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 PLOT SUBMITTED: 26-JUL-1994 13:13

ITEM 513 - STRUCTURAL STEEL, MISC: REPLACE EXISTING RIVET OR BOLT WITH NEW HIGH STRENGTH BOLT

ALL RIVETS OR BOLTS MARKED TO BE REMOVED AND REPLACED IN THE PLAN SHEETS OR AS DIRECTED BY THE ENGINEER ARE TO BE PAID FOR UNDER THIS ITEM. HOWEVER, ANY BOLT OR RIVET THAT IS FOUND TO BE BADLY DETERIORATED MAY BE MARKED BY THE ENGINEER FOR REMOVAL. AT THE LOCATIONS DIRECTED BY THE ENGINEER, EXISTING DETERIORATED RIVETS OR BOLTS SHALL BE COMPLETELY REMOVED AND NEW BOLTS INSTALLED. THE NEW BOLT SHALL BE THE SAME SIZE AS THE ORIGINAL BOLTS, OR 1/8 INCH LARGER IN DIAMETER THAN THE RIVET. EXISTING RIVET HOLES SHALL BE REAMED LARGER ACCORDINGLY. IN GENERAL, EXISTING RIVETS ARE 7/8 INCH DIAMETER AND NEW BOLTS SHALL BE 1 INCH DIAMETER. THE CONTRACTOR SHALL VERIFY EXISTING RIVET AND BOLT SIZE.

THE NEW BOLTS WILL BE HEX HEAD GALVANIZED ASTM 325 HIGH STRENGTH BOLTS AND INSTALLED AS PER ITEM 513.

THE SEQUENCE AND THE METHOD OF WORK SHALL BE DETERMINED BY THE CONTRACTOR AND AS APPROVED BY THE ENGINEER. BURNING THROUGH THE SHANK OF THE FASTENER WILL NOT BE PERMITTED. THE DETAILS OF THE CONTRACTOR'S PROPOSED METHOD SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL.

FOR EXISTING STEEL ADJACENT TO THE REMOVED FASTENER SHALL BE CLEANED OF ALL PAINT AND RUST AND GROUND SMOOTH AS APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL EXERCISE EXTREME CARE DURING THE REMOVAL OPERATION SO AS NOT TO DAMAGE THE UNDERLYING CONNECTED MATERIALS. ANY DAMAGE TO THE CONNECTED MATERIAL DUE TO THE CONTRACTOR'S REMOVAL OPERATION SHALL BE RECTIFIED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE. THE COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE REMOVAL OF EXISTING RIVETS AND COMPLETE INSTALLATION OF NEW BOLTS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR EACH RIVET OR BOLT REPLACED. PAYMENT SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC: REPLACE EXISTING RIVET OR BOLT WITH NEW HIGH STRENGTH BOLT

ITEM 513 - STRUCTURAL STEEL, MISC: TIGHTENING LOOSE BOLT

THIS ITEM SHALL CONSIST OF TIGHTENING LOOSE BOLTS AS IDENTIFIED ON THE FRAMING PLANS AND AS DIRECTED BY THE ENGINEER.

THE PROJECT ENGINEER SHALL MARK THE BOLTS TO BE TIGHTENED. ACCESS TO ALL AREAS OF THE BRIDGE FOR INSPECTION BY THE PROJECT ENGINEER SHALL BE PROVIDED BY THE CONTRACTOR. ALL WORK SHALL BE IN ACCORDANCE TO 513 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

THE ACCEPTED NUMBER OF BOLTS TIGHTENED WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER BOLT, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR AND EQUIPMENT NECESSARY TO INSPECT AND TIGHTEN EACH BOLT. PAYMENT SHALL BE MADE AT THE CONTRACT PRICE BID UNDER:

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC: TIGHTENING LOOSE BOLT

ITEM SPECIAL FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU

- A. PAIN SYSTEM: THE PROPOSAL NOTE TITLED FIELD PAINTING OF EXISTING STRUCTURAL STEEL, SYSTEM OZEU SHALL BE USED TO COAT THE STRUCTURES IN THIS PROJECT.
- B. COLOR OF FINISH COAT: THE FINISH COAT SHALL BE GREEN MATCHING FEDERAL COLOR STANDARD NO. FS-595A-14090.
- C. NIGHTTIME WORK IS PROHIBITED.

