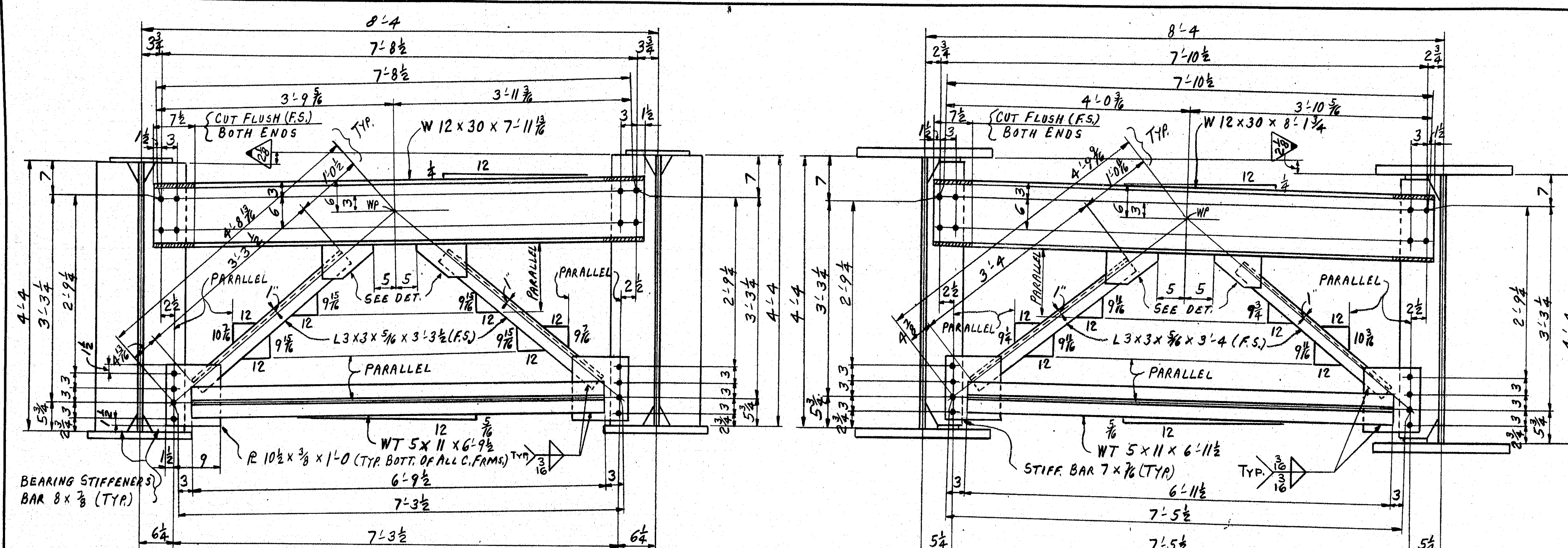
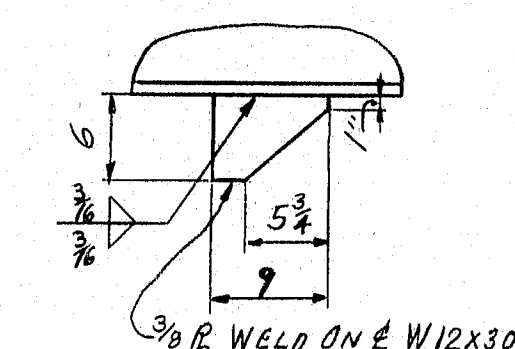


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.
1	ME	BR-026-1(61)

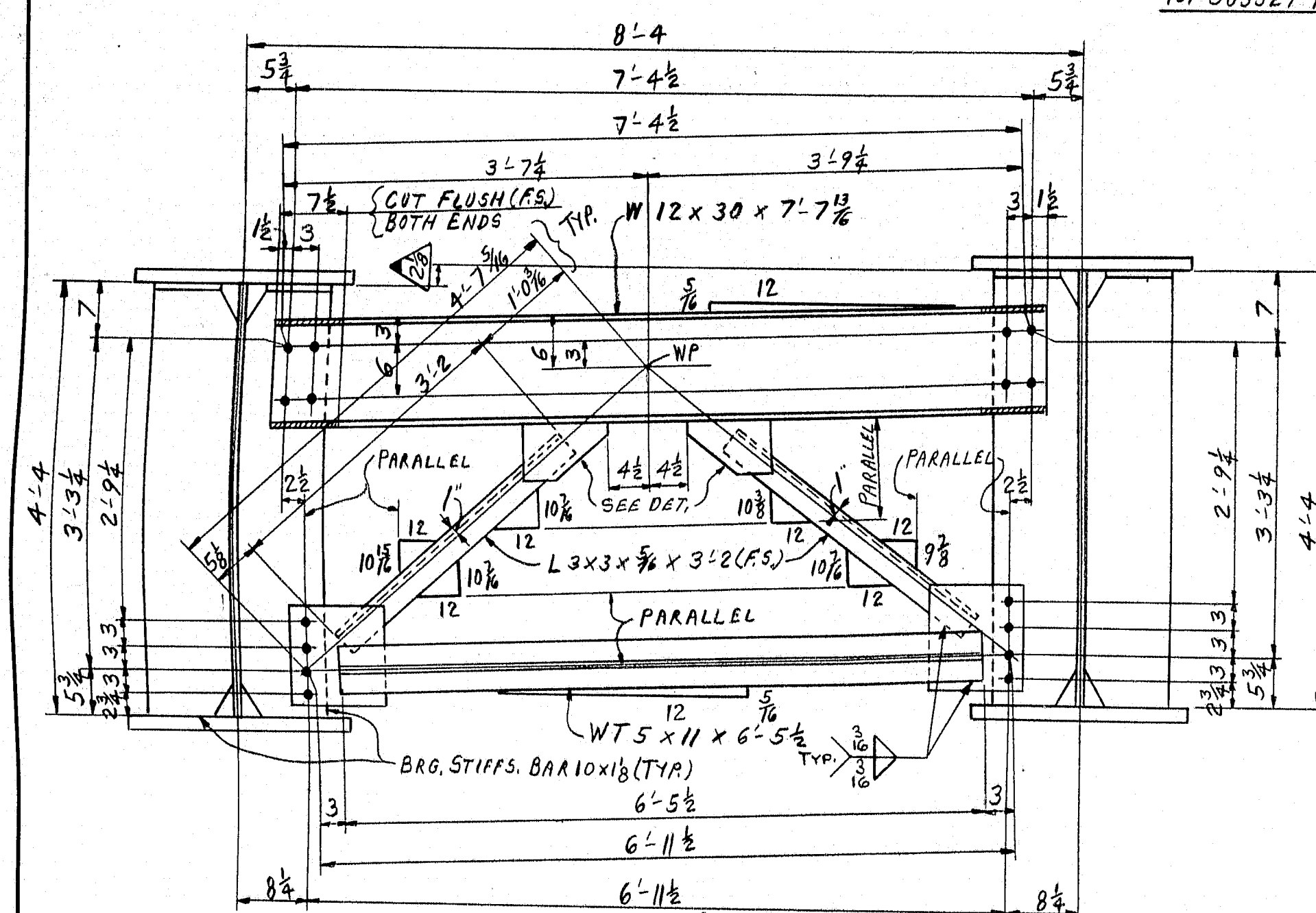


CROSS FRAMES AT ABUTMENTS (UTILITY BAY BETW. GIRDERS 5 & 6)
AS SHOWN AT ABUT. #1; OPP. HAND AT ABUT. #2
(LOOKING WEST AT ABUT. #1; LOOKING EAST AT ABUT. #2)

CROSS FRAMES AT CONSTRUCTION JOINTS (BETW. GIRDERS 5 & 6)
(LOOKING EAST)



TOP GUSSET R DETAIL



CROSS FRAME AT PIER (BETWEEN GIRDERS 5 & 6)
(LOOKING WEST)

APPROVED

JUN 14 1990

BY: 85
T.V. INTERNATIONAL

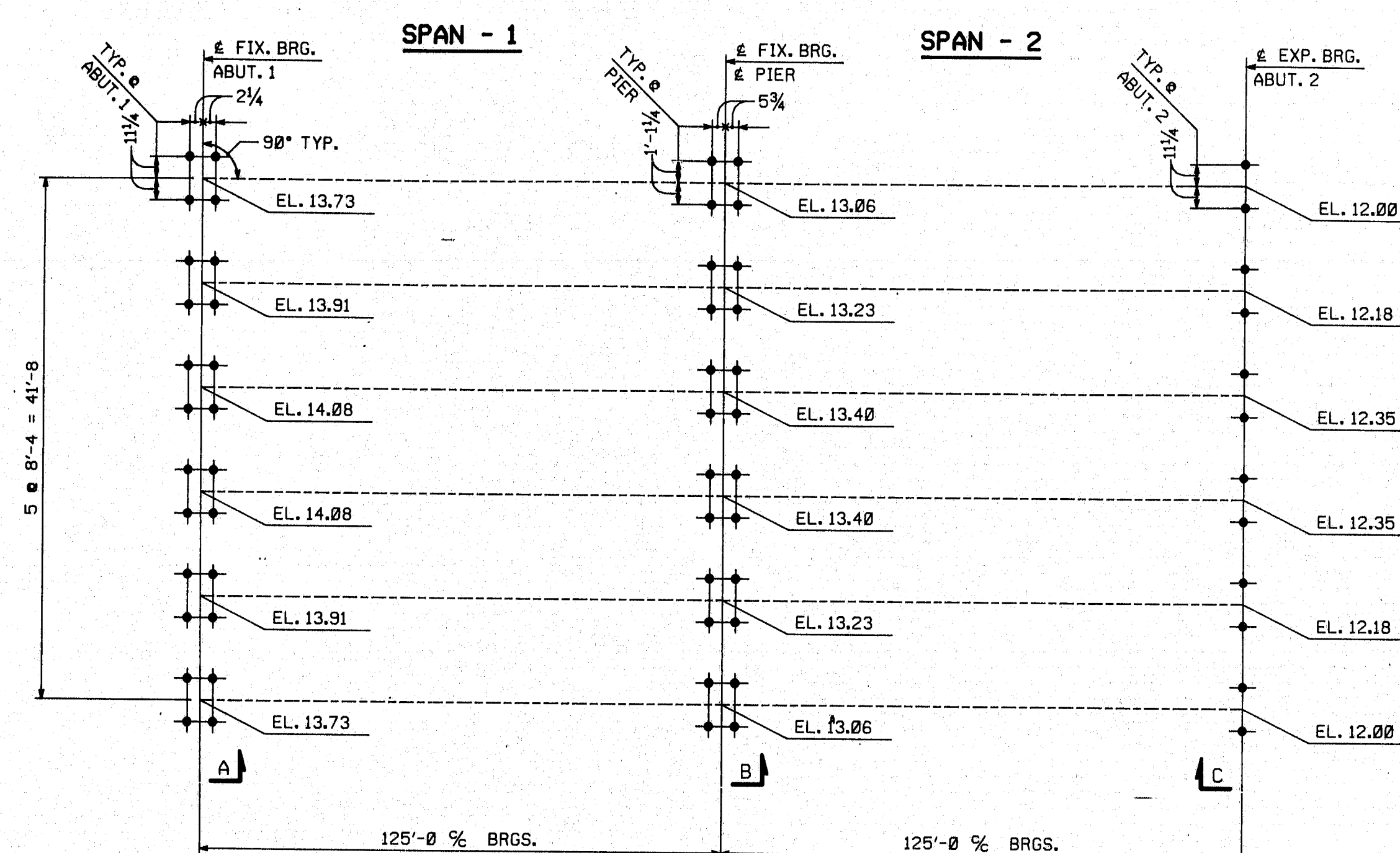
NOTES:
WORK THIS DWG. WITH DRAWINGS WS1 & WS2.
FOR OTHER NOTES, SEE DWGS. WS1 & WS2.

106-29

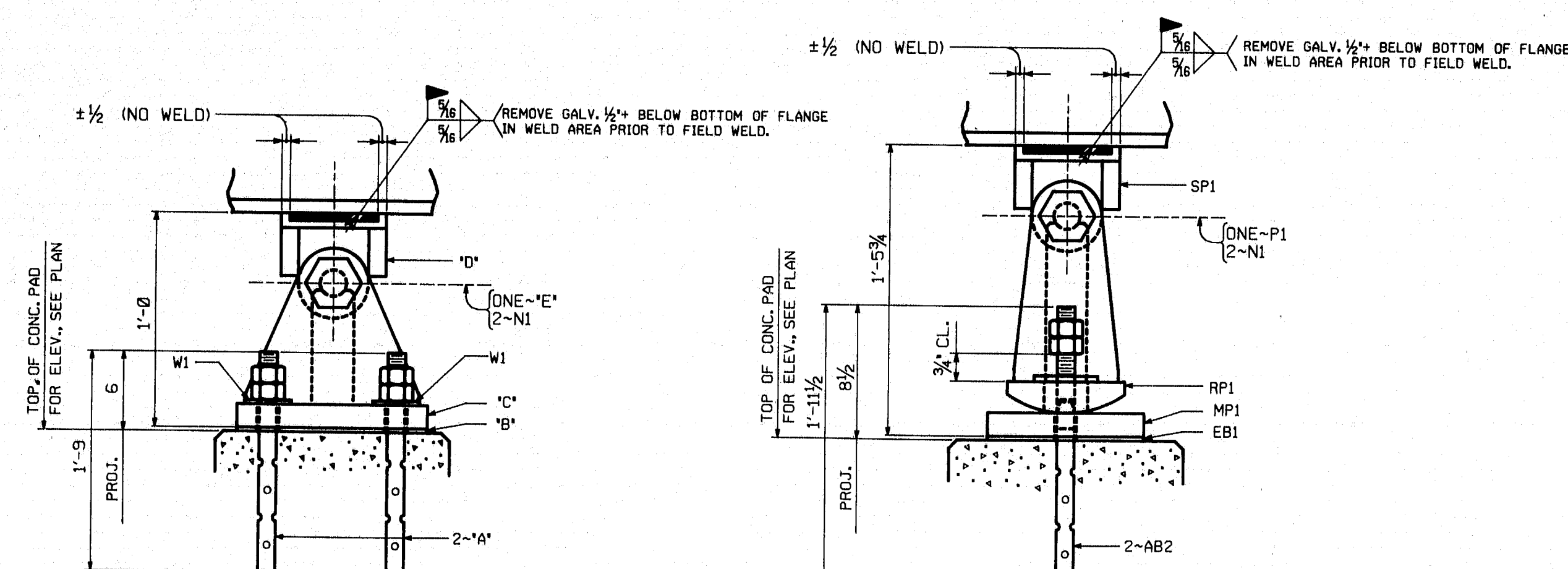
NO.	REVISION:	DATE:
<p>HIGH STEEL STRUCTURES, INC.</p> <p>1905 Old Philadelphia Pike Lancaster, Pennsylvania 17603 Phone 717/299-5281 A Subsidiary of High Industries, Inc.</p>		
<p>WORK SHEET - CROSS FRAME CONNECTIONS</p> <p>SOUTH WARREN BRIDGE (RT#1) OVER THE ST. GEORGE RIVER</p> <p>SOUTH WARREN BRIDGE STA 397+99.00</p> <p>BETWEEN TOWNS OF WARREN AND THOMASTON</p> <p>KNOX COUNTY, MAINE</p> <p>STATE OF MAINE, DEPT. OF TRANSPORTATION</p>		
<p>STATE CONTRACT OR REF. NO. BR-026-1(61)</p>		
<p>CONTRACTOR CALLAHAN BROTHERS, INC.</p>		
<p>IN CHARGE: HINKLE MADE BY: P.H.S. DATE: 1-22-90</p>		
<p>CONTRACT NUMBER: ME-89148 DRAWING NUMBER: WS3</p>		

MAY 24 1990

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.
1	ME	BR-026-1(61)



ANCHOR BOLT PLAN



SECTIONS A & B

SECTION	'A'	'B'	'C'	'D'	'E'
A	AB1	EB2	MP2	SP1	P1
B	AB1	EB3	MP3	SP2	P2

SECTION C

NOTES:

ALL DIMENSIONS ARE GIVEN HORIZONTALLY.
ELEVATIONS ARE GIVEN TO TOP OF CONCRETE PAD.
ANCHOR BOLT SETTINGS MUST BE EXACT IN EVERY DETAIL IN ACCORDANCE WITH THIS DRAWING.
ANCHOR BOLTS ARE FURNISHED BY HIGH STEEL STRUCTURES, INC. AND SET BY OTHERS.
WORK THIS DRAWING WITH DRAWING E2.

APPROVED

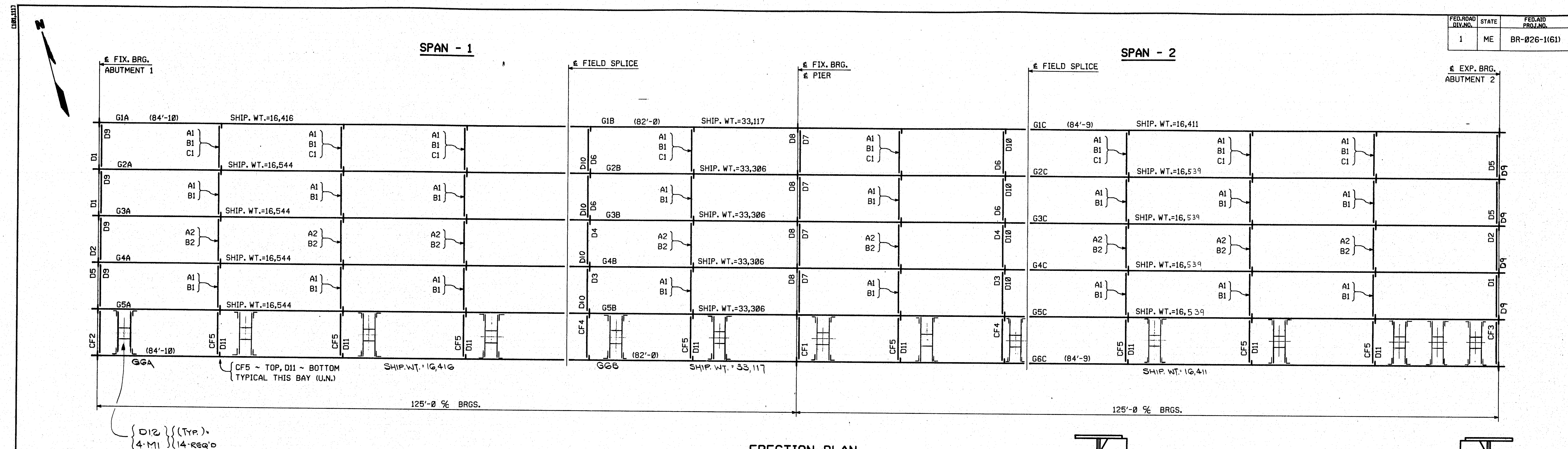
JUN 14 1990

BY *[Signature]*
T. V. I. INTERNATIONAL

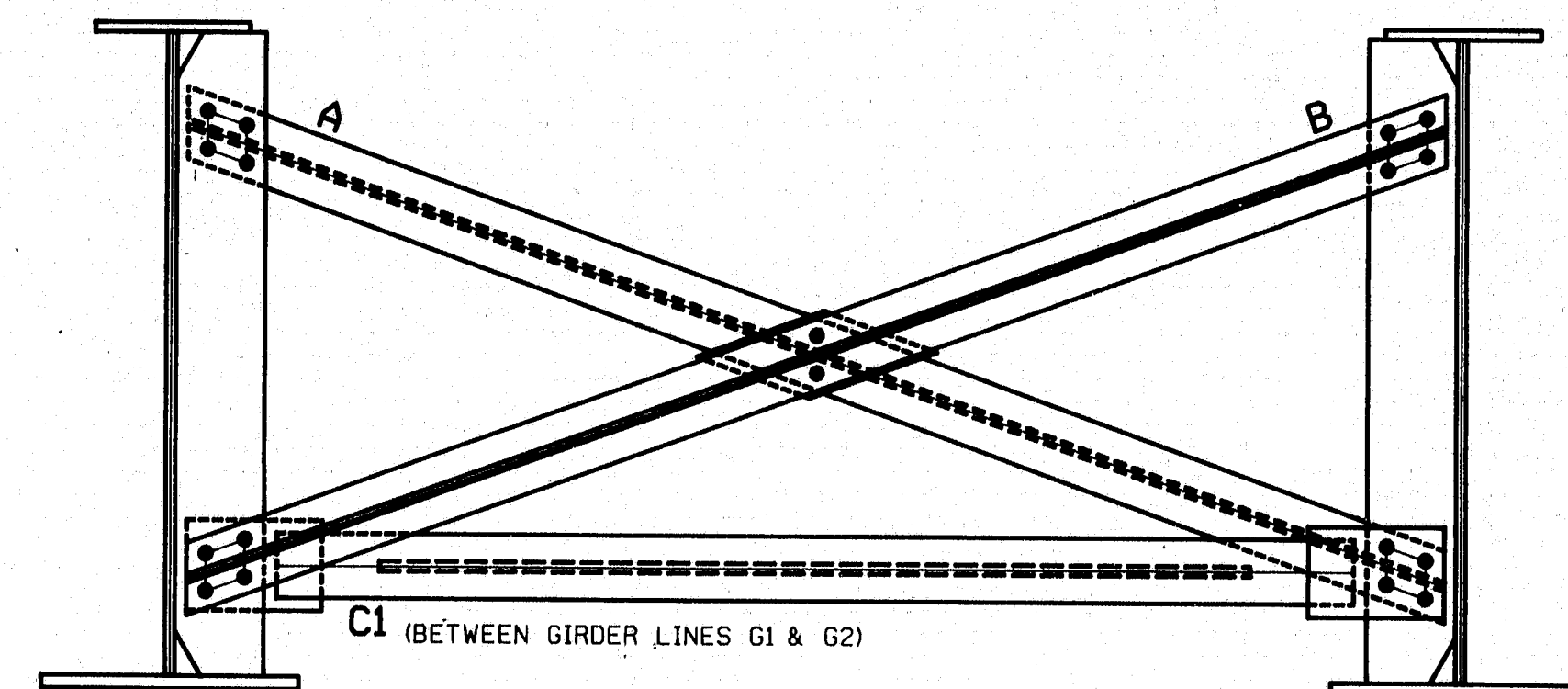
NO.	REVISION	DATE
<p>HIGH STEEL STRUCTURES, INC. <i>[Logo]</i> 1905 Old Philadelphia Pike Lancaster, PA 17602-0008 Phone 717/299-5281 A Division of High Industries, Inc.</p>		
<p>ANCHOR BOLT PLAN SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER SOUTH WARREN BRIDGE STA. 397+99.00 BETWEEN TOWNS OF WARREN AND THOMASTON KNOX COUNTY, MAINE STATE OF MAINE, DEPT. OF TRANSPORTATION</p>		
<p>STATE CONTRACT OR REF. NO. BR-026-1(61) CONTRACTOR CALLAHAN BROTHERS, INC. IN CHARGE: HINKLE MADE BY: CFS CHK'D: RB DATE: 3-12-90 CONTRACT NUMBER: ME-89148 DRAWING NUMBER: E1</p>		

106-30

MAY 24 1990



ERECTOR PLAN



ERECTOR NOTE: ALL BOLTS MUST BE LOCATED IN ACCORDANCE WITH THE LIST OF FIELD CONNECTIONS. HIGH STEEL STRUCTURES WILL NOT BE RESPONSIBLE FOR FURNISHING ADDITIONAL BOLTS OR FOR ANY OTHER RELATED COSTS OR DAMAGES RESULTING FROM IMPROPER LOCATION OF BOLTS.

