

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-2-14.41
BRIDGE REHABILITATION
CITY OF CLEVELAND
CUYAHOGA COUNTY

PROJECT DESCRIPTION

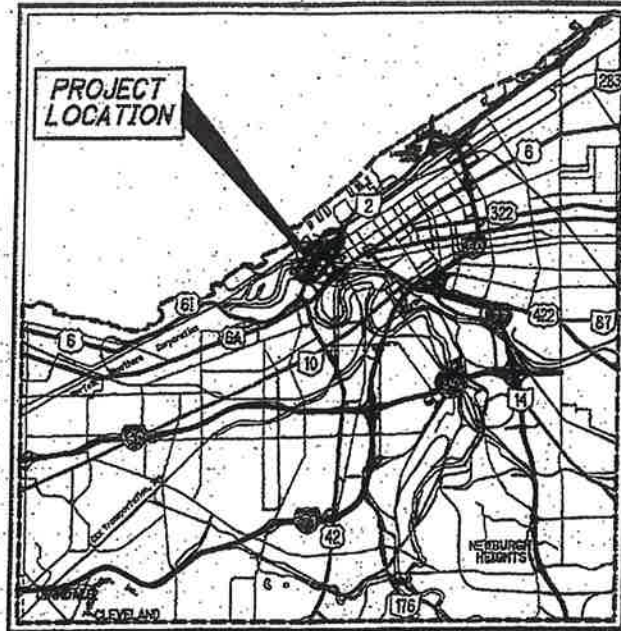
THE PROPOSED PROJECT INCLUDES PATCHING OF CONCRETE SUBSTRUCTURE UNITS, SUPERSTRUCTURE STEEL REPAIRS, REPLACEMENT OF JOINT GLANDS, REMOVAL OF UTILITY DECK, AND DRAINAGE REPLACEMENT AND REPAIRS.

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

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.



LOCATION MAP

LATITUDE: N 41°29'55" LONGITUDE: W 81°42'19"

SCALE IN MILES



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

INDEX OF SHEETS:

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AS BUILT

PROJECT EARTH DISTURBED AREA	= N/A (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	= N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT DISTURBED AREA	= N/A (MAINTENANCE PROJECT)

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

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

PLAN PREPARED BY:

55 PUBLIC SQUARE, SUITE 1600
CLEVELAND, OHIO 44113



SIGNED: [Signature]
DATE: August 30, 2013

	STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
	NO.	DATE	NO.	DATE		
	BR-2-98	07-20-12	800	10-18-2013		
	VPF-1-90	04-15-11	849	01-18-2013		
	RM-5.1	04-18-03				
	F-1.1	07-18-13				

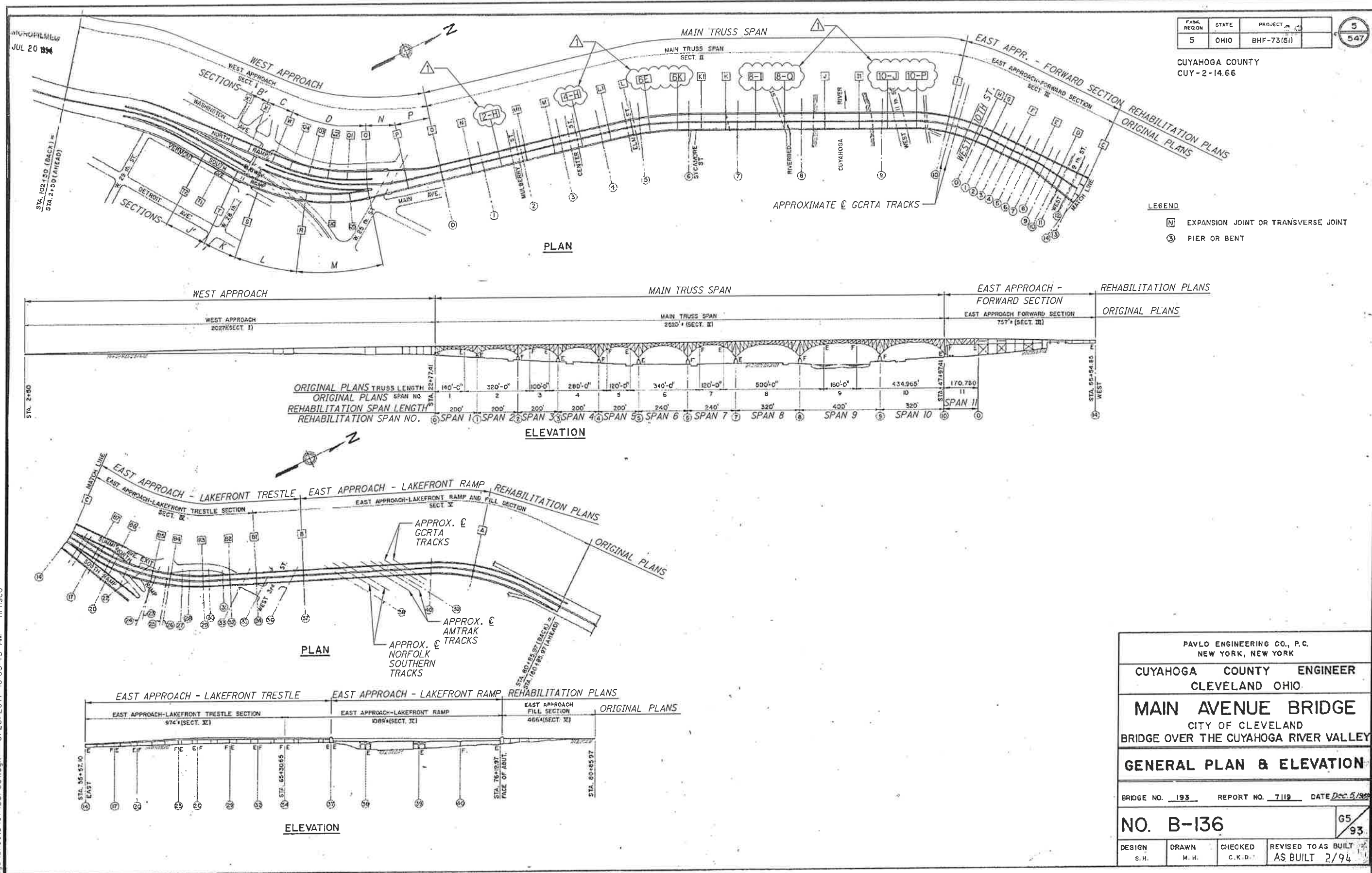
APPROVED: [Signature]
DATE: 07-04-13 DISTRICT DEPUTY DIRECTOR

APPROVED: [Signature]
DATE: 8-16-13 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. N/A
PID NO. 91115
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
CUY-2-14.41
1
189

CUY-SR-2-14.41
140003 PID-91115
Dist 12 1/9/2014
Contract Proposal Available @ www.contracts.dot.state.oh.us/home
B/30/2013 9:18:30 AM nrfisco

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FHWY. REGION	STATE	PROJECT	5
5	OHIO	BHF-73(51)	547

CUYAHOGA COUNTY
CUY-2-14.66

LEGEND

[N]	EXPANSION JOINT OR TRANSVERSE JOINT
[P]	PIER OR BENT

PAVLO ENGINEERING CO., P.C. NEW YORK, NEW YORK	
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO	
MAIN AVENUE BRIDGE CITY OF CLEVELAND BRIDGE OVER THE CUYAHOGA RIVER VALLEY	
GENERAL PLAN & ELEVATION	
BRIDGE NO. 193	REPORT NO. 7119 DATE Dec 5/88
NO. B-136	
DESIGN S.H.	DRAWN M.H.
CHECKED C.K.D.	REVISED TO AS BUILT AS BUILT 2/94

DESIGN AGENCY
Train Systems
15 PUBLIC SQUARE, SUITE 1800
CLEVELAND, OHIO 44114

DATE 08/16/13
REVIEWED WRW
DRAWN C.T.G.
DESIGNED C.T.G.
CHECKED N.R.F.

STRUCTURE FILE NUMBER 1800035

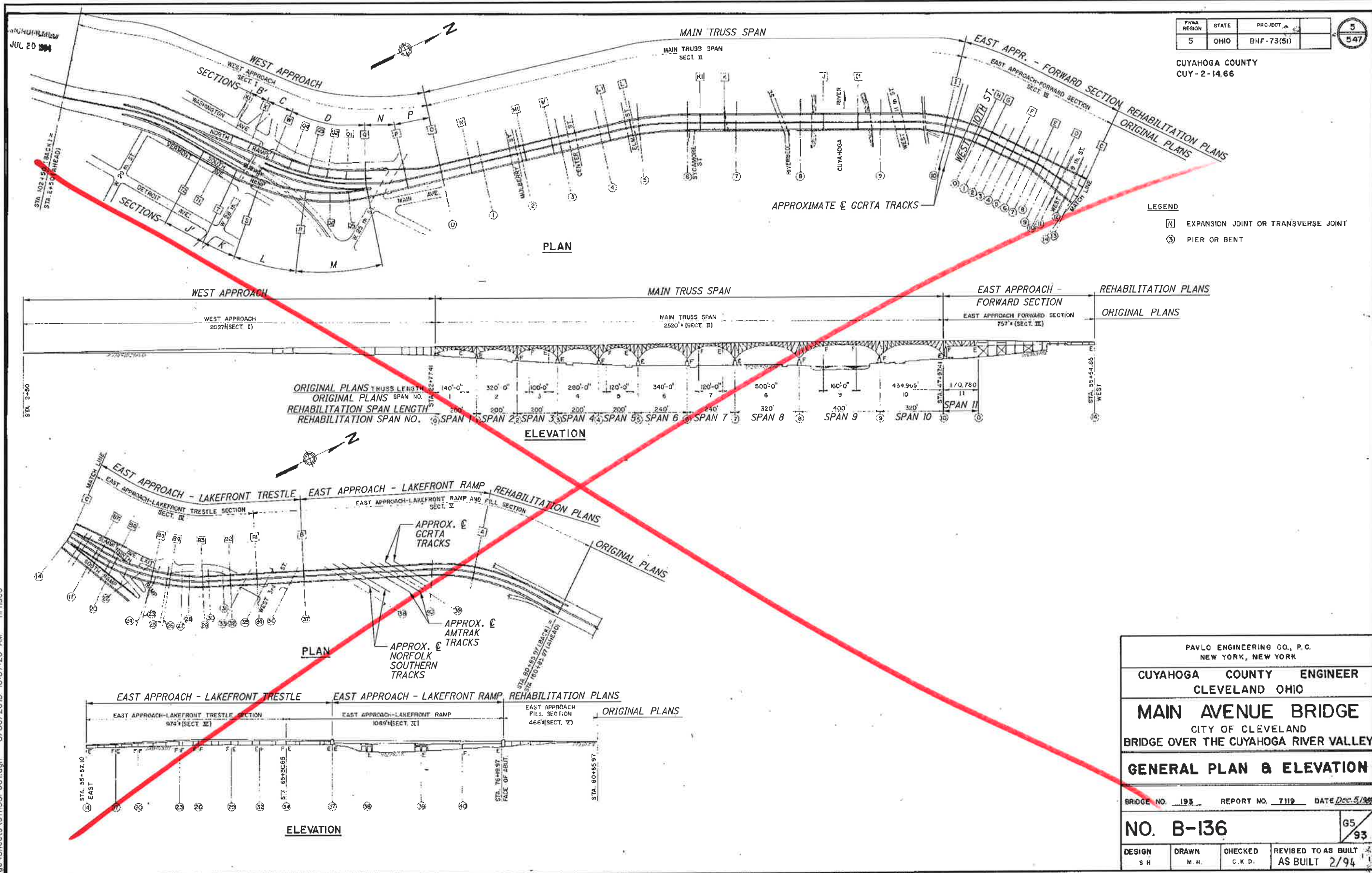
STA. 2+50.00
STA. 80+85.97

SITE PLAN
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

CUY-2-14.41
PID No. 91115

NOTES:
1. IMAGE IS TAKEN FROM THE 1994 AS-BUILT REHABILITATION DRAWINGS, SHEET 5 OF 547, GENERAL PLAN & ELEVATION MAIN AVENUE BRIDGE OVER THE CUYAHOGA RIVER VALLEY. SOME INFORMATION FROM THE ORIGINAL SHEET HAS BEEN REMOVED.

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FINAL REGION	STATE	PROJECT	547
5	OHIO	BHF-73(51)	

CUYAHOGA COUNTY
CUY-2-14.66

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1800
CLEVELAND, OHIO 44113

DATE
08/16/13

REVIEWED
WRW

DESIGNED
CTG

STA. 2+50.00
STA. 80+85.97

SITE PLAN
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

CUY-2-14.41
PID No. 91115

PAVLO ENGINEERING CO., P.C. NEW YORK, NEW YORK			
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO			
MAIN AVENUE BRIDGE CITY OF CLEVELAND BRIDGE OVER THE CUYAHOGA RIVER VALLEY			
GENERAL PLAN & ELEVATION			
BRIDGE NO.	REPORT NO.	DATE	
193	7119	Dec. 5/94	
NO. B-136			G5 93
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
S.H.	M.H.	C.K.D.	AS BUILT 2/94

NOTES:

1. IMAGE IS TAKEN FROM THE 1994 AS-BUILT REHABILITATION DRAWINGS, SHEET 5 OF 547, GENERAL PLAN & ELEVATION MAIN AVENUE BRIDGE OVER THE CUYAHOGA RIVER VALLEY. SOME INFORMATION FROM THE ORIGINAL SHEET HAS BEEN REMOVED.

DESIGN SPECIFICATIONS

THE WORK ON THIS STRUCTURE SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION, INCLUDING THE 2002 INTERIM SPECIFICATIONS, AND THE 2004 ODOT BRIDGE DESIGN MANUAL, INCLUDING 1-18-13 INTERIMS.

DESIGN LOADING

HS20-44 CASE I OR THE ALTERNATE MILITARY LOADING. NO FUTURE WEARING SURFACE.

DESIGN DATA

- NEW STRUCTURAL STEEL - ASTM A709 GRADE 50 YIELD STRENGTH 50 KSI
- NEW CONCRETE CLASS QC2 - 4500 PSI COMPRESSIVE STRENGTH
- NEW REINFORCING STEEL - ASTM A615 GRADE 60 YIELD STRENGTH 60 KSI

STANDARD DRAWINGS

THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS ARE REFERENCED IN THE PLANS:

- BR-2-98 (REVISED) 07-20-12
- VPF-1-90 (REVISED) 04-15-11
- RM-5.1 (REVISED) 04-18-03
- F-1.1 (REVISED) 07-19-13

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN IN 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 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.

PREVIOUS CONSTRUCTION PLANS

- ORIGINAL PLANS (DATED) 1938
- ORIGINAL SHOP DRAWINGS (DATED) 1938
- REHABILITATION PLANS (DATED) 1983
- REHABILITATION PLANS (DATED) 1994
- REHABILITATION PLANS (DATED) 2012

THE EXISTING STRUCTURE PLANS MAY BE REVIEWED AT THE:

OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 12 OFFICE 5500 TRANSPORTATION BOULEVARD GARFIELD HEIGHTS, OH 44125

THE EXISTING PLANS ARE ALSO AVAILABLE THROUGH THE FOLLOWING ODOT WEBSITE:

HTTP://WWW.DOT.STATE.OH.US/DIVISIONS/CONTRACTADMIN/CONTRACTS/PAGES/DESIGNFILES.ASPX

NOTIFICATION

THE CONTRACTOR SHALL NOTIFY IN WRITING THE FOLLOWING AGENCIES AT LEAST 14 DAYS PRIOR TO THE START OF CONSTRUCTION, AND AT LEAST 72 HOURS BEFORE IMPLEMENTING ANY SUBSTANTIAL CHANGE IN TRAFFIC PATTERN OR TEMPORARY LANE CLOSURES:

THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 12 PUBLIC INFORMATION OFFICE

THE CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS PUBLIC INFORMATION OFFICE

THE CITY OF CLEVELAND POLICE, FIRE, EMERGENCY MEDICAL AND SERVICE DEPARTMENTS

THE CITY OF CLEVELAND COMMISSIONER OF TRAFFIC ENGINEERING, ADMINISTRATIVE BUREAU MANAGER, COMMISSIONER OF EMERGENCY MEDICAL SERVICES, POLICE TRAFFIC COMMISSIONER, FIRE CHIEF

THE GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY NORTHEAST OHIO REGIONAL SEWER DISTRICT

THE CITY OF CLEVELAND DIVISION OF AIR QUALITY

THE CLEVELAND/CUYAHOGA PORT AUTHORITY

THE ARMY CORPS OF ENGINEERS

THE CITY OF CLEVELAND, BUREAU OF BRIDGES AND DOCKS CLEVELAND CITY HALL 601 LAKESIDE AVENUE, ROOM 518 CLEVELAND, OHIO 44114 ATTN: ROMAS PLIODZINSKAS PHONE: (216) 857-7520

LAKE CARRIERS' ASSOCIATION 20325 CENTER RIDGE RD. ROCKY RIVER, OH 44116-3572 ATTN: GLEN NEKVASIL, VICE PRESIDENT-CORPORATE COMMUNICATIONS PHONE: (440) 333-9996

HISTORIC WAREHOUSE DISTRICT DEVELOPMENT CORPORATION 614 WEST SUPERIOR AVENUE - SUITE 880 CLEVELAND, OH 44113 ATTN: THOMAS STARINSKY, ASSOCIATE DIRECTOR PHONE: (216) 409-7054 (CELL)

FLATS FORWARD ATTN: MARK LAMMON, ACTING DIRECTOR PHONE: (216) 973-2217 (CELL)

FLATS INDUSTRY ASSOCIATION 820 WEST SUPERIOR AVE CLEVELAND, OHIO 44113 ATTN: JIM COX, DIRECTOR PHONE: (216) 241-8060

THE CITY OF CLEVELAND HAS JURISDICTION OVER LOCAL ROADS BENEATH THE MAIN AVENUE BRIDGE.

ALL WORK TO BE PERFORMED IN TRUSS SPAN 11 OVER THE GCRTA WATERFRONT LINE RIGHT OF WAY SHALL BE COORDINATED WITH THE GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY.

ALL WORK TO BE PERFORMED IN SECTIONS D AND M OF THE WEST APPROACH SHALL BE COORDINATED WITH THE CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS.

CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS 6100 WEST CANAL ROAD VALLEY VIEW, OHIO 44125 ATTN: JAMES J. HAZIMHALIS, P.E., MAINTENANCE SUPERINTENDENT - ROADS AND BRIDGES PHONE: (216) 348-3880

WORK IN AND OVER THE CUYAHOGA RIVER

IN-STREAM WORK, IMPACTS TO WETLANDS, AND RESTRICTIONS TO NAVIGATION (THE CURRENT PERMITTED BRIDGE CLEARANCE) ARE NOT AUTHORIZED. HOWEVER, IF ANY REPAIR WORK ALTERS THE CHARACTER OF THE PERMITTED CLEARANCE OF THE BRIDGE, THEN THE UNITED STATES COAST GUARD (USCG) MUST BE CONTACTED PRIOR TO THE WORK AND A USCG SECTION 9 PERMIT OBTAINED. IF ANY IMPACTS TO THE CUYAHOGA RIVER OR ANY WETLANDS ARE DEEMED NECESSARY, THE CONTRACTOR SHALL COORDINATE WITH THE OFFICE OF ENVIRONMENTAL SERVICES AT (614) 466-7100. SHOULD THE CONTRACTOR NEED TO WORK IN AND ABOVE THE CUYAHOGA RIVER, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES IN WRITING AT LEAST 60 DAYS PRIOR TO THE COMMENCEMENT OF WORK.

THE UNITED STATES COAST GUARD COMMANDER, NINTH COAST GUARD DISTRICT (DPB) 1240 EAST 9TH STREET, ROOM 2025 CLEVELAND, OHIO 44199-2060 ATTN: SCOT STRIFFLER, BRIDGE PROGRAM MANAGER PHONE: (216) 902-6087

CLEVELAND-CUYAHOGA COUNTY PORT AUTHORITY ONE CLEVELAND CENTER, SUITE 2300 CLEVELAND, OHIO 44114 ATTN: SKIP JACOBSEN, CONSTRUCTION/ENGINEERING MANAGER PHONE: (216) 377-1338

THE CITY OF CLEVELAND, BUREAU OF BRIDGES AND DOCKS CLEVELAND CITY HALL 601 LAKESIDE AVENUE, ROOM 518 CLEVELAND, OHIO 44114 ATTN: ROMAS PLIODZINSKAS PHONE: (216) 857-7520

LAKE CARRIERS' ASSOCIATION 20325 CENTER RIDGE RD. ROCKY RIVER, OH 44116-3572 ATTN: GLEN NEKVASIL, VICE PRESIDENT-CORPORATE COMMUNICATIONS PHONE: (440) 333-9996

NAVIGATION TRAFFIC MUST BE MAINTAINED ON THE CUYAHOGA RIVER. UNITED STATES COAST GUARD FINES WILL BE ASSESSED FOR ANY ADDITIONAL TIME THAT RIVER TRAFFIC IS RESTRICTED BY THE CONTRACTOR FOR ACCESS TO THE STRUCTURE OUTSIDE OF THE PERMITTED TIMES.

THE CONTRACTOR SHALL NOTIFY THESE SAME AGENCIES WHEN THE WORK IS COMPLETED. THE UNITED STATES COAST GUARD HAS JURISDICTION OVER THE CUYAHOGA RIVER. NAVIGATION IN THE CUYAHOGA RIVER IS TO BE MAINTAINED AT ALL TIMES. WHEN THE WORK REQUIRES OPERATIONS ABOARD CONTRACTOR OPERATED CRAFT IN THE RIVER CHANNEL, THESE CRAFT WILL BE SELF-MOBILE AND ABLE TO OPERATE ON THEIR OWN. UPON RECEIVING NOTICE OF RIVER TRAFFIC REQUIRING PASSAGE, THE CONTRACTOR SHALL REMOVE THE CONSTRUCTION CRAFT AND CLEAR THE CHANNEL WITHIN AN HOUR.

THE SAME CLEARANCE AS PROVIDED BY THE NORMAL HEIGHT OF THE BRIDGE SHALL BE PROVIDED THROUGHOUT THE DURATION OF THE PROJECT.

ANY NIGHT WORK MUST BE APPROVED IN WRITING BY THE UNITED STATES COAST GUARD. IF FLOODLIGHTING IS TO BE USED ON THE PROJECT FOR NIGHTTIME WORK, THE CONTRACTOR SHALL TAKE CARE TO POINT LIGHTS AWAY FROM RIVER TRAFFIC VESSELS WHEN THEY PASS THROUGH.

NO SEPARATE PAYMENT WILL BE MADE FOR MEETING AND MAINTAINING THESE NAVIGATIONAL REQUIREMENTS. ALL COSTS SHALL BE INCLUDED IN THE APPROPRIATE BID ITEMS.

RIVET REMOVAL PROCEDURE

THE PROCEDURE FOR RIVET REMOVAL AND PREPARATION OF THE EXISTING HOLES FOR NEW BOLTS SHALL BE AS FOLLOWS:

RIVET REMOVAL - EXISTING RIVETS MAY BE REMOVED BY FIRST SAW CUTTING OR CHISELING HEADS OFF AND THEN REMOVING THE REMAINDER OF THE RIVET BY CHISELING OR OTHER MECHANICAL METHOD MEETING WITH THE APPROVAL OF THE ENGINEER. AT NO TIME SHALL FLAME CUTTING BE ALLOWED. CARE SHALL BE TAKEN TO ENSURE THAT REMOVAL OF THE EXISTING FASTENERS CAUSES NO DAMAGE TO THE CONNECTED ELEMENTS THAT ARE TO REMAIN. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A METHOD OF REPAIR TO THE ENGINEER FOR ANY EXISTING ELEMENTS DAMAGED DURING RIVET REMOVAL. ALL REPAIRS TO DAMAGED STEEL SHALL BE MADE AT NO ADDITIONAL COST TO THE PROJECT.

REAMING - OPEN RIVET HOLES THAT WILL RECEIVE NEW HIGH STRENGTH BOLTS SHALL BE PROPERLY SIZED TO A DIAMETER THAT IS ONE-SIXTEENTH INCH (1/16") LARGER THAN THE NEW BOLTS. IN THE EVENT THAT THE EXISTING RIVET HOLE IS NOT ADEQUATE TO ACCEPT THE NEW SPECIFIED BOLT, THE HOLE SHALL BE DRILLED OR REAMED AS REQUIRED TO PROVIDE A PROPER SIZED HOLE.

MATERIAL

ALL NEW STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50.

ALL NEW REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.

NEW BOLTS SHALL BE ASTM A325 HIGH STRENGTH BOLTS.

NEW BOLTS REPLACING RIVETS SHALL MATCH THE REPLACED RIVET SIZES, UNLESS NOTED OTHERWISE.

NEW MATERIAL SHALL BE CERTIFIED PER CMS 501.06.

LIMITATIONS OF OPERATIONS

WORK FOR THE SAME OR ANY COMBINATION OF THE FOLLOWING REPAIR TYPES CANNOT BE PERFORMED CONCURRENTLY IN THE SAME SPAN OR THE SPANS ADJACENT: GUSSET PLATE STRENGTHENING, REPLACEMENT OF A LATERAL/SWAY BRACING MEMBER, PERFORATED COVER PLATE RETROFIT TYPES 1 AND 2, AND INTERIOR DIAPHRAGM RETROFITS.

ALL NIGHT WORK SHALL BE APPROVED BY ODOT AND THE CITY OF CLEVELAND.

NO PERMANENT LANE CLOSURES WILL BE PERMITTED. TEMPORARY CLOSURES ARE ALLOWABLE AND WILL BE RESTRICTED TO TIMES PERMITTED BY ODOT AND THE CITY OF CLEVELAND.

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DESIGN AGENCY
DATE 08/16/13
REVIEWED WRW
STRUCTURE FILE NUMBER 1800035

DRAWN NRF
CHECKED CTC

STRUCTURE GENERAL NOTES (1 OF 10)
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

CUY-2-14.41
PID No. 91115

2 / 187

4
189

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

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESCRIPTION:

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, NOT INCLUDED IN OTHER PAY ITEMS, AND ALONG WITH MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

PERFORM ALL STEEL REMOVAL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING STEEL TO BE PRESERVED. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF CONCRETE REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

UTILITY DECK DESCRIPTION:

THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE FILLED STEEL GRID DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE NEW STRUCTURE.

PROTECTION OF STEEL SUPPORT SYSTEM:

BEFORE CONCRETE FILLED STEEL GRID DECK CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN 2 INCHES FROM THE TOP OF THE DECK. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO REMAIN AS PART OF THE STRUCTURE. THE CONTRACTOR IS TO REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY DECK CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED AND STAMPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

PROTECTION OF VEHICULAR AND PEDESTRIAN TRAFFIC:

THE CONTRACTOR IS TO PROVIDE ADEQUATE PROTECTION FOR THE TRAVELING PUBLIC BELOW THE UTILITY DECK DURING REMOVAL. SAFE PASSAGE FOR VEHICULAR AND PEDESTRIAN TRAFFIC MUST BE MAINTAINED AT ALL TIMES DURING DEMOLITION. DEMOLISHED MATERIAL IS NOT PERMITTED TO DROP TO THE GROUND. THE CONTRACTOR SHALL SUBMIT TRAFFIC AND PEDESTRIAN PROTECTION PLANS FOR APPROVAL PRIOR TO COMMENCEMENT OF DEMOLITION WORK.

DRAINAGE TROUGHS DESCRIPTION:

THIS WORK CONSISTS OF THE REMOVAL OF THE DRAINAGE TROUGHS, HOPPERS, AND THE ASSOCIATED CONNECTIONS IN THE MAIN TRUSS SPANS (INCLUDING SPAN 1), AS DETAILED IN THE PLANS.

MEASUREMENT AND PAYMENT:

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
202	LUMP	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

REMOVAL OF PARAPET DELAMINATIONS (WITHOUT PATCHING):

THIS WORK CONSISTS OF THE REMOVAL OF UNSOUND CONCRETE ON THE EXTERIOR OF THE FASCIA PARAPETS SURROUNDING PREDEFINED SPALLS AND DELAMINATIONS. THE CONTRACTOR SHALL SOUND THE STRUCTURE OVER THE ROADWAY OR PARKING LOTS AND REMOVE ALL UNSOUND CONCRETE IN IMMINENT DANGER OF SPALLING IN THESE AREAS. LIMITS OF CONCRETE REMOVAL ARE TO BE DEFINED BY THE ENGINEER. THE METHOD OF CONCRETE REMOVAL AND THE WEIGHT OF THE HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. DELAMINATED AND SPALLED AREAS WHERE CONCRETE IS REMOVED ARE NOT TO BE PATCHED.

THE CONTRACTOR IS TO PROVIDE ADEQUATE PROTECTION FOR THE TRAVELING PUBLIC BELOW AREA OF REMOVAL. SAFE PASSAGE FOR VEHICULAR AND PEDESTRIAN TRAFFIC MUST BE MAINTAINED AT ALL TIMES DURING REMOVAL. DEMOLISHED MATERIAL IS NOT PERMITTED TO DROP TO THE GROUND.

MEASUREMENT AND PAYMENT:

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
202	SQ YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

REMOVAL OF ABANDONED PARTIAL STRINGERS:

THIS WORK CONSISTS OF REMOVAL OF THE WELDED ABANDONED PARTIAL STRINGERS IN WEST APPROACH SECTIONS C AND K, AS SHOWN IN THE PLANS. ALL WELDS ARE TO BE GROUND SMOOTH TO THE BASE METAL. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE OR DAMAGE THE EXISTING BASE METAL TO REMAIN.

MEASUREMENT AND PAYMENT:

THE UNIT "EACH" REFERS TO A SINGLE STRINGER LOCATION AND INCLUDES BOTH FACES OF THE FLOORBEAM WEB AT THAT STRINGER. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
202	EACH	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION OR SECTION LOSS. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. A CONTINGENCY QUANTITY OF 1000 POUNDS HAS BEEN INCLUDED.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

MEASUREMENT AND PAYMENT:

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
509	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN

DESCRIPTION:

ALL PROVISIONS OF CMS 511 SHALL APPLY, EXCEPT AS MODIFIED HEREIN.

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS AND EQUIPMENT NECESSARY TO CONSTRUCT THE PARAPET IN THE FORWARD SECTION, INCLUDING DOWELING, SAWCUTTING, AND CAULKING, AS SHOWN IN THE PLANS.

MIX DESIGN:

ALL COURSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED BY ASTM C127.

MEASUREMENT AND PAYMENT:

PAYMENT FOR THIS WORK SHALL INCLUDE ALL EQUIPMENT, TOOLS, MATERIAL, AND LABOR NECESSARY TO PERFORM THIS TASK AND WHERE NOT INCIDENTAL TO THE COMPLETION OF THE OTHER WORK PAID FOR UNDER THIS CONTRACT. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
511	CU YD	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS AND EQUIPMENT NECESSARY TO SEAL PATCHED AREAS, AS SHOWN IN THE PLANS. ALL PROVISIONS OF CMS 512 SHALL APPLY, EXCEPT AS MODIFIED HEREIN.

THE COLOR OF THE SEALER AT EACH LOCATION IS TO MATCH EXISTING AND THE CONTRACTOR SHALL PROVIDE SAMPLES TO THE ENGINEER FOR APPROVAL PRIOR TO APPLICATION.

THE CONTRACTOR IS NOT REQUIRED TO COMPLETELY REMOVE ALL EXISTING EPOXY SEALER FROM THE AREAS TO BE SEALED AS PART OF THIS ITEM. CONTRACTOR WILL ONLY RECEIVE PAYMENT FOR SURFACE PREPARATION AS SPECIFIED IN CMS 512.

MEASUREMENT AND PAYMENT:

PAYMENT FOR THIS WORK SHALL INCLUDE ALL EQUIPMENT, TOOLS, MATERIAL, AND LABOR NECESSARY TO PERFORM THIS TASK AND WHERE NOT INCIDENTAL TO THE COMPLETION OF THE OTHER WORK PAID FOR UNDER THIS CONTRACT. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
512	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF

DESCRIPTION:

ALL REQUIREMENTS OF CMS 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO CMS ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN CMS SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, CMS 501.06, TO THE ENGINEER.

THE FOLLOWING MEMBERS ARE INCLUDED IN THIS ITEM: LAKEFRONT RAMP LATERAL BRACING.

MEASUREMENT AND PAYMENT:

PAYMENT FOR THIS WORK SHALL INCLUDE ALL EQUIPMENT, TOOLS, MATERIAL, AND LABOR NECESSARY TO PERFORM THIS TASK AND WHERE NOT INCIDENTAL TO THE COMPLETION OF THE OTHER WORK PAID FOR UNDER THIS CONTRACT. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS GUSSET PLATE STRENGTHENING

DESCRIPTION:

THE WORK INCLUDES FURNISHING ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO ERECT STRUCTURAL STEEL AS SHOWN IN THE PLANS COMPLETE AND IN PLACE AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING ADDITIONAL INFORMATION. THE FOLLOWING MEMBERS ARE FCM AND CVN: NEW GUSSET PLATES AND NEW FILL PLATES. ALL ITEMS DESIGNATED FCM (INCLUDING NEW GUSSET PLATES AND NEW FILL PLATES) ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01.

THE CONTRACTOR IS TO PROVIDE SHOP DRAWINGS ACCORDING TO CMS 513.04 OR SUPPLY THE ENGINEER WITH "AS-BUILT" DRAWINGS MEETING CMS 513.04 AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER WILL REVIEW THE SUBMITTED DRAWINGS FOR CONCURRENCE WITH THE FINAL "AS-BUILT" CONDITION. IF NECESSARY, THE ENGINEER MAY CONTACT THE OFFICE OF STRUCTURAL ENGINEERING FOR TECHNICAL ASSISTANCE. IF THE ENGINEER IS SATISFIED WITH THE "AS-BUILT" DRAWINGS AND THE DELIVERED MATERIALS, SUPPLY A COPY OF THE DRAWINGS, STAMPED AND DATED, ALONG WITH ELECTRONIC DRAWINGS TO THE STRUCTURAL, WELDING AND METALS SECTION OF THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

EXISTING RIVET LAYOUT VERIFICATION:

THE CONTRACTOR SHALL CREATE AN ELECTRONIC IMAGE FILE OF THE NEW PLATE WITH BOLT PATTERNS DEVELOPED FROM ORIGINAL SHOP DRAWINGS. THE CONTRACTOR SHALL PRINT OFF FULL SIZE PAPER PATTERNS OF THE NEW PLATES AND MAKE A MASONITE, HARDBOARD, OR PLYWOOD TEMPLATE OF THE HOLE LOCATIONS. THE TEMPLATE SHALL BE FIT OVER THE PROJECTED BOLTS FROM THE FIRST DOUBLE NUT METHOD BOLT INSTALLATION STEP. THE TEMPLATE SHALL BE MODIFIED IN THE FIELD TO FIT EXISTING CONDITIONS.

THE CONTRACTOR SHALL SUBMIT FIELD VERIFIED SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF THE NEW STEEL MEMBERS BASED ON THE FIELD FIT TEMPLATE.

STEEL SURFACE PREPARATION

FAYING SURFACES SHALL BE PREPARED IN ACCORDANCE WITH CMS 514.13.C IMMEDIATELY WITHIN 24 HOURS OF INSTALLATION OF NEW MATERIAL.

SEQUENCE OF CONSTRUCTION:

LIMIT REMOVAL AND CONSTRUCTION OPERATIONS TO ONE GUSSET PLATE ON EITHER THE NORTH OR SOUTH PLATE OF A GIVEN PANEL POINT AT ANY GIVEN TIME. SEE LIMITATIONS OF OPERATIONS.

PERFORM DOUBLE NUT PLATE INSTALLATION AS FOLLOWS:

- A. ABRASIVE BLAST AREA ENCOMPASSING GUSSET PLATE CONNECTION IN ACCORDANCE WITH CMS 514.13C.
- B. REMOVE A SINGLE RIVET PER RIVET REMOVAL PROCEDURE.
- C. IN THE OPEN RIVET HOLE, INSTALL A NEW PROPERLY TENSIONED BOLT WITH THE FIRST OF 2 NUTS WITH BOLT LENGTH SUFFICIENT TO ACCOMODATE EXISTING GUSSET PLATE, TRUSS MEMBER THICKNESS, NEW FILL PLATE AND NEW GUSSET PLATE. THE BOLT GRIP LENGTH SHALL ACCOMODATE THE EXISTING PLATE THICKNESS.
- D. REPEAT "B" AND "C" FOR ALL RIVETS TO BE REPLACED FOR CONNECTION OF THE NEW PLATES.
- E. THE ENGINEER SHALL INSPECT NEW BOLT TENSION WITH CALIBRATED TORQUE WRENCH.
- F. FABRICATE NEW FILL PLATE TO FIT PROPERLY AROUND NEW HEX NUTS AND WASHERS.
- G. FABRICATE NEW GUSSET PLATE TO FIT NEWLY INSTALLED BOLT LAYOUT.
- H. PREPARE FAYING SURFACES IN ACCORDANCE WITH CMS 514.13.
- I. INSTALL NEW GUSSET PLATE AND FILL PLATE.
- J. SECURE NEW GUSSET PLATE AND FILL PLATE WITH PROPERLY TENSIONED SECOND OF 2 NUTS WITH WASHERS ON THE NEW BOLTS.
- K. FIELD DRILL ONE NEW STANDARD SIZE BOLT HOLE FOR NEW BOLT THROUGH NEW GUSSET PLATE, NEW FILL PLATE, AND EXISTING PLATES.
- L. INSTALL PROPERLY TENSIONED BOLT AT NEW HOLE LOCATION.
- M. REPEAT "K" AND "L" AS NEEDED FOR EACH NEW BOLT HOLE TO BE FIELD DRILLED.
- N. THE ENGINEER SHALL INSPECT NEW BOLT TENSION WITH CALIBRATED TORQUE WRENCH PRIOR TO FIELD PAINTING.
- O. FIELD PAINT EXPOSED STEEL PER CMS 514.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR ALL MATERIAL, TOOLS, EQUIPMENT, LABOR, AND ACCESS NECESSARY TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THE REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. PAYMENT FOR FIELD DRILLED HOLES IN EXISTING MATERIALS IN-SITU AS PART OF THE REPAIR SHALL ALSO BE INCLUDED FOR PAYMENT UNDER THIS ITEM. ADDITIONALLY, PAYMENT FOR VERIFICATION OF GUSSET PLATE PATTERNS AND TEMPLATES IS INCLUDED IN THIS ITEM.

THE UNIT "EACH" REFERS TO A SINGLE EXISTING GUSSET PLATE REPAIR (NORTH OR SOUTH) AT A SINGLE NORTH OR SOUTH TRUSS PANEL POINT. ANY LABOR AND/OR MATERIALS AND EQUIPMENT INCIDENTAL TO STEEL WORK NOT SPECIFICALLY PAID FOR UNDER ANY OTHER ITEM SHALL BE INCLUDED AND PAID FOR UNDER THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS GUSSET PLATE STRENGTHENING

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS GUSSET PLATE EDGE STIFFENING ANGLE

DESCRIPTION:

ALL REQUIREMENTS OF CMS 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD-FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN CMS SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, CMS 501.06, TO THE ENGINEER.

NEW BOLTS SHALL BE ASTM A325 7/8" DIAMETER HIGH STRENGTH BOLTS. ALL NEW STIFFENING ANGLES ARE CVN. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01.

SURFACE PREPARATION SHALL BE PER CMS 514.13. ALL NEW STEEL SHALL BE SHOP PRIMED IZEU. ALL NEW BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

THIS REPAIR INCLUDES THE STIFFENING OF GUSSET PLATE EDGES BY BOLTING ON ANGLES AS SHOWN IN THE PLANS. THE ANGLES SHALL HAVE AT LEAST 1" CLEARANCE TO ANY CONNECTING PRIMARY TRUSS MEMBERS.

ADJOINING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED PER CMS 514.13. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING PAINT OUTSIDE OF THE RETROFIT AREA. CURRENTLY PAINTED AREAS DAMAGED OR EXPOSED BY THE CONTRACTOR'S SURFACE PREPARATION OR GUSSET PLATE RETROFIT OPERATION SHALL BE REPAINTED AT NO COST TO THE STATE.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" REFERS TO A SINGLE ANGLE TO BE BOLTED ALONG THE FREE EDGE OF THE GUSSET PLATE. GUSSET PLATES MAY RECEIVE MULTIPLE EDGE STIFFENING ANGLES UNDER THIS UNIT DEFINITION.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS GUSSET PLATE EDGE STIFFENING ANGLE

ITEM 513 - STRUCTURAL STEEL, MISC.: GRINDING TORCH CUT HOLES

DESCRIPTION:

ALL PROVISIONS OF CMS 513 SHALL APPLY, EXCEPT AS MODIFIED HEREIN.

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS AND EQUIPMENT NECESSARY TO GRIND THE TORCH CUT HOLES PRESENT IN THE COVER PLATES IN THE MAIN TRUSS SPANS. ALL EXISTING TORCH CUT EDGES IN MEMBERS SPECIFIED IN THE PLANS ARE TO BE GROUND SMOOTH AND ALL SHARP CORNERS ARE TO BE GROUND OUT TO PROVIDE A SUITABLE RADIUS, AS DETAILED IN THE PLANS. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE OR DAMAGE THE EXISTING BASE METAL TO REMAIN.

MEASUREMENT AND PAYMENT:

PAYMENT FOR THIS WORK SHALL INCLUDE ALL EQUIPMENT, TOOLS, MATERIAL, AND LABOR NECESSARY TO PERFORM THIS TASK AND WHERE NOT INCIDENTAL TO THE COMPLETION OF THE OTHER WORK PAID FOR UNDER THIS CONTRACT. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	FT	STRUCTURAL STEEL, MISC.: GRINDING TORCH CUT HOLES

ITEM 513 - STRUCTURAL STEEL, MISC.: WEST APPROACH FASCIA STRINGER RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO ERECT THE STRUCTURAL STEEL AS SHOWN IN THE PLANS COMPLETE AND IN PLACE AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. ALL NEW STIFFENING ANGLES ARE CVN. WHERE A SHAPE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01.

UPON REMOVAL OF THE PAINT ON THE FAYING SURFACE OF THE EXISTING FASCIA STRINGER, THE ENGINEER SHALL CAREFULLY VISUALLY INSPECT THE INTERFACE BETWEEN THE TOP FLANGE AND WEB FOR CRACKS. IF VISUAL INSPECTION REVEALS THE PRESENCE OF CRACK, THE ENGINEER IS TO DIRECT THE CONTRACTOR TO PERFORM ADDITIONAL GRINDING OR PENCIL ABRASIVE BLASTING TO DETERMINE THE EXTENTS OF THE CRACK. PAYMENT FOR THIS ADDITIONAL WORK SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NON-DESTRUCTIVE TESTING. STRESS RELIEF HOLES, 1" INCH IN DIAMETER, ARE TO BE DRILLED AT THE ENDS OF THE CRACKS PER ITEM 513 - STRESS RELIEF HOLE RETROFITS.

EXISTING RIVET AND BOLT LAYOUT

THE CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND RIVET/BOLT LAYOUTS PRIOR TO PERFORMING WORK.

STEEL SURFACE PREPARATION

FAYING SURFACES AND SURFACES TO BE WELDED SHALL BE PREPARED IN ACCORDANCE WITH CMS 514.13.C IMMEDIATELY WITHIN 24 HOURS BEFORE INSTALLATION OF NEW MATERIAL OR WELDING.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" REFERS TO A SINGLE FLOORBEAM CONNECTION LOCATION AND INCLUDES THE INSTALLATION OF TWO STIFFENER ANGLES.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: WEST APPROACH FASCIA STRINGER RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS INTERIOR DIAPHRAGM RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REPLACE THE MAIN TRUSS INTERIOR DIAPHRAGMS COMPLETE AND IN PLACE AS SHOWN IN THE PLANS, INCLUDING REMOVAL OF EXISTING DIAPHRAGMS. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER. ALL NEW DIAPHRAGM PLATES AND CONNECTION ANGLES ARE CVN. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" REFERS TO THE REMOVAL AND INSTALLATION OF A SINGLE DIAPHRAGM PLATE AND FOUR ASSOCIATED CONNECTION ANGLES. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS INTERIOR DIAPHRAGM RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 1

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, TEMPORARY SUPPORT, MATERIALS AND EQUIPMENT NECESSARY TO REMOVE THE EXISTING MAIN TRUSS CHORD MEMBER BOTTOM PERFORATED COVER PLATES AND REPLACE COMPLETE AND IN PLACE, AS SHOWN IN THE PLANS. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER.

THE NEW PERFORATED PLATES, NEW CONNECTION ANGLES, AND NEW SPLICE PLATES ARE FCM AND CVN. ALL ITEMS DESIGNATED FCM (INCLUDING NEW PERFORATED PLATES, NEW CONNECTION ANGLES, AND NEW SPLICE PLATES) ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01. CONTRACTOR IS TO FOLLOW THE CONSTRUCTION SEQUENCE DETAILED IN THE PLANS ON SHEETS 75 / 187 AND 76 / 187 AS WELL AS THE LIMITATIONS OF OPERATIONS ON SHEET 2 / 187.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" REFERS TO THE REMOVAL AND REPLACEMENT OF A SINGLE COVER PLATE, AND INCLUDES THE NEW PERFORATED PLATE, CONNECTION ANGLES, AND ANY ASSOCIATED BENT PLATES AND SPLICE PLATES.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 1

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 2

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, TEMPORARY SUPPORT, MATERIALS AND EQUIPMENT NECESSARY TO REMOVE THE EXISTING MAIN TRUSS CHORD MEMBER COVER PLATES AND REPLACE COMPLETE AND IN PLACE AS SHOWN IN THE PLANS. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER.

THE NEW PERFORATED PLATES, NEW CONNECTION ANGLES, AND NEW SPLICE PLATES ARE FCM AND CVN. ALL ITEMS DESIGNATED FCM (INCLUDING NEW PERFORATED PLATES, NEW CONNECTION ANGLES, AND NEW SPLICE PLATES) ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" REFERS TO THE REMOVAL AND REPLACEMENT OF A SINGLE COVER PLATE, AND INCLUDES THE NEW PERFORATED PLATE, CONNECTION ANGLES, AND ANY ASSOCIATED BENT PLATES AND SPLICE PLATES.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 2

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS DIAGONAL RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL THE DIAGONAL RETROFIT PLATES COMPLETE AND IN PLACE AS SHOWN IN THE PLANS. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER.

THE NEW DIAGONAL COVER PLATES ARE FCM AND CVN. ALL ITEMS DESIGNATED FCM (INCLUDING THE NEW DIAGONAL COVER PLATES) ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" REFERS TO THE INSTALLATION OF A SINGLE RETROFIT PLATE.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS DIAGONAL RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: STRESS RELIEF HOLE RETROFIT

DESCRIPTION:

THIS ITEM INCLUDES THE DRILLING OF 1" DIAMETER AND 1/2" DIAMETER STRESS RELIEF HOLES IN THE WEB OF THE FLOORBEAM BRACKETS AT THE ENDS OF THE CRACK, AND ANY ADDITIONAL LOCATIONS THE ENGINEER DEEMS NECESSARY. THE ENDS OF THE CRACK SHALL BE LOCATED AS DESCRIBED IN ITEM - 513 STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NON-DESTRUCTIVE TESTING. THE CRACK IN THE WEB SHALL BE TREATED BY REMOVING THE CRACK TIP BY DRILLING THE STRESS RELIEF HOLE AT A LOCATION DETERMINED BY NON-DESTRUCTIVE TESTING AND UNDER THE DIRECTION OF THE ENGINEER. GRIND FACE OF WEB SMOOTH AFTER DRILLING TO REMOVE ANY BURRS.

A CONTINGENCY QUANTITY OF 4 EACH HAS BEEN ADDED TO THE QUANTITIES TO COVER AREAS IN SECTIONS C AND K OF THE WEST APPROACH TO BE RETROFITTED AT THE DISCRETION OF THE ENGINEER. SEE ITEM 513 - STRUCTURAL STEEL, MISC.: WEST APPROACH FASCIA STRINGER RETROFIT FOR MORE INFORMATION.

MEASUREMENT AND PAYMENT:

PAYMENT FOR THIS WORK SHALL INCLUDE ALL EQUIPMENT, TOOLS, MATERIAL AND LABOR NECESSARY TO PERFORM THIS TASK. THE UNIT "EACH" REFERS TO THE INSTALLATION OF A SINGLE STRESS RELIEF HOLE.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: STRESS RELIEF HOLE RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS STRINGER SHIM PACK REPLACEMENT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REMOVE AND REPLACE THE STRINGER SHIM PACK COMPLETE AND IN PLACE AS SHOWN IN THE PLANS AFTER THE STRUCTURE HAS BEEN JACKED, PER ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" DEFINES THE REPLACEMENT OF A SINGLE STRINGER SHIM PACK.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS STRINGER SHIM PACK REPLACEMENT

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM 79 RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO RETROFIT FLOORBEAM 79 ON THE MAIN TRUSS, INCLUDING THE REMOVAL OF ANY EXISTING BOLTS OR RIVETS, AS SHOWN IN THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER.

ALL NEW COVER PLATES AND STIFFENER ANGLES ARE FCM AND CVN. ALL ITEMS DESIGNATED FCM (INCLUDING NEW PERFORATED PLATES, NEW CONNECTION ANGLES, AND NEW SPLICE PLATES) ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01. THE CONTRACTOR IS TO FIELD VERIFY ALL MEMBER DIMENSIONS, RIVET/BOLT LAYOUTS, AND DETERIORATED AREAS TO BE RETROFITTED PRIOR TO PERFORMING WORK.

DURING THE REMOVAL AND REPLACEMENT OF THE STIFFENING ANGLES ON THE FLOORBEAM WEB, THE CONTRACTOR IS TO TEMPORARILY CLOSE THE LANE DIRECTLY ABOVE THE STIFFENER BEING REPLACED IN ORDER TO MINIMIZE THE LIVE LOAD. AT THE DIRECTION OF THE ENGINEER, THE CONTRACTOR SHALL ALSO CLOSE ADJACENT LANE. SUBMIT CLOSURE PLANS TO THE ENGINEER FOR APPROVAL.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" INCLUDES ALL RETROFITS TO BE PERFORMED ON THE FLOORBEAM. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM 79 RETROFIT



DESIGNED	NRF	CHECKED	CTG
DRAWN	NRF	REVISD	
REVIEWED	WRW	DATE	08/16/13
STRUCTURE FILE NUMBER	1800035		

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM 135 RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO RETROFIT FLOORBEAM 135 ON THE MAIN TRUSS, INCLUDING THE REMOVAL OF ANY EXISTING BOLTS OR RIVETS, AS SHOWN IN THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER.

ALL NEW COVER PLATES AND STIFFENER ANGLES ARE FCM AND CVN. ALL ITEMS DESIGNATED FCM (INCLUDING NEW PERFORATED PLATES, NEW CONNECTION ANGLES, AND NEW SPLICE PLATES) ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01. THE CONTRACTOR IS TO FIELD VERIFY ALL MEMBER DIMENSIONS, RIVET/BOLT LAYOUTS, AND DETERIORATED AREAS TO BE RETROFITTED PRIOR TO PERFORMING WORK.

DURING THE REMOVAL AND REPLACEMENT OF THE STIFFENING ANGLES ON THE FLOORBEAM WEB, THE CONTRACTOR IS TO TEMPORARILY CLOSE THE LANE DIRECTLY ABOVE THE STIFFENER BEING REPLACED IN ORDER TO MINIMIZE THE LIVE LOAD. AT THE DIRECTION OF THE ENGINEER, THE CONTRACTOR SHALL ALSO CLOSE ADJACENT LANE. SUBMIT CLOSURE PLANS TO THE ENGINEER FOR APPROVAL.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" INCLUDES ALL RETROFITS TO BE PERFORMED ON THE FLOORBEAM. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM 135 RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM BRACKET RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REMOVE A PORTION OF THE EXISTING WEB STIFFENER AND RETROFIT THE MAIN TRUSS FLOORBEAM BRACKETS AS SHOWN IN THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. THE WEB STIFFENER FLANGE IS TO BE CUT ALONG THE TOE OF THE WELD AS TO LEAVE A MINIMUM OF 5/2" MEASURED FROM THE FLOORBEAM WEB. FLAME CUTTING MAY BE DONE MANUALLY PROVIDED A GUIDE IS USED AND THE CONTRACTOR CAN PROVE THAT A STRAIGHT CUT CAN BE ATTAINED. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER.

ALL NEW RETROFIT PLATES AND ANLGES ARE CVN. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01. FAYING SURFACES AND SURFACES TO BE WELDED SHALL BE PREPARED IN ACCORDANCE WITH CMS 514.13.C IMMEDIATELY WITHIN 24 HOURS BEFORE INSTALLATION OF NEW MATERIAL OR WELDING.

IF ADDITIONAL CRACK LOCATIONS BEYOND THOSE SHOWN IN THE PLANS ARE IDENTIFIED, THE CONTRACTOR IS TO NOTIFY THE ENGINEER AND PERFORM ADDITIONAL GRINDING OR PENCIL ABRASIVE BLASTING, AS DIRECTED BY THE ENGINEER TO DETERMINE THE EXTENTS OF THE CRACK, PER ITEM 513 - STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NON-DESTRUCTIVE TESTING. STRESS RELIEF HOLES ARE TO BE DRILLED AT THE ENDS OF THE CRACKS PER ITEM 513 - STRESS RELIEF HOLE RETROFITS UNDER THE SUPERVISION OF THE ENGINEER.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" REFERS TO A SINGLE FLOORBEAM BRACKET (NORTH OR SOUTH) AND INCLUDES THE INSTALLATION OF RETROFITS AT EACH STRINGER ON THAT FLOORBEAM BRACKET.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM BRACKET RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS WINDLOCK RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, TEMPORARY SUPPORT, MATERIALS, AND EQUIPMENT NECESSARY TO RETROFIT THE WINDLOCK AS SHOWN IN THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. THIS WORK ALSO INCLUDES THE REMOVAL OF EXISTING WINDLOCK ELEMENTS NECESSARY FOR THE RETROFIT AS DETAILED IN THE PLANS. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND SUBMIT PLANS REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR IS TO VERIFY THAT THE WINDLOCK TONGUE HAS NOT SHIFTED LATERALLY AND IS NOT IN CONTACT WITH THE KEEPER. IF TONGUE IS IN CONTACT WITH THE KEEPER, THE CONTRACTOR IS TO CONSULT THE ENGINEER BEFORE COMMENCING WORK. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01. THE CONTRACTOR IS TO FIELD VERIFY ALL MEMBER DIMENSIONS, RIVET/BOLT LAYOUTS, AND DETERIORATED AREAS TO BE RETROFITTED PRIOR TO PERFORMING WORK.

REMOVAL AND REPLACEMENT OF THE WINDLOCK SHALL BE LIMITED TO TIMES WHEN THE FORECASTED WIND SPEEDS DO NOT EXCEED 40 MPH.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" DEFINES ALL RETROFITS TO BE PERFORMED ON A SINGLE WINDLOCK MEMBER. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS WINDLOCK RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO RETROFIT THE SWAY AND LATERAL BRACING IN THE MAIN TRUSS SPANS AS SHOWN IN THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. THIS WORK ALSO INCLUDES THE REMOVAL OF ANY EXISTING CONNECTION ANGLES AND RIVETS NECESSARY TO PERFORM THE RETROFIT AS DETAILED IN THE PLANS. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR IS TO FIELD VERIFY ALL MEMBER DIMENSIONS, RIVET/BOLT LAYOUTS, AND DETERIORATED AREAS TO BE RETROFITTED PRIOR TO PERFORMING WORK.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" DEFINES A SINGLE RETROFIT PLATE AND ANY ASSOCIATED CONNECTION ANGLES AND BOLTS INCLUDED WITH THAT RETROFIT. CERTAIN MEMBERS DETAILED IN THE PLANS WILL RECEIVE MULTIPLE RETROFITS UNDER THIS UNIT DEFINITION. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: FORWARD SECTION FLOORBEAM RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO RETROFIT THE FORWARD SECTION FLOORBEAMS, INCLUDING THE REMOVAL OF EXISTING ELEMENTS OR CONNECTORS, AS SHOWN IN THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER.

ALL NEW RETROFIT PLATES ARE FCM AND CVN. ALL ITEMS DESIGNATED FCM (INCLUDING THE NEW RETROFIT PLATES) ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01. THE CONTRACTOR IS TO FIELD VERIFY ALL MEMBER DIMENSIONS, RIVET/BOLT LAYOUTS, AND DETERIORATED AREAS TO BE RETROFITTED PRIOR TO PERFORMING WORK.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS DETAILED ON SHEETS 153 / 187 THRU 157 / 187. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	LUMP	STRUCTURAL STEEL, MISC.: FORWARD SECTION FLOORBEAM RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: FORWARD SECTION COLUMN RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO RETROFIT FORWARD SECTION COLUMNS, INCLUDING THE REMOVAL OF EXISTING RIVETS, AS SHOWN IN THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER. ALL NEW PLATES ARE CVN. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01. THE CONTRACTOR IS TO FIELD VERIFY ALL MEMBER DIMENSIONS, RIVET/BOLT LAYOUTS, AND DETERIORATED AREAS TO BE RETROFITTED PRIOR TO PERFORMING WORK.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" DEFINES ALL RETROFITS TO BE PERFORMED TO A SINGLE COLUMN. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: FORWARD SECTION COLUMN RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: LAKEFRONT TRESTLE FLOORBEAM RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO RETROFIT THE LAKEFRONT TRESTLE FLOORBEAMS, INCLUDING THE REMOVAL OF EXISTING BOLTS OR RIVETS, AS SHOWN IN THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER.

THE NEW COVER PLATE IS FCM AND CVN. ALL ITEMS DESIGNATED FCM (INCLUDING THE NEW COVER PLATE) ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIRED AS SPECIFIED IN CMS 711.01. THE CONTRACTOR IS TO FIELD VERIFY ALL MEMBER DIMENSIONS, RIVET/BOLT LAYOUTS, AND DETERIORATED AREAS TO BE RETROFITTED AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" REFERS TO A SINGLE FLOORBEAM AND INCLUDES ALL RETROFITS TO BE PERFORMED ON THAT FLOORBEAM. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: LAKEFRONT TRESTLE FLOORBEAM RETROFIT

ITEM 513 - STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NON-DESTRUCTIVE TESTING

THIS ITEM INCLUDES THE FOLLOWING SEQUENCE OF OPERATIONS PERFORMED AT LOCATIONS SPECIFIED IN THE PLANS AND DIRECTED BY THE ENGINEER. AT THE DISCRETION OF THE ENGINEER, THIS ITEM MAY BE NON-PERFORMED.

- CLEAN THE AREAS BY PENCIL ABRASIVE BLASTING TO REMOVE PAINT, RUST, AND ANY OTHER FOREIGN MATERIAL FROM THE SURFACE OF THE PLATES AND ADJACENT WELDS, OR AS DESIGNATED IN THE PLANS.
- THE ENGINEER SHALL CAREFULLY VISUALLY INSPECT THE CLEANED AREA. GRINDING MAY BE DIRECTED BY THE ENGINEER TO ENHANCE THE INVESTIGATION FOR CRACK PRESENCE. ALL GRINDING MUST BE DONE CAUTIOUSLY ESPECIALLY IN TENSION ZONES.
- THE CONTRACTOR SHALL PERFORM NON-DESTRUCTIVE TESTING (NDT) IN THE AREAS USING MAGNETIC PARTICLE EXAMINATION OR DYE PENETRANT SO THAT THE ENGINEER MAY FURTHER INSPECT FOR CRACKS. CONTRACTORS' PERSONNEL PERFORMING NDT SHALL BE QUALIFIED AS PER 513.25 OF THE CMS.

4. AFTER THE EXTENTS OF THE CRACK HAVE BEEN DETERMINED AND UNDER THE DIRECTION OF THE ENGINEER, THE CONTRACTOR IS TO DRILL STRESS RELIEF HOLES PER ITEM 513 - STRUCTURAL STEEL, MISC.: STRESS RELIEF HOLE RETROFIT.

THE PENCIL ABRASIVE BLASTING SHALL CONFORM TO THE FOLLOWING:

THE DESIGNATED NDT AREAS SHALL BE CLEANED TO A SURFACE QUALITY EQUAL TO PREPARATION GRADE SA 2 1/2. SINCE INTENT OF THE PENCIL BLASTING IS TO ENHANCE THE VISUAL AND NDT DETECTION, A GENTLE BLAST SHALL BE USED SUCH THAT THE SURFACE IS NOT PEENED OR OTHERWISE COLD WORKED. SILICA SAND SHALL NOT BE USED. THE BLASTING SHALL BE PERFORMED USING A MAXIMUM COMPRESSED AIR PRESSURE OF 100 PSI, A HOSE NOZZLE DIAMETER OF 1/4" ± 1/16" AND A GRADE 30/60 COAL SLAG ABRASIVE OR EQUIVALENT. BLASTERS USED FOR SURFACE PREPARATION OF STRUCTURAL STEEL PAINTING SHALL NOT BE USED FOR PENCIL BLASTING. AFTER ABRASIVE BLASTING IS COMPLETE, THE CLEANED AREA SHALL BE AIR BLOWN CLEAN.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER PRIOR TO THE START OF THE WORK THAT HE CAN SATISFACTORILY PERFORM PENCIL ABRASIVE BLASTING ACCORDING TO THESE SPECIFICATIONS.

A CONTINGENCY QUANTITY OF 2 EACH HAS BEEN ADDED TO THE QUANTITIES TO COVER AREAS IN SECTIONS G AND K OF THE WEST APPROACH TO BE TREATED AT THE DISCRETION OF THE ENGINEER. SEE ITEM 513 - STRUCTURAL STEEL, MISC.: WEST APPROACH FASCIA STRINGER RETROFIT FOR MORE INFORMATION.

MEASUREMENT AND PAYMENT:

PAYMENT FOR THIS WORK SHALL INCLUDE ALL EQUIPMENT, MATERIAL AND LABOR NECESSARY TO PERFORM THIS TASK. THE UNIT "EACH" REFERS TO A SINGLE AREA TO BE INVESTIGATED AND ENCOMPASSES BOTH FACES OF A MEMBER, UP TO 8 SQUARE FEET TOTAL.

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NON-DESTRUCTIVE TESTING

ITEM 513 - STRUCTURAL STEEL, MISC.: LAKEFRONT RAMP GIRDER RETROFIT

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REMOVE AND REPLACE DAMAGED RIVETS ON THE LAKEFRONT RAMP GIRDER, AS SHOWN IN THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. EXISTING RIVETS ARE TO BE REMOVED PER THE RIVET REMOVAL PROCEDURE. THE CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT WILL NOT GOUGE, CUT, OR DAMAGE THE EXISTING STEEL TO REMAIN. IF EXISTING STEEL TO REMAIN IS DAMAGED DURING REMOVAL OR INSTALLATION OF THE RETROFIT, THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO COST TO THE PROJECT AND TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR IS TO FIELD VERIFY ALL MEMBER DIMENSIONS, RIVET/BOLT LAYOUTS, AND DETERIORATED AREAS TO BE RETROFITTED AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" DEFINES THE REPLACEMENT OF A SINGLE RIVET WITH A SINGLE BOLT. THE GIRDER WILL RECEIVE MULTIPLE RETROFITS UNDER THIS DEFINITION.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: LAKEFRONT RAMP GIRDER RETROFIT

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

DESCRIPTION:

THIS ITEM INCLUDES THE SURFACE PREPARATION AND COATING OF THE EXISTING STEEL MEMBERS TO REMAIN AND COATING OF NEW STEEL MEMBERS, AS PER PLAN. THIS WORK SHALL BEGIN AFTER ALL OF THE REMOVALS UNDER ITEMS 202 AND 513 ARE FINISHED, AND BEFORE THE PLACEMENT OF THE NEW MEMBERS.

THE COLOR OF THE FINISH COAT FOR ALL STRUCTURAL STEEL SHALL BE FEDERAL COLOR NUMBER 595B-15180 (GLOSS).

THE REQUIREMENTS OF CMS 514 SHALL APPLY WITH THE FOLLOWING ADDITIONS/MODIFICATIONS:

514.13 C - ABRASIVE BLASTING (QCP #3):

PORTIONS OF THE INSIDE OF THE TRUSS MEMBERS ARE IDENTIFIED AS BEING POSSIBLY INACCESSIBLE. THE CONTRACTOR SHALL MAKE A REASONABLE EFFORT TO CLEAN STEEL SURFACES IN THESE AREAS, AND IN ALL OTHER AREAS DETERMINED BY THE ENGINEER AS BEING INACCESSIBLE, ACCORDING TO SSPC-6 (COMMERCIAL BLAST CLEANING) AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES IN SSPC-VIS 1.

ALL OTHER ACCESSIBLE STEEL SURFACES SHALL BE BLASTED TO SSPC-SP 10 AS PER CMS 514.13.C.

IN ADDITION, THIS WORK WILL INCLUDE THE REPAIR OF PACK-RUSTED AREAS OF THE EXISTING STEEL AS DIRECTED BY THE ENGINEER. PACK RUSTED AREAS ARE DEFINED AS THOSE LOCATIONS WHERE IMPACTED RUST HAS PRODUCED A GAP BETWEEN ADJACENT STEEL PLATES MORE THAN 1/4". PACK RUST SHALL BE REMOVED FROM THE JOINTS RUSTED APART MORE THAN 1/4" BY CHIPPING, HAMMERING, PUNCHING, CHISELING OR BY OTHER SUITABLE MEANS, TO A DEPTH OF AT LEAST EQUAL TO THE WIDTH OF THE GAP. ALL JOINTS SHALL THEN BE VACUUMED WITH A COMMERCIAL VACUUM CLEANER HAVING A NOZZLE OPENING OF 1" TO 1 1/2" OR AIR BLOWN SUCH THAT ALL DUST AND DEBRIS ARE REMOVED TO THE SATISFACTION OF THE ENGINEER.

514.13 D - CONTAINMENT/WASTE DISPOSAL (QCP #4):

THE CONTRACTOR SHALL INSTALL AND MAINTAIN CONTAINMENT SYSTEMS SURROUNDING THE WORK FOR THE PURPOSE OF CONTROLLING EMISSIONS OF DUST AND DEBRIS IN ACCORDANCE WITH THE REQUIREMENTS OF CMS 514. WORKING PLATFORMS AND CONTAINMENT MATERIALS THAT ARE USED SHALL BE FIRM AND STABLE, AND PLATFORMS SHALL BE DESIGNED TO SUPPORT THE WORKERS, INSPECTORS, SPENT SURFACE PREPARATION MEDIA (E.G. ABRASIVES) AND EQUIPMENT DURING ALL PHASES OF SURFACE PREPARATION AND PAINTING. PLATFORMS, CABLES AND OTHER SUPPORTING STRUCTURES SHALL BE DESIGNED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION AND OSHA. INSPECTION ACCESS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CMS 514.10.

IF THE CONTAINMENT IS PROPOSED TO BE ATTACHED TO THE STRUCTURE, THE CONTAINMENT SHALL BE ATTACHED BY BOLTING, CLAMPING OR SIMILAR MEANS. WELDING ONTO OR DRILLING INTO THE STRUCTURE IS PROHIBITED. THE CONTRACTOR SHALL PROVIDE DRAWINGS SHOWING THE CONTAINMENT SYSTEM AND INDICATING THE METHOD(S) OF SUPPORTING THE WORKING PLATFORMS AND CONTAINMENT MATERIALS.

IN THE EVENT OF SUSTAINED WINDS OF 40 MPH OR GREATER, THE CONTAINMENT SHALL BE DROPPED AND ALL MATERIALS AND EQUIPMENT SHALL BE SECURED TO AVOID OVERSTRESSING AND/OR DAMAGING THE BRIDGE STRUCTURE.

THE CONTRACTOR SHALL SUBMIT CALCULATIONS AND DRAWINGS SIGNED, SEALED, AND DATED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER IN THE EMPLOY OF THE CONTRACTOR, ASSURING THE STRUCTURAL INTEGRITY OF THE BRIDGE UNDER LIVE AND DEAD LOADS IMPOSED, INCLUDING THE DESIGN WIND LOADING. DESIGN SHALL BE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE MOST CURRENT VERSION OF AASHTO'S "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" AND ODOT'S BRIDGE DESIGN MANUAL. THE CONTAINMENT SUBMITTAL SHALL INCLUDE CALCULATIONS THAT ASSURE STRUCTURAL INTEGRITY OF THE BRIDGE WHEN IT SUPPORTS THE CONTAINMENT. A SECOND OHIO REGISTERED PROFESSIONAL ENGINEER SHALL CHECK, SIGN, SEAL, AND DATE EACH SUBMITTED PLAN AND SET OF CALCULATIONS.

THE CONTRACTOR IS NOTIFIED THAT THE EXISTING PAINT SYSTEM MAY CONTAIN LEAD, AND CMS 514.13 D.1 MAY APPLY.

514.17 COATING APPLICATION:

IN ADDITION TO THE REQUIREMENTS OF CMS 514, A STRIPE COATING OF THE PRIME COAT SHALL BE APPLIED TO ALL WELDS, CREVICES, RIVET HEADS, NUTS, BOLT HEADS, BOLT THREADS AND OTHER SURFACE IRREGULARITIES. ALSO, THE AREAS SPECIFIED UNDER THIS CONTRACT FOR SURFACE PREPARATION PER SSPC-SP 2 (HAND TOOL CLEANING), SSPC-SP 3 (POWER TOOL CLEANING) OR SSPC-SP 11 (POWER TOOL CLEANING TO BARE METAL) SHALL HAVE THE EDGES OF THE PREPARED AREAS STRIPE COATED WITH THE PRIME COAT. THE STRIPE COATING SHALL BE APPLIED TO THE SPECIFIED SURFACES BEFORE THE APPLICATION OF THE FULL PRIME COAT OVER THE SAME AREAS AND ADJACENT PREPARED SURFACES. STRIPING SHALL EXTEND A MINIMUM OF 1" FROM THE EDGES REQUIRING STRIPE COATING. THE STRIPE COATING SHALL SET TO TOUCH BEFORE APPLICATION OF THE FULL PRIME COAT OVER THE SAME AREA; HOWEVER, THE STRIPE COATING SHALL NOT BE PERMITTED TO DRY FOR A PERIOD LONG ENOUGH TO ALLOW RUSTING OF THE ADJACENT UNPRIMED STEEL SURFACES BEFORE THE FULL PRIME COAT CAN BE APPLIED TO THE AREA.

THE CONTRACTOR SHALL THOROUGHLY COAT ALL SURFACES RECEIVING A STRIPE COATING, PAYING PARTICULAR ATTENTION TO HARD-TO-REACH AREAS AND IRREGULAR SURFACES, SUCH AS LACING BARS, BOLT HEADS, LAP SPLICES, GUSSET PLATES, ETC. WHEN STRIPE COATING MULTI-PLANED SURFACE CONFIGURATIONS, SUCH AS ON NUTS AND BOLT THREADS, THE CONTRACTOR SHALL APPLY THE STRIPE COATING FROM MULTIPLE DIRECTIONS TO ENSURE COMPLETE COVERAGE OF ALL SURFACES, CREVICES, CORNERS AND SHARP EDGES.

514.19 CAULKING (QCP#9):

AFTER THE INTERMEDIATE COAT HAS BEEN APPLIED, THE CONTRACTOR SHALL CAULK ALL GAPS OR CREVICES GREATER THAN 1/8". THE INTERMEDIATE COAT SHALL BE FREE OF CONTAMINANTS WHEN THE CAULKING IS APPLIED.

THE CAULKING SHALL BE APPLIED EVENLY TO THE JOINTS AND GAPS. VOIDS SHALL BE COMPLETELY FILLED WITH CAULKING WHICH SHALL BE APPLIED BY TROWEL OR CAULKING GUN AND SHALL BE SPREAD SMOOTHLY USING HEAVY PRESSURE TO DISPLACE AIR BUBBLES. EXCESS MATERIAL SHALL BE REMOVED IMMEDIATELY. ALL PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF THE MANUFACTURER'S WRITTEN SPECIFICATIONS AND TO THE SATISFACTION OF THE ENGINEER.

MEASUREMENT AND PAYMENT:

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEMS (PAY ITEMS):

ITEM	UNIT	DESCRIPTION
514	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN
514	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
514	SQ FT	FIELD PAINTING EXISTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN
514	SQ FT	FIELD PAINTING EXISTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: PRECOMPRESSED FOAM JOINT SYSTEM

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH THE REMOVAL OF EXISTING JOINT SEALS, CLEANING OF EXISTING JOINT ARMOR TO REMAIN, AND INSTALLATION OF THE NEW PRECOMPRESSED FOAM JOINT SYSTEM, SHOWN IN THE PLANS.

MATERIALS:

THE JOINT FILLER SHALL BE EITHER

- WABO HSEAL
MANUFACTURED BY WATSON BOWMAN ACME CORPORATION
95 PINEVIEW DRIVE AMHERST, NY 14228
PHONE: (800) 677-4922

OR

- BEJS SYSTEM
MANUFACTURED BY EMSEAL JOINT SYSTEMS, LTD
25 BRIDLE LANE, WESTBOROUGH, MA 01581
PHONE: (800) 526-8365

OR AN APPROVED EQUAL.

MEASUREMENT AND PAYMENT:

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
516	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: PRECOMPRESSED FOAM JOINT SYSTEM

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

DESCRIPTION:

THIS WORK CONSISTS OF RAISING THE EXISTING STRUCTURE TO FACILITATE THE REMOVAL AND REPLACEMENT OF THE STRINGER SHIM PACK IN THE MAIN TRUSS SPANS. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL SUBMIT A JACKING PLAN TO THE ENGINEER FOR APPROVAL AND CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05. IF DURING JACKING OPERATIONS, CRACKING OF THE CONCRETE DECK, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS OR OTHER DAMAGE TO THE STRUCTURE IS NOTED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. UPON COMPLETION OF JACKING OPERATIONS, THE STRINGERS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, THE CONTRACTOR SHALL SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR REPAIR COSTS TO ENSURE FULL SEATING OF STRINGERS OR FOR REPAIRS REQUIRED TO CORRECT DAMAGE CAUSED BY JACKING.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
516	LUMP	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

ITEM 518 - SCUPPER MODIFICATION, AS PER PLAN

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH THE CAPPING AND PLUGGING OF SPECIFIED EXISTING SCUPPERS AND REMOVAL OF PORTIONS OF THE EXISTING DOWNSPOUT, AS PER PLAN. THIS ITEM ALSO INCLUDES THE SEALING OF THE PERIMETER OF THE SCUPPER TO BE PLUGGED WITH HMWM. EXISTING SCUPPERS ARE TO BE PLUGGED WITH CLASS QC 2 CONCRETE AND FINISHED TO MATCH THE EXISTING GRADE OF THE BRIDGE DECK. CONTRACTOR IS TO FIELD VERIFY THE AMOUNT OF THE EXISTING DOWNSPOUT TO BE REMOVED, THE VOLUME OF CONCRETE NEEDED TO PLUG EACH SCUPPER, AND THE AREA OF HMWM NEEDED TO SEAL THE PERIMETER OF THE SCUPPER.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE TERM "EACH" REFERS TO THE MODIFICATION OF A SINGLE SCUPPER AND ASSOCIATED DOWNSPOUT. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
518	EACH	SCUPPER MODIFICATION, AS PER PLAN

ITEM 518 - STRUCTURE DRAINAGE, MISC.: CLEANING AND REPAIR OF CATCHMENTS AND CATCH BASINS

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR REQUIRED TO CLEAN AND REPAIR THE CATCHMENTS AND CATCH BASINS, INCLUDING THE REMOVAL OF THE EXISTING MASONRY BLOCK CATCHMENTS, DRILLING OF DOWEL HOLES, SETTING OF ANCHOR BARS WITH NONSHRINK, NONMETALLIC GROUT, EPOXY COATED REINFORCING STEEL, CLEANING OF DEBRIS WITHIN THE CATCH BASIN, AND REPAIRING AND SEALING OF PIPE CONNECTIONS TO THE CATCH BASINS.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. THE TERM "EACH" REFERS TO CLEANING AND REPAIRING OF A SINGLE CATCHMENT OR CATCH BASIN. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
518	EACH	STRUCTURE DRAINAGE, MISC.: CLEANING AND REPAIR OF CATCHMENTS AND CATCH BASINS

ITEM 518 - STRUCTURE DRAINAGE, MISC.: MAIN TRUSS DRAINAGE HOPPERS

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR REQUIRED TO REMOVE AND REPLACE THE DRAINAGE HOPPERS IN THE MAIN TRUSS SPANS. THIS WORK ALSO INCLUDES MOUNTING THE HOPPERS AND CONNECTING THEM INTO THE NEW OR EXISTING 12" DIAMETER PIPE DOWNSPOUT.

MEASUREMENT AND PAYMENT:

PAYMENT FOR THIS WORK SHALL INCLUDE ALL EQUIPMENT, TOOLS, MATERIAL, AND LABOR NECESSARY TO PERFORM THIS TASK AND WHERE NOT INCIDENTAL TO THE COMPLETION OF THE OTHER WORK PAID FOR UNDER THIS CONTRACT. THE UNIT "EACH" REFERS TO THE REMOVAL AND REPLACEMENT OF A SINGLE DRAINAGE HOPPER. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
518	EACH	STRUCTURE DRAINAGE, MISC.: MAIN TRUSS DRAINAGE HOPPERS

ITEM 518 - STRUCTURE DRAINAGE, MISC.: PIER 7S WATER REMOVAL

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH REMOVING THE WATER FROM THE INTERIOR CAVITY OF PIER 7 SOUTH AND THE DRILLING OF A WEEP HOLE, AS PER PLAN. THE CONTRACTOR IS TO PUMP OUT THE WATER ON THE INTERIOR OF THE PIER.. ONCE PUMPING HAS BEEN COMPLETED, THE CONTRACTOR IS TO FIELD VERIFY THE LOCATION OF THE WEEP HOLE.

THE 2 INCH DIAMETER WEEP HOLE SHALL BE DRILLED FLUSH TO THE FLOOR OF THE TOP PIER CAVITY.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR DRILLING, AND PUMPING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
518	LUMP	STRUCTURE DRAINAGE, MISC.: PIER 7S WATER REMOVAL

ITEM 518 - STRUCTURE DRAINAGE, MISC.: DRAIN PIPE LAYOUT

DESCRIPTION:

THE CONTRACTOR SHALL PERFORM THE FINAL PIPE LAYOUT, WITH EXPANSION JOINT CONFIGURATION, AND SUBMIT SHOP DRAWINGS FOR APPROVAL BY ODOT PRIOR TO CONSTRUCTING THE DRAINAGE SYSTEM. ALL DIMENSIONS SHOWN ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO THE REQUIREMENTS OF CMS 102.05 AND 105.02, AND SHALL BASE THE CONTRACT BID PRICE UPON RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE BID EXAMINATION OF THE EXISTING CONDITIONS. THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

MEASUREMENT AND PAYMENT:

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
518	LUMP	STRUCTURE DRAINAGE, MISC.: DRAIN PIPE LAYOUT

ITEM 518 - STRUCTURE DRAINAGE, MISC.: CLEANING BRIDGE DRAINAGE SYSTEM

DESCRIPTION:

THIS ITEM CONSISTS OF REMOVING ALL DIRT AND DEBRIS FROM THE ROADWAY DECK NEAR THE CURB AND MEDIAN, SCUPPERS, CROSS DRAINS, DRAINAGE PIPES, HOPPERS, HORIZONTAL CONDUCTORS, DOWNSPOUTS, STORM SEWERS AND CATCH BASINS (EXCLUDING THOSE WITHIN THE RAILROAD RIGHT OF WAY) TO THE CITY STORM SEWERS OR PIPE OUTLET. AFTER THE DIRT AND DEBRIS ARE REMOVED, THE ENTIRE SYSTEM SHALL BE FLUSHED OUT WITH CLEAN WATER MAKING CERTAIN THAT WATER FLOWS SMOOTHLY TO ITS OUTLET. ADDITIONALLY, THIS ITEM INCLUDES THE SCOPING OF THE UNDERGROUND PORTIONS OF THE DRAINAGE SYSTEM UP TO THE OUTLET INTO THE CITY OF CLEVELAND SEWERS.

ALL DIRT AND DEBRIS SHALL BE REMOVED FROM THE BRIDGE SITE AND PROPERLY DISPOSED OF. ALL LOOSE TRASH AND DEBRIS SHALL BE COLLECTED BY SWEEPING, SHOVELING, VACUUMING AND OTHER SUITABLE METHODS. EQUIPMENT FOR COLLECTING TRASH AND OTHER DEBRIS FROM BRIDGE SITE SHALL BE DETERMINED BY THE CONTRACTOR, SUBJECT TO APPROVAL BY THE ENGINEER. THE CONTRACTOR SHALL NOT CAUSE OR ALLOW TRASH AND/OR DEBRIS FROM THE BRIDGE SITE TO BE DEPOSITED INTO A WETLAND, STREAM OR ANY OTHER BODY OF WATER OR ACTIVE TRAFFIC LANES DURING THE CLEANING OF THE BRIDGE DRAINAGE SYSTEM.

SCOPING REQUIREMENTS:

THE CONTRACTOR SHALL FURNISH A QUALIFIED TECHNICIAN AND SUFFICIENTLY TRAINED SUPERVISORY PERSONNEL AND LABOR TO PERFORM ALL THE WORK REQUIRED IN THE INSPECTION OPERATION. THE CONTRACTOR SHALL FURNISH AN ADEQUATE NUMBER OF VIDEO CAMERAS, TOOLS, AND REPAIR PARTS SO THAT THERE WILL BE NO DELAY IN CASE OF A CAMERA BREAKDOWN. AT LEAST ONE OF THESE CAMERAS SHALL BE SMALL ENOUGH TO PASS THROUGH A SIX INCH OPENING.

THE EQUIPMENT SHALL HAVE THE CAPACITY TO TELEVISION A CONTINUOUS 800 FOOT LENGTH OF PIPE. ADDITIONALLY, SCOPING EQUIPMENT SHALL BE EQUIPPED WITH A METERING DEVICE SO THAT THE EXACT LOCATION OF THE CAMERA WITHIN THE PIPELINE CAN BE DETERMINED AT ALL TIMES AND WILL BE PART OF THE VIDEO RECORD. THE CAMERA WILL BE MOVED THROUGH THE LINE AT A UNIFORM, SLOW, RATE AND WILL BE STOPPED AT ANY STRUCTURAL DEFICIENCIES TO OBSERVE THE CONDITION, RECORD INFORMATION, AND TAKE SCREENSHOTS OF STRUCTURAL DEFICIENCIES REQUIRING PIPE REPLACEMENT.

THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT REQUIRED FOR TAKING SCREENSHOTS OF THE VIEW WHICH APPEARS ON THE MONITOR. DURING THE COURSE OF THE INSPECTION, THE ENGINEER SHALL INDICATE SPECIFIC LOCATIONS TO DOCUMENT WITH SCREENSHOTS, WHICH WILL BE REFERENCED TO METERED LOCATIONS ON LOG SHEETS.

IF A SEWER PIPE IS FOUND TO BE COLLAPSED, THE CITY OF CLEVELAND SHALL BE NOTIFIED. THE CONTRACTOR SHALL DETERMINE THE EXTENT OF WORK REQUIRED FOR THIS ITEM BY EXAMINATION OF EXISTING BRIDGE PLANS AND FIELD INVESTIGATION. THE CONTRACTOR SHALL PROVIDE THE NECESSARY EQUIPMENT FOR THE PURPOSE OF EXAMINING THE EXISTING BRIDGE DRAINAGE SYSTEM. THE CONTRACTOR'S SUPERINTENDENT SHALL ACCOMPANY THE ENGINEER IN MAKING A DETAILED EXAMINATION PRIOR TO BEGINNING WORK AND AGAIN AT THE COMPLETION OF WORK. NO SEPERATE PAYMENT WILL BE MADE TO THE CONTRACTOR TO COVER THE COSTS OF THE EXAMINATION.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
518	LUMP	STRUCTURE DRAINAGE, MISC.: CLEANING BRIDGE DRAINAGE SYSTEM

ITEM 518 - 10" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR, ASSOCIATED WITH THE INSTALLATION OF THE 10" DIAMETER DRAINAGE DOWNSPOUTS, AS PER PLAN, INCLUDING CLEANOUTS, DUCKS, EXPANSION JOINTS, AND SUPPORTS. ALL PIPES ARE TO BE GALVANIZED.

THE 6X6 COTTON DUCK REINFORCED MATERIAL WILL BE MANUFACTURED UNDER MILITARY SPECIFICATION MIL-C-882-E AND REFERENCE TO SECTION 18.10.2 OF THE AASHTO SPECIFICATIONS FOR BRIDGES.

THE EXPANSION JOINTS SHALL BE CLAMP-TYPE COUPLINGS, VICTAULIC COUPLINGS HAVING A RING GASKET, OR APPROVED EQUAL.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE INSTALLATION OF THE DOWNSPOUTS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THESE ITEMS.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEMS (PAY ITEMS):

ITEM	UNIT	DESCRIPTION
518	FT	10" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

ITEM 518 - 12" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR, ASSOCIATED WITH THE INSTALLATION OF THE 12" DIAMETER DRAINAGE DOWNSPOUTS, AS PER PLAN, INCLUDING CLEANOUTS AND SUPPORTS. ALL PIPES ARE TO BE GALVANIZED.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE INSTALLATION OF THE DOWNSPOUTS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THESE ITEMS.

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEMS (PAY ITEMS):

ITEM	UNIT	DESCRIPTION
518	FT	12" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

ITEM 518 - STRUCTURE DRAINAGE, MISC.: MISCELLANEOUS DRAINAGE REPAIR

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR REQUIRED TO REPAIR OR REPLACE EXISTING DRAIN PIPE ELBOWS, NEOPRENE DRAIN BOOTS, AND MISSING DRAIN BOLTS, INCLUDING THE REMOVAL OF THE EXISTING ELBOWS AND NEOPRENE BOOTS. THIS ITEM ALSO INCLUDES MISCELLANEOUS REPAIRS AS ITEMIZED ON THE DRAINAGE REPAIR SHEETS.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR, AND ACCESS TO COMPLETE THE REPAIRS. THE UNIT "EACH" DEFINES THE REPAIR AND REPLACEMENT OF A SINGLE DRAIN PIPE ELBOW, DRAIN BOOT, OR MISSING DRAIN BOLT. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
518	EACH	STRUCTURE DRAINAGE, MISC.: MISCELLANEOUS DRAINAGE REPAIR

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

DESCRIPTION:

CONCRETE SURFACES SHALL BE PATCHED IN ACCORDANCE WITH CMS 519 AND THE FOLLOWING ADDITIONS.

ESTIMATED PATCHING QUANTITIES ARE BASED ON THE MOST RECENT IN-DEPTH INSPECTION OF THE STRUCTURE. AREAS TO BE PATCHED HAVE BEEN DETAILED IN THE PLANS.

IT IS POSSIBLE THAT ADDITIONAL AREAS REQUIRING PATCHING MAY HAVE DEVELOPED SINCE THE MOST RECENT INSPECTION OF THE STRUCTURE. THEREFORE, THE CONTRACTOR SHALL SOUND THE SURROUNDING PERIMETER OF THE AREA TO BE PATCHED AND PATCH NEW AREAS APPROVED BY THE ENGINEER THAT HAVE NOT BEEN DETAILED IN THE PLANS. A CONTINGENCY OF 700 SQUARE FEET HAS BEEN ADDED TO THE ESTIMATED QUANTITIES FOR SUCH REPAIR AND SHALL BE USED AT THE DISCRETION OF THE ENGINEER.

THE ENGINEER SHALL DESIGNATE THE PRIORITY OF THESE PATCHING REPAIRS AND CONTINGENCY QUANTITIES AND SHALL DIRECT THE CONTRACTOR TO PERFORM THE PATCHING REPAIRS IN THE FOLLOWING ORDER:

1. PIERS
2. PEDESTALS
3. ABUTMENTS
4. FRAMING IN SECTION P
5. EXTERIOR CURTAIN WALLS IN WEST APPROACH SECTIONS
6. INTERIOR FRAMING AND CURTAIN WALLS IN WEST APPROACH SECTIONS

THE ORDER OF THIS LIST SHALL CHANGE AT THE DIRECTION OF THE ENGINEER. AT ANY TIME, THE ENGINEER CAN DIRECT THE CONTRACTOR TO CEASE PATCHING OPERATIONS.

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

TO PERFORM PATCHING REPAIRS, IT MAY BE NECESSARY FOR THE CONTRACTOR TO REMOVE DRAINAGE COMPONENTS FROM THE STRUCTURE. CONTRACTOR SHALL REMOVE AND REINSTALL, AS DIRECTED BY THE ENGINEER, ANY EXISTING DRAINAGE COMPONENTS IN THE WAY OF PERFORMING WORK. MATERIALS DAMAGED BY THIS OPERATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. COST ASSOCIATED WITH REMOVAL AND REINSTALLATION OF DRAINAGE COMPONENTS SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING OF DOWEL HOLES, AND CLEANING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
519	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN

ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR REQUIRED FOR THE PLACEMENT OF CRUSHED AGGREGATE SLOPE PROTECTION ON THE EAST SIDE OF PIER 37 IN THE LAKEFRONT RAMP SECTION AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 601 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. BEFORE PLACEMENT OF THE SLOPE PROTECTION, THE CONTRACTOR IS TO BACKFILL THE ERODED SLOPE CHANNEL WITH COMPACTED SOIL PER THE REQUIREMENTS OF CMS 203.07. THE CONTRACTOR IS TO FIELD VERIFY THE LIMITS OF THE EROSION REGION AND SHALL EXTEND THE AREA TO RECEIVE COMPACTED SOIL AND CRUSHED AGGREGATE SLOPE PROTECTION AS DIRECTED BY THE ENGINEER. IN ORDER TO NOT FOUL THE RAILROAD RIGHT OF WAY, CONTRACTOR PERSONNEL AND EQUIPMENT ARE TO STAY 30 FEET AWAY FROM THE TRACK CENTERLINE AT ALL TIMES.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
601	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE 6' VANDAL PROTECTION FENCE IN THE FORWARD SECTION AS PER THE DETAILS IN THE PLANS WITH THE APPLICABLE PORTIONS OF STANDARD DRAWING VPF-1-90 AND THE MANUFACTURER'S RECOMMENDATIONS.

THE ANCHORS SHALL BE CAST IN PLACE WITH 7" MINIMUM EMBEDMENT OR INSTALLED IN THREADED FERRULE CONCRETE INSERTS. THE INSERTS SHALL BE APPROVED BY THE DIRECTOR.

THE COLOR OF THE FENCE FABRIC, RAILS, POSTS, PLATES, TIE WIRES, AND ADDITIONAL VISABLE HARDWARE AND CAULK SHALL BE BLACK.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE INSTALLATION OF THE FENCE. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
607	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

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DESIGN AGENCY
DATE 08/16/13
REVIEWED WRW
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DRAWN NRF
CHECKED CTG
DESIGNED NRF

STRUCTURE GENERAL NOTES (8 OF 10)
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

CUY-2-14.41
PID No. 91115

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ITEM 607 - VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE 8' VANDAL PROTECTION FENCE IN THE FORWARD SECTION AS PER THE DETAILS IN THE PLANS WITH THE APPLICABLE PORTIONS OF STANDARD DRAWING VPF-1-90 AND THE MANUFACTURER'S RECOMMENDATIONS.

THE COLOR OF THE FENCE FABRIC, RAILS, POSTS, PLATES, TIE WIRES, AND ADDITIONAL VISABLE HARDWARE AND CAULK SHALL BE BLACK.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE INSTALLATION OF THE FENCE. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND BOLTING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
607	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN

ITEM 607 - GATE, TYPE CLT, AS PER PLAN

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE 6' CHAIN LINK FENCE AND GATE IN THE FORWARD SECTION AS PER THE DETAILS IN THE PLANS WITH THE APPLICABLE PORTIONS OF STANDARD DRAWING F-1.1 AND THE MANUFACTURER'S RECOMMENDATIONS. THE COLOR OF THE FENCE FABRIC, RAILS, POSTS, TIE WIRES, AND ADDITIONAL VISABLE HARDWARE AND CAULK SHALL BE BLACK.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE INSTALLATION OF THE GATE. PAYMENT FOR CUTTING, GRINDING, AND DRILLING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
607	EACH	GATE, TYPE CLT, AS PER PLAN

ITEM 614 - MAINTENENCE OF TRAFFIC

DESCRIPTION:

NO PERMANENT LANE CLOSURES WILL BE PERMITTED. TEMPORARY LANE CLOSURES ARE ALLOWABLE. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE THROUGH LANE OF TRAFFIC AT THE WORK OPERATION AREAS AT ALL TIMES. TIMES AND DATES FOR LANE CLOSURES MUST BE COORDINATED WITH AND APPROVED BY THE CITY OF CLEVELAND COMMISSIONER OF TRAFFIC ENGINEERING AND ODOT DISTRICT 12 PRIOR TO THEIR IMPLEMENTATION PER THE NOTIFICATION NOTE SHOWN ON SHEET [2 / 187]. TEMPORARY LANE CLOSURES SHALL BE IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, AND THE LATEST EDITION OF THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS.

TEMPORARY LANE CLOSURES WILL BE RESTRICTED TO TIMES PERMITTED BY ODOT AND THE CITY OF CLEVELAND.

MEASUREMENT AND PAYMENT:

ANY LABOR AND/OR MATERIALS AND EQUIPMENT INCIDENTAL TO MAINTENENCE OF TRAFFIC NOT SPECIFICALLY PAID FOR UNDER ANY OTHER ITEM SHALL BE INCLUDED AND PAID FOR UNDER THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
614	LUMP	MAINTAINING TRAFFIC

ITEM 625 - LIGHTING, MISC.: REPLACEMENT OF EXISTING NAVIGATIONAL LIGHTING

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF EXISTING NAVIGATIONAL LIGHTING UNITS, CONDUITS, CONDUCTORS, AND ASSOCIATED HARDWARE PRESENT ON THE DOLPHINS AND FENDERS IN THE CUYAHOGA RIVER CHANNEL, AS DETAILED IN THE PLANS. THE EXISTING CONDUIT IS TO BE REMOVED BACK TO THE EXISTING METER BOX. THE REPLACEMENT NAVIGATIONAL LIGHT UNITS SHALL BE 180 DEGREE RED WITH A SILICON BRONZE CASTING FOR HOUSING AND BASE, DL-LED OPTION, 1.5 INCH SCHEDULE 40 STAINLESS STEEL PIPE STEM, AND BIRD SPIKES ON COVER.

THE LIGHTING UNITS SHALL BE:

- PL PIER NAVIGATION LIGHT MANUFACTURED BY B&B ROADWAY 15191 HIGHWAY 243 RUSSELLVILLE, AL 35654 PHONE: (256) 332-4036

OR

- FL SERIES PIER LIGHT MANUFACTURED BY FED TANSIT SAFETY SYSTEMS 2401 SUMMERFIELD ROAD WINTER PARK, FL 32789 PHONE: (863) 634-6156

OR AN APPROVED EQUAL.

THE PULL BOXES SHALL BE PRECAST CONCRETE, HAVE MINIMAL DIMENSIONS OF 10"Wx16"Lx12"D, AND BE NEC COMPLIANT.

THE PULL BOXES SHALL BE:

- N09 BOX MANUFACTURED BY OLDCASTLE PRECAST ENCLOSURE SOLUTIONS 1002 15TH STREET SW AUBURN, WA 98001 PHONE: (800) 735-5566

OR

- QUAZITE PG STYLE 11"x18" MANUFACTURED BY HUBBELL INCORPORATED 40 WATERVIEW DRIVE SHELTON, CT 06484 PHONE: (475) 882-4000

OR AN APPROVED EQUAL.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, WIRING, AND DRILLING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
625	LUMP	LIGHTING, MISC.: REPLACEMENT OF EXISTING NAVIGATIONAL LIGHTING

ITEM 849 - STRAIGHTENING DAMAGED MEMBERS

DESCRIPTION:

THIS WORK INCLUDES ALL ACCESS, LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM HEAT STRAIGHTENING OF THE FRAMING MEMBER AS SHOWN IN THE PLANS ON SHEET [150 / 187] IN ACCORDANCE WITH CMS 513 AND SUPPLEMENTAL SPECIFICATION 849 SUPPLEMENTED WITH THE FOLLOWING INFORMATION. THIS WORK ALSO INCLUDES THE REMOVAL AND REPLACEMENT OF THE DAMAGED STIFFENER AS SHOWN IN THE PLANS. AFTER REMOVAL OF THE DAMAGED STIFFENER AND REMOVAL OF THE PAINT ON THE AREA OF THE STRINGER TO BE STRAIGHTENED, THE CONTRACTOR IS TO INSPECT DAMAGED AREA FOR CRACKS AND TEARS PER CMS 849.12.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING, GRINDING, DRILLING, AND STRAIGHTENING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
849	LUMP	STRAIGHTENING DAMAGED MEMBERS

ITEM SPECIAL - STRUCTURE, MISC.: PIER ACCESS HATCH

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH THE REMOVAL OF EXISTING HATCHES ON THE TOP OF SPECIFIED PIERS AND INSTALLATION OF NEW HATCHES, AS DETAILED IN THE PLANS. THE REPLACEMENT HATCHES SHALL BE HINGED WITH A LOCKING HOLD-OPEN ARM, MADE OF GALVANIZED STEEL, HAVE A MINIMUM OPENING OF 30"x30", HAVE A NEOPRENE OR RUBBER GASKET, LOUVERS, AND A SLAM LATCH. THE HATCH IS TO BE ATTACHED TO THE TOP OF THE PIER PER THE MANUFACTURER'S RECOMMENDATIONS.

THE HATCHES SHALL BE:

- PERSONNEL SERIES ROOF HATCH, SINGLE DOOR MANUFACTURED BY BABCOCK-DAVIS 9300 73RD AVENUE NORTH BROOKLYN, MN 55428 PHONE: (888) 412-3726

OR

- SINGLE LEAF ROOF SCUTTLE TYPE E MANUFACTURED BY THE BILCO COMPANY P.O. BOX 1203 NEW HAVEN, CT 06505 PHONE: (203) 934-6363

OR AN APPROVED EQUAL.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE REPAIRS. PAYMENT FOR CUTTING AND DRILLING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" REFERS TO THE INSTALLATION OF A SINGLE PIER HATCH. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
SPECIAL	EACH	STRUCTURE, MISC.: PIER ACCESS HATCH

ITEM SPECIAL - BOLLARD

DESCRIPTION:

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH THE INSTALLATION OF BOLLARDS IN THE FORWARD SECTION AS PER THE DETAILS IN THE PLANS WITH THE APPLICABLE PORTIONS OF STANDARD DRAWING RM-5.1 AND THE MANUFACTURER'S RECOMMENDATIONS. THE BOLLARDS SHALL BE PERMANENT AND SQUARE IN SHAPE.

MEASUREMENT AND PAYMENT:

PAYMENT SHALL INCLUDE FULL COMPENSATION FOR MATERIAL, TOOLS, EQUIPMENT, LABOR AND ACCESS TO COMPLETE THE INSTALLATION OF THE BOLLARDS. PAYMENT FOR CUTTING, GRINDING, AND DRILLING AS PART OF THIS REPAIR IS CONSIDERED INCIDENTAL FOR PAYMENT IN THIS ITEM. THE UNIT "EACH" REFERS TO THE INSTALLATION OF A SINGLE BOLLARD. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
SPECIAL	EACH	BOLLARD

ITEM SPECIAL - ASBESTOS ABATEMENT

DESCRIPTION:

AN ASBESTOS SURVEY OF THE MAIN AVENUE BRIDGE (CUY-2-141) WAS COMPLETED ON JUNE 14, 2013 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. NO ASBESTOS CONTAINING MATERIAL (ACM) WAS IDENTIFIED ON THE BRIDGE.

THE REMOVAL AND DISPOSAL OF ANY ASBESTOS CONTAINING MATERIAL DURING THE DECK REMOVAL OF THE UTILITY DECK IN THE EAST APPROACH SECTION OF THE BRIDGE MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS WITH SECTIONS I-IV, VI AND VII COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR WILL COMPLETE SECTIONS V, VIII-XVIII OF THE FORM AND SUBMIT THE COMPLETED FORM TO THE LOCAL AIR AUTHORITY AT LEAST TEN (10) DAYS PRIOR TO DEMOLITION OF THE UTILITY DECK. THE CONTRACTOR WILL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

THE DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENT
1925 ST. CLAIR AVENUE
CLEVELAND, OHIO 44114
PHONE: (216) 664-2300

THE CONTRACTOR WILL PROVIDE AN INDIVIDUAL TRAINED IN THE PROVISIONS OF NESHAP THAT WILL BE ON-SITE DURING REMOVAL OF THE ASBESTOS CONTAINING MATERIALS. IN ADDITION TO THE ASBESTOS CONTAINING MATERIAL IDENTIFIED IN THE ASBESTOS SURVEY REPORT, THIS INDIVIDUAL WILL ALSO MONITOR ANY ADDITIONAL NON-VISIBLE ASBESTOS ENCOUNTERED WITHIN THE PROJECT WORK LIMITS.



DESIGN AGENCY
DATE 08/16/13
REVIEWED WRW
STRUCTURE FILE NUMBER 1800035

DRAWN NRF
REVISOR
DESIGNED NRF
CHECKED CTG

STRUCTURE GENERAL NOTES (10 OF 10)
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOCA RIVER

CUY-2-14.41
PID No. 91115

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MEASUREMENT AND PAYMENT:
THE CONTRACTOR WILL FURNISH ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE, SUBMIT, AND COMPLY WITH THE OEPA NOTIFICATION FORM AND TO REMOVE, TRANSPORT, AND DISPOSE OF THE MATERIALS CONTAINING ASBESTOS FROM WITHIN THE PROJECT WORK LIMITS. PAYMENT OF THIS WORK WILL BE INCLUDED IN THE BID LUMP SUM PRICE ITEM SPECIAL - ASBESTOS ABATEMENT.

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP	ASBESTOS ABATEMENT

ITEM 690 - AS-BUILT CONSTRUCTION PLANS

THE CONTRACTOR SHALL MAINTAIN AND PROVIDE THE ENGINEER WITH RECORD DRAWINGS AS SPECIFIED HEREIN. RECORD DRAWINGS SHALL INCLUDE COMPLETE DOCUMENTATION OF FIELD REVISIONS TO THE CONTRACT DOCUMENTS.

FILING:

- THE CONTRACTOR SHALL MAINTAIN IN THE FIELD OFFICE AND IN CLEAN, DRY, LEGIBLE CONDITION THE FOLLOWING: CONTRACT DRAWINGS, SPECIFICATIONS, ADDENDA, CONFORMING SHOP DRAWINGS, CHANGE ORDERS, OTHER MODIFICATIONS OF CONTRACT, TEST RECORDS, SURVEY DATA AND ALL OTHER DOCUMENTS PERTINENT TO THE CONTRACTOR'S WORK.
- THE CONTRACTOR SHALL PROVIDE FILES AND RACKS FOR PROPER STORAGE AND EASY ACCESS. FILING SHALL BE ESTABLISHED IN A FORMAT ACCEPTABLE TO THE ENGINEER.
- THE CONTRACTOR SHALL MAKE DOCUMENTS AVAILABLE AT ALL TIMES FOR INSPECTION BY THE ENGINEER.
- RECORD DRAWINGS SHALL NOT BE USED FOR ANY OTHER PURPOSE AND SHALL NOT BE REMOVED FROM THEIR FILED LOCATION WITHOUT THE ENGINEER'S APPROVAL.

RECORDING:

- THE CONTRACTOR SHALL KEEP ALL RECORD DRAWINGS CURRENT.
- THE CONTRACTOR SHALL NOT PERMANENTLY CONCEAL ANY WORK UNTIL REQUIRED INFORMATION HAS BEEN RECORDED.
- CONTRACT DRAWINGS SHALL BE LEGIBLY MARKED TO RECORD ACTUAL CONSTRUCTION INCLUDING:
 - DEPTHS OF VARIOUS ELEMENTS OF FOUNDATION IN RELATION TO DATUM.
 - HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND UTILITIES AND APPURTENANCES REFERENCED TO PERMANENT SURFACE IMPROVEMENTS.
 - FIELD CHANGES OF DIMENSION AND DETAIL.
 - CHANGES MADE BY CHANGE ORDER OR FIELD ORDER.
 - DETAILS NOT ON ORIGINAL CONTRACT DRAWINGS.
- SPECIFICATIONS AND ADDENDA: LEGIBLY MARK EACH SECTION TO RECORD:
 - MANUFACTURER, TRADE NAME, CATALOG NUMBER AND SUPPLIER OF EACH PRODUCT AND ITEM OF EQUIPMENT ACTUALLY INSTALLED.
 - CHANGES MADE BY CHANGE ORDER OR FIELD ORDER.
 - OTHER MATTERS NOT ORIGINALLY SPECIFIED.

SUBMITTALS:

A. THE CONTRACTOR SHALL ANNOTATE ALL RECORD DRAWING REVISIONS ONTO ELECTRONIC COPIES OF PLAN DRAWINGS PROVIDED BY THE ENGINEER USING MICROSTATION V8i, OR LATER SOFTWARE, AS APPROVED BY THE ENGINEER. AT THE COMPLETION OF THE PROJECT, DELIVER ONE (1) MYLAR COPY, ONE (1) PAPER COPY, AND ONE (1) ELECTRONIC COPY IN MICROSTATION OF RECORD DRAWING ORIGINAL DOCUMENTS TO THE ENGINEER. HIGHLIGHT CHANGES WITH CLOUDS AND SHOW CHANGES ON A SEPARATE MICROSTATION LEVEL.

B. PROVIDE TRANSMITTAL LETTER CONTAINING THE FOLLOWING INFORMATION:

- DATE
- PROJECT TITLE AND PROJECT NUMBER
- CONTRACTOR'S NAME AND ADDRESS
- TITLE AND NUMBER OF EACH DRAWING
- CERTIFICATION THAT EACH DOCUMENT AS SUBMITTED IS COMPLETE AND ACCURATE.
- SIGNATURE OF CONTRACTOR OR HIS AUTHORIZED REPRESENTATIVE

MEASUREMENT AND PAYMENT:
PAYMENT FOR ALL THE ABOVE SHALL BE LUMP SUM UPON THE PROPER EXECUTION OF ALL THE WORK OF THIS ITEM AS DETERMINED BY THE ENGINEER.

ITEM	UNIT	DESCRIPTION
690	LUMP	AS-BUILT CONSTRUCTION PLANS

LIST OF ABBREVIATIONS:

- APPR. - APPROACH
- APPROX. - APPROXIMATE
- B/B - BACK TO BACK
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- BRG. - BEARING
- C/C - CENTER TO CENTER
- CLR. - CLEAR
- CMS - ODOT 2013 CONSTRUCTION AND MATERIAL SPECIFICATIONS
- CVN - CHARPY V-NOTCH
- DELAM. - DELAMINATION
- DIA. - DIAMETER
- E.F. - EACH FACE
- ELEV. - ELEVATION
- EXIST. - EXISTING
- EXP. - EXPANSION
- F.F. - FAR FACE
- FT. - FOOT/FEET
- GALV. - GALVANIZED
- H.S. - HIGH STRENGTH
- HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
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- LAT. - LATERAL
- MAX. - MAXIMUM
- MIN. - MINIMUM
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- N.F. - NEAR FACE
- NDT - NON-DESTRUCTIVE TESTING
- PT. - POINT
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- QTY. - QUANTITY
- R - RADIUS
- REINF. - REINFORCEMENT
- REM - REMOVAL
- S - SOUTH
- SECT. - SECTION
- SF - SQUARE FEET
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- SPA. - SPACE
- ST. - STREET
- STIFF. - STIFFENER
- SYM. - SYMMETRIC
- TYP. - TYPICAL
- U.N.O. - UNLESS NOTED OTHERWISE
- U.C. - UPPER CHORD
- VPF - VANDAL PROTECTION FENCE
- W.P. - WORKING POINT
- WWF - WELDED WIRE FABRIC

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MEASUREMENT AND PAYMENT:

THE CONTRACTOR WILL FURNISH ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE, SUBMIT, AND COMPLY WITH THE OEPA NOTIFICATION FORM AND TO REMOVE, TRANSPORT, AND DISPOSE OF THE MATERIALS CONTAINING ASBESTOS FROM WITHIN THE PROJECT WORK LIMITS. PAYMENT OF THIS WORK WILL BE INCLUDED IN THE BID LUMP SUM PRICE ITEM SPECIAL - ASBESTOS ABATEMENT.

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP	ASBESTOS ABATEMENT

ITEM 690 - AS-BUILT CONSTRUCTION PLANS

THE CONTRACTOR SHALL MAINTAIN AND PROVIDE THE ENGINEER WITH RECORD DRAWINGS AS SPECIFIED HEREIN. RECORD DRAWINGS SHALL INCLUDE COMPLETE DOCUMENTATION OF FIELD REVISIONS TO THE CONTRACT DOCUMENTS.

FILING:

1. THE CONTRACTOR SHALL MAINTAIN IN THE FIELD OFFICE AND IN CLEAN, DRY, LEGIBLE CONDITION THE FOLLOWING: CONTRACT DRAWINGS, SPECIFICATIONS, ADDENDA, CONFORMING SHOP DRAWINGS, CHANGE ORDERS, OTHER MODIFICATIONS OF CONTRACT, TEST RECORDS, SURVEY DATA AND ALL OTHER DOCUMENTS PERTINENT TO THE CONTRACTOR'S WORK.
2. THE CONTRACTOR SHALL PROVIDE FILES AND RACKS FOR PROPER STORAGE AND EASY ACCESS. FILING SHALL BE ESTABLISHED IN A FORMAT ACCEPTABLE TO THE ENGINEER.
3. THE CONTRACTOR SHALL MAKE DOCUMENTS AVAILABLE AT ALL TIMES FOR INSPECTION BY THE ENGINEER.
4. RECORD DRAWINGS SHALL NOT BE USED FOR ANY OTHER PURPOSE AND SHALL NOT BE REMOVED FROM THEIR FILED LOCATION WITHOUT THE ENGINEER'S APPROVAL.

RECORDING:

1. THE CONTRACTOR SHALL KEEP ALL RECORD DRAWINGS CURRENT.
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3. CONTRACT DRAWINGS SHALL BE LEGIBLY MARKED TO RECORD ACTUAL CONSTRUCTION INCLUDING:
 - A. DEPTHS OF VARIOUS ELEMENTS OF FOUNDATION IN RELATION TO DATUM.
 - B. HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND UTILITIES AND APPURTENANCES REFERENCED TO PERMANENT SURFACE IMPROVEMENTS.
 - C. FIELD CHANGES OF DIMENSION AND DETAIL.
 - D. CHANGES MADE BY CHANGE ORDER OR FIELD ORDER.
 - E. DETAILS NOT ON ORIGINAL CONTRACT DRAWINGS.
4. SPECIFICATIONS AND ADDENDA: LEGIBLY MARK EACH SECTION TO RECORD:
 - A. MANUFACTURER, TRADE NAME, CATALOG NUMBER AND SUPPLIER OF EACH PRODUCT AND ITEM OF EQUIPMENT ACTUALLY INSTALLED.
 - B. CHANGES MADE BY CHANGE ORDER OR FIELD ORDER.
 - C. OTHER MATTERS NOT ORIGINALLY SPECIFIED.

SUBMITTALS:

A. THE CONTRACTOR SHALL ANNOTATE ALL RECORD DRAWING REVISIONS ONTO ELECTRONIC COPIES OF PLAN DRAWINGS PROVIDED BY THE ENGINEER USING MICROSTATION V8i, OR LATER SOFTWARE, AS APPROVED BY THE ENGINEER. AT THE COMPLETION OF THE PROJECT, DELIVER ONE (1) MYLAR COPY, ONE (1) PAPER COPY, AND ONE (1) ELECTRONIC COPY IN MICROSTATION OF RECORD DRAWING ORIGINAL DOCUMENTS TO THE ENGINEER. HIGHLIGHT CHANGES WITH CLOUDS AND SHOW CHANGES ON A SEPARATE MICROSTATION LEVEL.

B. PROVIDE TRANSMITTAL LETTER CONTAINING THE FOLLOWING INFORMATION:

1. DATE
2. PROJECT TITLE AND PROJECT NUMBER
3. CONTRACTOR'S NAME AND ADDRESS
4. TITLE AND NUMBER OF EACH DRAWING
5. CERTIFICATION THAT EACH DOCUMENT AS SUBMITTED IS COMPLETE AND ACCURATE.
6. SIGNATURE OF CONTRACTOR OR HIS AUTHORIZED REPRESENTATIVE

MEASUREMENT AND PAYMENT:

PAYMENT FOR ALL THE ABOVE SHALL BE LUMP SUM UPON THE PROPER EXECUTION OF ALL THE WORK OF THIS ITEM AS DETERMINED BY THE ENGINEER.

ITEM	UNIT	DESCRIPTION
690	LUMP	AS-BUILT CONSTRUCTION PLANS

LIST OF ABBREVIATIONS:

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17 / 187	CONCRETE PARAPET DELAMINATION REMOVALS
18 / 187	WEST APPROACH - SECTION B' PATCHING
19 / 187	TO 20 / 187 WEST APPROACH - SECTION D PATCHING
21 / 187	WEST APPROACH - SECTION J' PATCHING
22 / 187	WEST APPROACH - SECTION M PATCHING
23 / 187	WEST APPROACH - SECTION K PATCHING
24 / 187	WEST APPROACH - SECTION L PATCHING
25 / 187	WEST APPROACH - SECTION N PATCHING
26 / 187	WEST APPROACH - SECTION P PATCHING
27 / 187	TO 32 / 187 MAIN SPAN - PIER PATCHING
33 / 187	TO 35 / 187 EAST APPROACH - FORWARD SECTION PEDESTAL PATCHING
36 / 187	TO 41 / 187 EAST APPROACH - LAKEFRONT TRESTLE PEDESTAL PATCHING
42 / 187	EAST APPROACH - LAKEFRONT RAMP EAST ABUTMENT PATCHING
43 / 187	TO 44 / 187 CONCRETE PATCHING REPAIR DETAILS
45 / 187	TO 46 / 187 WEST APPROACH SECTION C AND K FASCIA STIFFENING
47 / 187	TO 52 / 187 MAIN TRUSS STEEL RETROFIT LOCATION DIAGRAMS
53 / 187	TO 65 / 187 MAIN TRUSS GUSSET PLATE RETROFITS
66 / 187	TO 86 / 187 MAIN TRUSS PRIMARY MEMBER RETROFITS
87 / 187	TO 121 / 187 MAIN TRUSS GUSSET PLATE EDGE STIFFENING DETAILS
122 / 187	TO 123 / 187 MAIN TRUSS STRINGER SHIM PACK REPLACEMENT
124 / 187	TO 126 / 187 MAIN TRUSS FLOORBEAM RETROFITS
127 / 187	TO 133 / 187 MAIN TRUSS FLOORBEAM BRACKET RETROFITS DETAILS
134 / 187	MAIN TRUSS TORCH CUT RETROFITS
135 / 187	MAIN TRUSS WINDLOCK RETROFITS
136 / 187	TO 144 / 187 MAIN TRUSS LATERAL BRACING RETROFITS
145 / 187	TO 149 / 187 MAIN TRUSS SWAY BRACING RETROFITS
150 / 187	TO 151 / 187 EAST APPROACH - FORWARD SECTION STRINGER IMPACT REPAIR
152 / 187	TO 155 / 187 EAST APPROACH FORWARD BENT 14 RETROFITS
156 / 187	TO 157 / 187 EAST APPROACH FORWARD BENT 4 FLOORBEAM RETROFITS
158 / 187	EAST APPROACH - LAKEFRONT TRESTLE FLOORBEAM RETROFIT
159 / 187	EAST APPROACH - LAKEFRONT RAMP SOUTH GIRDER COVER PLATE RIVET REPLACEMENT
160 / 187	TO 163 / 187 EAST APPROACH - LAKEFRONT RAMP UPPER LATERAL BRACING RETROFITS
164 / 187	TO 181 / 187 TRUSS DRAINAGE REMOVAL AND PROPOSED DRAINAGE DETAILS
182 / 187	EAST APPROACH - MISCELLANEOUS DRAINAGE DETAILS
183 / 187	TO 184 / 187 DECK JOINT SEALING DETAILS
185 / 187	NAVIGATION LIGHT REPLACEMENTS
186 / 187	MAIN TRUSS PIER MANHOLE COVER REPLACEMENTS
187 / 187	REINFORCING LIST

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DESIGNED	NRF	CHECKED	CTG
DRAWN	NRF	REVIEWED	WRW
DATE	08/16/13	STRUCTURE FILE NUMBER	1800035

STRUCTURE GENERAL NOTES (10 OF 10)
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

CUY-2-14.41
PID No. 91115

MADE BY: DWC DATE: 08/13/13
 CHECKED BY: NRF DATE: 08/15/13

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	PLAN SPLITS 01/BRO/BR	UNIT	DESCRIPTION	WEST APPROACH	MAIN TRUSS	EAST APPROACH	GENERAL	REFERENCE SHEET NUMBER
202	11203	LUMP	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	3 / 187
202	11305	15	15	SQ YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN		11	4		3 / 187
202	11501	96	96	EACH	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	96				3 / 187
203	22000	48	48	CU YD	EMBANKMENT, USING NATURAL SOILS, 703.16.A			48		
509	10000	1328	1328	POUND	EPOXY COATED REINFORCING STEEL			1328		
509	20001	1000	1000	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				1000	3 / 187
510	10000	128	128	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT			128		
511	34449	7	7	CU YD	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			7		3 / 187
512	10050	984	984	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)	984				
512	10100	479	479	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	36	265	178		3 / 187
513	10200	4413	4413	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF			4413		3 / 187
513	95000	10	10	FT	STRUCTURAL STEEL, MISC.: GRINDING TORCH CUT HOLES		10			4 / 187
513	95020	LUMP	LUMP	LUMP	STRUCTURAL STEEL, MISC.: FORWARD SECTION FLOORBEAM RETROFIT			LUMP		6 / 187
513	95030	24	24	EACH	STRUCTURAL STEEL, MISC.: WEST APPROACH FASCIA STRINGER RETROFIT	24				4 / 187
513	95030	13	13	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS GUSSET PLATE STRENGTHENING		13			3 / 187
513	95030	414	414	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS GUSSET PLATE EDGE STIFFENING ANGLE		414			4 / 187
513	95030	5	5	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 1		5			5 / 187
513	95030	16	16	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 2		16			5 / 187
513	95030	11	11	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS INTERIOR DIAPHRAGM RETROFIT		11			4 / 187
513	95030	15	15	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS DIAGONAL RETROFIT		15			5 / 187
513	95030	1	1	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM 79 RETROFIT		1			5 / 187
513	95030	1	1	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM 135 RETROFIT		1			6 / 187
513	95030	12	12	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM BRACKET RETROFIT		12			6 / 187
513	95030	14	14	EACH	STRUCTURAL STEEL, MISC.: STRESS RELIEF HOLE RETROFIT	4	10			5 / 187
513	95030	1	1	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS STRINGER SHIM PACK REPLACEMENT		1			5 / 187
513	95030	1	1	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS WINDLOCK RETROFIT		1			6 / 187
513	95030	42	42	EACH	STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT		42			6 / 187
513	95030	1	1	EACH	STRUCTURAL STEEL, MISC.: FORWARD SECTION COLUMN RETROFIT			1		6 / 187
513	95030	1	1	EACH	STRUCTURAL STEEL, MISC.: LAKEFRONT TRESTLE FLOORBEAM RETROFIT			1		7 / 187
513	95030	20	20	EACH	STRUCTURAL STEEL, MISC.: LAKEFRONT RAMP GIRDER RETROFIT			20		7 / 187
513	95030	4	4	EACH	STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NON-DESTRUCTIVE TESTING	2	2			7 / 187
514	00051	8829	8829	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN	166	4496	3747	420	7 / 187
514	00057	8829	8829	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN	166	4496	3747	420	7 / 187
514	00061	14788	14788	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN	268	9867	3949	704	7 / 187
514	00067	14788	14788	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	268	9867	3949	704	7 / 187
514	00504	54	54	MAN HOUR	GRINDING FINIS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL				54	
514	10000	13	13	EACH	FINAL INSPECTION REPAIR				13	
516	13000	3	3	SQ FT	1/4" PREFORMED EXPANSION JOINT FILLER	3				
516	14600	3030	3030	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: PRECOMPRESSED FOAM JOINT SYSTEM	833	1107	1090		8 / 187
516	47001	LUMP	LUMP	LUMP	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN		LUMP			8 / 187
518	12801	21	21	EACH	SCUPPER MODIFICATION, AS PER PLAN		21			8 / 187
518	51201	3310	3310	FT	10" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN		3180	130		9 / 187
518	51201	255	255	FT	12" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN		255			9 / 187
518	62200	20	20	EACH	STRUCTURE DRAINAGE, MISC.: MAIN TRUSS DRAINAGE HOPPERS		20			8 / 187
518	62200	70	70	EACH	STRUCTURE DRAINAGE, MISC.: CLEANING AND REPAIR OF CATCHMENTS AND CATCH BASINS	24	19	27		8 / 187
518	62200	7	7	EACH	STRUCTURE DRAINAGE, MISC.: MISCELLANEOUS DRAINAGE REPAIR		2	5		9 / 187
518	63300	LUMP	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: CLEANING BRIDGE DRAINAGE SYSTEM				LUMP	8 / 187
518	63300	LUMP	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: DRAIN PIPE LAYOUT		LUMP			8 / 187
518	63300	LUMP	LUMP	LUMP	STRUCTURE DRAINAGE, MISC.: PIER 7S WATER REMOVAL		LUMP			8 / 187
519	11101	7191	7191	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	4767	1142	582	700	9 / 187
SPECIAL	53000400	3	3	EACH	STRUCTURE, MISC.: PIER ACCESS HATCH		3			10 / 187
601	20001	134	134	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN			134		9 / 187
607	39901	63	63	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN			63		9 / 187
607	39911	244	244	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN			244		10 / 187
607	61201	1	1	EACH	GATE, TYPE CLT, AS PER PLAN			1		10 / 187
611	98644	6	6	EACH	CATCH BASIN GRATE	5		1		
625	98200	LUMP	LUMP	LUMP	LIGHTING, MISC.: REPLACEMENT OF EXISTING NAVIGATIONAL LIGHTING		LUMP			10 / 187
SPECIAL	69050600	2	2	EACH	BOLLARD			2		10 / 187
SPECIAL	69071000	LUMP	LUMP	LUMP	ASBESTOS ABATEMENT				LUMP	10 / 187
SPECIAL	69091000	LUMP	LUMP	LUMP	AS-BUILT CONSTRUCTION PLANS				LUMP	11 / 187
849	10700	LUMP	LUMP	LUMP	STRAIGHTENING DAMAGED MEMBERS			LUMP		10 / 187

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DESIGN AGENCY
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 REVIEWED: WRW
 STRUCTURE FILE NUMBER: 1600035

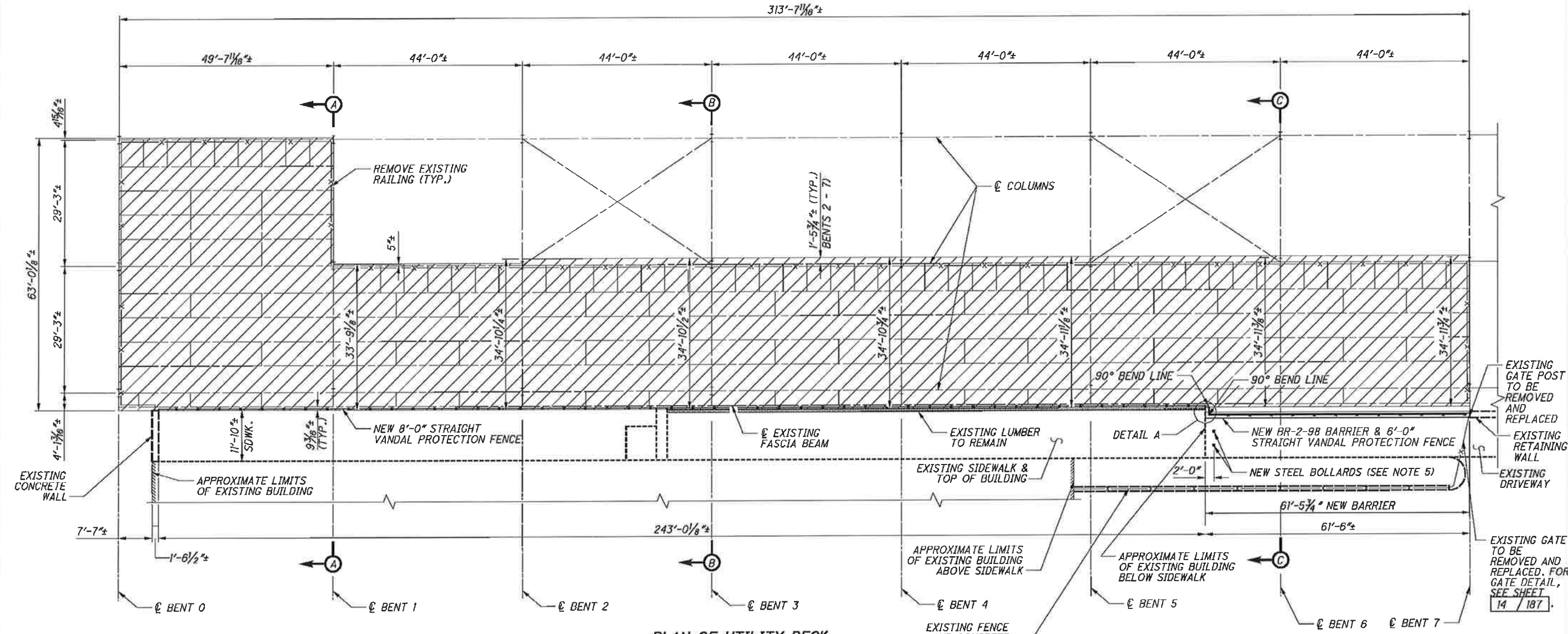
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 DESIGNED: CTG
 CHECKED: NRF

ESTIMATED QUANTITIES
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

12 / 187

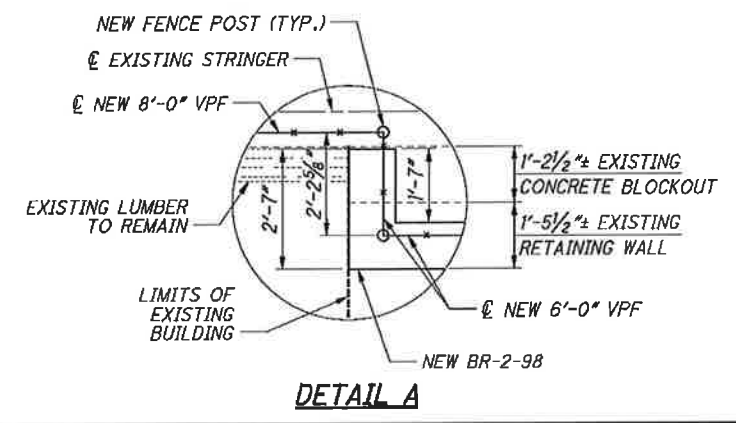
14
 189



PLAN OF UTILITY DECK

LEGEND:

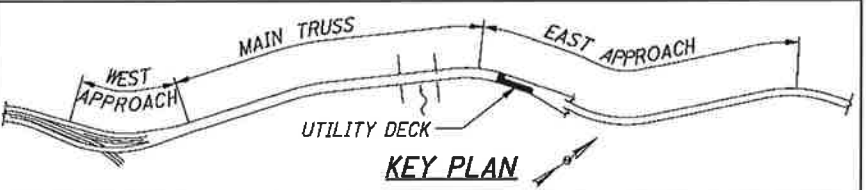
- LIMITS OF CONCRETE FILLED STEEL GRID DECK TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN



DETAIL A

NOTES:

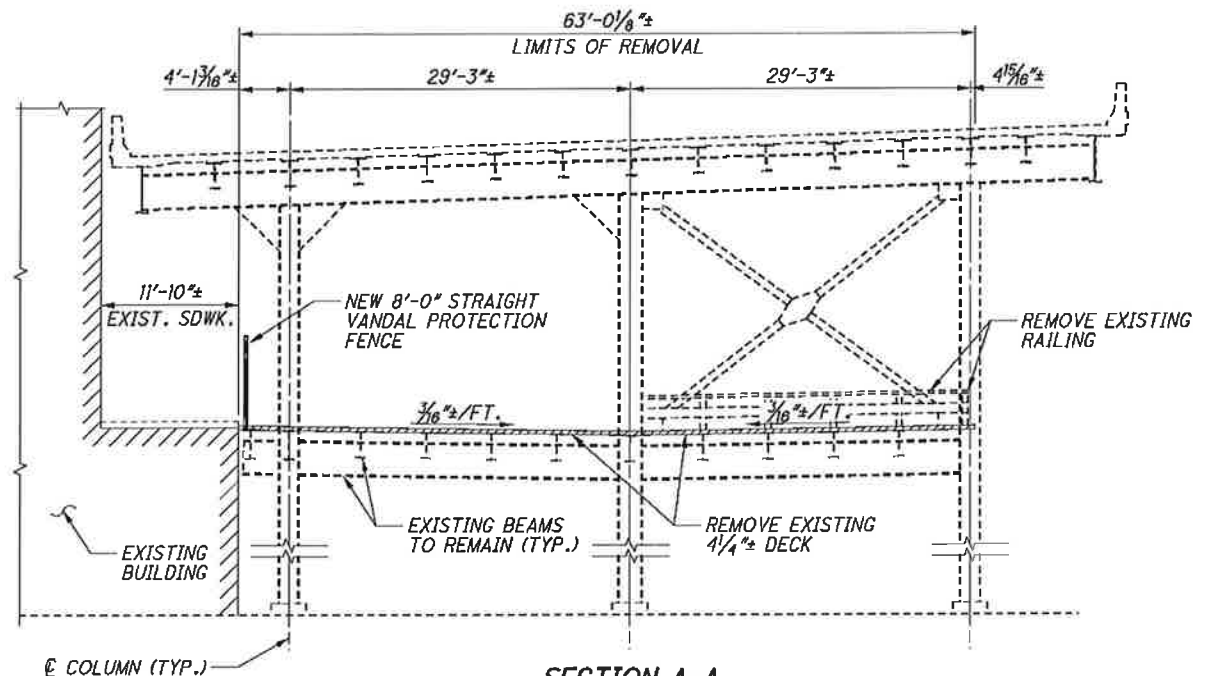
1. FOR SECTION A-A, B-B & C-C, SEE SHEET 14 / 187.
2. FOR NEW BARRIER AND FENCE DETAILS, SEE SHEET 15 / 187.
3. FOR PAYMENT AND NOTES ON ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN SEE GENERAL NOTES ON SHEET 3 / 187.
4. EXISTING DRAINAGE PIPES CONNECTED TO EXISTING COLUMNS ARE TO BE MAINTAINED.
5. THE NEW STEEL BOLLARDS SHALL BE PERMANENT SQUARE BOLLARDS AND SHALL BE SPACED AT NO MORE THAN 3'-6" C/C. FOR DETAILS SEE STANDARD DRAWING RM-5.1. THE BOLLARDS SHALL BE INCLUDED FOR PAYMENT UNDER ITEM SPECIAL - BOLLARD.
6. THE PAINT ZONE FOR THE WORK ON THIS SHEET INCLUDES THE TOP FLANGES OF THE UTILITY DECK STRINGERS EXPOSED BY THE REMOVAL OF UTILITY DECK CONCRETE AND ANY SURROUNDING AREAS ON THE UTILITY DECK FRAMING DAMAGED DURING REMOVAL.



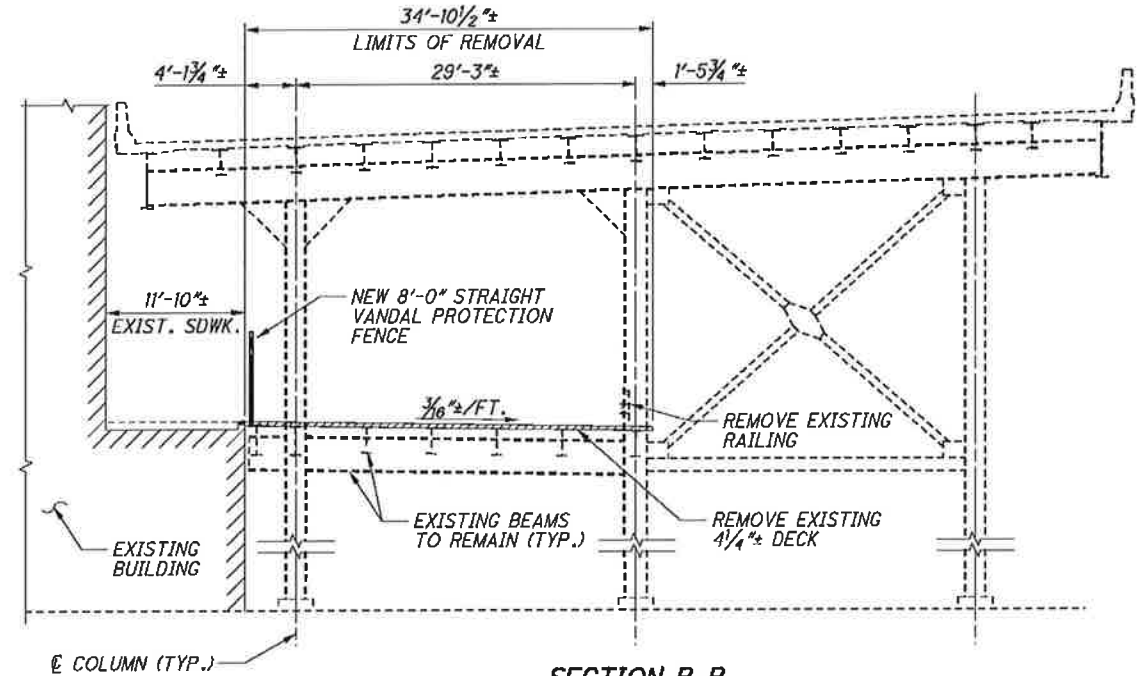
KEY PLAN

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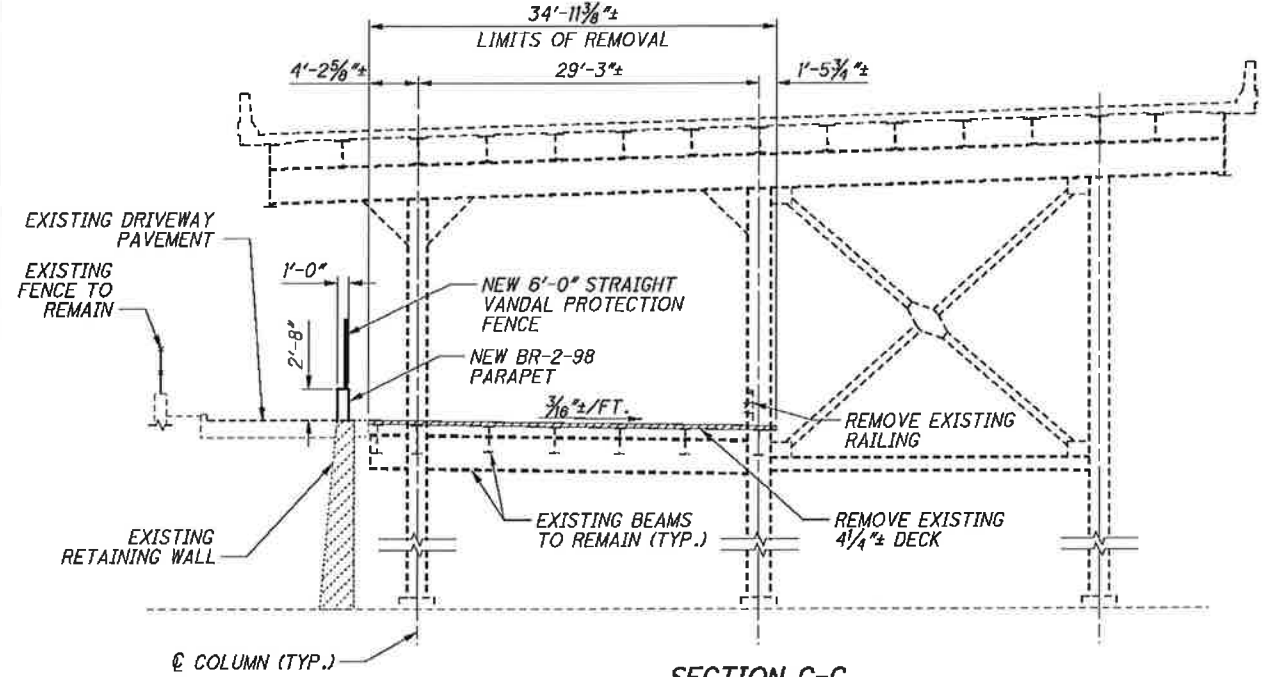
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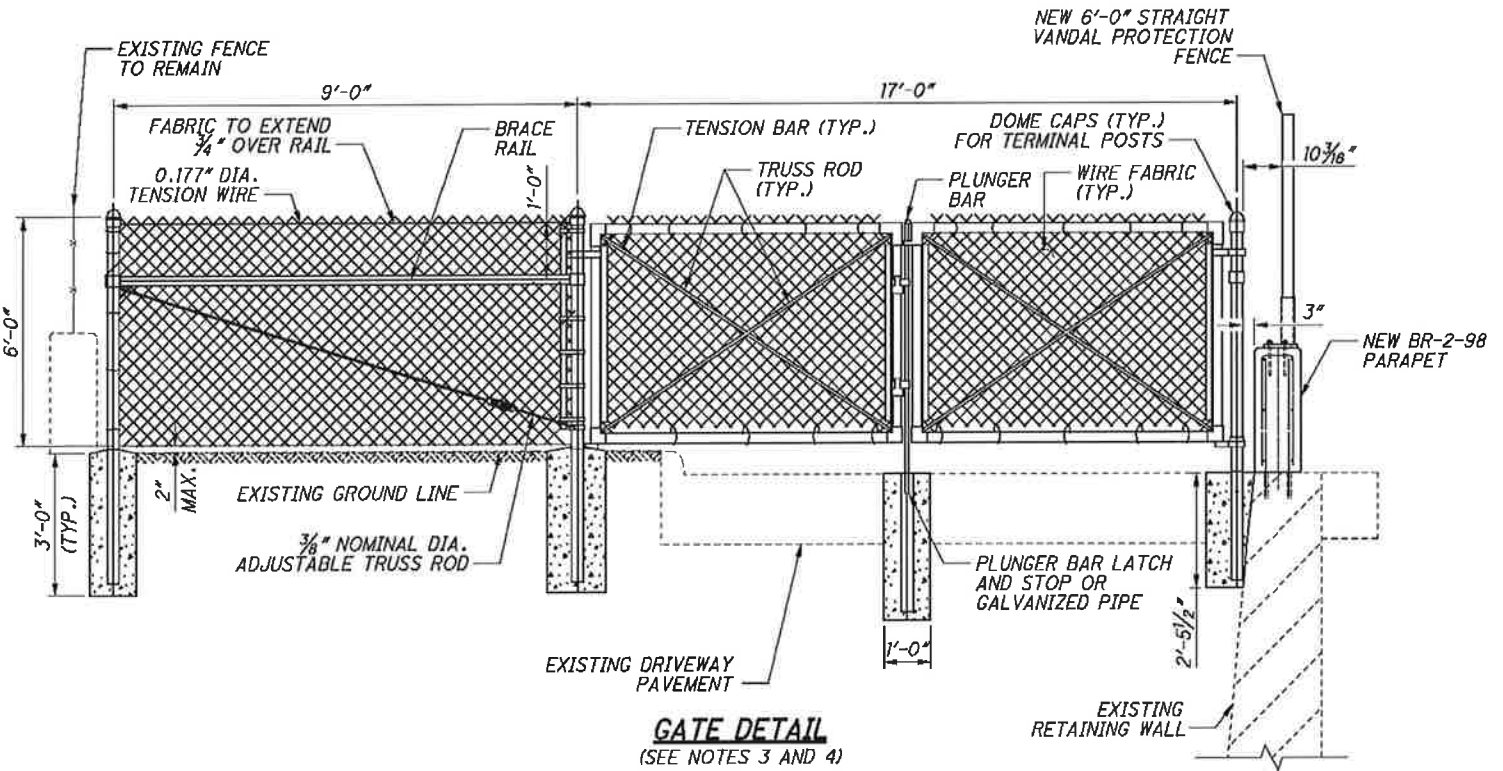
SECTION A-A
(BENT 1 SHOWN, BENT 0 SIMILAR)



SECTION B-B
(BENT 3 SHOWN, BENTS 2, 4 AND 5 SIMILAR)

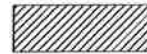


SECTION C-C
(BENT 6 SHOWN, BENT 7 SIMILAR)



GATE DETAIL
(SEE NOTES 3 AND 4)

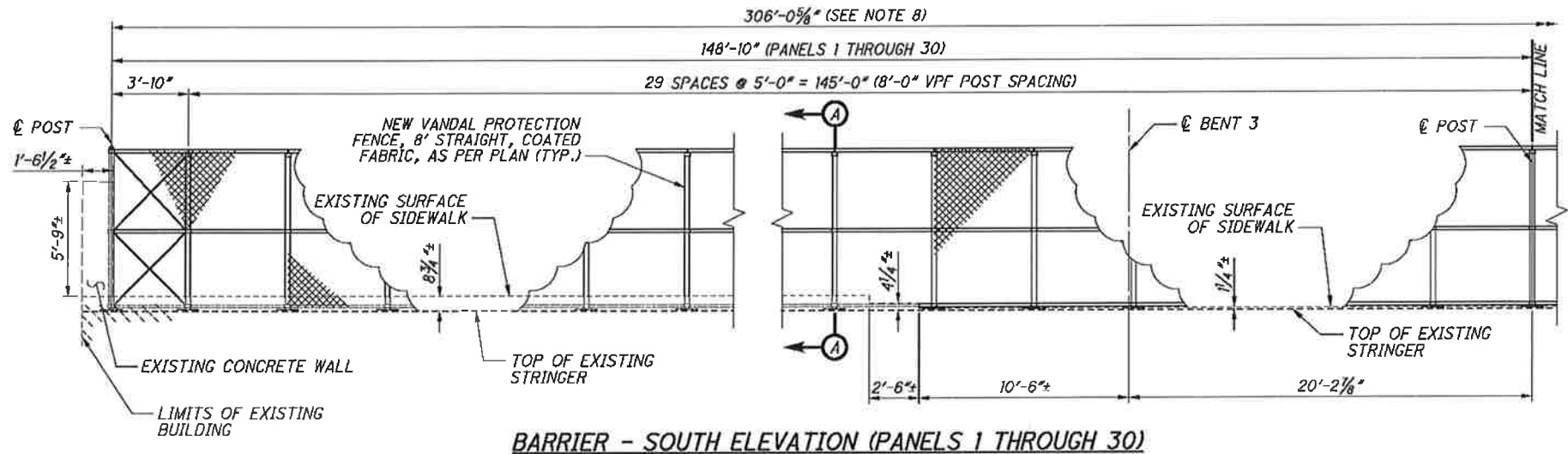
LEGEND:

 - LIMITS OF CONCRETE FILLED STEEL GRID DECK TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

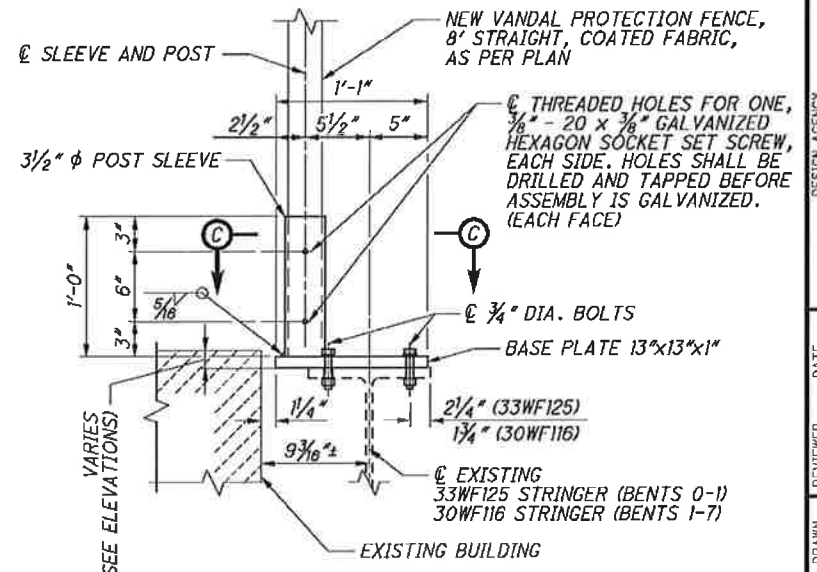
NOTES:

1. FOR LIMITS OF WORK AND LOCATIONS OF SECTIONS A-A, B-B, AND C-C, SEE SHEET 13 / 187.
2. FOR CONCRETE PARAPET AND FENCE DETAILS, SEE SHEET 15 / 187.
3. FOR ANY INFORMATION NOT SHOWN ON DETAIL, SEE STANDARD CONSTRUCTION DRAWING F-1.1.
4. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH THE INSTALLATION OF THE NEW CHAIN LINK FENCING AND GATE TO REPLACE EXISTING SHALL BE INCLUDED FOR PAYMENT IN ITEM 607 - GATE, TYPE CLT, AS PER PLAN.

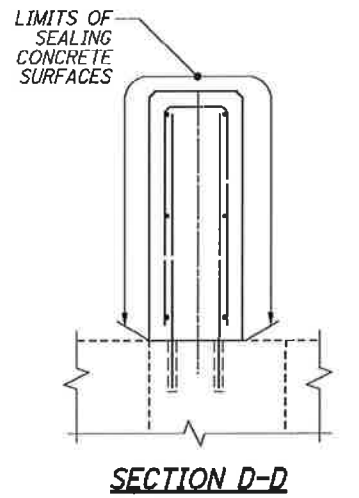
 TRAN SYSTEMS 15 PUBLIC SQUARE, SUITE 1900 CLEVELAND, OHIO 44113	DESIGN AGENCY	DATE	
	DESIGNED KAH/WJC	REVIEWED WRW	FILE NUMBER 1800035
	CHECKED CTG	REVISIONS	STRUCTURE FILE NUMBER 1800035
	EAST APPR. FORWARD SECTION UTILITY DECK REMOVAL (2 OF 3) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER		
CUY-2-14.41 PID No. 91115		14 / 187 16 / 189	



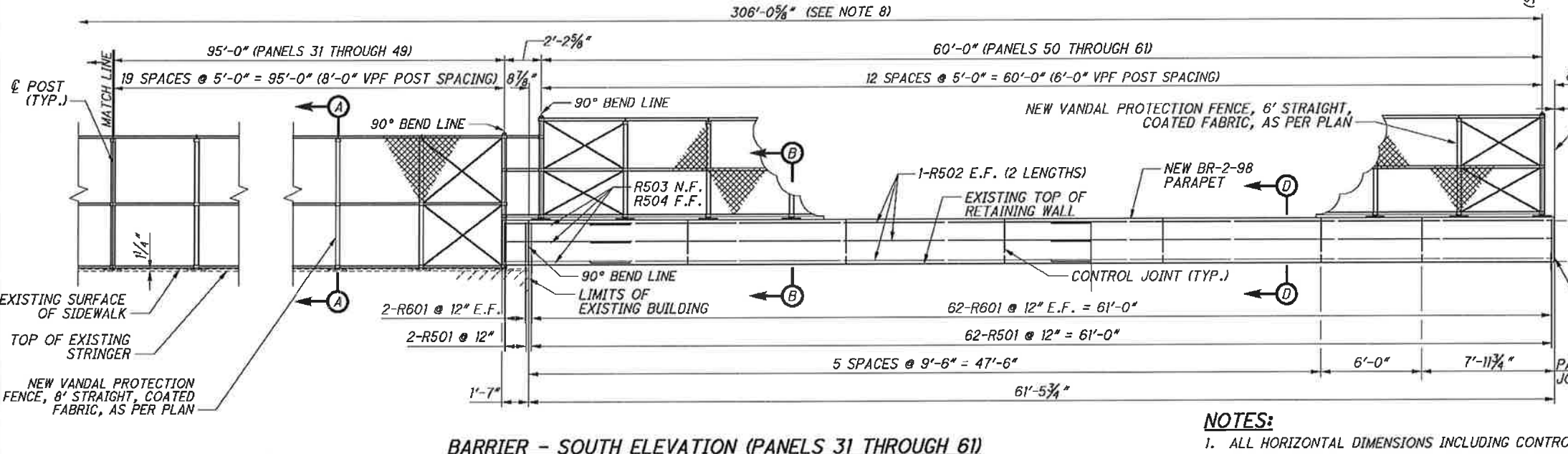
BARRIER - SOUTH ELEVATION (PANELS 1 THROUGH 30)



SECTION A-A

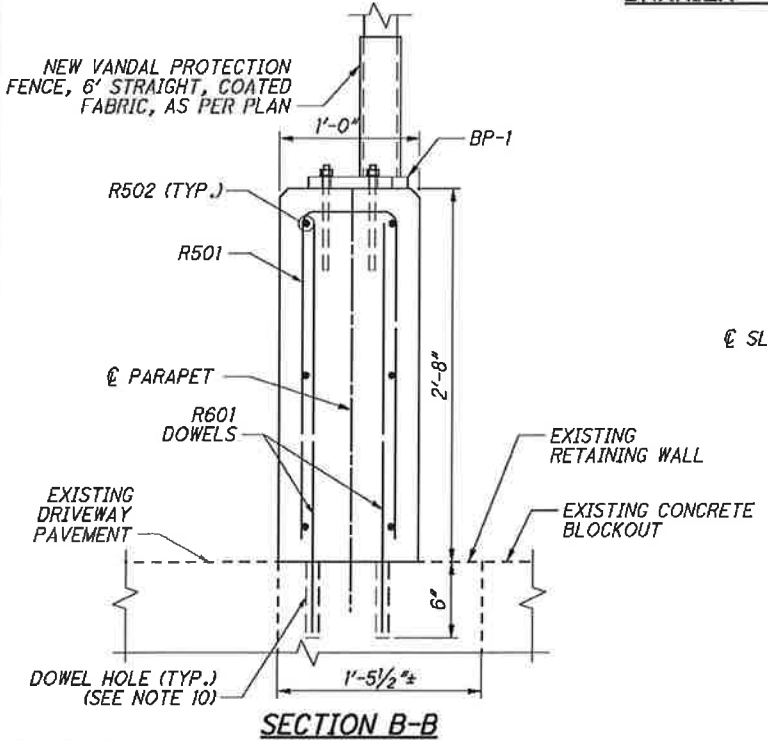


SECTION D-D

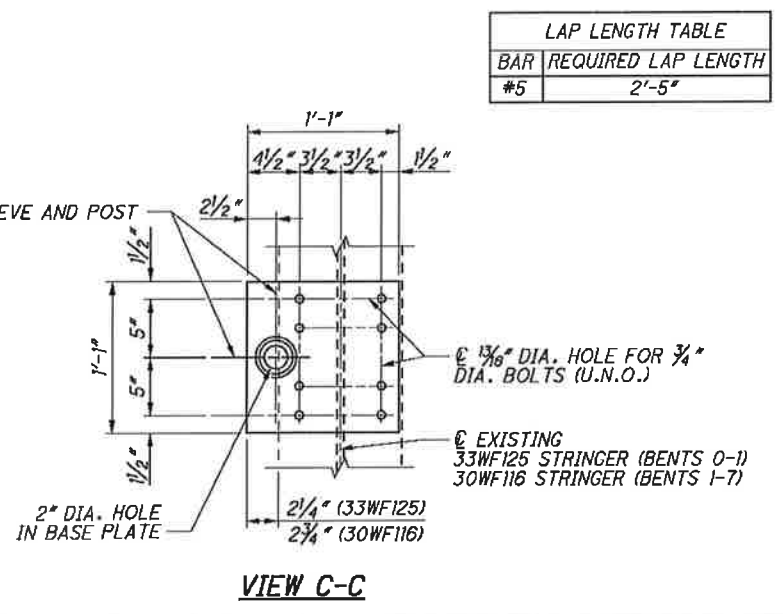


BARRIER - SOUTH ELEVATION (PANELS 31 THROUGH 61)

*DIMENSION INCLUDES THE 2'-2 5/8\"/>



SECTION B-B



VIEW C-C

NOTES:

1. ALL HORIZONTAL DIMENSIONS INCLUDING CONTROL JOINT SPACINGS AND FENCE POST SPACINGS ARE MEASURED ALONG THE OUTSIDE BACK OF PARAPET OR FENCE.
2. FOR CONTROL JOINT SAWCUTTING AND CAULKING REQUIREMENTS, SEE STANDARD DRAWING BR-2-98. VERTICAL REINFORCING STEEL SHALL CLEAR THE CONTROL JOINTS BY 3 INCHES MINIMUM. THE CONTRACTOR SHALL OBTAIN CLEARANCE BY FIELD ADJUSTING THE REINFORCING STEEL SPACING. PAYMENT FOR SAWCUTTING AND CAULKING SHALL BE INCIDENTAL TO ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN.
3. FOR ADDITIONAL FENCE AND BP-1 DETAILS, SEE STANDARD DRAWING VPF-1-90.
4. ALL BOLTS CONNECTING THE 8'-0" VANDAL PROTECTION FENCE TO THE STRINGER SHALL BE 3/4" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE.
5. ALL MATERIAL AND LABOR ASSOCIATED WITH INSTALLATION OF THE 6' VANDAL FENCE SHALL BE PAID FOR UNDER ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN.
6. ALL MATERIAL AND LABOR ASSOCIATED WITH INSTALLATION OF THE 8' VANDAL FENCE SHALL BE PAID FOR UNDER ITEM 607 - VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN.
7. THE SEALING OF THE CONCRETE PARAPET SHALL BE PAID FOR UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
8. DIMENSION INCLUDES THE 2'-5 5/8" TURN.
9. ALL MATERIAL AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE 1/4" PEJF SHALL BE PAID FOR UNDER ITEM 516 - 1/4" PREFORMED EXPANSION JOINT FILLER.
10. ALL MATERIAL AND LABOR ASSOCIATED WITH DRILLING AND INSTALLING DOWELS INCLUDING NONMETALLIC GROUT SHALL BE PAID FOR UNDER ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT.

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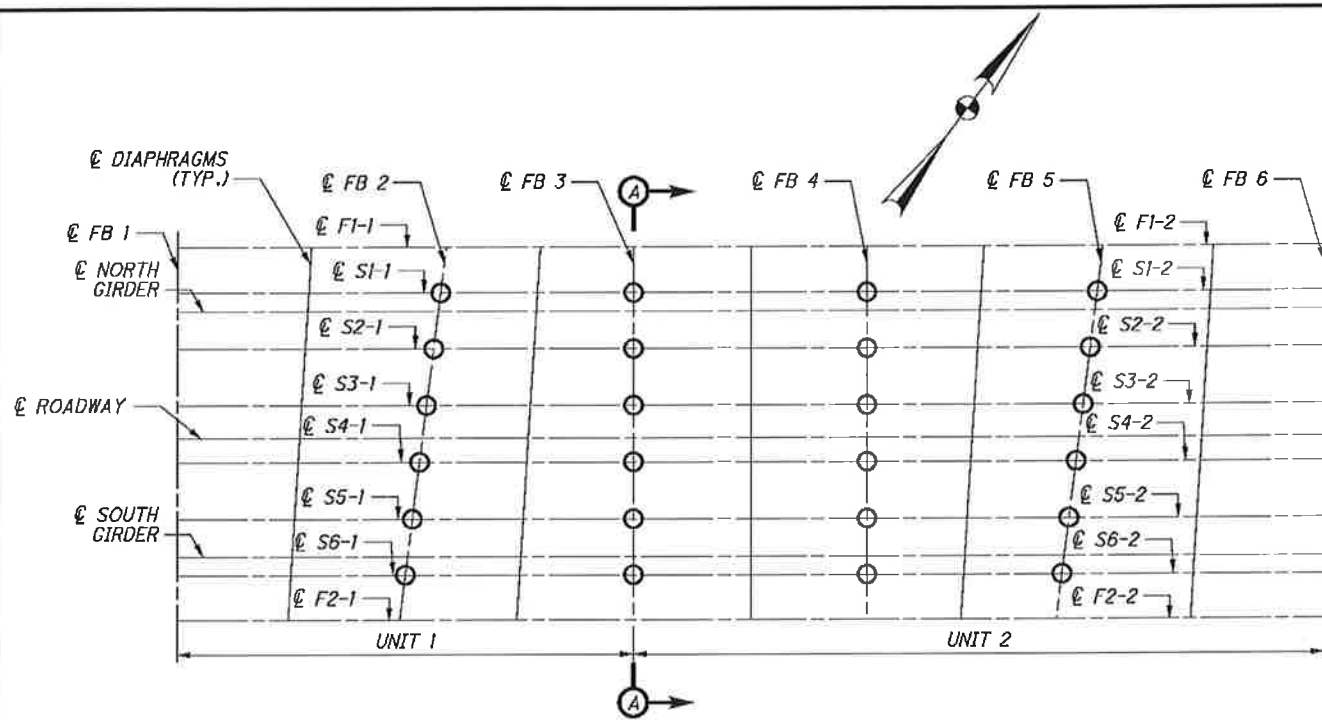
Train Systems
 25 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OHIO 44113

DESIGNED WJC/KAH	DATE 08/16/13	REVIEWED WRW	STRUCTURE FILE NUMBER 1800035
CHECKED CTG		REVISIONS	

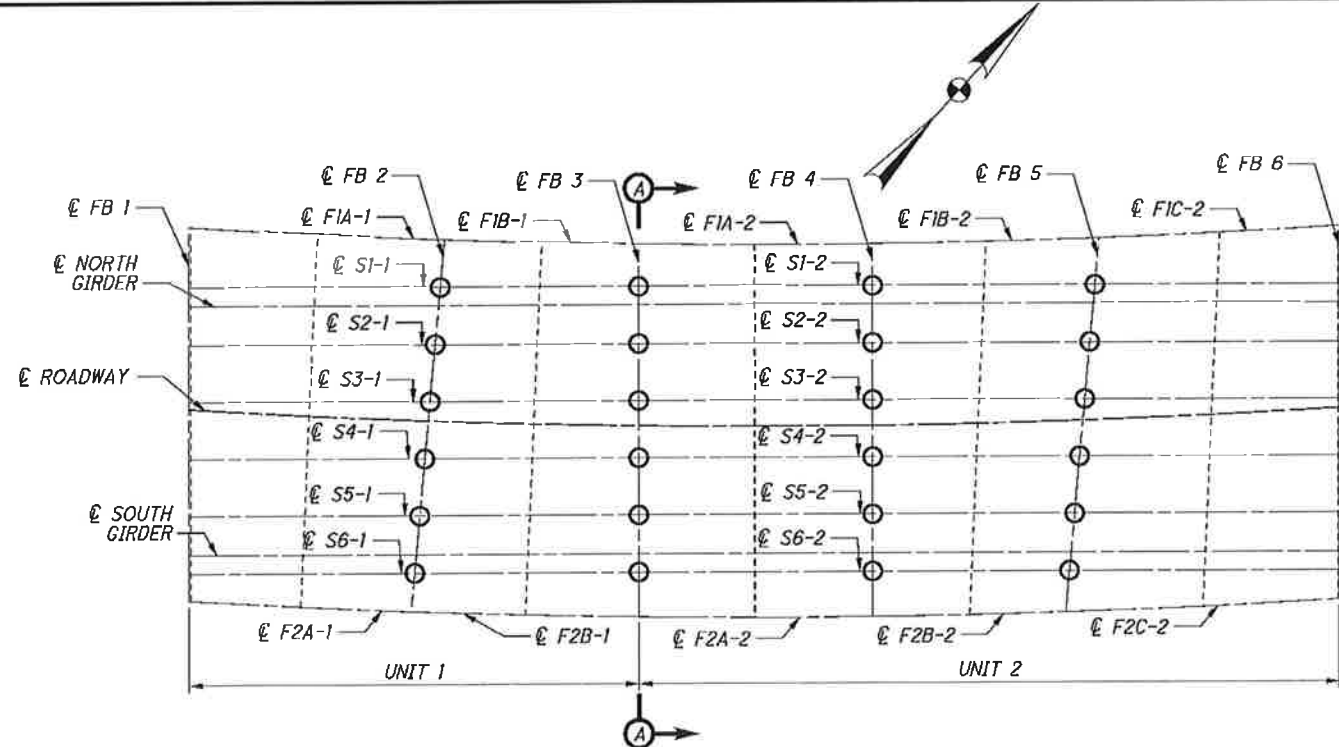
EAST APPR. FORWARD SECTION UTILITY DECK REMOVAL (3 OF 3)
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

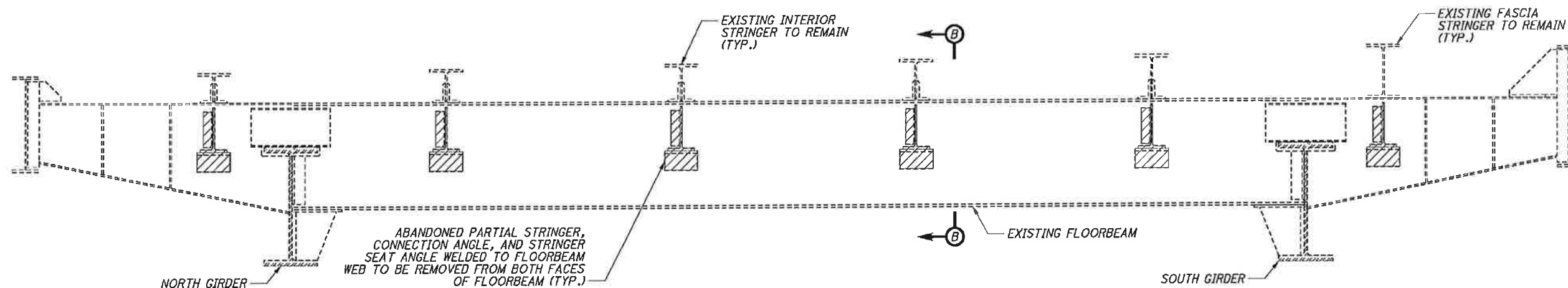
15 / 187
 17 / 189



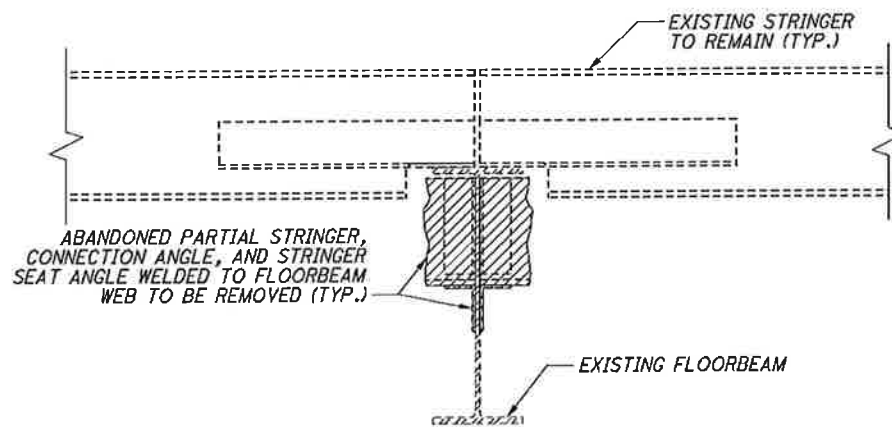
FRAMING PLAN OF WEST APPROACH - SECTION C



FRAMING PLAN OF WEST APPROACH - SECTION K



SECTION A-A
(SECTION C SHOWN, SECTION K SIMILAR)
(DECK AND BOLTS NOT SHOWN)



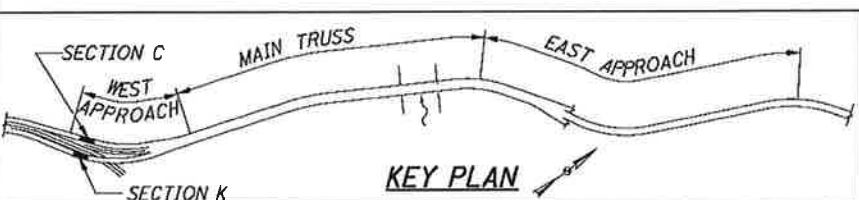
SECTION B-B
(DECK AND BOLTS NOT SHOWN)

LEGEND:

- LIMITS OF ABANDONED STRINGER TO BE REMOVED
- LOCATION OF ABANDONED STRINGERS

NOTES:

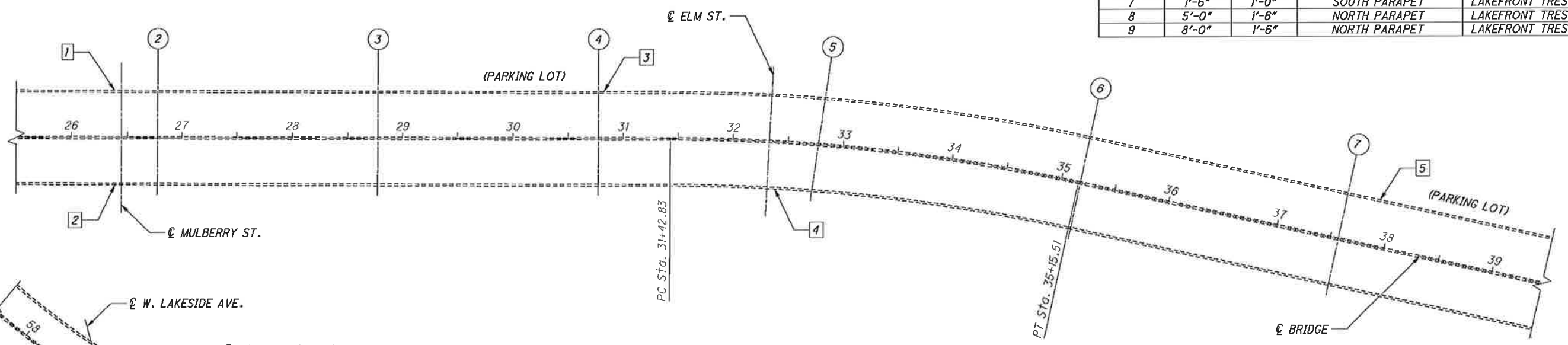
1. REMOVAL OF PARTIAL ABANDONED STRINGERS, CONNECTION ANGLES, AND STRINGER SEAT ANGLES BY FLAME CUTTING SHALL NOT BE PERMITTED.
2. THE REMOVAL OF THE ABANDONED STRINGERS AND GRINDING OF THE WELDS SMOOTH SHALL BE PAID FOR UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
3. AFTER THE ABANDONED STRINGERS ARE REMOVED AND THE WELDS ARE GROUND SMOOTH, SPOT PAINT THE EXISTING STEEL AT REMOVAL LOCATIONS. THE PAINTING SHALL BE PAID UNDER ITEM 514.



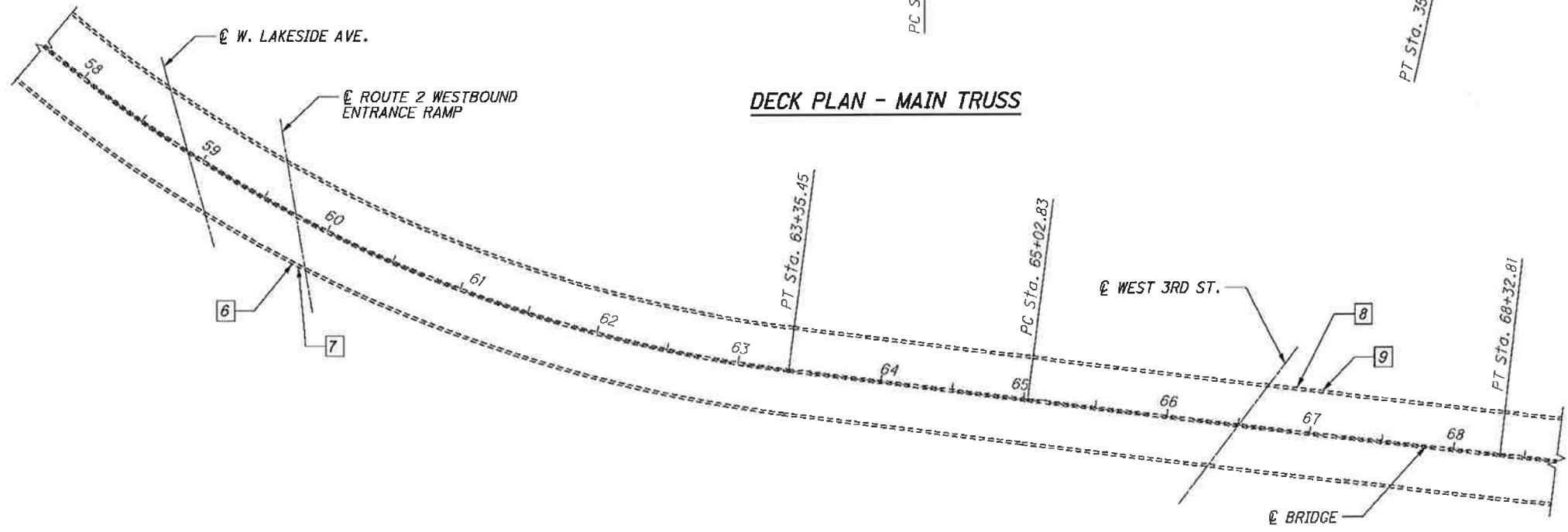
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CONCRETE REMOVAL PER ITEM 202				
CALLOUT	LENGTH	HEIGHT	LOCATION	SECTION
1	2'-0"	1'-3"	NORTH PARAPET	MAIN TRUSS
2	5'-0"	2'-0"	SOUTH PARAPET	MAIN TRUSS
3	10'-0"	1'-0"	NORTH PARAPET	MAIN TRUSS
4	12'-0"	2'-6"	SOUTH PARAPET	MAIN TRUSS
5	20'-0"	2'-0"	NORTH PARAPET	MAIN TRUSS
6	3'-0"	2'-6"	SOUTH PARAPET	LAKEFRONT TRESTLE
7	1'-6"	1'-0"	SOUTH PARAPET	LAKEFRONT TRESTLE
8	5'-0"	1'-6"	NORTH PARAPET	LAKEFRONT TRESTLE
9	8'-0"	1'-6"	NORTH PARAPET	LAKEFRONT TRESTLE



DECK PLAN - MAIN TRUSS



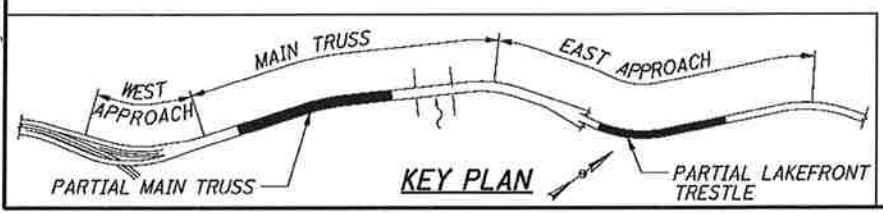
DECK PLAN - LAKEFRONT TRESTLE

LEGEND:

- (X) - MAIN TRUSS PIER
- [X] - PARAPET SPALL REMOVAL

NOTES:

1. ALL WORK ON THIS SHEET SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
2. PROVIDED SPALL DIMENSIONS ARE BASED ON FIELD MEASURED AREAS WHICH MAY HAVE GROWN SINCE THE MOST RECENT INSPECTION. THE CONTRACTOR SHALL SOUND THE STRUCTURE OVER THE ROADWAY OR PARKING LOTS AND REMOVE ALL UNSOUND CONCRETE IN IMMINENT DANGER OF SPALLING IN THESE AREAS.
3. ALL SPALLS AND DELAMINATIONS CALLED OUT ARE ON THE EXTERIOR OF THE PARAPET.
4. THE LIMITS OF UNSOUND CONCRETE REMOVED ON THE PARAPETS SHALL BE SEALED WITH EPOXY-URETHANE SEALANT. THE SEALING SHALL COVER THE AREA OF CONCRETE REMOVAL AS WELL AS A 12" STRIP SURROUNDING THE PERIMETER OF CONCRETE REMOVAL. THE SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).



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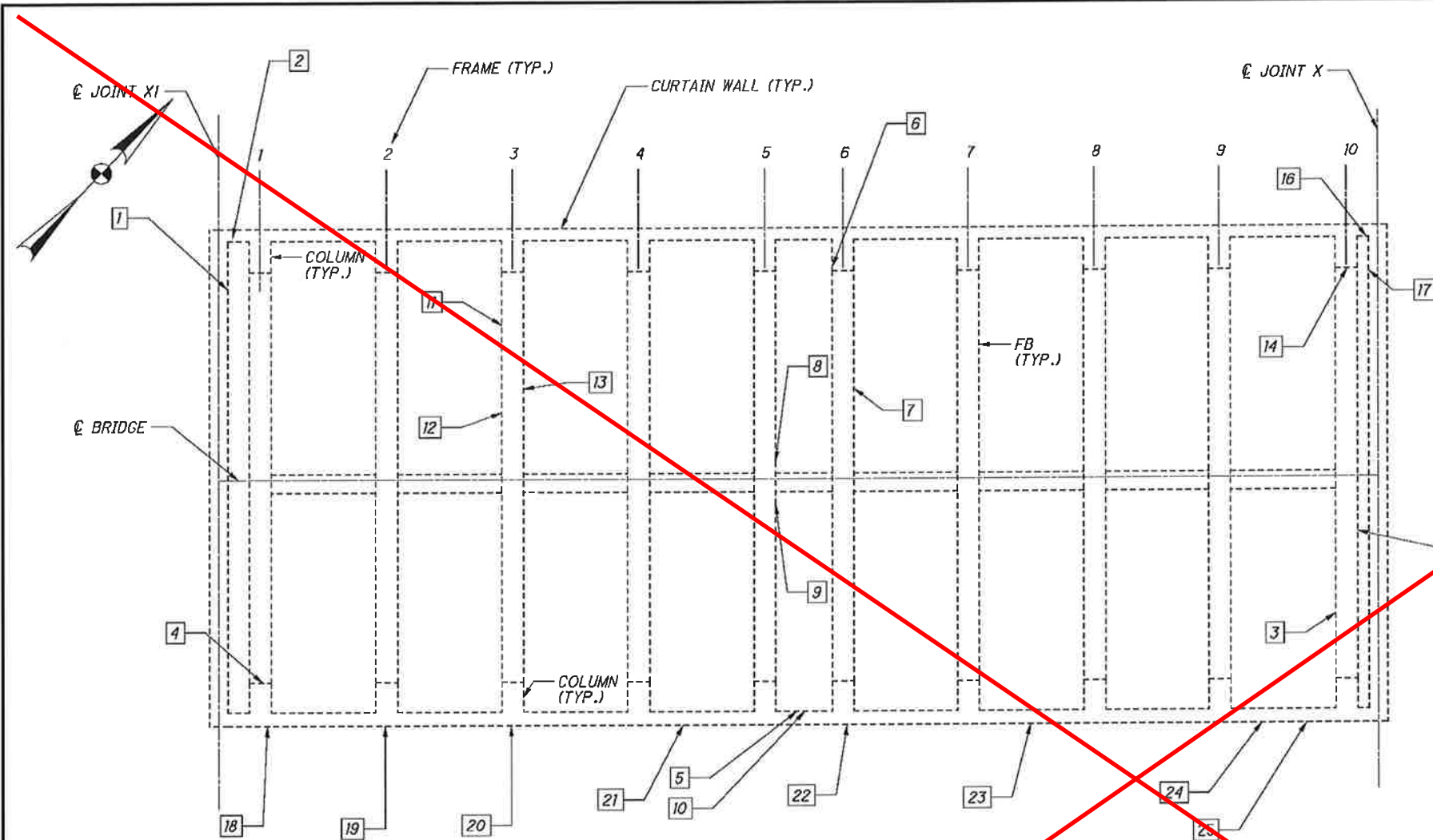


DESIGNED BY: BJM
 CHECKED BY: DWC
 DRAWN BY: BJM
 REVISIONS:
 REVIEWED BY: WRW
 DATE: 08/16/13
 STRUCTURE FILE NUMBER: 1800035

CONCRETE PARAPET DELAMINATION REMOVALS
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

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Work on this sheet was not performed as part of this rehabilitation and was pushed to the next phase.

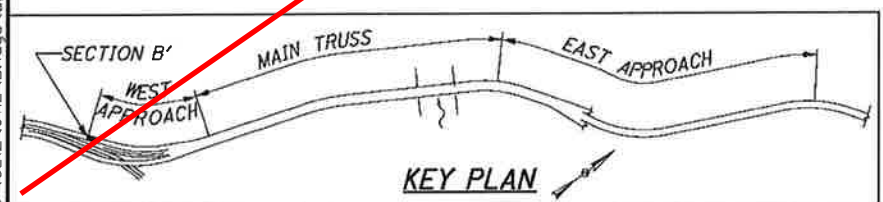
NOTES:

1. THE LENGTH AND HEIGHT DIMENSIONS SHOWN ARE APPROXIMATE AND HAVE BEEN ROUNDED TO 6" INCREMENTS. THEY ARE INDICATIVE OF THE OVERALL SIZE OF THE DELAMINATION OR SPALL ALTHOUGH SOME AREAS MAY BE IRREGULARLY SHAPED. THE AREA OF PATCHING LISTED HAS BEEN INCREASED ON A CASE BY CASE BASIS TO ACCOUNT FOR UNCERTAINTIES AND ADDITIONAL CONCRETE REPAIRS THAT MAY BE REQUIRED.
2. FOR THE PIER NAMES AN "N" SHALL INDICATE THE NORTH PIER AND AN "S" SHALL INDICATE THE SOUTH PIER.
3. ALL CONCRETE PATCHING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.
4. NEW CONCRETE PATCHES IDENTIFIED AS "EPOXY" SHALL BE SEALED WITH EPOXY-URETHANE SEALANT. THE SEALING SHALL COVER THE AREA OF THE NEW PATCH AS WELL AS A 12" STRIP SURROUNDING THE PERIMETER OF THE NEW PATCH WHERE FEASIBLE. THE SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
5. NEW CONCRETE PATCHES IDENTIFIED AS "NON-EPOXY" SHALL BE SEALED WITH A NON-EPOXY SEALANT. THE SEALING SHALL COVER THE AREA OF THE NEW PATCH AS WELL AS A 12" STRIP SURROUNDING THE PERIMETER OF THE NEW PATCH WHERE FEASIBLE. THE SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY).
6. FOR REPAIR DETAILS, SEE SHEET 43 / 187.

WEST APPROACH - SECTION B' FRAMING PLAN

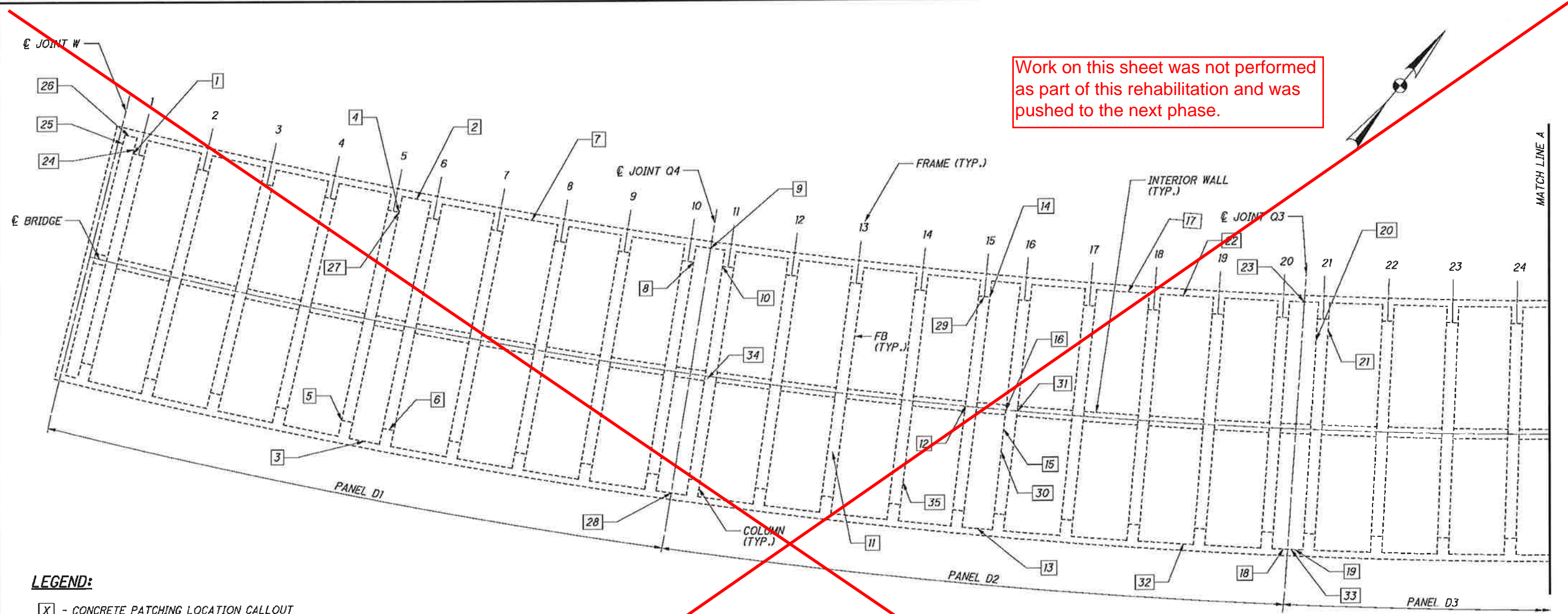
LEGEND:

[X] - CONCRETE PATCHING LOCATION CALLOUT



ITEM 519 - CONCRETE PATCHING REPAIRS							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	DELAM.	7'-0"	3'-0"	21 SF	WEST WALL INTERIOR	TYPE 1	NON-EPOXY
2	SPALL	1'-6"	8'-0"	12 SF	NORTH CURTAIN WALL INTERIOR	TYPE 1	NON-EPOXY
3	SPALL	2'-0"	7'-6"	3 SF	FLOORBEAM 10 WEST FACE	TYPE 1	NON-EPOXY
4	SPALL	5'-0"	6'-0"	30 SF	COLUMN 15 NORTH FACE	TYPE 1	NON-EPOXY
5	DELAM.	3'-0"	7'-0"	21 SF	SOUTH CURTAIN WALL INTERIOR	TYPE 1	NON-EPOXY
6	SPALL	2'-0"	4'-0"	8 SF	COLUMN 6N WEST FACE	TYPE 1	NON-EPOXY
7	SPALL	1'-0"	2'-0"	2 SF	FLOORBEAM 6 EAST FACE	TYPE 1	NON-EPOXY
8	SPALL	2'-0"	2'-0"	4 SF	FLOORBEAM 5 EAST FACE	TYPE 1	NON-EPOXY
9	SPALL	2'-0"	2'-0"	4 SF	FLOORBEAM 5 EAST FACE	TYPE 1	NON-EPOXY
10	DELAM.	3'-0"	4'-0"	12 SF	SOUTH CURTAIN WALL INTERIOR	TYPE 1	NON-EPOXY
11	DELAM.	1'-0"	2'-0"	2 SF	FLOORBEAM 3 WEST FACE	TYPE 1	NON-EPOXY
12	DELAM.	2'-0"	2'-6"	5 SF	FLOORBEAM 3 WEST FACE	TYPE 1	NON-EPOXY
13	DELAM.	2'-0"	4'-0"	8 SF	FLOORBEAM 3 EAST FACE	TYPE 1	NON-EPOXY
14	SPALL	2'-0"	4'-0"	8 SF	COLUMN 10N SOUTH FACE	TYPE 1	NON-EPOXY
15	SPALL	6'-0"	3'-0"	18 SF	FLOORBEAM 10 EAST FACE	TYPE 1	NON-EPOXY
16	DELAM.	6'-0"	4'-0"	24 SF	NORTH CURTAIN WALL INTERIOR	TYPE 1	NON-EPOXY
17	DELAM.	2'-0"	4'-0"	8 SF	EAST WALL INTERIOR	TYPE 1	NON-EPOXY
18	DELAM.	3'-6"	4'-0"	14 SF	SOUTH CURTAIN WALL EXTERIOR	TYPE 1	EPOXY
19	DELAM.	1'-0"	4'-0"	4 SF	SOUTH CURTAIN WALL EXTERIOR	TYPE 1	EPOXY
20	DELAM.	5'-0"	6'-6"	33 SF	SOUTH CURTAIN WALL EXTERIOR	TYPE 1	EPOXY
21	SPALL	5'-0"	6'-0"	30 SF	SOUTH CURTAIN WALL EXTERIOR	TYPE 1	EPOXY
22	DELAM.	2'-0"	4'-0"	8 SF	SOUTH CURTAIN WALL EXTERIOR	TYPE 1	EPOXY
23	DELAM.	4'-0"	2'-0"	8 SF	SOUTH CURTAIN WALL EXTERIOR	TYPE 1	EPOXY
24	DELAM.	1'-0"	6'-0"	6 SF	SOUTH CURTAIN WALL EXTERIOR	TYPE 1	EPOXY
25	DELAM.	2'-0"	2'-6"	5 SF	SOUTH CURTAIN WALL EXTERIOR	TYPE 1	EPOXY
SHEET TOTAL				298 SF			

Work on this sheet was not performed as part of this rehabilitation and was pushed to the next phase.



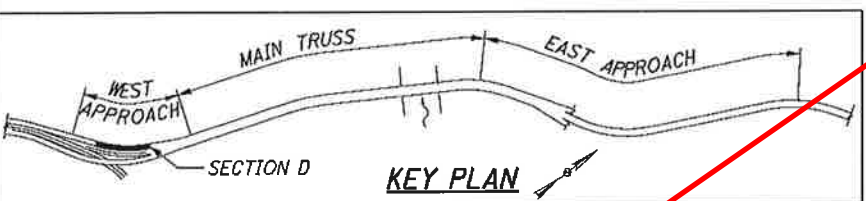
LEGEND:

[X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:

1. FOR NOTES, SEE SHEET 18 / 187.

WEST APPROACH - SECTION D PARTIAL FRAMING PLAN (1 OF 2)



ITEM 519 - CONCRETE PATCHING REPAIRS

CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	3'-0"	15'-0"	45 SF	COLUMN IN SOUTHWEST CORNER	TYPE 1	NON-EPOXY
2	SPALL	12'-0"	3'-0"	36 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
3	SPALL	1'-6"	2'-0"	3 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
4	SPALL	3'-0"	4'-0"	12 SF	COLUMN 5N SOUTHEAST CORNER	TYPE 1	NON-EPOXY
5	SPALL	1'-0"	2'-0"	2 SF	COLUMN 5S NORTHWEST CORNER	TYPE 1	NON-EPOXY
6	SPALL	2'-0"	2'-0"	4 SF	COLUMN 6S NORTH FACE	TYPE 1	NON-EPOXY
7	DELAM.	2'-0"	6'-0"	12 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
8	DELAM.	2'-0"	2'-6"	5 SF	COLUMN 10N SOUTHEAST CORNER	TYPE 1	NON-EPOXY
9	SPALL	1'-0"	15'-0"	15 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
10	SPALL	2'-0"	10'-0"	20 SF	COLUMN 11N SOUTHWEST CORNER	TYPE 1	NON-EPOXY
11	SPALL	5'-0"	1'-0"	5 SF	FLOORBEAM 13 UNDERSIDE	TYPE 2	NON-EPOXY
12	SPALL	3'-0"	1'-0"	3 SF	FLOORBEAM 15 UNDERSIDE	TYPE 2	NON-EPOXY
13	SPALL	2'-0"	12'-0"	24 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY

ITEM 519 - CONCRETE PATCHING REPAIRS (CONTINUED)

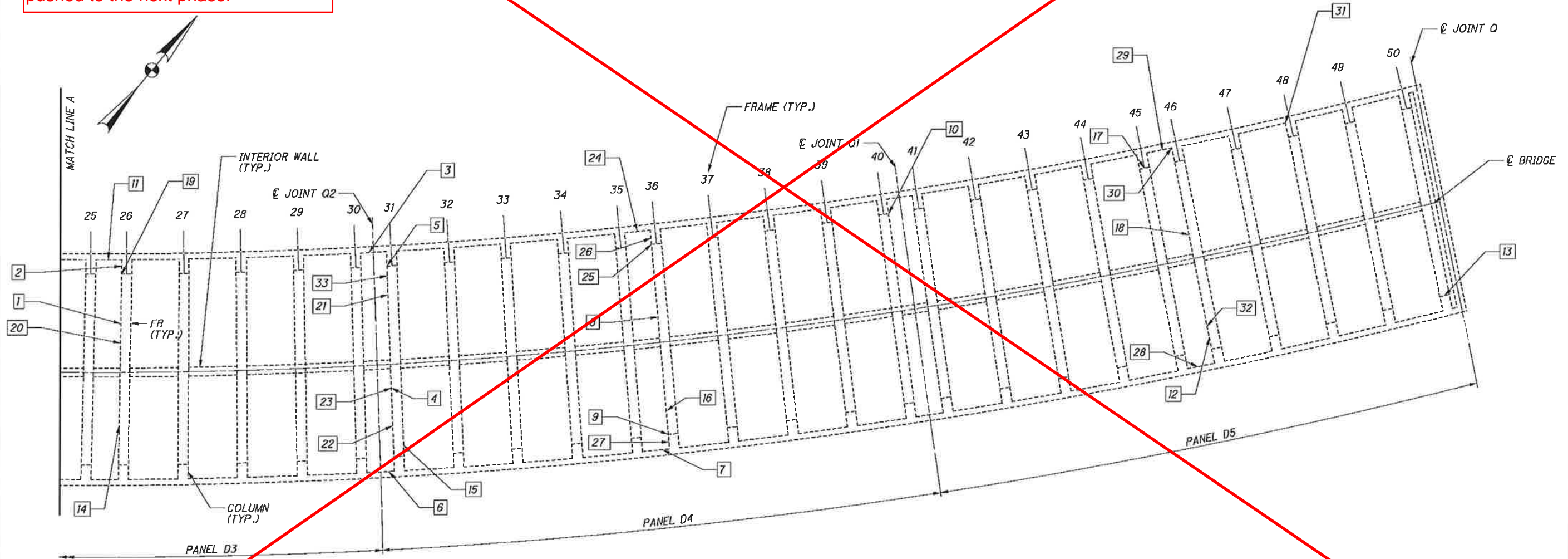
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
14	DELAM	2'-0"	1'-6"	3 SF	COLUMN 15N EAST FACE	TYPE 1	NON-EPOXY
15	SPALL	2'-0"	2'-6"	5 SF	FLOORBEAM 16 WEST FACE	TYPE 1	NON-EPOXY
16	SPALL	4'-0"	1'-0"	4 SF	FLOORBEAM 16 WEST FACE	TYPE 1	NON-EPOXY
17	SPALL	2'-0"	7'-0"	14 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
18	SPALL	2'-0"	2'-6"	5 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
19	DELAM.	4'-0"	5'-0"	20 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
20	SPALL	12'-0"	5'-0"	60 SF	FB 21 UNDERSIDE & WEST FACE	TYPE 1 & 2	NON-EPOXY
21	SPALL	3'-0"	1'-0"	3 SF	FLOORBEAM 21 EAST FACE	TYPE 1	NON-EPOXY
22	SPALL	2'-0"	9'-0"	18 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
23	SPALL	2'-0"	6'-0"	12 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
24	DELAM.	2'-0"	9'-0"	18 SF	COLUMN IN WEST FACE	TYPE 1	NON-EPOXY
25	DELAM.	6'-0"	15'-0"	90 SF	WEST WALL INTERIOR	TYPE 1	NON-EPOXY
26	DELAM.	2'-0"	13'-0"	26 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
27	DELAM.	2'-0"	3'-0"	6 SF	COLUMN 5N SOUTHEAST FACE	TYPE 1	NON-EPOXY
28	DELAM.	7'-0"	8'-0"	56 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
29	DELAM.	2'-0"	4'-0"	8 SF	COLUMN 15N SOUTH FACE	TYPE 1	NON-EPOXY
30	DELAM.	3'-0"	4'-0"	12 SF	FLOORBEAM 16 WEST FACE	TYPE 1	NON-EPOXY
31	DELAM.	4'-0"	1'-0"	4 SF	FB 16 UNDERSIDE & EAST FACE	TYPE 1 & 2	NON-EPOXY
32	DELAM.	1'-0"	12'-0"	12 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
33	DELAM.	2'-0"	2'-6"	5 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
34	DELAM.	7'-0"	2'-0"	14 SF	FLOORBEAM 11 UNDERSIDE	TYPE 2	NON-EPOXY
35	SPALL	5'-0"	1'-0"	5 SF	FLOORBEAM 14 EAST FACE	TYPE 1	NON-EPOXY
				SHEET TOTAL	586 SF		

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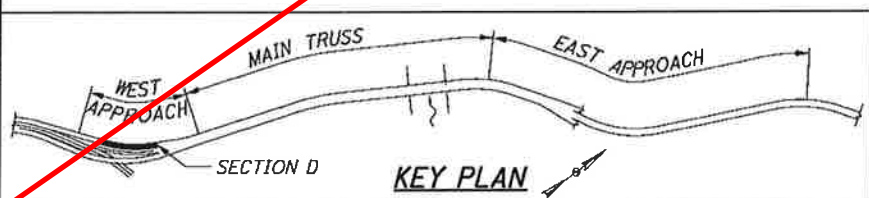
ITEM 519 - CONCRETE PATCHING REPAIRS							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	9'-0"	2'-0"	18 SF	FLOORBEAM 26 WEST FACE	TYPE 1	NON-EPOXY
2	SPALL	4'-0"	2'-0"	8 SF	COLUMN 26N WEST FACE	TYPE 1	NON-EPOXY
3	SPALL	2'-0"	5'-0"	10 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
4	SPALL	7'-0"	1'-0"	7 SF	FLOORBEAM 31 UNDERSIDE	TYPE 2	NON-EPOXY
5	SPALL	1'-0"	2'-0"	2 SF	FLOORBEAM 31 WEST FACE	TYPE 1	NON-EPOXY
6	SPALL	2'-0"	5'-0"	10 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
7	SPALL	2'-0"	2'-6"	5 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
8	SPALL	18'-0"	5'-0"	90 SF	FLOORBEAM 36 WEST FACE	TYPE 1	NON-EPOXY
9	SPALL	9'-0"	3'-0"	27 SF	FLOORBEAM 36 WEST FACE	TYPE 1	NON-EPOXY
10	SPALL	1'-0"	3'-0"	3 SF	COLUMN 40N SOUTHWEST CORNER	TYPE 1	NON-EPOXY
11	SPALL	1'-0"	7'-0"	7 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
12	SPALL	8'-0"	3'-0"	24 SF	FLOORBEAM 46 WEST FACE	TYPE 1	NON-EPOXY
13	SPALL	5'-0"	14'-0"	70 SF	COLUMN 50S NORTH FACE	TYPE 1	NON-EPOXY
14	SPALL	7'-0"	5'-0"	35 SF	FLOORBEAM 26 WEST FACE	TYPE 1	NON-EPOXY
15	SPALL	4'-0"	1'-0"	4 SF	FLOORBEAM 31 UNDERSIDE	TYPE 2	NON-EPOXY
16	SPALL	5'-0"	3'-0"	15 SF	FLOORBEAM 36 WEST FACE	TYPE 1	NON-EPOXY
17	SPALL	3'-0"	3'-0"	9 SF	COLUMN 45N SOUTH FACE	TYPE 1	NON-EPOXY

ITEM 519 - CONCRETE PATCHING REPAIRS (CONTINUED)							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
18	SPALL	6'-0"	3'-0"	18 SF	FLOORBEAM 46 WEST FACE	TYPE 1	NON-EPOXY
19	DELAM.	3'-0"	3'-0"	9 SF	COLUMN 26N SOUTHWEST CORNER	TYPE 1	NON-EPOXY
20	DELAM.	8'-0"	4'-6"	36 SF	FLOORBEAM 26 WEST FACE	TYPE 1	NON-EPOXY
21	DELAM.	8'-0"	2'-6"	20 SF	FLOORBEAM 31 WEST FACE	TYPE 1	NON-EPOXY
22	DELAM.	5'-0"	1'-0"	5 SF	FLOORBEAM 31 UNDERSIDE	TYPE 2	NON-EPOXY
23	DELAM.	7'-0"	2'-0"	14 SF	FLOORBEAM 31 WEST FACE	TYPE 1	NON-EPOXY
24	DELAM.	4'-0"	12'-0"	48 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
25	DELAM.	1'-0"	6'-0"	6 SF	COLUMN 36N SOUTHWEST CORNER	TYPE 1	NON-EPOXY
26	DELAM.	6'-0"	4'-0"	24 SF	COLUMN 36N WEST FACE	TYPE 1	NON-EPOXY
27	DELAM.	3'-0"	4'-0"	12 SF	COLUMN 36S WEST FACE	TYPE 1	NON-EPOXY
28	SPALL	1'-0"	2'-0"	2 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
29	SPALL	2'-0"	5'-0"	10 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
30	SPALL	1'-0"	4'-0"	4 SF	COLUMN 46N WEST FACE	TYPE 1	NON-EPOXY
31	SPALL	2'-0"	2'-0"	4 SF	COLUMN 48N WEST FACE	TYPE 1	NON-EPOXY
32	SPALL	4'-0"	3'-0"	12 SF	FLOORBEAM 46 WEST FACE	TYPE 1	NON-EPOXY
33	SPALL	6'-0"	0'-6"	3 SF	FLOORBEAM 31 UNDERSIDE	TYPE 2	NON-EPOXY
SHEET TOTAL				571 SF			

Work on this sheet was not performed as part of this rehabilitation and was pushed to the next phase.



WEST APPROACH - SECTION D PARTIAL FRAMING PLAN (2 OF 2)



LEGEND:

[X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:

1. FOR NOTES, SEE SHEET 18 / 187.

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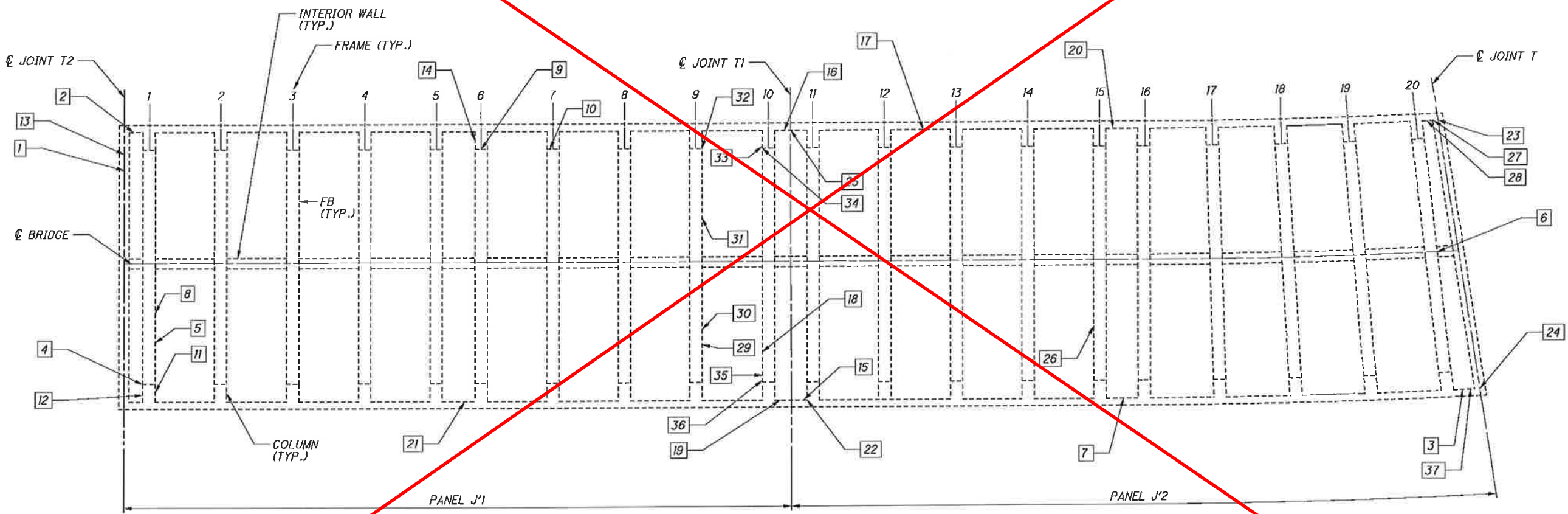
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ITEM 519 - CONCRETE PATCHING REPAIRS

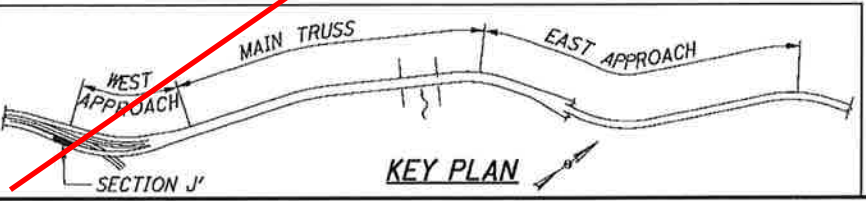
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	5'-0"	5'-0"	25 SF	WEST WALL INTERIOR	TYPE 1	NON-EPOXY
2	SPALL	6'-0"	8'-0"	48 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
3	SPALL	2'-0"	5'-0"	10 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
4	SPALL	1'-0"	2'-0"	2 SF	COLUMN 1S NORTHWEST FACE	TYPE 1	NON-EPOXY
5	SPALL	6'-0"	2'-0"	12 SF	FLOORBEAM 1 EAST FACE	TYPE 1	NON-EPOXY
6	SPALL	28'-0"	1'-6"	42 SF	UNDERSIDE OF DECK	TYPE 2	NON-EPOXY
7	SPALL	1'-0"	9'-0"	9 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
8	SPALL	5'-0"	2'-0"	10 SF	FB 1 UNDERSIDE & EAST FACE	TYPE 2	NON-EPOXY
9	SPALL	3'-0"	1'-0"	3 SF	COLUMN 6N SOUTH FACE	TYPE 1	NON-EPOXY
10	SPALL	2'-0"	4'-0"	8 SF	COLUMN 7N SOUTH FACE	TYPE 1	NON-EPOXY
11	DELAM.	2'-0"	6'-0"	12 SF	COLUMN 1S EAST FACE	TYPE 1	NON-EPOXY
12	DELAM.	5'-0"	3'-0"	15 SF	COLUMN 1S WEST FACE	TYPE 1	NON-EPOXY
13	DELAM.	2'-0"	4'-0"	8 SF	WEST WALL INTERIOR	TYPE 1	NON-EPOXY
14	DELAM.	2'-0"	5'-0"	10 SF	COLUMN 6N WEST FACE	TYPE 1	NON-EPOXY
15	DELAM.	1'-0"	5'-0"	5 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
16	DELAM.	2'-0"	2'-6"	5 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
17	DELAM.	1'-6"	2'-0"	3 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
18	DELAM.	6'-0"	2'-0"	12 SF	FLOORBEAM 10 WEST FACE	TYPE 1	NON-EPOXY

ITEM 519 - CONCRETE PATCHING REPAIRS (CONTINUED)

CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
19	DELAM.	2'-0"	8'-0"	16 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
20	DELAM.	1'-0"	10'-0"	10 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
21	DELAM.	1'-6"	2'-0"	3 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
22	DELAM.	1'-0"	6'-0"	6 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
23	DELAM.	7'-0"	10'-0"	70 SF	EAST & NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
24	DELAM.	8'-0"	9'-0"	72 SF	EAST WALL INTERIOR	TYPE 1	NON-EPOXY
25	SPALL	2'-0"	5'-0"	10 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
26	SPALL	8'-0"	5'-0"	40 SF	FLOORBEAM 15 WEST FACE	TYPE 1	NON-EPOXY
27	DELAM.	1'-0"	4'-0"	4 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
28	DELAM.	4'-0"	2'-0"	8 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
29	SPALL	29'-0"	2'-0"	58 SF	FLOORBEAM 9 UNDERSIDE	TYPE 1	NON-EPOXY
30	DELAM.	2'-0"	5'-0"	10 SF	FLOORBEAM 9 EAST FACE	TYPE 1	NON-EPOXY
31	DELAM.	2'-0"	1'-6"	3 SF	FLOORBEAM 9 EAST FACE	TYPE 1	NON-EPOXY
32	SPALL	1'-0"	3'-0"	3 SF	COLUMN 9N EAST FACE	TYPE 1	NON-EPOXY
33	DELAM.	2'-0"	2'-6"	5 SF	FLOORBEAM 10 WEST FACE	TYPE 1	NON-EPOXY
34	DELAM.	5'-0"	2'-0"	10 SF	COLUMN 10N SOUTHWEST CORNER	TYPE 1	NON-EPOXY
35	SPALL	16'-0"	4'-0"	64 SF	FLOORBEAM 10 WEST FACE	TYPE 1	NON-EPOXY
36	SPALL	5'-0"	6'-0"	30 SF	COLUMN 10S WEST FACE	TYPE 1	NON-EPOXY
37	DELAM.	1'-0"	4'-0"	4 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
SHEET TOTAL				665 SF			



WEST APPROACH - SECTION J' FRAMING PLAN



Work on this sheet was not performed as part of this rehabilitation and was pushed to the next phase.

LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187

DESIGN AGENCY
TrainSystems
55 PUBLIC SQUARE, SUITE 1000
CLEVELAND, OHIO 44113

DATE
08/16/13

REVIEWED
WRW

STRUCTURE FILE NUMBER
1800035

DESIGNED
DMD

CHECKED
KMW

DRAWN
DMD

REVISOR

WEST APPROACH - SECTION J' PATCHING
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

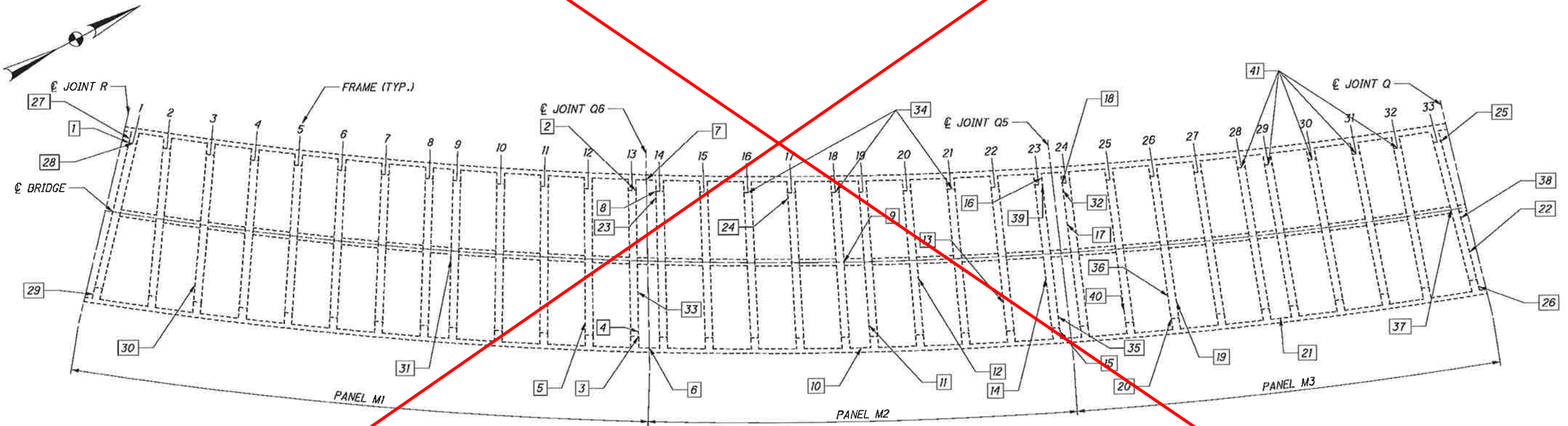
CUY-2-14.41
PID No. 91115

21 / 187

23 / 189

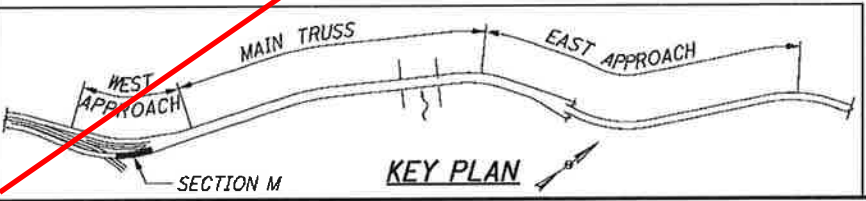
ITEM 519 - CONCRETE PATCHING REPAIRS							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	3'-0"	9'-0"	27 SF	COLUMN IN SOUTHWEST CORNER	TYPE 1	NON-EPOXY
2	SPALL	3'-0"	8'-0"	24 SF	COLUMN 13N SOUTHEAST CORNER	TYPE 1	NON-EPOXY
3	SPALL	2'-0"	4'-0"	8 SF	COLUMN 13S NORTHEAST CORNER	TYPE 1	NON-EPOXY
4	SPALL	6'-0"	2'-0"	12 SF	FLOORBEAM 13 EAST FACE	TYPE 1	NON-EPOXY
5	SPALL	5'-0"	1'-0"	5 SF	FLOORBEAM 12 WEST FACE	TYPE 1	NON-EPOXY
6	SPALL	3'-0"	11'-0"	33 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
7	SPALL	1'-0"	10'-0"	10 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
8	SPALL	2'-0"	5'-0"	10 SF	COLUMN 14N WEST FACE	TYPE 1	NON-EPOXY
9	SPALL	2'-0"	2'-6"	5 SF	FLOORBEAM 18 UNDERSIDE	TYPE 2	NON-EPOXY
10	SPALL	4'-0"	2'-0"	8 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY
11	SPALL	4'-0"	2'-0"	8 SF	FLOORBEAM 19 WEST FACE	TYPE 1	NON-EPOXY
12	SPALL	5'-0"	1'-0"	5 SF	FLOORBEAM 20 EAST FACE	TYPE 1	NON-EPOXY
13	SPALL	1'-6"	2'-0"	3 SF	FLOORBEAM 22 WEST FACE	TYPE 1	NON-EPOXY
14	SPALL	3'-0"	1'-0"	3 SF	FLOORBEAM 23 UNDERSIDE	TYPE 2	NON-EPOXY
15	SPALL	2'-0"	7'-0"	14 SF	COLUMN 23S NORTHEAST CORNER	TYPE 1	NON-EPOXY
16	SPALL	3'-0"	9'-0"	27 SF	COLUMN 23N EAST FACE	TYPE 1	NON-EPOXY
17	SPALL	5'-0"	2'-0"	10 SF	FLOORBEAM 24 WEST FACE	TYPE 1	NON-EPOXY
18	SPALL	1'-6"	2'-0"	3 SF	COLUMN 24N SOUTHWEST CORNER	TYPE 1	NON-EPOXY
19	SPALL	4'-0"	1'-0"	4 SF	FLOORBEAM 26 EAST FACE	TYPE 1	NON-EPOXY
20	SPALL	3'-0"	12'-0"	36 SF	COLUMN 26S NORTHWEST CORNER	TYPE 1	NON-EPOXY
21	SPALL	2'-0"	5'-0"	10 SF	SOUTH WALL INTERIOR	TYPE 1	NON-EPOXY

ITEM 519 - CONCRETE PATCHING REPAIRS (CONTINUED)							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
22	SPALL	20'-0"	2'-6"	60 SF	FLOORBEAM 33 UNDERSIDE	TYPE 2	NON-EPOXY
23	SPALL	2'-0"	4'-0"	8 SF	FLOORBEAM 14 WEST FACE	TYPE 1	NON-EPOXY
24	SPALL	2'-0"	4'-0"	8 SF	FLOORBEAM 17 WEST FACE	TYPE 1	NON-EPOXY
25	SPALL	3'-0"	4'-0"	12 SF	FLOORBEAM 33 EAST FACE	TYPE 1	NON-EPOXY
26	SPALL	3'-0"	3'-0"	9 SF	COLUMN 33S EAST FACE	TYPE 1	NON-EPOXY
27	DELAM.	2'-0"	4'-0"	8 SF	COLUMN IN WEST FACE	TYPE 1	NON-EPOXY
28	DELAM.	2'-0"	5'-0"	10 SF	COLUMN IN SOUTH FACE	TYPE 1	NON-EPOXY
29	DELAM.	2'-0"	4'-0"	8 SF	COLUMN 1S WEST FACE	TYPE 1	NON-EPOXY
30	DELAM.	5'-0"	1'-0"	5 SF	FLOORBEAM 7 UNDERSIDE	TYPE 2	NON-EPOXY
31	DELAM.	12'-0"	4'-0"	48 SF	FLOORBEAM 9 WEST FACE	TYPE 1	NON-EPOXY
32	SPALL	2'-0"	4'-0"	8 SF	FLOORBEAM 24 WEST FACE	TYPE 1	NON-EPOXY
33	DELAM.	6'-0"	1'-0"	6 SF	FLOORBEAM 13 EAST FACE	TYPE 1	NON-EPOXY
34	DELAM.	15'-0"	1'-0"	15 SF*	COLUMNS 16, 18, 21 SOUTH FACE	TYPE 1	NON-EPOXY
35	DELAM.	4'-0"	2'-0"	8 SF	FLOORBEAM 23 UNDERSIDE	TYPE 2	NON-EPOXY
36	DELAM.	1'-0"	4'-0"	4 SF	FLOORBEAM 26 WEST FACE	TYPE 1	NON-EPOXY
37	SPALL	18'-0"	1'-0"	18 SF	FLOORBEAM 33 WEST FACE	TYPE 1	NON-EPOXY
38	DELAM.	22'-0"	3'-0"	66 SF	FLOORBEAM 33 EAST FACE	TYPE 1	NON-EPOXY
39	DELAM.	3'-0"	1'-0"	3 SF	COLUMN 23 SOUTH FACE	TYPE 1	NON-EPOXY
40	SPALL	1'-0"	2'-0"	2 SF	FLOORBEAM 25 WEST FACE	TYPE 1	NON-EPOXY
41	DELAM.	24'-0"	1'-0"	24 SF*	COLUMNS 28-32 SOUTH FACE	TYPE 1	NON-EPOXY
SHEET TOTAL				595 SF	* - TOTAL SF FOR MULTIPLE SPALLS/DELAMINATIONS		



WEST APPROACH - SECTION M FRAMING PLAN

Work on this sheet was not performed as part of this rehabilitation and was pushed to the next phase.



LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187.

G:\CL12\0112\Bridge\Sheets\91115MD005.dgn 8/30/2013 10:37:45 AM nrfisco

DESIGN AGENCY: **Trail Systems**
 55 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OHIO 44113

DATE: 08/16/13
 REVIEWED: WFW
 DRAWN: DMD
 CHECKED: KMW

STRUCTURE FILE NUMBER: 1800035

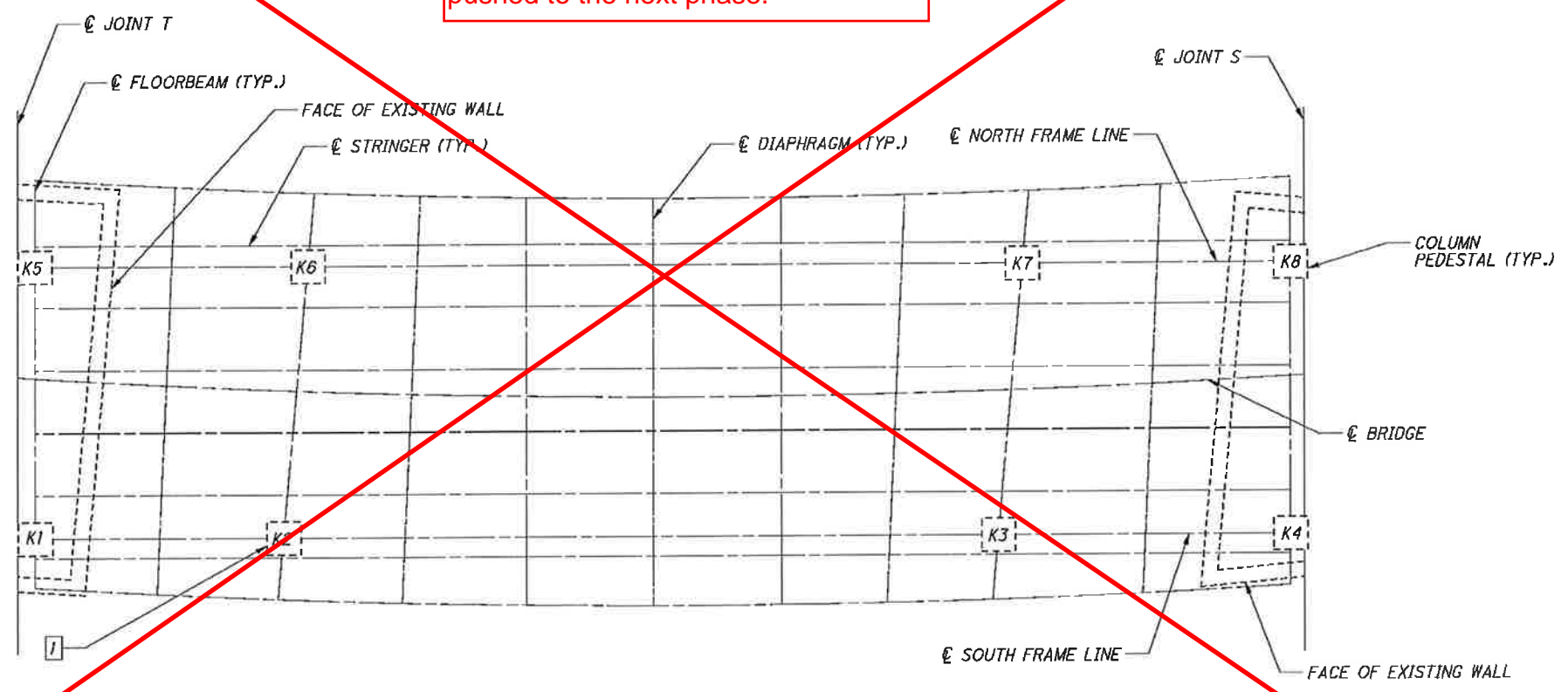
WEST APPROACH - SECTION M PATCHING
 MAIN AVENUE - BRIDGE NO. CUY-2-141
 OVER THE CUYAHOGA RIVER

CUY-2-14-41
 PID No. 91115

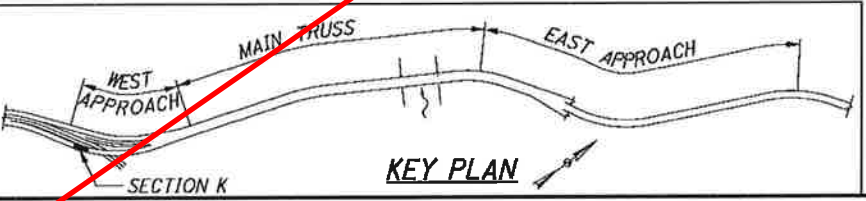
22/187
 24/189

ITEM 519 - CONCRETE PATCHING REPAIRS							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	1'-0"	2'-0"	2 SF	PEDESTAL K2 WEST FACE	TYPE 1	EPOXY

Work on this sheet was not performed as part of this rehabilitation and was pushed to the next phase.



WEST APPROACH - SECTION K FRAMING PLAN



LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187.

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DESIGN AGENCY
Trail Systems
 55 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OH 44113

DESIGNED: DMD
 CHECKED: KMW

DRAWN: DMD
 REVISED:

REVIEWED: WRW
 STRUCTURE FILE NUMBER: 1800035

DATE: 08/16/13

WEST APPROACH - SECTION K PATCHING
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

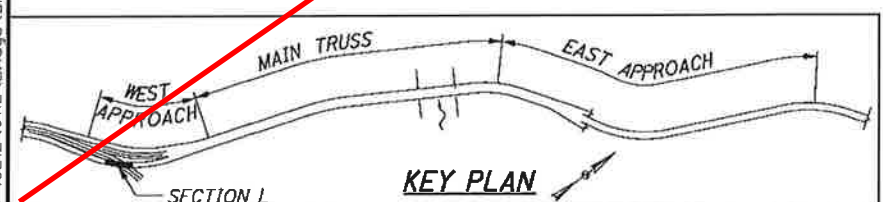
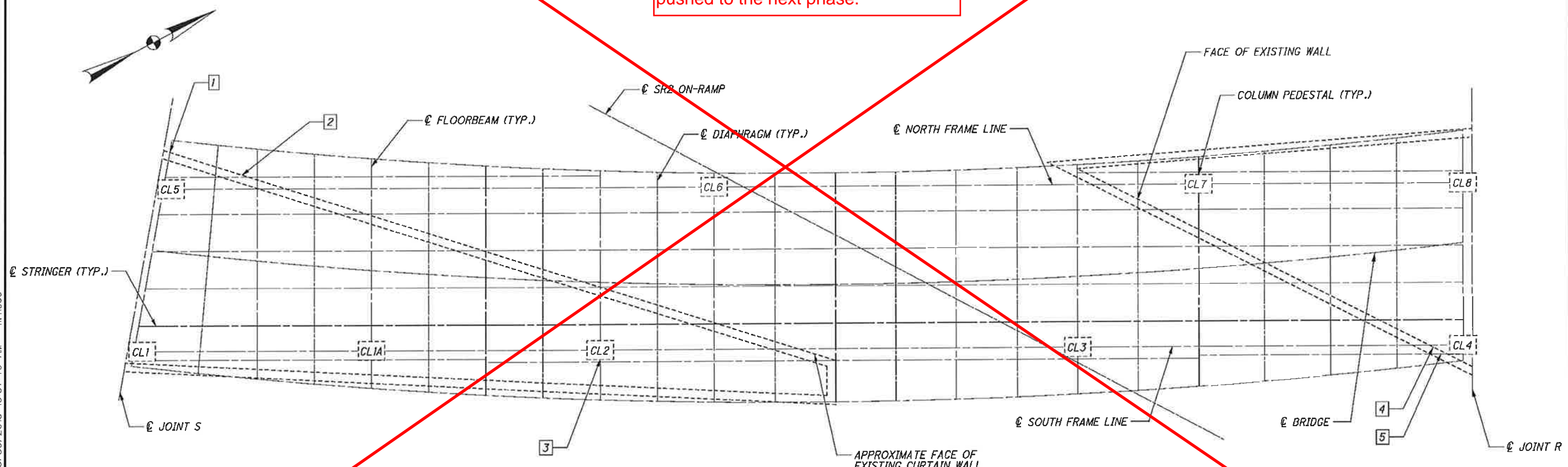
23 / 187

25 / 189

ITEM 519 - CONCRETE PATCHING REPAIRS

CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	1'-0"	2'-0"	2 SF	NORTH WALL EXTERIOR CORNER	TYPE 1	EPOXY
2	SPALL	2'-0"	2'-6"	5 SF	NORTH WALL INTERIOR	TYPE 1	NON-EPOXY
3	SPALL	1'-0"	2'-0"	2 SF	PEDESTAL CL2 SOUTH FACE	TYPE 1	NON-EPOXY
4	DELAM.	4'-0"	5'-0"	20 SF	EAST WALL INTERIOR	TYPE 1	NON-EPOXY
5	SPALL	2'-0"	1'-6"	3 SF	EAST WALL INTERIOR	TYPE 1	NON-EPOXY
				SHEET TOTAL	32 SF		

Work on this sheet was not performed as part of this rehabilitation and was pushed to the next phase.



WEST APPROACH - SECTION L FRAMING PLAN

LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187.

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DESIGN AGENCY
Trail Systems
 55 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OHIO 44113

DATE: 08/16/13
 REVIEWED: WRW
 DRAWN: DMD
 DESIGNED: DMD
 CHECKED: KMW

STRUCTURE FILE NUMBER: 1800035

WEST APPROACH - SECTION L PATCHING
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

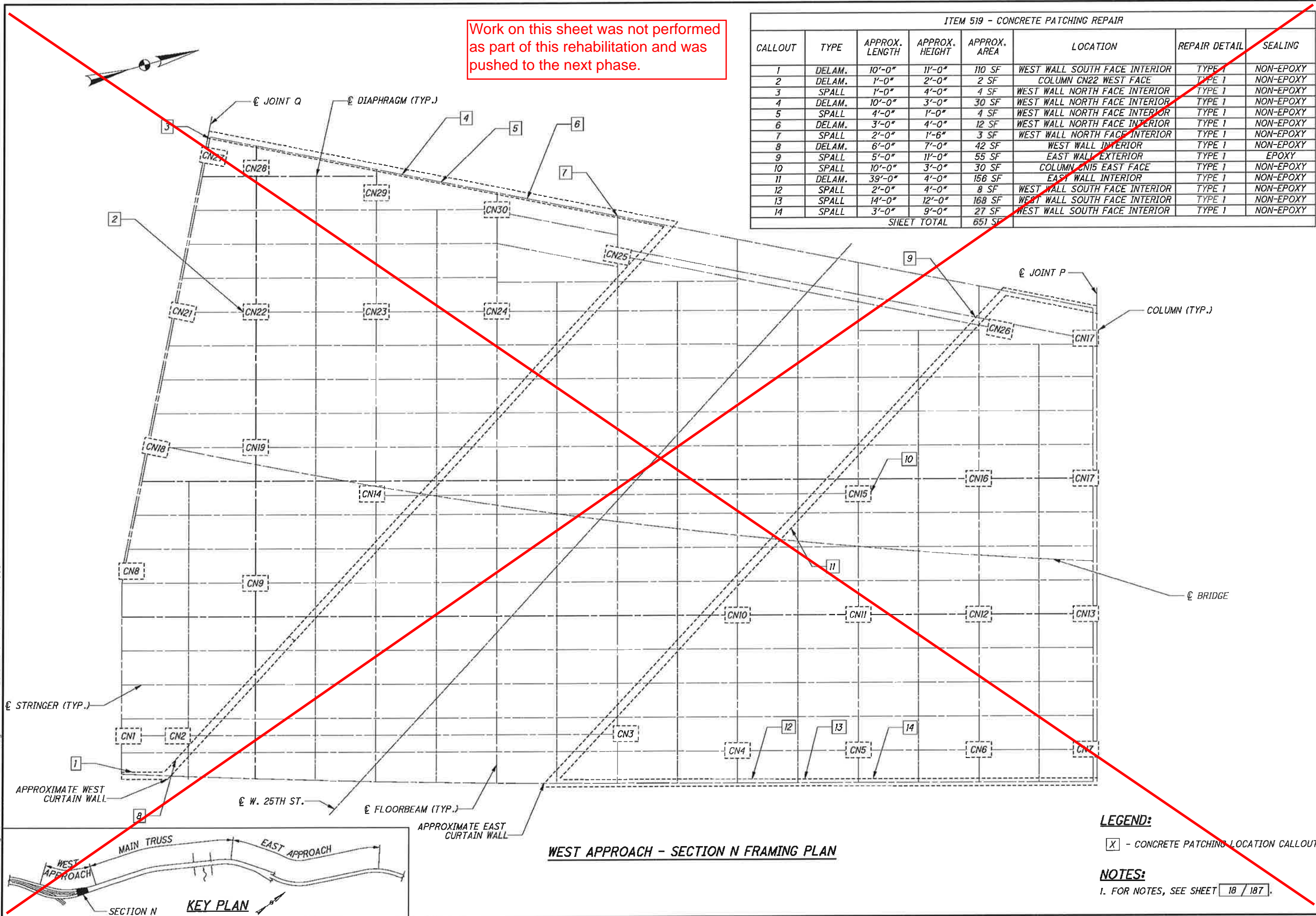
24 / 187

26 / 189

Work on this sheet was not performed as part of this rehabilitation and was pushed to the next phase.

ITEM 519 - CONCRETE PATCHING REPAIR

CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	DELAM.	10'-0"	11'-0"	110 SF	WEST WALL SOUTH FACE INTERIOR	TYPE 1	NON-EPOXY
2	DELAM.	1'-0"	2'-0"	2 SF	COLUMN CN22 WEST FACE	TYPE 1	NON-EPOXY
3	SPALL	1'-0"	4'-0"	4 SF	WEST WALL NORTH FACE INTERIOR	TYPE 1	NON-EPOXY
4	DELAM.	10'-0"	3'-0"	30 SF	WEST WALL NORTH FACE INTERIOR	TYPE 1	NON-EPOXY
5	SPALL	4'-0"	1'-0"	4 SF	WEST WALL NORTH FACE INTERIOR	TYPE 1	NON-EPOXY
6	DELAM.	3'-0"	4'-0"	12 SF	WEST WALL NORTH FACE INTERIOR	TYPE 1	NON-EPOXY
7	SPALL	2'-0"	1'-6"	3 SF	WEST WALL NORTH FACE INTERIOR	TYPE 1	NON-EPOXY
8	DELAM.	6'-0"	7'-0"	42 SF	WEST WALL INTERIOR	TYPE 1	NON-EPOXY
9	SPALL	5'-0"	11'-0"	55 SF	EAST WALL EXTERIOR	TYPE 1	EPOXY
10	SPALL	10'-0"	3'-0"	30 SF	COLUMN CN15 EAST FACE	TYPE 1	NON-EPOXY
11	DELAM.	39'-0"	4'-0"	156 SF	EAST WALL INTERIOR	TYPE 1	NON-EPOXY
12	SPALL	2'-0"	4'-0"	8 SF	WEST WALL SOUTH FACE INTERIOR	TYPE 1	NON-EPOXY
13	SPALL	14'-0"	12'-0"	168 SF	WEST WALL SOUTH FACE INTERIOR	TYPE 1	NON-EPOXY
14	SPALL	3'-0"	9'-0"	27 SF	WEST WALL SOUTH FACE INTERIOR	TYPE 1	NON-EPOXY
SHEET TOTAL				651 SF			



WEST APPROACH - SECTION N FRAMING PLAN

LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187.

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DESIGN AGENCY: **Train Systems**
 55 PUBLIC SQUARE, SUITE 1000
 CLEVELAND, OHIO 44113

DATE: 08/16/13
 REVIEWED: WRW
 DRAWN: DMD
 DESIGNED: DMD
 CHECKED: KMW

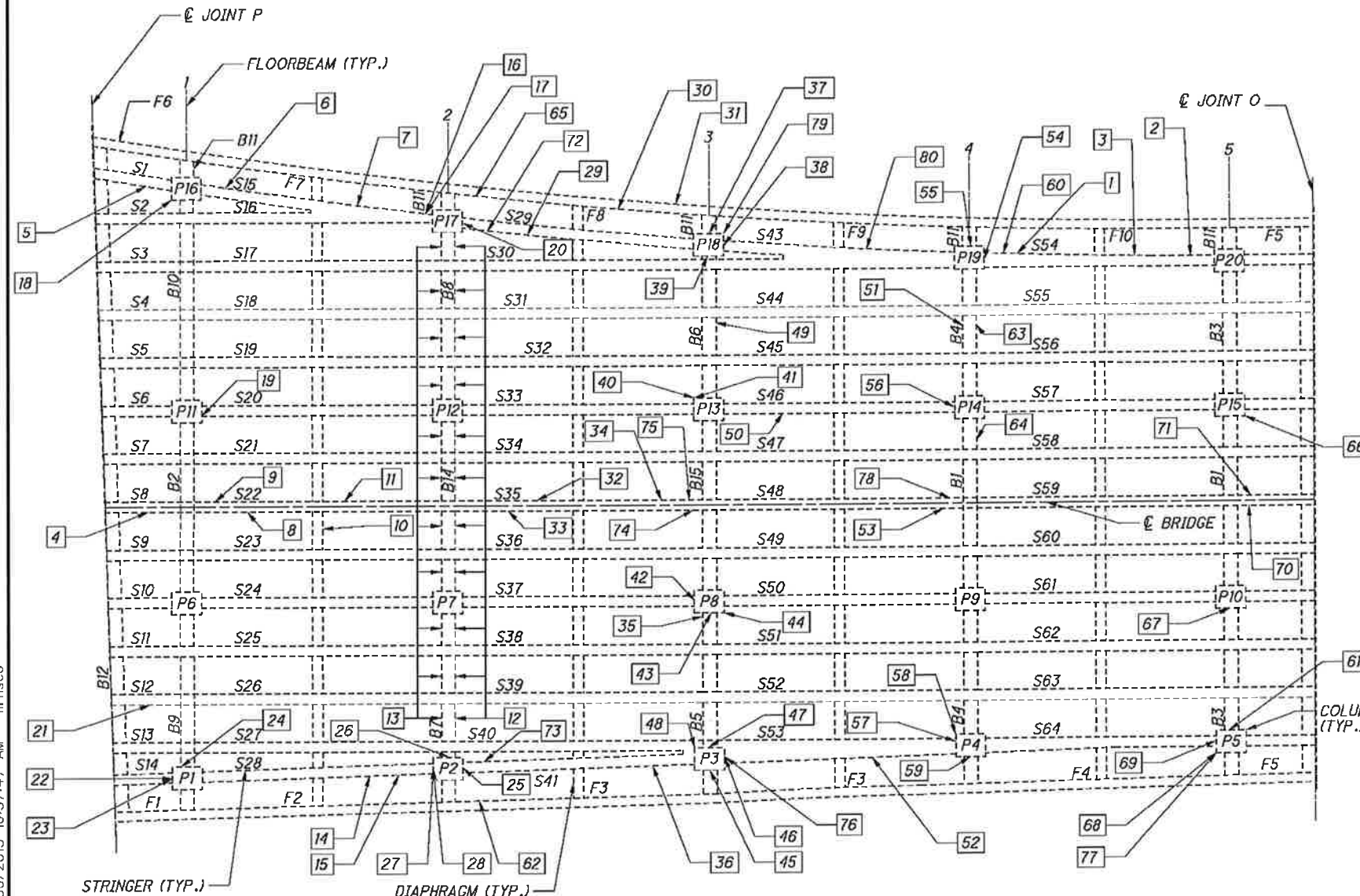
STRUCTURE FILE NUMBER: 1800035

WEST APPROACH - SECTION N PATCHING
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

25 / 187
 27 / 189

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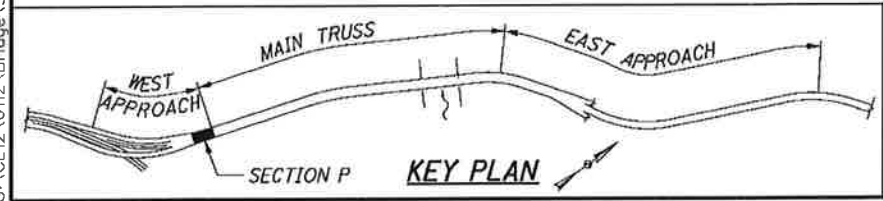
WEST APPROACH - SECTION P FRAMING PLAN

LEGEND:

[X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:

- FOR NOTES, SEE SHEET 18 / 187.
- ALL NEW CONCRETE PATCHES IN SECTION P SHALL BE SEALED WITH NON-EPOXY SEALER.
- SEE SHEET 44 / 187 FOR STIRRUP REPAIR DETAILS OF CALLOUT 1.



