GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

1. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, LRFD SIXTH EDITION, DATED 2012 AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATION

1. ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270 GRADE 50W.

2. MATERIAL NOTED "T2" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01.

3. HIGH STRENGTH BOLTS SHALL BE ASTM A325, TYPE 3, WITH ASTM A563 DH3 NUTS AND ONE ASTM F436 TYPE 3 WASHER PER BOLT. ROTATIONAL CAPACITY TESTING SHALL BE REQUIRED FOR ALL BOLT ASSEMBLIES - PER SECT. 506.19(c) OF THE STANDARD SPECFICIATIONS. ⚠1

FABRICATION

1. THE BOTTOM FLANGE OF GIRDERS AT BEARINGS SHALL BE SHOP STRAIGHTENED AS REQUIRED TO PROVIDE UNIFORM CONTACT BETWEEN THE GIRDER FLANGE AND THE BEARINGS AT THE BRIDGE SEAT. NOTED AS "BRG. AREA" ON DETAILS.

2. ALL HOLES SHALL BE FABRICATED PER SECT. 506.19(a) OF THE STANDARD SPECIFICATIONS. ⚠1

SHOP WELDING AND TESTING

1. WELDING AND NON-DESTRUCTIVE TESTING SHALL BE IN ACCORDANCE WITH ANSI/AASHTO/AWS BRIDGE WELDING CODE, D1.5 (LATEST EDITION).

2. FOR WELDING CONNECTION PLATES TO GIRDERS SEE "TYP. WELD TERMINATION DETAIL".

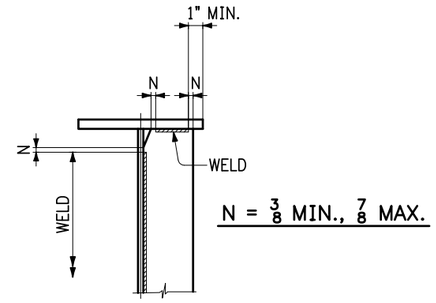
3. NON-DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATIONS.

SHOP CLEANING

1. BLAST CLEAN ALL STEEL TO SSPC-SP10 (NEAR WHITE) EITHER BEFORE OR AFTER FABRICATION .

SHOP PAINTING

1. NO PAINT



TYP. WELD TERMINATION DETAIL

NO.	DATE	REMARKS	BY
⚠1	3-30-16	REVISED PER APPROVAL COMMENTS.	HC

REVISIONS

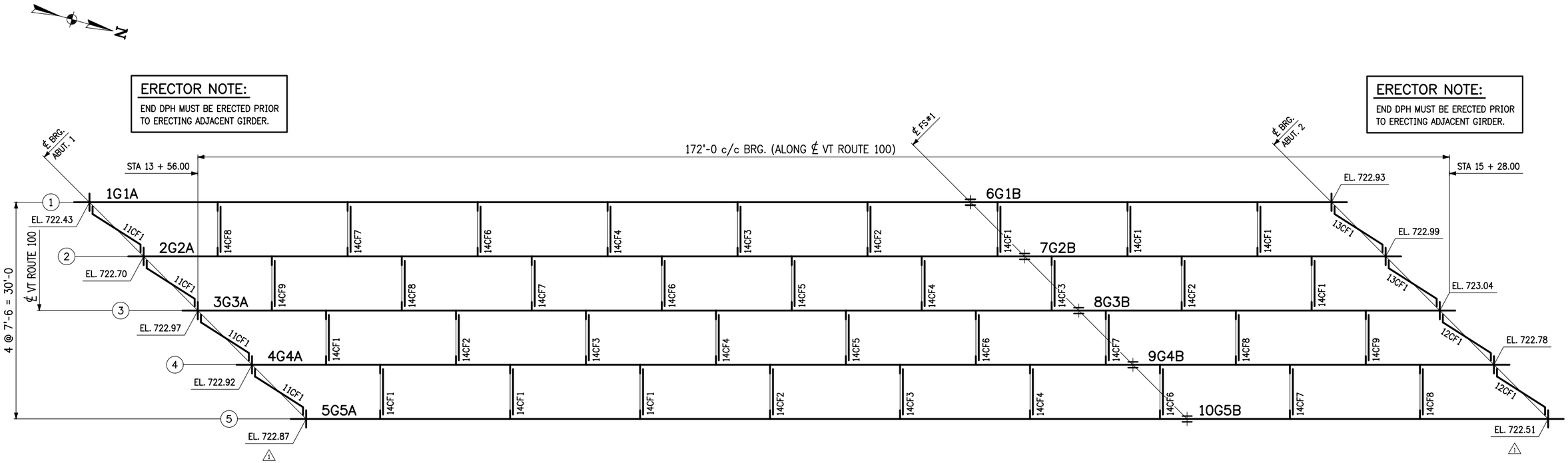
CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GENERAL NOTES
SURFACE PREP.	OPEN HOLES
PAINT	

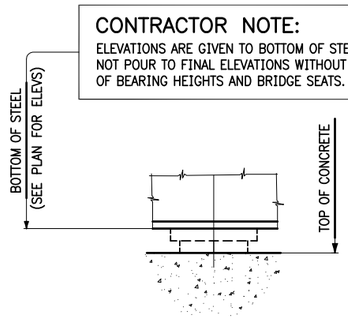
APPROVAL	DRAWN WCG 1-25-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-8-16	GN1	651

Sheet GN1 - Plotted: 03/30/2016 @ 11:55 (HEATHER)



ERECTION PLAN

CONTRACTOR NOTE:
ELEVATIONS ARE GIVEN TO BOTTOM OF STEEL - DO NOT POUR TO FINAL ELEVATIONS WITHOUT VERIFICATION OF BEARING HEIGHTS AND BRIDGE SEATS.



TYP. BRG. ELEVATION
(@ ABUTS. 1 ℄ 2)

NOTES:

1. FOR GENERAL NOTES, SEE DWG. GN1.
2. ALL DIMENSIONS ARE GIVEN IN A HORIZONTAL PLANE.

FIELD BOLT LIST							A325 TYPE 3 BOLTS							
LINE	NO. REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														**FIELD SPLICES**
2	600	$\frac{7}{8}$	3	120	5	$1\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$				1	WEB SPLICE
3	320	$\frac{7}{8}$	$4\frac{1}{4}$	64	5	3	$\frac{3}{4}$	$1\frac{1}{2}$	$\frac{3}{4}$				1	TOP FLANGE SPLICE
4	480	$\frac{7}{8}$	5	96	5	$3\frac{3}{4}$	1"	$1\frac{3}{4}$	1"				1	BOTTOM FLANGE SPLICE
5														
6														**CROSSFRAMES**
7	648	$\frac{7}{8}$	$2\frac{1}{4}$	18	36	1"	$\frac{1}{2}$	$\frac{1}{2}$					1	INT. CF'S TO CONN. PL'S
8	72	$\frac{7}{8}$	$2\frac{3}{4}$	18	4	$1\frac{1}{2}$	$\frac{1}{2}$	1"					1	ABUT. 1 CF'S TO BRG. STIFF.
9	80	$\frac{7}{8}$	3	20	4	$1\frac{3}{4}$	$\frac{3}{4}$	1"					1	ABUT. 2 CF'S TO BRG. STIFF.
10														
11														

1: 1 HARD FLAT WASHER

WASHER CODES

FIELD BOLT SUMMARY	2% + 3 ADDED, MIN. 3 EXTRA					
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN.	ACTUAL COUNT	REMARKS
1	664	$\frac{7}{8}$	A325 Type 3	$2\frac{1}{4}$	648	
2	76	$\frac{7}{8}$	A325 Type 3	$2\frac{3}{4}$	72	
3	697	$\frac{7}{8}$	A325 Type 3	3	680	
4	329	$\frac{7}{8}$	A325 Type 3	$4\frac{1}{4}$	320	
5	493	$\frac{7}{8}$	A325 Type 3	5	480	
6						
7	2259	Hard Flat Washers for $\frac{7}{8}$" BOLT			2200	F436-3
8						

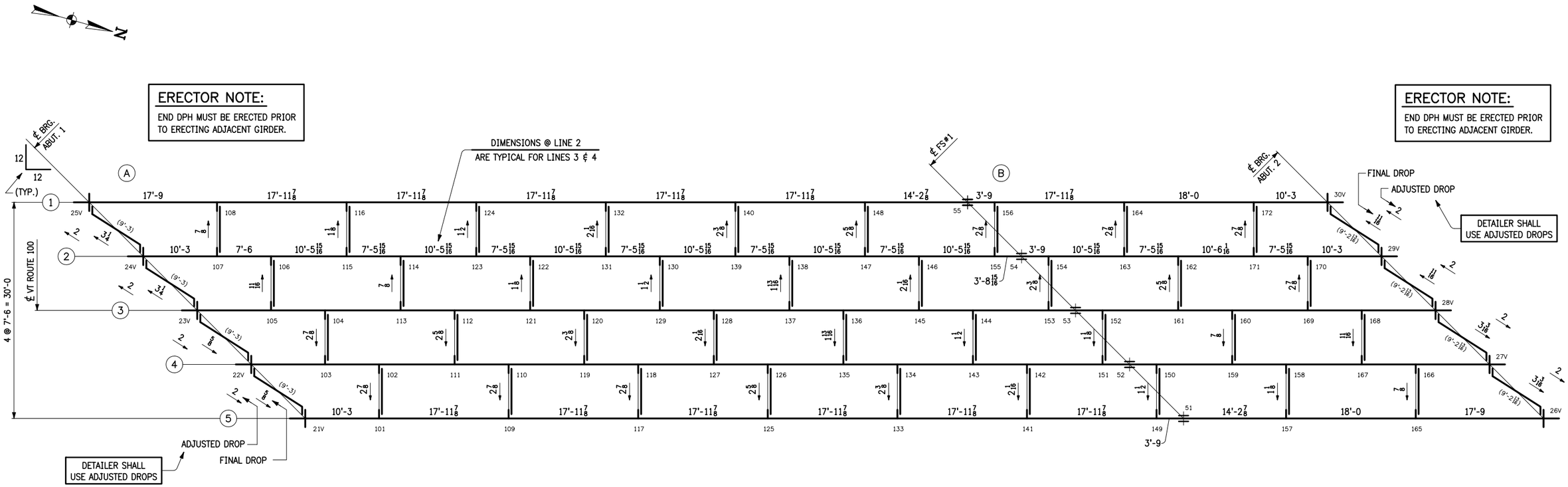
NO.	DATE	REMARKS	BY
1	3-31-16	REVISED ELEVATIONS PER VE PLANS	DMM

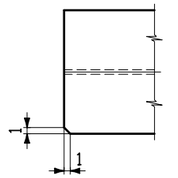
REVISIONS

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

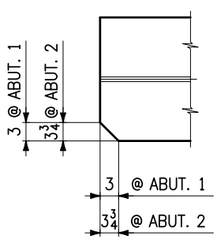
STRUCTURE: VT 100 OVER MAD RIVER
LOCATION: TOWN OF WAITSFIELD, VERMONT
PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER: MCFARLAND JOHNSON
CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.
ITEM: ERECTION PLAN
SURFACE PREP.: OPEN HOLES:
PAINT:

APPROVAL	DRAWN DMM 1-25-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-10-16	E1	651

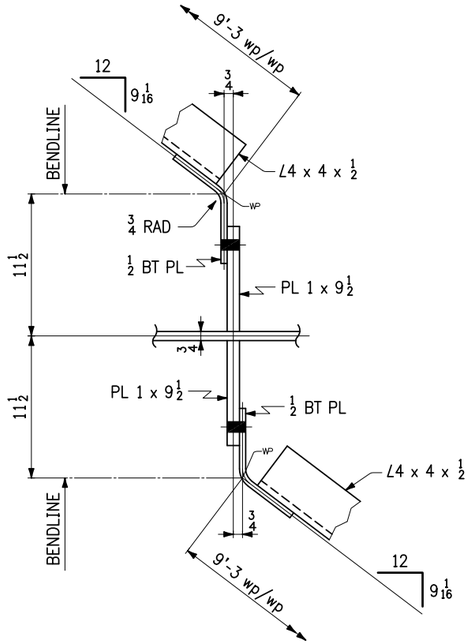




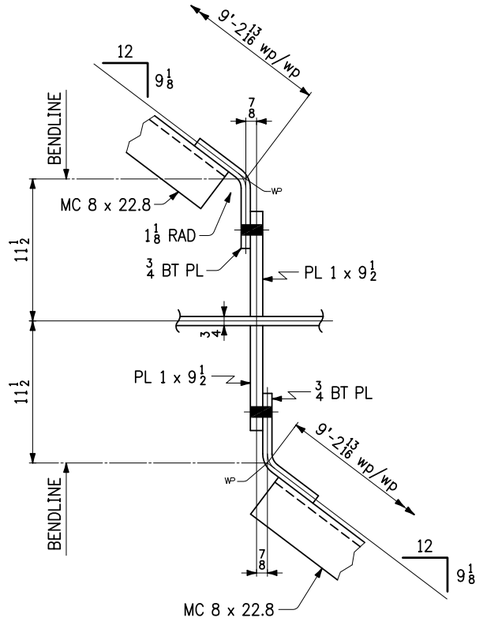
CLIP TOP FLANGE
(ABUT. 1 SHOWN)
(ABUT. 2 ROTATE 180°)



CLIP BOTTOM FLANGE
(ABUT. 1 SHOWN)
(ABUT. 2 ROTATE 180°)



BENDLINE SCHEMATIC
@ ABUT. 1



BENDLINE SCHEMATIC
@ ABUT. 2

NOTES:

1. LONGITUDINAL DIMS. ARE SLOPING ALONG BOTTOM OF GIRDER IN CAMBERED POSITION.
2. TRANSVERSE DIMS. ARE HORIZONTAL.
3. → DENOTES DROP (ERECTED). ARROW POINTS TO LOW END.
4. ALL BEARING STIFFENERS, ENDS OF GIRDERS ARE VERTICAL IN FINAL POSITION.
5. INTERMEDIATE CONNECTION PLATES ARE NORMAL TO BOTTOM FLANGE.
6. FOR LAYOUTS SEE DWG. TD1 ℄ TD2.

THIS IS A WORK DRAWING. ITS FUNCTION IS TO PROVIDE BASIC DIMENSIONS AND CONCEPTS FOR USE IN THE PREPARATION OF THE SHOP DETAILS. IT IS NOT INTENDED TO BE USED FOR ERECTION OR FABRICATION.

NO.	DATE	REMARKS	BY

REVISIONS

CASCO BAY STEEL STRUCTURES
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ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

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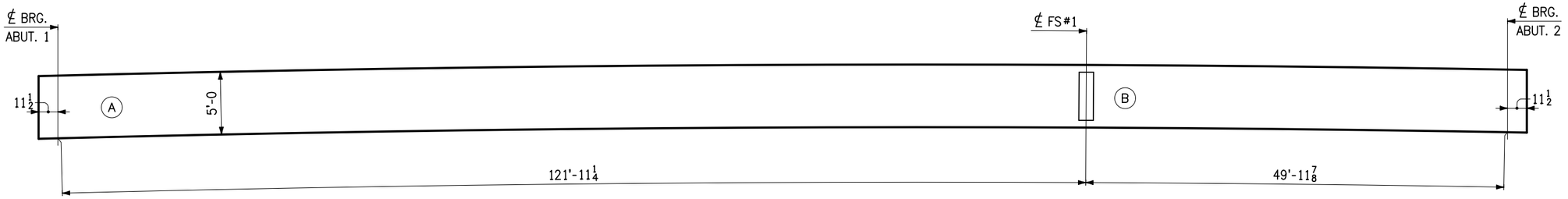
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	CALC PLAN
SURFACE PREP.	OPEN HOLES
PAINT	

APPROVAL	DRAWN WCG 1-20-16	SHEET NO.	JOB NO.
SHOP	CHECKED CT 1-27-16	WS1	651

Sheet WS1 - Plotted: 03/14/2016 @ 09:42 (HEATHER)



TYP. ELEVATION

FINAL GRADE @ ℄ BRGS		
LINE	ABUT. 1	ABUT. 2
1	.0171	-.0115
2	.0159	-.0128
3	.0146	-.0140
4	.0134	-.0153
5	.0121	-.0165

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NO.	DATE	REMARKS	BY

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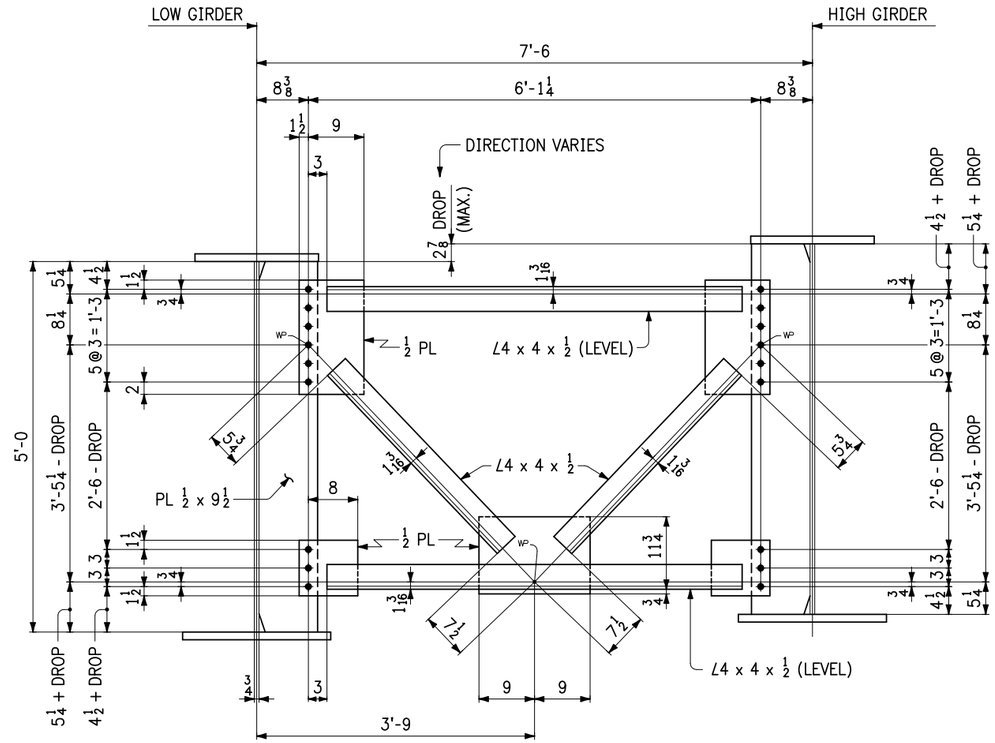
CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE VT 100 OVER MAD RIVER
LOCATION TOWN OF WAITSFIELD, VERMONT
PROJECT NO. PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER MCFARLAND JOHNSON
CUSTOMER A.L. ST. ONGE CONTRACTOR, INC.
ITEM CALC PLAN
SURFACE PREP. OPEN HOLES
PAINT

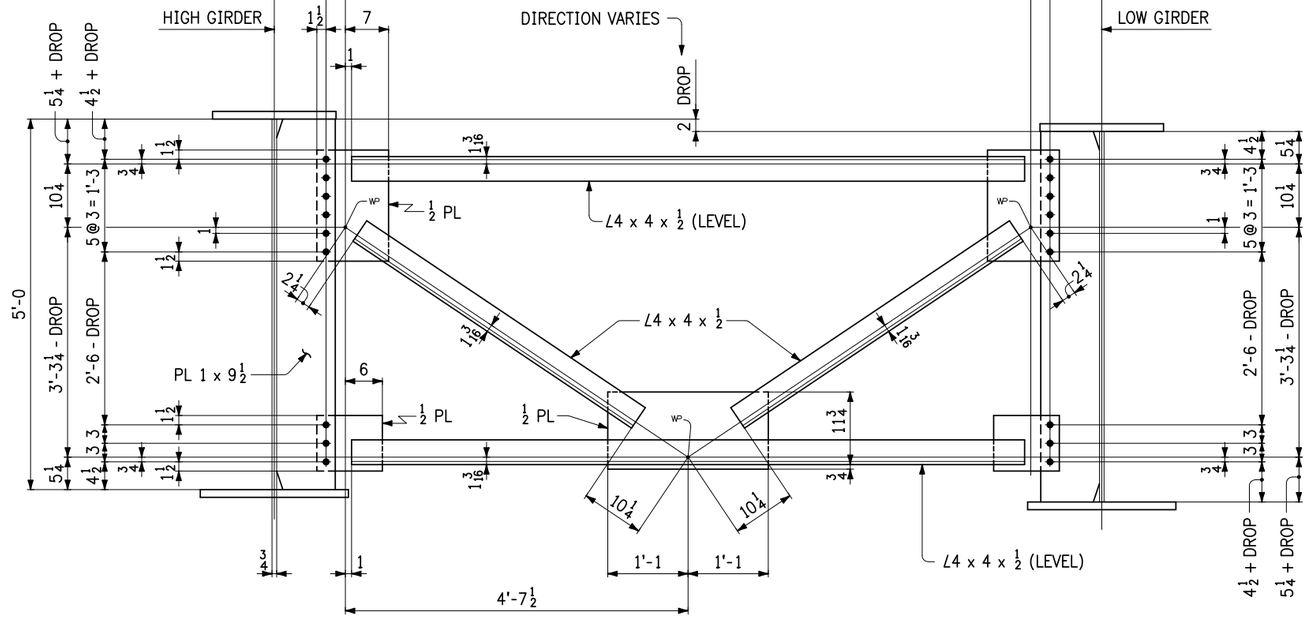
APPROVAL	DRAWN WCG 1-20-16	SHEET NO.	JOB NO.
SHOP	CHECKED CT 1-27-16	WS2	651

Sheet WS2 - Plotted: 03/14/2016 @ 09:42 (HEATHER)



INTERMEDIATE CROSSFRAME

(LOOKING BACKSTATION)
(CFK27)



CROSSFRAME @ ABUT. 1

(LOOKING BACKSTATION)
(CFK27)

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NO.	DATE	REMARKS	BY

REVISIONS

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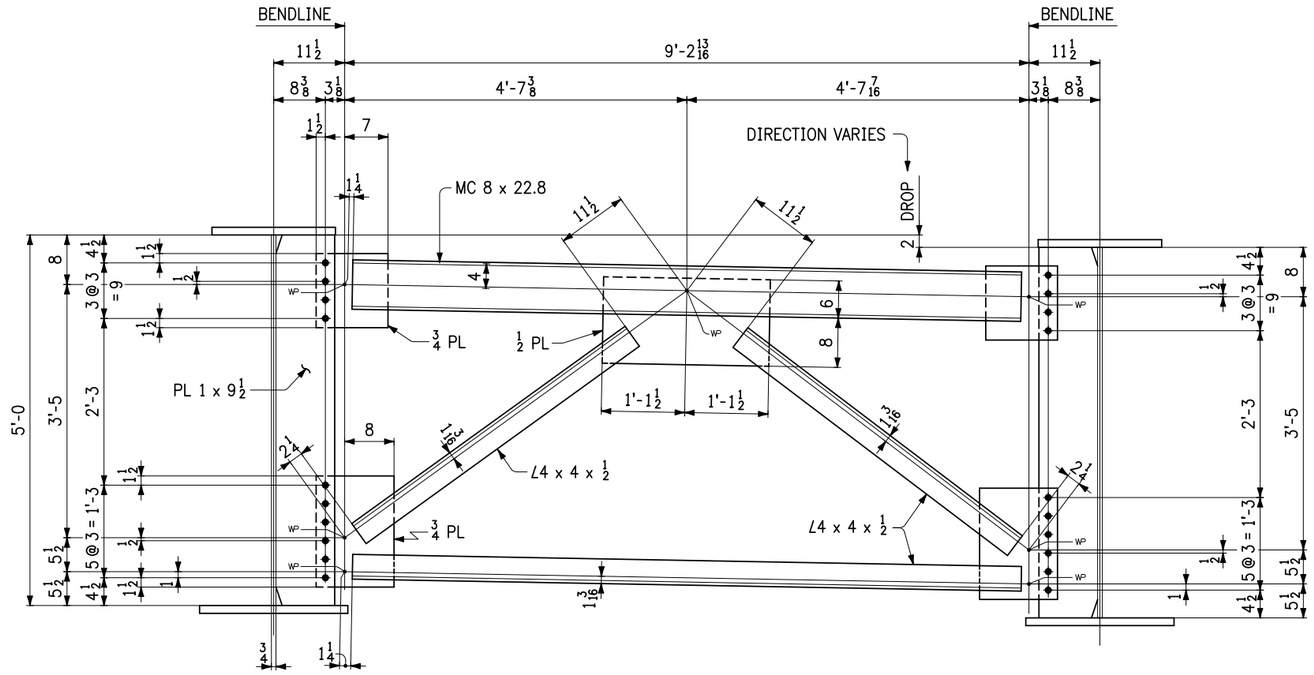
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	LAYOUT
SURFACE PREP.	OPEN HOLES 15/16ø
PAINT	

APPROVAL	DRAWN WCG 1-20-16	SHEET NO.	JOB NO.
SHOP	CHECKED CS 1-27-16	TD1	651

1500-3 LYOT-1500A

Sheet TD1 - Plotted: 03/14/2016 @ 09:42 (HEATHER)



CROSSFRAME @ ABUT. 2

(LOOKING UPSTATION)
(CFK7)

THIS IS A WORK DRAWING. ITS FUNCTION IS TO PROVIDE BASIC DIMENSIONS AND CONCEPTS FOR USE IN THE PREPARATION OF THE SHOP DETAILS. IT IS NOT INTENDED TO BE USED FOR ERECTION OR FABRICATION.