ITEM 513 - STRUCTURAL STEEL, MISC: TRUSS CHORD REPAIR

THIS WORK SHALL CONSIST OF THE FOLLOWING SEQUENCE OF OPERATIONS PERFORMED AT THE TRUSS CHORD REPAIR LOCATION:

1. REMOVE AND DISCARD THE EXISTING BOLTS AND/OR RIVETS IN THE AREA TO BE COVERED WITH THE NEW PLATES.
2. PENCIL ABRASIVE BLAST, GRIND AND NDT THE CRACK LOCATION AREA TO DETERMINE THE LIMIT OF THE CRACK. THIS SHALL BE PERFORMED AND PAID FOR UNDER: ITEM 513 - STRUCTURAL STEEL MISC: PENCIL ABRASIVE BLASTING, GRINDING AND NDT.
3. DRILL HOLES TO REMOVE CRACK TIPS. THE DRILLING SHALL BE PERFORMED ACCORDING TO AND PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC: DRILLING STRUCTURAL STEEL.
4. CLIP THE SPLICE PLATE, AS NEEDED FOR INSTALLATION, AROUND RIVETS OR BOLTS TO REMAIN. THE PLATES SHALL BE A36 STEEL CONFORMING TO ITEM 513.
5. LOCATE BOLT HOLES AND FIELD DRILL HOLES IN THE SPLICE PLATE AND THE SHIM PLATE.
6. PLACE PLATE AND 1" DIAMETER HIGH STRENGTH BOLTS. TIGHTEN BOLTS AS PER 513.

THE ACCEPTED NUMBER OF REPAIRS AS DETAILED ABOVE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR EACH TRUSS CHORD LOCATION TO BE REPAIRED. PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR REMOVAL OF BOLTS OR RIVETS AND THE FURNISHING AND INSTALLATION OF THE PLATES AND HIGH STRENGTH BOLTS. PAYMENT SHALL BE UNDER:

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL MISCELLANEOUS: TRUSS CHORD REPAIR

ITEM SPECIAL - PACK RUST REPAIR AND CAULKING

THIS ITEM SHALL INCLUDE THE REPAIR OF PACK-RUSTED AREAS AND THE CAULKING OF SEAMS BETWEEN ADJACENT STEEL PIECES OF A BRIDGE MEMBER AT THE FOLLOWING LOCATIONS:

1. TOP AND BOTTOM CHORDS OF TRUSS
2. VERTICALS AND DIAGONALS OF TRUSS.
3. STRINGERS IN SPAN (1) ONE AND (5) FIVE.
4. ALL BUILT-UP MEMBERS AT EXPANSION JOINTS.
5. GUSSET PLATES AT TOP AND BOTTOM CHORDS AND AT EXPANSION JOINTS.
6. AREAS MARKED ON THE PLANS.
7. ANY ADDITIONAL BUILT-UP MEMBER HAVING PACK-RUST.
8. AS DIRECTED BY THE ENGINEER.

ABRASIVE BLASTING PER OZEU SPECIFICATION SHALL BE PERFORMED BEFORE REPAIR OF PACK-RUSTED AREAS OR CAULKING OCCURS.

JOINTS THAT HAVE PACK-RUST SHALL RECEIVE ADDITIONAL PREPARATION IN ADDITION TO THE ABRASIVE BLAST AS PER THE OZEU SPECIFICATION. PACK-RUSTED JOINTS ARE DEFINED AS JOINTS WHERE ADJACENT STEEL PLATES ARE RUSTED APART MORE THAN 1/8".

PACK-RUST SHALL BE REMOVED FROM JOINTS BY CHIPPING, HAMMERING, PUNCHING, CHISELING, OR BY OTHER SUITABLE MEANS AFTER WHICH THE REMAINING LOOSE RUST SHALL BE REMOVED BY ABRASIVE BLASTING. THE PACK-RUST SHALL BE REMOVED TO A DEPTH OF AT LEAST EQUAL TO THE WIDTH OF THE GAP. ALL JOINTS SHALL THEN BE VACUUMED WITH A COMMERCIAL VACUUM HAVING A NOZZLE OPENING OF 1" TO 1 1/2".

THE CAULKING SHALL BE APPLIED EVENLY TO THE AREAS AS DEPICTED IN TYPICAL PLAN DETAILS. VOIDS SHALL BE COMPLETELY FILLED. CAULKING SHALL BE APPLIED BY TROWEL OR CAULKING GUN. THE CAULKING SHALL BE SPREAD SMOOTHLY USING HEAVY PRESSURE TO DISPLACE AIR BUBBLES. EXCESS MATERIAL SHALL BE REMOVED IMMEDIATELY.

