

MILLER CONSTRUCTION, INC.

P.O. BOX 86 ASCUTNEY BLVD WINDSOR, VERMONT 05089-0086
 TELEPHONE (802) 674-5525 / FAX (802) 674-5245

TRANSMITTAL

TO: Jennifer Fitch, PE Project Manager Vermont Agency of Transportation	DATE	PROJECT NO.
	7/10/2014	Brookfield BRF FLBR (2)

XX WE ENCLOSE THE FOLLOWING:

_____ UNDER SEPARATE COVER WE ARE SENDING THE FOLLOWING

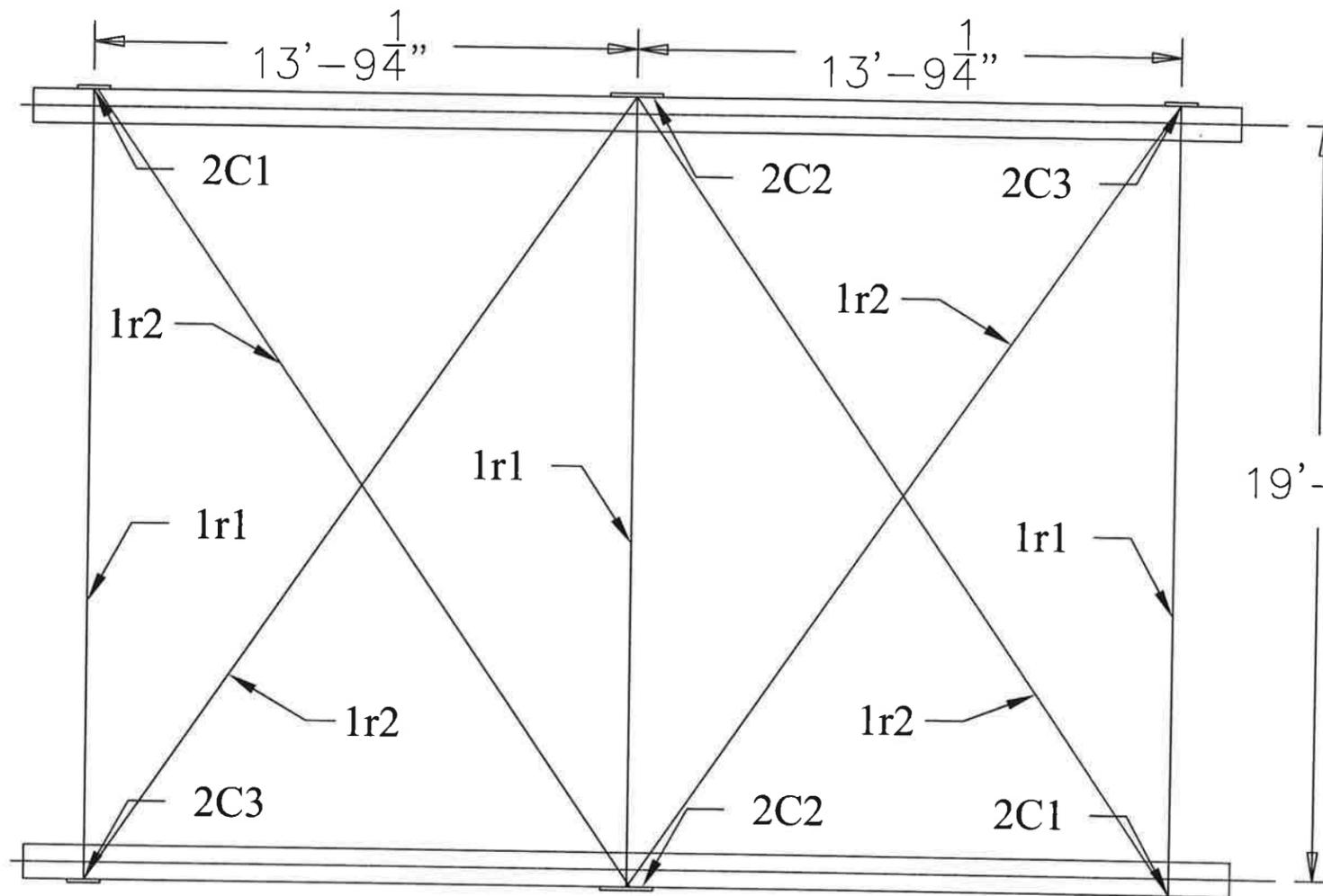
COPIES	NUMBER	DESCRIPTION	CODE
1		Cross Frame Bracket Shop Drawings - Rev 3	H
1		Cross Frame Bracket WPS - Rev 1	H

