



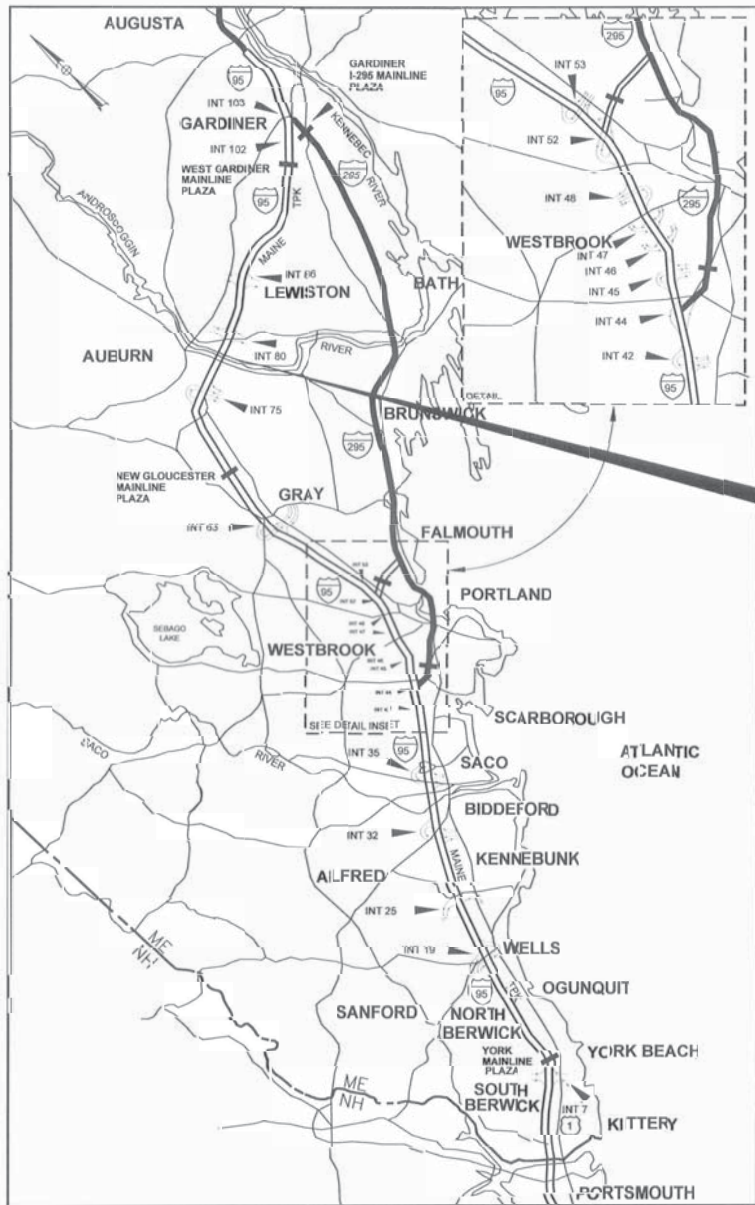
THE GOLD STAR  
MEMORIAL HIGHWAY

# MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR  
DIANE M. DOYLE, VICE CHAIR  
GERARD P. CONLEY, SR., MEMBER  
JAMES F. CLOUTIER, MEMBER  
JOHN E. DORITY, MEMBER  
ROBERT D. STONE, MEMBER  
BRUCE A. VAN NOTE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

## CONTRACT 2013.10 BRIDGE REPAIR AND STRENGTHENING ANDROSCOGGIN RIVER OVERPASS MILE 78.9



CONTRACT 2013.10  
BRIDGE REPAIR AND STRENGTHENING  
ANDROSCOGGIN RIVER OVERPASS

LOCATION MAP

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX, GENERAL NOTES AND QUANTITIES
3-11	MAINTENANCE OF TRAFFIC
12	GENERAL PLAN AND ELEVATION
13	TYPICAL SECTION
14	DECK PLAN
15	FRAMING PLAN
16	POST-TENSIONING LAYOUT
17	POST-TENSIONING SEQUENCE
18-21	DETAILS
22-39	AS-BUILT DRAWINGS

APPROVED:

MAINE TURNPIKE AUTHORITY

*Peter S. Merfeld*  
PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER

DATE 3-15-13

*Stephen R. Tartre*  
STEPHEN R. TARTRE, P.E. - DIRECTOR OF ENGINEERING & BUILDING MAINTENANCE

DATE 3/15/13



*Roland A. Lavalley*  
ROLAND A. LAVALLEY, P.E., PLS.  
VICE PRESIDENT  
DIRECTOR OF OPERATIONS

DATE 3/13/13

Date:06/15/12

Filename: 401\_MTATitle.dgn

**SPECIFICATIONS**

**DESIGN**  
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION, 2012.

**CONSTRUCTION**  
STATE OF MAINE, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, REVISION OF DECEMBER 2002.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD DETAILS, REVISION OF DECEMBER 2002, WITH ALL REVISIONS THERETO.

AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, 3RD EDITION WITH 2010 INTERIMS.

**DESIGN LOADING**

LIVE LOAD - HL-93

**MATERIALS**

**STRUCTURAL STEEL**  
POST-TENSIONING STEEL ANCHOR BLOCKS SHALL BE AASHTO M270, GRADE 50.

ALL OTHER STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 36 OR 50.

HIGH STRENGTH BOLTS SHALL BE AASHTO M164 (ASTM A490) FOR POST-TENSIONING ANCHOR BLOCK ZONE AND AASHTO M164 (ASTM A325) FOR ALL OTHER LOCATIONS. ALL BOLTS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED.

**POST-TENSIONING**  
POST-TENSIONING STRANDS SHALL BE EXTERNAL UNBONDED STRANDS AASHTO M203, GRADE 270. THE STRANDS SHALL BE LOW-RELAXATION 7-WIRE STRANDS ENCASED IN HDPE CONDUIT.

**PROTECTIVE COATING**  
FASCIA GIRDERS SHALL BE PAINTED AS OUTLINED IN PLANS IN ACCORDANCE WITH SPECIAL PROVISION, SECTION 506, PROTECTIVE COATING.

STEEL ANCHOR BLOCKS FOR POST-TENSIONING SHALL BE GALVANIZED (ASTM 123).

ALL OTHER STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SPECIAL PROVISION 506.

**CONCRETE**  
DECK AND JOINT REPAIRS - CLASS AAA MODIFIED

**BASIC DESIGN STRESSES**

**STRUCTURAL STEEL**  
AASHTO M270 (ASTM 709) GRADE 50,  $F_y = 50,000$  P.S.I.  
GRADE 36,  $F_y = 36,000$  P.S.I.

**POST-TENSIONING STRANDS**  
AASHTO M203, GRADE 270,  $F_u = 270$  K.S.I.

**CONCRETE**  
CLASS AAA MODIFIED,  $f'_c = 4,500$  P.S.I.

**LIST OF ABBREVIATIONS**

ABUT. - ABUTMENT  
ADDL. - ADDITIONAL  
ALT. - ALTERNATE  
APPROX. - APPROXIMATELY  
BOT. - BOTTOM  
BRG. - BEARING  
CL. - CLEAR  
CL. - CENTERLINE  
CONC. - CONCRETE  
CONSTR. - CONSTRUCTION  
DEMO. - DEMOLITION  
DIA. - DIAMETER  
EA. - EACH  
EB - EASTBOUND  
E.F. - EACH FACE  
EL. - ELEVATION  
EQ. - EQUAL  
EXIST. - EXISTING  
EXP. - EXPANSION  
F.F. - FAR FACE  
JT. - JOINT  
MAX. - MAXIMUM  
MIN. - MINIMUM  
MTA - MAINE TURNPIKE AUTHORITY  
NB - NORTHBOUND  
N.F. - NEAR FACE  
N.T.S. - NOT TO SCALE  
PED. - PEDESTAL  
PGL - PROFILE GRADE LINE  
PL. - PLATE  
PROP. - PROPOSED  
P.S.I. - POUNDS per SQUARE INCH  
RDWY. - ROADWAY  
SHLDR. - SHOULDER  
SB - SOUTHBOUND  
SP. - SPACES  
STA. - STATION  
T.&B. - TOP & BOTTOM  
TPKE. - TURNPIKE  
TYP. - TYPICAL  
U.O.N. - UNLESS OTHERWISE NOTED  
VERT. - VERTICAL  
WB - WESTBOUND  
W.P. - WORKING POINT

INDEX OF DRAWINGS		
PAGE NUMBER	TITLE SHEET	SHEET NUMBER
2	INDEX, GENERAL NOTES AND QUANTITIES	GN-01
3	MAINTENANCE OF TRAFFIC DETAILS I	MT-01
4	MAINTENANCE OF TRAFFIC DETAILS II	MT-02
5	MAINTENANCE OF TRAFFIC I	MT-03
6	MAINTENANCE OF TRAFFIC II	MT-04
7	MAINTENANCE OF TRAFFIC III SIGN SUMMARY	MT-05
8	MAINTENANCE OF TRAFFIC IV CROSSOVER ALTERNATIVE	MT-06
9	MAINTENANCE OF TRAFFIC V CROSSOVER ALTERNATIVE	MT-07
10	MAINTENANCE OF TRAFFIC VI CROSSOVER ALTERNATIVE	MT-08
11	MAINTENANCE OF TRAFFIC VII CROSSOVER ALTERNATIVE	MT-09
12	BRIDGE GENERAL PLAN AND ELEVATION	S-01
13	TYPICAL SECTION	S-02
14	DECK PLAN	S-03
15	FRAMING PLAN	S-04
16	POST-TENSIONING LAYOUT	S-05
17	POST-TENSIONING SEQUENCE	S-06
18	POST-TENSIONING DETAILS I	S-07
19	POST-TENSIONING DETAILS II	S-08
20	EXISTING STRUCTURE DETAILS	S-09
21	PAINTING DETAILS	S-10

ORIGINAL CONSTRUCTION PLANS	
PAGE NUMBER	TITLE
22 OF 39	AS-BUILT GENERAL PLAN
23 OF 39	AS-BUILT SUPERSTRUCTURE
24 OF 39	AS-BUILT TYPICAL SECTION
25-39 OF 39	AS-BUILT GIRDER FABRICATION PLANS


ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
202.202	Removing Pavement Surface	SY	70
202.2021	Removing Pavement Surface - Bridge Deck	SY	7170
203.22	Clearance Excavation	LS	1
403.210	Hot Mix Asphalt, 9.5mm Nominal Maximum Size	Ton	630
409.15	Bituminous Tack Coat, Applied	Gal	360
419.30	Sawing Bituminous Pavement	LF	1,850
504.7001	Transverse Steel Bracing, Fabrication and Delivery	EA	8
504.7002	Transverse Steel Bracing, Installation	EA	8
504.7101	Longitudinal Steel Stiffeners, Fabrication and Delivery	LF	2,355
504.7102	Longitudinal Steel Stiffeners, Installation	LF	2,355
504.81	Remove Rivet and Replace with High-Strength Bolt	EA	100
504.881	Post-Tensioning Steel Anchor Blocks - Fabricated and Delivered	EA	44
504.882	Post-Tensioning Steel Anchor Blocks - Installed	EA	44
504.883	Post-Tensioning Conduits and Hangers	LS	1
504.884	Post-Tensioning Tendons and Miscellaneous Hardware	LS	1
506.141	Field Painting of Existing Structural Steel Girders (71,600 SF)	LS	1
506.17	Surface Preparation of Existing Structural Steel Girders (71,600 SF)	LS	1
506.9108	Containment System and Pollution Control	LS	1
508.141	High Performance Waterproofing Membrane (7,170 SY)	LS	1
518.391	Repairing Granite Curb Joint and Bedding Mortar	LF	850
518.64	Rapid Set Mortar Bags for Temporary Deck Patching	EA	25
518.80	Partial Depth Concrete Deck Repairs	SF	1,050
518.81	Full Depth Concrete Deck Repairs	SF	50
518.86	Bridge Joint Header Concrete Replacement	SF	330
524.88	Scaffolding	LS	1
619.1202	Temporary Mulch	LS	1
629.05	Hand Labor, Straight Time	HR	20
631.36	Foreman	HR	10
652.361	Maintenance of Traffic Control Devices	LS	1
656.632	30 inch Temporary Silt Fence	LF	350
659.10	Mobilization	LS	1

**NOTES:**

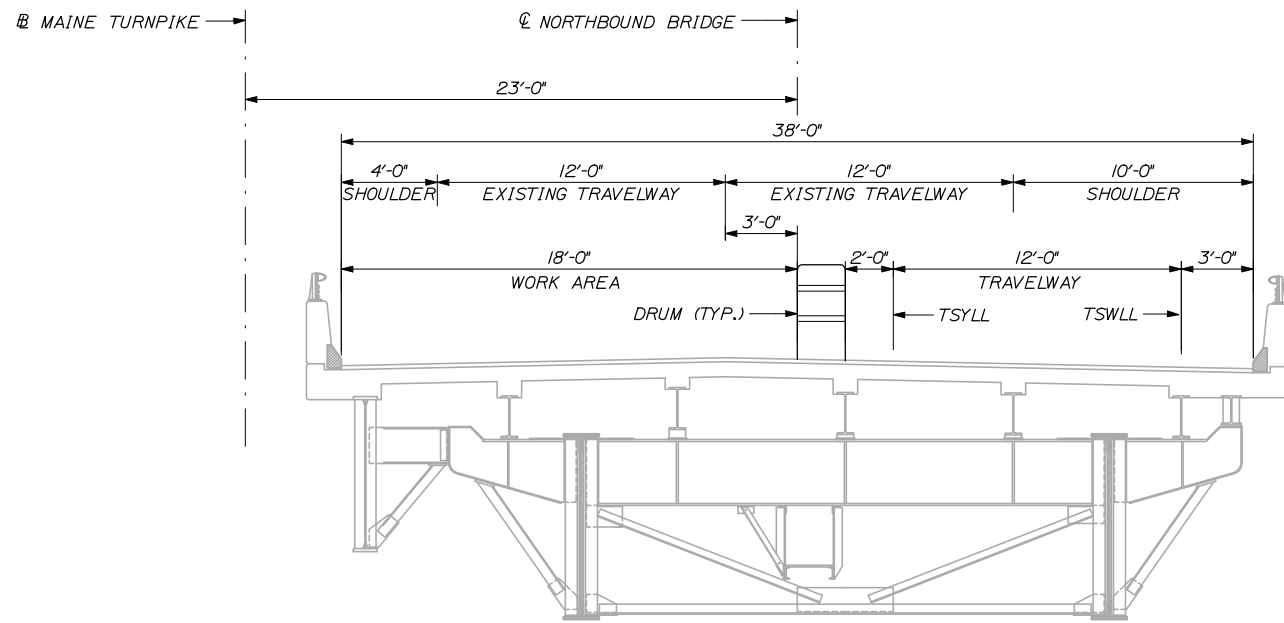
- THE ELEVATIONS SHOWN HEREIN ARE BASED ON THE NAVD 88 DATUM. THE AS-BUILT PLANS ARE BASED ON THE NGVD 29 DATUM.
- FOR ADDITIONAL DETAILS REFERENCED OR NOT SHOWN IN THESE DRAWINGS, SEE THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD DETAILS, DECEMBER 2002 WITH UPDATES.
- COPIES OF THE AS-BUILT PLANS ARE ON FILE AT THE MAINE TURNPIKE AUTHORITY. A PORTION OF THESE PLANS ARE INCLUDED IN THIS CONTRACT FOR THE CONTRACTOR'S CONVENIENCE. THE COMPLETENESS AND ACCURACY OF THESE PLANS IS NOT GUARANTEED.
- CONTRACTOR SHALL FIELD VERIFY ALL NECESSARY INFORMATION AS SPECIFIED HEREIN PRIOR TO SHOP DRAWING SUBMITTAL.
- CONTRACTOR SHALL PROVIDE RESIDENT ACCESS TO ALL AREAS UNDER CONSTRUCTION FOR INSPECTION PURPOSES. THIS SHALL BE INCIDENTAL TO PAY ITEM 524, SCAFFOLDING.
- SCAFFOLDING SHALL PROVIDE ACCESS TO FASCIA GIRDERS FOR EITHER PAINTING OR POST-TENSIONING CONSTRUCTION TASKS.