LIST OF FIELD CONNECTIONS

LINE NO.	ACTUAL NO. REQ'D	BOLT DIA.	BOLT LENGTH	BOLTS / CONN.	* OF CONNS.	GRIP	THICKNESS OF PCS. CONNECTED	PIECES CONNECTED AND REMARKS
1	1152	7/8"	2 1/2"	96	12	1 1/2"	1/2" 1/2" 1/2"	GIRDER WEB SPLICES
2	432	7/8"	4"	36	12	2 3/4"	1/2" 1 1/2" 3/8"	GIRDER TOP FLANGE SPLICES
3	1008	7/8"	4"	84	12	2 3/4"	1/2" 1 1/2" 3/8"	GIRDER BOTTOM FLANGE SPLICES
4	128	7/8"	2 1/2"	8	16	1 1/4"	7/8" 3/8"	END DIAPH. TOP (W24x55) TO BRG. STIFF.
5	32	7/8"	2 1/2"	2	16	1 1/4"	7/8" 3/8"	END DIAPH. BOTT. (W75x11) TO BRG. STIFF.
6	16	7/8"	2 1/2"	4	4	1 1/2"	7/8" 1/4"	END CROSSFRAME TOP (W12x30) TO BRG. STIFF.
7	16	7/8"	2 1/2"	4	4	1 1/4"	7/8" 3/8"	END CROSSFRAME BOTT. (W12x30) TO BRG. STIFF.
8	64	7/8"	2 3/4"	8	8	1 1/2"	1 1/8" 3/8"	DIAPH. & PIER TOP (W24x55) TO BRG. STIFF.
9	16	7/8"	2 3/4"	2	8	1 1/2"	1 1/8" 3/8"	DIAPH. & PIER BOTT. (W75x11) TO BRG. STIFF.
10	8	7/8"	2 3/4"	4	2	1 1/2"	1 1/8" 1/4"	CROSSFRAME & PIER TOP (W12x30) TO BRG. STIFF.
11	8	7/8"	2 3/4"	4	2	1 1/2"	1 1/8" 3/8"	CROSSFRAME & PIER BOTT. (W12x30) TO BRG. STIFF.
12	128	7/8"	2 1/2"	8	16	1 1/4"	7/8" 3/8"	DIAPHRAGMS & CONSTRUCTION JOINTS TOP (W24 x 55) TO CONN. PLATE
13	32	7/8"	2 1/2"	2	16	1 1/4"	7/8" 3/8"	DIAPHRAGMS & CONSTRUCTION JOINTS BOTT. (W75 x 11) TO CONN. PLATE
14	16	7/8"	2"	4	4	1 1/2"	7/8" 1/4"	CROSSFRAMES & CONSTRUCTION JOINTS TOP (W12 x 30) TO CONN. PLATE
15	16	7/8"	2 1/4"	4	4	1 1/2"	7/8" 3/8"	CROSSFRAMES & CONSTRUCTION JOINTS BOTT. (W12 x 30) TO CONN. PLATE
16	448	7/8"	2"	4	112	3/4"	7/8" 3/8"	TYP. CROSSFRAME WT4 x 9 TO CONN. &
17	64	7/8"	2 1/2"	4	16	1 1/2"	7/8" 3/8"	TYP. CROSSFRAME WT4x9 & GUSS. & TO CONN. &
18	64	7/8"	2 1/2"	2	32	1 1/2"	7/8" 3/8"	TYP. CROSSFRAME WT4x9 TO WT4x9 & & INTERSECTION
19	128	7/8"	2"	4	32	3/4"	7/8" 3/8"	CROSSFRAMES UTILITY BAY W4x9 TO CONN. &
20	64	7/8"	2 1/4"	4	16	1 1/2"	7/8" 3/8"	CROSSFRAMES UTILITY BAY W75x11 TO CONN. &
21								
22	112	3/4"	1 3/4"	8	14	5/8"	3/8" 1/2"	CONN. & TO CB
23	112	3/4"	2"	8	14	5/8"	3/8" 1/2"	CONN. & TO GIRDER WEB
24								
25								

FIELD BOLT SUMMARY

(ADDITIONAL BOLTS ADDED)

ALL FIELD BOLTS ARE MECHANICALLY GALVANIZED TO (ASTM B695) CLASS 50, TYPE I

ASTM A325 TYPE I BOLTS WITH HVY. HEX HEAD AND ASTM A563 GRADE DH HVY. HEX NUT

622 - 7/8" HIGH STRENGTH BOLTS x 0'-2"

252 - " x 0'-2 1/4"

336 - " x 0'-2 1/2"

1310 - " x 0'-2 3/4"

1512 - 7/8" HIGH STRENGTH BOLTS x 0'-4"

4032 HARD, FLAT F436 WASHERS FOR 7/8" H.S. BOLTS

120 - 3/4" HIGH STRENGTH BOLTS x 0'-1 3/4"

120 - 3/4" HIGH STRENGTH BOLTS x 0'-2"

240 HARD, FLAT F436 WASHERS FOR 3/4" H.S. BOLTS

NOTES:

NO CREDIT WILL BE ALLOWED FOR WORK PERFORMED BY OTHERS IN REPLACING OR CORRECTING MATERIALS OR WORKMANSHIP COVERED BY THIS DRAWING UNLESS EXPRESSLY AUTHORIZED BY HIGH STEEL STRUCTURES, INC.

ALL FIELD CONNECTIONS TO BE MADE WITH 7/8" HIGH STRENGTH (A325, TYPE I) BOLTS (U.N.).

NOTICE: WEIGHTS OF MEMBERS LISTED ON THESE DRAWINGS ARE ESTIMATED WEIGHTS AND ACTUAL WEIGHTS WILL VARY. HIGH STEEL STRUCTURES, INC. WILL NOT BE RESPONSIBLE FOR ANY ERECTION PROCEDURES, SHIPPING PROCEDURES, ETC. DEVELOPED USING ESTIMATED WEIGHTS AS SHOWN.

ALL DIMENSIONS ARE GIVEN HORIZONTALLY (U.N.).

DIMENSIONS GIVEN THUS: (84'-10") ARE THE SHIPPING LENGTHS OUT TO OUT OF FASCIA GIRDERS.

HIGH STEEL STRUCTURES, INC. DOES NOT SUPPLY SHEAR STUDS, ROD HANGERS, HARDWARE AT UTILITY SUPPORTS, EXPANSION DAM MATERIALS OR ANY BRIDGE DRAINAGE ITEMS.

FOR BEARING ASSEMBLIES, SEE DRAWING E1.

FOR SHOP ASSEMBLY DIAGRAM, SEE DRAWING SAI.

APPROVED

JUN 14 1990

106-31

NO.	REVISION	DATE

HIGH STEEL STRUCTURES, INC.

100 Old Philadelphia Pike
Lancaster, PA 17606-0008
Phone 717/299-5201

ERECTOR PLAN

SOUTH WARREN BRIDGE (RTE. 1) OVER THE ST. GEORGE RIVER

SOUTH WARREN BRIDGE STA. 397+99.00

BETWEEN TOWNS OF WARREN AND THOMASTON

KNOX COUNTY, MAINE

STATE OF MAINE, DEPT. OF TRANSPORTATION

STATE CONTRACT OR REF. NO. **BR-026-1(61)**

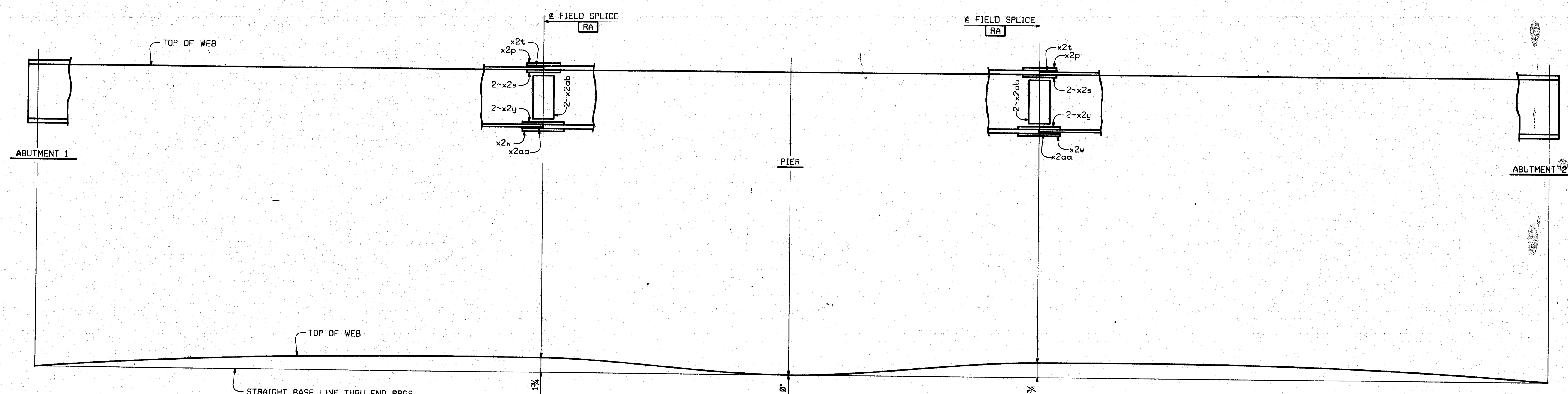
CONTRACTOR **CALLAHAN BROTHERS, INC.**

IN CHARGE: **HINKLE** MADE BY: **KG** CHK'D BY: **RB** DATE: **3-12-90**

CONTRACT NUMBER: **ME-89148** DRAWING NUMBER: **E2**

MAY 24 1990

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
1	ME	BR-026-1(61)



SHOP REAMING DIAGRAM

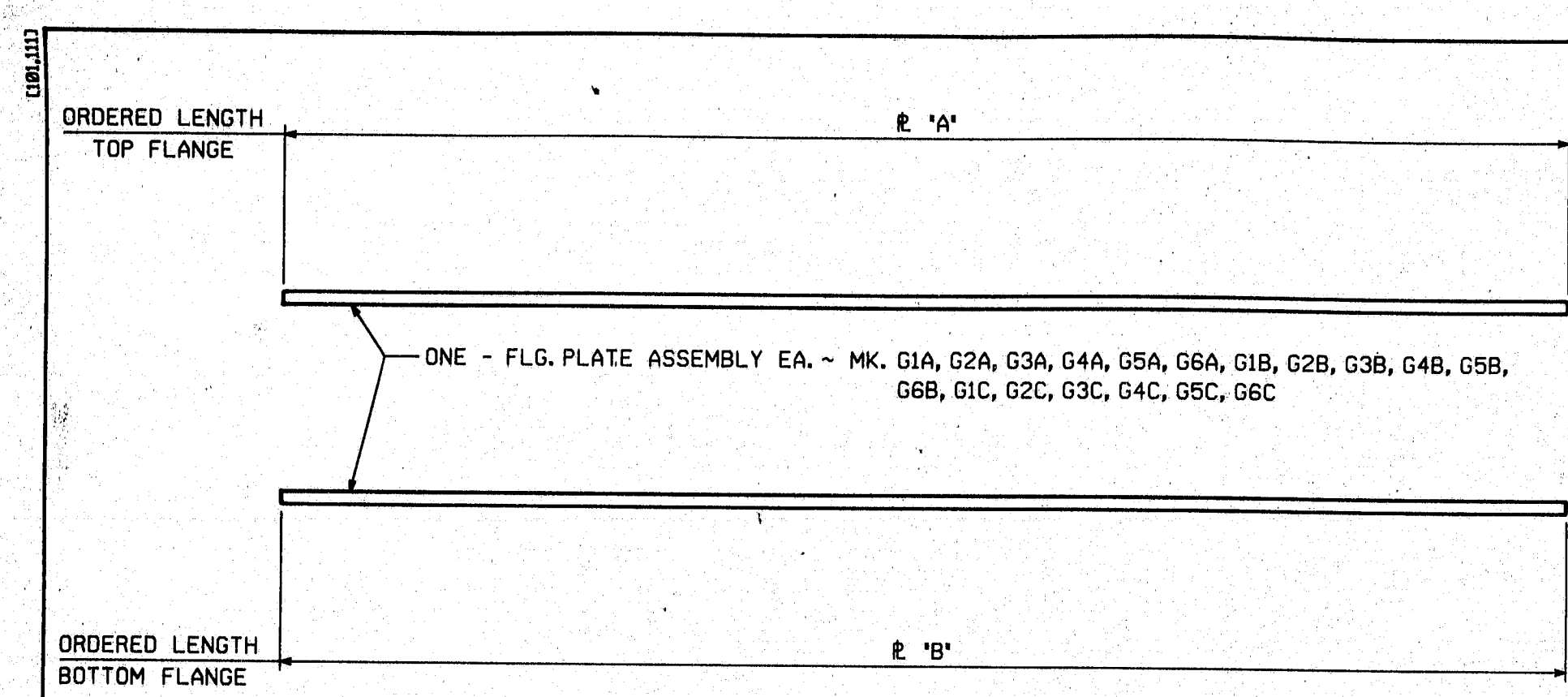
NOTES:
 HOLES MARKED [RA] ARE TO BE SUB-PUNCHED/SUB-DRILLED 1/4" UNDER SIZE AND REAMED TO FULL SIZE OR DRILLED FROM SOLID WITH CONNECTING PARTS ASSEMBLED AND MATCH MARKED. HOLES TO BE 1/8" DIA.

106-32

APPROVED
 JUN 14 1990
 BY: BS
 T.V. INTERNATIONAL

△		
△		
△		
NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. 1805 Old Philadelphia Pike, Lancaster, PA 17605-0005, Phone 717/295-5511 A Division of High Industries, Inc.		
SHOP REAMING DIAGRAM		
SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+99.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT OR REF. NO. BR-026-1(61)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE: HINKLE	MADE BY: KG	CHK'D BY: RB DATE: 3-12-90
CONTRACT NUMBER ME-89148		DRAWING NUMBER SA1

MAY 24 1990



MARK	"A"	"B"
G1A THRU G6A	12 x 3/4 x 84'-11 (3/4)	20 x 1 x 84'-10 (3/3)
G1B THRU G6B	26 x 1 1/2 x 82'-1 (3/2)	26 x 1 1/2 x 82'-1 (3/2)
G1C THRU G6C	12 x 3/4 x 84'-11 (3/4)	20 x 1 x 84'-10 (3/3)

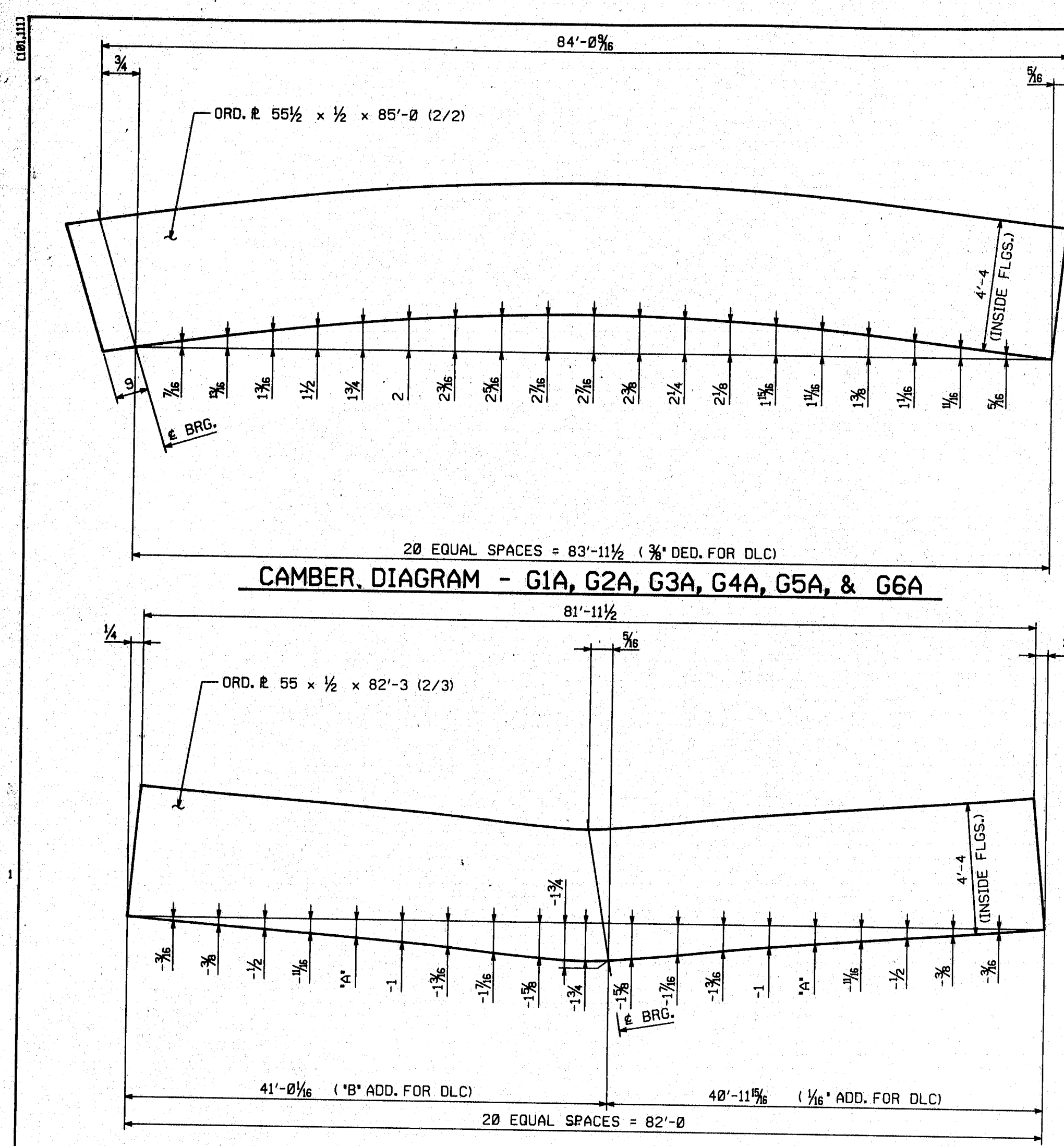
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
1	ME	BR-026-1(61)

NOTES:
 FOR GENERAL SHOP NOTES, SEE DRAWING N1.
 ALL FLANGE PLATES REQUIRE CHARPY V-NOTCH TEST.

