The D.S. Brown Company
300 East Cherry Street
North Baltimore, OH 45872
(419) 257-3561
(419) 257-0332 [Engineering Fax #]

Request for Information

Date Sent: 11/27/13 Response Requested by: ASAP

DS Brown RFI #: 42253-1102/1103/1104-RFI#2

Contractor:	**T Buck Construction, Inc.**
To:	**Brian Emmons**
Project Description:	**VT RT 125**
Project #:	**RS 0174(8)**
E-mail Address/Fax #:	**bemmons@tbuckcon.net**
DS Brown Project #:	**42253-1102/1103/1104-VT**
Reply to:	**Mark Gase**
E-mail Address:	**mgase@dsbrown.com**
Subject:	**Elastomeric Bearings**

Project Status:

- ☐ Able to Proceed
- ☒ Able to Proceed BUT requested information needed prior to fabrication
- ☐ **ON HOLD** until receipt of requested information

Please provide the following items:

- ☐ Special Provisions
- ☐ Field Measurements (sketch provided—please complete)
- ☐ Structural Steel Drawings
- ☐ "As Built" Shop Drawings
- ☐ Finish Details
  - ☐ Federal Color Number
  - ☐ Paint System
- ☐ Contract Document Clarification (explanation provided below)
- ☒ Other (explanation provided below)

Explanation:

1. The contract drawings clearly specify 60 durometer material for the Next Beam bearings, but do not clearly indicate what material is required for the support girder bearings. Please verify if these bearings should also be 60 durometer or if they should be another material.
2. Due to fabrication concerns with the 1/16" thin edge of the beveled shim in the Abutment 2 bearings, please verify if it is acceptable to increase the beveled shim and overall bearing height by 1/16".
3. The contract drawings did not clearly indicate if the Abutment 1 bearings should be bonded to the beveled sole plates. For consistency with the Abutment 2 bearings, the Abutment 1 bearings were quoted as loose from the plates. Please verify if this is acceptable or if the bearings should be bonded to the plates.
4. The contract drawings did not appear to specify an anchor rod material. Please verify if the Abutment 1 anchor rods should be ASTM F1554 Gr 36 per section 714.08 of the state specifications.

GENERAL NOTES:

1. MATERIALS SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011 AND THE LATEST REVISIONS, INCLUDING SUPPLEMENTARY SPECIFICATIONS, CONTRACT PLANS, AND THE SPECIAL PROVISIONS. GENERAL SHOP PRACTICES, STRUCTURAL FABRICATION AND ASSEMBLY SHALL BE GOVERNED BY ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

2. THESE SHOP DRAWINGS ARE PREPARED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE D.S. BROWN COMPANY DOES NOT ACCEPT LIABILITY FOR THE DESIGN OF THE PRODUCTS DETAILED IN THESE SHOP DRAWINGS.

3. THE D.S. BROWN COMPANY TO SUPPLY ONLY THE PARTS SHOWN ON THESE DRAWINGS.

4. ALL STEEL SHALL BE PRODUCED IN THE UNITED STATES OF AMERICA.

5. ALL CORNERS AND EDGES OF STEEL PLATES SHALL BE GROUND TO A 1/16" RADIUS.

6. BEARINGS SHALL BE TESTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

7. ALL EXTERNAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 SPECIFICATIONS. IN ACCORDANCE WITH SECTION 726.08 OF THE STANDARD SPECIFICATIONS, REPAIR DAMAGED HOT DIPPED GALVANIZING PER ASTM A780, ANNEX A2. THE PAINT USED IN THE REPAIR SHALL BE ORGANIC-ZINC, CONTAINING 92% MINIMUM ZINC BY WEIGHT IN THE DRY FILM. THE PAINT SHALL BE APPLIED PER MANUFACTURER'S RECOMMENDATIONS TO A THICKNESS EQUIVALENT TO THE SURROUNDING GALVANIZING.

8. GALVANIZATION LIFTING DEVICES MAY BE WELDED TO PARTS IF NECESSARY. WHEN THEIR USE IS COMPLETE, REMOVE AND GRIND FLUSH ALL CONNECTION LOCATIONS. REPAIR AREA PER ASTM A780, ANNEX A2.

