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STANDARD SHEETS

G-18 6/1/1994

RECORD PLANS

CONTRACTOR: ENGINEERS CONSTRUCTION INC. - SO BURLINGTON, VT

RESIDENT ENGINEER: GREG WILCOX

CONSTRUCTION BEGAN: DECEMBER 12, 2007

CONSTRUCTION COMPLETE: FEBRUARY 29, 2008

RECORD PLANS BY: GREG WILCOX, BEN LOGAN

I HEREBY CERTIFY THAT ALL THE CONSTUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY Greg Wilcox RESIDENT ENGINEER

DATE 9/8/09

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

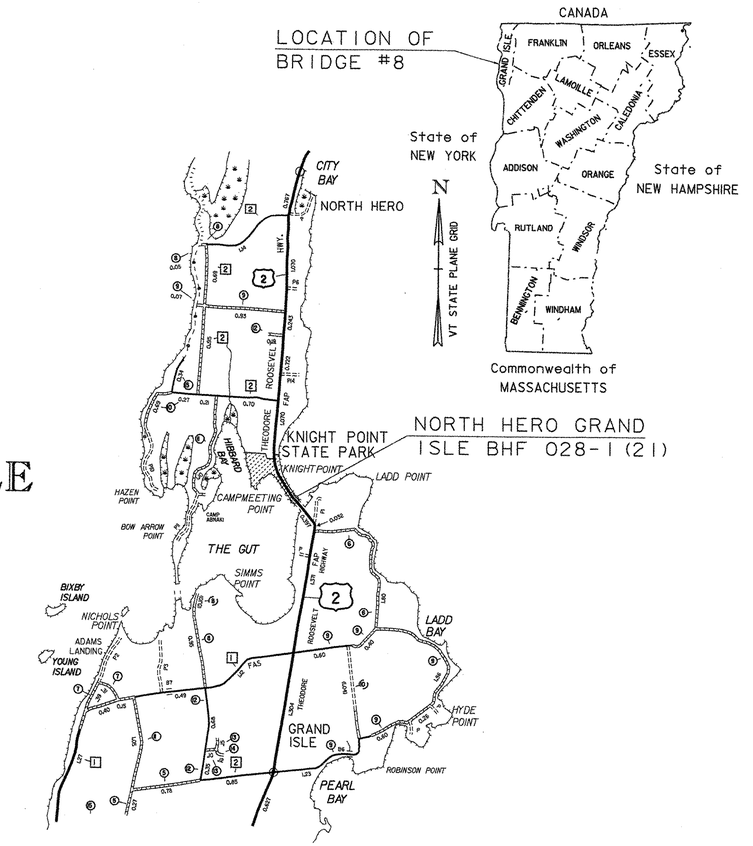
STATE OF VERMONT
AGENCY OF TRANSPORTATION

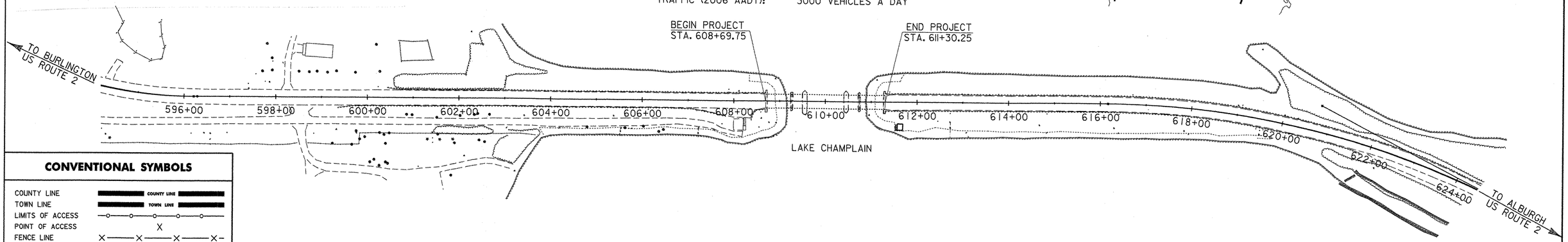
PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF NORTH HERO-GRAND ISLE
COUNTY OF GRAND ISLE
US ROUTE 2 (MAJOR COLLECTOR)
BRIDGE #8

PROJECT LOCATION : HISTORICAL DRAW BRIDGE LOCATED ON US 2 OVER LAKE CHAMPLAIN (THE GUT) SOUTH OF KNIGHTS POINT STATE PARK.

PROJECT DESCRIPTION : REPLACEMENT OF VARIOUS STEEL COMPONENTS AND RELATED CONNECTORS OF BASCULE SPAN #3.

LENGTH OF STRUCTURE : 260.50 FEET.
LENGTH OF ROADWAY : 0 FEET.
LENGTH OF PROJECT : 260.50 FEET.
TRAFFIC (2006 AADT): 3000 VEHICLES A DAY





CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : R. GILMAN
SURVEYED DATE : OCT. 19, 2004

DATUM
VERTICAL: NAVD 88
HORIZONTAL: NAD 83 (96)

VT STATE PLANE GRID

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED [signature] DATE 10-18-07

PROJECT MANAGER : M. EVANS-MONGEON

PROJECT NAME : NORTH HERO - GRAND ISLE
PROJECT NUMBER : BHF 028-1(21)

SHEET 1 OF 41 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES			TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	BRIDGE	FULL C&E	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
	1		1		LS	SHORING SUPERSTRUCTURE	502.10				
	1		1		LS	CONTAINMENT & ENVIRONMENTAL PROTECTION, FIELD	513.36				
	1		1		LS	SURFACE PREPARATION, FIELD (1 TON)	513.41				
	1		1		LS	MAINTENANCE OF STRUCTURES AND APPROACHES	527.10				
1			1		EACH	REMOVAL OF STRUCTURE (2100 SF - EST.)	529.15				
	1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20				
	1		1		CY	CONCRETE, CLASS LW	541.40				
	3		3		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I	580.10				
40			40		LF	TEMPORARY TRAFFIC BARRIER	621.90				
260			260		LF	REMOVE AND RESET TEMPORARY TRAFFIC BARRIER	621.95				
400			400		HR	FLAGGERS	630.15				
		1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
		1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
		1	1		LU	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.25				
1			1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
1			1		LS	TRAFFIC CONTROL	641.10				
	23470		23470		LB	SPECIAL PROVISION (INSTALLATION OF STRUCTURAL STEEL)(FPO)	900.635				
	260		260		LF	SPECIAL PROVISION (MAINTENANCE AND REMOVAL OF TEMPORARY TRAFFIC BARRIE	900.640				
	2290		2290		SF	SPECIAL PROVISION (INSTALLATION OF GRID DECK)(FPO)	900.670				

PROJECT NAME: **NORTH HERO GRAND ISLE**
PROJECT NUMBER: **BHF 028-1 (21)**

FILE NAME: **structures/s92b284forms**
PROJECT MANAGER: **M. EVANS-MONGEON**
DESIGNED BY: **S. SCRIBNER**
QUANTITY SHEET #1

PLOT DATE: **10/22/2007**
DRAWN BY: **L. DUQUETTE**
CHECKED BY: **S. SCRIBNER**
SHEET **2** OF **41**

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS.

2. THE INCLUDED RECORD PLAN SHEETS (9-41) ARE FROM THE ORIGINAL PROJECT MODIFIED TO SHOW THE WORK THAT NEEDS TO BE COMPLETED.

3. BRIDGE COMPONENTS BEING REPLACED ARE DESIGNED FOR AN HS-25 LIVE LOAD.

4. STRUCTURAL STEEL AND GRID DECK WILL BE DELIVERED BY THE FABRICATORS TO THE OLD CAUSEWAY WITHIN THE PROJECT LIMITS.

5. A MINIMUM OF ONE LANE, TWO-WAY TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AT ALL TIMES.

6. NOTE NOT USED

7. THE CONTRACTOR SHALL MAINTAIN TEMPORARY ON AND OFF-PROJECT SIGNS AND BARRICADES AS SHOWN IN THE PLANS AND AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT FOR MAINTAINING EXISTING CONSTRUCTION SIGNS WILL BE MADE INCIDENTAL TO ITEM 641.10, TRAFFIC CONTROL.

8. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL."

9. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

10. THE ITEM 631.10, FIELD OFFICE ENGINEERS SHALL INCLUDE PROVIDING ALL OF THE OFFICE EQUIPMENT AND SUPPLIES AS SPECIFIED IN SECTION 631 OF THE STANDARD SPECIFICATIONS, EXCEPT FOR A DRAFT TABLE, STORAGE CABINET, PLAN FILE, PLAN RACK, LOCKER FOR SURVEYING EQUIPMENT, AND A CALCULATOR. THE OPERATOR'S HOUSE, LOCATED AT STA. 608+10 RT, MAY BE USED TO HOUSE THIS EQUIPMENT, IF THE CONTRACTOR SO CHOOSES. IF THE OPERATOR'S HOUSE IS USED, THE CONTRACTOR SHALL PROVIDE HEATING EQUIPMENT, A POTABLE WATER SUPPLY AND SANITARY FACILITIES AS THE BUILDING IS NOT WINTERIZED. PAYMENT FOR THIS WILL BE INCLUDED IN THE ITEM 631.10, FIELD OFFICE, ENGINEERS.

TEMPORARY BRIDGE AND BARRIERS

11. DURING CONSTRUCTION, TRAFFIC SHALL BE MAINTAINED ON AN EXISTING ONE-WAY TEMPORARY BRIDGE CONSTRUCTED OVER THE NORTH LANE OF EXISTING STRUCTURE. MAINTENANCE OF THE TEMPORARY BRIDGE AND ITS APPROACHES SHALL BE PAID FOR UNDER ITEM 527.10, MAINTENANCE OF STRUCTURES AND APPROACHES.

12. THE REMOVAL OF THE EXISTING TEMPORARY BRIDGE AND ITS APPROACHES WILL BE PAID FOR UNDER CONTRACT ITEM 529.15, REMOVAL OF STRUCTURE (2100 SF - EST).

13. THE CONTRACTOR SHALL REMOVE AND RESET THE TEMPORARY TRAFFIC BARRIERS FROM THE LOCATIONS SHOWN ON SHEET 7 TO THE LOCATIONS SHOWN ON SHEET 8 WHEN THE TEMPORARY BRIDGE IS NO LONGER NEEDED. PAYMENT FOR THIS WORK WILL BE MADE UNDER ITEM 621.95, REMOVE AND RESET TEMPORARY TRAFFIC BARRIER.

14. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE EXISTING TEMPORARY TRAFFIC BARRIER DURING CONSTRUCTION. WHEN THE PROJECT IS COMPLETE THE BARRIERS, AND CONCRETE BLOCKS, WHICH WERE ORIGINALLY PROVIDED BY DISTRICT 8 WILL BE REMOVED AND RETURNED TO THE DISTRICT 8 GARAGE LOCATED IN NORTH HERO, CONTACT PERSON IS GEORGE DECELL, (802) 524-5926. PAYMENT FOR MAINTENANCE AND REMOVAL OF THE EXISTING TEMPORARY TRAFFIC BARRIERS WILL BE MADE UNDER CONTRACT ITEM 900.640 SPECIAL PROVISION (MAINTENANCE AND REMOVAL OF TEMPORARY TRAFFIC BARRIER). PAYMENT FOR REMOVAL OF THE CONCRETE BLOCKS WILL BE INCIDENTAL TO THIS ITEM.

15. ADDITIONAL TEMPORARY TRAFFIC BARRIER WILL BE NEEDED, ONCE THE TEMPORARY BRIDGE IS REMOVED. SEE SHEET 8, THE CONTRACTOR WILL PROVIDE THIS BARRIER. PAYMENT FOR THIS WORK WILL BE MADE UNDER ITEM 621.90, TEMPORARY TRAFFIC BARRIER.

16. RELOCATION OF TYPE III BARRICADES AND ATTENUATORS TO BE INCIDENTAL TO 641.10, TRAFFIC CONTROL. PAYMENT FOR REPLACEMENT OF THE ATTENUATOR, IF NECESSARY, WILL BE MADE IN ACCORDANCE WITH SUBSECTION 621.14.

STRUCTURAL STEEL

17. THE FOLLOWING TABLE OF ALLOWABLE STRESSES AND WEIGHTS APPLY TO THESE PLANS FOR DESIGN PURPOSES:

STRUCTURAL STEEL: Fy = 50,000 PSI

18. NOTE NOT USED

19. ALL FIELD CONNECTIONS SHALL BE MADE USING 7/8 INCH BOLTS MEETING AASHTO M 164, TYPE 1. UNLESS OTHERWISE NOTED, HOLE DIAMETER SHALL BE 15/16 INCH. ANY CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.

20. ALL WELDING SHALL CONFORM TO SUBSECTION 506.10.

21. THE NEW FLOOR BEAMS ARE TO BE CONNECTED TO THE EXISTING ANGLES ON THE BASCULE GIRDERS. THE CONNECTION SURFACES OF THESE EXISTING ANGLES SHALL BE CLEANED FOLLOWING THE REQUIREMENT OF SUBSECTION 513.04, SURFACE PREPARATION, PRIOR TO MAKING THE NEW CONNECTIONS. PAYMENT FOR THE CLEANING WILL BE UNDER ITEM 513.41, SURFACE PREPARATION, FIELD (1 TON). THE EXISTING STEEL IS COATED WITH RED LEAD PAINT. ENVIRONMENTAL PROTECTION, CONFORMING TO SUBSECTION 513.03(B) MUST BE USED IN REMOVING THE PAINT IN THESE AREAS. PAYMENT WILL BE MADE UNDER ITEM 513.36, CONTAINMENT AND ENVIRONMENTAL PROTECTION, FIELD FOR THIS WORK.

22. THE NEW METAL GRID DECKING WILL BE GALVANIZED TO AASHTO M232M/232M. IT WILL BE ATTACHED TO THE NEW FLOOR BEAMS BY MEANS OF A BOLTED CONNECTION. THE DETAILS OF THE CONNECTION WILL BE PROVIDED BY THE STEEL GRID MANUFACTURER. THE CONTRACTOR SHALL FIELD DRILL HOLES IN THE STRUCTURAL STEEL TO ATTACH THE DECKING. PAYMENT FOR CONNECTING THE STEEL GRID DECKING WILL BE PAID FOR UNDER ITEM 900.670, SPECIAL PROVISION (INSTALLATION OF GRID DECK)(FPQ).

23. THE EXISTING CONNECTIONS BETWEEN THE FLOOR BEAMS AND THE ANGLES ON THE GIRDERS ARE RIVETED CONNECTIONS. THE CONTRACTOR WILL REMOVE THE RIVETS BY DRILLING THEM OUT. ONCE THE RIVETS ARE REMOVED, THE HOLE WILL BE DRILLED TO 15/16" TO ACCOMMODATE THE BOLTS FOR THE NEW CONNECTIONS. THE WORK WILL BE INCLUDED IN THE BID PRICE FOR ITEM 900.635, SPECIAL PROVISION (INSTALLATION OF STRUCTURAL STEEL)(FPQ).

24. THE SHIMS FOR THE BASCULE GIRDER BEARINGS WILL BE REPLACED AS PART OF THIS CONTRACT. SHEET 20 SHOWS DETAILS OF THESE SHIMS. THIS WORK WILL BE INCLUDED IN THE BID PRICE FOR ITEM 900.635, SPECIAL PROVISION (INSTALLATION OF STRUCTURAL STEEL)(FPQ). THE SHIM PLATES WILL BE PROVIDED TO THE CONTRACTOR. ANY WORK NEEDED TO JACK UP THE END OF THE GIRDER IN ORDER TO INSTALL THESE SHIMS WILL BE CONSIDERED INCIDENTAL TO ITEM 900.635, SPECIAL PROVISION (INSTALLATION OF STRUCTURAL STEEL)(FPQ).

25. THE DIAMOND PLATED FLOOR SUPPORTING THE LOCK BAR MACHINERY MUST BE SHORED WHILE REPLACING THE FLOOR BEAMS UNDER IT, REFER TO SHEETS 19, 20, AND 25. PAYMENT FOR THIS ITEM WILL BE ITEM 502.10, SHORING SUPERSTRUCTURE. THE ENDS OF FB#25 AND FB#26 MUST BE SUPPORTED WHILE FB#34 AND FB#35 ARE BEING REPLACED SEE SHEETS 16, 17, AND 18. PAYMENT FOR THIS WORK WILL ALSO BE INCLUDED IN THE ITEM 502.10, SHORING SUPERSTRUCTURE.

26. THE ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE WILL INCLUDE THE REMOVAL OF FLOORBEAMS AND CROSS FRAMES AS INDICATED ON SHEETS 13, 14, 15, AND 18. IT WILL ALSO INCLUDE REMOVAL OF OPEN STEEL GRID DECK, AS INDICATED ON SHEETS 19 AND 20. ALL OF THIS MATERIAL IS COATED WITH RED LEAD PAINT. PAYMENT FOR PARTIAL REMOVAL OF STRUCTURE WILL BE FULL COMPENSATION REMOVAL OF THESE COMPONENTS. ONCE REMOVED, THEY BECOME THE PROPERTY OF THE CONTRACTOR, WHO SHALL DISPOSE OF THEM PROPERLY. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE HARMLESS REGARDING THE DISPOSITION OF THE EXISTING STEEL TO BE REMOVED.

27. THE LIGHTWEIGHT CONCRETE FILLED PORTION OF THE DECK WILL BE REMOVED 4 INCHES ON BOTH BASCULE SPANS TO ALLOW THE STEEL GRID DECK TO BE SUPPORTED BY FLOORBEAMS AS DIMENSIONED AND SHOWN ON SHEETS 19 AND 20, PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE.

CONCRETE

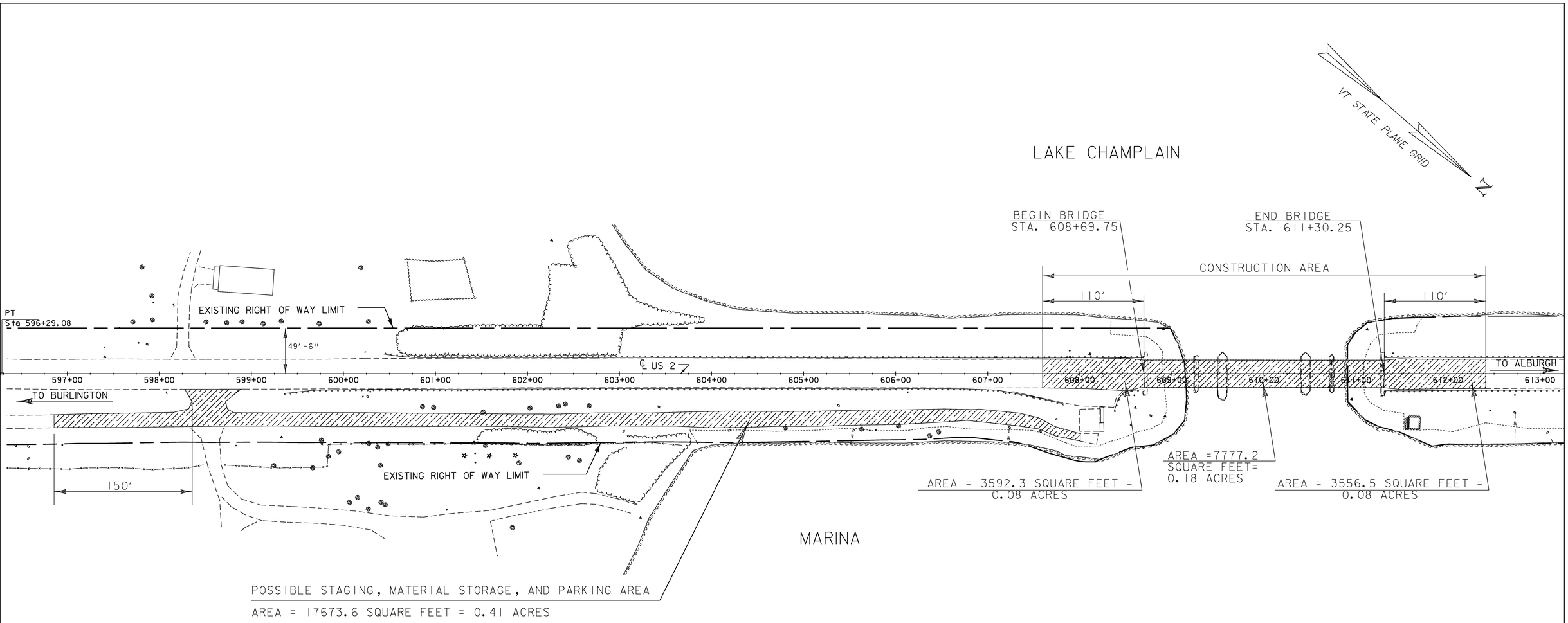
28. CONCRETE FILLED PORTION OF GRID DECK ON THE BASCULE SPAN WILL BE CLEANED OF ANY LOOSE OR CRACKED CONCRETE AS SHOWN ON SHEETS 19 AND 20, UNDER ITEM 580.10, REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I AS DIRECTED BY THE RESIDENT ENGINEER.

28. THE LIGHTWEIGHT CONCRETE IN THE CONCRETE FILLED REMOVABLE PANELS AND ALL ASSOCIATED WORK WILL BE PAID FOR UNDER ITEM 541.40, CONCRETE, CLASS LW. THE CONTRACTOR SHALL PLACE THE CONCRETE IN THE CONCRETE FILLED REMOVABLE PANELS OFF SITE IN A CONTROLLED ENVIRONMENT, UNLESS OTHERWISE APPROVED BY THE RESIDENT ENGINEER. THE UNIT WEIGHT OF THIS CONCRETE SHALL NOT EXCEED 103 POUNDS PER CUBIC FOOT. PANELS SHALL NOT BE TRANSPORTED UNTIL THE 10 DAY CURE PERIOD HAS ELAPSED AND THE CONCRETE HAS ACHIEVED 85% OF ITS DESIGN STRENGTH.

STAGING

29. THE ROADWAY THAT RUNS PARALLEL TO US 2 ON THE NORTH SIDE FROM STATION 595+00 TO 608+00 MAY BE USED FOR STAGING, PARKING, ETC. ACCESS THROUGH THIS ROAD, FROM THE ENTRANCE AT STATION 598+25, TO THE LAKE, MUST BE MAINTAINED AT ALL TIMES FOR USE BY ANGLERS. ACCESS AT THIS LOCATION, STATION 598+25 THROUGH TO THE DRIVE TO THE MARINA MUST ALSO BE MAINTAINED AT ALL TIMES.

30. BARGES MAY BE USED IN ACCOMPLISHING THIS WORK WITH THE FOLLOWING RESTRICTIONS. THERE WILL BE NO SHORELINE DISTURBANCE FOR LAUNCHING THE BARGES. THERE WILL BE NO ICE BREAKING IN ORDER TO MAINTAIN A CLEAN CHANNEL FOR RE-POSITIONING BARGES, OR FOR ANY OTHER PURPOSE. THERE WILL BE NO DISTURBANCE OF THE LAKE BOTTOM, BELOW ORDINARY HIGH WATER.

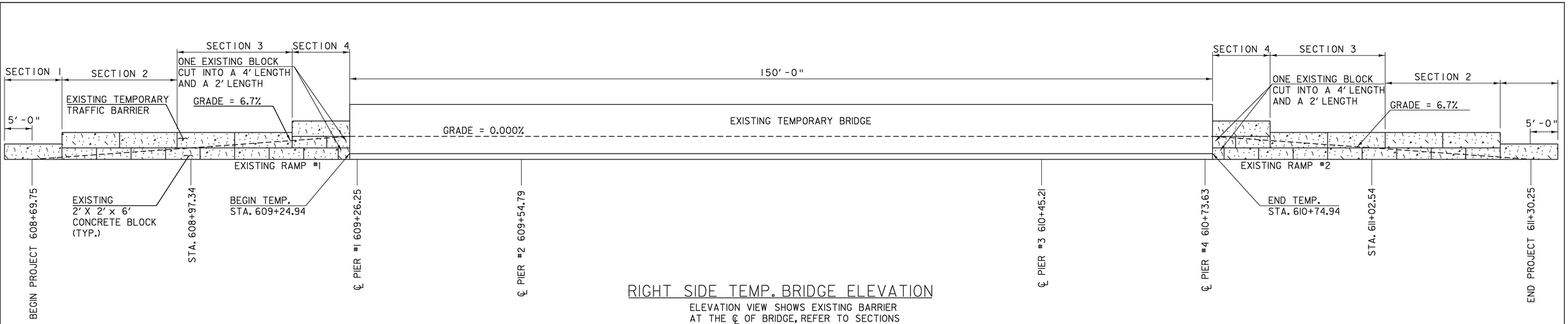


TOTAL DISTURBED AREA = 32599.3 SQUARE FEET =
0.75 ACRES

AREA OF DISTURBANCE

SCALE 1" = 50'-0
50 0 50

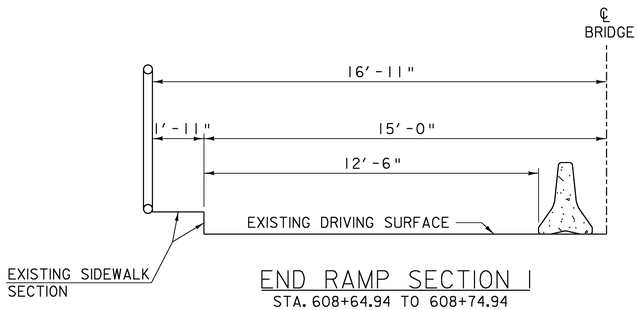
PROJECT NAME:	NORTH HERO-GRAND ISLE
PROJECT NUMBER:	BHF 028-1(21)
FILE NAME: structures\s92b284bdr.dgn	PLOT DATE: 18-OCT-2007
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M.E-Mongeon
DESIGNED BY: M.EVANS-MONGEON	CHECKED BY: S.SCRIBNER
AREA OF DISTURB AND RIGHT OF WAY	SHEET 4 OF 41



RIGHT SIDE TEMP. BRIDGE ELEVATION

ELEVATION VIEW SHOWS EXISTING BARRIER AT THE ℄ OF BRIDGE, REFER TO SECTIONS BELOW FOR EXISTING BARRIER PLACEMENT AT RAIL.

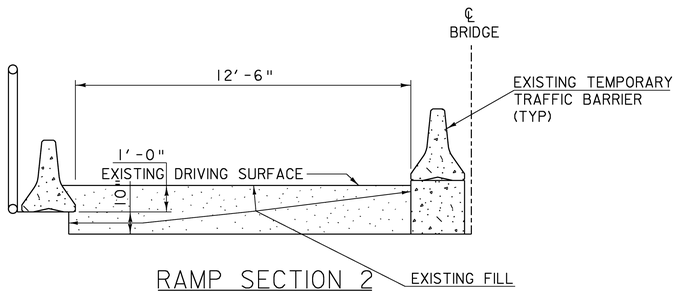
SCALE 1/8" = 1'-0
1 0 2 4 6 8



END RAMP SECTION 1

STA. 608+64.94 TO 608+74.94
AND
STA. 611+24.94 TO 611+34.94

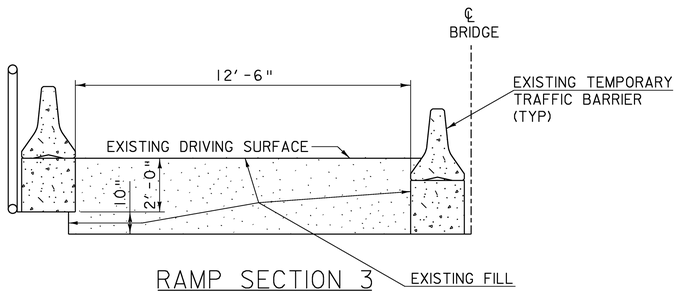
SCALE 3/8" = 1'-0
1 0 1 2 3 4



RAMP SECTION 2

STA. 608+74.94 TO 608+94.94
AND
STA. 611+04.94 TO 611+24.94

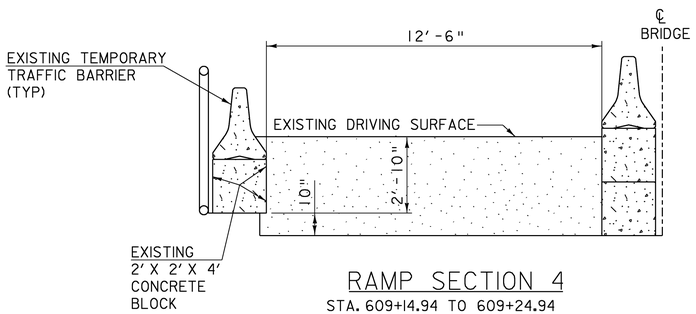
SCALE 3/8" = 1'-0
1 0 1 2 3 4



RAMP SECTION 3

STA. 608+94.94 TO 609+14.94
AND
STA. 610+84.94 TO 611+04.94

SCALE 3/8" = 1'-0
1 0 1 2 3 4



RAMP SECTION 4

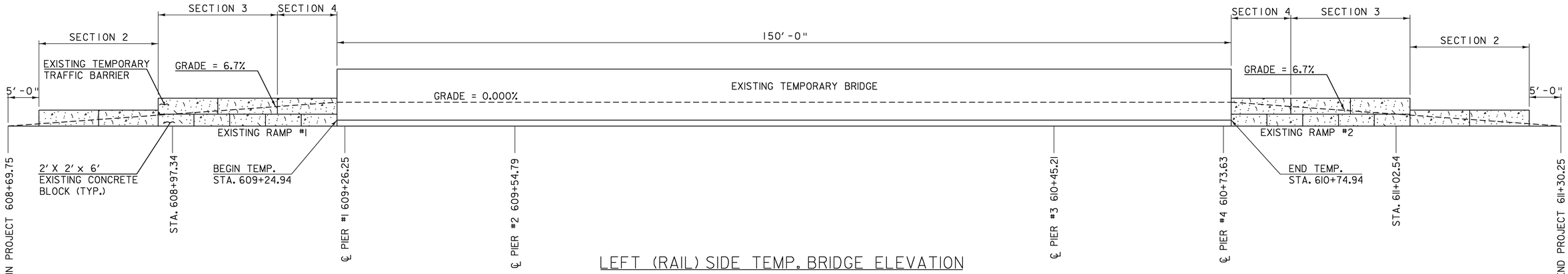
STA. 609+14.94 TO 609+24.94
AND
STA. 610+74.94 TO 610+84.94

SCALE 3/8" = 1'-0
1 0 1 2 3 4

EXISTING TEMPORARY BRIDGE DETAILS

PROJECT NAME:	NORTH HERO-GRAND ISLE
PROJECT NUMBER:	BHF 028-1(21)

FILE NAME: struc\s92b284tempdtls.dgn	PLOT DATE: 22-OCT-2007
PROJECT LEADER: M. EVANS MONGEON	DRAWN BY: L. DUQUETTE
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
	SHEET 5 OF 41



LEFT (RAIL) SIDE TEMP. BRIDGE ELEVATION

SCALE 1/8" = 1'-0
1 0 2 4 6 8

EXISTING TEMPORARY BRIDGE DETAILS

PROJECT NAME: NORTH HERO-GRAND ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: struc\s92b284tempdtls.dgn
PROJECT LEADER: M. EVANS MONGEON
DESIGNED BY: S. SCRIBNER

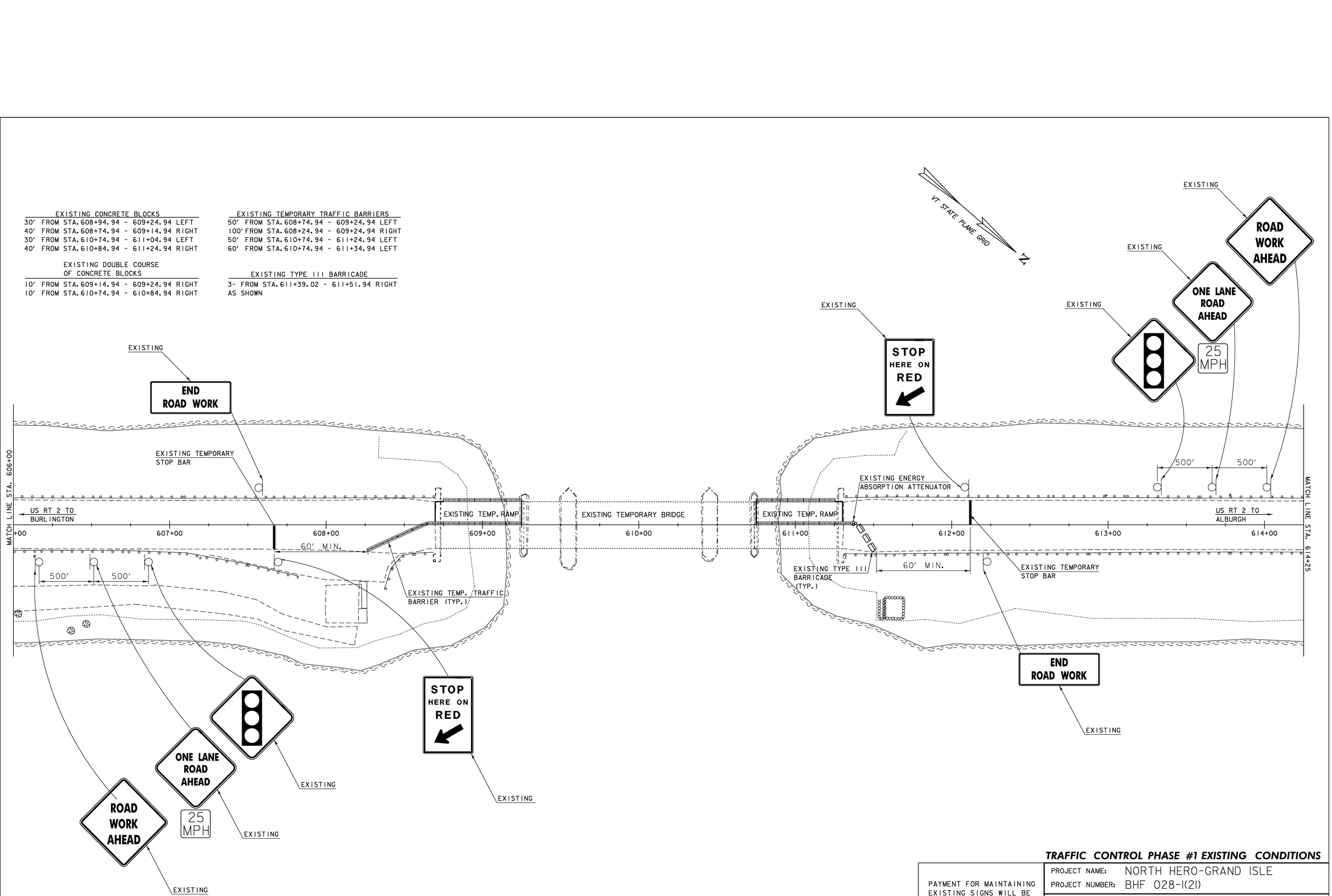
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 6 OF 41

EXISTING CONCRETE BLOCKS
30′ FROM STA. 608+94.94 - 609+24.94 LEFT
40′ FROM STA. 608+74.94 - 609+14.94 RIGHT
30′ FROM STA. 610+74.94 - 611+04.94 LEFT
40′ FROM STA. 610+84.94 - 611+24.94 RIGHT

EXISTING DOUBLE COURSE OF CONCRETE BLOCKS
10′ FROM STA. 609+14.94 - 609+24.94 RIGHT
10′ FROM STA. 610+74.94 - 610+84.94 RIGHT

EXISTING TEMPORARY TRAFFIC BARRIERS
50′ FROM STA. 608+74.94 - 609+24.94 LEFT
100′ FROM STA. 608+24.94 - 609+24.94 RIGHT
50′ FROM STA. 610+74.94 - 611+24.94 LEFT
60′ FROM STA. 610+74.94 - 611+34.94 LEFT

EXISTING TYPE III BARRICADE
3- FROM STA. 611+39.02 - 611+51.94 RIGHT AS SHOWN



NOT TO SCALE

TRAFFIC CONTROL PHASE #1 EXISTING CONDITIONS

PAYMENT FOR MAINTAINING EXISTING SIGNS WILL BE MADE INCIDENTAL TO CONTRACT ITEM 641.10.

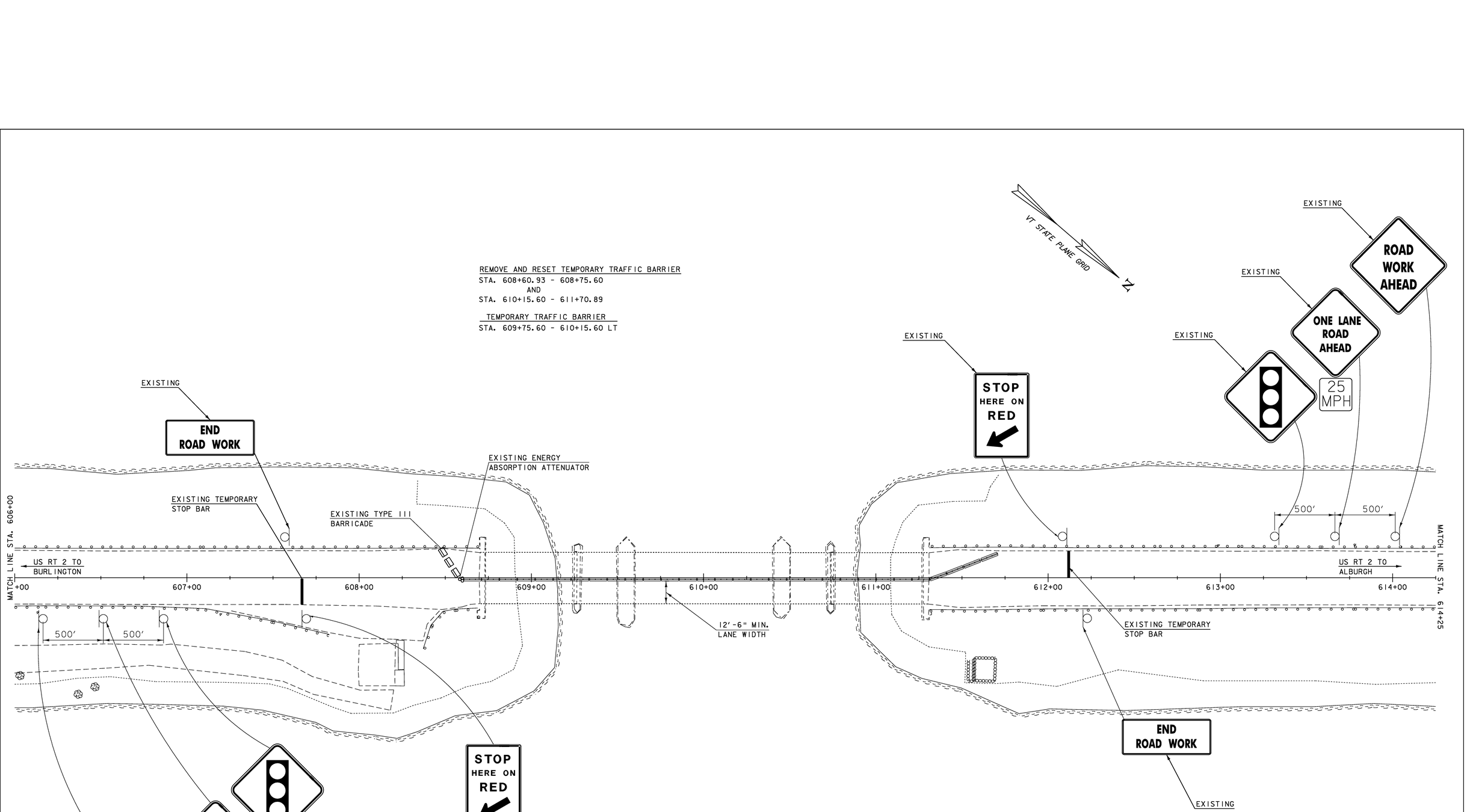
PROJECT NAME: NORTH HERO-GRAND ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structures\s92b284bdr.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER

PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 7 OF 41

REMOVE AND RESET TEMPORARY TRAFFIC BARRIER
STA. 608+60.93 - 608+75.60
AND
STA. 610+15.60 - 611+70.89

TEMPORARY TRAFFIC BARRIER
STA. 609+75.60 - 610+15.60 LT



NOTE:

PAYMENT FOR MAINTAINING EXISTING SIGNS WILL BE MADE INCIDENTAL TO CONTRACT ITEM 641.10.

PAYMENT FOR RELOCATING EXISTING BARRICADES AND THE EXISTING ENERGY ABSORPTION ATTENUATOR WILL BE MADE INCIDENTAL TO CONTRACT ITEM 641.10.

PAYMENT FOR MAINTENANCE AND REMOVAL OF EXISTING TEMPORARY TRAFFIC BARRIER AND CONCRETE BLOCKS WILL BE MADE UNDER CONTRACT ITEM 900.640 SPECIAL PROVISION (MAINTENANCE AND REMOVAL OF TEMPORARY TRAFFIC BARRIER).

NOT TO SCALE

TRAFFIC CONTROL PHASE #2

PROJECT NAME: NORTH HERO-GRAND ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structures\s92b284bdr.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 8 OF 41

49-0 OPEN GRID FLOOR (EXCEPT OVER PIERS & LOCK PLATFORMS) GRID DEPTH 5"

6-0 | 4-0 | 3 SPA. @ 4-0 = 12-0 | 3 SPA. @ 4-0 = 12-0 | 3 SPA. @ 4-0 = 12-0 | 4-0 | 2-6

BASCULE GIRDER BG2R

BASCULE GIRDER BG4R

BASCULE GIRDER BG4L

BASCULE GIRDER BG2L

B5R

B6

= REPLACE

= KEEP

NOTE: "D" GUIDE CASTINGS TO BE BOLTED TO FB44 WITH 3/4" Ø BOLTS BEFORE ERECTING FB44

FB44 TO BE ERECTED AFTER FB43

FB44S

FB45

SEE J9758 SH. 142

SEE J9758 SH. E101 FOR TRUNNION SPAN #2 (DIV. I)

PIER #1 STA. 609+26.38'

TRUNNION

CONTROL HOUSE

PIER #2

SPAN #3

STA. 610+00 EL. FIN. GIRDER 116.10

ALL NEW CONNECTIONS PAINTED WITH COLD APPLIED GALVINIZE PAINT

FLOOR PLAN OF BASCULE LEAF #1 SPAN #3 (DIV. I)

SEE SH. E103 FOR SECTIONS A-A, G-G, E-E I-I, K-K, T-T & V-V

MARK SHOWN ON PRINTS THUS (A2A) INDICATE THE SHEET ON WHICH THE TYPE OF CONNECTION & FIELD WELDING ARE SHOWN

SECTION E-E

SECTION D-D

SECTION C-C

SECTION B-B TYPICAL WELDING DETAIL HAND RAIL TO POSTS

SECTION G-G

SECTION H-H

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT #28(11)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

AMERICAN BRIDGE COMPANY

FLOOR PLAN OF BASCULE LEAF #1

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 9 OF 41

℄ PIER #1

ERECTION SEQUENCE
FOR COUNTERWEIGHT SUPPORTS
START WITH B16 AS ① AND
THEN A P10 AS ② B15 AS ③
P10 AS ④ B15 AS ⑤ P10 AS ⑥
B15 AS ⑦ P10 AS ⑧ B15 AS ⑨
P10 AS ⑩ B16 AS ⑪ L15 AS ⑫
L14 AS ⑬

NOTES (B) P10 TO BE RAISED
TO ALLOW DRIVING 3 RIVETS
IN L14 & L15

ALL PLATES P10 TO BE
FIELD WELDED, BUT ALL STEEL
ERECTED & CONCRETE POURED
TO TOP OF BEAMS B15
BEFORE ERECTING CW1
SEE J9755 SHEET 04

3-10 | 12-5 HORIZONTAL | 12-6 SLOPE 12¼/12 | 45-0 PARABOLIC CURVE | 45-0

5 SPA @ 2-4¾ = 9-7¼ | 4-6 | 14-0 | 8-0 | 2 SPA @ 4'-0 = 8-0 | 3 SPA @ 4-0 = 12-0 | 3 SPA @ 4-0 = 12-0 | 4-0 | 2-6

CW2R | CW1 | CW1 | CW1 | CW2L

BG2R BASCULE GIRDER
BG4R BASCULE GIRDER
℄ BRIDGE
BG4L BASCULE GIRDER
BG2L BASCULE GIRDER

STA. 609+54

SEE J9755 SHEET 03 FOR PEDESTAL

℄ L.L. SUPPORT & BEARING - TG

ROLLING ON PIER 12" SEE J9755 SHEETS

EDGE OF PIER

*NEW SHIMS NOT INSTALLED, DISTRICT #8 INFORMED, BEARING WORK REQUIRED BEFORE SHIMS CAN BE REPLACED, SHIM PLATES GIVEN TO DISTRICT #8

= REPLACE
= KEEP

℄ ARC BORER ON CORE | 9-3½ | ℄ TRUNNION | 4-6 | 12-5 | 3-10 | 2-0 | 1-0

20-9 | 7-0 | 9½ | 7-9½ | 53-0 | 53-0

℄ PIER #2 | ℄ CONTROL HOUSE

LINE OF PIER #2 AT CONTROL HOUSE

STA. 610+00

℄ SPAN #2

SEE SHEET 21 FOR SHIM PLATE DETAILS

BOTTOM FLANGE PLAN OF BASCULE LEAF #1 (DWG #1)

NOTE: MARKS SHOWN ON PLANS THUS (A36) INDICATE THE STRENGTH STEEL AND WHERE TWO TYPES OF CONSTRUCTION ARE SHOWN.