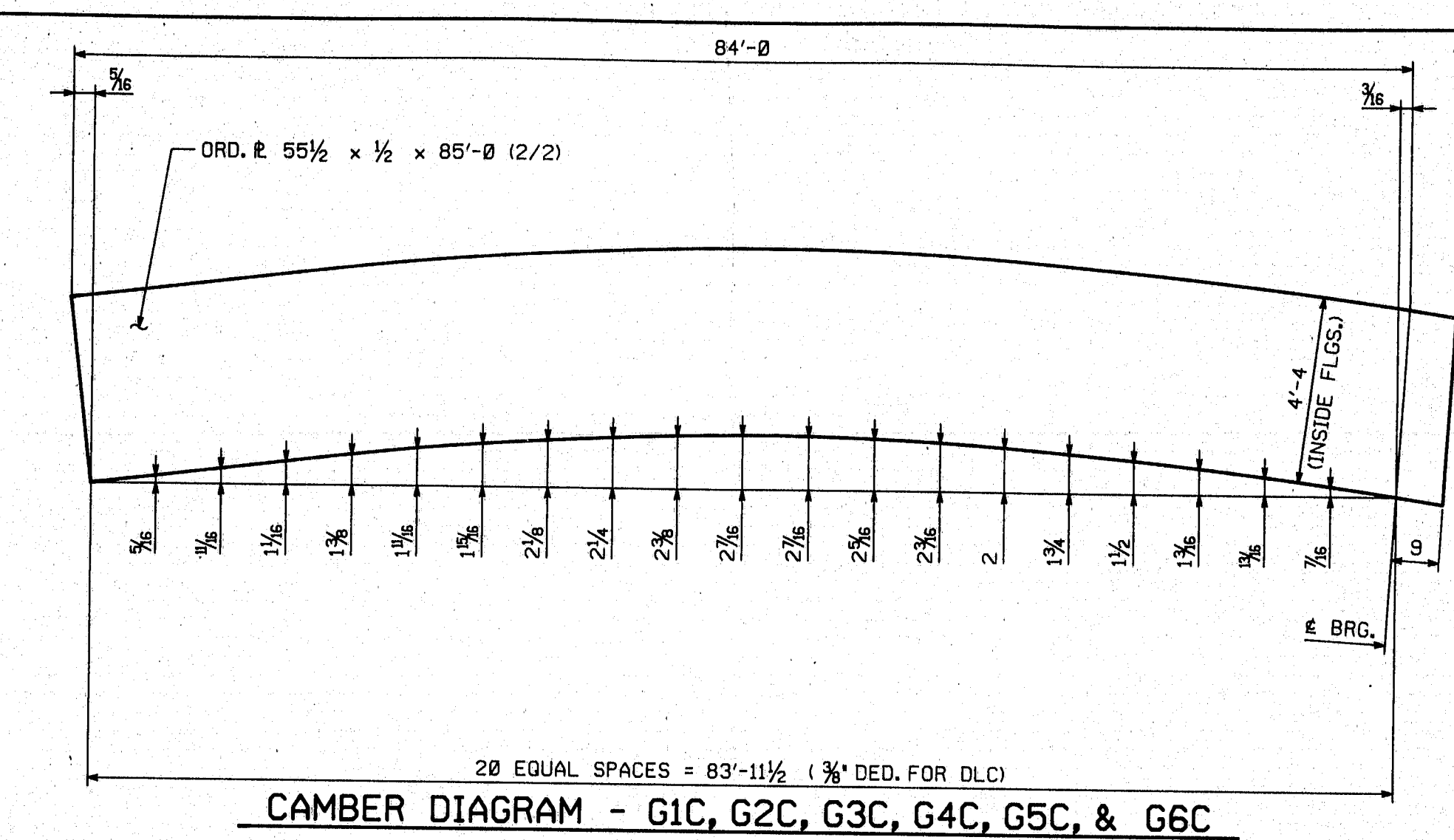
△		
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NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. <small>1005 Old Philadelphia Pike Lancaster, PA 17605-0008 Phone 717/299-5281 A Division of High Industries, Inc.</small>		
FLANGE SPLICE DETAILS		
SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+99.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT OR REF. NO. BR-026-1(61)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE: HINKLE	MADE BY: PHS	CHK'D BY: RB DATE: 1-4-90
CONTRACT NUMBER: ME-89148		DRAWING NUMBER: FS1

APPROVED
 JUN 14 1990
 BY: [Signature]
 FOR THE INTERNATIONAL

106-33



MARK	"A"	"B"
G1B	-1/8	1/8
G2B, G4B	-7/8	3/8
G3B, G5B	-7/8	1/8
G6B	-1/8	3/8



FED. ROAD DIV.	STATE	FED. AID PROJ. NO.
1	ME	BR-026-1(61)

NOTES:
 FOR GENERAL SHOP NOTES, SEE DRAWING N1.
 NEGATIVE CAMBER ORDINATES INDICATE CURVE IS BELOW BASELINE.
 ALL WEB PLATES REQUIRE CHAMPY V-NOTCH TEST.

106-34

APPROVED

JUN 14 1990

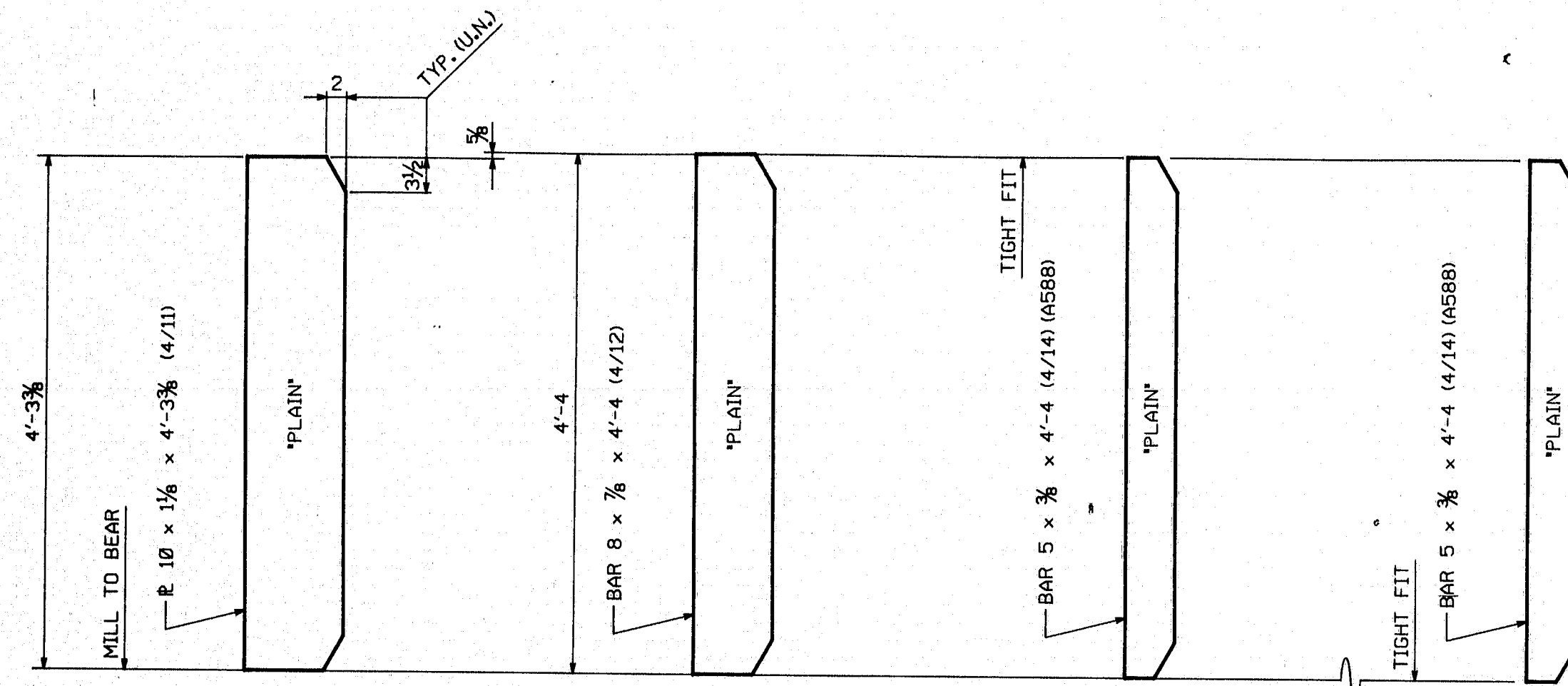
BS

INTERNATIONAL

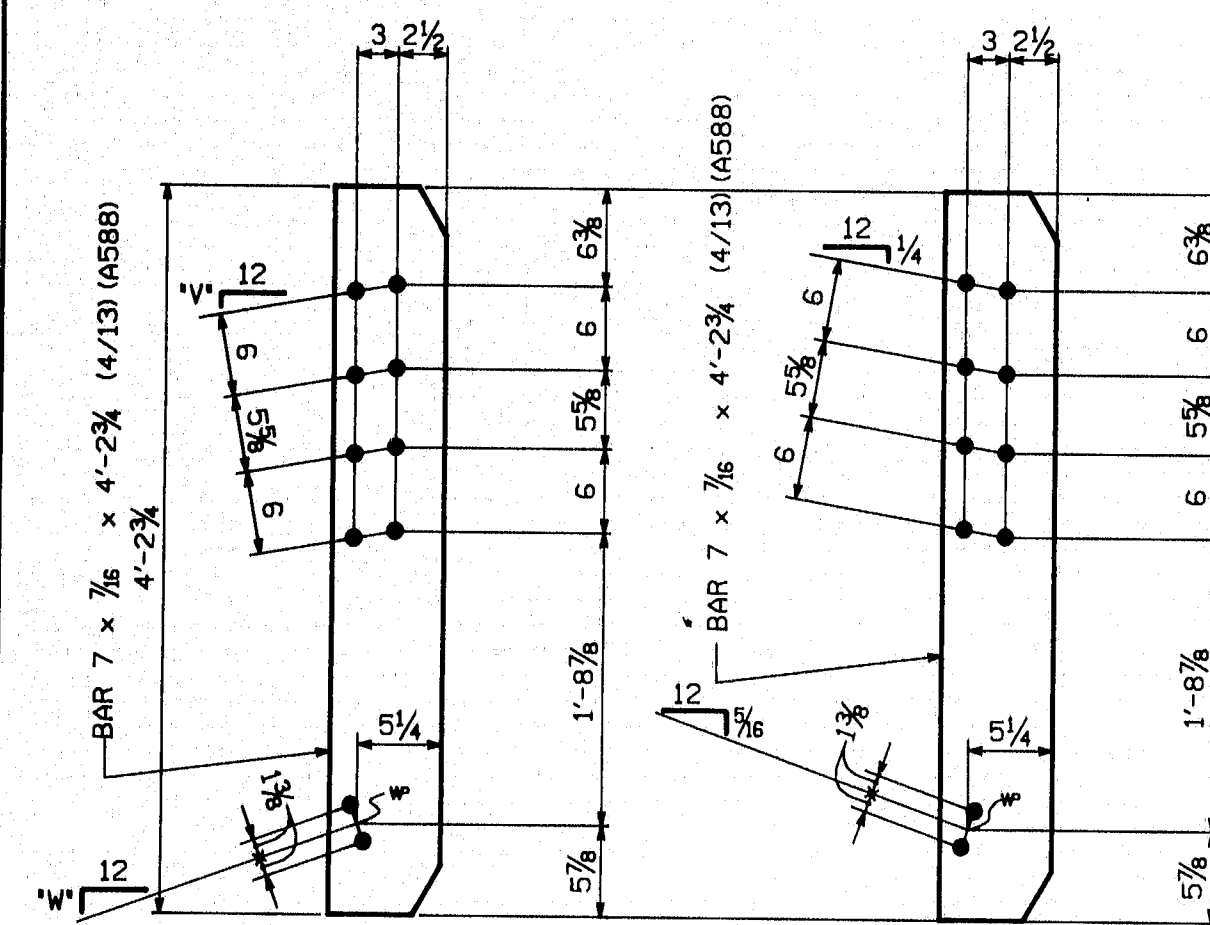
NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC.		
WEB CAMBER DIAGRAMS SOUTH WARREN BRIDGE (RTE. 1) OVER THE ST. GEORGE RIVER SOUTH WARREN BRIDGE STA. 397+99.00 BETWEEN TOWNS OF WARREN AND THOMASTON KNOX COUNTY, MAINE STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT OR REF. NO. BR-026-1(61)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE: HINKLE	MADE BY: PHS	CHK'D BY: RB DATE: 1-4-90
CONTRACT NUMBER: ME-89148	DRAWING NUMBER: WC1	

MAY 24 1990

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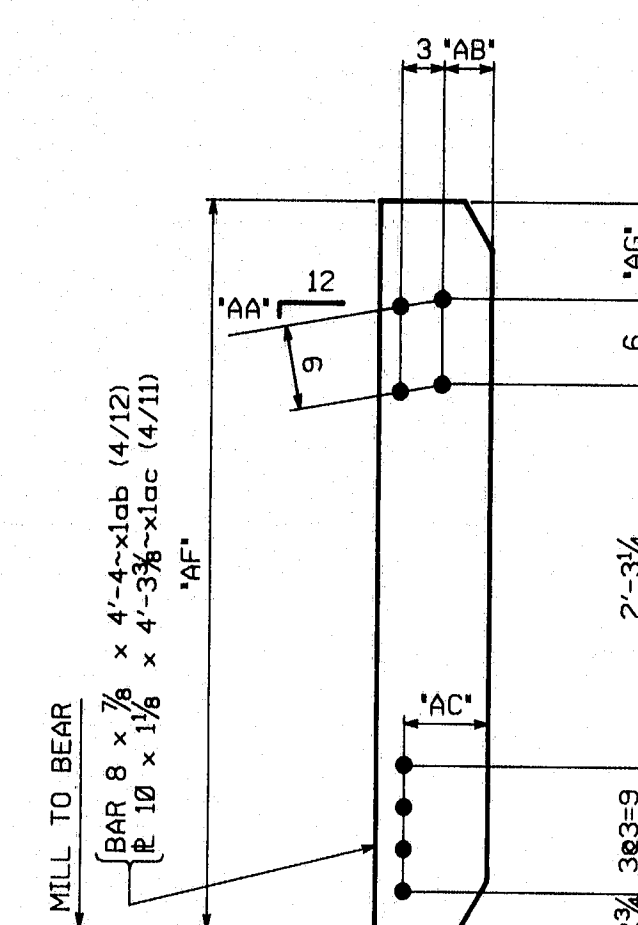
2~BRG. STIFF. MK. x1a 4~BRG. STIFF. MK. x1b 24~INT. STIFF. MK. x1c 24~INT. STIFF. MK. x1d



CONN. P

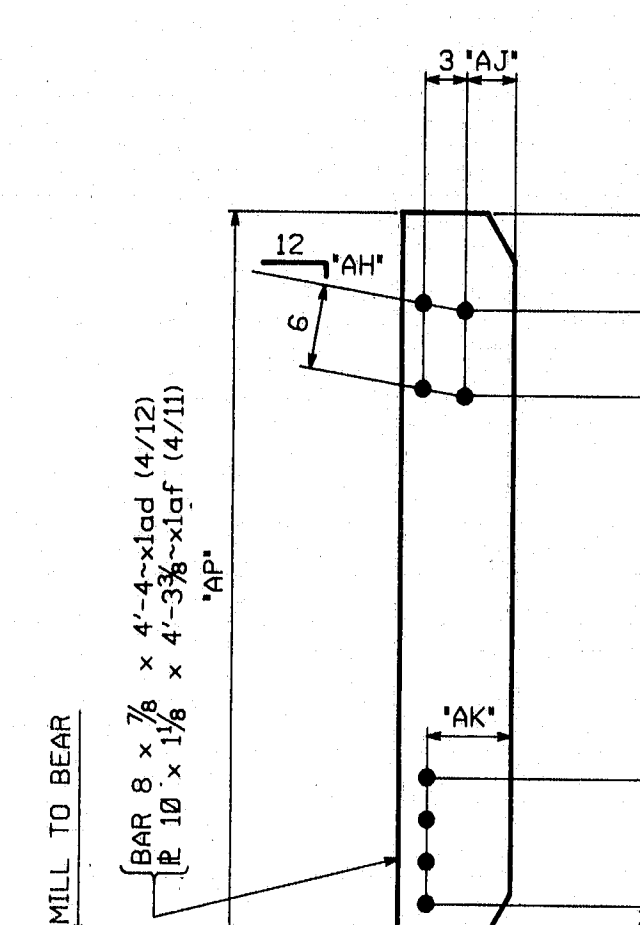
NO. REQ'D.	MARK	"V"	"W"
6	x1t	1/4	3/8
4	x1w	0	0

6~CONN. P MK. x1y



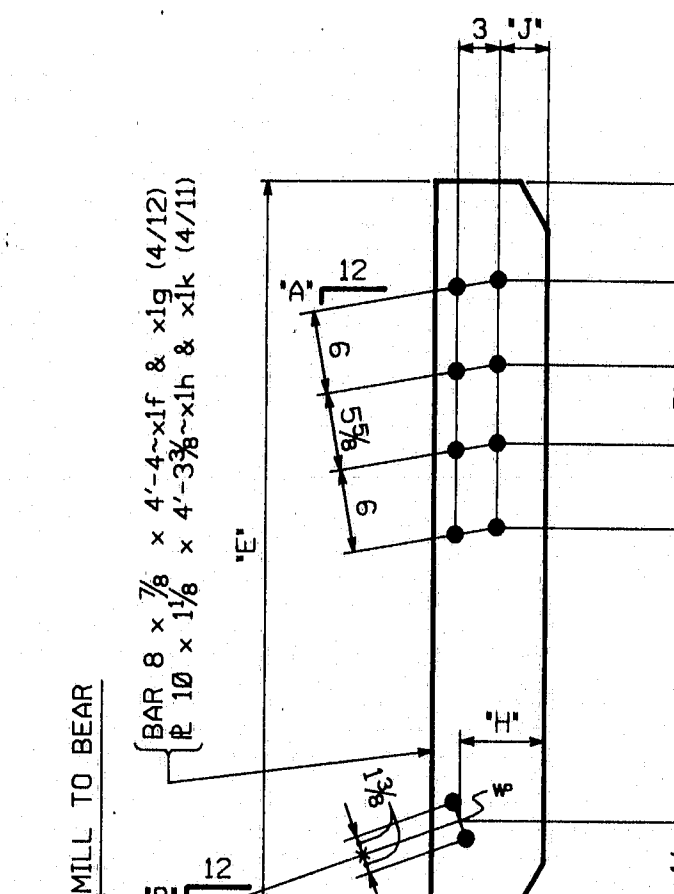
BRG. STIFF.

NO. REQ'D.	MARK	"AA"	"AB"	"AC"	"AF"	"AG"
2	x1ab	1/4	3 1/2	6	4'-4	7
ONE	x1ac	3/8	5 1/2	8	4'-3 3/8	6 3/8



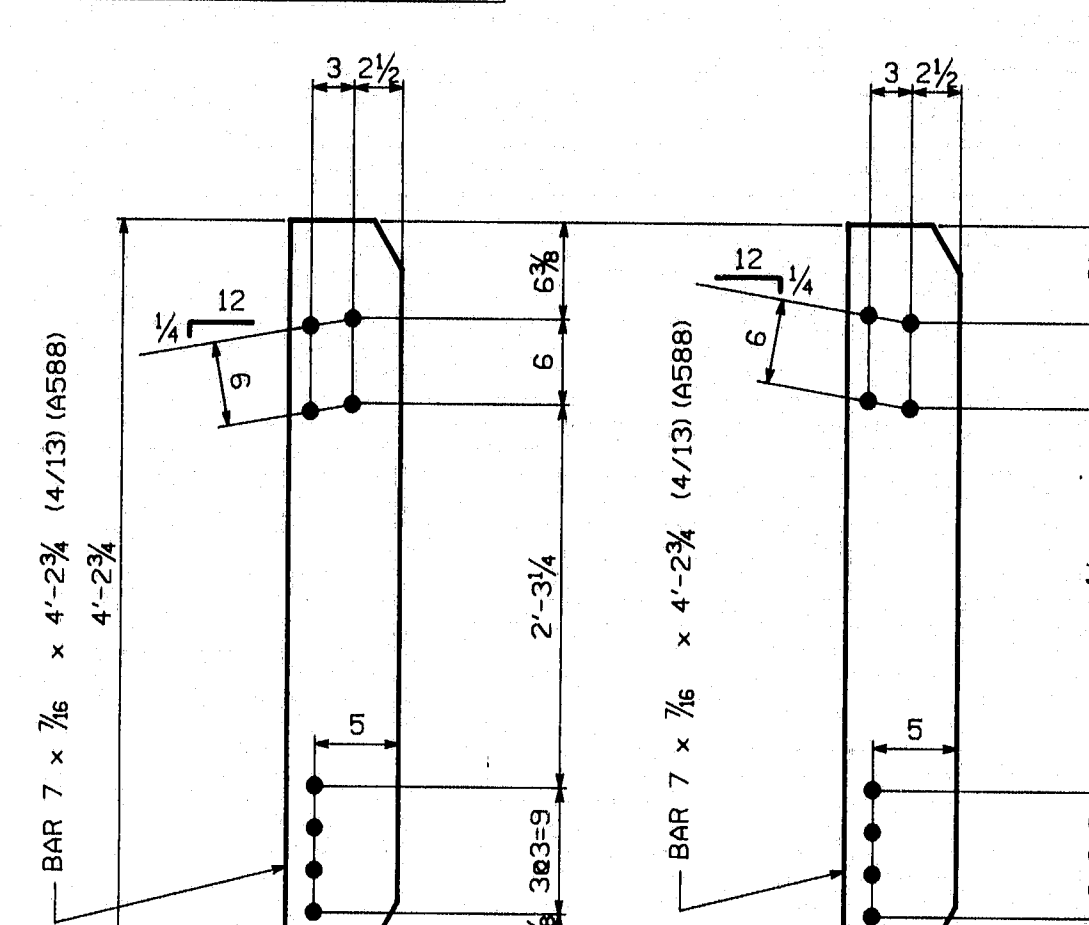
BRG. STIFF.