Date: 3/22/2013

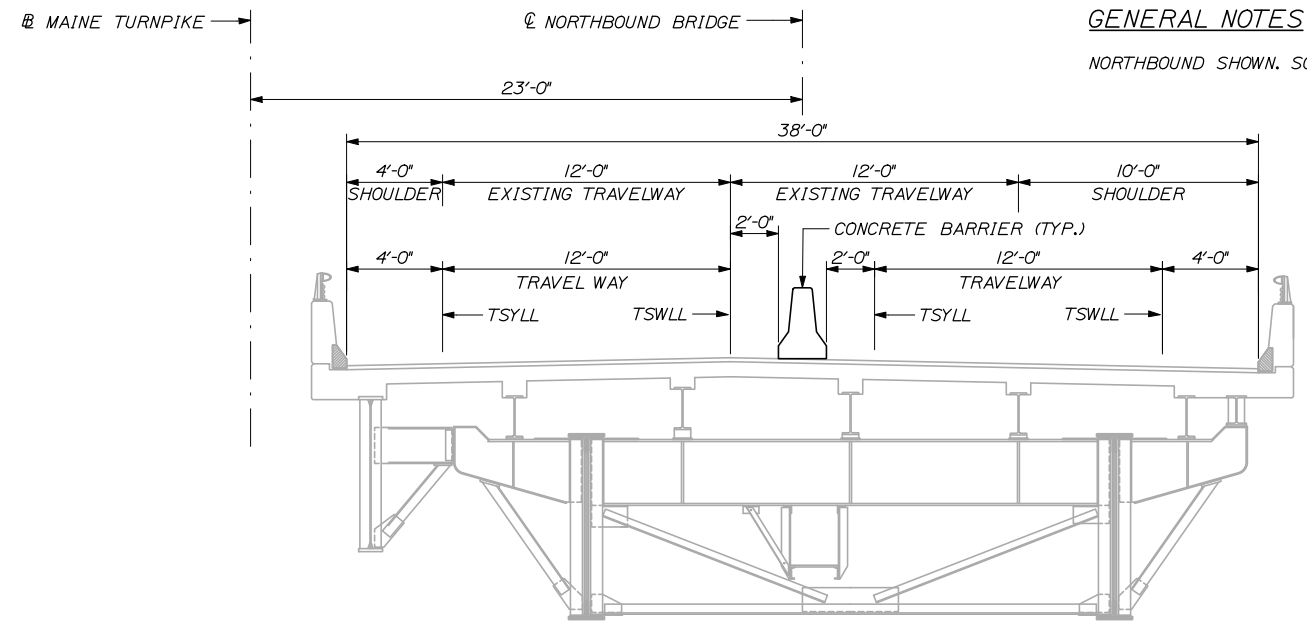
Filename: 002\_Index Notes Quantities.dgn

Scale:	Designed by:	HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909	 <p style="font-size: 24pt; font-weight: bold; margin: 0;">THE GOLD STAR MEMORIAL HIGHWAY</p>	<p style="font-size: 18pt; font-weight: bold; margin: 0;">BRIDGE REPAIR AND STRENGTHENING ANDROSCOGGIN RIVER OVERPASS</p> <p style="font-size: 14pt; font-weight: bold; margin: 0;">INDEX, GENERAL NOTES AND QUANTITIES</p>																																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Revision</th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		No.	Revision	By	Date									<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="4">CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.</td> </tr> <tr> <td> </td> <td>By</td> <td>Date</td> <td> </td> </tr> <tr> <td> </td> <td>AJF</td> <td>03/13</td> <td>Checked CRM 03/13</td> </tr> <tr> <td> </td> <td>By</td> <td>Date</td> <td> </td> </tr> <tr> <td> </td> <td>MPC</td> <td>03/13</td> <td>In Charge of RAL 03/13</td> </tr> </table>		CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.					By	Date			AJF	03/13	Checked CRM 03/13		By	Date			MPC	03/13	In Charge of RAL 03/13	SHEET NUMBER: GN-01 CONTRACT: 2013.10 2 OF 39
No.	Revision	By	Date																																	
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			MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.																																	

Date: 3/29/2013

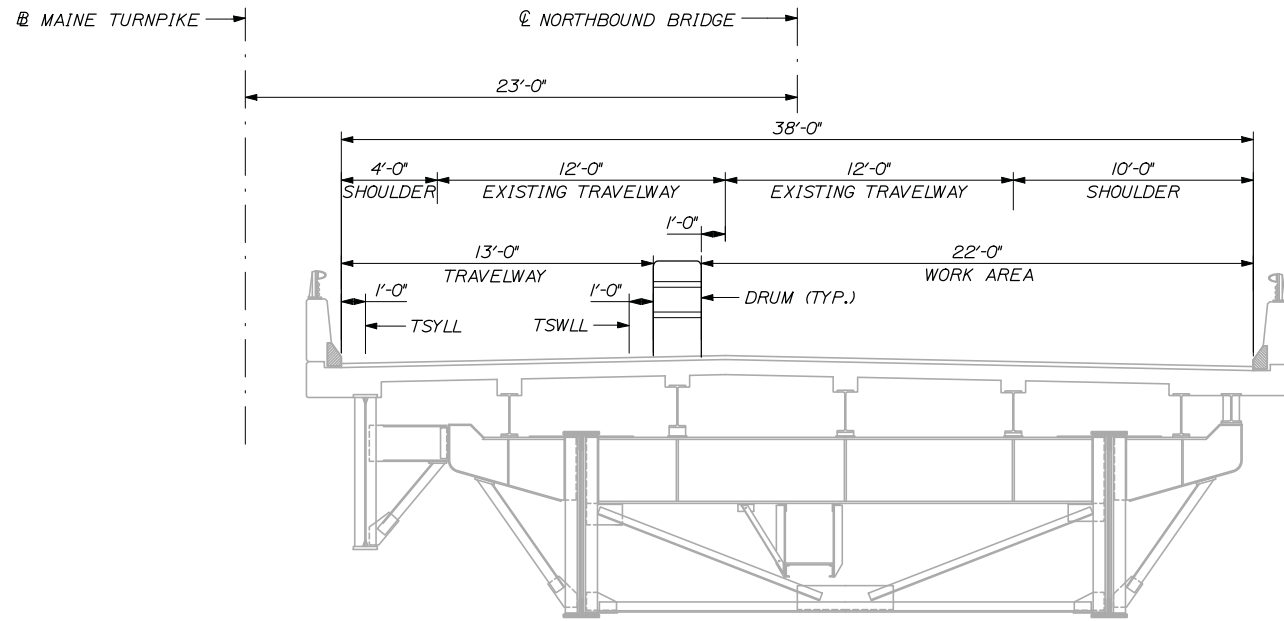


LANE CLOSURE OPTION FOR PAVING  
TYPICAL SECTION A

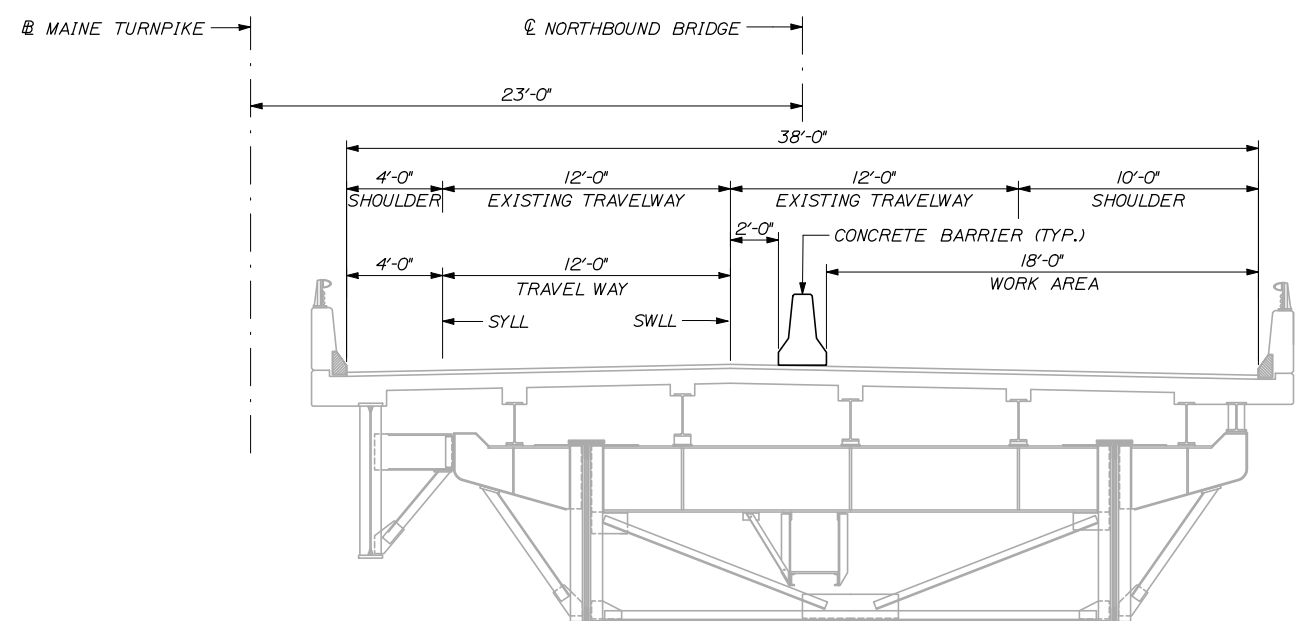


CROSSOVER TYPICAL SECTION

**GENERAL NOTES**  
NORTHBOUND SHOWN. SOUTHBOUND IS SIMILAR.



LANE CLOSURE OPTION FOR PAVING  
TYPICAL SECTION B  
LANE WIDTH RESTRICTION - NIGHT WORK  
SEE SPECIFICATIONS SECTION 652



SINGLE LANE CLOSURE TYPICAL SECTION

**MAINTENANCE OF TRAFFIC GENERAL NOTES**

1. DRUM SPACING PER MAINTENANCE OF TRAFFIC DETAILS. SEE SHEET NUMBER MT-02.
2. ALL TEMPORARY PAVEMENT MARKINGS PLACED ON NEW PAVEMENT SHALL BE TEMPORARY 6 INCH PAVEMENT MARKING TAPE.
3. REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
4. FINAL PAVEMENT MARKINGS WILL BE COMPLETED BY THE TURNPIKE AUTHORITY.
5. LANE CLOSURES WITH CONCRETE BARRIER ARE REQUIRED FOR MOST CONSTRUCTION OPERATIONS. LANE CLOSURES WITH DRUMS MAY BE USED FOR PAVING OPERATIONS AS SHOWN IN TYPICAL SECTIONS. LANE CLOSURES WITH DRUMS MAY BE ALLOWED FOR OTHER ACTIVITIES, AS APPROVED BY THE RESIDENT.

**MAINTENANCE OF TRAFFIC - ALTERNATIVES**

1. THE MAINTENANCE OF TRAFFIC COMPONENT TO THIS PROJECT SHALL BE COMPLETED USING ONE OF TWO ALTERNATIVES: SINGLE-LANE CLOSURES PER BRIDGE, OR THE CROSSOVER ALTERNATIVE WHICH REQUIRES MODIFICATION AND EXPANSION OF THE EXISTING CROSSOVERS.
2. THE SINGLE-LANE CLOSURE ALTERNATIVE IS ILLUSTRATED ON THE FOLLOWING SHEETS, AND THE ASSOCIATED SPECIAL PROVISIONS ARE FOUND IN THE BODY OF THE TECHNICAL SPECIFICATION PACKAGE.
3. THE CROSSOVER ALTERNATIVE COMPRISES MODIFICATION AND EXPANSION OF THE EXISTING CROSSOVER REGIONS IMMEDIATELY NORTH AND SOUTH OF THE ANDROSCOGGIN RIVER OVERPASS. THE CROSSOVER ALTERNATIVE IS ALSO ILLUSTRATED ON THE FOLLOWING SHEETS. THE ASSOCIATED SPECIAL PROVISIONS ARE FOUND IN APPENDIX B OF THE TECHNICAL SPECIFICATION PACKAGE AND SHALL BE IN ADDITION TO THE SPECIAL PROVISIONS LISTED IN THE BODY OF THE TECHNICAL SPECIFICATIONS. THE CONTRACTOR SHALL NOTE THAT THE SCHEDULE OF BID PRICES CONTAINS JUST ONE PAY ITEM FOR MAINTENANCE OF TRAFFIC, WHICH SHALL REFLECT THE CONTRACTOR'S PRICE TO PERFORM MAINTENANCE OF TRAFFIC THROUGHOUT THE ENTIRE PROJECT.

Filename: 003\_MOT-Details1.dgn

No.	Revision	By	Date

Designed by:			
<b>HNTB</b>			
CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.			
	By	Date	
	By	Date	
	By	Date	
	By	Date	

HNTB CORPORATION  
340 County Road, Suite 6-C  
Westbrook, ME 04092  
TEL (207) 774-5155  
FAX (207) 228-0909

**THE GOLD STAR  
MEMORIAL HIGHWAY**

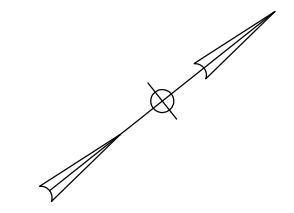
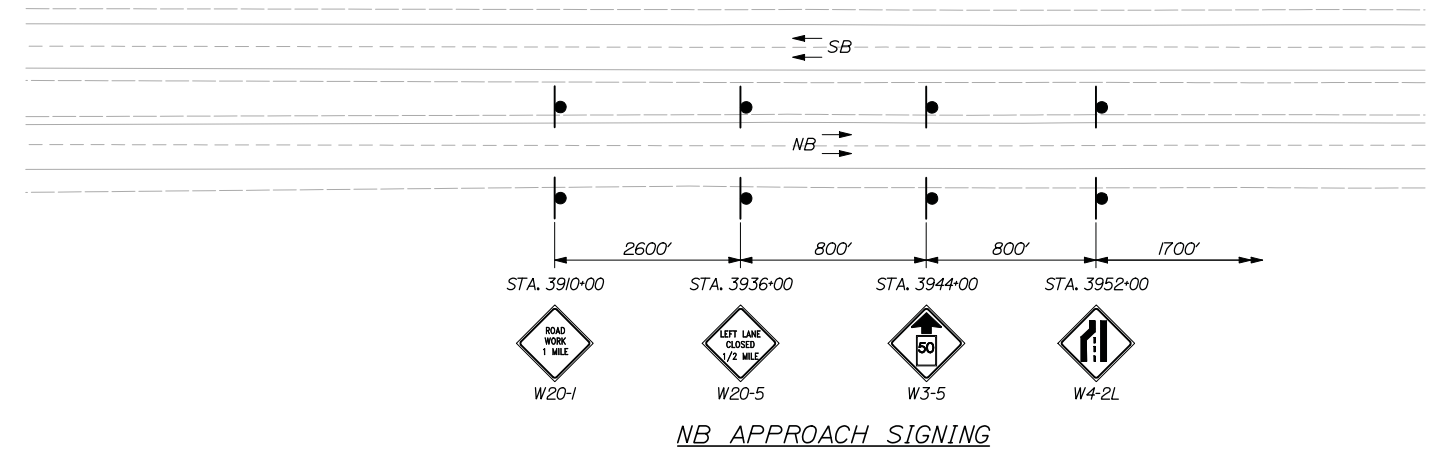
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
ANDROSCOGGIN RIVER OVERPASS  
MAINTENANCE OF TRAFFIC  
DETAILS I

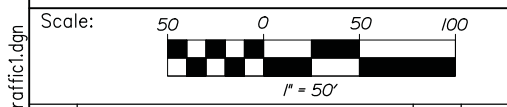
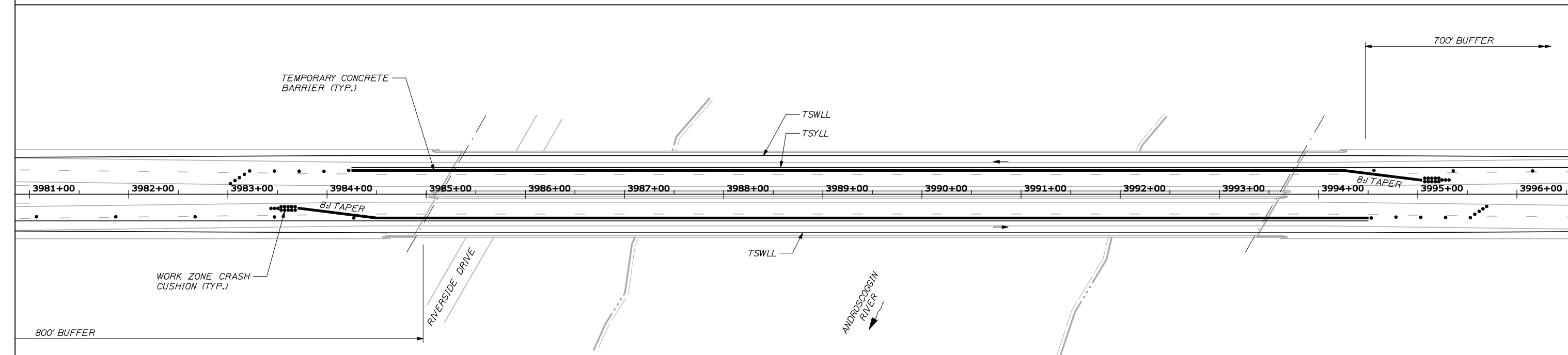
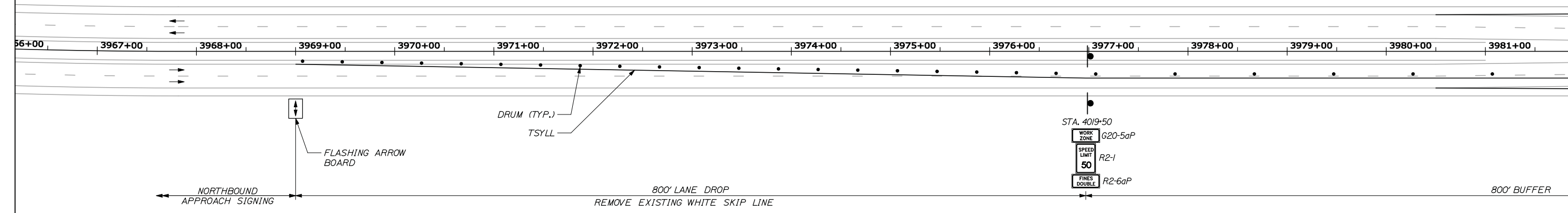
SHEET NUMBER: MT-01  
CONTRACT: 2013.10  
3 OF 39



LEGEND:  
 TSWLL - TEMPORARY SOLID WHITE LANE LINE  
 TSYLL - TEMPORARY SOLID YELLOW LANE LINE



Date: 3/29/2013



Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

No.	Revision	By	Date

	By	Date		By	Date
Designed	TMH	03/13	Checked	CRM	03/13
Drawn	MPC	03/13	In Charge of	RAL	03/13