CODE:

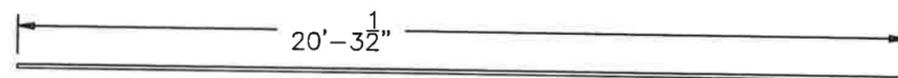
- A FOR INITIAL APPROVAL
- B FOR FINAL APPROVAL
- C APPROVED AS NOTED-RESUBMISSION REQUIRED
- D APPROVED AS NOTED-RESUBMISSION NOT REQUIRED
- E DISAPPROVED-RESUBMIT
- F QUOTATION REQUESTED
- G APPROVED

- H FOR APPROVAL
- I AS REQUESTED OR REQUIRED
- J FOR USE IN ERECTION
- K LETTER FOLLOWS
- L FOR FIELD CHECK
- M FOR YOUR USE

BY: 

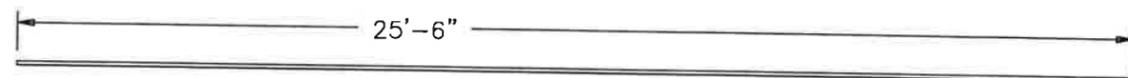


(1) - 1E1 EAST RAMP FRAMING
 (1) - 1W1 WEST RAMP FRAMING



(6) - 1r1 CROSS ROD DETAIL

NOTE - 6" THIRD EACH END



(8) - 1r2 CROSS ROD DETAIL

T.Y. LIN INTERNATIONAL
 THE STAMPED DOCUMENTS ARE HEREBY:
 _____ APPROVED
 _____ APPROVED AS NOTED
 _____ X REVISE AND RESUBMIT
 SEE TRANSMITTAL FOR ADDITIONAL INFORMATION AS APPLICABLE.
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 _____ JOSH OLUND REVIEWER 07/11/2014 DATE

Vermont Agency of Transportation
RECEIVED
 ON: July 10, 2014
 and Checked for
CONFORMANCE
 BY: Jennifer Fitch DATE: 07/25/2014

BILL OF MATERIALS				
QTY	MARK	SHAPE	LENGTH	REMARKS
1	1E1	EAST FRAMING PLAN		
2	2C1	Cross Frame Bracket 1		
2	2C2	Cross Frame Bracket 2		
2	2C3	Cross Frame Bracket 3		
3	1r1	1" Dia Rebar Tie Rod x 20'-9 1/2" lg with 4 Nuts & 2 Hardended Steel Washers		
4	1r2	1" Dia Rebar Tie Rod x 25'-6" lg with 4 Nuts & 2 Hardended Steel Washers		
1	1W1	WEST FRAMING PLAN		
2	2C1	Cross Frame Bracket 1		
2	2C2	Cross Frame Bracket 2		
2	2C3	Cross Frame Bracket 3		
3	1r1	1" Dia Rebar Tie Rod x 20'-9 1/2" lg with 4 Nuts & 2 Hardended Steel Washers		
4	1r2	1" Dia Rebar Tie Rod x 25'-6" lg with 4 Nuts & 2 Hardended Steel Washers		

- RAMP FRAMING MATERIAL NOTES
1. ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270 GRADE 36.
 2. ALL STRUCTURAL STEEL AND FASTENERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AND M 232.
 3. ALL REBAR TIE RODS SHALL CONFORM TO ASTM A615 GRADE 75.
 4. ALL NUTS SHALL CONFORM TO ASTM A563.

DRAWING COVERS	
TIMBER BRIDGE SUPPORT DETAILS	
PROJECT	BROOKFIELD BRIF FLBR(2)
LOCATION	VT ROUTE 65 OVER WESTERN AND EASTERN RAMP
ENGINEER	T Y LIN INTERNATIONAL
CUSTOMER	MILLER CONSTRUCTION
MERRIMACK SHEET METAL	
119 HALL STREET CONCORD NH 03301	
Tel. 603.224.7766 Fax 603.224.7925	
DRAWN BY:	RL
CHECKED BY:	JD
JOB NO.:	#5414
DWG	F1

REV NO.	DATE	DESCRIPTION
3	6-24-2014	REVISED PER APPROVAL COMMENTS
2	6-17-2014	REVISED PER APPROVAL COMMENTS
1	5-30-2014	REVISED PER APPROVAL COMMENTS
0	5-5-2014	SUBMITTED FOR APPROVAL
DATE SUBMITTED		
HOLES AS NOTED		
MATERIAL: AASHTO M 270 GRADE 36 GALV		