KEY PLAN

CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL
1	SPALL	9'-0"	2'-0"	18 SF	STRINGER S54 UNDERSIDE	TYPE 2
2	SPALL	2'-0"	1'-0"	2 SF	STRINGER S54 NORTH FACE	TYPE 1
3	DELAM.	5'-0"	4'-0"	20 SF	STRINGER S54 NORTH FACE	TYPE 1
4	DELAM.	10'-0"	5'-0"	50 SF	STRINGER S8 SOUTH FACE	TYPE 1
5	SPALL	4'-0"	1'-0"	4 SF	STRINGER S1 SOUTH FACE	TYPE 1
6	SPALL	7'-0"	2'-0"	14 SF	STRINGER S15 NORTH FACE	TYPE 1
7	SPALL	5'-0"	2'-0"	10 SF	STRINGER S15 NORTH FACE	TYPE 1
8	DELAM.	14'-0"	2'-0"	28 SF	STRINGER S22 SOUTH FACE	TYPE 1
9	DELAM.	14'-0"	2'-0"	28 SF	STRINGER S22 NORTH FACE	TYPE 1
10	SPALL	4'-0"	1'-0"	4 SF	DIAPHRAGM 1A EAST FACE	TYPE 1
11	SPALL	1'-6"	2'-0"	3 SF	STRINGER S22 NORTH FACE	TYPE 1
12	DELAM.	20'-0"	1'-0"	20 SF*	FLOORBEAM 2 EAST FACE	TYPE 1
13	DELAM.	20'-0"	1'-0"	20 SF*	FLOORBEAM 2 WEST FACE	TYPE 1
14	DELAM.	2'-0"	2'-6"	5 SF	STRINGER S28 SOUTH FACE	TYPE 1
15	SPALL	11'-0"	2'-0"	22 SF	STRINGER S28 UNDERSIDE	TYPE 2
16	SPALL	3'-0"	4'-0"	12 SF	STRINGER S15 NORTH FACE	TYPE 1
17	DELAM.	7'-0"	4'-0"	28 SF	STRINGER S15 NORTH FACE	TYPE 1
18	DELAM.	2'-0"	14'-0"	28 SF	COLUMN P16 SOUTHWEST CORNER	TYPE 1
19	SPALL	1'-0"	2'-0"	2 SF	COLUMN P11 EAST FACE	TYPE 1
20	DELAM.	4'-0"	3'-0"	12 SF	COLUMN P17 EAST FACE	TYPE 1
21	DELAM.	7'-0"	4'-0"	28 SF	STRINGER S12 SOUTH FACE	TYPE 1
22	SPALL	3'-0"	12'-0"	36 SF	COLUMN P1 WEST FACE	TYPE 1
23	DELAM.	3'-0"	4'-0"	12 SF	COLUMN P1 WEST FACE	TYPE 1
24	DELAM.	1'-0"	10'-0"	10 SF	COLUMN P1 NORTH FACE	TYPE 1
25	DELAM.	2'-0"	10'-0"	20 SF	COLUMN P2 EAST FACE	TYPE 1
26	DELAM.	2'-0"	10'-0"	20 SF	COLUMN P2 NORTH FACE	TYPE 1
27	DELAM.	2'-0"	5'-0"	10 SF	COLUMN P2 WEST FACE	TYPE 1
28	DELAM.	1'-0"	3'-0"	3 SF	COLUMN P2 WEST FACE	TYPE 1
29	DELAM.	37'-0"	2'-0"	74 SF	STRINGER S29 UNDERSIDE	TYPE 2
30	SPALL	3'-0"	1'-0"	3 SF	STRINGER F8 UNDERSIDE	TYPE 2
31	DELAM.	44'-0"	2'-0"	88 SF	STRINGER F8 UNDERSIDE	TYPE 2
32	DELAM.	12'-0"	4'-0"	48 SF	STRINGER S35 NORTH FACE	TYPE 1
33	DELAM.	12'-0"	4'-0"	48 SF	STRINGER S35 SOUTH FACE	TYPE 1
34	SPALL	12'-0"	2'-0"	24 SF	STRINGER S35 UNDERSIDE	TYPE 2
35	DELAM.	3'-0"	4'-0"	12 SF	FLOORBEAM 3 WEST FACE	TYPE 1
36	DELAM.	22'-0"	2'-0"	44 SF	STRINGER S41 SOUTH FACE	TYPE 1
37	DELAM.	3'-0"	5'-0"	15 SF	COLUMN P18 NORTH FACE	TYPE 1
38	DELAM.	2'-0"	6'-0"	12 SF	COLUMN P18 EAST FACE	TYPE 1
39	DELAM.	3'-0"	8'-0"	24 SF	COLUMN P18 SOUTH FACE	TYPE 1
40	DELAM.	2'-0"	2'-6"	5 SF	COLUMN P13 NORTHWEST CORNER	TYPE 1
41	SPALL	2'-0"	7'-0"	14 SF	COLUMN P13 NORTHWEST CORNER	TYPE 1
42	SPALL	2'-0"	5'-0"	10 SF	COLUMN P8 WEST FACE	TYPE 1
43	DELAM.	2'-0"	5'-0"	10 SF	COLUMN P8 SOUTH FACE	TYPE 1
44	SPALL	1'-6"	2'-0"	3 SF	COLUMN P8 SOUTHEAST CORNER	TYPE 1
45	DELAM.	3'-0"	6'-0"	18 SF	COLUMN P3 SOUTH FACE	TYPE 1
46	DELAM.	3'-0"	6'-0"	18 SF	COLUMN P3 EAST FACE	TYPE 1
47	DELAM.	1'-6"	6'-0"	9 SF	COLUMN P3 NORTH FACE	TYPE 1
48	SPALL	2'-0"	4'-0"	8 SF	COLUMN P3 NORTHWEST CORNER	TYPE 1
49	DELAM.	4'-0"	2'-0"	8 SF	FLOORBEAM 3 EAST FACE	TYPE 1
50	SPALL	1'-0"	2'-0"	2 SF	STRINGER S46 SOUTH FACE	TYPE 1
51	SPALL	2'-0"	1'-6"	3 SF	FLOORBEAM 4 WEST FACE	TYPE 1
52	DELAM.	44'-0"	2'-0"	88 SF	STRINGER S53 UNDERSIDE	TYPE 2
53	DELAM.	5'-0"	2'-0"	10 SF	STRINGER S48 SOUTH FACE	TYPE 1
54	SPALL	2'-0"	2'-0"	4 SF	COLUMN P19 NORTHEAST CORNER	TYPE 1
55	DELAM.	1'-0"	15'-0"	15 SF	COLUMN P19 NORTH FACE	TYPE 1
56	SPALL	1'-0"	2'-0"	2 SF	COLUMN P14 WEST FACE	TYPE 1
57	SPALL	1'-0"	5'-0"	5 SF	COLUMN P4 NORTHWEST CORNER	TYPE 1
58	DELAM.	1'-0"	10'-0"	10 SF	COLUMN P4 NORTHWEST CORNER	TYPE 1
59	DELAM.	2'-0"	6'-0"	12 SF	COLUMN P4 SOUTH FACE	TYPE 1
60	DELAM.	12'-0"	2'-0"	24 SF	STRINGER S54 UNDERSIDE	TYPE 2
61	DELAM.	2'-0"	6'-0"	12 SF	STRINGER S5 NORTH FACE	TYPE 1
62	DELAM.	1'-0"	2'-0"	14 SF	STRINGER F2 NORTH FACE	TYPE 1
63	DELAM.	2'-0"	1'-6"	3 SF	FLOORBEAM 4 EAST FACE	TYPE 1
64	DELAM.	2'-0"	2'-6"	5 SF	FLOORBEAM 4 EAST FACE	TYPE 1
65	SPALL	7'-0"	1'-0"	7 SF	STRINGER F7 SOUTH FACE	TYPE 1
66	SPALL	1'-6"	2'-0"	3 SF	COLUMN P15 SOUTHEAST CORNER	TYPE 1
67	DELAM.	1'-0"	2'-0"	2 SF	COLUMN P10 SOUTH FACE	TYPE 1
68	DELAM.	1'-0"	7'-0"	7 SF	COLUMN P5 SOUTHWEST CORNER	TYPE 1
69	SPALL	4'-0"	2'-0"	8 SF	COLUMN P5 WEST FACE	TYPE 1
70	SPALL	4'-0"	1'-0"	4 SF	STRINGER S59 SOUTH FACE	TYPE 1
71	SPALL	6'-0"	3'-0"	18 SF	STRINGER S59 NORTH FACE	TYPE 1
72	VOID	1'-0"	1'-0"	1 SF	STRINGER S29 SOUTH FACE	TYPE 1
73	DELAM.	7'-0"	2'-0"	14 SF	STRINGER S41 NORTH FACE	TYPE 1
74	DELAM.	6'-0"	3'-0"	18 SF	STRINGER S35 SOUTH FACE	TYPE 1
75	SPALL	4'-0"	2'-0"	8 SF	STRINGER S35 NORTH FACE	TYPE 1
76	SPALL	2'-0"	2'-6"	5 SF	COLUMN P3 EAST FACE	TYPE 1
77	DELAM.	1'-0"	3'-0"	3 SF	COLUMN P5 SOUTHWEST CORNER	TYPE 1
78	SPALL	2'-0"	2'-6"	5 SF	STRINGER S48 NORTH FACE	TYPE 1
79	SPALL	1'-6"	2'-0"	3 SF	COLUMN P18 NORTHEAST CORNER	TYPE 1
80	DELAM.	44'-0"	2'-0"	88 SF	STRINGER S43 UNDERSIDE	TYPE 2
				SHEET TOTAL	1367 SF	

* - TOTAL SF FOR MULTIPLE SPALLS/ DELAMINATIONS

DESIGN AGENCY: **Trail Systems**
 55 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OHIO 44115

DATE: **08/16/13**

REVIEWED: **WFW**

STRUCTURE FILE NUMBER: **1800035**

DESIGNED: **DMD**

CHECKED: **KMW**

WEST APPROACH - SECTION P PATCHING
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14-41

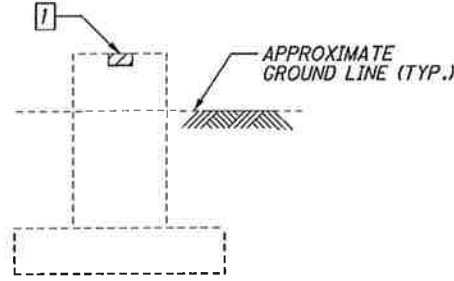
PID No. **91115**

26/187

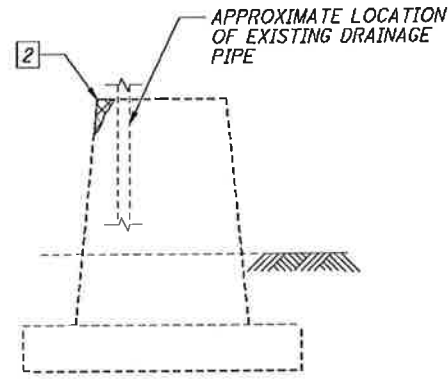
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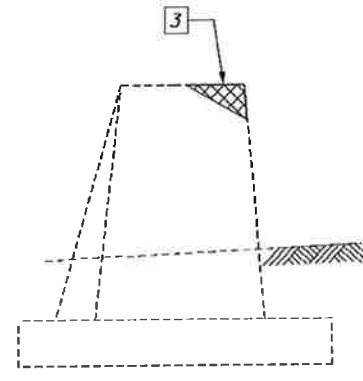
PIER 0S - SOUTH ELEVATION



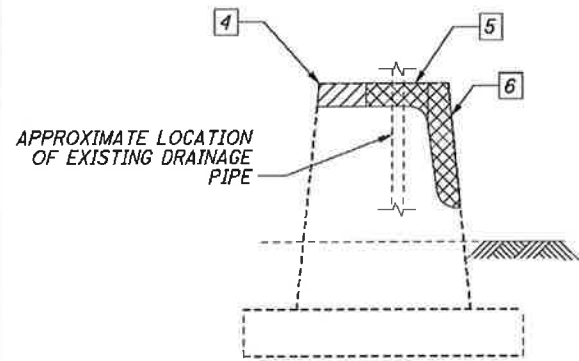
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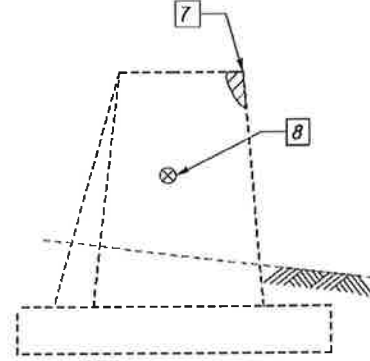
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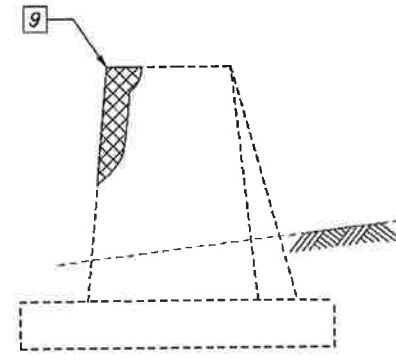
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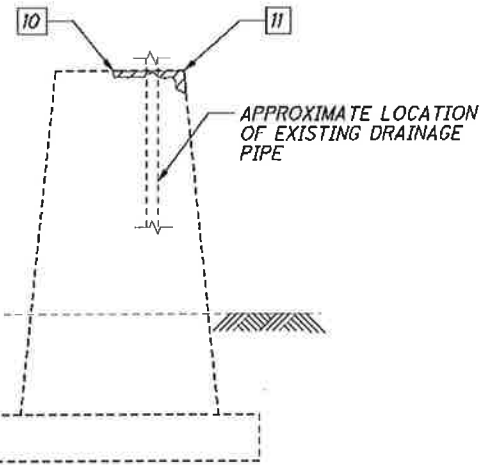
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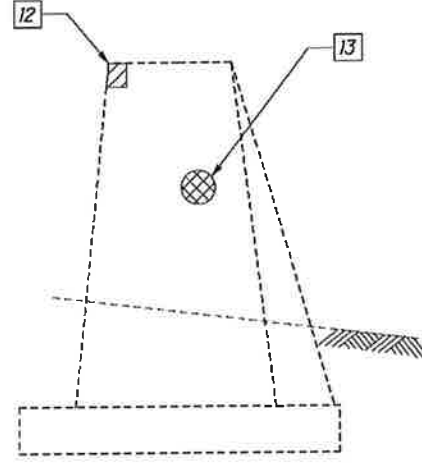
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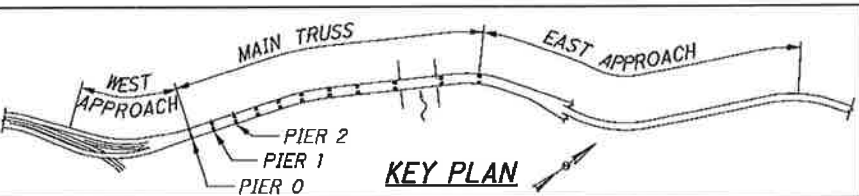
PIER 2N - SOUTH ELEVATION



PIER 2N - EAST ELEVATION



ITEM 519 - CONCRETE PATCHING REPAIRS						
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL
1	DELAM.	2'-0"	1'-6"	3 SF	PIER 0S SOUTH FACE	TYPE 1
2	SPALL	2'-0"	3'-0"	6 SF	PIER 1S NORTH FACE	TYPE 1
3	SPALL	5'-0"	3'-0"	15 SF	PIER 1S EAST FACE	TYPE 1
4	DELAM.	5'-0"	5'-0"	25 SF	PIER 1N SOUTH FACE	TYPE 1
5	SPALL	7'-0"	2'-0"	14 SF	PIER 1N SOUTH FACE	TYPE 1
6	SPALL	2'-0"	10'-0"	20 SF	PIER 1N SOUTH FACE	TYPE 1
7	DELAM.	2'-0"	3'-0"	6 SF	PIER 1N WEST FACE	TYPE 1
8	SPALL	1'-0"	2'-0"	2 SF	PIER 1N WEST FACE	TYPE 1
9	SPALL	2'-0"	12'-0"	24 SF	PIER 1N EAST FACE	TYPE 1
10	DELAM.	4'-0"	1'-0"	4 SF	PIER 2N SOUTH FACE	TYPE 1
11	DELAM.	4'-0"	2'-0"	8 SF	PIER 2N SOUTH FACE	TYPE 1
12	DELAM.	2'-0"	2'-6"	5 SF	PIER 2N EAST FACE	TYPE 1
13	SPALL	3'-0"	4'-0"	12 SF	PIER 2N EAST FACE	TYPE 1
SHEET TOTAL				144 SF		



LEGEND:

- INDICATES DELAMINATED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.
- INDICATES SPALLED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.

NOTES:

1. FOR NOTES, SEE SHEET 18 / 187.
2. ALL PIER PATCHES ARE TO BE SEALED WITH EPOXY URETHANE SEALANT. THE SEALING SHALL COVER THE AREA OF THE NEW PATCH AS WELL AS A 12" STRIP SURROUNDING NEW PATCH WHERE FEASIBLE. THE SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE).

CUY-2-14.41
 PID No. 91115

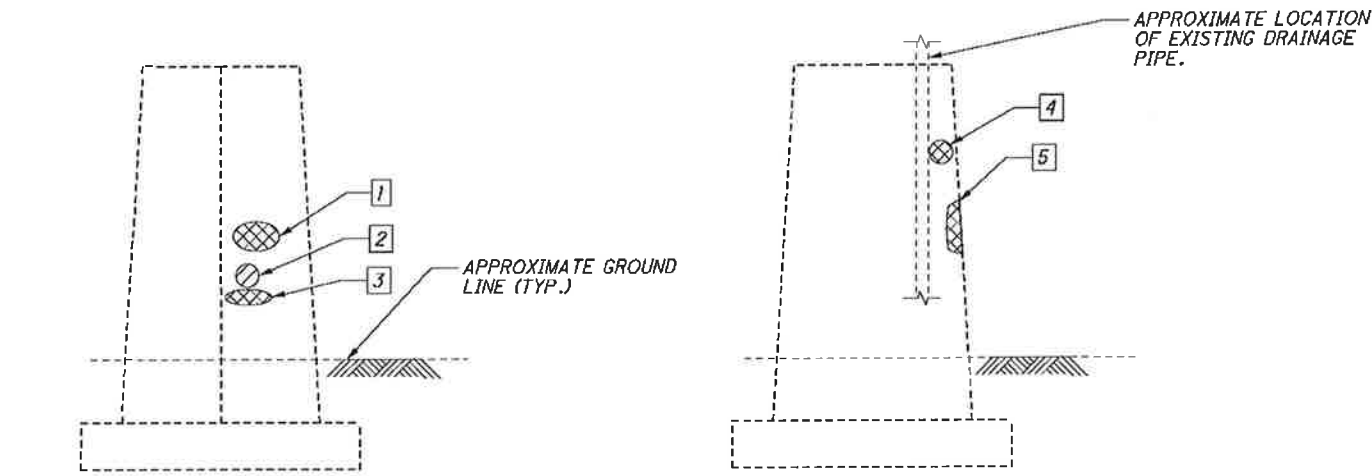
MAIN SPAN - PIERS 0-2 PATCHING
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

DESIGNED: DMD
 CHECKED: KMW
 DRAWN: DMD
 REVISED:

DATE: 08/16/13
 STRUCTURE FILE NUMBER: 1800035

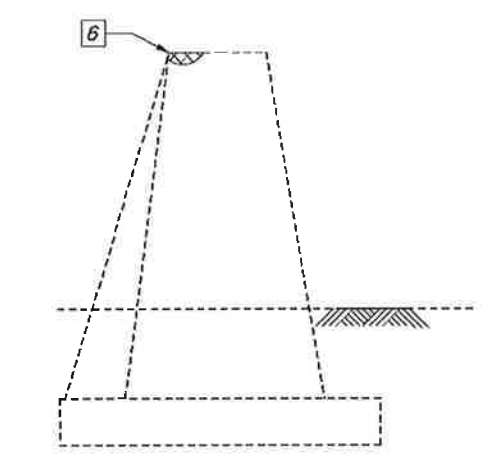
DESIGN AGENCY: **TranSystems**
 55 PUBLIC SQUARE, SUITE 1000
 CLEVELAND, OHIO 44114

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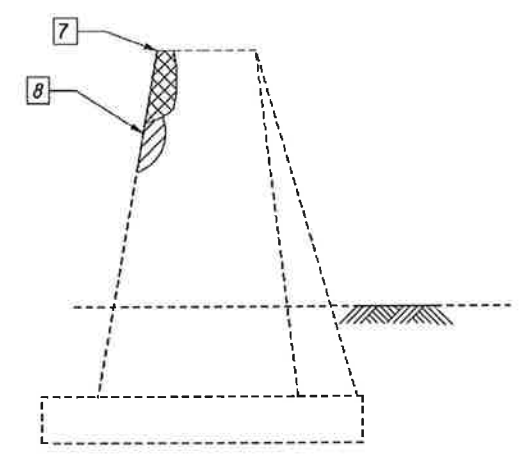


PIER 3S - SOUTH ELEVATION

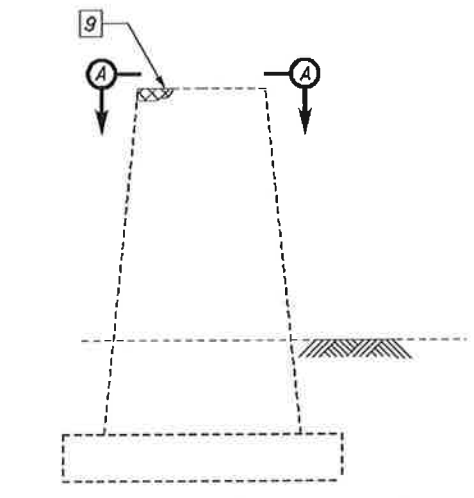
PIER 3N - SOUTH ELEVATION



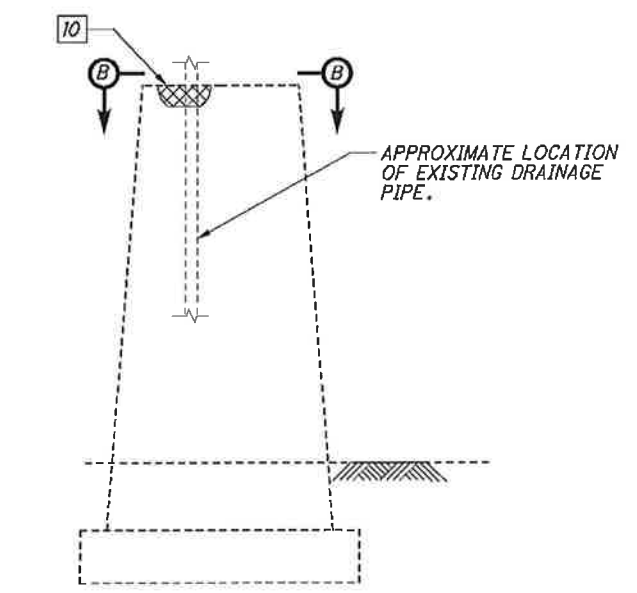
PIER 4N - WEST ELEVATION



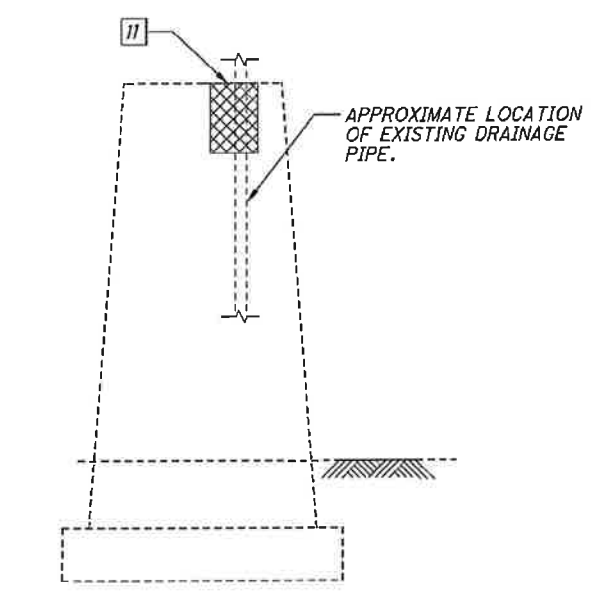
PIER 4N - EAST ELEVATION



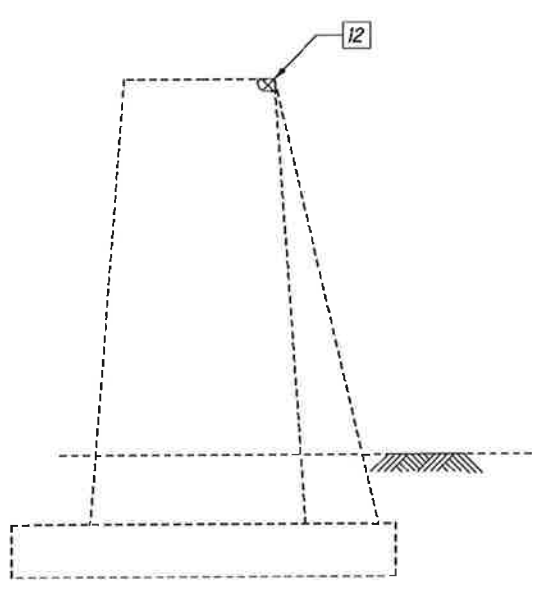
PIER 4S - NORTH ELEVATION



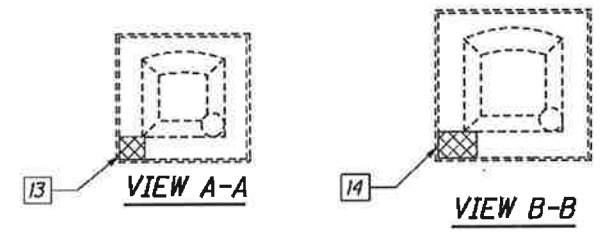
PIER 5S - NORTH ELEVATION



PIER 5N - SOUTH ELEVATION



PIER 5N - EAST ELEVATION



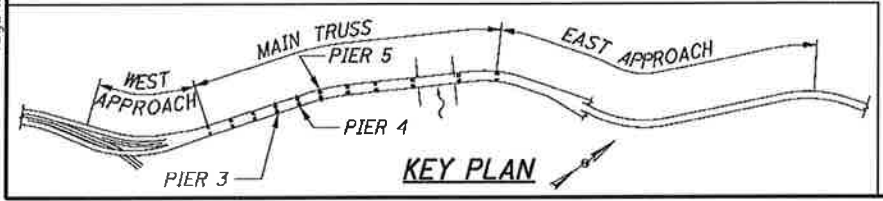
ITEM 519 - CONCRETE PATCHING REPAIRS						
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL
1	SPALL	2'-6"	2'-0"	5 SF	PIER 3S SOUTH FACE	TYPE 1
2	DELAM.	2'-0"	2'-6"	5 SF	PIER 3S SOUTH FACE	TYPE 1
3	SPALL	4'-0"	1'-0"	4 SF	PIER 3S SOUTH FACE	TYPE 1
4	SPALL	1'-0"	2'-0"	2 SF	PIER 3N SOUTH FACE	TYPE 1
5	SPALL	1'-0"	5'-0"	5 SF	PIER 3N SOUTH FACE	TYPE 1
6	SPALL	4'-0"	1'-0"	4 SF	PIER 4N WEST FACE	TYPE 1
7	SPALL	2'-0"	6'-0"	12 SF	PIER 4N EAST FACE	TYPE 1
8	DELAM.	2'-0"	2'-6"	5 SF	PIER 4N EAST FACE	TYPE 1
9	SPALL	4'-0"	1'-0"	4 SF	PIER 4S NORTH FACE	TYPE 1
10	SPALL	5'-0"	2'-0"	10 SF	PIER 5S NORTH FACE	TYPE 1
11	SPALL	4'-0"	6'-0"	24 SF	PIER 5N SOUTH FACE	TYPE 1
12	SPALL	2'-0"	1'-6"	3 SF	PIER 5N EAST FACE	TYPE 1
13	SPALL	3'-0"	4'-0"	12 SF	PIER 4S TOP FACE	TYPE 3
14	SPALL	7'-0"	2'-0"	14 SF	PIER 5S TOP FACE	TYPE 3
SHEET TOTAL				109 SF		

LEGEND:

- INDICATES DELAMINATED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.
- INDICATES SPALLED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.

NOTES:

1. FOR NOTES SEE SHEET 18 / 187.
2. ALL PIER PATCHES ARE TO BE SEALED WITH EPOXY URETHANE SEALANT. THE SEALING SHALL COVER THE AREA OF THE NEW PATCH AS WELL AS A 12" STRIP SURROUNDING NEW PATCH WHERE FEASIBLE. THE SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE).



DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1100
CLEVELAND, OHIO 44113

DATE: 08/16/13
REVIEWED: WRW
STRUCTURE FILE NUMBER: 1800035

DESIGNED: DMD
CHECKED: KMW

DRAWN: DMD
REVISOR:

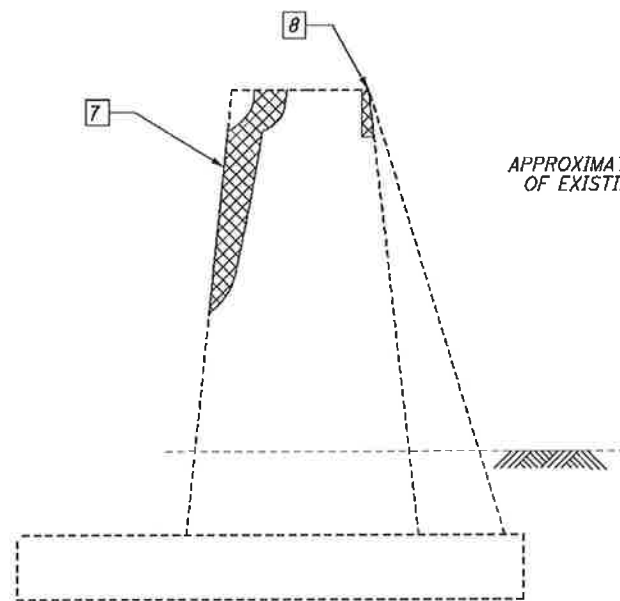
MAIN SPAN - PIERS 3-5 PATCHING
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

CUY-2-14.41
PID No. 91115

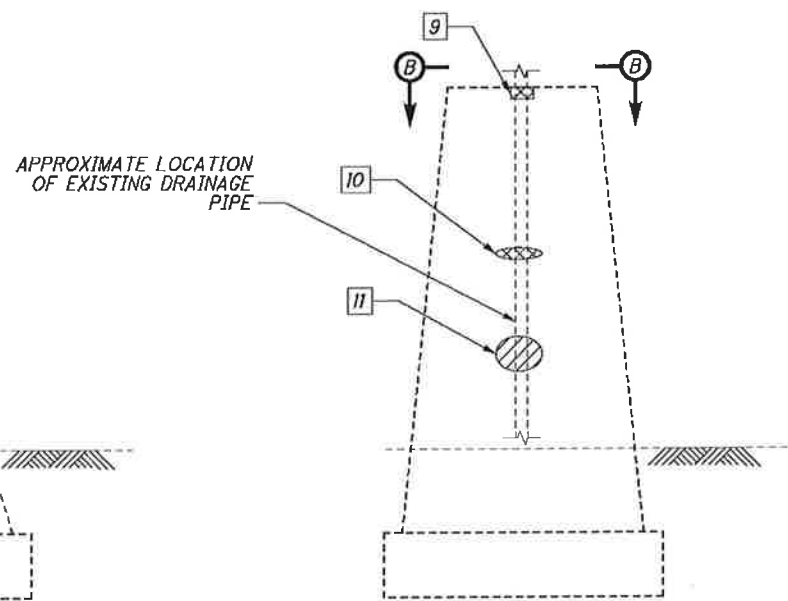
28 / 187

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189

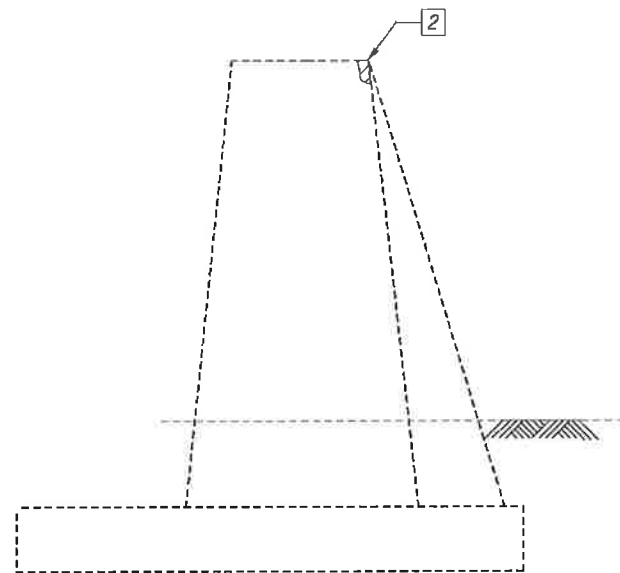
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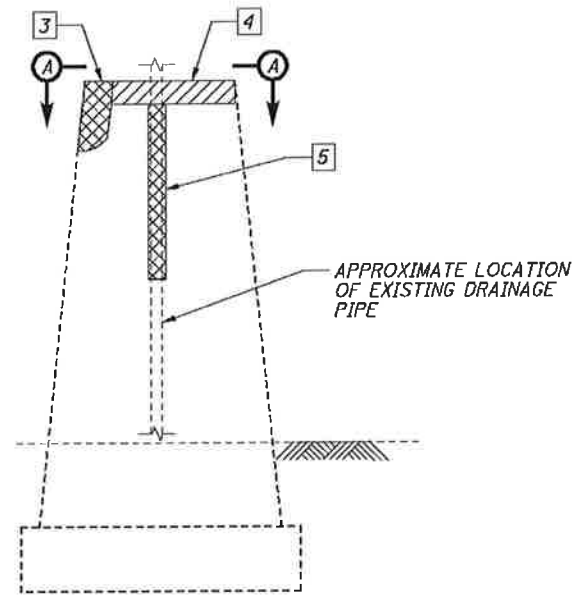
PIER 6N - EAST ELEVATION



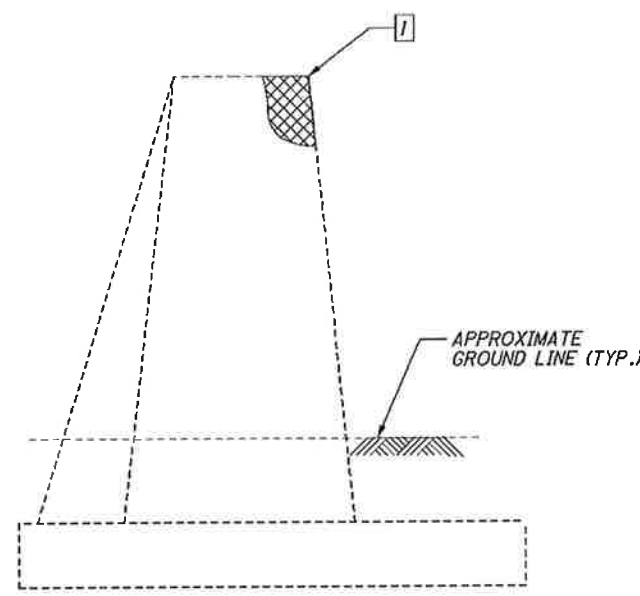
PIER 6N - SOUTH ELEVATION



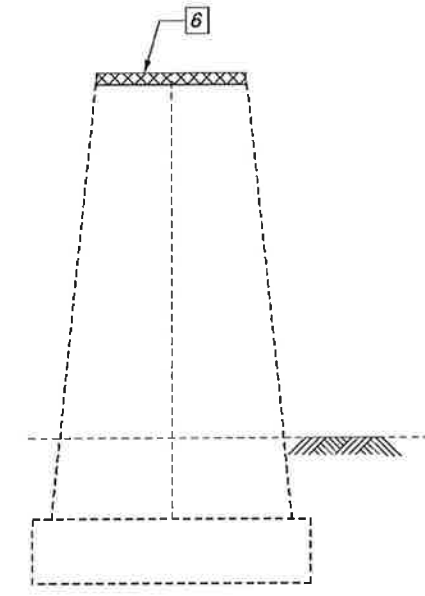
PIER 6S - WEST ELEVATION



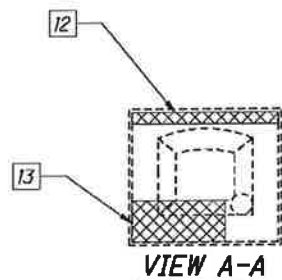
PIER 6S - NORTH ELEVATION



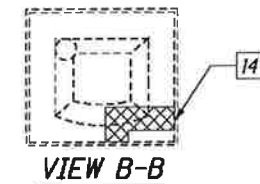
PIER 6S - EAST ELEVATION



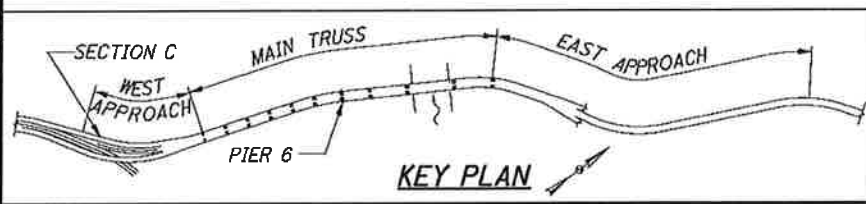
PIER 6S - SOUTH ELEVATION



VIEW A-A



VIEW B-B





KEY PLAN

ITEM 519 - CONCRETE PATCHING REPAIRS						
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL
1	SPALL	4'-0"	7'-0"	28 SF	PIER 6S EAST FACE	TYPE 1
2	DELAM.	1'-0"	3'-0"	3 SF	PIER 6S WEST FACE	TYPE 1
3	SPALL	3'-0"	7'-0"	21 SF	PIER 6S NORTH FACE	TYPE 1
4	DELAM.	10'-0"	2'-6"	25 SF	PIER 6S NORTH FACE	TYPE 1
5	SPALL	2'-0"	14'-0"	28 SF	PIER 6S NORTH FACE	TYPE 1
6	SPALL	12'-0"	2'-0"	24 SF	PIER 6S SOUTH FACE	TYPE 1
7	SPALL	3'-0"	17'-0"	51 SF	PIER 6N EAST FACE	TYPE 1
8	SPALL	1'-0"	5'-0"	5 SF	PIER 6N EAST FACE	TYPE 1
9	SPALL	2'-0"	1'-6"	3 SF	PIER 6N SOUTH FACE	TYPE 1
10	SPALL	5'-0"	1'-0"	5 SF	PIER 6N SOUTH FACE	TYPE 1
11	DELAM.	5'-0"	4'-0"	20 SF	PIER 6N SOUTH FACE	TYPE 1
12	SPALL	10'-0"	2'-0"	20 SF	PIER 6S TOP FACE	TYPE 3
13	SPALL	9'-6"	4'-0"	38 SF	PIER 6S TOP FACE	TYPE 3
14	SPALL	6'-0"	3'-0"	18 SF	PIER 6N TOP FACE	TYPE 3
SHEET TOTAL				289 SF		

NOTES:

- FOR NOTES SEE SHEET 18 / 187 .
- ALL PIER PATCHES ARE TO BE SEALED WITH EPOXY URETHANE SEALANT. THE SEALING SHALL COVER THE AREA OF THE NEW PATCH AS WELL AS A 12" STRIP SURROUNDING NEW PATCH WHERE FEASIBLE. THE SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE).

LEGEND:

-  INDICATES DELAMINATED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.
-  INDICATES SPALLED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.

CUY-2-14.41
PID No. 91115

29 / 187

31
189

DESIGN AGENCY
TranSystems
35 PUBLIC SQUARE, SUITE 100
CLEVELAND, OHIO 44113

DESIGNED
DMD
CHECKED
KMW

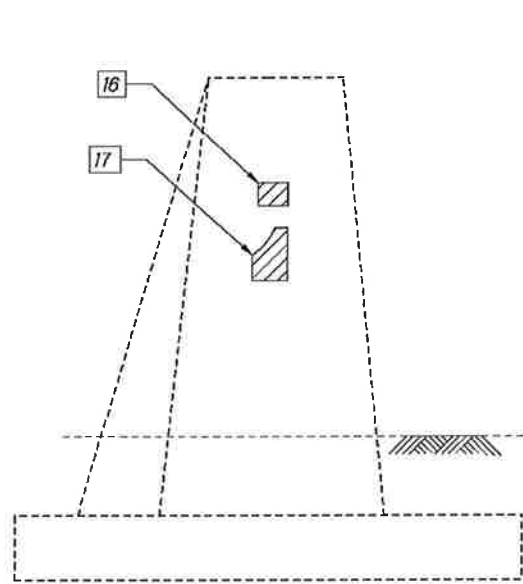
DRAWN
DMD
REVISOR

REVIEWED
WRW
STRUCTURE FILE NUMBER
1800035

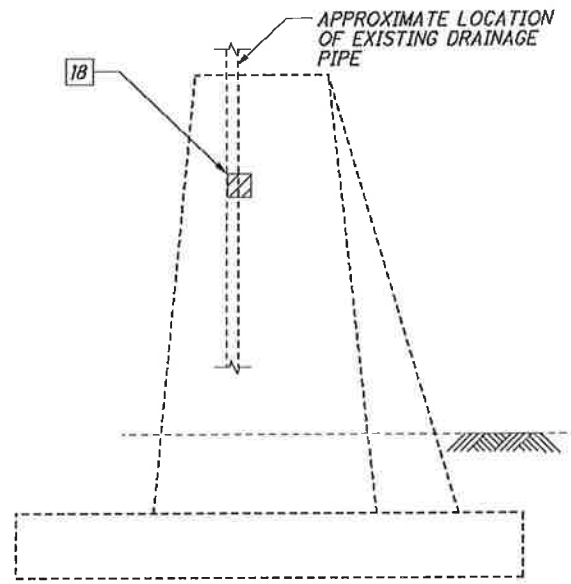
DATE
08/16/13

MAIN SPAN - PIER 6 PATCHING
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

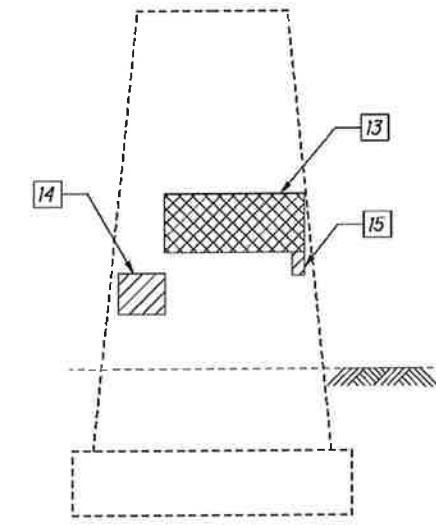
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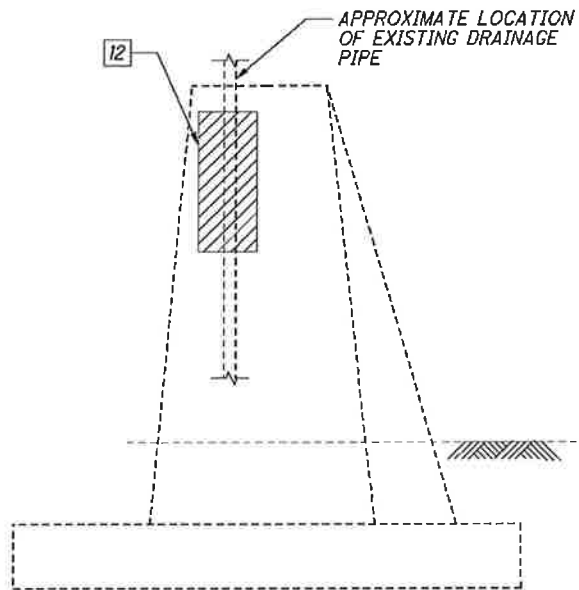
PIER 7N - WEST ELEVATION



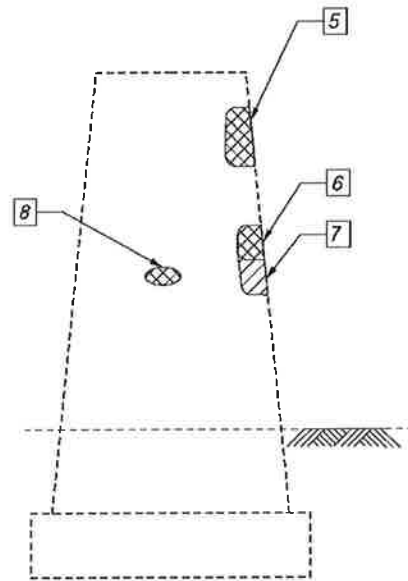
PIER 7N - EAST ELEVATION



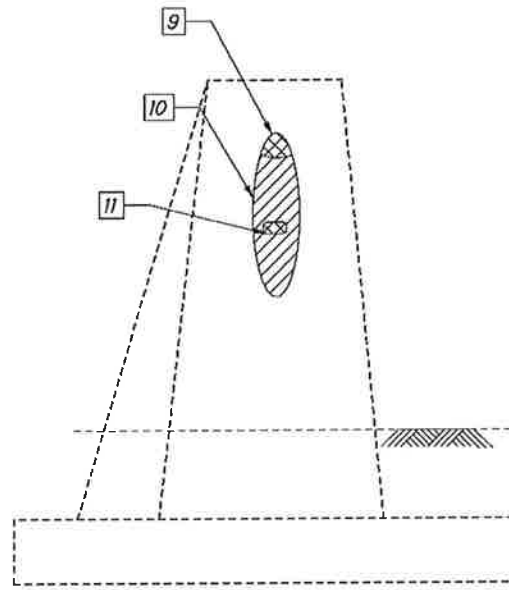
PIER 7N - SOUTH ELEVATION



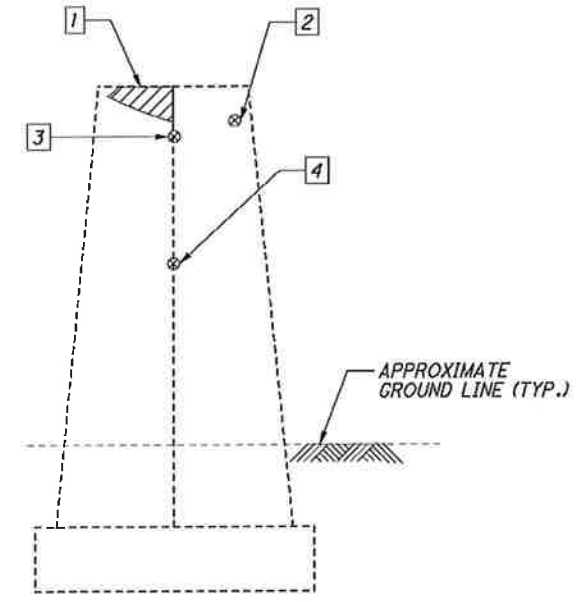
PIER 7S - WEST ELEVATION



PIER 7S - NORTH ELEVATION



PIER 7S - EAST ELEVATION



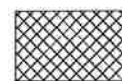
PIER 7S - SOUTH ELEVATION

ITEM 519 - CONCRETE PATCHING REPAIRS						
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL
1	DELAM.	6'-0"	2'-0"	12 SF	PIER 7S SOUTH FACE	TYPE 1
2	SPALL	1'-0"	2'-0"	2 SF	PIER 7S SOUTH FACE	TYPE 1
3	SPALL	1'-0"	2'-0"	2 SF	PIER 7S SOUTH FACE	TYPE 1
4	SPALL	1'-0"	2'-0"	2 SF	PIER 7S SOUTH FACE	TYPE 1
5	SPALL	2'-0"	6'-0"	12 SF	PIER 7S NORTH FACE	TYPE 1
6	SPALL	2'-0"	4'-0"	8 SF	PIER 7S NORTH FACE	TYPE 1
7	DELAM.	2'-0"	4'-0"	8 SF	PIER 7S NORTH FACE	TYPE 1
8	SPALL	3'-0"	2'-0"	6 SF	PIER 7S NORTH FACE	TYPE 1
9	SPALL	4'-0"	2'-0"	8 SF	PIER 7S EAST FACE	TYPE 1
10	DELAM.	4'-0"	14'-0"	56 SF	PIER 7S EAST FACE	TYPE 1
11	SPALL	4'-0"	2'-0"	8 SF	PIER 7S EAST FACE	TYPE 1
12	DELAM.	12'-0"	6'-0"	72 SF	PIER 7S WEST FACE	TYPE 1
13	SPALL	12'-0"	6'-0"	72 SF	PIER 7N SOUTH FACE	TYPE 1
14	DELAM.	6'-0"	3'-0"	18 SF	PIER 7N SOUTH FACE	TYPE 1
15	DELAM.	3'-0"	1'-0"	3 SF	PIER 7N SOUTH FACE	TYPE 1
16	DELAM.	3'-0"	2'-0"	6 SF	PIER 7N WEST FACE	TYPE 1
17	DELAM.	3'-0"	6'-0"	18 SF	PIER 7N WEST FACE	TYPE 1
18	DELAM.	2'-0"	2'-6"	5 SF	PIER 7N EAST FACE	TYPE 1
SHEET TOTAL				318 SF		

LEGEND:



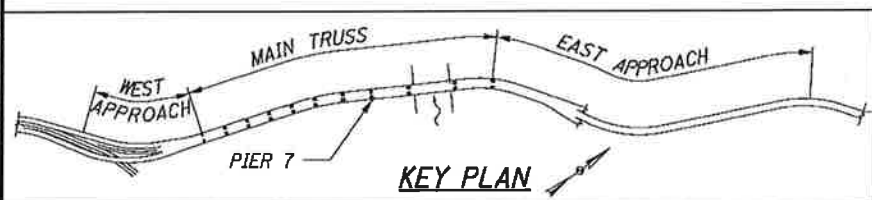
INDICATES DELAMINATED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.



INDICATES SPALLED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.

NOTES:

- FOR NOTES SEE SHEET 18 / 187.
- ALL PIER PATCHES ARE TO BE SEALED WITH EPOXY URETHANE SEALANT. THE SEALING SHALL COVER THE AREA OF THE NEW PATCH AS WELL AS A 12" STRIP SURROUNDING NEW PATCH WHERE FEASIBLE. THE SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE).



CUY-2-14.41
PID No. 91115

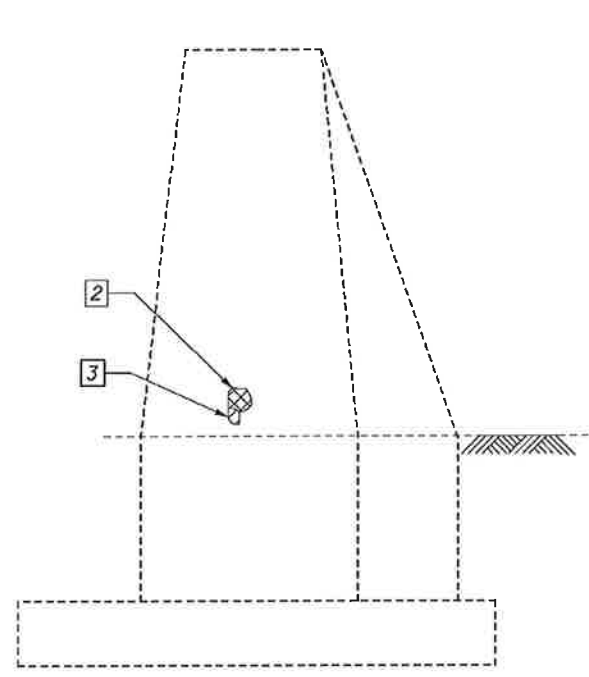
MAIN SPAN - PIER 7 PATCHING
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED: DMD
CHECKED: KMW
DRAWN: DMD
REVISED:
REVIEWED: WRW
STRUCTURE FILE NUMBER: 1800035
DATE: 08/16/13

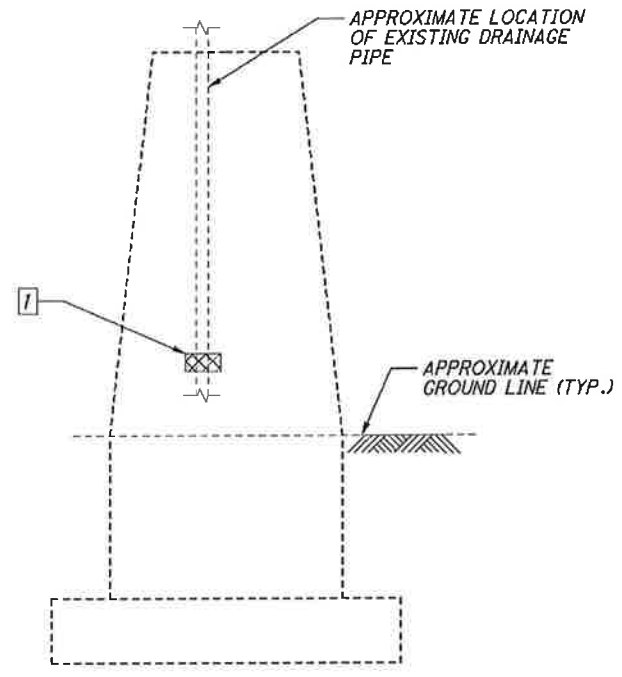
DESIGN AGENCY
Train Systems
65 PUBLIC SQUARE, SUITE 100
CLEVELAND, OHIO 44113

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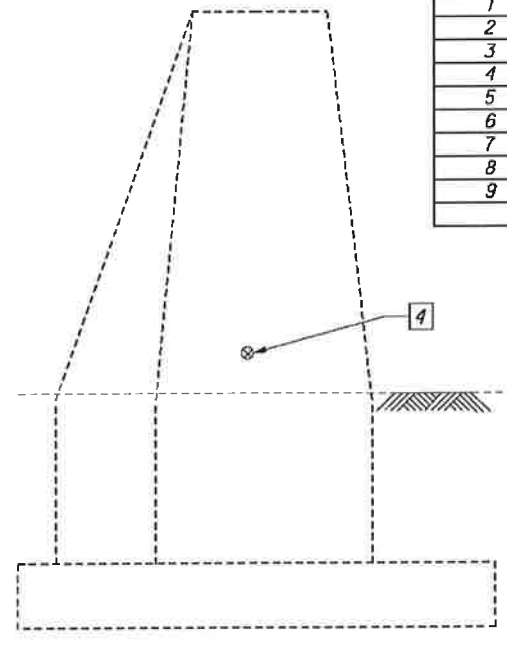
ITEM 519 - CONCRETE PATCHING REPAIRS						
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL
1	SPALL	3'-0"	2'-0"	6 SF	PIER 8S NORTH FACE	TYPE 1
2	SPALL	2'-0"	2'-6"	5 SF	PIER 8S WEST FACE	TYPE 1
3	DELAM.	1'-0"	2'-0"	2 SF	PIER 8S WEST FACE	TYPE 1
4	SPALL	1'-0"	2'-0"	2 SF	PIER 8S EAST FACE	TYPE 1
5	DELAM.	10'-0"	8'-0"	80 SF	PIER 8N SOUTH FACE	TYPE 1
6	SPALL	6'-0"	15'-0"	90 SF	PIER 8N WEST FACE	TYPE 1
7	SPALL	4'-0"	2'-0"	8 SF	PIER 9S WEST FACE	TYPE 1
8	DELAM.	2'-0"	2'-6"	5 SF	PIER 9S TOP FACE	TYPE 3
9	DELAM.	5'-0"	2'-0"	10 SF	PIER 9S TOP FACE	TYPE 3
SHEET TOTAL				208 SF		



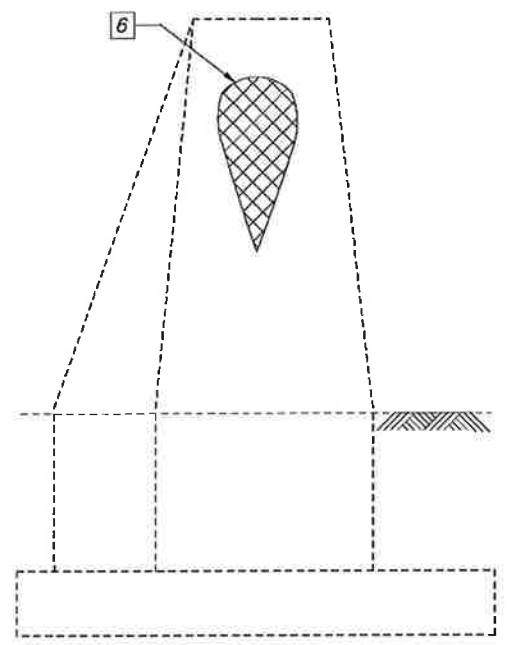
PIER 8S - WEST ELEVATION



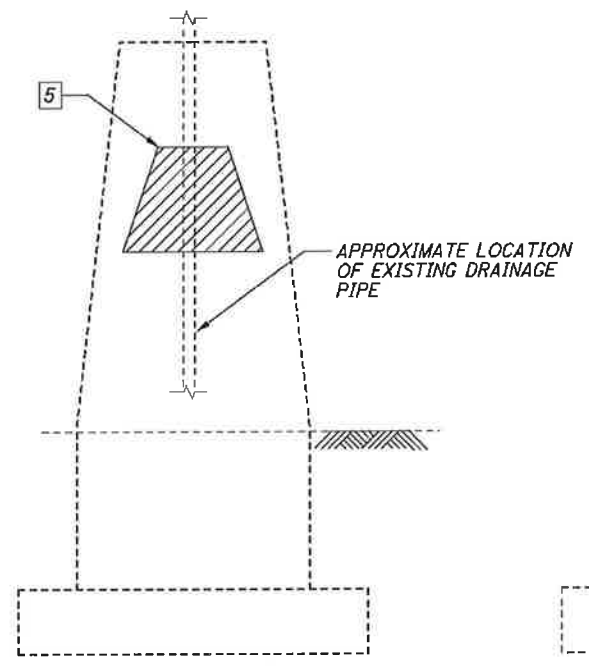
PIER 8S - NORTH ELEVATION



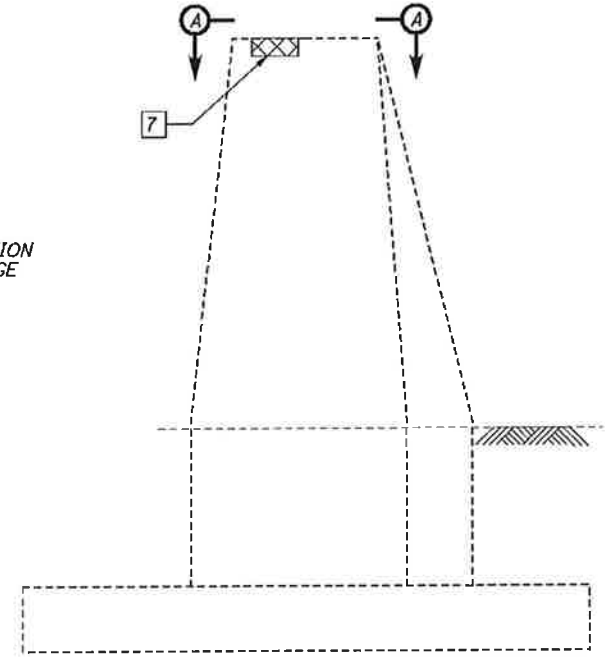
PIER 8S - EAST ELEVATION



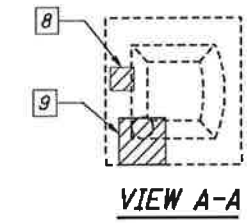
PIER 8N - WEST ELEVATION



PIER 8N - SOUTH ELEVATION



PIER 9S - WEST ELEVATION



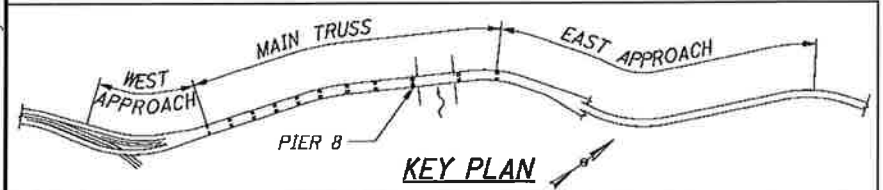
VIEW A-A

LEGEND:

- INDICATES DELAMINATED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.
- INDICATES SPALLED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.

NOTES:

1. FOR NOTES SEE SHEET 18 / 187.
2. ALL PIER PATCHES ARE TO BE SEALED WITH EPOXY URETHANE SEALANT. THE SEALING SHALL COVER THE AREA OF THE NEW PATCH AS WELL AS A 12" STRIP SURROUNDING NEW PATCH WHERE FEASIBLE. THE SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE).



DESIGN AGENCY

 85 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OHIO 44113

DATE 08/16/13
 REVIEWED WRW
 STRUCTURE FILE NUMBER 1800035

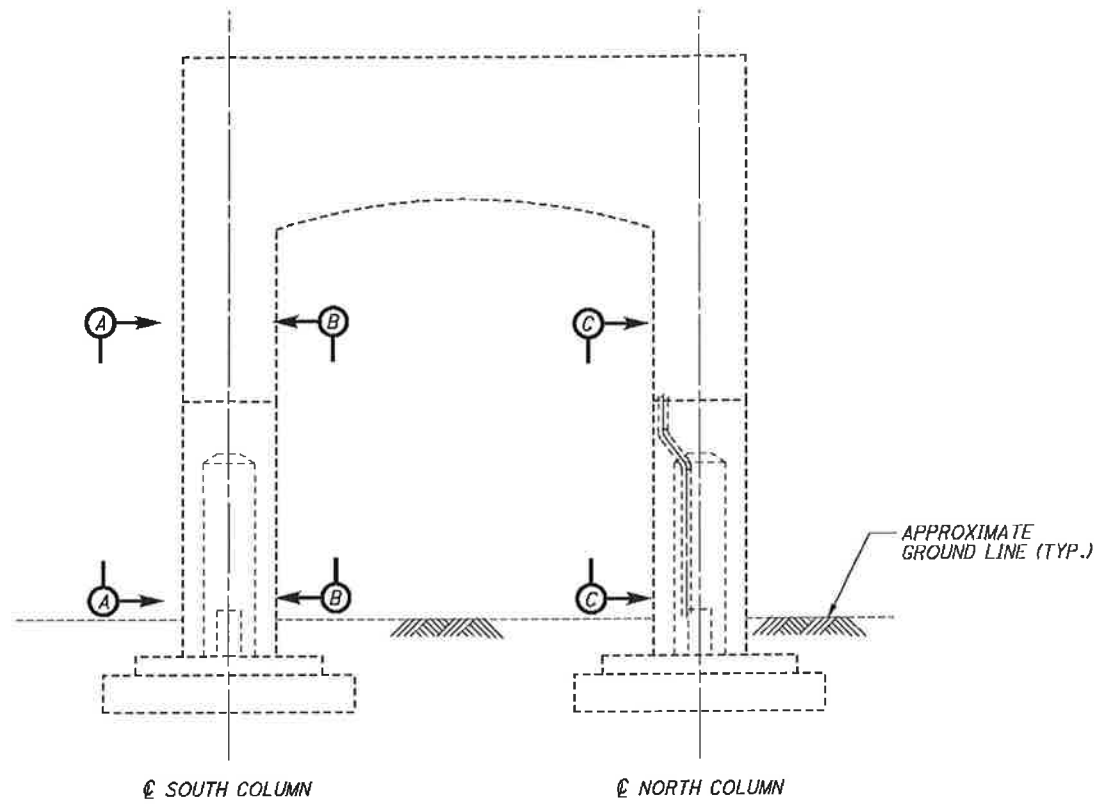
DESIGNED DMD
 CHECKED KMW

MAIN SPAN - PIERS 8-9 PATCHING
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

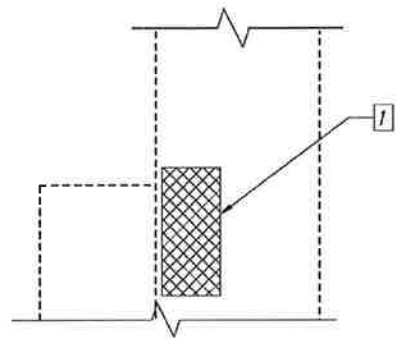
CUY-2-14.41
 PID No. 91115

31 / 187
 33 / 189

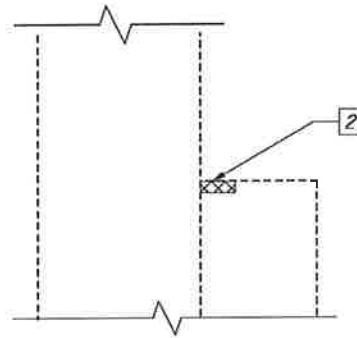
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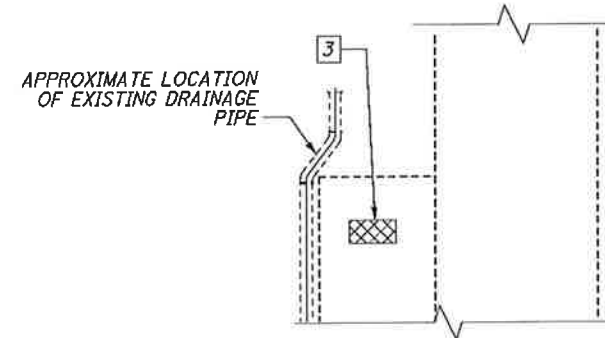
PIER 10 - EAST ELEVATION



VIEW A-A

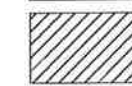


VIEW B-B

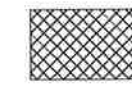


VIEW C-C

LEGEND:



INDICATES DELAMINATED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.



INDICATES SPALLED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.

NOTES:

- FOR NOTES SEE SHEET 18 / 187.
- ALL PIER PATCHES ARE TO BE SEALED WITH EPOXY URETHANE SEALANT. THE SEALING SHALL COVER THE AREA OF THE NEW PATCH AS WELL AS A 12" STRIP SURROUNDING NEW PATCH WHERE FEASIBLE. THE SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE).

ITEM 519 - CONCRETE PATCHING REPAIRS						
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL
1	SPALL	5'-0"	12'-0"	60 SF	PIER 10S SOUTH FACE	TYPE 1
2	SPALL	4'-0"	1'-0"	4 SF	PIER 10S NORTH FACE	TYPE 1
3	SPALL	5'-0"	2'-0"	10 SF	PIER 10N SOUTH FACE	TYPE 1
SHEET TOTAL				74 SF		

CUY-2-14.41
PID No. 91115

MAIN SPAN - PIER 10 PATCHING
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

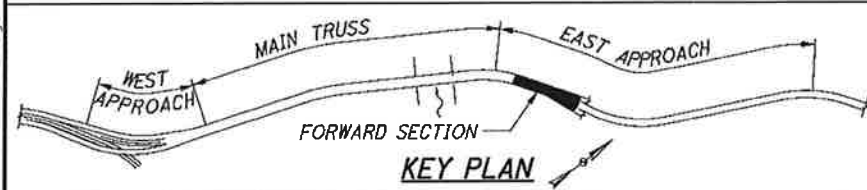
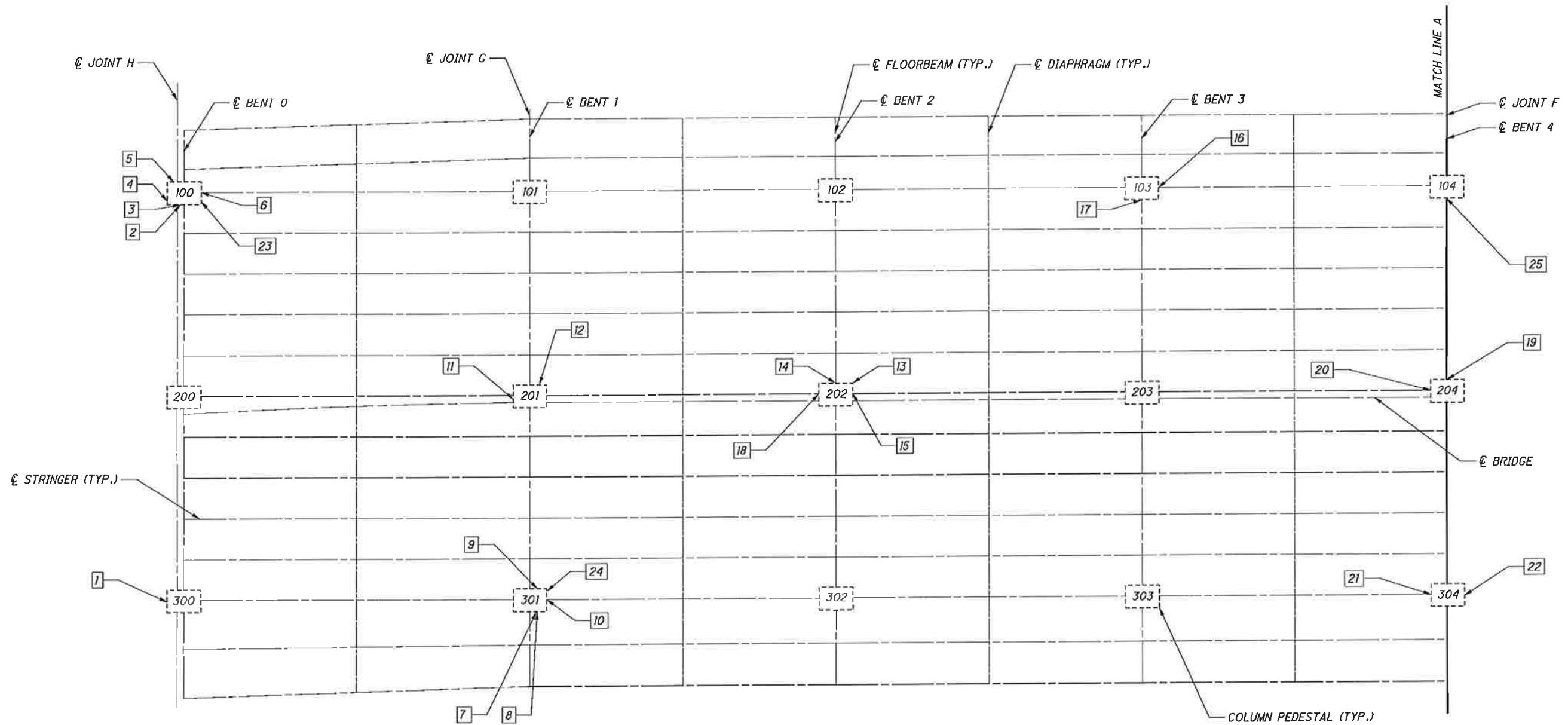
DESIGNED: DMD
CHECKED: CTG
DRAWN: DMD
REVISED:
REVIEWED: WRW
STRUCTURE FILE NUMBER: 1800035
DATE: 08/16/13

DESIGN AGENCY
Trail Systems
25 PUBLIC SQUARE, SUITE 1000
CLEVELAND, OHIO 44113



ITEM 519 - CONCRETE PATCHING REPAIRS							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 300 WEST FACE	TYPE 1	EPOXY
2	SPALL	2'-0"	1'-0"	2 SF	PEDESTAL 100 SOUTH FACE	TYPE 1	EPOXY
3	DELAM.	4'-0"	2'-0"	8 SF	PEDESTAL 100 SOUTH FACE	TYPE 1	EPOXY
4	DELAM.	1'-0"	3'-0"	3 SF	PEDESTAL 100 WEST FACE	TYPE 1	EPOXY
5	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 100 NORTH FACE	TYPE 1	EPOXY
6	SPALL	1'-6"	2'-0"	3 SF	PEDESTAL 100 EAST FACE	TYPE 1	EPOXY
7	DELAM.	3'-0"	2'-0"	6 SF	PEDESTAL 301 SOUTH FACE	TYPE 1	EPOXY
8	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 301 SOUTH FACE	TYPE 1	EPOXY
9	DELAM.	1'-6"	2'-0"	3 SF	PEDESTAL 301 NORTH FACE	TYPE 1	EPOXY
10	DELAM.	1'-0"	2'-0"	2 SF	PEDESTAL 301 EAST FACE	TYPE 1	EPOXY
11	SPALL	2'-0"	1'-0"	2 SF	PEDESTAL 201 WEST FACE	TYPE 1	EPOXY
12	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 201 NORTH FACE	TYPE 1	EPOXY
13	SPALL	1'-0"	2'-0"	2 SF	PEDESTAL 202 NORTH FACE	TYPE 1	EPOXY

ITEM 519 - CONCRETE PATCHING REPAIRS (CONTINUED)							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
14	DELAM.	2'-0"	2'-0"	4 SF	PEDESTAL 202 NORTH FACE	TYPE 1	EPOXY
15	DELAM.	3'-0"	2'-0"	6 SF	PEDESTAL 202 EAST FACE	TYPE 1	EPOXY
16	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 103 EAST FACE	TYPE 1	EPOXY
17	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 103 SOUTH FACE	TYPE 1	EPOXY
18	SPALL	4'-0"	2'-0"	8 SF	PEDESTAL 202 WEST FACE	TYPE 1	EPOXY
19	DELAM.	1'-0"	2'-0"	2 SF	PEDESTAL 204 NORTH FACE	TYPE 1	EPOXY
20	SPALL	2'-0"	1'-0"	2 SF	PEDESTAL 204 WEST FACE	TYPE 1	EPOXY
21	SPALL	3'-0"	2'-0"	6 SF	PEDESTAL 304 WEST FACE	TYPE 1	EPOXY
22	DELAM.	4'-0"	2'-0"	8 SF	PEDESTAL 304 EAST FACE	TYPE 1	EPOXY
23	DELAM.	2'-0"	1'-6"	3 SF	PEDESTAL 100 EAST FACE	TYPE 1	EPOXY
24	DELAM.	1'-0"	1'-0"	1 SF	PEDESTAL 301 EAST FACE	TYPE 1	EPOXY
25	SPALL	1'-0"	2'-0"	2 SF	PEDESTAL 104 SOUTH FACE	TYPE 1	EPOXY
SHEET TOTAL				80 SF			



EAST APPROACH - FORWARD SECTION PARTIAL FRAMING PLAN (1 OF 3)

LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187.

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EAST APPROACH - FORWARD SECTION PEDESTAL PATCHING (1 OF 3)

CUY-2-14.41
PID No. 91115

33 / 187

35
189

MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED: DMD
CHECKED: CTG

DRAWN: DMD
REVISER:

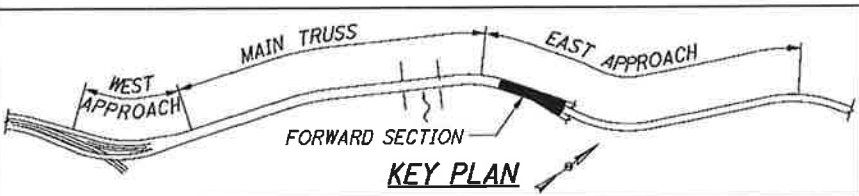
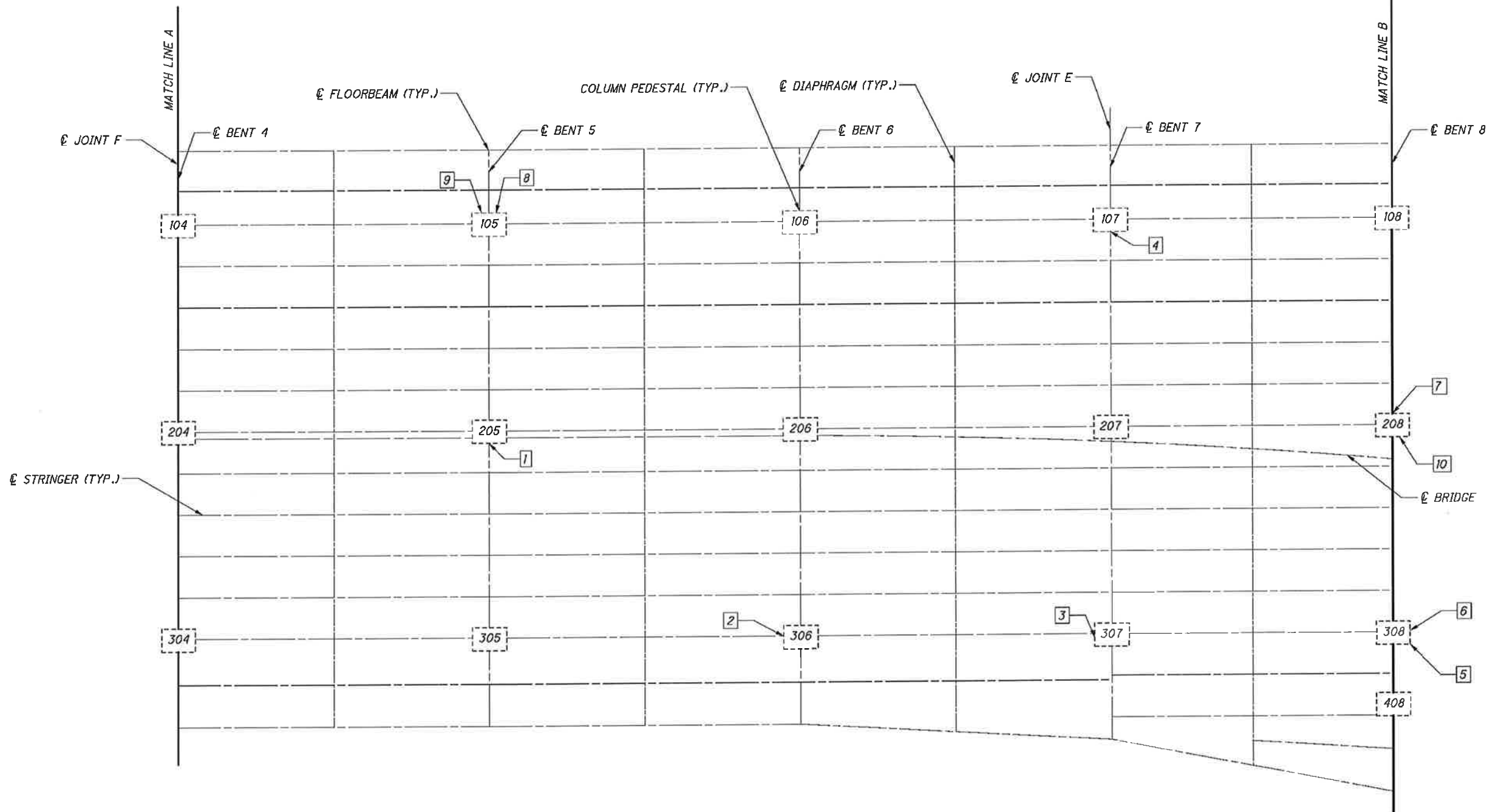
REVIEWED: WRW
STRUCTURE FILE NUMBER: 1800035

DATE: 08/16/13





ITEM 519 - CONCRETE PATCHING REPAIRS							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	1'-0"	3'-0"	3 SF	PEDESTAL 205 SOUTH FACE	TYPE 1	EPOXY
2	DELAM.	2'-0"	2'-6"	5 SF	PEDESTAL 306 WEST FACE	TYPE 1	EPOXY
3	DELAM.	3'-0"	1'-0"	3 SF	PEDESTAL 307 WEST FACE	TYPE 1	EPOXY
4	DELAM.	4'-0"	2'-0"	8 SF	PEDESTAL 107 SOUTH FACE	TYPE 1	EPOXY
5	DELAM.	1'-0"	1'-0"	1 SF	PEDESTAL 308 SOUTH FACE	TYPE 1	EPOXY
6	DELAM.	1'-0"	1'-0"	1 SF	PEDESTAL 308 EAST FACE	TYPE 1	EPOXY
7	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 208 NORTH FACE	TYPE 1	EPOXY
8	SPALL	1'-0"	3'-0"	3 SF	PEDESTAL 105 NORTH FACE	TYPE 1	EPOXY
9	DELAM.	4'-0"	2'-0"	8 SF	PEDESTAL 105 NORTH FACE	TYPE 1	EPOXY
10	SPALL	1'-0"	2'-0"	2 SF	PEDESTAL 208 SOUTH FACE	TYPE 1	EPOXY
SHEET TOTAL				36 SF			



EAST APPROACH - FORWARD SECTION PARTIAL FRAMING PLAN (2 OF 3)

LEGEND:

[X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:

1. FOR NOTES, SEE SHEET 18 / 187.

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CUY-2-14.41
PID No. 91115

EAST APPROACH - FORWARD SECTION PEDESTAL PATCHING (2 OF 3)

MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

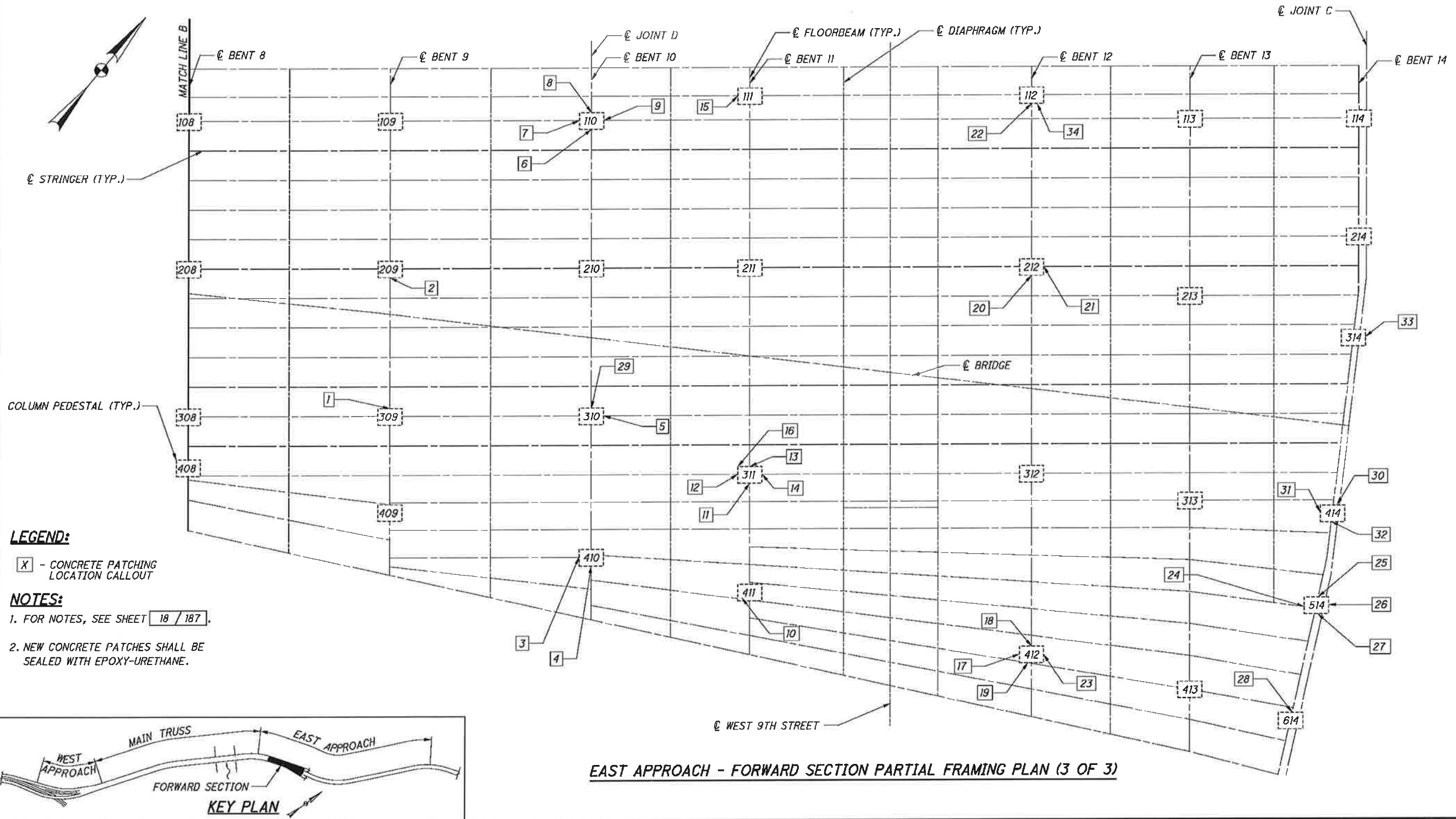
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CHECKED: CTG
DRAWN: DMD
REVISOR: CTG
REVIEWED: WRW
STRUCTURE FILE NUMBER: 1800035
DATE: 08/16/13

DESIGN AGENCY
Trail Systems
55 PUBLIC SQUARE, SUITE 100
CLEVELAND, OHIO 44113

ITEM 519 - CONCRETE PATCHING REPAIRS						
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL
1	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 309 NORTH FACE	TYPE 1
2	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 209 SOUTH FACE	TYPE 1
3	SPALL	4'-0"	2'-0"	8 SF	PEDESTAL 410 WEST FACE	TYPE 1
4	SPALL	3'-0"	1'-0"	3 SF	PEDESTAL 410 SOUTH FACE	TYPE 1
5	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 310 EAST FACE	TYPE 1
6	SPALL	3'-0"	2'-0"	6 SF	PEDESTAL 110 SOUTH FACE	TYPE 1
7	SPALL	1'-0"	3'-0"	3 SF	PEDESTAL 110 WEST FACE	TYPE 1
8	SPALL	4'-0"	2'-0"	8 SF	PEDESTAL 110 NORTH FACE	TYPE 1
9	SPALL	1'-0"	3'-0"	3 SF	PEDESTAL 110 EAST FACE	TYPE 1
10	DELAM.	4'-0"	1'-0"	4 SF	PEDESTAL 411 TOP FACE	TYPE 3
11	DELAM.	1'-0"	2'-0"	2 SF	PEDESTAL 311 SOUTH FACE	TYPE 1
12	SPALL	2'-0"	1'-0"	2 SF	PEDESTAL 311 WEST FACE	TYPE 1

ITEM 519 - CONCRETE PATCHING REPAIRS (CONTINUED)						
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL
13	SPALL	1'-0"	2'-0"	2 SF	PEDESTAL 311 NORTH FACE	TYPE 1
14	DELAM.	3'-0"	2'-0"	6 SF	PEDESTAL 311 EAST FACE	TYPE 1
15	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 111 WEST FACE	TYPE 1
16	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 311 NORTH FACE	TYPE 1
17	DELAM.	3'-0"	1'-0"	3 SF	PEDESTAL 412 WEST FACE	TYPE 1
18	SPALL	2'-0"	1'-0"	2 SF	PEDESTAL 412 NORTH FACE	TYPE 1
19	SPALL	2'-0"	1'-0"	2 SF	PEDESTAL 412 SOUTH FACE	TYPE 1
20	SPALL	2'-0"	1'-0"	2 SF	PEDESTAL 212 SOUTH FACE	TYPE 1
21	DELAM.	1'-0"	2'-0"	2 SF	PEDESTAL 212 EAST FACE	TYPE 1
22	DELAM.	1'-0"	2'-0"	2 SF	PEDESTAL 112 SOUTH FACE	TYPE 1
23	SPALL	3'-0"	1'-0"	3 SF	PEDESTAL 412 EAST FACE	TYPE 1
24	SPALL	2'-0"	3'-0"	6 SF	PEDESTAL 514 WEST FACE	TYPE 1

ITEM 519 - CONCRETE PATCHING REPAIRS (CONTINUED)						
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL
25	SPALL	2'-0"	2'-6"	5 SF	PEDESTAL 514 NORTH FACE	TYPE 1
26	SPALL	2'-0"	3'-0"	6 SF	PEDESTAL 514 EAST FACE	TYPE 1
27	SPALL	2'-0"	2'-6"	5 SF	PEDESTAL 514 SOUTH FACE	TYPE 1
28	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 614 NORTH FACE	TYPE 1
29	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 310 NORTH FACE	TYPE 1
30	SPALL	3'-0"	1'-0"	3 SF	PEDESTAL 414 NORTH FACE	TYPE 1
31	SPALL	4'-0"	1'-0"	4 SF	PEDESTAL 414 WEST FACE	TYPE 1
32	SPALL	3'-0"	1'-0"	3 SF	PEDESTAL 414 SOUTH FACE	TYPE 1
33	SPALL	1'-0"	2'-0"	2 SF	PEDESTAL 314 EAST FACE	TYPE 1
34	DELAM.	3'-0"	1'-0"	3 SF	PEDESTAL 112 SOUTH FACE	TYPE 1
SHEET TOTAL				111 SF		



LEGEND:

[X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:

- FOR NOTES, SEE SHEET 18 / 187.
- NEW CONCRETE PATCHES SHALL BE SEALED WITH EPOXY-URETHANE.

EAST APPROACH - FORWARD SECTION PARTIAL FRAMING PLAN (3 OF 3)

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DESIGN AGENCY
 55 PUBLIC SQUARE, SUITE 1000
 CLEVELAND, OHIO 44113

DATE

08/16/13

REVIEWED

WRW

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DMD

DESIGNED

DMD

CHECKED

CTG

STRUCTURE FILE NUMBER

1800035

PID No.

91115

CUY-2-14.41

MAIN AVENUE - BRIDGE NO. CUY-2-1441

OVER THE CUYAHOGA RIVER

EAST APPROACH - FORWARD SECTION PEDESTAL PATCHING (3 OF 3)

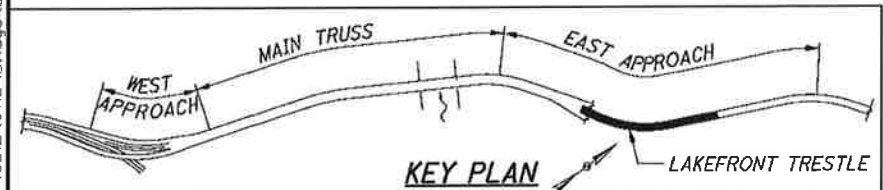
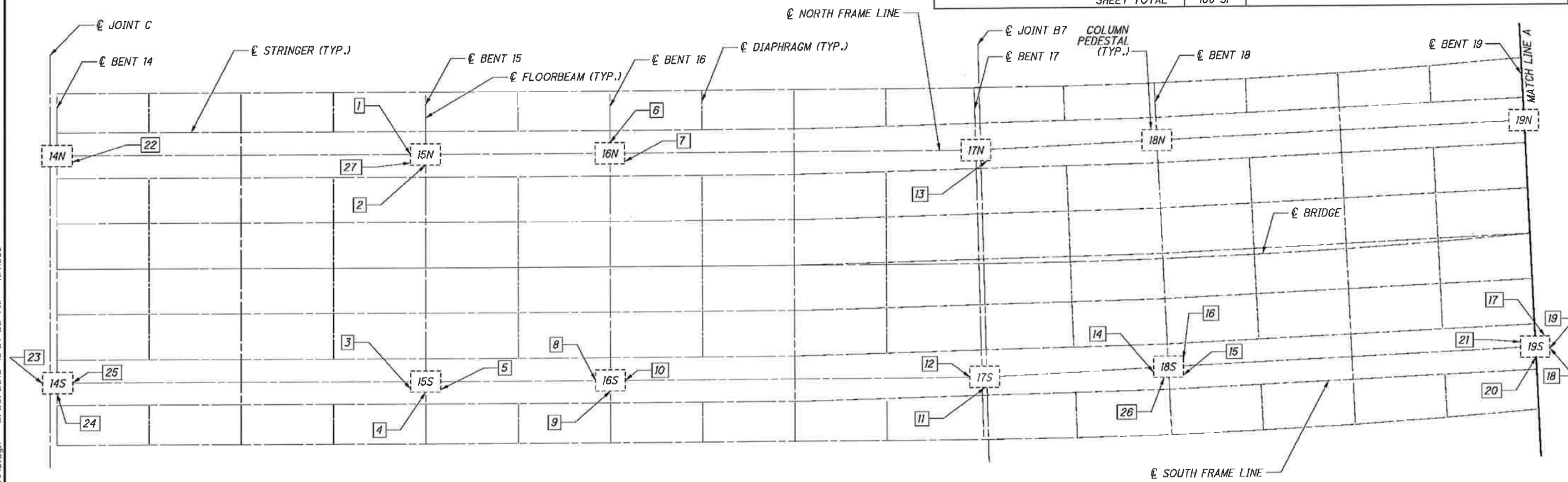
35 / 187

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ITEM 519 - CONCRETE PATCHING REPAIRS

CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	DELAM.	2'-0"	3'-0"	6 SF	PEDESTAL 15N WEST FACE	TYPE 1	EPOXY
2	SPALL	4'-0"	2'-0"	8 SF	PEDESTAL 15N SOUTH FACE	TYPE 1	EPOXY
3	SPALL	1'-0"	2'-0"	2 SF	PEDESTAL 15S WEST FACE	TYPE 1	EPOXY
4	SPALL	3'-0"	3'-0"	9 SF	PEDESTAL 15S SOUTH FACE	TYPE 1	EPOXY
5	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 15S EAST FACE	TYPE 1	EPOXY
6	DELAM.	0'-6"	2'-0"	1 SF	PEDESTAL 16N NORTH FACE	TYPE 1	EPOXY
7	DELAM.	1'-0"	3'-0"	3 SF	PEDESTAL 16N EAST FACE	TYPE 1	EPOXY
8	DELAM.	3'-0"	2'-0"	6 SF	PEDESTAL 16S WEST FACE	TYPE 1	EPOXY
9	DELAM.	3'-0"	2'-0"	6 SF	PEDESTAL 16S SOUTH FACE	TYPE 1	EPOXY
10	DELAM.	2'-0"	2'-0"	4 SF	PEDESTAL 16S EAST FACE	TYPE 1	EPOXY
11	DELAM.	3'-0"	1'-0"	3 SF	PEDESTAL 17S SOUTH FACE	TYPE 1	EPOXY
12	DELAM.	1'-0"	2'-0"	2 SF	PEDESTAL 17S WEST FACE	TYPE 1	EPOXY
13	DELAM.	2'-0"	1'-6"	3 SF	PEDESTAL 17N SOUTH FACE	TYPE 1	EPOXY
14	SPALL	2'-0"	2'-0"	4 SF	PEDESTAL 18S WEST FACE	TYPE 1	EPOXY
15	DELAM.	1'-0"	1'-0"	1 SF	PEDESTAL 18S EAST FACE	TYPE 1	EPOXY
16	SPALL	1'-0"	2'-0"	2 SF	PEDESTAL 18S EAST FACE	TYPE 1	EPOXY
17	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 19S NORTH FACE	TYPE 1	EPOXY
18	SPALL	2'-0"	2'-0"	4 SF	PEDESTAL 19S EAST FACE	TYPE 1	EPOXY
19	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 19S EAST FACE	TYPE 1	EPOXY
20	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 19S SOUTH FACE	TYPE 1	EPOXY
21	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 19S WEST FACE	TYPE 1	EPOXY
22	DELAM.	2'-0"	2'-0"	4 SF	PEDESTAL 14N EAST FACE	TYPE 1	EPOXY
23	DELAM.	4'-0"	0'-6"	2 SF	PEDESTAL 14S WEST FACE	TYPE 1	EPOXY
24	SPALL	5'-0"	2'-0"	10 SF	PEDESTAL 14S SOUTH FACE	TYPE 1	EPOXY
25	SPALL	4'-0"	3'-0"	12 SF	PEDESTAL 14S EAST FACE	TYPE 1	EPOXY
26	SPALL	4'-0"	2'-0"	8 SF	PEDESTAL 18S SOUTH FACE	TYPE 1	EPOXY
27	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 15N WEST FACE	TYPE 1	EPOXY
SHEET TOTAL				108 SF			



EAST APPROACH - LAKEFRONT TRESTLE SECTION PARTIAL FRAMING PLAN (1 OF 6)

LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187.

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EAST APPROACH - TRESTLE SECTION PEDESTAL PATCHING (1 OF 6)
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14-41
 PID No. 91115

36/187

38
189

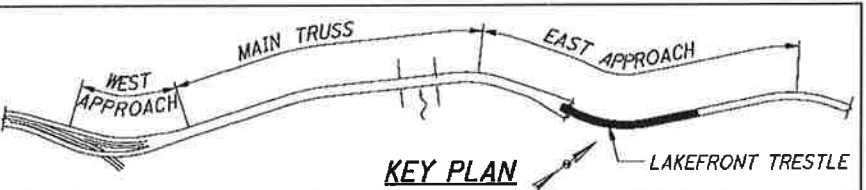
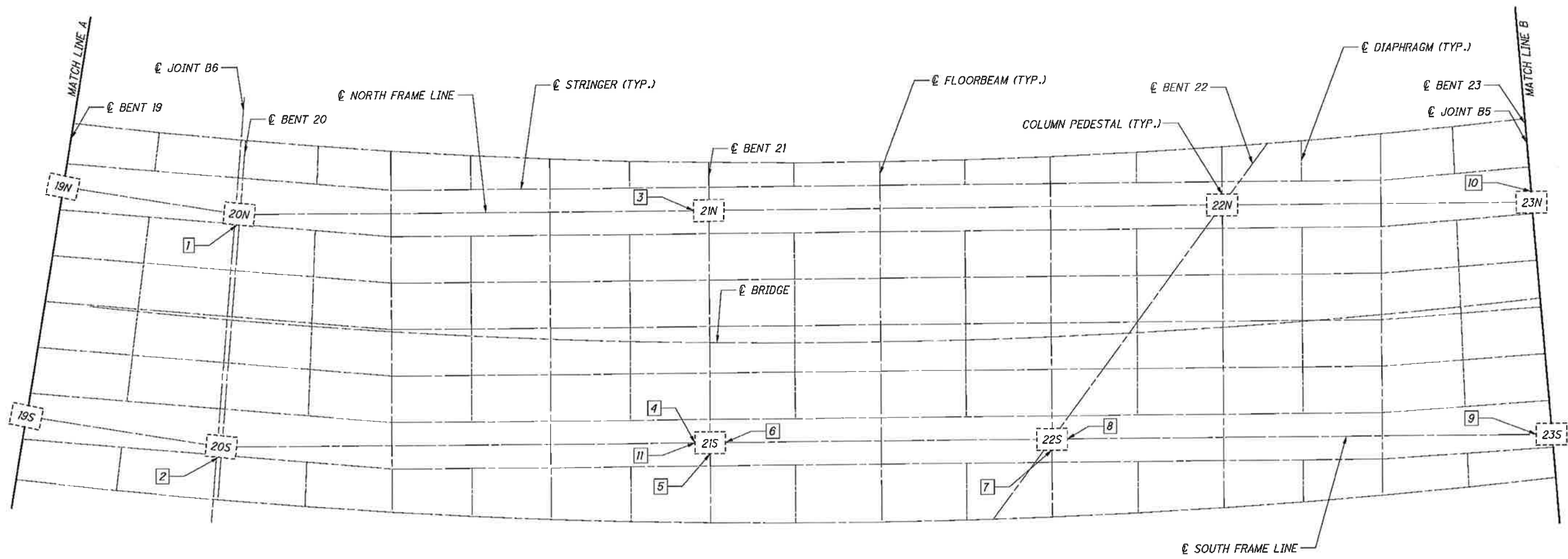


DESIGN AGENCY
 DATE 08/16/13
 REVIEWED WRW
 STRUCTURE FILE NUMBER 1800035

DRAWN DMD
 CHECKED CTC



ITEM 519 - CONCRETE PATCHING REPAIRS							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 20N SOUTH FACE	TYPE 1	EPOXY
2	DELAM.	3'-0"	1'-0"	3 SF	PEDESTAL 20S SOUTH FACE	TYPE 1	EPOXY
3	SPALL	2'-6"	2'-0"	5 SF	PEDESTAL 21N WEST FACE	TYPE 1	EPOXY
4	SPALL	2'-0"	1'-0"	2 SF	PEDESTAL 21S WEST FACE	TYPE 1	EPOXY
5	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 21S SOUTH FACE	TYPE 1	EPOXY
6	SPALL	3'-0"	2'-0"	6 SF	PEDESTAL 21S EAST FACE	TYPE 1	EPOXY
7	SPALL	4'-0"	2'-0"	8 SF	PEDESTAL 22S SOUTH FACE	TYPE 1	EPOXY
8	DELAM.	1'-6"	2'-0"	3 SF	PEDESTAL 22S EAST FACE	TYPE 1	EPOXY
9	DELAM.	2'-0"	1'-6"	3 SF	PEDESTAL 23S WEST FACE	TYPE 1	EPOXY
10	DELAM.	1'-0"	1'-0"	1 SF	PEDESTAL 23N NORTH FACE	TYPE 1	EPOXY
11	DELAM.	2'-0"	2'-0"	4 SF	PEDESTAL 21S WEST FACE	TYPE 1	EPOXY
SHEET TOTAL				39 SF			



EAST APPROACH - LAKEFRONT TRESTLE SECTION PARTIAL FRAMING PLAN (2 OF 6)

LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187.

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EAST APPROACH - TRESTLE SECTION PEDESTAL PATCHING (2 OF 6)
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

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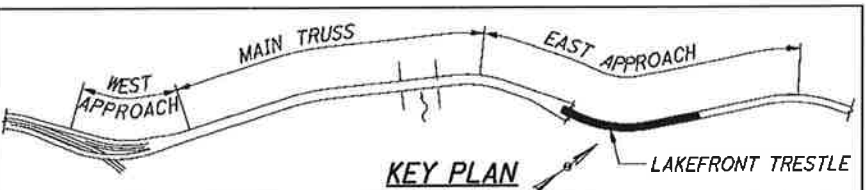
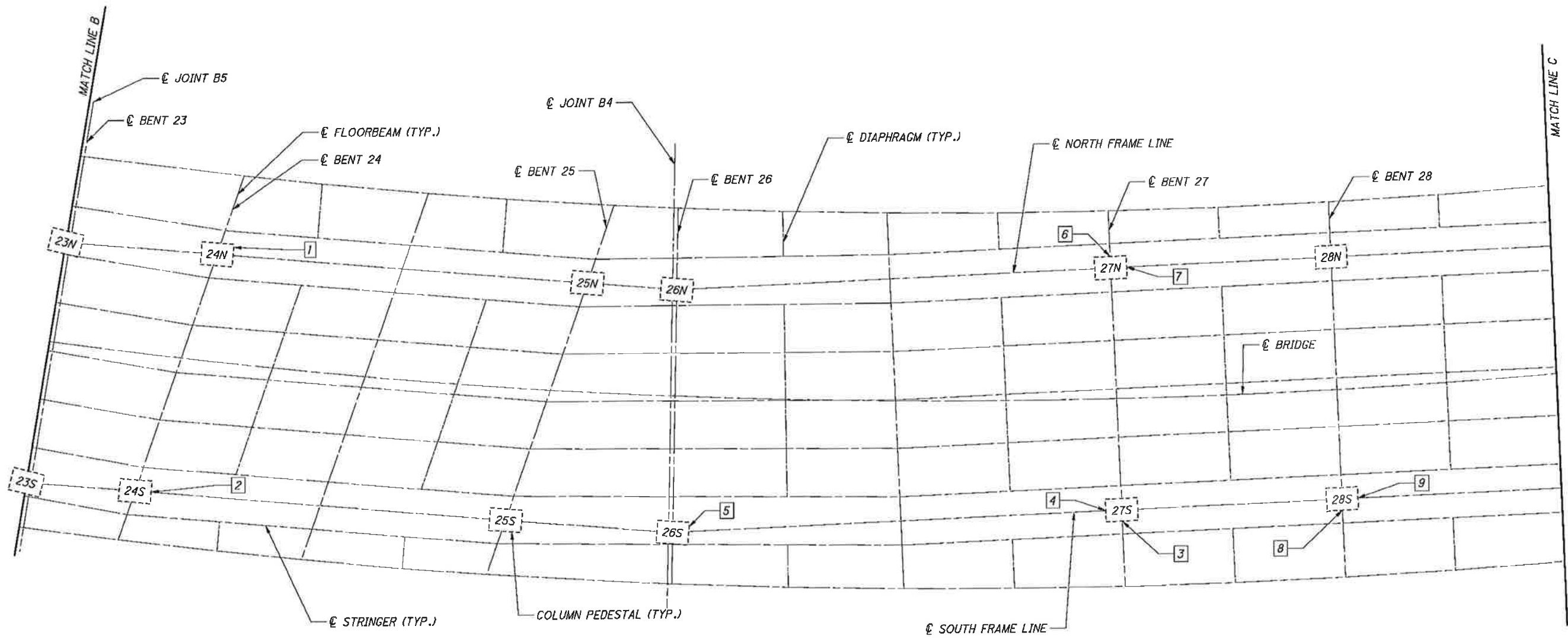
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189

DESIGNED: DMD
 CHECKED: CTG
 DRAWN: DMD
 REVISER:
 REVIEWED: WRW
 STRUCTURE FILE NUMBER: 1800035
 DATE: 08/16/13
 DESIGN AGENCY: Trail Systems
 55 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OHIO 44113



ITEM 519 - CONCRETE PATCHING REPAIRS

CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 24N EAST FACE	TYPE 1	EPOXY
2	DELAM.	1'-0"	2'-0"	2 SF	PEDESTAL 24S EAST FACE	TYPE 1	EPOXY
3	DELAM.	4'-0"	2'-6"	10 SF	PEDESTAL 27S SOUTH FACE	TYPE 1	EPOXY
4	SPALL	4'-0"	2'-6"	10 SF	PEDESTAL 27S WEST FACE	TYPE 1	EPOXY
5	SPALL	1'-0"	2'-0"	2 SF	PEDESTAL 26S EAST FACE	TYPE 1	EPOXY
6	DELAM.	2'-0"	2'-0"	4 SF	PEDESTAL 27N NORTH FACE	TYPE 1	EPOXY
7	DELAM.	1'-0"	2'-0"	2 SF	PEDESTAL 27N EAST FACE	TYPE 1	EPOXY
8	SPALL	4'-0"	2'-0"	8 SF	PEDESTAL 28S SOUTH FACE	TYPE 1	EPOXY
9	DELAM.	3'-0"	2'-0"	6 SF	PEDESTAL 28S EAST FACE	TYPE 1	EPOXY
SHEET TOTAL				45 SF			



EAST APPROACH - LAKEFRONT TRESTLE SECTION PARTIAL FRAMING PLAN (3 OF 6)

LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187.

G:\CL12\0112\Bridges\Sheets\91115MD021.dgn 8/30/2013 10:37:53 AM nrfisco

DESIGN AGENCY: **Trail Systems**
 55 PULASKI SQUARE, SUITE 100
 CLEVELAND, OHIO 44115

DATE: 08/16/13
 REVIEWED: WRW
 STRUCTURE FILE NUMBER: 1800035

DRAWN: DMD
 REVISIONS:

DESIGNED: DMD
 CHECKED: CTG

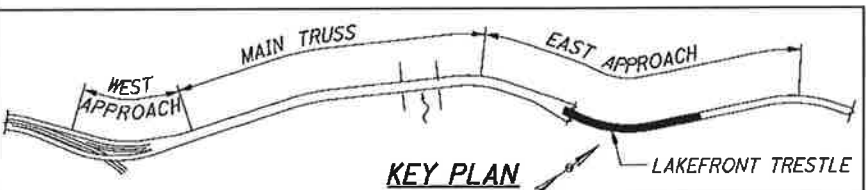
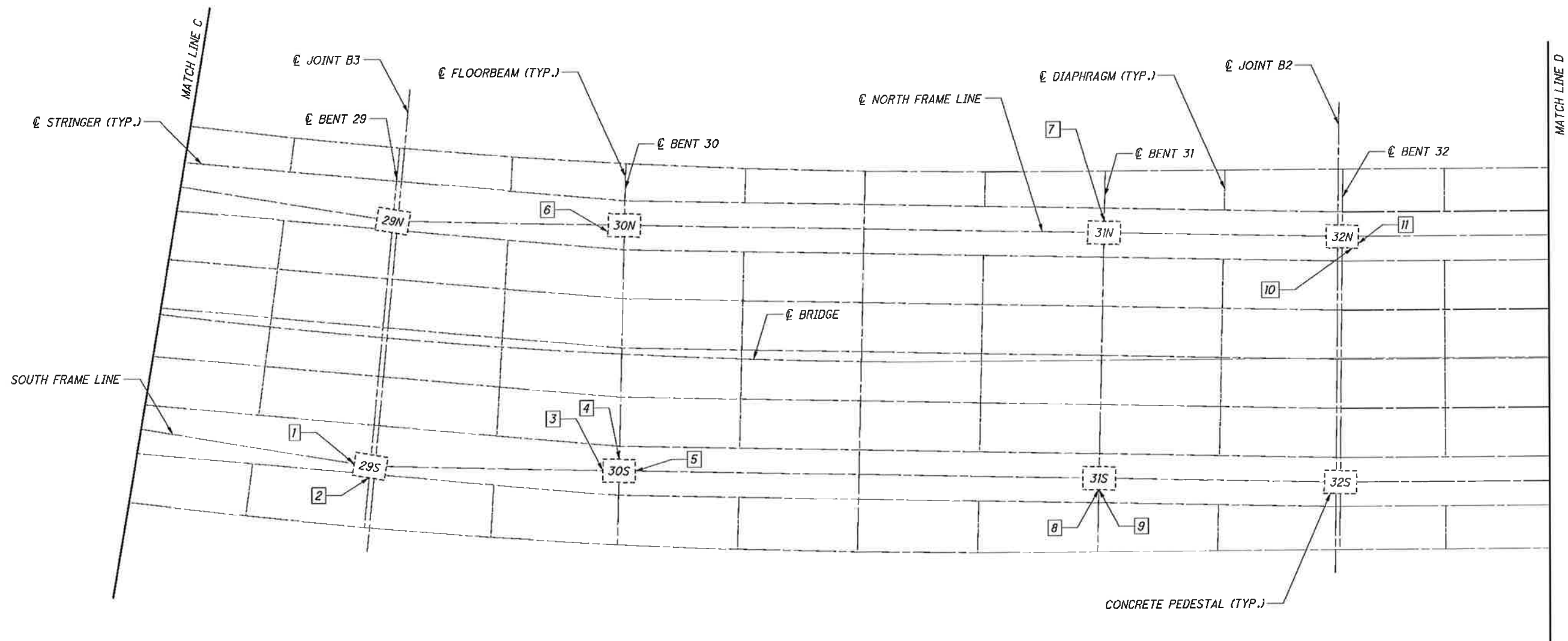
EAST APPROACH - TRESTLE SECTION PEDESTAL PATCHING (3 OF 6)
 MAIN AVENUE - BRIDGE NO. CUY-2-141
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

38 / 187
 40 / 189



ITEM 519 - CONCRETE PATCHING REPAIRS							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	3'-0"	2'-0"	6 SF	PEDESTAL 29S WEST FACE	TYPE 1	EPOXY
2	DELAM.	3'-0"	1'-0"	3 SF	PEDESTAL 29S SOUTH FACE	TYPE 1	EPOXY
3	DELAM.	2'-0"	2'-6"	5 SF	PEDESTAL 30S WEST FACE	TYPE 1	EPOXY
4	SPALL	2'-0"	3'-0"	6 SF	PEDESTAL 30S NORTH FACE	TYPE 1	EPOXY
5	SPALL	3'-0"	3'-0"	9 SF	PEDESTAL 30S EAST FACE	TYPE 1	EPOXY
6	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 30N WEST FACE	TYPE 1	EPOXY
7	DELAM.	4'-0"	1'-0"	4 SF	PEDESTAL 31N NORTH FACE	TYPE 1	EPOXY
8	SPALL	1'-0"	1'-0"	1 SF	PEDESTAL 31S SOUTH FACE	TYPE 1	EPOXY
9	DELAM.	1'-0"	1'-0"	1 SF	PEDESTAL 31S SOUTH FACE	TYPE 1	EPOXY
10	SPALL	2'-0"	2'-6"	5 SF	PEDESTAL 32N SOUTH FACE	TYPE 1	EPOXY
11	SPALL	1'-0"	3'-0"	3 SF	PEDESTAL 32N EAST FACE	TYPE 1	EPOXY
				TOTAL	44 SF		



EAST APPROACH - LAKEFRONT TRESTLE SECTION PARTIAL FRAMING PLAN (4 OF 6)

LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187.

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DESIGN AGENCY: **Trail Systems**
 55 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OH 44113

DATE: 08/16/13
 REVIEWED: WRW
 DRAWN: DMD
 DESIGNED: DMD
 CHECKED: CTG

STRUCTURE FILE NUMBER: 1800035

CUY-2-14.41
 PID No. 91115

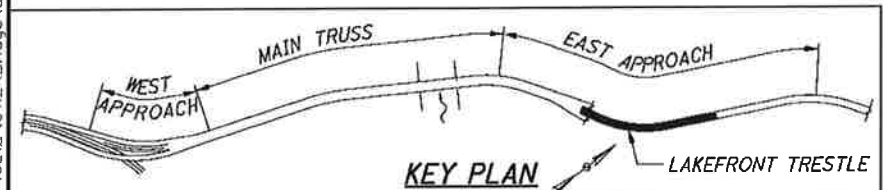
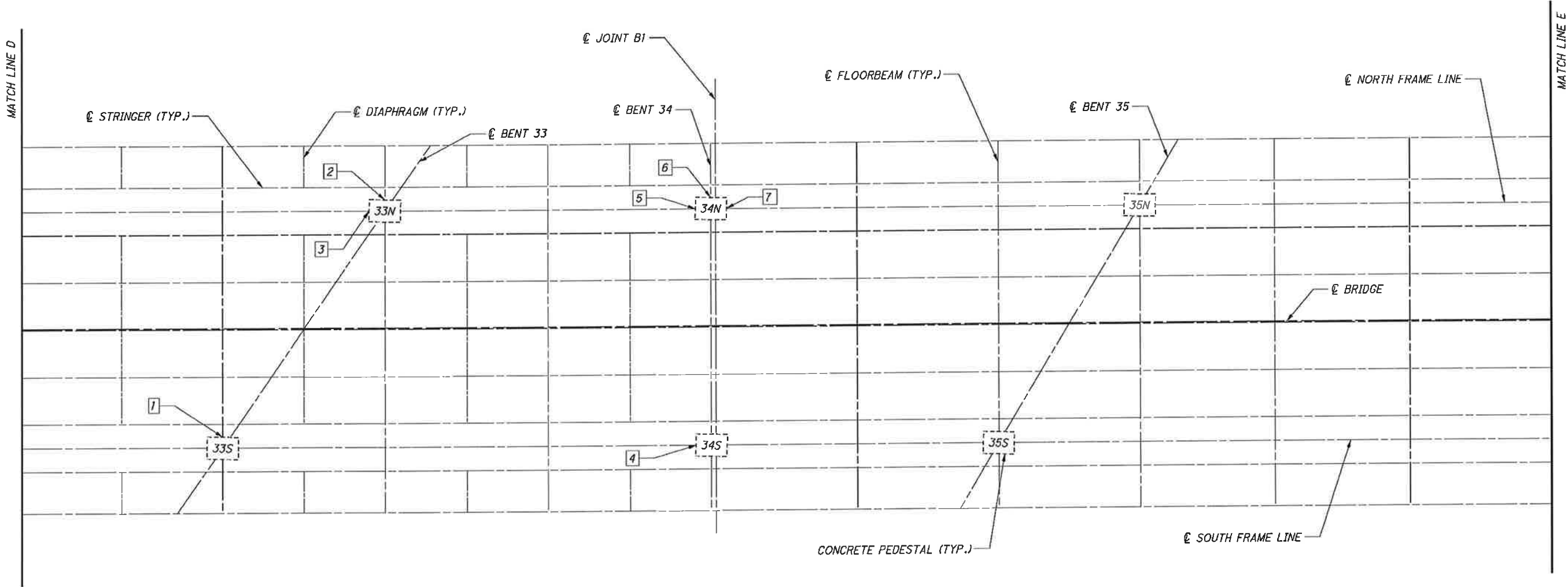
EAST APPROACH - TRESTLE SECTION PEDESTAL PATCHING (4 OF 6)
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

39 / 187
 41 / 189



ITEM 519 - CONCRETE PATCHING REPAIRS

CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	SPALL	3'-0"	2'-0"	6 SF	PEDESTAL 33S NORTH FACE	TYPE 1	EPOXY
2	DELAM.	5'-0"	1'-0"	5 SF	PEDESTAL 33N NORTH FACE	TYPE 1	EPOXY
3	DELAM.	2'-6"	2'-0"	5 SF	PEDESTAL 33N WEST FACE	TYPE 1	EPOXY
4	DELAM.	2'-6"	2'-0"	5 SF	PEDESTAL 34S WEST FACE	TYPE 1	EPOXY
5	DELAM.	1'-0"	1'-0"	1 SF	PEDESTAL 34N WEST FACE	TYPE 1	EPOXY
6	DELAM.	2'-0"	1'-0"	2 SF	PEDESTAL 34N NORTH FACE	TYPE 1	EPOXY
7	DELAM.	2'-0"	0'-6"	1 SF	PEDESTAL 34N EAST FACE	TYPE 1	EPOXY
				TOTAL	25 SF		



EAST APPROACH - LAKEFRONT TRESTLE SECTION PARTIAL FRAMING PLAN (5 OF 6)

LEGEND:
 [X] - CONCRETE PATCHING LOCATION CALLOUT

NOTES:
 1. FOR NOTES, SEE SHEET 18 / 187.

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EAST APPROACH - TRESTLE SECTION PEDESTAL PATCHING (5 OF 6)

CUY-2-14-41
PID No. 91115

MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED: DMD
CHECKED: CTG

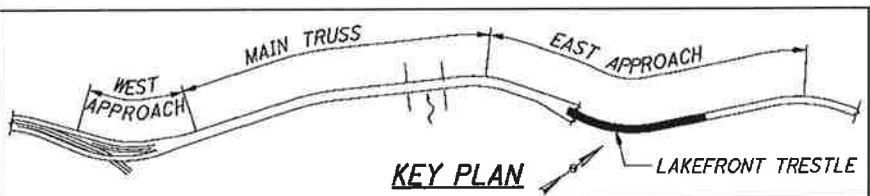
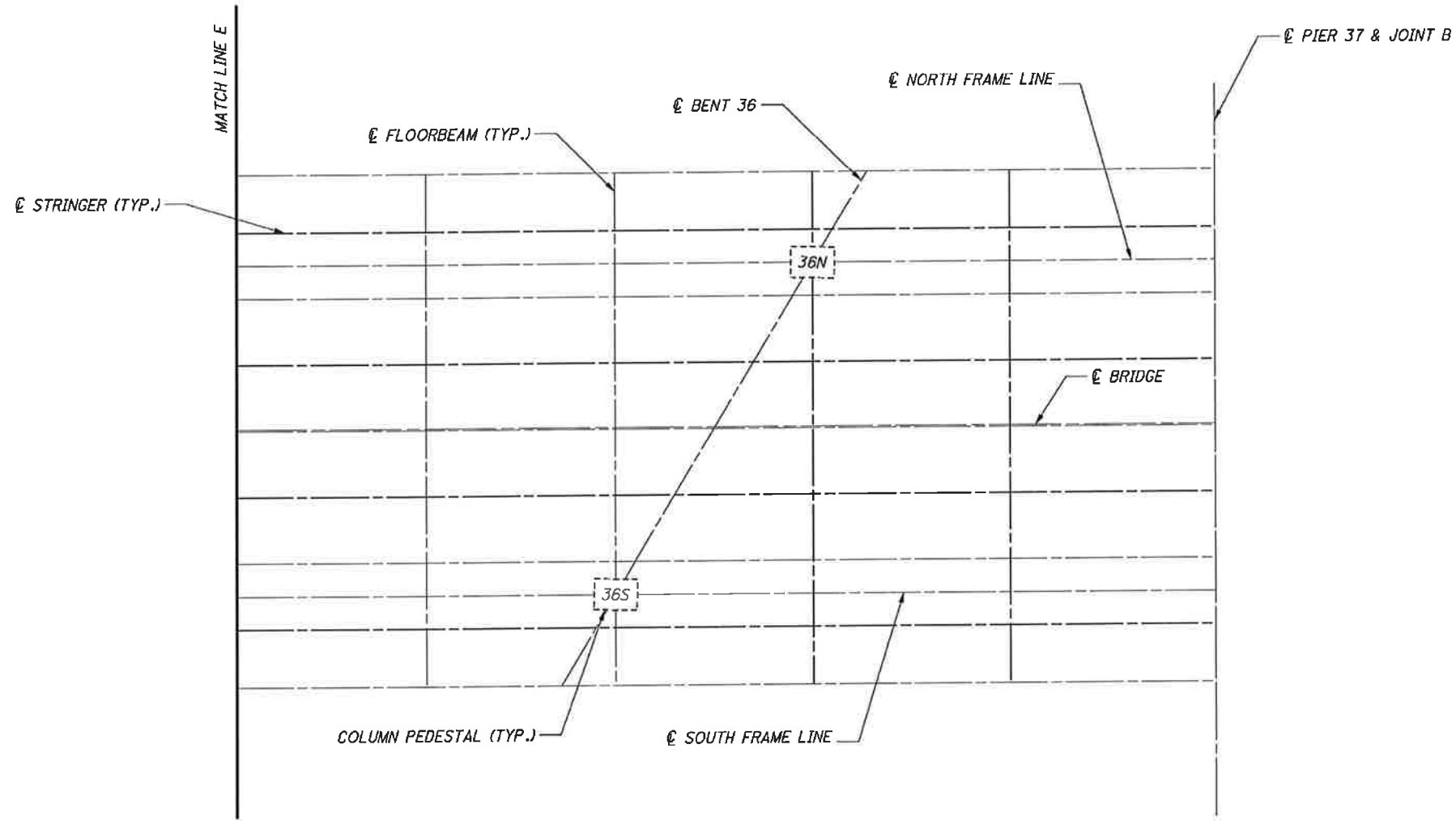
DRAWN: DMD
REVISED:

REVIEWED: WRW
STRUCTURE FILE NUMBER: 1800035

DATE: 08/16/13



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EAST APPROACH - LAKEFRONT TRESTLE SECTION PARTIAL FRAMING PLAN (6 OF 6)

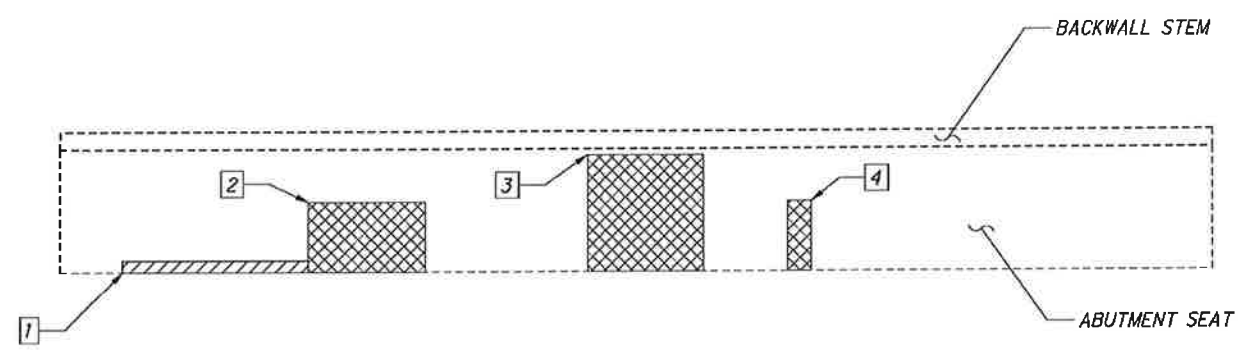
NOTES:
1. NO PROPOSED PATCHING WORK THIS SHEET.

CUY - 2 - 14.41 PID No. 91115	EAST APPROACH-TRESTLE SECTION PEDESTAL PATCHING (6 OF 6) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER		DESIGNED DMD CHECKED CTG	DRAWN DMD REVISID	REVIEWED WRW STRUCTURE FILE NUMBER 1800035	DATE 08/16/13	DESIGN AGENCY 55 PUBLIC SQUARE, SUITE 1900 CLEVELAND, OHIO 44113
	41/187 43 189						

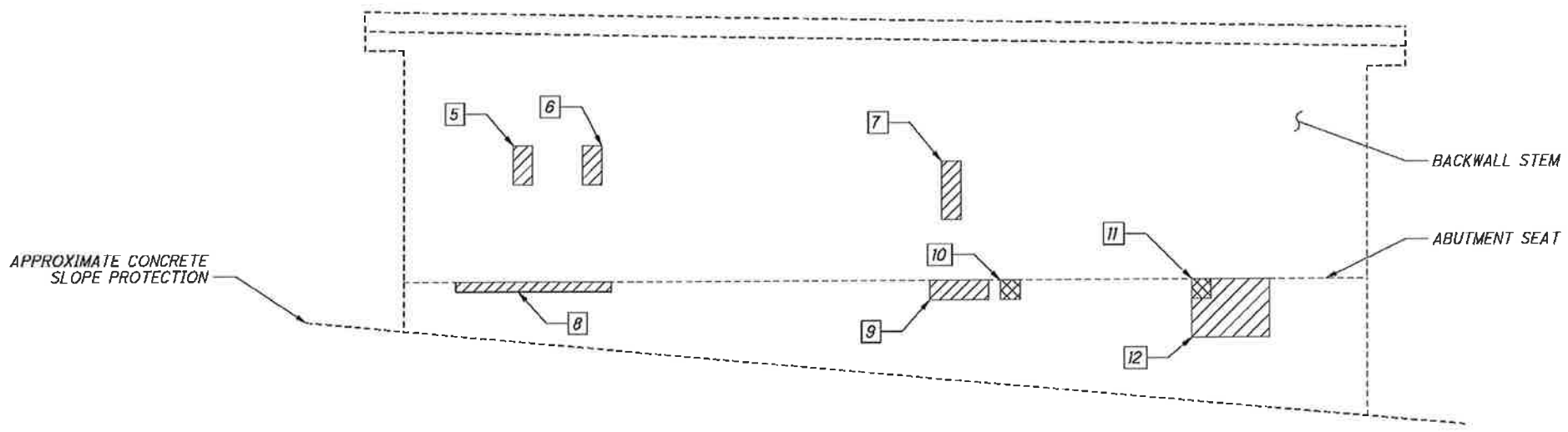
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ITEM 519 - CONCRETE PATCHING REPAIRS							
CALLOUT	TYPE	APPROX. LENGTH	APPROX. HEIGHT	APPROX. AREA	LOCATION	REPAIR DETAIL	SEALING
1	DELAM.	5'-0"	1'-0"	5 SF	ABUTMENT SEAT	TYPE 3	EPOXY
2	SPALL	4'-0"	5'-0"	20 SF	ABUTMENT SEAT	TYPE 3	EPOXY
3	SPALL	7'-0"	4'-0"	28 SF	ABUTMENT SEAT	TYPE 3	EPOXY
4	SPALL	4'-0"	1'-0"	4 SF	ABUTMENT SEAT	TYPE 3	EPOXY
5	DELAM.	1'-0"	3'-0"	3 SF	ABUTMENT BACKWALL	TYPE 1	EPOXY
6	DELAM.	1'-0"	3'-0"	3 SF	ABUTMENT BACKWALL	TYPE 1	EPOXY
7	DELAM.	1'-0"	4'-0"	4 SF	ABUTMENT BACKWALL	TYPE 1	EPOXY
8	DELAM.	5'-0"	1'-0"	5 SF	ABUTMENT BREASTWALL	TYPE 1	EPOXY
9	DELAM.	4'-0"	1'-0"	4 SF	ABUTMENT BREASTWALL	TYPE 1	EPOXY
10	SPALL	1'-0"	2'-0"	2 SF	ABUTMENT BREASTWALL	TYPE 1	EPOXY
11	SPALL	1'-0"	2'-0"	2 SF	ABUTMENT BREASTWALL	TYPE 1	EPOXY
12	DELAM.	7'-0"	2'-0"	14 SF	ABUTMENT BREASTWALL	TYPE 1	EPOXY
				TOTAL	94 SF		



EAST ABUTMENT PLAN VIEW



EAST ABUTMENT WEST ELEVATION

LEGEND:

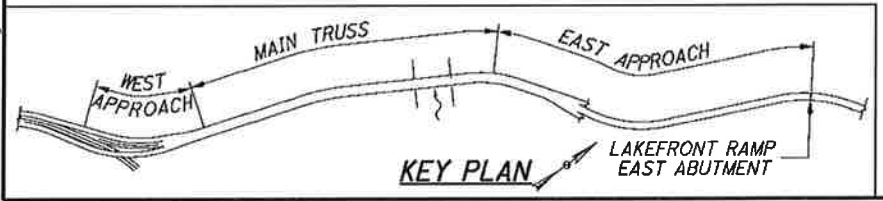
- INDICATES DELAMINATED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.
- INDICATES SPALLED AREA TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THESE AREAS ARE APPROXIMATE.

LEGEND:

- X - CONCRETE PATCHING LOCATION CALLOUT

NOTES:

1. FOR NOTES, SEE SHEET 18 / 187.



DESIGN AGENCY

DATE

08/16/13

REVIEWED

WRW

DRAWN

DMD

DESIGNED

DMD

CHECKED

CTG

STRUCTURE FILE NUMBER

1800035

EAST APPROACH LAKEFRONT RAMP EAST ABUTMENT PATCHING

MAIN AVENUE - BRIDGE NO. CUY-2-1441

OVER THE CUYAHOGA RIVER

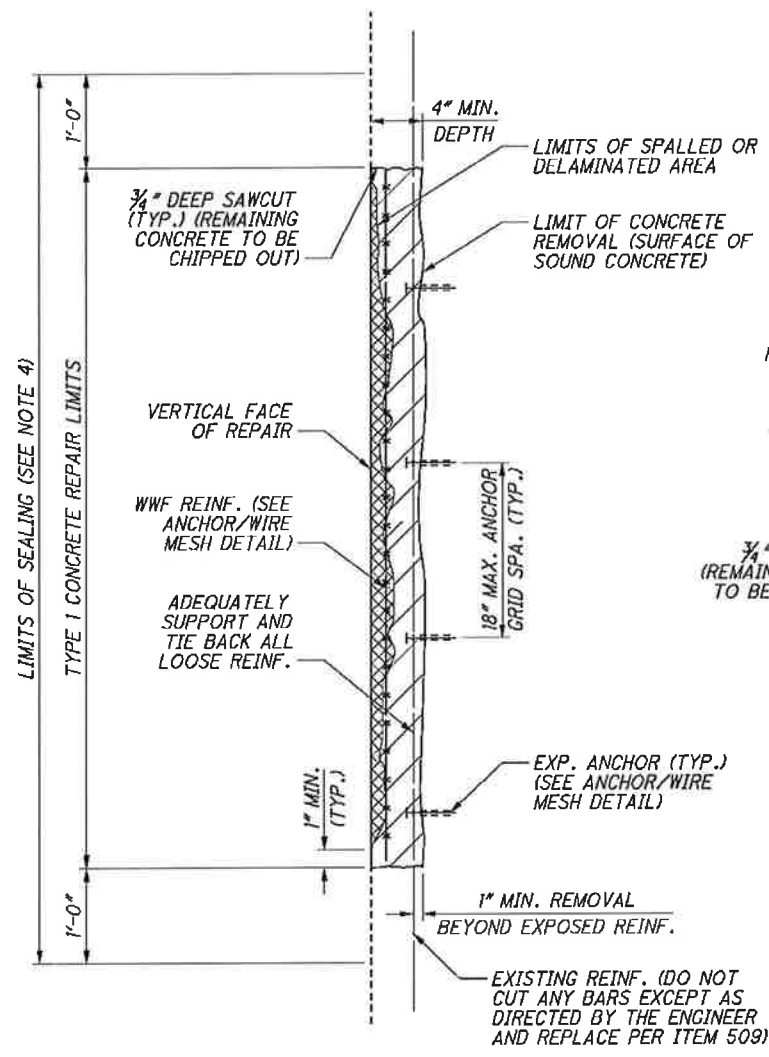
PID No. 91115

CUY-2-14.41

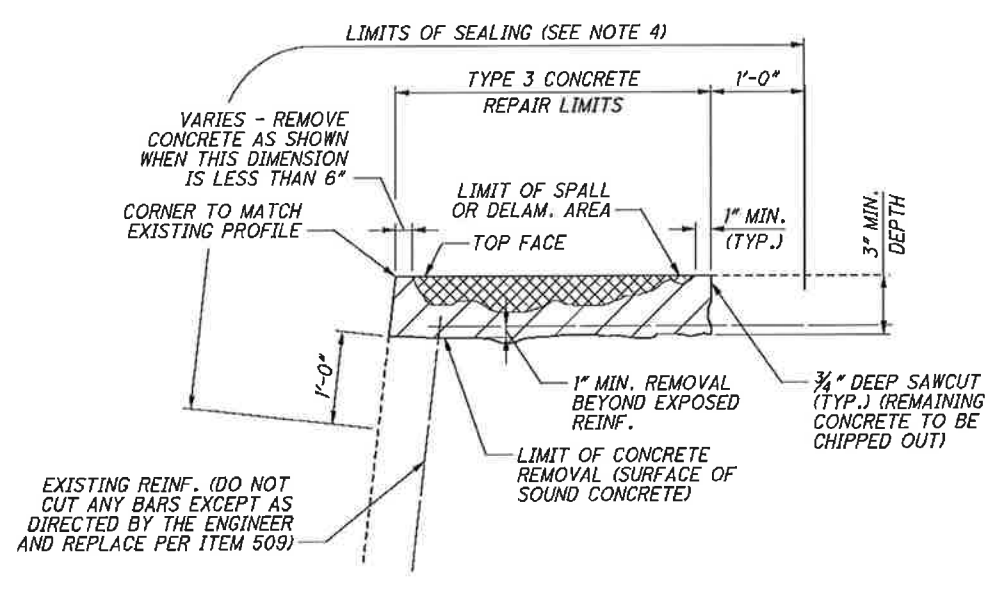
42 / 187

44
189

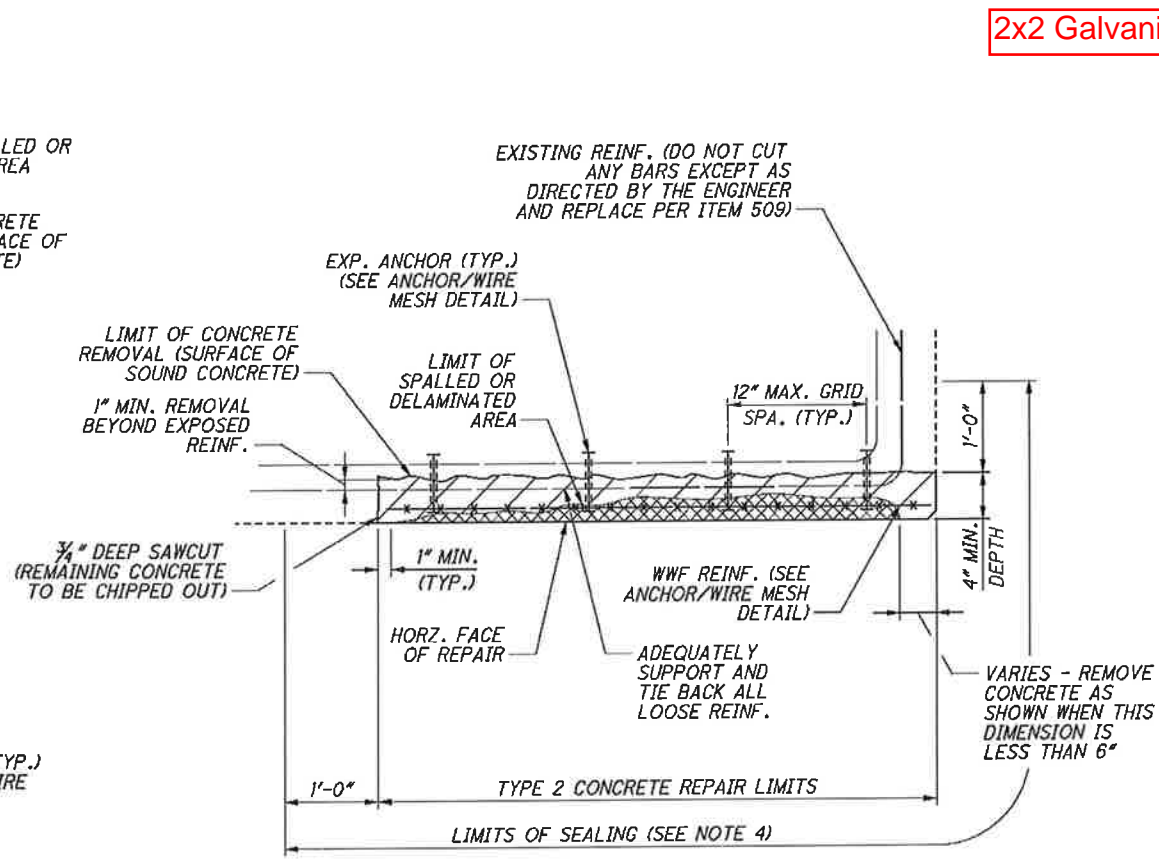
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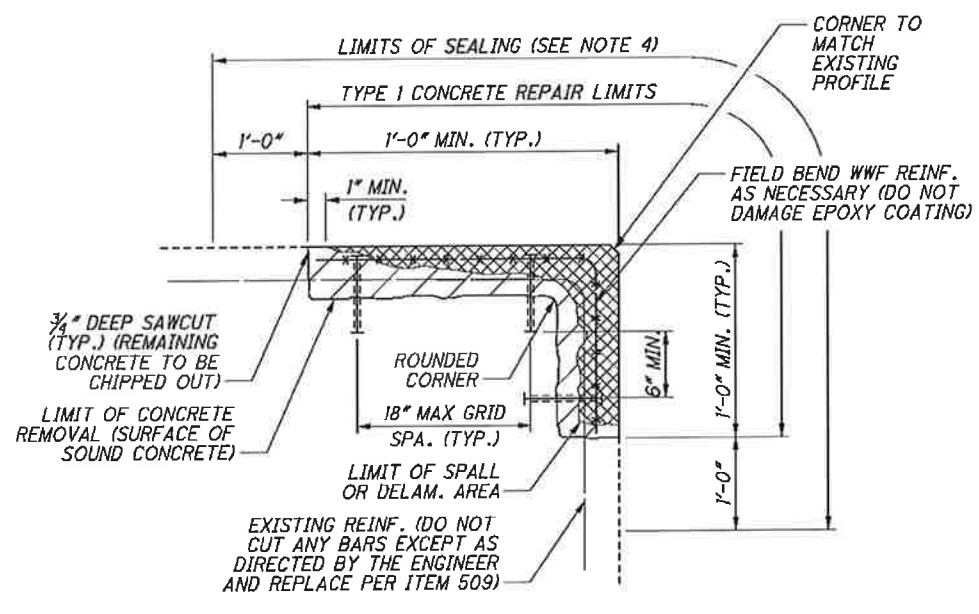
TYPE 1 CONCRETE REPAIR
(FOR VERTICAL SURFACE REPAIRS)
(NOT TO SCALE)



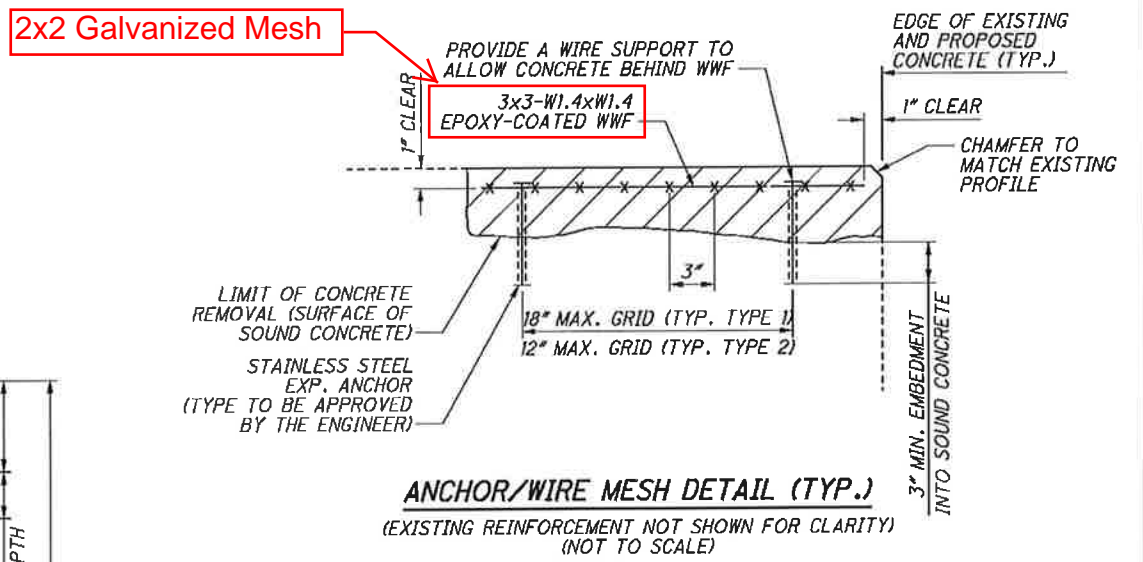
TYPE 3 CONCRETE REPAIR
(FOR TOP HORIZONTAL SURFACES)
(NOT TO SCALE)



TYPE 2 CONCRETE REPAIR
(FOR HORIZONTAL AND SLOPING
OVERHEAD PATCHING APPLICATIONS) (NOT TO SCALE)



TYPE 1 REPAIR AT VERTICAL CORNER
(FOR INFORMATION NOT SHOWN SEE TYPE 1 CONCRETE REPAIR)
(NOT TO SCALE)



GENERAL PROCEDURE FOR CONCRETE REPAIRS:

1. ALL AREAS FOR REPAIR ARE SUBJECT TO MODIFICATION IN THE FIELD BY THE ENGINEER.
2. SAWCUT PERIPHERY OF EACH AREA TO BE REPAIRED AS SHOWN.
3. REMOVE DETERIORATED CONCRETE AS SHOWN TO SOUND CONCRETE, PLUS AN ADDITIONAL 1/4" TO 1" (MAX.) OF SOUND CONCRETE PROVIDED THAT THE MINIMUM DEPTH IS MAINTAINED.
4. SANDBLAST OR WATERBLAST EXPOSED SURFACES TO REMOVE LOOSE CONCRETE CHIPS AND SURFACE LAITANCE.
5. SANDBLAST OR WIRE BRUSH EXPOSED REINFORCEMENT AND COAT WITH EPOXY PRIMER.
6. SPLICE SAME SIZE NEW BARS TO EXISTING BARS WHERE EXISTING BARS ARE DAMAGED OR HEAVILY CORRODED, AS DIRECTED BY THE ENGINEER, PER ITEM 509.
7. INSTALL WELDED WIRE FABRIC (WWF) AS DIRECTED IN ITEM 519 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN.
8. USE FORMS TO ENSURE ADHERENCE OF REPAIR AND TO MATCH ORIGINAL SURFACE PROFILE PER ITEM 519. FORMS MAY BE NEEDED TO FOLLOW TAPERED SURFACES.

LEGEND:

- INDICATES EXISTING CONCRETE SPALL AND/OR DELAMINATION TO BE PATCHED AS PER ITEM 519
- INDICATES LIMITS OF CONCRETE REMOVAL INTO SOUND CONCRETE FOR CONCRETE REPAIR

NOTES:

1. FOR GENERAL NOTES SEE SHEET **3 / 187** AND **9 / 187**.
2. ALL WORK AND MATERIALS FOR TYPE 1 AND TYPE 2 REPAIRS OF DETERIORATED CONCRETE AS PRESENTED IN THESE DETAILS ARE INCLUDED IN ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.
3. SUBMIT FOR APPROVAL METHODS FOR CONCRETE PLACEMENT TO LIMIT OR ELIMINATE VOIDS AND AIR POCKETS IN PATCHED AREAS. INCLUDE METHOD OF REPAIR IF THERE ARE VOIDS OR AIR POCKETS DISCOVERED UPON REMOVAL OF FORM WORK.
4. FOR TYPE OF SEALING, SEE CONCRETE PATCHING PLAN SHEETS **18 / 187** THROUGH **42 / 187**.
5. WWF DENOTES 3x3-W1.4xW1.4 EPOXY-COATED WELDED WIRE FABRIC.
6. CONTRACTOR SHALL SUBMIT REPAIR PROCEDURE TO THE ENGINEER FOR APPROVAL.

CONCRETE PATCHING REPAIR DETAILS

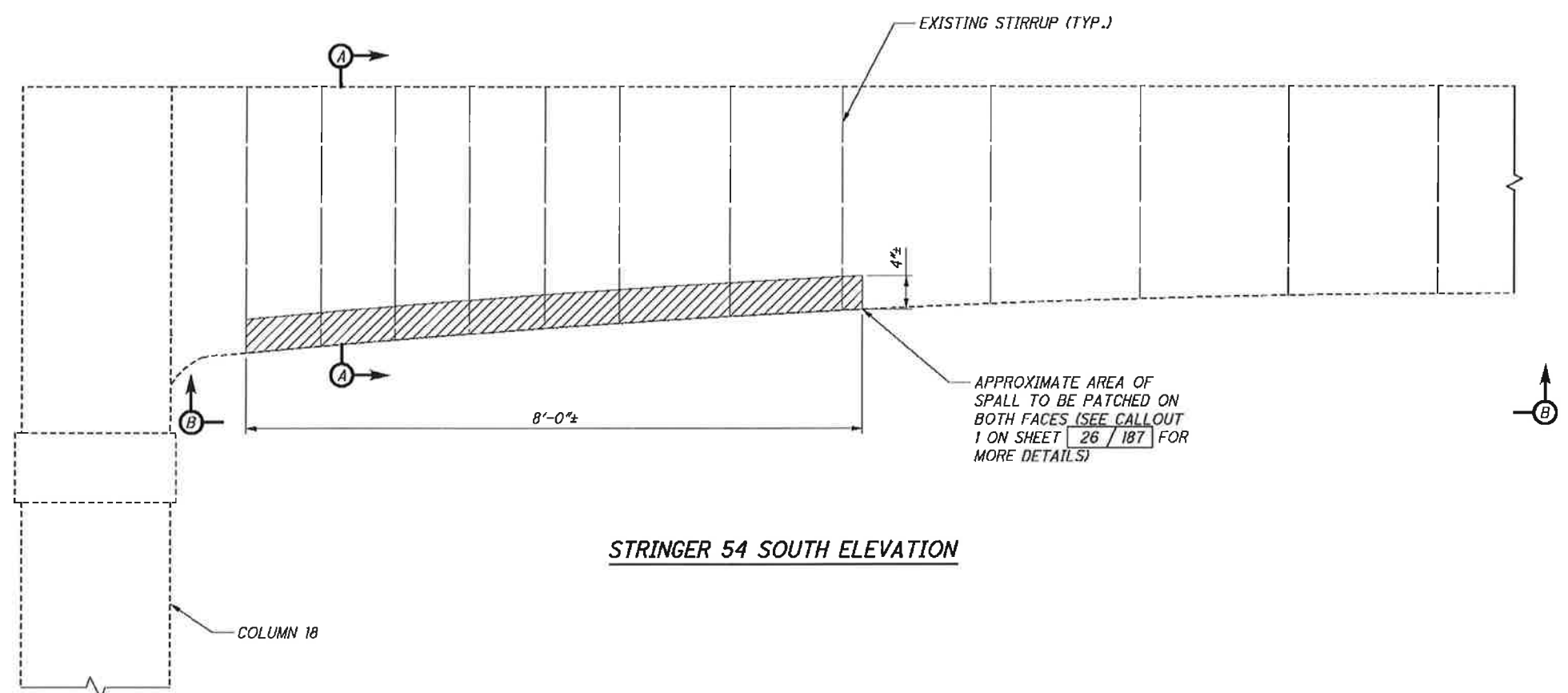
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED	DMD	CHECKED	DWC	
DRAWN	SFH	REVISOR		
REVIEWED	WRW	DATE	08/16/13	
DESIGN AGENCY	TrainSystems			
STRUCTURE FILE NUMBER	1800035			

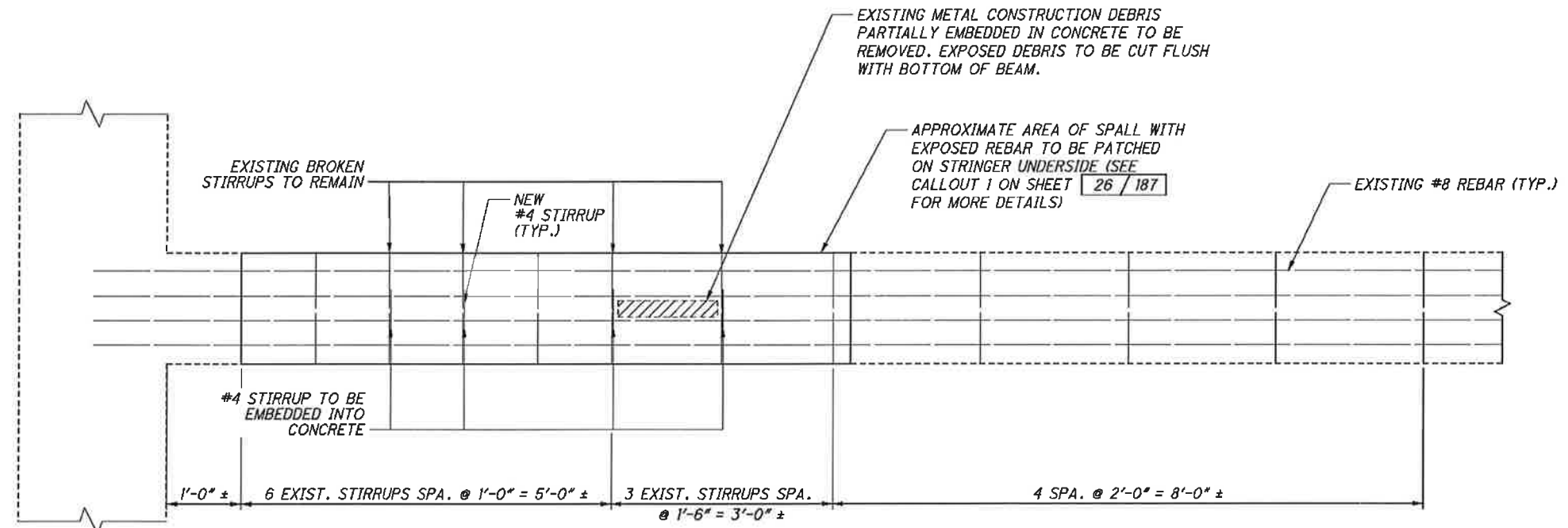
CUY-2-14.41
PID No. 91115

43/187
45
189

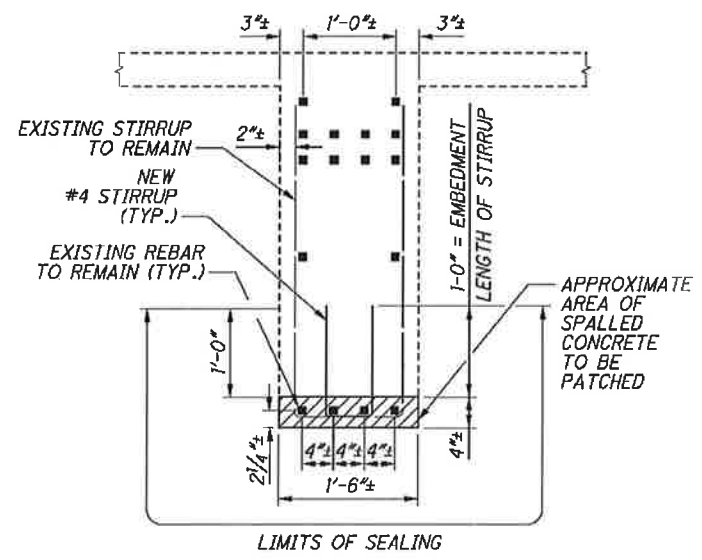
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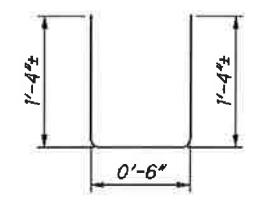
STRINGER 54 SOUTH ELEVATION



VIEW B-B



SECTION A-A



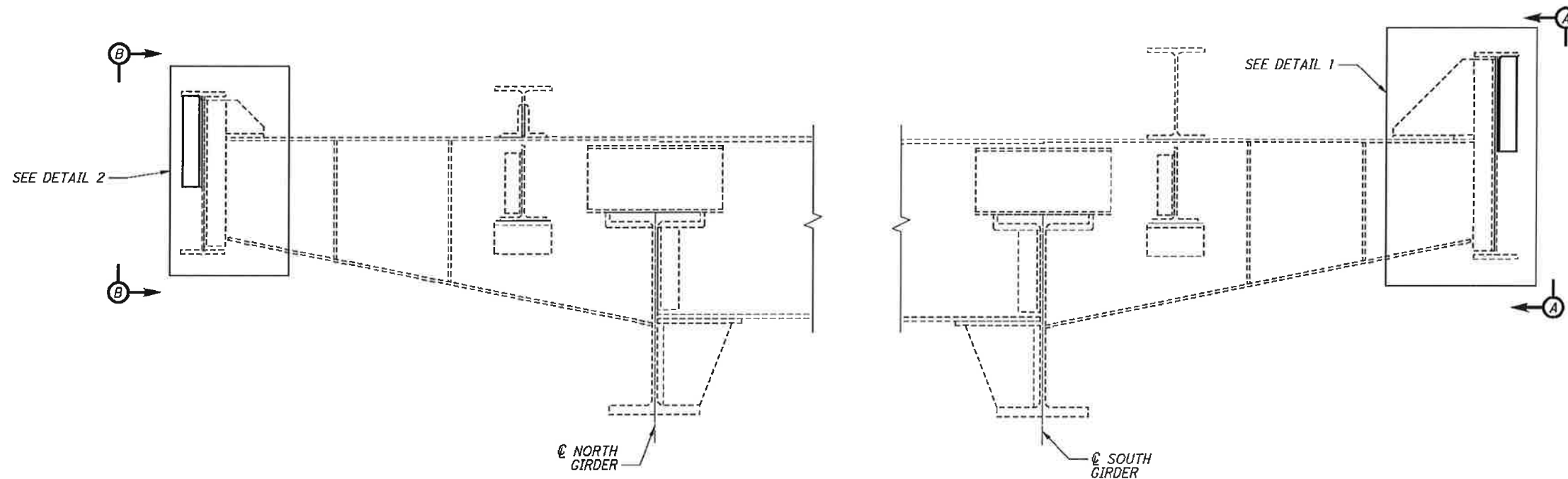
STIRRUP (TYP.)

NOTES:

1. FOR GENERAL NOTES SEE SHEET 9 / 187 .
2. ALL LABOR, WORK, AND MATERIALS FOR THE REPAIR OF DETERIORATED CONCRETE AS PRESENTED IN THESE DETAILS, INCLUDING STIRRUPS AND DOWEL HOLES, ARE INCLUDED IN ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.
3. NEW STIRRUPS SHALL BE INSTALLED IMMEDIATELY ADJACENT TO EXISTING BROKEN STIRRUPS, WHILE CONFORMING TO GROUT MANUFACTURERS RECCOMENDATIONS.
4. THE STIRRUP LENGTH MAY BE MODIFIED TO MEET EXISTING CONDITIONS OF THE MEMBER AS LONG AS THE SPECIFIED EMBEDMENT LENGTH IS KEPT.
5. NONSHRINK, NONMETALLIC GROUT SHALL BE USED FOR THE INSTALLATION OF ALL #4 STIRRUPS.
6. INSTALLATION OF THE NEW STIRRUPS SHALL CONFORM TO CMS 510.

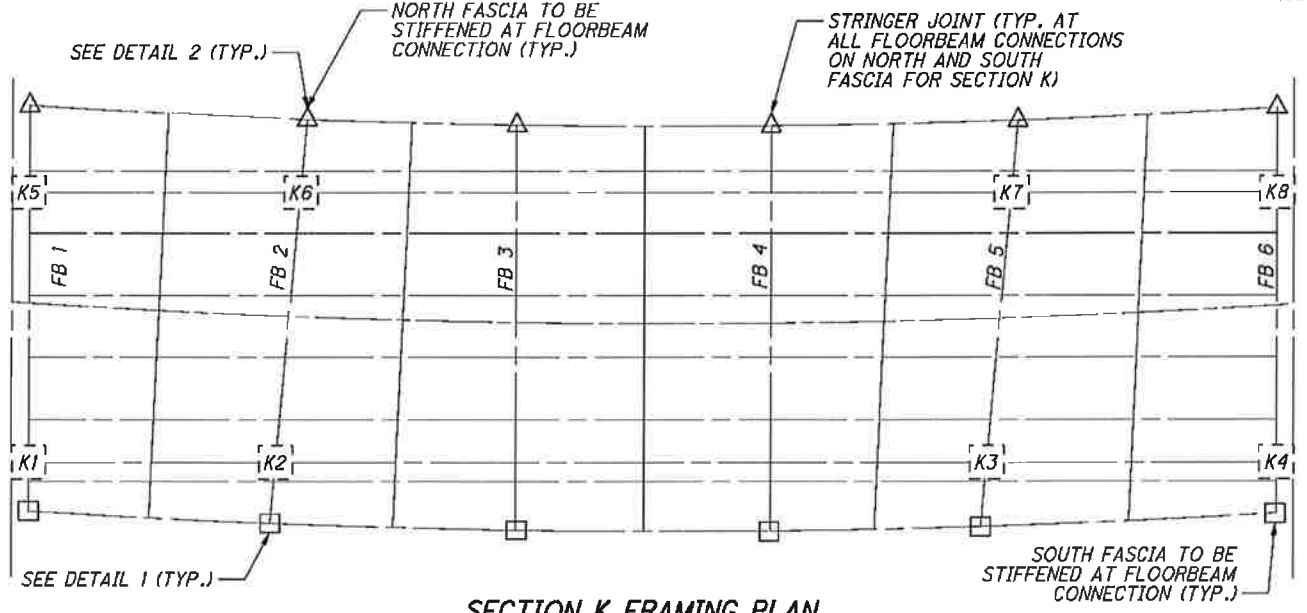
STIRRUP REPAIR DETAILS SECTION P - STRINGER 54

 <small>DESIGN AGENCY</small> <small>15 PUBLIC SQUARE, SUITE 1900</small> <small>CLEVELAND, OHIO 44113</small>	<small>DATE</small> 08/16/13
	<small>REVIEWED</small> WRW
<small>DESIGNED</small> DMD	<small>STRUCTURE FILE NUMBER</small> 7800035
<small>DRAWN</small> DMD	<small>REVISD</small> CTG
STIRRUP REPAIR DETAILS SECTION P - STRINGER 54 <small>MAIN AVENUE - BRIDGE NO. CUY-2-1441</small> <small>OVER THE CUYAHOGA RIVER</small>	
CUY-2-14.41	<small>PID No. 91115</small>
<small>44 / 187</small>	<small>46 / 189</small>

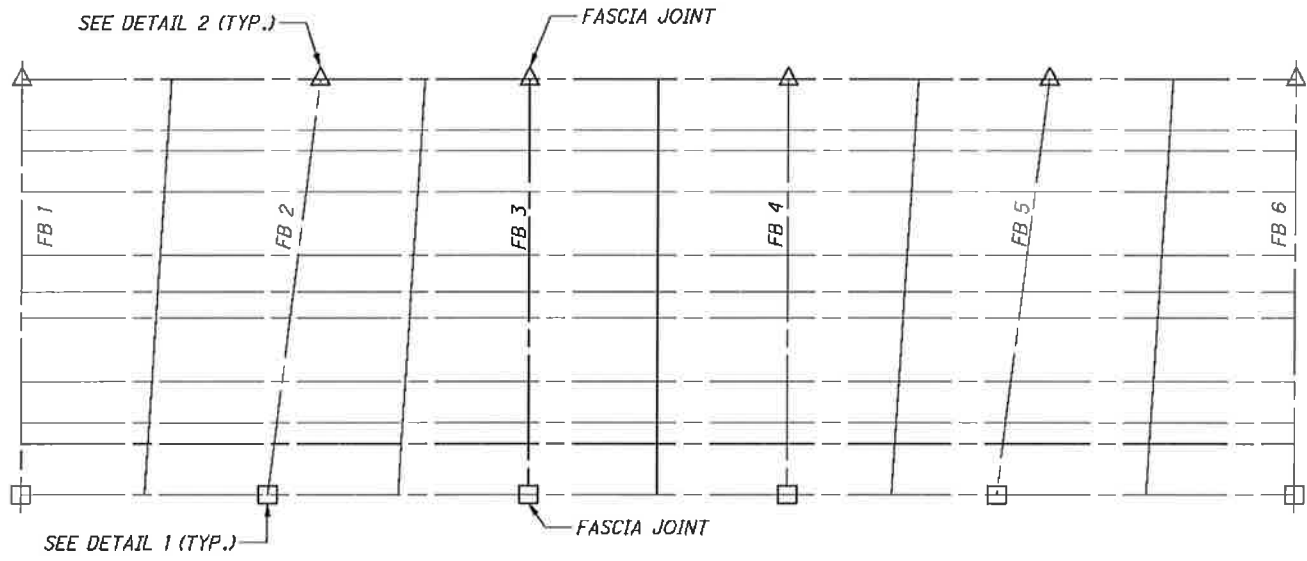


SECTION K - TYPICAL PARTIAL FLOORBEAM ELEVATION

(WEST ELEVATION SHOWN)
(SECTION C SIMILAR)



SECTION K FRAMING PLAN



SECTION C FRAMING PLAN

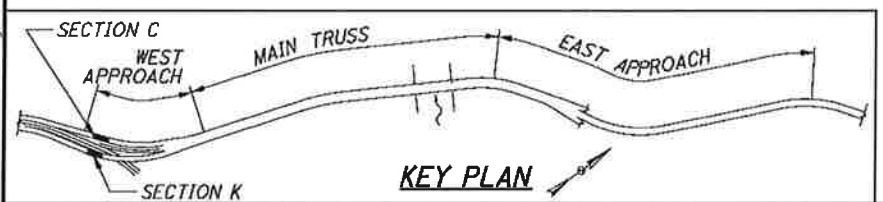
SECTIONS C AND K STRINGER STIFFENING REPAIR LOCATIONS

LEGEND:

- - REPAIR DETAIL 1
- △ - REPAIR DETAIL 2

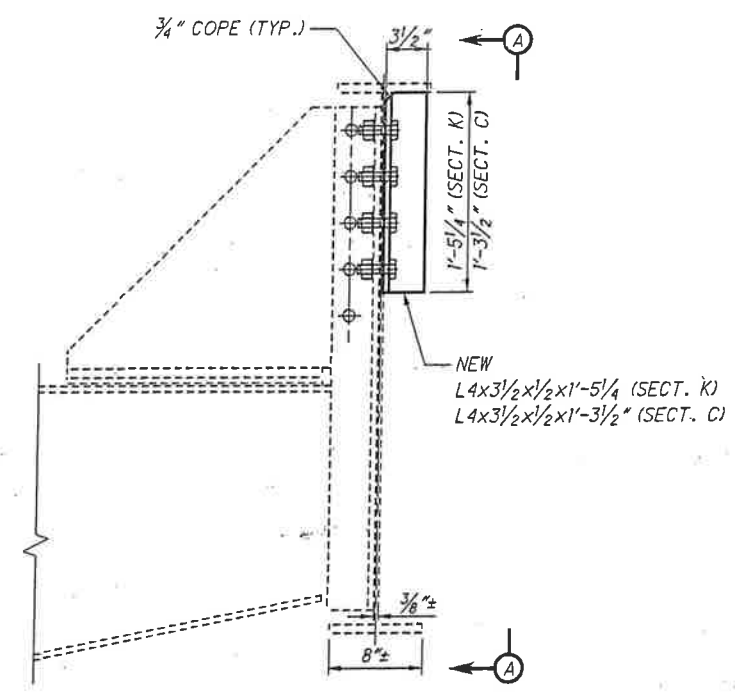
NOTES:

1. FOR DETAILS 1 AND 2 AND VIEWS A-A AND B-B, SEE SHEET 46 / 187.
2. ALL MATERIALS AND LABOR ASSOCIATED WITH INSTALLING THE STIFFENING RETROFITS SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: WEST APPROACH FASCIA STRINGER RETROFIT.
3. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW RETROFIT ANGLES, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.

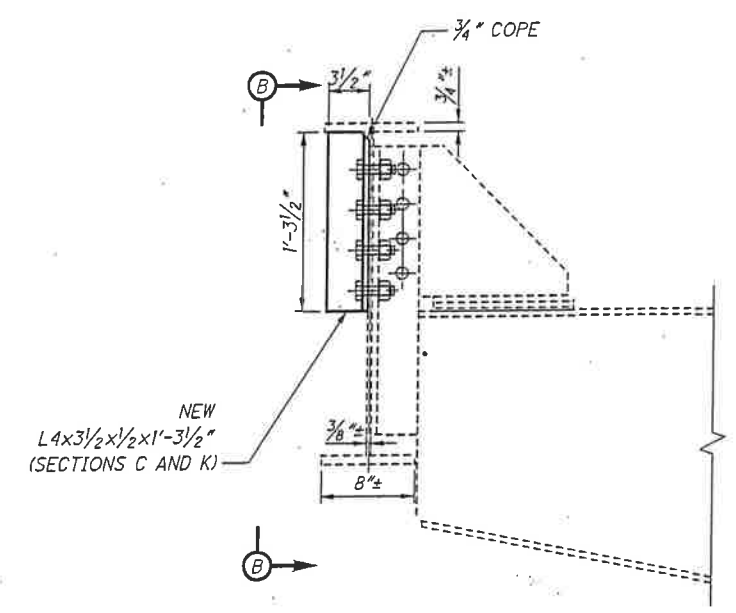


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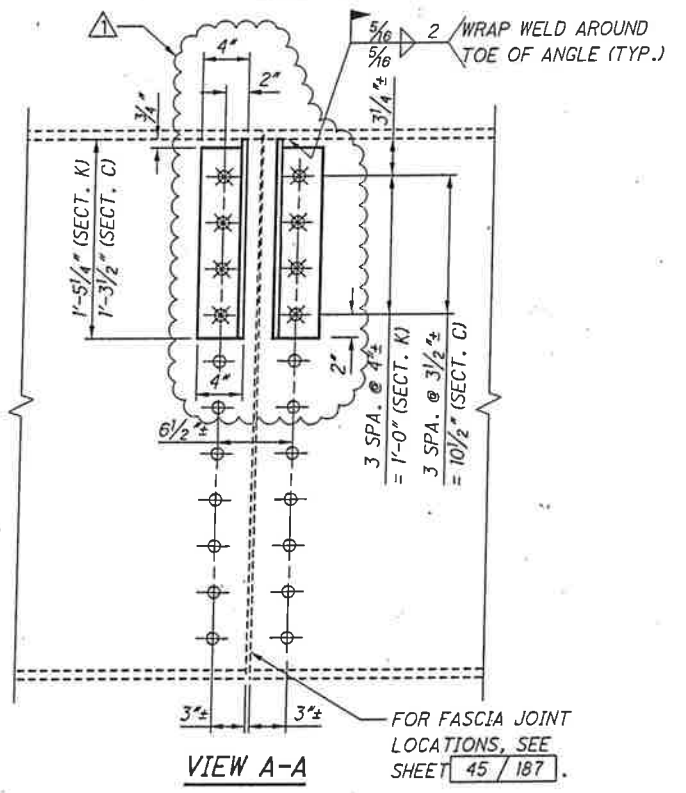
	DESIGN AGENCY 55 PUBLIC SQUARE, SUITE 100 CLEVELAND, OH 44115	REVIEWED WRW 08/16/13 DATE	STRUCTURE FILE NUMBER 1800035	WEST APPROACH SECTIONS C & K - FASCIA STIFFENING (1 OF 2) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER
DRAWN DMD	CHECKED NRF	DESIGNED DMD	REVISIONS 1800035	CUY-2-14.41 PID No. 91115
45 / 187				47 / 189



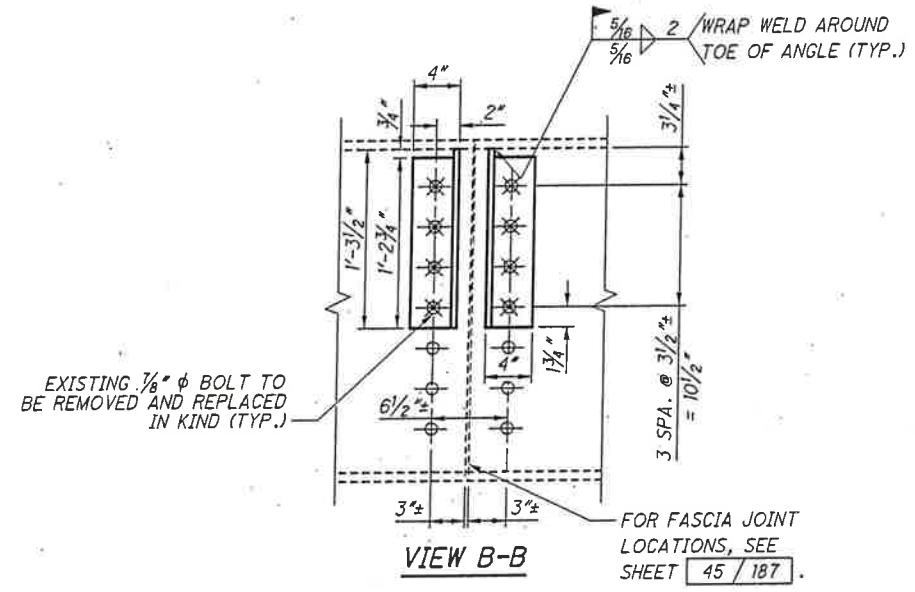
DETAIL 1 - TYPICAL SOUTH FASCIA BRACKET



DETAIL 2 - TYPICAL NORTH FASCIA BRACKET AT END FLOORBEAMS

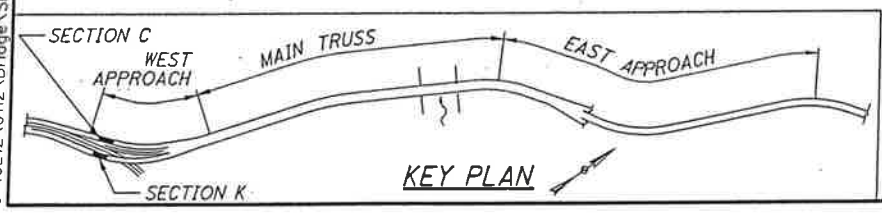


VIEW A-A



VIEW B-B

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SECTIONS C AND K STRINGER STIFFENING

SUGGESTED SEQUENCE OF CONSTRUCTION:

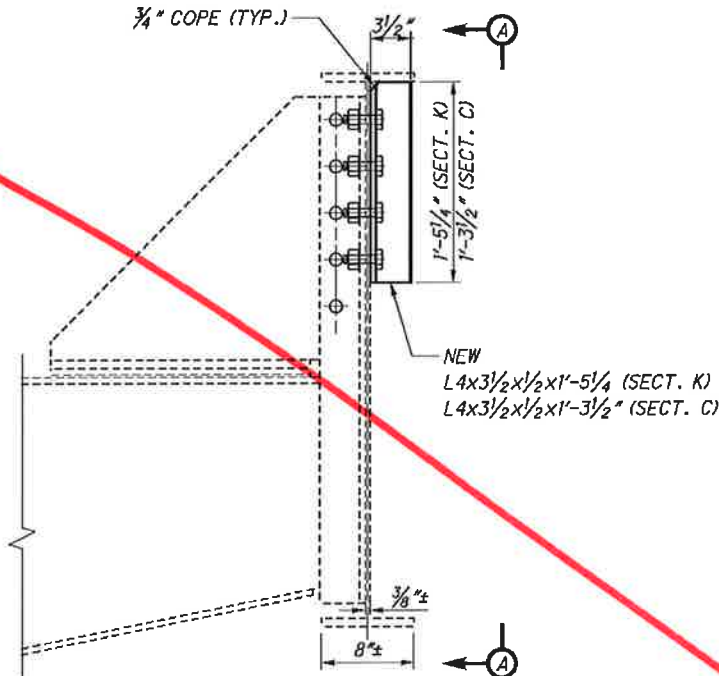
- LIMIT REMOVAL AND CONSTRUCTION OPERATIONS TO ONE STIFFENER REPAIR LOCATION AT ANY GIVEN TIME.
- PERFORM FASCIA STRINGER STIFFENING AS FOLLOWS:
- PREPARE FAYING SURFACES IN ACCORDANCE WITH CMS 514.13C.
 - REMOVE ONLY A SINGLE COLUMN OF BOLTS, AS SHOWN, AT A TIME. INSTALL STIFFENING ANGLE WITH PROPERLY TENSIONED ASTM A325 HIGH STRENGTH BOLTS.
 - WELD NEW STIFFENING ANGLE OUTSTANDING LEG TO STRINGER TOP FLANGE AS SHOWN.
 - REPEAT "B" AND "C" FOR REMAINING STIFFENING ANGLES.
 - FIELD SPOT PAINT EXPOSED STEEL PER CMS 514.

BOLT LEGEND:

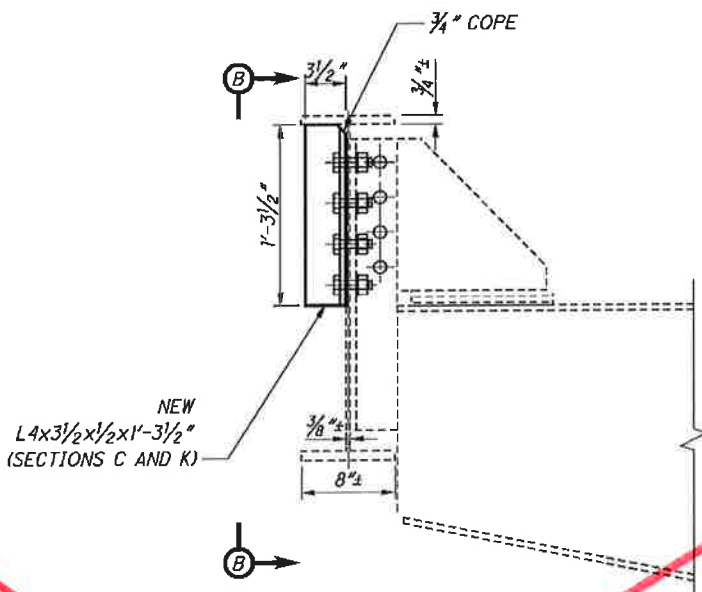
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1/8" φ A325 BOLT

NOTES:

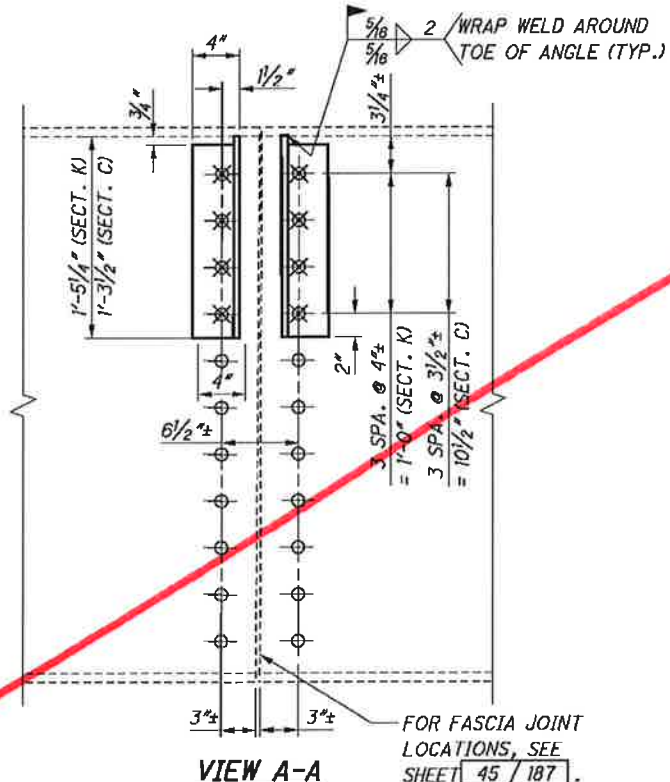
- FOR STIFFENER REPAIR LOCATIONS SEE SHEET 45/187.
- CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND BOLT LAYOUTS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
- ALL MATERIALS AND LABOR ASSOCIATED WITH INSTALLING THE FASCIA STIFFENING RETROFITS SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: WEST APPROACH FASCIA STRINGER RETROFIT.
- THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW RETROFIT ANGLES, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.
- CONTRACTOR SHALL SUBMIT PROPOSED SEQUENCE OF CONSTRUCTION TO THE ENGINEER FOR APPROVAL.



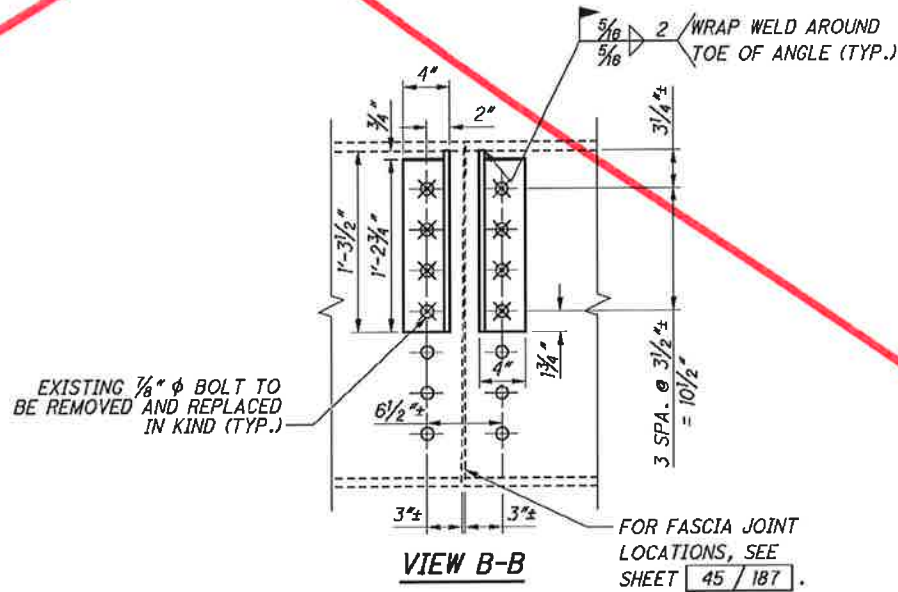
DETAIL 1 - TYPICAL SOUTH FASCIA BRACKET



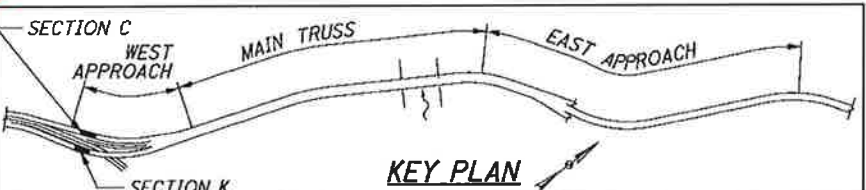
DETAIL 2 - TYPICAL NORTH FASCIA BRACKET AT END FLOORBEAMS



VIEW A-A



VIEW B-B



KEY PLAN

SECTIONS C AND K STRINGER STIFFENING

SUGGESTED SEQUENCE OF CONSTRUCTION:

- LIMIT REMOVAL AND CONSTRUCTION OPERATIONS TO ONE STIFFENER REPAIR LOCATION AT ANY GIVEN TIME.
- PERFORM FASCIA STRINGER STIFFENING AS FOLLOWS:
- PREPARE FAYING SURFACES IN ACCORDANCE WITH CMS 514.13C.
 - REMOVE ONLY A SINGLE COLUMN OF BOLTS, AS SHOWN, AT A TIME. INSTALL STIFFENING ANGLE WITH PROPERLY TENSIONED ASTM A325 HIGH STRENGTH BOLTS.
 - WELD NEW STIFFENING ANGLE OUTSTANDING LEG TO STRINGER TOP FLANGE AS SHOWN.
 - REPEAT "B" AND "C" FOR REMAINING STIFFENING ANGLES.
 - FIELD SPOT PAINT EXPOSED STEEL PER CMS 514.

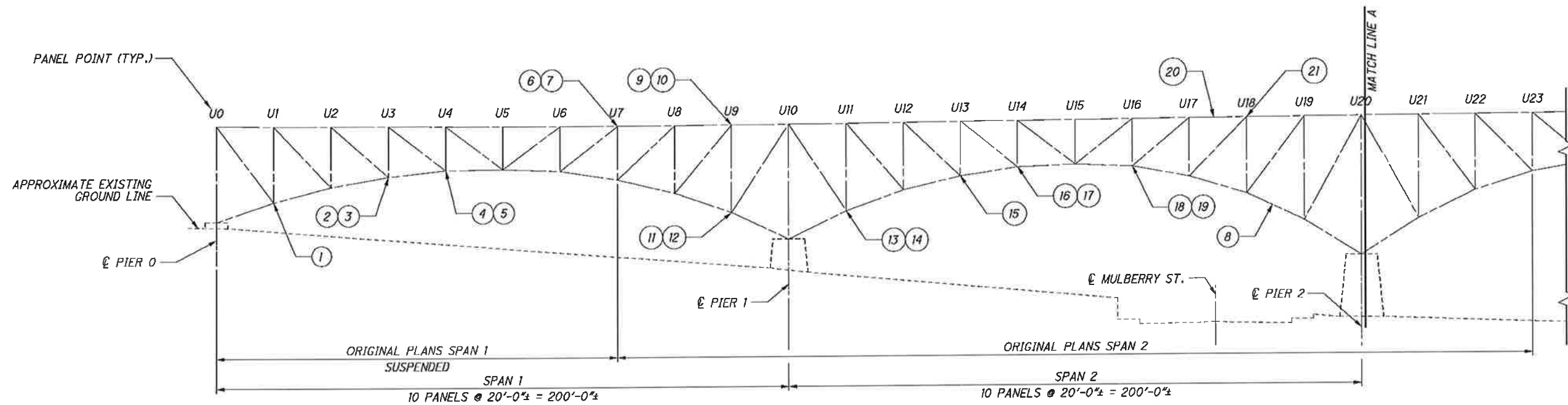
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" φ A325 BOLT

NOTES:

- FOR STIFFENER REPAIR LOCATIONS SEE SHEET 45 / 187 .
- CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND BOLT LAYOUTS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
- ALL MATERIALS AND LABOR ASSOCIATED WITH INSTALLING THE FASCIA STIFFENING RETROFITS SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.; WEST APPROACH FASCIA STRINGER RETROFIT.
- THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW RETROFIT ANGLES, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.
- CONTRACTOR SHALL SUBMIT PROPOSED SEQUENCE OF CONSTRUCTION TO THE ENGINEER FOR APPROVAL.

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PARTIAL SOUTH ELEVATION OF TRUSS
 (CENTERLINES OF MEMBERS SHOWN)
 (GUSSET PLATES, BEARINGS, FRAMING, DECK NOT SHOWN FOR CLARITY)

RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEET (XXX OF 187)
1	1	L1 SOUTH TRUSS	GUSSET \bar{r} STRENGTHENING	59 AND 60
2	1	L3 NORTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	99
3	1	L3 SOUTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	99
4	1	L4 NORTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	99
5	1	L4 SOUTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	99
6	1	U7 NORTH FB BRACKET	STRENGTHENING	127
7	1	U7 SOUTH FB BRACKET	STRESS RELIEF/STRENGTHENING	127
8	2	L18N-L19M LATERAL BRACE	STRENGTHENING	141
9	1	U9 NORTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	87
10	1	U9 SOUTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	87
11	1	L9 NORTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	99
12	1	L9 SOUTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	99
13	2	L11 NORTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	99
14	2	L11 SOUTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	99
15	2	L13 NORTH TRUSS	GUSSET \bar{r} STRENGTHENING	53
16	2	L14 NORTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	100
17	2	L14 SOUTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	100
18	2	L16 NORTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	100
19	2	L16 SOUTH TRUSS	GUSSET \bar{r} EDGE STIFFENING	100
20	2	U17-U18 NORTH TRUSS	TORCH CUT RETROFIT	134
21	2	U18 NORTH TRUSS	GUSSET \bar{r} STRENGTHENING	54

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DESIGN AGENCY
Trail Systems
 55 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OHIO 44113

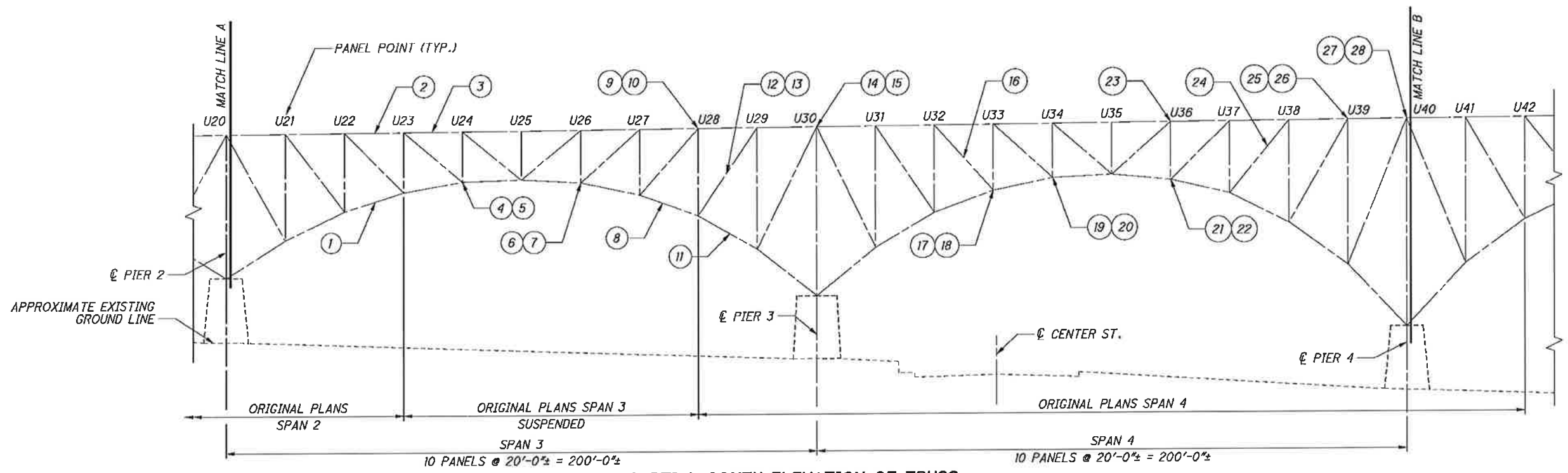
DESIGNED	CTG	CHECKED	NRF
DRAWN	DWC	REVISOR	
REVIEWED	WRW	DATE	08/16/13
STRUCTURE FILE NUMBER			1800035

MAIN TRUSS STEEL RETROFIT SPAN 1 & SPAN 2
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

47/187

49
189



PARTIAL SOUTH ELEVATION OF TRUSS

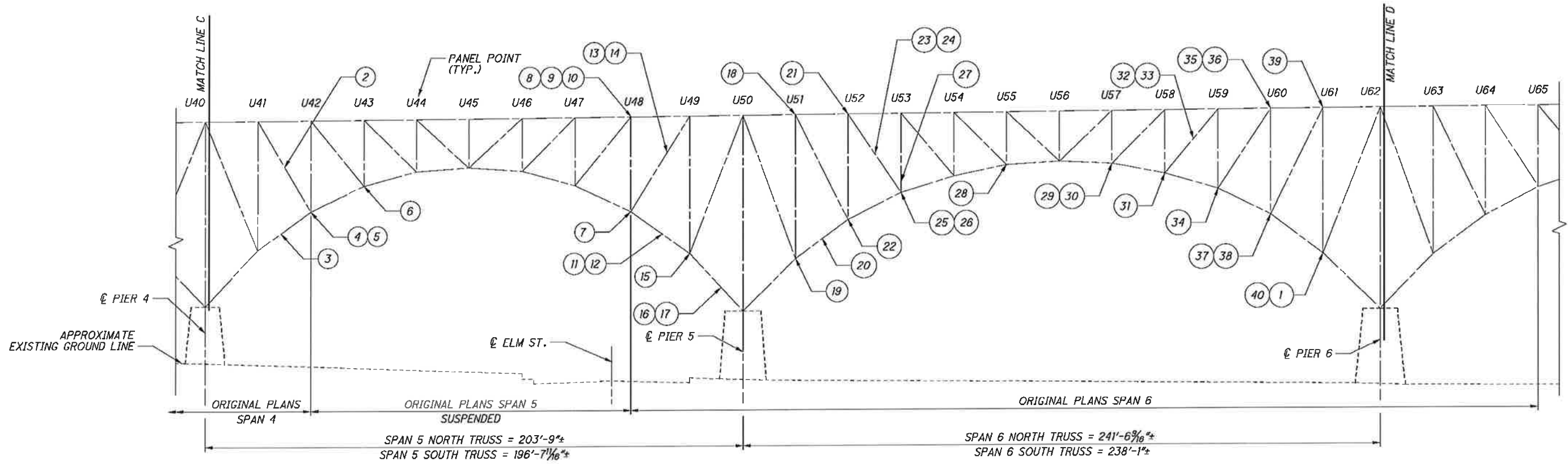
(CENTERLINES OF MEMBERS SHOWN)
(GUSSET PLATES, BEARINGS, FRAMING, DECK NOT SHOWN FOR CLARITY)

RETROFIT KEY

DETAIL	SPAN	LOCATION	RETROFIT	SHEET (XXX OF 187)
1	3	L22-L23 SOUTH TRUSS	PERFORATED \emptyset REPAIR	85
2	3	U22-U23 NORTH TRUSS	PERFORATED \emptyset REPAIR	82
3	3	U23-U24 NORTH TRUSS	PERFORATED \emptyset REPAIR	81
4	3	L24 NORTH TRUSS	GUSSET \emptyset EDGE STIFFENING	100
5	3	L24 SOUTH TRUSS	GUSSET \emptyset EDGE STIFFENING	100
6	3	L26 NORTH TRUSS	GUSSET \emptyset EDGE STIFFENING	100
7	3	L26 SOUTH TRUSS	GUSSET \emptyset EDGE STIFFENING	100
8	3	L27-L28 NORTH TRUSS	INT. DIAPHRAGM RETROFIT	66
9	3	U28 NORTH FB BRACKET	STRENGTHENING	127
10	3	U28 SOUTH FB BRACKET	STRENGTHENING	127
11	3	L28-L29 NORTH TRUSS	PERFORATED \emptyset RETROFIT	77
12	3	U29-L28 NORTH TRUSS	STRENGTHENING	86
13	3	U29-L28 SOUTH TRUSS	STRENGTHENING	86
14	3/4	U30 NORTH TRUSS	GUSSET \emptyset EDGE STIFFENING	87
15	3/4	U30 SOUTH TRUSS	GUSSET \emptyset EDGE STIFFENING	87
16	4	U32-L33 SOUTH TRUSS	STRENGTHENING	86
17	4	L33 NORTH TRUSS	GUSSET \emptyset EDGE STIFFENING	101
18	4	L33 SOUTH TRUSS	GUSSET \emptyset EDGE STIFFENING	101
19	4	L34 NORTH TRUSS	GUSSET \emptyset EDGE STIFFENING	101
20	4	L34 SOUTH TRUSS	GUSSET \emptyset EDGE STIFFENING	101
21	4	L36 SOUTH TRUSS	GUSSET \emptyset EDGE STIFFENING	101
22	4	L36 NORTH TRUSS	GUSSET \emptyset STRENGTHENING	55
23	4	U36N CONNECTION \emptyset	BRACING RETROFIT	145 AND 149
24	4	U38-L37 NORTH TRUSS	STRENGTHENING	86
25	4	U39 NORTH TRUSS	GUSSET \emptyset EDGE STIFFENING	87
26	4	U39 SOUTH TRUSS	GUSSET \emptyset EDGE STIFFENING	87
27	4	U40 NORTH TRUSS	GUSSET \emptyset EDGE STIFFENING	88
28	4	U40 SOUTH TRUSS	GUSSET \emptyset EDGE STIFFENING	88

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RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEET (XXX OF 187)
1	6	L61 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	105
2	5	U41-L42 NORTH TRUSS	STRENGTHENING	86
3	5	L41-L42 NORTH TRUSS	PERFORATED \bar{P} RETROFIT	78
4	5	L42 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	101
5	5	L42 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	101
6	5	L43 SOUTH TRUSS	GUSSET \bar{P} STRENGTHENING	61
7	5	L48 WINDLOCK	STRENGTHENING	135
8	5	U48 NORTH FB BRACKET	STRENGTHENING	128
9	5	U48 SOUTH FB BRACKET	STRENGTHENING	129
10	5	U48N CONNECTION \bar{P}	BRACING RETROFIT	145 AND 149
11	5	L48-L49 NORTH TRUSS	INT. DIAPHRAGM / PERF. \bar{P}	67 68 AND 79
12	5	L48-L49 SOUTH TRUSS	INT. DIAPHRAGM / PERF. \bar{P}	71
13	5	U49-L48 NORTH TRUSS	STRENGTHENING	86
14	5	U49-L48 SOUTH TRUSS	STRENGTHENING	86
15	5	L49 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	102
16	5	L49-L50 NORTH TRUSS	INT. DIAPHRAGM / PERF. \bar{P}	68 AND 80
17	5	L49-L50 SOUTH TRUSS	INT. DIAPHRAGM / PERF. \bar{P}	72
18	6	U51 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	88
19	6	L51 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	102
20	6	L51-L52 NORTH TRUSS	INT. DIAPHRAGM / PERF. \bar{P}	69
21	6	U52 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	88
22	6	L52 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	103
23	6	U52-L53 NORTH TRUSS	STRENGTHENING	86

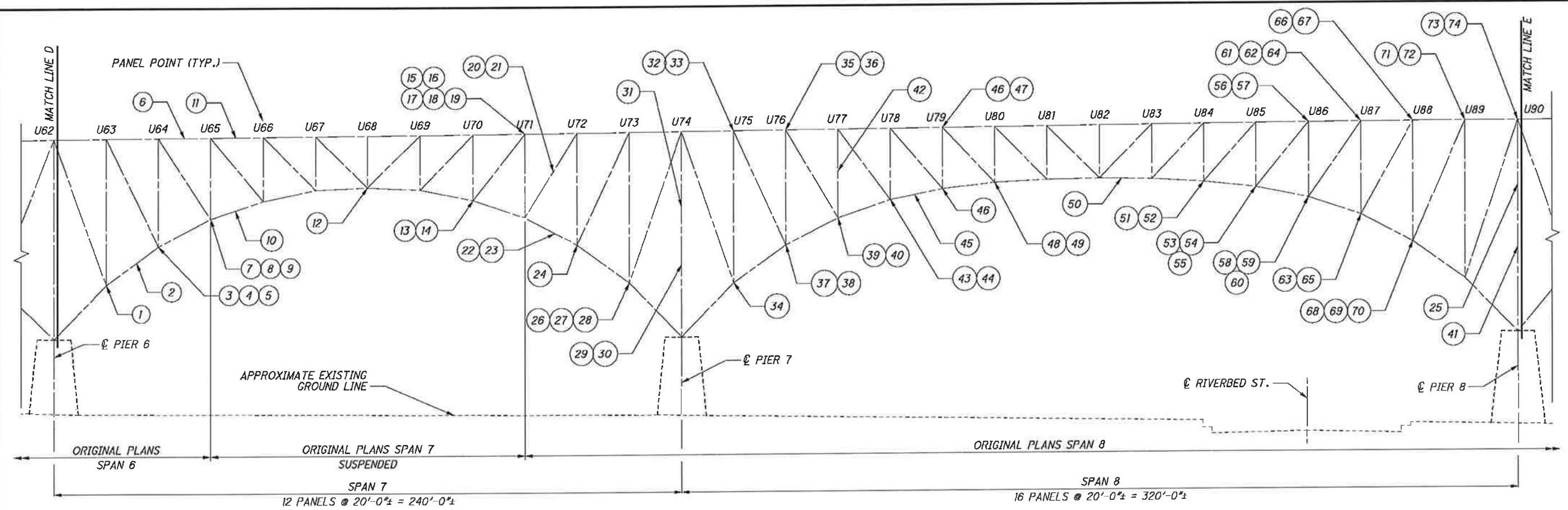
RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEET (XXX OF 187)
24	6	U52-L53 SOUTH TRUSS	STRENGTHENING	86
25	6	L53 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	103
26	6	L53 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	103
27	6	L53S SWAY BRACE DIAGONAL	STRENGTHENING	145 AND 146
28	6	L55 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	103
29	6	L57 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	104
30	6	L57 SOUTH TRUSS	GUSSET \bar{P} STRENGTHENING	62
31	6	L58 SOUTH TRUSS	GUSSET \bar{P} STRENGTHENING	63
32	6	U59-L58 NORTH TRUSS	STRENGTHENING	86
33	6	U59-L58 SOUTH TRUSS	STRENGTHENING	86
34	6	L59 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	104
35	6	U60 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	88
36	6	U60 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	89
37	6	L60 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	105
38	6	L60 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	104
39	6	U61 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	89
40	6	L61 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	106

CUY-2-14.41
PID No. 91115

MAIN TRUSS STEEL RETROFIT SPAN 5 & SPAN 6
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED: CTG
CHECKED: NRF
DRAWN: DWK
REVIEWED: WRW
DATE: 08/16/13
STRUCTURE FILE NUMBER: 1800035

DESIGN AGENCY: **TranSystems**
25 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113



PARTIAL SOUTH ELEVATION OF TRUSS

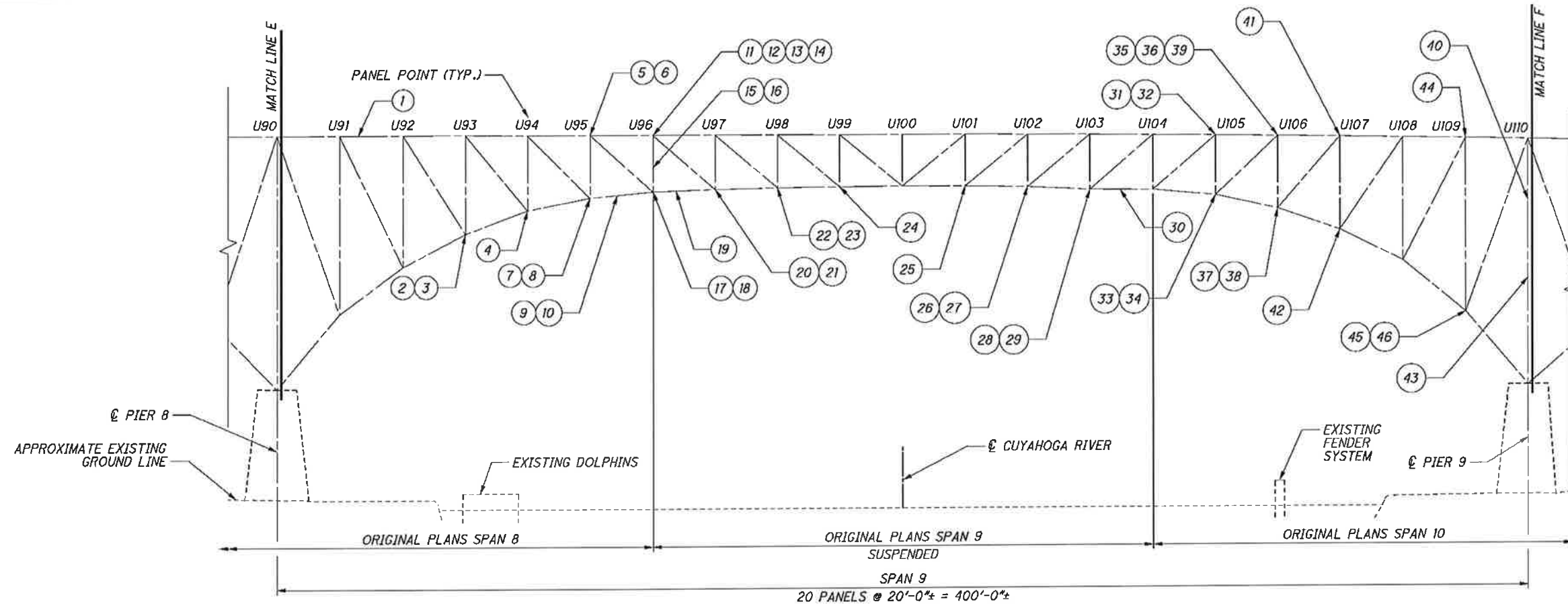
(CENTERLINES OF MEMBERS SHOWN)
 (GUSSET PLATES, BEARINGS, FRAMING, DECK NOT SHOWN FOR CLARITY)

RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEETS (XXX OF 187)
1	7	L63 SOUTH TRUSS	GUSSET P EDGE STIFFENING	106
2	7	L63-L64 NORTH TRUSS	PERFORATED P RETROFIT	84
3	7	L64S SWAY STRUT	STRENGTHENING	145 AND 147
4	7	L64N SWAY STRUT	STRENGTHENING	145 AND 147
5	7	L64 NORTH TRUSS	GUSSET P EDGE STIFFENING	106
6	7	U64-U65 NORTH TRUSS	PERFORATED P RETROFIT	82
7	7	L65 NORTH TRUSS	GUSSET P EDGE STIFFENING	107
8	7	L65 SOUTH TRUSS	GUSSET P EDGE STIFFENING	107
9	7	L65N-L65S SWAY STRUT	STRENGTHENING	137
10	7	L65-L66 NORTH TRUSS	PERFORATED P RETROFIT	83
11	7	U65-U66 NORTH TRUSS	PERFORATED P RETROFIT	82
12	7	L68 NORTH TRUSS	GUSSET P STRENGTHENING	56
13	7	L70 NORTH TRUSS	GUSSET P EDGE STIFFENING	107
14	7	L70 SOUTH TRUSS	GUSSET P EDGE STIFFENING	107
15	7	U71 NORTH FB BRACKET	STRENGTHENING	130
16	7	U71 SOUTH FB BRACKET	STRENGTHENING	131
17	7	U71N SWAY STRUT	STRENGTHENING	145 AND 148
18	7	U71S SWAY STRUT	STRENGTHENING	145 AND 146
19	7	U71S SWAY BRACE DIAGONAL	STRENGTHENING	145 AND 146
20	7	U72-L71 NORTH TRUSS	STRENGTHENING	86
21	7	U72-L71 SOUTH TRUSS	STRENGTHENING	86
22	7	L71-L72 NORTH TRUSS	INT. DIAPHRAGM / PERF. P	70 AND 83
23	7	L71-L72 SOUTH TRUSS	PERFORATED P RETROFIT	83
24	7	L72S SWAY BRACE DIAGONAL	STRENGTHENING	145 AND 146
25	8	PP90S SWAY STRUT	STRENGTHENING	145 AND 146
26	7	L73 NORTH TRUSS	GUSSET P EDGE STIFFENING	107

RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEETS (XXX OF 187)
27	7	L73 SOUTH TRUSS	GUSSET P EDGE STIFFENING	107
28	7	L73S-L73N SWAY STRUT	STRENGTHENING	138
29	7/8	PP74N SWAY STRUT	STRENGTHENING	145 AND 146
30	7/8	PP74N SWAY BRACE DIAG.	STRENGTHENING	145 AND 146
31	7/8	PP74S SWAY STRUT	STRENGTHENING	145 AND 146
32	8	U75 NORTH TRUSS	GUSSET P EDGE STIFFENING	89
33	8	U75 SOUTH TRUSS	GUSSET P EDGE STIFFENING	89
34	8	L75S-L75N SWAY STRUT	STRENGTHENING	136
35	8	U76 NORTH TRUSS	GUSSET P EDGE STIFFENING	89
36	8	U76 SOUTH TRUSS	GUSSET P EDGE STIFFENING	89
37	8	L76 NORTH TRUSS	GUSSET P EDGE STIFFENING	108
38	8	L76 SOUTH TRUSS	GUSSET P EDGE STIFFENING	108
39	8	L77 NORTH TRUSS	GUSSET P EDGE STIFFENING	108
40	8	L77 SOUTH TRUSS	GUSSET P EDGE STIFFENING	108
41	8	PP90S SWAY STRUT	STRENGTHENING	145 AND 146
42	8	U77S-L77N SWAY BRACING	STRENGTHENING	145 AND 146
43	8	L78 NORTH TRUSS	GUSSET P EDGE STIFFENING	108
44	8	L78 SOUTH TRUSS	GUSSET P EDGE STIFFENING	108
45	8	L79N-L78M LATERAL BRACE	STRENGTHENING	137 AND 141
46	8	L79N TOP CONN. P	BRACING RETROFIT	144
47	8	FLOORBEAM 79	STRENGTHENING	124
48	8	L80 NORTH TRUSS	GUSSET P EDGE STIFFENING	108
49	8	L80 SOUTH TRUSS	GUSSET P EDGE STIFFENING	108
50	8	L82N-L83M LATERAL BRACE	STRENGTHENING	141
51	8	L84 NORTH TRUSS	GUSSET P EDGE STIFFENING	109

RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEETS (XXX OF 187)
52	8	L84 SOUTH TRUSS	GUSSET P STRENGTHENING	64
53	8	L85 NORTH TRUSS	GUSSET P EDGE STIFFENING	109
54	8	L85 SOUTH TRUSS	GUSSET P EDGE STIFFENING	109
55	8	L85N-L85S SWAY STRUT	STRENGTHENING	140
56	8	U86 NORTH TRUSS	GUSSET P EDGE STIFFENING	90
57	8	U86 SOUTH TRUSS	GUSSET P EDGE STIFFENING	90
58	8	L86 NORTH TRUSS	GUSSET P EDGE STIFFENING	109
59	8	L86 SOUTH TRUSS	GUSSET P EDGE STIFFENING	109
60	8	L86N-L86S SWAY STRUT	STRENGTHENING	142
61	8	U87 NORTH TRUSS	GUSSET P EDGE STIFFENING	90
62	8	U87 SOUTH TRUSS	GUSSET P EDGE STIFFENING	90
63	8	L87N-L87S SWAY STRUT	STRENGTHENING	142
64	8	U87N CONNECTION P	BRACING RETROFIT	145 AND 149
65	8	L87N CONNECTION P'S	BRACING RETROFITS	144
66	8	U88 NORTH TRUSS	GUSSET P EDGE STIFFENING	90
67	8	U88 SOUTH TRUSS	GUSSET P EDGE STIFFENING	90
68	8	L88 NORTH TRUSS	GUSSET P EDGE STIFFENING	109
69	8	L88 SOUTH TRUSS	GUSSET P EDGE STIFFENING	109
70	8	L88S-L88N SWAY STRUT	STRENGTHENING	137
71	8	U89 NORTH TRUSS	GUSSET P EDGE STIFFENING	90
72	8	U89 SOUTH TRUSS	GUSSET P EDGE STIFFENING	90
73	8	U90 NORTH TRUSS	GUSSET P EDGE STIFFENING	91
74	8	U90 SOUTH TRUSS	GUSSET P EDGE STIFFENING	91

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PARTIAL SOUTH ELEVATION OF TRUSS
 (CENTERLINES OF MEMBERS SHOWN)
 (GUSSET PLATES, BEARINGS, FRAMING, DECK NOT SHOWN FOR CLARITY)

RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEETS (XXX OF 187)
1	9	U91-U92 SOUTH TRUSS	TORCH CUT RETROFIT	134
2	9	L93 NORTH TRUSS	GUSSET \bar{P} STRENGTHENING	57
3	9	L93 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	110
4	9	L94 NORTH TRUSS	GUSSET \bar{P} STRENGTHENING	58
5	9	U95 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	91
6	9	U95 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	91
7	9	L95 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	110
8	9	L95 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	110
9	9	L96S-L95M LATERAL BRACE	STRENGTHENING	137 AND 143
10	9	L96N-L95M LATERAL BRACE	STRENGTHENING	143
11	9	U96 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	91
12	9	U96 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	91
13	9	U96 NORTH FB BRACKET	STRENGTHENING	131
14	9	U96 SOUTH FB BRACKET	STRENGTHENING	130
15	9	U96S-L96M SWAY BRACING	STRENGTHENING	145 AND 146
16	9	U96N-L96M SWAY BRACING	STRENGTHENING	145 AND 146
17	9	L96 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	110
18	9	L96 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	110
19	9	L96-L97 NORTH TRUSS	PERFORATED \bar{P} REPAIR	82
20	9	L97 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	110
21	9	L97 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	110
22	9	L98 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	111
23	9	L98 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	111
24	9	L99 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	111

RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEETS (XXX OF 187)
25	9	L101 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	111
26	9	L102 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	112
27	9	L102 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	111
28	9	L103 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	112
29	9	L103 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	112
30	9	L103-L104 NORTH TRUSS	PERFORATED \bar{P} REPAIR	85
31	9	U105 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	92
32	9	U105 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	91
33	9	L105 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	112
34	9	L105N-L105S SWAY STRUT	STRENGTHENING	139
35	9	U106 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	92
36	9	U106 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	92
37	9	L106 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	113
38	9	L106 SOUTH TRUSS	GUSSET \bar{P} STRENGTHENING	65
39	9	FLOORBEAM 106	STRINGER SHIM PACK REPAIR	122 AND 123
40	9/10	PP110 SWAY STRUT	STRENGTHENING	145 AND 146
41	9	U107 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	92
42	9	L107 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	113
43	9/10	PP110 SWAY STRUT	STRENGTHENING	145 AND 146
44	9	U109 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	93
45	9	L109 NORTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	114
46	9	L109 SOUTH TRUSS	GUSSET \bar{P} EDGE STIFFENING	113

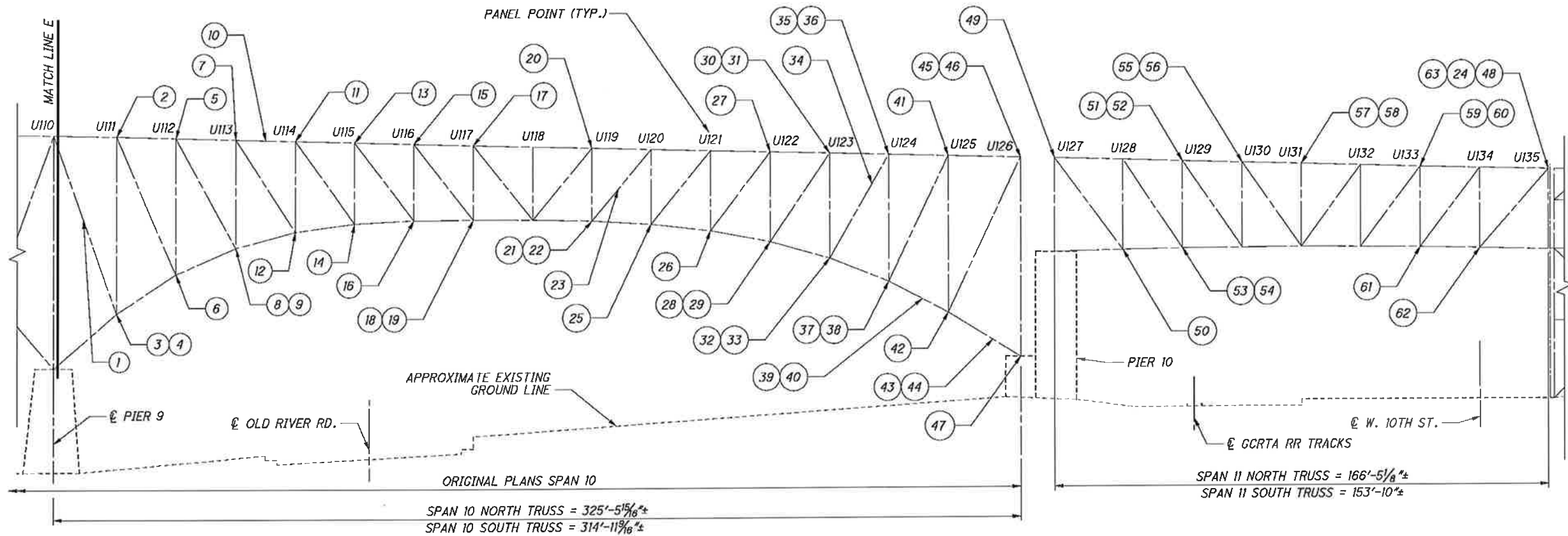
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CUY-2-14.41
PID No. 91115

MAIN TRUSS STEEL RETROFIT SPAN 9
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED: CTG
CHECKED: NRF
DRAWN: DWC
REVISED:
REVIEWED: WRW
DATE: 08/16/13
STRUCTURE FILE NUMBER: 1800035

DESIGN AGENCY
Train Systems
55 PUBLIC SQUARE, SUITE 1000
CLEVELAND, OHIO 44113



PARTIAL SOUTH ELEVATION OF TRUSS

(CENTERLINES OF MEMBERS SHOWN)
(GUSSET PLATES, BEARINGS, FRAMING, DECK NOT SHOWN FOR CLARITY)

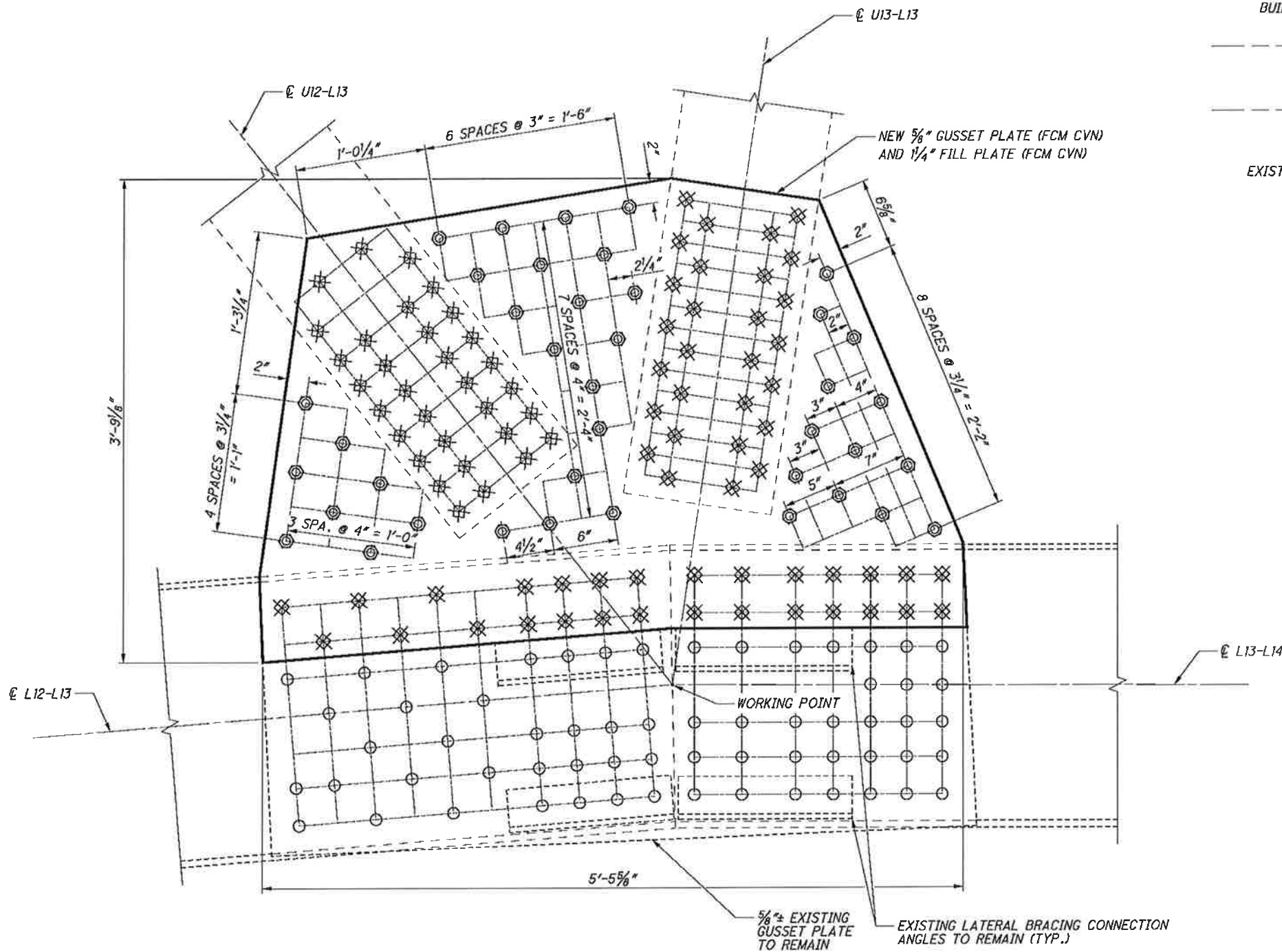
RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEETS (XXX OF 187)
1	10	U110-L111 NORTH TRUSS	TORCH CUT RETROFIT	134
2	10	U111 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	93
3	10	L111 NORTH TRUSS	GUSSET \square EDGE STIFFENING	114
4	10	L111N-L111S SWAY STRUT	STRENGTHENING	138
5	10	U112 NORTH TRUSS	GUSSET \square EDGE STIFFENING	93
6	10	L112 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	114
7	10	U113 NORTH TRUSS	GUSSET \square EDGE STIFFENING	93
8	10	L113 NORTH TRUSS	GUSSET \square EDGE STIFFENING	115
9	10	L113 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	115
10	10	U113-U114 NORTH TRUSS	FLAME CUT RETROFIT	134
11	10	U114 NORTH TRUSS	GUSSET \square EDGE STIFFENING	94
12	10	L114 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	115
13	10	U115 NORTH TRUSS	GUSSET \square EDGE STIFFENING	94
14	10	L115 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	115
15	10	U116 NORTH TRUSS	GUSSET \square EDGE STIFFENING	94
16	10	L116 NORTH TRUSS	GUSSET \square EDGE STIFFENING	116
17	10	U117 NORTH TRUSS	GUSSET \square EDGE STIFFENING	94
18	10	L117 NORTH TRUSS	GUSSET \square EDGE STIFFENING	116
19	10	L117 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	116
20	10	U119 NORTH TRUSS	GUSSET \square EDGE STIFFENING	95
21	10	L119 NORTH TRUSS	GUSSET \square EDGE STIFFENING	117
22	10	L119 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	116

RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEETS (XXX OF 187)
23	10	U120-L119 SOUTH TRUSS	STRENGTHENING	86
24	11	U135N CONNECTION \square	BRACING RETROFIT	145 AND 149
25	10	L120 NORTH TRUSS	GUSSET \square EDGE STIFFENING	117
26	10	L120 NORTH TRUSS	GUSSET \square EDGE STIFFENING	117
27	10	U122 NORTH TRUSS	GUSSET \square EDGE STIFFENING	95
28	10	L122 NORTH TRUSS	GUSSET \square EDGE STIFFENING	118
29	10	L122 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	117
30	10	U123 NORTH TRUSS	GUSSET \square EDGE STIFFENING	95
31	10	U123 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	95
32	10	L123 NORTH TRUSS	GUSSET \square EDGE STIFFENING	118
33	10	L123 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	118
34	10	U124-L123 SOUTH TRUSS	STRENGTHENING	86
35	10	U124 NORTH TRUSS	GUSSET \square EDGE STIFFENING	96
36	10	U124 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	96
37	10	L124 NORTH TRUSS	GUSSET \square EDGE STIFFENING	119
38	10	L124 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	119
39	10	L124-L125 SOUTH TRUSS	INT. DIAPHRAGM / PERF. \square	73
40	10	L124-L125 SOUTH TRUSS	INT. DIAPHRAGM RETROFIT	74
41	10	U125 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	96
42	10	L125N-L125S SWAY STRUT	STRENGTHENING	138
43	10	L125-L126 SOUTH TRUSS	INT. DIAPHRAGM RETROFIT	74
44	10	L125-L126 SOUTH TRUSS	PERFORATED \square RETROFIT	85

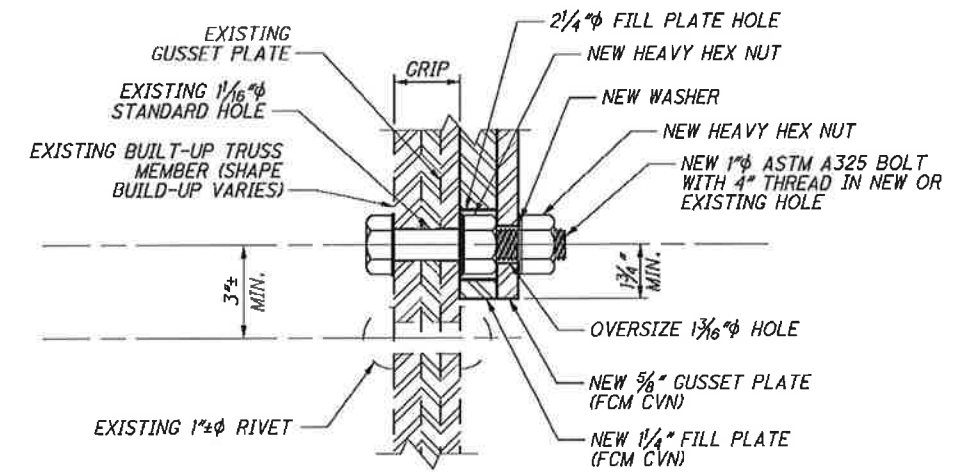
RETROFIT KEY				
DETAIL	SPAN	LOCATION	RETROFIT	SHEETS (XXX OF 187)
45	10	U126 NORTH FB BRACKET	STRENGTHENING	132
46	10	U126 SOUTH FB BRACKET	STRENGTHENING	133
47	10	L126 NORTH TRUSS	GUSSET \square EDGE STIFFENING	119
48	11	FLOORBEAM 135	STRENGTHENING	125 AND 126
49	11	U127 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	98
50	11	L128 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	120
51	11	U129 NORTH TRUSS	GUSSET \square EDGE STIFFENING	97
52	11	U129 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	97
53	11	L129 NORTH TRUSS	GUSSET \square EDGE STIFFENING	120
54	11	L129 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	120
55	11	U130 NORTH TRUSS	GUSSET \square EDGE STIFFENING	97
56	11	U130 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	97
57	11	U131 NORTH TRUSS	GUSSET \square EDGE STIFFENING	98
58	11	U131 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	98
59	11	U133 NORTH TRUSS	GUSSET \square EDGE STIFFENING	98
60	11	U133 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	98
61	11	L133 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	121
62	11	L134 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	121
63	11	U135 SOUTH TRUSS	GUSSET \square EDGE STIFFENING	98

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**SPAN 2 - PANEL POINT L13 - 1 GUSSET PLATE
NORTH TRUSS, SOUTH PLATE, SOUTH ELEVATION**



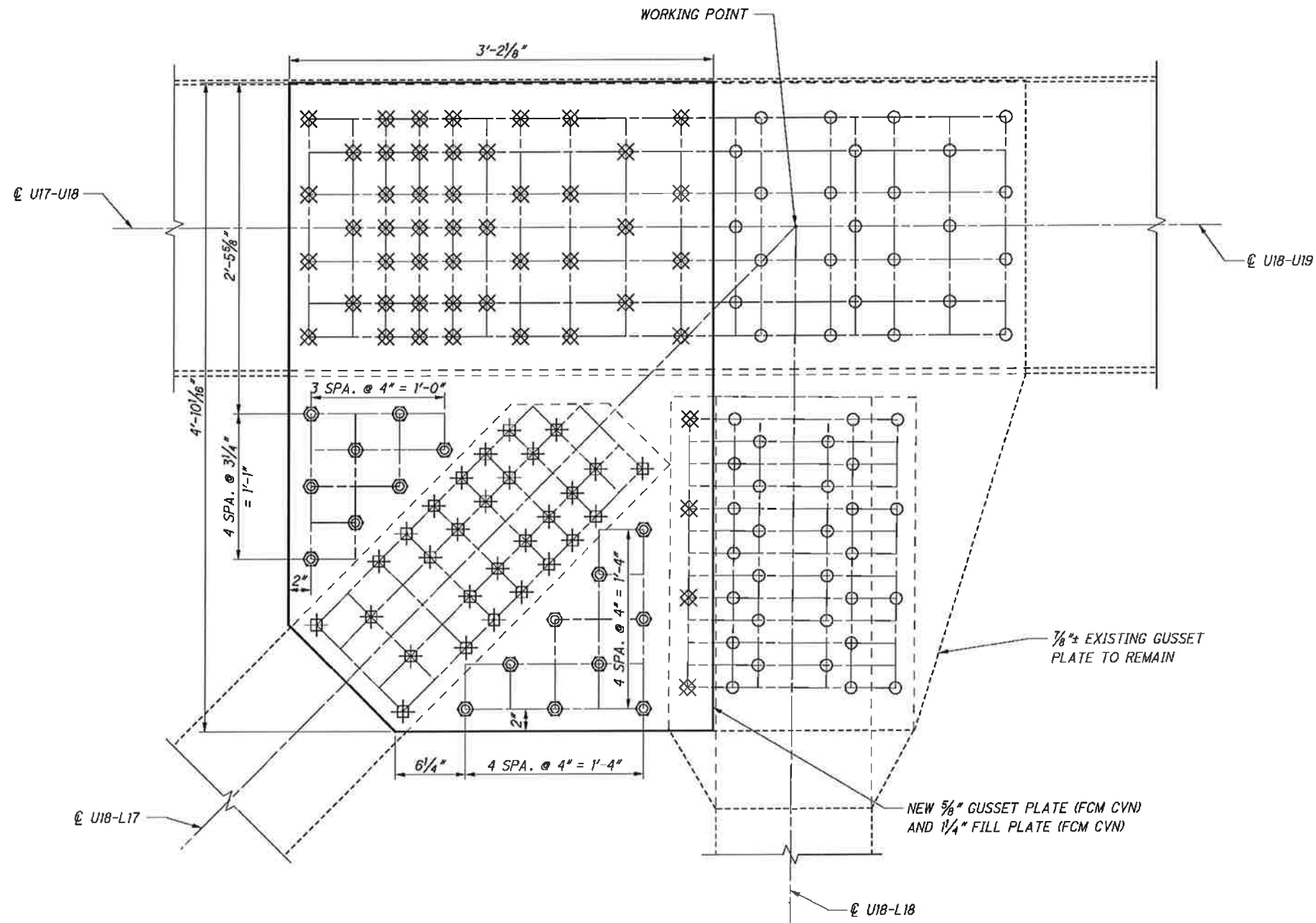
TYPICAL NEW DOUBLE NUT CONNECTION DETAIL

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1 1/8\"/>
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1\"/>

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY PLATE DIMENSIONS AND RIVET LAYOUTS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
2. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
3. SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.
4. CONNECTION BOLT "GRIP": THE GRIP IS THE NON-THREADED LENGTH OF BOLT REQUIRED TO COMPLETE THE CONNECTION BETWEEN EXISTING AND/OR NEW MATERIALS. THE "GRIP" DOES NOT INCLUDE WASHERS, NUTS, OR BOLT STICK-THROUGH. THE "GRIP" DOES NOT INCLUDE PACK RUST OR GUSSET PLATE DEFORMATIONS AT SPECIFIC LOCATIONS THAT MAY REQUIRE LONGER BOLTS. THE CONTRACTOR SHALL FIELD VERIFY ALL GRIP DIMENSIONS PRIOR TO FABRICATION OF NEW GUSSET PLATES.
5. ALL WORK ON THIS SHEET SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.; MAIN TRUSS GUSSET PLATE STRENGTHENING. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 3 / 187 AND 4 / 187 .
6. THE MINIMUM DISTANCE FROM THE CENTER OF NEW 1\"/>
- 7. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF NEW AND EXISTING GUSSET PLATES, THE NEW GUSSET PLATES AND ANY AREAS DAMAGED AS PART OF THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT N ITEM 514.



SPAN 2 - PANEL POINT U18 - 1 GUSSET PLATE
NORTH TRUSS, SOUTH PLATE, SOUTH ELEVATION

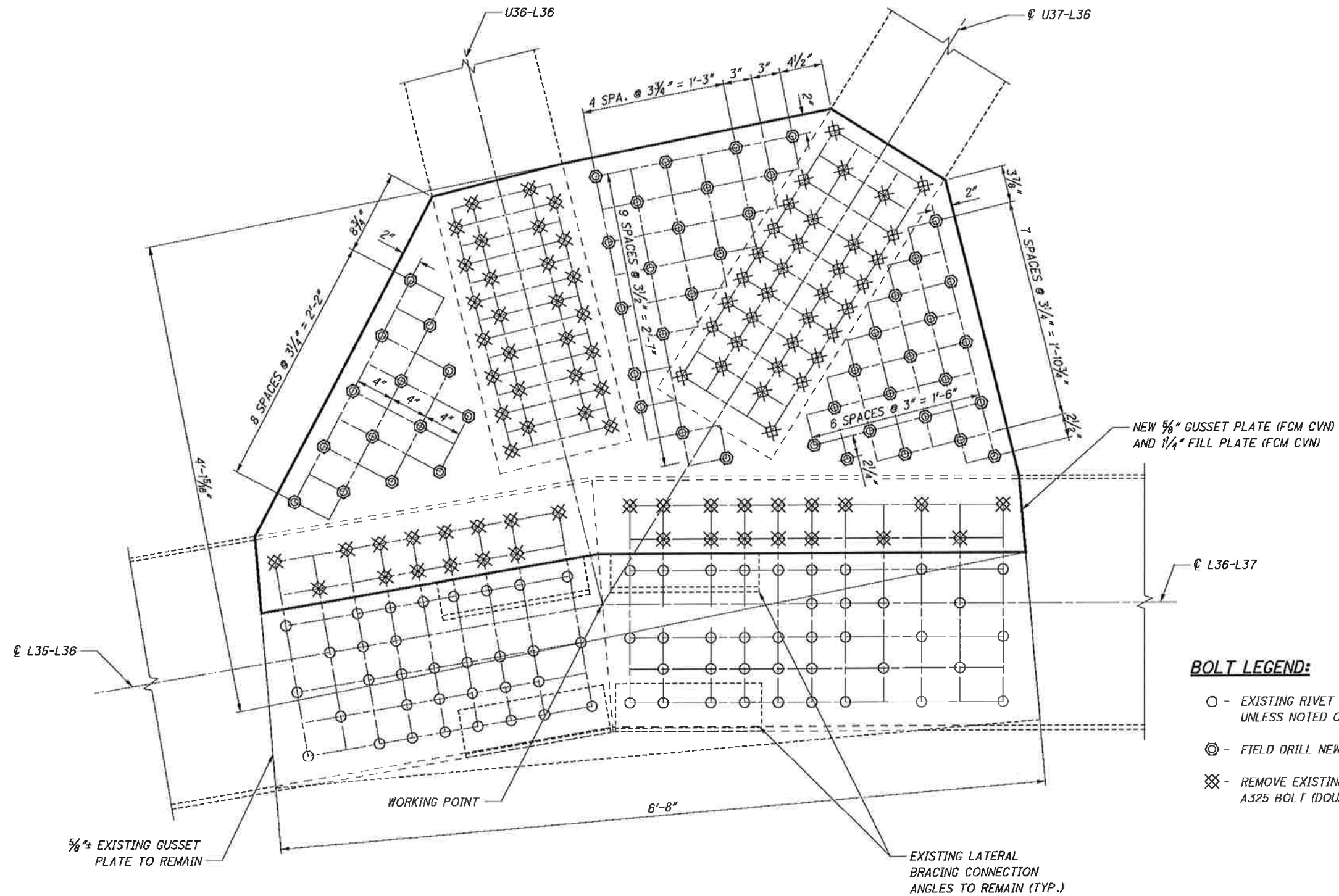
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1 1/16" φ HOLE FOR NEW 1" φ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187 .

