

DATE PLOTTED: June 24, 2013

GENERAL NOTES:

- DESIGN SPECIFICATION:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 5TH EDITION (2010), WITH ALL INTERIM SPECIFICATIONS IN EFFECT.
- MATERIAL:
ALL SUPERSTRUCTURE STEEL SHALL BE ASTM A709, GRADE 50 (A572), UNLESS NOTED OTHERWISE. ALL STEEL GALVANIZED AFTER FABRICATION. NOTE PRIOR TO GALVANIZING, ALL CORNERS AND EDGES OF STEEL PLATEES, SHAPES, ETC., SHALL BE GROUND TO A 1.5mm ($\frac{1}{16}$ inch) RADIUS. ALL FASTENERS, UNLESS NOTED OTHERWISE SHALL BE 1"Ø HIGH STRENGTH BOLTS, ASTM A325 TYPE 1 (MECHANICALLY GALVANIZED) WITH ASTM A563 GRADE DH OR DH3 NUT, ONE DTI WASHER, AND ONE F436 WASHER PER BOLT. FASTENERS SHALL BE FURNISHED WITH ROTATIONAL CAPACITY TEST.

BOTTOM CHORD, BOTTOM CHORD SPLICE PLATES, & TENSION DIAGONALS ARE DESIGNATED AS FRACTURE CRITICAL MEMBERS (MUST MEET 12.4 BASE METAL REQUIREMENTS OF AASHTO/AWS D1.5M/D1.5:2010). ALL FRACTURE CRITICAL MEMBERS SHALL MEET TOUGHNESS TESTING CRITERIA FOR FC ZONE 2 CVN (25 FT-LBS @ 40°F). ALL FCM STEEL WILL BE VISUALLY INSPECTED BY US BRIDGE QUALITY CONTROL, THAT NO REPAIRS WERE MADE AT THE MILL. FLOOR BEAMS, FLOOR BEAM END PLATES, STRINGERS, & BOTTOM CHORD GUSSET PLATES SHALL MEET TOUGHNESS TESTING CRITERIA FOR: NFC ZONE 2 CVN (15 FT-LBS @ 40°F)
- CONSTRUCTION/FABRICATION:
AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 2ND EDITION (2004), WITH ALL INTERIM SPECIFICATIONS IN EFFECT.
- WELDING:
ALL WELDING SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5 BRIDGE WELDING CODE AND THE AASHTO FRACTURE CONTROL, WHERE APPLICABLE.