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 340 County Road, Suite 6-C  
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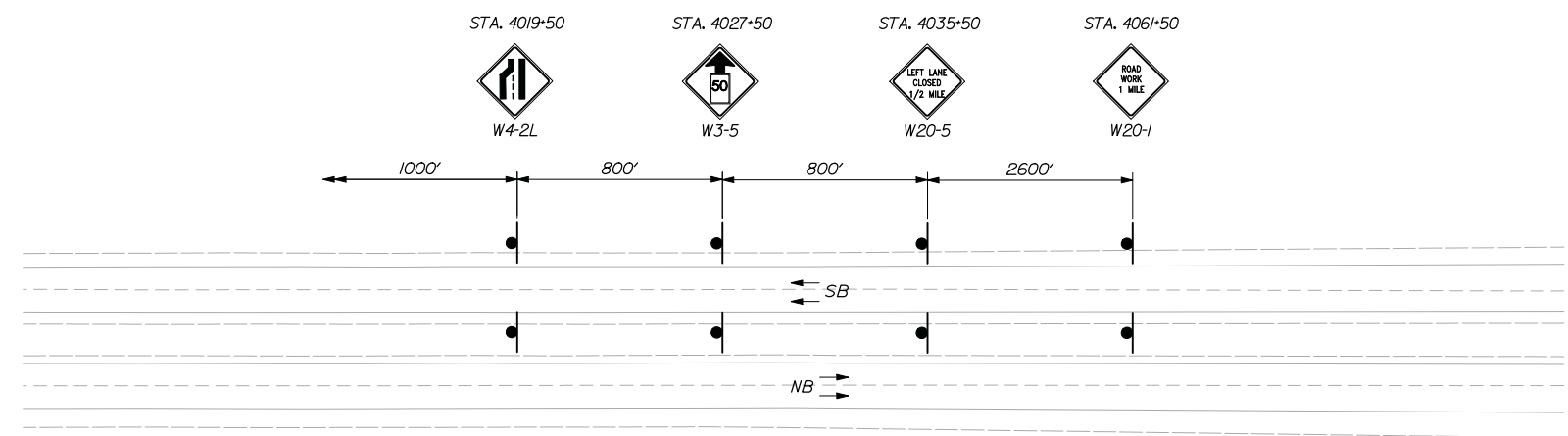
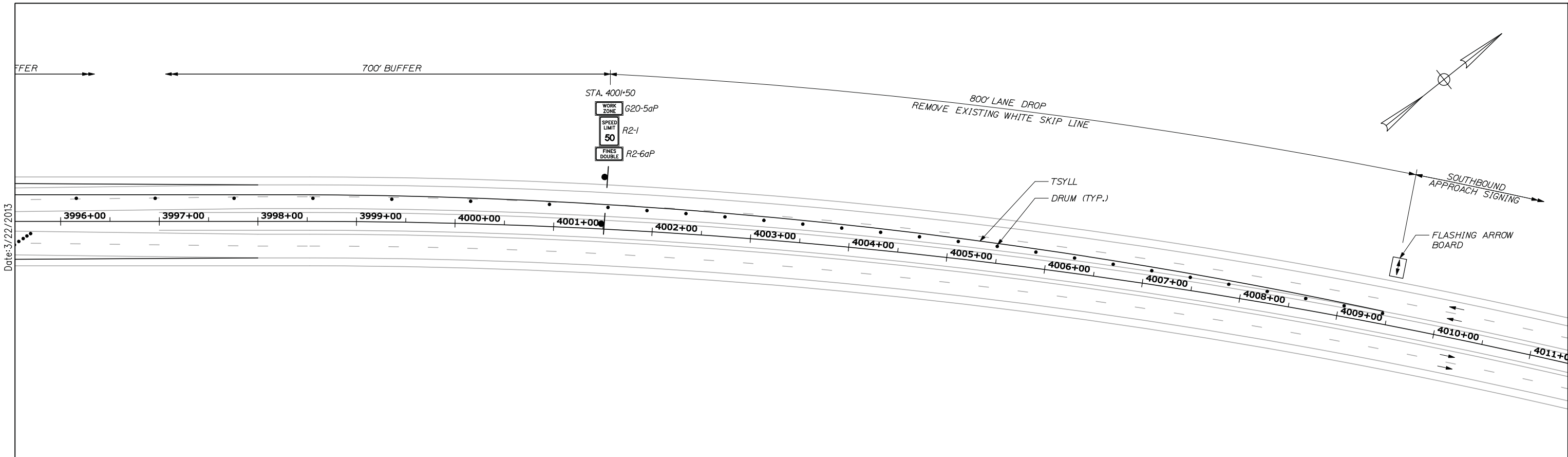


MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
 ANDROSCOGGIN RIVER OVERPASS  
 MAINTENANCE OF TRAFFIC I

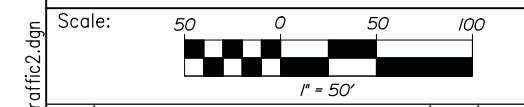
SHEET NUMBER: MT-04  
 CONTRACT: 2013.10  
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Filename: 005\_Traffic1.dgn



NOTE:  
W20-1 "ROAD WORK 1 MILE" SIGN ALSO NEEDED  
ON THE EXIT 80 NORTHBOUND ON RAMP.

SB APPROACH SIGNING



Designed by:

**HNTB**

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	TMH	03/13	Checked	CRM	03/13
Drawn	MPC	03/13	In Charge of	RAL	03/13

HNTB CORPORATION  
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FAX (207) 228-0909

**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
ANDROSCOGGIN RIVER OVERPASS

MAINTENANCE OF TRAFFIC II

SHEET NUMBER: MT-05

CONTRACT: 2013.10

6 OF 39

Filename: 006\_Traffic2.dgn

Date: 3/29/2013

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR	
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK-GROUND	LEGEND BORDER
CS-3	48"	48"		6" 6" 6"	4" 4"		ORANGE	BLACK
G20-1 (4)	48"	24"		TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2000			ORANGE	BLACK
G20-2	48"	24"					ORANGE	BLACK
G20-5aP	48"	24"					ORANGE	BLACK
R2-1 (50)	48"	60"					WHITE	BLACK
R2-6aP	48"	24"					WHITE	BLACK
R2-12	36"	54"					WHITE	BLACK
R11-2	48"	30"					WHITE	BLACK
W1-4L	48"	48"					ORANGE	BLACK
W3-4	48"	48"					ORANGE	BLACK
W3-5 (50)	48"	48"					ORANGE	BLACK
W4-2L	48"	48"					ORANGE	BLACK
W4-2R	48"	48"					ORANGE	BLACK

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR	
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK-GROUND	LEGEND BORDER
W7-3aP (1000)	36"	30"		TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2000			ORANGE	BLACK
W12-2	48"	48"					ORANGE	BLACK
W20-1 (1 MILE) (AHEAD)	48"	48"					ORANGE	BLACK
W20-4	48"	48"					ORANGE	BLACK
W20-5L (1/2 MILE)	48"	48"					ORANGE	BLACK
W20-5R (1/2 MILE)	48"	48"					ORANGE	BLACK
W20-7a	48"	48"					ORANGE	BLACK
W21-5	48"	48"					ORANGE	BLACK
W21-5aL	48"	48"					ORANGE	BLACK
W21-5aR	48"	48"					ORANGE	BLACK

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR	
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK-GROUND	LEGEND BORDER
W21-5aL (1000)	48"	48"		TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2000			ORANGE	BLACK
W21-5aR (1000)	48"	48"					ORANGE	BLACK

NOTES:  
 1. PLACE W12-2 1000' BEFORE THE BRIDGE ON ROUTE 136 PRIOR TO ANY CLEARANCE REDUCTION STAGING IS INSTALLED.  
 2. PLACE G20-1 ON I-95 FOUR MILES NORTH AND 4 MILES SOUTH OF ANDROSCOGGIN RIVER BRIDGE.

Filename: 007\_MOT\_Sign\_Summary.dgn

Scale:

No.	Revision	By	Date

Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

By	Date	By	Date
Designed	TMH 03/13	Checked	CRM 03/13
Drawn	MPC 03/13	In Charge of	RAL 03/13

HNTB CORPORATION  
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**MAINE TURNPIKE**

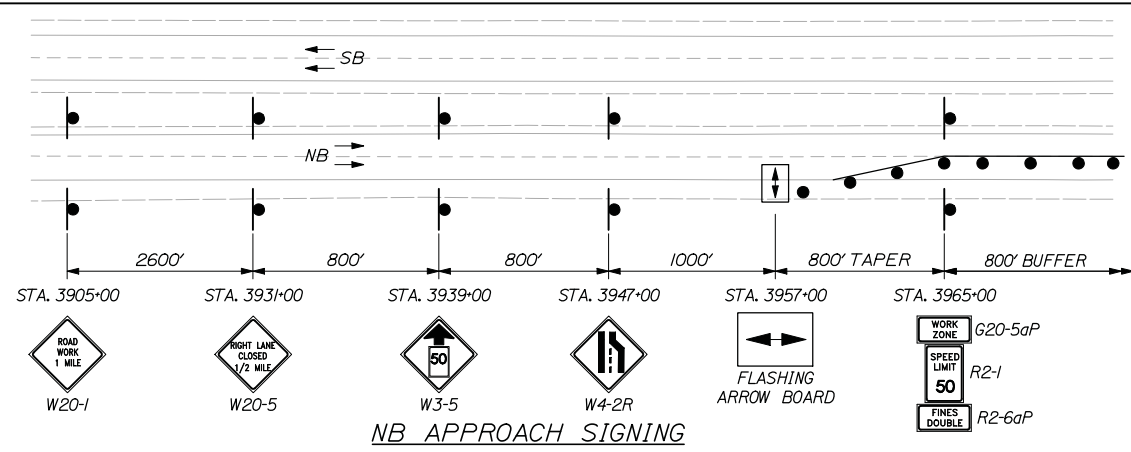
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

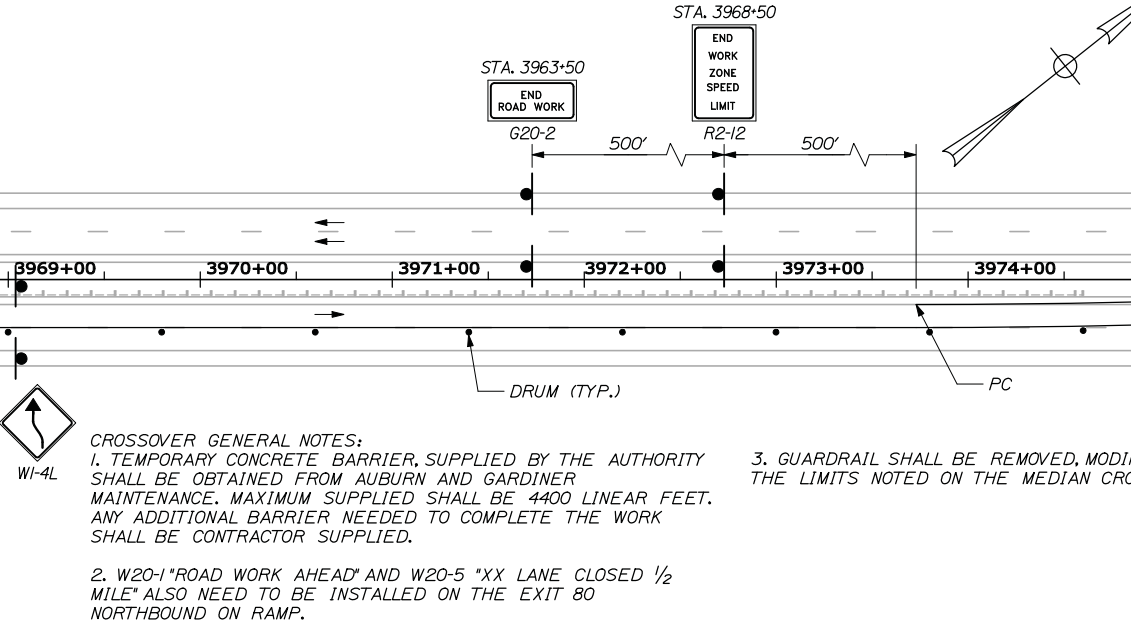
BRIDGE REPAIR AND STRENGTHENING  
 ANDROSCOGGIN RIVER OVERPASS  
 MAINTENANCE OF TRAFFIC  
 LANE CLOSURE OPTION & RT. 136 SIGNING

SHEET NUMBER: MT-03  
 CONTRACT: 2013.10  
 7 OF 39

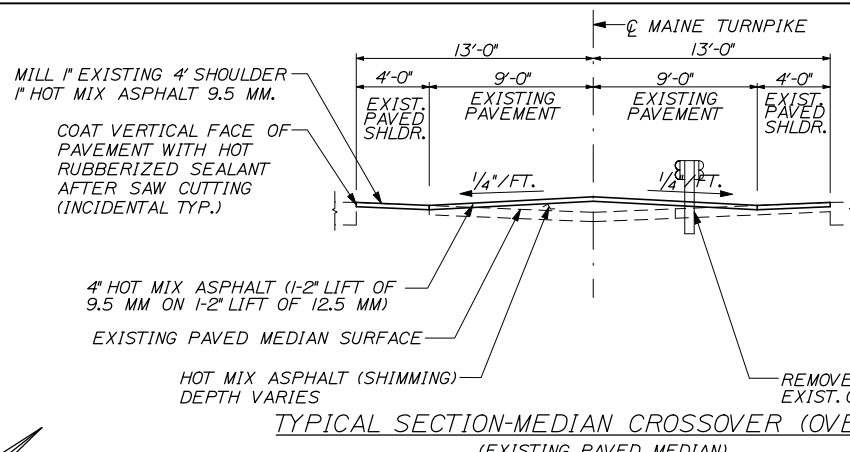
Date: 3/29/2013



**NB APPROACH SIGNING**

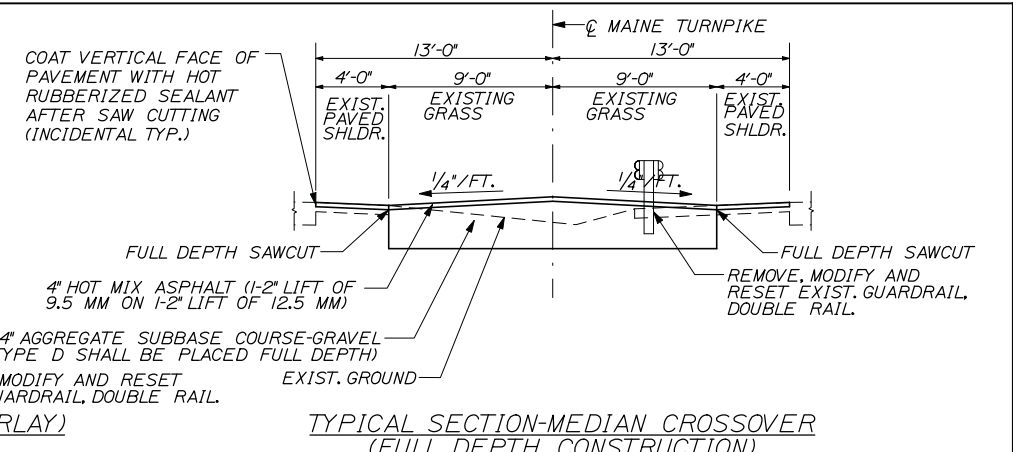


**CROSSOVER GENERAL NOTES:**  
 1. TEMPORARY CONCRETE BARRIER, SUPPLIED BY THE AUTHORITY SHALL BE OBTAINED FROM AUBURN AND GARDINER MAINTENANCE. MAXIMUM SUPPLIED SHALL BE 4400 LINEAR FEET. ANY ADDITIONAL BARRIER NEEDED TO COMPLETE THE WORK SHALL BE CONTRACTOR SUPPLIED.  
 2. W20-1 "ROAD WORK AHEAD" AND W20-5 "XX LANE CLOSED 1/2 MILE" ALSO NEED TO BE INSTALLED ON THE EXIT 80 NORTHBOUND ON RAMP.  
 3. GUARDRAIL SHALL BE REMOVED, MODIFIED AND RESET WITHIN THE LIMITS NOTED ON THE MEDIAN CROSSOVER TYPICALS.



