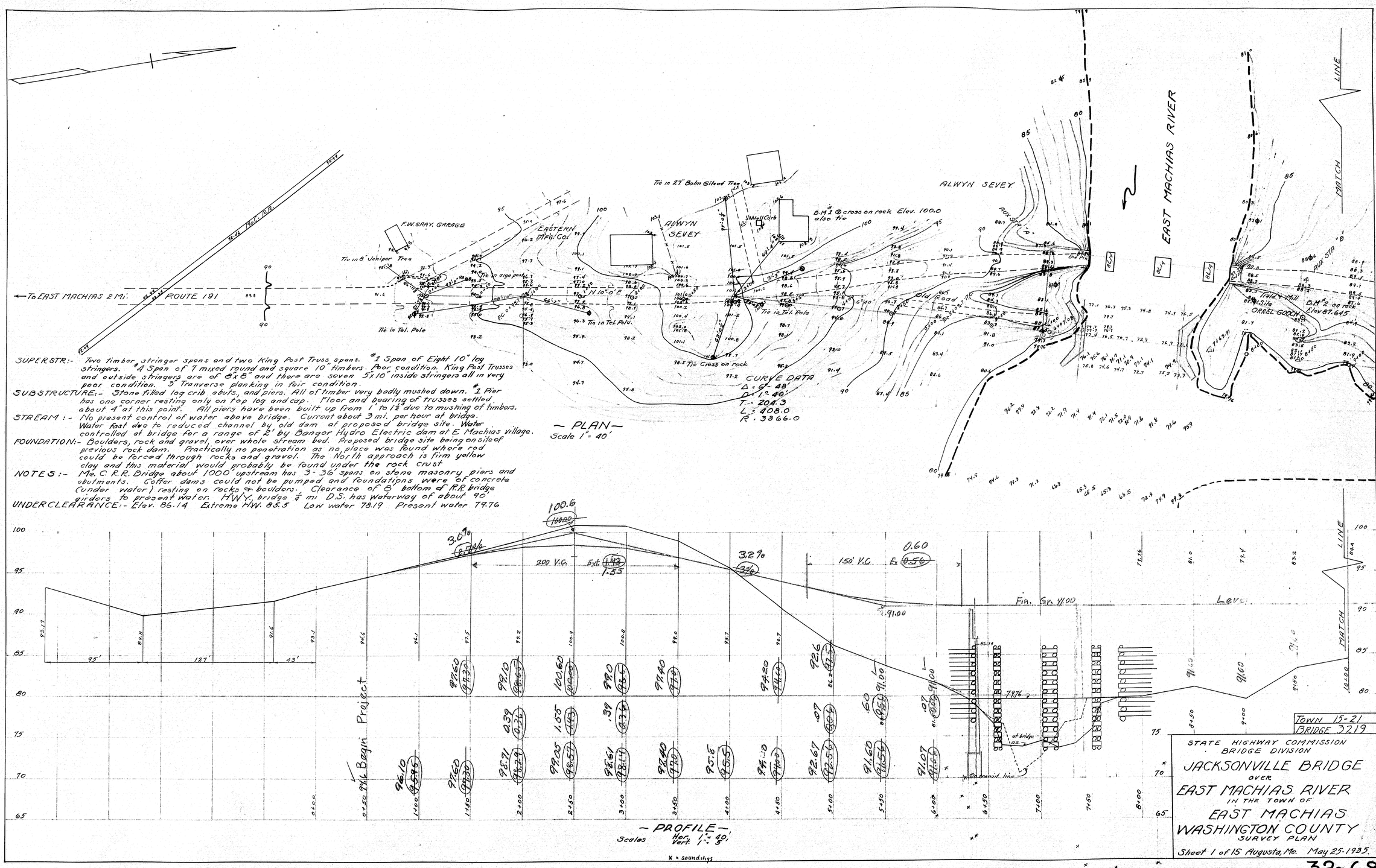


SUPERSTR:- Two timber stringer spans and two King Post Truss spans. #1 Span of Eight 10" log stringers. #4 Span of 7 mixed round and square 10" timbers. Poor condition. King Post Trusses and outside stringers are of 8"x8" and there are seven 5"x10" inside stringers all in very poor condition. 3" Tranverse planking in fair condition.

SUBSTRUCTURE:- Stone filled log crib abuts, and piers. All of timber very badly mushed down. #1 Pier has one corner resting only on top log and cap. Floor and bearing of trusses settled about 4" at this point. All piers have been built up from 1' to 1½' due to mushing of timbers.

STREAM:- No present control of water above bridge. Current about 3 mi. per hour at bridge. Water fast due to reduced channel by old dam at proposed bridge site. Water controlled at bridge for a range of 2' by Bangor Hydro Electric dam at E. Machias village.

FOUNDATION:- Boulders, rock and gravel, over whole stream bed. Proposed bridge site being on site of previous rock dam. Practically no penetration as no place was found where rod could be forced through rocks and gravel. The North approach is firm yellow clay and this material would probably be found under the rock crust

NOTES:- Me. C. R.R. Bridge about 1000' upstream has 3-36' spans on stone masonry piers and abutments. Coffer dams could not be pumped and foundations were of concrete (under water) resting on rocks & boulders. Clearance of 8' bottom of R.R. bridge girders to present water. HWY. bridge ¼ mi D.S. has waterway of about 90'

UNDERCLEARANCE:- Elev. 86.14 Extreme H.W. 85.5 Low water 78.19 Present water 79.76

TOWN 15-21
BRIDGE 3219

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
SURVEY PLAN

Sheet 1 of 15 Augusta, Me. May 25-1935.

32-69

SURVEY BY LEIGHTON 5/25/35
PLOT & TRACED C.F.S. 6/22/35

0 1 2 3 4 5 INCHES

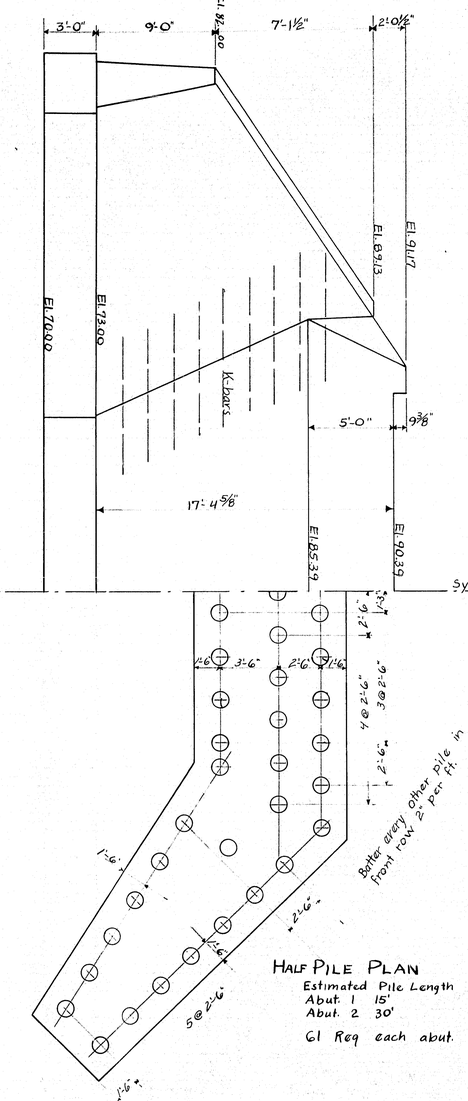
Town 15-21
Bridge 3219

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
SURVEY PLAN

Sheet 2 of 15 Augusta, Me. May 25, 1935.

32-70

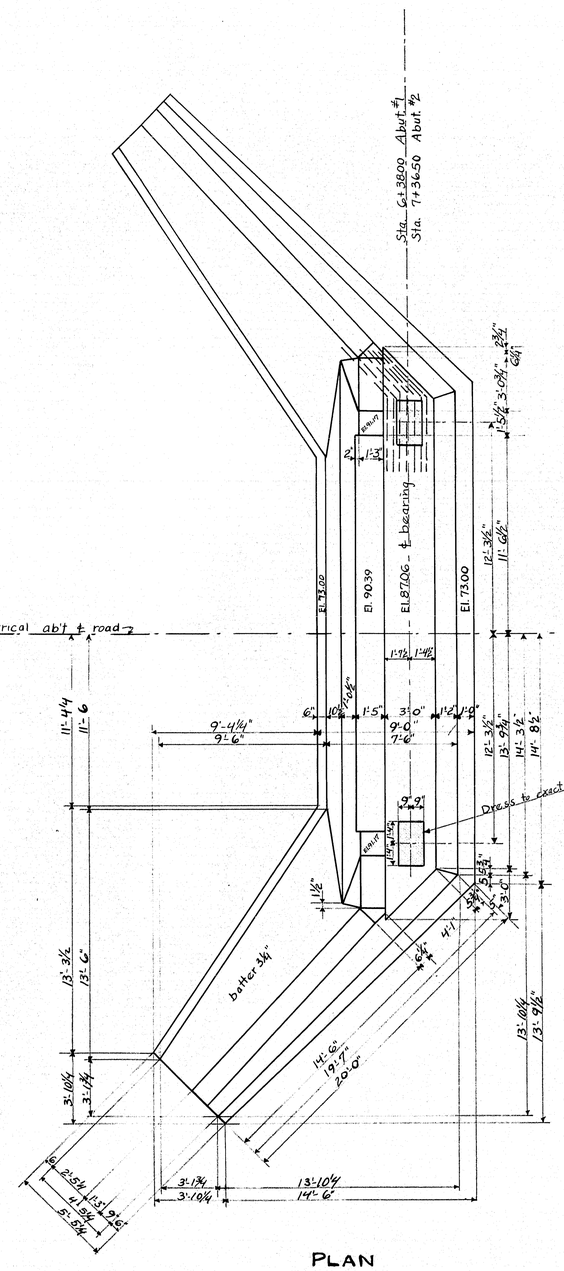


REAR ELEVATION

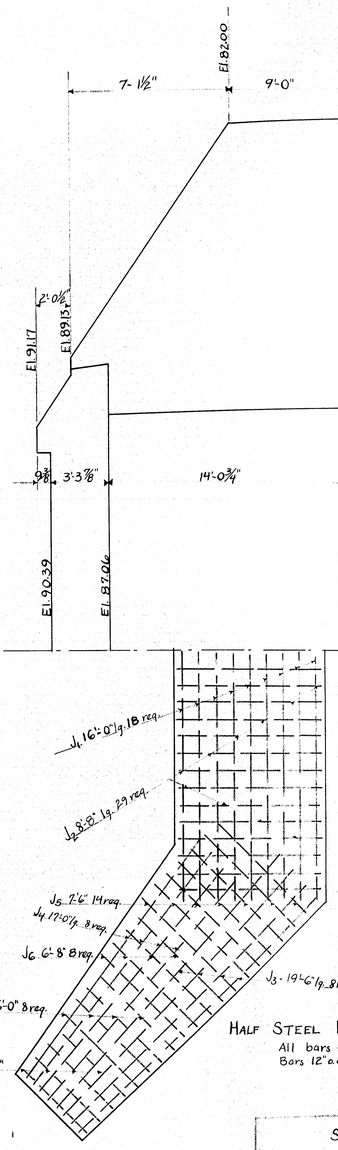
HALF PILE PLAN

Estimated Pile Length
Abut. 1 15'
Abut. 2 30'

61 Req each abut.



PLAN

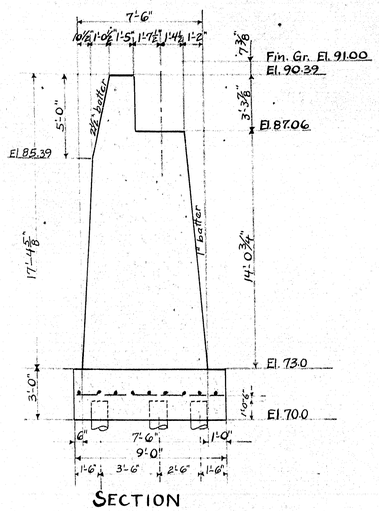


FRONT ELEVATION

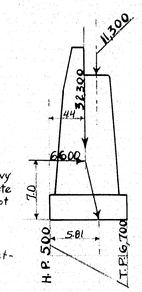
HALF STEEL PLAN

All bars ¾" ϕ
Bars 12" o.c. each way

Note:
Cover the ½ slot between the curb and wings on the backside with two layers of heavy roofing felt 10" wide. Coat surface of concrete and backside of each layer as applied with hot tar or asphalt. The area to be covered with felt is to be recessed ¼" by nailing thin strips to the forms before the concrete is placed.
K-bars to be placed at junction of breast-wall and wing. Space 1'-6" vertically and 6" below bridge seat, spaced 4" on centers horizontally. Bend in field to fit forms.



SECTION



ABUTMENT ANALYSIS

STEEL SCHEDULE

Mark	No	Size	Length	Remarks
J1	36	¾ϕ	16'-0"	Footing
J2	58	"	8'-8"	"
J3	16	"	19'-6"	"
J4	16	"	17'-0"	"
J5	28	"	7'-6"	"
J6	16	"	6'-8"	"
J7	16	"	6'-0"	"
J8	16	"	5'-0"	"
K	64	"	8'-0"	Breast wall

See sheet 4 for superstructure steel.

E.R.M.
E.B.

TOWN 15-21
BRIDGE 3219

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

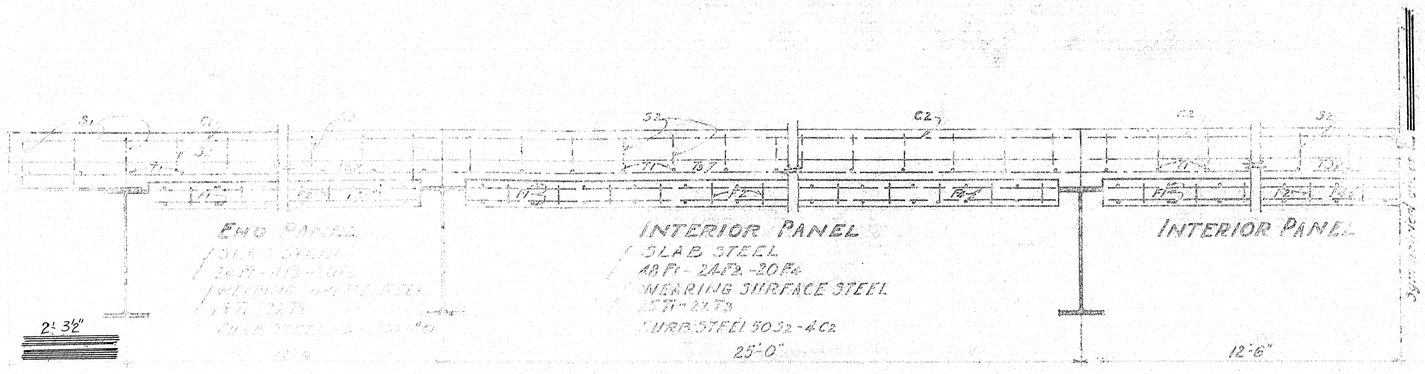
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY

DETAILS OF ABUTMENTS

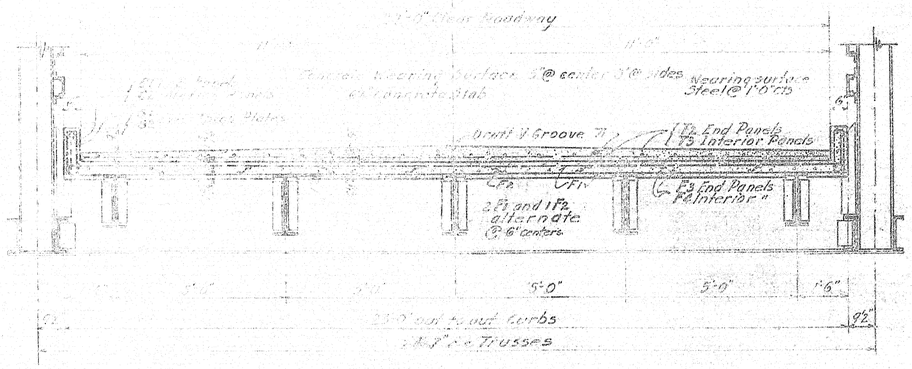
Sheet 3 of 15 Augusta, Me. April 1937.

