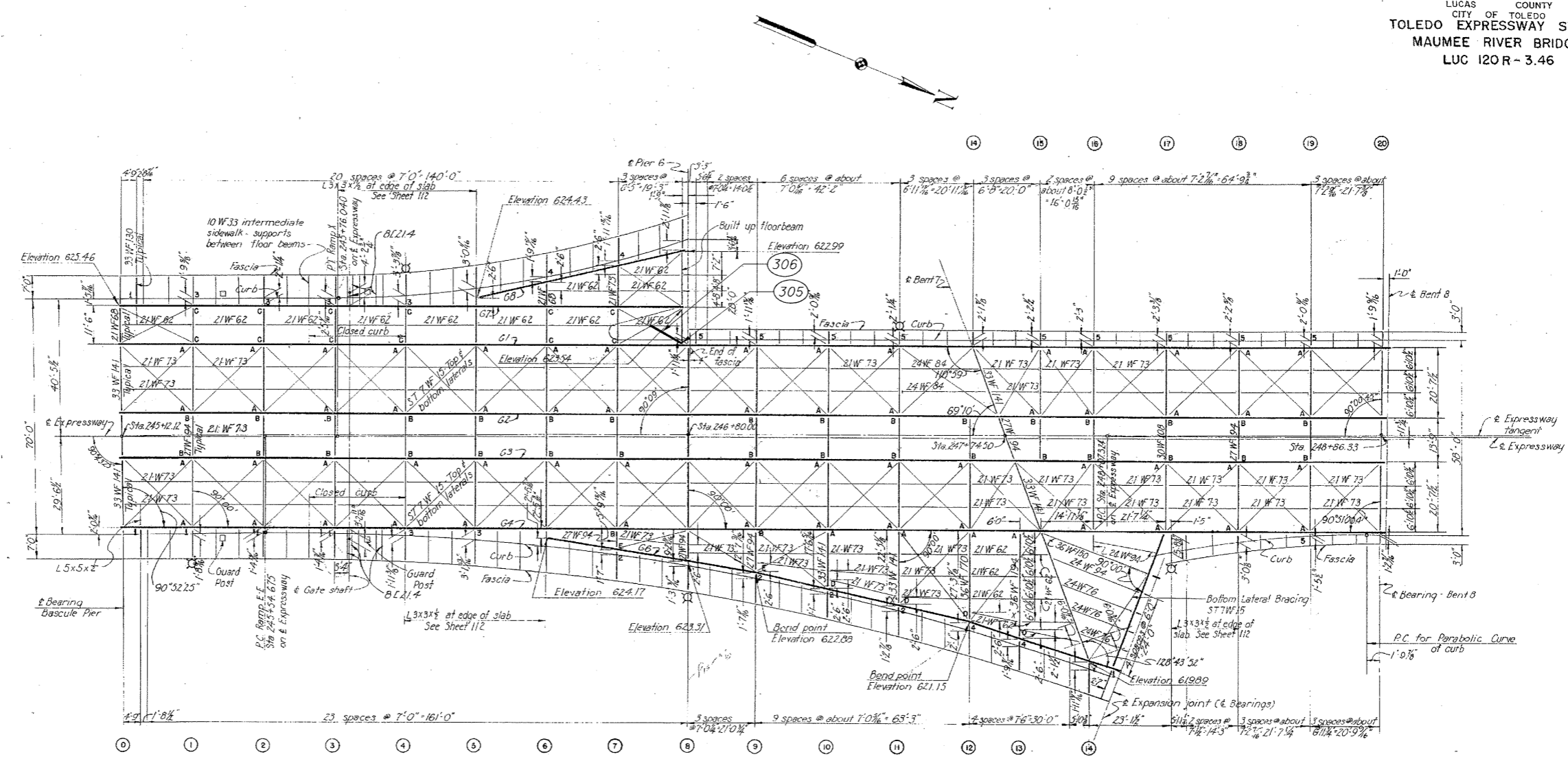
DATE
03-01-13
REVIEWED
JML
STRUCTURE FILE NUMBER
4805917

DRAWN
JML
DESIGNED
JTB
CHECKED

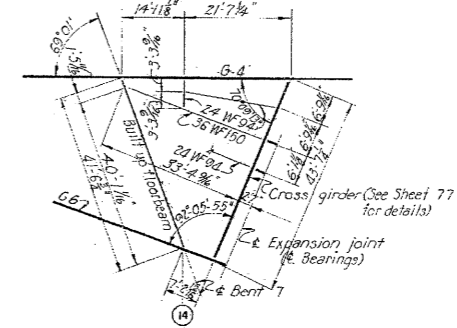
NORTH APPROACH SPANS UNIT 2
BRIDGE NO. LUC-65-0535
OVER MAUMEE RIVER

LUC-65-05.35
PID No. 80556

14
53



FRAMING PLAN



REPAIR TYPE	SCOPE OF WORK	SHEET NO.	NO. REQUIRED
305	REMOVE AND REPLACE SHORT DIAGONAL BRACE	34	1
306	REMOVE AND REPLACE LONG DIAGONAL BRACE	34	1

PART 3

TOLEDO EXPRESSWAY SYSTEM

MAUMEE RIVER BRIDGE
BR. NO. LU 120R-35
UNIT 2
STEEL FRAMING PLAN

TOLEDO LUCAS COUNTY, OHIO

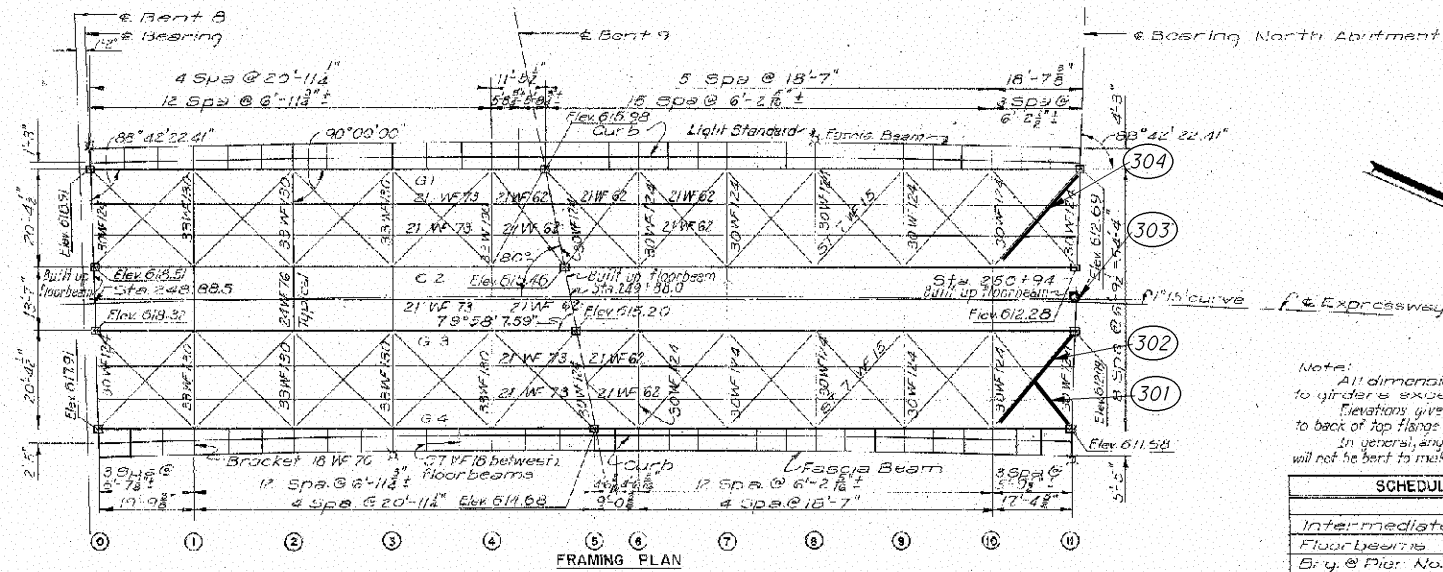
SCALE: 1/8" = 1'-0"
MADE BY DATE: 9/10/52
TRACED BY DATE: 4-16-53
CWP: A.H.S. DATE: 2-11-53

HOWARD, NEEDLES, TAMMEN & BERGENDO
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
BIO SHEET 3.80

11-MAR-2013 10:10:AM jlabuzin

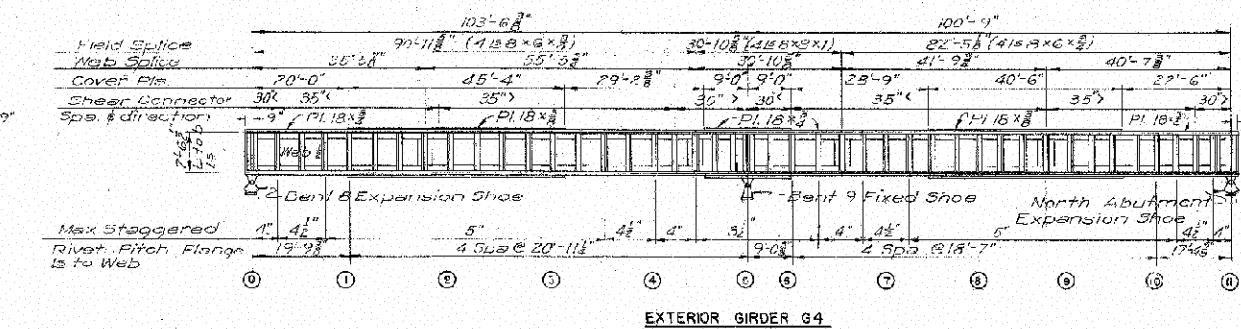
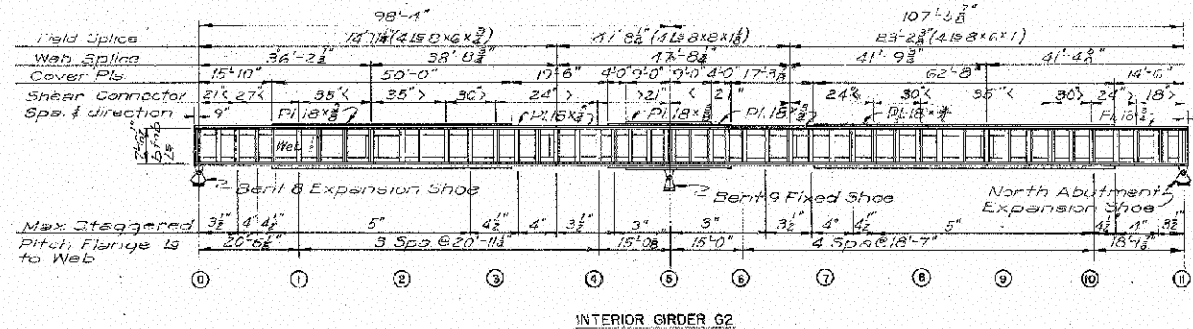
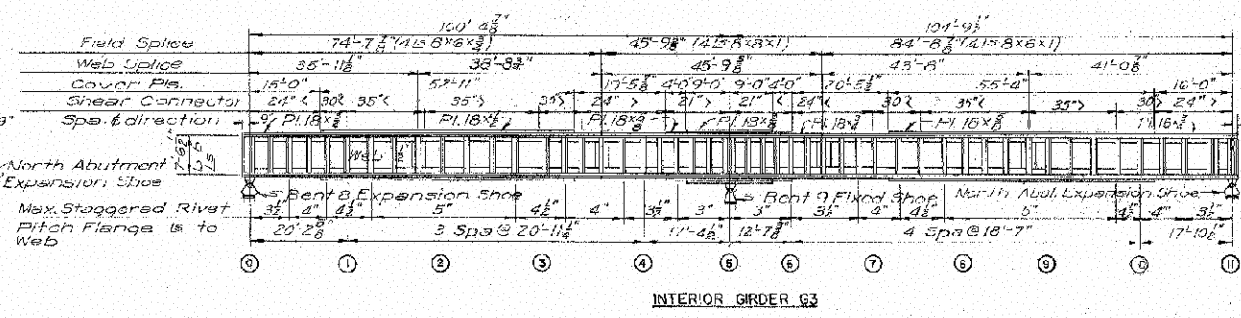
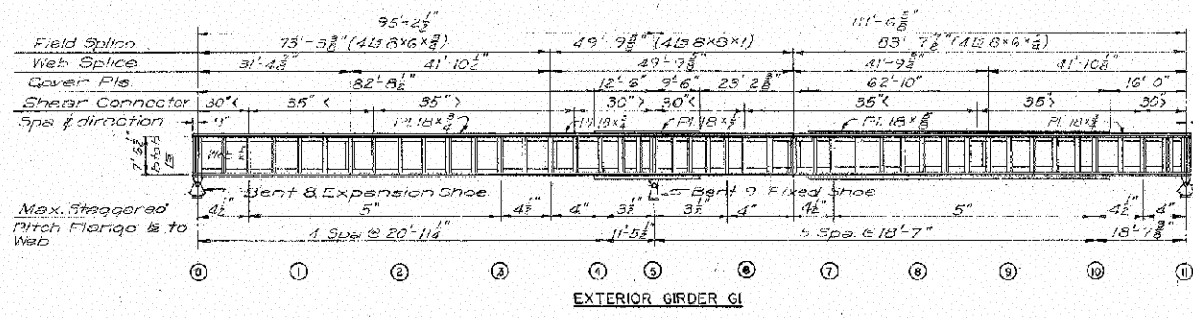
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REPAIR TYPE	SCOPE OF WORK	SHEET NO.	NO. REQUIRED
301	REMOVE AND REPLACE SHORT DIAGONAL BRACE	35	1
302	REMOVE AND REPLACE LONG DIAGONAL BRACE	35	1
303	REPAIR END FLOOR BEAM WITH STRAP PLATE	36	1
304	REMOVE AND REPLACE LONG DIAGONAL BRACE INCLUDING GUSSET PLATE	35	1

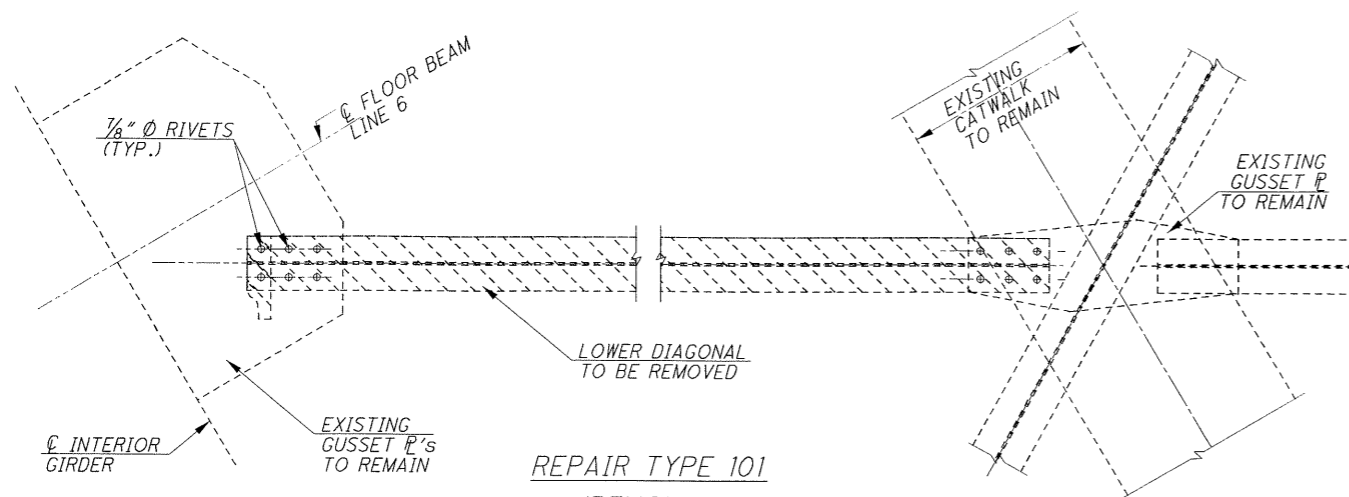


Note:
 All dimensions are normal to girders except as shown.
 Elevations given on framing plan are to back of top flange angles.
 In general, angles and other shapes will not be bent to make skewed connectors.

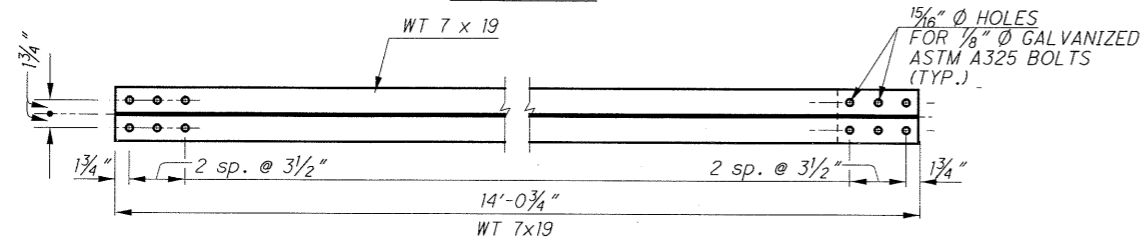
	G1 & 3	G2 & 4
Intermediate	215 L X 18 X 3/8	215 L X 18 X 3/8
Floor beams	215 T X 4 X 1/2	215 T X 4 X 1/2
Brg. @ Pier No. 8	415 T X 4 X 1/2	415 T X 4 X 1/2
Brg. @ Pier No. 9	415 T X 4 X 1/2	415 T X 4 X 1/2
Brg. @ North Abut.	415 T X 4 X 1/2	415 T X 4 X 1/2
Jacking @ North Abut.	415 T X 4 X 1/2	415 T X 4 X 1/2



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REPAIR TYPE 101
(REMOVAL)

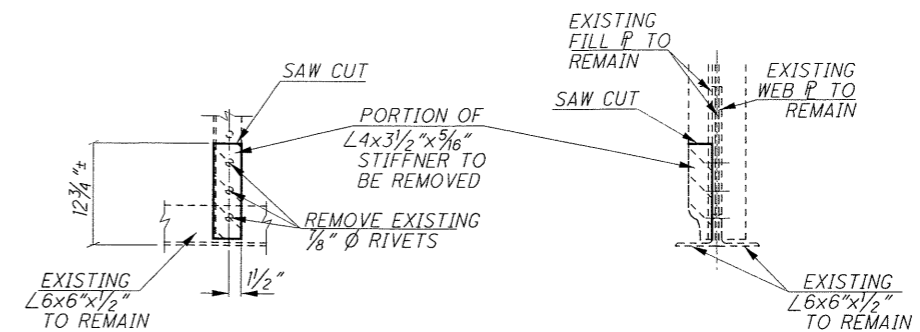


REPAIR TYPE 101

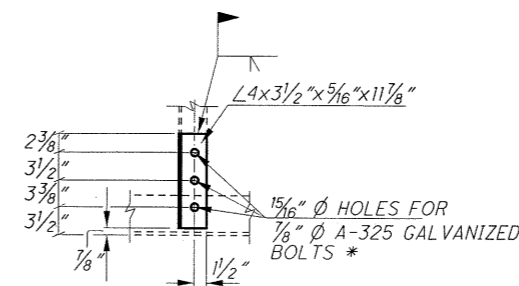
(ONE LOCATION REQUIRED)

REMOVE AND REPLACE LOWER DIAGONAL BRACE, INTERIOR BAY,
NORTH LEAF BETWEEN FLOOR BEAM LINES 5 AND 6.

NOTE: CONTRACTOR SHALL VERIFY DIMENSIONS BEFORE FABRICATION OF STEEL.
(6 RIVETS TO BE REMOVED AND REPLACED WITH
ASTM 325 BOLTS)



REPAIR TYPE 102
(REMOVAL)



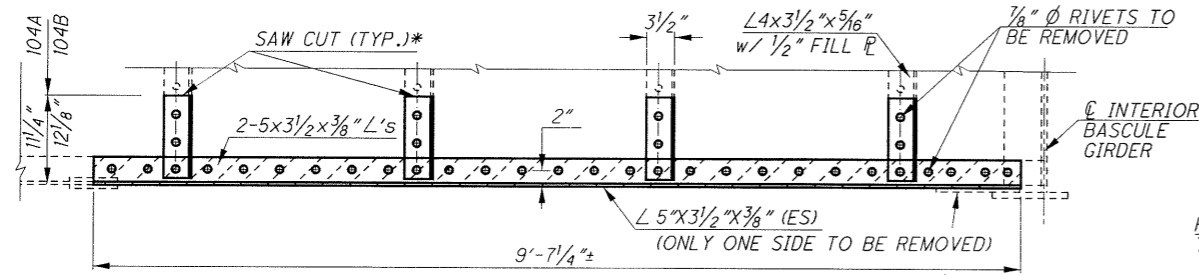
REPAIR TYPE 102

(18 LOCATIONS REQUIRED)

REPLACE FLOOR BEAM STIFFNER ANGLES

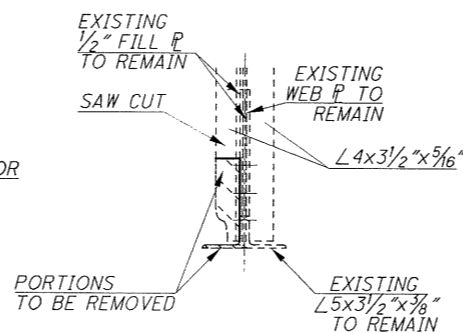
(54 RIVETS TO BE REMOVED AND REPLACED WITH
ASTM 325 BOLTS)

* NOTE: CONTRACTOR SHALL
FIELD VERIFY THE LOCATION OF
THE LONG LEG ON THE STIFFNER
BEFORE DRILLING HOLES.



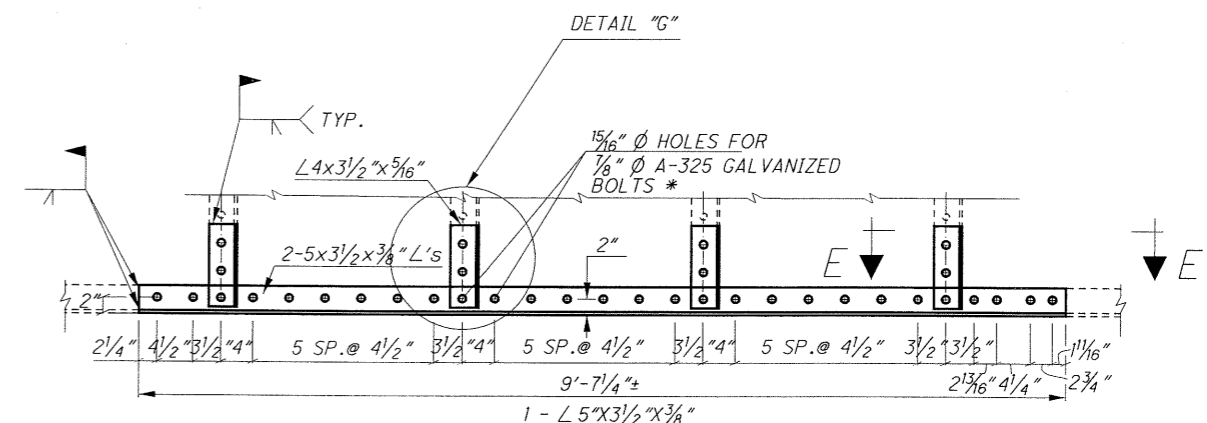
REPAIR TYPE 104
(REMOVAL)

* NOTE: CONTRACTOR SHALL
TAKE CARE NOT TO CUT FILL PLATES

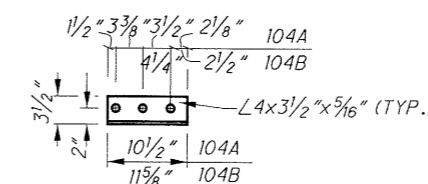


REPAIR TYPE 104A & 104B
(REMOVAL)

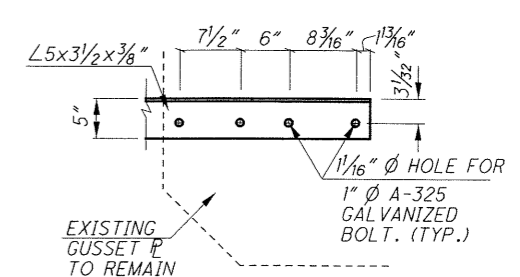
(REPAIR OF FLOOR BEAM
BOTTOM FLANGE AND STIFFNERS)
(104A ONE LOCATION REQUIRED)
(104B ONE LOCATION REQUIRED)
(80 RIVETS TO BE REMOVED AND
REPLACED WITH ASTM A325 BOLTS)



REPAIR TYPE 104
(FLANGE ANGLE)

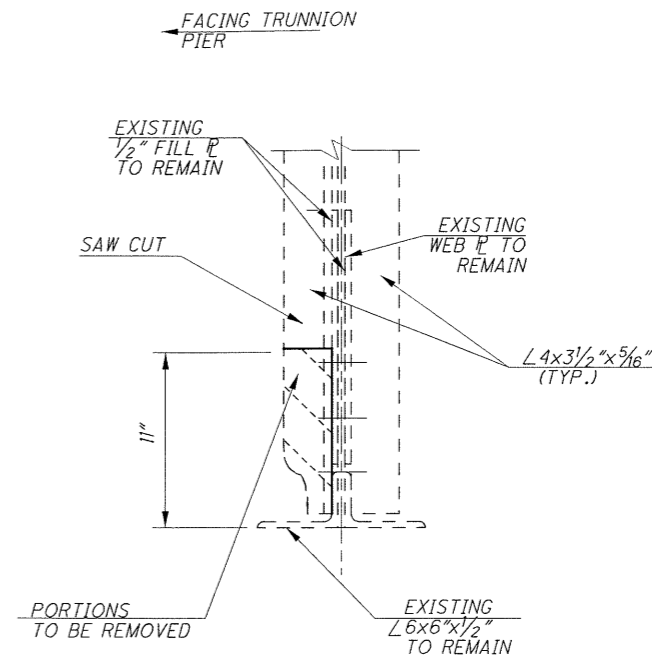
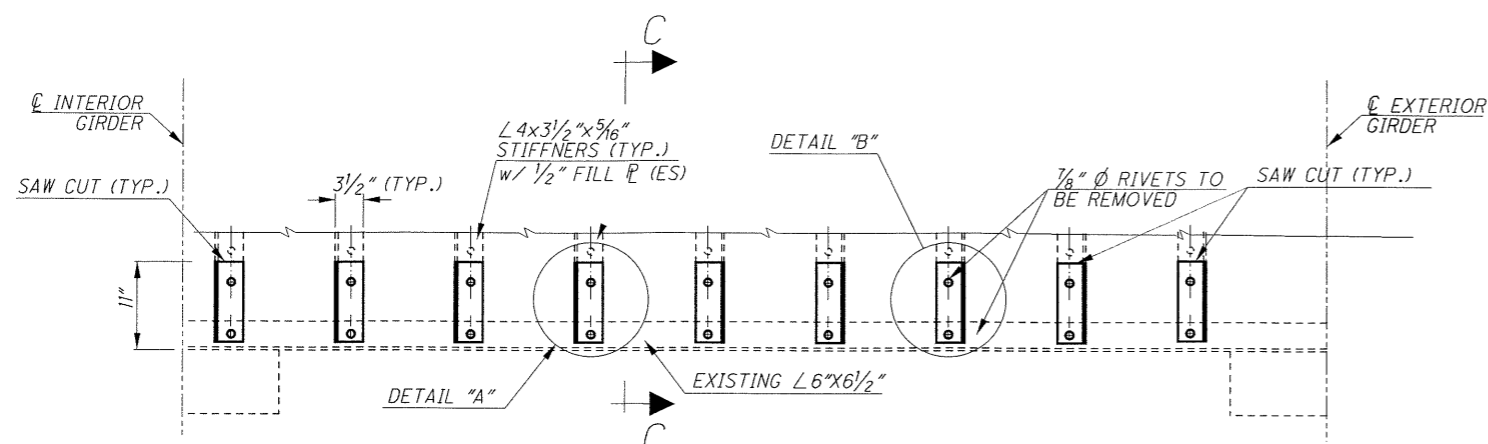


DETAIL "G"



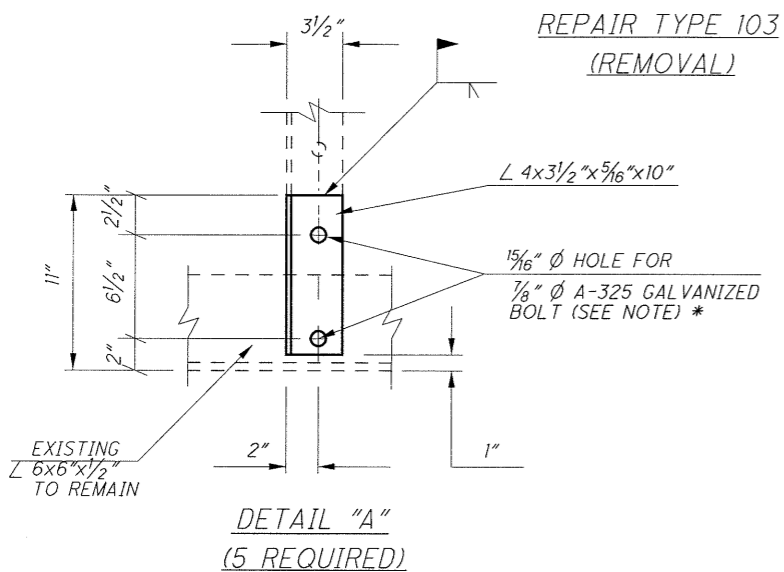
VIEW E-E

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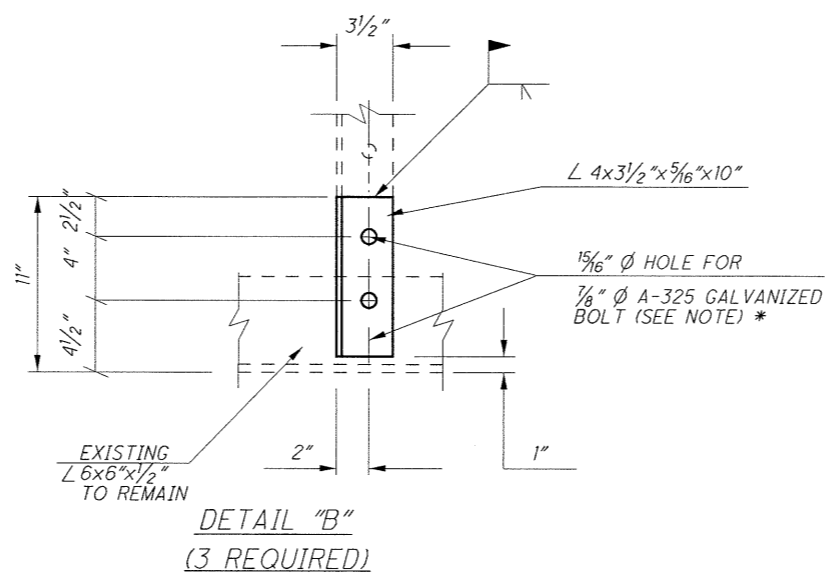


SECTION C-C (REMOVAL)

(NOTE: CONTRACTOR SHALL TAKE CARE TO NOT CUT FILL P WITH ANGLE)



DETAIL "A" (5 REQUIRED)

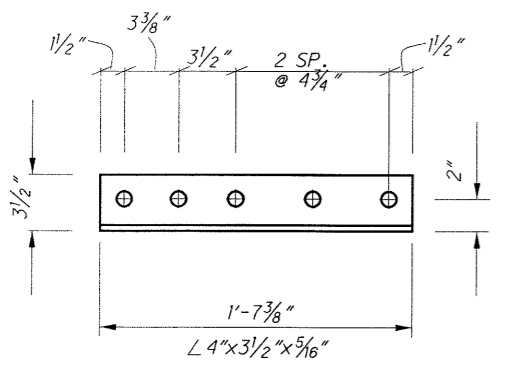


DETAIL "B" (3 REQUIRED)

REPAIR TYPE 103 (4 LOCATIONS REQUIRED)

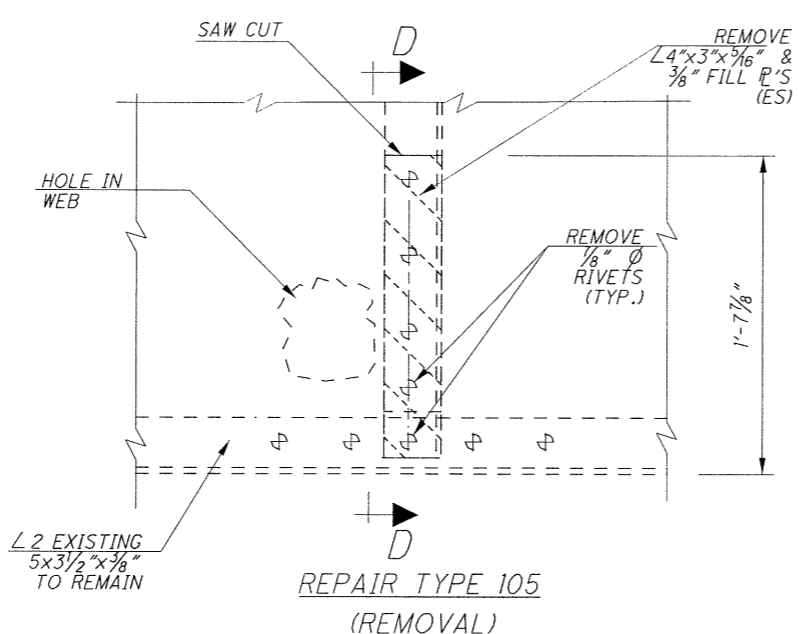
REPAIR OF STIFFENERS ON EXTERIOR BAY FLOOR BEAMS, LINE 7 (NOTE: CONTRACTOR SHALL FIELD VERIFY LOCATION OF LONG LEG ON STIFFENER BEFORE DRILLING HOLES.)

(72 RIVETS TO BE REMOVED AND REPLACED W/ASTM A325 BOLTS)

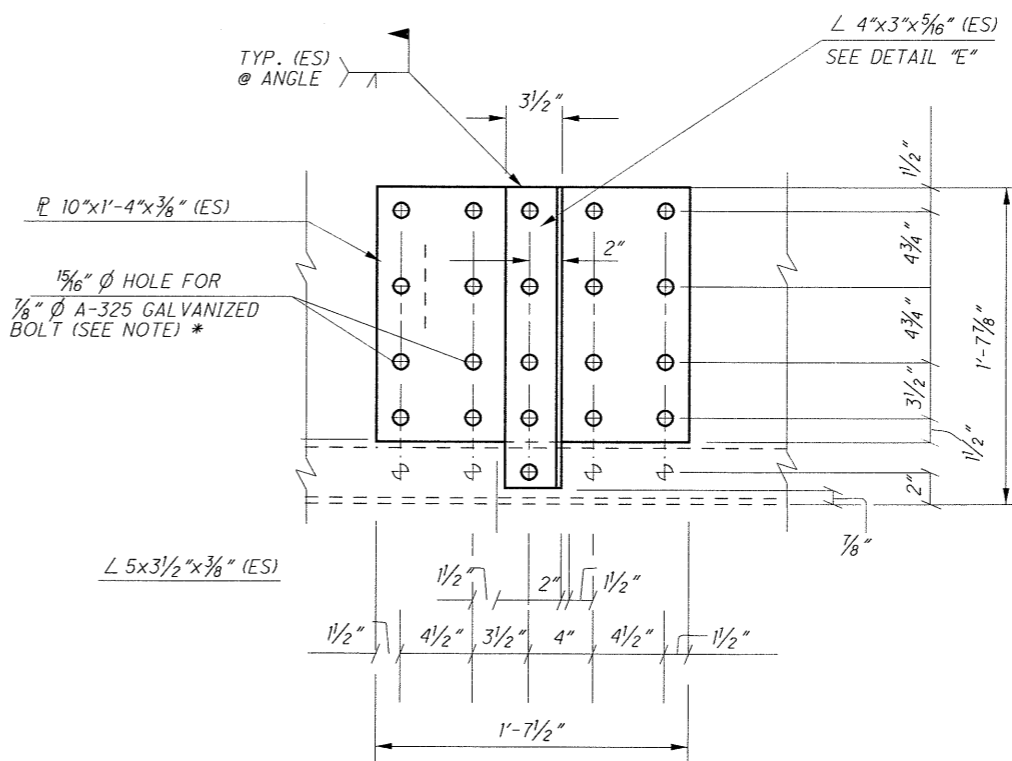


DETAIL "E" (2 REQUIRED)

(N.S.) SHOWN, (F.S.) OPPOSITE HAND



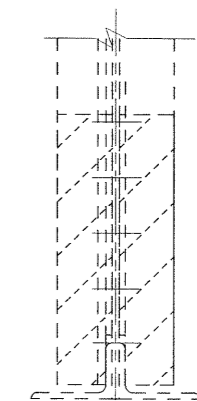
REPAIR TYPE 105 (REMOVAL)



REPAIR TYPE 105 (3 LOCATIONS REQUIRED)

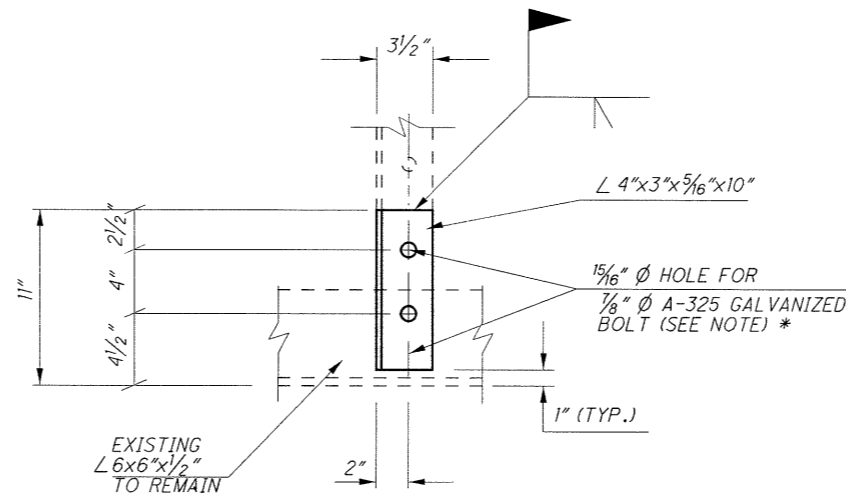
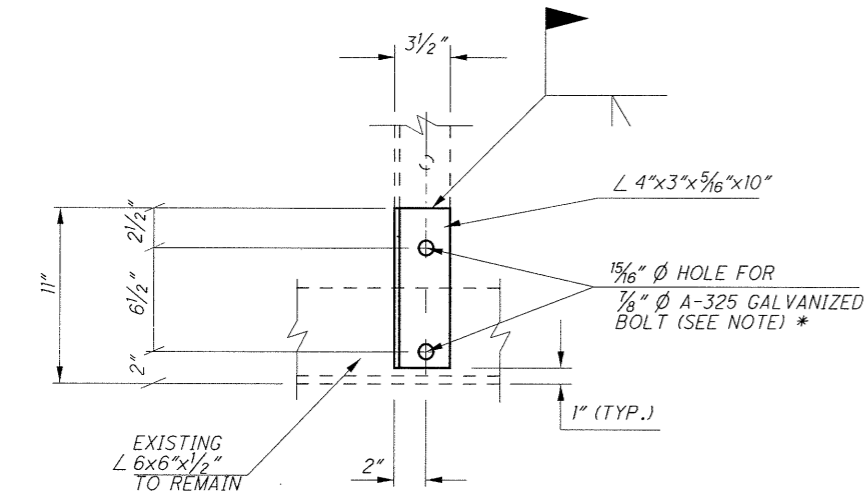
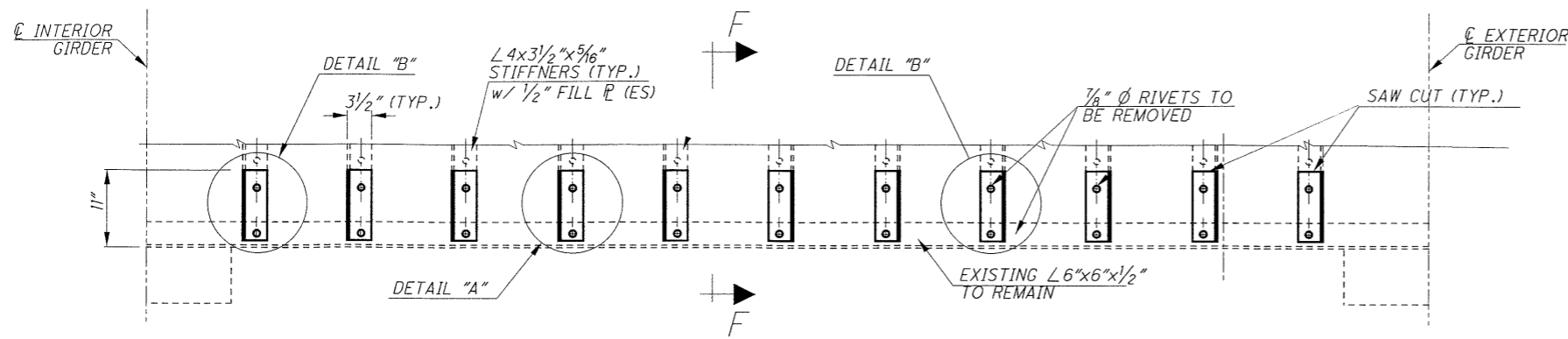
(WEB P HOLE REPAIR)