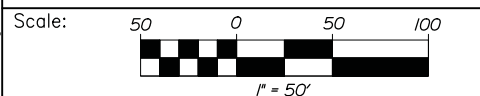
**TYPICAL SECTION-MEDIAN CROSSOVER (OVERLAY)**  
 (EXISTING PAVED MEDIAN)  
 NOT TO SCALE

STA. 3975+00 TO STA. 3981+50  
 STA. 3995+00 TO STA. 4000+00



**TYPICAL SECTION-MEDIAN CROSSOVER (FULL DEPTH CONSTRUCTION)**  
 (EXISTING GRASS MEDIAN)  
 NOT TO SCALE

STA. 4000+00 TO STA. 4006+50



No.	Revision	By	Date

Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	TMH	03/13	Checked	CRM	03/13
Drawn	MPC	03/13	In Charge of	RAL	03/13

HNTB CORPORATION  
 340 County Road, Suite 6-C  
 Westbrook, ME 04092  
 TEL (207) 774-5155  
 FAX (207) 228-0909

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

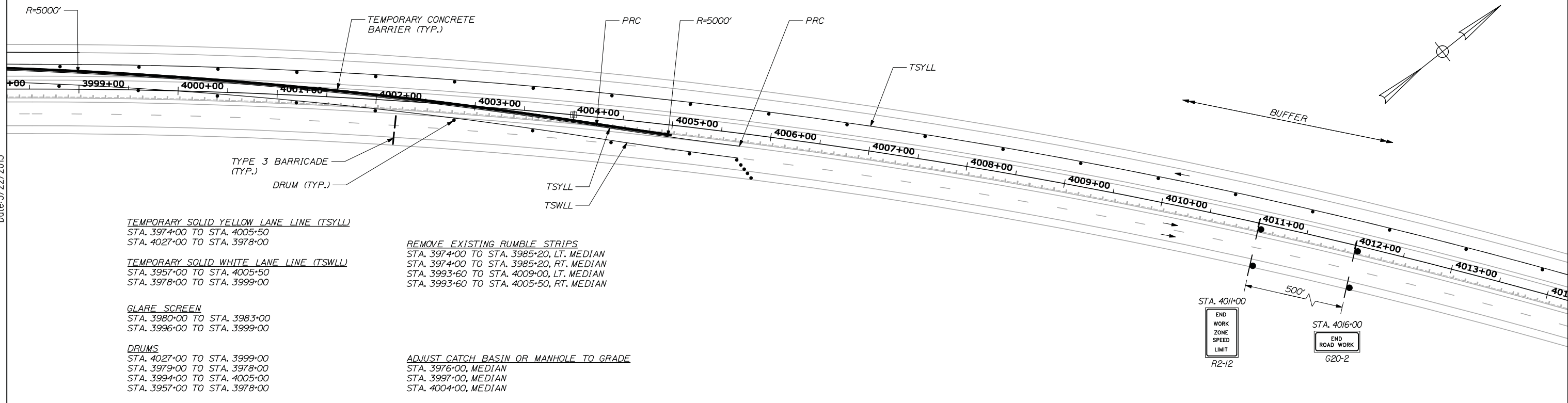
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
 ANDROSCOGGIN RIVER OVERPASS  
 MAINTENANCE OF TRAFFIC III  
 CROSSOVER ALTERNATIVE

SHEET NUMBER: MT-06  
 CONTRACT: 2013.10  
 8 OF 39



Date: 3/22/2013



**TEMPORARY SOLID YELLOW LANE LINE (TSYLL)**  
 STA. 3974+00 TO STA. 4005+50  
 STA. 4027+00 TO STA. 3978+00

**TEMPORARY SOLID WHITE LANE LINE (TSWLL)**  
 STA. 3957+00 TO STA. 4005+50  
 STA. 3978+00 TO STA. 3999+00

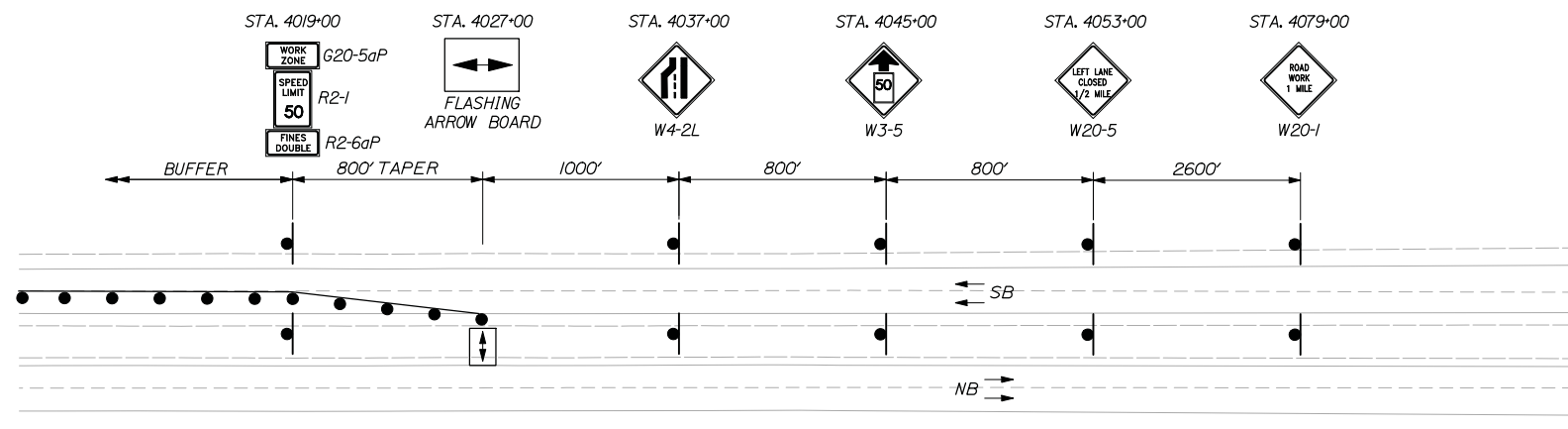
**GLARE SCREEN**  
 STA. 3980+00 TO STA. 3983+00  
 STA. 3996+00 TO STA. 3999+00

**DRUMS**  
 STA. 4027+00 TO STA. 3999+00  
 STA. 3979+00 TO STA. 3978+00  
 STA. 3994+00 TO STA. 4005+00  
 STA. 3957+00 TO STA. 3978+00

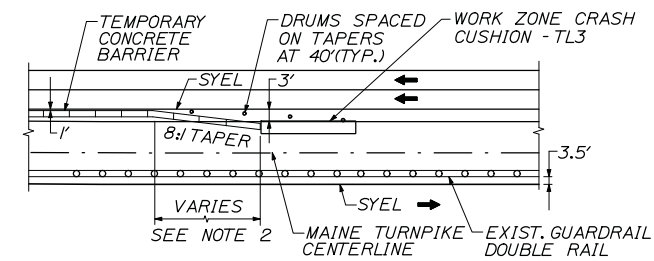
**REMOVE EXISTING RUMBLE STRIPS**  
 STA. 3974+00 TO STA. 3985+20, LT. MEDIAN  
 STA. 3974+00 TO STA. 3985+20, RT. MEDIAN  
 STA. 3993+60 TO STA. 4009+00, LT. MEDIAN  
 STA. 3993+60 TO STA. 4005+50, RT. MEDIAN

**ADJUST CATCH BASIN OR MANHOLE TO GRADE**  
 STA. 3976+00, MEDIAN  
 STA. 3997+00, MEDIAN  
 STA. 4004+00, MEDIAN

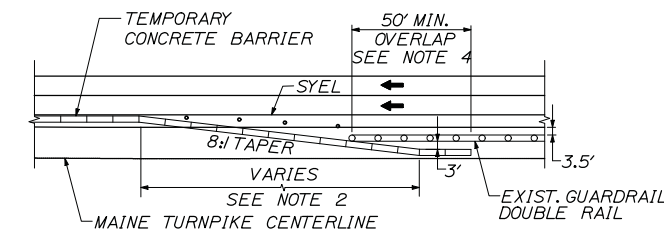
**NOTE:**  
 STATIONS LISTED ARE FOR THE MAINTENANCE OF TRAFFIC  
 SETUP SHOWN. CONTRACTORS MAINTENANCE OF TRAFFIC PLANS  
 MAY DIFFER.



SB APPROACH SIGNING



EXIST. GUARDRAIL ON FAR SIDE OF MEDIAN

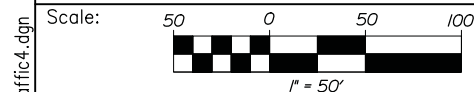


EXIST. GUARDRAIL ON NEAR SIDE OF MEDIAN

CONCRETE BARRIER / GUARDRAIL OVERLAP DETAIL  
 NOT TO SCALE

**NOTES**

1. BARRIER ENDS SHALL BE PROTECTED BY A WORK ZONE CRASH CUSHION (TL-3), OR LAPPED BEHIND GUARDRAIL. SEE DETAILS THIS SHEET.
2. 8:1 MINIMUM TAPERED BARRIER LENGTH IS DEPENDENT ON LOCATION OF BARRIER RELATIVE TO MAINE TURNPIKE SHOULDERS OR LANES.
3. A WORK ZONE CRASH CUSHION - TL3 MUST BE FOUNDED ON A LEVEL SURFACE. ANY WORK NECESSARY TO PROVIDE A LEVEL SURFACE WILL BE INCIDENTAL TO THE CRASH CUSHION ITEM.



No.	Revision	By	Date

Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	TMH	03/13	Checked	CRM	03/13
Drawn	MPC	03/13	In Charge of	RAL	03/13

HNTB CORPORATION  
 340 County Road, Suite 6-C  
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**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
 ANDROSCOGGIN RIVER OVERPASS  
 MAINTENANCE OF TRAFFIC IV  
 CROSSOVER ALTERNATIVE

SHEET NUMBER: MT-07  
 9 OF 39

CONTRACT: 2013.10

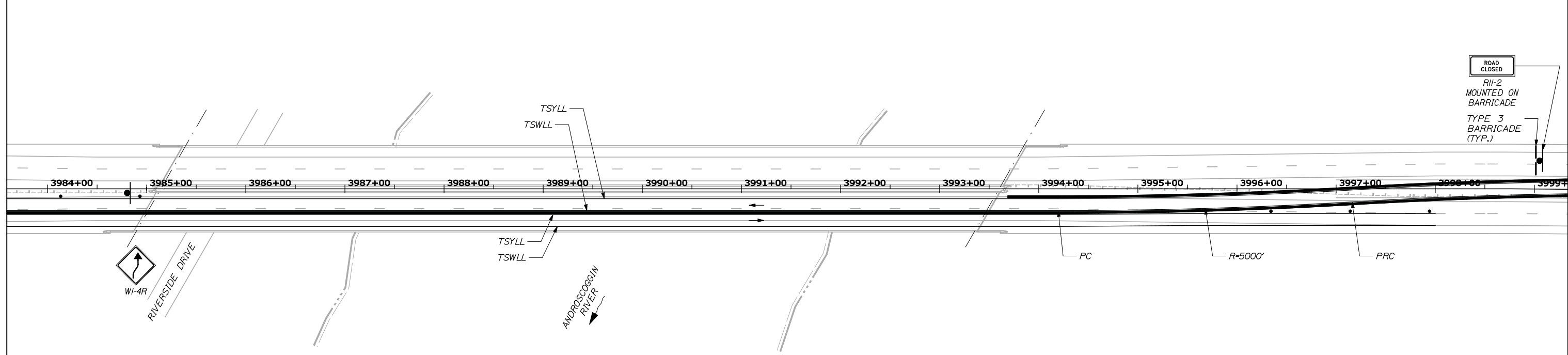
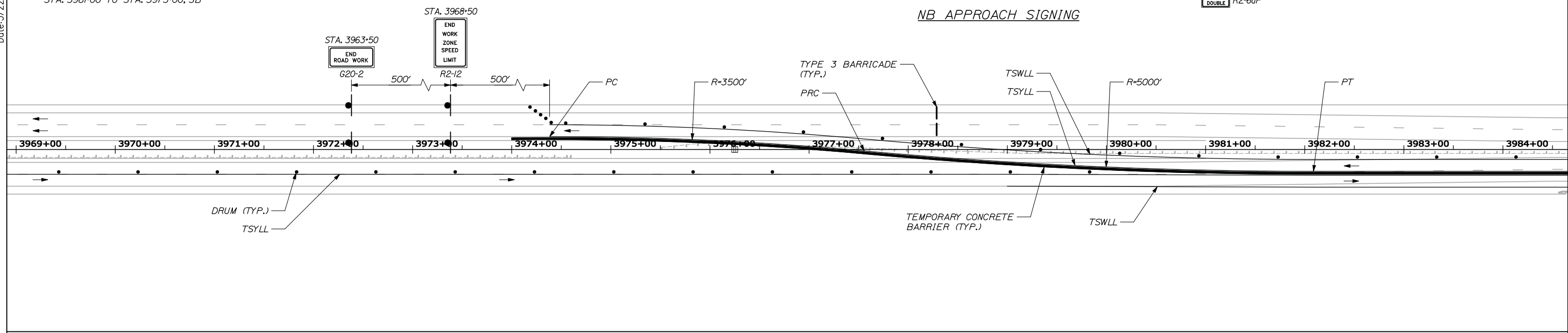
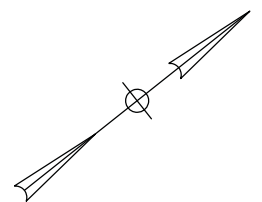
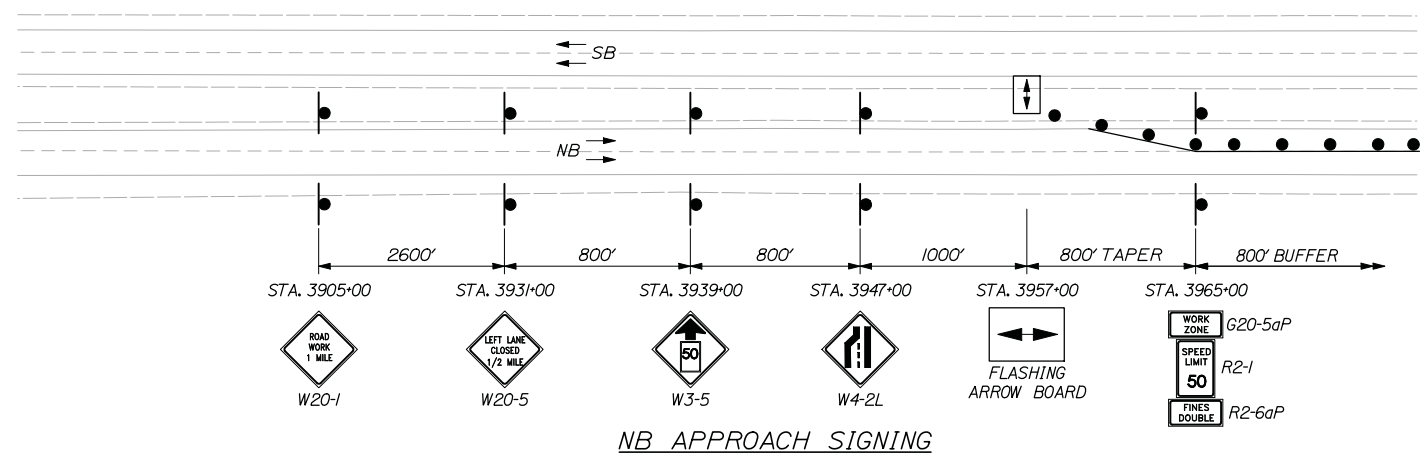
Date: 3/22/2013

**TEMPORARY SOLID YELLOW LANE LINE (TSYLL)**  
 STA. 3957+00 TO STA. 3999+00  
 STA. 3974+00 TO STA. 4011+00

**TEMPORARY SOLID WHITE LANE LINE (TSWLL)**  
 STA. 4026+00 TO STA. 3974+00  
 STA. 3979+00 TO STA. 3998+00

**GLARE SCREEN**  
 STA. 3994+00 TO STA. 3997+00  
 STA. 3979+00 TO STA. 3983+00

**DRUMS**  
 STA. 3957+00 TO STA. 3975+50, NB  
 STA. 3996+50 TO STA. 3999+00, NB  
 STA. 4026+00 TO STA. 4001+00, SB  
 STA. 3981+00 TO STA. 3973+00, SB



Scale: 1" = 50'

No.	Revision	By	Date

Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
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**THE GOLD STAR MEMORIAL HIGHWAY**

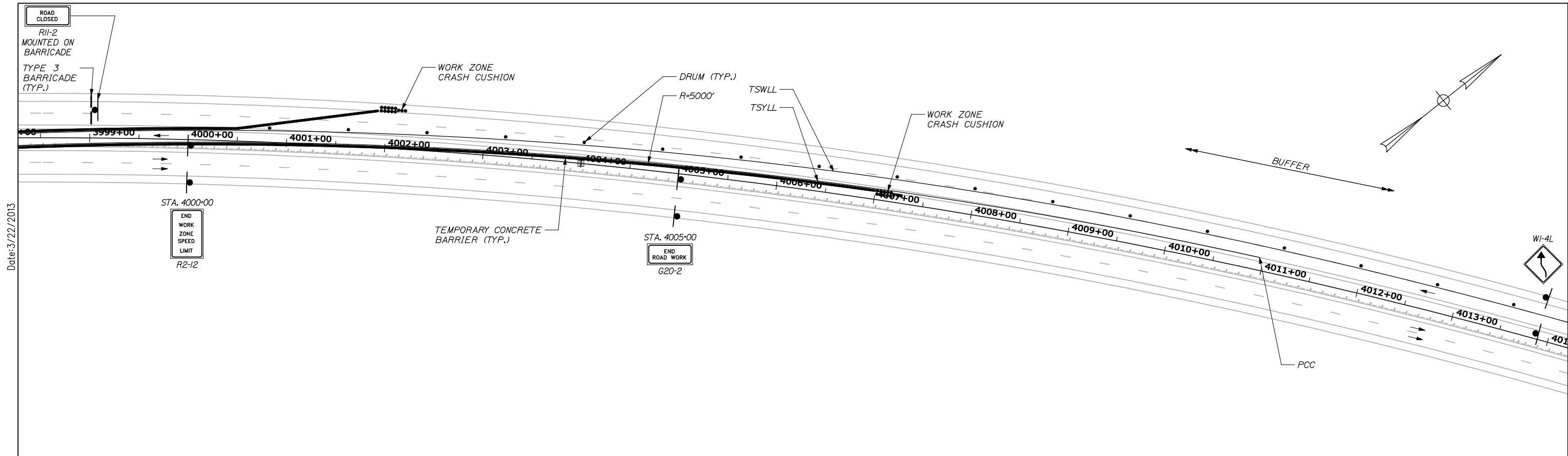
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