NO. REQ'D.	MARK	"AH"	"AJ"	"AK"	"AP"	"AR"
2	x1ad	1/4	3 1/2	6	4'-4	7
ONE	x1af	3/8	5 1/2	8	4'-3 3/8	6 3/8



BRG. STIFF.

NO. REQ'D.	MARK	"A"	"B"	"E"	"F"	"G"	"H"	"J"
6	x1f	1/4	3/8	4'-4	7	1'-8 3/8	6 3/4	3 1/2
4	x1g	0	0	4'-4	7	1'-8 3/8	6 3/4	3 1/2
3	x1h	0	3/8	4'-3 3/8	8 1/2	1'-6 3/4	8 1/4	5 1/2
2	x1k	0	0	4'-3 3/8	6 3/8	1'-8 3/8	8 1/4	5 1/2



2~CONN. P MK. x1ag 2~CONN. P MK. x1ah

SHOP NOTE

HOLES: 3/8" (U.N.)

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. N1.

106-35

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
1	ME	BR-026-1(61)

APPROVED

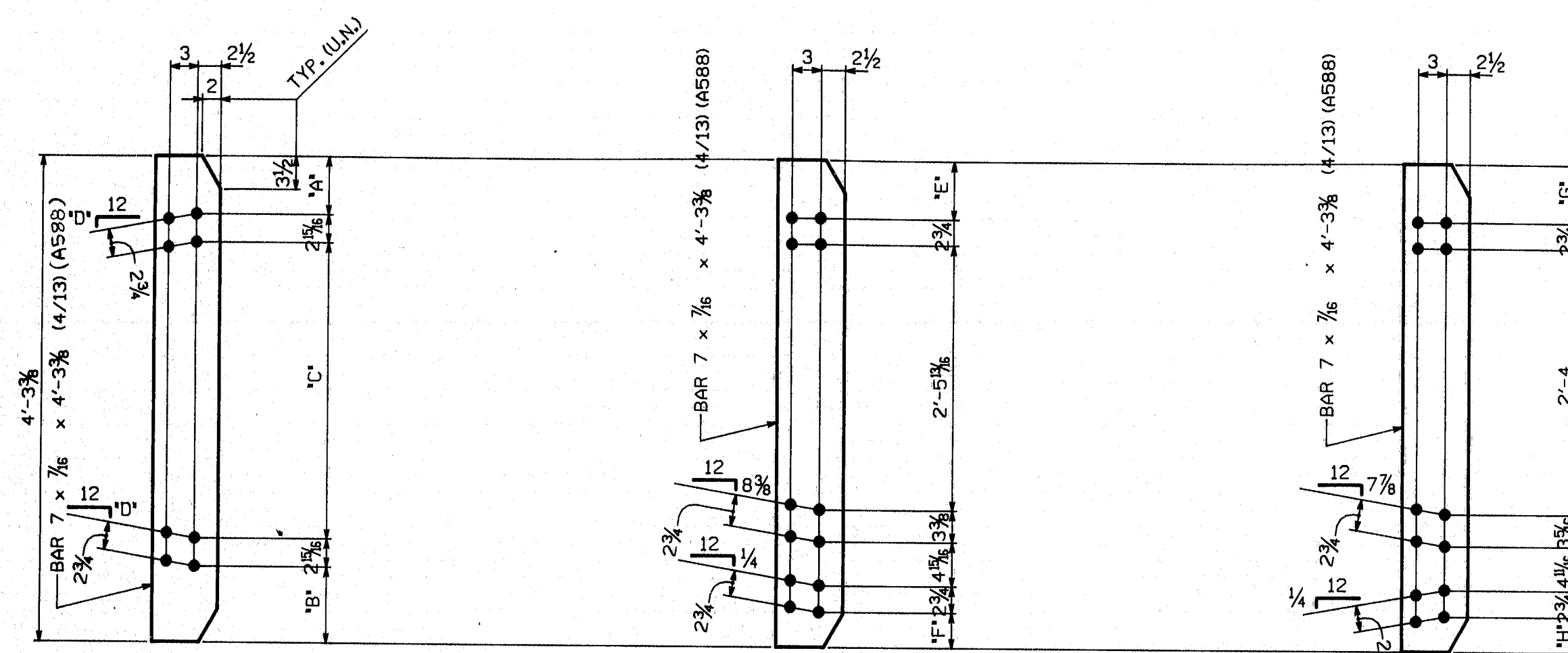
JUN 14 1990

BY BS
T.Y. LIN INTERNATIONAL

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△		
△		
NO.	REVISION	DATE
<p>HIGH STEEL STRUCTURES, INC.</p> <p>805 Old Philadelphia Pike Lancaster, PA 17602-0008 Phone 717/299-5331</p> <p>A Division of High Industries, Inc.</p>		
GIRDER JOB STANDARDS		
SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+99.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT OR REF. NO. BR-026-1(61)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE	HINKLE	MADE BY
CHK'D	BY	DATE
CONTRACT NUMBER	ME-89148	DRAWING NUMBER
		X1

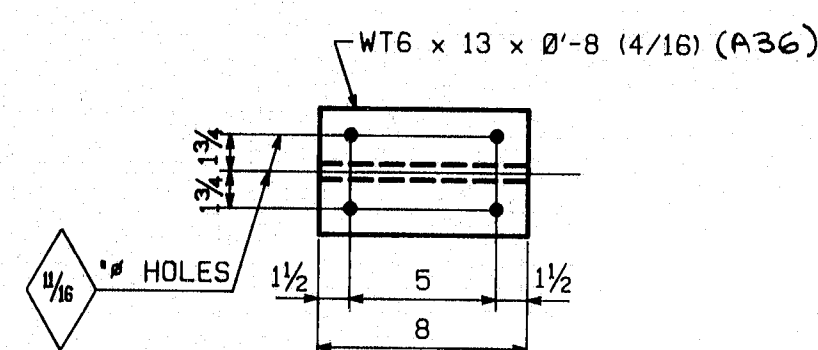
MAY 24 1990

081110



CONN. R

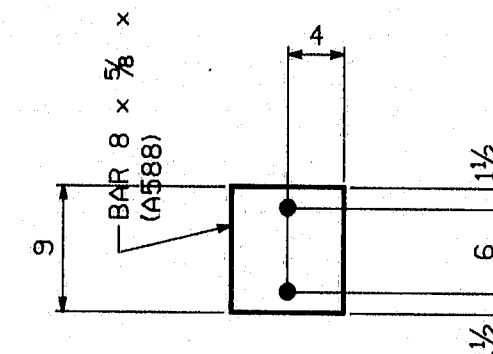
NO. REQ'D.	MARK	'A'	'B'	'C'	'D'
6	x2a	5 1/2	8 1/8	2'-7 1/8	4 3/8
6	x2b	7 3/8	6 1/8	2'-7 1/8	4 3/8
18	x2c	6 1/8	8 1/8	2'-7 1/8	4 3/8
18	x2d	8 1/4	5 1/8	2'-7 1/8	4 3/8
4	x2f	5 1/2	6 1/8	2'-9 1/8	4 3/8
12	x2g	6 1/8	5 1/8	2'-9 1/8	4 3/8



20 ~SCUPPER SUPPORT CONN. MK. x2ac

CONN. R

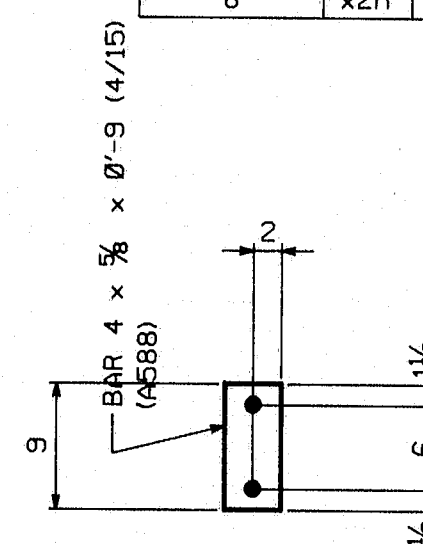
NO. REQ'D.	MARK	'E'	'F'
2	x2h	3 3/8	4 3/8
6	x2k	4	3 3/8



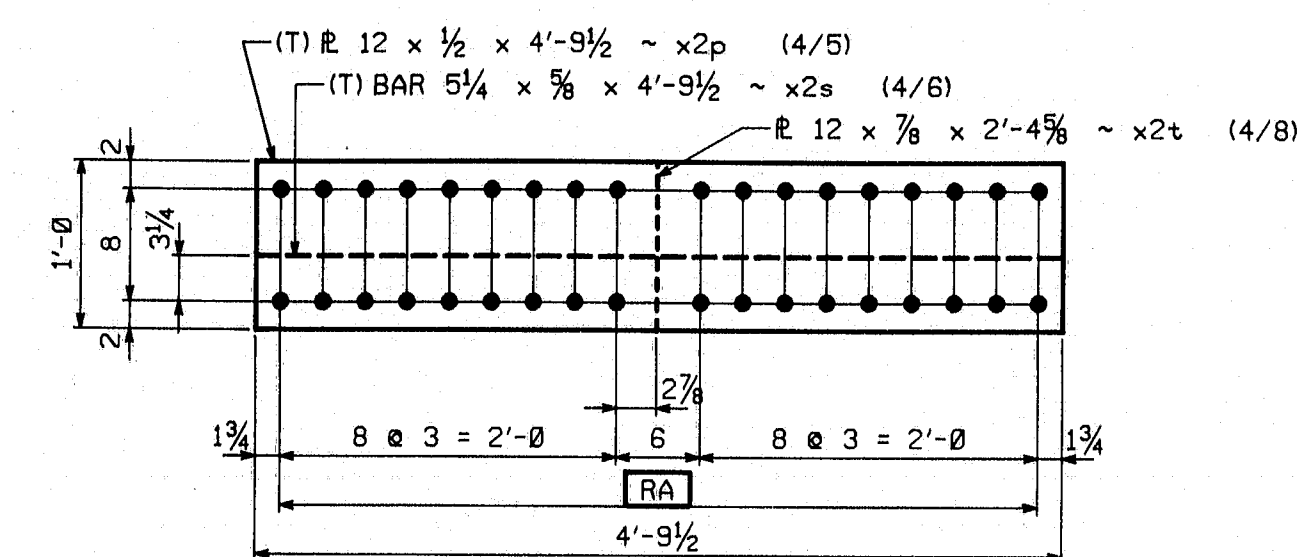
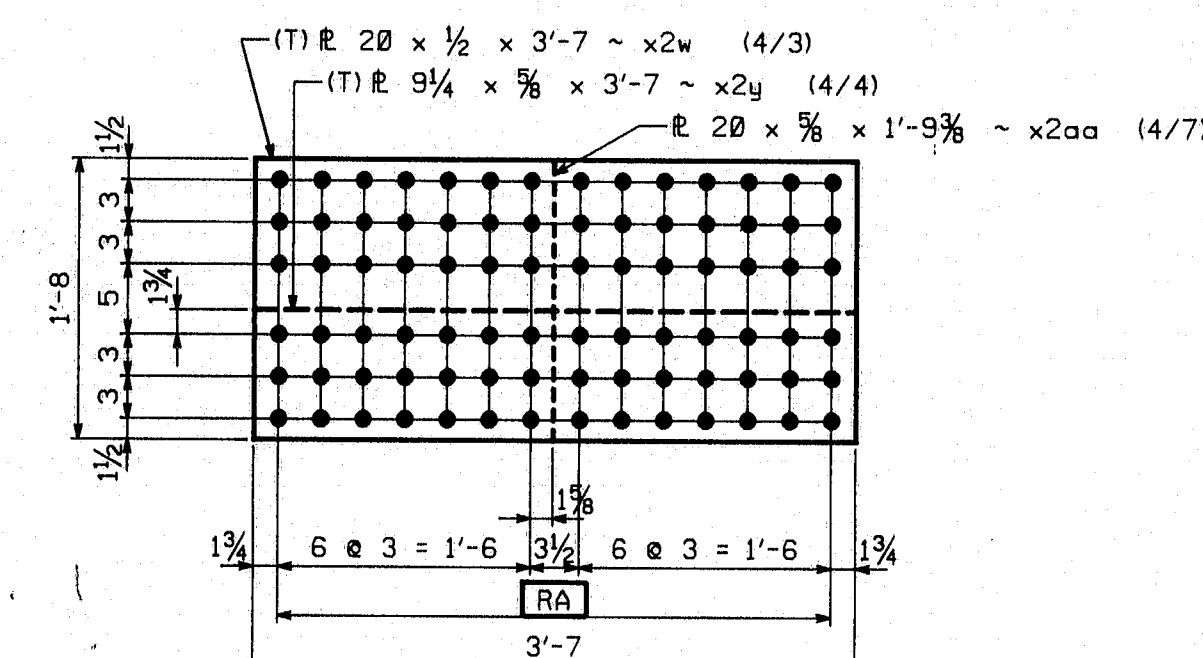
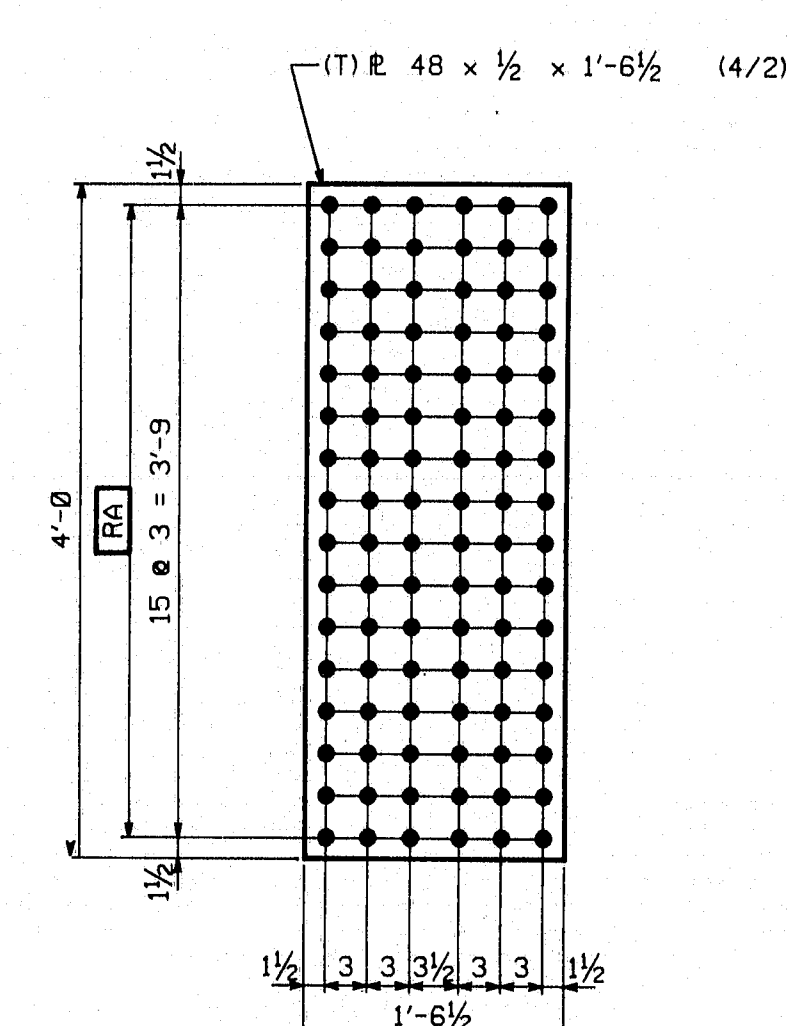
12~CONN. R MK. x2ad

CONN. R

NO. REQ'D.	MARK	'G'	'H'
2	x2m	5 1/2	4 3/8
6	x2n	6 1/8	3 3/8



120~CONN. R MK. x2af

12~SPLICE R MK. x2p
24~SPLICE R MK. x2s
12~FILL R MK. x2t12~SPLICE R MK. x2w
24~SPLICE R MK. x2y
12~FILL R MK. x2aa

24~SPLICE R MK. x2ab

APPROVED

JUN 14 1990

BY: [Signature]
FOR: INTERNATIONAL

SHOP NOTE

HOLES: 5/8" (U.N.)

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. N1.

106-36

CODE:30

△		
△		
△		
NO.	REVISION	DATE
<p>HIGH STEEL STRUCTURES, INC.</p> <p>805 Old Philadelphia Pike Lancaster, PA 17603-0008 Phone 717/299-5201 A Division of High Industries, Inc.</p>		
GIRDER JOB STANDARDS		
SOUTH WARREN BRIDGE (RTE. 1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+99.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT OR REF. NO. BR-026-1(61)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE: HINKLE	MADE BY: CAS	CHK'D BY: RB DATE: 3-12-90
CONTRACT NUMBER: ME-89148		DRAWING NUMBER: X2

MAY 24 1990

081113

GENERAL SHOP NOTES

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
1	ME	BR-026-1(61)

SPECIFICATIONS:
MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES
(REVISION OF JULY, 1988) AND SUPPLEMENTALS THERETO, EXCEPT AS MODIFIED ON THE
PLANS AND IN THE SPECIAL PROVISIONS.

MATERIAL:
UNLESS NOTED OTHERWISE, ALL STEEL TO BE ASTM A572 GRADE 50.
(T) INDICATES CHARPY V-NOTCH TESTING REQUIRED.

SHOP BOLTS TO BE HIGH STRENGTH ASTM A325 TYPE 1 (FRICTION) WITH HEAVY HEX HEAD
AND ASTM A563 GRADE DH HEAVY HEX NUT, WITH ONE ASTM F436 ROUND WASHER PER
BOLT. (BOLTS, NUTS AND WASHERS TO BE MECHANICALLY GALVANIZED TO ASTM B695.)

SHOP PROCEDURE:
ALL FLANGE AND WEB PLATE SPLICES TO BE MADE BEFORE FINAL FITTING AND WELDING
INTO GIRDER.
CAMBER TOLERANCE: $(-0 + \frac{1}{2} \text{ TO } \frac{1}{8})$ FOR EACH 10' IN EXCESS OF 50'.
ALL RE-ENTRANT CUTS TO HAVE 1" MIN. RADIUS.

NO DIE STAMPING IS PERMITTED.

INSPECTION:
SHOP INSPECTION BY: TO BE DETERMINED.

WELDING:
ALL WELDING IS TO CONFORM TO AWS D1.1-80 AS MODIFIED BY THE 1981 AASHTO
SPECIFICATIONS.
NOTATIONS W1, W2, ETC. FOLLOWING WELDING SYMBOLS ON DETAIL DRAWINGS, REFER TO
THE CORRESPONDING WELDING PROCEDURE TO BE USED FOR THAT JOINT.
ENDS OF FLANGE PLATES TO BE BUTT WELDED SHALL BE SCANNED FOR LAMINATION.
FOR WELDING STIFFENERS AND CONNECTION PLATES TO GIRDERS, SEE TYPICAL WELDING
DETAIL.

NON-DESTRUCTIVE TESTING:

MAGNETIC PARTICLE INSPECTION IS REQUIRED ON 10% OF ALL FILLET WELDS GREATER
THAN 10'-0" AND 1'-0" OF ALL FILLET WELDS LESS THAN 10'-0".

[RA] NOTE:
HOLES MARKED [RA] ON DETAIL DRAWINGS TO BE SUB-PUNCHED/SUB-DRILLED $\frac{1}{4}"$ UNDER
SIZE AND REAMED TO FULL SIZE OR DRILLED FROM SOLID WITH CONNECTING PARTS
ASSEMBLED AND MATCH MARKED.

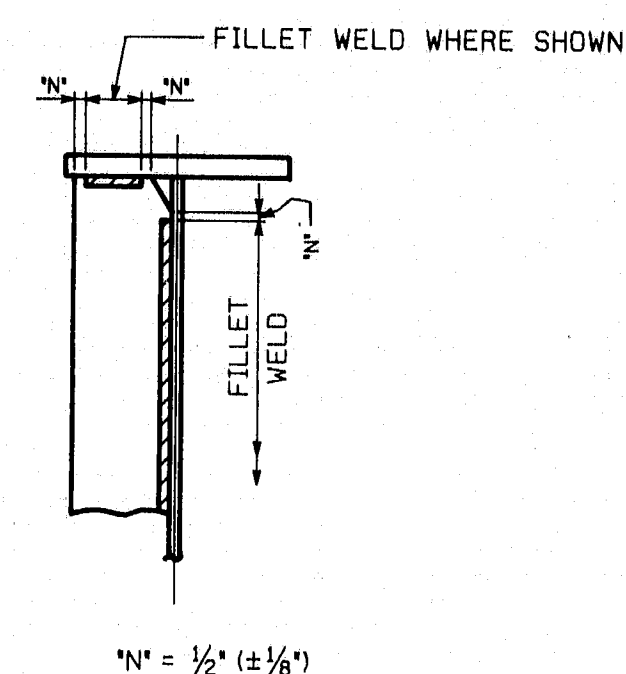
CLEANING:
BLAST CLEAN TO SSPC-SP6 (COMMERCIAL) PRIOR TO GALVANIZING, ALL DIAPHRAGMS,
CROSSFRAMES AND BEARINGS.
BLAST CLEAN TO SSPC-SP10 (NEAR WHITE), ALL OTHER STEEL.