(15 RIVETS TO BE REMOVED AND REPLACED W/ASTM A325 BOLTS)



SECTION D-D (REMOVAL)

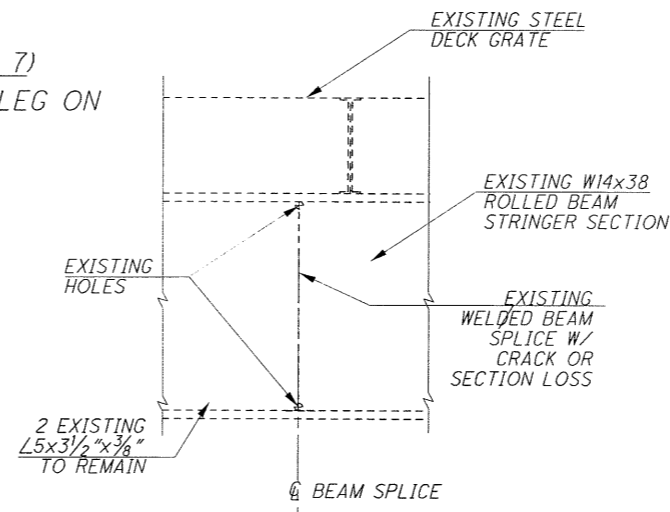
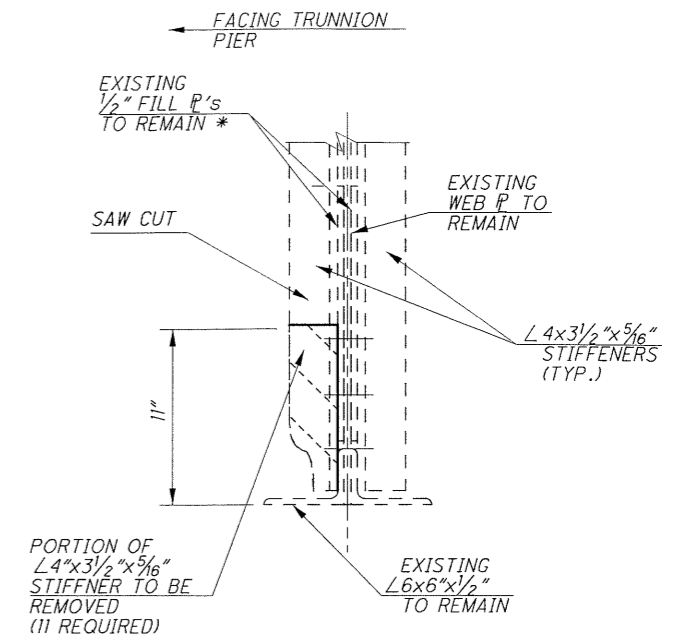
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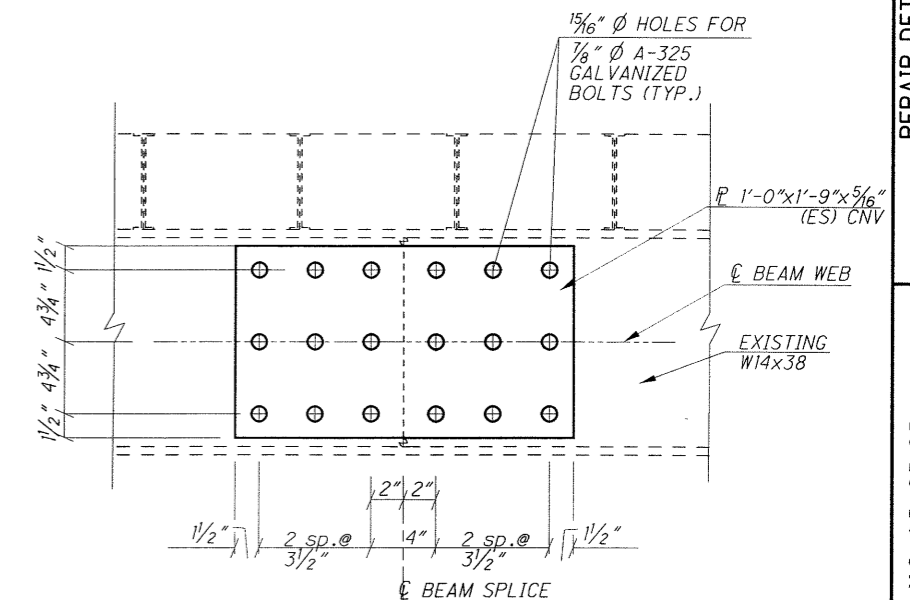
REPAIR TYPE 106
(ONE LOCATION REQUIRED)

(REPAIR OF STIFFENERS ON INTERIOR BAY FLOOR BEAMS, LINE 7)

*(NOTE: CONTRACTOR SHALL FIELD VERIFY LOCATION OF LONG LEG ON STIFFNER BEFORE DRILLING HOLES.)

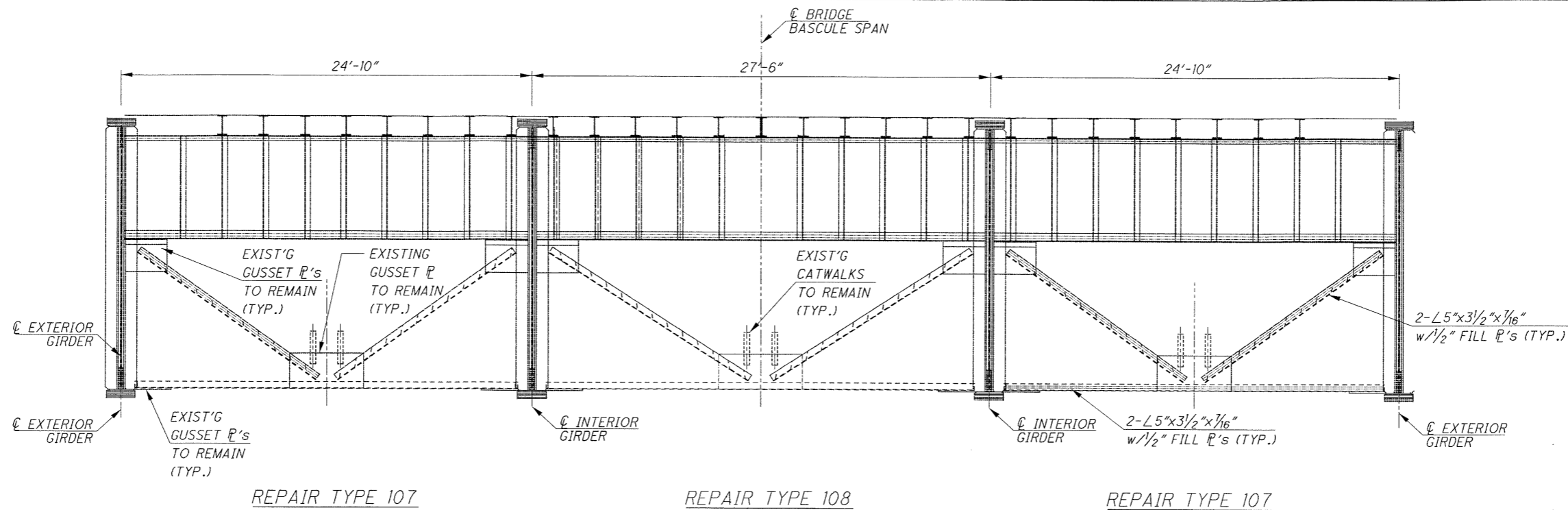


REPAIR TYPE 110
(REPAIR OF SECTION LOSS OR CRACKED WELD ON BEAM STRINGER)



REPAIR TYPE 110
(FLOOR STRINGER SPLICE REPAIR)

REPAIR TYPE 110
(3 LOCATIONS REQUIRED)

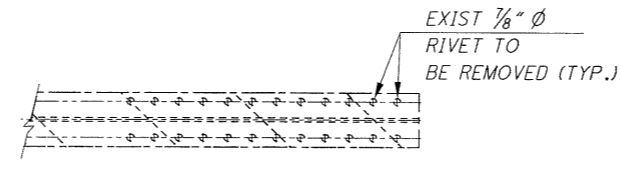
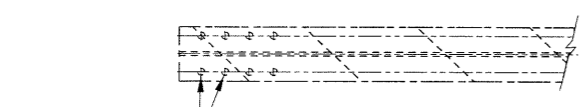
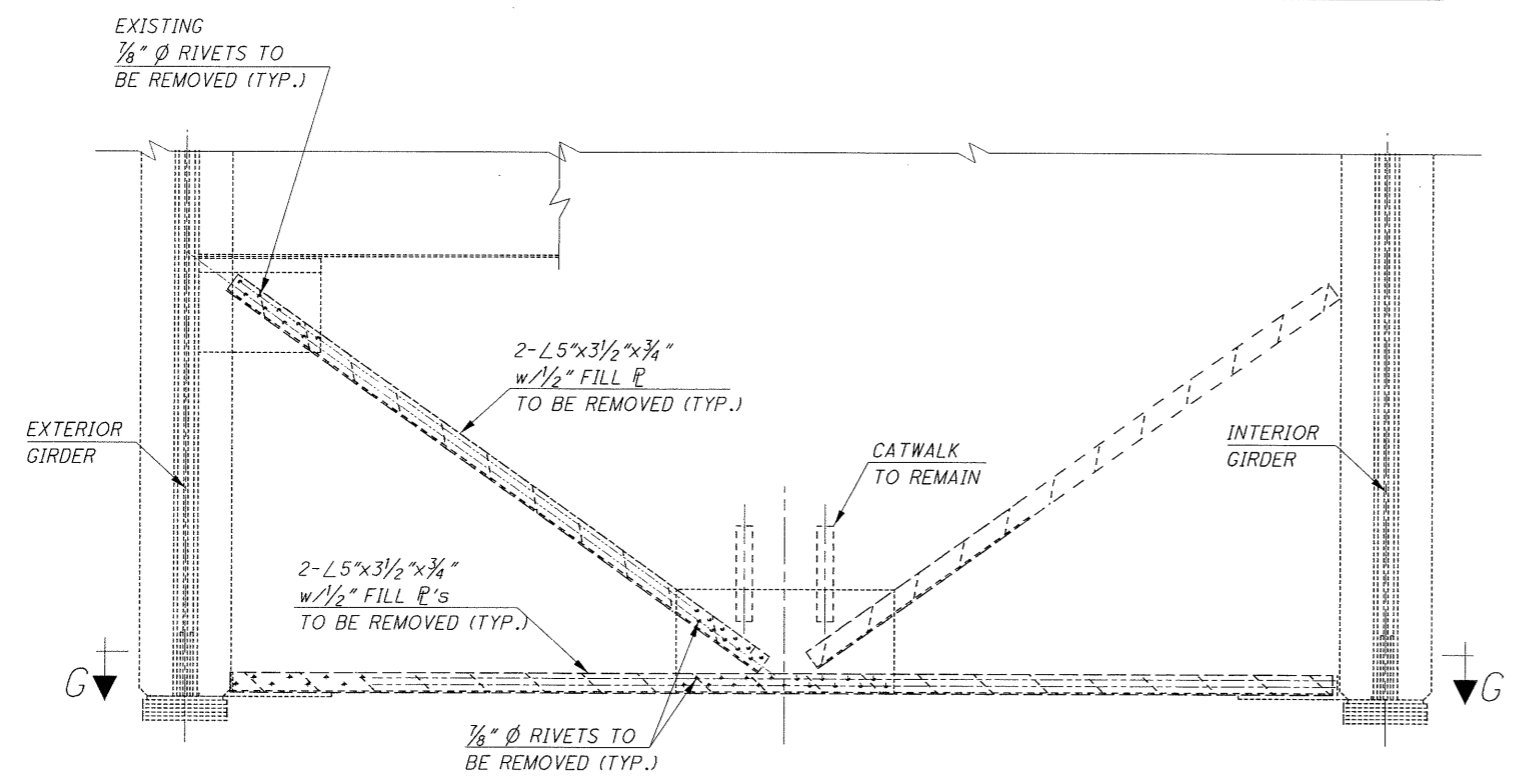


REPAIR TYPE 107

REPAIR TYPE 108


REPAIR TYPE 107

REPAIR TYPE 107 & 108
(REMOVE AND REPLACE DIAGONAL CROSSFRAMES
ON FLOOR BEAM LINE 7)

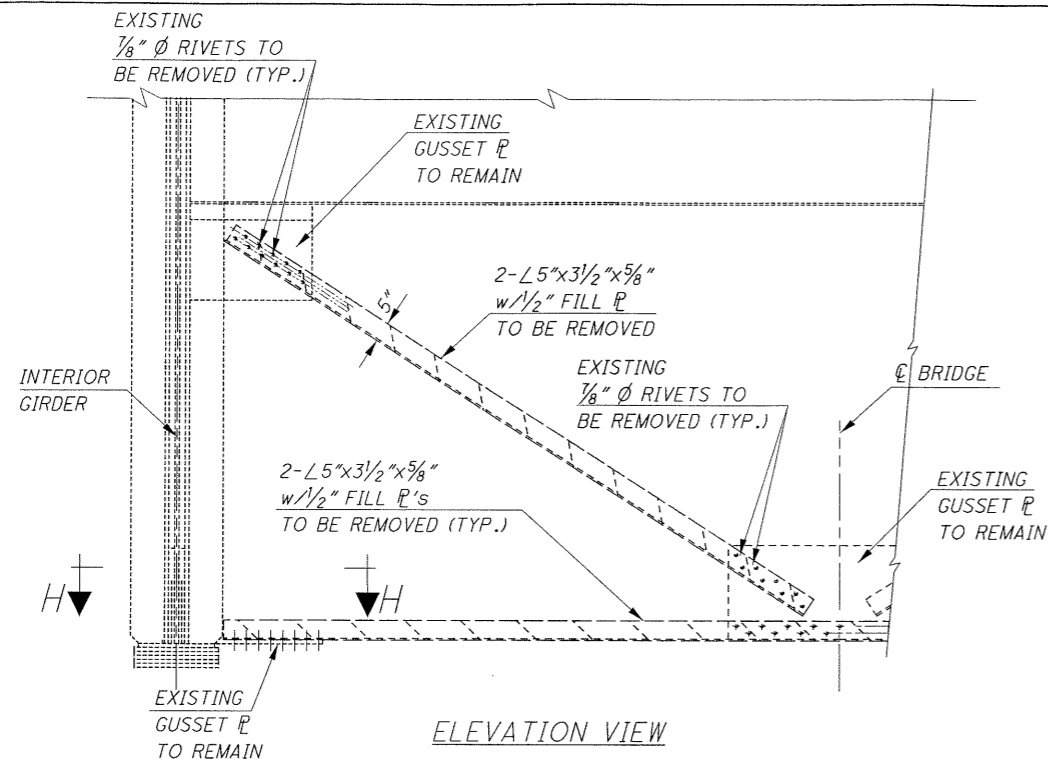


VIEW G-G
(REPAIR TYPE 107 REMOVAL)

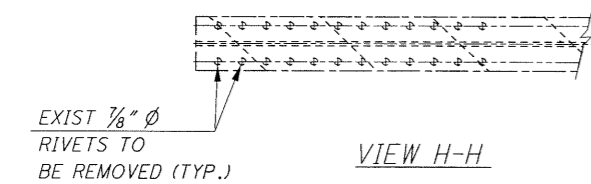
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	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 PRODUCTION DEPARTMENT
REVIEWED JML	DATE 03-01-13
DRAWN JML	STRUCTURE FILE NUMBER 4805917
DESIGNED JTB	CHECKED
REPAIR DETAILS - BASCULE SPAN BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER	
LUC-65-05.35 PID No. 80556	
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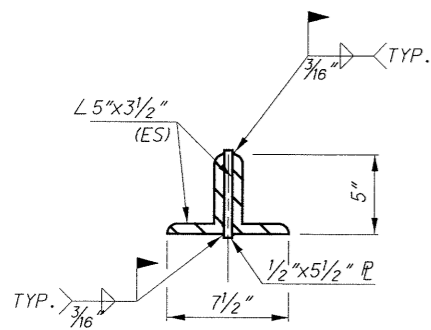


ELEVATION VIEW

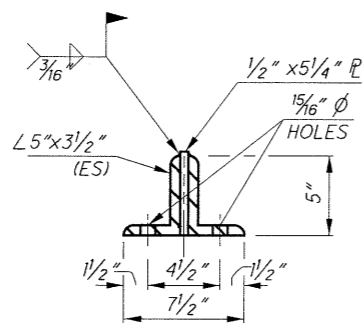


VIEW H-H

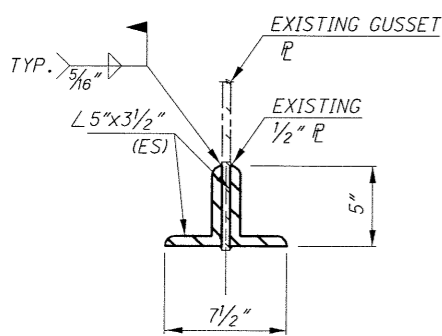
(REPAIR TYPE 108)
(REMOVAL)



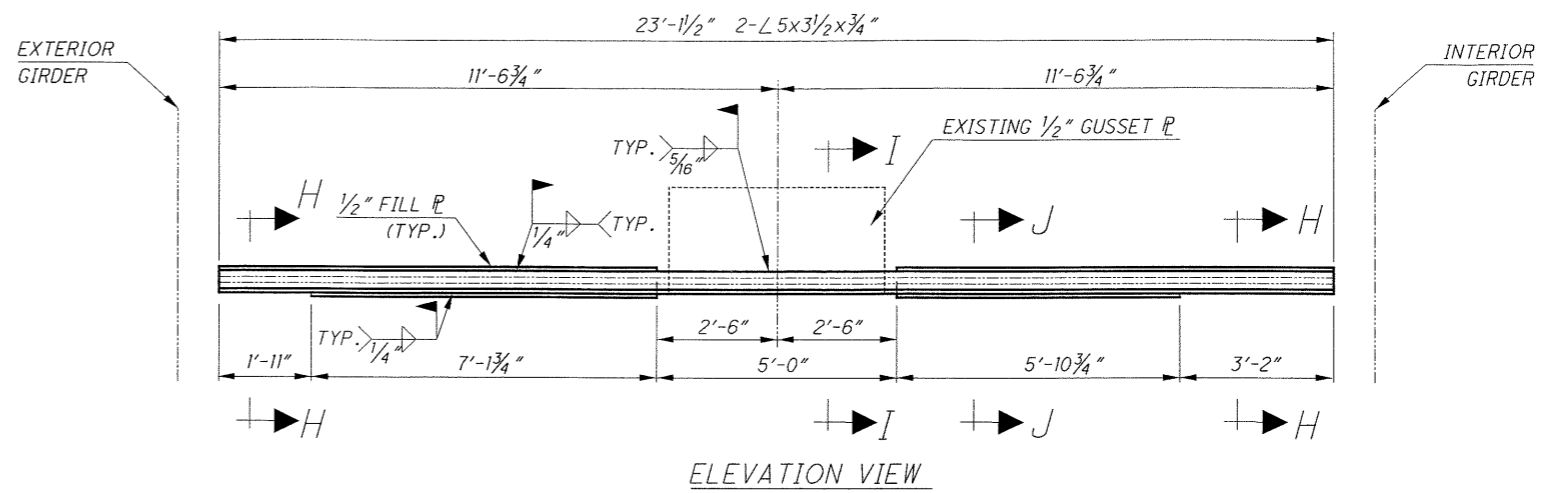
SECTION J-J



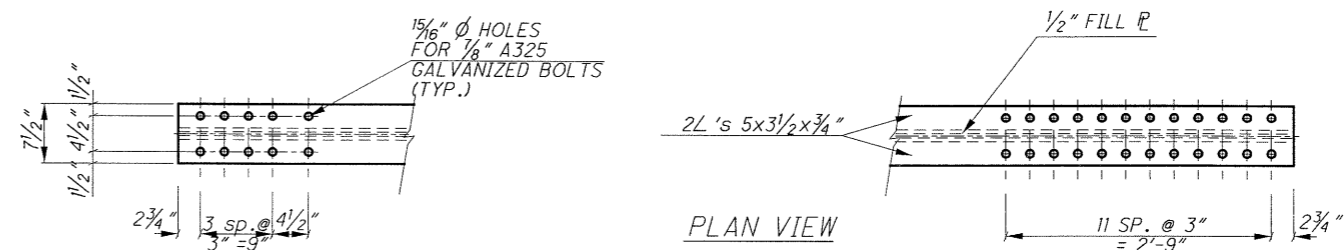
SECTION H-H



SECTION I-I



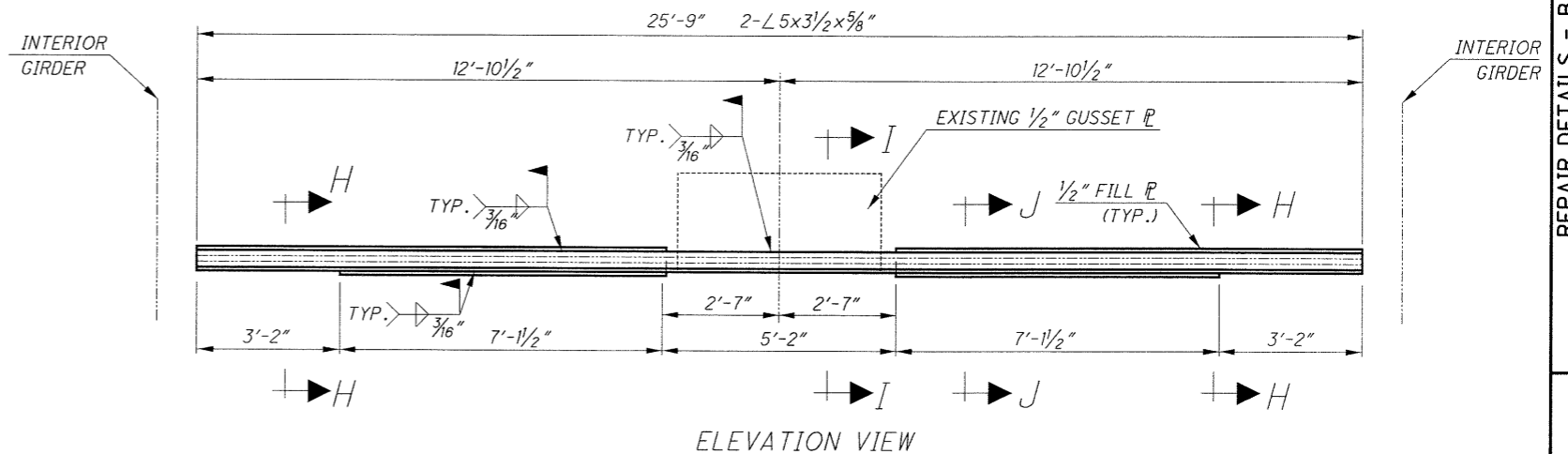
ELEVATION VIEW



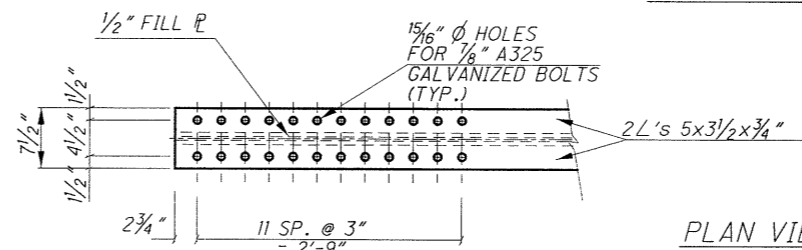
PLAN VIEW

REPAIR TYPE 107
(BOTTOM CHORD REPLACEMENT)
(1 REQUIRED AT EACH REPAIR)

2 LOCATIONS REQUIRED
(68 RIVETS TO BE REMOVED AND REPLACED W/ASTM A325 BOLT)



ELEVATION VIEW

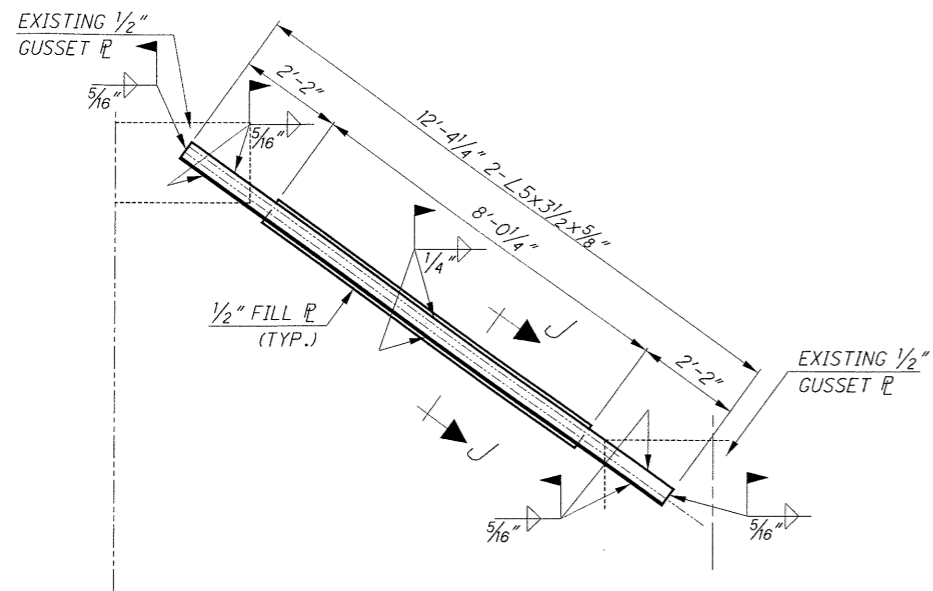


PLAN VIEW

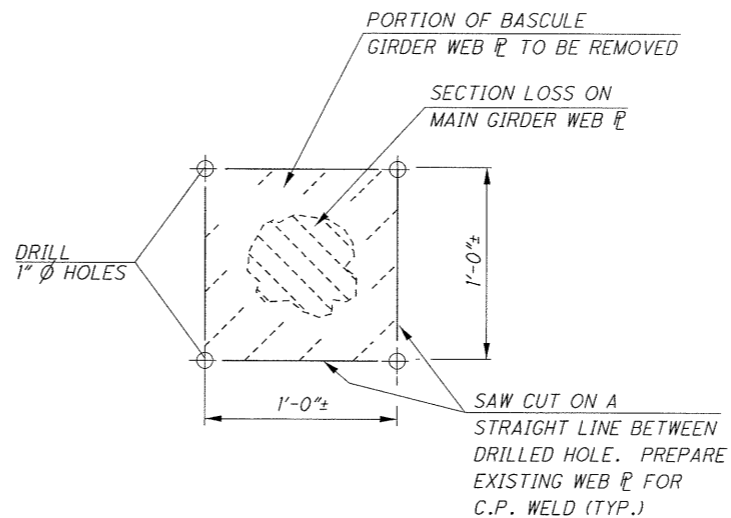
REPAIR TYPE 108
(BOTTOM CHORD REPLACEMENT)
(1 REQUIRED AT EACH REPAIR)

1 LOCATION REQUIRED
(48 RIVETS TO BE REMOVED AND REPLACED W/ASTM A325 BOLT)

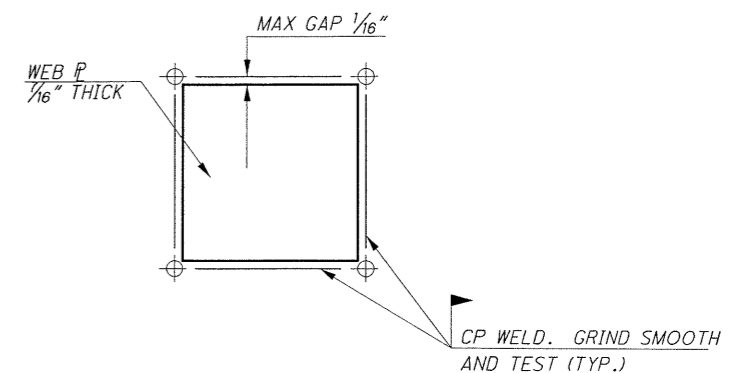




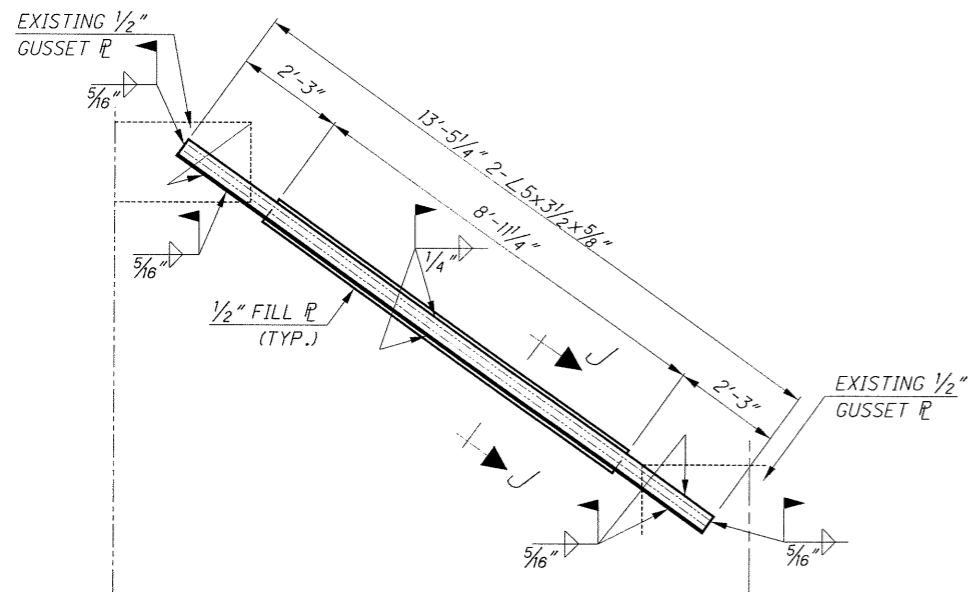
REPAIR TYPE 107
 (DIAGONAL REPLACEMENT)
 (2 REQUIRED AT EACH LOCATION)
 FOR SECTION J-J SEE SHEET
 (2 LOCATIONS REQUIRED)



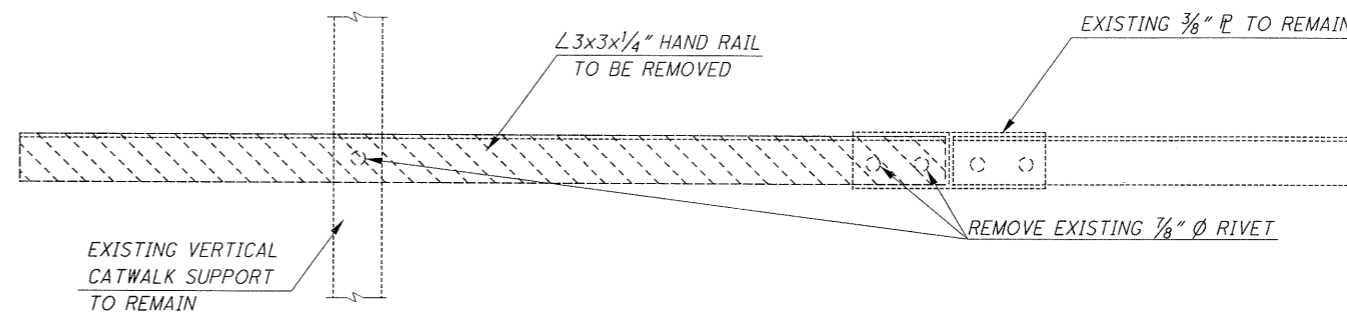
REPAIR TYPE 109
 (REMOVAL FOR GIRDER WEB REPAIR)
 (3 LOCATIONS REQUIRED)



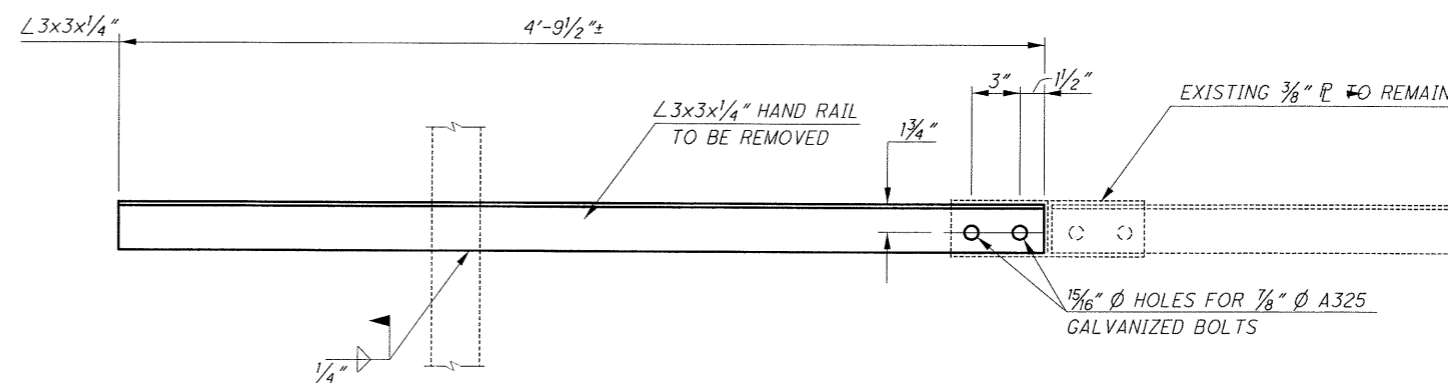
REPAIR TYPE 109
 (MAIN GIRDER WEB REPAIR)



REPAIR TYPE 108
 (DIAGONAL REPLACEMENT)
 (2 REQUIRED AT EACH LOCATION)
 FOR SECTION J-J SEE SHEET
 (1 LOCATION REQUIRED)



REPAIR TYPE 112
 (REMOVAL)
 (CATWALK CENTERLOCK HANDRAIL REPAIR, NORTH LEAF)

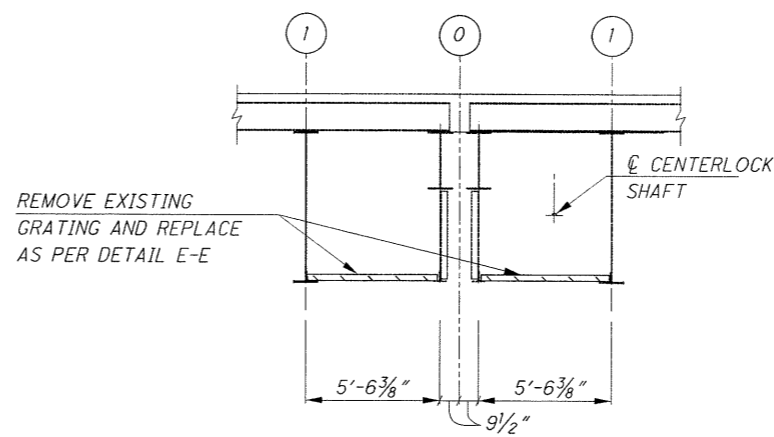
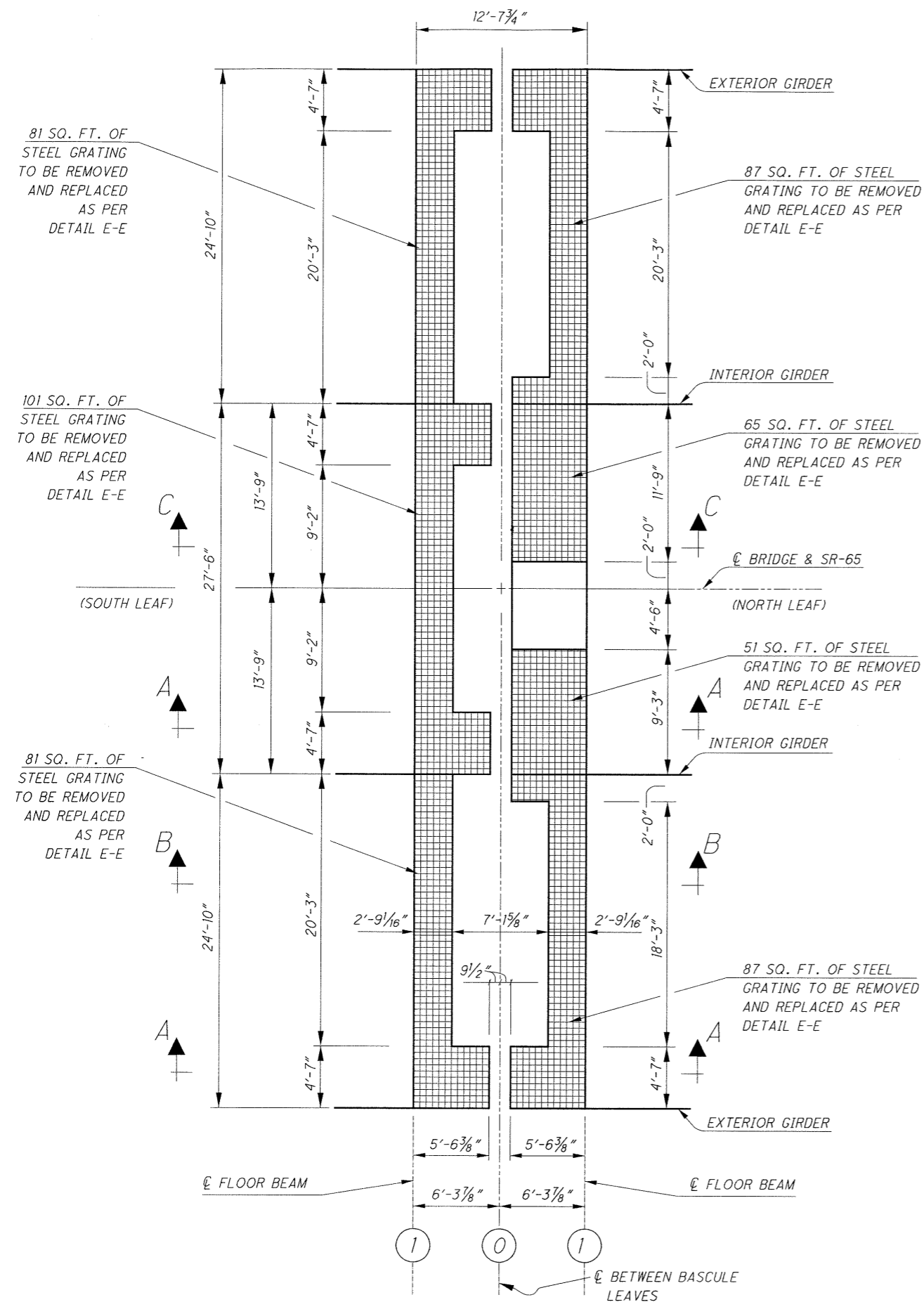