9. (IF APPLICABLE) WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE TEMPERATURE TO A MAXIMUM OF 200°F (93°C) FOR SURFACES IN CONTACT WITH THE ELASTOMER. TEMPERATURES SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS APPROVED BY THE ENGINEER.

MARKING NOTES:

1. ALL BEARINGS SHALL BE MARKED WITH BEARING LOCATION AND DIRECTION ARROW THAT POINTS UP STATION. ALL MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER THE BEARING IS INSTALLED.

AASHTO M251 & LRFD TOLERANCE TABLE	
DESCRIPTION	TOLERANCE
ELASTOMERIC BEARING DESIGN THICKNESS > 1.250"	+1/4", -0"
ELASTOMERIC BEARING PLAN ≤ 36"	+1/4", -0"
ELASTOMERIC COVER TOP & BOTTOM	+1/8", -0"
ELASTOMERIC COVER SIDES	+1/8", -0"
POSITION OF EXPOSED CONNECTION MEMBERS	±1/8"
THICKNESS OF INDIVIDUAL LAYERS OF ELASTOMER (LAMINATED BEARINGS ONLY) AT ANY POINT WITHIN THE BEARING	±1/8"
VARIATION FROM A PLANE PARALLEL TO THE THEORETICAL SURFACE (AS DETERMINED BY MEASUREMENTS AT THE EDGE OF THE BEARINGS)	
TOP	±0.005 RAD
SIDES	±1/4
PLATE PLAN DIMENSIONS	±1/4"
PLATE THICKNESS	±1/16"
PLATE SURFACE FLATNESS: BEARING SIDE	CLASS A *
PLATE SURFACE FLATNESS: OPPOSITE SIDE	CLASS A
PLATE BEVEL SLOPE	±0.002 RAD
HOLE SIZE & LOCATION	±1/16"

* ONLY FOR SURFACES IN CONTACT WITH THE BEARING

FLATNESS TOLERANCE	
CLASS	X NOM. DIM.
A	0.001
B	0.002
C	0.005

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
A GIBRALTAR INDUSTRIES COMPANY

THE D.S. BROWN COMPANY
300 E. CHERRY STREET
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WWW.DSBROWN.COM

LOCATION — VT ROUTE 125
BRIDGE — NO. 13
PROJECT NO. — RS 0174 (8)
PROJECT NAME — MIDDLEBURY
—
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — T BUCK CONSTRUCTION, INC.