32-71

0 1 2 3 4 5 INCHES



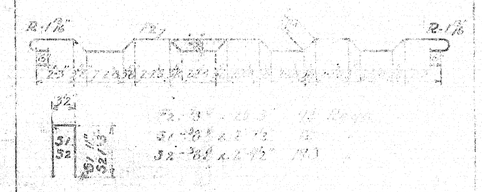
LONGITUDINAL SECTION OF FLOOR



TRANSVERSE SECTION OF FLOOR

STEEL SCHEDULE

BENT BARS

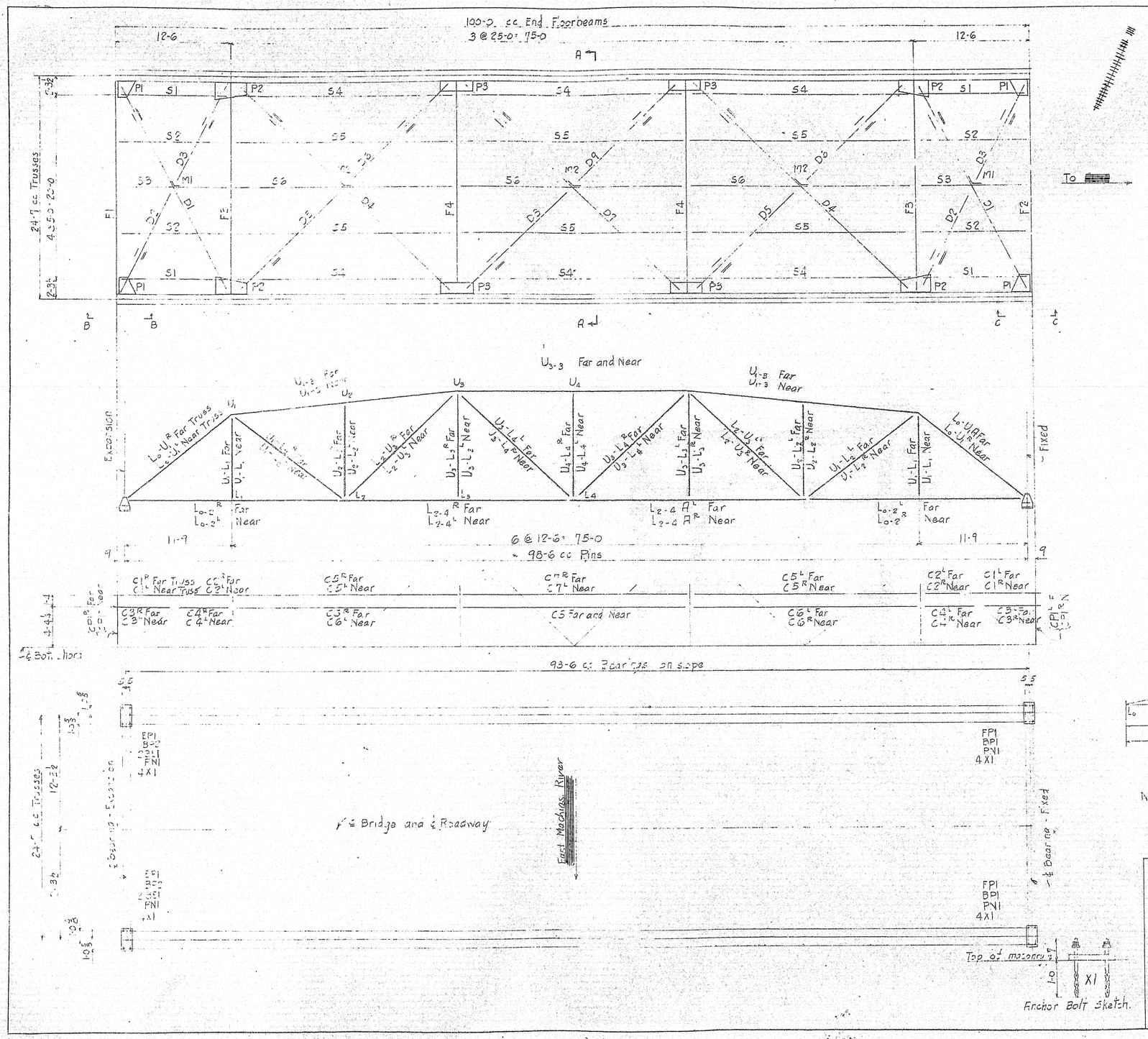


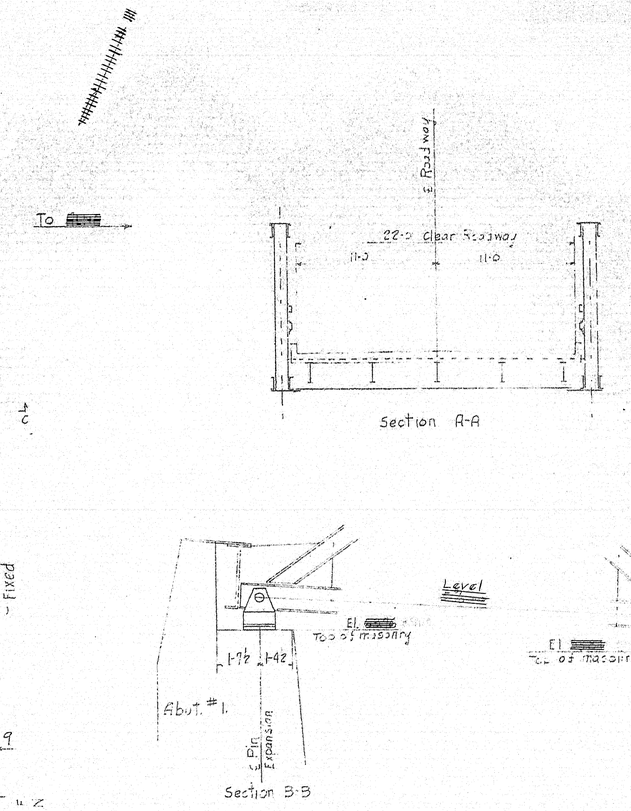
STRAIGHT BARS

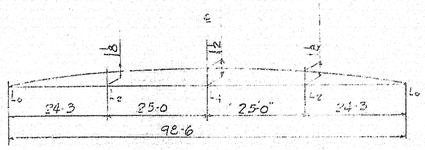
MARK	SIZE	NO. REQ'D	LENGTH	REMARKS
T1	3/8 ϕ	105	21'-10"	Wearing Surface Transverse
T2	3/8 ϕ	44	14'-6"	" " Longitudinal
T3	3/8 ϕ	66	24'-10"	" "
C1	3/8 ϕ	8	14'-4"	Curbs - End Panels
C2	3/8 ϕ	12	24'-9"	" Interior Panels
F1	5/8 ϕ	192	22'-9"	Slab
F3	1/2 ϕ	40	11'-5"	Slab End Panels
F4	1/2 ϕ	60	23'-11"	" Interior Panels
~~T1~~	~~3/4 ϕ~~	~~68~~	~~8'-0"~~	~~Abutments Bend in Bk~~
~~J1~~	~~3/4 ϕ~~	~~30~~	~~8'-2"~~	~~Footings Abut. No. 2~~
~~J2~~	~~3/4 ϕ~~	~~9~~	~~27'-6"~~	~~" "~~
~~J3~~	~~3/4 ϕ~~	~~14~~	~~16'-2"~~	~~" "~~
~~J4~~	~~3/4 ϕ~~	~~8~~	~~4'-11"~~	~~" "~~
~~J5~~	~~3/4 ϕ~~	~~6~~	~~5'-10"~~	~~" "~~
~~J6~~	~~3/4 ϕ~~	~~8~~	~~6'-9"~~	~~" "~~
~~J7~~	~~3/4 ϕ~~	~~14~~	~~7'-6"~~	~~" "~~

All steel to be plain rounds of Structural grade.
All dimensions are to ℄ of bars.
See Sheet 3 for substructure steel

32-72 32-7







Sketch showing Camber of Bottom chord of Truss under condition of No Load

Notes: Shims SH1, SH2 + SH3 used where necessary between stringers and floorbeams

List of sheets	H22	H23	H24
Pedestals + Masonry plates	1		
Bracing + plates	2		
Floorbeams + stringers	3		
Truss - Bottom chord	4		
Truss - Upper chord	5		
Truss - End Post + Verticals	6		
Truss - Diags + Verticals	7		
Swedge Bolts	C1		
Field rivets	C2		
Bronze bearing plate		1	
Railing			1
Erection Diagram	E1		

STATE HIGHW
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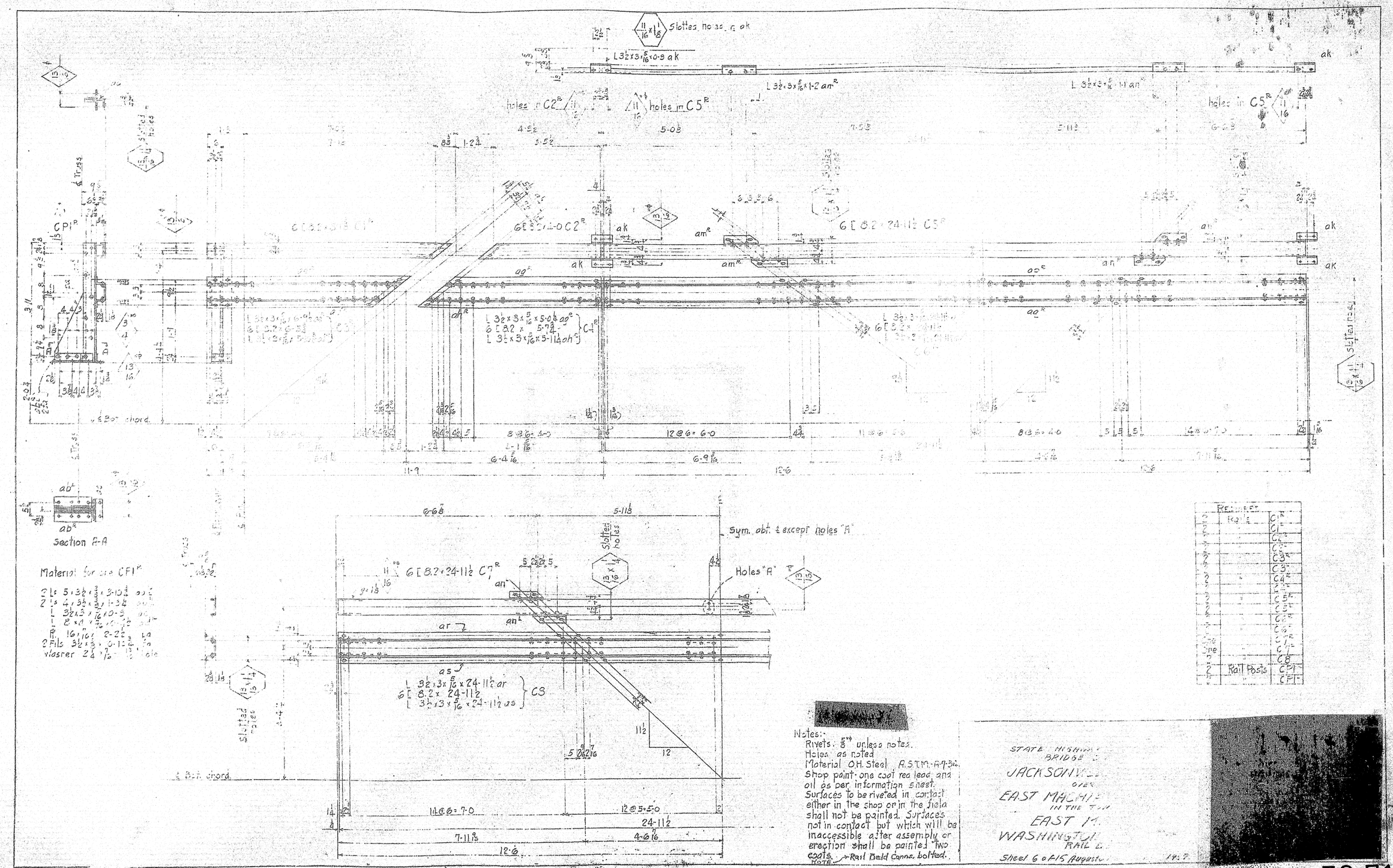
Sheet 5 of 15 Augu

[redacted]

32-73



Rec'd		
2	Rails	C1R
2	"	C1L
2	"	C2R
2	"	C2L
2	"	C3R
2	"	C3L
2	"	C4R
2	"	C4L
2	"	C5R
2	"	C5L
2	"	C6R
2	"	C6L
One	"	C7R
One	"	C7L
2	"	C8
2	Rail Posts	CP1R
2	"	CP1L

[redacted]

Notes:-
Rivets: 5/8" unless noted.
Holes as noted
Material O.H. Steel A.S.T.M.-A-7-34.
Shop paint-one coat red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or in the field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.
NOTE → Rail Field Conns. bolted.

STATE HIGHWAY
BRIDGE
JACKSONVILLE
OVER
EAST MACHIAS
IN THE TOWN
EAST M
WASHINGTON
RAIL
Sheet 6 of 15 August 19..

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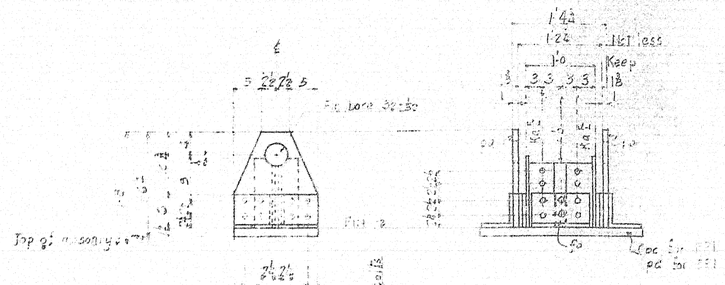
32-74

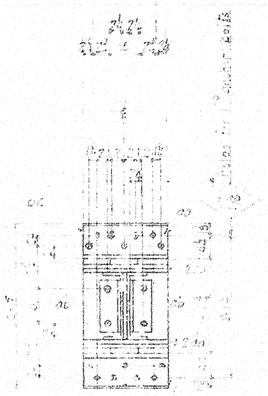
Material for one FP1

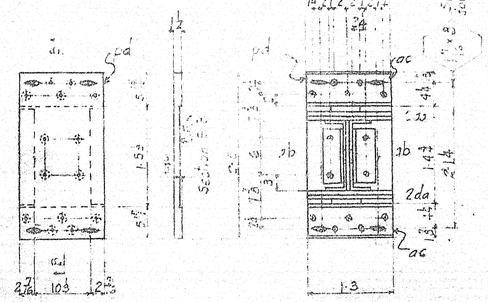
2 Pc	15" x 1'-4½" x 2'-0"	pa FN1
1 Pc	11½" x 2'-0" x 11"	pb FN1
1 Pl	15" x 12" x 2'-5"	pc
2 Pcs	6" x 6" x 11'-3"	pd
2 Pcs	6" x 6" x 1'-9"	pe
4 Pcs	5" x 3½" x 1'-10½"	pf
4 Pcs	5" x 3½" x 0'-2"	pg
2 Pl	12" x 12" x 0'-6"	ph

Material for one EP1

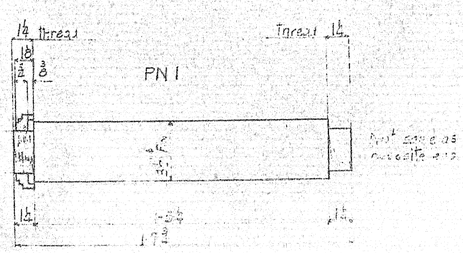
2 Pc	pa FN1
1 Pc	pb FN1
1 Pl	pd
2 Pcs	pe
2 Pcs	pb
4 Pcs	pf
4 Pcs	da FN1
2 Pl	fa "



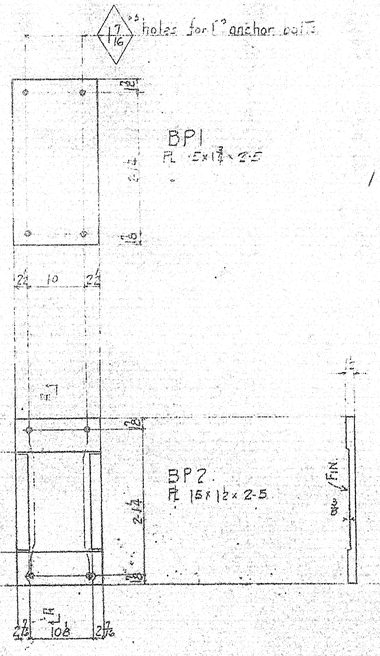


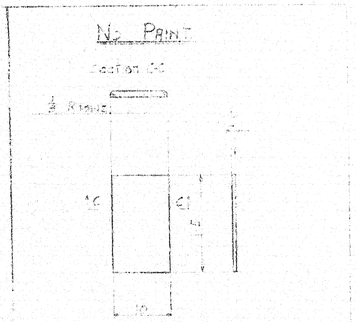


Section showing recess in pd of EP1 to take bronze plate BE1



Pin 5½" FN with 2 standard Pressed Steel Nuts FN 3
Right hand threads 8 Threads per inch





Finished or rolled to proper thickness. Edges finished or rolled with not more than a total variation of 1/16 in width or length.

Try in position between shoe and masonry plate

ORDER No H23

Notes -
Rivets - ⅞"ϕ
Holes - as noted
Base plates must be straight and flat
Material - O.H. steel - ASTM. A-[illegible]
Holes in material over ¾" thick to be drilled.
Shop paint - one coat red lead and oil as per information sheet.

Surfaces to be riveted in contact either in the shop or in the field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.

REQUISITE LIST FOR ORDER No H23

2	Fixed Pedestals	FP1
2	Expansion Pedestals	EP1
2	Masonry Plates	BP1
2	"	BP2
2	"	FN1
2	Anchor Bolts (Path No. FS141)	
2	Anchor Bolts (Path No. FS153)	

REQUISITE FOR ORDER No H23

4	Bronze Expansion Plates	BE1

STATE HIGHWAY ... BRIDGE DIV.
JACKSONVILLE
OVER
EAST MACHIAS
IN THE TOWN
EAST MA...
WASHINGTON ...
PEDESTAL

Sheet 7 of 15 August 19..