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**SPAN 4 - PANEL POINT L36 - 1 GUSSET PLATE
NORTH TRUSS, SOUTH PLATE, SOUTH ELEVATION**

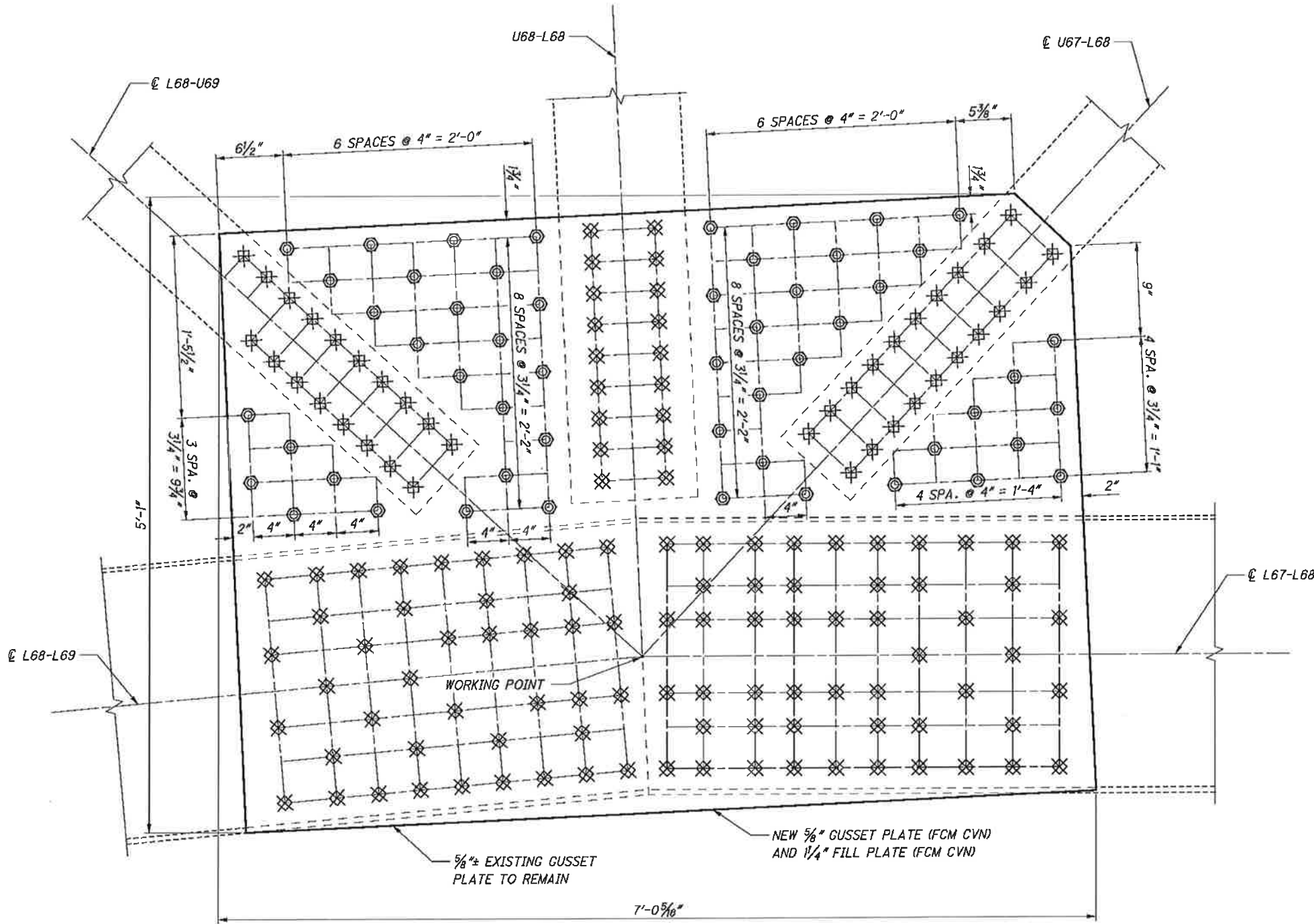
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16" HOLE FOR NEW 1" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187 .

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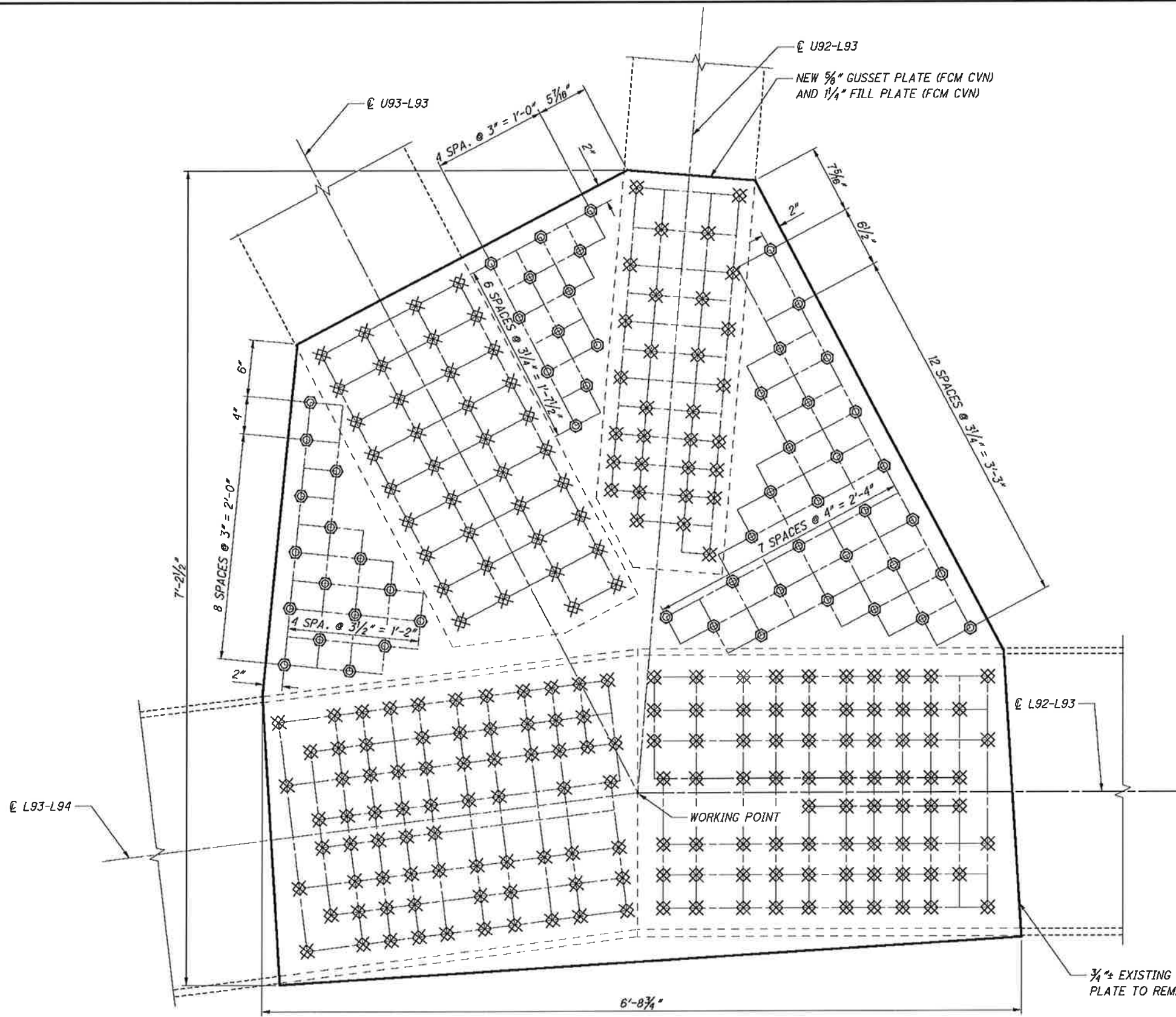
**SPAN 7 - PANEL POINT L68 - 1 GUSSET PLATE
NORTH TRUSS, NORTH PLATE, NORTH ELEVATION**

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16"ϕ HOLE FOR NEW 1"ϕ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1"ϕ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187 .



BOLT LEGEND:

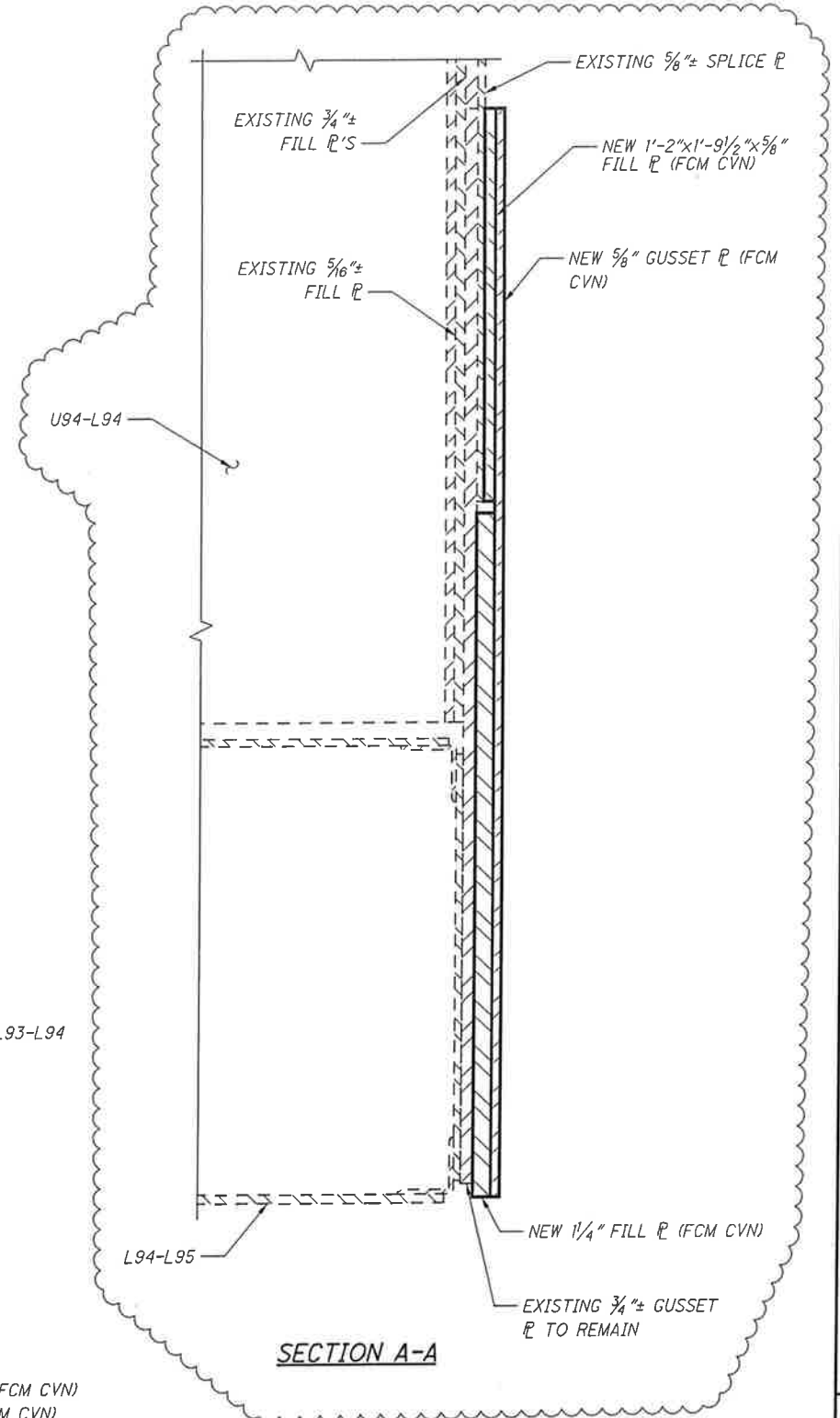
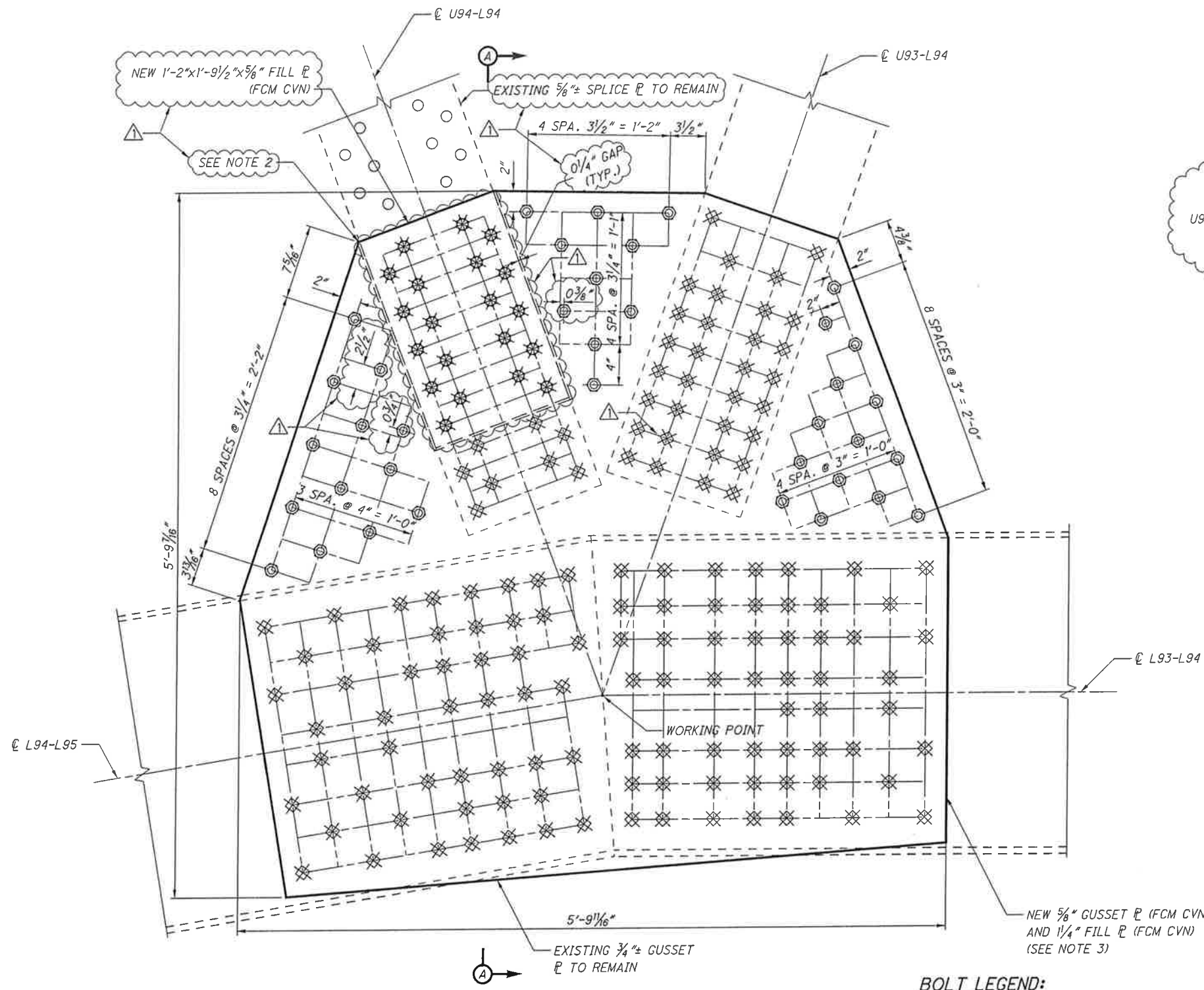
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1 1/8" φ HOLE FOR NEW 1" φ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187 .

**SPAN 9 - PANEL POINT L93 - 1 GUSSET PLATE
NORTH TRUSS, NORTH PLATE, NORTH ELEVATION**

<p>DESIGN AGENCY TranSystems 55 PUBLIC SQUARE, SUITE 100 CLEVELAND, OHIO 44115</p>	<p>DATE 08/16/13</p> <p>REVIEWED WRW</p> <p>STRUCTURE FILE NUMBER 1800035</p>	<p>DESIGNED ADK</p> <p>CHECKED NMR</p> <p>DRAWN DMD</p> <p>REVISED</p>
<p>SPAN 9 - PANEL POINT L93 NORTH TRUSS NORTH PLATE MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER</p>		
<p>CUY-2-14.41 PID No. 91115</p>	<p>57 / 187</p> <p style="font-size: 24px; border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">59 189</p>	



**SPAN 9 - PANEL POINT L94 - 1 GUSSET PLATE
NORTH TRUSS, NORTH PLATE, NORTH ELEVATION**

BOLT LEGEND:

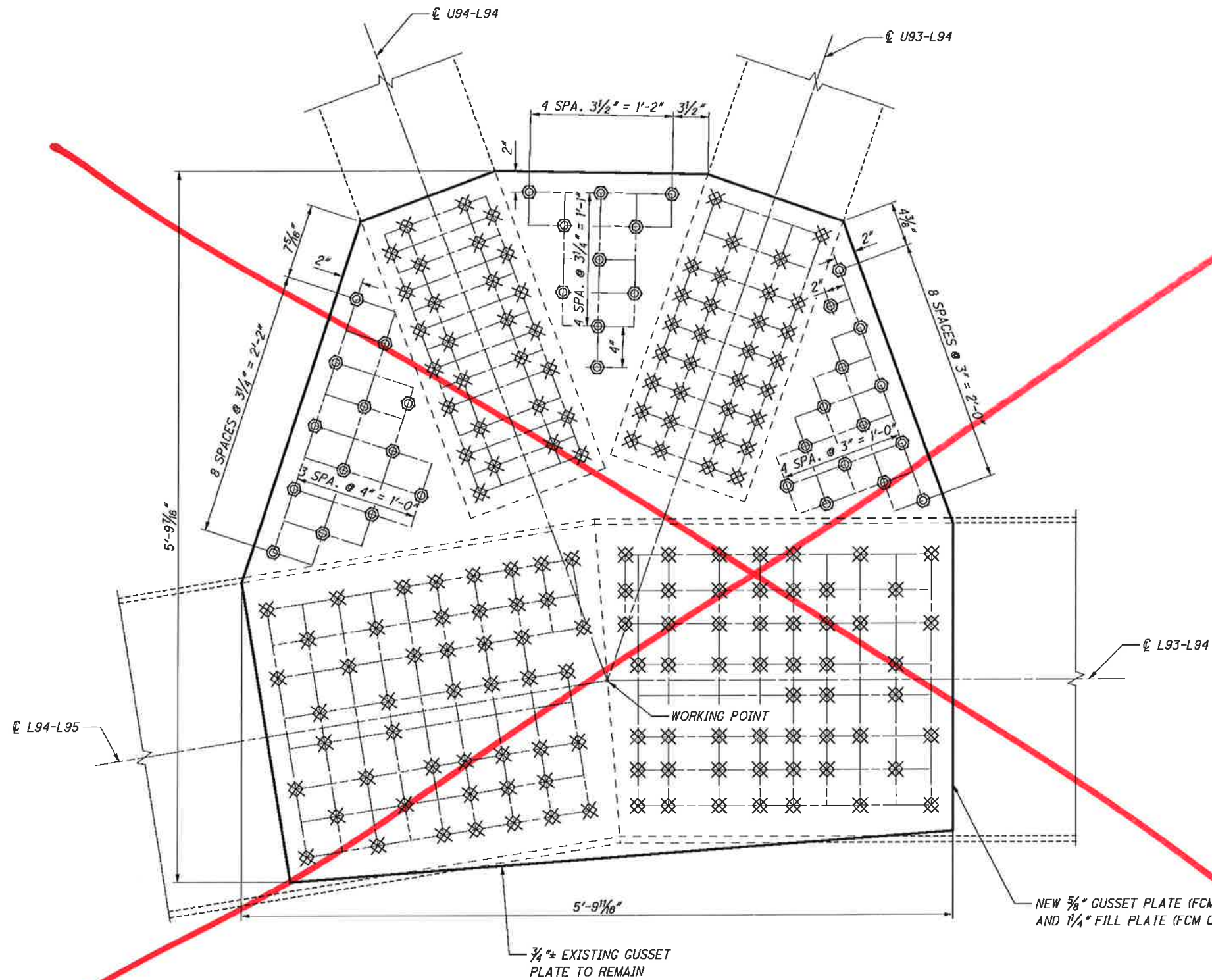
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16" φ HOLE FOR NEW 1" φ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).
- ⊛ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT (DOUBLE NUT CONNECTION WITH JAM NUT DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53/187.
2. CONTRACTOR IS TO CAULK 1/4" WIDE GAP BETWEEN 1/4" THICK FILL PLATE AND EXISTING DIAGONAL OR VERTICAL MEMBER PER CMS 514.19.
3. FOR DOUBLE NUT CONNECTION WITH JAM NUT DETAIL AND 1/4" FILL PLATE DETAILS SEE SHEET 65A/187.

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	DESIGN AGENCY TRAIN SYSTEMS <small>55 PUBLIC SQUARE, SUITE 1800 CLEVELAND, OHIO 44113</small>	DATE 08/16/13	REVIEWED WFRW	STRUCTURE FILE NUMBER 1800035
DESIGNED ADK	CHECKED NMR	DRAWN DMJ	REVISED NRF	
SPAN 9 - PANEL POINT L94 NORTH TRUSS NORTH PLATE MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER				
CUY-2-14.41 PID No. 91115				
58/187				
60 189				



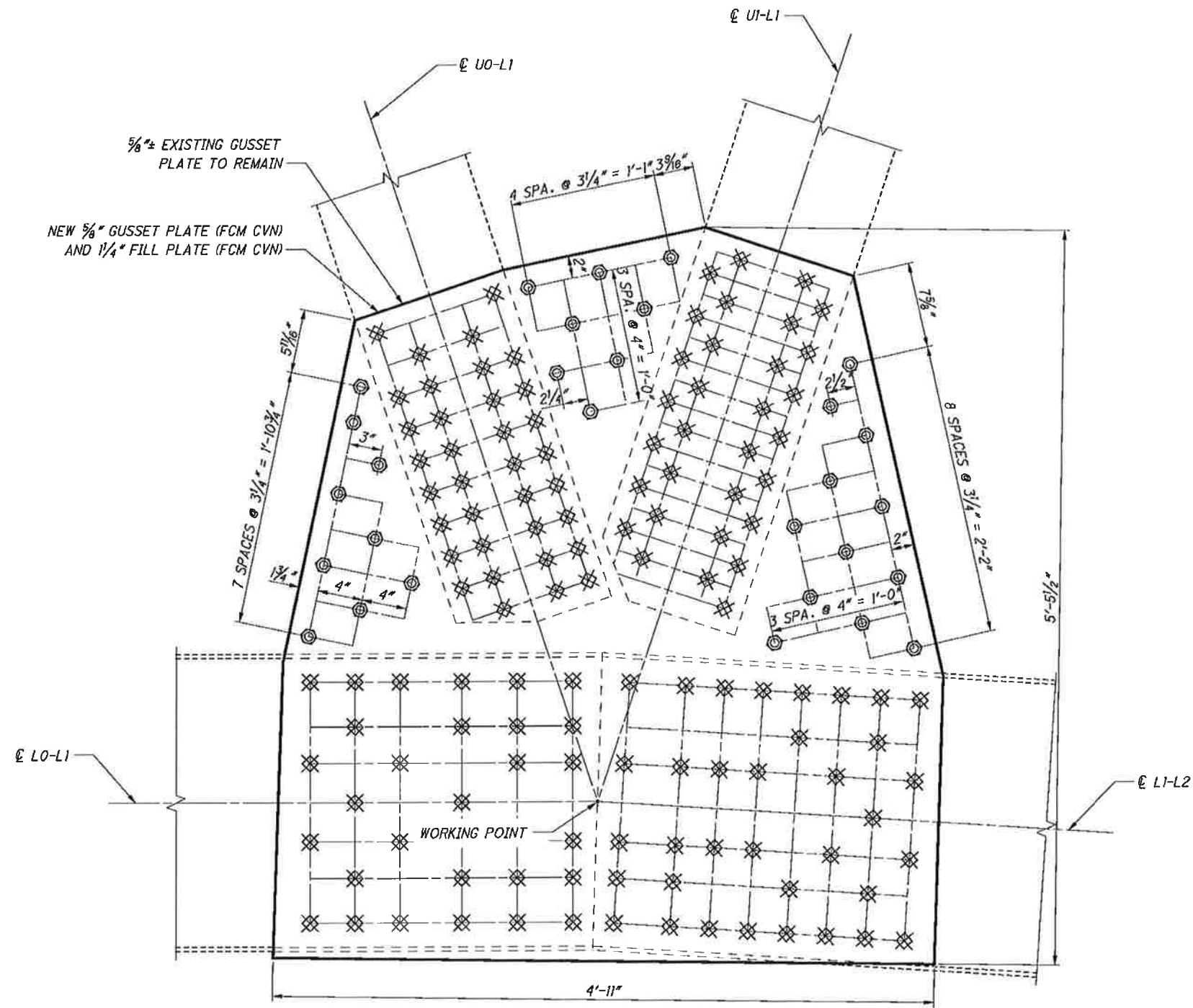
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16" φ HOLE FOR NEW 1" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187.

**SPAN 9 - PANEL POINT L94 - 1 GUSSET PLATE
NORTH TRUSS, NORTH PLATE, NORTH ELEVATION**



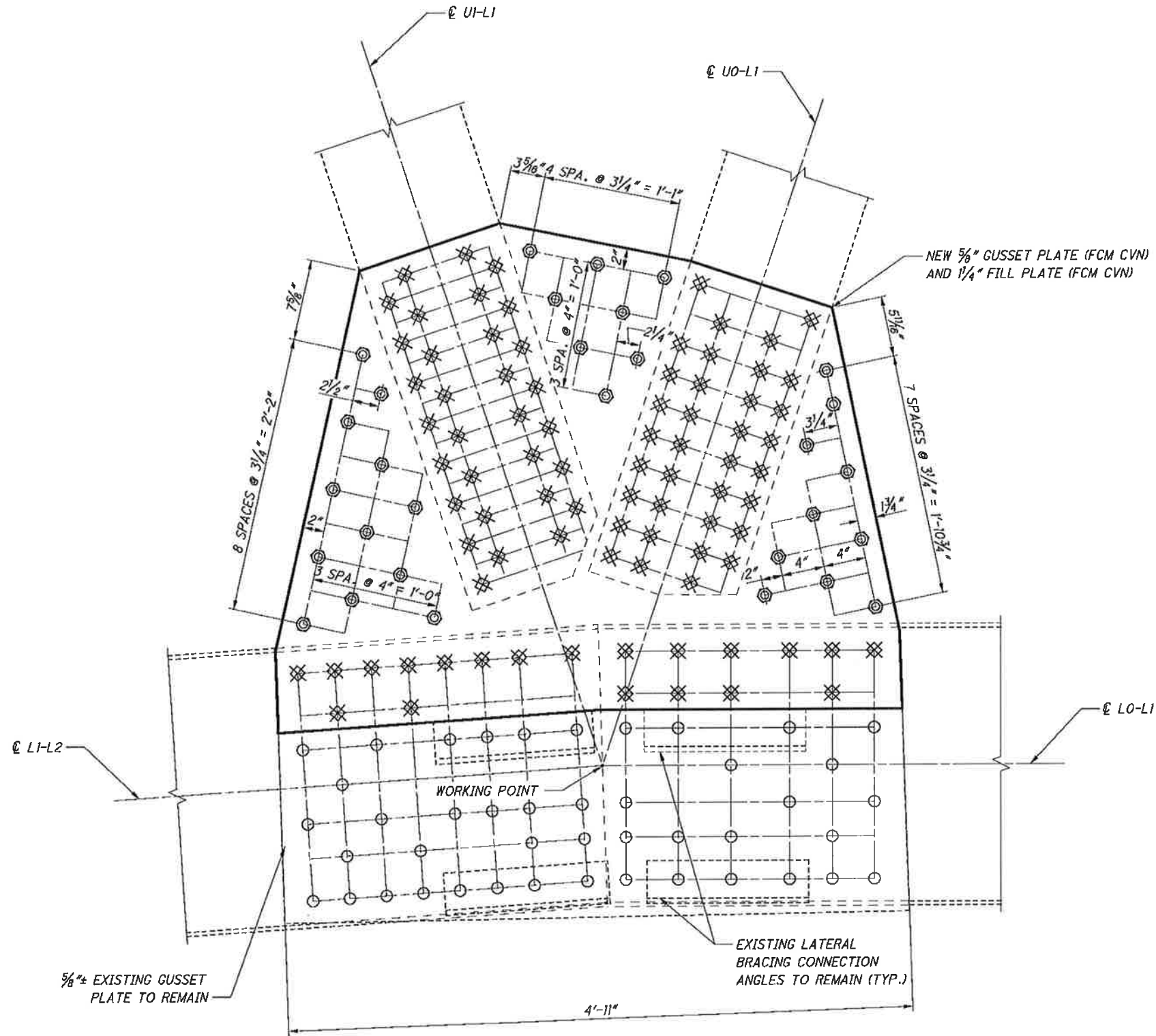
**SPAN 1 - PANEL POINT L1 - 1 GUSSET PLATE
SOUTH TRUSS, SOUTH PLATE, SOUTH ELEVATION**

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1 1/8" φ HOLE FOR NEW 1" φ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187 .



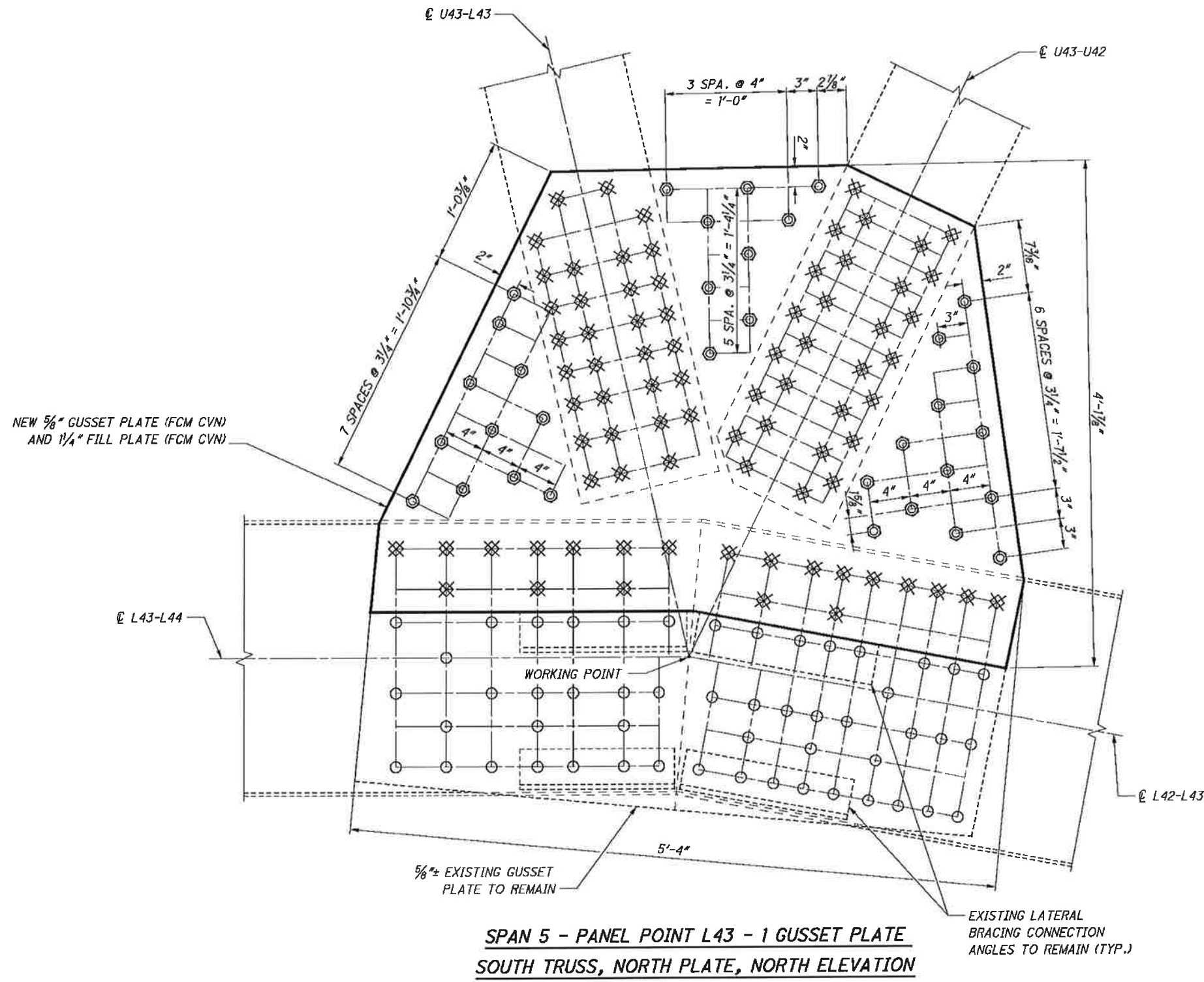
**SPAN 1 - PANEL POINT L1 - 1 GUSSET PLATE
SOUTH TRUSS, NORTH PLATE, NORTH ELEVATION**

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16"ϕ HOLE FOR NEW 1"ϕ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1"ϕ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187 .



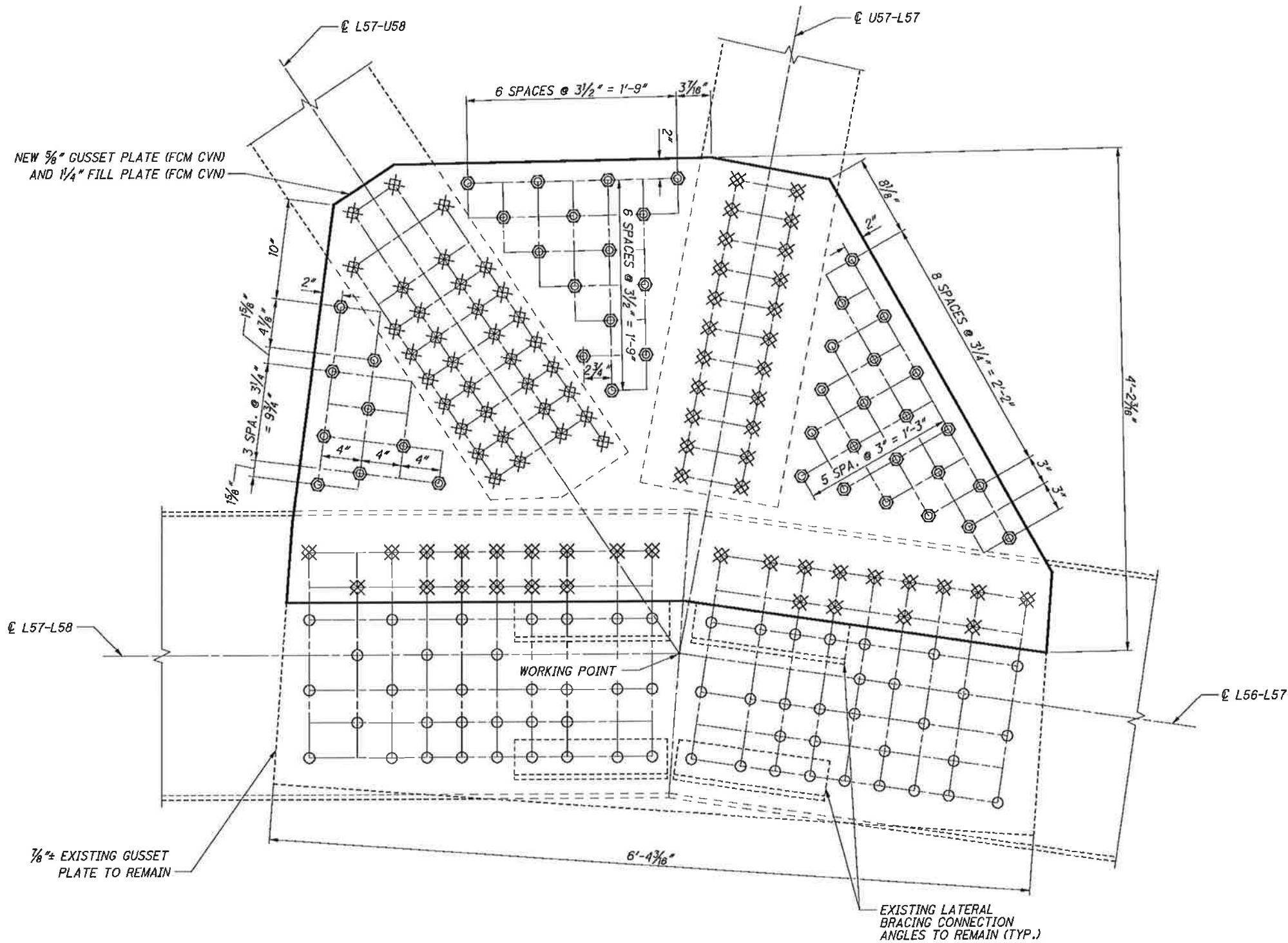
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1 1/16" φ HOLE FOR NEW 1" φ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187 .

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**SPAN 6 - PANEL POINT L57 - 1 GUSSET PLATE
SOUTH TRUSS, NORTH PLATE, NORTH ELEVATION**

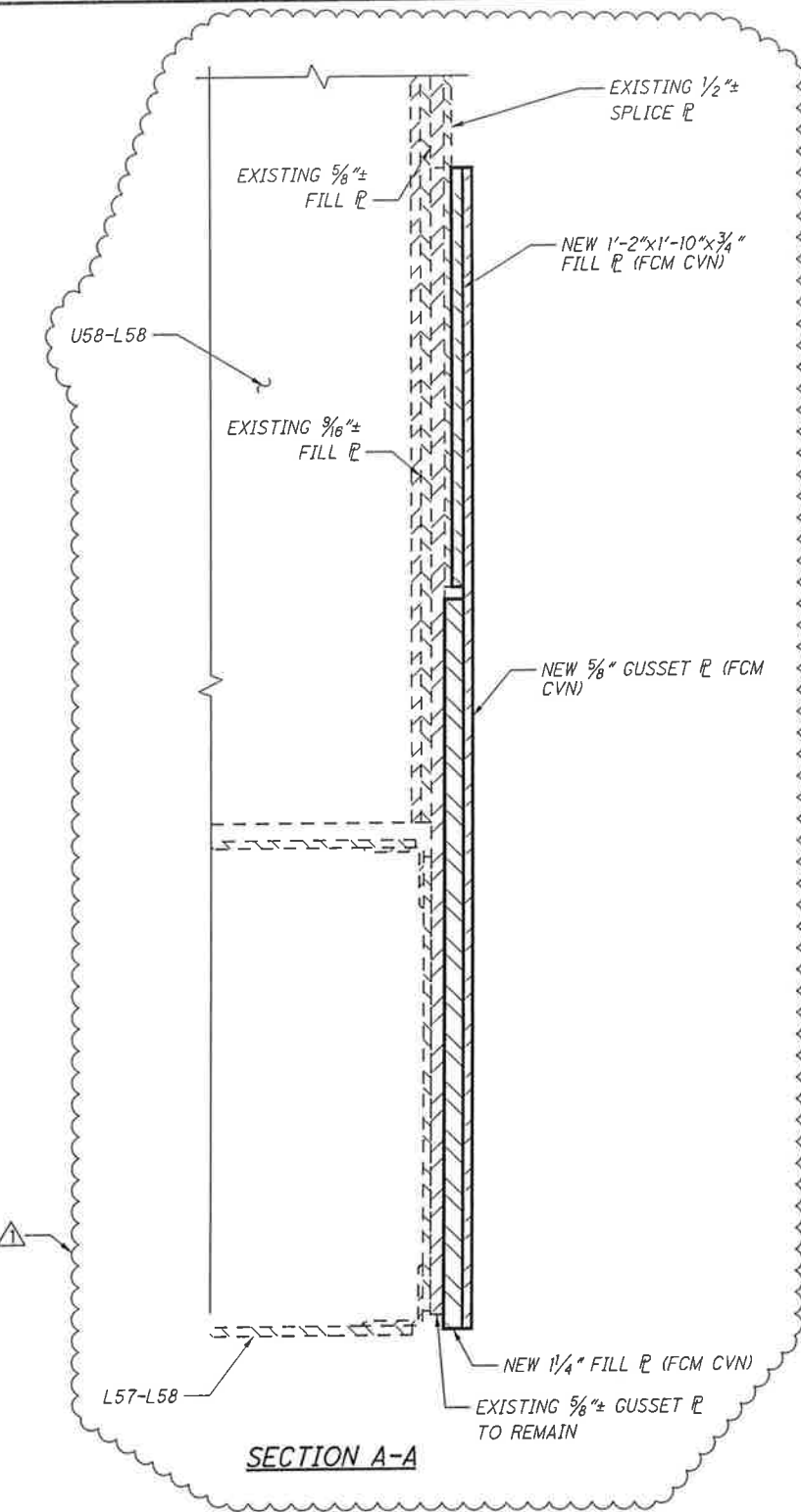
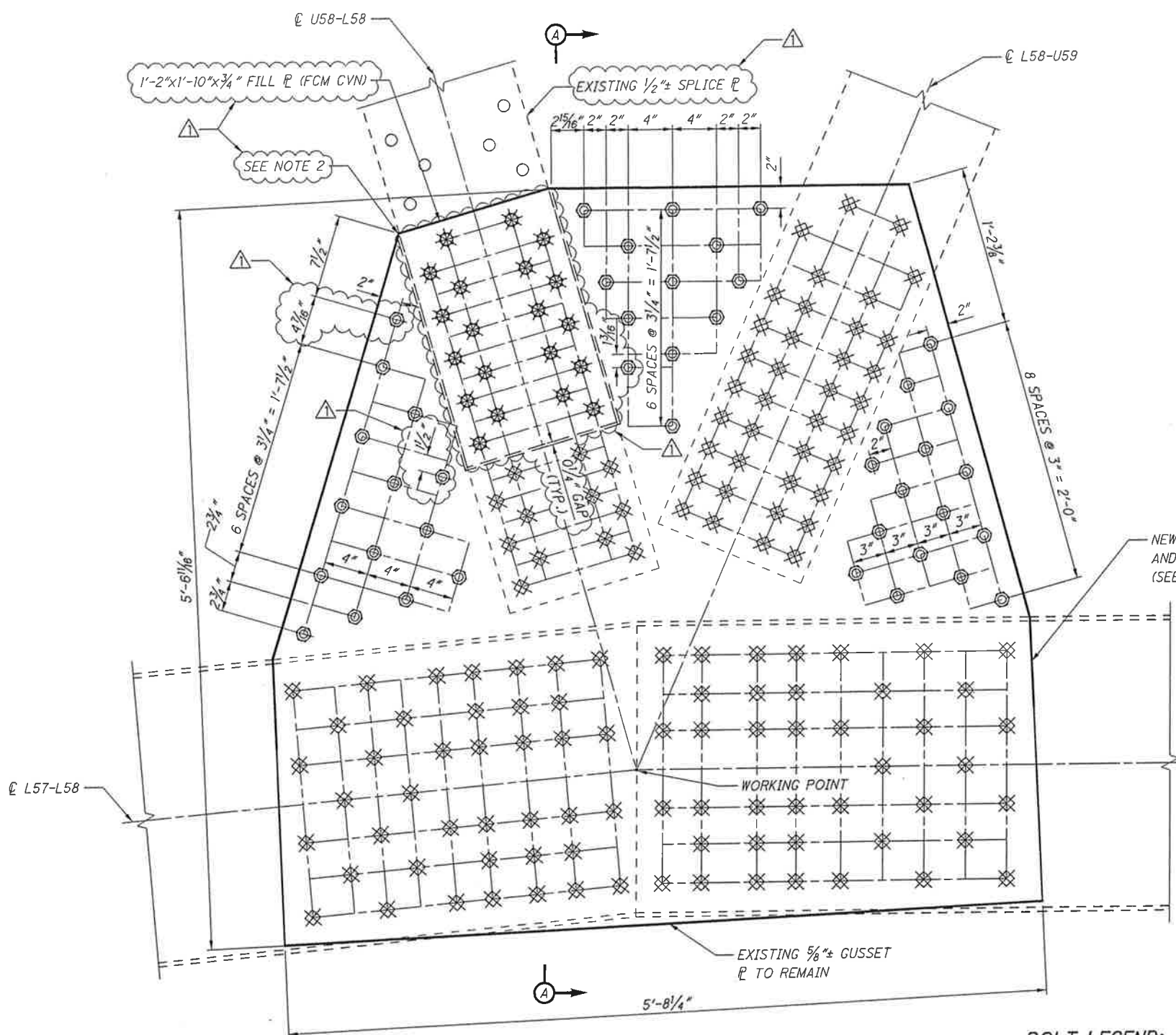
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1 1/16" HOLE FOR NEW 1" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187 .

RFI # 20



SPAN 6 - PANEL POINT L58 - 1 GUSSET PLATE SOUTH TRUSS, SOUTH PLATE, SOUTH ELEVATION

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16" φ HOLE FOR NEW 1" φ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).
- ⊛ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT (DOUBLE NUT CONNECTION WITH JAM NUT DETAIL).

NOTES:

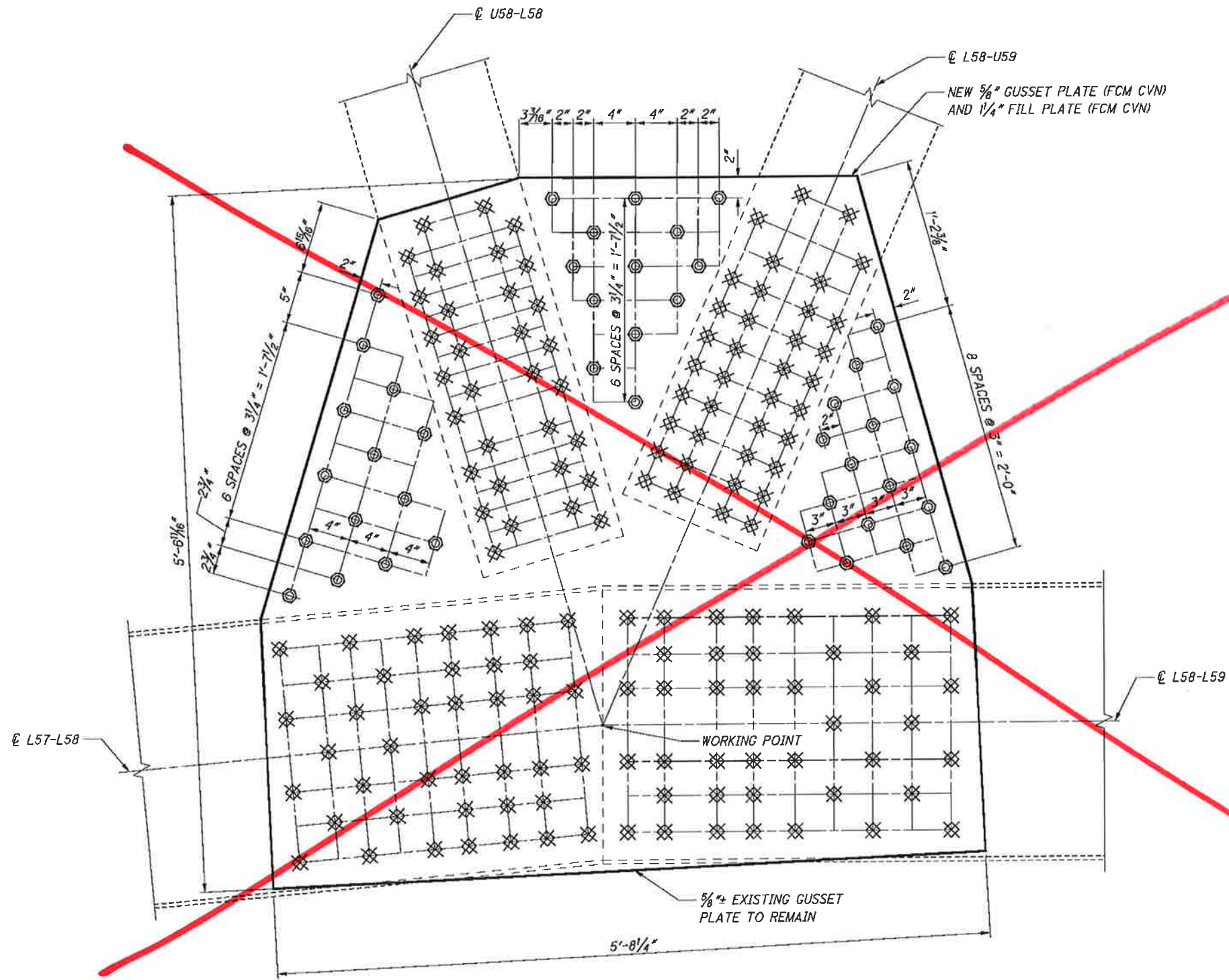
1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187.
2. CONTRACTOR IS TO CAULK 1/4" WIDE GAP BETWEEN 1/4" THICK FILL PLATE AND EXISTING DIAGONAL OR VERTICAL MEMBER PER CMS 514.19.
3. FOR DOUBLE NUT CONNECTION WITH JAM NUT DETAIL AND 1/4" FILL PLATE DETAILS SEE SHEET 65A / 187.

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NRF 5/19/14

SPAN 6 - PANEL POINT L58 SOUTH TRUSS SOUTH PLATE MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	DESIGN AGENCY Train Systems 55 PUBLIC SQUARE, SUITE 1900 CLEVELAND, OHIO 44113
DESIGNED ADK	DATE 08/16/13
DRAWN DMD	REVIEWED WRW
CHECKED NMR	REVISION NRF
STRUCTURE FILE NUMBER 1800035	
CUY-2-14.41	PID No. 91115
63 / 187	65 / 189

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**SPAN 6 - PANEL POINT L58 - 1 GUSSET PLATE
SOUTH TRUSS, SOUTH PLATE, SOUTH ELEVATION**

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16" φ HOLE FOR NEW 1" φ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187.

CUY-2-14-41
PID No. 91115

63/187

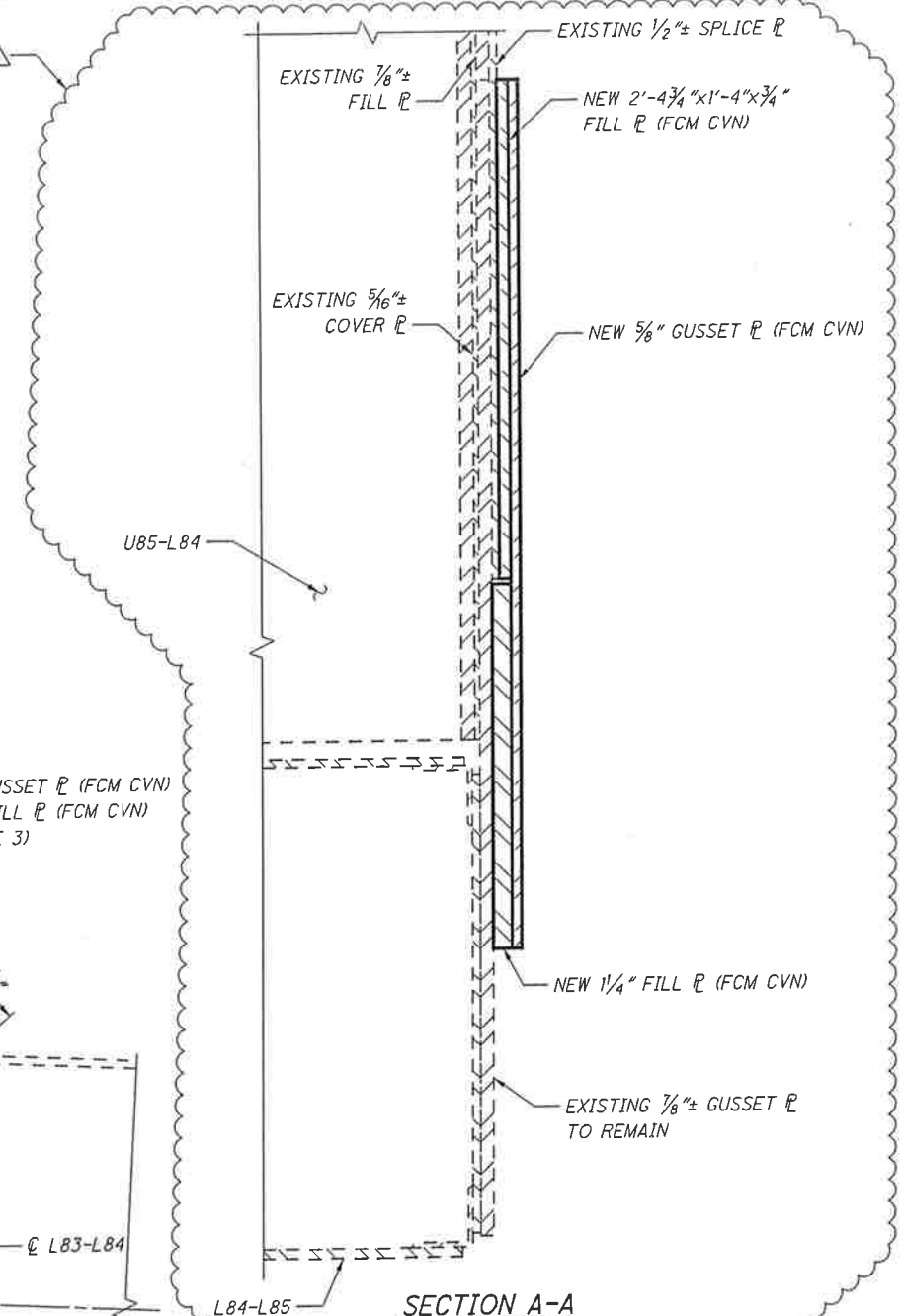
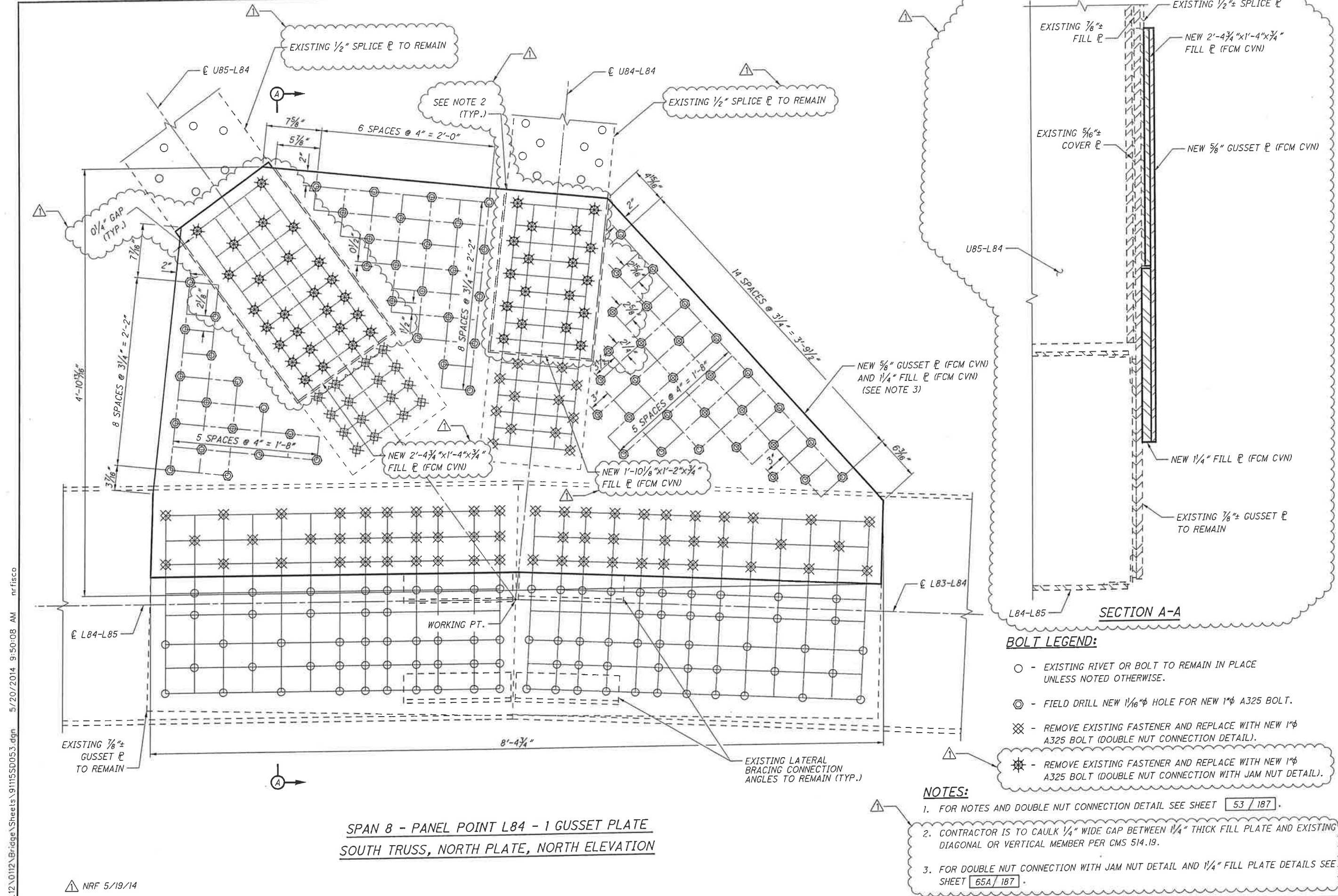
65
189

SPAN 6 - PANEL POINT L58 SOUTH TRUSS SOUTH PLATE
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED	ADK	CHECKED	NMR
DRAWN	DMD	REVIS	
REVIEWED	WRW	STRUCTURE FILE NUMBER	1800035
DATE	08/16/13		

DESIGN AGENCY
TranSystems
55 PUEBLO SQUARE, SUITE 100
CLEVELAND, OHIO 44113

RFE # 20



- BOLT LEGEND:**
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
 - ⊙ - FIELD DRILL NEW 1/16" ϕ HOLE FOR NEW 1" ϕ A325 BOLT.
 - ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" ϕ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).
 - ⊛ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" ϕ A325 BOLT (DOUBLE NUT CONNECTION WITH JAM NUT DETAIL).

- NOTES:**
1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187.
 2. CONTRACTOR IS TO CAULK 1/4" WIDE GAP BETWEEN 1/4" THICK FILL PLATE AND EXISTING DIAGONAL OR VERTICAL MEMBER PER CMS 514.19.
 3. FOR DOUBLE NUT CONNECTION WITH JAM NUT DETAIL AND 1/4" FILL PLATE DETAILS SEE SHEET 65A / 187.

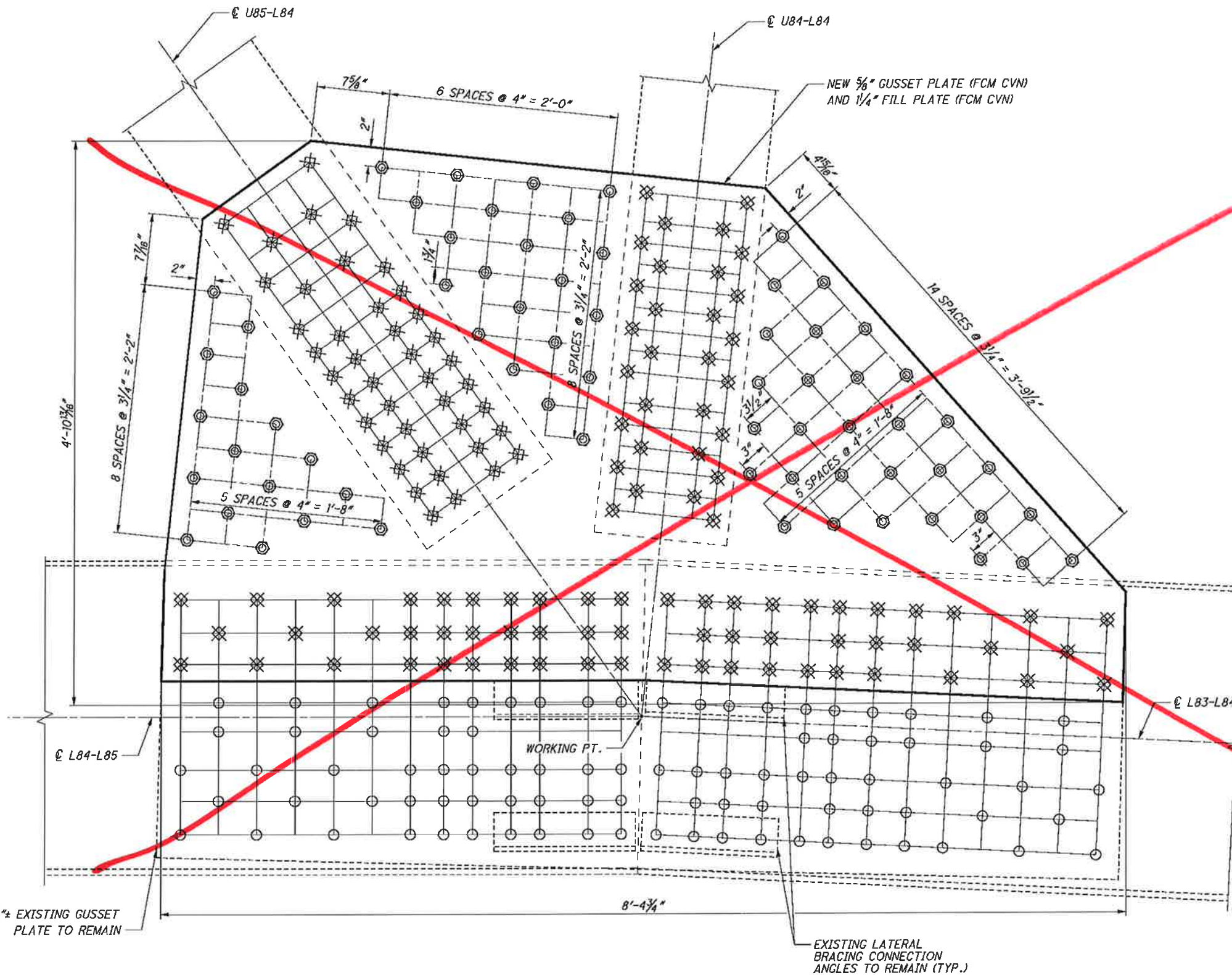
**SPAN 8 - PANEL POINT L84 - 1 GUSSET PLATE
SOUTH TRUSS, NORTH PLATE, NORTH ELEVATION**

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DESIGNED BY	ADK
DRAWN BY	DMD
CHECKED BY	NMR
REVIEWED BY	WRW
DATE	08/16/13
STRUCTURE FILE NUMBER	1800035
SPAN 8 - PANEL POINT L84 SOUTH TRUSS NORTH PLATE MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
PID No.	91115
66	189

▲ NRF 5/19/14

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**SPAN 8 - PANEL POINT L84 - 1 GUSSET PLATE
SOUTH TRUSS, NORTH PLATE, NORTH ELEVATION**

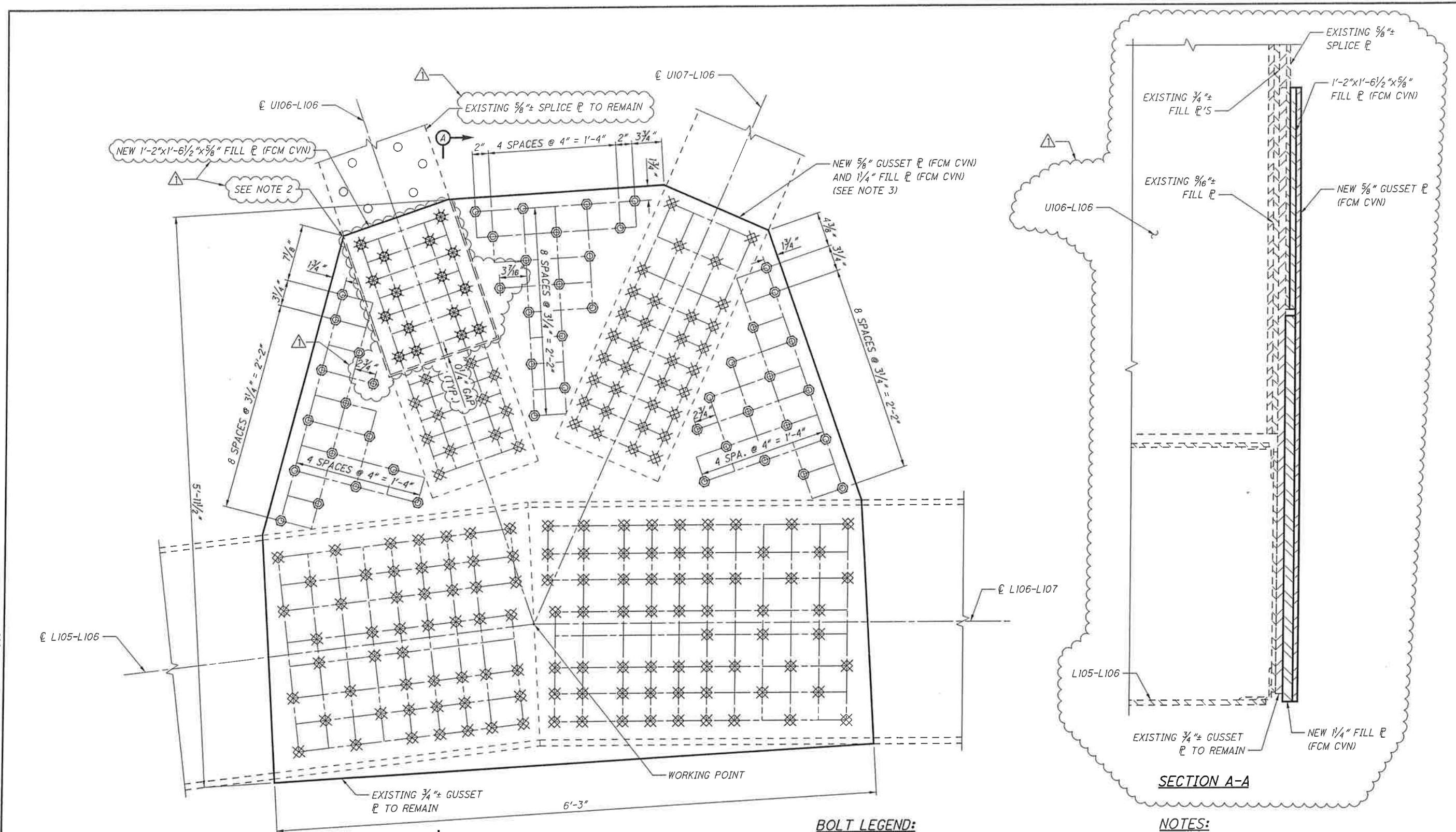
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16" HOLE FOR NEW 1" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187 .

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**SPAN 9 - PANEL POINT L106 - 1 GUSSET PLATE
SOUTH TRUSS, SOUTH PLATE, SOUTH ELEVATION**

BOLT LEGEND:

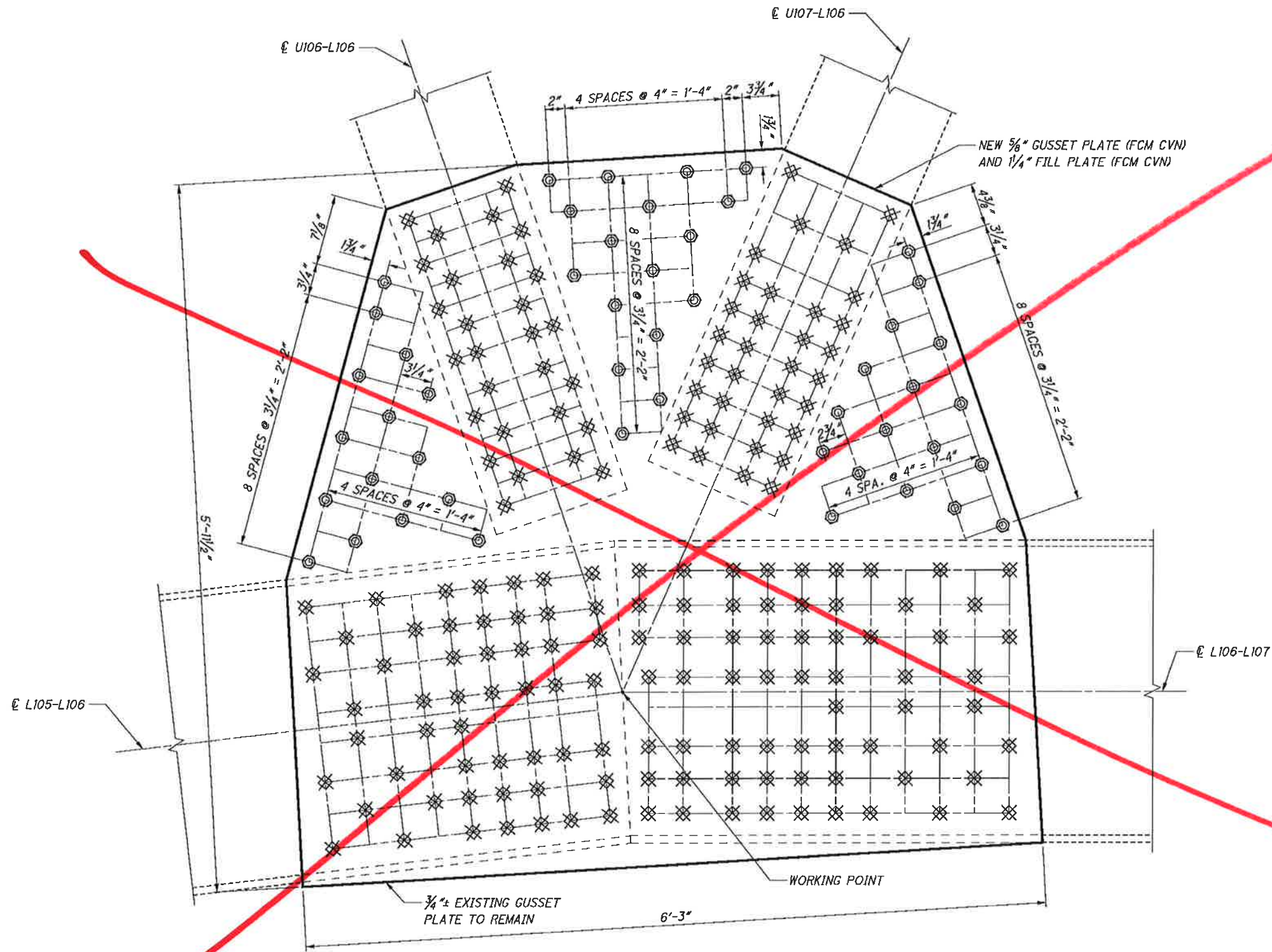
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16" HOLE FOR NEW 1" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT (DOUBLE NUT CONNECTION DETAIL).
- ⊛ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT (DOUBLE NUT CONNECTION WITH JAM NUT DETAIL).

NOTES:

1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET 53 / 187.
2. CONTRACTOR IS TO CAULK 1/4" WIDE GAP BETWEEN 1/4" THICK FILL PLATE AND EXISTING DIAGONAL OR VERTICAL MEMBER PER CMS 514.19.
3. FOR DOUBLE NUT CONNECTION WITH JAM NUT DETAIL AND 1/4" FILL PLATE DETAILS SEE SHEET 65A / 187.

DESIGN AGENCY TranSystems 55 PUBLIC SQUARE, SUITE 180 CLEVELAND, OH 44115	
DESIGNED ADK	DATE 08/16/13
DRAWN DMD	REVIEWED WRW
CHECKED NMR	STRUCTURE FILE NUMBER 1800035
SPAN 9 - PANEL POINT L106 SOUTH TRUSS SOUTH PLATE MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14.41	PID No. 91115
65 / 187	67 / 189

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**SPAN 9 - PANEL POINT L106 - 1 GUSSET PLATE
SOUTH TRUSS, SOUTH PLATE, SOUTH ELEVATION**

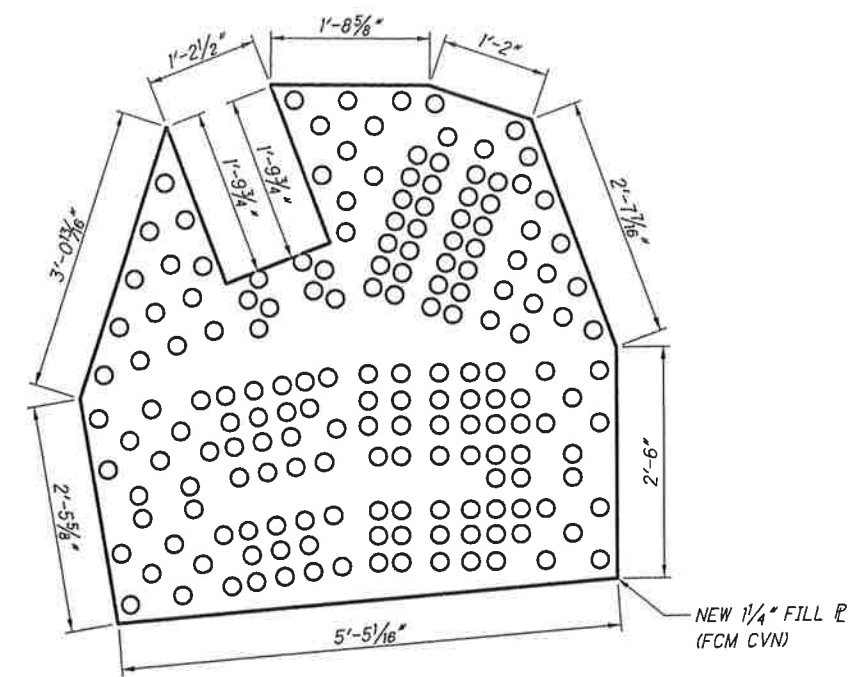
- BOLT LEGEND:**
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
 - ⊙ - FIELD DRILL NEW 1 1/16" φ HOLE FOR NEW 1" φ A325 BOLT.
 - ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT (DOUBLE NUT CONNECTION DETAIL).

- NOTES:**
1. FOR NOTES AND DOUBLE NUT CONNECTION DETAIL SEE SHEET **53 / 187**.

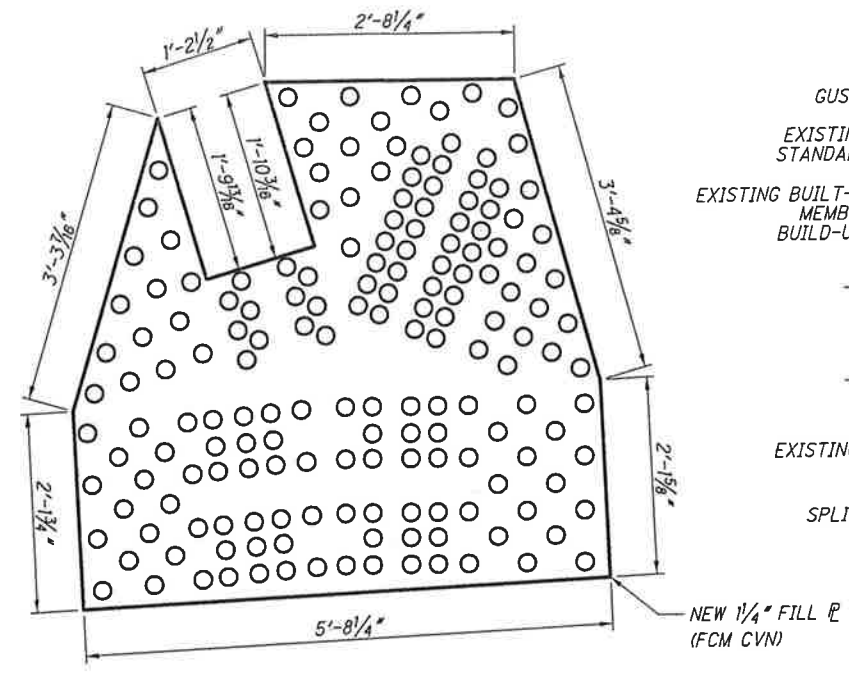
<p>DESIGN AGENCY Iran Systems 55 PUBLIC SQUARE, SUITE 100 CLEVELAND, OHIO 44113</p>	<p>DATE 08/16/13</p> <p>REVIEWED WRW</p> <p>DRAWN DMD</p> <p>DESIGNED ADK</p>	<p>STRUCTURE FILE NUMBER 1800035</p> <p>REVISOR NMR</p>	<p>SPAN 9 - PANEL POINT L106 SOUTH TRUSS SOUTH PLATE</p> <p>MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER</p>
<p>65 / 187</p>	<p>CUY-2-14.41</p> <p>PID No. 91115</p>	<p>67 / 189</p>	

RFI #20

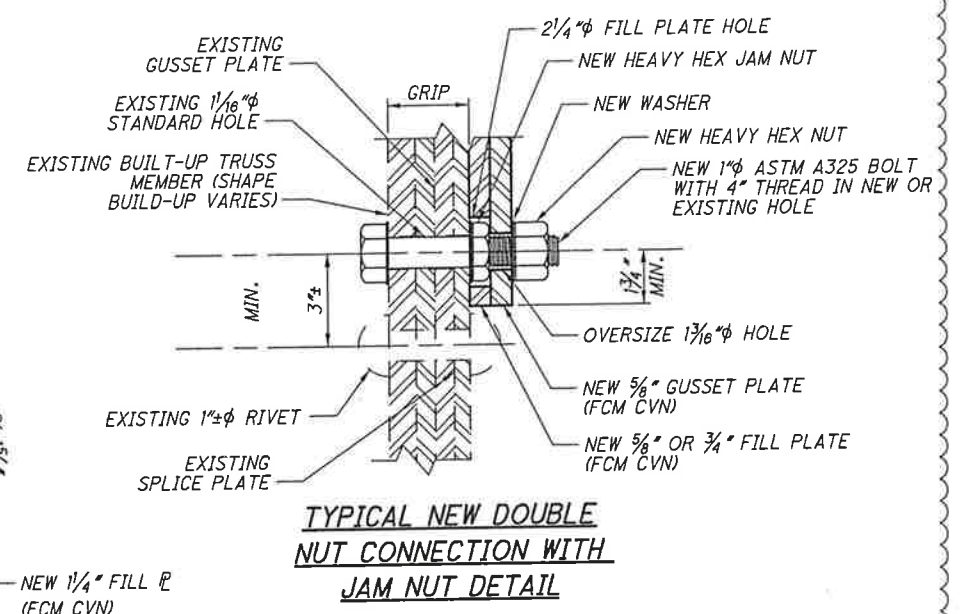
NRF 5/19/14



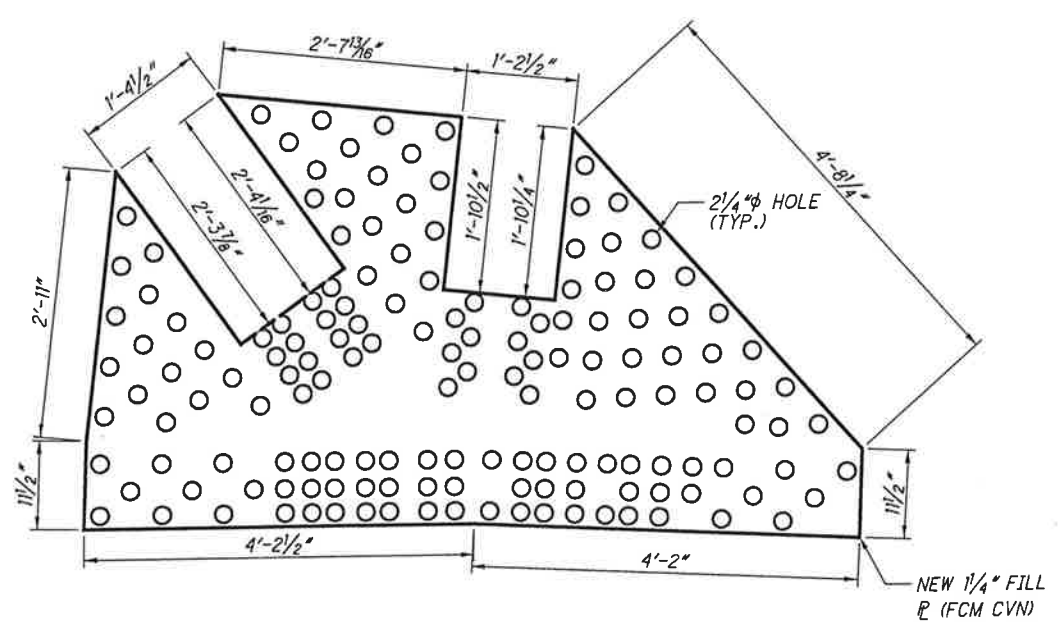
SPAN 9 - PANEL POINT L94 - FILL PLATE
NORTH TRUSS, NORTH PLATE, NORTH ELEVATION
 SEE ADDITIONAL PLATE DETAILS ON SHEET **58 / 187**.



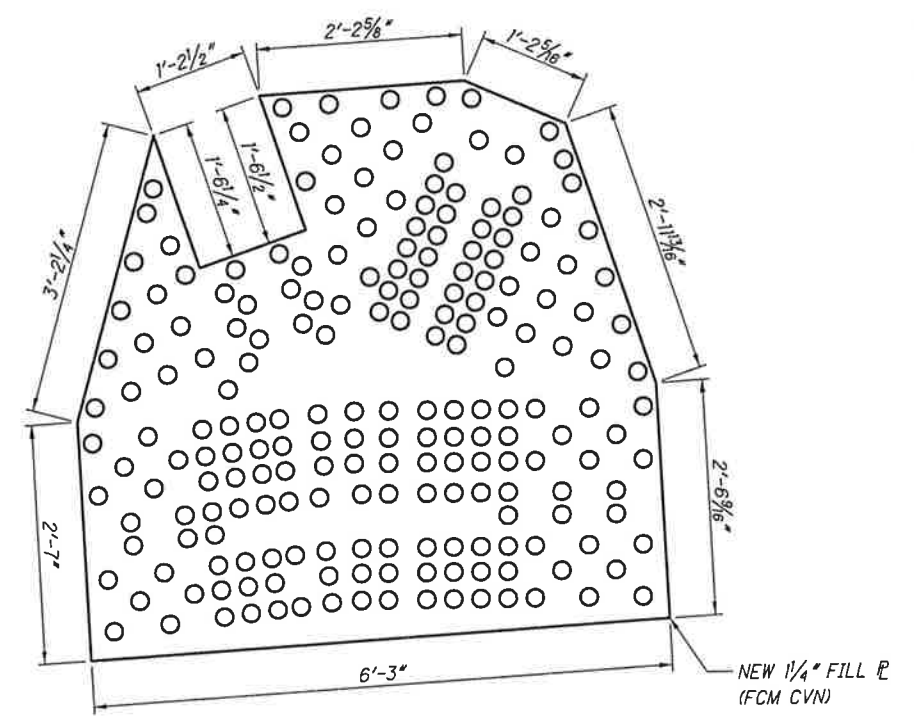
SPAN 6 - PANEL POINT L58 - FILL PLATE
SOUTH TRUSS, SOUTH PLATE, SOUTH ELEVATION
 SEE ADDITIONAL PLATE DETAILS ON SHEET **63 / 187**.



- NOTES:**
1. CONTRACTOR SHALL FIELD VERIFY PLATE DIMENSIONS AND RIVET LAYOUTS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
 2. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
 3. SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.
 4. CONNECTION BOLT "GRIP": THE GRIP IS THE NON-THREADED LENGTH OF BOLT REQUIRED TO COMPLETE THE CONNECTION BETWEEN EXISTING AND/OR NEW MATERIALS. THE "GRIP" DOES NOT INCLUDE WASHERS, NUTS, OR BOLT STICK-THROUGH. THE "GRIP" DOES NOT INCLUDE PACK RUST OR GUSSET PLATE DEFORMATIONS AT SPECIFIC LOCATIONS THAT MAY REQUIRE LONGER BOLTS. THE CONTRACTOR SHALL FIELD VERIFY ALL GRIP DIMENSIONS PRIOR TO FABRICATION OF NEW GUSSET PLATES.
 5. ALL WORK ON THIS SHEET SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS GUSSET PLATE STRENGTHENING. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET **3 / 187** AND **4 / 187**.
 6. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF NEW AND EXISTING GUSSET PLATES, THE NEW GUSSET PLATES AND ANY AREAS DAMAGED AS PART OF THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT IN ITEM 514.



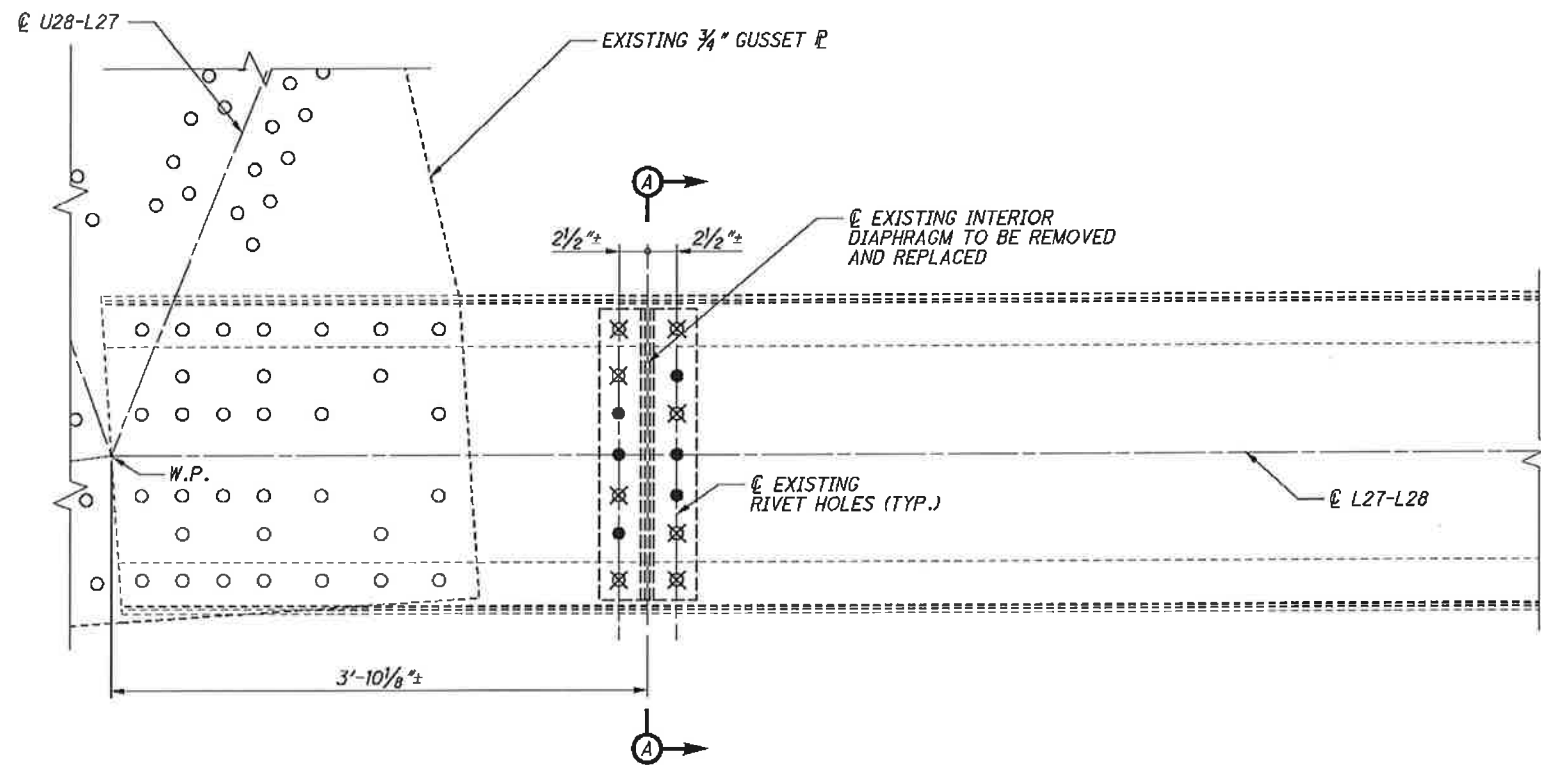
SPAN 8 - PANEL POINT L84 - FILL PLATE
SOUTH TRUSS, NORTH PLATE, NORTH ELEVATION
 SEE ADDITIONAL PLATE DETAILS ON SHEET **64 / 187**.



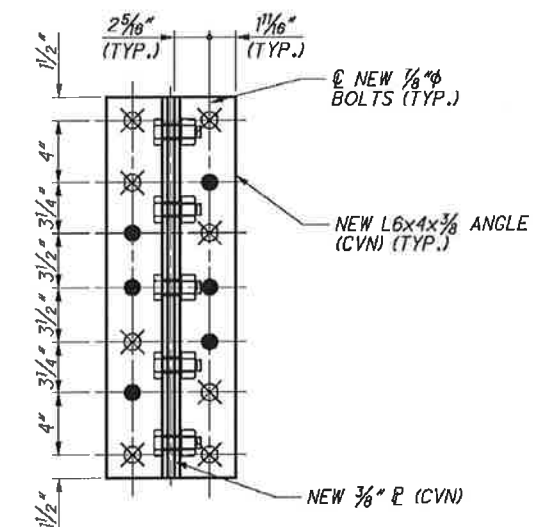
SPAN 9 - PANEL POINT L106 - FILL PLATE
SOUTH TRUSS, SOUTH PLATE, SOUTH ELEVATION
 SEE ADDITIONAL PLATE DETAILS ON SHEET **65 / 187**.

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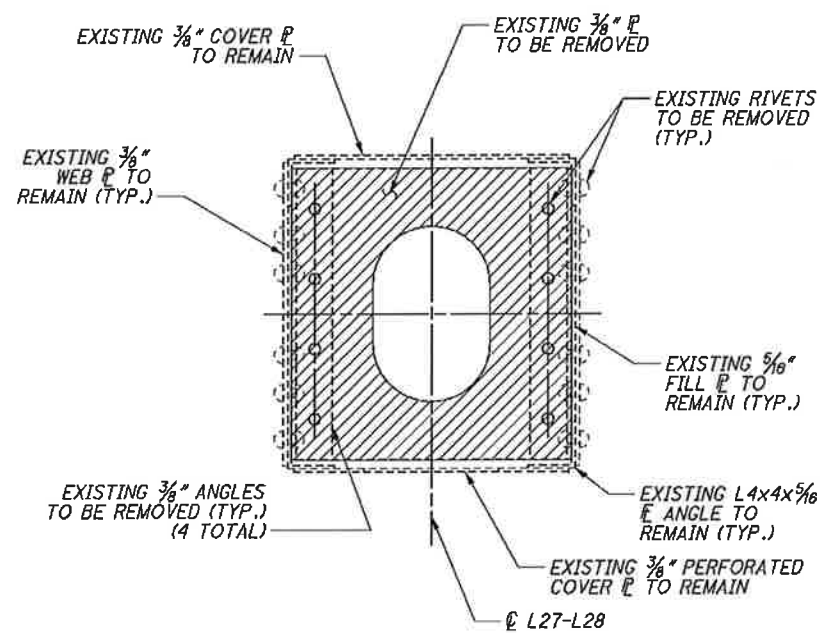
DESIGNED	NRF
CHECKED	CTG
DRAWN	BJM
REVIS	
DATE	05/19/14
REVIEWED	WRW
STRUCTURE FILE NUMBER	1800035
GUSSET PLATE FILL PLATE DETAILS MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14.41	PID No. 91115
65A/187	67A/189



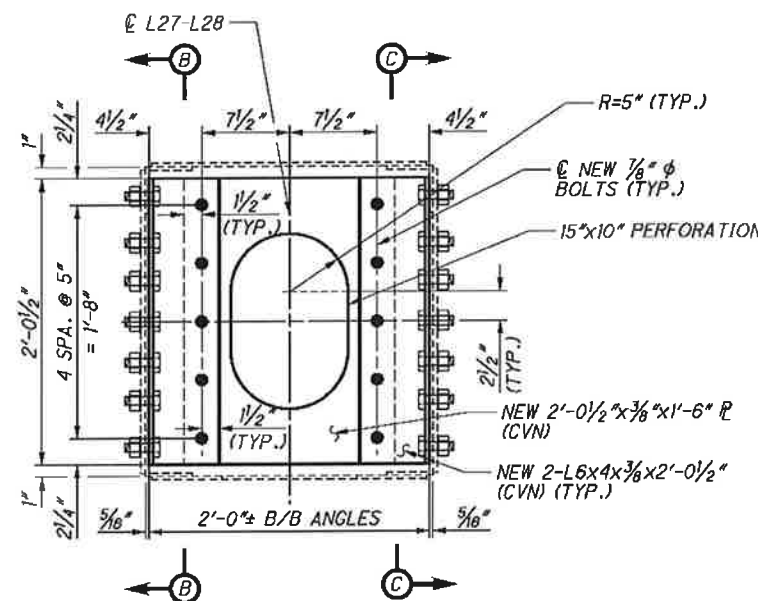
SOUTH ELEVATION OF NORTH TRUSS AT L27
 (ADDITIONAL RIVETS ON LOWER CHORD OUTSIDE OF GUSSET PLATE NOT SHOWN)



SECTION B-B
SECTION C-C (OPPOSITE HAND)
 (EXISTING ELEMENTS NOT SHOWN FOR CLARITY)
 (SEE NOTE 2)



EXISTING



NEW

SECTION A-A

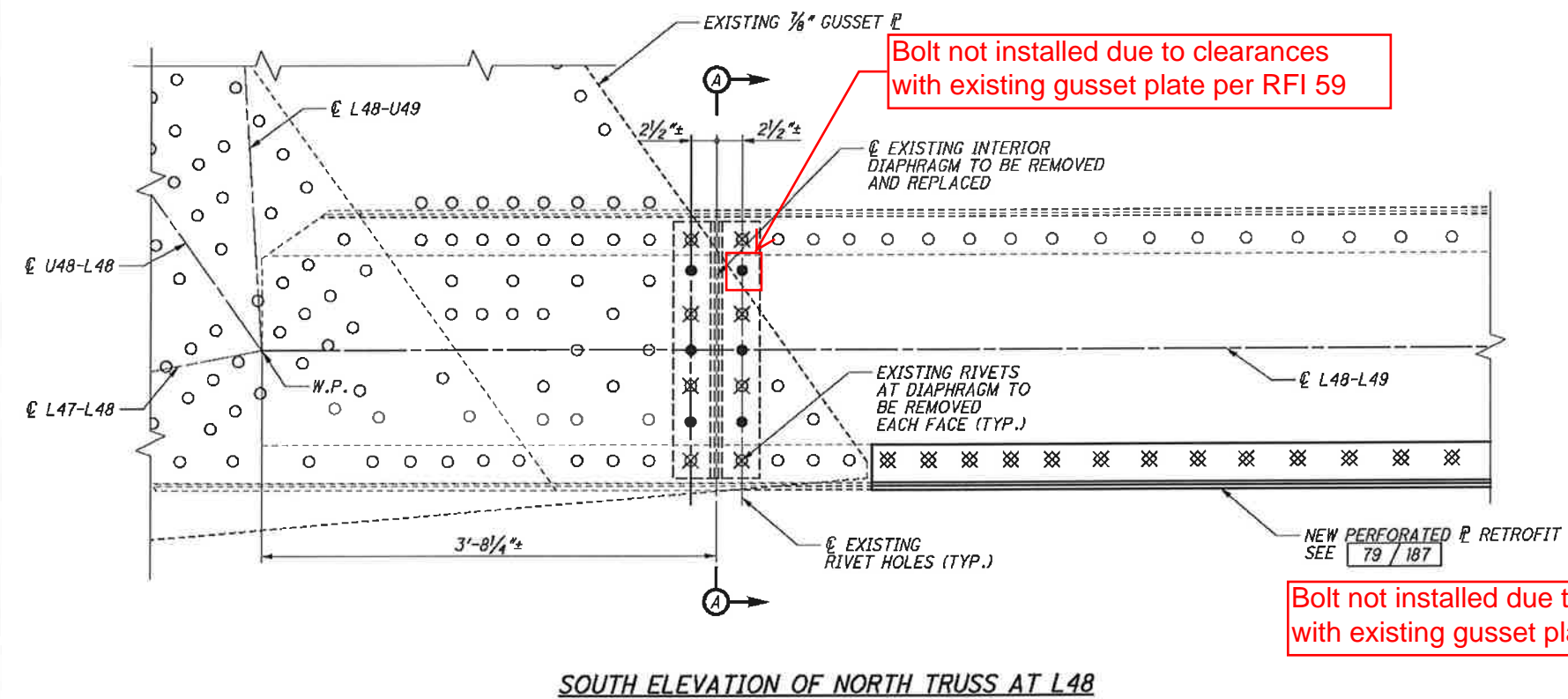
LEGEND:

- LIMITS OF EXISTING INTERIOR DIAPHRAGM \bar{r} TO BE REMOVED
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW $\frac{7}{8}$ " ϕ A325 BOLT
- FIELD DRILL NEW $\frac{15}{16}$ " ϕ HOLE FOR NEW $\frac{7}{8}$ " ϕ A325 BOLT

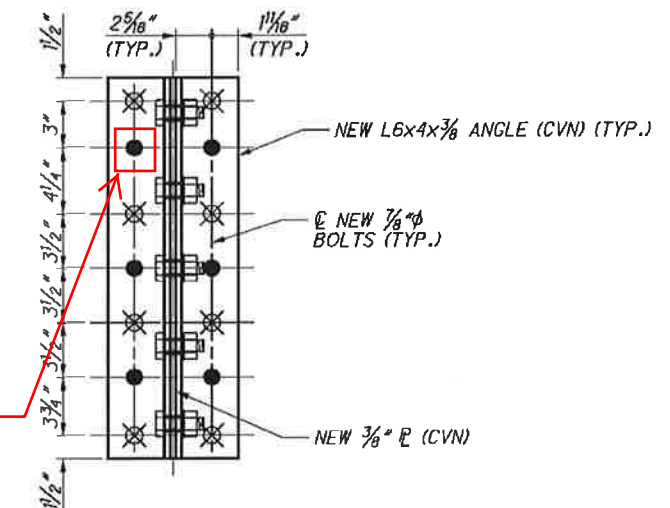
NOTES:

1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. ALL BOLTS SHALL BE $\frac{7}{8}$ " DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE $\frac{15}{16}$ " DIAMETER UNLESS NOTED OTHERWISE.
3. BOLT HOLES SHOWN MATCH LOCATION OF EXISTING RIVET HOLES IN CHORD MEMBERS. FIELD VERIFY EXACT DIMENSIONS BEFORE ANGLES ARE DRILLED.
4. THE EXISTING DIAPHRAGM REMOVAL AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS INTERIOR DIAPHRAGM RETROFIT.
5. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, THE NEW DIAPHRAGM, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE NEW DIAPHRAGM. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

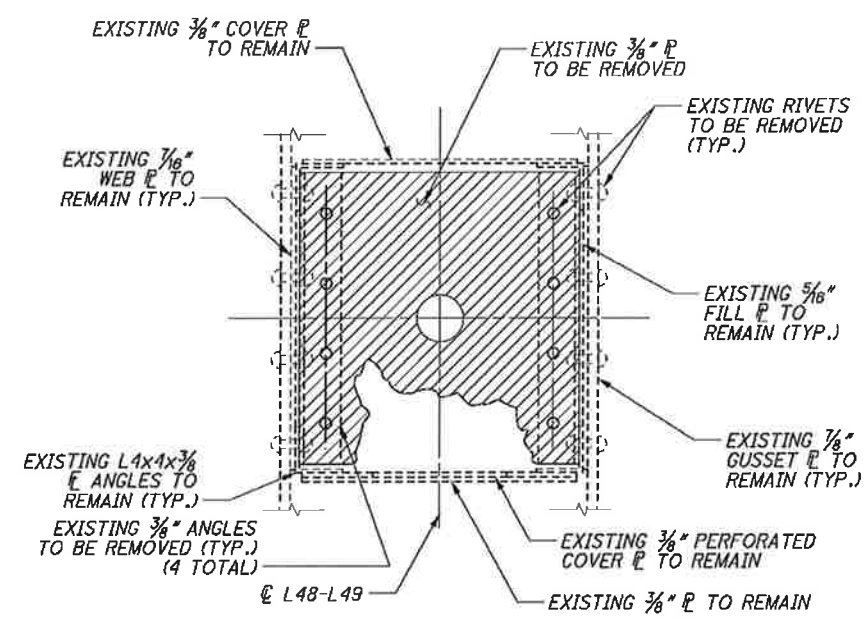
G:\CL12\0112\Bridges\Sheets\9115SD015.dgn 8/30/2013 10:38:08 AM nrfisco



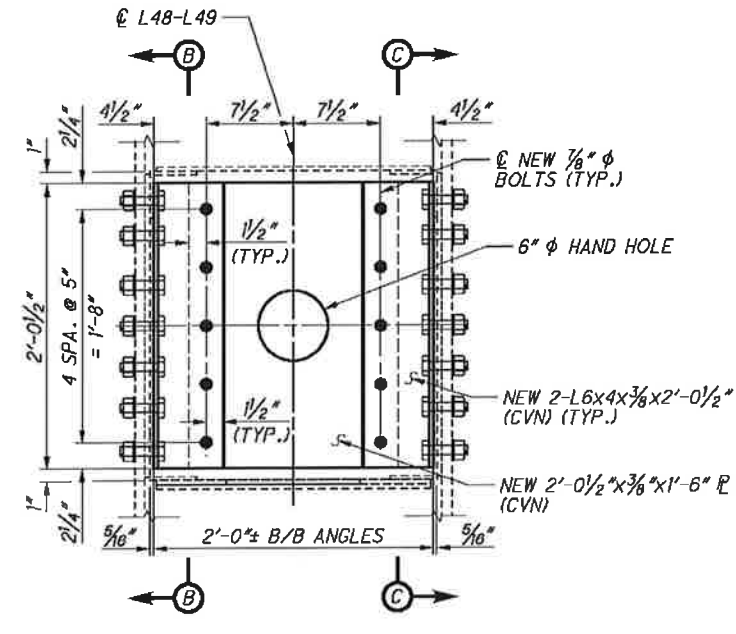
SOUTH ELEVATION OF NORTH TRUSS AT L48



SECTION B-B
 SECTION C-C (OPPOSITE HAND)
 (EXISTING ELEMENTS NOT SHOWN FOR CLARITY)
 (SEE NOTE 2)



EXISTING



NEW

SECTION A-A

LEGEND:

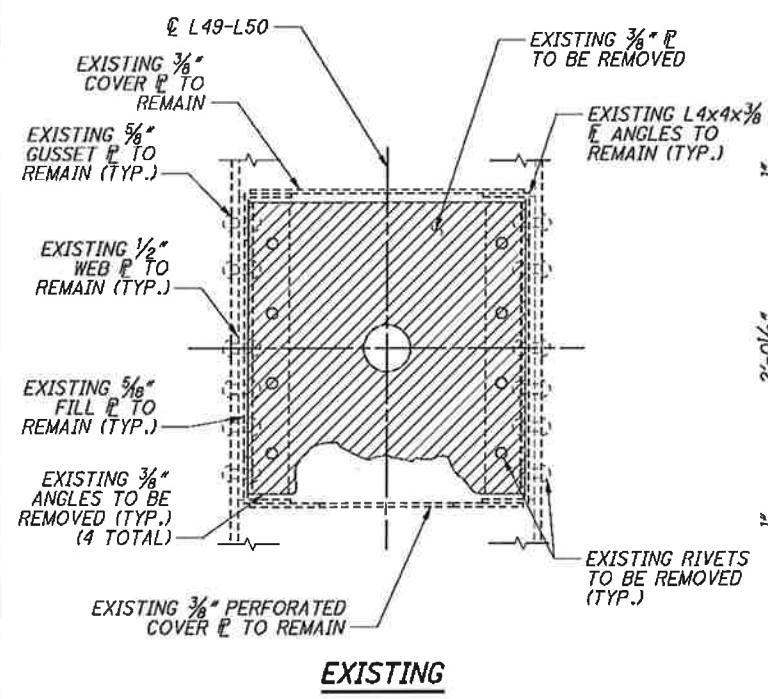
- LIMITS OF EXISTING INTERIOR DIAPHRAGM PLATE TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 1 5/16 inch HOLE FOR NEW 7/8 inch A325 BOLT.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8 inch A325 BOLT.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1 inch A325 BOLT.

NOTES:

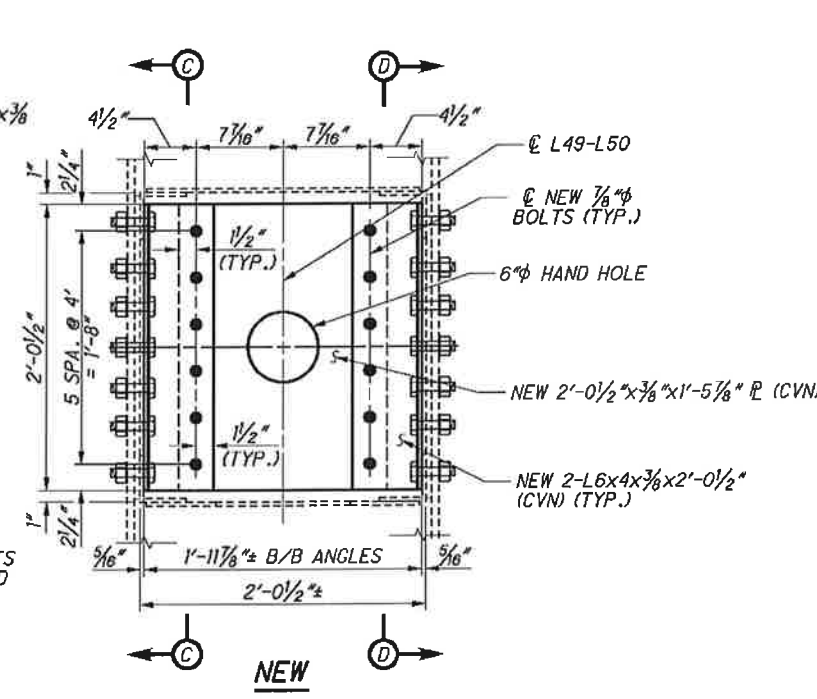
1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. ALL BOLTS SHALL BE 7/8 inch DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 1 5/16 inch DIAMETER UNLESS NOTED OTHERWISE.
3. BOLT HOLES SHOWN MATCH LOCATION OF EXISTING RIVET HOLES IN CHORD MEMBERS. FIELD VERIFY EXACT DIMENSIONS BEFORE ANGLES ARE DRILLED.
4. FOR DETAILS OF PERFORATED COVER PLATE REPLACEMENT SEE SHEET 79/187.
5. THE EXISTING DIAPHRAGM REMOVAL AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS INTERIOR DIAPHRAGM RETROFIT.
6. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, THE NEW DIAPHRAGM, AND ANY SURROUNDING AREAS DAMAGED DURING INSTALLATION OF THE NEW DIAPHRAGM. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

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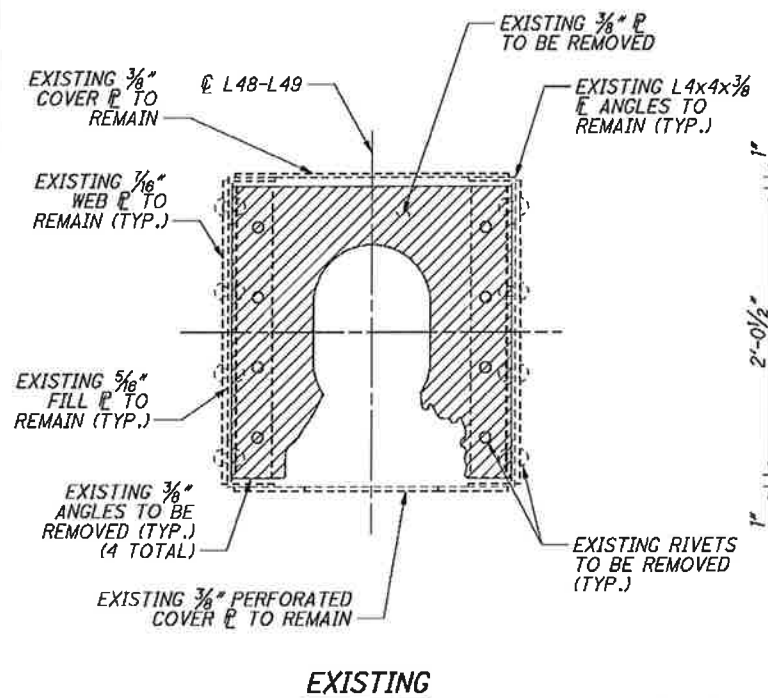
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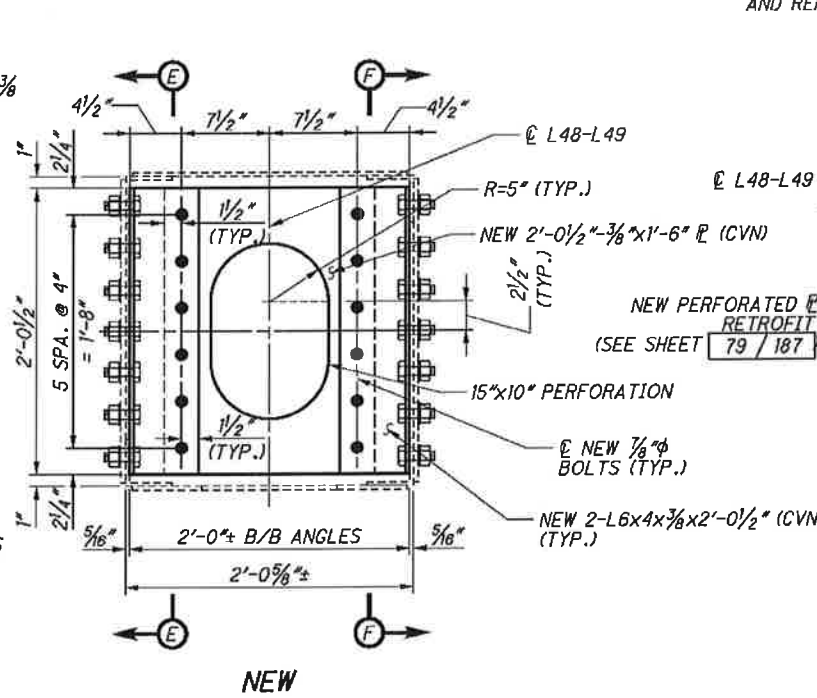
SECTION A-A



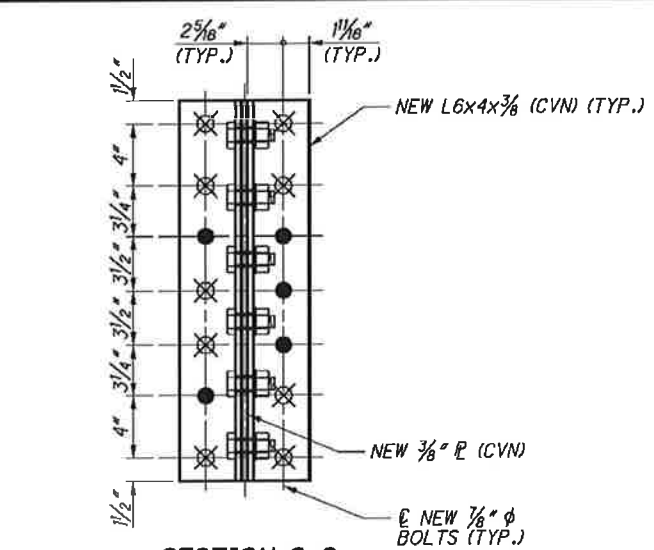
NEW



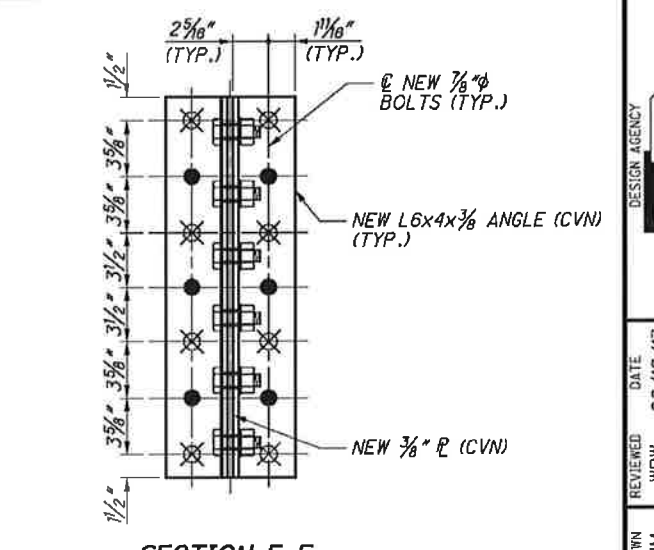
SECTION B-B



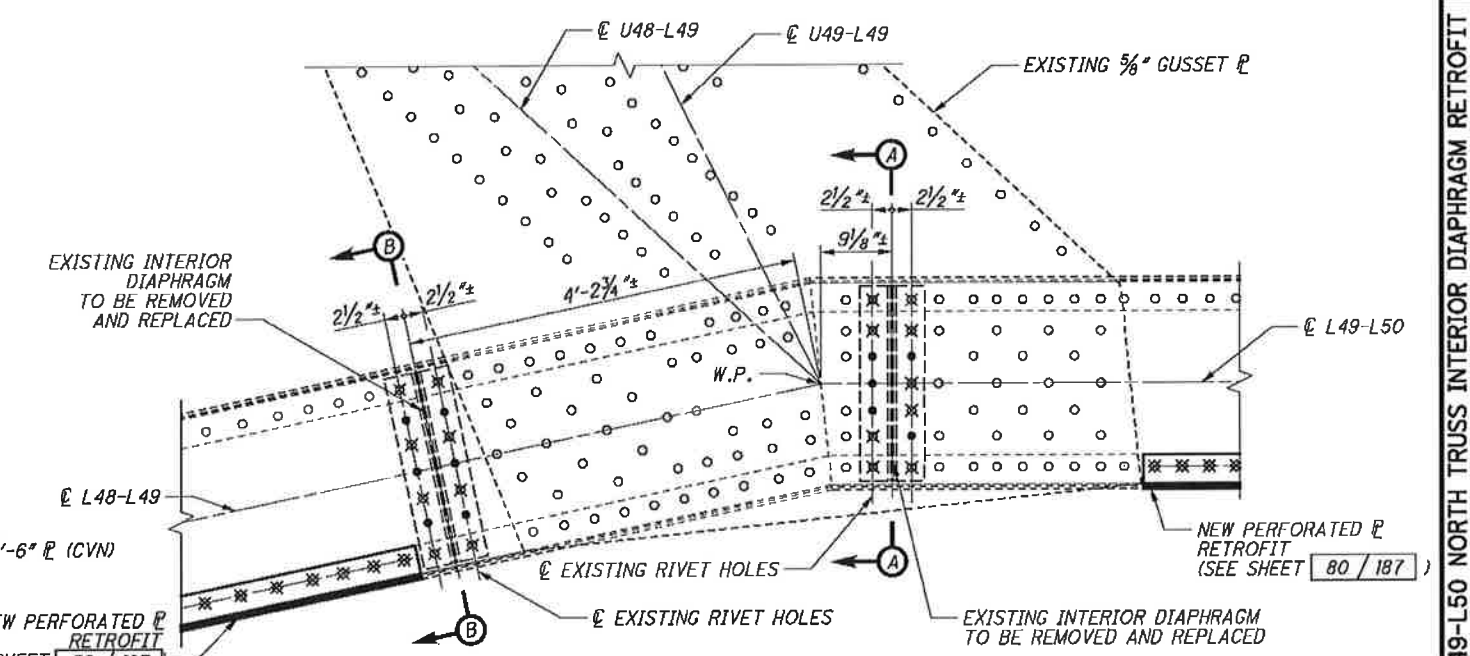
NEW



SECTION C-C
SECTION D-D OPPOSITE HAND
(EXISTING ELEMENTS NOT SHOWN FOR CLARITY)
(SEE NOTE 2)



SECTION E-E
SECTION F-F OPPOSITE HAND
(EXISTING ELEMENTS NOT SHOWN FOR CLARITY)
(SEE NOTE 2)



SOUTH ELEVATION OF NORTH TRUSS AT L49

- NOTES:**
- COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
 - ALL BOLTS SHALL BE 3/8" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 1/16" DIAMETER UNLESS NOTED OTHERWISE.
 - BOLT HOLES SHOWN MATCH LOCATION OF EXISTING RIVET HOLES IN CHORD MEMBERS. FIELD VERIFY EXACT DIMENSIONS BEFORE ANGLES ARE DRILLED.
 - FOR DETAILS OF PERFORATED COVER PLATE REPLACEMENT SEE SHEETS 79 / 187 AND 80 / 187.
 - THE EXISTING DIAPHRAGM REMOVAL AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS INTERIOR DIAPHRAGM RETROFIT.
 - THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, THE NEW DIAPHRAGM, AND ANY SURROUNDING AREAS DAMAGED DURING INSTALLATION OF THE NEW DIAPHRAGM. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

LEGEND:

- LIMITS OF EXISTING INTERIOR DIAPHRAGM TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 1/16" HOLE FOR NEW 3/8" A325 BOLT.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 3/8" A325 BOLT.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT.

DESIGN AGENCY TrainSystems <small>25 PUBLIC SQUARE, SUITE 1100 CLEVELAND, OHIO 44113</small>
DATE: 08/16/13 REVIEWED: WRW DRAWN: BJM DESIGNED: BJM CHECKED: FWL
STRUCTURE FILE NUMBER: 1800035 REVISION:
L48-L49 & L49-L50 NORTH TRUSS INTERIOR DIAPHRAGM RETROFIT MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER
CUY-2-14.41 PID No. 91115
68/187 70/189

REF #25

BJM 6/25/14



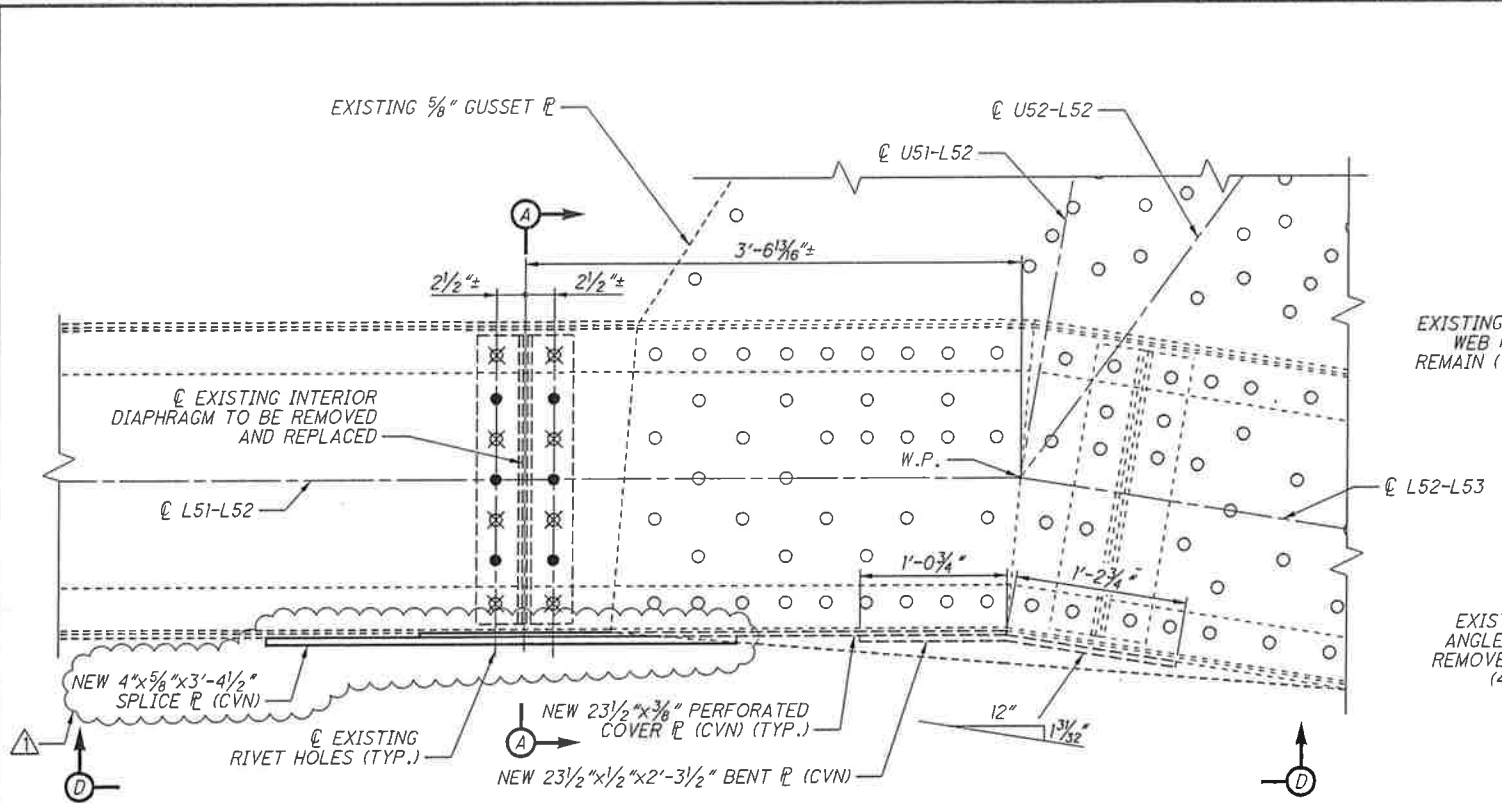
DESIGNED	BJM	CHECKED	CTG
DRAWN	BJM	REVISOR	BJM
WRW	08/16/13	STRUCTURE FILE NUMBER	1800035

L51-L52 NORTH TRUSS INTERIOR DIAPHRAGM & COVER PLATE RETROFIT
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

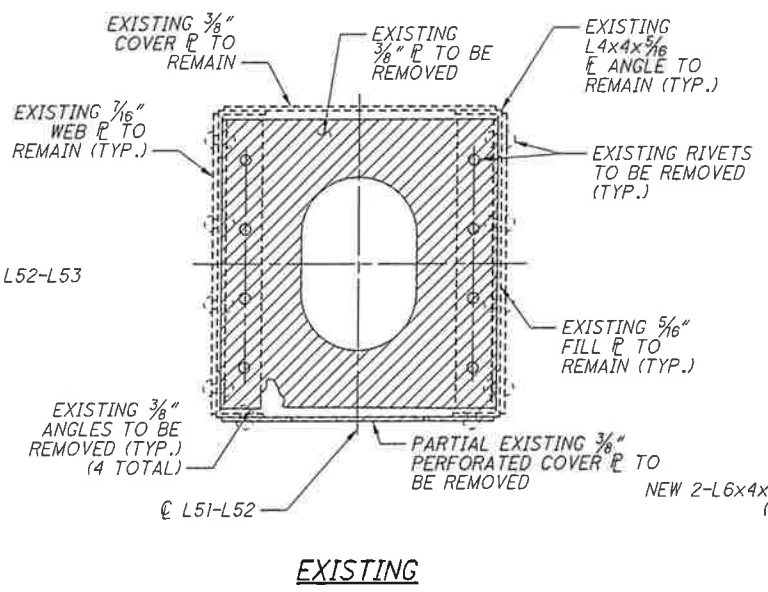
CUY-2-14.41
PID No. 91115

69/187

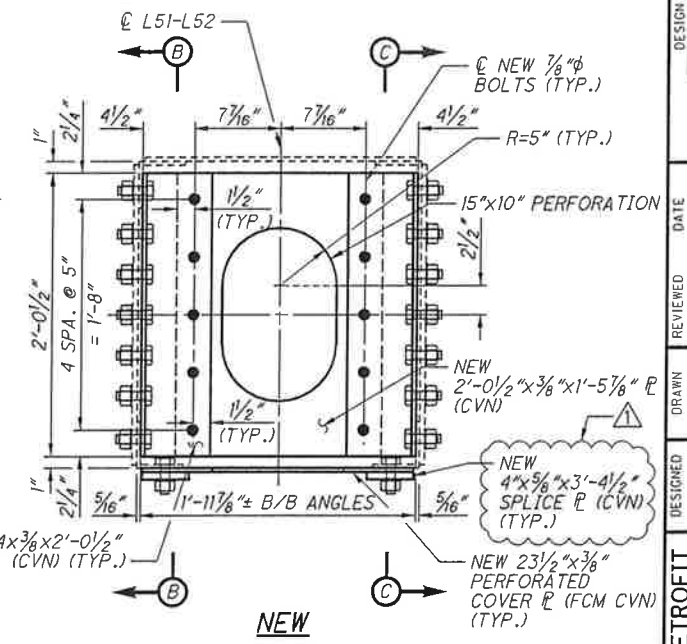
71
189



SOUTH ELEVATION OF NORTH TRUSS AT L52
(ADDITIONAL RIVETS ON LOWER CHORD OUTSIDE OF GUSSET PLATE NOT SHOWN)

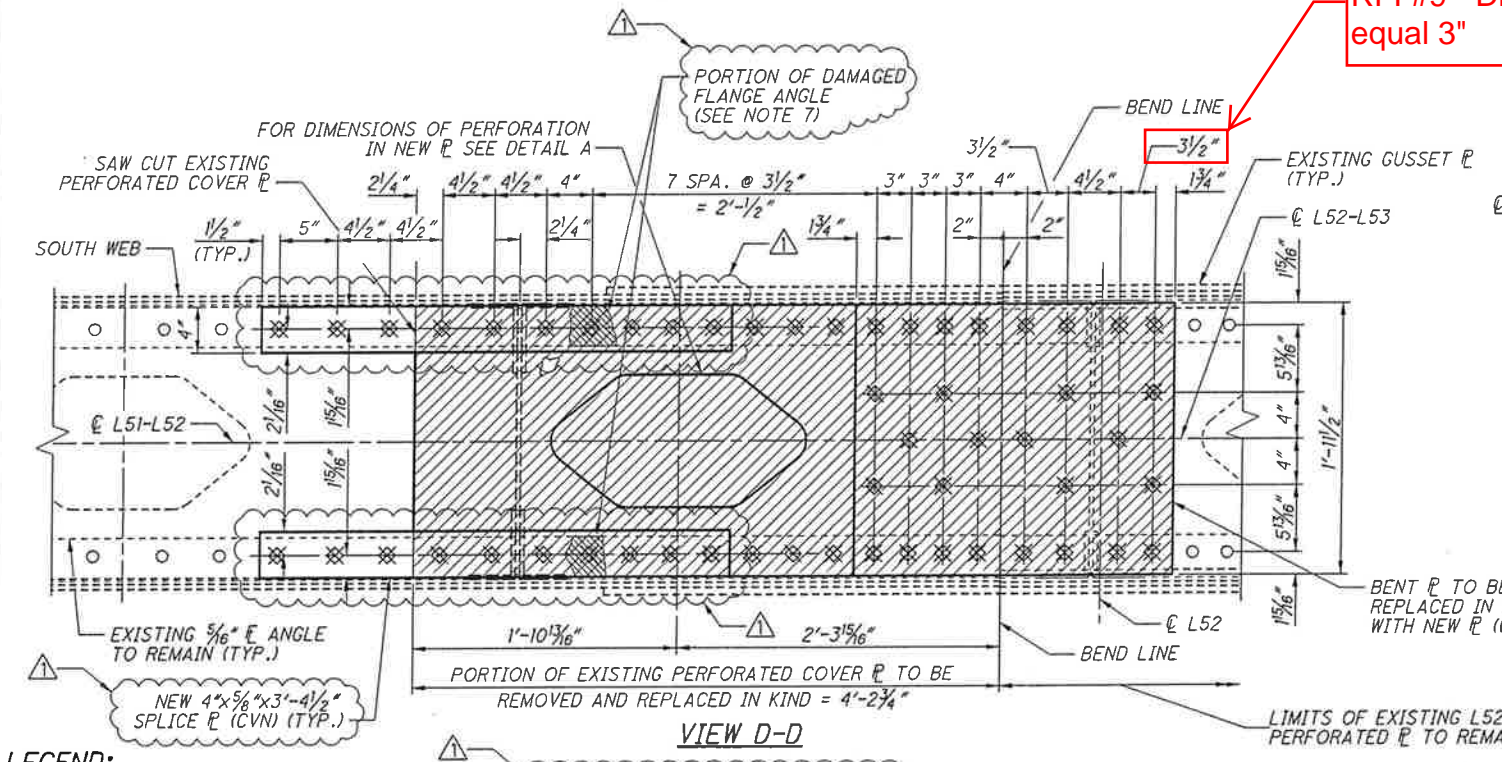


EXISTING



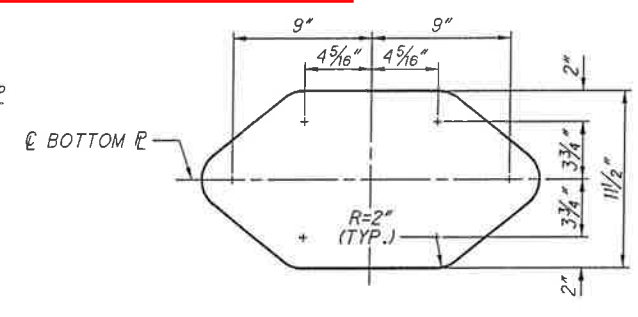
NEW

SECTION A-A

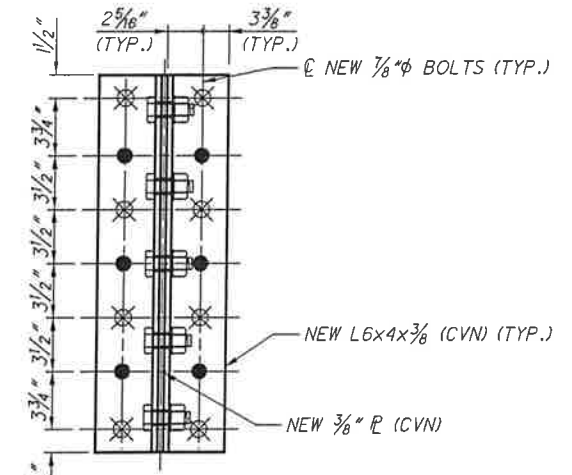


VIEW D-D

Ohio Structures Inc. (Fabricator)
RFI #9 - Dimension should equal 3"



DETAIL A



SECTION B-B
SECTION C-C (OPPOSITE HAND)
(EXISTING ELEMENTS NOT SHOWN FOR CLARITY)
(SEE NOTE 3)

LEGEND:

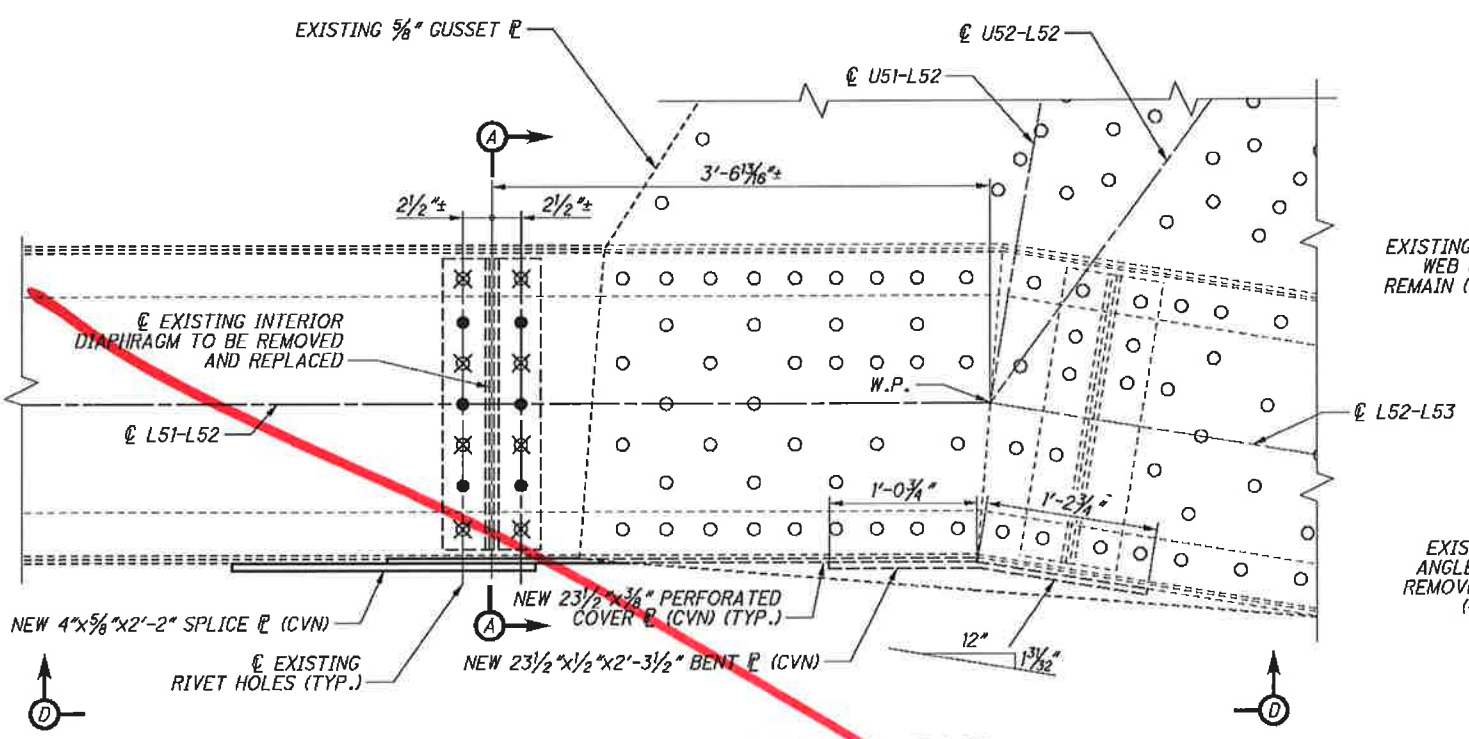
- LIMITS OF EXISTING INTERIOR DIAPHRAGM/PERFORATED PLATE TO BE REMOVED
- LIMITS OF EXISTING DAMAGED FLANGE ANGLE
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 1 5/16\"/>
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8\"/>
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1\"/>

NOTES:

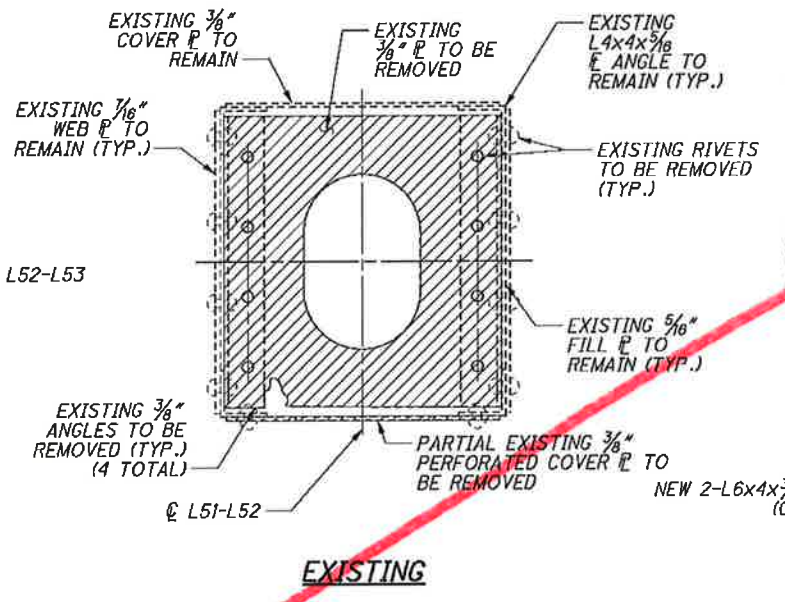
1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. DIAPHRAGM BOLTS SHALL BE 7/8\"/>
- 3. BOLT HOLES SHOWN MATCH LOCATION OF EXISTING RIVET HOLES IN THE LOWER CHORD. FIELD VERIFY EXACT DIMENSIONS BEFORE NEW PLATES AND ANGLES ARE DRILLED.

4. THE EXISTING DIAPHRAGM REMOVAL AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE DIAPHRAGM RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS INTERIOR DIAPHRAGM RETROFIT.
5. THE REMOVAL OF THE EXISTING COVER PLATE AND BENT PLATE, AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE COVER PLATE RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 2.
6. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW COVER PLATES, NEW SPLICE PLATES, NEW BENT PLATE, NEW DIAPHRAGM, AND ANY SURROUNDING AREAS DAMAGED DURING INSTALLATION OF THE NEW DIAPHRAGM AND COVER PLATE. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.
7. AREAS OF FLANGE ANGLES THAT HAVE BEEN BENT DUE TO THE REMOVAL PROCESS OF THE PERFORATED PLATE SHALL BE BENT DOWN TO THEIR ORIGINAL LOCATION.

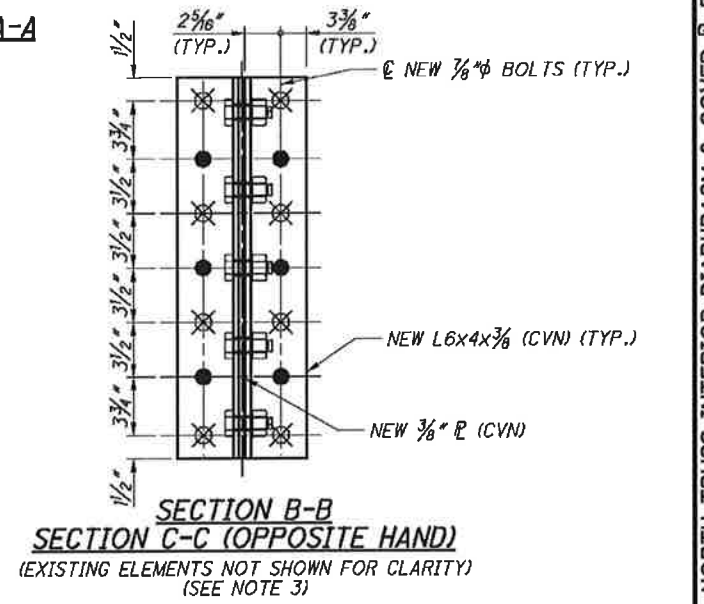
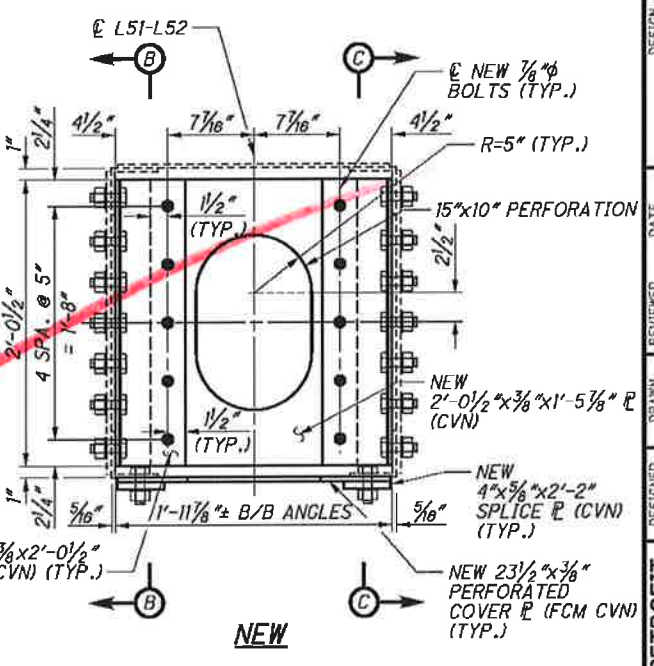
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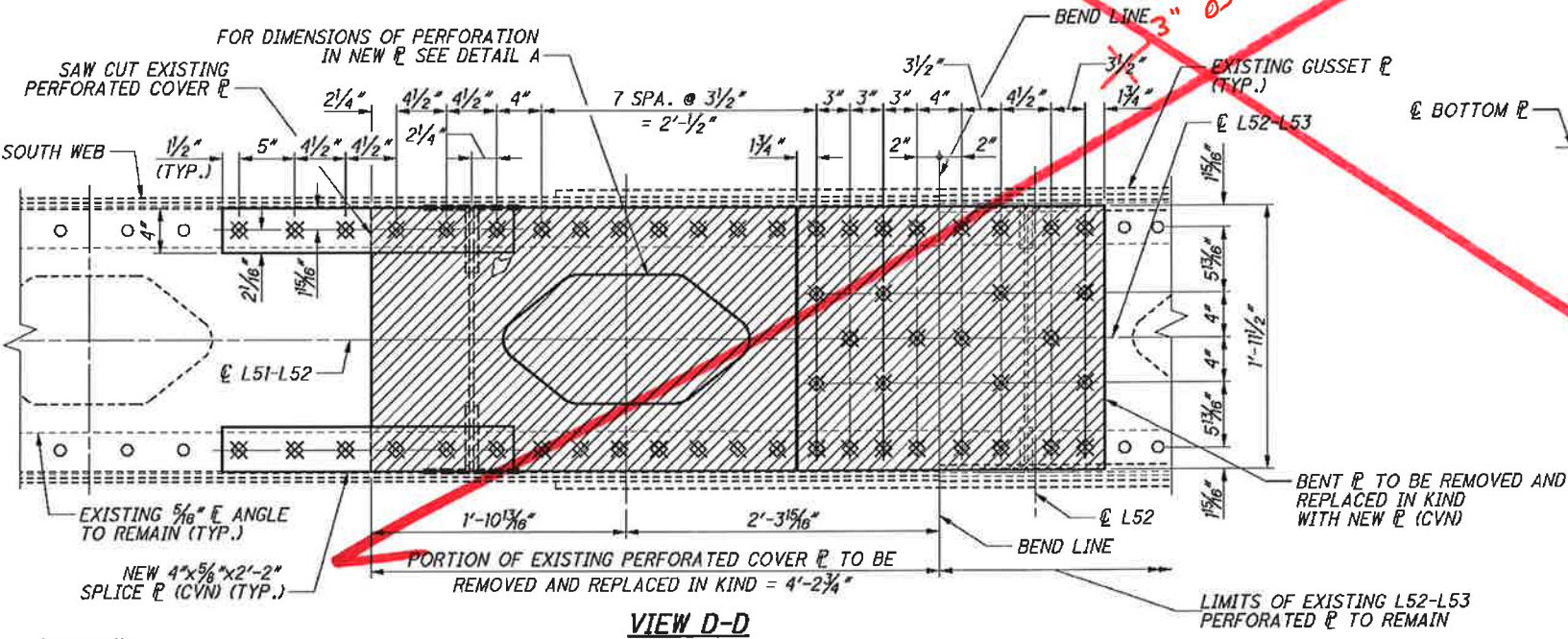
SOUTH ELEVATION OF NORTH TRUSS AT L52
 (ADDITIONAL RIVETS ON LOWER CHORD OUTSIDE OF GUSSET PLATE NOT SHOWN)



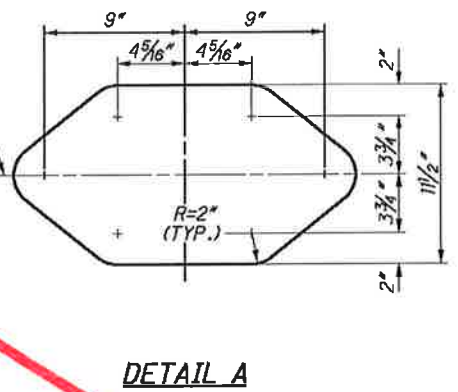
SECTION A-A



SECTION B-B
SECTION C-C (OPPOSITE HAND)
 (EXISTING ELEMENTS NOT SHOWN FOR CLARITY)
 (SEE NOTE 3)



VIEW D-D



DETAIL A

LEGEND:

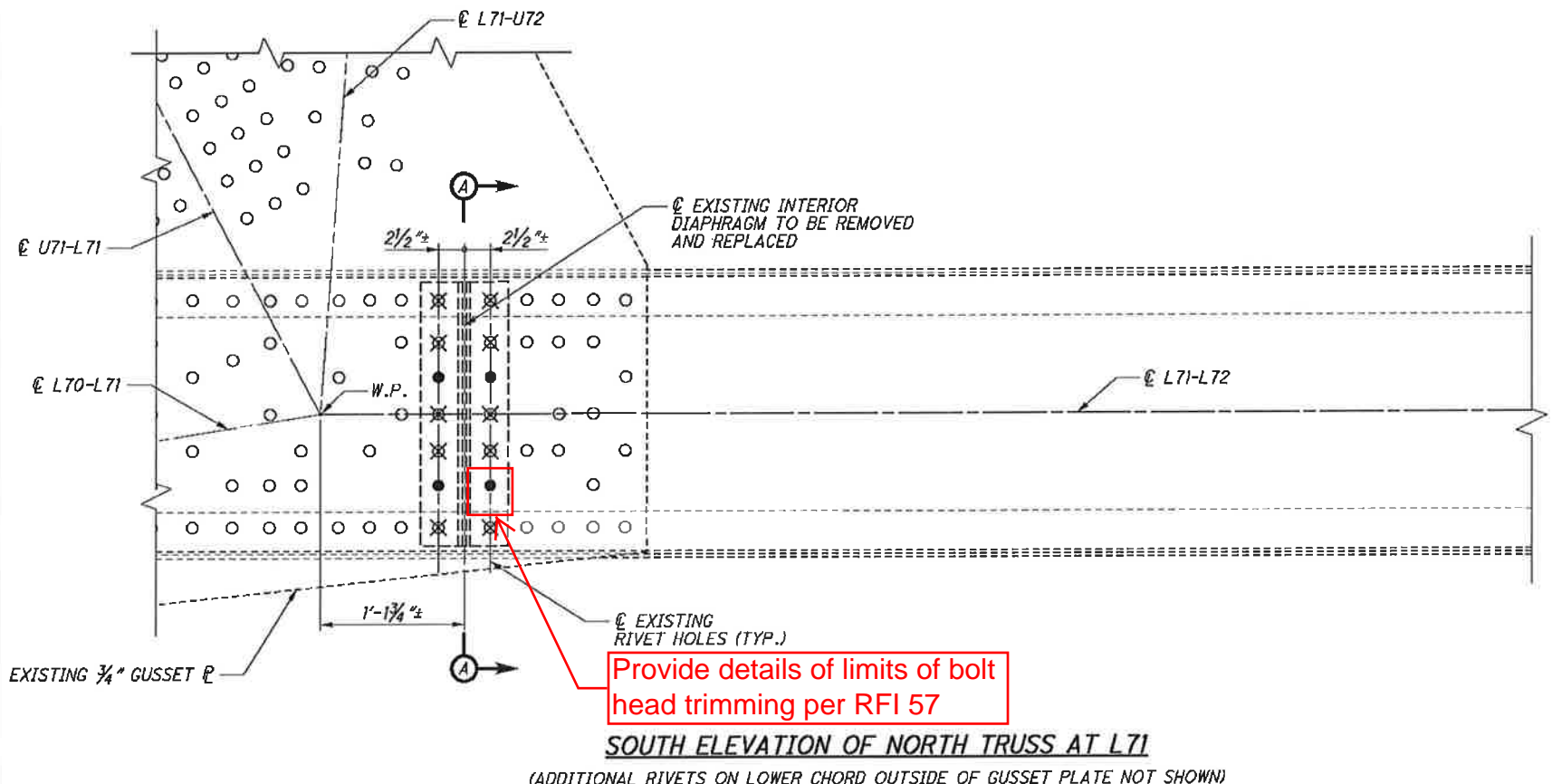
- LIMITS OF EXISTING INTERIOR DIAPHRAGM/PERFORATED PLATE TO BE REMOVED
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 1/8\"/>

NOTES:

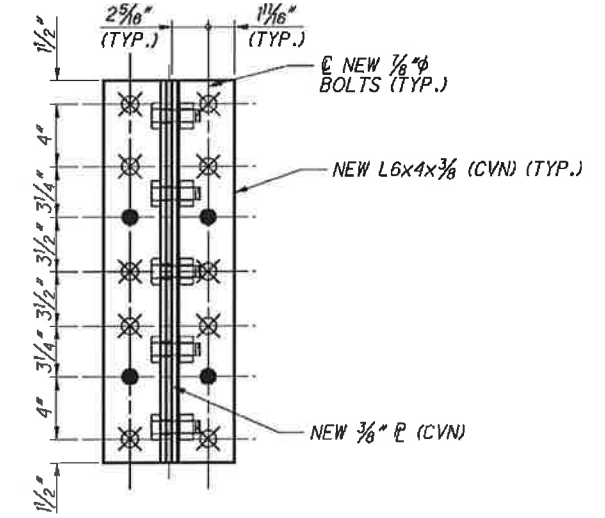
1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. DIAPHRAGM BOLTS SHALL BE 3/8\"/>

4. THE EXISTING DIAPHRAGM REMOVAL AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE DIAPHRAGM RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS INTERIOR DIAPHRAGM RETROFIT.
5. THE REMOVAL OF THE EXISTING COVER PLATE AND BENT PLATE, AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE COVER PLATE RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 2.
6. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW COVER PLATES, NEW SPLICE PLATES, NEW BENT PLATE, NEW DIAPHRAGM, AND ANY SURROUNDING AREAS DAMAGED DURING INSTALLATION OF THE NEW DIAPHRAGM AND COVER PLATE. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

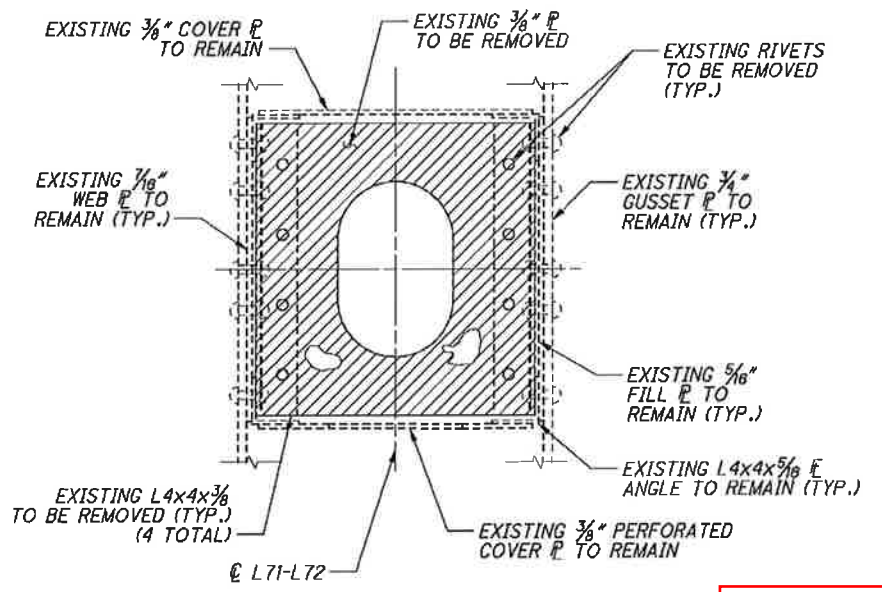
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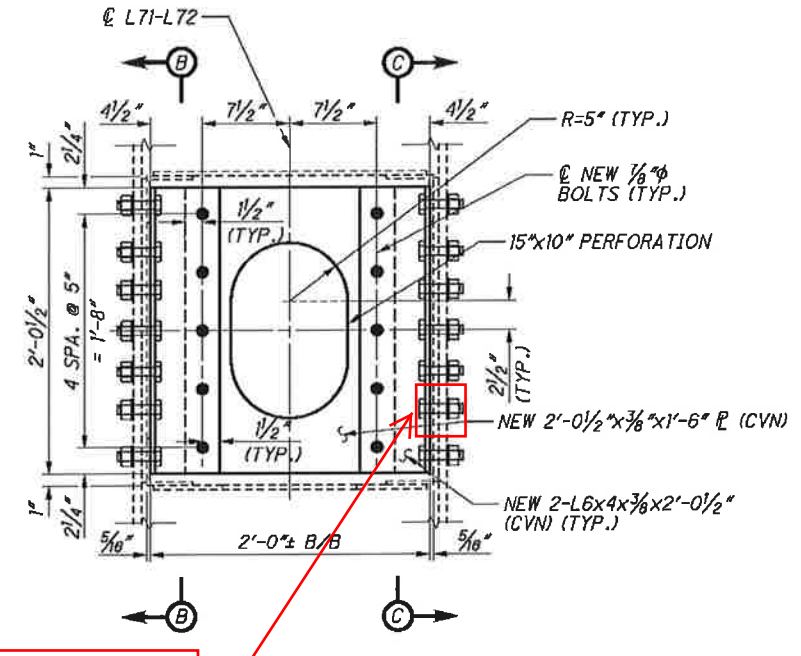
SOUTH ELEVATION OF NORTH TRUSS AT L71
 (ADDITIONAL RIVETS ON LOWER CHORD OUTSIDE OF GUSSET PLATE NOT SHOWN)



SECTION B-B
SECTION C-C (OPPOSITE HAND)
 (EXISTING ELEMENTS NOT SHOWN FOR CLARITY)
 (SEE NOTE 2)



EXISTING



NEW

Provide details of limits of bolt head trimming per RFI 57

SECTION A-A

LEGEND:

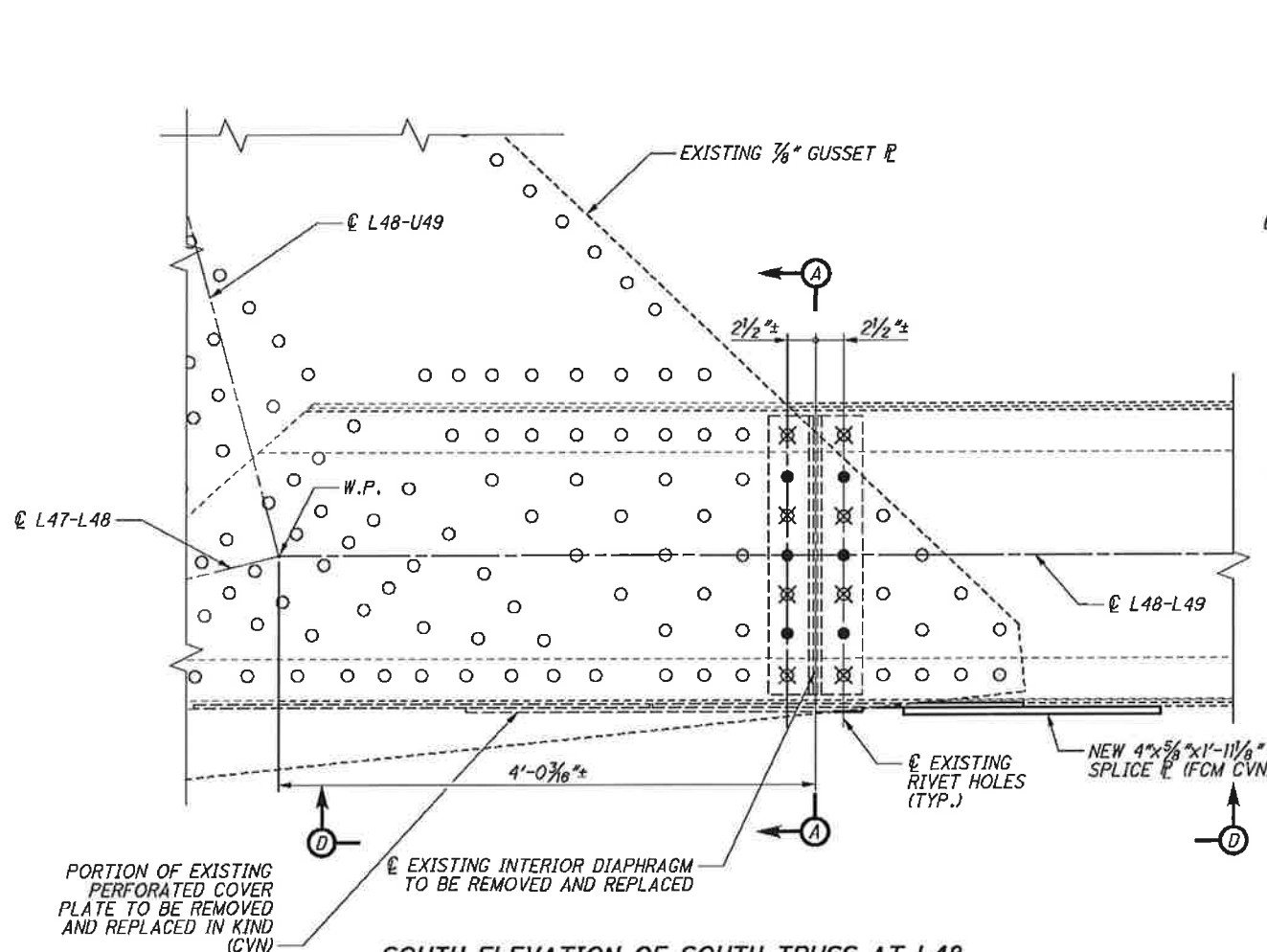
- LIMITS OF EXISTING INTERIOR DIAPHRAGM TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 1/8\"/>

NOTES:

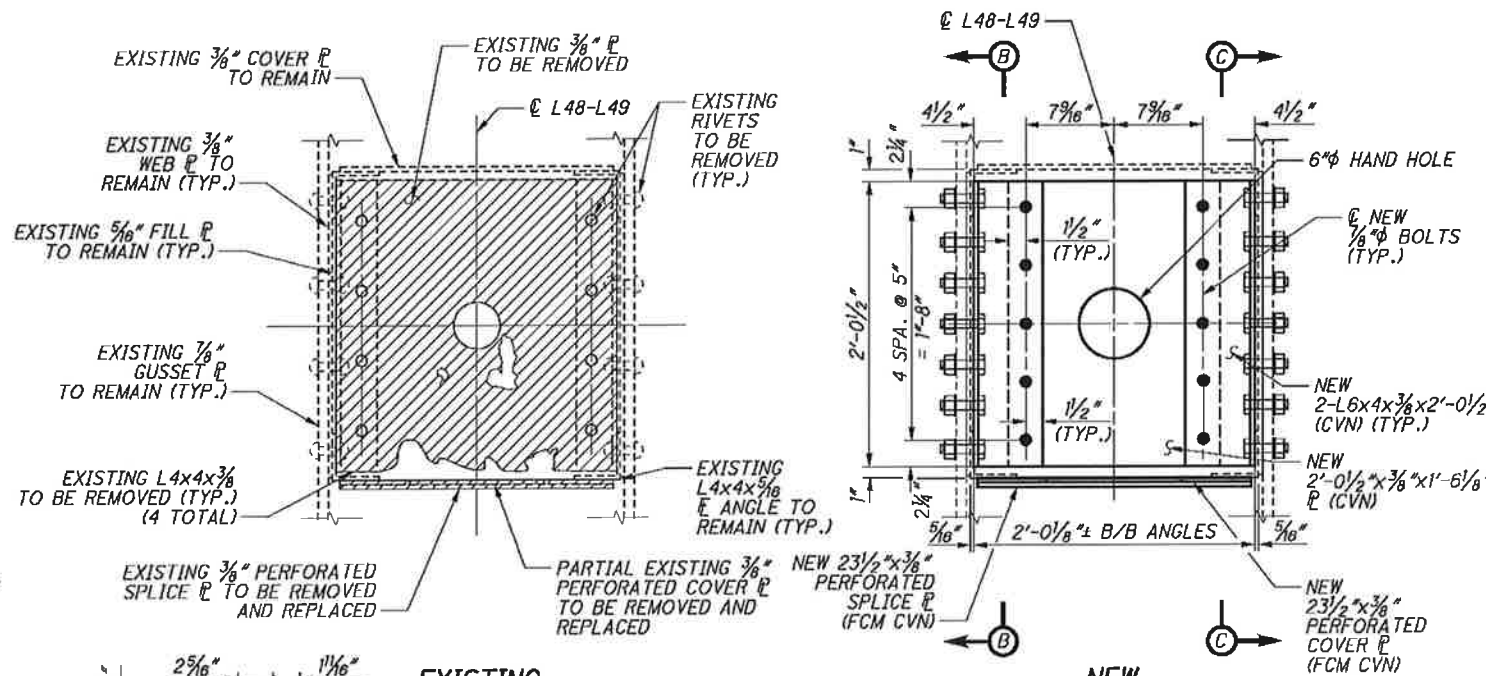
1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. ALL BOLTS SHALL BE 7/8\"/>

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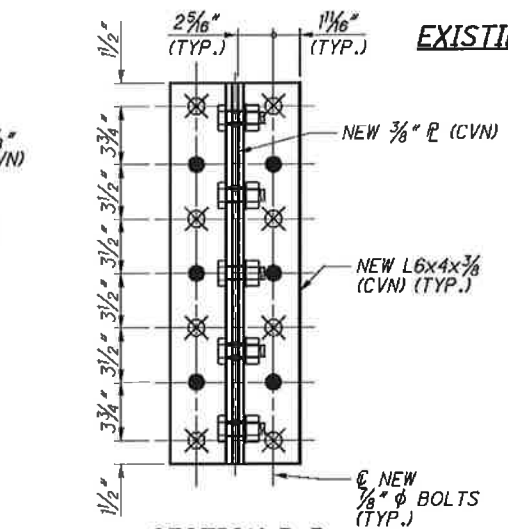
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SOUTH ELEVATION OF SOUTH TRUSS AT L48
(ADDITIONAL RIVETS ON LOWER CHORD OUTSIDE OF GUSSET PLATE NOT SHOWN)



SECTION A-A



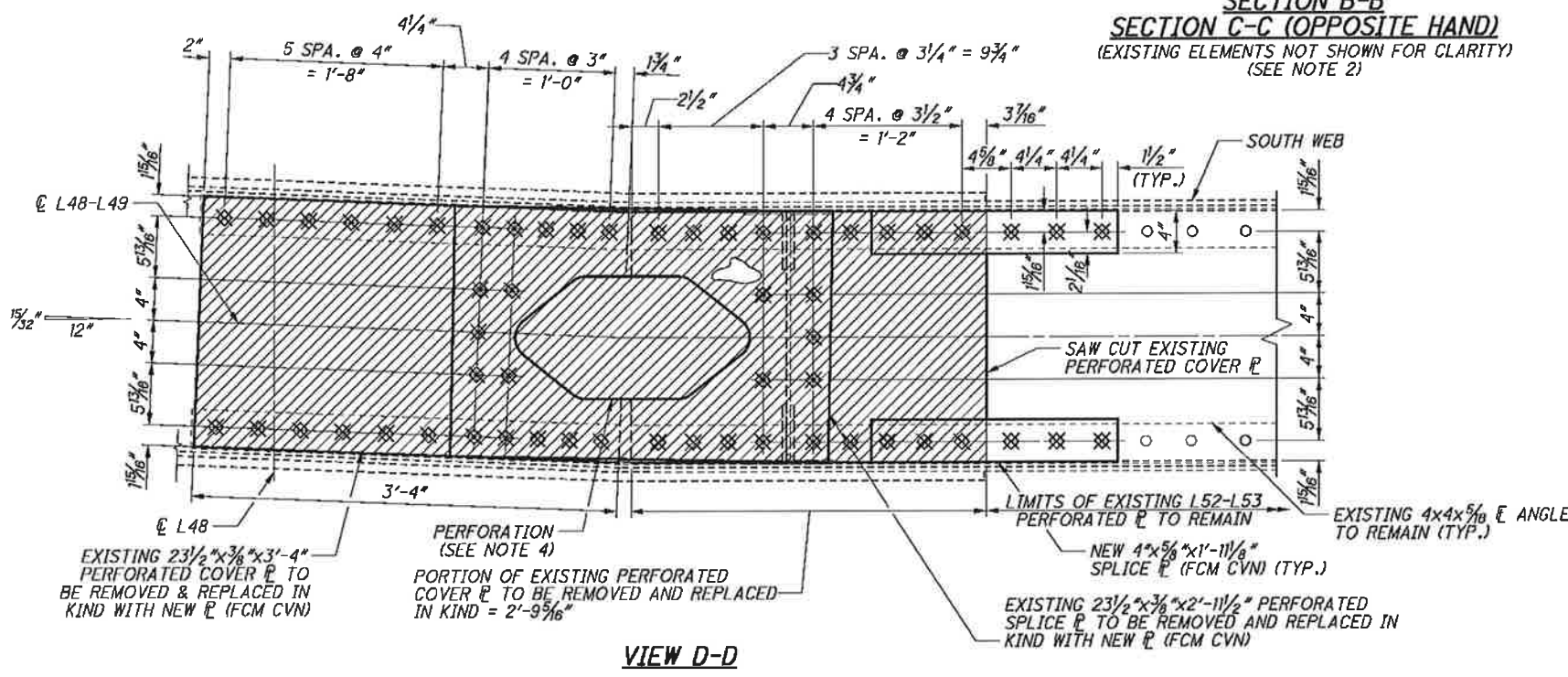
SECTION B-B
SECTION C-C (OPPOSITE HAND)
(EXISTING ELEMENTS NOT SHOWN FOR CLARITY)
(SEE NOTE 2)

LEGEND:

- LIMITS OF EXISTING INTERIOR DIAPHRAGM/PERFORATED PLATE TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 15/16\"/>

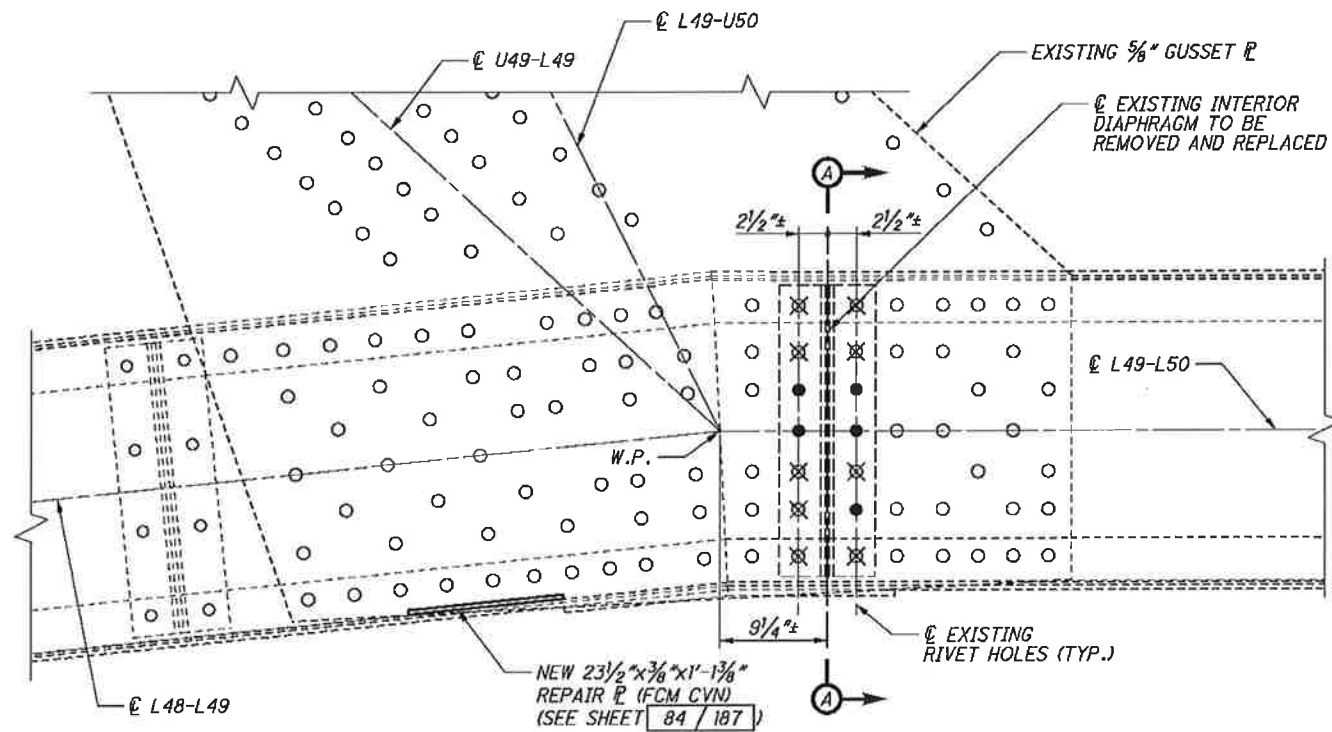
NOTES:

1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. DIAPHRAGM BOLTS SHALL BE 3/8\"/>

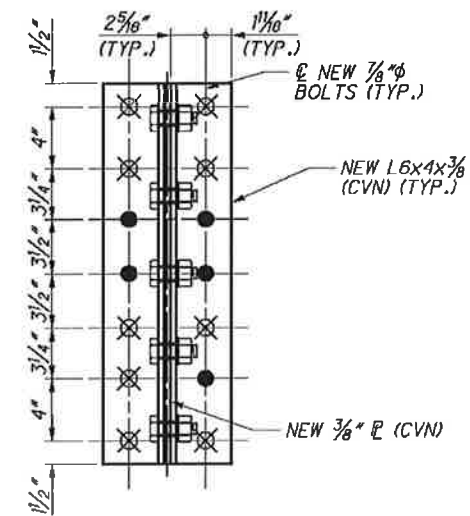


VIEW D-D

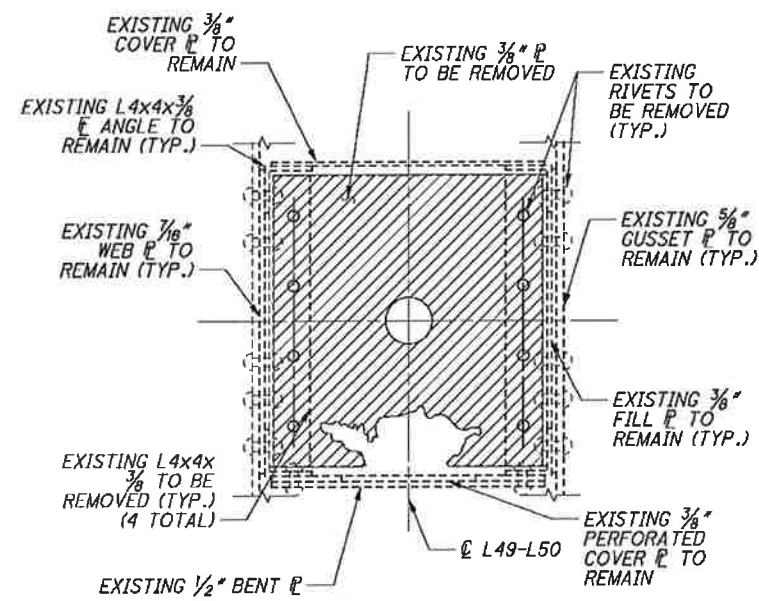
DESIGN AGENCY	TRAIN SYSTEMS 25 PUBLIC SQUARE, SUITE 1000 CLEVELAND, OHIO 44113
DATE	08/16/13
REVIEWED	WRW
DRAWN	BJM
DESIGNED	BJM
CHECKED	FWL
STRUCTURE FILE NUMBER	1800035
L48-L49 SOUTH TRUSS INTERIOR DIAPHRAGM & COVER PLATE RETROFIT	
MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
PID No.	91115
CUY-2-14.41	71/187
73	189



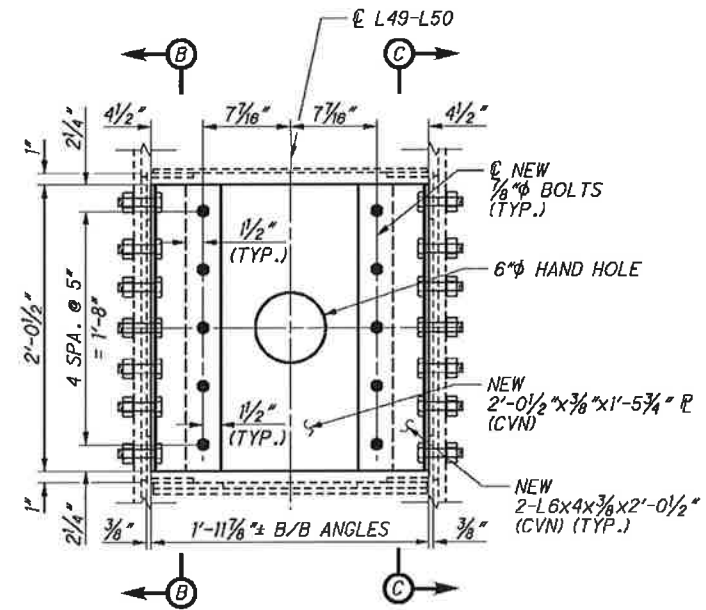
SOUTH ELEVATION OF SOUTH TRUSS AT L49
 (ADDITIONAL RIVETS ON LOWER CHORD OUTSIDE OF GUSSET PLATE NOT SHOWN)



SECTION B-B
SECTION C-C (OPPOSITE HAND)
 (EXISTING ELEMENTS NOT SHOWN FOR CLARITY)






EXISTING



NEW

SECTION A-A

LEGEND:

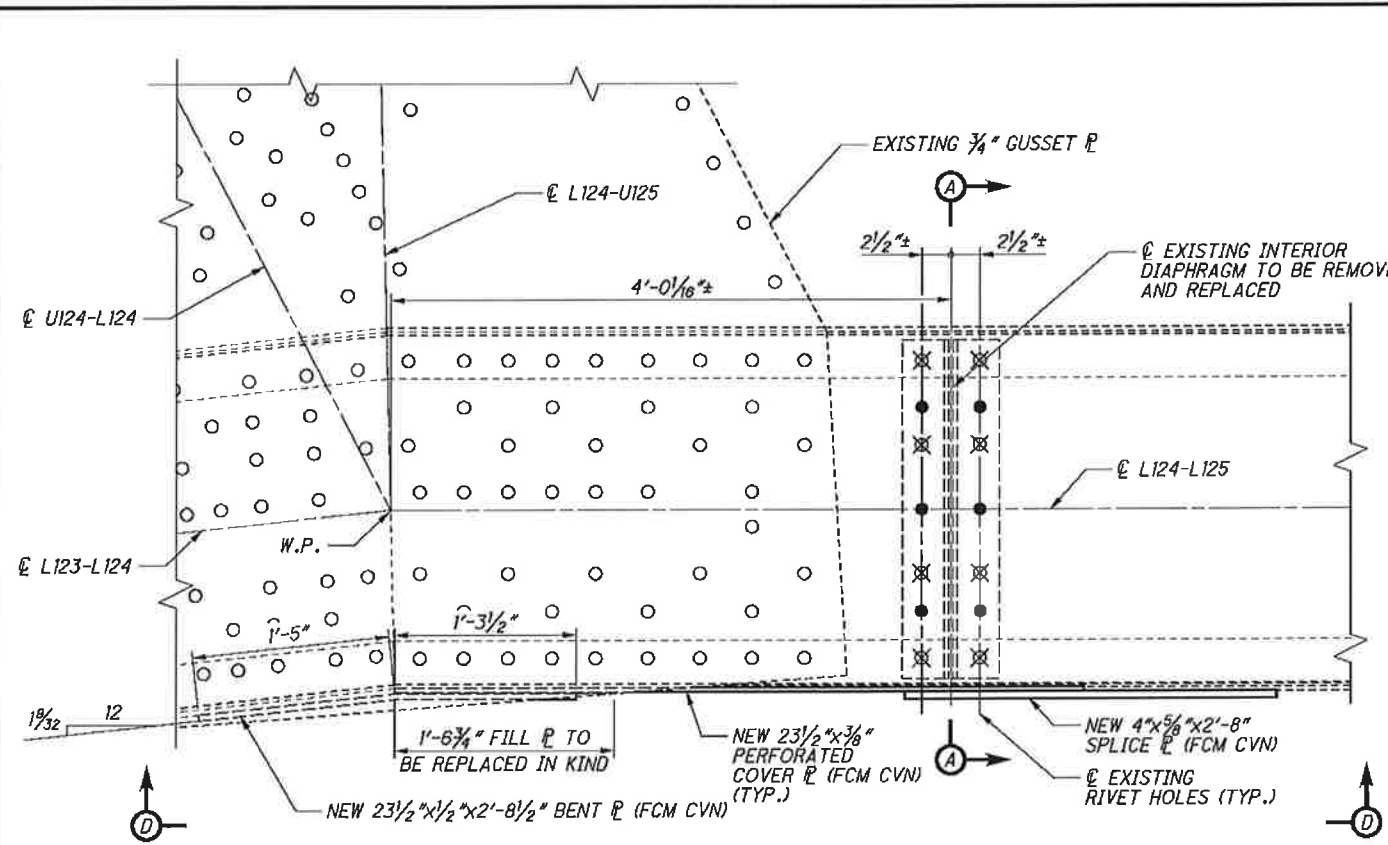
-  - LIMITS OF EXISTING INTERIOR DIAPHRAGM TO BE REMOVED.
-  - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
-  - FIELD DRILL NEW 1 5/16\"/>

NOTES:

1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. DIAPHRAGM BOLTS SHALL BE 3/8\"/>

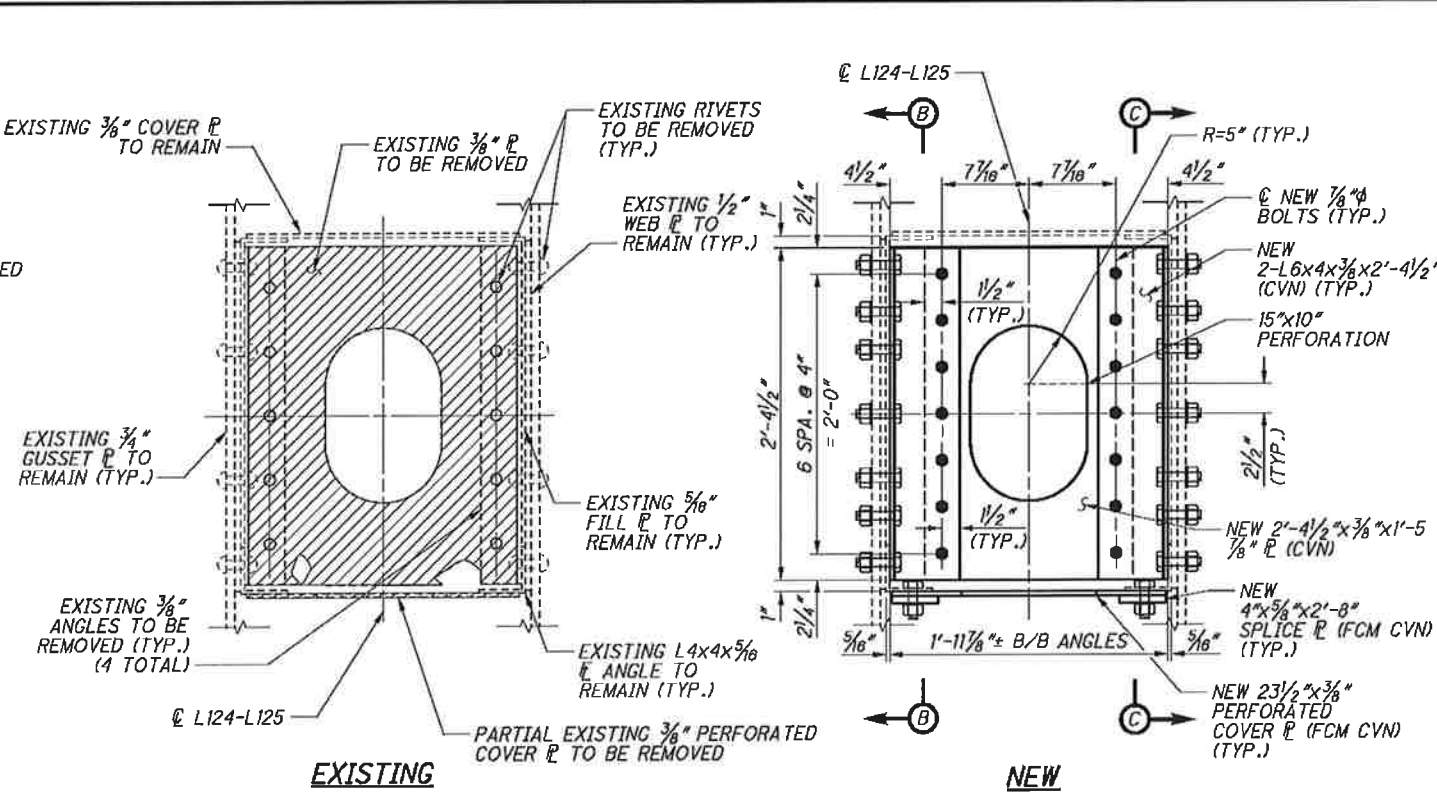
G:\CL12\0112\Bridges\Sheets\91115SD014.dgn 8/30/2013 10:38:11 AM nrfisco

 DESIGN AGENCY TRAIN SYSTEMS 25 PUBLIC SQUARE, SUITE 100 CLEVELAND, OHIO 44113	DATE: 08/16/13 REVIEWED: WRW DRAWN: BJM DESIGNED: BJM	STRUCTURE FILE NUMBER: 1800035 CHECKED: NRF	L49-L50 SOUTH TRUSS INTERIOR DIAPHRAGM AND COVER PLATE RETROFIT MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER
CUY-2-14.41		PID No. 91115	
72/187		74 189	

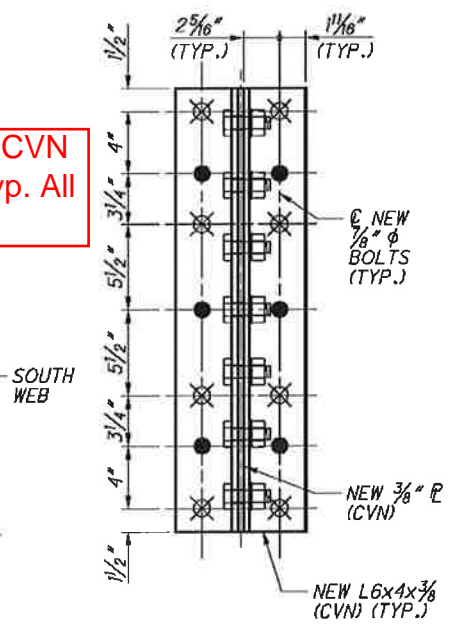


SOUTH ELEVATION OF SOUTH TRUSS AT L124

(ADDITIONAL RIVETS ON LOWER CHORD OUTSIDE OF GUSSET PLATE NOT SHOWN)

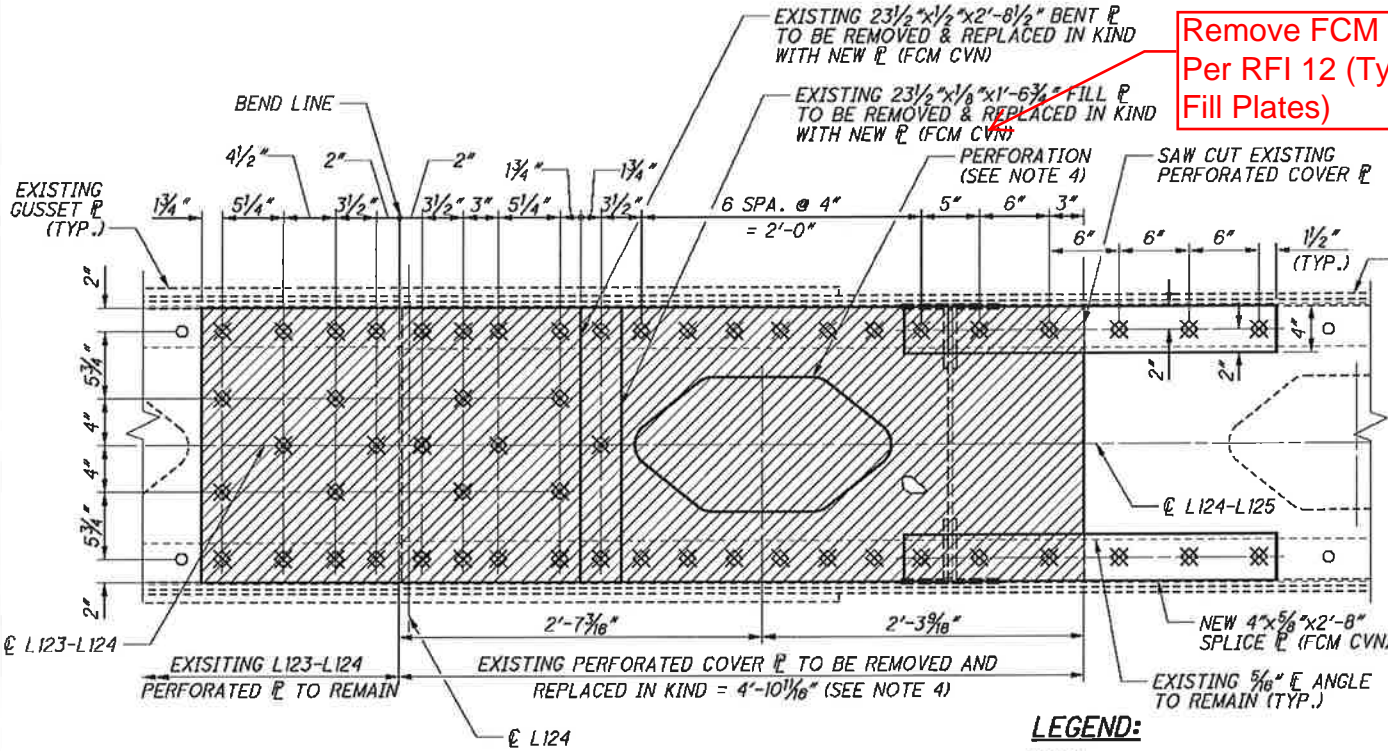


SECTION A-A



**SECTION B-B
SECTION C-C (OPPOSITE HAND)**

(EXISTING ELEMENTS NOT SHOWN FOR CLARITY) (SEE NOTE 3)



VIEW D-D

LEGEND:

- LIMITS OF EXISTING INTERIOR DIAPHRAGM/PERFORATED PLATE TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 1/16 inch DIAMETER HOLE FOR NEW 3/8 inch A325 BOLT.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 3/8 inch A325 BOLT.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1 inch A325 BOLT.

NOTES:

1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. DIAPHRAGM BOLTS SHALL BE 3/8 inch DIAMETER A325 HIGH STRENGTH BOLTS WITH CORRESPONDING 1/16 inch DIAMETER BOLT HOLES. ALL OTHER BOLTS SHALL BE 1 inch DIAMETER A325 HIGH STRENGTH BOLTS WITH 1/16 inch DIAMETER BOLT HOLES UNLESS NOTED OTHERWISE.
3. BOLT HOLES SHOWN MATCH LOCATION OF EXISTING RIVET HOLES IN CHORD MEMBERS. FIELD VERIFY EXACT DIMENSIONS BEFORE NEW PLATES AND ANGLES ARE DRILLED.
4. FOR DIMENSIONS OF NEW PERFORATION SEE DETAIL A ON SHEET 69 / 187.
5. THE REMOVAL OF THE EXISTING DIAPHRAGM, ANGLES, AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE DIAPHRAGM RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS INTERIOR DIAPHRAGM RETROFIT.
6. THE REMOVAL OF THE EXISTING COVER PLATE, BENT PLATE, FILL PLATE, AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE COVER PLATE RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 2.
7. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW COVER PLATES, NEW BENT PLATES, NEW FILL PLATES, NEW SPLICE PLATES, NEW DIAPHRAGM, AND ANY SURROUNDING AREAS DAMAGED DURING INSTALLATION OF THE NEW DIAPHRAGM. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

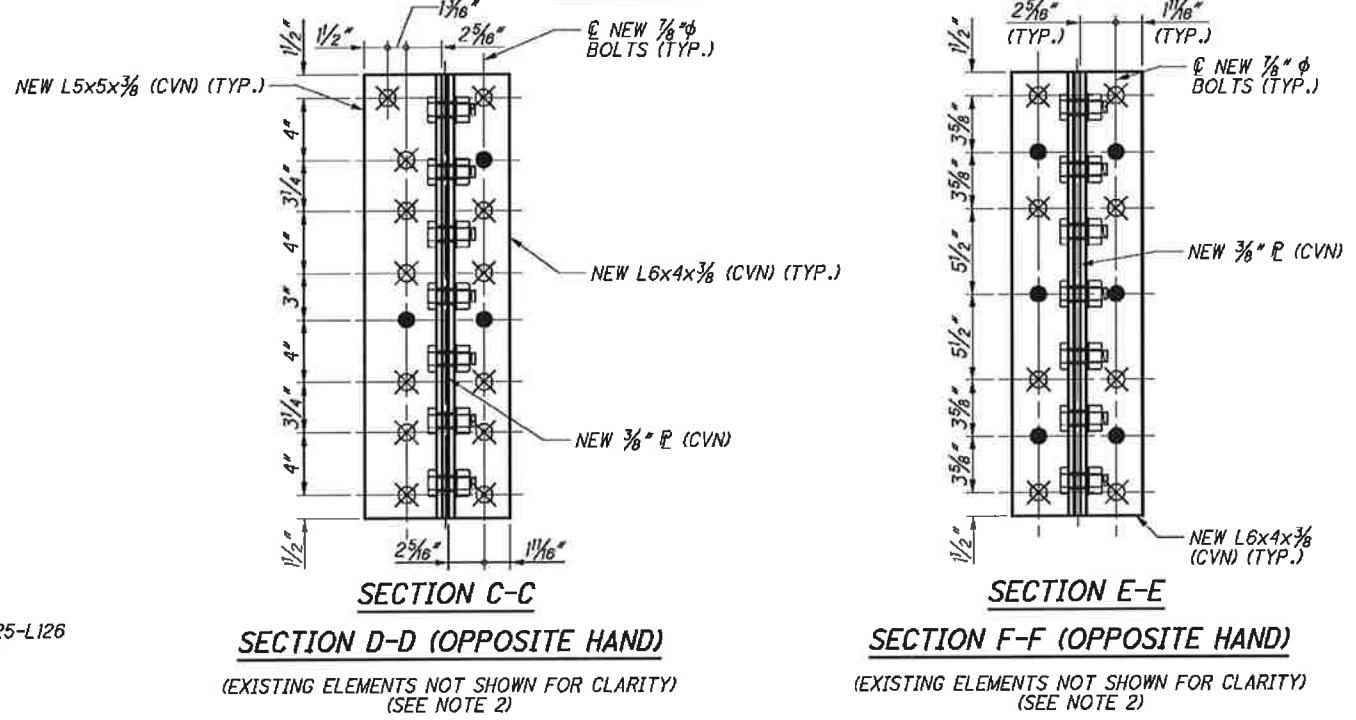
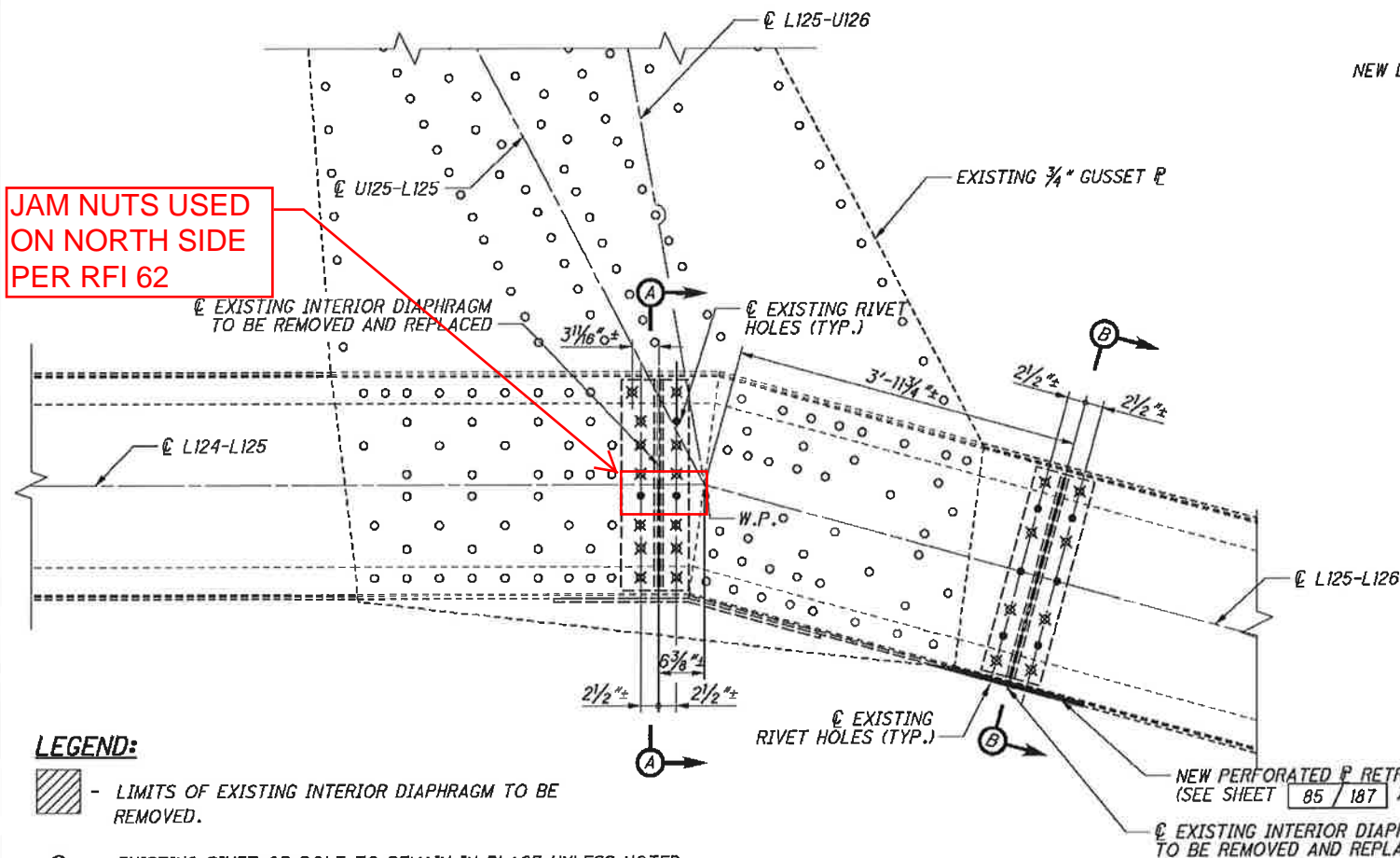
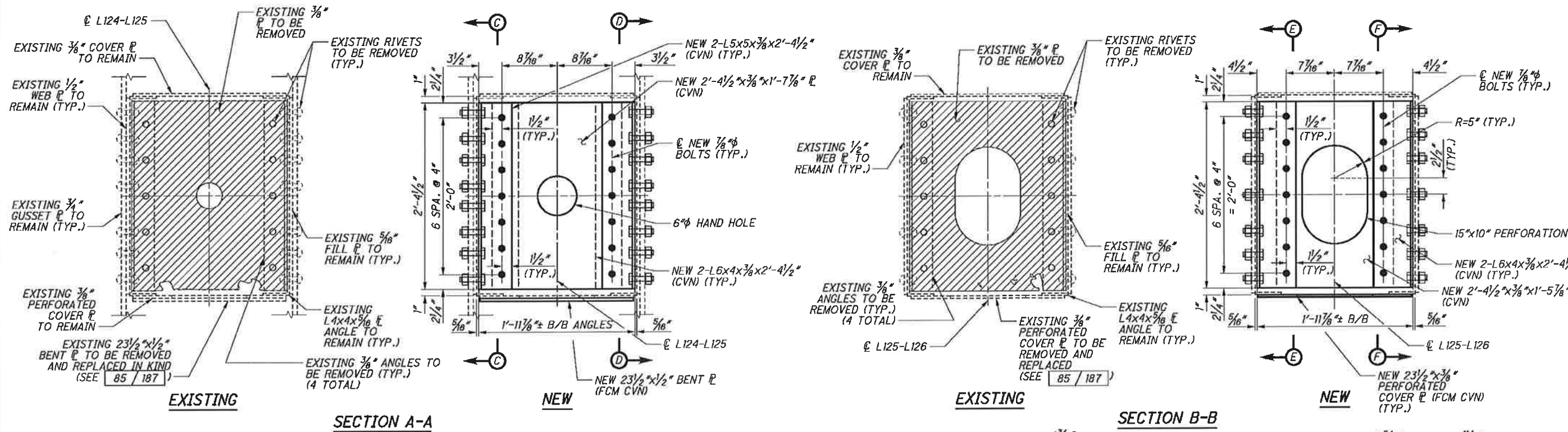
G:\CL\12\0112\Bridges\Sheets\91115SD013.dgn 8/30/2013 10:38:12 AM nrfisco

DESIGN AGENCY: Train Systems
 DATE: 08/16/13
 REVIEWED: WRW
 DRAWN: BJM
 CHECKED: FWL
 STRUCTURE FILE NUMBER: 1800035

L124-L125 SOUTH TRUSS INTERIOR DIAPHRAGM & COVER PLATE RETROFIT
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

73/187
 75
 189



LEGEND:

- LIMITS OF EXISTING INTERIOR DIAPHRAGM TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 15/16" HOLE FOR NEW 7/8" A325 BOLT.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" A325 BOLT.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT.

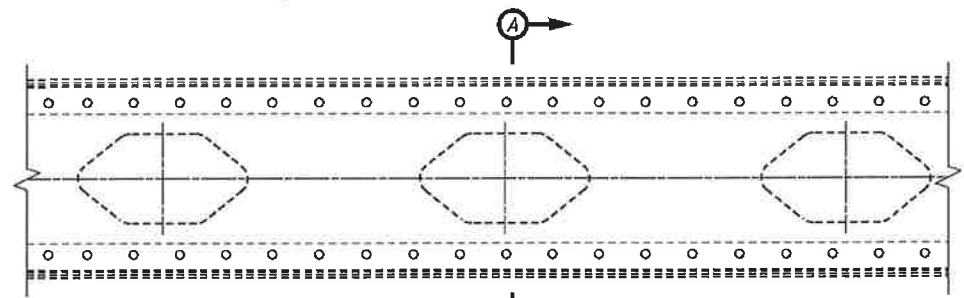
SOUTH ELEVATION OF SOUTH TRUSS AT L125
 (ADDITIONAL RIVETS ON LOWER CHORD OUTSIDE OF GUSSET PLATE NOT SHOWN)
 (PLEASE NOTE THAT DETAIL SHOWN CONTAINS TWO DIAPHRAGM RETROFITS TO BE PAID FOR SEPERATELY)

NOTES:

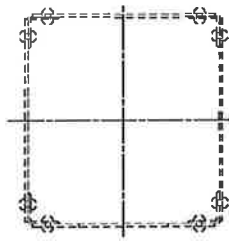
1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. ALL BOLTS SHALL BE 7/8" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 15/16" DIAMETER UNLESS NOTED OTHERWISE.
3. BOLT HOLES SHOWN MATCH LOCATION OF EXISTING RIVET HOLES IN CHORD MEMBERS. FIELD VERIFY EXACT DIMENSIONS BEFORE ANGLES ARE DRILLED.
4. THE REMOVAL OF EACH EXISTING DIAPHRAGM, ANGLES, AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF EACH INDIVIDUAL DIAPHRAGM RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS INTERIOR DIAPHRAGM RETROFIT.
5. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, THE NEW DIAPHRAGM, AND ANY SURROUNDING AREAS DAMAGED DURING INSTALLATION OF THE NEW DIAPHRAGM. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

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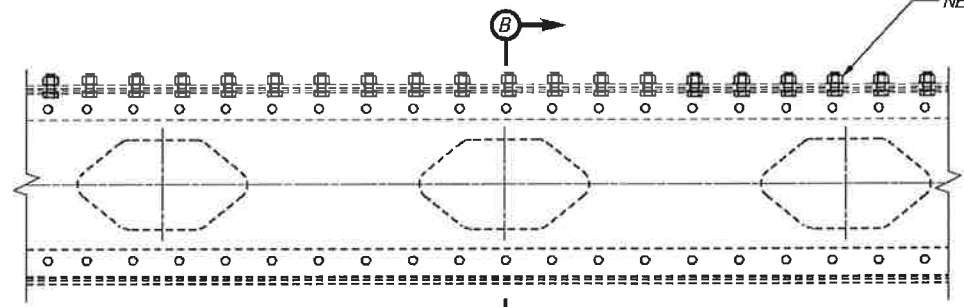
 57 PUBLIC SQUARE SUITE 200 CLEVELAND, OHIO 44113	DESIGN AGENCY Train Systems	DATE 08/16/13	REVIEWED WRW	STRUCTURE FILE NUMBER 1800035
DESIGNED BJM	DRAWN BJM	CHECKED FWL	REVISIONS (None listed)	PROJECT NO. CUY-2-1441
L124-L125 & L125-L126 SOUTH TRUSS INTERIOR DIAPHRAGM RETROFIT MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER				
CUY-2-14-41		PID No. 91115		
74/187		76 189		



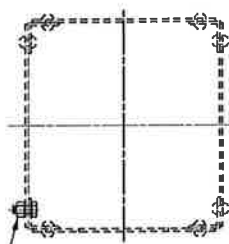
EXISTING TRUSS MEMBER BOTTOM FACE



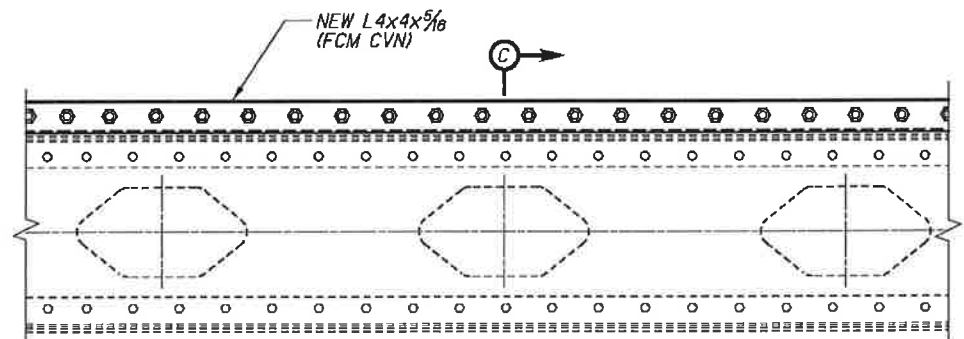
SECTION A-A



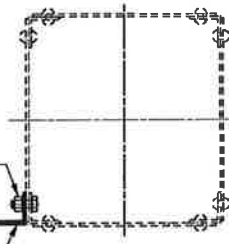
STEP 1
(BOTTOM PLAN VIEW)



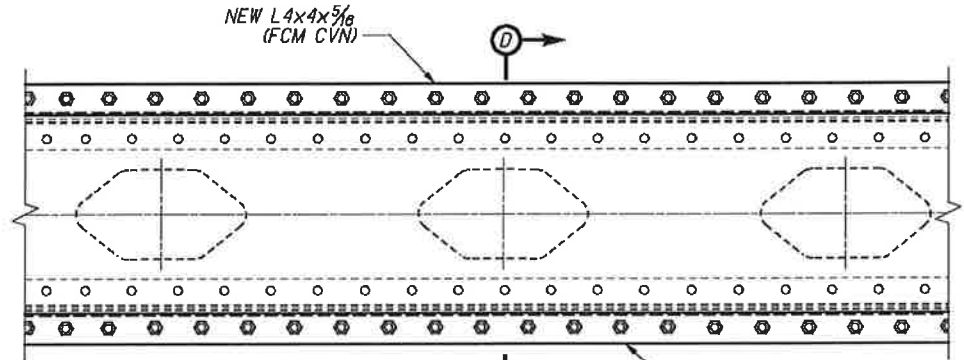
SECTION B-B



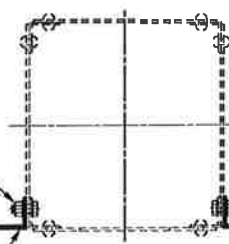
STEP 2
(BOTTOM PLAN VIEW)



SECTION C-C



STEP 3
(BOTTOM PLAN VIEW)



SECTION D-D

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1 1/16" Ø HOLE FOR NEW 1" Ø A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" Ø A325 BOLT.

PERFORM TYPE 1 PERFORATED PLATE REPLACEMENT AS FOLLOWS:

LIMIT REMOVAL AND CONSTRUCTION OPERATIONS TO ONE TRUSS MEMBER ON EITHER THE NORTH OR SOUTH TRUSS AT ANY GIVEN TIME.

STEP 1:

- A. ABRASIVE BLAST AREA ENCOMPASSING BOTTOM ANGLES AND WEB OF TRUSS MEMBER.
- B. REMOVE A SINGLE RIVET CONNECTING A BOTTOM FLANGE ANGLE TO THE WEB PLATE PER THE RIVET REMOVAL PROCEDURE. REPLACE THE RIVET WITH A NEW 1" Ø A325 BOLT HAND TIGHTENED.
- C. REPEAT "B" FOR REMAINING RIVETS CONNECTING THE SAME ANGLE TO THE WEB PLATE.

STEP 2:

- D. FABRICATE NEW ANGLE TO FIT THE NEWLY INSTALLED BOLT LAYOUT.
- E. PREPARE FAYING SURFACES IN ACCORDANCE WITH CMS 514.13.
- F. REMOVE NUTS FROM ALL HAND TIGHTENED BOLTS AND INSTALL THE NEW ANGLE WITH PROPERLY TENSIONED 1" Ø A325 BOLTS.

STEP 3:

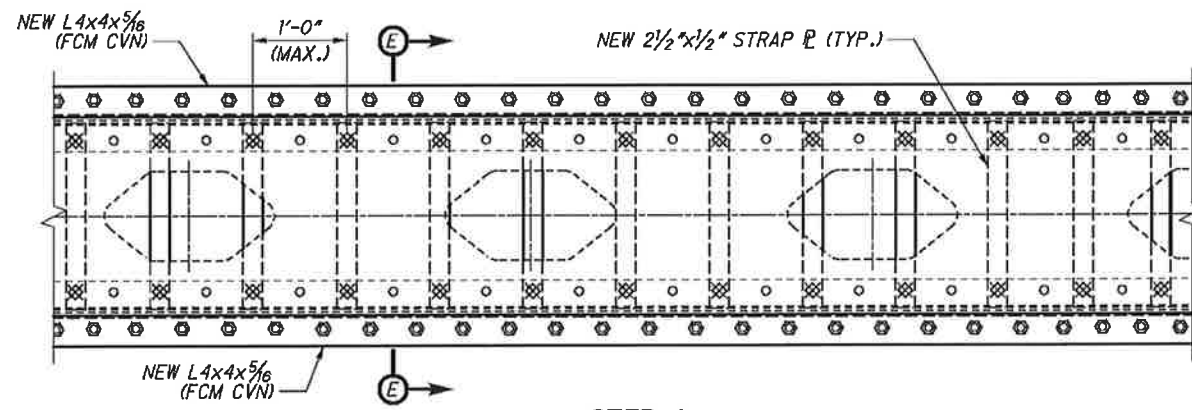
- G. REPEAT "A" THROUGH "F" FOR REMAINING BOTTOM FLANGE ANGLE INSTALLATION.

NOTES:

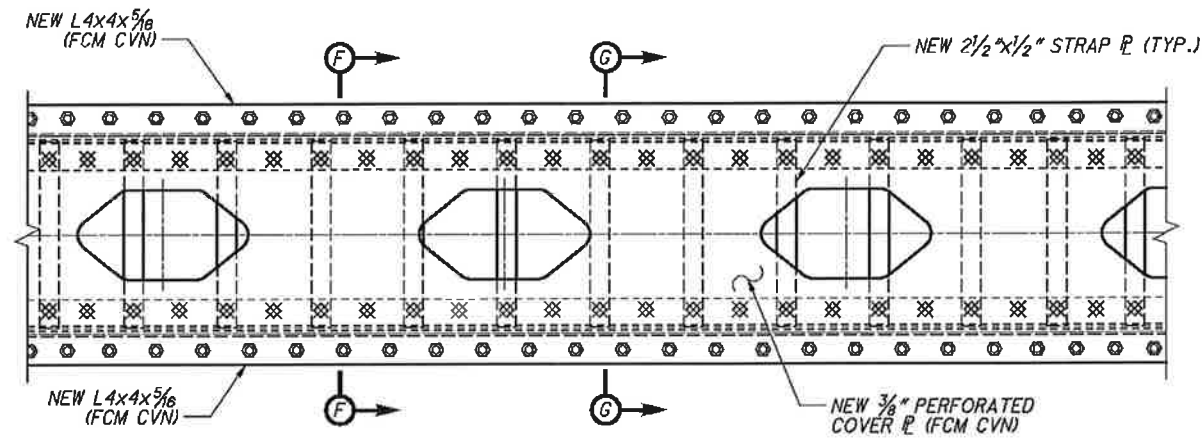
- 1. FOR SEQUENCE OF CONSTRUCTION STEPS 4 AND 5, SEE SHEET 76 / 187.
- 2. ALL BOLTS SHALL BE 1" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 1 1/16" DIAMETER UNLESS NOTED OTHERWISE.
- 3. BOLT HOLES TO MATCH LOCATION OF EXISTING RIVET HOLES. FIELD VERIFY EXACT DIMENSIONS BEFORE INSTALLING NEW FABRICATED PLATES.
- 4. THE REMOVAL OF THE EXISTING RIVETS AND COVER PLATE AND ALL NEW MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 1.
- 5. CONTRACTOR SHALL SUBMIT PROPOSED SEQUENCE OF CONSTRUCTION TO THE ENGINEER FOR APPROVAL.

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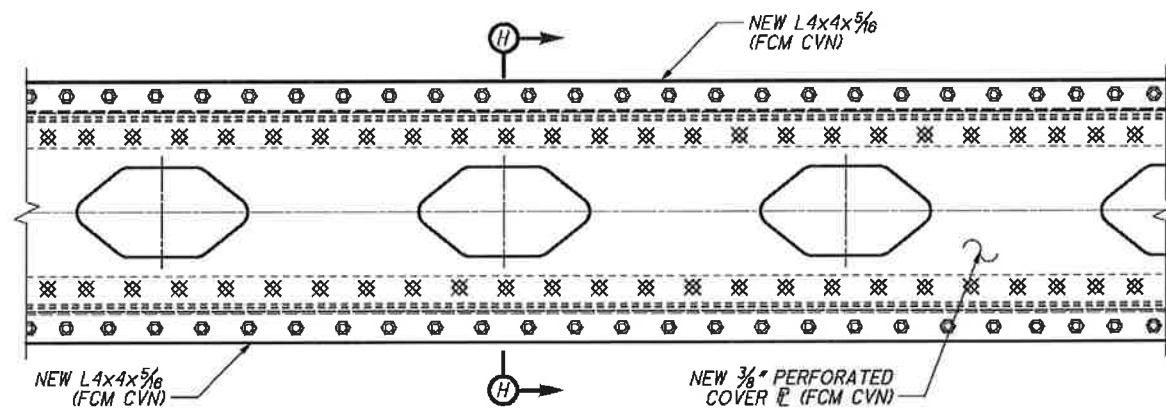
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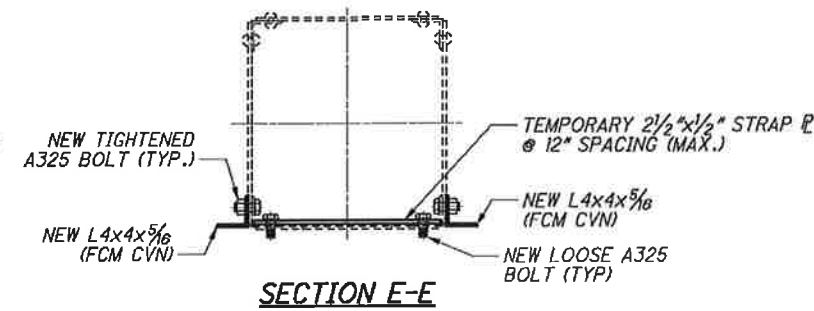
STEP 4
(BOTTOM PLAN VIEW)



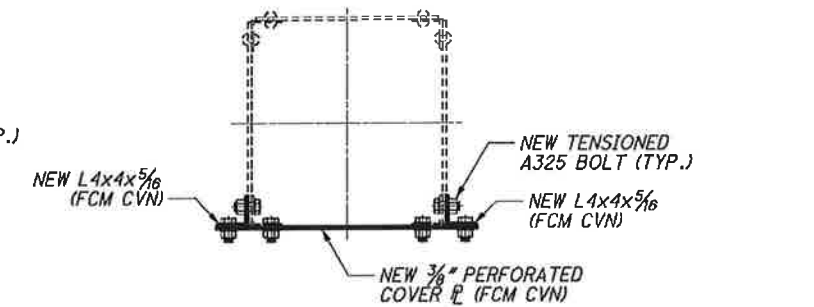
STEP 5
(BOTTOM PLAN VIEW)



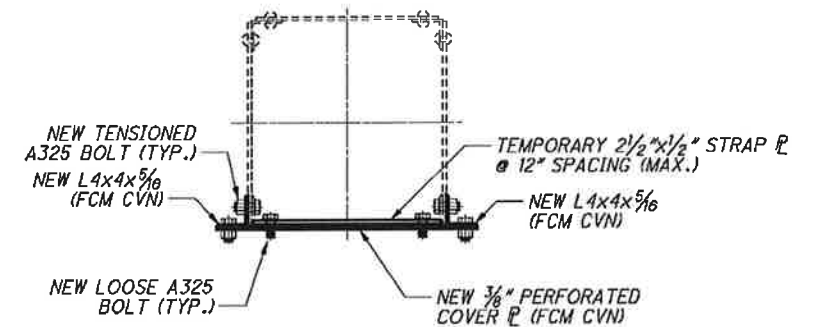
COMPLETED RETROFIT
(BOTTOM PLAN VIEW)



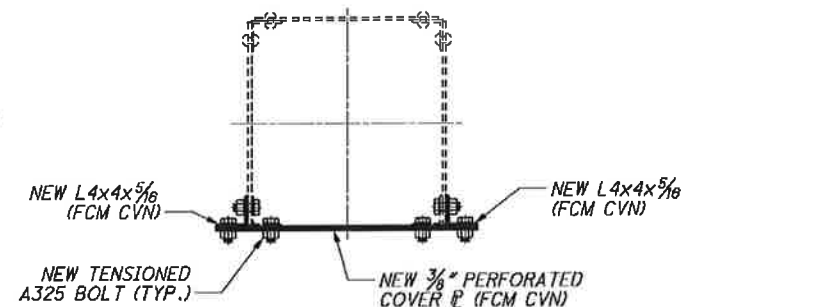
SECTION E-E



SECTION F-F



SECTION G-G



SECTION H-H

STEP 4:

- H. REMOVE RIVET FROM OUTSTANDING LEG OF EXISTING BOTTOM ANGLES AT MAXIMUM 12" ON CENTER FOR INSTALLATION OF TEMPORARY STRAP PLATES.
- I. INSTALL STRAP PLATES BY REPLACING RIVETS WITH NEW HAND TIGHTENED 1" DIAMETER A325 BOLTS.
- J. ONCE ALL STRAP PLATES ARE IN PLACE, REMOVE ALL OTHER EXISTING RIVETS IN BOTTOM ANGLE OUTSTANDING LEG.
- K. SAW CUT PERFORATED PLATE AT LOCATIONS SPECIFIED IN THE PLANS.
- L. IMMEDIATELY PRIOR TO REMOVING EXISTING PERFORATED PLATE, REMOVE HAND TIGHTENED NUTS FROM STRAP PLATE CONNECTIONS.
- M. REMOVE THE PORTION OF THE EXISTING PERFORATED COVER PLATE BEING REPLACED LEAVING OPEN RIVET HOLES VOID.
- N. REPLACE NUTS REMOVED IN STEP K AND HAND TIGHTEN STRAP PLATE CONNECTIONS.

STEP 5:

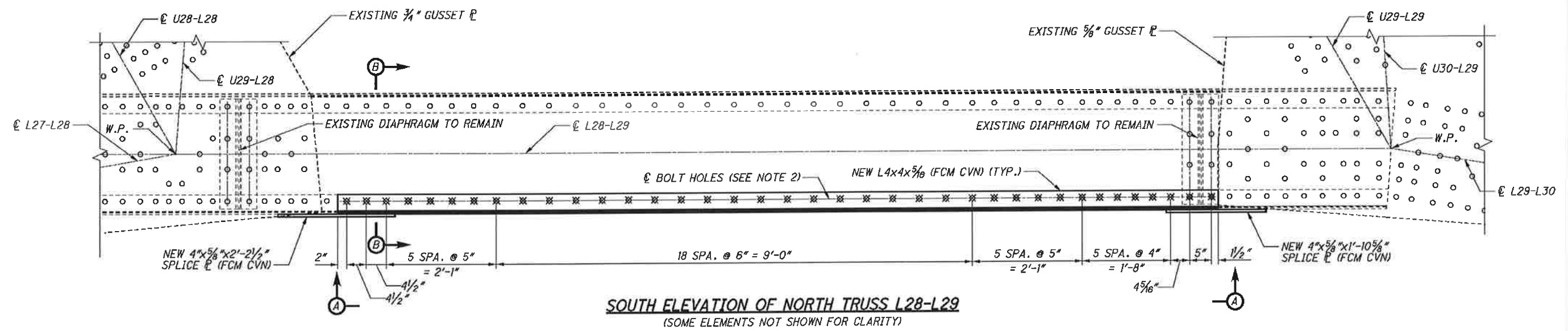
- O. FABRICATE NEW PERFORATED COVER PLATE TO FIT EXISTING RIVET HOLES.
- P. REMOVE NUTS FROM HAND TIGHTENED BOLTS IN STRAP PLATE AND INSTALL NEW PERFORATED COVER PLATE WITH PROPERLY TENSIONED BOLTED CONNECTIONS TO NEW AND EXISTING BOTTOM ANGLES IN EMPTY RIVET HOLES.
- Q. REMOVE TEMPORARY STRAP PLATES AND REPLACE LOOSE BOLTS WITH PROPERLY TENSIONED 1" DIAMETER A325 BOLTS.
- R. FIELD PAINT EXPOSED STEEL PER CMS 514.

BOLT LEGEND:

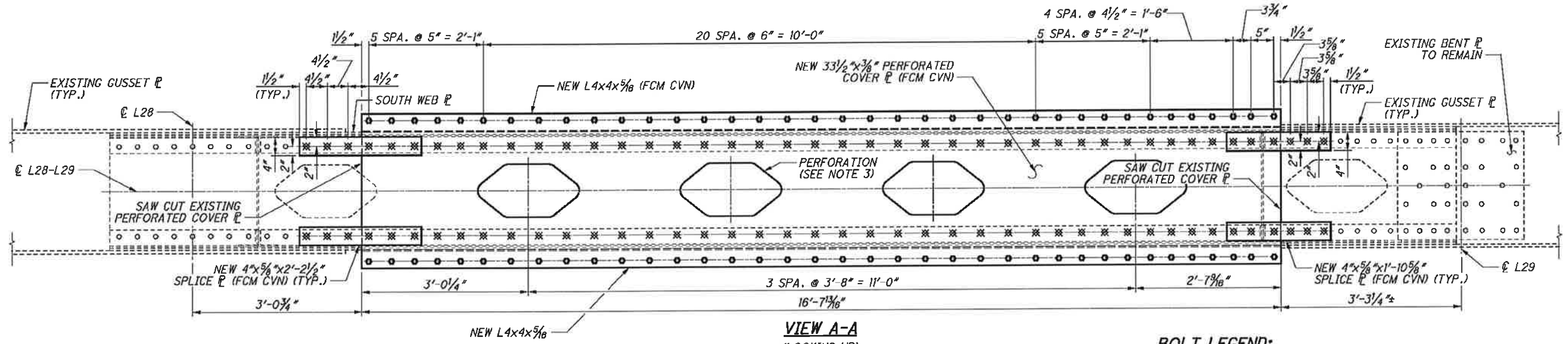
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16" Ø HOLE FOR NEW 1" Ø A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" Ø A325 BOLT.

NOTES:

- 1. FOR SEQUENCE OF CONSTRUCTION STEPS 1 THROUGH 3, SEE SHEET 75 / 187 .
- 2. ALL BOLTS SHALL BE 1" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 1/16" DIAMETER UNLESS NOTED OTHERWISE.
- 3. BOLT HOLES TO MATCH LOCATION OF EXISTING RIVET HOLES. FIELD VERIFY EXACT DIMENSIONS BEFORE INSTALLING NEW FABRICATED PLATES.
- 4. THE REMOVAL OF THE EXISTING RIVETS AND COVER PLATE AND ALL NEW MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 1.
- 5. CONTRACTOR SHALL SUBMIT PROPOSED SEQUENCE OF CONSTRUCTION TO THE ENGINEER FOR APPROVAL.



SOUTH ELEVATION OF NORTH TRUSS L28-L29
 (SOME ELEMENTS NOT SHOWN FOR CLARITY)



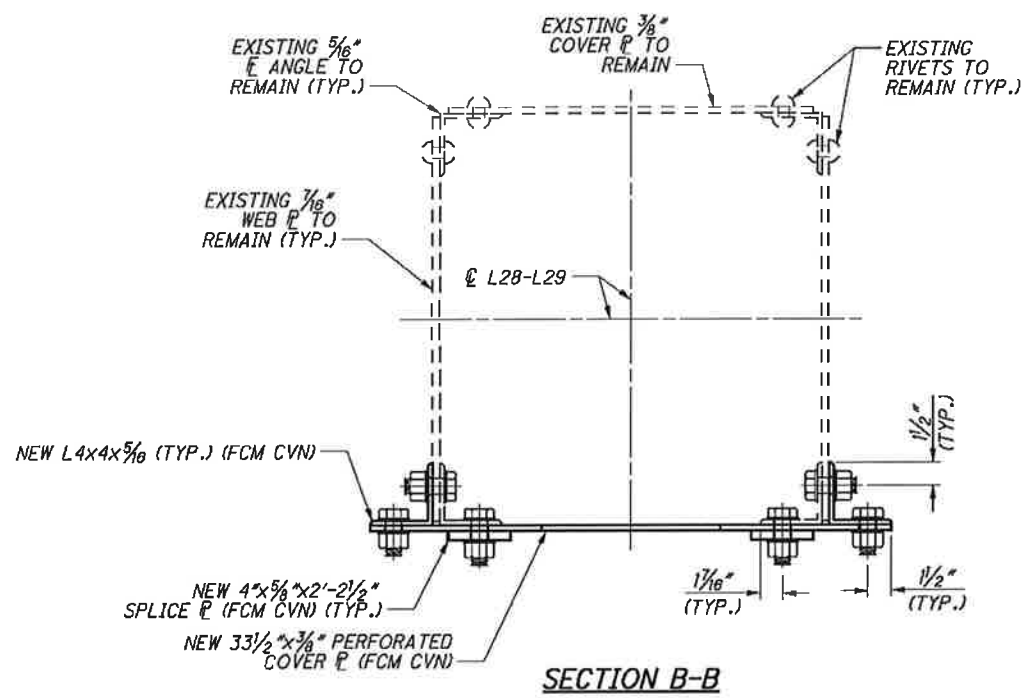
VIEW A-A
 (LOOKING UP)
 (MEMBER L27-L28 & L29-L30 NOT SHOWN FOR CLARITY)
 (BOLTS IN WEB NOT SHOWN FOR CLARITY)

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1 1/16" φ HOLE FOR NEW 1" φ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT.

NOTES:

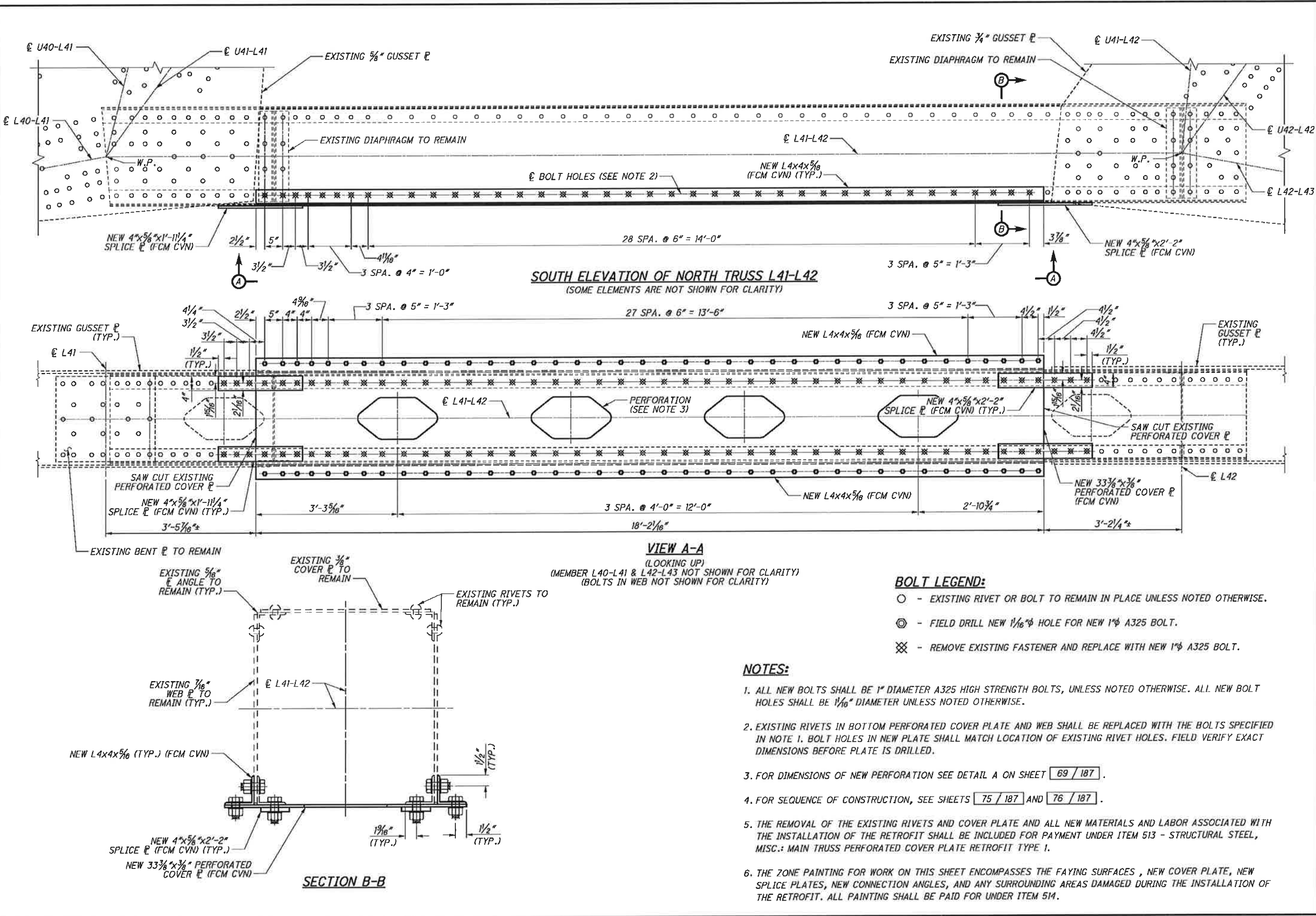
1. ALL NEW BOLTS SHALL BE 1" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL NEW BOLT HOLES SHALL BE 1 1/16" DIAMETER UNLESS NOTED OTHERWISE.
2. EXISTING RIVETS IN BOTTOM PERFORATED COVER PLATE AND WEB SHALL BE REPLACED WITH THE BOLTS SPECIFIED IN NOTE 1. BOLT HOLES IN NEW PLATE SHALL MATCH LOCATION OF EXISTING RIVET HOLES. FIELD VERIFY EXACT DIMENSIONS BEFORE PLATE IS DRILLED.
3. FOR DIMENSIONS OF NEW PERFORATION SEE DETAIL A ON SHEET 69 / 187.
4. FOR SEQUENCE OF CONSTRUCTION, SEE SHEETS 75 / 187 AND 76 / 187.
5. THE REMOVAL OF THE EXISTING RIVETS AND COVER PLATE AND ALL NEW MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE I.
6. THE ZONE PAINTING FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW COVER PLATE, NEW SPLICE PLATES, NEW CONNECTION ANGLES, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.



SECTION B-B

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SOUTH ELEVATION OF NORTH TRUSS L41-L42
(SOME ELEMENTS ARE NOT SHOWN FOR CLARITY)

VIEW A-A

(LOOKING UP)
(MEMBER L40-L41 & L42-L43 NOT SHOWN FOR CLARITY)
(BOLTS IN WEB NOT SHOWN FOR CLARITY)

BOLT LEGEND:

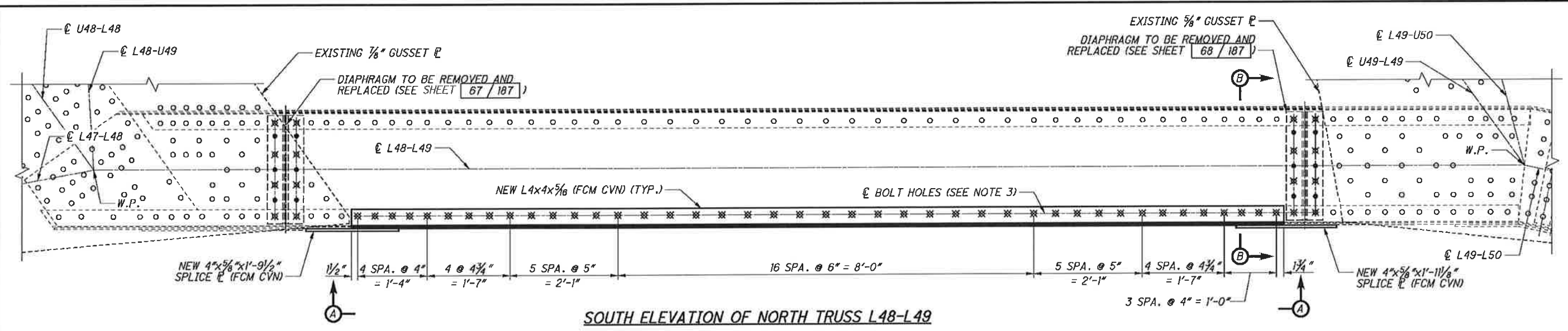
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16" φ HOLE FOR NEW 1" φ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" φ A325 BOLT.

NOTES:

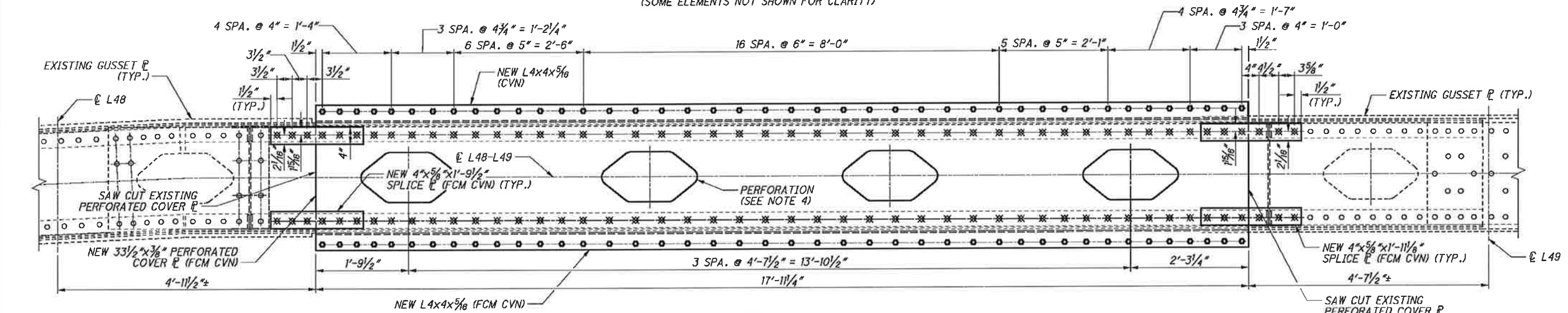
1. ALL NEW BOLTS SHALL BE 1" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL NEW BOLT HOLES SHALL BE 1/16" DIAMETER UNLESS NOTED OTHERWISE.
2. EXISTING RIVETS IN BOTTOM PERFORATED COVER PLATE AND WEB SHALL BE REPLACED WITH THE BOLTS SPECIFIED IN NOTE 1. BOLT HOLES IN NEW PLATE SHALL MATCH LOCATION OF EXISTING RIVET HOLES. FIELD VERIFY EXACT DIMENSIONS BEFORE PLATE IS DRILLED.
3. FOR DIMENSIONS OF NEW PERFORATION SEE DETAIL A ON SHEET 69 / 187 .
4. FOR SEQUENCE OF CONSTRUCTION, SEE SHEETS 75 / 187 AND 76 / 187 .
5. THE REMOVAL OF THE EXISTING RIVETS AND COVER PLATE AND ALL NEW MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 1.
6. THE ZONE PAINTING FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES , NEW COVER PLATE, NEW SPLICE PLATES, NEW CONNECTION ANGLES, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.