RECEIVED

ON: July 10, 2014

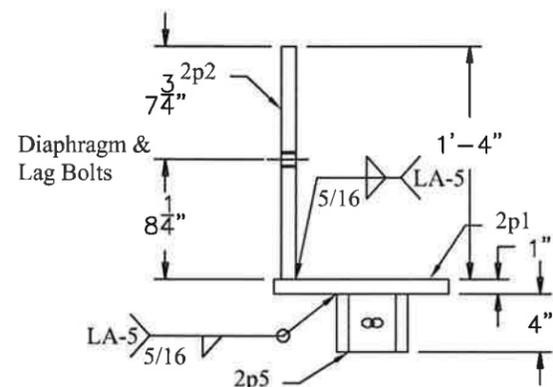
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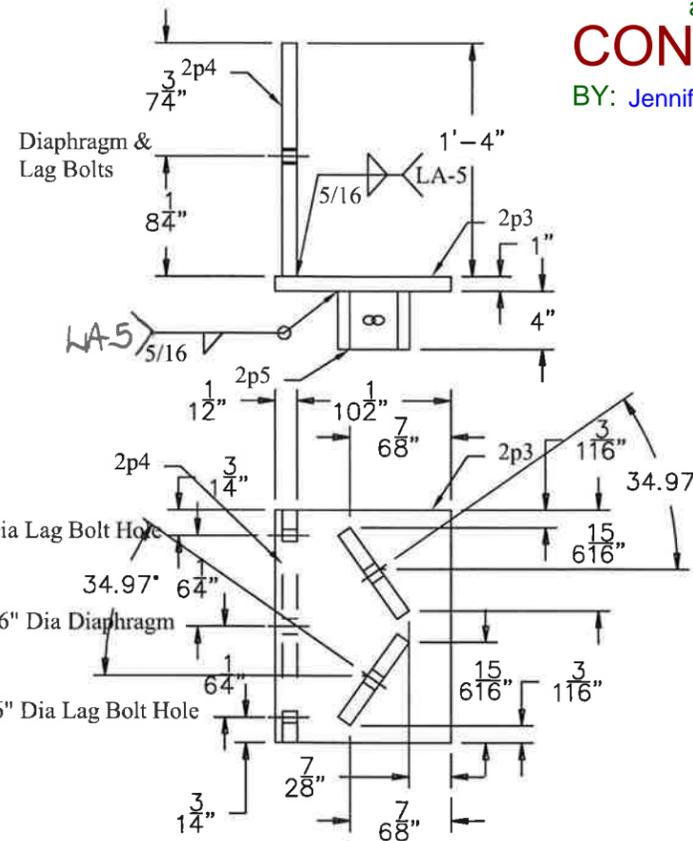
BY: Jennifer Fitch DATE: 07/25/2014

BILL OF MATERIALS

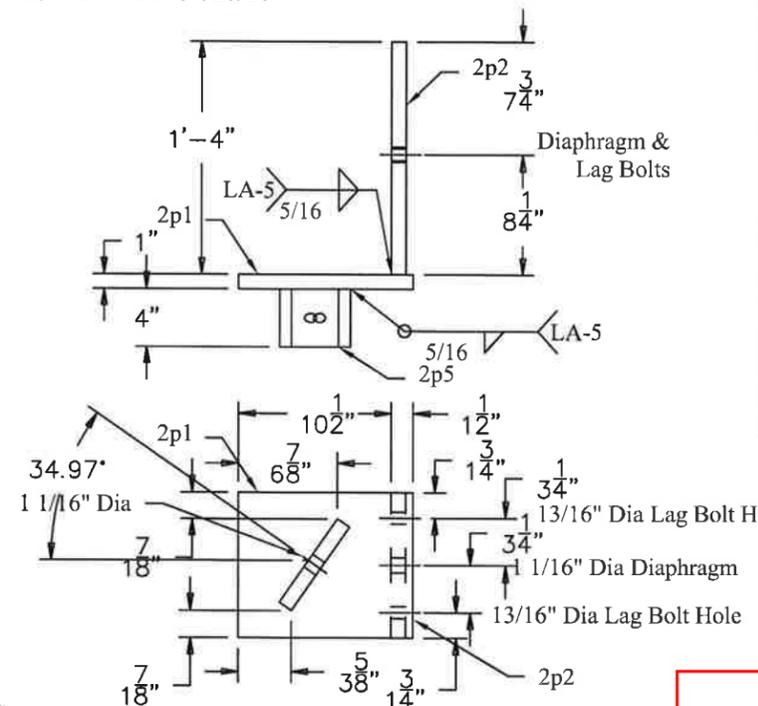
QTY	MARK	SHAPE	LENGTH	REMARKS
4	2C1	CROSS FRAME BRACKET 1		
4	2p1	Plate 1" x 10"	1'-0"	
4	2p2	Plate 1" x 10"	1'-4"	
4	2p5	Plate 1" x 4"	0'-7"	
4	2C2	CROSS FRAME BRACKET 2		
4	2p3	Plate 1" x 12"	1'-4"	
4	2p4	Plate 1" x 16"	1'-4"	
8	2p5	Plate 1" x 4"	0'-7"	
4	2C3	CROSS FRAME BRACKET 3		
4	2p1	Plate 1" x 10"	1'-0"	
4	2p2	Plate 1" x 10"	1'-4"	
4	2p5	Plate 1" x 4"	0'-7"	



