GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011 WITH LATEST REVISIONS AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION, AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1) ALL STRUCTURAL STEEL TO BE AASHTO M270 (ASTM A709) GRADE 50, UNLESS NOTED.

2) MATERIAL NOTED "CVN" OR "T2" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS SECTION 714.01.

3) HIGH STRENGTH BOLTS SHALL BE 7/8" DIAMETER, ASTM A325 (TYPE 1) MECHANICALLY GALVANIZED, IN 15/16" DIAMETER HOLES. NUTS SHALL BE A563 (TYPE 1) GRADE C3 MECHANICALLY GALVANIZED, WASHERS SHALL BE F436 (TYPE 1) MECHANICALLY GALVANIZED AND DIRECT TENSION INDICATORS (DTI) SHALL BE ASTM F959 (TYPE 1) MECHANICALLY GALVANIZED.

   BOLTS, NUTS & WASHERS SHALL BE ROTATIONAL CAPACITY TESTED. DO NOT MIX BOLTS & NUTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

4) DIRECT TENSION INDICATOR WASHERS CONFORMING TO ASTM F959 SHALL BE INSTALLED WITH ALL HIGH STRENGTH BOLTS.

FABRICATION

1) ALL HOLES SHALL BE DRILLED FULL SIZE UNLESS NOTED.

2) ALL FINS, SLIVERS AND TEARS SHALL BE REMOVED.

3) ALL ROUGH SURFACES SHALL BE GROUND SMOOTH.

4) FLAME CUT EDGES SHALL BE GROUND OVER THEIR ENTIRE SURFACE SUCH THAT ANY HARDENED SURFACE LAYER IS REMOVED.

WELDING

1) THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH THE CURRENT AASHTO/AWS D1.5 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

2) WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3) NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

4) SEE DETAIL "WT1" ON THIS DRAWING FOR WELD TERMINATION DETAIL.

5) SHOP APPLIED STUDS SHALL BE AUTO END WELDED. SEE DETAIL "S1".

WELD PROCEDURE

THE FOLLOWING CASCO WELDING PROCEDURES SHALL BE USED:

	WELD DESCRIPTION	MAT'L GRADE	WP	CASCO WELD PROC.
GIRDERS	GIRDER WEB BUTT WELDS	M270-50 TO M270-50	WP2	202 ⚠2
	GIRDER FLANGE BUTT WELDS	M270-50 TO M270-50	WP3	203 ⚠1
	GIRDER WEB TO FLANGE FILLET WELD	M270-50 TO M270-50	WP1	201
	GIRDER STIFFENER TO WEB FILLET WELDING	M270-50 TO M270-50	WP4	250
	GIRDER STIFFENER TO FLANGE FILLET WELDING	M270-50 TO M270-50	WP5	480
	DRIP PLATES TO GIRDER FLANGE	M270-50 TO M270-50	WP6	480 or 610

FIELD CONNECTIONS

1. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH ⚠2⚠1 A325 BOLTS, INSTALLED PER SECTION 506.19(c). REFER TO SECTION 506.19 OF THE 2011 GENERAL SPECIAL PROVISIONS.

2. BOLTS SHALL HAVE A HEAVY HEX HEAD, HEAVY HEX NUT, AT LEAST ONE HARD FLAT WASHER EACH AND DIRECT TENSION INDICATOR (DTI). WASHER TO BE PLACED UNDER THE TURNED ELEMENT.

3. PIECE MARKS WILL BE LOCATED AS SHOWN ON SHEET E1.

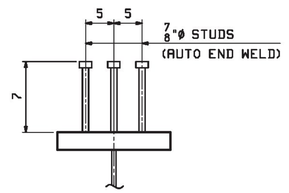
4. DTI WASHERS SHALL BE USED IN ALL FIELD BOLTS. DTI SHALL BE POSITIONED IN ACCORDANCE WITH ASTM F959 SPECIFICATIONS. SEE DETAILS "DT1-DT4" THIS SHEET.

CLEANING

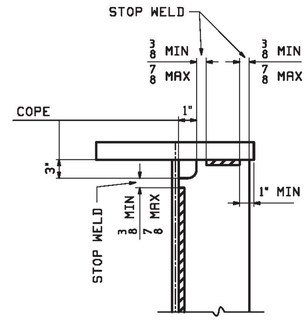
1. ALL STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH SSPC-VIS 1 (SSPC-SP5)..