REPAIR TYPE 112
 (HANDRAIL REPAIR)
 (1 LOCATION REQUIRED)

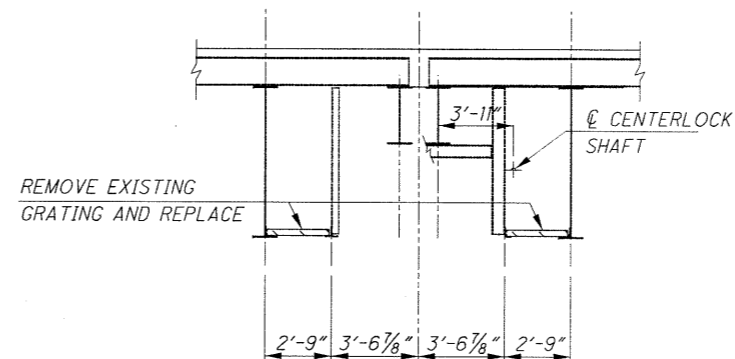
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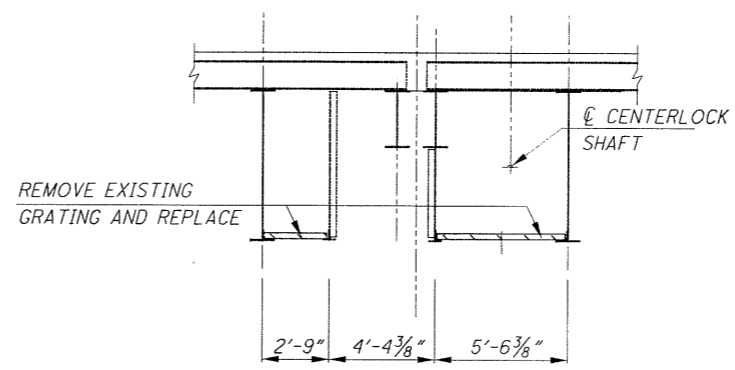
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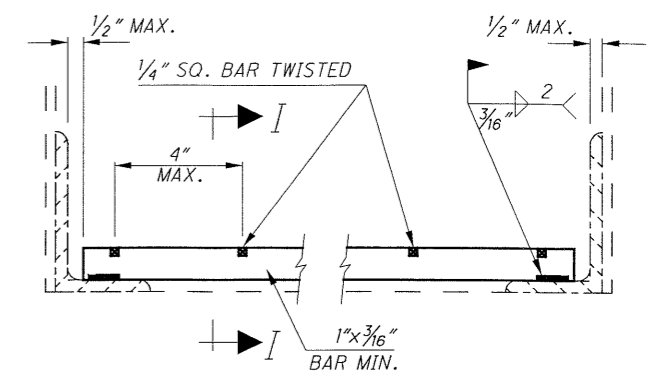
SECTION A-A



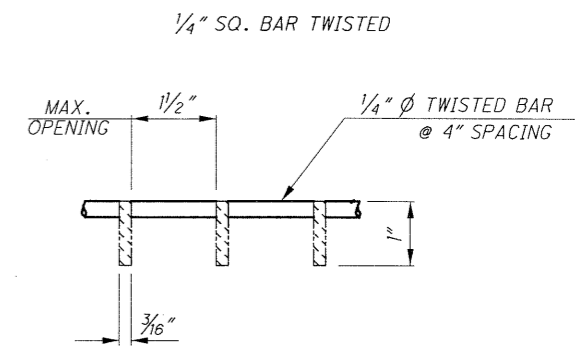
SECTION B-B



SECTION C-C



DETAIL E-E

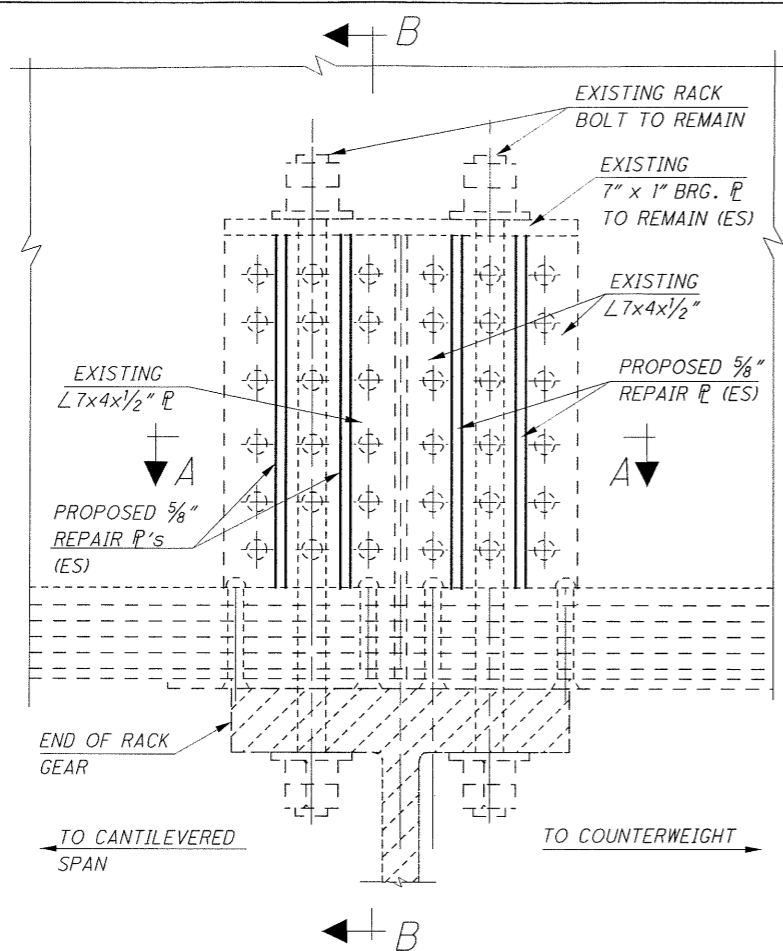


SECTION D-D

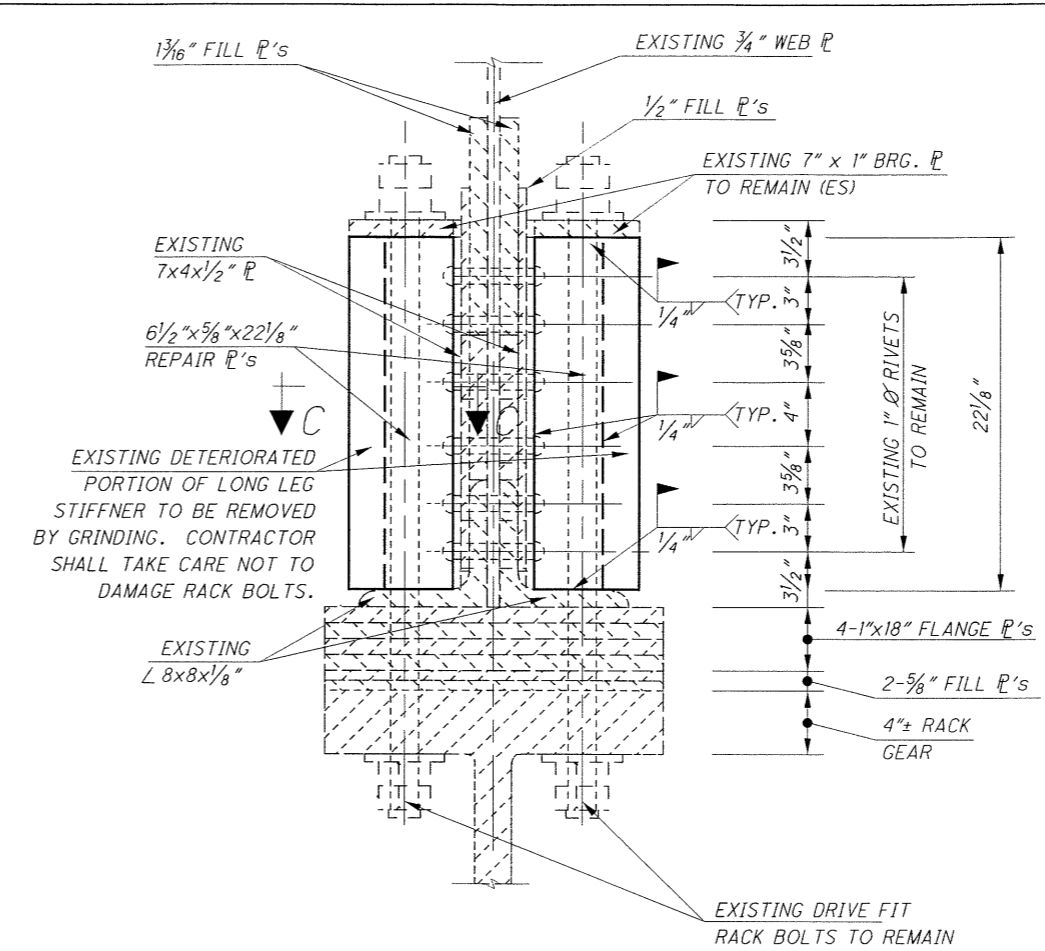
GRATING DETAILS
 ALL GRATING SHALL BE GALVANIZED AS PER 711.02
 THE CORNERS OF ALL GRATING PANELS SHALL BE FIXED BY WELDMENT. WELDMENTS SHALL BE REPAIRED WITH ZINC RICH PAINT CONFORMING TO THE AASHTO M-300 SPECIFICATION.

REPAIR TYPE III
 (REMOVE AND REPLACE CATWALK STEEL GRATING AT CENTERLOCKS)

DESIGNED	JTB	CHECKED	DATE	03-01-13	STRUCTURE FILE NUMBER	4805917
DRAWN	JML	REVIEWED	REVIEWED	JML	OHIO DEPARTMENT OF TRANSPORTATION	DISTRICT No. 2
DESIGNED	JTB	CHECKED	DATE	03-01-13	STRUCTURE FILE NUMBER	4805917
DRAWN	JML	REVIEWED	REVIEWED	JML	OHIO DEPARTMENT OF TRANSPORTATION	DISTRICT No. 2
REPAIR DETAILS - BASCULE SPAN						
BRIDGE NO. LUC-65-0535						
OVER MAUMEE RIVER						
LUC-65-05.35						
PID No. 80556						
22						
53						

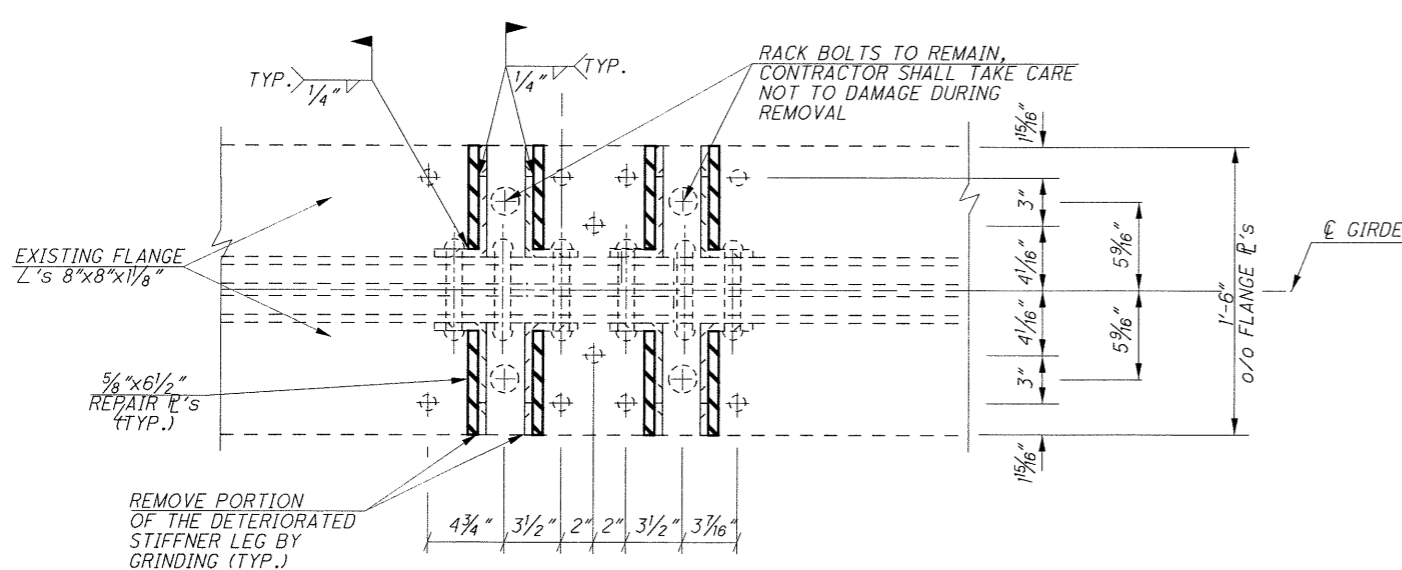


ELEVATION

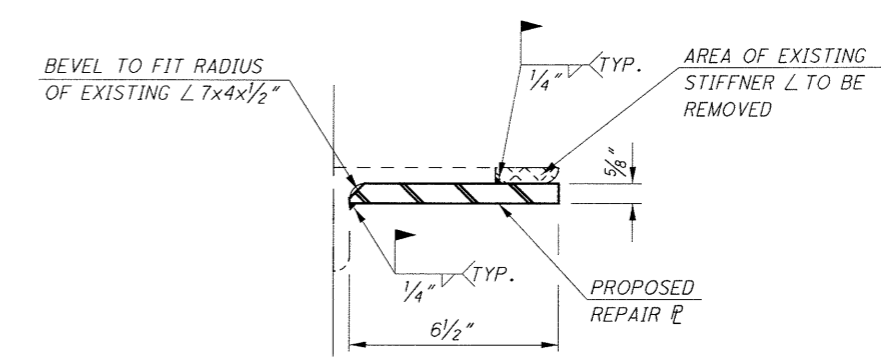


SECTION B-B

NOTE:
THE CONTRACTOR SHALL PROVIDE TEMPORARY BLOCKING OR REMOVE THE TENSION ON THE RACK BOLTS PRIOR TO THE REMOVAL OF DETERIORATED SECTIONS AND REPAIR OF STIFFNERS.



SECTION A-A

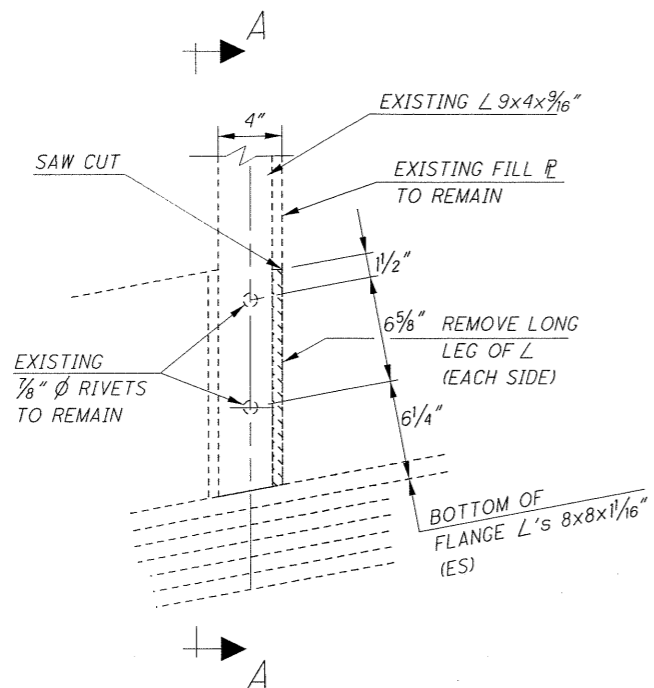


DETAIL C-C

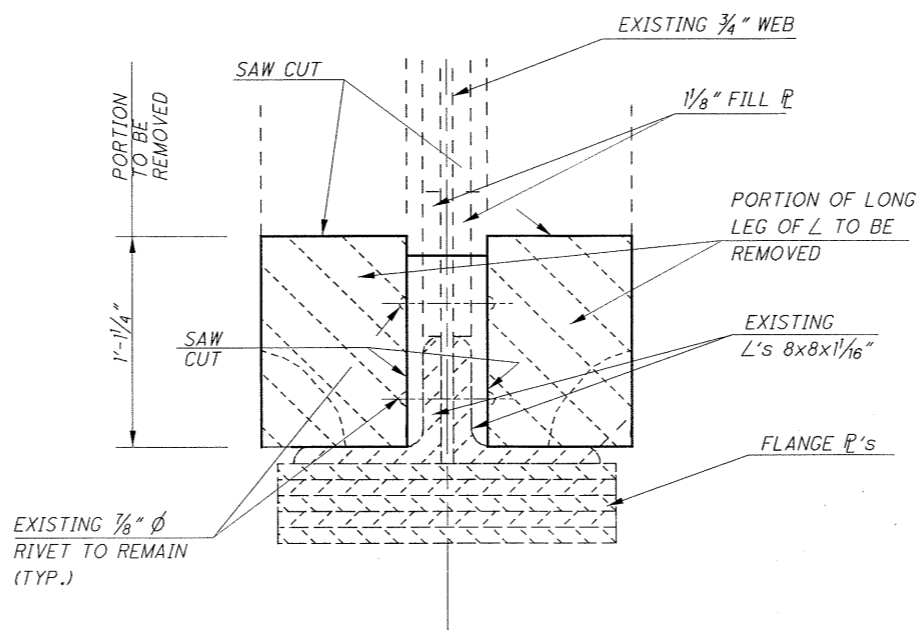
REPAIR TYPE 114
(REPAIR OF BEARING RACK STIFFNERS)
(4 LOCATIONS REQUIRED)

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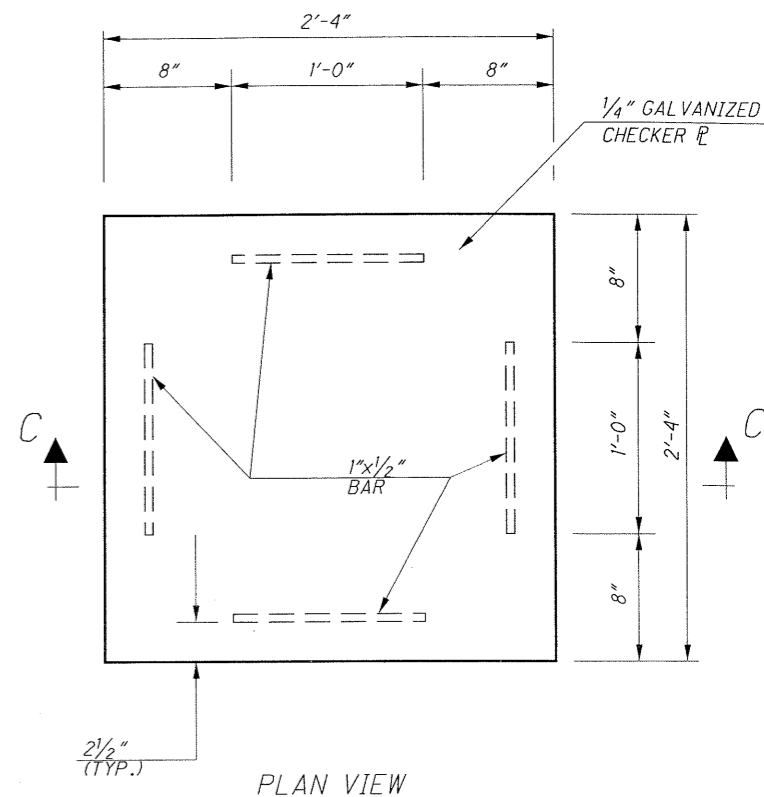
DESIGNED JTB CHECKED	DRAWN JML REVISED	REVIEWED JML STRUCTURE FILE NUMBER 4605917	DATE 03-01-13	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 PRODUCTION DEPARTMENT
REPAIR DETAILS - BASCULE SPAN				
BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER				
LUC-65-05.35 PID No. 80556				
23 53				



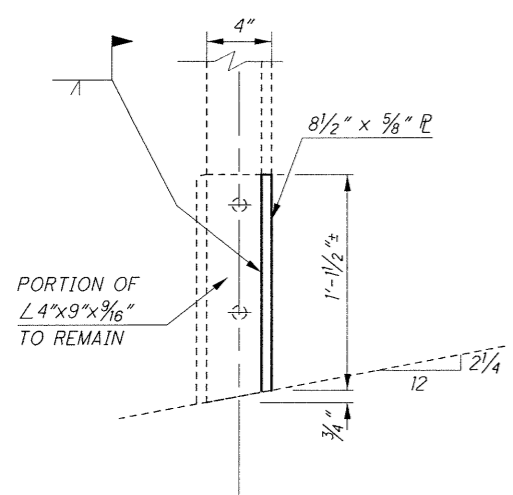
REPAIR TYPE 115
GIRDER STIFFNER
REMOVAL



SECTION A-A



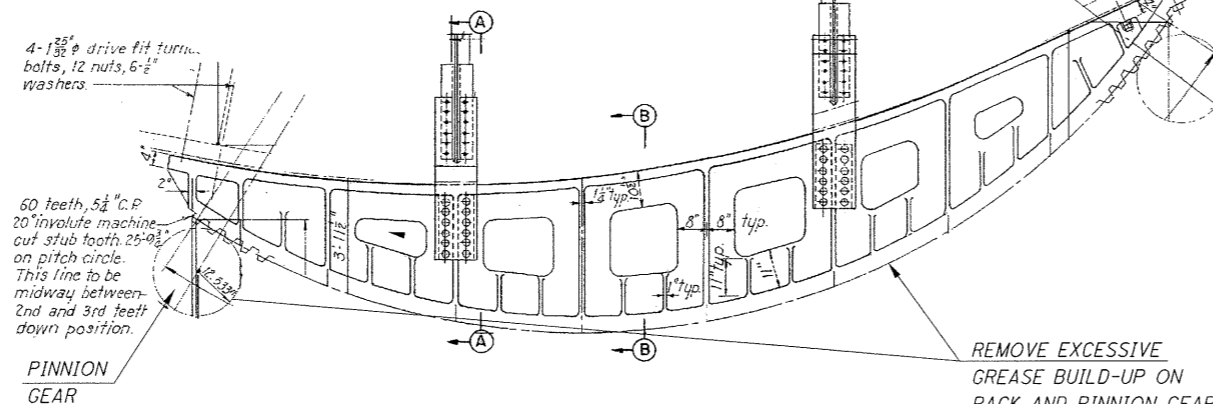
PLAN VIEW



REPAIR TYPE 115
GIRDER STIFFNER
(NEAR SIDE SHOWN, FAR SIDE
OPPOSITE HAND)

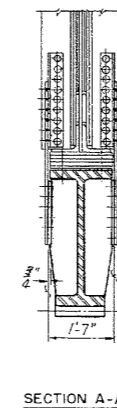
4-1 3/8" drive fit turn... bolts, 12 nuts, 6-1/2" washers.

60 teeth, 5 1/2" C.P. 20° involute machine cut stub tooth, 25-0° on pitch circle. This line to be midway between 2nd and 3rd teeth down position.
PINNION GEAR

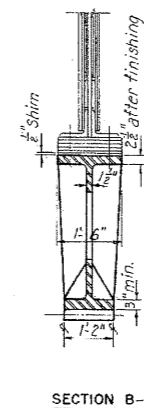


REPAIR TYPE 125
CLEAN RACK AND PINNION GEARS
(4 LOCATIONS REQUIRED)

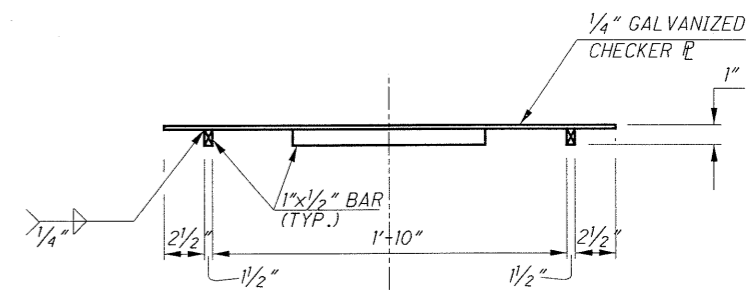
REMOVE EXCESSIVE GREASE BUILD-UP ON RACK AND PINNION GEAR. APPLY NEW LUBRICANT



SECTION A-A



SECTION B-B

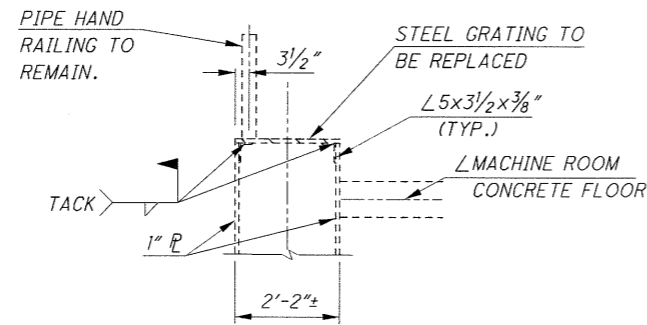
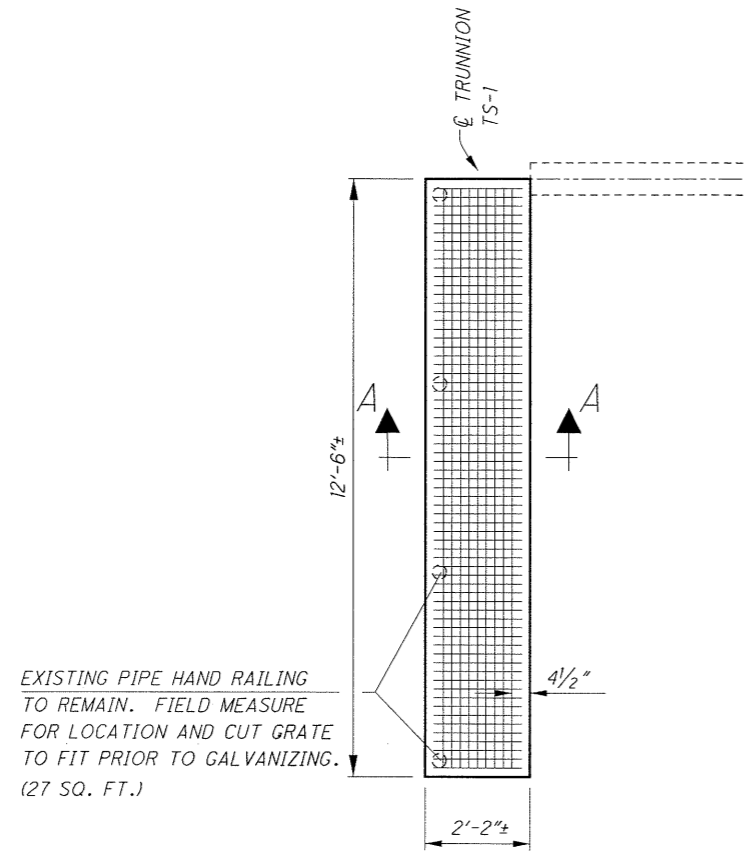


SECTION C-C
REPAIR TYPE 119
(REPLACEMENT SUMP PUMP COVER PLATE,
GALVANIZE ASSEMBLY AS PER 711.02
AFTER WELDMENTS)
(2 LOCATIONS REQUIRED)

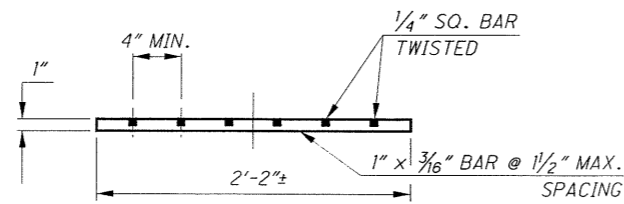
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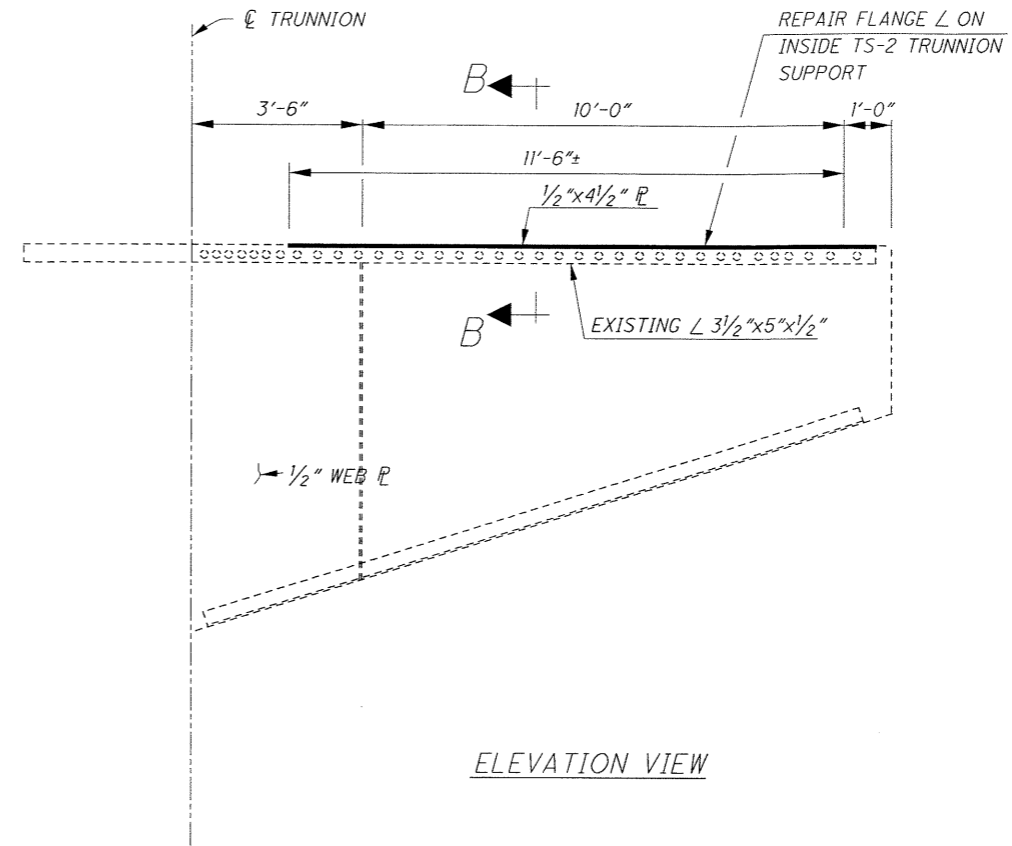
SECTION A-A



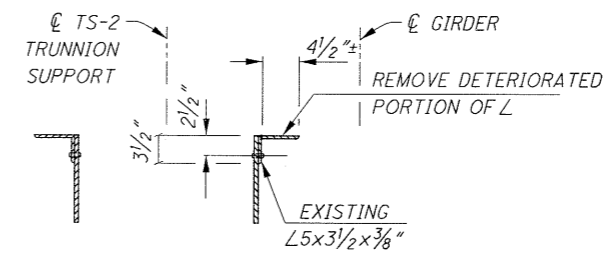
GRATE DETAIL

ALL GRATING SHALL BE GALVANIZED AS PER 711.02

REPAIR TYPE 116
(TRUNION MACHINE ROOM GRATING REPLACEMENT)
(4 LOCATIONS REQUIRED)

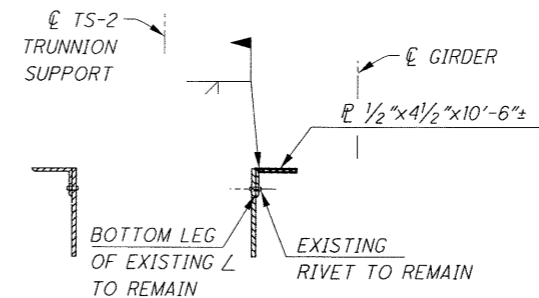


ELEVATION VIEW



SECTION B-B

REPAIR TYPE 117
(REMOVAL)



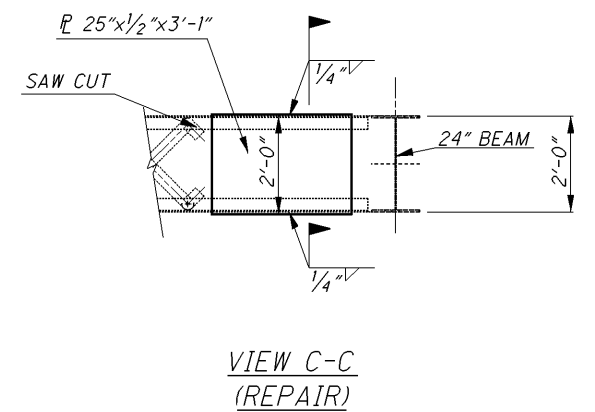
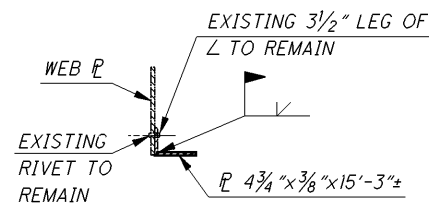
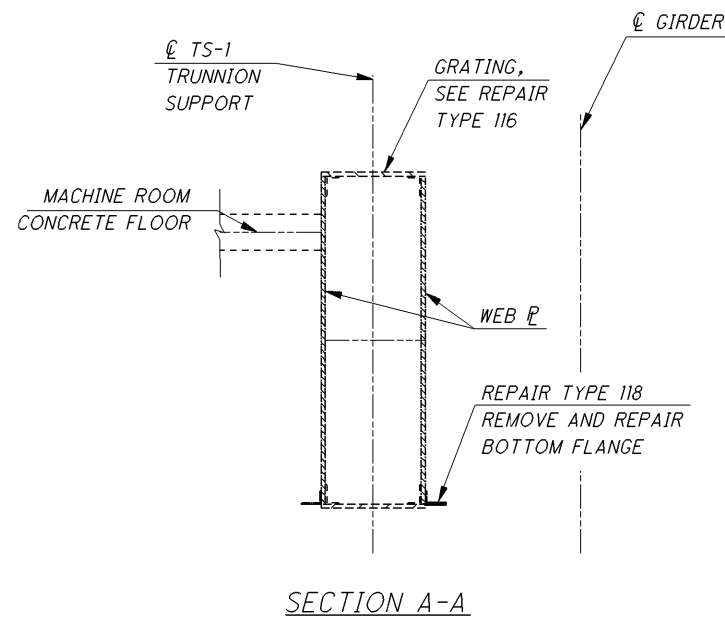
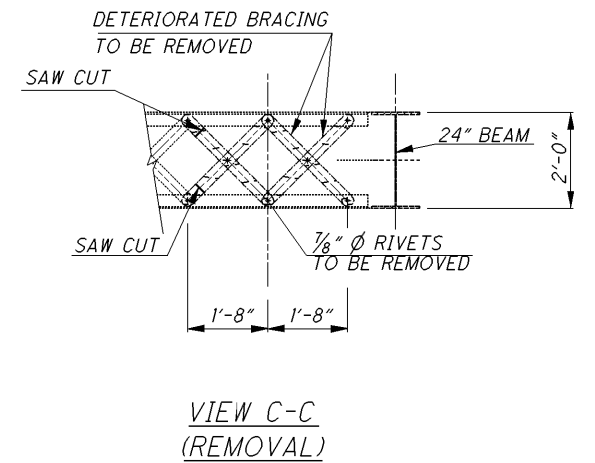
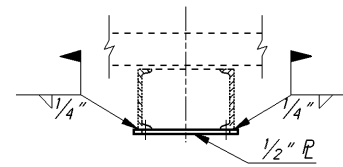
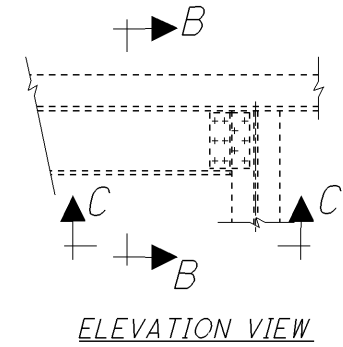
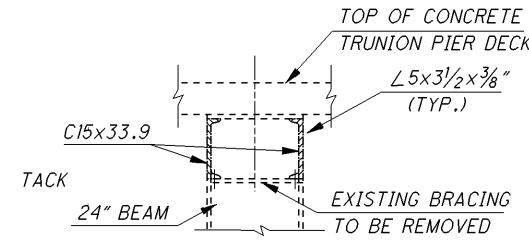
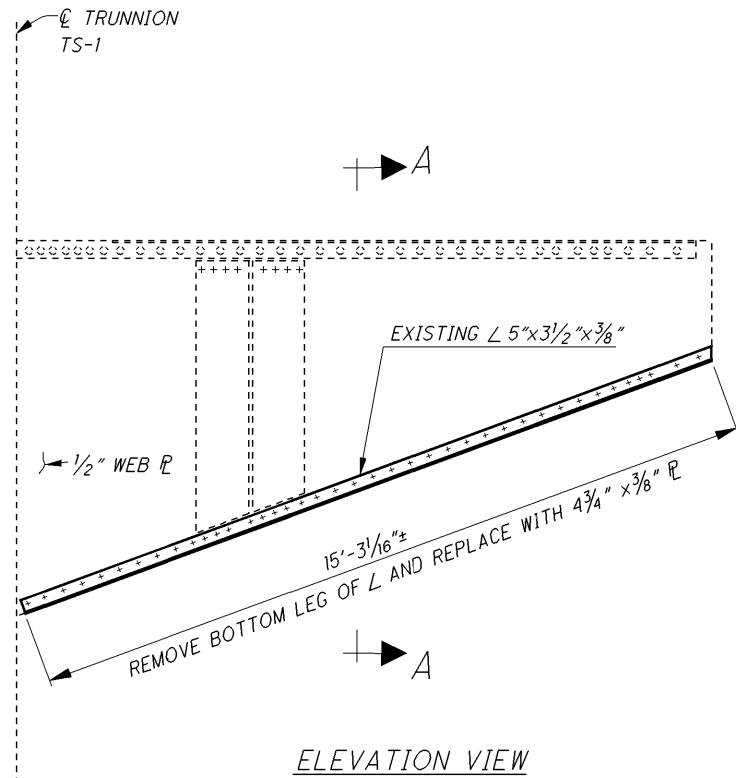
REPAIR TYPE 117

TOP FLANGE REPAIR OF TRUNNION SUPPORT TS-2

(1 LOCATION REQUIRED)



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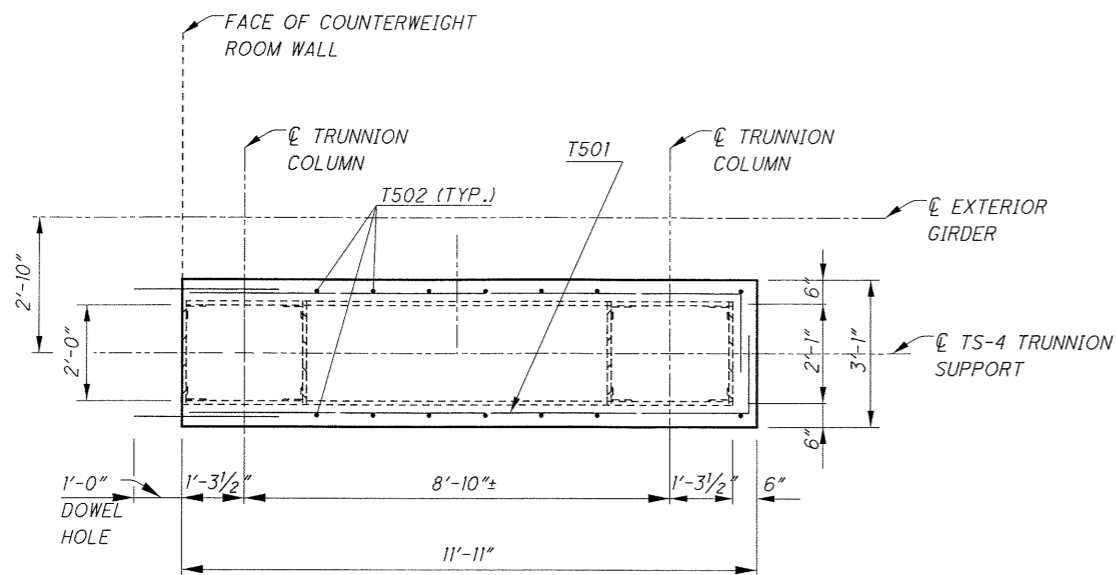


REPAIR TYPE 118
 REMOVE AND REPLACE BOTTOM FLANGE ON TRUNNION SUPPORT TS-1 UNDER MACHINE ROOM FLOOR
 (4 LOCATIONS REQUIRED)

REPAIR TYPE 120
 UPPER DIAGONAL BRACING REPAIR ON TRUNNION SUPPORTS
 (1 LOCATION REQUIRED)



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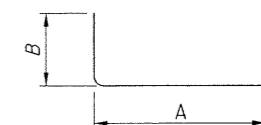


NOTE:
 THE EXISTING COUNTERWEIGHT ROOM FLOOR WITHIN THE LIMITS OF THE TS-4 ENCASUREMENT SHALL BE SCARIFIED 1/4" INTO SOUND CONCRETE. THE SURFACE SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIALS BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS THE CONCRETE IS PLACED. PAYMENT SHALL BE INCIDENTAL TO ITEM 511.