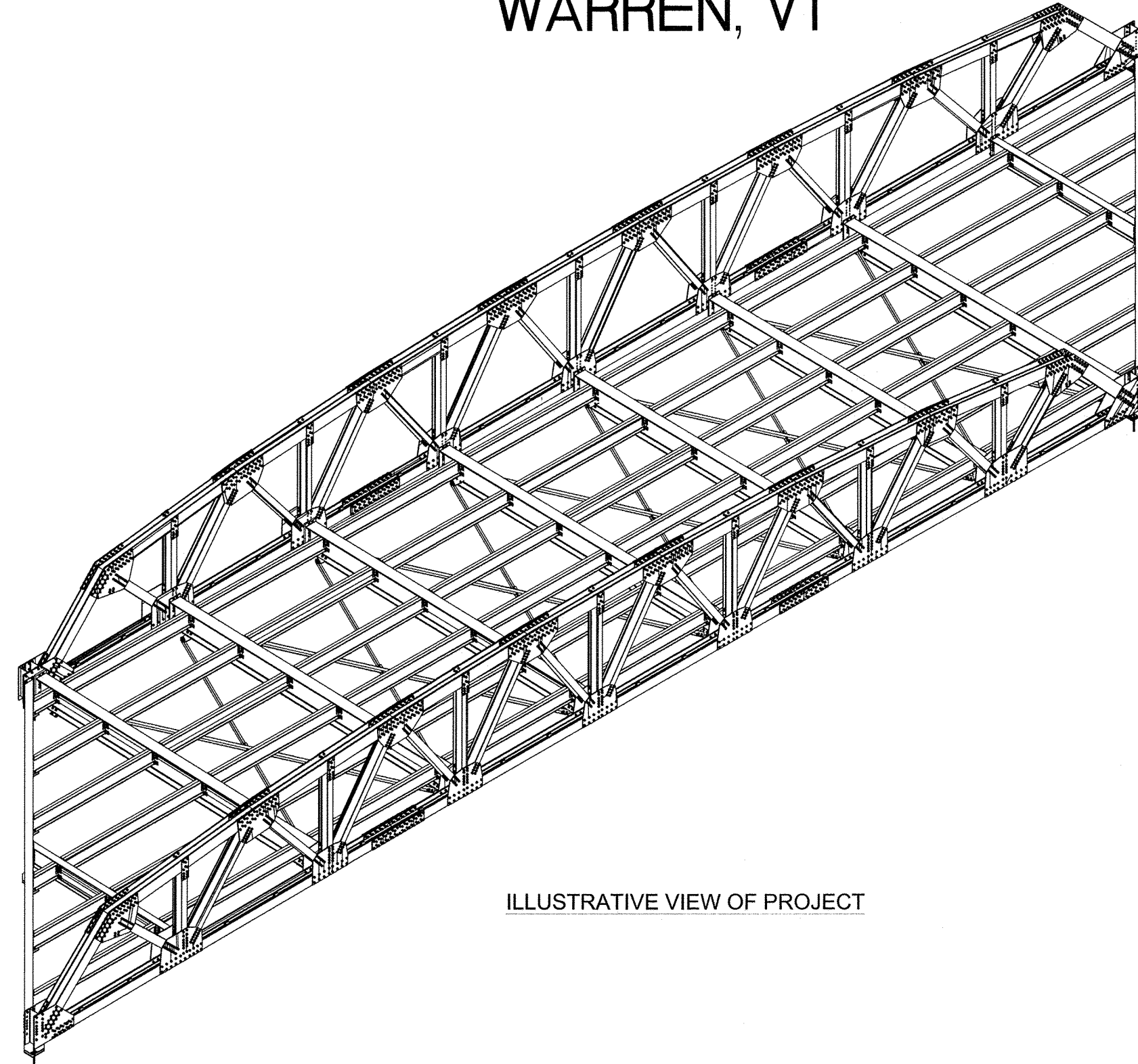
NON-DESTRUCTIVE TESTS OF ALL WELDS SHALL BE PERFORMED AS FOLLOWS:
FILLET WELDS - VISUAL INSPECTION - 100%
FILLET WELDS - MAGNETIC PARTICAL TESTING - 10% MIN PER AWS D1.5
- FLOORING:
8½" REINFORCED CONCRETE DECK WITH 3" ASPHALT SURFACING
- ANCHOR BOLTS:
THE ANCHOR BOLTS SHALL EITHER BE CAST-IN-PLACE DURING THE ABUTMENT CONSTRUCTION OR DRILLED AND ANCHORED TO THE ABUTMENTS AFTER THE BRIDGE IS ERECTED. THE ANCHOR BOLTS ARE TO BE ANCHORED USING EPON A7 FAST CURING ACRYLIC ADHESIVE OR EQUAL. EPON A7 IS A PRODUCT OF ITW RED HEAD, 2171 EXECUTIVE DRIVE, ADISSON, IL 60101, PHONE: 603-350-0370. THE ACRYLIC ADHESIVE IS FURTHER DESCRIBED AS A TWO COMPONENT METHYL METHACRYLATE ADHESIVE, NON-SAG PASTE, MOISTURE INSENSITIVE WHEN CURED, DARK GREY IN COLOR. MEETS ASTM C881-90, TYPE IV, GRADE 3, CLASS A,B AND C WITH THE EXCEPTION OF GEL TIME AND EPOXY CONTENT.
- PROFILE GRADE:
SLOPE IS PER CONTRACT BID DOCUMENTS.
- BOLT LENGTHS:
THE LENGTH OF BOLTS IN THESE PLANS HAS BEEN DESIGNED TO PROVIDE A FULLY TENSIONED BOLT WITH 1 HARDENED WASHER AND A THREAD STICK-THROUGH OF BETWEEN 1 AND 3 THREADS, BASED ON THE THEORETICAL SECTION PROPERTIES OF THE JOINED MEMBERS. THREAD STICK THROUGH OF A FULLY TENSIONED BOLT WITH MORE THAN 3 THREADS IS PERMITTED AND MAY OCCUR BECAUSE OF THINNER MEMBERS THAT ARE WITHIN ACCEPTABLE MILL TOLERANCES. THE MINIMUM STICK THROUGH SHALL NOT BE LESS THAN 0 THREADS (FLUSH).

ANY CHANGES TO THE INSTALLED BOLT LENGTHS CALLED FOR IN THESE SHOP DRAWINGS SHALL BE REPORTED TO THE ENGINEERING DEPARTMENT TO BE RECORDED AS AN "AS-BUILT" CONDITION.

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE FIELD BOLTS IN ACCORDANCE WITH THESE DRAWINGS. INCORRECTLY INSTALLED BOLTS BY THE CONTRACTOR WILL RESULT IN CHANGED QUANTITIES FROM THOSE INTENDED. THE CONTRACTOR'S INSTALLATION IS SUBJECT TO FIELD REVIEW BY A U.S. BRIDGE REPRESENTATIVE BEFORE ANY CLAIM FOR ADDITIONAL BOLT QUANTITIES OR DELAYS WILL BE CONSIDERED.

BOLT LENGTHS CALCULATED TO EXCLUDE THREADS IN THE SHEAR PLANE.