ITEM	QUANTITY
–	–
–	–
–	–
–	–
–	–
–	–
–	–
–	–
–	–

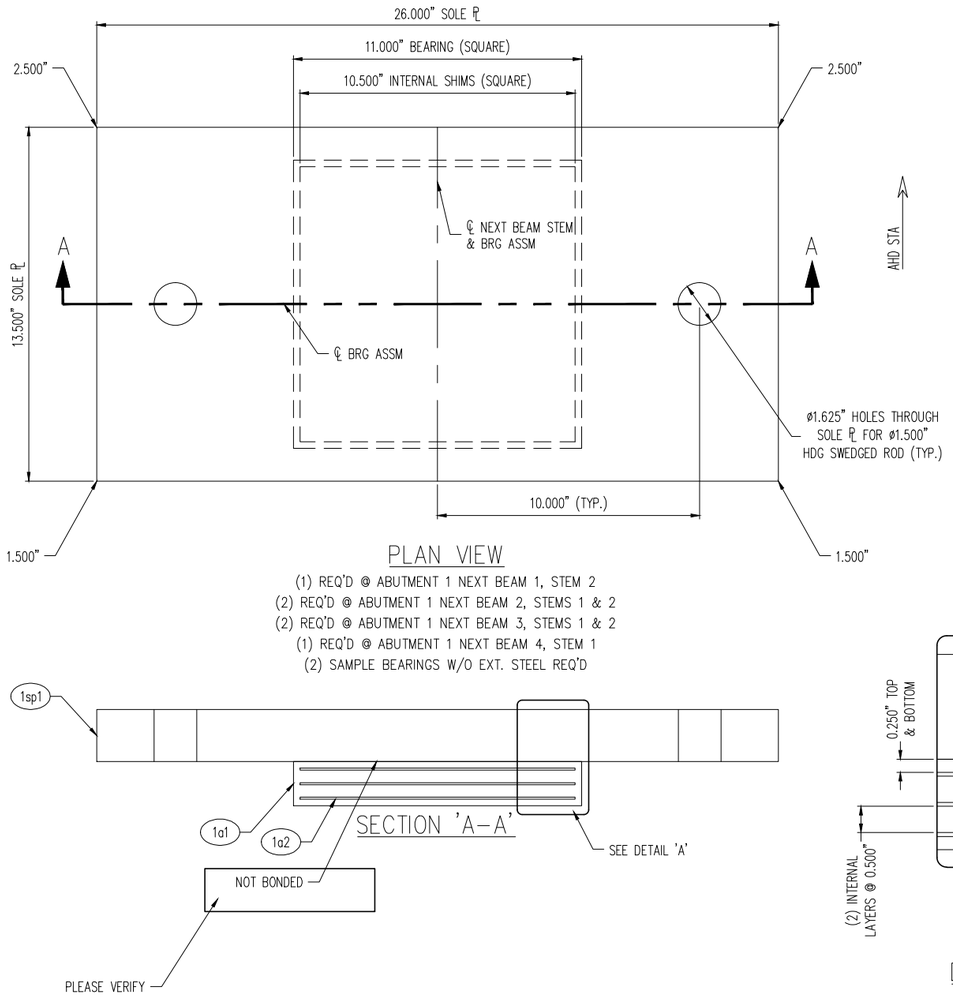
DESCRIPTION:
GENERAL NOTES
ADDISON CO., VT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	SP	MJG	11/13	–

PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
42253	1104	–	GN1

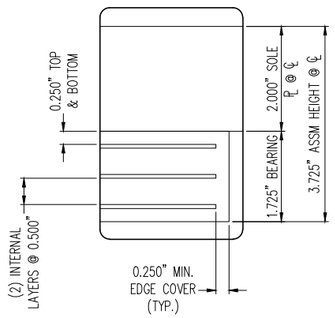
MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	WT*	REV
1A	8	ELASTOMERIC BEARING			6 + 2 SAMPLES	15	
1a1	8	1.725" X 11.000"	NATURAL RUBBER	11.000"	60+/-5 DURO GR.4	8	
1a2	24	14 GA. X 10.500"	A1011 GR 36	10.500"	PLAIN	2	
1B	6	SOLE PLATE				249	
1sp1	6	2.500" X 26.000"	M270 GR 50W (A709)	13.500"	M111-HDG (A123)	249	
1C	12	SWEDGED ROD				11	
1ar1	12	Ø1.500" X 22.000" SWEDGED ROD	M314 GR 36 (F1554)		5" THRD, 14" SWEDGED; M232-HDG (A153)	11	
1D	12	HEAVY HEX NUT				1	
1hn1	12	Ø1.500" HEX NUT	M291-DH OR M292-2H (A563 OR A194) HEAVY HEX		M232-HDG (A153), DRY LUBE & DYE	1	
1F	12	PLATE WASHER				2	
1pw1	12	0.597" X 3.000"	M183 (A36)	3.000"	Ø1.625" HOLE CENTERED; M111-HDG (A123)	2	
		*Approx. Gross Wt. Lbs Per Single Unit			11/27/2013 3:16:46 PM		

PLEASE VERIFY



PLAN VIEW

(1) REQ'D @ ABUTMENT 1 NEXT BEAM 1, STEM 2
(2) REQ'D @ ABUTMENT 1 NEXT BEAM 2, STEMS 1 & 2
(2) REQ'D @ ABUTMENT 1 NEXT BEAM 3, STEMS 1 & 2
(1) REQ'D @ ABUTMENT 1 NEXT BEAM 4, STEM 1
(2) SAMPLE BEARINGS W/O EXT. STEEL REQ'D