**BRIDGE REPAIR AND STRENGTHENING  
 ANDROSCOGGIN RIVER OVERPASS  
 MAINTENANCE OF TRAFFIC V  
 CROSSOVER ALTERNATIVE**

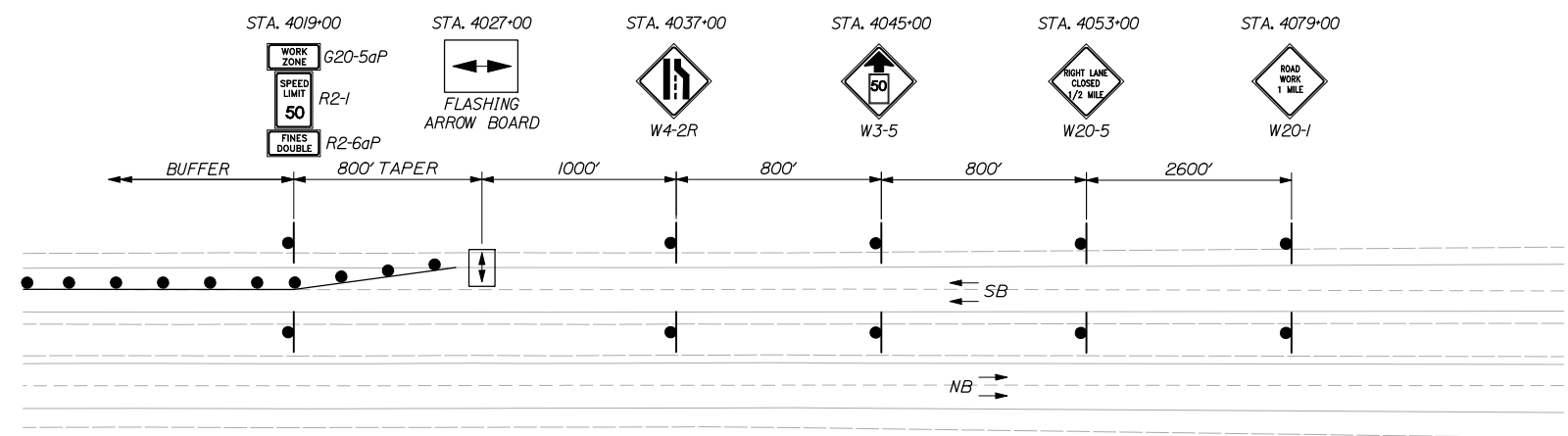
SHEET NUMBER: MT-08  
 10 OF 39

CONTRACT: 2013.10

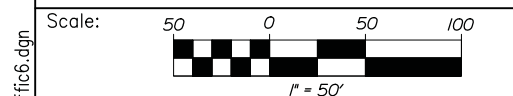
Filename: 010\_Traffic5.dgn



Date: 3/22/2013



SB APPROACH SIGNING



Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

No.	Revision	By	Date

	By	Date	By	Date	
Designed	TMH	03/13	Checked	CRM	03/13
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THE GOLD STAR  
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
 ANDROSCOGGIN RIVER OVERPASS  
 MAINTENANCE OF TRAFFIC VI  
 CROSSOVER ALTERNATIVE

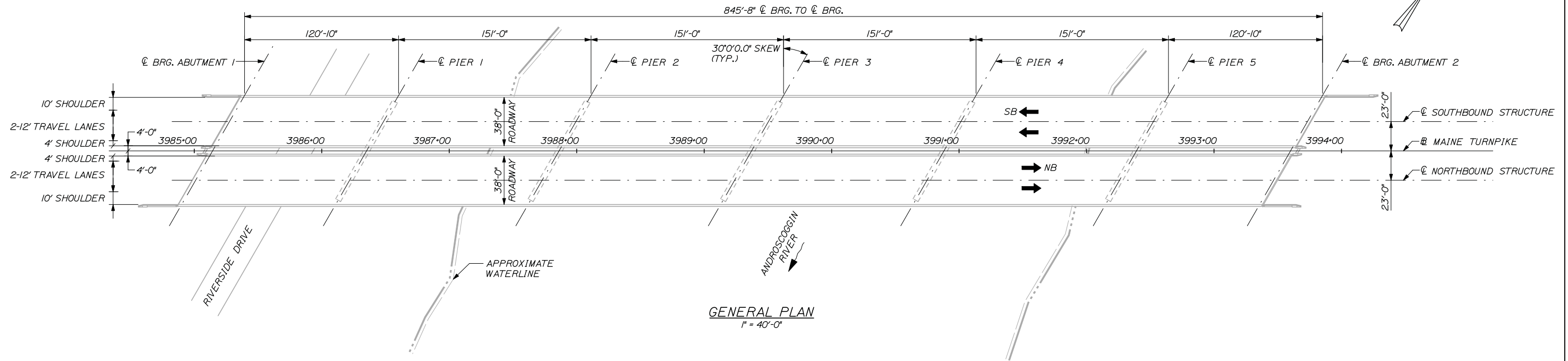
SHEET NUMBER: MT-09  
 11 OF 39

CONTRACT: 2013.10

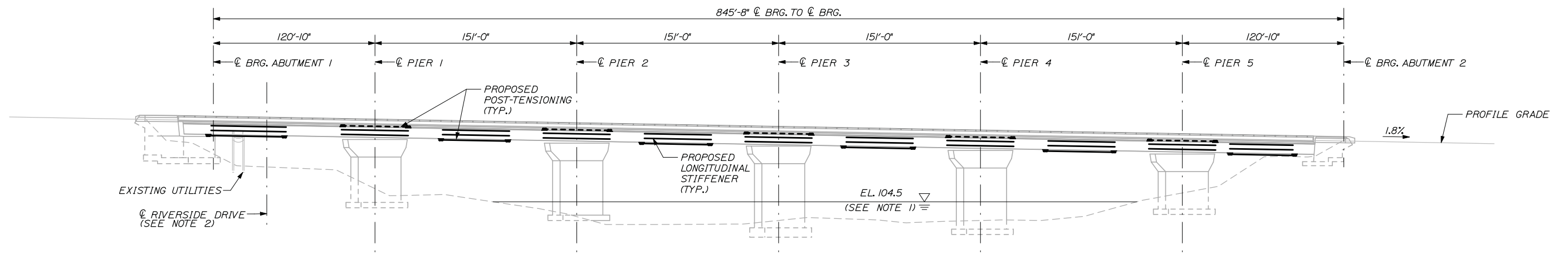
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AUBURN, MAINE

LEWISTON, MAINE



GENERAL PLAN  
1" = 40'-0"



ELEVATION  
N.T.S.

**NOTES:**

1. WATER LINE ELEVATION TAKEN FROM 2011 CHILDS ENGINEERING CORP. REPORT TITLED "UNDERWATER SUBSTRUCTURE INSPECTION AND CHANNEL INVESTIGATION," DATED OCTOBER 2011, AND REPRESENTS THE ELEVATION AT THE TIME OF THE INSPECTION. WATER ELEVATIONS MAY VARY.
2. A STEEL ANCHOR BLOCK WILL BE INSTALLED OVER THE EAST SHOULDER OF RIVERSIDE DRIVE. CLEARANCE WILL BE REDUCED FROM APPROXIMATELY 19'-0" TO 15'-6" DURING CONSTRUCTION DUE TO SCAFFOLDING AND TO 17'-0" IN THE FINAL CONDITION, SEE SHEET S-04 & S-05 FOR ANCHOR BLOCK LOCATION.

Scale:

No.	Revision	By	Date

Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	AJF	03/13	Checked	CRM	03/13
Drawn	MPC	03/13	In Charge of	RAL	03/13

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**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
ANDROSCOGGIN RIVER OVERPASS  
BRIDGE GENERAL PLAN AND ELEVATION

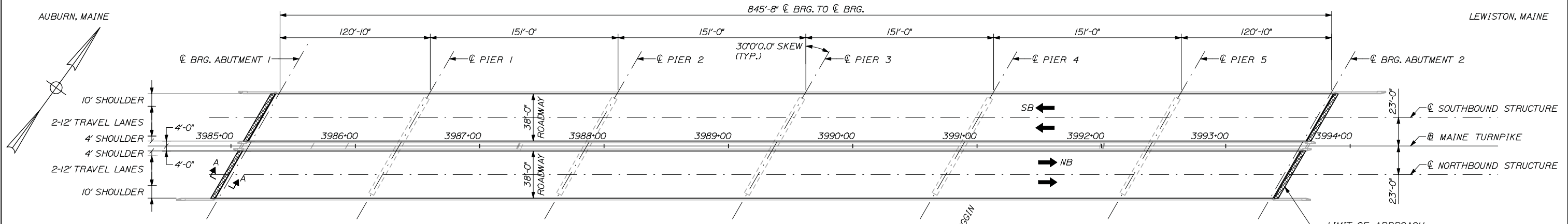
SHEET NUMBER: S-01  
CONTRACT: 2013.10  
12 OF 39

Date: 3/29/2013

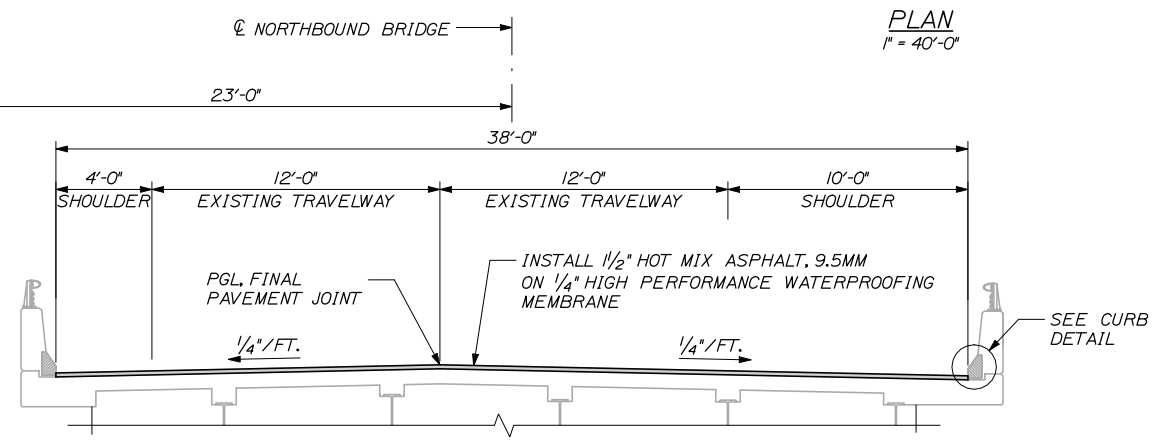
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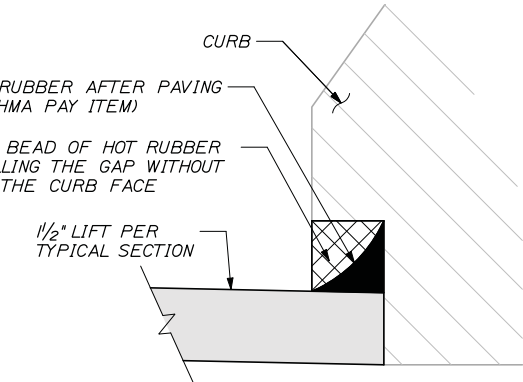
Date: 3/29/2013



**PLAN**  
1" = 40'-0"



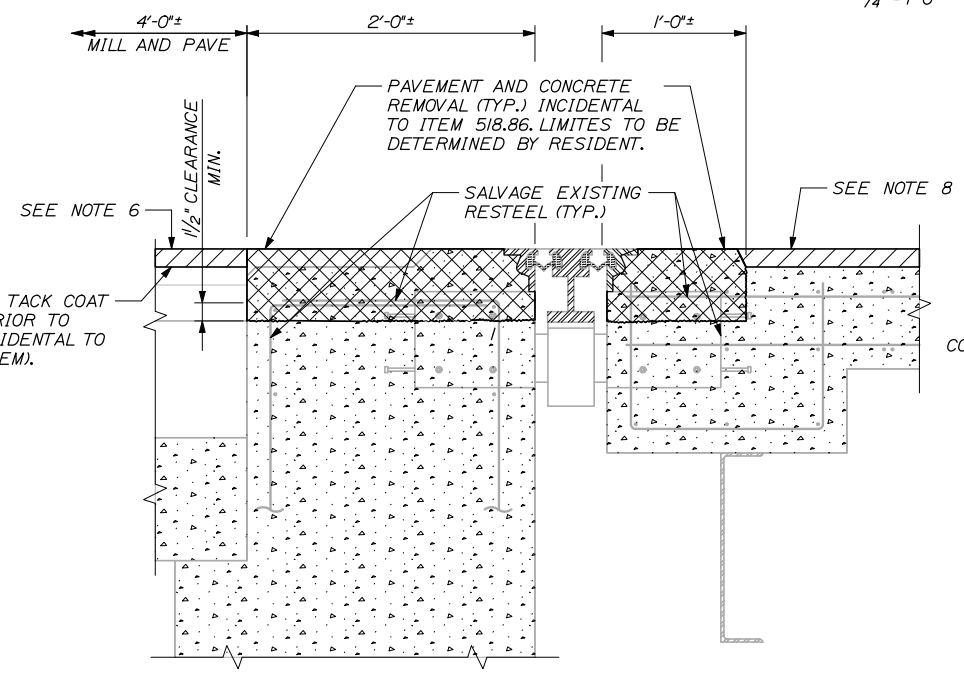
**DECK TYPICAL SECTION**  
1/4" = 1'-0"



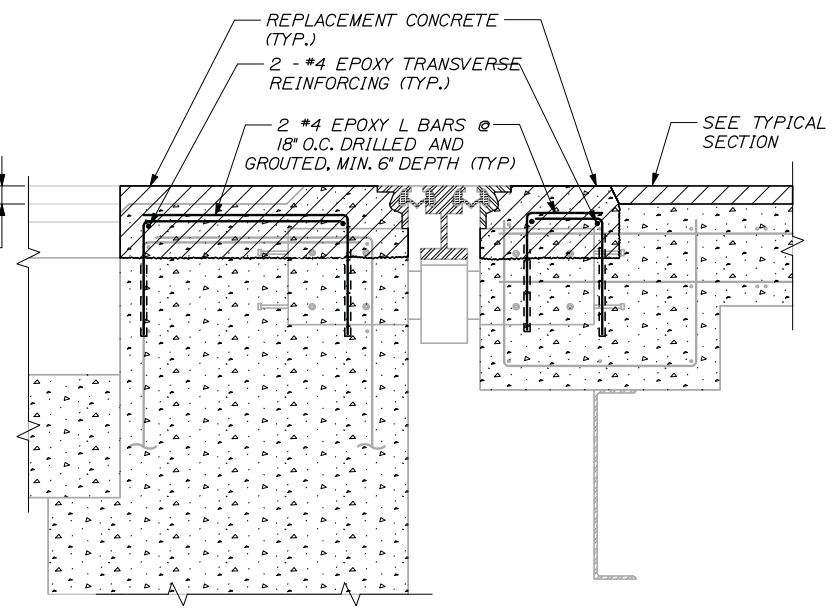
**CURB DETAIL**

**NOTES:**

1. THE EXISTING ARMORED JOINTS AND SCUPPERS ON BOTH STRUCTURES ARE BEING RETAINED AND SHALL BE PROTECTED BY THE CONTRACTOR AS THE WORK PROCEEDS.
2. EXACT REPAIR LOCATIONS AND QUANTITIES SHALL BE FIELD DETERMINED AND APPROVED BY THE RESIDENT. DECK REPAIR WORK SHALL BE PAID UNDER THE APPROPRIATE 518 REPAIR ITEM(S). CLOSELY INSPECT UNDERSIDE OF DECK ADJACENT TO BRIDGE JOINTS TO DETERMINE IF THE DECK REPAIRS ARE PARTIAL OR FULL DEPTH CONCRETE REPAIRS.
3. REPAIR AREAS OF DETERIORATED GRANITE CURB BEDDING MORTAR AND DETERIORATED GRANITE CURB JOINTS SHALL BE APPROVED BY THE RESIDENT. THIS WORK SHALL BE PAID UNDER ITEM 518.391 REPAIRING GRANITE CURB JOINT AND BEDDING MORTAR.
4. REPLACE THE EXPOSED BRIDGE JOINT HEADER CONCRETE SHOWN IN SECTION A-A, LIMITS AS APPROVED BY RESIDENT. THIS WORK SHALL BE PAID UNDER ITEM 518.392 BRIDGE JOINT HEADER CONCRETE REPLACEMENT.
5. LIMITS OF APPROACH MILL AND PAVE SHALL BE 4 FEET OR AS DIRECTED BY THE RESIDENT. MILL 1/2" OF EXISTING HOT BITUMINOUS PAVEMENT AND REPLACE WITH 1/2" HOT MIX ASPHALT 9.5 MM.
6. EXISTING DECK COMPOSITION, 1/2" HOT BITUMINOUS PAVEMENT ON 1/4" WATERPROOFING MEMBRANE ON 7/8" CONCRETE SLAB.
7. REMOVE AND DISPOSE OF EXISTING 1/2" BITUMINOUS CONCRETE OVERLAY AND EXISTING 1/4" MEMBRANE.
8. A MILLING MACHINE WILL NOT BE PERMITTED TO REMOVE THE EXISTING DECK PAVEMENT AND MEMBRANE. THE EXISTING DECK PAVEMENT AND MEMBRANE SHALL BE REMOVED USING AN EXCAVATOR, LOADER, OR SIMILAR EQUIPMENT APPROVED BY THE RESIDENT.
9. 1" DRAINS SHALL BE CLEANED WITH 1/2" DIA. ROD PRIOR TO PLACING MEMBRANE.
10. A COATING OF JOINT SEALANT (SS-S-140IC) SHALL BE APPLIED TO ALL BITUMINOUS VERTICAL JOINT SURFACES.
11. WHERE DRILLING AND ANCHORING IS SPECIFIED THE CONTRACTOR SHALL USE A MATERIAL LISTED ON THE MAINE DOT QUALIFIED LIST FOR CHEMICAL ANCHORING MATERIALS.