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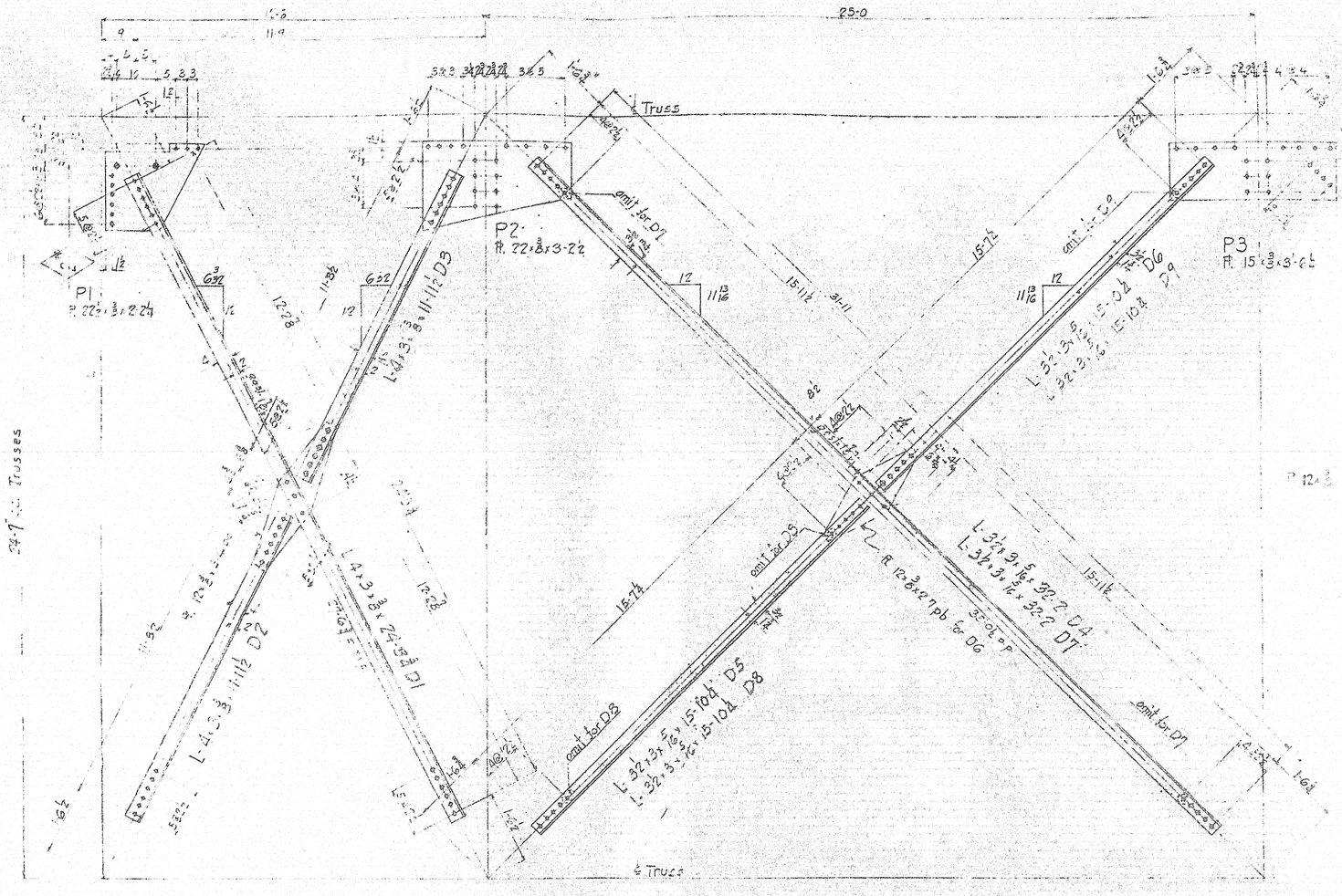
32-75



REQUIRED		
2	Diagonals	D1
2	"	D2
2	"	D3
2	"	D4
2	"	D5
2	"	D6
2	"	D7
2	"	D8
2	"	D9
4	Plates	P1
4	"	P2
4	"	P3
4	Brackets	M1
4	"	M2

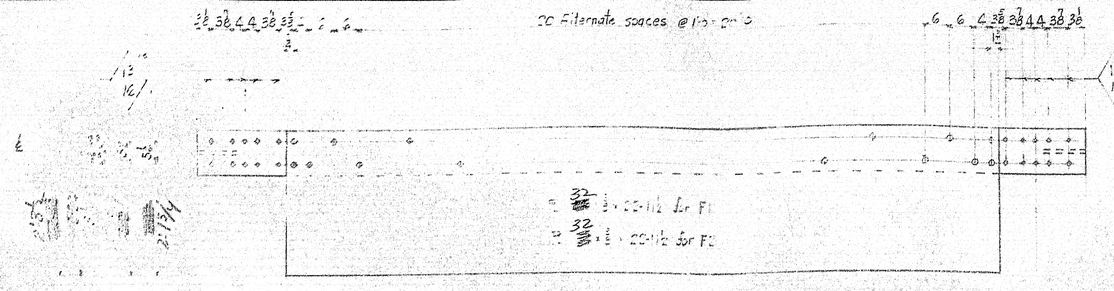
[redacted]

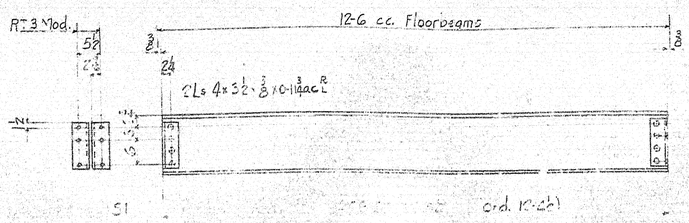
Notes.
Rivets $\frac{7}{8}$"
Holes $\frac{15}{16}$" unless noted
Material - U.H. Steel - A.S.T.M. A-7-34
Shop paint - one coat red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or in the field shall not be painted.
Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.

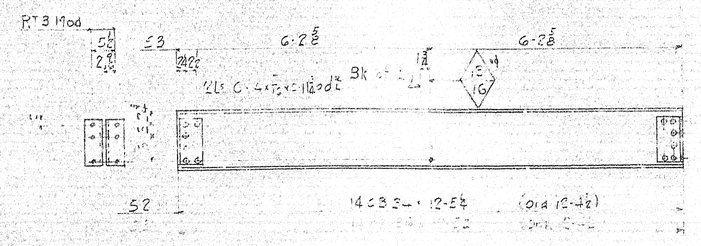
STATE HIGHWAY
BRIDGE
JACKSONVILLE
OVER
EAST MACHIAS
IN THE TOWN
EAST MACHIAS
WASHINGTON
DETAIL OF
Sheet 8 of 15 Sheets

[redacted]

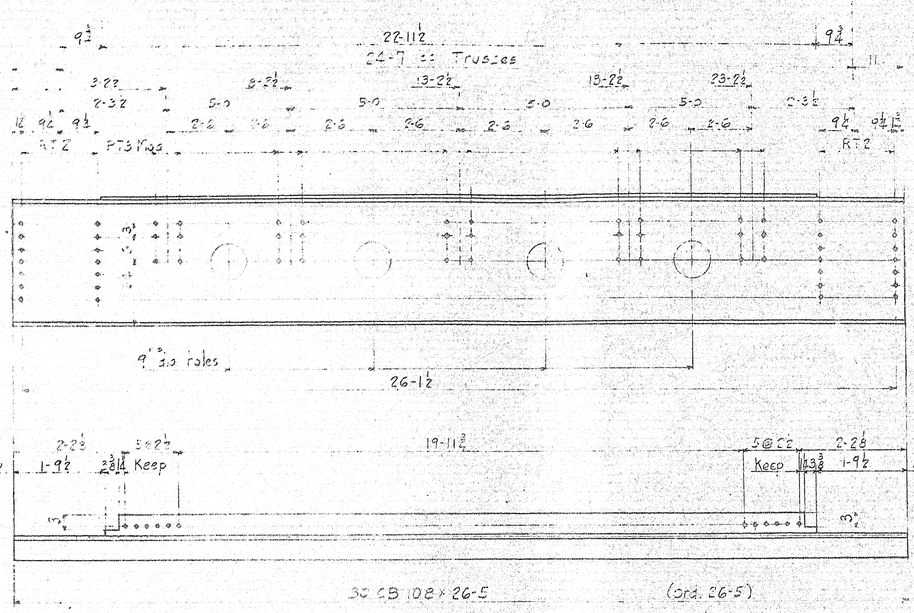
32-76

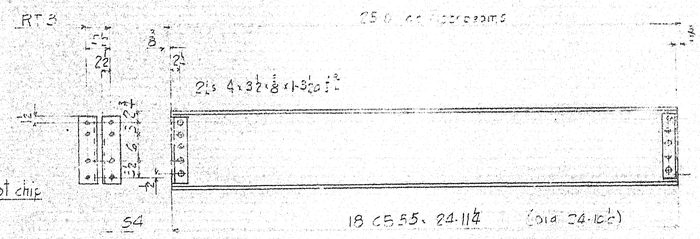


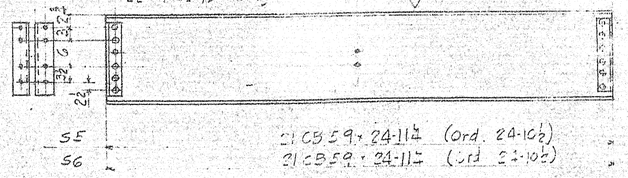


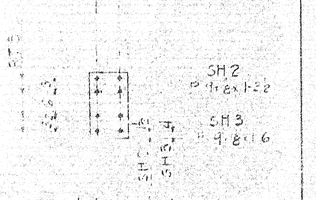


REQUIRED		
One	Floorbeam	F1
One	"	F2
"	"	F3
"	"	F4
4	Stringers	S1
"	"	S2
"	"	S3
"	"	S4
"	"	S5
"	"	S6
"	"	SH1
"	"	SH2
"	"	SH3

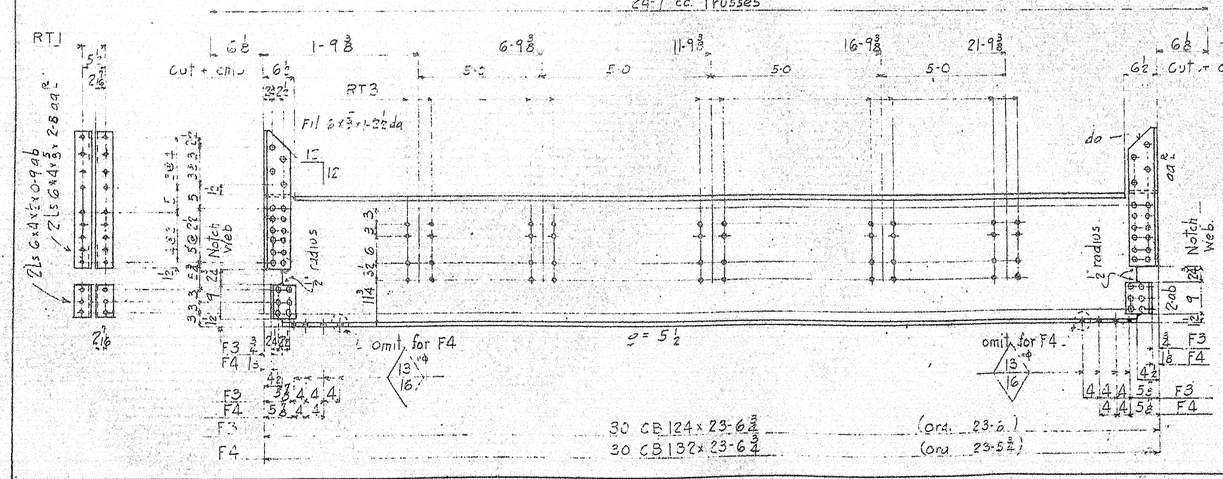








SHims to be used where necessary between stringers and floorbeams



Notes:-
Shop Rivets $\frac{15}{16}$" unless noted
Open Holes $\frac{13}{16}$" unless noted
Holes in material over $\frac{3}{4}$" thick to be drilled
Holes marked RT to be punched $\frac{13}{16}$" and reamed to $\frac{15}{16}$" to a metal Template.
Material - O.H. Steel - A.S.T.M. A-7-24
Shop paint - one coat red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or in the field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection, shall be painted two coats.

STATE HIGHWAY BRIDGE D...
JACKSONVIL...
OVER
EAST MACHI...
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EAST M...
WASHINGTON
BEAM L...
Sheet 9 of 15 Sheets...

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32-77

Top Flange same as Bottom Flange except Left End as shown & noted & Open Holes as noted.

L_0-2^R

2-12"]I 25#×24-5¼ FIN. ONE END

RT. 15⁵⁄₈

SECTION AA

FIN. RA-15⁵⁄₁₆

2 Fills 9 ⅞×1'-3¾ Fin. one end - db

24'-5 11⁄16" FIN. ONE END

REQUIRED		
2	Bottom Chords	L_0-2^R
2	" "	L_0-2^L
One	" "	L_2-4^R
One	" "	L_2-4^L
One	" "	L_2-4A^R
One	" "	L_2-4A^L

2 Pls 4-⅜×25-0 ab
2 Pls 4×3½-⅜×7'-2½ ac
1-12CB50 Diaphragm ma
2-L 3½×3-⅜×6-0 ad
1-Bent Pl. 19-⅜×3'-10½ ha
2 Pls 9-⅜×10-0 pb
2 Fills 3½×1'-0 fa

Note re Shop:
The 12CB50 Diaphragm may not project more than ½" beyond the flange edge if width is less than 1'-0½ provide Fills to maintain 1'-0½ between Gusset Plates.

Cut not Chip Bot. Flg.

Cut not Chip Top Flg.

These Holes in Bottom Flange only

Top Flange same as Bottom Flange except Open Holes as noted

L_2-4^R

RT. Mod. 15⁵⁄₁₆

2-12"]I 40#×25'-4" FIN.

2 Pls 29-⅜×5'-15 pg
2 Pls 9-⅝×2'-3¾ cc
4 Pls 24-⅜×0'-5 cd

1-Fill 15×⅜-1'-0 dc - F.S.
1-Fill 15×⅜-1'-0 dd - N.S.

25'-4" FIN.

2 Pls 4-⅜×25-0 pa
2 Pls 30-⅜×4'-4½ pe
2 Pls 9-⅜×2'-11¾ ca
4 Pls 24-⅜×0'-5 cb

Notes
Rivets - ⅞" ϕ
Holes - 15⁄16" ϕ Unless noted
Holes marked RI to be punched 1⅜" and reamed to 15⁄16" in a metal templet.
Holes marked RA to be punched 1⅛" and reamed to 15⁄16" in a metal templet or reamed with members assembled in shop and pieces match marked for erection.
Material - Q H. Steel. A.S.T.M. A7-36
Shop Paint
One coat of red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
BOTTOM CHORD DETAILS