DETAIL 'A'

LOAD DATA	
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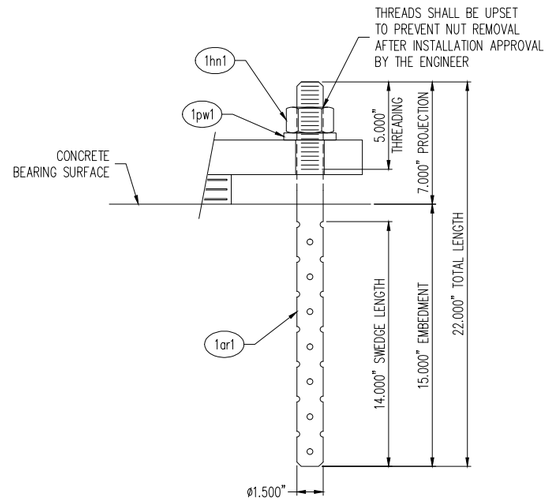
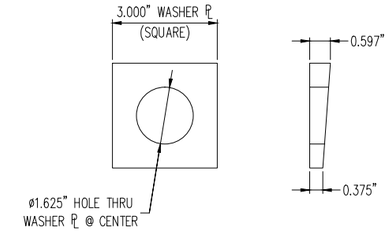
MAX LL REACTION (KIPS)	50.5
MAX DL+LL REACTION (KIPS)	102.0



ANCHOR ROD ASSEMBLY

(12) REQ'D @ ABUTMENT 1



BEVELED WASHER ℄ DETAIL

(12) REQ'D @ ABUTMENT 1

SEE SHEET 42253-1104-GN1 FOR GENERAL NOTES

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
A GIBRALTAR INDUSTRIES COMPANY
THE D.S. BROWN COMPANY
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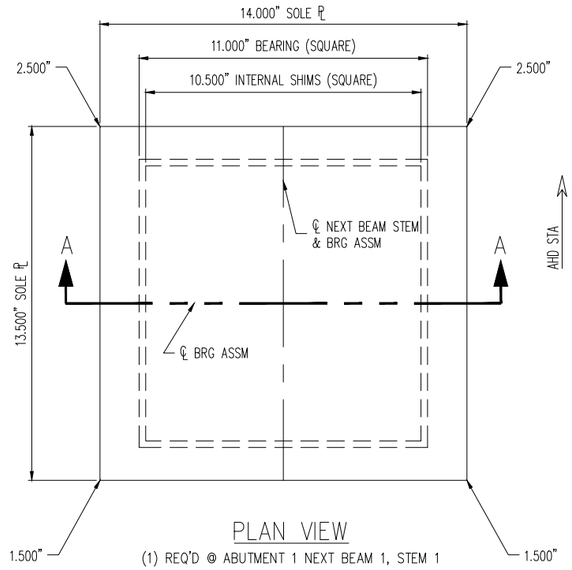
	ITEM	QUANTITY
LOCATION — VT ROUTE 125	42253-1103-1	8 OF 8
BRIDGE — NO. 13	42253-1107-1	6 OF 6
PROJECT NO. — RS 0174 (8)	–	–
PROJECT NAME — MIDDLEBURY	–	–
—	–	–
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.	–	–
CUSTOMER — T BUCK CONSTRUCTION, INC.	–	–
	–	–

DESCRIPTION:
VERSIFLEX ELASTOMERIC BEARING
ADDISON CO., VT

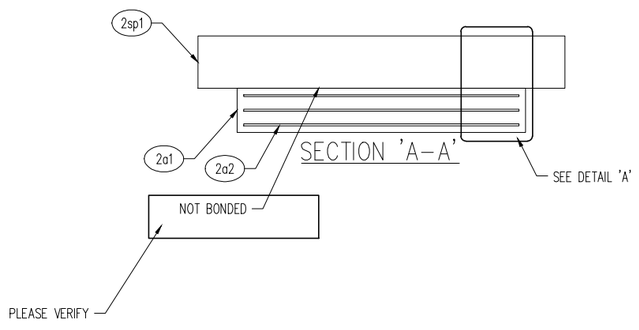
SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	SP	MJG	11/13	–
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
42253	1104	–	1	