NO.	DATE	REMARKS	BY

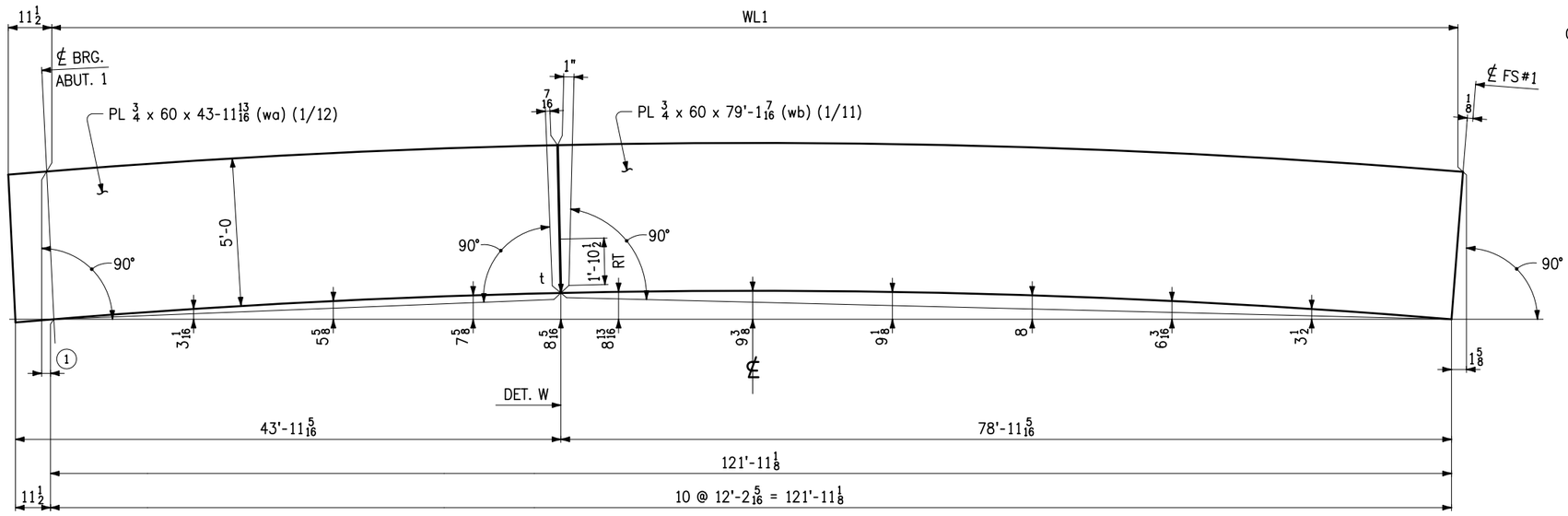
REVISIONS

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	LAYOUT
SURFACE PREP.	OPEN HOLES 15/16ø
PAINT	

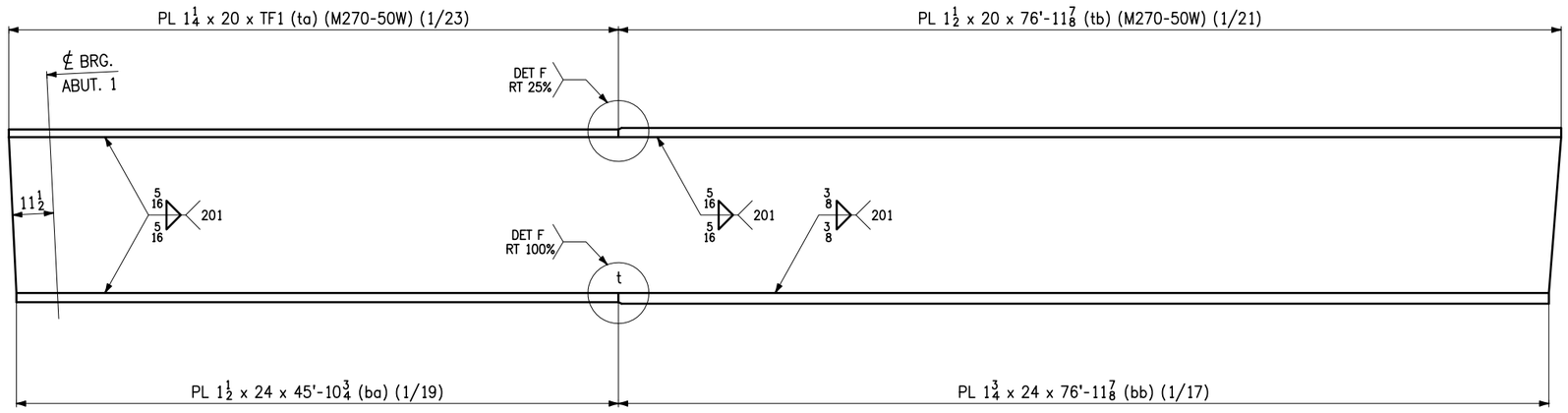
APPROVAL	DRAWN WCG 1-20-16	SHEET NO.	JOB NO.
SHOP	CHECKED CS 1-27-16	TD2	651

Sheet TD2 - Plotted: 03/14/2016 @ 09:42 (HEATHER)

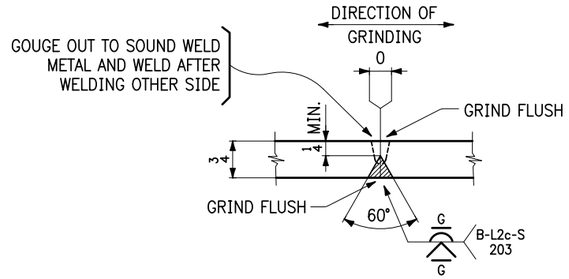


CAMBER DIAGRAM FOR 1G1A ℄ 5G5A

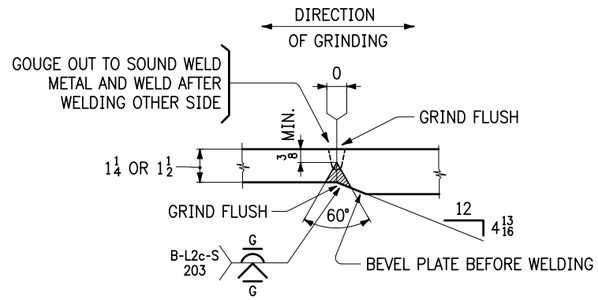
MARK	WL1	TF1	①
1G1A	122'-1 1/16	46'-0 11/16	5/16
5G5A	122'-1 3/8	46'-1	5/8



FLANGE DIAGRAM FOR 1G1A ℄ 5G5A



WEB SPLICE PLATE DET. "W"



FLANGE PLATE SPLICE DETAIL "F"

NOTES:

1. MAT'L: M270-50WT2 (UN).
2. FOR GENERAL NOTES SEE SHT. GN1.
3. "t" INDICATES WELDS SUBJECT TO TENSION.
4. "RT" DENOTES RADIOGRAPHIC INSPECTION. DIMENSION SHOWN IS 1/6 THE WEB DEPTH PLUS 25% OF THE REMAINDER.

NO.	DATE	REMARKS	BY

REVISIONS

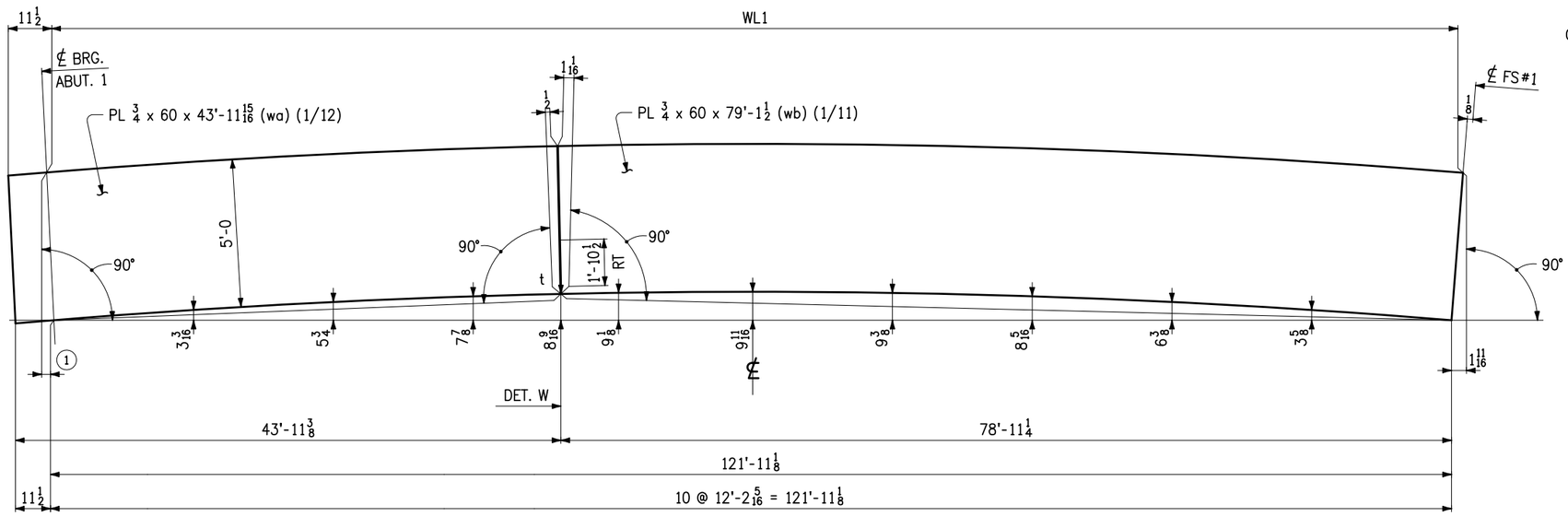
CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE VT 100 OVER MAD RIVER
LOCATION TOWN OF WAITSFIELD, VERMONT
PROJECT NO. PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER MCFARLAND JOHNSON
CUSTOMER A.L. ST. ONGE CONTRACTOR, INC.
ITEM WEB ℄ FLANGE CUTTING DIAGRAMS
SURFACE PREP. _____ OPEN HOLES _____
PAINT _____

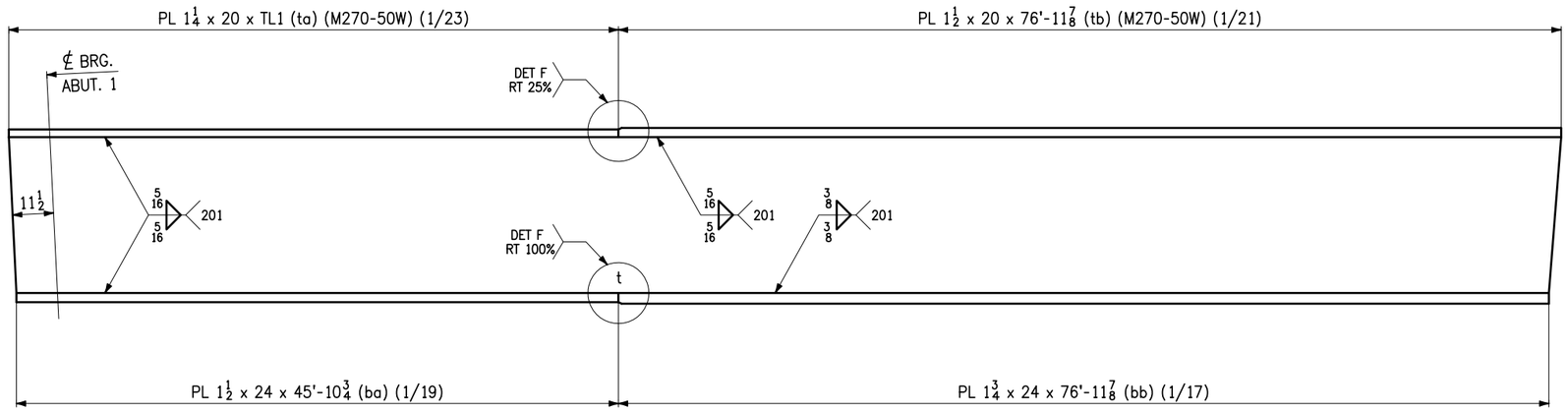
APPROVAL	DRAWN DMM 1-25-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-7-16	C1	651

Sheet C1 - Plotted: 03/14/2016 @ 09:41 (HEATHER)

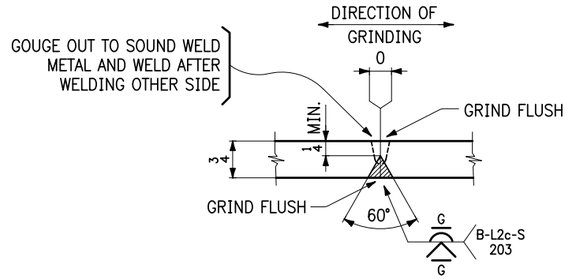


CAMBER DIAGRAM FOR 2G2A, 3G3A ℄ 4G4A

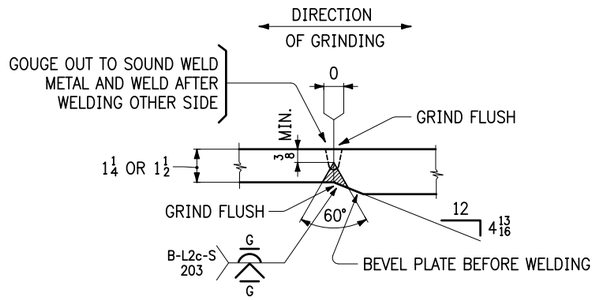
MARK	WL1	TL1	①
2G2A	122'-1¼	46'-0⅞	7/16
3G3A	122'-1⅜	46'-1	9/16
4G4A	122'-1 7/16	46'-1 1/16	⅝



FLANGE DIAGRAM FOR 2G2A, 3G3A ℄ 4G4A



WEB SPLICE PLATE DET. "W"



FLANGE PLATE SPLICE DETAIL "F"

NOTES:

1. MAT'L: M270-50WT2 (UN).
2. FOR GENERAL NOTES SEE SHT. GN1.
3. "t" INDICATES WELDS SUBJECT TO TENSION.
4. "RT" DENOTES RADIOGRAPHIC INSPECTION. DIMENSION SHOWN IS 1/6 THE WEB DEPTH PLUS 25% OF THE REMAINDER.

NO.	DATE	REMARKS	BY

REVISIONS

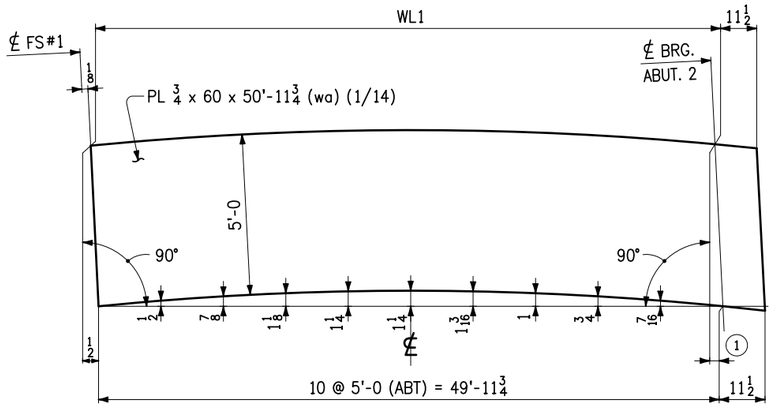
CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE: VT 100 OVER MAD RIVER
LOCATION: TOWN OF WAITSFIELD, VERMONT
PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER: MCFARLAND JOHNSON
CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.
ITEM: WEB ℄ FLANGE CUTTING DIAGRAMS
SURFACE PREP. _____ OPEN HOLES _____
PAINT _____

APPROVAL	DRAWN DMM 1-25-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-7-16	C2	651

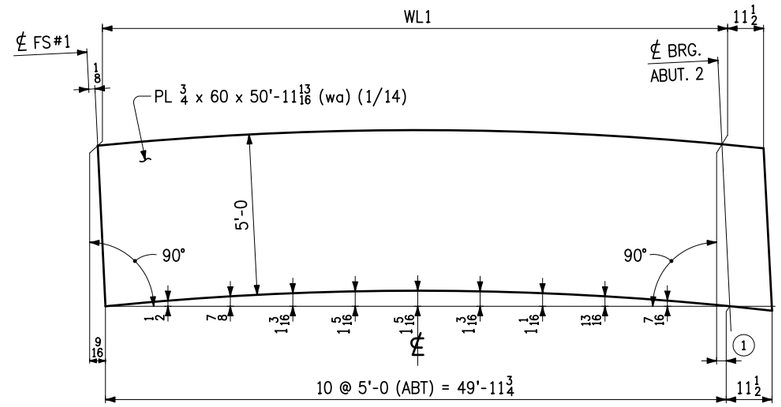
1500-4 WC-1500B

Sheet C2 - Plotted: 03/14/2016 @ 09:41 (HEATHER)



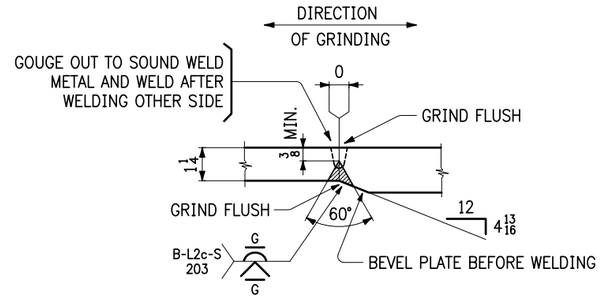
CAMBER DIAGRAM FOR 6G1B ℄ 10G5B

MARK	WL1	TF2	①	Ⓜ1
6G1B	50'-0	45'-11 5/8	1/4	2/3
10G5B	49'-11 11/16	45'-11 5/16	9/16	2/4

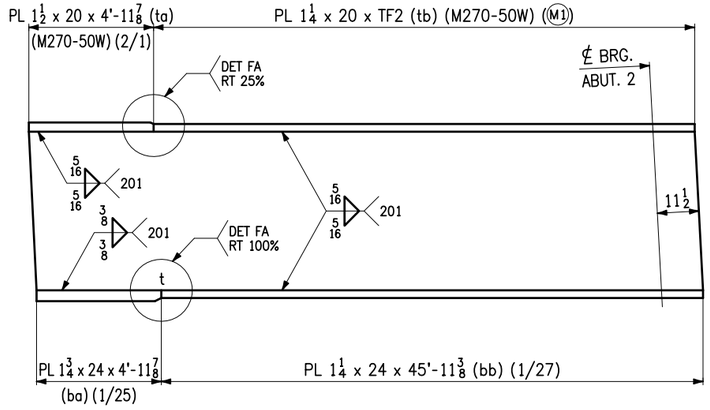


CAMBER DIAGRAM FOR 7G2B, 8G3B, ℄ 9G4B

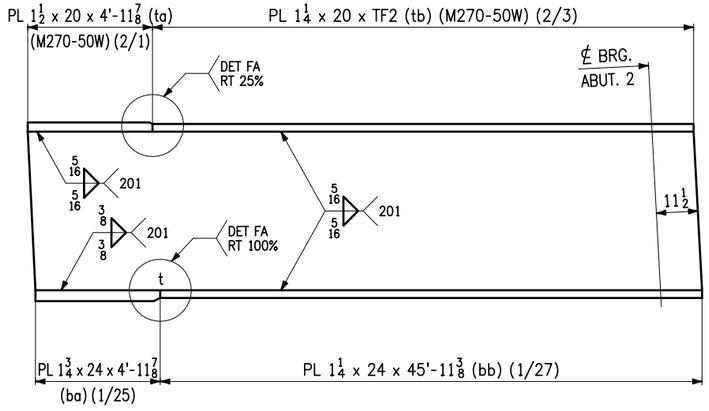
MARK	WL1	TF2	①
7G2B	50'-0 1/16	45'-11 11/16	1/4
8G3B	49'-11 15/16	45'-11 9/16	3/8
9G4B	49'-11 7/8	45'-11 1/2	7/16