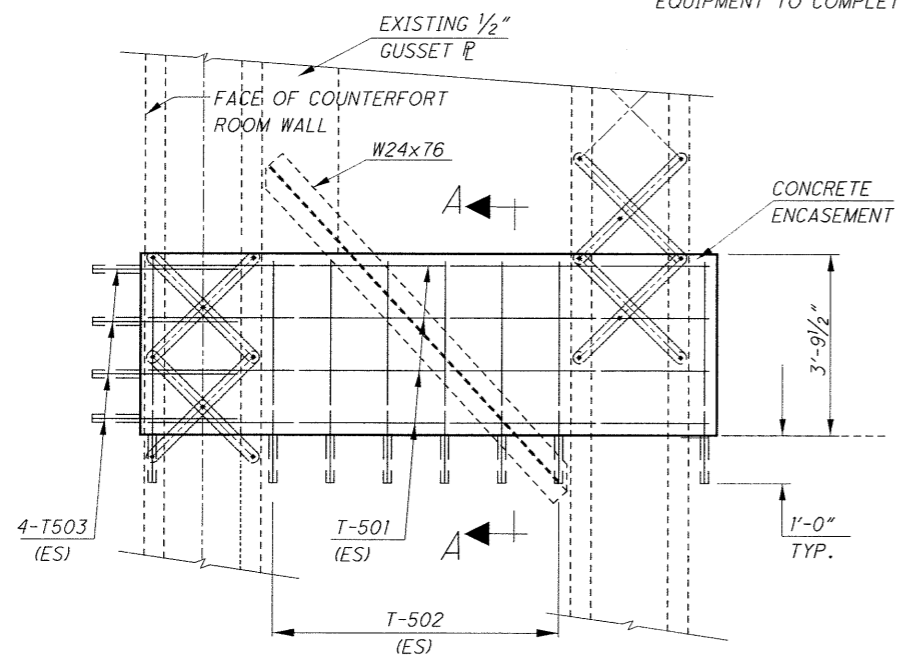
PAYMENT FOR REPAIR TYPE 121 WILL BE MADE AT THE BID PRICE FOR ITEMS 509, 510, & 511. PAYMENT FOR EACH ITEM OF WORK SHALL INCLUDE ALL LABOR AND EQUIPMENT TO COMPLETE REPAIR TYPE 121.

MARK	NUMBER	LENGTH	SHAPE	WEIGHT (LBS.)
REINFORCEMENT SCHEDULE				
T501	8	13'-4"	BENT	112
T502	14	6'-9"	BENT	99
T503	8	3'-0"	STR	25
T504	1	3'-9"	STR	4
		TOTAL	STR	240

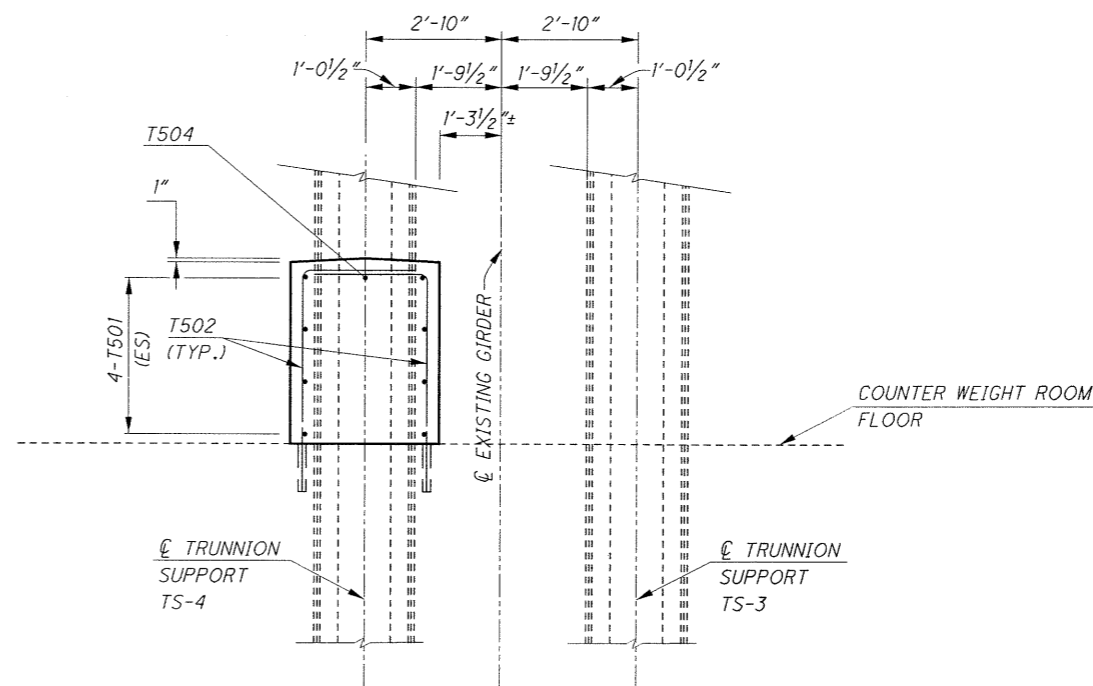
ITEM 510, 24 DOWEL HOLES
 ITEM 511, 5.2 CU. YDS.



BENDING DIAGRAM		
MARK	A	B
T501	11'-2"	2'-4"
T502	4'-7"	2'-4"



ELEVATION VIEW



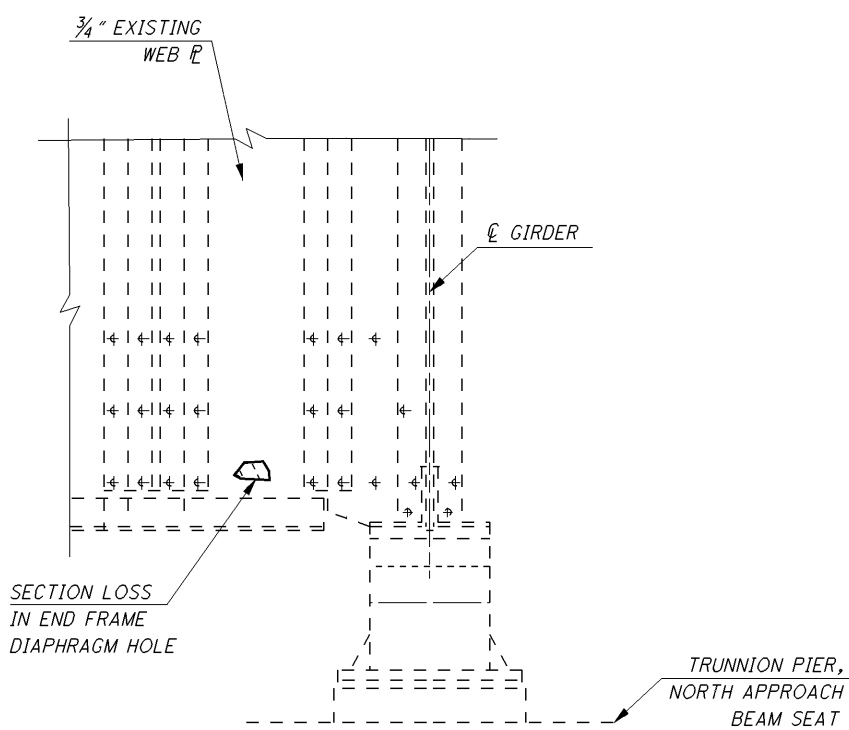
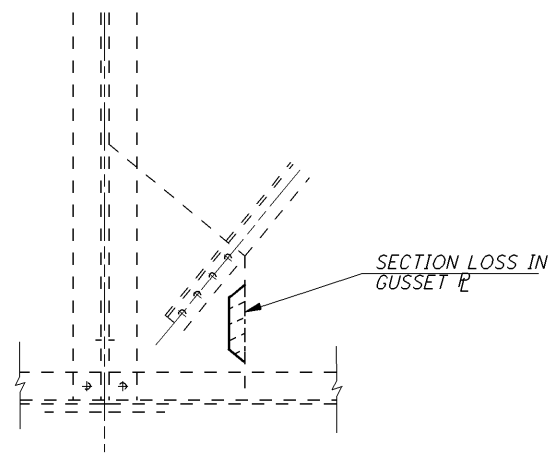
SECTION A-A

**REPAIR TYPE 121
 ENCASUREMENT OF TRUNNION TS-4
 ON COUNTERWEIGHT ROOM FLOOR**

(4 LOCATIONS REQUIRED)

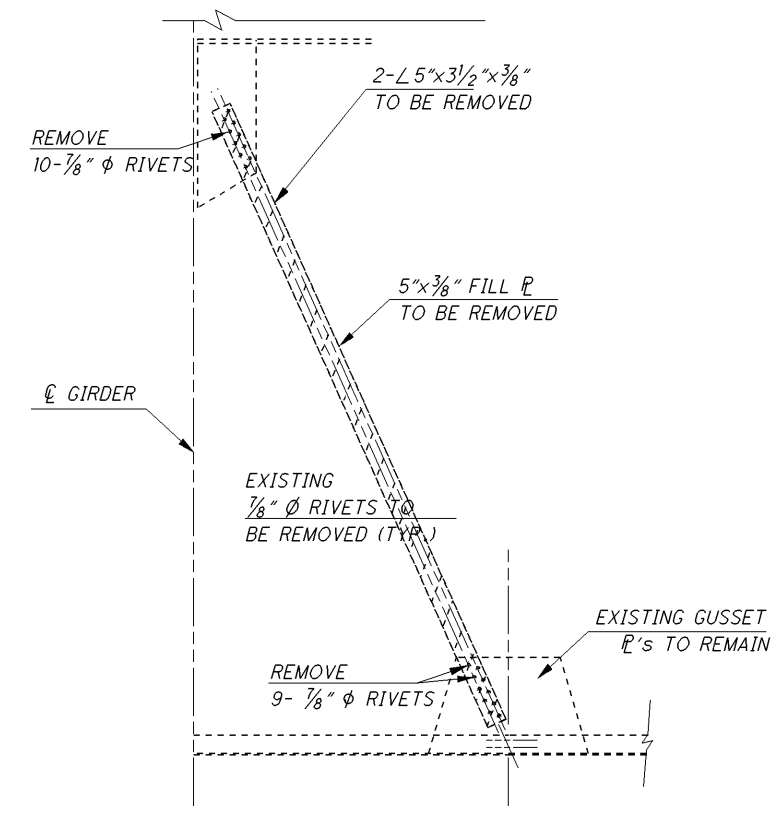


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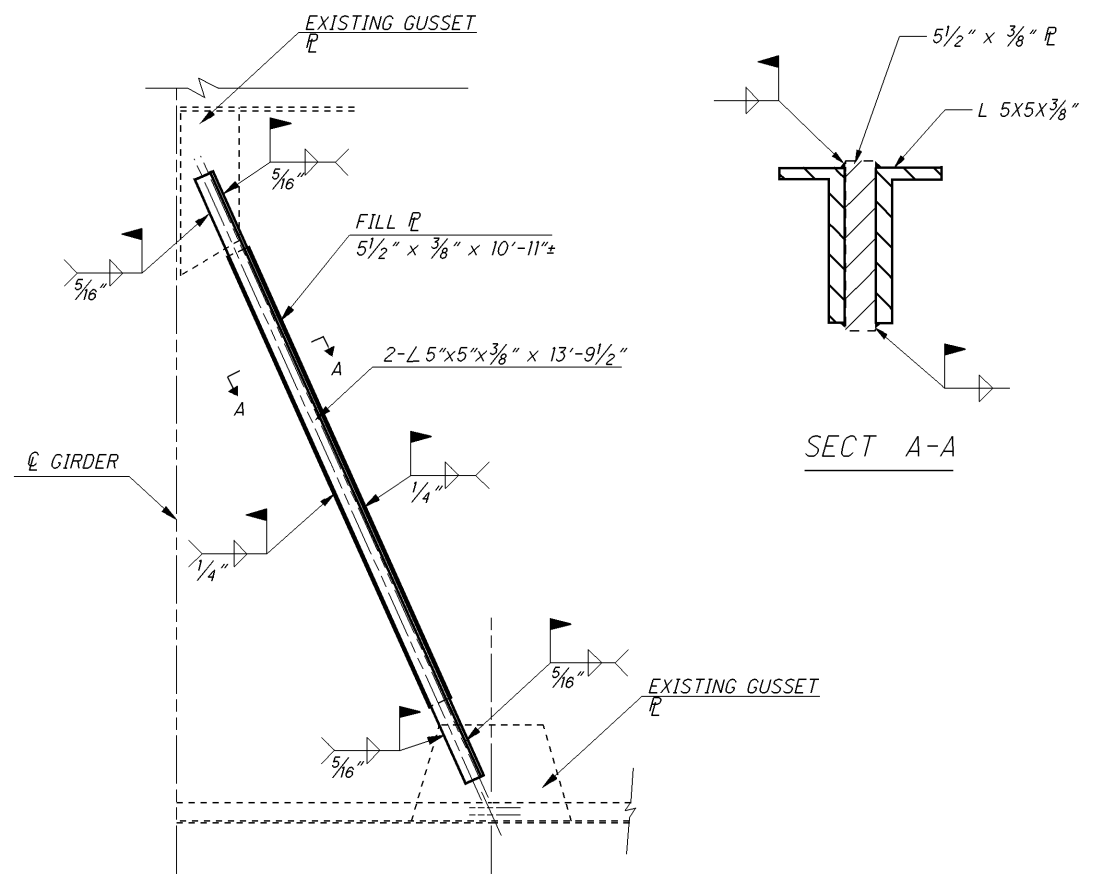


REPAIR TYPE 122

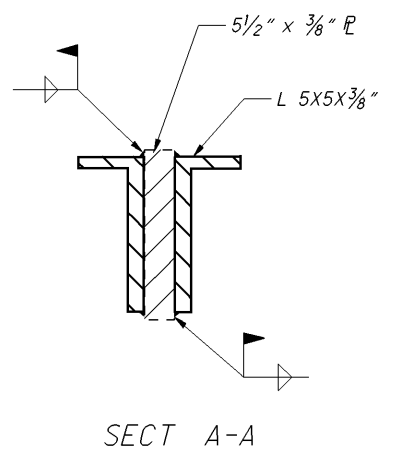
GRIND OUT SECTION LOSS HOLES IN BEAM WEBS AND GUSSET PLATE. PROVIDE 2" MINIMUM RADIUS. PAYMENT IS TO BE MADE AS PER EACH LOCATION AS DETERMINED BY THE ENGINEER.



REPAIR TYPE 123
(REMOVAL)

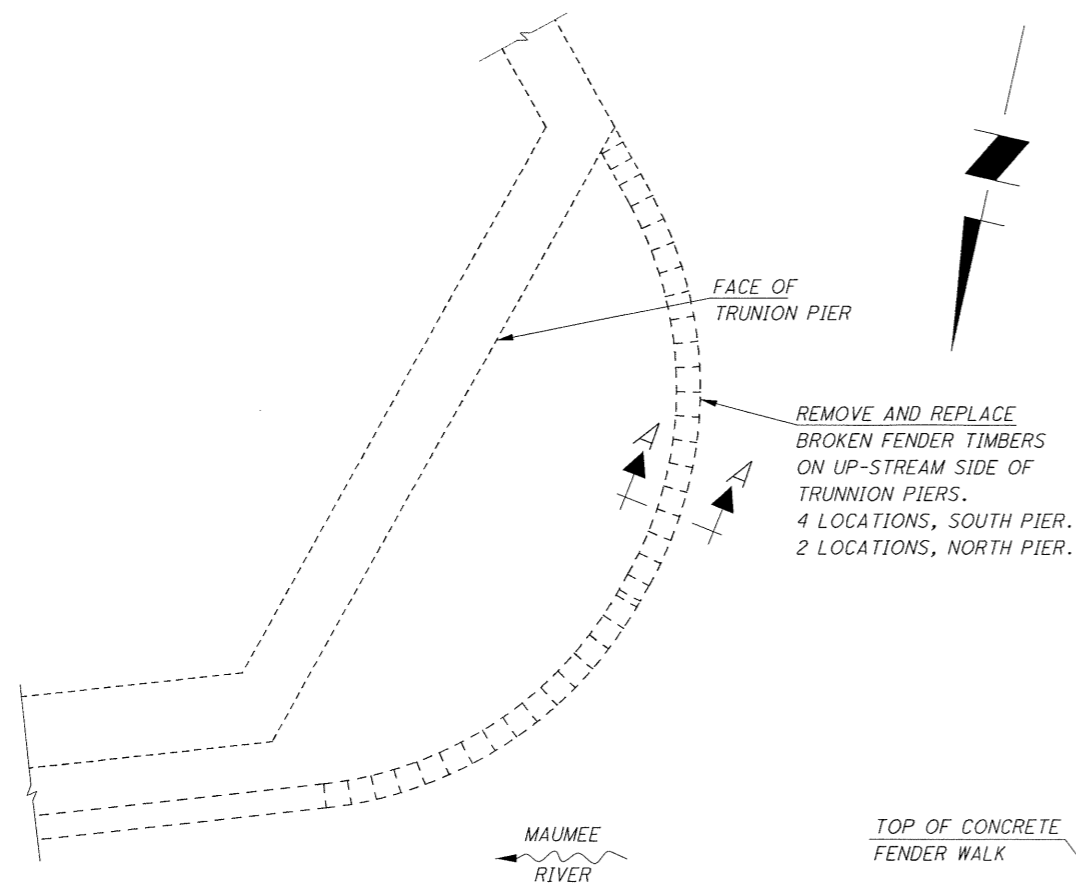


REPAIR TYPE 123
REMOVAL AND REPLACEMENT OF DIAGONAL
END FRAME STRUT

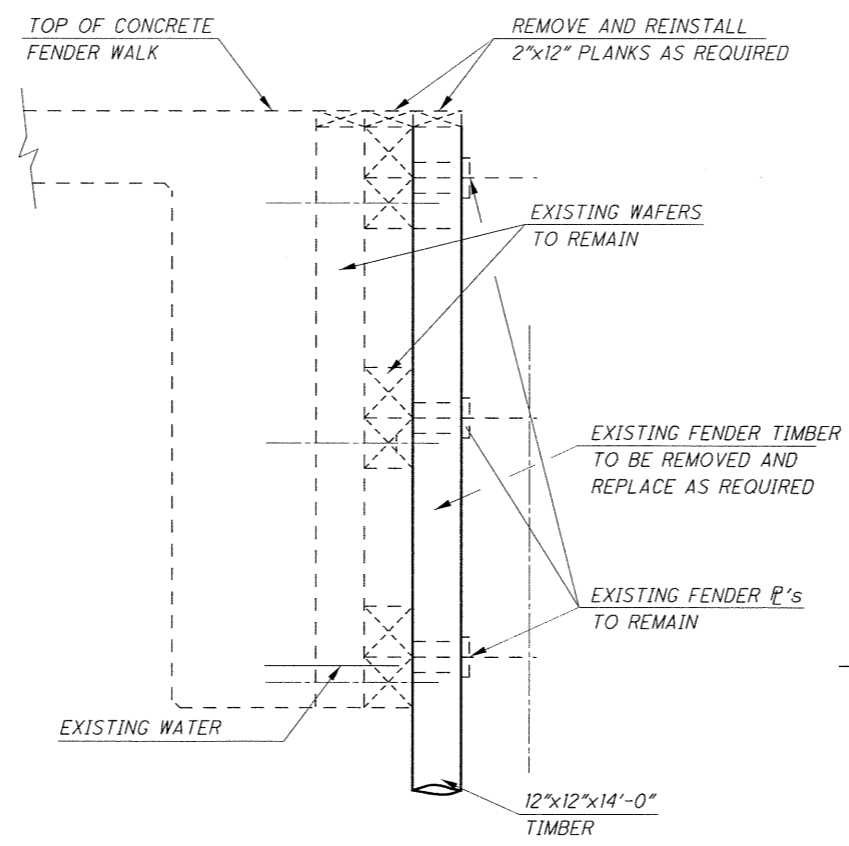
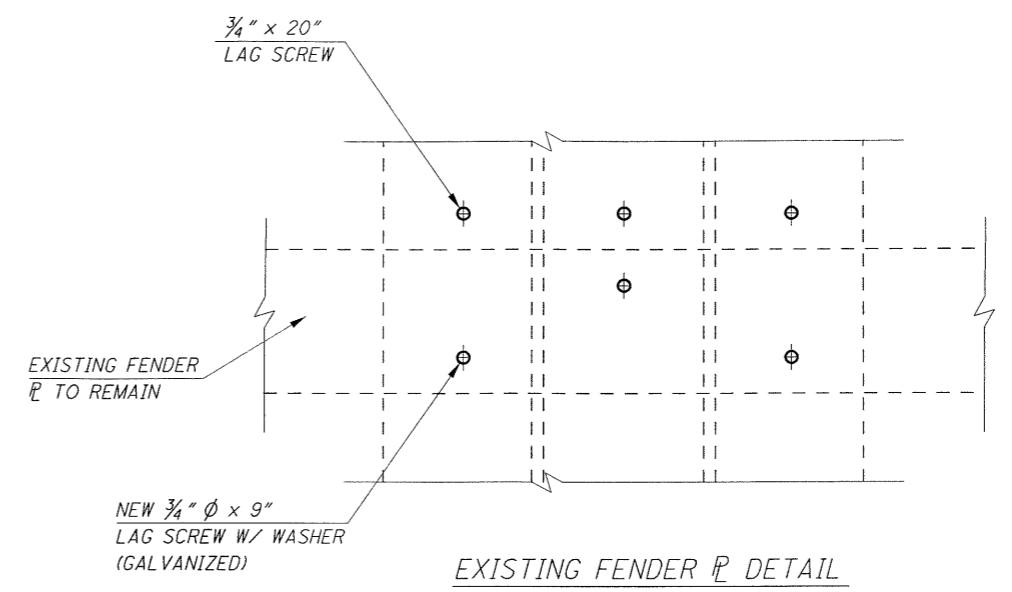


DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 PRODUCTION DEPARTMENT	
DATE 03-01-13	STRUCTURE FILE NUMBER 4805917
REVIEWED JML	DRAWN JML
DESIGNED JTB	CHECKED JTB
REPAIR DETAILS - BASCULE SPAN BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER	
LUC-65-05.35 PID No. 80556	
28 53	

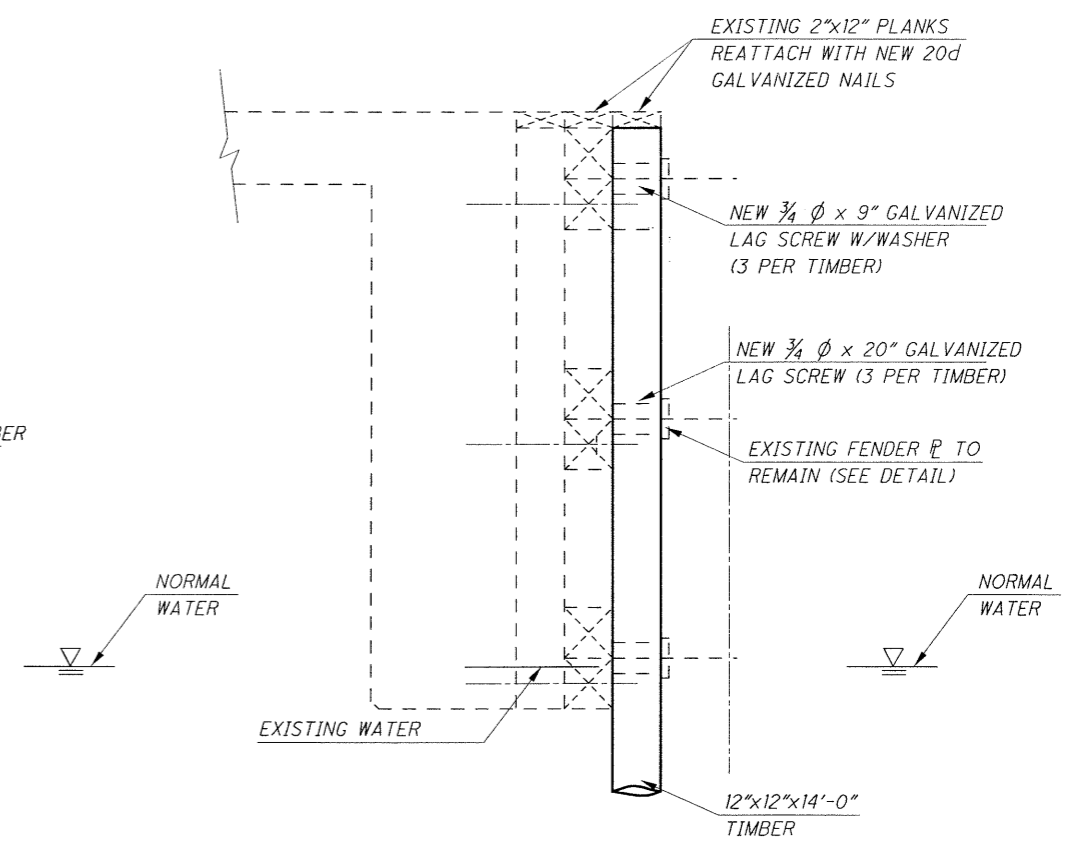
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PLAN
SOUTH PIER SHOWN, NORTH PIER OPPOSITE HAND



SECTION A-A
TIMBER REMOVAL DETAIL

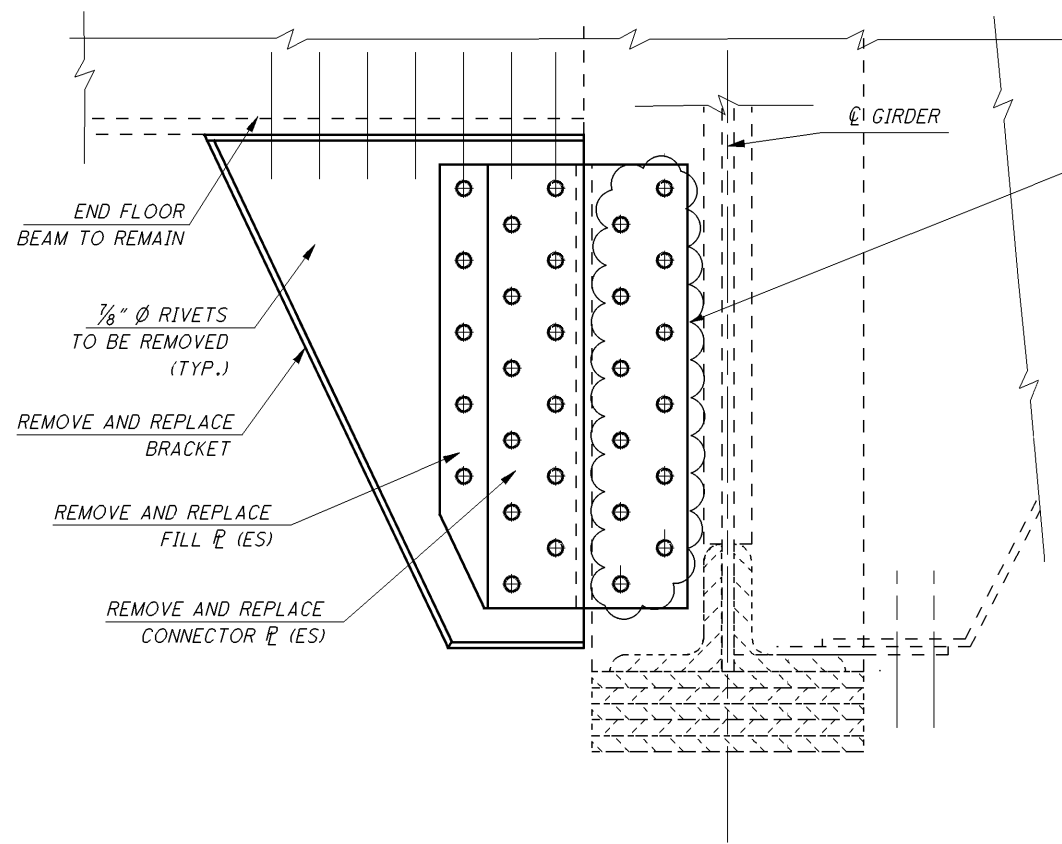


SECTION A-A
NEW TIMBER INSTALLATION

REPAIR TYPE 124 FENDER WALL
TIMBER REPLACEMENT

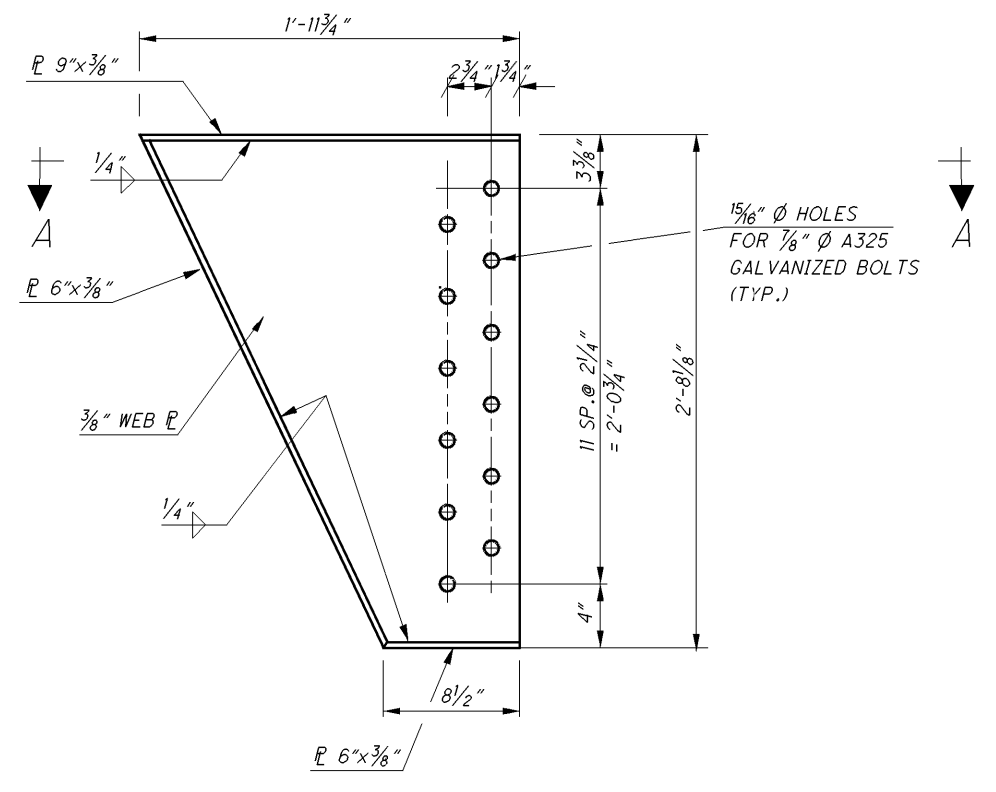
DESIGNED JTB CHECKED		DATE 03-01-13	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 PRODUCTION DEPARTMENT
REVIEWED JML	STRUCTURE FILE NUMBER 4809917	DATE 03-01-13	
DRAWN JML	REVISED		
REPAIR DETAILS BASQUE SPAN BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER		LUC-65-05.35 PID No. 80556	
		29 53	

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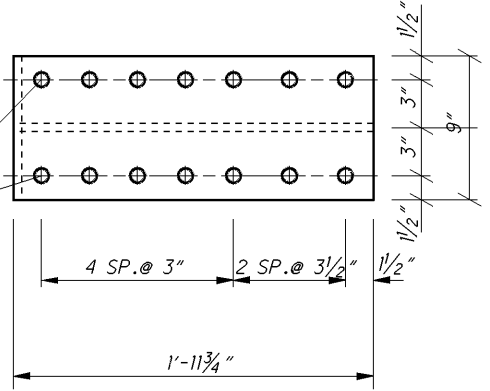


ELEVATION

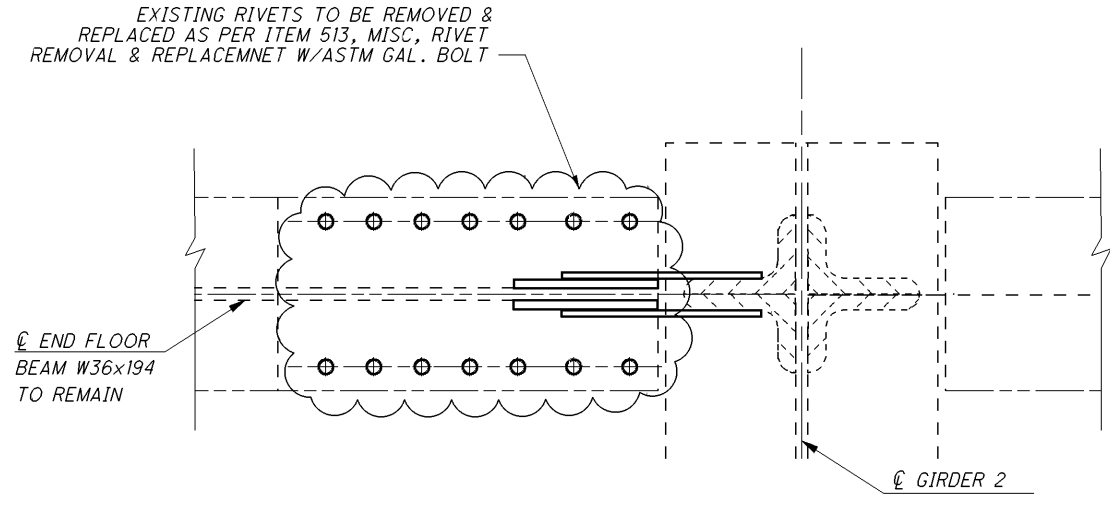
EXISTING RIVETS TO BE REMOVED & REPLACED AS PER ITEM 513, MISC, RIVET REMOVAL & REPLACEMENT W/ GALVANIZED BOLT, AS PER PLAN



ELEVATION (DIMENSIONS)

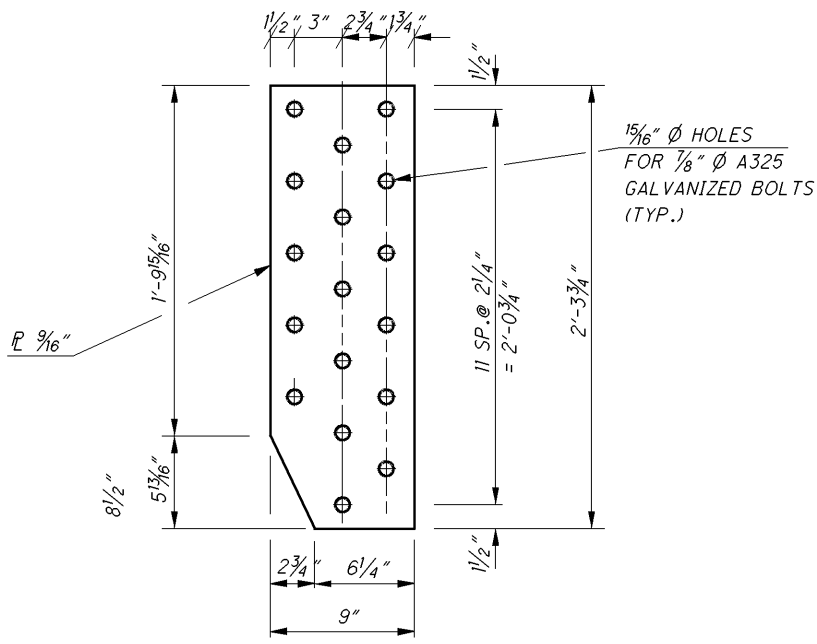


PLAN (VIEW A-A) BRACKET DETAIL

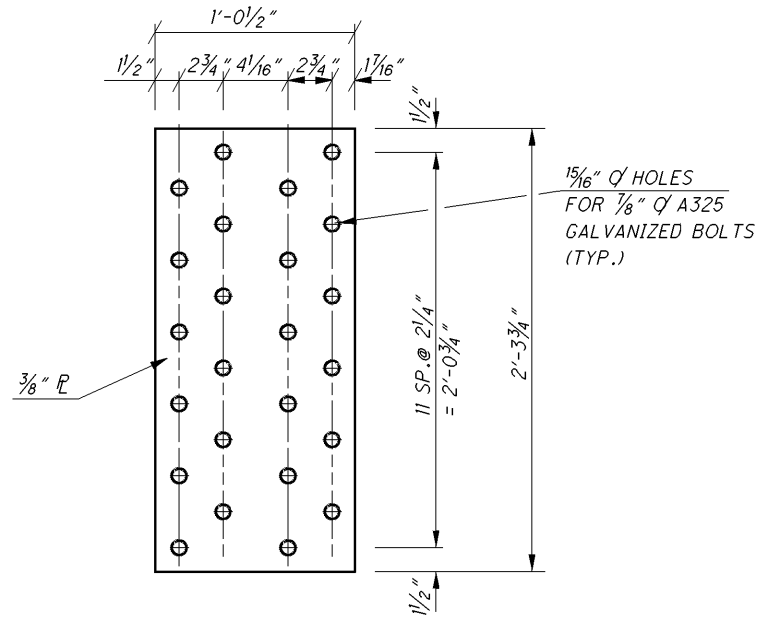


PLAN

REPAIR TYPE 203 (REMOVE AND REPLACE END FLOOR BEAM BRACKET) (ONE LOCATION REQUIRED)



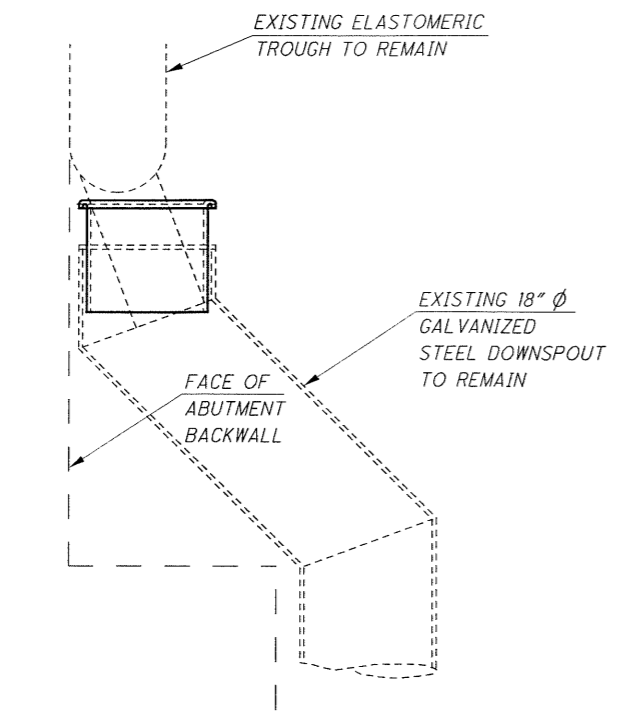
PLAN FILL PLATE DETAIL (2 REQUIRED)