**SECTION A-A  
REMOVAL**  
1/2" = 1'-0"



**SECTION A-A  
REPLACEMENT**  
1/2" = 1'-0"

**NOTE:**  
HOT RUBBER SHALL BE PLACED ALONG ALL COLD JOINTS (INCIDENTAL TO HMA PAY ITEM).

No.	Revision	By	Date

Designed by:			
<b>HNTB</b>			
CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.			
	By	Date	
Designed	TMH	03/13	Checked CRM 03/13
Drawn	MPC	03/13	In Charge of RAL 03/13

HNTB CORPORATION  
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THE GOLD STAR  
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

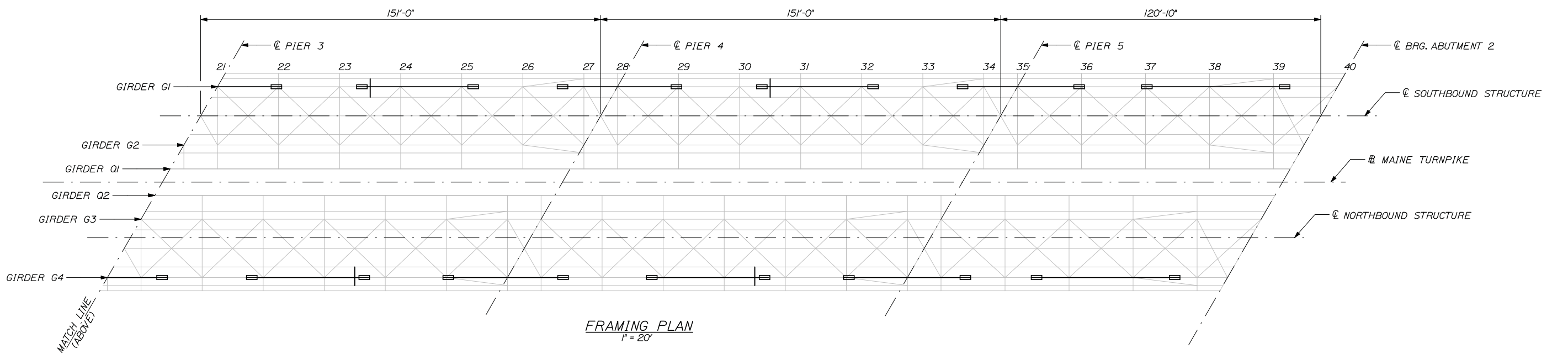
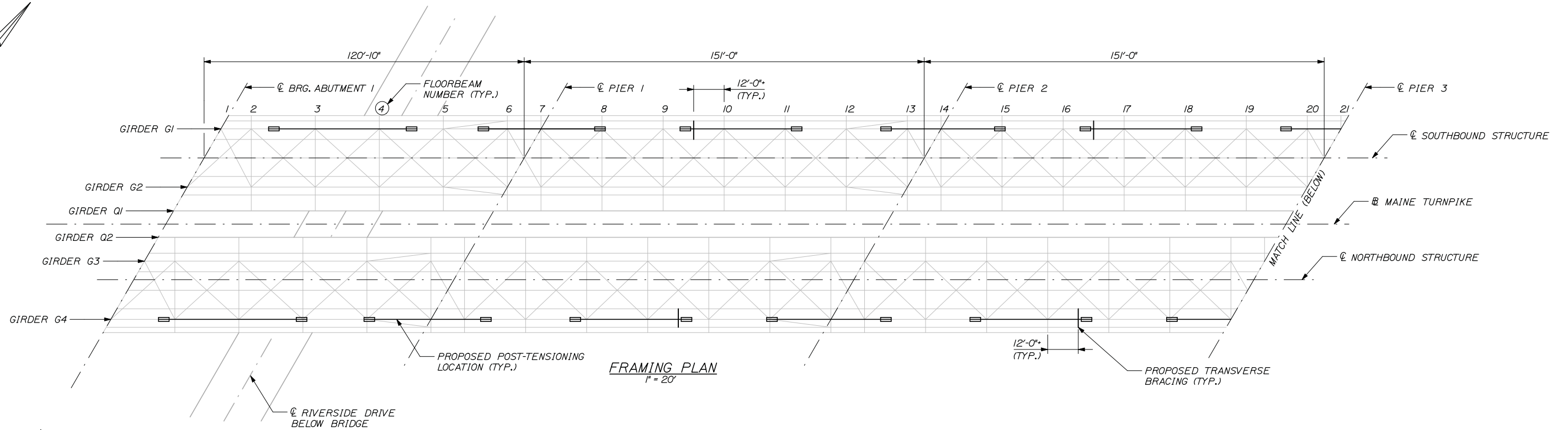
BRIDGE REPAIR AND STRENGTHENING  
ANDROSCOGGIN RIVER OVERPASS

DECK PLAN

SHEET NUMBER: S-03  
CONTRACT: 2013.10  
14 OF 39

Filename: 014\_deckPlan.dgn

Date: 3/29/2013



**NOTES:**

1. POST-TENSIONING LOCATIONS ARE SHOWN SCHEMATICALLY. FOR LOCATIONS OF LONGITUDINAL STIFFENERS AND STEEL ANCHOR BLOCKS, REFER TO SHEET S-05.
2. TRANSVERSE BRACING SHALL BE INSTALLED IN LOCATIONS SHOWN ABOVE. SEE SHEET S-08 FOR BRACING DETAIL.

Filename: 015\_Framing Plan.dgn

Scale:			
No.	Revision	By	Date

Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

By	Date	By	Date
Designed	AJF 03/13	Checked	CRM 03/13
Drawn	MPC 03/13	In Charge of	RAL 03/13

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**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
 ANDROSCOGGIN RIVER OVERPASS  
 FRAMING PLAN

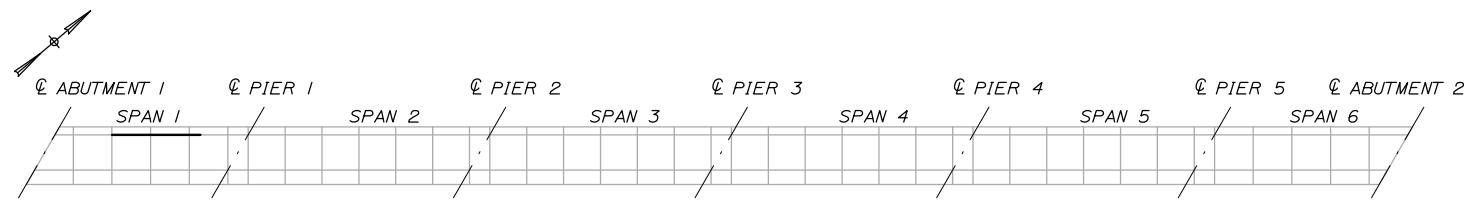
SHEET NUMBER: S-04  
 15 OF 39

CONTRACT: 2013.10

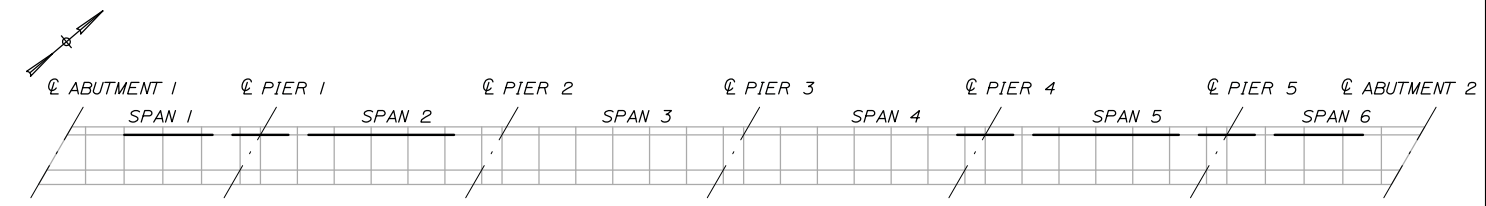




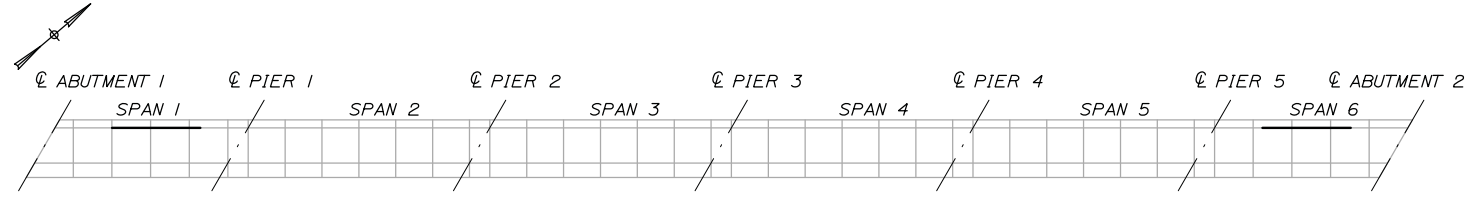
Date: 3/22/2013



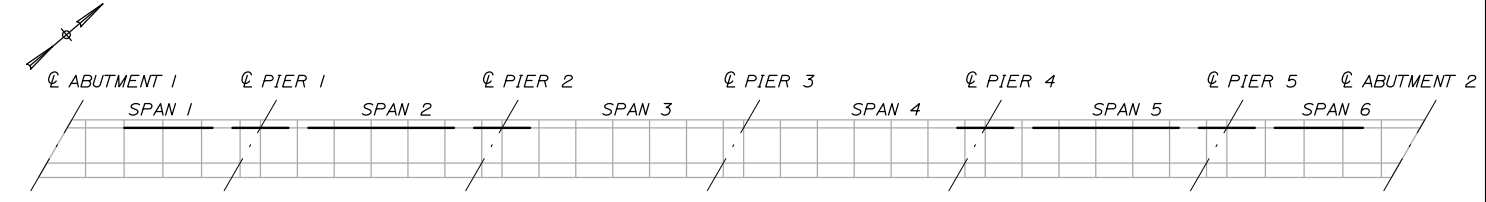
PHASE 1 - SPAN 1 POSITIVE MOMENT



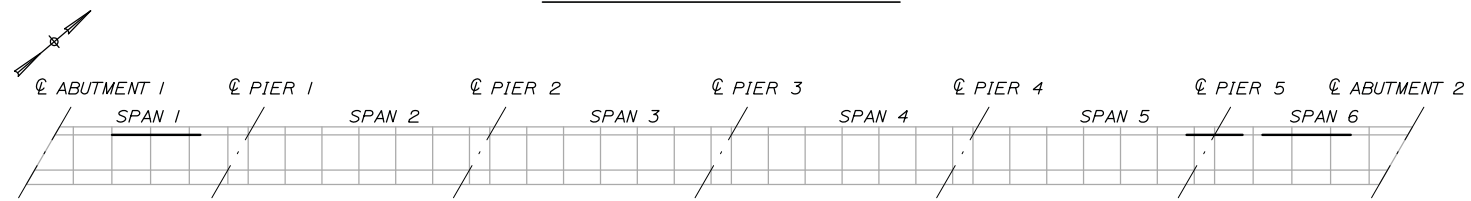
PHASE 7 - PIER 4 NEGATIVE MOMENT



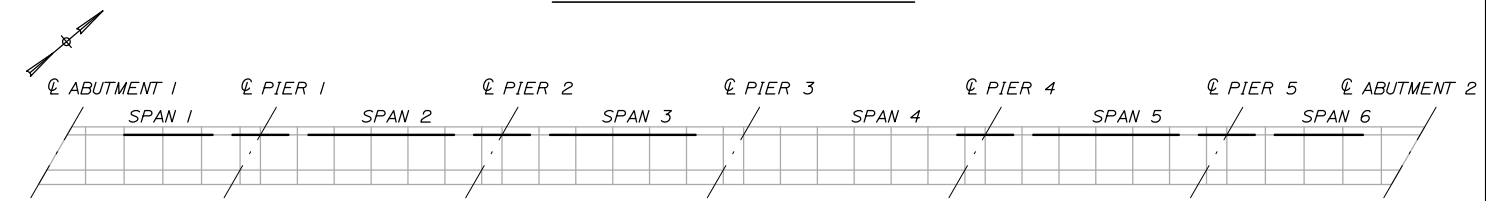
PHASE 2 - SPAN 6 POSITIVE MOMENT



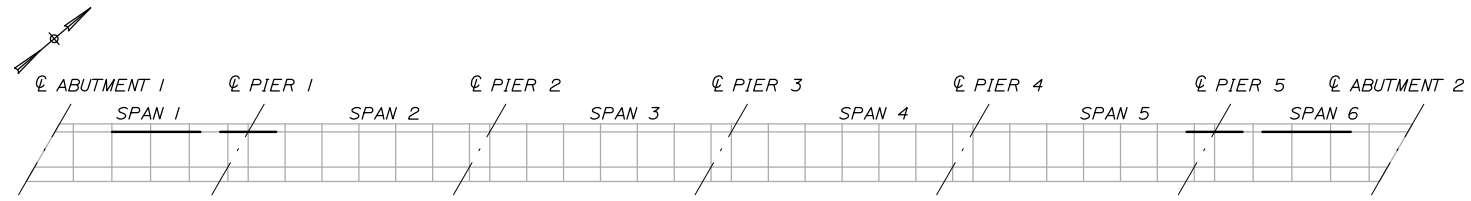
PHASE 8 - PIER 2 NEGATIVE MOMENT



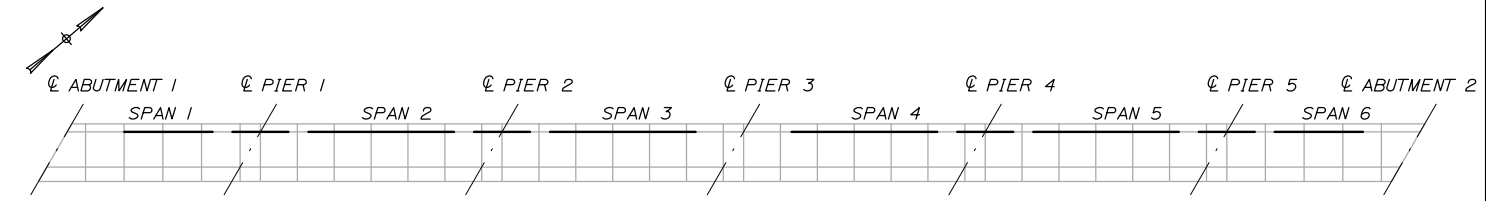
PHASE 3 - PIER 5 NEGATIVE MOMENT



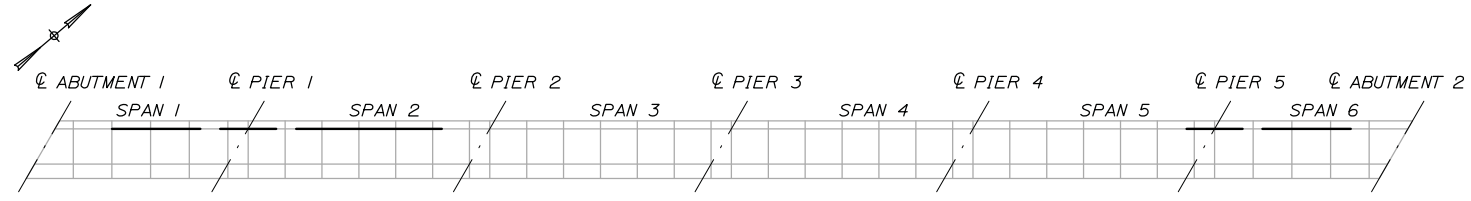
PHASE 9 - SPAN 3 POSITIVE MOMENT



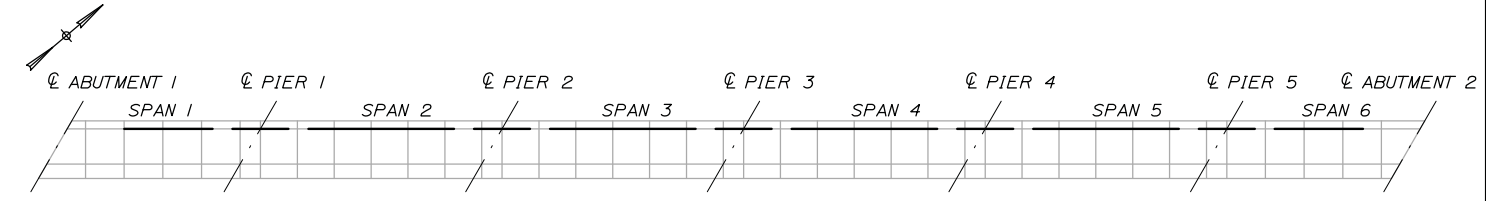
PHASE 4 - PIER 1 NEGATIVE MOMENT



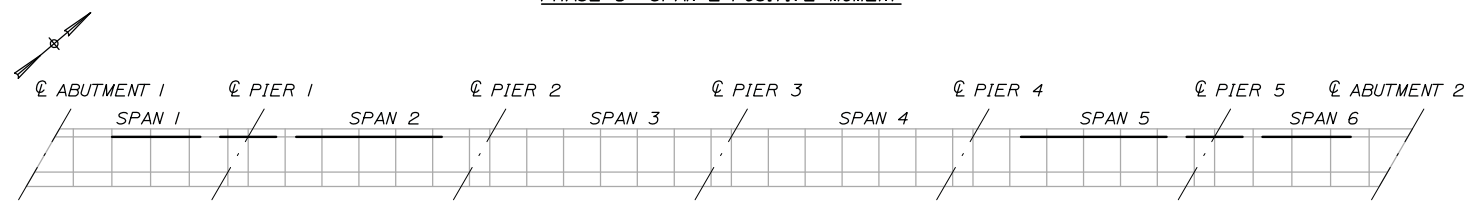
PHASE 10 - SPAN 4 POSITIVE MOMENT



PHASE 5 - SPAN 2 POSITIVE MOMENT



PHASE 11 - PIER 3 NEGATIVE MOMENT



PHASE 6 - SPAN 5 POSITIVE MOMENT

**PLAN VIEW - POST-TENSIONING SEQUENCE**  
 (SOUTHBOUND BRIDGE SHOWN NORTHBOUND BRIDGE OPPOSITE HAND)  
 1" = 60'-0"

**NOTES:**

1. DIAGONAL BRACING AND INTERIOR STRINGERS ARE EXCLUDED FROM THIS SHEET FOR CLARITY.
2. FOR ADDITIONAL POST-TENSIONING DETAILS REFER TO SHEETS S-07 AND S-08.