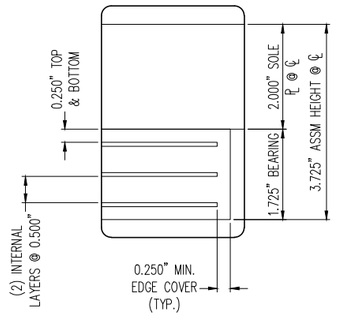
MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	WT*	REV
2A	2	ELASTOMERIC BEARING				15	
2a1	2	1.725" X 11.000"	NATURAL RUBBER	11.000"	60+/-5 DURO GR.4	8	
2a2	6	14 GA. X 10.500"	A1011 GR 36	10.500"	PLAIN	2	
2B	2	SOLE PLATE				134	
2sp1	2	2.500" X 14.000"	M270 GR 50W (A709)	13.500"	M111-HDG (A123)	134	
		*Approx. Gross Wt. Lbs Per Single Unit			11/27/2013 3:16:46 PM		



PLAN VIEW

(1) REQ'D @ ABUTMENT 1 NEXT BEAM 1, STEM 1
(1) REQ'D @ ABUTMENT 1 NEXT BEAM 4, STEM 2
SEE SHEET 1 FOR SAMPLES





DETAIL 'A'

LOAD DATA	
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MAX LL REACTION (KIPS)	50.5
MAX DL+LL REACTION (KIPS)	102.0

SEE SHEET 42253-1104-GN1 FOR GENERAL NOTES

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
A GIBRALTAR INDUSTRIES COMPANY
THE D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
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LOCATION — VT ROUTE 125
BRIDGE — NO. 13
PROJECT NO. — RS 0174 (8)
PROJECT NAME — MIDDLEBURY
—
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.
CUSTOMER — T BUCK CONSTRUCTION, INC.

ITEM	QUANTITY
42253-1103-2	2 OF 2
42253-1107-2	2 OF 2
–	–
–	–
–	–
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DESCRIPTION:
VERSIFLEX ELASTOMERIC BEARING
ADDISON CO., VT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	SP	MJG	11/13	–

PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
42253	1104	–	2

MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	WT*	REV
1A	10	ELASTOMERIC BEARING			8 + 2 SAMPLES	47	
1a1	10	2.588" X 11.000"	NATURAL RUBBER	11.000"	60+/-5 DURO GR.4	13	
1a2	20	14 GA. X 10.500"	A1011 GR 36	10.500"	PLAIN	2	
1a3	10	0.938" X 10.500"	M270 GR 36 (A709)	10.500"	TAPERED; PLAIN	29	
		*Approx. Gross Wt. Lbs Per Single Unit			11/27/2013 3:00:47 PM		

GENERAL NOTES:

1. MATERIALS SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011 AND THE LATEST REVISIONS, INCLUDING SUPPLEMENTARY SPECIFICATIONS, CONTRACT PLANS, AND THE SPECIAL PROVISIONS. GENERAL SHOP PRACTICES, STRUCTURAL FABRICATION AND ASSEMBLY SHALL BE GOVERNED BY ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

2. THIS SHOP DRAWING WAS PREPARED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE D.S. BROWN COMPANY DOES NOT ACCEPT LIABILITY FOR THE DESIGN OF THE PRODUCTS DETAILED IN THIS SHOP DRAWING.

3. THE D.S. BROWN COMPANY TO SUPPLY ONLY THE PARTS SHOWN ON THIS DRAWING.

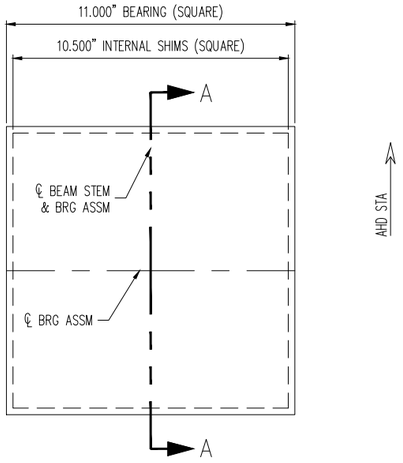
4. ALL STEEL SHALL BE PRODUCED IN THE UNITED STATES OF AMERICA.