	DESIGN AGENCY TrainSystems <small>65 PUBLIC SQUARE, SUITE 1000 CLEVELAND, OHIO 44113</small>	DATE 08/16/13	STRUCTURE FILE NUMBER 1800035
DRAWN BJM	REVIEWED WRW	DESIGNED BJM	CHECKED DWC
PERFORATED PLATE & BOTTOM FLANGE ANGLE RETROFITS: L41-L42N			
MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER			
CUY-2-14.41	PID No. 9115	78 / 187	80 189

G:\CL12\0112\Bridges\Sheets\91115SD062.dgn 8/30/2013 10:38:16 AM mrfisco

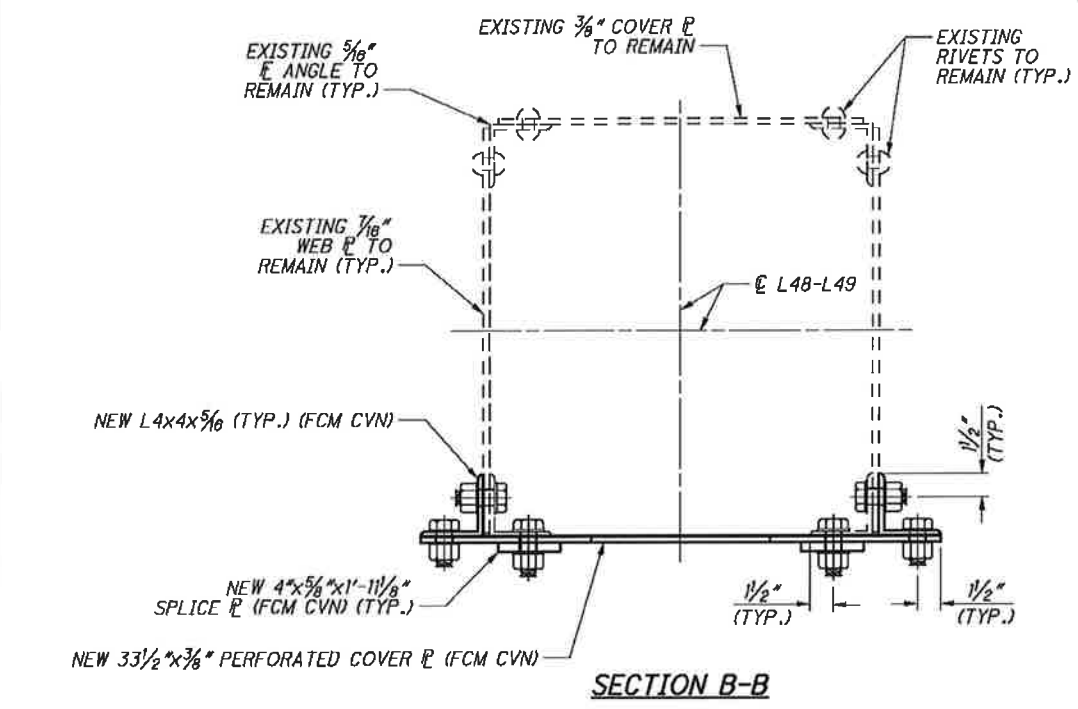


SOUTH ELEVATION OF NORTH TRUSS L48-L49
(SOME ELEMENTS NOT SHOWN FOR CLARITY)



VIEW A-A
(LOOKING UP)

(MEMBER L47-L48N & L49-L50N NOT SHOWN FOR CLARITY)
(BOLTS IN WEB NOT SHOWN FOR CLARITY)



SECTION B-B

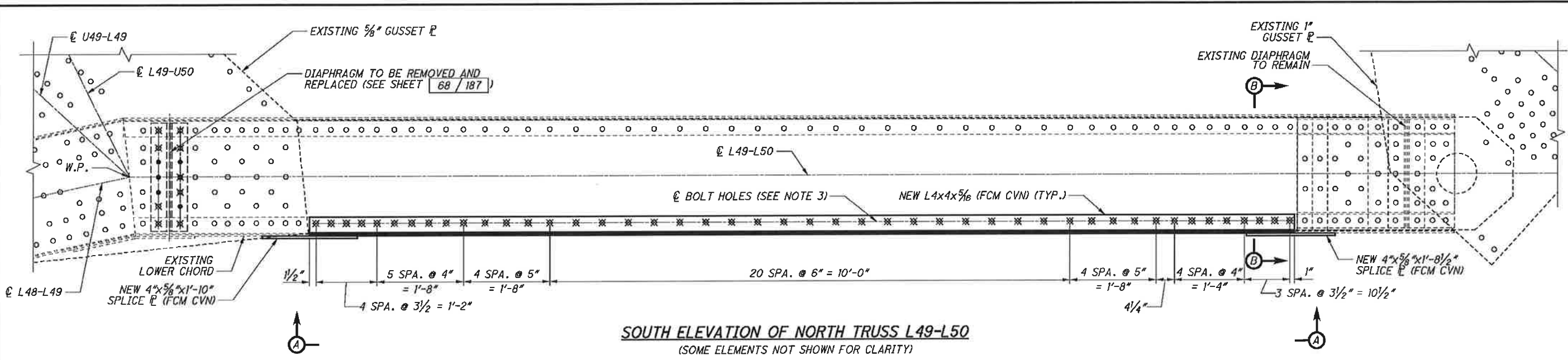
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 15/16" HOLE FOR NEW 3/8" A325 BOLT.
- ⊙ - FIELD DRILL NEW 1 1/16" HOLE FOR NEW 1" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 3/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT.

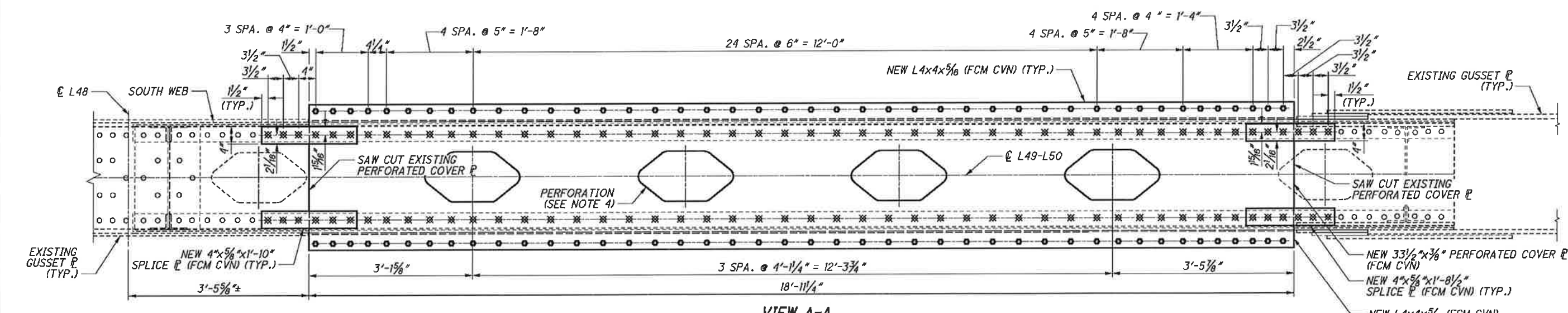
NOTES:

1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. ALL NEW BOLTS SHALL BE 1" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL NEW BOLT HOLES SHALL BE 1 1/16" DIAMETER UNLESS NOTED OTHERWISE.
3. EXISTING RIVETS IN BOTTOM PERFORATED COVER PLATE AND WEB SHALL BE REPLACED WITH THE BOLTS SPECIFIED IN NOTE 2. BOLT HOLES IN NEW PLATE SHALL MATCH LOCATION OF EXISTING RIVET HOLES. FIELD VERIFY EXACT DIMENSIONS BEFORE PLATE IS DRILLED.
4. FOR DIMENSIONS OF NEW PERFORATION SEE DETAIL A ON SHEET 69 / 187 .
5. FOR SEQUENCE OF CONSTRUCTION, SEE SHEETS 75 / 187 AND 76 / 187 .
6. THE REMOVAL OF THE EXISTING RIVETS AND COVER PLATE AND ALL NEW MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 1.
7. THE ZONE PAINTING FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW COVER PLATE, NEW SPLICE PLATES, NEW CONNECTION PLATES, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.

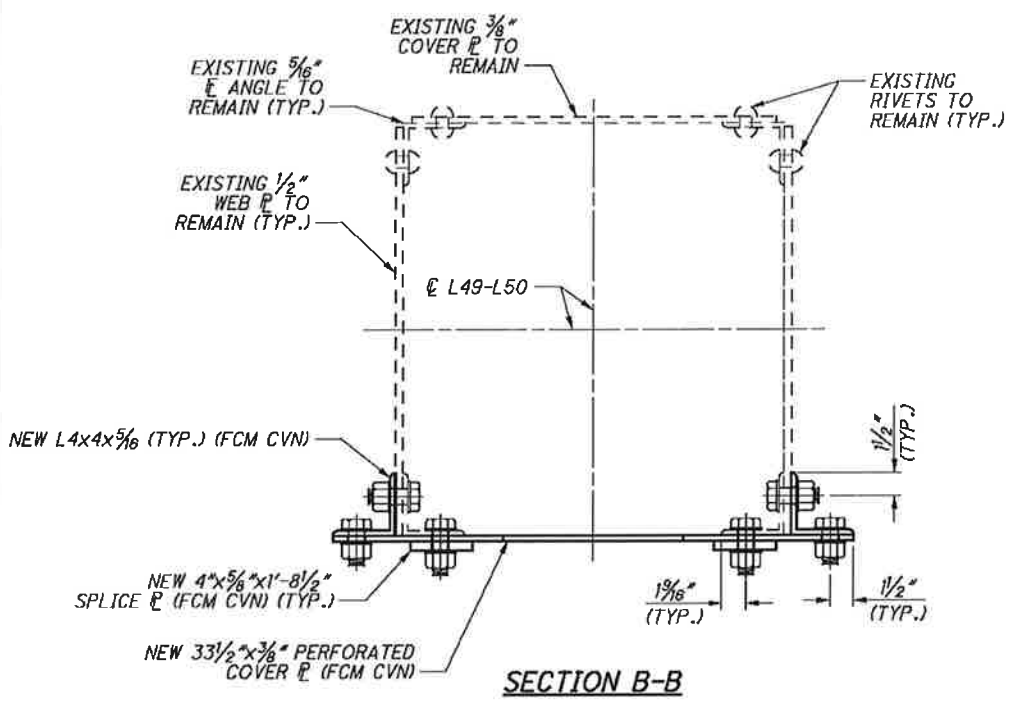
DESIGN AGENCY: **TranSystems**
 55 PUBLIC SQUARE, SUITE 1900
 CLEVELAND, OHIO 44113
 DATE: 08/16/13
 REVIEWED: WRW
 DRAWN: BJM
 CHECKED: BJM
 DESIGNED: BJM
 STRUCTURE FILE NUMBER: 1800035
 REVISIONS: CTG
PERFORATED PLATE & BOTTOM FLANGE ANGLE RETROFITS: L48-L49N
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER
CUY-2-14.41
 PID No. 91115
 79/187
 81
 189



SOUTH ELEVATION OF NORTH TRUSS L49-L50
(SOME ELEMENTS NOT SHOWN FOR CLARITY)



VIEW A-A
(LOOKING UP)
(MEMBER L48-L49N & L50-51N NOT SHOWN FOR CLARITY)
(BOLTS IN WEB NOT SHOWN FOR CLARITY)



SECTION B-B

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" HOLE FOR NEW 1/8" A325 BOLT.
- ⊙ - FIELD DRILL NEW 1 1/16" HOLE FOR NEW 1" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT.

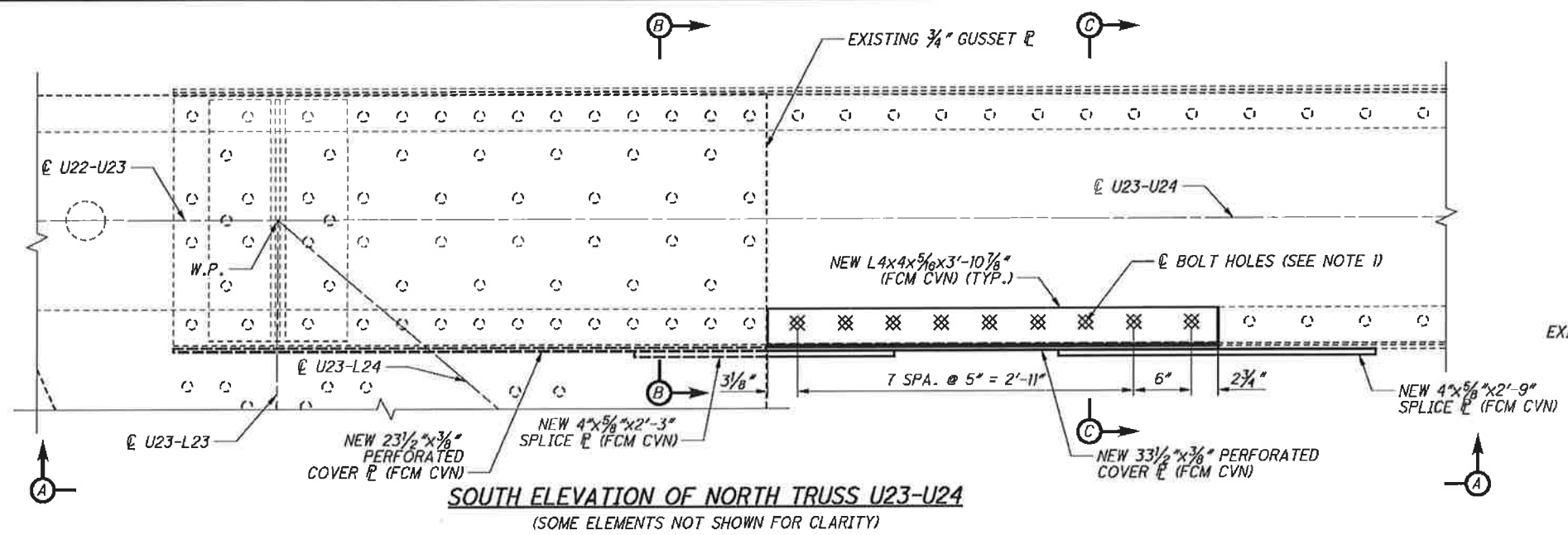
NOTES:

1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. ALL NEW BOLTS SHALL BE 1" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL NEW BOLT HOLES SHALL BE 1 1/16" DIAMETER UNLESS NOTED OTHERWISE.
3. EXISTING RIVETS IN BOTTOM PERFORATED COVER PLATE AND WEB SHALL BE REPLACED WITH THE BOLTS SPECIFIED IN NOTE 2. BOLT HOLES IN NEW PLATE SHALL MATCH LOCATION OF EXISTING RIVET HOLES. FIELD VERIFY EXACT DIMENSIONS BEFORE PLATE IS DRILLED.
4. FOR DIMENSIONS OF NEW PERFORATION SEE DETAIL A ON SHEET 69 / 187.
5. FOR SEQUENCE OF CONSTRUCTION, SEE SHEETS 75 / 187 AND 76 / 187.
6. THE REMOVAL OF THE EXISTING RIVETS AND COVER PLATE AND ALL NEW MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 1.
7. THE ZONE PAINTING FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW COVER PLATE, NEW SPLICE PLATES, NEW CONNECTION ANGLES, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.

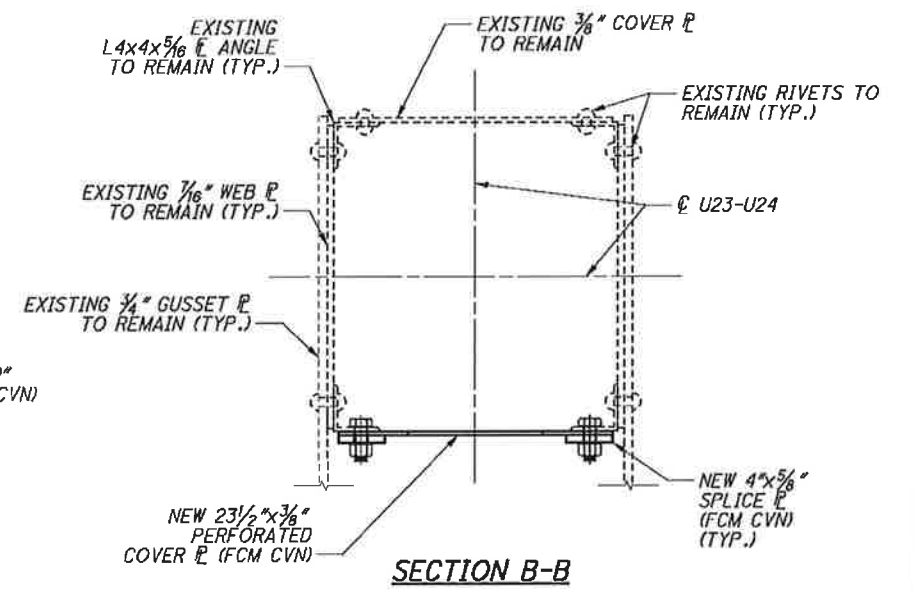
G:\CL12\0112\Bridges\Sheets\9111SSD063.dgn 8/30/2013 10:38:17 AM nrfisco

DESIGN AGENCY: **TranSystems**
 55 PUBLIC SQUARE, SUITE 1000
 CLEVELAND, OHIO 44113
 DATE: 08/16/13
 REVIEWED: WRW
 DRAWN: BJM
 DESIGNED: BJM
 CHECKED: DWK
 STRUCTURE FILE NUMBER: 1800035
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER
PERFORATED PLATE & BOTTOM FLANGE ANGLE RETROFITS: L49-L50N
CUY-2-14.41
 PID No. 91115
 80 / 187
 82
 189

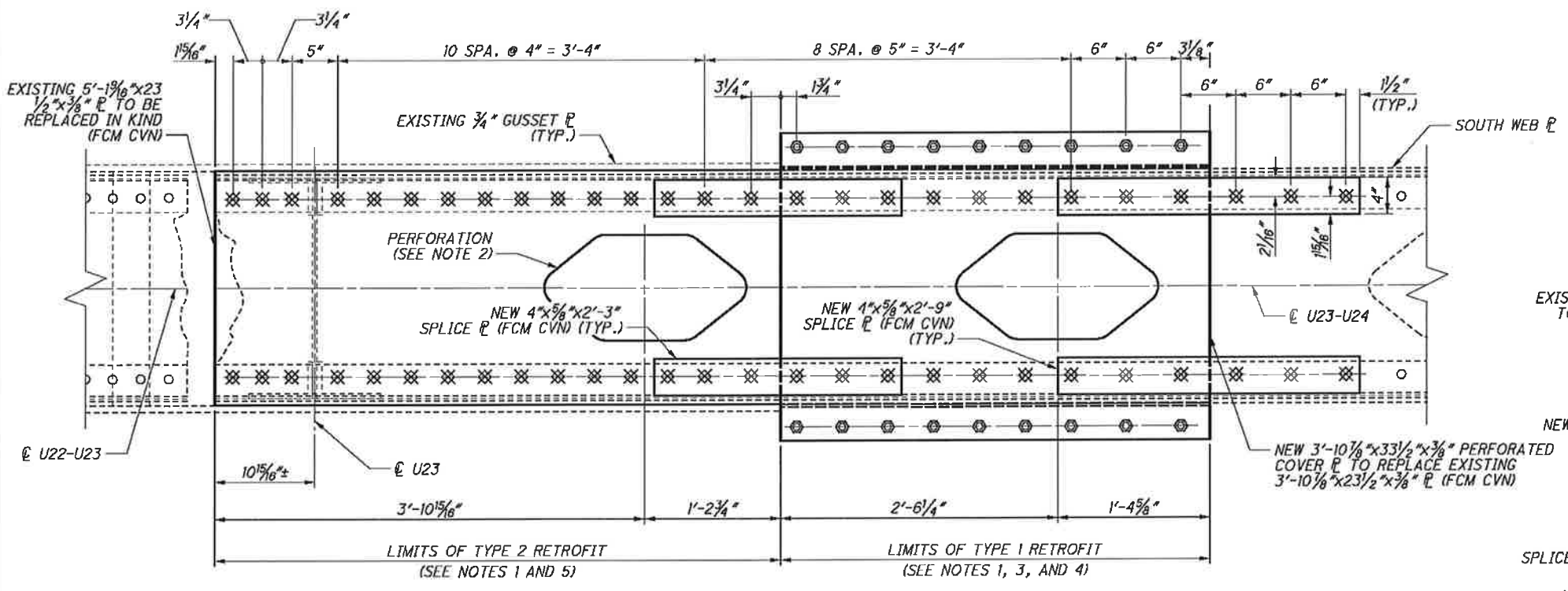
G:\CL\12\0112\Bridges\Sheets\91115SDC18.dgn 8/30/2013 10:38:16 AM nrifisco



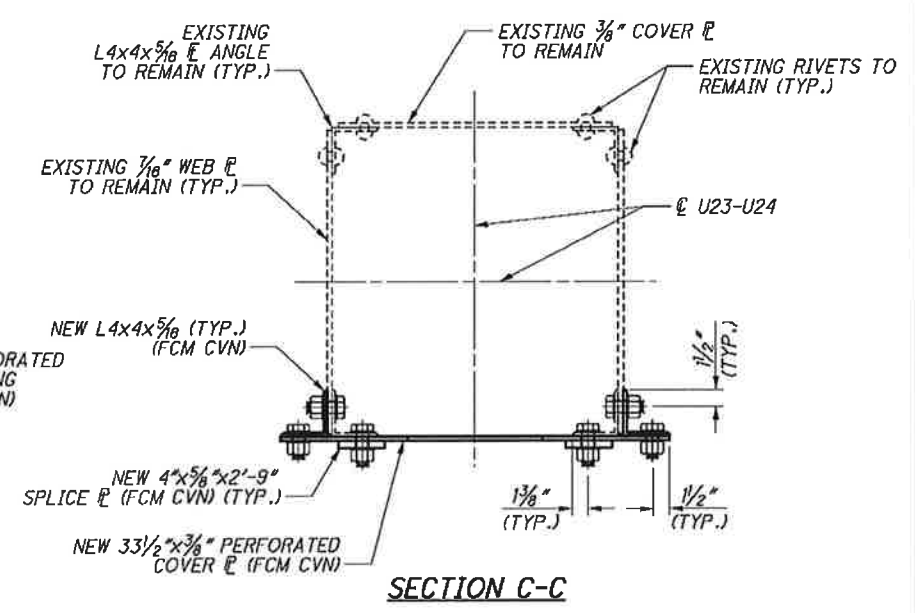
SOUTH ELEVATION OF NORTH TRUSS U23-U24
 (SOME ELEMENTS NOT SHOWN FOR CLARITY)



SECTION B-B



VIEW A-A
 (LOOKING UP)



SECTION C-C

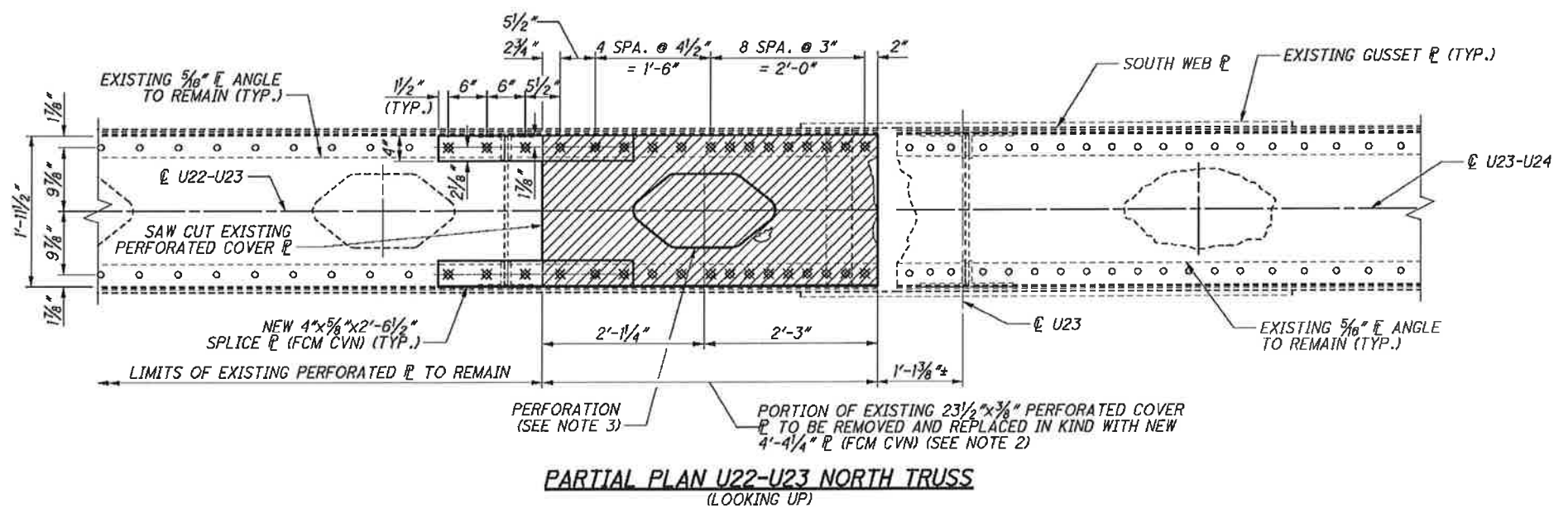
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊙ - FIELD DRILL NEW 1/16" HOLE FOR NEW 1" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT.

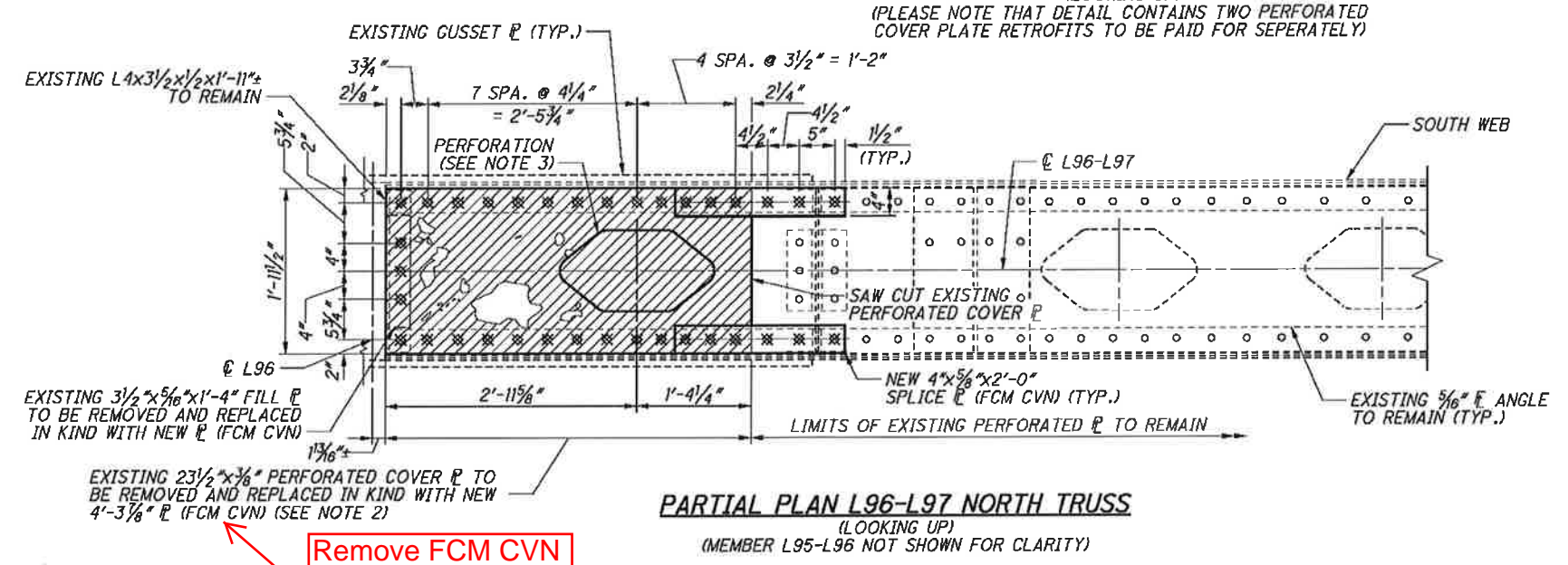
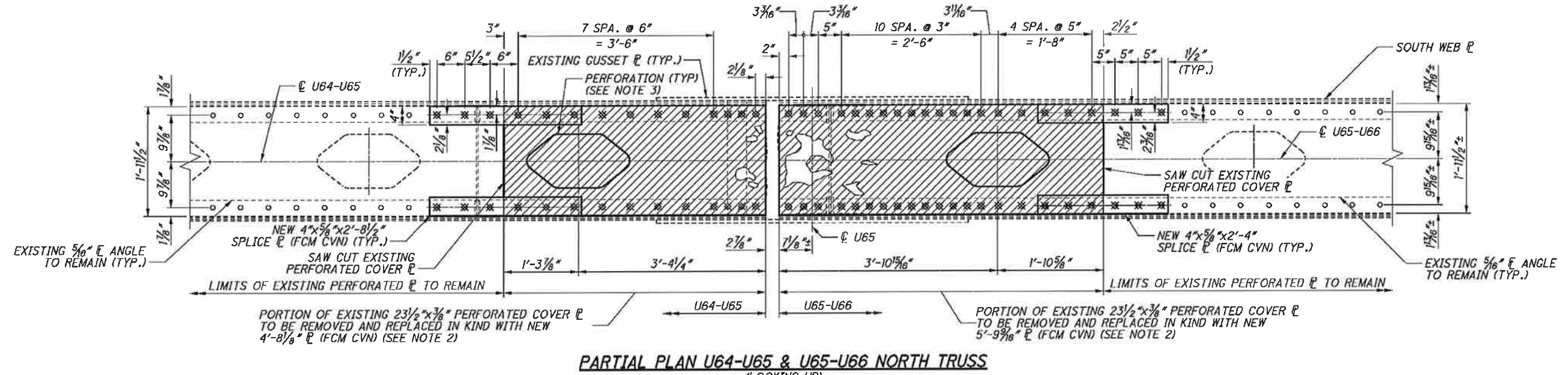
NOTES:

1. EXISTING RIVETS IN BOTTOM PERFORATED COVER PLATE AND WEB SHALL BE REPLACED WITH 1" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. BOLT HOLES IN NEW PLATE SHALL MATCH LOCATION OF EXISTING RIVET HOLES. FIELD VERIFY EXACT DIMENSIONS BEFORE PLATE IS DRILLED.
2. FOR DIMENSIONS OF NEW PERFORATION, SEE DETAIL A ON SHEET 69 / 187.
3. FOR SEQUENCE OF CONSTRUCTION FOR TYPE 1 RETROFIT, SEE SHEETS 75 / 187 AND 76 / 187.
4. THE REMOVAL OF THE EXISTING RIVETS AND ALL NEW MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE TYPE 1 RETROFIT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 1.

5. THE REMOVAL OF THE EXISTING RIVETS AND ALL NEW MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE TYPE 2 RETROFIT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 2.
6. THE ZONE PAINTING FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW COVER PLATES, NEW SPLICE PLATES, NEW CONNECTION ANGLES, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.



- LEGEND:**
- LIMITS OF EXISTING BOTTOM PERFORATED COVER PLATE/FILL PLATE TO BE REMOVED.
 - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
 - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1\"/>

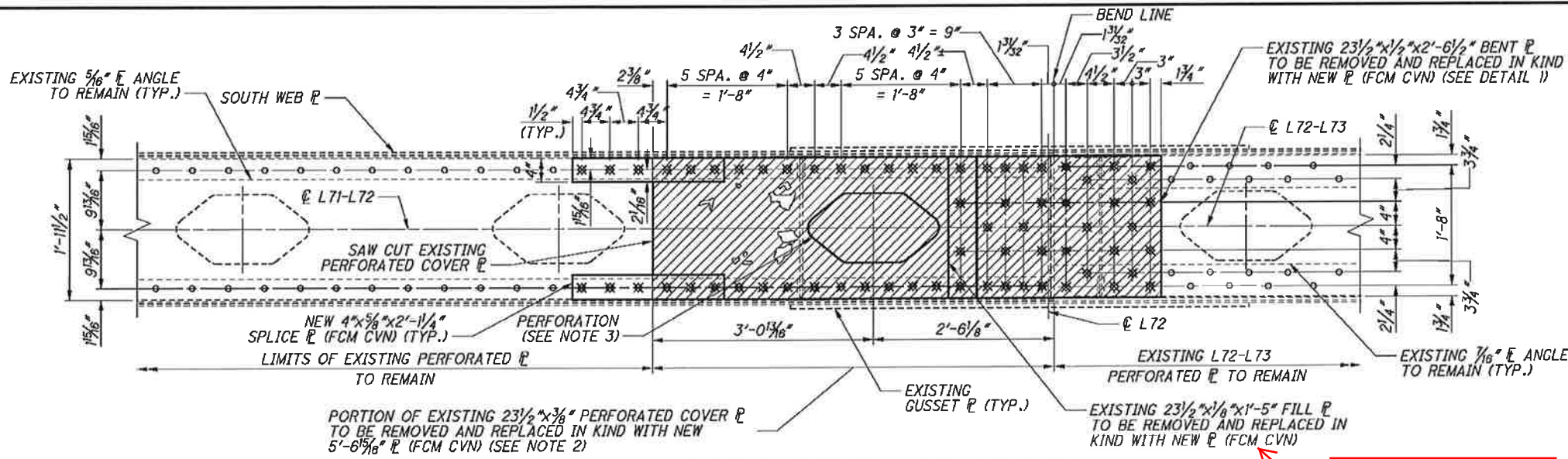


- NOTES:**
1. ALL BOLTS SHALL BE 1" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 1/16" DIAMETER UNLESS NOTED OTHERWISE.
 2. EXISTING RIVETS IN BOTTOM PERFORATED COVER PLATE SHALL BE REPLACED WITH THE BOLTS SPECIFIED IN NOTE 1. BOLT HOLES IN NEW PLATE SHALL MATCH LOCATION OF EXISTING RIVET HOLES. FIELD VERIFY EXACT DIMENSIONS BEFORE PLATE IS DRILLED.
 3. FOR DIMENSIONS OF NEW PERFORATION, SEE DETAIL A ON SHEET 69 / 187 .
 4. THE REMOVAL OF THE EXISTING RIVETS AND COVER PLATES AND ALL NEW MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT FOR EACH MEMBER SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 2.
 5. THE ZONE PAINTING FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW COVER PLATES, NEW SPLICE PLATES, NEW FILL PLATE, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.

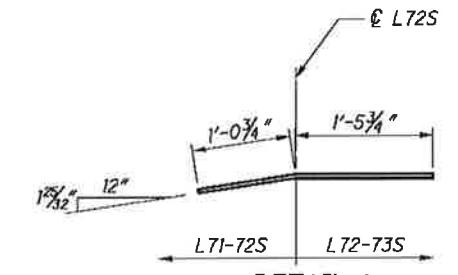
Remove FCM CVN
Per RFI 12

G:\CL\12\0112\Bridges\Sheets\91115SD017.dgn 8/30/2013 10:38:18 AM mrfisco

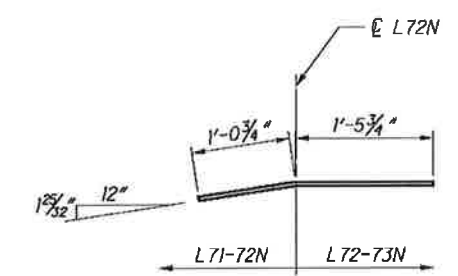
	DESIGN AGENCY TRAN SYSTEMS 55 PUBLIC SQUARE SUITE 100 CLEVELAND, OHIO 44115
DESIGNED BY: BJM CHECKED BY: DWK DRAWN BY: BJM REVISED BY:	DATE: 08/16/13 REVIEWED BY: WRW STRUCTURE FILE NUMBER: 1800035
PERF. PLATE RETROFITS: U22-U23N, U64-U65N, U65-66N, L96-L97N	
MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14.41	PID No. 91115
82 / 187	84 189



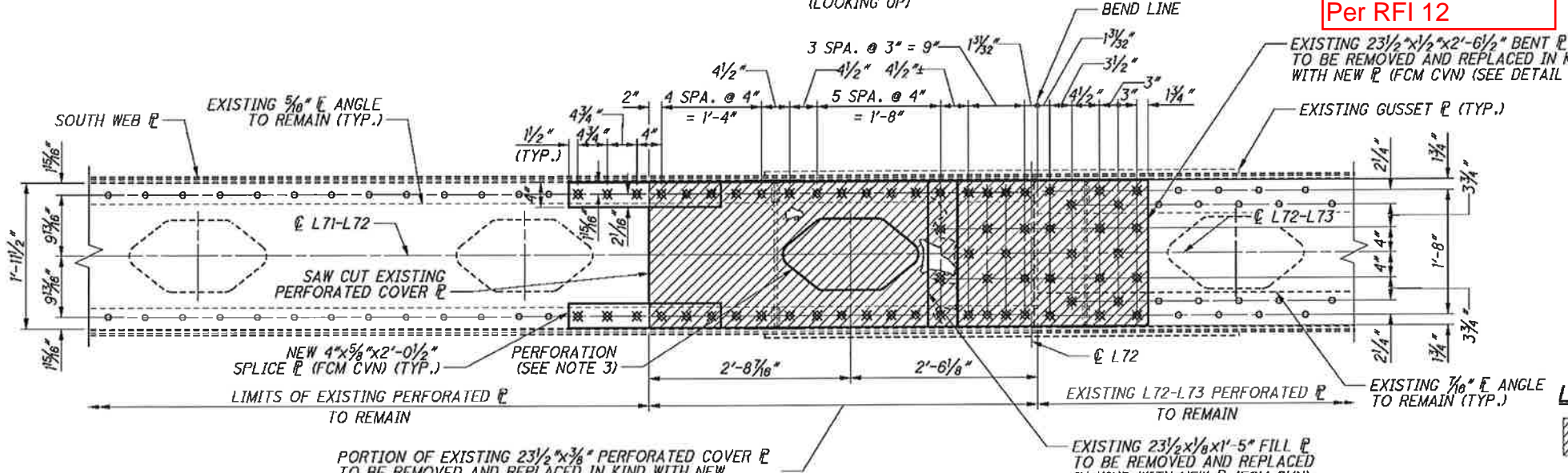
PARTIAL PLAN L71-L72 SOUTH TRUSS
(LOOKING UP)



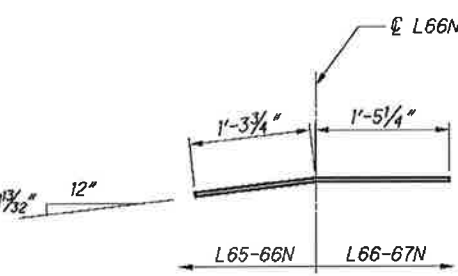
DETAIL 1



DETAIL 2



PARTIAL PLAN L71-L72 NORTH TRUSS
(LOOKING UP)



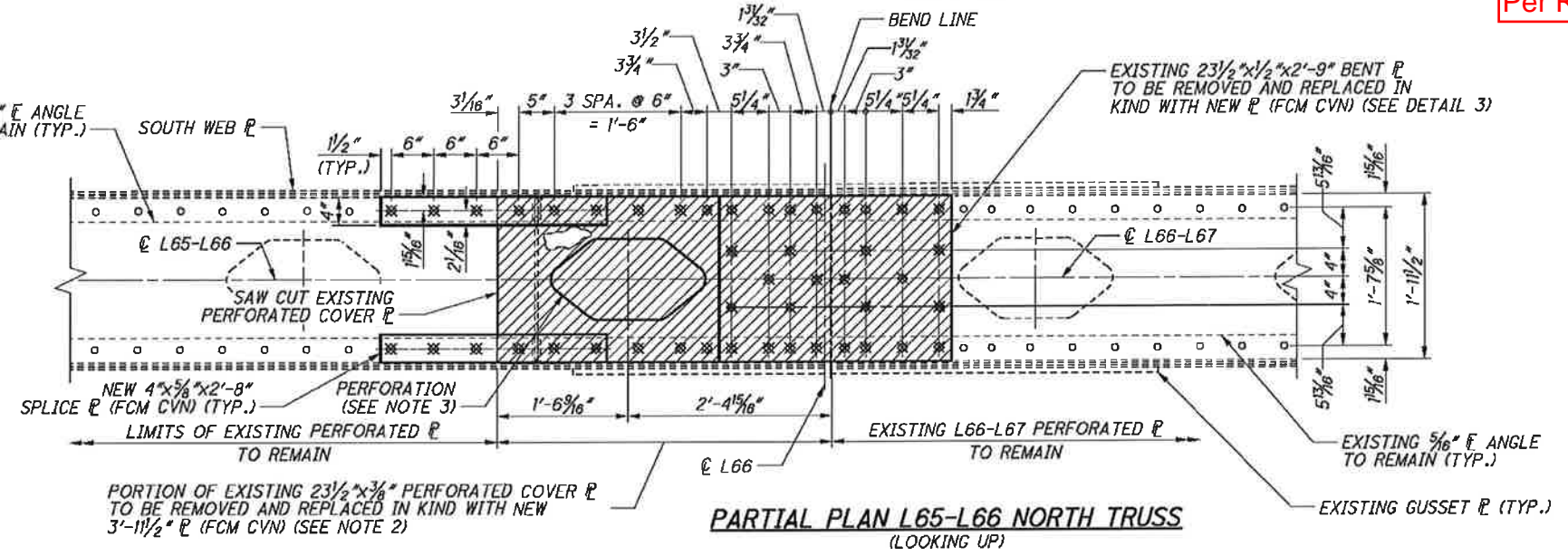
DETAIL 3

LEGEND:

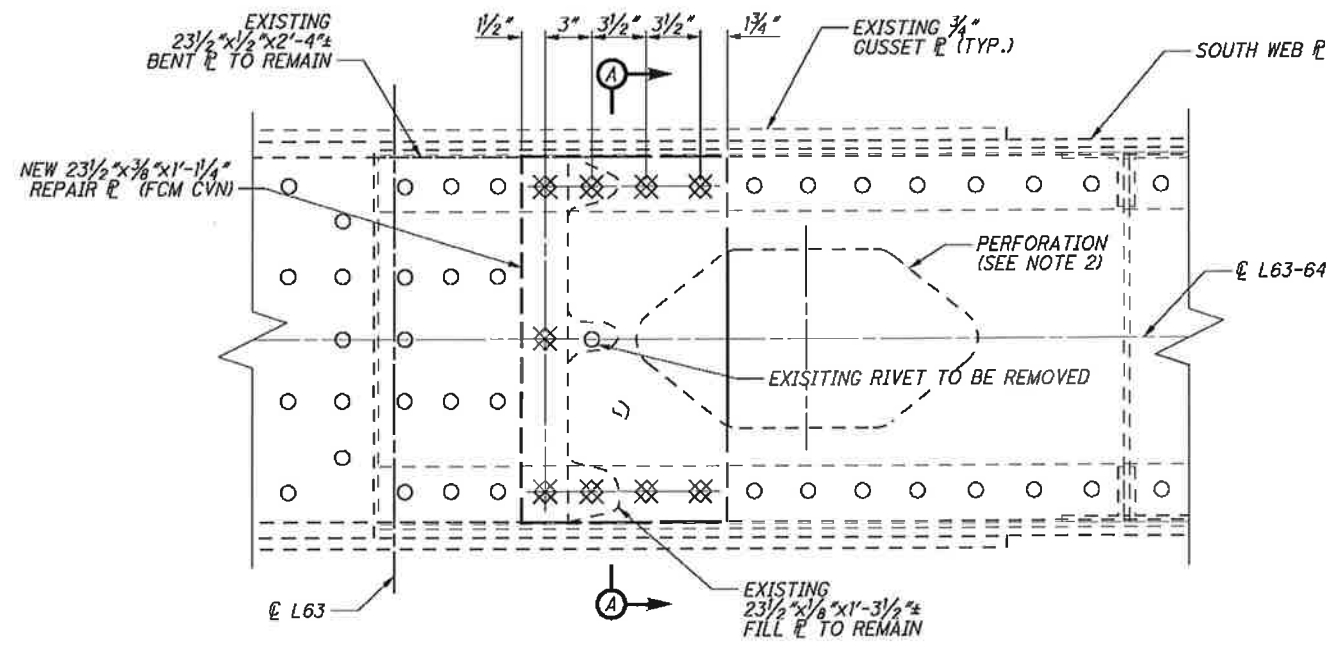
- LIMITS OF EXISTING BOTTOM PERFORATED COVER PLATE/FILL PLATE/BENT PLATE TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT.

NOTES:

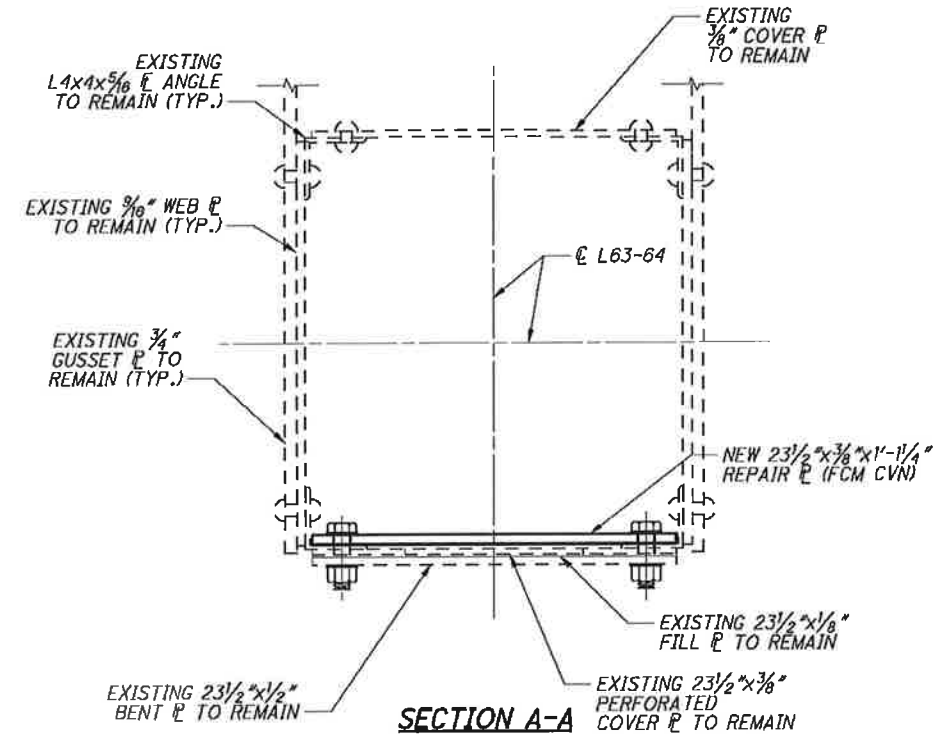
1. ALL BOLTS SHALL BE 1" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 1/16" DIAMETER UNLESS NOTED OTHERWISE.
2. EXISTING RIVETS IN BOTTOM PERFORATED COVER PLATE SHALL BE REPLACED WITH THE BOLTS SPECIFIED IN NOTE 1. BOLT HOLES IN NEW PLATE SHALL MATCH LOCATION OF EXISTING RIVET HOLES. FIELD VERIFY EXACT DIMENSIONS BEFORE PLATE IS DRILLED.
3. FOR DIMENSIONS OF NEW PERFORATION, SEE DETAIL A ON SHEET 69 / 187.
4. THE REMOVAL OF THE EXISTING RIVETS AND COVER PLATES AND ALL NEW MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT FOR EACH MEMBER SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 2.
5. THE ZONE PAINTING FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW COVER PLATES, SPLICE PLATES, FILL PLATES, BENT PLATES, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.



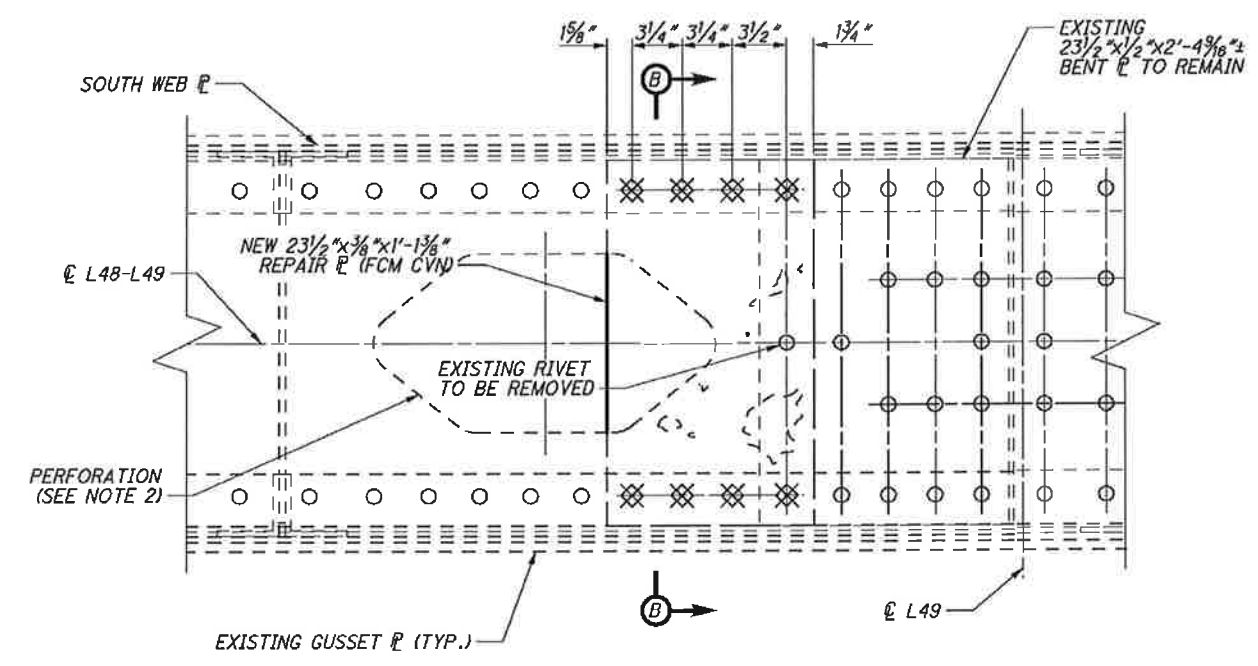
PARTIAL PLAN L65-L66 NORTH TRUSS
(LOOKING UP)



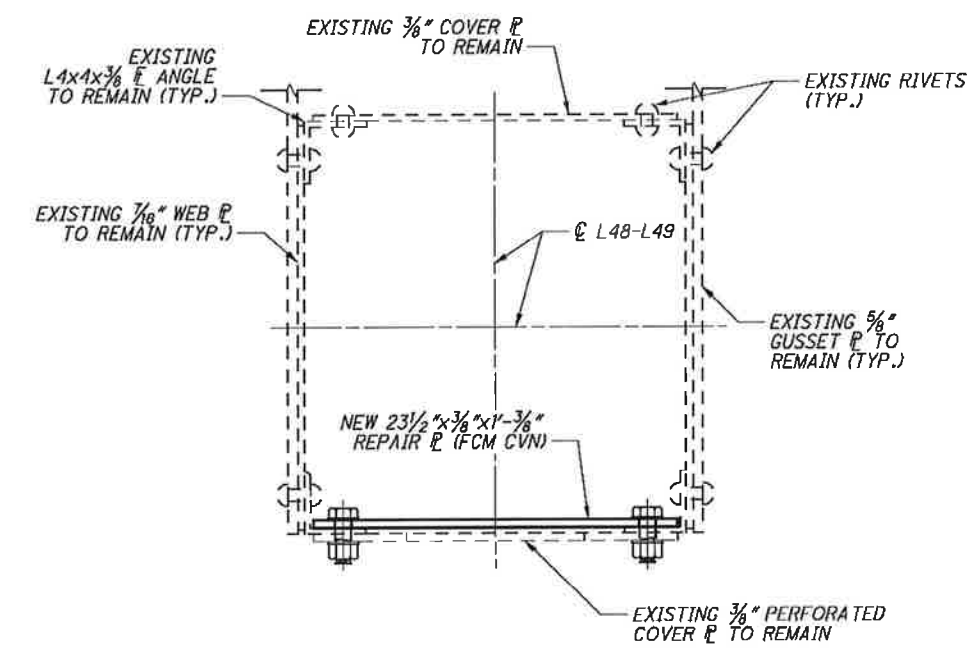
PARTIAL PLAN L63-L64 NORTH TRUSS
(LOOKING UP)



SECTION A-A



PARTIAL PLAN L48-L49 SOUTH TRUSS
(LOOKING UP)



SECTION B-B

LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT.

NOTES:

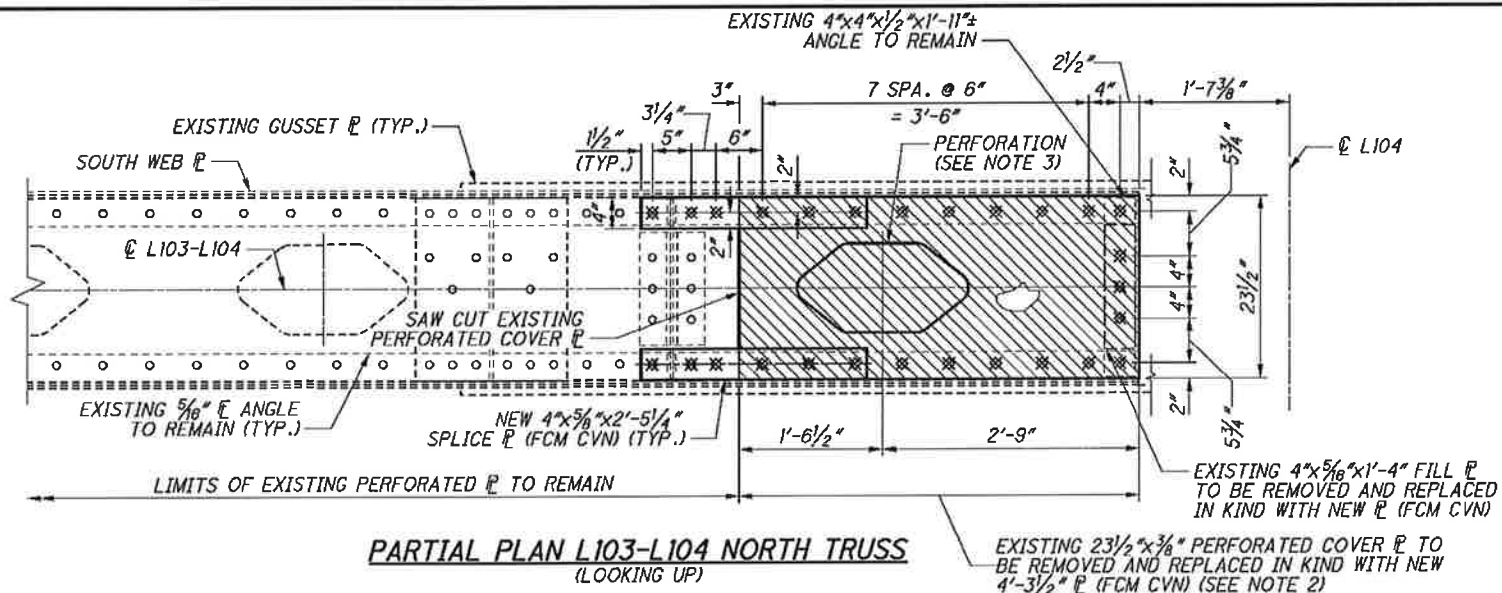
1. EXISTING RIVETS IN BOTTOM PERFORATED COVER PLATE SHALL BE REPLACED WITH 1" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. BOLT HOLES IN NEW PLATE SHALL MATCH LOCATION OF EXISTING RIVET HOLES. FIELD VERIFY EXACT DIMENSIONS BEFORE PLATE IS DRILLED.
2. FOR DIMENSIONS OF NEW PERFORATION SEE DETAIL A ON SHEET 69 / 187.

3. THE INSTALLATION OF THE REPAIR PLATE AND ALL NEW STEEL, BOLTS, AND LABOR ASSOCIATED WITH THE INSTALLATION OF THE COVER PLATE RETROFIT SHALL BE PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.; MAIN TRUSS PERFORATED COVER PLATE RETROFIT TYPE 2.
4. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW REPAIR PLATE, AND ANY SURROUNDING AREAS DAMAGED DURING INSTALLATION. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

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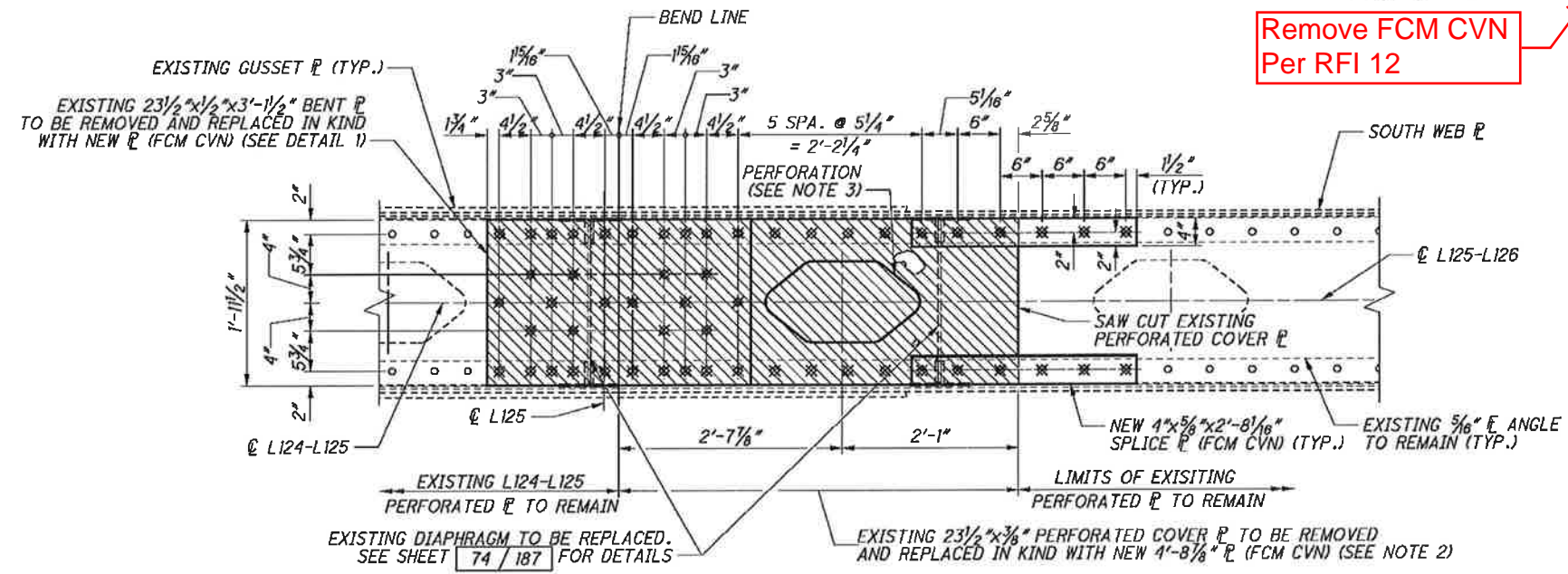
<p>DESIGN AGENCY Train Systems 55 PUBLIC SQUARE, SUITE 1000 CLEVELAND, OHIO 44113</p>	<p>DATE 08/16/13</p> <p>REVIEWED WRW</p> <p>STRUCTURE FILE NUMBER 1800035</p>	<p>DESIGNED BJM</p> <p>CHECKED NRF</p>	<p>DRAWN BJM</p> <p>REVISOR</p>
<p>PERFORATED PLATE RETROFITS: L63-L64N, L48-L49S</p> <p>MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER</p>			
<p>CUY-2-14.41</p> <p>PID No. 91115</p>		<p>84/187</p> <p>86 189</p>	

G:\CL\12\0112\Bridges\9115SD022.dgn 8/30/2013 10:38:20 AM nr fisco

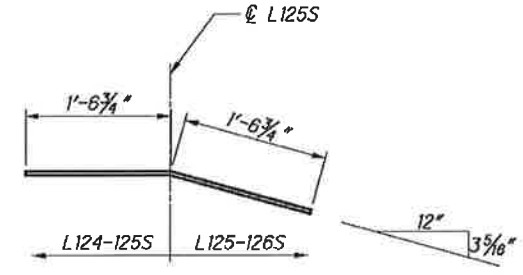


PARTIAL PLAN L103-L104 NORTH TRUSS
(LOOKING UP)

Remove FCM CVN
Per RFI 12



PARTIAL PLAN L125-L126 SOUTH TRUSS
(LOOKING UP)



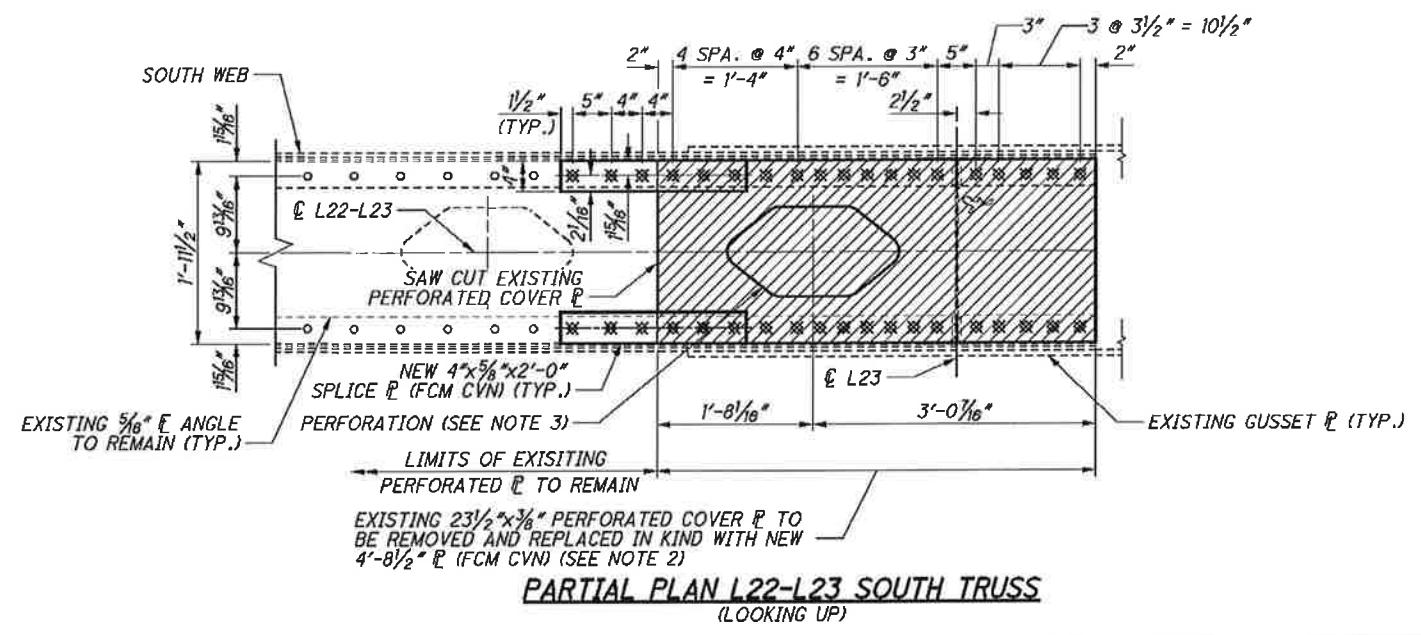
DETAIL 1

LEGEND:

- LIMITS OF EXISTING BOTTOM PERFORATED COVER P/FILL P/BENT P TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1\"/>

NOTES:

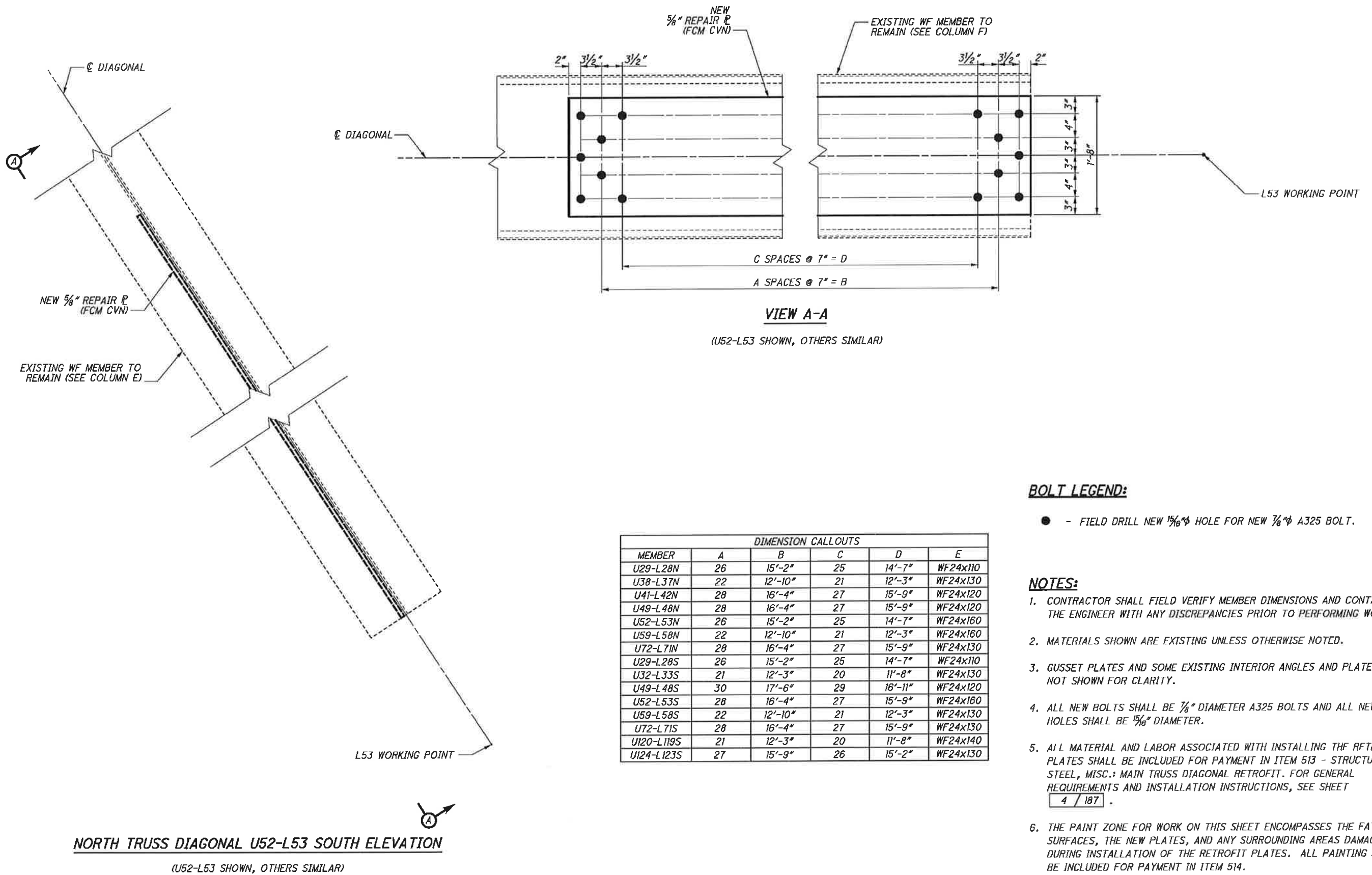
1. COVER PLATE AND DIAPHRAGM RETROFITS CANNOT BE PERFORMED CONCURRENTLY.
2. EXISTING RIVETS IN BOTTOM PERFORATED COVER PLATE SHALL BE REPLACED WITH 1\"/>



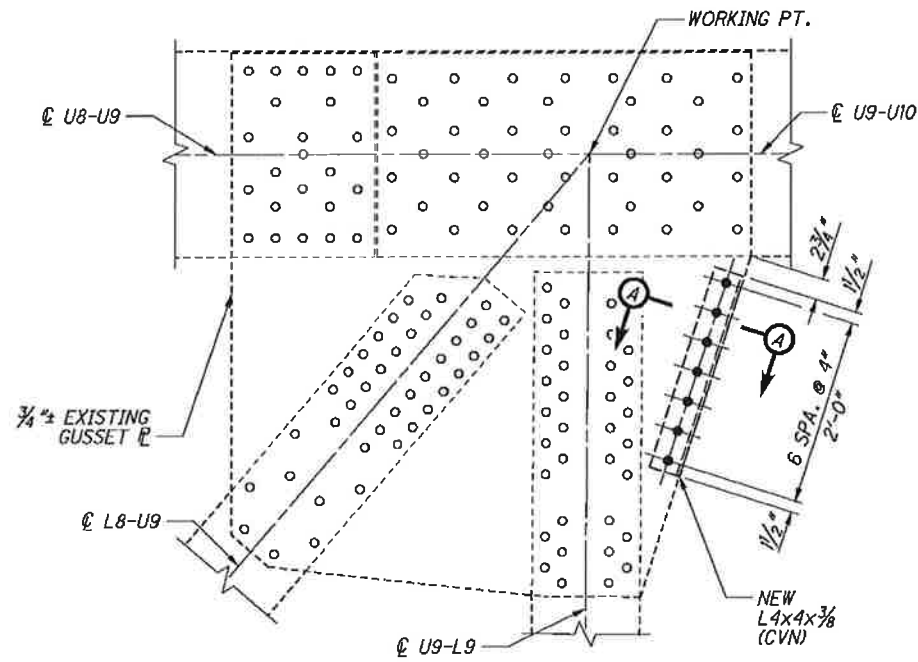
PARTIAL PLAN L22-L23 SOUTH TRUSS
(LOOKING UP)

DESIGN AGENCY TranSystems <small>15 PUBLIC SQUARE SUITE 100 CLEVELAND, OHIO 44113</small>
DATE: 08/16/13 REVIEWED: WRW DRAWN: BJM DESIGNED: BJM CHECKED: NRF
STRUCTURE FILE NUMBER: 1800035
PERF. P RETROFITS: L103-L104N, L125-L126S, L22-L23S MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER
CUY-2-14.41 PID No. 91115
85/187 87 189

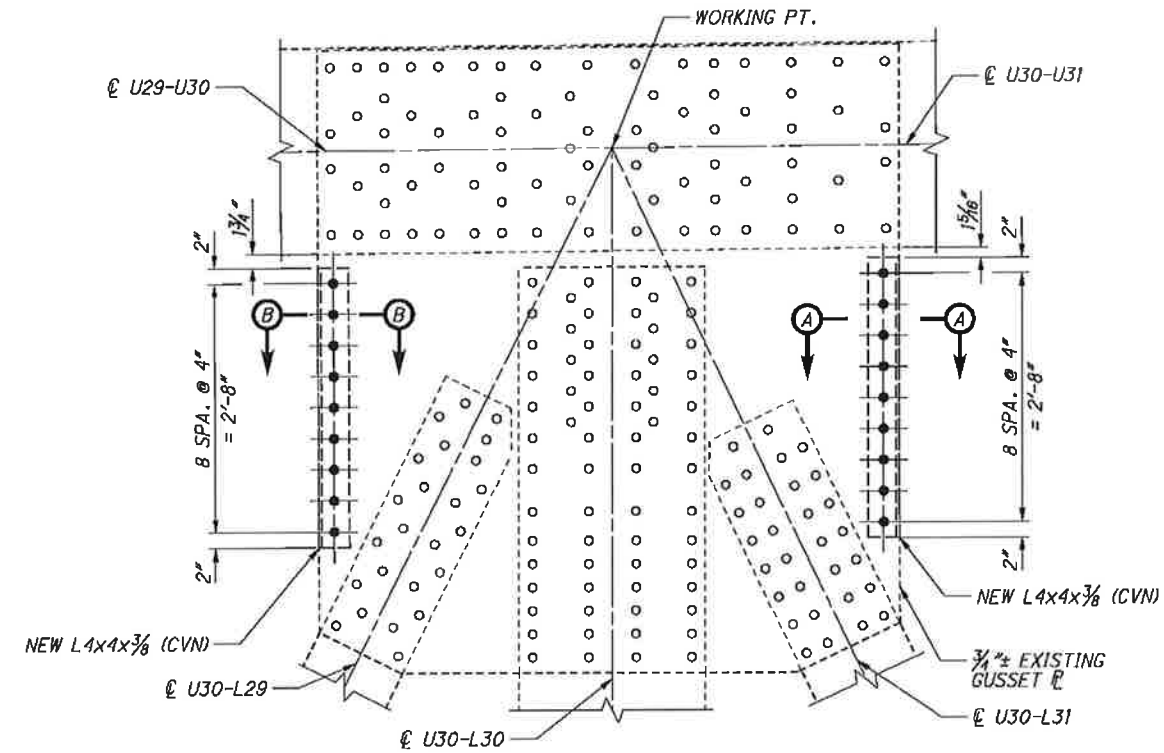
G:\CL12\0112\Bridges\Sheets\91115SD067.dgn 8/30/2013 10:38:21 AM rrfisco



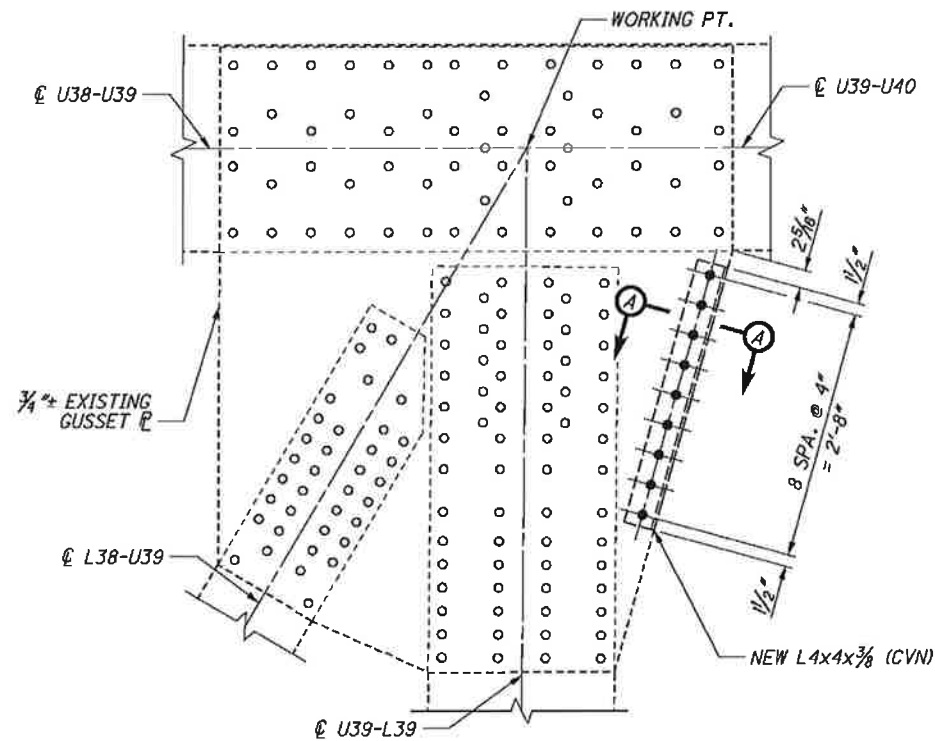
NORTH TRUSS DIAGONAL U52-L53 SOUTH ELEVATION
(U52-L53 SHOWN, OTHERS SIMILAR)



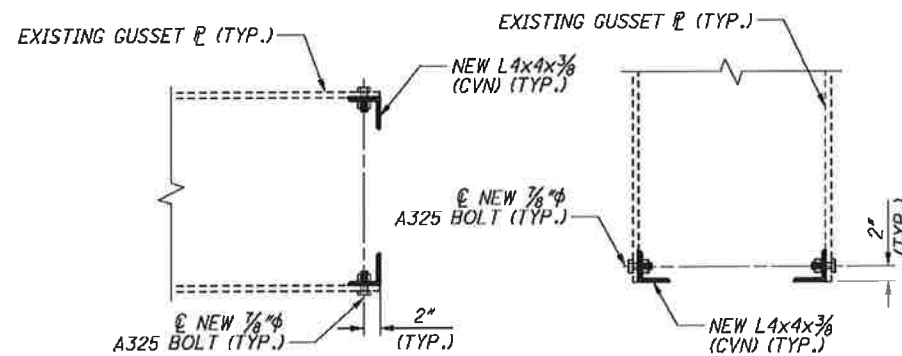
U9N&S SOUTH GUSSET PLATE (SHOWN)
U9N&S NORTH GUSSET PLATE (OPPOSITE HAND)



U30N&S SOUTH GUSSET PLATE (SHOWN)
U30N&S NORTH GUSSET PLATE (OPPOSITE HAND)



U39N&S SOUTH GUSSET PLATE (SHOWN)
U39N&S NORTH GUSSET PLATE (OPPOSITE HAND)



TYPICAL SECTION A-A
SECTION B-B (OPPOSITE HAND)

TYPICAL SECTION C-C
SECTION D-D (MIRRORED HORIZONTAL)

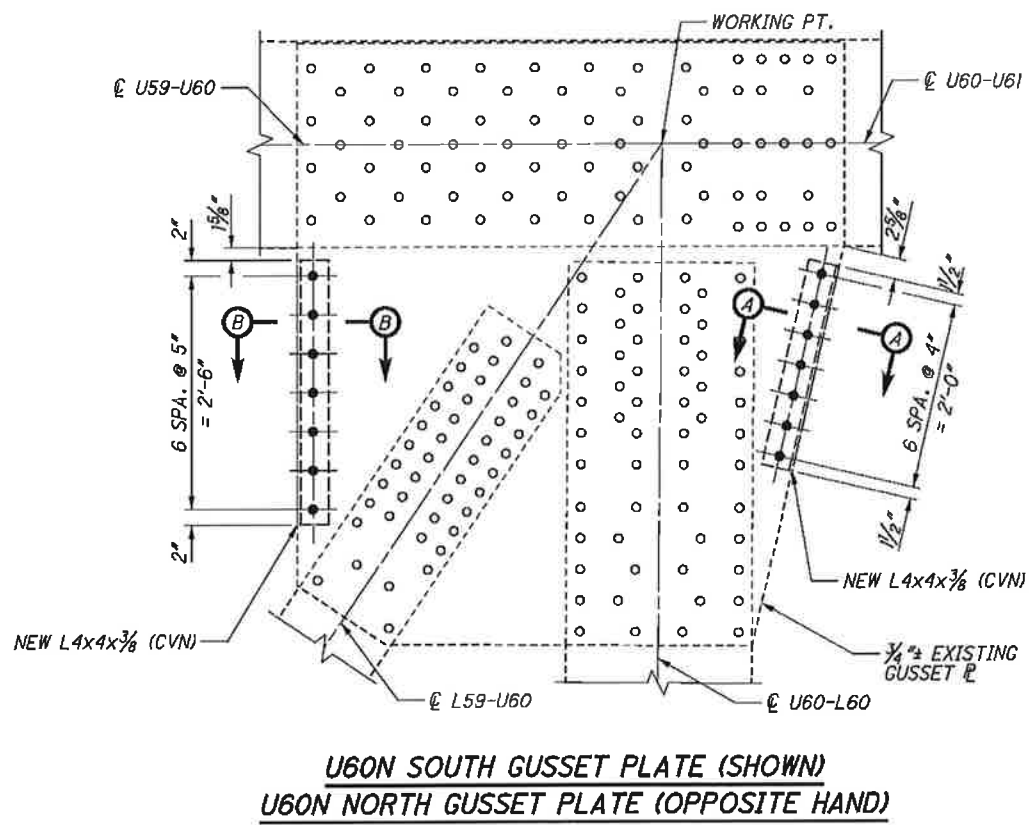
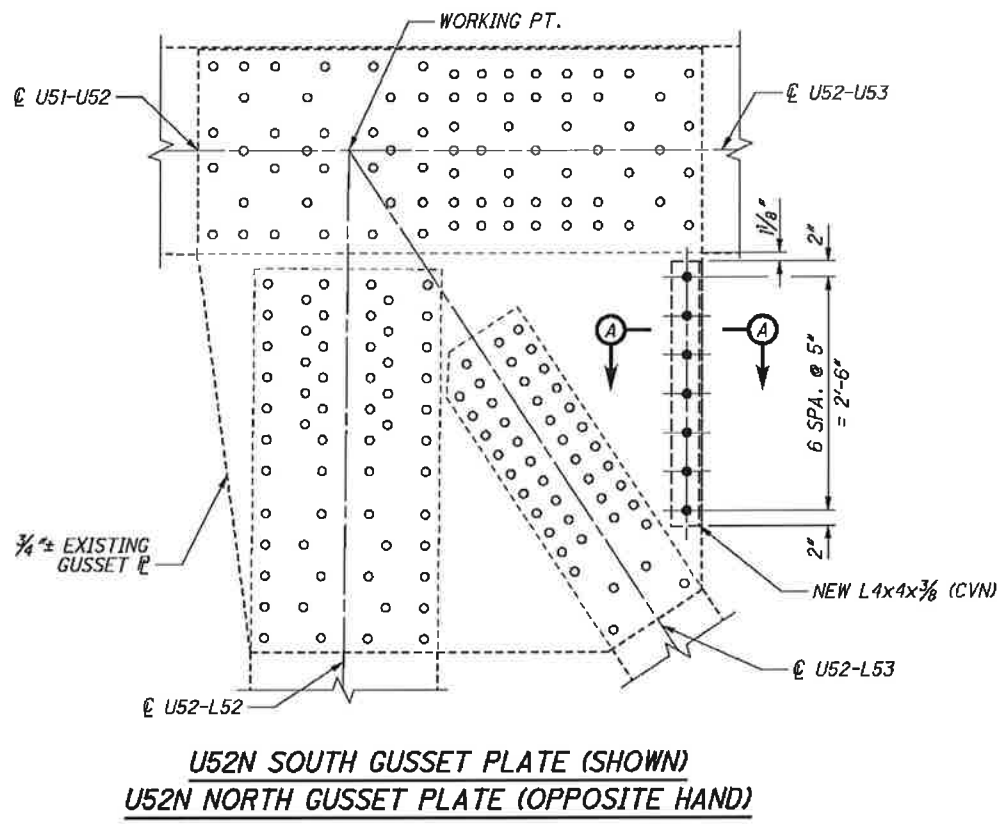
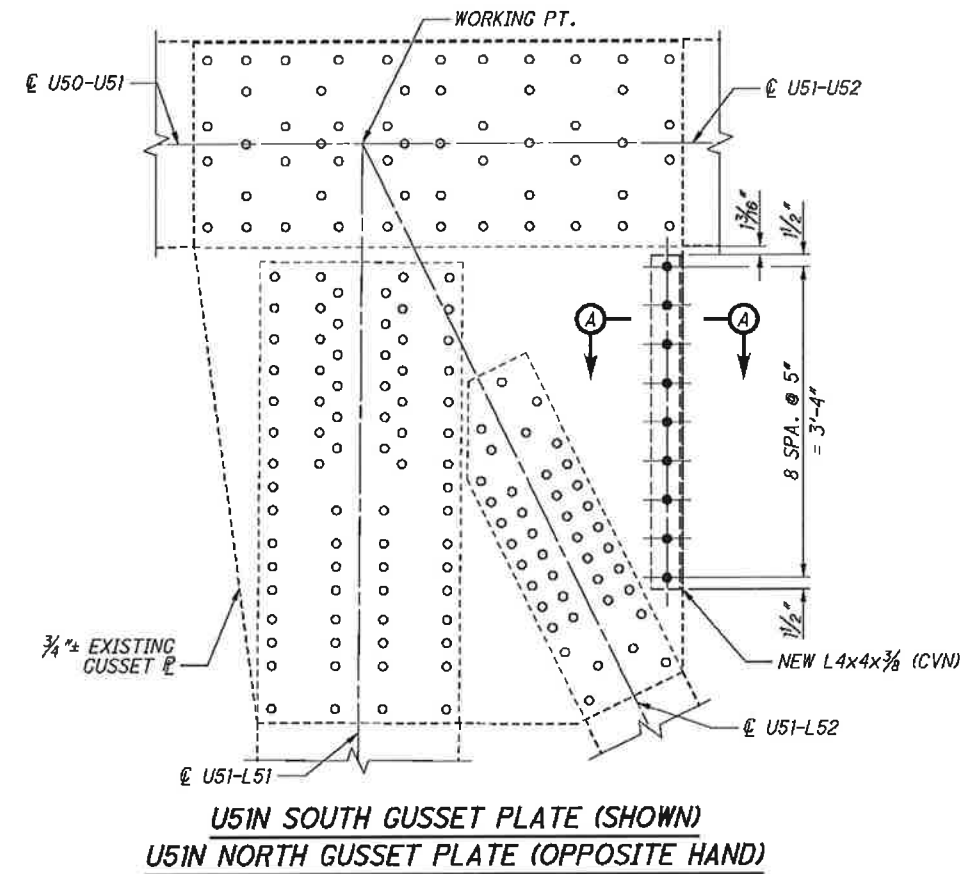
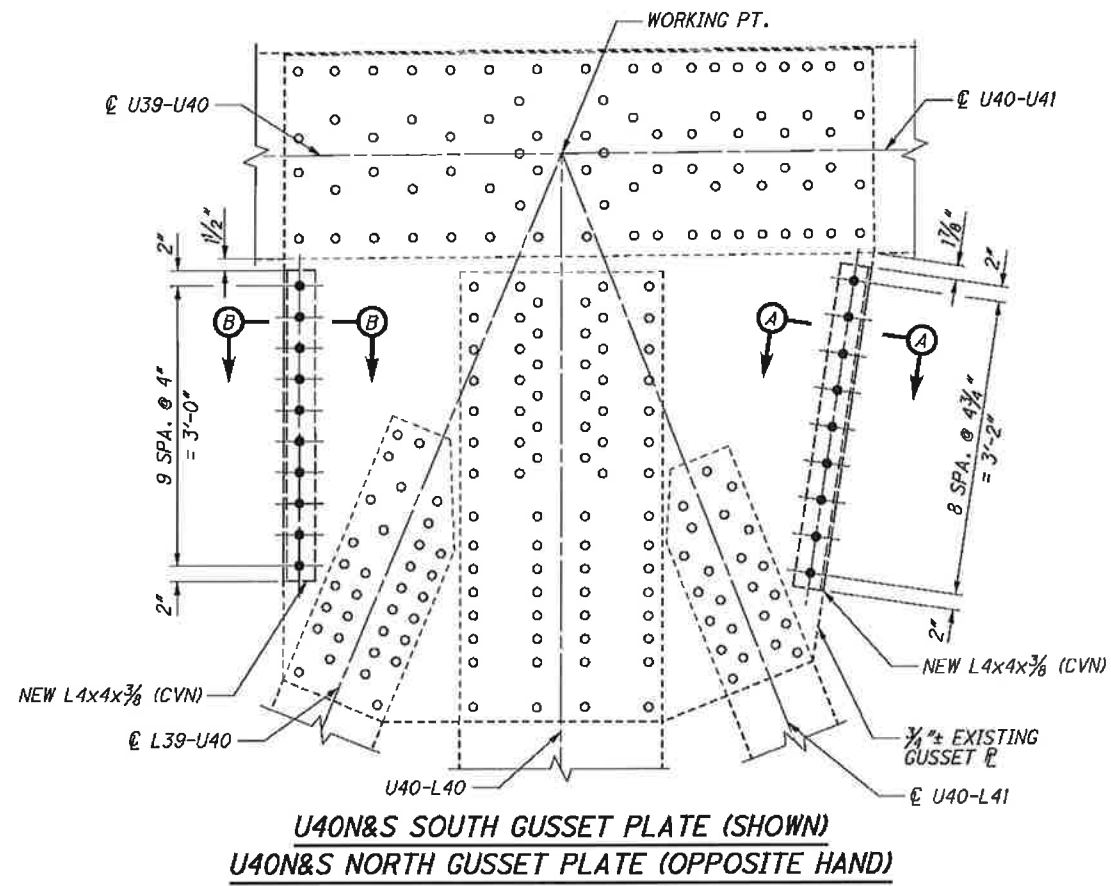
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" HOLE FOR NEW 7/8" A325 BOLT.

NOTES:

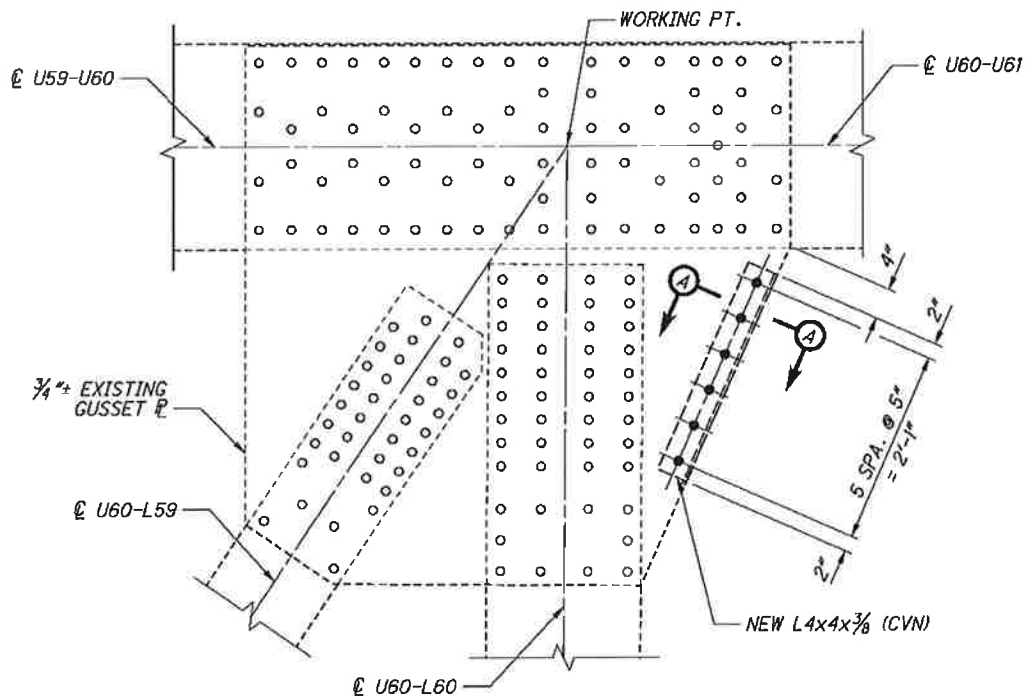
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. THE NAMING CONVENTION USED IN THE TITLES SHALL BE AS FOLLOWS:
 N = NORTH TRUSS U = UPPER PANEL POINT
 S = SOUTH TRUSS L = LOWER PANEL POINT
 EXAMPLE: U90N&S IS THE UPPER GUSSET PLATE AT PANEL POINT U90 OF THE NORTH AND SOUTH TRUSSES
3. ALL NEW BOLTS SHALL BE 7/8" DIAMETER A325 HIGH STRENGTH BOLTS AND ALL NEW BOLT HOLES SHALL BE 1 5/16" DIAMETER.
4. ALL NEW STEEL ANGLES ARE CVN AND SHALL BE ASTM A709 GRADE 50.
5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.
6. THE ANGLES SHALL HAVE AT LEAST 1" CLEARANCE TO ANY CONNECTING PRIMARY TRUSS MEMBERS.
7. ALL LABOR AND MATERIALS ASSOCIATED WITH INSTALLING EACH EDGE STIFFENING RETROFIT ANGLE, INCLUDING DRILLING AND BOLTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS GUSSET PLATE EDGE STIFFENING ANGLE.
8. THE PAINT ZONE FOR THE WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACE OF THE GUSSET PLATE, THE NEW STIFFENING ANGLES, AND ANY SURROUNDING AREAS DAMAGED BY THE INSTALLATION OF THE RETROFITS. ALL PAINTING IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.
9. FOR ADDITIONAL NOTES, SEE GENERAL NOTES SHEET 3 / 187.
10. FOR ADDITIONAL LOCATIONS OF SECTIONS A-A, B-B, C-C AND D-D, SEE SHEETS 88 / 187 THRU 121 / 187.

G:\CL\12\0112\Bridges\Sheets\91115SD100.dgn 8/30/2013 10:38:23 AM nrfisco

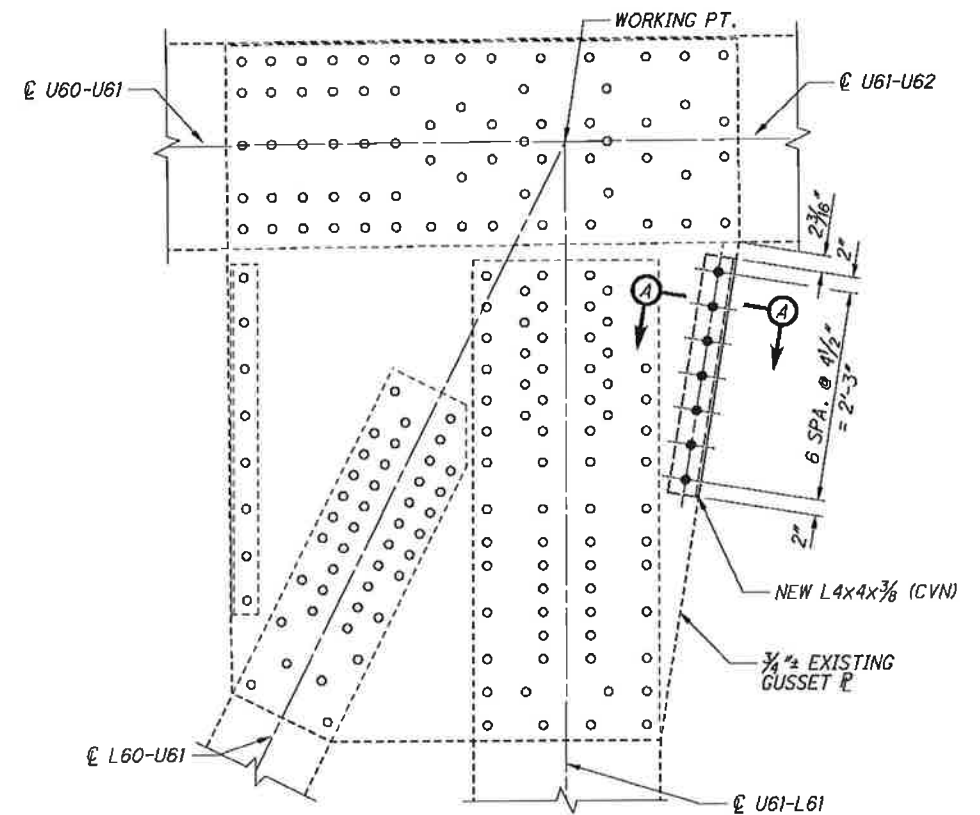


- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

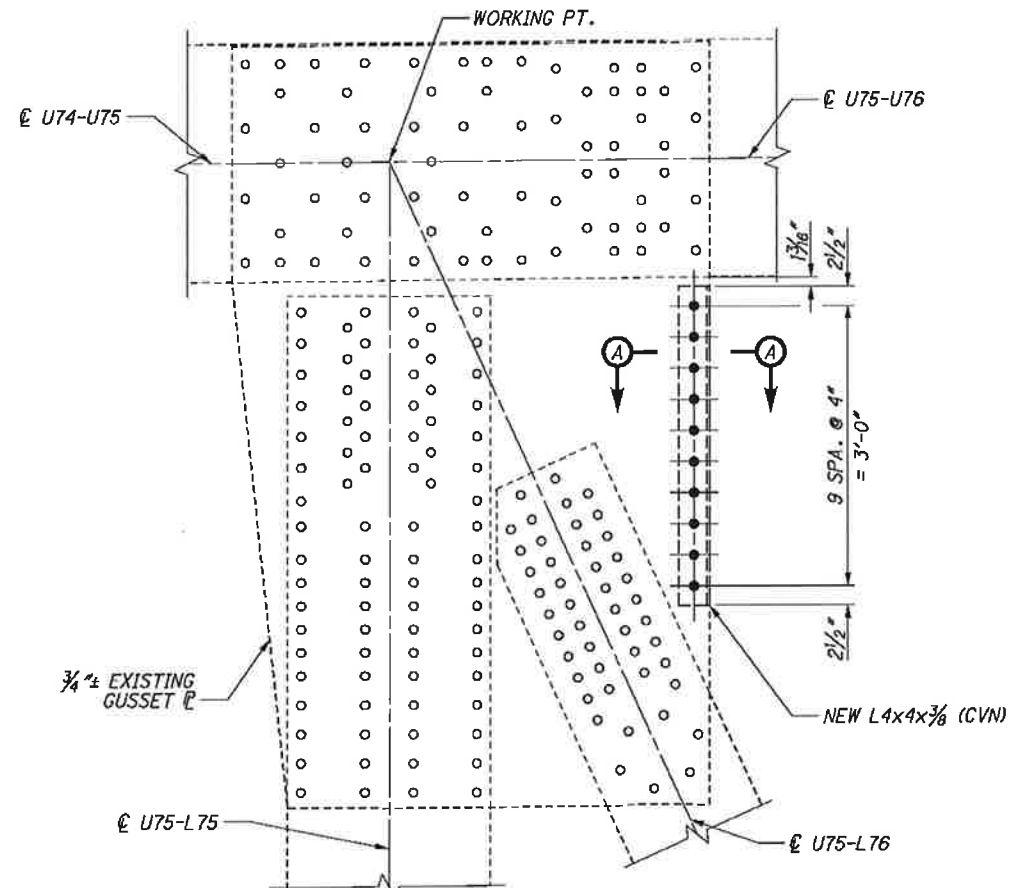
DESIGN AGENCY TranSystems 55 PUBLIC SQUARE, SUITE 1000 CLEVELAND, OH 44113	DATE 08/16/13
	REVIEWED WRW
DRAWN ESL	STRUCTURE FILE NUMBER 1800035
DESIGNED ESL	CHECKED CTG
GUSSET PLATE EDGE STIFFENING DETAILS (2 OF 35) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14.41	PID No. 91115
88 / 187	
90 189	



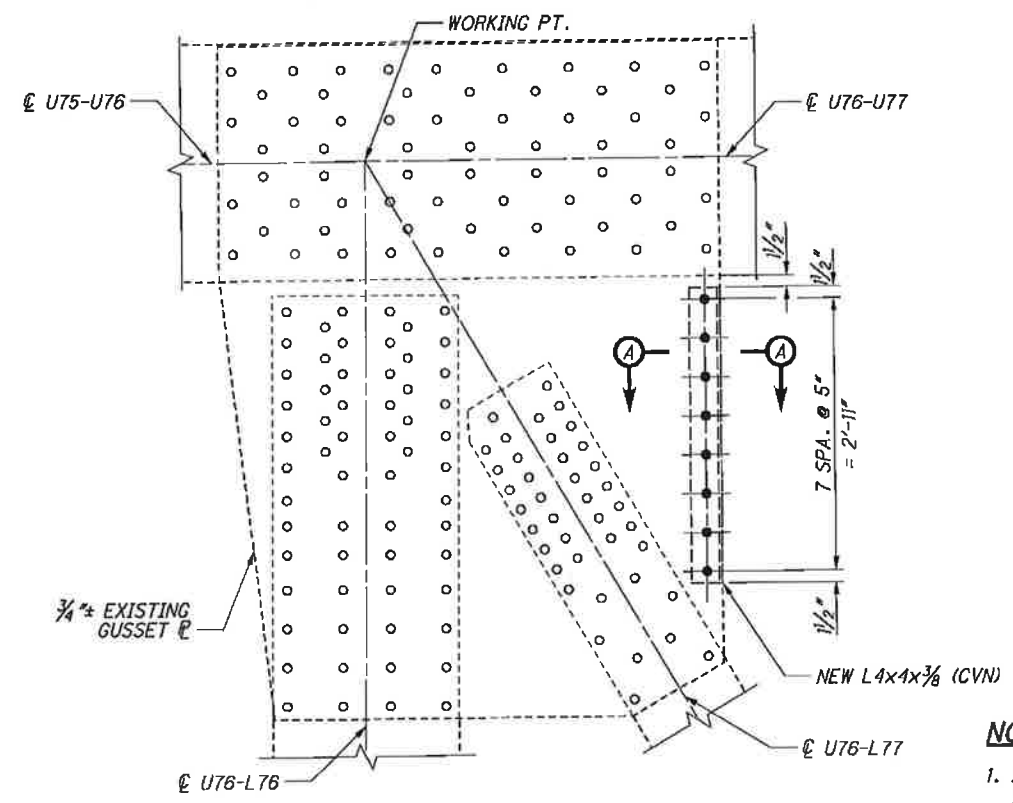
U60S SOUTH GUSSET PLATE (SHOWN)
U60S NORTH GUSSET PLATE (OPPOSITE HAND)



U61N SOUTH GUSSET PLATE (SHOWN)
U61N NORTH GUSSET PLATE (OPPOSITE HAND)



U75N&S SOUTH GUSSET PLATE (SHOWN)
U75N&S NORTH GUSSET PLATE (OPPOSITE HAND)

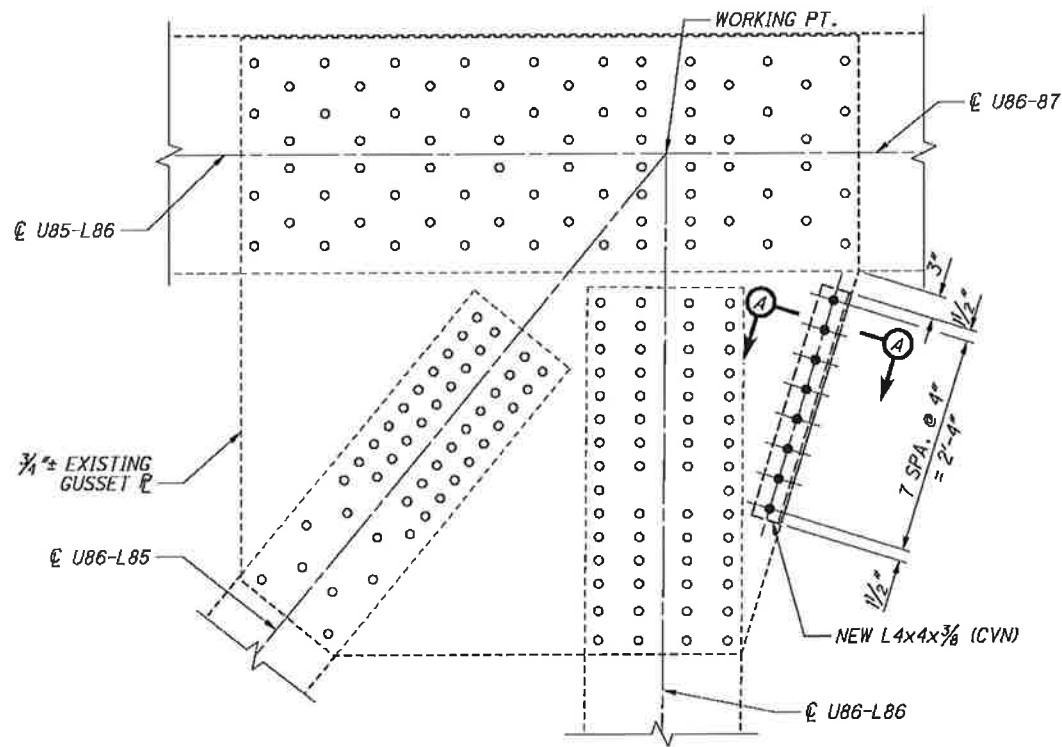


U76N&S SOUTH GUSSET PLATE (SHOWN)
U76N&S NORTH GUSSET PLATE (OPPOSITE HAND)

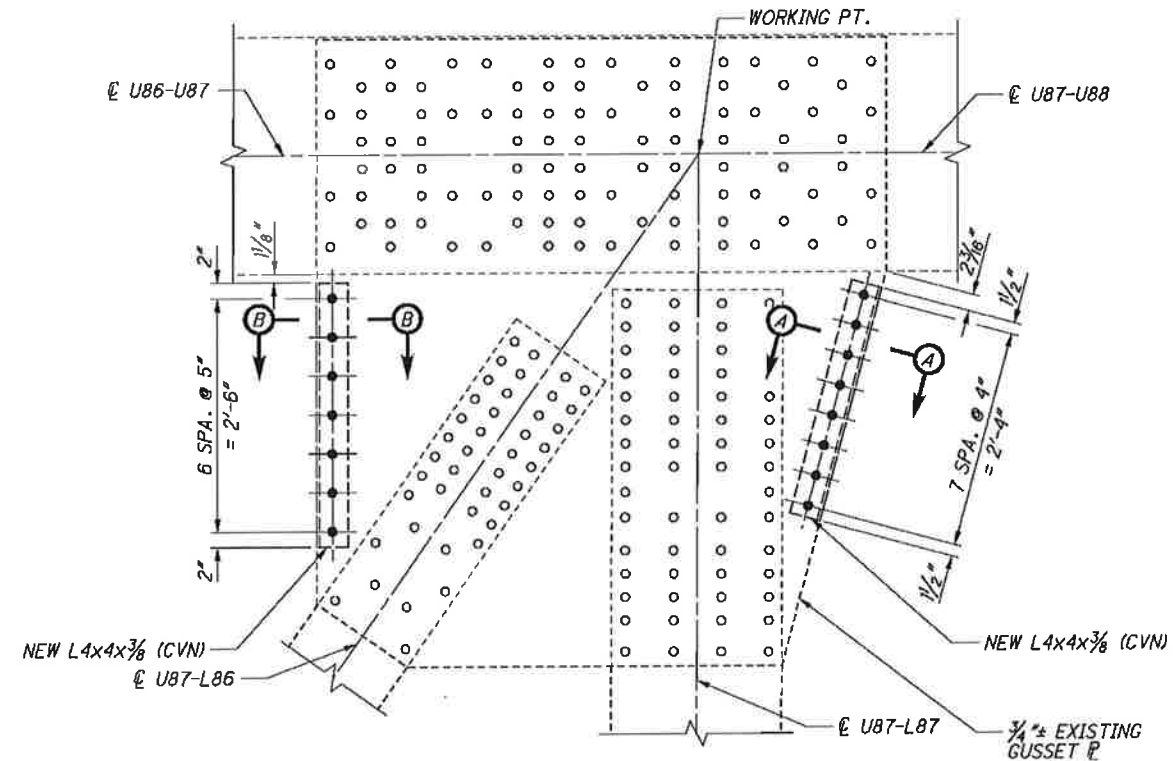
- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187 .

G:\CL12\0112\Bridg\Sheets\9115SD100.dgn 8/30/2013 10:38:23 AM nrfisco

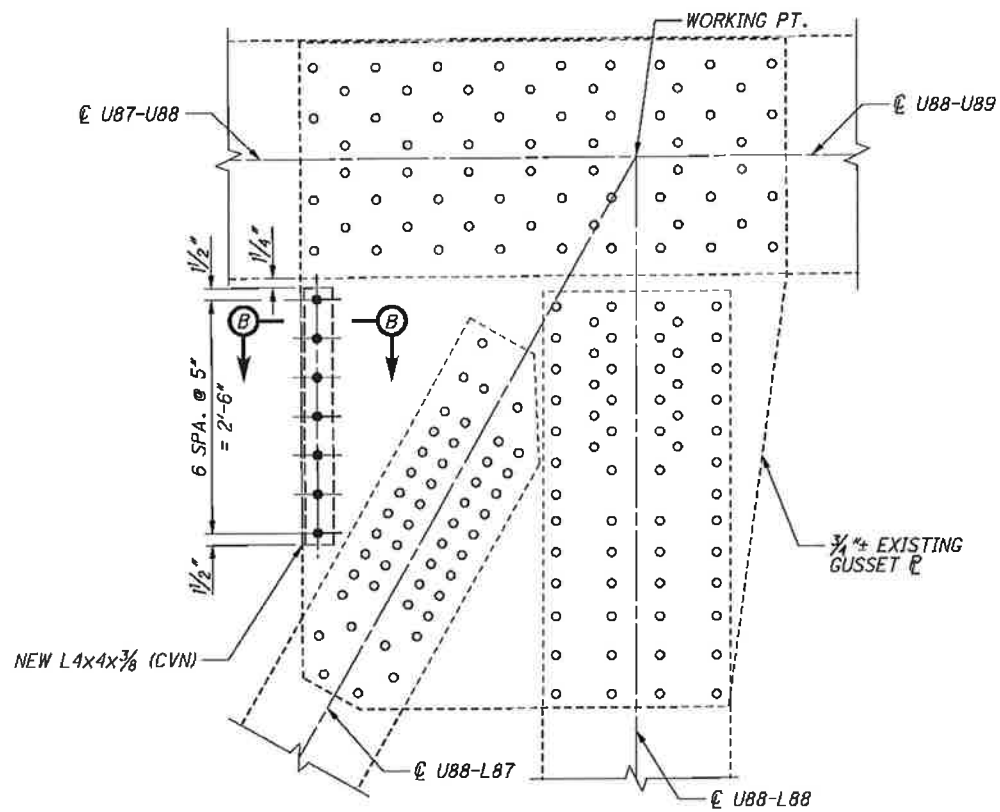
G:\CL12\012\Bridges\Sheets\9115SD100.dgn 8/30/2013 10:56:24 AM mrfisco



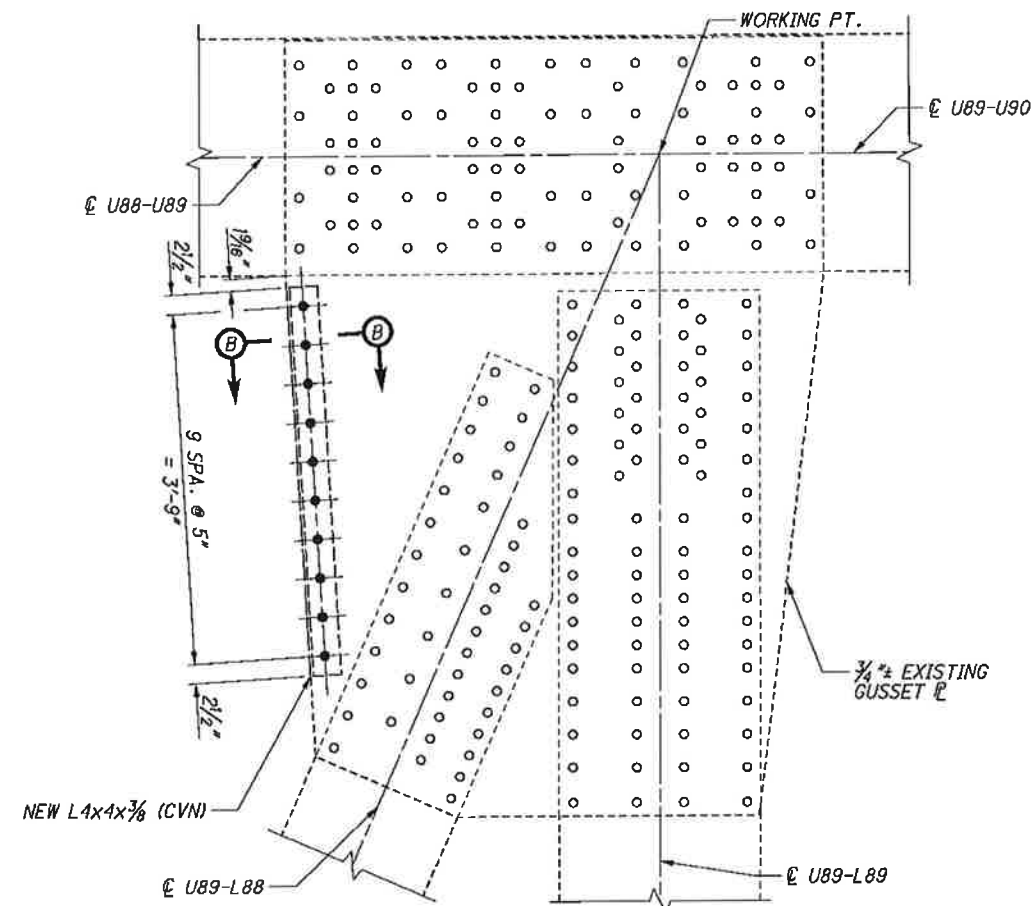
U86N&S SOUTH GUSSET PLATE (SHOWN)
U86N&S NORTH GUSSET PLATE (OPPOSITE HAND)



U87N&S SOUTH GUSSET PLATE (SHOWN)
U87N&S NORTH GUSSET PLATE (OPPOSITE HAND)



U88N&S SOUTH GUSSET PLATE (SHOWN)
U88N&S NORTH GUSSET PLATE (OPPOSITE HAND)



U89N&S SOUTH GUSSET PLATE (SHOWN)
U89N&S NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

CUY-2-14.41
 PID No. 91115

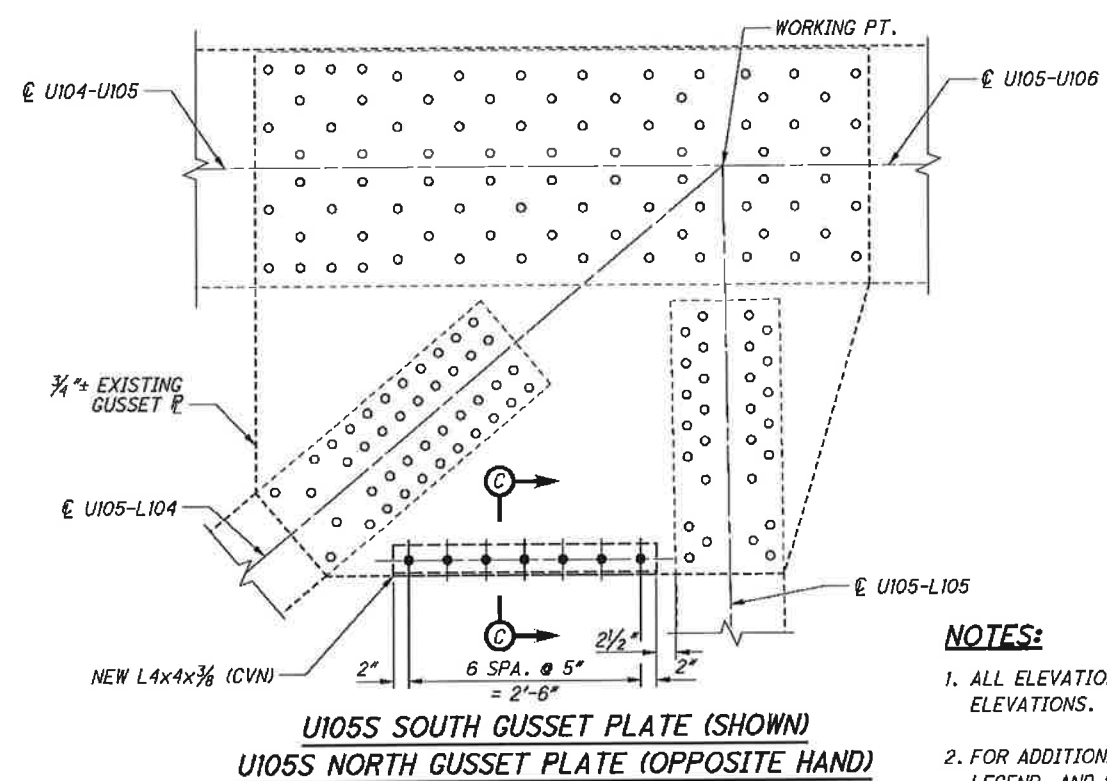
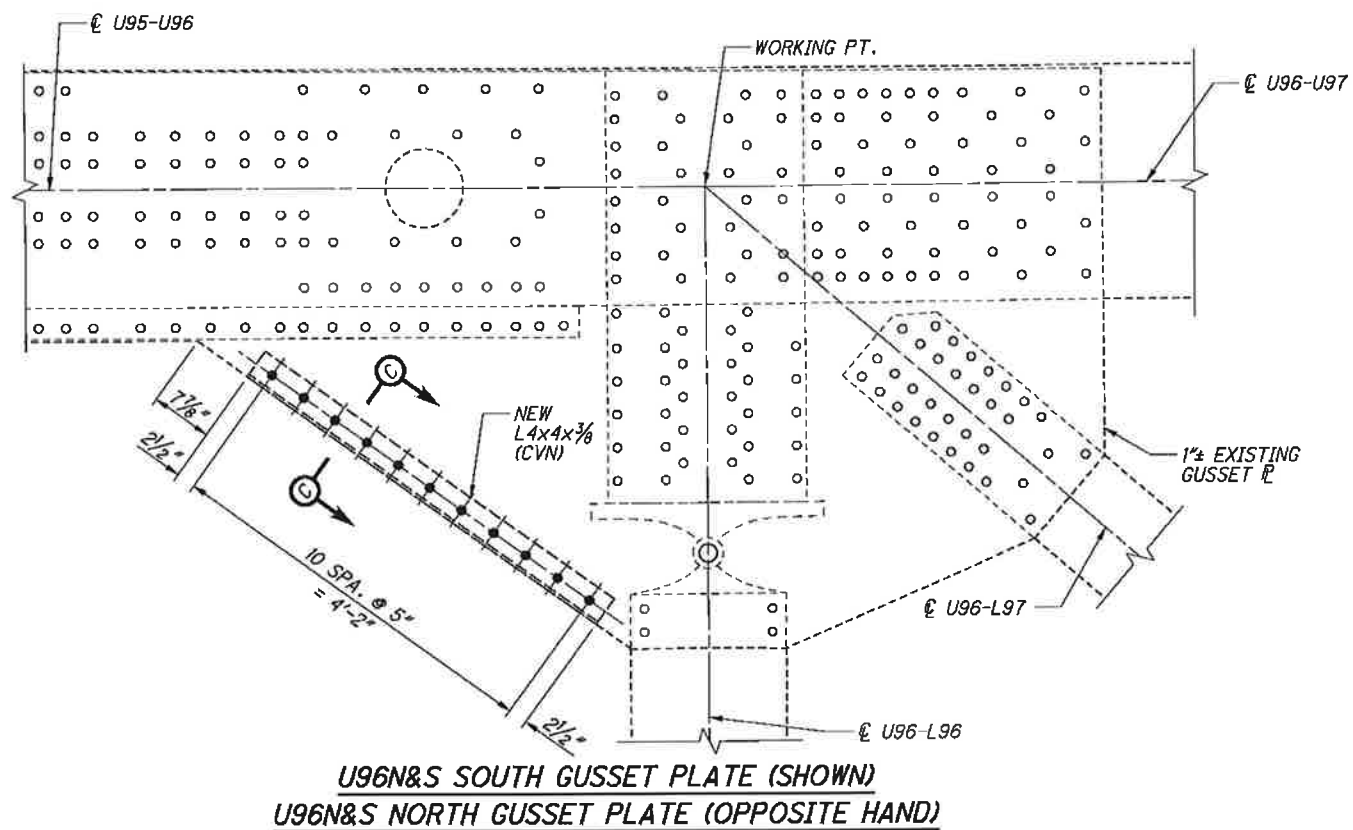
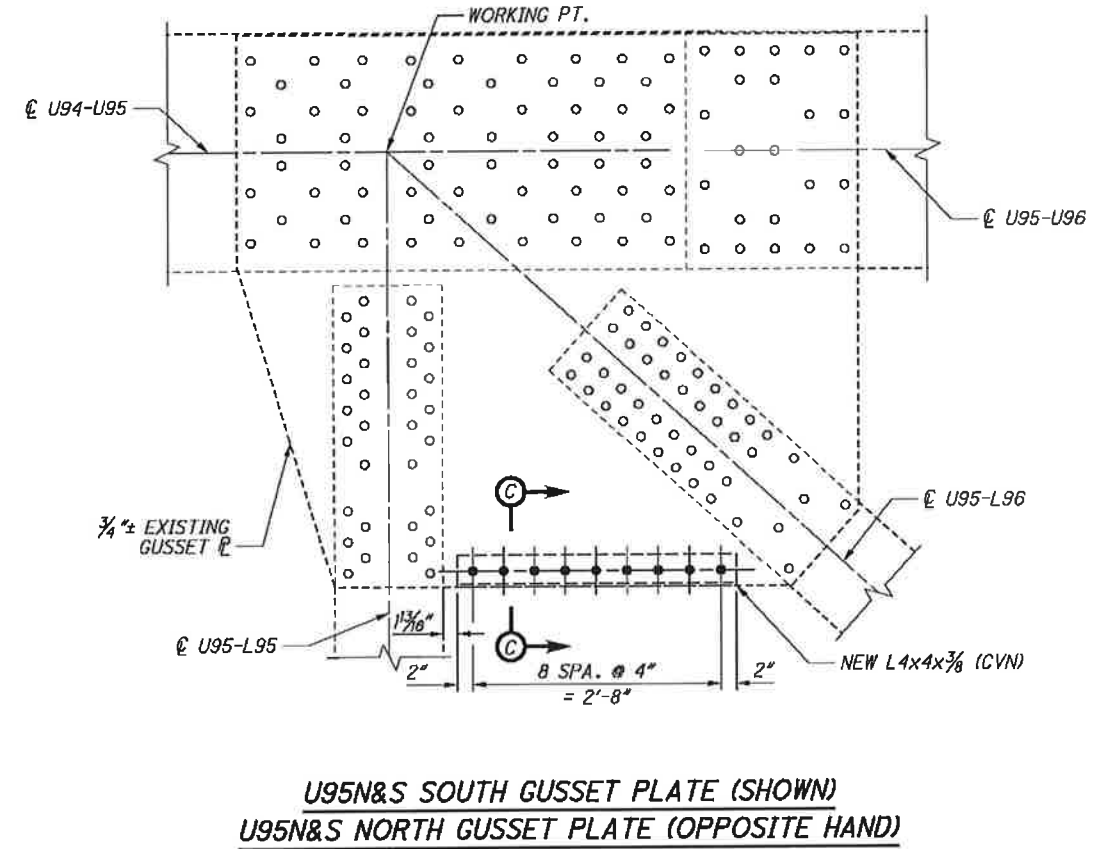
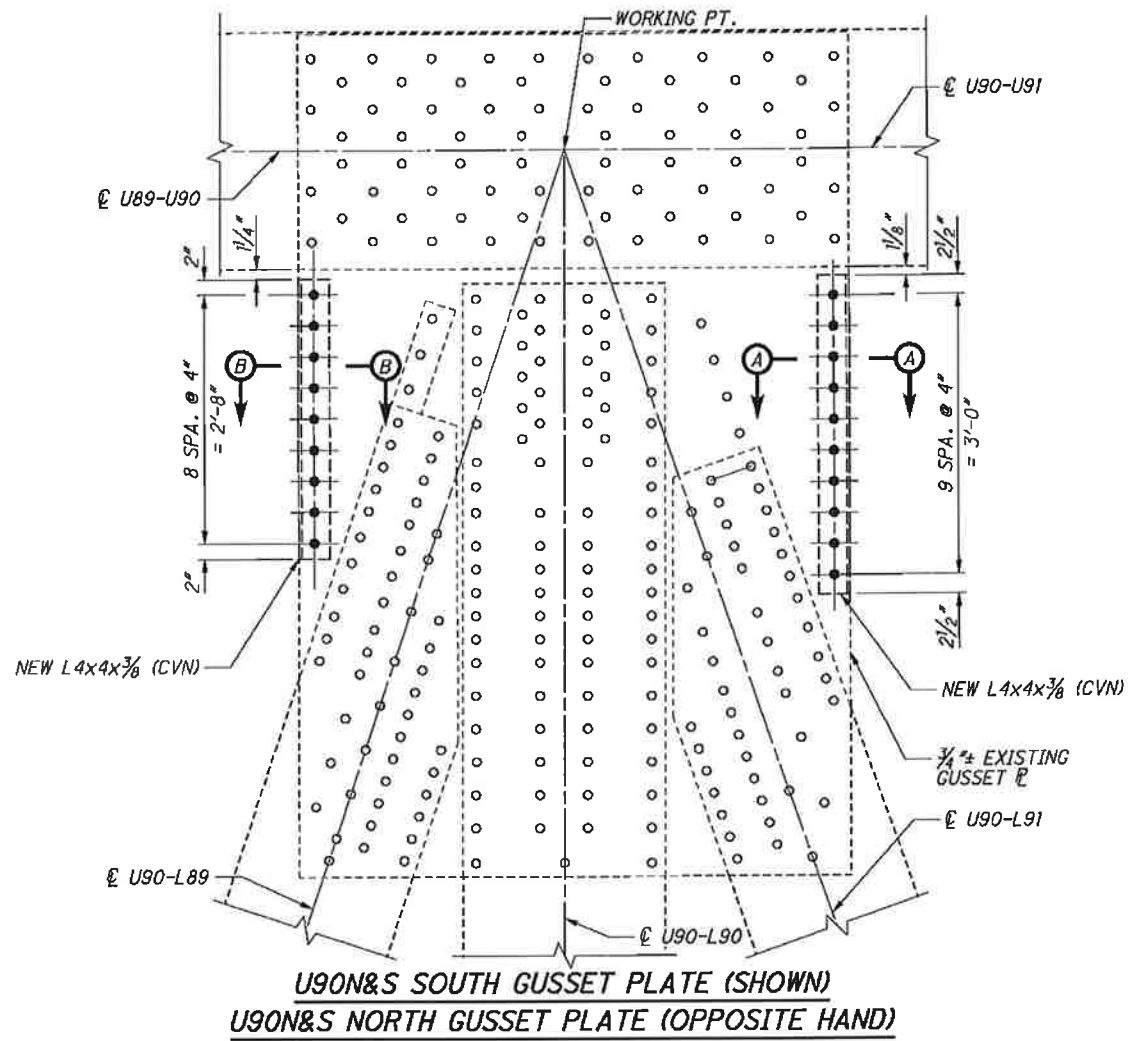
GUSSET PLATE EDGE STIFFENING DETAILS (4 OF 35)
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

DESIGNED	BJM	CHECKED	CTG
DRAWN	BJM	REVIEWED	WRW
DATE	08/16/13	STRUCTURE FILE NUMBER	1800035

DESIGN AGENCY
TranSystems
 15 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OHIO 44114

90 / 187

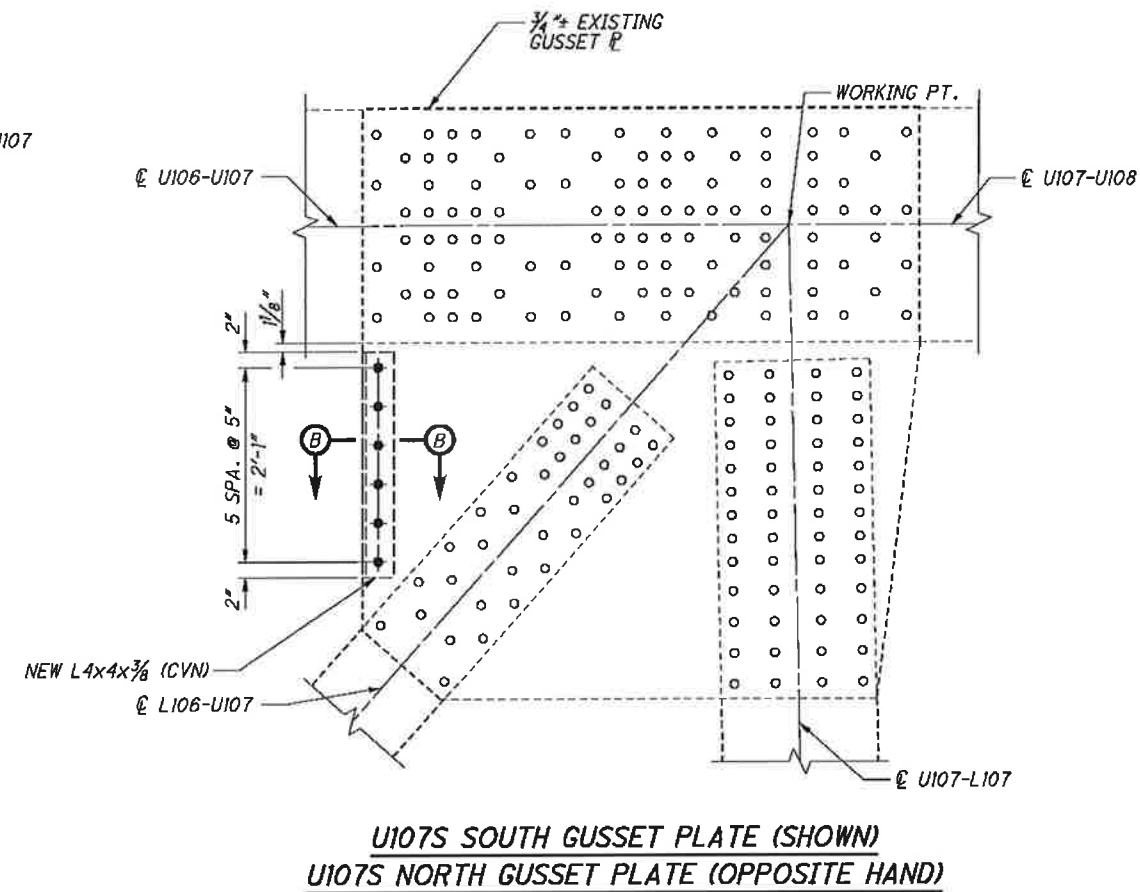
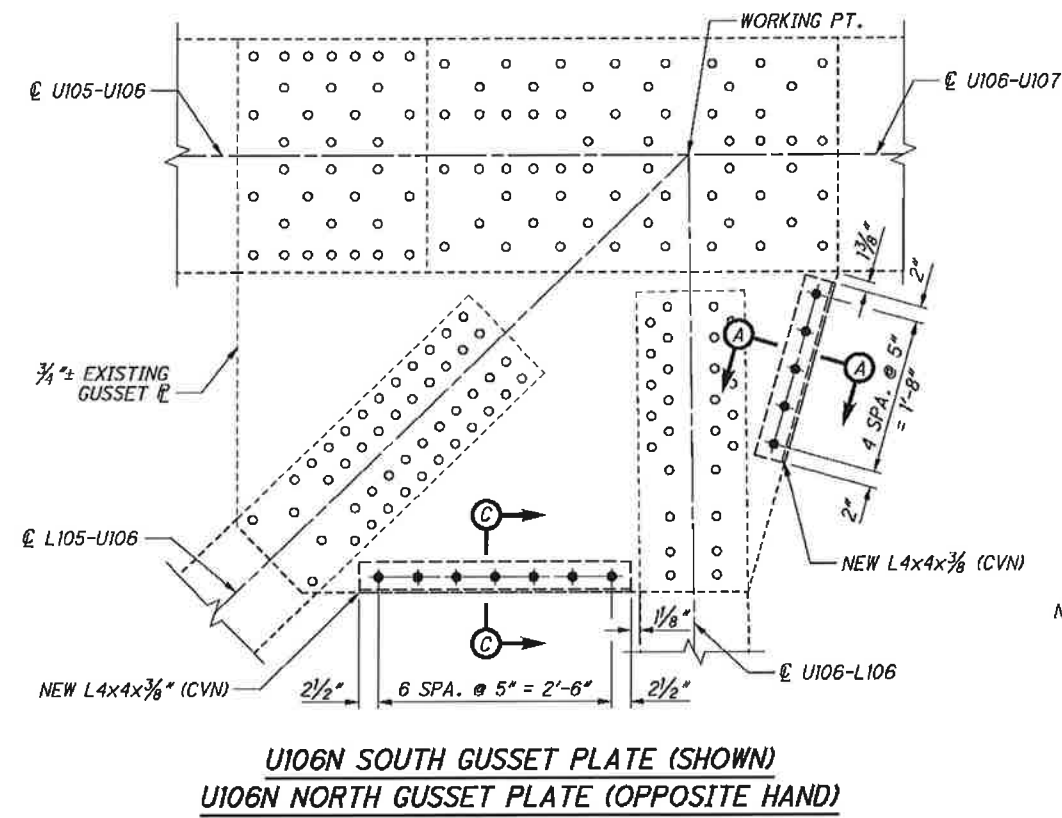
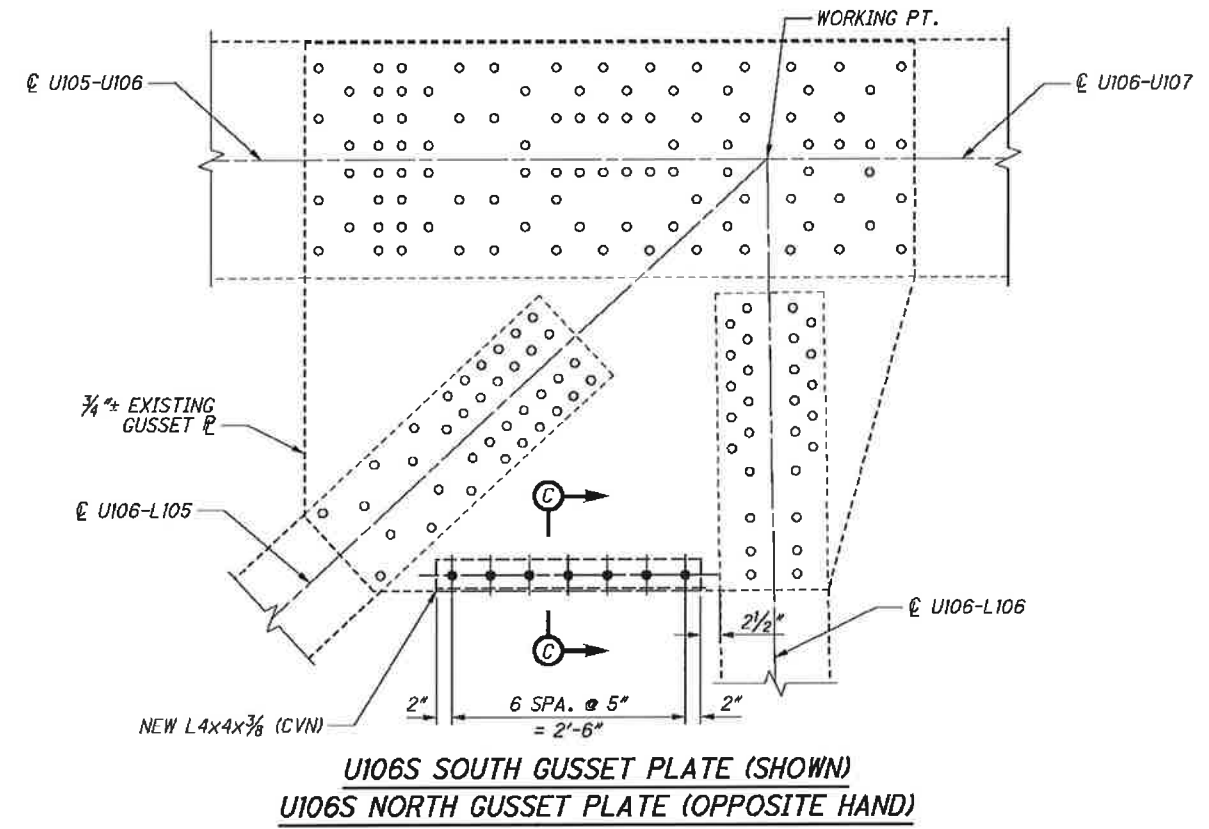
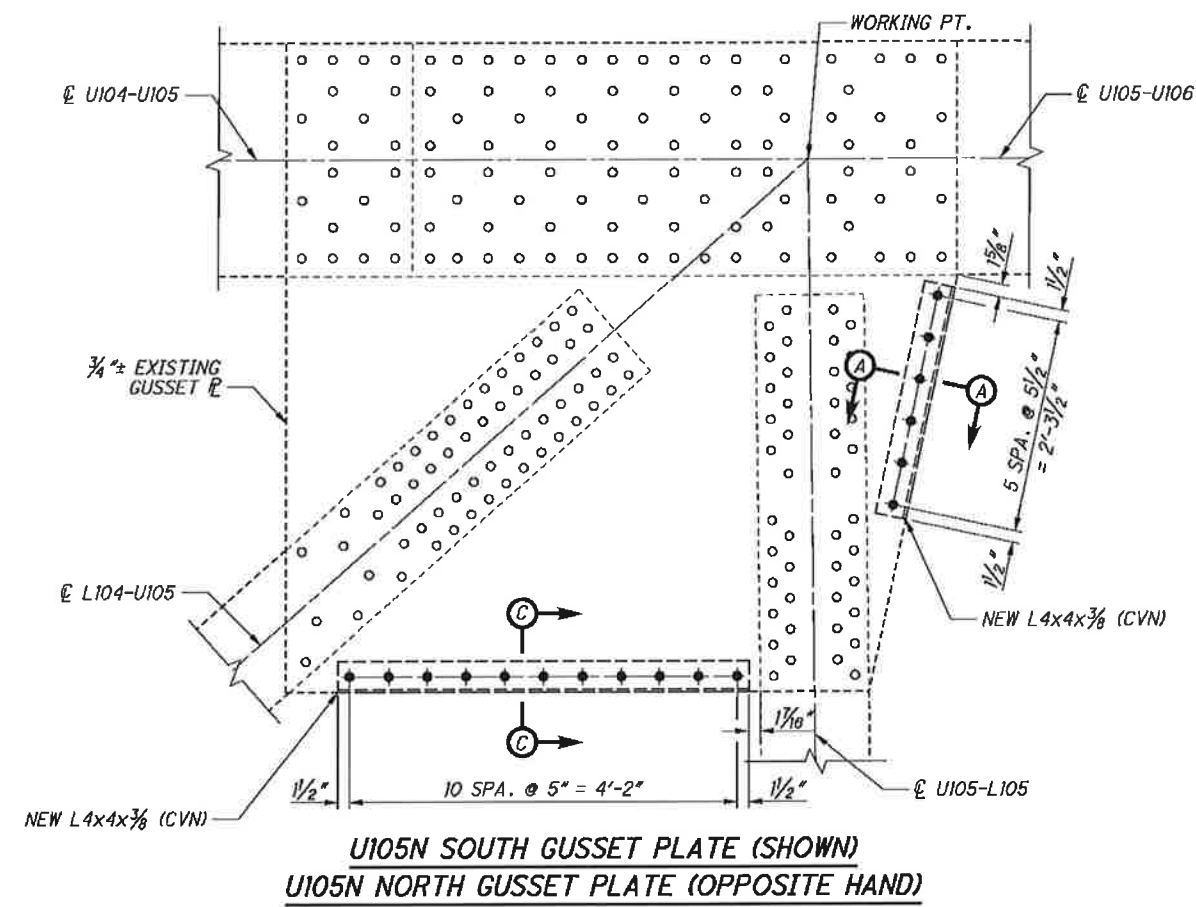
92
 189



NOTES:

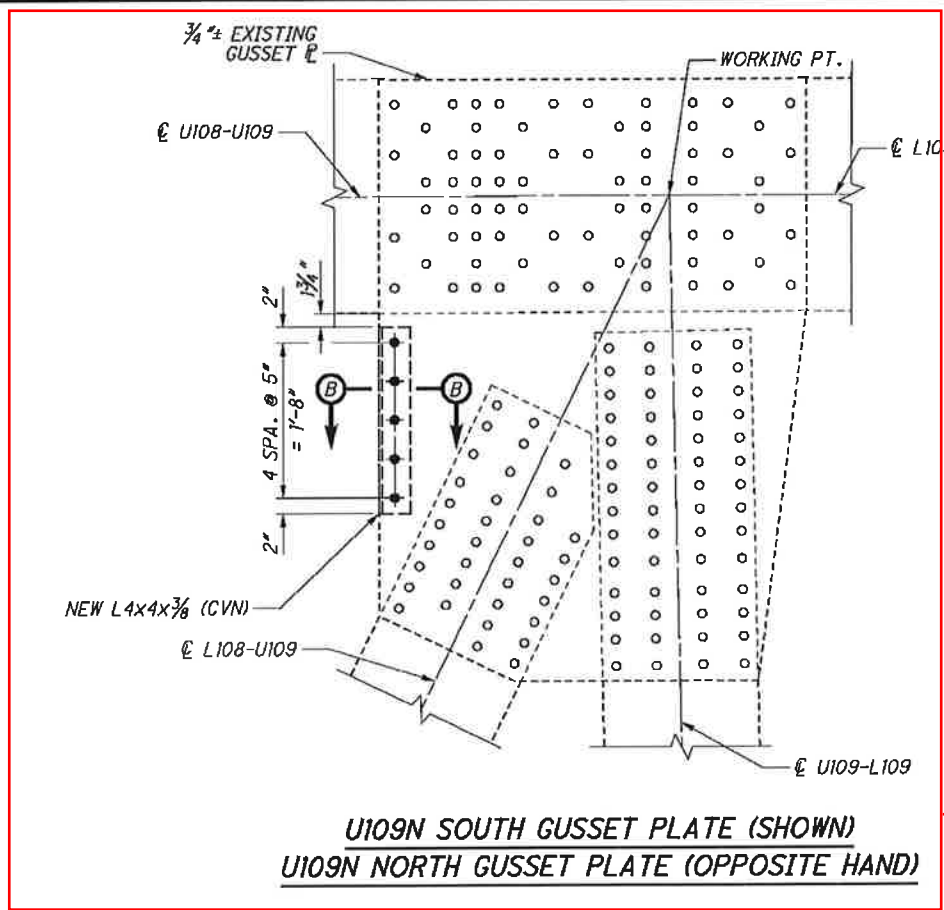
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

G:\CL12\0112\Bridges\Sheets\9115SD100.dgn 8/30/2013 10:36:24 AM nrfisco



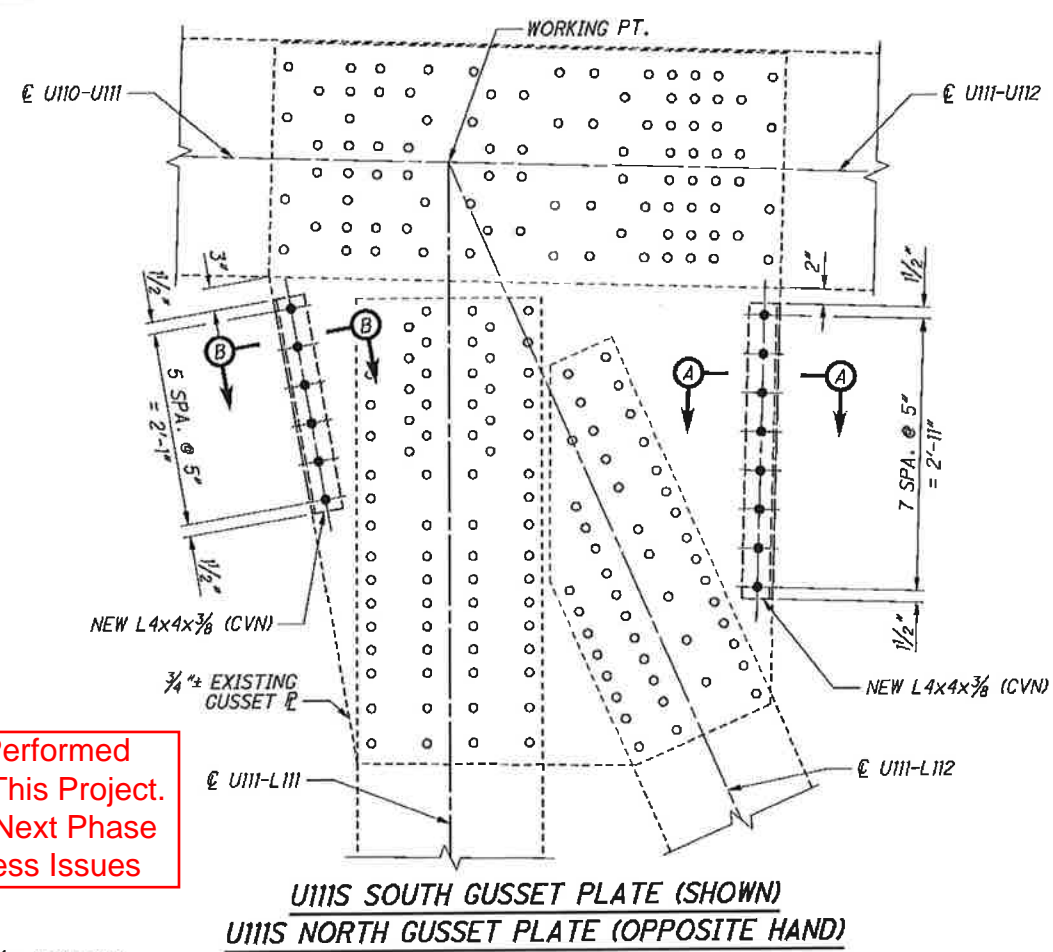
NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187 .

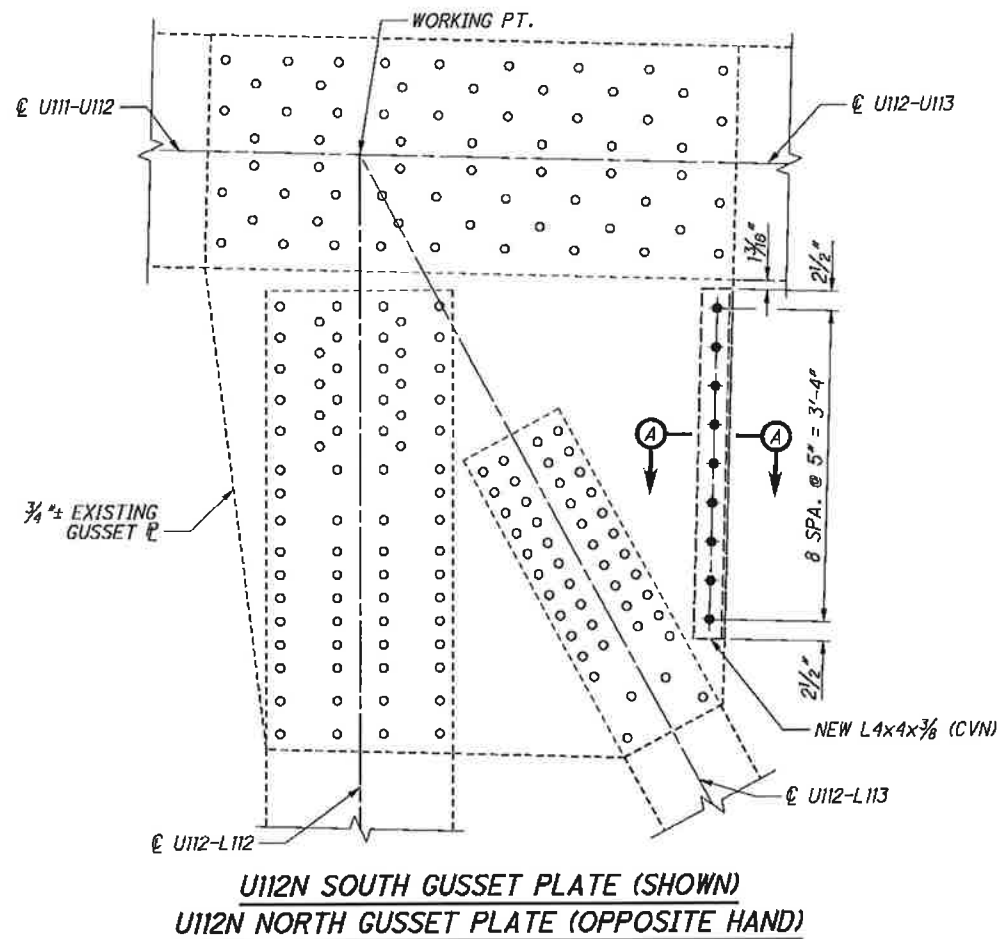


U109N SOUTH GUSSET PLATE (SHOWN)
U109N NORTH GUSSET PLATE (OPPOSITE HAND)

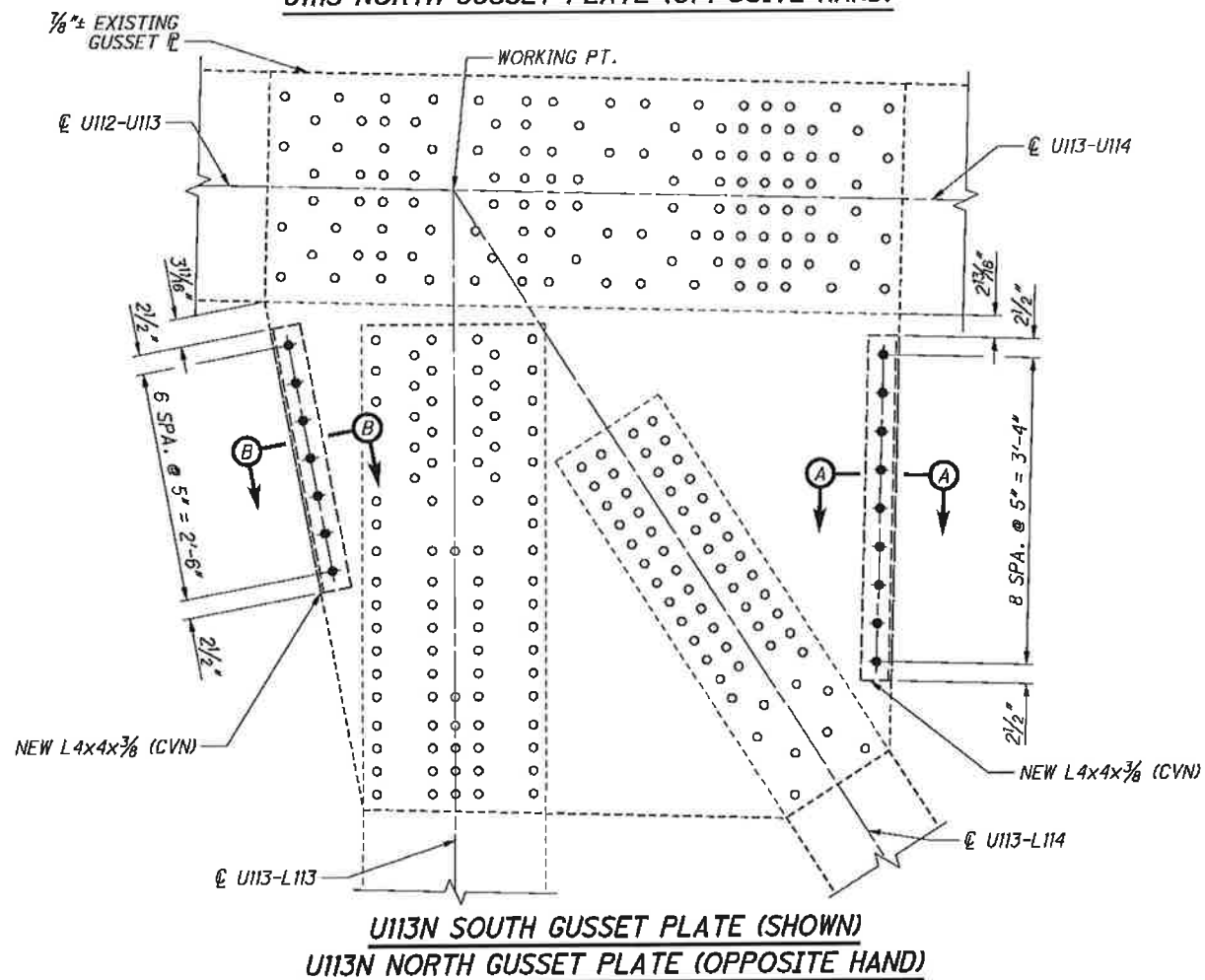
Work Not Performed
 As Part of This Project.
 Pushed to Next Phase
 due to Access Issues



U115S SOUTH GUSSET PLATE (SHOWN)
U115S NORTH GUSSET PLATE (OPPOSITE HAND)



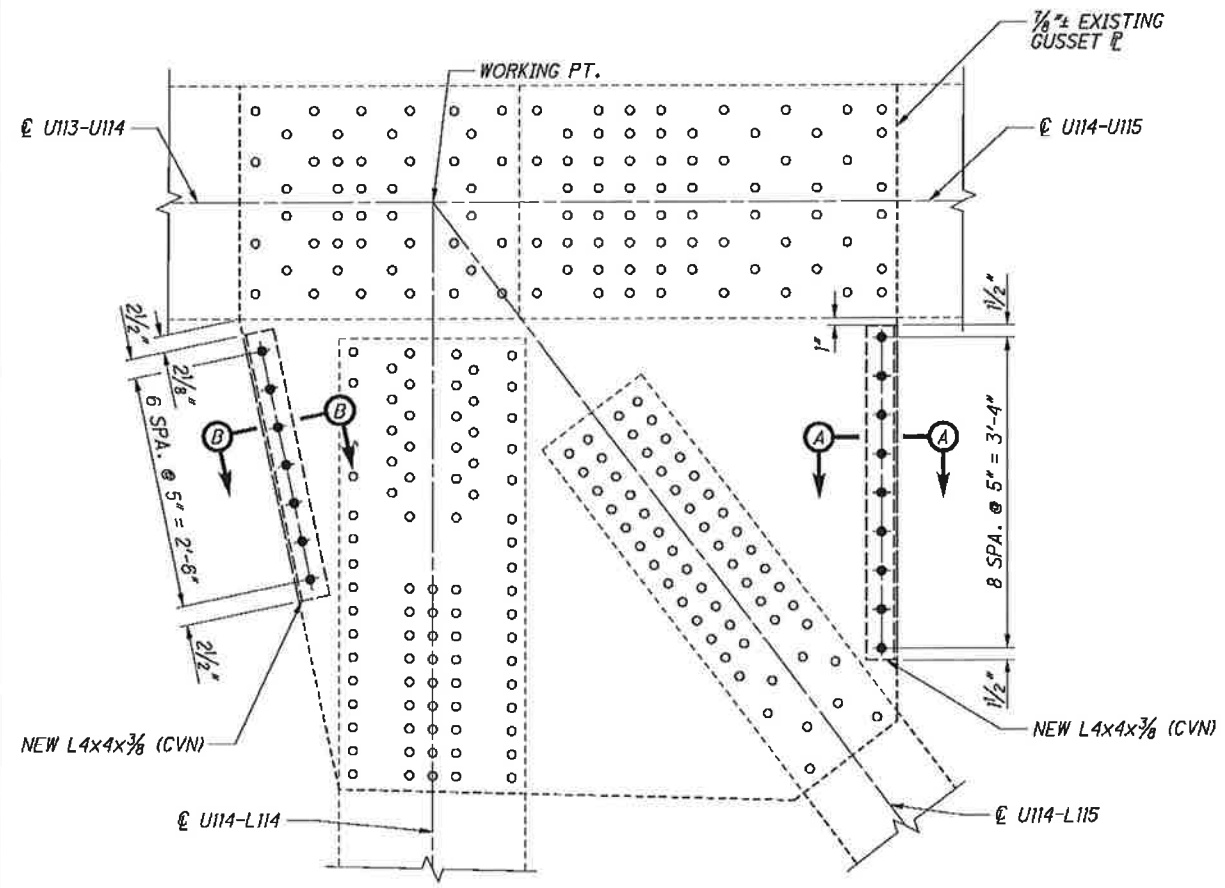
U112N SOUTH GUSSET PLATE (SHOWN)
U112N NORTH GUSSET PLATE (OPPOSITE HAND)



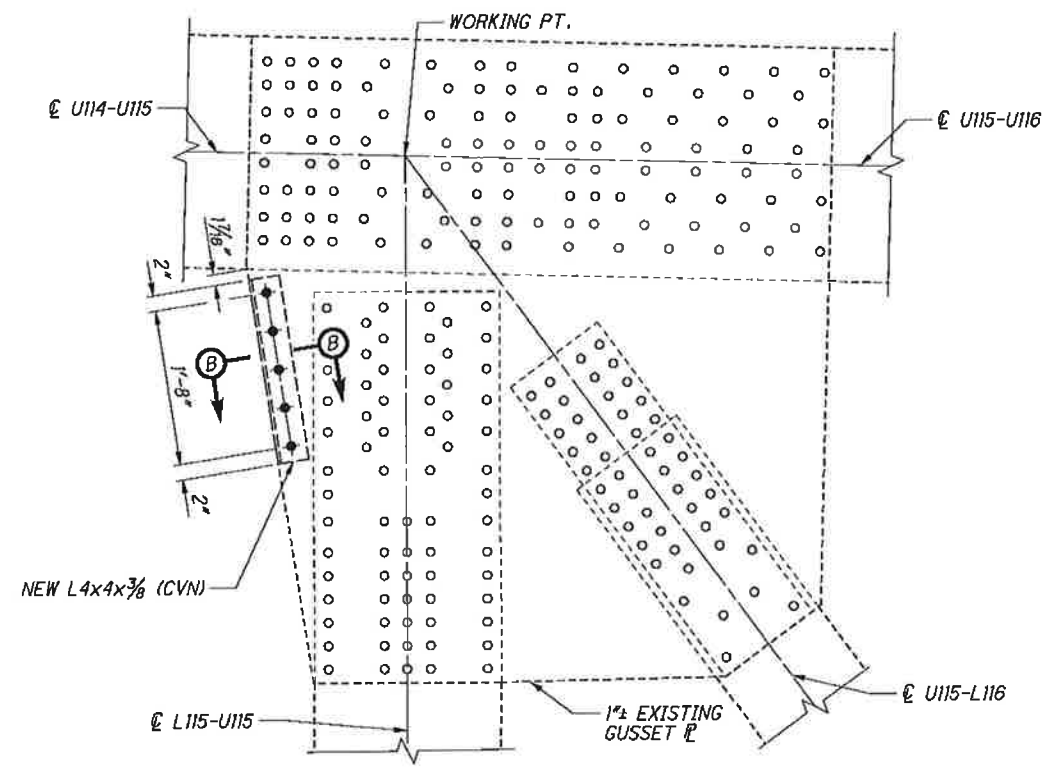
U113N SOUTH GUSSET PLATE (SHOWN)
U113N NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

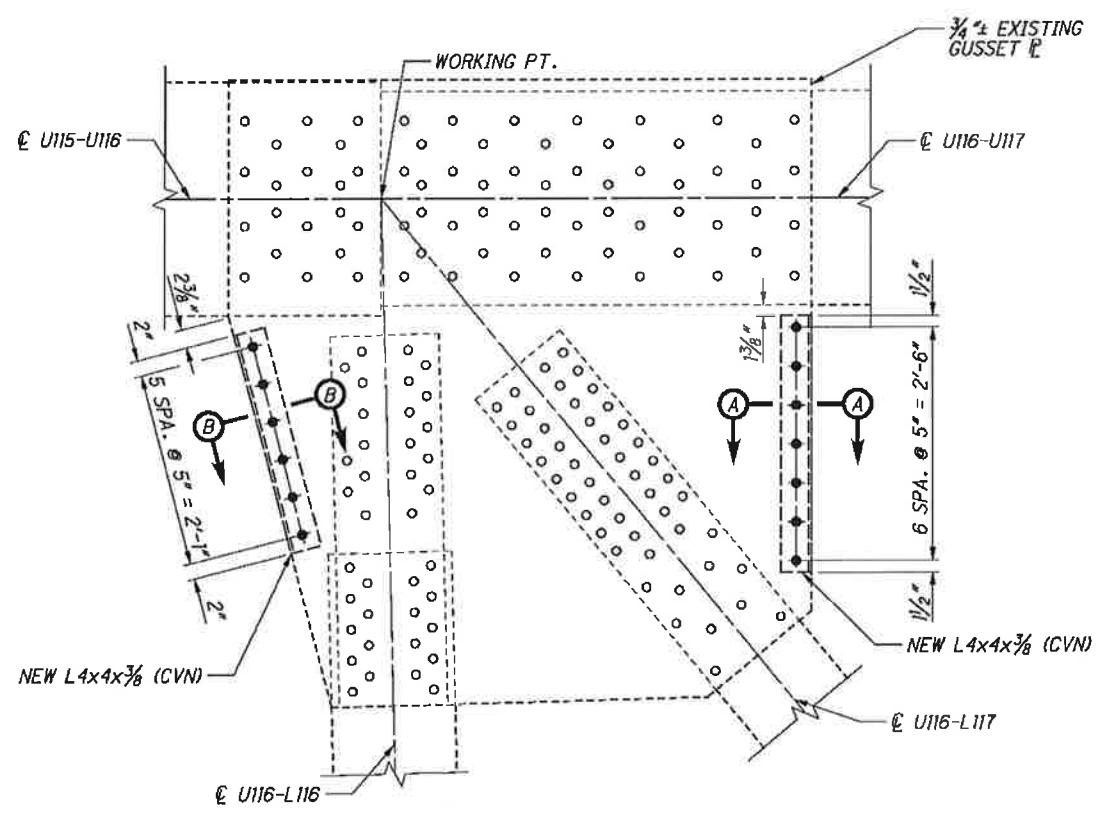
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.



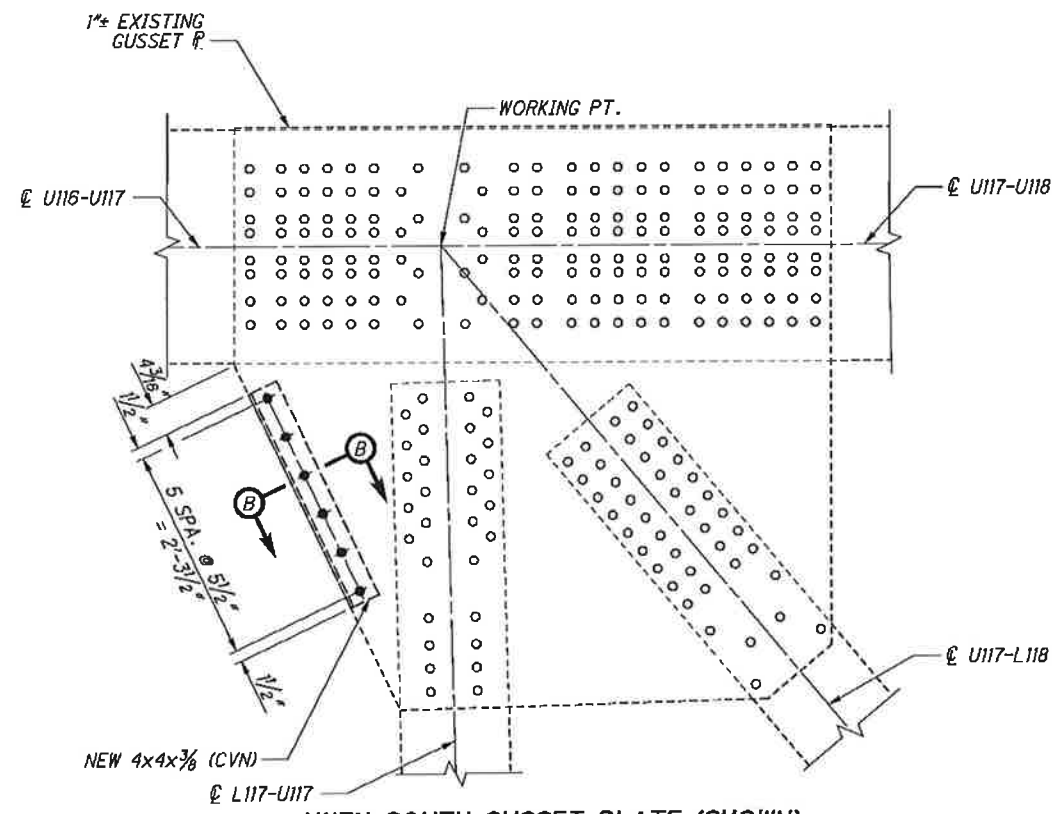
U114N SOUTH GUSSET PLATE (SHOWN)
U114N NORTH GUSSET PLATE (OPPOSITE HAND)



U115N SOUTH GUSSET PLATE (SHOWN)
U115N NORTH GUSSET PLATE (OPPOSITE HAND)



U116N SOUTH GUSSET PLATE (SHOWN)
U116N NORTH GUSSET PLATE (OPPOSITE HAND)

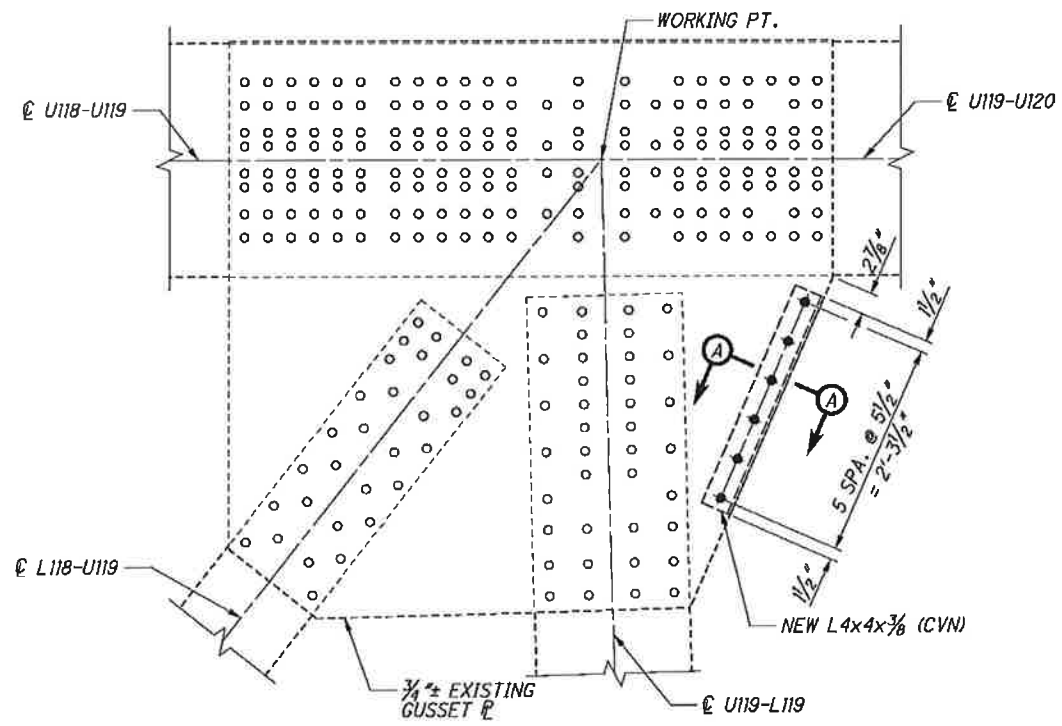


U117N SOUTH GUSSET PLATE (SHOWN)
U117N NORTH GUSSET PLATE (OPPOSITE HAND)

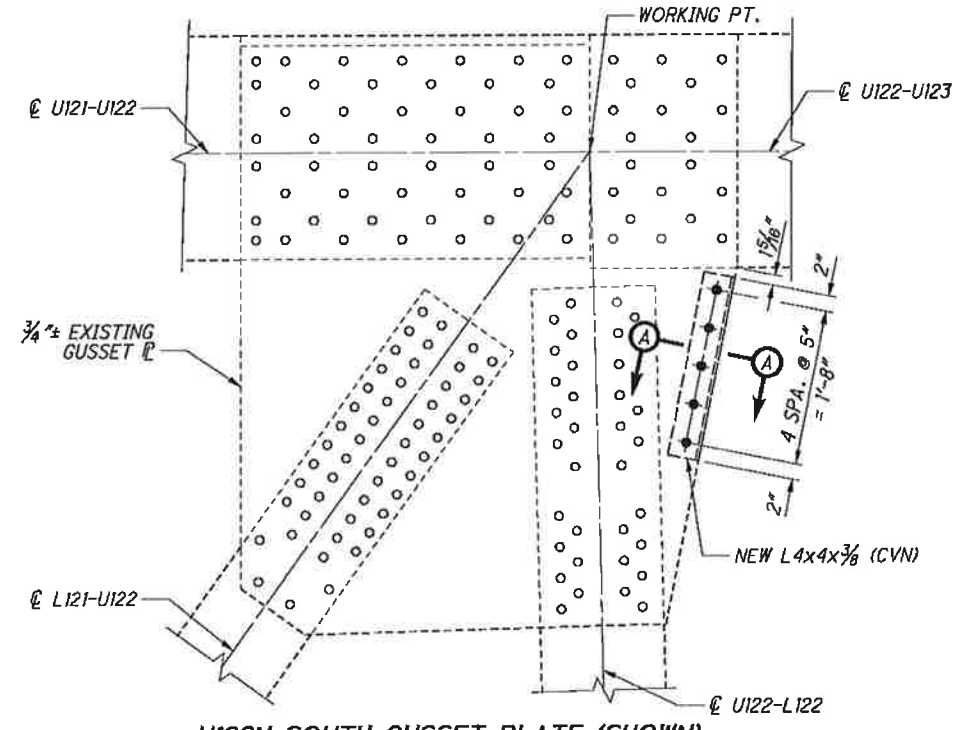
- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

DESIGN AGENCY Trail Systems 85 PUBLIC SQUARE, SUITE 100 CLEVELAND, OHIO 44113	DATE 08/16/13
	REVIEWED WRW
DRAWN BJM	STRUCTURE FILE NUMBER 1800035
DESIGNED BJM	CHECKED CTG
GUSSET PLATE EDGE STIFFENING DETAILS (8 OF 35) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14.41 PID No. 91115	94 / 187
96 189	

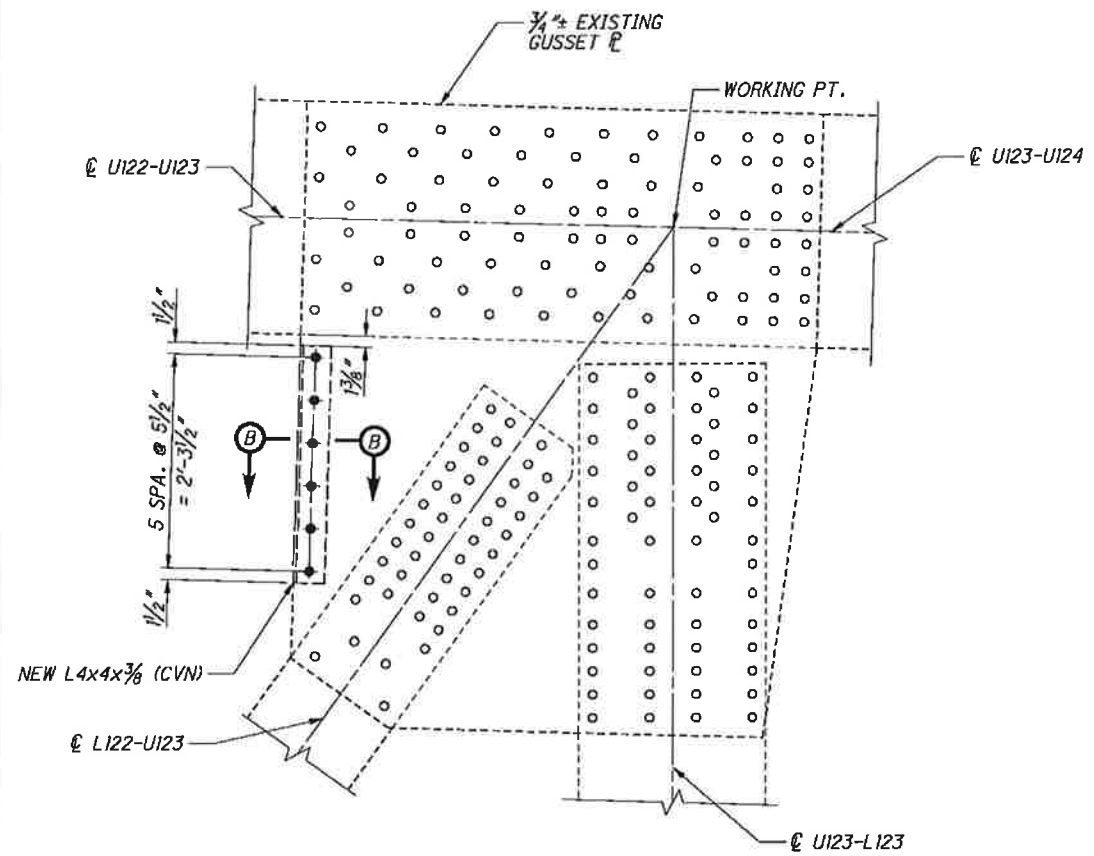
G:\CL12\0112\Bridges\9115SD100.dgn 8/30/2013 10:36:25 AM nr:fisco



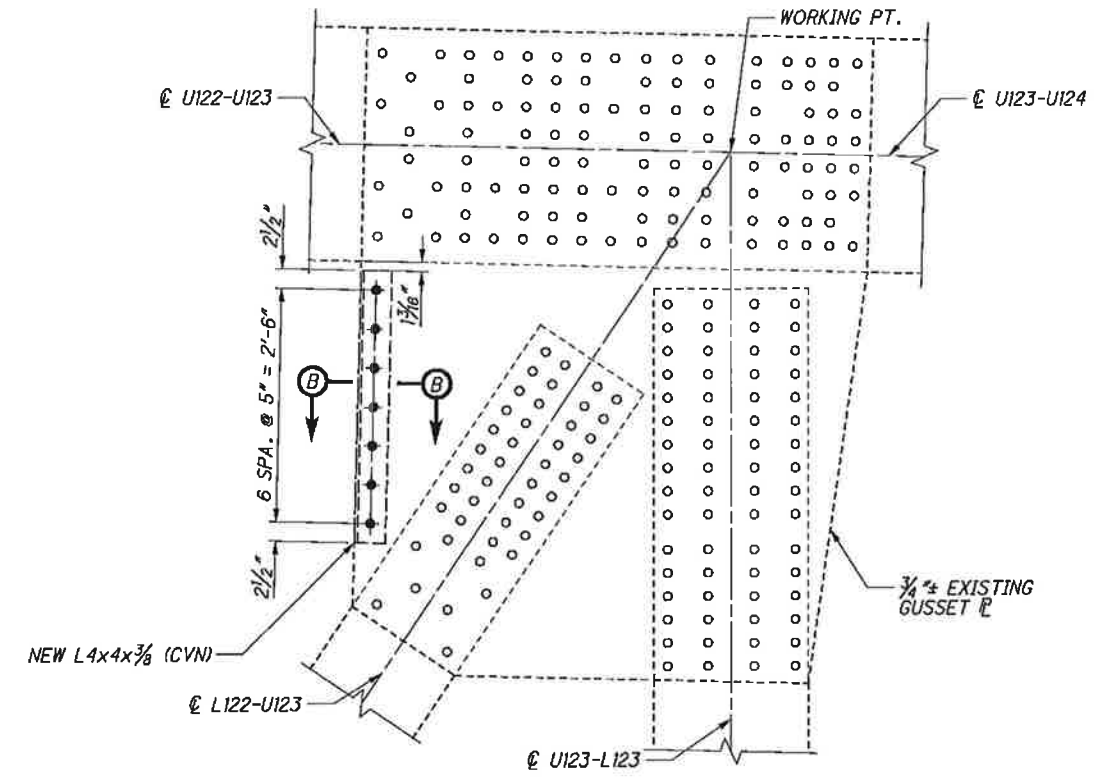
U119N SOUTH GUSSET PLATE (SHOWN)
U119N NORTH GUSSET PLATE (OPPOSITE HAND)



U122N SOUTH GUSSET PLATE (SHOWN)
U122N NORTH GUSSET PLATE (OPPOSITE HAND)



U123S SOUTH GUSSET PLATE (SHOWN)
U123S NORTH GUSSET PLATE (OPPOSITE HAND)



U123N SOUTH GUSSET PLATE (SHOWN)
U123N NORTH GUSSET PLATE (OPPOSITE HAND)

- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87/187.

GUSSET PLATE EDGE STIFFENING DETAILS (9 OF 35)
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

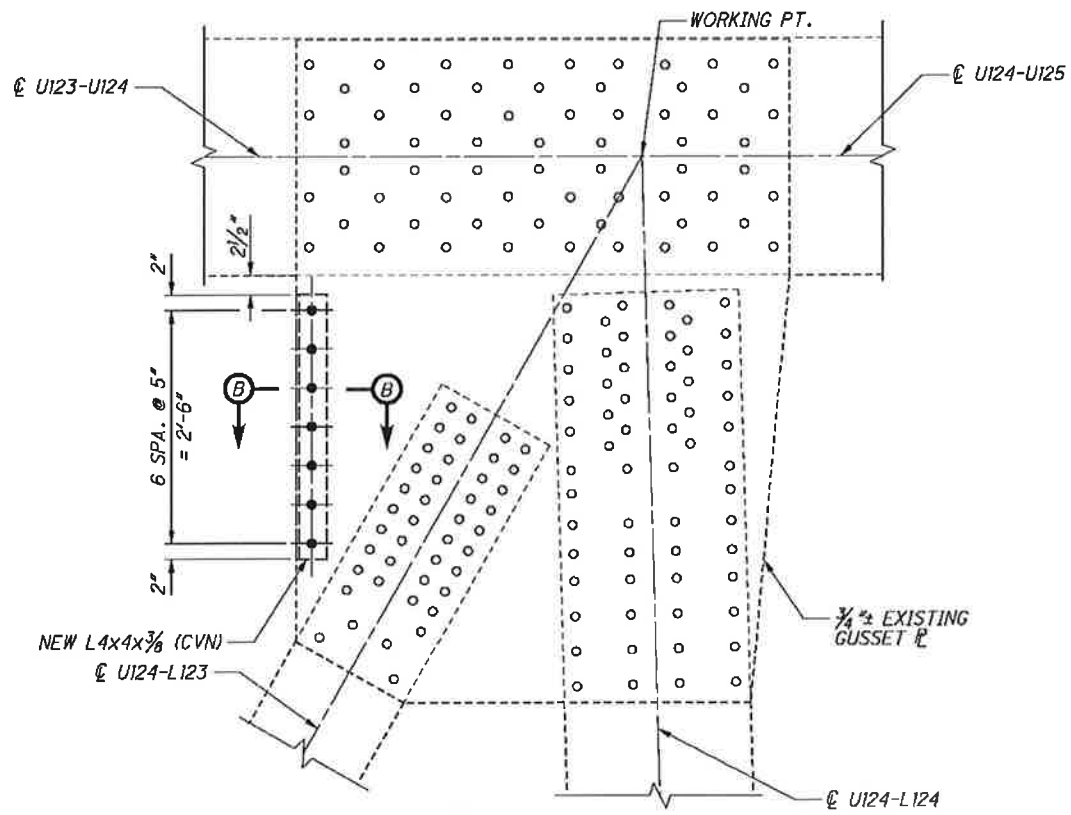
CUY-2-14.41
 PID No. 91115

95/187

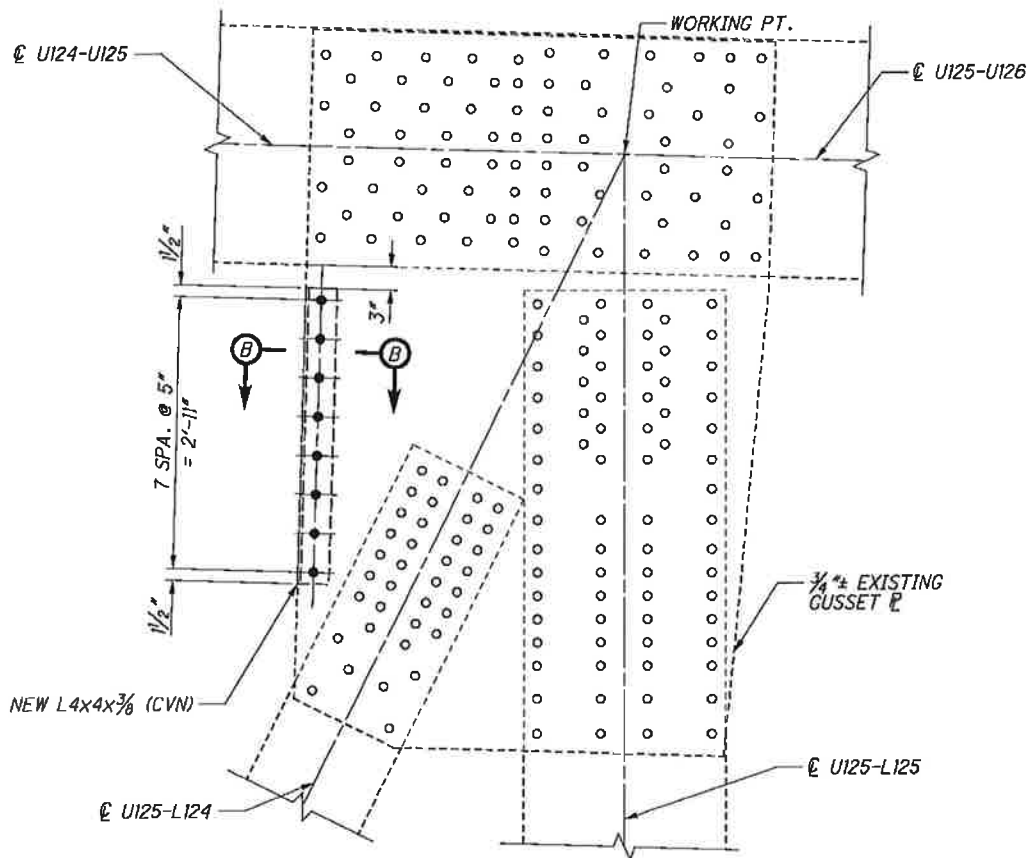
97
 189



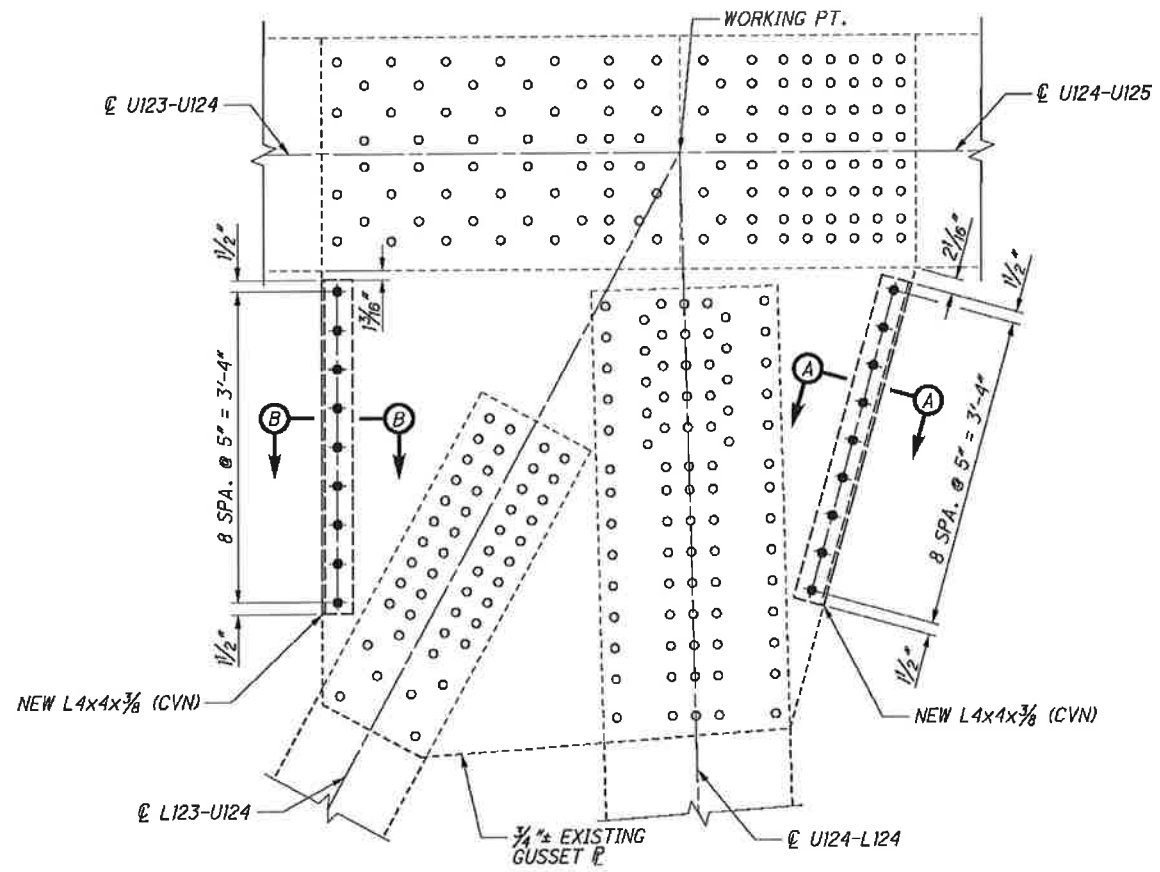
DESIGNED	BJM	CHECKED	CTG
DRAWN	BJM	REVIEWED	WRW
DATE	08/16/13	STRUCTURE FILE NUMBER	1800035
DESIGN AGENCY	Train Systems 55 PUBLIC SQUARE, SUITE 500 CLEVELAND, OHIO 44113		



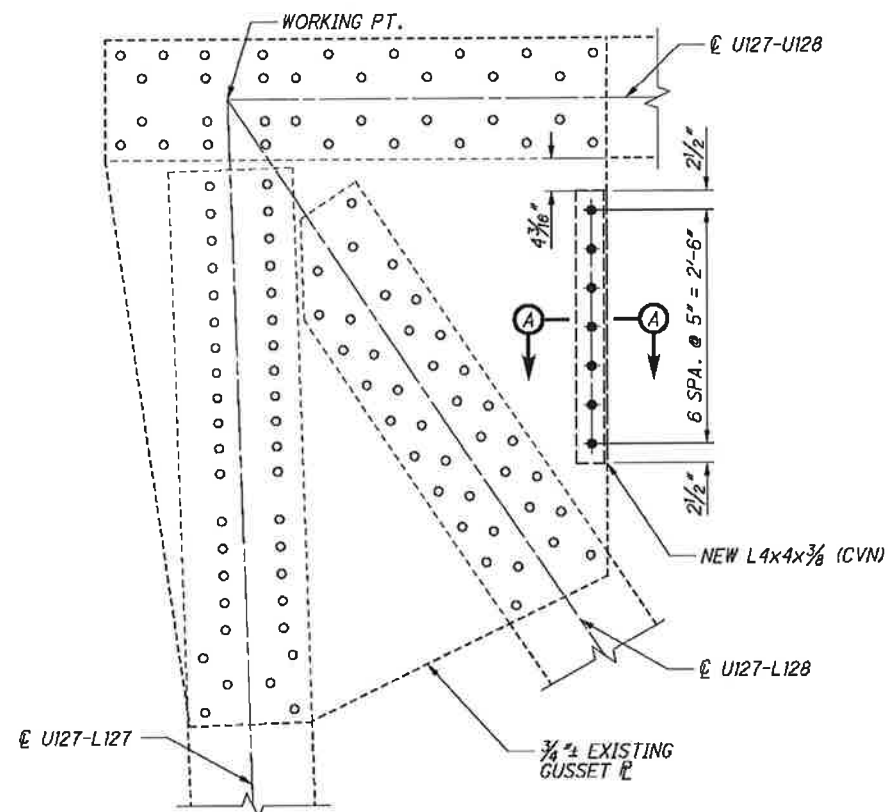
U124S SOUTH GUSSET PLATE (SHOWN)
U124S NORTH GUSSET PLATE (OPPOSITE HAND)



U125S SOUTH GUSSET PLATE (SHOWN)
U125S NORTH GUSSET PLATE (OPPOSITE HAND)



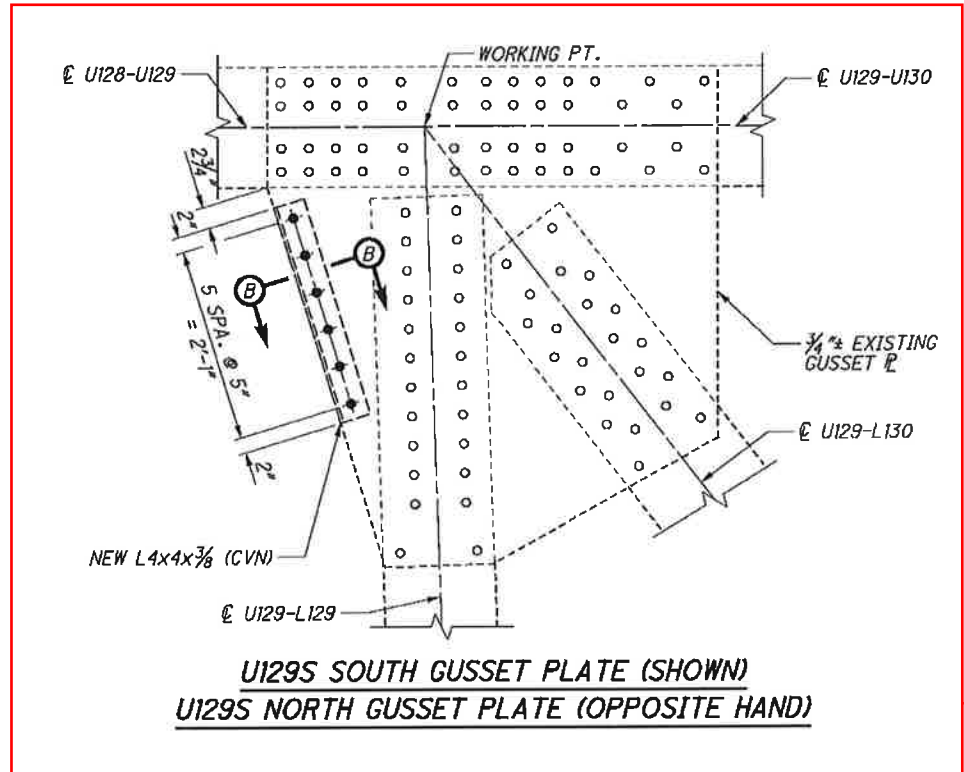
U124N SOUTH GUSSET PLATE (SHOWN)
U124N NORTH GUSSET PLATE (OPPOSITE HAND)



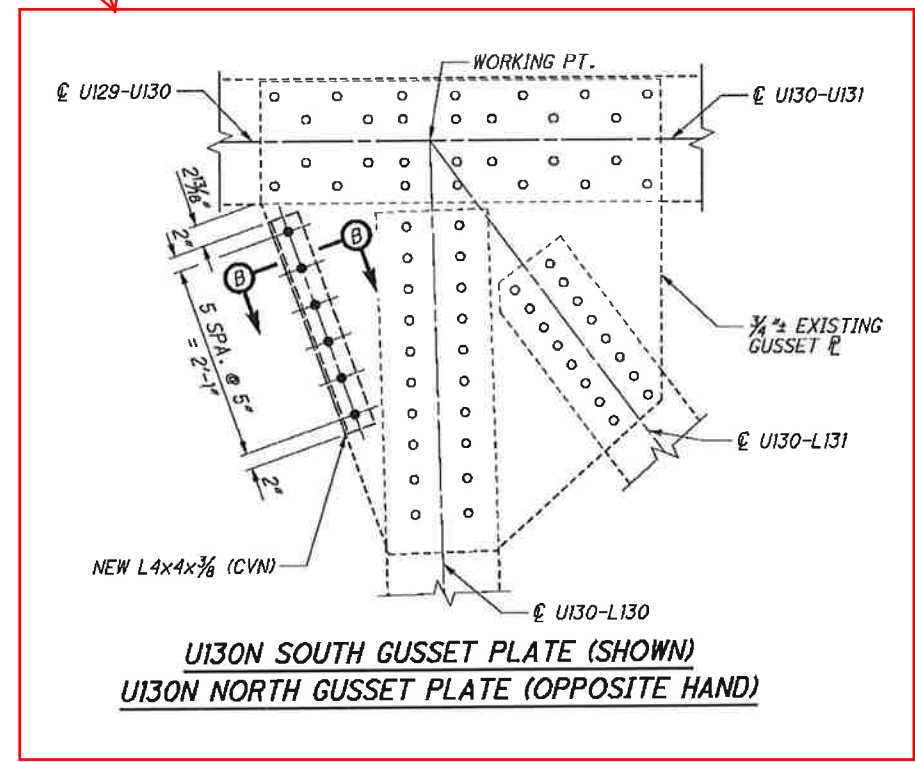
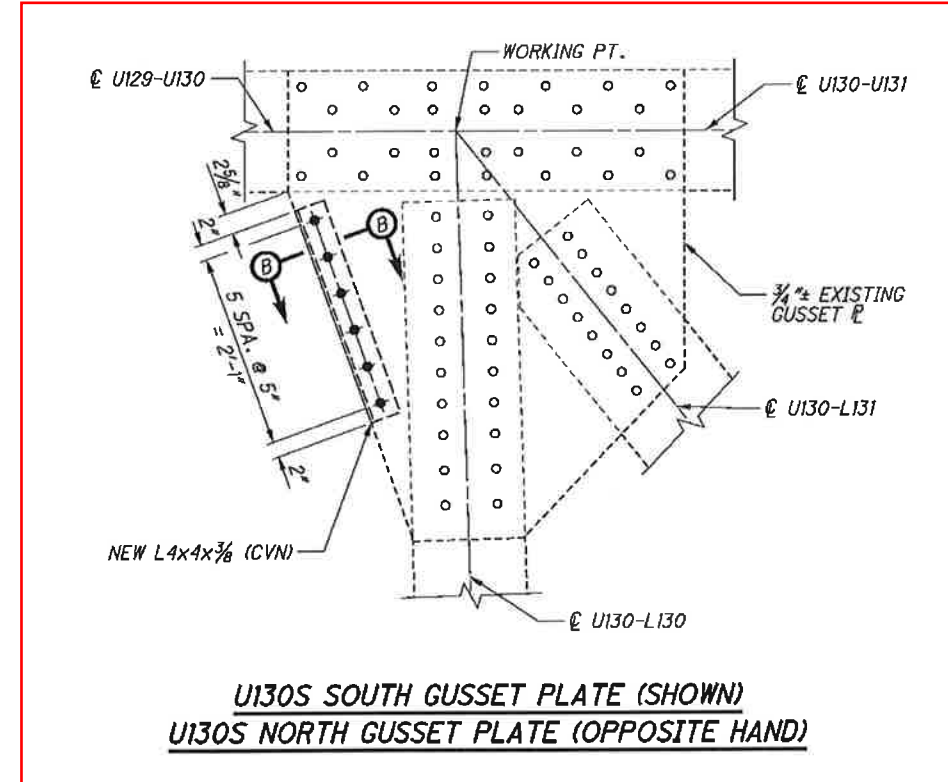
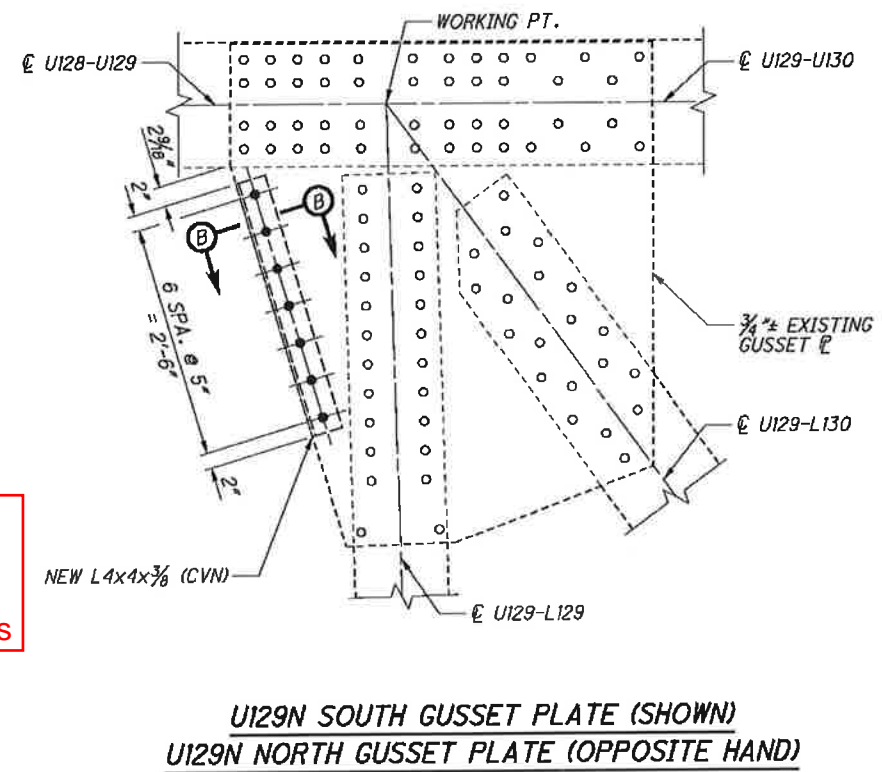
U127S SOUTH GUSSET PLATE (SHOWN)
U127S NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

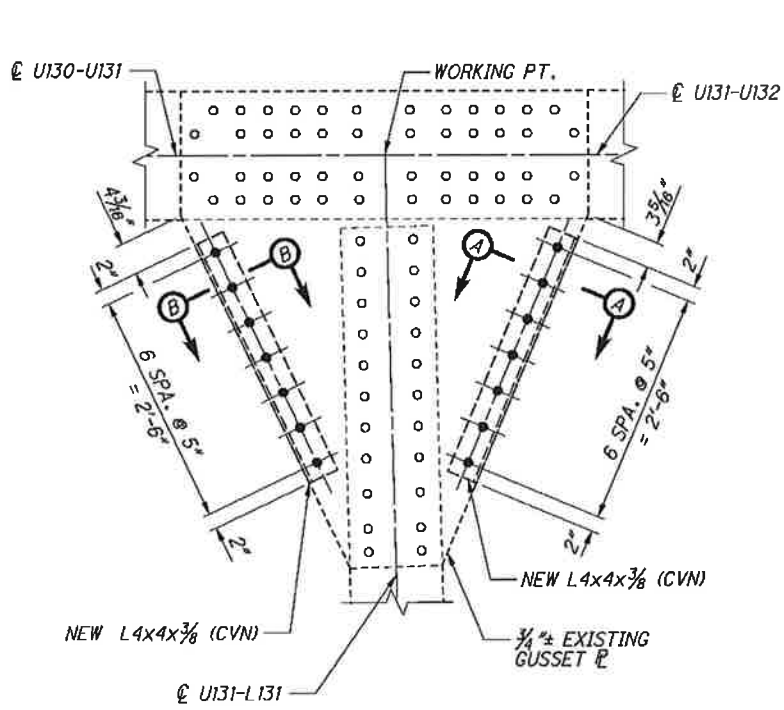


Work Not Performed As Part of This Project. Pushed to Next Phase due to RTA ROW Issues

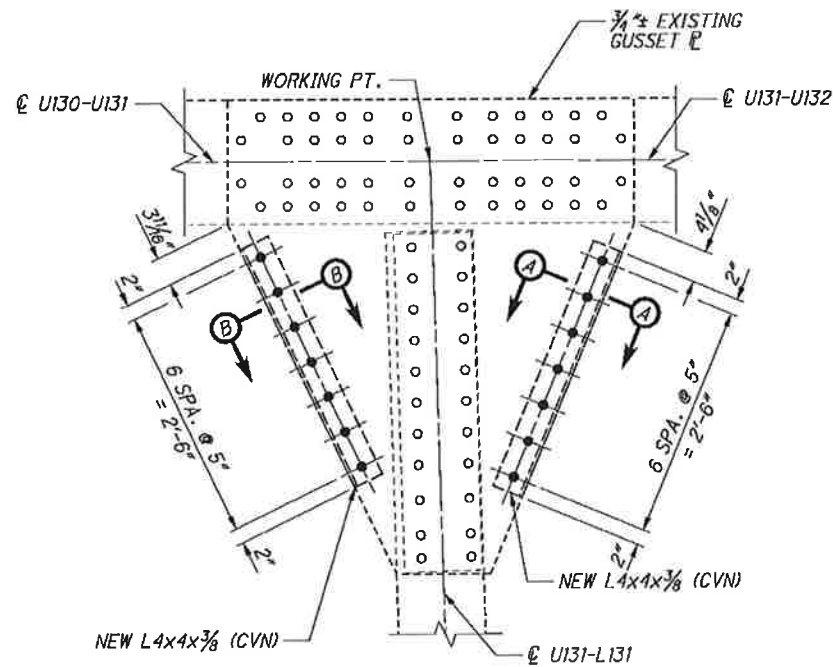


- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187 .

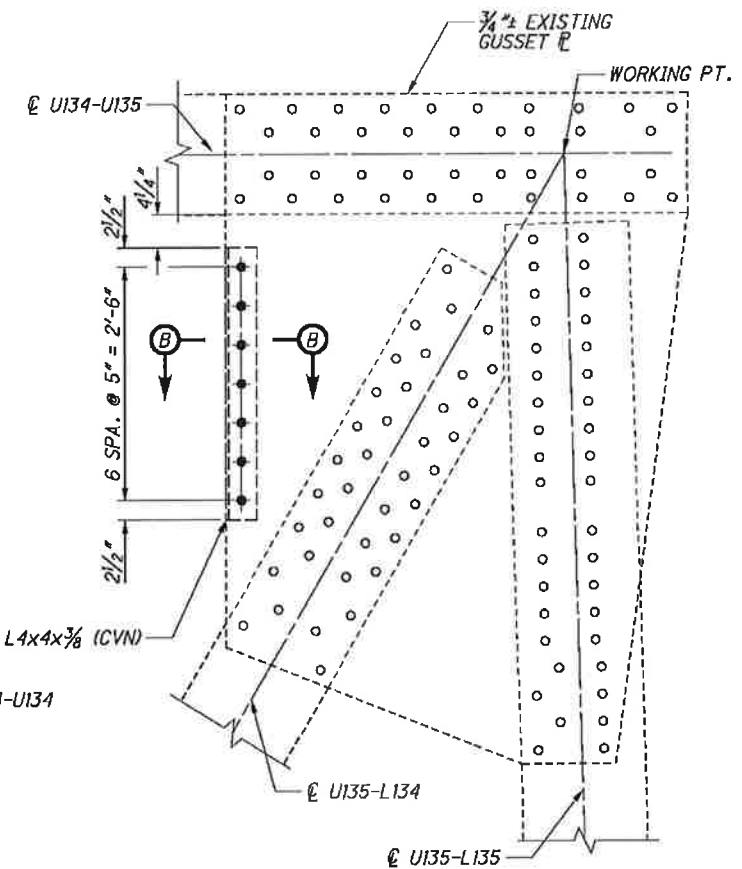
DESIGN AGENCY 25 PUBLIC SQUARE, SUITE 1800 CLEVELAND, OHIO 44113	DATE 08/16/13
	REVIEWED WRW
DRAWN BJM	STRUCTURE FILE NUMBER 1800035
DESIGNED BJM	CHECKED CTG
GUSSET PLATE EDGE STIFFENING DETAILS (11 OF 35) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14-41	PID No. 91115
97 / 187	
99 189	



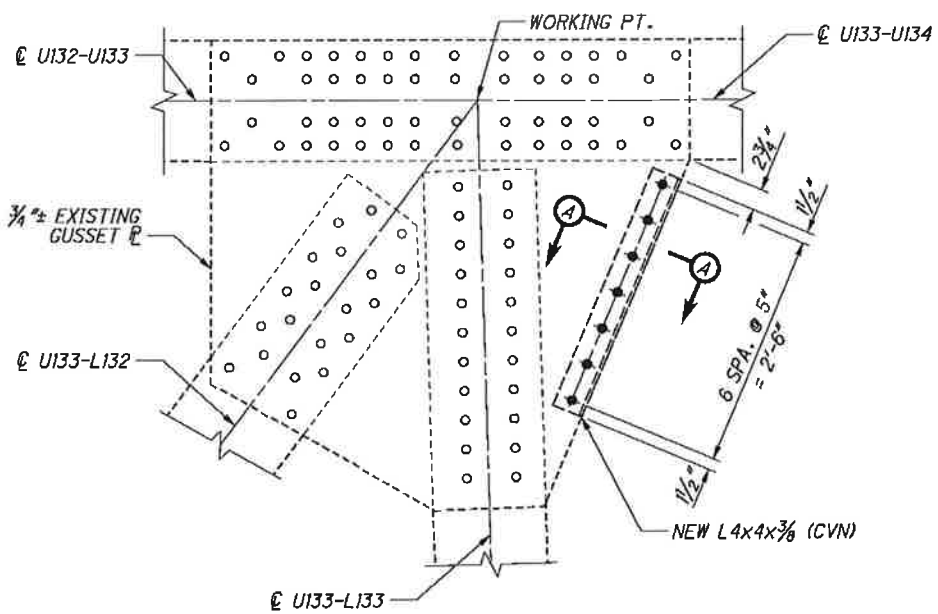
U131N SOUTH GUSSET PLATE (SHOWN)
U131N NORTH GUSSET PLATE (OPPOSITE HAND)



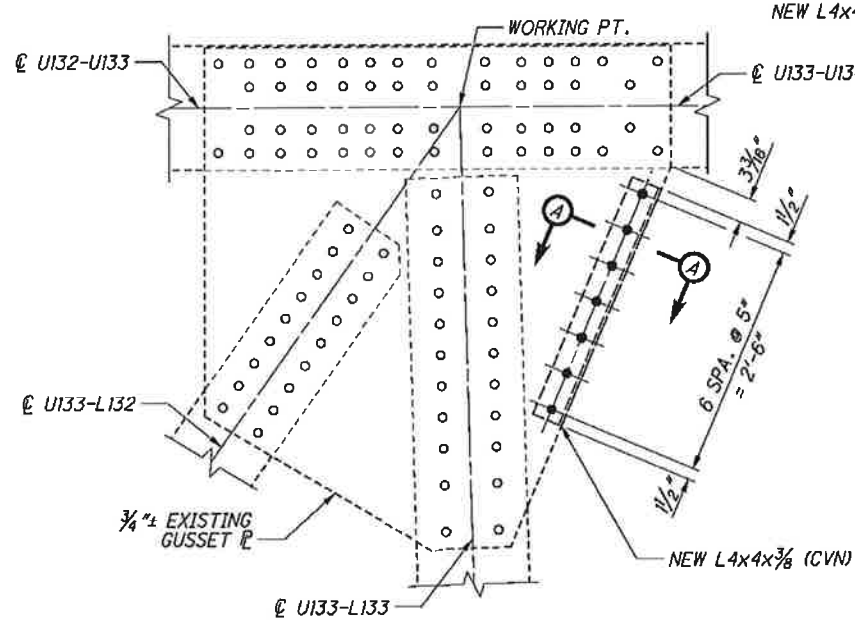
U131S SOUTH GUSSET PLATE (SHOWN)
U131S NORTH GUSSET PLATE (OPPOSITE HAND)



U135S SOUTH GUSSET PLATE (SHOWN)
U135S NORTH GUSSET PLATE (OPPOSITE HAND)



U133S SOUTH GUSSET PLATE (SHOWN)
U133S NORTH GUSSET PLATE (OPPOSITE HAND)

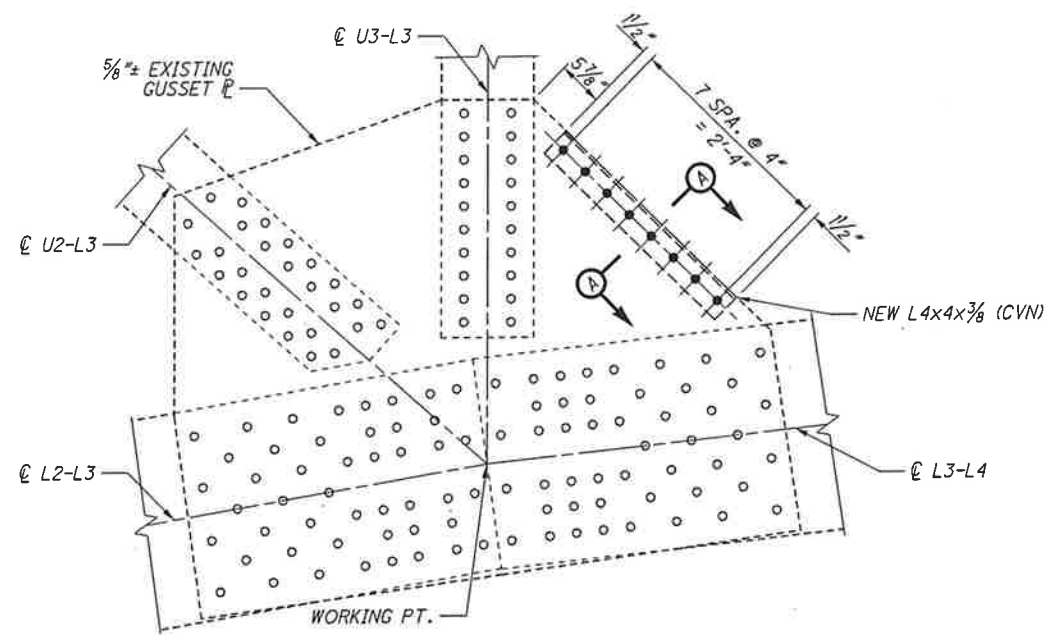


U133N SOUTH GUSSET PLATE (SHOWN)
U133N NORTH GUSSET PLATE (OPPOSITE HAND)

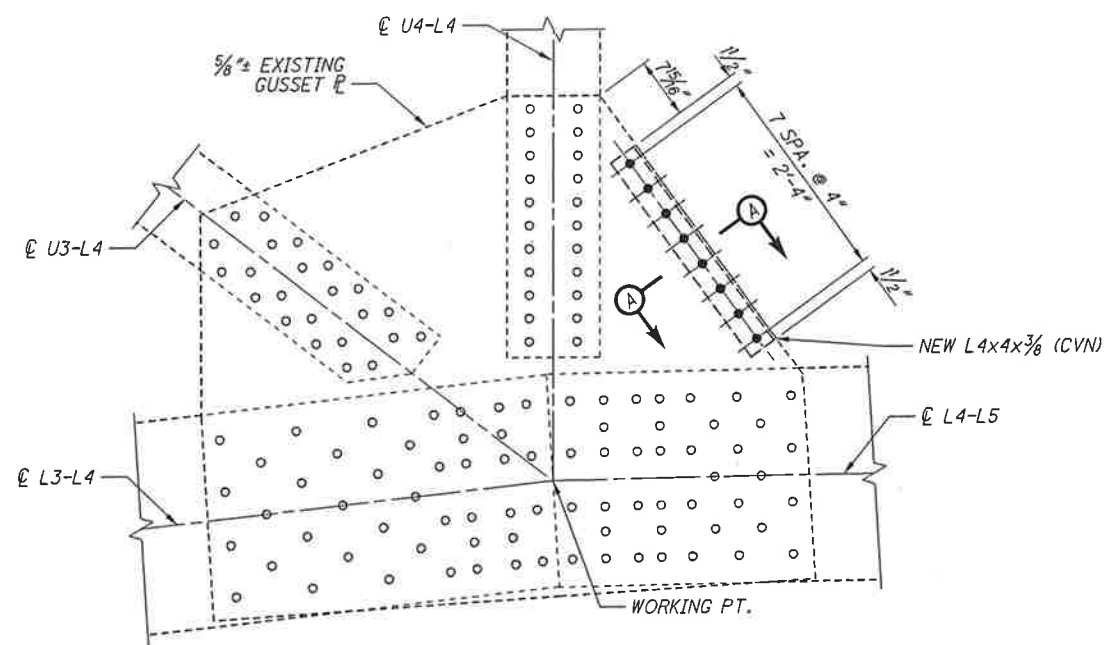
NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187 .

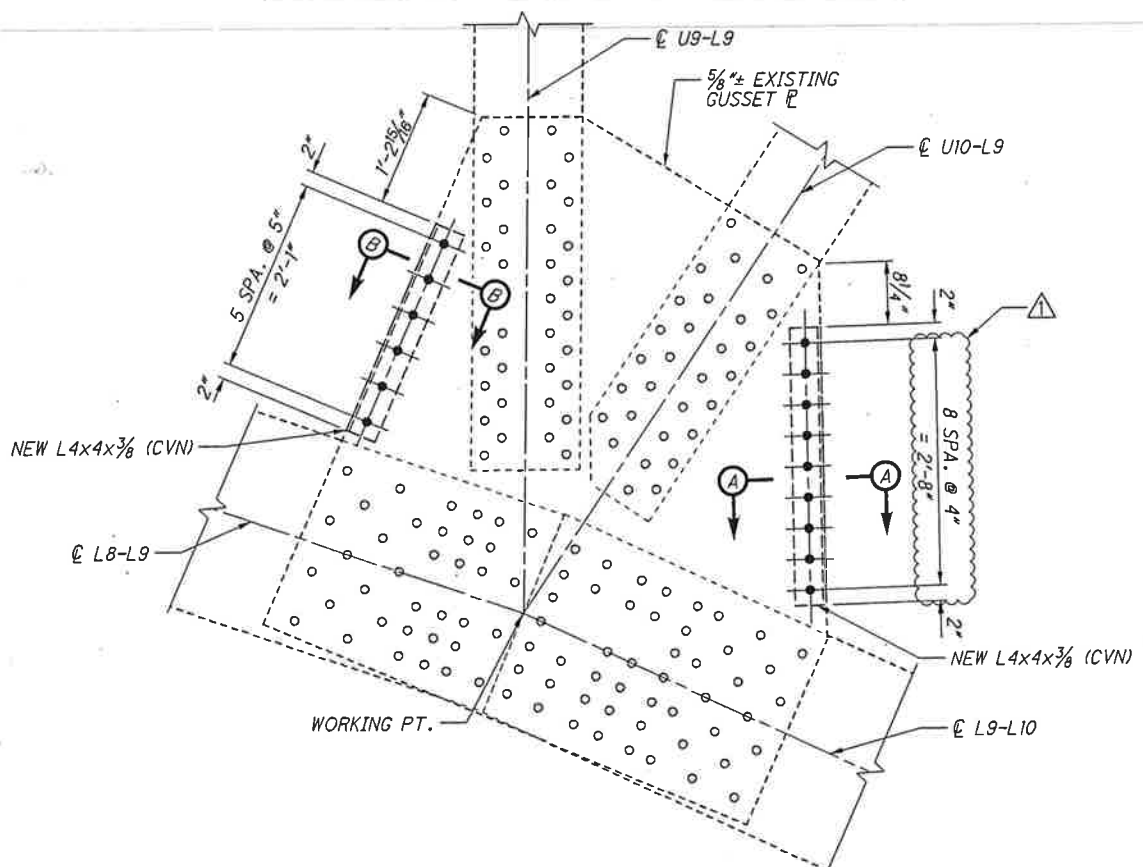
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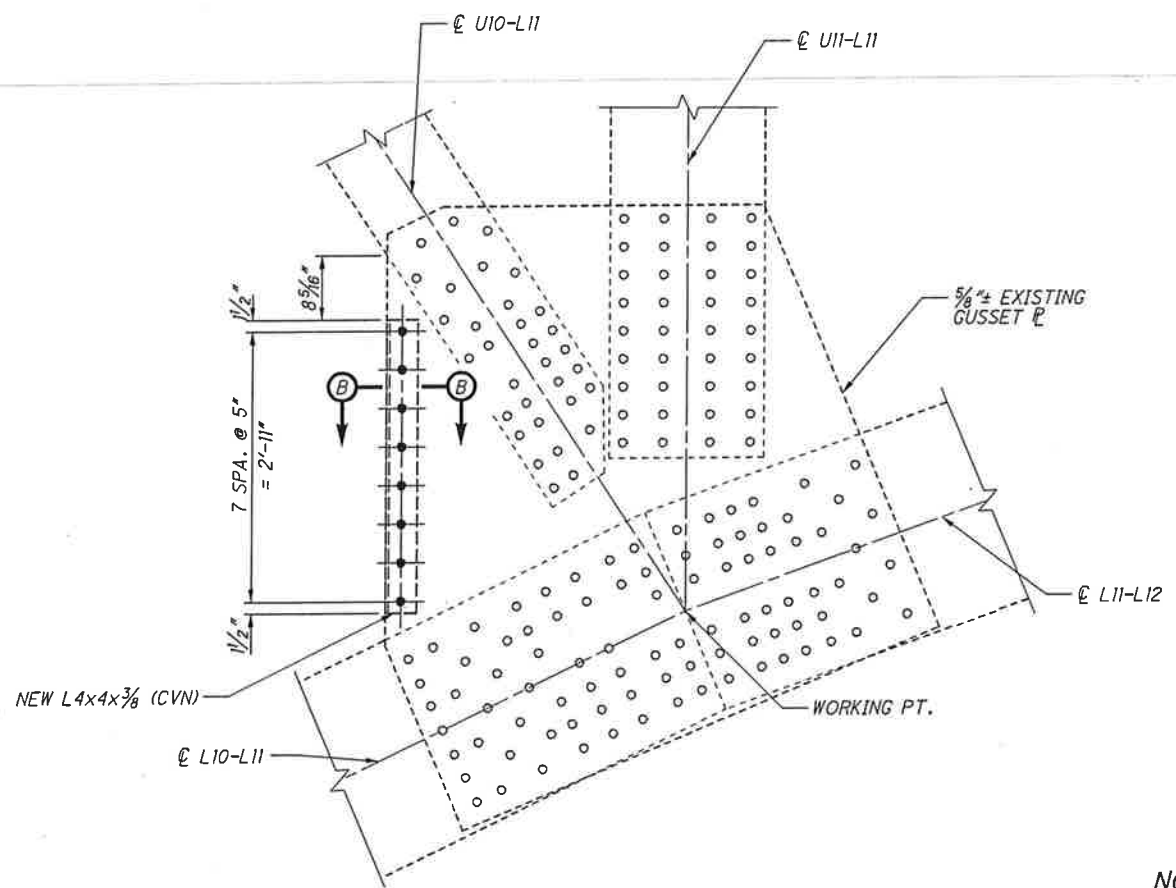
L3N&S SOUTH GUSSET PLATE (SHOWN)
L3N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L4N&S SOUTH GUSSET PLATE (SHOWN)
L4N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L9N&S SOUTH GUSSET PLATE (SHOWN)
L9N&S NORTH GUSSET PLATE (OPPOSITE HAND)

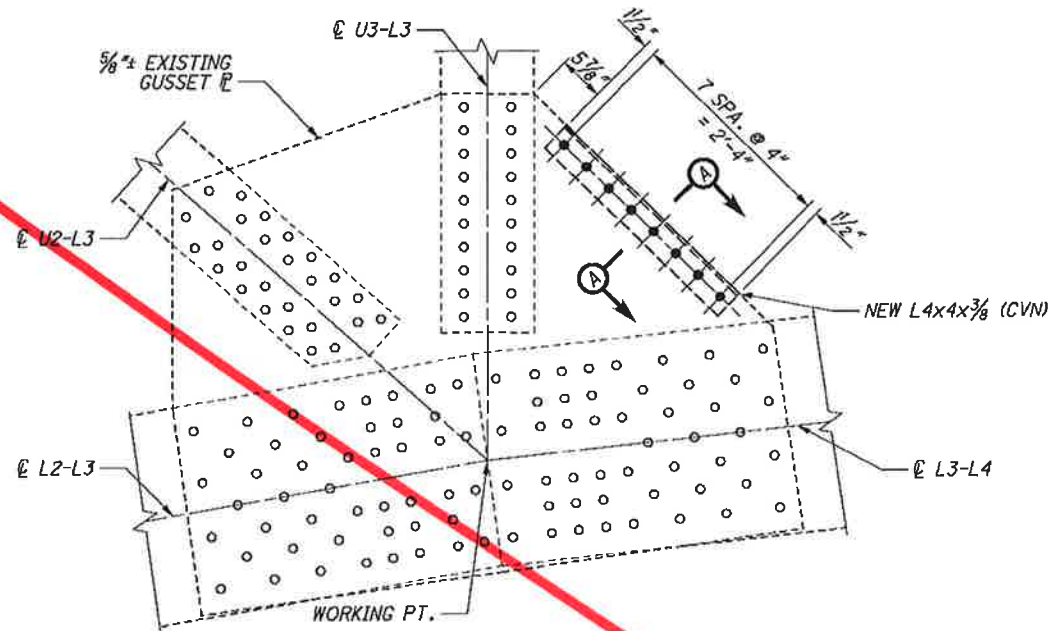


L11N&S SOUTH GUSSET PLATE (SHOWN)
L11N&S NORTH GUSSET PLATE (OPPOSITE HAND)

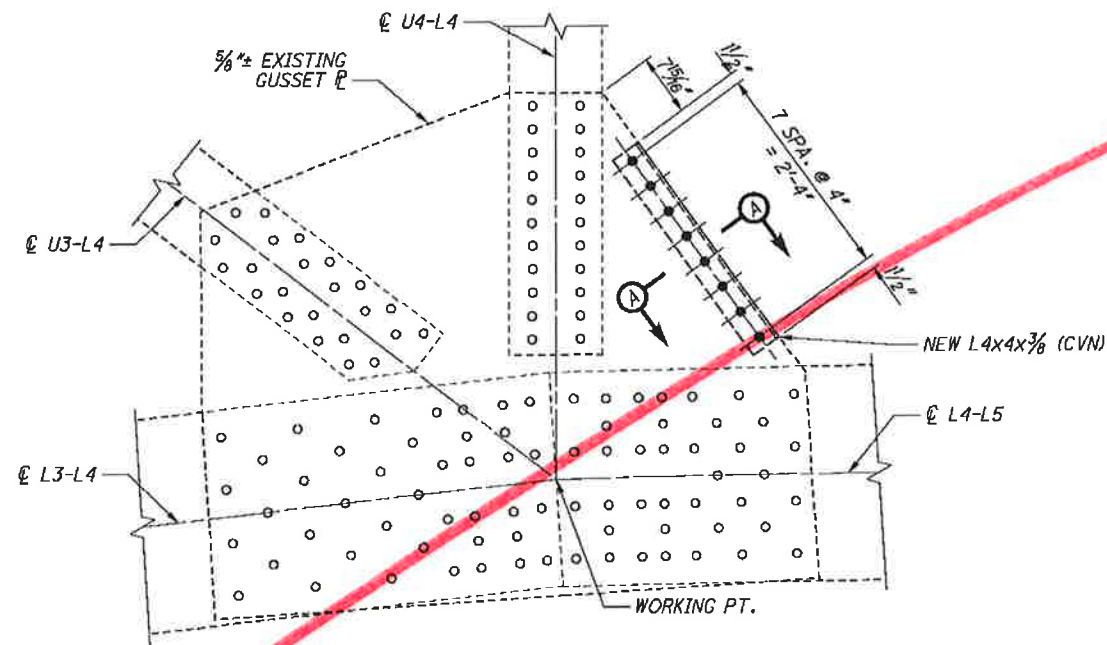
- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

DESIGN AGENCY Trail Systems 55 PUBLIC SQUARE, SUITE 1100 CLEVELAND, OHIO 44113	DATE 08/16/13	REVIEWED WFRW	DESIGNED BJM	DRAWN BJM	STRUCTURE FILE NUMBER 1800035
GUSSET PLATE EDGE STIFFENING DETAILS (13 OF 35)					
MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER					
CUY-2-14.41		PID No. 91115			
99/187		101 189			

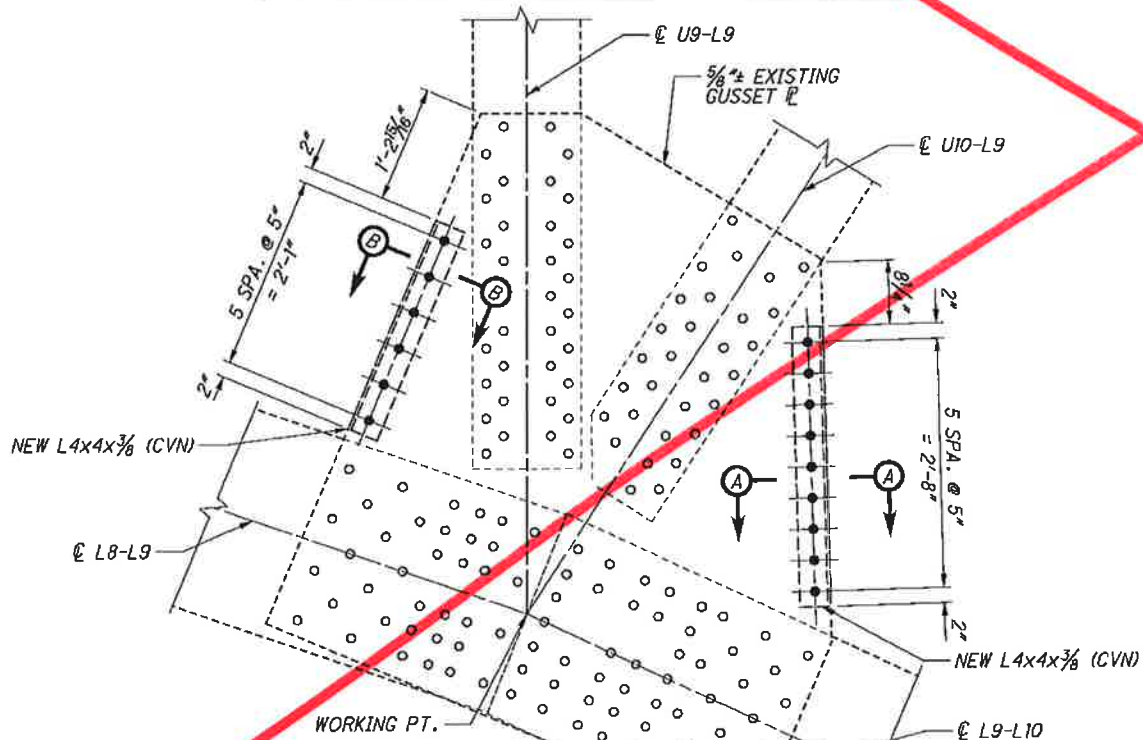
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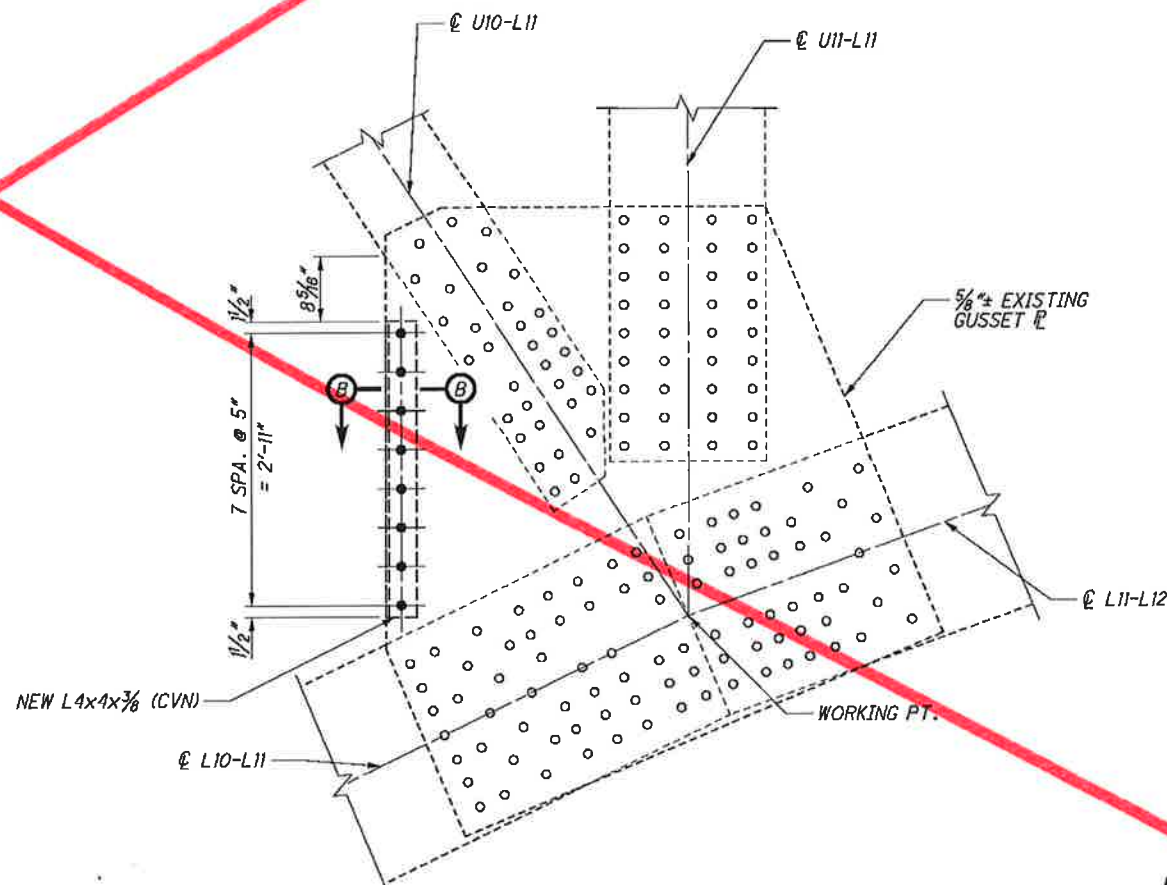
L3N&S SOUTH GUSSET PLATE (SHOWN)
L3N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L4N&S SOUTH GUSSET PLATE (SHOWN)
L4N&S NORTH GUSSET PLATE (OPPOSITE HAND)



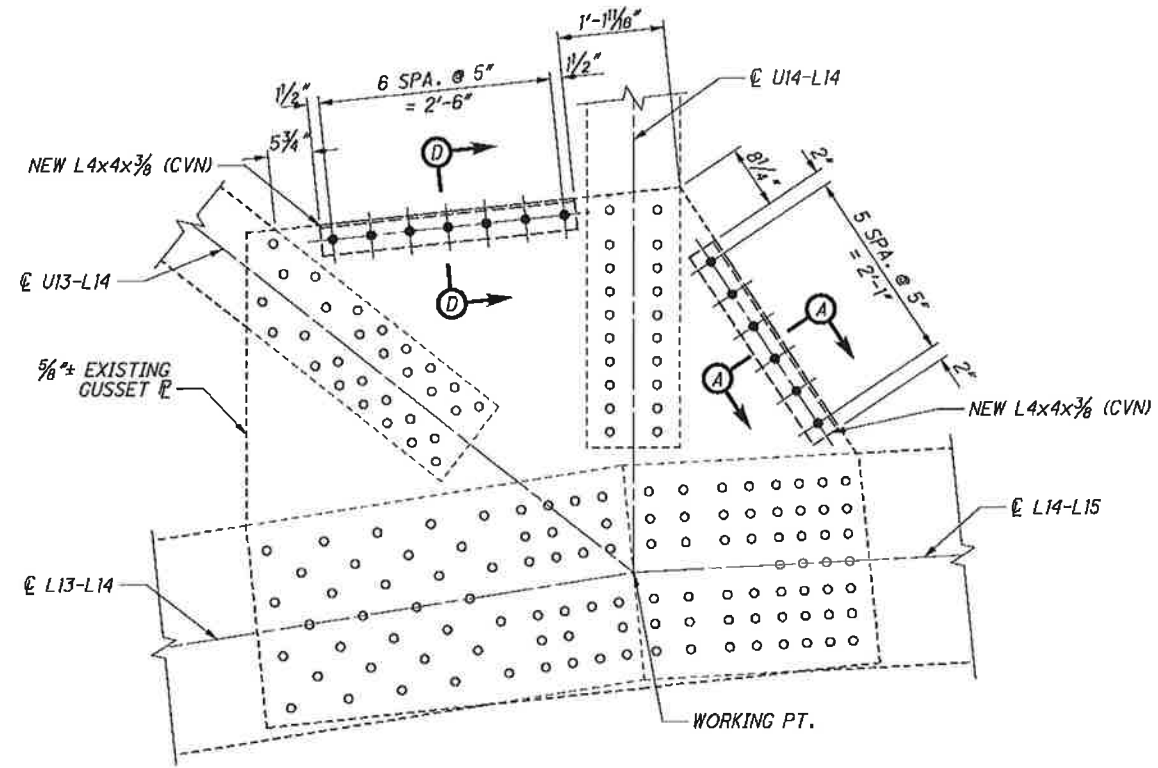
L9N&S SOUTH GUSSET PLATE (SHOWN)
L9N&S NORTH GUSSET PLATE (OPPOSITE HAND)



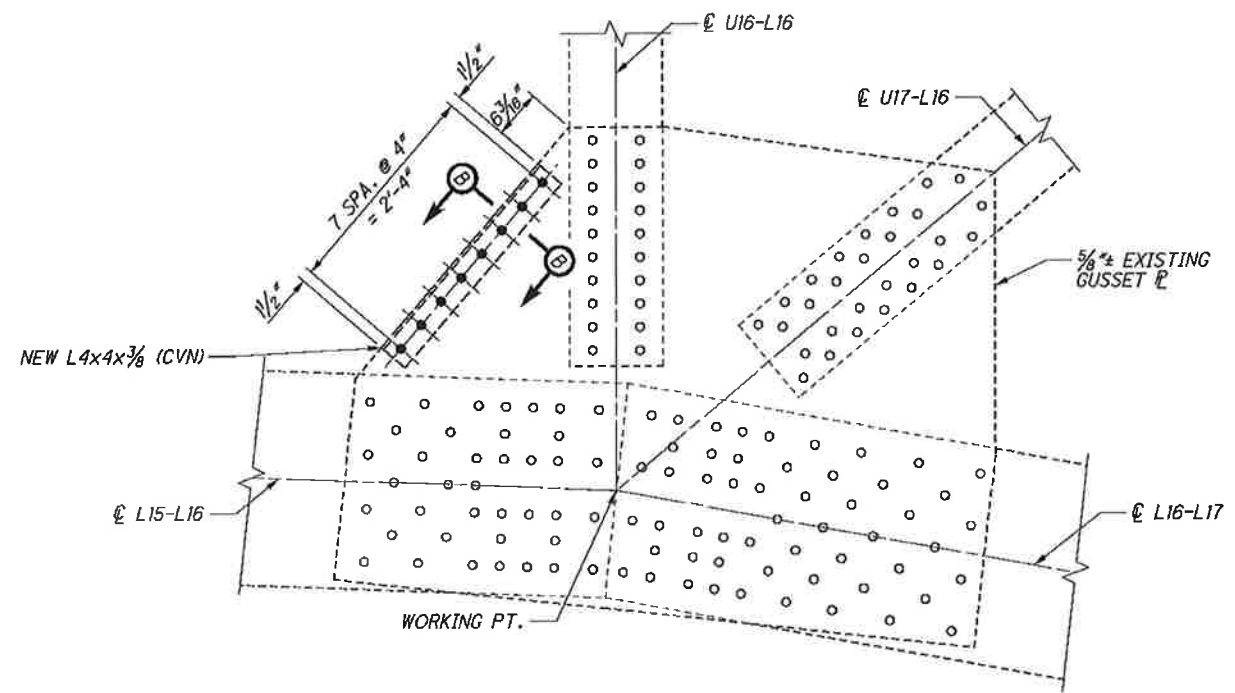
L11N&S SOUTH GUSSET PLATE (SHOWN)
L11N&S NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

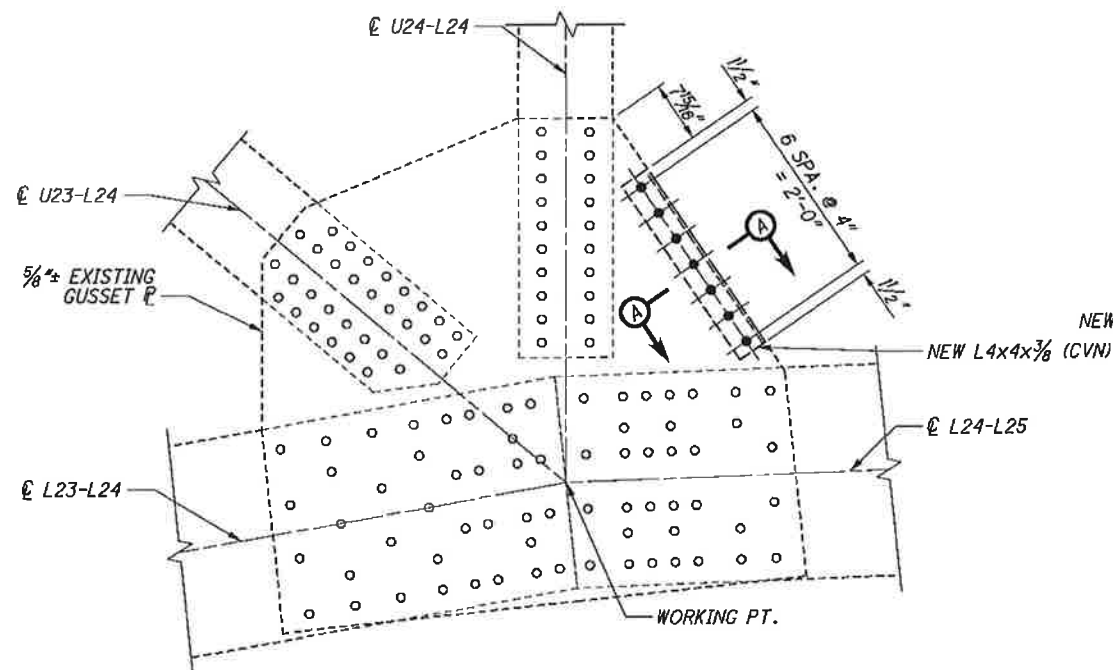
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.