FLANGE PLATE SPLICE DETAIL "FA"



FLANGE DIAGRAM FOR 6G1B ℄ 10G5B



FLANGE DIAGRAM FOR 7G2B, 8G3B, ℄ 9G4B

NOTES:

1. MAT'L: M270-50WT2 (UN).
2. FOR GENERAL NOTES SEE SHT. GN1.
3. "t" INDICATES WELDS SUBJECT TO TENSION.

NO.	DATE	REMARKS	BY

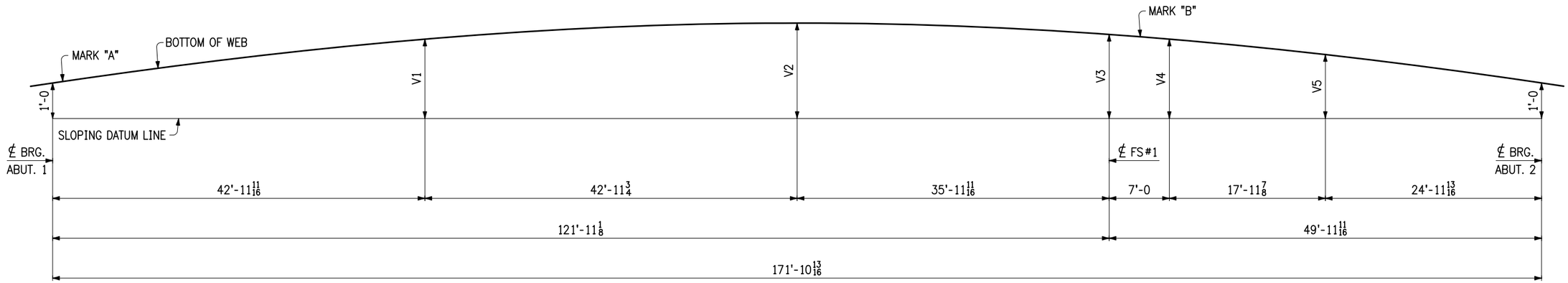
REVISIONS

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	WEB ℄ FLANGE CUTTING DIAGRAMS
SURFACE PREP.	OPEN HOLES
PAINT	

APPROVAL	DRAWN DMM 1-25-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-7-16	C3	651

Sheet C3 - Plotted: 03/14/2016 @ 09:41 (HEATHER)



BLOCKING DIAGRAMS

LINE	V1	V2	V3	V4	V5
1 ℄ 5	2'-1 5/8	2'-6 5/8	2'-3 1/8	2'-1 5/8	1'-8 13/16
2, 3 ℄ 4	2'-2 1/16	2'-7 1/4	2'-3 5/8	2'-2 1/16	1'-9 1/8

NOTES:

1. FOR GENERAL NOTES, SEE DWG. GN1.
2. ALL DIMENSIONS GIVEN AT BOTTOM OF WEB.

NO.	DATE	REMARKS	BY

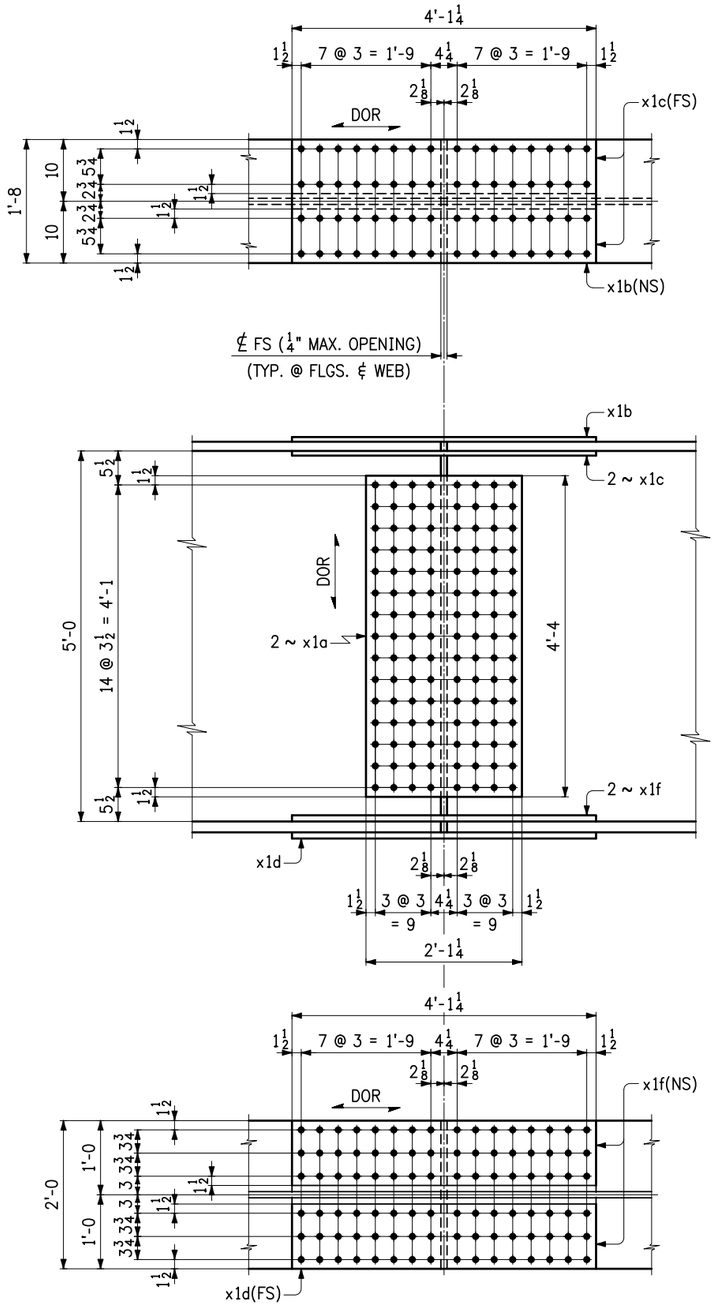
REVISIONS

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE VT 100 OVER MAD RIVER
LOCATION TOWN OF WAITSFIELD, VERMONT
PROJECT NO. PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER MCFARLAND JOHNSON
CUSTOMER A.L. ST. ONGE CONTRACTOR, INC.
ITEM SHOP ASSEMBLY DIAGRAMS
SURFACE PREP. _____ OPEN HOLES _____
PAINT _____

APPROVAL	DRAWN DMM 1-25-16	SHEET NO.	JOB NO.
SHOP	CHECKED GDC 1-28-16	SA1	651

Sheet SA1 - Plotted: 03/14/2016 @ 09:41 (HEATHER)



5 ~ FIELD SPLICE ~ X1M1

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	5	X1M1			FIELD SPLICE					1392 lbs. ea.
2	10		x1a	PL	1/2 x 25 1/4	4	4	M270-50WT2	3/2	372 lbs.
3	5		x1b	PL	3/4 x 20	4	1 1/4	M270-50WT2	3/4	209 lbs.
4	10		x1c	PL	3/4 x 8 3/4	4	1 1/4	M270-50WT2	3/6	183 lbs.
5	5		x1d	PL	1 x 24	4	1 1/4	M270-50WT2	3/8	335 lbs.
6	10		x1f	PL	1 x 10 1/2	4	1 1/4	M270-50WT2	3/10	293 lbs.
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

NOTES:

1. FOR GENERAL NOTES, SEE SHT. GN1.
2. HOLES IN SPLICE PLATES ARE PRE-DRILLED. ENDS OF GIRDERS ARE DRILLED FROM SOLID USING SPLICE PLATES AS A TEMPLATE.
3. DOR → DENOTES DIRECTION OF MILL ROLLING.

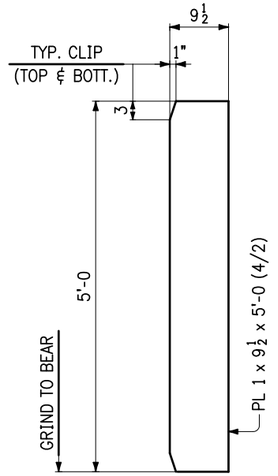
NO.	DATE	REMARKS	BY
		REVISIONS	

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE: VT 100 OVER MAD RIVER
LOCATION: TOWN OF WAITSFIELD, VERMONT
PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER: MCFARLAND JOHNSON
CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.
ITEM: FIELD SPLICE DETAILS
SURFACE PREP.: SSPC-SP10 OPEN HOLES: 15/16ø
PAINT: NONE

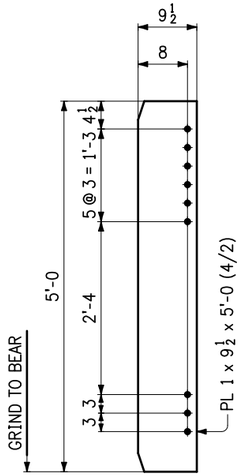
APPROVAL	DRAWN VHM 1-26-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-8-16	X1	651

Sheet X1 - Plotted: 03/14/2016 @ 09:42 (HEATHER)



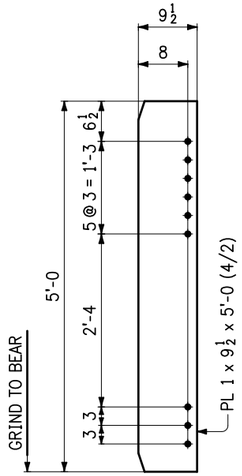
DET. OF PC. ~ x2a

(4 ~ REQ'D)
(@ ABUT. 1 & 2 - FASCIA)



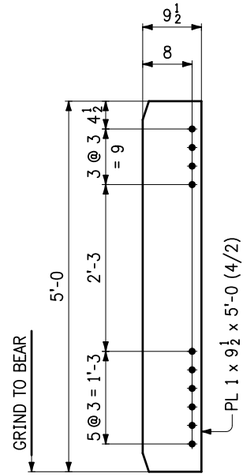
DET. OF PC. ~ x2b

(4 ~ REQ'D)
(@ ABUT. 1 - CONN. PL)
(LOW)



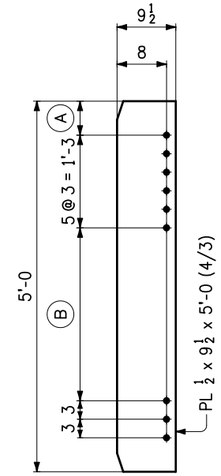
DET. OF PC. ~ x2c

(4 ~ REQ'D)
(@ ABUT. 1 - CONN. PL)
(HIGH)



DET. OF PC. ~ x2d

(8 ~ REQ'D)
(@ ABUT. 2 - CONN. PL)

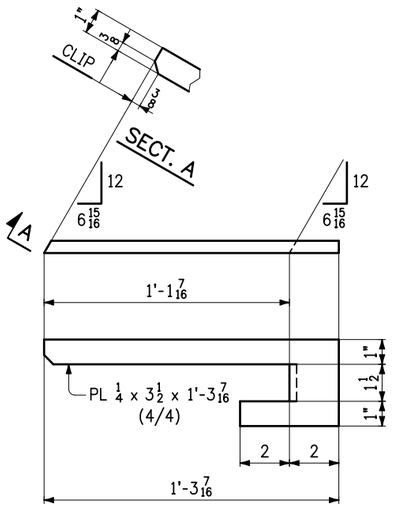


(@ INT. - CONN. PL)

MARK	No. REQ'D.	A	B	DROP
x2f	2	$5\frac{3}{16}$	2'-$5\frac{5}{16}$	($1\frac{13}{16}$ HIGH)
x2g	2	$4\frac{1}{2}$	2'-$5\frac{5}{16}$	($1\frac{13}{16}$ LOW)
x2k	4	$5\frac{3}{8}$	2'-$5\frac{1}{8}$	($2\frac{1}{16}$ HIGH)
x2m	4	$4\frac{1}{2}$	2'-$5\frac{1}{8}$	($2\frac{1}{16}$ LOW)
x2n	4	$5\frac{5}{8}$	2'-$4\frac{7}{8}$	($2\frac{3}{8}$ HIGH)
x2p	4	$4\frac{1}{2}$	2'-$4\frac{7}{8}$	($2\frac{3}{8}$ LOW)
x2t	4	6	2'-$4\frac{1}{2}$	($2\frac{5}{8}$ HIGH)
x2v	4	$4\frac{1}{2}$	2'-$4\frac{1}{2}$	($2\frac{5}{8}$ LOW)
x2w	2	$6\frac{5}{16}$	2'-$4\frac{3}{16}$	($2\frac{7}{8}$ HIGH)

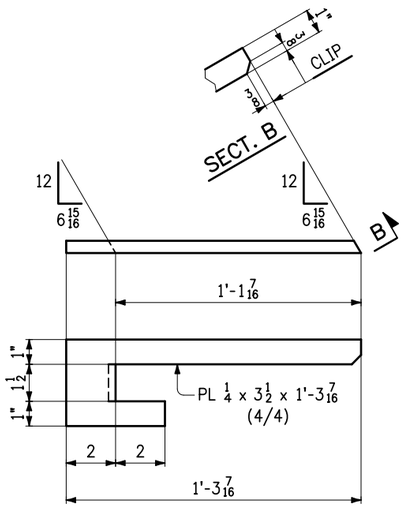
(@ INT. - CONN. PL)

MARK	No. REQ'D.	A	B	DROP
x2y	2	$4\frac{1}{2}$	2'-$4\frac{3}{16}$	($2\frac{7}{8}$ LOW)
x2aa	4	$6\frac{9}{16}$	2'-$3\frac{15}{16}$	($3\frac{1}{16}$ HIGH)
x2ab	4	$4\frac{1}{2}$	2'-$3\frac{15}{16}$	($3\frac{1}{16}$ LOW)
x2ac	4	$6\frac{7}{8}$	2'-$3\frac{5}{8}$	($3\frac{3}{8}$ HIGH)
x2ad	4	$4\frac{1}{2}$	2'-$3\frac{5}{8}$	($3\frac{3}{8}$ LOW)
x2af	4	$7\frac{1}{8}$	2'-$3\frac{3}{8}$	($3\frac{5}{8}$ HIGH)
x2ag	4	$4\frac{1}{2}$	2'-$3\frac{3}{8}$	($3\frac{5}{8}$ LOW)
x2ak	8	$7\frac{3}{8}$	2'-$3\frac{1}{8}$	($3\frac{7}{8}$ HIGH)
x2am	8	$4\frac{1}{2}$	2'-$3\frac{1}{8}$	($3\frac{7}{8}$ LOW)



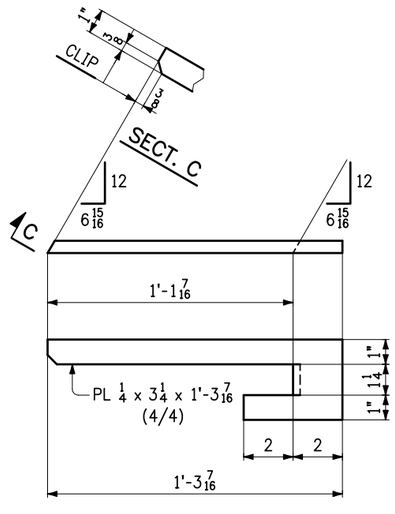
DRIP BAR ~ x2an

(1 ~ REQ'D)
(@ ABUT. 1 - LINE 1)



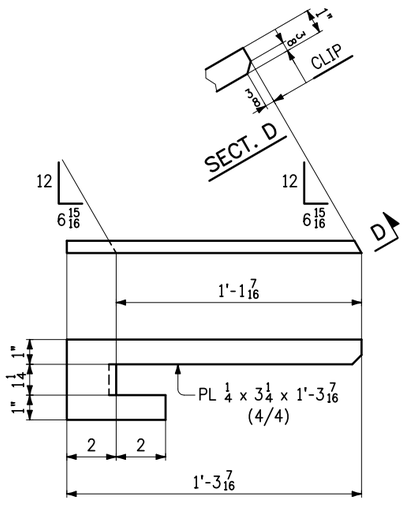
DRIP BAR ~ x2ap

(1 ~ REQ'D)
(@ ABUT. 1 - LINE 5)



DRIP BAR ~ x2at

(1 ~ REQ'D)
(@ ABUT. 2 - LINE 5)



DRIP BAR ~ x2av

(1 ~ REQ'D)
(@ ABUT. 2 - LINE 1)

NOTES:

1. FOR GENERAL NOTES, SEE SHT. GN1.
2. MATERIAL TO BE M270-50W.

NO.	DATE	REMARKS	BY

REVISIONS

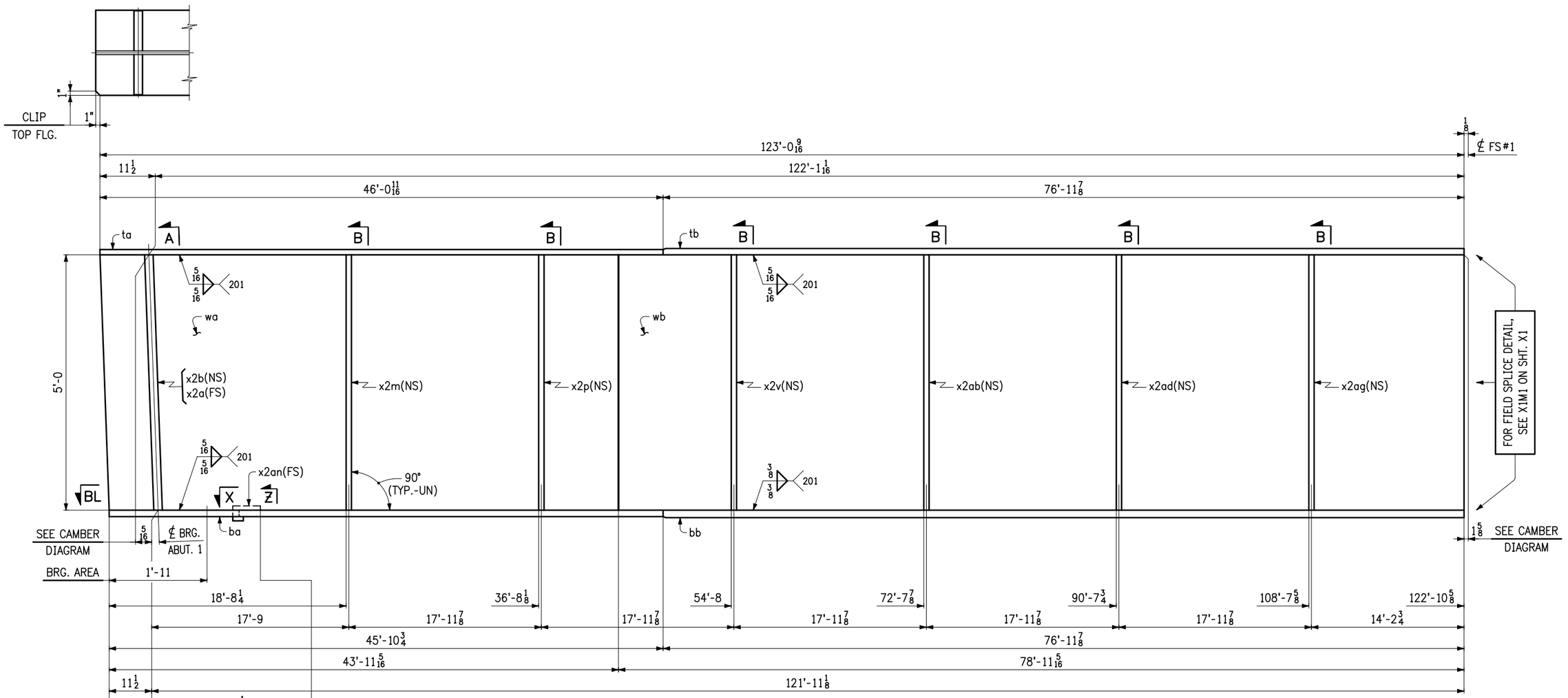
CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER STANDARDS
SURFACE PREP.	____ OPEN HOLES $\frac{15}{16}$ø
PAINT	____

APPROVAL	DRAWN VHM 1-26-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-8-16	X2	651

Sheet X2 - Plotted: 03/14/2016 @ 09:42 (HEATHER)



ONE ~ GIRDER ~ 1G1A

- FOR GIRDER STANDARD DETAILS, SEE SHT. X2.
- FOR WEB CUTTING DIAGRAM, SEE SHT. C1.
- FOR FLANGE CUTTING DIAGRAMS, SEE SHT. C1.
- FOR GENERAL NOTES, SEE SHT. GN1.
- "BRG. AREA" INDICATES AREA THAT MUST BE FLAT TO PROVIDE A UNIFORM EVEN CONTACT WITH SOLE PLATE.