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F126(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

DESIGNED BY AMERICAN BRIDGE COMPANY

BOTTOM FLANGE PLAN OF BAS. LEAF #1

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284oleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 10 OF 41

49'-0 OPEN GRID FLOOR (EXCEPT OVER PIERS & LOCK PLATFORMS) GRID DEPTH 5"

= REPLACE
= KEEP

FLOOR PLAN OF BASCULE LEAF #2 SPAN #3 (DW. #2)

See SB.E203 for Sections AA, C-C, FF, II, KK, TT & V-V

Marks shown on plans thus (AIA) indicate the sketch sheet on which the type of connection & field welding are shown

SECTION E-E

SECTION F-F

SECTION H-H

SECTION D-D

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

AMERICAN BRIDGE COMPANY

FLOOR PLAN OF BASCULE LEAF #2

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 11 OF 41

45-0 Parabolic Curve

45-0

6-6 | 3 Spa. @ 4-0 = 12-0 | 3 Spa. @ 4-0 = 12-0 | 2 Spa @ 4-0 = 8-0

12-6 Slope 1 7/8/12

14-0 | 8-0 | 4-6

12-5 Horizontal

4 Spa @ 2-4 13/16 = 9-7 1/4

2-4 3/4 | 5 | 3-10

℄ Pier #4
Sta. 610+73.62'

Bascule Girder BG1L

Bascule Girder BG3L

Bascule Girder BG3R

Bascule Girder BG1R

Note "D" - Guide casting to be bolted to FB45 with 3/4" bolts before erecting FB45

N

Note:
FB45 to be supported on FB44 or Leaf #1 before erecting Bascule Girders BG1L & 3L
This sequence of erection requires removal of end lateral plates on bottom flange of B51 & B52 before lowering on top of bottom flange of FB45

Note "D"

Sta. 610+00

53-0 | 53-0

℄ Span #3

NEW 1/2" GUSSET PLATES INSTALLED FOR L ANGLE BRACING, CENTER BAY

** EXISTING BEAM WAS REPLACED PRIOR TO 028-I(21) CONTRACT. T BEAM WAS REPLACED WITH I SHAPE. THIS BEAM WAS RE-USED. WIDER TOP FLANGE NEEDED FOR LOCKBAR BOLT DOWN.

SEE SHEET 21 FOR SHIM PLATE DETAILS

Edge of Pier 3

Sta. 610+45.21'

℄ Pier #3

See J9755 Sht 102 for pedestals

℄ LL Support

℄ Bearings - T.S.

℄ Trunnion

9 1/2 | 4-6 | 7-0 | 7-9 1/2

Line of Pier #3

T

Air Support (on L girders)

12-5

V

1-0

20-9

Span #3
Plan of Bott. Flg. Leaf #2

Erection Sequence
For counterweight supports start with B16 at ⑤ and then A P10 at ⑤ B15 at ⑥
P10 at ⑧ B15 at ⑨ P16 at ⑩
B16 at ⑫ P16 at ⑬ B16 at ⑭
P10 at ⑮ B16 at ⑯ L15 at ⑰
L16 at ⑱
Note ⑲ - P10 to be raised to allow driving 3-rivets in L15 & L15

All plates P10 to be field welded, Bluet steel erected & concrete poured to top of beams B15
Refer erecting CW1 Sec J9755 Sh. E204

*See note on sheet #10

= REPLACE
= KEEP

Bottom Flange Plan of Bascule Leaf #2 Span #3 (Div #2)

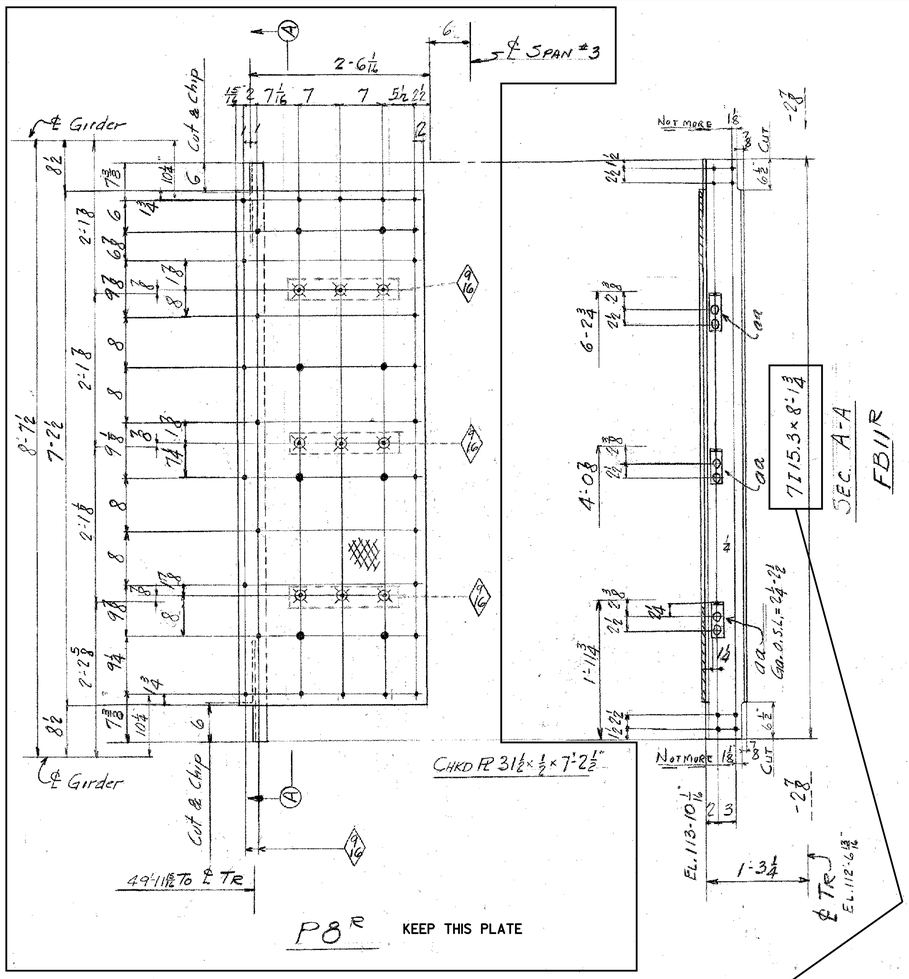
See Sheet E203 for sections A-A & CC etc
Marks shown on plan thus (A36) indicate the sketch sheet on which the type of connection & field welding are shown

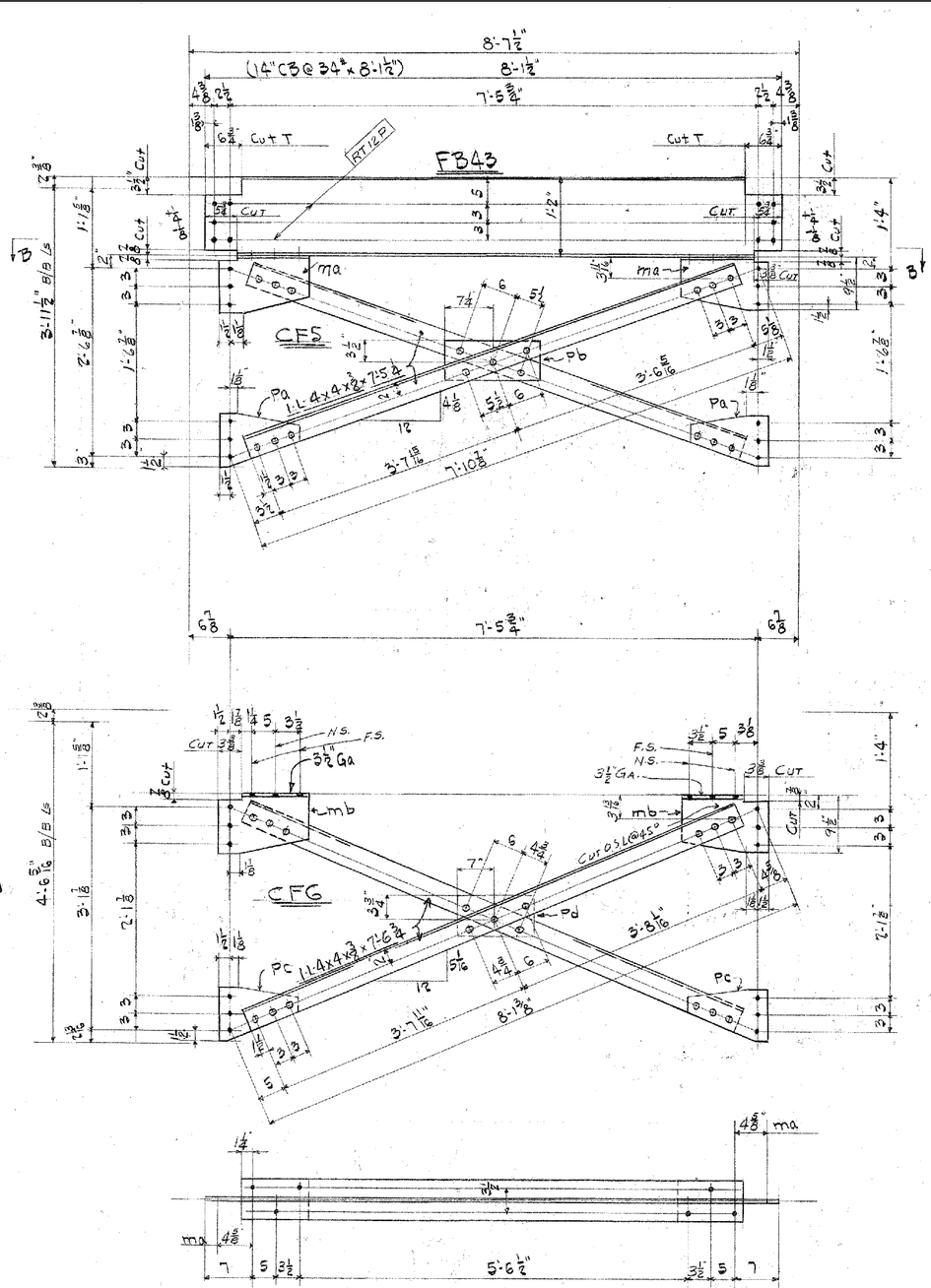
State of Vermont
State Highway Department
Federal Project F129(10)
Grand Isle-North Hero Bridge
County of Grand Isle, Vt.

American Bridge Company

BOTTOM FLANGE PLAN OF BAS. LEAF #2

PROJECT NAME:	NORTH HERO-GRANDE ISLE
PROJECT NUMBER:	BHF 028-I(21)
FILE NAME: structure\s92b284cleandsca	PLOT DATE: 18-OCT-2007
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: L. DUQUETTE
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
	SHEET 12 OF 41





Div 1	Div 2	Line	Mark	No. of Pieces	Shape	Material	Length Ft.	Length In.	Assembly Mark	Remarks	Ordered	Item	Calculated Weight for One Shop Piece
		1											
		2											
		3											
1		4		ONE	FLOOR PLATE	P8	R			KEEP			
1		5		ONE	" "	P8	L						
		6		2	CHKD PL	3 1/2	1/2	7	2 1/2		CUT AS REQ. FOR FB12		1057
		7											
		8											
1		9		ONE	FLOOR BEAM -	FB11	R						
1		10		ONE	" " -	FB11	L						
		11		2	7 I	15.3		8	1 3/8				S
		12		6	L 6 6	3/8		0	2 1/2	aa			S
		13											
3		14		3	- FLOOR BEAMS -	FB12	R						
3		15		3	- " "	FB12	L						
		16		6	5 I	10		2	4 4/4				S
		17											
6	6	18		12	FLOOR BEAMS	FB43							
		19		12	14" CB @ 34#	8	1/2				8-1 1/2		1017
		20											
3	3	21		6	CROSS FRAMES -	CF5							
		22		12	L	4x4x3/8		7	5 1/2		29'-1		1032
		23		12	PL	9x3/8		1	0	pa			S
		24		12	CB	14 @ 34#	1		2 1/2	ma	CUT	40'-0	1016
		25		6	PL	6 1/2 x 5/16	1		2 1/2	pb			S
		26											
		27											
3	3	28		6	CROSS FRAMES	CF6							
		29		12	L	4x4x3/8		7	6 3/8				
		30		12	PL	9x3/8		1	1 1/4"	pc			S
		31		12	CB	14 @ 34#	1		2 1/2	mb	CUT	40'-0	1016
		32		6	PL	7 x 5/16	1		2	pd			S
		33											
		34											
		35											
		36											
		37											
		38											
		39											
		40											
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		59											
		60											
		61											
		62											
		63											
		64											

FLOOR PLATES P8 FLOOR BMS - FB11-12

FLOOR BEAMS - FB43

CROSS FRAMES - CF5 - CF6

EVERYTHING ON THIS SHEET TO BE REPLACED EXCEPT P8R

R.T. - SUB PUNCHED 11/16" AND REAMED TO TEMPLET 15/16"

RIVS 7/8

HOLES 13/16

PAINT: RED OXIDE CONTR

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(8)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

DRY ERASE PENCIL
AMERICAN BRIDGE COMPANY

BASCULE SPAN STRUCTURAL DETAILS

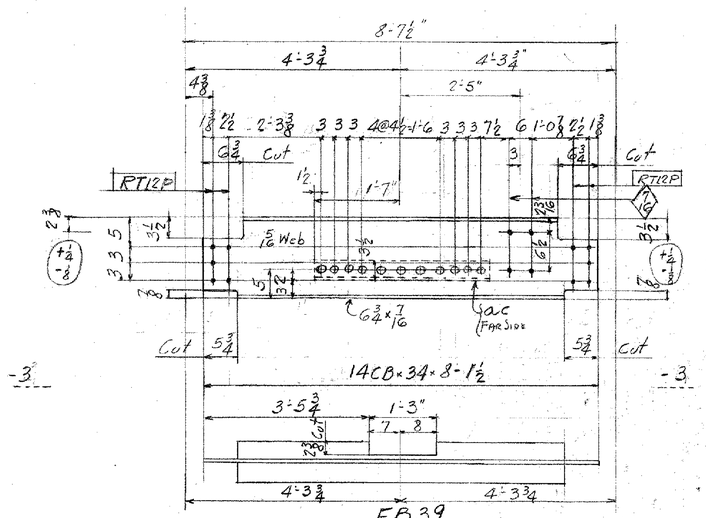
PROJECT NAME: NORTH HERO-GRANDE ISLE

PROJECT NUMBER: BHF 028-1(21)

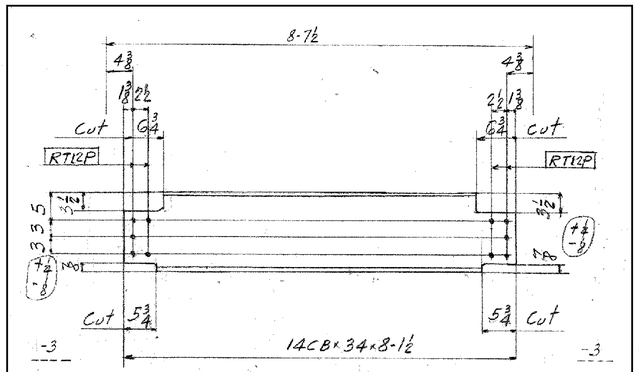
FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER

PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER

SHEET 13 OF 41

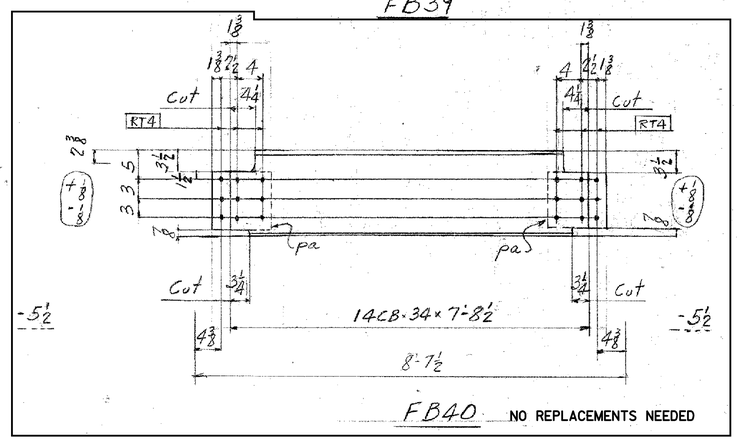


FB39

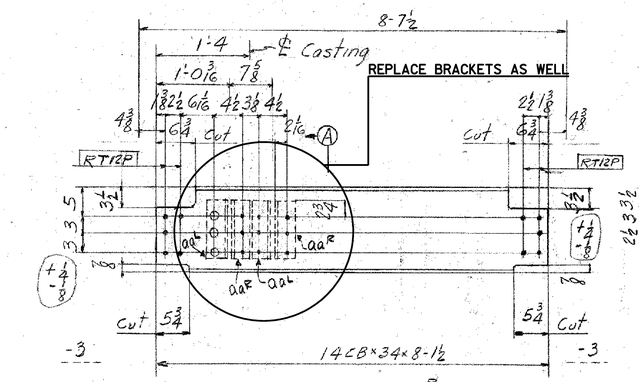


REPLACE 39 OUT OF 45 FB38

FB38

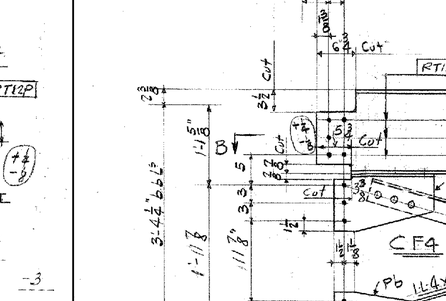


FB40 NO REPLACEMENTS NEEDED

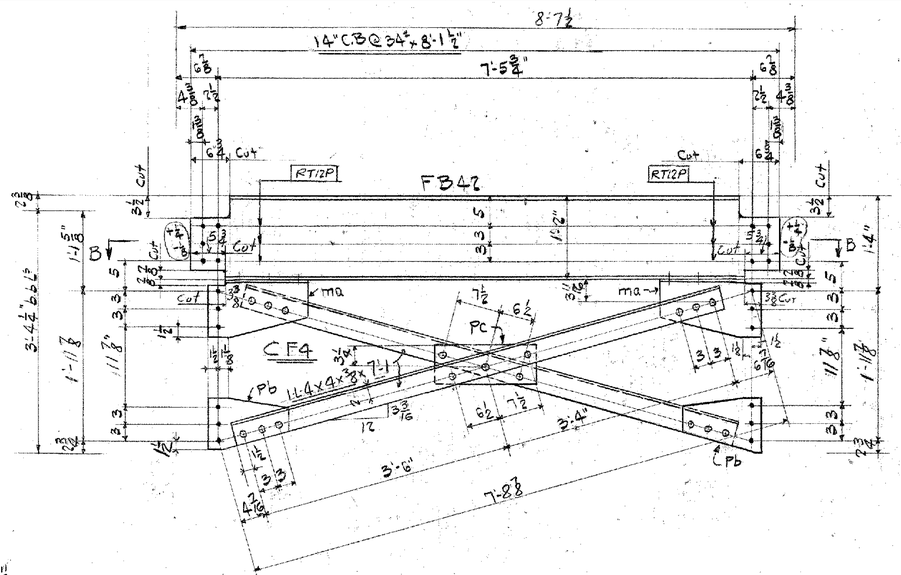


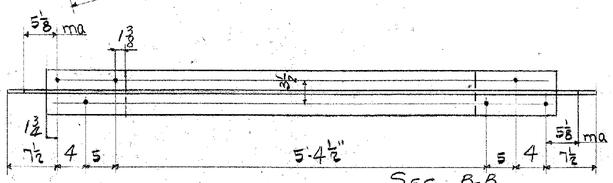
FB41R

FB46R



RP4 NO REPLACEMENTS NEEDED





FB42 CF4

FB38 - REPLACE 39 OUT OF 45
FB39 - REPLACE ALL (1)
FB40 - NO REPLACEMENTS NEEDED
FB41R,L - REPLACE ALL (1)R AND (1)L
FB42 - REPLACE ALL (6)
FB46R,L - REPLACE ALL (2)R AND (2)L
RP4 - NO REPLACEMENTS NEEDED
CF4 - REPLACE ALL (6)

MARK	DIV1	DIV2
FB38	24	21
FB39		1
FB40	3	3
FB41R		1
FB41L		1
~~FB42~~		½
~~FB46~~		½
CF4	3	3
RP4	4	4
FB42	3	3

LINE	Total No. of Pieces in this Order	No. of Pieces in One Piece	SHAPE	LENGTH Feet	LENGTH Inches	ASSEM-BLING MARK	REMARKS	CALCULATED WEIGHT FOR ONE SHIP. PIECE	ORDERED ITEM
1	45		FLOOR BEAMS -			FB38			
2	45		14"CB×34#	8	1½			9-1½	1017
3									
4	1		FLOOR BEAM			FB39			
5	1		14"CB×34#	8	1½			9-1½	1017
6	1		L 4 3½ ⅜	3	3	ac			S
7	6		FLOOR BEAMS			FB40			
8	6		14"CB×34#	7	8½			46-0	1016
9	12	PL	9 ⅜	0	9¼	pa			S
10	24		S.B ⅞ø						S
11									
12	ONE		FLOOR BEAM -			FB41R			
13	ONE		" "			FB41L			
14	2		14CB×34	8	1½			9-1½	1017
15	8		L 4 3½ ⅜	0	10	aaR,L			S
16									
17	6		FLOOR BEAMS			FB42			
18									
19	6		14"CB@34	8	1½			9-1½	1017
20									
21	6		CROSS FRAME			CF4			
22	12	L	4×4×⅜	7	1	ab		28-5	1033
23	12		14"CB×34#	1	3½	ma	cut	40-0	1016
24	12	PL	9×⅜	1	1½"	Pb			S
25	6	PL	6⅞×5/16	1	5½	Pc			S
26									
27									
28									
29								9-1½	1017
30									S
31									
32	2		C CHANNELS			FB46R			
33	2		"			FB46L			
34	4	12	17.25	2	4				S
35									
36	8		BEARING PLATES RP4						
37									
38	8	PL	12 ¾	1	0				S
39									
40									
41									
42									
43									
44									
45									
46									
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51									
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55									
56									
57									
58									
59									
60									

FB38-39-40-41R-42-46R-RP4-CF4

Rivs ⅞ Holes 15/16 Unless Noted

R.T.- Subpunched 11/16ø and reamed to Templet 15/16

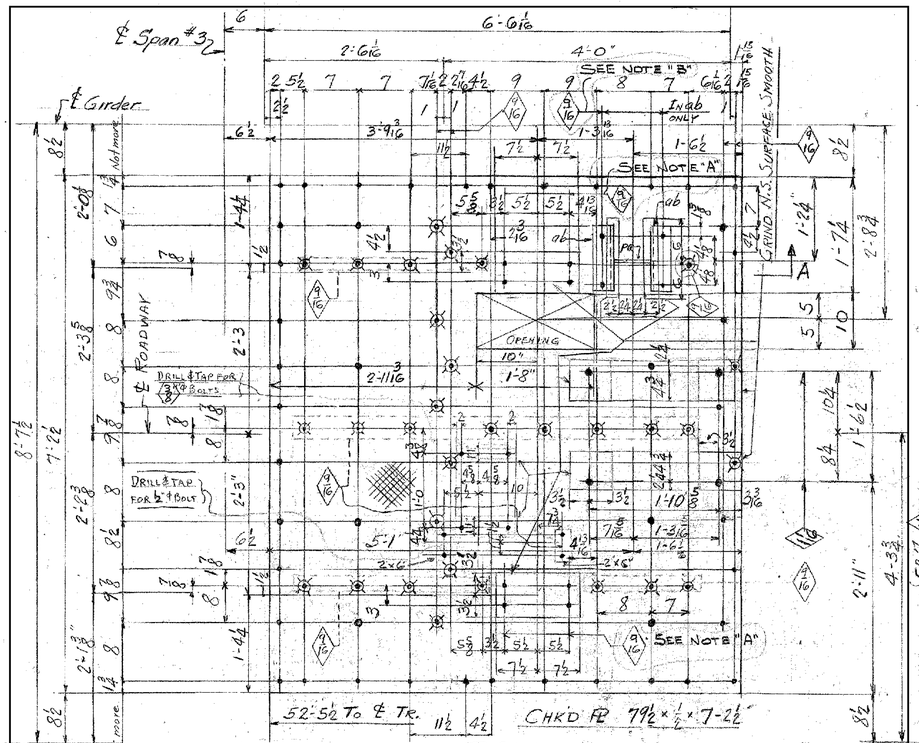
STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F126(6)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

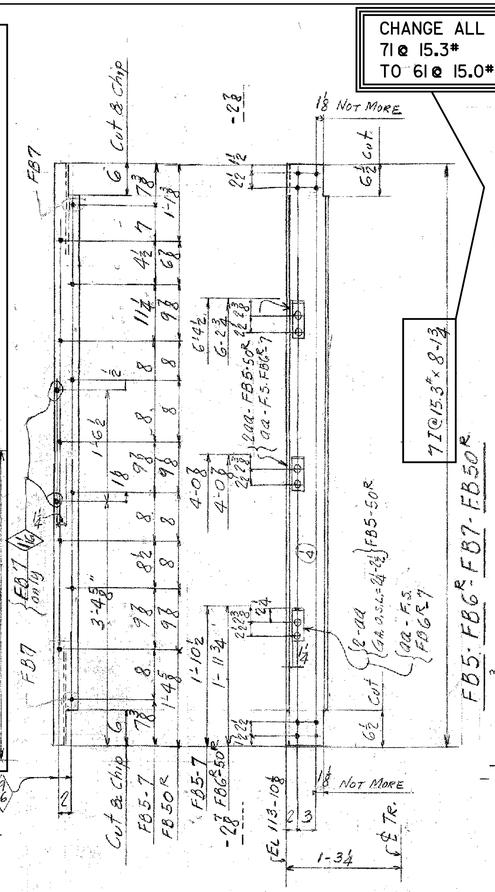
DES. DETAILED FABRICATED
AMERICAN BRIDGE COMPANY
PITTSBURGH, PENNSYLVANIA U.S.A.

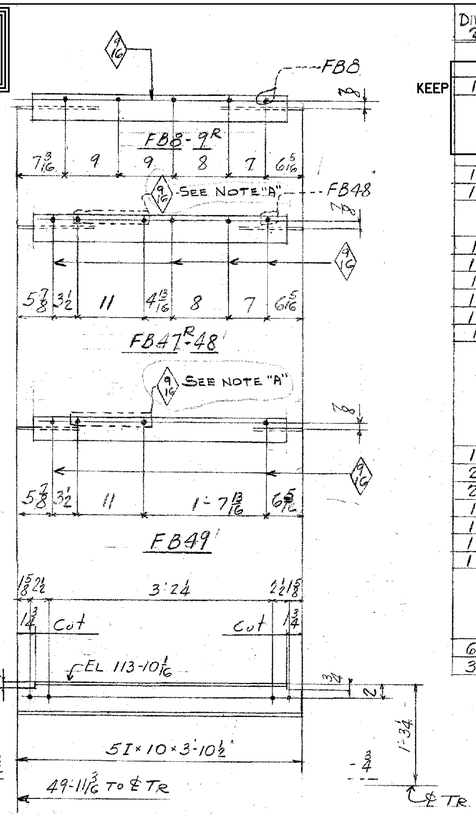
BASCULE SPAN STRUCTURAL DETAILS

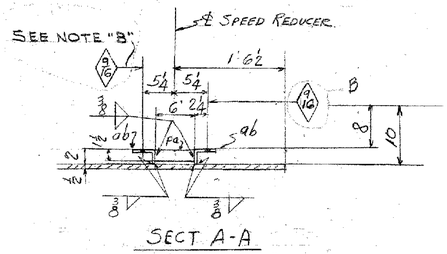
PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

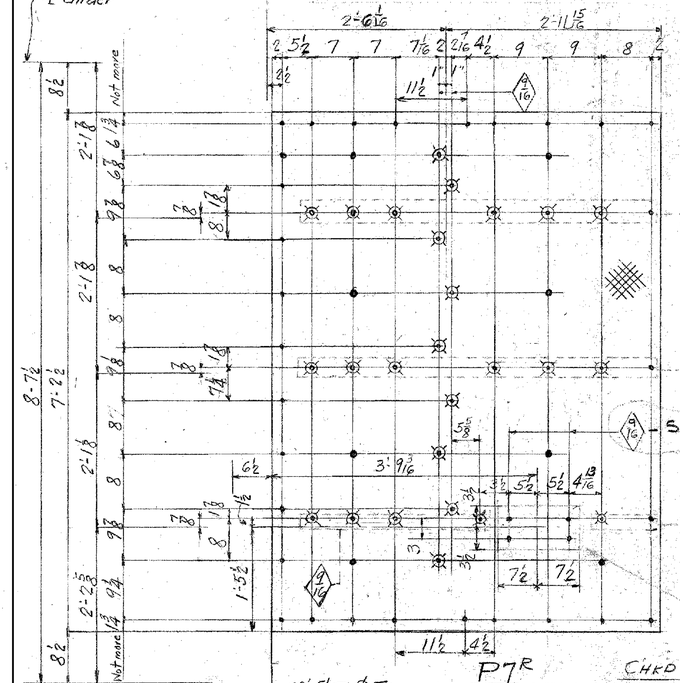
FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 14 OF 41

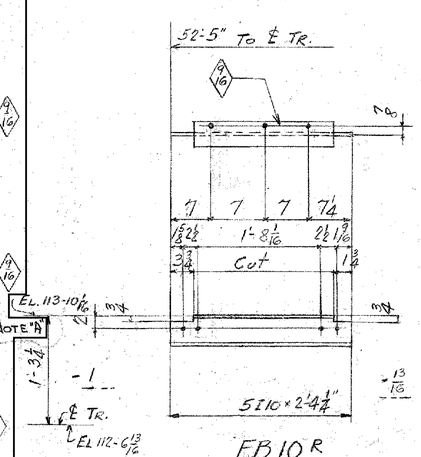












NOTE "A" - 9/16"Φ HOLES. REAM IN FIELD TO 13/16"Φ HOLES FOR TURNED BOLTS.

NOTE "B" - 9/16"Φ HOLES. REAM IN FIELD TO 21/32"Φ HOLES FOR TURNED BOLTS.

DIV 2	SHEET	PIECE MARK	NO. OF PIECES	MATERIAL SHAPE	LENGTH Feet	LENGTH Inches	ASSEM. BLDG. MARK	REMARKS	ORDERED NO.	ORDERED WEIGHT	CALCULATED WEIGHT Pcs. Ea.	CALCULATED WEIGHT TOTAL
KEEP	1	3	1	ONE FLOOR PLATE - P6								
		4	1	CHKD PL ½	2	7	2½					
		5	2	L 4 2 ⅜	0	11	ab	CARNEGIE PATT. M41 CUT 4-3	17-2	1057		
		6	1	PL ½	0	6	pa	WELD	40-0	1038		
		8						WELD				5
	1	8		ONE FLOOR PLATE P7R								
	1	9		ONE FLOOR PLATE P7L								
		10	2	CHKD PL 65½	2	7	22	CARNEGIE PATT. M41	742N72	1057		
	1	12		ONE FLOOR BEAM - FB5								
	1	13		ONE FLOOR BEAM - FB6R								
	1	14		ONE - " " - FB6L								
	1	15		ONE - " " - FB7								
	1	16		ONE - " " - FB50R								
	1	17		ONE - " " - FB50L								
		18	6	7 I 15.3	8	1⅜						
		19	6	L 6 6 ⅜	0	2½	aa	For FB5				5
		20	6	L			aa	" FB6R				
		21	3	L			aa	" FB7				
		22	12	L			aa	" FB50R				↓
		23										
	1	24		ONE FLOOR BEAMS - FB8								
	2	25	2	" "			"	FB9R				
	2	26	2	" "			"	FB9L				
	1	27	ONE	"			"	FB47R				
	1	28	ONE	"			"	FB47L				
	1	29	ONE	"			"	FB48				
	1	30	ONE	" "			"	FB49				
		31	9	5 I 10		3	10½					5
		32										
		33										
		34										
	6	35	6	FLOOR BEAMS - FB10R								
	3	36	3	" " - FB10L								
		37	9	5 I 10		2	44					5
		38										
		39										
		40										
		41										
		42										
		43										
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		58										
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		60										
		61										
		62										
		63										
		64										

FLOOR PLATES - P6-P7R
" BEAMS - FB5-6-7-8-9R-10R-47R-48-49
" " - FB50R

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

DESIGNED FABRICATED AND ERECTED BY
AMERICAN BRIDGE COMPANY
ENGINEERS STEEL CONSTRUCTORS EVERYWHERE

EVERYTHING ON THIS SHEET TO BE REPLACED EXCEPT P6, P7R, AND P7L

RIVS 7/8
HOLES 13/16 UNLE

BASCULE SPAN STRUCTURAL DETAILS

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 15 OF 41

= REPLACE

CLIP ANGLE TO CONNECT FB-25, FB-26 REPLACED AS WELL.

Floor Plan of Trunnion Span #2 (Div. #1)

Section N-N

Section L1-L1

Section L2-L2

Section C-C

Section D-D

Section E-E

Section F-F

Section A-A

Section B-B

Section XX
Typical Welding Detail
Hand Rail to Posts

Note
Marks shown on plan thus (AIA) indicate the sketch sheet on which the type of connection and field welding are shown.

For Sections O-O, P-P, R-R, S-S, U1-U1 & Y-Y see Sht. # E10

For Anchor Bolt Plan See Sh. # E10

Span #1
13754 E201
(Div. 2)

Leaf #1
Span #3
19766 E101
Div. #1

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT FBR(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

Trunnion Span #2

American Bridge Company

FLOOR PLAN OF TRUNNION SPAN #2

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 16 OF 41

= REPLACE

BOTTOM ANGLE BRACE REPLACED FOR FB-35 SUPPORT

LEAF #2
SPAN #3
1975& E201
(DIV. 2)

SPAN #3
1975A E101 (DIV.1)

FOR SECTIONS Q-Q, P-P, R1-R1, S1-S1, U1-U1 & Y-Y SEE SH. E202

NOTE
MARK SHOWN ON PLAN THUS (A1A) INDICATES THE SKETCH SHEET ON WHICH THE TYPE OF CONNECTION AND FIELD WELDING ARE SHOWN.

ELEVATIONS GIVEN THUS -116-11⅜, 116-11 ETC., ARE TO FINISHED GRADE OF WARPED SURFACE

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT #BRB(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

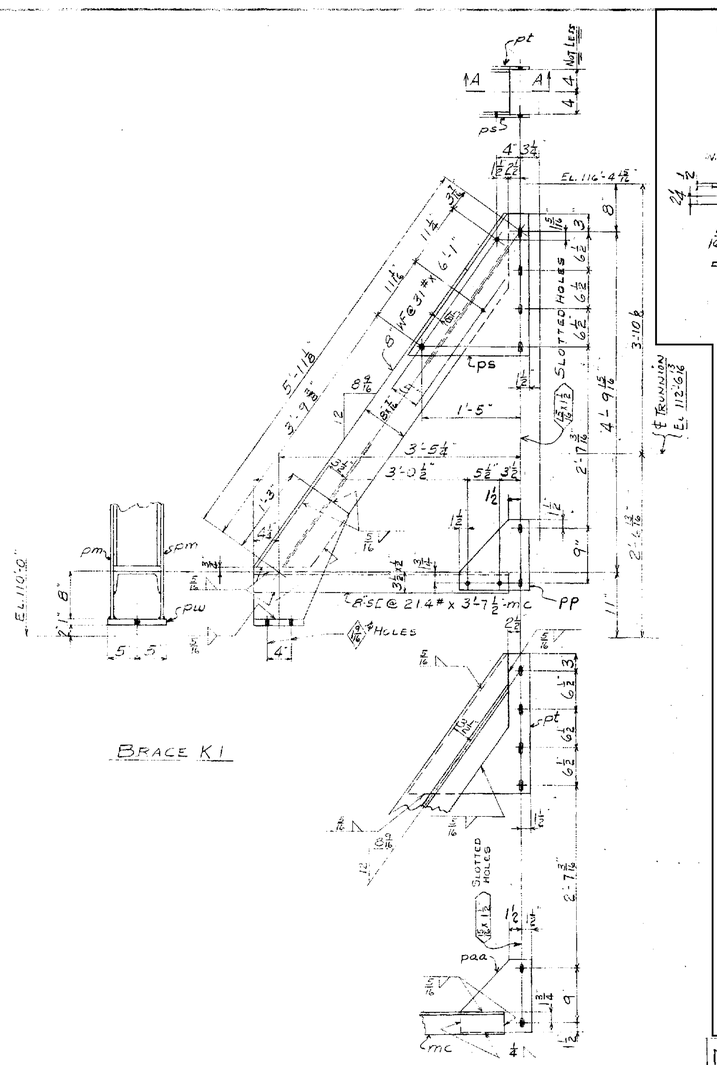
TRUNNION SPAN #4

AMERICAN BRIDGE COMPANY

FLOOR PLAN OF TRUNNION SPAN #4

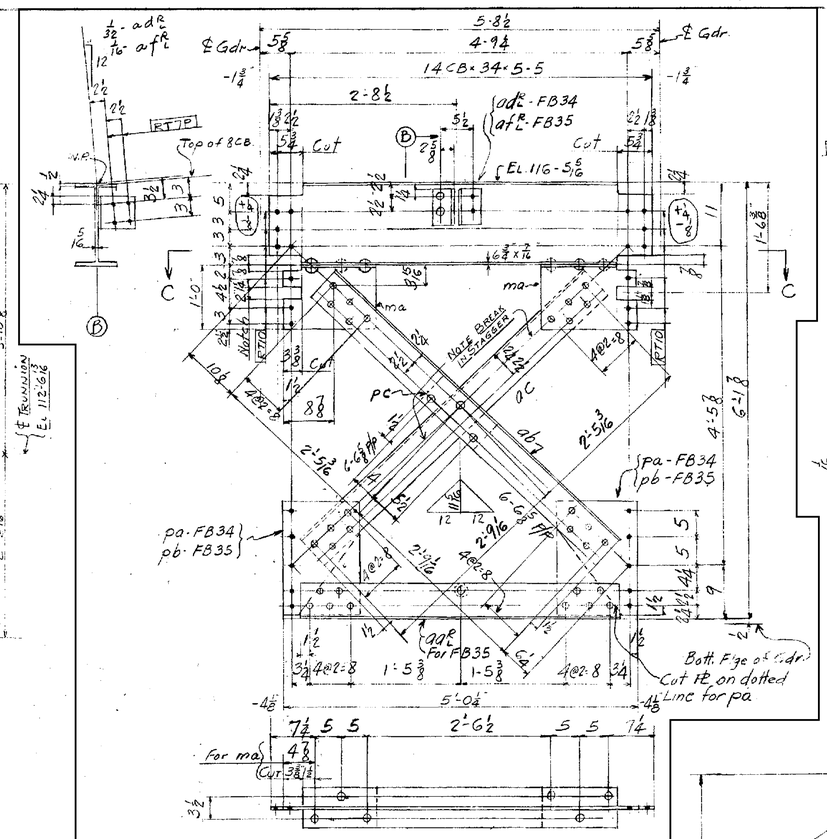
PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 17 OF 41



BRACE K1

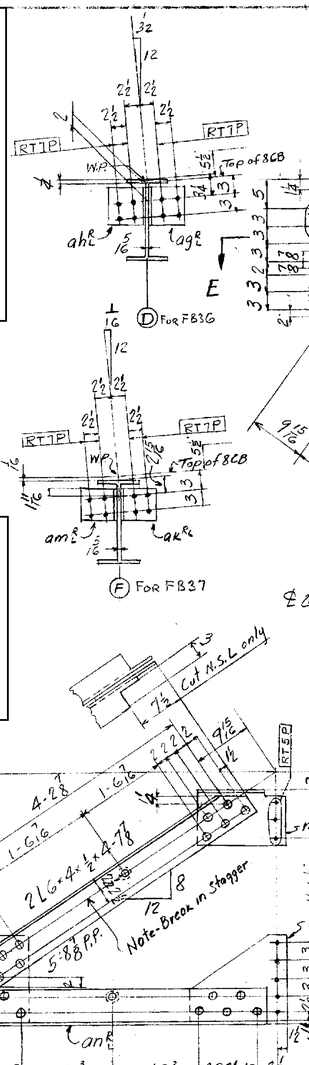
SECTION AA

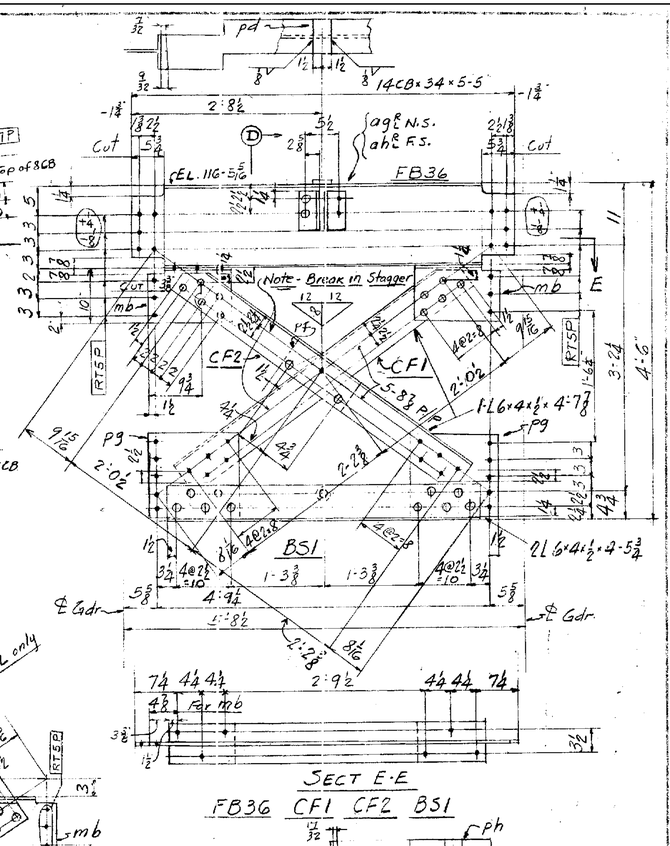


SECT. C-C

FB34 FB35

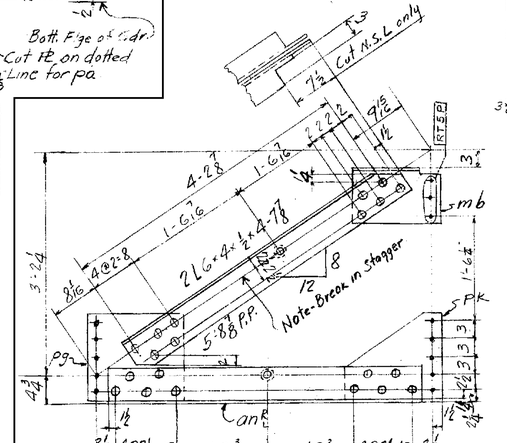
REPLACE ALL (4) FB34 AND ONLY (1) FB35 AND ALL RELATED CROSS FRAMES, EVERYTHING ELSE ON THIS SHEET TO BE KEPT (NO REPLACEMENT NEEDED)



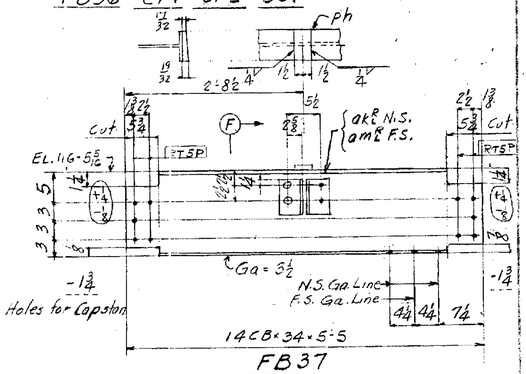


SECT E-E

FB36 CF1 CF2 BS1



CF3



FB37

MARK	DIV 1	DIV 2
K1	2	2
FB34	2	2
FB35	1	1
FB36	2	2
FB37	1	1

MARK	DIV 1	DIV 2
CF1	2	2
CF2	2	2
CF3	1	1
BS1	2	2

MARK	NO. PIECES	MATERIAL SHAPE	MATERIAL LENGTH	WEIGHT	REMARKS
	4	BRACES K1			
	4	W 31	6'-1"		
	4	SC 214	3'-7½"		mc
	8	PL 16 × ⅜	1'-10"		pm
	4	PL 12 × ⅜	1'-10"		pp
	4	PL 21 × ½	2'-0"		ps
	4	PL 21 × ⅜	2'-0"		pt
	4	PL 25½ × 1	0'-10"		pw
	4	PL 12 × ½	1'-0"		paa
	16	SB ⅞			

MARK	NO. PIECES	MATERIAL SHAPE	MATERIAL LENGTH	WEIGHT	REMARKS
	4	FLOOR BEAMS FB34			
	2	" " FB35			
	6	14CB 34	5'-5"		
	4	L G 4 × ½	4'-5¾"		aqR
	6	L G 4 × ½	5'-5¾"		aR
	6	L G 4 × ½	5'-5¾"		ac
	8	L G 4 × ⅜	0'-6⅜"		adR
	4	L G 4 × ⅜	0'-6⅜"		afR
	8	PL 14⅝ × 1	1'-7¾"		pa
	4	PL 14⅝ × 1	1'-7¾"		pb
	6	PL 6 × 1	0'-10½"		pc
	12	14CB×34	1'-4⅜"		ma
	6	Washers 2¼R ⅜			Cut 14CB @ 1¾R Hole
	6	SB ⅞			

MARK	NO. PIECES	MATERIAL SHAPE	MATERIAL LENGTH	WEIGHT	REMARKS
	4	FLOOR BEAMS FB36			
	4	14CB×34	5'-5"		
	8	L G 4 × ⅜	0'-6⅜"		agR
	8	L G 4 × ⅜	0'-6⅜"		ahR
	4	FIL 3 × 7/32	0'-6¾"		pd
	4	SB ⅞			Weld Bevel
	4	CROSS FRAMES CF1			
	4	" " CF2			
	8	L G 4 × ½	4'-7⅞"		
10	8	14CB 34	1'-3⅜"		mb Cut 14CB
	4	FIL G 5/16	1'-0"		pf For CF2
	4	BOTTOM STRUTS BS1			
	8	L G 4 × ½	4'-5¾"		

MARK	NO. PIECES	MATERIAL SHAPE	MATERIAL LENGTH	WEIGHT	REMARKS
	2	CROSS FRAMES - FB37			
	2	14CB×34	5'-5"		
	4	L G 4 × ½	0'-6"		akR
	4	L G 4 × ⅜	0'-6"		amR
	2	PL 3 × 17/32	0'-6½"		ph Weld Bew
	2	SB ⅞			
	2	CROSS FRAMES - CF3			
	4	L G 4 × ½	4'-7⅞"		
	4	L G 4 × ½	4'-5¾"		anR
	2	14CB			mb Cut 14CB
	2	PL			pg
	2	PL W4½ × 5/16	1'-4⅜"		pk
	8	Washers 2¼R ⅜			

RIVETS ⅞"Φ

OPEN HOLES 15/16"Φ UNLESS NOTED

RT = SUBPUNCHED 11/16"Φ AND REAMED TO TEMPLET TO 15/16"Φ

BRACE K1
FLOOR BEAMS: FB34 to FB37
CROSS FRAMES CF1-2-3
BOTTOM STRUTS BS1

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

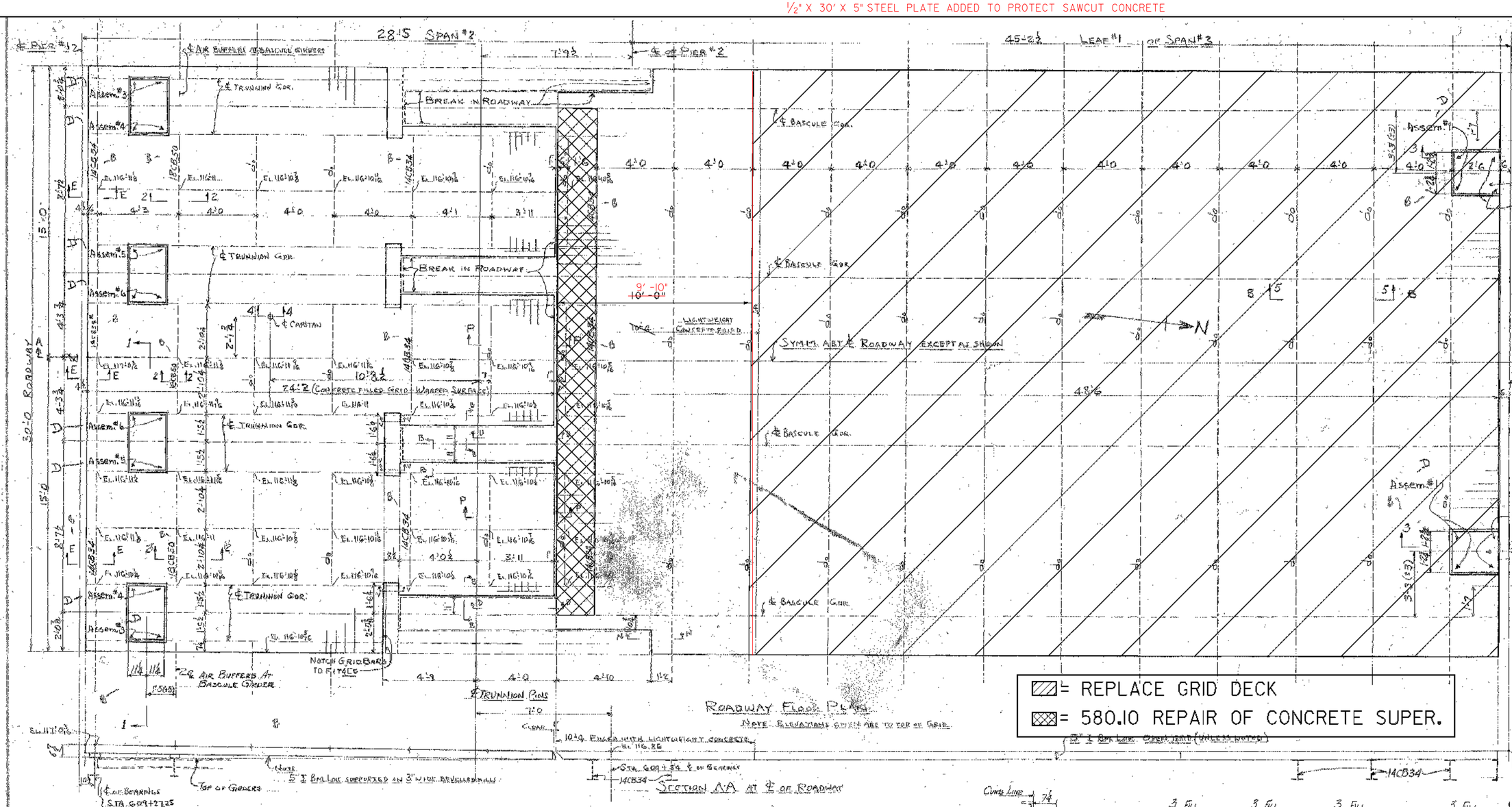
AMERICAN BRIDGE COMPANY

TRUNNION SPAN STRUCTURAL DETAILS

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 18 OF 41

½" X 30" X 5" STEEL PLATE ADDED TO PROTECT SAWCUT CONCRETE



NOTES:

ABOUT 2185 SQFT OF 5" I BM LOC FOR SPAN #2 & LEAF #1 OF SPAN #3 ROADWAY FLOOR GRID, AS SHOWN ON DESIGNS #19-20-21-22-23-25-28 & 29 OF 78 & NOTED ON PAGE 305 ITEM 406.06 OF STD. SPECS OF STATE OF VERMONT DEPT. OF HIGHWAYS.