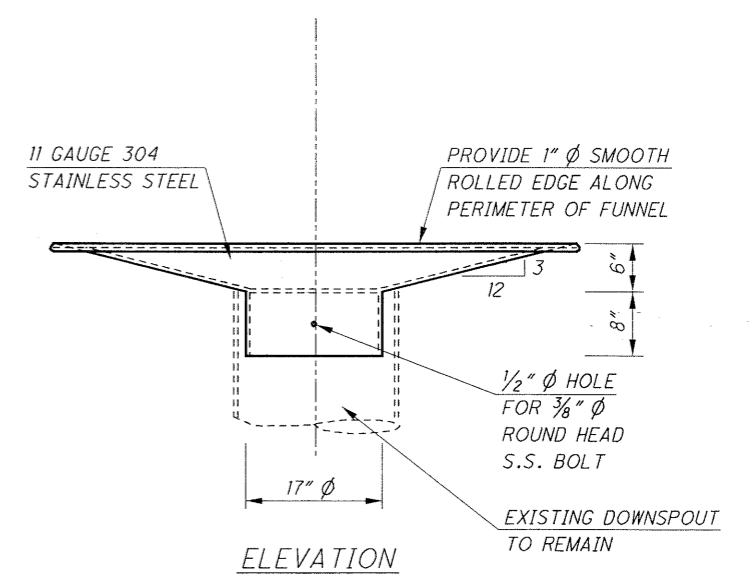
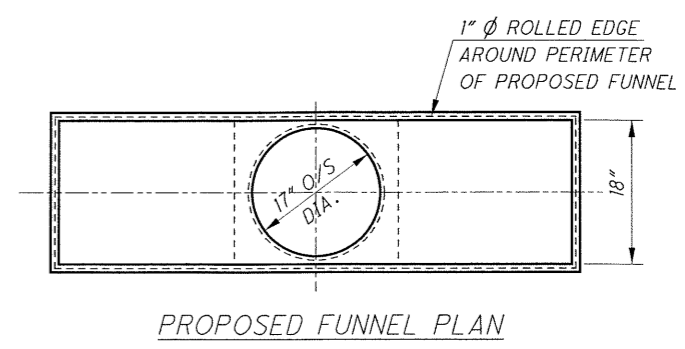
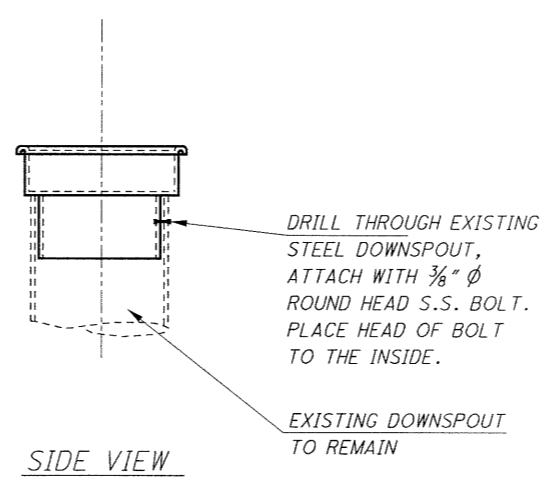
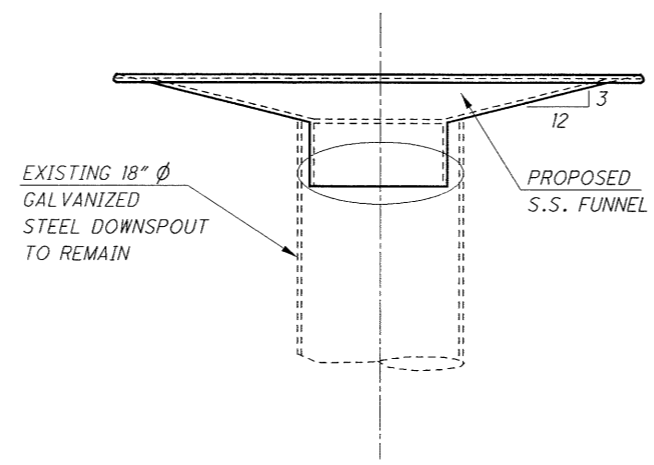
CONNECTOR PLATE DETAIL (2 REQUIRED)

DESIGNED	JTB	CHECKED	DATE	03-01-13	STRUCTURE FILE NUMBER	4805917
DRAWN	JML	REVISED	REVIEWED	JML	OHIO DEPARTMENT OF TRANSPORTATION	DISTRICT NO. 2
<p>REPAIR DETAILS - UNIT 1</p> <p>BRIDGE NO. LUC-65-0535</p> <p>OVER MAUMEE RIVER</p>						
<p>LUC-65-05.35</p> <p>PID No. 80556</p>						
<p>31</p> <p>53</p>						

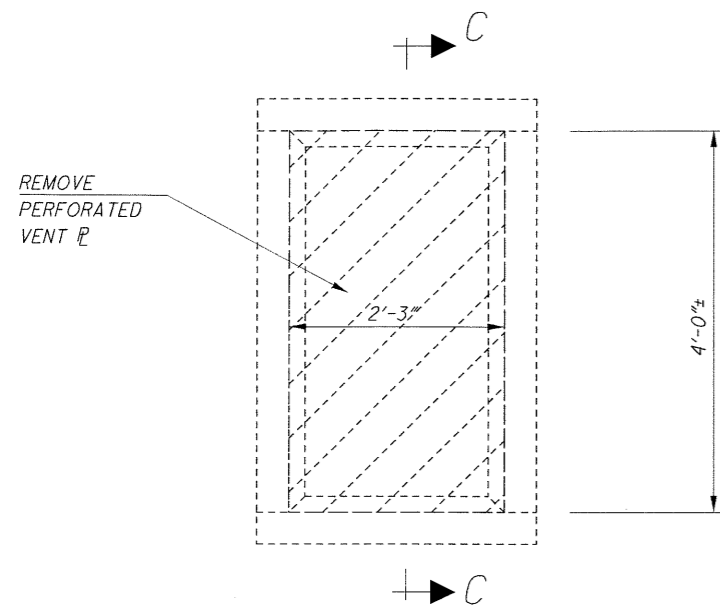
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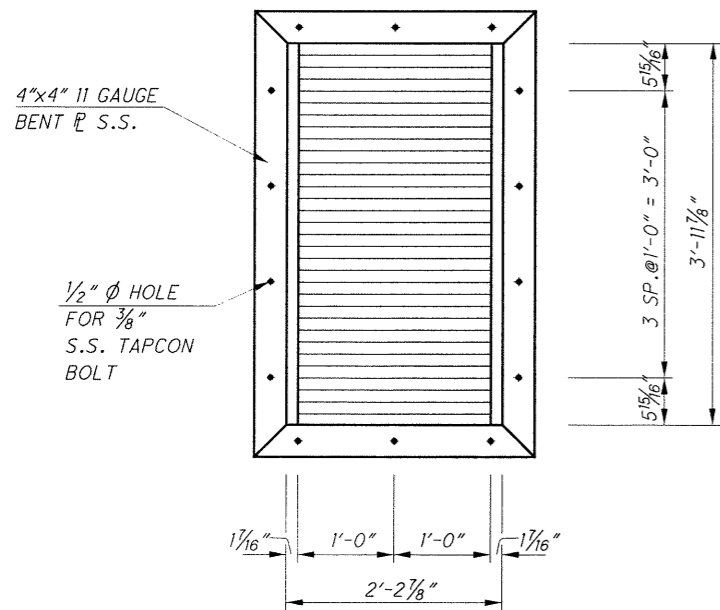
REPAIR TYPE 204
 (PLACE FUNNEL IN EXISTING DOWNSPOUTS)
 (3 LOCATIONS REQUIRED)



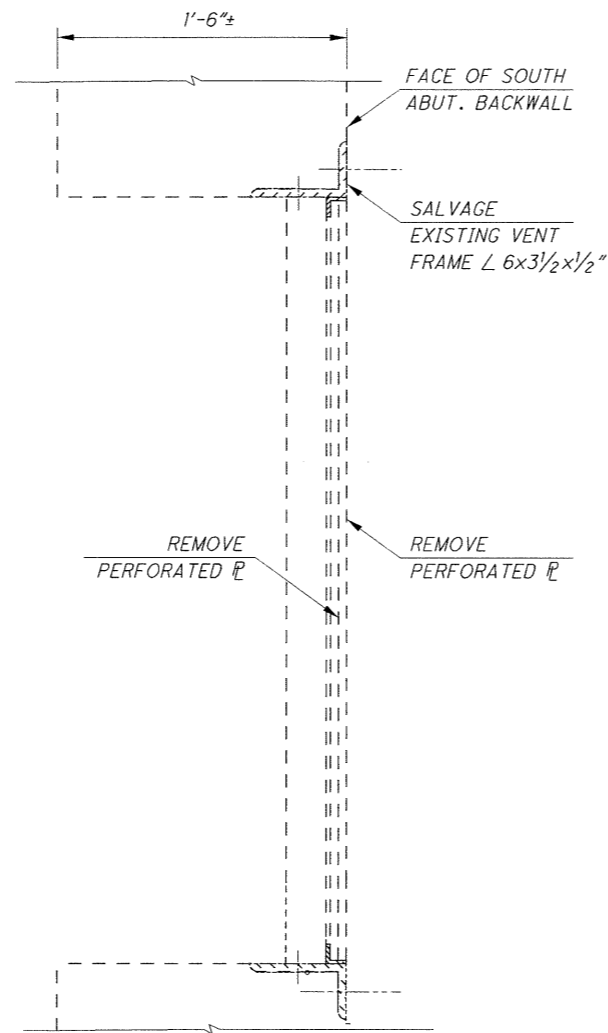
I:\projects\LUC\80556\structures\LUC065_sheets\65_0535SD028.dgn 11-MAR-2013 10:44 AM jlobuzin



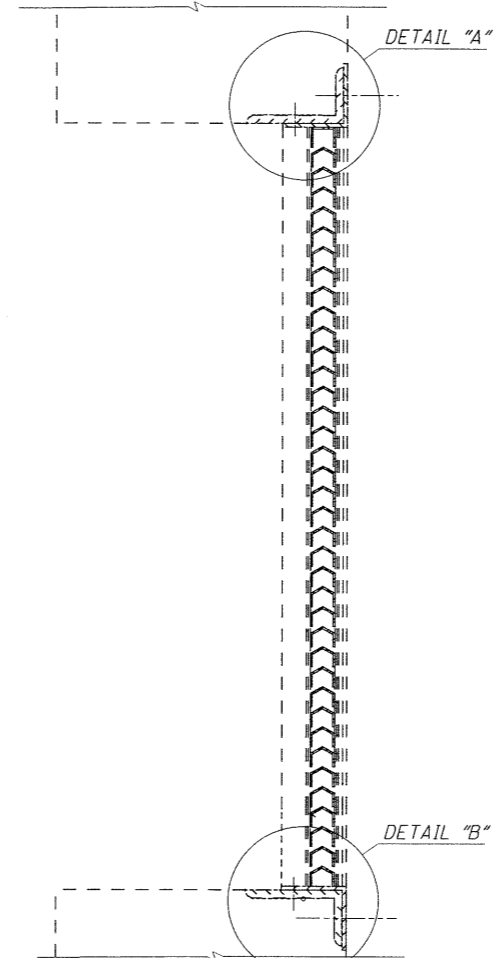
EXISTING VENT (TO BE REMOVED)



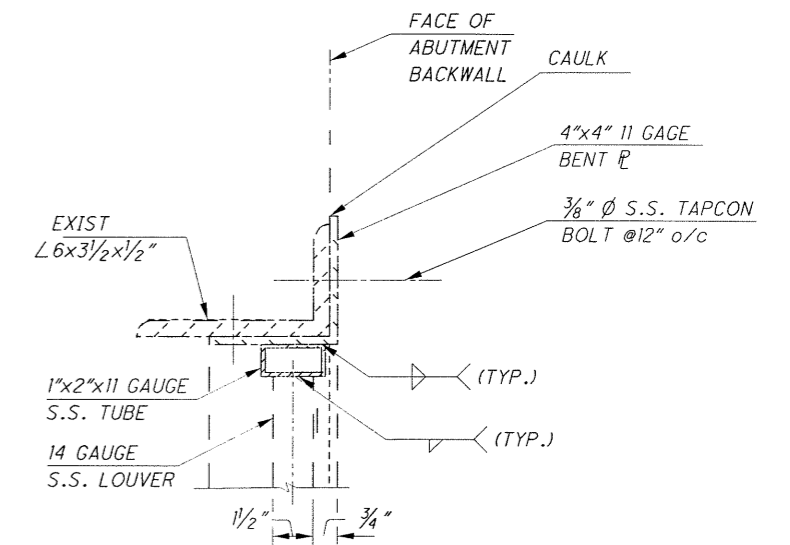
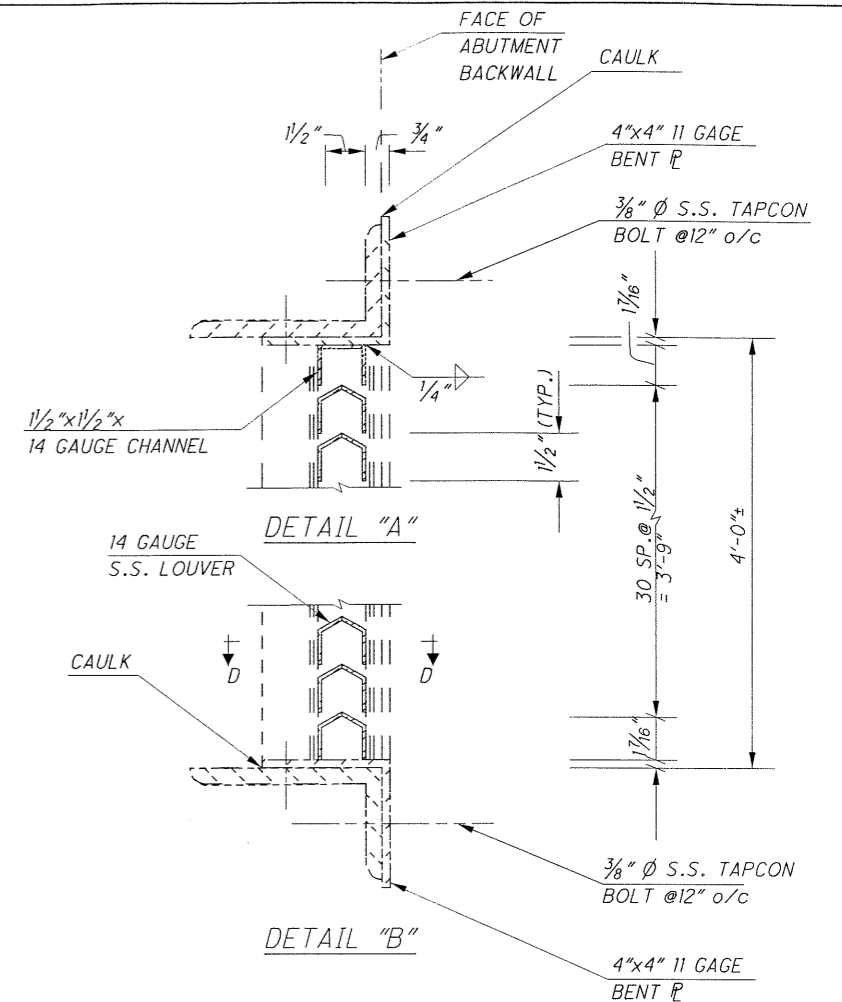
PROPOSED LOUVER
(4 LOCATIONS REQUIRED)



SECTION "C-C" (EXISTING)



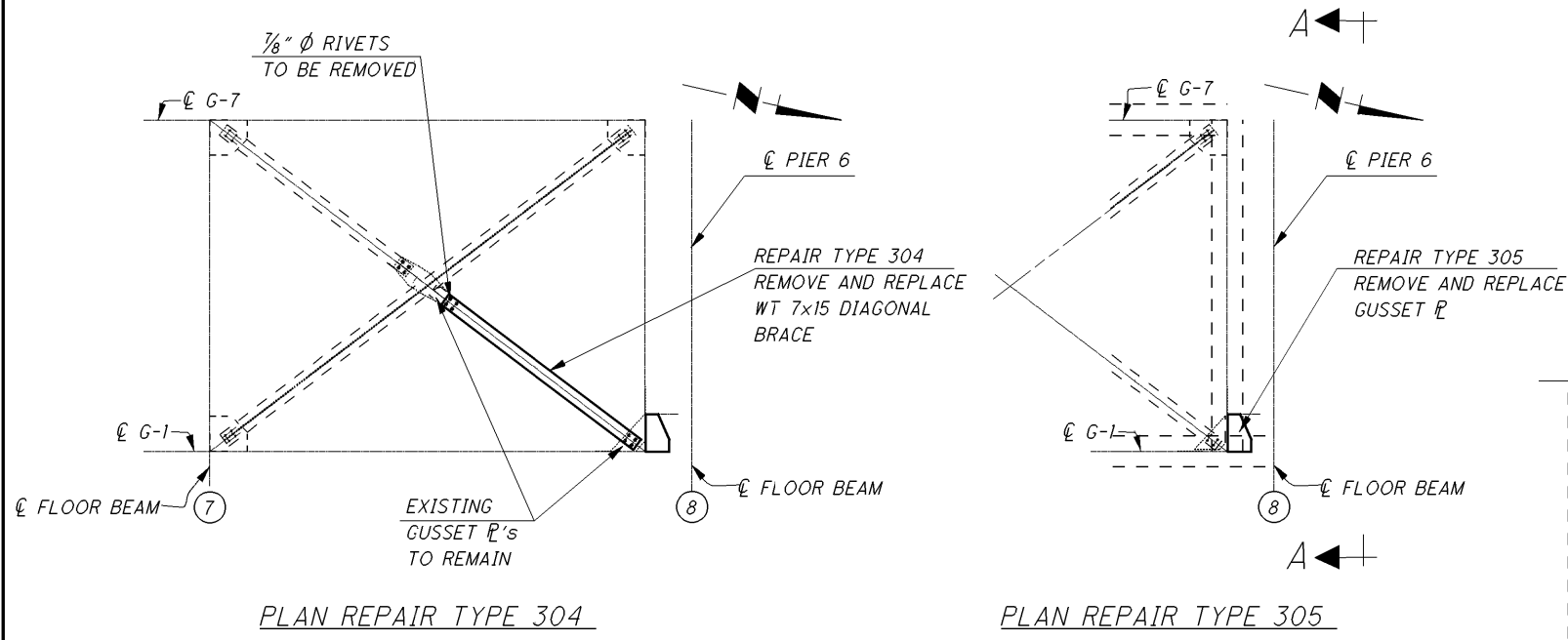
SECTION "C-C" (PROPOSED)



SECTION "D-D"

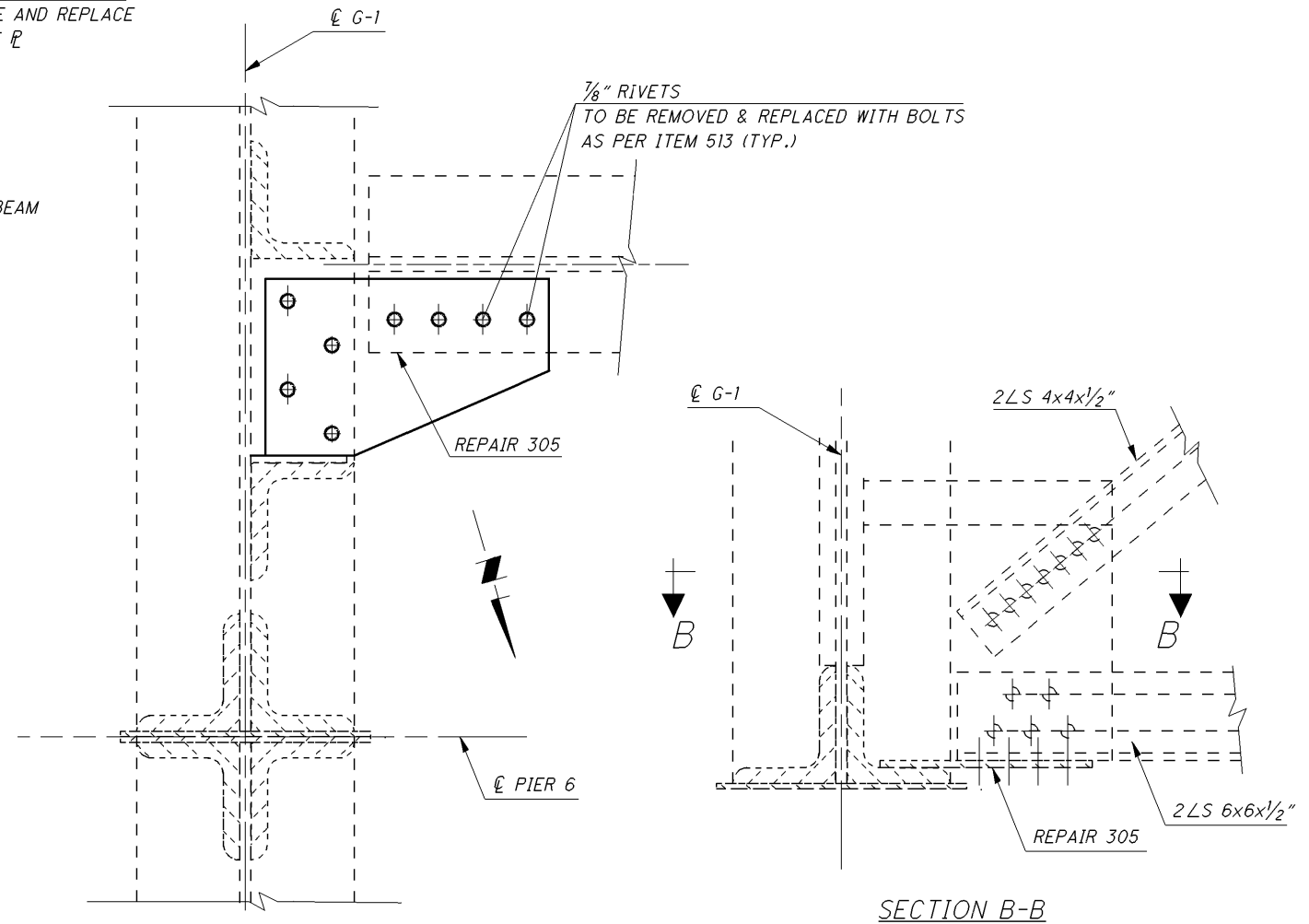
DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 PRODUCTION DEPARTMENT	
DATE 03-01-13	REVIEWED JML
STRUCTURE FILE NUMBER 4805917	DRAWN JML
DESIGNED JTB	CHECKED
REPAIR TYPE 205 REPLACEMENT OF SOUT ABUTMENT VENTS (UNIT 1) BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER	
LUC-65-05.35	PID No. 80556
33	53

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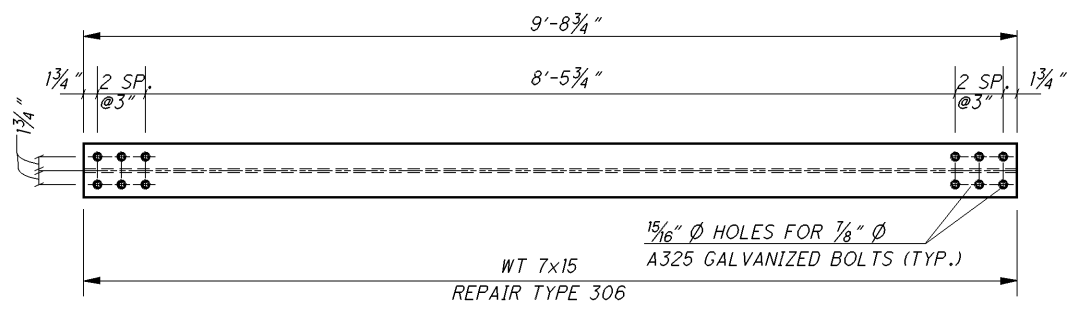
PLAN REPAIR TYPE 304

PLAN REPAIR TYPE 305

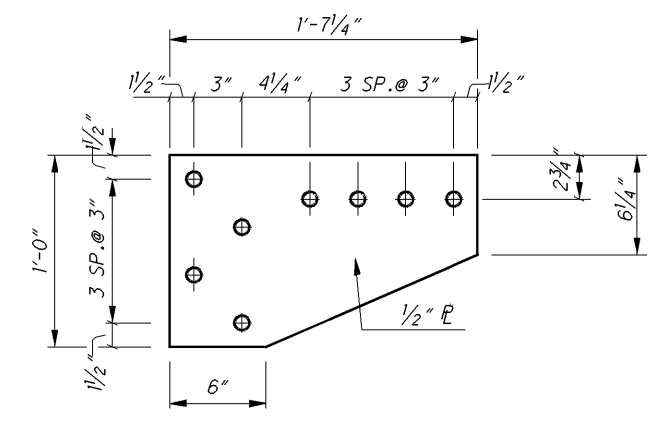


VIEW B-B

SECTION B-B

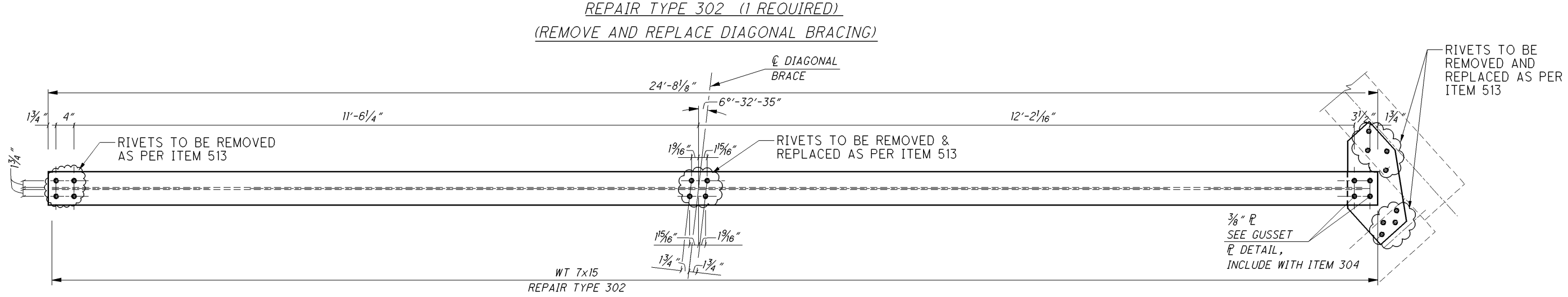
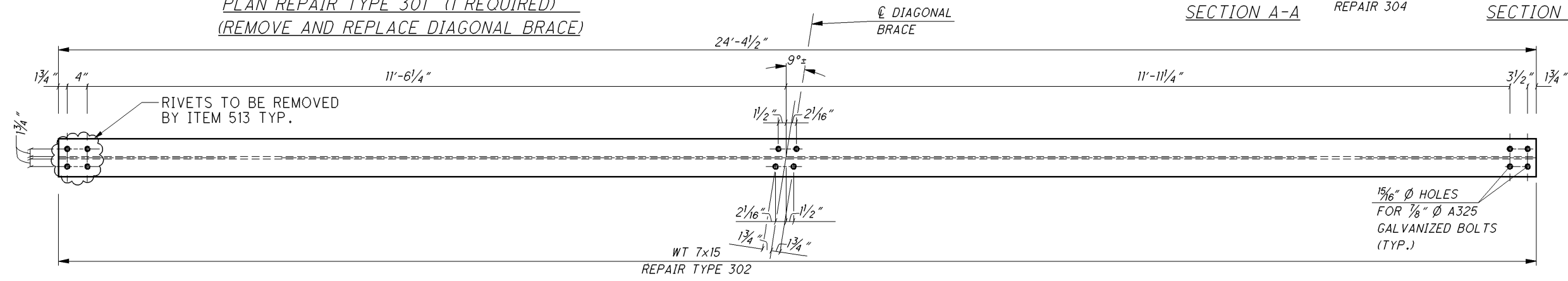
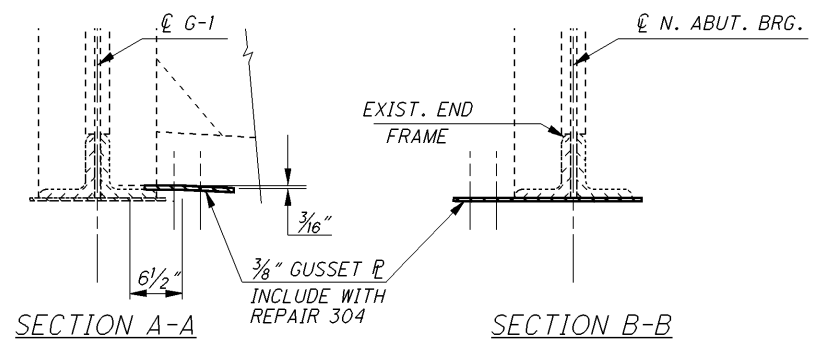
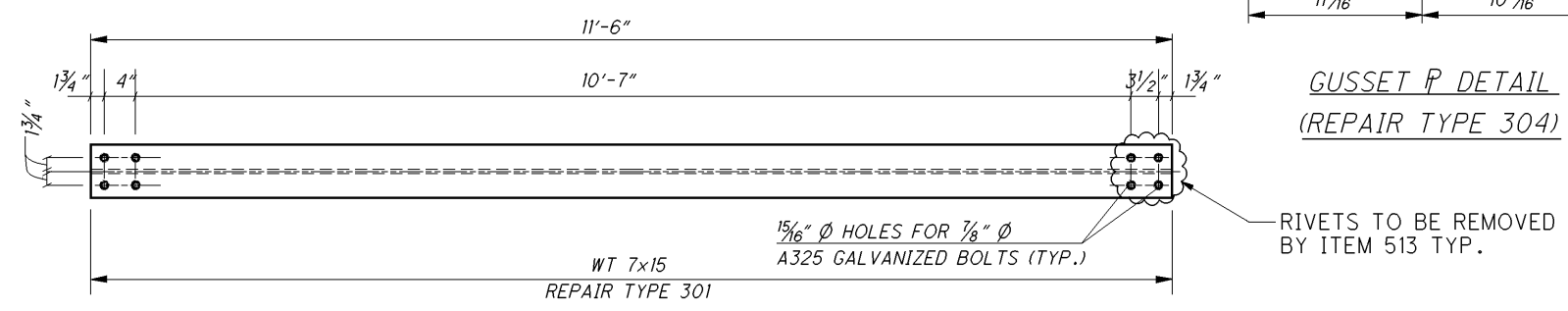
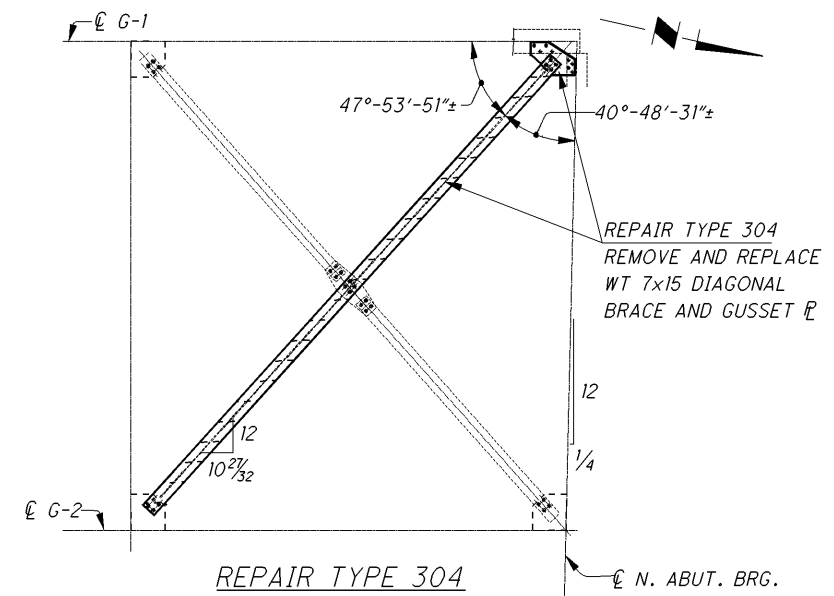
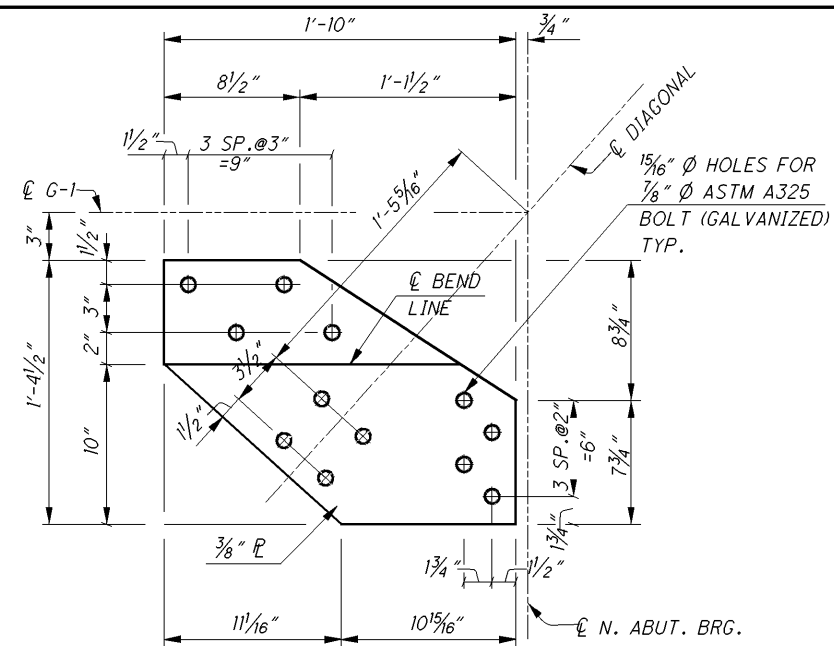
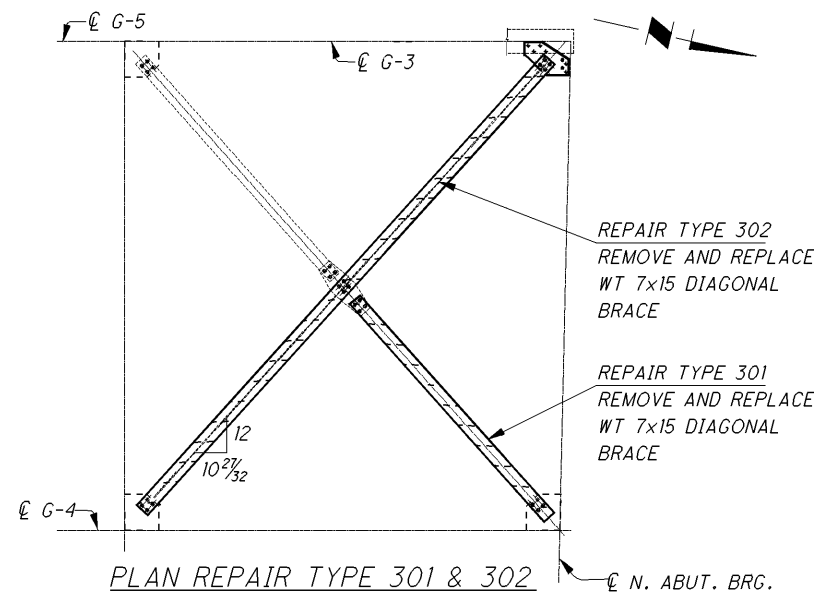


REPAIR TYPE 306
(REMOVE AND REPLACE DIAGONAL BRACING)
(1 REQUIRED)



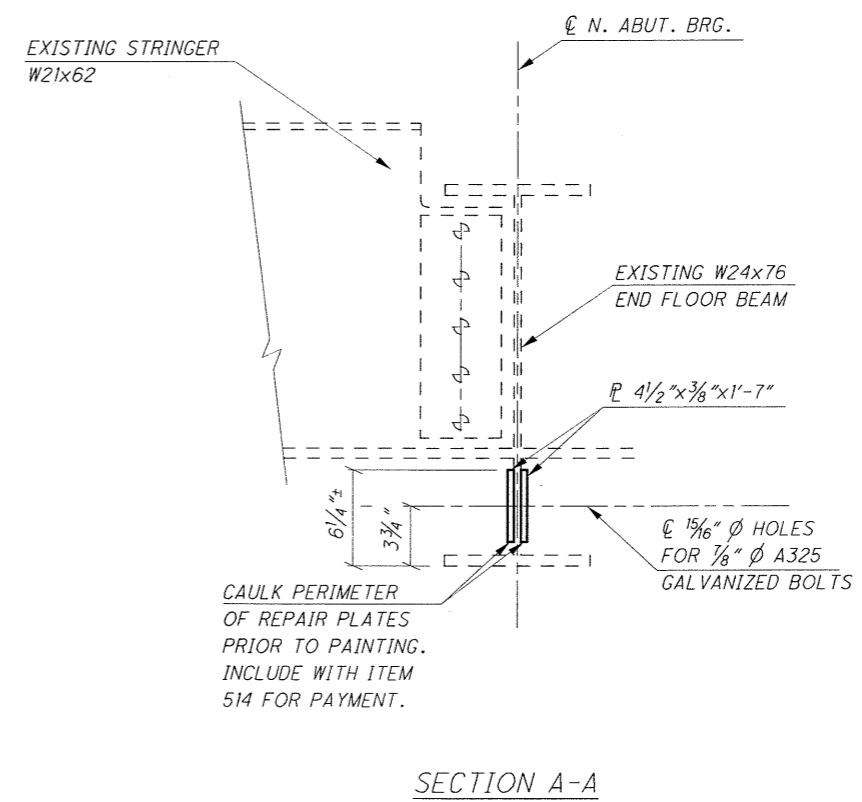
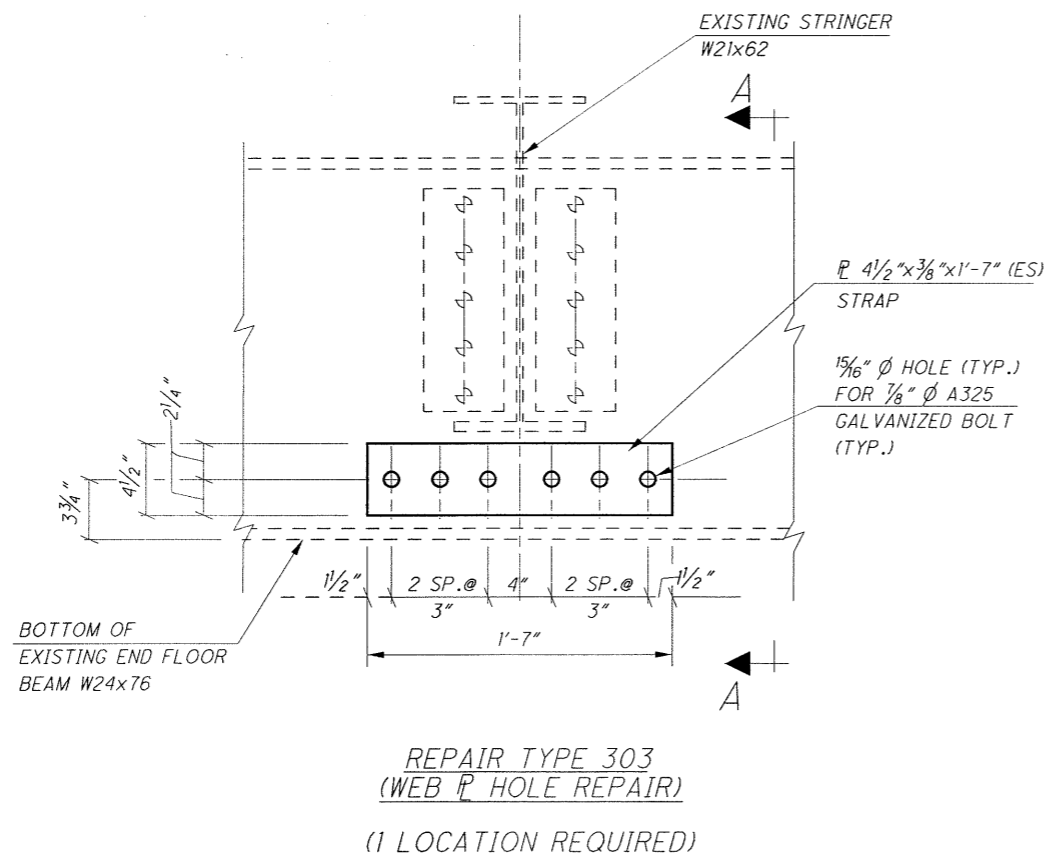
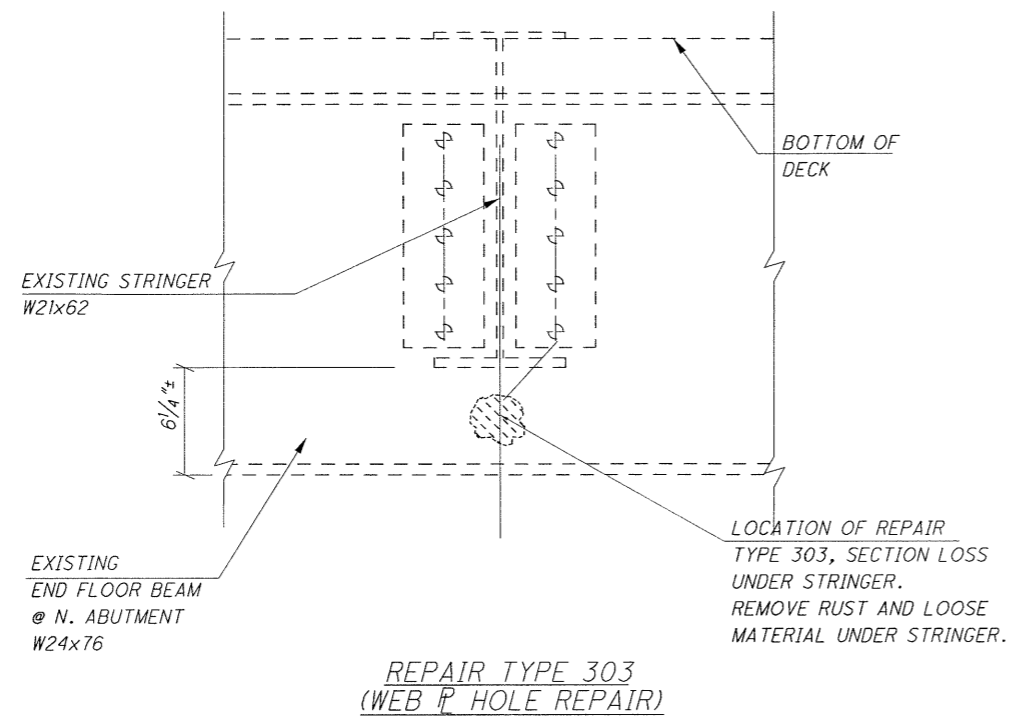
REPAIR TYPE 305
(REMOVE AND REPLACE GUSSET PLATE)
(1 REQUIRED)