PAINTING:
ALL GIRDERS TO BE PAINTED (UNLESS NOTED) WITH ONE SHOP COAT OF INORGANIC ZINC
WITH A MINIMUM DRY FILM THICKNESS OF $\frac{1}{4}$ MILS. PAINT TO BE AS FOLLOWS:
GIRDERS SUFFIXED 'A'- PAINT WITH HEMPEL WATER BASE #1562.
GIRDERS SUFFIXED 'B'- PAINT WITH INORGANIC COATINGS WATER BASE #531.
GIRDERS SUFFIXED 'C'- PAINT WITH PORTER WATER BASE #371N.
TOP FLANGE OF GIRDERS AS SHOWN IN SECTION 'A' SHALL RECEIVE A LIGHT RUST
PREVENTIVE COATING OF PAINT WITH A MINIMUM DRY FILM THICKNESS OF 1.0 TO 1.5
MILS.
ALL AREAS WITHIN 3' OF OPEN HOLES TO BE PAINTED WITH A MINIMUM DRY FILM
THICKNESS OF 1.0 TO 1.5 MILS, UNLESS NOTED (P).

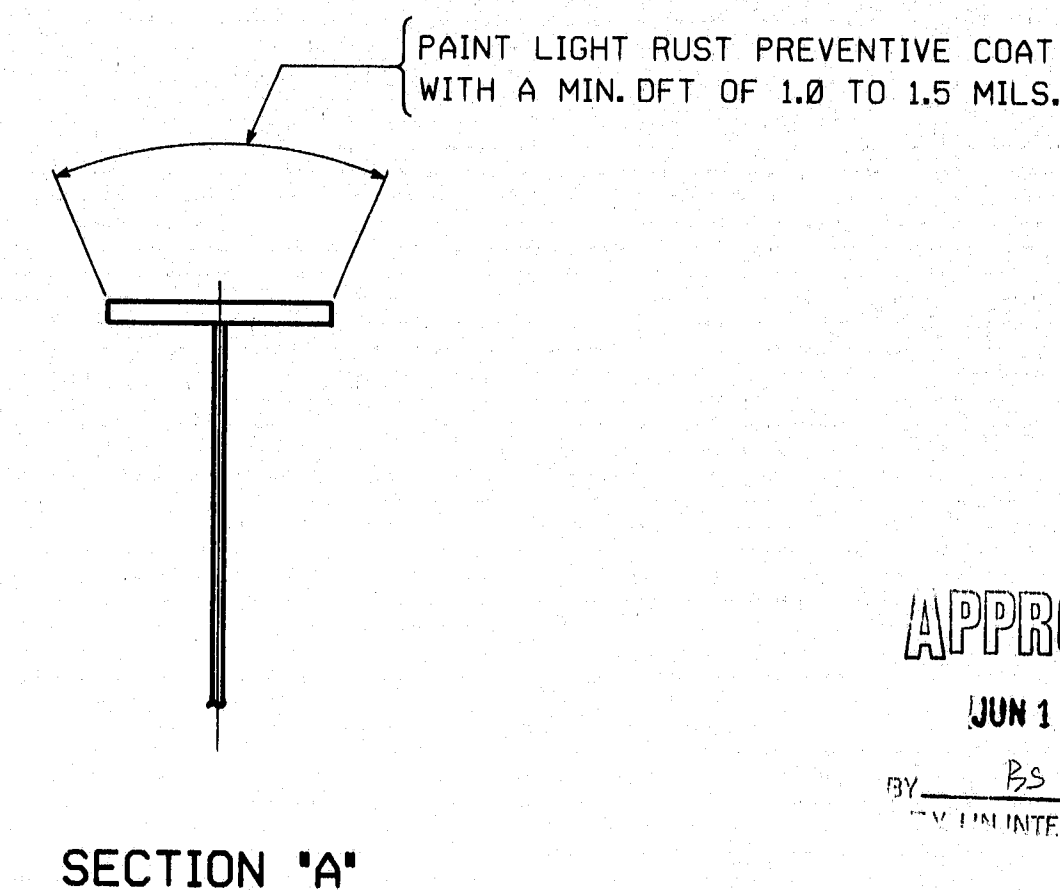
DRAWING REFERENCE:
FLANGE SPLICES -PREFIXED 'FS'
WEB CAMBERS -PREFIXED 'WC'
GIRDER JOB STANDARDS -PREFIXED 'X'

SHOP ASSEMBLY -PREFIXED 'SA'

WELDING PROCEDURE -DWG. 'WP'



STIFFENER WELDING DETAIL



APPROVED

JUN 14 1990

BY ES
BY INTERNATIONAL

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△		
△		
NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. 1905 Old Philadelphia Pike Lancaster, PA 17605-0008 Phone 717/299-5281 A Division of High Industries, Inc.		
GENERAL SHOP NOTES		
SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+99.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT OR REF. NO. BR-026-1(61)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE: HINKLE	MADE BY: PHS	CHK'D BY: RB DATE: 2-20-90
CONTRACT NUMBER: ME-89148	DRAWING NUMBER: N1	


MAY 24 1990

106-37

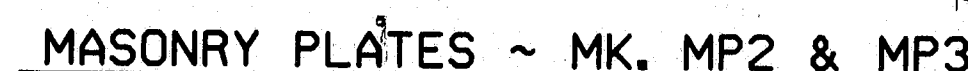
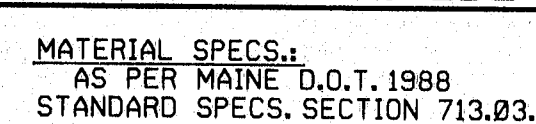
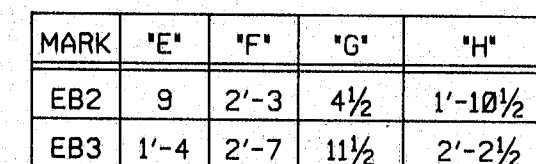
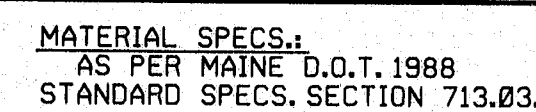
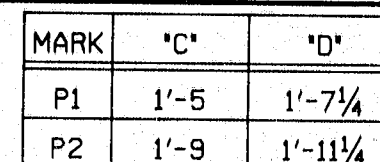
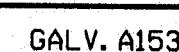
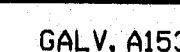
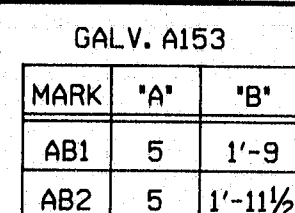
<div>WELDING PROCEDURE FOR AWS PREQUALIFIED JOINTS W2 PROCEDURE SPECIFICATIONS MATERIAL SPECIFICATION: ASTM A-36, A-572 WELDING PROCESS: SMAW MANUAL OR MACHINE: MANUAL POSITION OF WELDING: 1F, 2F, 3F AND 4F FILLER METAL SPECIFICATION: AWS A5.1-78 WELD METAL CLASSIFICATION: E70B8 FLUX: DANA POLARITY: DC+ OR AC ROOT TREATMENT: MANUAL CLEANING PREHEAT AND INTERPASS TEMPERATURE: SEE PREHEAT CHART</div>		<div>WELDING PROCEDURE FOR AWS PREQUALIFIED JOINTS W6 PROCEDURE SPECIFICATIONS MATERIAL SPECIFICATION: ASTM A36, A572, A588 WELDING PROCESS: FCAW MANUAL OR MACHINE: SEMIAUTOMATIC POSITION OF WELDING: 10 OR 20 FILLER METAL SPECIFICATION: AWS A5.28-79 WELD METAL CLASSIFICATION: E70T-1 WIRE: HOBART R&R POLARITY: DC+ ROOT TREATMENT: GOUGE BEFORE WELDING OTHER SIDE PREHEAT AND INTERPASS TEMPERATURE: SEE PREHEAT CHART SHIELDING GAS: 100% CO₂</div>		<div>WELDING PROCEDURE FOR AWS PREQUALIFIED JOINTS W20 PROCEDURE SPECIFICATIONS MATERIAL SPECIFICATION: ASTM A-36, A-572 WELDING PROCESS: SAW, SINGLE ELECTRODE MANUAL OR MACHINE: SEMIAUTOMATIC POSITION OF WELDING: 10 FILLER METAL SPECIFICATION: AWS A5.17-80 WELD METAL CLASSIFICATION: F702-EM12K FLUX/WIRE: LINCOLN 868/L61 POLARITY: DC+ ELECTRICAL STICK OUT: STANDARD 1" ROOT TREATMENT: GOUGE BEFORE WELDING OTHER SIDE PREHEAT AND INTERPASS TEMPERATURE: SEE PREHEAT CHART</div>		<div>FEDERAL STATE PROJECT</div>																															
<div>WELDING PROCEDURE PASS WIRE WELDING TRAVEL NO. SIZE CURRENT RANGE AC IPH JOINT DETAIL</div> <table><tr><td>1</td><td>1/8</td><td>120 (102-138)</td><td>148 (119-161)</td><td>***</td><td>TACK WELDS</td></tr><tr><td>1</td><td>1/8</td><td>155 (132-178)</td><td>188 (153-207)</td><td>***</td><td>REPAIR WELDS AND TACK WELDS</td></tr><tr><td>1</td><td>1/8</td><td>155 (132-178)</td><td>188 (153-207)</td><td>***</td><td>UP TO 1/4" FILLET WELDS</td></tr></table> <div>NOTE: WELD SIZE DETERMINED BY TRAVEL SPEED</div>		1	1/8	120 (102-138)	148 (119-161)	***	TACK WELDS	1	1/8	155 (132-178)	188 (153-207)	***	REPAIR WELDS AND TACK WELDS	1	1/8	155 (132-178)	188 (153-207)	***	UP TO 1/4" FILLET WELDS	<div>WELDING PROCEDURE PASS WIRE WELDING TRAVEL NO. SIZE CURRENT RANGE AC IPH JOINT DETAIL</div> <table><tr><td>ALL</td><td>1/8</td><td>330-400</td><td>27-31</td><td>15.8-18.8</td><td>27-35.5</td><td>TC-US-GF</td></tr></table> <div>NOTE: 14 PASSES REQUIRED FOR A 1" PLATE SEE X-1 DRAWING FOR ACTUAL JOINT PREPARATION</div>		ALL	1/8	330-400	27-31	15.8-18.8	27-35.5	TC-US-GF	<div>WELDING PROCEDURE PASS WIRE WELDING TRAVEL NO. SIZE CURRENT RANGE AC IPH JOINT DETAIL</div> <table><tr><td>ALL</td><td>1/8</td><td>450-550</td><td>92-125</td><td>31.7-36.3</td><td>16.8-22.0</td><td>B-L20-S</td></tr></table> <div>NOTE: 11 PASSES REQUIRED FOR A 1" PLATE SEE FS-1 DRAWING FOR ACTUAL JOINT PREPARATION</div>		ALL	1/8	450-550	92-125	31.7-36.3	16.8-22.0	B-L20-S
1	1/8	120 (102-138)	148 (119-161)	***	TACK WELDS																																
1	1/8	155 (132-178)	188 (153-207)	***	REPAIR WELDS AND TACK WELDS																																
1	1/8	155 (132-178)	188 (153-207)	***	UP TO 1/4" FILLET WELDS																																
ALL	1/8	330-400	27-31	15.8-18.8	27-35.5	TC-US-GF																															
ALL	1/8	450-550	92-125	31.7-36.3	16.8-22.0	B-L20-S																															
<div>WELDING PROCEDURE FOR AWS PREQUALIFIED JOINTS W11A PROCEDURE SPECIFICATIONS MATERIAL SPECIFICATION: ASTM A-36, A-572, A-441 WELDING PROCESS: SUBMERGED ARC MANUAL OR MACHINE: MACHINE (SQUIRT) SEMI-AUTOMATIC POSITION OF WELDING: 2F (HORIZONTAL) FILLER METAL SPECIFICATION: AWS A5.17-80 FILLER METAL CLASSIFICATION: F702-EM12K FLUX: LINCOLN 761 OR 868 SINGLE OR MULTIPLE ARC: SINGLE ELECTRODE L 61 POLARITY: DC- ELECTRICAL STICK OUT: STANDARD 1" ROOT TREATMENT: REMOVE ALL MILL SCALE PREHEAT AND INTERPASS TEMPERATURE: SEE PREHEAT CHART</div>		<div>WELDING PROCEDURE FOR AWS PREQUALIFIED JOINTS W12A PROCEDURE SPECIFICATIONS MATERIAL SPECIFICATION: ASTM A-36, A-572, A-441 WELDING PROCESS: SUBMERGED ARC MANUAL OR MACHINE: MACHINE (DART) POSITION OF WELDING: 2F (HORIZONTAL) FILLER METAL SPECIFICATION: AWS A5.17-80 FILLER METAL CLASSIFICATION: F702-EM12K FLUX: LINCOLN 761 SINGLE OR MULTIPLE ARC: SINGLE ELECTRODE L 61 POLARITY: DC- ELECTRICAL STICK OUT: STANDARD 1" ROOT TREATMENT: REMOVE ALL MILL SCALE PREHEAT AND INTERPASS TEMPERATURE: SEE PREHEAT CHART</div>		<div>MINIMUM PREHEAT AND INTERPASS TEMPERATURE THICKNESS OF THICKEST PART AT POINT OF WELDING - INCHES ASTM A36, A441, A572 GRADES 42 AND 58, A588 TO 3/4" INCL. 50° F OVER 3/4" TO 1 1/2" INCL. 70° F OVER 1 1/2" TO 2 1/2" INCL. 150° F OVER 2 1/2" 225° F</div>																																	
<div>WELDING PROCEDURE PASS WIRE WELDING TRAVEL NO. SIZE CURRENT RANGE AC IPH JOINT DETAIL</div> <table><tr><td>1</td><td>1/8</td><td>450</td><td>37</td><td>27</td><td>1/4" FILLET</td></tr><tr><td>1</td><td>1/8</td><td>450</td><td>37</td><td>17</td><td>1/4" FILLET</td></tr></table> <div>TOLERANCES: AMPS: 485-495 VOLTS: 24.5-29.5 TRAVEL SPEED: 27: 23-31 17: 14.5-19.5</div> <div>ELECTRODE ANGLE 84° IN DIRECTION OF TRAVEL</div>		1	1/8	450	37	27	1/4" FILLET	1	1/8	450	37	17	1/4" FILLET	<div>WELDING PROCEDURE PASS WIRE WELDING TRAVEL NO. SIZE CURRENT RANGE AC IPH JOINT DETAIL</div> <table><tr><td>1</td><td>1/8</td><td>480</td><td>32</td><td>23</td><td>1/4" FILLET</td></tr><tr><td>1</td><td>1/8</td><td>480</td><td>32</td><td>15</td><td>1/4" FILLET</td></tr></table> <div>TOLERANCES: AMPS: 368-448 VOLTS: 29.8-34.2 TRAVEL SPEED: 23: 19.5-26.5 15: 12.5-17.5</div> <div>ELECTRODE ANGLE 84° IN DIRECTION OF TRAVEL</div>		1	1/8	480	32	23	1/4" FILLET	1	1/8	480	32	15	1/4" FILLET										
1	1/8	450	37	27	1/4" FILLET																																
1	1/8	450	37	17	1/4" FILLET																																
1	1/8	480	32	23	1/4" FILLET																																
1	1/8	480	32	15	1/4" FILLET																																
<div>WELDING PROCEDURE FOR AWS PREQUALIFIED JOINTS W5 PROCEDURE SPECIFICATIONS MATERIAL SPECIFICATION: ASTM A-36, A-572 WELDING PROCESS: SAW, SINGLE ELECTRODE MANUAL OR MACHINE: SEMIAUTOMATIC POSITION OF WELDING: 10 OR 20 FILLER METAL SPECIFICATION: AWS A5.17-80 WELD METAL CLASSIFICATION: F702-EM12K FLUX/WIRE: LINCOLN 868/L61 POLARITY: DC+ ELECTRICAL STICK OUT: GOUGE BEFORE WELDING OTHER SIDE PREHEAT AND INTERPASS TEMPERATURE: SEE PREHEAT CHART</div>		<div>WELDING PROCEDURE FOR AWS PREQUALIFIED JOINTS W13 PROCEDURE SPECIFICATIONS MATERIAL SPECIFICATION: ASTM A-36, A-572, A-441 WELDING PROCESS: SUBMERGED ARC MANUAL OR MACHINE: MACHINE (SQUIRT) POSITION OF WELDING: 2F (HORIZONTAL) FILLER METAL SPECIFICATION: AWS A5.17-80 FILLER METAL CLASSIFICATION: F702-EM12K FLUX: LINCOLN 761 SINGLE OR MULTIPLE ARC: SINGLE ELECTRODE L 61 POLARITY: DC+ ELECTRICAL STICK OUT: STANDARD 1" ROOT TREATMENT: REMOVE ALL MILL SCALE PREHEAT AND INTERPASS TEMPERATURE: SEE ATTACHED PREHEAT CHART</div>																																			
<div>WELDING PROCEDURE PASS WIRE WELDING TRAVEL NO. SIZE CURRENT RANGE AC IPH JOINT DETAIL</div> <table><tr><td>ALL</td><td>1/8</td><td>485-495</td><td>81-105</td><td>31.7-36.3</td><td>14.5-19.5</td><td>TC-US-S</td></tr></table> <div>NOTE: 45 PASSES REQUIRED FOR A 2" PLATE. SEE X-1 DRAWING FOR ACTUAL JOINT PREPARATION</div>		ALL	1/8	485-495	81-105	31.7-36.3	14.5-19.5	TC-US-S	<div>WELDING PROCEDURE PASS WIRE WELDING TRAVEL NO. SIZE CURRENT RANGE AC IPH JOINT DETAIL</div> <table><tr><td>1</td><td>1/8</td><td>480</td><td>32</td><td>17</td><td>1/4" FILLET</td></tr><tr><td>1</td><td>1/8</td><td>480</td><td>32</td><td>11</td><td>1/4" FILLET</td></tr></table> <div>TOLERANCES: AMPS: 368-448 VOLTS: 29.8-34.2 TRAVEL SPEED: 17: 14.5-19.5 11: 9.5-12.5</div> <div>ELECTRODE ANGLE 84° IN DIRECTION OF TRAVEL</div>		1	1/8	480	32	17	1/4" FILLET	1	1/8	480	32	11	1/4" FILLET															
ALL	1/8	485-495	81-105	31.7-36.3	14.5-19.5	TC-US-S																															
1	1/8	480	32	17	1/4" FILLET																																
1	1/8	480	32	11	1/4" FILLET																																

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APPROVED
JUN 14 1990
BY BS
P. V. I. M. INTERNATIONAL

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△	REVISED ALL WELDING PROCEDURES	5-21-90
NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC.  1805 Old Philadelphia Pike Lansdale, PA 17033-0005 Phone 717/289-5201 A Division of High Industries, Inc.		
WELDING PROCEDURES SOUTH WARREN BRIDGE OVER ST. GEORGE RIVER F.A.P. NO. BR-826-11611 72 KNOX COUNTY, MAINE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STATE CONTRACT BR-826-11611 OR REF. NO. CONTRACTOR CALLAHAN BROTHERS, INC. IN CHARGE KOPP MADE BY SWK CHK.D. KWS DATE: 3-10-90 CONTRACT ME-89148 DRAWING NUMBER WP-1		

MAY 24 1990



MARK	'M'	'N'	'P'	'R'	'S'	'T'	'V'	'W'	'AB'	'AC'	'AD'
MP2	1'-10½	2'-3	2¼	9	1'-0½	1'-3	3¾	4½	bk	bm	br
MP3	2'-2½	2'-7	5¾	1'-4	1'-4½	1'-7	7¼	8	bs	bt	bu

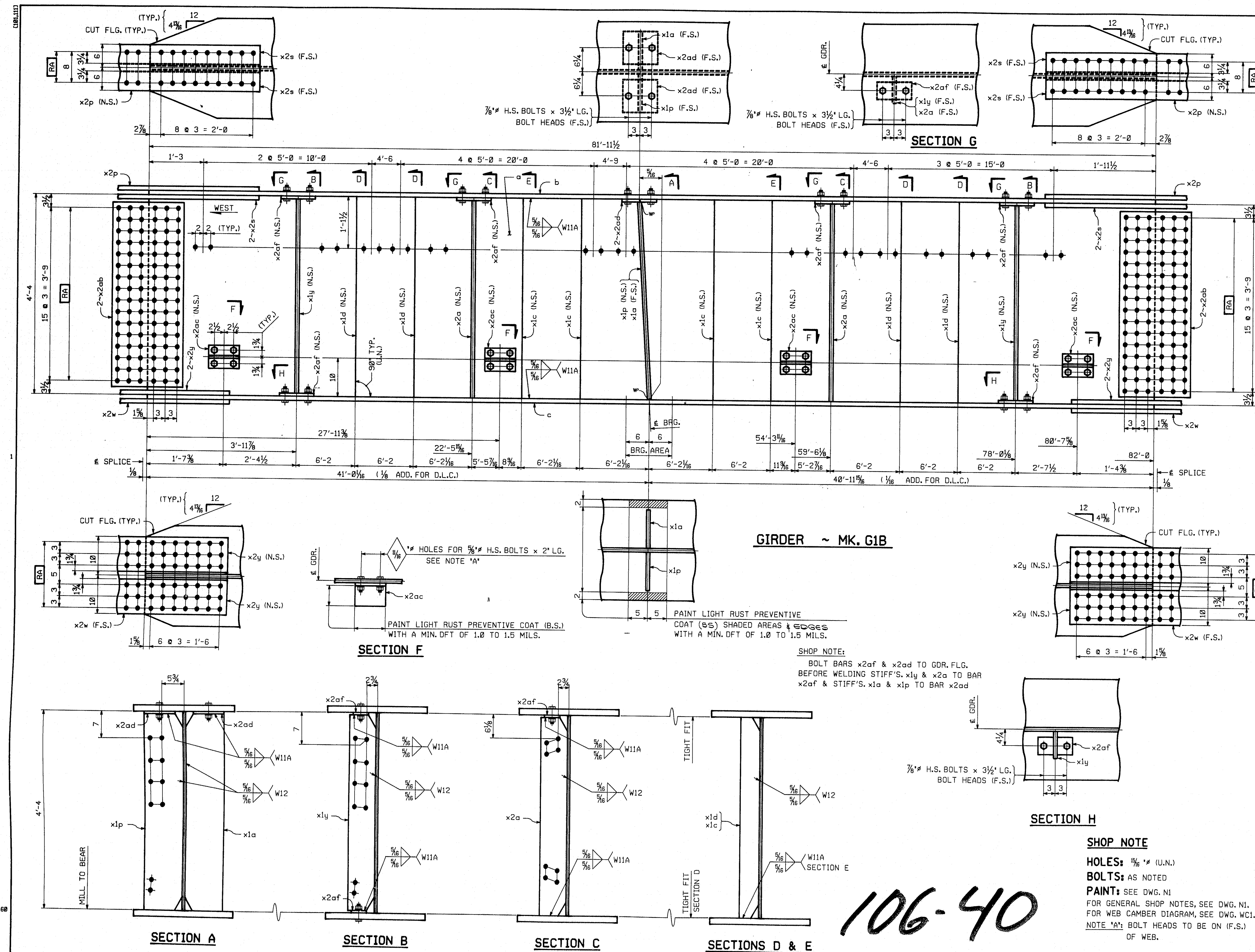
BEARING ASSEMBLIES SHALL BE SHOP ASSEMBLED AND
MATCH MARKED, OR SHOP ASSEMBLED AND SHIPPED AS A UNIT.