Sheet 10 of 15 Sheets
April 1937

L_2-4A^R

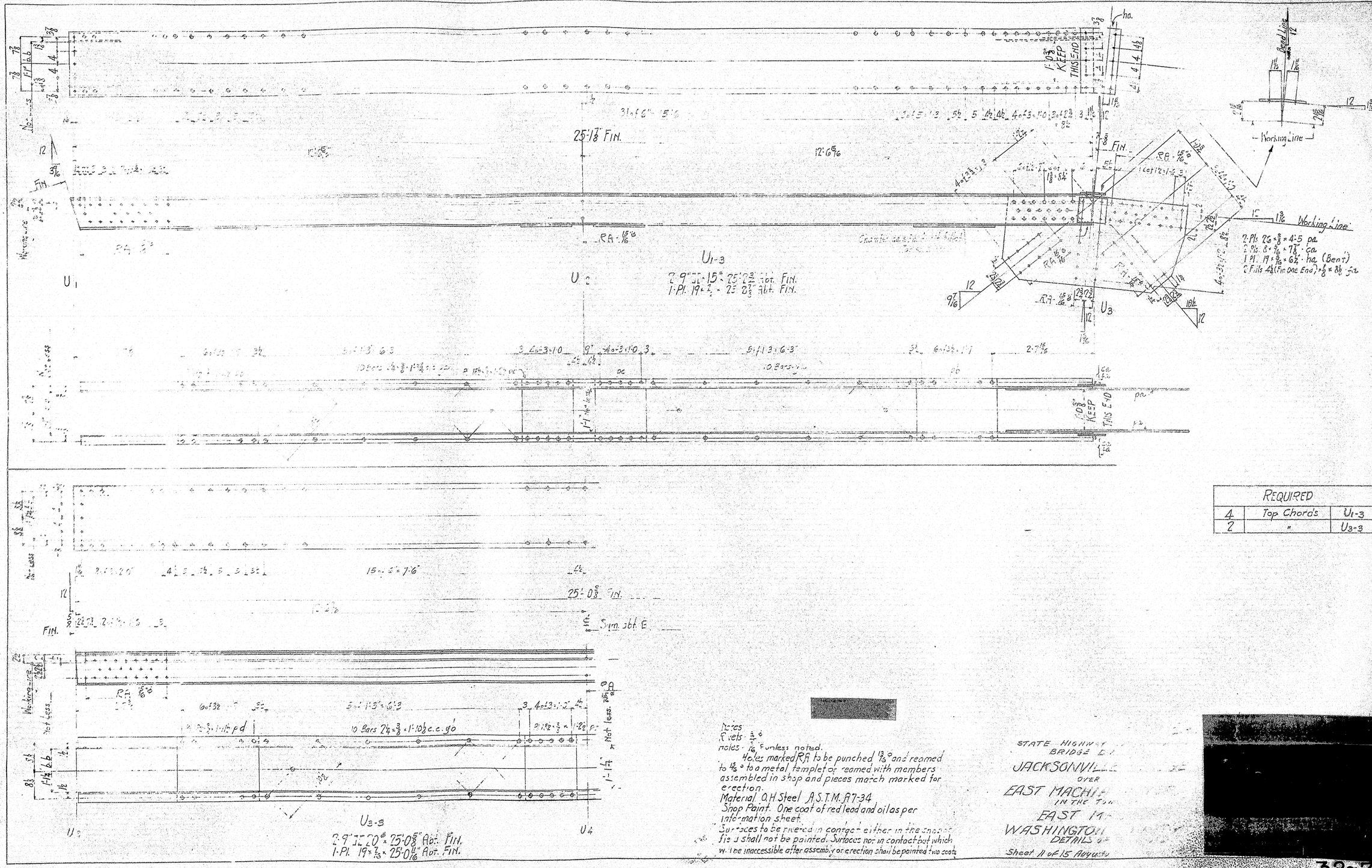
2-12"]I 40#×25'-8" FIN

Same as L_2-4^R except Right End as shown

SECTION BB

Revised 8/24-36

32-78



REQUIRED		
4	Top Chords	U1-3
2	"	U3-3

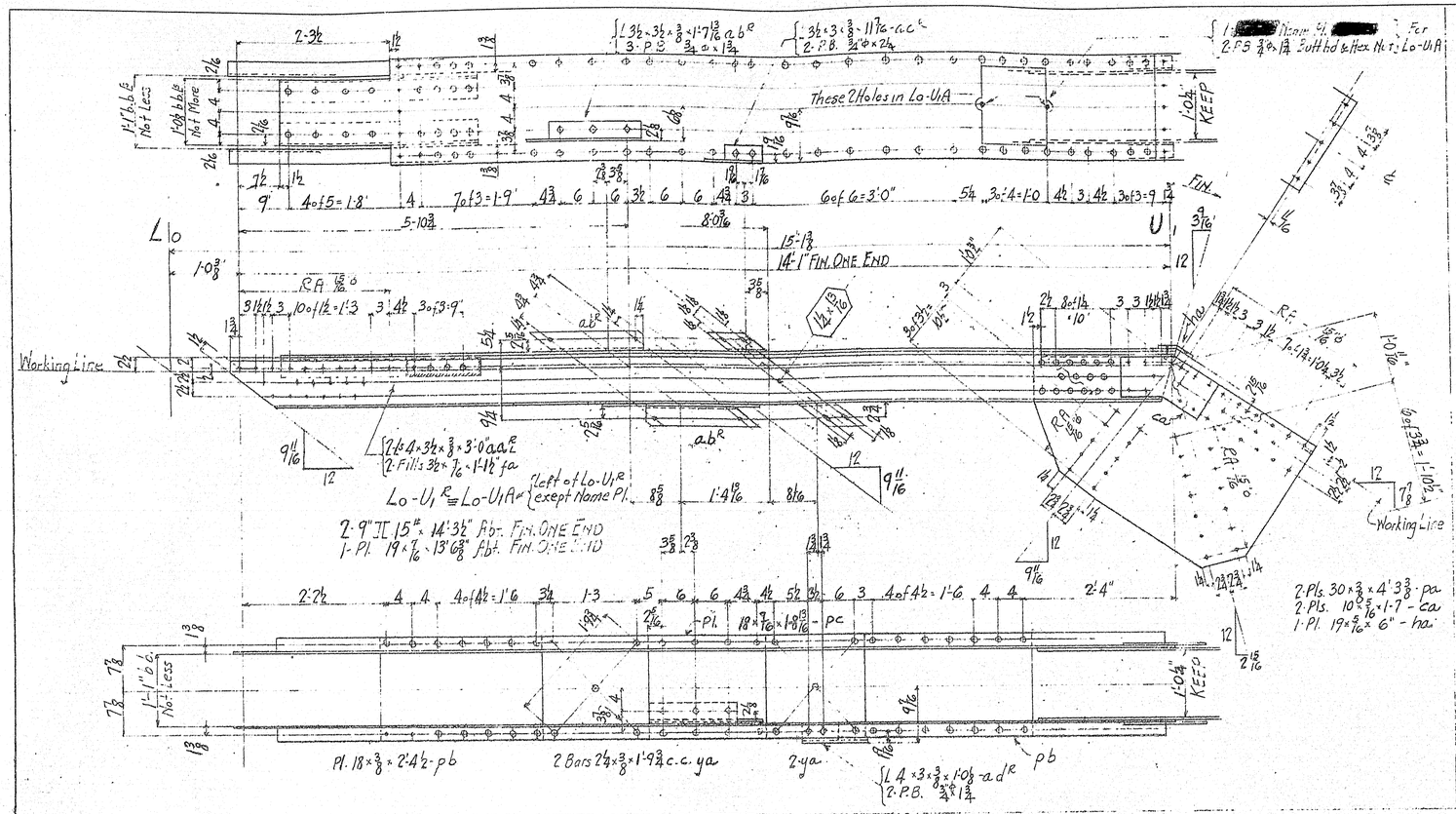
[redacted]

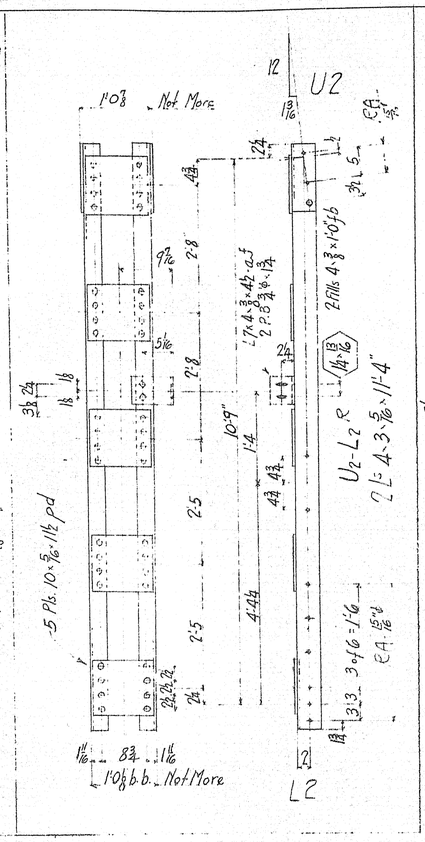
Notes
Rivets - 3/4 ϕ
Holes - 13/16 ϕ unless noted.
Holes marked RA to be punched 13/16 ϕ and reamed to 15/16 ϕ to a metal templet or reamed with members assembled in shop and pieces match marked for erection.
Material O.H. Steel A.S.T.M. A7-34
Shop Paint. One coat of red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats

STATE HIGHWAY
BRIDGE D
JACKSONVILLE
OVER
EAST MACHI
IN THE TO
EAST M
WASHINGTON
DETAILS OF
Sheet 11 of 15 Augusta

[redacted]

32-79





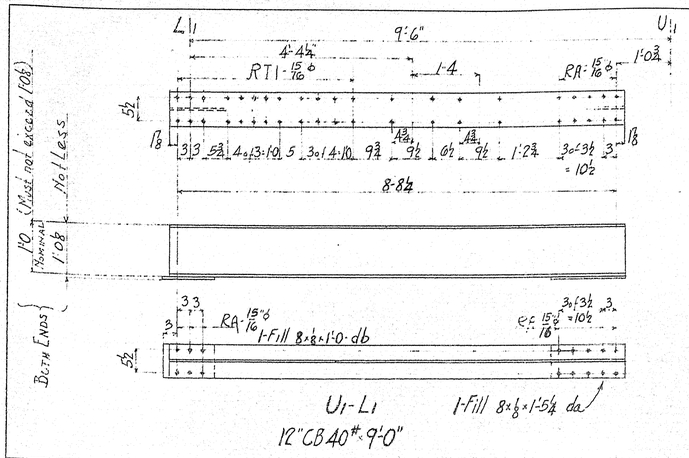
REQUIRED		
2	End Posts	Lo-U1 R
One	"	Lo-U1 L
2	Verticals	U2-L2 R
2	"	U2-L2 L
One	"	U4-L4 R
One	"	U4-L4 L
One	End Post	Lo-U1 A

Notes
Rivets - 7/8"
Holes - 13/16" unless noted.
Holes marked R9 to be punched 13/16" and reamed to 15/16" to a metal templet or reamed with members assembled in shop and pieces match marked for erection.
Material. O.H. Steel A.S.T.M. A7-34
Shop Paint. One coat of red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.

TOWN 15-21
BRIDGE 3219
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
DETAILS OF END POSTS
Sheet 12 of 15 Augusta, Me. April 1937

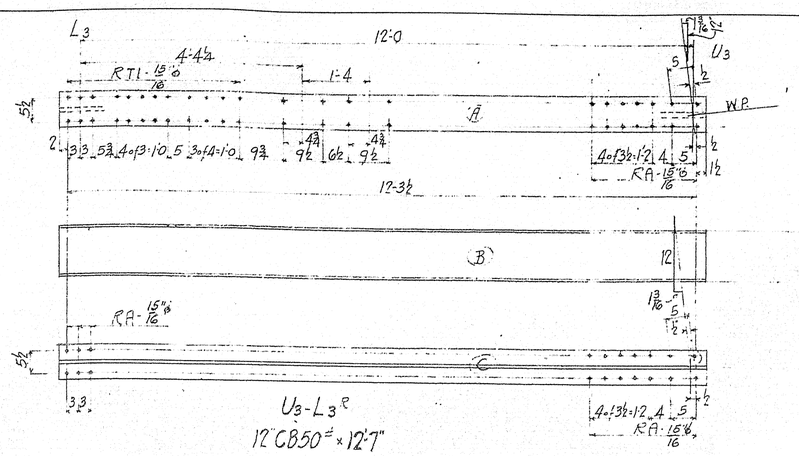
[redacted]

32-80



U1-L1 1-Fill 8 x ⅛ x 1'-5¼ da

12"CB40# x 9'-0"

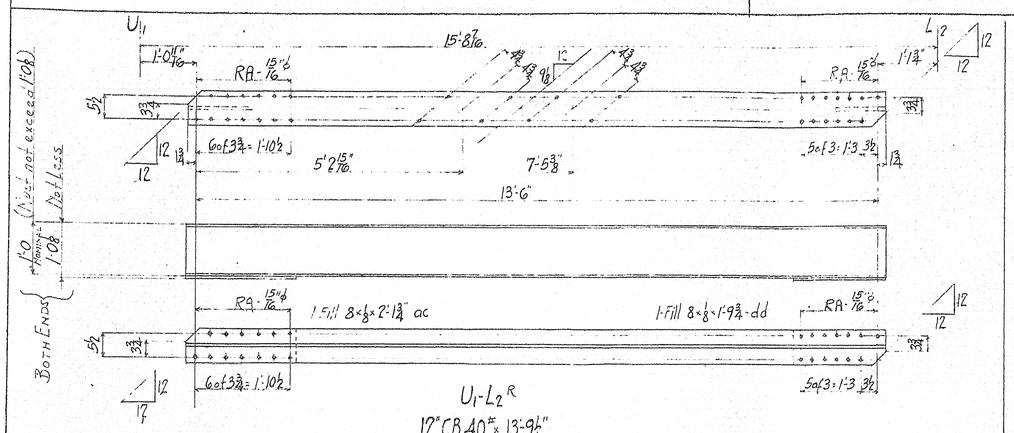


U3-L3R

12"CB50# x 12'-7"

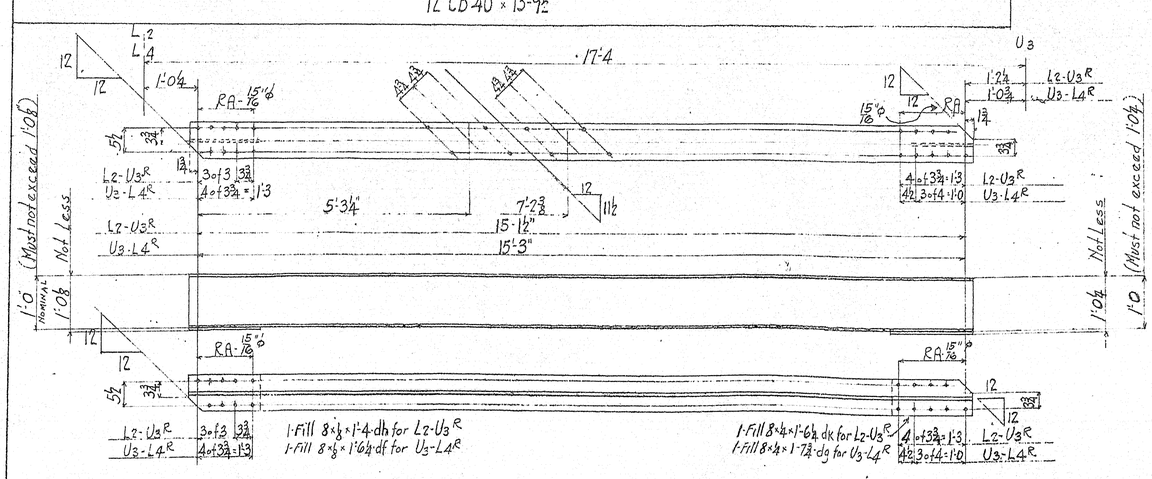
1'-0¼ (Must not exceed 1'-0⅜) Nominal 1'-0¼ Not Less ⅝" ϕ Face to make 1'-0¼ o.c.

Both Ends



U1-L2R

12"CB40# x 13'-9½"



L2-U3R

12"CB40# x 15'-5"

U3-L4R

12"CB40# x 15'-6½"

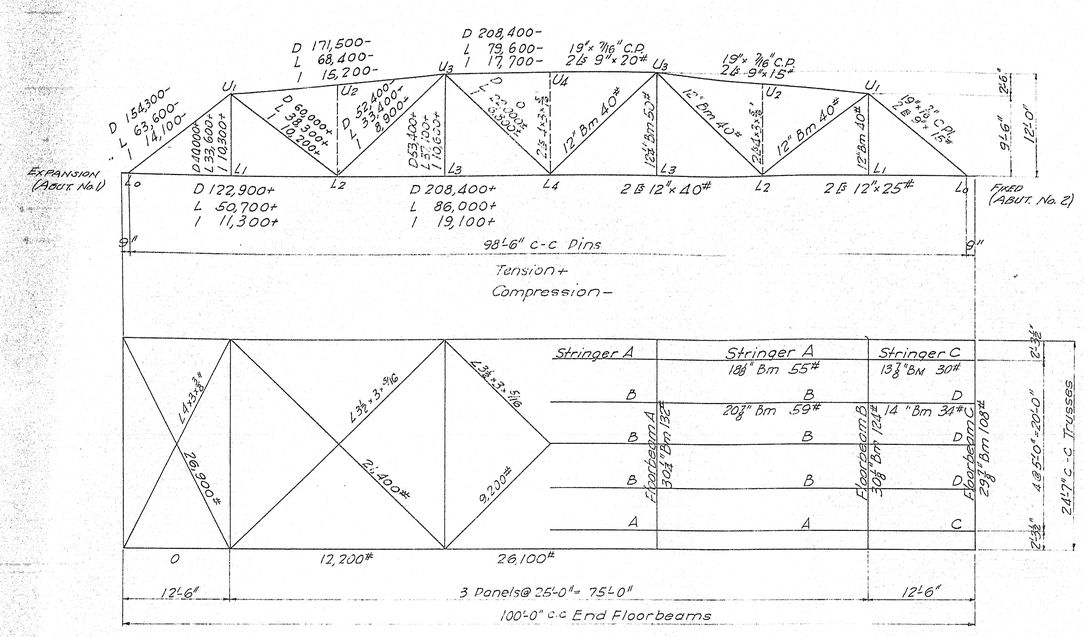
REQUIRED		
1	Verticals	U1-L1
2	"	U3-L3R
2	"	U3-L3L
2	Diagonals	U1-L2R
2	"	U1-L2L
2	"	L2-U3R
2	"	L2-U3L
2	"	U3-L4R
2	"	U3-L4L

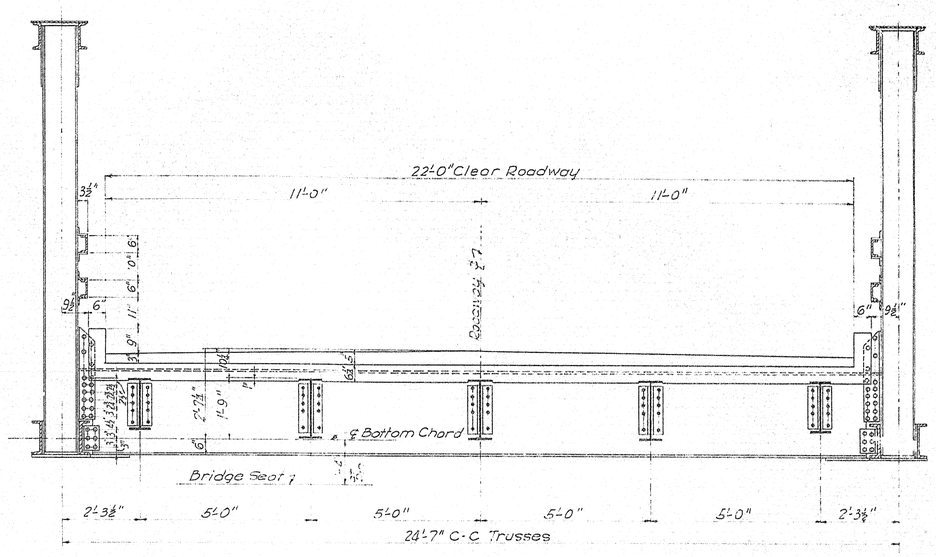
Notes
Rivets - ⅞"ϕ
Holes - 13/16" ϕ unless noted.
Holes marked RT to be punched 13/16" ϕ and reamed to 15/16" ϕ to a metal templet.
Holes marked RA to be punched 13/16" ϕ and reamed to 15/16" ϕ to a metal templet or reamed with members assembled in shop and pieces match marked for erection.
Material O.H. Steel A.S.T.M. A7-34
Shop Paint. One coat of red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.