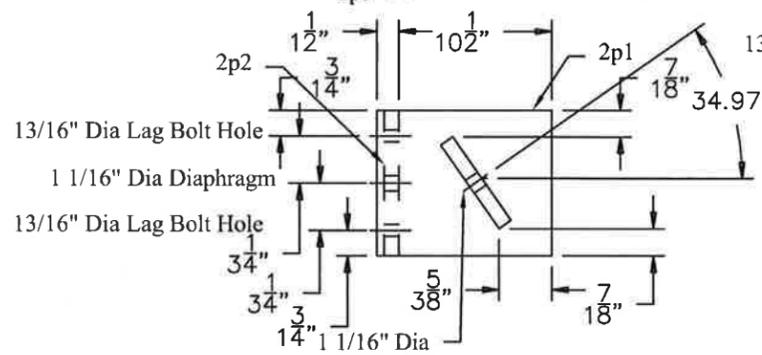
(4) - 2C1 CROSS FRAME BACKET



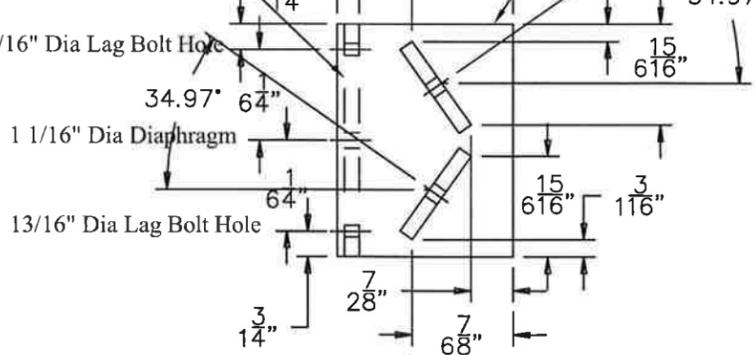
(4) - 2C2 CROSS FRAME BACKET



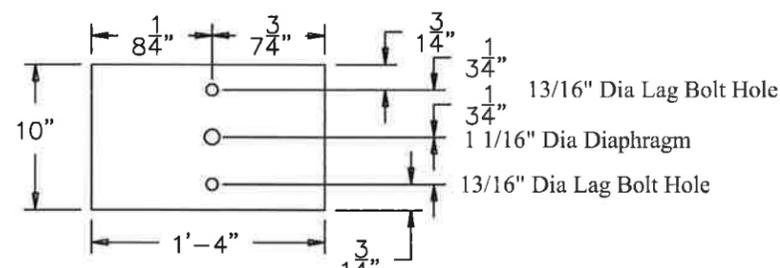
(4) - 2C3 CROSS FRAME BACKET



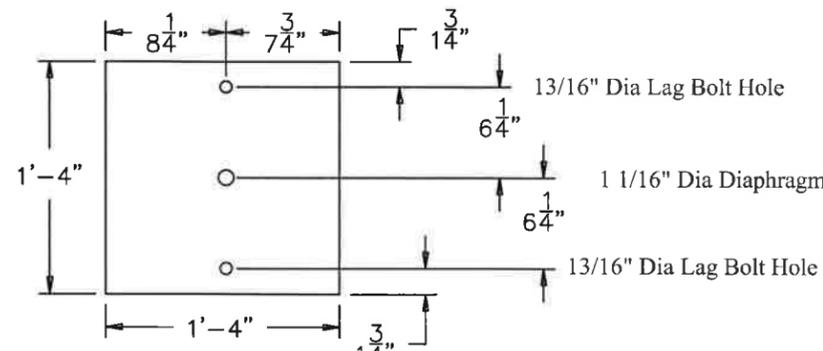
(8) - 2p2 Plate Details



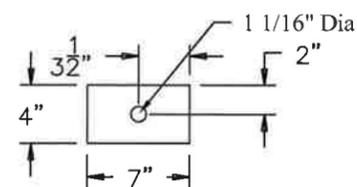
(4) - 2p4 Plate Details



(8) - 2p2 Plate Details



(4) - 2p4 Plate Details



(16) - 2p5 Plate Details

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TIMBER BRIDGE CROSS FRAME BRACKETS	
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LOCATION	VT ROUTE 65 OVER WESTERN AND EASTERN RAMP
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HOLES AS NOTED		
MATERIAL: AASHTO M 270 GRADE 36 GALV		

PROCEDURE PRE-APPROVED BY VT AOT.