ORDERED ON PAGE 101 REQ 57597

SHIP DIRECT TO SITE

SUPPLIER TO FURNISH 6 SETS OF DETAIL DRAWINGS FOR APPROVAL

ADDITIONAL PRINTS AS REQUESTED FOR FILE

FURNISH TRACINGS FOR CUSTOMERS PERMANENT FILE

REMOVABLE SECTIONS TO BE BOLTED IN PLACE WITH 1" ø BRONZE BOLTS WITH LOCK WASHERS AND NUTS. NUTS TIGHTENED FOR WORKING ACCESS. NO BOLT HEADS TO BE ABOVE TOP OF GRID.

OPEN STEEL GRID FLOORING - MAIN MEMBERS TRANSVERSE TO TRAFFIC - TRUNNION SPANS AND PARALLEL TO TRAFFIC - BASCULE SPANS. MINIMUM MOMENT OF INERTIA 4.67 IN⁴ FOR 6" IN WIDTH. EACH MAIN MEMBER TO BE WELDED TO SUPPORT WITH ½" FILLET WELD BOTH SIDES. IT SHALL BE EQUIVALENT TO USS I-BEAMLOK OPEN FLOOR AS TO DESIGN, DETAIL OF OPENINGS, [illegible]

See Sheet 1A for method of holding drawn removable "D" sections at Abutments

DIV. #1 SOUTH HALF ROADWAY GRID

DESIGNED AND DETAILED BY AMERICAN BRIDGE COMPANY

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F126(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

SOUTH HALF ROADWAY GRID

PROJECT NAME:	NORTH HERO-GRANDE ISLE
PROJECT NUMBER:	BHF 028-1(21)
FILE NAME:	structure\s92b284cleandsca
PROJECT LEADER:	M. EVANS-MONGEON
DESIGNED BY:	S. SCRIBNER
PLOT DATE:	18-OCT-2007
DRAWN BY:	L. DUQUETTE
CHECKED BY:	S. SCRIBNER
SHEET 19	OF 41

45'-2½" LEAF #2 OF SPAN #3

℄ PIER #3

28'-5" SPAN #4

℄ PIER #4

℄ AIR BUFFERS AT BASCULE GIRDERS

BREAK IN ROADWAY

℄ TRUNNION GIRDER

℄ BASCULE GIRDER

℄ LOCK BAR

℄ CAPSTAN

℄ OF ROADWAY SYMM. ABT. ℄ EXCEPT AS SHOWN

10'-0" LIGHTWEIGHT CONCRETE FILLED

48'-6"

30'-0 ROADWAY

15'-0 REMOVABLE SECTION

SPAN #3

SPAN #4

Assem.#1 -D

Assem.#2 -D

Assem.#3 -D

Assem.#4 -D

Assem.#5 -D

Assem.#6 -D

Assem.#7

14CB34

= REPLACE GRID DECK

= 580.10 REPAIR OF CONCRETE SUPER.

ROADWAY FLOOR PLAN

NOTE- ELEVATIONS GIVEN ARE TO TOP OF GRID

REMOVABLE LIGHTWEIGHT CONCRETE PANELS TO BE REPLACED

5" I BM. LOK OPEN GRID (UNLESS NOTED)

EL 111.87' STA. 610+00

EL 117-0⅞" HIGH POINT ℄ OF ROADWAY

EL 116-10⅞" LOW POINT ℄ CURB LINE

SECTION AA AT ℄ OF ROADWAY

STA. 610+46

STA. 610+12.75

℄ OF BEARINGS

TOP OF GIRDERS

NOTE: 5" I BM. LOK SUPPORTED ON 3" WIDE BEVELED FILLS

10'-4" FILLED WITH LIGHTWEIGHT CONCRETE

EL. 116.86'

7'-0"

1" CLEAR

℄ AIR BUFFERS AT BASCULE GDR

SECTION BB

SECTION CC

SECTION DD

SECTION 3-3

SECTION EE

SECTION FF

SECTION GG

SECTION 4-4

SECTION 5-5 (TYPICAL)

SECTION B-B

SECTION 1-1

5" GRID - CONCRETE FILLED

6"x6"x½"L EXP DAM CROWNED TO SUIT ROADWAY

BEVELED FILL ON BEAM

EXP.

FIXED

CLEAR

℄ PIER #4

℄ PIER #3

TRUNNION

TOP OF GDR

½" BAR WITH GRID

5" GRID MOVABLE

5" GRID

NO WELD

FIXED

BEVELED FILL ON GIRDER

1'-5½"

℄ BASCULE GIRDER

11" CLEAR

5" GRID

BEVELED FILL 8" WIDE WITH TRUNNION GIRDER

5"x3"x½"L WITH GRID

1½" FILL ON GIRDER

TOP OF BASCULE GIRDER

NOTCH GRID BARS TO FIT 4" CS

℄ AIR BUFFERS AT BASCULE GDR

REMOVABLE SECT

12 P.

15E33.9

12E20.7

8CB24

TRUNNION GDR

3 FILL

REMOVABLE SECTION

SYMM ABT ℄ ROADWAY

Notes:

About 2185 Sq Ft of 5" I Bm.-Lok for Leaf #2 of Span #3 & Span #4 Roadway Floor Grid as shown on Design #19-20-21-22-23-25-28 & 29 of 72 & noted on Page 305 Item 406 of Std. Specs of State of Vermont Dept. of Highways

Ordered on Page #101 Req 57597

Ship direct to site

Supplier to furnish 6 Sets of detail drawings for approval & additional prints as requested for file

Furnish tracings for customers permanent file

Removable sections to be bolted in place with ¾" ϕ Bronze Bolts with lock washers & W.I. nuts. Nuts field welded to supporting beams. No bolt heads to be above top of grid.

Open Steel Grid Flooring - Main members transverse to traffic. Trunnion Span and parallel to traffic - Bascule Span. Minimum moment of inertia 4.45 in⁴ for a six inch width. Each main member to be welded to support with ⅜" fillet weld both sides. It shall be equivalent to U.S.S. I-Beamlok Open Floor as to designs' detail of openings.

See Sheet 1A for method of holding down removable sections "D"

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(3)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

DIV. #2 NORTH HALF ROADWAY GRID

DESIGNED FABRICATED AND ERECTED BY AMERICAN BRIDGE COMPANY

NORTH HALF ROADWAY GRID

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 20 OF 41

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	VT.				

For End Details see Sh 25 of 72.

71'-2"

53'-0"

23'-0"

18'-8"

Provide 2 Filler Bars 1¾ x 1½ x 3 under each 'I' of Transverse Grating, from point 'L' to break in Floor, similar to shown in Section C-C', Sheet No 20 of 72.

10 Spaces @ 4'-0" = 40'-0"

3'-0"

7'-0"

2'-7½"

2'-7½"

1'-9"

E.L. Support

℄ Pin

℄ Bracket

Grating floor

2'-6"

All Fl. Bms. 14 W 34#

Filler ℙ Top Girder 19 x 1⅛ x 18

18 x ½ Cov. ℙ Entire leng. of girder

Filler ℙ top girder 1¼ x 1⅛ x 18

Filler ℙ top girder 1¼ x 1⅛ x 18

2 Flg Ls 8 x 8 x ¾

Filler ℙ top girder 1¼ x 1½ x 18

18 x ½ Cov. ℙ

Filler ℙ top gird. 1¼ x 1½ x 18

4 Ls 6 x 4 x ⅝ Brg Stiff

Milled Ends 2 Fills 9 x ¾

2 Flg Ls 8 x 8 x ¾

18 x ½ Cov. ℙ

18 x ½ Cov. ℙ

2 ½ 6 x 4 x ⅝ Crimped

for details of Air Buffer & Anchor Bearing see Sh 22 of 72

4'-1⅜"

2 Flg Ls 8 x 8 x ¾

1 ℙ 8⅜ x 1 x 12"

18 x 1 Cov. ℙ

ℙ D 10" x 1'-3" x 1'-6"

This end of counterweight 'tail' may be used if required to provide additional counterweight. If not used may be cut back by fabricator.

6'-6½"

8 x 6 x ⅝ Flg Ls

4 Ls 6 x 4 x ⅝

2 Fillers 9 x ¾

2 Fillers 6 x 7/16

2'-11"

8 x 6 x ⅝ Flg Ls

4 Ls 6 x 4 x ⅝ Brg. Stiff. Milled Ends 2 Fills 8⅝ x ¾

2 Fills 6 x 7/16

4 Ls 6 x 4 x ⅝ Brg. Stiff. Milled Ends 2 Fills 9 x ¾ 2 Fills 6 x 7/16

7'-0"

7'-98

Diag. 4 x 4 x ⅝

2 Ls 6 x 4 x ⅝ 2 Fills 4½ x ¾

18 x ½ Cov. ℙ Entire leng. of girder

⅞" web

Diag. 4 x 4 x ⅝ L

4 Ls 6 x 4 x ⅝ Stiff @ Flt. Beams 2 Fillers 9 x ¾

2 Fillers 6 x 7/16

Diag. 4 x 4 x ⅝

E

Diag. 4 x 4 x ⅝ L

2 Ls 6 x 4 x ⅝ Inter. Stiff. crimped

4 x 4 x ⅝ L

2 Flg Ls 8 x 8 x ¾

Diag. 4 x 4 x ⅝ L

5" End ⅝ Cov. ℙ

Diag. 4 x 4 x ⅝ L

L 4 x 4 x ⅝

18 x ⅜ Cov. ℙ

Diag. L 4 x 4 x ⅝

E

23'-0"

4'-6"

12'-0" b. to b. [=]

1'-0"

5

Parabolic Curve

Straight line

See Enlarged Sect.

ELEVATION

SCALE ⅜" = 1'-0"

Air Buffer - Similar as shown on Sheet 22 of 72. Details of Trunnion Girder.

℄ Air Buffer & ℄ Anchor Brg

℄ B

℄ Tr. Gr. ℄ Bas. Gr. ℄ Tr. Gr. ℄ Tr. Gr. ℄ Bas. Gr. ℄ Tr. Gr.

2'-10⅝" 1'-5½" 1'-5½" 5'-8½" 1'-5½" 1'-5½"

18 x ½ Cov. ℙ

18 x ½ Cov. ℙ

12 bars Billat Steel 9" x 9" x 1'-11 5/16" long

18WF 50 at points shown on plan sheet # 20.

Removable 5/8 ℙ

2'-5"

2'-3⅝"

2'-3⅝"

2'-3⅝"

2'-3⅝"

2'-0"

Removable 5/8 ℙ

Removable 5/8 ℙ

Counterweight Concrete

Approx about 2'-5"

1'-6"

1'-6"

6 bars Billat Steel 9" x 9" x 1'-11 5/16" long

A

A

B

C

C

6 x 6 x ⅝ L

6 x 6 x ⅝ L

2 x 2 Sq. Hole in bot. Flg. of 8"WF 48# & 8 L 13.75

8"WF 48#

Counterweight Concrete

9" x 9" Billet Steel 6'-1 9/16" long

9" x 9" Billet Steel 3'-0 7/16" long

18"WF 70#

1'-3½"

1'-3½"

5" ℄ Drain Holes in ⅝ ℙ @ 2'-0" c.c.

18 x 3/8 Cover ℙ

5" ℄ Drain Holes

Diaphragms as indicated at points Q to U incl.

SECTION B-B

SCALE ½" = 1'-0"

Std ⅞" ℄ Bolt with hex hd & beveled washer and hex nut.

D

D

12 A 12 B

1 1/16

5/8" Top bolt, hex hd.

See Detail, Sheet 26, of Bearing Pedestals

El. 110.00

ENLARGED SECTION

SECTION D-D

THESE PLATES ARE TO BE REPLACED. REFER TO SHEETS 9 AND 11. PLATE THICKNESSES ARE 1/16" FOR SH9 AND 1/32" FOR SH10. NO HOLES DRILLED IN THESE PLATES

Clear side

Rev. side

⅝

2½

2 3½

12 7/16

18"

5½

7½

5½

Drill 15/16" ℄ hole to receive ⅞" ℄ bolt. 1⅝" ℄ spot face

½ Top to receive ½" top bolt.

1½

1½

10 7/16

2

1½

DETAIL OF PLATE A

TO BE CAST STEEL

18"

5½

7½

5½

10"

1½

1½

½

Shims to be used between Girder & ⅜ as req'd when Girder is in closed position when Bridge is in closed position LL support will just bear on Pedestal.

Drill ⅞ ℄ holes for ½" ℄ top bolt.

DETAIL OF PLATE B

DETAIL OF LIVE LOAD SUPPORT

SCALE 1½" = 1'-0"

Removable sections of ½" ℙ. ½" ℄ bolts with lock washer and nut. Nut tack welded to under side of 6 x 6 x ⅝ L's.

Provide 2 Handles for each Cover Plate or end Compartments.

2½

1'-11 5/16"

2½

6 x 6 x ⅝ L

5/8 ℙ

5" ℄ drain holes

1" Drain Slots 2" High x 4" Long. 2 in end of Cntrwgt Boxes between Girders. One for Outside Boxes.

5 bays with 2 bars billet steel. 9" x 9" x 6'-1 9/16" long

5" ℄ drain holes

5" ℄ drain holes

5" ℄ drain holes

5" ℄ drain holes

8"WF 48#

⅝ ℙ

⅝ ℙ

⅝ ℙ

⅝ ℙ

⅝ ℙ

1'-6"

1'-6"

4 Spaces @ 2'-3 7/16" = 9'-7½"

2'-4½"

4'-6" to ℄ Pin

12'-0" b. to b.

18"WF 70#

SECTION A-A

SCALE ½" = 1'-0"

4'-1 9/16"

1'-9"

8 L 13.75#

8"WF 48#

Top of Counterweight Concrete

8 L 13.75#

2 L 6 x 4 x ⅝

2 Fills 9½ x ¾

18 L 42.7#

18 L 42.7#

18 x ½ Cov. ℙ

2'-4"

4 Spaces @

2'-4 9/16" = 9'-7½"

18"WF 70#

18 x ½ Cov. ℙ

12'-0" b. to b.

4'-6" to ℄ Pin

℄ Air Buffer

SECTION C-C

SCALE ½" = 1'-0"

Flush with top ⅝" ℄ Bar 1'-6" Plain

2½

8½

6½

8½

6½

COUNTERWEIGHT BLOCK

SCALE 1½" = 1'-0"

EACH BLOCK TO WEIGH 771 Lbs.

576 Blocks req'd for 2 leafs.

NOTE: It is estimated the volume [redacted] in Counterweight below the top of the 18"WF 70# Bms is 346.5 c.f. also volume in Counterwgt boxes with end bay not included is 41.97 c.f. The end bay in Counterwgt boxes being left for blocks weighing 771 lbs. as per detail.

It is estimated the average wgt per c.f. below the top of 18"WF 70# Bms will be 344.1 lbs. also the average wgt per c.f. in Cntrwgt boxes with end bay not included will be 390# per c.f.

The counterweight concrete shall weigh 300# per c.f. and shall entirely surround the bars of Billet Steel, as shown.

The weight of 300# per c.f. in counterweight concrete shall be obtained by the addition of clean steel punchings, replacing aggregate as necessary.

It shall be the contractors responsibility to see that sufficient billets and steel punchings are added to balance each counterweight as called for.

The gross wgt of the counterweight * weight of steel right of the pin, times their moment arms shall balance the moment left of the pin within 2%. The final balance shall be obtained by adding or subtracting counterweight blocks in the end bay of the counterweight.

* Letters are for reference only.

See Steel Details

Sym. about ℄ Br.

℄ Bas.

℄ Bas.

14"WF 34#

⅝ ℙ

4 x 4 x ½ L's

⅝ ℙ

Sink Bracket not shown.

4 x 4 x ½ L

HALF SECTION E-E SHOWING VERTICAL DIAGONALS

Scale ⅜" = 1'-0"

NOTES FOR COUNTERWGT BOXES

Boxes to be shop assembled and matched marked, unless shipped to job as complete boxes.

Inside surfaces which will be in contact with concrete are to be unpainted, and free from oil, grease, rust etc.

While being filled with concrete all drain holes to be plugged with with wooden discs, flush with the inside surface. These discs to be removed when concrete has set.

After concrete has set in upper boxes, all steel surfaces which will be in contact with the covers, and the inside of the covers, also all exposed concrete outside the boxes, shall receive two coats of an approved asphalt paint. Then the covers shall be placed while the paint is still wet.

June 1, 1950 ~ Revised in accordance with B.P.R. letter of May 24, 1950

ESTIMATED QUANTITIES

Item	Bas
Steel Superstructure	1L
5" Open Steel Grid Floor	
2" Swk Steel Grid Floor	
Concrete, Class A	
Concrete, Class B (Cntrwght)	
Machinery (Air Buffer)	1L
Steel Punchings	1
9" x 9" Billet Steel	1

PROJECT NAME: NORTH HERO-GRANDE ISLE

PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca

PROJECT LEADER: M. EVANS-MONGEON

DESIGNED BY: S. SCRIBNER

PLOT DATE: 18-OCT-2007

DRAWN BY: L. DUQUETTE

CHECKED BY: S. SCRIBNER

SHEET 21 OF 41

DETAILS OF BASCULE GIRDER GRAND ISLE - NO. HERO

SHIM PLATE DETAIL

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	VT.				

ABUT. #1 | PIER #1 | PIER #2 | PIER #3 | PIER #4 | ABUT. #2

7 spaces @ 12'-0" = 84'-0" | 3 Spaces @ 12'-0" = 36'-0" | 6'-6" | 1'-0" | 6'-6" | 3 Spaces @ 12'-0" = 36'-0" | 7 spaces @ 12'-0" = 84'-0" | Spacing of Posts

1'-6" | 1'-6"

Span #1 Approach | Span #2 Trunnion | Bascule Leaf #1 | Span #3 | Bascule Leaf #2 | Span #4 Trunnion | Span #5 Approach

1'-3" | 15'-0" | 1'-3" | 15'-0" | 15'-0"

TO GRAND ISLE | ℄ Roadway & Bridge | TO NO. HERO

N

PLAN

6 Spaces @ 12'-0" = 72'-0" | 8'-0" | 5'-6" | 3 Spaces @ 12'-0" = 36'-0" | 6'-6" | 1'-0" | 6'-6" | 3 Spaces @ 12'-0" = 36'-0" | 1'-6" | 7 Spaces @ 12'-0" = 84'-0" | Spacing of Posts

260'-6"

1'-9" | 54'-0" | 1'-9" | 26'-9" | 46'-0" ± 40'-0" | 46'-0" ± 40'-0" | 26'-9" | 1'-9" | 54'-0" | 1'-9"

Sta 6+08.75 Back of Abut #1 Fin. Gr. 116.91

6+08+11.50 ℄ Brg. Exp. End Fin. Gr. 116.97

6+09+25.50 ℄ Brg. Fix End Fin. Gr. 117.00

6+09+27.25 ℄ Brg. Exp. End Fin. Gr. 117.00

6+09+54.00 ℄ Brg. Fix End Fin. Gr. 116.86

75°

6+10+00 ℄ Brg. Fin. Gr. 116.87

6+10+46 ℄ Brg. Fix End Fin. Gr. 116.86

6+10+72.75 ℄ Brg. Exp. End Fin. Gr. 117.00

6+10+74.50 ℄ Brg. Fix End Fin. Gr. 117.00

6+11+28.50 ℄ Brg. Exp. End Fin. Gr. 116.97

6+11+30.25 Back of Abut #2 Fin. Gr. 116.91

120 | 110 | 100 | 90 | 80 | 70

2 : 1 | 7'-0" | 40'-2" | 40'-2" | 7'-0" | 2 : 1

Borrow (Modified) Item 102 Mod.

Riprap for Bank Protection Item 526

Mean High Water El 97.5

Mean Low Water El 92.5

Lake Bottom

Ledge

Riprap for Bank Protection Item 526

Borrow (Modified) Item 102 Mod.

EASTERLY ELEVATION

SCALE 1" = 10'-0"

PLAN & ELEVATION OF BRIDGE

June 1, 1950 - Revised in accordance with B.P.R. letter of May 24, 1950.

GRAND IS

BASCU

ESTIM QUANTIT

REFERENCE SHEET

PROJECT NAME: NORTH HERO-GRANDE ISLE

PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca | PLOT DATE: 18-OCT-2007

PROJECT LEADER: M. EVANS-MONGEON | DRAWN BY: L. DUQUETTE

DESIGNED BY: S. SCRIBNER | CHECKED BY: S. SCRIBNER

SHEET 22 OF 41

E 0.4

house 2-5 brick

P.T. 584+

24"M 3506

CHADBOURNE

584 N 23°00' E

585

586

587

588

2 dbl wall

#106 #107 #108

P.I. 583+50.5= 583+50.4

P.O.T. 585+39.3

OE 29.10 OE 29.11 OE 65.30

OSTM

P L

588+15 Lt Construct Drive

Rev. P.C. 588+41.2

B.M. #1 24" M 152.05

REV. CURVE
Δ 48°37' Lt
D 6°
R 955.4
T 481.5
L 810.3
E 92.9
Bank ¾" per ft.

HERBERT E. AND ELEANORE J. CLARK Retain

Remove Item 110

49.5

Sta 592+35 ± 1" Iron Water Line Sta 592+40 ± Power Cable to Pump House Lt

1
3.0 acres

591 592 593 594 595 596 597

Rev. P.T. 596+76.6 = 600+21.5 Eq. = 36.2

2.5↑ 3.0 to LWM

new house

P.O.T. 599+28.3

599+00 Lt Construct Drive

N 25° 37' W 599

#113 #114 #115 #116

3-10 hubs 28 Lt

hedge

row of lombardy poplars. av. ht 65'

P.O.T. 598+00
Δ 86° 29' Lt

587+00 18"RCP good Retain

65'R

town road #6

5.834
30° 0C

588+30 Rt Construct Approach

591+00 Rt. to 592+50 Rt. Construct Approach

#109 #110 #111 #112

15"M 15"M 15"M 17"M 15"M 24"M 30"M 18"cash

30"cash 30"cash 30"cash 12"cash 51.30 18"cash 39.05 30"cash 24"cash

REV. P.I. 592+78.7 = 592+26.0

85'R

PARCEL
INSTRUMENT
DATE
GRANTOR
GRANTEE
RECORDED
BOOK
PAGE
DATE
REMARKS:-

PARCEL #1
INSTRUMENT W.D.
DATE 7-6-50
GRANTOR HERBERT E. & ELEANORE J. CLARK
GRANTEE ST. OF VT.
RECORDED GRAND ISLE
BOOK 15
PAGE 49
DATE 7-1-50
REMARKS:- CONTINUED STS. 11 & 12

STA 588+00.0
FAP 128 C (1936)

588+00.0
BEGIN PROJECT
F 128(9)

+2.880%

-1.355%

584+50
300' VC
165.36

Construct Satisfactory Approach

590+00
600' VC
157.91

Present road profile

-2.932%

Eq. +36.2

Rev. 596+57.0 = Surv. 596+21.3

160
150
140
120

Sta 588+00 - Sta 591+00
Shaping Course of Ledge Rock

Sta 591+00 - Sta 599+00
18" Sub-base of Ledge Rock

163.2 160.6 162.0 159.8

161.2 162.4 163.2 163.7 163.9 163.8 163.2 162.4 161.7 161.0 160.2 159.5 158.5 157.5 156.1 151.4 148.7 147.9 147.8 147.2 145.3 143.0 141.7 139.0 136.8 135.0

583 +50 584 +86 +50 585 +50 586 +50 587 +50 588 +80 +15 +30 +50 589 +50 590 +50 591 +50 592 +50 593 +50 594 +50 595 +50

B.M. #1 S.I.R. 24" M 43.5 Lt sta 590+50 El. 152.05

REFERENCE SHEET

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 23 OF 41

ITEM NO.			TOT.	GOV.	NON-GOV.
102-MOD.	BORROW (MODIFIED)	CY	7000	7000	
103-A	TRENCH EXCAVATION OF EARTH	CY	163	163	
106	CHANNEL EXCAVATION	CY	4954	4954	
107	STRUCTURE EXCAVATION	CY	971	971	100
109	MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS	LS	1	1	
201-A	SUB-BASE OF GRAVEL (MEASURED IN PLACE)	CY	100	0	100
401-A	CONCRETE - CLASS A	CY	0	0	
401-B	CONCRETE - CLASS B	CY	2453	2303	150
402	REINFORCING STEEL	LBS	111,700	97600	14100
403-A	STRUCTURAL STEEL	LBS	3100	0	3100
403-B	STEEL SUPERSTRUCTURE	LS	1	1	
406	5" STEEL GRID FLOORING	SF	4370	4370	
406	2" STEEL GRID FLOORING	SF	1200	1200	
406	1½" STEEL GRID FLOORING	SF	244	244	
407-A	STEEL PUNCHINGS	LBS	340,000	340,000	
407-B	BILLET STEEL FOR COUNTERWEIGHTS	LBS	350,000	350,000	
442	REMOVAL OF PRESENT SUPERSTRUCTURE	LS	1	1	
501	FURNISHING EQUIPMENT FOR DRIVING PILES	LS	1	1	
381	BITUMINOUS CONCRETE PAVEMENT FOR BRIDGE FLOORS	TONS	42	42	

ITEM NO.			TOT.	GOV.	NON GOV.
504	STEEL PILING	LF	1050	1050	
504-1	CUT OFF FOR STEEL PILING	LF	84	84	
512 MOD	STRUCTUAL TIMBER (MODIFIED)	MBM	16	16	
526	RIPRAP FOR BANK PROTECTION	CY	1502	1502	
577	ELECTRICAL EQUIPMENT	LS	1	1	
586-A	DEMOLITION & REMOVAL OF BLDG.	LS	1	1	
588	MACHINERY	LS	1	1	
589	CONTROL HOUSE	LS	1	1	
590	OPERATORS HOUSE	LS	1	1	

HERBERT E. AND ELEANORE J. CLARK

POT 599+28.3

meadow

Remove 2 Item 110

Remove 4 Item 110

Remove 2 Item 110

49.5'

1 3.0 acres

599 600 601 602 603 604 605 606 607 N 25°37' W 608 609 610 611 612 613 614 615

parallel

old road stand

I sign

#117 #118

LAKE CHAMPLAIN

N. C. Fender Pier

Limits of Rip Rap for Bank Prot.

bar #13 bar #14 bar #15 bar #16 bar #4 bar #5 bar #6 bar #3 bar #1 bar #2 bar #7 bar #8 bar #9 bar #10 bar #11 bar #12

Gate post

Operators House

Log Crib

Stone Masonry under Bearing

Pivot Of Swing Span.

beg. Stones

GENERAL OPERATING PROCEDURE

The operation shall be controlled from the control house on the right of Pier #2 and shall be interlocked for the following procedure in raising.

The flashing red lights on all posts shall go together with the warning bells. A time interval of 45 sec. shall elapse before the gates start to lower. The flashing red lights on gate arms shall go on when gate starts to lower. A time interval of 30 sec. shall elapse from start of lowering of gate to start of the movement to with draw center lock pins. After the center lock shear pins are with drawn the bascule spans are raised.

The reverse procedure shall be followed in closing the bridge.

USGS PBM El. 105.00 = 104.82

B.M # 2 30" E 107.48

G.I.O.T. 529 TOWN GRAND ISLE LINE NORTH HERO

This portion of fender pier to be removed to lake bottom before any other major work is started to allow for laying of submarine cables by the Telephone & Utility Company.

BORING #1 BORING #2 BORING #3 BORING #4 BORING #5 BORING #6 BORING #7 BORING #8 BORING #9 BORING #10 BORING #11 BORING #12 BORING #13 BORING #14 BORING #15 BORING #16

Lake Bot. Sand & Gravel Clay Ledge

Lake Bot. Clay Clay & Gravel Gravel Shale Ledge

Lake Bot. Clay Clay & Gravel Gravel Ledge

Lake Bot. Clay Sand Sand & Gravel

Lake Bot. Clay & Gravel Ledge

Lake Bot. Clay Clay & Gravel Gravel

Lake Bot. Clay Sand & Gravel Ledge

Lake Bot. Clay Sand & Gravel Ledge

Clay Sand & Gravel Ledge

Lake Bot. Clay & Gravel Ledge

Lake Bot. Clay & Gravel Ledge

Lake Bot. Gravel & Sand Ledge

Lake Bot. Muck & Sand Clay Ledge

Lake Bot. Muck & Sand Sand & Clay Clay Ledge

Lake Bot. Sandy Sand & Muck Ledge

Lake Bot. Sand & Muck Clay & Stones Ledge

603+65 600' VC 116.12

Sta. 608+69.75 Stop Roadway Begin Bridge

Sta. 611+30.25 End Bridge Resume Roadway

610+00 600' VC 117.30

-2.982%

+0.185%

-0.185%

present road profile

97.50 El. H.W.

92.50 El. L.W.

Lake Bottom

Approx. Ledge

Sta 599+00 to Sta 603+00
18" Sub-base of Ledge Rock

100' Transition

Sta 603+00 to Sta 608+69.75
36" Sub-base of Ledge Rock

Sta 611+30.25 to Sta 615+00
36" Sub-base of Ledge Rock

129.2 126.4 124.3 119.4 113.5 109.0 108.7 106.5 106.2 102.6 98.6 96.0 94.2 92.4 92.2 91.4 90.3 90.4 90.4 92.7 90.6 91.0 91.9 91.5 101.6 101.6 93.7 91.0 93.2

134.2 134.2 134.2 134.2 134.2 134.2 134.2 134.2 134.2 134.2 134.2 +74.9 +56 +78 134.2

599 +50 600 +50 601 +50 602 +50 +85 603 +50 604 +50 605 +50 606 +50 607 +50 608 +50 609 +50 610 +50 +78 611 +50

B.M # 2 S.I.R. 30" Elm 22' rt. sta. 602+97 el. 107.48
U.G.S. PBM on haunch 60' rt. Sta. 609+60 Elev. 105.00 = 104.82

June 1, 1950 - Revised in accordance with B.P.R. letter of May 24, 1950.

LIST OF SHEETS (BRIDGE ONLY)

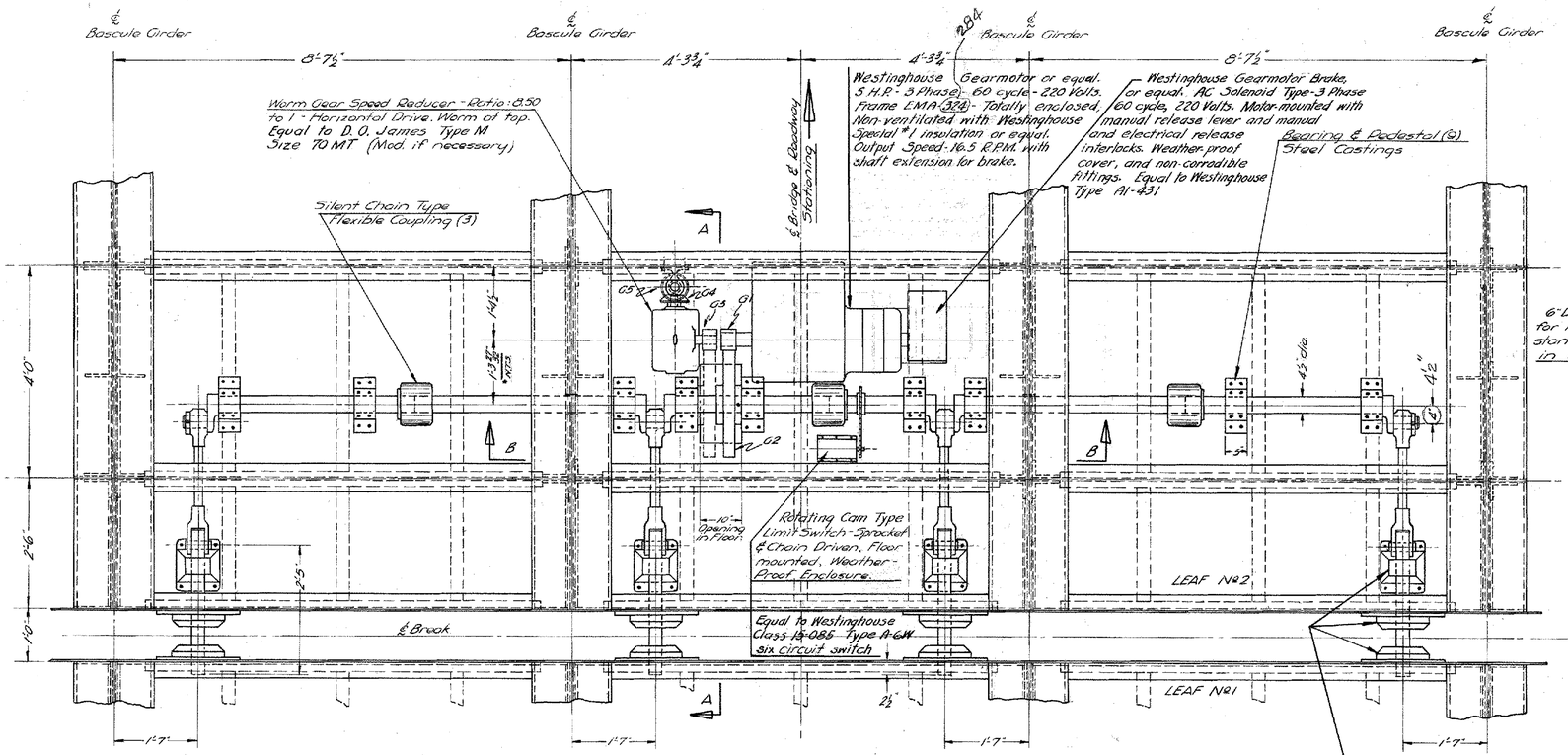
SH. NO.	
12 OF 72	GENERAL PLAN & PROFILE
13 " "	PLAN & ELEVATION OF BRIDGE
14 " "	DETAILS OF ABUT #1 & ABUT #2
15 " "	PLAN & ELEVATION OF PIERS
16 " "	SECTION & ELEVATION OF PIERS
17 " "	CONTROL HOUSE & LADDERS
18 " "	MATERIAL LIST & NOTES - PIERS
19 " "	DETAILS OF APPROACH SPANS
20 " "	PLAN OF BASCULE & TRUNNION GIRDERS
21 " "	DETAILS OF BASCULE GIRDER
22 " "	DETAILS OF TRUNNION GIRDER
23 " "	DETAILS OF BREAK IN SWK & BRIDGE FLOORS
24 " "	DETAILS OF PIN
25 " "	STEEL PLAN AT CENTER
26 " "	DETAILS OF BEARING PEDESTALS
27 " "	LAYOUT OF MACHINERY
28 " "	LAYOUT OF HAND OPERATING MACHINERY
29 " "	LAYOUT OF CENTER LOCK MECHANISM
30 " "	DETAILS OF NAVIGATION LIGHTS
31 " "	DETAILS OF WARNING GATES
32 " "	WIRING DIGRAM
33-34 " "	SPECIFICATIONS OF ELEC. EQUIPMENT & OPERATORS HO.
35 " "	DETAILS OF OPERATORS HOUSE
36 " "	LAYOUT OF WATER SUPPLY & SANITARY SERVICES - OPERATORS HOUSE
35A " "	OPERATORS SLEEPING QUARTERS
37 " "	STD 3B-20 DETAIL (BEARING DEVICES)
38-48 " "	CHANNEL SECTIONS

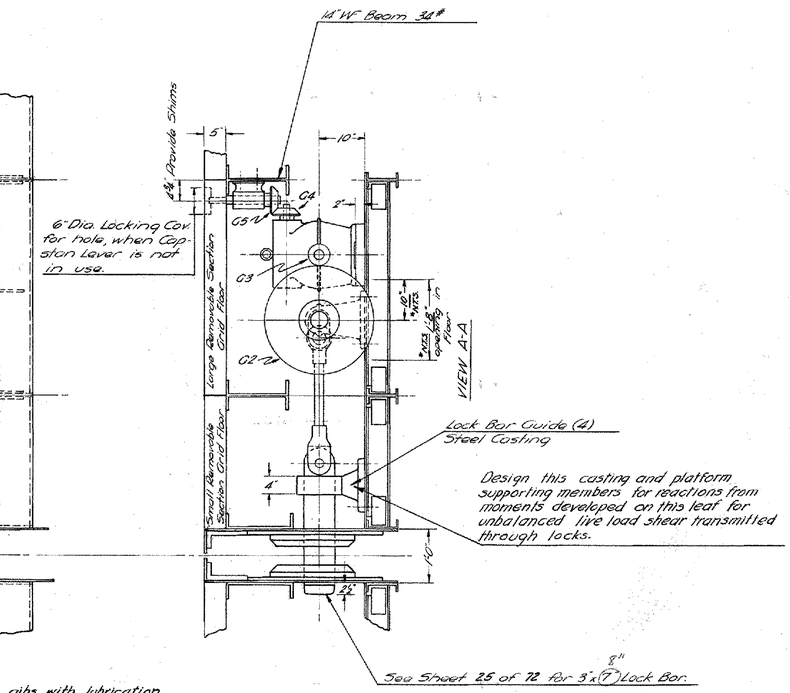
REFERENCE SHEET

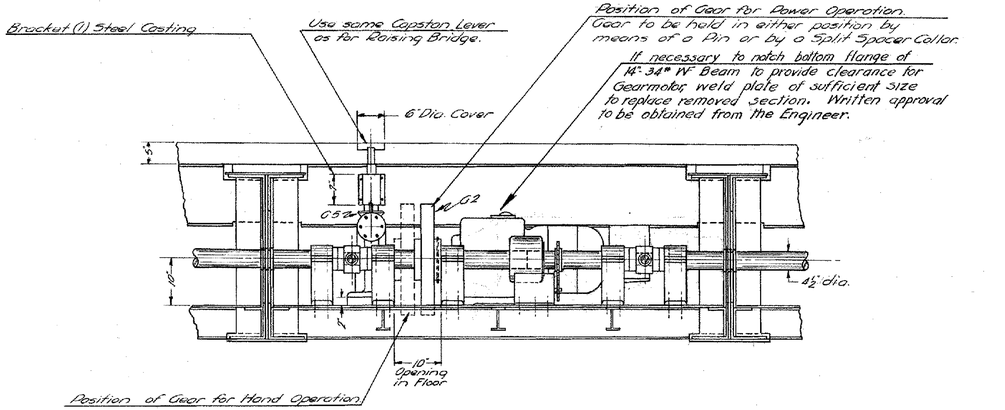
PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 24 OF 41

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	VT.				







VIEW B-B

SEE STEEL & MACHINERY DETAILS

Provide bearing gibs with lubrication grooves for lubrication of Lock Bars in Lock Bar Guides, Lock Bar Castings and Receiving Castings.

-NOTES-

For Details & Dimensions not shown, see Steel Plan at Center - Detail of Shear Lock & Guides. Sheet #25

Fabricator shall complete the detail Design of Shafting, Crankshafts, Connecting Rods, Clevises, Brackets, Gearing, Bearings, Pedestals, Pins, etc., to support the loads transmitted.

Fabricator to design & provide Sheet Metal Covers over all machinery except that which is totally enclosed. This is for protection of the machinery against rain, etc. when the Leafs are in the lowered position. Sheet Metal Covers may be Tack welded to under side of Grid Floor.

Machinery shown to be installed on Leaf N° 2. Receiving Castings are to be installed on Leaf N° 1.

Crankshafts, Lock Bars, Clevises, & Pins to be Steel Forgings.

Lubrication Fittings to be provided for adequate Lubrication of Lock Bars in Lock Bar Guides, Lock Bar Castings, and Receiving Castings.

Movement of Lock Bars to be 9" (Total)

Time of Motor Operation = (2 Seconds) 1.27 Secs.

Time of Hand Operation (3 Min. 18 Sec.*) 2 Min. - 42 Secs.*

*N.T.S. - Not to scale

Machinery includes G1, G2, G3, G4, G5, Shafting, Connecting Rods, Bearings, Brg. Pedestals, & Lock Bars, etc.

Machinery - 1 L.S. (4300#)

June 1, 1950 - Revised in accordance with B.P.R. letter dated May 24 1950.