BY 153
T.Y. LIN INTERNATIONAL

PAINT: GALVANIZE ASTM A123 (U.N.)
FOR GENERAL SHOP NOTES, SEE DWG. N1.
MATERIAL TO BE ASTM A588 (U.N.).

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NO.	REVISION	DATE	
HIGH STEEL STRUCTURES, INC.		1005 Old Philadelphia Pike Lancaster, PA 17605-0008 Phone 717/239-3326 <i>A Division of High Industrial Inc.</i>	
ANCHOR BOLTS, PINS, PADS & BEARINGS			
SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER			
SOUTH WARREN BRIDGE STA. 397+99.00			
BETWEEN TOWNS OF WARREN AND THOMASTON			
KNOX COUNTY, MAINE			
STATE OF MAINE, DEPT. OF TRANSPORTATION			
STATE CONTRACT OR REF. NO. BR-026-1(61)			
CONTRACTOR CALLAHAN BROTHERS, INC.			
IN CHARGE:	HINKLE	MADE BY:	CPS
		CHK'D BY:	RB
		DATE:	3-12-90
CONTRACT NUMBER:	ME-89148	DRAWING NUMBER:	1 OF 17

MAY 24 1990



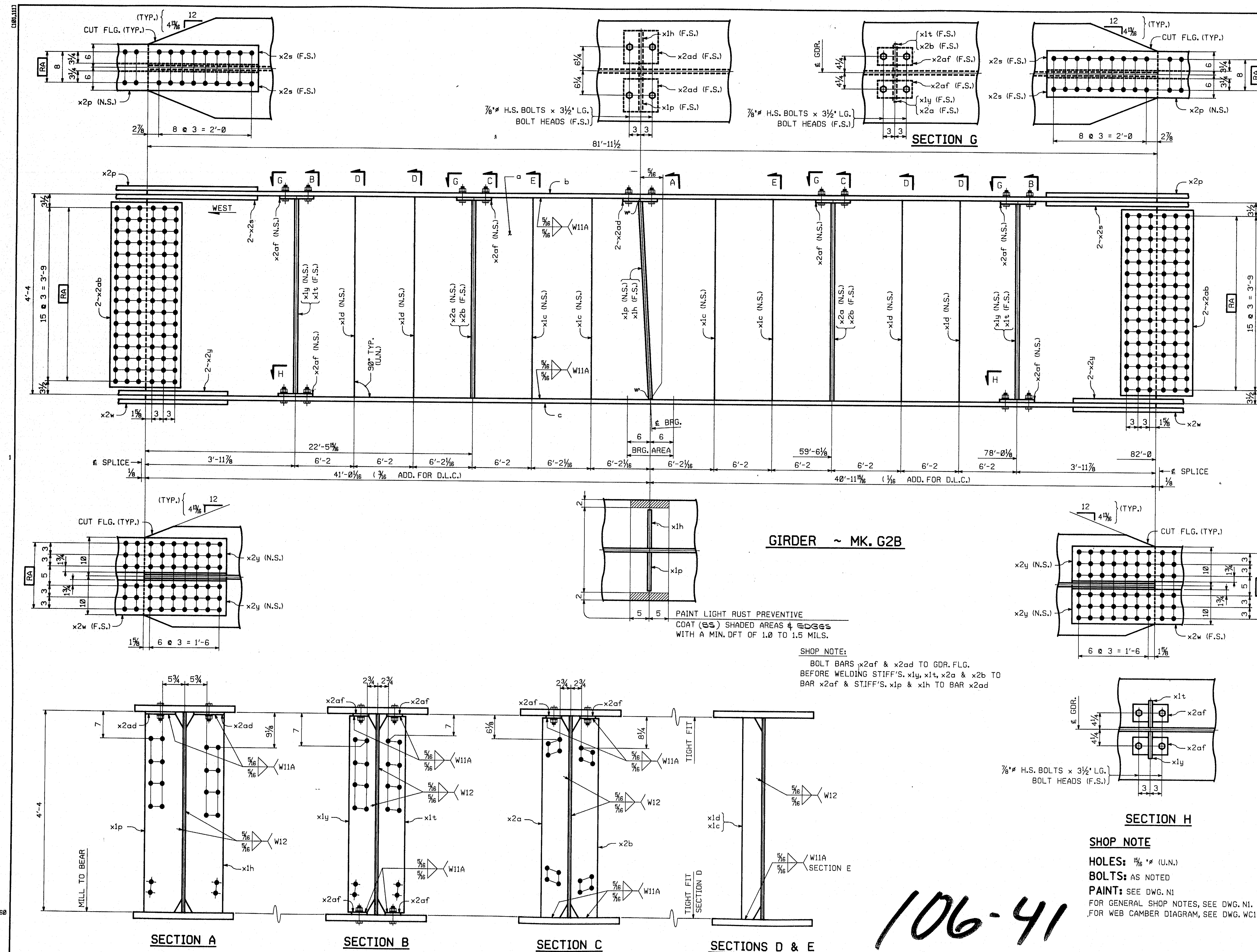
		FED. ROAD DIV. NO.		STATE		FED. AID PROJ. NO.	
		1		ME		BR-026-1(61)	
BILL OF MATERIAL							
NO.	MARK	DESCRIPTION	LENGTH	REMARKS		ITEM	SHIP WEIGHT E.A.
ONE	G1B	GIRDER					33.11
1	a	R 52 x 1/2	82	0	(T)	2	3
1	b	R 26 x 1 1/8	81	11 1/2	(T)	3	2
1	c	R 26 x 1 1/8	82	0	(T)	3	2
1	x1a	R 10 x 1 1/8	4	3 3/8		4	11
1	x1p	R 10 x 1 1/8	4	3 3/8		4	11
2	x1y	BAR 7 x 7/8	4	2 3/4	A588	4	13
2	x2a	BAR 7 x 7/8	4	3 3/8	A588	4	13
4	x1c	BAR 5 x 3/8	4	4	A588	4	14
4	x1d	BAR 5 x 3/8	4	4	A588	4	14
2	x2p	R 12 x 1/2	4	9 1/2	(T)	4	5
4	x2s	BAR 5 1/4 x 5/8	4	9 1/2	(T)	4	6
2	x2w	R 20 x 1/2	3	7	(T)	4	3
4	x2y	R 9 1/4 x 3/8	3	7	(T)	4	4
4	x2ab	R 48 x 1/2	1	6 1/2	(T)	4	2
4	x2ac	WT6 x 13	0	8	A36	4	16
2	x2ad	BAR 8 x 5/8	0	9	A588	4	17
6	x2af	BAR 4 x 3/8	0	9	A588	4	15
16		3/8" H.S. BOLTS	0	3 1/2		B1	3
16		WASHERS FOR 3/8" H.S. BOLTS				B1	4
16		5/8" H.S. BOLTS	0	2		B1	5
16		WASHERS FOR 5/8" H.S. BOLTS				B1	6

APPROVED
JUN 14 1990
BY BS
INTERNATIONAL

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NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. 805 Old Philadelphia Pike Lancaster, PA 17605-0008 Phone 717/299-0301 A Division of High Industries, Inc.		
GIRDER G1B		
SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+99.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT OR REF. NO. BR-026-1(61)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE: HINKLE	MADE BY: KG	CHK'D BY: RB
CONTRACT NUMBER: ME-89148	DRAWING NUMBER: 8 OF 17	DATE: 3-12-90

106-40

MAY 24 1990



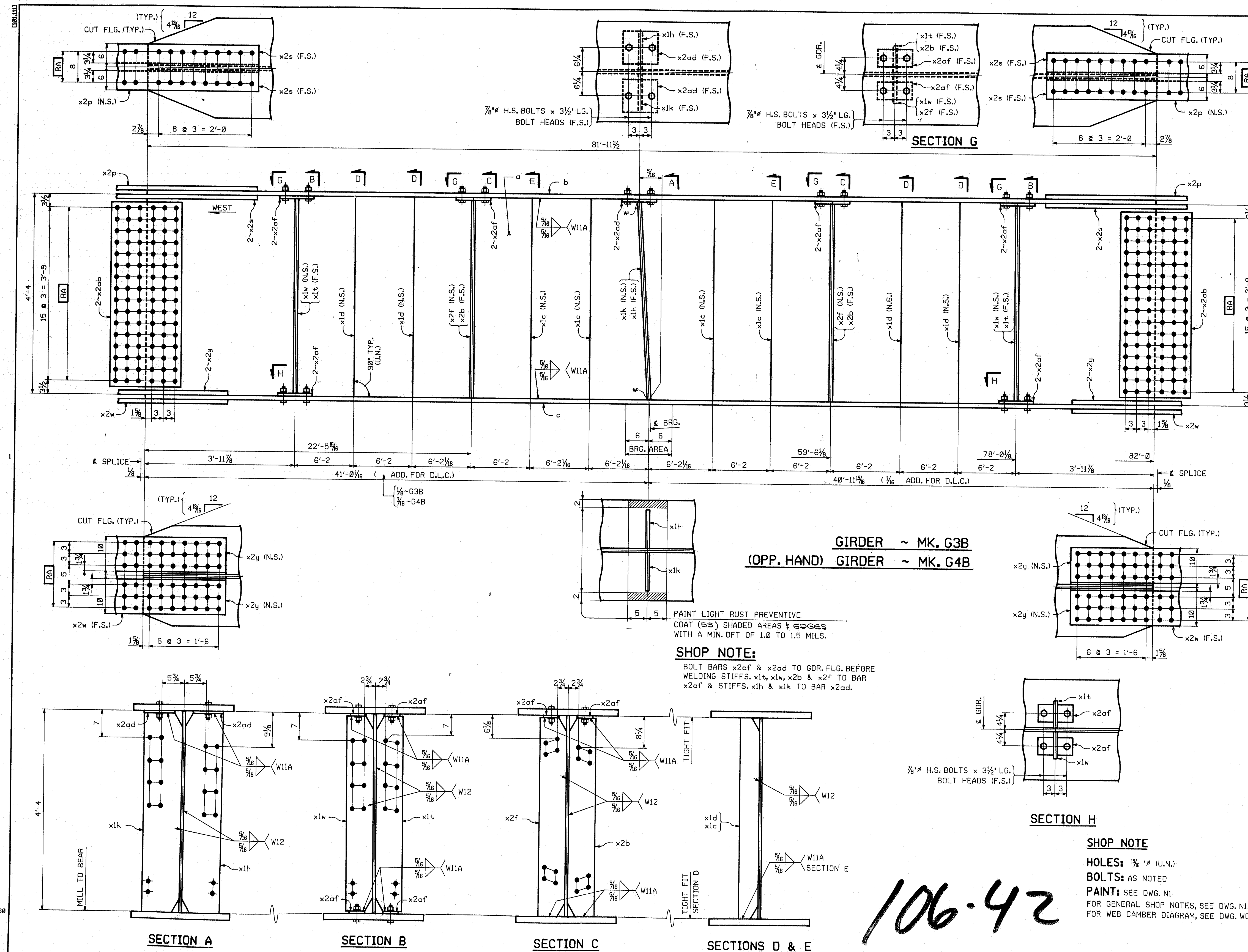
FED. ROAD DIV. NO.		STATE		FED. AID PROJ. NO.	
1		ME		BR-026-1(61)	
BILL OF MATERIAL					
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM
ONE	G2B	GIRDER			33,386
1	a	ℙ 52 × ½	82 0	(T)	2 3
1	b	ℙ 26 × 1⅝	81 11½	(T)	3 2
1	c	ℙ 26 × 1⅝	82 0	(T)	3 2
1	x1h	ℙ 10 × 1½	4 3%		4 11
1	x1p	ℙ 10 × 1½	4 3%		4 11
2	x1t	BAR 7 × ⅞	4 2%	A588	4 13
2	x1y	BAR 7 × ⅞	4 2%	A588	4 13
2	x2a	BAR 7 × ⅞	4 3%	A588	4 13
2	x2b	BAR 7 × ⅞	4 3%	A588	4 13
4	x1c	BAR 5 × ¾	4 4	A588	4 14
4	x1d	BAR 5 × ¾	4 4	A588	4 14
2	x2p	ℙ 12 × ½	4 9½	(T)	4 5
4	x2s	BAR 5¼ × ¾	4 9½	(T)	4 6
2	x2w	ℙ 20 × ½	3 7	(T)	4 3
4	x2y	ℙ 9¼ × ¾	3 7	(T)	4 4
4	x2ab	ℙ 48 × ½	1 6½	(T)	4 2
2	x2ad	BAR 8 × ¾	0 9	A588	4 17
12	x2af	BAR 4 × ¾	0 9	A588	4 15
28		⅞" H.S. BOLTS	0 3½		B1 3
28		WASHERS FOR ⅞" H.S. BOLTS			B1 4
					</

APPROVED
JUN 14 1990
BY [Signature]
[Signature]

NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. 1805 Old Philadelphia Pike Lancaster, PA 17603-0001 Phone 717/299-5251 A Division of High Industries, Inc.		
GIRDER G2B		
SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+99.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT BR-026-1(61)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE, HINKLE	MADE BY, KG	CHK'D BY, RB
CONTRACT NUMBER, ME-89148	DRAWING NUMBER, 9 OF 17	DATE, 3-12-90

106-41

MAY 24 1990



FED. ROAD DIV. NO.		STATE		FED. AID PROJ. NO.		
1		ME		BR-026-1(61)		
BILL OF MATERIAL						
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM	SUB ITEM
ONE	G3B	GIRDER				33,
ONE	G4B	GIRDER		OPP. HAND		33,
2	a	ℓ 52 x ½	82	Ø (T)	2	3
2	b	ℓ 26 x 1⅝	81	11½ (T)	3	2
2	c	ℓ 26 x 1⅝	82	Ø (T)	3	2
2	x1h	ℓ 10 x 1⅝	4	3%	4	11
2	x1k	ℓ 10 x 1⅝	4	3%	4	11
4	x1t	BAR 7 x ⅞	4	2¾ A588	4	13
4	x1w	BAR 7 x ⅞	4	2¾ A588	4	13
4	x2b	BAR 7 x ⅞	4	3% A588	4	13
4	x2f	BAR 7 x ⅞	4	3% A588	4	13
8	x1c	BAR 5 x ⅜	4	4 A588	4	14
8	x1d	BAR 5 x ⅜	4	4 A588	4	14
4	x2p	ℓ 12 x ½	4	9½ (T)	4	5
8	x2s	BAR 5¼ x ⅝	4	9½ (T)	4	6
4	x2w	ℓ 20 x ½	3	7 (T)	4	3
8	x2y	ℓ 9¼ x ⅝	3	7 (T)	4	4
8	x2ab	ℓ 48 x ½	1	6½ (T)	4	2
4	x2ad	BAR 8 x ⅝	Ø	9 A588	4	17
24	x2af	BAR 4 x ⅝	Ø	9 A588	4	15
56		⅞" H.S. BOLTS	Ø	3½	B1	3
56		WASHERS FOR ⅞" H.S. BOLTS			B1	4

APPROVAL
JUN 14 1993
BY: [Signature]
[Stamp]

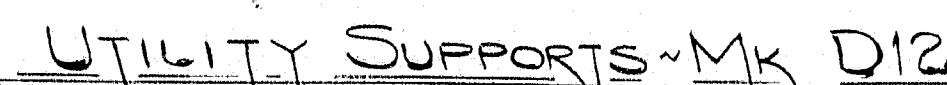
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△		
NO.	REVISION	DATE
<p>HIGH STEEL STRUCTURES, INC. 1905 Old Philadelphia Pike Lima, PA 17040-0008 Phone 717/295-5281 A Division of High Industries, Inc.</p>		
<p>GIRDERS G3B & G4B SOUTH WARREN BRIDGE (RTE. 1) OVER THE ST. GEORGE RIVER SOUTH WARREN BRIDGE STA. 397+99.00 BETWEEN TOWNS OF WARREN AND THOMASTON KNOX COUNTY, MAINE STATE OF MAINE, DEPT. OF TRANSPORTATION</p>		
<p>STATE CONTRACT OR REF. NO. BR-026-1(61)</p>		
<p>CONTRACTOR CALLAHAN BROTHERS, INC.</p>		
IN CHARGE: HINKLE	MADE BY: MGK	CHK'D BY: RB
DATE: 3-12-90		
CONTRACT NUMBER: ME-89148	DRAWING NUMBER: 10	OF 17

106-42

MAY 24 1993



DIAPHRAGMS



SHOP NOTE


HOLES: $\frac{5}{16}$ " (UNLESS NOTED)
BOLTS: NONE
PAINT: GALVANIZE TO ASTM A123, SEE DWG. N1
 FOR GENERAL SHOP NOTES, SEE DWG. N1.
 MATERIAL TO BE ASTM A36.