NO.	DATE	REMARKS	BY
		REVISIONS	

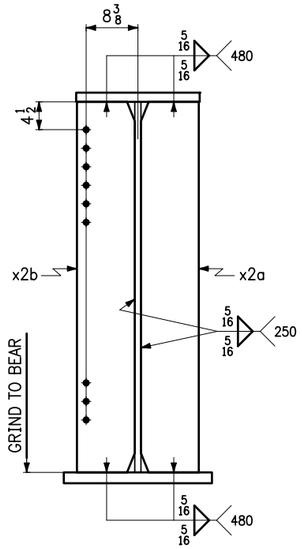
CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER ~ 1G1A
SURFACE PREP.	SSPC-SP10 OPEN HOLES 15/16ø
PAINT	NONE

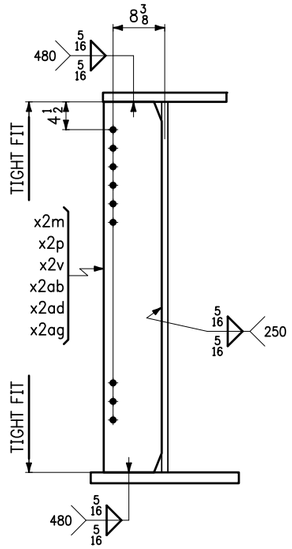
APPROVAL	DRAWN VHM 1-27-16	SHEET NO. 1AB	JOB NO. 651
SHOP	CHECKED FM 3-8-16		

Sheet 01AB - Plotted: 03/14/2016 @ 09:42 (HEATHER)

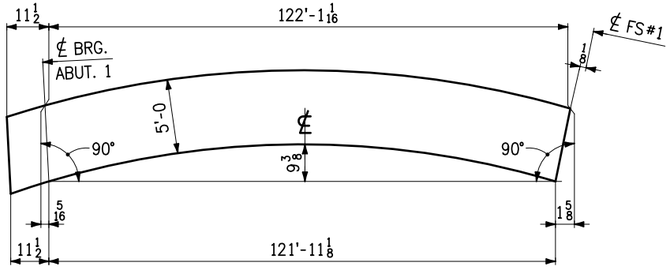
LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL						
				SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	1	1G1A			GIRDER					48,066 lbs.
2	1		wa	PL	$\frac{3}{4}$ x 60	43	$11\frac{13}{16}$	M270-50WT2	1/12	6735 lbs.
3	1		wb	PL	$\frac{3}{4}$ x 60	79	$1\frac{7}{16}$	M270-50WT2	1/11	12,115 lbs.
4	1		ta	PL	$1\frac{1}{4}$ x 20	46	$0\frac{11}{16}$	M270-50W	1/23	3918 lbs.
5	1		tb	PL	$1\frac{1}{2}$ x 20	76	$11\frac{7}{8}$	M270-50W	1/21	7859 lbs.
6	1		ba	PL	$1\frac{1}{2}$ x 24	45	$10\frac{3}{4}$	M270-50WT2	1/19	5622 lbs.
7	1		bb	PL	$1\frac{3}{4}$ x 24	76	$11\frac{7}{8}$	M270-50WT2	1/17	11,003 lbs.
8										
9	1		x2a	PL	1 x $9\frac{1}{2}$	5	0	M270-50W	4/2	G1E 162 lbs.
10	1		x2b	PL	1 x $9\frac{1}{2}$	5	0	M270-50W	4/2	G1E 162 lbs.
11	1		x2m	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
12	1		x2p	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
13	1		x2v	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
14	1		x2ab	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
15	1		x2ad	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
16	1		x2ag	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
17	1		x2an	PL	$\frac{1}{4}$ x $3\frac{1}{2}$	1	$3\frac{7}{16}$	M270-50W	4/4	4 lbs.
18										
19										
20										
21										
22										
23										
24										
25										



SECT. A



SECT. B



CAMBER DIAGRAM

NO.	DATE	REMARKS	BY

REVISIONS

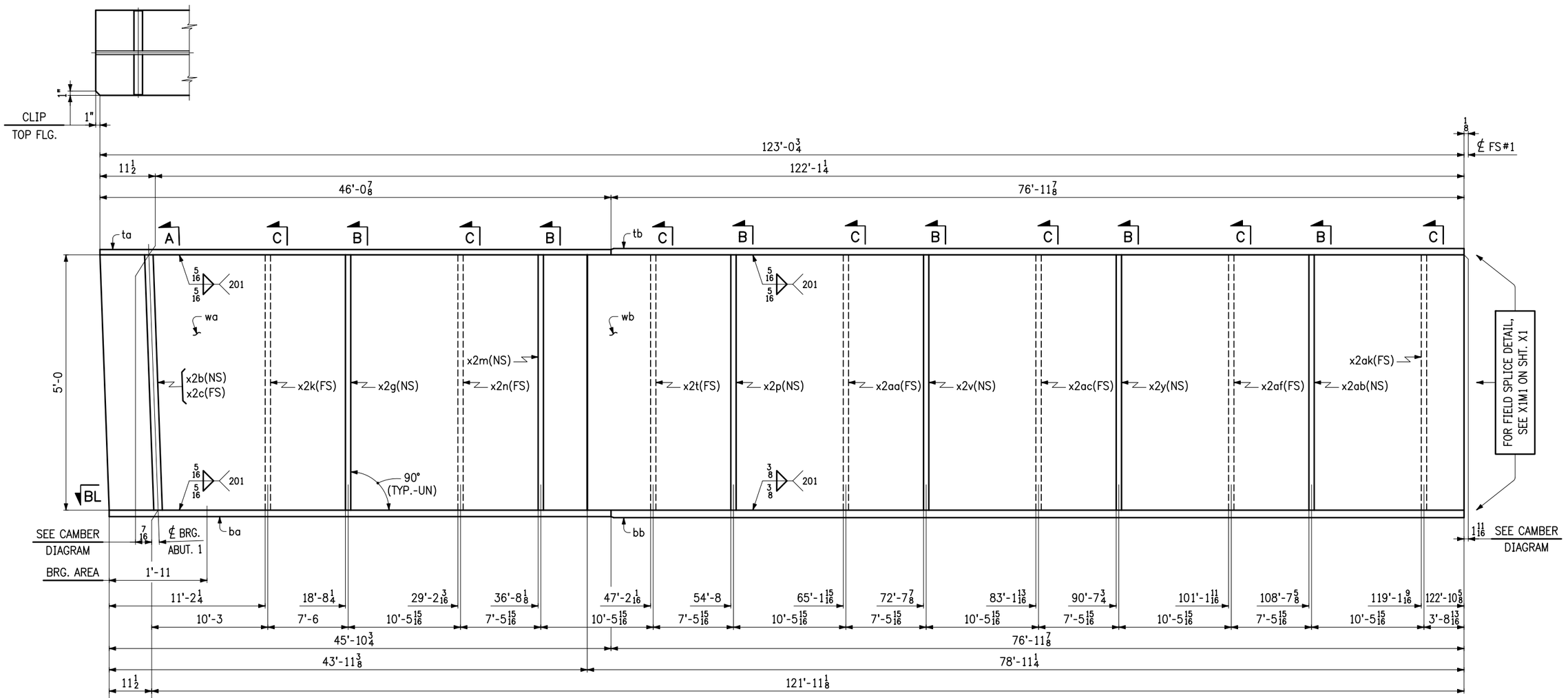
CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE VT 100 OVER MAD RIVER
LOCATION TOWN OF WAITSFIELD, VERMONT
PROJECT NO. PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER MCFARLAND JOHNSON
CUSTOMER A.L. ST. ONGE CONTRACTOR, INC.
ITEM GIRDER ~ 1G1A
SURFACE PREP. SSPC-SP10 OPEN HOLES $\frac{15}{16}$ø
PAINT NONE

APPROVAL	DRAWN VMM 1-27-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-9-16	1B	651

Sheet 01B - Plotted: 03/14/2016 @ 09:43 (HEATHER)



SECT. BL

ONE ~ GIRDER ~ 2G2A

- FOR GIRDER STANDARD DETAILS, SEE SHT. X2.
- FOR WEB CUTTING DIAGRAM, SEE SHT. C2.
- FOR FLANGE CUTTING DIAGRAMS, SEE SHT. C2.
- FOR GENERAL NOTES, SEE SHT. GN1.
- "BRG. AREA" INDICATES AREA THAT MUST BE FLAT TO PROVIDE A UNIFORM EVEN CONTACT WITH SOLE PLATE.

NO.	DATE	REMARKS	BY

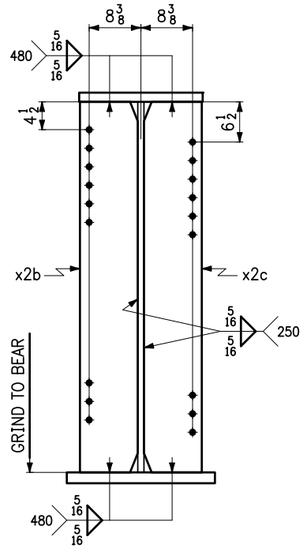
REVISIONS

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

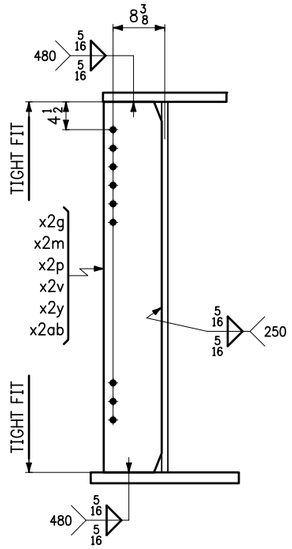
STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER ~ 2G2A
SURFACE PREP.	SSPC-SP10
OPEN HOLES	15/16ø
PAINT	NONE

APPROVAL	DRAWN VHM 1-27-16	SHEET NO. 2AB	JOB NO. 651
SHOP	CHECKED FM 3-9-16		

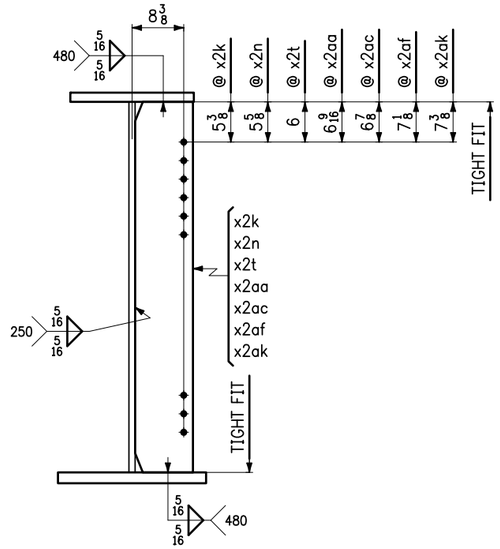
Sheet 02AB - Plotted: 03/14/2016 @ 09:43 (HEATHER)



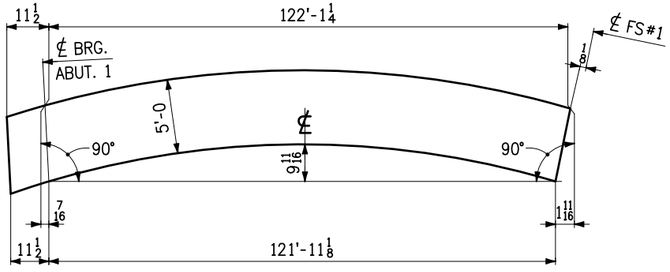
SECT. A



SECT. B



SECT. C



CAMBER DIAGRAM

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	1	2G2A			GIRDER					48,633 lbs.
2	1		wa	PL	3/4 x 60	43	11 15/16	M270-50WT2	1/12	6737 lbs.
3	1		wb	PL	3/4 x 60	79	1 1/2	M270-50WT2	1/11	12,116 lbs.
4	1		ta	PL	1 1/4 x 20	46	0 7/8	M270-50W	1/23	3919 lbs.
5	1		tb	PL	1 1/2 x 20	76	11 7/8	M270-50W	1/21	7859 lbs.
6	1		ba	PL	1 1/2 x 24	45	10 3/4	M270-50WT2	1/19	5622 lbs.
7	1		bb	PL	1 3/4 x 24	76	11 7/8	M270-50WT2	1/17	11,003 lbs.
8										
9	1		x2b	PL	1 x 9 1/2	5	0	M270-50W	4/2	G1E 162 lbs.
10	1		x2c	PL	1 x 9 1/2	5	0	M270-50W	4/2	G1E 162 lbs.
11	1		x2g	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
12	1		x2k	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
13	1		x2m	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
14	1		x2n	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
15	1		x2p	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
16	1		x2t	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
17	1		x2v	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
18	1		x2y	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
19	1		x2aa	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
20	1		x2ab	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
21	1		x2ac	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
22	1		x2af	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
23	1		x2ak	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
24										
25										

NO.	DATE	REMARKS	BY

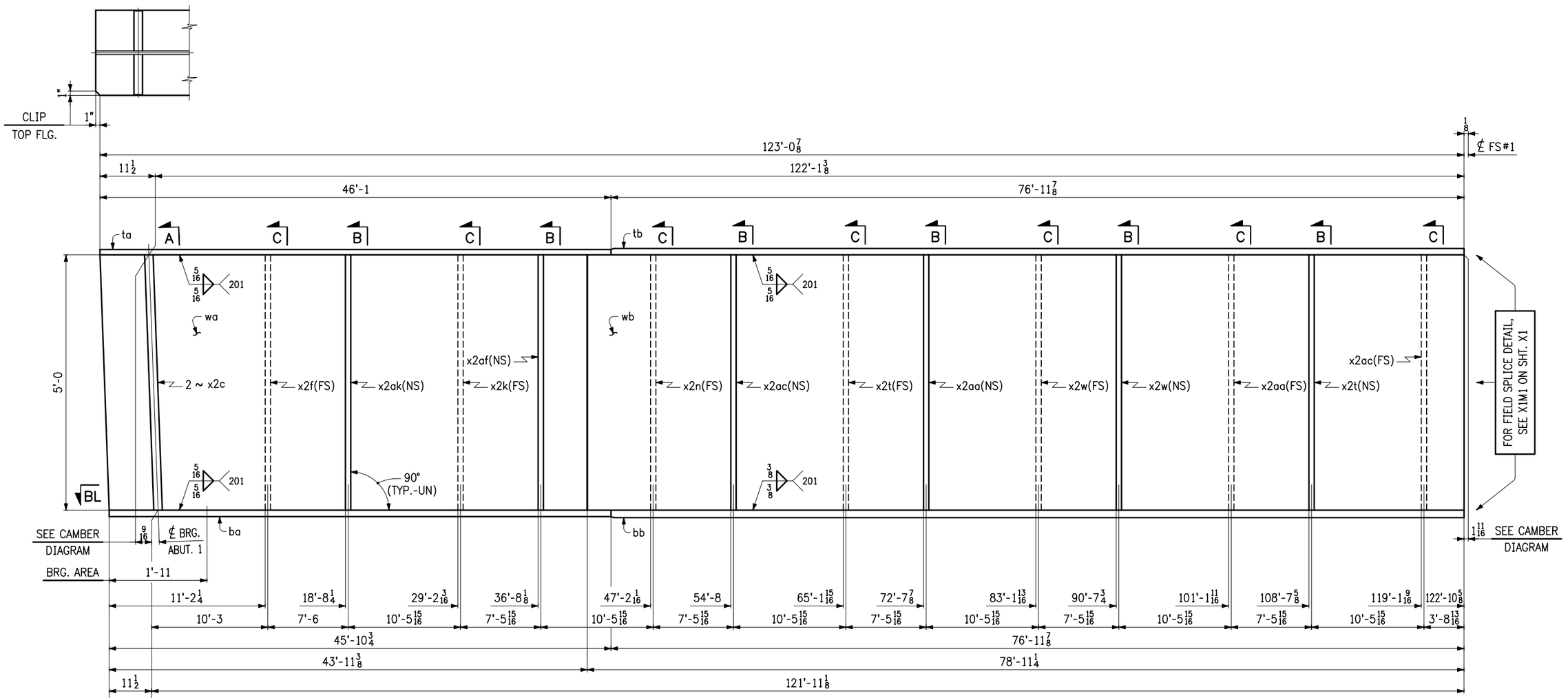
REVISIONS

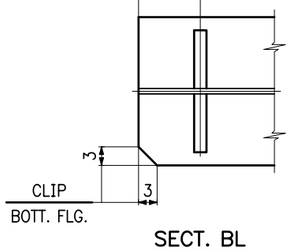
CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE: VT 100 OVER MAD RIVER
LOCATION: TOWN OF WAITSFIELD, VERMONT
PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER: MCFARLAND JOHNSON
CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.
ITEM: GIRDER ~ 2G2A
SURFACE PREP.: SSPC-SP10 OPEN HOLES: 15/16ø
PAINT: NONE

APPROVAL	DRAWN VHM 1-27-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-9-16	2B	651

Sheet 02B - Plotted: 03/14/2016 @ 09:43 (HEATHER)





SECT. BL

ONE ~ GIRDER ~ 3G3A

- FOR GIRDER STANDARD DETAILS, SEE SHT. X2.
- FOR WEB CUTTING DIAGRAM, SEE SHT. C2.
- FOR FLANGE CUTTING DIAGRAMS, SEE SHT. C2.
- FOR GENERAL NOTES, SEE SHT. GN1.
- "BRG. AREA" INDICATES AREA THAT MUST BE FLAT TO PROVIDE A UNIFORM EVEN CONTACT WITH SOLE PLATE.

NO.	DATE	REMARKS	BY

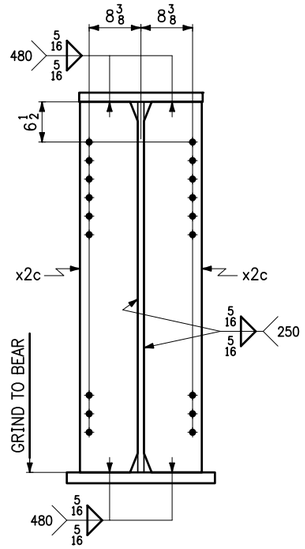
REVISIONS

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

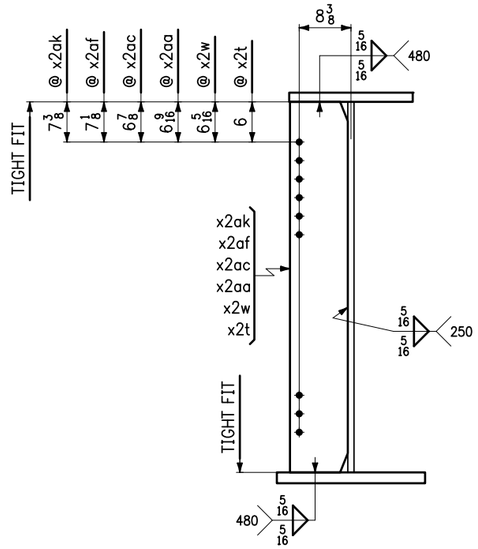
STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER ~ 3G3A
SURFACE PREP.	SSPC-SP10
OPEN HOLES	15/16ø
PAINT	NONE

APPROVAL	DRAWN VHM	1-27-16	SHEET NO. 3AB	JOB NO. 651
SHOP	CHECKED FM	3-8-16		

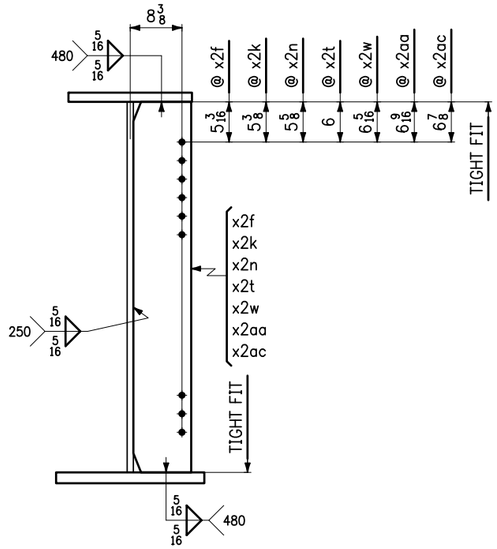
Sheet 03AB - Plotted: 03/14/2016 @ 09:43 (HEATHER)



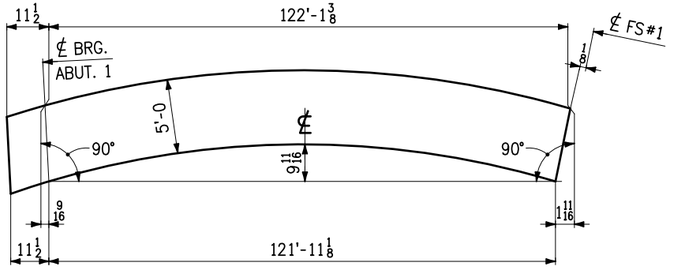
SECT. A



SECT. B



SECT. C



CAMBER DIAGRAM

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	1	3G3A			GIRDER					48,634 lbs.
2	1		wa	PL	3/4 x 60	43	11 15/16	M270-50WT2	1/12	6737 lbs.
3	1		wb	PL	3/4 x 60	79	1 1/2	M270-50WT2	1/11	12,116 lbs.
4	1		ta	PL	1 1/4 x 20	46	1	M270-50W	1/23	3920 lbs.
5	1		tb	PL	1 1/2 x 20	76	11 7/8	M270-50W	1/21	7859 lbs.
6	1		ba	PL	1 1/2 x 24	45	10 3/4	M270-50WT2	1/19	5622 lbs.
7	1		bb	PL	1 1/4 x 24	76	11 7/8	M270-50WT2	1/17	11,003 lbs.
8										
9	2		x2c	PL	1 x 9 1/2	5	0	M270-50W	4/2	G1E 324 lbs.
10	1		x2f	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
11	1		x2k	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
12	1		x2n	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
13	2		x2t	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	162 lbs.
14	2		x2w	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	162 lbs.
15	2		x2aa	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	162 lbs.
16	2		x2ac	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	162 lbs.
17	1		x2af	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
18	1		x2ak	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
19										
20										
21										
22										
23										
24										
25										

NO.	DATE	REMARKS	BY

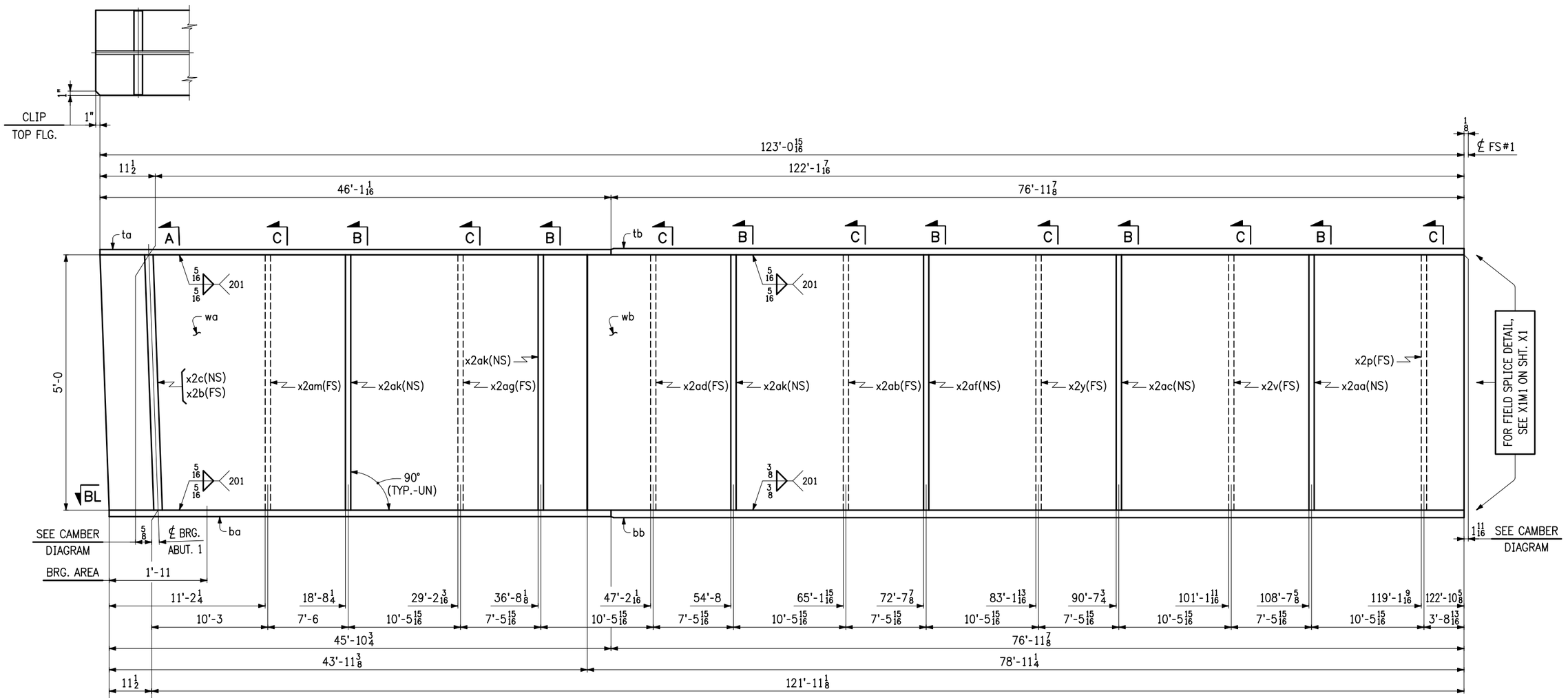
REVISIONS

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE: VT 100 OVER MAD RIVER
LOCATION: TOWN OF WAITSFIELD, VERMONT
PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER: MCFARLAND JOHNSON
CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.
ITEM: GIRDER ~ 3G3A
SURFACE PREP.: SSPC-SP10 OPEN HOLES: 15/16ø
PAINT: NONE

APPROVAL	DRAWN VHM 1-27-16	SHEET NO. 3B	JOB NO. 651
SHOP	CHECKED FM 3-8-16		

Sheet 03B - Plotted: 03/14/2016 @ 09:43 (HEATHER)



SECT. BL

ONE ~ GIRDER ~ 4G4A

- FOR GIRDER STANDARD DETAILS, SEE SHT. X2.
- FOR WEB CUTTING DIAGRAM, SEE SHT. C2.
- FOR FLANGE CUTTING DIAGRAMS, SEE SHT. C2.
- FOR GENERAL NOTES, SEE SHT. GN1.
- "BRG. AREA" INDICATES AREA THAT MUST BE FLAT TO PROVIDE A UNIFORM EVEN CONTACT WITH SOLE PLATE.