GEAR DATA

GEAR N°	D.P.	N° TEETH	PITCH DIA.	TOOTH SYSTEM	FACE WIDTH	NO. PIECES
G1	3	19/76	6.333"	20° Inv.	3½"	1
G2	3	76/19	25.333"	20° Inv.	3"	1
G3	3	19/76	6.333"	20° Inv.	3½"	1
G4	3	15	5.000"	20° Stub Inv.	2"	1
G5	3	15	5.000"	20° Stub Inv.	2"	1

GRAND ISLE - NO. HERO

LAYOUT OF CENTER SHEAR LOCK MECHANISM

Scale ¾" = 1'-0"

REFERENCE SHEET

PROJECT NAME: NORTH HERO-GRANDE ISLE

PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 25 OF 41

70'-5½ OUT TO OUT

30'-8 3/16

1-COVER PL 18 x ½ x 66'-6½

2-FLG L 8 x 8 x ¾ x 66'-6½

1-COVER PL 12 x ⅜ x 37'-4

2-FLG L 8 x 8 x ¾ x 69'-6 3/8 ABT. BENT

1-COVER PL 18 x ½ x 69'-0 3/8 ABT. (BENT)

SECTION AB-AB

SECTION AC-AC

LIFTING WEIGHT = 20 TON

RIVETS - 7/8" ϕ
HOLES - 15/16" ϕ UNLESS NOTED

RT - SUBPUNCH 11/16" ϕ TO 15/16" ϕ TO A

B.E. DENOTES

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

GIRDERS - BG1 R - BG2 R - BG3 R & BG4 R

"AMERICAN BRIDGE COMPANY

REFERENCE SHEET

PROJECT NAME:	NORTH HERO-GRANDE ISLE
PROJECT NUMBER:	BHF 028-I(21)

FILE NAME: structure\s92b284cleandsca		PLOT DATE:	18-OCT-2007
PROJECT LEADER:	M. EVANS-MONGEON	DRAWN BY:	L. DUQUETTE
DESIGNED BY:	S. SCRIBNER	CHECKED BY:	S. SCRIBNER
		SHEET	26 OF 41

70'-5½ OUT TO OUT

SECTION 0-0

ENLARGED DETAIL 'A'

SECTION AB-AB

NOTE: RACKS (CASTINGS), SHIMS & TURNED BOLTS EARLE GEAR CO. TO BE SHOP ASSEMBLED & SHIPPED WITH GIRDERS: BG1 R-L - BG2 R-L - BG3 R-L & BG4 R-L

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

GIRDERS BG1 R-L BG2 R-L BG3 R-L & BG4 R-L

DOES NOT SCALE PROPERLY

AMERICAN BRIDGE COMPANY

REFERENCE SHEET

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
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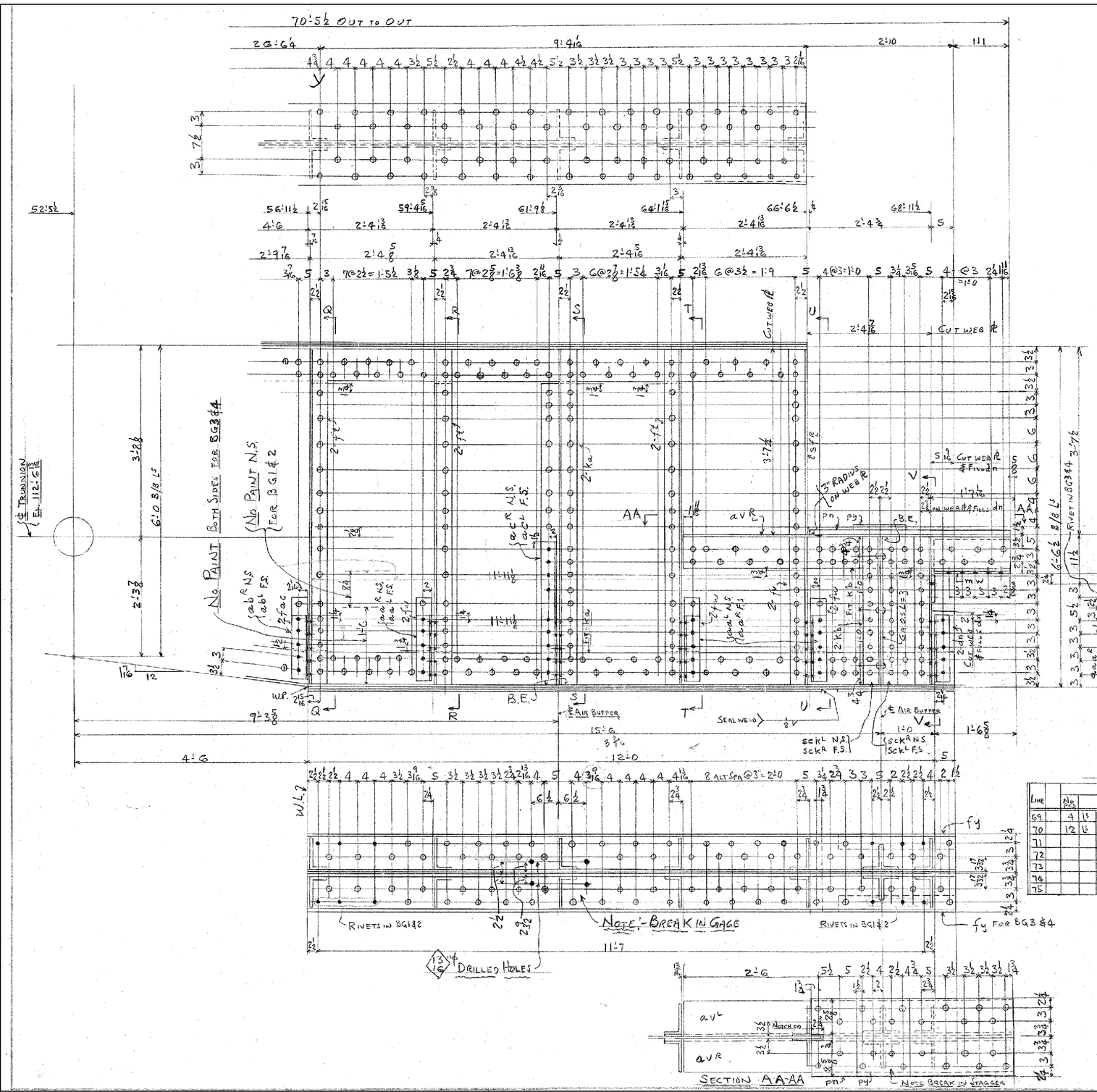
SHEET 27 OF 41



DW. 1	DW. 2
	1
	1
1	
1	
	1
	1
1	
1	

LINE	NO. OF PCS. OR NO. OF SETS	MATERIAL SHAPE						LENGTH FEET	LENGTH INCHES	ASSEM. BLKG. MARK	REMARKS	ORDERED ITEM	ORDERED ITEM	CALC. WEIGHT GIVEN SUBPIECE	CALCULATED WEIGHT FOR ONE SHIP PIECE
1		ONE BASCULE GIRDER - BG1R													
2		ONE								"					
3		ONE								"					
4		ONE								"					
5		ONE								"					
6		ONE								"					
7		ONE								"					
8		ONE								"					
9															
10	8	PL	78	7/16				69	4½				80½×69-4½	1039	
11	16	L	8	8	¾			66	6½				66-8½	1010	
12	16	L	8	8	¾			69	6⅜	ABT.	BENT		70'-6	1009	
13	8	PL	18	⅜				37	1				37-4	1055	
14	8	PL	18	½				66	6½				66-7¼	1053	
15	8	PL	18	⅜				37	10⅜	ABT.	BENT		38-0	1054	
16	8	PL	18	½				69	10⅜	ABT.	BENT		69-2	1052	
17	16	L	8	8	¾			6	3	avR			25-1	1011	
18	8	PL	18	1				3	10¾	pn				5	
19	8	PL	18	1				1	0	py				5	
20	32	L	6	4	⅜			2	9½	sckR	B-1-E		40-0	1027	
21	16	L	5	3½	⅜			1	3½	aaaR				5	
22	16	L	7	4	7/16			2	9½	sbR			40-0	1019	
23	4	L	7	4	¾			2	9½	scR	BG1&2		22-5	1018	
24	12	L	7	4	¾			2	9½	sdR	BG1-2-3-4		↓	↓	
25	16	L	6	4	⅜			3	6¾	sfL	CRIMP		40-0	1027	
26	12	L	7	4	7/16			6	5	sgR	BG1&2		40-0	1019	
27	36	L	7	4	7/16			6	5	shR	BG1-2-3-4		↓	↓	
28	16	L	6	4	⅜			6	1½	skR			40-0	1027	
29	16	L	6	4	⅜			5	8	smR			↓	↓	
30	16	L	6	4	⅜			5	4¾	spR	CRIMP		↓	↓	
31	4	L	7	4	7/16			5	1½	scgR	BG1&2		40-0	1019	
32	12	L	7	4	7/16			5	1⅞	stR	BG1-2-3-4		↓	↓	
33	16	L	6	4	⅜			5	0⅛	svR			40-0	1027	
34	16	L	6	4	⅜			5	0⅞	swR			↓	↓	
35	4	L	7	4	7/16			4	9⅜	syR	BG1&2		40-0	1019	
36	4	L	7	4	7/16			4	1⅝	saaR	BG1&2				
37	4	L	7	4	7/16			3	7½	sabR	BG1&2				
38	4	L	7	4	7/16			3	5	sacR	BG1&2				
39	4	L	7	4	7/16			3	1⅜	sadR	BG1&2				
40	4	L	7	4	7/16			3	0⅝	saeR	BG1&2				
41	12	L	7	4	7/16			4	9⅛	sagR	BG1-2-3-4				
42	12	L	7	4	7/16			4	1⅝	sahR	"	"			
43	12	L	7	4	7/16			3	7½	sakR	"	"			
44	12	L	7	4	7/16			3	5	samR	"	"			
45	12	L	7	4	7/16			3	1⅜	saqR	"	"			
46	12	L	7	4	7/16			3	0⅛	saoR	"	"			
47	4	L	7	4	7/16			4	5⅜	saLR	BG1&2				
48	4	L	7	4	7/16			3	10⅝	savR	BG1&2				
49	4	L	7	4	7/16			3	3	sawR	BG1&2				
50	12	L	7	4	7/16			4	5⅛	sayR	BG1-2-3-4				
51	12	L	7	4	7/16			3	10⅝	sbaR	"	"			
52	12	L	7	4	7/16			3	3	sbbR	"	"			
53	4	L	7	4	7/16			2	11⅞	sbcR	BG1&2				
54	4	L	7	4	7/16			2	10⅝	sbdR	BG1&2				
55	6	L	7	4	7/16			2	11⅜	sbfL	BG1-3				
56	6	L	7	4	7/16			2	11⅜	sbgL	BG2-3-4				
57	10	L	7	4	7/16			2	10⅜	sbhR	BG1-3-4				
58	2	L	7	4	7/16			2	10⅜	sbkR	BG4				
59	12	L	7	4	7/16			2	10⅜	sbmR	BG1-3-4				
60	4	L	7	4	7/16			2	10½	sbpR	BG2				
61	16	L	6	4	⅜			2	10⅜	sbrR	CRIMP		40-0	1027	
62	16	L	6	4	⅜			2	11⅜	sbtR	"				
63	16	L	6	4	⅜			3	0⅛	sbvR	"				
64	16	L	6	4	⅜			3	2	sbwR	"				
65	8	PLATE	18	¼	7/16			1	1¾	dc	BEVEL		18×16	5	
66	8	"	18	¼	7/16			1	0½	dh	"				
67	8	"	18	¼	7/16			1	3	dg	"				
68	8	"	18	¼	7/16			1	3¼	dd	"				

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

GIRDERS BG1R - BG2R - BG3R & BG4R

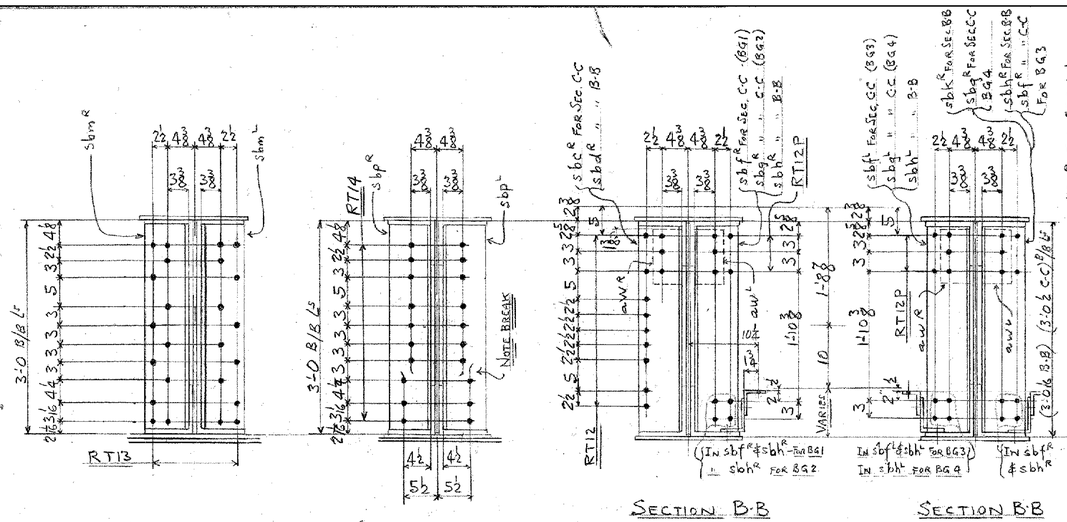
AMERICAN BRIDGE COMPANY

REFERENCE SHEET

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 28 OF 41

PRINT YES SHEET CONTROL



SECTION A-A
FOR BG1-3 & 4

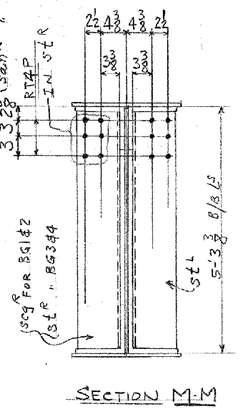
SECTION A-A
FOR BG2

SECTION B-B
SECTION C-C
FOR BG1 & 2

SECTION B-B
SECTION C-C
FOR BG3 & 4

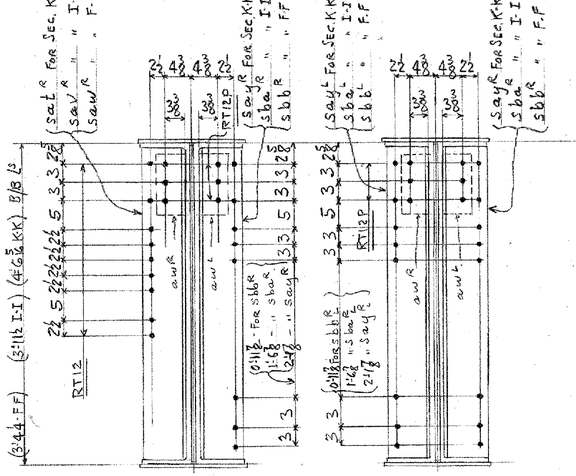
SECTION D-D & E-E
" G-G & H-H
" J-J & L-L
FOR BG1 & 2

SECTION D-D & E-E
" G-G & H-H
" J-J & L-L
FOR BG3 & 4



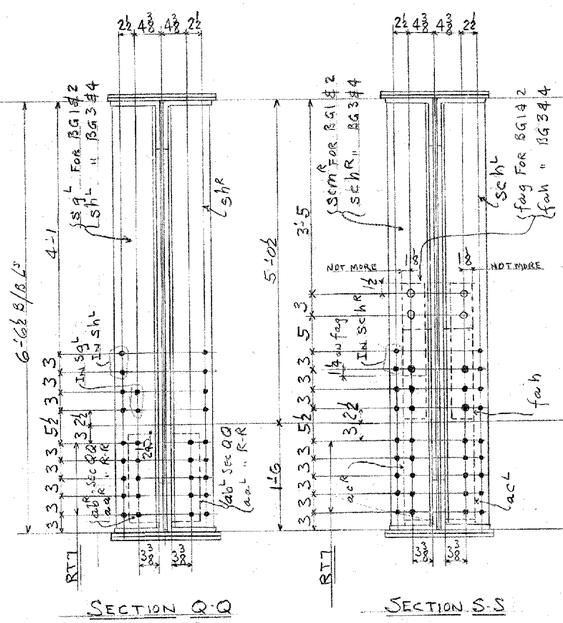
SECTION M-M

LINE	MATERIAL No	SHAPE				LENGTH Feet	LENGTH Inches	ASSEM. BLING MARK	REMARKS	ORDERED ITEM	
1	8	Fillet	18	4	3/16	1	3	df	Bevel	18x3/16	S
2	8	"	18	4	3/16	0	11½	dk	Bevel		S
3	8	"	18	4	3/16	1	3¼	dm	Bevel		S
4	8	"	18	4	3/16	1	3½	dp	Bevel		S
5	16	15	6	4	3/8	3	3⅜	sby^R	CRIMP	40-0	1027
6	16	15	6	4	3/8	3	6¼	sca^R	"		
7	16	15	6	4	3/8	3	8⅞	scb^R	"		
8	16	15	6	4	3/8	3	11⅜	scc^R	"		
9	16	15	6	4	3/8	4	3½	scd^R	"		
10	16	15	6	4	3/8	4	7¼	sce^R	"		
11	176	15	5	3½	3/8	0	10¼	aw^R			S
12	16	15	5	3½	3/8	1	3½	ab^R			S
13	48	15	5	3½	3/8	1	3½	aa^R			S
14	10	15	4	3	3/8	1	9¼	ad^R	BG1-2-E - 3	40-0	1038
15	4	15	4	3	3/8	2	10¼	af^R	BG1-3	40-0	1038
16	2	15	4	3	3/8	3	5¾	ag^R	BG3	40-0	1038
17	10	15	6	3½	3/8	1	9¼	ha^R	BG1-2-4 - 3		S
18	4	15	6	3½	3/8	2	10¼	hb^R	BG1-3		S
19	2	15	6	3½	3/8	3	5¾	hc^R	BG3		S
20	4	15	6½	4	3/8	1	8¼	ah^R	(Cut 7x4) BG2&4		S
21	4	15	6½	4	3/8	1	8¼	ak^R	(Cut 7x4) BG1&2		S
22	4	15	6½	5	3/8	7	11⅜	am^R	(Cut 8x6) BG3&4	31-11	1013
23	4	15	6⅞	5	3/8	7	11⅜	an^R	(" ") BG3&4		
24	4	15	6¼	5	3/8	7	11⅜	ap^R	(" ") BG1&2		
25	4	15	6⅜	5	3/8	7	11⅜	at^R	(" ") BG1&2		
26	16	15	4½	3½	3/8	2	8¼	ac^R	B.E.	Cut 5x3½	S
27	16	Fillet	3½	3/4		1	0	fac			S
28	176	Fillet	3½	3/4		0	6¾	fn			S
29	24	Bars	5/8			7	6		DEFORMED	Note 46x6	S
30	40	"	3	3/8		1	7⅜	pah	WELD		S
31	56	"	1¼	1⅛		1	6	ma	WELD		S
32	48	"	1⅛	1/2		1	6	mb	WELD		S
33	16	Fillet	4	3/4		1	7½	faa		30-0	1061
34	16	"	4	3/4		1	8	fa			
35	16	"	4	3/4		1	8½	fb			
36	16	"	4	3/4		1	10½	fc			
37	16	"	4	3/4		1	11½	fd			
38	16	"	4	3/4		2	1¾	ff			
39	16	"	4	3/4		2	2¾	fg			
40	16	"	4	3/4		2	7¼	fh			
41	16	"	4	3/4		2	10½	fk			
42	16	"	4	3/4		3	2	fm			
43	16	"	4	3/4		3	6¼	fp			
44	16	"	4	3/4		3	10⅜	faf			
45	48	"	4	3/4		5	2	ft			
46	16	"	4	3/4		1	6½	fv			
47	16	"	8½	3/4		1	6¾	kb	MIE	30-0	1059
48	16	"	8½	3/4		5	2¼	ka	MIE		
49	16	"	8½	3/4		3	10⅜	kc	MIE		
50	48	"	3½	3/4		1	0¼	fw			
51	16	Plate	50	3/4		4	10⅜	pa		18-9	1046
52	16	"	42	3/4		5	11⅝	pb		24-3	1042
53	16	"	42	1/2		5	11⅞	pc		24-3	1043
54	8	"	33	1/2		2	9	pd			S
55	4	"	17	3/8		3	0½	hf	BG3&4		S
56	4	"	17	3/8		2	2¾	hg	BG1&2		S
57	4	"	28½	3/8		3	9½	hh	BG3&4		S
58	4	"	20½	3/8		2	7¼	hk	BG1&2		S
59	4	"	31	3/8		2	10½	hm	BG3&4		S
60	4	"	31	3/8		2	1¾	hp	BG1&2		S
61	4	"	26	3/8		3	0	hark	BG3&4		S
62	4	"	26	3/8		2	2½	ht	BG1&2		S
63	4	"	15½	3/8		2	11½	pv	BG3&4		S
64	4	"	15½	3/8		2	2¼	pw	BG1&2		S
65	8	Fill	10	1¼	2/16	1	6¼	paa	Bevel		S
66	8	Plate	10	1/2		1	6¼	pab			S
67	16	Plate	2½	1/4		0	10	pac			S
68	32	2" CAP SCREWS				0	1/2		Hex Hd		SR



SECTION F-F, I-I & K-K
FOR BG1 & 2

SECTION F-F, I-I & K-K
FOR BG3 & 4

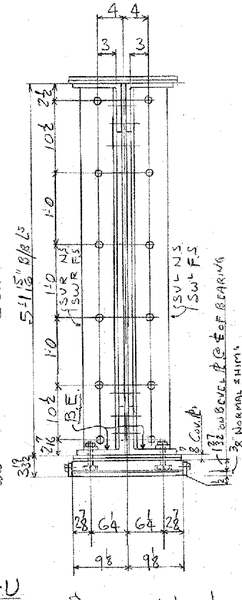


SECTION Q-Q
" R-R

SECTION S-S

SECTION T-T

SECTION U-U



SECTION L1-L1

LINE	MATERIAL No	SHAPE				LENGTH Feet	LENGTH Inches	ASSEM. BLING MARK	REMARKS	ORDERED ITEM	CALC WEIGHT FOR SHIP PIECE
87	8	CAST STEEL RACKS									
88	288	1" BOLTS							EARLE GEAR & MACH CO DWG No SC23-E30 FOR DETAILS		
89	8	Shims	16	1/4	8	10¼					
90	16	"	16	1/8	8	10¼					
91	8	"	16	1/16	8	10¼					
92	8	"	16	1/32	8	10¼					
93	4	Fillet	4½	1/2		1	11¾	faq	BG1&2		S
94	12	"	4½	1/2		1	8½	fah	BG1-2-3-3-3		S
95											

LINE	MATERIAL No	SHAPE				LENGTH Feet	LENGTH Inches	ASSEM. BLING MARK	REMARKS	ORDERED ITEM	CALC WEIGHT FOR SHIP PIECE
78	4	Fillet	6½	1/16		1	4¼	dt	BG3&4		S
79	4	"	6½	1/16		0	10½	dv	BG1&2		S
80	8	TRUNNION BEARINGS						TB1	See 79758		1052
81	416	TURNED BOLTS	2	1/2		0	9				
82	832	WASHERS & THKS									
83	416	3/4 HEX NUTS									
84	416	1/2 HALF HEX NUTS									
85	16	Fillet	4	3/4		1	7½	fad			
86	16	Fillet	9½	3/4		1	6½	dn			

LINE	MATERIAL No	SHAPE				LENGTH Feet	LENGTH Inches	ASSEM. BLING MARK	REMARKS	ORDERED ITEM	CALC WEIGHT FOR SHIP PIECE
69	8	Fillet	10	1/4		1	6	pad	TACK WELD		S
70	8	"	10	1/8		1	6	paf	" "		
71	16	Bars	3/8			0	4		Hex Hd		
72	16	"	3/8			0	5		" "		
73	32	Fillet	2½	7/16	8	0	24	fab	Bevel Fill		S
74	12	"	4	3/8	2	3		fy	BG1-3-3		S
75	8	S.T	2½	32	1	6		mw			
76	32	3/8" Hex Nuts									
77	304	3/8" SS									

PAINT: YES
SHOP COATS

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT FISS(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

GIRDERS BG1R-BG2R - BG3R & BG4R

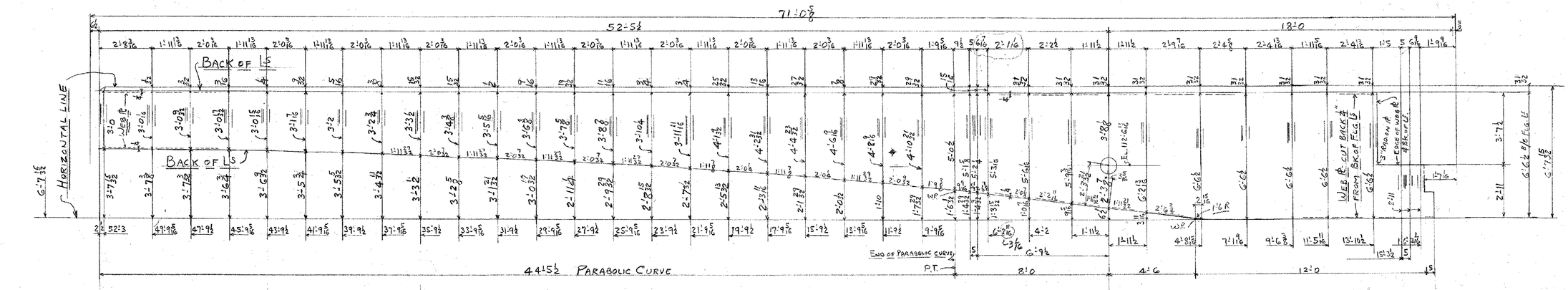
AMERICAN BRIDGE COMPANY

REFERENCE SHEET

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

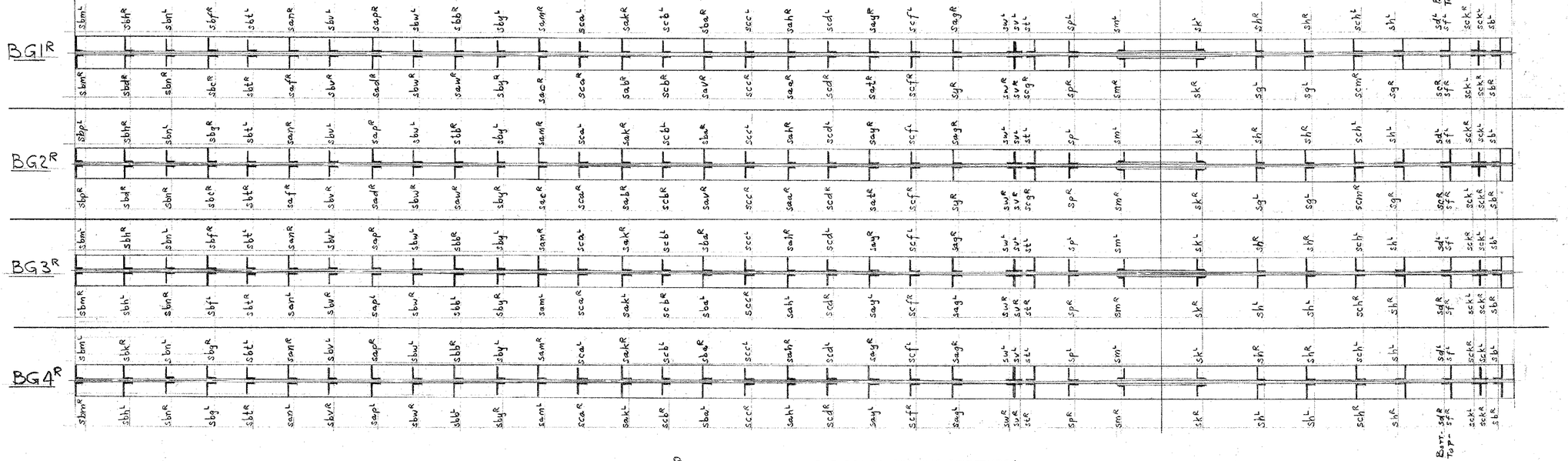
FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER

PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 29 OF 41



CAMBER

WORKING DIMENSIONS FOR BASCULE GIRDERS WITH CAMBER INCLUDED



BOTTOM FLANGES OF GIRDERS SHOWING STIFFENERS

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(6)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

GIRDERS BG1R-BG2R BG3R & BG4R

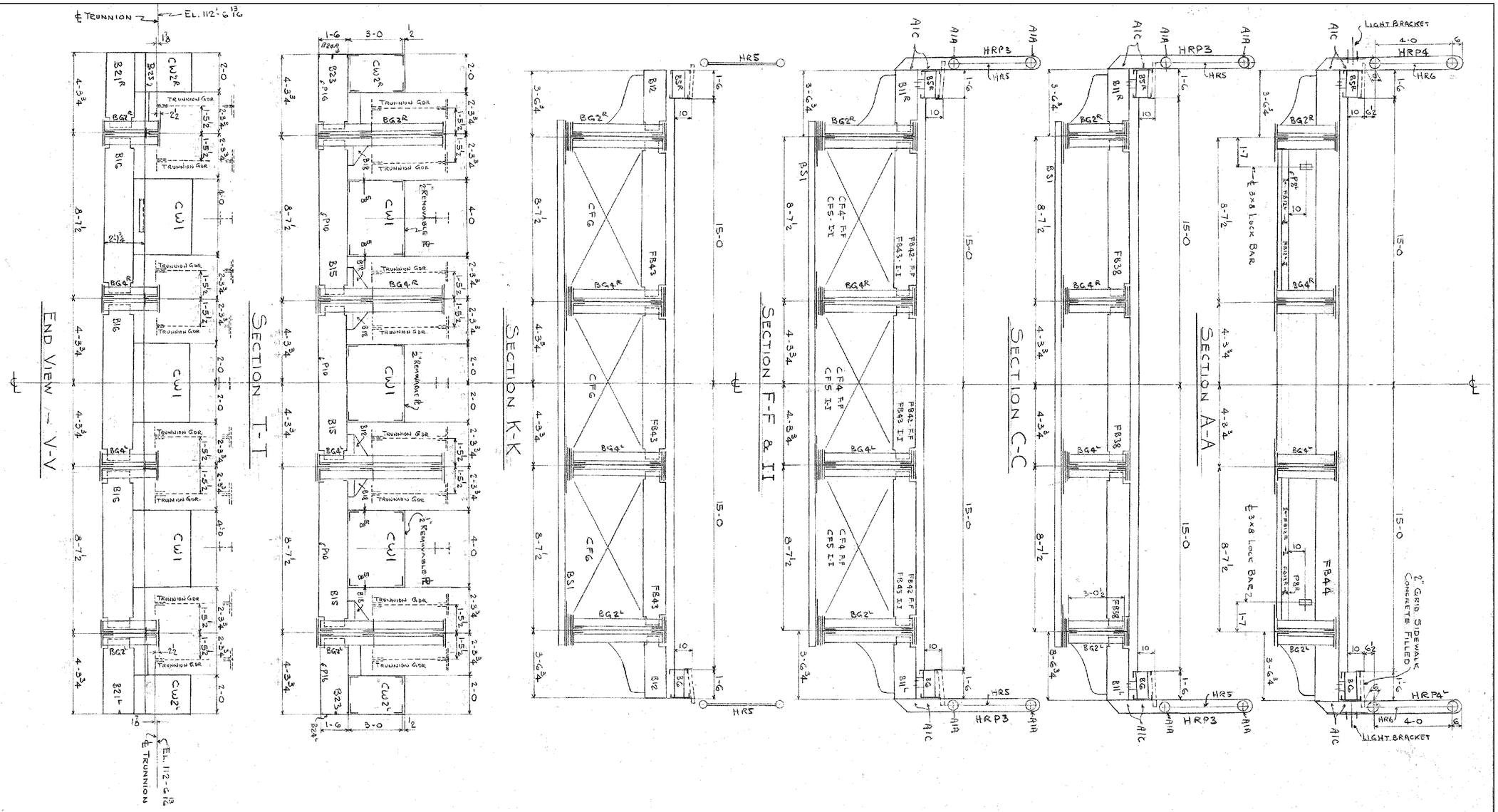
DRN. SDD R.D. PENCKLEY

AMERICAN BRIDGE COMPANY
UNITED STATES STEEL CORPORATION SUBSIDIARY

REFERENCE SHEET

PROJECT NAME:	NORTH HERO-GRANDE ISLE
PROJECT NUMBER:	BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca	PLOT DATE: 18-OCT-2007
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: L. DUQUETTE
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
	SHEET 30 OF 41



SPAN #3

SECTIONS LEAF #1 (DIV #1)

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(3)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

COST 100 PER CENT

AMERICAN BRIDGE COMPANY
UNITED STATES STEEL CORPORATION SUBSIDIARY

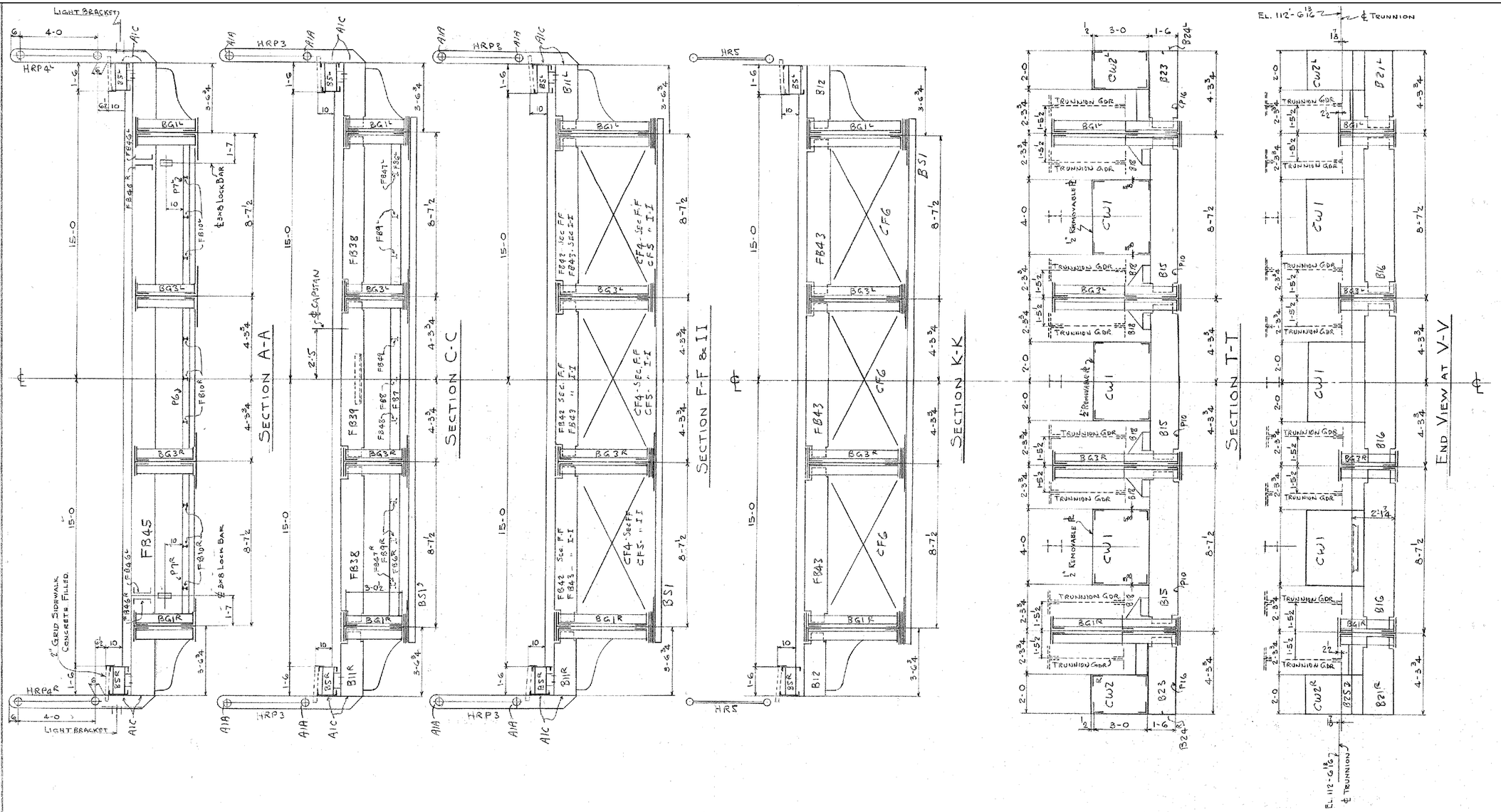
SEE SH. E101 FOR LOCATION OF SECTION

MARKS SHOWN THUS (A1A) INDICATE THE SHEET ... WHICH THE TYPE OF CONNECTION & FIELD WE...

PAINT: SHOP COATS...

REFERENCE SHEET

PROJECT NAME:	NORTH HERO-GRANDE ISLE
PROJECT NUMBER:	BHF 028-1(21)
FILE NAME: structure\s92b284cleandsca	PLOT DATE: 18-OCT-2007
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: L. DUQUETTE
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
	SHEET 31 OF 41



SPAN # 3
SECTIONS - LEAF # 2 (DIV. 2)

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

DESIGNED AND DETAILED BY
AMERICAN BRIDGE COMPANY
UNITED STATES STEEL CORPORATION SUBSIDIARY

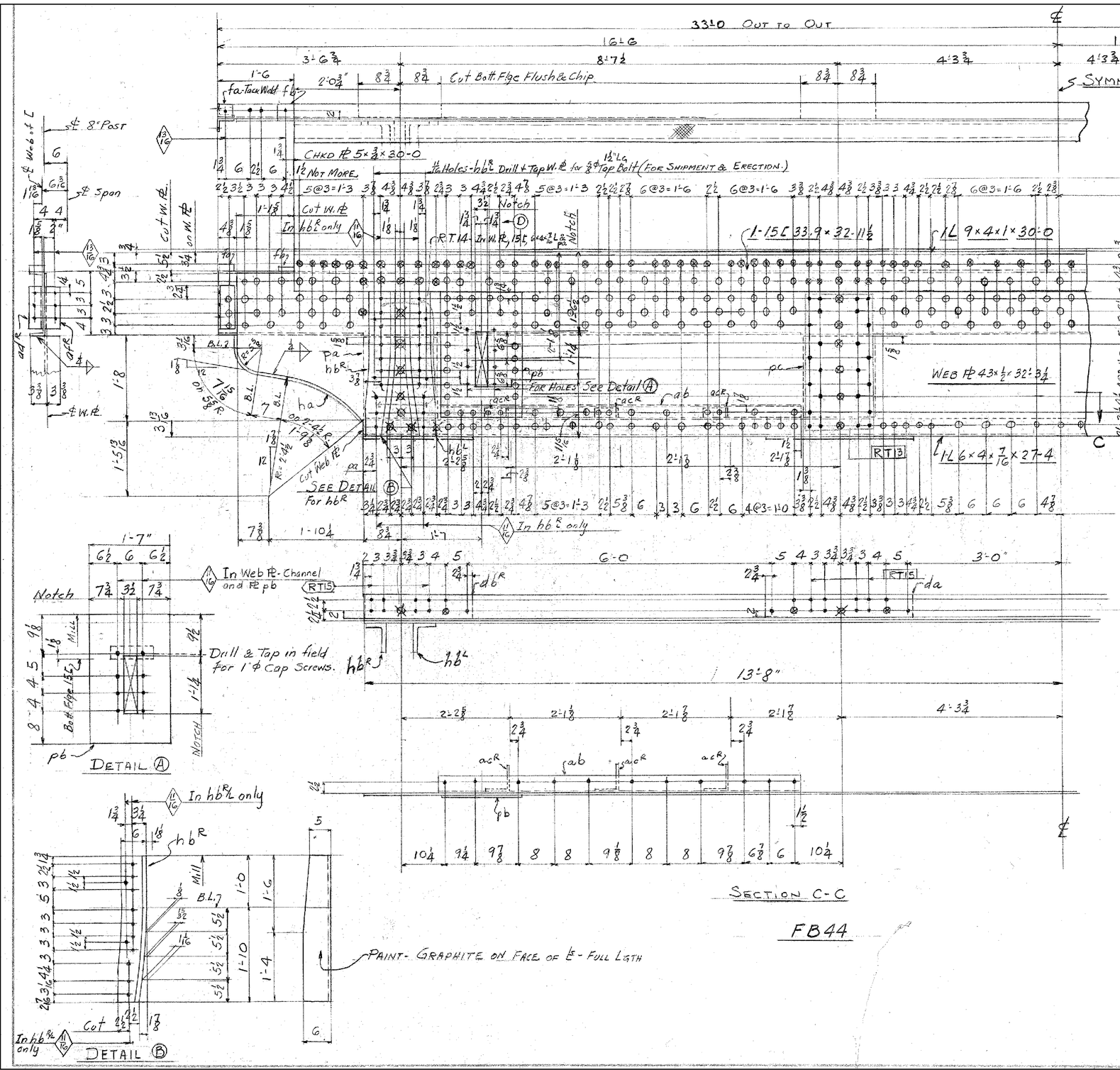
FOR LOCATION OF SECTIONS SEE SH. E201

MARKS SHOWN THUS (A1A) INDICATE THE SKETCH SHEET ON WHICH THE TYPE OF CONNECTION & FIELD WELDING ARE SHOWN

PAINT: SHOP CONTA

REFERENCE SHEET

PROJECT NAME:	NORTH HERO-GRANDE ISLE
PROJECT NUMBER:	BHF 028-1(21)
FILE NAME: structure\s92b284cleandsca	PLOT DATE: 18-OCT-2007
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: L. DUQUETTE
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
	SHEET 32 OF 41



DWT			MATERIAL					ASSEMBLING MARK	REMARKS	ORDERED		CALCULATED WEIGHT FOR SHOP PIECE
		No. of Pieces in One Piece	SHAPE		LENGTH Feet	LENGTH Inches					ITEM	
	1											
ONE	2		ONE- FLOOR BEAM FB44									
	3											
	4	1	Web PL	43	2	32	3 4			32'-3 4	1041	
	5	1	CHKD PL	5 3/4	30	0			CARNEGIE PATT.	30 1/4 x 30'-1	1058	
	6	2	PL	16 1/2 7/16	1	7 4		pa				S
	7	2	PL	19 3/4	2	6 1/4		pb	M-1-E			S
	8	2	PL	6 3/4 5/8	3	3 3/8		ha		30-0	1060	
	9	2	Fill	3 1/2	1 1/2	0	3 1/2	fa				S
	10	2	Fill	3 1/2	1	0	3 1/2	fb				S
	11	1	C	15"@33.9#	32	11 1/2				32-11 1/2	1005	
	12	1	L	9 4 1	30	0				30-0	1008	
	13	1	L	6 4 7/16	27	4						S
	14	4	L	6 6 1	2	10		abL hbL	Cut 8 SG M-1-E			S
	15	2	L	4 3 3/8	0	9 1/2		acR		40-0	1038	
	16	2	L	4 3 3/8	0	9 1/2		afR	Cut 4 x 3 1/2			S
	17	2	L	4 3 3/8	7	2		abR		40-0	1038	
	18	2	Fill	5 3/4	4	3	1	da				S
	19	2	Fill	5 3/4	4	2	3	db				S
	20	6	L	6 6	3/8	0	2 1/2	acL				S
	21	2	PL	16 1/2 7/16	1	7 4		pc				S
	22	8	ϕ Tap Bolts		0	1 1/2			For hb R			S
	23											
	24											
	25											
	26											
	27											
	28											
	29											
	30											
	31											
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	64											

FLOOR BEAM- FB44

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT FI28(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

RIVS
HOLES UNL
R.T. - SUBPUN
REAMED TO T
RED
PAINT, EXCE
SHOP COATS

AMERICAN BRIDGE COMPANY

BASCULE SPAN STRUCTURAL DETAILS

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-I(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 33 OF 41

DN 2

ONE

ONE FLOOR BEAM - FB 45

LINE	PIECE MARK	NO. OF PIECES	MATERIAL SHAPE	MATERIAL SIZE	LENGTH Feet	LENGTH Inches	ASSEMBLY DETAIL MARK	REMARKS	ORDERED	ITEM	CALCULATED WEIGHT FOR ONE PIECE
4		1	WEB PL	43 x 1/2 x	32	3 1/4			32-5 1/4	1041	
5		1	CHKD PL	5x 3/8 x	30	0		Carnegie Patt.	30 1/4 x 30 1/4	1058	
6		1	15 E	33.9	32	11 1/2			32-11 1/2	1005	
7		1	L 9 4	1	30	0			30-2	1008	
8		1	L 6 4	7/16	27	4					5
9		1	L 4 3	3/8	7	2	aa		40-0	1038	
10		2	L 4 3	3/8	7	2	ab PL				
11		2	PL	16 1/2	7/16	1	7 1/4	pa			5
12		2	PL	19	3/4	2	6 1/8	pb	M-1-E		5
13		2	PL	6 3/4	5/8	3	3 3/8	ha	30-0	1060	
14		2	Fill	3 1/2	1 1/2	0	3 1/2	fa			5
15		2	Fill	3 1/2	1	0	3 1/2	fb			5
16		4	L 8 6	1	2	10	aq PL	M-1-E			5
17		4	L 6 6	3/8	0	2 1/2	ac PL				5
18		5	L 6 6	3/8	0	2 1/2	ae L				5
19		2	L 4 3	3/8	0	9 1/2	ad PL		40-0	1039	5
20		2	L 4 3	3/8	0	9 1/2	af PL	cut 4 x 3 1/2			5
21		2	Fill	5 3/4	4	3	1	da			5
22		2	Fill	5 3/4	4	2	3	db PL			5
23		2	PL	16 1/2	7/16	1	7 1/4	pc			5
24		8	L 4 3 1/2	3/8	0	8	ah PL				5
25		12	7/8 S.B.								

FLOOR BEAM - FB 45

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F126(8)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

AMERICAN BRIDGE COMPANY

BASCULE SPAN STRUCTURAL DETAILS

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 34 OF 41

FB 45

NO PAINT NEAR SIDE

1-COVER PL 13x⅜x29'-2

FLATTEN TO 4" FAR SIDE

℄ TRUNNION

GRIND WELD FLUSH WITH TOP OF PG

29'-2 OUT TO OUT

NOTE BREAK IN STAGGER

NOT MORE

2-L3 6x6x½x29'-2

2-L3 6x6x½x29'-2

1-WEB PL 73½x7x⅜

2-L5 6x6x½x29'-9 BENT

SFR NEAR SIDE
SG105 FAR SIDE

NOTE: SCRIBE VERTICAL & HORIZONTAL CENTER LINES BOTH SIDES

CUT PC PA105 & PB105 ON 215¾ RADIUS

FIXED END

EXP. END

26'-9 C/C BEARINGS

14'-8½

PY105

8½"x⅜ L sab

8"x⅜ L sab

¾" Φ HOLES

LT. WT = 5 TONS

TRUNNION GIRDERS TG1R

RIVETS ⅞" Φ

OPEN HOLES 15/16" Φ UNLESS NOTED.