TOWN IS OF
BRIDGE 3219
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
DETAILS OF VERTICALS & DIAGONALS
Sheet 13 of 15 Augusta, Me., April 1937.

32-81

32-B



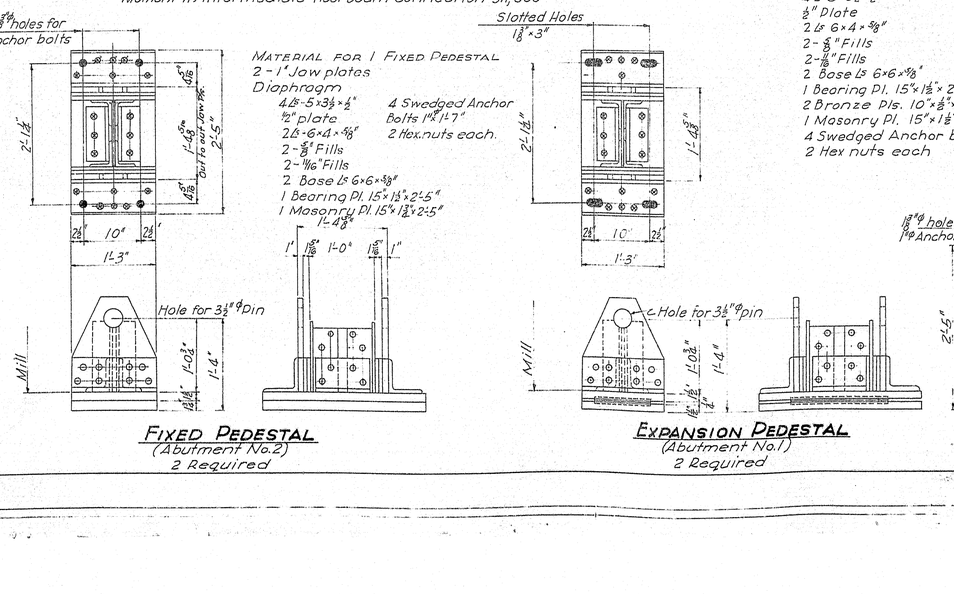


SECTION 25'-0" PANEL

Connection Interior Stringers 2 ℔ 4 x 3½" x 2/16"
Exterior Stringers 2 ℔ 4 x 3½" x ⅜"
Floor Beam 4 ℔ 6 x 4 x ⅝"

Floor Member	Dead Load Moment	Live Load Moment	Impact Moment	Section	Dead Load Shear	Live Load Shear	Impact Shear
Floorbeam A	3,634,800#	2,504,400#	716,400#	30⅜" Bm 132#	45,700#	31,000#	8900#
" B	2,720,400#	2,504,400#	771,600#	30⅜ Bm 124#	34,200#	31,000	9500#
" C	1,016,300#	2,256,600#	821,400#	29⅜ Bm 108#	12,800#	27,900#	10,200#
Stringer A	569,100#	810,000#	270,000#	18⅜ Bm 55#	7600#	12,000#	4000#
" B	716,300#	1,000,000#	333,300#	20⅜ Bm 59#	9550#	18,650#	6200#
" C	138,300#	405,000#	147,400#	13⅜ Bm 30#	3700#	10,800#	3900#
" D	174,100#	500,000#	182,000#	14 "Bm 34#	4650#	16,800#	6100#

Moment in intermediate floorbeam connection 911,900 #

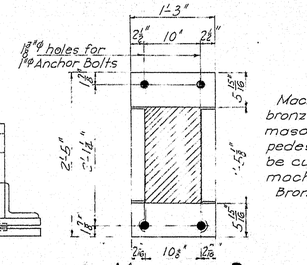


MATERIAL FOR 1 FIXED PEDESTAL
2 - 1" Jow plates
Diophragm
4 ℔ 5 x 3½ x ½"
½" plate
2 ℔ 6 x 4 x 5/16"
2 - ⅝" Fills
2 - 11/16" Fills
2 Base ℔ 6 x 6 x 5/8"
1 Bearing Pl. 15" x 1½" x 2'-5"
1 Masonry Pl. 15" x 1⅜" x 2'-5"
4 Swedged Anchor Bolts 1" ℄ x 1'-7"
2 Hex. nuts each.

MATERIAL FOR 1 EXPANSION PEDESTAL
2 - 1" Jow Plates
Diophragm
4 ℔ 5 x 3½ x ½"
½" Plate
2 ℔ 6 x 4 x 5/8"
2 - ⅝" Fills
2 - 11/16" Fills
2 Base ℔ 6 x 6 x 5/8"
1 Bearing Pl. 15" x 1½" x 2'-5"
2 Bronze Pls. 10" x ⅜" x 1'-5"
1 Masonry Pl. 15" x 1⅜" x 2'-5"
4 Swedged Anchor bolts 1" ℄ x 1'-7"
2 Hex nuts each

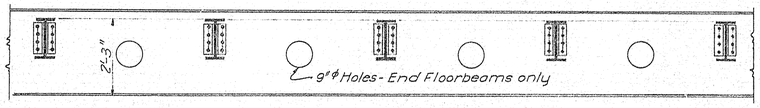
FIXED PEDESTAL
(Abutment No.2)
2 Required

EXPANSION PEDESTAL
(Abutment No.1)
2 Required



MASONRY PLATE
(Expansion Pedestal)

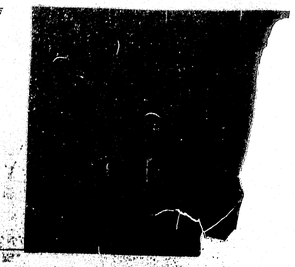
Machine bearing area for bronze plates on bearing and masonry plates of expansion pedestal ⅜" deep. Grooves may be cut ¼" deeper to permit machining.
Bronze plates to be finished smooth.



SECTION FLOOR SYSTEM 12'-6" PANEL

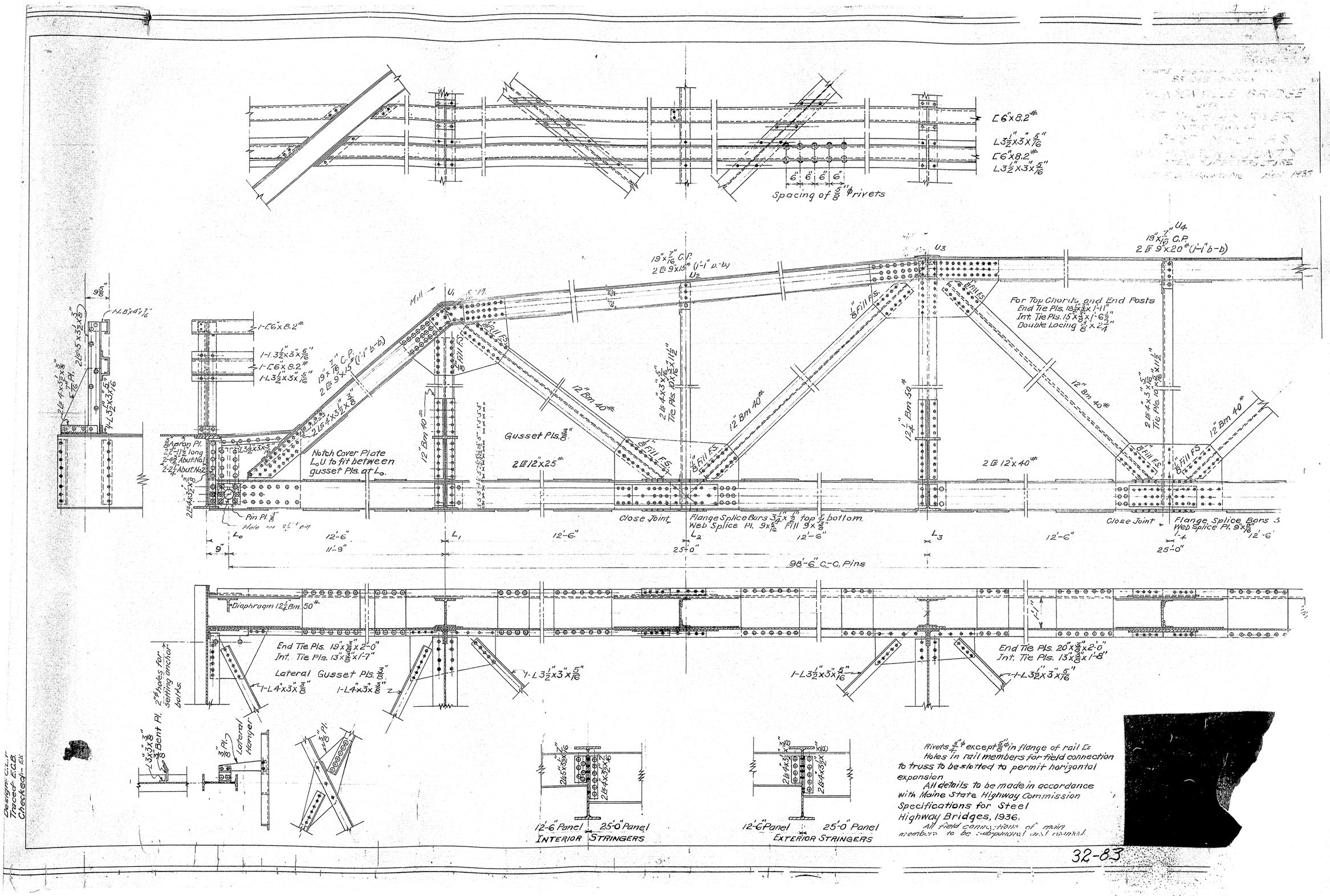
Connection Interior Stringers 2 ℔ 5 x 3½ x 7/16"
Exterior Stringers 2 ℔ 4 x 3½" x ⅜"

Dead Load 213⅜ # / Truss
Live Load H-15
Impact I = 50 / L+125
Wind Load 50 # / ▭ on 1½ times the area of the structure as seen in elevation.
Rivets ¾" ℄ except ⅝" ℄ in flange of rail ℔
Specifications - Maine State Highway Commission Specifications for Steel Highway Bridges 1936.
Use shims between stringer connection and floorbeam webb.



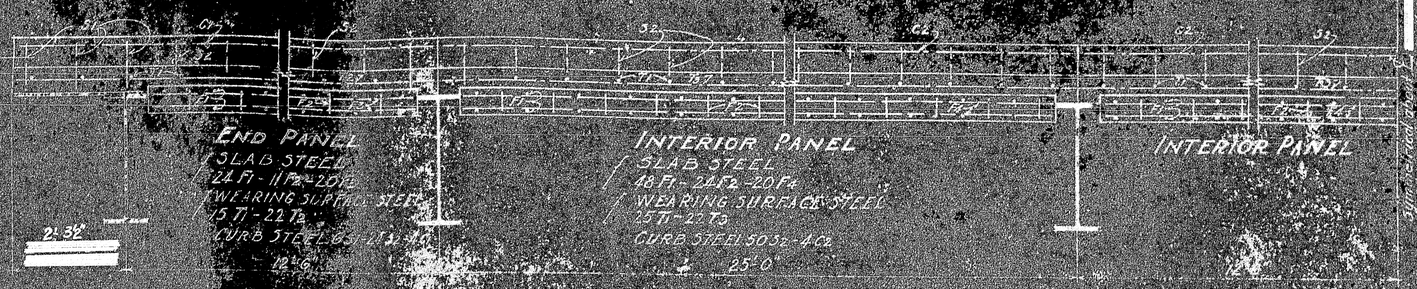
Design C.L.P.
Traced M.L. 4/36
Y by E.R.

32-82

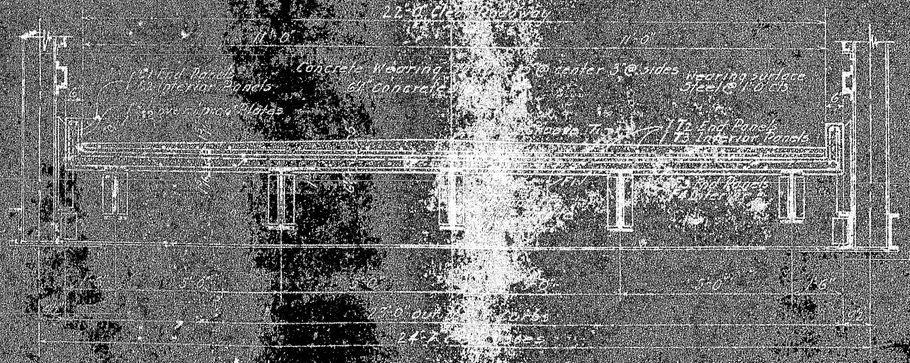


[6"x8.2#
L3½"x3"x5/16"
[6"x8.2#
L3½"x3"x5/16"
Spacing of 5/8" φ rivets
For Top Chords and End Posts
End Tie Pls. 18½"x3/8"x1'-11"
Int. Tie Pls. 15"x3/8"x1'-6½"
Double Lacing 3/8"x2¼"
Notch Cover Plate L₀U to fit between gusset Pls. at L₀.
Gusset Pls. 3/8"
2 [12"x25#
2 [12"x40#
12" Bm 40#
12¼" Bm 50#
Close Joint
Flange Splice Bars 3¼"x½" top & bottom.
Web Splice Pl. 9"x5/16" Fill 9"x3/8"
98'-6" C.-C. Pins
Diaphragm 12¼" Bm. 50#
End Tie Pls. 19"x3/8"x2'-0"
Int. Tie Pls. 13"x3/8"x1'-7"
Lateral Gusset Pls. 3/8"
End Tie Pls. 20"x3/8"x2'-0"
Int. Tie Pls. 13"x3/8"x1'-8"
Lateral Hanger
12'-6" Panel 25'-0" Panel
INTERIOR STRINGERS
12'-6" Panel 25'-0" Panel
EXTERIOR STRINGERS
Rivets ¾" φ except 5/8" φ in flange of rail [s
Holes in rail members for field connection to truss to be slotted to permit horizontal expansion
All details to be made in accordance with Maine State Highway Commission Specifications for Steel Highway Bridges, 1936.
All field connections of main members to be sub-punched and reamed.
Design: C.L.F.
Traced: E.C.B.
Checked: E.B.