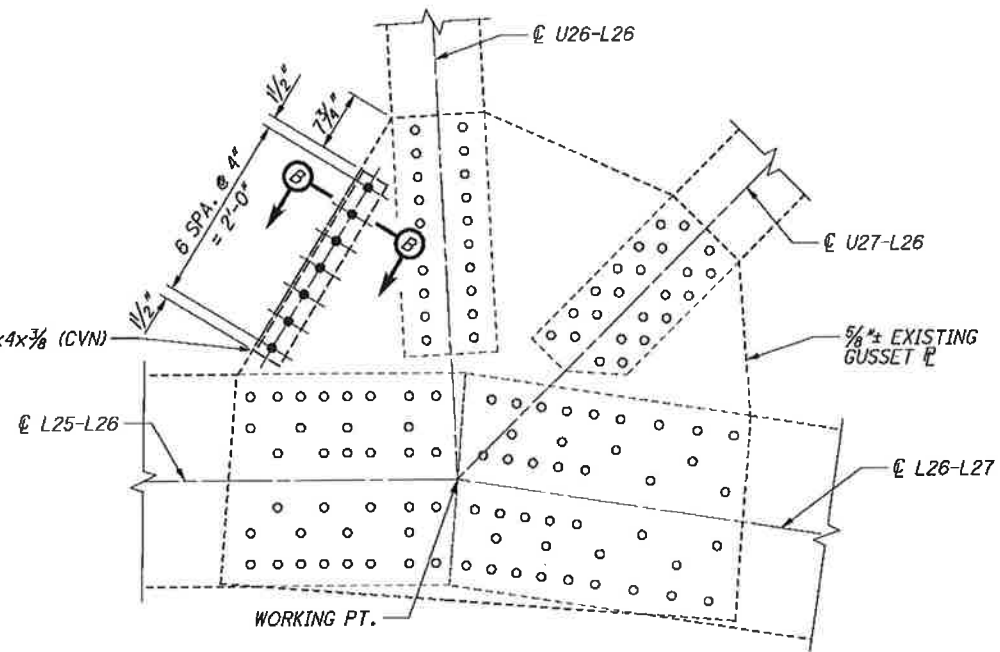
L14N&S SOUTH GUSSET PLATE (SHOWN)
L14N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L16N&S SOUTH GUSSET PLATE (SHOWN)
L16N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L24N&S SOUTH GUSSET PLATE (SHOWN)
L24N&S NORTH GUSSET PLATE (OPPOSITE HAND)



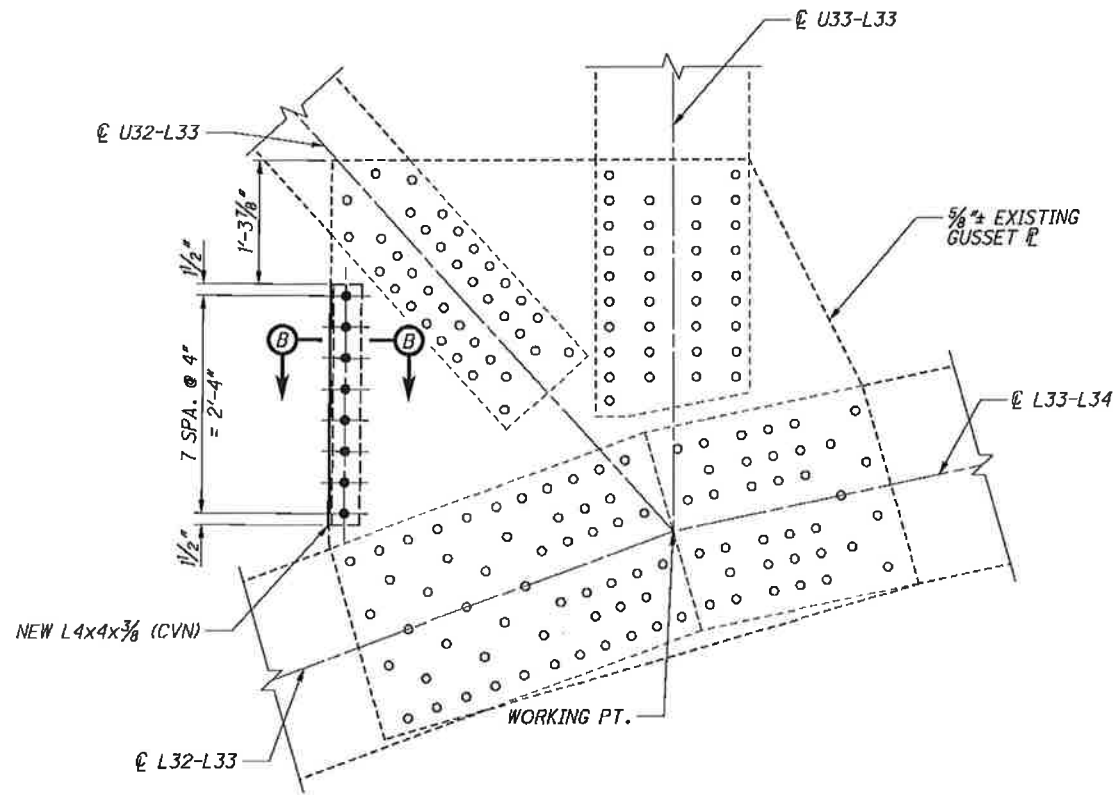
L26N&S SOUTH GUSSET PLATE (SHOWN)
L26N&S NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

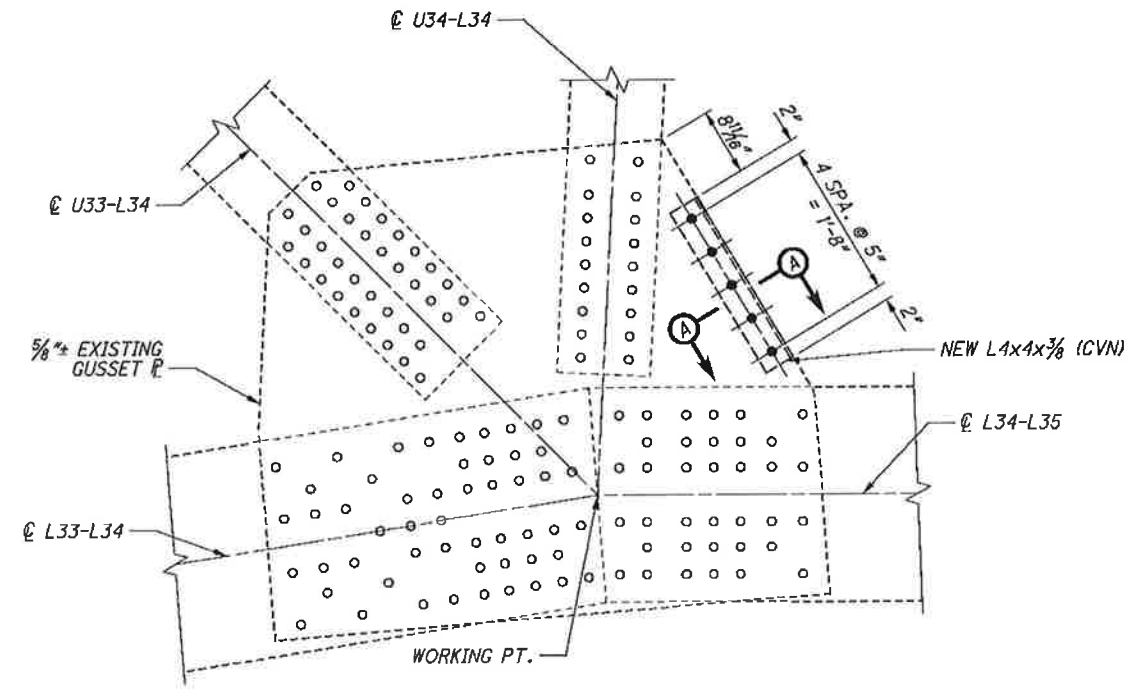
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

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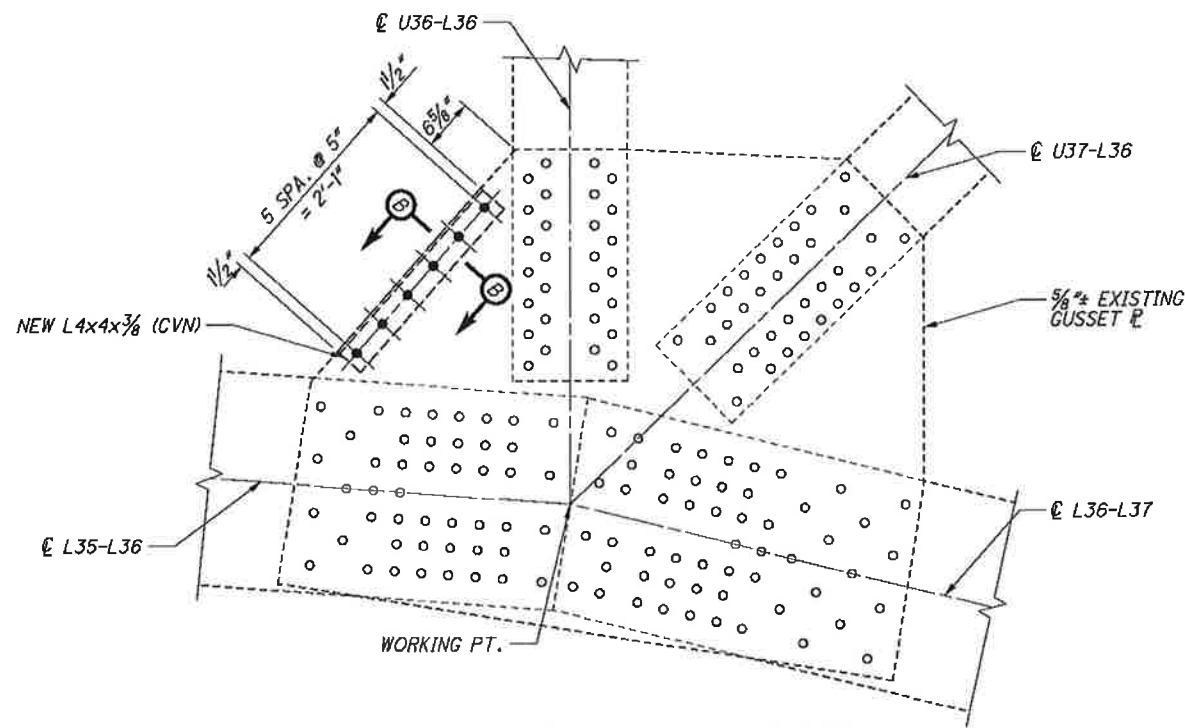
G:\CL12\0112\Bridges\Sheets\9115SD100.dgn 8/30/2013 10:36:34 AM nrfisco



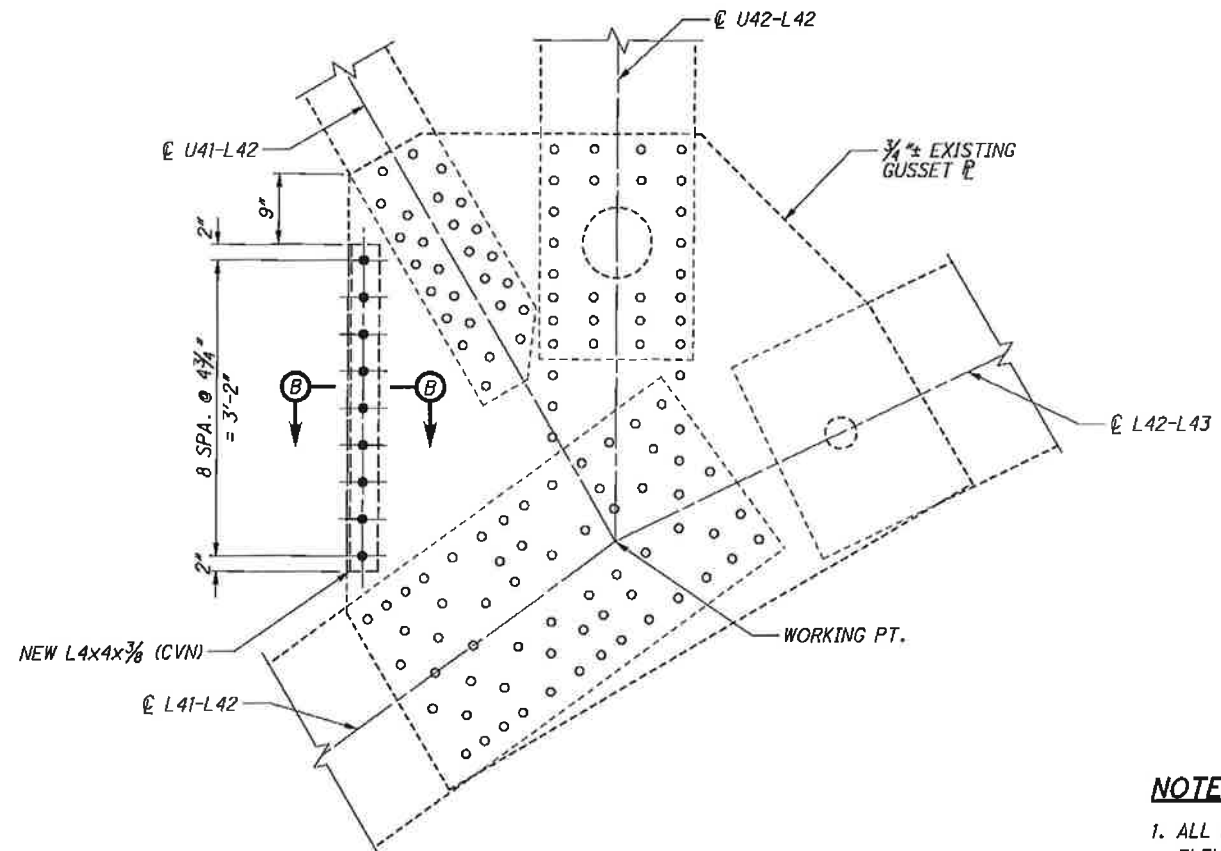
L33N&S SOUTH GUSSET PLATE (SHOWN)
L33N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L34N&S SOUTH GUSSET PLATE (SHOWN)
L34N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L36S SOUTH GUSSET PLATE (SHOWN)
L36S NORTH GUSSET PLATE (OPPOSITE HAND)



L42N&S SOUTH GUSSET PLATE (SHOWN)
L42N&S NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

CUY-2-14-41
 PID No. 91115

101/187

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 189

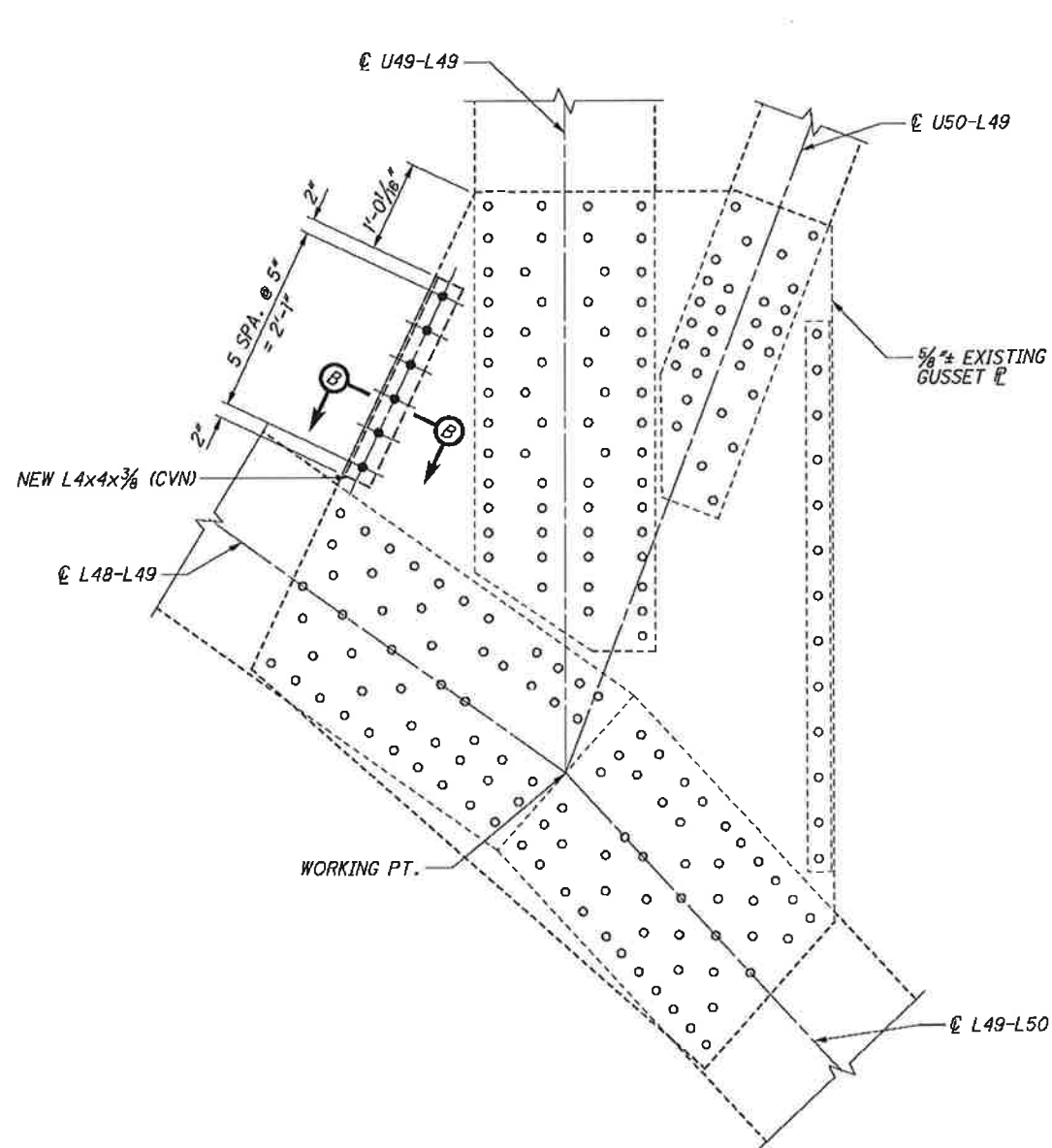
GUSSET PLATE EDGE STIFFENING DETAILS (15 OF 35)

MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

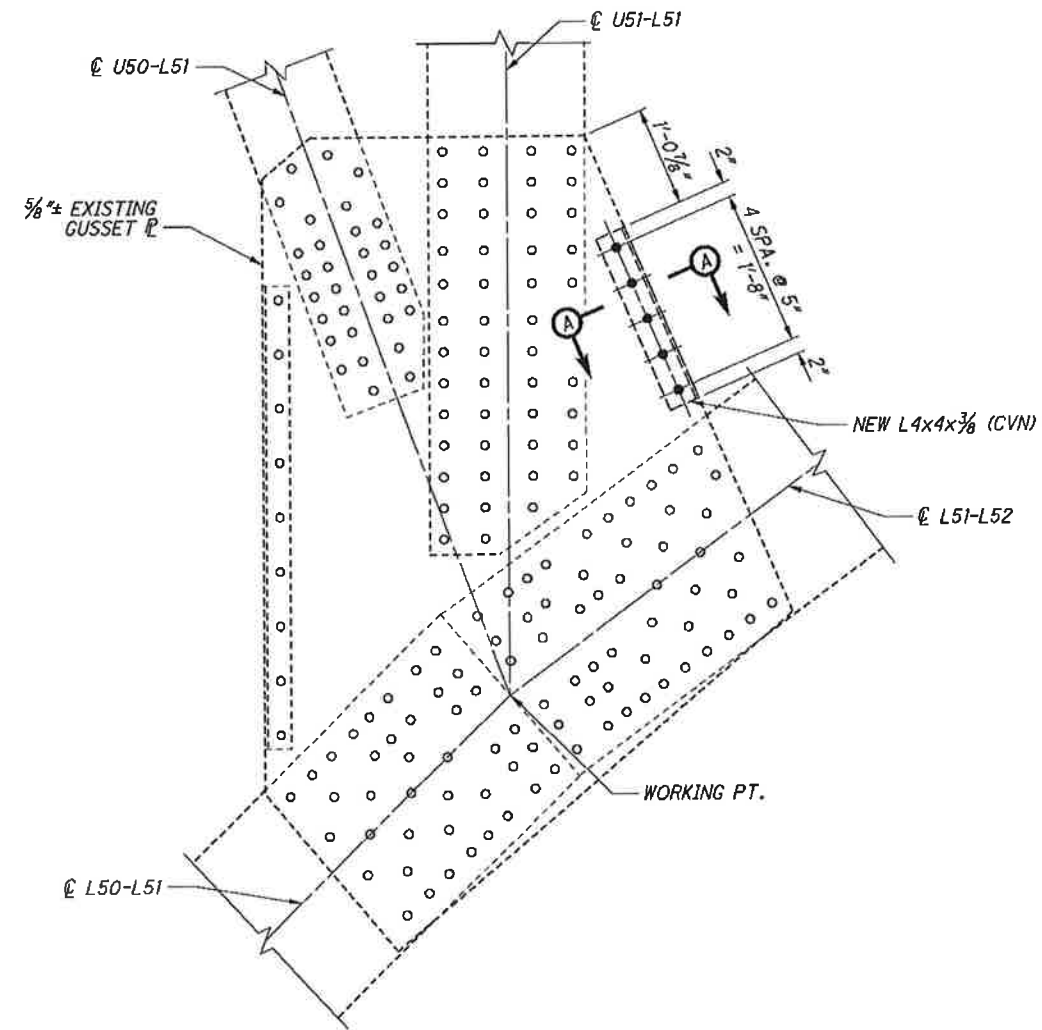
DESIGNED BJM
 CHECKED CTS
 DRAWN BJM
 REVISED
 REVIEWED WRW
 STRUCTURE FILE NUMBER 1800035
 DATE 08/16/13

DESIGN AGENCY
TranSystems
 55 PUBLIC SQUARE, SUITE 1000
 CLEVELAND, OHIO 44115

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L49N SOUTH GUSSET PLATE (SHOWN)
L49N NORTH GUSSET PLATE (OPPOSITE HAND)



L51S SOUTH GUSSET PLATE (SHOWN)
L51S NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

CUY - 2 - 14.41
PID NO. 91115

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104
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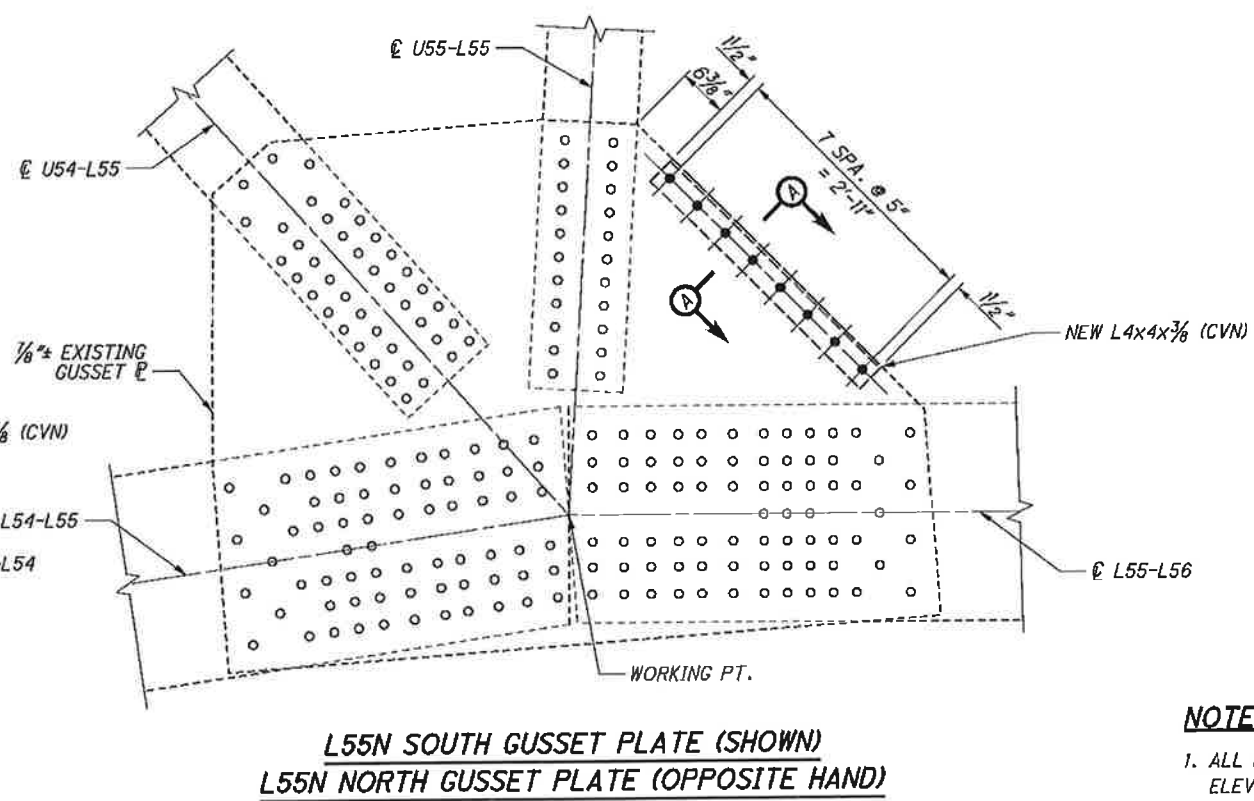
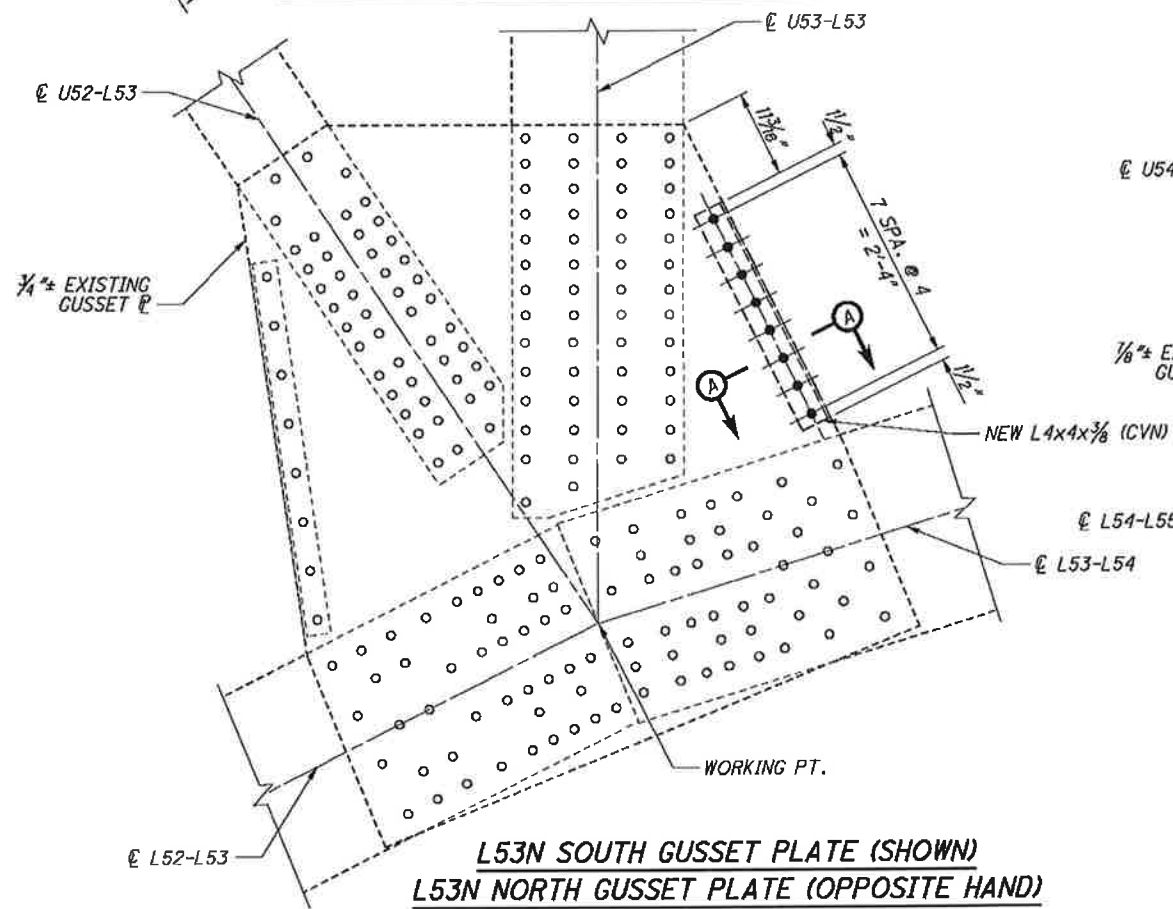
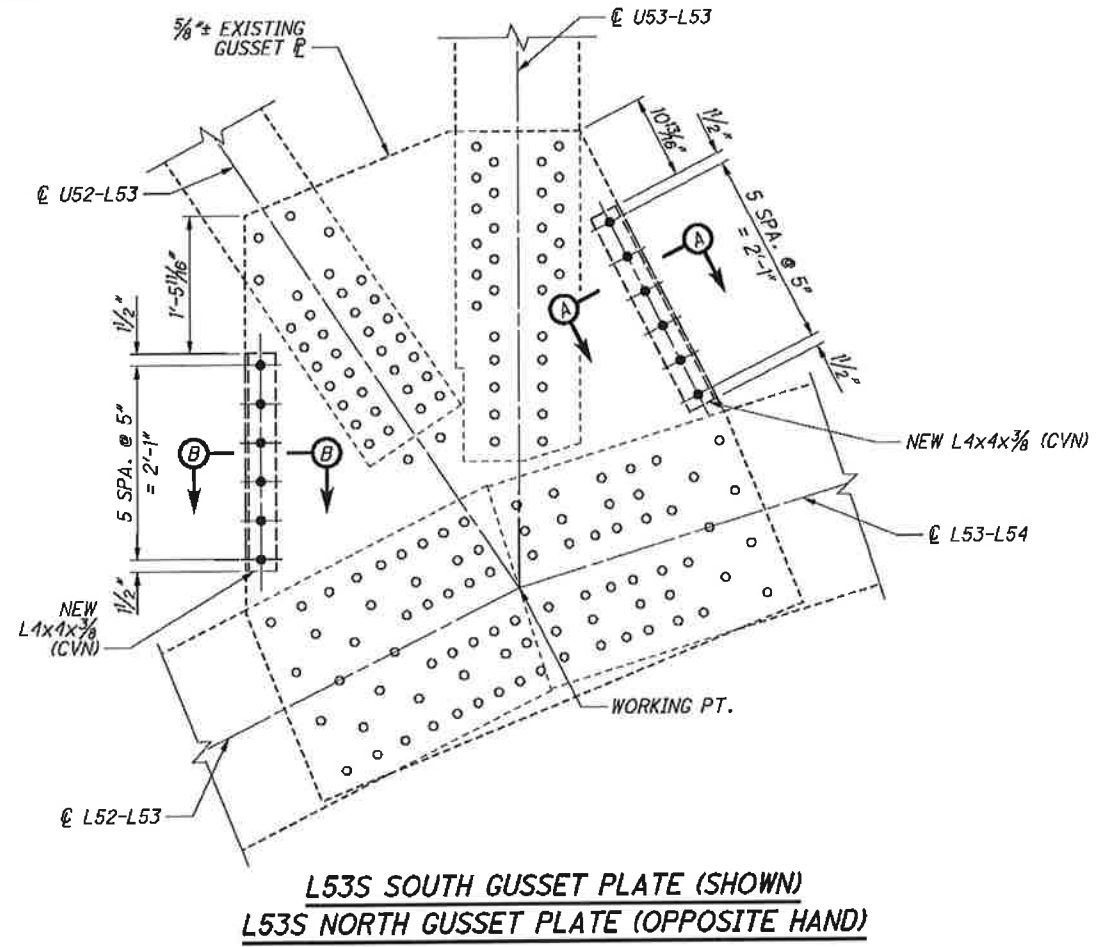
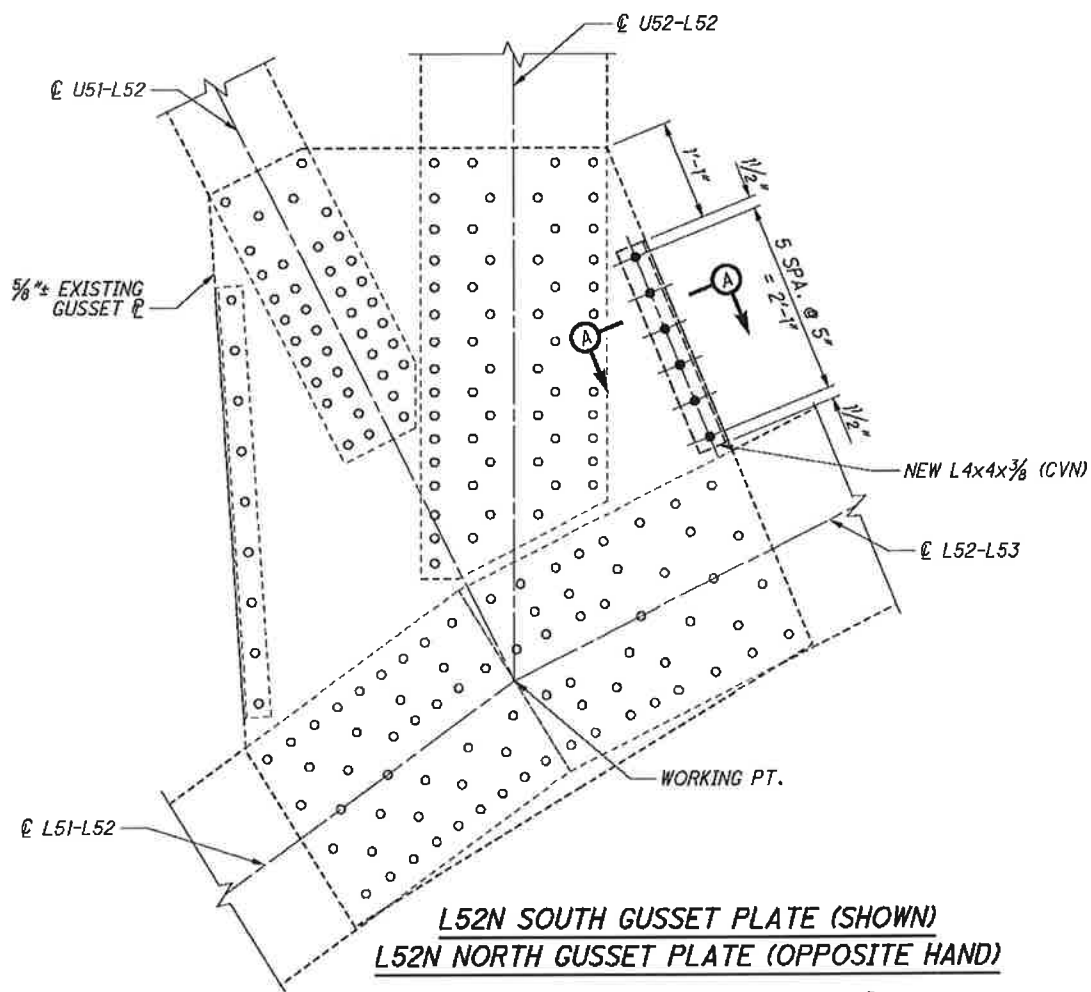
GUSSET PLATE EDGE STIFFENING DETAILS (16 OF 35)

MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

DESIGNED	BJM	CHECKED	CTG
DRAWN	BJM	REVISED	
REVIEWED	WFR	STRUCTURE FILE NUMBER	1800035
DATE	08/16/13		

DESIGN AGENCY
TranSystems
 85 PUBLIC SQUARE, SUITE 1100
 CLEVELAND, OHIO 44113

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NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

CUY-2-14-41
 PID No. 91115

GUSSET PLATE EDGE STIFFENING DETAILS (17 OF 35)

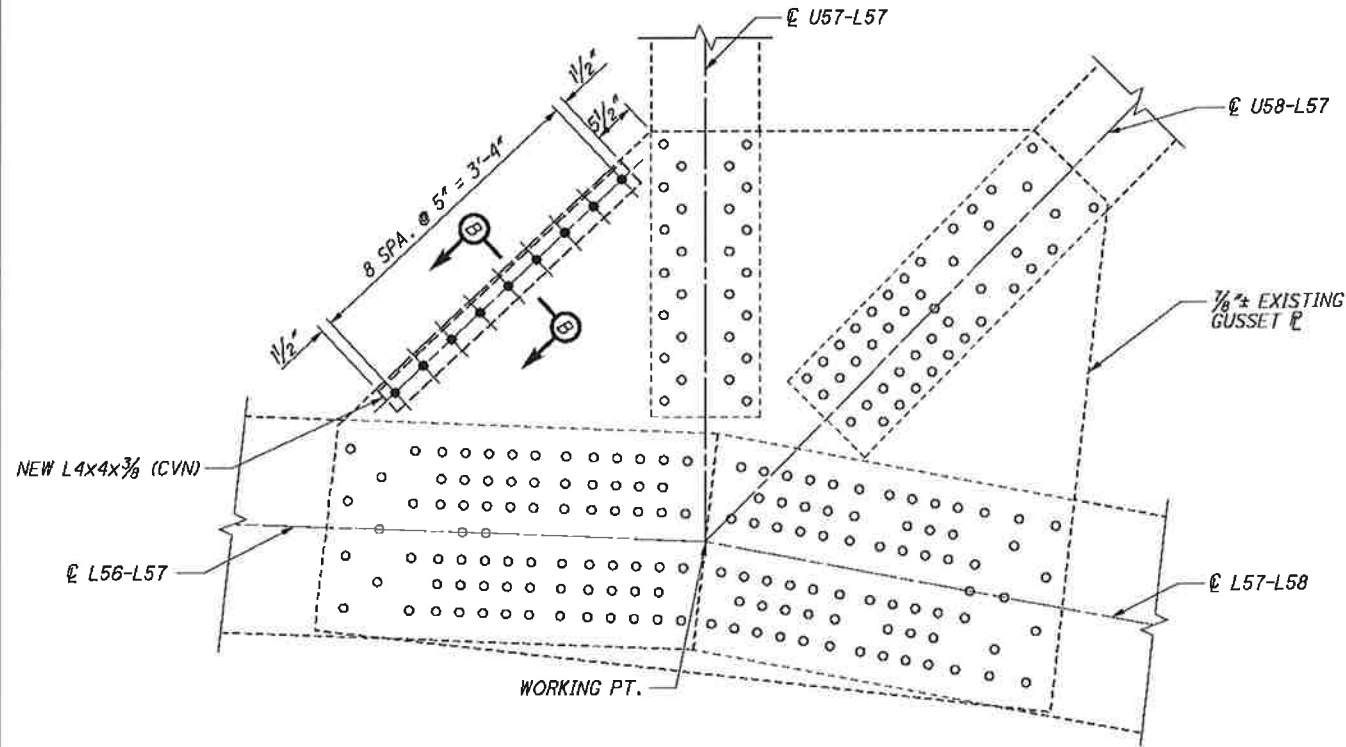
MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

DESIGNED	BJM	CHECKED	CTG
DRAWN	BJM	REVIEWED	
REVIEWED	WRW	DATE	08/16/13
STRUCTURE FILE NUMBER			1800035

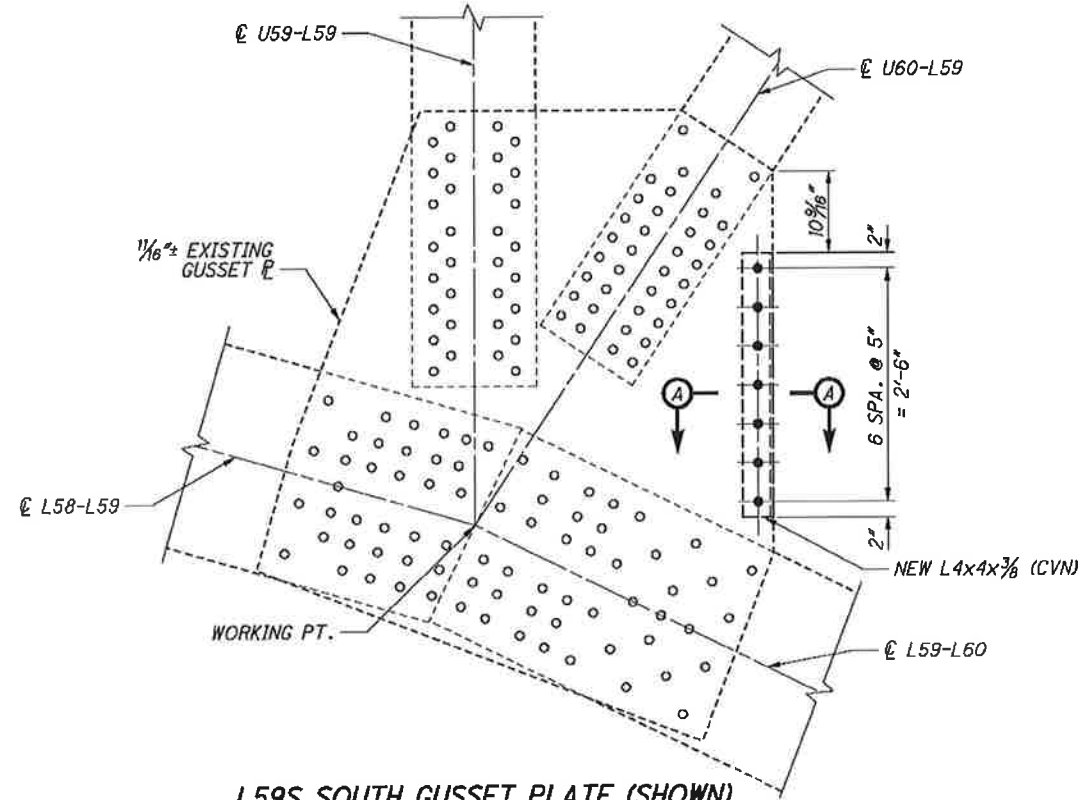
DESIGN AGENCY
TranSystems
 55 PUBLIC SQUARE, SUITE 1000
 CLEVELAND, OHIO 44113

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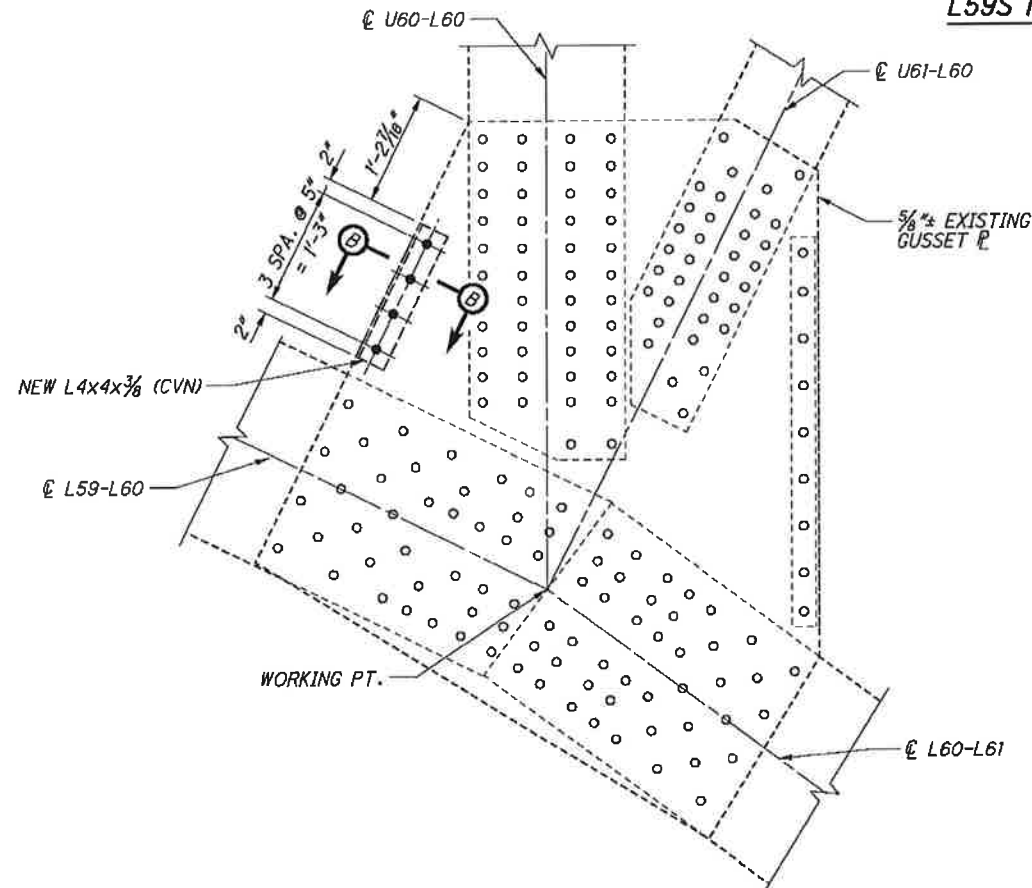
105 / 189



L57N SOUTH GUSSET PLATE (SHOWN)
L57N NORTH GUSSET PLATE (OPPOSITE HAND)



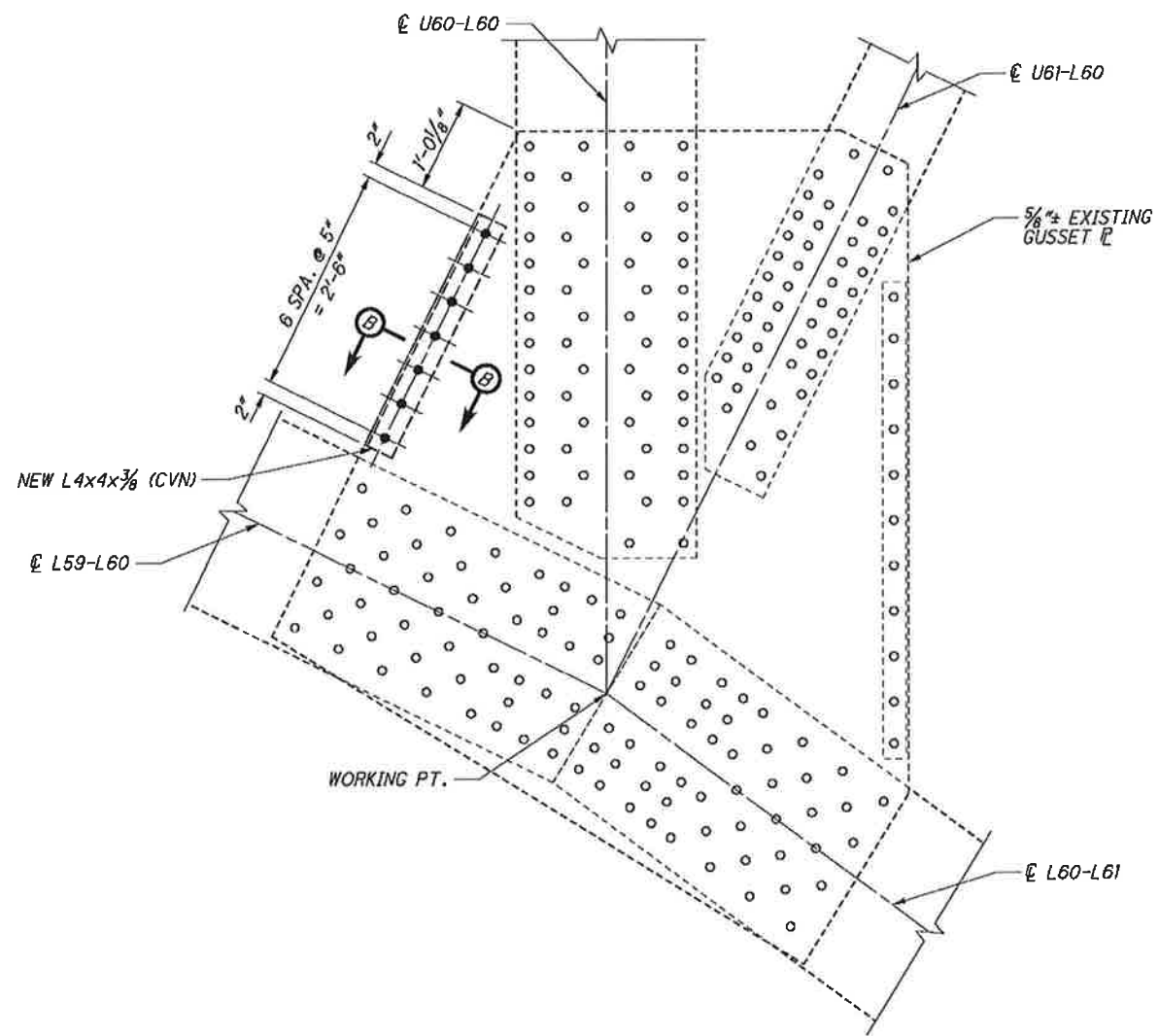
L59S SOUTH GUSSET PLATE (SHOWN)
L59S NORTH GUSSET PLATE (OPPOSITE HAND)



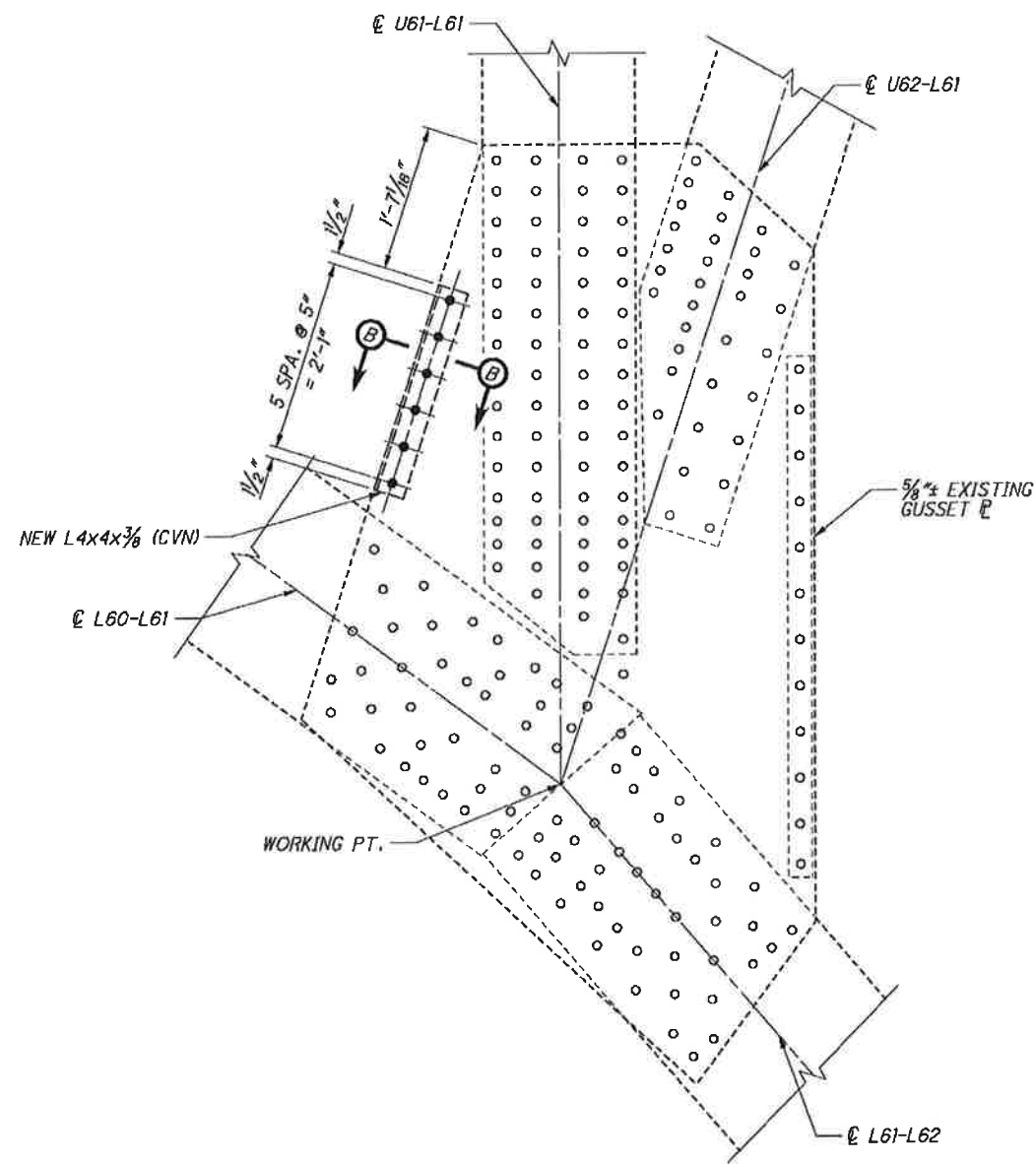
L60S SOUTH GUSSET PLATE (SHOWN)
L60S NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.



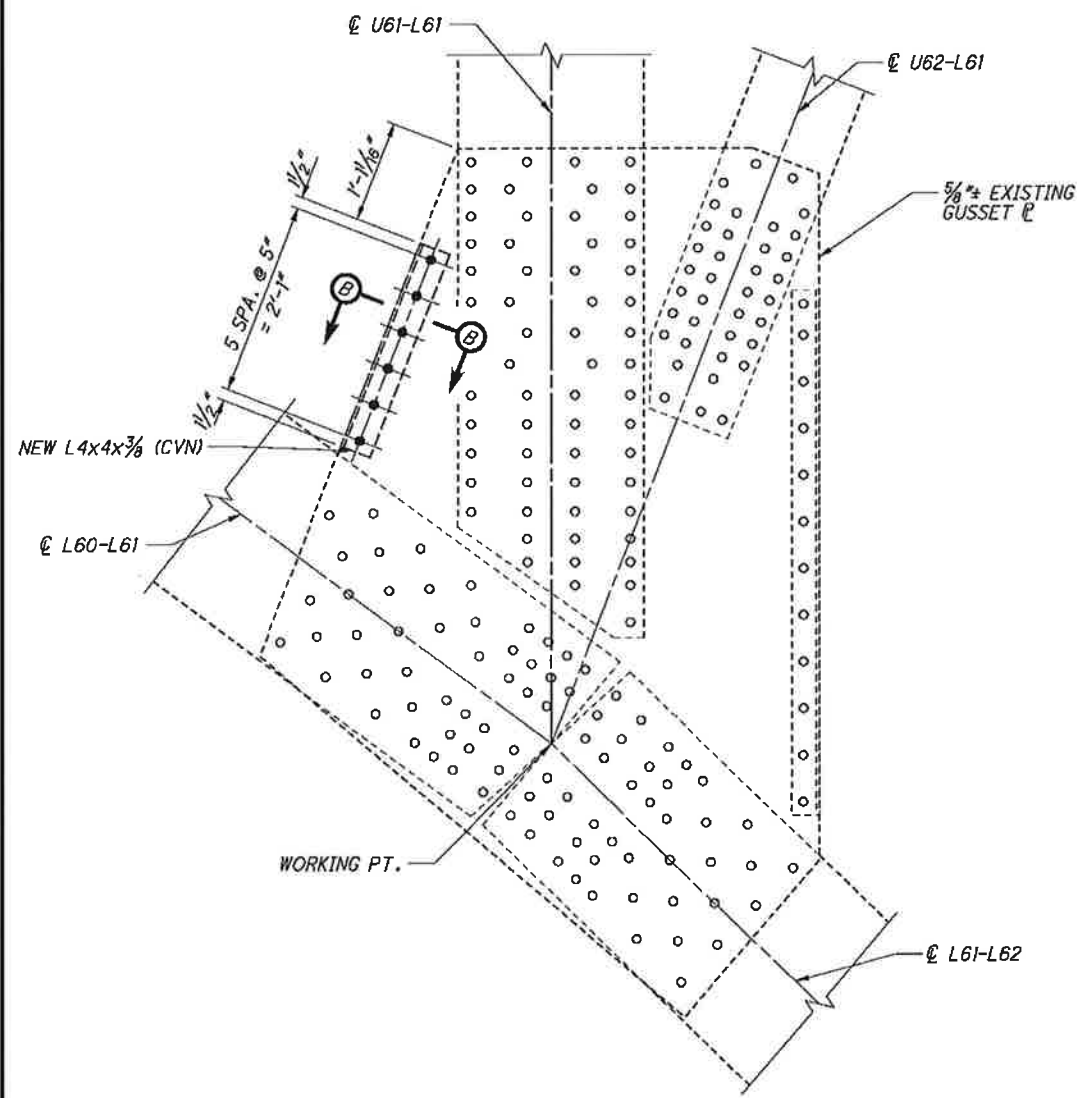
L60N SOUTH GUSSET PLATE (SHOWN)
L60N NORTH GUSSET PLATE (OPPOSITE HAND)



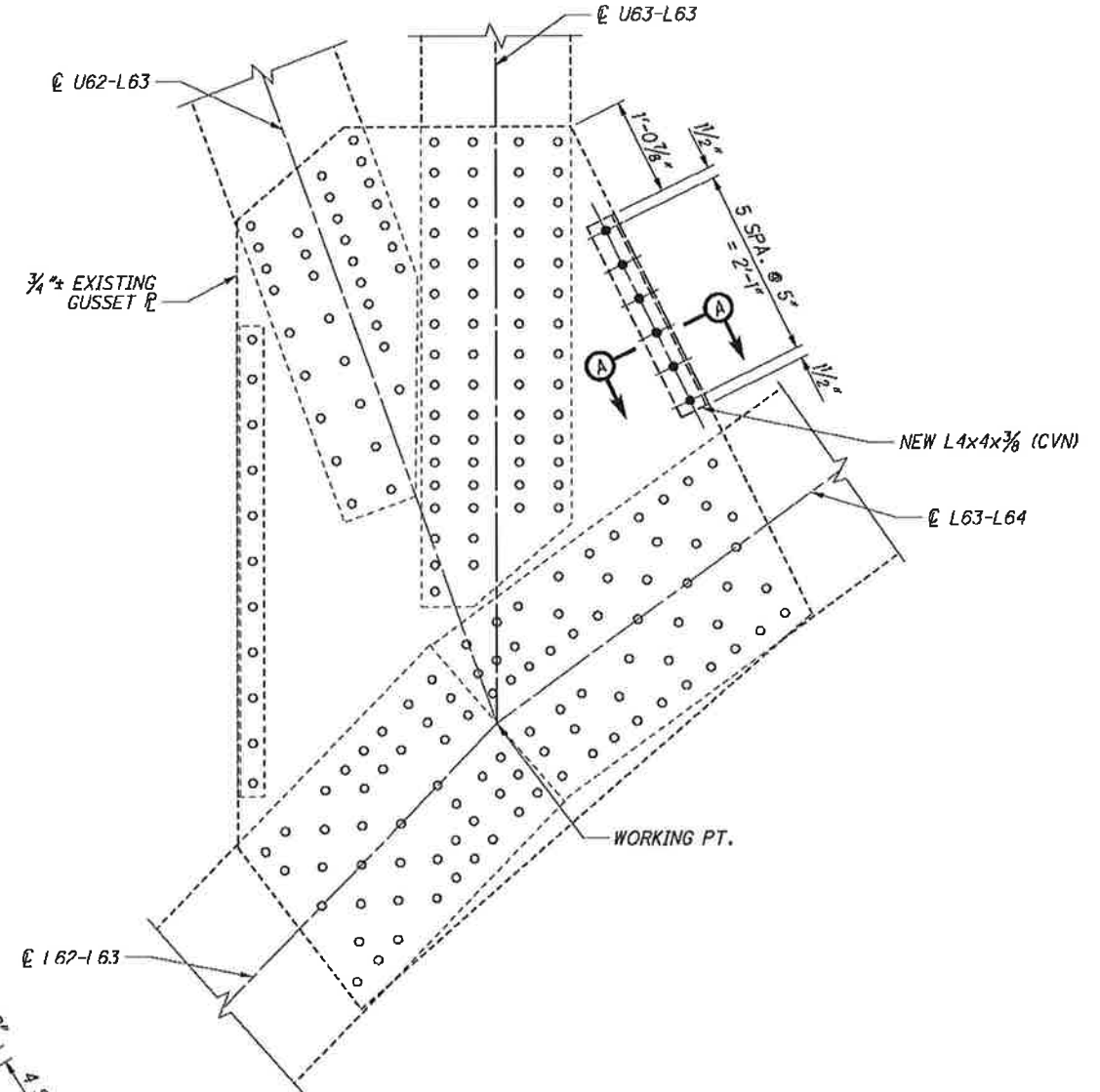
L61S SOUTH GUSSET PLATE (SHOWN)
L61S NORTH GUSSET PLATE (OPPOSITE HAND)

- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87/187.

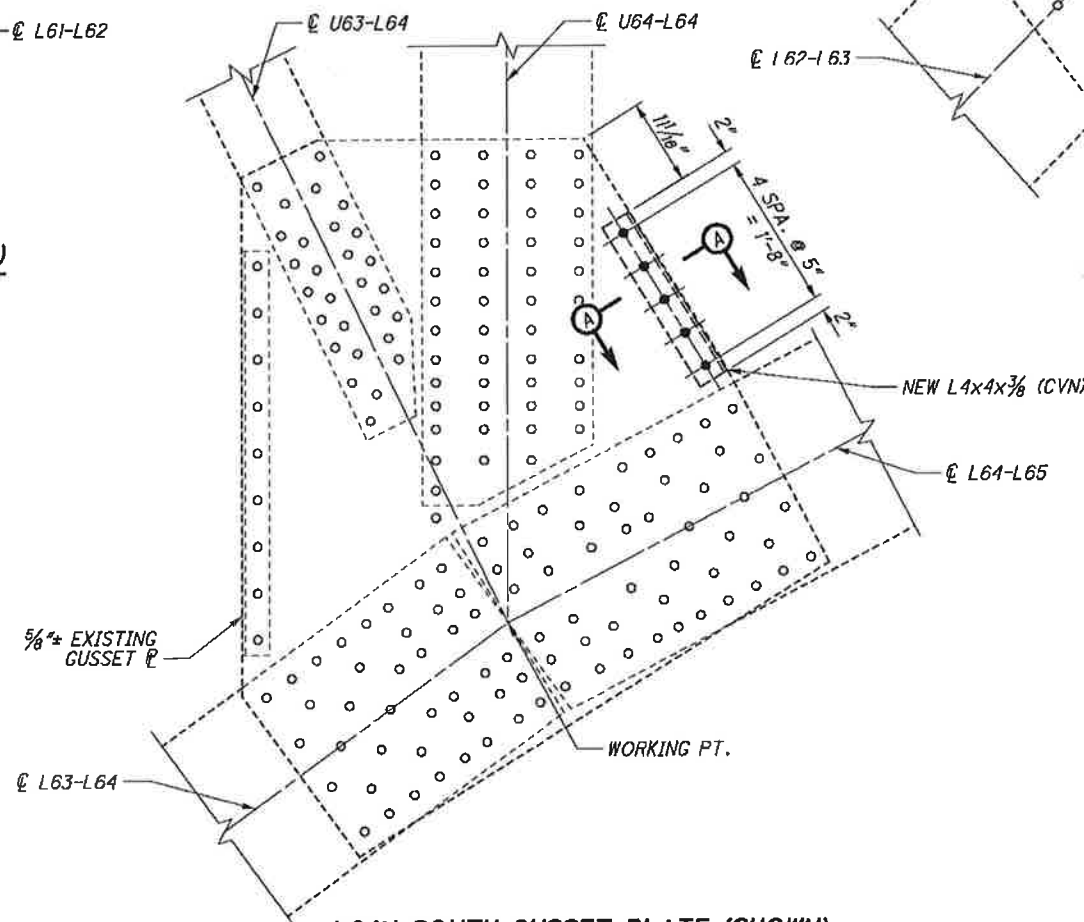
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**L61N SOUTH GUSSET PLATE (SHOWN)
L61N NORTH GUSSET PLATE (OPPOSITE HAND)**



**L63S SOUTH GUSSET PLATE (SHOWN)
L63S NORTH GUSSET PLATE (OPPOSITE HAND)**



**L64N SOUTH GUSSET PLATE (SHOWN)
L64N NORTH GUSSET PLATE (OPPOSITE HAND)**

NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

CUY-2-14.41
PID No. 91115

GUSSET PLATE EDGE STIFFENING DETAILS (20 OF 35)

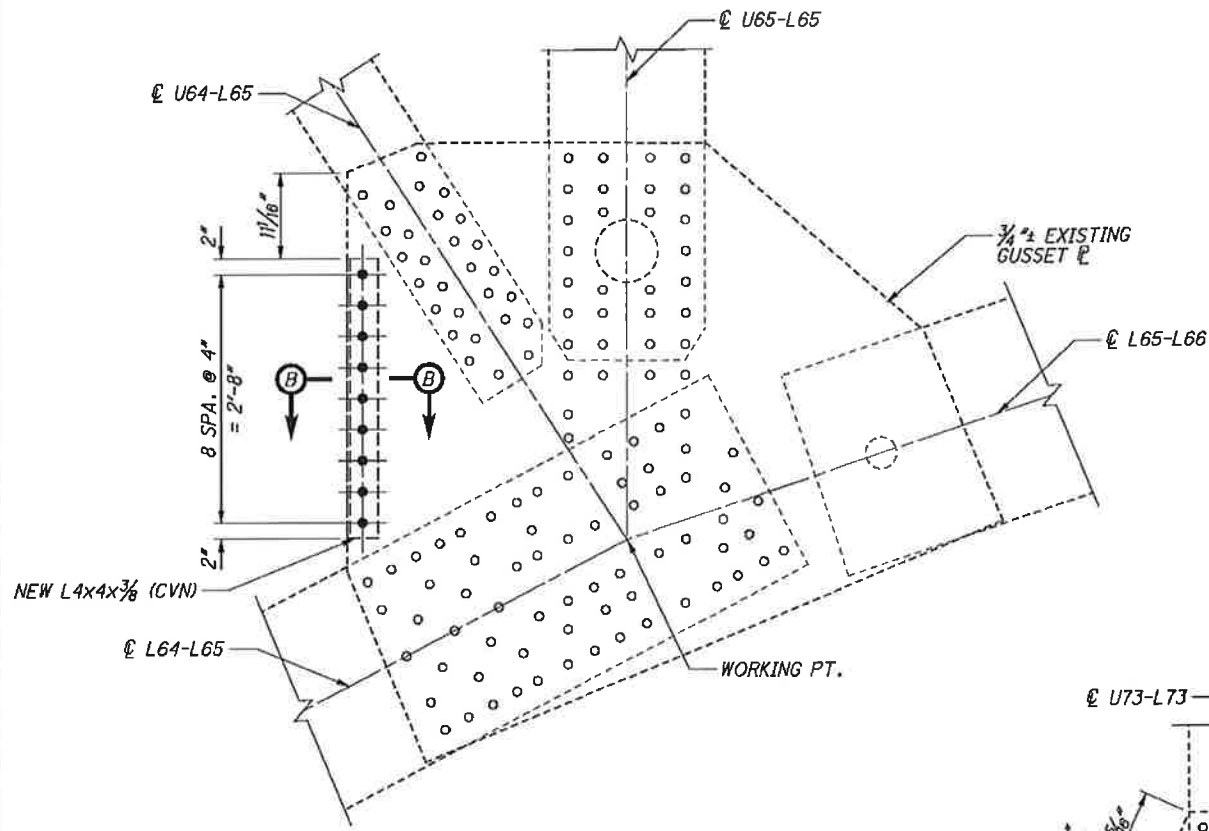
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED	BJM	CHECKED	CTG
DRAWN	BJM	REVIEWED	
REVIEWED	WRW	DATE	08/16/13
STRUCTURE FILE NUMBER	1800035		

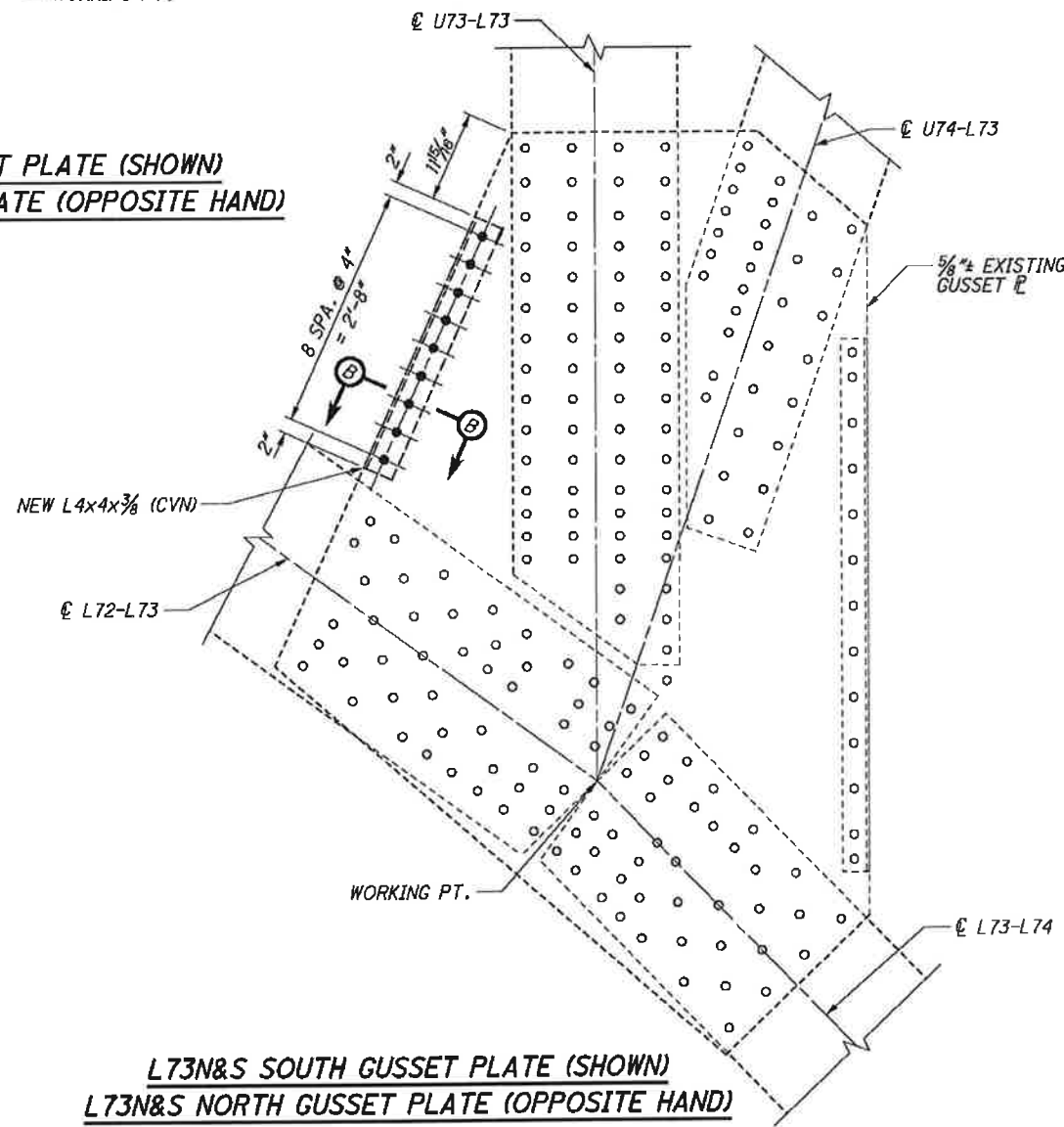
DESIGN AGENCY
TranSystems
15 PUBLIC SQUARE, SUITE 100
CLEVELAND, OHIO 44115

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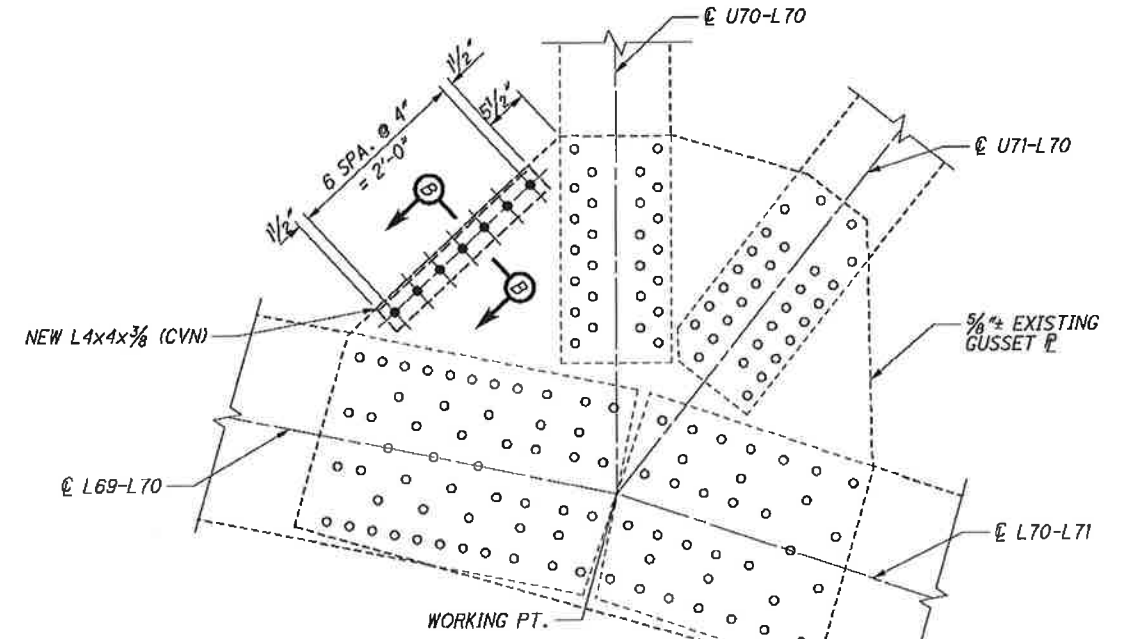
108
189



L65N&S SOUTH GUSSET PLATE (SHOWN)
L65N&S NORTH GUSSET PLATE (OPPOSITE HAND)



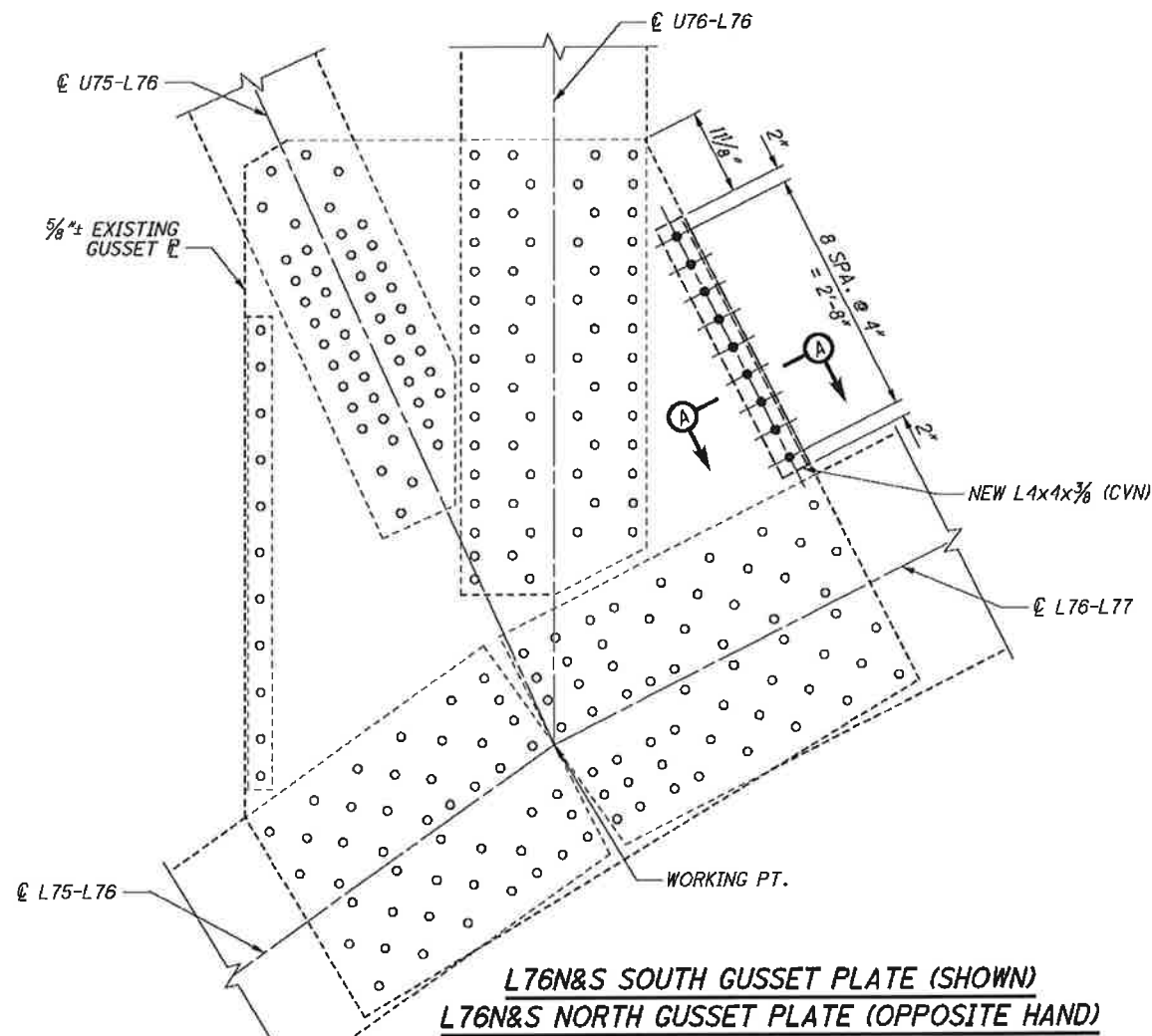
L73N&S SOUTH GUSSET PLATE (SHOWN)
L73N&S NORTH GUSSET PLATE (OPPOSITE HAND)



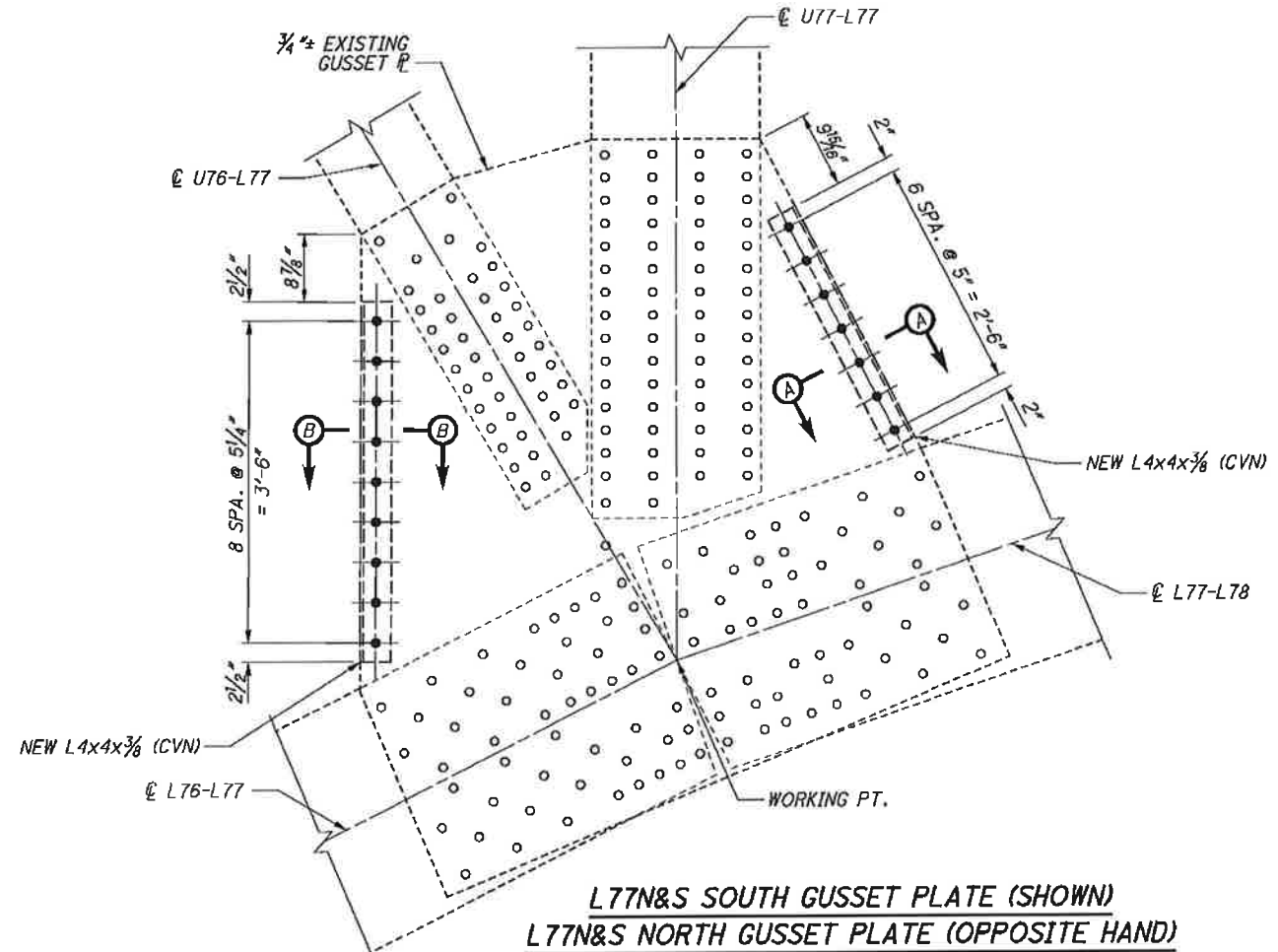
L70N&S SOUTH GUSSET PLATE (SHOWN)
L70N&S NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

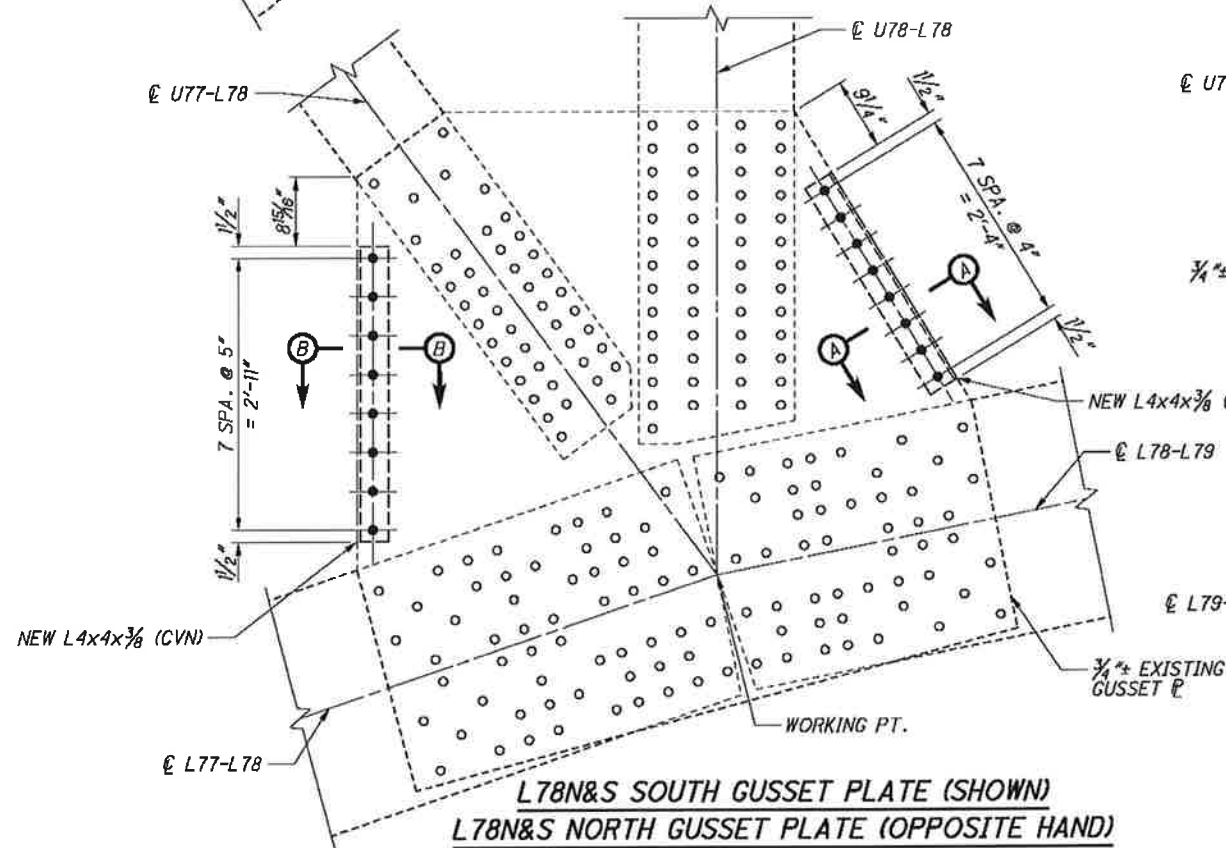
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187 .



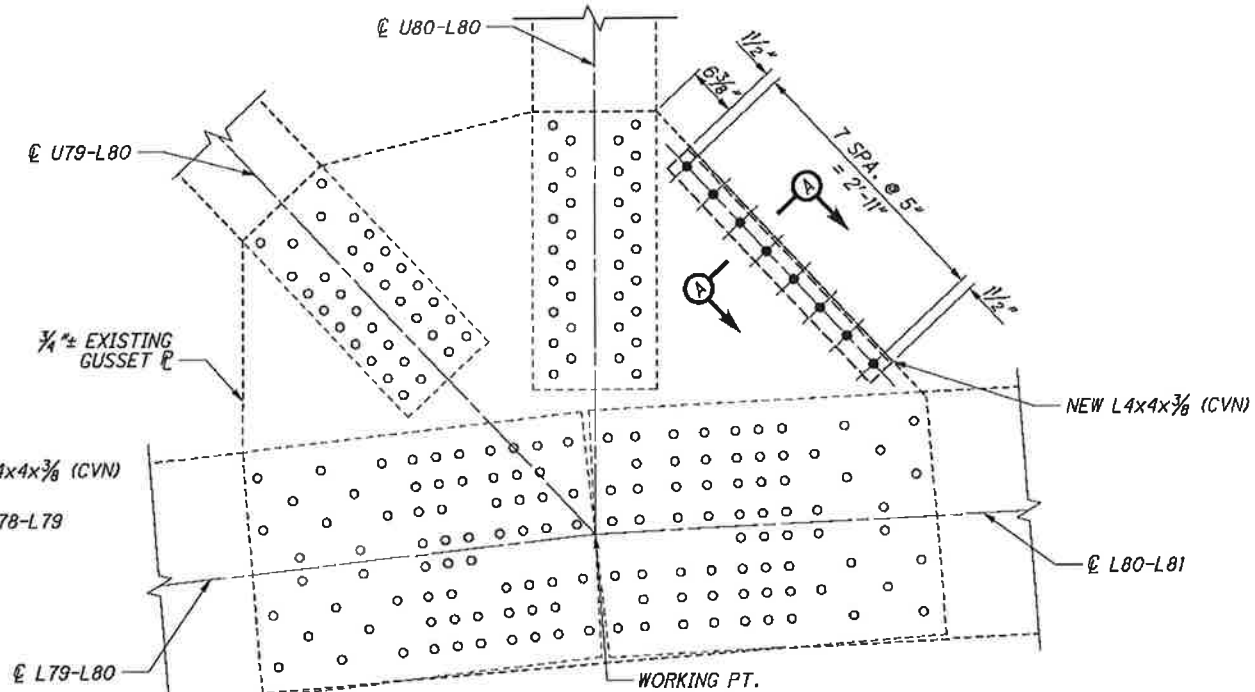
L76N&S SOUTH GUSSET PLATE (SHOWN)
L76N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L77N&S SOUTH GUSSET PLATE (SHOWN)
L77N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L78N&S SOUTH GUSSET PLATE (SHOWN)
L78N&S NORTH GUSSET PLATE (OPPOSITE HAND)

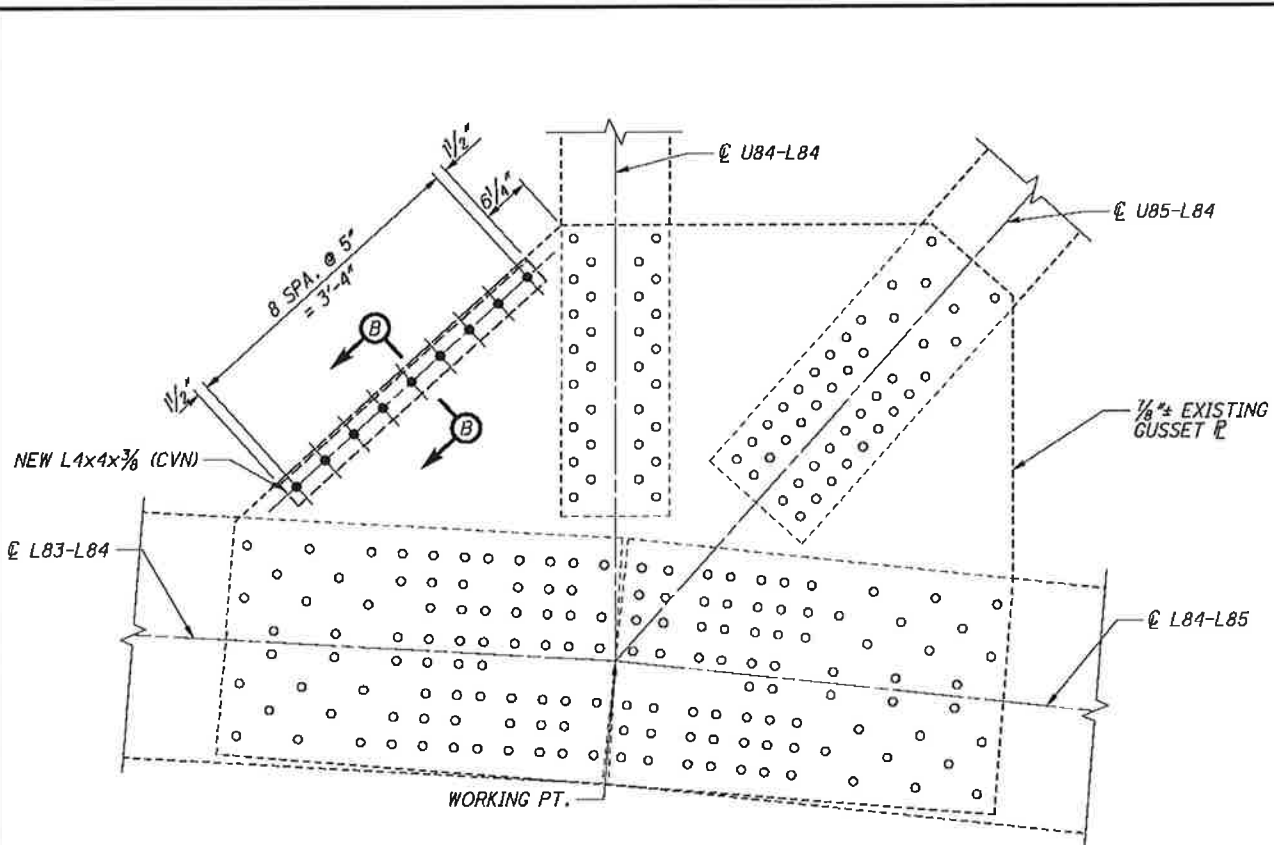


L80N&S SOUTH GUSSET PLATE (SHOWN)
L80N&S NORTH GUSSET PLATE (OPPOSITE HAND)

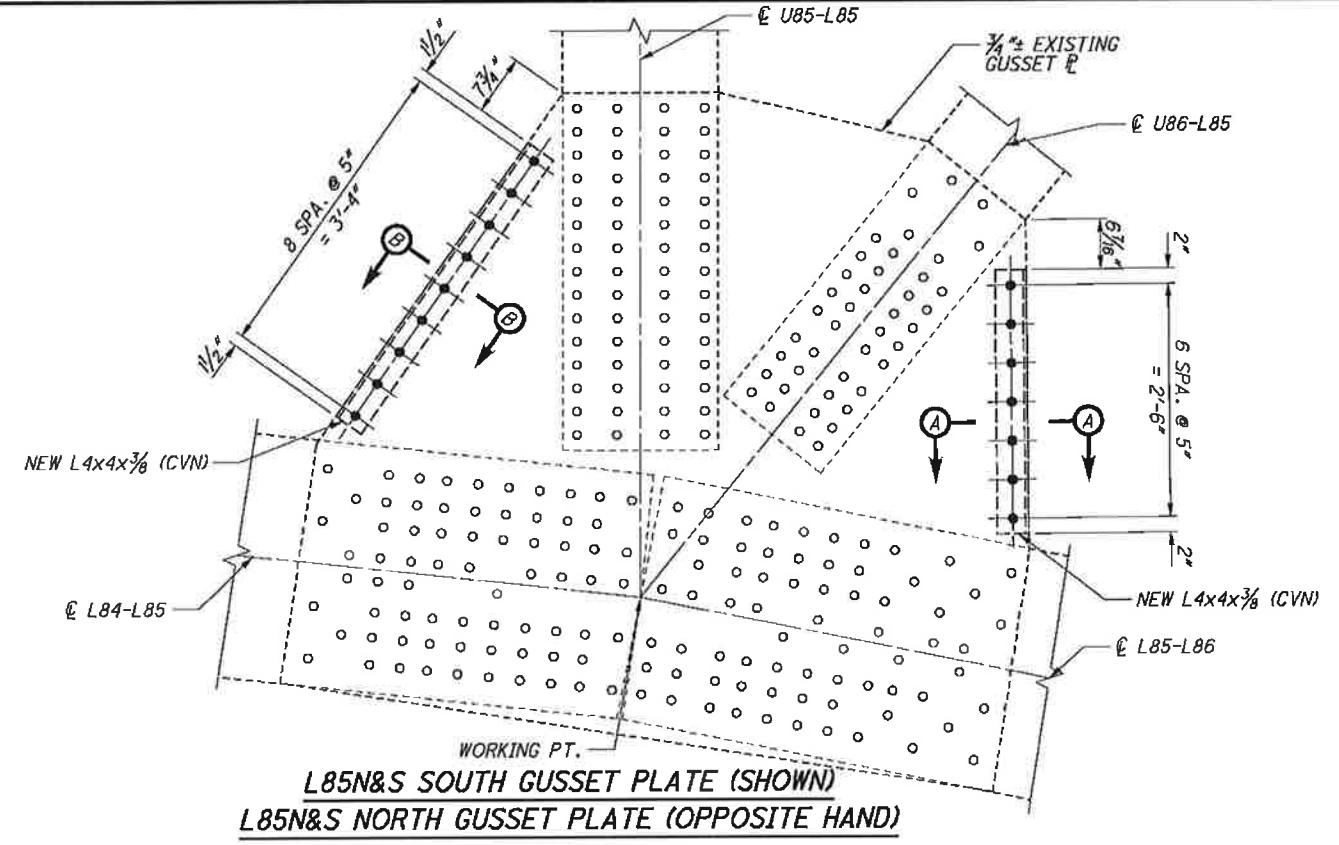
NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

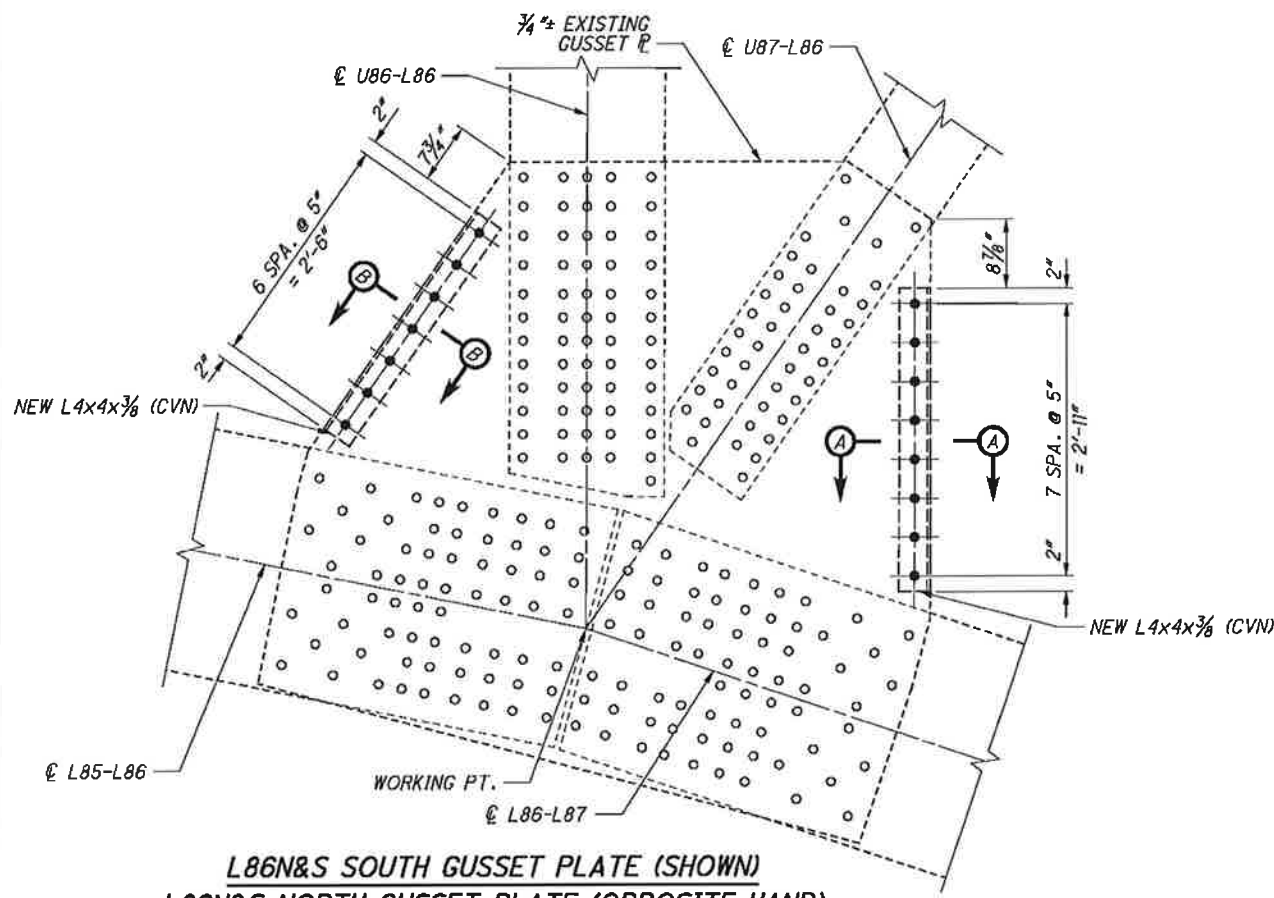
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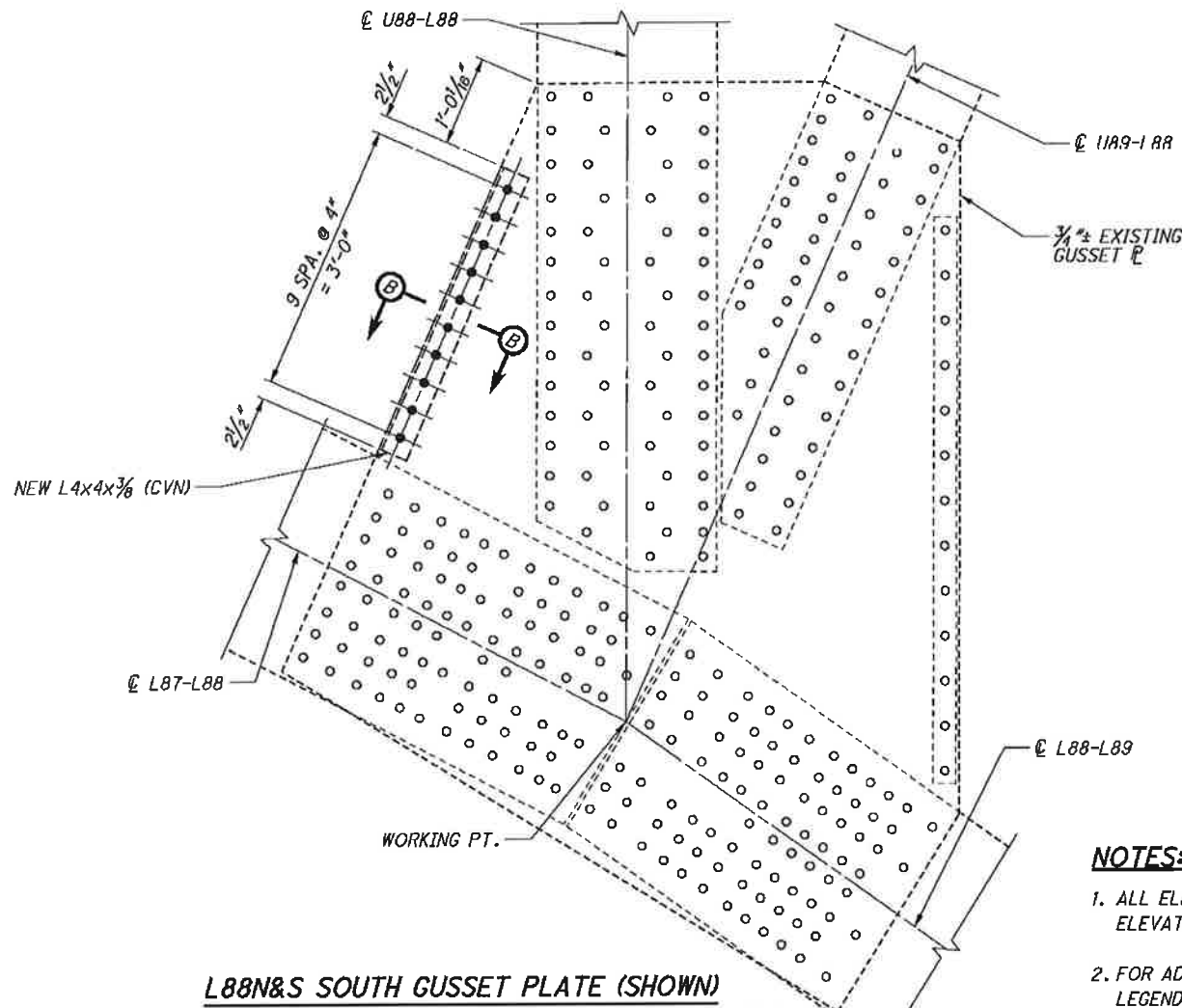
L84N SOUTH GUSSET PLATE (SHOWN)
L84N NORTH GUSSET PLATE (OPPOSITE HAND)



L85N&S SOUTH GUSSET PLATE (SHOWN)
L85N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L86N&S SOUTH GUSSET PLATE (SHOWN)
L86N&S NORTH GUSSET PLATE (OPPOSITE HAND)

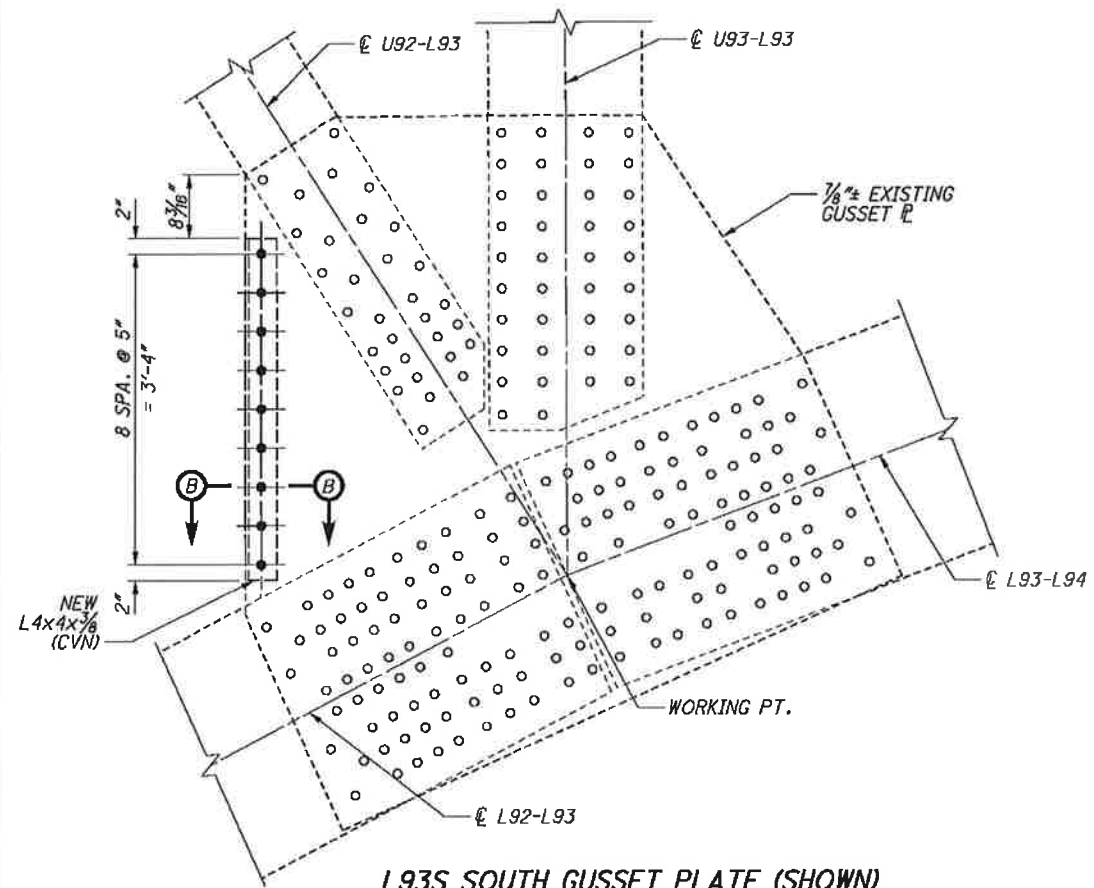


L88N&S SOUTH GUSSET PLATE (SHOWN)
L88N&S NORTH GUSSET PLATE (OPPOSITE HAND)

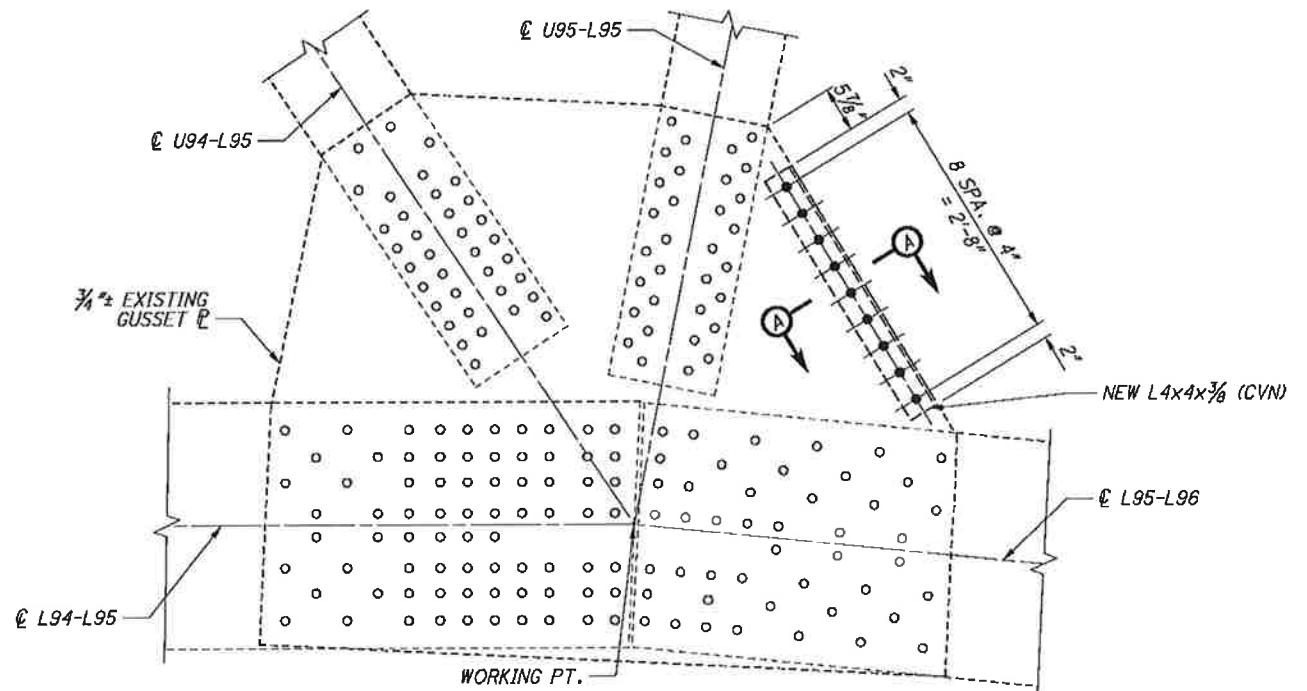
- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187 .

DESIGN AGENCY <small>55 PUBLIC SQUARE, SUITE 1000 CLEVELAND, OHIO 44115</small>	DATE 08/16/13
	REVIEWED WRW
DESIGNED BJM	STRUCTURE FILE NUMBER 1800035
DRAWN BJM	CHECKED CTG
REVISIONS	
PROJECT INFORMATION GUSSET PLATE EDGE STIFFENING DETAILS (23 OF 35) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14.41	PID No. 91115
109/187	

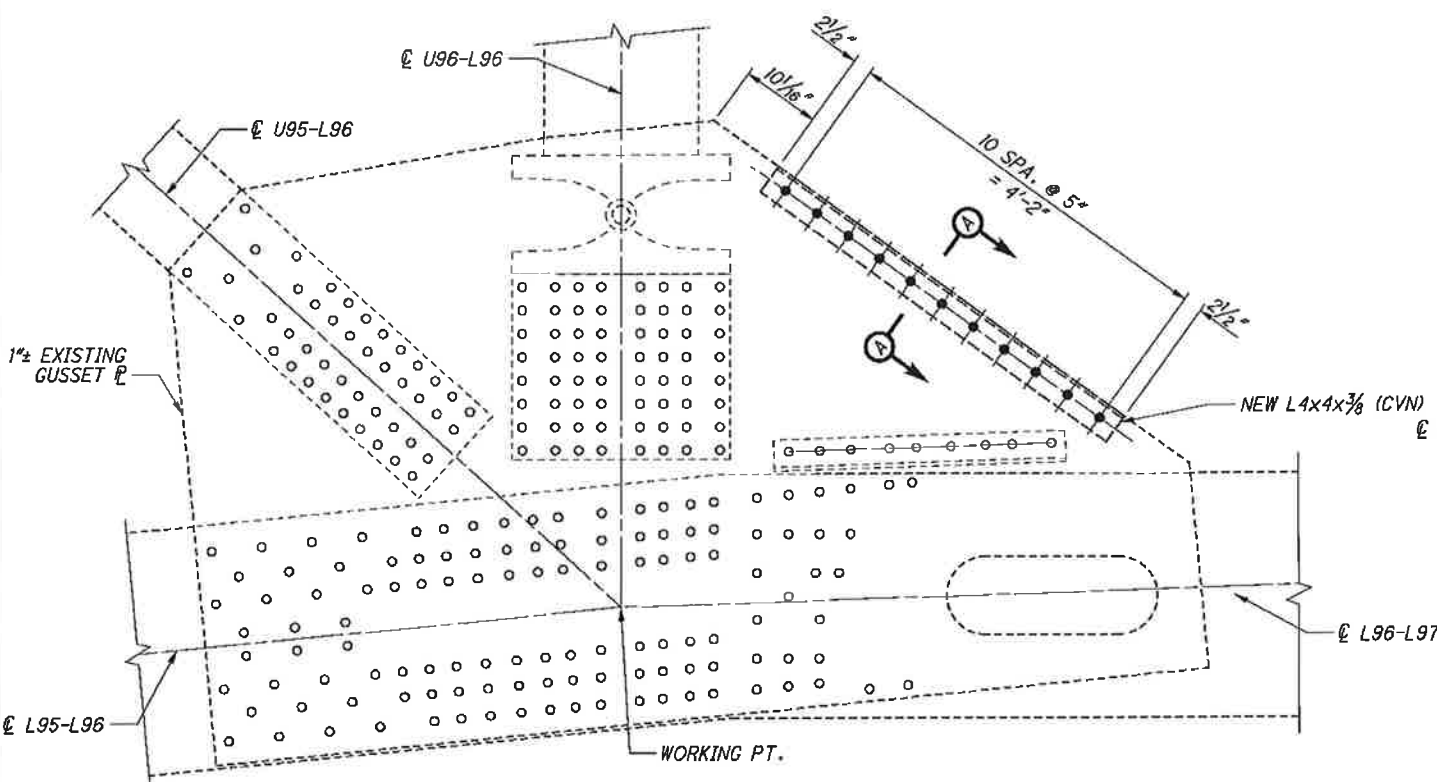
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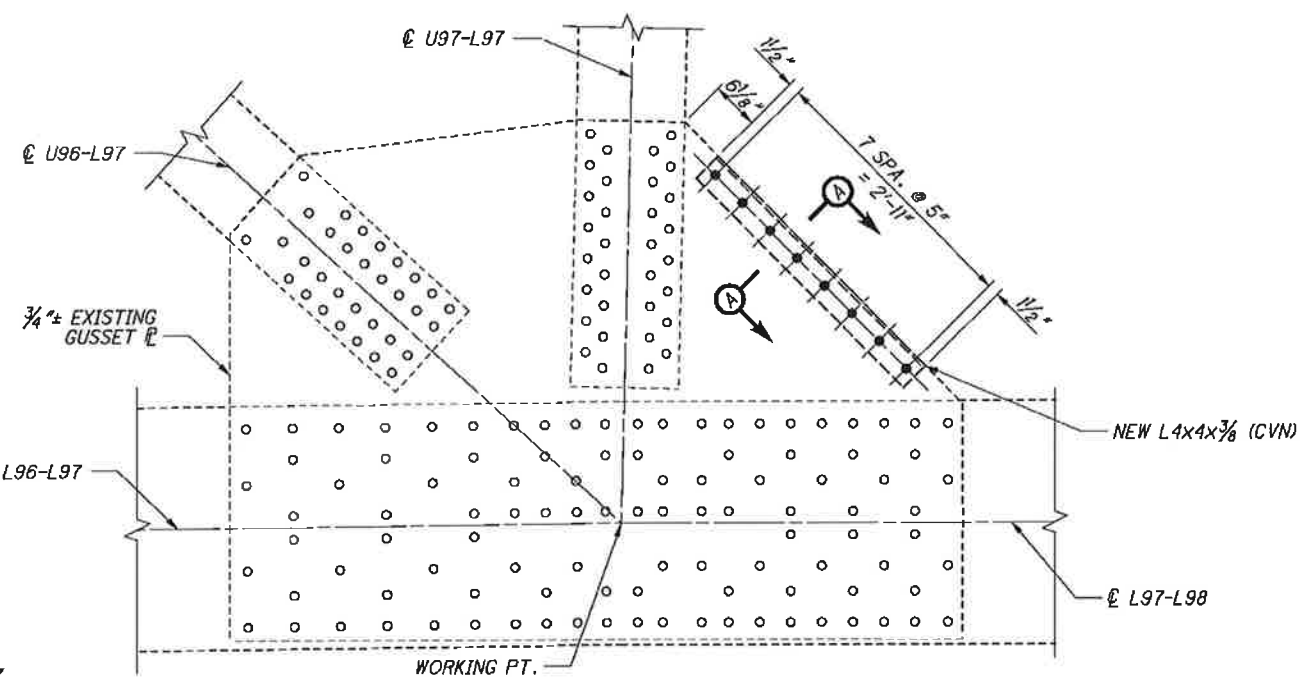
L93S SOUTH GUSSET PLATE (SHOWN)
L93S NORTH GUSSET PLATE (OPPOSITE HAND)



L95N&S SOUTH GUSSET PLATE (SHOWN)
L95N&S NORTH GUSSET PLATE (OPPOSITE HAND)



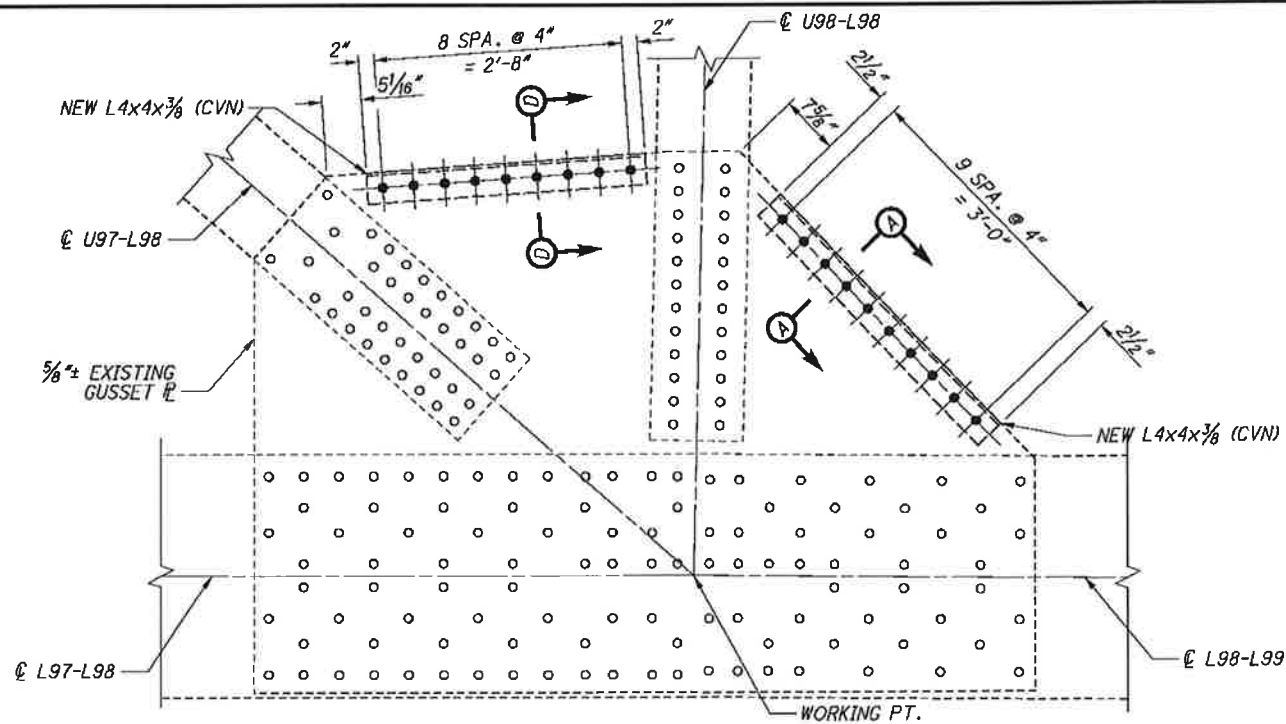
L96N&S SOUTH GUSSET PLATE (SHOWN)
L96N&S NORTH GUSSET PLATE (OPPOSITE HAND)



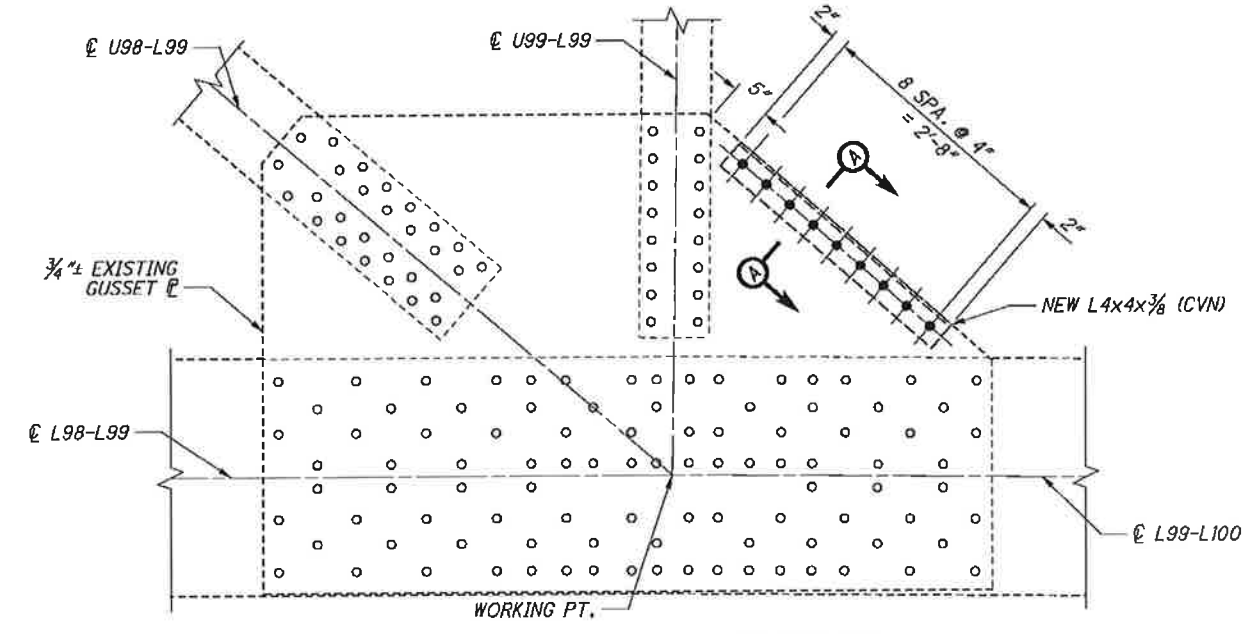
L97N&S SOUTH GUSSET PLATE (SHOWN)
L97N&S NORTH GUSSET PLATE (OPPOSITE HAND)

- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

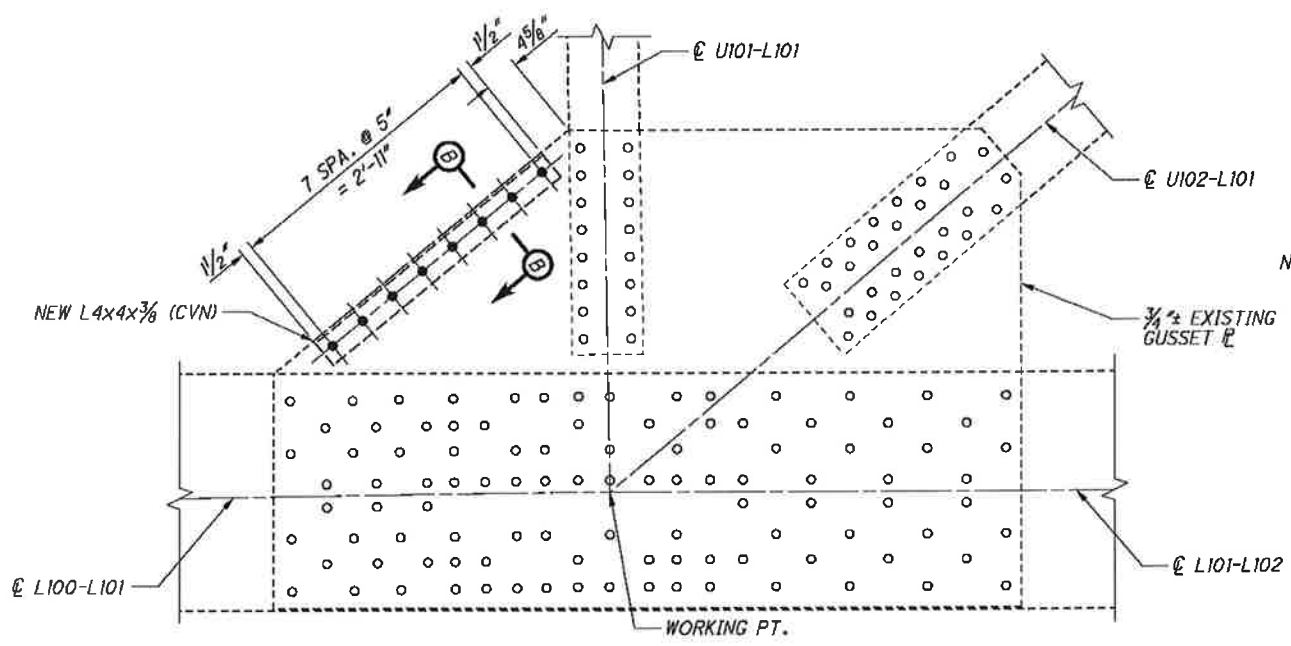
Design Agency 55 PUBLIC SQUARE, SUITE 1000 CLEVELAND, OHIO 44113	DATE 08/16/13
	REVIEWED WRW
	DESIGNED ESL
	CHECKED CTG
STRUCTURE FILE NUMBER 1800035	REVISION DRAWN ESL
GUSSET PLATE EDGE STIFFENING DETAILS (24 OF 35) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
PROJECT NO. CUY-2-14.41	PID No. 91115
110 / 187	
112 / 189	



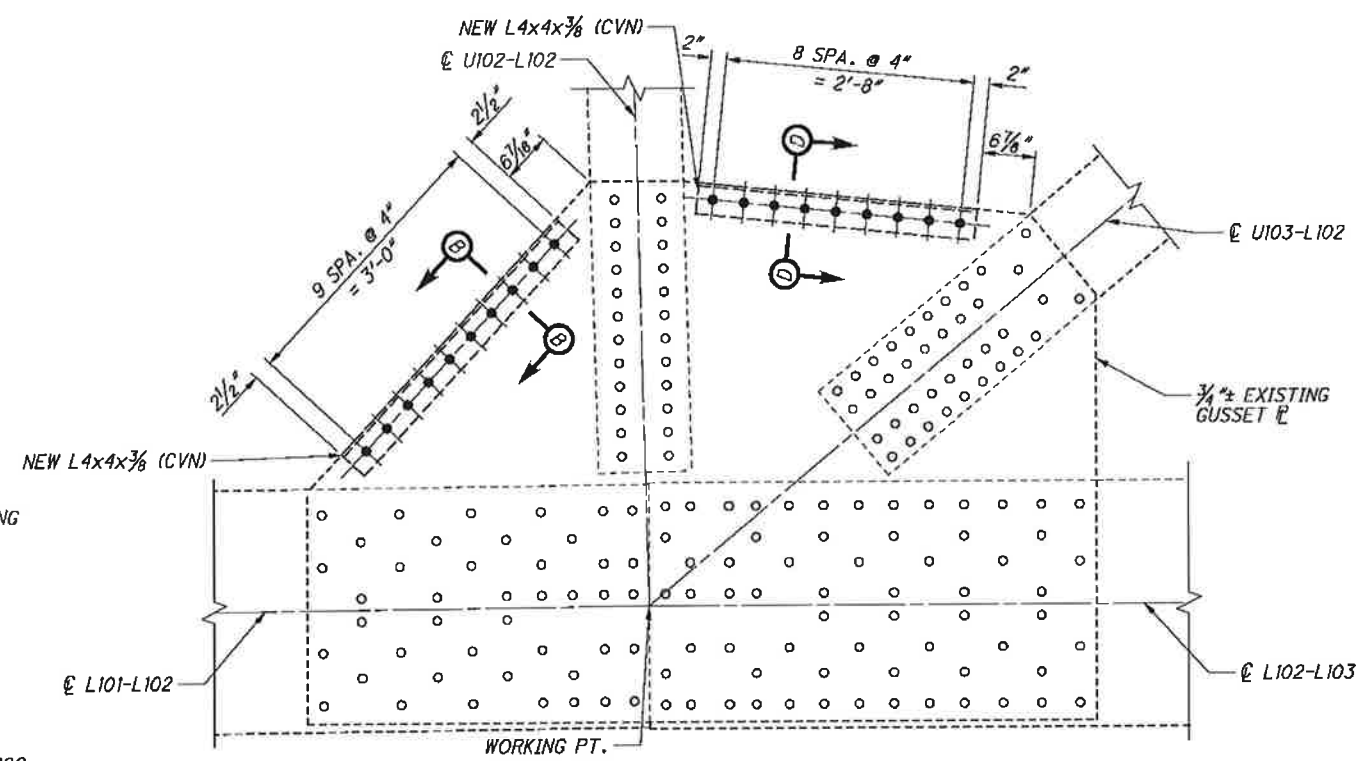
L98N&S SOUTH GUSSET PLATE (SHOWN)
L98N&S NORTH GUSSET PLATE (OPPOSITE HAND)



L99N SOUTH GUSSET PLATE (SHOWN)
L99N NORTH GUSSET PLATE (OPPOSITE HAND)



L101N SOUTH GUSSET PLATE (SHOWN)
L101N NORTH GUSSET PLATE (OPPOSITE HAND)

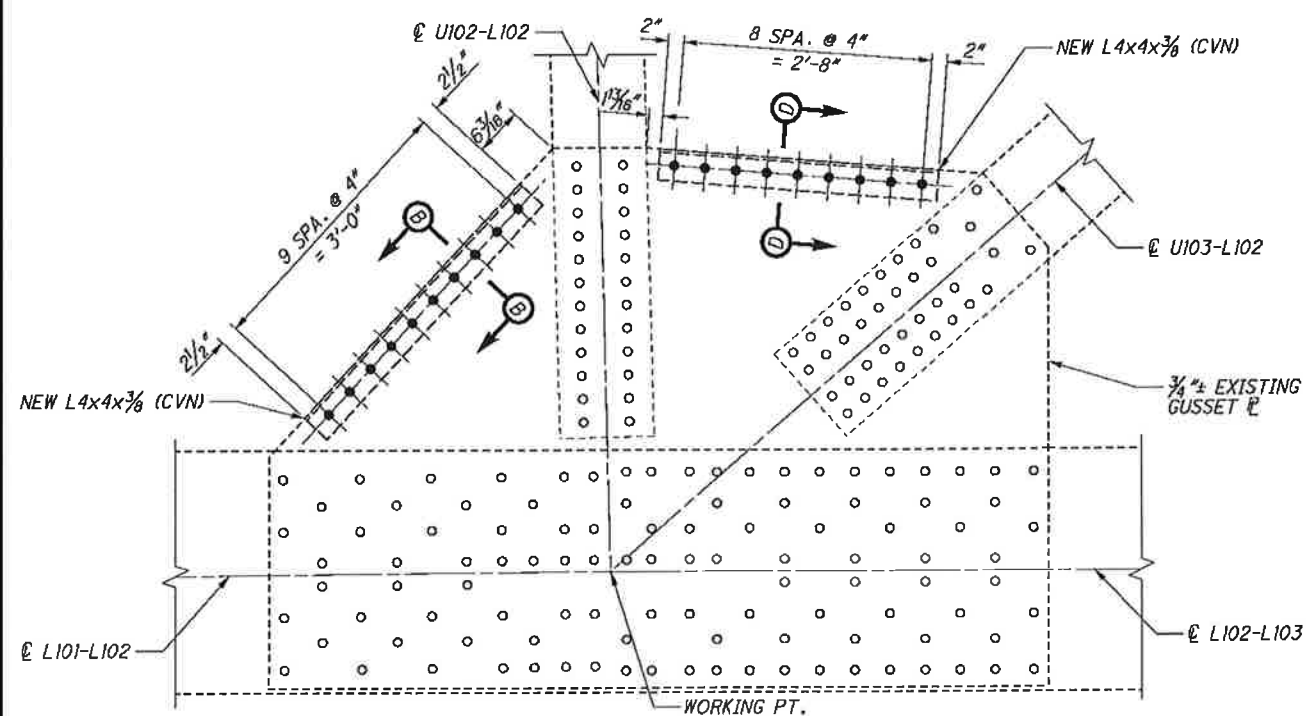


L102S SOUTH GUSSET PLATE (SHOWN)
L102S NORTH GUSSET PLATE (OPPOSITE HAND)

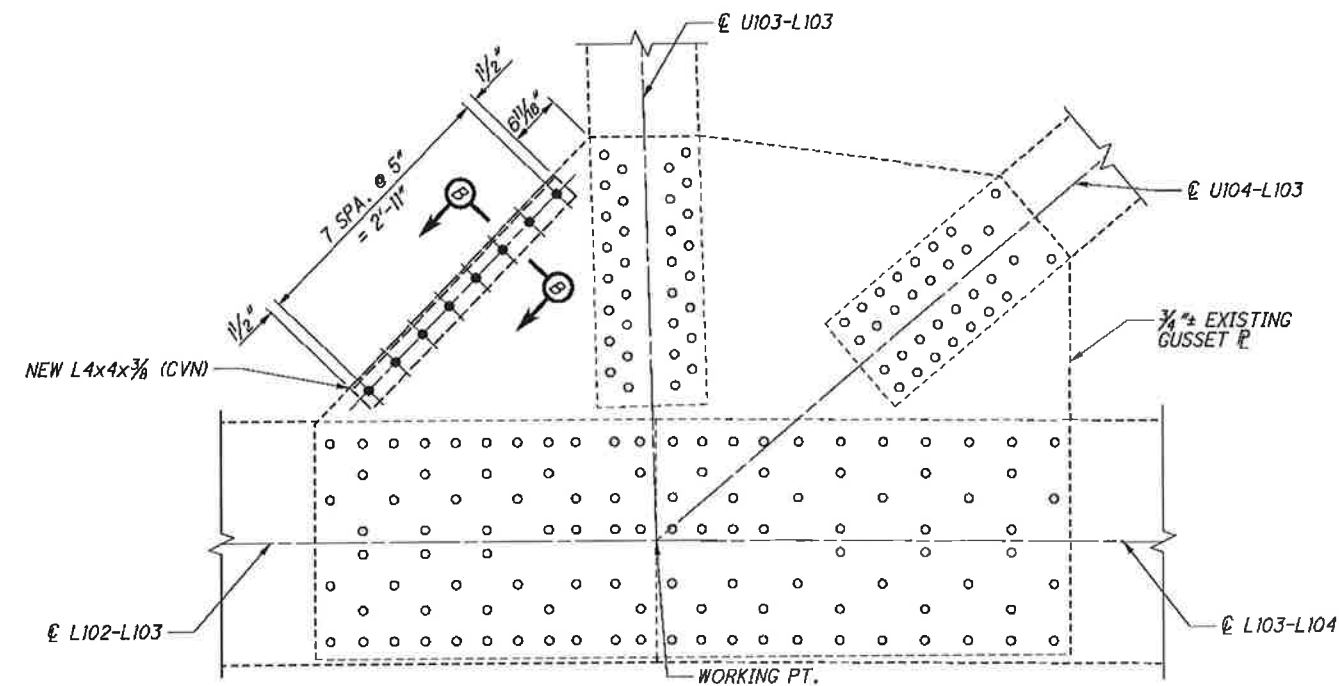
- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

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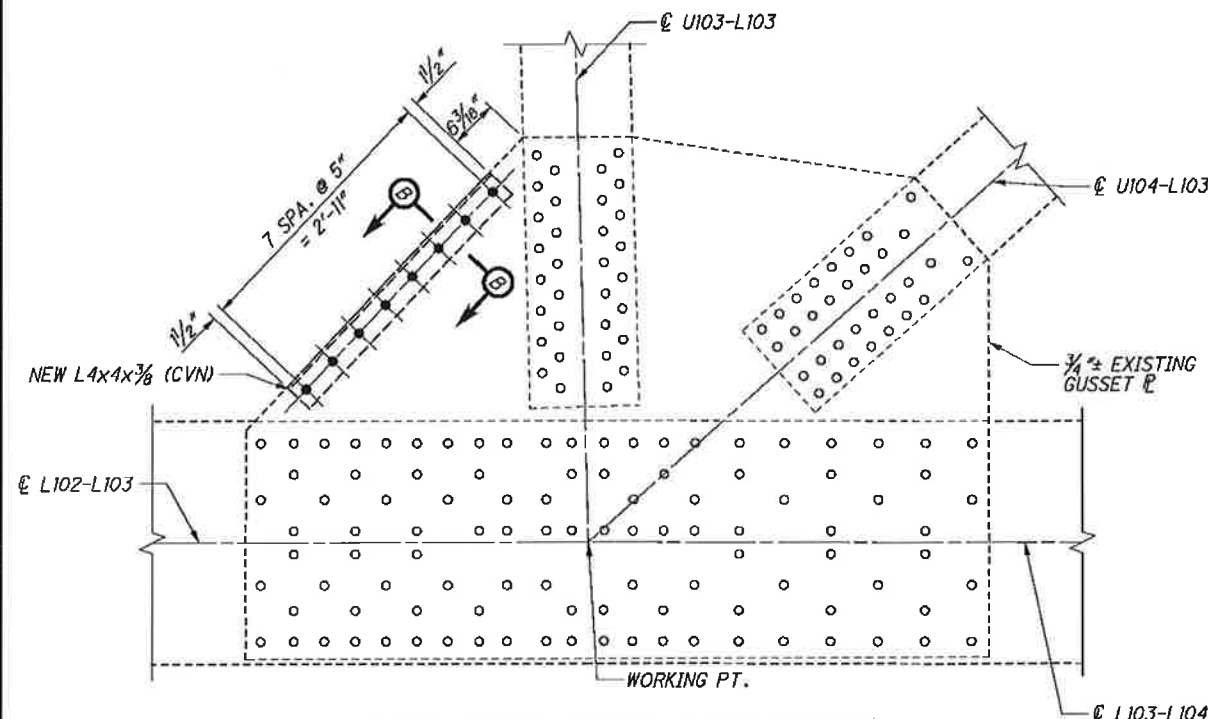
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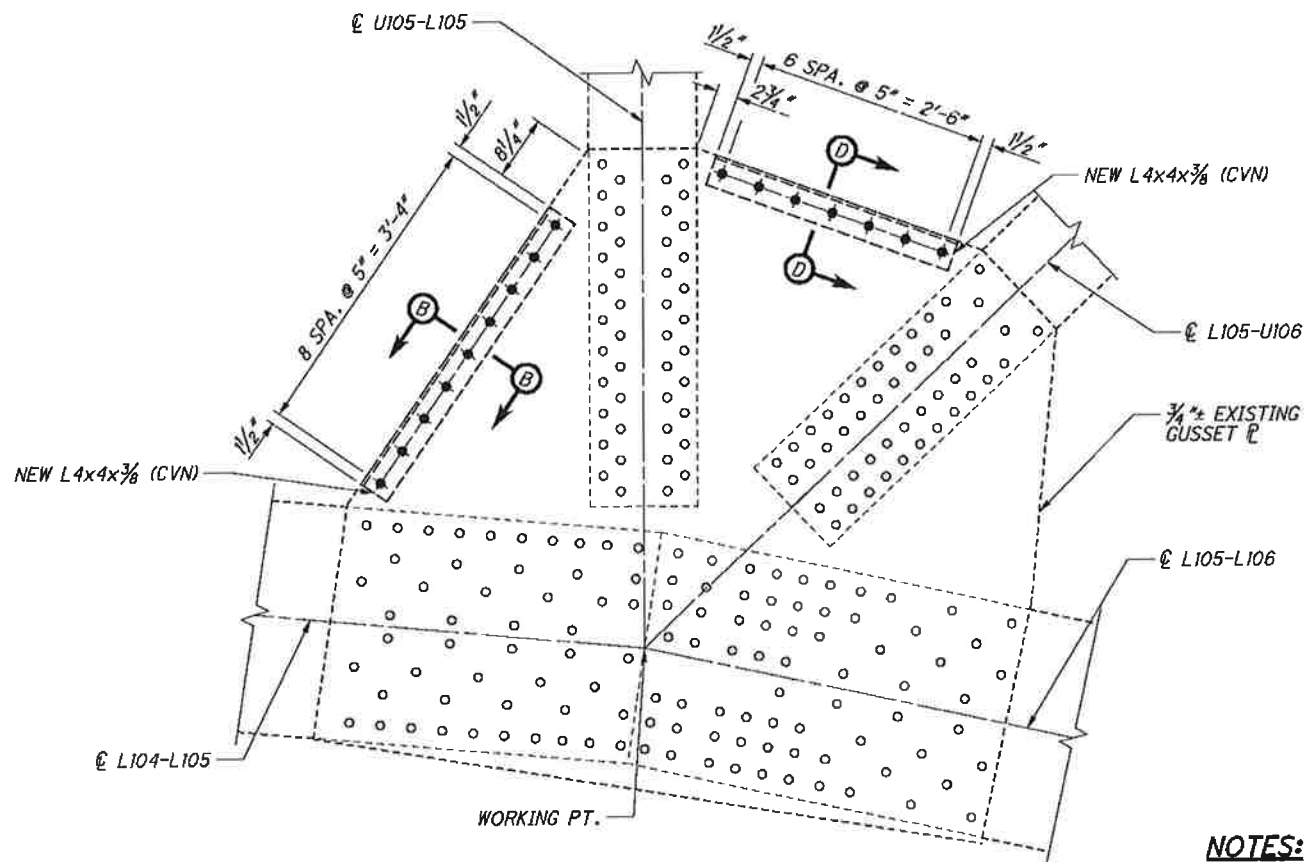
L102N SOUTH GUSSET PLATE (SHOWN)
L102N NORTH GUSSET PLATE (OPPOSITE HAND)



L103S SOUTH GUSSET PLATE (SHOWN)
L103S NORTH GUSSET PLATE (OPPOSITE HAND)



L103N SOUTH GUSSET PLATE (SHOWN)
L103N NORTH GUSSET PLATE (OPPOSITE HAND)



L105N SOUTH GUSSET PLATE (SHOWN)
L105N NORTH GUSSET PLATE (OPPOSITE HAND)

- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187 .

CUY-2-14-41
PID No. 91115

GUSSET PLATE EDGE STIFFENING DETAILS (26 OF 35)

MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

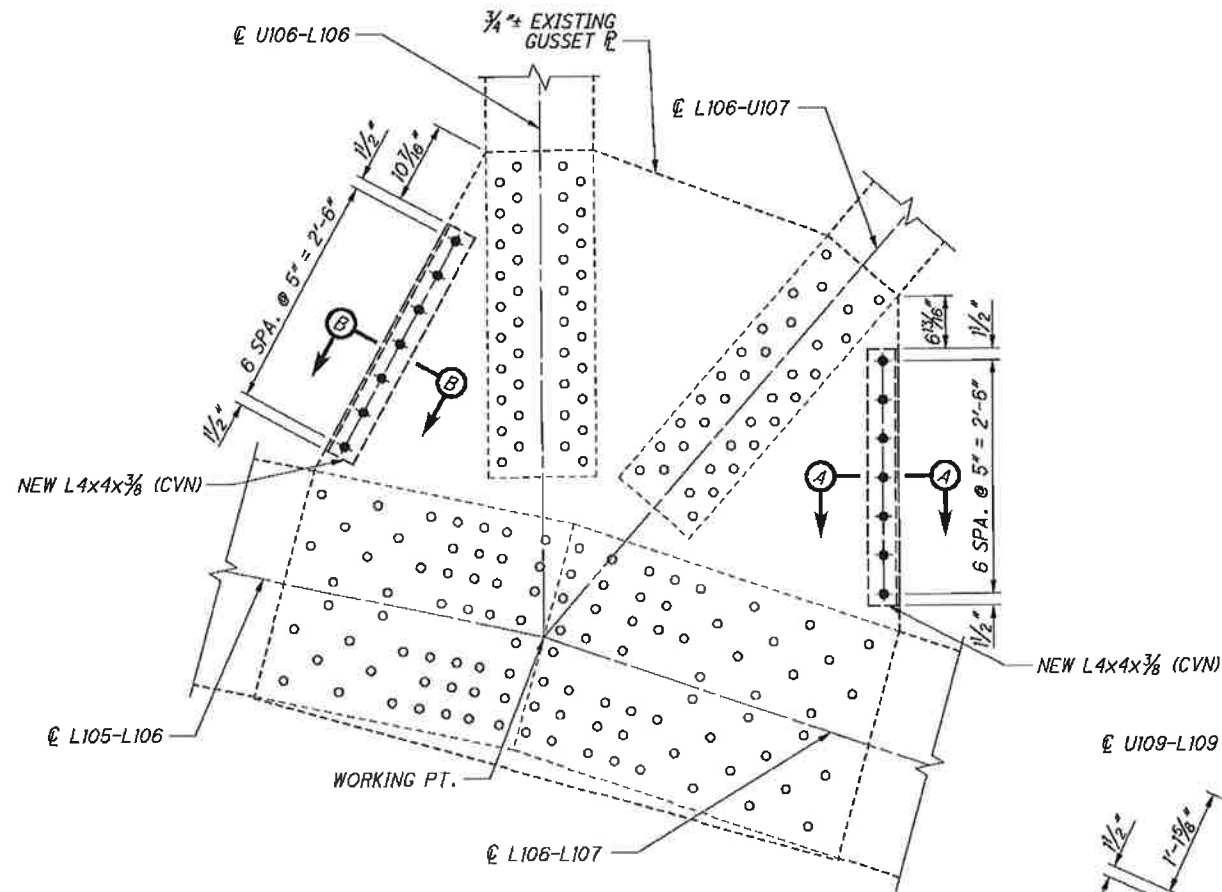
DESIGNED
 ESL
 CHECKED
 CTG

DRAWN
 ESL
 REVISED

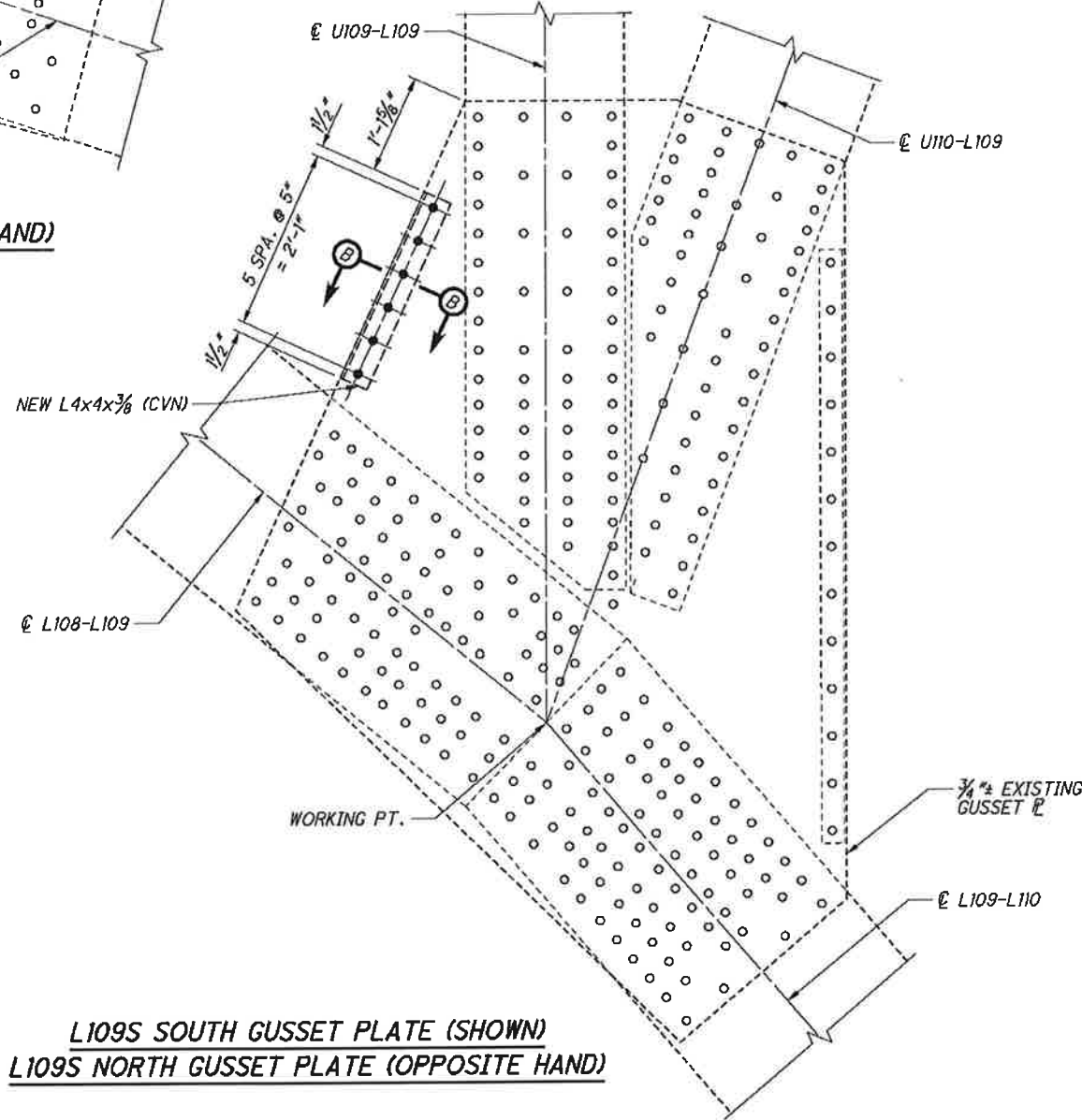
REVIEWED
 WRW
 STRUCTURE FILE NUMBER
 1800035

DATE
 08/16/13

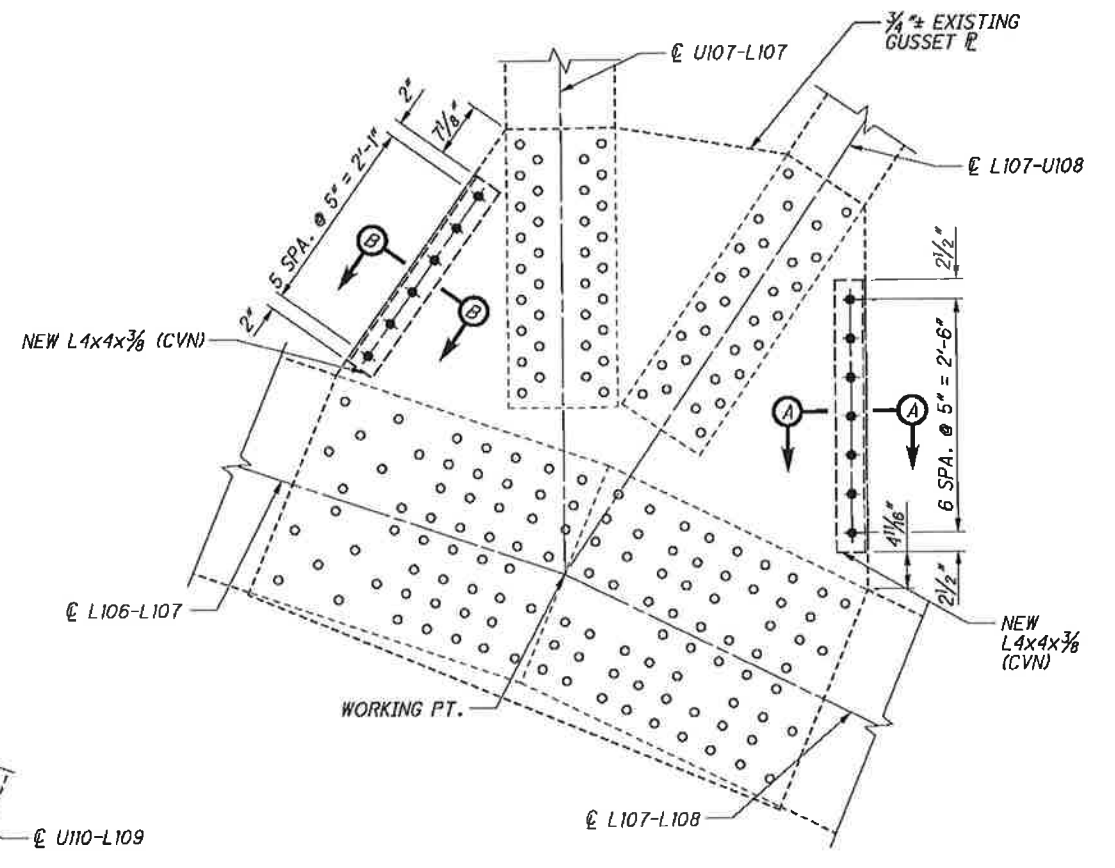
DESIGN AGENCY
TranSystems
 55 PUBLIC SQUARE, SUITE 1000
 CLEVELAND, OHIO 44115



L106N SOUTH GUSSET PLATE (SHOWN)
L106N NORTH GUSSET PLATE (OPPOSITE HAND)



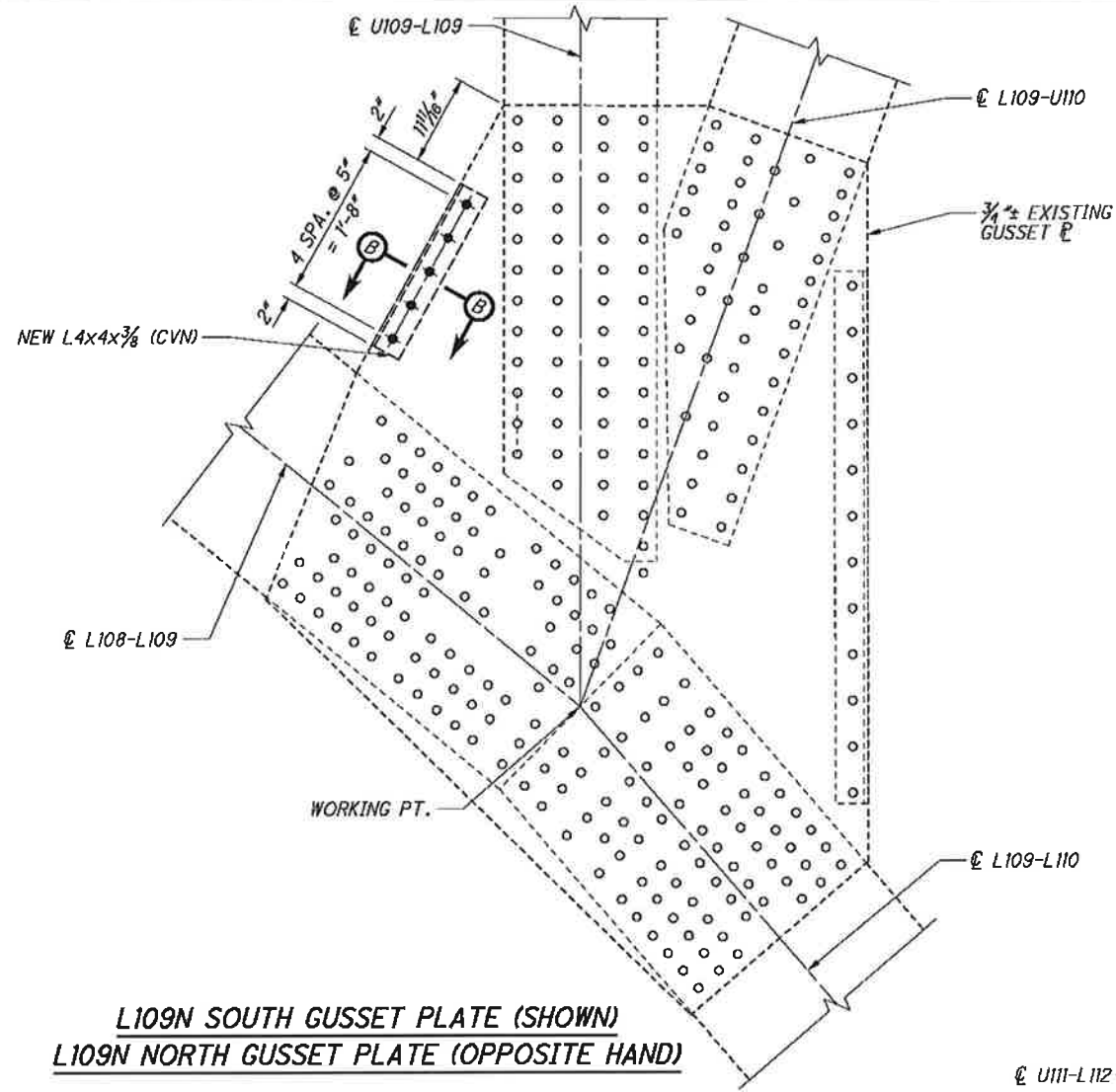
L109S SOUTH GUSSET PLATE (SHOWN)
L109S NORTH GUSSET PLATE (OPPOSITE HAND)



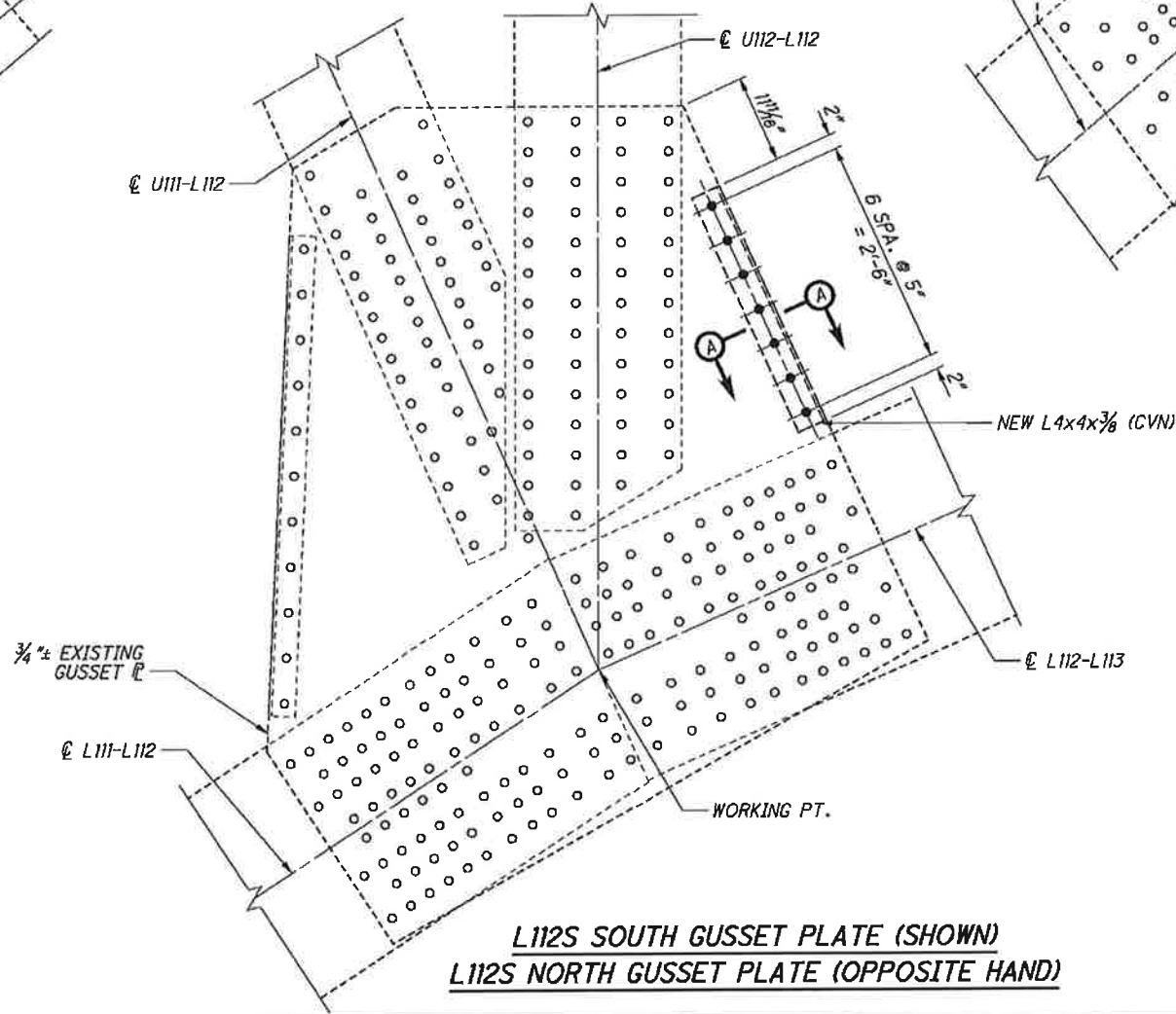
L107N SOUTH GUSSET PLATE (SHOWN)
L107N NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

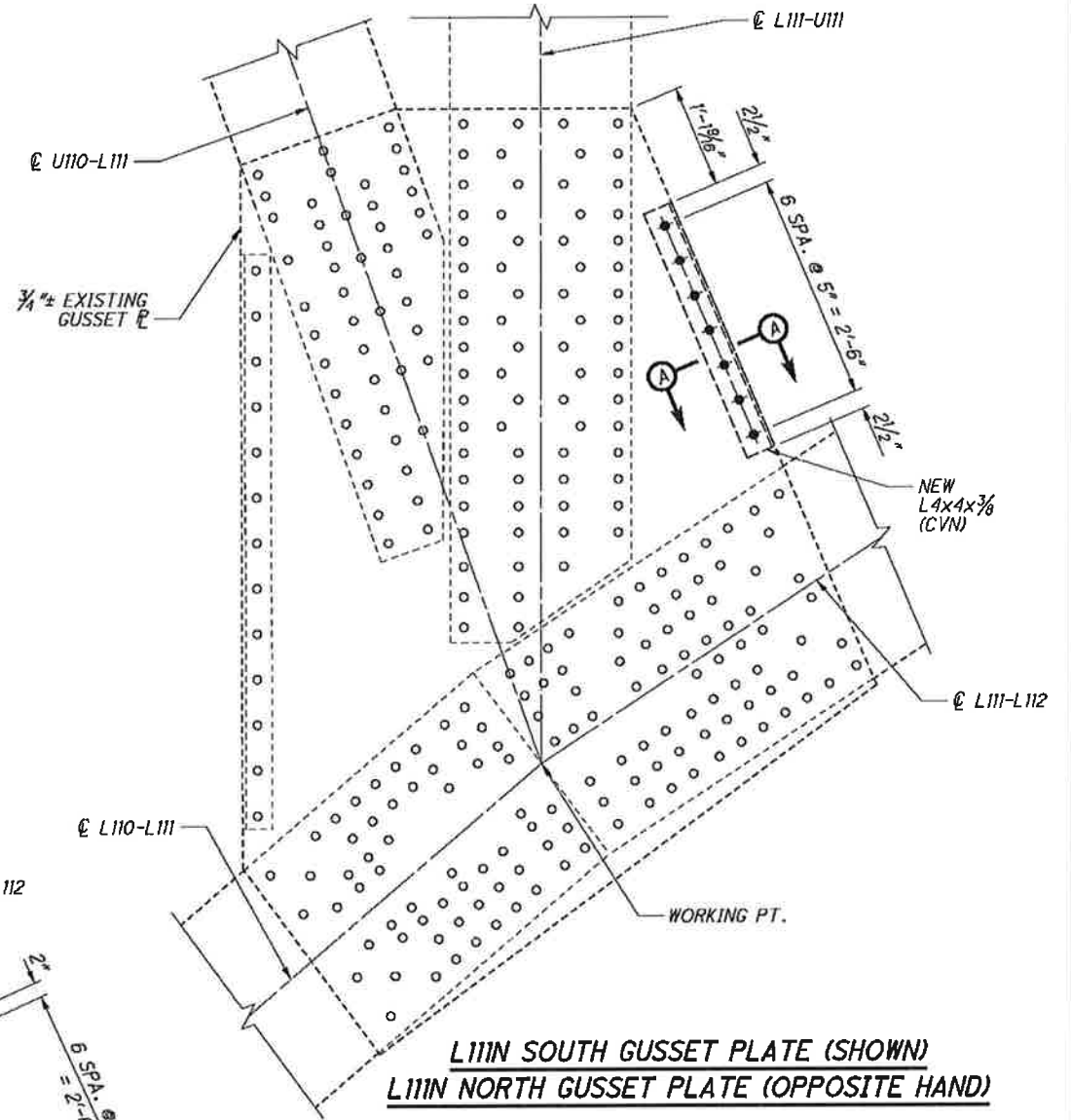
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.



L109N SOUTH GUSSET PLATE (SHOWN)
L109N NORTH GUSSET PLATE (OPPOSITE HAND)



L112S SOUTH GUSSET PLATE (SHOWN)
L112S NORTH GUSSET PLATE (OPPOSITE HAND)

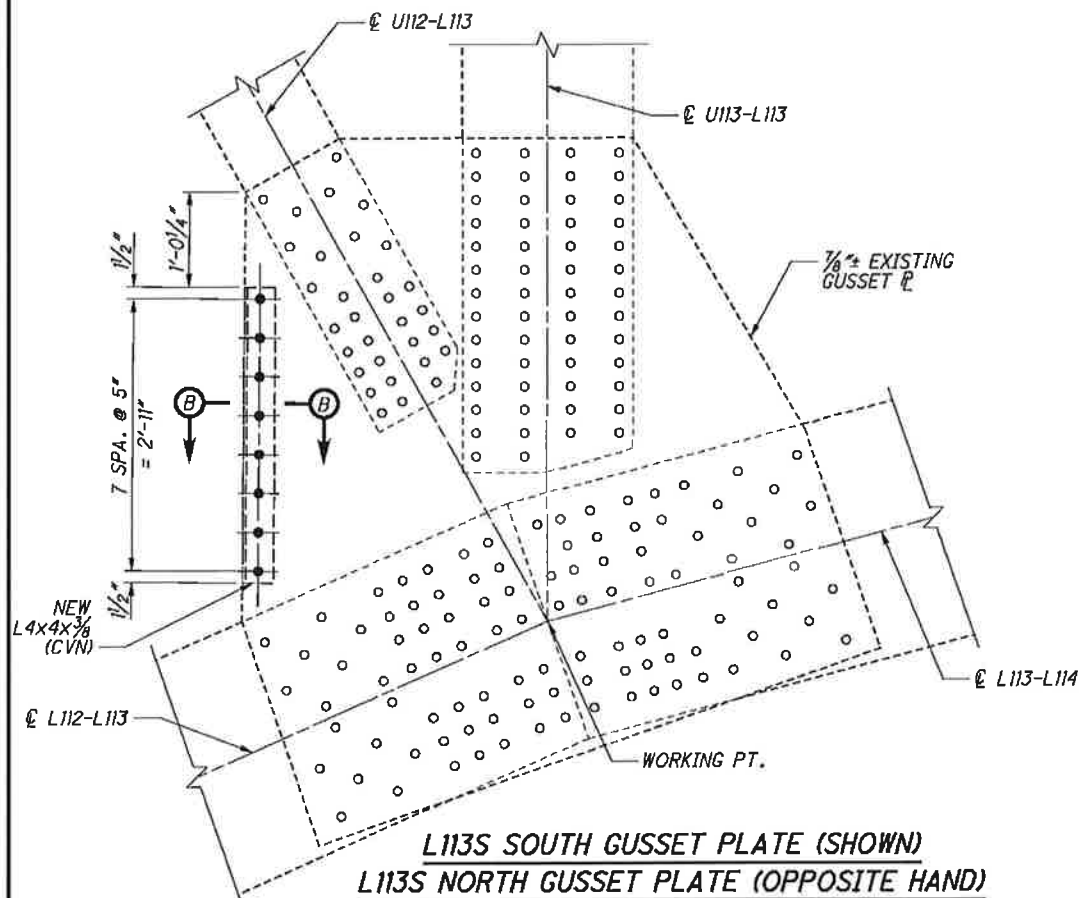


L111N SOUTH GUSSET PLATE (SHOWN)
L111N NORTH GUSSET PLATE (OPPOSITE HAND)

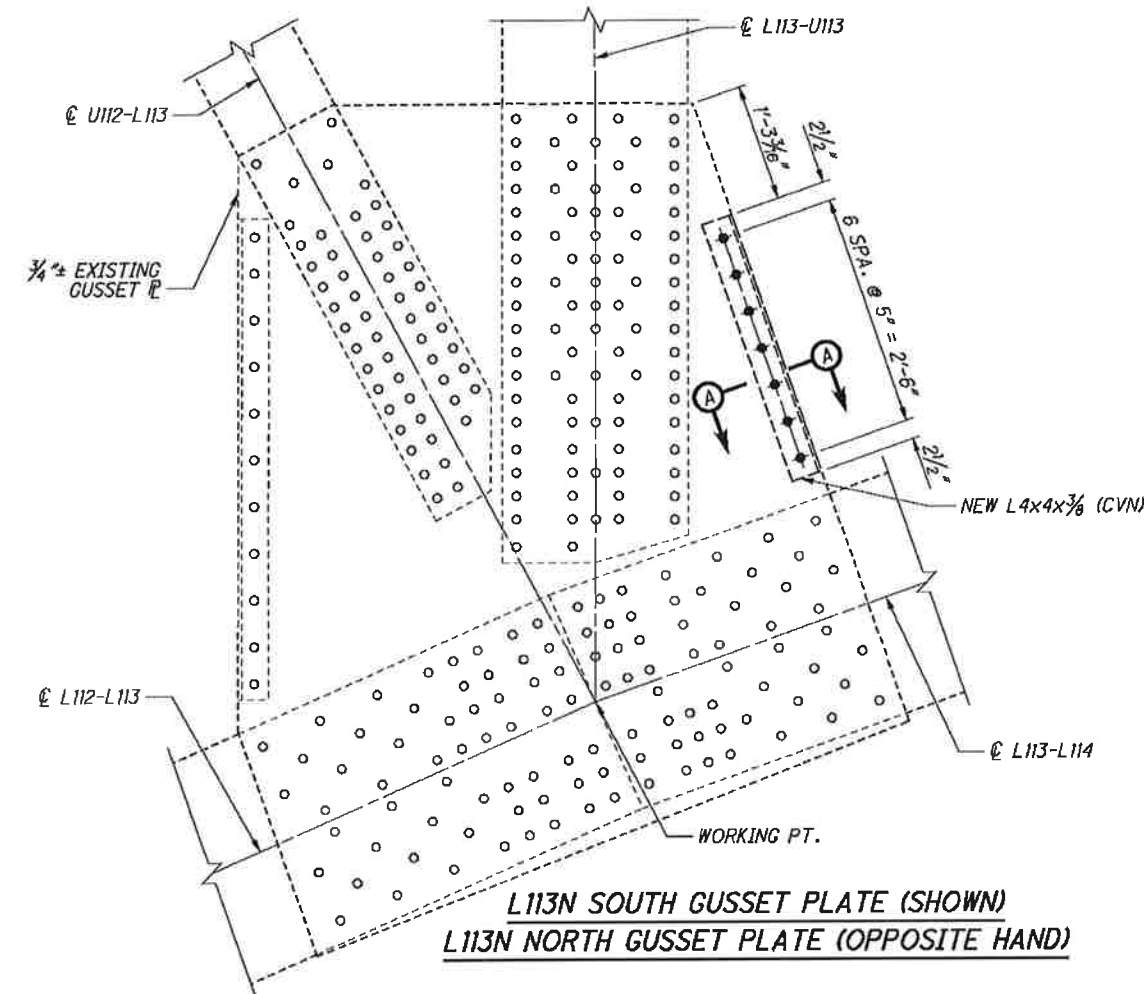
NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

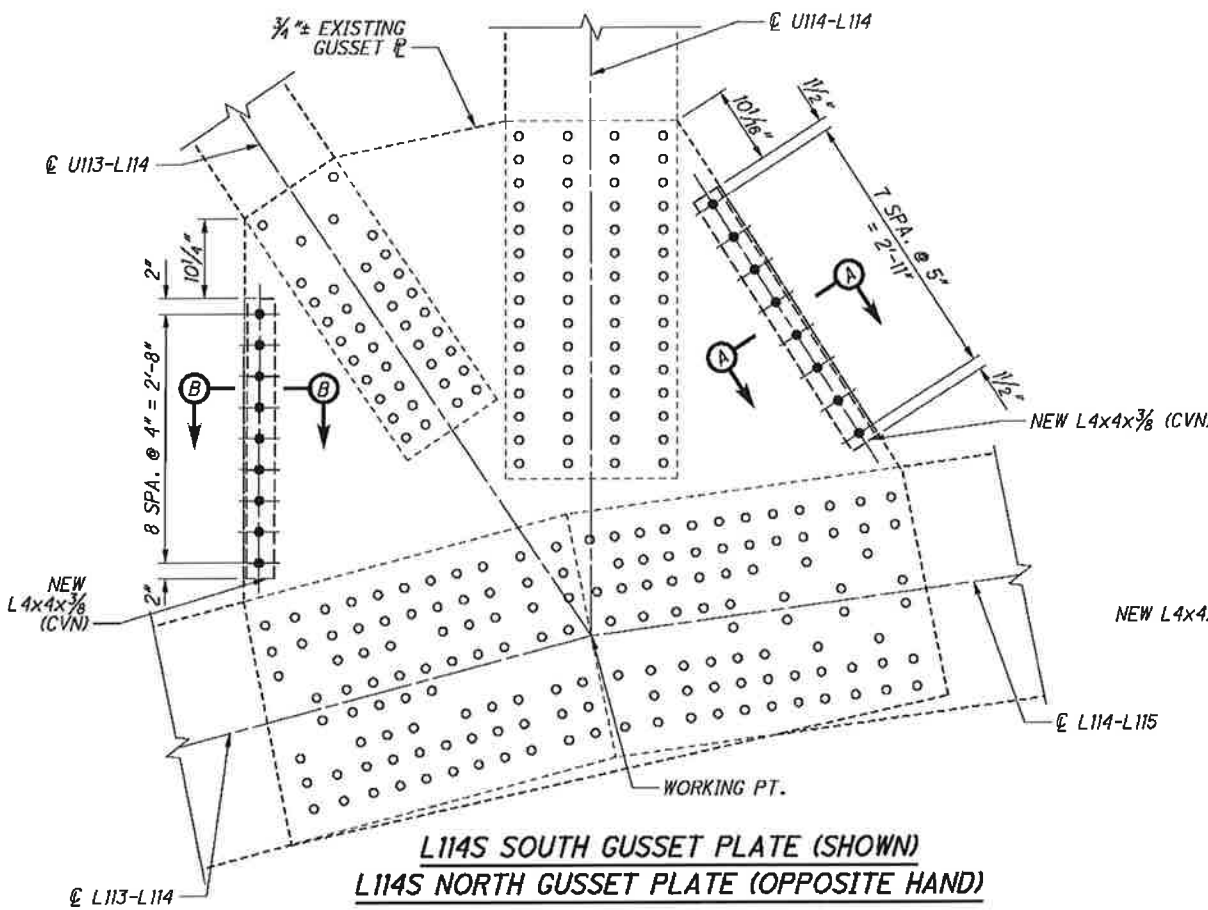
G:\CL12\0112\Bridges\Sheets\9115SD100.dgn 8/30/2013 10:36:37 AM nr:fisco



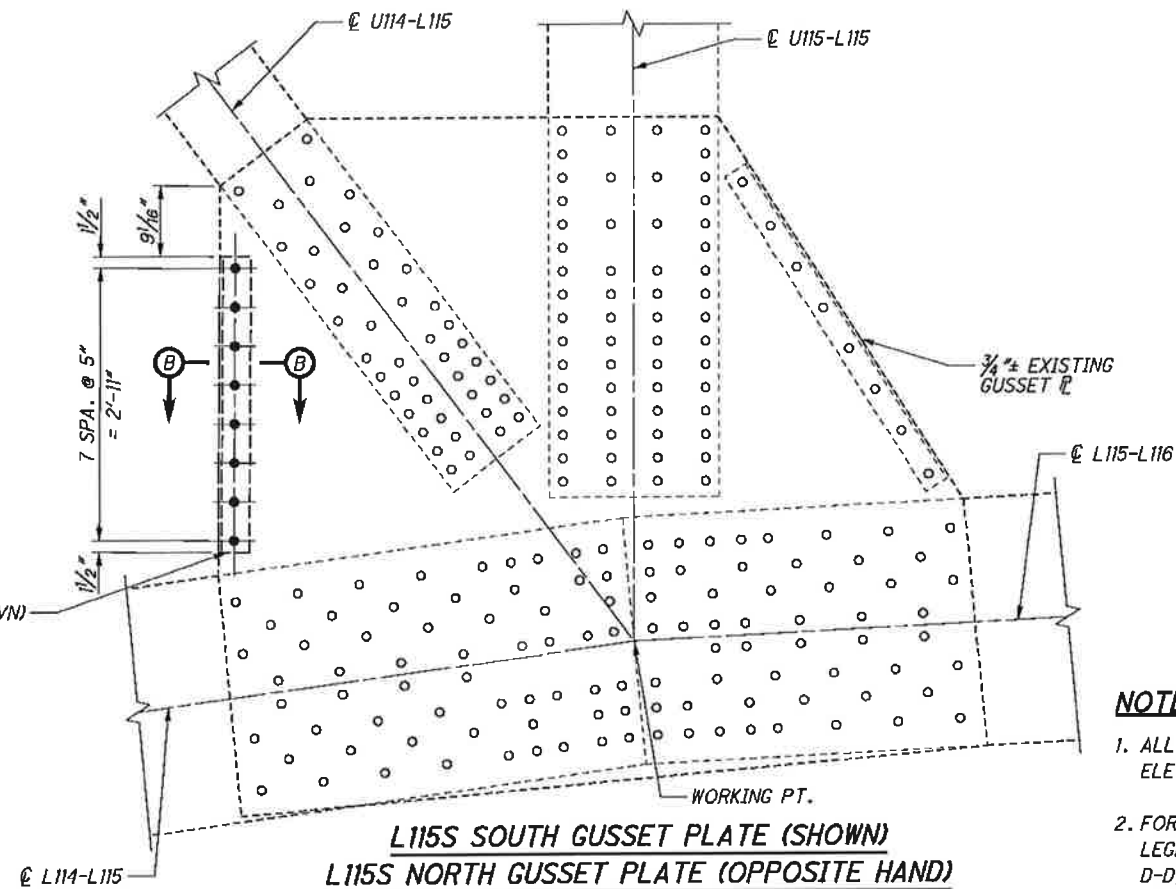
L113S SOUTH GUSSET PLATE (SHOWN)
L113S NORTH GUSSET PLATE (OPPOSITE HAND)



L113N SOUTH GUSSET PLATE (SHOWN)
L113N NORTH GUSSET PLATE (OPPOSITE HAND)



L114S SOUTH GUSSET PLATE (SHOWN)
L114S NORTH GUSSET PLATE (OPPOSITE HAND)

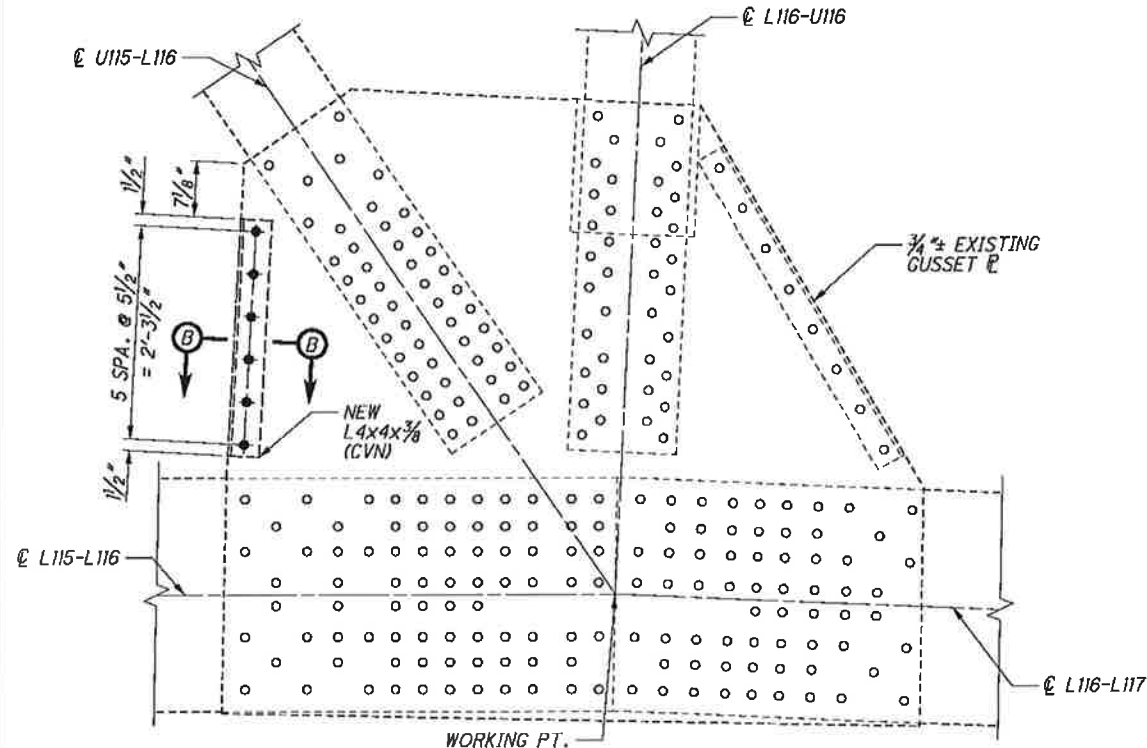


L115S SOUTH GUSSET PLATE (SHOWN)
L115S NORTH GUSSET PLATE (OPPOSITE HAND)

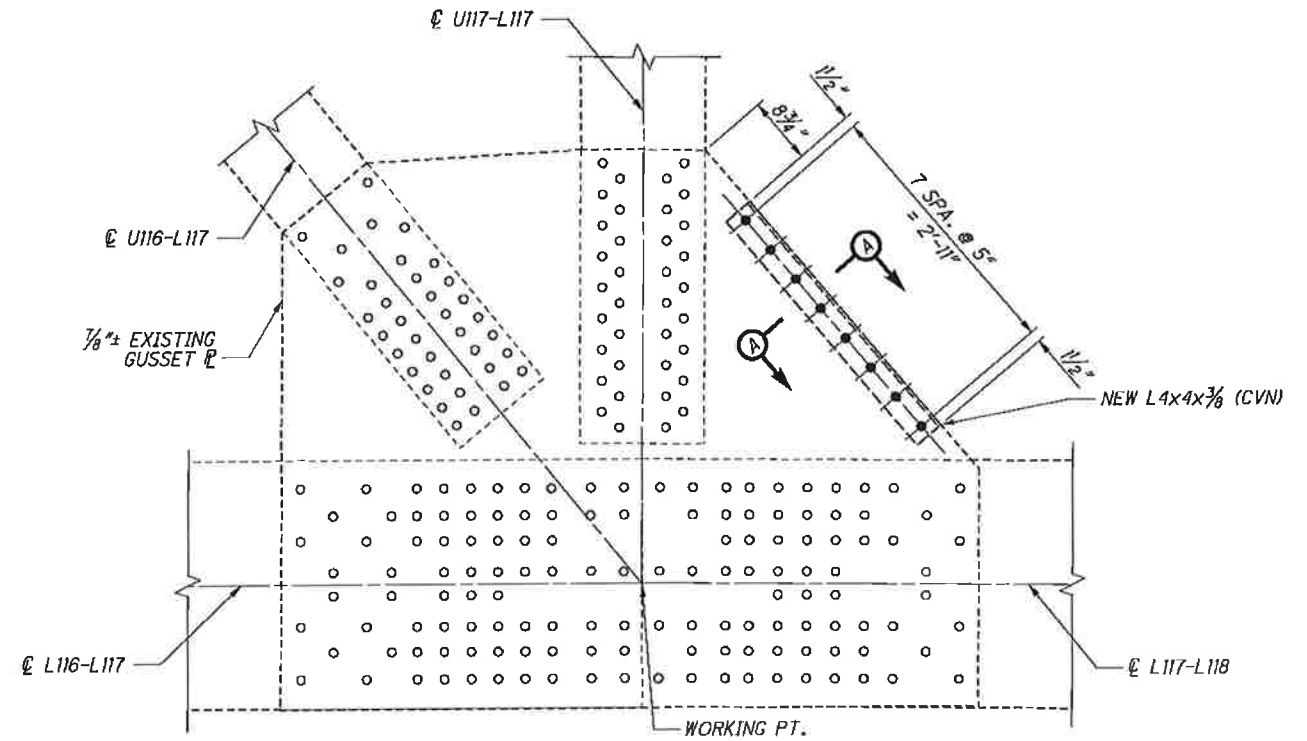
- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

DESIGN AGENCY TranSystems 55 PUBLIC SQUARE, SUITE 100 CLEVELAND, OHIO 44113	
DATE 08/16/13	REVIEWED WRW
STRUCTURE FILE NUMBER 1800035	CHECKED CTG
DESIGNED ESL	DRAWN ESL
GUSSET PLATE EDGE STIFFENING DETAILS (29 OF 35)	
MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14.41	PID No. 91115
115 / 187	117 / 189

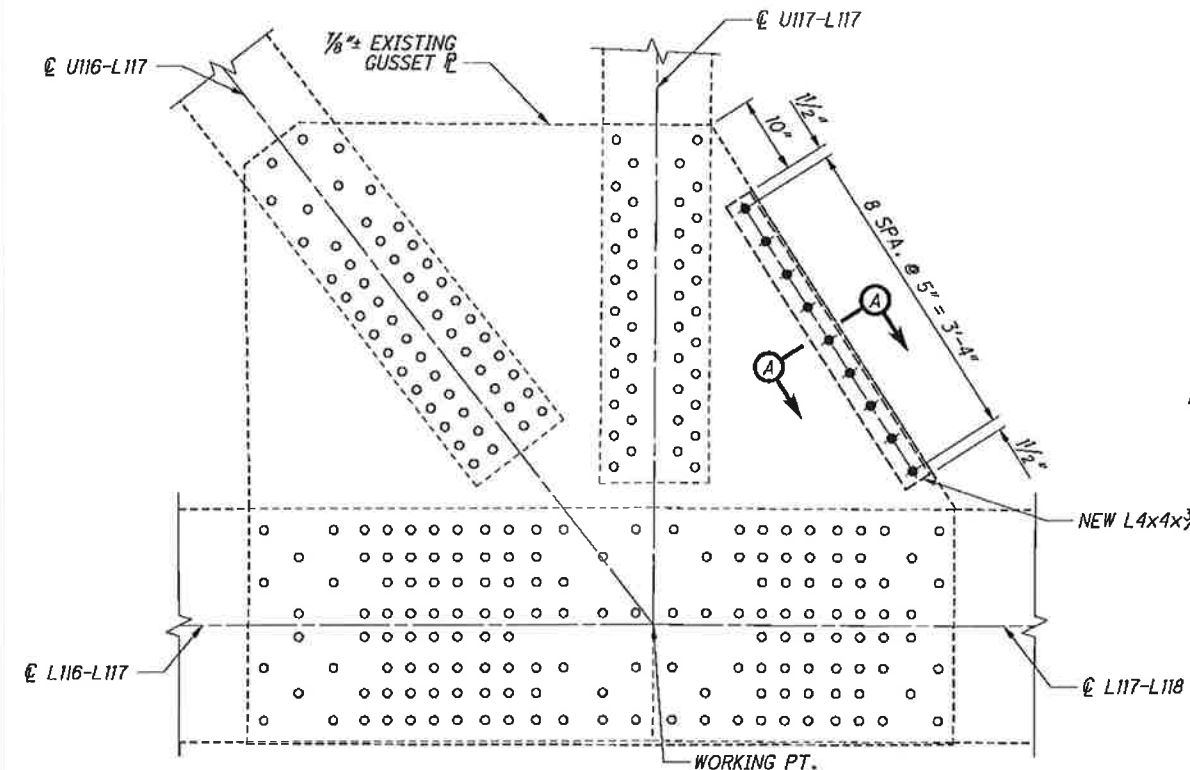
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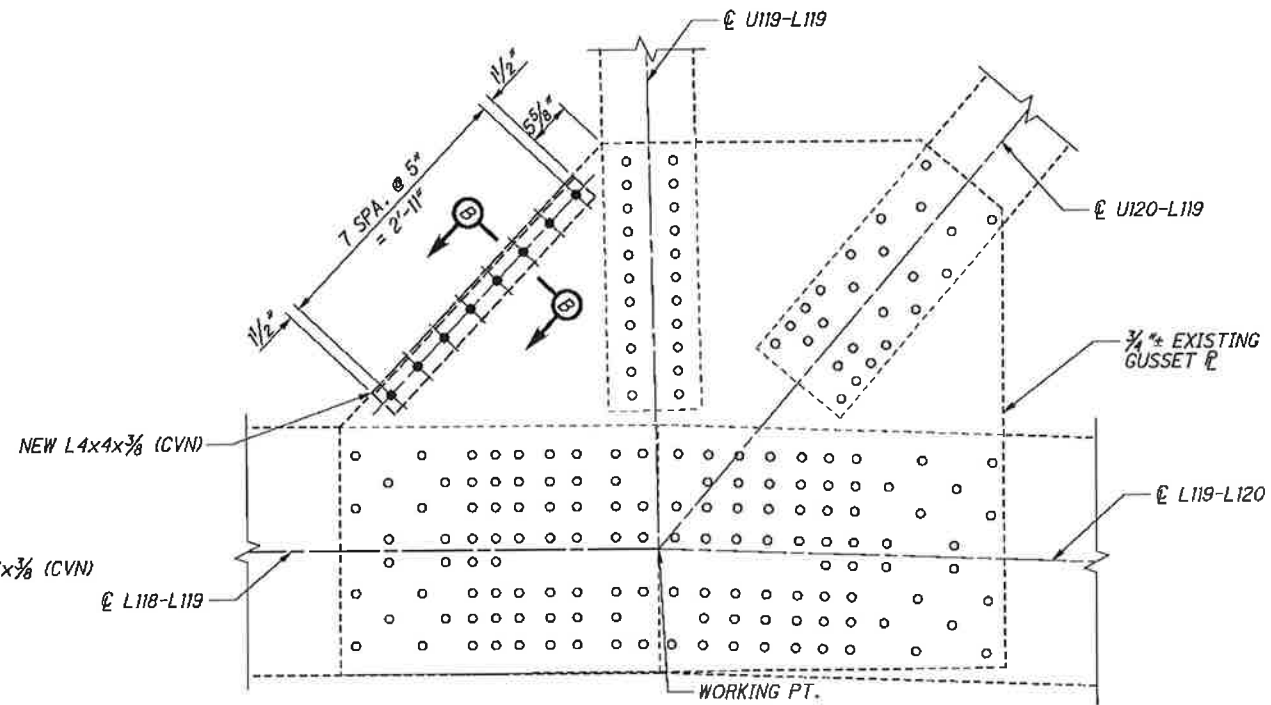
L116N SOUTH GUSSET PLATE (SHOWN)
L116N NORTH GUSSET PLATE (OPPOSITE HAND)



L117S SOUTH GUSSET PLATE (SHOWN)
L117S NORTH GUSSET PLATE (OPPOSITE HAND)



L117N SOUTH GUSSET PLATE (SHOWN)
L117N NORTH GUSSET PLATE (OPPOSITE HAND)



L119S SOUTH GUSSET PLATE (SHOWN)
L119S NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

CUY-2-14.41
 PID No. 91115

116 / 187

118
 189

GUSSET PLATE EDGE STIFFENING DETAILS (30 OF 35)
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

DESIGNED
 ESL
 CHECKED
 CTG

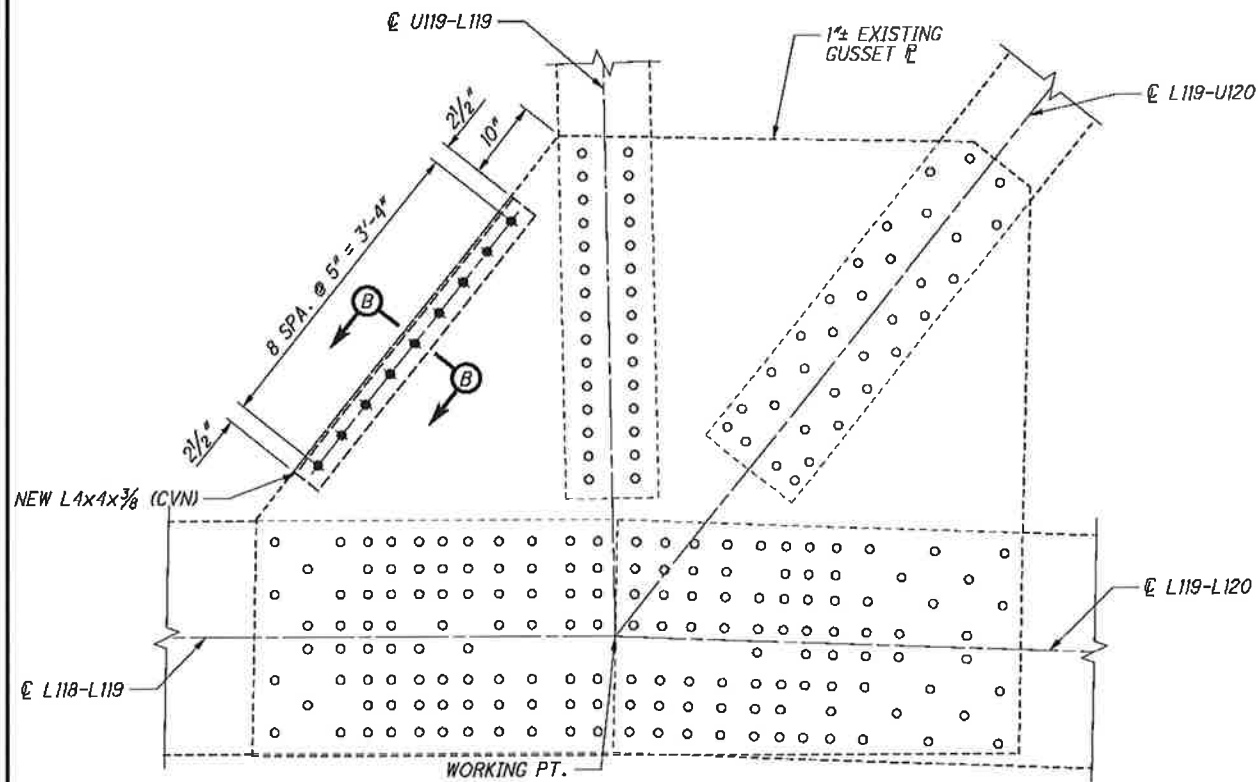
DRAWN
 ESL
 REVISED

REVIEWED
 WRW
 STRUCTURE FILE NUMBER
 1800035

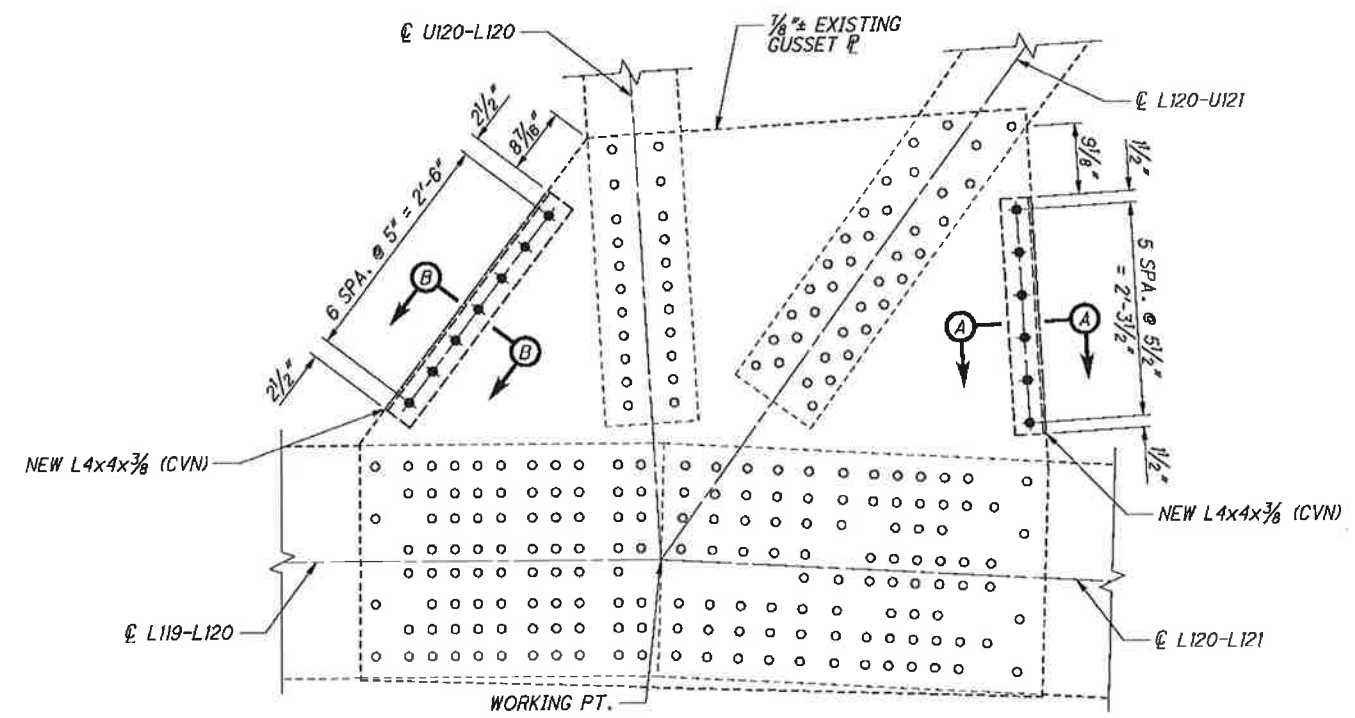
DATE
 08/16/13

DESIGN AGENCY
TranSystems
 85 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OHIO 44113

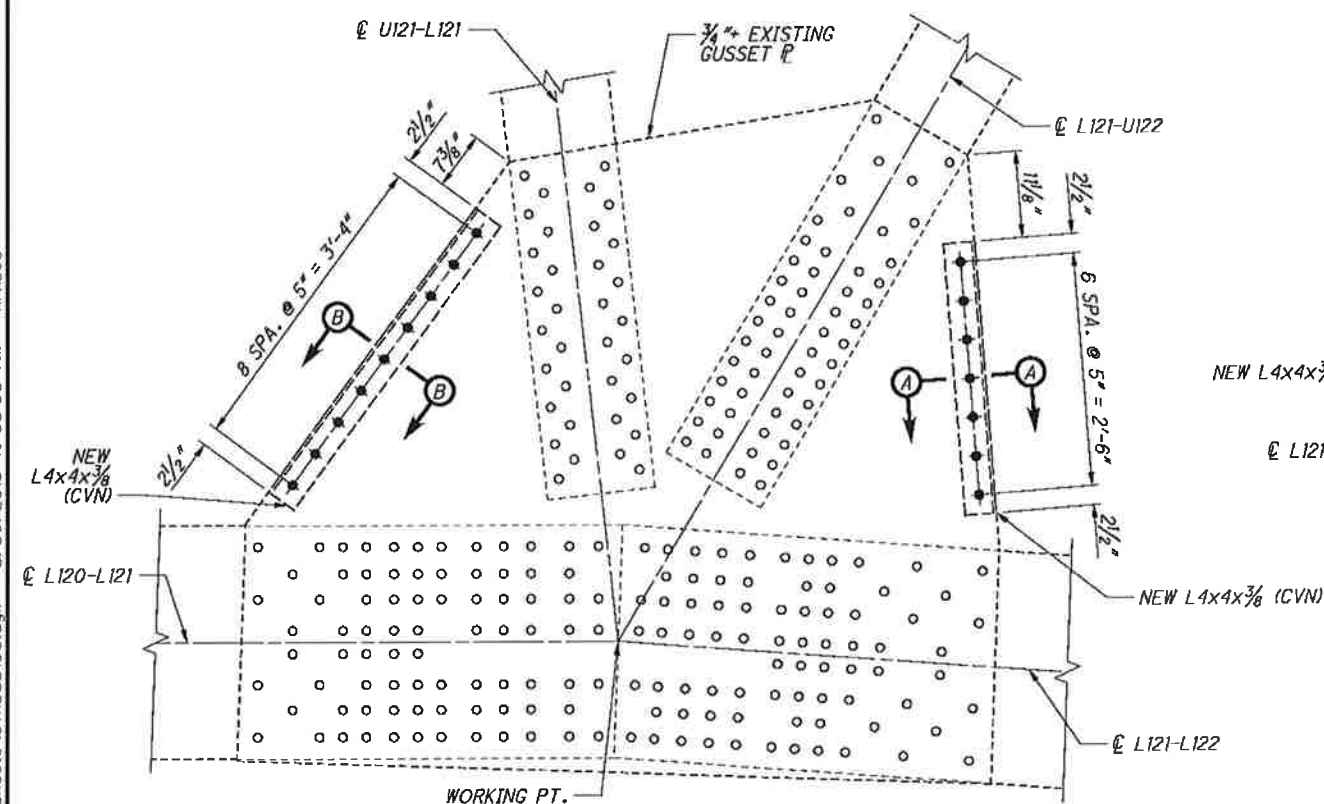
G:\CL12\0112\Bridges\Sheets\9115SD100.dgn 8/30/2013 10:36:38 AM mrfisco



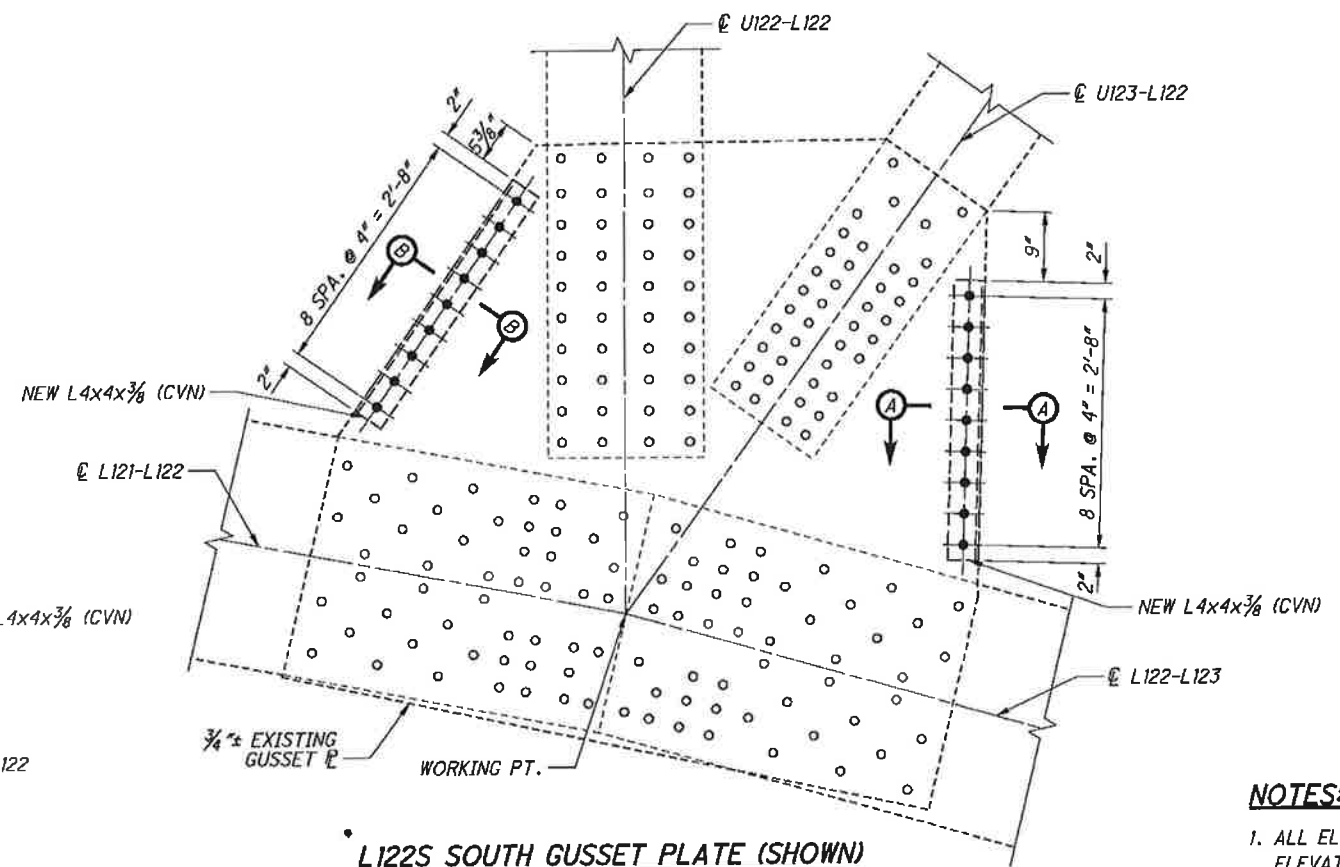
L119N SOUTH GUSSET PLATE (SHOWN)
L119N NORTH GUSSET PLATE (OPPOSITE HAND)



L120N SOUTH GUSSET PLATE (SHOWN)
L120N NORTH GUSSET PLATE (OPPOSITE HAND)



L121N SOUTH GUSSET PLATE (SHOWN)
L121N NORTH GUSSET PLATE (OPPOSITE HAND)

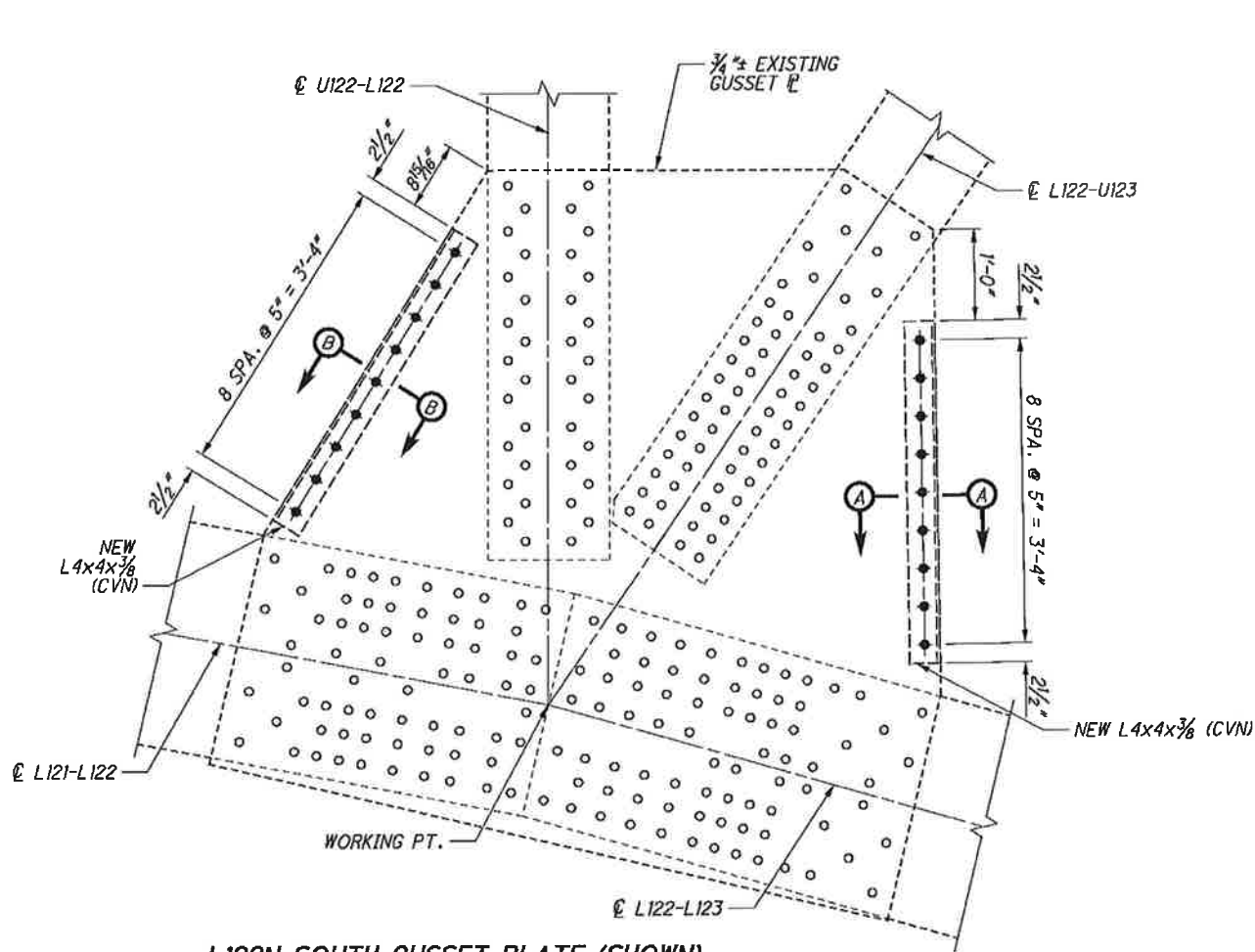


L122S SOUTH GUSSET PLATE (SHOWN)
L122S NORTH GUSSET PLATE (OPPOSITE HAND)

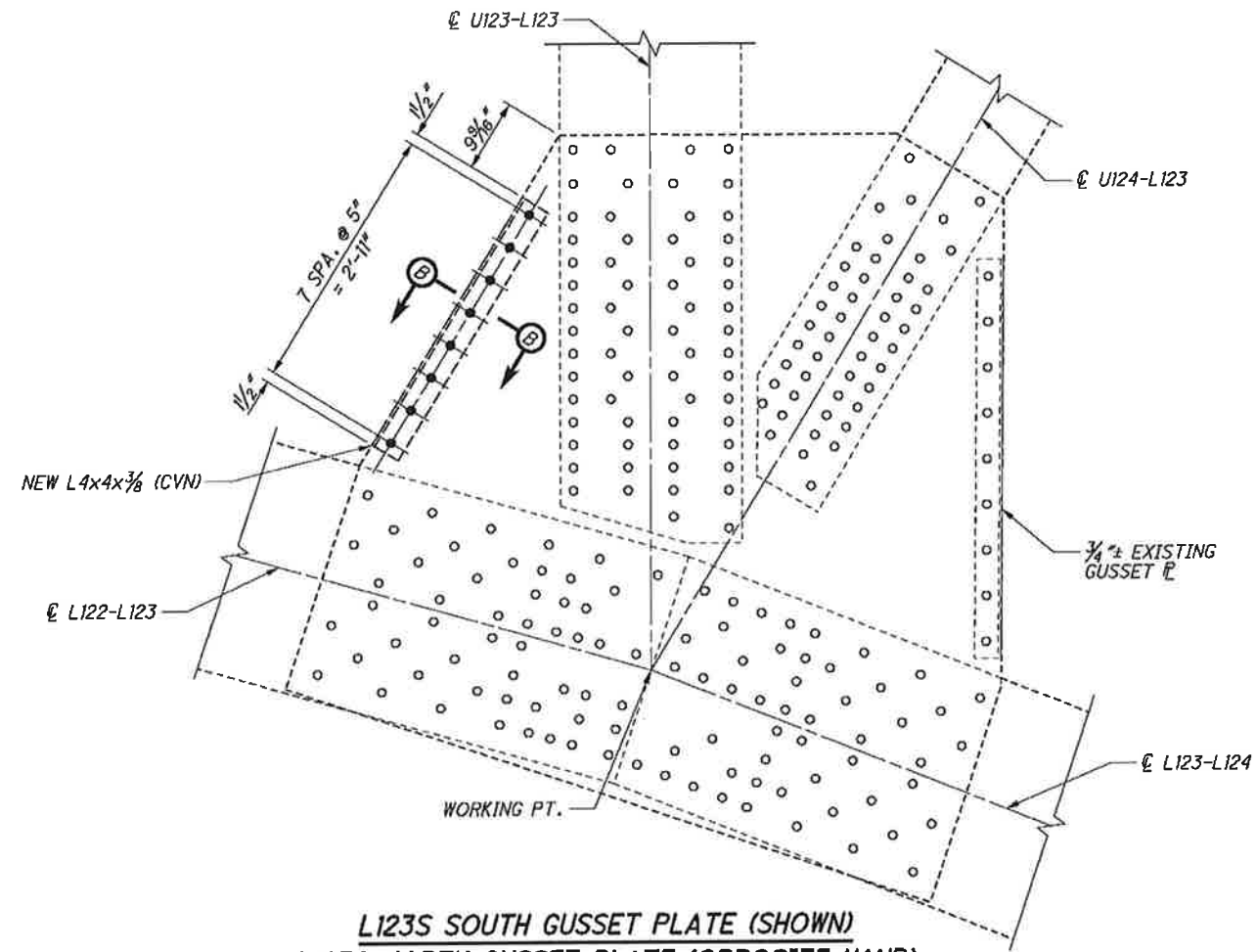
NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

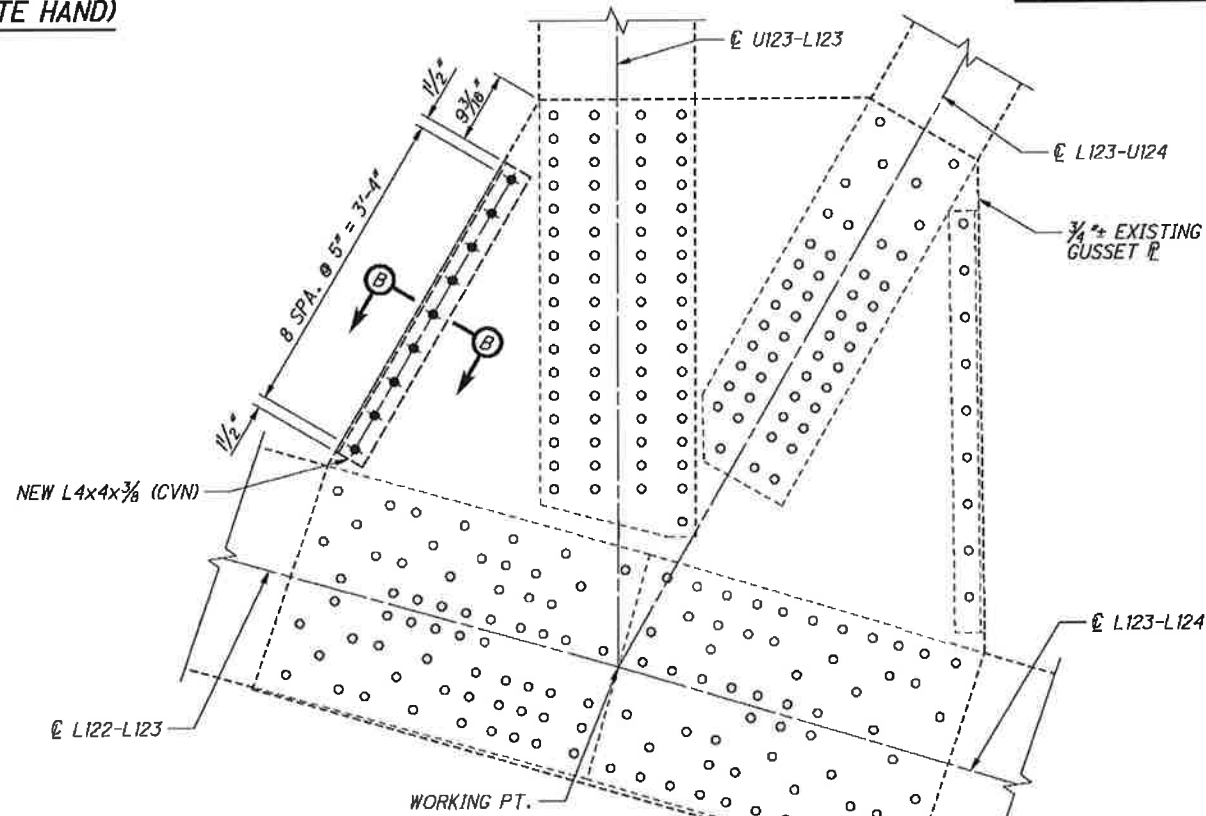
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L122N SOUTH GUSSET PLATE (SHOWN)
L122N NORTH GUSSET PLATE (OPPOSITE HAND)



L123S SOUTH GUSSET PLATE (SHOWN)
L123S NORTH GUSSET PLATE (OPPOSITE HAND)



L123N SOUTH GUSSET PLATE (SHOWN)
L123N NORTH GUSSET PLATE (OPPOSITE HAND)

- NOTES:**
1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
 2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

CUY-2-14-41
PID No. 91115

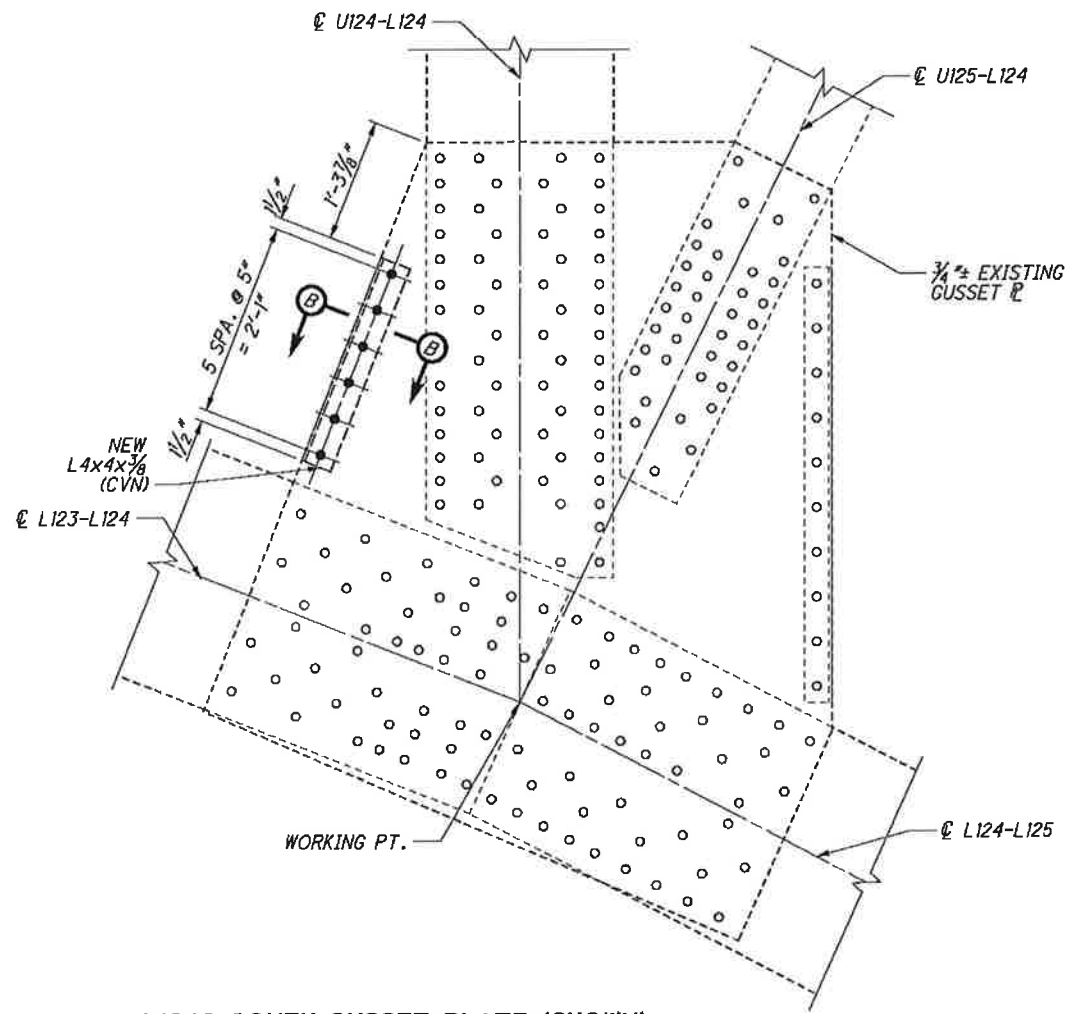
GUSSET PLATE EDGE STIFFENING DETAILS (32 OF 35)
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

DESIGNED	ESL	CHEKED	CTG
DRAWN	ESL	REVISED	
REVIEWED	WRW	STRUCTURE FILE NUMBER	1800035
DATE	08/16/13		

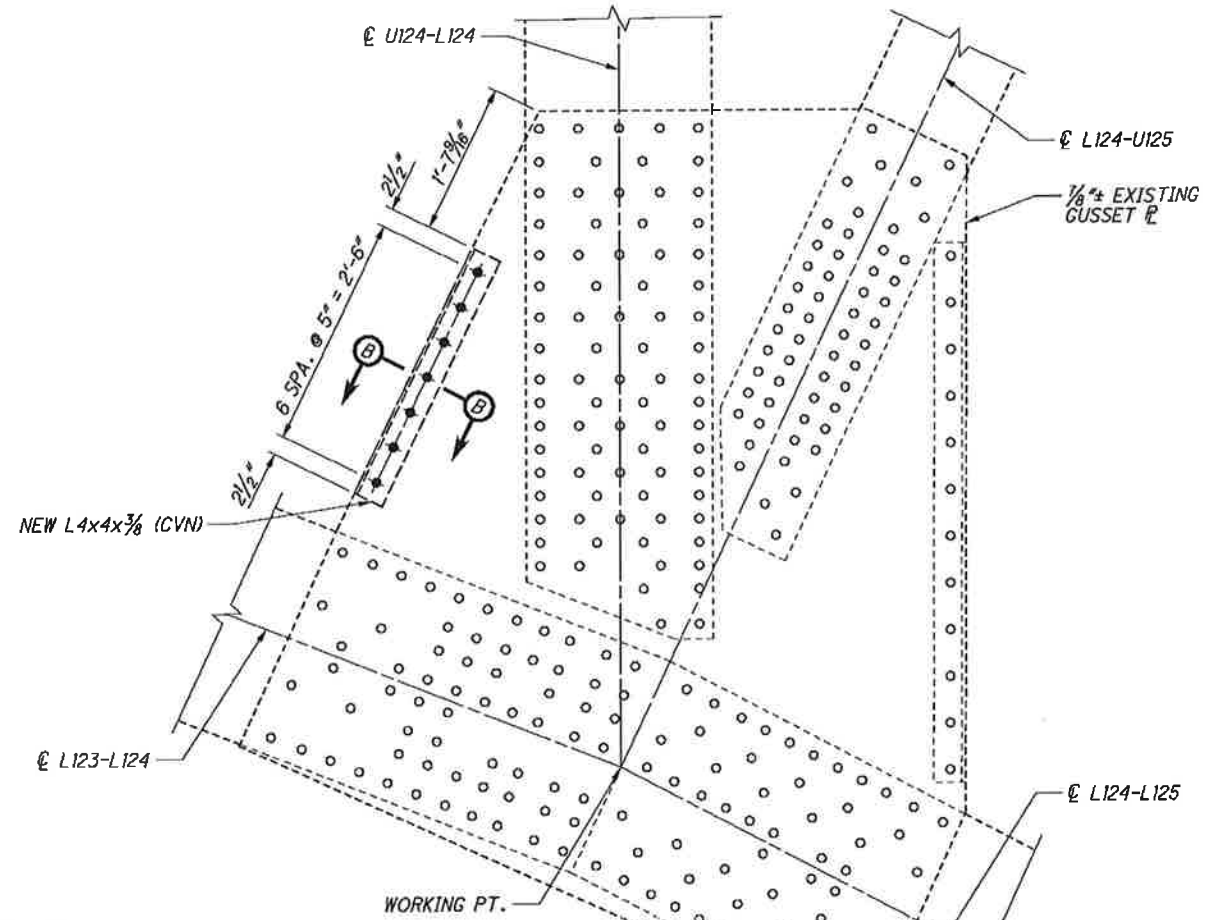
DESIGN AGENCY
TranSystems
 85 PUBLIC SQUARE, SUITE 100
 CLEVELAND, OHIO 44113

118 / 187

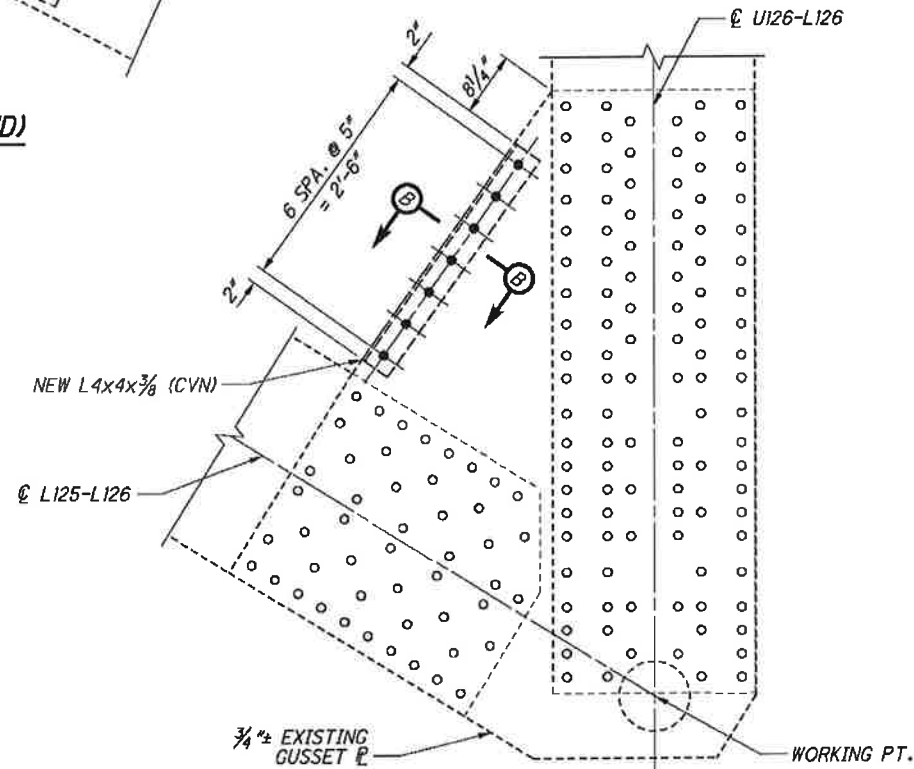
120
 189



**L124S SOUTH GUSSET PLATE (SHOWN)
L124S NORTH GUSSET PLATE (OPPOSITE HAND)**



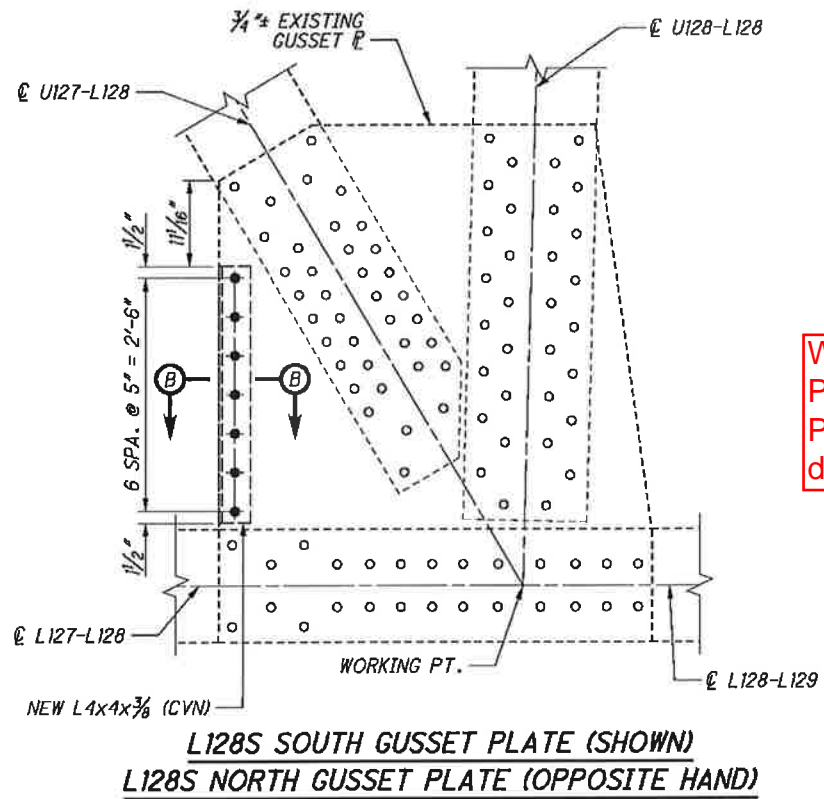
**L124N SOUTH GUSSET PLATE (SHOWN)
L124N NORTH GUSSET PLATE (OPPOSITE HAND)**



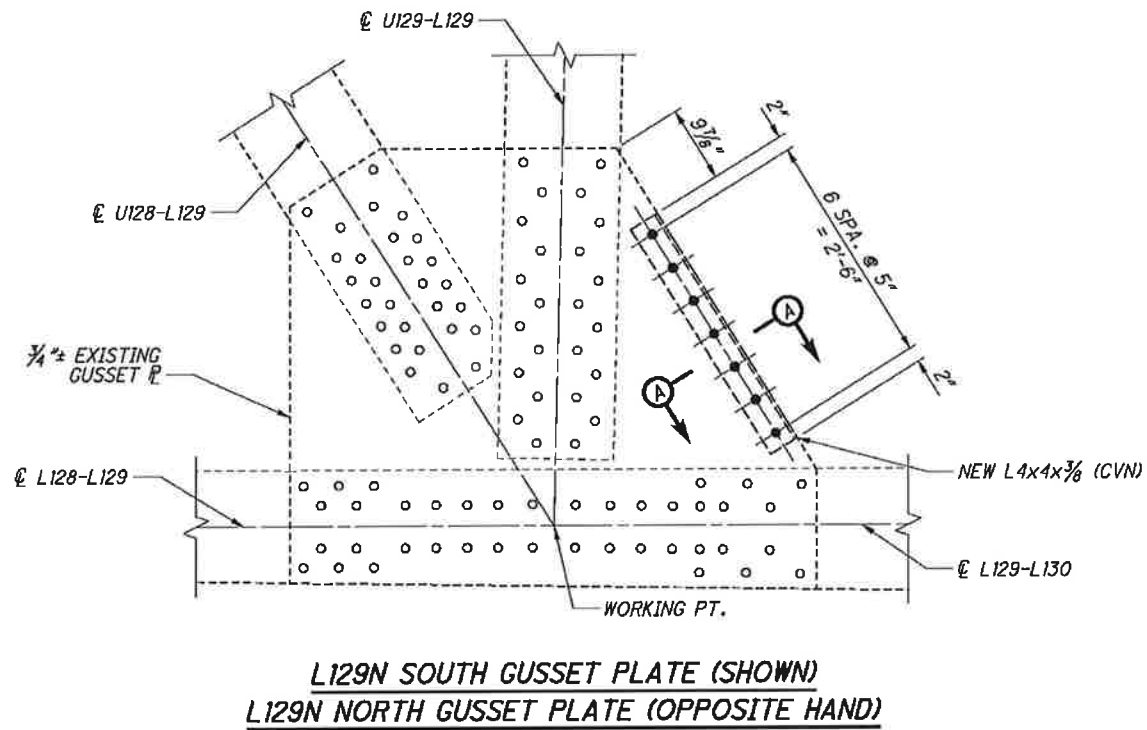
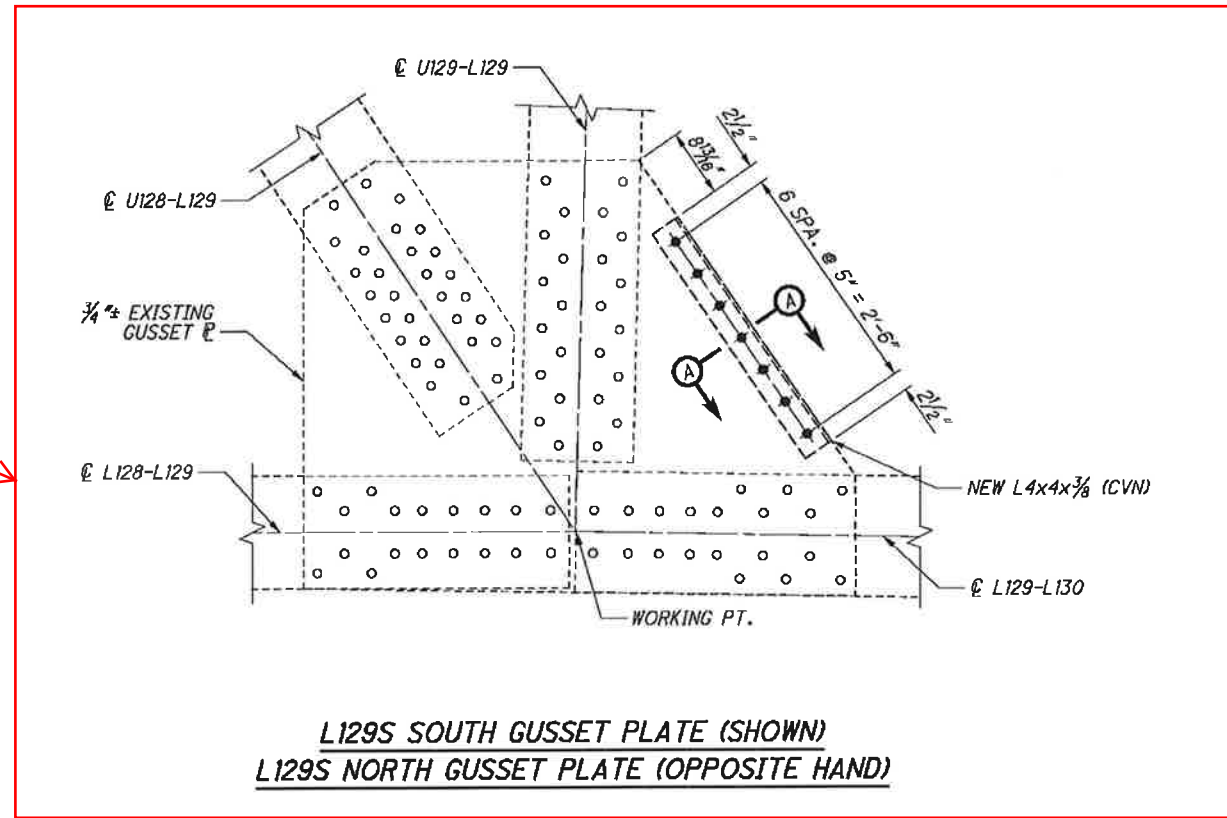
**L126N SOUTH GUSSET PLATE (SHOWN)
L126N NORTH GUSSET PLATE (OPPOSITE HAND)**

NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

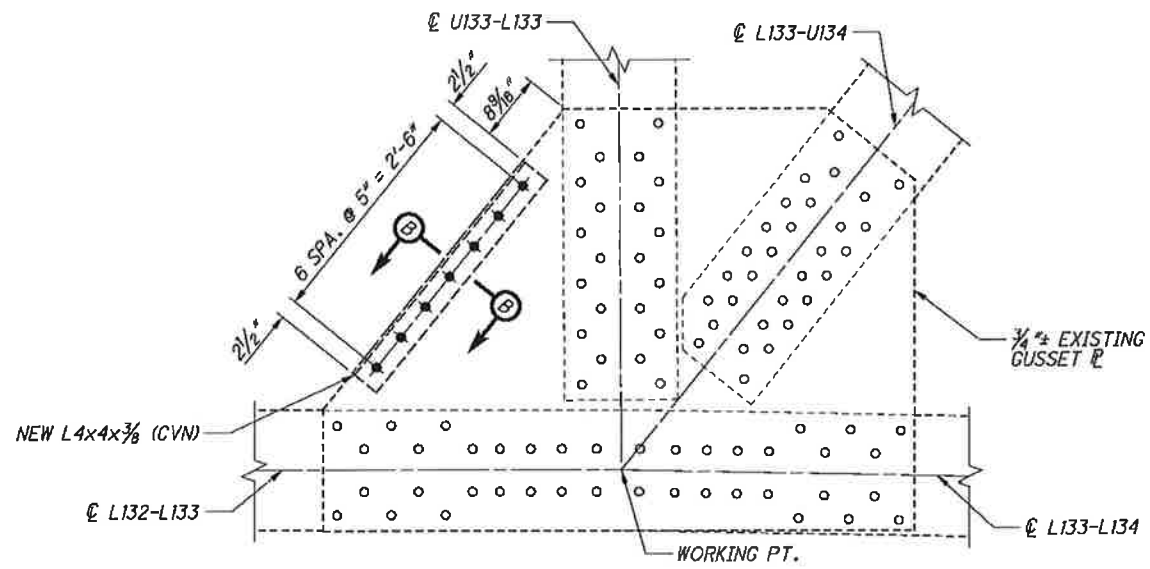


Work Not Performed As Part of This Project. Pushed to Next Phase due to RTA ROW Issues

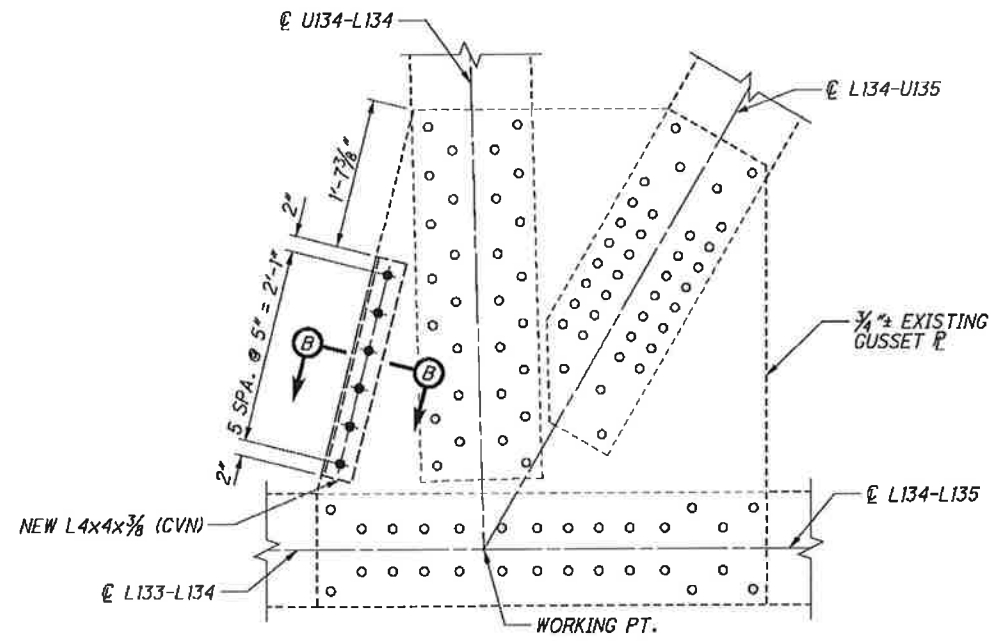


NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.