Scale:			
Designed by:			
No.	Revision	By	Date

<b>HNTB</b>			
CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.			
	By	Date	
Designed	AJF	03/13	Checked CRM 03/13
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**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
 ANDROSCOGGIN RIVER OVERPASS  
 POST-TENSIONING SEQUENCE

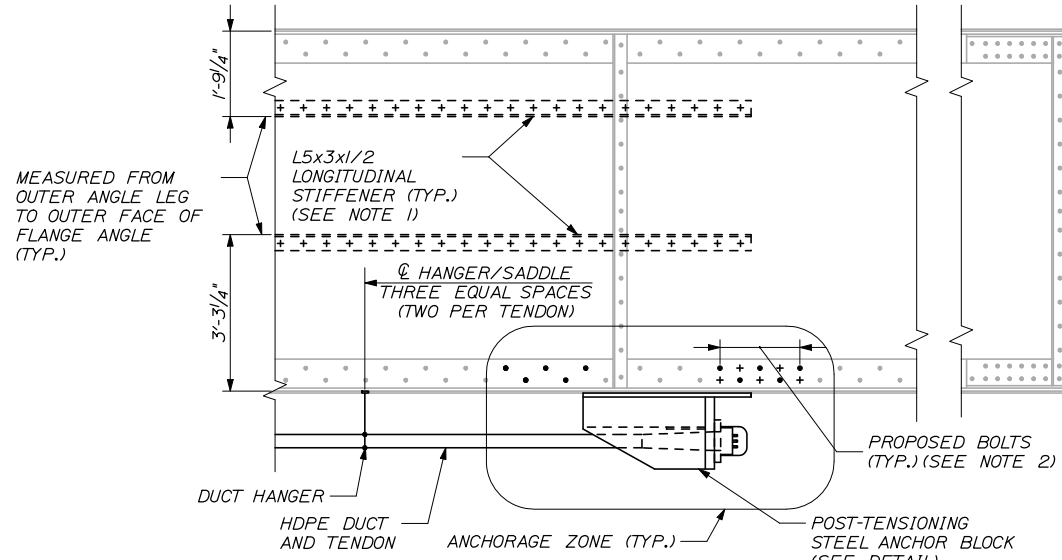
SHEET NUMBER: S-06  
 CONTRACT: 2013.10  
 17 OF 39

Filename: 017\_P1Seq.dgn

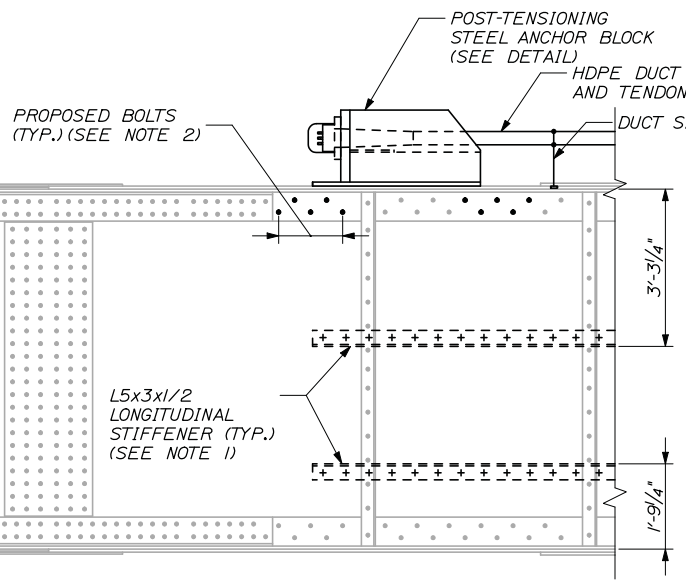
Date: 3/29/2013

**LEGEND:**

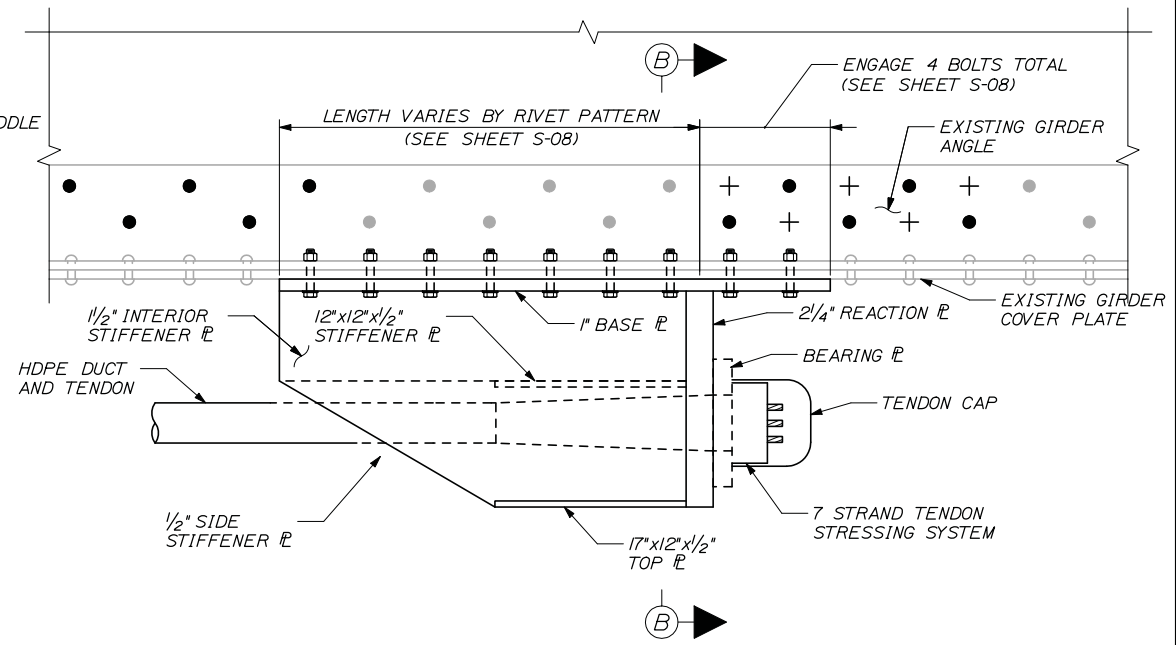
- EXISTING RIVET
- EXISTING RIVET REPLACED WITH H.S. BOLT
- + ADDITIONAL H.S. BOLT WITH FIELD DRILLED HOLE



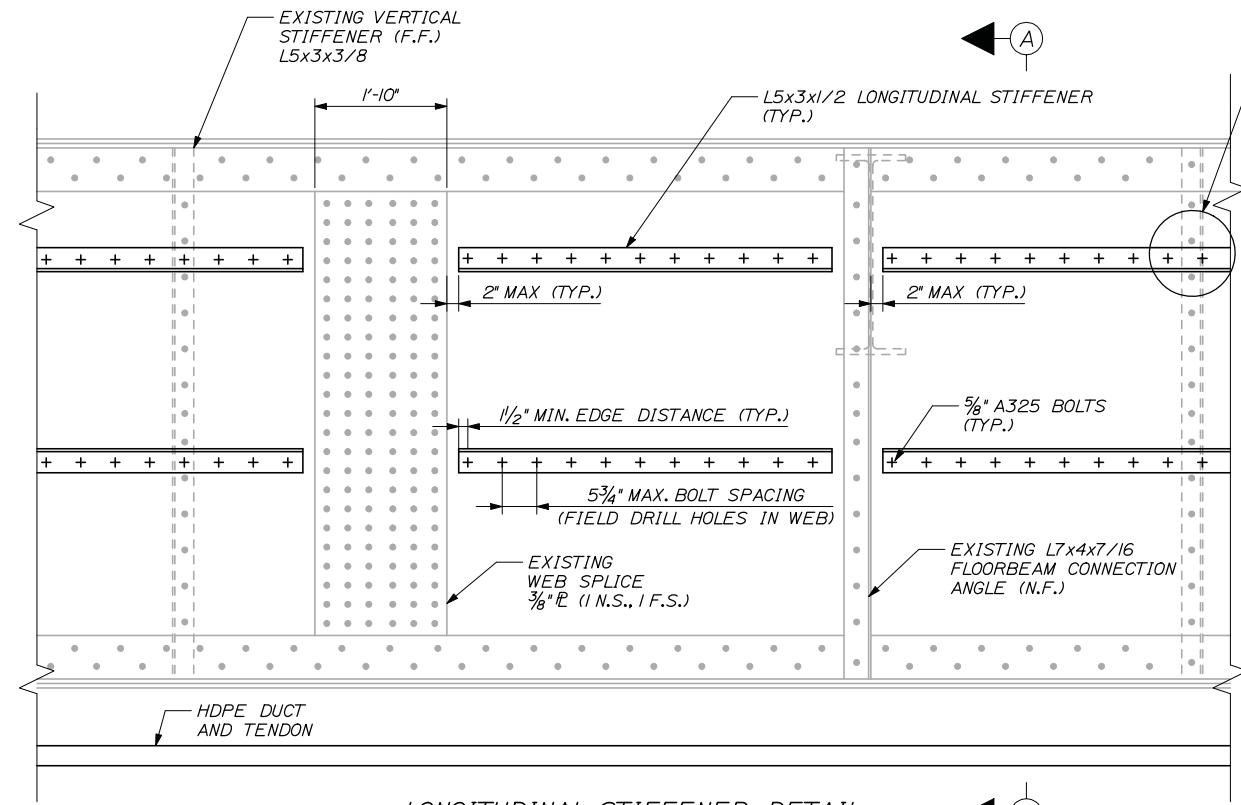
**ANCHORAGE ZONE DETAIL**  
(SB GI LOOKING NW - MIDSPAN REGIONS)  
1/2" = 1'-0"



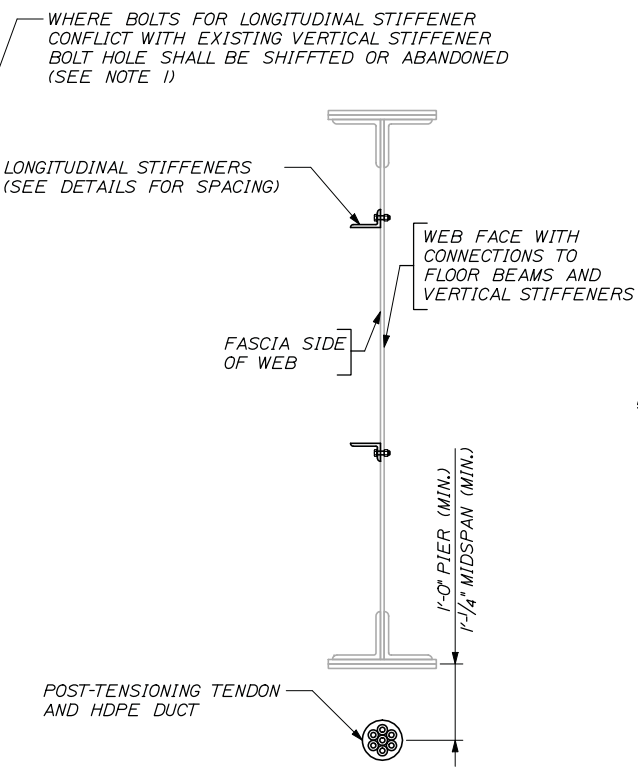
**ANCHORAGE ZONE DETAIL**  
(PIER REGIONS)  
1/2" = 1'-0"



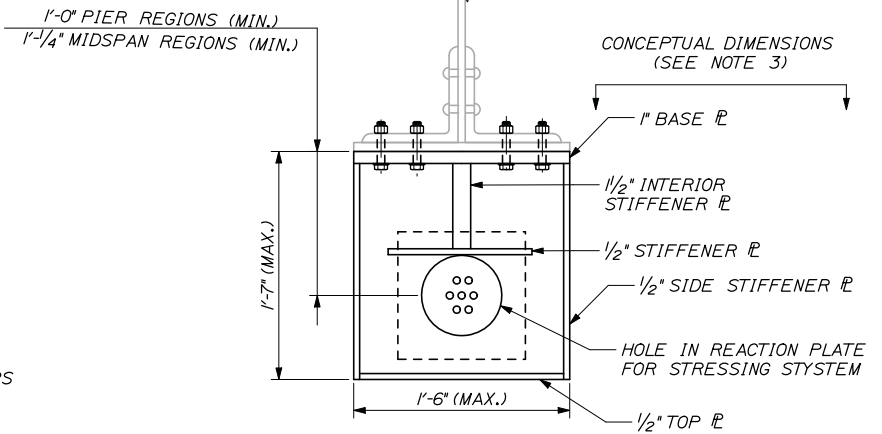
**STEEL ANCHOR BLOCK DETAIL - ANCHORAGE ZONE**  
TYPE A BOLT PATTERN SHOWN (ALL OTHERS SIMILAR)  
1/2" = 1'-0"



**LONGITUDINAL STIFFENER DETAIL**  
(MIDSPAN REGION SHOWN)  
3/4" = 1'-0"



**SECTION A-A**  
3/4" = 1'-0"



**SECTION B-B**  
1/2" = 1'-0"

**NOTES:**

1. LONGITUDINAL STIFFENERS SHALL BE BOLTED TO FASCIA FACE OF WEB PLATE AS SHOWN. STIFFENER SHALL SPAN ENTIRE LENGTH OF POST-TENSIONING TENDON. BREAKS IN STIFFENER SHALL BE PERMITTED AT WEB SPLICE LOCATIONS AND FLOORBEAMS. THE CONTRACTOR SHALL PLACE STIFFENERS AND BOLT SPACING TO AVOID STIFFENER CONFLICTS. IF SEVERAL CONFLICTS OCCUR IN ONE STIFFENER SEGMENT CONTRACTOR SHALL NOTIFY RESIDENT.
2. EXISTING RIVETS CONNECTING FLANGE ANGLE TO WEB SHALL BE REPLACED WITH 7/8" φ A490 BOLTS AT ANCHOR BLOCK ENDS AS SHOWN IN DETAIL. MIDSPAN REGIONS REQUIRE ADDITIONAL BOLTS BE ADDED ABOVE AND BELOW STAGGERED BOLTS ON THE TRAILING END OF THE ANCHOR BLOCK AS SHOWN. PIER REGIONS DO NOT REQUIRE ADDITIONAL BOLTS BUT WILL REQUIRE RIVETS TO BE REPLACED AT BOTH ENDS. FIVE COLUMNS OF BOLTS SHALL BE REPLACED AT ALL LOCATIONS. THIS WORK SHALL ALL BE INCIDENTAL TO PAY ITEM 504.882.
3. ANCHOR BLOCK SHALL BE BOLTED TO EXISTING FLANGE USING EXISTING RIVET HOLES AND 7/8" φ A490 BOLTS. ANCHOR BLOCK STEEL SHALL BE GALVANIZED. AN ANCHOR BLOCK DESIGN STAMPED BY A LICENSED PROFESSIONAL ENGINEER SHALL BE SUBMITTED BY THE CONTRACTOR BASED ON FIELD MEASUREMENTS OF RIVET PATTERNS AND PROPOSED STRESSING SYSTEM. ANCHOR BLOCK DESIGN SHOWN IS CONCEPTUAL BY NATURE BASED ON AN ASSUMED STRESSING SYSTEM CONFIGURATION. THE DESIGN SHALL INCLUDE: PLATE SIZES, PLATE CONFIGURATION, NUMBER OF BOLTS REQUIRED, AND WELD CALL OUTS.
4. THE POST-TENSIONING SYSTEM SHALL ADHERE TO THE FOLLOWING DESIGN CRITERIA:
  - STRANDS SHALL BE EPOXY COATED 0.6" φ
  - SINGLE END STRESSING SHALL BE USED
  - EFFECTIVE FORCE OF 280 KIPS AFTER LOSSES
  - WOBBLE COEFFICIENT (K) = 0.0002/FT
  - FRICTION COEFFICIENT = 0.14
  - ANCHOR SET = 0.25 INCHES

Filename: 018\_PT\_Details.dgn

Scale:			
No.	Revision	By	Date

Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

By	Date	By	Date
Designed	KEB 03/13	Checked	AJF 03/13
Drawn	MPC 03/13	In Charge of	RAL 03/13

HNTB CORPORATION  
340 County Road, Suite 6-C  
Westbrook, ME 04092  
TEL (207) 774-5155  
FAX (207) 228-0909