NO.	DATE	REMARKS	BY

REVISIONS

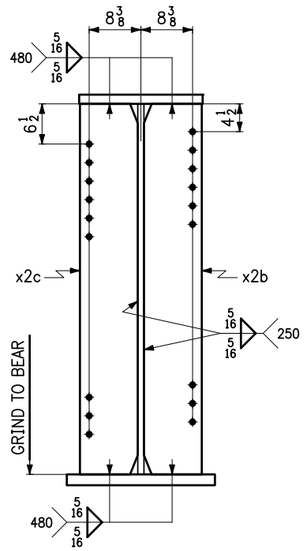
CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER ~ 4G4A
SURFACE PREP.	SSPC-SP10
OPEN HOLES	15/16ø
PAINT	NONE

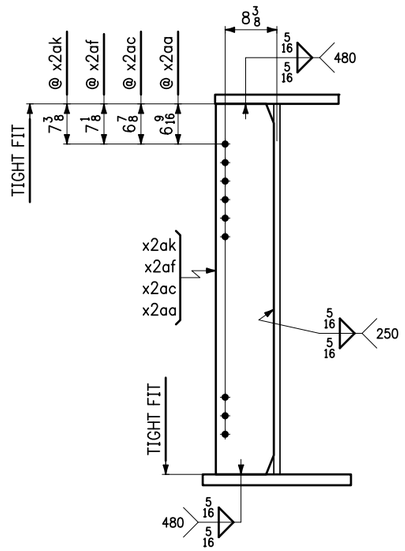
APPROVAL	DRAWN VHM 1-27-16	SHEET NO. 4AB	JOB NO. 651
SHOP	CHECKED FM 3-9-16		

Sheet 04AB - Plotted: 03/14/2016 @ 09:43 (HEATHER)

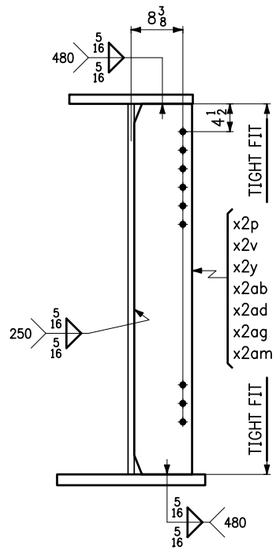
LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL						
				SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	1	4G4A			GIRDER					48,635 lbs.
2	1		wa	PL	$\frac{3}{4}$ x 60	43	$11\frac{15}{16}$	M270-50WT2	1/12	6737 lbs.
3	1		wb	PL	$\frac{3}{4}$ x 60	79	$1\frac{1}{2}$	M270-50WT2	1/11	12,116 lbs.
4	1		ta	PL	$1\frac{1}{4}$ x 20	46	$1\frac{1}{16}$	M270-50W	1/23	3921 lbs.
5	1		tb	PL	$1\frac{1}{2}$ x 20	76	$11\frac{7}{8}$	M270-50W	1/21	7859 lbs.
6	1		ba	PL	$1\frac{1}{2}$ x 24	45	$10\frac{3}{4}$	M270-50WT2	1/19	5622 lbs.
7	1		bb	PL	$1\frac{3}{4}$ x 24	76	$11\frac{7}{8}$	M270-50WT2	1/17	11,003 lbs.
8										
9	1		x2b	PL	1 x $9\frac{1}{2}$	5	0	M270-50W	4/2	G1E 162 lbs.
10	1		x2c	PL	1 x $9\frac{1}{2}$	5	0	M270-50W	4/2	G1E 162 lbs.
11	1		x2p	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
12	1		x2v	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
13	1		x2y	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
14	1		x2aa	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
15	1		x2ab	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
16	1		x2ac	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
17	1		x2ad	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
18	1		x2af	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
19	1		x2ag	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
20	3		x2ak	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	243 lbs.
21	1		x2am	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
22										
23										
24										
25										



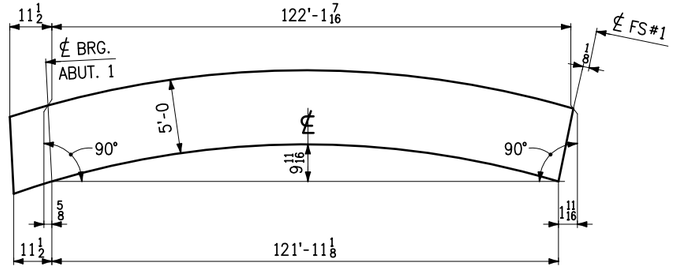
SECT. A



SECT. B



SECT. C



CAMBER DIAGRAM

NO.	DATE	REMARKS	BY

REVISIONS

CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

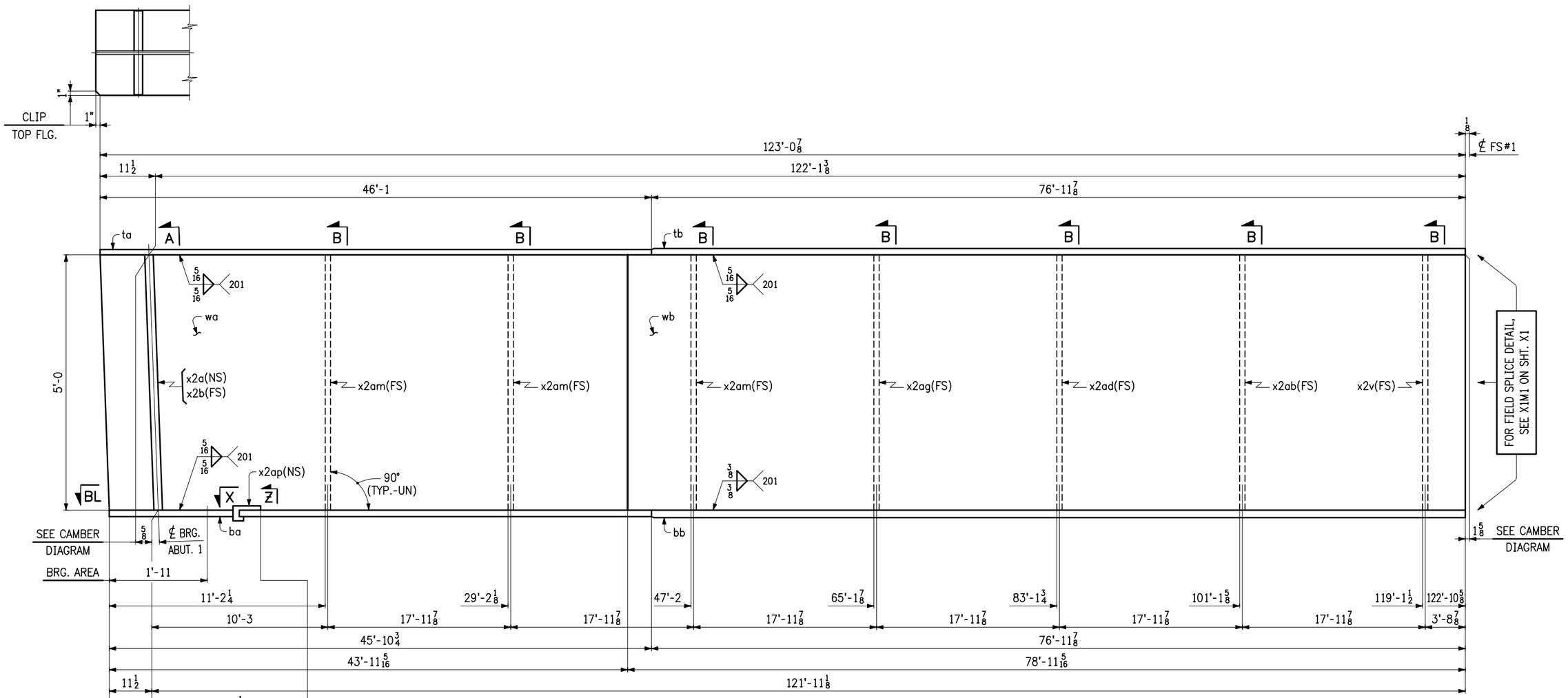
STRUCTURE: VT 100 OVER MAD RIVER
LOCATION: TOWN OF WAITSFIELD, VERMONT
PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER: MCFARLAND JOHNSON
CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.
ITEM: GIRDER ~ 4G4A
SURFACE PREP.: SSPC-SP10 OPEN HOLES: $\frac{15}{16}$ø
PAINT: NONE

APPROVAL	DRAWN VHM 1-27-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-9-16	4B	651

1500-9

G4A-1500B

Sheet 04B - Plotted: 03/14/2016 @ 09:43 (HEATHER)



ONE ~ GIRDER ~ 5G5A

- FOR GIRDER STANDARD DETAILS, SEE SHT. X2.
- FOR WEB CUTTING DIAGRAM, SEE SHT. C1.
- FOR FLANGE CUTTING DIAGRAMS, SEE SHT. C1.
- FOR GENERAL NOTES, SEE SHT. GN1.
- "BRG. AREA" INDICATES AREA THAT MUST BE FLAT TO PROVIDE A UNIFORM EVEN CONTACT WITH SOLE PLATE.

NO.	DATE	REMARKS	BY
		REVISIONS	

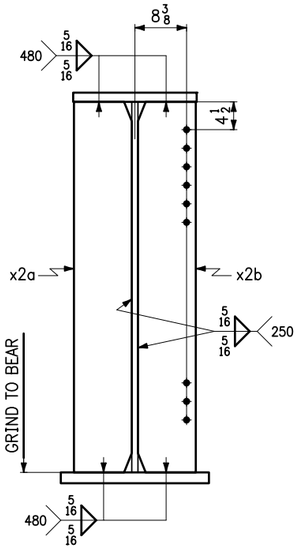
CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

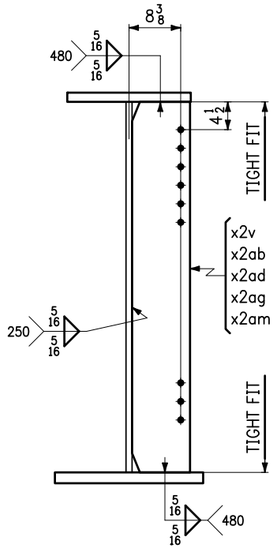
STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER ~ 5G5A
SURFACE PREP.	SSPC-SP10 OPEN HOLES 15/16ø
PAINT	NONE

APPROVAL	DRAWN VHM 1-27-16		SHEET NO. 5AB	JOB NO. 651
SHOP	CHECKED FM 3-9-16			

Sheet: 05AB - Plotted: 03/14/2016 @ 09:44 (HEATHER)



SECT. A



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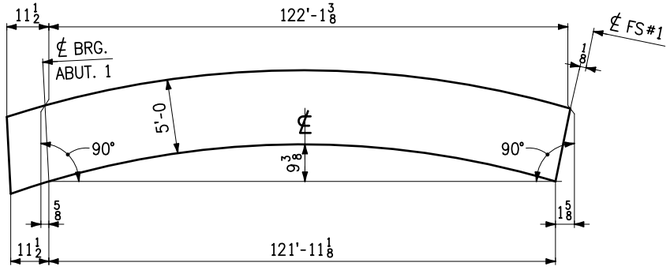


CAMBER DIAGRAM

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	1	5G5A			GIRDER					48,149 lbs.
2	1		wa	PL	3/4 x 60	43	11 13/16	M270-50WT2	1/12	6735 lbs.
3	1		wb	PL	3/4 x 60	79	1 7/16	M270-50WT2	1/11	12,115 lbs.
4	1		ta	PL	1 1/4 x 20	46	1	M270-50W	1/23	3920 lbs.
5	1		tb	PL	1 1/2 x 20	76	11 7/8	M270-50W	1/21	7859 lbs.
6	1		ba	PL	1 1/2 x 24	45	10 3/4	M270-50WT2	1/19	5622 lbs.
7	1		bb	PL	1 3/4 x 24	76	11 7/8	M270-50WT2	1/17	11,003 lbs.
8										
9	1		x2a	PL	1 x 9 1/2	5	0	M270-50W	4/2	G1E 162 lbs.
10	1		x2b	PL	1 x 9 1/2	5	0	M270-50W	4/2	G1E 162 lbs.
11	1		x2v	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
12	1		x2ab	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
13	1		x2ad	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
14	1		x2ag	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
15	3		x2am	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	243 lbs.
16	1		x2ap	PL	1/4 x 3 1/2	1	3 7/16	M270-50W	4/4	4 lbs.
17										
18										
19										
20										
21										
22										
23										
24										
25										

NO.	DATE	REMARKS	BY

REVISIONS

CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE VT 100 OVER MAD RIVER

LOCATION TOWN OF WAITSFIELD, VERMONT

PROJECT NO. PROJECT NO. BRF 013-4(39) BRIDGE NO. 177

ENGINEER MCFARLAND JOHNSON

CUSTOMER A.L. ST. ONGE CONTRACTOR, INC.

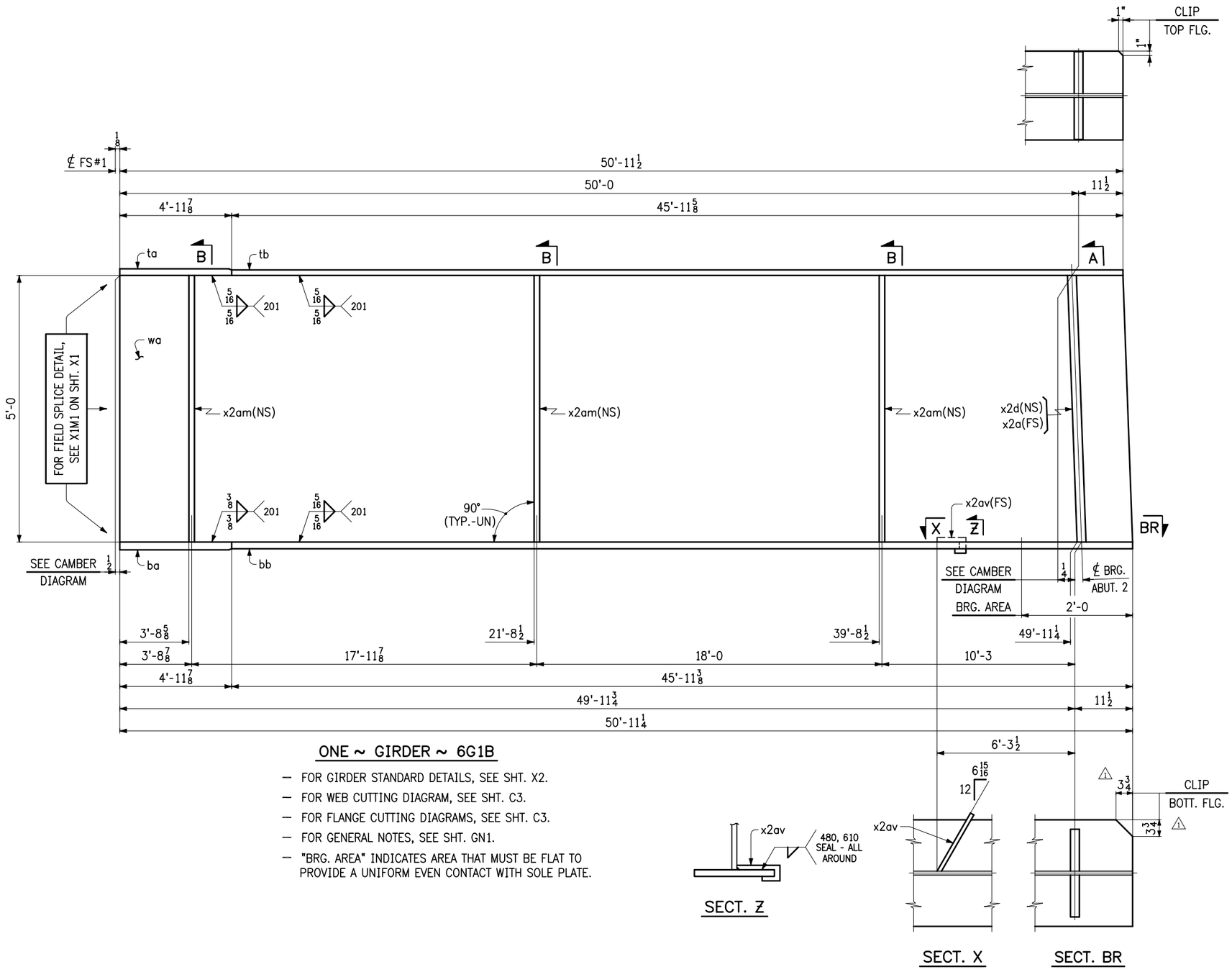
ITEM GIRDER ~ 5G5A

SURFACE PREP. SSPC-SP10 OPEN HOLES 15/16ø

PAINT NONE

APPROVAL	DRAWN VHM 1-27-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-9-16	5B	651

Sheet 05AB - Plotted: 03/14/2016 @ 09:44 (HEATHER)



ONE ~ GIRDER ~ 6G1B

- FOR GIRDER STANDARD DETAILS, SEE SHT. X2.
- FOR WEB CUTTING DIAGRAM, SEE SHT. C3.
- FOR FLANGE CUTTING DIAGRAMS, SEE SHT. C3.
- FOR GENERAL NOTES, SEE SHT. GN1.
- "BRG. AREA" INDICATES AREA THAT MUST BE FLAT TO PROVIDE A UNIFORM EVEN CONTACT WITH SOLE PLATE.