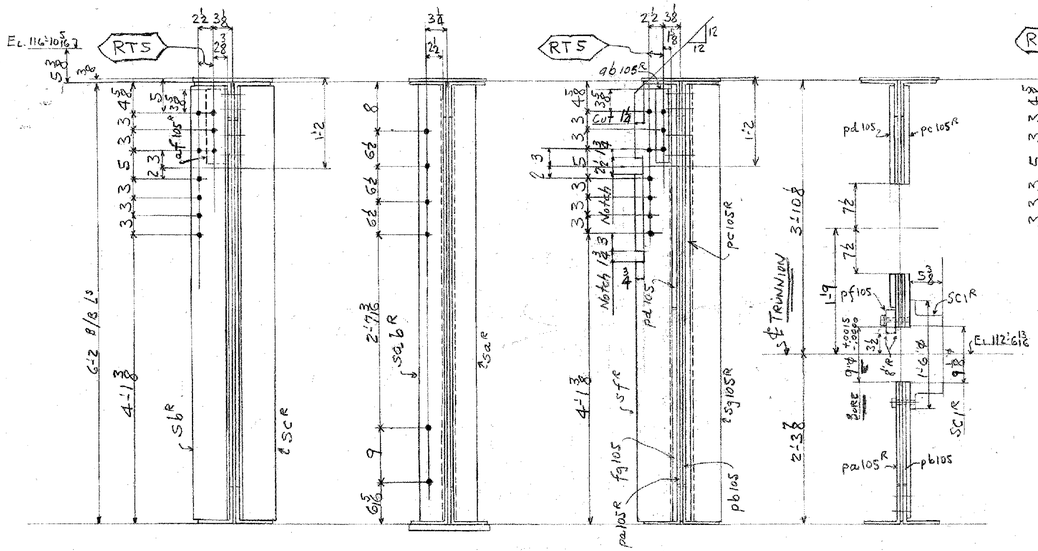
RT = SUBPUNCH 11/16" Φ AND REAM TO 15/16" Φ IN A METAL TEMPLET

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

AMERICAN BRIDGE COMPANY

REFERENCE SHEET

PROJECT NAME:	NORTH HERO-GRANDE ISLE
PROJECT NUMBER:	BHF 028-1(21)
FILE NAME:	structure\s92b284cleandsca
PROJECT LEADER:	M. EVANS-MONGEON
DESIGNED BY:	S. SCRIBNER
PLOT DATE:	18-OCT-2007
DRAWN BY:	L. DUQUETTE
CHECKED BY:	S. SCRIBNER
SHEET	35 OF 41

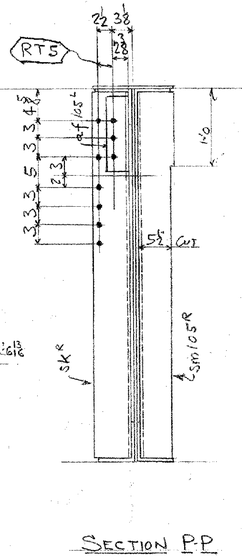


SECTION L1-L1
" N-N

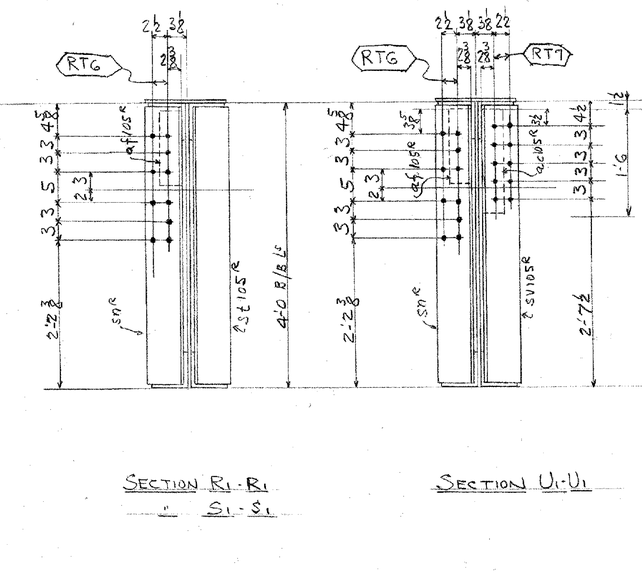
SECTION L2-L2

SECTION O-O

SECTION O1-O1

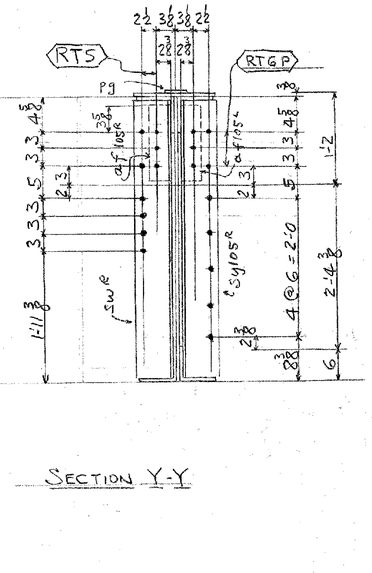


SECTION P-P



SECTION R1-R1
" S1-S1

SECTION U1-U1



SECTION Y-Y

LINE	Total No. of Pieces same as this Order	MATERIAL: No. of Pieces in One Sheet	MATERIAL: SHAPE	MATERIAL: LENGTH Feet	MATERIAL: LENGTH Inches	ASSEMBLING MARK	REMARKS	CALCULATED WEIGHT FOR ONE SHIP. PIECE	ORDERED: ITEM
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

LINE	Total No. of Pieces same as this Order	MATERIAL: No. of Pieces in One Sheet	MATERIAL: SHAPE	MATERIAL: LENGTH Feet	MATERIAL: LENGTH Inches	ASSEMBLING MARK	REMARKS	CALCULATED WEIGHT FOR ONE SHIP. PIECE	ORDERED: ITEM
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

LINE	Total No. of Pieces same as this Order	MATERIAL: No. of Pieces in One Sheet	MATERIAL: SHAPE	MATERIAL: LENGTH Feet	MATERIAL: LENGTH Inches	ASSEMBLING MARK	REMARKS	CALCULATED WEIGHT FOR ONE SHIP. PIECE	ORDERED: ITEM
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

LINE	Total No. of Pieces same as this Order	MATERIAL: No. of Pieces in One Sheet	MATERIAL: SHAPE	MATERIAL: LENGTH Feet	MATERIAL: LENGTH Inches	ASSEMBLING MARK	REMARKS	CALCULATED WEIGHT FOR ONE SHIP. PIECE	ORDERED: ITEM
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

TRUNNION GIRDER TG1R

D 3000-00 FOR UNITS

AMERICAN BRIDGE COMPANY
UNITED STATES STEEL CORPORATION SUBSIDIARY

EFC

REFERENCE SHEET

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 36 OF 41

1 COVER PL 13x3/8x25-2

DRILL & TAP FOR 7/8"x3 3/4" HEX HD CAP SCREWS IN pd105 - pb105 & WEB PL (15/16" HOLES IN pf105)

FLATTEN TO 4" F.S.

CTSK. N.S FOR TG5 ONLY

CTSK. N.S FOR TG 5 ONLY — FLATTEN TO 4" HIGH FOR TG2-3&4 ONLY

CTSK. N.S FOR TG5 ONLY — FLATTEN TO 4" HIGH N.S FOR TG4 ONLY

FLATTEN TO 4" HIGH N.S FOR TG5 ONLY

℄ TRUNNION

27'-8 OUT TO OUT OF WEB PL

2L 6x6x2x 25-2

22-sf R (2-sg105)

pd105 N.S (pc105 F.S) GRIND TO FIT FILLET

CUT WEB

EL 116'-4 15/16

SEE NOTE "B"

af-105 R, fc105

9/16" HOLES IN Py & TG3 WEB PL

3" R ON R

2-fc

2-Ka

TG3-Py

TG2 4&5-Pf

℄ TRUNNION EL 112'-6 3/8

CUT WEB PL

2-Ka

2-Sa

TG2 4&5-web PL

Sa105 R

SEE NOTE "A"

sd105 R

2-fd105

sc105 R

2-fa105

SPLICE

af105 R

2-Kb105

FIT Kb

sh105 R

sm105 R

sn105 R

st105 R

sg105 R

sk105 R

sp105 R

sq105 R

sr105 R

ss105 R

su105 R

sv105 R

sw R N.S

sy105 R F.S

TG3

SEE NOTE "A"

9/16" HOLES-TG3

CTSK N.S FOR TG3

TG2-3&4 ONLY

TG5

TG4

BENT

CRIMP

TG2&3

TG2-4&5

℄ TRUNNION

DRILLED HOLES FOR pb105

pa105 R & pb105 R N.S

pa105 R & pb105 F.S

pf105

pb105 R N.S

pb105 F.S

2-Ka

2-Sa

TG2-4&5-Pf

TG2-4&5-web PL

Sa105 R

Ka

Sa

Pf

Py

TG3-Py

TG2-4&5-Pf

TG2&3

TG4

TG5

1 WEB PL-73 1/2 x 7/16 x 27-8

Rivet in pf & TG2-4&5-web PL

Ka

Sa

Pf

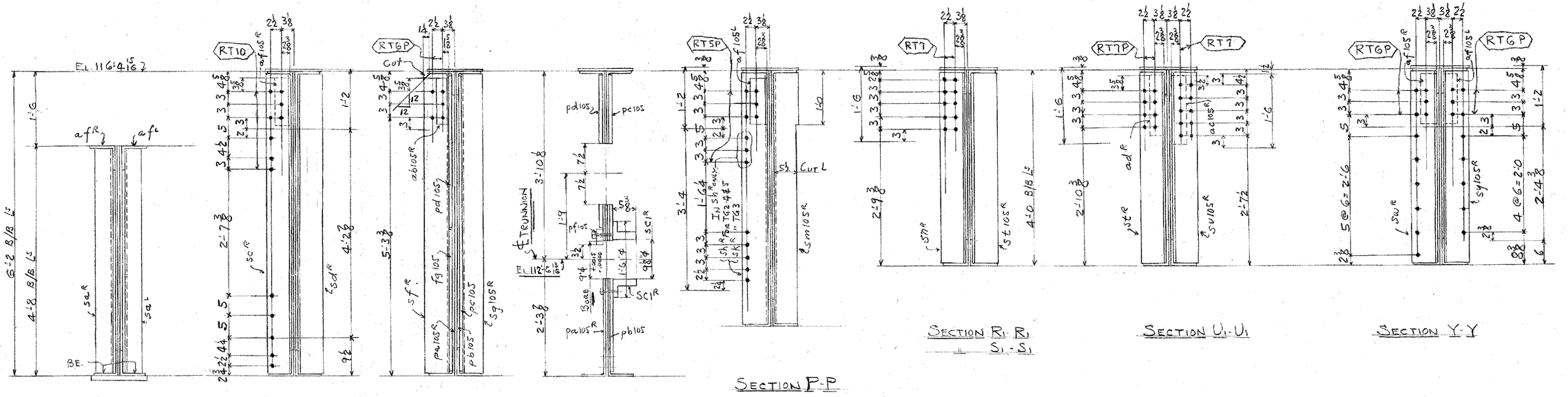
Py

TG3-Py

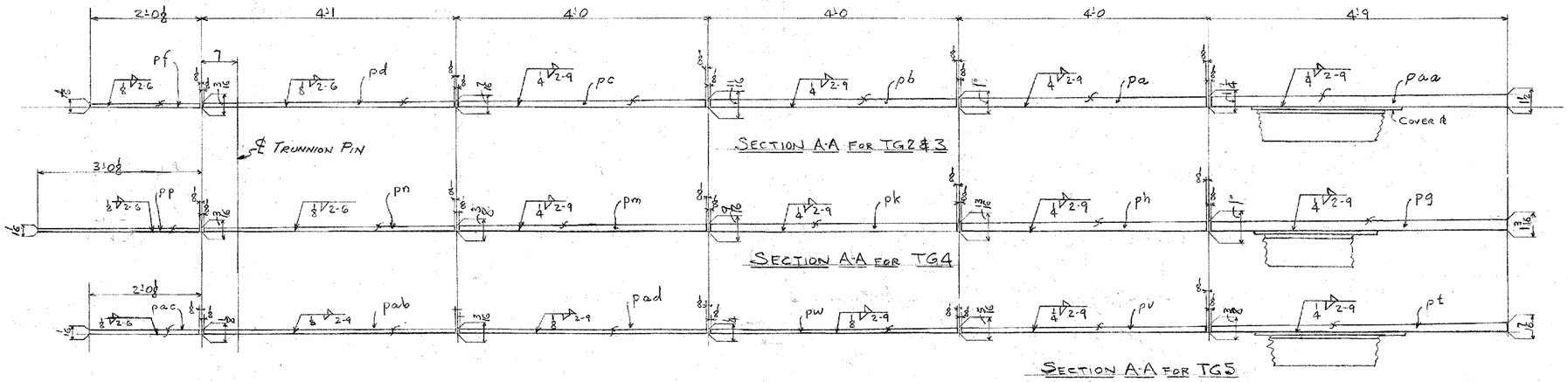
TG2-4&5-Pf

TG2-4&5-web PL

Sa105 R



SECTION L2-L2 SECTION N-N SECTION O-O SECTION O1-O1



CONTINUED

LINE	Total No. of Pieces on the Order	No. of Pieces in one Group	MATERIAL SHAPE	LENGTH Feet	LENGTH Inches	ASSEM. BLDNG MARK	REMARKS	CALCULATED WEIGHT FOR ONE SHIP. PIECE	ORDERED ITEM
6	12	L5	6 4 7/16	3	11	stR			40-0 1007
6	12	L5	6 4 7/16	3	11	sy105R			
6	12	L5	6 4 7/16	3	11	swR			40-0 1007
6	12	L5	6 4 7/16	3	11	sy105R			
6	72	L5	4 4 3/8	3	11	sp105R	CRIMP		
6	24	L5	4 4 3/8	3	11 3/16	sa105R	CRIMP		
6	48	L5	3½ 3½ 3/8	0	11	af105R			
6	12	L5	3½ 3 3/8	0	11	ab105R			
6	12	L5	3½ 3½ 3/8	1	5	ac105L			
10	12	L5	3½ 3½ 3/8	1	2	adR			S
11									
12	120	SB	7/8						S
13									
14	24		7/8" CAP SCREWS, 0 3½						
15	24		7/8" SPLIT LOCK WASHERS						SR

LINE	Total No. of Pieces on the Order	No. of Pieces in one Group	MATERIAL SHAPE	LENGTH Feet	LENGTH Inches	ASSEM. BLDNG MARK	REMARKS	CALCULATED WEIGHT FOR ONE SHIP. PIECE	ORDERED ITEM
16	12		CAST STEEL COLLARS SC1R & L			J9758H1		111.0	
17	48		¾" TAP BOLTS - mb						
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

LINE	Total No. of Pieces on the Order	No. of Pieces in one Group	MATERIAL SHAPE	LENGTH Feet	LENGTH Inches	ASSEM. BLDNG MARK	REMARKS	SHIPPING WEIGHT FOR ONE SHIP. PIECE	ORDERED ITEM
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

LINE	Total No. of Pieces on the Order	No. of Pieces in one Group	MATERIAL SHAPE	LENGTH Feet	LENGTH Inches	ASSEM. BLDNG MARK	REMARKS	CALCULATED WEIGHT FOR ONE SHIP. PIECE	ORDERED ITEM
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									

STATE OF VERMONT
STATE HIGHWAY DEPARTMENT
FEDERAL PROJECT F128(9)
GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VT.

TRUNNION GIRDERS
TG2-3-4R & 5R

AMERICAN BRIDGE COMPANY

REFERENCE SHEET

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 38 OF 41

PLAN SOUTH SPAN

SECTION-SS

SECTION-RR

SECTION-PP

SECTION-TT

SECTION X-X

SECTION-NN

DETAIL "A"

SECTION-LL

SECTION-FF

ERECTION NOTE:

PLACE UNITS, WITH MARKED END OF UNITS, LOCATED AS SHOWN ON PLAN.

DURING ERECTION OF UNITS, CARE MUST BE EXERCISED TO PLACE EACH UNIT IN ITS PROPER LOCATION, MEASURING IN ALL CASES FROM SOME FIXED POINT, AS OTHERWISE A CUMULATIVE ERROR IN SPACING WILL APPEAR, CAUSING THE SPACE FOR THE FINAL UNITS TO BE MORE OR LESS THAN THE ACTUAL WIDTH OF UNITS.

GENERAL NOTES:-

INSPECTION:- MILL E-BEAM-LOK UNITS TO BE FURNISHED FLAT, ANY CAMBERING REQ'D. TO CONFORM TO SUPPORTING STRUCTURAL STEEL IS TO BE DONE IN FIELD.

MATERIAL SHOWN W. DOT # DASH LINED, NOT INCLUDED IN E-BEAM-LOK CONTRACT.

SHOP PAINT:- OPEN PORTION OF FLOORING TO HAVE ONE DIP COAT OF DUPONT DULUX RED LEAD PRIMER. FILLED PORTION TO HAVE ONE COAT OF DUPONT DULUX RED LEAD PRIMER ON UNDERSIDE OF UNITS & ON OUTSIDE FACE OF TRIM MATL.

FOR NOTES ABOUT FORM STRIPS, SEE SHOP DETAILS.

FOR FIELD WELDING 2" (H) TEE-TYPE SIDEWALK, SEE STD. ERECTION FOLDER.

FOR SHOP DETAILS OF 5" E-BEAM-LOK SEE SHEETS # F-5376 THRU # F-5384 ;

FOR TEE-TYPE SIDEWALK, # F-5385 THRU # F-5387

BEAM PUNCH SHT. # 18-8-1 & 19-30-1 FOR SHOP BAR PUNCH SHT. # 15-35-1 & 15-30-1 USE ONLY

FOR ADDITIONAL PLANS & SECT. SEE F-4353-3

5" I-BEAM-LOK OPEN (TRAPL TYPE) FLOORING, PLAN
2" TEE-TYPE SIDEWALK (H) PLAN.
DOUBLE LEAF BASCULE SPAN. (SOUTH)
GRAND ISLE - NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VERMONT.
AMERICAN BRIDGE DIV. ORDER J. 9734 CONT.

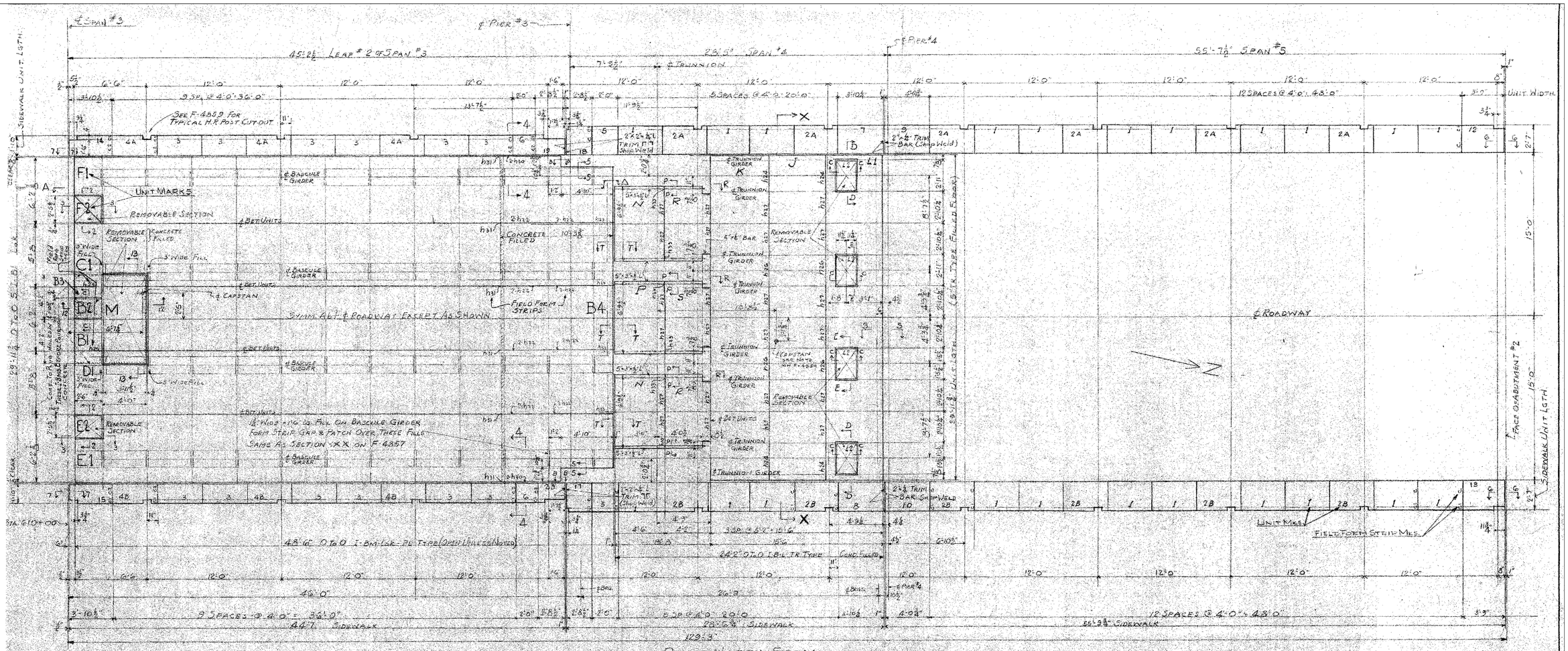
REVISED 1 PIECES & BOLTS ADDED 4-23-08

TOTAL AREA 2" TEE-TYPE (H) SIDEWALK 1,203 SQ. FT.
TOTAL AREA 5" I-B-LOK 4,163 SQ. FT.

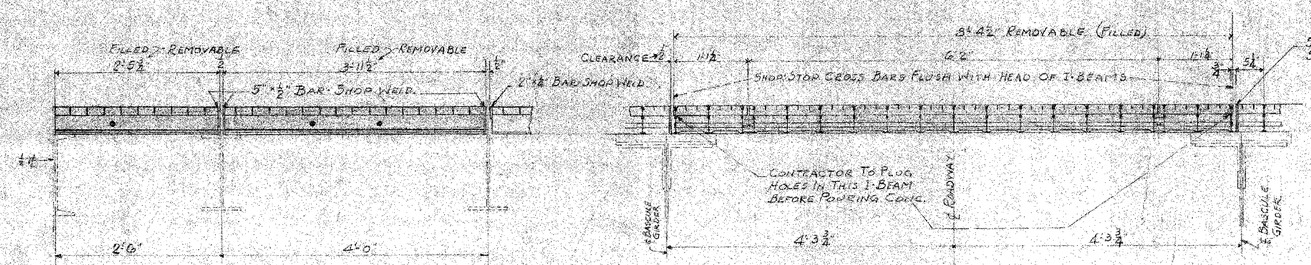
REFERENCE SHEET

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 39 OF 41



PLAN - NORTH SPAN



SECTION - 12 - 12

SECTION - 13 - 13

ERECTION NOTE:

PLACE UNITS, WITH MARKED END OF UNITS, LOCATED AS SHOWN ON PLAN.

DURING ERECTION OF UNITS, CARE MUST BE EXERCISED TO PLACE EACH UNIT IN ITS PROPER LOCATION, MEASURING IN ALL CASES FROM SOME FIXED POINT, AS OTHERWISE A CUMULATIVE ERROR IN SPACING WILL APPEAR, CROSSING THE SPACE FOR THE FINAL UNITS TO BE MORE OR LESS THAN THE ACTUAL WIDTH OF UNITS.

FOR GEN. NOTES & ADDITIONAL PLANS: F-4857
FOR SECTION: SEE F-4857 & F-4859

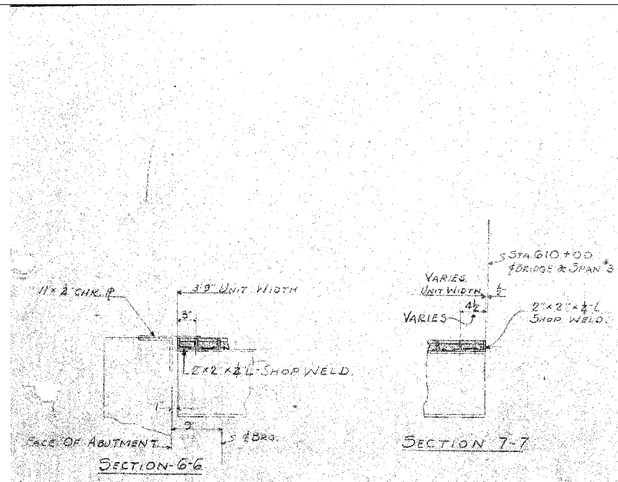
5" I-BEAM-LOK OPEN (TR & PL TYPE) FLOORING PLAN
2' TEE-TYPE SIDEWALK (H) PLAN
DOUBLE LEAF BASCULE SPAN (NORTH)
GRAND ISLE - NORTH HERO BRIDGE
COUNTY OF GRAND ISLE VT
AMERICAN BRIDGE DIV. ORDER T-9757 CONT.

REVISED	NO.	WORKS ADDED
		4-25-02

REFERENCE SHEET

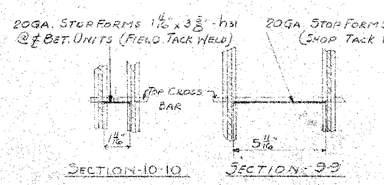
PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 40 OF 41



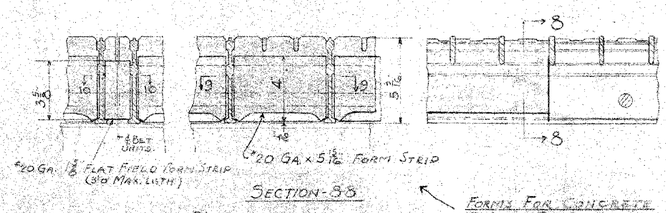
SECTION-6-6

SECTION 7-7



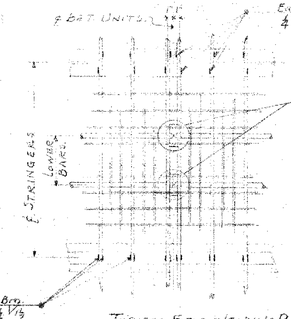
SECTION-10-10

SECTION-9-9



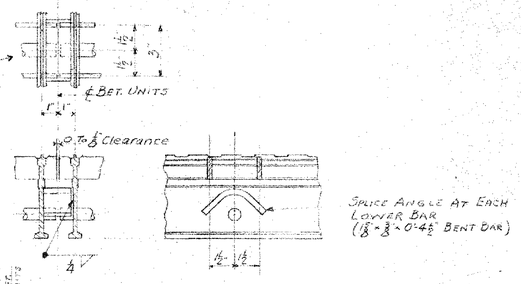
SECTION-8-8
PL TYPE SHOWN
TR TYPE SIMILAR

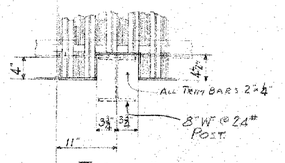
FORMS FOR CONCRETE FILLED PORTION.



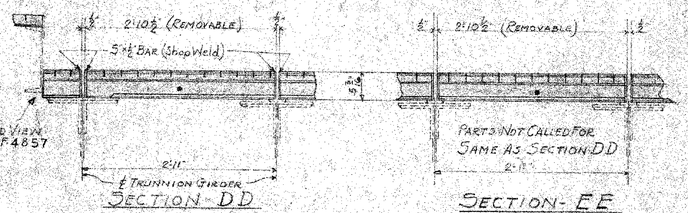
TYPICAL FIELD WELDING PLAN
TR TYPE SHOWN
PL TYPE SIMILAR

SEE STD. ERECTION FOLDER FOR FIELD WELDING FOR 2" TEE-TYPE (H) SIDEWALK.



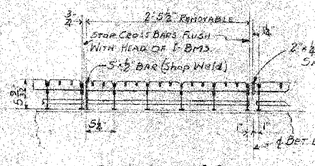


TYPICAL CUT-OUT AT H.R POST.

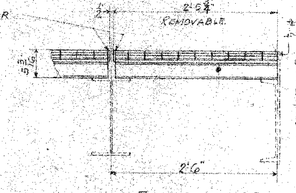


SECTION-DD

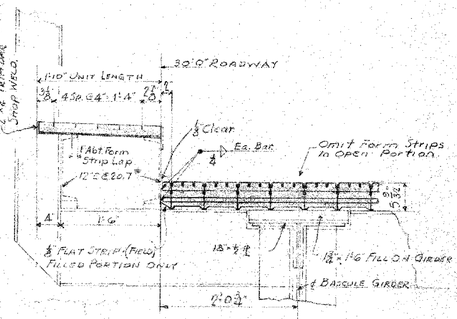
SECTION-EE



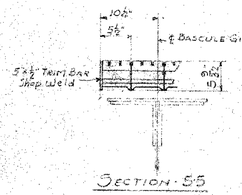
SECTION-2-2



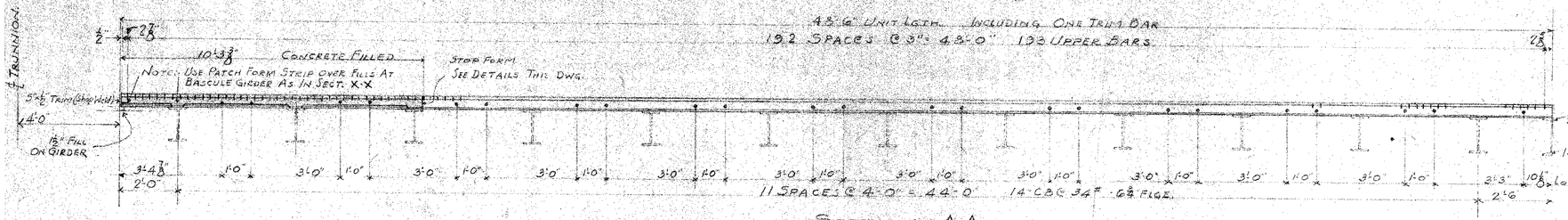
SECTION-33



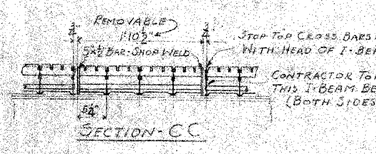
SECTION-44



SECTION-55

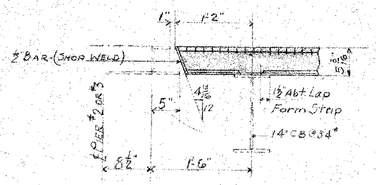


SECTION-A-A
F-4857 & F4858



SECTION-CC

NOTE:- PROVISIONS FOR HOLDING DOWN REMOVABLE SECTIONS NOT INCLUDED IN I-BEAM-LOK CONTRACT.
PROVISIONS FOR HOLE IN FLOORING FOR CAPSTANS NOT INCLUDED IN I-BEAM-LOK CONTRACT.



SECTION-BB

FOR GEN NOTES & PLANS SEE F-4857 & F4858

5"I BEAM-LOK OPEN (TR & PL TYPE) SECTIONS
2" TEE-TYPE SIDEWALK (H) SECTIONS
DOUBLE LEAF BASCULE SPAN
GRAND ISLE - NORTH HERO BRIDGE
COUNTY OF GRAND ISLE, VERMONT
AMERICAN BRIDGE DIV. ORDER J-3151 CONT.

REVISED		

REFERENCE SHEET

PROJECT NAME: NORTH HERO-GRANDE ISLE
PROJECT NUMBER: BHF 028-1(21)

FILE NAME: structure\s92b284cleandsca
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
PLOT DATE: 18-OCT-2007
DRAWN BY: L. DUQUETTE
CHECKED BY: S. SCRIBNER
SHEET 41 OF 41

INDEX OF SHEETS

1. TITLE SHEET
2. QUANTITY SHEET
3. GENERAL NOTES SHEET
4. AREA OF DISTURBANCE
5.-6. EXISTING TEMPORARY BRIDGE DETAILS
7.-8. TRAFFIC CONTROL SHEETS
9. FLOOR PLAN OF BASCULE LEAF #1
10. BOTTOM FLANGE PLAN OF BASCULE LEAF #1
11. FLOOR PLAN OF BASCULE LEAF #2
12. BOTTOM FLANGE PLAN OF BASCULE LEAF #2
13.-15. BASCULE SPAN STRUCTURAL DETAILS
16. FLOOR PLAN OF TRUNNION SPAN #2
17. FLOOR PLAN OF TRUNNION SPAN #4
18. TRUNNION SPAN STRUCTURAL DETAILS
19.-20. ROADWAY GRID PLAN SHEETS
21. SHIM PLATE DETAIL
22.-41. REFERENCE SHEETS

STANDARD SHEETS

G-18 6/1/1994

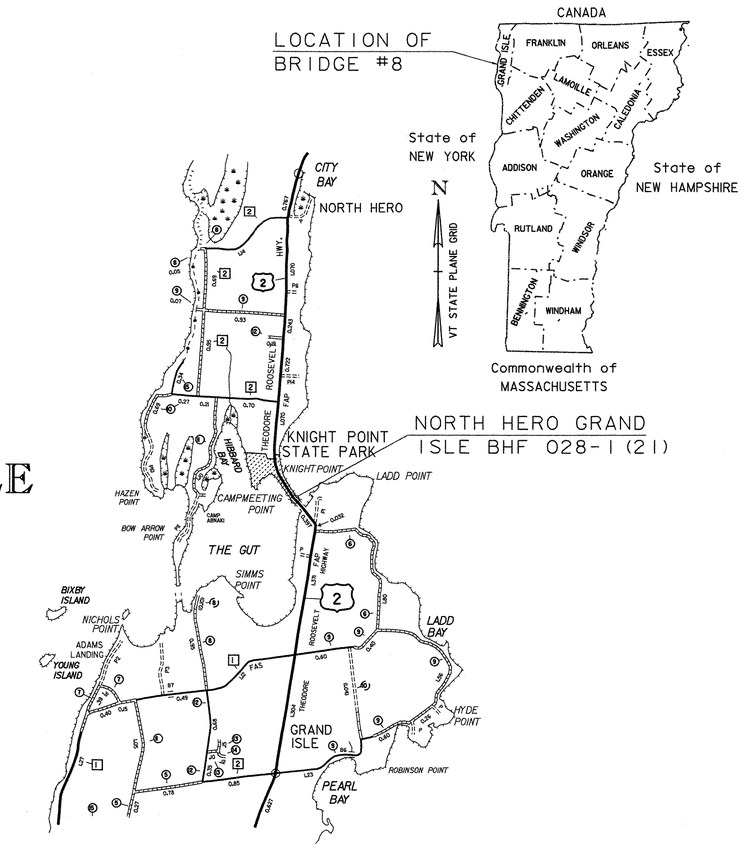
STATE OF VERMONT
AGENCY OF TRANSPORTATION

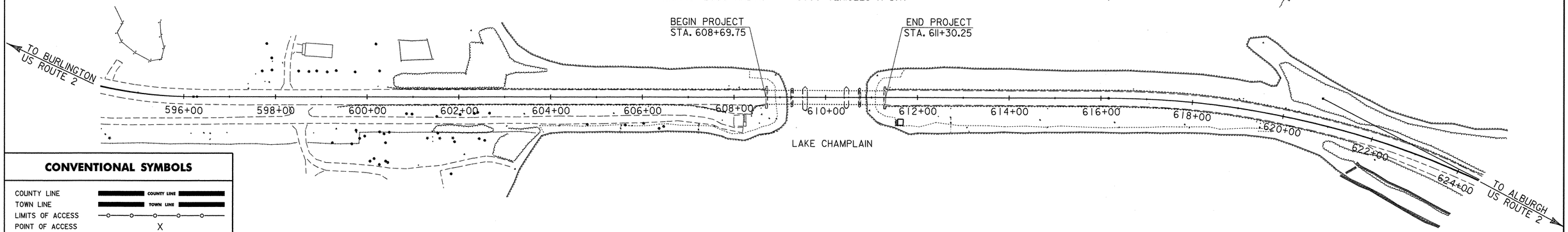
PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF NORTH HERO-GRAND ISLE
COUNTY OF GRAND ISLE
US ROUTE 2 (MAJOR COLLECTOR)
BRIDGE #8

PROJECT LOCATION : HISTORICAL DRAW BRIDGE LOCATED ON US 2 OVER LAKE CHAMPLAIN (THE GUT) SOUTH OF KNIGHTS POINT STATE PARK.

PROJECT DESCRIPTION : REPLACEMENT OF VARIOUS STEEL COMPONENTS AND RELATED CONNECTORS OF BASCULE SPAN #3.

LENGTH OF STRUCTURE : 260.50 FEET.
LENGTH OF ROADWAY : 0 FEET.
LENGTH OF PROJECT : 260.50 FEET.
TRAFFIC (2006 AADT): 3000 VEHICLES A DAY





CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : R. GILMAN
SURVEYED DATE : OCT. 19, 2004

DATUM
VERTICAL: NAVD 88
HORIZONTAL: NAD 83 (96)

VT STATE PLANE GRID

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

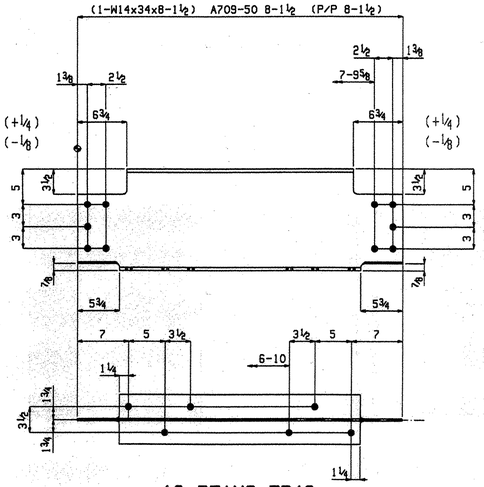
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 10-18-07

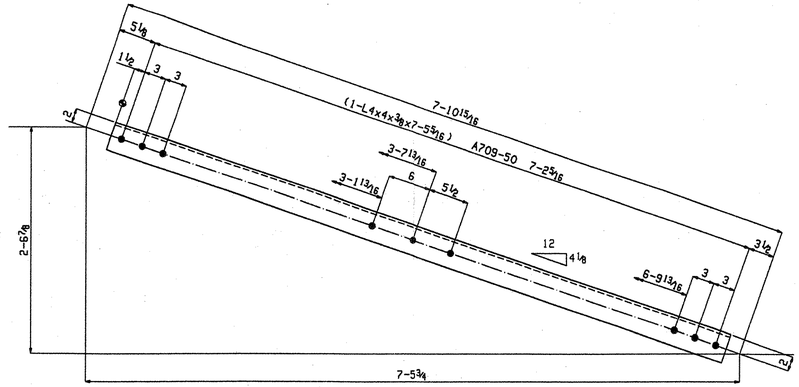
PROJECT MANAGER : M. EVANS-MONGEON

PROJECT NAME : NORTH HERO - GRAND ISLE
PROJECT NUMBER : BHF 028-1(21)

SHEET 1 OF 41 SHEETS

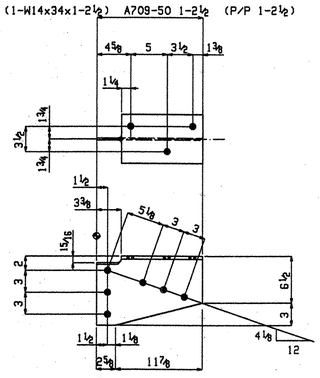


12 BEAMS FB43

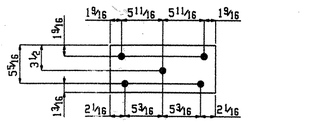


12 VERTICAL BRACES CF5

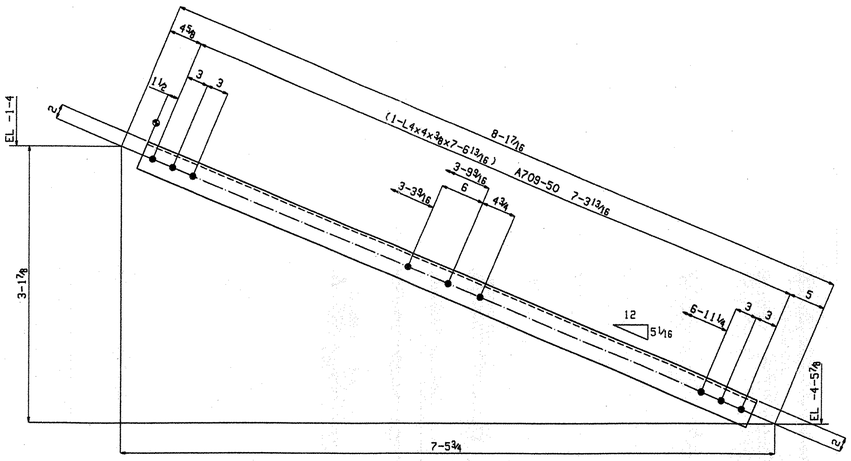
SHOP NOTE:
TOE DIRECTION FAR SIDE



12 BEAMS CF5_ma

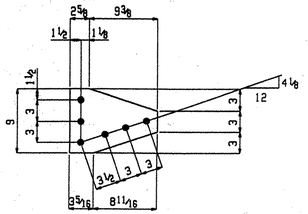


6 PLATES CF5_pb

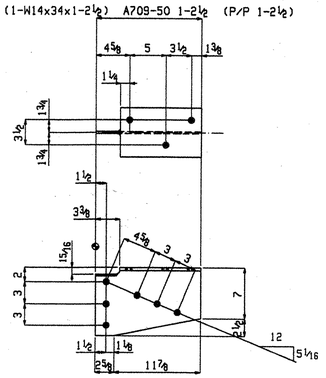


12 VERTICAL BRACES CF6

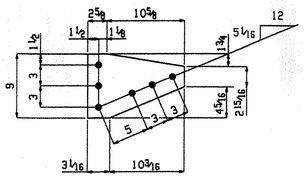
SHOP NOTE:
TOE DIRECTION FAR SIDE



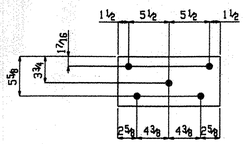
12 PLATES CF5_pa



12 BEAMS CF6_mb



12 PLATES CF6_pc



6 PLATES CF6_pd

RECEIVED
CK'D BY _____ CK'D BY
NOV 0 5 2007
RESUBMIT _____ APPROVED
BY DATE 11/5/07

DRAWINGS PREPARED BY,
PATRIOT DRAFTING LLC.

BILL OF MATERIAL

Quantity Total	Description	Length		Piece Mark	Remarks
12	BEAM			FB43	
12	W14x34	8	1½	FB43	A709-50
	FIELD BOLTS				
72	⅞ Dia A325	0	2½		1 HD WASH
72	⅞ Dia A325	0	2¼		1HD WASH
48	⅞ Dia A325	0	2		1 HD WASH
12	VERTICAL BRACE			CF5	
12	L4x4x⅜	7	5 5/16	CF5	A709-50
	FIELD BOLTS				
6	⅞ Dia A325	0	2¼		1HD WASH
96	⅞ Dia A325	0	2		1HD WASH
12	BEAM			CF5_ma	
12	W14x34	1	2½	CF5_ma	A709-50
	FIELD BOLTS				
36	⅞ Dia A325	0	2		1 HD WASH
12	PLATE			CF5_pa	
12	PL⅜x9	1	0	CF5_pa	A709-50
	FIELD BOLTS				
36	⅞ Dia A325	0	2¼		1 HD WASH
6	PLATE			CF5_pb	
6	PL 5/16x6½	1	2½	CF5_pb	A709-50
12	VERTICAL BRACE			CF6	
12	L4x4x⅜	7	6 13/16	CF6	A709-50
	FIELD BOLTS				
6	⅞ Dia A325	0	2¼		1HD WASH
96	⅞ Dia A325	0	2		1HD WASH
12	BEAM			CF6_mb	
12	W14x34	1	2½	CF6_mb	A709-50
	FIELD BOLTS				
36	⅞ Dia A325	0	2		1 HD WASH
12	PLATE			CF6_pc	
12	PL⅜x9	1	1¼	CF6_pc	A709-50
	FIELD BOLTS				
36	⅞ Dia A325	0	2¼		1 HD WASH
6	PLATE			CF6_pd	
6	PL 5/16x7	1	2	CF6_pd	A709-50

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	10/15				
	OUT FOR APPROVAL					
	ISSUED TO SHOP	10/29				
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

PROJECT NO. BHF 028-1(2) STATE PROJECT NO. F128(9)

MATERIAL : AS NOTED | ELECTRODES : E70LH | HOLES : 15/16 ϕ UNO | SHOP BOLTS : ⅞ϕ

SURFACE PREPN & PAINT : GALVANIZED

DESCRIPTION : STRUCTURAL DETAILS

JOB : GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRANDE ISLE, VT.

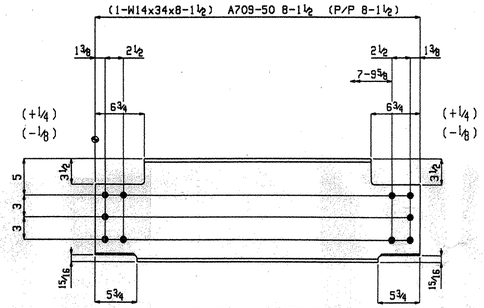
CUSTOMER : STATE OF VERMONT HIGHWAY DEPARTMENT

DRAWN BY	DATE
LCL	OCTOBER 2007
CHECKED BY	DATE
LB	OCTOBER 2007
APPROVED BY	DATE
Q. A.	DATE
JOB NO.	DRG. NO.
342	1
Fab: Job:	REV.