- WELD PREP - GRIND TO BARE METAL

NEED TO INDICATE CLEANING OF WELD AND SURROUNDING MATERIAL AFTER WELDING PROCEDURES, AND PRIOR TO GALVANIZING. THE ASSEMBLIES ARE TO BE GALVANIZED AFTER FABRICATION AND RESIDUAL SILICA FUME FROM THE GMAW PROCESS COULD CAUSE THE GALVANIZING TO NOT BOND PROPERLY, RESULTING IN REJECTION OF THE PART.

Contractor/ Organization MERRIMACK SHEET METAL
 Welding Process(es) GMAW
 Type: Manual Semiautomatic
 Machine Automatic
 Tandem Parallel

Identification LA-5
 Revision 0 Date 6/1/2010 By KK
 Authorized by KK Date 6/1/2010
 Supporting PQR No.(s) PQLA1

JOINT DESIGN USED
 Single Double Weld
 Backing: Yes No Material _____
 Root Opening NA Root Face Dimension NA
 Groove Angle NA Radius (J-U) _____
 Backgouging: Yes No Method _____
 Root Treatment CLEAN TO BRIGHT METAL

POSITION
 Position of Groove NA Fillet 1F or 2F
 Vertical Progression: Up Down

ELECTRICAL CHARACTERISTICS
 Transfer Mode (GMAW): Globular Spray
 Current: AC DCEP DCEN Pulsed
 Electrical Stick Out 3/4
 Other _____

BASE METALS
 Material Spec. A36 ; A588 ; A709 ;
 Type or Grade G50
 Thickness: Groove NA Fillet UNLIMITED
 Diameter (Pipe) NA

TECHNIQUE
 Stringer or Weave Bead BOTH
 Multi-pass or Single Pass (per side) BOTH
 Number of Electrodes 1
 Electrode Spacing: Longitudinal NA
 Lateral NA Angle NA
 Interpass Cleaning CLEAN WITH WIRE BRUSH

FILLER METALS
 AWS Specification A5.28
 AWS Classification ER80S-Ni1
 Manufacturer Trade Name LINCOLN SUPERARC LA-75

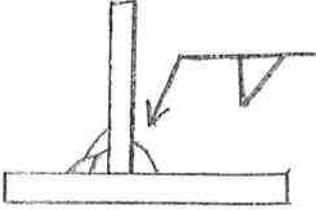
PREHEAT
 Preheat Temp., Min. 70 F
 Interpass Temp., Min. 70 F
 Interpass Temp., Max. 400 F

SHIELDING
 Flux NA Mfg. Trade Name NA
 Electrode-Flux (Class) NA
 Gas Composition 90% ARGON / 10% CO2
 Flow Rate 45 CFH Gas Cup Size 3/4

POSTWELD HEAT TREATMENT
 Temp. NA Hold Time NA
 Heating/Cooling Rate NA

HEAT INPUT
 Calculated Heat Input Value: kJ/in kJ/mm
 Max. Heat Input 42.7 Min. Heat Input 22.5

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals Diam.	Current		Volts	Travel Speed	Joint Details
			Type & Polarity	Amps or Wire Feed Speed			
ROOT 3/16	GMAW	.045	DCEP	220-260	26-29	15-18 IPM	LA-5-1F 
ROOT 1/4	GMAW	.045	DCEP	220-260	26-29	14-17 IPM	
ROOT 5/16	GMAW	.045	DCEP	220-270	26-29	13-16 IPM	
ROOT 3/8	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	
2ND 3/8	GMAW	.045	DCEP	220-270	26-29	11-14 IPM	
3RD 3/8	GMAW	.045	DCEP	220-270	26-29	11-14 IPM	
ROOT 7/16	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	
2ND 7/16	GMAW	.045	DCEP	220-270	26-29	12-14 IPM	
3RD 7/16	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	

Form L-2

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Form L-2—Sample Welding Procedure Specification

Vermont Agency of Transportation

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