L133S SOUTH GUSSET PLATE (SHOWN)
L133S NORTH GUSSET PLATE (OPPOSITE HAND)

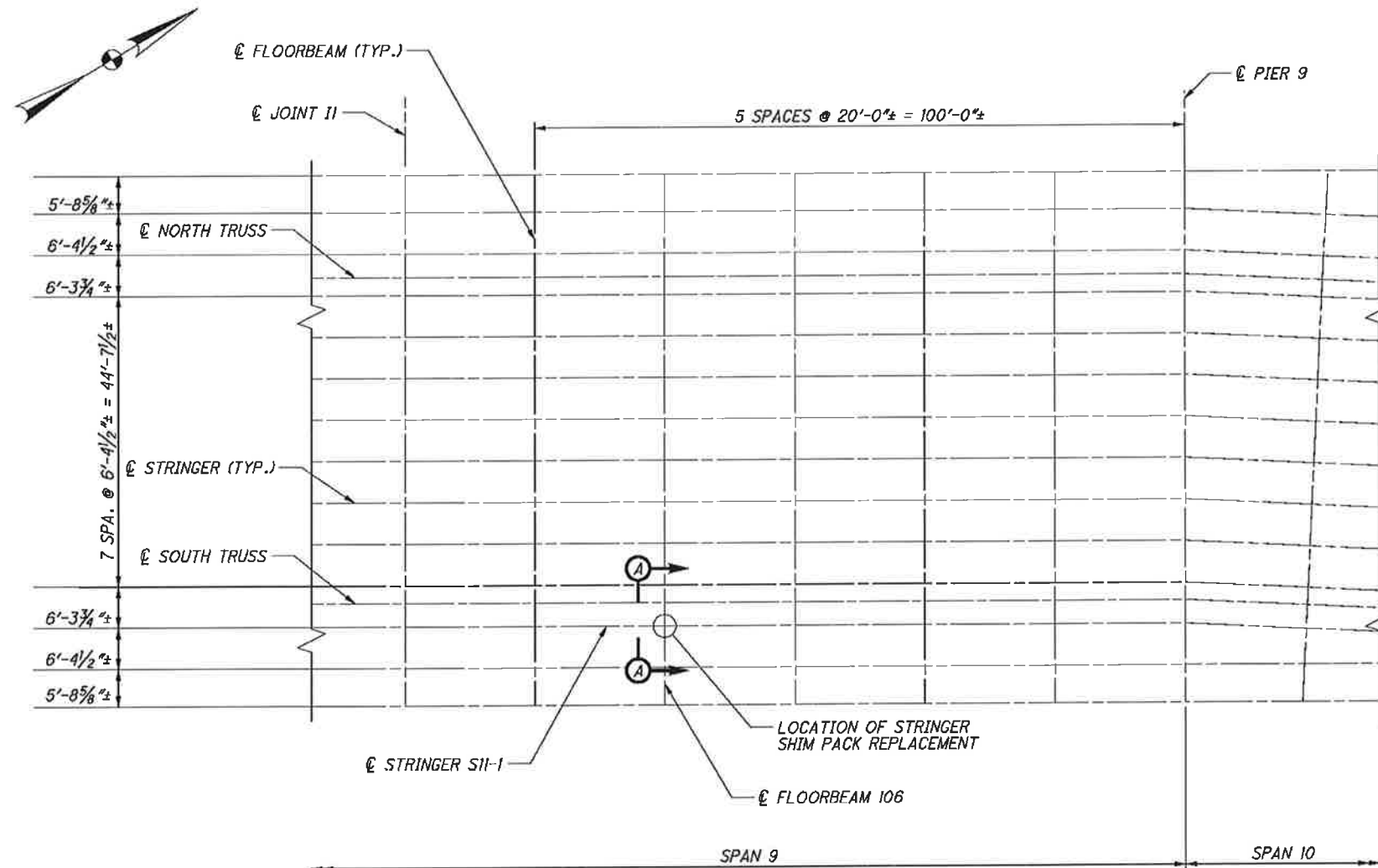


L134S SOUTH GUSSET PLATE (SHOWN)
L134S NORTH GUSSET PLATE (OPPOSITE HAND)

NOTES:

1. ALL ELEVATIONS SHOWN ARE SOUTH ELEVATIONS.
2. FOR ADDITIONAL NOTES, BOLT LEGEND, AND SECTIONS A-A THRU D-D, SEE SHEET 87 / 187.

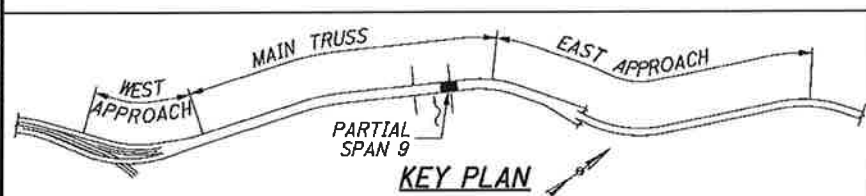
G:\CL12\0112\Bridg\Sheets\9115SD029.dgn 8/30/2013 10:38:40 AM rrfisco

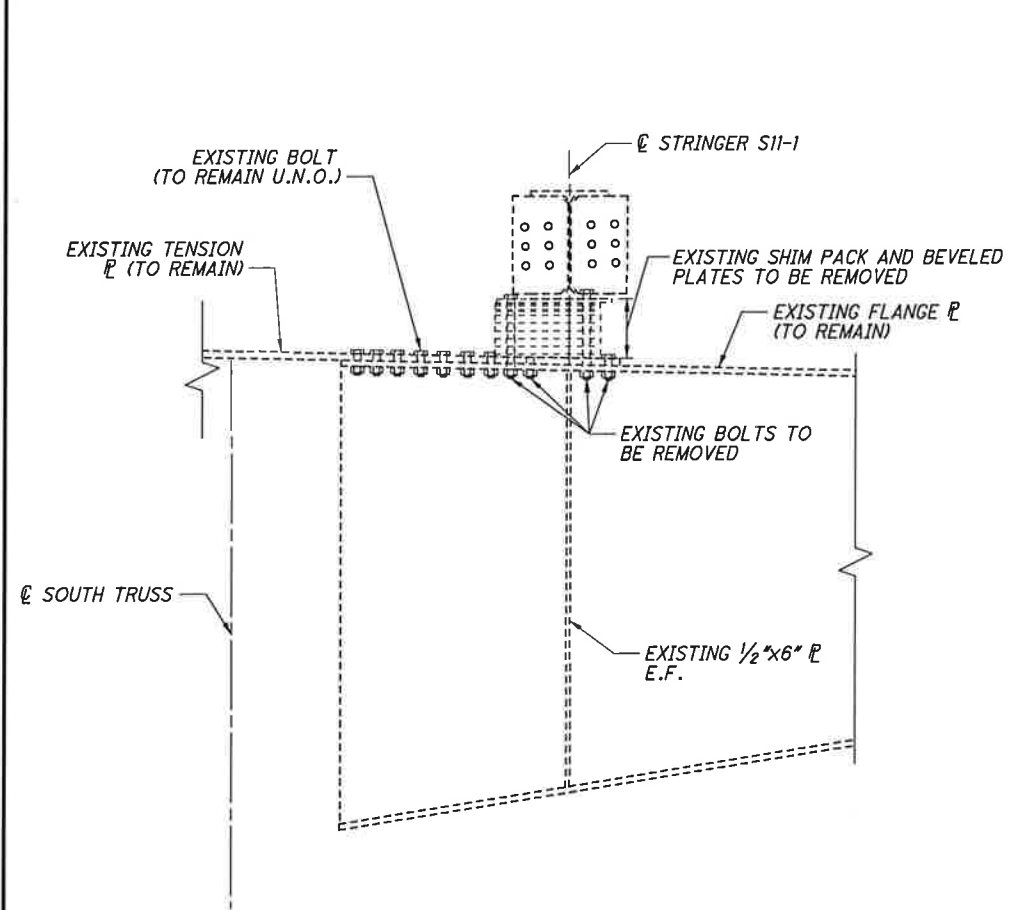


PARTIAL FRAMING PLAN - MAIN TRUSS SPAN 9

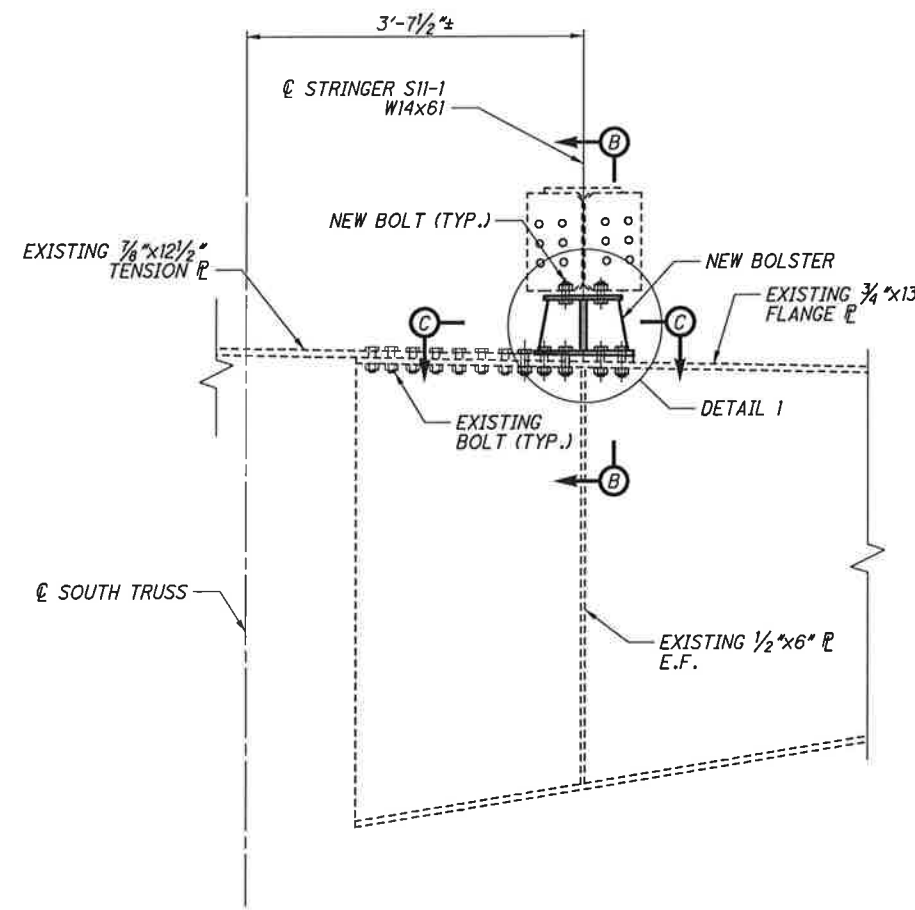
NOTES:

1. THE NEW BOLSTER, BOLTS, AND FIELD DRILLING OF BOLT HOLES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS STRINGER SHIM PACK REPLACEMENT.
2. FOR VIEW A-A, SEE SHEET **123 / 187**.
3. THE CONTRACTOR SHALL SUBMIT A JACKING SEQUENCE TO BE APPROVED BY THE ENGINEER TO REMOVE THE EXISTING SHIM PACK. THE CALCULATED JACKING LOADS FOR THE STRINGER ARE 16 KIP DEAD LOAD AND 22 KIP LIVE LOAD. ALL WORK AND MATERIALS ASSOCIATED WITH JACKING THE STRINGER SHALL BE PAID FOR UNDER ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN. SEE THE JACKING GENERAL NOTE ON SHEET **8 / 187**.
4. ALL MATERIALS AND LABOR ASSOCIATED WITH REMOVAL AND REPLACEMENT OF STRINGER SHIM PACK SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS STRINGER SHIM PACK REPLACEMENT.
5. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, THE NEW BOLSTER, AND ANY SURROUNDING AREAS DAMAGED DURING THE REPLACEMENT OF THE SHIM PACK. ALL PAINTING IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.

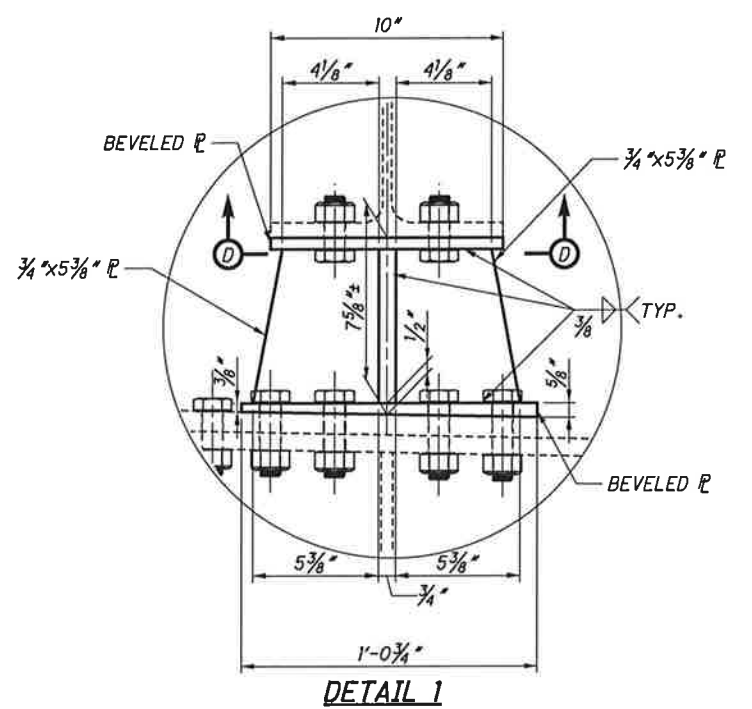




VIEW A-A - EXISTING
 (TRUSS AND DECK NOT SHOWN FOR CLARITY)

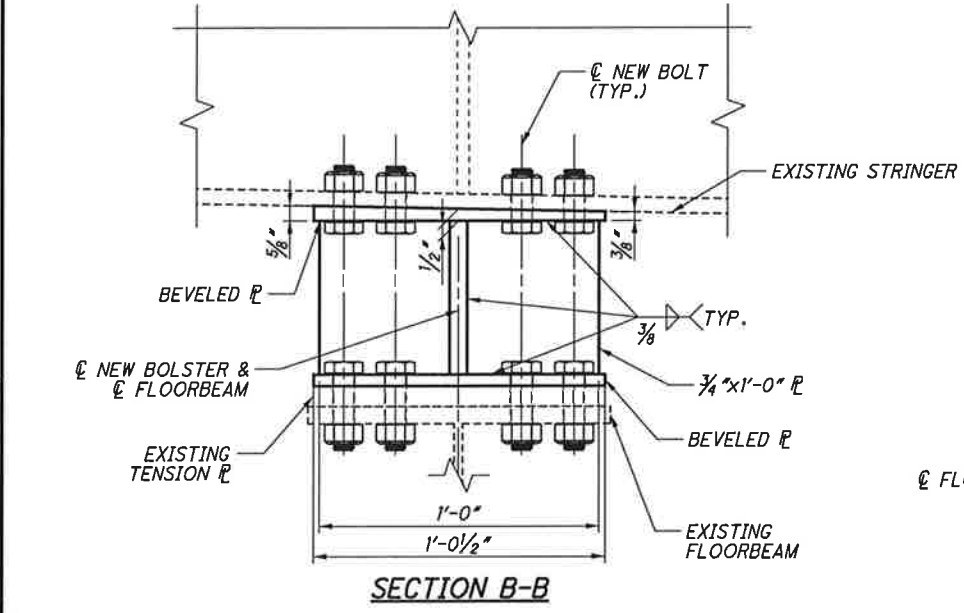


VIEW A-A - NEW
 (TRUSS AND DECK NOT SHOWN FOR CLARITY)

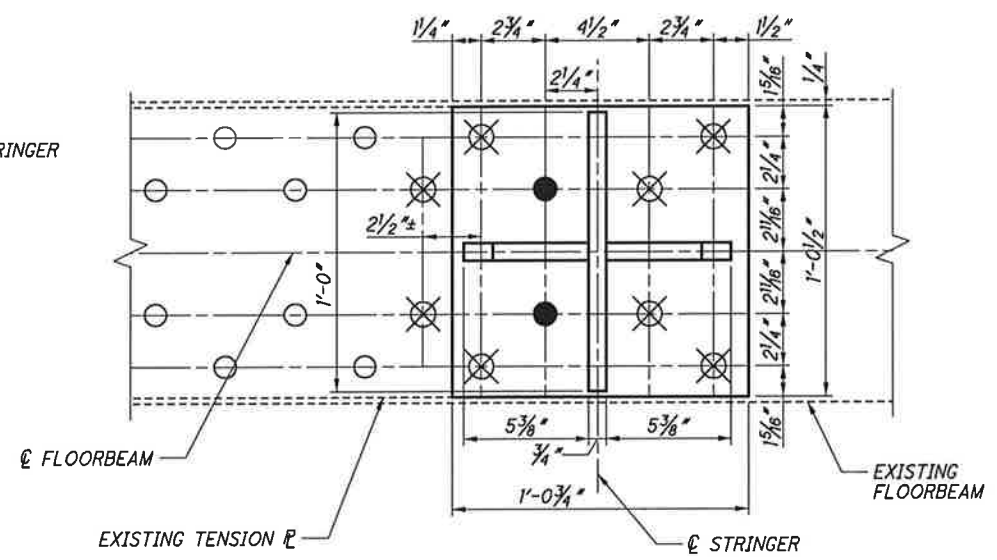


DETAIL 1

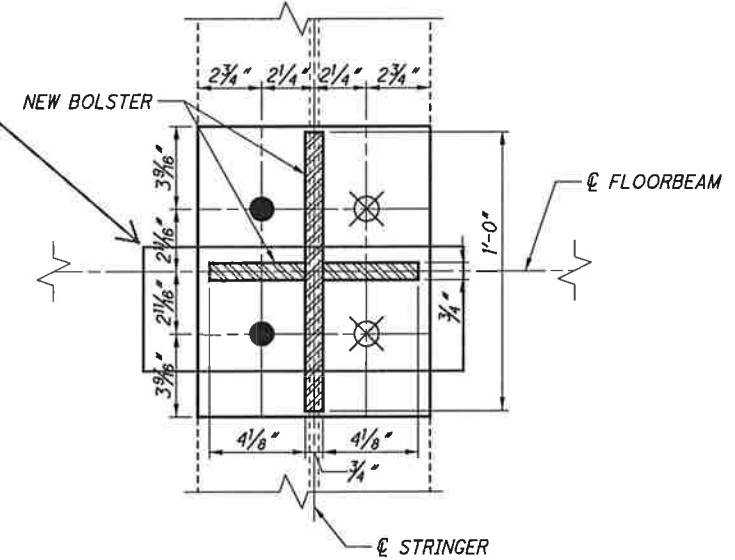
USE JAM NUTS ON THESE BOLTS IF CHANNEL BOTTOM FLANGE NOT TRIMMED



SECTION B-B



SECTION C-C



SECTION D-D

BOLT LEGEND:

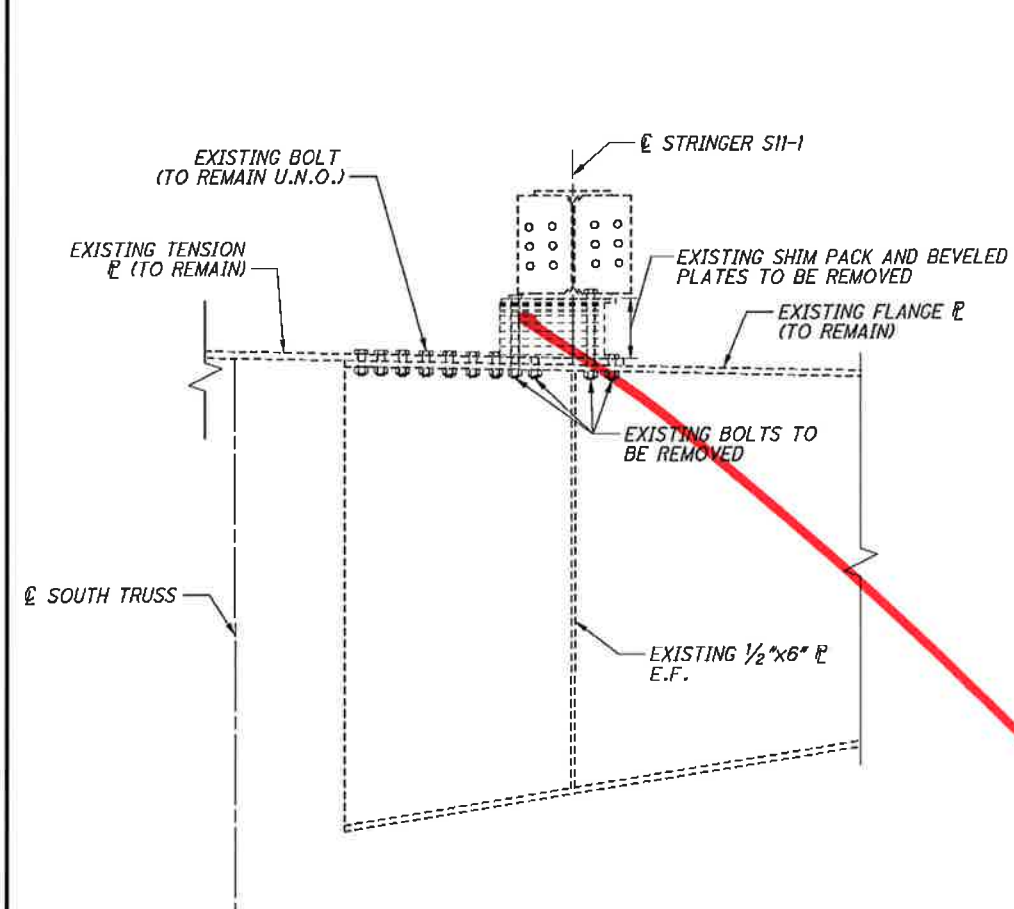
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 15/16"φ HOLE FOR NEW 7/8"φ A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8"φ A325 BOLT.

NOTES:

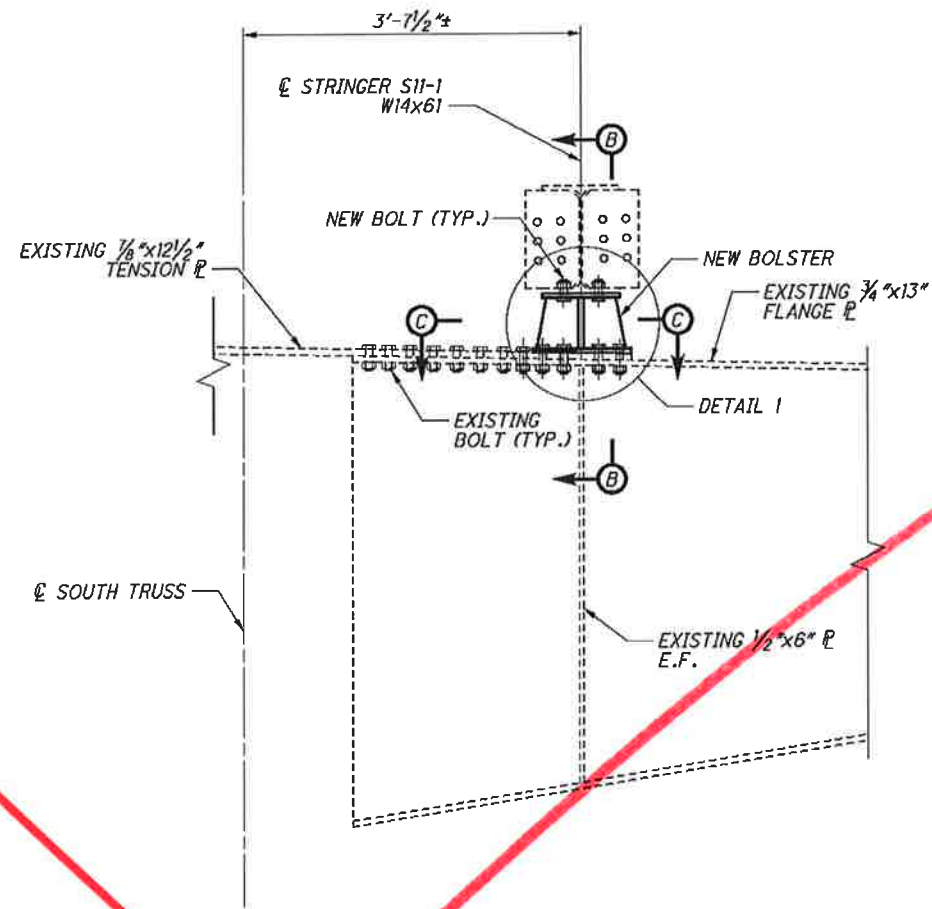
1. FOR LOCATION OF VIEW A-A AND NOTES, SEE SHEET 122/187.

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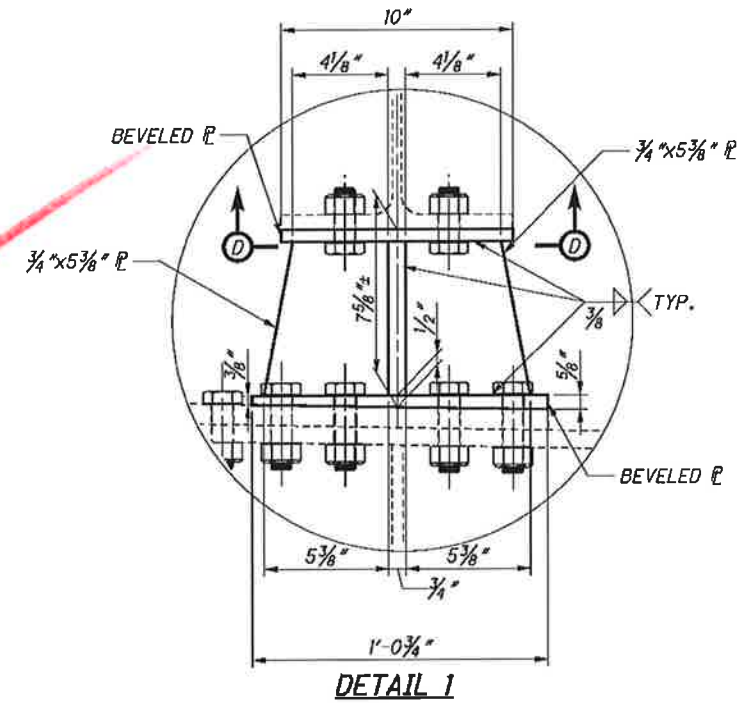
G:\CL12\0112\Bridges\Sheets\9115SD030.dgn 8/30/2013 10:38:40 AM nrfisco



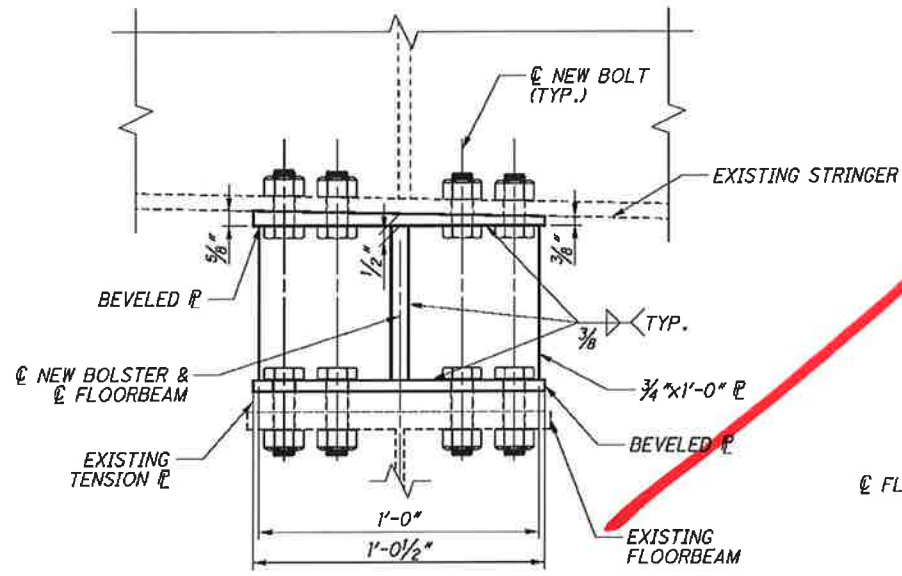
VIEW A-A - EXISTING
(TRUSS AND DECK NOT SHOWN FOR CLARITY)



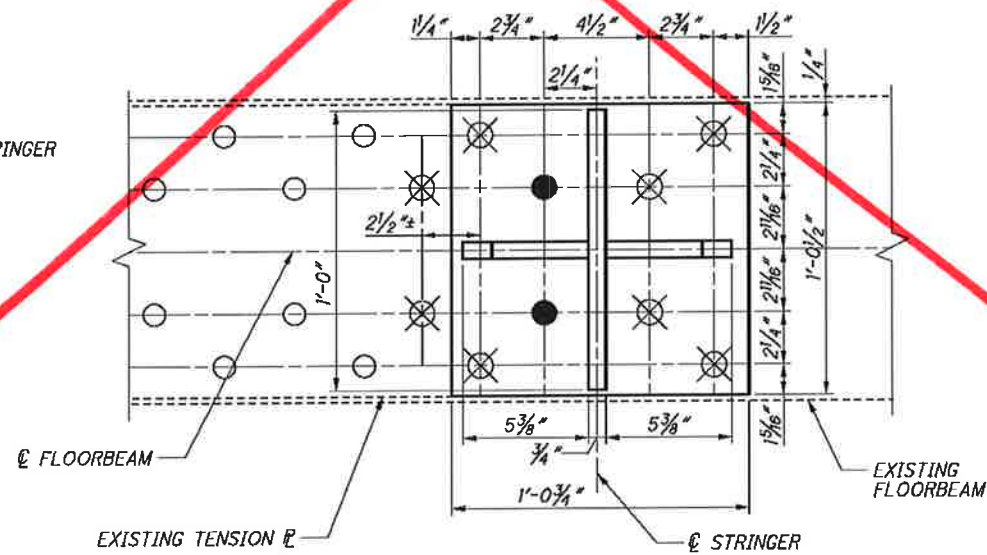
VIEW A-A - NEW
(TRUSS AND DECK NOT SHOWN FOR CLARITY)



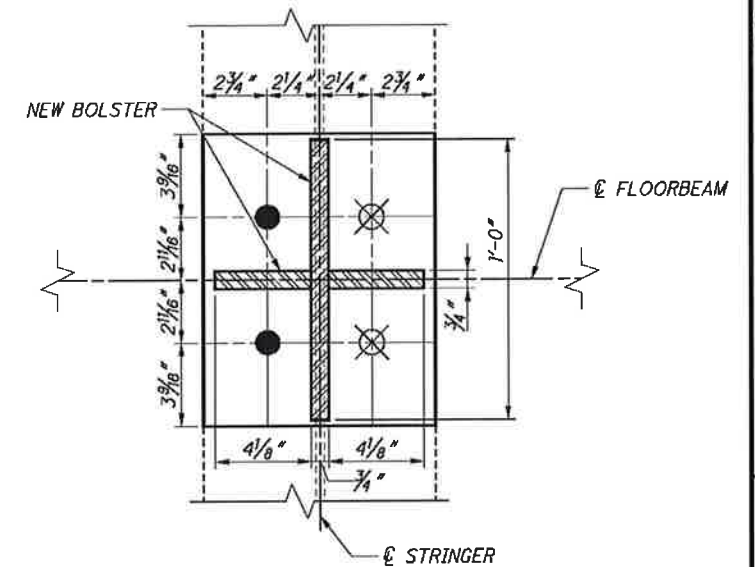
DETAIL 1



SECTION B-B



SECTION C-C



SECTION D-D

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 5/16" HOLE FOR NEW 3/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 3/8" A325 BOLT.

NOTES:

1. FOR LOCATION OF VIEW A-A AND NOTES, SEE SHEET 122 / 187.

CUY-2-14.41
PID No. 91115

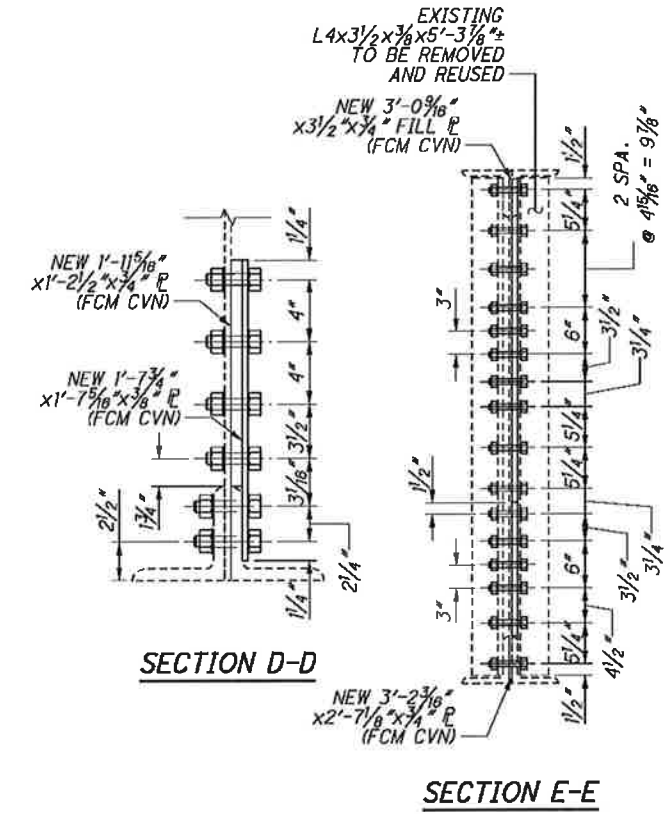
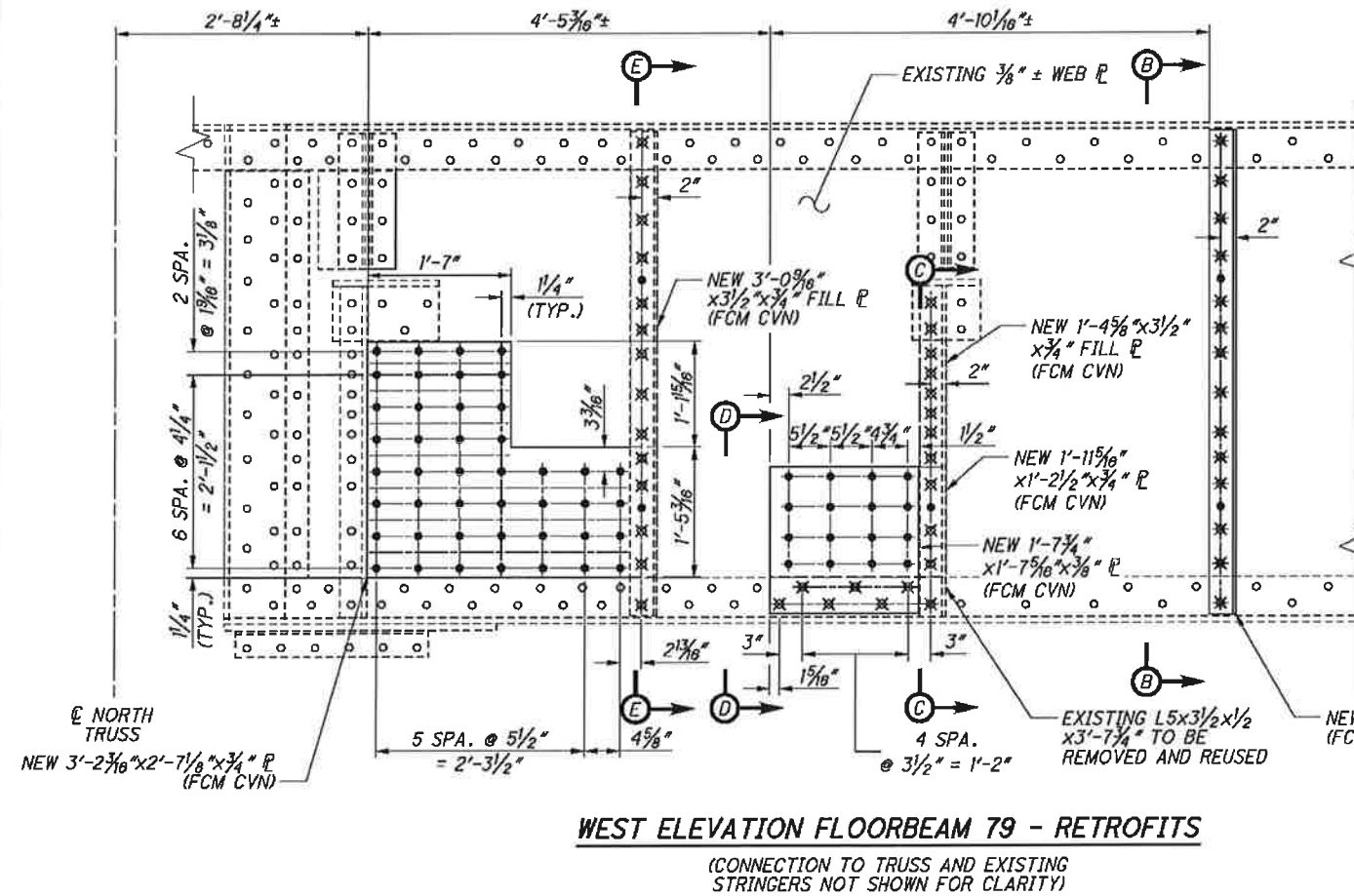
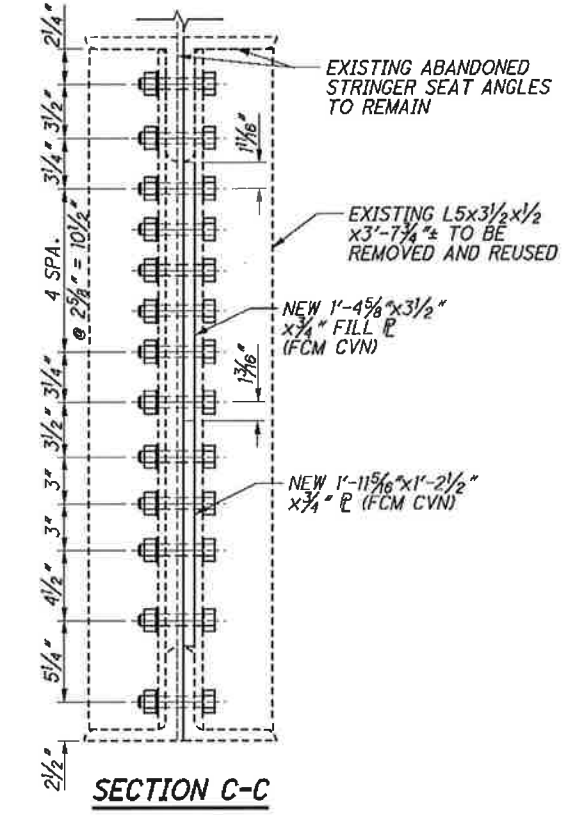
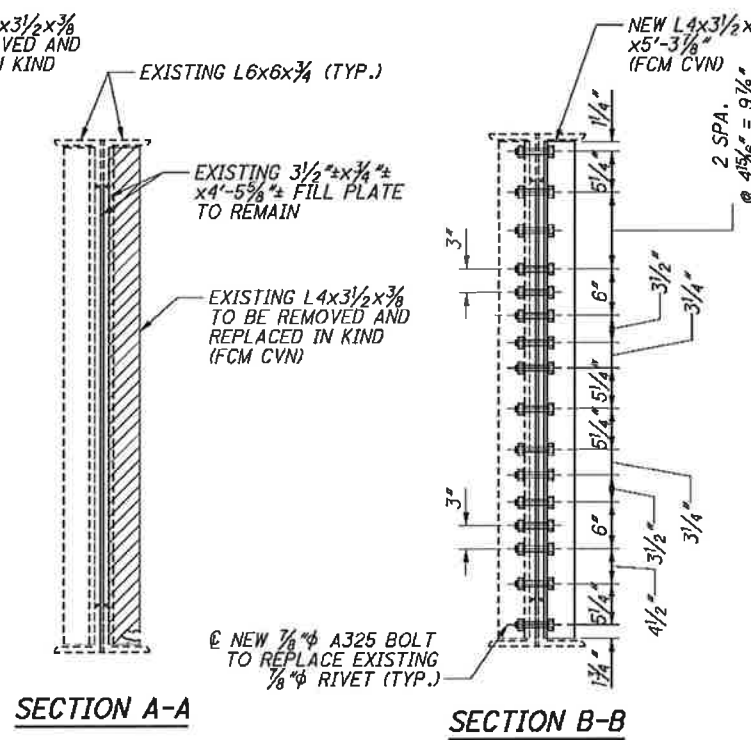
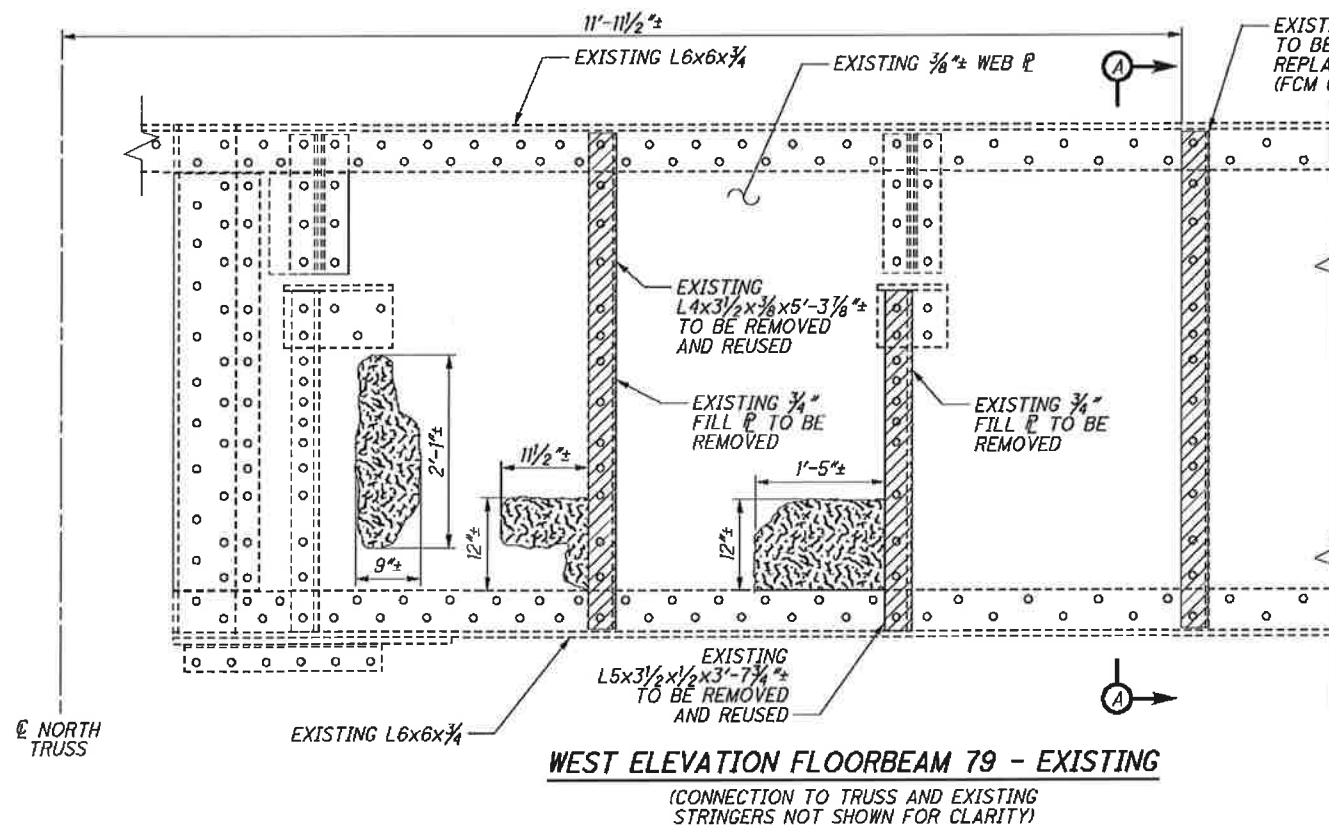
123 / 187

125
189

MAIN TRUSS STRINGER SHIM PACK REPLACEMENT AT PP106S
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED SFH
CHECKED CTG
DRAWN SFH
REVISED
REVIEWED WRW
STRUCTURE FILE NUMBER 1800035
DATE 08/16/13

DESIGN AGENCY
Train Systems
55 PUBLIC SQUARE, SUITE 1100
CLEVELAND, OHIO 44113



LEGEND:

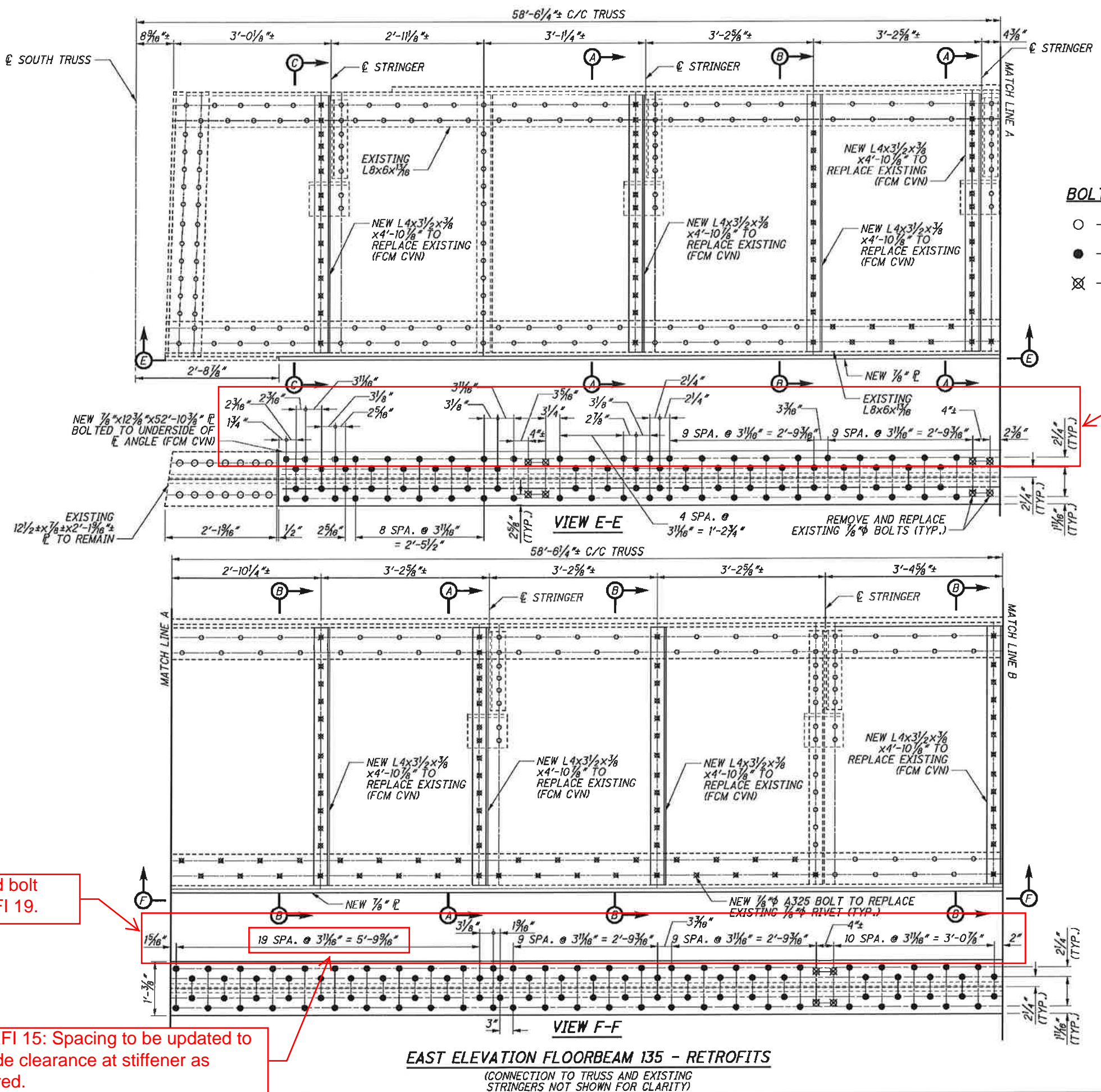
- EXISTING STEEL TO BE REMOVED.
- LIMITS OF 1/4\"/>
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 15/16\"/>
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8\"/>

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND RIVET LAYOUTS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
2. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
3. SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.
4. ALL REMOVAL OF EXISTING STEEL, NEW RETROFIT MATERIALS, AND LABOR ASSOCIATED WITH INSTALLATION OF THE RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM 79 RETROFIT.
5. THE PAINT ZONE FOR WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLOORBEAM ELEMENTS, THE NEW RETROFITS, AND ANY SURROUNDING AREAS DAMAGED DURING INSTALLATION OF THE RETROFITS. ALL PAINTING IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.
6. FOR LOCATION OF FLOORBEAM 79 SEE SHEET 50 / 187.
7. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 5 / 187.

G:\CL\12\0112\Bridges\Sheets\91115SD\130.dgn 8/30/2013 10:38:41 AM nrfisco

DESIGN AGENCY Train Systems <small>55 PUBLIC SQUARE, SUITE 1000 CLEVELAND, OHIO 44113</small>
DATE 08/16/13
REVIEWED WRW
DRAWN NRF
DESIGNED NRF
CHECKED NMR
STRUCTURE FILE NUMBER 1800035
REVISIONS 1800035
MAIN TRUSS FLOORBEAM 79 DETAILS MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER
CUY-2-14.41 PID No. 91115
126 189



BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" HOLE FOR NEW 7/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" A325 BOLT.

Provide updated bolt spacings per RFI 19.

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND RIVET LAYOUTS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
2. QUANTITY OF FLOORBEAM BOTTOM FLANGE RIVETS REQUIRING REPLACEMENT MAY DIFFER FROM THAT SHOWN. CONTRACTOR SHALL REPLACE RIVETS AS DIRECTED BY THE ENGINEER.
3. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
4. REMOVE AND REPLACE ONE RIVET AT A TIME IN THE FLOORBEAM BOTTOM FLANGE ANGLES ATTACHED TO THE WEB. ENSURE THAT THE NEW BOLT IS COMPLETELY TIGHTENED BEFORE THE NEXT RIVET IS REMOVED AND REPLACED.
5. REMOVE AND REPLACE ONE WEB STIFFENER AT A TIME. ENSURE ALL BOLTS ARE COMPLETELY TIGHTENED BEFORE THE NEXT STIFFENER IS REMOVED AND REPLACED.
6. FOR SECTIONS A-A, B-B AND C-C, SEE SHEET 126 / 187.
7. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
8. FOR LOCATION OF FLOORBEAM 135 SEE SHEET 52 / 187.
9. CONTRACTOR SHALL SUBMIT PROPOSED SEQUENCE OF CONSTRUCTION TO THE ENGINEER FOR APPROVAL.
10. ALL REMOVAL OF EXISTING STEEL, NEW RETROFIT MATERIALS, AND LABOR ASSOCIATED WITH INSTALLATION OF THE RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM 135 RETROFIT.
11. THE PAINT ZONE FOR WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLOORBEAM ELEMENTS, THE NEW RETROFITS, AND ANY SURROUNDING AREAS DAMAGED DURING INSTALLATION OF THE RETROFITS. ALL PAINT IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.

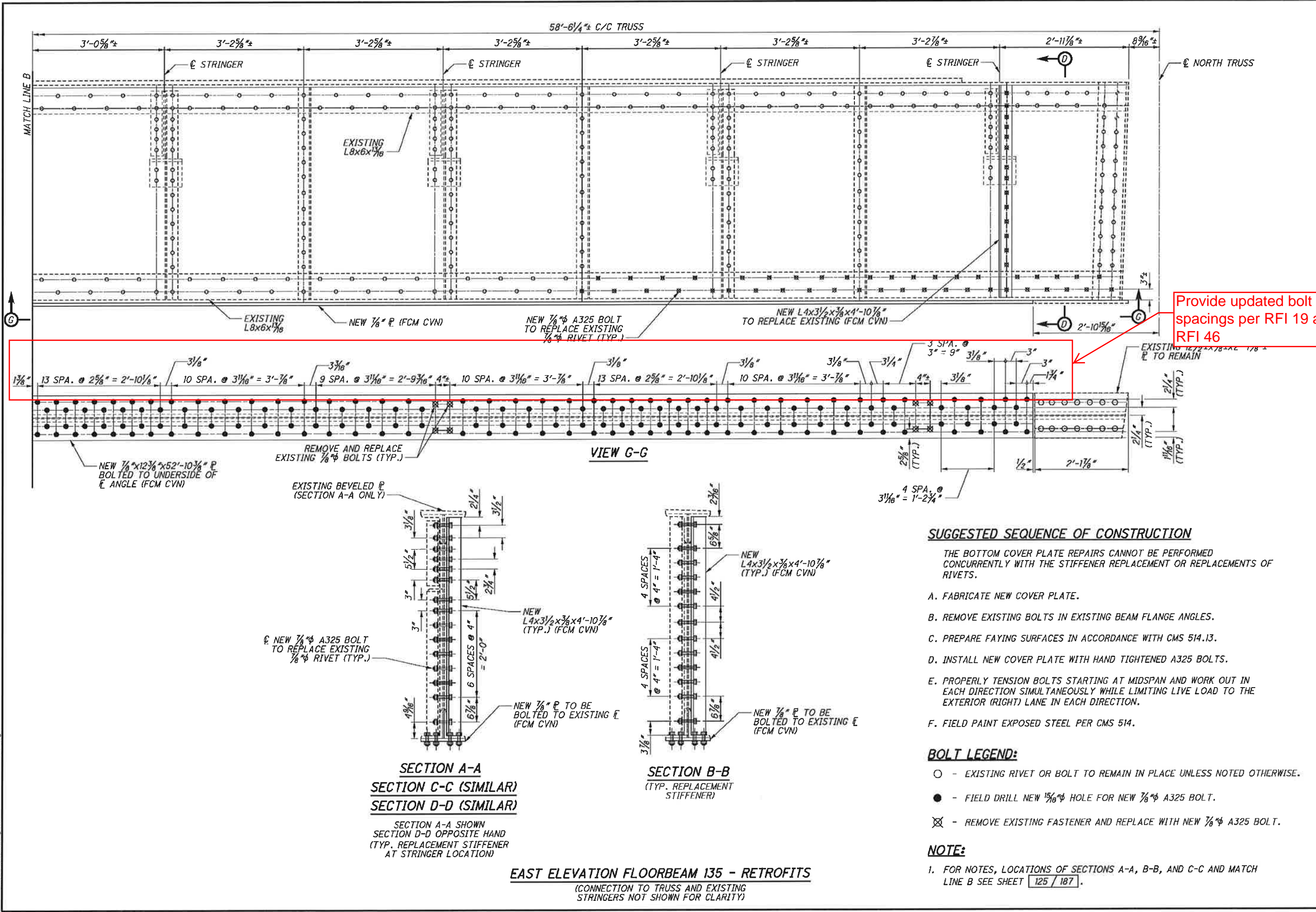
Provide updated bolt spacings per RFI 19.

Per RFI 15: Spacing to be updated to provide clearance at stiffener as required.

8/30/2013 10:38:42 AM nr:fisco

G:\CL\12\0112\Bridge\Sheets\91115

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Provide updated bolt spacings per RFI 19 and RFI 46

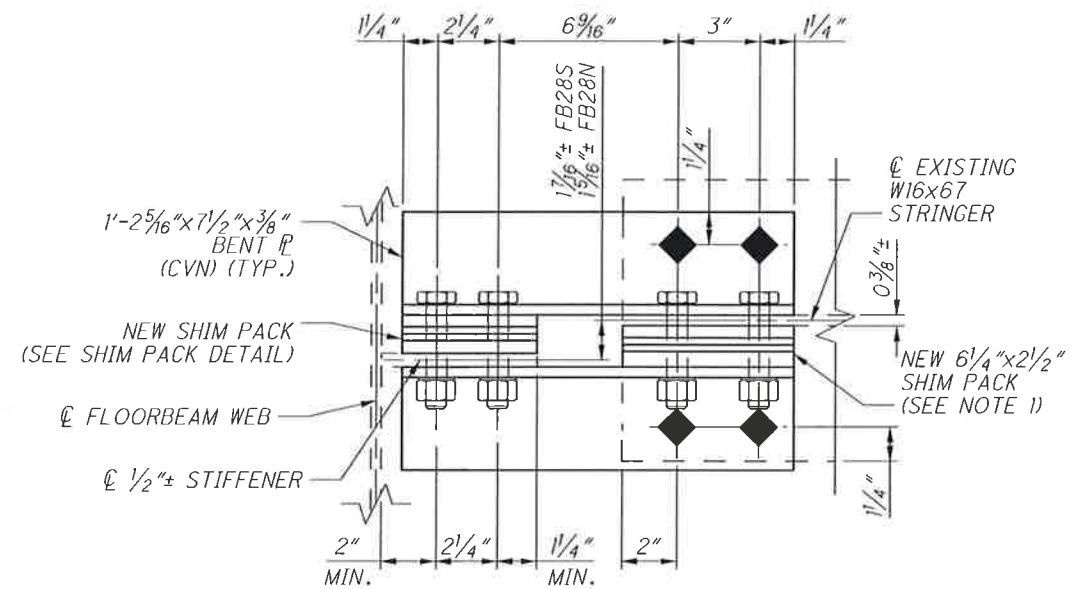
DESIGN AGENCY TranSystems 95 PUBLIC SQUARE, SUITE 500 CLEVELAND, OHIO 44113	
DATE 08/16/13	REVIEWED WRW
STRUCTURE FILE NUMBER 1800035	DRAWN DMD
NMR	REVISED

MAIN TRUSS FLOORBEAM 135 DETAILS (2 OF 2)
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

CUY-2-14.41
PID No. 91115

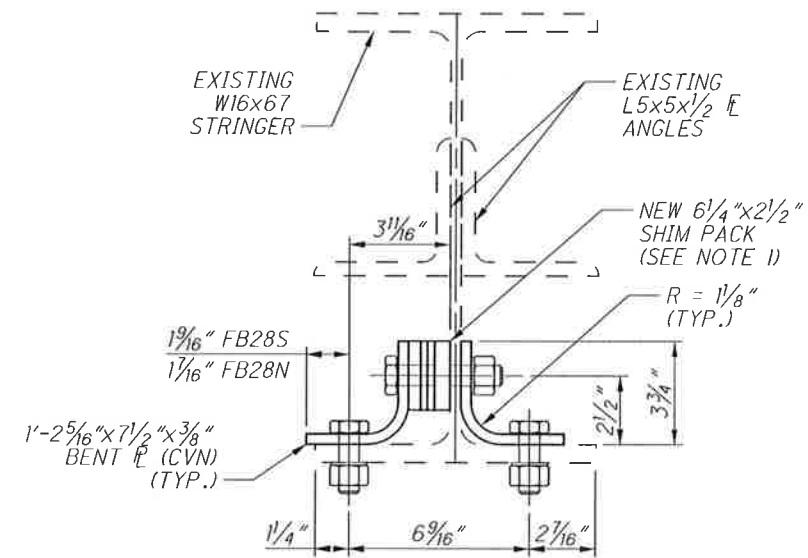
126/187

128
189



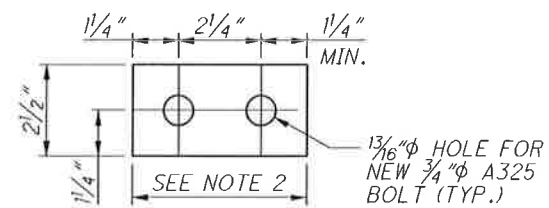
FLOORBEAM 28 MODIFIED SECTION G-G

(SOUTH FLOORBEAM SHOWN, NORTH FLOORBEAM SIMILAR)



FLOORBEAM 28 MODIFIED SECTION E-E

(SOUTH FLOORBEAM SHOWN, NORTH FLOORBEAM SIMILAR)



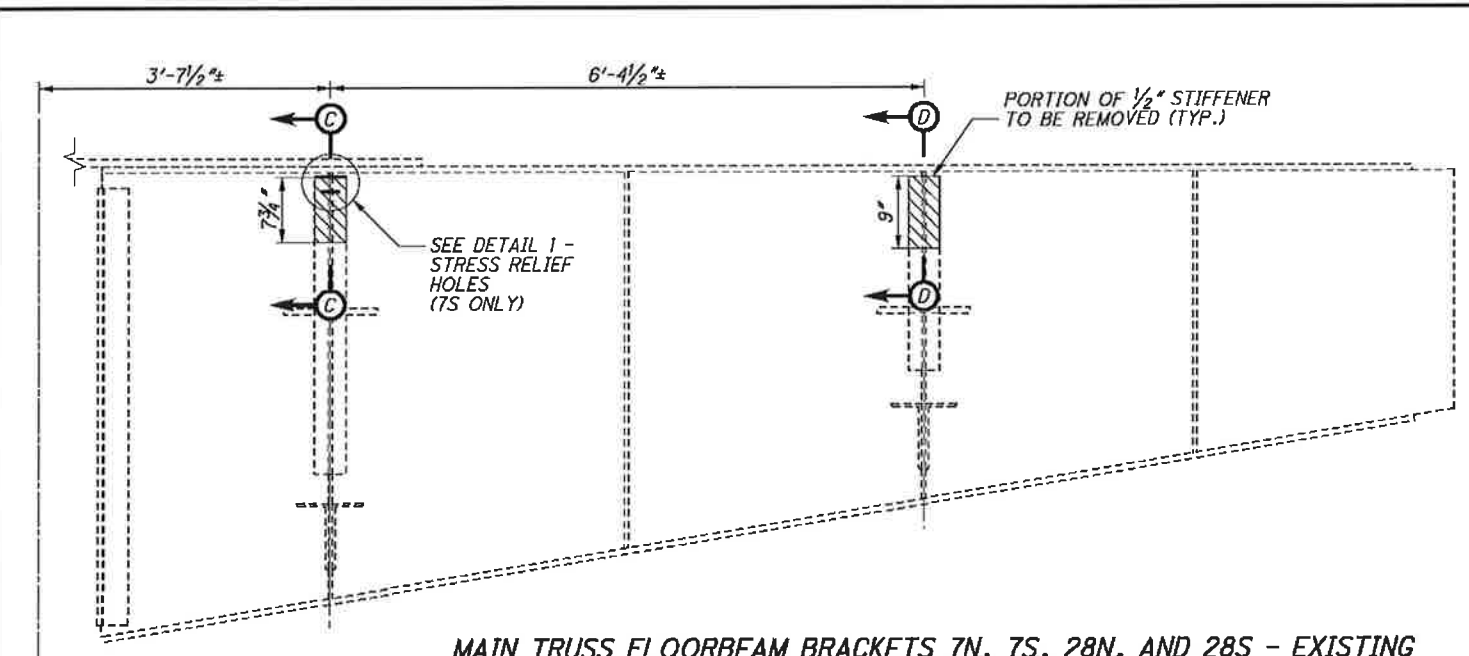
SHIM PACK DETAIL

(SEE NOTE 1)

NOTES:

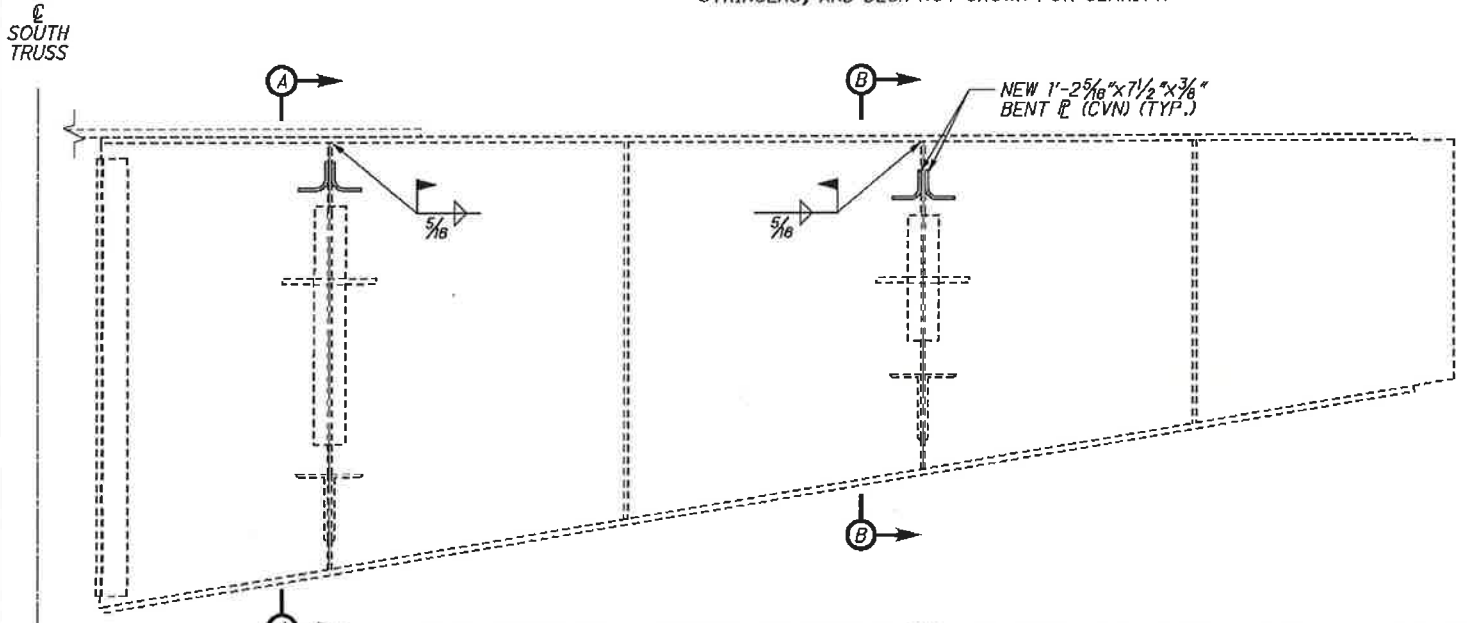
1. SHIMS SHALL HAVE A MINIMUM THICKNESS OF 1/4".
2. THE LENGTH OF THE SHIM PACK ON THE STIFFENER WILL VARY BASED ON THE POSITION OF THE BENT PLATES. SHIM PACK IS TO BE INSTALLED FLUSH WITH THE FRONT (WEST) FACE OF THE STIFFENER AND FLUSH WITH THE END OF THE BENT PLATES.
3. CONTRACTOR IS TO FIELD VERIFY THE LENGTH AND THICKNESS OF THE SHIM PACKS PRIOR TO FABRICATION.

SK-31.1



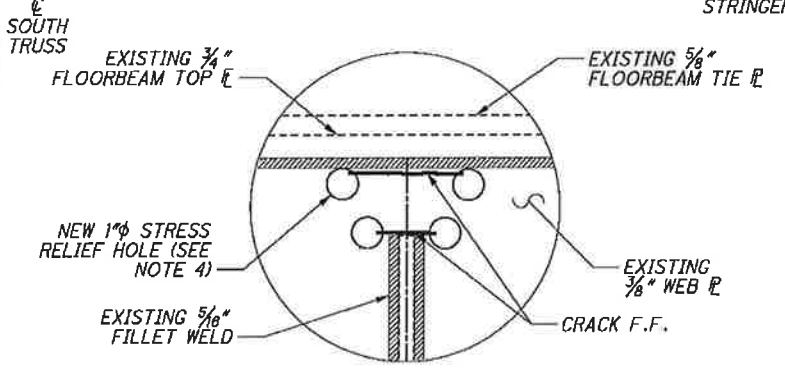
MAIN TRUSS FLOORBEAM BRACKETS 7N, 7S, 28N, AND 28S - EXISTING

WEST FACE OF FLOORBEAM 7S SHOWN (FLOORBEAMS 7N AND 28N OPPOSITE HAND)
(CONNECTION TO TRUSS, EXISTING STRINGERS, AND DECK NOT SHOWN FOR CLARITY)



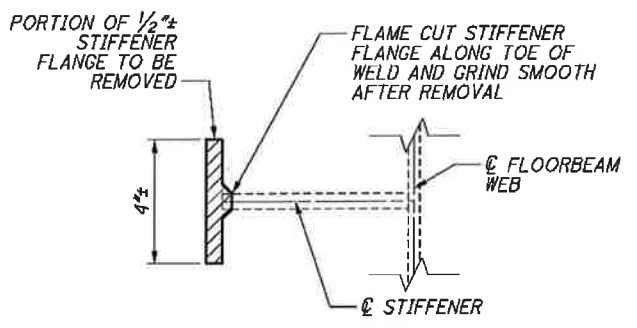
MAIN TRUSS FLOORBEAM BRACKETS 7N, 7S, 28N, AND 28S - NEW RETROFITS

WEST FACE OF FLOORBEAM 7S SHOWN (FLOORBEAMS 7N AND 28N OPPOSITE HAND)
(CONNECTION TO TRUSS, EXISTING STRINGERS AND DECK NOT SHOWN FOR CLARITY)

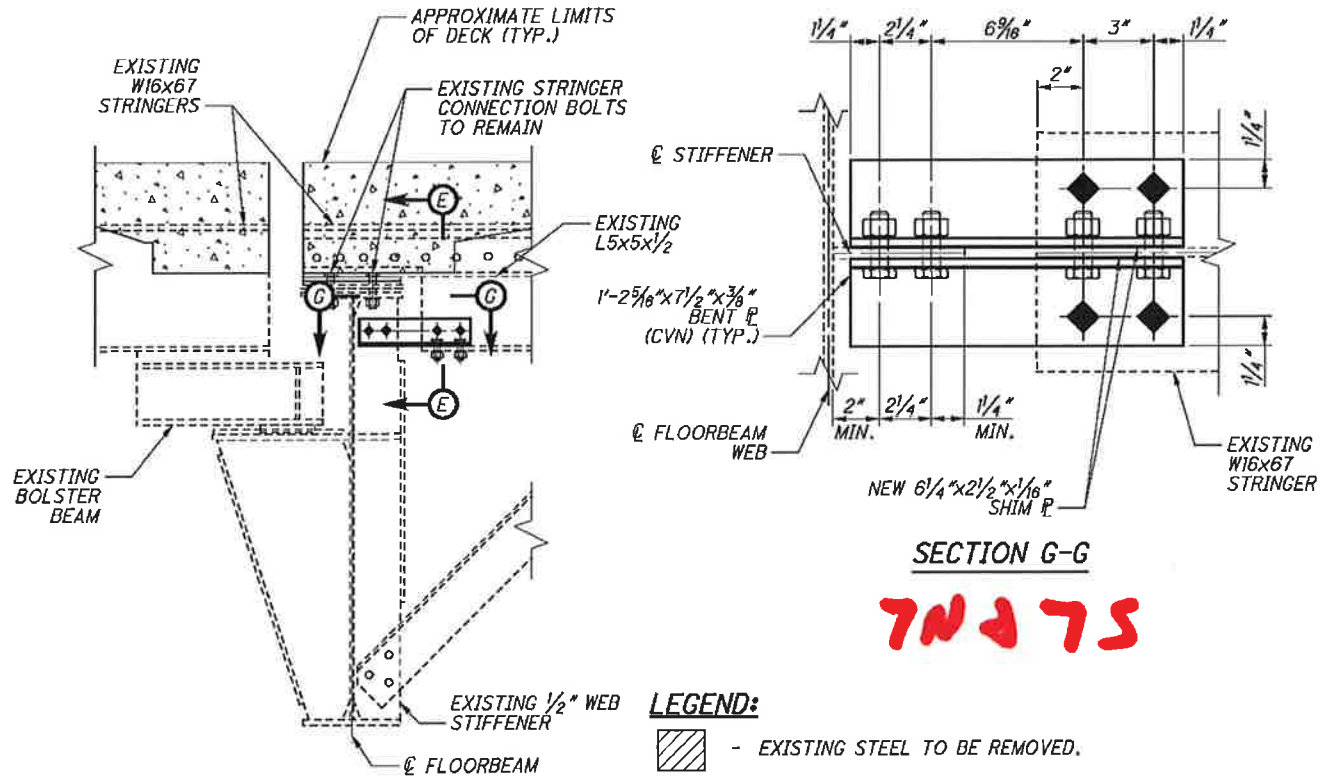


DETAIL 1 - STRESS RELIEF HOLE

FLOORBEAM BRACKET 7S ONLY
(SEE NOTES 3 AND 4 FOR CRACK INVESTIGATION AND STRESS RELIEF HOLES)



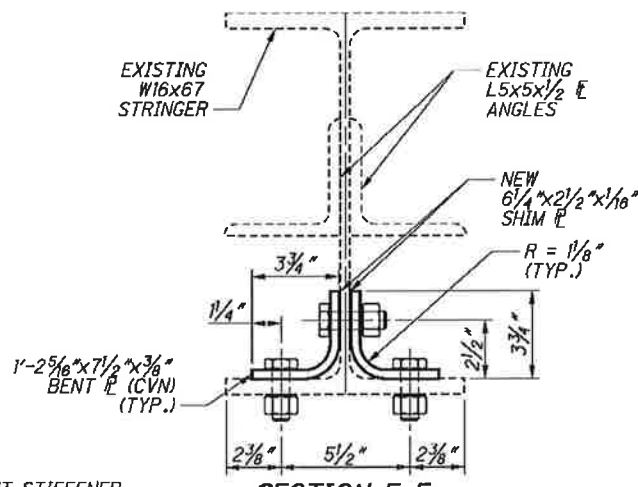
SECTION F-F



SECTION G-G

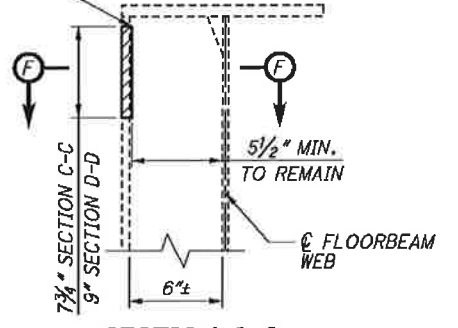
7N & 7S

SECTION A-A
SECTION B-B (SIMILAR)
(JOINT ASSEMBLY NOT SHOWN FOR CLARITY)



SECTION E-E

7N & 7S



SECTION C-C
SECTION D-D (SIMILAR)
(TIE PLATE NOT SHOWN FOR CLARITY)

LEGEND:

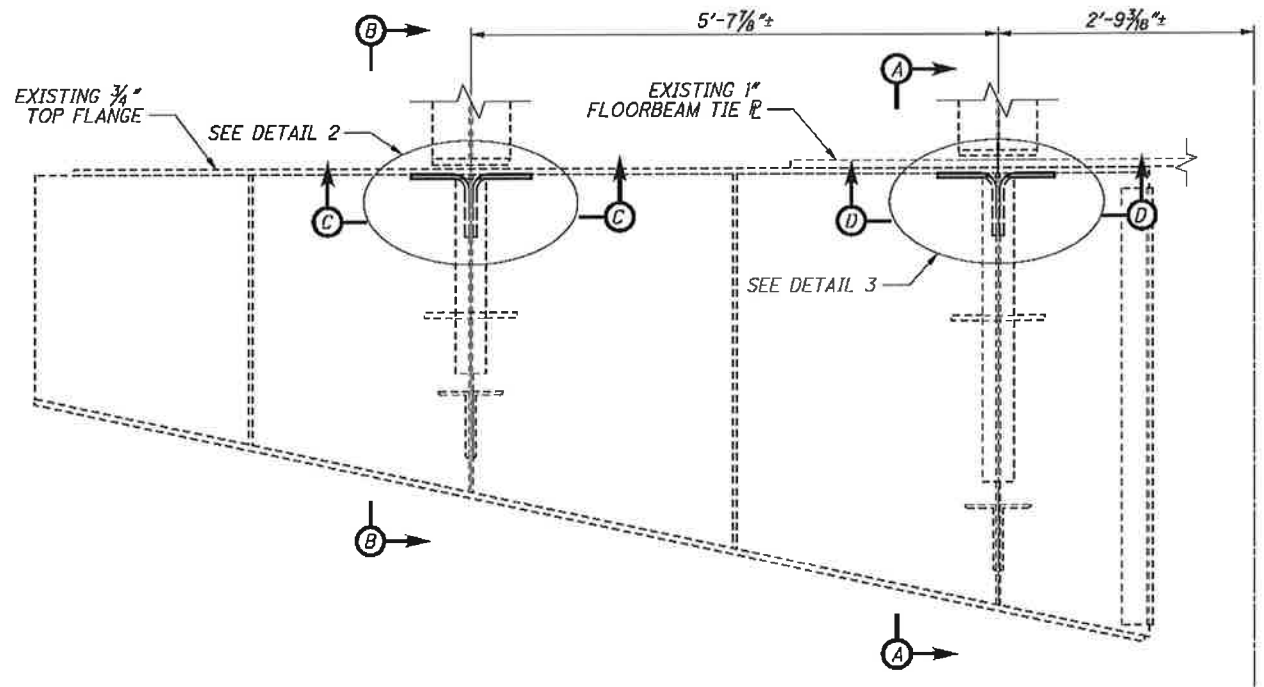
- EXISTING STEEL TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 1 3/16" DIA HOLE FOR NEW 3/4" A325 BOLTS.

NOTES:

1. 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. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND BOLT LAYOUTS.
2. SOME CONNECTION ANGLES, PLATES AND BOLTS ARE NOT SHOWN FOR CLARITY.
3. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH THE INVESTIGATION OF THE CRACKS SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NON-DESTRUCTIVE TESTING. FOR GENERAL REQUIREMENTS AND INSTRUCTIONS, SEE SHEET **7 / 187**.
4. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH THE DRILLING OF CRACK STRESS RELIEF HOLES SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: STRESS RELIEF HOLE RETROFIT. FOR GENERAL REQUIREMENTS AND INSTRUCTIONS, SEE SHEET **5 / 187**.
5. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT AT EACH STRINGER LOCATION SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM BRACKET RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET **6 / 187**.
6. THE PAINTING ZONE FOR WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLOORBEAM STIFFENER AND TOP FLANGE, THE EXISTING STRINGER BOTTOM FLANGE AND WEB, THE NEW BENT PLATES, AND ANY SURROUNDING AREAS DAMAGED BY THE INSTALLATION OF THE RETROFITS. ALL PAINT IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.

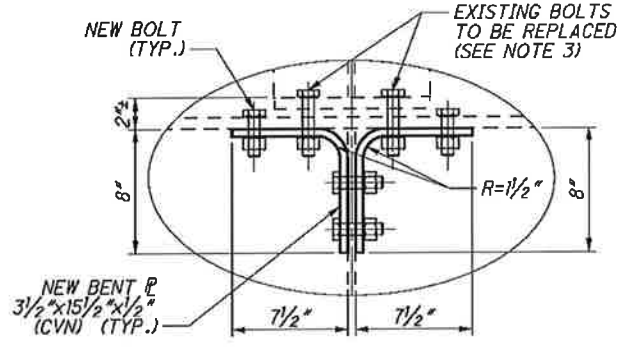
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 DESIGN AGENCY Train Systems 55 PUBLIC SQUARE, SUITE 1000 CLEVELAND, OHIO 44113	DATE 08/16/13	REVIEWED WRW	STRUCTURE FILE NUMBER 1800035	DESIGNED NRF	CHECKED SFH
MAIN TRUSS FLOORBEAM BRACKET DETAILS (1 OF 7) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER					
CUY-2-14.41 PID No. 91115					
127/187					
129 189					



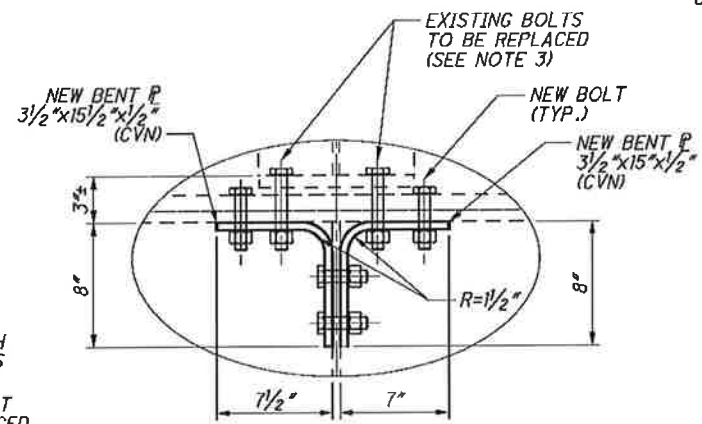
MAIN TRUSS FLOORBEAM BRACKET 48N - NEW RETROFITS

WEST FACE SHOWN
(CONNECTION TO TRUSS, EXISTING STRINGERS, AND DECK NOT SHOWN FOR CLARITY)



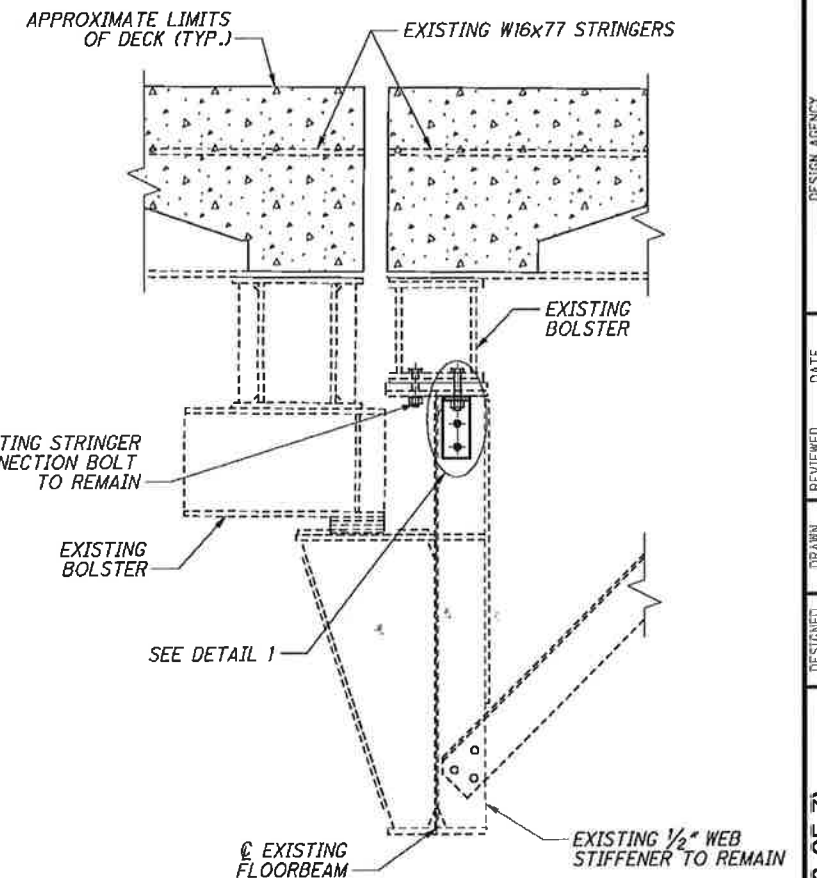
DETAIL 2

(PORTION OF STIFFENER NOT SHOWN FOR CLARITY)



DETAIL 3

(PORTION OF STIFFENER NOT SHOWN FOR CLARITY)



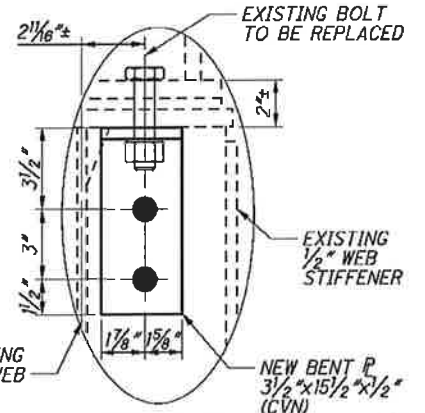
SECTION A-A

SECTION B-B (SIMILAR)

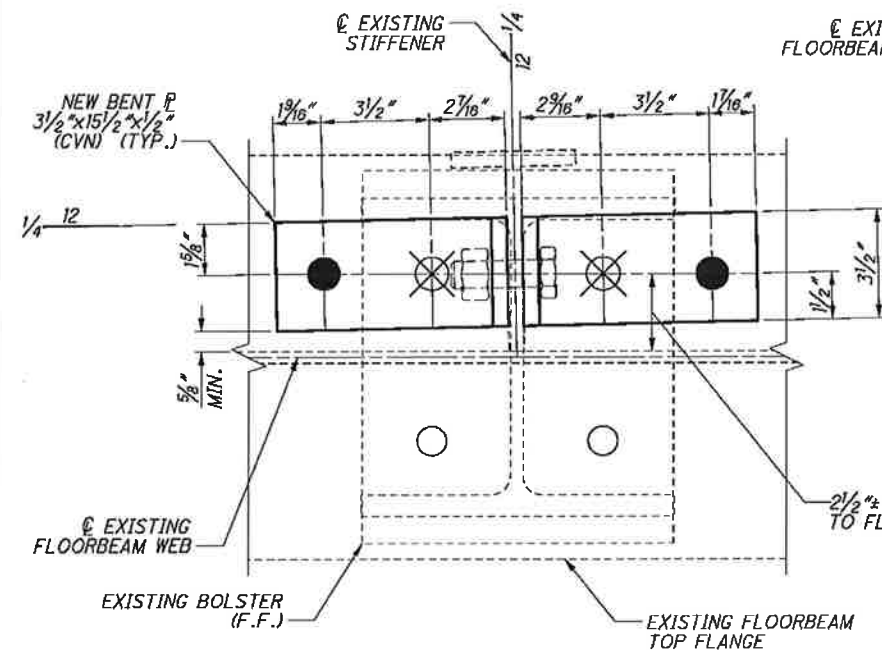
(JOINT ASSEMBLY NOT SHOWN FOR CLARITY)

BOLT LEGEND:

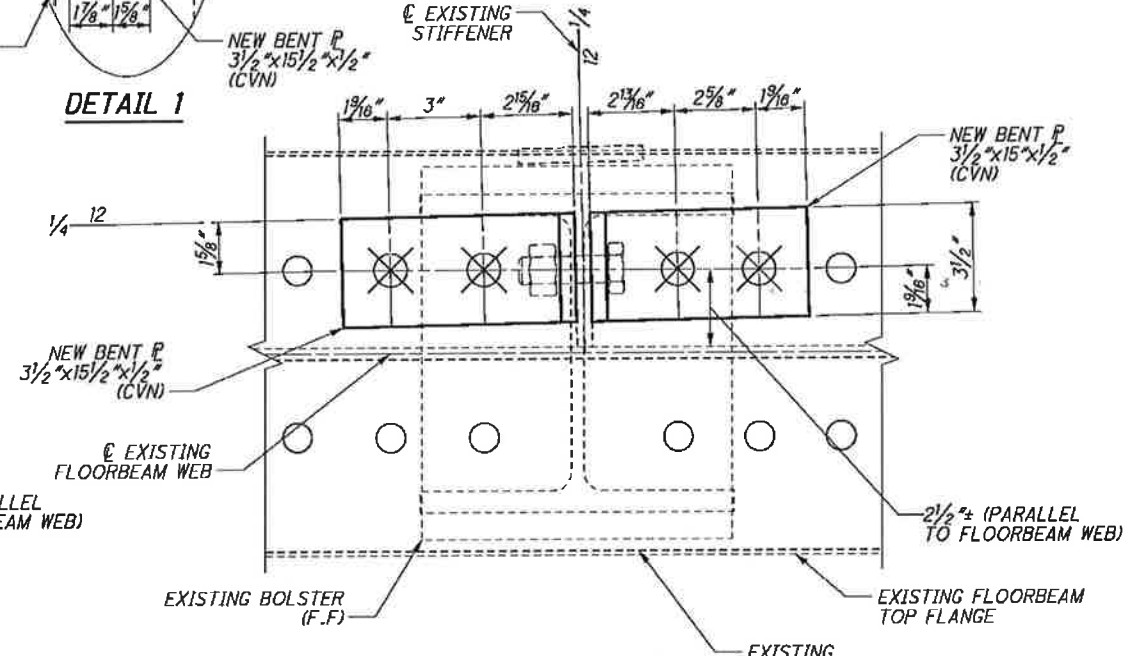
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 15/16" HOLE FOR NEW 7/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" A325 BOLT.



DETAIL 1



SECTION C-C



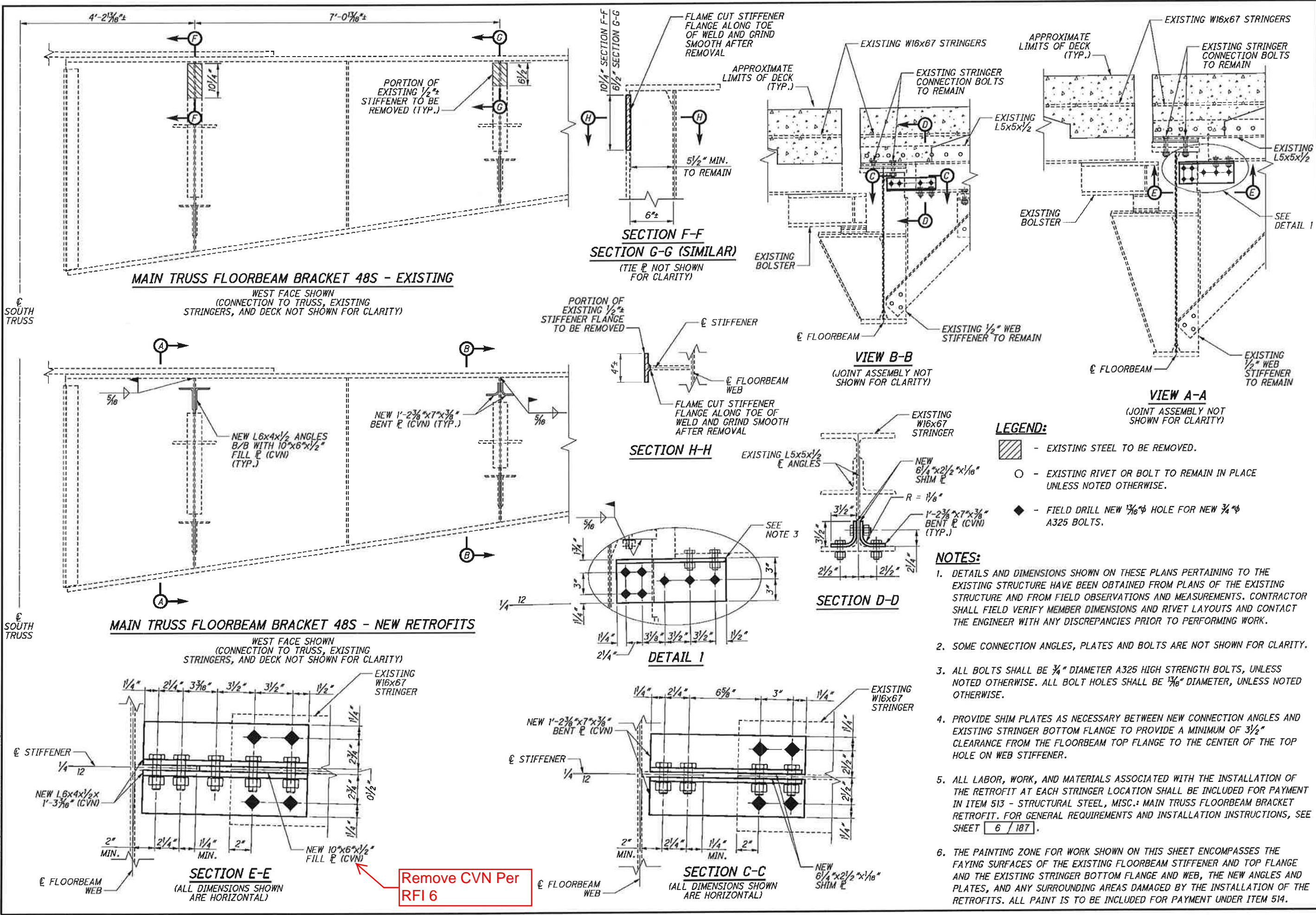
SECTION D-D

NOTES:

1. 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. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND BOLT LAYOUTS.
2. SOME CONNECTION ANGLES, PLATES AND BOLTS ARE NOT SHOWN FOR CLARITY.
3. REMOVE NO MORE THAN 2 EXISTING BOLTS IN ANY STRINGER OR TIE PLATE AT A GIVEN TIME.
4. ALL BOLTS SHALL BE 7/8" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 15/16" DIAMETER, UNLESS NOTED OTHERWISE.
5. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH INSTALLATION OF THE RETROFIT AT EACH STRINGER LOCATION SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM BRACKET RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
6. THE PAINTING ZONE FOR WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLOORBEAM STIFFENER AND TOP FLANGE, THE NEW BENT PLATES, AND ANY SURROUNDING AREAS DAMAGED BY THE INSTALLATION OF THE RETROFITS. ALL PAINT IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.

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MAIN TRUSS FLOORBEAM BRACKET 48S - EXISTING

WEST FACE SHOWN
(CONNECTION TO TRUSS, EXISTING
STRINGERS, AND DECK NOT SHOWN FOR CLARITY)

MAIN TRUSS FLOORBEAM BRACKET 48S - NEW RETROFITS

WEST FACE SHOWN
(CONNECTION TO TRUSS, EXISTING
STRINGERS, AND DECK NOT SHOWN FOR CLARITY)

**SECTION F-F
SECTION G-G (SIMILAR)**

(TIE P NOT SHOWN
FOR CLARITY)

VIEW B-B

(JOINT ASSEMBLY NOT
SHOWN FOR CLARITY)

VIEW A-A

(JOINT ASSEMBLY NOT
SHOWN FOR CLARITY)

SECTION H-H

SECTION D-D

DETAIL 1

SECTION C-C

(ALL DIMENSIONS SHOWN
ARE HORIZONTAL)

LEGEND:

- EXISTING STEEL TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 13/16" DIA HOLE FOR NEW 3/4" A325 BOLTS.

NOTES:

1. 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. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND RIVET LAYOUTS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
2. SOME CONNECTION ANGLES, PLATES AND BOLTS ARE NOT SHOWN FOR CLARITY.
3. ALL BOLTS SHALL BE 3/4" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 13/16" DIAMETER, UNLESS NOTED OTHERWISE.
4. PROVIDE SHIM PLATES AS NECESSARY BETWEEN NEW CONNECTION ANGLES AND EXISTING STRINGER BOTTOM FLANGE TO PROVIDE A MINIMUM OF 3/2" CLEARANCE FROM THE FLOORBEAM TOP FLANGE TO THE CENTER OF THE TOP HOLE ON WEB STIFFENER.
5. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT AT EACH STRINGER LOCATION SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM BRACKET RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
6. THE PAINTING ZONE FOR WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLOORBEAM STIFFENER AND TOP FLANGE AND THE EXISTING STRINGER BOTTOM FLANGE AND WEB, THE NEW ANGLES AND PLATES, AND ANY SURROUNDING AREAS DAMAGED BY THE INSTALLATION OF THE RETROFITS. ALL PAINT IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.

Remove CVN Per
RFI 6

CUY-2-14-41
PID No. 91115

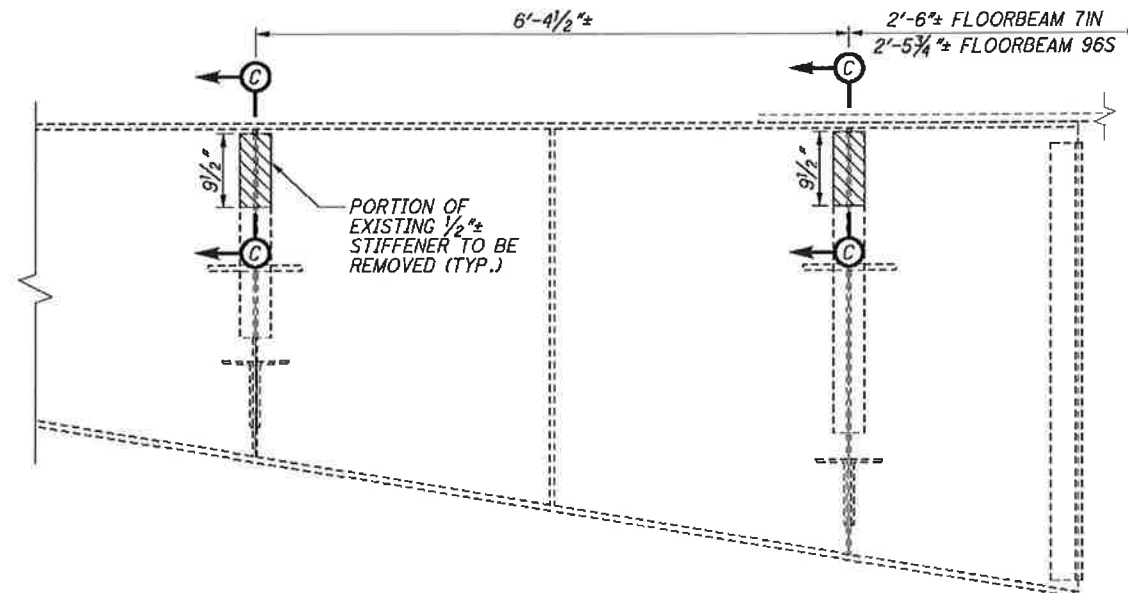
129/187

131
189

MAIN TRUSS FLOORBEAM BRACKET DETAILS (3 OF 7)

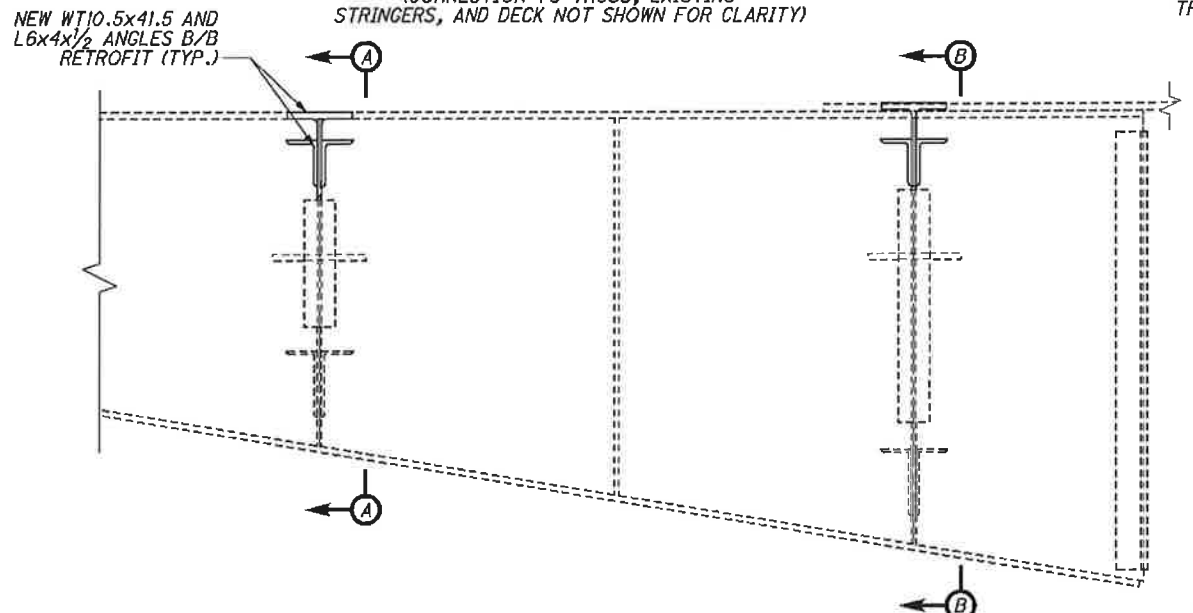
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED	NRF	CHECKED	SFH
DRAWN	NRF	REVIEWED	
DATE	08/16/13	STRUCTURE FILE NUMBER	1800035
DESIGN AGENCY	Train Systems 55 PUBLIC SQUARE SUITE 1000 CLEVELAND, OHIO 44115		



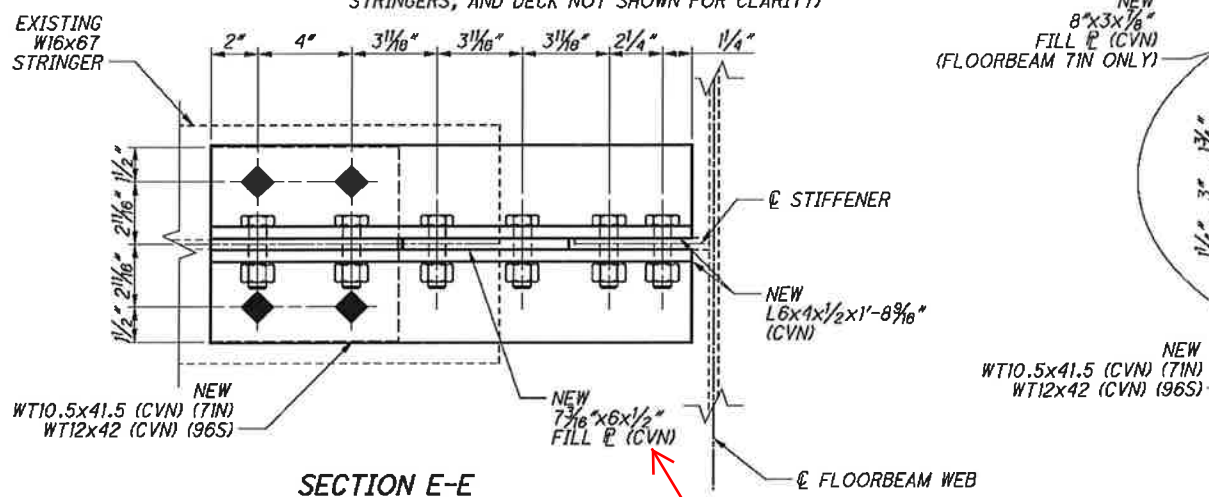
MAIN TRUSS FLOORBEAM BRACKETS 7IN AND 96S - EXISTING

WEST FACE OF FLOORBEAM 7IN SHOWN (FLOORBEAM 96S OPPOSITE HAND)
(CONNECTION TO TRUSS, EXISTING STRINGERS, AND DECK NOT SHOWN FOR CLARITY)



MAIN TRUSS FLOORBEAM BRACKETS 7IN AND 96S - NEW RETROFITS

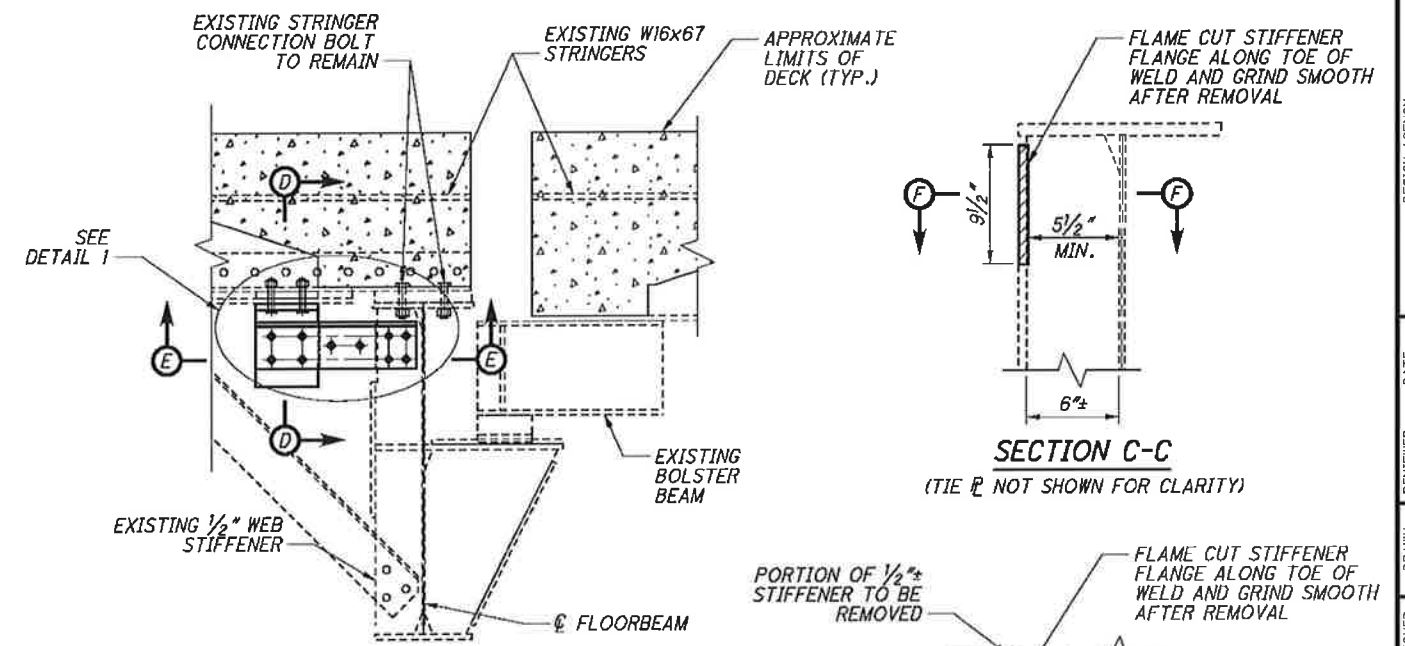
WEST FACE OF FLOORBEAM 7IN SHOWN (FLOORBEAM 96S OPPOSITE HAND)
(CONNECTION TO TRUSS, EXISTING STRINGERS, AND DECK NOT SHOWN FOR CLARITY)



SECTION E-E

FLOORBEAM 7IN SHOWN, 96S SIMILAR U.N.O

Remove CVN Per RFI 6

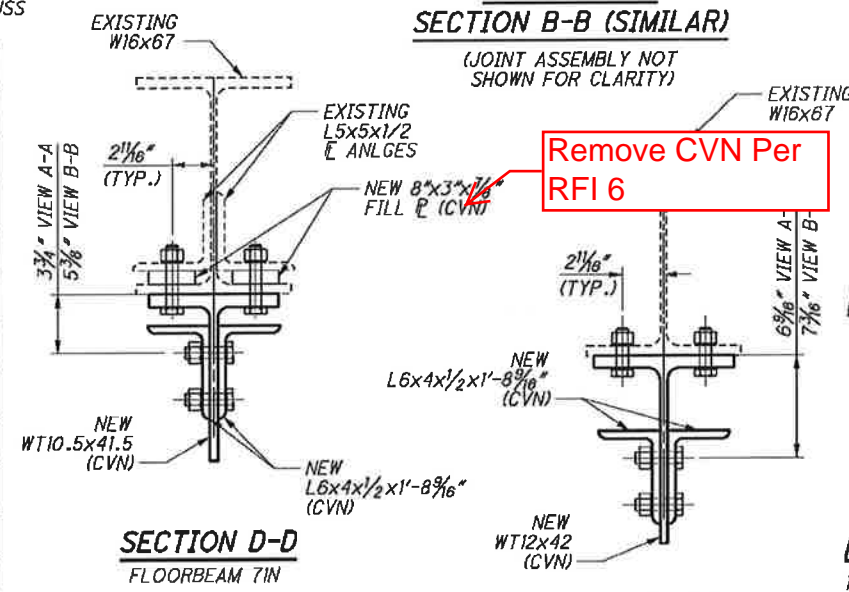


**SECTION A-A
SECTION B-B (SIMILAR)**

(JOINT ASSEMBLY NOT SHOWN FOR CLARITY)

SECTION C-C

(TIE \bar{c} NOT SHOWN FOR CLARITY)



SECTION D-D

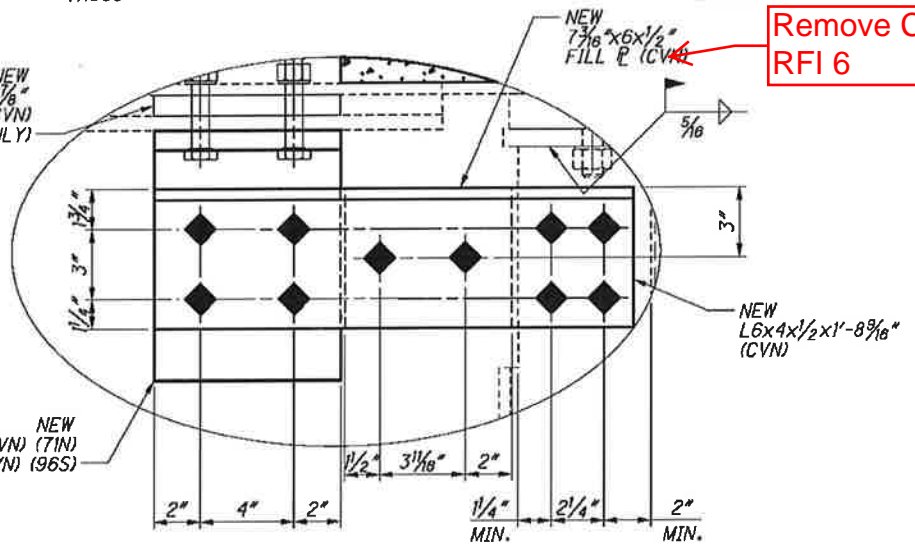
FLOORBEAM 7IN

SECTION D-D

FLOORBEAM 96S

Remove CVN Per RFI 6

Remove CVN Per RFI 6



DETAIL 1

LEGEND:

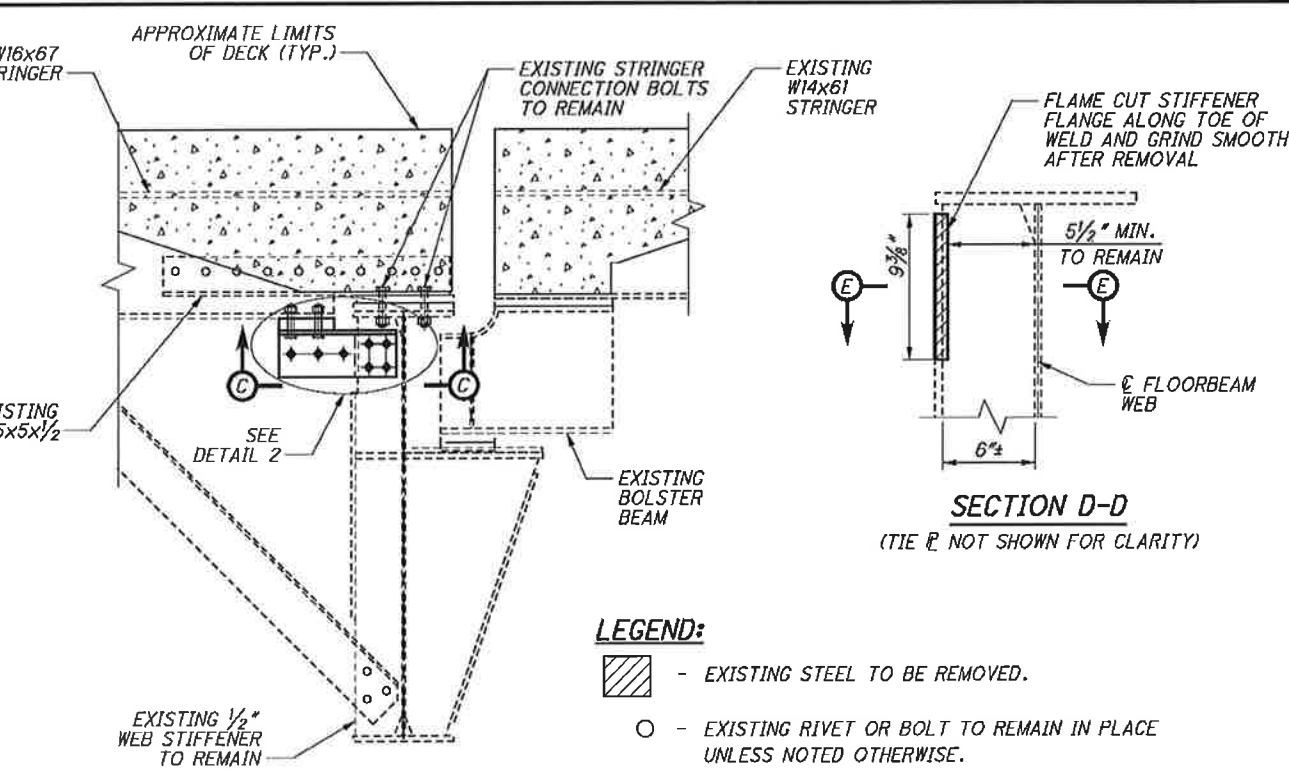
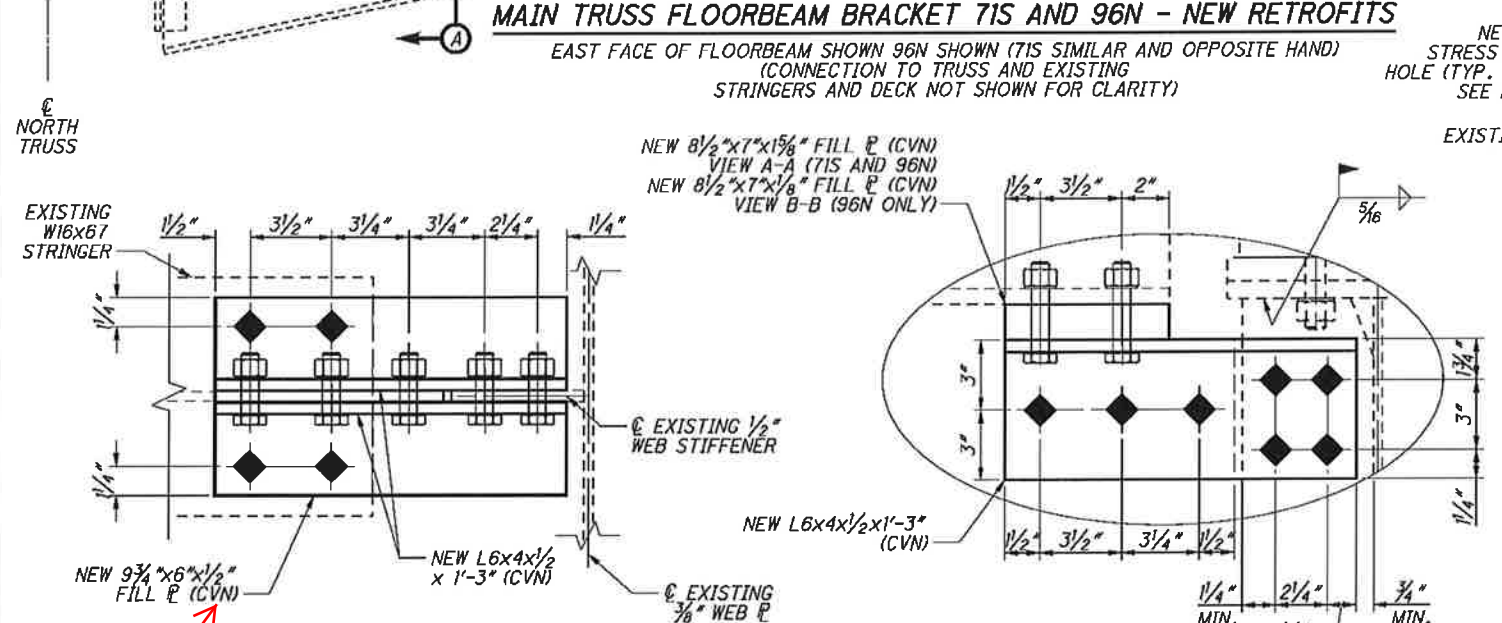
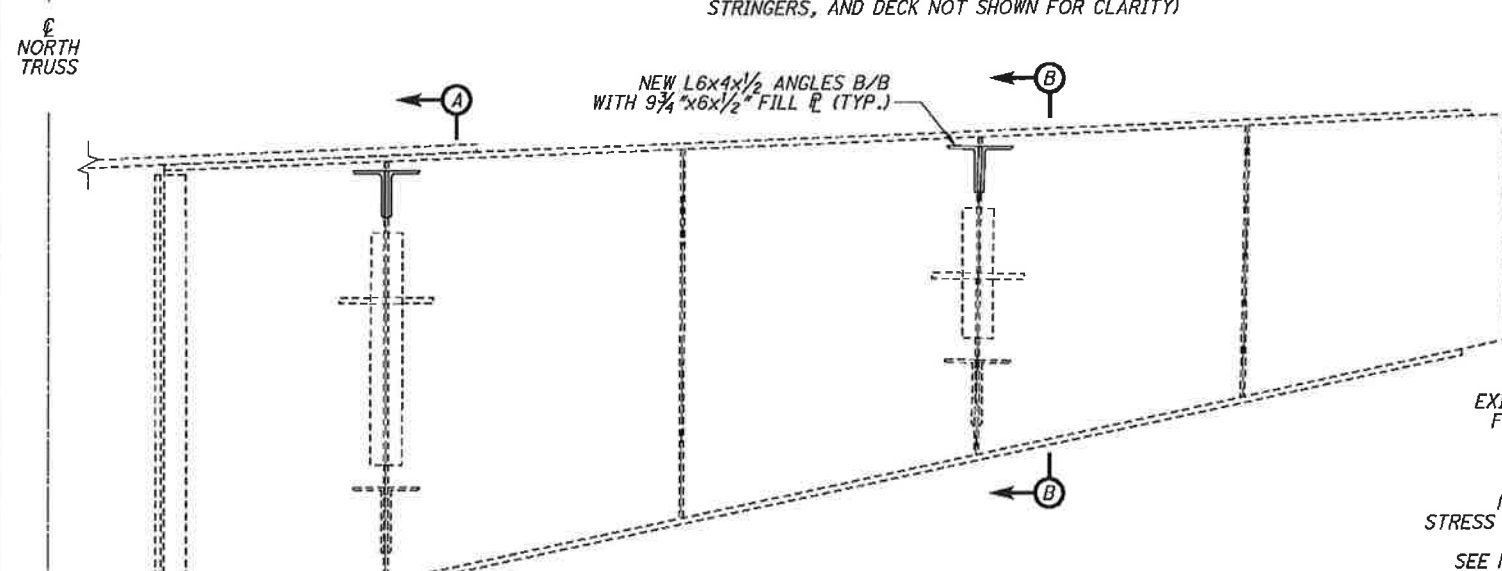
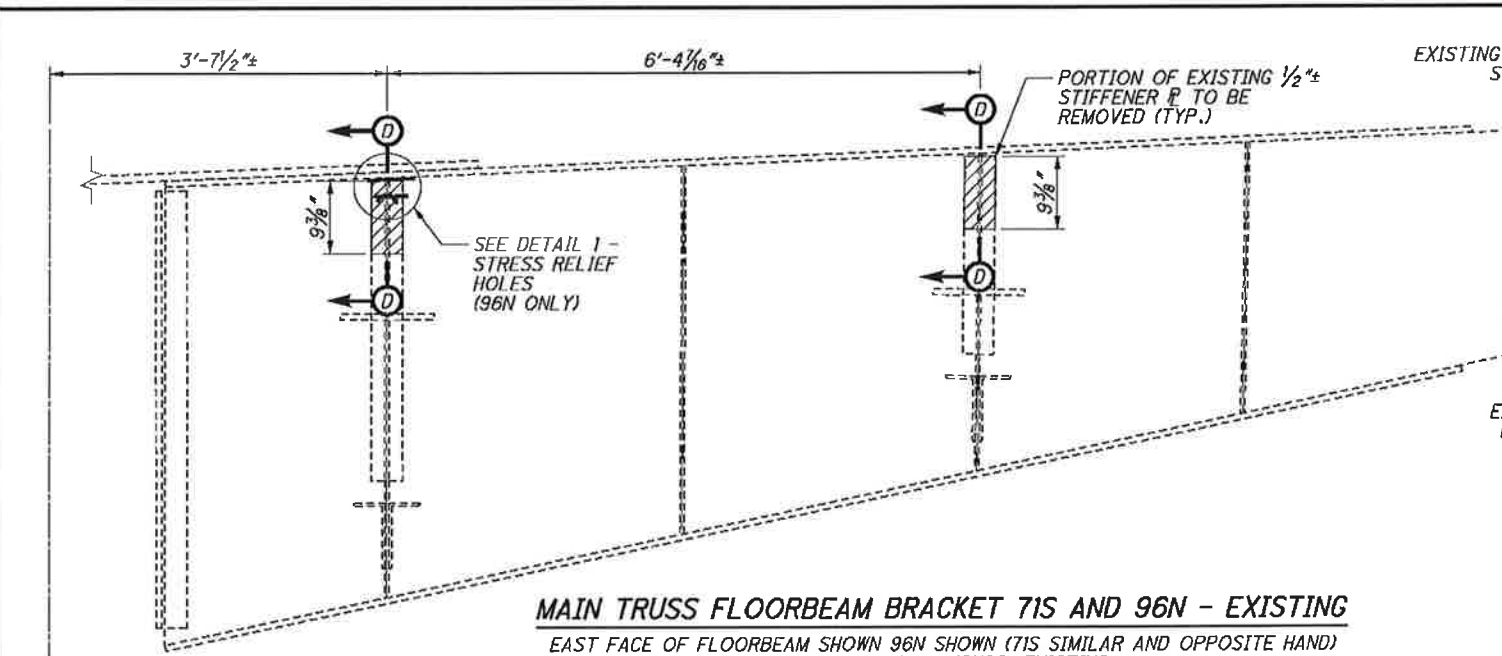
- EXISTING STEEL TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 1 3/8" ϕ HOLE FOR NEW 3/4" ϕ A325 BOLTS.

NOTES:

1. 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. CONTRACTOR SHALL FIELD VERIFY MEMBER AND MEASUREMENTS.
2. SOME CONNECTION ANGLES, PLATES AND BOLTS ARE NOT SHOWN FOR CLARITY.
3. ALL BOLTS SHALL BE 3/4" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 1 1/8" DIAMETER, UNLESS NOTED OTHERWISE.
4. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT AT EACH STRINGER LOCATION SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM BRACKET RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
5. THE PAINTING ZONE FOR WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLOORBEAM STIFFENER AND TOP FLANGE, THE NEW RETROFIT MATERIAL AND ANY SURROUNDING AREAS DAMAGED BY THE INSTALLATION OF THE RETROFITS. ALL PAINT IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.

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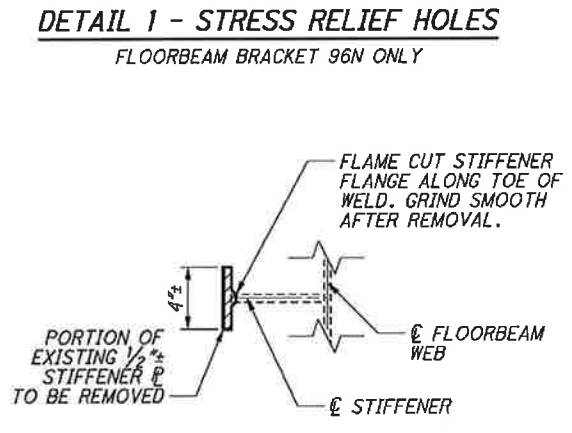
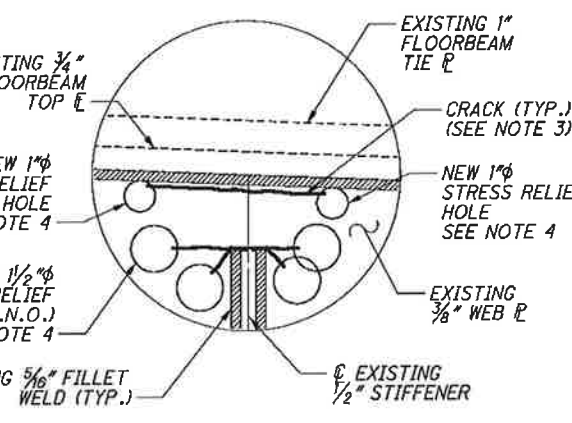


LEGEND:

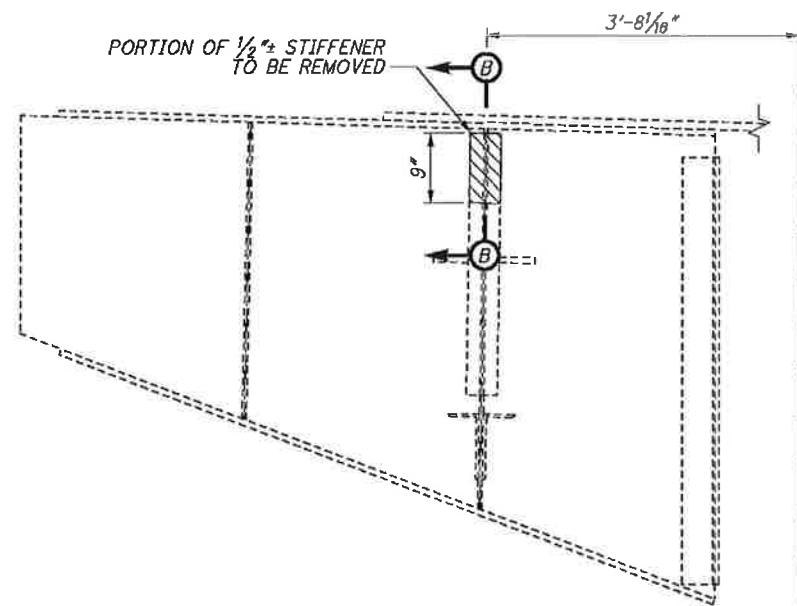
- EXISTING STEEL TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 3/8"Ø HOLE FOR NEW 3/4"Ø A325 BOLTS.

NOTES:

1. 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. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND BOLT LAYOUTS.
2. SOME CONNECTION ANGLES, PLATES AND BOLTS ARE NOT SHOWN FOR CLARITY.
3. ALL BOLTS SHALL BE 3/4" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 1 1/8" DIAMETER, UNLESS NOTED OTHERWISE.
4. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH THE INVESTIGATION OF THE CRACKS SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING, AND NON-DESTRUCTIVE TESTING. FOR GENERAL REQUIREMENTS AND INSTRUCTIONS, SEE SHEET 7 / 187.
5. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH THE DRILLING OF CRACK STRESS RELIEF HOLES SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: STRESS RELIEF HOLE RETROFIT. FOR GENERAL REQUIREMENTS AND INSTRUCTIONS, SEE SHEET 5 / 187.
6. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT AT EACH STRINGER LOCATION SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM BRACKET RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
7. THE PAINTING ZONE FOR WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLOORBEAM STIFFENER AND TOP FLANGE, THE EXISTING STRINGER BOTTOM FLANGE AND WEB, THE NEW ANGLES, AND ANY SURROUNDING AREAS DAMAGED BY THE INSTALLATION OF THE RETROFITS. ALL PAINT IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.

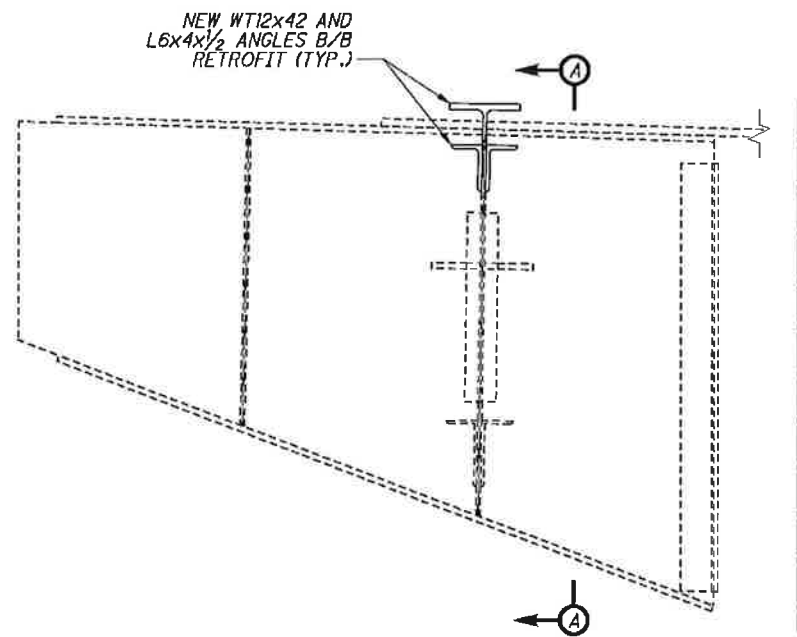


Remove CVN Per RFI 6



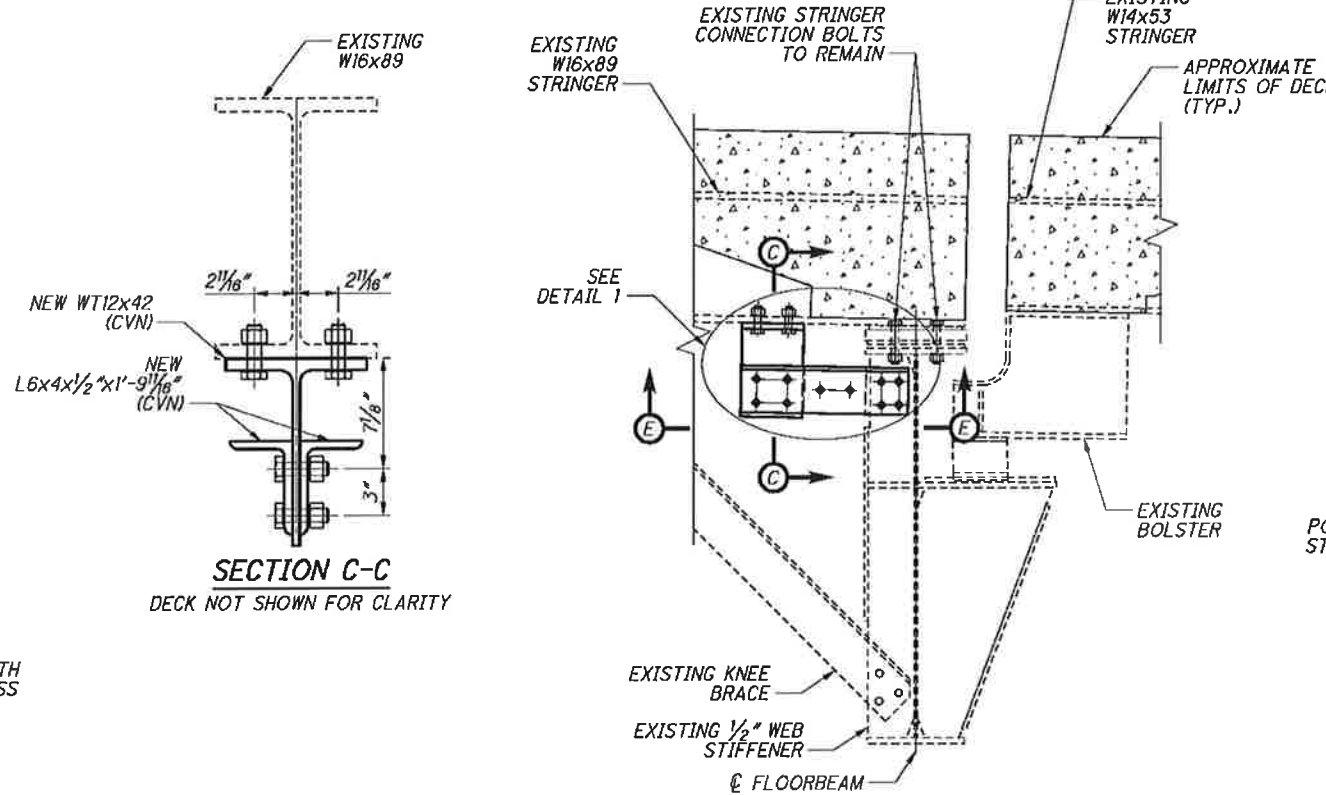
MAIN TRUSS FLOORBEAM BRACKET 126N - EXISTING

WEST FACE SHOWN
(CONNECTION TO TRUSS, EXISTING
STRINGERS, AND DECK NOT SHOWN FOR CLARITY)

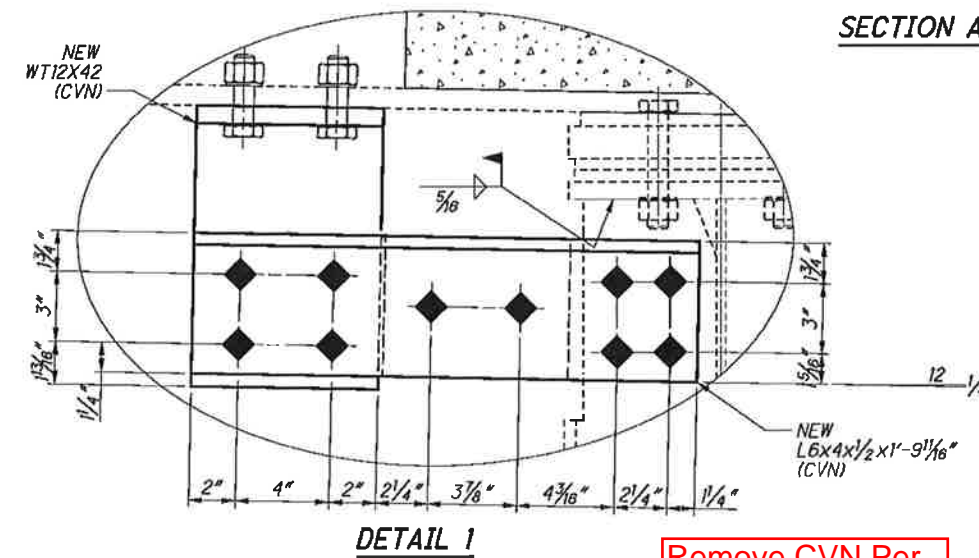


MAIN TRUSS FLOORBEAM BRACKET 126N - NEW RETROFITS

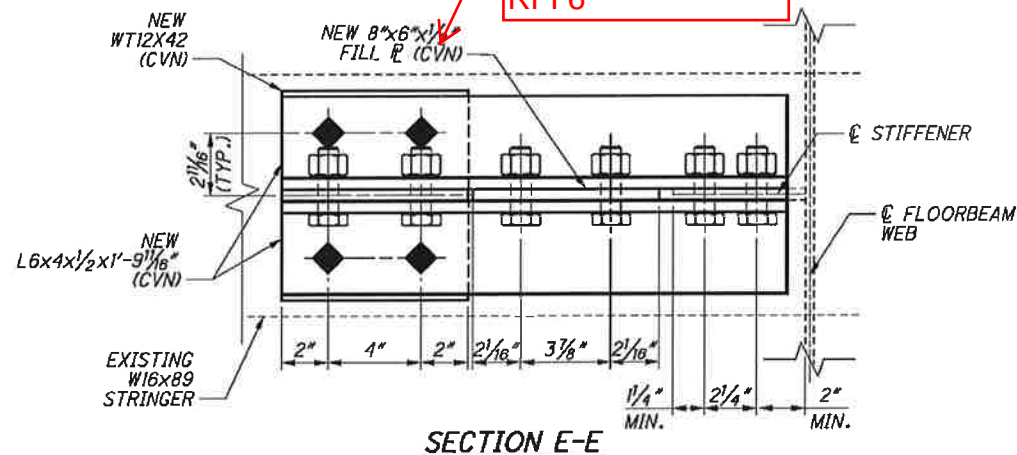
WEST FACE SHOWN
(CONNECTION TO TRUSS, EXISTING
STRINGERS, AND DECK NOT SHOWN FOR CLARITY)



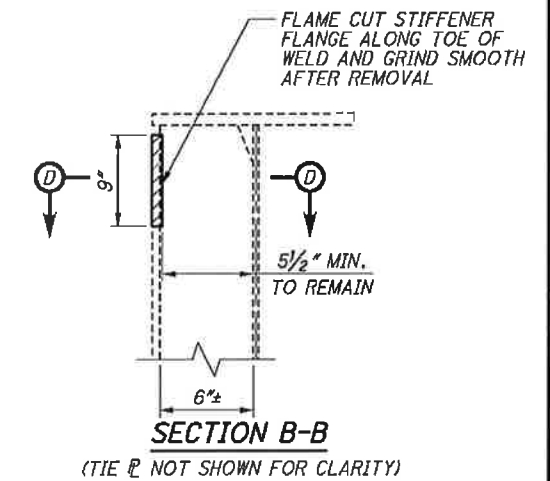
SECTION A-A



DETAIL 1

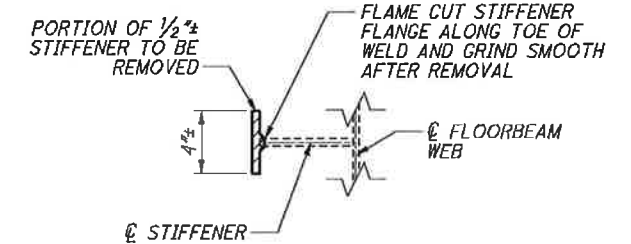


SECTION E-E



SECTION B-B

(TIE \bar{C} NOT SHOWN FOR CLARITY)



SECTION D-D

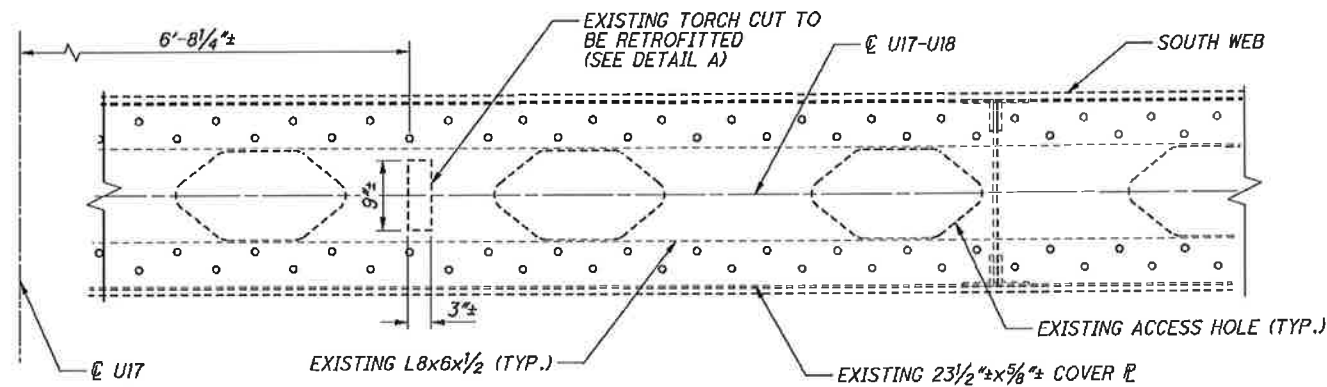
LEGEND:

- EXISTING STEEL TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 1 3/16" ϕ HOLE FOR NEW 3/4" A325 BOLTS.

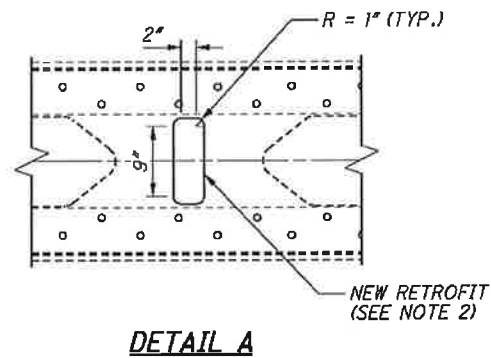
NOTES:

1. 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. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND RIVET LAYOUTS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
2. SOME CONNECTION ANGLES, PLATES AND BOLTS ARE NOT SHOWN FOR CLARITY.
3. ALL BOLTS SHALL BE 3/4" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 1 3/16" DIAMETER, UNLESS NOTED OTHERWISE.
4. ALL LABOR, WORK, AND MATERIALS ASSOCIATED WITH THE INSTALLATION OF THE RETROFIT AT EACH STRINGER LOCATION SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS FLOORBEAM BRACKET RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
5. THE PAINTING ZONE FOR WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLOORBEAM STIFFENER AND TOP FLANGE AND THE EXISTING STRINGER BOTTOM FLANGE AND WEB, THE NEW RETROFIT MATERIAL, AND ANY SURROUNDING AREAS DAMAGED BY THE INSTALLATION OF THE RETROFITS. ALL PAINT IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.

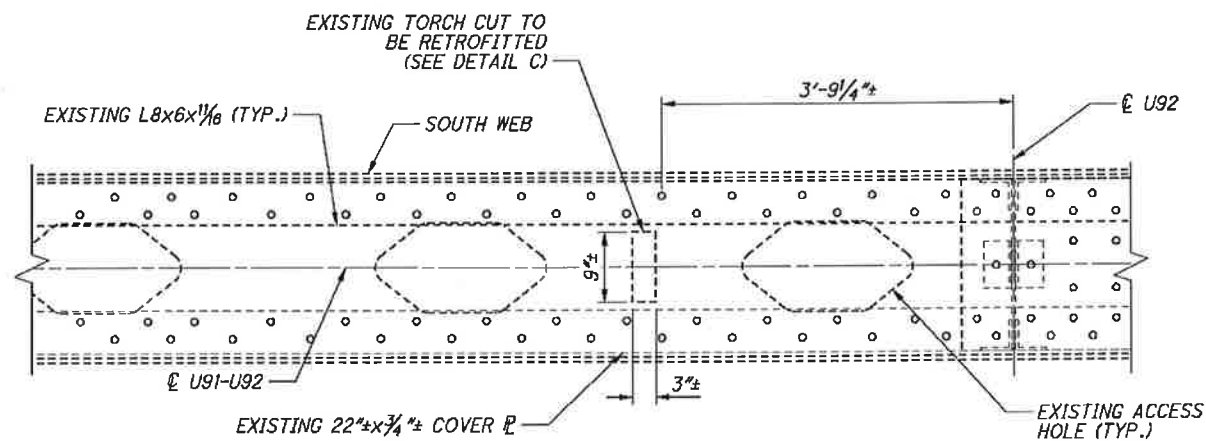
G:\CL12\0112\Bridges\Sheets\91115SD140.dgn 8/30/2013 10:38:46 AM nrfisco



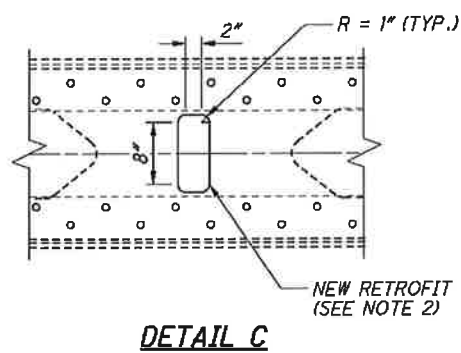
PARTIAL PLAN U17-U18 NORTH TRUSS
(LOOKING UP)



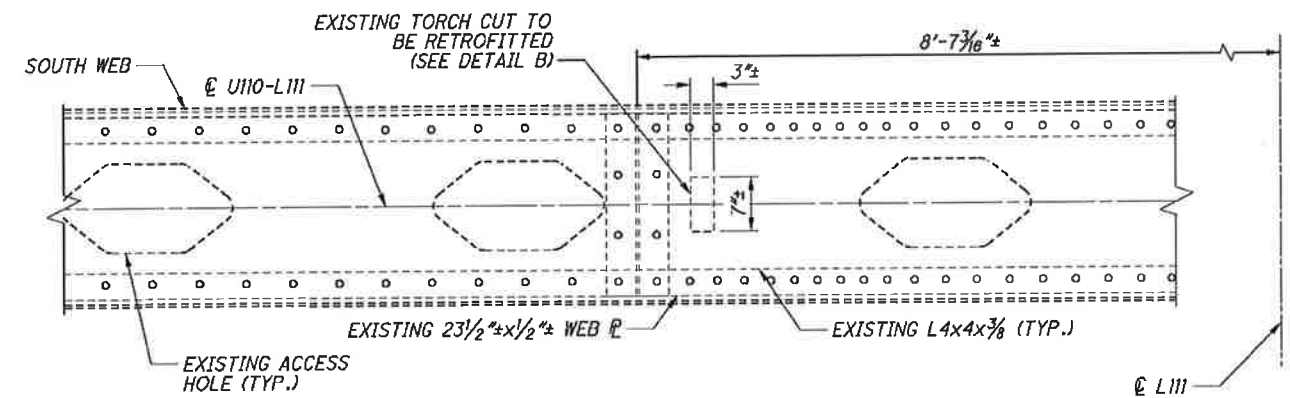
DETAIL A



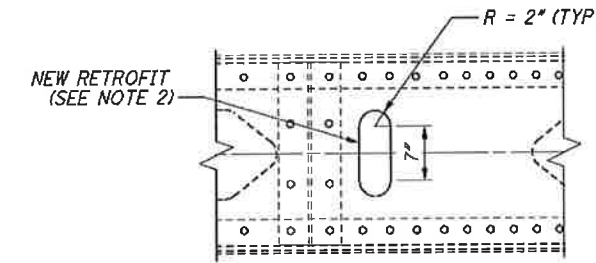
PARTIAL PLAN U91-U92 SOUTH TRUSS
(LOOKING UP)



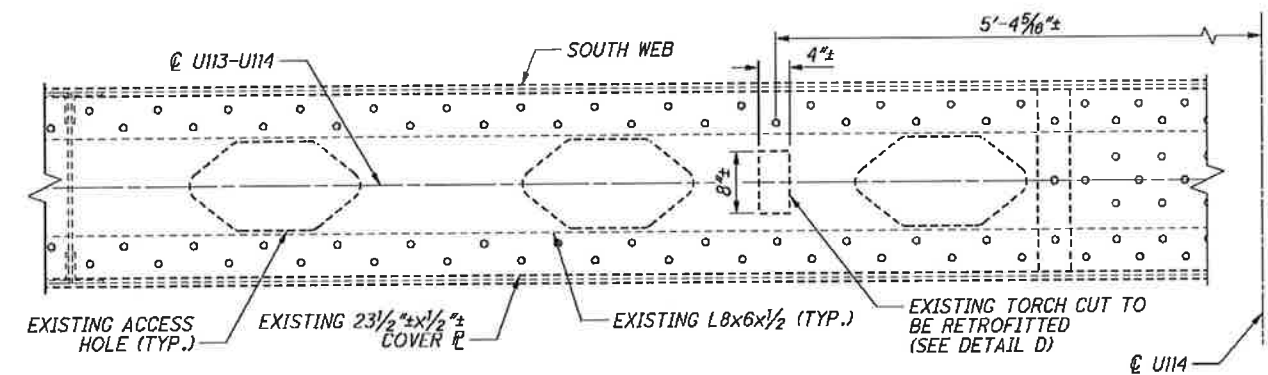
DETAIL C



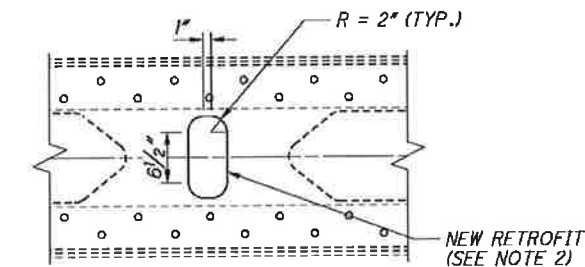
PARTIAL PLAN U110-L111 NORTH TRUSS
(LOOKING UP)



DETAIL B



PARTIAL PLAN U113-U114 NORTH TRUSS
(LOOKING UP)



DETAIL D

LEGEND:

○ - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.

--- - EXISTING TORCH CUT HOLE

○ - NEW RETROFITTED HOLE

NOTES:

1. FOR LOCATIONS OF REPAIR DETAILS, SEE SHEETS 47 / 187 THRU 52 / 187 .

2. FIELD VERIFY AND GRIND EDGES OF TORCH CUT HOLE SMOOTH TO APPROXIMATE DIMENSIONS SHOWN.

3. THE RETROFITTING OF THE TORCH CUT HOLES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: GRINDING TORCH CUT HOLES.

4. ZONE PAINTING INCLUDED ON THIS SHEET ENCOMPASSES THE SURFACES GROUND OUT OR DAMAGED AS PART OF THE RETROFIT. ALL PAINTING IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.

CUY - 2 - 14 - 41
PID No. 91115

134 / 187

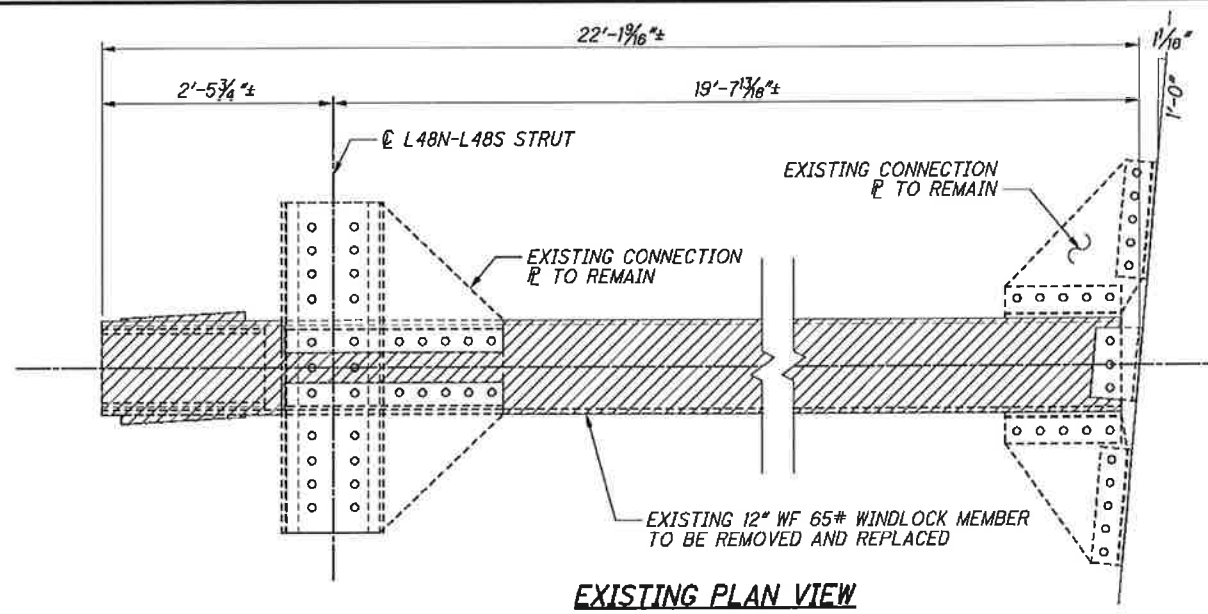
136
189

U17-U18N, U110-L111N, U113-U114N, U91-U92S TORCH CUT RETROFITS
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

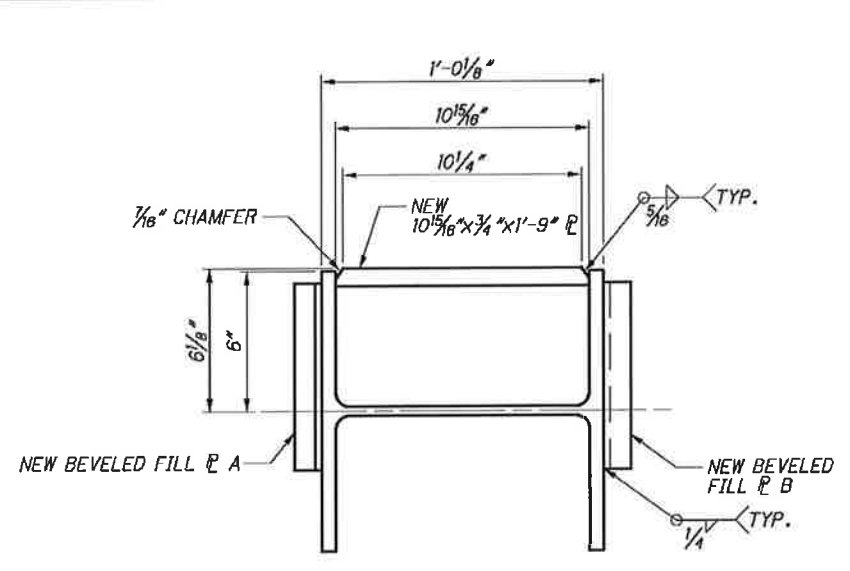
DESIGNED BJM
CHECKED CTG
DRAWN BJM
REVISED
REVIEWED WRW
DATE 08/16/13
STRUCTURE FILE NUMBER 1800035

DESIGN AGENCY
TranSystems
25 PUEBLS SQUARE, SUITE 1000
CLEVELAND, OHIO 44113

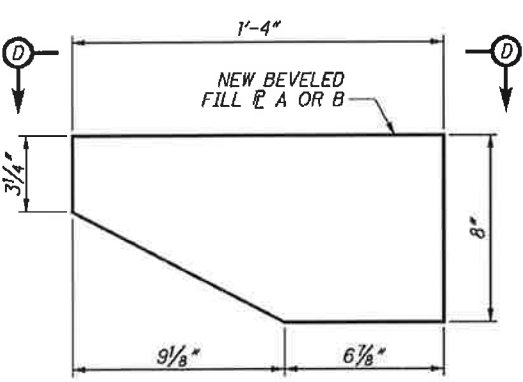
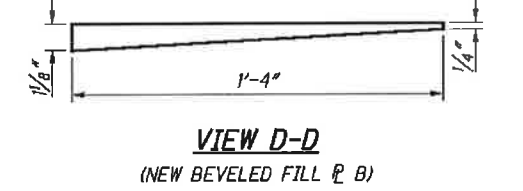
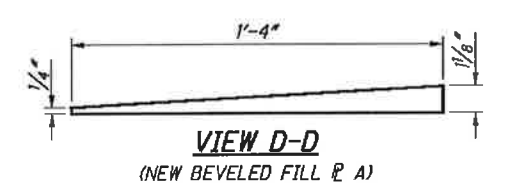
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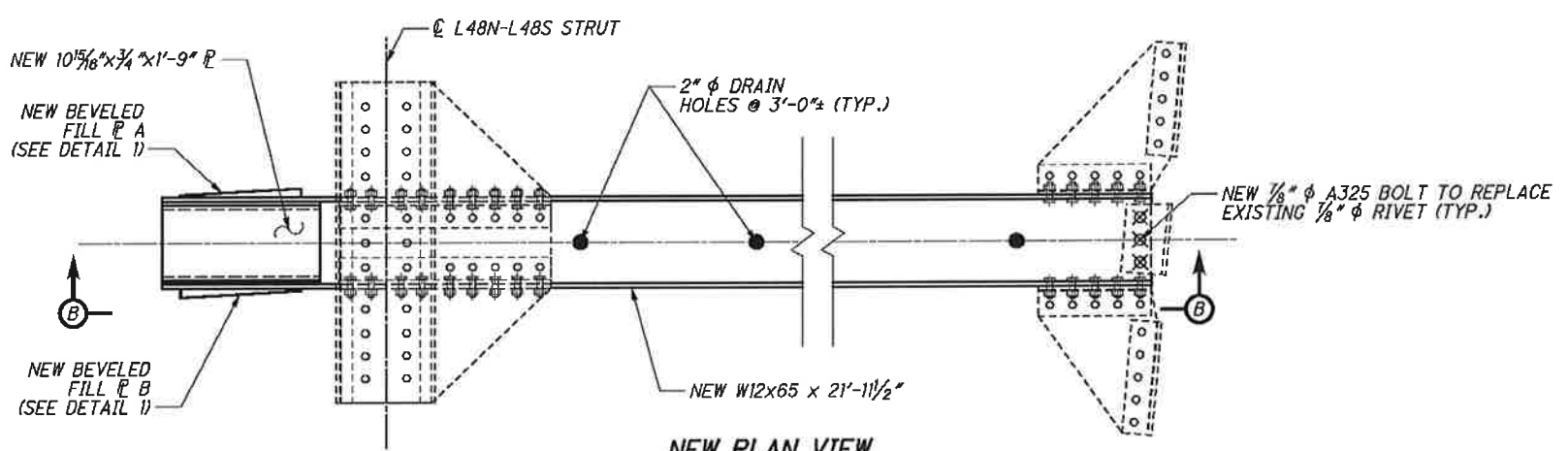
EXISTING PLAN VIEW



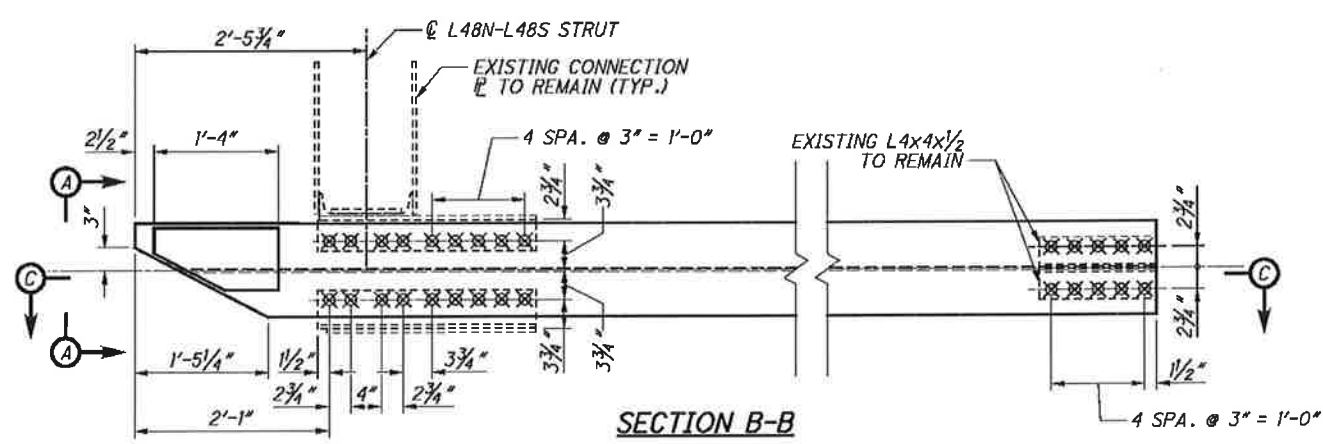
VIEW A-A



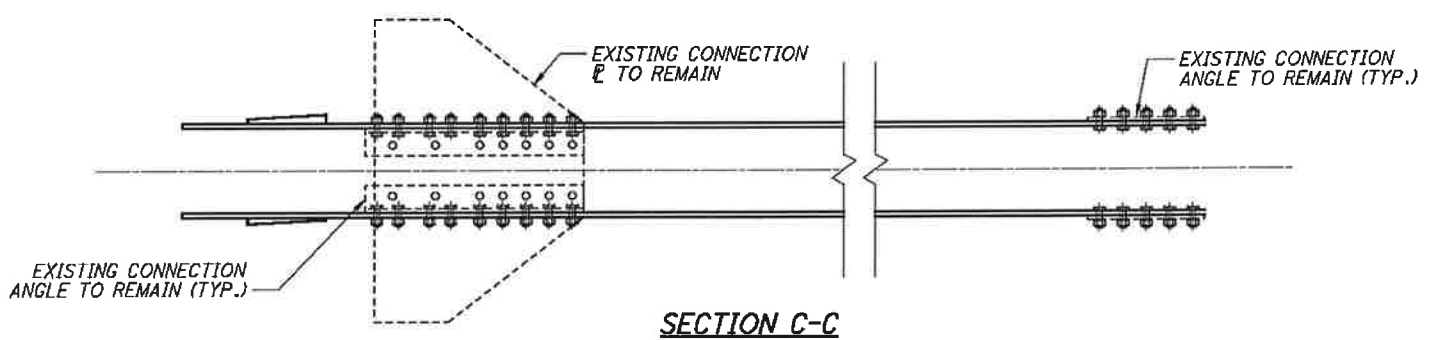
DETAIL 1



NEW PLAN VIEW



SECTION B-B



SECTION C-C

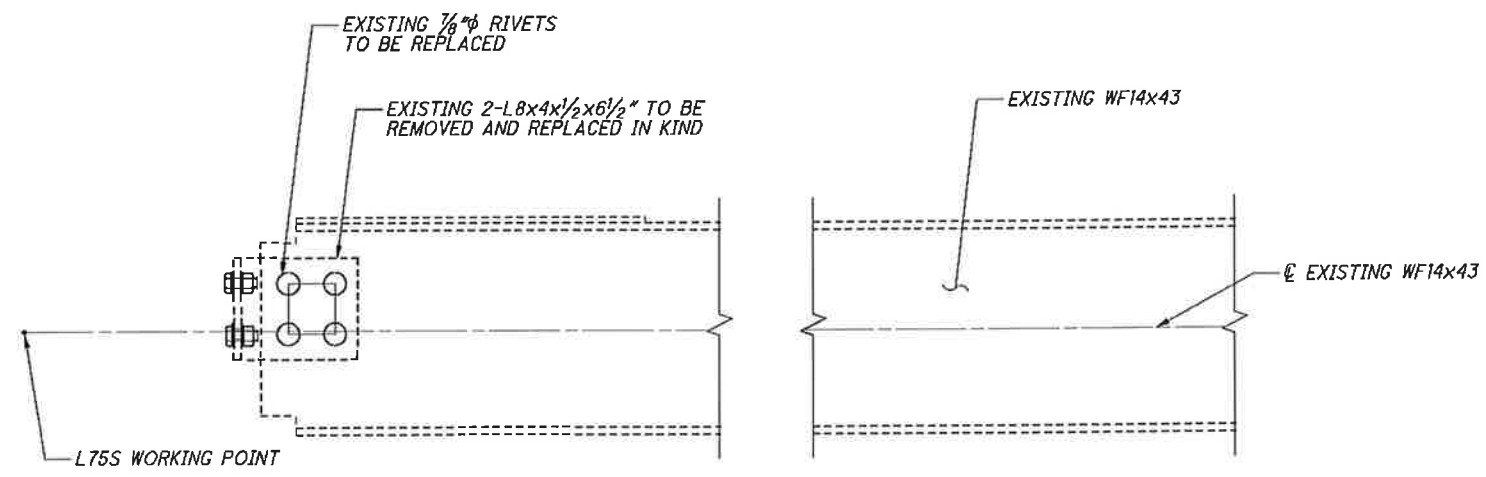
LEGEND:

- EXISTING STEEL TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 3/8\"/>

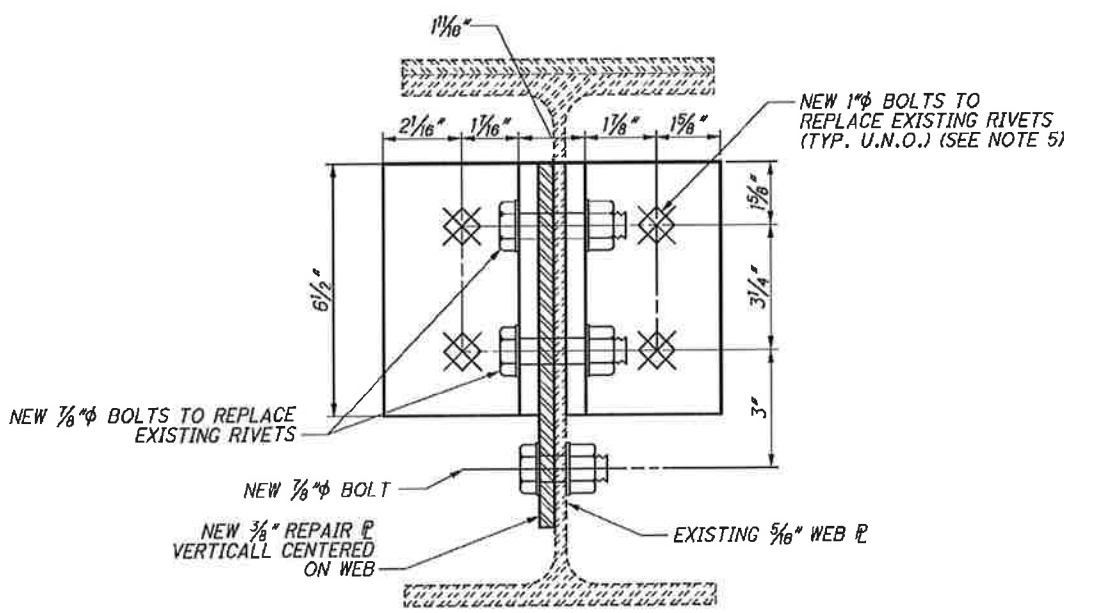
NOTES:

1. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND RIVET LAYOUTS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
2. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
3. THE REMOVAL OF EXISTING ELEMENTS, NEW RETROFIT MATERIALS, AND ALL LABOR ASSOCIATED WITH THE RETROFIT OF THE WINDLOCK SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS WINDLOCK RETROFIT.
4. THE PAINT ZONE FOR WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, THE NEW WINDLOCK ELEMENTS, AND ANY SURROUNDING AREAS DAMAGED DURING THE REMOVAL OR INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.
5. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.

	DESIGN AGENCY TRAIN SYSTEMS 55 PUBLIC SQUARE, SUITE 100 CLEVELAND, OHIO 44113	DATE 08/16/13	STRUCTURE FILE NUMBER 1800035	DESIGNER ADK
MAIN TRUSS WINDLOCK RETROFITS MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER		REVIEWED WRW	CHECKED NMR	DRAWN ADK
CUY-2-14.41 PID No. 91115		135 / 187		
137 189				



EXISTING BOTTOM CHORD STRUT L75S-L75N ELEVATION



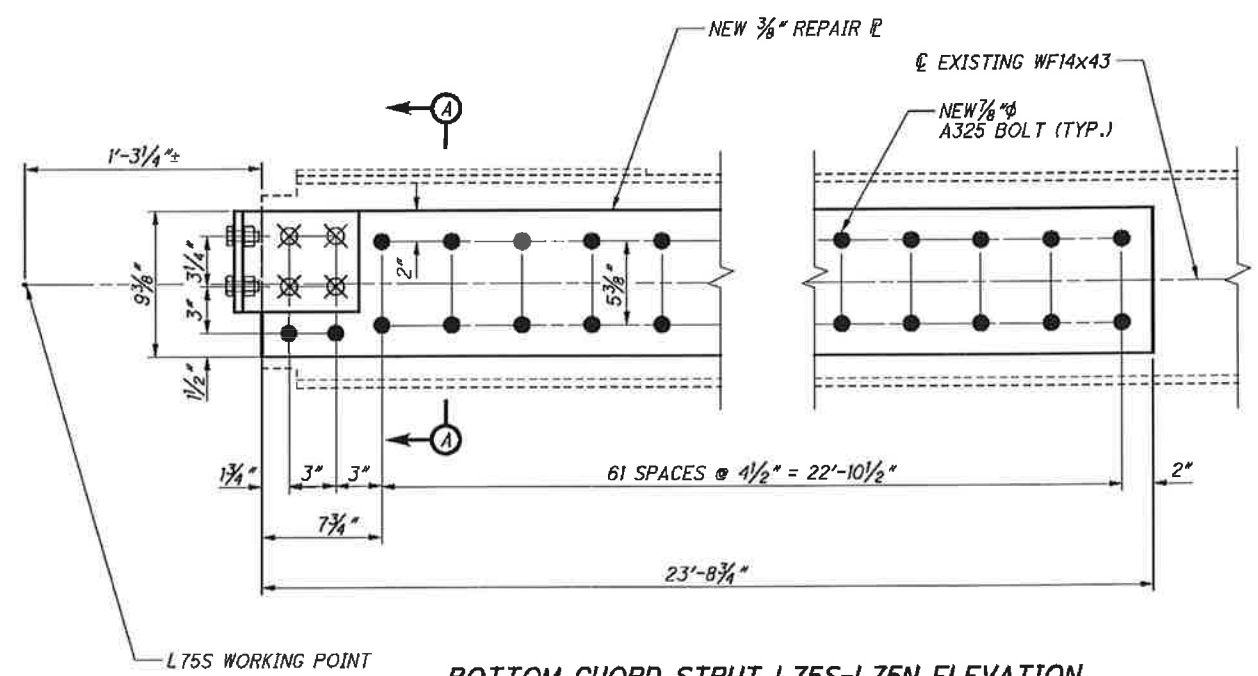
SECTION A-A

NOTES:

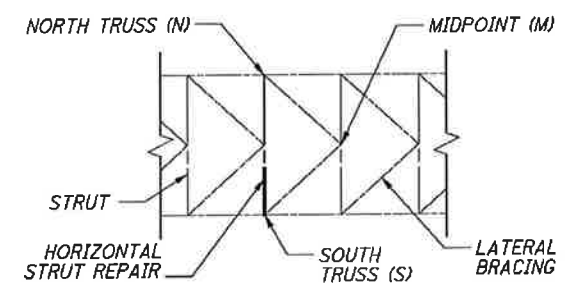
1. FOR LOCATION OF L75S-L75N BOTTOM CHORD STRUT RETROFIT SEE SHEET **50 / 187**.
2. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
3. REPAIR PLATES MAY BE INSTALLED ON EITHER FACE OF THE LATERAL BRACE WEB AT THE CONTRACTOR'S DISCRETION.
4. ONLY ONE CONNECTION ANGLE SHALL BE REPLACED AT A TIME.
5. DUE TO BOLT CLEARANCES, ALL 1" DIAMETER BOLTS SHALL BE REPLACED PRIOR TO THE REMOVAL AND REPLACEMENT OF 7/8" DIAMETER BOLTS.
6. IN ORDER TO HAVE SUFFICIENT ENTERING AND TIGHTENING CLEARANCE WHEN REPLACING THE CONNECTION ANGLE AT L75S, ALL 1" DIAMETER BOLTS SHALL BE PLACED WITH THE NUT ON THE INTERIOR FACE OF THE BOTTOM CHORD AT L75S.
7. ALL 7/8" DIAMETER BOLTS FOR 2-L8x4x1/2x6 1/2" CONNECTION ANGLES TO THE STRUT WEB SHALL BE PLACED WITH THE NUT ON THE OPPOSITE FACE OF THE PROPOSED WEB RETROFIT.
8. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
9. SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
10. THE REMOVAL OF EXISTING RIVETS AND CONNECTION ANGLES, NEW RETROFIT MATERIALS, AND ALL LABOR ASSOCIATED WITH THE BRACING RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET **6 / 187**.
11. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW RETROFIT PLATES, NEW ANGLES, AND ANY SURROUNDING AREAS DAMAGED BY REMOVAL OR INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" HOLE FOR NEW 7/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT.

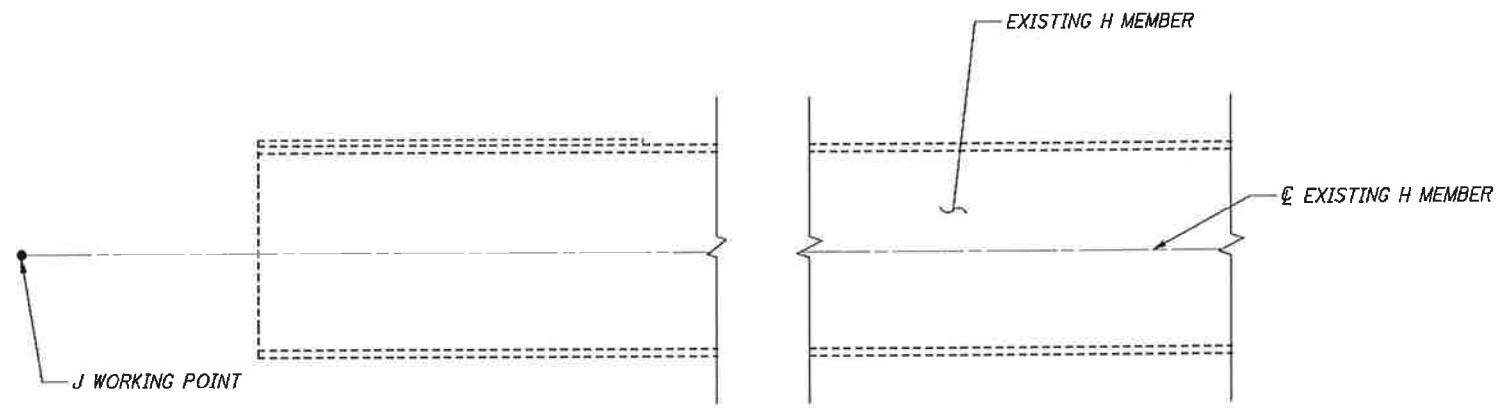


BOTTOM CHORD STRUT L75S-L75N ELEVATION

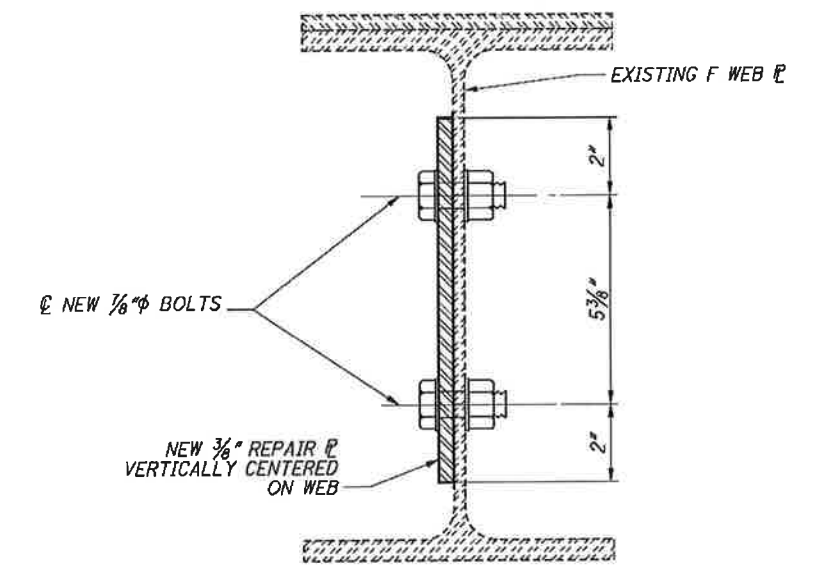


TYPICAL LATERAL BRACING PLAN

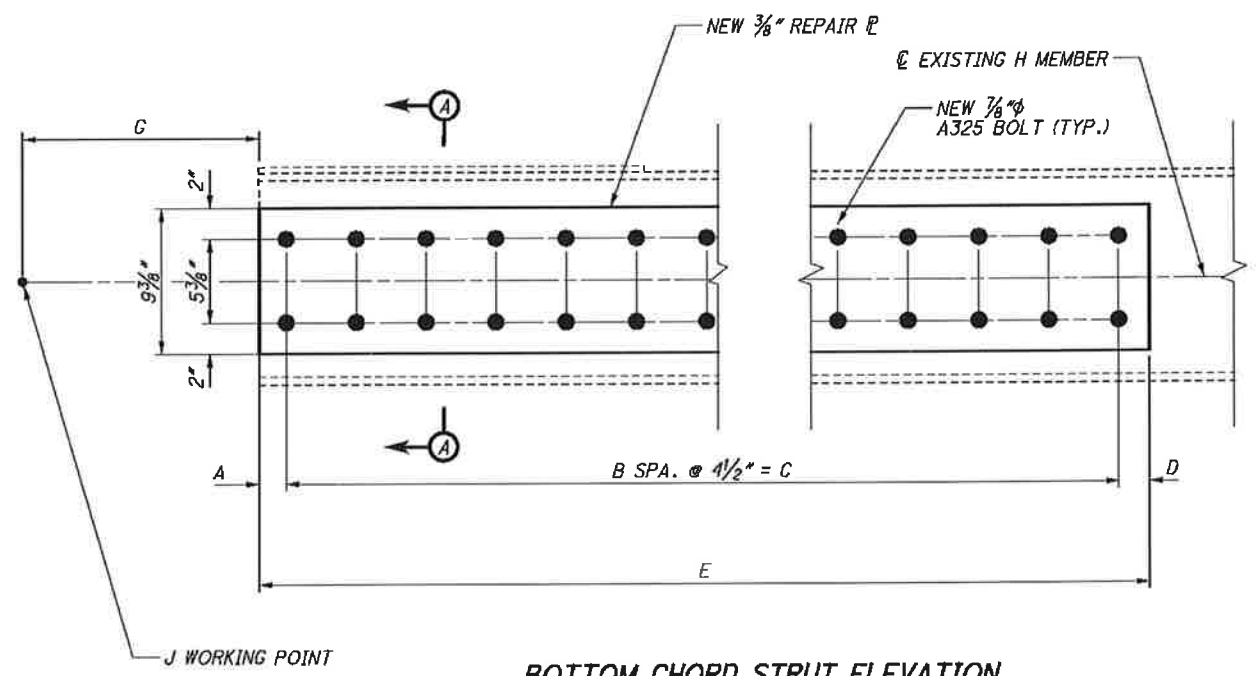
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EXISTING BOTTOM CHORD STRUT ELEVATION
 (L65N-L65S SHOWN, OTHERS SIMILAR)

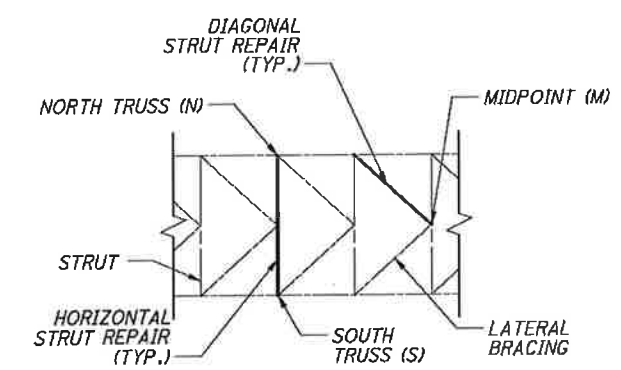


SECTION A-A



BOTTOM CHORD STRUT ELEVATION
 (L65N-L65S SHOWN, OTHERS SIMILAR)

	DIMENSION CALLOUTS			
	L65N-L65S	L79N-L78M	L88S-L88N	L96S-L95M
A	1 3/4"	2"	1 3/4"	1 5/8"
B	48	78	35	76
C	18'-0"	29'-3"	13'-1 1/2"	28'-6"
D	1 3/4"	2"	1 3/4"	1 5/8"
E	18'-3 1/2"	29'-7"	13'-5"	28'-9 1/4"
F	5/8"	3/8"	5/16"	3/8"
G	1'-5 3/4" ±	7 1/4" ±	1'-5 3/4" ±	1'-5 3/4" ±
H	WF14x43	WF14x61	WF14x43	WF14x61
J	L65N	L79N	L88S	L96S



TYPICAL LATERAL BRACING PLAN

BOLT LEGEND:

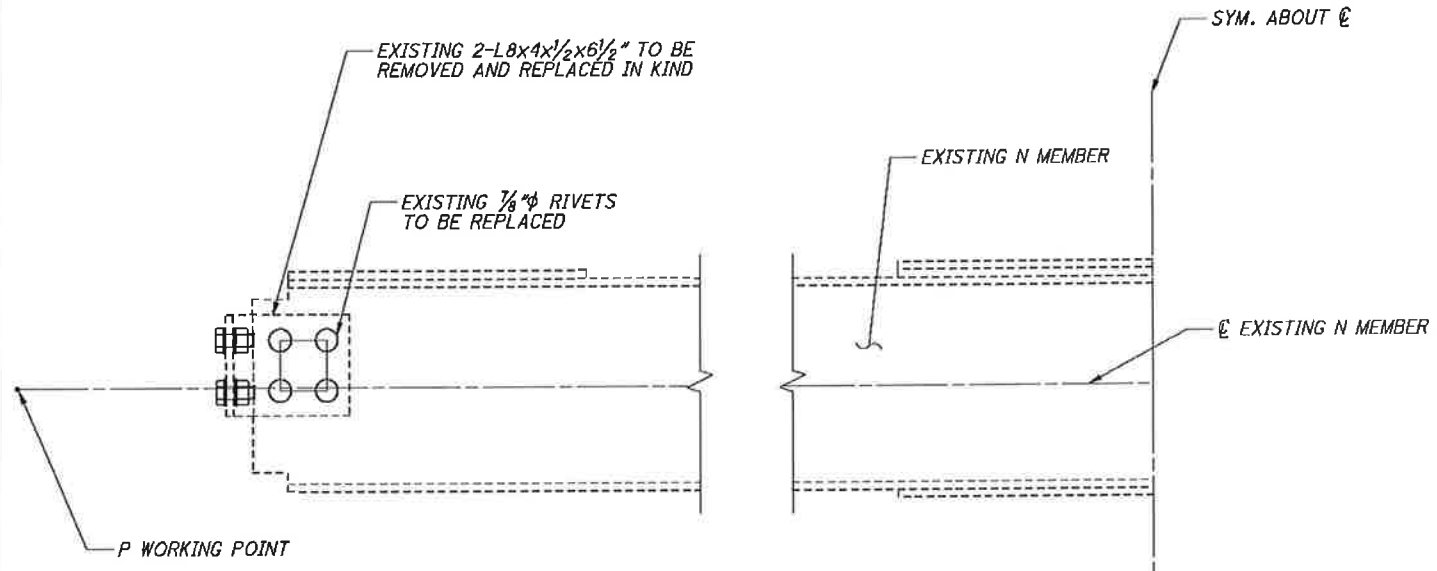
- - FIELD DRILL NEW 1/8" HOLE FOR NEW 3/8" A325 BOLT.

NOTES:

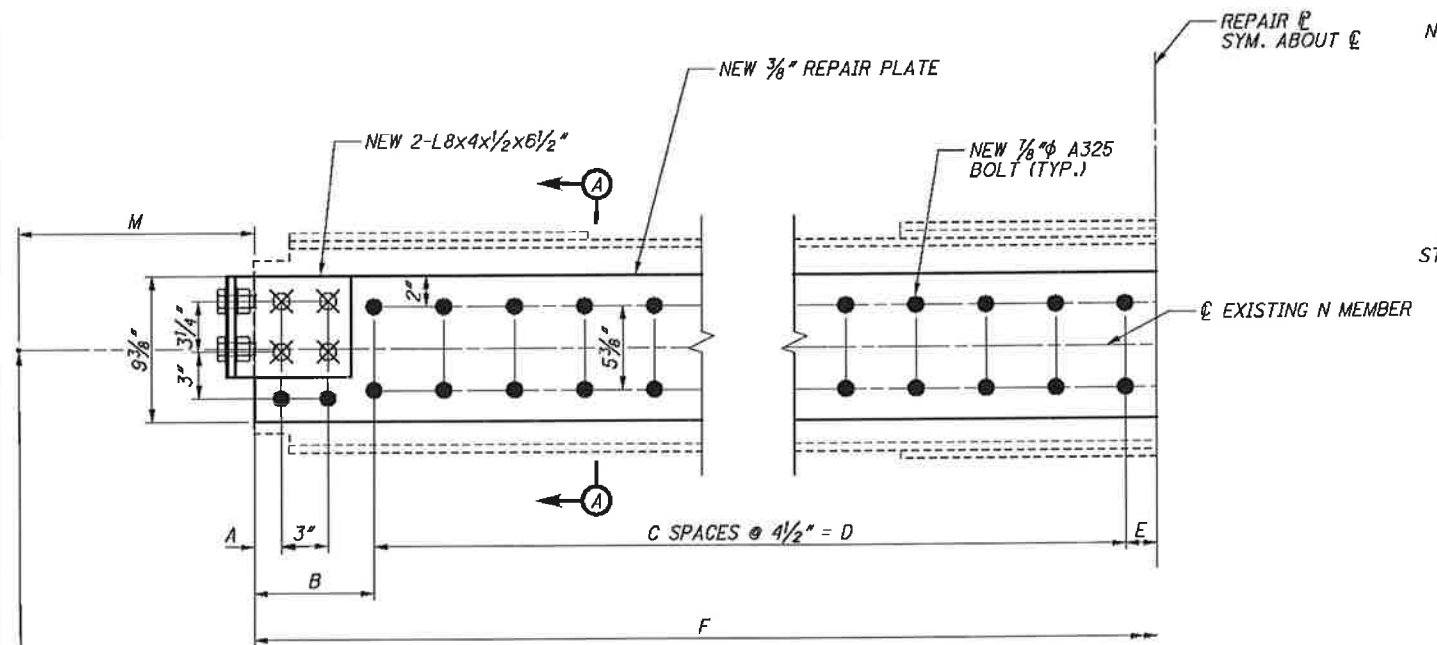
- FOR LOCATION OF BOTTOM CHORD STRUT RETROFITS SEE SHEETS 50 / 187 AND 51 / 187 .
- CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
- REPAIR PLATES MAY BE INSTALLED ON EITHER FACE OF THE LATERAL BRACE WEB AT THE CONTRACTOR'S DISCRETION.
- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
- NEW RETROFIT MATERIALS, AND ALL LABOR ASSOCIATED WITH THE BRACING RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187 .
- THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES, NEW RETROFIT PLATES, AND ANY SURROUNDING AREAS DAMAGED BY REMOVAL OR INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

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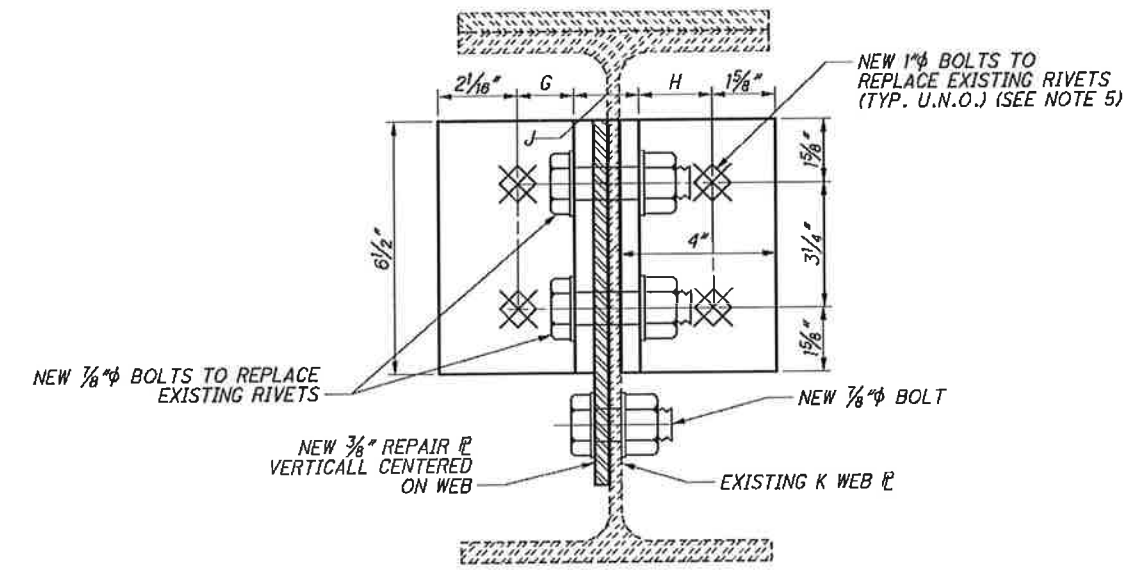
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EXISTING BOTTOM CHORD STRUT ELEVATION
 (L73S-L73N SHOWN, OTHERS SIMILAR)



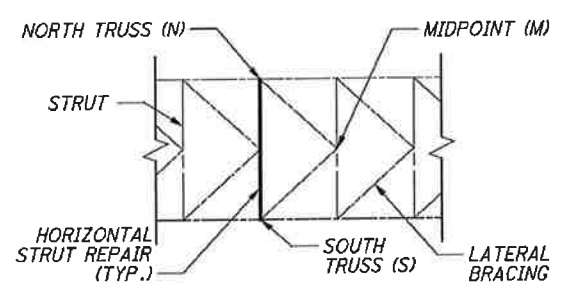
BOTTOM CHORD STRUT ELEVATION
 (L73S-L73N SHOWN, OTHERS SIMILAR)



SECTION A-A

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" HOLE FOR NEW 3/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 3/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1" A325 BOLT.



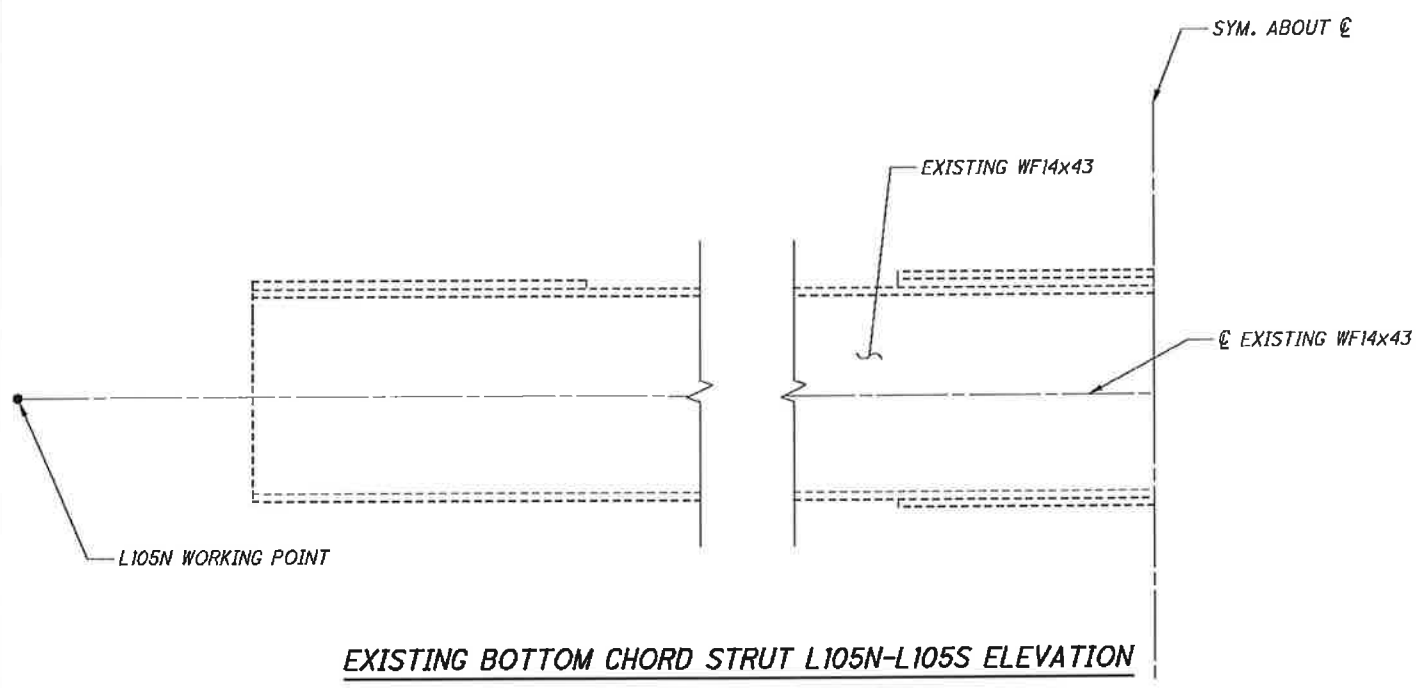
TYPICAL LATERAL BRACING PLAN

	DIMENSION CALLOUTS		
	L73S-L73N	L111N-L111S	L125N-L125S
A	1 5/8"	1 1/8"	1 1/8"
B	8 1/4"	7 7/8"	7 7/8"
C	61	61	61
D	22'-10 1/2"	22'-10 1/2"	22'-10 1/2"
E	2"	2 1/8"	2 1/8"
F	47'-5 1/2"	47'-5"	47'-5"
G	1 1/16"	1 1/16"	1 1/16"
H	1 3/8"	1 3/8"	1 3/8"
J	1 3/4"	1 3/4"	1 3/4"
K	3/16"	3/8"	5/16"
M	1'-3 1/4" ±	1'-3 3/32" ±	1'-3 3/32" ±
N	WF14x43	WF14x61	WF14x43
P	L73S	L111N	L125N

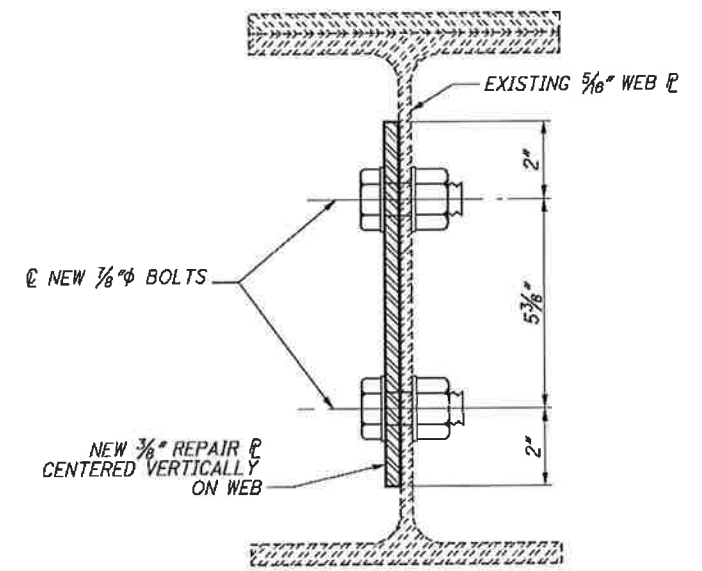
NOTES:

1. FOR LOCATION OF BOTTOM CHORD STRUT RETROFITS SEE SHEETS 50 / 187 AND 52 / 187.
2. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
3. REPAIR PLATES MAY BE INSTALLED ON EITHER FACE OF THE LATERAL BRACE WEB AT THE CONTRACTOR'S DISCRETION.
4. ONLY ONE CONNECTION ANGLE SHALL BE REPLACED AT A TIME.
5. DUE TO BOLT CLEARANCES, ALL 1" DIAMETER BOLTS SHALL BE REPLACED PRIOR TO THE REMOVAL AND REPLACEMENT OF 3/8" DIAMETER BOLTS.
6. ALL 1" DIAMETER BOLTS FOR 2-L8x4x1/2x6 1/2" CONNECTION ANGLES TO BOTTOM CHORD SHALL BE PLACED WITH THE NUT ON THE INTERIOR FACE OF THE BOTTOM CHORD WHERE APPLICABLE.
7. ALL 3/8" DIAMETER BOLTS FOR 2-L8x4x1/2x6 1/2" CONNECTION ANGLES TO THE STRUT WEB SHALL BE PLACED WITH THE NUT ON THE OPPOSITE FACE OF THE PROPOSED WEB REPAIR C WHERE APPLICABLE.
8. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
9. SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
10. THE REMOVAL OF EXISTING RIVETS AND CONNECTION ANGLES, NEW RETROFIT MATERIALS, AND ALL LABOR ASSOCIATED WITH THE BRACING RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
11. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING WEB PLATES, THE NEW RETROFIT PLATES AND ANGLES, AND ANY SURROUNDING AREAS DAMAGED BY REMOVAL OR INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

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EXISTING BOTTOM CHORD STRUT L105N-L105S ELEVATION



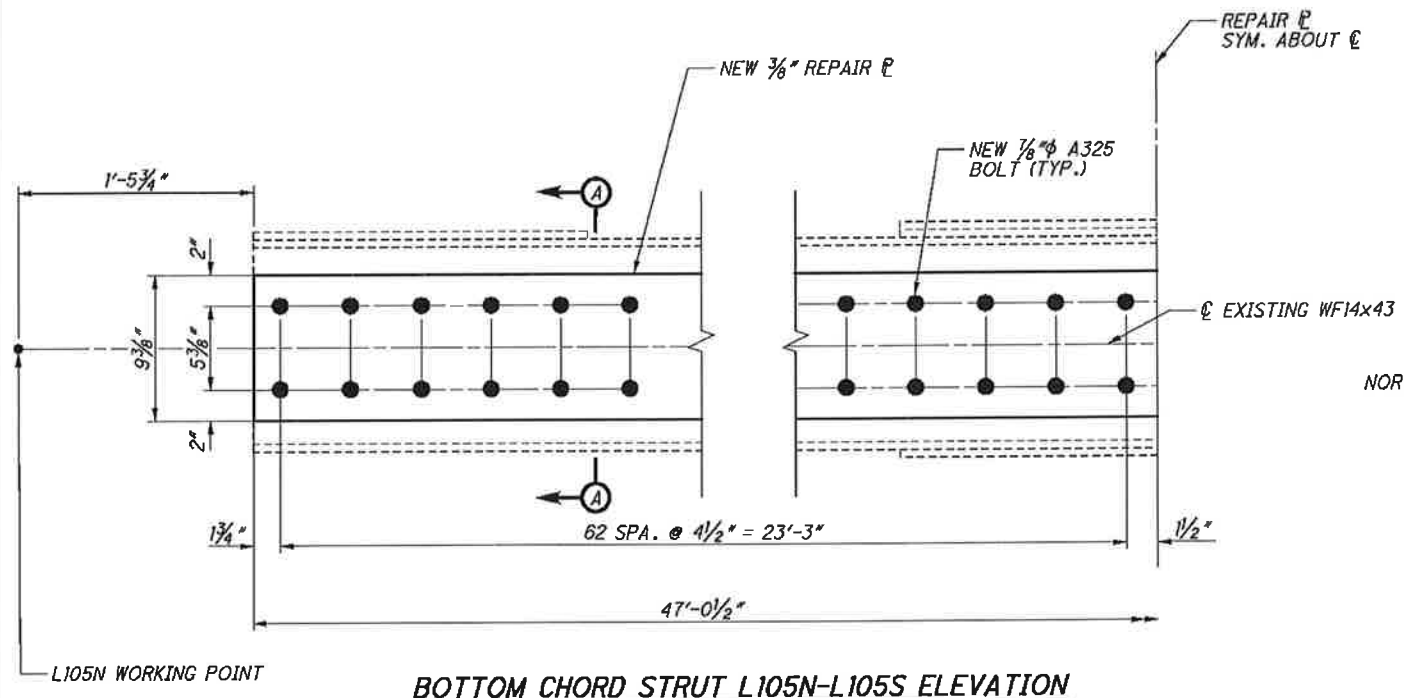
SECTION A-A

BOLT LEGEND:

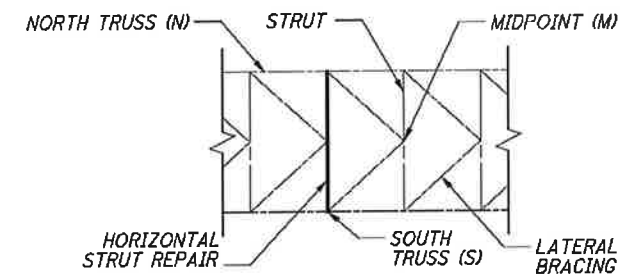
- - FIELD DRILL NEW 1 5/8" HOLE FOR NEW 7/8" A325 BOLT.

NOTES:

- FOR LOCATION OF L105N-L105S RETROFIT SEE SHEET 51 / 187.
- CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
- REPAIR PLATES MAY BE INSTALLED ON EITHER FACE OF THE LATERAL BRACE WEB AT THE CONTRACTOR'S DISCRETION.
- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
- NEW RETROFIT MATERIALS AND ALL LABOR ASSOCIATED WITH THE BRACING RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
- THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING WEB PLATES, THE NEW RETROFIT PLATES AND ANGLES, AND ANY SURROUNDING AREAS DAMAGED BY REMOVAL OR INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

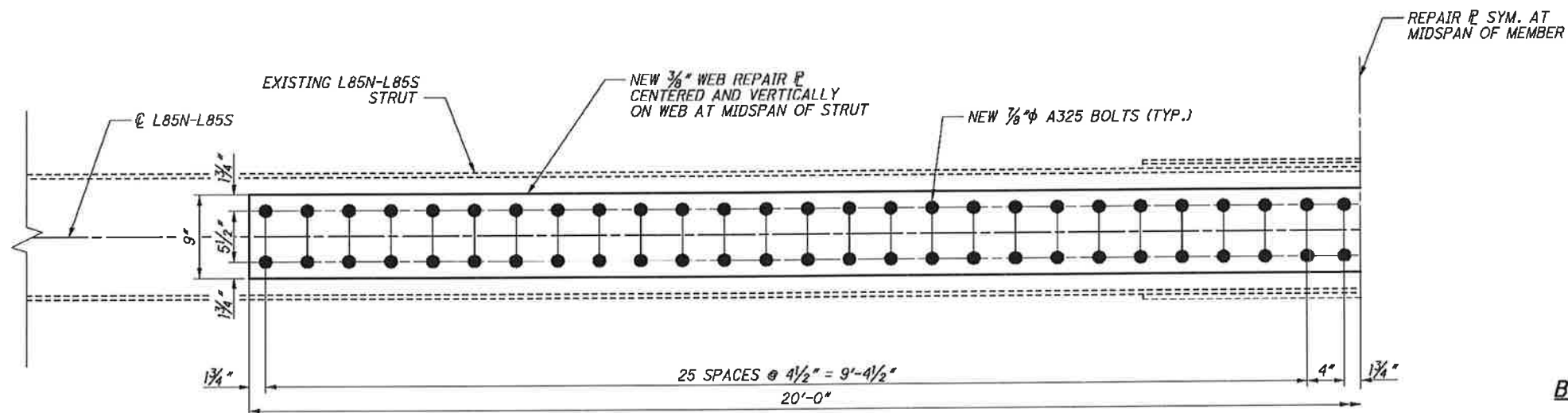


BOTTOM CHORD STRUT L105N-L105S ELEVATION

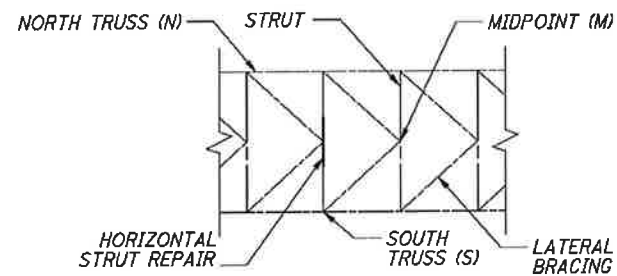


TYPICAL LATERAL BRACING PLAN

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BOTTOM CHORD STRUT L85N-L85S ELEVATION



TYPICAL LATERAL BRACING PLAN

BOLT LEGEND:

- - FIELD DRILL NEW 15/16" HOLE FOR NEW 1/8" A325 BOLT.

NOTES:

- FOR LOCATION OF L85N-L85S RETROFIT SEE SHEET **50 / 187**.
- CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
- REPAIR PLATES MAY BE INSTALLED ON EITHER FACE OF THE LATERAL BRACE WEB AT THE CONTRACTOR'S DISCRETION.
- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
- THE NEW RETROFIT MATERIALS AND ALL LABOR ASSOCIATED WITH THE BRACING RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET **6 / 187**.
- THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING WEB, THE NEW RETROFIT PLATES AND ANGLES, AND ANY SURROUNDING AREAS DAMAGED BY REMOVAL OR INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

CUY-2-14.41
PID No. 91115

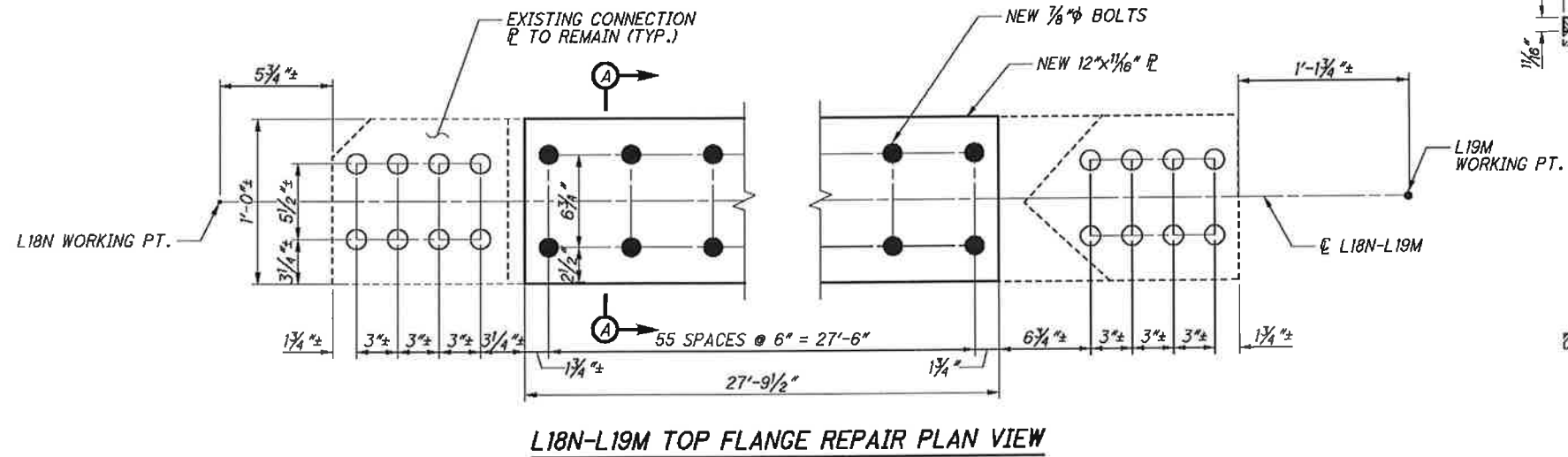
140/187

142
189

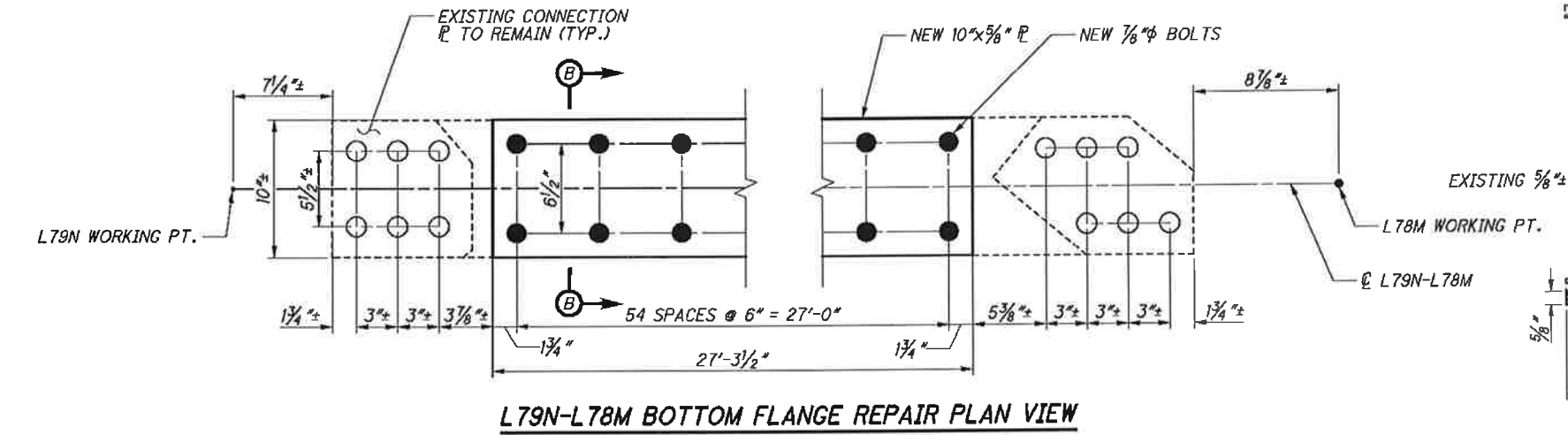
MAIN TRUSS LATERAL BRACING RETROFITS (5 OF 9)
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED: DMD
CHECKED: DWC
DRAWN: DMD
REVIEWED: WRW
DATE: 08/16/13
STRUCTURE FILE NUMBER: 1800035

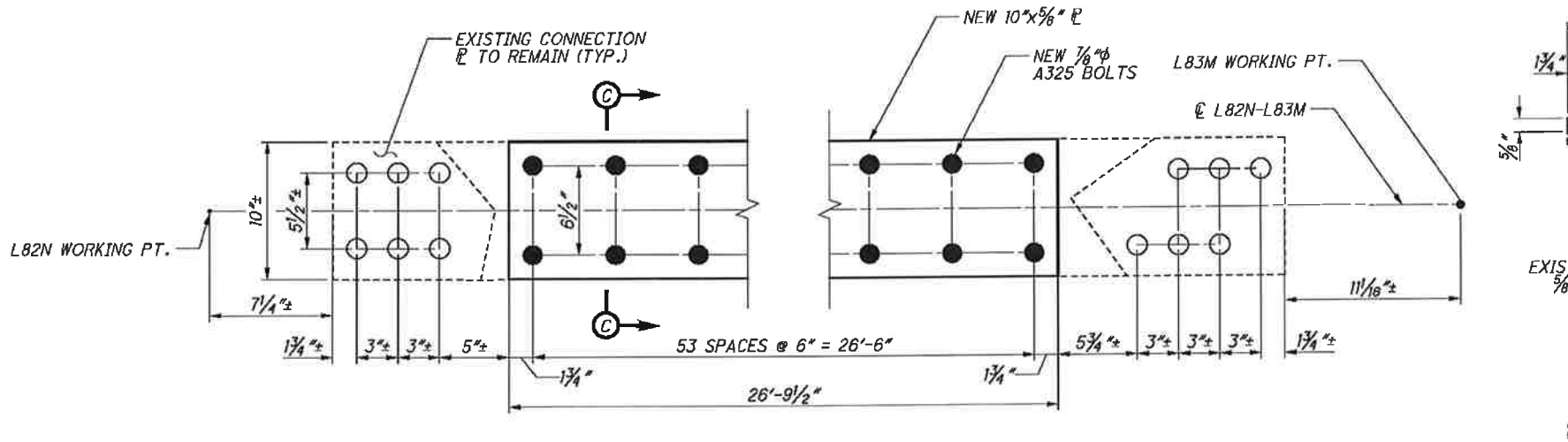
DESIGN AGENCY
TranSystems
35 PUBLIC SQUARE, SUITE 1000
CLEVELAND, OHIO 44113



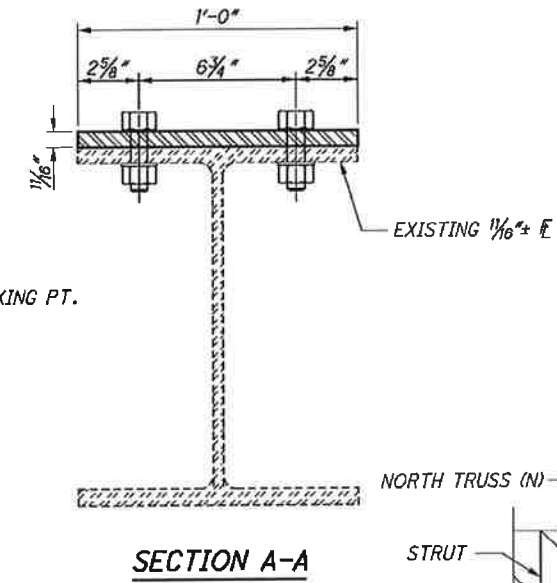
L18N-L19M TOP FLANGE REPAIR PLAN VIEW



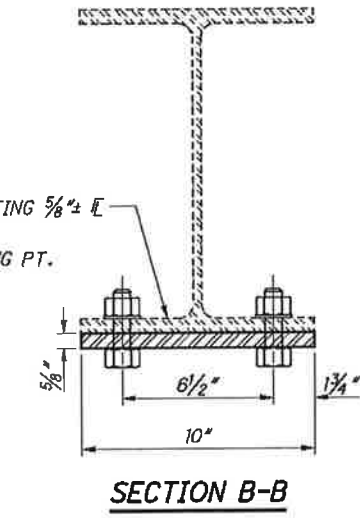
L79N-L78M BOTTOM FLANGE REPAIR PLAN VIEW



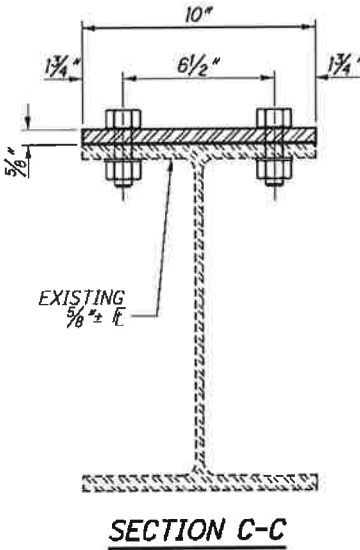
L82N-L83M TOP FLANGE REPAIR PLAN VIEW



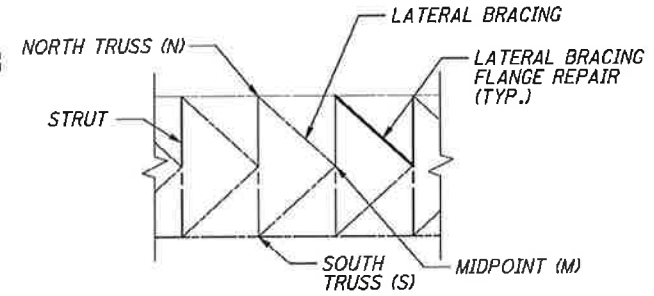
SECTION A-A



SECTION B-B



SECTION C-C



TYPICAL LATERAL BRACING PLAN

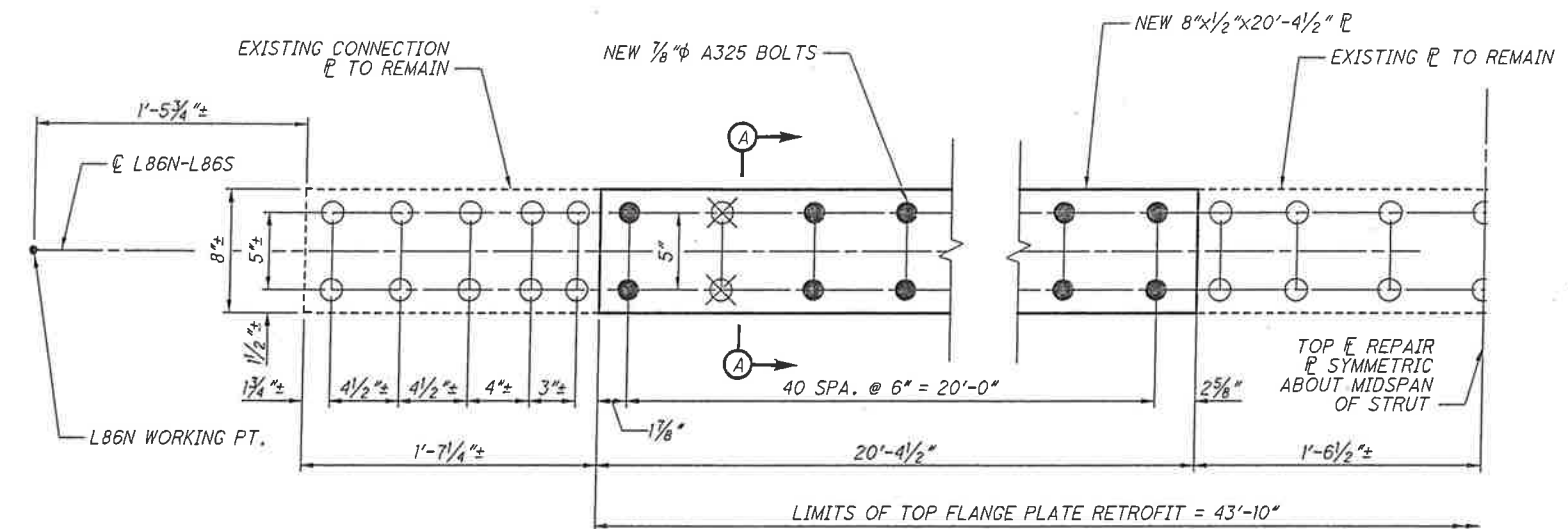
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1/16" HOLE FOR NEW 1/8" A325 BOLT.

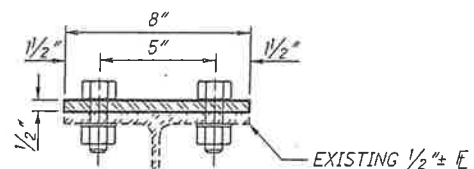
NOTES:

1. FOR LOCATION OF TOP AND BOTTOM FLANGE RETROFITS SEE SHEETS 47 / 187 AND 50 / 187.
2. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
3. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
4. SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
5. ALL WORK ON THIS SHEET SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
6. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF NEW PLATES AND EXISTING PLATES AND SHALL BE INCLUDED FOR PAYMENT IN ITEM 514.

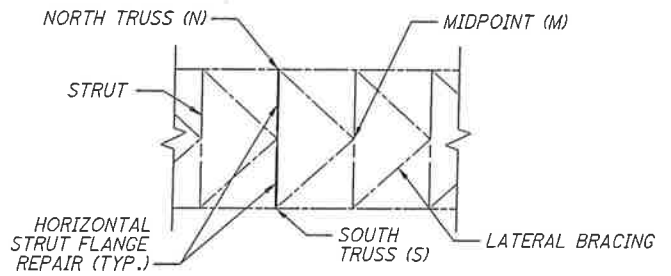
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L86N-L86S TOP FLANGE REPAIR PLAN VIEW



SECTION A-A



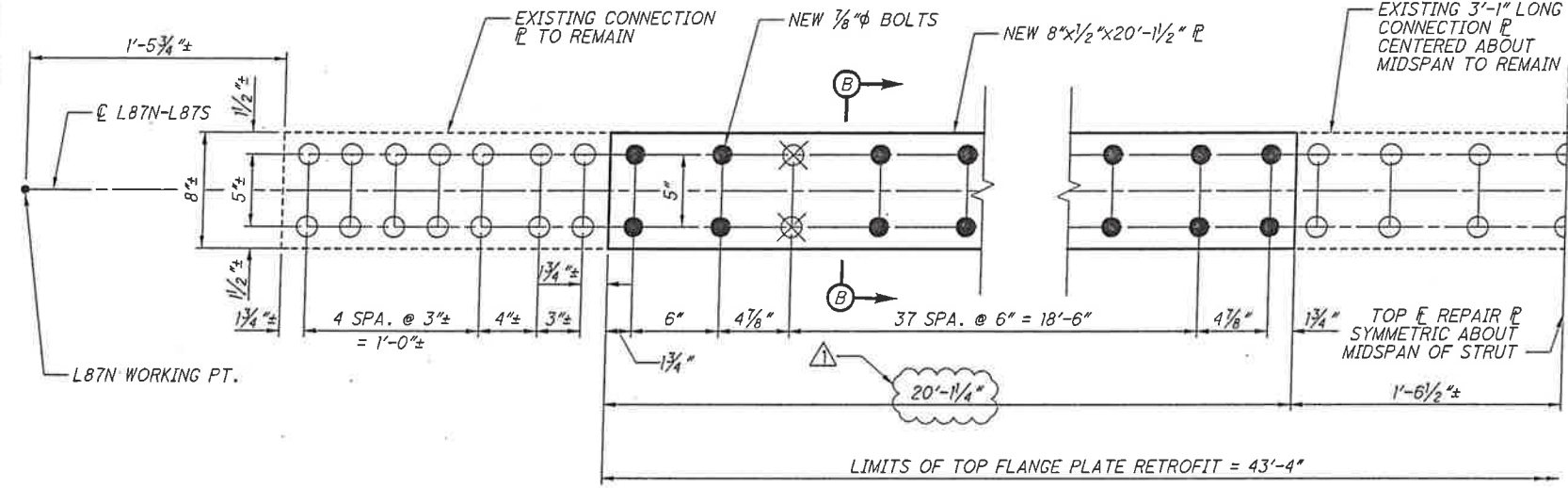
TYPICAL LATERAL BRACING PLAN

BOLT LEGEND:

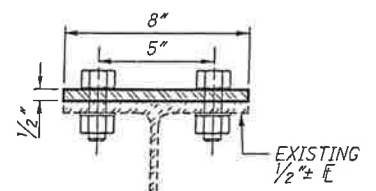
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" HOLE FOR NEW 1/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1/8" A325 BOLT.

NOTES:

1. FOR LOCATION OF TOP FLANGE RETROFITS SEE SHEET 50 / 187.
2. THE EXISTING MEMBERS AND REPAIR DETAILS SHOWN ARE SYMMETRICAL ABOUT THE MIDSPAN OF THE MEMBER.
3. A NEW REPAIR PLATE SHALL BE RETROFITTED TO THE TOP FLANGE ON BOTH SIDES OF THE CONNECTION PLATE AT MIDSPAN AS SHOWN.
4. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
5. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
6. SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
7. ALL WORK ON THIS SHEET SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
8. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF NEW PLATES AND EXISTING PLATES AND SHALL BE INCLUDED FOR PAYMENT IN ITEM 514.



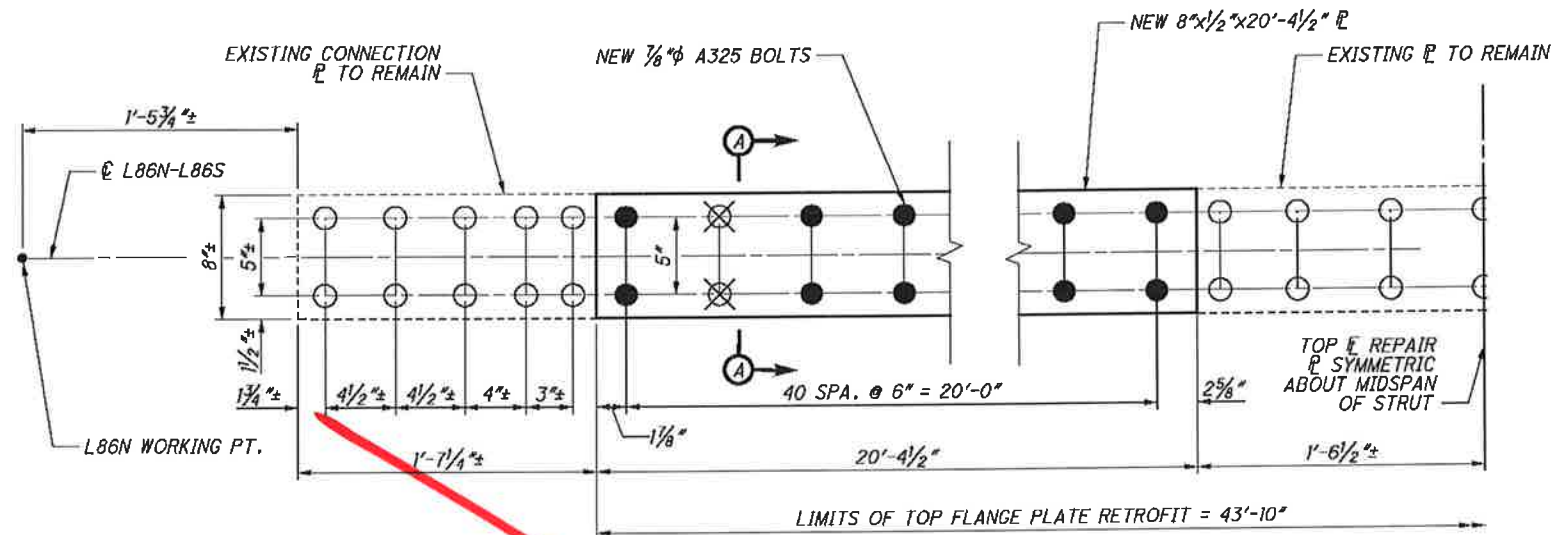
L87N-L87S TOP FLANGE REPAIR PLAN VIEW



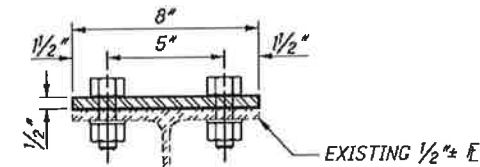
SECTION B-B

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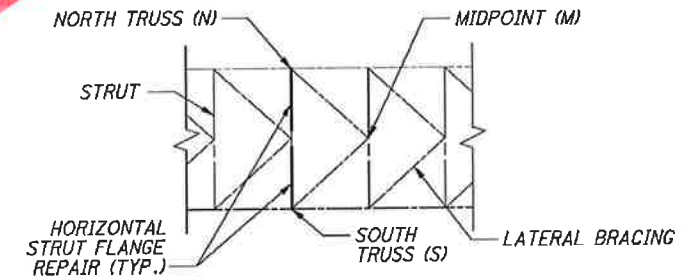
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L86N-L86S TOP FLANGE REPAIR PLAN VIEW



SECTION A-A



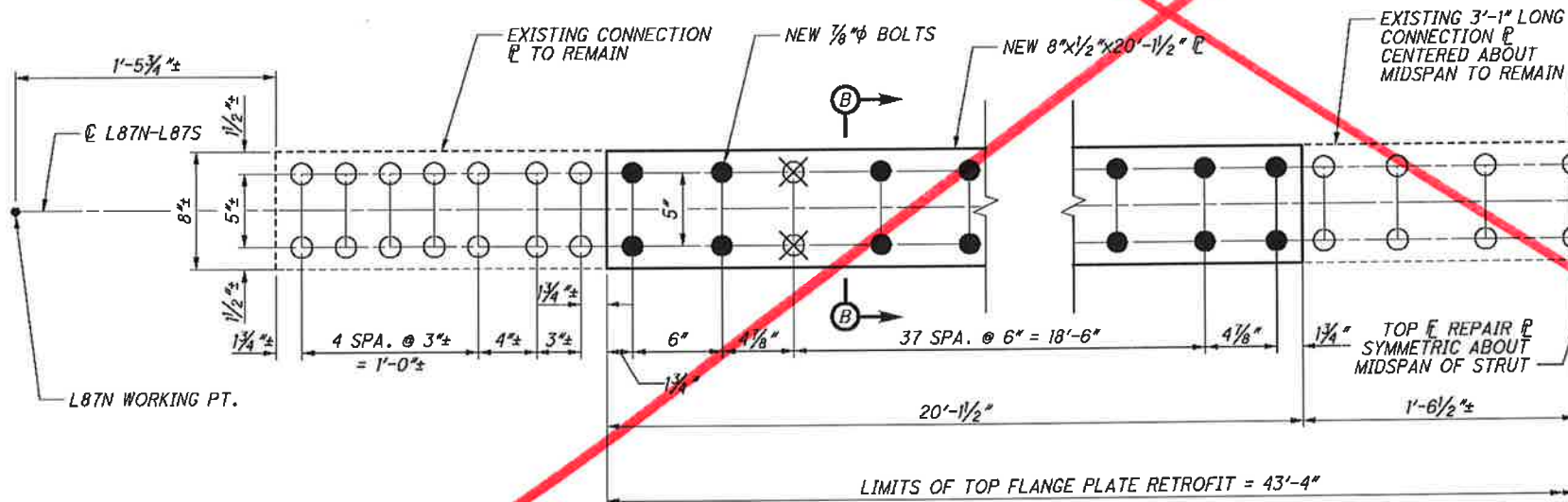
TYPICAL LATERAL BRACING PLAN

BOLT LEGEND:

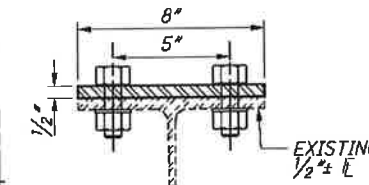
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" HOLE FOR NEW 3/8" A325 BOLT.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 3/8" A325 BOLT.

NOTES:

1. FOR LOCATION OF TOP FLANGE RETROFITS SEE SHEET 50 / 187.
2. THE EXISTING MEMBERS AND REPAIR DETAILS SHOWN ARE SYMMETRICAL ABOUT THE MIDSPAN OF THE MEMBER.
3. A NEW REPAIR PLATE SHALL BE RETROFITTED TO THE TOP FLANGE ON BOTH SIDES OF THE CONNECTION PLATE AT MIDSPAN AS SHOWN.
4. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
5. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
6. SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
7. ALL WORK ON THIS SHEET SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
8. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF NEW PLATES AND EXISTING PLATES AND SHALL BE INCLUDED FOR PAYMENT IN ITEM 514.