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072 Oct 29 2007 09:40:50 AM
PHONE (207) 282-7360 FAX. (207) 282-1179

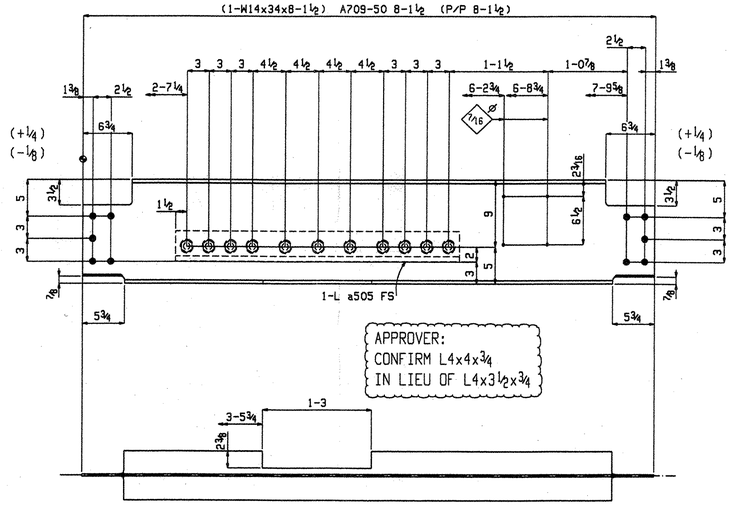
JOB NO.	DRG NO.
342	1

042-55



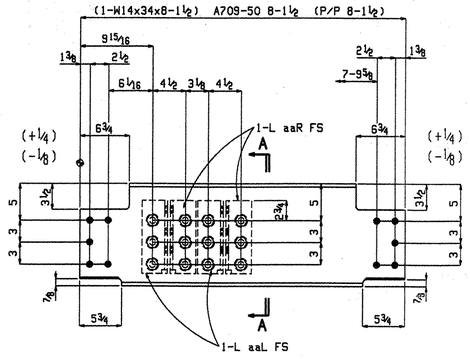
39 BEAMS FB38

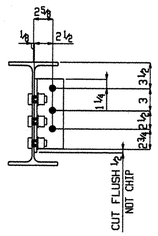
W 14x5/16
F 6¾x7/16



ONE BEAM FB39

W 14x5/16
F 6¾x7/16



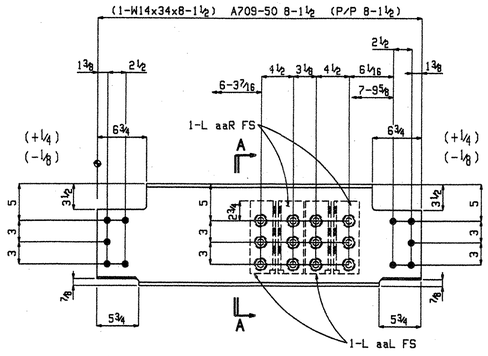


Section A-A
FB41_R

ONE BEAM FB41_R

SHOP BOLTS: 12-7/8x2 A325

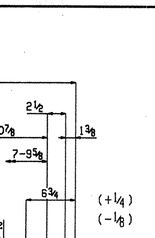
W 14x5/16
F 6¾x7/16



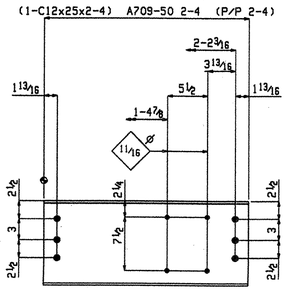
ONE BEAM FB41_L

W 14x5/16
F 6¾x7/16

SHOP BOLTS:
12-7/8x2 A325



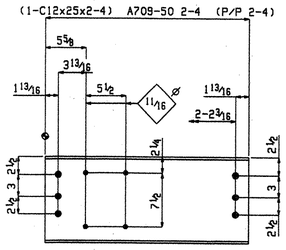
Section A-A
FB41_L



2 BEAMS FB46_L

W 12x3/8
F 3 1/16x½

SHOP NOTE:
TOE DIRECTION NEAR SIDE



2 BEAMS FB46_R

W 12x3/8
F 3 1/16x½

SHOP NOTE:
TOE DIRECTION NEAR SIDE

BILL OF MATERIAL

Quantity Total	Description	Length		Piece Mark	Remarks
39	BEAM			FB38	
39	W14x34	8	1½	FB38	A709-50
	FIELD BOLTS				
234	7/8 Dia A325	0	2½		1 HD WASH
156	7/8 Dia A325	0	2		1 HD WASH
ONE	BEAM			FB39	
1	W14x34	8	1½	FB39	A709-50
1	L4x4x¾	3	3	a505	A709-50
11	7/8 Dia A325	0	2¼		1HD WASH
	FIELD BOLTS				
6	7/8 Dia A325	0	2½		1 HD WASH
4	7/8 Dia A325	0	2		1 HD WASH
ONE	BEAM			FB41_R	
1	W14x34	8	1½	FB41_R	A709-50
2	L4x3½x3/8	0	10	aaL	A709-50
2	L4x3½x3/8	0	10	aaR	A709-50
12	7/8 Dia A325	0	2		1HD WASH
	FIELD BOLTS				
6	7/8 Dia A325	0	2½		1 HD WASH
4	7/8 Dia A325	0	2		1 HD WASH
ONE	BEAM			FB41_L	
1	W14x34	8	1½	FB41_L	A709-50
2	L4x3½x3/8	0	10	aaL	A709-50
2	L4x3½x3/8	0	10	aaR	A709-50
12	7/8 Dia A325	0	2		1HD WASH
	FIELD BOLTS				
6	7/8 Dia A325	0	2½		1 HD WASH
4	7/8 Dia A325	0	2		1 HD WASH
2	BEAM			FB46_L	
2	C12x25	2	4	FB46_L	A709-50
	FIELD BOLTS				
12	7/8 Dia A325	0	2½		1 HD WASH
2	BEAM			FB46_R	
2	C12x25	2	4	FB46_R	A709-50
	FIELD BOLTS				
12	7/8 Dia A325	0	2½		1 HD WASH

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	10/15									
	OUT FOR APPROVAL										
	ISSUED TO SHOP	10/29									
	FIELD & OFFICE										

PROJECT NO. BHF 028-1(2) STATE PROJECT NO. F128(9)

MATERIAL : AS NOTED | ELECTRODES : E70LH | HOLES : 15/16 ϕ UNO | SHOP BOLTS : 7/8ϕ

SURFACE PREPN & PAINT : GALVANIZED

DESCRIPTION : STRUCTURAL DETAILS

JOB : GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRANDE ISLE, VT.

CUSTOMER : STATE OF VERMONT HIGHWAY DEPARTMENT

DRAWN BY	DATE
LCL	OCTOBER 2007
CHECKED BY	DATE
LB	OCTOBER 2007
APPROVED BY	DATE
Q. A.	DATE
JOB NO.	DRG. NO.
342	2
Fab: Job:	REV.

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

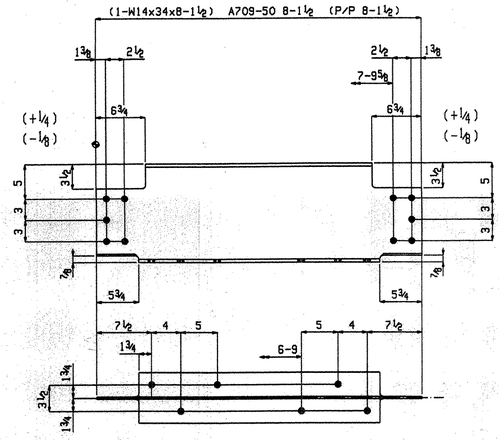
Oct 29 2007 09:40:51 AM

RECEIVED
CK'D BY OK'D BY
NOV 0 5 2007
RESUBMIT APPROVED
BY DATE

DRAWINGS PREPARED BY, PATRIOT DRAFTING LLC.

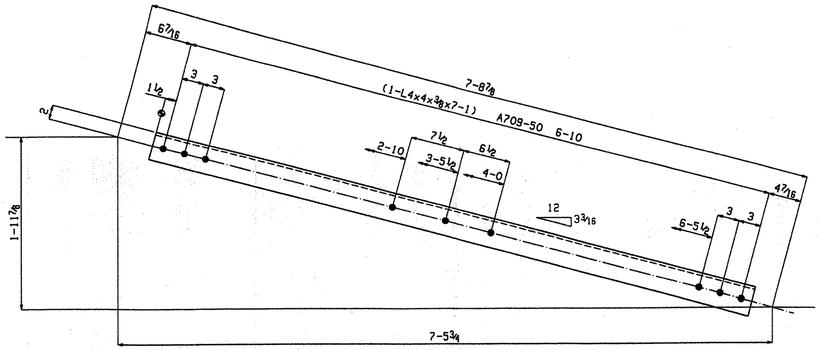
JOB NO.	DRG NO.
342	2

043-55



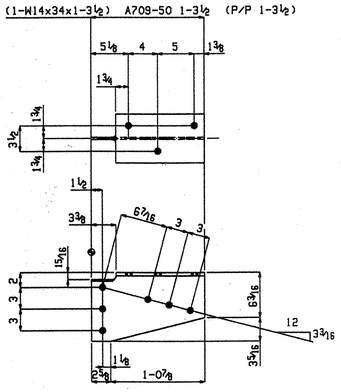
6 BEAMS FB42

W 14x5/16
F 6¾x7/16



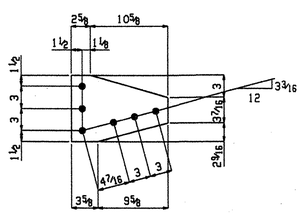
12 VERTICAL BRACES CF4

SHOP NOTE:
TOE DIRECTION FAR SIDE

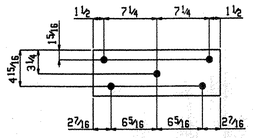


12 BEAMS CF4_ma

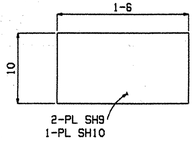
W 14x5/16
F 6¾x7/16



12 PLATES CF4_pb



6 PLATES CF4_pc



8 SHIM PLATE SETS A38

BILL OF MATERIAL

Quantity Total	Description	Length		Piece Mark	Remarks
6	BEAM			FB42	
6	W14x34	8	1½	FB42	A709-50
	FIELD BOLTS				
36	⅞ Dia A325	0	2½		1 HD WASH
36	⅞ Dia A325	0	2¼		1HD WASH
24	⅞ Dia A325	0	2		1 HD WASH
12	VERTICAL BRACE			CF4	
12	L4x4x⅜	7	1	CF4	A709-50
	FIELD BOLTS				
12	⅞ Dia A325	0	2¼		1HD WASH
96	⅞ Dia A325	0	2		1HD WASH
12	BEAM			CF4_ma	
12	W14x34	1	3½	CF4_ma	A709-50
	FIELD BOLTS				
36	⅞ Dia A325	0	2		1 HD WASH
12	PLATE			CF4_pb	
12	PL⅜x9	1	1¼	CF4_pb	A709-50
	FIELD BOLTS				
36	⅞ Dia A325	0	2¼		1 HD WASH
6	PLATE			CF4_pc	
6	PL5/16x6½	1	5½	CF4_pc	A709-50
8	SHIM PLATE SET			A38	
8	SHIM PLATE SET			A38	A709-50
16	PL¼x10	1	6	SH9	A709-50
8	PL⅜x10	1	6	SH10	A709-50

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	10/15				
	OUT FOR APPROVAL					
	ISSUED TO SHOP	10/29				
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

PROJECT NO. BHF 028-1(2) STATE PROJECT NO. F128(9)

MATERIAL : AS NOTED | ELECTRODES : E70LH | HOLES : 15/16 ϕ UNO | SHOP BOLTS : ⅞ϕ

SURFACE PREPN & PAINT : GALVANIZED

DESCRIPTION : STRUCTURAL DETAILS

JOB : GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRANDE ISLE, VT.

CUSTOMER : STATE OF VERMONT HIGHWAY DEPARTMENT

DRAWN BY	DATE
LCL	OCTOBER 2007
CHECKED BY	DATE
LB	OCTOBER 2007
APPROVED BY	DATE
Q. A.	DATE

RECEIVED
CK'D BY _____ OK'D BY _____
NOV 05 2007
RESUBMIT _____ APPROVED _____
BY DATE 11/5/07

DRAWINGS PREPARED BY,
PATRIOT DRAFTING LLC.

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

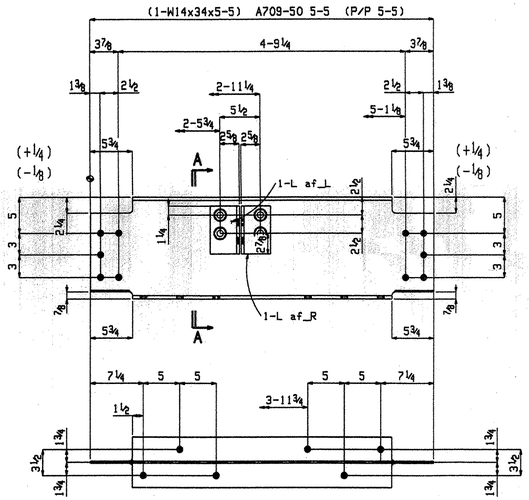
Oct 29 2007 09:40:52 AM

JOB NO.	DRG NO.
342	3

Fab:
Job:

REV.

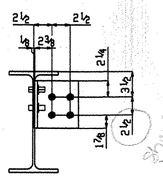
044-55

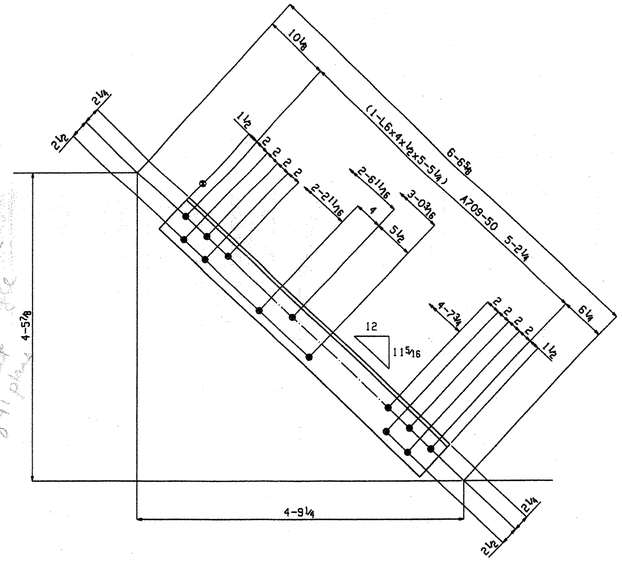


4 BEAMS FB34

W 14x5/16
F 6¾x7/16

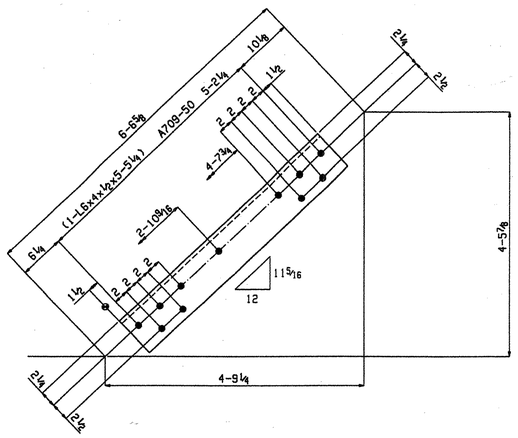
SHOP BOLTS:
4-⅞x2 A325





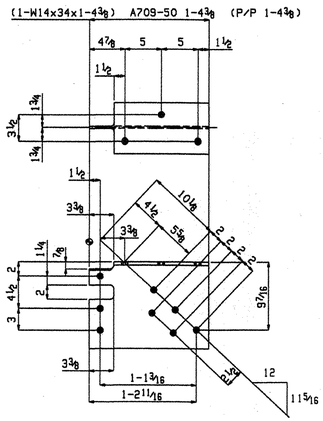
4 VERTICAL BRACES FB34_ab

SHOP NOTE:
TOE DIRECTION NEAR SIDE
LONG LEG SHOWN



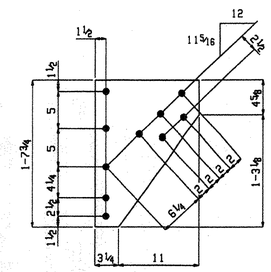
4 VERTICAL BRACES FB34_ac

SHOP NOTE:
TOE DIRECTION FAR SIDE
LONG LEG SHOWN

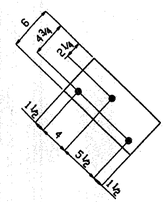


8 BEAMS FB34_ma

W 14x5/16
F 6¾x7/16



8 PLATES FB34_pa



4 PLATES FB34_pc

BILL OF MATERIAL

Quantity Total	Description	Length		Piece Mark	Remarks
4	BEAM			FB34	
4	W14x34	5	5	FB34	A709-50
4	L6x4x⅜	0	6⅝	af_⊥	A709-50
4	L6x4x⅜	0	6⅝	af_R	A709-50
16	⅞ Dia A325	0	2		1HD WASH
	FIELD BOLTS				
24	⅞ Dia A325	0	2½		1 HD WASH
24	⅞ Dia A325	0	2¼		1HD WASH
16	⅞ Dia A325	0	2		1 HD WASH
4	VERTICAL BRACE			FB34_ab	
4	L6x4x½	5	5¼	FB34_ab	A709-50
	FIELD BOLTS				
4	⅞ Dia A325	0	2½		1HD WASH
48	⅞ Dia A325	0	2		1HD WASH
4	VERTICAL BRACE			FB34_ac	
4	L6x4x½	5	5¼	FB34_ac	A709-50
	FIELD BOLTS				
40	⅞ Dia A325	0	2		1HD WASH
8	BEAM			FB34_ma	
8	W14x34	1	4⅜	FB34_ma	A709-50
	FIELD BOLTS				
24	⅞ Dia A325	0	2		1 HD WASH
8	PLATE			FB34_pa	
8	PL 5/16x14¼	1	7¾	FB34_pa	A709-50
	FIELD BOLTS				
40	⅞ Dia A325	0	2¼		1 HD WASH
4	PLATE			FB34_pc	
4	PL 5/16x6	1	0½	FB34_pc	A709-50

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	10/15									
	OUT FOR APPROVAL										
	ISSUED TO SHOP	10/29									
	FIELD & OFFICE										

PROJECT NO. BHF 028-1(2) STATE PROJECT NO. F128(9)

MATERIAL : AS NOTED | ELECTRODES : E70LH | HOLES : 15/16 ϕ UNO | SHOP BOLTS : ⅞ϕ

SURFACE PREPN & PAINT : GALVANIZED

DESCRIPTION : STRUCTURAL DETAILS

JOB : GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRANDE ISLE, VT.

CUSTOMER : STATE OF VERMONT HIGHWAY DEPARTMENT

DRAWN BY	DATE
LCL	OCTOBER 2007
CHECKED BY	DATE
LB	OCTOBER 2007
APPROVED BY	DATE
Q. A.	DATE

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

Oct 29 2007 09:40:53 AM

JOB NO. 342 | DRG. NO. 4 | REV.

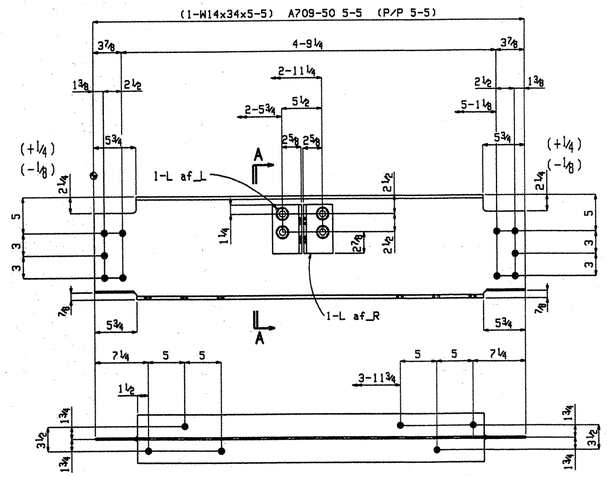
Fab: Job:

RECEIVED
OK'D BY _____ OK'D BY
NOV 05 2007
RESUBMIT _____ APPROVED
BY DATE 11/5/07

DRAWINGS PREPARED BY, PATRIOT DRAFTING LLC.

JOB NO.	DRG NO.
342	4

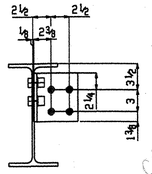
045-55



ONE BEAM FB35

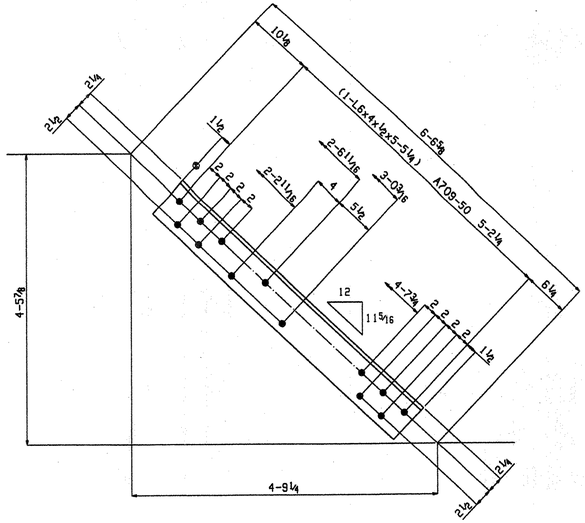
W	14x$5^{}/_{16}$
F	$6^{3}/_{4}$x$^{7}/_{16}$

SHOP BOLTS:
4-⅞x2 A325



Section A-A
FB35

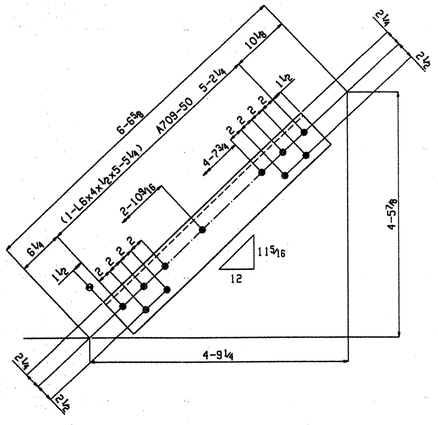
Comment: Note bolt should be at this angle



ONE VERTICAL BRACE FB35_ab

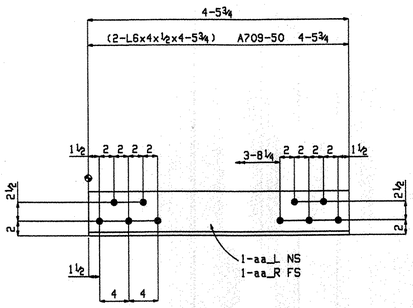
SHOP NOTE:
TOE DIRECTION NEAR SIDE
LONG LEG SHOWN

need 1 more of each of these

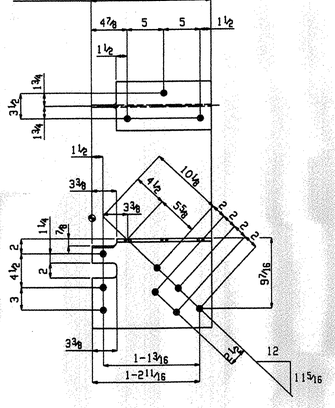


ONE VERTICAL BRACE FB35_ac

SHOP NOTE:
TOE DIRECTION FAR SIDE
LONG LEG SHOWN



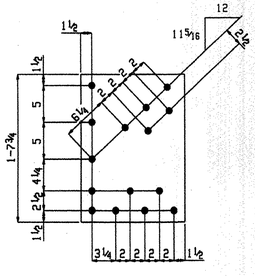
ONE HORIZONTAL BRACE FB35_aa



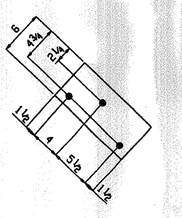
2 BEAMS FB35_ma

W	14x$5^{}/_{16}$
F	$6^{3}/_{4}$x$^{7}/_{16}$

need 2 more



2 PLATES FB35_pb



ONE PLATE FB35_pc

BILL OF MATERIAL

Quantity Total	Description	Length		Piece Mark	Remarks
ONE	BEAM			FB35	
1	W14x34	5	5	FB35	A709-50
1	L6x4x⅜	0	$6^{3}/_{8}$	a512	A709-50
1	L6x4x⅜	0	$6^{3}/_{8}$	a510	A709-50
4	⅞ Dia A325	0	2		1HD WASH
	FIELD BOLTS				
6	⅞ Dia A325	0	2½		1 HD WASH
6	⅞ Dia A325	0	2¼		1HD WASH
4	⅞ Dia A325	0	2		1 HD WASH
ONE	HORIZONTAL BRACE			FB35_aa	
1	L6x4x½	4	$5^{3}/_{4}$	FB35_aaL	A709-50
1	L6x4x½	4	$5^{3}/_{4}$	FB35_aaR	A709-50
	FIELD BOLTS				
10	⅞ Dia A325	0	2½		1HD WASH
ONE	VERTICAL BRACE			FB35_ab	
1	L6x4x½	5	$5^{1}/_{4}$	FB35_ab	A709-50
	FIELD BOLTS				
1	⅞ Dia A325	0	2½		1HD WASH
12	⅞ Dia A325	0	2		1HD WASH
ONE	VERTICAL BRACE			FB35_ac	
1	L6x4x½	5	$5^{1}/_{4}$	FB35_ac	A709-50
	FIELD BOLTS				
10	⅞ Dia A325	0	2		1HD WASH
2	BEAM			FB35_ma	
2	W14x34	1	$4^{3}/_{8}$	FB35_ma	A709-50
	FIELD BOLTS				
6	⅞ Dia A325	0	2		1 HD WASH
2	PLATE			FB35_pb	
2	PL$^{5}/_{16}$x14¼	1	$7^{3}/_{4}$	FB35_pb	A709-50
	FIELD BOLTS				
10	⅞ Dia A325	0	2¼		1 HD WASH
ONE	PLATE			FB35_pc	
1	PL$^{5}/_{16}$x6	1	$0^{1}/_{2}$	FB35_pc	A709-50

need 2 more

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	$10^{}/_{15}$									
	OUT FOR APPROVAL										
	ISSUED TO SHOP	$10^{}/_{29}$									
	FIELD & OFFICE										

PROJECT NO. BHF 028-1(2) STATE PROJECT NO. F128(9)

MATERIAL : AS NOTED | ELECTRODES : E70LH | HOLES : $^{15}/_{16}\phi$ UNO | SHOP BOLTS : $^{7}/_{8}\phi$

SURFACE PREPN & PAINT : GALVANIZED

DESCRIPTION : STRUCTURAL DETAILS

JOB : GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRANDE ISLE, VT.

CUSTOMER : STATE OF VERMONT HIGHWAY DEPARTMENT

	DRAWN BY	DATE
	LCL	OCTOBER 2007
	CHECKED BY	DATE
	LB	OCTOBER 2007
	APPROVED BY	DATE
	Q. A.	DATE
JOB NO.	342	DRG. NO. 5
Fab: Job:		REV.

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

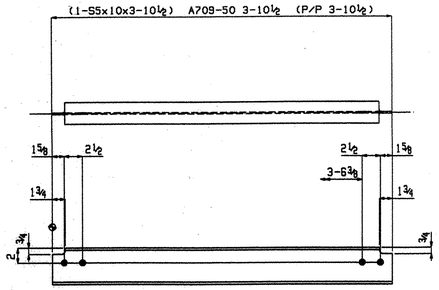
Oct 29 2007 09:40:54 AM

RECEIVED
CK'D BY _____ OK'D BY _____
NOV 05 2007
RESUBMIT _____ APPROVED _____
BY _____ DATE 11/5/07

DRAWINGS PREPARED BY, PATRIOT DRAFTING LLC.

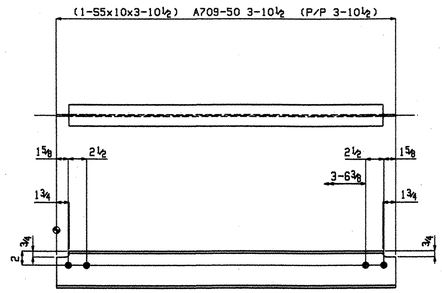
JOB NO.	DRG NO.
342	5

046-55



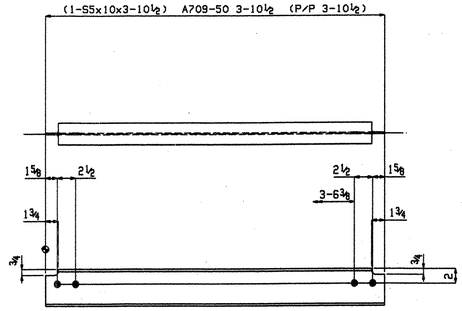
ONE BEAM FB8

W 5x3/16
F 3x5/16



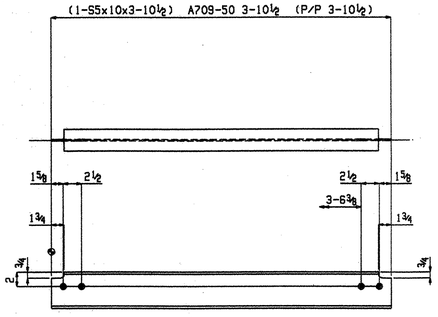
2 BEAMS FB9_L

W 5x3/16
F 3x5/16



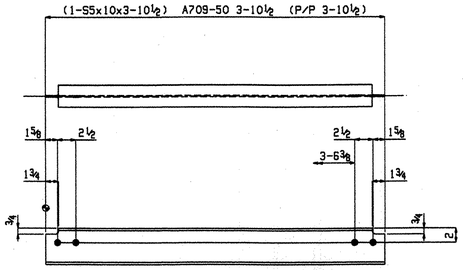
2 BEAMS FB9_R

W 5x3/16
F 3x5/16



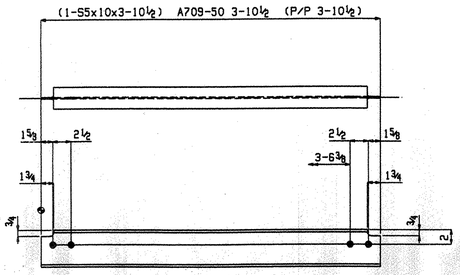
ONE BEAM FB47_L

W 5x3/16
F 3x5/16



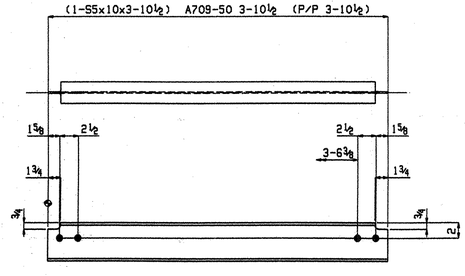
ONE BEAM FB47_R

W 5x3/16
F 3x5/16



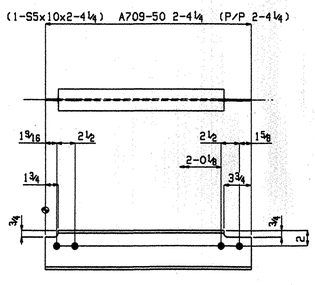
ONE BEAM FB48

W 5x3/16
F 3x5/16



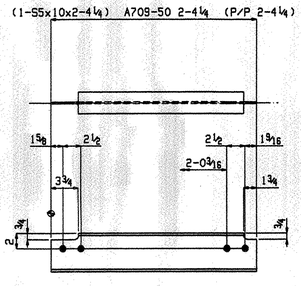
ONE BEAM FB49

W 5x3/16
F 3x5/16



3 BEAMS FB10_L

W 5x3/16
F 3x5/16



6 BEAMS FB10_R

W 5x3/16
F 3x5/16

BILL OF MATERIAL

Quantity Total	Description	Length		Piece Mark	Remarks
ONE	BEAM			FB8	
1	S5x10	3	10½	FB8	A709-50
	FIELD BOLTS				
4	⅞ Dia A325	0	2		1 HD WASH
2	BEAM			FB9_L	
2	S5x10	3	10½	FB9_L	A709-50
	FIELD BOLTS				
8	⅞ Dia A325	0	2		1 HD WASH
2	BEAM			FB9_R	
2	S5x10	3	10½	FB9_R	A709-50
	FIELD BOLTS				
8	⅞ Dia A325	0	2		1 HD WASH
ONE	BEAM			FB47_L	
1	S5x10	3	10½	FB47_L	A709-50
	FIELD BOLTS				
4	⅞ Dia A325	0	2		1 HD WASH
ONE	BEAM			FB47_R	
1	S5x10	3	10½	FB47_R	A709-50
	FIELD BOLTS				
4	⅞ Dia A325	0	2		1 HD WASH
ONE	BEAM			FB48	
1	S5x10	3	10½	FB48	A709-50
	FIELD BOLTS				
4	⅞ Dia A325	0	2		1 HD WASH
ONE	BEAM			FB49	
1	S5x10	3	10½	FB49	A709-50
	FIELD BOLTS				
4	⅞ Dia A325	0	2		1 HD WASH
3	BEAM			FB10_L	
3	S5x10	2	4¼	FB10_L	A709-50
	FIELD BOLTS				
12	⅞ Dia A325	0	2		1 HD WASH
6	BEAM			FB10_R	
6	S5x10	2	4¼	FB10_R	A709-50
	FIELD BOLTS				
24	⅞ Dia A325	0	2		1 HD WASH

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	10/15									
	OUT FOR APPROVAL										
	ISSUED TO SHOP	10/29									
	FIELD & OFFICE										

PROJECT NO. BHF 028-1(2) STATE PROJECT NO. F128(9)

MATERIAL : AS NOTED | ELECTRODES : E70LH | HOLES : 15/16 ϕ UNO | SHOP BOLTS : ⅞ϕ

SURFACE PREPN & PAINT : GALVANIZED

DESCRIPTION : STRUCTURAL DETAILS

JOB : GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRANDE ISLE, VT.

CUSTOMER : STATE OF VERMONT HIGHWAY DEPARTMENT

DRAWN BY	DATE
LCL	OCTOBER 2007
CHECKED BY	DATE
LB	OCTOBER 2007
APPROVED BY	DATE
Q. A.	DATE
JOB NO.	DRG. NO.
342	6
Fab: Job:	REV.

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

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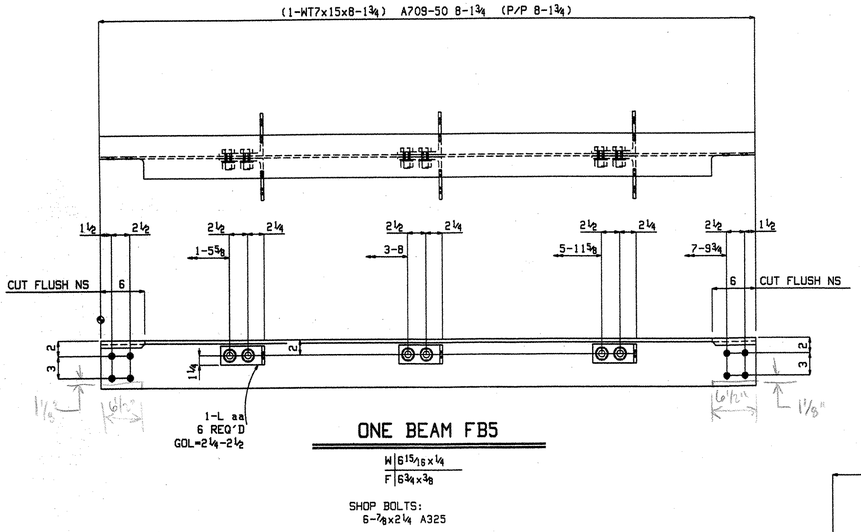
JOB NO.	DRG NO.
342	6

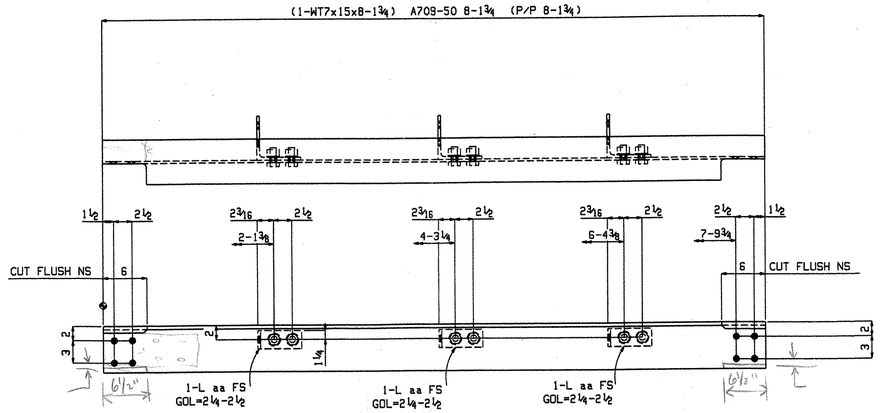
047-55



ONE BEAM FB5

W 6 15/16 x ¼
F 6¾ x ⅜

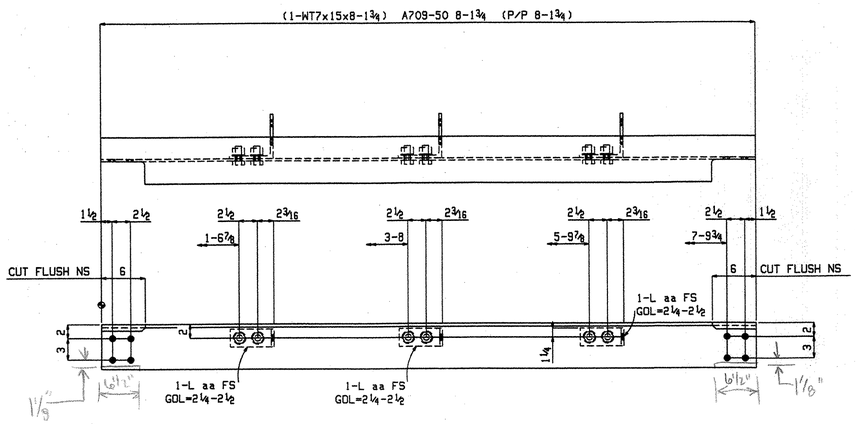
SHOP BOLTS:
6-⅞x2¼ A325



ONE BEAM FB6_L

W 6 15/16 x ¼
F 6¾ x ⅜

SHOP BOLTS:
6-⅞x2 A325



ONE BEAM FB6_R

W 6 3/8 x 5/16
F 6 1/16 x 7/16

SHOP BOLTS:
6-⅞x2 A325

BILL OF MATERIAL

Quantity Total	Description	Length		Piece Mark	Remarks
ONE	BEAM			FB5	
1	WT7x15	8	1¾	FB5	A709-50
6	L6x6x⅜	0	2½	aa	A709-50
6	⅞ Dia A325	0	2¼		1HD WASH
	FIELD BOLTS				
8	⅞ Dia A325	0	2		1 HD WASH
ONE	BEAM			FB6_L	
1	WT7x15	8	1¾	FB6_L	A709-50
3	L6x6x⅜	0	2½	aa	A709-50
6	⅞ Dia A325	0	2		1HD WASH
	FIELD BOLTS				
8	⅞ Dia A325	0	2		1 HD WASH
ONE	BEAM			FB6_R	
1	WT7x15	8	1¾	FB6_R	A709-50
3	L6x6x⅜	0	2½	aa	A709-50
6	⅞ Dia A325	0	2		1HD WASH
	FIELD BOLTS				
8	⅞ Dia A325	0	2		1 HD WASH

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	10/15									
	OUT FOR APPROVAL										
	ISSUED TO SHOP	10/29									
	FIELD & OFFICE										

PROJECT NO. BHF 028-1(2) STATE PROJECT NO. F128(9)

MATERIAL : AS NOTED | ELECTRODES : E70LH | HOLES : 15/16 ϕ UNO | SHOP BOLTS : ⅞ϕ

SURFACE PREPN & PAINT : GALVANIZED

DESCRIPTION : STRUCTURAL DETAILS

JOB : GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRANDE ISLE, VT.

CUSTOMER : STATE OF VERMONT HIGHWAY DEPARTMENT

DRAWN BY	DATE
LCL	OCTOBER 2007
CHECKED BY	DATE
LB	OCTOBER 2007
APPROVED BY	DATE
Q. A.	DATE
JOB NO.	DRG. NO.
342	7
Fab: Job:	REV.

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

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DRAWINGS PREPARED BY, PATRIOT DRAFTING LLC.

JOB NO.	DRG NO.
342	7

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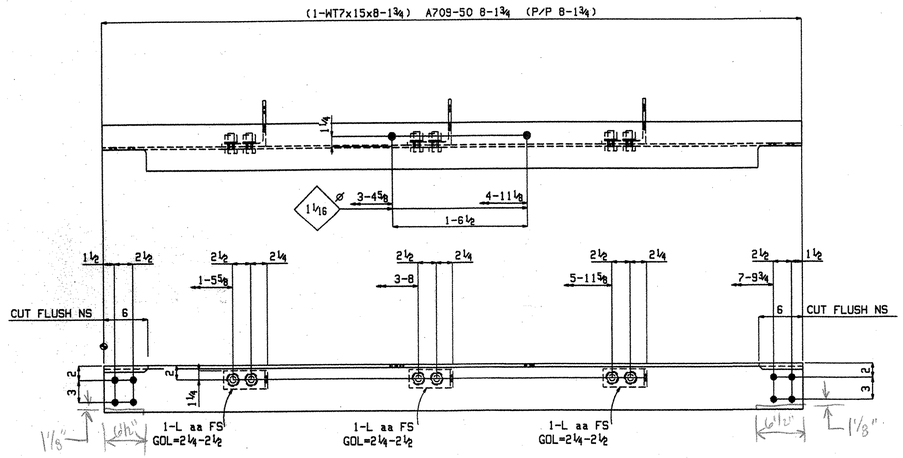
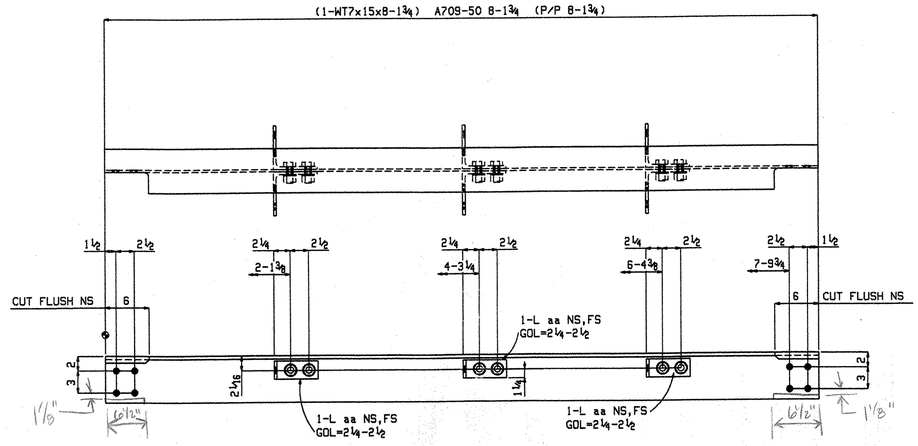


ONE BEAM FB7

W 6 15/16 x 1/4
F 6 3/4 x 3/8

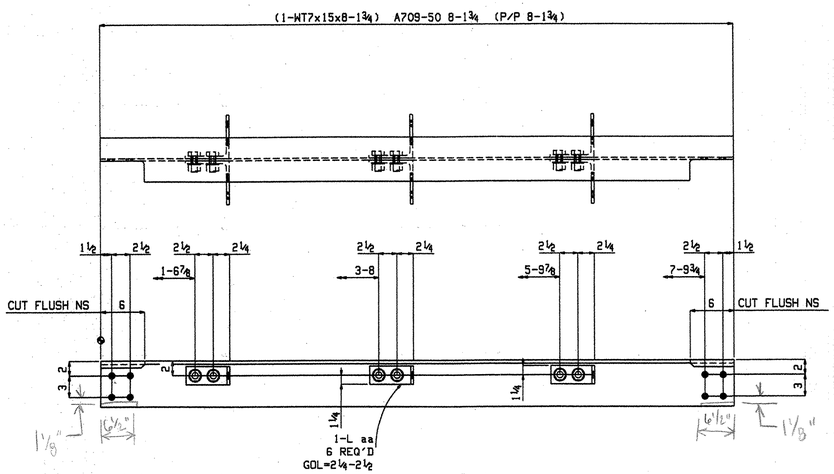
SHOP BOLTS:
6-7/8x2 A325



ONE BEAM FB50_L

W 6 15/16 x 1/4
F 6 3/4 x 3/8

SHOP BOLTS:
6-7/8x2 1/4 A325



ONE BEAM FB50_R

W 6 15/16 x 1/4
F 6 3/4 x 3/8

SHOP BOLTS:
6-7/8x2 1/4 A325

BILL OF MATERIAL

Quantity Total	Description	Length		Piece Mark	Remarks
ONE	BEAM			FB7	
1	WT7x15	8	13/4	FB7	A709-50
3	L6x6x3/8	0	2 1/2	aa	A709-50
6	7/8 Dia A325	0	2		1HD WASH
	FIELD BOLTS				
8	7/8 Dia A325	0	2		1 HD WASH
ONE	BEAM			FB50_L	
1	WT7x15	8	13/4	FB50_L	A709-50
6	L6x6x3/8	0	2 1/2	aa	A709-50
6	7/8 Dia A325	0	2 1/4		1HD WASH
	FIELD BOLTS				
8	7/8 Dia A325	0	2		1 HD WASH
ONE	BEAM			FB50_R	
1	WT7x15	8	13/4	FB50_R	A709-50
6	L6x6x3/8	0	2 1/2	aa	A709-50
6	7/8 Dia A325	0	2 1/4		1HD WASH
	FIELD BOLTS				
8	7/8 Dia A325	0	2		1 HD WASH

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	10/15									
	OUT FOR APPROVAL										
	ISSUED TO SHOP	10/29									
	FIELD & OFFICE										

PROJECT NO. BHF 028-1(2) STATE PROJECT NO. F128(9)

MATERIAL : AS NOTED | ELECTRODES : E70LH | HOLES : 15/16 ϕ UNO | SHOP BOLTS : 7/8 ϕ

SURFACE PREPN & PAINT : GALVANIZED

DESCRIPTION : STRUCTURAL DETAILS

JOB : GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRANDE ISLE,VT.

CUSTOMER : STATE OF VERMONT HIGHWAY DEPARTMENT

DRAWN BY	DATE
LCL	OCTOBER 2007
CHECKED BY	DATE
LB	OCTOBER 2007
APPROVED BY	DATE
Q. A.	DATE
JOB NO.	DRG. NO.
342	8
Fab: Job:	REV.

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

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DRAWINGS PREPARED BY, PATRIOT DRAFTING LLC.