NO.	DATE	REMARKS	BY
1	3-30-16	REVISED SECT. BR PER APPROVAL COMMENTS.	VHM

REVISIONS

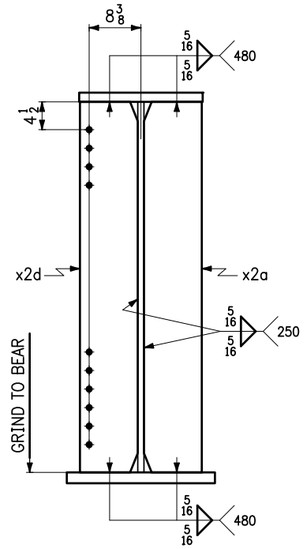
CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

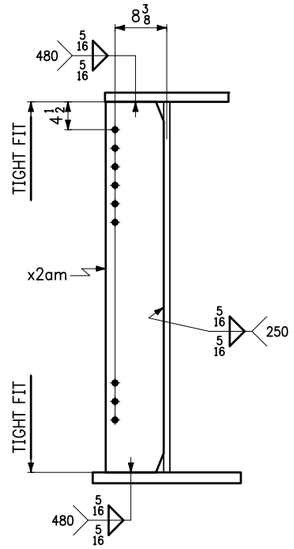
STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER ~ 6G1B
SURFACE PREP.	SSPC-SP10
OPEN HOLES	15/16 ø
PAINT	NONE

APPROVAL	DRAWN VHM 1-28-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-9-16	6AB	651

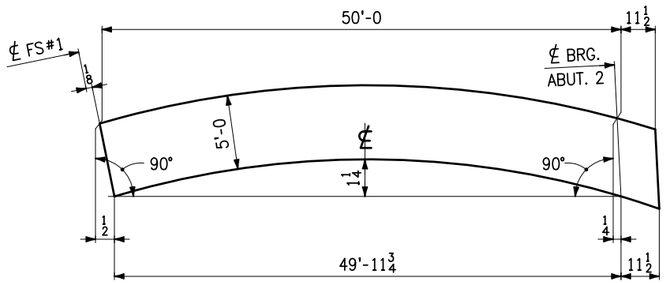
Sheet 06AB - Plotted: 03/30/2016 @ 11:55 (HEATHER)



SECT. A



SECT. B



CAMBER DIAGRAM

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	1	6G1B			GIRDER					18,201 lbs.
2	1		wa	PL	3/4 x 60	50	11 3/4	M270-50WT2	1/14	7806 lbs.
3	1		ta	PL	1 1/2 x 20	4	11 7/8	M270-50W	2/1	509 lbs.
4	1		tb	PL	1 1/4 x 20	45	11 5/8	M270-50W	2/3	3911 lbs.
5	1		ba	PL	1 3/4 x 24	4	11 7/8	M270-50WT2	1/25	713 lbs.
6	1		bb	PL	1 1/4 x 24	45	11 3/8	M270-50WT2	1/27	4691 lbs.
7										
8	1		x2a	PL	1 x 9 1/2	5	0	M270-50W	4/2	G1E 162 lbs.
9	1		x2d	PL	1 x 9 1/2	5	0	M270-50W	4/2	G1E 162 lbs.
10	3		x2am	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	243 lbs.
11	1		x2av	PL	1/4 x 3 1/2	1	3 7/16	M270-50W	4/4	4 lbs.
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

NO.	DATE	REMARKS	BY

REVISIONS

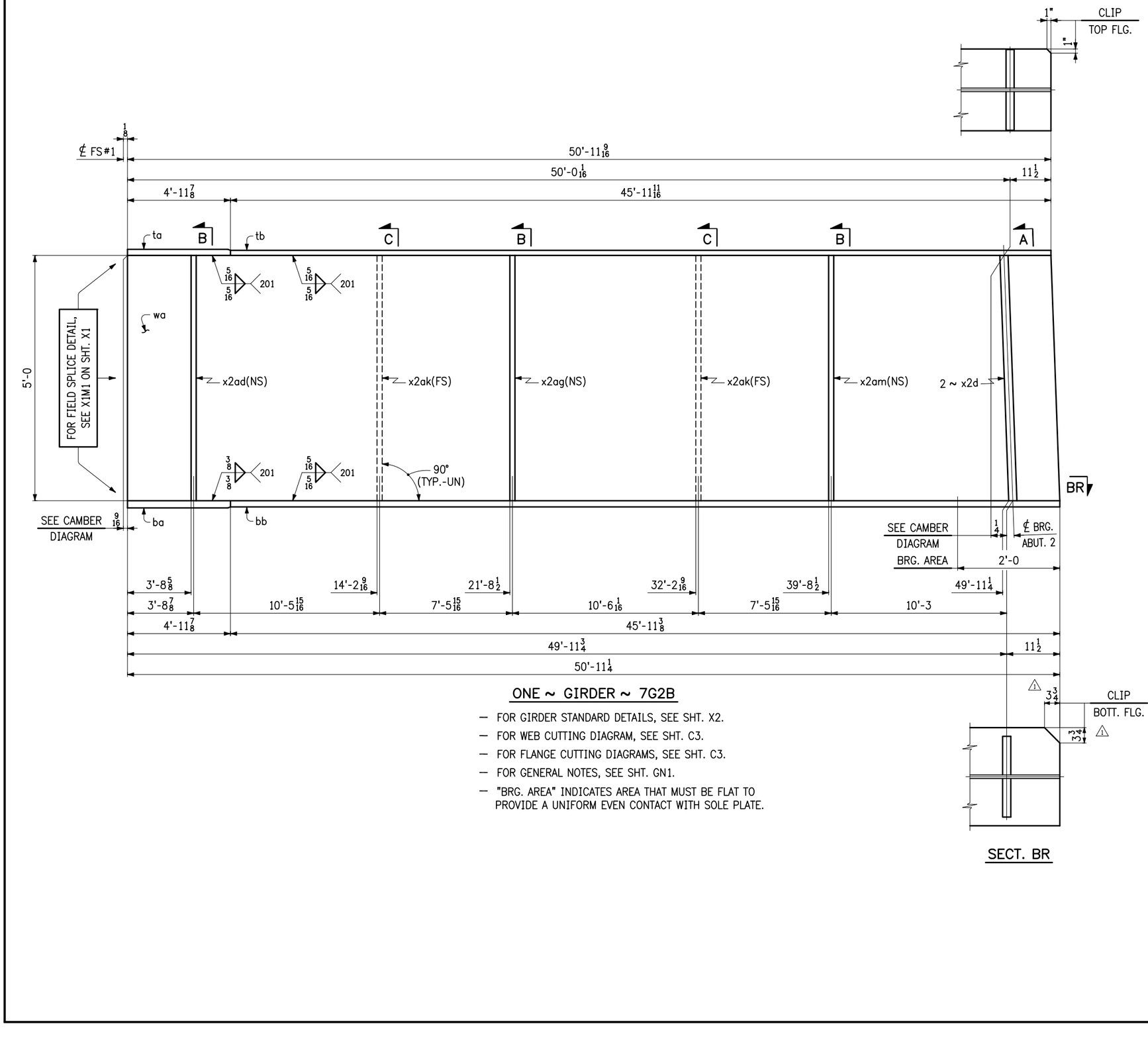
CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE: VT 100 OVER MAD RIVER
LOCATION: TOWN OF WAITSFIELD, VERMONT
PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER: MCFARLAND JOHNSON
CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.
ITEM: GIRDER ~ 6G1B
SURFACE PREP.: SSPC-SP10 OPEN HOLES: 15/16ø
PAINT: NONE

APPROVAL	DRAWN VHM 1-28-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-9-16	6B	651

Sheet 06B - Plotted: 03/14/2016 @ 09:44 (HEATHER)



ONE ~ GIRDER ~ 7G2B

- FOR GIRDER STANDARD DETAILS, SEE SHT. X2.
- FOR WEB CUTTING DIAGRAM, SEE SHT. C3.
- FOR FLANGE CUTTING DIAGRAMS, SEE SHT. C3.
- FOR GENERAL NOTES, SEE SHT. GN1.
- "BRG. AREA" INDICATES AREA THAT MUST BE FLAT TO PROVIDE A UNIFORM EVEN CONTACT WITH SOLE PLATE.

SECT. BR

NO.	DATE	REMARKS	BY
1	3-30-16	REVISED SECT. BR PER APPROVAL COMMENTS.	VHM

REVISIONS

CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER ~ 7G2B
SURFACE PREP.	SSPC-SP10
OPEN HOLES	15/16ø
PAINT	NONE

APPROVAL	DRAWN VHM 1-28-16		SHEET NO. 7AB	JOB NO. 651
SHOP	CHECKED FM 3-9-16			

Sheet 07AB - Plotted: 03/30/2016 @ 11:56 (HEATHER)

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	1	7G2B			GIRDER					18,360 lbs.
2	1		wa	PL	$\frac{3}{4}$ x 60	50	$11\frac{13}{16}$	M270-50WT2	1/14	7807 lbs.
3	1		ta	PL	$1\frac{1}{2}$ x 20	4	$11\frac{7}{8}$	M270-50W	2/1	509 lbs.
4	1		tb	PL	$1\frac{1}{4}$ x 20	45	$11\frac{11}{16}$	M270-50W	2/3	3911 lbs.
5	1		ba	PL	$1\frac{3}{4}$ x 24	4	$11\frac{7}{8}$	M270-50WT2	1/25	713 lbs.
6	1		bb	PL	$1\frac{1}{4}$ x 24	45	$11\frac{3}{8}$	M270-50WT2	1/27	4691 lbs.
7										
8	2		x2d	PL	1 x $9\frac{1}{2}$	5	0	M270-50W	4/2	G1E 324 lbs.
9	1		x2ad	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
10	1		x2ag	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
11	2		x2ak	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	162 lbs.
12	1		x2am	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
13										
14										
15										
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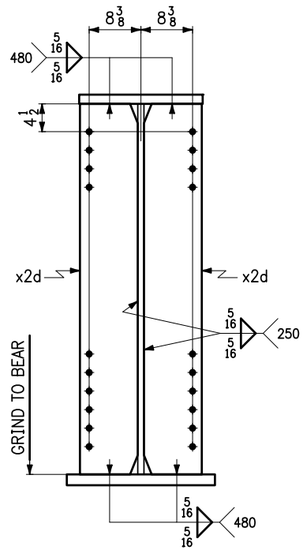
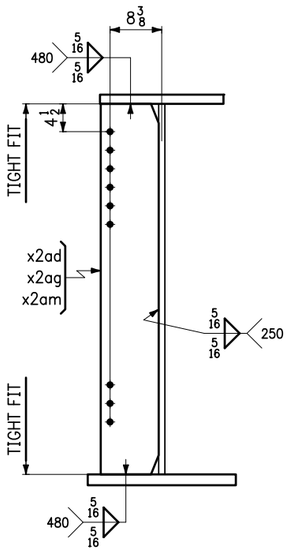
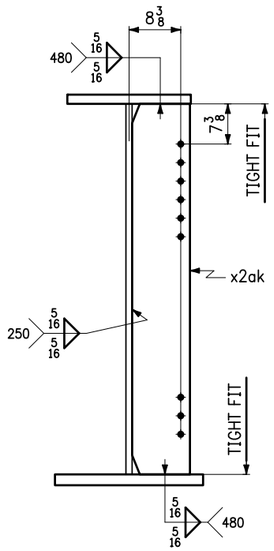
23										
24										
25										



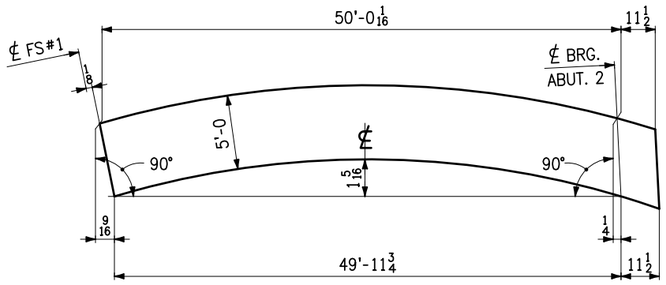
SECT. A



SECT. B



SECT. C



CAMBER DIAGRAM

NO.	DATE	REMARKS	BY

REVISIONS

CASCO BAY STEEL STRUCTURES

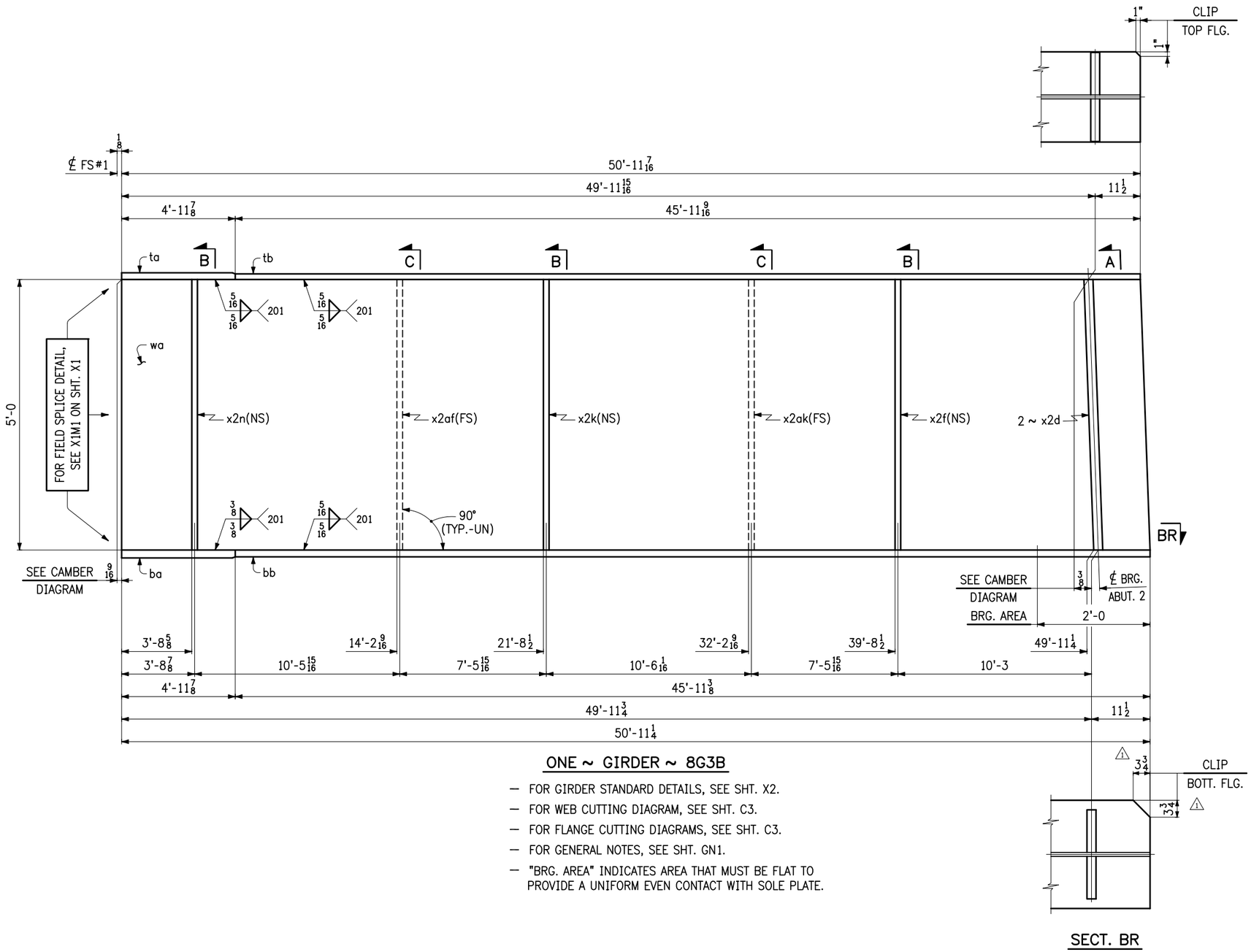
CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE VT 100 OVER MAD RIVER
LOCATION TOWN OF WAITSFIELD, VERMONT
PROJECT NO. PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER MCFARLAND JOHNSON
CUSTOMER A.L. ST. ONGE CONTRACTOR, INC.
ITEM GIRDER ~ 7G2B
SURFACE PREP. SSPC-SP10 OPEN HOLES $\frac{15}{16}$ø
PAINT NONE

APPROVAL	DRAWN VHM 1-28-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-9-16	7B	651

1500-9 G2B-1500B

Sheet 07B - Plotted: 03/14/2016 @ 09:44 (HEATHER)



ONE ~ GIRDER ~ 8G3B

- FOR GIRDER STANDARD DETAILS, SEE SHT. X2.
- FOR WEB CUTTING DIAGRAM, SEE SHT. C3.
- FOR FLANGE CUTTING DIAGRAMS, SEE SHT. C3.
- FOR GENERAL NOTES, SEE SHT. GN1.
- "BRG. AREA" INDICATES AREA THAT MUST BE FLAT TO PROVIDE A UNIFORM EVEN CONTACT WITH SOLE PLATE.

SECT. BR

NO.	DATE	REMARKS	BY
1	3-30-16	REVISED SECT. BR PER APPROVAL COMMENTS.	VHM

REVISIONS

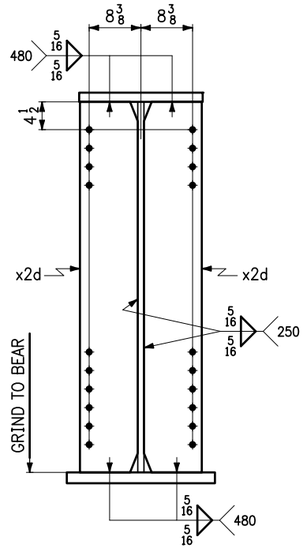
CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

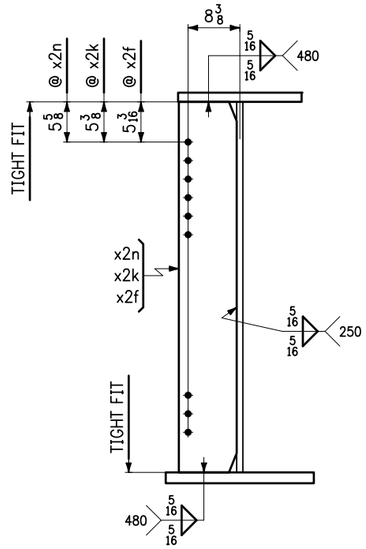
STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER ~ 8G3B
SURFACE PREP.	SSPC-SP10
OPEN HOLES	15/16ø
PAINT	NONE

APPROVAL	DRAWN	VHM	1-28-16	SHEET NO.	JOB NO.
SHOP	CHECKED	FM	3-9-16	8AB	651

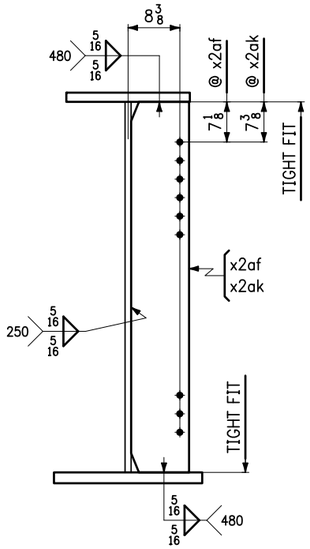
Sheet 08AB - Plotted: 03/30/2016 @ 11:56 (HEATHER)



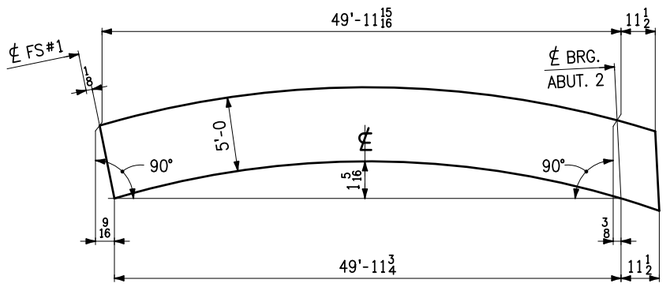
SECT. A



SECT. B



SECT. C



CAMBER DIAGRAM

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	1	8G3B			GIRDER					18,359 lbs.
2	1		wa	PL	3/4 x 60	50	11 13/16	M270-50WT2	1/14	7807 lbs.
3	1		ta	PL	1 1/2 x 20	4	11 7/8	M270-50W	2/1	509 lbs.
4	1		tb	PL	1 1/4 x 20	45	11 9/16	M270-50W	2/3	3910 lbs.
5	1		ba	PL	1 3/4 x 24	4	11 7/8	M270-50WT2	1/25	713 lbs.
6	1		bb	PL	1 1/4 x 24	45	11 3/8	M270-50WT2	1/27	4691 lbs.
7										
8	2		x2d	PL	1 x 9 1/2	5	0	M270-50W	4/2	G1E 324 lbs.
9	1		x2f	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
10	1		x2k	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
11	1		x2n	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
12	1		x2af	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
13	1		x2ak	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
14										
15										
16										
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18										
19										
20										
21										
22										
23										
24										
25										

NO.	DATE	REMARKS	BY

REVISIONS

CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE VT 100 OVER MAD RIVER

LOCATION TOWN OF WAITSFIELD, VERMONT

PROJECT NO. PROJECT NO. BRF 013-4(39) BRIDGE NO. 177

ENGINEER MCFARLAND JOHNSON

CUSTOMER A.L. ST. ONGE CONTRACTOR, INC.

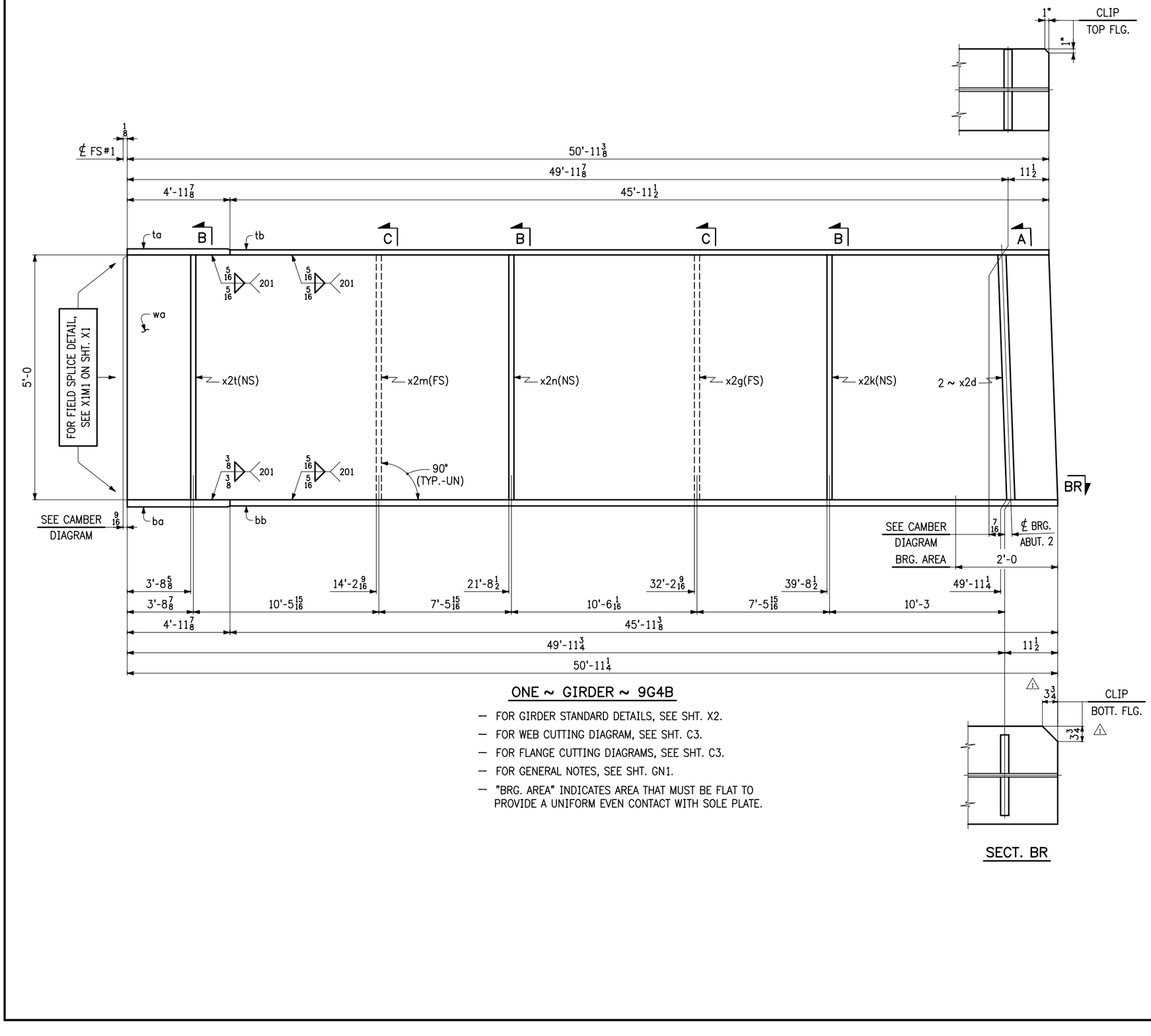
ITEM GIRDER ~ 8G3B

SURFACE PREP. SSPC-SP10 OPEN HOLES 15/16ø

PAINT NONE

APPROVAL	DRAWN VHM 1-28-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-9-16	8B	651

Sheet 08B - Plotted: 03/14/2016 @ 09:45 (HEATHER)



ONE ~ GIRDER ~ 9G4B

- FOR GIRDER STANDARD DETAILS, SEE SHT. X2.
- FOR WEB CUTTING DIAGRAM, SEE SHT. C3.
- FOR FLANGE CUTTING DIAGRAMS, SEE SHT. C3.
- FOR GENERAL NOTES, SEE SHT. GN1.
- "BRG. AREA" INDICATES AREA THAT MUST BE FLAT TO PROVIDE A UNIFORM EVEN CONTACT WITH SOLE PLATE.