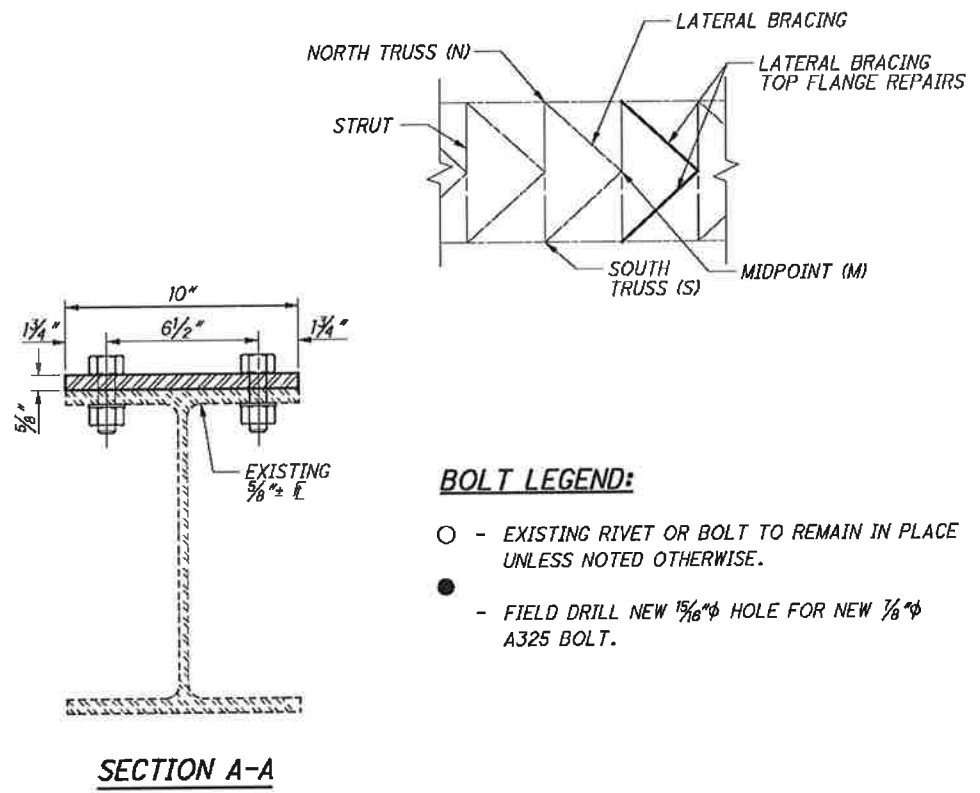
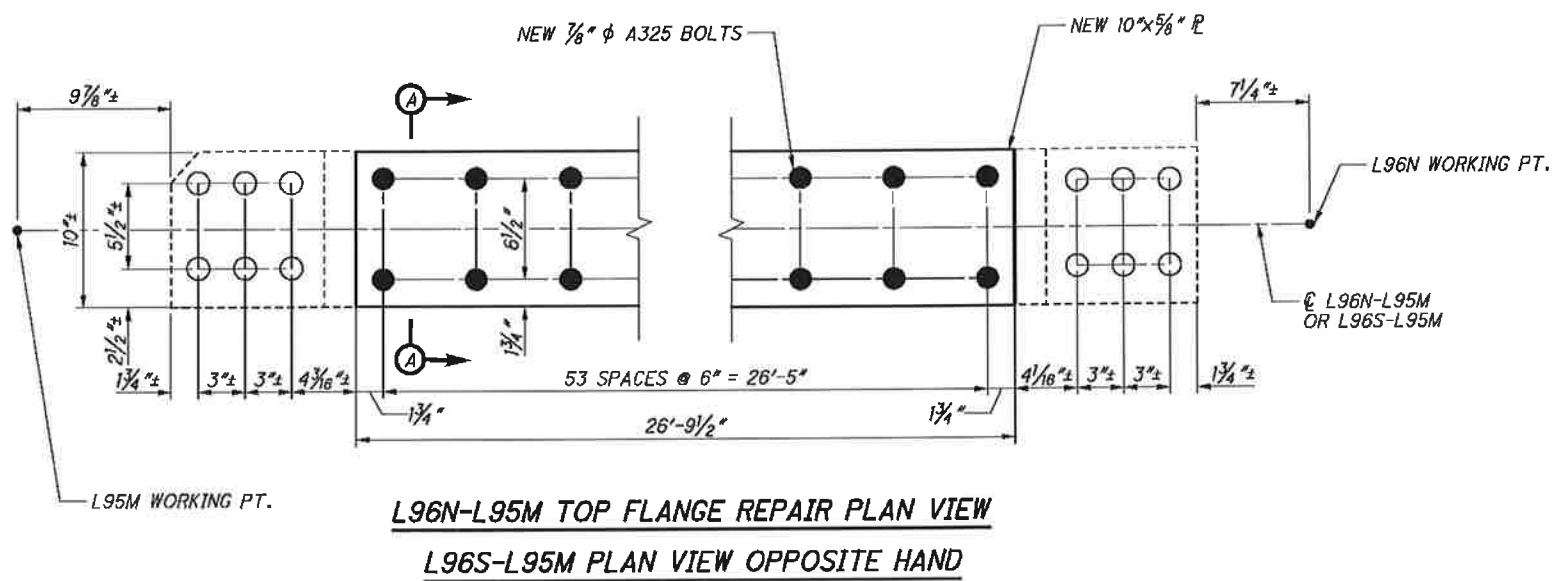


L87N-L87S TOP FLANGE REPAIR PLAN VIEW



SECTION B-B

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BOLT LEGEND:

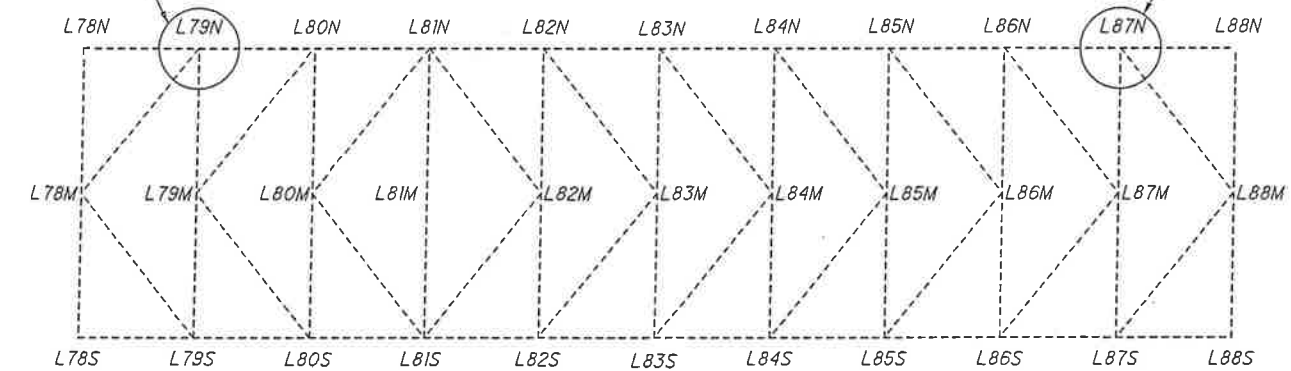
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" φ HOLE FOR NEW 7/8" φ A325 BOLT.

NOTES:

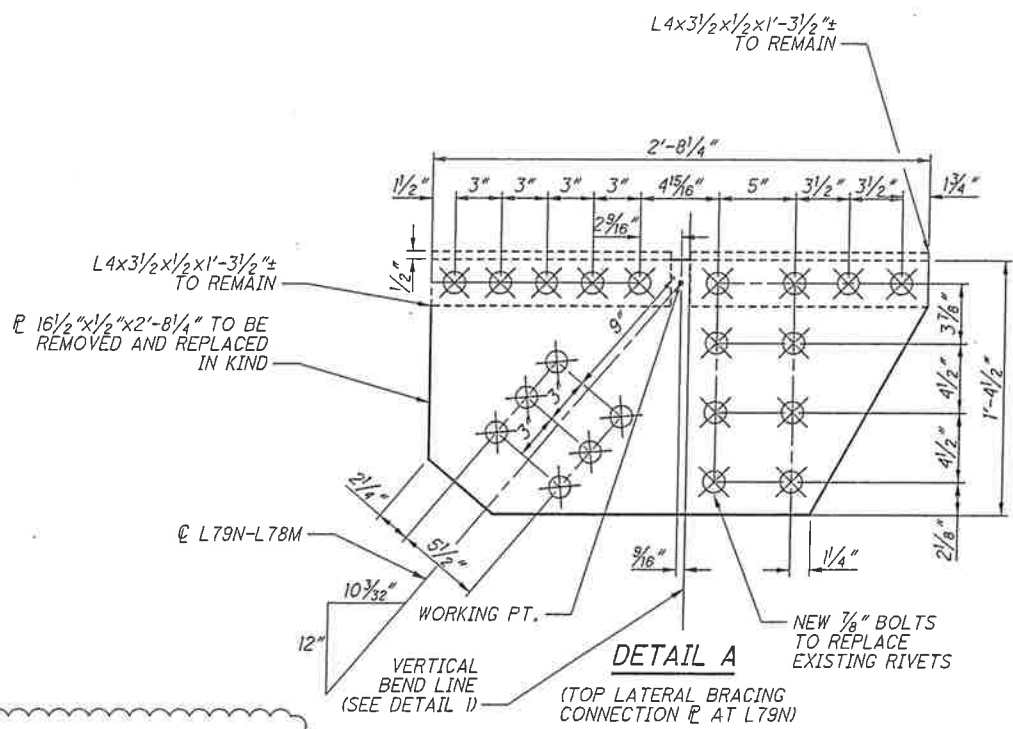
1. FOR LOCATION OF TOP FLANGE RETROFITS SEE SHEETS **51 / 187**.
2. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
3. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
4. SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.
5. THE NEW RETROFIT MATERIALS AND ALL LABOR ASSOCIATED WITH THE BRACING RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET **6 / 187**.
6. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLANGES, THE NEW RETROFIT PLATES, AND ANY SURROUNDING AREAS DAMAGED BY REMOVAL OR INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

SEE DETAIL A

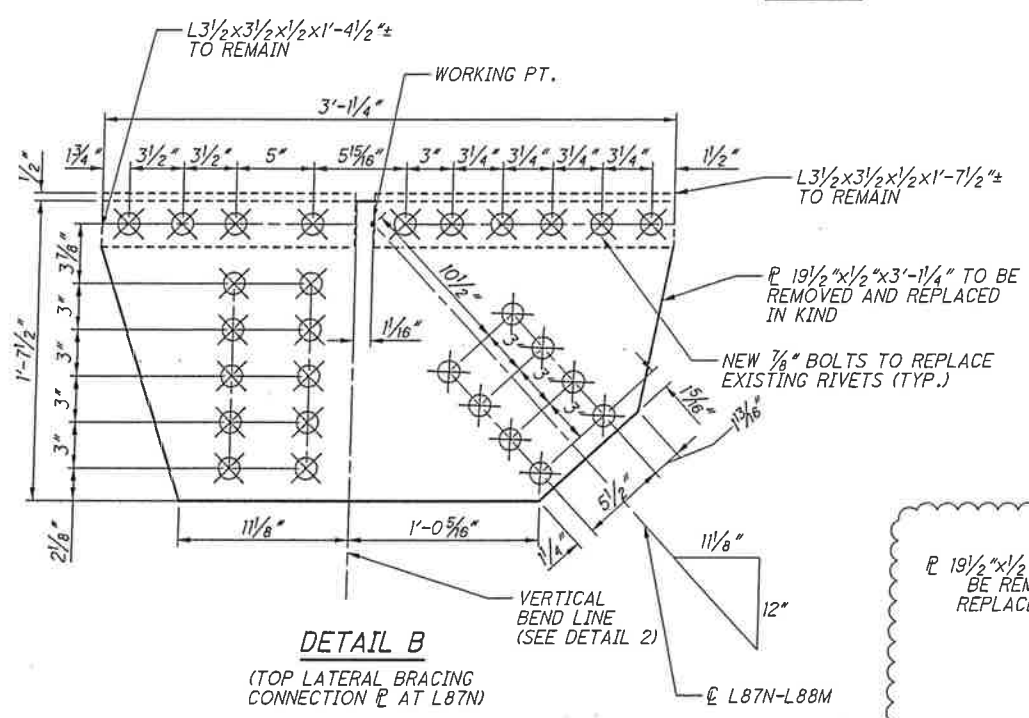
SEE DETAILS B AND C



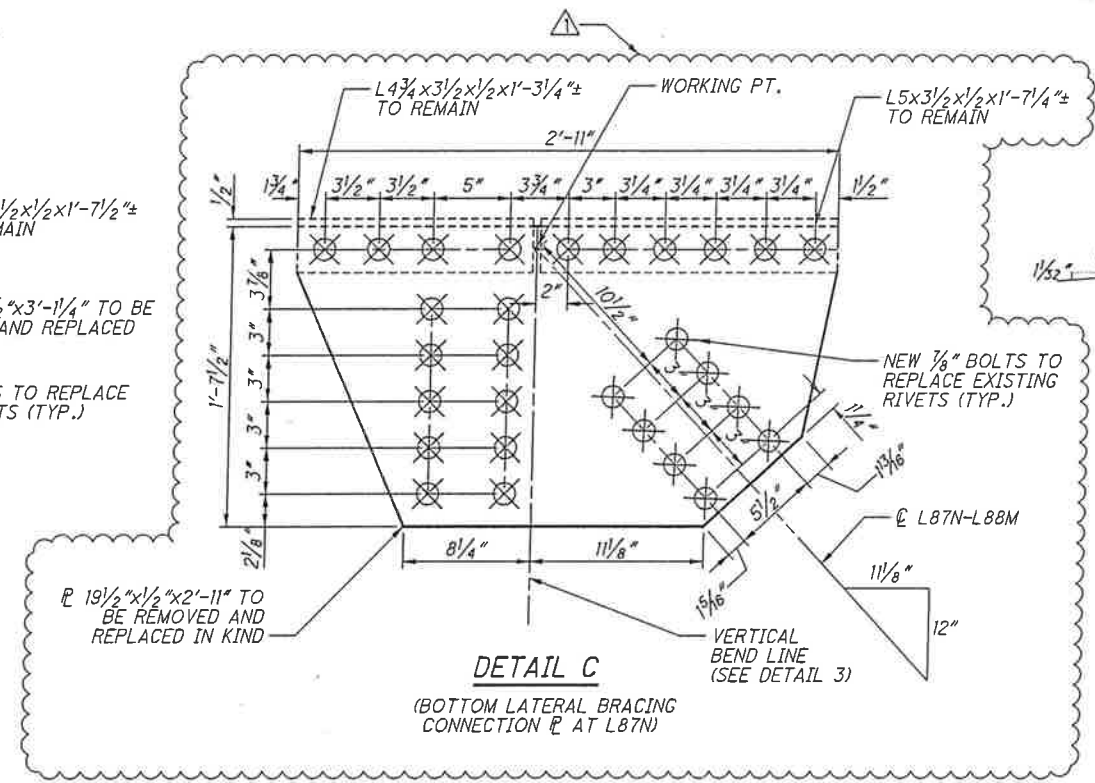
PARTIAL PLAN OF LATERAL BRACING
SPAN 8



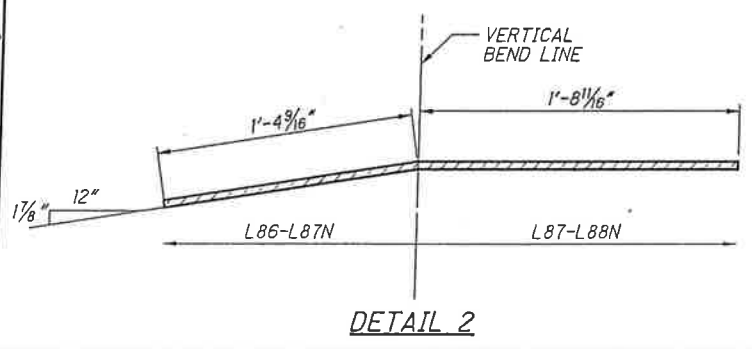
DETAIL A
(TOP LATERAL BRACING CONNECTION @ AT L79N)



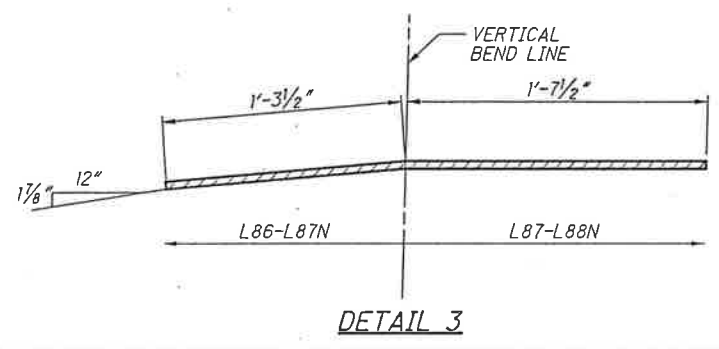
DETAIL B
(TOP LATERAL BRACING CONNECTION @ AT L87N)



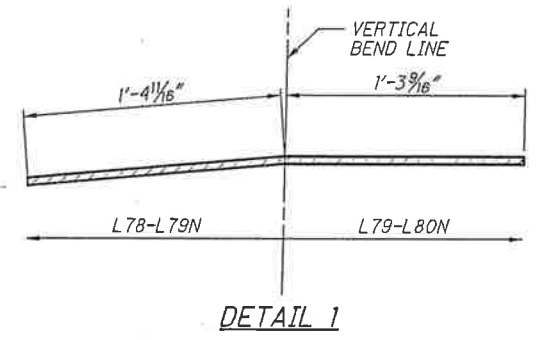
DETAIL C
(BOTTOM LATERAL BRACING CONNECTION @ AT L87N)



DETAIL 2



DETAIL 3



DETAIL 1

BOLT LEGEND:

⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" φ A325 BOLT.

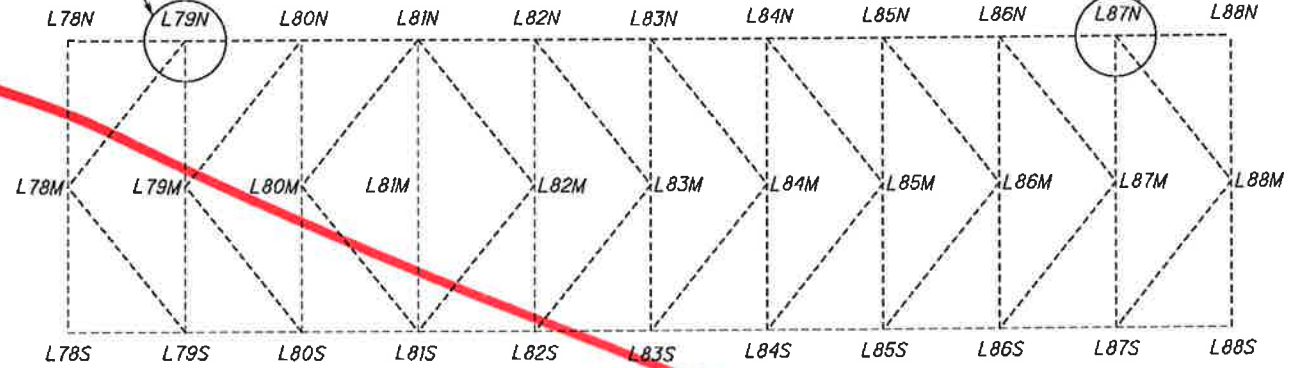
NOTES:

1. FOR LOCATION OF LATERAL BRACE GUSSET RETROFITS IN SPAN 8 SEE SHEET 50 / 187.
2. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
3. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
4. SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.
5. GUSSET PLATES CANNOT BE REMOVED AND REPLACED CONCURRENTLY.
6. THE REMOVAL OF EXISTING ELEMENTS, NEW RETROFIT MATERIALS, AND ALL LABOR ASSOCIATED WITH THE BRACNG RETROFITS SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEETS 6 / 187.
7. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE GUSSET PLATES, THE NEW RETROFIT PLATES AND ANGLES, AND ANY SURROUNDING AREAS DAMAGED BY REMOVAL OR INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

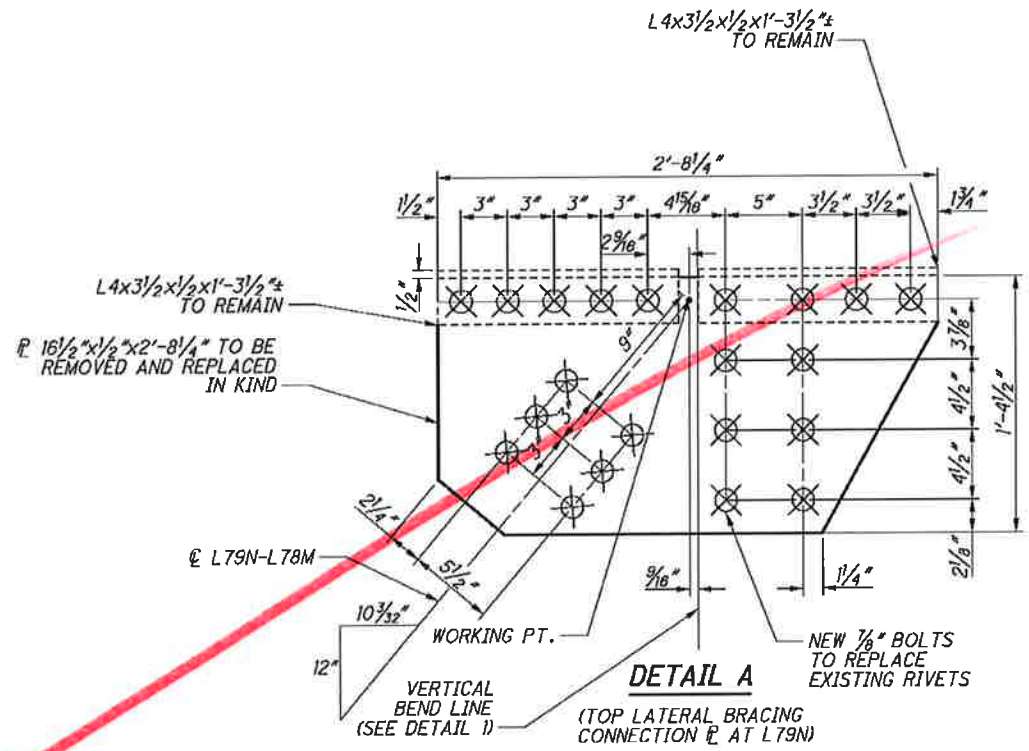
G:\CL12\0112\Bridges\Sheets\91115\SD074.dgn 2/25/2014 9:48:12 AM ctguion

SEE DETAIL A

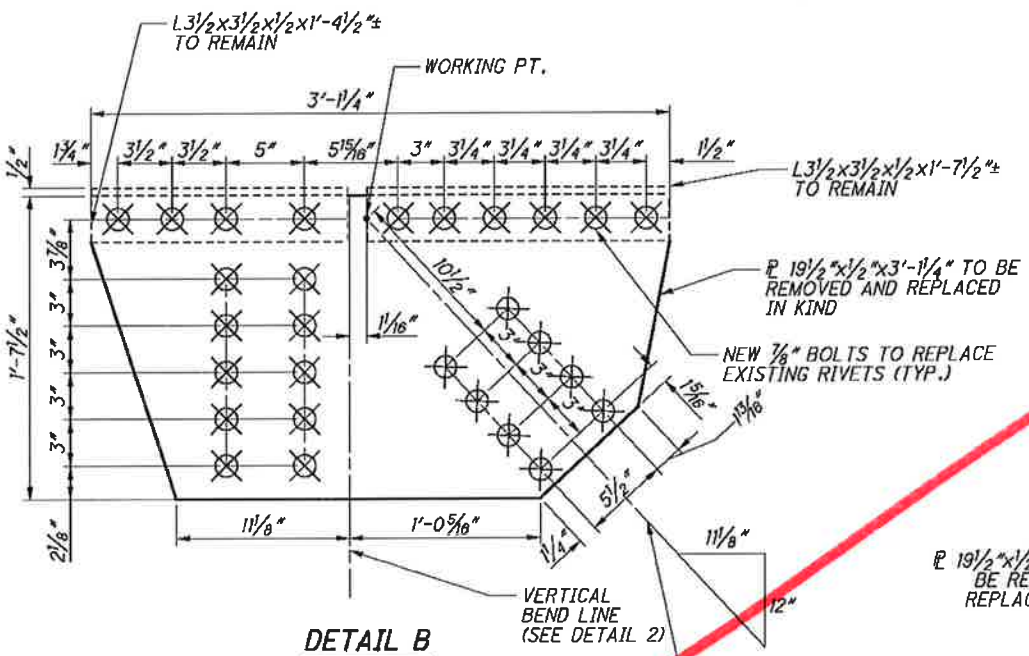
SEE DETAILS B AND C



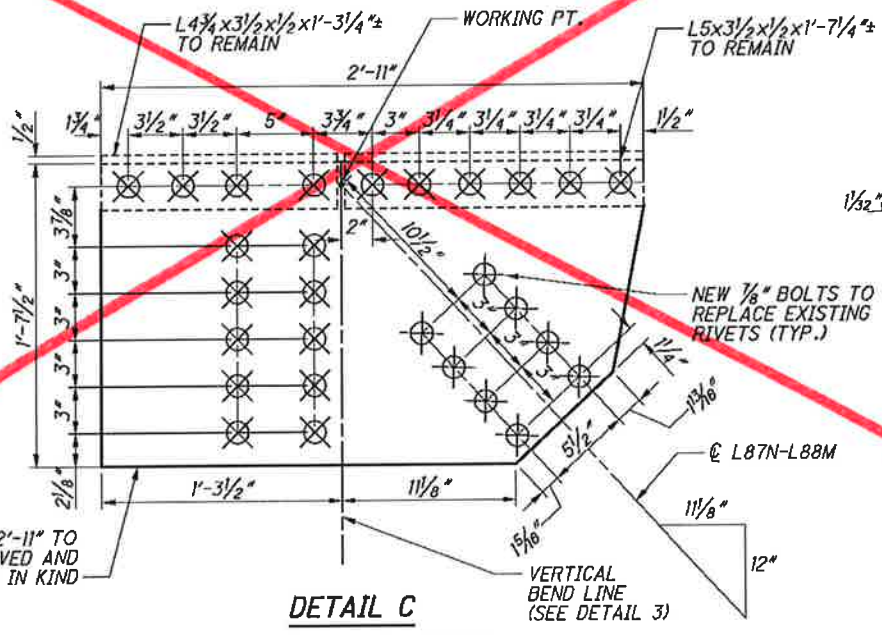
PARTIAL PLAN OF LATERAL BRACING
SPAN 8



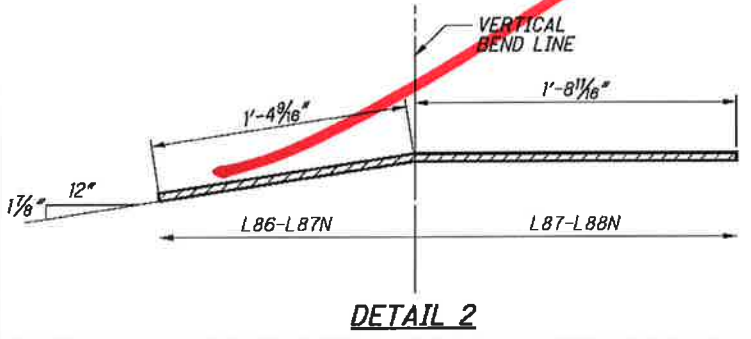
DETAIL A
(TOP LATERAL BRACING CONNECTION @ AT L79N)



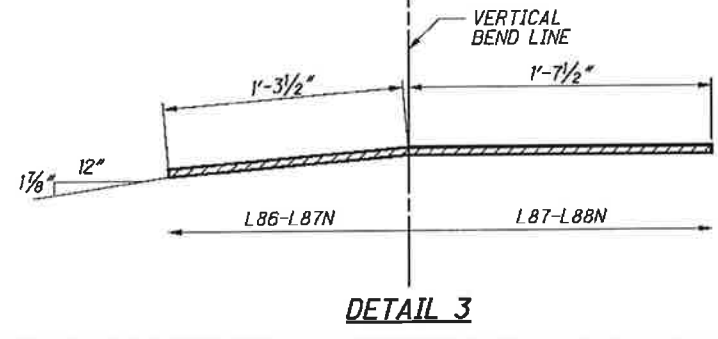
DETAIL B
(TOP LATERAL BRACING CONNECTION @ AT L87N)



DETAIL C
(BOTTOM LATERAL BRACING CONNECTION @ AT L87N)



DETAIL 2



DETAIL 3

BOLT LEGEND:

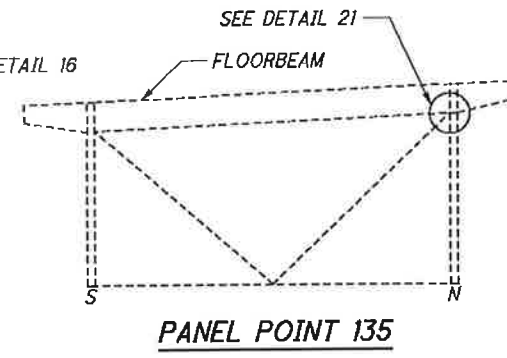
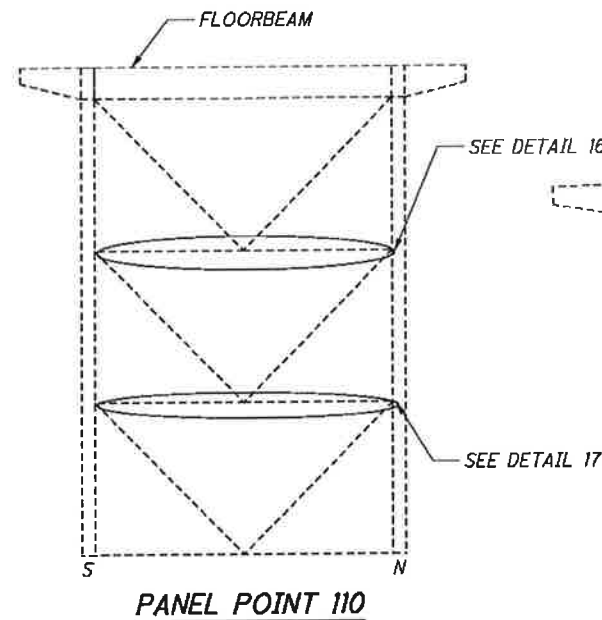
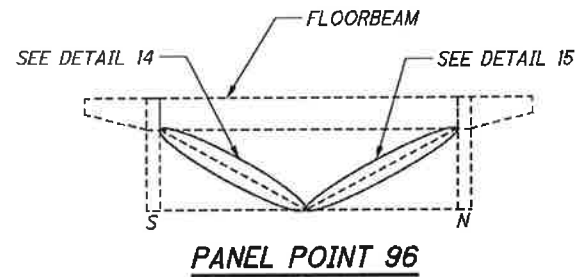
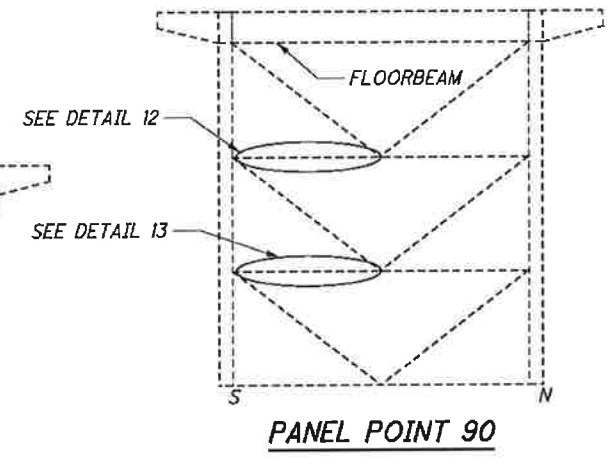
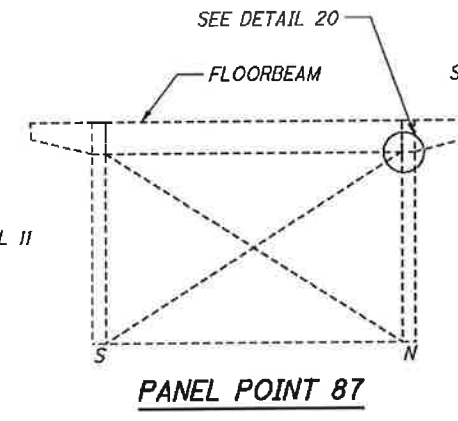
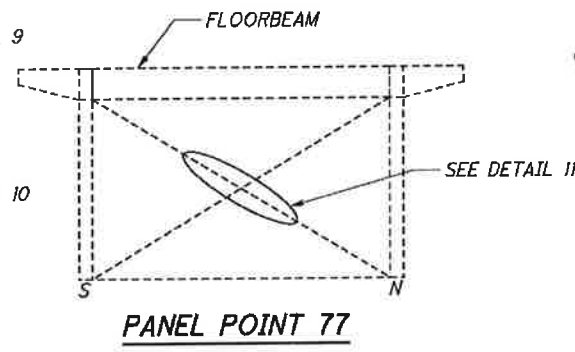
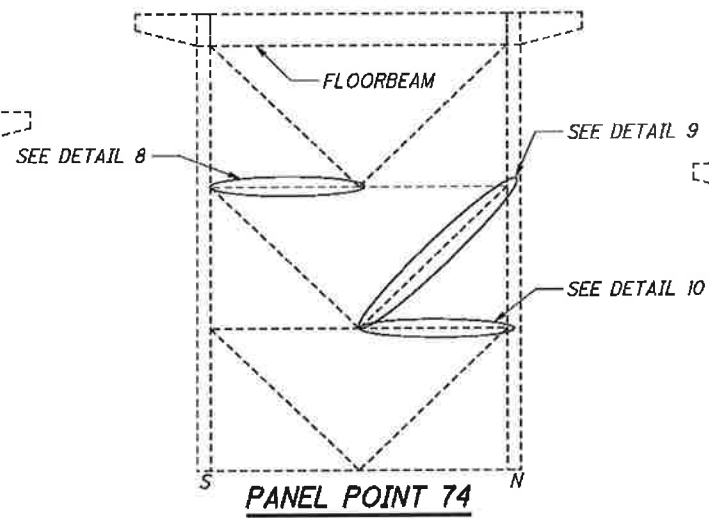
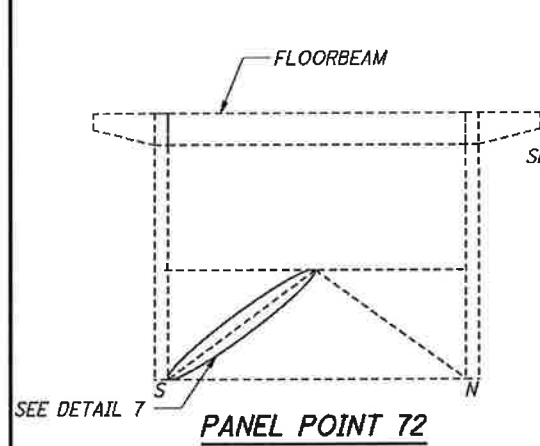
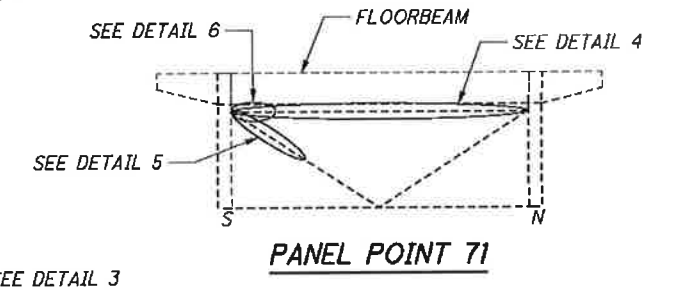
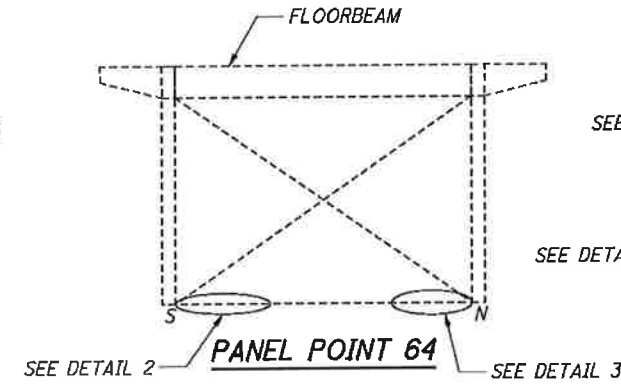
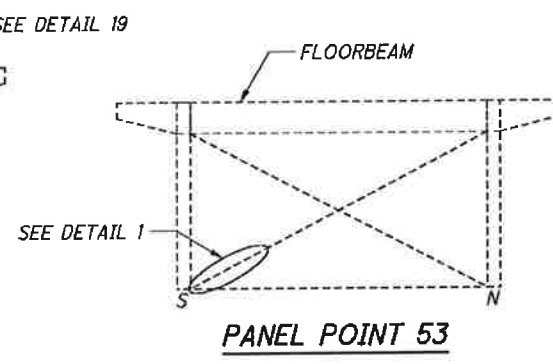
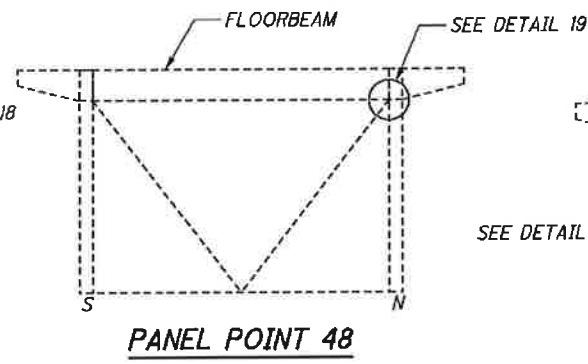
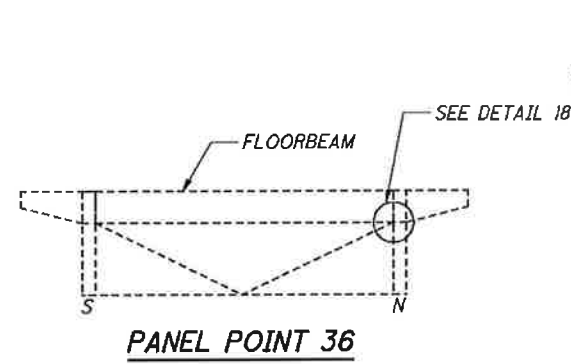
⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" φ A325 BOLT.

NOTES:

- FOR LOCATION OF LATERAL BRACE GUSSET RETROFITS IN SPAN 8 SEE SHEET [50 / 187].
- CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.
- GUSSET PLATES CANNOT BE REMOVED AND REPLACED CONCURRENTLY.
- THE REMOVAL OF EXISTING ELEMENTS, NEW RETROFIT MATERIALS, AND ALL LABOR ASSOCIATED WITH THE BRACING RETROFITS SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEETS [6 / 187].
- THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE GUSSET PLATES, THE NEW RETROFIT PLATES AND ANGLES, AND ANY SURROUNDING AREAS DAMAGED BY REMOVAL OR INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

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SWAY BRACING REPAIR CALLOUTS - EAST ELEVATIONS

(S* AND *N* INDICATE SOUTH TRUSS AND NORTH TRUSS)

NOTES:

1. FOR LOCATION OF SWAY BRACE RETROFITS ON MAIN TRUSS SEE SHEETS 47 / 187 THROUGH 52 / 187.
2. FOR DETAILS 1 AND 5 THROUGH 17, SEE SHEET 146 / 187.
3. FOR DETAILS 2 AND 3, SEE SHEET 147 / 187.
4. FOR DETAIL 4, SEE SHEET 148 / 187.
5. FOR DETAILS 18 THROUGH 21, SEE SHEET 149 / 187.

CUY-2-14-41
PID No. 91115

145 / 187

147
189

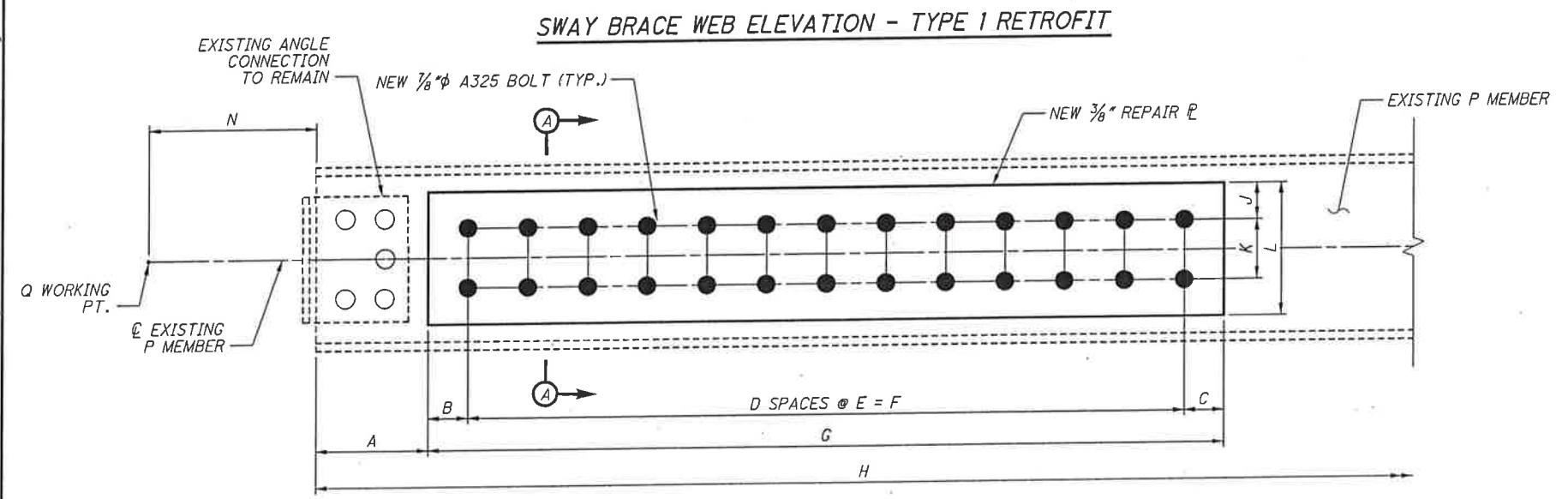
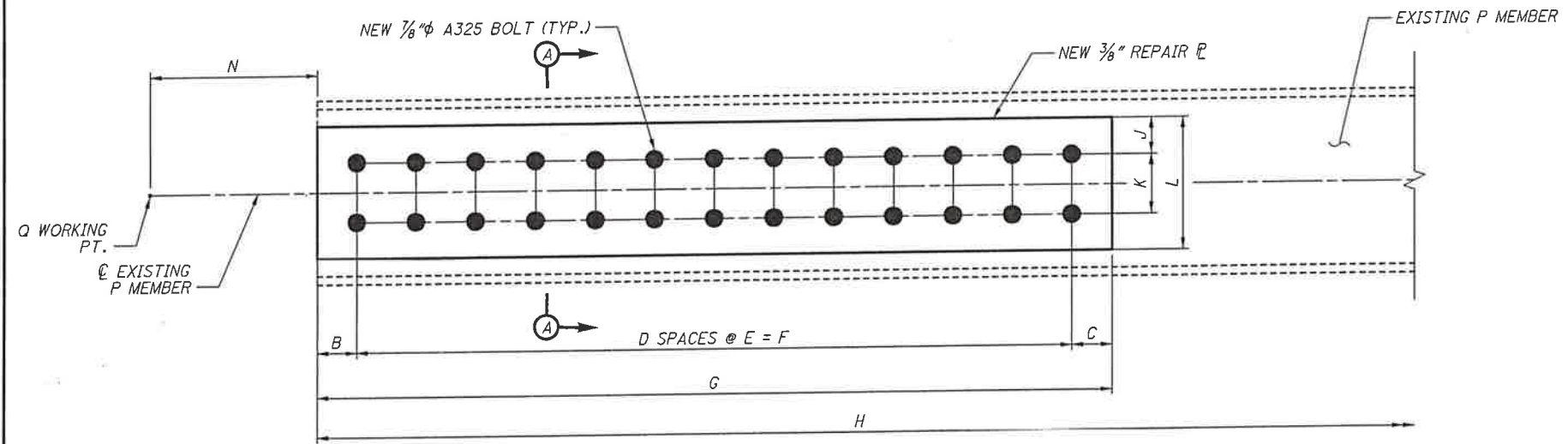
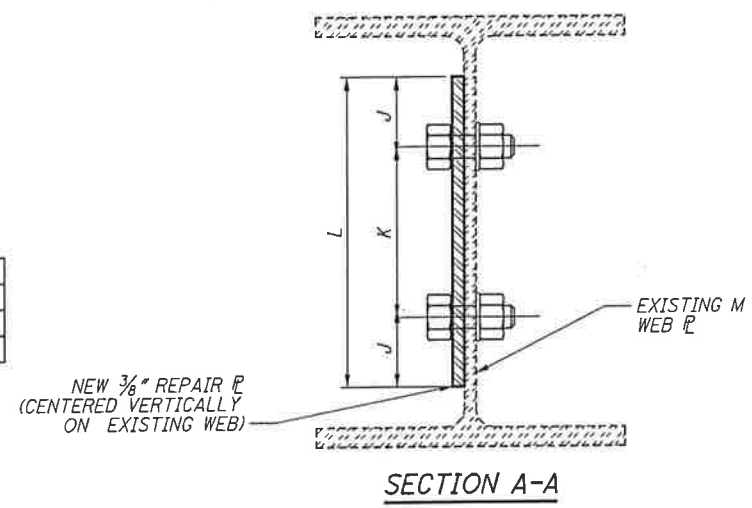
MAIN TRUSS SWAY BRACING RETROFITS (1 OF 5)

MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED	DMD	CHECKED	DWC
DRAWN	DMD	REVISED	DWC
REVIEWED	WRW	DATE	08/16/13
STRUCTURE FILE NUMBER	1800035	DESIGN AGENCY	TranSystems 85 PUBLIC SQUARE, SUITE 100 CLEVELAND, OHIO 44113

DIMENSION CALLOUTS FOR TYPE 1 RETROFIT														
	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
DETAIL 1	2 1/2"	2 1/2"	80	3 3/4"	25'-0"	25'-5"	25'-5"	1 1/4"	5"	8 1/2"	3/8"	1'-10 5/8" ±	WF12x40	L53S
DETAIL 5	1 3/4"	1 3/4"	43	4 1/2"	16'-1 1/2"	16'-5"	32'-6 1/2"	1 3/4"	5"	8 1/2"	3/8"	9 3/16" ±	WF12x65	U71S
DETAIL 7	2 1/2"	2 1/2"	61	4 1/2"	22'-10 1/2"	23'-3 1/2"	23'-3 1/2"	1 3/4"	5"	8 1/2"	3/8"	9 1/16" ±	WF12x53	L72S
DETAIL 8	1 3/4"	1 3/4"	63	4 1/2"	23'-7 1/2"	23'-11"	47'-9 1/2"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/4" ±	WF12x53	74S
DETAIL 9	2 1/2"	2 1/2"	83	4 1/2"	31'-1 1/2"	31'-6 1/2"	31'-6 1/2"	1 3/4"	5"	8 1/2"	3/8"	9" ±	WF12x65	74N
DETAIL 10	1 3/4"	1 3/4"	63	4 1/2"	23'-7 1/2"	23'-11"	47'-9 1/2"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/4" ±	WF12x53	74N
DETAIL 12	1 3/4"	1 3/4"	63	4 1/2"	23'-7 1/2"	23'-11"	47'-9 1/2"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/4" ±	WF12x53	90S
DETAIL 13	1 3/4"	1 3/4"	63	4 1/2"	23'-7 1/2"	23'-11"	47'-9 1/2"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/4" ±	WF12x53	90S
DETAIL 14	3 3/8"	3 3/8"	64	4 1/2"	24'-0"	24'-6 3/4"	24'-6 3/4"	1 3/4"	5"	8 1/2"	3/8"	9 1/2" ±	WF12x53	U96S
DETAIL 15	3 3/8"	3 3/8"	64	4 1/2"	24'-0"	24'-6 3/4"	24'-6 3/4"	1 3/4"	5"	8 1/2"	3/8"	9 1/2" ±	WF12x53	U96N
DETAIL 16	3"	3"	126	4 1/2"	47'-3"	47'-9"	47'-9"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/8" ±	WF12x53	110N
DETAIL 17	3"	3"	126	4 1/2"	47'-3"	47'-9"	47'-9"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/8" ±	WF12x53	110N

DIMENSION CALLOUTS FOR TYPE 2 RETROFIT															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
DETAIL 6	8 1/2"	1 3/4"	1 3/4"	18	4 1/2"	6'-9"	7'-0 1/2"	47'-8 3/4"	2 1/4"	5 1/2"	10"	3/8"	1'-5/8" ±	WF14x61	U71S
DETAIL 11	20'-9 3/4"	1 3/4"	1 3/4"	38	3 3/4"	11'-10 1/2"	12'-2"	54'-1"	1 3/4"	5"	8 1/2"	3/8"	7 1/16" ±	WF12x40	U77S



BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16 inch HOLE FOR NEW 3/8 inch A325 BOLT.

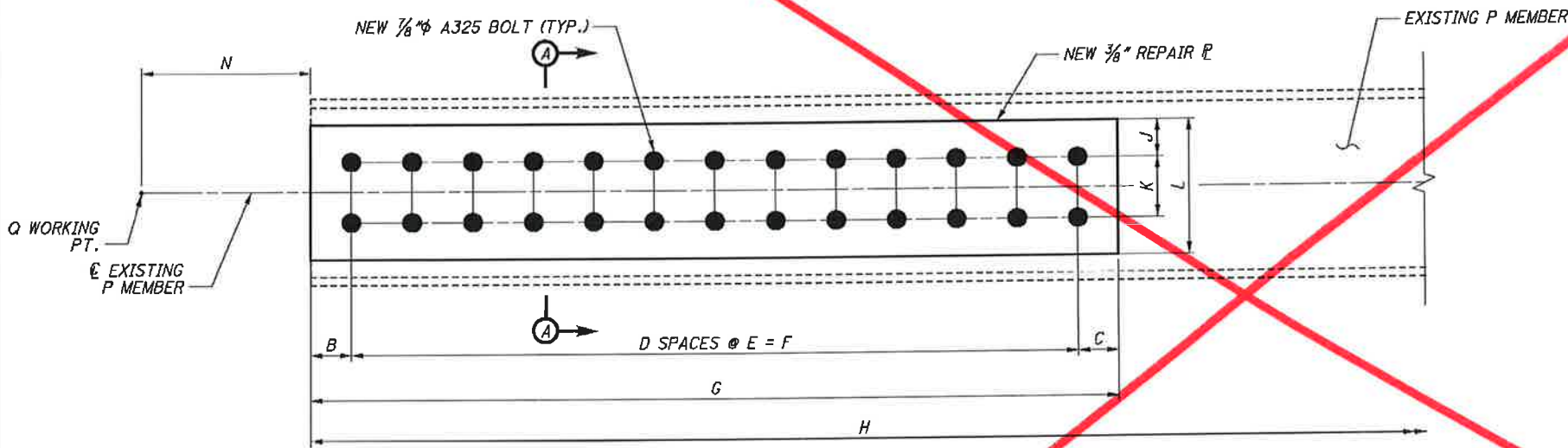
NOTES:

1. FOR LOCATION OF SWAY BRACING RETROFITS ON THE MAIN TRUSS, SEE SHEETS 47 / 187 THROUGH 52 / 187.
2. FOR LOCATION OF SWAY BRACING RETROFITS AT EACH PANEL POINT, SEE SHEET 145 / 187.
3. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
4. THE NEW WEB REPAIR PLATE FOR DETAILS 16 AND 17 MAY BE DIVIDED INTO TWO EQUAL REPAIR PLATES AT THE DISCRETION OF THE CONTRACTOR BECAUSE OF POSSIBLE INTERFERENCE FROM THE SWAY BRACE CONNECTION AT MIDSPAN.
5. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
6. SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
7. DRAIN HOLES SHALL BE ADDED TO REPAIR PLATES AS REQUIRED TO MATCH EXISTING HOLES.
8. THE NEW RETROFIT MATERIALS AND ALL LABOR ASSOCIATED WITH THE BRACNG RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEETS 6 / 187.
9. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING WEBS, THE NEW RETROFIT PLATES, AND ANY SURROUNDING AREAS DAMAGED BY INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

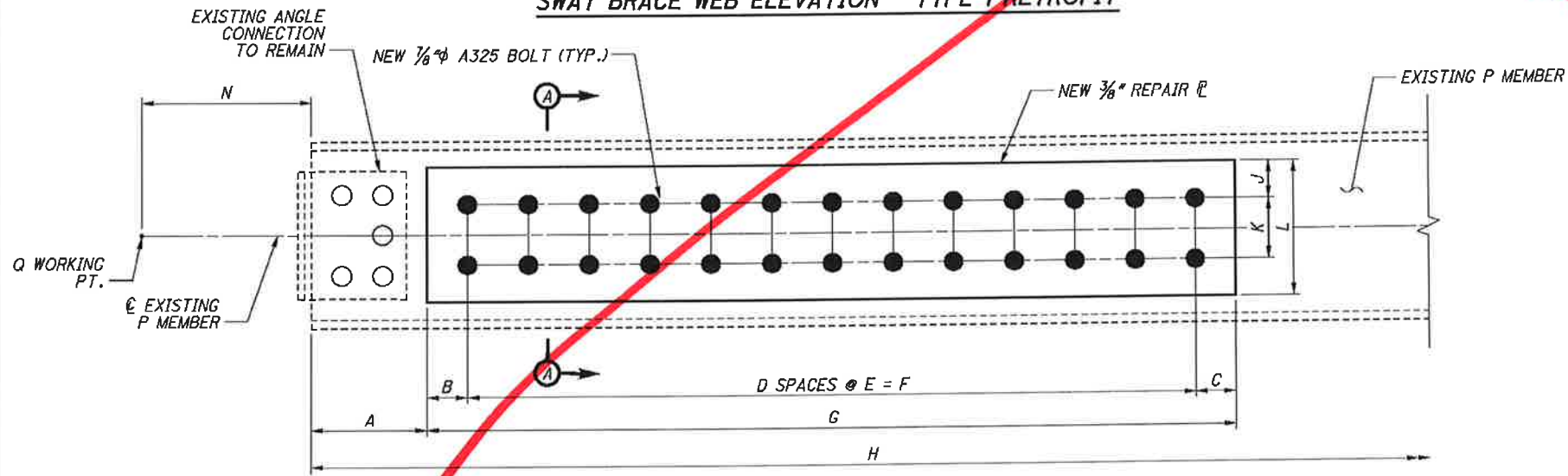
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DIMENSION CALLOUTS FOR TYPE 1 RETROFIT														
	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
DETAIL 1	2 1/2"	2 1/2"	80	3 3/4"	25'-5"	25'-3 1/2"	25'-5"	1 3/4"	5"	8 1/2"	3/8"	1'-10 3/8" ±	WF12x40	L53S
DETAIL 5	1 3/4"	1 3/4"	43	4 1/2"	16'-1 1/2"	16'-5"	32'-6 1/2"	1 3/4"	5"	8 1/2"	3/8"	9 5/16" ±	WF12x65	U71S
DETAIL 7	2 1/2"	2 1/2"	61	4 1/2"	22'-10 1/2"	23'-3 1/2"	23'-3 1/2"	1 3/4"	5"	8 1/2"	3/8"	9 1/16" ±	WF12x53	L72S
DETAIL 8	1 3/4"	1 3/4"	63	4 1/2"	23'-7 1/2"	23'-11"	47'-9 1/2"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/4" ±	WF12x53	74S
DETAIL 9	2 1/2"	2 1/2"	83	4 1/2"	31'-1 1/2"	31'-6 1/2"	31'-6 1/2"	1 3/4"	5"	8 1/2"	3/8"	9" ±	WF12x65	74N
DETAIL 10	1 3/4"	1 3/4"	63	4 1/2"	23'-7 1/2"	23'-11"	47'-9 1/2"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/4" ±	WF12x53	74N
DETAIL 12	1 3/4"	1 3/4"	63	4 1/2"	23'-7 1/2"	23'-11"	47'-9 1/2"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/4" ±	WF12x53	90S
DETAIL 13	1 3/4"	1 3/4"	63	4 1/2"	23'-7 1/2"	23'-11"	47'-9 1/2"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/4" ±	WF12x53	90S
DETAIL 14	3 3/8"	3 3/8"	64	4 1/2"	24'-0"	24'-6 3/4"	24'-6 3/4"	1 3/4"	5"	8 1/2"	3/8"	9 1/2" ±	WF12x53	U96S
DETAIL 15	3 3/8"	3 3/8"	64	4 1/2"	24'-0"	24'-6 3/4"	24'-6 3/4"	1 3/4"	5"	8 1/2"	3/8"	9 1/2" ±	WF12x53	U96N
DETAIL 16	3"	3"	126	4 1/2"	47'-3"	47'-9"	47'-9"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/8" ±	WF12x53	110N
DETAIL 17	3"	3"	126	4 1/2"	47'-3"	47'-9"	47'-9"	1 3/4"	5"	8 1/2"	3/8"	1'-1 1/8" ±	WF12x53	110N

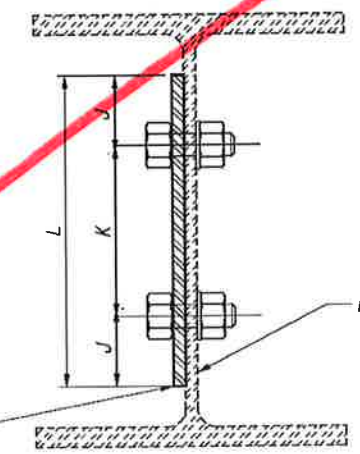
DIMENSION CALLOUTS FOR TYPE 2 RETROFIT															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
DETAIL 6	8 1/2"	1 3/4"	1 3/4"	18	4 1/2"	6'-9"	7'-0 1/2"	47'-8 3/4"	2 1/4"	5 1/2"	10"	3/8"	1'-5 5/8" ±	WF14x61	U71S
DETAIL 11	20'-9 3/4"	1 3/4"	1 3/4"	38	3 3/4"	11'-10 1/2"	12'-2"	54'-1"	1 3/4"	5"	8 1/2"	3/8"	7 1/16" ±	WF12x40	U77S



SWAY BRACE WEB ELEVATION - TYPE 1 RETROFIT



SWAY BRACE WEB ELEVATION - TYPE 2 RETROFIT



SECTION A-A

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" Ø HOLE FOR NEW 3/8" Ø A325 BOLT.

NOTES:

1. FOR LOCATION OF SWAY BRACING RETROFITS ON THE MAIN TRUSS, SEE SHEETS 47 / 187 THROUGH 52 / 187.
2. FOR LOCATION OF SWAY BRACING RETROFITS AT EACH PANEL POINT, SEE SHEET 145 / 187.
3. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
4. THE NEW WEB REPAIR PLATE FOR DETAILS 16 AND 17 MAY BE DIVIDED INTO TWO EQUAL REPAIR PLATES AT THE DISCRETION OF THE CONTRACTOR BECAUSE OF POSSIBLE INTERFERENCE FROM THE SWAY BRACE CONNECTION AT MIDSPAN.
5. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
6. SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
7. DRAIN HOLES SHALL BE ADDED TO REPAIR PLATES AS REQUIRED TO MATCH EXISTING HOLES.
8. THE NEW RETROFIT MATERIALS AND ALL LABOR ASSOCIATED WITH THE BRACING RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEETS 6 / 187.
9. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING WEBS, THE NEW RETROFIT PLATES, AND ANY SURROUNDING AREAS DAMAGED BY INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

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DESIGN AGENCY
Train Systems
55 PUBLIC SQUARE, SUITE 1800
CLEVELAND, OHIO 44113

DATE
08/16/13

REVIEWED
WFW

STRUCTURE FILE NUMBER
1800035

DESIGNED
DMD

CHECKED
DWC

DRAWN
DMD

REVISED

MAIN TRUSS SWAY BRACING RETROFITS (2 OF 5)

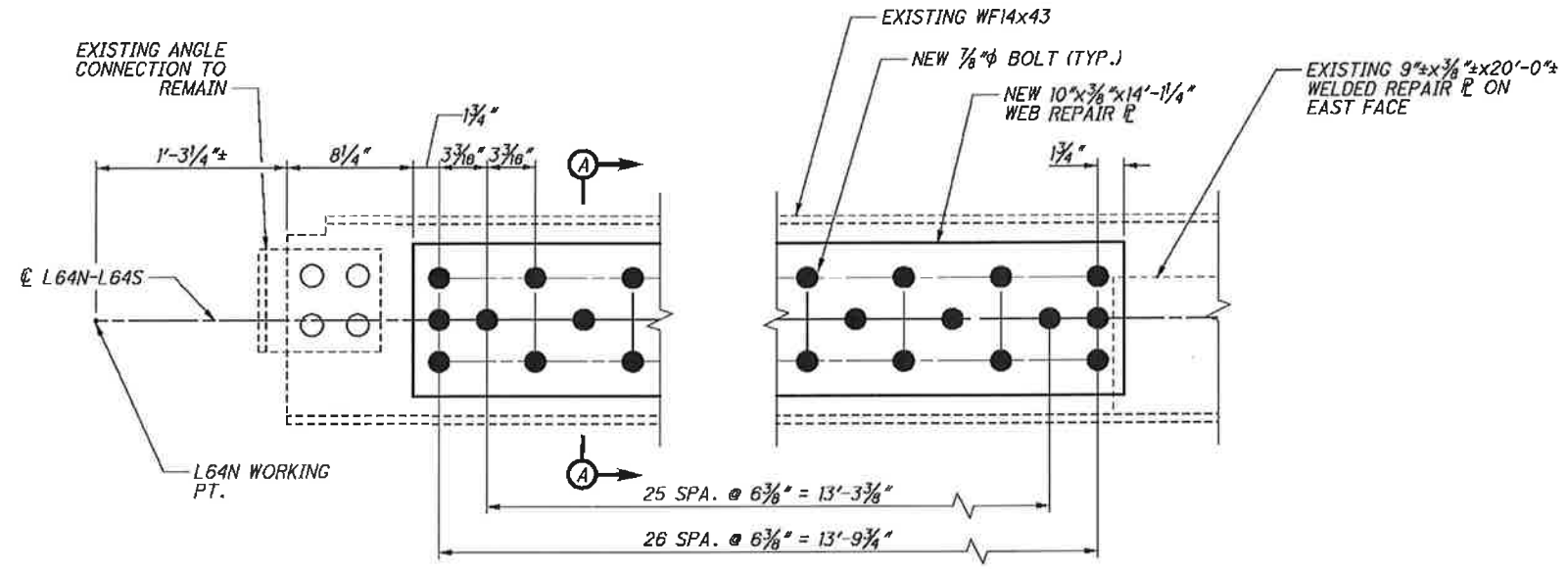
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

CUY-2-14.41

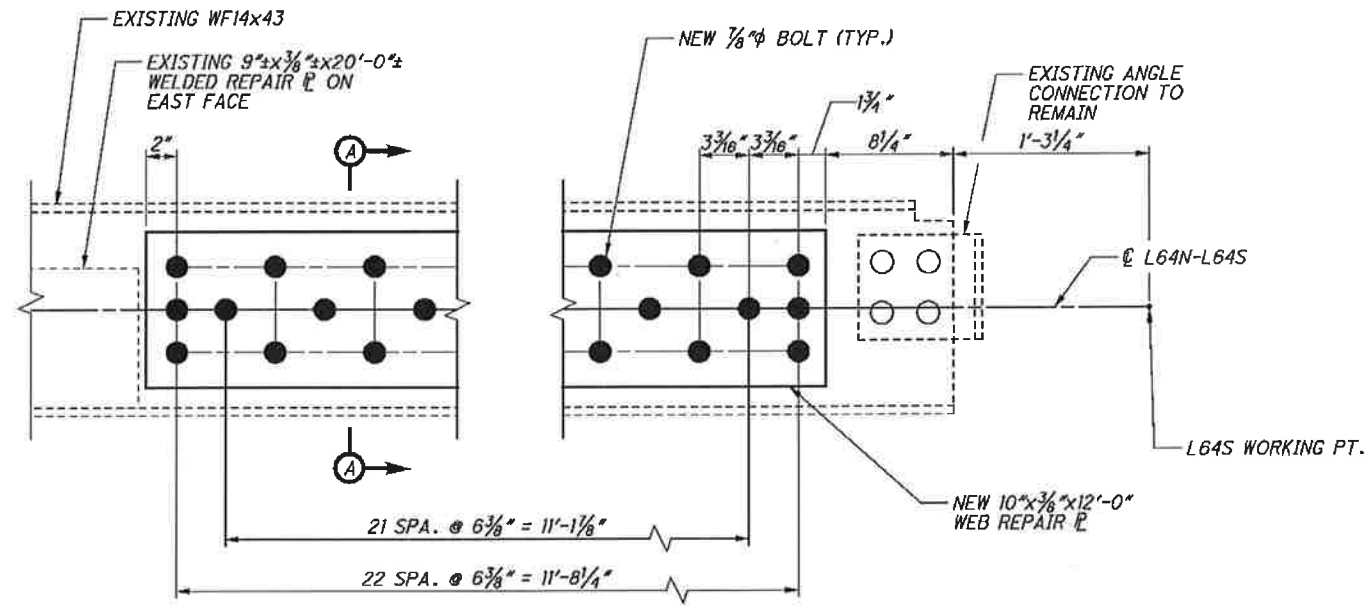
PID NO. 91115

146/187

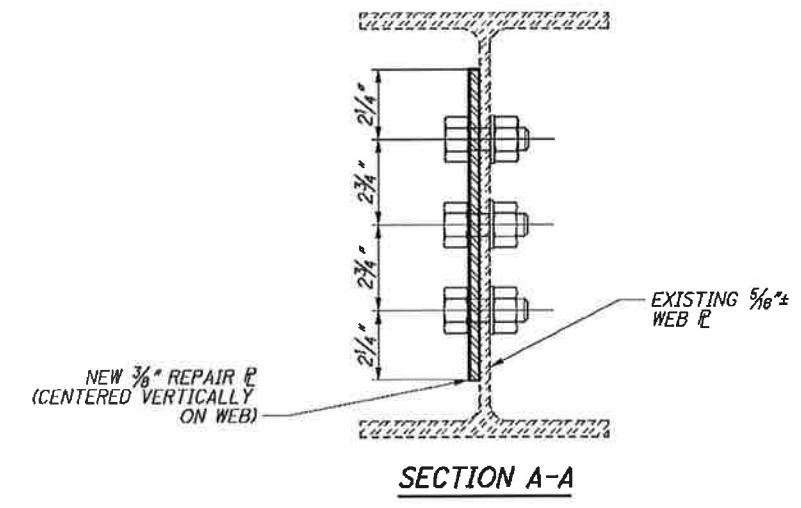
148
189



DETAIL 3 - PANEL POINT 64 SWAY BRACE WEB REPAIR ELEVATION
 (WEST FACE SHOWN)



DETAIL 2 - PANEL POINT 64 SWAY BRACE WEB REPAIR ELEVATION
 (WEST FACE SHOWN)



BOLT LEGEND:

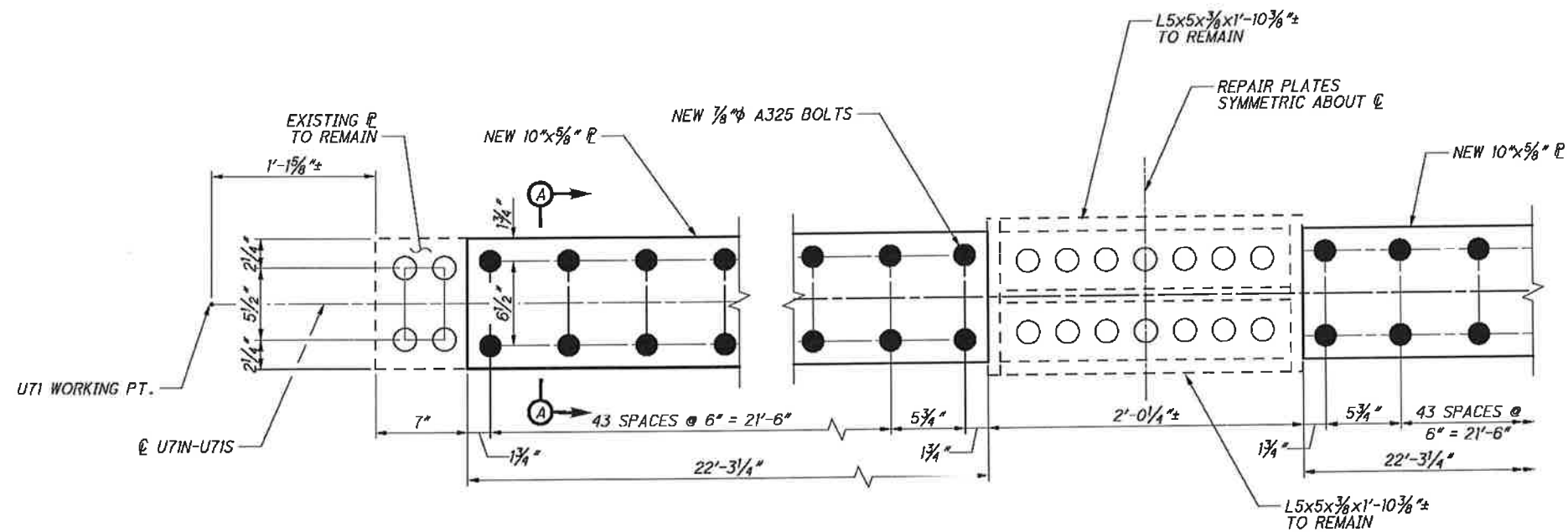
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 15/16" HOLE FOR NEW 3/8" A325 BOLT.

NOTES:

1. FOR LOCATION OF DETAILS 2 AND 3 ON THE MAIN TRUSS, SEE SHEET 50 / 187 .
2. FOR LOCATION OF DETAILS 2 AND 3 AT EACH PANEL POINT, SEE SHEET 145 / 187 .
3. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
4. NEW REPAIR PLATE SHALL BE PLACED ON THE WEST FACE OF THE STRUT WEB IN ORDER TO AVOID EXISTING WELDED REPAIR PLATE.
5. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
6. SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
7. THE NEW RETROFIT MATERIALS AND ALL LABOR ASSOCIATED WITH THE BRACING RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187 .
8. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING WEBS, THE NEW RETROFIT PLATES, AND ANY SURROUNDING AREAS DAMAGED BY INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

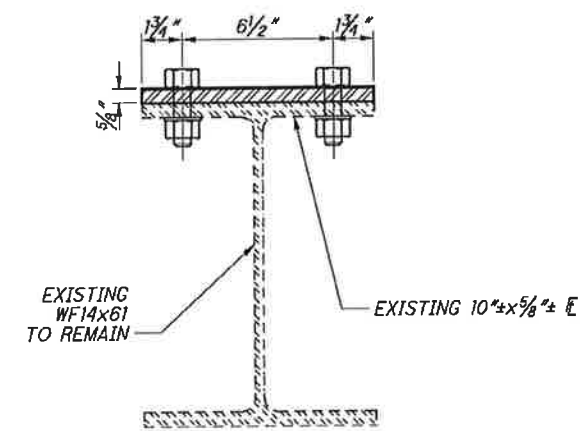
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DETAIL 4 - U71N-U71S TOP FLANGE REPAIR

(PLEASE NOTE THAT DETAIL CONTAINS TWO SWAY BRACING RETROFITS TO BE PAID FOR SEPERATELY)



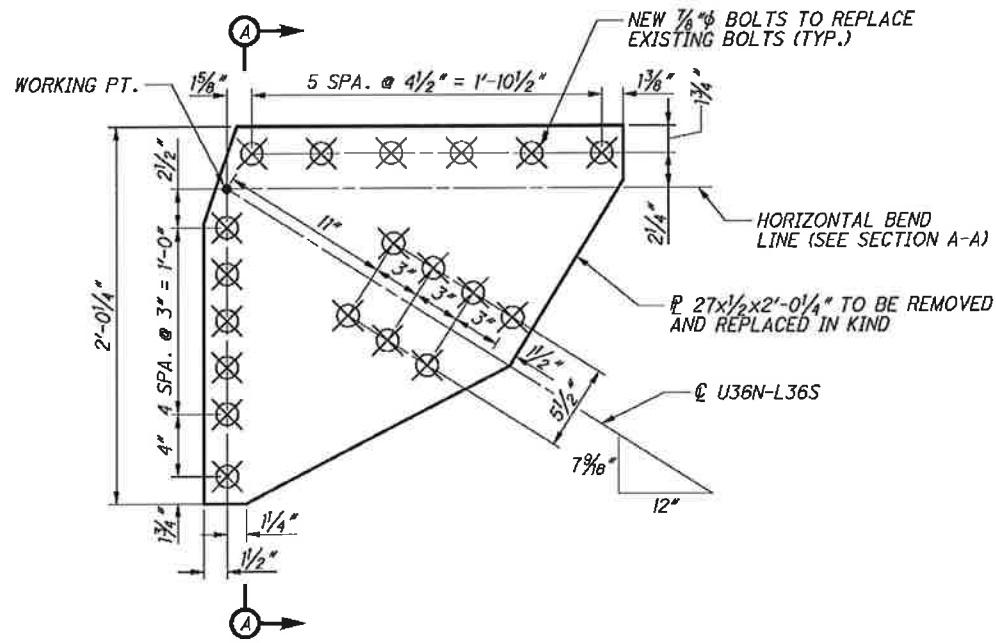
SECTION A-A

BOLT LEGEND:

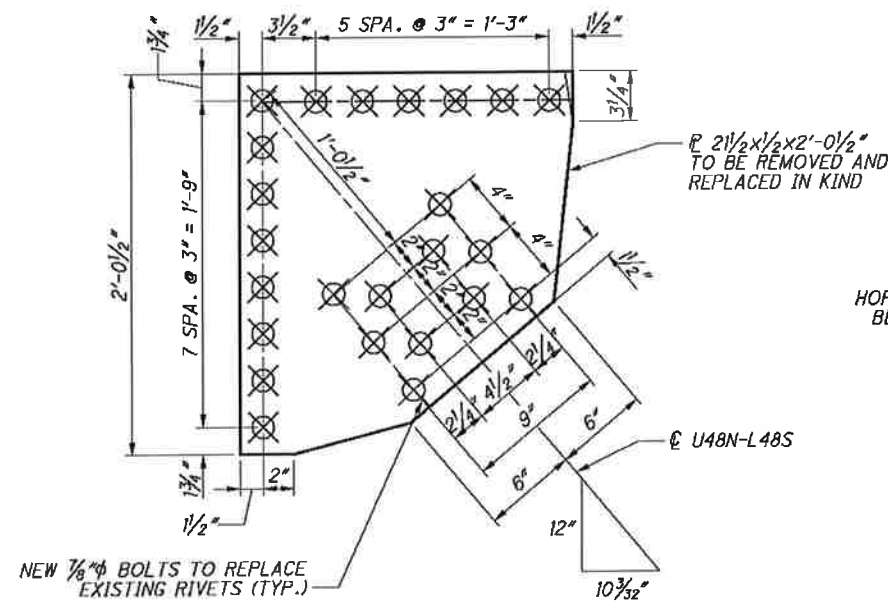
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" HOLE FOR NEW 3/8" A325 BOLT.

NOTES:

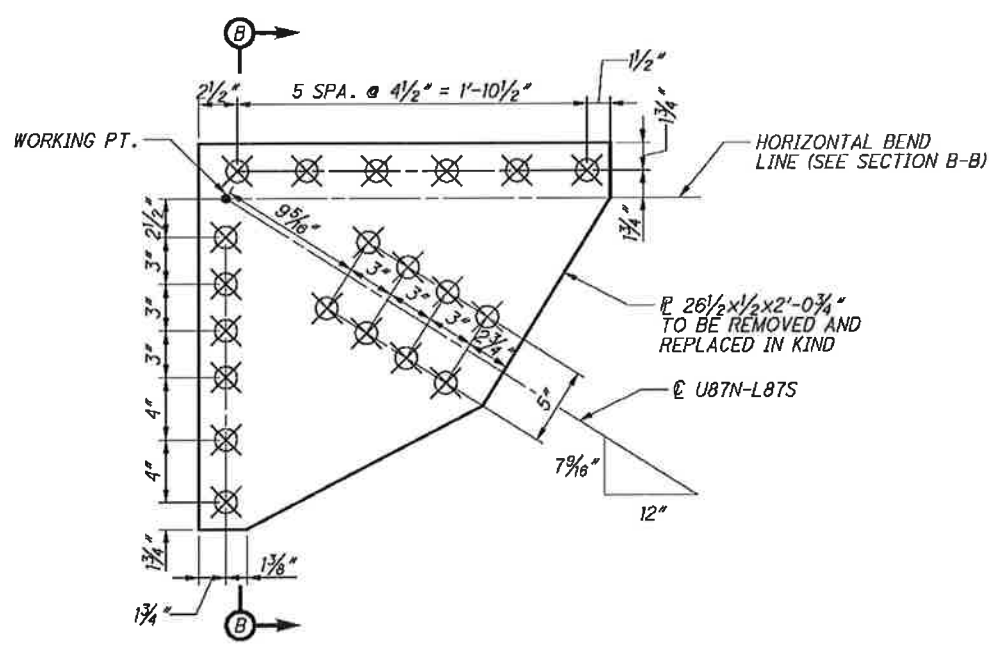
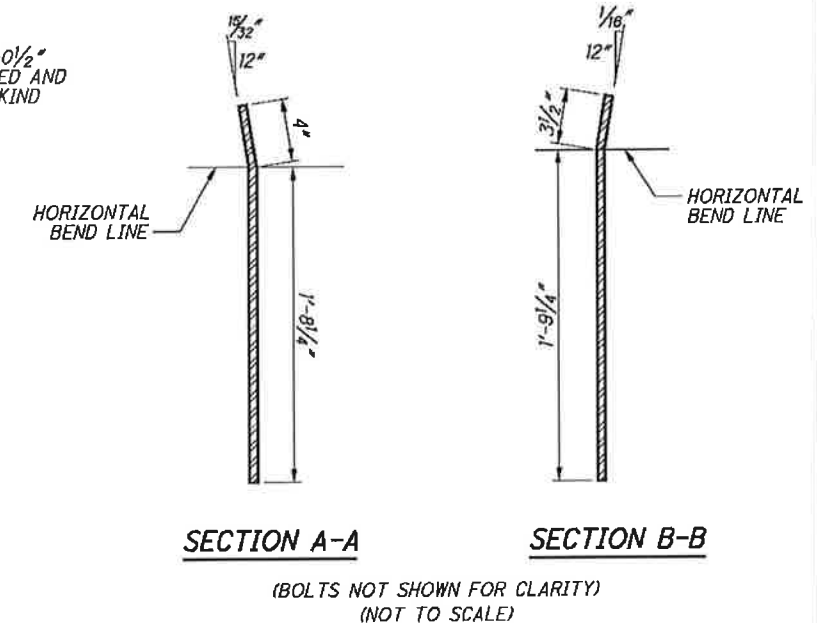
1. FOR LOCATION OF DETAIL 4 ON THE MAIN TRUSS, SEE SHEET 50 / 187 .
2. FOR LOCATION OF DETAIL 4 ON PANEL POINT 71, SEE SHEET 145 / 187 .
3. CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
4. MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
5. SOME EXISTING RIVETS AND PLATES ARE NOT SHOWN FOR CLARITY.
6. THE NEW RETROFIT MATERIALS AND ALL LABOR ASSOCIATED WITH THE BRACNG RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187 .
7. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLANGES, THE NEW RETROFIT PLATES, AND ANY SURROUNDING AREAS DAMAGED BY REMOVAL OR INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.



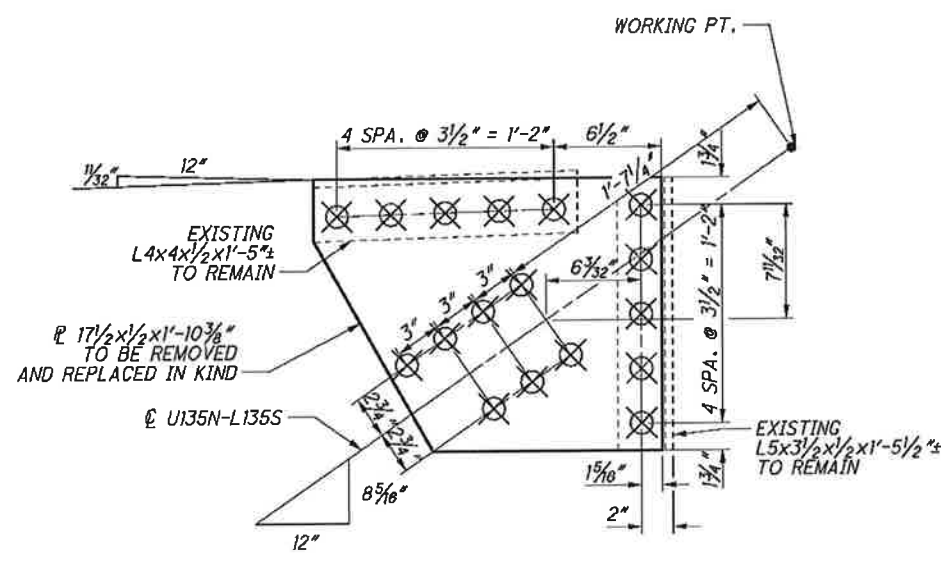
DETAIL 18 - WEST CONNECTION WEST ELEVATION
(NORTH TRUSS PANEL POINT 36)



DETAIL 19 - EAST CONNECTION WEST ELEVATION
(NORTH TRUSS PANEL POINT 48)



DETAIL 20 - WEST CONNECTION WEST ELEVATION
(NORTH TRUSS PANEL POINT 87)



DETAIL 21 - EAST CONNECTION EAST ELEVATION
(NORTH TRUSS PANEL POINT 135)

BOLT LEGEND:

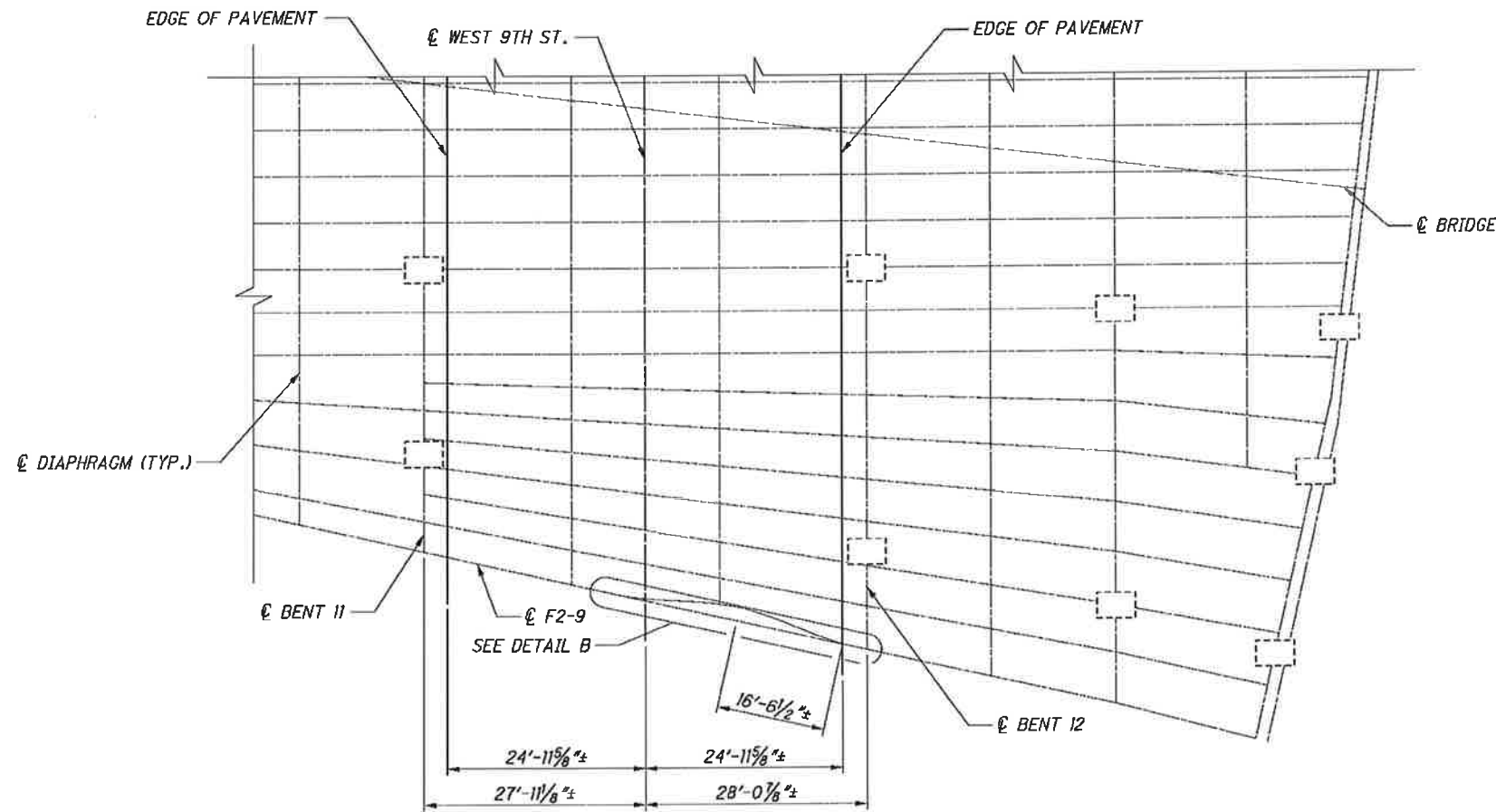
⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" A325 BOLT.

NOTES:

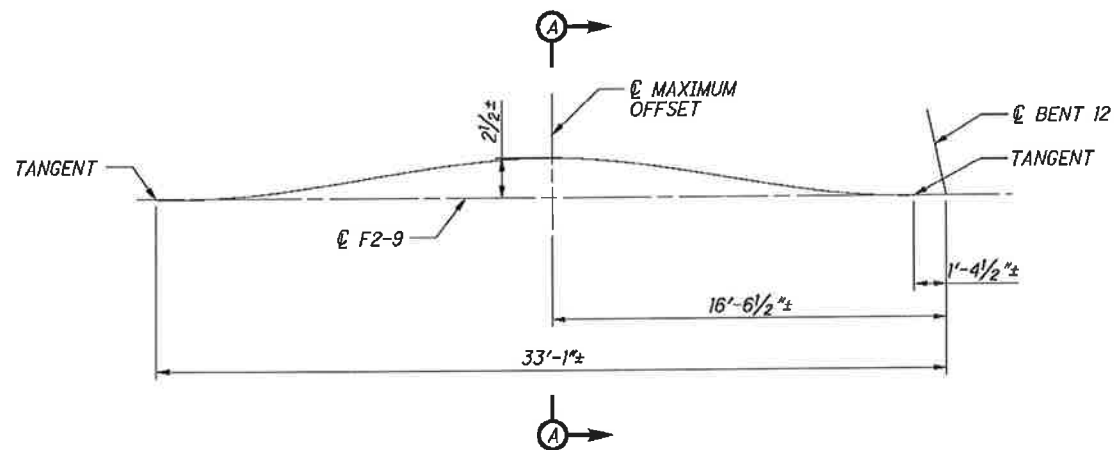
- FOR LOCATION OF DETAILS 18-21 ON THE MAIN TRUSS SEE SHEETS, 47 / 187 THROUGH 52 / 187.
- FOR LOCATION OF DETAILS 18-21 AT EACH PANEL POINT, SEE SHEET 145 / 187.
- CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND CONTACT THE ENGINEER WITH ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SOME EXISTING MEMBERS, INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.
- THE NEW RETROFIT MATERIALS AND ALL LABOR ASSOCIATED WITH THE BRACNG RETROFIT SHALL BE INCLUDED FOR PAYMENT IN ITEM 513 - STRUCTURAL STEEL, MISC.: MAIN TRUSS BRACING RETROFIT. FOR GENERAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS, SEE SHEET 6 / 187.
- THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING ANGLES AND SWAY BRACING, THE NEW RETROFIT PLATES, AND ANY SURROUNDING AREAS DAMAGED BY REMOVAL OR INSTALLATION OF THE NEW RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.

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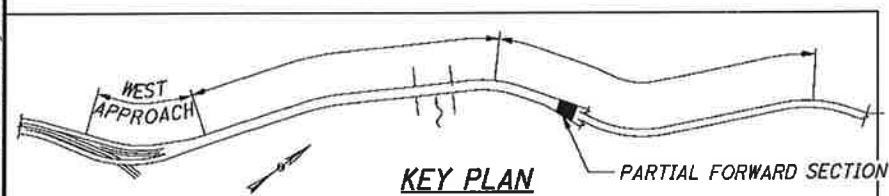
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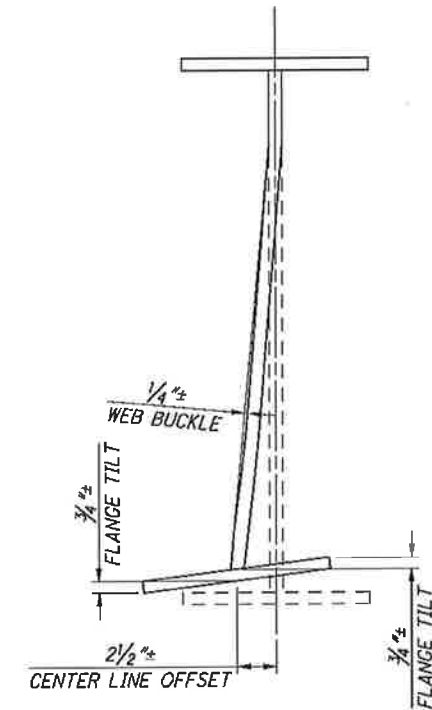
PARTIAL FRAMING PLAN
(OFFSET EXAGGERATED FOR CLARITY)



DETAIL B
(OFFSET EXAGGERATED FOR CLARITY)



KEY PLAN



SECTION A-A

NOTES:

1. PAYMENT FOR THE DAMAGED STIFFENER REPLACEMENT AND ANY TEMPORARY SUPPORTS USED WILL BE INCIDENTAL TO ITEM 849 - STRAIGHTENING DAMAGED MEMBERS.
2. FOR RESTRICTIONS OF LANE CLOSURES ON THE ROADWAY BELOW THIS LOCATION SEE THE MAINTAINING TRAFFIC GENERAL NOTE ON SHEET **10 / 187**.
3. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE AREAS WHERE PAINT WAS REMOVED FOR STRAIGHTENING AND SHALL BE PAID FOR UNDER ITEM 514.

CUY-2-14-41
PID No. 91115

150 / 187

152
189

EAST APPR. - FORWARD SECTION STRINGER IMPACT REPAIR (1 OF 2)

MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED
CTG

DRAWN
ZTW

REVIEWED
WRW

DATE
08/16/13

DESIGN AGENCY
Train Systems

55 PUBLIC SQUARE, SUITE 1000
CLEVELAND, OHIO 44113

STRUCTURE FILE NUMBER
1800035

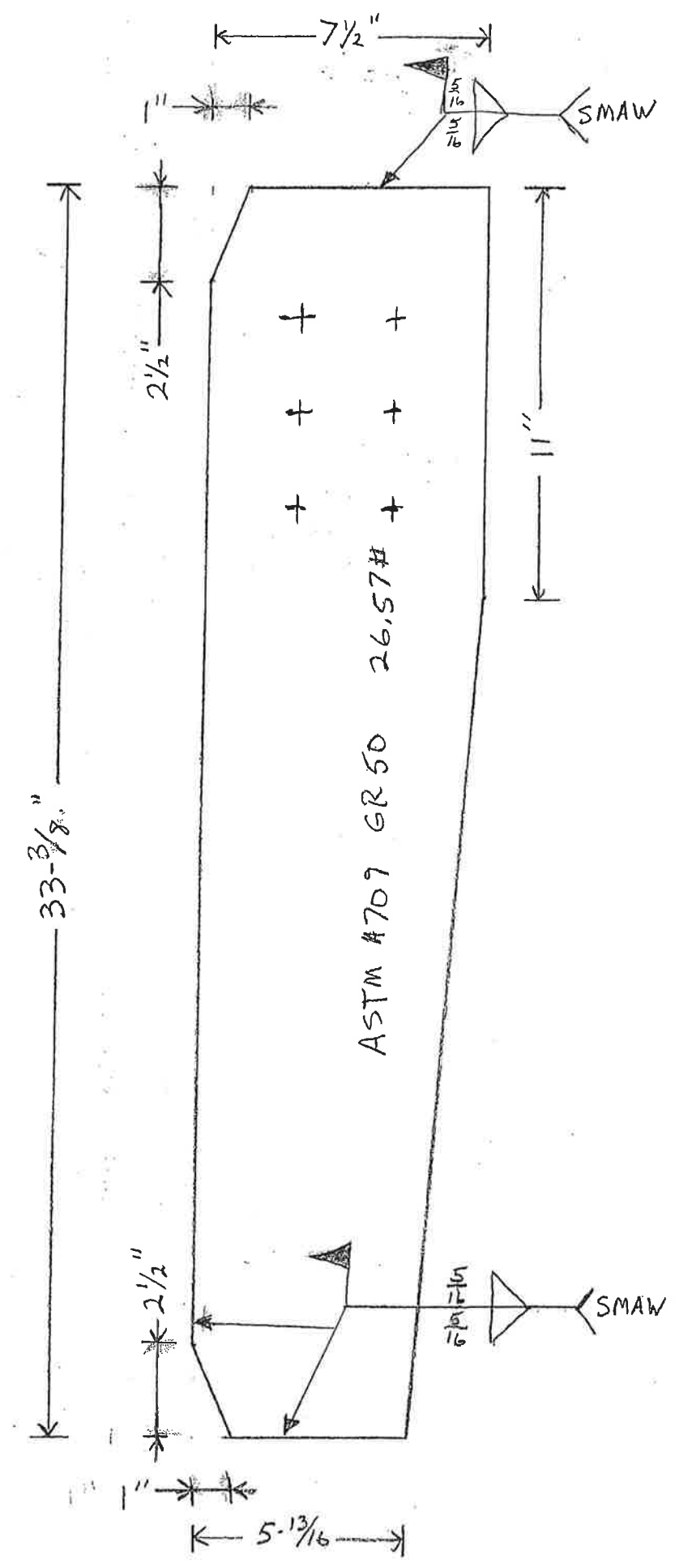
CHECKED
SFH

REVISER

6/11/14

AS BUILT

Forward section
Stringer impact repair

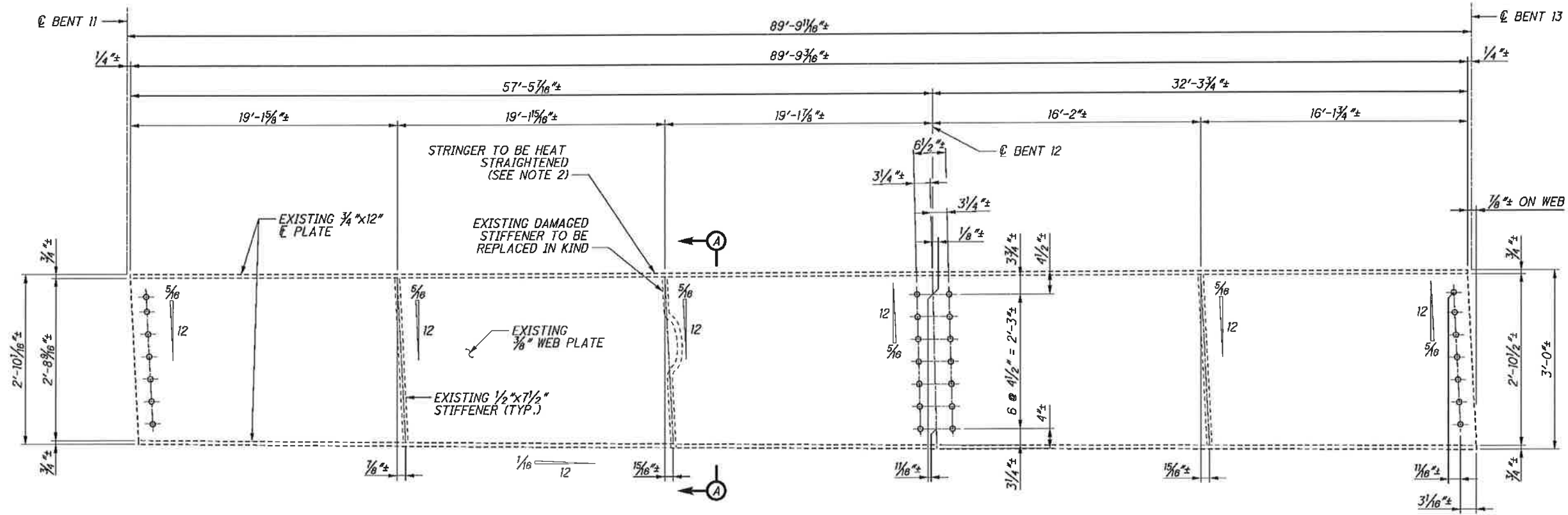


+ = Transfer Punched +
field drilled 15/16" holes

ODOT Project # 140003
Bridge # CUY-2-1441

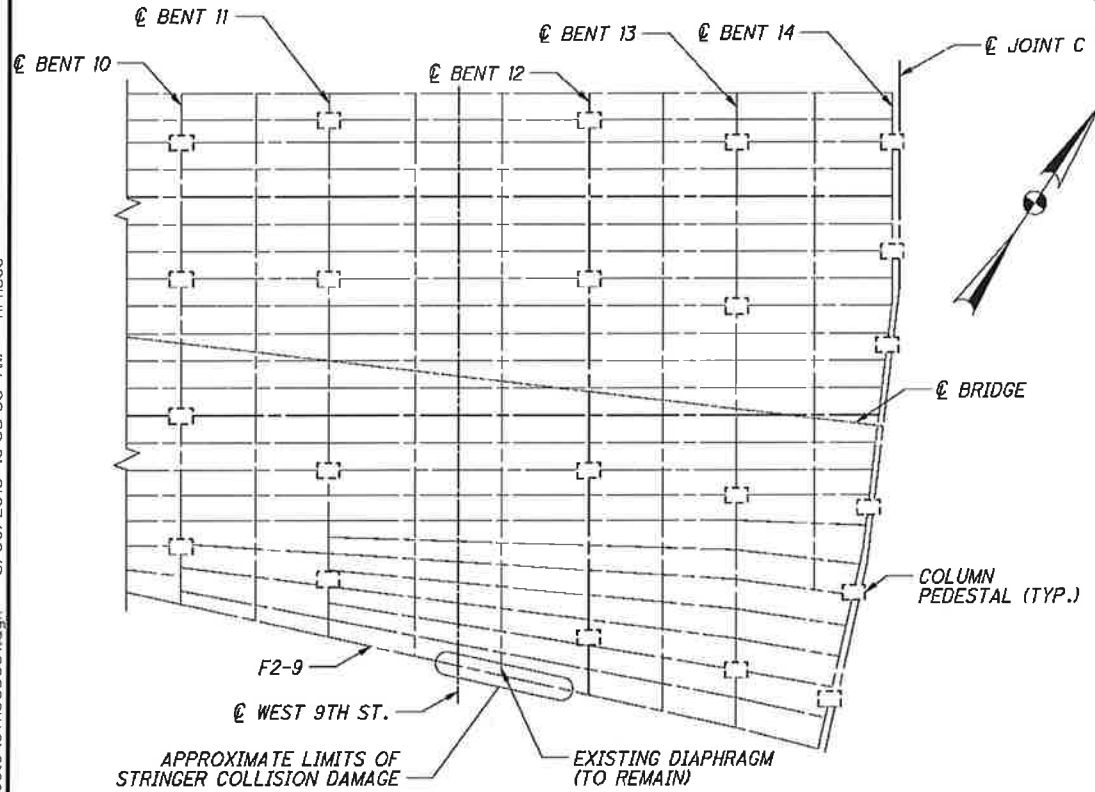
1/4" = 1"

By Ryan Freeze
Civil Construction

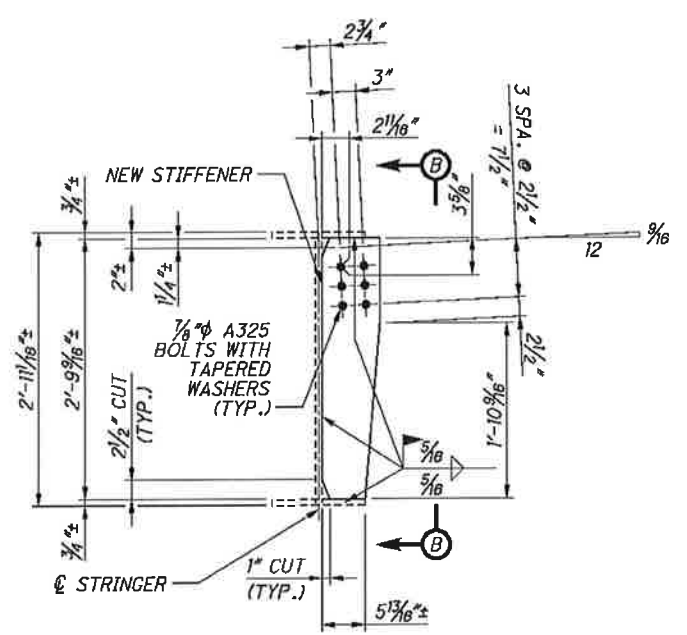


SOUTH ELEVATION - SOUTH FASCIA STRINGER (F2-9)

(DIAPHRAGMS AND FLOORBEAMS NOT SHOWN FOR CLARITY)
 (SCALE OF STRINGER IS EXAGGERATED FOR CLARITY)

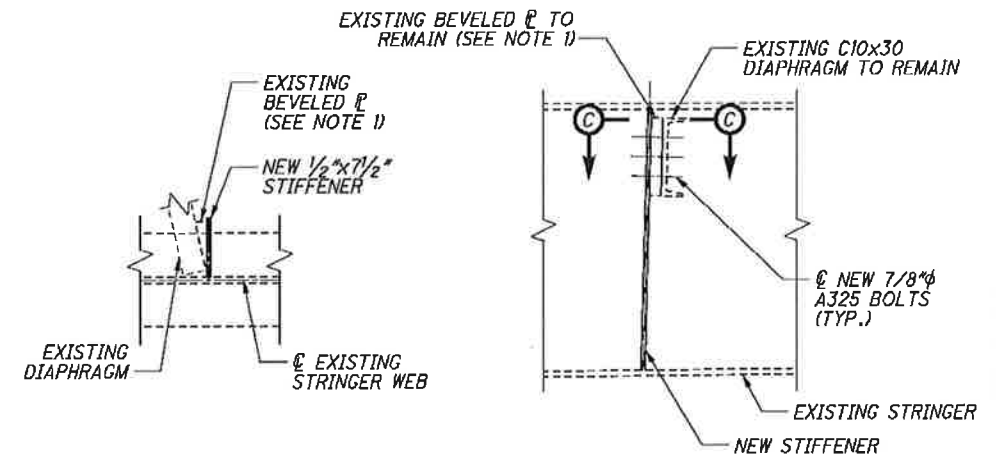


PARTIAL FRAMING PLAN - FORWARD SECTION



SECTION A-A

(DIAPHRAGM NOT SHOWN FOR CLARITY)



SECTION C-C

SECTION B-B

NOTES:

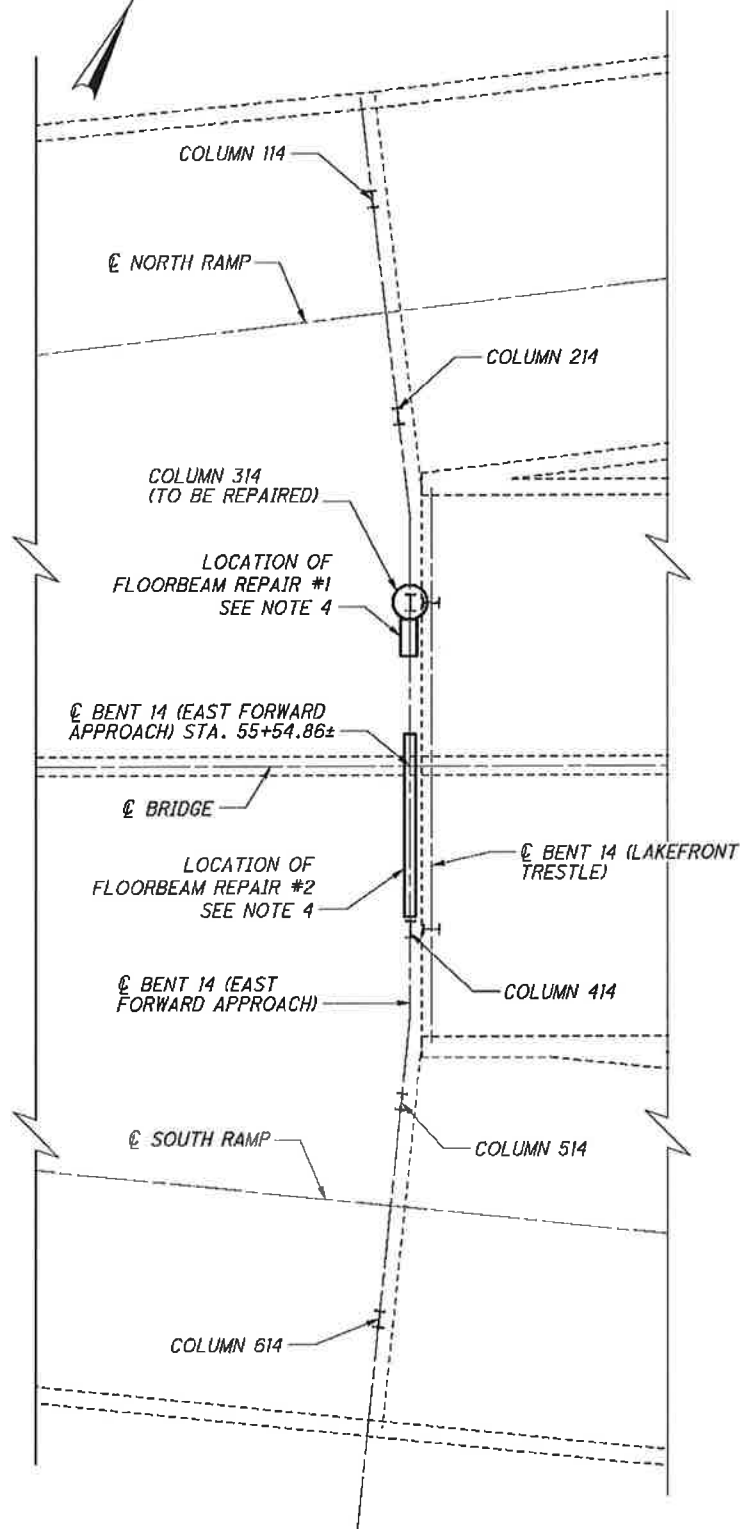
1. SHOP DRAWINGS FOR THE BEVELED PLATE WERE UNAVAILABLE. FIELD MEASUREMENTS INDICATE AN APPROXIMATE 10" HIGH BY 6 1/4" WIDE PLATE THAT TAPERS FROM 1/2" TO 1/8" THICKNESS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
2. FOR ADDITIONAL NOTES, KEY PLAN AND DETAILS OF STRINGER HEAT STRAIGHTENING, SEE SHEET 150/187.
3. THE PAINT ZONE FOR WORK ON THIS SHEET ENCOMPASSES THE NEW WEB STIFFENER, AS WELL AS AREAS WHERE PAINT WAS REMOVED FOR STRAIGHTENING AND SHALL BE PAID FOR UNDER ITEM 514.

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- - FIELD DRILL NEW 1 5/16" HOLE FOR NEW 7/8" A325 BOLT.

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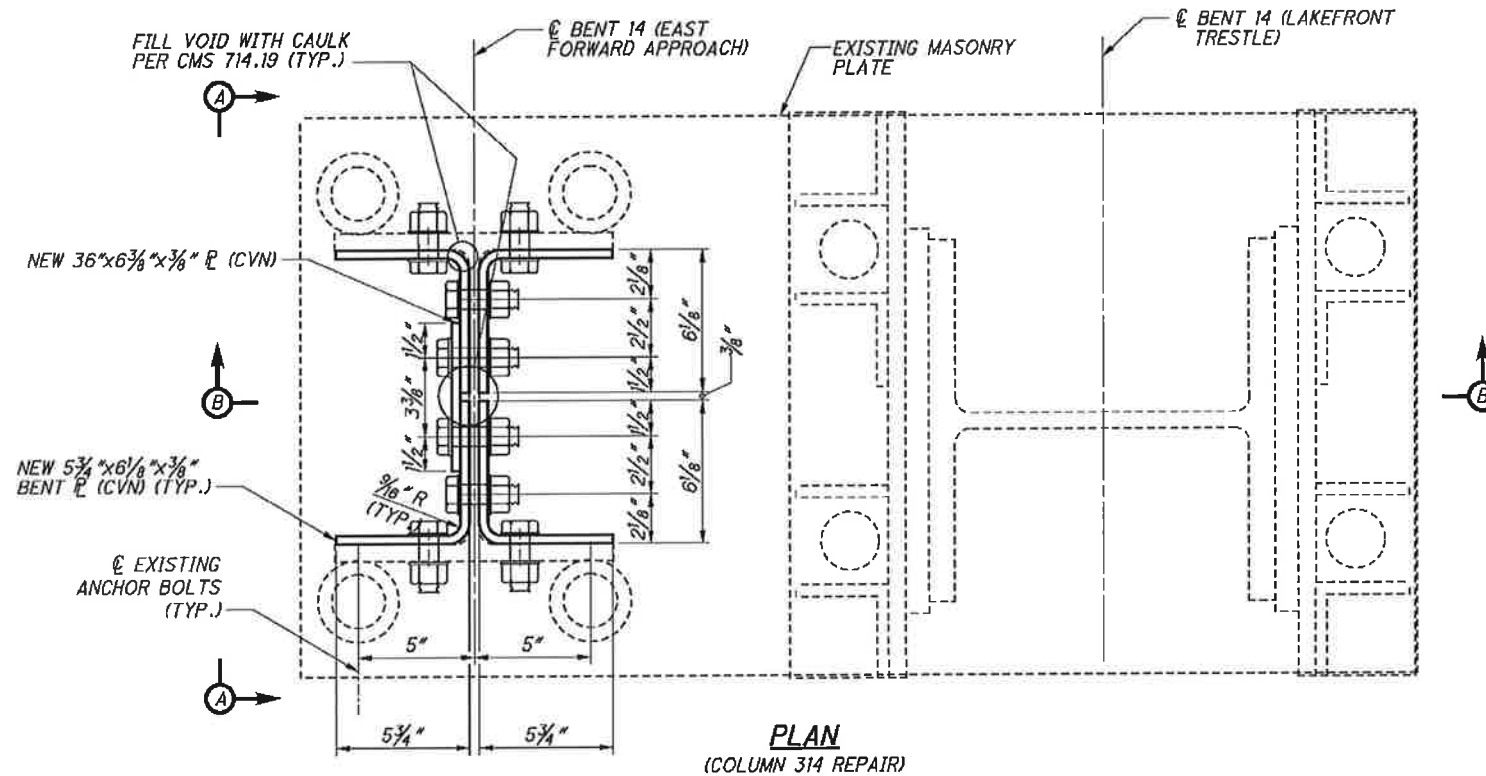
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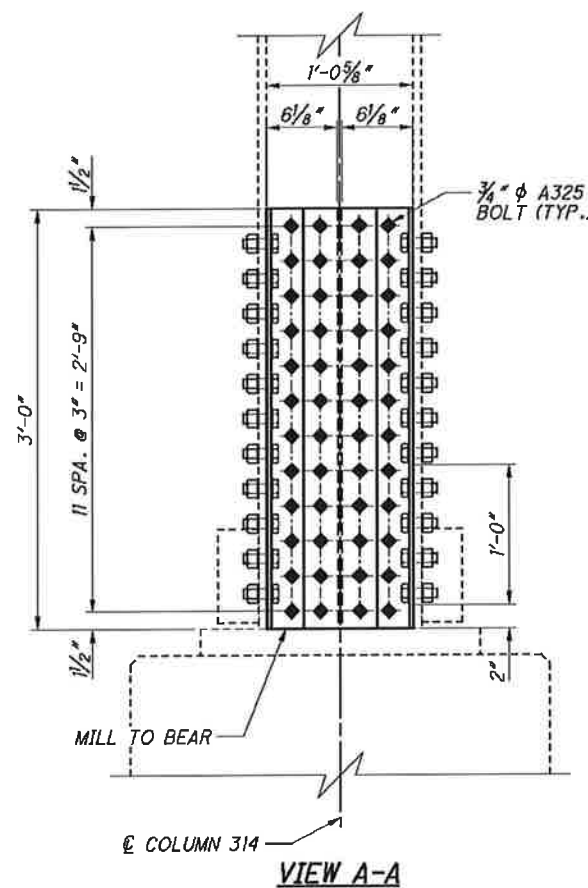
PLAN VIEW
(STRINGERS NOT SHOWN FOR CLARITY)

BOLT LEGEND:

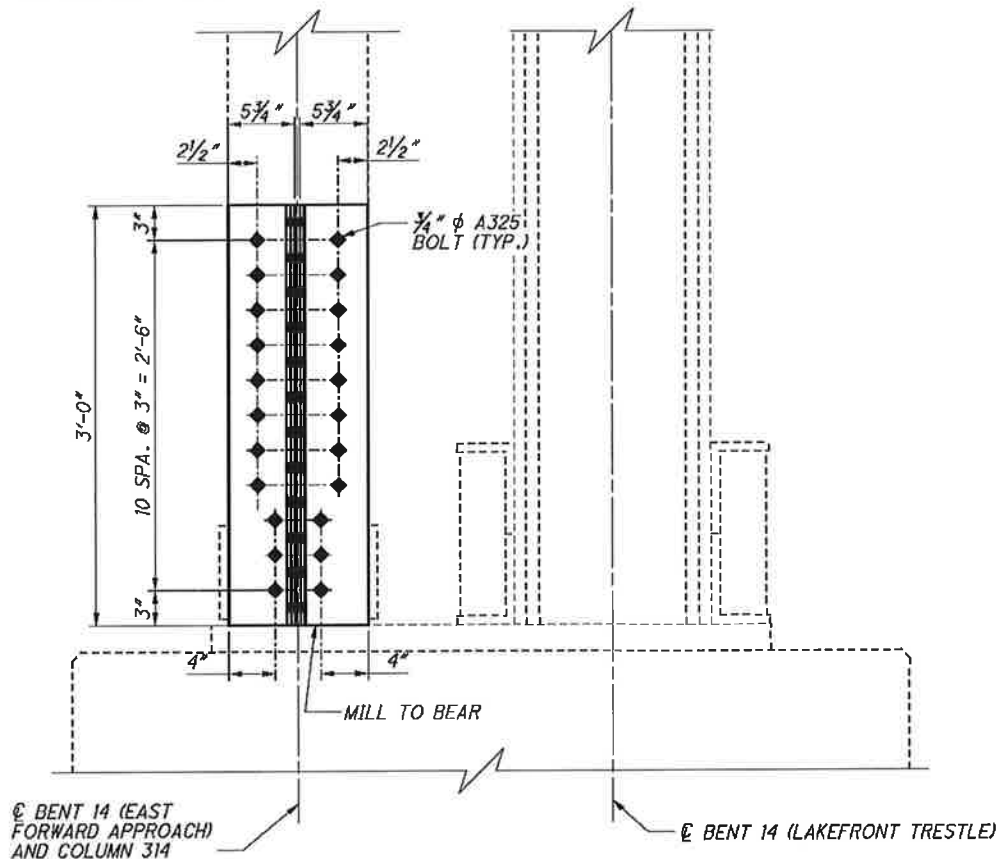
◆ - FIELD DRILL NEW $\frac{13}{16}$ " ϕ HOLE FOR NEW $\frac{3}{4}$ " ϕ A325 BOLTS.



PLAN
(COLUMN 314 REPAIR)



VIEW A-A



SECTION B-B

NOTES:

- ALL BOLTS SHALL BE $\frac{3}{4}$ " DIAMETER A325 HIGH STRENGTH BOLTS.
- ALL NEW STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50 STEEL.
- THE EXISTING STEEL IN THE REPAIR AREA IS TO BE POWER TOOL CLEANED PER SSPC-SP3. PRIME THE AREA BEFORE INSTALLATION OF THE PROPOSED STEEL.
- FOR FLOORBEAM REPAIR #1 AND #2 DETAILS, SEE SHEETS 154 / 187 AND 155 / 187.
- THE REMOVAL OF EXISTING RIVETS, THE NEW RETROFIT MATERIAL, AND ALL ASSOCIATED LABOR ARE TO BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: FORWARD SECTION COLUMN RETROFIT.
- THE PAINT ZONE FOR WORK SHOWN ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF EXISTING COLUMN, THE RETROFIT ELEMENTS, AND ANY AREA DAMAGED DURING THE INSTALLATION OF THE RETROFITS. ALL PAINTING IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 514.

EAST APPROACH - FORWARD SECTION BENT 14 RETROFITS (1 OF 4)

MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

CUY-2-14-41
PID No. 91115

152 / 187

154
189

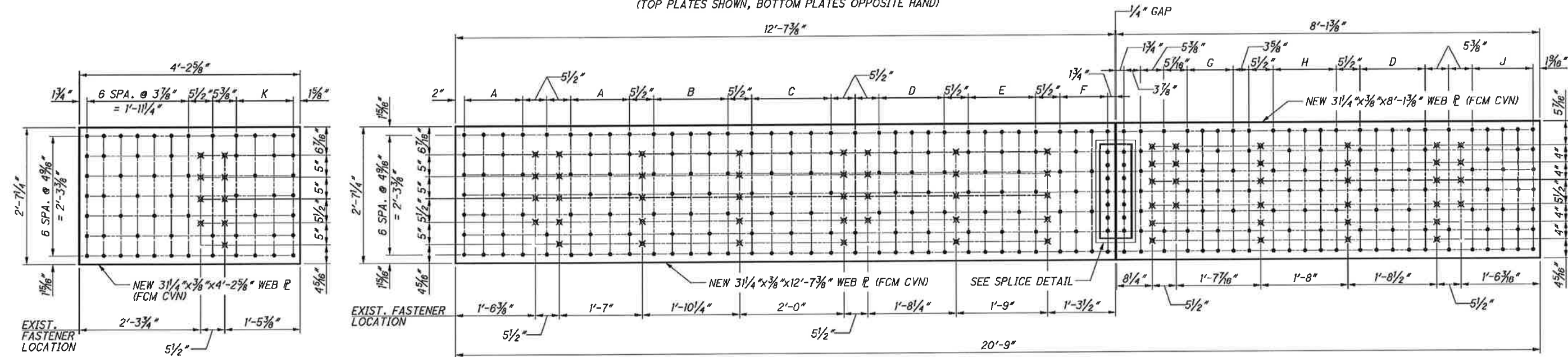
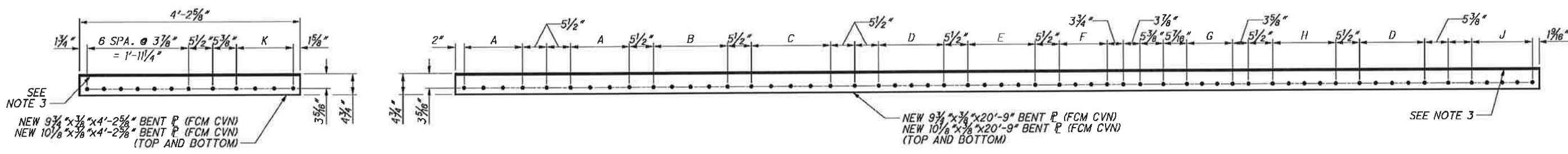
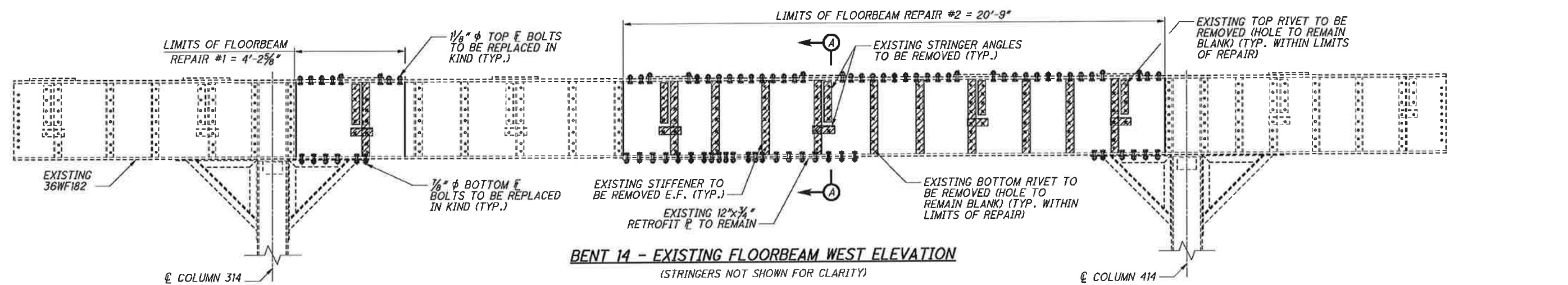
DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 500
CLEVELAND, OHIO 44113

DATE 08/16/13
REVIEWED WRW
STRUCTURE FILE NUMBER 1800035

DESIGNED MTN
CHECKED FKL

DRAWN MTN
REVISED

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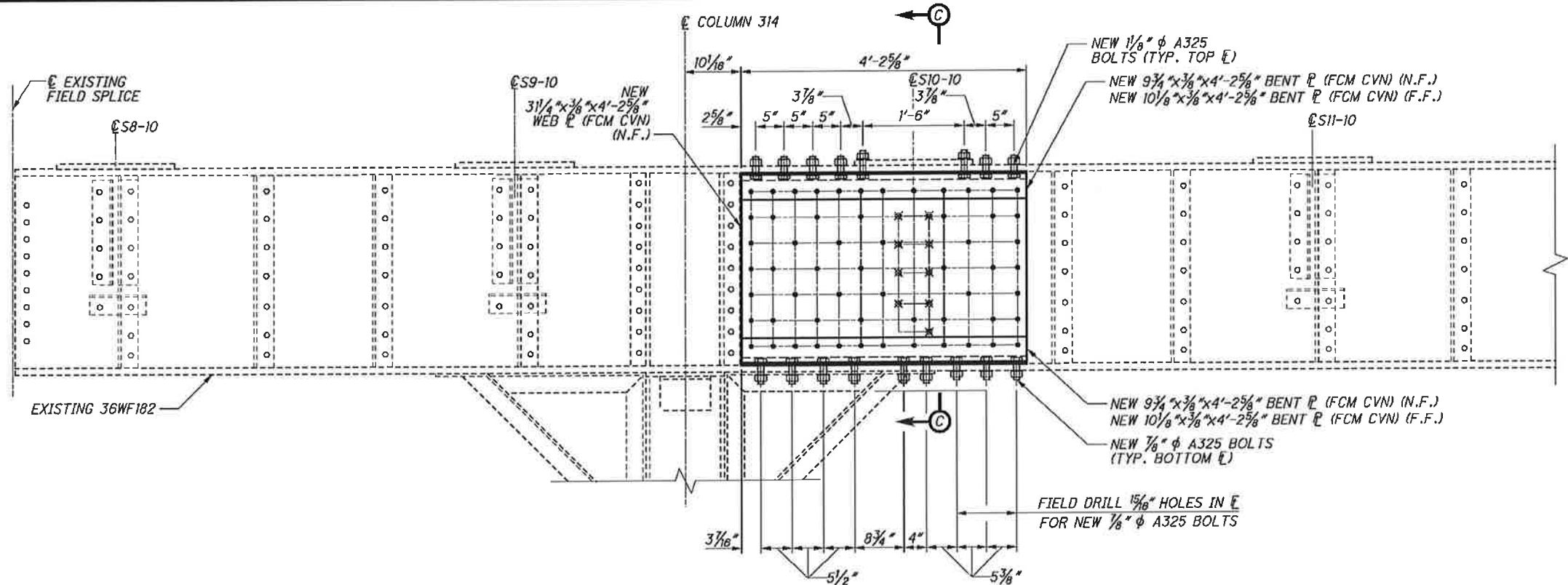
DIMENSION	BOLT SPACING	DIMENSION	BOLT SPACING
A	3 SPA. @ 1 1/2" = 1'-1 1/2"	F	3 SPA. @ 3 3/8" = 10 1/8"
B	4 SPA. @ 4 1/4" = 1'-5"	G	3 SPA. @ 3 1/2" = 10 1/2"
C	4 SPA. @ 4 5/8" = 1'-8 1/4"	H	4 SPA. @ 3 3/8" = 1'-2 1/2"
D	4 SPA. @ 3 3/4" = 1'-3"	J	4 SPA. @ 3 1/2" = 1'-2"
E	4 SPA. @ 3 3/8" = 1'-3 1/2"	K	3 SPA. @ 4 3/8" = 1'-1 1/8"

LEGEND:
 - EXISTING STEEL TO BE REMOVED.
 - FIELD DRILL NEW 1 5/16" Ø HOLE FOR NEW 1/2" Ø A325 BOLT.
 - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1/2" Ø A325 BOLT.
 - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.

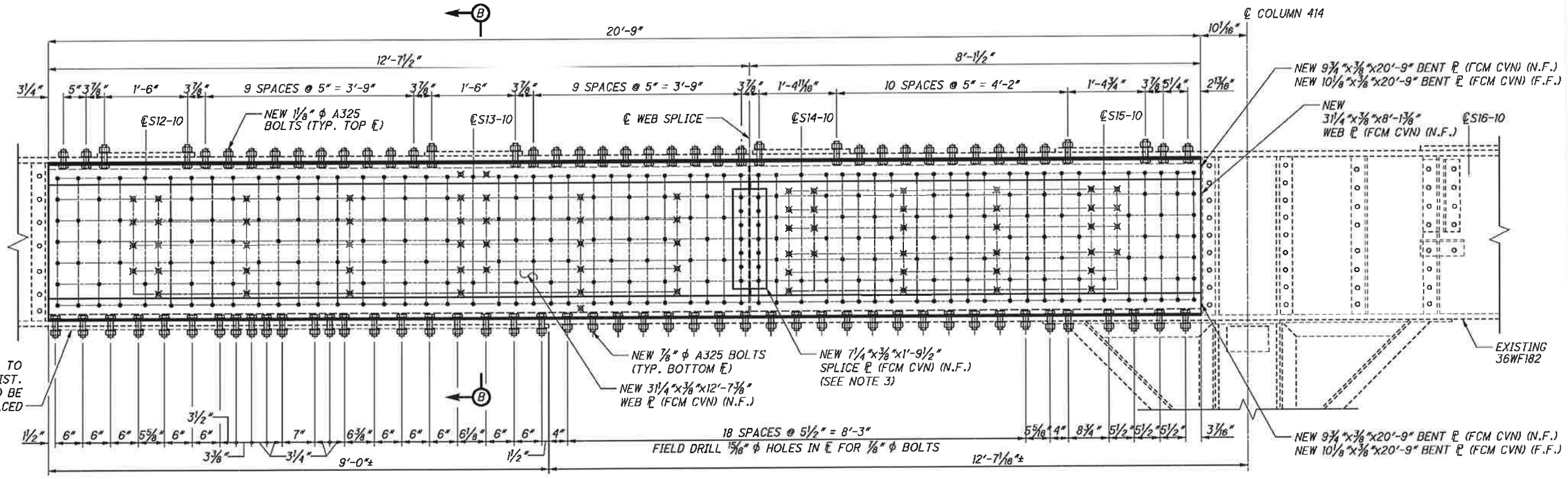
NOTES:
 1. FOR LOCATION OF FLOORBEAM SEE PLAN DETAIL ON SHEET 152 / 187.
 2. FOR ADDITIONAL NOTES AND SECTION A-A SEE SHEET 155 / 187.
 3. FOR TOP AND BOTTOM FLANGE BOLT DETAILS SEE SHEET 154 / 187.
 4. FOR SPLICE DETAIL SEE SHEET 155 / 187.

DESIGN AGENCY: **Trail Systems**
 55 PUBLIC SQUARE, SUITE 900
 CLEVELAND, OHIO 44113
 DATE: 08/16/13
 REVIEWED: WRW
 DRAWN: SFH
 DESIGNED: MTN
 CHECKED: SFH
 STRUCTURE FILE NUMBER: 1800035
 EAST APPROACH - FORWARD SECTION BENT 14 RETROFITS (2 OF 4)
 MAIN AVENUE - BRIDGE NO. CUY-2-141
 OVER THE CUYAHOGA RIVER
 CUY-2-14.41
 PID No. 91115
 153 / 187
 155 / 189

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BENT 14 - REPAIR #1 ELEVATION
(WEST ELEVATION)



BENT 14 - REPAIR #2 ELEVATION
(WEST ELEVATION)

LEGEND:

- EXISTING STEEL TO BE REMOVED.
- FIELD DRILL NEW 15/16" φ HOLE FOR NEW 1/8" φ A325 BOLT.
- REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1/8" φ A325 BOLT.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.

NOTES:

1. FOR NEW WEB PLATE AND BENT PLATE DETAILS, SEE SHEET 153 / 187.
2. FOR ADDITIONAL NOTES, SECTION B-B AND SECTION C-C SEE SHEET 155 / 187.
3. FOR SPLICE PLATE DETAIL, SEE SHEET 155 / 187.

EAST APPROACH - FORWARD SECTION BENT 14 RETROFITS (3 OF 4)

MAIN AVENUE - BRIDGE NO. CUY-2-141
OVER THE CUYAHOGA RIVER

CUY-2-14.41
PID No. 91115

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 100
CLEVELAND, OHIO 44113

DATE
08/16/13

REVIEWED
WRW

DRAWN
SFH

DESIGNED
MTN

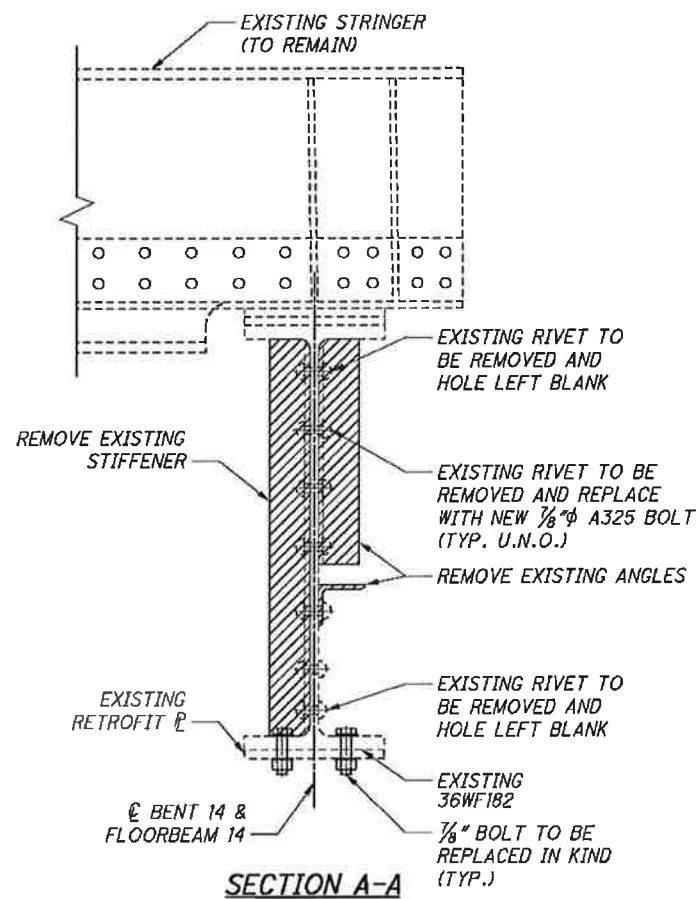
CHECKED
DWC

STRUCTURE FILE NUMBER
1800035

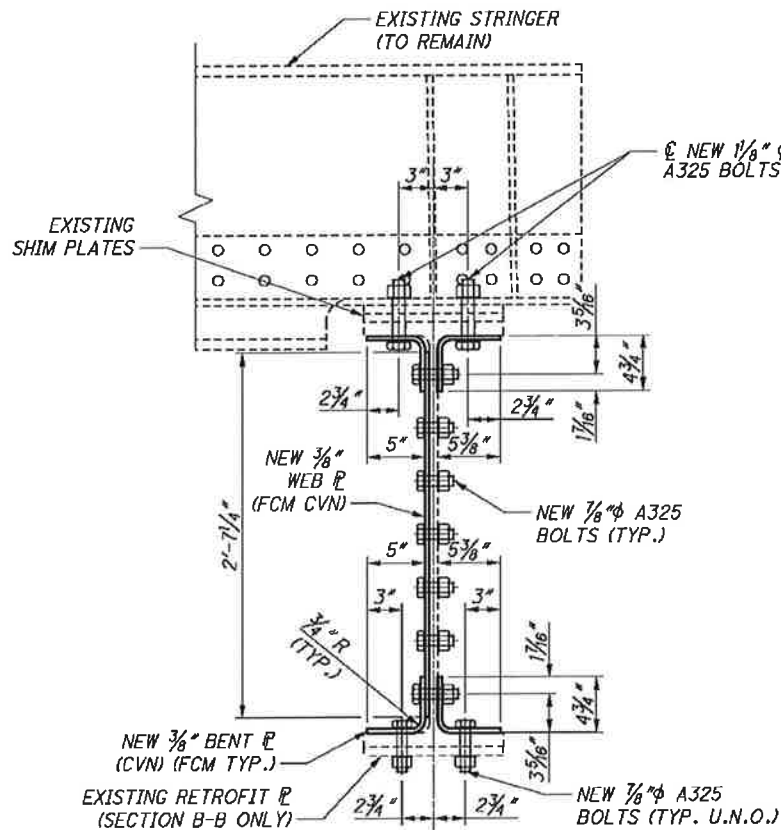
REVISOR
DWC

154 / 187

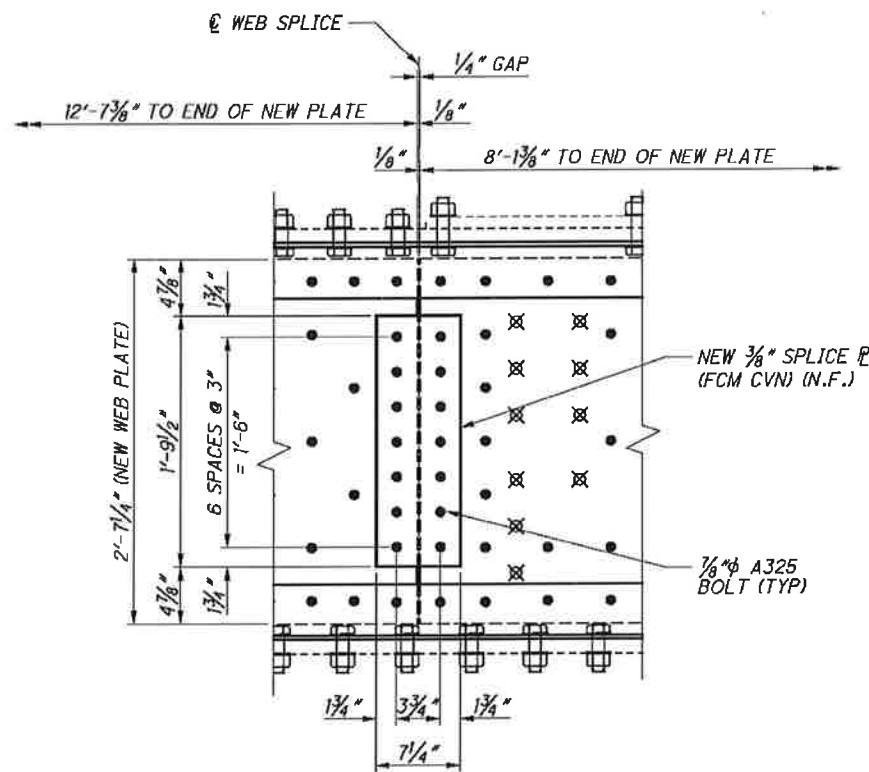
156 / 189



SECTION A-A



SECTION B-B
SECTION C-C (SIMILAR)



SPLICE DETAIL
(LOOKING EAST)

SUGGESTED SEQUENCE OF CONSTRUCTION

- A. FABRICATE NEW WEB PLATE WITH HOLES TO MATCH THOSE IN EXISTING WEB PLATE.
- B. REMOVE EXISTING WEB STIFFENERS AND ANGLES IN REPAIR AREA.
- C. PREPARE FAYING SURFACES IN ACCORDANCE WITH CMS 514.13. INSTALL NEW WEB PLATE WITH A325 BOLTS IN EXISTING WEB PLATE HOLES.
- D. FABRICATE BENT PLATES WITH HOLES MATCHING EXISTING FLANGE BOLT LAYOUT.
- E. REMOVE EXISTING FLANGE BOLTS FOR ONE BENT PLATE INSTALLATION AND INSTALL NEW BENT PLATE WITH A325 BOLTS IN EXISTING FLANGE HOLES. FIELD DRILL REMAINING BENT PLATE HOLES THROUGH FLANGE AND INSTALL A325 BOLTS.
- F. REPEAT "E" FOR REMAINING BENT PLATES.
- G. FIELD DRILL BENT PLATE HOLES THROUGH WEB PLATES AND INSTALL A325 BOLTS.
- H. FIELD PAINT EXPOSED STEEL PER CMS 514.

LEGEND:

- EXISTING STEEL TO BE REMOVED.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- FIELD DRILL NEW 15/16\"/>

NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY MEMBER DIMENSIONS AND BOLT/RIVET HOLE LAYOUTS AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
2. ALL NEW STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50 STEEL.
3. ALL BOLTS IN THE TOP FLANGE SHALL BE 1/6\"/>

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RFI #18

NRF 5/8/14

DESIGN AGENCY
Train Systems
55 PUBLIC SQUARE, SUITE 200
CLEVELAND, OHIO 44115

DATE
08/16/13
REVIEWED
WFW
STRUCTURE FILE NUMBER
1800035

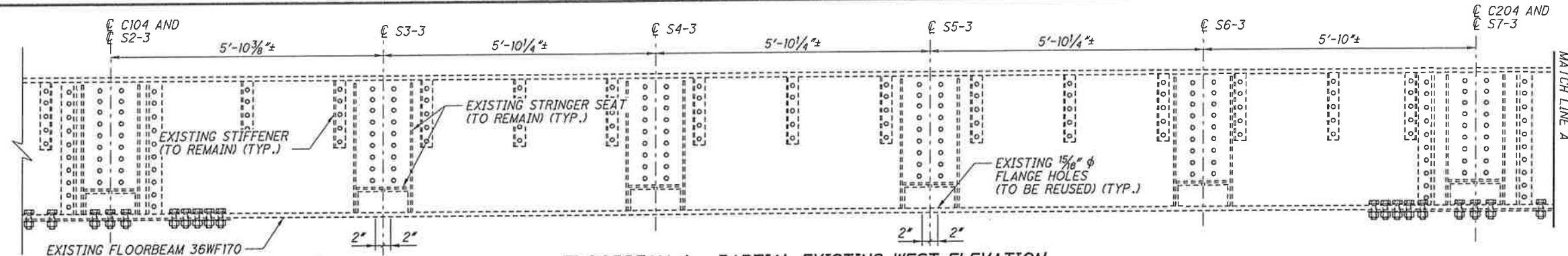
DESIGNED
CAS
CHECKED
FKL

EAST APPR. FORWARD - BENT 4 FLOORBEAM RETROFITS (1 OF 2)
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

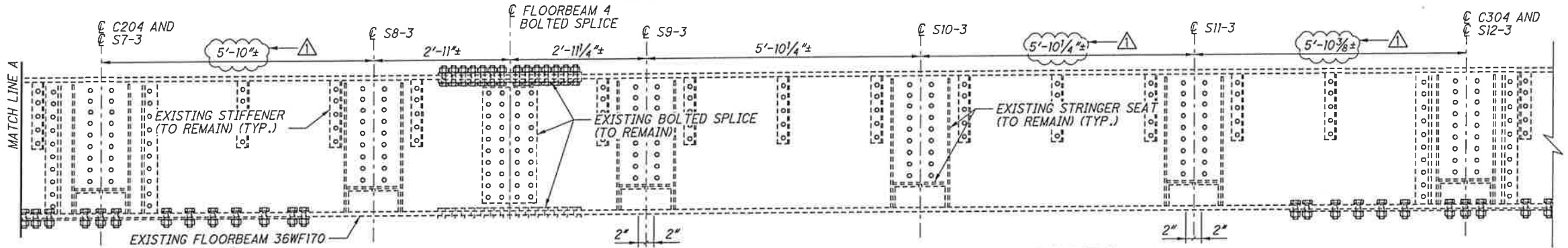
CUY-2-14.41
PID No. 91115

156/187

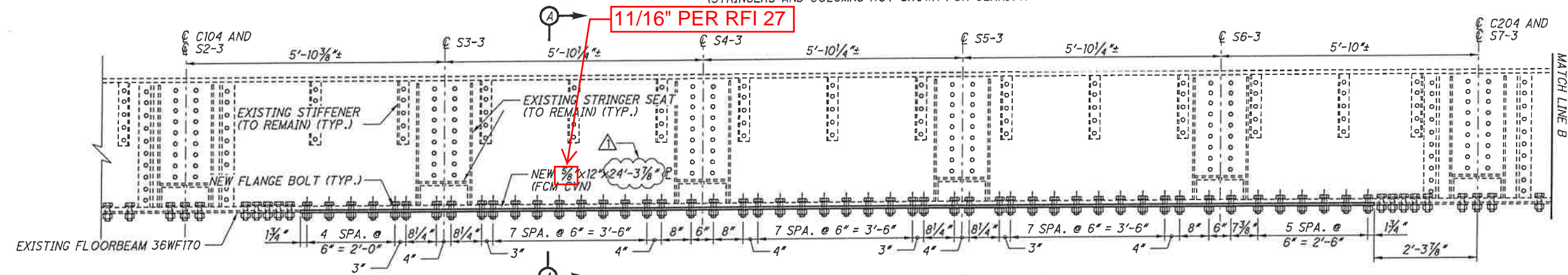
158
189



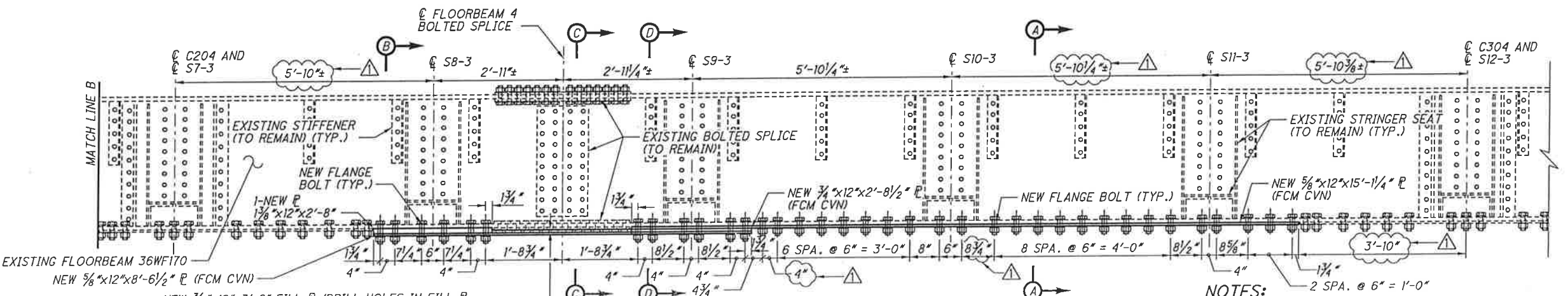
FLOORBEAM 4 - PARTIAL EXISTING WEST ELEVATION
(STRINGERS AND COLUMNS NOT SHOWN FOR CLARITY)



FLOORBEAM 4 - PARTIAL EXISTING WEST ELEVATION (CONT.)
(STRINGERS AND COLUMNS NOT SHOWN FOR CLARITY)



FLOORBEAM 4 - PARTIAL PROPOSED WEST ELEVATION
(STRINGERS AND COLUMNS NOT SHOWN FOR CLARITY)



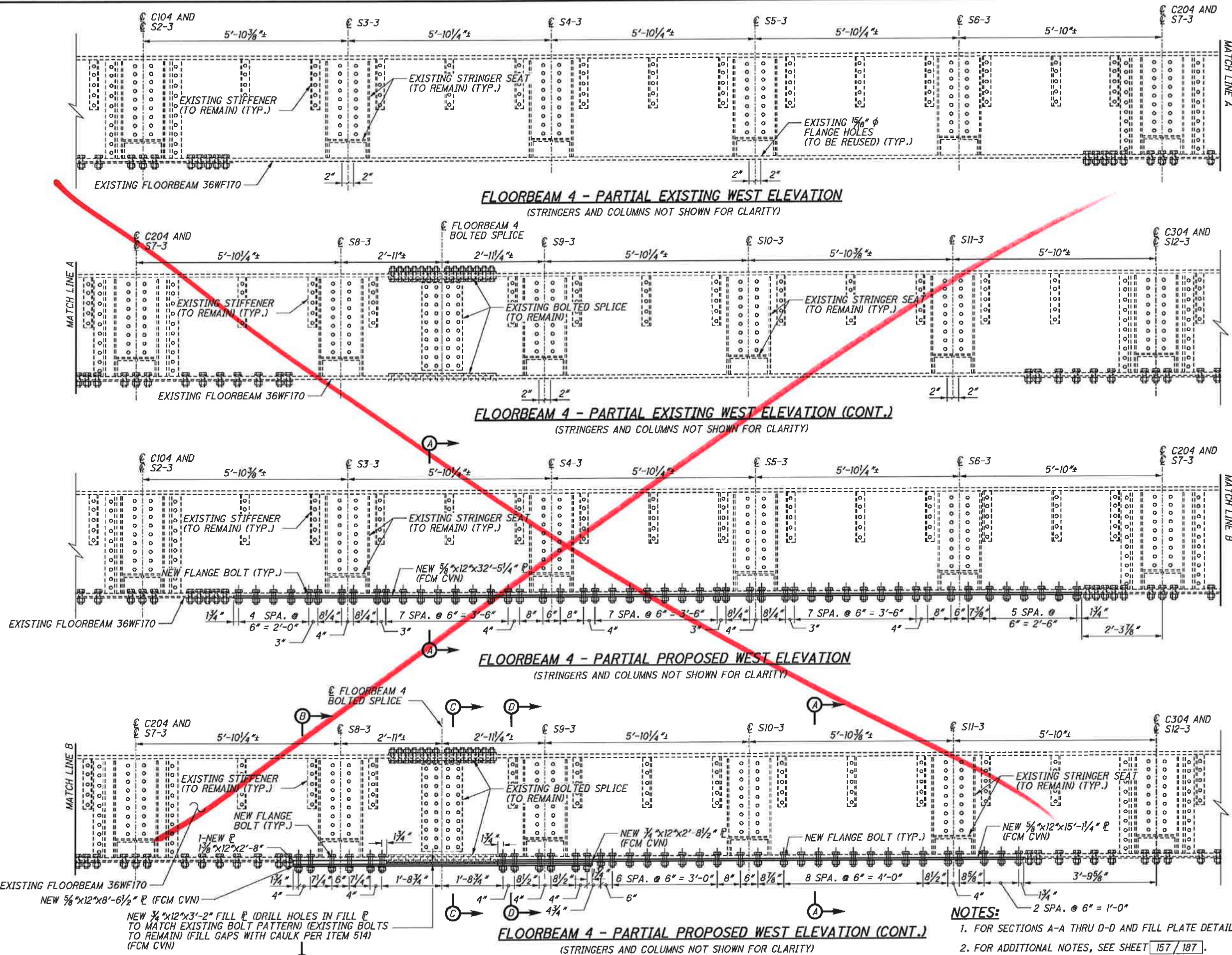
FLOORBEAM 4 - PARTIAL PROPOSED WEST ELEVATION (CONT.)
(STRINGERS AND COLUMNS NOT SHOWN FOR CLARITY)

NOTES:

1. FOR SECTIONS A-A THRU D-D AND FILL PLATE DETAIL, SEE SHEET 157/187.
2. FOR ADDITIONAL NOTES, SEE SHEET 157/187.
3. FOR LOCATION OF BENT 4 FLOORBEAM, SEE SHEET 157/187.

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NOTES:

1. FOR SECTIONS A-A THRU D-D AND FILL PLATE DETAIL, SEE SHEET 157/187.
2. FOR ADDITIONAL NOTES, SEE SHEET 157/187.
3. FOR LOCATION OF BENT 4 FLOORBEAM, SEE SHEET 157/187.

CUY-2-14.41
PID No. 91115

EAST APPR. FORWARD - BENT 4 FLOORBEAM RETROFITS (1 OF 2)
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED
CAS
CHECKED
FKL

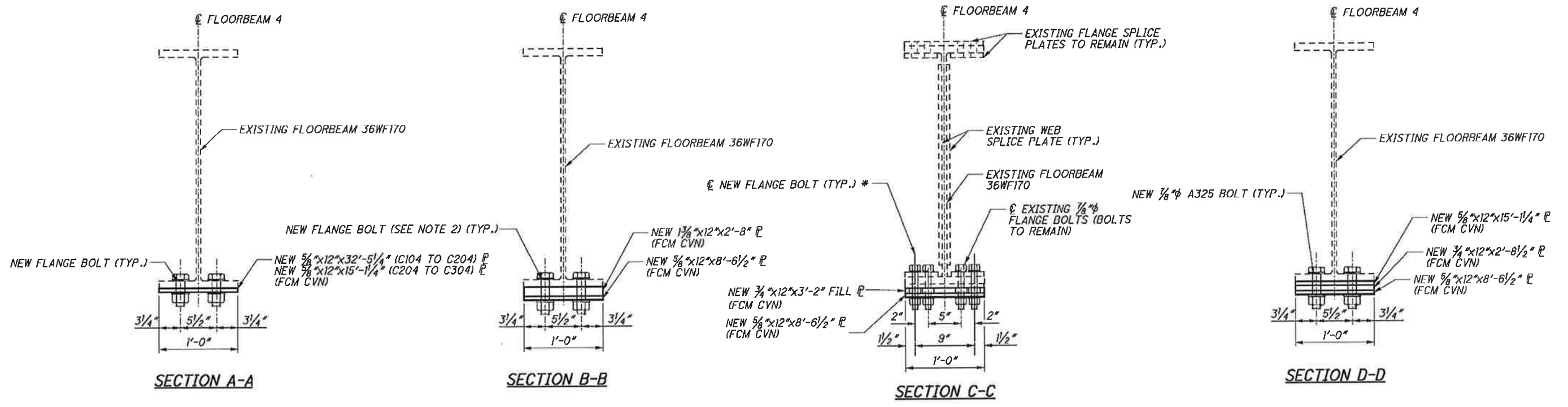
DRAWN
CAS
REVIS

REVIEWED
WRW
STRUCTURE FILE NUMBER
1800035

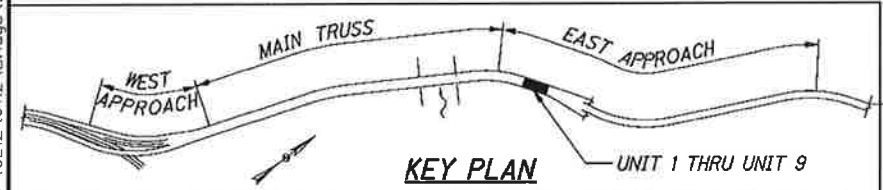
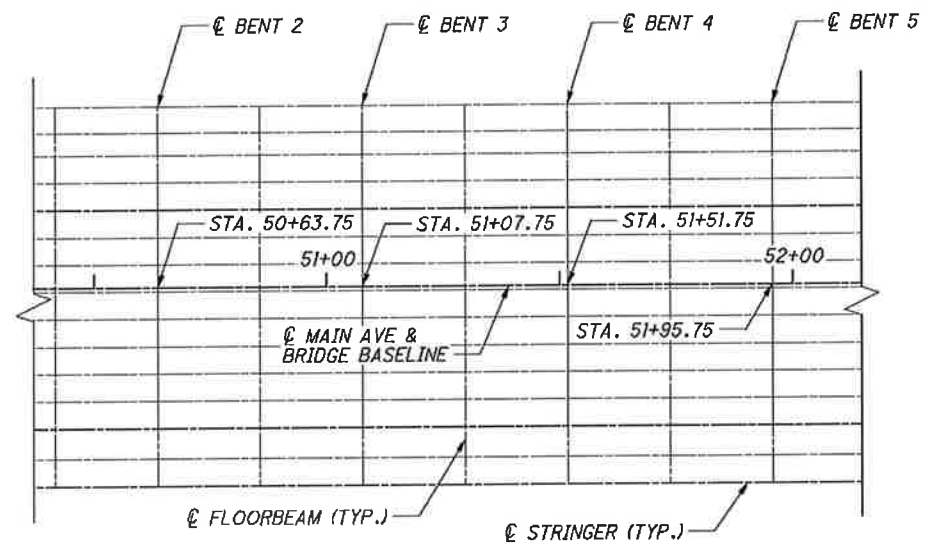
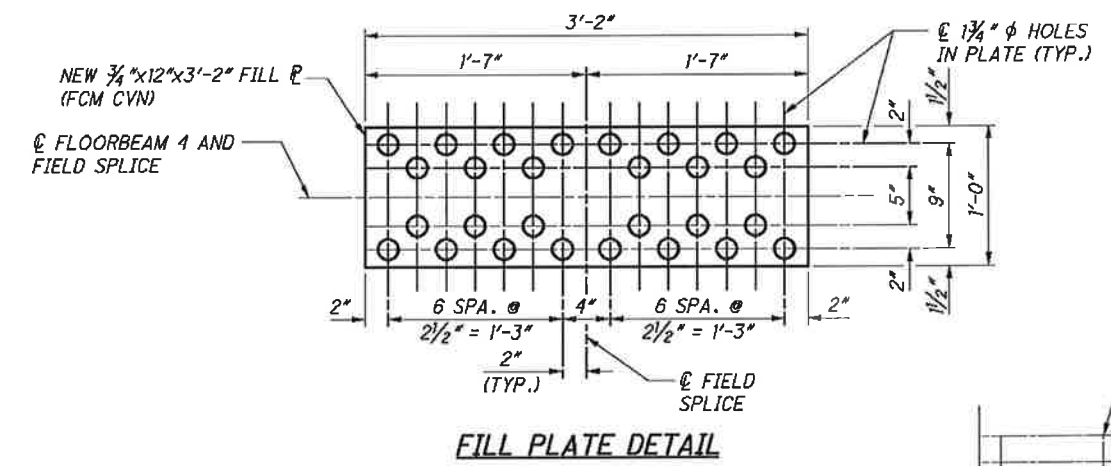
DATE
08/16/13

DESIGN AGENCY
TrainSystems
55 PUBLIC SQUARE, SUITE 1800
CLEVELAND, OHIO 44113

156/187
158
189



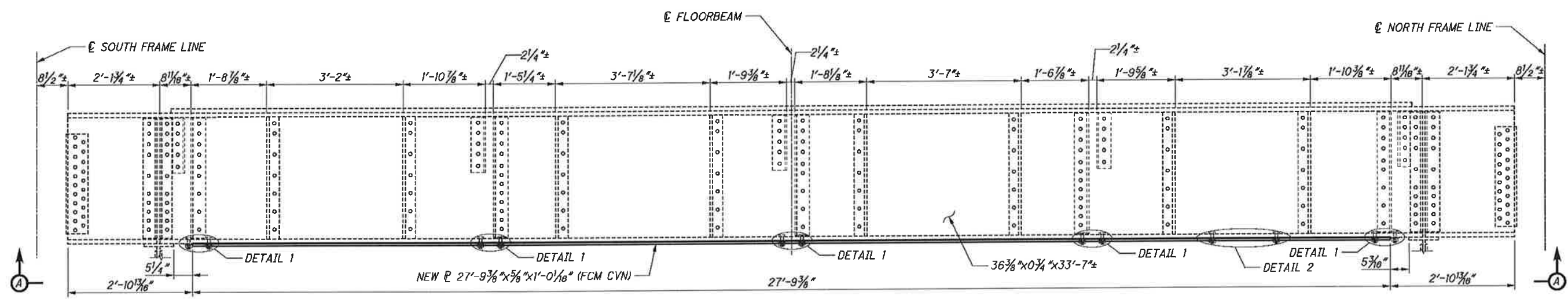
* REPLACE BOLTS ALONG THE EDGE OF PLATE IF ACCESSIBLE



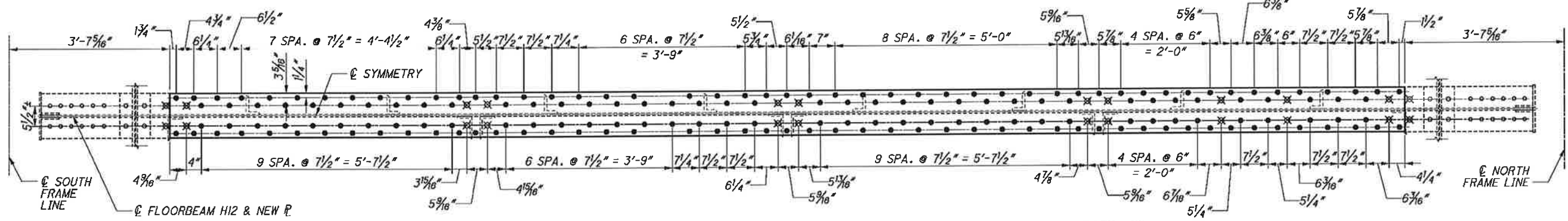
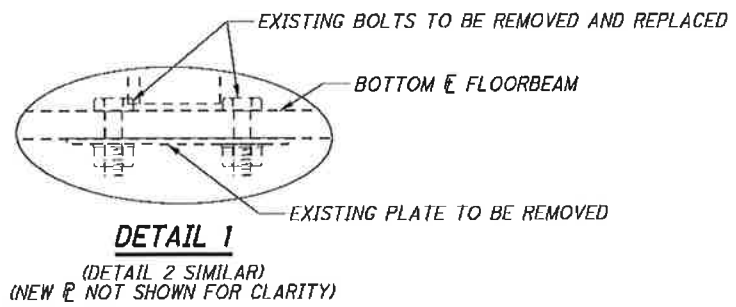
NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY BOLT HOLE SIZE AND BOLT PATTERN AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
2. ALL BOLTS SHALL BE 1/8" DIAMETER A325 HIGH STRENGTH BOLTS UNLESS NOTED OTHERWISE.
3. EXISTING HOLES ARE 15/16" DIAMETER. NEW HOLES IN THE EXISTING FLOORBEAM SHALL BE 15/16" DIAMETER. NEW HOLES IN THE NEW PLATES SHALL BE 15/16" DIAMETER WHEN USING NEW HOLES IN THE EXISTING FLOORBEAM FLANGE. NEW HOLES IN THE NEW PLATES SHALL BE 15/8" DIAMETER WHEN USING EXISTING HOLES IN THE EXISTING FLOORBEAM FLANGE.
4. ALL NEW STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50 STEEL.
5. INSTALL CORRESPONDING NEW PLATES AS SHOWN ON SHEET 156/187.
6. AT THE EXISTING BOLTED SPLICE (SECTIONS C-C), INSTALL A NEW FILL PLATE WITH HOLES DRILLED TO MATCH THE FIELD VERIFIED EXISTING BOLT PATTERN (SEE FILL PLATE DETAIL). GAPS ON THE SIDE OF THE FILL PLATE SHALL BE FILLED WITH CAULK PER ITEM 514.
7. THE REMOVAL OF EXISTING BOLTS, THE NEW RETROFIT STEEL, AND ALL LABOR ASSOCIATED WITH THE RETROFITS DETAILED ON THIS SHEET AND SHEET 156/187 SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: FORWARD SECTION FLOORBEAM RETROFIT.
8. THE PAINT ZONE FOR THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING FLOORBEAM, THE NEW RETROFIT ELEMENTS, AND ANY AREAS DAMAGED DURING REMOVAL AND INSTALLATION OF THE RETROFITS. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.
9. FOR THE LOCATION OF SECTIONS A-A THRU D-D, SEE SHEET 156/187.
10. FOR SUGGESTED BOTTOM COVER PLATE INSTALLATION PROCEDURE SEE SHEET 126/187. CONTRACTOR SHALL SUBMIT PROPOSED SEQUENCE OF CONSTRUCTION TO THE ENGINEER FOR APPROVAL.

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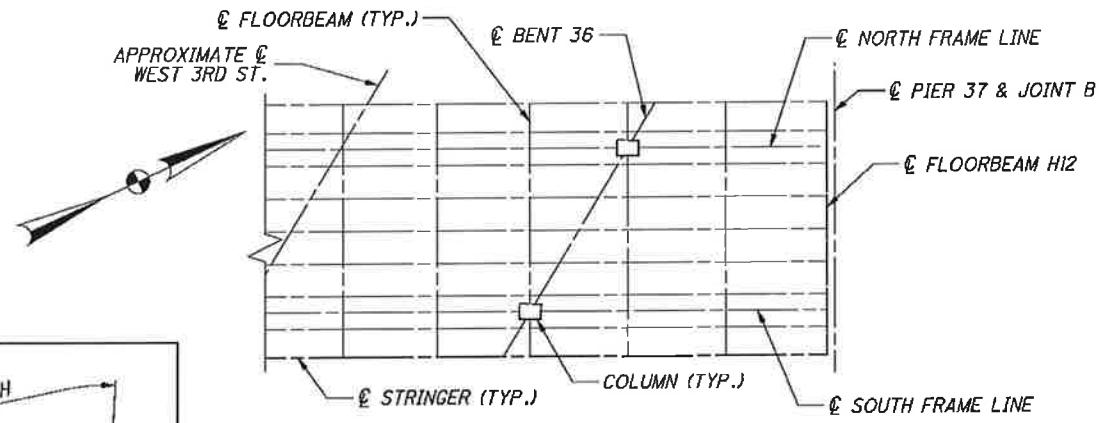
EAST ELEVATION OF FLOORBEAM H12
 (BOLTS ON TOP FLANGE NOT SHOWN)



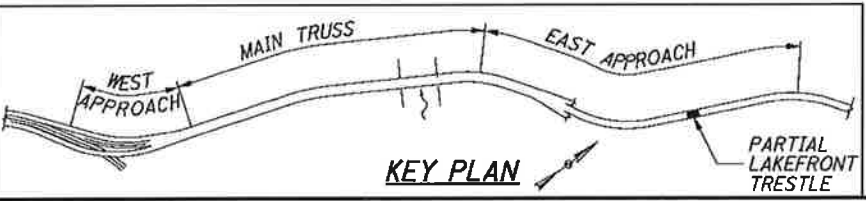
VIEW A-A

- LEGEND:**
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
 - - FIELD DRILL NEW 1 5/16" HOLE FOR NEW 7/8" A325 BOLT.
 - ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" A325 BOLT.

- NOTES:**
1. ALL BOLTS SHALL BE 7/8" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. ALL BOLT HOLES SHALL BE 1 5/16" DIAMETER UNLESS NOTED OTHERWISE.
 2. ALL ELEMENTS SHOWN ARE EXISTING AND SHALL REMAIN UNLESS NOTED OTHERWISE.
 3. THE REMOVAL OF EXISTING BOLTS AND RIVETS, THE NEW RETROFIT MATERIALS, AND ALL ASSOCIATED LABOR SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: LAKEFRONT TRESTLE FLOORBEAM RETROFIT.
 4. THE PAINT ZONE FOR THE WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACE OF THE EXISTING FLOORBEAM BOTTOM FLANGE, THE RETROFIT ELEMENTS, AND ANY SURROUNDING AREAS DAMAGED DURING THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.
 5. FOR BOTTOM COVER PLATE INSTALLATION PROCEDURE SEE SHEET 126 / 187.

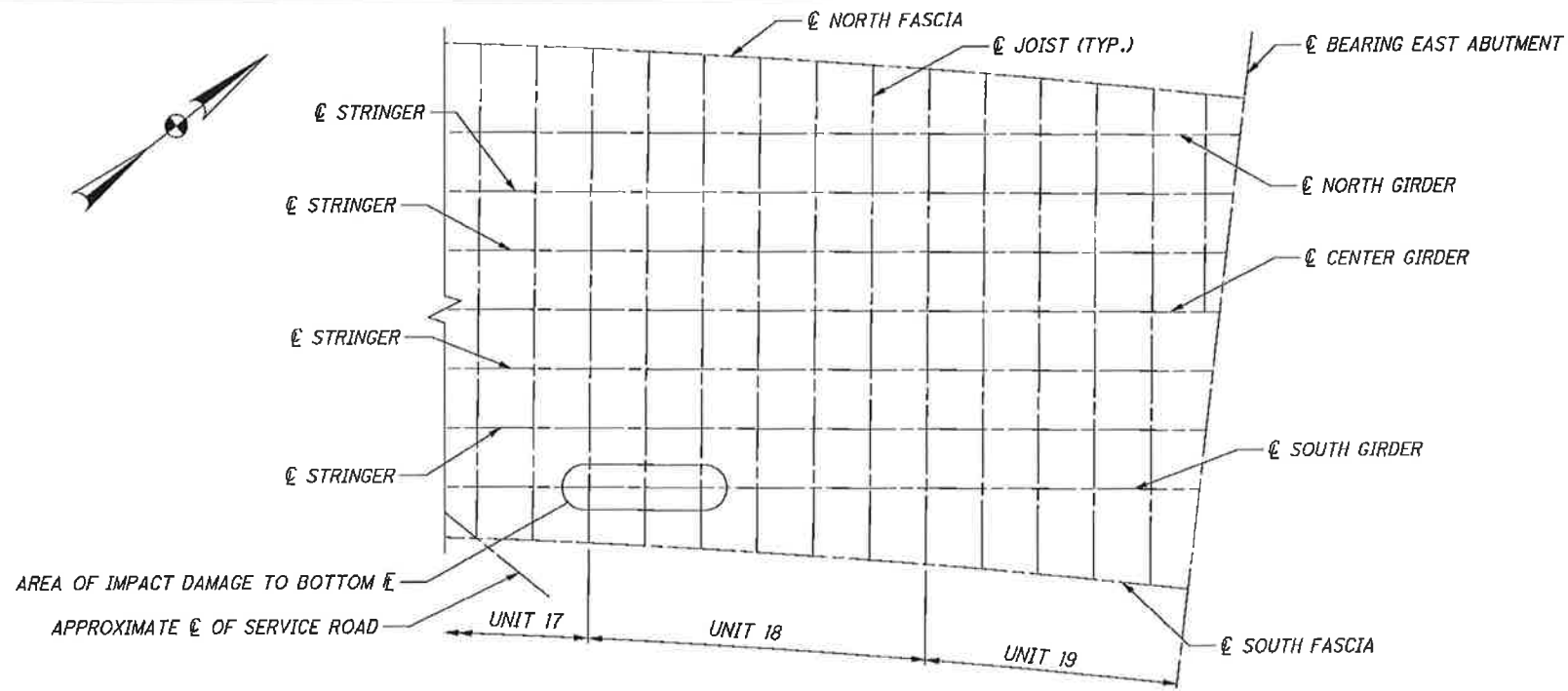


PARTIAL FRAMING PLAN - LAKEFRONT TRESTLE

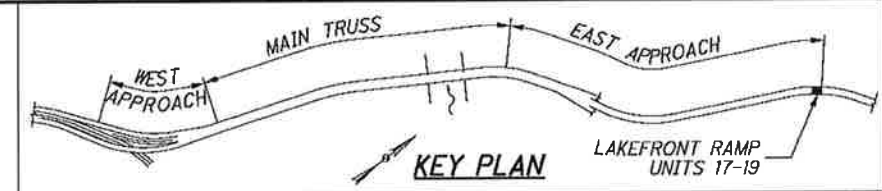


KEY PLAN

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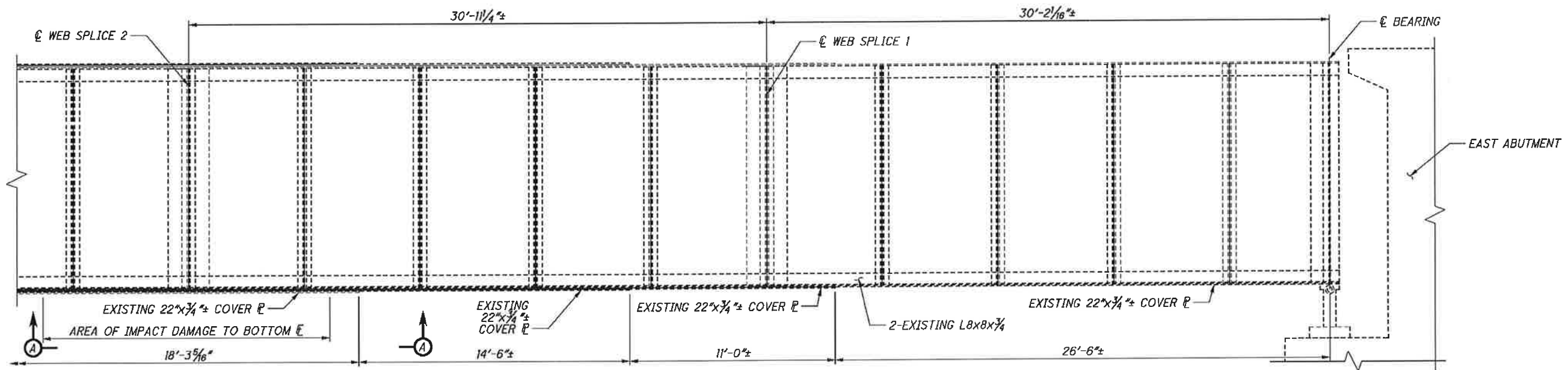


PARTIAL FRAMING PLAN - LAKEFRONT RAMP



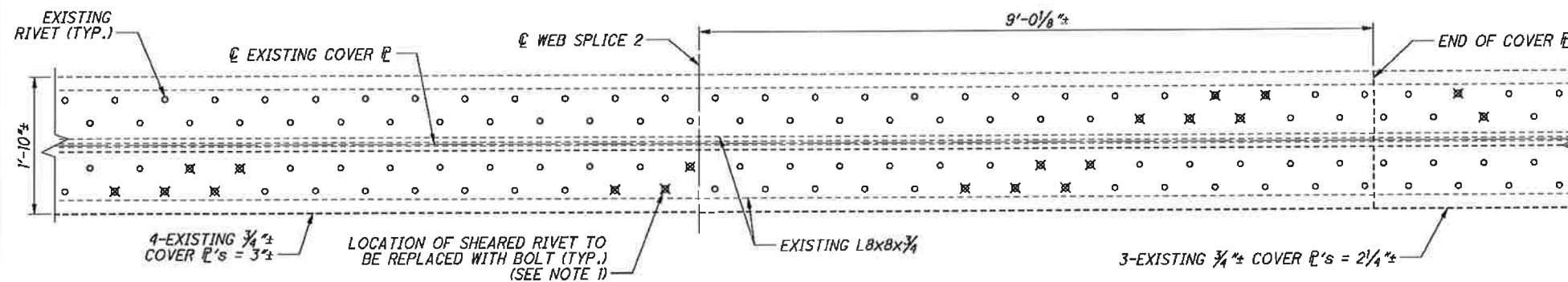
NOTES:

- EXISTING SHEARED RIVETS SHALL BE REPLACED WITH 7/8" DIAMETER A325 HIGH STRENGTH BOLTS. THE BOLTS SHALL BE INSTALLED WITH THE BOLT HEAD ON THE UNDERSIDE OF THE BOTTOM FLANGE.
- ALL ELEMENTS SHOWN ARE EXISTING AND SHALL REMAIN UNLESS NOTED OTHERWISE.
- THE REMOVAL OF THE RIVETS AND THE INSTALLATION OF THE NEW BOLTS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL, MISC.: LAKEFRONT RAMP GIRDER RETROFIT.
- NOTE THAT EXISTING SHOP DRAWINGS FOR THIS GIRDER ARE NOT AVAILABLE. THE RIVET LAYOUT IS BASED ON FIELD MEASUREMENTS.
- FOR RESTRICTIONS OF LANE CLOSURES ON THE ROADWAY BELOW THIS LOCATION SEE THE MAINTAINING TRAFFIC GENERAL NOTE ON SHEET 10 / 187.



PARTIAL SOUTH ELEVATION OF SOUTH GIRDER

(DECK, JOISTS, & RIVETS NOT SHOWN)



VIEW A-A

NOTES (CONTINUED):

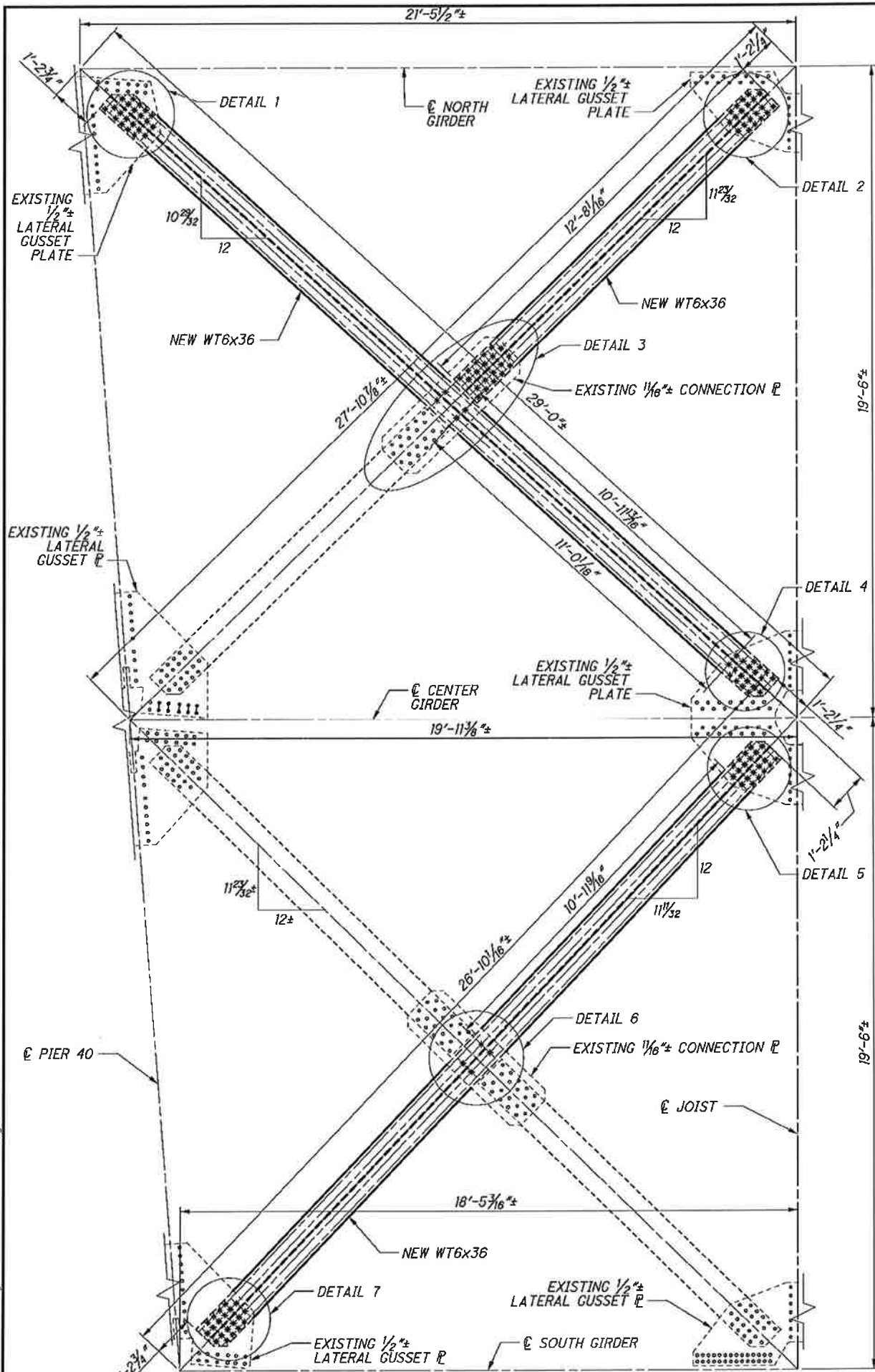
- REMOVE AND REPLACE ONE RIVET AT A TIME. ENSURE THAT NEW BOLT IS COMPLETELY TIGHTENED BEFORE THE NEXT RIVET IS REMOVED AND REPLACED.
- THE ZONE PAINTING FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE RETROFIT BOLTS AND ANY SURROUNDING AREAS DAMAGED BY THE REMOVAL AND REPLACEMENT OF THE CONNECTORS. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.

BOLT LEGEND:

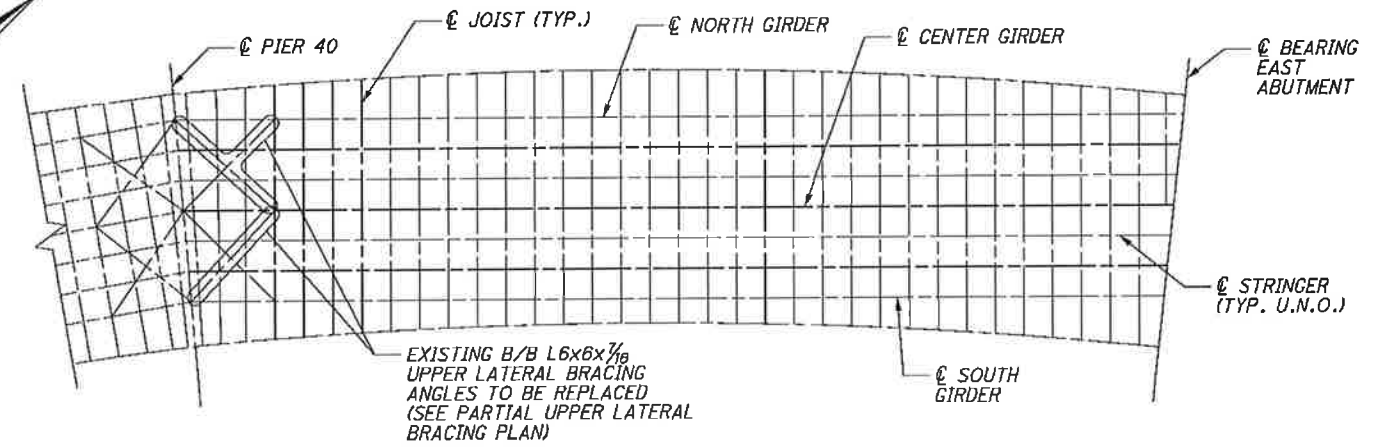
- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" φ A325 BOLT.

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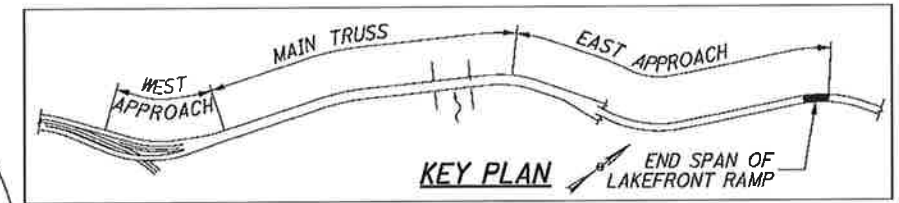
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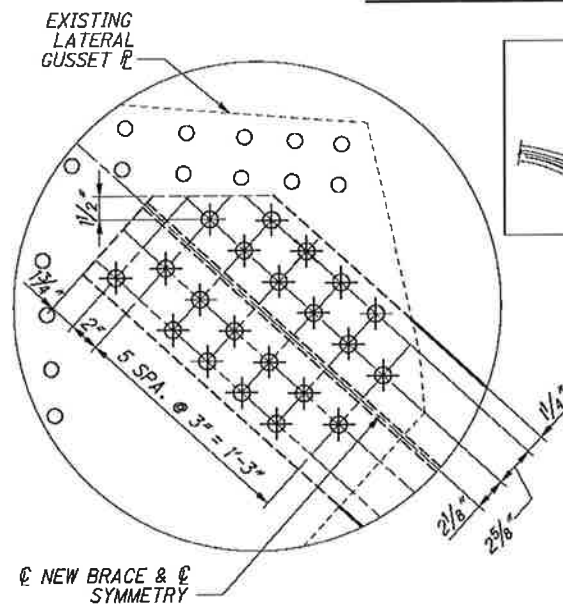
PARTIAL UPPER LATERAL BRACING PLAN - LAKEFRONT RAMP (ALL ELEMENTS NOT SHOWN FOR CLARITY)



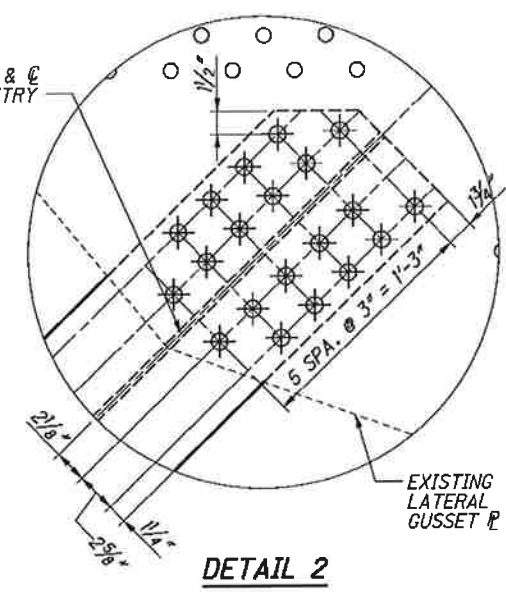
PARTIAL FRAMING PLAN - LAKEFRONT RAMP



KEY PLAN



DETAIL 1



DETAIL 2

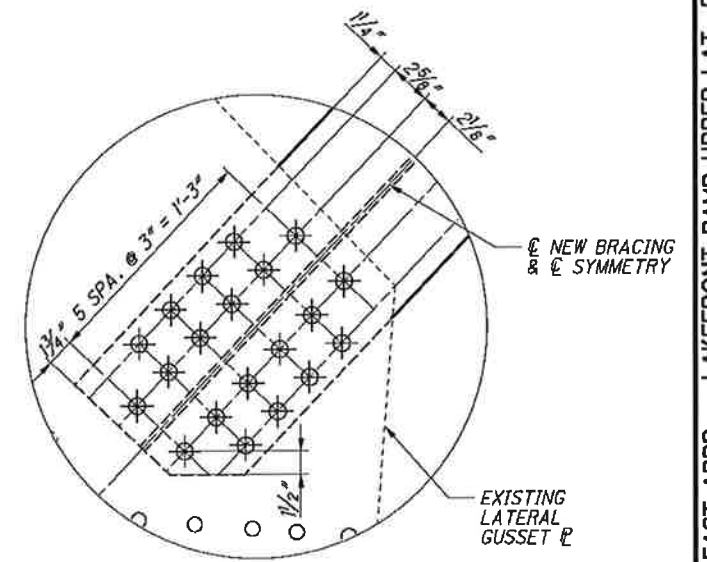
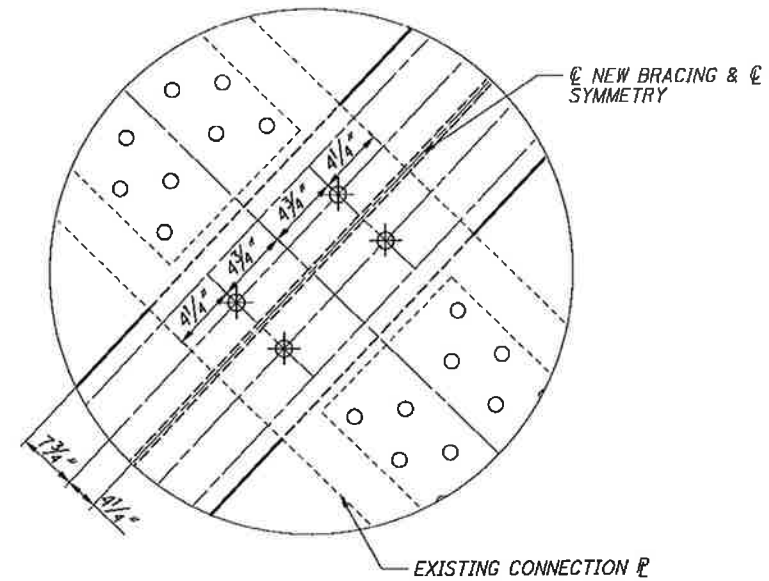
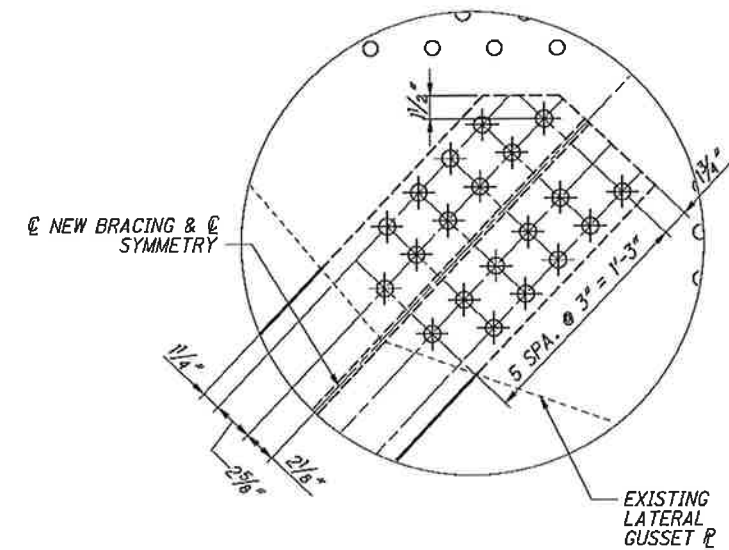
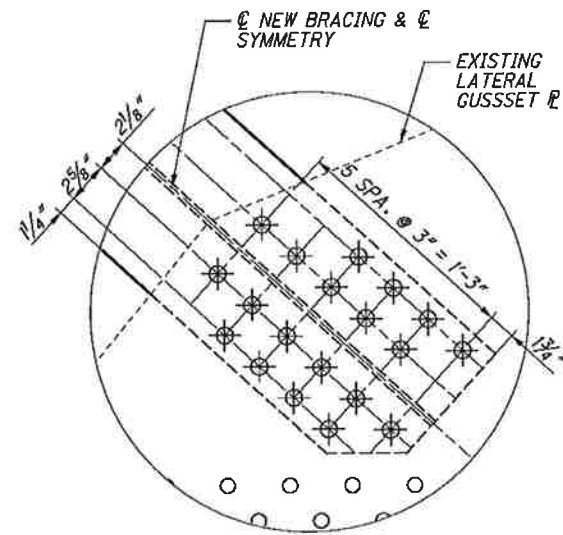
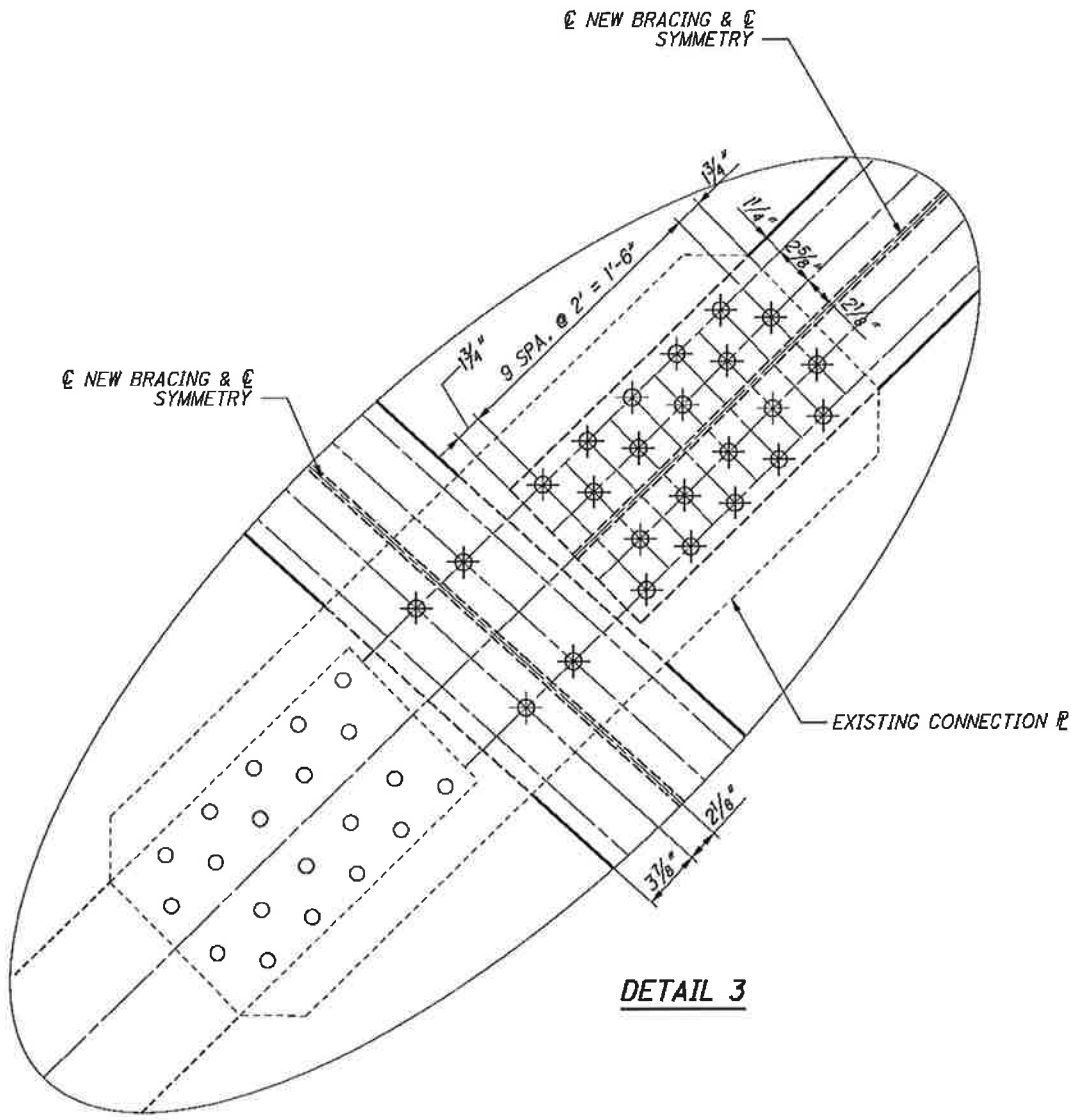
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 1/2" A325 BOLT.

NOTES:

1. ALL NEW BOLTS SHALL BE 1/2" DIAMETER A325 HIGH STRENGTH BOLTS AND ALL HOLES SHALL BE 15/16" DIAMETER.
2. ALL EXISTING ELEMENTS SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE.
3. THE RIVET HOLES IN THE EXISTING LATERAL GUSSET AND CONNECTION PLATES WILL BE REUSED FOR BOLT HOLES. FIELD VERIFY THE HOLE LOCATIONS BEFORE DRILLING THE NEW WT SECTION.
4. THE REMOVAL OF THE EXISTING BRACING ANGLES AND RIVETS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
5. ALL LABOR, MATERIALS, TEMPORARY SUPPORTS FOR THE NEW BRACING SHALL BE INCLUDED FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UP.
6. FOR DETAILS 3 THROUGH 7, SEE SHEET 161 / 187.
7. THE ZONE PAINTING FOR WORK ON THIS SHEET ENCOMPASSES THE FAYING SURFACES OF THE EXISTING LATERAL BRACING CONNECTIONS, THE NEW LATERAL BRACES, AND ANY SURROUNDING AREAS DAMAGED AS PART OF THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE PAID FOR UNDER ITEM 514.

DESIGN AGENCY TramSystems 15 PUBLIC SQUARE, SUITE 1006 CLEVELAND, OHIO 44113	DATE 08/16/13
	REVIEWED WRW
DRAWN CTG	STRUCTURE FILE NUMBER 1800035
	CHECKED RJM
DESIGNED CTG	
REVISIONS	
EAST APPR. - LAKEFRONT RAMP UPPER LAT. BRACING RETROFITS MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14.41 PID No. 91115	
160 / 187	
162 189	



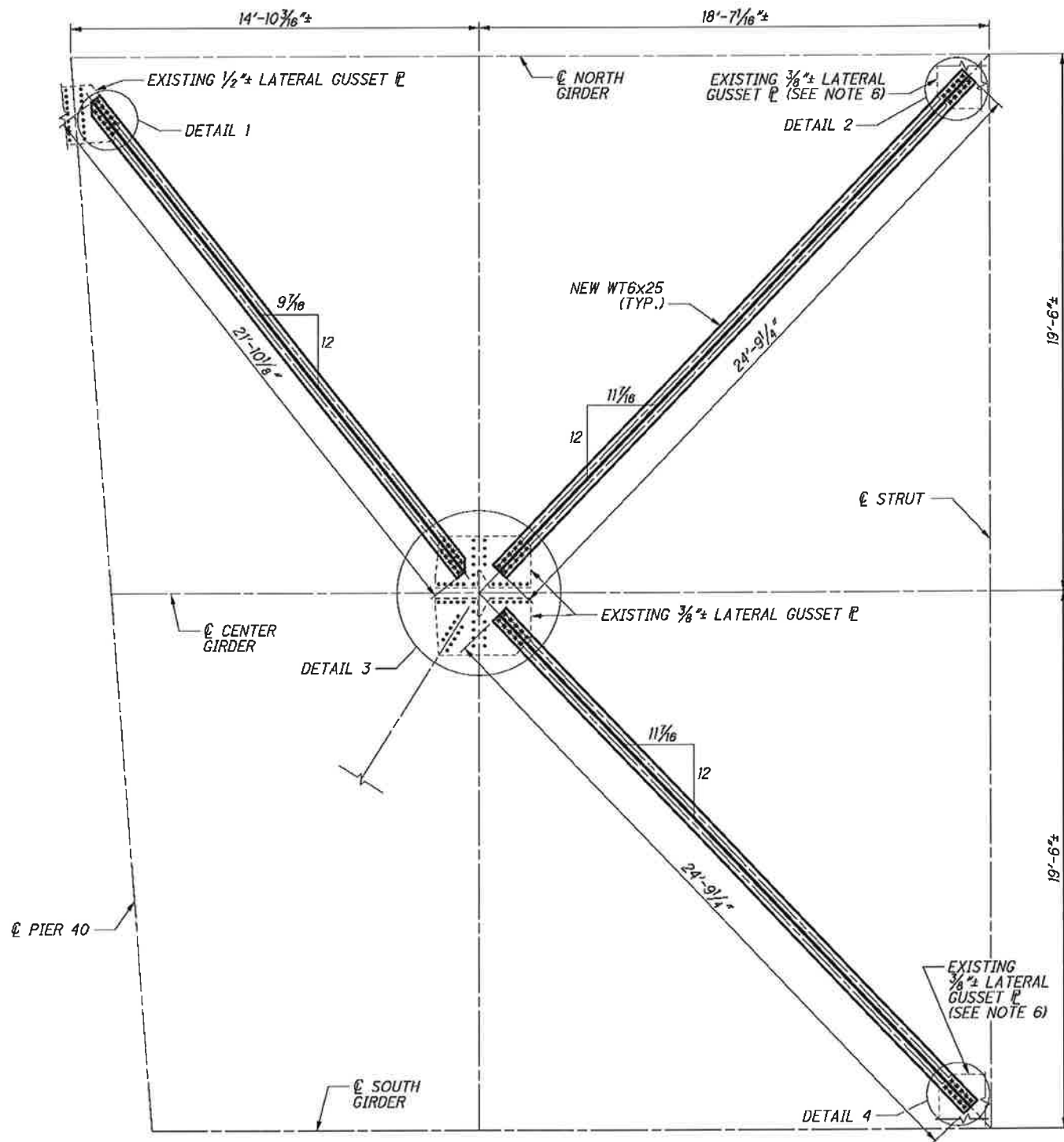
BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" φ A325 BOLT.

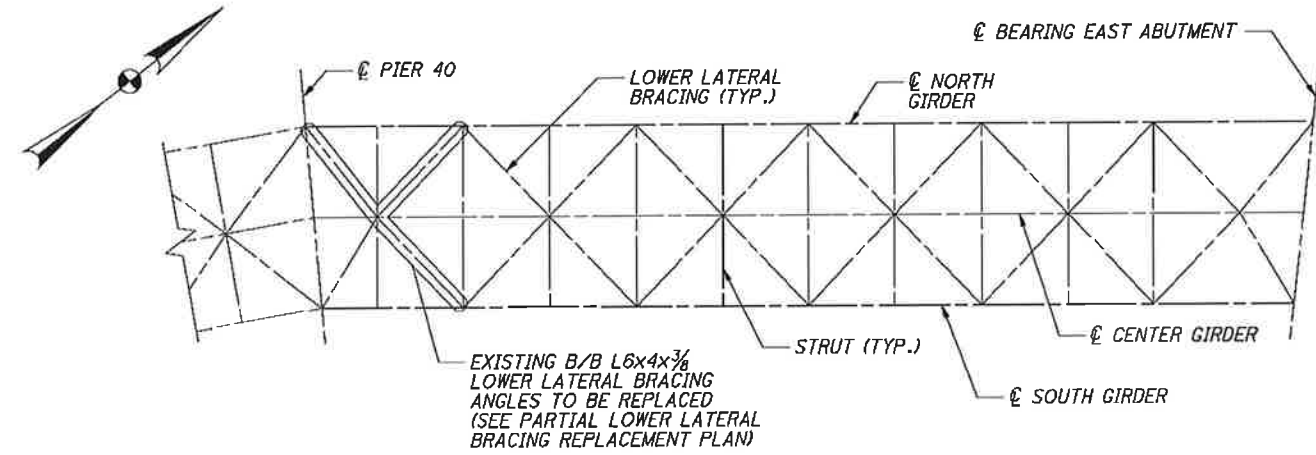
NOTES:

1. FOR NOTES AND LOCATIONS OF DETAILS 3 THROUGH 7, SEE SHEET 160 / 187.

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PARTIAL LOWER LATERAL BRACING REPLACEMENT PLAN - LAKEFRONT RAMP
(ALL ELEMENTS NOT SHOWN FOR CLARITY)



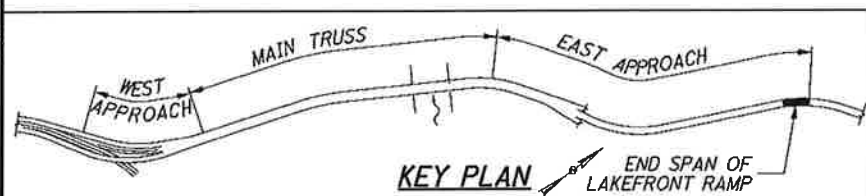
PARTIAL LOWER LATERAL BRACING PLAN - LAKEFRONT RAMP

BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 3/8" φ A325 BOLT.

NOTES:

1. ALL NEW BOLTS SHALL BE 3/8" DIAMETER A325 HIGH STRENGTH BOLTS AND ALL HOLES SHALL BE 1/8" DIAMETER.
2. ALL EXISTING ELEMENTS SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE.
3. THE RIVET HOLES IN THE EXISTING LATERAL GUSSET PLATES WILL BE REUSED FOR BOLT HOLES. FIELD VERIFY THE HOLE LOCATIONS BEFORE DRILLING THE NEW WT SECTION.
4. THE REMOVAL OF THE EXISTING BRACING ANGLES AND RIVETS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
5. EXISTING SHOP DRAWINGS ARE NOT AVAILABLE FOR PARTICULAR LATERAL GUSSET PLATES. THE THICKNESS IS BASED ON A TYPICAL EXISTING PLAN DETAIL. THE EXACT SIZE AND GEOMETRY OF THE PLATE IS UNKNOWN.
6. FOR DETAILS 1 THROUGH 4, SEE SHEET 163 / 187.
7. THE PAINT ZONE FOR THE WORK SHOWN ON THE SHEET ENCOMPASSES THE FAYING SURFACES ON THE EXISTING LATERAL BRACING CONNECTIONS, THE NEW LATERAL BRACES, AND ANY SURROUNDING AREAS DAMAGED AS PART OF THE INSTALLATION OF THE RETROFIT. ALL PAINTING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 514.



CUY-2-14.41
PID No. 91115

EAST APPR. - LAKEFRONT RAMP LOWER LAT. BRACING RETROFITS
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

DESIGNED
CTG
CHECKED
RJM

DRAWN
CTG
REVISED

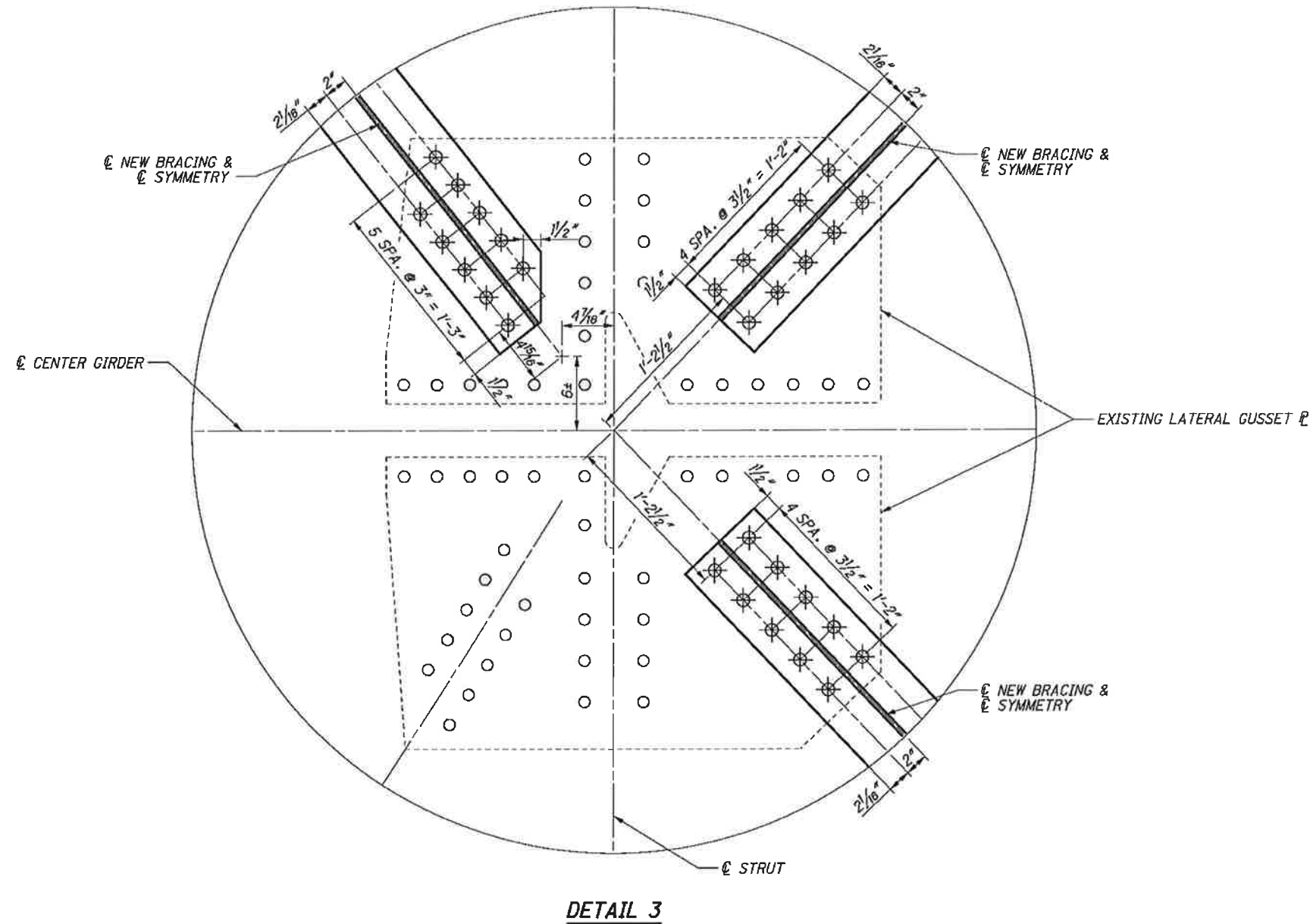
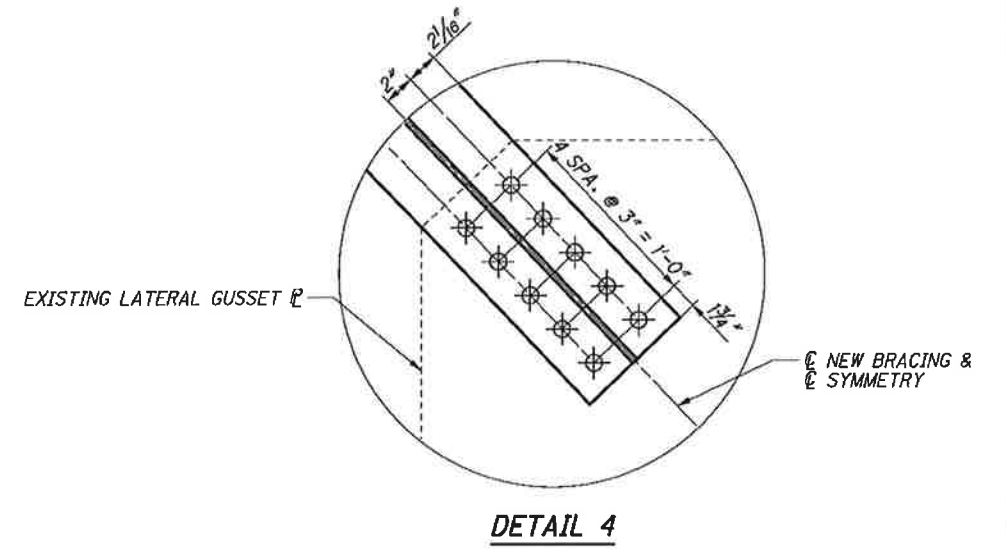
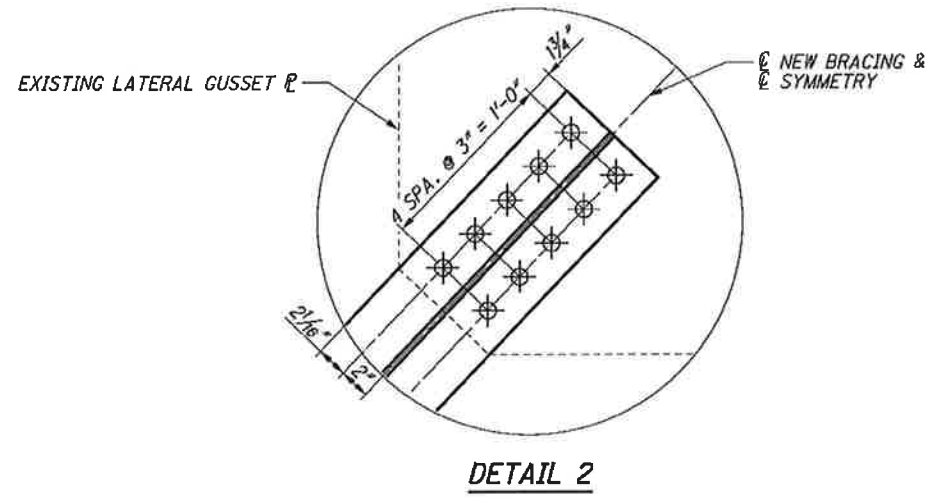
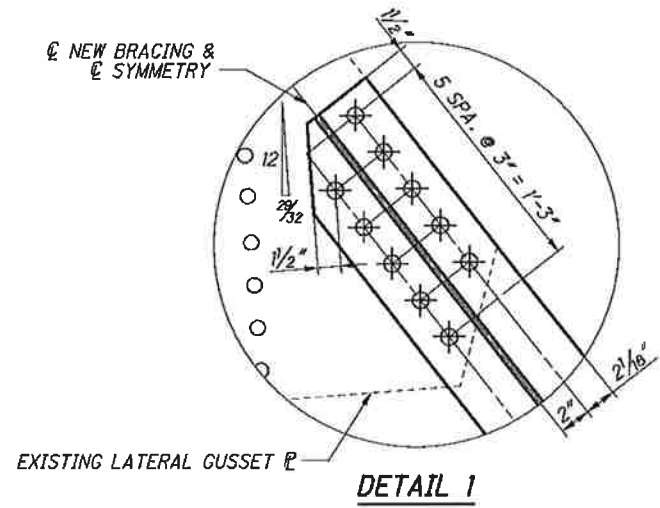
REVIEWED
WRW
STRUCTURE FILE NUMBER
1800035

DATE
08/16/13

DESIGN AGENCY
Trail Systems
25 PUBLIC SQUARE, SUITE 300
CLEVELAND, OHIO 44113

162/187

164
189

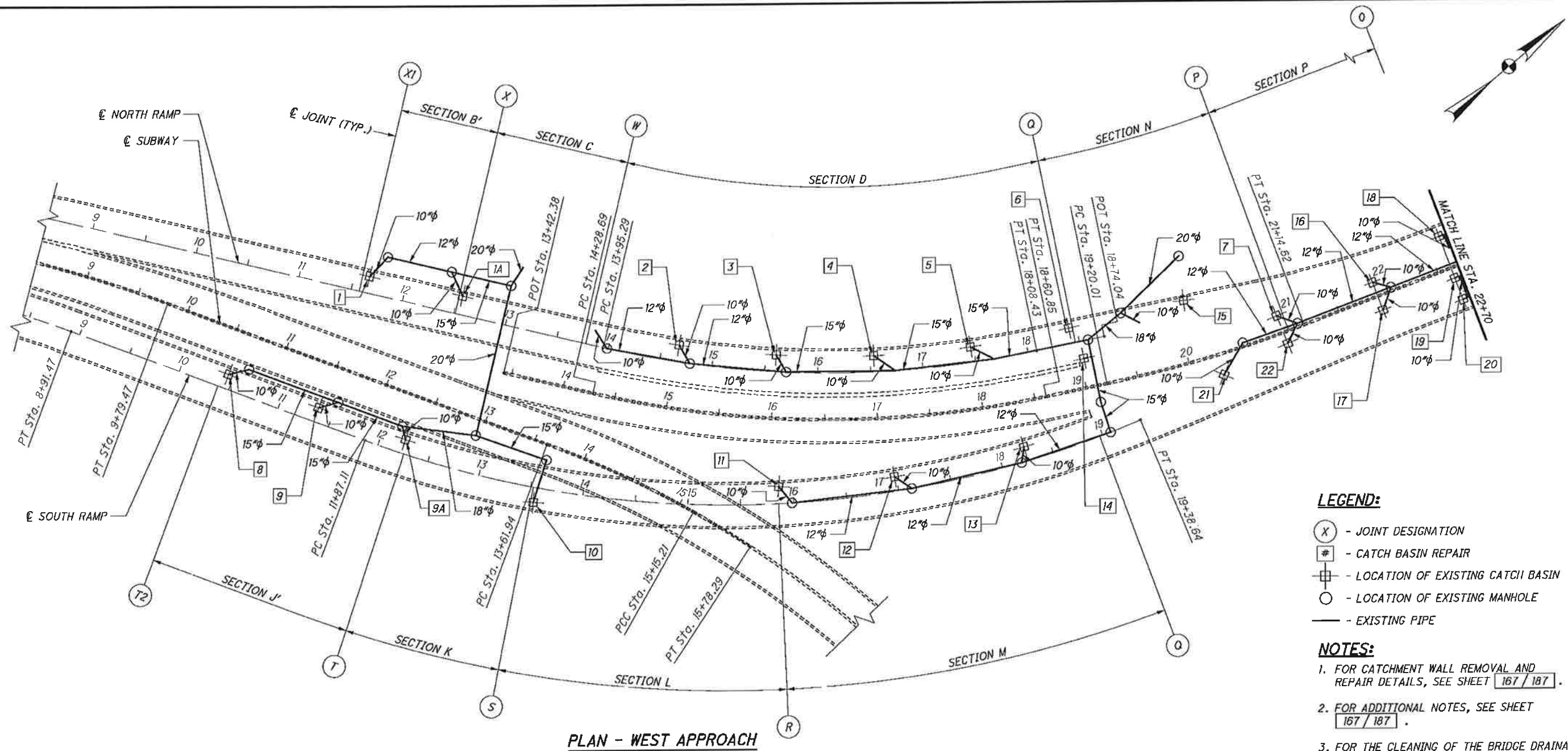


BOLT LEGEND:

- - EXISTING RIVET OR BOLT TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
- ⊗ - REMOVE EXISTING FASTENER AND REPLACE WITH NEW 7/8" φ A325 BOLT.

NOTES:

1. FOR NOTES AND LOCATIONS OF DETAILS 1 THROUGH 4, SEE SHEET 162 / 187.



PLAN - WEST APPROACH

LEGEND:

- (X) - JOINT DESIGNATION
- # - CATCH BASIN REPAIR
- - LOCATION OF EXISTING CATCH BASIN
- - LOCATION OF EXISTING MANHOLE
- - EXISTING PIPE

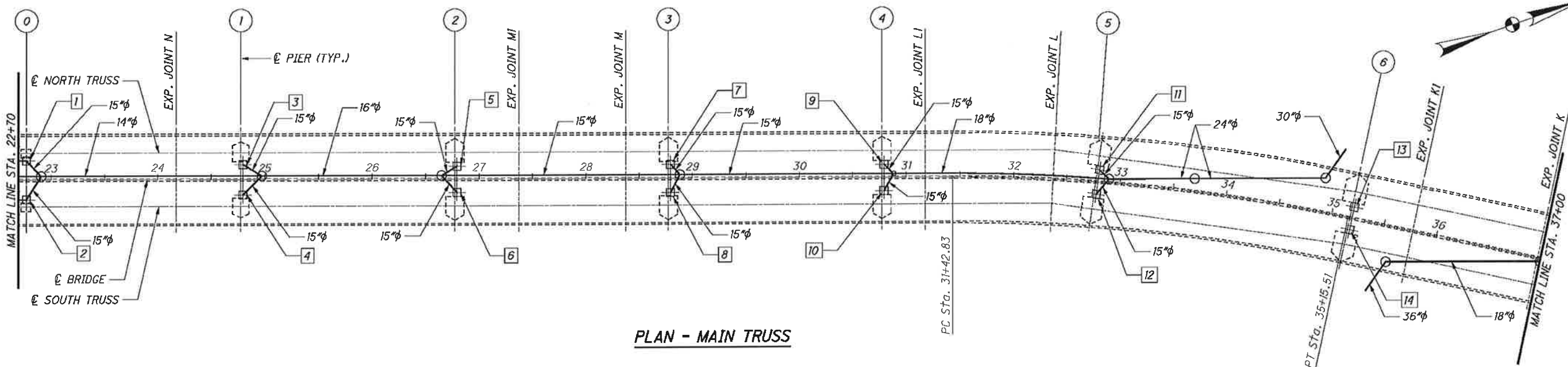
NOTES:

1. FOR CATCHMENT WALL REMOVAL AND REPAIR DETAILS, SEE SHEET 167/187.
2. FOR ADDITIONAL NOTES, SEE SHEET 167/187.
3. FOR THE CLEANING OF THE BRIDGE DRAINAGE SYSTEM, SEE GENERAL NOTES, SHEETS 8/187 AND 9/187.

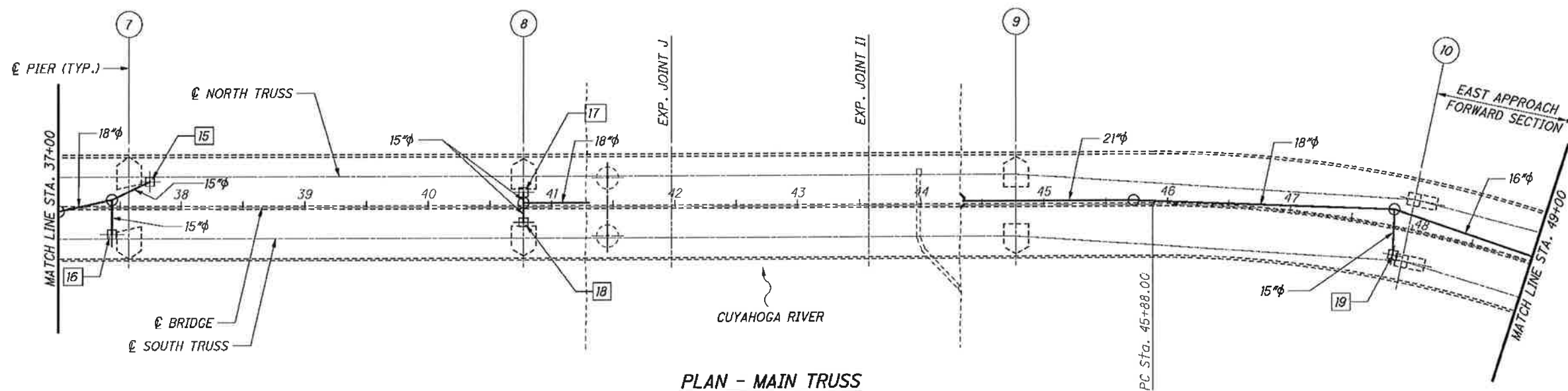
REPAIR LIST:

- | | |
|--|--|
| <ul style="list-style-type: none"> 1 EXISTING CATCH BASIN STA. 11+64.50, 15.67' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 1A EXISTING CATCH BASIN STA. 12+54.65, 17.63' LT (TO BE CLEANED) 2 EXISTING CATCH BASIN STA. 14+66.25, 15.67' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 3 EXISTING CATCH BASIN STA. 15+55.49, 15.67' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 4 EXISTING CATCH BASIN STA. 16+53.50, 15.17' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 5 EXISTING CATCH BASIN STA. 17+47.00, 14.67' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 6 EXISTING CATCH BASIN STA. 18+42.50, 14.67' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 7 EXISTING CATCH BASIN STA. 20+93.04, 16.94' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 8 EXISTING CATCH BASIN STA. 10+45.00, 13.67' LT (TO BE CLEANED) 9 EXISTING CATCH BASIN STA. 11+35.50, 13.67' LT (TO BE CLEANED) 9A EXISTING CATCH BASIN STA. 12+23.39, 13.33' LT (TO BE CLEANED) 10 EXISTING CATCH BASIN STA. 13+55.10, 14.10' RT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 11 EXISTING CATCH BASIN STA. 15+86.45, 16.13' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) | <ul style="list-style-type: none"> 12 EXISTING CATCH BASIN STA. 17+04.25, 13.67' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 13 EXISTING CATCH BASIN STA. 18+25.00, 13.67' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 14 EXISTING CATCH BASIN STA. 19+03.44, 27.59' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 15 EXISTING CATCH BASIN STA. 20+11.09, 58.36' LT (REPAIR CATCHMENT WALL (SEE NOTE 1) AND CLEAN) 16 EXISTING CATCH BASIN STA. 21+89.11, 14.0' LT (TO BE CLEANED AND PLACE NEW CATCH BASIN GRATE) 17 EXISTING CATCH BASIN STA. 21+89.11, 14.0' RT (TO BE CLEANED AND PLACE NEW CATCH BASIN GRATE) 18 EXISTING CATCH BASIN STA. 22+63.10, 31.75' LT (REPAIR CATCHMENT WALL (SEE NOTE 1), CLEAN AND PLACE NEW CATCH BASIN GRATE) 19 EXISTING CATCH BASIN STA. 22+63.10, 10.75' RT (REPAIR CATCHMENT WALL (SEE NOTE 1), CLEAN AND PLACE NEW CATCH BASIN GRATE) 20 EXISTING CATCH BASIN STA. 22+63.10, 31.75' RT (REPAIR CATCHMENT WALL (SEE NOTE 1), CLEAN AND PLACE NEW CATCH BASIN GRATE) 21 EXISTING CATCH BASIN STA. 20+28.24, 19.88' RT (TO BE CLEANED) 22 EXISTING CATCH BASIN STA. 20+94.17, 11.04' RT (TO BE CLEANED) |
|--|--|

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PLAN - MAIN TRUSS



PLAN - MAIN TRUSS

REPAIR LIST:

- | | |
|--|---|
| <ul style="list-style-type: none"> 1 EXISTING CATCH BASIN STA. 23+77.00, 18.17' LT (TO BE CLEANED) 2 EXISTING CATCH BASIN STA. 23+77.00, 18.17' RT (TO BE CLEANED) 3 EXISTING CATCH BASIN STA. 24+79.41, 14.19' LT (TO BE CLEANED) 4 EXISTING CATCH BASIN STA. 24+79.41, 14.19' RT (TO BE CLEANED) 5 EXISTING CATCH BASIN STA. 26+79.41, 12.22' LT (REPAIR DRAIN PIPE ELBOW, CLEAN CATCH BASIN) 6 EXISTING CATCH BASIN STA. 26+79.41, 12.22' RT (TO BE CLEANED) 7 EXISTING CATCH BASIN STA. 28+79.41, 13.11' LT (TO BE CLEANED) 8 EXISTING CATCH BASIN STA. 28+79.41, 13.11' RT (TO BE CLEANED) 9 EXISTING CATCH BASIN STA. 30+79.41, 12.22' LT (TO BE CLEANED) 10 EXISTING CATCH BASIN STA. 30+79.41, 12.22' RT (TO BE CLEANED) | <ul style="list-style-type: none"> 11 EXISTING CATCH BASIN STA. 32+79.41, 11.21' LT (REPAIR DRAIN PIPE ELBOW, CLEAN CATCH BASIN) 12 EXISTING CATCH BASIN STA. 32+78.67, 11.47' RT (TO BE CLEANED) 13 EXISTING CATCH BASIN STA. 35+19.41, 10.79' LT (TO BE CLEANED) 14 EXISTING CATCH BASIN STA. 35+19.41, 10.79' RT (TO BE CLEANED) 15 EXISTING CATCH BASIN STA. 37+74.43, 21.24' LT (TO BE CLEANED) 16 EXISTING CATCH BASIN STA. 37+47.39, 21.24' RT (TO BE CLEANED) 17 EXISTING CATCH BASIN STA. 40+77.41, 12.17' LT (TO BE CLEANED) 18 EXISTING CATCH BASIN STA. 40+77.41, 12.17' RT (TO BE CLEANED) 19 EXISTING CATCH BASIN STA. 47+88.96, 22.10' RT (TO BE CLEANED) |
|--|---|

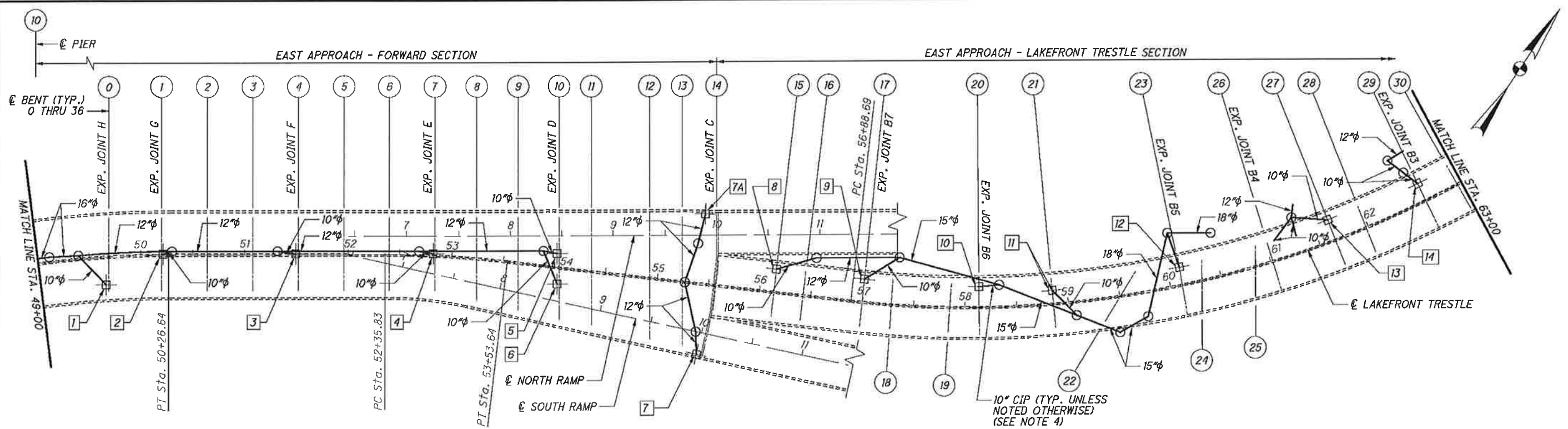
LEGEND:

- (X) - PIER NUMBER
- # - CATCH BASIN REPAIR
- ⊠ - LOCATION OF EXISTING CATCH BASIN
- - LOCATION OF EXISTING MANHOLE
- - EXISTING PIPE

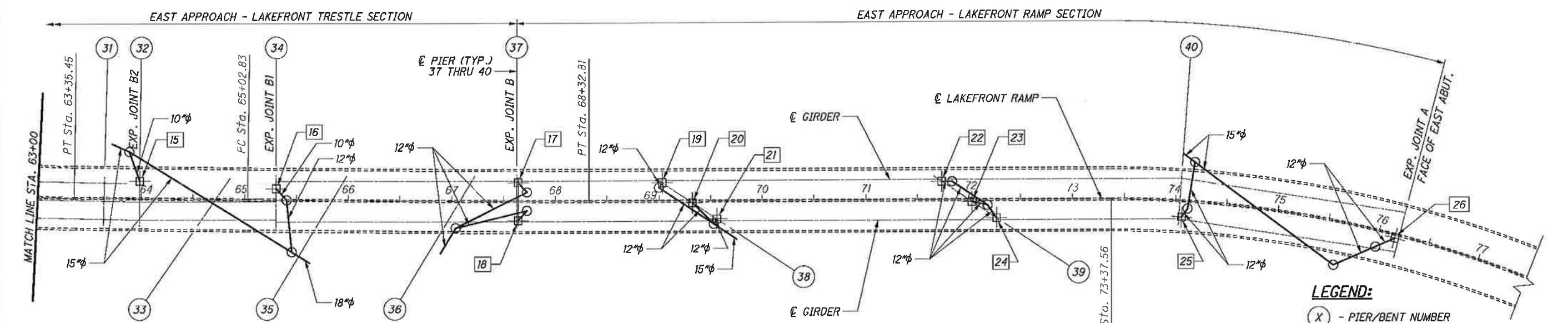
NOTES:

1. FOR CATCHMENT WALL REMOVAL AND REPAIR DETAILS, SEE SHEET 167 / 187 .
2. FOR ADDITIONAL NOTES, SEE SHEET 167 / 187 .
3. FOR THE CLEANING OF THE BRIDGE DRAINAGE SYSTEM, SEE GENERAL NOTES, SHEETS 7 / 187 AND 9 / 187 .

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PLAN - EAST APPROACH



PLAN - EAST APPROACH

REPAIR LIST:

- | | | |
|---|---|---|
| <p>1 EXISTING HOPPER STA. 49+61.69, 26.41' RT (TO BE CLEANED)</p> <p>2 EXISTING HOPPER STA. 50+21.25, 1.00' LT (TO BE CLEANED)</p> <p>3 EXISTING HOPPER STA. 51+49.25, 0.98' LT (TO BE CLEANED)</p> <p>4 EXISTING HOPPER STA. 52+82.19, 2.03' LT (TO BE CLEANED)</p> <p>5 EXISTING HOPPER STA. 54+01.03, 13.54' LT (TO BE CLEANED)</p> <p>6 EXISTING HOPPER STA. 54+04.39, 15.50' RT (TO BE CLEANED)</p> <p>7A EXISTING CATCH BASIN STA. 55+39.14, 67.63' LT (TO BE CLEANED)</p> <p>7 EXISTING CATCH BASIN STA. 55+46.00, 67.80' RT (TO BE CLEANED)</p> <p>8 EXISTING CATCH BASIN STA. 56+14.10, 22.50' LT (TO BE CLEANED)</p> <p>9 EXISTING CATCH BASIN STA. 56+99.60, 22.45' LT (TO BE CLEANED)</p> <p>10 EXISTING CATCH BASIN STA. 58+13.49, 20.16' LT (TO BE CLEANED)</p> | <p>11 EXISTING CATCH BASIN STA. 58+85.64, 13.33' LT (REPAIR CATCHMENT WALL AND CLEAN) (SEE NOTE 1)</p> <p>12 EXISTING CATCH BASIN STA. 60+12.07, 17.48' LT (TO BE CLEANED)</p> <p>13 EXISTING CATCH BASIN STA. 61+65.36, 20.97' LT (TO BE CLEANED)</p> <p>14 EXISTING CATCH BASIN STA. 62+61.53, 18.19' LT (TO BE CLEANED)</p> <p>15 EXISTING CATCH BASIN STA. 63+98.57, 16.87' LT (TO BE CLEANED)</p> <p>16 EXISTING CATCH BASIN STA. 65+30.65, 10.88' LT (TO BE CLEANED)</p> <p>17 EXISTING CATCH BASIN STA. 67+63.89, 18.16' LT (REPAIR NEOPRENE DRAIN PIPE BOOT, CLEAN CATCH BASIN) (SEE NOTE 3)</p> <p>18 EXISTING CATCH BASIN STA. 67+63.89, 18.33' RT (TO BE CLEANED) (SEE NOTE 3)</p> | <p>19 EXISTING CATCH BASIN STA. 69+02.99, 17.56' LT (TO BE CLEANED)</p> <p>20 EXISTING CATCH BASIN STA. 69+32.33, 1.94' RT (TO BE CLEANED)</p> <p>21 EXISTING CATCH BASIN STA. 69+56.15, 17.56' RT (REPAIR NEOPRENE DRAIN PIPE BOOT, CLEAN CATCH BASIN)</p> <p>22 EXISTING CATCH BASIN STA. 71+73.83, 17.56' LT (TO BE CLEANED)</p> <p>23 EXISTING CATCH BASIN STA. 72+03.16, 1.94' RT (TO BE CLEANED)</p> <p>24 EXISTING CATCH BASIN STA. 72+26.99, 17.56' RT (REPLACE MISSING DRAIN BOLT, CLEAN CATCH BASIN)</p> <p>25 EXISTING CATCH BASIN STA. 74+06.79, 15.60' RT (TO BE CLEANED)</p> <p>26 EXISTING CATCH BASIN STA. 76+16.21, 3.54' RT (REPAIR NEOPRENE DRAIN BOOT, CLEAN AND PLACE NEW CATCH BASIN GRATE)</p> |
|---|---|---|

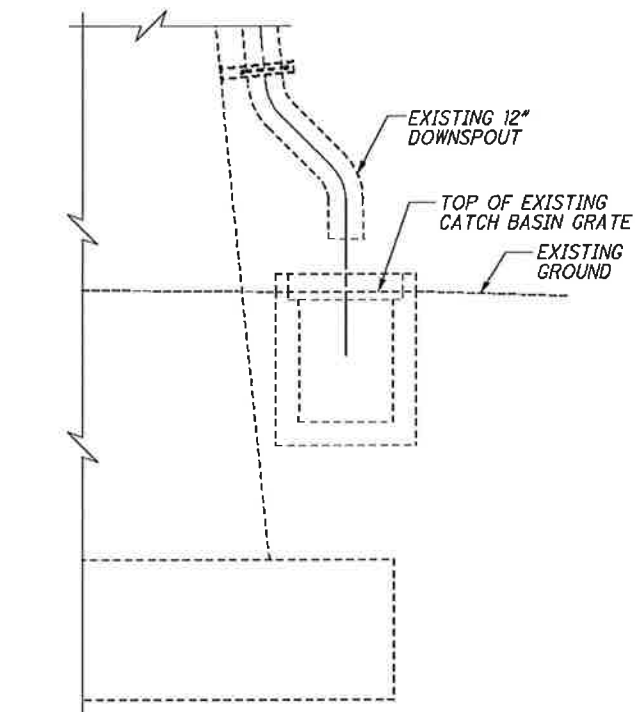
LEGEND:

- (X) - PIER/BENT NUMBER
- # - CATCH BASIN REPAIR
- ⊕ - LOCATION OF EXISTING CATCH BASIN
- - LOCATION OF EXISTING MANHOLE
- - EXISTING PIPE (10" U.N.O.)

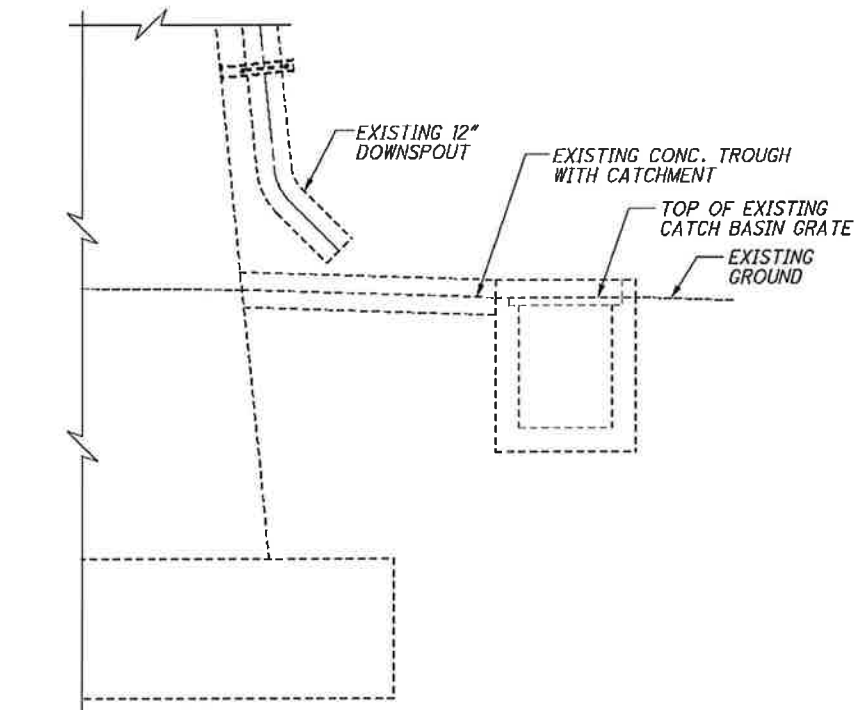
NOTES:

1. FOR CATCHMENT WALL REMOVAL AND REPAIR DETAILS, SEE SHEET 167/187.
2. FOR ADDITIONAL NOTES, SEE SHEET 167/187.
3. FOR ADDITIONAL REPAIRS AT CATCH BASIN 17 AND 18, SEE SHEET 182/187.
4. FOR THE CLEANING OF THE BRIDGE DRAINAGE SYSTEM, SEE GENERAL NOTES, SHEETS 7/187 AND 9/187.