JOB NO.	DRG NO.
342	8

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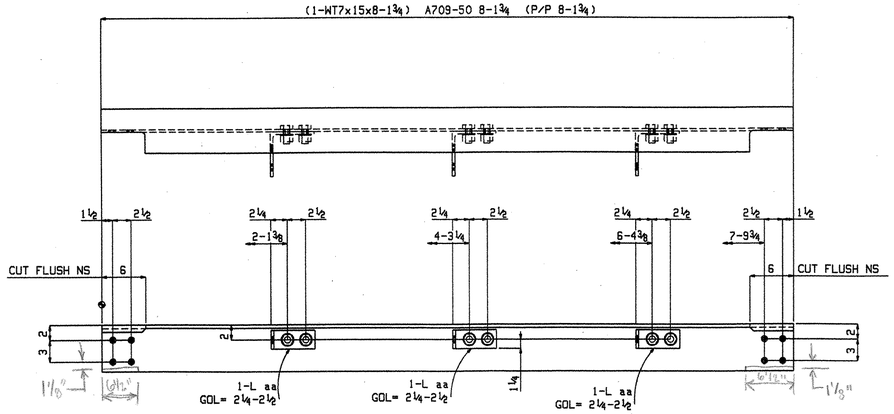
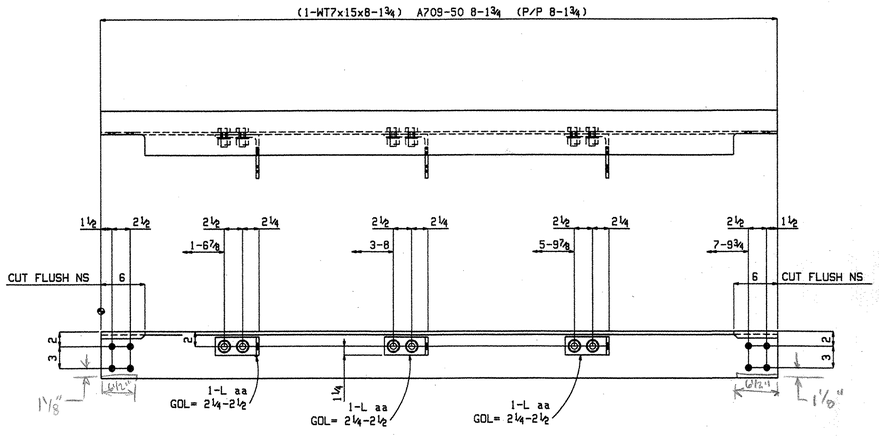


ONE BEAM FB11_L

W 6 15/16 x ¼
F 6¾ x ⅜

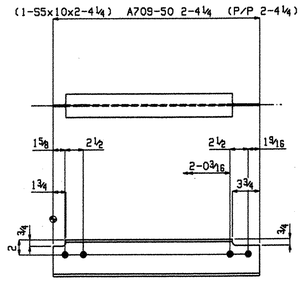
SHOP BOLTS:
6-⅞x2 A325



ONE BEAM FB11_R

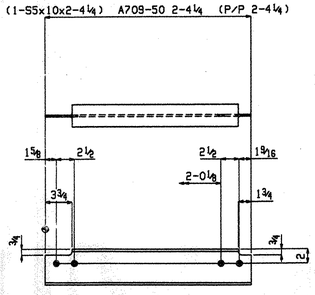
W 6 15/16 x ¼
F 6¾ x ⅜

SHOP BOLTS:
6-⅞x2 A325



3 BEAMS FB12_R

W 5 3/16
F 3 5/16



3 BEAMS FB12_L

W 5 3/16
F 3 5/16

BILL OF MATERIAL

Quantity Total	Description	Length		Piece Mark	Remarks
ONE	BEAM			FB11_L	
1	WT7x15	8	1¾	FB11_L	A709-50
3	L6x6x⅜	0	2½	aa	A709-50
6	⅞ Dia A325	0	2		1HD WASH
	FIELD BOLTS				
8	⅞ Dia A325	0	2		1 HD WASH
ONE	BEAM			FB11_R	
1	WT7x15	8	1¾	FB11_R	A709-50
3	L6x6x⅜	0	2½	aa	A709-50
6	⅞ Dia A325	0	2		1HD WASH
	FIELD BOLTS				
8	⅞ Dia A325	0	2		1 HD WASH
3	BEAM			FB12_R	
3	S5x10	2	4¼	FB12_R	A709-50
	FIELD BOLTS				
12	⅞ Dia A325	0	2		1 HD WASH
3	BEAM			FB12_L	
3	S5x10	2	4¼	FB12_L	A709-50
	FIELD BOLTS				
12	⅞ Dia A325	0	2		1 HD WASH

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	10/15									
	OUT FOR APPROVAL										
	ISSUED TO SHOP	10/29									
	FIELD & OFFICE										

PROJECT NO. BHF 028-1(2) STATE PROJECT NO. F128(9)

MATERIAL : AS NOTED | ELECTRODES : E70LH | HOLES : 15/16 ϕ UNO | SHOP BOLTS : ⅞ϕ

SURFACE PREPN & PAINT : GALVANIZED

DESCRIPTION : STRUCTURAL DETAILS

JOB : GRAND ISLE-NORTH HERO BRIDGE
COUNTY OF GRANDE ISLE, VT.

CUSTOMER : STATE OF VERMONT HIGHWAY DEPARTMENT

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DRAWINGS PREPARED BY, PATRIOT DRAFTING LLC.

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179 Nov 01 2007 10:59:37 AM

DRAWN BY	DATE
LCL	OCTOBER 2007
CHECKED BY	DATE
LB	OCTOBER 2007
APPROVED BY	DATE
Q. A.	DATE
JOB NO.	DRG. NO.
342	9
Fab: Job:	REV.

JOB NO.	DRG. NO.
342	9

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BY _____ DATE 11-5-07

ISI **WELDING PROCEDURE SPECIFICATION**

Proc. Qual. Record No. (PQR#)	**IDSI-6**					
Material Specification	**ASTM A36, A588, A709 Gr 36, A709 Gr 50, A709 Gr 50W, A572 Gr50 or A992 - as per approved shop drawings.**					
Welding Process	**GMAW**					
Manual or Semi-auto	**Semi-automatic**					
Position of Welding	**1G - Flat**					
Filler Metal Specification	**AWS A5.18**					
Filler Metal Classification	**AWS ER70S-6**					
Electrode and Manufacturer	**ESAB Spoolarc 86**					
Shielding Gas	**85% Argon 15% C02**	Dew Point	**-40degreeF Min.**	Flow Rate	**40 cfh**	
Single or Multiple Pass	**Single**					
Single or Multiple Arc	**Single**					
Welding Current	**DC**					
Polarity	**Reverse**					
Welding Progression	**NA**					
Root Treatment	**Wire brush as necessary to remove foreign material**					
Preheat and Interpass Temp.	**50 degree F min to 400 degree F Max**					
Postheat Temperature	**None**					
Heat Input	**25.5 kJ/in Min. to 36 kJ/in Max.**					

NOTES:

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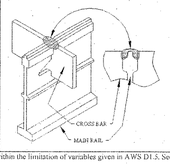
WELDING PROCEDURE

Pass no.	Electrode size	Welding Parameters		Travel speed	MAIN RAIL PUDDLE WELD JOINT DETAIL
		Amperes	Volts		
All	**.045**	**257-300**	**26.5-29**	**14.5 - 16 IPM**	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in AWS D1.5, Section 5A.

Procedure no. **IDSI-6-1A** Fabricator **Interlocking Deck Systems International, LLC**

Revision no. **1** Authorized By **Brad King CWI #02100701**

Date **08-07-2006**

051-PGWP

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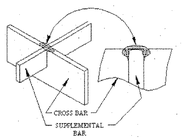
BY _____ DATE 11-5-07

ISI WELDING PROCEDURE SPECIFICATION

Proc. Qual. Record No. (PQR#)	**IDSI-6**				
Material Specification	**ASTM A36, A588, A709 Gr 36, A709 Gr 50, A709 Gr 50W, A572 Gr50 or A992 - as per approved shop drawings.**				
Welding Process	**GMAW**				
Manual or Semi-auto	**Semi-automatic**				
Position of Welding	**1G - Flat**				
Filler Metal Specification	**AWS A5.18**				
Filler Metal Classification	**AWS ER70S-6**				
Electrode and Manufacturer	**ESAB Spoolarc 86**				
Shielding Gas	**85% Argon 15% C02**	Dew Point	**-40degreeF Min.**	Flow Rate	**40 cfh**
Single or Multiple Pass	**Single**				
Single or Multiple Arc	**Single**				
Welding Current	**DC**				
Polarity	**Reverse**				
Welding Progression	**NA**				
Root Treatment	**Wire brush as necessary to remove foreign material**				
Preheat and Interpass Temp.	**50 degree F min to 400 degree F Max**				
Postheat Temperature	**None**				
Heat Input	**25.5 kJ/in Min. to 36 kJ/in Max.**				

NOTES: √

WELDING PROCEDURE

Pass no.	Electrode size	Welding Parameters		Travel speed	CROSS BAR PUDDLE WELD JOINT DETAIL
		Amperes	Volts		
All	**.045**	**257-300**	**26.5-29**	**14.5 - 16 IPM**	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in AWS D1.5, Section 5A.

Procedure no. **IDSI-6-2A** Fabricator **Interlocking Deck Systems International, LLC**

Revision no. **1** Authorized By **Brad King CWI #02100701**

Date **08-07-2006**

052-DG WP

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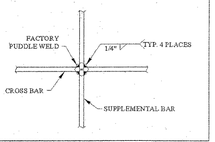
OCT 29 2007
RESUBMIT _____ APPROVED ✓
BY _____ DATE 11-5-07

ISI WELDING PROCEDURE SPECIFICATION

Proc. Qual. Record No. (PQR#)	**IDSI-6**					
Material Specification	**ASTM A36, A588, A709 Gr 36, A709 Gr 50, A709 Gr 50W, A572 Gr50 or A992 - as per approved shop drawings.**					
Welding Process	**GMAW**					
Manual or Semi-auto	**Semi-automatic**					
Position of Welding	**2F Horizontal & 1G - Flat**					
Filler Metal Specification	**AWS A5.18**					
Filler Metal Classification	**AWS ER70S-6**					
Electrode and Manufacturer	**ESAB Spoolarc 86**					
Shielding Gas	**85% Argon 15% C02**	Dew Point	**-40degreeF Min.**	Flow Rate	**40 cfh**	
Single or Multiple Pass	**Single**					
Single or Multiple Arc	**Single**					
Welding Current	**DC**					
Polarity	**Reverse**					
Welding Progression	**NA**					
Root Treatment	**Wire brush as necessary to remove foreign material**					
Preheat and Interpass Temp.	**50 degree F min to 400 degree F Max**					
Postheat Temperature	**None**					
Heat Input	**25.5 kJ/in Min. to 36 kJ/in Max.**					

NOTES: ✓

WELDING PROCEDURE

Pass no.	Electrode size	Welding Parameters		Travel speed	SUPPLEMENTAL BAR SPLICE WELD JOINT DETAIL
		Amperes	Volts		
All	**.045**	**257-300**	**26.5-29**	**14.5 - 16 IPM**	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in AWS D1.5, Section 5A.

Procedure no. **IDSI-6-3A** Fabricator **Interlocking Deck Systems International, LLC**

Revision no. **1** Authorized By **Brad King CWI #02100701**

Date **08-07-2006**

053-DGWP

DRWG BY _____ CHKD BY JWC

OCT 2 9 2007

RESUBMIT _____ APPROVED ✓

BY _____ DATE 11-5-07

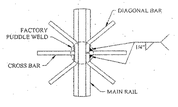
ISI WELDING PROCEDURE SPECIFICATION

Proc. Qual. Record No. (PQR#)	**IDSI-6**					
Material Specification	**ASTM A36, A588, A709 Gr 36, A709 Gr 50, A709 Gr 50W, A572 Gr50 or A992 - as per approved shop drawings.**					
Welding Process	**GMAW**					
Manual or Semi-auto	**Semi-automatic**					
Position of Welding	**2F Horizontal & 1G - Flat**					
Filler Metal Specification	**AWS A5.18**					
Filler Metal Classification	**AWS ER70S-6**					
Electrode and Manufacturer	**ESAB Spoolarc 86**					
Shielding Gas	**85% Argon 15% C02**	Dew Point	**-40degreeF Min.**	Flow Rate	**40 cfh**	
Single or Multiple Pass	**Single**					
Single or Multiple Arc	**Single**					
Welding Current	**DC**					
Polarity	**Reverse**					
Welding Progression	**NA**					
Root Treatment	**Wire brush as necessary to remove foreign material.**					
Preheat and Interpass Temp.	**50 degree F min to 400 degree F Max**					
Postheat Temperature	**None**					
Heat Input	**25.5 kJ/in Min. to 36 kJ/in Max.**					

NOTES:

✓

WELDING PROCEDURE

Pass no.	Electrode size	Welding Parameters		Travel speed	DIAGONAL BAR SPLICE DETAIL
		Amperes	Volts		
All	**.045**	**257-300**	**26.5-29**	**14.5 - 16 IPM**	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in AWS D1.5, Section 5A.

Procedure no. **IDSI-6-4A** Fabricator **Interlocking Deck Systems International, LLC**

Revision no. **1** Authorized By **Brad King CWI #02100701**

Date **08-07-2006**

054 DGWP

I SI WELDING PROCEDURE SPECIFICATION

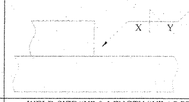
FRANK CHKD BY _____ DATE BY JAC
OCT 2 8 2007
RESUBMIT _____ APPROVED ✓
BY DATE 11-5-07

Proc. Qual. Record No. (PQR#)	**IDSI-6**
Material Specification	**ASTM A36, A588, A709 Gr 36, A709 Gr 50, A709 Gr 50W, A572 Gr50 or A992 - as per approved shop drawings.**
Welding Process	**GMAW**
Manual or Semi-auto	**Semi-automatic**
Position of Welding	**2F - Horizontal**
Filler Metal Specification	**AWS A5.18**
Filler Metal Classification	**AWS ER70S-6**
Electrode and Manufacturer	**ESAB Spoolarc 86**
Shielding Gas	**85% Argon 15% C02** — Dew Point: **-40degreeF Min.** — Flow Rate: **40 cfh**
Single or Multiple Pass	**Single (see chart below)**
Single or Multiple Arc	**Single**
Welding Current	**DC**
Polarity	**Reverse**
Welding Progression	**NA**
Root Treatment	**Wire brush as necessary to remove foreign material**
Preheat and Interpass Temp.	**50 degree F min to 400 degree F Max**
Postheat Temperature	**None**
Heat Input	**25.5 kJ/in Min. to 36 kJ/in Max.**

NOTES:

✓

WELDING PROCEDURE

Pass no.	Electrode size	Welding Parameters: Amperes	Welding Parameters: Volts	Travel speed	FILLET WELD JOINT DETAIL
1	**.045**	**257-300**	**26.5-29**	**14.5 - 16 IPM**	

Number of Passes Based on Fillet Weld Size	
Weld Size "X"	Number of Passes
3/16" (5mm)	Single
1/4" (6mm)	Single
5/16" (8mm)	Single

WELD SIZE "X" & LENGTH "Y" AS PER APPROVED SHOP DWGS.

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in AWS D1.5, Section 5A

Procedure no. **IDSI-6-5A** Fabricator **Interlocking Deck Systems International, LLC**

Revision no. **2** Authorized By **Brad King CWI #02100701**

Date **05-04-2007**

055 DGWP

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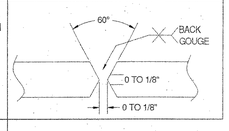
BY: _____ DATE 11-5-07

ISI WELDING PROCEDURE SPECIFICATION

Proc. Qual. Record No. (PQR#)	**IDSI-6**					
Material Specification	**ASTM A36, A588, A709 Gr 36, A709 Gr 50, A709 Gr 50W, A572 Gr50 or A992 - as per approved shop drawings.**					
Welding Process	**GMAW**					
Manual or Semi-auto	**Semi-automatic**					
Position of Welding	**1G - Flat**					
Filler Metal Specification	**AWS A5.18**					
Filler Metal Classification	**AWS ER70S-6**					
Electrode and Manufacturer	**ESAB Spoolarc 86**					
Shielding Gas	**85% Argon 15% C02**	Dew Point	**-40degreeF Min.**	Flow Rate	**40 cfh**	
Single or Multiple Pass	**Single or Multiple (per chart below)**					
Single or Multiple Arc	**Single**					
Welding Current	**DC**					
Polarity	**Reverse**					
Welding Progression	**NA**					
Root Treatment	**Wire brush as necessary to remove foreign material**					
Preheat and Interpass Temp.	**50 degree F min to 400 degree F Max**					
Postheat Temperature	**None**					
Heat Input	**25.5 kJ/in Min. to 36 kJ/in Max.**					

NOTES:
1) **Grind weld flush if required by job specification or as shown on shop drawings.**
2) **Back-gouge to sound metal before welding 2nd side.** √

WELDING PROCEDURE

Pass no.	Electrode size	Welding Parameters		Travel speed	(B-U3-GF) JOINT DETAIL
		Amperes	Volts		
All	**.045**	**257-300**	**26.5-29**	**14.5 - 16 IPM**	

Number of Passes Based on Weld Size / Depth	
Weld Depth	Number of Passes
Less than or equal to 5/16"	Single
Greater than 5/16"	Multiple

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in AWS D1.5, Section 5A.

Procedure no. **IDSI-6-14A** Fabricator **Interlocking Deck Systems International, LLC**

Revision no. **1** Authorized By **Brad King CWI #02100701**

Date **08-07-2006**

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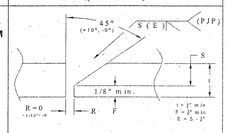
ISI WELDING PROCEDURE SPECIFICATION

Proc. Qual. Record No. (PQR#)	**IDSI-6**					
Material Specification	**ASTM A36, A588, A709 Gr 36, A709 Gr 50, A709 Gr 50W, A572 Gr50 or A992 - as per approved shop drawings.**					
Welding Process	**GMAW**					
Manual or Semi-auto	**Semi-automatic**					
Position of Welding	**1G - Flat**					
Filler Metal Specification	**AWS A5.18**					
Filler Metal Classification	**AWS ER70S-6**					
Electrode and Manufacturer	**ESAB Spoolarc 86**					
Shielding Gas	**85% Argon 15% C02**	Dew Point	**-40degreeF Min.**	Flow Rate	**40 cfh**	
Single or Multiple Pass	**Single**					
Single or Multiple Arc	**Single**					
Welding Current	**DC**					
Polarity	**Reverse**					
Welding Progression	**NA**					
Root Treatment	**Wire brush as necessary to remove foreign material**					
Preheat and Interpass Temp.	**50 degree F min to 400 degree F Max**					
Postheat Temperature	**None**					
Heat Input	**25.5 kJ/in Min. to 36 kJ/in Max.**					

NOTES:
1) **Grind weld flush if required by job specification or as shown on shop drawings.**
2) **Dimensions 't' (material thickness) and 'S' (bevel size) are per approved shop drawings.** ✓

WELDING PROCEDURE

Size	Pass no.	Electrode size	Welding Parameters Amperes	Volts	Travel speed	SINGLE-BEVEL-GROOVE (TC-P4-GF)
S(E) Per Shop Dwgs	**1**	**.045**	**257-300**	**26.5-29**	**14.5 - 16 IPM**	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in AWS D1.5, Section 5A.

Procedure no. **IDSI-6-26M** Fabricator **Interlocking Deck Systems International, LLC**

Revision no. **1** Authorized By **Brad King CWI #02100701**

Date **05-04-2007**

057-D6UP

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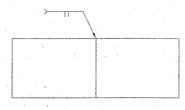
I SI WELDING PROCEDURE SPECIFICATION

Proc. Qual. Record No. (PQR#)	**IDSI-6**					
Material Specification	**ASTM A36, A588, A709 Gr 36, A709 Gr 50, A709 Gr 50W, A572 Gr50 or A992 - as per approved shop drawings.**					
Welding Process	**GMAW**					
Manual or Semi-auto	**Semi-automatic**					
Position of Welding	**1G - Flat**					
Filler Metal Specification	**AWS A5.18**					
Filler Metal Classification	**AWS ER70S-6**					
Electrode and Manufacturer	**ESAB Spoolarc 86**					
Shielding Gas	**85% Argon 15% C02**	Dew Point	**-40degreeF Min.**	Flow Rate	**40 cfh**	
Single or Multiple Pass	**Single**					
Single or Multiple Arc	**Single**					
Welding Current	**DC**					
Polarity	**Reverse**					
Welding Progression	**NA**					
Root Treatment	**Wire brush as necessary to remove foreign material**					
Preheat and Interpass Temp.	**50 degree F min to 400 degree F Max**					
Postheat Temperature	**None**					
Heat Input	**25.5 kJ/in Min. to 36 kJ/in Max.**					

NOTES:
1) **Weld finish (grind or not) according to approved shop drawings.**
2) **Weld size as per approved shop drawings.** √

WELDING PROCEDURE

Pass no.	Electrode size	Welding Parameters		Travel speed	JOINT DETAIL
		Amperes	Volts		
All	**.045**	**257-300**	**26.5-29**	**14.5 - 16 IPM**	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in AWS D1.5, Section 5A.

Procedure no. **IDSI-6-100B** Fabricator **Interlocking Deck Systems International, LLC**

Revision no. **0** Authorized By **Brad King CWI #02100701**

Date **10-24-2007**

058-PGWP

REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007

VERMONT AGENCY OF TRANSPORTATION
US 2, BR 8 - GRAND ISLE DRAWBRIDGE
DRAWING SET 0697-07

16 PANELS TOTAL

MATERIAL SPECIFICATIONS:

SEE BILL OF MATERIALS

NO CHARPY V-NOTCH TEST REQUIREMENTS

INSTALLATION NOTES:

1. CONCRETE FORM PANS ARE NOT WATER TIGHT. CONCRETE AND WATER SEEPAGE WILL OCCUR. THIS CAN BE MINIMIZED BY SEALING VOIDS WITH SILICONE OF OTHER CONCRETE COMPATIBLE SEALANTS PRIOR TO PLACEMENT OF CONCRETE.
2. DURING PLACEMENT OF THE GRID PANELS, THE CONTRACTOR MUST PLACE EACH PANEL IN ITS PROPER POSITION AND VERIFY ITS LOCATION FROM A COMMON FIXED POINT. DOING SO, WILL MINIMIZE CUMULATIVE PLACEMENT ERRORS. CUMULATIVE ERRORS CAN RESULT IN A TOTAL DECK AREA LARGER OR SMALLER THAN THE ACTUAL AREA TO BE FILLED.
3. PANELS OF THE SAME TYPE SHOULD NOT BE INTERCHANGED. THEY SHOULD BE USED ONLY FOR THE LOCATION DESIGNATED ON THE PLAN VIEW IN ORDER TO INSURE PROPER ALIGNMENT.

FINISHING NOTES:

1. ENTIRE GRID DECK PANEL TO BE GALVANIZED AS PER ASTM A123.

WELDING NOTES:

1. ALL WELDING SHALL BE AS NOTED THROUGHOUT THESE DRAWINGS AND PER THE WELDING PROCEDURE SPECIFICATIONS (WPS) INCLUDED WITH THIS SUBMITTAL. THE WPS's WERE DEVELOPED IN ACCORDANCE WITH AWS D1.5 LATEST VERSION.

GENERAL NOTES:

1. PANEL LENGTH IS IN DIRECTION OF MAIN RAIL.
2. PANEL WIDTH IS PERPENDICULAR TO DIRECTION OF MAIN RAIL.
3. PROPRIETARY STEEL PUNCHING DETAILS NOT SHOWN.
4. THIS WELDED GRID DECK SYSTEM UTILIZES INDUSTRY STANDARD WELDS AT THE INTERSECTION OF THE STEEL BARS.
5. THE FOLLOWING FABRICATION TOLERANCES SHALL APPLY:
   A. PANEL LENGTH IS +/- 1/4".
   B. PANEL WIDTH IS +0/ -1/8".
   C. SQUARENESS DIAGONAL MEASUREMENT IS +/- 1/2" OF OPPOSITE DIAGONAL.
   D. LONGITUDINAL CAMBER (IN DIRECTION OF MAIN RAIL) IS .003 x LENGTH.
   E. TRANSVERSE CAMBER IN DIRECTION OF CROSS BAR) IS .004 x WIDTH.
   F. SWEEP (SIDE BOW) = 0.025*L (IN FEET) FOR PANELS UP TO 40'-0", INCLUSIVE, AND 0.00065*L2, FOR PANELS GREATER THAN 40'-0".
   G. BAR VERTICALITY IS 0.04*H (FULL BAR HEIGHT). NO MORE THAN 1% OF ALL LOCATIONS CAN VIOLATE SPECIFIED TOLERANCE.
   H. BAR SPACING IS ±1/8" CENTER-TO-CENTER.

SHOP DRAWINGS			
SHEET	REVISION	DATE	DESCRIPTION
1	0	10/24/2007	DRAWING INDEX
2	0	10/24/2007	SOUTH PLAN VIEW
3	0	10/24/2007	NORTH PLAN VIEW
4	0	10/24/2007	STANDARDS
5	0	10/24/2007	PANEL A LAYOUT
6	0	10/24/2007	PANEL B LAYOUT
7	0	10/24/2007	PANEL C LAYOUT
8	0	10/24/2007	PANEL D LAYOUT
9	0	10/24/2007	PANEL E LAYOUT
10	0	10/24/2007	PANEL F LAYOUT
11	0	10/24/2007	PANEL G LAYOUT
12	0	10/24/2007	PANEL H LAYOUT
13	0	10/24/2007	SECTIONS

WELDING PROCEDURE SPECIFICATIONS			
SHEET	REVISION	DATE	DESCRIPTION
------	1	08/07/2006	WPS IDSI-6-1A
------	1	08/07/2006	WPS IDSI-6-2A
------	1	08/07/2006	WPS IDSI-6-3A
------	1	08/07/2006	WPS IDSI-6-4A
------	2	05/04/2007	WPS IDSI-6-5A
------	1	08/07/2006	WPS IDSI-6-14A
------	1	05/04/2007	WPS IDSI-6-26M
------	0	10/24/2007	WPS IDSI-6-100B

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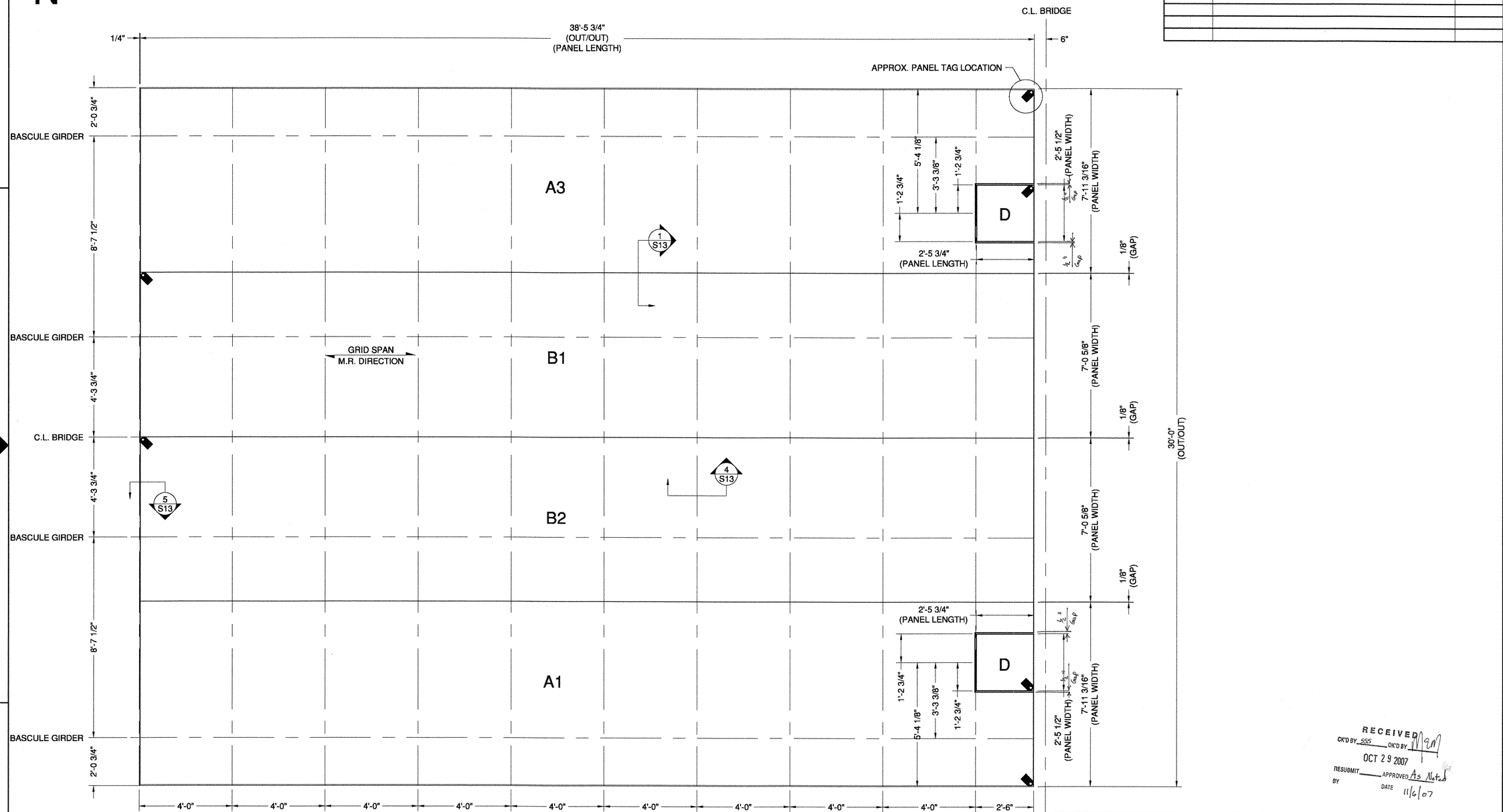
DRAWING INDEX
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	1

SCALE N.T.S. | P.O. NUMBER R757 | BY WPO | APPROVED JMO

059-D6

REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007



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SOUTH PLAN VIEW
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	2

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060-DG

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REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007

N

C.L. BRIDGE

6"

38'-5 3/4" (OUT/OUT) (PANEL LENGTH)

1/4"

APPROX. PANEL TAG LOCATION

30'-0" (OUT/OUT)

2'-0 3/4"

BASCULE GIRDER

8'-7 1/2"

BASCULE GIRDER

4'-3 3/4"

C.L. BRIDGE

4'-3 3/4"

BASCULE GIRDER

8'-7 1/2"

BASCULE GIRDER

2'-0 3/4"

A2

C1

C2

A4

GRID SPAN M.R. DIRECTION

CAPSTAN

4 3/4"

2'-5"

8'-7" (PANEL WIDTH)

1/2" (GAP)

2'-5 1/2" (PANEL WIDTH)

1'-9 1/4" (PANEL WIDTH)

4'-3 1/4" (PANEL WIDTH)

1'-2 3/4"

3'-3 3/8"

5'-4 1/8"

2'-5 3/4" (PANEL LENGTH)

3'-11 1/2" (PANEL LENGTH)

D

F

H

E

G

1 S13

2 S13

3 S13

4 S13

5 S13

2'-6" 4'-0" 4'-0" 4'-0" 4'-0" 4'-0" 4'-0" 4'-0" 4'-0" 4'-0"

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NORTH HALF

DENOTES FIELD INSTALLED CONCRETE

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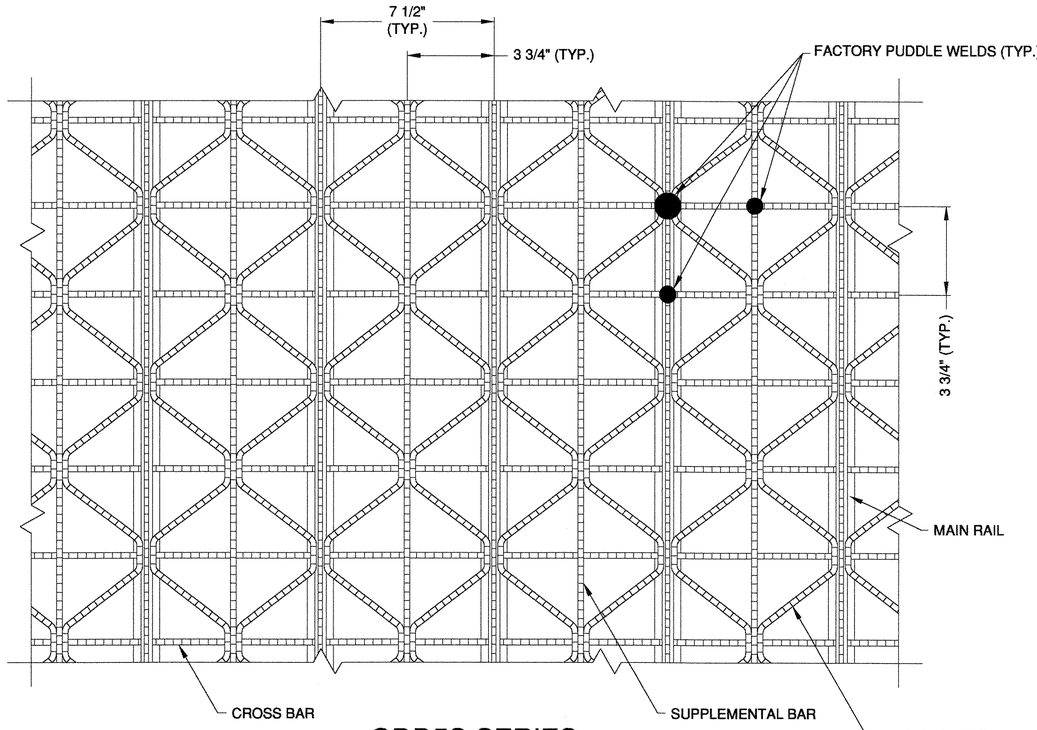
NORTH PLAN VIEW
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	3

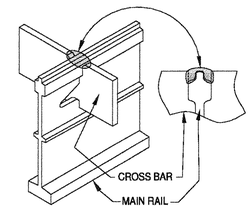
SCALE N.T.S. P.O. NUMBER R757 BY WPO APPROVED JMO

061-06

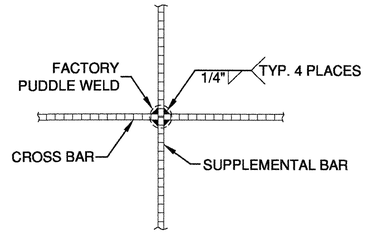
REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007



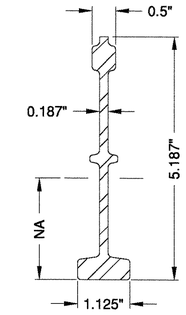
ODD5S SERIES
PLAN VIEW
N.T.S.
(5/8"Ø BOTTOM CROSS BAR NOT SHOWN)



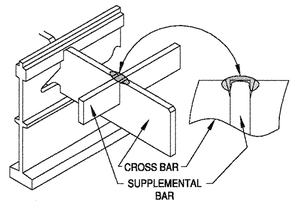
WPS IDSI-6-1A
TYPICAL MAIN RAIL PUDDLE WELD
N.T.S.
(SERRATIONS NOT SHOWN FOR CLARITY)



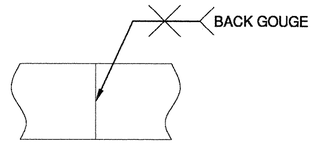
WPS IDSI-6-3A
TYPICAL SUPPLEMENTAL BAR SPLICE
N.T.S.
(WHERE REQ'D.)



5 3/16" MAIN RAIL
N.T.S.



WPS IDSI-6-2A
TYPICAL CROSS BAR PUDDLE WELD
N.T.S.
(SERRATIONS NOT SHOWN FOR CLARITY)



WPS IDSI-6-14A
TYPICAL TRIM BAR SPLICE
N.T.S.
(WHERE REQ'D.)

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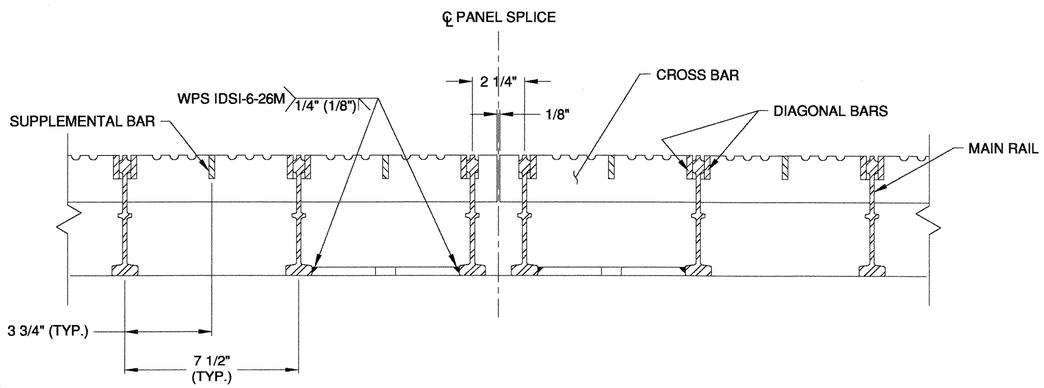
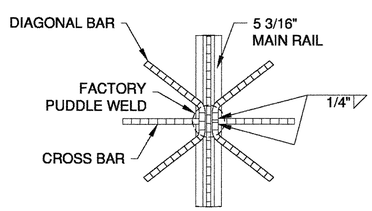


SECTION 1/S5
TYPICAL PANEL SPLICE DETAIL
N.T.S.



WPS IDSI-6-4A
TYPICAL DIAGONAL BAR SPLICE
N.T.S.
(WHERE REQ'D.)

SECTION PROPERTIES
BEAM ONLY (GROSS)
WEIGHT = 5.60 LB/FT
AREA = 1.646 IN^2
NA = 2.179 IN
Ix = 5.108 IN^4
Sbottom = 2.344 IN^3
Stop = 1.698 IN^3

*

* DOES NOT INCLUDES DEDUCTIONS FOR PUNCHOUTS OR SERRATIONS

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STANDARDS
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	4

SCALE N.T.S. | P.O. NUMBER R757 | BY WPO | APPROVED JMO

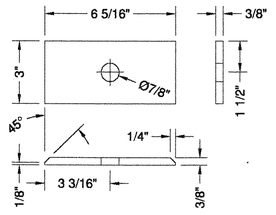
067-DG

BILL OF MATERIALS

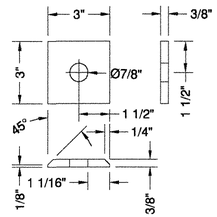
PANEL A (QUANTITIES ARE PER PANEL - MULTIPLY BY TOTAL NUMBER OF PANELS)

PART	DESCRIPTION	QUANTITY	LENGTH	WIDTH	THICKNESS	MATERIAL TYPE	TOLERANCE	
P-A1	5 3/16" MAIN RAIL	13	38'-5 1/4"	------	------	ASTM A709 GR. 50	+/- 1/4"	
P-A2	CROSS BAR	123	7'-10 11/16"	2"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
P-A3	SUPPLEMENTAL BAR	12	38'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/4"	
P-A4	DIAGONAL BAR	24	38'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+0/- 1/4"	
TBA-1	TRIM BAR	1	7'-10 11/16"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
TBA-2	TRIM BAR	1	38'-5 3/4"	5"	1/2"	ASTM A709 GR. 50	+0/- 1/8"	
TBA-3	TRIM BAR	1	4'-0 1/8"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
TBA-4	TRIM BAR	3	2'-6 1/2"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
TBA-5	TRIM BAR	1	1'-3 9/16"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
BDP-1	BOLTDOWN PLATE	64	6 5/16"	3"	3/8"	ASTM A709 GR. 50	+/- 1/32"	
BDP-2	BOLTDOWN PLATE	11	3"	3"	3/8"	ASTM A709 GR. 50	+/- 1/32"	
BT-1	BOLT	70	2"	-------	3/4" Ø	ASTM A325 HDG	-------	SHIPPED LOOSE
BT-2	BOLT	5	2 1/2"	-------	3/4" Ø	ASTM A325 HDG	-------	SHIPPED LOOSE
FW	WASHER	70	------	-------	3/4" Ø	ASTM F436 HDG	-------	SHIPPED LOOSE
TW	TAPERED WASHER	5	------	-------	3/4" Ø	ASTM A563 HDG	-------	SHIPPED LOOSE
NT	NUT	75	-------	-------	3/4" Ø	ASTM A563 HDG	-------	SHIPPED LOOSE

REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007



BDP-1 DETAIL



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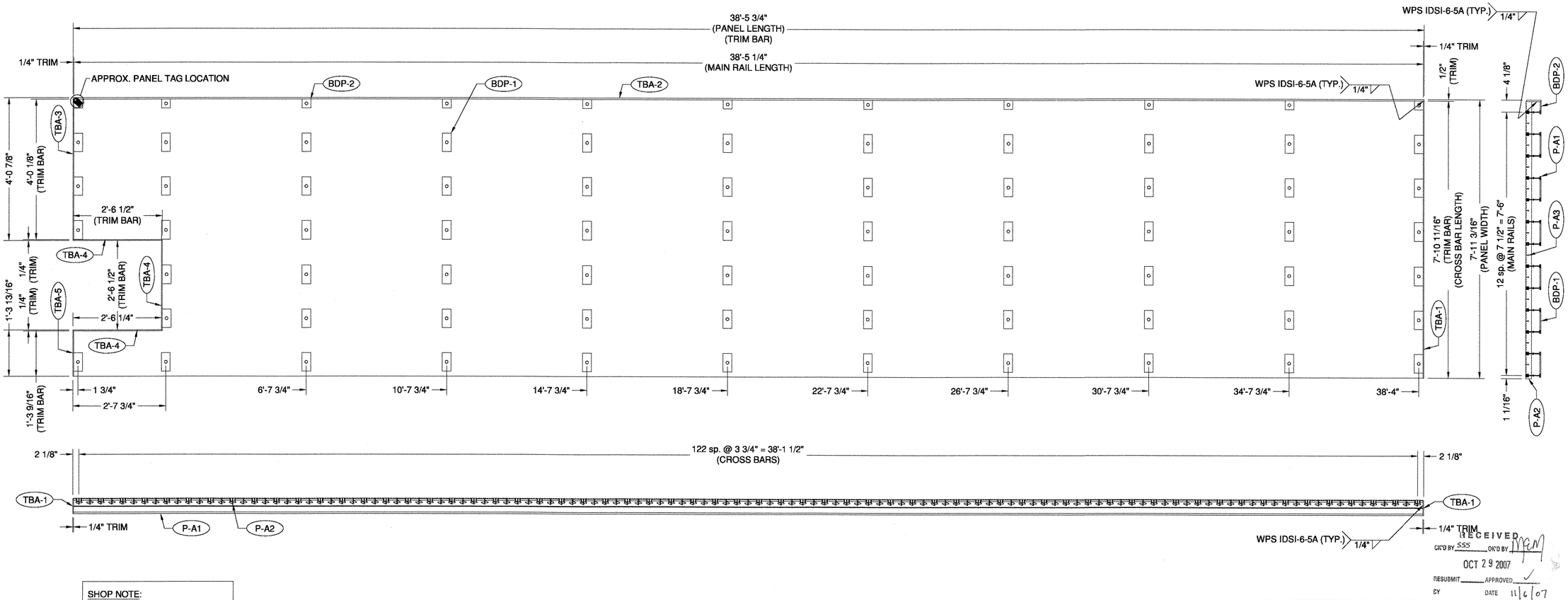

SHOP NOTE:

SHOP TO REUSE CUT MATERIAL TO FABRICATE PANEL TYPE D.