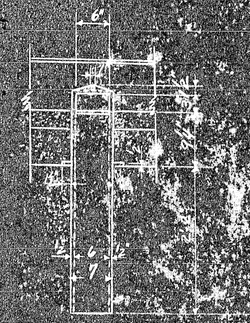
32-83



LONGITUDINAL SECTION of FLOOR

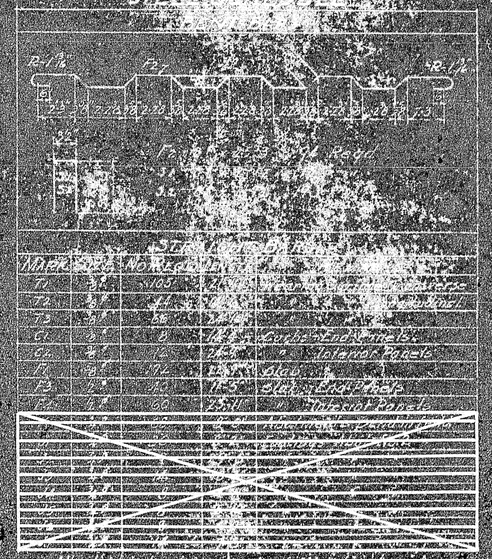


TRANSVERSE SECTION of FLOOR



DETAIL CAST IRON RAILING

Cast Iron Cb
each Curb



Mark	Size	No. Reqd.	Length	Weight	Remarks
T1	3/4	1053	24'		
T2	3/4	42	24'		Wearing Surface
T3	3/4	32	24'		Curb Reinforcement
C1	1"	8	24'		Curb Reinforcement
C2	3/4	8	24'		Interior Panels
S1	3/4	32	24'		Slab
F1	3/4	32	24'		Slab, End Panels
F2	1"	20	24'		Interior Panels

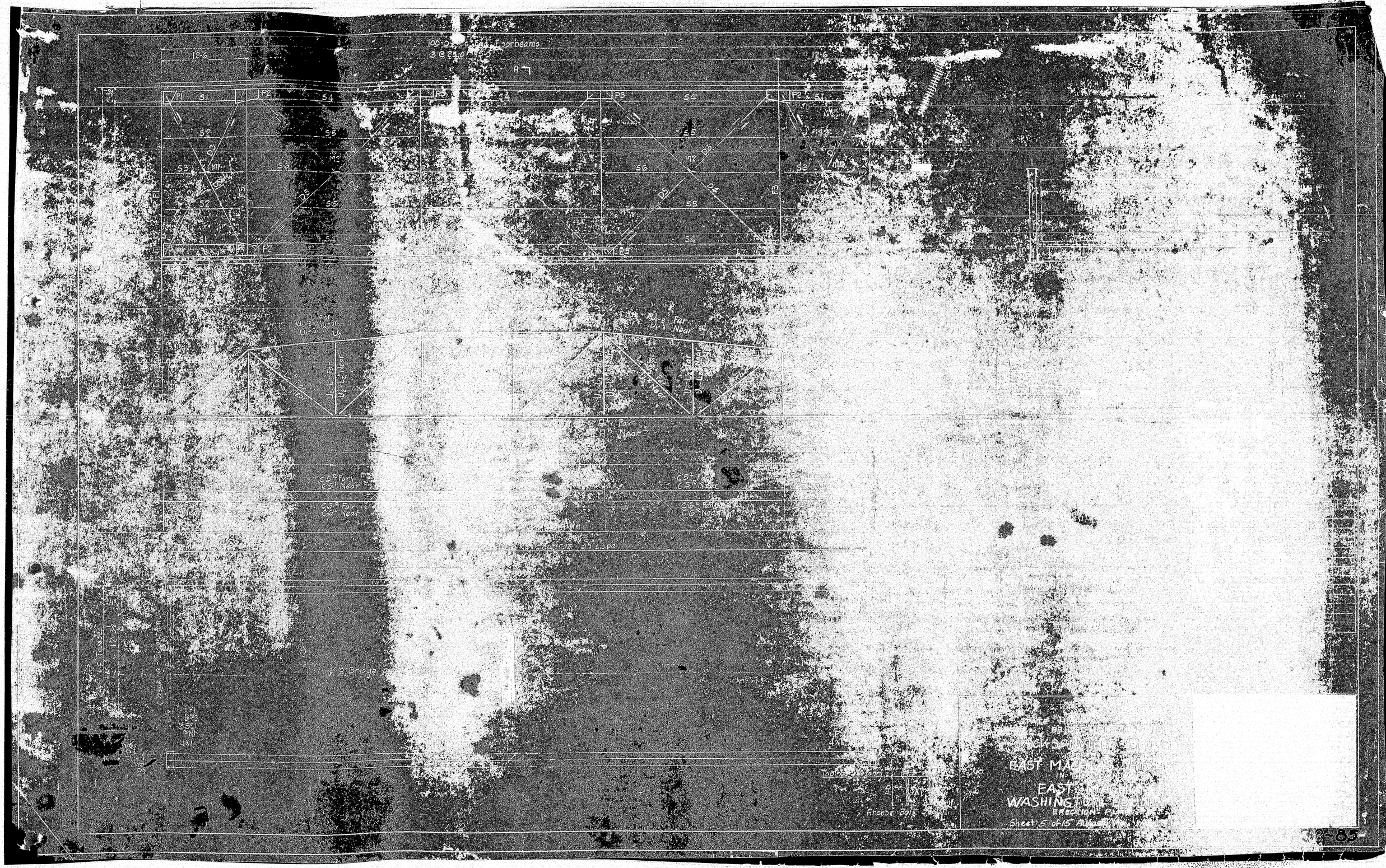
All steel to be placed clear of Navigable grade.
All dimensions are to C of bars.
See Sheet 3 for substructure steel.

TOWN LOT
BRIDGE NO.

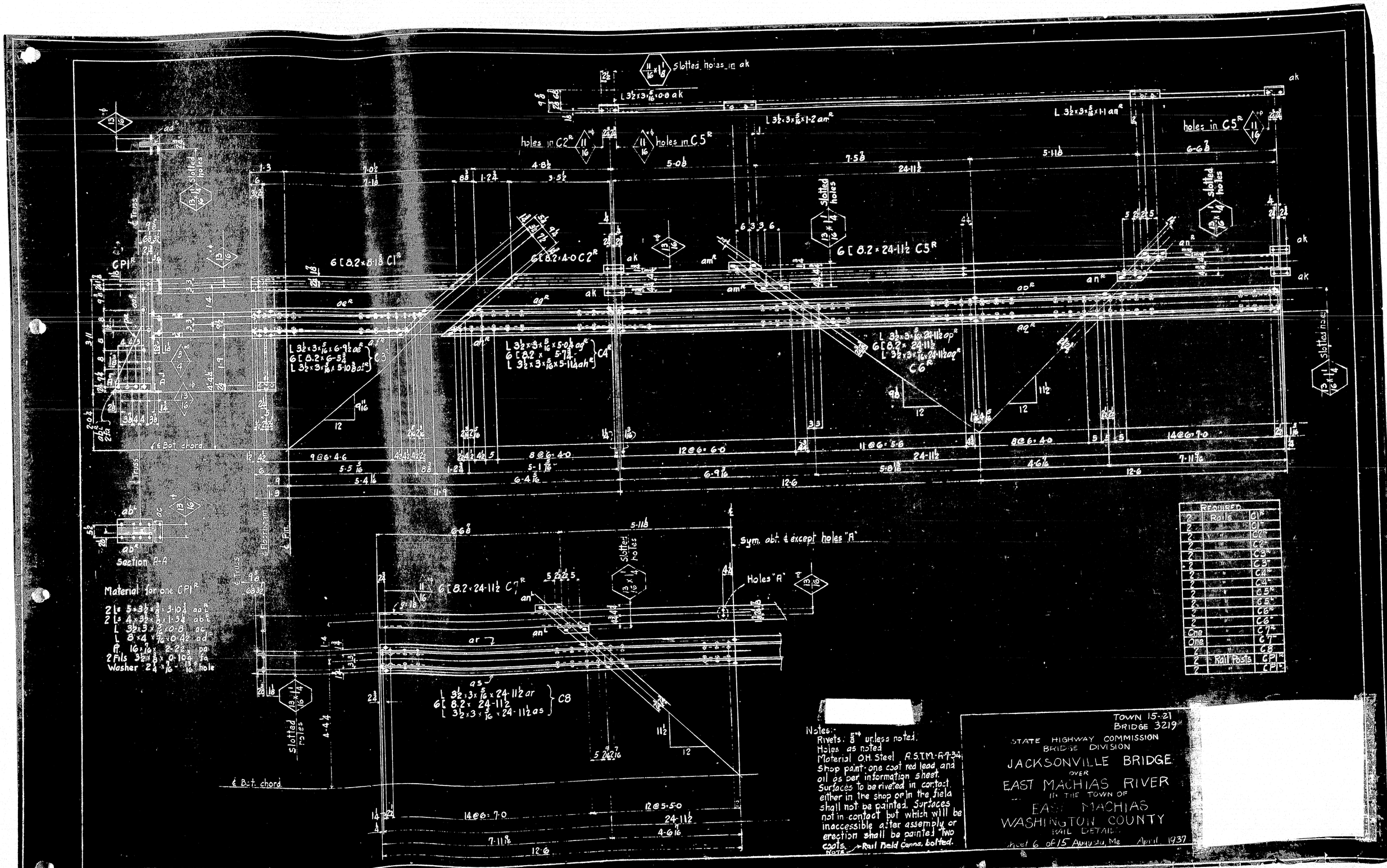
STATE HIGHWAY COMMISSION
BRIDGE OVER
JACKSONVILLE - BRIDGE
EAST MACIAS RIVER
IN THE TOWN OF
EAST PONCE
WASHINGTON COUNTY
FLORIDA
Sheet No. 2

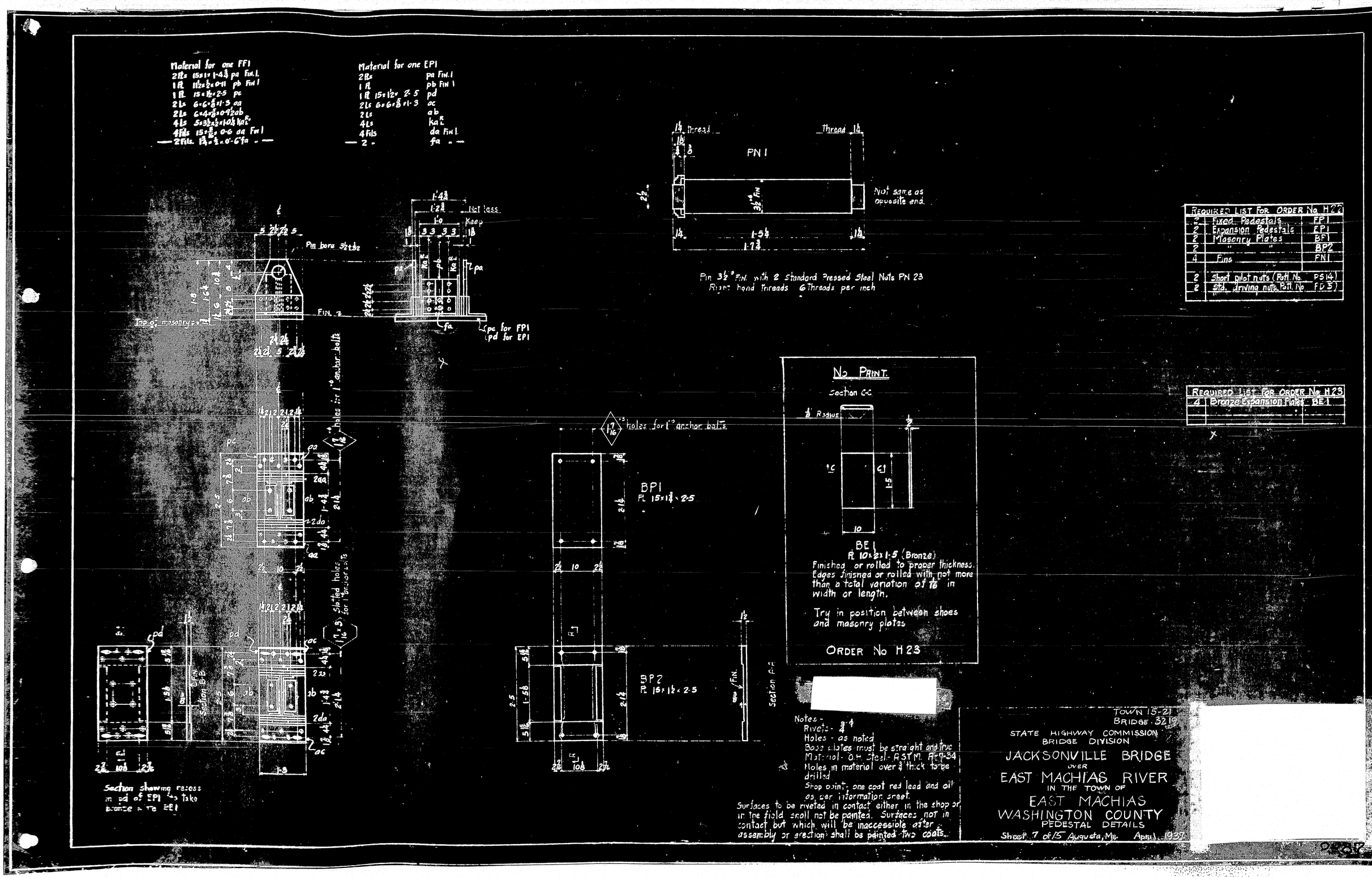
J-2-84

0 1 2 3 4 5 INCHES



Floorbeams
12-6
P1
P2
P3
S1
S2
S3
S4
S5
S6
D3
D4
D5
D6
Far
Near
Bridge
Top
Anchor Bolt
EAST MA
EAST
WASHINGTON
Sheet 5 of 15


Slotted holes in ak
L 3½x3x5/16x10-8 ak
L 3½x3x5/16x1-2 am R
L 3½x3x5/16x1-1 an R
holes in C2 R
holes in C5 R
holes in C5 R
Slotted holes
6 [8.2x8-1⅜ C1 R
6 [8.2x4-0 C2 R
6 [8.2x24-11½ C5 R
L 3½x3x5/16x6-9½ ae R
6 [8.2x6-5⅜
L 3½x3x5/16x5-10⅜ af R
C3
L 3½x3x5/16x5-0⅛ ag R
6 [8.2x5-7¼
L 3½x3x5/16x5-11¼ ah R
C4
L 3½x3x5/16x24-11½ ap R
6 [8.2x24-11½
L 3½x3x5/16x24-11½ aq R
C6
GP1 R
Truss
Floorbeam
P.in.
Section A-A
Material for one GP1 R
2 Ls 5x3½x⅜x3-10¼ aa R
2 Ls 4x3½x⅜x1-3¼ ab R
L 3½x3x¼x0-8 ac
L 8x4x7/16x0-4½ ad R
Pl 16x7/16x2-2½ pa
2 Fils 3½x⅜x0-10½ fa
Washer 2¼x1/16" 13/16" hole
Sym. abt. ℄ except holes "A"
Holes "A"
6 [8.2x24-11½ C7 R
L 3½x3x5/16x24-11½ ar
6 [8.2x24-11½
L 3½x3x5/16x24-11½ as
C8
℄ Bot. chord
℄ Truss
9@6-4.6
8@6-4.0
12@6-6.0
11@6-5.6
14@6-7.0
24-11½
Notes:
Rivets 7/8" ø unless noted.
Holes as noted
Material O.H. Steel A.S.T.M.-A-7-34
Shop paint one coat red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or in the field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.
NOTE → Rail field conns. bolted.
REQUIRED
2 Rails C1
2 " C2
2 " C2½
2 " C3
2 " C3½
2 " C4
2 " C4½
2 " C5
2 " C5½
2 " C6
2 " C6½
One " C7
One " C7½
2 " C8
2 Rail Posts GP1
2 " GP1R
TOWN 15-21
BRIDGE 3219
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
RAIL DETAILS
Sheet 6 of 15 Sheets Augusta, Me. April 1937



REQUIRED LIST FOR ORDER No H22		
2	Fixed Pedestals	FP1
2	Expansion Pedestals	EP1
2	Masonry Plates	BP1
2	" "	BP2
4	Fins	FN1
2	Short pilot nuts (Patt. No.	PS14)
2	Std. driving nuts. Patt. No.	FD 5)

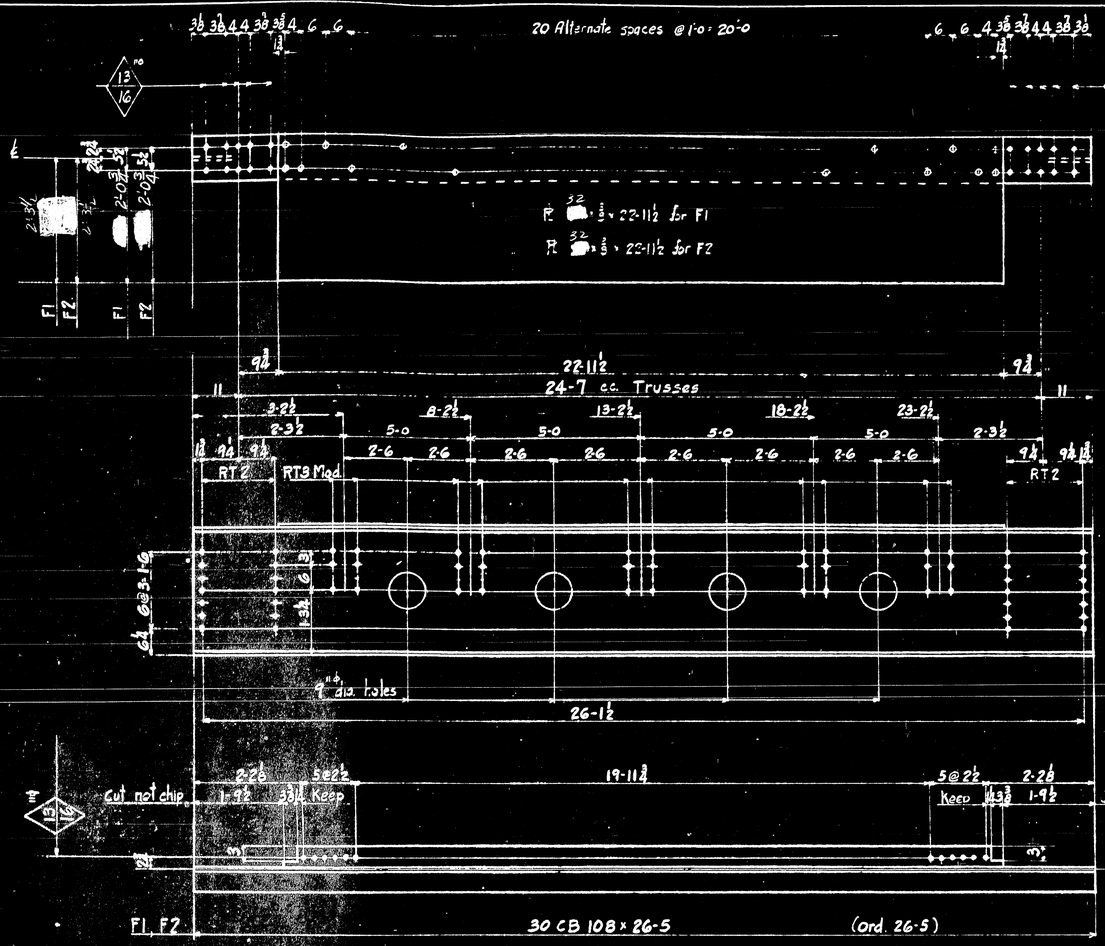
REQUIRED LIST FOR ORDER No H23		
4	Bronze Expansion Plates	BE1

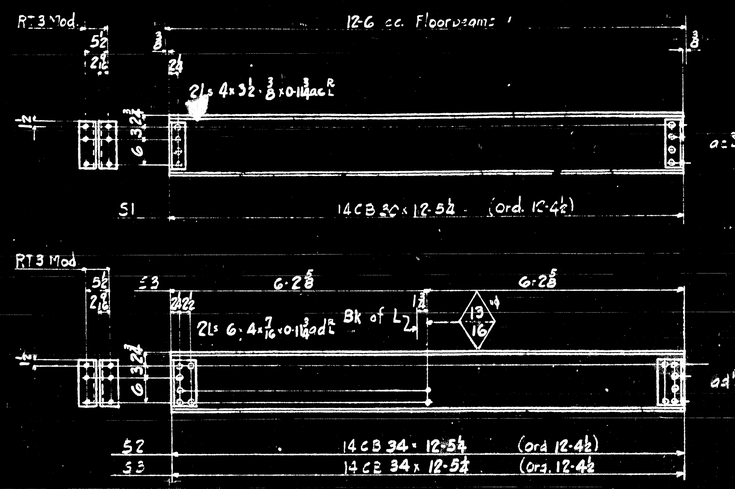
REQUIRED		
2	Diagonals	D1
2	"	D2
2	"	D3
2	"	D4
2	"	D5
2	"	D6
One	"	D7
One	"	D8
One	"	D9
4	Plates	P1
4	"	P2
4	"	P3
2	Brackets	M1
2	"	M2

Notes.-
Rivets ⅞"ø
Holes 15/16" unless noted
Material O.H. Steel - A.S.T.M. A-7-34
Shop paint - one coat red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or in the field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.