5. BEARINGS SHALL BE TESTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

MARKING NOTES:

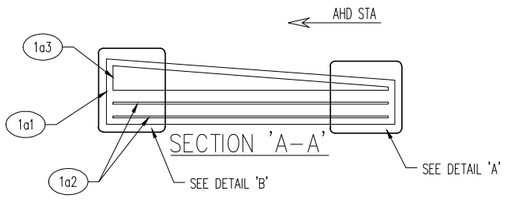
1. EACH BEARING SHALL BE MARKED WITH THE FOLLOWING INFORMATION: LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UPSTATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER BEARING IS INSTALLED.

AASHTO M251 & LRFD TOLERANCE TABLE	
DESCRIPTION	TOLERANCE
ELASTOMERIC BEARING DESIGN THICKNESS > 1.250"	+1/4", -0"
ELASTOMERIC BEARING PLAN ≤ 36"	+1/4", -0"
ELASTOMERIC COVER TOP & BOTTOM	+1/8", -0"
ELASTOMERIC COVER SIDES	+1/8", -0"
POSITION OF EXPOSED CONNECTION MEMBERS	±1/8"
THICKNESS OF INDIVIDUAL LAYERS OF ELASTOMER (LAMINATED BEARINGS ONLY) AT ANY POINT WITHIN THE BEARING	±1/8"
VARIATION FROM A PLANE PARALLEL TO THE THEORETICAL SURFACE (AS DETERMINED BY MEASUREMENTS AT THE EDGE OF THE BEARINGS)	
TOP	±0.005 RAD
SIDES	±1/4

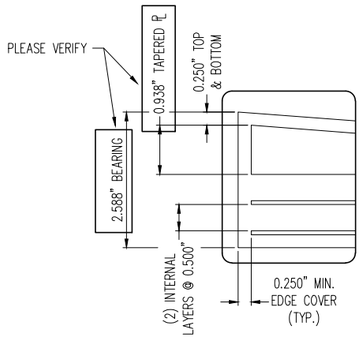


PLAN VIEW

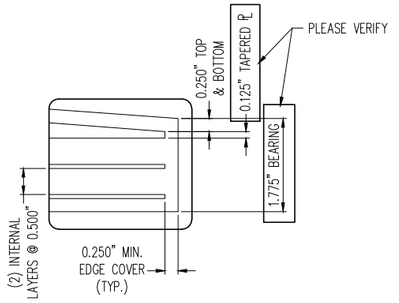
(2) REQ'D @ ABUTMENT 2 NEXT BEAM 1, STEMS 1 & 2
(2) REQ'D @ ABUTMENT 2 NEXT BEAM 2, STEMS 1 & 2
(2) REQ'D @ ABUTMENT 2 NEXT BEAM 3, STEMS 1 & 2
(2) REQ'D @ ABUTMENT 2 NEXT BEAM 4, STEMS 1 & 2
(2) SAMPLE BEARINGS REQ'D



SECTION 'A-A'



DETAIL 'B'



DETAIL 'A'

LOAD DATA	
MAX DL REACTION (KIPS)	51.5
MAX LL REACTION (KIPS)	50.5
MAX DL+LL REACTION (KIPS)	102.0

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
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	ITEM	QUANTITY
LOCATION — VT ROUTE 125	42253-1103-3	10 OF 10
BRIDGE — NO. 13	–	–
PROJECT NO. — RS 0174 (8)	–	–
PROJECT NAME — MIDDLEBURY	–	–
—	–	–
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.	–	–
CUSTOMER — T BUCK CONSTRUCTION, INC.	–	–
	–	–