SECT. BR

NO.	DATE	REMARKS	BY
1	3-30-16	REVISED SECT. BR PER APPROVAL COMMENTS.	VHM

REVISIONS

CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER ~ 9G4B
SURFACE PREP.	SSPC-SP10
OPEN HOLES	15/16ø
PAINT	NONE

APPROVAL	DRAWN VHM 1-28-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-9-16	9AB	651

Sheet 09AB - Plotted: 03/30/2016 @ 11:56 (HEATHER)

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	1	9G4B			GIRDER					18,359 lbs.
2	1		wa	PL	$\frac{3}{4}$ x 60	50	$11\frac{13}{16}$	M270-50WT2	1/14	7807 lbs.
3	1		ta	PL	$1\frac{1}{2}$ x 20	4	$11\frac{7}{8}$	M270-50W	2/1	509 lbs.
4	1		tb	PL	$1\frac{1}{4}$ x 20	45	$11\frac{1}{2}$	M270-50W	2/3	3910 lbs.
5	1		ba	PL	$1\frac{3}{4}$ x 24	4	$11\frac{7}{8}$	M270-50WT2	1/25	713 lbs.
6	1		bb	PL	$1\frac{1}{4}$ x 24	45	$11\frac{3}{8}$	M270-50WT2	1/27	4691 lbs.
7										
8	2		x2d	PL	1 x $9\frac{1}{2}$	5	0	M270-50W	4/2	G1E 324 lbs.
9	1		x2g	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
10	1		x2k	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
11	1		x2m	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
12	1		x2n	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
13	1		x2t	PL	$\frac{1}{2}$ x $9\frac{1}{2}$	5	0	M270-50W	4/3	81 lbs.
14										
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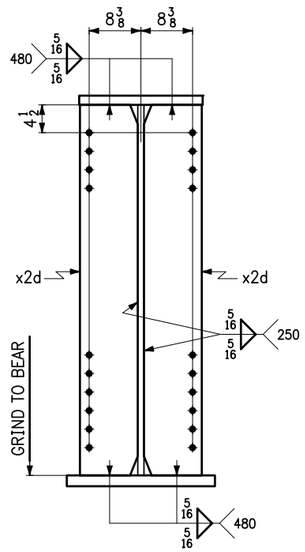
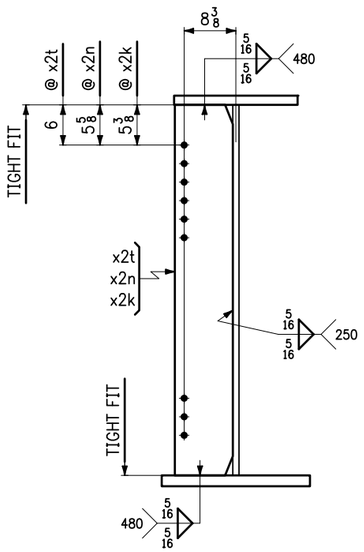
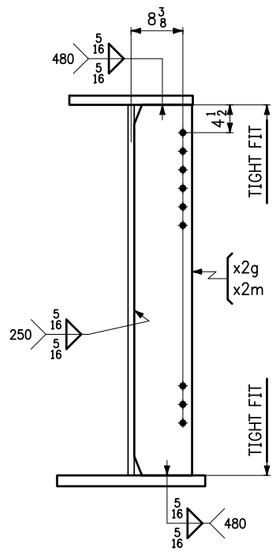
25										



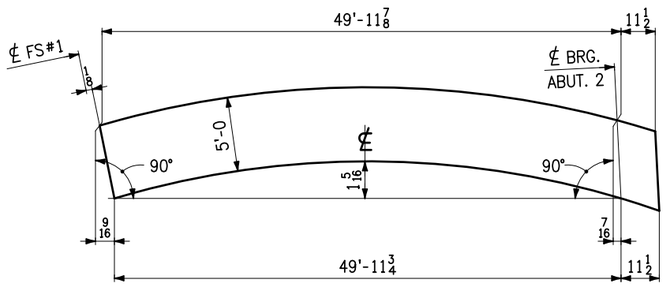
SECT. A



SECT. B



SECT. C



CAMBER DIAGRAM

NO.	DATE	REMARKS	BY

REVISIONS

CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE: VT 100 OVER MAD RIVER

LOCATION: TOWN OF WAITSFIELD, VERMONT

PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177

ENGINEER: MCFARLAND JOHNSON

CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.

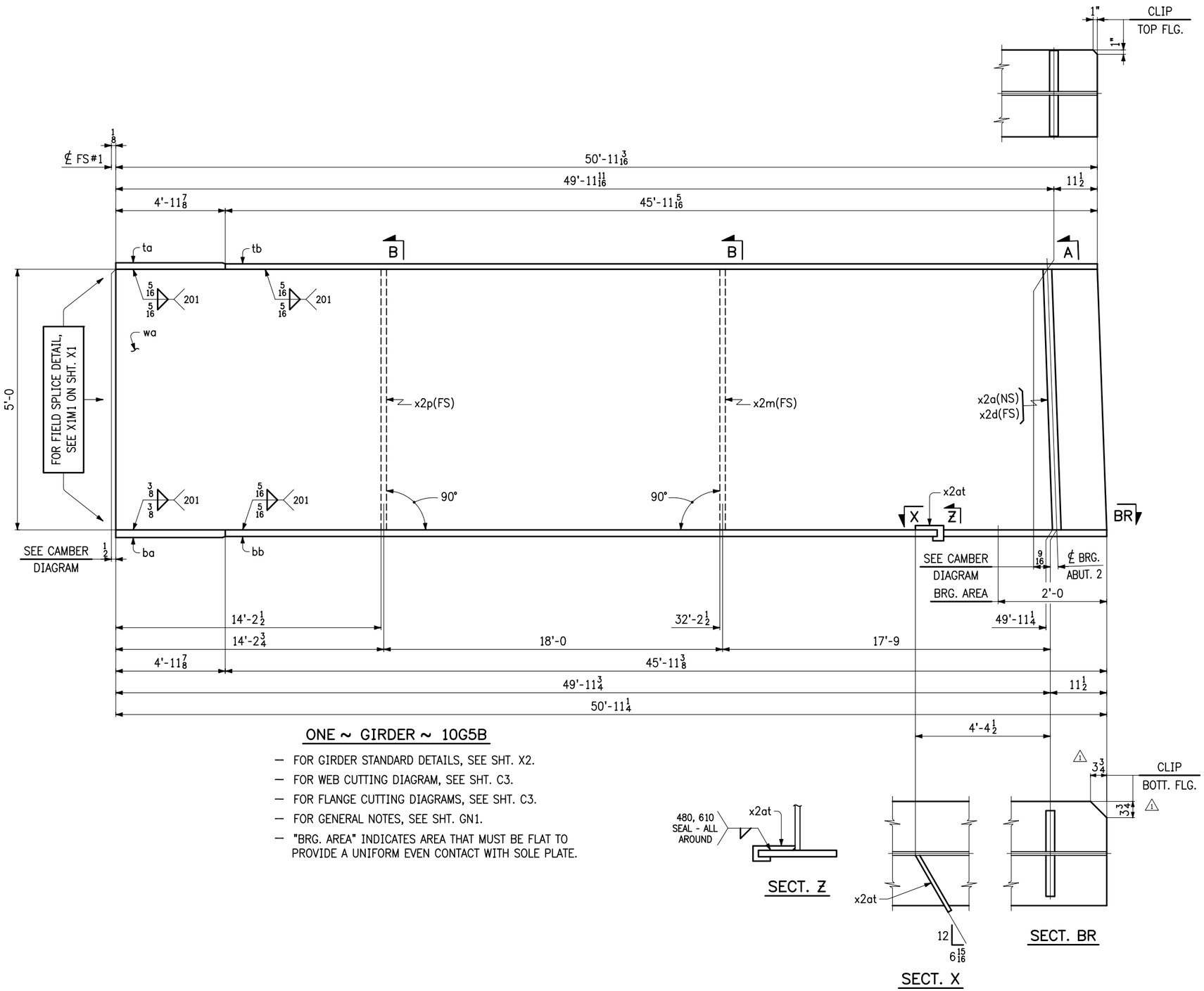
ITEM: GIRDER ~ 9G4B

SURFACE PREP.: SSPC-SP10 OPEN HOLES: $\frac{15}{16}$ø

PAINT: NONE

APPROVAL	DRAWN VHM 1-28-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-9-16	9B	651

Sheet 09B - Plotted: 03/14/2016 @ 09:45 (HEATHER)



ONE ~ GIRDER ~ 10G5B

- FOR GIRDER STANDARD DETAILS, SEE SHT. X2.
- FOR WEB CUTTING DIAGRAM, SEE SHT. C3.
- FOR FLANGE CUTTING DIAGRAMS, SEE SHT. C3.
- FOR GENERAL NOTES, SEE SHT. GN1.
- "BRG. AREA" INDICATES AREA THAT MUST BE FLAT TO PROVIDE A UNIFORM EVEN CONTACT WITH SOLE PLATE.

NO.	DATE	REMARKS	BY
1	3-30-16	REVISED SECT. BR PER APPROVAL COMMENTS.	VHM

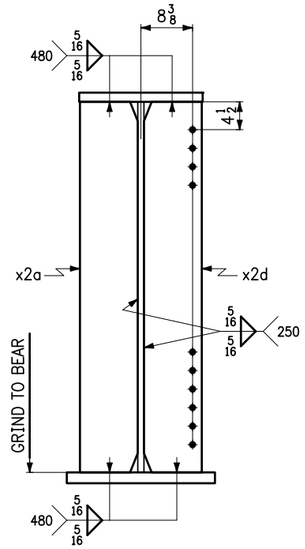
REVISIONS

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

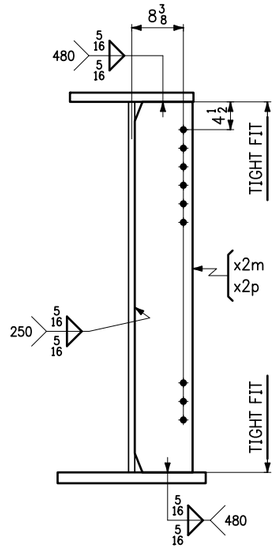
STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	GIRDER ~ 10G5B
SURFACE PREP.	SSPC-SP10 OPEN HOLES 15/16ø
PAINT	NONE

APPROVAL	DRAWN VHM 1-28-16		SHEET NO. 10AB	JOB NO. 651
SHOP	CHECKED FM 3-10-16			

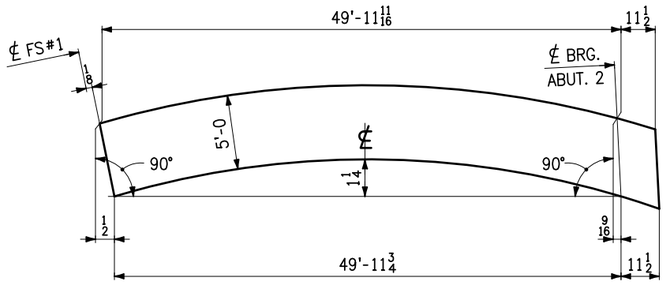
Sheet: 10AB - Plotted: 03/30/2016 @ 11:56 (HEATHER)



SECT. A



SECT. B



CAMBER DIAGRAM

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	1	10G5B			GIRDER					18,117 lbs.
2	1		wa	PL	3/4 x 60	50	11 3/4	M270-50WT2	1/14	7806 lbs.
3	1		ta	PL	1 1/2 x 20	4	11 7/8	M270-50W	2/1	509 lbs.
4	1		tb	PL	1 1/4 x 20	45	11 5/16	M270-50W	2/4	3908 lbs.
5	1		ba	PL	1 3/4 x 24	4	11 7/8	M270-50WT2	1/25	713 lbs.
6	1		bb	PL	1 1/4 x 24	45	11 3/8	M270-50WT2	1/27	4691 lbs.
7										
8	1		x2a	PL	1 x 9 1/2	5	0	M270-50W	4/2	G1E 162 lbs.
9	1		x2d	PL	1 x 9 1/2	5	0	M270-50W	4/2	G1E 162 lbs.
10	1		x2m	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
11	1		x2p	PL	1/2 x 9 1/2	5	0	M270-50W	4/3	81 lbs.
12	1		x2at	PL	1/4 x 3 1/2	1	3 7/16	M270-50W	4/4	4 lbs.
13										
14										
15										
16										
17										
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19										
20										
21										
22										
23										
24										
25										

NO.	DATE	REMARKS	BY

REVISIONS

CASCO BAY STEEL STRUCTURES

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE VT 100 OVER MAD RIVER

LOCATION TOWN OF WAITSFIELD, VERMONT

PROJECT NO. PROJECT NO. BRF 013-4(39) BRIDGE NO. 177

ENGINEER MCFARLAND JOHNSON

CUSTOMER A.L. ST. ONGE CONTRACTOR, INC.

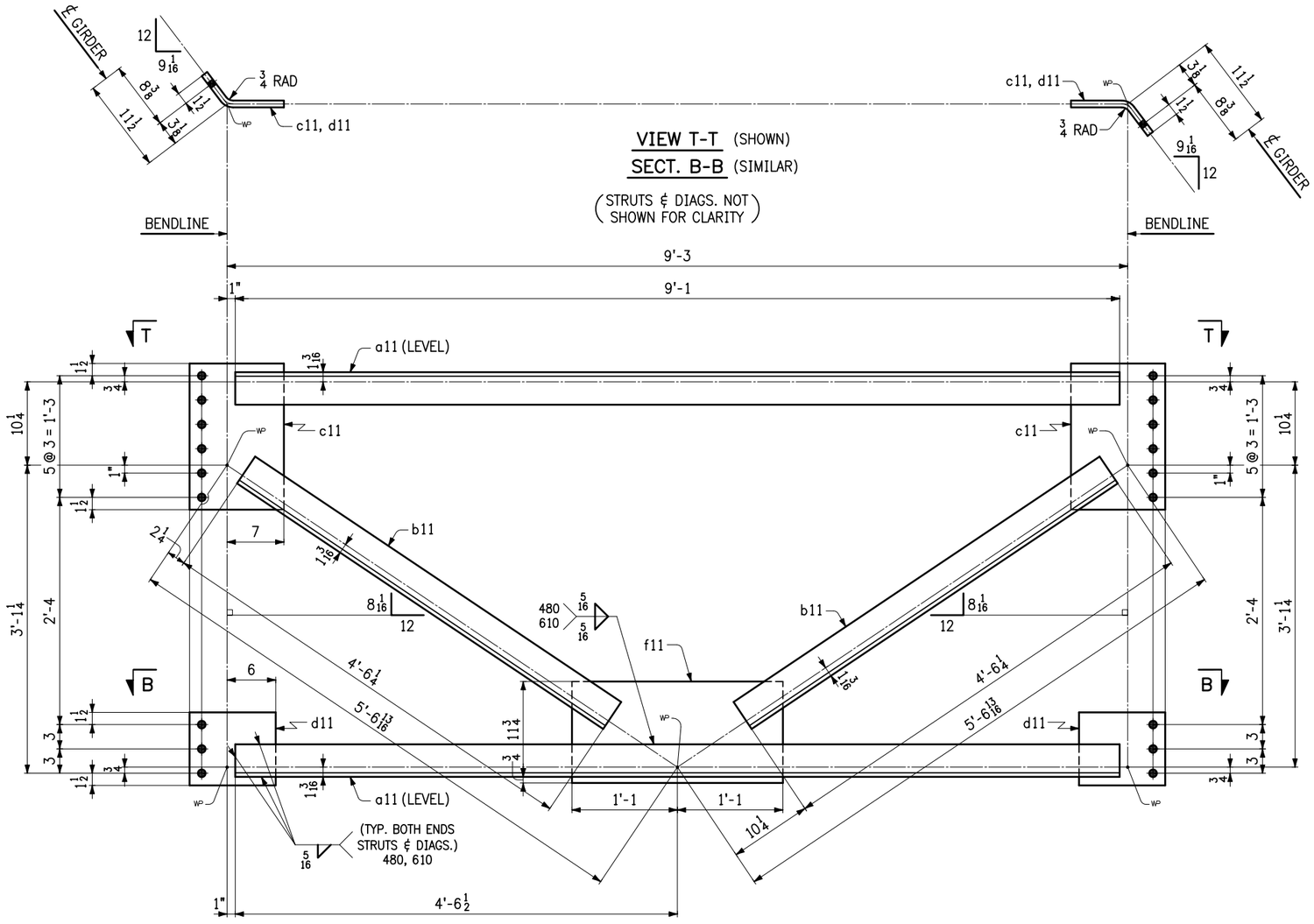
ITEM GIRDER ~ 10G5B

SURFACE PREP. SSPC-SP10 OPEN HOLES 15/16ø

PAINT NONE

APPROVAL	DRAWN VHM 1-28-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-10-16	10B	651

Sheet: 10B - Plotted: 03/14/2016 @ 09:45 (HEATHER)



4 ~ END CROSSFRAMES ~ 11CF1

(ABUT. 1)

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	4	11CF1			CROSSFRAMES					480 lbs. ea.
2	8		a11	L	4 x 4 x 1/2	9	1	M270-50W	5/2	232 lbs.
3	8		b11	L	4 x 4 x 1/2	4	6 1/4	M270-50W	5/4	116 lbs.
4	8		c11	PL	1/2 x 18	0	11 5/8	M270-50W	5/5	BENT 59 lbs.
5	8		d11	PL	1/2 x 9	0	10 5/8	M270-50W	5/7	BENT 27 lbs.
6	4		f11	PL	1/2 x 12 1/2	2	2	M270-50W	5/9	46 lbs.
7										
8										
9										
10										
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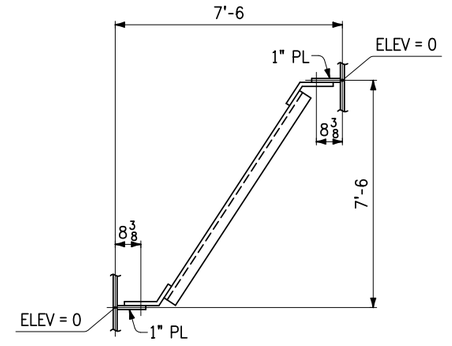


CROSSFRAME ASSEMBLY SKETCH

NOTES:

1. FOR GENERAL NOTES, SEE SHT. GN1.

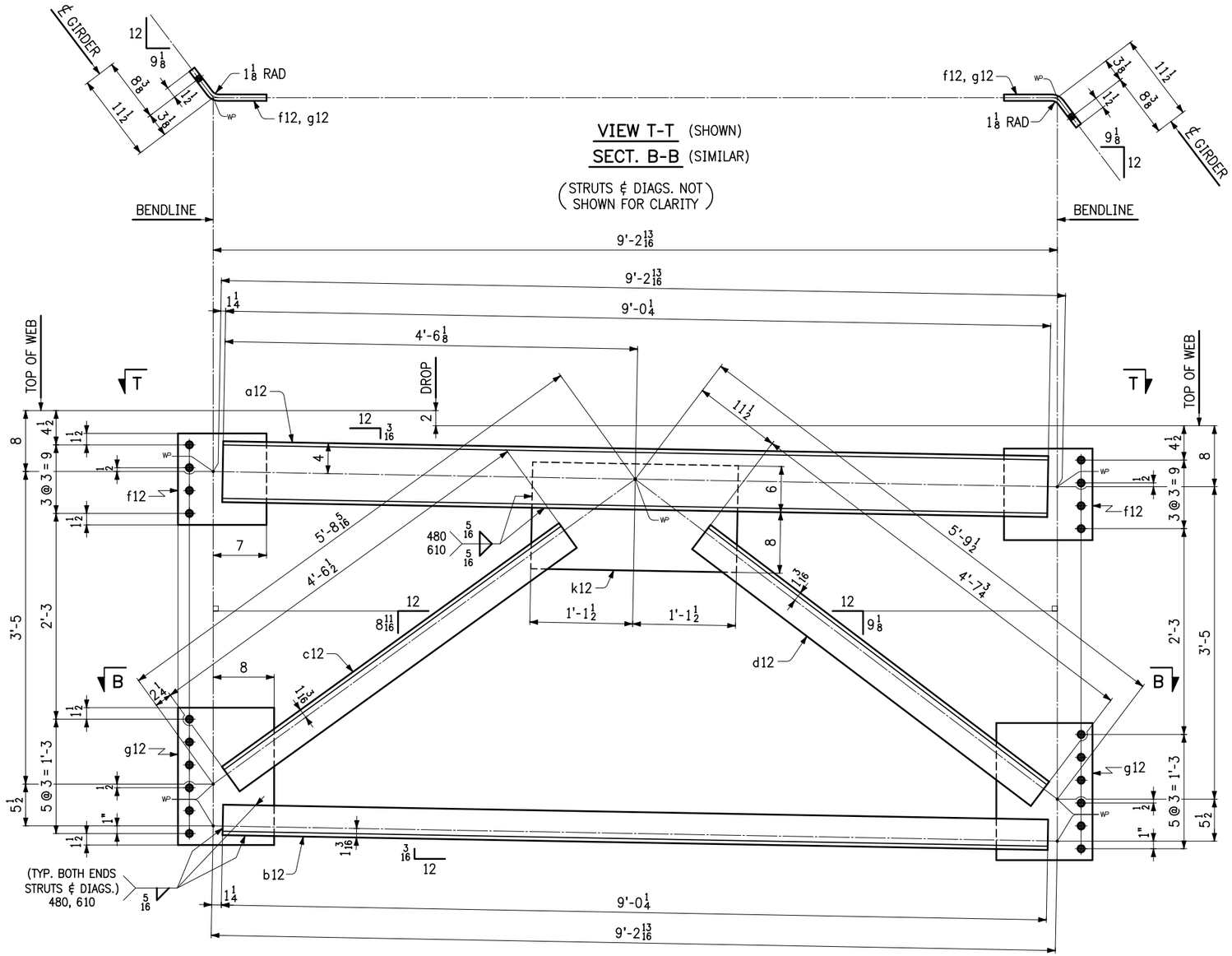
NO.	DATE	REMARKS	BY

REVISIONS

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE	VT 100 OVER MAD RIVER
LOCATION	TOWN OF WAITSFIELD, VERMONT
PROJECT NO.	PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER	MCFARLAND JOHNSON
CUSTOMER	A.L. ST. ONGE CONTRACTOR, INC.
ITEM	END CROSSFRAMES AT ABUT. 1
SURFACE PREP.	SSPC-SP10
OPEN HOLES	15/16 ø
PAINT	NONE