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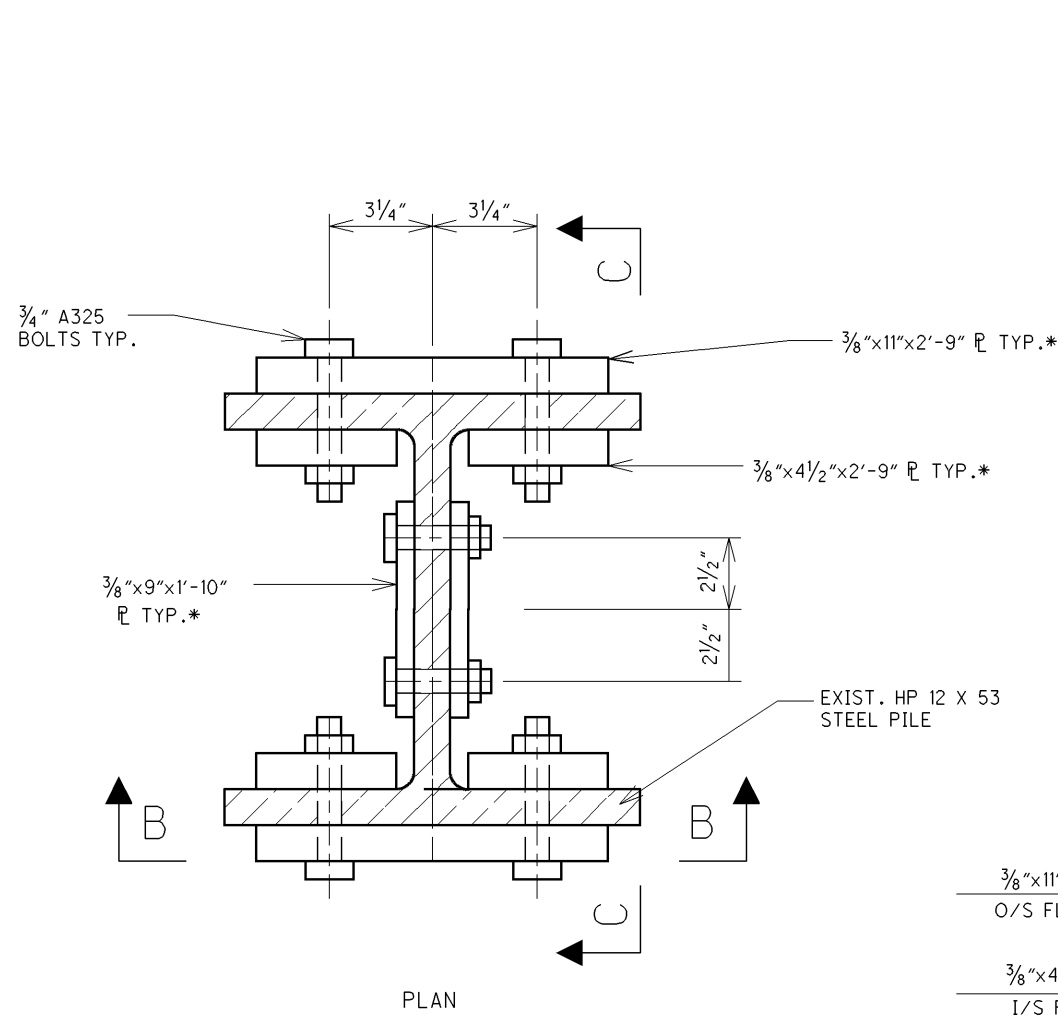


DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT NO. 2 PRODUCTION DEPARTMENT
DATE 03-01-13
REVIEWED JML
STRUCTURE FILE NUMBER 4805917
DRAWN JML
REVISED
DESIGNED JTB
CHECKED
REPAIR DETAILS - UNIT 3 BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER
LUC-65-05.35 PID No. 80556
35 53

I:\projects\LUC\80556\structures\LUC065_0535\sheets\65_0535SD030.dgn 11-MAR-2013 10:46AM jobuzin

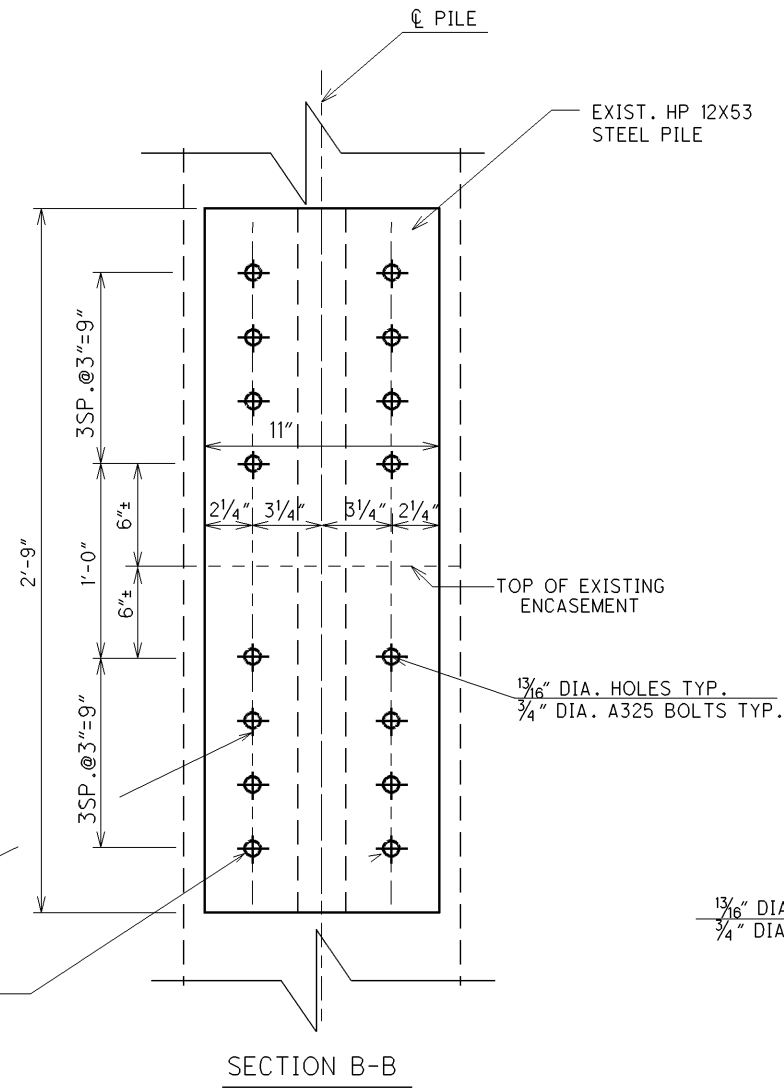


LUC-65-5.35 STRUCTURE, MISC.: REPAIR H-PILES IN THE SOUTH ABUTMENT (STEEL PILE COLUMN REPAIR) (REPAIR TYPE 206)



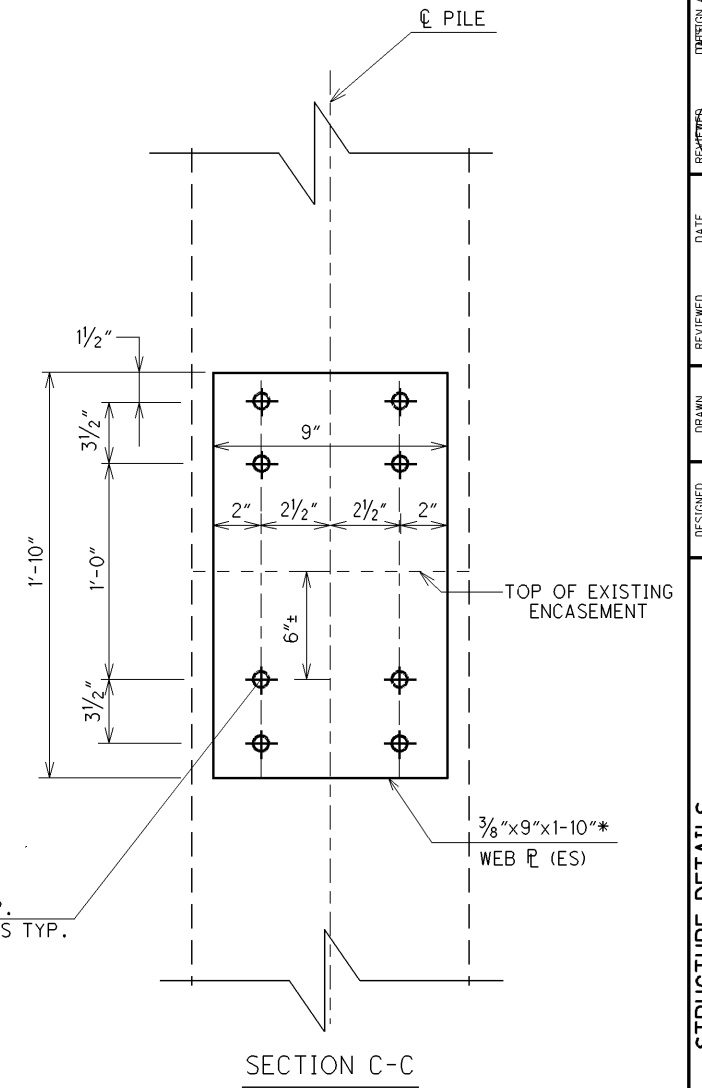
NOTE: PILES SHALL BE ENCASED TO INCLUDE THE EXISTING ENCASEMENT AREA AND THE ENTIRE PILE REPAIR AREA.

* PLATE MATERIAL SHALL BE ASTM A709 GRADE 50W



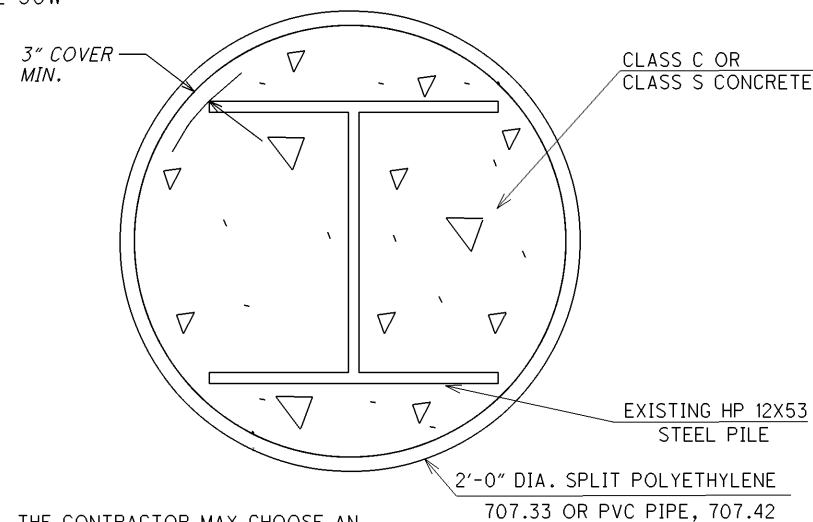
SECTION B-B

SOUTH ABUTMENT PILE REPAIR DETAIL



SECTION C-C

TYPICAL PILE ENCASEMENT



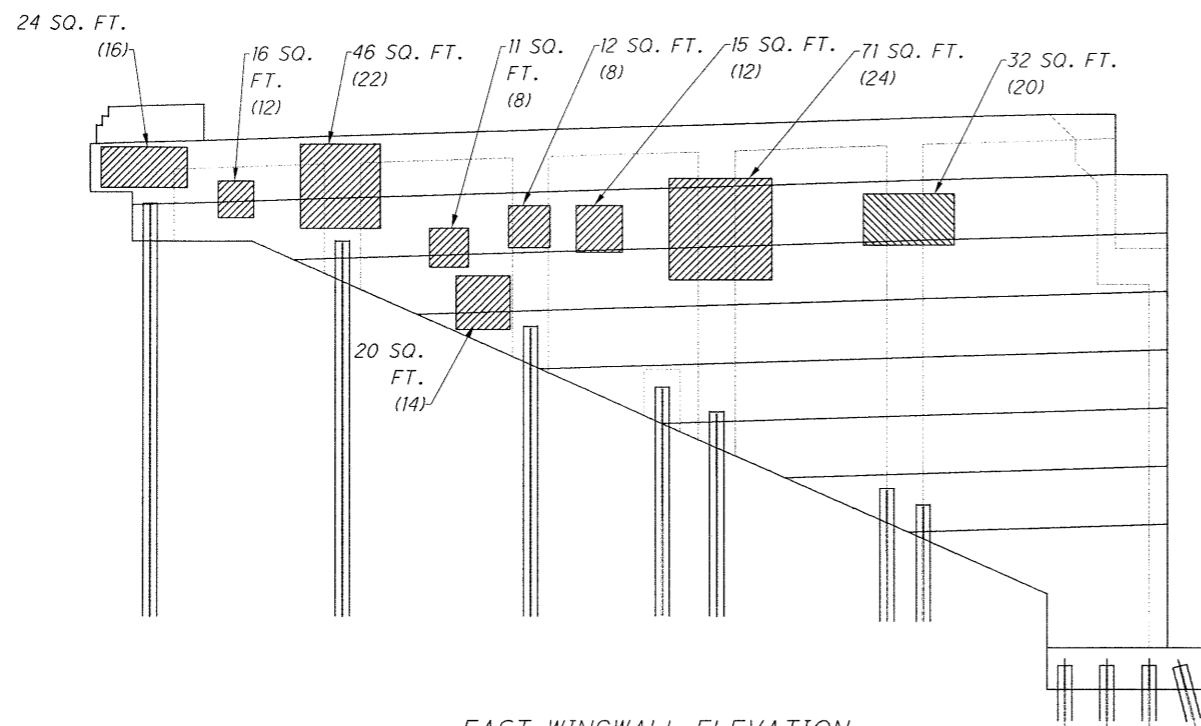
THE CONTRACTOR MAY CHOOSE AN ALTERNATE METHOD OF FORMING AS LONG AS THE MINIMUM COVER IS SATISFIED

NOTE:

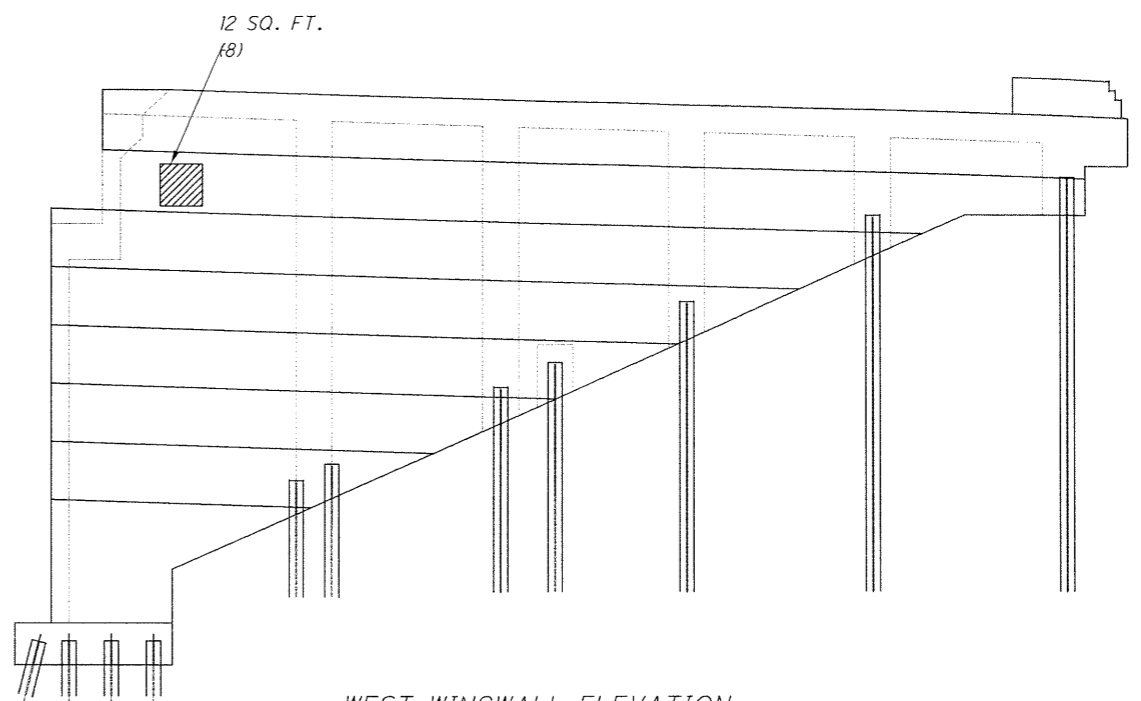
PILE ENCASEMENT SHALL EXTEND A MINIMUM OF 3'-0" BELOW GRADE AND 3'-0" ABOVE GRADE FOR A TOTAL OF 6'-0"

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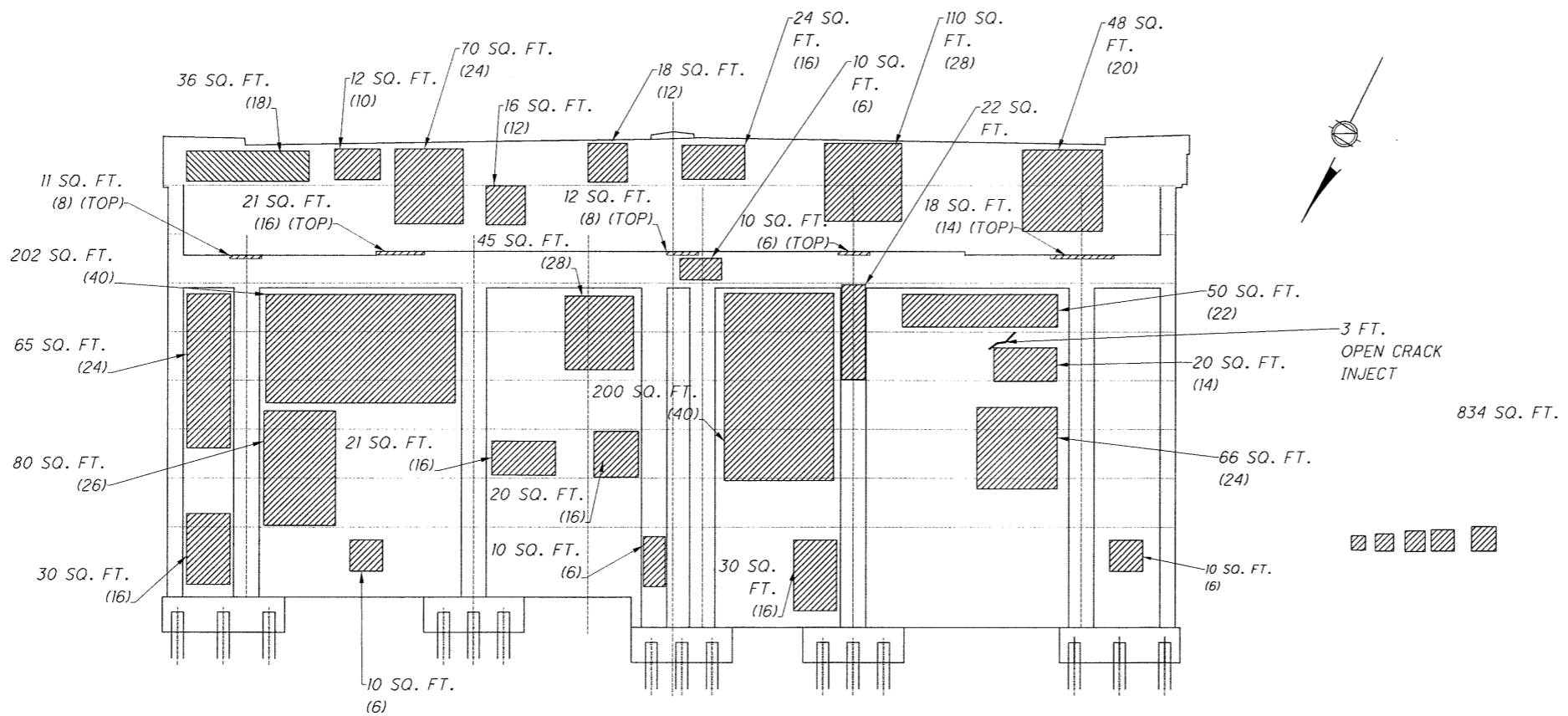
	OHIO DEPARTMENT OF TRANSPORTATION DISTRICT NO. 2 PRODUCTION DEPARTMENT
DATE: 03-01-13 REVIEWED: JML DRAWN: JML DESIGNED: JTB	STRUCTURE FILE NUMBER: REVISIONS: CHECKED:
STRUCTURE DETAILS BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER	
LUC-65-05.35 PID No. 80556	
37 53	



EAST WINGWALL ELEVATION
 TOTAL PATCHING = 247 SQ. FT. x 1.25 = 310 SQ. FT.
 140 GALVANIC ANODES



WEST WINGWALL ELEVATION
 TOTAL PATCHING = 12 SQ. FT.
 8 GALVANIC ANODES



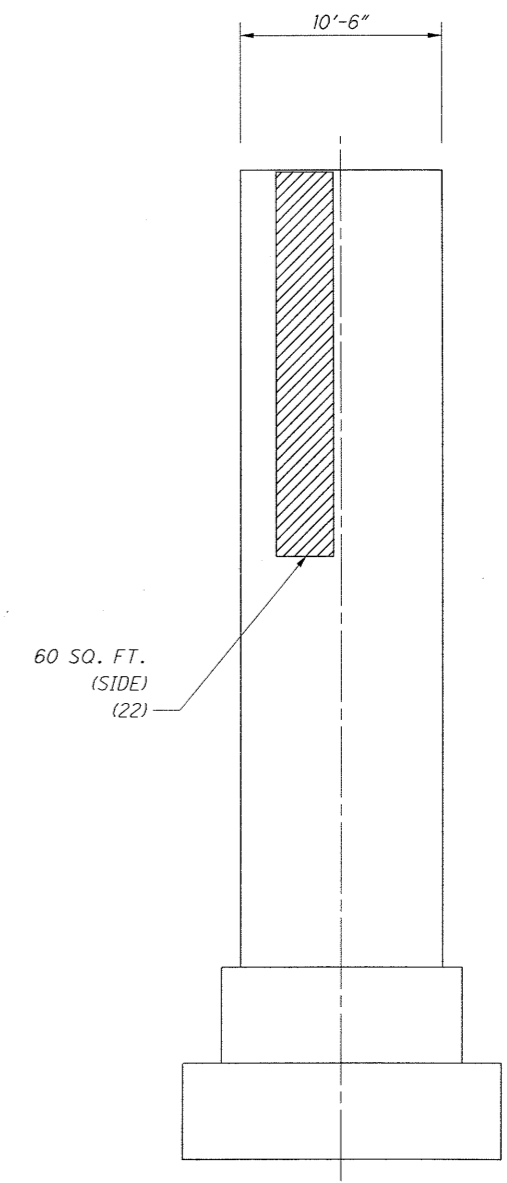
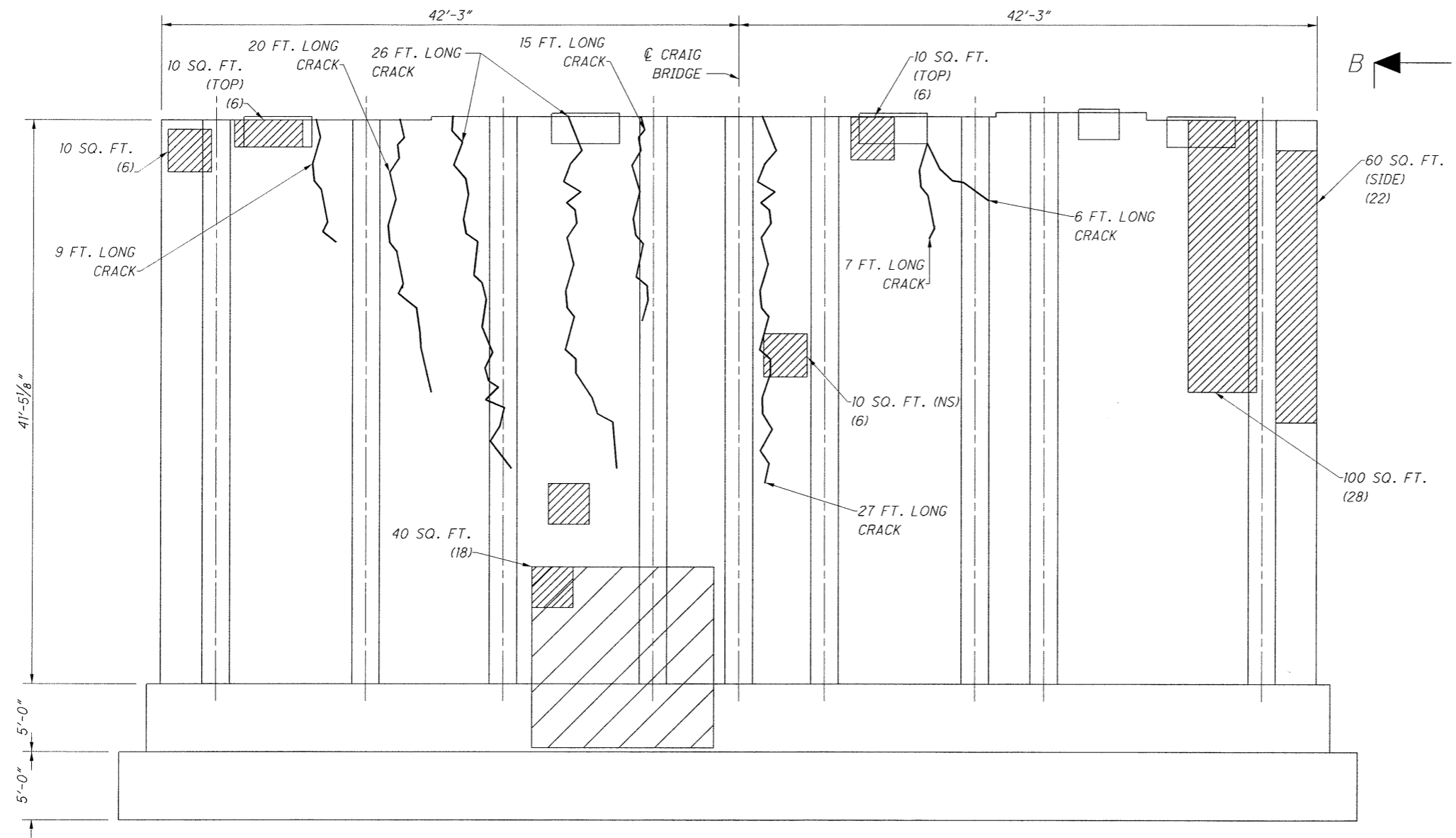
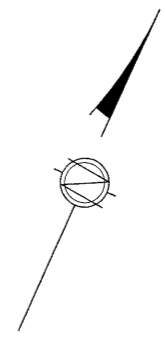
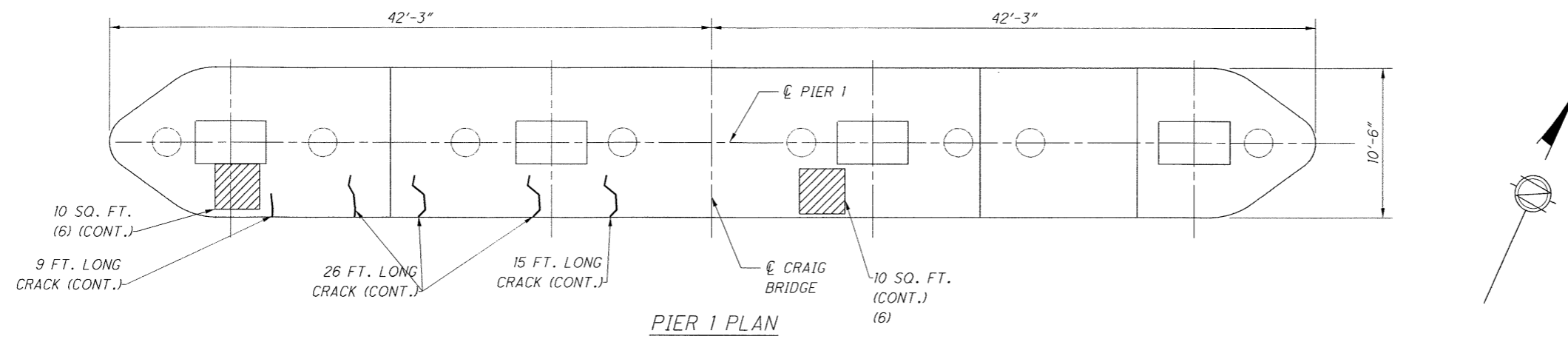
SOUTH ABUTMENT ELEVATION
 TOTAL PATCHING = 1297 x 1.25 = 1622 SQ. FT.
 ESTIMATED TOTAL CRACK REPAIR = 55 FT.
 474 GALVANIC ANODES

TOTAL SOUTH ABUTMENT PATCHING = 1944 SQ. FT.
 TOTAL SOUTH ABUTMENT CRACK REPAIR = 55 FT.
 622 GALVANIC ANODES

NOTE:
 () INDICATES THE NUMBER OF ESTIMATED GALVANIC ANODES PER PATCH

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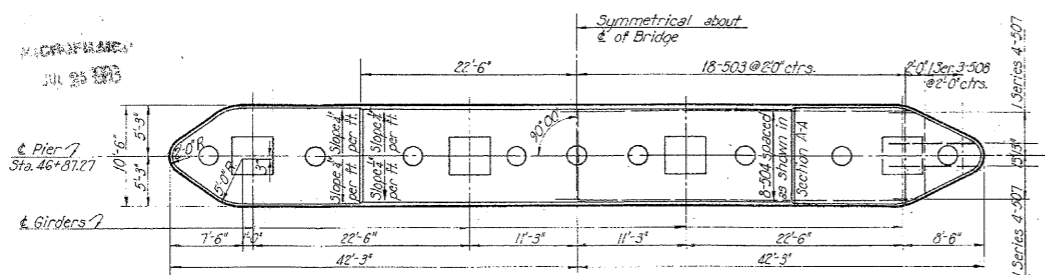
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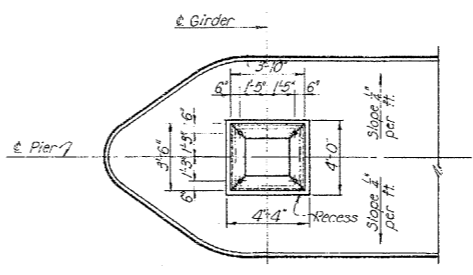
TOTAL PATCHING = 320 SQ. FT. X 1.25 = 400 SQ. FT.
 ESTIMATED TOTAL CRACK REPAIR = 355 FT.
 104 GALVANIZIC ANODES

DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 PRODUCTION DEPARTMENT	
DATE 03-01-13	REVIEWED JML
STRUCTURE FILE NUMBER 4805917	CHECKED JTB
DRAWN JML	
DESIGNED JTB	
REPAIR DETAILS - PIER 1 (UNIT 1)	
BRIDGE NO. LUC-65-0535	
OVER MAUMEE RIVER	
LUC-65-05.35	
PID No. 80556	
39	
53	

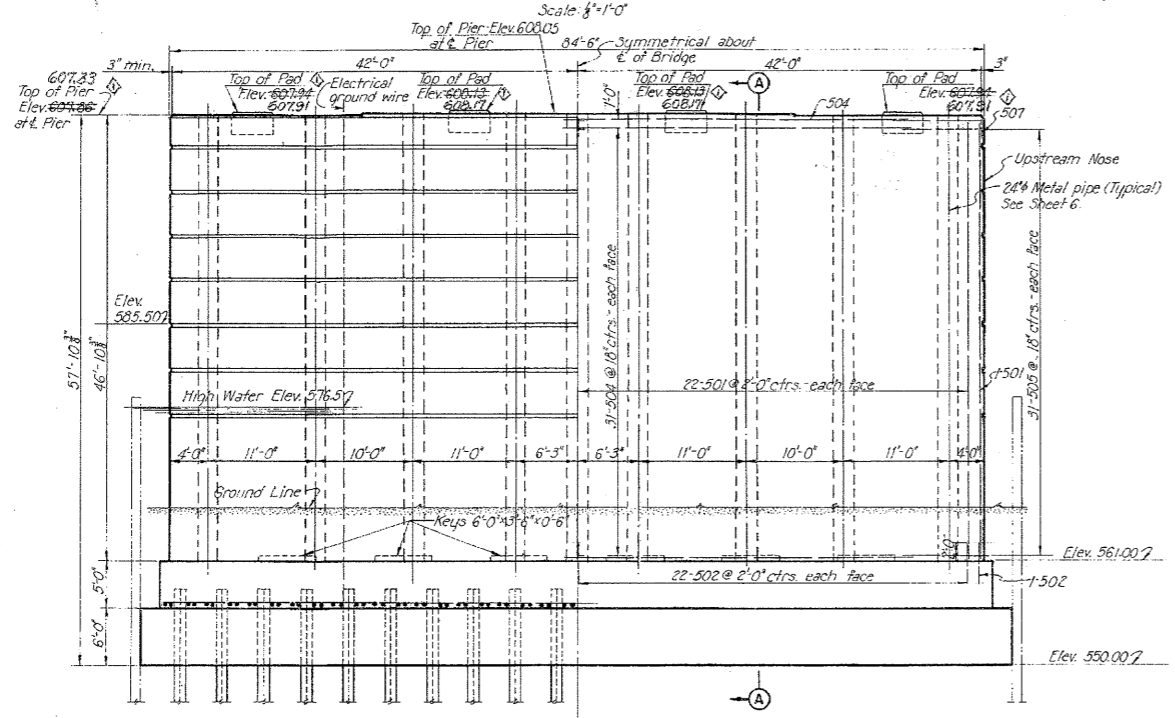
I:\projects\LUC\90556\structures\LUC065_0535_sheets\65_0535SD040.dgn 11-MAR-2013 1:11PM jlobuzin



PLAN
Scale: 1/4"=1'-0"

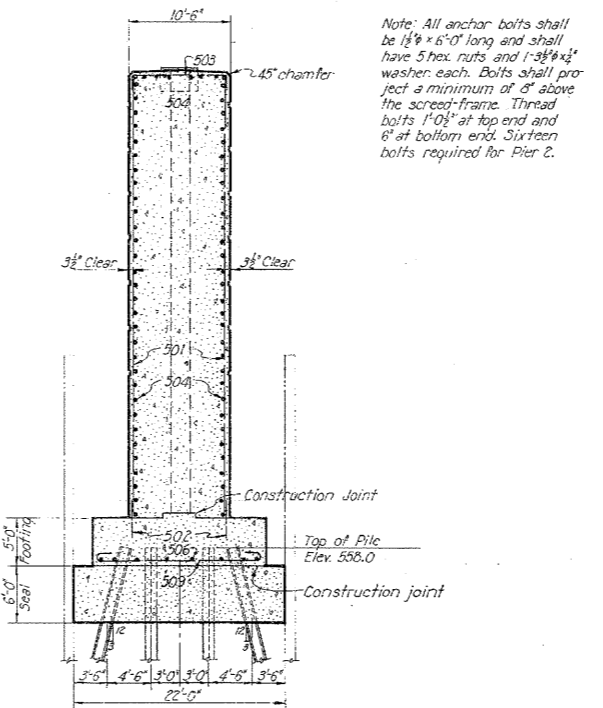


PLAN AT SCREED FRAMES
Scale: 1/4"=1'-0"



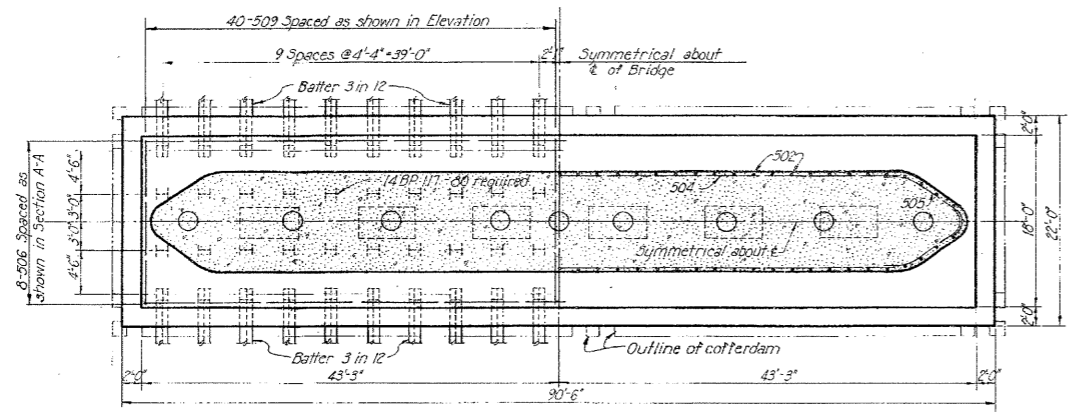
ELEVATION
Scale: 3/8"=1'-0"

TOTAL CRACK REPAIR = 175'



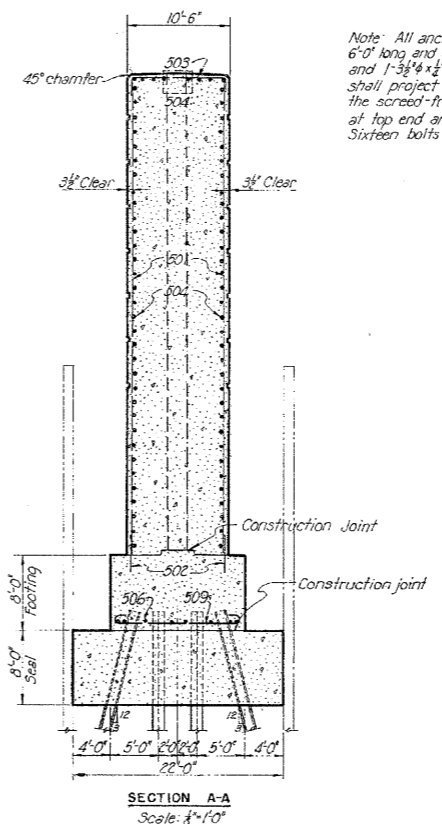
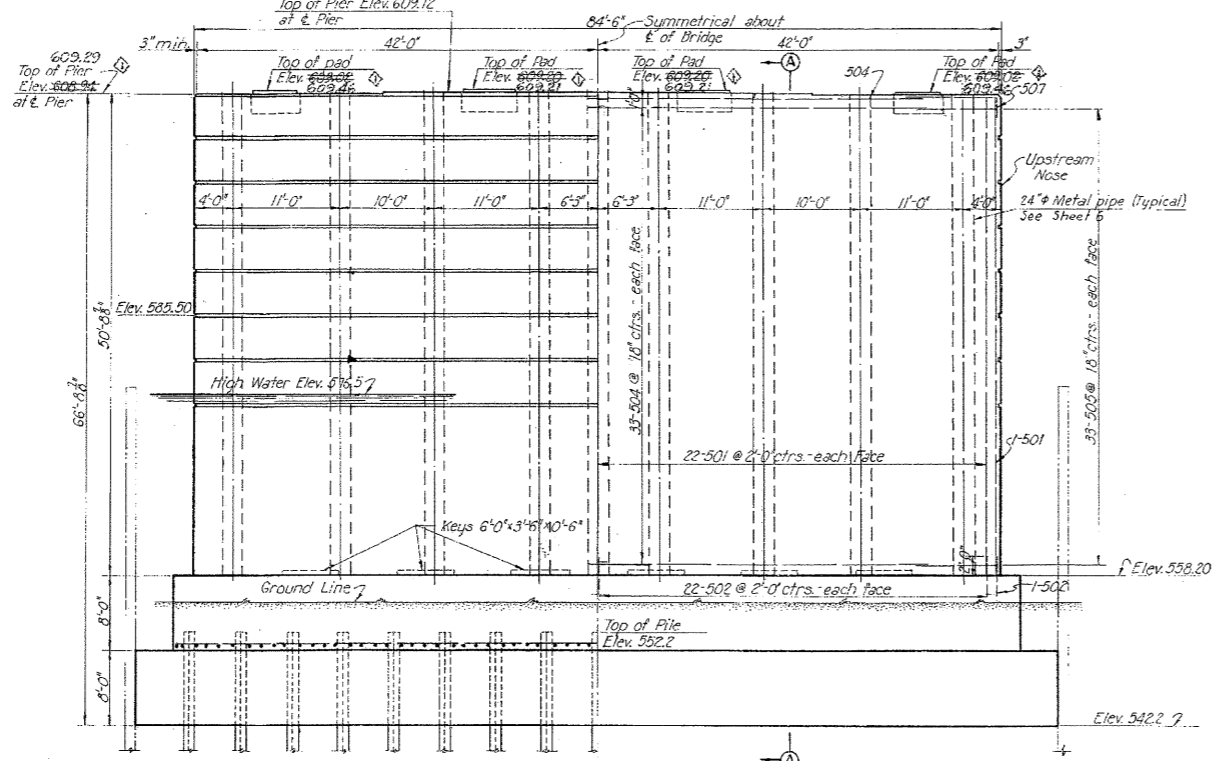
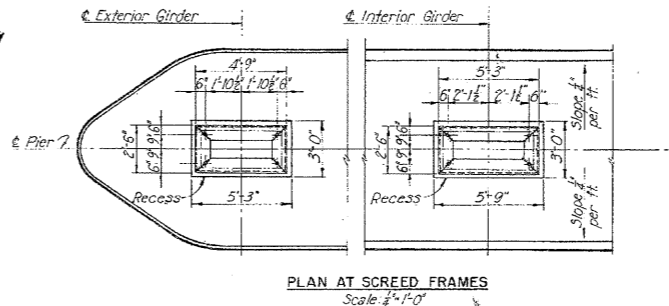
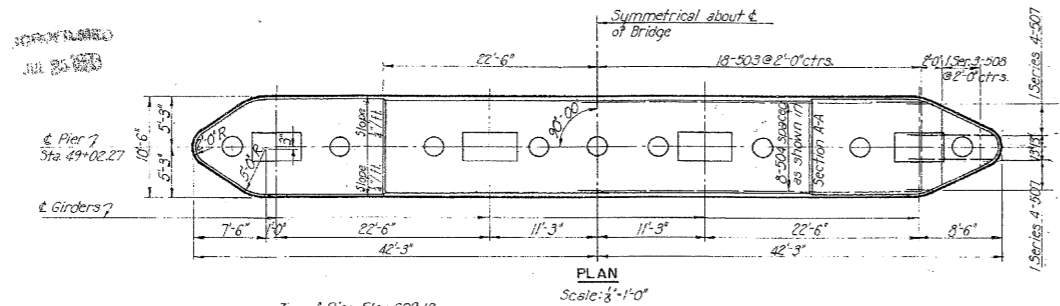
SECTION A-A
Scale: 1/4"=1'-0"

Note: All anchor bolts shall be 1/2" x 6'-0" long and shall have 5 hex nuts and 1-3/8" x 3/4" washer each. Bolts shall project a minimum of 6" above the screed-frame. Thread bolts 1'-0" at top end and 6" at bottom end. Sixteen bolts required for Pier 2.