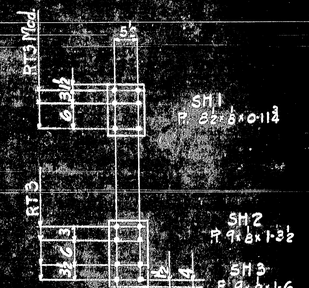
TOWN 15-21
BRIDGE 3219
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
DETAILS OF LATERALS
Sheet 8 of 15 Augusta, Me. April 1937

2-38





REQUIRED		
One	Floorbeam	F1
One	"	F2
2	"	F3
2	"	F4
4	Stringers	S1
4	"	S2
2	"	S3
6	"	S4
6	"	S5
3	"	S6
10	Shims	SH1
6	"	SH2
9	"	SH3



Shims to be used where necessary between stringers and floorbeams

Notes:-
Shop Rivets ⅞" ø unless noted
Open Holes ⅞" ø
Holes in material over ½" thick to be drilled
Holes marked RT to be punched 13/16" ø and reamed to ⅞" ø to a metal templet.
Material-O.H. Steel-A.S.T.M. A-7-24
Shop paint-one coat red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or in the field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.

TOWN 15-21
BRIDGE 3219
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
BEAM DETAILS
Sheet 9 of 15 Sheets Augusta, Me. April 1937

Top Flange same as Bottom Flange except Left End as shown & noted & Open Holes as noted.

L_{0-2}^{R}
2-12"][25#, 24-5¼ FIN. ONE END

RT2 15"/16

2-Pls 40-⅜"×1'-5½" obl. end pa
2-Pls 4-3½"×⅜"×2'-2½" a,a'
1-12" CB50# 1'-5½" ma
2-L 3½"×3½"×⅜"×2'-6" ab,b'
1-Bent Pl. 19"×⅜"×3'-10½" ha
2-Pls. 9"×⅜"×10" pb
2-Fills 3½"×⅜"×1'-3½" fa

Note to Shop:
The 12CB50 Diaphragm ma must not exceed 1'-0" in depth. If depth is less than 1'-0" provide Fills to maintain 1'-0" between Gusset Plates pa

Cut & Chip Top Flg.
Cut & Chip Bot. Flg.
Flatten to ⅜" B.S.
Cut & Chip Bot. Flg.
Bot. of 12" Railing Post
SECTION AA

RT1 Mod. 15"/16
2-Fills 15"×⅜"×1'-0" da
24'-5 11/16 FIN. ONE END
FIN. RA 15"/16
2-Fills 9"×⅜"×1'-3½" Fin. One end - db

REQUIRED		
2	Bottom Chords	L_{0-2}^{R}
2	" "	L_{0-2}^{L}
One	" "	L_{2-4}^{R}
One	" "	L_{2-4}^{L}
One	" "	L_{2-4A}^{R}
One	" "	L_{2-4A}^{L}

These Holes in Bottom Flange only

Top Flange same as Bottom Flange except Open Holes as noted.

L_{2-4}^{R}
RT1 Mod. 15"/16
2-12"][40#, 25'-4" FIN.

2-Pls 30-⅜"×4'-4½" pf
2-Pls. 9"×⅜"×2'-11½" ca
4-Pls 3½"×½"×2'-5" cb

2-Pls 28"×⅜"×3'-10" pg
2-Pls 9"×⅜"×2'-3⅞" ec
4-Pls 3½"×½"×2'-7" ed

1-Fill 19"×⅜"×1'-0" dc - F.S.
1-Fill 15"×⅜"×10" dd - N.S.

Notes:
Rivets - ¾"ø
Holes - ⅞"ø Unless noted. Holes marked RA to be punched ⅝"ø and reamed to ¾"ø to a metal templet or reamed with members assembled in shop and pieces match marked for erection.
Material - O.H. Steel, A.S.T.M. A7-36
Shop Paint - One coat of red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall receive a coating of [illegible]

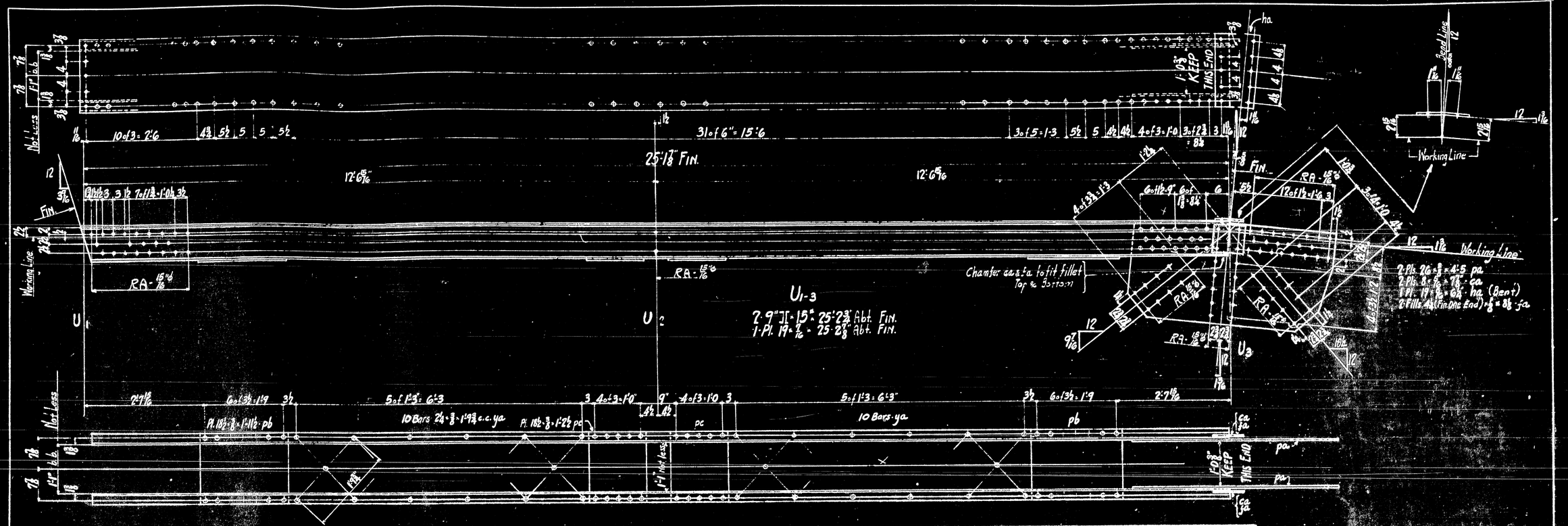
These Holes in Bottom Flange only

L_{2-4A}^{R}
2-12"][40"×25'-8" FIN
Same as L_{2-4}^{R} except Right End as shown

SECTION BB

Revised 8/24-36

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
BOTTOM CHORD DETAILS
Sheet 10 of 15 Augusta, Me. April 1937



REQUIRED		
4	Top Chords	U1-3
2	"	U3-3

Notes
Rivets - ¾"ø
Holes - 15/16"ø unless noted.
Holes marked RA to be punched 13/16"ø and reamed to 15/16"ø to a metal templet or reamed with members assembled in shop and pieces match marked for erection.
Material O.H. Steel A.S.T.M. A7-34
Shop Paint. One coat of red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats

TOWN 15-21
BRIDGE 3219
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
DETAILS OF TOP CHORD
Sheet 11 of 15 Augusta, Me April 1937

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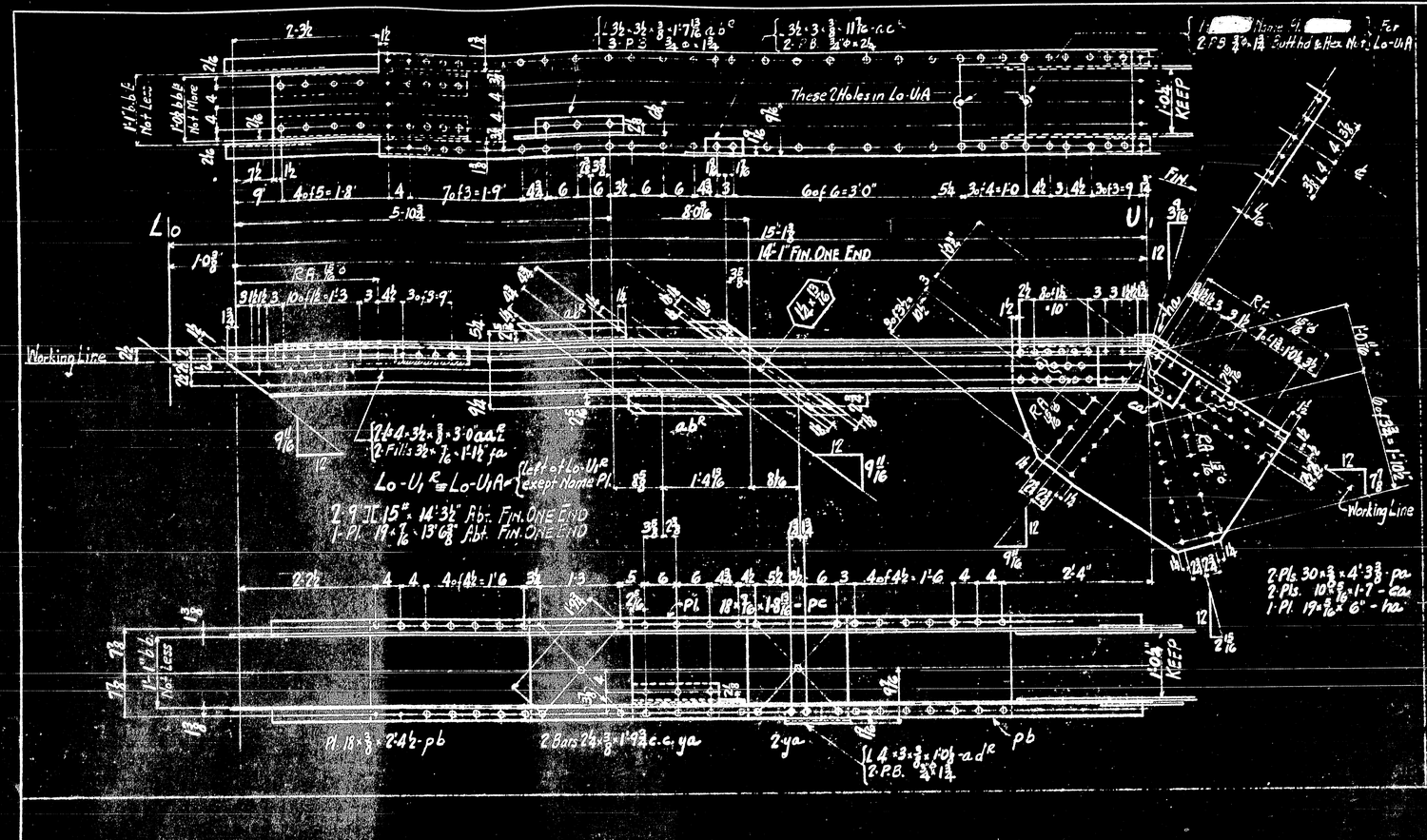

REQUIRED		
2	End Posts	Lo-U1R
One	"	Lo-U1L
2	Verticals	U2-L2R
1	"	U2-L2L
One	"	U4-L4R
One	"	U4-L4L
One	End Post	Lo-U1A

Notes.
Rivets - ¾"ø
Holes - 13/16"ø unless noted.
Holes marked RA to be punched 13/16"ø and reamed to 15/16"ø to a metal templet or reamed with members assembled in shop and pieces match marked for erection.
Material. O.H. Steel A.S.T.M. A7-34
Shop Paint. One coat of red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.

[redacted]

TOWN 15-2
BRIDGE 3219
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON - COUNTY
DETAILS OF END POSTS
Sheet 12 of 15 Augusta, Me. April 1936

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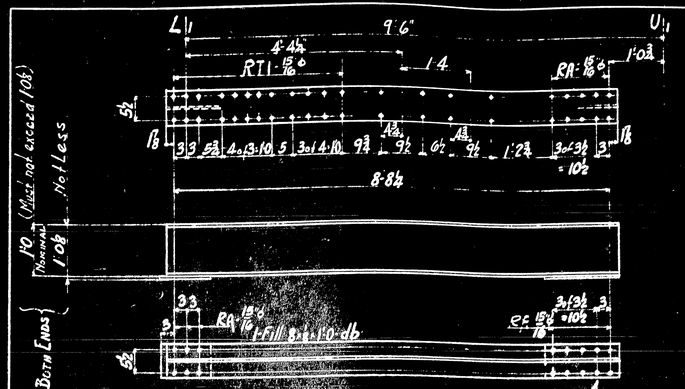
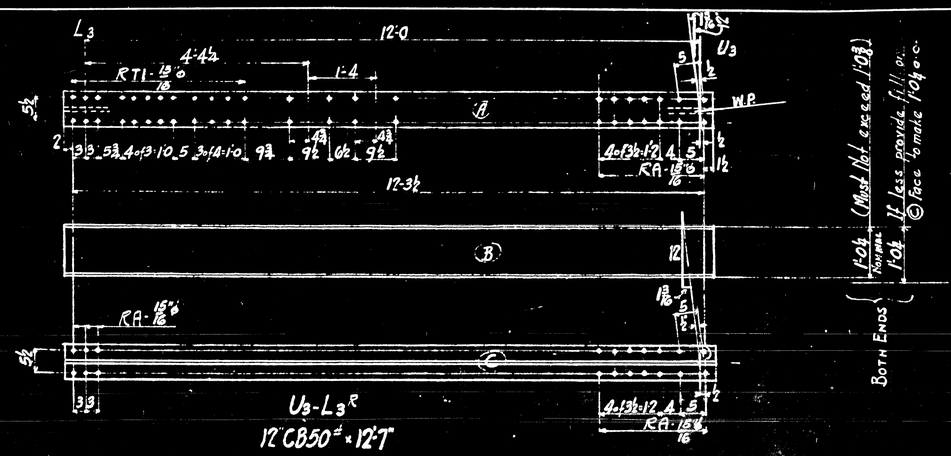
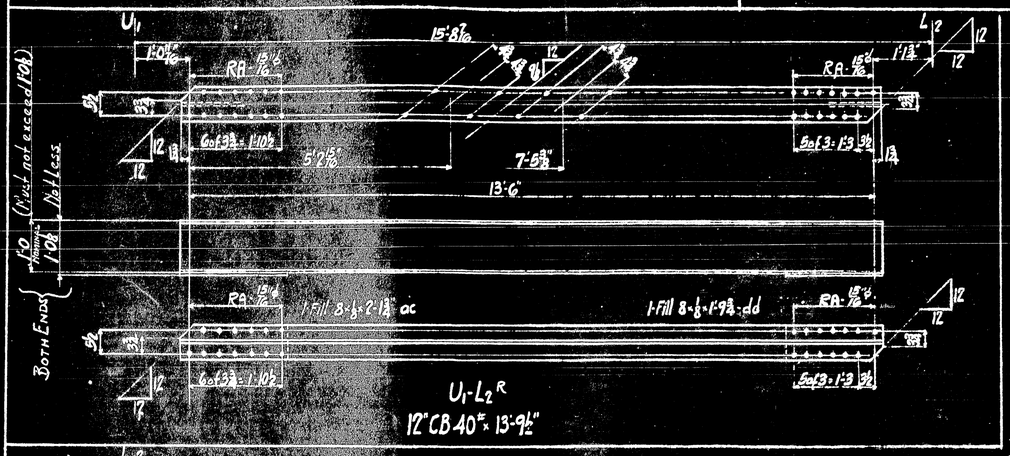
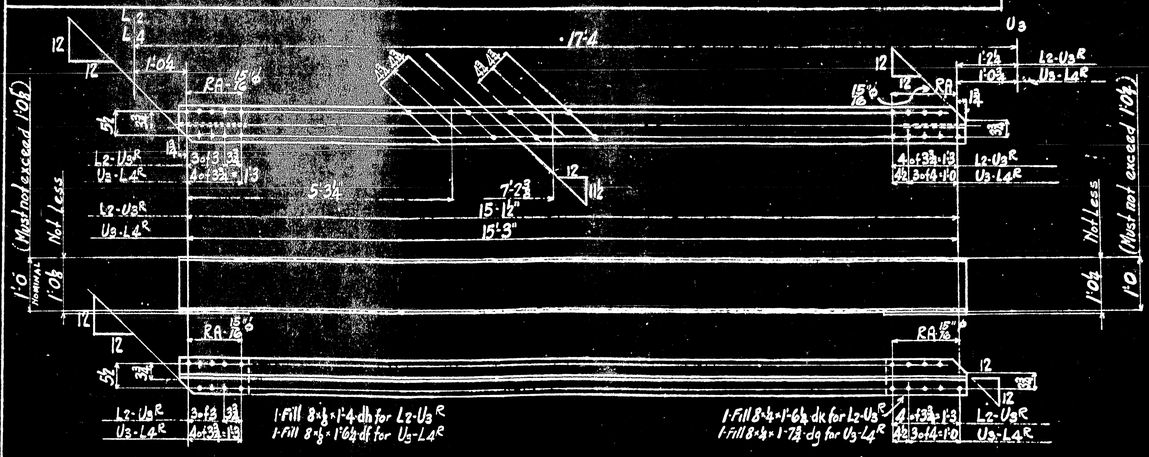