PANEL A LAYOUT (4 TOTAL)
A1 & A2 - AS SHOWN
A3 & A4 - OPP. HAND

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RESUBMIT ____ APPROVED ✓
BY DATE 11/6/07

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115 41st Street
Pittsburgh, PA 15201

PANEL A LAYOUT
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	5

SCALE N.T.S. | P.O. NUMBER R757 | BY WPO | APPROVED JMO

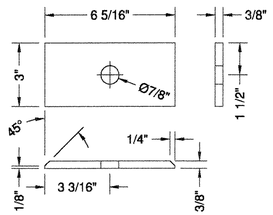
063-06

BILL OF MATERIALS

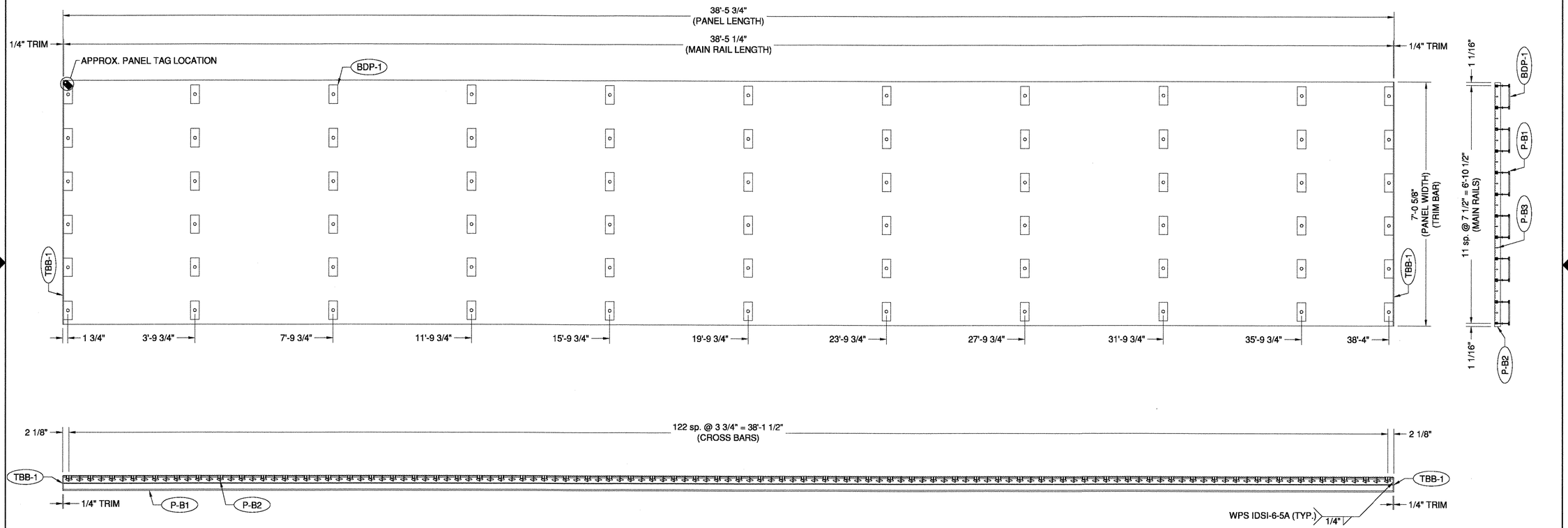
PANEL B (QUANTITIES ARE PER PANEL - MULTIPLY BY TOTAL NUMBER OF PANELS)

PART	DESCRIPTION	QUANTITY	LENGTH	WIDTH	THICKNESS	MATERIAL TYPE	TOLERANCE	
P-B1	5 3/16" MAIN RAIL	12	38'-5 1/4"	------	------	ASTM A709 GR. 50	+/- 1/4"	
P-B2	CROSS BAR	123	7'-0 5/8"	2"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
P-B3	SUPPLEMENTAL BAR	11	38'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/4"	
P-B4	DIAGONAL BAR	22	38'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+0/- 1/4"	
TBB-1	TRIM BAR	2	7'-0 5/8"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
BDP-1	BOLTDOWN PLATE	66	6 5/16"	3"	3/8"	ASTM A709 GR. 50	+/- 1/32"	
BT-1	BOLT	60	2"	------	3/4" Ø	ASTM A325 HDG	------	SHIPPED LOOSE
BT-2	BOLT	6	2 1/2"	------	3/4" Ø	ASTM A325 HDG	------	SHIPPED LOOSE
FW	WASHER	60	------	------	3/4" Ø	ASTM F436 HDG	------	SHIPPED LOOSE
TW	TAPERED WASHER	6	------	------	3/4" Ø	ASTM A563 HDG	------	SHIPPED LOOSE
NT	NUT	66	------	------	3/4" Ø	ASTM A563 HDG	------	SHIPPED LOOSE

REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007



BDP-1 DETAIL



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PANEL B LAYOUT
2 TOTAL - AS SHOWN

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PANEL B LAYOUT
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	6

SCALE N.T.S. | P.O. NUMBER R757 | BY WPO | APPROVED JMO

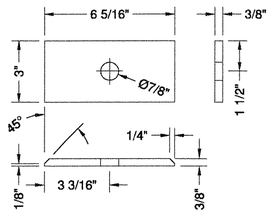
064-06

BILL OF MATERIALS

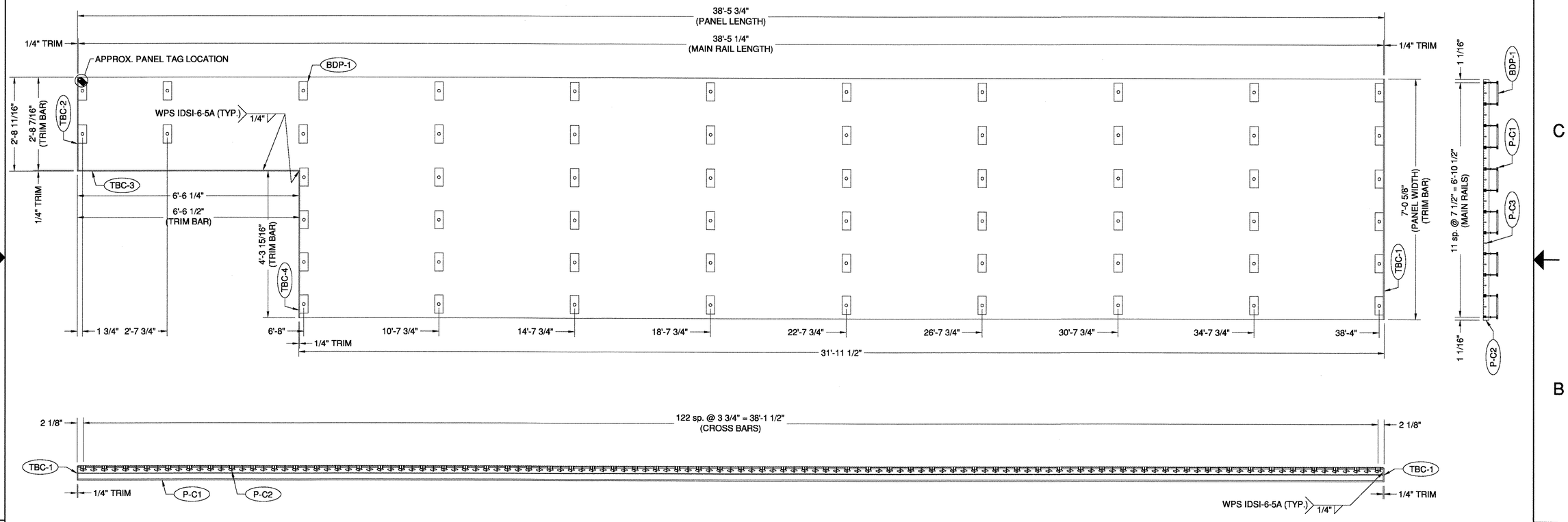
PANEL C (QUANTITIES ARE PER PANEL - MULTIPLY BY TOTAL NUMBER OF PANELS)

PART	DESCRIPTION	QUANTITY	LENGTH	WIDTH	THICKNESS	MATERIAL TYPE	TOLERANCE	
P-C1	5 3/16" MAIN RAIL	12	38'-5 1/4"	-------	-------	ASTM A709 GR. 50	+/- 1/4"	
P-C2	CROSS BAR	123	7'-0 5/8"	2"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
P-C3	SUPPLEMENTAL BAR	11	38'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/4"	
P-C4	DIAGONAL BAR	22	38'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+0/- 1/4"	
TBC-1	TRIM BAR	1	7'-0 5/8"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
TBC-2	TRIM BAR	1	2'-8 7/16"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
TBC-3	TRIM BAR	1	6'-6 1/2"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
TBC-4	TRIM BAR	1	4'-3 15/16"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
BDP-1	BOLTDOWN PLATE	58	6 5/16"	3"	3/8"	ASTM A709 GR. 50	+/- 1/32"	
BT-1	BOLT	56	2"	-------	3/4" Ø	ASTM A325 HDG	-------	SHIPPED LOOSE
BT-2	BOLT	2	2 1/2"	-------	3/4" Ø	ASTM A325 HDG	-------	SHIPPED LOOSE
FW	WASHER	56			3/4" Ø	ASTM F436 HDG	-------	SHIPPED LOOSE
TW	TAPERED WASHER	2	-------	-------	3/4" Ø	ASTM A563 HDG	-------	SHIPPED LOOSE
NT	NUT	58	-------	-------	3/4" Ø	ASTM A563 HDG	-------	SHIPPED LOOSE

REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007



BDP-1 DETAIL



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SHOP NOTE:

SHOP TO REUSE CUT MATERIAL TO FABRICATE PANELS E, F & H.

PANEL C LAYOUT (2 TOTAL)
C1 - AS SHOWN
C2 - OPP. HAND

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PANEL C LAYOUT
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	7

SCALE N.T.S. | P.O. NUMBER R757 | BY WPO | APPROVED JMO

065-06

BILL OF MATERIALS

PANEL D (QUANTITIES ARE PER PANEL - MULTIPLY BY TOTAL NUMBER OF PANELS)

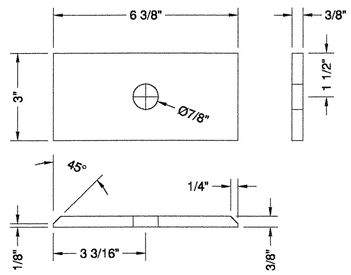
PART	DESCRIPTION	QUANTITY	LENGTH	WIDTH	THICKNESS	MATERIAL TYPE	TOLERANCE	
P-D1	5 3/16" MAIN RAIL	4	2'-5 1/4"	-------	-------	ASTM A709 GR. 50	+/- 1/8"	
P-D2	CROSS BAR	8	2'-5"	2"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
P-D3	SUPPLEMENTAL BAR	3	2'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
P-D4	DIAGONAL BAR	8	2'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
TBD-1	TRIM BAR	2	2'-5"	5"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
TBD-2	TRIM BAR	2	2'-5 3/4"	5"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
BDP-1	BOLT DOWN PLATE	4	3"	6 3/8"	3/8"	ASTM A709 GR. 50	+/- 1/16"	
BT-1	BOLT	2	2"		3/4" Ø	ASTM A325 HDG	-----	→ SHIPPED LOOSE
BT-2	BOLT	2	2 1/2"	-------	3/4" Ø	ASTM A325 HDG	-----	→ SHIPPED LOOSE
FW	WASHER	2	-------	-------	3/4" Ø	ASTM F436 HDG	-----	→ SHIPPED LOOSE
TW	TAPERED WASHER	2	-------	-------	3/4" Ø	ASTM F436 HDG	-----	→ SHIPPED LOOSE
NT	NUT	4	-------	-------	3/4" Ø	ASTM A563 HDG	-----	→ SHIPPED LOOSE

NOTE: REMOVABLE PANELS HAVE BOLT DOWN PLATES IN THE FOUR CORNERS ONLY. THE ENGINEER IS TO DEFINE WHETHER ADDITIONAL BOLT DOWN PLATES ARE REQUIRED.

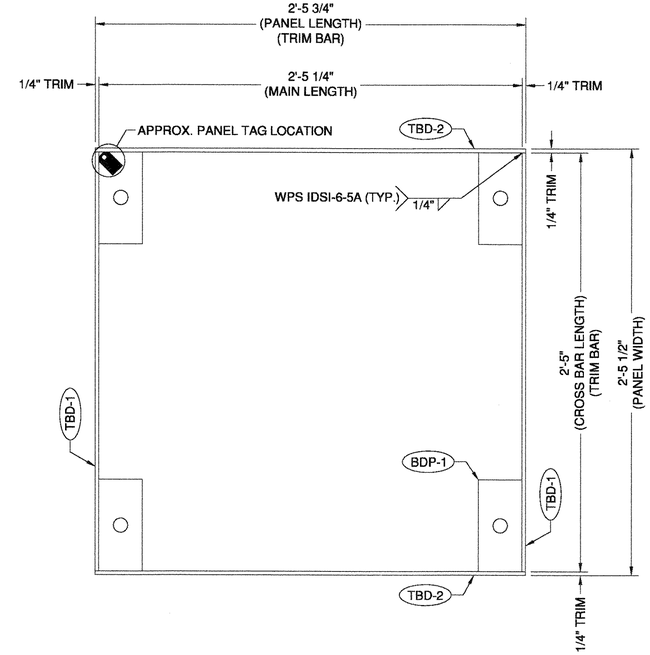
No additional Bolt down plates required

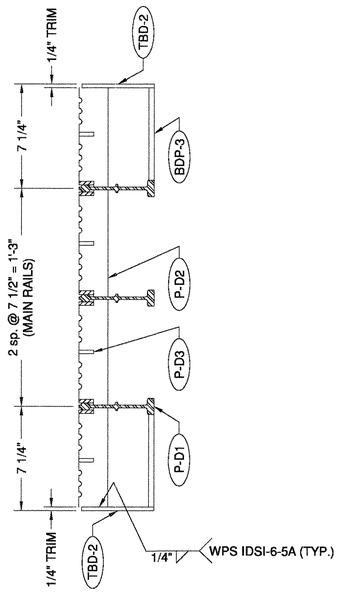
NOTE: PANEL TO BE FABRICATED USING CUT MATERIAL FROM PANEL TYPE A.

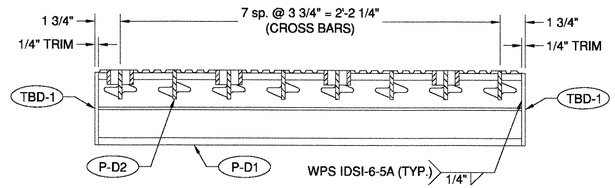
REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007



BDP-1 DETAIL







PANEL D LAYOUT
2 TOTAL - AS SHOWN
2 TOTAL- OPP. HAND

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PANEL D LAYOUT
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	8

SCALE	P.O. NUMBER	BY	APPROVED
N.T.S.	R757	WPO	JMO

05 5-06

VERMONT

State of Vermont
PDD/Structures Design Section
National Life Building – Drawer 33 [phone] 802-828-2621
Montpelier, VT 05633-5001 [fax] 802-828-2566
www.aot.state.vt.us [ntd] 800-253-0191

Agency of Transportation

IDSI
Attn: Joe Oliver
115 41st Street
Pittsburgh, PA 15201

DATE: November 30, 2007

Project Name: North Hero - Grand Isle Project #: BRF 028 -1 (21)

Structure Identification: US 2, Bridge #8 over Lake Champlain (Drawbridge)

The following Steel Grid Decking details for the above project, Vendor's Job # ID 0697-07 transmitted with your e-mail dated October 29, 2007 have been reviewed and are being returned herewith.

Sheets: 9
is approved [X]

All other sheets were approved, or approved as noted, previously.

Welding procedure IDSI 6-26D is also approved.

Sincerely,

Martha Evans-Mongeon
Project Manager

Attachments
cc: [X] Resident Engineer w/prints, Greg Wilcox
[X] Shop Inspector w/prints, Jeff Clark
[ ] Contractor w/prints_____
[ ] Subcontractor – letter only _____
[X] Construction Divison – letter only
[X] Materials & Research Section (C&IA Unit) – letter only
[X] Files (Structures & Central)

VTrans Working to Get You There!

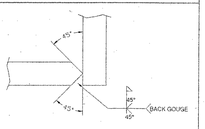
067 D52

ISI WELDING PROCEDURE SPECIFICATION

Proc. Qual. Record No. (PQR#)	**IDSI-6**				
Material Specification	**ASTM A36, A588, A709 Gr 36, A709 Gr 50, A709 Gr 50W, A572 Gr50 or A992 - as per approved shop drawings.**				
Welding Process	**GMAW**				
Manual or Semi-auto	**Semi-automatic**				
Position of Welding	**1G - Flat**				
Filler Metal Specification	**AWS A5.18**				
Filler Metal Classification	**AWS ER70S-6**				
Electrode and Manufacturer	**ESAB Spoolarc 86**				
Shielding Gas	**85% Argon 15% C02**	Dew Point	**-40degreeF Min.**	Flow Rate	**40 cfh**
Single or Multiple Pass	**Multiple**				
Single or Multiple Arc	**Single**				
Welding Current	**DC**				
Polarity	**Reverse**				
Welding Progression	**NA**				
Root Treatment	**Wire brush as necessary to remove foreign material**				
Preheat and Interpass Temp.	**50 degree F min to 400 degree F Max**				
Postheat Temperature	**None**				
Heat Input	**25.5 kJ/in Min. to 36 kJ/in Max.**				

NOTES:
1) Grind weld flush if required by job specification or as shown on shop drawings.

WELDING PROCEDURE

Pass no.	Electrode size	Welding Parameters		Travel speed	WELD JOINT DETAIL (TC-U5-GF)
		Amperes	Volts		
All	**.045**	**257-300**	**26.5-29**	**14.5 - 16 IPM**	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in AWS D1.5, Section 5A.

Procedure no. **IDSI-6-26D** Fabricator **Interlocking Deck Systems International, LLC**

Revision no. **2** Authorized By **Brad King CWI #02100701**

Date **10-26-2006**

CK'D BY _____ OK'D BY _____

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RESUBMIT _____ APPROVED ✓

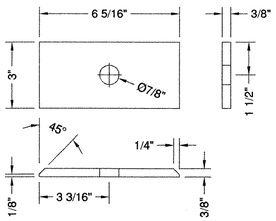
BY _____ DATE 11-30-07

OSS DSO

BILL OF MATERIALS

PANEL E (QUANTITIES ARE PER PANEL - MULTIPLY BY TOTAL NUMBER OF PANELS)

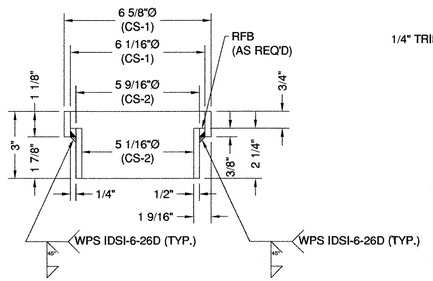
PART	DESCRIPTION	QUANTITY	LENGTH	WIDTH	THICKNESS	MATERIAL TYPE	TOLERANCE	
P-E1	5 3/16" MAIN RAIL	14	3'-11"	-------	------	ASTM A709 GR. 50	+/- 1/8"	
P-E2	CROSS BAR	12	8'-6 1/2"	2"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
P-E3	SUPPLEMENTAL BAR	13	3'-11"	1"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
P-E4	DIAGONAL BAR	28	3'-11"	1"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
TBE-1	TRIM BAR	2	3'-11 1/2"	5"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
TBE-2	TRIM BAR	2	8'-6 1/2"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
FP-1	FORM PAN	13	3'-11"	7 3/16"	20 GAUGE	ASTM A316	+0/- 1/8"	
FP-2	FORM PAN	2	3'-11"	4 15/16"	20 GAUGE	ASTM A316	+0/- 1/8"	
FP-3	FORM PAN	2	3'-11"	3 1/2"	20 GAUGE	ASTM A316	+0/- 1/8"	
FP-4	FORM PAN	2	3'-11"	3 3/8"	20 GAUGE	ASTM A316	+0/- 1/8"	
BDP-1	BOLT DOWN PLATE	4	6 5/16"	3"	3/8"	ASTM A709 GR. 50	+0/- 1/6"	
BT-1	BOLT	4	2"		3/4" Ø	ASTM A325 HDG	-----	→ SHIPPED LOOSE
FW	WASHER	4	-------	-------	3/4" Ø	ASTM F436 HDG	-----	→ SHIPPED LOOSE
NT	NUT	4	-------	-------	3/4" Ø	ASTM A563 HDG	-----	→ SHIPPED LOOSE
TAS-1	ACCESS SLEEVE	4	3"	3 1/2 x 3 1/2	1/4"	ASTM A500 GR. A	-----	
CS-1	CAPSTAN SLEEVE	1	1 1/8"	6"Ø STANDARD	SCH. 40	ASTM A500 GR. A	-----	
CS-2	CAPSTAN SLEEVE	1	2 1/4"	5"Ø STANDARD	SCH. 40	ASTM A500 GR. A	-----	
RFB	ROLLED FILLER BAND	1		AS REQUIRED		ASTM A36	-----	
ST	SPLICE TAB	12	3 1/4"	2"	1/4"	ASTM A709 GR. 50	-----	



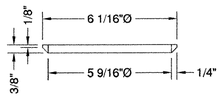
BDP-1 DETAIL

NOTE: PANEL TO BE FABRICATED USING CUT MATERIAL FROM PANEL TYPE C.

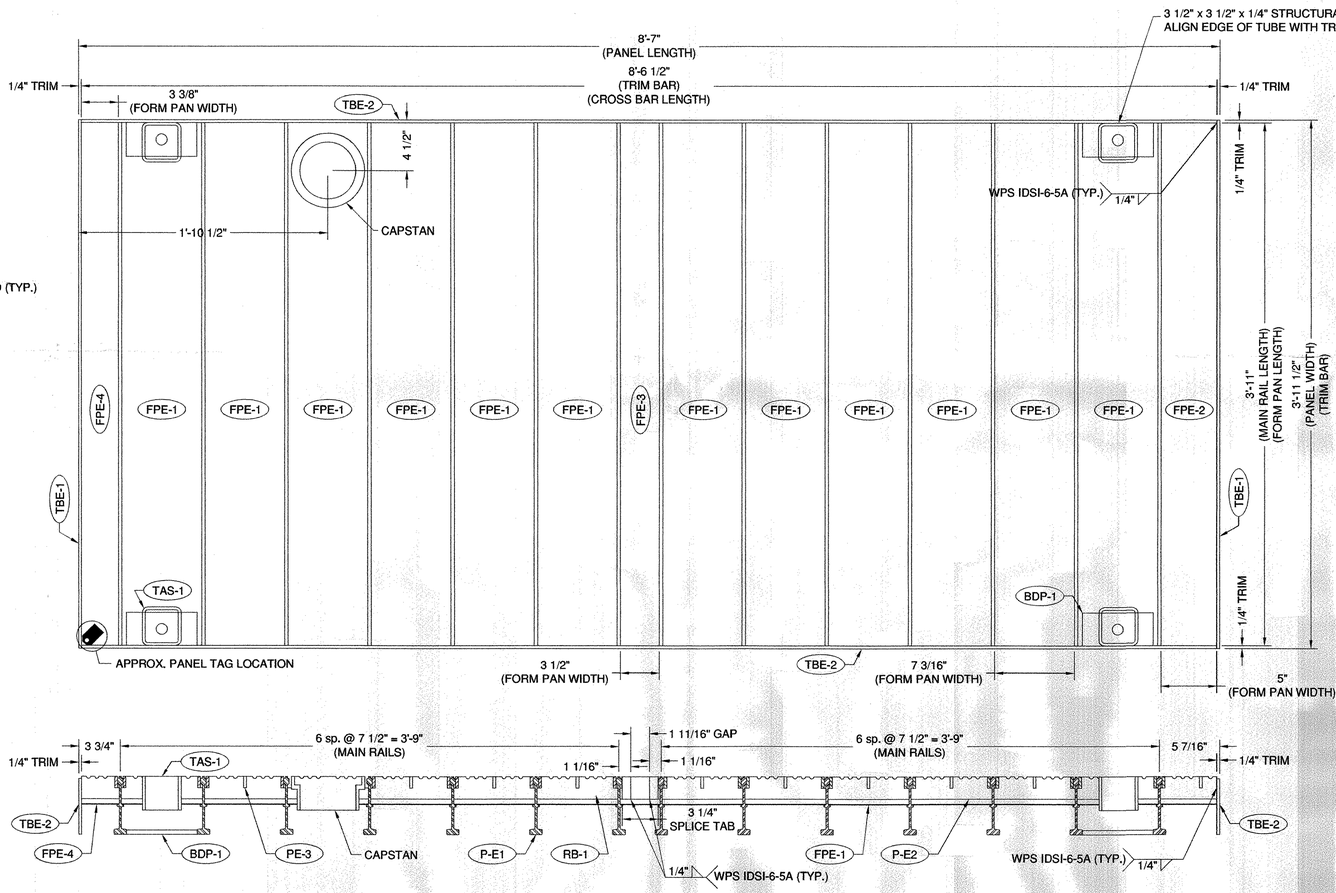
REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007
1	REVISED PER CUSTOMER COMMENTS	11/15/2007



CAPSTAN DETAIL



RBH DETAIL



PANEL E LAYOUT
1 TOTAL - AS SHOWN

NOTE: REMOVABLE PANELS HAVE BOLT DOWN PLATES IN THE FOUR CORNERS ONLY. THE ENGINEER IS TO DEFINE WHETHER ADDITIONAL BOLT DOWN PLATES ARE REQUIRED.

NOTE: SHOP TO CUT GRID DECK COMPONENTS AS REQUIRED TO ALLOW INSTALLATION OF TUBULAR ACCESS SLEEVES AND CAPSTAN.

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BY ____ DATE 11/30/07

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PANEL E LAYOUT
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	9

SCALE N.T.S. | P.O. NUMBER R757 | BY WPO | APPROVED JMO

069-06

BILL OF MATERIALS

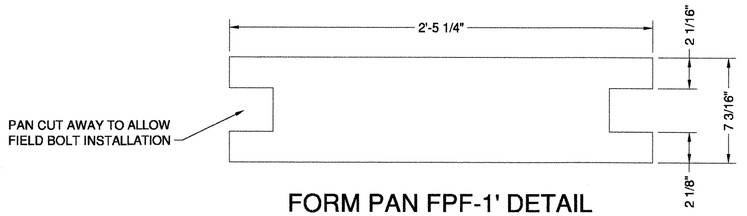
PANEL F (QUANTITIES ARE PER PANEL - MULTIPLY BY TOTAL NUMBER OF PANELS)

PART	DESCRIPTION	QUANTITY	LENGTH	WIDTH	THICKNESS	MATERIAL TYPE	TOLERANCE	
P-F1	5 3/16" MAIN RAIL	3	2'-5 1/4"	-------	-------	ASTM A709 GR. 50	+/- 1/8"	
P-F2	CROSS BAR	8	1'-8 3/4"	2"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
P-F3	SUPPLEMENTAL BAR	2	2'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
P-F4	DIAGONAL BAR	6	2'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
TBF-1	TRIM BAR	2	1'-8 3/4"	5"	1/2"	ASTM A709 GR. 50	+0/- 1/8"	
TBF-2	TRIM BAR	2	2'-5 3/4"	5"	1/2"	ASTM A709 GR. 50	+0/- 1/8"	
FPF-1	FORM PAN	2	2'-5 1/4"	7 3/16"	20 GAUGE	ASTM A316	+0/- 1/8"	
FPF-2	FORM PAN	2	2'-5 1/4"	2 7/16"	20 GAUGE	ASTM A316	+0/- 1/8"	
BDP-1	BOLT DOWN PLATE	4	6 5/16"	3"	3/8"	ASTM A709 GR. 50	+0/- 1/16"	
BT-1	BOLT	2	2"		3/4" Ø	ASTM A325 HDG	-----	SHIPPED LOOSE
BT-2	BOLT	2	2 1/2"	-------	3/4" Ø	ASTM A325 HDG	-----	SHIPPED LOOSE
FW	WASHER	2	-------	-------	3/4" Ø	ASTM AF36 HDG	-----	SHIPPED LOOSE
TW	TAPERED WASHER	2	-------	-------	3/4" Ø	ASTM AF36 HDG	-----	SHIPPED LOOSE
NT	NUT	4	-------	-------	3/4" Ø	ASTM A563 HDG	-----	SHIPPED LOOSE
LP	LOOSE PAN	1	12"	12"	20 GAUGE	ASTM A653 G-90	+/- 1/8"	SHIPPED LOOSE

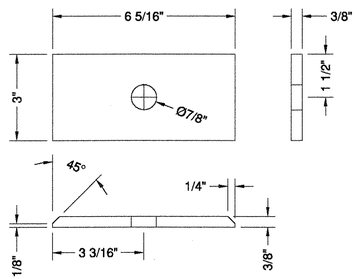
NOTE: PANEL TO BE FABRICATED USING CUT MATERIAL FROM PANEL C1.

NOTE: CREATE PANEL FROM C PANELS' SCRAP.

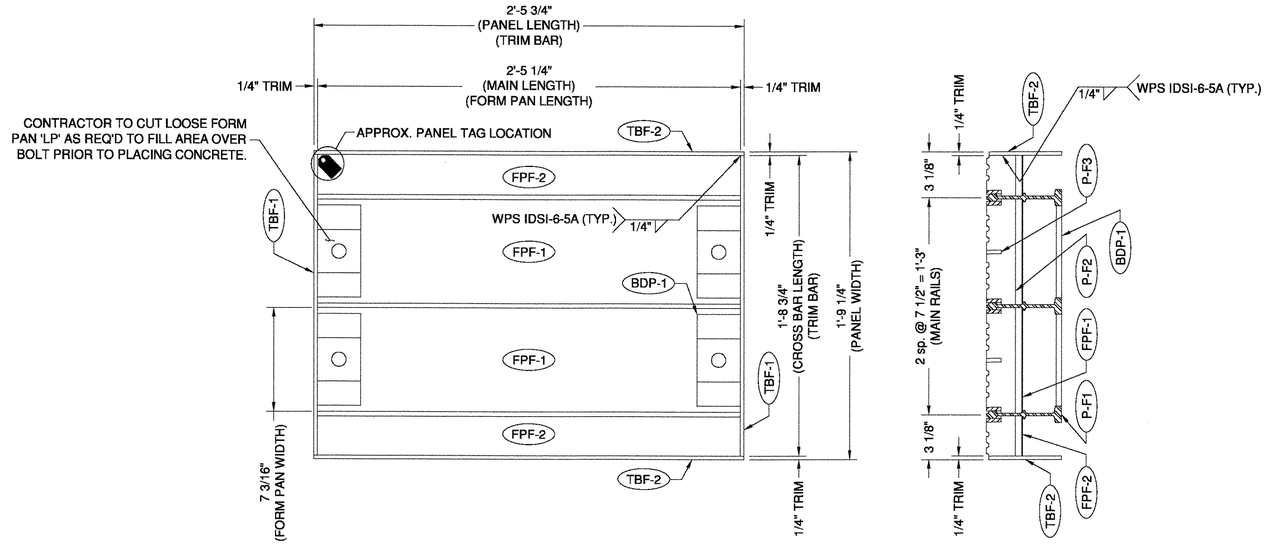
REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007

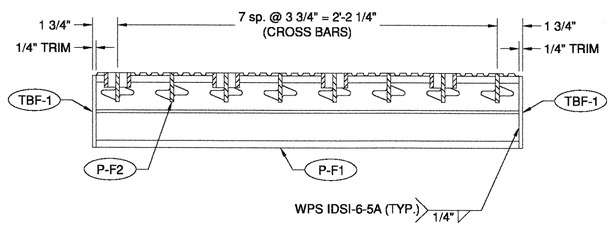


FORM PAN FPF-1' DETAIL



BDP-1 DETAIL





PANEL F LAYOUT
1 TOTAL - AS SHOWN

RECEIVED
CK'D BY SSS OK'D BY
OCT 29 2007
RESUBMIT APPROVED
BY DATE 11/6/07

idsi interlocking deck systems international	PANEL F LAYOUT	
	GRAND ISLE DRAWBRIDGE	
	VERMONT AGENCY OF TRANS.	
115 41st Street	SIZE B	DWG NO. ID-0697-07 SHEET 10
Pittsburgh, PA 15201	SCALE N.T.S.	P.O. NUMBER R757 BY WPO APPROVED JMO

068-PG 070

BILL OF MATERIALS

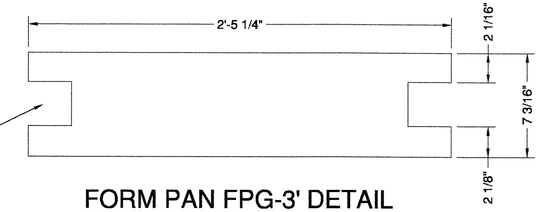
PANEL G (QUANTITIES ARE PER PANEL - MULTIPLY BY TOTAL NUMBER OF PANELS)

PART	DESCRIPTION	QUANTITY	LENGTH	WIDTH	THICKNESS	MATERIAL TYPE	TOLERANCE	
P-G1	5 3/16" MAIN RAIL	7	2'-5 1/4"	-------	-------	ASTM A709 GR. 50	+/- 1/8"	
P-G2	CROSS BAR	8	4'-2 3/4"	2"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
P-G3	SUPPLEMENTAL BAR	6	2'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
P-G4	DIAGONAL BAR	14	2'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
TBG-1	TRIM BAR	2	2'-5 3/4"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
TBG-2	TRIM BAR	2	4'-2 3/4"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
FPG-1	FORM PAN	4	2'-5 1/4"	7 3/16"	20 GAUGE	ASTM A316	+0/- 1/8"	
FPG-2	FORM PAN	2	2'-5 1/4"	2 11/16"	20 GAUGE	ASTM A316	+0/- 1/8"	
FPG-3	FORM PAN	(2) 3	2'-5 1/4"	7 3/16"	20 GAUGE	ASTM A316		
BDP-1	BOLT DOWN PLATE	(4) 6	6 5/16"	3"	3/8"	ASTM A709 GR. 50	+0/- 1/8"	
BT-1	BOLT	(2) 3	2"	-------	3/4" Ø	ASTM A325 HDG	-----	→ SHIPPED LOOSE
BT-2	BOLT	(2) 3	2 1/2"	-------	3/4" Ø	ASTM A325 HDG	-----	→ SHIPPED LOOSE
FW	WASHER	(2) 3	-------	-------	3/4" Ø	ASTM F436 HDG	-----	→ SHIPPED LOOSE
TW	TAPERED WASHER	(2) 3	-------	-------	3/4" Ø	ASTM F436 HDG	-----	→ SHIPPED LOOSE
NT	NUT	(4) 6	-------	-------	3/4" Ø	ASTM A563 HDG	-----	→ SHIPPED LOOSE
LP	LOOSE PAN	1	12"	12"	20 GAUGE	ASTM A653 G-90	+0/- 1/8"	→ SHIPPED LOOSE

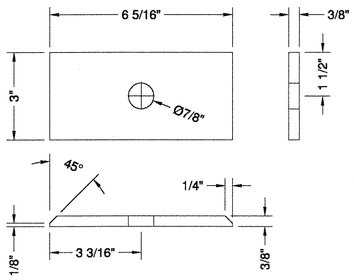
REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007

NOTE: THIS PANEL HAS BOLT DOWN PLATES IN THE FOUR CORNERS ONLY. THE ENGINEER IS TO DEFINE WHETHER ADDITIONAL BOLT DOWN PLATES ARE REQUIRED. Shown Below

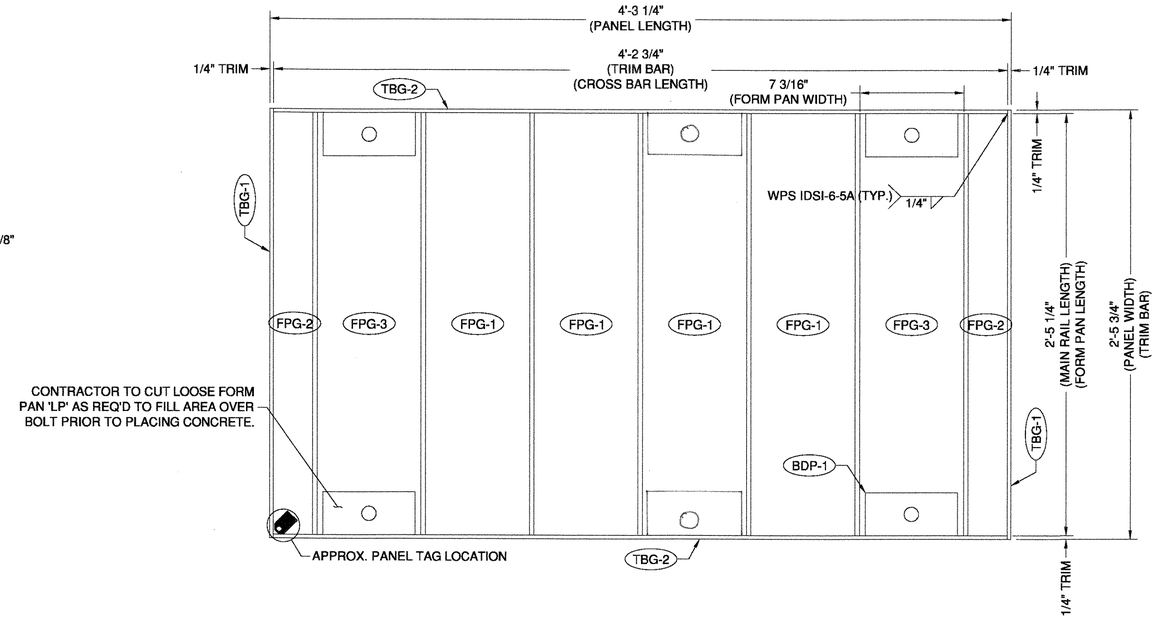
NOTE: THIS PANEL MUST BE INDIVIDUALLY FABRICATED. NO CUT MATERIAL FROM OTHER PANELS CAN BE UNTILIZED.

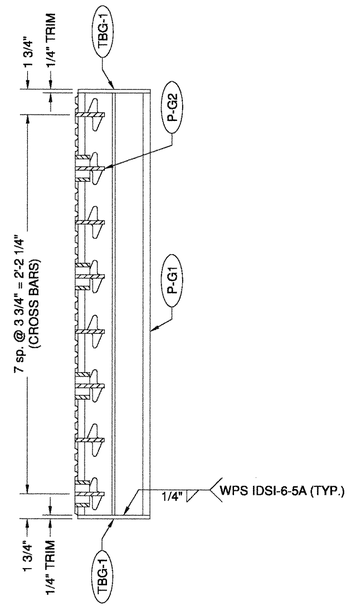


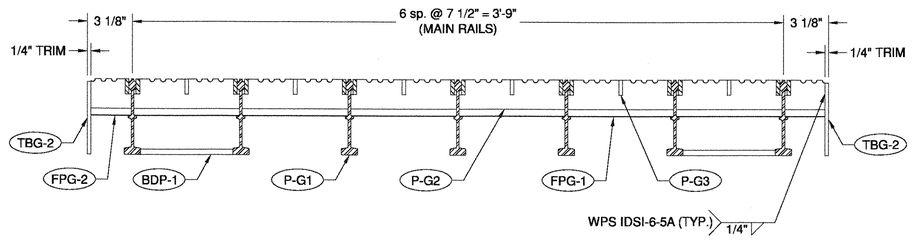
FORM PAN FPG-3' DETAIL



BDP-1 DETAIL







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OCT 29 2007
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BY ____ DATE 11/6/07

PANEL G LAYOUT
1 TOTAL - AS SHOWN

idsi interlocking deck systems international
115 41st Street
Pittsburgh, PA 15201

PANEL G LAYOUT
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	11

SCALE N.T.S. | P.O. NUMBER R757 | BY WPO | APPROVED JMO

069-DG 071

BILL OF MATERIALS

PANEL H (QUANTITIES ARE PER PANEL - MULTIPLY BY TOTAL NUMBER OF PANELS)

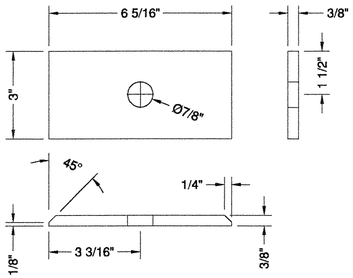
PART	DESCRIPTION	QUANTITY	LENGTH	WIDTH	THICKNESS	MATERIAL TYPE	TOLERANCE	
P-H1	5 3/16" MAIN RAIL	4	2'-5 1/4"	-------	-------	ASTM A709 GR. 50	+/- 1/8"	
P-H2	CROSS BAR	8	2'-4 1/2"	2"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
P-H3	SUPPLEMENTAL BAR	3	2'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
P-H4	DIAGONAL BAR	8	2'-5 1/4"	1"	1/4"	ASTM A709 GR. 50	+/- 1/8"	
TBH-1	TRIM BAR	2	2'-5"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
TBH-2	TRIM BAR	2	2'-5 3/4"	5"	1/4"	ASTM A709 GR. 50	+0/- 1/8"	
FPH-1	FORM PAN	3	2'-5 1/4"	7 3/16"	20 GAUGE	ASTM A316	+0/- 1/8"	
FPH-2	FORM PAN	2	2'-5 1/4"	3 1/16"	20 GAUGE	ASTM A316	+0/- 1/8"	
BDP-1	BOLT DOWN PLATE	4	6 5/16"	3"	3/8"	ASTM A709 GR. 50	+0/- 1/8"	
BT-1	BOLT	2	2"		3/4" Ø	ASTM A325 HDG	-----	→ SHIPPED LOOSE
BT-2	BOLT	2	2 1/2"	-------	3/4" Ø	ASTM A325 HDG	-----	→ SHIPPED LOOSE
FW	WASHER	2	-------	-------	3/4" Ø	ASTM F436 HDG	-----	→ SHIPPED LOOSE
TW	TAPERED WASHER	2	-------	-------	3/4" Ø	ASTM F436 HDG	-----	→ SHIPPED LOOSE
NT	NUT	4	-------	-------	3/4" Ø	ASTM F563 HDG	-----	→ SHIPPED LOOSE
TAS-1	ACCESS SLEEVE	4	-------	-------	-------	ASTM A500 GR A	+0/- 1/8"	

NOTE: REMOVABLE PANELS HAVE BOLT DOWN PLATES IN THE FOUR CORNERS ONLY. THE ENGINEER IS TO DEFINE WHETHER ADDITIONAL BOLT DOWN PLATES ARE REQUIRED.

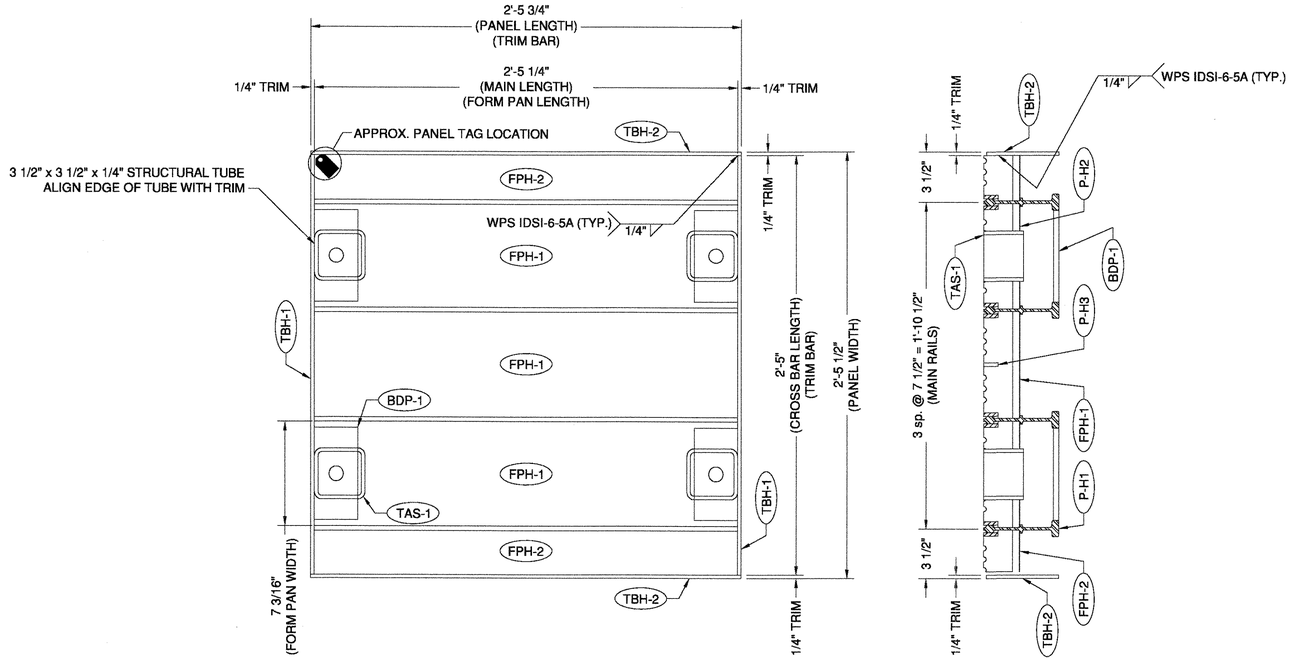
NOTE: SHOP TO CUT GRID DECK COMPONENTS AS REQUIRED TO ALLOW INSTALLATION OF TUBULAR ACCESS SLEEVES.

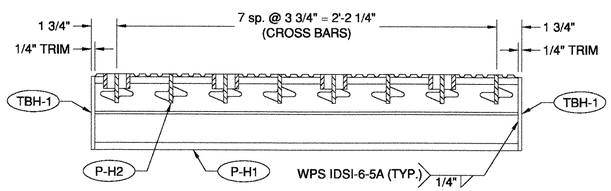
NOTE: CREATE PANEL FROM C PANELS' SCRAP.

REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007



BDP-1 DETAIL





PANEL H LAYOUT
1 TOTAL - AS SHOWN

RECEIVED
CK'D BY SSS OK'D BY MGM
OCT 29 2007
RESUBMIT ____ APPROVED ✓
BY ____ DATE 11/6/07

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interlocking deck systems international
115 41st Street
Pittsburgh, PA 15201

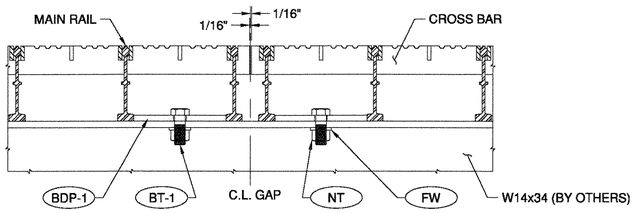
PANEL H LAYOUT
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	12

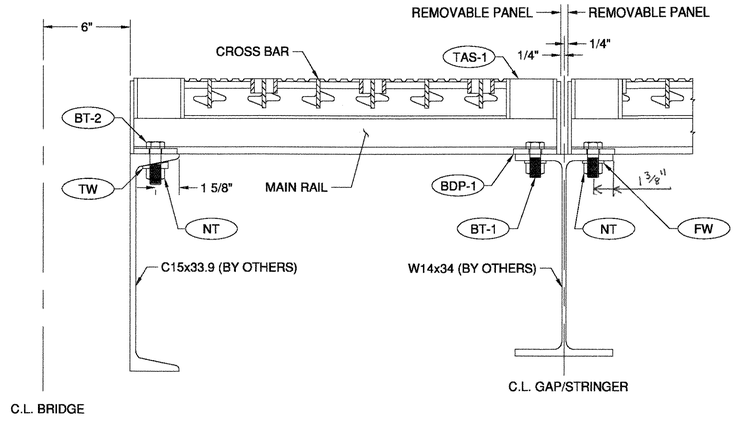
SCALE	P.O. NUMBER	BY	APPROVED
N.T.S.	R757	WPO	JMO

070-06
022

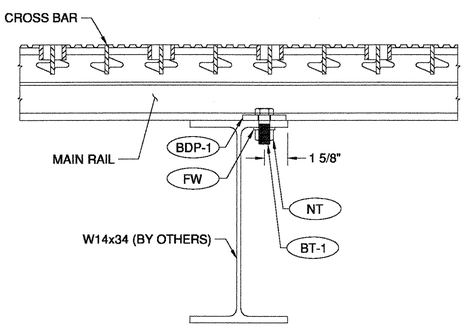
REVISIONS		
REV	DESCRIPTION	DATE
0	INITIAL SUBMITTAL FOR REVIEW	10/24/2007



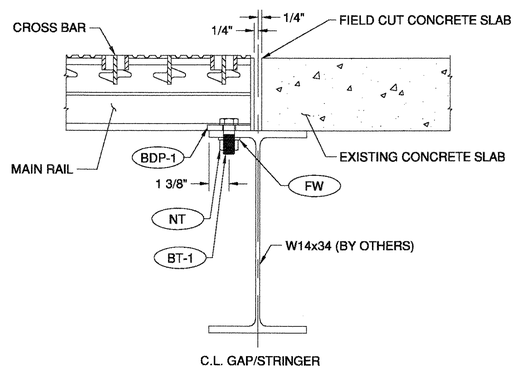
DETAIL 1/S13



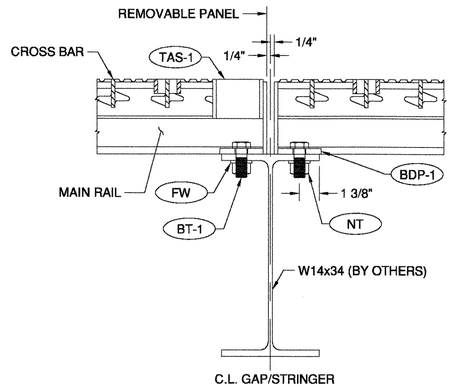
DETAIL 2/S13



DETAIL 4/S13



DETAIL 5/S13



DETAIL 3/S13

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115 41st Street
Pittsburgh, PA 15201

SECTIONS
GRAND ISLE DRAWBRIDGE
VERMONT AGENCY OF TRANS.

SIZE	DWG NO.	SHEET
B	ID-0697-07	13

SCALE N.T.S. | P.O. NUMBER R757 | BY WPO | APPROVED JMO

07/-PG 073