DESCRIPTION:
VERSIFLEX ELASTOMERIC BEARING
ADDISON CO., VT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	SP	MJG	11/13	–

PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
42253	1103	–	1

MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	WT*	REV
1A	6	PLAIN ELASTOMERIC BEARING			4 + 2 SAMPLES	< 1	
1a1	6	0.500" X 6.000"	NATURAL RUBBER	5.000"	60+/-5 DURO GR.4; SLOT	< 1	
		*Approx. Gross Wt. Lbs Per Single Unit			11/24/2013 11:57:01 AM		

PLEASE VERIFY

GENERAL NOTES:

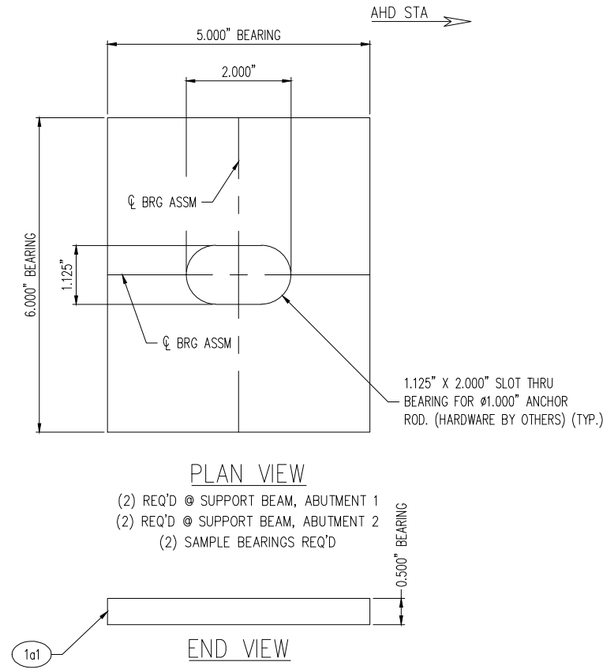
1. MATERIALS SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011 AND THE LATEST REVISIONS, INCLUDING SUPPLEMENTARY SPECIFICATIONS, CONTRACT PLANS, AND THE SPECIAL PROVISIONS. GENERAL SHOP PRACTICES, STRUCTURAL FABRICATION AND ASSEMBLY SHALL BE GOVERNED BY ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

2. THIS SHOP DRAWING WAS PREPARED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE D.S. BROWN COMPANY DOES NOT ACCEPT LIABILITY FOR THE DESIGN OF THE PRODUCTS DETAILED IN THIS SHOP DRAWING.

3. THE D.S. BROWN COMPANY TO SUPPLY ONLY THE PARTS SHOWN ON THIS DRAWING.

4. BEARINGS WILL BE TESTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

TOLERANCE TABLE	
DESCRIPTION	TOLERANCE
ELASTOMERIC BEARING DESIGN THICKNESS ≤ 1.250"	+1/8", -0"
ELASTOMERIC BEARING PLAN ≤ 36"	+1/4", -0"



PLAN VIEW

(2) REQ'D @ SUPPORT BEAM, ABUTMENT 1
(2) REQ'D @ SUPPORT BEAM, ABUTMENT 2
(2) SAMPLE BEARINGS REQ'D

END VIEW

LOAD DATA	
MAX DL REACTION (KIPS)	31.5
MAX LL REACTION (KIPS)	0
MAX DL+LL REACTION (KIPS)	31.5

REV.	DESCRIPTION	DATE	DET.	CKD.

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	ITEM	QUANTITY
LOCATION — VT ROUTE 125	42253-1102-1	6 OF 6
BRIDGE — NO. 13	–	–
PROJECT NO. — RS 0174 (8)	–	–
PROJECT NAME — MIDDLEBURY	–	–
—	–	–
DESIGNER — VANASSE HANGEN BRUSTLIN, INC.	–	–
CUSTOMER — T BUCK CONSTRUCTION, INC.	–	–
	–	–

DESCRIPTION:
VERSIFLEX ELASTOMERIC BEARING
ADDISON CO., VT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	SP	MJG	11/13	–

PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
42253	1102	–	1