106-45

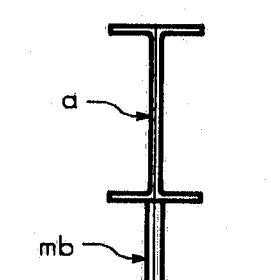
APPROVED

JUN 14 1990

BY BS
T.M. INTERNATIONAL

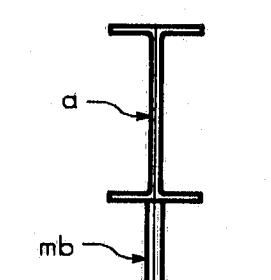
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△		
NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC.  1905 Old Philadelphia Pike Lancaster, PA 17603-0008 Phone 717/299-5821 <i>A Division of High Industries, Inc.</i>		
DIAPHRAGMS		DI THRU DII
SOUTH WARREN BRIDGE (RTE.#1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+99.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT OR REF. NO.	BR-026-1161)	
CONTRACTOR <u>CALLAHAN BROTHERS, INC.</u>		
IN CHARGE, <u>HINKLE</u>	MADE BY <u>KG</u>	CHK'D. BY <u>RB</u> DATE: <u>3-12-90</u>
CONTRACT NUMBER <u>ME-89148</u>	DRAWING NUMBER <u>2 OF 17</u>	

MAY 24 1997



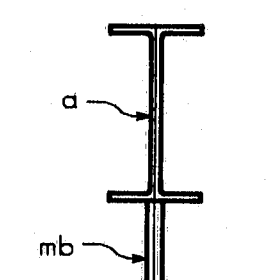
SECTION A

SECTION A

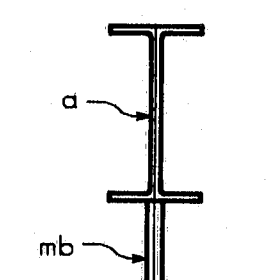


SECTION A

SECTION A

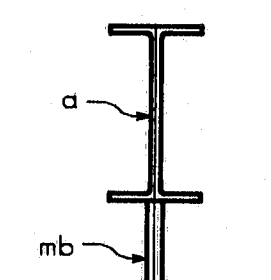


SECTION A



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SECTION A



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SECTION A

SECTION A

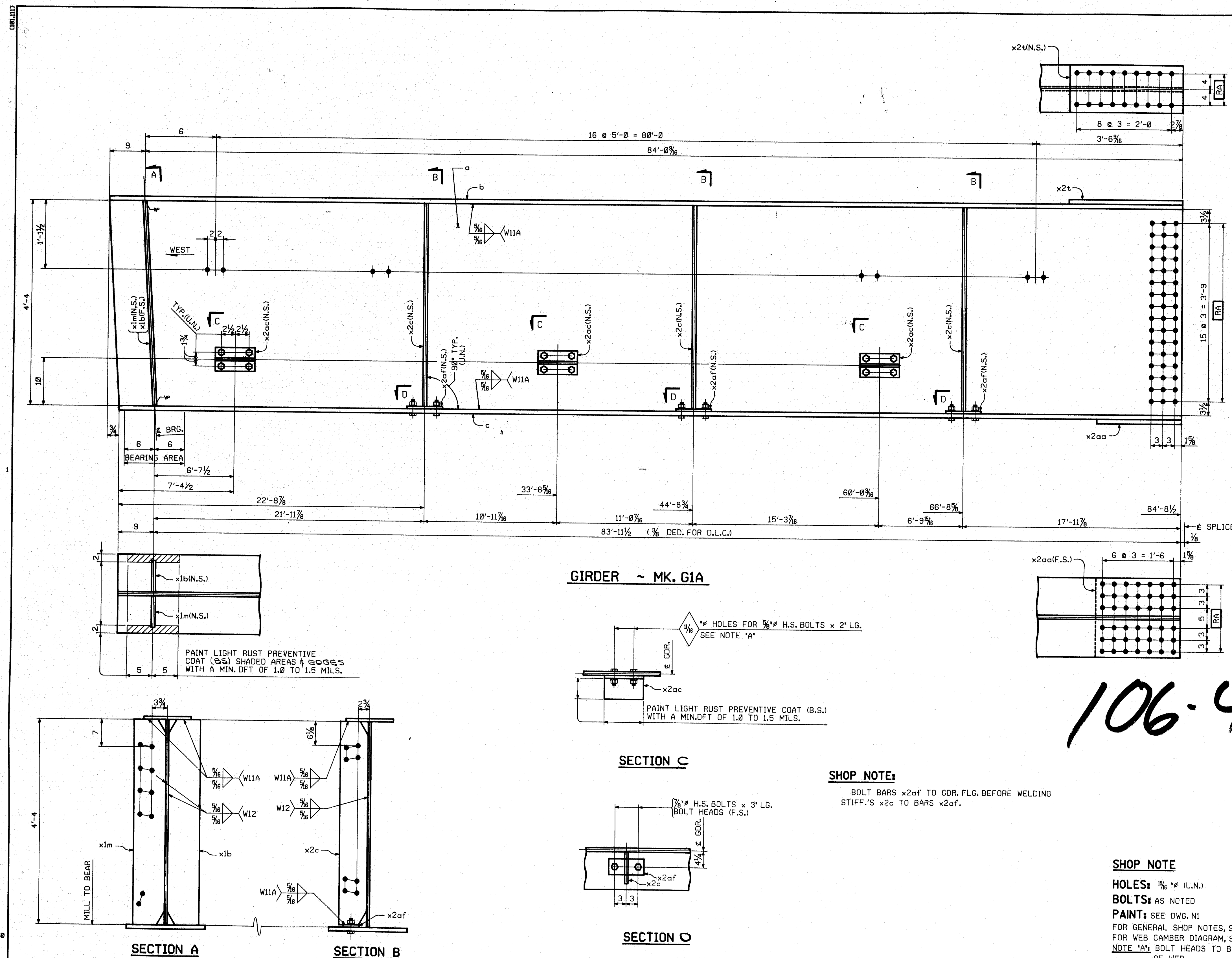
SECTION A

SECTION A

SECTION A

SECTION A

SECTION A



				FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
				1	ME	BR-026-1(61)
BILL OF MATERIAL						
NO.	MARK	DESCRIPTION	LENGTH	REMARKS		ITEM
ONE	G1A	GIRDER				16,416
ONE	a	2 52 x 1/2	84 9 5/8	(T)		2 2
ONE	b	2 12 x 3/4	84 9 5/8	(T)		3 4
ONE	c	2 20 x 1	84 8 1/2	(T)		3 3
ONE	x2t	2 12 x 7/8	2 4 5/8	FILL		4 8
ONE	x2aa	2 20 x 5/8	1 9 5/8	FILL		4 7
ONE	x1b	BAR 8 x 7/8	4 4			4 12
ONE	x1m	BAR 8 x 7/8	4 4			4 12
3	x2c	BAR 7 x 7/8	4 3 5/8	A588		4 13
3	x2ac	WT 6 x 13	0 8	A36		4 16
3	x2af	BAR 4 x 5/8	0 9	A588		4 15
6	7/8"	H.S. BOLTS	0 3			B1 2
6		WASHERS FOR 7/8"	H.S. BOLTS			B1 4
12	5/8"	H.S. BOLTS	0 2			B1 5
12		WASHERS FOR 5/8"	H.S. BOLTS			B1 6

APPROVED

JUN 14 1990

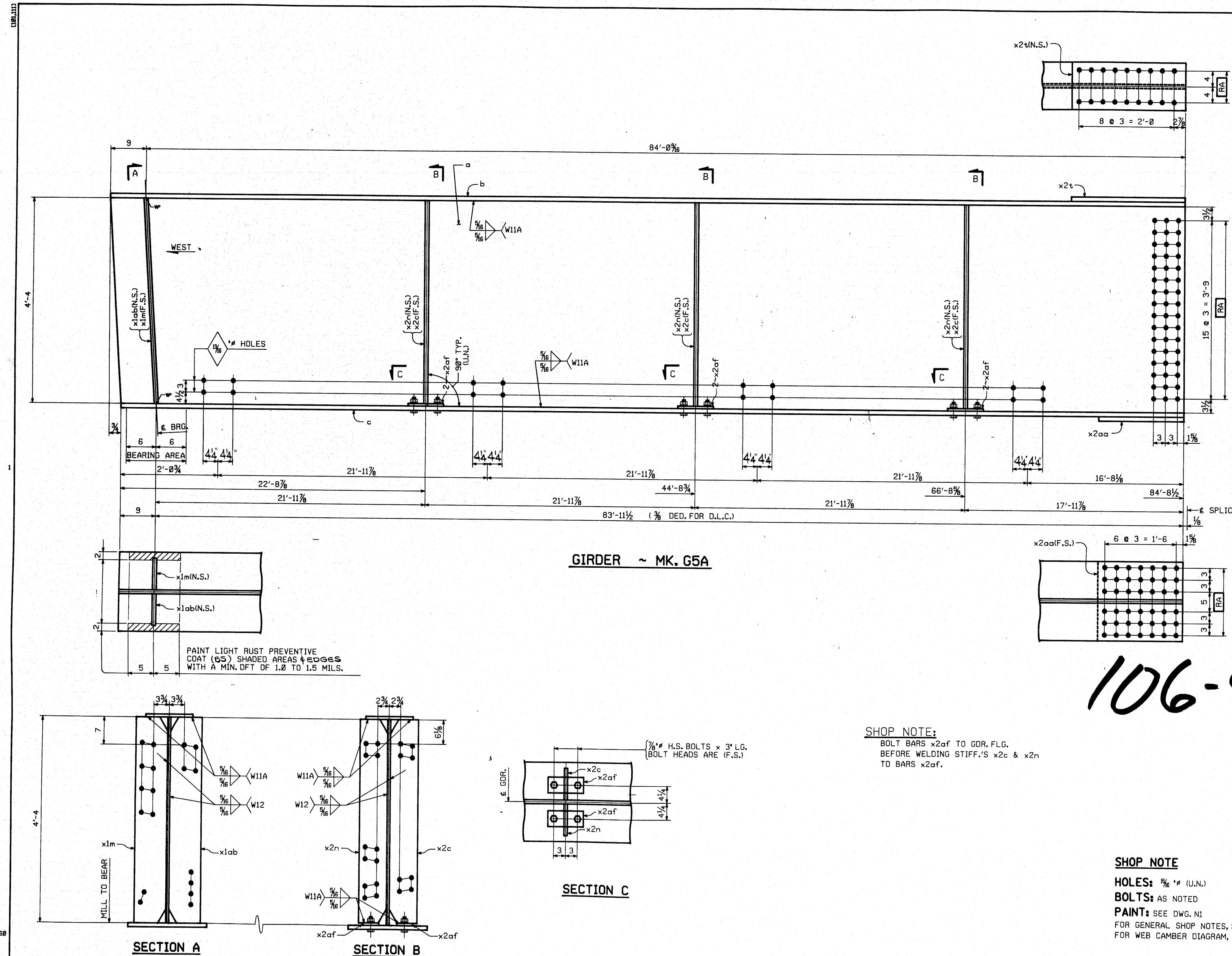
BY: BS
 T.Y. INTERNATIONAL

106-47

NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. 1805 Old Philadelphia Pike Lancaster, PA 17605-0008 Phone 717/299-5281 A Division of High Industrial Inc.		
GIRDER G1A		
SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+95.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT OR REF. NO. BR-026-1(61)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE: HINKLE	MADE BY: ODS	CHK'D BY: RB
CONTRACT NUMBER: ME-89148		DATE: 3-12-90
DRAWING NUMBER:		4 OF 17

MAY 24 1990

060.111



GIRDER ~ MK. G5A

SECTION C

SHOP NOTE:
BOLT BARS x2af TO GDR. FLG.
BEFORE WELDING STIFF'S x2c & x2n
TO BARS x2af.

SHOP NOTE
HOLES: 5/8" (U.N.)
BOLTS: AS NOTED
PAINT: SEE DWG. N1
FOR GENERAL SHOP NOTES, SEE DWG. N1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

				FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	
				1	ME	BR-026-1(61)	
BILL OF MATERIAL							
NO.	MARK	DESCRIPTION	LENGTH	REMARKS		ITEM	SUP- NET WT. EA.
ONE	G5A	GIRDER					16,544
ONE	a	2 52 x 1/2	84	9 3/4	(T)	2	2
ONE	b	2 12 x 3/4	84	9 3/4	(T)	3	3
ONE	c	2 20 x 1	84	8 1/2	(T)	3	3
ONE	x2t	2 12 x 7/8	2	4 1/2	FILL	4	8
ONE	x2aa	2 20 x 5/8	1	9 3/4	FILL	4	7
ONE	x1m	BAR 8 x 7/8	4	4		4	12
ONE	x1ab	BAR 8 x 7/8	4	4		4	12
3	x2c	BAR 7 x 7/8	4	3 3/4	A588	4	13
3	x2n	BAR 7 x 7/8	4	3 3/4	A588	4	13
3	x2af	BAR 4 x 5/8	0	9	A588	4	15
12	7/8"	H.S. BOLTS	0	3		B1	2
12		WASHERS FOR 7/8" H.S. BOLTS				B1	4

APPROVED

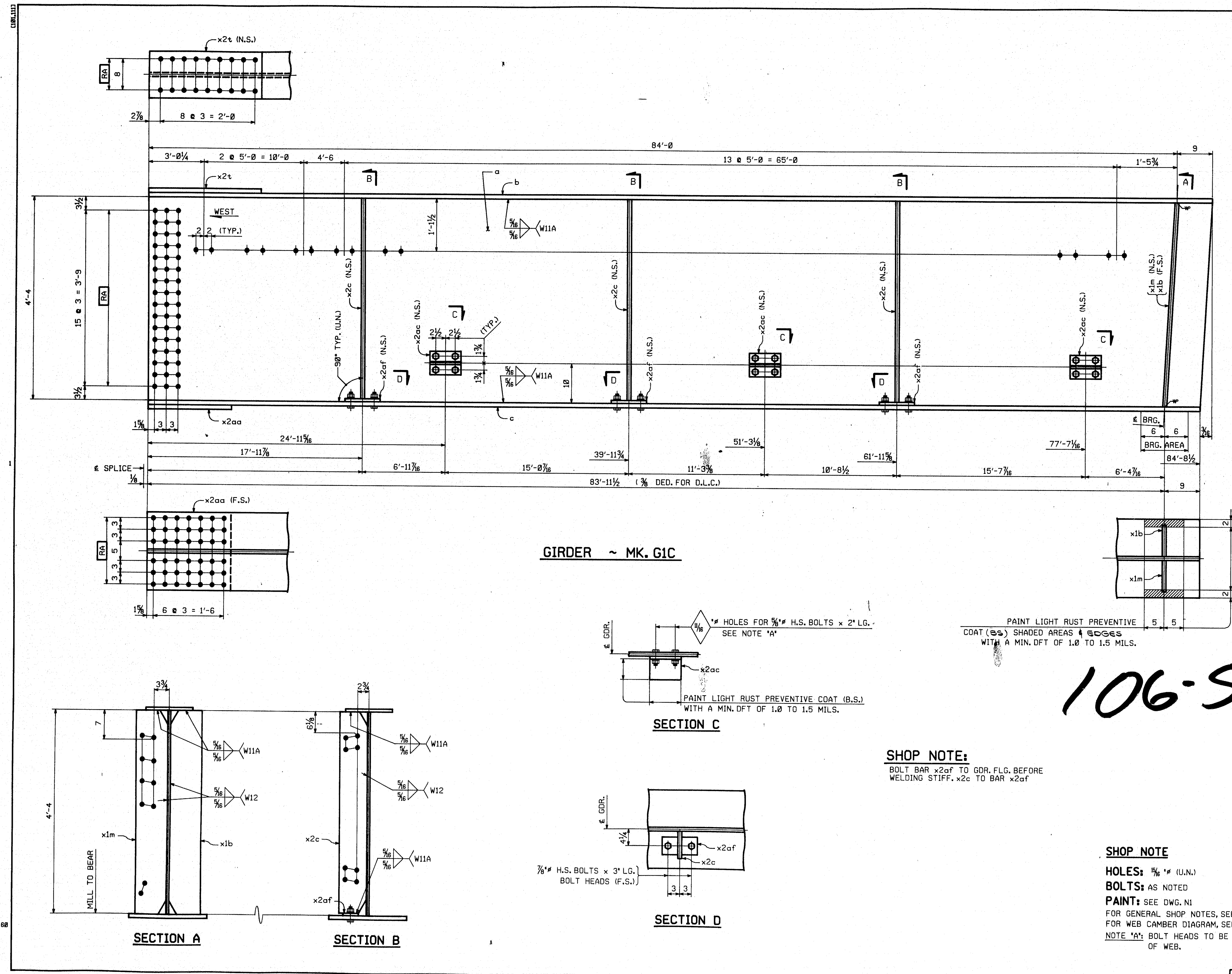
JUN 14 1990

BY BS
FOR INTERNATIONAL

106-49

NO.	REVISION	DATE
<p>HIGH STEEL STRUCTURES, INC.</p> <p>1005 Old Philadelphia Pike Lancaster, PA 17603-0008 Phone 717/299-5211</p> <p>A Division of High Industries, Inc.</p>		
<p>GIRDER G5A</p> <p>SOUTH WARREN BRIDGE (RTE.#1) OVER THE ST. GEORGE RIVER</p> <p>SOUTH WARREN BRIDGE STA. 397+99.00</p> <p>BETWEEN TOWNS OF WARREN AND THOMASTON</p> <p>KNOX COUNTY, MAINE</p> <p>STATE OF MAINE, DEPT. OF TRANSPORTATION</p> <p>STATE CONTRACT OR REF. NO. BR-026-1(61)</p> <p>CONTRACTOR CALLAHAN BROTHERS, INC.</p> <p>IN CHARGE HINKLE MADE BY: RB DATE: 3-12-90</p> <p>CONTRACT NUMBER ME-89148 DRAWING NUMBER 6 OF 17</p>		

MAY 24 1990



				FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	
				1	ME	BR-026-1(61)	
BILL OF MATERIAL							
NO.	MARK	DESCRIPTION	LENGTH		REMARKS	ITEM	SHG. WEIGHT EA.
ONE	G1C	GIRDER					16,411
1	a	2 52 x 1/2	84	9	(T)	2	2
1	b	2 12 x 3/4	84	9	(T)	3	4
1	c	2 20 x 1	84	8 1/2	(T)	3	3
1	x1b	BAR 8 x 7/8	4	4		4	12
1	x1m	BAR 8 x 7/8	4	4		4	12
3	x2c	BAR 7 x 7/8	4	3 3/4	A588	4	13
1	x2t	2 12 x 7/8	2	4 1/2	FILL	4	8
1	x2aa	2 20 x 7/8	1	9 1/2	FILL	4	7
3	x2ac	WT6 x 13	0	8	A36	4	16
3	x2af	BAR 4 x 5/8	0	9	A588	4	15
6		7/8" H.S. BOLTS	0	3		B1	2
6		WASHERS FOR 7/8" H.S. BOLTS				B1	4
12		5/8" H.S. BOLTS	0	2		B1	5
12		WASHERS FOR 5/8" H.S. BOLTS				B1	6
							</

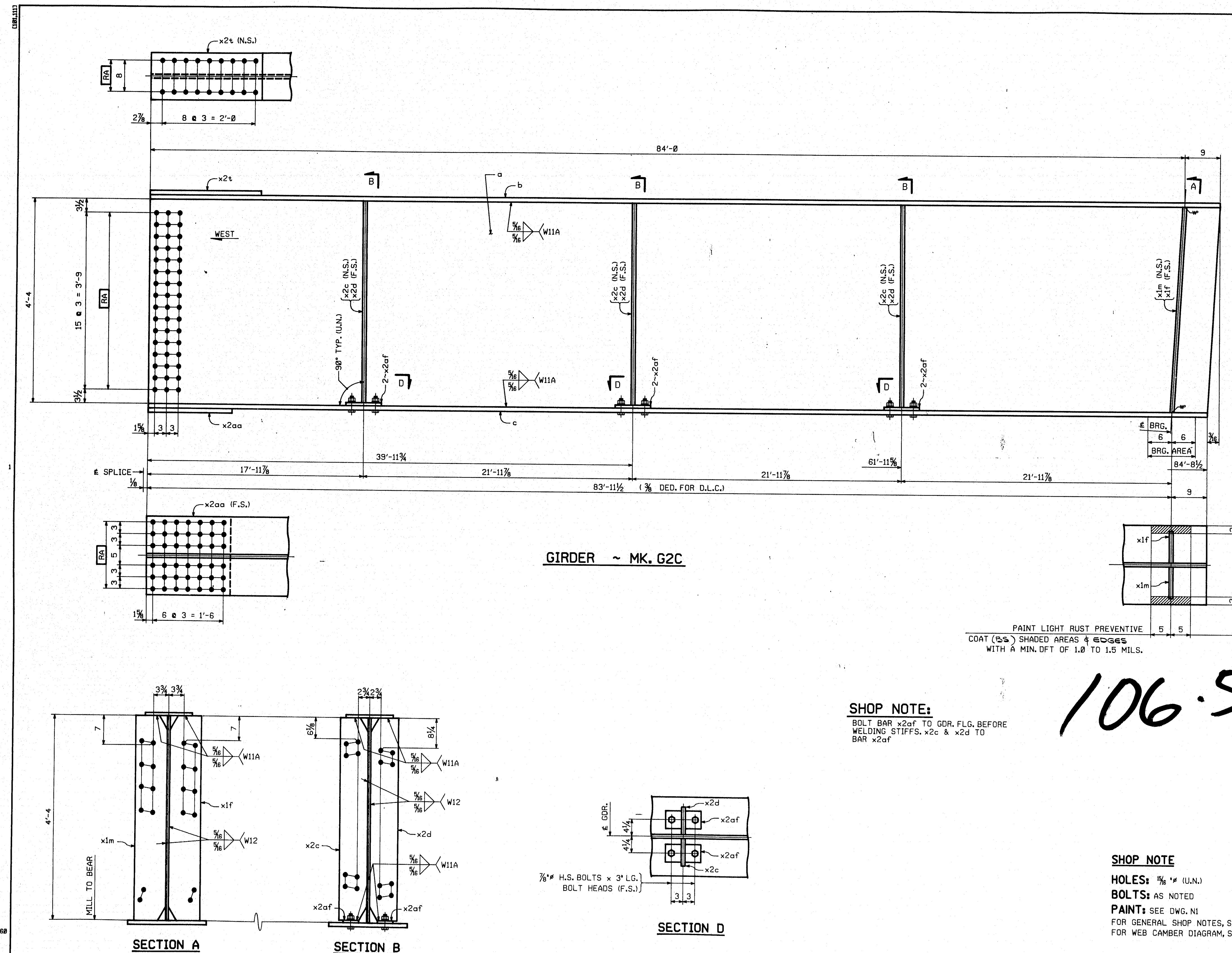
APPROVED
JUN 14 1990
BY *BS*
T.Y. LIN INTERNATIONAL

106-51

SHOP NOTE:
BOLT BAR x2af TO GDR. FLG. BEFORE WELDING STIFF. x2c TO BAR x2af

SHOP NOTE
HOLES: 5/8" (U.N.)
BOLTS: AS NOTED
PAINT: SEE DWG. N1
FOR GENERAL SHOP NOTES, SEE DWG. N1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WCL.
NOTE 'A': BOLT HEADS TO BE ON (F.S.) OF WEB.