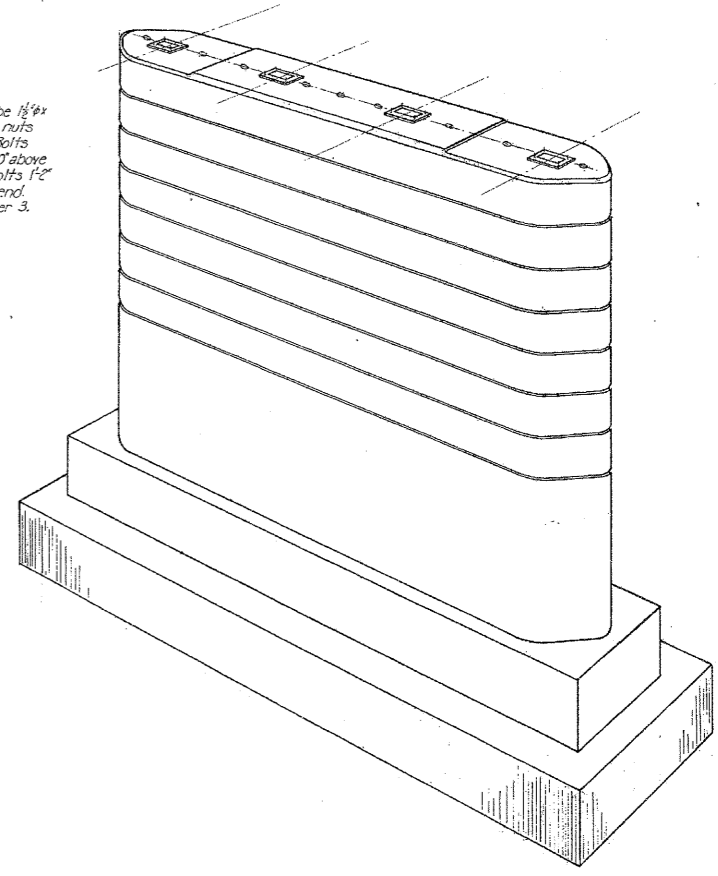


SECTION THRU SHAFT AT BASE
Scale: 1/4"=1'-0"

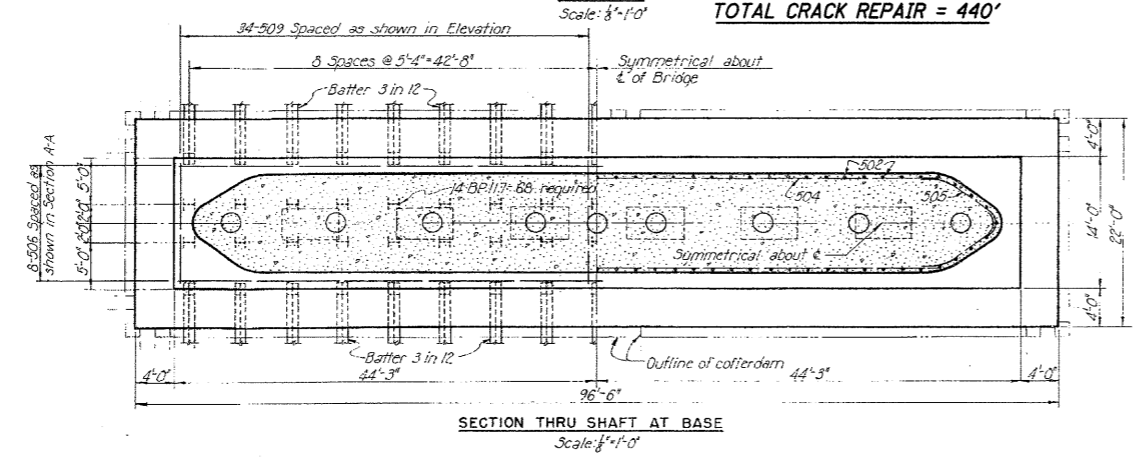
Note: For typical screed frame details, rustication details, pile details, and general notes on piers, see Sheet 6.



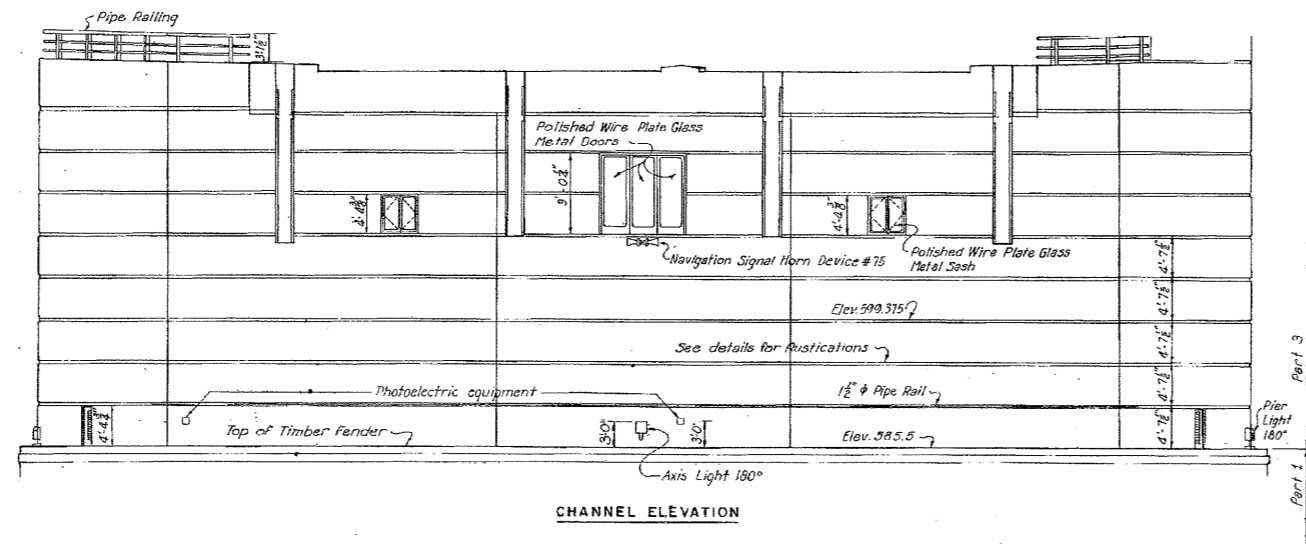
Note: All anchor bolts shall be 1/2" x 6'-0" long and shall have 5 hex nuts and 1-3/8" x 1/2" washer each. Bolts shall project a minimum of 10" above the screed frame. Thread bolts 1'-2" at top end and 6" at bottom end. Sixteen bolts required for Pier 3.



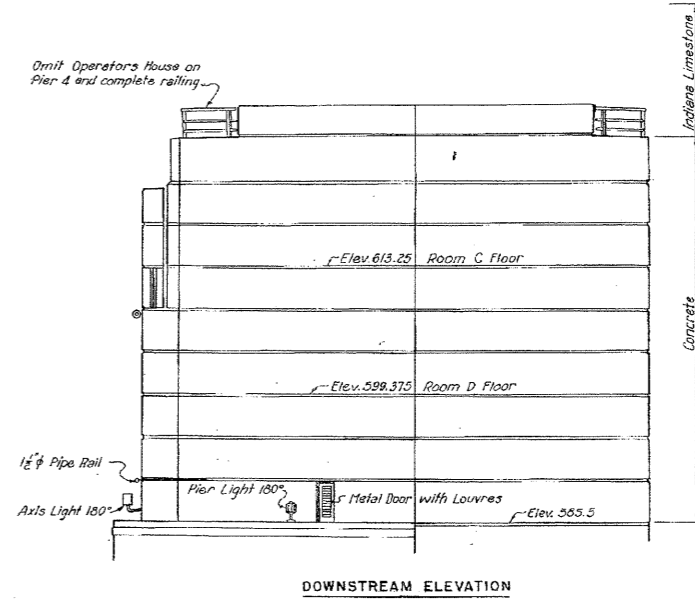
PERSPECTIVE VIEW OF PIER 3
Piers 1 and 2 similar



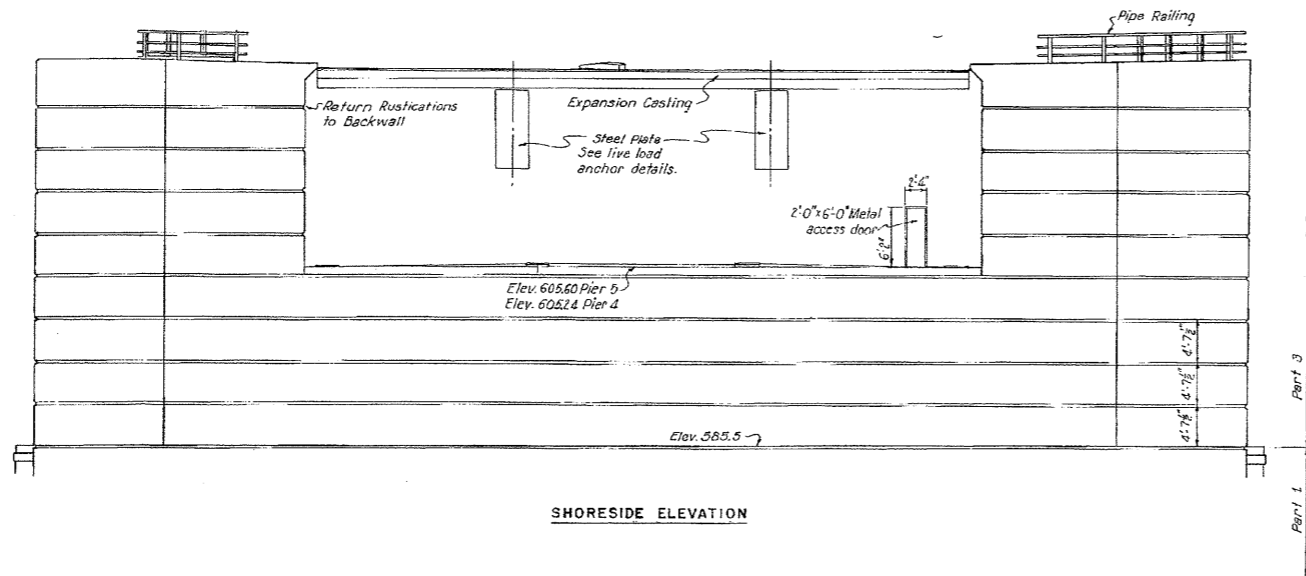
Note: For typical screed frame details, rustication details, pile details and general notes on piers, see Sheet 6.



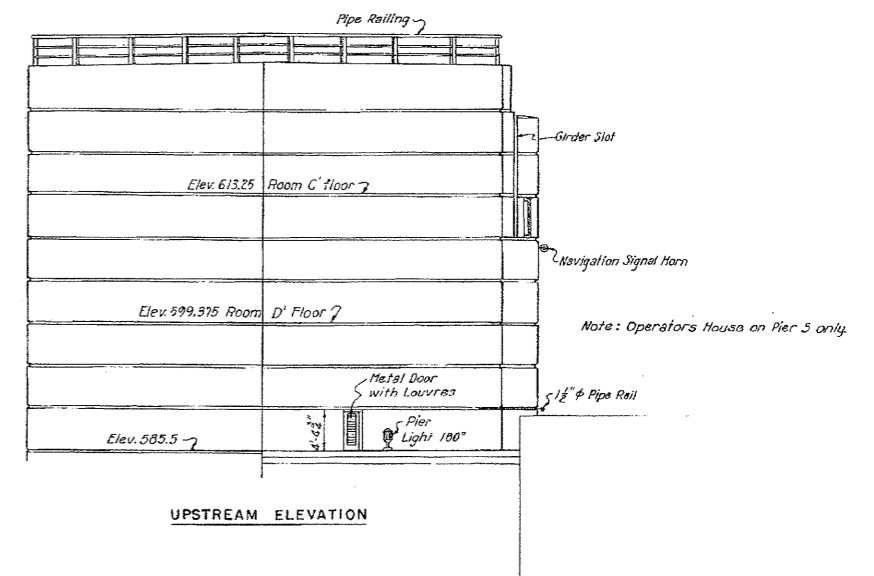
CHANNEL ELEVATION



DOWNSTREAM ELEVATION



SHORESIDE ELEVATION



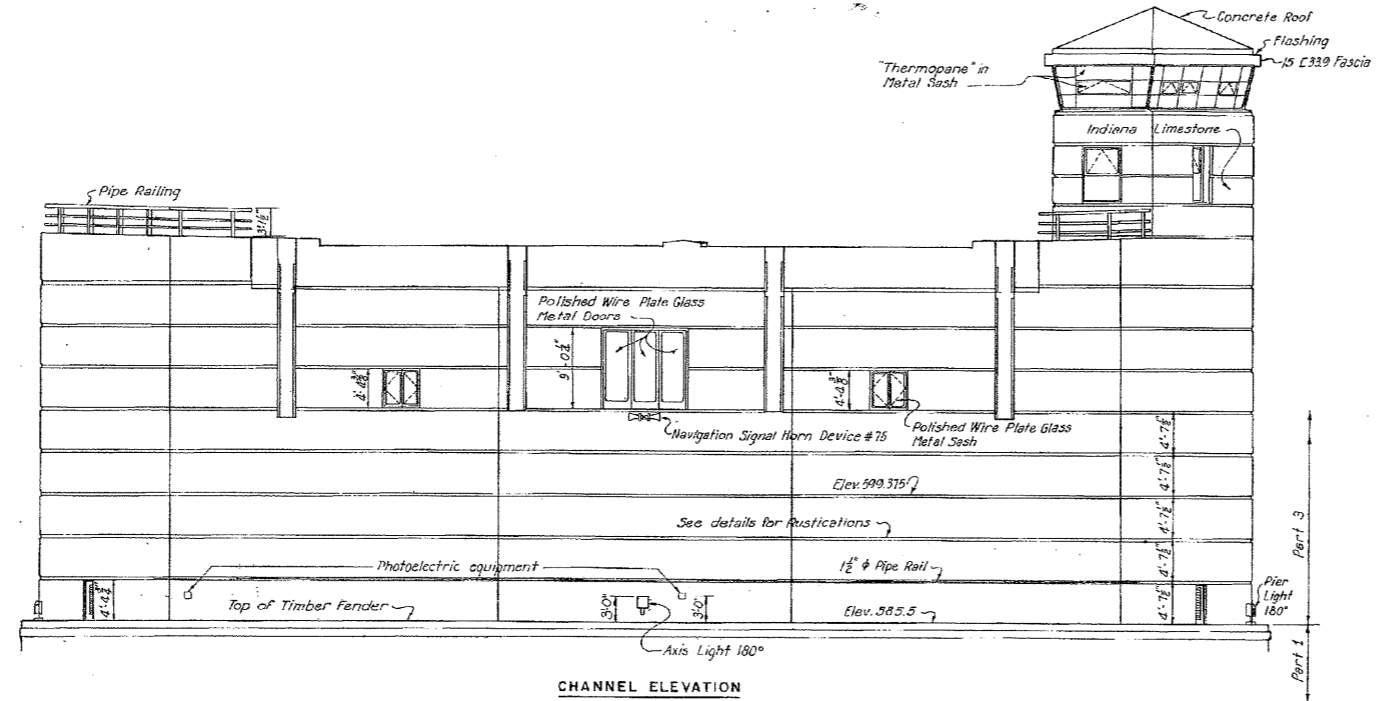
UPSTREAM ELEVATION

ESTIMATED PATCH REPAIR = 360 SQ. FT.
 ESTIMATED GALVANIC ANODES = 110 EACH
 ESTIMATED CRACK REPAIR = 450 FT.

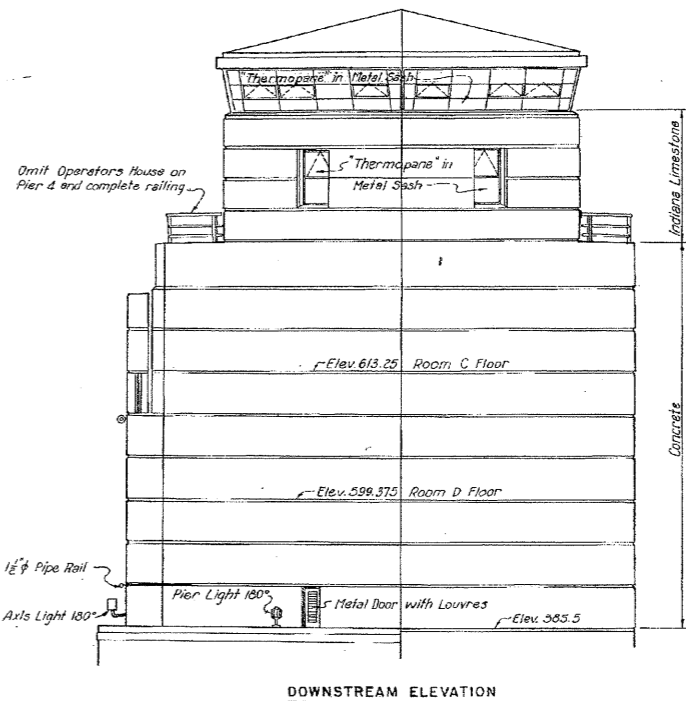
opane" in Metal Sash

sd Plate Glass

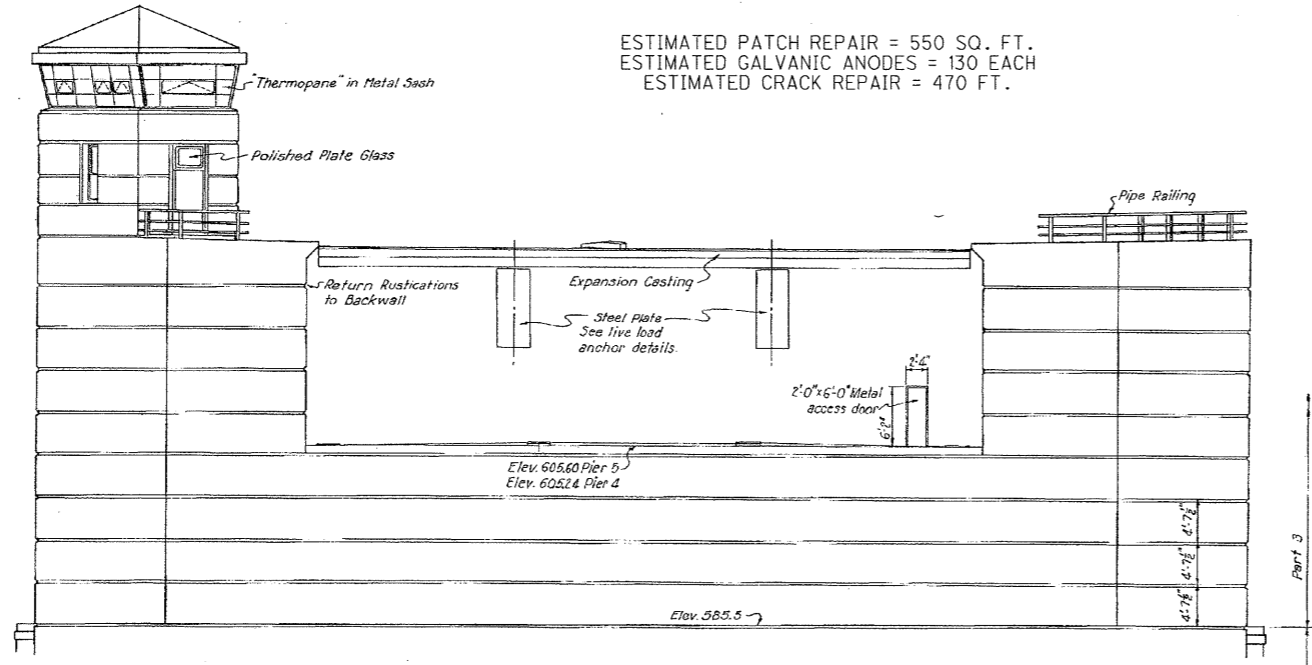
I:\projects\LUC\80556\structures\LUC065_0535\sheets\65_0535SD043.dgn 11-MAR-2013 1:33PM jobuzin



CHANNEL ELEVATION

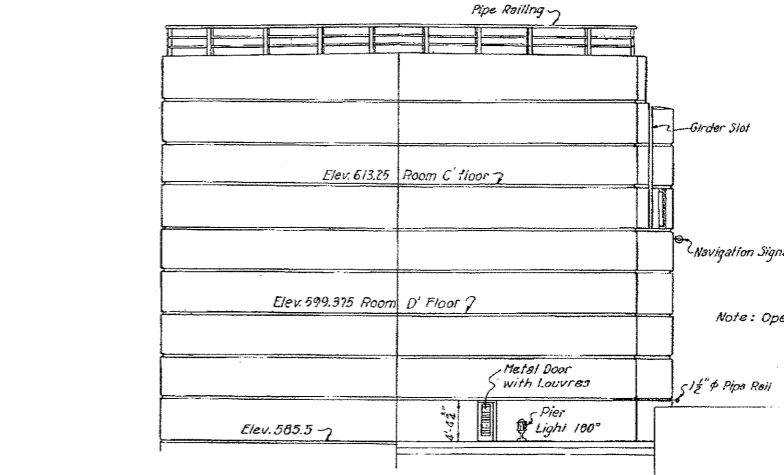


DOWNSTREAM ELEVATION



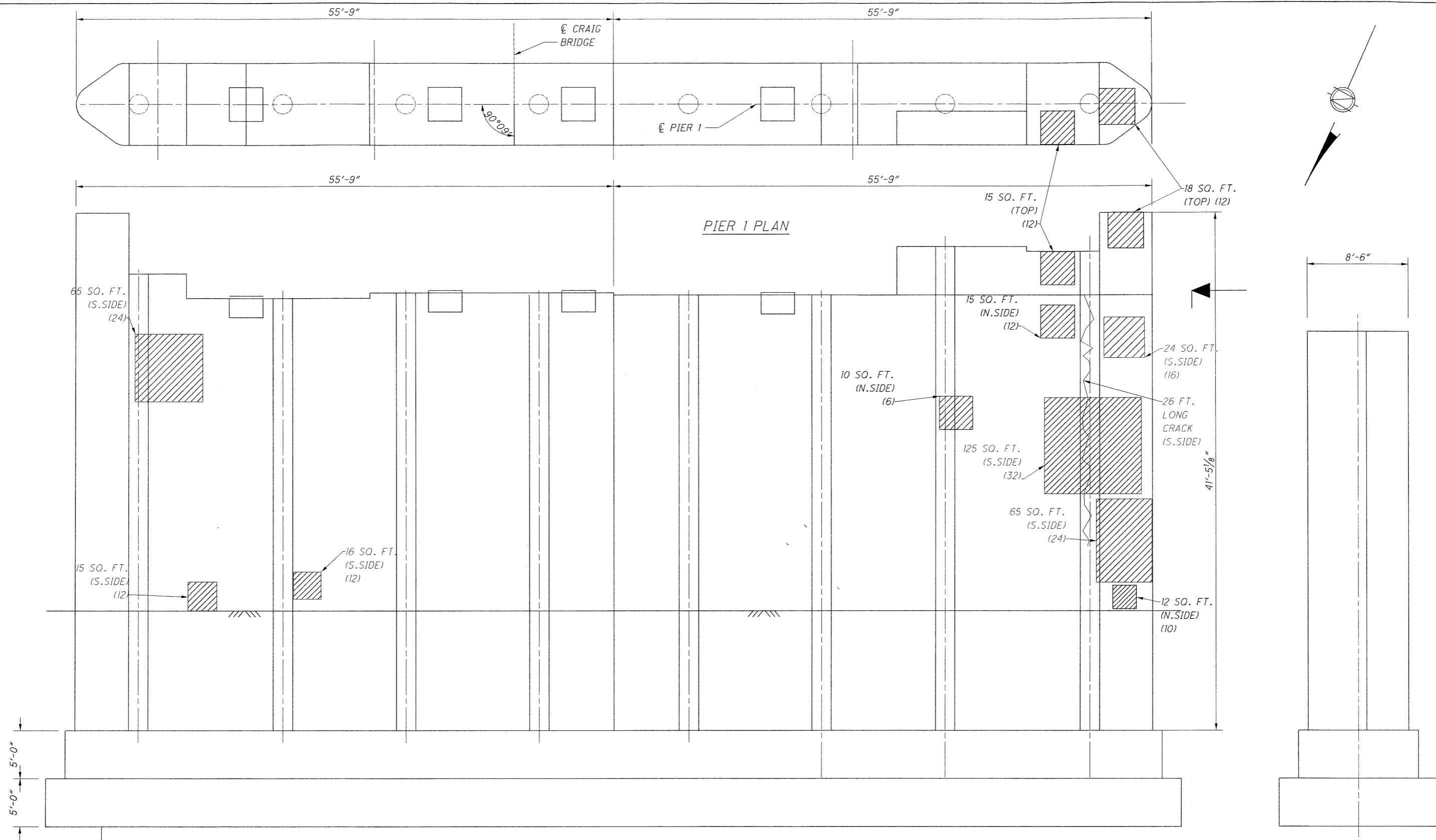
SHORESIDE ELEVATION

ESTIMATED PATCH REPAIR = 550 SQ. FT.
 ESTIMATED GALVANIC ANODES = 130 EACH
 ESTIMATED CRACK REPAIR = 470 FT.



UPSTREAM ELEVATION

I:\projects\LUC\80556\structures\LUC065_0535\sheets\65_0535PI006.dgn 11-MAR-2013 11:28AM jlobuzin



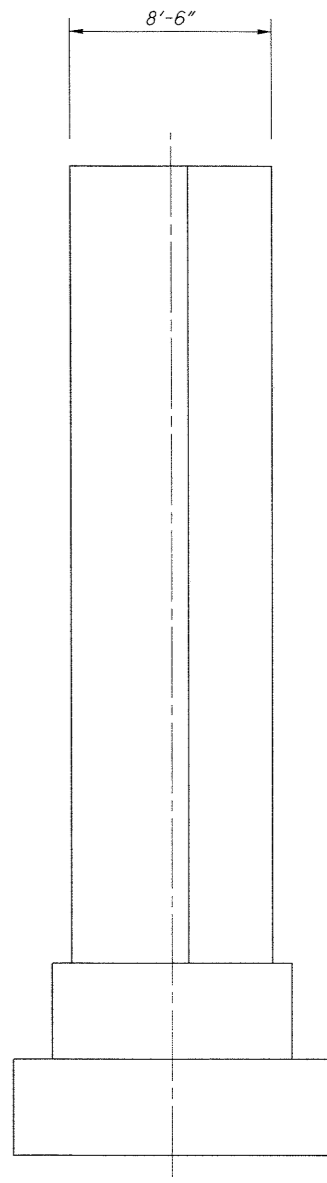
PIER 1 PLAN

PIER 6 ELEVATION

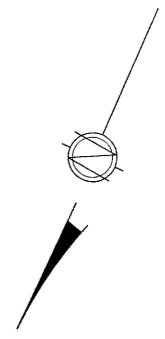
TOTAL PATCHING = 380 x 1.25 = 475 SQ. FT.
 ESTIMATED CRACK REPAIR = 220 FT.
 ESTIMATED NO. OF GALVANIC ANODES = 172

NOTE:

() INDICATES THE NUMBER OF
 ESTIMATED GALVANIC ANODES PER PATCH

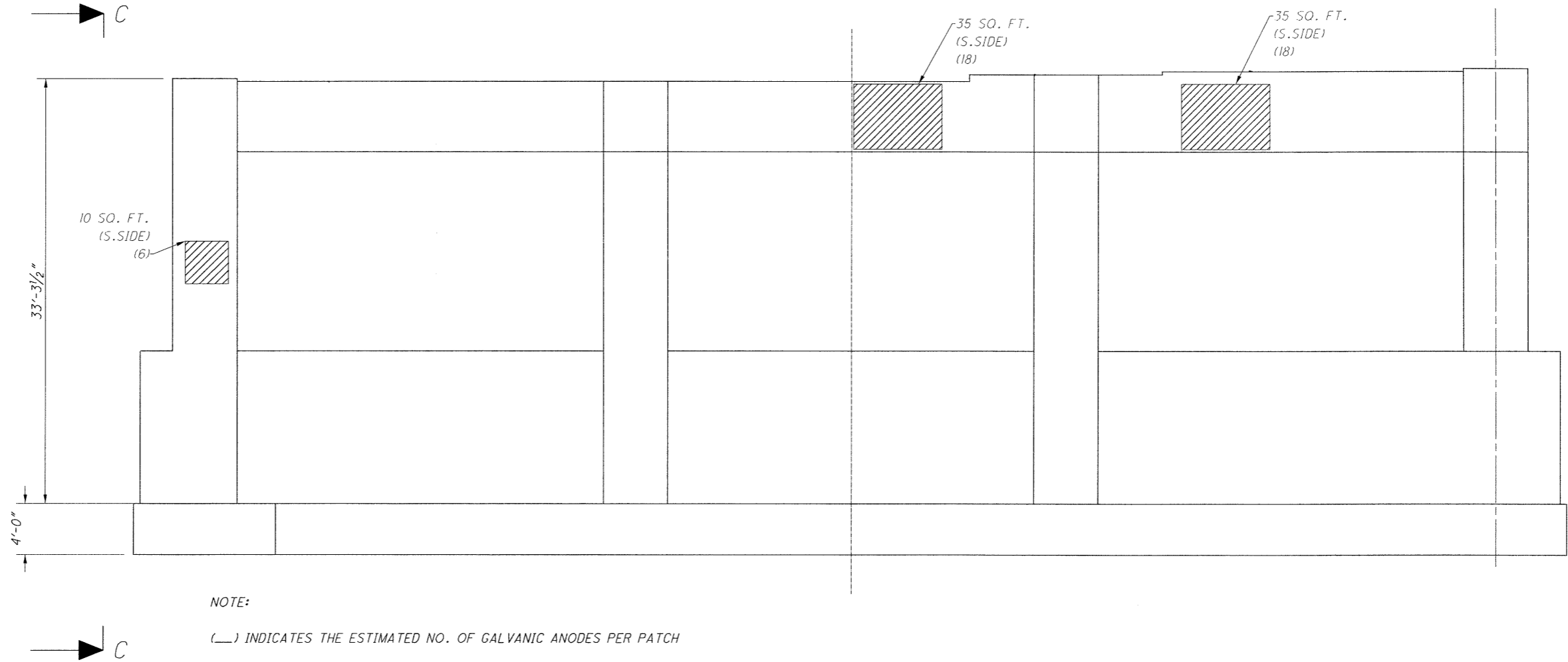
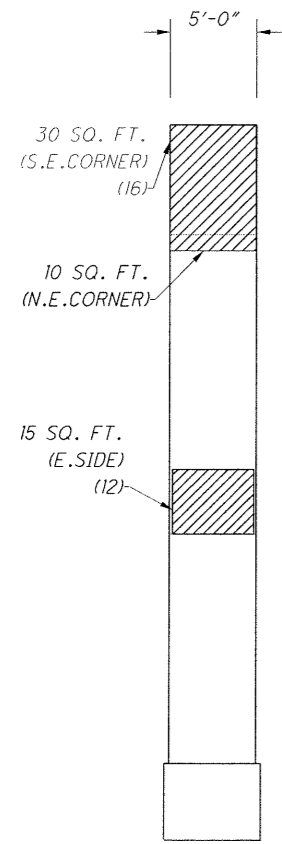
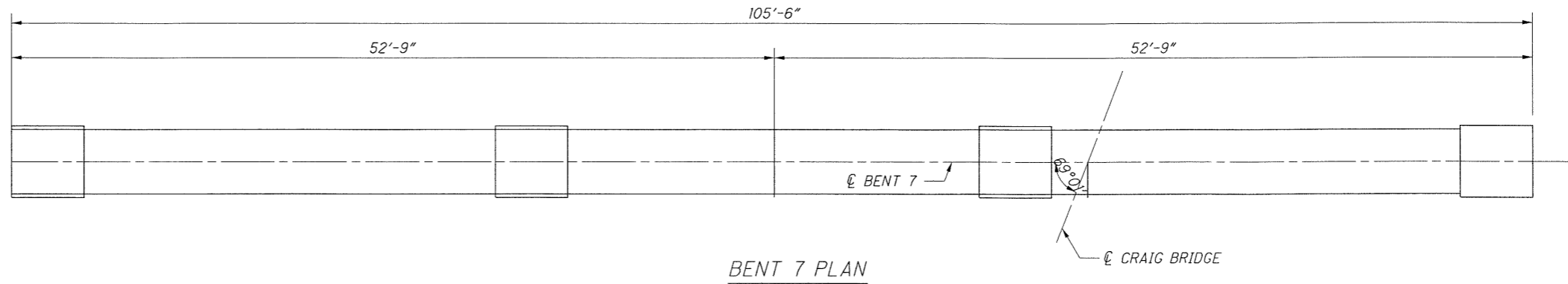
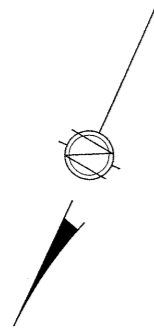


VIEW B-B



DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 PRODUCTION DEPARTMENT	
DATE 03-01-13	REVIEWED JML
STRUCTURE FILE NUMBER 4805917	CHECKED JTB
DRAWN JML	REVISOR
DESIGNED JTB	
CHECKED	
REPAIR DETAILS - PIER 6 (UNIT 2)	
BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER	
LUC-65-05.35 PID No. 80556	
44 53	

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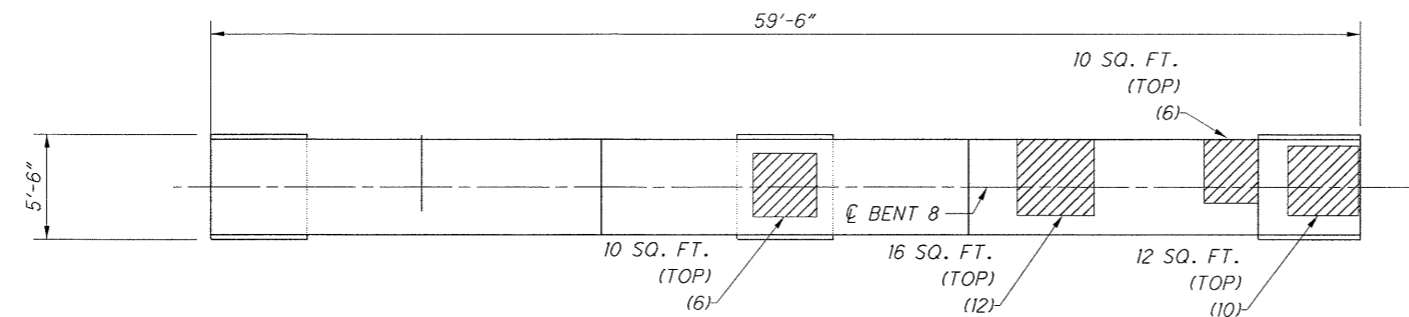
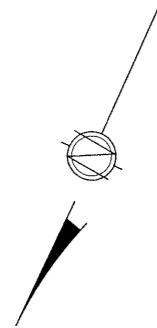