METALLIZING:

⚠2 1. METALLIZING, SURFACE PREP & SEAL COAT SHALL BE IN ACCORDANCE WITH CASCO BAY STEEL STRUCTURES, INC. APPROVED METALLIZING PROCEDURE AND PER VERMONT AOT ITEM 900.645 "SPECIAL PROVISION (METALLIZING STRUCTURAL STEEL)" AND STANDARD SPECIFICATIONS SECTION 726.09.



DETAIL "S1"
STUD SPACING AND WELDING
⚠2 (ADDITIONAL STUDS IF REQUIRED WILL BE FIELD APPLIED BY OTHERS)



DETAIL "WT1"
STIFFENER WELD TERMINATION

Vermont Agency of Transportation
RECEIVED
CK'D BY VHB OK'D BY TAS
March 31, 2017
RESUBMIT ____ APPROVED YES
BY T Sumner DATE 4/11/17

SHOP DRAWING REVIEW

☒ REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

☐ REJECTED ☐ REVISE AND RESUBMIT ☐ FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIRMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

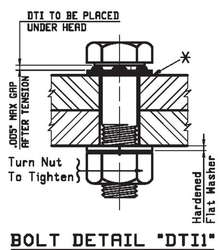
vhb
40 IDX Drive
Building 100, Suite 200
South Burlington, VT 05403
802.497.6100

Job Number: BRF 025-1(42)
Reviewed By: E.F. LAWES
Date: April 11, 2017

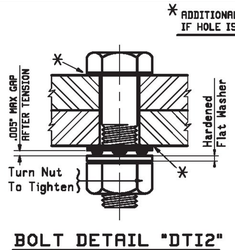
NOTE TO ENGINEER:
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

DETAILS FOR POSITIONING DTI (LIW) WASHERS (PER ASTM F-959)

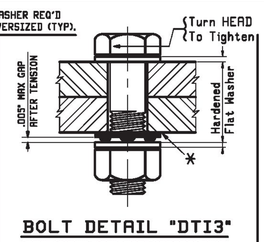
DTI UNDER HEAD - TURN NUT	DTI UNDER NUT - TURN NUT	DTI UNDER NUT - TURN HEAD	DTI UNDER HEAD - TURN HEAD



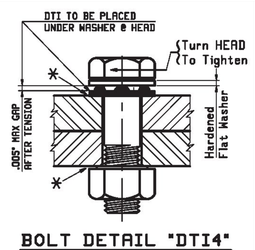
BOLT DETAIL "DTI1"
THIS IS THE PREFERED METHOD.



BOLT DETAIL "DTI2"
DTI UNDER NUT FOR VISIBILITY.



BOLT DETAIL "DTI3"
DTI UNDER NUT FOR VISIBILITY.
2 HARD FLAT WASHERS ARE REQ'D



BOLT DETAIL "DTI4"
DTI UNDER HEAD FOR VISIBILITY.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠2	03/30 2017	APPROVAL COMMENTS & REVISED METALLIZING NOTES	ATD	PCP		
⚠1	03/08 2017	APPROVAL COMMENTS & ADDED WEB/FLG BUTT WELD PROC.	ATD	PCP		
0						

MATERIAL: | SURFACE PREP. & PRINT: | HOLES: | SHOP BOLTS:

DESCRIPTION: GENERAL NOTES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3428

STRUCTURE:
VT RTE 103 (MAIN STREET) OVER BLACK RIVER
BRIDGE NO. 25
ROUTE T.H.1 (VT 103) CLASS 1 F.A.S. 025-1

DRAWN: ATD DATE: 12/08
CHK'D: PCP DATE: 12/13

LOCATION: TOWN OF LUDLOW, WINDSOR COUNTY, VT
JOB NO. 684
DWG NO. GN1
PROJ NO. BRF 025-1(42)
CUSTOMER: COLD RIVER BRIDGES, LLC.
REV. ⚠2

PCP Thu, Mar 30, 2017 08:31:44 AM J:\users\jobs\2432\Dwl : Rev2