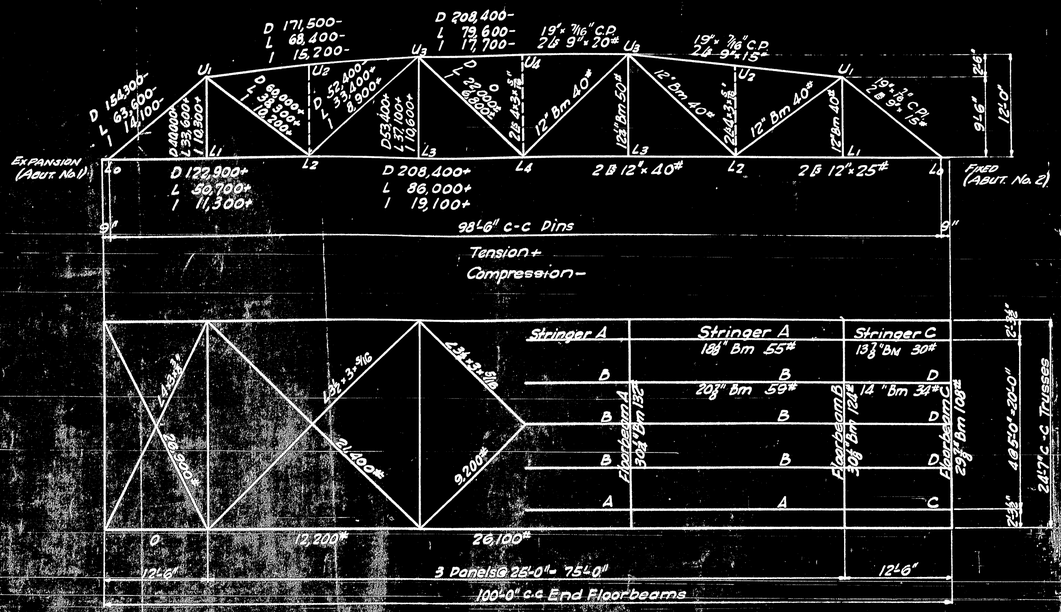


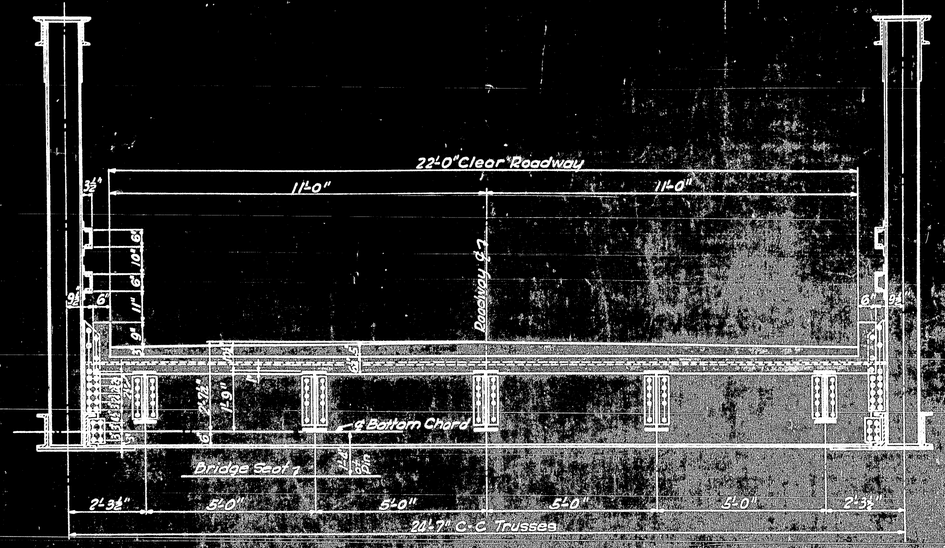


REQUIRED		
4	Verticals	U1-L1
2	"	U3-L3R
2	"	U3-L3L
2	Diagonals	U1-L2R
2	"	U1-L2L
2	"	L2-U3R
2	"	L2-U3L
2	"	U3-L4R
2	"	U3-L4L

Notes
Rivets - 3"ø
Holes - 15/16"ø unless noted.
Holes marked RT to be punched 13/16"ø and reamed to 15/16"ø to a metal templet.
Holes marked RA to be punched 13/16"ø and reamed to 15/16"ø to a metal templet or reamed with members assembled in shop and pieces match marked for erection.
Material O.H. Steel A.S.T.M. A7-34
Shop Paint. One coat of red lead and oil as per information sheet.
Surfaces to be riveted in contact either in the shop or field shall not be painted. Surfaces not in contact but which will be inaccessible after assembly or erection shall be painted two coats.

TOWN 15-21
BRIDGE 3219
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
DETAILS OF VERTICALS & DIAGONALS
Sheet 13 of 15 Sheets Augusta, Me., April 1937.





SECTION 25'0" PANEL

Connection Interior Stringers 2 L 4 x 3½ x 7/16
Exterior Stringers 2 L 4 x 3½ x ⅜
Floor Beam 4 L 6 x 4 x ½

Floor Member	Dead Load Moment	Live Load Moment	Impact Moment	Section	Dead Load Shear	Live Load Shear	Impact Shear
Floorbeam A	3,638,800#	2,504,400#	716,400#	30½ Bm 132#	43,700#	31,000#	8900#
" B	2,720,400#	2,504,400#	771,600#	30⅜ Bm 124#	34,200#	31,000#	9500#
" C	1,016,300#	2,256,600#	821,400#	29⅜ Bm 108#	12,800#	27,900#	10,200#
Stringer A	569,100#	810,000#	270,000#	18⅛ Bm 55#	7600#	12,000#	4000#
" B	716,300#	1000,000#	333,300#	20⅜ Bm 59#	9650#	18,650#	6200#
" C	138,300#	405,000#	147,400#	13⅜ Bm 30#	3700#	10,800#	3900#
" D	174,100#	500,000#	182,000#	14" Bm 34#	4650#	16,800#	6100#

Moment in intermediate floorbeam connection 911,900#

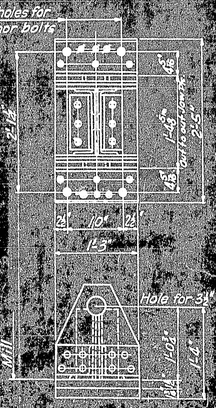
SECTION FLOOR SYSTEM 12'-6" PANEL

Connection Interior Stringers 2 L 5 x 3½ x 7/16
Exterior Stringers 2 L 4 x 3½ x ⅜

Dead Load 2134#/ Truss
Live Load H-15
Impact 50/L+125
Wind Load 50#/ft on 1½ times the area of the structure as seen in elevation.
Rivets ⅞ except ¾ in flange of rail.
Specifications - Maine State Highway Commission Specifications for Steel Highway Bridges 1936 - "
Use shims between stringer connection and floorbeam webb.

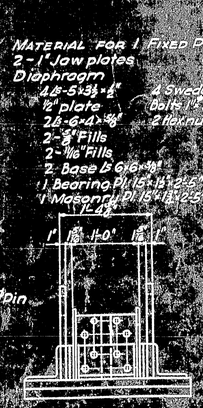
TOWN 15-21
BRIDGE 3219
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST BRANCH OF PLEASANT RIVER
EAST MACHIAS
WASHINGTON COUNTY
Sheet No. 1 of 2 Sheets

Design C.L.P.
Stress 31,000 - 4 lbs
July 24, 1939



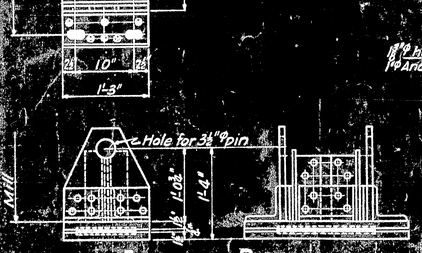
FIXED PEDESTAL
(Abutment No. 2)
2 Required

MATERIAL FOR 1 FIXED PEDESTAL
2 - 1" Jaw plates
Diaphragm
4 L 5 x 3½ x ½
½" Plate
2 L 6 x 4 x ⅝
2 - ⅜" Fills
2 - 11/16" Fills
2 Base L 6 x 6 x ⅝
1 Bearing Pl. 15" x 13" x 2'5"
1 Masonry Pl. 15" x 13" x 2'5"
4 Swedged Anchor Bolts 1" ø x 1'7"
2 Hex nuts each



EXPANSION PEDESTAL
(Abutment No. 1)
2 Required

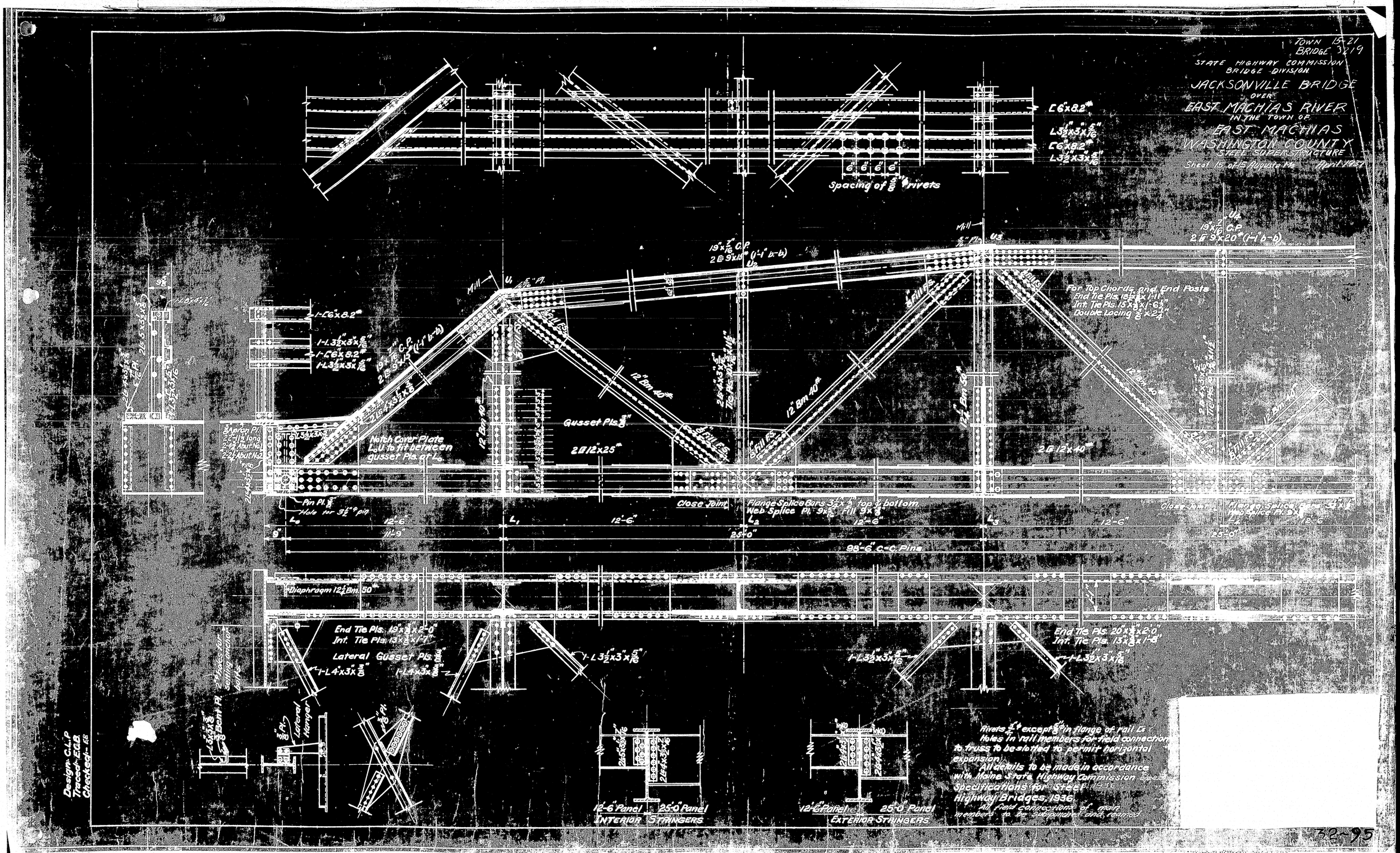
MATERIAL FOR 1 EXPANSION PEDESTAL
2 - 1" Jaw Plates
Diaphragm
4 L 5 x 3½ x ½
½" Plate
2 L 6 x 4 x ⅝
2 - ⅜" Fills
2 - ⅝" Fills
2 Base L 6 x 6 x ⅝
1 Bearing Pl. 15" x 13" x 2'5"
2 Bronze Pls. 10" x ½" x 11½"
1 Masonry Pl. 15" x 13" x 2'5"
4 Swedged Anchor bolts 1" ø x 1'7"
2 Hex nuts each



MASONRY PLATE
(Expansion Pedestal)

Machine bearing area for bronze plates on bearing and masonry plates at expansion pedestal ⅛" deep. Grooves may be cut ⅛" deeper to permit machining.
Bronze plates to be finished smooth.

32-94



TOWN 15-21
BRIDGE 3219
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
JACKSONVILLE BRIDGE
OVER
EAST MACHIAS RIVER
IN THE TOWN OF
EAST MACHIAS
WASHINGTON COUNTY
STEEL SUPERSTRUCTURE
Sheet 15 of 15 Augusta Me. April 1937
Spacing of 5/8" rivets
For Top Chords and End Posts
End Tie Pls. 15 x 3/8 x 1-11
Int. Tie Pls. 15 x 3/8 x 1-6 1/2
Double Lacing 3/8 x 2 1/4
Gusset Pls. 3/8
2 [12 x 25#
Notch Cover Plate L0 U1 to fit between gusset Pls. at L0
Close Joint
Flange Splice Bars 3 1/2 x 1/2 top & bottom
Web Splice Pl. 9 x 5/16 Fill 9 x 3/8
98'-6" C-C Pins
Diaphragm 12 1/2 Bm. 50#
End Tie Pls. 19 x 3/8 x 2-0
Int. Tie Pls. 13 x 3/8 x 1-7
Lateral Gusset Pls. 3/8
End Tie Pls. 20 x 3/8 x 2-0
Int. Tie Pls. 13 x 3/8 x 1-8
Lateral Hanger
Rivets 3/4" except 5/8" in flange of rail [
Holes in rail members for field connection to truss to be slotted to permit horizontal expansion.
All details to be made in accordance with Maine State Highway Commission Specifications for Steel Highway Bridges, 1936.
All field connections of main members to be subpoenaed and reamed
12'-6" Panel 25'-0" Panel
INTERIOR STRINGERS
12'-6" Panel 25'-0" Panel
EXTERIOR STRINGERS
Design: C.L.P.
Traced: E.G.B.
Checked: E.B.
32-95