APPROVAL	DRAWN EF 1-25-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-10-16	11	651



2 ~ END CROSSFRAMES ~ 12CF1

(ABUT. 2)

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	MATERIAL SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	2	12CF1			CROSSFRAMES					648 lbs. ea.
2	2		a12	MC	8 x 22.8	9	0 1/4	M270-50W	5/3	206 lbs.
3	2		b12	L	4 x 4 x 1/2	9	0 1/4	M270-50W	5/2	115 lbs.
4	2		c12	L	4 x 4 x 1/2	4	6 1/2	M270-50W	5/4	58 lbs.
5	2		d12	L	4 x 4 x 1/2	4	7 3/4	M270-50W	5/4	59 lbs.
6	4		f12	PL	3/4 x 12	0	11 5/8	M270-50W	5/6	BENT 59 lbs.
7	4		g12	PL	3/4 x 18	1	0 5/8	M270-50W	5/8	BENT 97 lbs.
8	2		k12	PL	1/2 x 14	2	3	M270-50W	5/9	54 lbs.
9										
10										
11										
12										
13										
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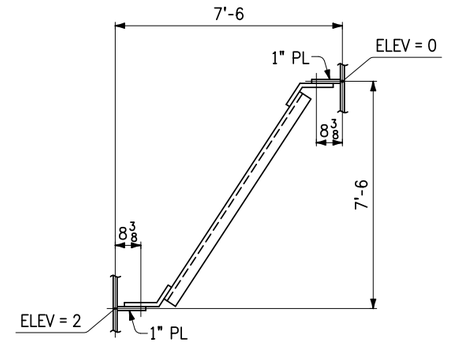


CROSSFRAME ASSEMBLY SKETCH

NOTES:

1. FOR GENERAL NOTES, SEE SHT. GN1.

NO.	DATE	REMARKS	BY

REVISIONS

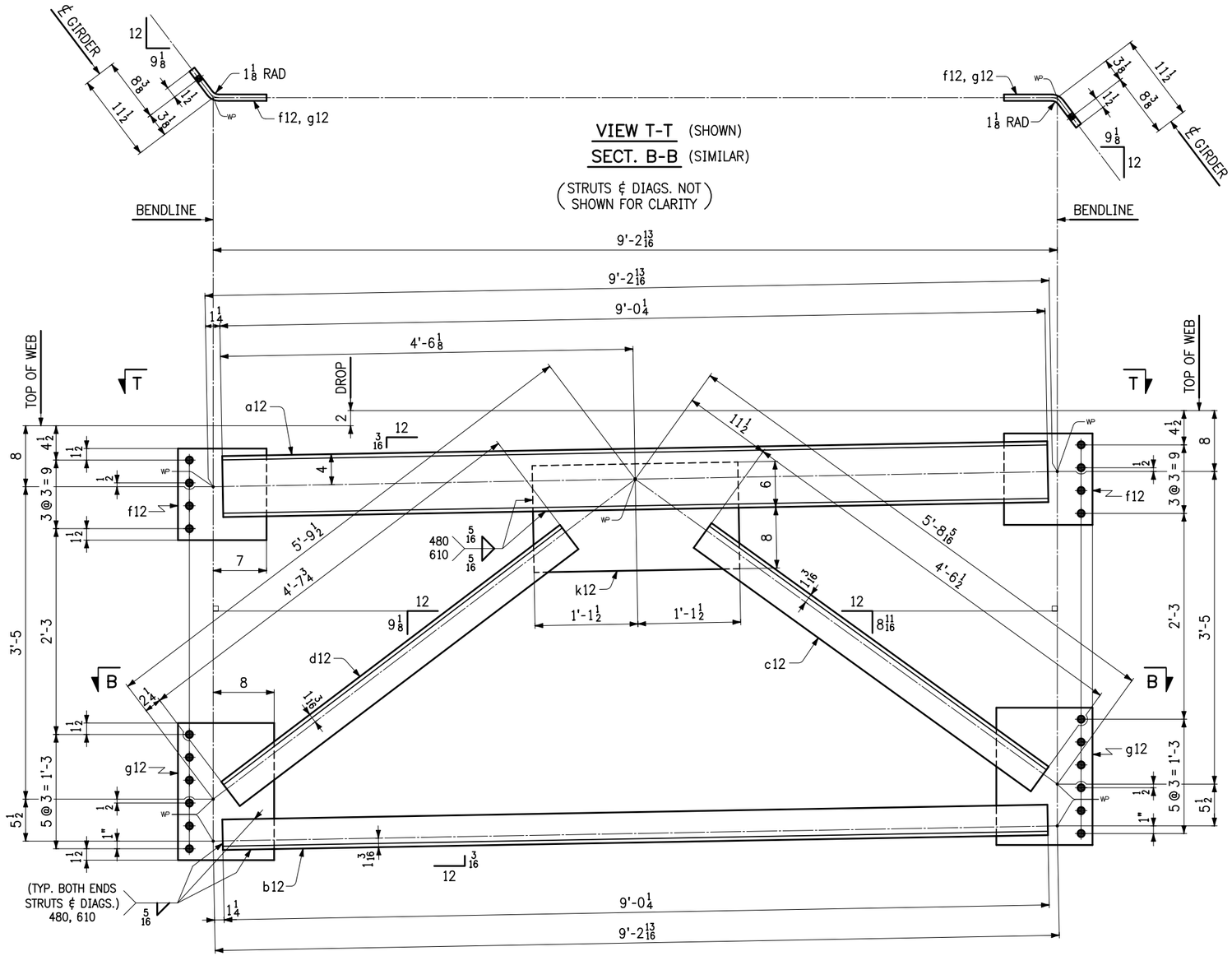
CASCO BAY STEEL STRUCTURES
CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE: VT 100 OVER MAD RIVER
LOCATION: TOWN OF WAITSFIELD, VERMONT
PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER: MCFARLAND JOHNSON
CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.
ITEM: END CROSSFRAMES AT ABUT. 2
SURFACE PREP.: SSPC-SP10 OPEN HOLES: 15/16 ø
PAINT: NONE

APPROVAL	DRAWN EF 1-28-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-10-16	12	651

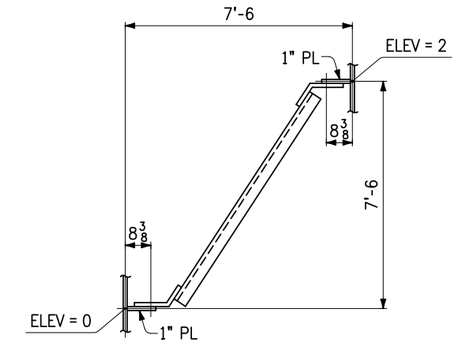
1500-13 CF-ABUT2-1500A

Sheet 12 - Plotted: 03/14/2016 @ 09:45 (HEATHER)



2 ~ END CROSSFRAMES ~ 13CF1

(ABUT. 2)



CROSSFRAME ASSEMBLY SKETCH

NOTES:

1. FOR GENERAL NOTES, SEE SHT. GN1.

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	2	13CF1			CROSSFRAMES					648 lbs. ea.
2	2		a12	MC	8 x 22.8	9	0¼	M270-50W	5/3	206 lbs.
3	2		b12	L	4 x 4 x ½	9	0¼	M270-50W	5/2	115 lbs.
4	2		c12	L	4 x 4 x ½	4	6½	M270-50W	5/4	58 lbs.
5	2		d12	L	4 x 4 x ½	4	7¾	M270-50W	5/4	59 lbs.
6	4		f12	PL	¾ x 12	0	11⅝	M270-50W	5/6	BENT 59 lbs.
7	4		g12	PL	¾ x 18	1	0⅝	M270-50W	5/8	BENT 97 lbs.
8	2		k12	PL	½ x 14	2	3	M270-50W	5/9	54 lbs.
9										
10										
11										
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17										
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19										
20										
21										
22										
23										
24										
25										

NO.	DATE	REMARKS	BY

REVISIONS

CASCO BAY STEEL STRUCTURES

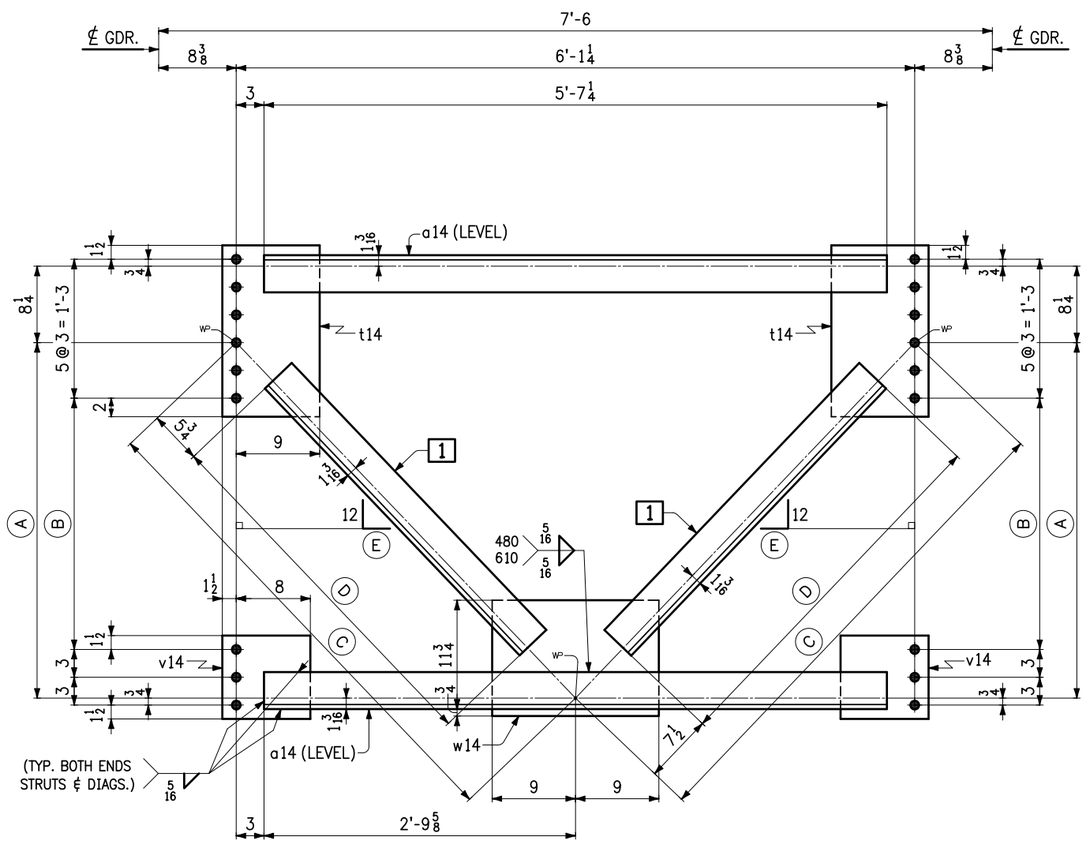
CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE: VT 100 OVER MAD RIVER
LOCATION: TOWN OF WAITSFIELD, VERMONT
PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER: MCFARLAND JOHNSON
CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.
ITEM: END CROSSFRAMES AT ABUT. 2
SURFACE PREP.: SSPC-SP10 OPEN HOLES: 15/16 ø
PAINT: NONE

APPROVAL	DRAWN EF 1-28-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-10-16	13	651

1500-13 CF-ABUT2-1500B

Sheet 13 - Plotted: 03/14/2016 @ 09:46 (HEATHER)



INTERMEDIATE CROSSFRAMES

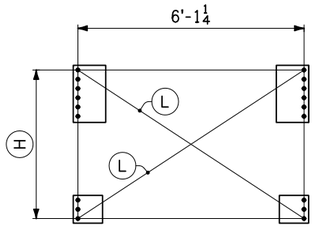
	MARK	No. REQ'D.	A	B	C	D	E	1
K1	14CF1	8	3'-2 3/8	2'-3 1/8	4'-5 1/16	3'-3 3/4	11 7/16	b14
K2	14CF2	4	3'-2 5/8	2'-3 3/8	4'-5 1/4	3'-4	11 3/8	c14
K3	14CF3	4	3'-2 7/8	2'-3 5/8	4'-5 7/16	3'-4 1/4	11 5/16	d14
K4	14CF4	4	3'-3 3/16	2'-3 15/16	4'-5 5/8	3'-4 3/8	11 3/16	f14
K5	14CF5	2	3'-3 7/16	2'-4 3/16	4'-5 13/16	3'-4 1/2	11 1/8	g14
K6	14CF6	4	3'-3 3/4	2'-4 1/2	4'-6 1/16	3'-4 3/4	11 1/16	k14
K7	14CF7	4	3'-4 1/8	2'-4 7/8	4'-6 5/16	3'-5	10 15/16	m14
K8	14CF8	4	3'-4 3/8	2'-5 1/8	4'-6 1/2	3'-5 1/4	10 7/8	n14
K9	14CF9	2	3'-4 9/16	2'-5 5/16	4'-6 5/8	3'-5 3/8	10 13/16	p14

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
39	4	14CF6			CROSSFRAMES					341 lbs. ea.
40	8		a14	L	4 x 4 x 1/2	5	7 1/4	M270-50W	5/13	143 lbs.
41	8		k14	L	4 x 4 x 1/2	3	4 3/4	M270-50W	5/14	87 lbs.
42	8		t14	PL	1/2 x 10 1/2	1	6 1/2	M270-50W	5/15	55 lbs.
43	8		v14	PL	1/2 x 9	0	9 1/2	M270-50W	5/16	24 lbs.
44	4		w14	PL	1/2 x 12 1/2	1	6	M270-50W	5/17	32 lbs.
45										
46	4	14CF7			CROSSFRAMES					341 lbs. ea.
47	8		a14	L	4 x 4 x 1/2	5	7 1/4	M270-50W	5/13	143 lbs.
48	8		m14	L	4 x 4 x 1/2	3	5	M270-50W	5/14	87 lbs.
49	8		t14	PL	1/2 x 10 1/2	1	6 1/2	M270-50W	5/15	55 lbs.
50	8		v14	PL	1/2 x 9	0	9 1/2	M270-50W	5/16	24 lbs.
51	4		w14	PL	1/2 x 12 1/2	1	6	M270-50W	5/17	32 lbs.
52										
53	4	14CF8			CROSSFRAMES					342 lbs. ea.
54	8		a14	L	4 x 4 x 1/2	5	7 1/4	M270-50W	5/13	143 lbs.
55	8		n14	L	4 x 4 x 1/2	3	5 1/4	M270-50W	5/14	88 lbs.
56	8		t14	PL	1/2 x 10 1/2	1	6 1/2	M270-50W	5/15	55 lbs.
57	8		v14	PL	1/2 x 9	0	9 1/2	M270-50W	5/16	24 lbs.
58	4		w14	PL	1/2 x 12 1/2	1	6	M270-50W	5/17	32 lbs.
59										
60	2	14CF9			CROSSFRAMES					342 lbs. ea.
61	4		a14	L	4 x 4 x 1/2	5	7 1/4	M270-50W	5/13	143 lbs.
62	4		p14	L	4 x 4 x 1/2	3	5 3/8	M270-50W	5/14	88 lbs.
63	4		t14	PL	1/2 x 10 1/2	1	6 1/2	M270-50W	5/15	55 lbs.
64	4		v14	PL	1/2 x 9	0	9 1/2	M270-50W	5/16	24 lbs.
65	2		w14	PL	1/2 x 12 1/2	1	6	M270-50W	5/17	32 lbs.
66										
67										
68										
69										
70										
71										
72										
73										
74										
75										
76										

LINE	NO. OF PCS.	SHIP MARK	ASS'Y MARK	MATERIAL SHAPE	SECTION	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	8	14CF1			CROSSFRAMES					339 lbs. ea.
2	16		a14	L	4 x 4 x 1/2	5	7 1/4	M270-50W	5/13	143 lbs.
3	16		b14	L	4 x 4 x 1/2	3	3 3/4	M270-50W	5/14	85 lbs.
4	16		t14	PL	1/2 x 10 1/2	1	6 1/2	M270-50W	5/15	55 lbs.
5	16		v14	PL	1/2 x 9	0	9 1/2	M270-50W	5/16	24 lbs.
6	8		w14	PL	1/2 x 12 1/2	1	6	M270-50W	5/17	32 lbs.
7										
8	4	14CF2			CROSSFRAMES					339 lbs. ea.
9	8		a14	L	4 x 4 x 1/2	5	7 1/4	M270-50W	5/13	143 lbs.
10	8		c14	L	4 x 4 x 1/2	3	4	M270-50W	5/14	85 lbs.
11	8		t14	PL	1/2 x 10 1/2	1	6 1/2	M270-50W	5/15	55 lbs.
12	8		v14	PL	1/2 x 9	0	9 1/2	M270-50W	5/16	24 lbs.
13	4		w14	PL	1/2 x 12 1/2	1	6	M270-50W	5/17	32 lbs.
14										
15	4	14CF3			CROSSFRAMES					340 lbs. ea.
16	8		a14	L	4 x 4 x 1/2	5	7 1/4	M270-50W	5/13	143 lbs.
17	8		d14	L	4 x 4 x 1/2	3	4 1/4	M270-50W	5/14	86 lbs.
18	8		t14	PL	1/2 x 10 1/2	1	6 1/2	M270-50W	5/15	55 lbs.
19	8		v14	PL	1/2 x 9	0	9 1/2	M270-50W	5/16	24 lbs.
20	4		w14	PL	1/2 x 12 1/2	1	6	M270-50W	5/17	32 lbs.
21										
22	4	14CF4			CROSSFRAMES					340 lbs. ea.
23	8		a14	L	4 x 4 x 1/2	5	7 1/4	M270-50W	5/13	143 lbs.
24	8		f14	L	4 x 4 x 1/2	3	4 3/8	M270-50W	5/14	86 lbs.
25	8		t14	PL	1/2 x 10 1/2	1	6 1/2	M270-50W	5/15	55 lbs.
26	8		v14	PL	1/2 x 9	0	9 1/2	M270-50W	5/16	24 lbs.
27	4		w14	PL	1/2 x 12 1/2	1	6	M270-50W	5/17	32 lbs.
28										
29	2	14CF5			CROSSFRAMES					340 lbs. ea.
30	4		a14	L	4 x 4 x 1/2	5	7 1/4	M270-50W	5/13	143 lbs.
31	4		g14	L	4 x 4 x 1/2	3	4 1/2	M270-50W	5/14	86 lbs.
32	4		t14	PL	1/2 x 10 1/2	1	6 1/2	M270-50W	5/15	55 lbs.
33	4		v14	PL	1/2 x 9	0	9 1/2	M270-50W	5/16	24 lbs.
34	2		w14	PL	1/2 x 12 1/2	1	6	M270-50W	5/17	32 lbs.
35										
36										
37										
38										

NOTES:

1. FOR GENERAL NOTES, SEE SHT. GN1.



CROSSFRAME FIXTURE LAYOUT

NOTE: HOLES SHOWN ARE WIDEST DIMENSIONS

MARK	H	L
14CF1	4'-0 1/8	7'-3 5/8
14CF2	4'-0 3/8	7'-3 13/16
14CF3	4'-0 5/8	7'-3 15/16
14CF4	4'-0 15/16	7'-4 1/16
14CF5	4'-1 3/16	7'-4 1/4
14CF6	4'-1 1/2	7'-4 7/16
14CF7	4'-1 7/8	7'-4 5/8
14CF8	4'-2 1/8	7'-4 3/4
14CF9	4'-2 5/16	7'-4 7/8

NO.	DATE	REMARKS	BY

REVISIONS

CASCO BAY STEEL STRUCTURES
ONE WALLACE AVENUE
SOUTH PORTLAND, ME 04106
PHONE: 207-780-6722
FAX: 207-780-6726

STRUCTURE: VT 100 OVER MAD RIVER
LOCATION: TOWN OF WAITSFIELD, VERMONT
PROJECT NO.: PROJECT NO. BRF 013-4(39) BRIDGE NO. 177
ENGINEER: MCFARLAND JOHNSON
CUSTOMER: A.L. ST. ONGE CONTRACTOR, INC.
ITEM: INTERMEDIATE CROSSFRAMES
SURFACE PREP.: SSPC-SP10 OPEN HOLES: 15/16 ø
PAINT: NONE

APPROVAL	DRAWN EF 1-29-16	SHEET NO.	JOB NO.
SHOP	CHECKED FM 3-10-16	14	651

1500-13

CF-INT-1500

Sheet 14 - Plotted: 03/14/2016 @ 09:46 (HEATHER)