NOTE:
 () INDICATES THE ESTIMATED NO. OF GALVANIC ANODES PER PATCH

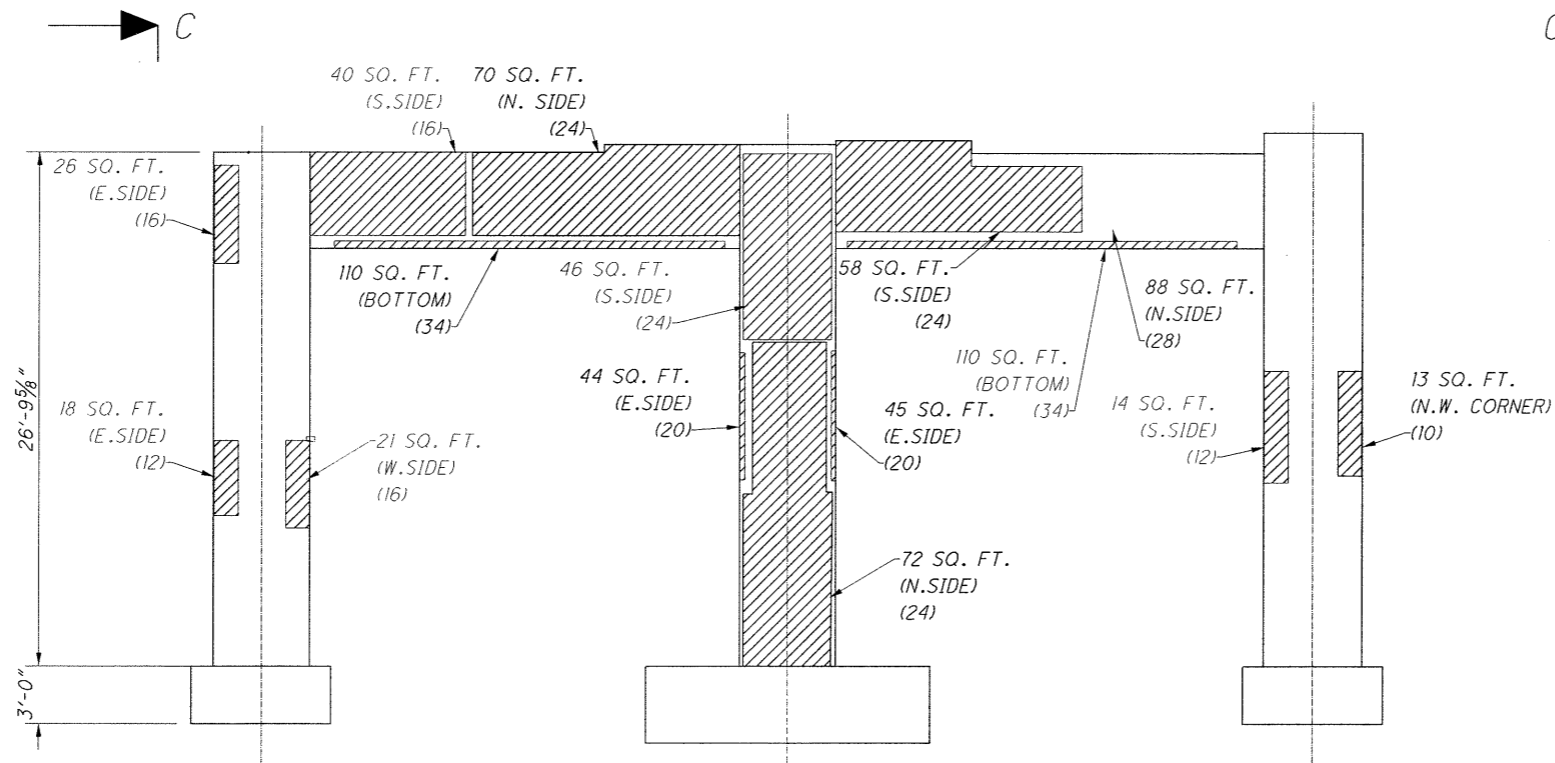
TOTAL PATCHING = 125 SQ. FT. x 1.25 = 156 SQ. FT.
 ESTIMATED NO. OF GALVANIC ANODES = 70

DESIGNED JTB CHECKED	DRAWN JML REVISED	REVIEWED JML STRUCTURE FILE NUMBER 4805917	DATE 03-01-13	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 PRODUCTION DEPARTMENT
REPAIR DETAILS - BENT 7 (UNIT 2)				
BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER				
LUC-65-05.35				
PID No. 80556				
45				
53				

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BENT 8 PLAN

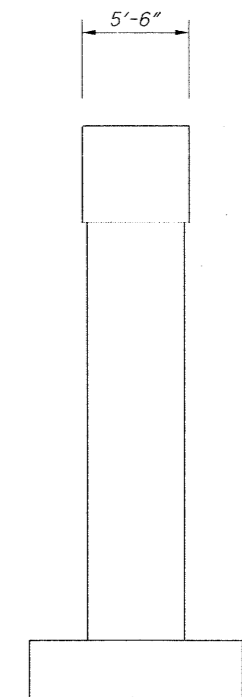


NOTE:

() INDICATES THE ESTIMATED NO. OF GALVANIC ANODES PER PATCH

BENT 8 ELEVATION

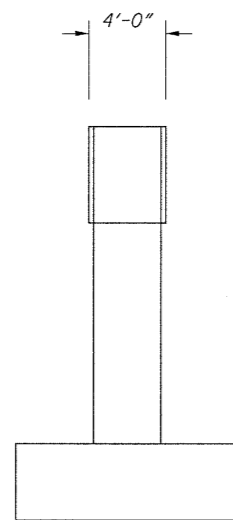
TOTAL PATCHING = 813 SQ. FT. \times 1.25 = 1016 SQ. FT.
ESTIMATED NO. OF GALVANIC ANODES = 342



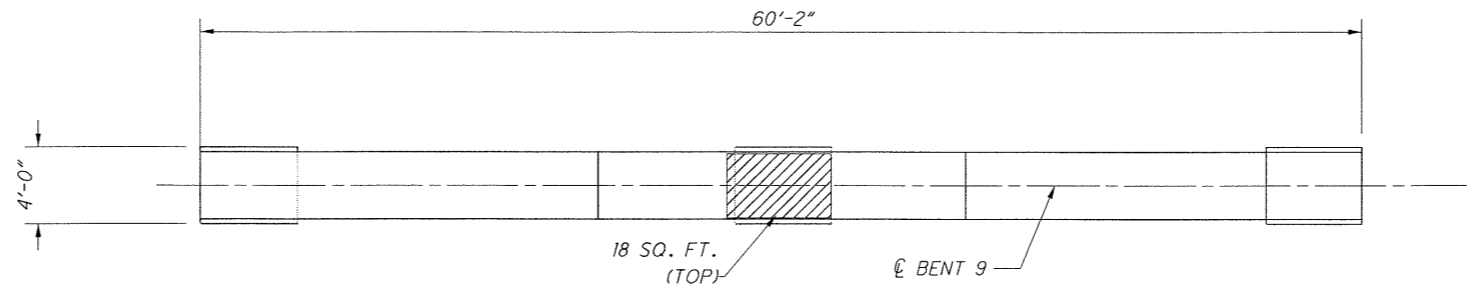
VIEW C-C



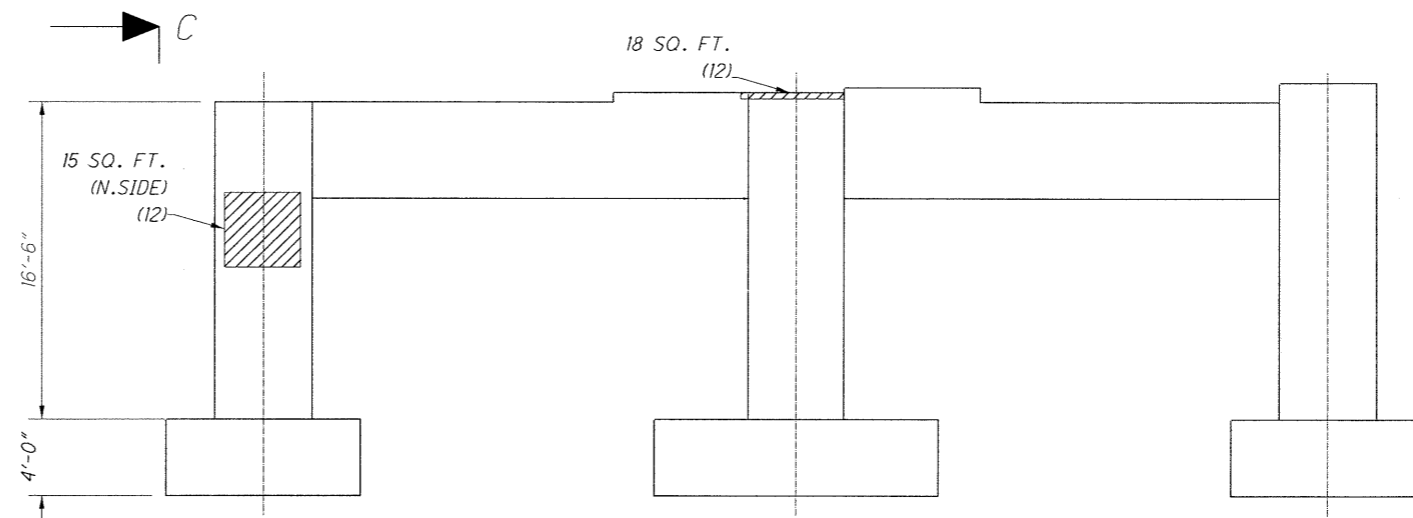
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VIEW C-C



BENT 9 PLAN



NOTE:

() INDICATES THE ESTIMATED NO. OF GALVANIC ANODES PER PATCH

BENT 9 ELEVATION

TOTAL PATCHING = 33 SQ. FT. x 1.25 = 42 SQ. FT.
ESTIMATED NUMBER OF GALVANIC ANODES = 24



DATE
03-01-13

REVIEWED
JML
STRUCTURE FILE NUMBER
4805917

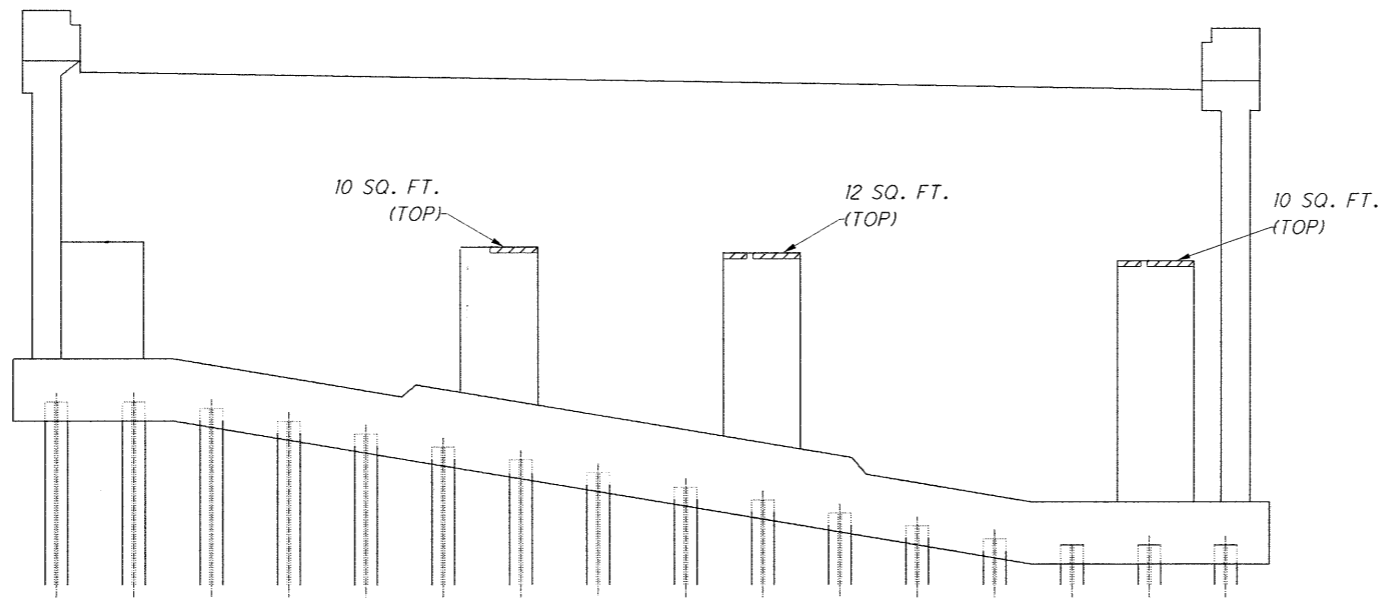
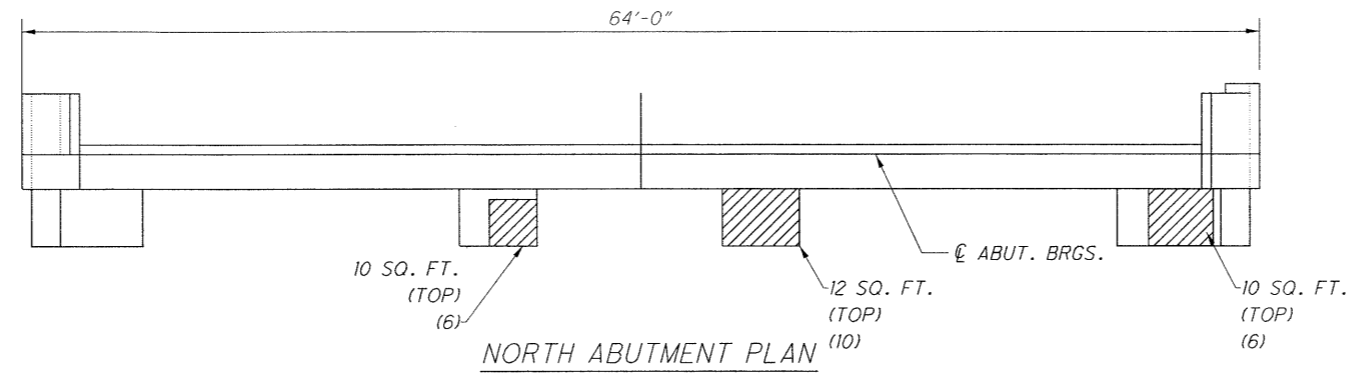
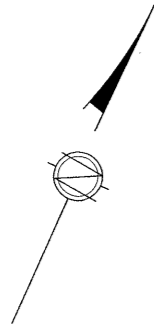
DRAWN
JML
REVISED

DESIGNED
JML
CHECKED

REPAIR DETAILS - BENT 9 (UNIT 3)

BRIDGE NO. LUC-65-0535
OVER MAUMEE RIVER

LUC-65-05.35
PID No. 80556



NOTE:

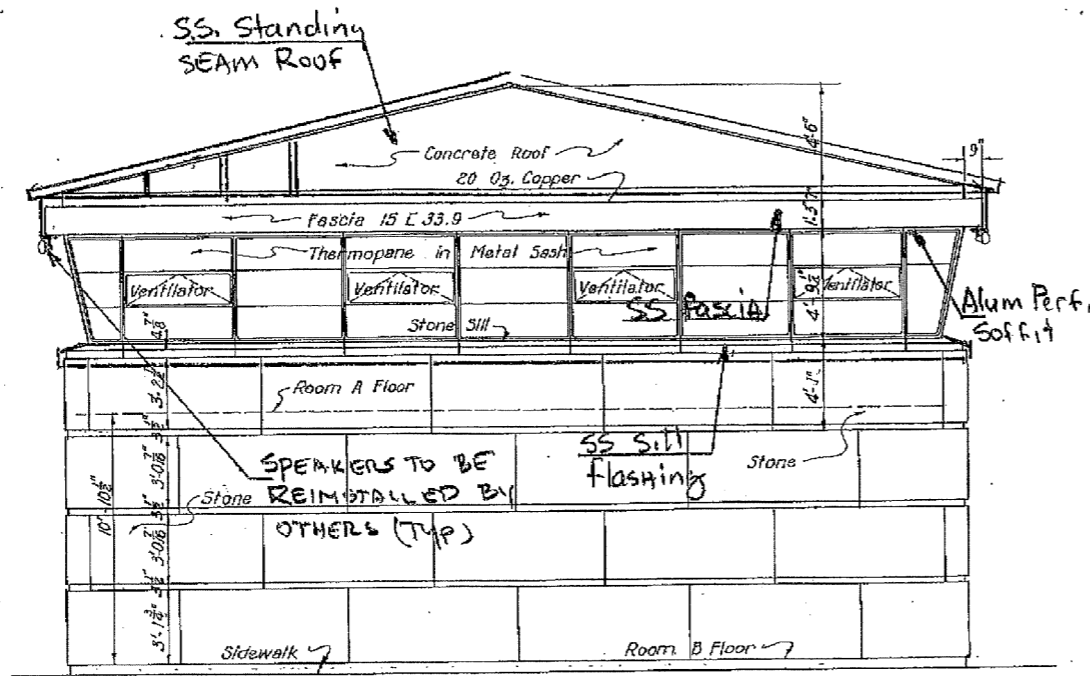
() INDICATES THE ESTIMATED NO. OF GALVANIC ANODES PER PATCH

NORTH ABUTMENT ELEVATION

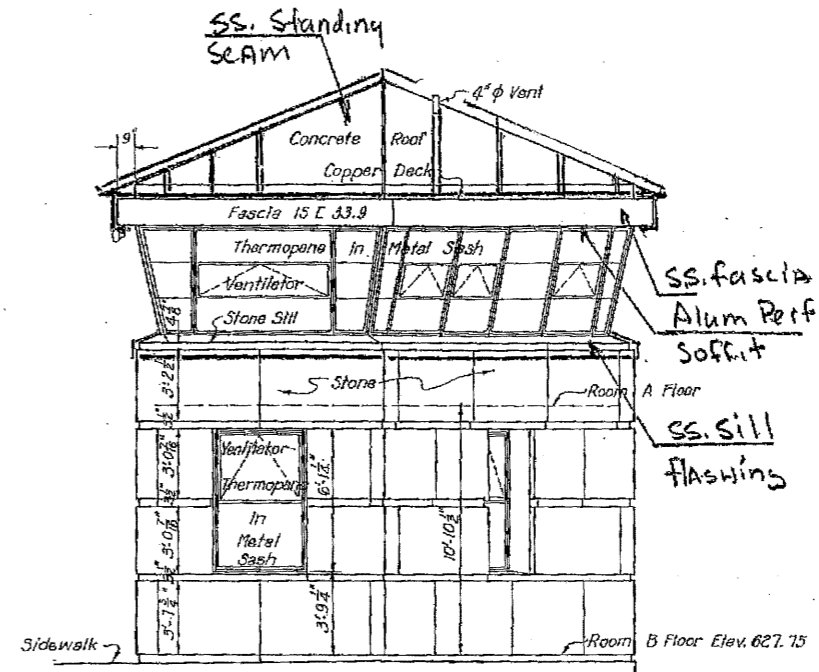
TOTAL PATCHING = 32 SQ. FT. x 1.25 = 40 SQ. FT.
ESTIMATED NUMBER OF GALVANIC ANODES = 22



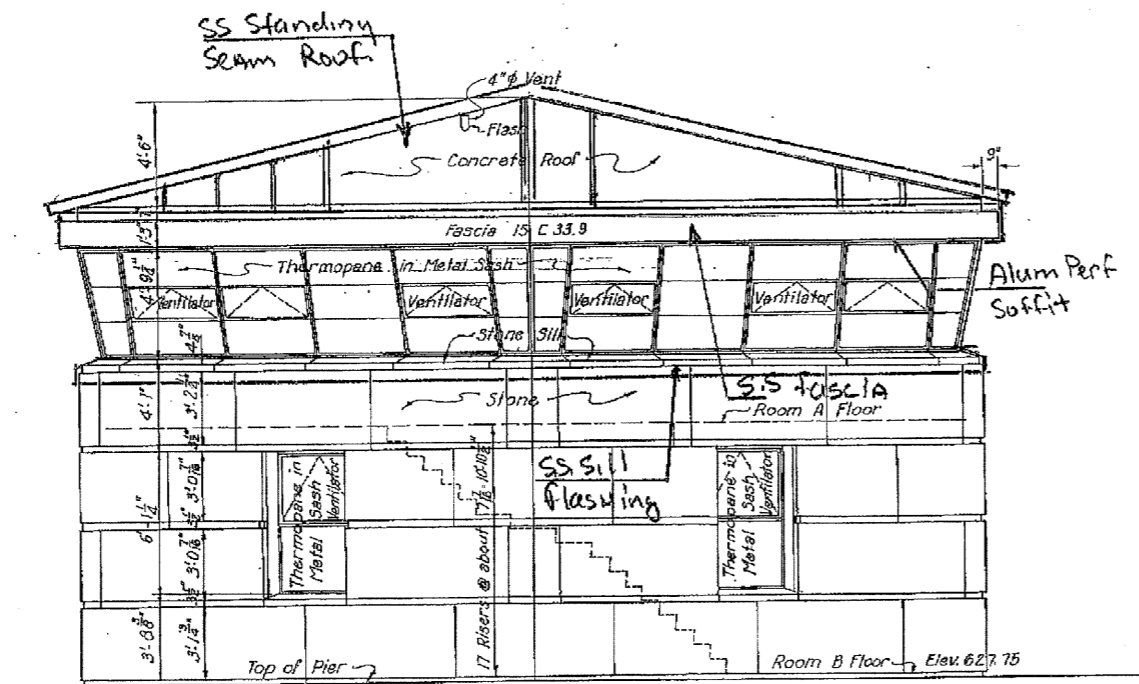
LUC-65-0535
 STRUCTURE, MISC.: TRUNNION PIER OPERATOR HOUSE ROOF



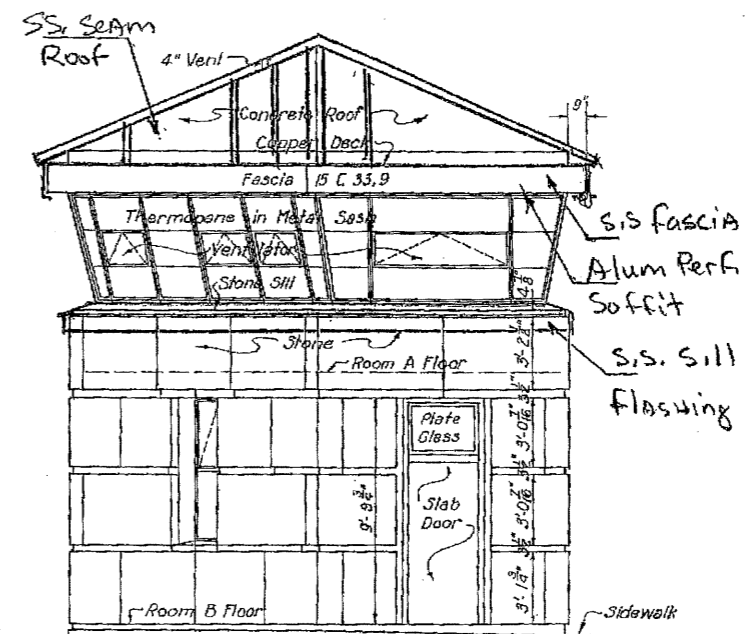
ROADWAY (WEST) ELEVATION



SOUTH ELEVATION



EAST ELEVATION



NORTH ELEVATION

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DESIGN AGENCY
 OHIO DEPARTMENT OF TRANSPORTATION
 DISTRICT No. 2
 PRODUCTION DEPARTMENT



DATE
 03-01-13

REVIEWED
 JML

STRUCTURE FILE NUMBER
 4805917

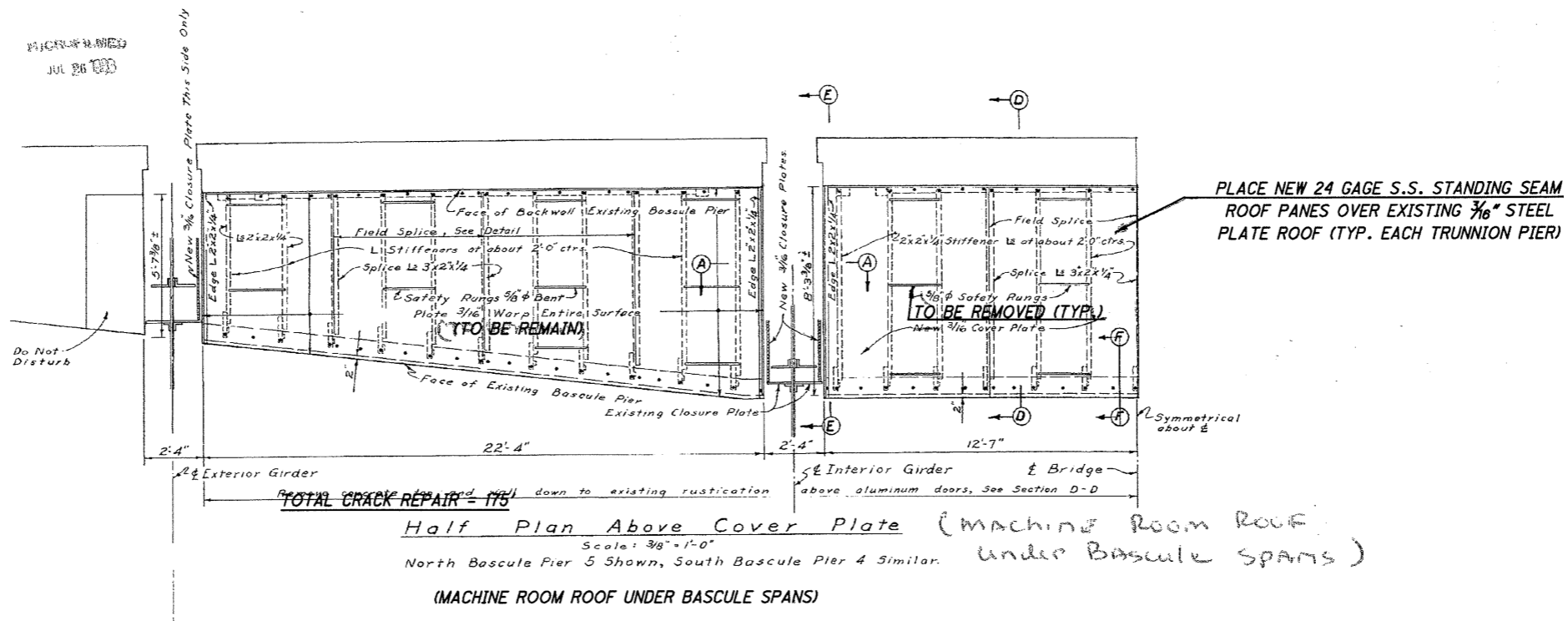
DRAWN
 JML

DESIGNED
 JTJB

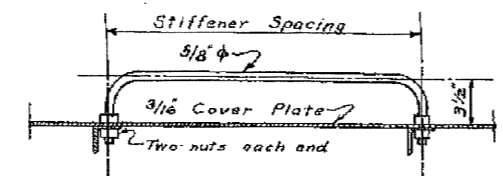
CHECKED

STRUCTURE DETAILS
 OPERATOR HOUSE ROOF
 BRIDGE NO. LUC-65-0535
 OVER MAUMEE RIVER

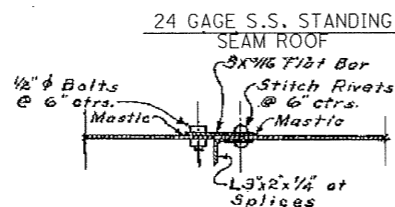
LUC-65-05.35
 PID No. 80556



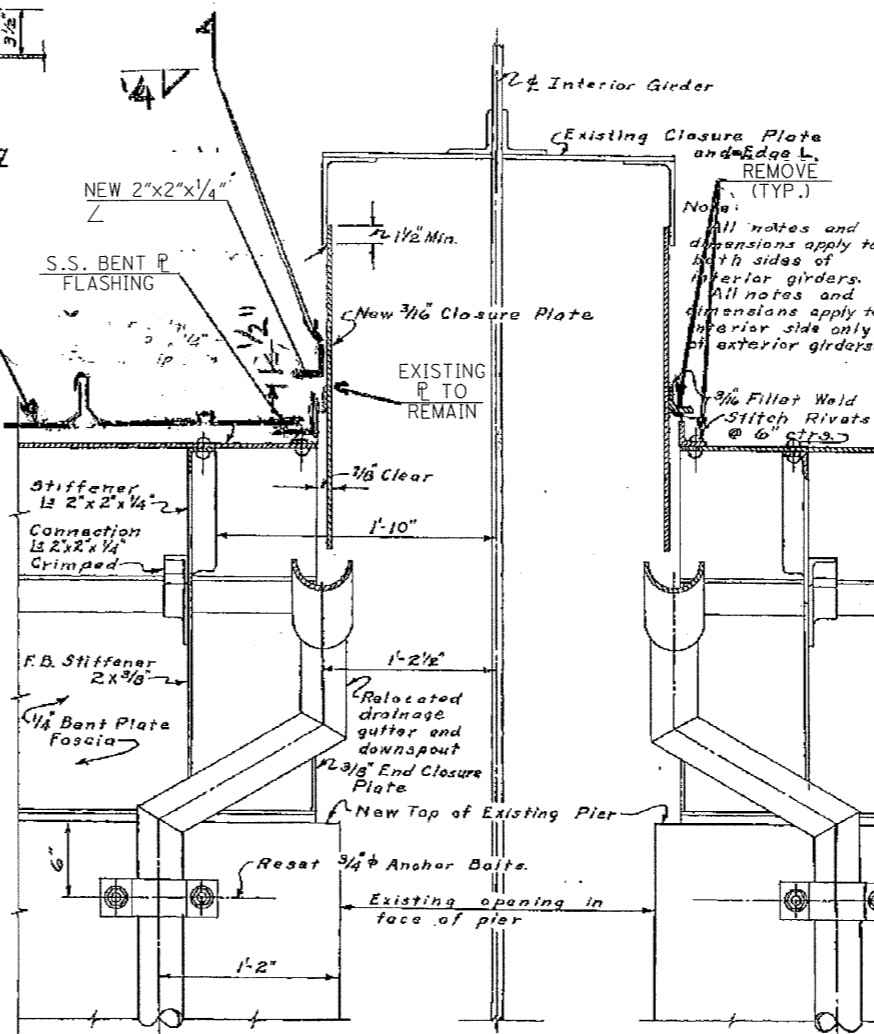
LUC-65-0535 STRUCTURE, MISC.: TRUNNION PIER MACHINE ROOM ROOF



Detail of Safety Rung
Scale: 1 1/2" = 1'-0"
(TO BE REMOVED)




Detail of Cover Plate Splice
Scale: 1 1/2" = 1'-0"



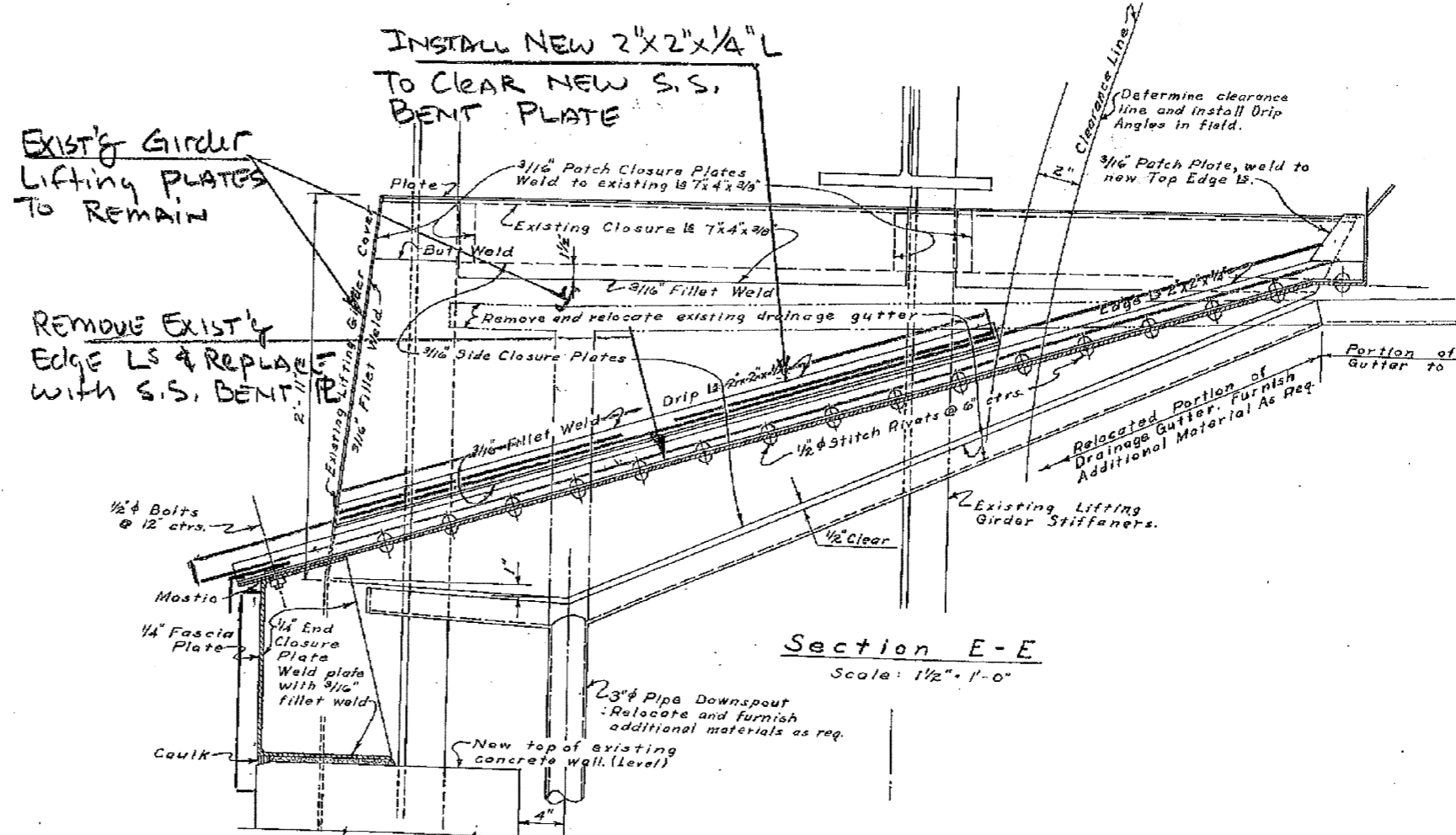
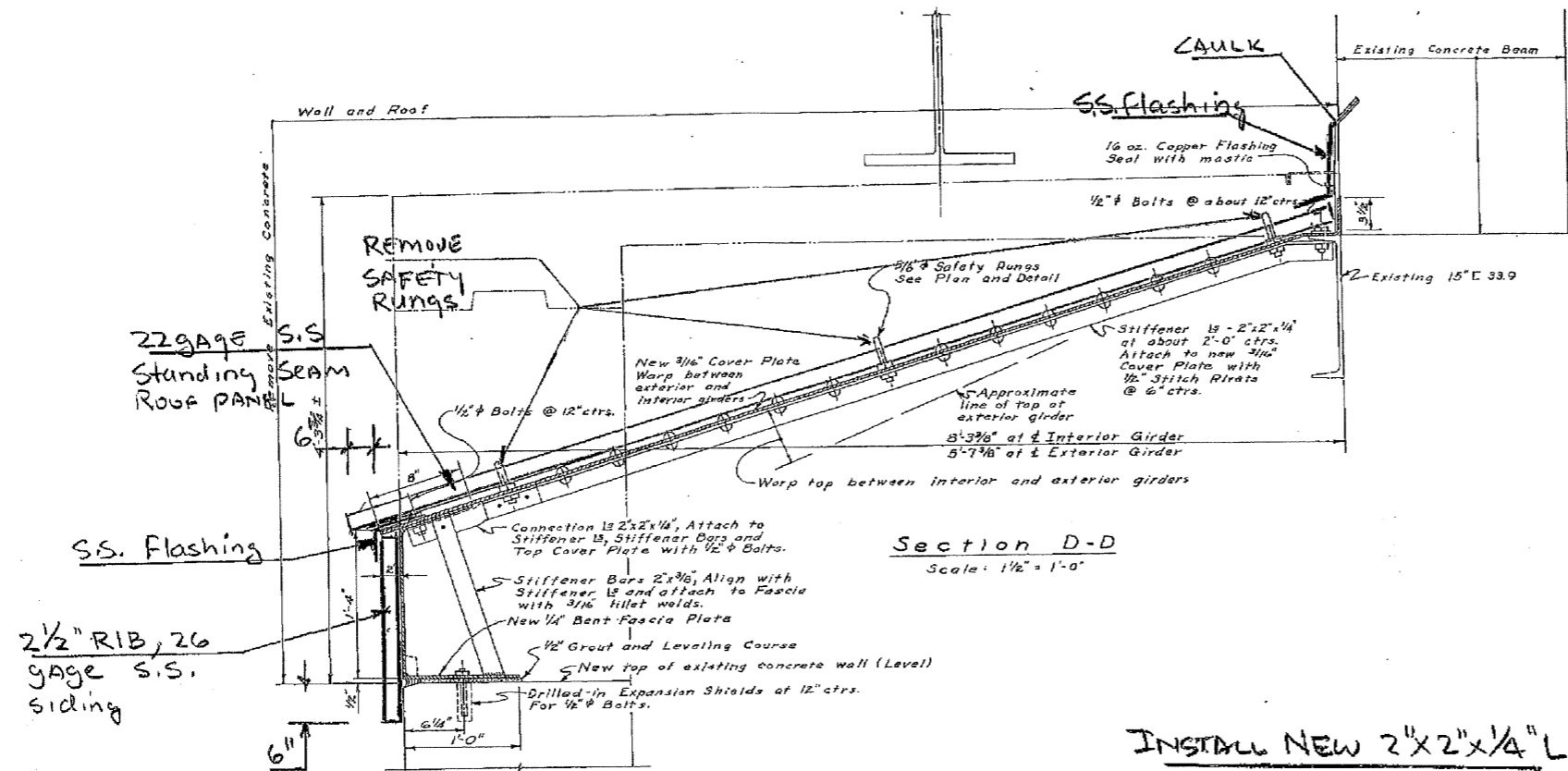
Section A-A
Scale: 1 1/2" = 1'-0"

Note:
All notes and dimensions apply to both sides of interior girders.
All notes and dimensions apply to interior side only of exterior girders.

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	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 PRODUCTION DEPARTMENT	DATE 03-01-13	REVIEWED JML	STRUCTURE FILE NUMBER 4805917
DRAWN JML	DESIGNED JTB	CHECKED 	REVISED 	
STRUCTURE DETAILS BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER				
LUC-65-05.35 PID No. 80556				
52 53				

LUC-65-0535 STRUCTURE, MISC.: TRUNNION PIER MACHINE ROOM ROOF



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	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT No. 2 PRODUCTION DEPARTMENT
DATE 03-01-13	REVIEWED JML
DRAWN JML	STRUCTURE FILE NUMBER 4805917
DESIGNED JTB	CHECKED DAH
STRUCTURE DETAILS BRIDGE NO. LUC-65-0535 OVER MAUMEE RIVER	
LUC-65-05.35 PID No. 80556	
53 53	