THE MATERIAL SHALL BE A TWO COMPONENT, 100% SOLIDS EPOXY AND SHALL BE ONE OF THE FOLLOWING:

MANUFACTURER

- MARK 270
POLY-CARB
SOLON, OH
216-248-1223
- KOP-COAT A-788
SPLASH ZONE COMPOUND
CARBOLINE COMPANY
HAMILTON, OH
513-896-1919

CONTINUED

SIKADUR INJECTIONGEL
SIKA CHEMICAL CORP.
LYNDHURST, N.J.
201-933-8801

OR OTHER COMMERCIALY
AVAILABLE, 100% SOLID,
NON-SAG, NON-SHRINK EPOXY
BASED SYSTEM CAPABLE OF
FILLING VOIDS UP TO 1" WIDE

THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR REMOVAL OF THE PACK-RUST AND INSTALLATION OF THE CAULKING SHALL BE INCLUDED FOR PAYMENT IN THE BID PRICE PER LINEAR FOOT FOR PACK-RUST REPAIR AND CAULKING.

PAYMENT SHALL BE MADE AT THE CONTRACT PRICE BID UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL	LIN. FT.	PACK RUST REPAIR AND CAULKING

ITEM SPECIAL - REMOVAL OF PACK-RUST BETWEEN TRUSS MEMBERS

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE PACK-RUST BETWEEN THE VARIOUS TRUSS MEMBERS AT ONE PIN LOCATION. LOCATIONS ARE THE UPPER AND LOWER PINS IN ALL FOUR TRUSSES AT PANEL PONTS 9 AND 15. SPACES FROM WHICH PACK RUST MUST BE REMOVED AT A LOCATION INCLUDE:

1. BETWEEN THE PIN NUT AND GUSSET PLATE
2. BETWEEN THE GUSSET PLATE AND PIN PLATE
3. BETWEEN THE PIN PLATE AND HANGER PLATE

PACK-RUST SHALL BE REMOVED FROM THESE SPACES BY CHIPPING, HAMMERING, PUNCHING, CHISELING OR BY OTHER SUITABLE MEANS WITHOUT DAMAGING OR DISASSEMBLING THE HANGERS. THIS SHALL PRECEDE THE ABRASIVE BLASTING AS PER THE OZEU SPECIFICATION. MEMBERS NEXT TO EACH OTHER THAT ARE SUSCEPTIBLE TO RELATIVE MOVEMENT SHALL BE LUBRICATED WITH CHEVRON ULTRA DUTY II GREASE MEMBERS. AFTER PAINTING PER OZEU.

THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO REMOVE THE PACK-RUST AND INSTALL THE LUBRICANT.

PAYMENT SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL	EACH	REMOVAL OF PACK RUST REMOVAL BETWEEN TRUSS MEMBERS

ITEM SPECIAL - CLEANING BRIDGE DECK AND DRAINAGE SYSTEM

THIS ITEM SHALL CONSIST OF REMOVING ALL DIRT AND DEBRIS FROM THE DECK AND DRAINAGE SYSTEM INCLUDING THE UNDERGROUND SYSTEM. AFTER DIRT AND DEBRIS ARE REMOVED FROM THE SYSTEM IT SHALL BE FLUSHED WITH CLEAN WATER MAKING CERTAIN THE WATER FLOWS SMOOTHLY. ALL ITEMS REMOVED FOR THE PURPOSE OF CLEANING, SUCH AS CLEANED OUT CAPS, SHALL BE REPLACED. THIS CLEANING SHALL OCCUR AFTER ALL OPERATIONS THAT WOULD INTRODUCE DIRT TO THE DECK OR DRAINAGE SYSTEMS ARE COMPLETE.

THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO COMPLETE THE CLEANING OF THE BRIDGE DECK AND DRAINAGE SYSTEM.

PAYMENT SHALL BE MADE UNDER:

ITEM	UNITS	DESCRIPTION
SPECIAL	LUMP	CLEANING BRIDGE DECK AND DRAINAGE SYSTEM

OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 12 BRIDGE DEPT.
 REVIEWED DATE 6/24/94
 GWM STRUCTURE FILE NUMBER 4304950
 4304985
 DRAWN MFC
 REVISIONS
 DESTINED BGW
 CHECKED DWL
 FRAMING ELEVATION LAK-90-2342R
 I-90 EB OVER THE GRAND RIVER
 LAKE COUNTY LAK-90-23.42
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