BRIDGE NO.173 REPLACEMENT WARREN, VT



ILLUSTRATIVE VIEW OF PROJECT

SHOP NOTES:

- "REF" INDICATES DIMENSION HAS BEEN TRANSPOSED FROM THE CONTRACT DOCUMENTS (CD'S).
- "CHK" INDICATES DIMENSION IS TO BE USED TO CHECK FABRICATED MEMBER AFTER LAYOUT.
- "HOLD" INDICATES DIMENSION HAS GOVERNING PRIORITY OVER OTHER DIMENSIONS.
- STAMPING LOCATIONS AND BOLT HOLE SIZES ARE SHOWN WITH A BOX SURROUNDING THE TEXT.
- NATURAL OR MILL CAMBER SHALL BE ORIENTED UP ON ALL MEMBERS UNLESS NOTED OTHERWISE.
- lower case PIECE MARKS INDICATE INDIVIDUAL PIECES.
- UPPER CASE PIECE MARKS INDICATE SHIPPABLE ASSEMBLIES.
- ALL FASTENERS INCLUDE 1 BOLT, 1 NUT & 1 WASHER UNLESS NOTED OTHERWISE.
- GUSSET PLATE MARKINGS AT VISIBLE PLACE ON OUTSIDE OF CONNECTION.
- ¾" DIAMETER HOLES SHALL BE DRILLED IN PLAIN MATERIAL THAT IS TO BE GALVANIZED. BURNING BY TORCH IS PROHIBITED. TWO HOLES MINIMUM SHALL BE SYMMETRICALLY LOCATED ALONG A USUAL GAGE LINE OF THE SHAPE OR PLATE AND NO CLOSER THAN 2" TO ANY FREE EDGE.
- TEMPORARY BOLTS FOR SHIPPING (TEMP BOLTS) SHALL BE ZINC PLATED AND INCLUDE 1 FLAT WASHER + 1 LOCK WASHER + 1 NUT INSTALLED IN SAME SIDE AND FASTENED SNUG TIGHT; 3 MIN. PER CONNECTION. TEMPORARY BOLTS ARE NOT QUANTIFIED IN THESE PLANS.

PROJECT DESIGN CRITERIA:	
SPAN:	138'-6" C/C BEARINGS
DECK WIDTH:	35'-0"
SIDEWALK:	N/A
SKEW:	45° LF
DESIGN LIVE LOAD:	HL-93
EXPANSION:	1½" @ 100' F
CONNECTIONS:	FIELD BOLTED & SHOP WELDED
DESIGN LOADS:	
FLOOR 8½" CONCRETE	110 PSF
3" ASPHALT SURFACING	35 PSF
CONCRETE HAUNCHES	5 PSF
CONCRETE CURB WITH RAIL	300 PLF
FUTURE ROADWAY SURFACE	35 PSF
TRUSS SHOE REACTION:	
DEAD LOAD	328.7K
LIVE LOAD	143.8K
IMPACT	28.6K

INDEX OF SHEETS	
SERIES #	DESCRIPTION
1	TITLE SHEET
2	CONSTRUCTION PLANS/FRAMING
3	CONSTRUCTION PLANS/TRANSVERSE SECTIONS
4	CONSTRUCTION PLANS/ABUTMENTS
5	CONSTRUCTION PLANS/FIELD ASSEMBLY
6	BILL OF MATERIALS
7	SHOP DETAILS/TRUSS ASSEMBLY
8	SHOP DETAILS/SHOP ASSEMBLY
9	SHOP DETAILS/PROFILES
10	SHOP DETAILS/PLATES

RECORD DWGS
AS FABRICATED
6/24/13

SYMBOLS & ABBREVIATIONS
 ES: EACH SIDE NS: NEAR SIDE
 EQ: EQUAL FS: FAR SIDE
 CL: CENTERLINE WP: WORK POINT
 REF: REFERENCE GA: GAUGE
 CHK: CHECK ID: INSIDE DIAMETER
 O/D: OUT TO OUT OD: OUTSIDE DIAMETER
 C/C: CENTER TO CENTER BRG: BEARING
 F/F: FACE TO FACE TYP: TYPICAL
 DIA: DIAMETER UND: UNLESS NOTED OTHERWISE
 R: RADIUS ABUT: ABUTMENT
 T&B: TOP & BOTTOM

DIST. BY: **CONTECH**
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com

FAB. BY: **U.S. BRIDGE**
BRIDGING AMERICA SINCE 1936

SUBMITTAL LOG	DATE	NO.	DATE	REVISIONS:	BY:
INITIAL SUBMITTAL	12/18/12	△	5/15/13	FLOOR BEAM END PLATES WAS 1" THK	TLB
RESUBMITTAL NO. 2	2/5/13	△	5/15/13	ADDED 2" DIA. RAI HOLES IN fb1 & fb9	TLB
CUSTOMER APPROVAL	2/13/13	△	5/15/13	CHANGED WELD WAS ¾" ALL AROUND	TLB
SHOP REVIEW	-	△	5/15/13	CHANGED BOLT PATTERN	TLB
PRE FAB MTG	-	△	5/15/13	WAS 2" EDGE DISTANCE	TLB
APPROVED FOR FAB	2/28/13	△	6/3/13	DIMENSIONAL ERRORS	TLB

TOWN OF WARREN, VT
COUNTY OF WASHINGTON
BRIDGE NO.173 REPLACEMENT
WARREN, VT

ITEM NO.:
PROJECT NO.: BRF 013-4 (14)
REFERENCE NO.:
BRIDGE NO.: 173
STRUCTURAL FILE NO.:

DESIGN: SAF DRAW: TLB REVIEW: SAF/RL CHECK: CJG

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