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NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. 1805 Old Philadelphia Pike Lancaster, PA 17603-0008 Phone 717/299-5281 A Division of High Industrial Inc.		
GIRDER G1C		
SOUTH WARREN BRIDGE (RTE. 1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+99.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
STATE CONTRACT BR-026-1(G1)		
OR REF. NO. BR-026-1(G1)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE: HINKLE	MADE BY: MGK	CHK'D BY: RB DATE: 3-13-90
CONTRACT ME-89148		DRAWING NUMBER 13 OF 17



SHOP NOTE:

BOLT BAR x2af TO GDR. FLG. BEFORE
WELDING STIFFS. x2c & x2d TO
BAR x2af

SHOP NOTE

HOLES: $\frac{5}{16}$ " (U.N.)
BOLTS: AS NOTED
PAINT: SEE DWG. N1
FOR GENERAL SHOP NOTES, SEE DWG. N1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

		FED. ROAD DIV. NO.		STATE		FED. AID PROJ. NO.	
		1		ME		BR-026-1(61)	
BILL OF MATERIAL							
NO.	MARK	DESCRIPTION	LENGTH		REMARKS	ITEM	SHAP. WEIGHT EA.
ONE	G2C	GIRDER					16,539
1	a	£ 52 x ½	84	9	(T)	2	
1	b	£ 12 x ¾	84	9	(T)	3	
1	c	£ 20 x 1	84	8½	(T)	3	
1	x1f	BAR 8 x ⅞	4	4		4	
1	x1m	BAR 8 x ⅞	4	4		4	
3	x2c	BAR 7 x ⅞	4	3¾	A588	4	
3	x2d	BAR 7 x ⅞	4	3¾	A588	4	
1	x2t	£ 12 x ⅞	2	4½	FILL	4	
1	x2aa	£ 20 x ⅞	1	9¾	FILL	4	
6	x2af	BAR 4 x ⅞	0	9	A588	4	
12		⅞" H.S. BOLTS	0	3		B1	
12		WASHERS FOR ⅞" H.S. BOLTS				B1	
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APPROVED

JUN 14 1990

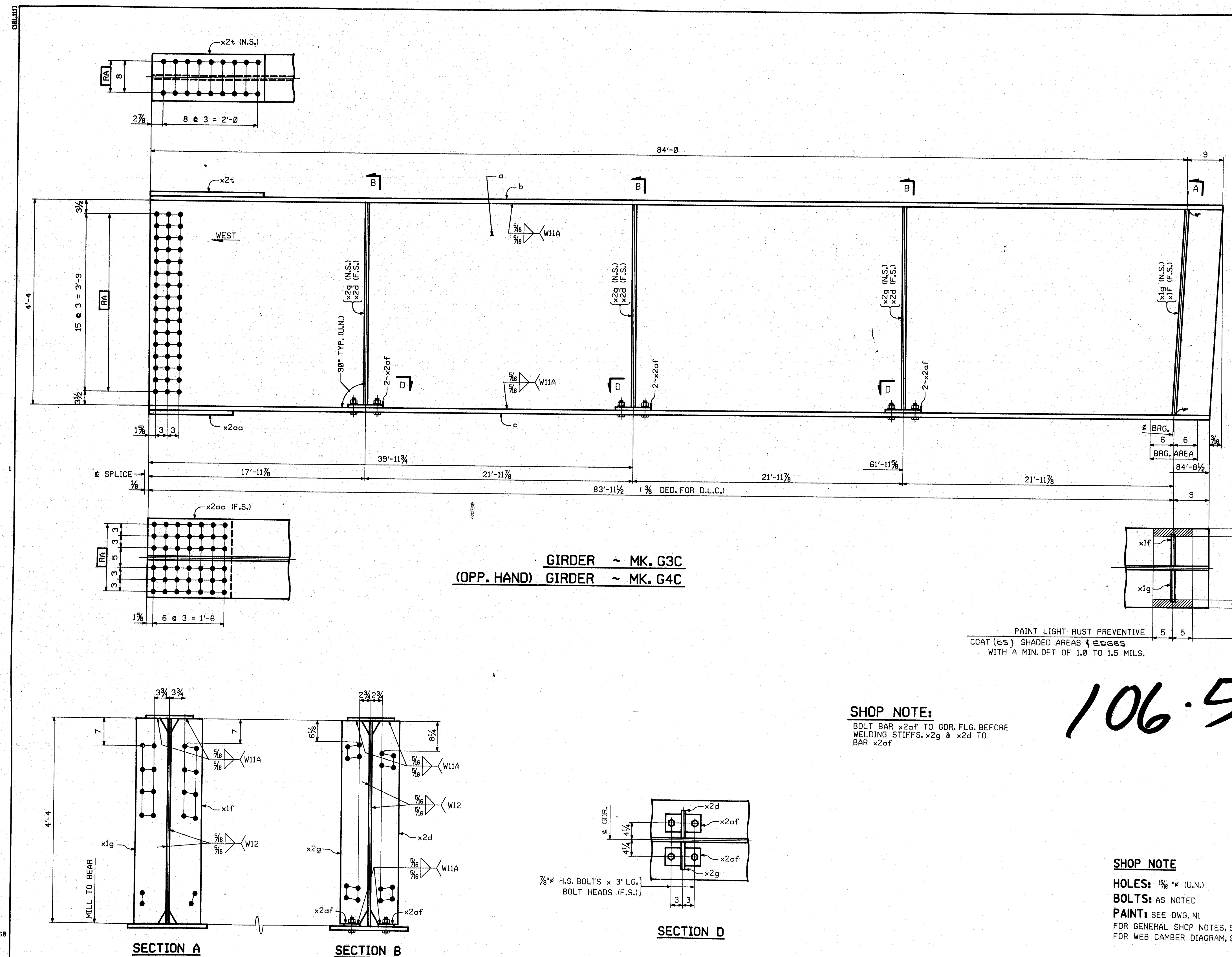
BY BS
INTERNATIONAL

106.52

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△		
NO.	REVISION	DATE
<p>HIGH STEEL STRUCTURES, INC.</p> <p>805 Old Philadelphia Pike Lancaster, PA 17608-0008 Phone 717/299-5001</p> <p>A Division of High Industries, Inc.</p>		
<p>GIRDER G2C</p> <p>SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER</p> <p>SOUTH WARREN BRIDGE STA. 397+99.00</p> <p>BETWEEN TOWNS OF WARREN AND THOMASTON</p> <p>KNOX COUNTY, MAINE</p> <p>STATE OF MAINE, DEPT. OF TRANSPORTATION</p> <p>STATE CONTRACT OR REF. NO. BR-026-1(61)</p> <p>CONTRACTOR CALLAHAN BROTHERS, INC.</p> <p>IN CHARGE: HINKLE MADE BY: MGK CHKD. BY: RB DATE: 3-13-90</p> <p>DRAWING NUMBER ME-89148 14 OF 17</p>		

CODE:30

MAY 24 1990



GIRDER ~ MK. G3C
(OPP. HAND) GIRDER ~ MK. G4C

PAINT LIGHT RUST PREVENTIVE
COAT (SS) SHADED AREAS & EDGES
WITH A MIN. DFT OF 1.0 TO 1.5 MILS.

SHOP NOTE:
BOLT BAR x2af TO GDR. FLG. BEFORE
WELDING STIFFS. x2g & x2d TO
BAR x2af

106.53

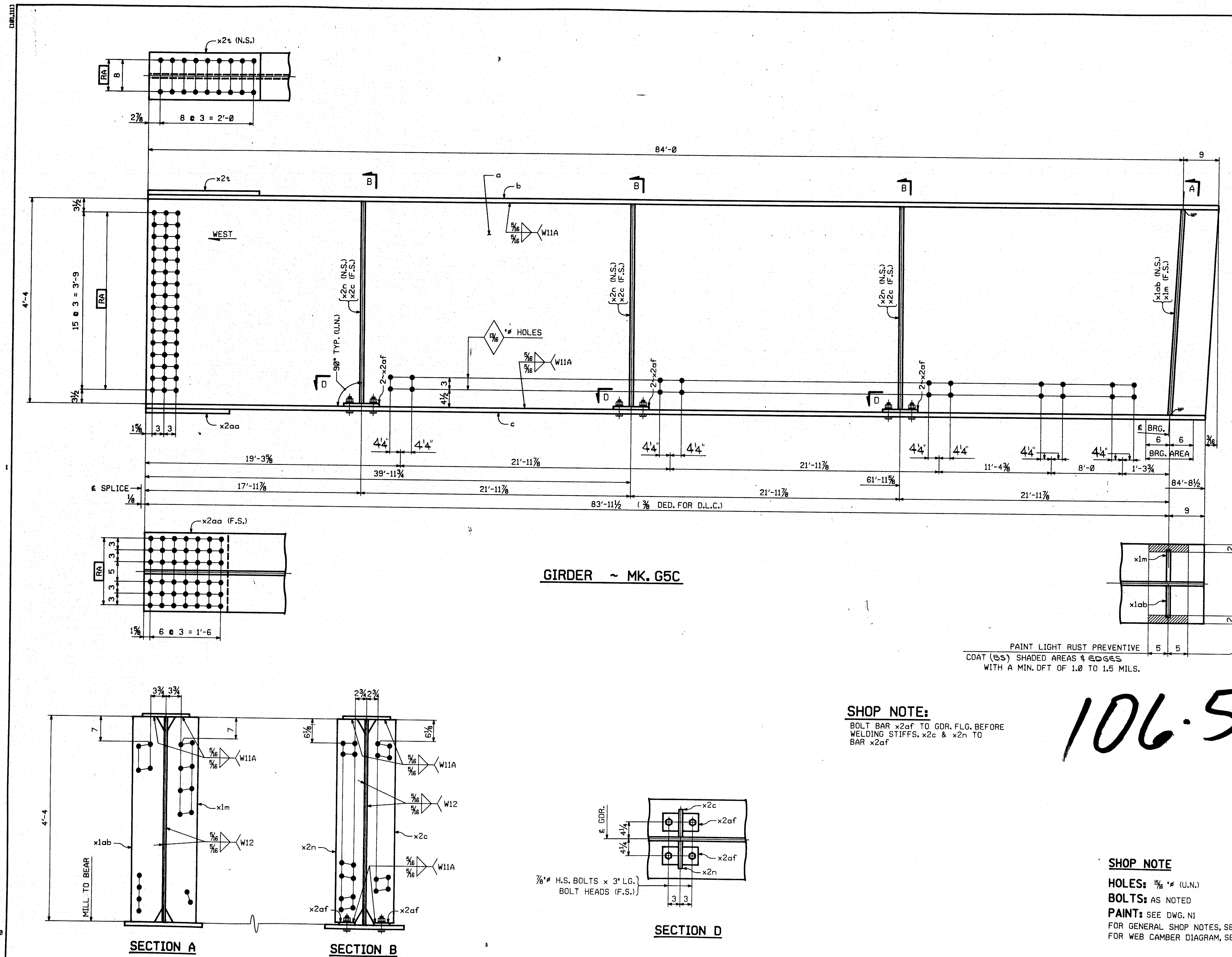
SHOP NOTE
HOLES: 5/8" (U.N.)
BOLTS: AS NOTED
PAINT: SEE DWG. N1
FOR GENERAL SHOP NOTES, SEE DWG. N1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

		FED. ROAD DIV. NO.	STATE		FED. AID PROJ. NO.		
		1	ME		BR-026-1(61)		
BILL OF MATERIAL							
NO.	MARK	DESCRIPTION	LENGTH		REMARKS	ITEM	QTY WEIGHT EA.
ONE	G3C	GIRDER					16,531
ONE	G4C	GIRDER			OPP. HAND		16,531
2	a	£ 52 x ½	84	9	(T)	2	
2	b	£ 12 x ¾	84	9	(T)	3	
2	c	£ 20 x 1	84	8½	(T)	3	
2	x1f	BAR 8 x ⅞	4	4		4	12
2	x1g	BAR 8 x ⅞	4	4		4	12
6	x2d	BAR 7 x ⅞	4	3¾	A588	4	13
6	x2g	BAR 7 x ⅞	4	3¾	A588	4	13
2	x2t	£ 12 x ⅞	2	4¾	FILL	4	8
2	x2aa	£ 20 x ⅝	1	9¾	FILL	4	7
12	x2af	BAR 4 x ⅝	0	9	A588	4	15
24		⅞" # H.S. BOLTS	0	3		BI	2
24		WASHERS FOR ⅞" # H.S. BOLTS				BI	4

APPROVED
JUN 14 1990
BY BS
HIGH STEEL STRUCTURES, INC.

NO.	REVISION	DATE
<p>HIGH STEEL STRUCTURES, INC.</p> <p>805 Old Philadelphia Pike Lancaster, PA 17606-0008 Phone 717/299-5251</p> <p>A Division of High Industries, Inc.</p>		
GIRDERS G3C & G4C		
SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER		
SOUTH WARREN BRIDGE STA. 397+99.00		
BETWEEN TOWNS OF WARREN AND THOMASTON		
KNOX COUNTY, MAINE		
STATE OF MAINE, DEPT. OF TRANSPORTATION		
CONTRACT BR-026-1(61)		
CONTRACTOR CALLAHAN BROTHERS, INC.		
IN CHARGE: HINKLE	MADE BY: MGK	CHKD. BY: RB
CONTRACT NUMBER: ME-89148	DRAWING NUMBER: 15 OF 17	DATE: 3-13-90

MAY 24 1990



SHOP NOTE:
BOLT BAR x2af TO GDR. FLG. BEFORE
WELDING STIFFS, x2c & x2n TO
BAR x2af

SHOP NOTE
HOLES: 5/8" (U.N.)
BOLTS: AS NOTED
PAINT: SEE DWG. N1
FOR GENERAL SHOP NOTES, SEE DWG. N1.
FOR WEB CAMBER DIAGRAM, SEE DWG. WCI.

			FED. ROAD DIV. NO.		STATE		FED. AID PROJ. NO.	
			1		ME		BR-026-1(61)	
BILL OF MATERIAL								
NO.	MARK	DESCRIPTION	LENGTH		REMARKS		ITEM	SQ. WEIGHT EA.
ONE	G5C	GIRDER						16,531
1	a	2 52 x 1/2	84	9	(T)		2	
1	b	2 12 x 3/4	84	9	(T)		3	
1	c	2 20 x 1	84	8 1/2	(T)		3	
1	x1m	BAR 8 x 7/8	4	4			4	
1	x1ab	BAR 8 x 7/8	4	4			4	
3	x2c	BAR 7 x 7/8	4	3 3/4	A588		4	
3	x2n	BAR 7 x 7/8	4	3 3/4	A588		4	
1	x2t	2 12 x 7/8	2	4 5/8	FILL		4	
1	x2aa	2 20 x 5/8	1	9 3/4	FILL		4	
6	x2af	BAR 4 x 5/8	0	9	A588		4	
12		3/8" H.S. BOLTS	0	3			81	
12		WASHERS FOR 3/8" H.S. BOLTS					81	

APPROVED

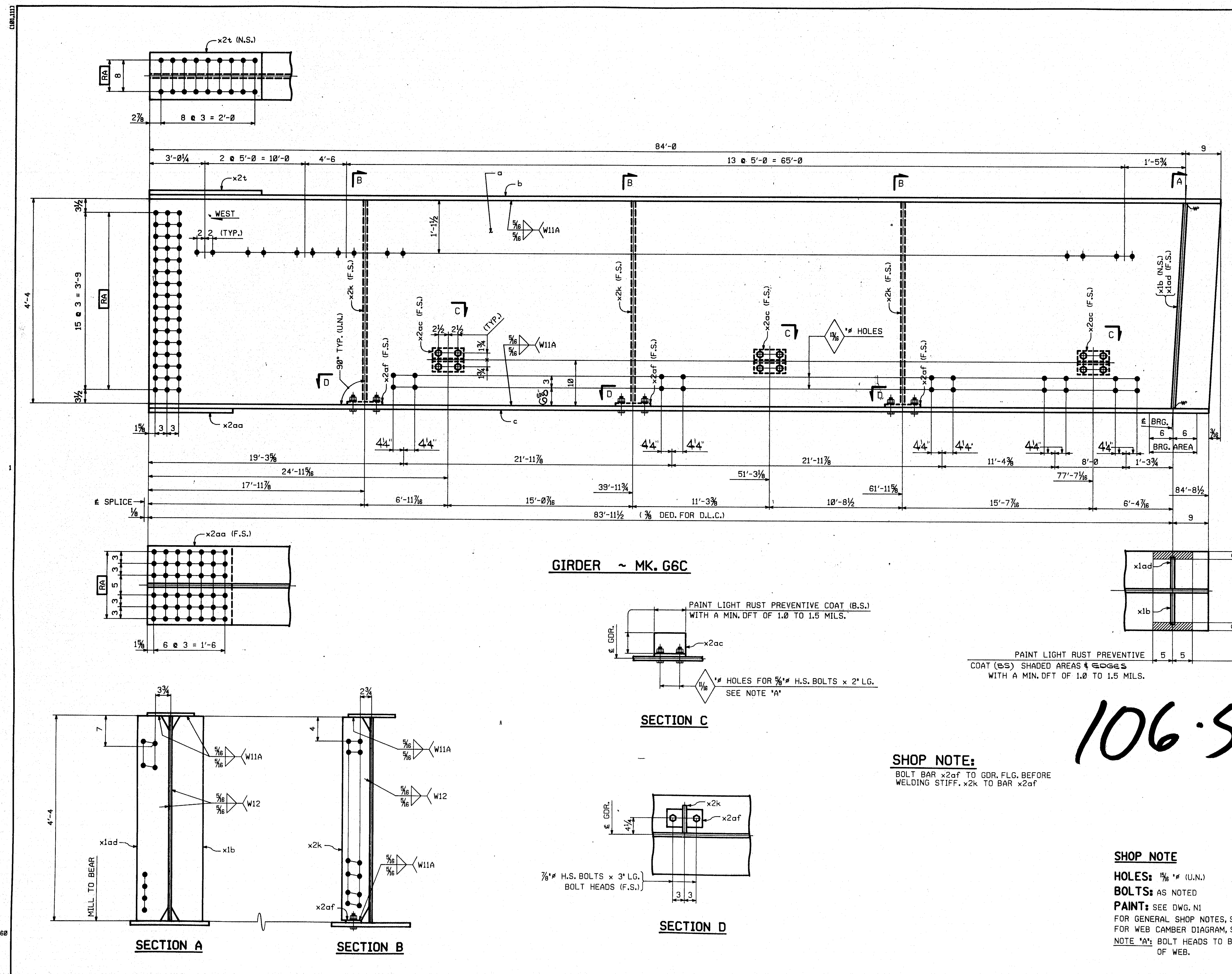
JUN 14 1990

BY *BS*
BY THE INTERNATIONAL

106.54

NO.	REVISION	DATE
<p>HIGH STEEL STRUCTURES, INC. 1905 Old Philadelphia Pike Lancaster, PA 17603-0008 Phone 717/299-9201 A Division of High Industries, Inc.</p>		
<p>GIRDER G5C</p>		
<p>SOUTH WARREN BRIDGE (RTE. 1) OVER THE ST. GEORGE RIVER</p>		
<p>SOUTH WARREN BRIDGE STA. 397+99.00</p>		
<p>BETWEEN TOWNS OF WARREN AND THOMASTON</p>		
<p>KNOX COUNTY, MAINE</p>		
<p>STATE OF MAINE, DEPT. OF TRANSPORTATION</p>		
<p>STATE CONTRACT OR REF. NO. BR-026-1(61)</p>		
<p>CONTRACTOR CALLAHAN BROTHERS, INC.</p>		
IN CHARGE: HINKLE	MADE BY: MGK	CHK'D BY: RB DATE: 3-13-90
CONTRACT NUMBER: ME-89148		DRAWING NUMBER: 16 OF 17

MAY 24 1990



		FED. ROAD DIV. NO.	STATE		FED. AID PROJ. NO.		
		1	ME		BR-026-1(61)		
BILL OF MATERIAL							
NO.	MARK	DESCRIPTION	LENGTH		REMARKS	ITEM	SQ. YARDS EA.
ONE	G6C	GIRDER					16,411
1	a	ℙ 52 x ½	84	9	(T)	2	
1	b	ℙ 12 x ¾	84	9	(T)	3	
1	c	ℙ 20 x 1	84	8½	(T)	3	
1	x1b	BAR 8 x ⅞	4	4		4	12
1	x1ad	BAR 8 x ⅞	4	4		4	12
3	x2k	BAR 7 x ⅞	4	3¾	A588	4	13
1	x2t	ℙ 12 x ⅞	2	4¾	FILL	4	8
1	x2aa	ℙ 20 x ¾	1	9¾	FILL	4	7
3	x2ac	WT6 x 13	0	8	A36	4	16
3	x2af	BAR 4 x ⅝	0	9	A588	4	15
6		⅞" H.S. BOLTS	0	3		B1	2
6		WASHERS FOR ⅞" H.S. BOLTS				B1	4
12		⅝" H.S. BOLTS	0	2		B1	5
12		WASHERS FOR ⅝" H.S. BOLTS				B1	6
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APPROVED

JUN 14 1990

BY RS

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HIGH STEEL STRUCTURES, INC.

1000 Old Philadelphia Pike
Lancaster, PA 17602-0001
Phone 717/299-5201

A Division of High Industries, Inc.

GIRDER G6C

SOUTH WARREN BRIDGE (RTE. #1) OVER THE ST. GEORGE RIVER

SOUTH WARREN BRIDGE STA. 397+99.00

BETWEEN TOWNS OF WARREN AND THOMASTON

KNOX COUNTY, MAINE

STATE OF MAINE, DEPT. OF TRANSPORTATION

BR-026-1(61)

CONTRACTOR CALLAHAN BROTHERS, INC.

IN CHARGE HINKLE **MADE BY MGK** **CHK'D BY RE** **DATE 3-13-90**

CONTRACT NUMBER ME-89148 **DRAWING NUMBER 17 OF 17**

MAY 24 1990