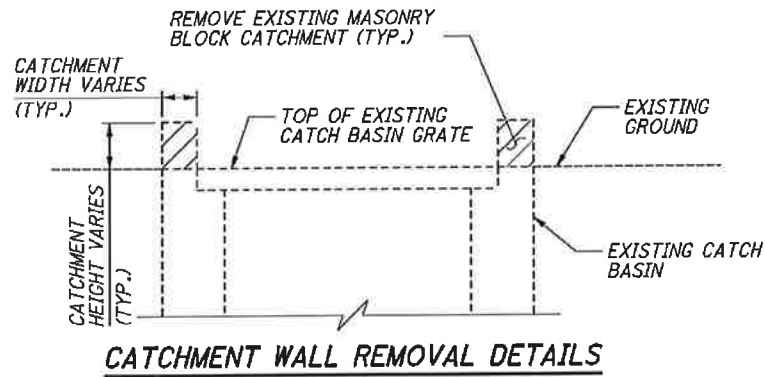
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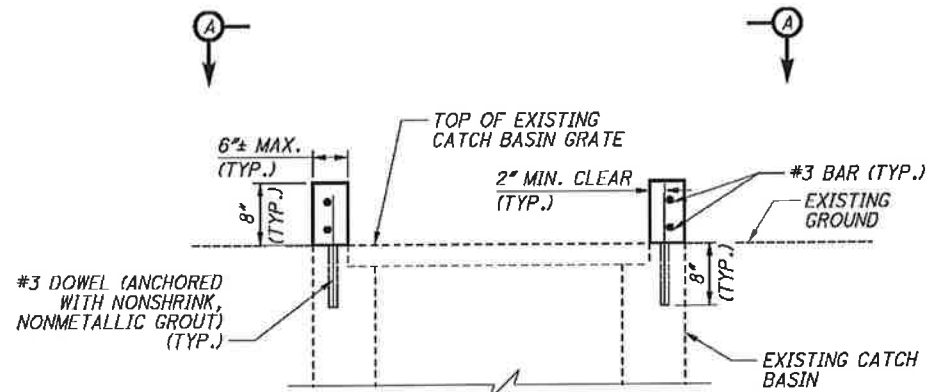
EXISTING CATCH BASIN - TYPE A



EXISTING CATCH BASIN - TYPE B

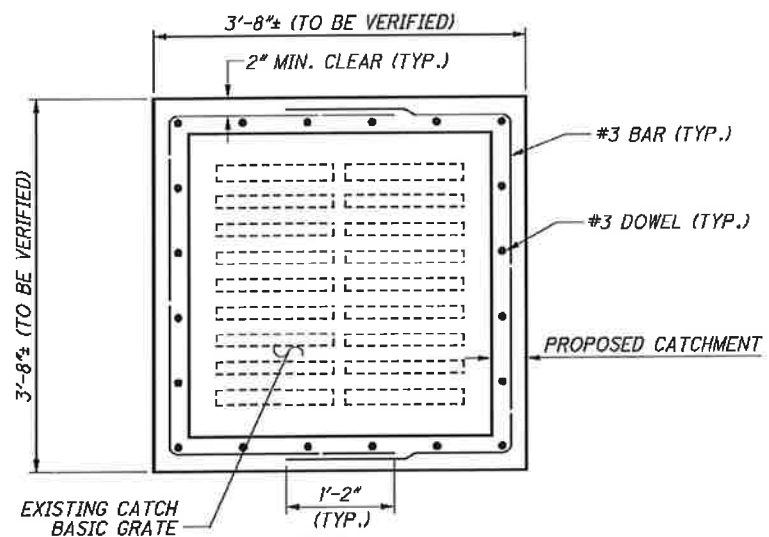


CATCHMENT WALL REMOVAL DETAILS



PROPOSED CATCHMENT WALL

(SEE NOTE 10)



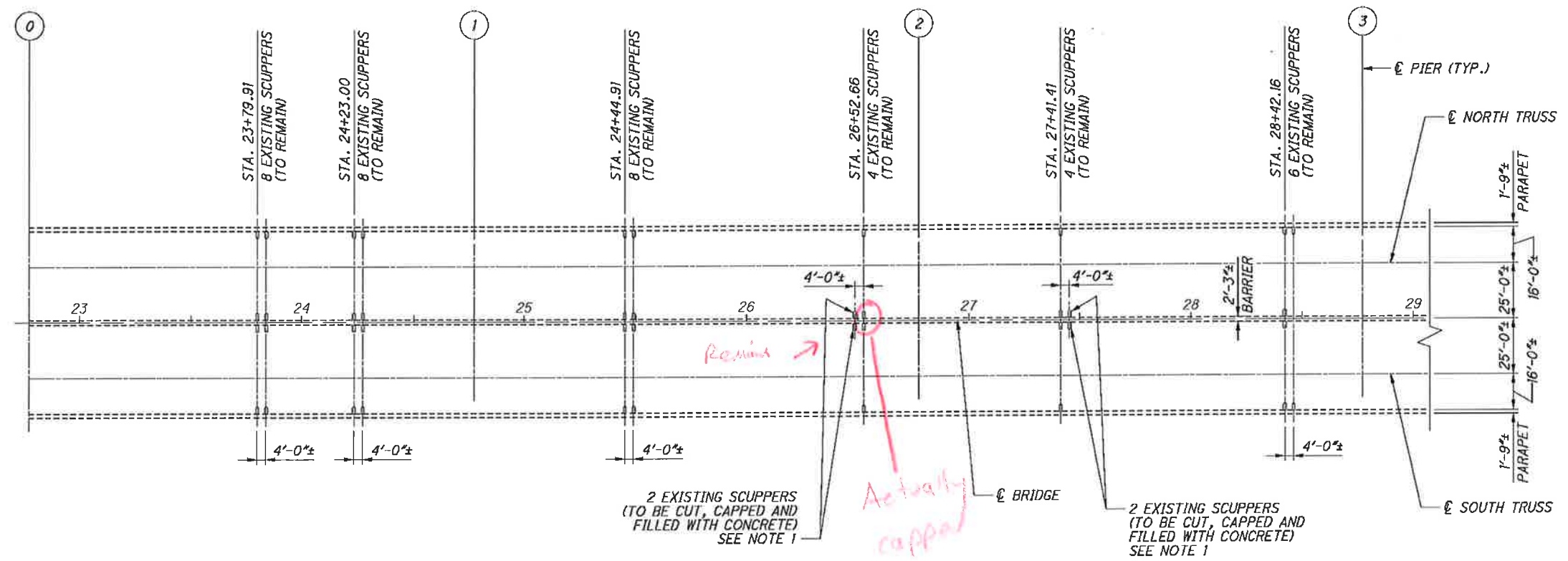
VIEW A-A

(FOUR SIDED CATCHMENT SHOWN, THREE SIDED CATCHMENT SIMILAR)
(SEE NOTE 10)

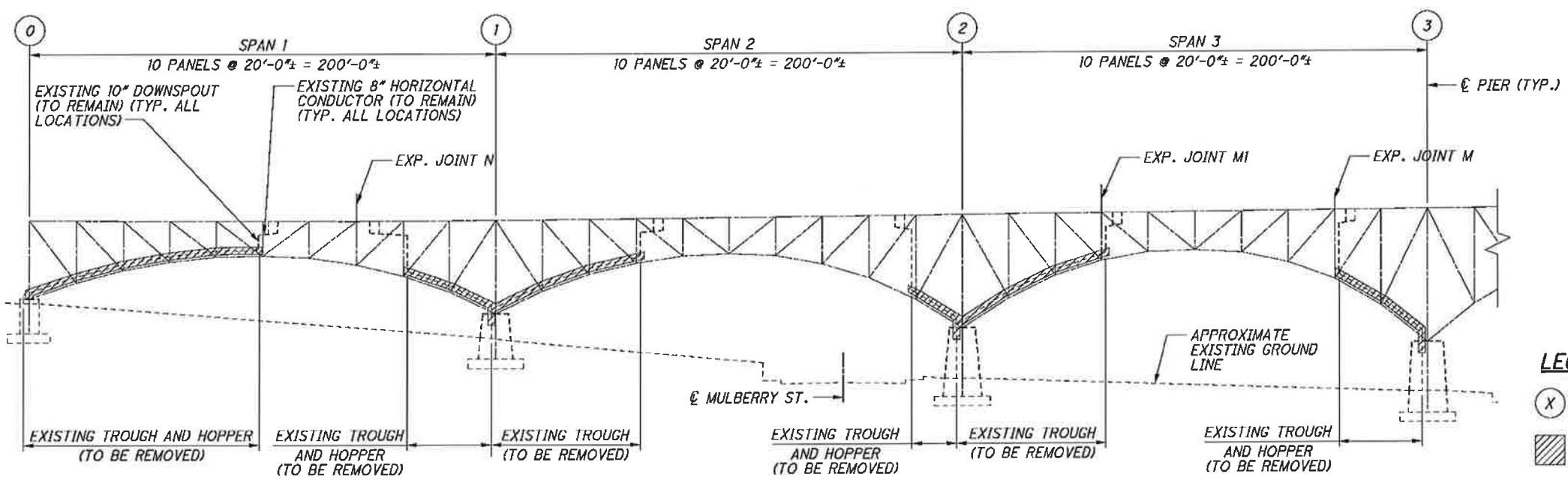
DRAINAGE NOTES:

1. ALL MATERIAL AND LABOR REQUIRED TO PLACE THE 10" DIAMETER STEEL DOWNSPOUT PIPES AS SHOWN IN THE PLANS, INCLUDING SPECIALS, CLEANOUTS AND SUPPORTS SHALL BE INCLUDED WITH ITEM 518 - 10" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN, FOR PAYMENT.
2. ALL MATERIAL AND LABOR REQUIRED TO PLACE THE 12" DIAMETER STEEL VERTICAL PIPES AS SHOWN IN THE PLANS, INCLUDING SPECIALS, CLEANOUTS AND SUPPORTS SHALL BE INCLUDED WITH ITEM 518 - 12" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN, FOR PAYMENT.
3. STRUCTURAL STEEL FOR PIPE SUPPORTS, INCLUDING ANGLES, CHANNELS AND CONNECTION PLATES SHALL BE ASTM A709 GRADE 50 AND GALVANIZED ACCORDING TO CMS 711.02. ALL BOLTS SHALL BE GALVANIZED ACCORDING TO CMS 711.02.
4. PIPE JOINTS FOR VERTICAL STEEL PIPE SHALL WELDED OR MADE BY USE OF CLAMP-TYPE COUPLINGS, VICTAULIC COUPLINGS HAVING A RING GASKET OR APPROVED EQUAL. FOR WELDING OPTION, ALL WELDING SHALL BE DONE BEFORE GALVANIZING.
5. FOR ATTACHMENT TO PIERS, BOLTS SHALL BE 3/4" DIAMETER EXPANSION GALVANIZED BOLT ANCHORS DRILLED IN PLACE. BOLTS SHALL BE CAPABLE OF DEVELOPING A PULLOUT RESISTANCE OF NOT LESS THAN 12,000 LBS.
6. FOR ATTACHMENT TO EXISTING STEEL MEMBERS, BOLTS SHALL BE GALVANIZED 3/4" DIAMETER ASTM A325 HIGH STRENGTH BOLTS. PAYMENT FOR DRILLING BOLT HOLES IN EXISTING STEELWORK SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.
7. REMOVE DESIGNATED EXISTING SCUPPERS AND DOWNSPOUTS AS SHOWN ON SHEETS [168 / 187] THRU [171 / 187] AND AS DETAILED ON SHEET [180 / 187]. ALL MATERIAL AND LABOR REQUIRED TO CUT AND CAP THE EXISTING DRAINPIPE AND FILL THE EXISTING SCUPPER WITH CONCRETE SHALL BE INCLUDED IN ITEM 518 - SCUPPER MODIFICATION, AS PER PLAN, FOR PAYMENT.
8. THE CONTRACTOR SHALL PERFORM THE FINAL PIPE LAYOUT, WITH EXPANSION JOINT CONFIGURATION, AND SUBMIT SHOP DRAWINGS FOR APPROVAL BY ODOT PRIOR TO CONSTRUCTING THE DRAINAGE SYSTEM. DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING DOWNSPOUTS HAVE BEEN OBTAINED FROM PLANS FOR THE EXISTING STRUCTURE. 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 THE REQUIREMENTS OF CMS 102.05 AND 105.02, AND SHALL BASE THE CONTRACT BID PRICE UPON RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING PIERS. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.
9. SUBMIT SHOP DRAWINGS ACCORDING TO CMS 501.04 FOR APPROVAL. PAYMENT FOR PREPARATION OF SHOP DRAWINGS SHALL BE INCIDENTAL TO ITEM 518 - STRUCTURE DRAINAGE, MISC.: DRAIN PIPE LAYOUT.
10. REMOVAL OF EXISTING CATCHMENT MASONRY WALLS AND ALL MATERIALS AND LABOR ASSOCIATED WITH REPLACEMENT, REPAIR, AND CLEANING OF THE CATCHMENTS SHALL BE PAID FOR UNDER ITEM 518 - STRUCTURE DRAINAGE, MISC.: CLEANING AND REPAIR OF CATCHMENTS AND CATCH BASINS.
11. REPLACEMENT OF CATCH BASIN GRATES ARE TO BE PAID FOR UNDER ITEM 611 - CATCH BASIN GRATE. FOR LOCATIONS, SEE SHEETS [164 / 187] THRU [166 / 187].
12. REPAIR OF EXISTING PIPE ELBOWS, NEOPRENE DRAIN BOOTS, AND MISSING DRAIN BOLTS, INCLUDING REMOVAL AND REPLACEMENT OF EXISTING ELBOWS AND NEOPRENE BOOTS, SHALL BE PAID FOR UNDER ITEM 518 - STRUCTURE DRAINAGE, MISC.: MISCELLANEOUS DRAINAGE REPAIR.

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PLAN



ELEVATION

LEGEND:

- (X) - PIER DESIGNATION
- [Hatched Box] - INDICATES PORTIONS OF STRUCTURE TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

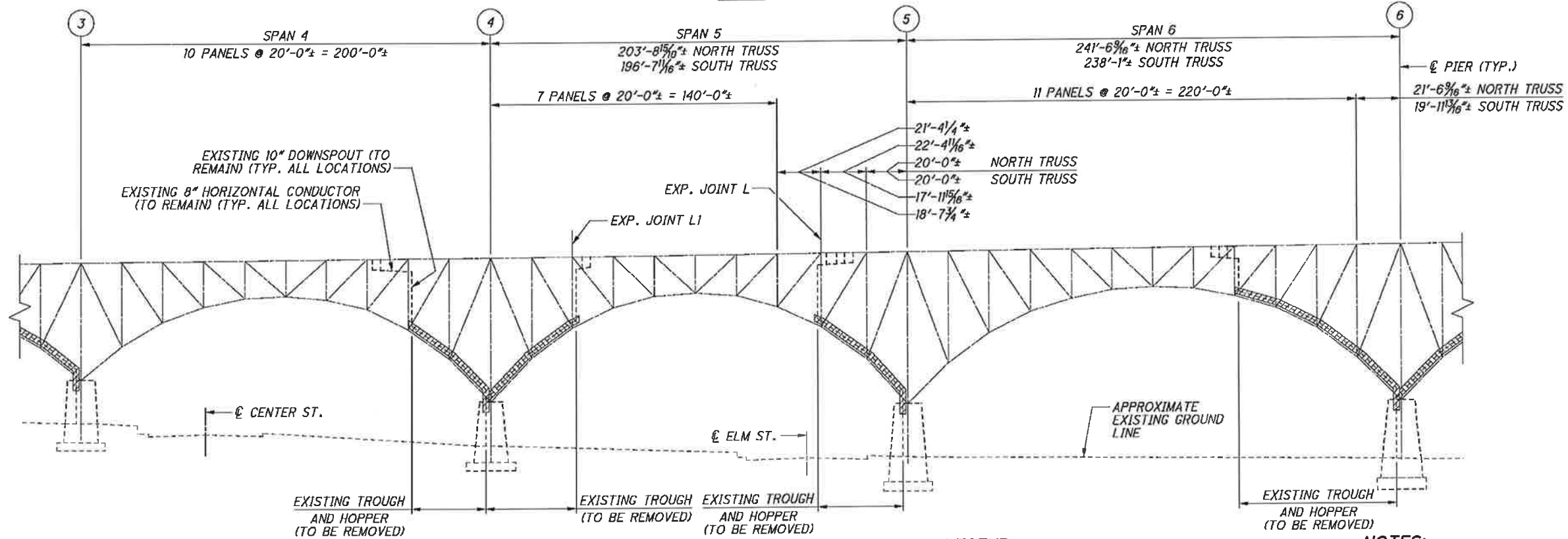
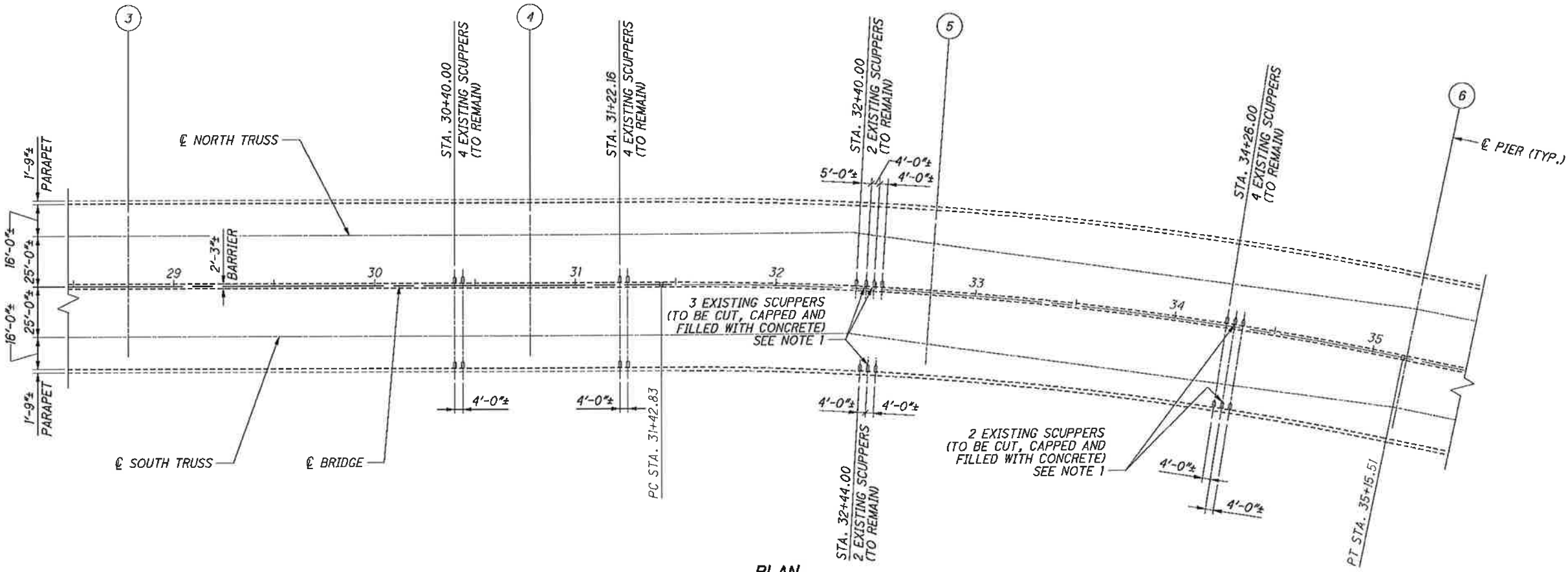
NOTES:

1. FOR SCUPPER PLUGGING DETAILS, SEE SHEET 180 / 187 .
2. FOR NEW DOWNSPOUT LAYOUT, SEE SHEET 172 / 187 .
3. REMOVAL OF TROUGHS AND HOPPERS APPLIES TO THE NORTH AND SOUTH TRUSS.



<p>DESIGN AGENCY Train Systems 15 PUBLIC SQUARE, SUITE 1800 CLEVELAND, OHIO 44113</p>
<p>DATE: 08/16/13 REVIEWED: WRW DRAWN: GJZ DESIGNED: CAS CHECKED: FKL</p>
<p>STRUCTURE FILE NUMBER: 1800035</p>
<p>MAIN TRUSS - EXISTING DRAINAGE REMOVAL (1 OF 4) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER</p>
<p>CUY-2-14.41 PID No. 91115</p>
<p>168 / 187</p>
<p>170 189</p>

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ELEVATION

LEGEND:

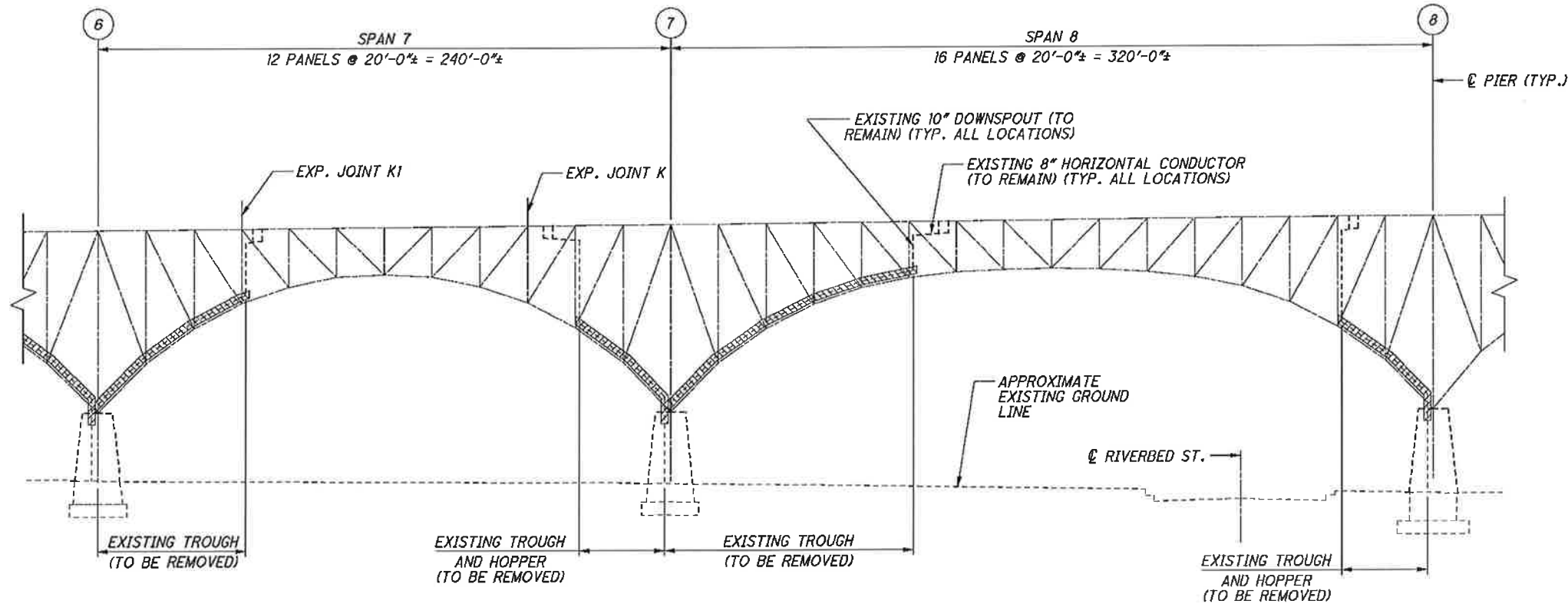
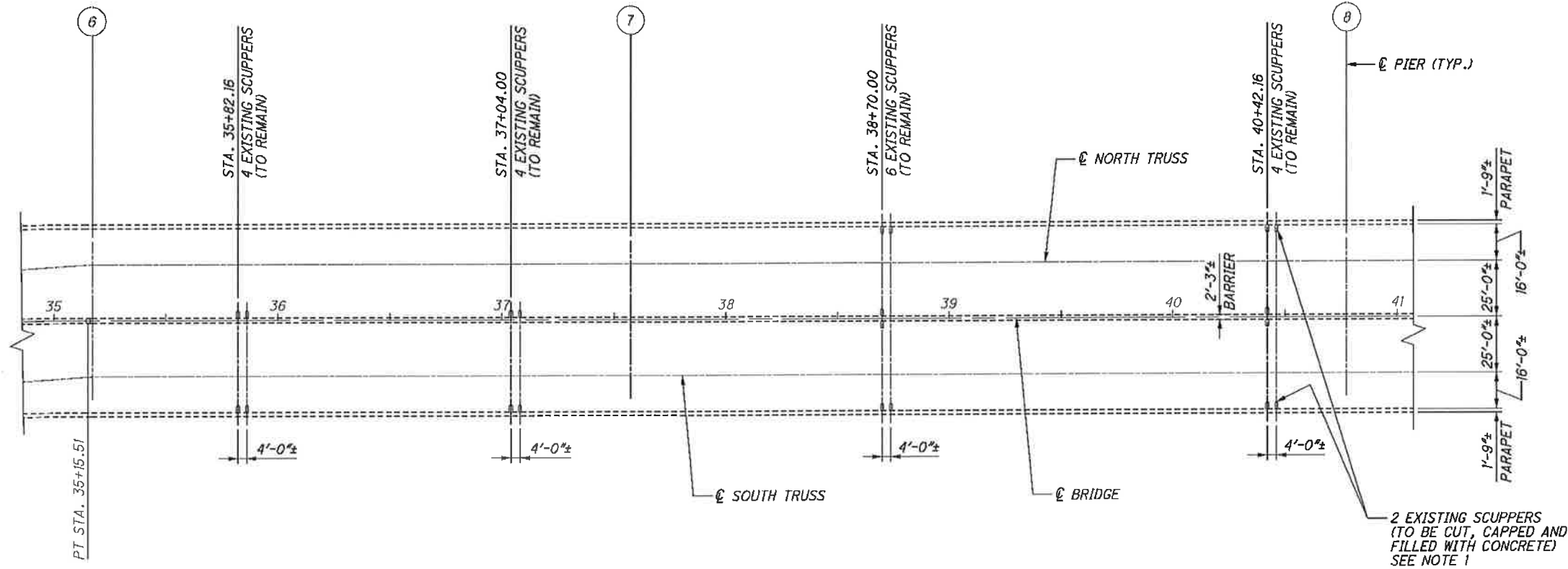
- (X) - PIER DESIGNATION
- INDICATES PORTIONS OF STRUCTURE TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

NOTES:

1. FOR SCUPPER PLUGGING DETAILS, SEE SHEET 180 / 187 .
2. FOR NEW DOWNSPOUT LAYOUT, SEE SHEET 172 / 187 .
3. REMOVAL OF TROUGHS AND HOPPERS APPLIES TO THE NORTH AND SOUTH TRUSS.



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LEGEND:

(X) - PIER DESIGNATION

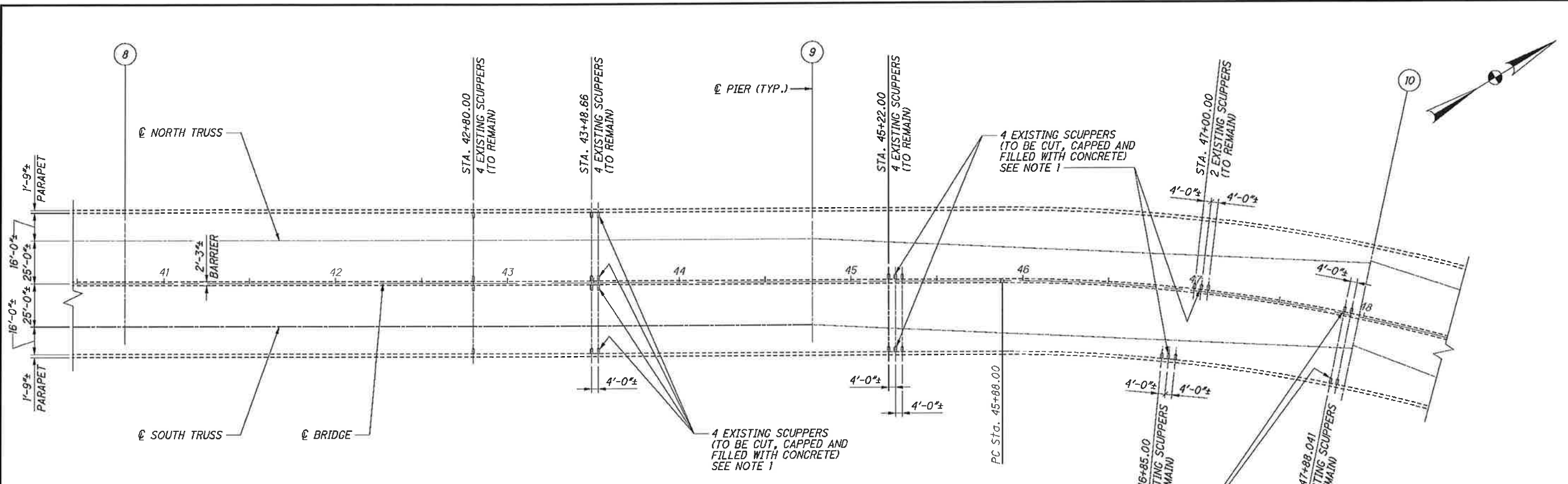
[Hatched Area] - INDICATES PORTIONS OF STRUCTURE TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

NOTES:

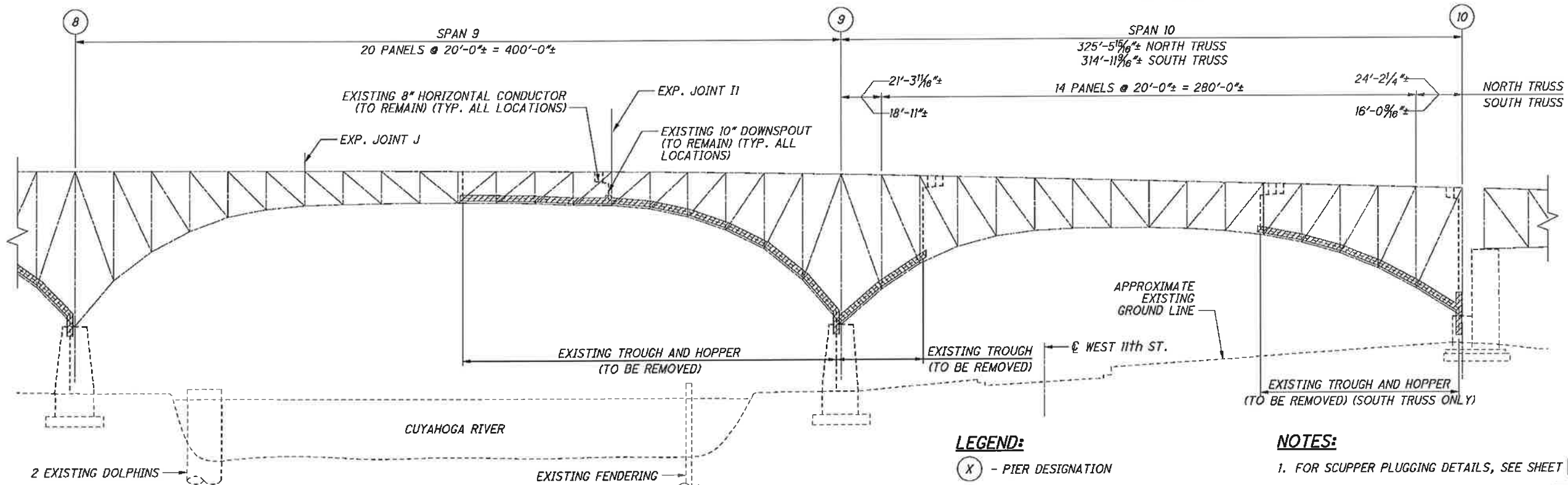
1. FOR SCUPPER PLUGGING DETAILS, SEE SHEET 180 / 187 .
2. FOR NEW DOWNSPOUT LAYOUT, SEE SHEET 173 / 187 .
3. REMOVAL OF TROUGHS AND HOPPERS APPLIES TO THE NORTH AND SOUTH TRUSS.



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PLAN



ELEVATION

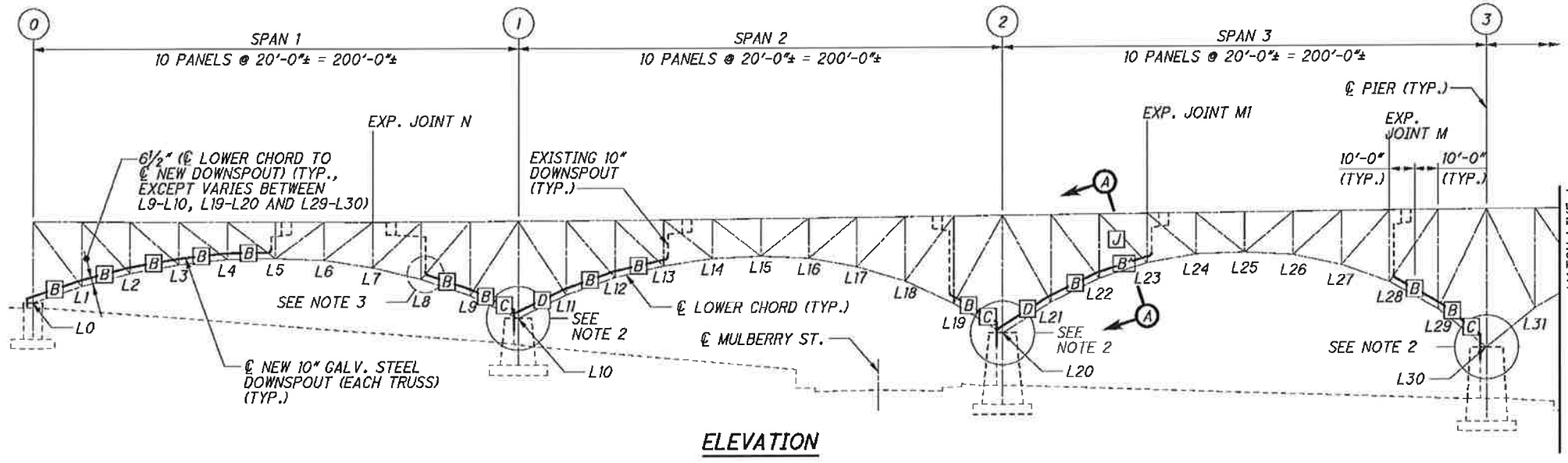
LEGEND:

- (X) - PIER DESIGNATION
- [Hatched Box] - INDICATES PORTIONS OF STRUCTURE TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

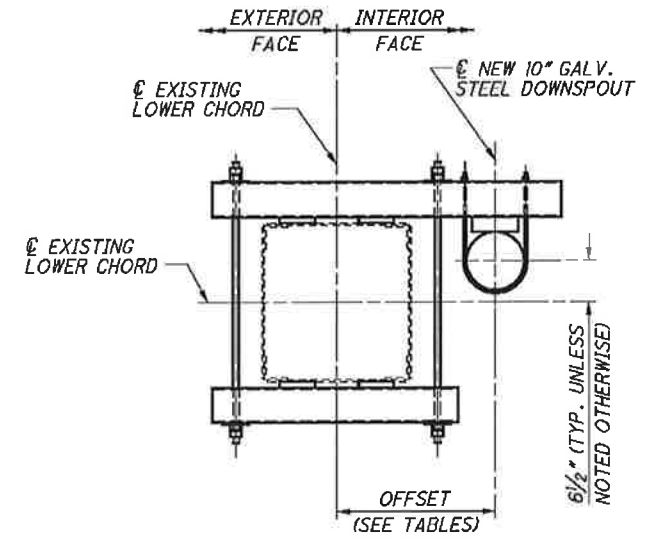
NOTES:

1. FOR SCUPPER PLUGGING DETAILS, SEE SHEET 180 / 187 .
2. FOR NEW DOWNSPOUT LAYOUT, SEE SHEET 173 / 187 .
3. REMOVAL OF TROUGHS AND HOPPERS APPLIES TO THE NORTH AND SOUTH TRUSS, EXCEPT AS NOTED.

<p style="font-size: 8px; margin: 0;">DESIGN AGENCY TranSystems 55 PUBLIC SQUARE, SUITE 100 CLEVELAND, OHIO 44113</p>	<p>DATE 08/16/13</p> <p>REVIEWED WRW</p> <p>DRAWN GJZ</p> <p>DESIGNED CAS</p> <p>CHECKED FKL</p>	<p>STRUCTURE FILE NUMBER 1800035</p> <p>REVISION 1800035</p>	<p>MAIN TRUSS - EXISTING DRAINAGE REMOVAL (4 OF 4)</p> <p>MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER</p>
<p>CUY-2-14.41</p> <p>PID No. 91115</p>	<p>171/187</p> <p style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> 173 189 </p>		



ELEVATION

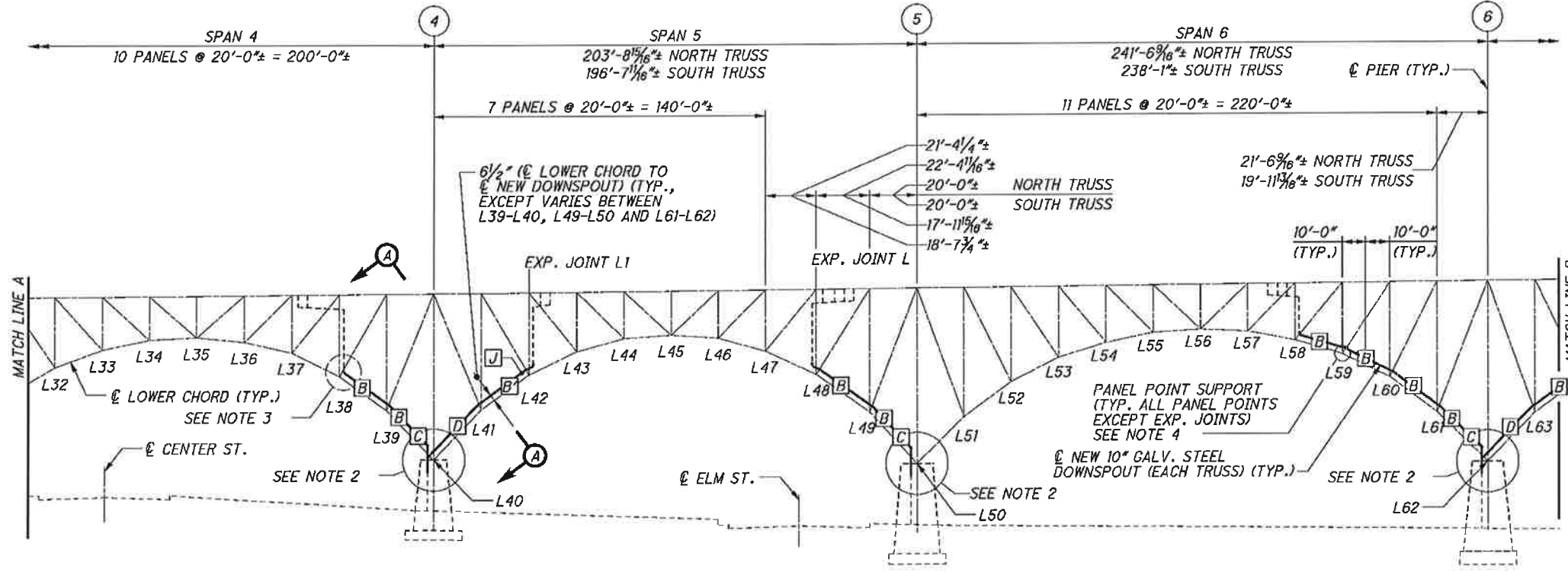


SECTION A-A

(TYPE B SUPPORT SHOWN, TYPE B' AND C SUPPORT SIMILAR)

TABLE OF OFFSETS (SEE SECTION A-A) (SEE NOTE 6)

LOCATION	L0	L1	L2 THRU L5	L8	L9	L10	L11	L12 AND L13	L19	L20	L21	L22 AND L23	L28	L29	L30
OFFSET	6'-8"	4'-5"	2'-2"	2'-2"	2'-10 1/2"	SEE NOTE 8	2'-10 1/2"	2'-2"	2'-10 1/2"	SEE NOTE 8	2'-10 1/2"	2'-2"	2'-2"	2'-10 1/2"	SEE NOTE 8



ELEVATION

LEGEND:

- [J] = DOWNSPOUT EXPANSION JOINT (SEE NOTE 5)
- [B] = TYPE B DOWNSPOUT SUPPORT (SEE NOTE 4)
- [B'] = TYPE B' DOWNSPOUT SUPPORT (SEE NOTE 4)
- [C] = TYPE C DOWNSPOUT SUPPORT (SEE NOTE 4)
- [D] = TYPE D DOWNSPOUT SUPPORT (SEE NOTE 4)

NOTES:

1. FOR SCUPPER REMOVAL DETAILS, SEE SHEET 180 / 187 .
2. FOR DOWNSPOUT AND HOPPER DETAILS AT PIERS, SEE SHEET 174 / 187 TO 176 / 187 .
3. TYPICAL DETAIL FOR EXISTING 10" DOWNSPOUT TIE-IN TO PROPOSED 10" STEEL GALVANIZED PIPE. FOR DETAILS, SEE SHEET 180 / 187 .
4. FOR DOWNSPOUT SUPPORT DETAILS, SEE SHEETS 177 / 187 AND 178 / 187 .
5. FOR DOWNSPOUT EXPANSION JOINT DETAILS, SEE SHEET 180 / 187 .
6. SEE NOTE 8 ON SHEET 167 / 187 FOR EXISTING STRUCTURE VERIFICATION REQUIREMENTS. THE FINAL DRAIN PIPE LAYOUT SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
7. FOR PAYMENT NOTES, SEE SHEET 178 / 187 .
8. SEE DOWNSPOUT AND HOPPER DETAILS ON SHEETS 174 / 187 THROUGH 176 / 187 FOR PROPOSED ALIGNMENT AT PIERS.

TABLE OF OFFSETS (SEE SECTION A-A) (SEE NOTE 6)

LOCATION	L38	L39	L40	L41	L42	L48 THRU L49	L50	L58 AND L59	L60 AND L61	L62
OFFSET	2'-2"	2'-10 1/2"	SEE NOTE 8	2'-10 1/2"	2'-2"	3'-6 1/2"	SEE NOTE 8	2'-2"	2'-10 1/2"	SEE NOTE 8

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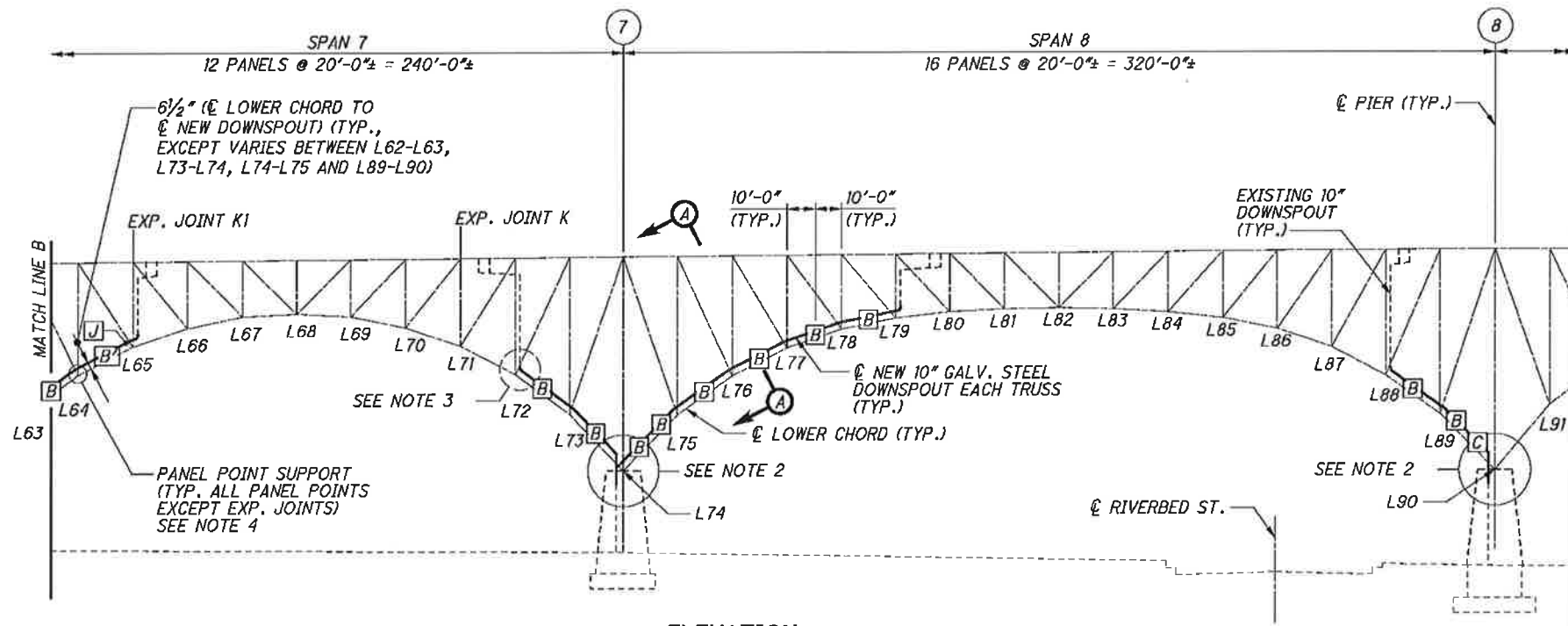
MAIN TRUSS - NEW DOWNSPOUT ELEVATION (1 OF 2)
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

CUY-2-14.41
PID No. 91115

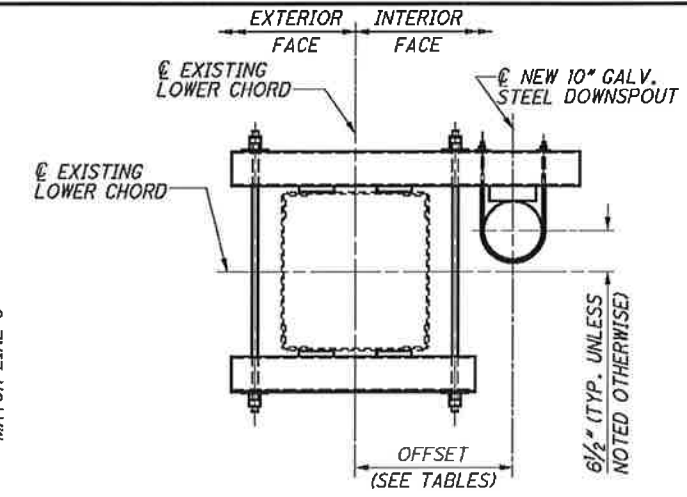
172 / 187

174 / 189

DESIGN AGENCY: **Train Systems**
 # PUBLIC SQUARE, SUITE 1000
 CLEVELAND, OHIO 44113
 DATE: 08/16/13
 REVIEWED: WRW
 DRAWN: JLV
 DESIGNED: CAS
 CHECKED: FKL
 STRUCTURE FILE NUMBER: 1800035
 YEAR: 1800035



ELEVATION



SECTION A-A
(TYPE B SUPPORT SHOWN, TYPE B' AND C SUPPORT SIMILAR)

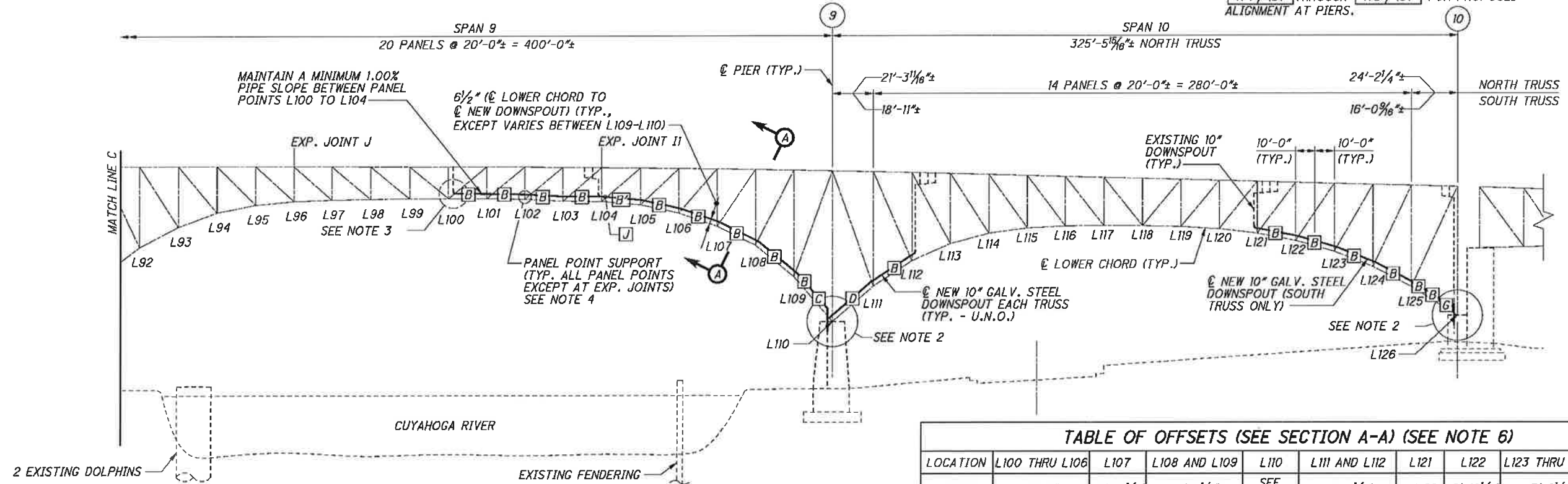
NOTES:

- FOR SCUPPER REMOVAL DETAILS, SEE SHEET 180 / 187
- FOR DOWNSPOUT AND HOPPER DETAILS AT PIERS, SEE SHEET 174 / 187 TO 176 / 187.
- TYPICAL DETAIL FOR EXISTING 10" DOWNSPOUT TIE-IN TO PROPOSED 10" STEEL GALVANIZED PIPE. FOR DETAILS, SEE SHEET 180 / 187.
- FOR DOWNSPOUT SUPPORT DETAILS, SEE SHEETS 177 / 187 AND 178 / 187.
- FOR DOWNSPOUT EXPANSION JOINT DETAILS, SEE SHEET 180 / 187.
- SEE NOTE 8 ON SHEET 167 / 187 FOR EXISTING STRUCTURE VERIFICATION REQUIREMENTS. THE FINAL DRAIN PIPE LAYOUT SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
- FOR PAYMENT NOTES, SEE SHEET 178 / 187.
- SEE DOWNSPOUT AND HOPPER DETAILS ON SHEETS 174 / 187 THROUGH 176 / 187 FOR PROPOSED ALIGNMENT AT PIERS.

LEGEND:

- [J] = DOWNSPOUT EXPANSION JOINT (SEE NOTE 5)
- [B] = TYPE B DOWNSPOUT SUPPORT (SEE NOTE 4)
- [B'] = TYPE B' DOWNSPOUT SUPPORT (SEE NOTE 4)
- [C] = TYPE C DOWNSPOUT SUPPORT (SEE NOTE 4)
- [D] = TYPE D DOWNSPOUT SUPPORT (SEE NOTE 4)
- [G] = TYPE G DOWNSPOUT SUPPORT (SEE NOTE 4)

LOCATION	L62	L63 AND L64	L65	L72	L73	L74	L75 THRU L77	L78	L79	L88 AND L89	L90
OFFSET	SEE NOTE 8	3'-6 1/2"	2'-10 1/2"	2'-10 1/2"	3'-6 1/2"	SEE NOTE 8	3'-6 1/2"	2'-10 1/2"	2'-2"	3'-6 1/2"	SEE NOTE 8



ELEVATION

LOCATION	L100 THRU L106	L107	L108 AND L109	L110	L111 AND L112	L121	L122	L123 THRU L125	L126
OFFSET	2'-2"	2'-10 1/2"	3'-6 1/2"	SEE NOTE 8	3'-6 1/2"	2'-2"	2'-10 1/2"	3'-6 1/2"	SEE NOTE 8

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MAIN TRUSS - NEW DOWNSPOUT ELEVATION (2 OF 2)
MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

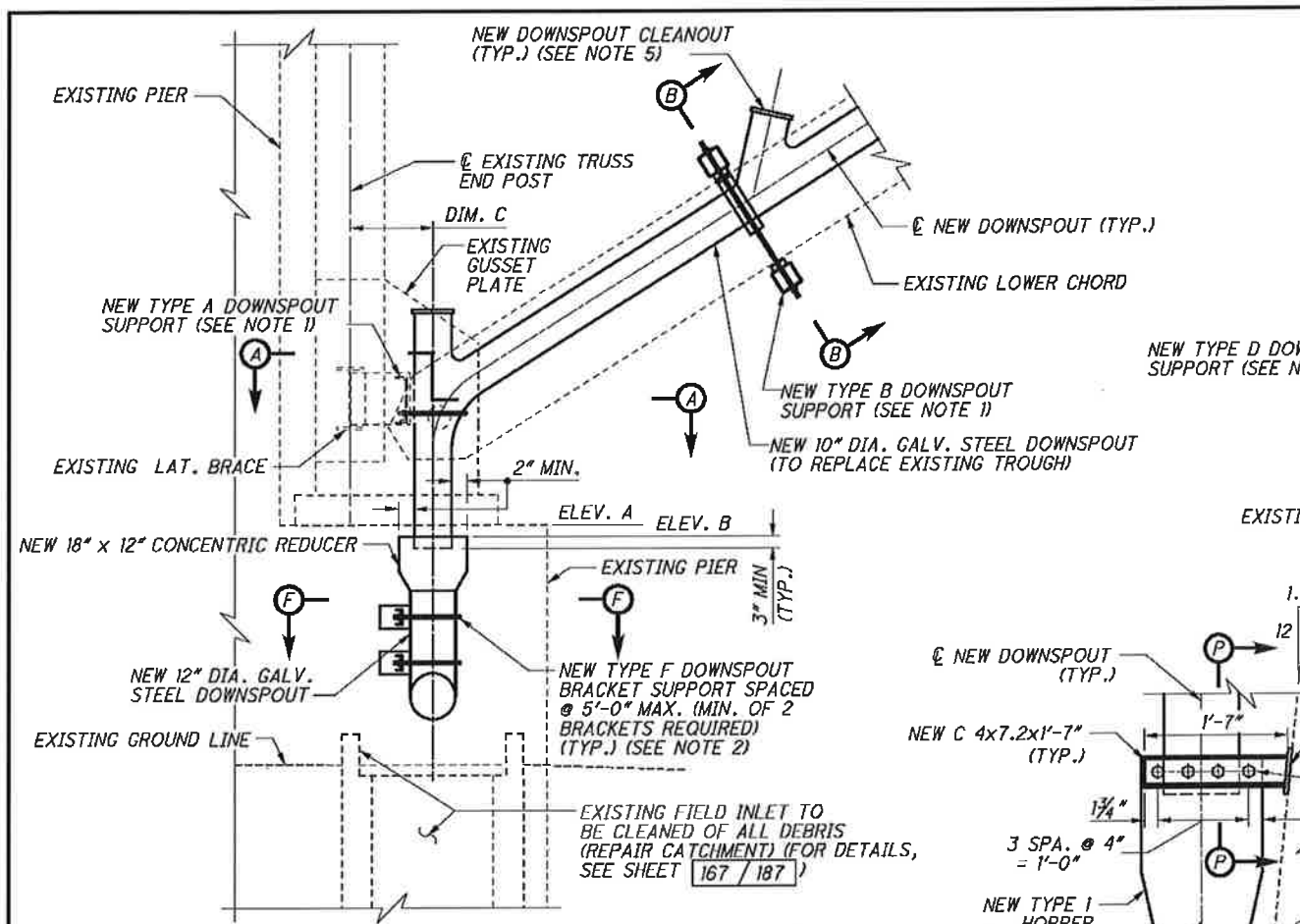
CUY-2-14.41
PID No. 91115

173 / 187

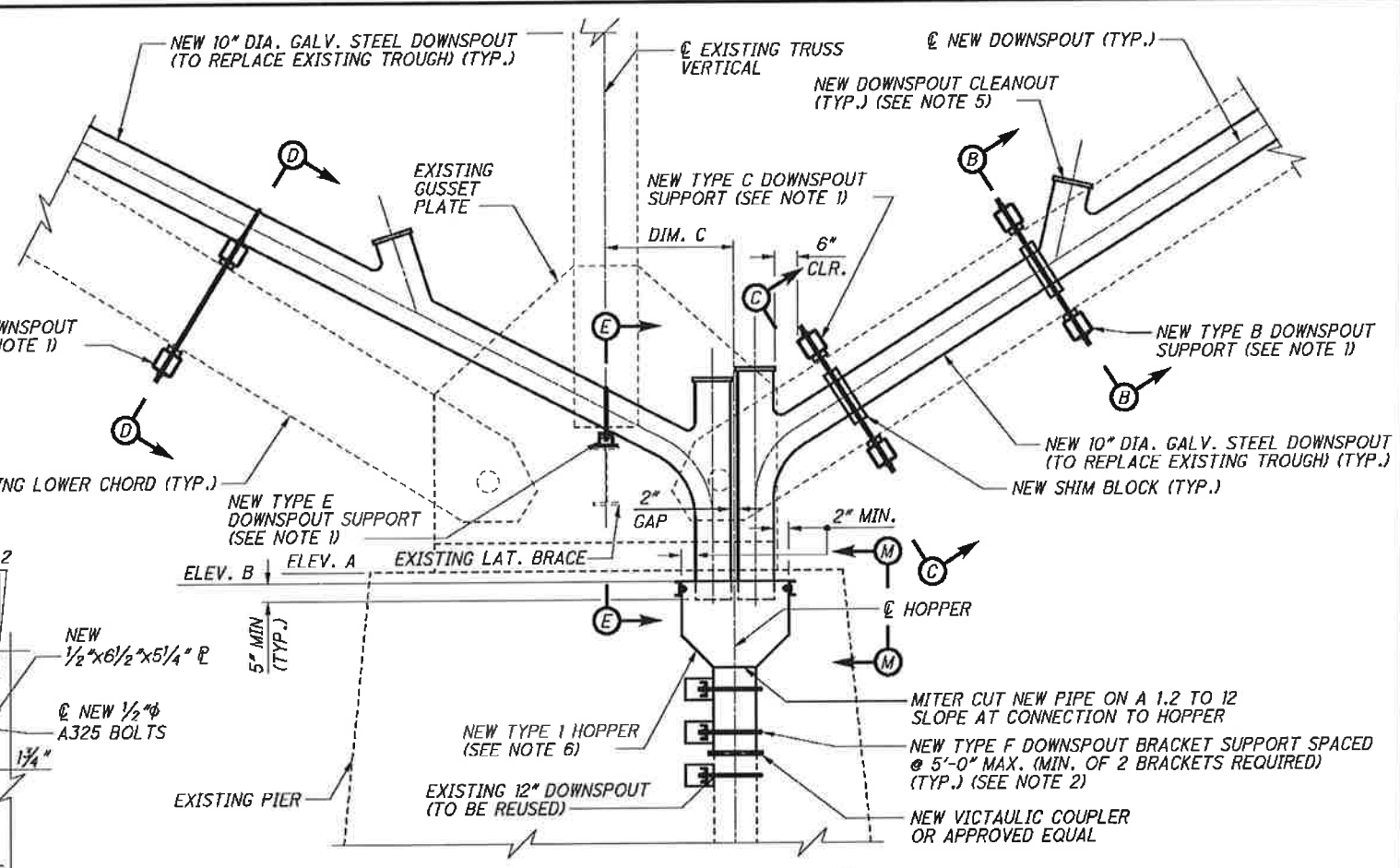
175
189

DESIGN AGENCY
Train Systems
25 PUBLIC SQUARE, SUITE 100
CLEVELAND, OHIO 44113

DATE
08/16/13
REVIEWED
WRW
DRAWN
JLV
DESIGNED
CAS
CHECKED
FKL
STRUCTURE FILE NUMBER
1800035

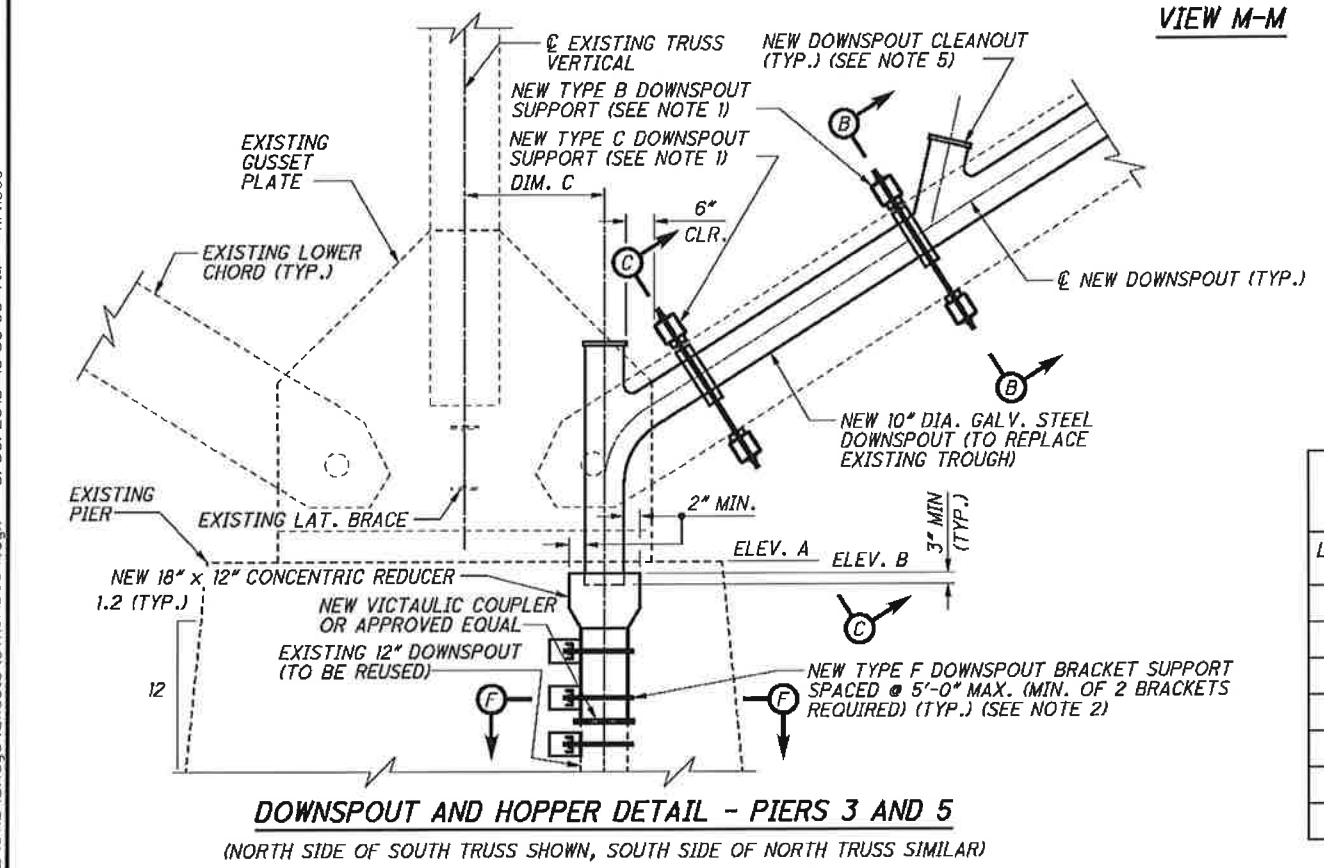


DOWNSPOUT AND HOPPER DETAIL - PIER 0
 (SOUTH SIDE OF NORTH TRUSS SHOWN, NORTH SIDE OF SOUTH TRUSS SIMILAR)



DOWNSPOUT AND HOPPER DETAIL - PIERS 1, 2, 4, AND 6
 (NORTH SIDE OF SOUTH TRUSS SHOWN, SOUTH SIDE OF NORTH TRUSS SIMILAR)

LEGEND:
 ○ - NEW 1/2" φ A325 BOLT



DOWNSPOUT AND HOPPER DETAIL - PIERS 3 AND 5
 (NORTH SIDE OF SOUTH TRUSS SHOWN, SOUTH SIDE OF NORTH TRUSS SIMILAR)

VIEW M-M

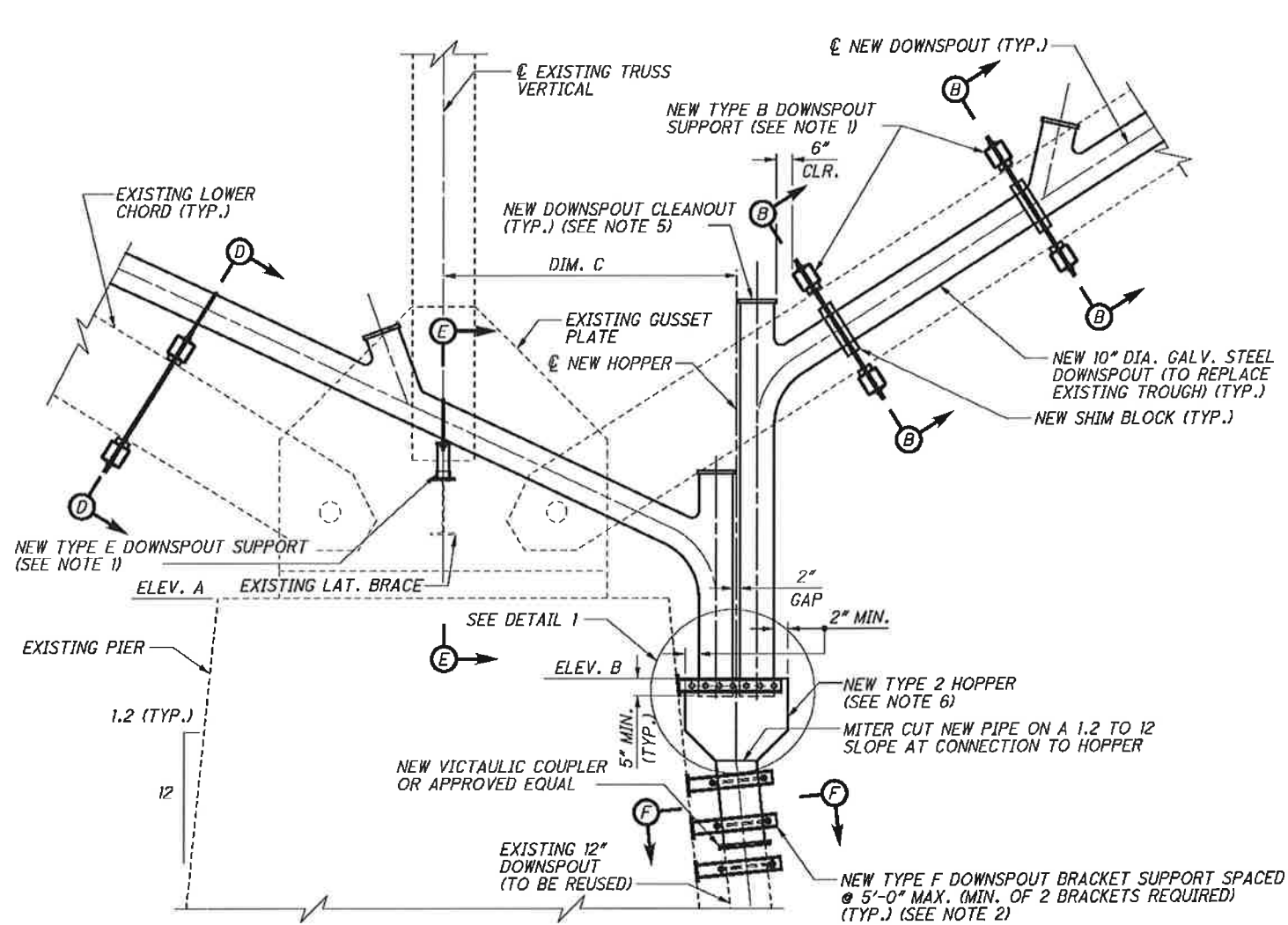
DOWNSPOUT DETAIL ELEVATIONS AND DIMENSIONS (SEE NOTE 8)

LOCATION	ELEVATION A (TOP OF EXISTING PIER CAP)	ELEVATION B	DIMENSION C
PIER 0	639.57±	639.32	2'-8"
PIER 1	632.94±	632.69	3'-0"
PIER 2	626.72±	626.47	3'-0"
PIER 3	620.22±	619.97	3'-0"
PIER 4	609.44±	609.19	3'-0"
PIER 5	607.27±	607.02	3'-0"
PIER 6	607.40±	607.15	3'-0"

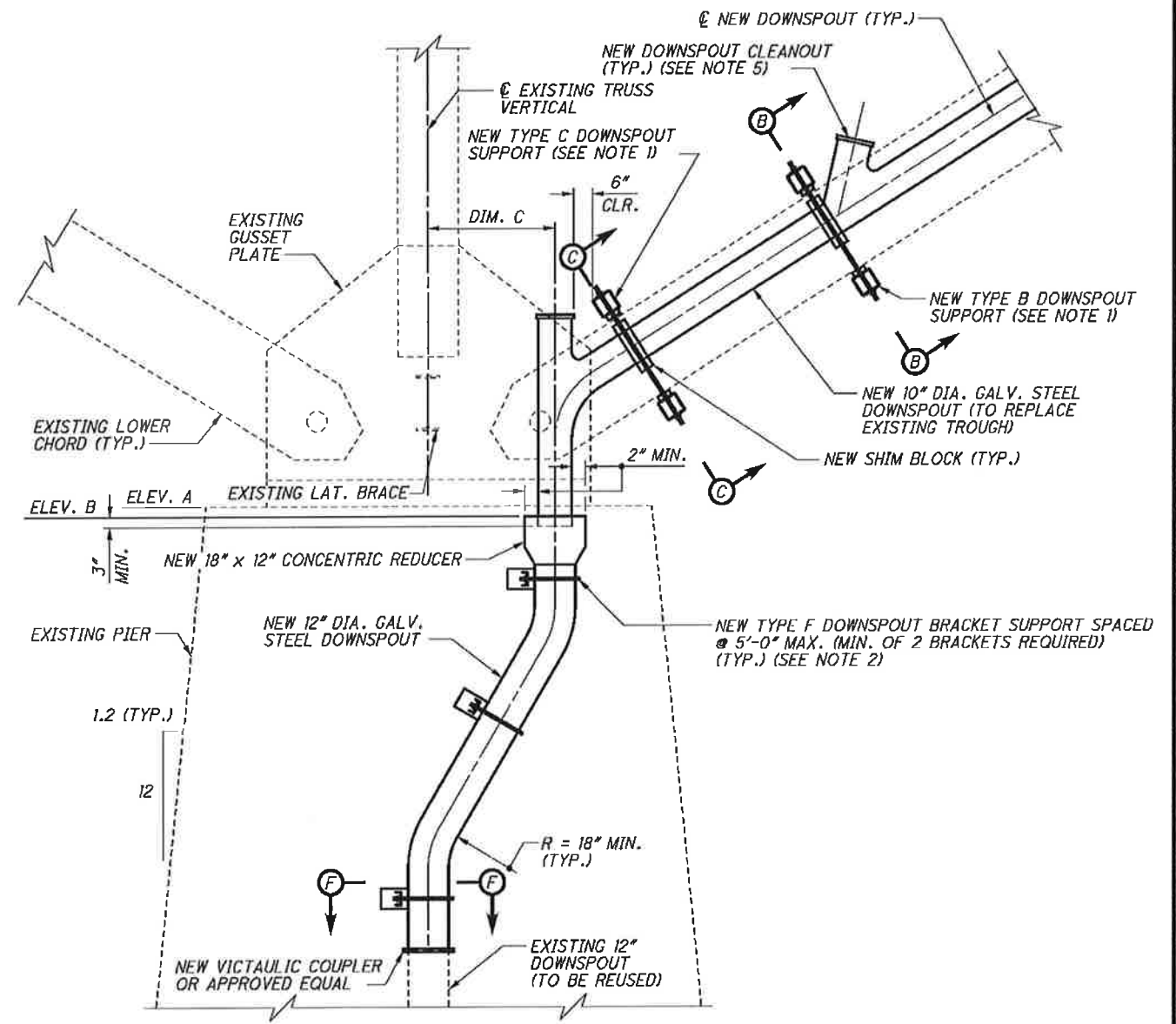
- NOTES:**
- FOR DETAILS OF DOWNSPOUT SUPPORT TYPES A, B, C AND D, SEE SHEET 177 / 187 .
 - FOR DETAILS OF DOWNSPOUT SUPPORT TYPES E AND F, SEE SHEET 178 / 187 .
 - FOR SECTIONS A-A, B-B, C-C AND D-D, SEE SHEET 177 / 187 .
 - FOR SECTIONS E-E, F-F, AND P-P, SEE SHEET 178 / 187 .
 - FOR DOWNSPOUT CLEANOUT DETAILS, SEE SHEET 179 / 187 .
 - FOR HOPPER DETAILS, SEE SHEET 179 / 187 .
 - ALL 10" DIA. AND 12" DIA. STEEL PIPE SHALL BE ASTM A53, GRADE B (SCHEDULE 40), GALVANIZED IN ACCORDANCE WITH 711.02.
 - DIMENSIONS TO BE ADJUSTED IN THE FIELD AS REQUIRED.
 - FOR PAYMENT NOTES, SEE SHEET 178 / 187 .

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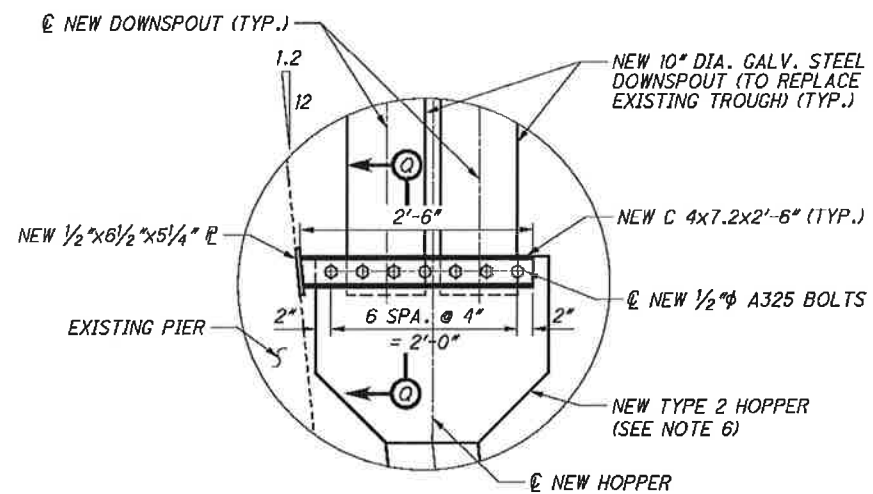
G:\CL12\0112\Bridg\Sheets\9115MD035.dgn 8/30/2013 10:39:09 AM rrfisco



DOWNSPOUT AND HOPPER DETAIL - PIER 7
(NORTH SIDE OF SOUTH TRUSS SHOWN, SOUTH SIDE OF NORTH TRUSS SIMILAR)



DOWNSPOUT AND HOPPER DETAIL - PIER 8
(NORTH SIDE OF SOUTH TRUSS SHOWN, SOUTH SIDE OF NORTH TRUSS SIMILAR)



DETAIL 1

DOWNSPOUT DETAIL ELEVATIONS AND DIMENSIONS (SEE NOTE 8)			
LOCATION	ELEVATION A (TOP OF EXISTING PIER CAP)	ELEVATION B	DIMENSION C
PIER 7	607.13±	605.13	7'-9" _±
PIER 8	607.62±	607.37	3'-2" _±

LEGEND:

○ - NEW 1/2" φ A325 BOLT

NOTES:

- FOR DETAILS OF DOWNSPOUT SUPPORT TYPES B, C AND D, SEE SHEET 177 / 187 .
- FOR DETAILS OF DOWNSPOUT SUPPORT TYPES E AND F, SEE SHEET 178 / 187 .
- FOR SECTIONS B-B THRU D-D, SEE SHEET 177 / 187 .
- FOR SECTIONS E-E, F-F, AND Q-Q, SEE SHEET 178 / 187 .
- FOR DOWNSPOUT CLEANOUT DETAILS, SEE SHEET 179 / 187 .
- FOR HOPPER DETAILS, SEE SHEET 179 / 187 .
- ALL 10" DIA. AND 12" DIA. STEEL PIPE SHALL BE ASTM A53, GRADE B (SCHEDULE 40), GALVANIZED IN ACCORDANCE WITH 711.02.
- DIMENSIONS TO BE ADJUSTED IN THE FIELD AS REQUIRED.
- FOR PAYMENT NOTES, SEE SHEET 178 / 187 .

CUY-2-14.41
PID No. 91115

175 / 187

177
189

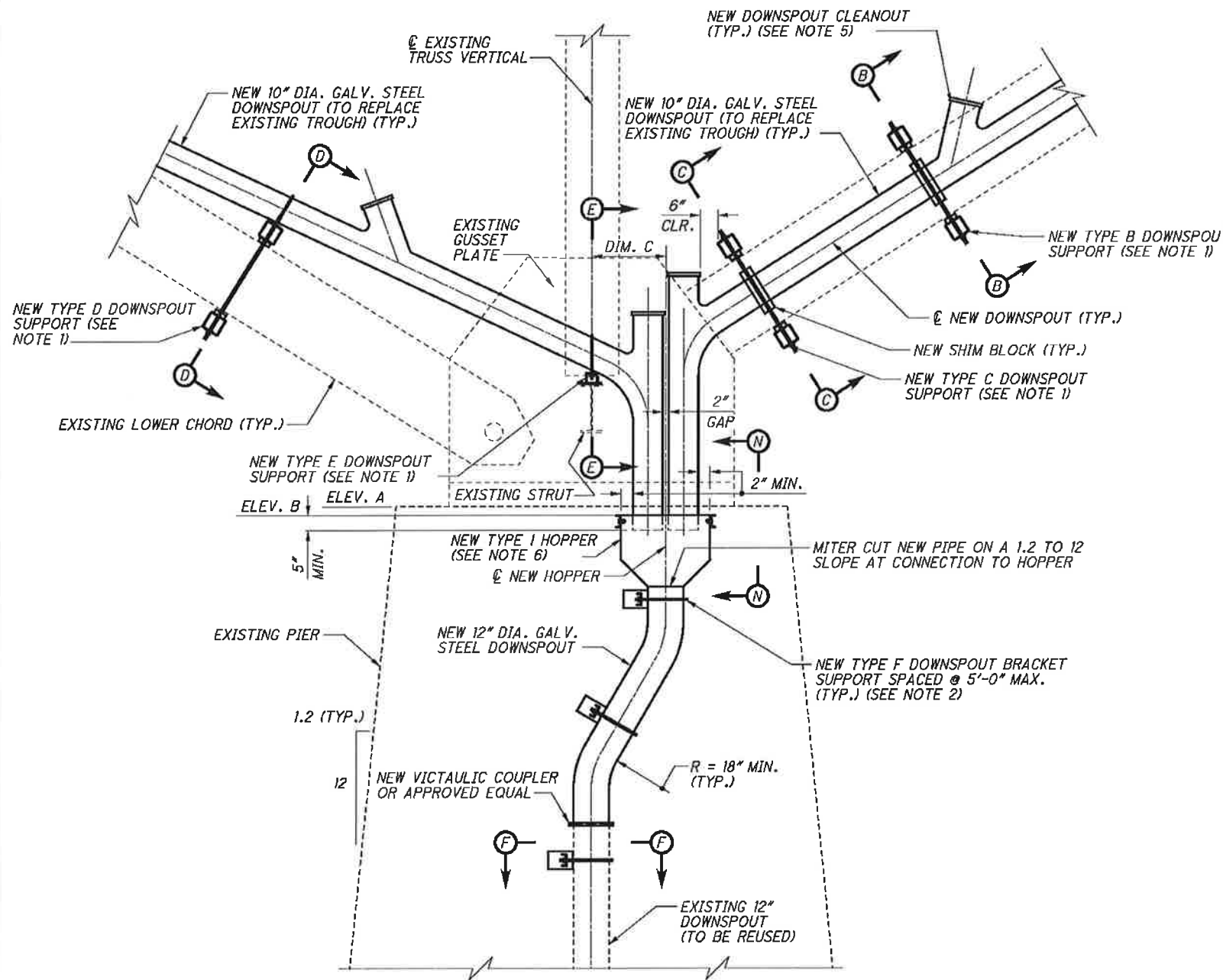
MAIN TRUSS - DOWNSPOUT AND HOPPER DETAILS (2 OF 7)

MAIN AVENUE - BRIDGE NO. CUY-2-1441
OVER THE CUYAHOGA RIVER

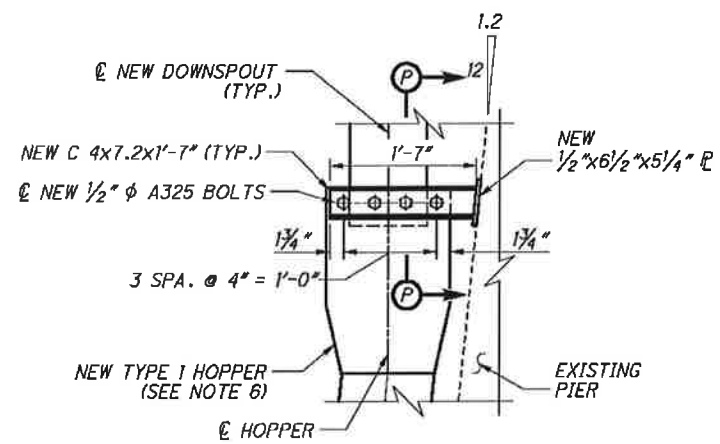
DESIGNED BY CAS
CHECKED BY FKL
DRAWN BY CAS
REVIEWED BY WRW
DATE 08/16/13
STRUCTURE FILE NUMBER 1800035

DESIGN AGENCY
TranSystems
88 PUBLIC SQUARE, SUITE 100
CLEVELAND, OHIO 44113

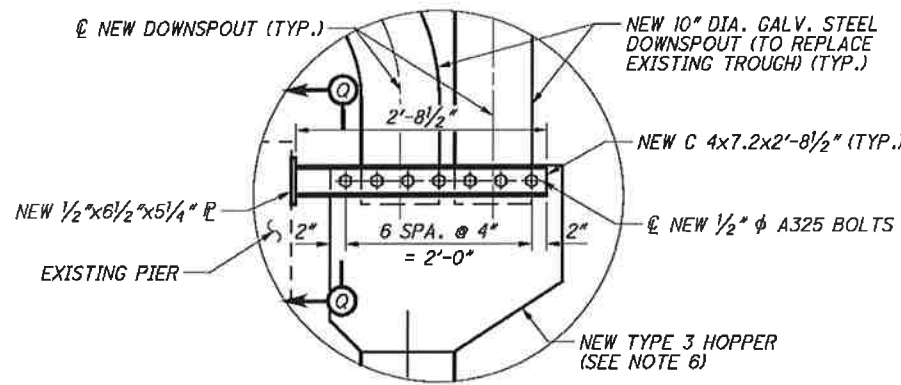
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DOWNSPOUT AND HOPPER DETAIL - PIER 9
(NORTH SIDE OF SOUTH TRUSS)



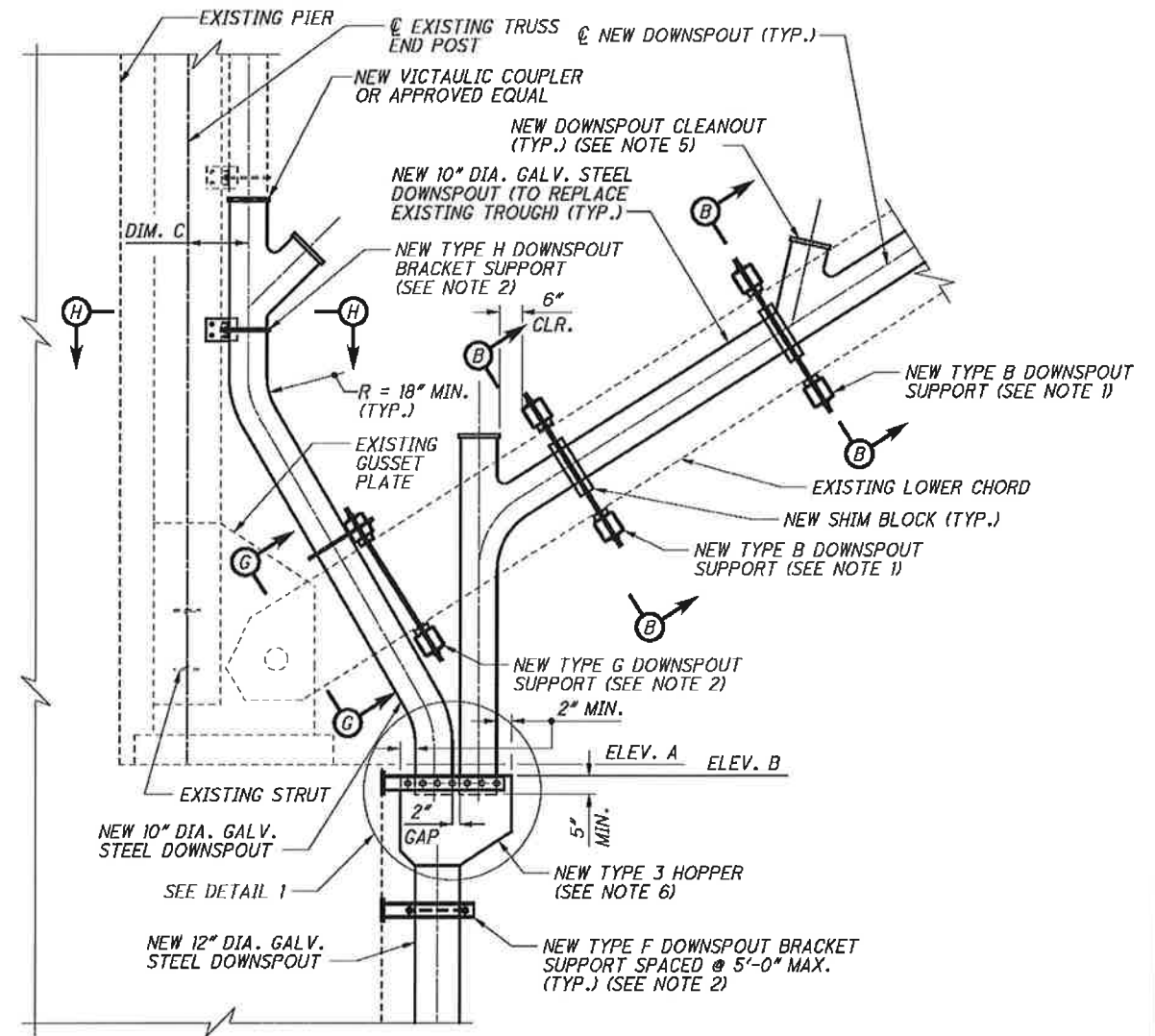
VIEW N-N



DETAIL 1

LEGEND:

○ - NEW 1/2" φ A325 BOLT



DOWNSPOUT AND HOPPER DETAIL - PIER 10
(NORTH SIDE OF SOUTH TRUSS)

DOWNSPOUT DETAIL ELEVATIONS AND DIMENSIONS (SEE NOTE 8)

LOCATION	ELEVATION A (TOP OF EXISTING PIER CAP)	ELEVATION B	DIMENSION C
PIER 9	607.50±	607.25	1'-6"±
PIER 10	608.06±	607.81	1'-7"±

NOTES:

- FOR DETAILS OF DOWNSPOUT SUPPORT TYPES B, C AND D, SEE SHEET 177 / 187 .
- FOR DETAILS OF DOWNSPOUT SUPPORT TYPES E, F, G AND H, SEE SHEET 178 / 187 .
- FOR SECTIONS B-B, C-C AND D-D, SEE SHEET 177 / 187 .
- FOR SECTIONS E-E THRU H-H, P-P AND Q-Q, SEE SHEET 178 / 187 .
- FOR DOWNSPOUT CLEANOUT DETAILS, SEE SHEET 179 / 187 .
- FOR HOPPER DETAILS, SEE SHEET 179 / 187 .
- ALL 10" DIA. AND 12" DIA. STEEL PIPE SHALL BE ASTM A53, GRADE B (SCHEDULE 40), GALVANIZED IN ACCORDANCE WITH 711.02.
- DIMENSIONS TO BE ADJUSTED IN THE FIELD AS REQUIRED.
- FOR PAYMENT NOTES, SEE SHEET 178 / 187 .

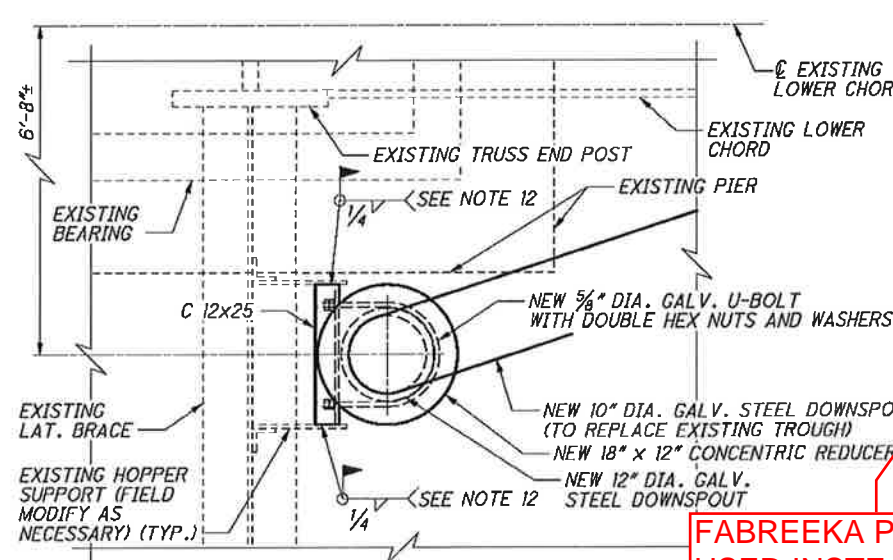

 DESIGN AGENCY
 55 PUBLIC SQUARE, SUITE 1800
 CLEVELAND, OH 44113

DATE 08/16/13
 REVIEWED WRW
 DRAWN CAS
 DESIGNED CAS
 CHECKED FKL
 STRUCTURE FILE NUMBER 1800035

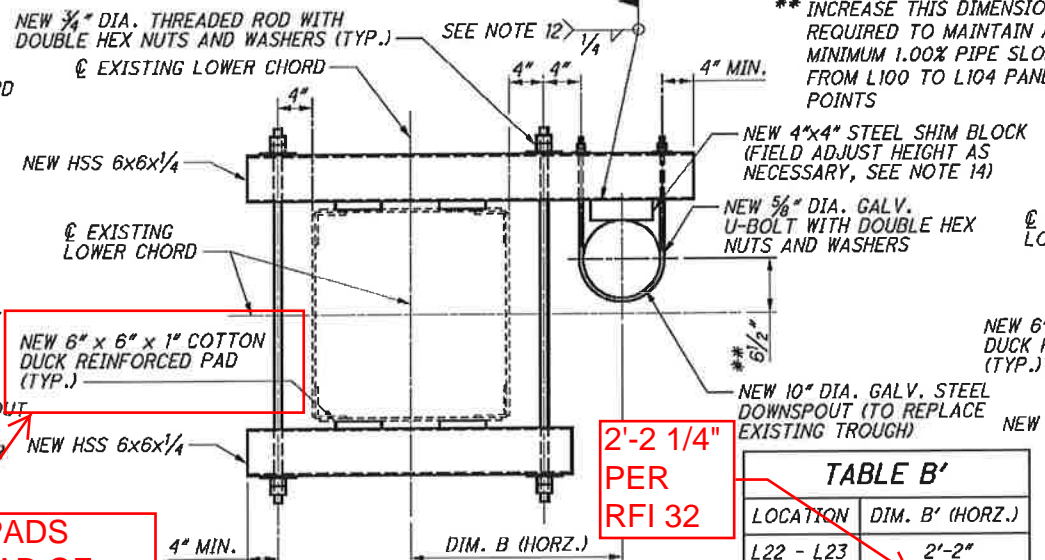
MAIN TRUSS - DOWNSPOUT AND HOPPER DETAILS (3 OF 7)
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115
 176 / 187
 178 / 189

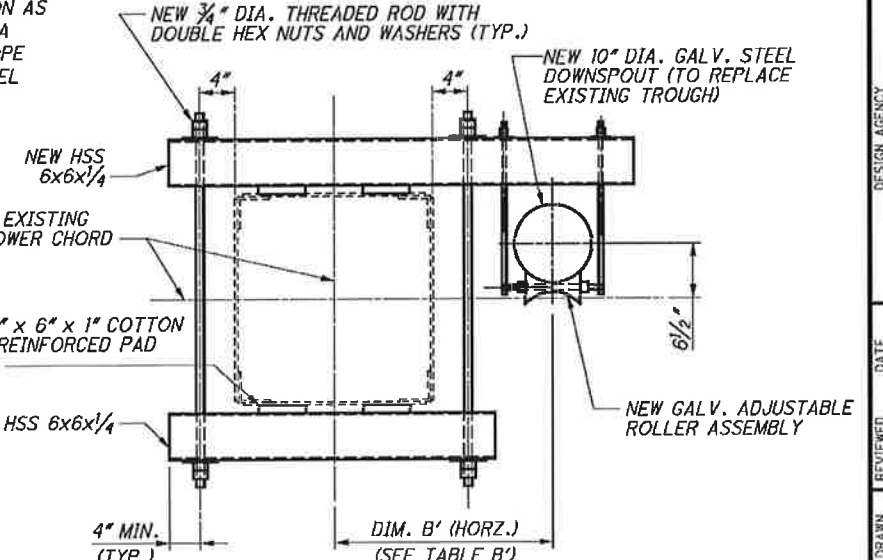
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SECTION A-A - TYPE A SUPPORT



SECTION B-B - TYPE B SUPPORT



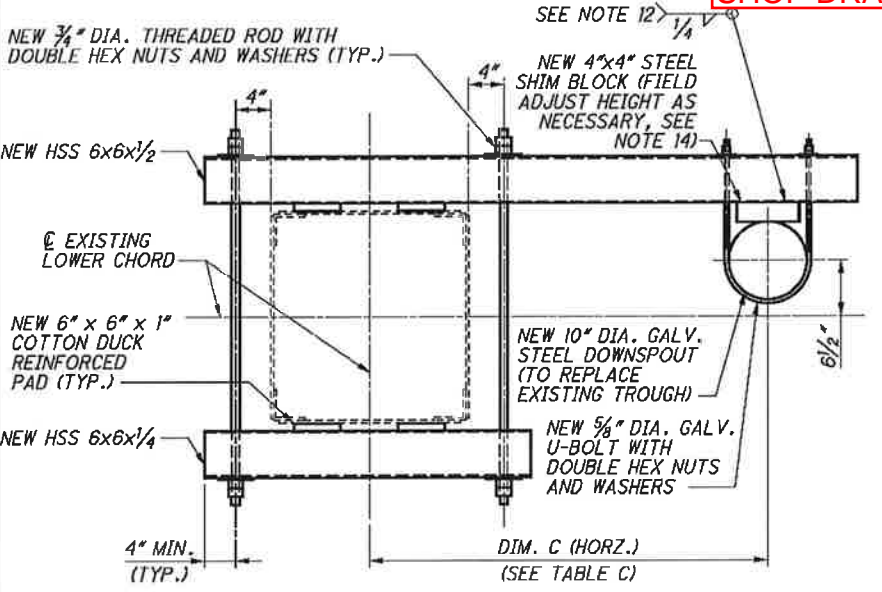
SECTION B-B - TYPE B' SUPPORT

FABREEKA PADS
USED INSTEAD OF
COTTON DUCKS PER
SHOP DRAWINGS

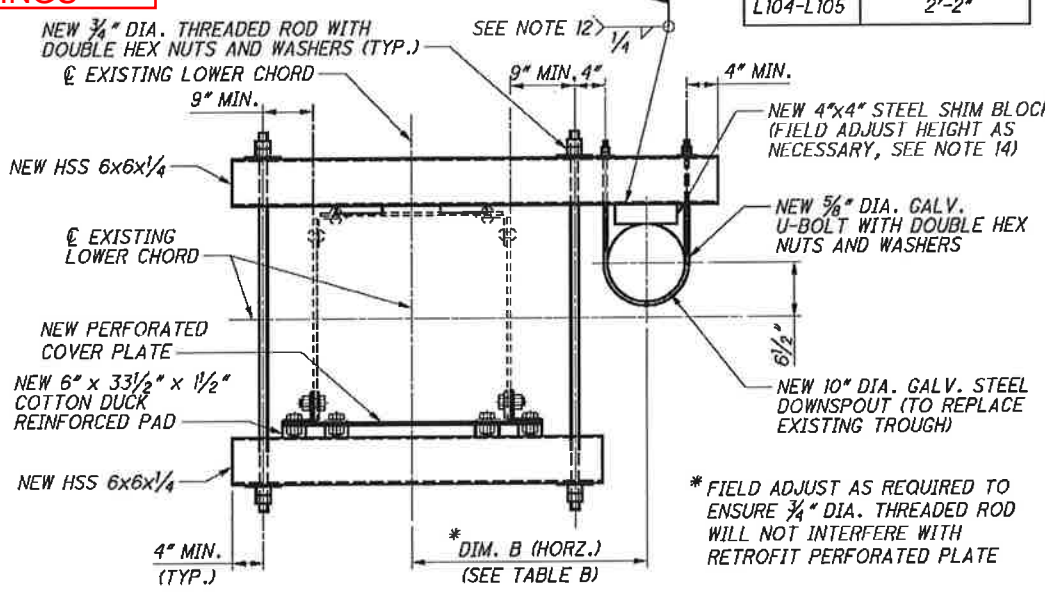
2'-2 1/4"
PER
RFI 32

TABLE B'

LOCATION	DIM. B' (HORZ.)
L22 - L23	2'-2"
L41 - L42	3'-0"
L64 - L65	3'-2 1/2"
L104-L105	2'-2"



SECTION C-C - TYPE C SUPPORT



SECTION B-B - TYPE B SUPPORT (MODIFIED)

TABLE B

LOCATION	DIM. B (HORZ.)
L0 - L1	5'-6 1/2"
L1 - L2	3'-3 1/2"
L2 - L5	2'-2"
L8 - L9	2'-6 1/4"
L9 - L10	4'-6 3/4"
L11 - L12	2'-6 1/4"
L12 - L13	2'-2"
L19 - L20	4'-8 1/4"
L21 - L22	2'-6 1/4"
L28 - L29	2'-6 1/4"
L29 - L30	4'-8 1/4"
L38 - L39	2'-6 1/4"
L39 - L40	4'-8 1/4"
L48 - L49	3'-0"
L49 - L50	5'-7"
L58 - L59	2'-2"
L59 - L60	2'-6 1/4"
L60 - L61	2'-10 1/2"
L61 - L62	4'-10 3/4"

TABLE B

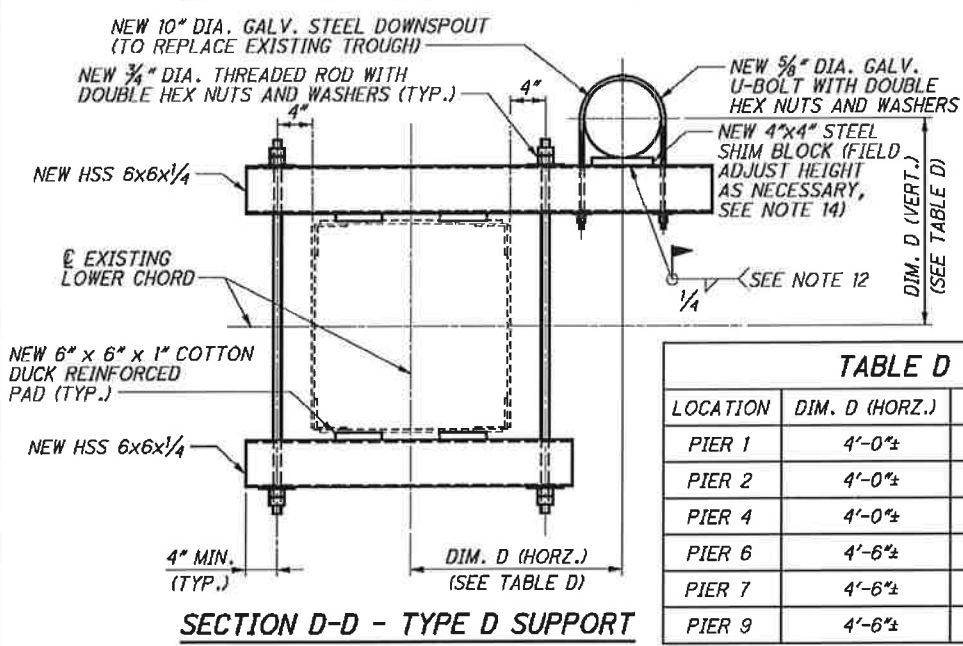
LOCATION	DIM. B (HORZ.)
L63 - L64	3'-6 1/2"
L72 - L73	3'-2 1/2"
L73 - L77	3'-6 1/2"
L77 - L78	3'-2 1/2"
L78 - L79	2'-6 1/4"
L88 - L89	3'-6 1/2"
L89 - L90	5'-2 3/4"
L100-L106	2'-2"
L106-L107	2'-6 1/4"
L107-L108	3'-3 1/2"
L108-L109	3'-6 1/2"
L109-L110	5'-2 3/4"
L111 - L112	3'-6 1/2"
L121-L122	2'-6 1/4"
L122-L123	3'-3 1/2"
L123-L126	3'-6 1/2"

TABLE C

LOCATION	DIM. C (HORZ.)	LOCATION	DIM. C (HORZ.)
PIER 1	6'-3"	PIER 5	6'-8"
PIER 2	6'-6"	PIER 6	6'-11"
PIER 3	6'-6"	PIER 8	6'-11"
PIER 4	6'-6"	PIER 9	6'-11"

TABLE D

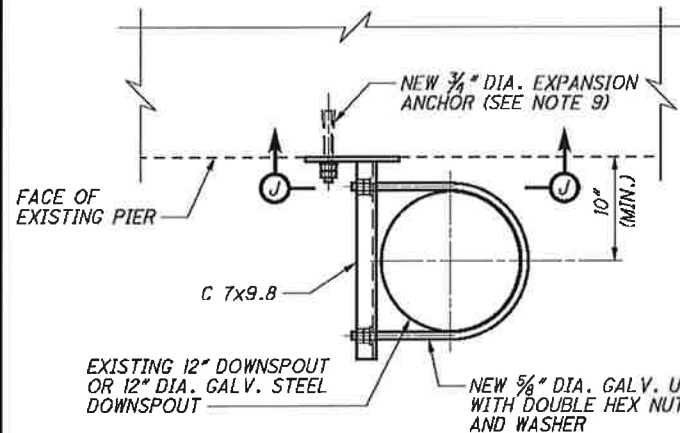
LOCATION	DIM. D (HORZ.)	DIM. D (VERT.)
PIER 1	4'-0"	2'-4"
PIER 2	4'-0"	2'-4"
PIER 4	4'-0"	2'-2"
PIER 6	4'-6"	2'-2"
PIER 7	4'-6"	2'-2"
PIER 9	4'-6"	2'-2"



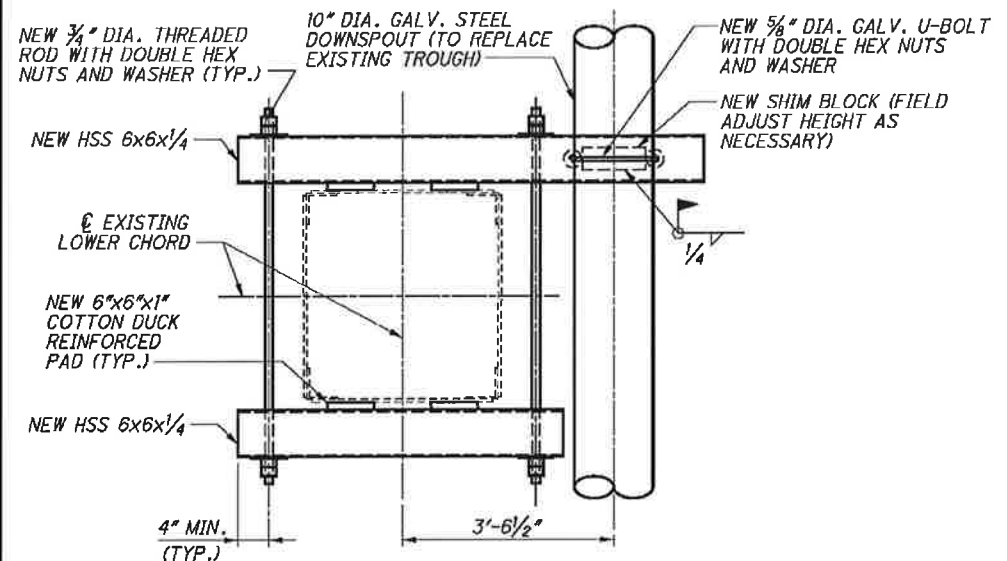
SECTION D-D - TYPE D SUPPORT

NOTES:

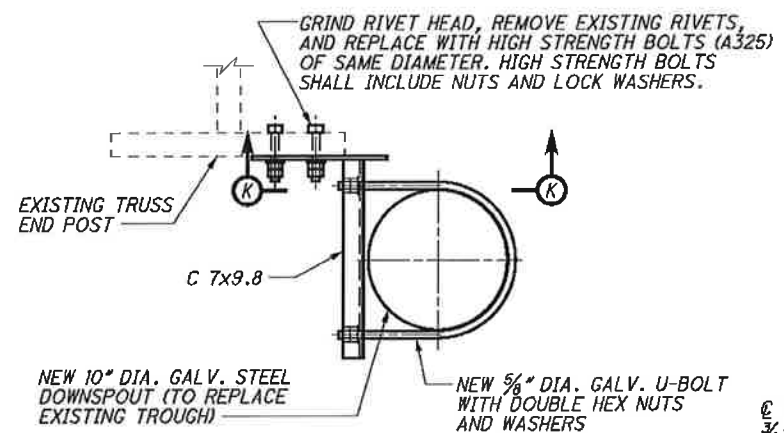
- ALL STRUCTURAL TUBING SHALL BE HSS 6x6x1/4, EXCEPT AS NOTED IN SECTION C-C, TYPE C SUPPORT. THE STRUCTURAL TUBING SHALL BE ASTM A500, GRADE B (Fy = 46 K.S.I.), GALVANIZED IN ACCORDANCE WITH 711.02.
- ALL OTHER STRUCTURAL STEEL CALLED OUT ON THIS SHEET, SHALL BE ASTM A709 GRADE 50 STEEL, GALVANIZED IN ACCORDANCE WITH 711.02.
- THE 3/4" DIA. THREADED RODS AND 5/8" DIA. U-BOLTS SHALL BE ASTM A307, GALVANIZED IN ACCORDANCE WITH 711.02. THE THREADED RODS SHALL MAINTAIN A MINIMUM OF 500 POUNDS TENSION TO ENSURE STABILITY OF THE SUPPORTING BRACKETS.
- FOR OFFSET DIMENSIONS AT PANEL POINTS, SEE SHEETS 172 / 187 AND 173 / 187.
- ALL 10" DIA. AND 12" DIA. STEEL PIPE SHALL BE ASTM A53, GRADE B (SCHEDULE 40), GALVANIZED IN ACCORDANCE WITH 711.02.
- FOR DOWNSPOUT AND HOPPER DETAIL - PIERS 0 THRU 6, SEE SHEET 174 / 187.
- FOR DOWNSPOUT AND HOPPER DETAIL - PIER 7 AND 8, SEE SHEET 175 / 187.
- FOR DOWNSPOUT AND HOPPER DETAIL - PIER 9 AND 10, SEE SHEET 176 / 187.
- FOR LOWER CHORD RETROFIT DETAILS AT L28-L29 (N), L41-L42 (N), L48-L49 (N) AND L49-50 (N), SEE SHEET 77 / 187 THRU 80 / 187.
- ALL DIMENSIONS ARE TO BE FIELD VERIFIED AND ADJUSTED AS REQUIRED, SUBJECT TO THE APPROVAL OF THE ENGINEER.
- FOR PAYMENT NOTES, SEE SHEET 178 / 187.
- DAMAGED GALVANIZED MATERIAL SURFACES SHALL BE REPAIRED USING PAINTS CONTAINING ZINC DUST WITH A MINIMUM ZINC DUST CONCENTRATION OF 65-69% OR ABOVE 92% IN THE DRIED FILM.
- THE 6x6 COTTON DUCK REINFORCED MATERIAL SHALL MEET MIL-C-882-E AND AASHTO 18.10.2. (INCLUDE WITH ITEM 518 - 10" PIPE DOWNSPOUT, INCLUDING SPECIALS).
- SHIM PACKS WILL NOT BE PERMITTED.



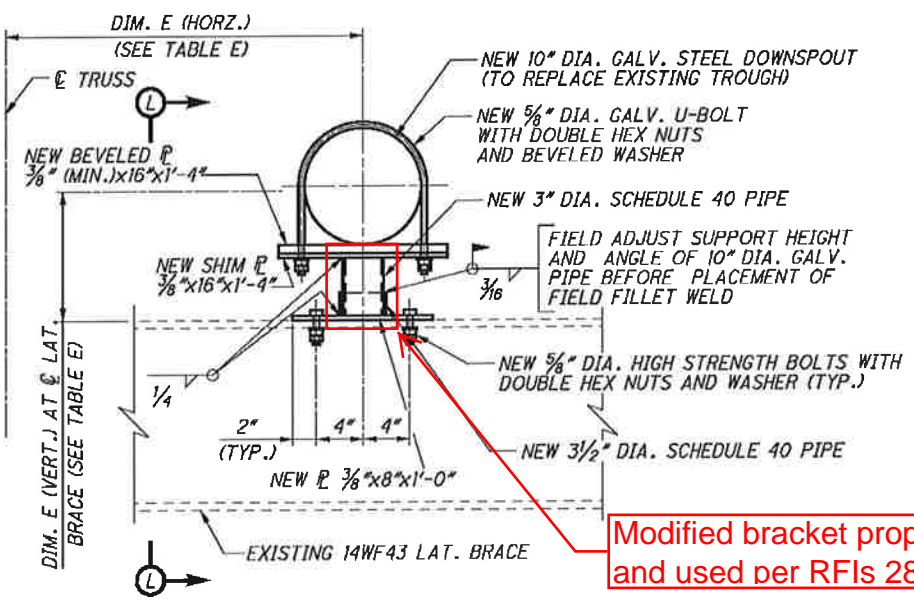
SECTION F-F - TYPE F SUPPORT
(SPACED AT 5'-0" CENTERS MAX.)



SECTION G-G - TYPE G SUPPORT



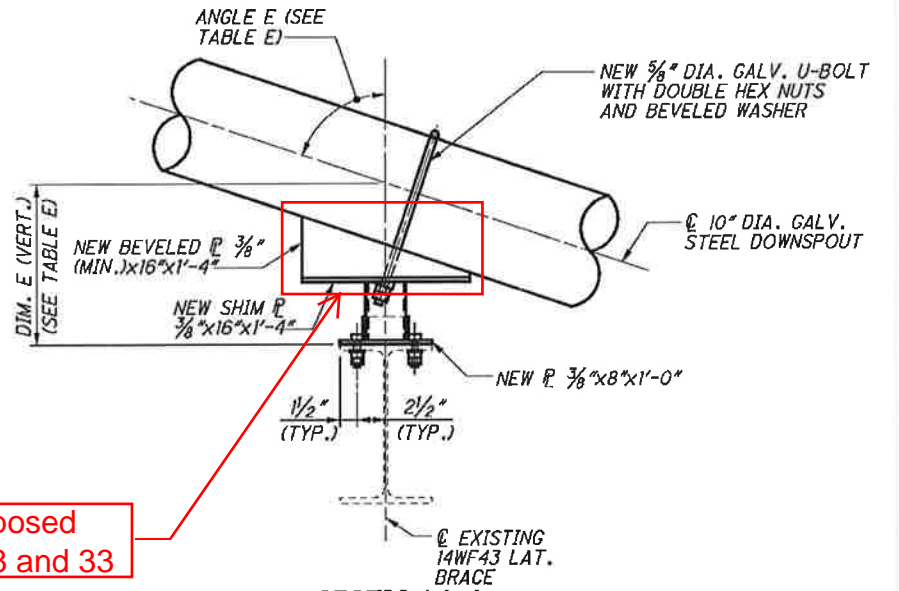
SECTION H-H - TYPE H SUPPORT



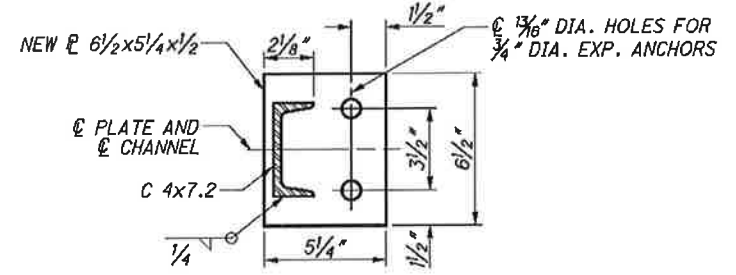
SECTION E-E - TYPE E SUPPORT

TABLE E			
LOCATION	DIM. E (HORZ.)	DIM. E (VERT.)	ANGLE E
PIER 1	5'-0"±	9 1/2"±	64°±
PIER 2	5'-3"±	9 1/2"±	58°±
PIER 4	5'-3"±	1'-3 1/2"±	45°±
PIER 6	5'-6"±	1'-1 1/4"±	45°±
PIER 7	5'-9"±	1'-3 3/4"±	44°±
PIER 9	5'-6"±	10"±	41°±

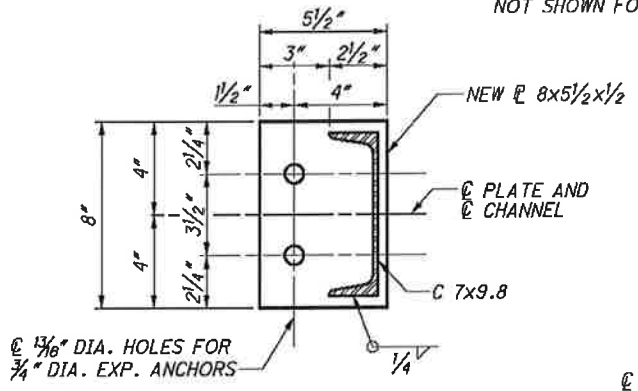
Modified bracket proposed and used per RFIs 28 and 33



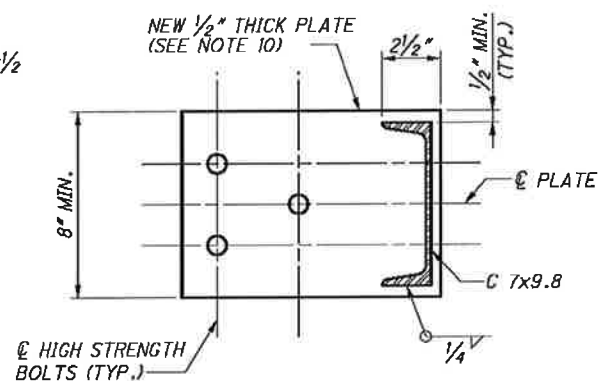
SECTION L-L
(FOR ADDITIONAL DETAILS, SEE SECTION E-E - TYPE E SUPPORT)



SECTION P-P
SECTION Q-Q (OPPOSITE HAND)
(DOWNSPOUT AND TROUGH NOT SHOWN FOR CLARITY)



SECTION J-J

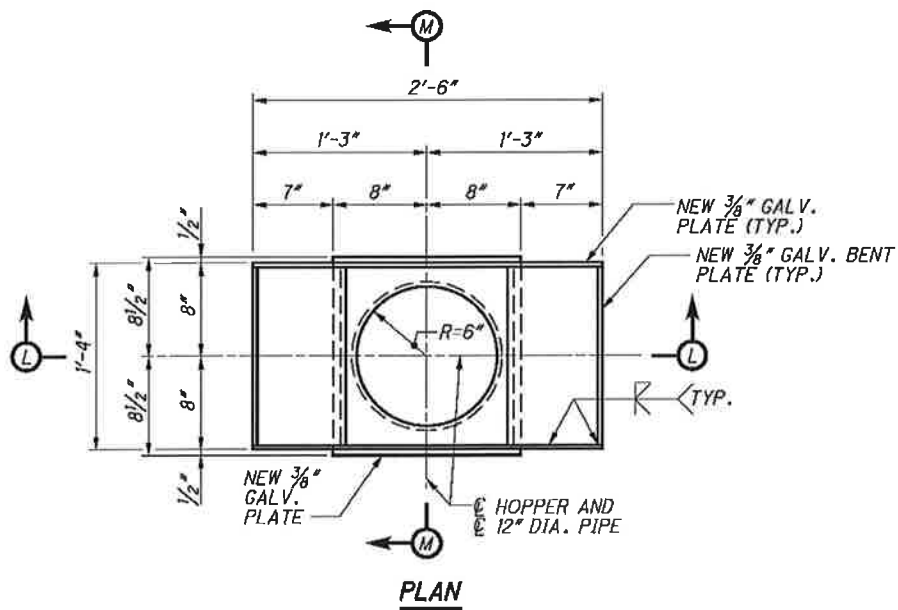


SECTION K-K

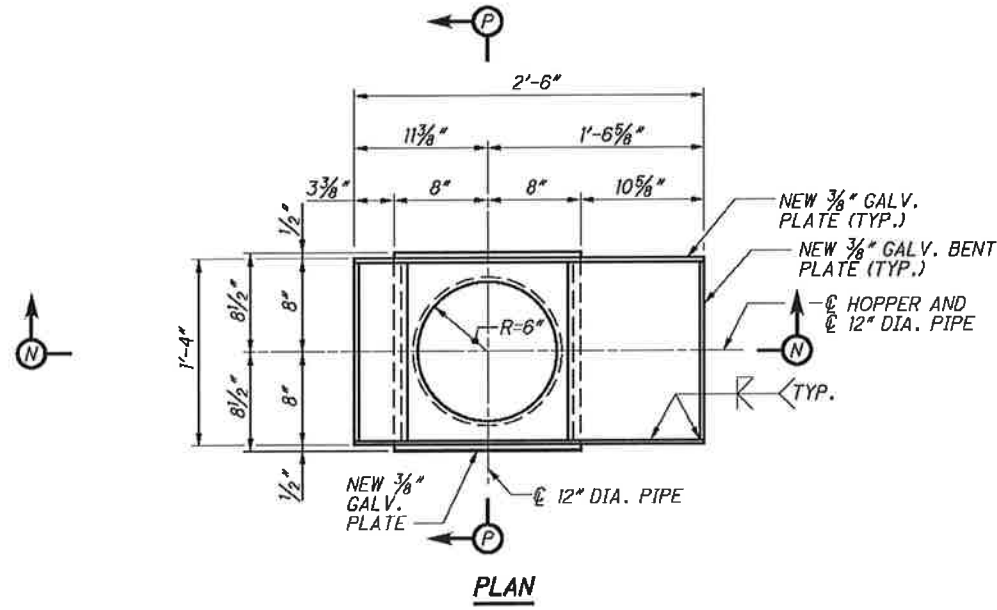
NOTES:

- ALL STRUCTURAL TUBING SHALL BE ASTM A500, GRADE B (Fy = 46 k.s.i.), GALVANIZED IN ACCORDANCE WITH 711.02.
- ALL OTHER STRUCTURAL STEEL CALLED OUT ON THIS SHEET, SHALL BE ASTM A709 GRADE 50 STEEL, GALVANIZED IN ACCORDANCE WITH 711.02.
- THE 3/4" DIA. THREADED RODS AND 5/8" DIA. U-BOLTS SHALL BE ASTM A307, GALVANIZED IN ACCORDANCE WITH 711.02.
- ALL 10" DIA. AND 12" DIA. STEEL PIPE SHALL BE ASTM A53, GRADE B (SCHEDULE 40), GALVANIZED IN ACCORDANCE WITH 711.02.
- FOR OFFSET DIMENSIONS AT PANEL POINTS, SEE SHEETS 172 / 187 AND 173 / 187.
- FOR DOWNSPOUT AND HOPPER DETAIL - PIERS 0 THRU 6, SEE SHEET 174 / 187.
- FOR DOWNSPOUT AND HOPPER DETAIL - PIER 7 AND 8, SEE SHEET 175 / 187.
- FOR DOWNSPOUT AND HOPPER DETAIL - PIER 9 AND 10, SEE SHEET 176 / 187.
- THE 3/4" DIA. EXPANSION ANCHOR SHALL HAVE A MINIMUM PULL OUT RESISTANCE OF 12,000 POUNDS.
- THE LENGTH AND WIDTH OF PLATE SHALL BE FIELD DETERMINED BY THE ENGINEER BASED ON THE SIZE AND LOCATION OF THE EXISTING END POST RIVETS. A MINIMUM OF TWO HIGH STRENGTH BOLTS SHALL BE REQUIRED FOR SECURING THE PLATE TO THE EXISTING END POST.
- ALL DIMENSIONS ARE TO BE FIELD VERIFIED AND ADJUSTED AS REQUIRED, SUBJECT TO THE APPROVAL OF THE ENGINEER.
- REMOVAL OF EXISTING DRAINAGE ELEMENTS IS TO BE PAID FOR UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FEET, AS PER PLAN.
- ALL 10" DIAMETER PIPE AND ASSOCIATED CLEANOUTS, CONNECTIONS, COUPLINGS, SUPPORTS, AND LABOR ARE TO BE PAID FOR UNDER ITEM 518 - 10" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN.
- ALL 12" DIAMETER PIPE AND ASSOCIATED COUPLINGS, SUPPORTS, AND LABOR ARE TO BE PAID FOR UNDER ITEM 518 - 12" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN.

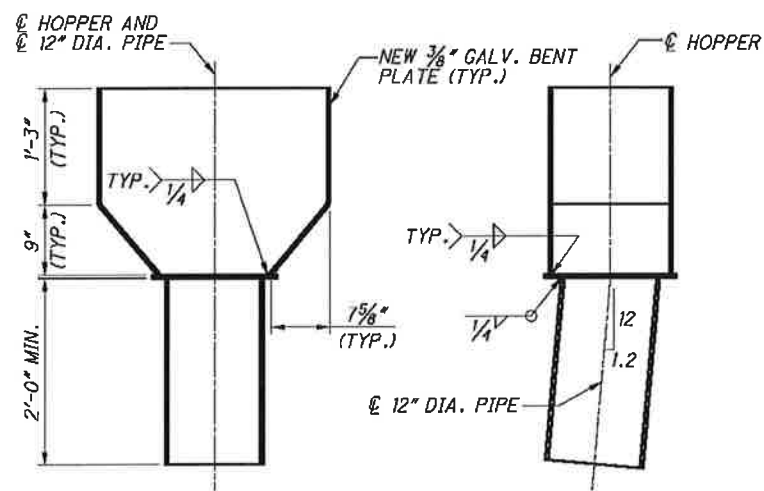
G:\CL12\0112\Bridges\Sheets\9115MD037A.dgn B/30/2013 10:39:11 AM nrf:scs



PLAN

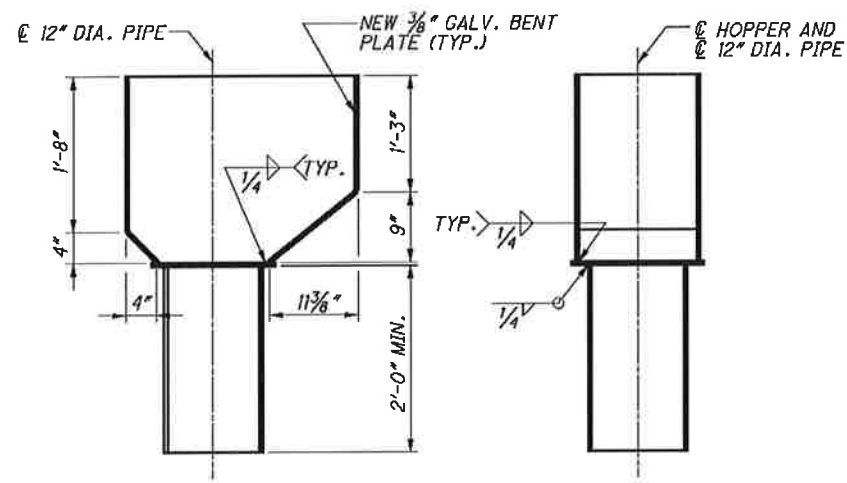


PLAN



SECTION L-L

SECTION M-M



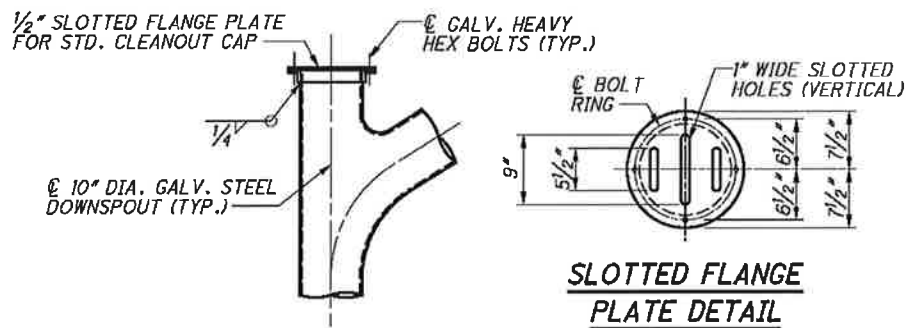
SECTION N-N

SECTION P-P

TYPE 1 HOPPER AND TYPE 2 HOPPER

(TYPE 1 HOPPER SHOWN, TYPE 2 HOPPER IDENTICAL EXCEPT AS SHOWN IN DOWNSPOUT AND HOPPER DETAIL - PIER 7, SHEET 175 / 187)

TYPE 3 HOPPER



SLOTTED FLANGE PLATE DETAIL

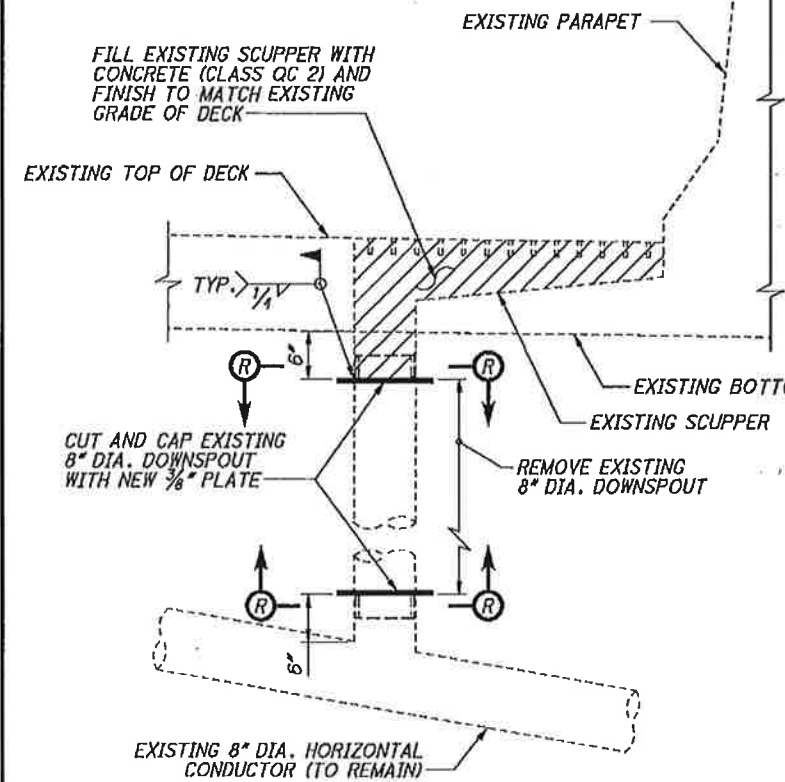
CLEANOUT DETAIL
(SEE NOTE 6)

NOTES:

1. ALL OTHER STRUCTURAL STEEL CALLED OUT ON THIS SHEET, SHALL BE ASTM A709 GRADE 50 STEEL, GALVANIZED IN ACCORDANCE WITH 711.02.
2. ALL 10" DIA. AND 12" DIA. STEEL PIPE SHALL BE ASTM A53, GRADE B (SCHEDULE 40), GALVANIZED IN ACCORDANCE WITH 711.02.
3. FOR DOWNSPOUT AND HOPPER DETAIL - PIERS 0 THRU 6, SEE SHEET 174 / 187 .
4. FOR DOWNSPOUT AND HOPPER DETAIL - PIER 7 AND 8, SEE SHEET 175 / 187 .
5. FOR DOWNSPOUT AND HOPPER DETAIL - PIER 9 AND 10, SEE SHEET 176 / 187 .
6. PROVIDE CLEANOUTS AT EVERY 60 FT. MAX. ALONG THE BOTTOM CHORD.
7. ALL 10" DIAMETER PIPE AND ASSOCIATED CLEANOUTS, CONNECTIONS, SUPPORTS, AND LABOR ARE TO BE PAID FOR UNDER ITEM 518 - 10" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN.
8. ALL MATERIALS AND LABOR ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF THE DRAINAGE HOPPERS IS TO BE INCLUDED FOR PAYMENT UNDER ITEM 518 - STRUCTURE DRAINAGE, MISC.: MAIN TRUSS DRAINAGE HOPPERS.

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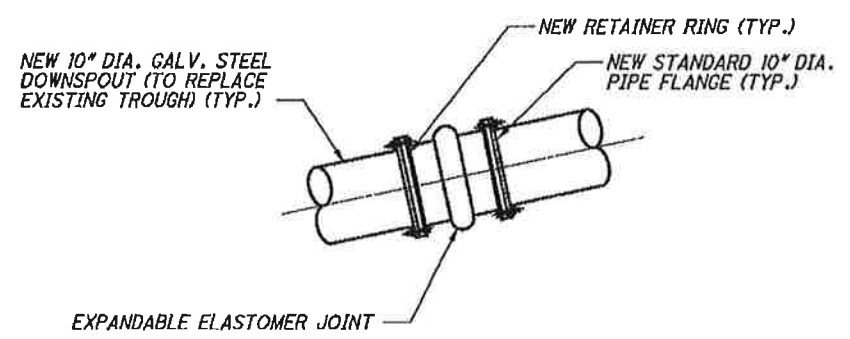
C:\CL12\0112\Bridge\Sheets\9115MD047.dgn 8/30/2013 10:59:12 AM nr fisco



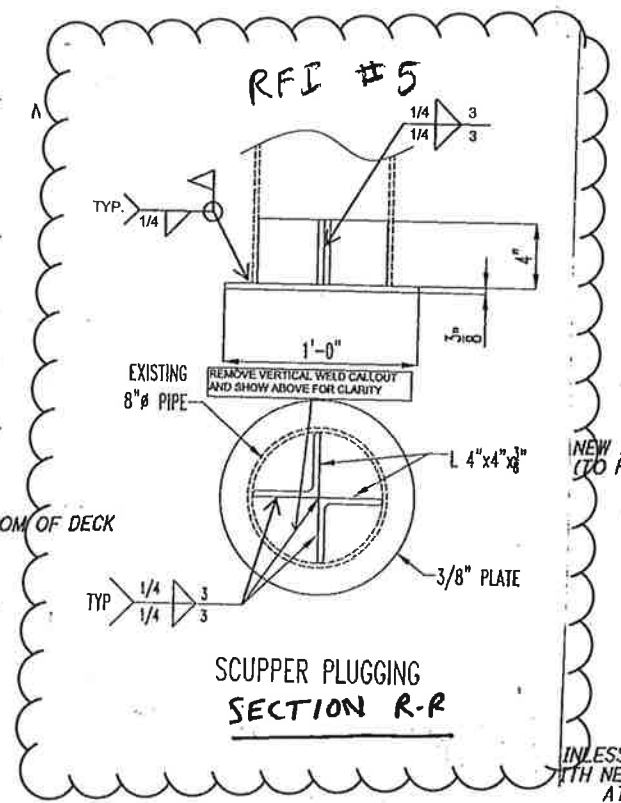
SCUPPER PLUGGING DETAIL
(SEE NOTE 4)

SCUPPER PLUGGING NOTES:

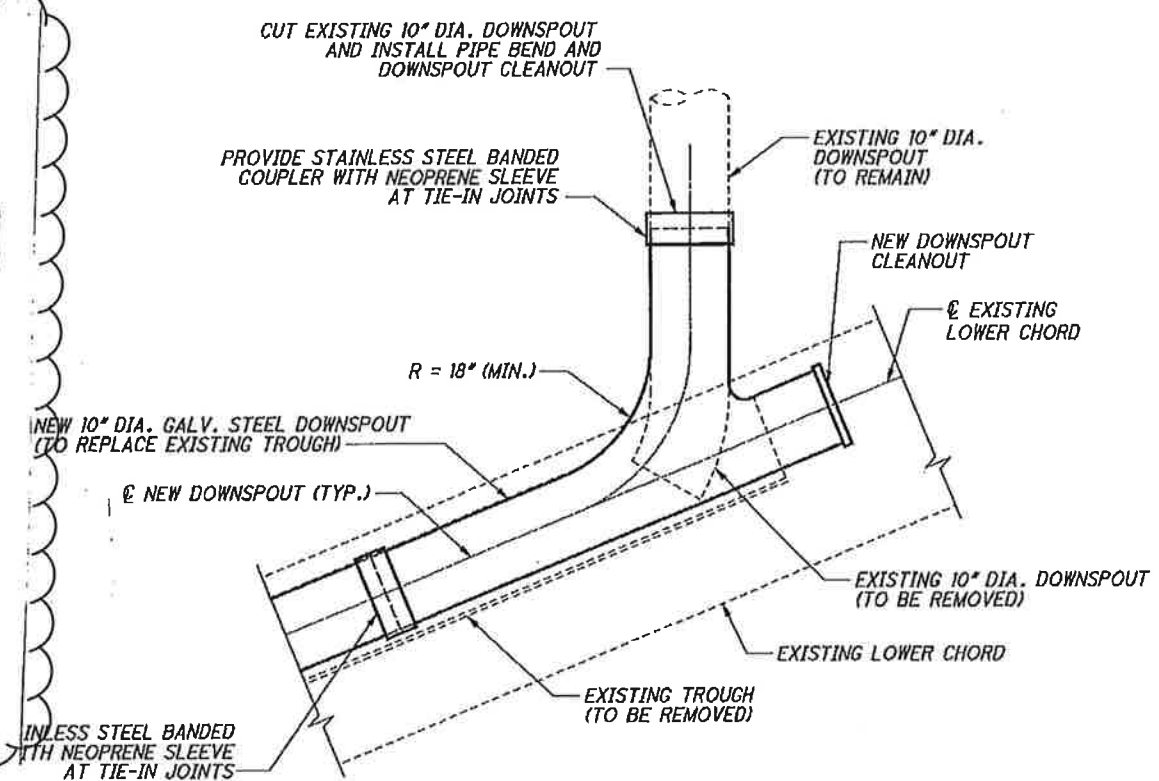
1. SEAL THE PERIMETER OF THE EXISTING SCUPPER TO BE PLUGGED WITH HMWM.
2. ALL WORK REQUIRED ON THE DECK TO PLUG THE SCUPPER AND PLACE HMWM SHALL BE PERFORMED UNDER THE M.O.T. RESTRICTIONS FOR S.R. 2 (SEE GENERAL NOTES, SHEET 10 / 187 FOR M.O.T.).



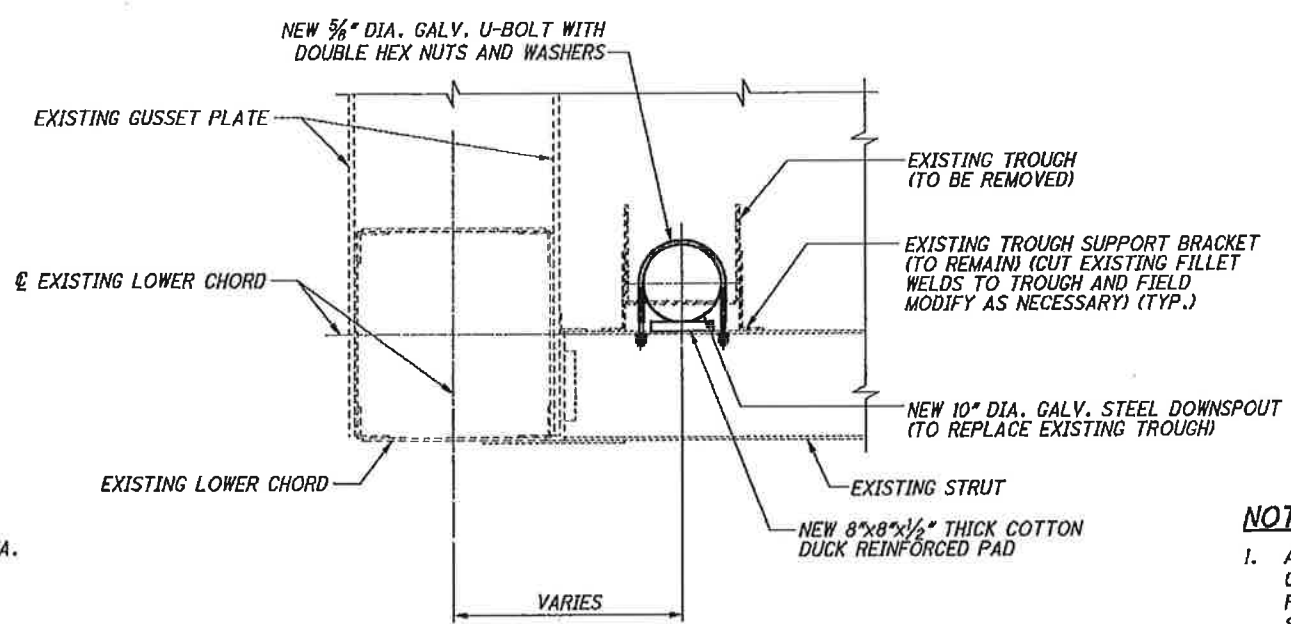
DOWNSPOUT EXPANSION JOINT DETAIL
(SEE MAIN TRUSS ELEVATION FOR APPLICABLE LOCATIONS)



SCUPPER PLUGGING SECTION R-R



DOWNSPOUT TIE-IN DETAIL
(SEE NOTE 5)



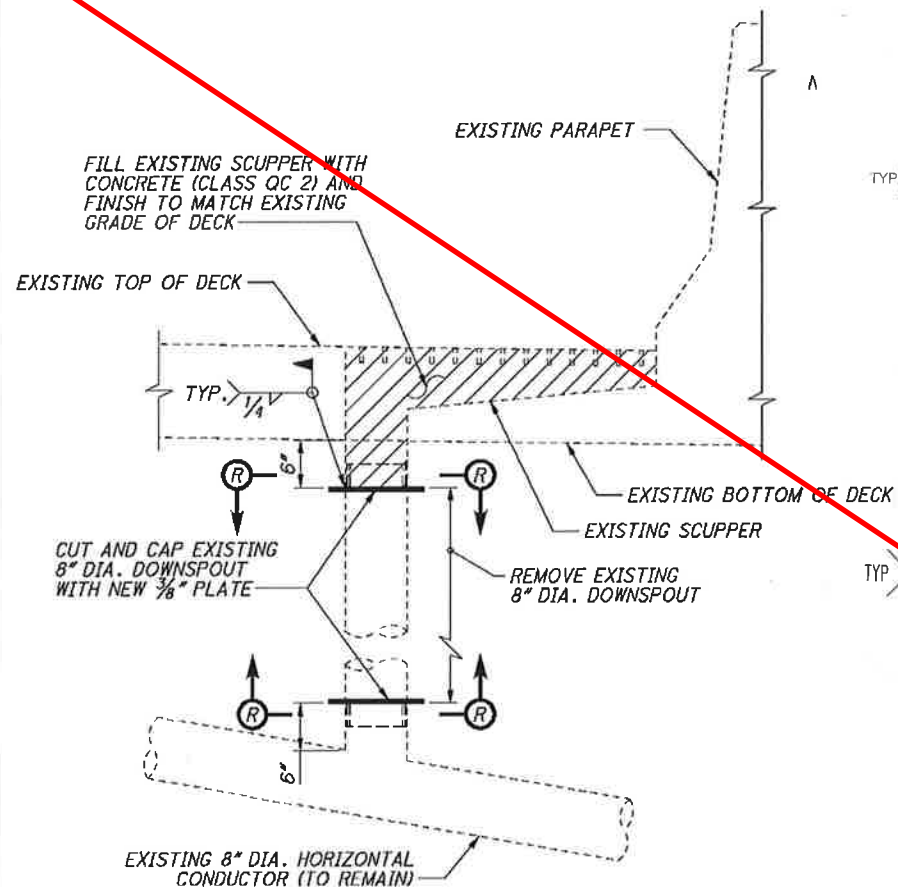
PANEL POINT SUPPORT DETAIL

NOTES:

1. ALL 10" DIAMETER PIPE AND ASSOCIATED CLEANOUTS, CONNECTIONS, SUPPORTS, AND LABOR ARE TO BE PAID FOR UNDER ITEM 518 - 10" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN.
2. ALL MATERIALS AND LABOR REQUIRED TO PLUG THE SCUPPERS, PLACE HMWM, AND REMOVE THE EXISTING PORTIONS OF DOWNSPOUT BELOW THE SCUPPER SHALL BE PAID FOR UNDER ITEM 518 - SCUPPER MODIFICATION, AS PER PLAN.
3. THE REMOVAL OF THE EXISTING TROUGH ELEMENT IS TO BE PAID FOR UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
4. FOR LOCATION OF EXISTING SCUPPERS TO BE PLUGGED, SEE SHEETS 168 / 187 THRU 171 / 187.
5. FOR DOWNSPOUT TIE-IN LOCATIONS, SEE SHEET 172 / 187 AND 173 / 187.

DESIGN AGENCY Iran Systems 55 PEARSON DRIVE, SUITE 100 EAST RENO, NV 89575	
DATE 08/16/13	REVIEWED WRW
STRUCTURE FILE NUMBER 1800035	CHECKED FKL
DESIGNED CAS	DRAWN CAS
REVISOR FKL	REVISION REVISED
MAIN TRUSS - DOWNSPOUT AND HOPPER DETAILS (7 OF 7)	
MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14.41	PID No. 91115
180/187	182/189

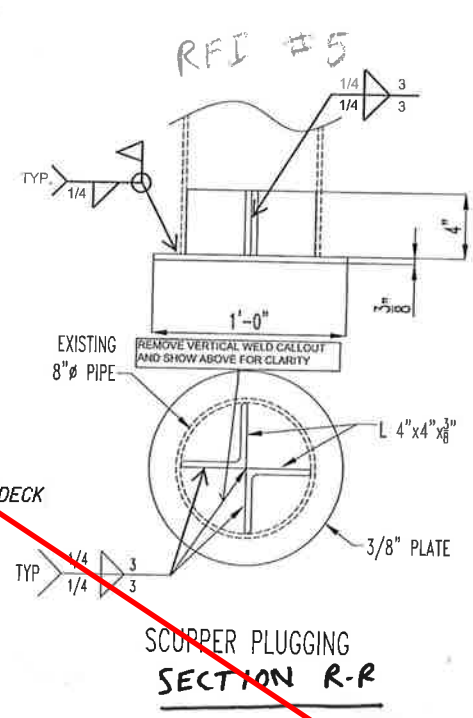
G:\CL12\0112\Bridg\Sheets\91115\MD047.dgn 8/30/2013 10:39:12 AM nrfisco



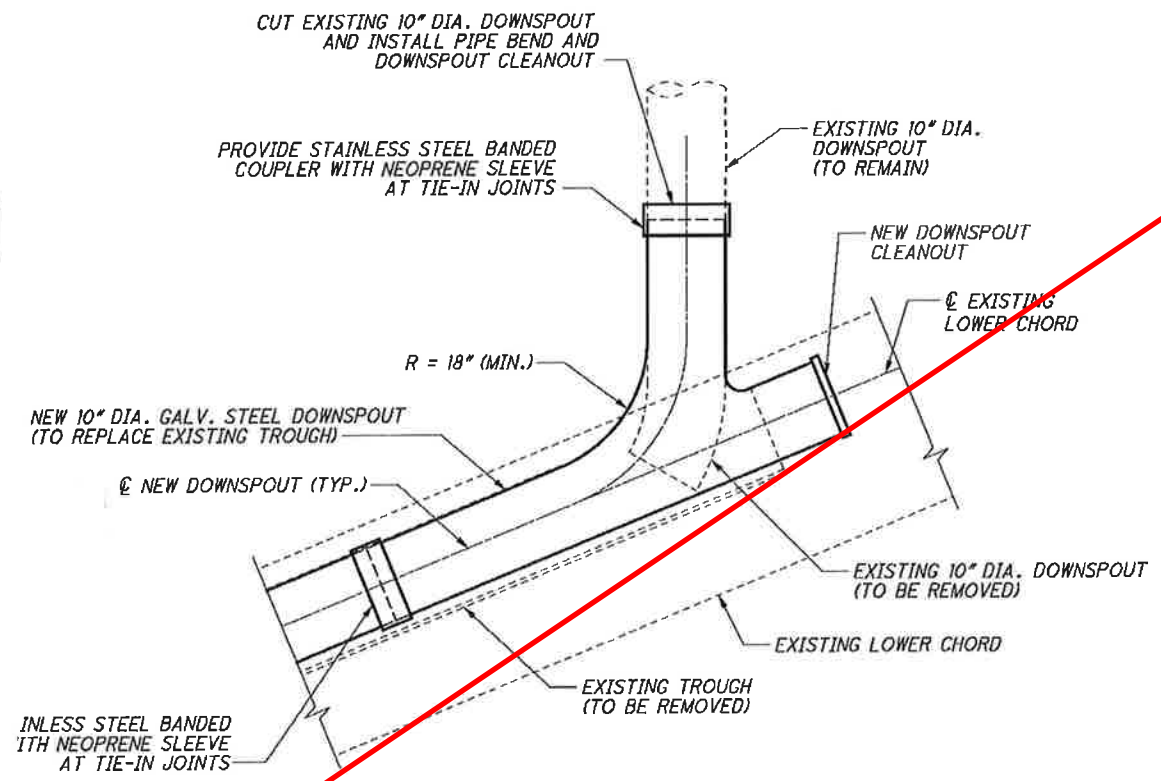
SCUPPER PLUGGING DETAIL
(SEE NOTE 4)

SCUPPER PLUGGING NOTES:

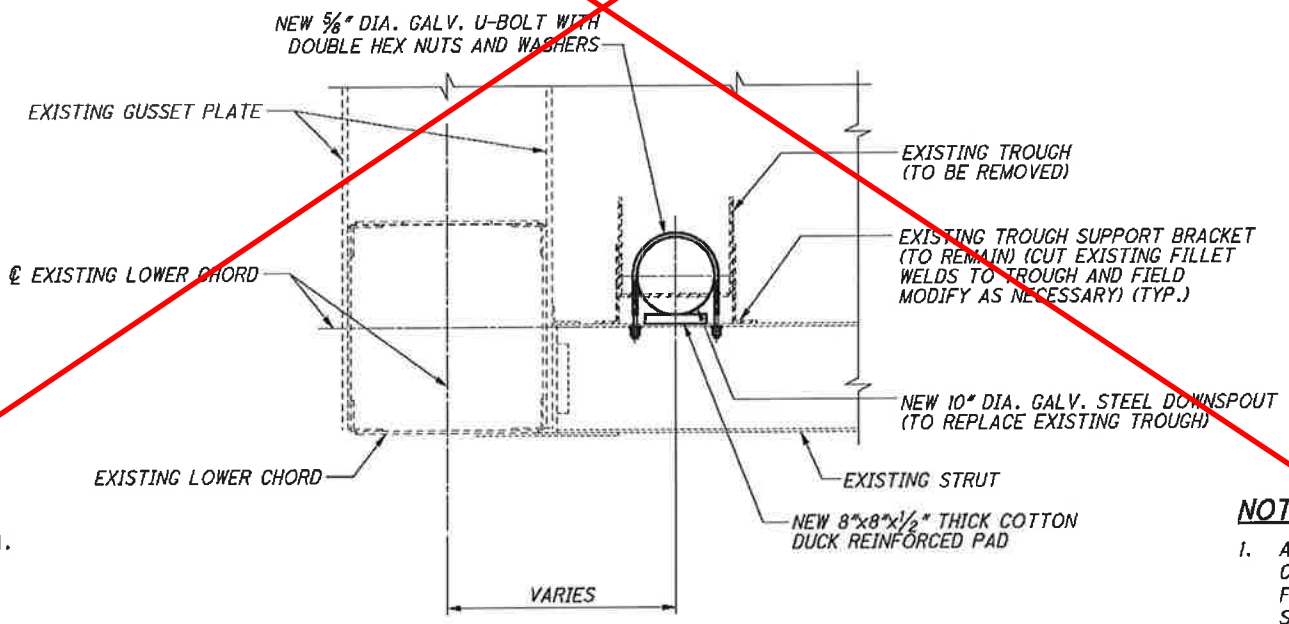
1. SEAL THE PERIMETER OF THE EXISTING SCUPPER TO BE PLUGGED WITH HMWM.
2. ALL WORK REQUIRED ON THE DECK TO PLUG THE SCUPPER AND PLACE HMWM SHALL BE PERFORMED UNDER THE M.O.T. RESTRICTIONS FOR S.R. 2 (SEE GENERAL NOTES, SHEET 10 / 187 FOR M.O.T.).



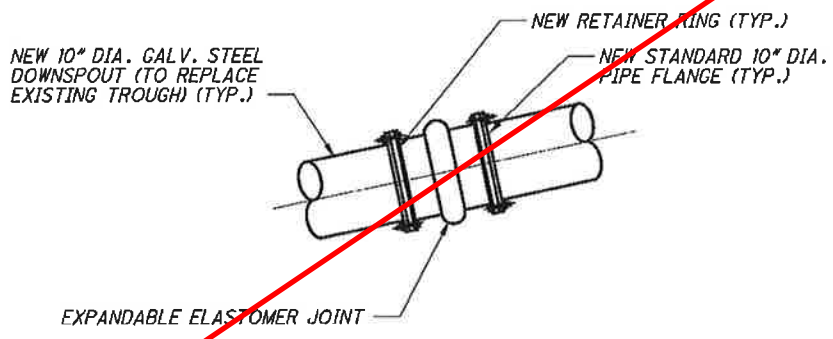
SCUPPER PLUGGING SECTION R-R



DOWNSPOUT TIE-IN DETAIL
(SEE NOTE 5)



PANEL POINT SUPPORT DETAIL



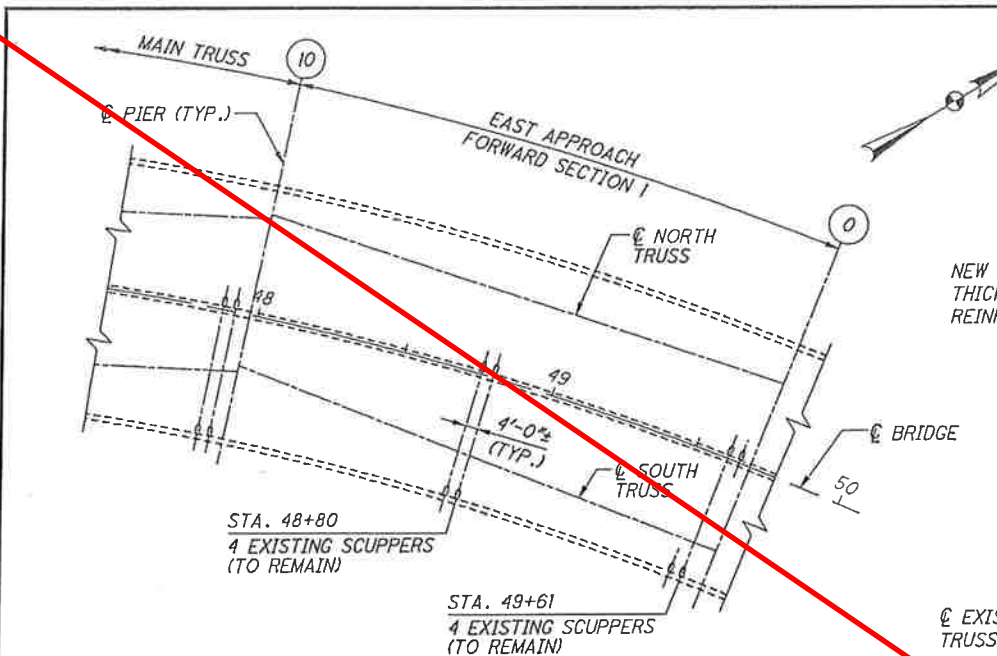
DOWNSPOUT EXPANSION JOINT DETAIL
(SEE MAIN TRUSS ELEVATION FOR APPLICABLE LOCATIONS)

NOTES:

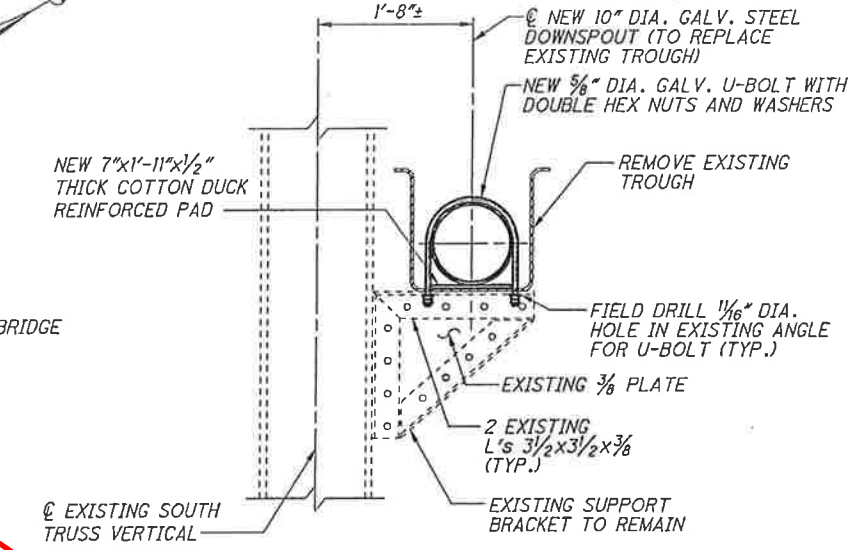
1. ALL 10" DIAMETER PIPE AND ASSOCIATED CLEANOUTS, CONNECTIONS, SUPPORTS, AND LABOR ARE TO BE PAID FOR UNDER ITEM 518 - 10" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN.
2. ALL MATERIALS AND LABOR REQUIRED TO PLUG THE SCUPPERS, PLACE HMWM, AND REMOVE THE EXISTING PORTIONS OF DOWNSPOUT BELOW THE SCUPPER SHALL BE PAID FOR UNDER ITEM 518 - SCUPPER MODIFICATION, AS PER PLAN.
3. THE REMOVAL OF THE EXISTING TROUGH ELEMENT IS TO BE PAID FOR UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
4. FOR LOCATION OF EXISTING SCUPPERS TO BE PLUGGED, SEE SHEETS 168 / 187 THRU 171 / 187.
5. FOR DOWNSPOUT TIE-IN LOCATIONS, SEE SHEET 172 / 187 AND 173 / 187.

DESIGN AGENCY 65 PUBLIC SQUARE SUITE 100 CLEVELAND, OHIO 44113	DATE 08/16/13	STRUCTURE FILE NUMBER 1800035
	REVIEWED WRW	CHECKED FKL
	DRAWN CAS	DESIGNED CAS
	MAIN TRUSS - DOWNSPOUT AND HOPPER DETAILS (7 OF 7) MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER	
CUY-2-14-41 PID No. 91115	180 / 187	182 / 187

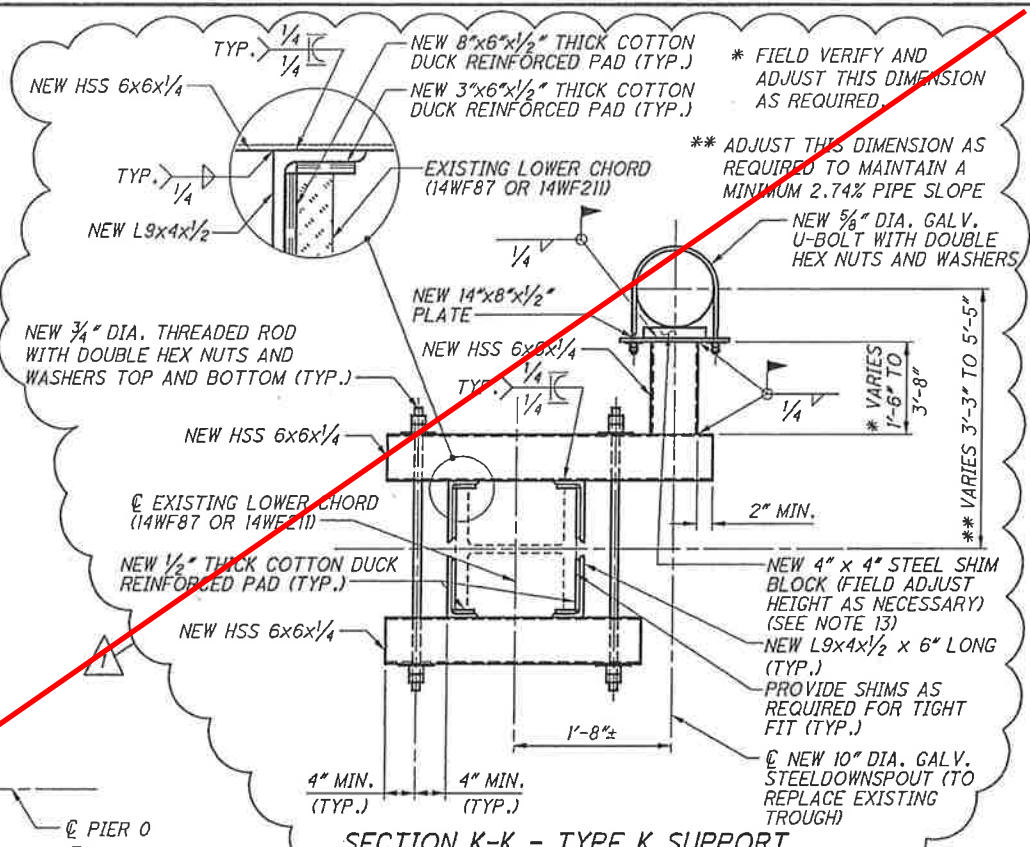
Work on this sheet was not performed as part of this project. Work pushed to next phase.



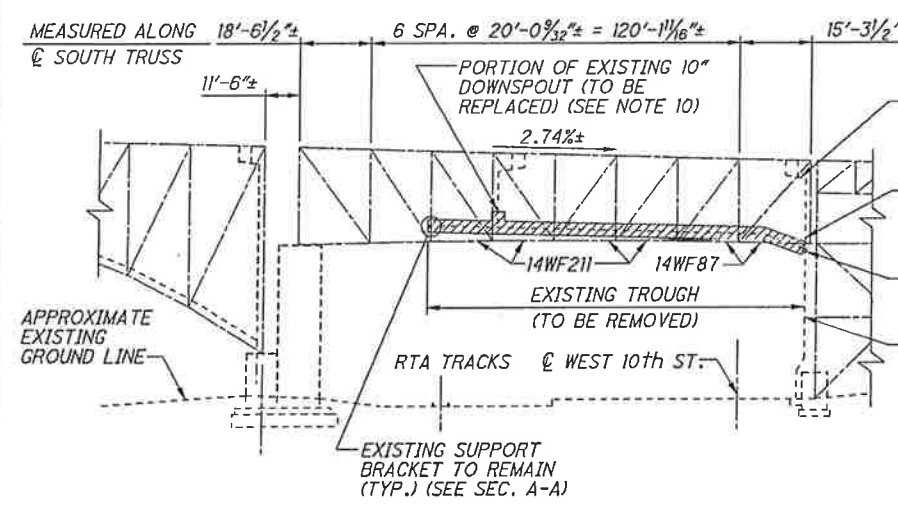
PARTIAL EXISTING PLAN



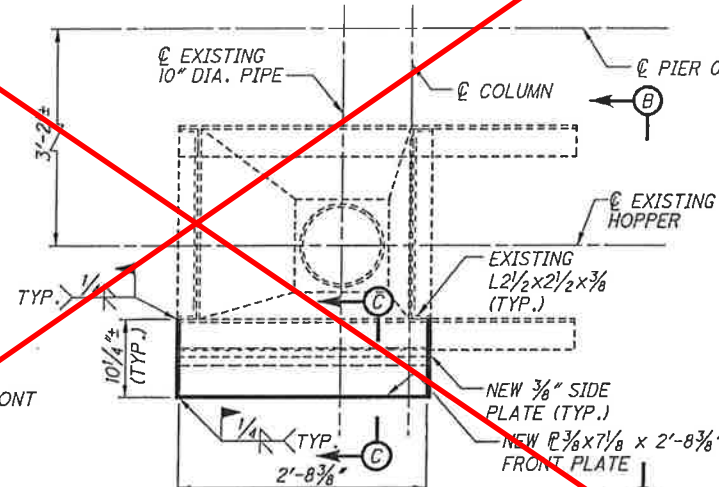
SECTION A-A
(TYPICAL AT SOUTH TRUSS VERTICALS PP2 THRU PP7)



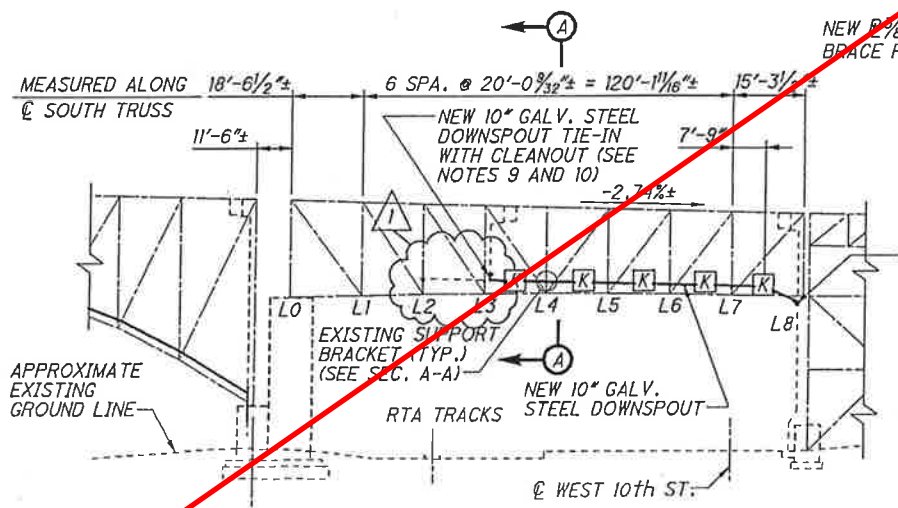
SECTION K-K - TYPE K SUPPORT



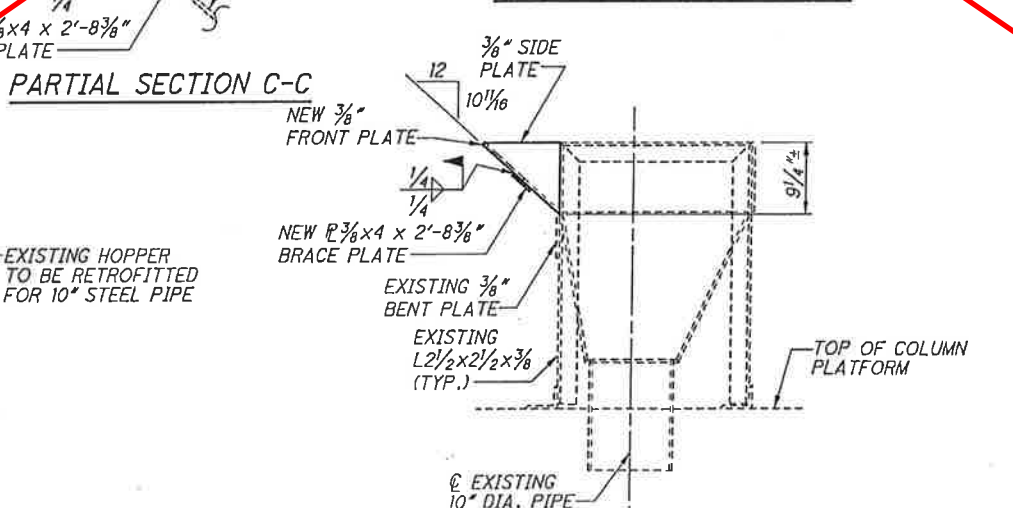
PARTIAL EXISTING ELEVATION - SOUTH TRUSS



PLAN - EXISTING HOPPER



PARTIAL PROPOSED ELEVATION - SOUTH TRUSS



PARTIAL SECTION C-C

VIEW B-B

LEGEND:

- (X) - PIER DESIGNATION
- (K) - LOCATION OF TYPE K SUPPORT
- REVISION 1 - TYPE K 10\"/>

NOTES:

1. ALL STRUCTURAL TUBING SHALL BE ASTM A500, GRADE B (Fy = 46 ksi), GALVANIZED IN ACCORDANCE WITH 711.02.
2. ALL OTHER STRUCTURAL STEEL CALLED OUT ON THIS SHEET, SHALL BE ASTM A709 GRADE 50 STEEL, GALVANIZED IN ACCORDANCE WITH 711.02.
3. THE 5/8\"/>

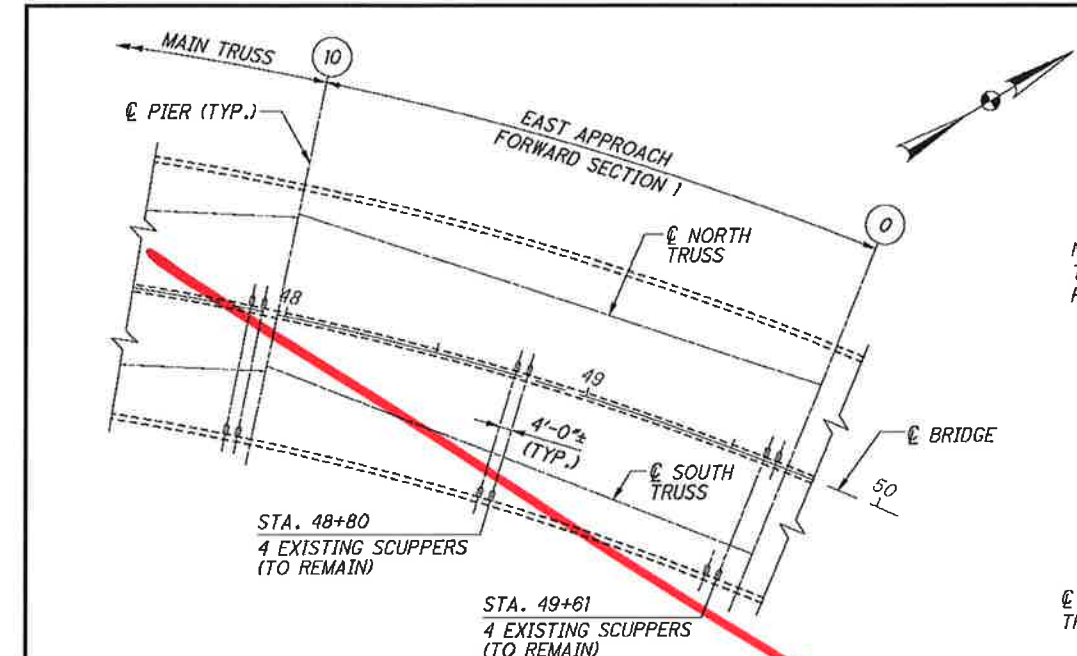
DESIGN AGENCY: **Train Systems**
 15 BRUNS SQUARE, SUITE 200, CLEVELAND, OHIO 44115

DESIGNED BY: JLV	DATE: 08/16/13
DRAWN BY: WRW	REVIEWED BY: WRW
CHECKED BY: NRP	STRUCTURE FILE NUMBER: 1800035

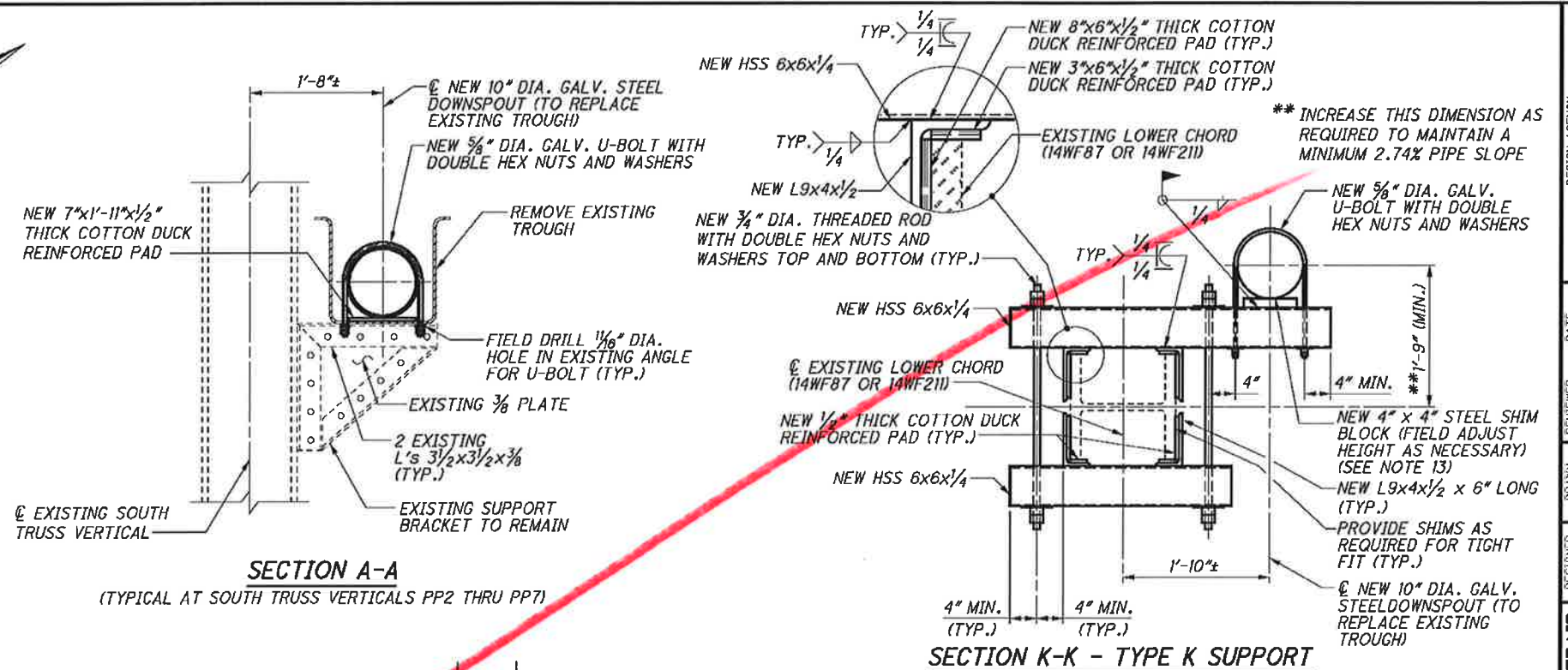
EAST APPR. FWD. SECTION - EXISTING DRAINAGE REM. AND REPAIR
 MAIN AVENUE - BRIDGE NO. CUY-2-1441
 OVER THE CUYAHOGA RIVER

CUY-2-14.41
 PID No. 91115

181/187
 183
 189



PARTIAL EXISTING PLAN



SECTION A-A
 (TYPICAL AT SOUTH TRUSS VERTICALS PP2 THRU PP7)

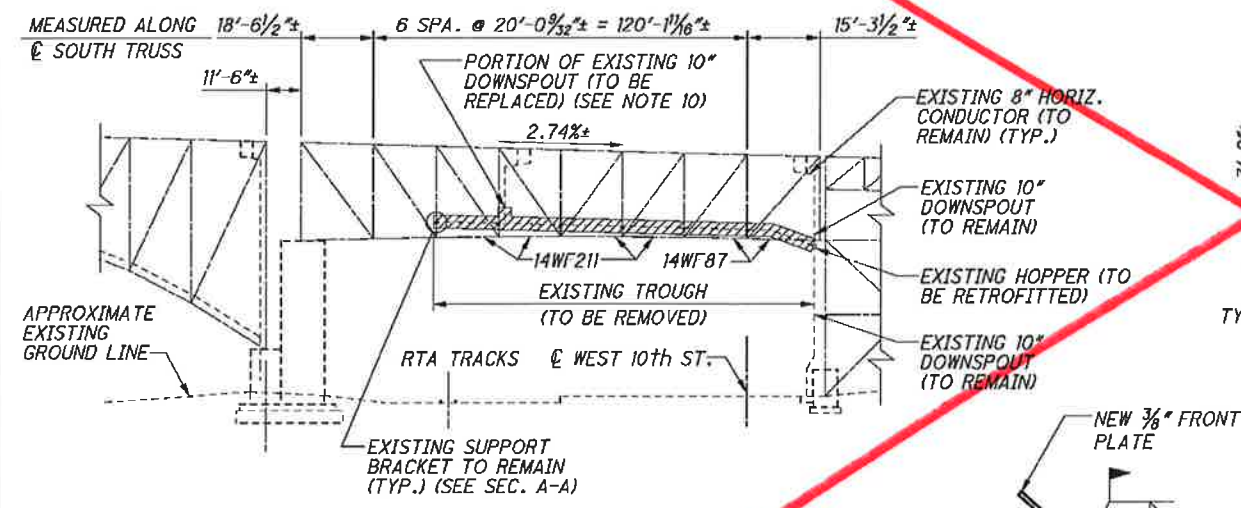
SECTION K-K - TYPE K SUPPORT

LEGEND:

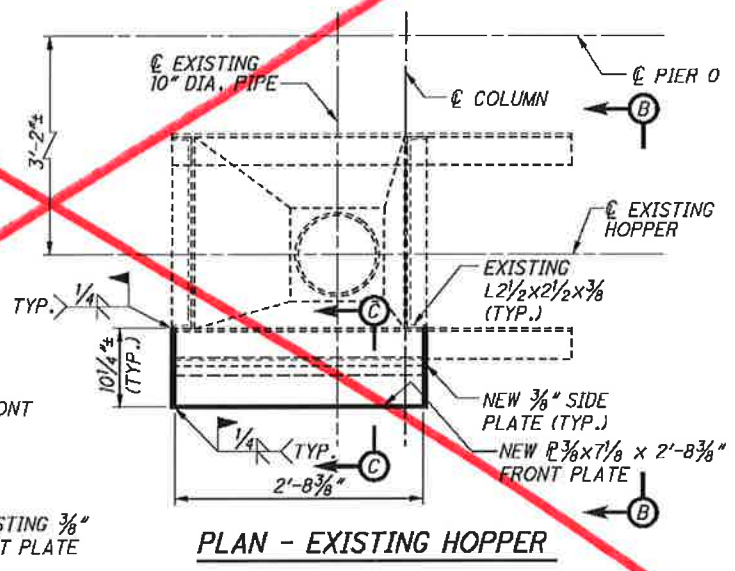
- (X) - PIER DESIGNATION
- (K) - LOCATION OF TYPE K SUPPORT
- [Hatched Box] - INDICATES PORTIONS OF STRUCTURE TO BE REMOVED

NOTES:

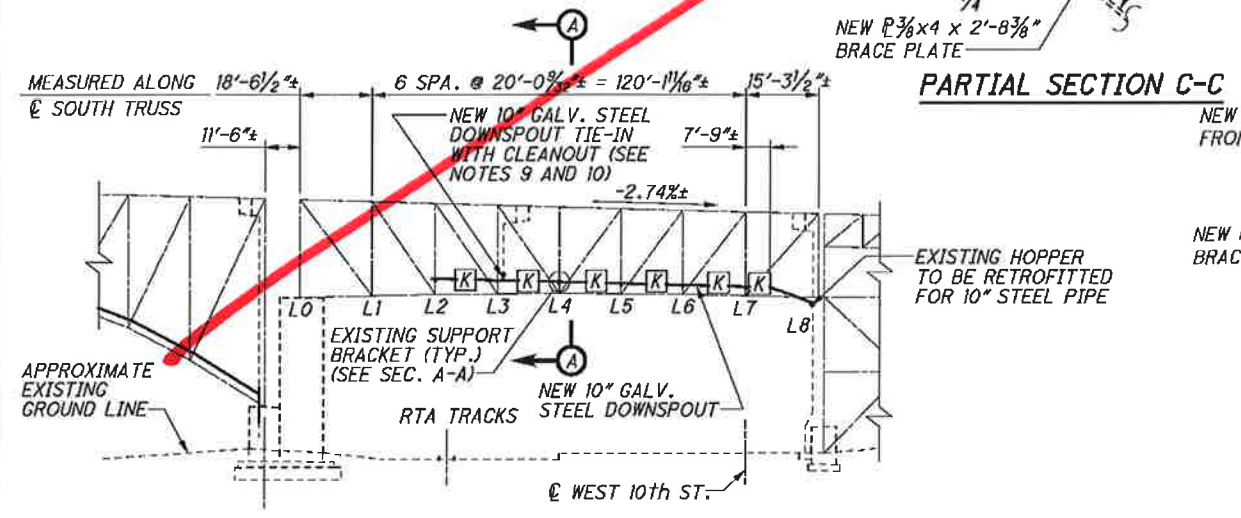
1. ALL STRUCTURAL TUBING SHALL BE ASTM A500, GRADE B (Fy = 46 ksi), GALVANIZED IN ACCORDANCE WITH 711.02.
2. ALL OTHER STRUCTURAL STEEL CALLED OUT ON THIS SHEET, SHALL BE ASTM A709 GRADE 50 STEEL, GALVANIZED IN ACCORDANCE WITH 711.02.
3. THE 5/8" DIA. U-BOLTS SHALL BE ASTM A307, GALVANIZED IN ACCORDANCE WITH 711.02.
4. ALL 10" DIA. STEEL PIPE SHALL BE ASTM A53, GRADE B (SCHEDULE 40), GALVANIZED IN ACCORDANCE WITH 711.02.
5. ALL DIMENSIONS ARE TO BE FIELD VERIFIED AND ADJUSTED AS REQUIRED, SUBJECT TO THE APPROVAL OF THE ENGINEER.
6. PROVIDE CLEANOUTS AT EVERY 60 FT. MAX. ALONG BOTTOM CHORD.
7. REMOVAL OF EXISTING DRAINAGE ELEMENTS IS TO BE PAID FOR UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
8. ALL 10" DIAMETER PIPE AND ASSOCIATED CLEANOUTS, CONNECTIONS, COUPLINGS, SUPPORTS, INCLUDING THE HOPPER RETROFIT AND LABOR ARE TO BE PAID FOR UNDER ITEM 518 - 10" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN.
9. FOR CLEANOUT DETAIL, SEE SHEET 179 / 187.
10. FOR DOWNSPOUT TIE-IN DETAIL, SEE SHEET 180 / 187.
11. FOR RTA TRACK COORDINATION NOTES, SEE SHEET 2 / 187.
12. MATERIALS SHOWN ARE EXISTING, UNLESS NOTED OTHERWISE.
13. SHIM PACKS WILL NOT BE PERMITTED.
14. ALL WORK, MATERIAL, AND LABOR ASSOCIATED WITH INSTALLATION OF HOPPER RETROFIT IS TO BE PAID FOR UNDER ITEM 518 - STRUCTURE DRAINAGE MISC.: MAIN TRUSS DRAINAGE HOPPERS.



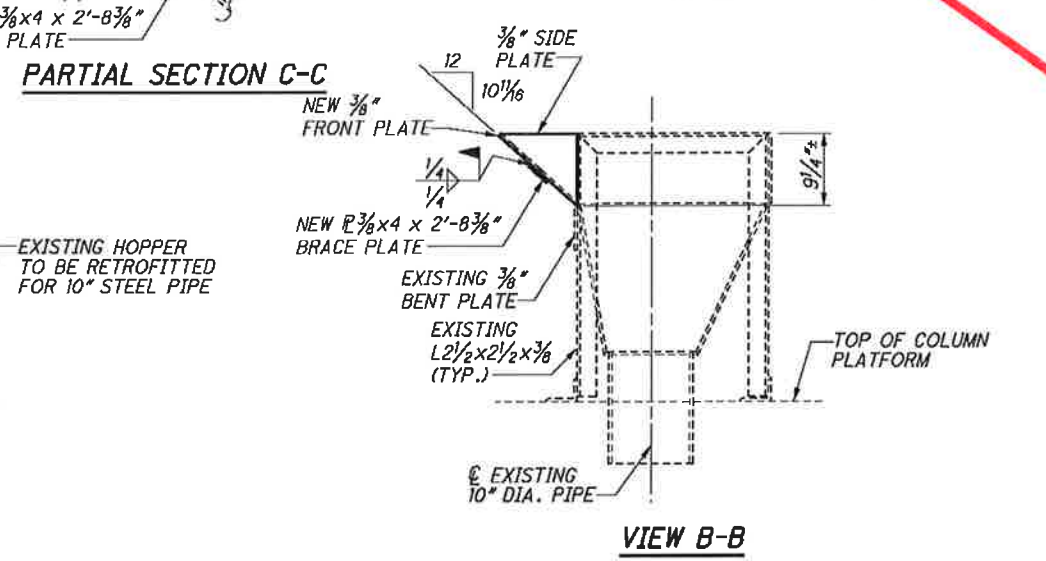
PARTIAL EXISTING ELEVATION - SOUTH TRUSS



PLAN - EXISTING HOPPER



PARTIAL PROPOSED ELEVATION - SOUTH TRUSS

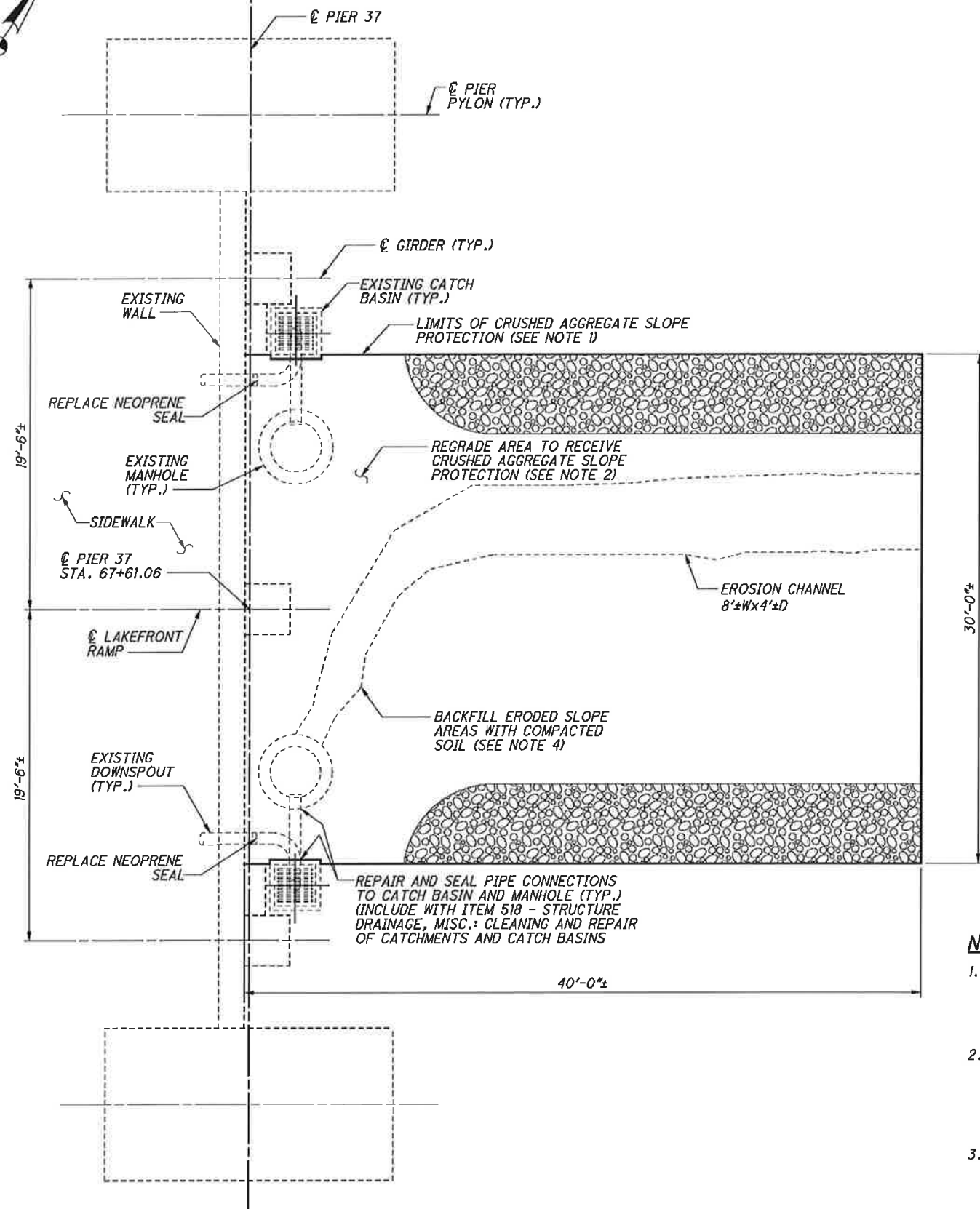


PARTIAL SECTION C-C

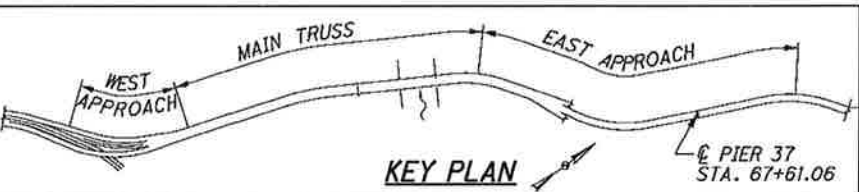
VIEW B-B

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G:\CL12\0112\Bridges\Sheets\91115MD04.3.dgn 8/30/2013 10:39:14 AM nrfisco

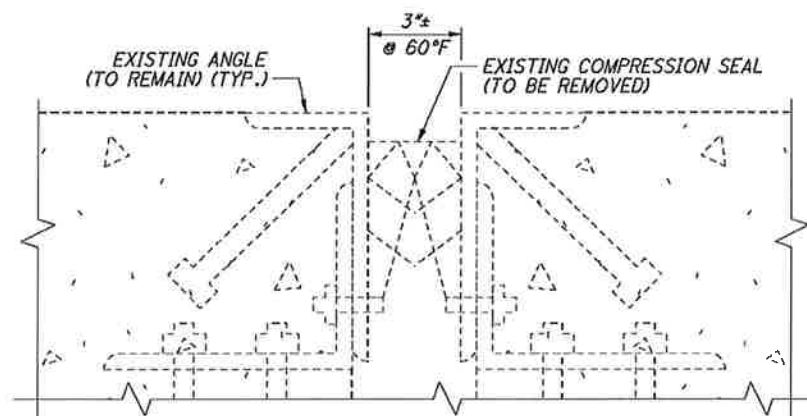


PART PLAN AT PIER 37 (LAKEFRONT RAMP)

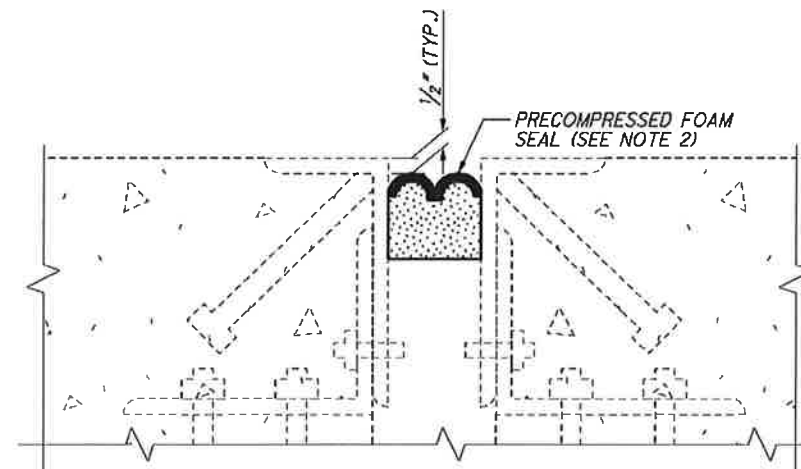


NOTES:

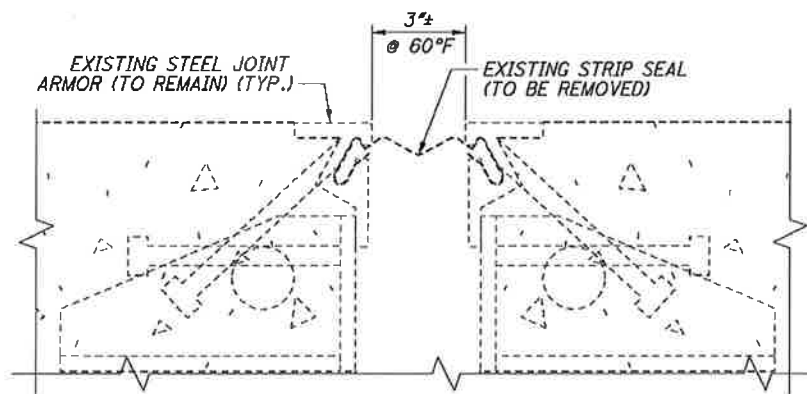
1. THE CONTRACTOR SHALL FIELD VERIFY THE LIMITS OF THE EROSION REGION. EXTEND THE AREA TO RECEIVE CRUSHED AGGREGATE SLOPE PROTECTION AS DIRECTED BY THE ENGINEER.
2. ALL LABOR AND MATERIALS REQUIRED TO PLACE THE CRUSHED AGGREGATE SLOPE PROTECTION SHALL BE INCLUDED FOR PAYMENT IN ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN.
3. ALL LABOR AND MATERIALS REQUIRED TO REPLACE THE NEOPRENE DRAIN BOOTS SHALL BE INCLUDED FOR PAYMENT IN ITEM 518 - STRUCTURE DRAINAGE, MISC.; MISCELLANEOUS DRAINAGE REPAIR.
4. ALL LABOR AND MATERIAL REQUIRED TO BACKFILL THE ERODED AREAS WITH COMPACTED SOIL AND REGRADE THE SLOPE SHALL BE INCLUDED FOR PAYMENT IN ITEM 203 - EMBANKMENT, USING NATURAL SOILS, 703.16.A.



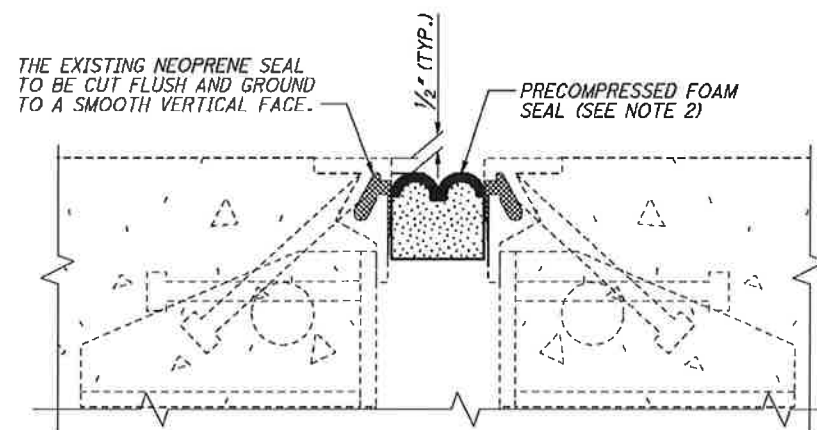
TYPICAL EXISTING COMPRESSION SEAL CROSS SECTION



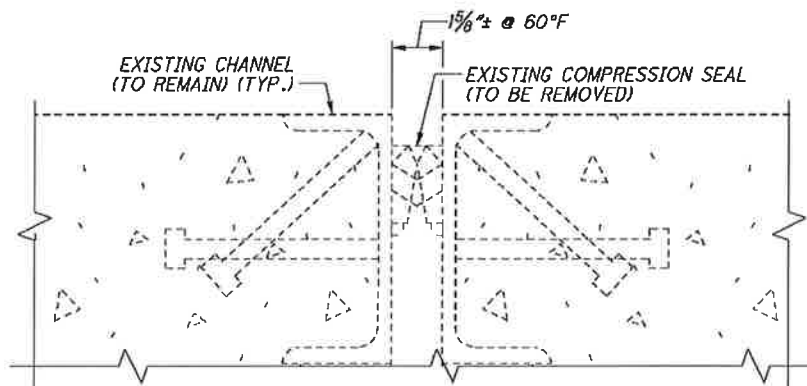
TYPICAL NEW COMPRESSION SEAL CROSS SECTION



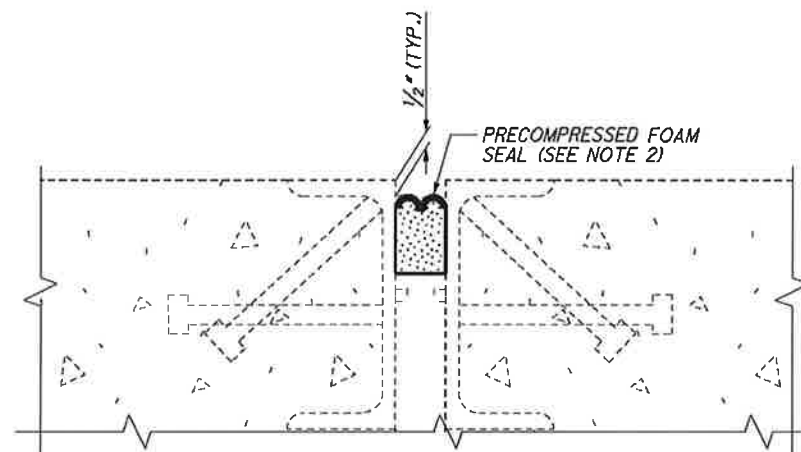
TYPICAL EXISTING STRIP SEAL CROSS SECTION



TYPICAL NEW STRIP SEAL CROSS SECTION



TYPICAL EXISTING STRESS RELIEF CROSS SECTION

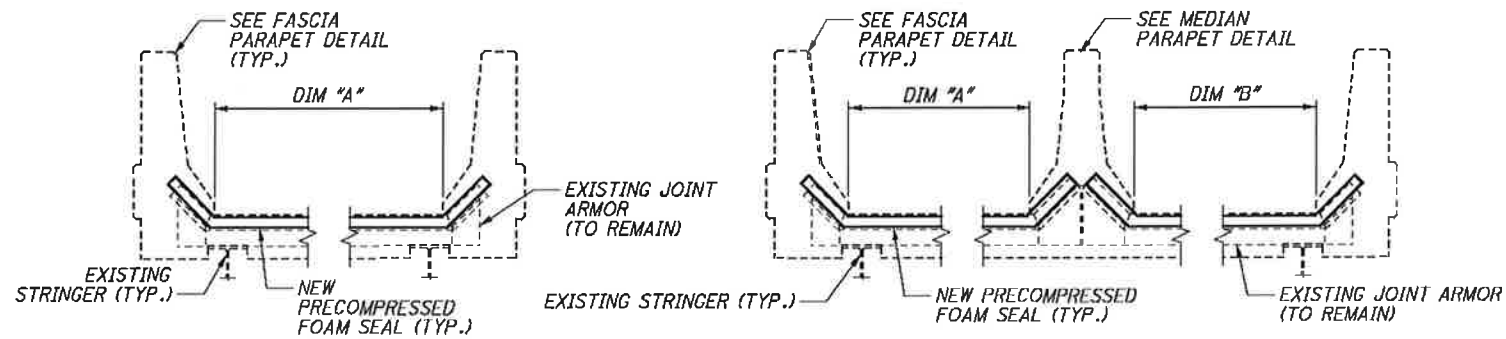


TYPICAL NEW STRESS RELIEF CROSS SECTION

NOTES:

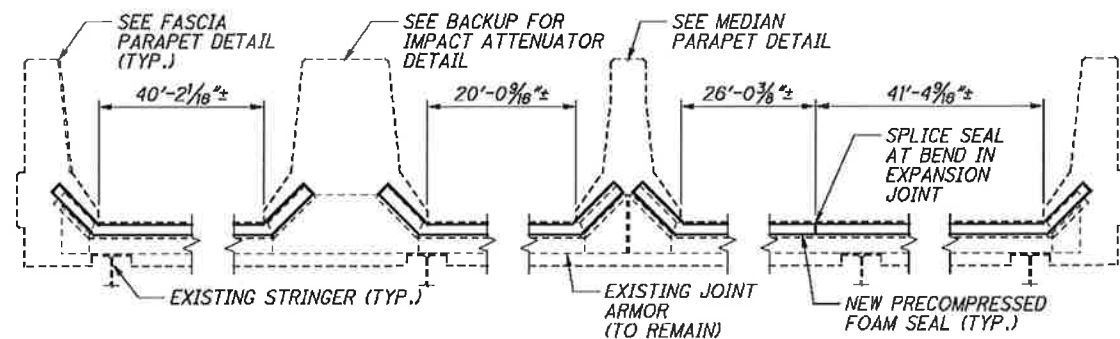
1. COMPLETELY REMOVE EXISTING SEAL AND CLEAN EXISTING JOINT ARMOR STEEL TO MANUFACTURER'S SPECIFICATIONS BEFORE INSTALLING NEW SEAL.
2. PROPOSED SEAL IS TO BE PRECOMPRESSED CELLULAR POLYURETHANE FOAM IMPREGNATED WITH HYDROPHOBIC ACRYLIC AND COATED WITH HIGHWAY-GRADE, FUEL RESISTANT ELASTOMER. ACCEPTABLE SEALS ARE EMSEAL BEJS, WABO HSEAL, AND MM SYSTEMS ETS.
3. EXPANSION JOINT RETROFITS MUST BE PERFORMED UNDER MOT RESTRICTIONS FOR SR-2.
4. CONTRACTOR MUST VERIFY THE SIZE OF THE EXPANSION JOINT SEAL IN THE FIELD.
5. FOR EXPANSION JOINT LOCATIONS SEE SHEET 1 / 187.
6. FOR MORE PRECOMPRESSED FOAM JOINT DETAILS SEE SHEET 184 / 187.
7. PAYMENT FOR LABOR, MATERIALS, AND INSTALLATION OF THE PRECOMPRESSED FOAM JOINT SEAL, INCLUDING REMOVAL OF EXISTING JOINT SEALS AND CLEANING OF EXISTING JOINT ARMOR, SHALL BE INCLUDED WITH ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: PRECOMPRESSED FOAM JOINT SYSTEM.

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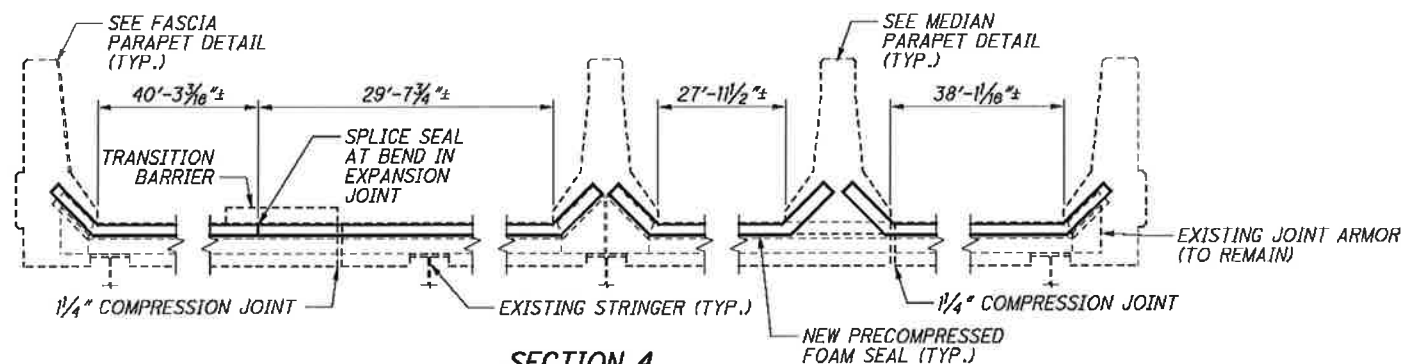


SECTION 1
(LOOKING EAST - JOINTS X1, X, W, Q4, Q3, Q2, Q1, T2, T1, T, S, R, Q6, Q5)

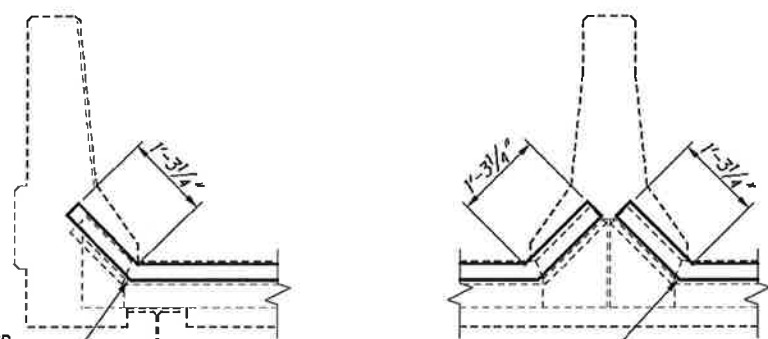
SECTION 2
(LOOKING EAST - JOINTS P, O, 2-H, M1, 4-H, L1, 6E, 6K, K1, 8-I, 8-Q, I1, 10-J, 10-P, H, G, F, E, D, B1, B2, B3, B4, B5, B6, B7, A)



SECTION 3
(LOOKING EAST - JOINT Q)

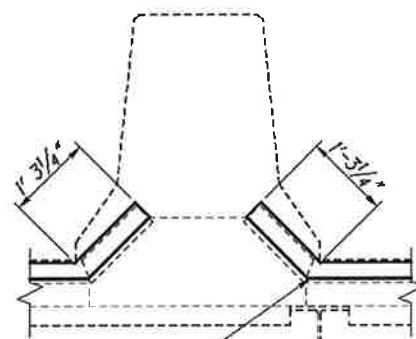


SECTION 4
(LOOKING EAST - JOINT C)



FASCIA PARAPET DETAIL

MEDIAN PARAPET DETAIL

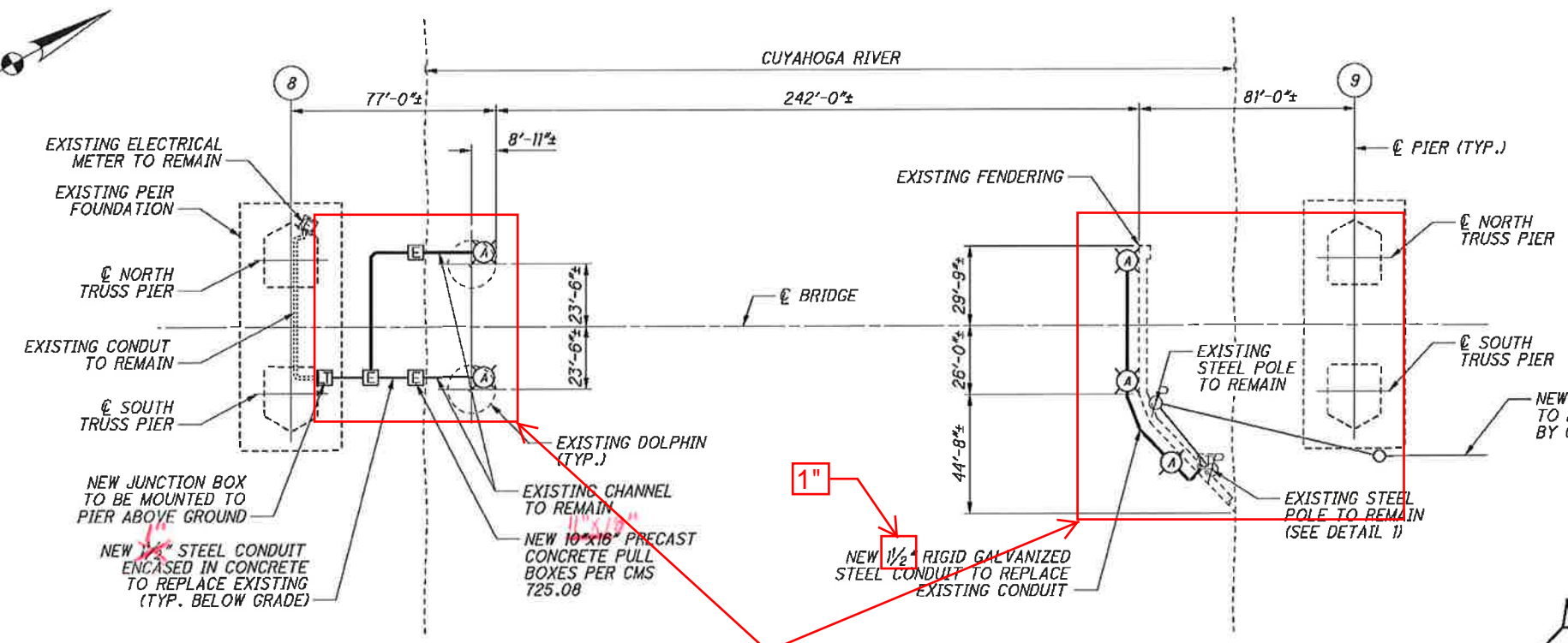


BACKUP FOR IMPACT ATTENUATOR DETAIL
(JOINT Q ONLY)

JOINTS TO BE REPLACED								
	LOCATION	JOINT	JOINT TYPE	SECTION	NEW SEAL SIZE	DIMENSION "A"	DIMENSION "B"	
WEST APPROACH	NORTH RAMP	SECTION B'	X1	COMPRESSION	1	3"	40'-1 1/8"	-
		SECTION B'/C	X	COMPRESSION	1	3"	40'-1 1/8"	-
		SECTION C/D	W	COMPRESSION	1	3"	40'-1 1/8"	-
		SECTION D	Q4	COMPRESSION	1	3"	40'-1 3/8"	-
		SECTION D	Q3	COMPRESSION	1	3"	40'-1 3/8"	-
	SOUTH RAMP	SECTION D	Q2	COMPRESSION	1	3"	40'-1 3/8"	-
		SECTION D	Q1	COMPRESSION	1	3"	40'-1 3/8"	-
		SECTION J'	T2	COMPRESSION	1	3"	40'-1"	-
		SECTION J'	T1	COMPRESSION	1	3"	40'-1 1/8"	-
		SECTION J'/K	T	COMPRESSION	1	3"	40'-2 1/4"	-
TRUSS	SECTION K/L	S	STRIP	1	3"	40'-3 3/8"	-	
	SECTION L/M	R	STRIP	1	3"	40'-6 1/8"	-	
	SECTION M	O6	COMPRESSION	1	3"	40'-1 3/8"	-	
	SECTION M	Q5	COMPRESSION	1	3"	40'-1 3/8"	-	
	SECTION D/N & M/N	Q	STRIP	3	3"	SEE SECTION 3		
	SECTION N/P	P	STRIP	2	3"	51'-3 1/8"	43'-5 1/8"	
	WEST APPR./TRUSS SPAN 1	O	STRIP	2	3"	40'-0 9/16"	40'-0 9/16"	
	TRUSS SPAN 2	2-H	STRESS RELIEF	2	1 3/4"	39'-11 5/16"	39'-11 5/16"	
	TRUSS SPAN 3	M1	STRIP	2	3"	40'-0 9/16"	40'-0 9/16"	
	TRUSS SPAN 4	4-H	STRESS RELIEF	2	1 3/4"	39'-11 1/2"	39'-11 5/16"	
TRUSS SPAN 5	L1	STRIP	2	3"	40'-0 9/16"	40'-0 9/16"		
TRUSS SPAN 6	6E	STRESS RELIEF	2	1 3/4"	40'-0 3/8"	40'-0 3/8"		
TRUSS SPAN 6	6K	STRESS RELIEF	2	1 3/4"	39'-11 5/16"	39'-11 5/16"		
TRUSS SPAN 7	K1	STRIP	2	3"	40'-0 1/2"	40'-0 9/16"		
TRUSS SPAN 8	8-I	STRESS RELIEF	2	1 3/4"	39'-11 5/16"	39'-11 5/16"		
TRUSS SPAN 8	8-Q	STRESS RELIEF	2	1 3/4"	39'-11 5/16"	39'-11 5/16"		
TRUSS SPAN 9	I1	STRIP	2	3"	40'-0 1/2"	40'-0 9/16"		
TRUSS SPAN 9	10-J	STRESS RELIEF	2	1 3/4"	40'-0 1/8"	40'-0 1/8"		
TRUSS SPAN 10	10-P	STRESS RELIEF	2	1 3/4"	39'-11 5/16"	39'-11 5/16"		
EAST APPROACH	FORWARD SECTION	H	STRIP	2	3"	40'-1 3/8"	40'-1 3/8"	
	FORWARD SECTION	G	STRIP	2	3"	40'-0 1/8"	40'-0 1/8"	
	FORWARD SECTION	F	STRIP	2	3"	40'-0 9/16"	40'-0 9/16"	
	FORWARD SECTION	E	STRIP	2	3"	41'-2 5/8"	41'-6 3/4"	
	FORWARD SECTION	D	STRIP	2	3"	52'-10 5/8"	55'-1 1/8"	
	FWD SECTION/TRESTLE	C	STRIP	4	3"	SEE SECTION 4		
	LAKEFRONT TRESTLE	B7	STRIP	2	3"	28'-0 9/16"	28'-0 9/16"	
	LAKEFRONT TRESTLE	B6	STRIP	2	3"	28'-0 3/4"	28'-0 3/4"	
	LAKEFRONT TRESTLE	B5	STRIP	2	3"	28'-0 3/4"	28'-0 3/4"	
	LAKEFRONT TRESTLE	B4	STRIP	2	3"	28'-0 3/4"	28'-0 3/4"	
LAKEFRONT TRESTLE	B3	STRIP	2	3"	28'-0 3/4"	28'-0 3/4"		
LAKEFRONT TRESTLE	B2	STRIP	2	3"	28'-0 9/16"	28'-0 9/16"		
LAKEFRONT TRESTLE	B1	STRIP	2	3"	28'-0 1/2"	28'-0 1/2"		
LAKEFRONT RAMP	A	STRIP	2	3"	28'-0 3/4"	28'-0 3/4"		

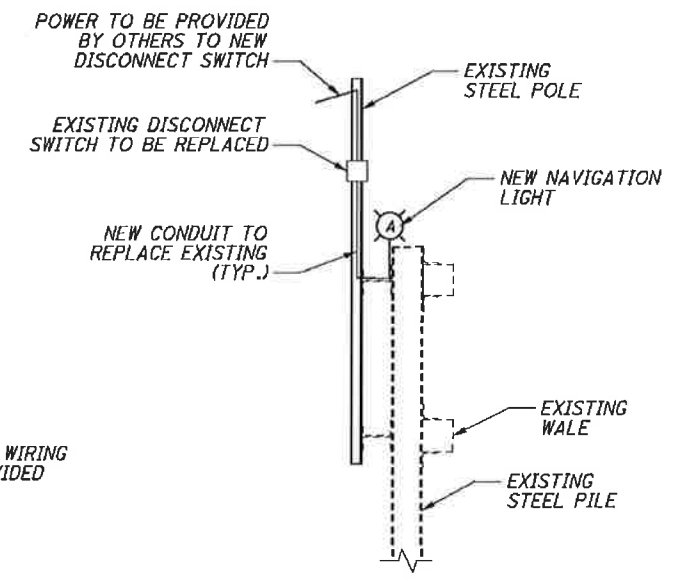
NOTES:

- FOR LOCATIONS OF THE EXPANSION JOINTS SEE SHEET 1 / 187.
- DIMENSIONS "A" AND "B" IN THE TABLE AND THE DIMENSIONS SHOWN IN SECTIONS 3 AND 4 INCLUDE THE TRANSVERSE GRADE OF THE DECK.
- FOR ADDITIONAL PRECOMPRESSED FOAM SEAL DETAILS SEE SHEET 183 / 187.
- EXPANSION JOINT RETROFITS MUST BE PERFORMED UNDER MOT RESTRICTIONS FOR SR-2. SEE SHEET 10 / 187 MOT RESTRICTIONS.
- THE PRECOMPRESSED FOAM SEAL SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS. CONTRACTOR WILL PROVIDE THE FIELD ENGINEER WITH THE MANUFACTURERS INSTALLATION SPECIFICATIONS SEVEN (7) DAYS PRIOR TO THE INSTALLATION.
- PAYMENT FOR LABOR, MATERIALS, AND INSTALLATION OF THE PRECOMPRESSED FOAM JOINT SEAL, INCLUDING REMOVAL OF EXISTING JOINT SEALS AND CLEANING OF EXISTING JOINT ARMOR, SHALL BE INCLUDED WITH ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: PRECOMPRESSED FOAM JOINT SYSTEM.

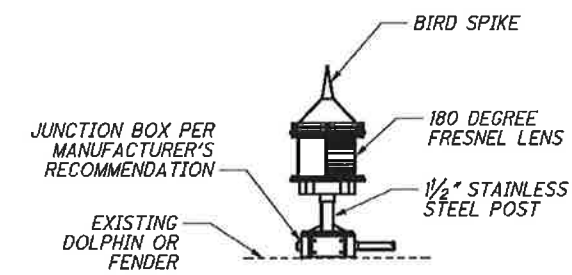


PLAN OF CUYAHOGA RIVER CHANNEL

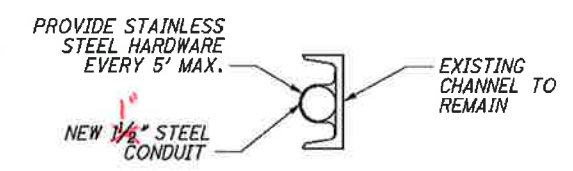
Wiring and lights installed as per plan; however, wiring was removed as part of Cleveland Metroparks Water Taxi project. For details of new wiring schematics, see "Cleveland Metroparks Water Taxi Project Ohio and Erie Canal Reservation, 1170 River Road, Cleveland, OH 44130" plans.



DETAIL 1



NEW NAVIGATION LIGHT



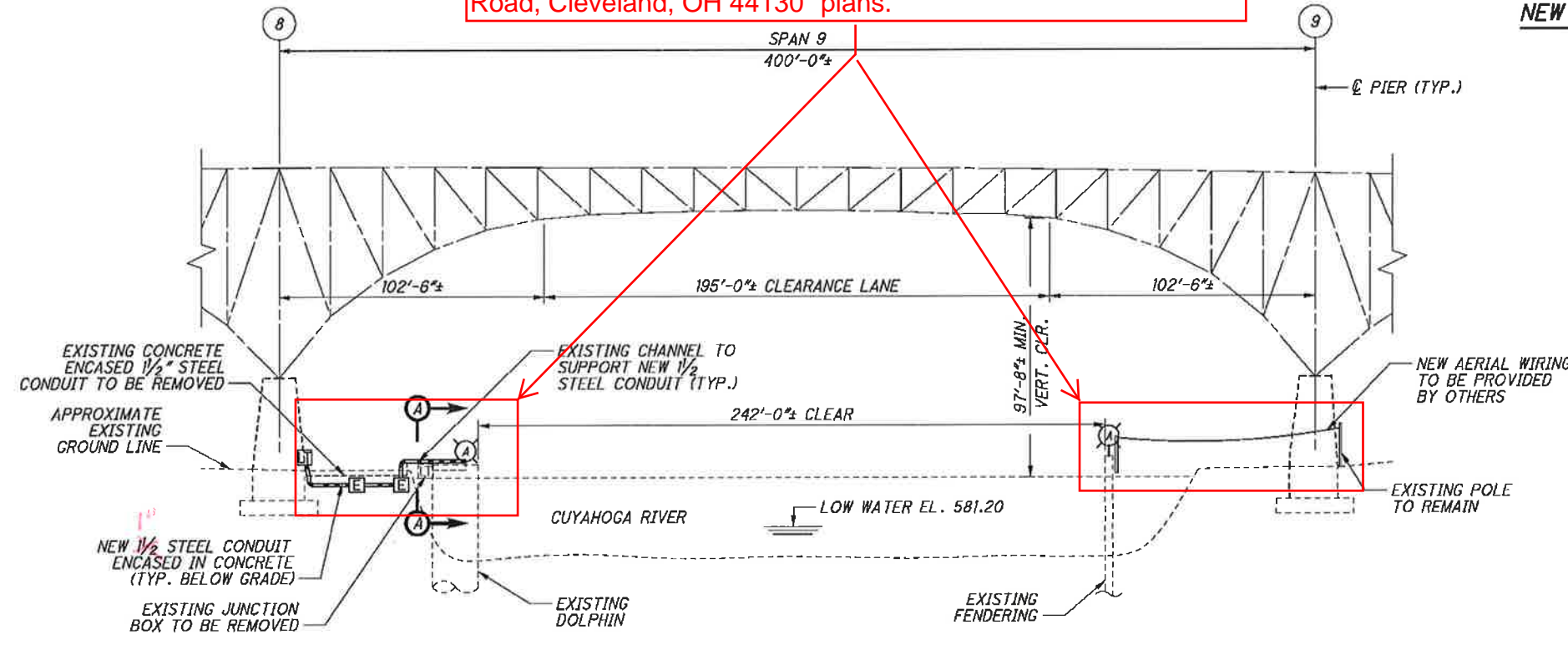
SECTION A-A

LEGEND:

- EXISTING NAVIGATION LIGHT FIXTURE TO BE REPLACED
- EXISTING ELECTRIC POLE
- EXISTING ELECTRIC METER
- EXISTING ELECTRIC JUNCTION BOX
- NEW ELECTRIC JUNCTION BOX
- NEW ELECTRIC PULL BOX

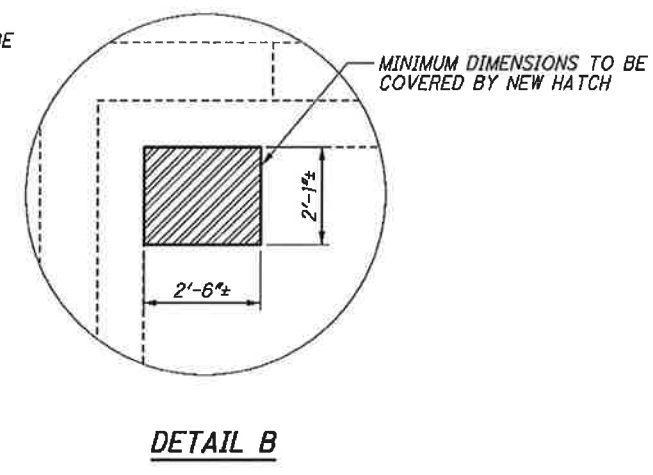
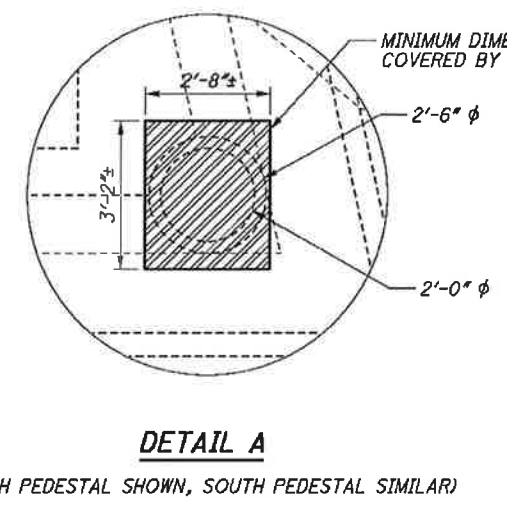
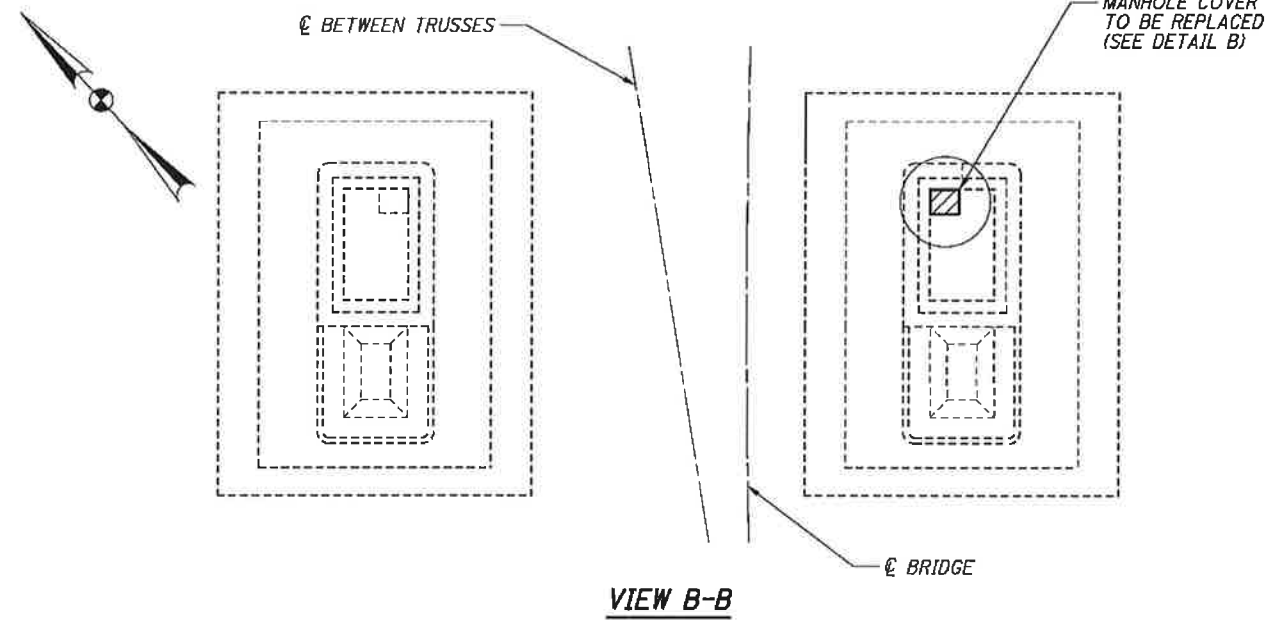
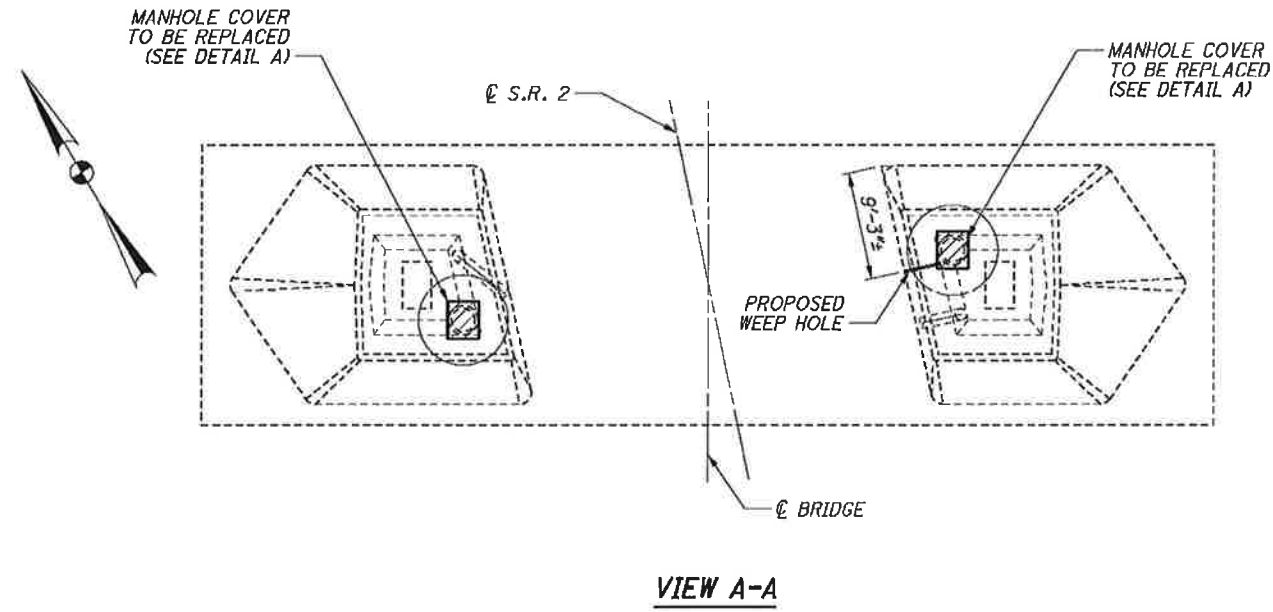
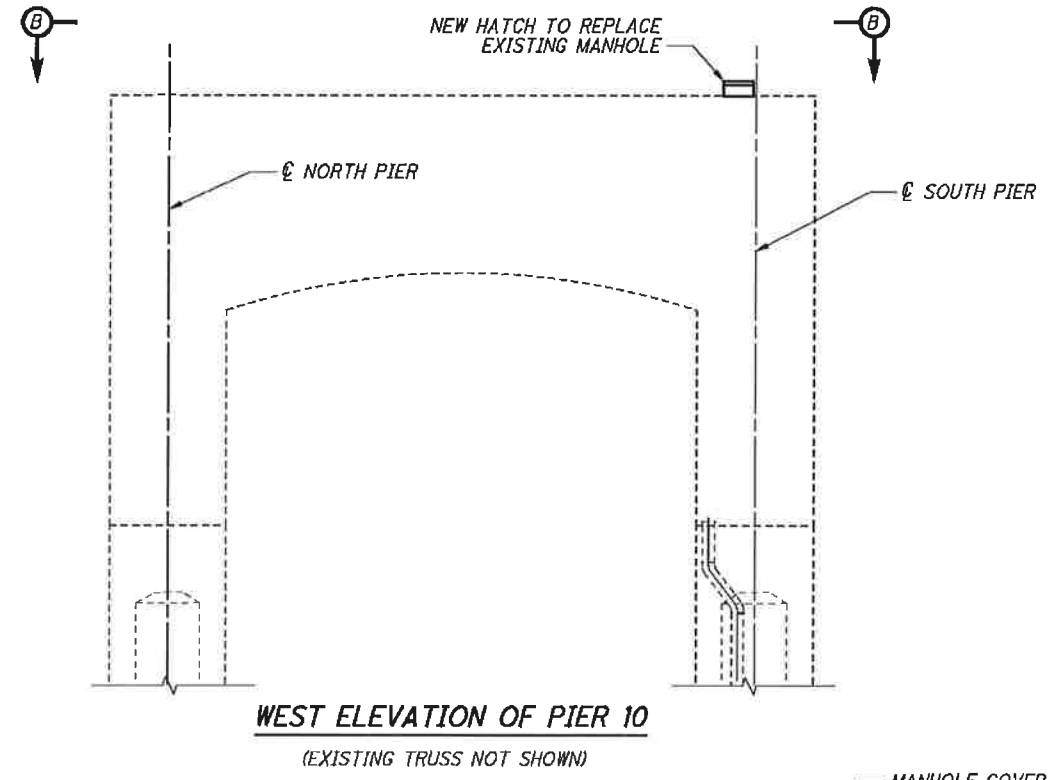
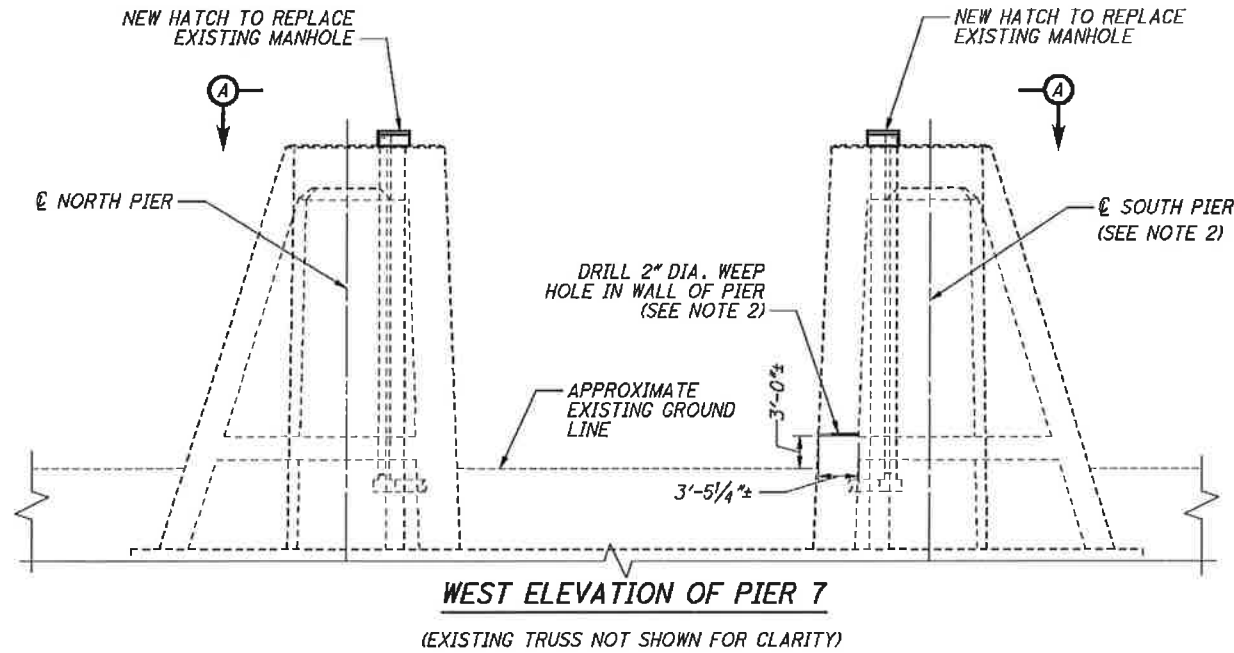
NOTES:

1. ALL WORK AND MATERIALS ASSOCIATED WITH THE REMOVAL OF EXISTING NAVIGATIONAL LIGHTS AND EXISTING CONDUIT AND THE INSTALLATION OF THE NEW NAVIGATION LIGHT FIXTURES, CONDUIT, CONDUCTORS, AND ASSOCIATED HARDWARE SHALL BE PAID UNDER ITEM 625 - LIGHTING, MISC.: REPLACEMENT OF EXISTING NAVIGATIONAL LIGHTING.
2. THE NAVIGATION LIGHT FIXTURES SHALL BE MOUNTED AND INDEXED TO PRODUCE THE LIGHTING ARC AS REQUIRED IN THE CODE OF FEDERAL REGULATIONS, TITLE 33, CHAPTER 1, SECTION 118.
3. ALL NAVIGATION LIGHT FIXTURES SHALL BE INSTALLED USING 300 SERIES STAINLESS STEEL HARDWARE AND FASTENERS.
4. THE NAVIGATION LIGHT FIXTURES SHALL BE CONNECTED TO FIELD WIRING USING AASHTO LRFD 2007, 2ND EDITION, SECTION 8.9 SPECIFICATIONS.
5. THE CONTRACTOR IS NOT PERMITTED TO BLOCK THE RIVER CHANNEL AND IS REFERRED TO THE GENERAL NOTE ON SHEET 2 / 187.
6. THE LIMITS OF REMOVAL FOR WORK SHOWN ON THIS SHEET INCLUDES THE EXISTING NAVIGATIONAL LIGHTS, THE EXISTING CONDUIT, AND CONDUCTORS AS SHOWN, AND ANY ASSOCIATED HARDWARE.



SOUTH ELEVATION OF CUYAHOGA RIVER CHANNEL

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LEGEND:

- MANHOLE COVER TO BE REPLACED

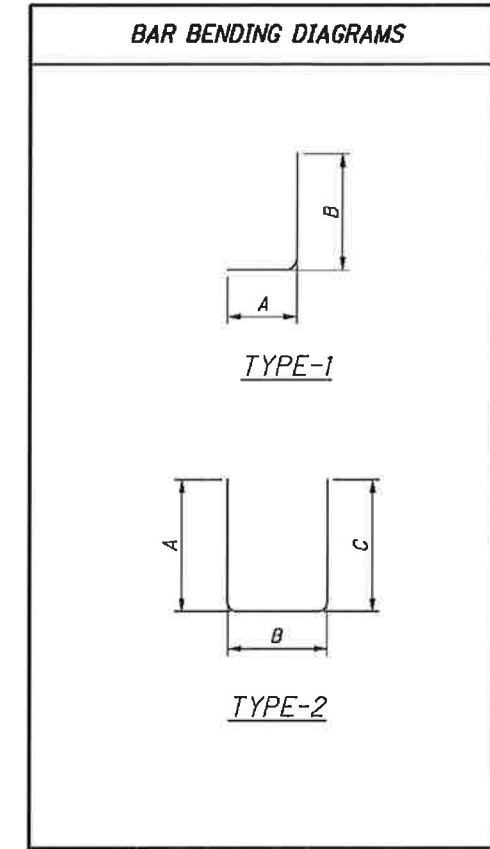
NOTES:

1. DIMENSIONS FOR NEW HATCHES COVERING MANHOLES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
2. THE PIER IS FILLED WITH WATER AND SHALL BE PUMPED OUT. THE PROPOSED WEEP HOLE SHALL BE DRILLED THROUGH THE WALL OF THE PIER INTO THE CAVITY. THE HOLE SHALL BE INCLINED AT APPROXIMATELY 1/8" PER FOOT TO ALLOW ANY FUTURE WATER INFILTRATION TO DRAIN OUT. DIMENSION LOCATING THE PROPOSED WEEP HOLE ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED. LABOR, EQUIPMENT, AND MATERIALS FOR REMOVING THE WATER AND DRILLING OF THE WEEP HOLE SHALL BE PAID FOR UNDER ITEM 518 - STRUCTURE DRAINAGE, MISC.; PIER 7S WATER REMOVAL.
3. THE PROPOSED HATCHES SHALL BE GALVANIZED STEEL AND PAID FOR UNDER ITEM SPECIAL - STRUCTURE, MISC.; PIER ACCESS HATCH.

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	DESIGN AGENCY TranSystems <small>95 RUBEN SQUARE, SUITE 100 GLENDALE, CA 91204</small>	DATE 08/16/13	STRUCTURE FILE NUMBER 1800035
DRAWN BJM	REVIEWED WRW	DESIGNED BJM	CHECKED CTG
PIER 7 & 10 MANHOLE COVER REPLACEMENT MAIN AVENUE - BRIDGE NO. CUY-2-1441 OVER THE CUYAHOGA RIVER			
CUY-2-14.41		PID No. 91115	
188 / 187		188 189	

MARK	NUMBER		LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL					A	B	C	D	E	R
<i>EAST APPROACH - FORWARD SECTION</i>											
R501	64		4'-11"	328	2	2'-3"	0'-8"	2'-3"			
R502	12		30'-0"	375	STR						
R503	3		8'-3"	26	1	2'-2"	6'-3"				
R504	3		6'-11"	22	1	1'-7"	5'-6"				
R601	128		3'-0"	577	STR						
<i>WEST APPROACH - SECTION P (BARS SHOWN FOR REFERENCE ONLY) SEE NOTE 3</i>											
R401	4		3'-4"		2	1'-4"	0'-6"	1'-4"			
<i>DRAINAGE CATCHMENT WALLS (BARS SHOWN FOR REFERENCE ONLY) SEE NOTE 4</i>											
R301	68		6'-3"		1	2'-5"	3'-8"				
R302	340		1'-2 1/4"		STR						
<i>SUB-TOTAL</i>				1328							



NOTES:

1. ALL REINFORCING STEEL IS TO BE PAID FOR UNDER ITEM 509 - EPOXY COATED REINFORCING STEEL.
2. FOR LOCATION AND INSTALLATION DETAILS OF EAST APPROACH - FORWARD SECTION REINFORCING STEEL SEE SHEET 15 / 187.
3. ALL REBAR FOR WEST APPROACH SECTION P SHALL BE PAID FOR UNDER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.
4. ALL REBAR FOR REPLACEMENT OF DRAINAGE CATCHMENT WALLS SHALL BE PAID FOR UNDER ITEM 518 - STRUCTURE DRAINAGE, MISC.: CLEANING AND REPAIR OF CATCHMENTS AND CATCH BASINS.