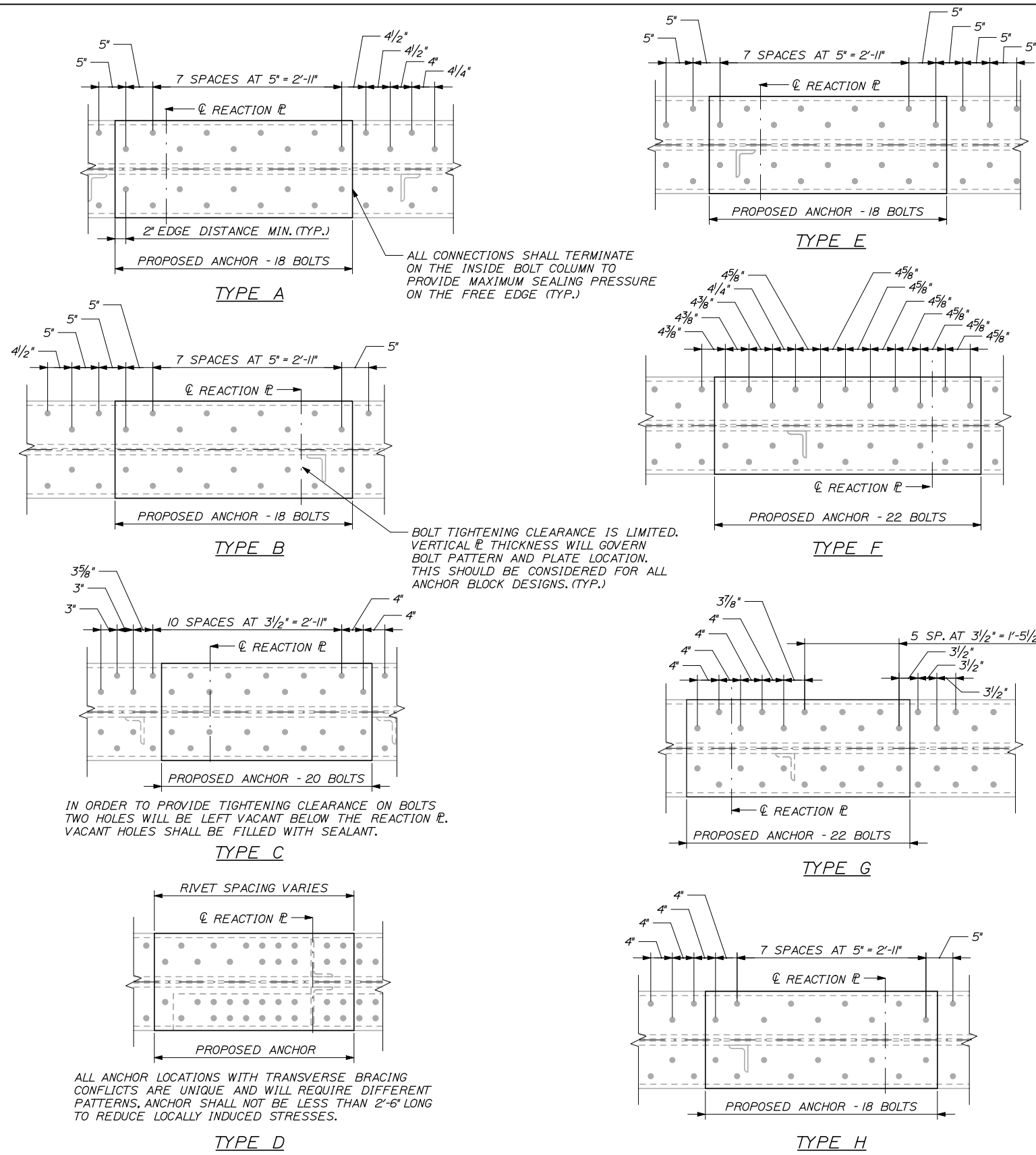

**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
ANDROSCOGGIN RIVER OVERPASS  
POST-TENSIONING DETAILS I

SHEET NUMBER: S-07  
CONTRACT: 2013.10  
18 OF 39

Date: 3/22/2013



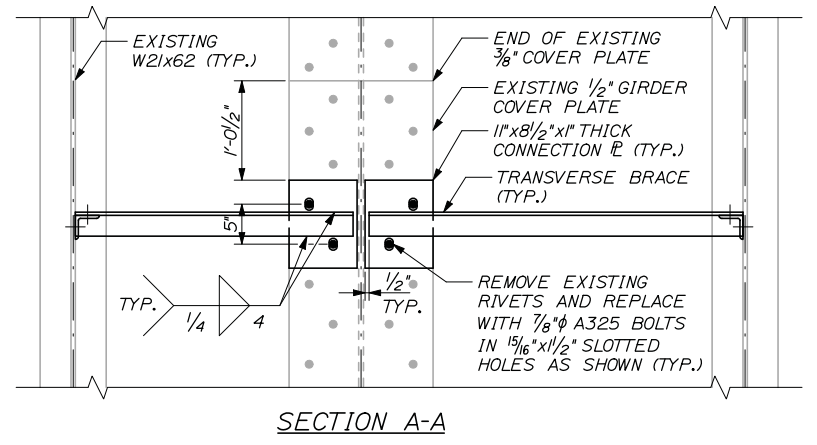
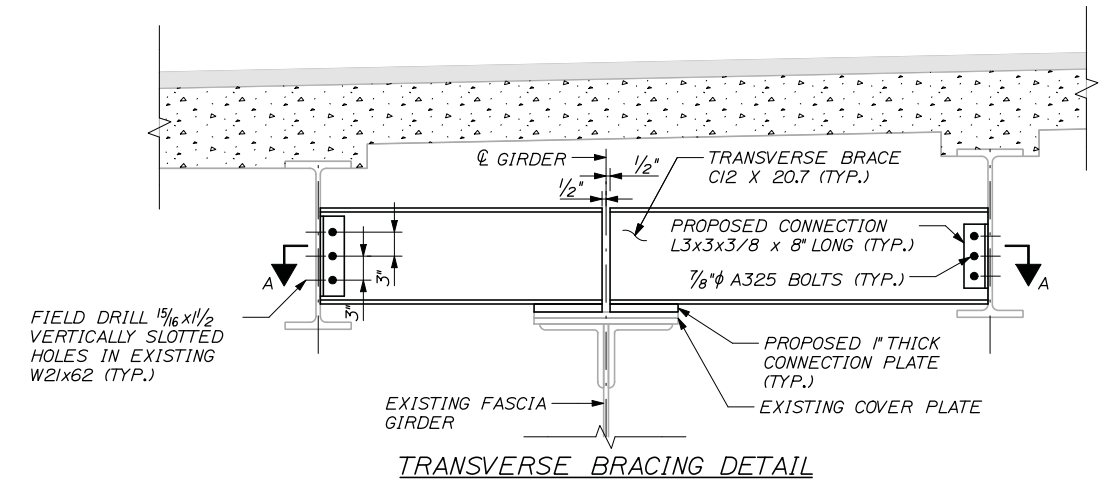
ALL CONNECTIONS SHALL TERMINATE ON THE INSIDE BOLT COLUMN TO PROVIDE MAXIMUM SEALING PRESSURE ON THE FREE EDGE (TYP.)

BOLT TIGHTENING CLEARANCE IS LIMITED. VERTICAL  $\bar{r}$  THICKNESS WILL GOVERN BOLT PATTERN AND PLATE LOCATION. THIS SHOULD BE CONSIDERED FOR ALL ANCHOR BLOCK DESIGNS. (TYP.)

IN ORDER TO PROVIDE TIGHTENING CLEARANCE ON BOLTS TWO HOLES WILL BE LEFT VACANT BELOW THE REACTION  $\bar{r}$ . VACANT HOLES SHALL BE FILLED WITH SEALANT.

ALL ANCHOR LOCATIONS WITH TRANSVERSE BRACING CONFLICTS ARE UNIQUE AND WILL REQUIRE DIFFERENT PATTERNS. ANCHOR SHALL NOT BE LESS THAN 2'-6" LONG TO REDUCE LOCALLY INDUCED STRESSES.

ANCHOR BLOCK BOLT PATTERNS



ANCHOR BLOCK INSTALLATION PROCEDURE

1. CONTRACTOR TO FIELD VERIFY EXISTING RIVET SPACING AT ANCHOR BLOCK LOCATIONS PRIOR TO SUBMITTING SHOP DRAWINGS OF ANCHOR BLOCK DESIGN. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY SEVERE FLANGE DISTORTION AT ANCHOR BLOCK LOCATIONS.
2. ONCE ANCHOR BLOCK DESIGN IS APPROVED CONTRACTOR SHALL REMOVE HEADS AND SHANKS OF RIVETS THAT ARE TO BE REPLACED BY BOLTS. SEE SPECIAL PROVISION 504 FOR APPROVED REMOVAL METHODS.
3. DURING RIVET REMOVAL A MAXIMUM OF FOUR VACANT HOLES SHALL BE ALLOWED AT ONE TIME. BOLTS SHALL BE PLACED IN VACANT HOLES AND HAND TIGHTENED TEMPORARILY DURING THE RIVET REMOVAL PROCESS.
4. PREPARE THE FLANGE SURFACE FOR ANCHOR BLOCK INSTALLATION BY REMOVING ALL LOOSE RUST AND DIRT PER SPECIFICATION 506.
5. REMOVE HAND TIGHTENED NUTS AND POSITION ANCHOR BLOCK IN FINAL SEATED LOCATION. BOLTS SHALL REMAIN IN HOLES DURING ANCHOR POSITIONING AND INSTALLATION.
6. PREPARE AND PAINT NEW STEELWORK AND AREAS OF EXISTING STEELWORK TO THE LIMITS SPECIFIED. SEE SHEET S-10 FOR DETAILS. NEW STEEL WORK INCLUDES ANCHOR BLOCKS, LONGITUDINAL STIFFENERS, AND TRANSVERSE BRACING.
7. SEE SPECIAL PROVISION 504 AND 506 FOR ADDITIONAL INFORMATION.

Filename: 019\_PT\_Details II.dgn

Scale:		Designed by:	
No.	Revision	By	Date
CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.		By	Date
Designed	KEB	03/13	Checked
Drawn	MPC	03/13	In Charge of

**HNTB**

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340 County Road, Suite 6-C  
Westbrook, ME 04092  
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FAX (207) 228-0909

MAINE TURNPIKE

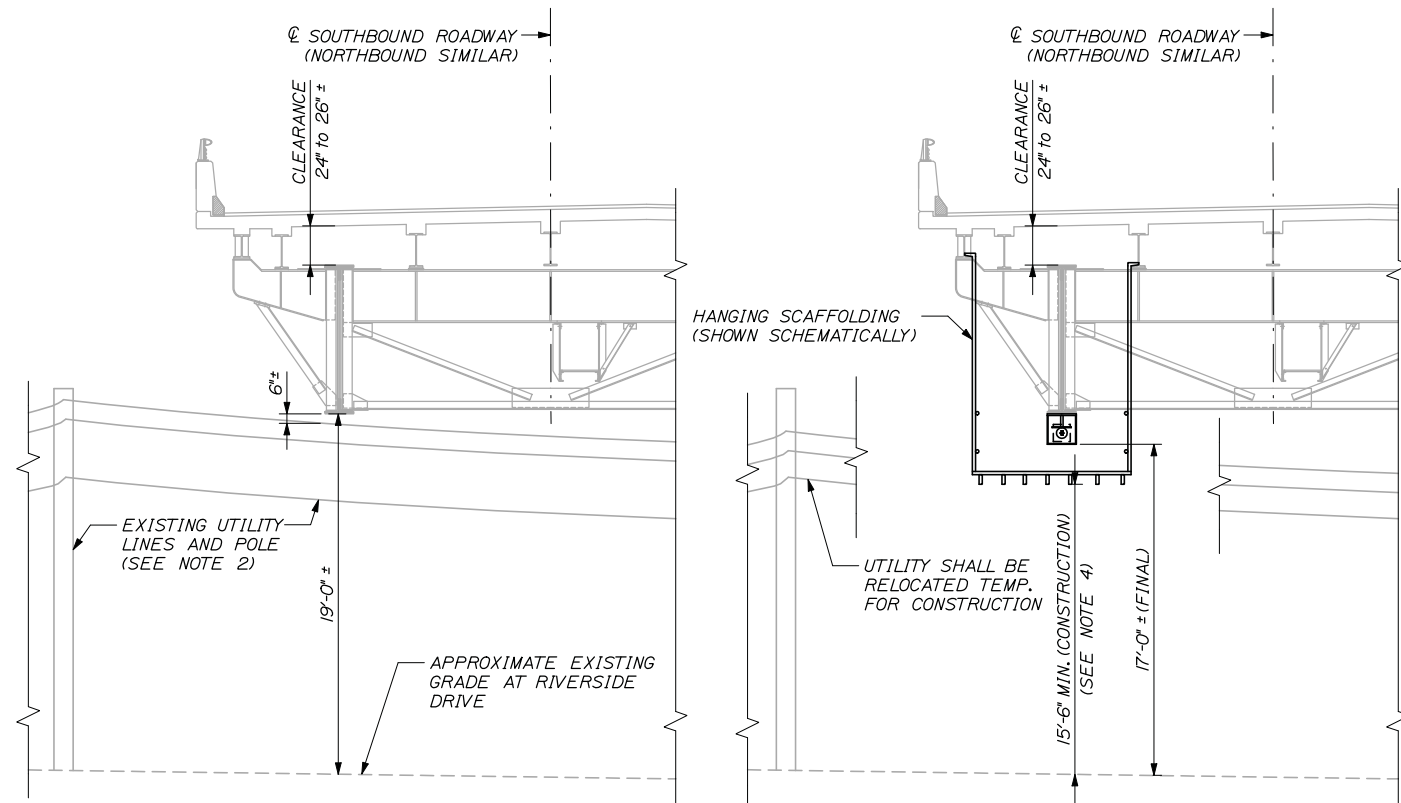
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
ANDROSCOGGIN RIVER OVERPASS  
POST-TENSIONING DETAILS II

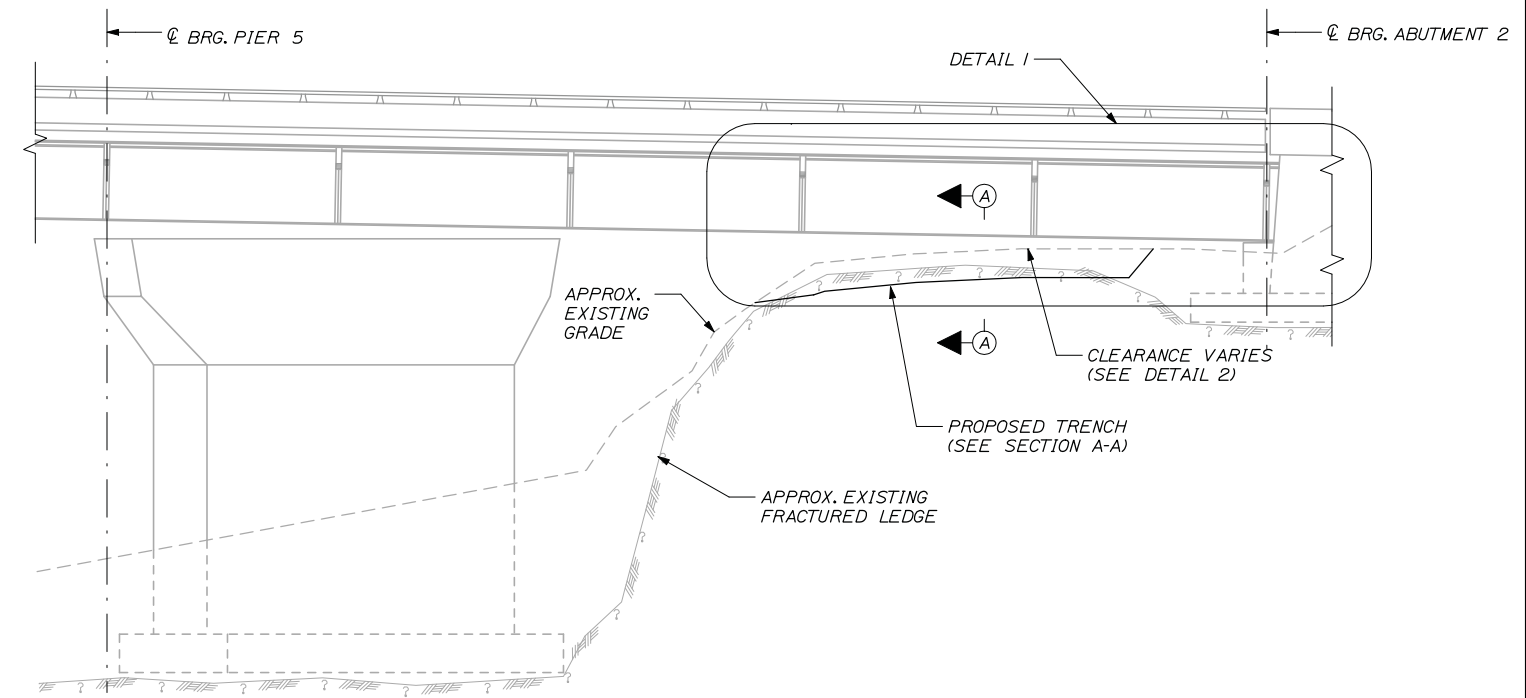
SHEET NUMBER: S-08  
CONTRACT: 2013.10  
19 OF 39

Date: 3/29/2013

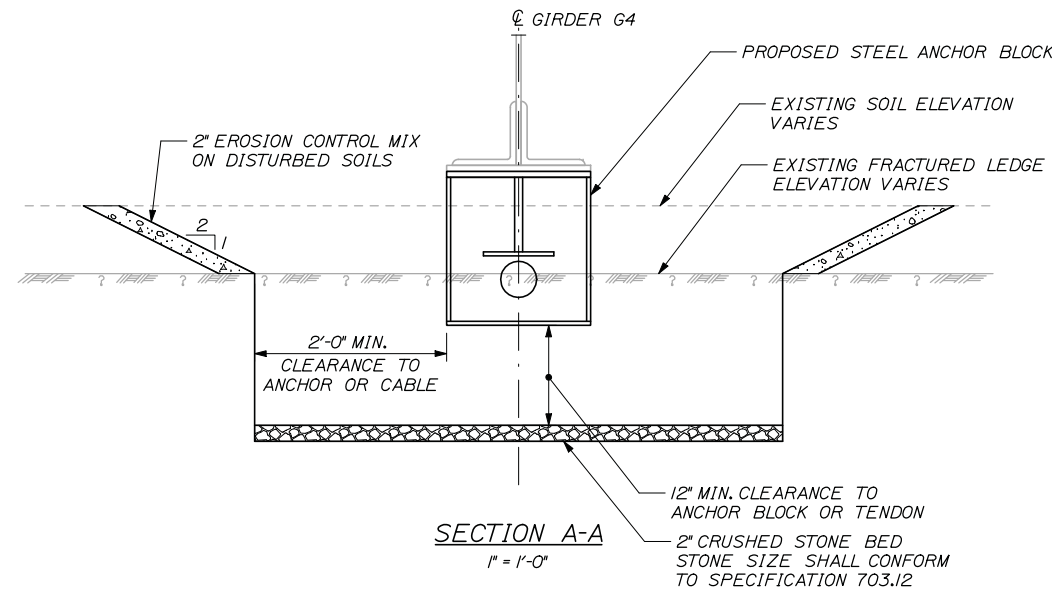


**CLEARANCE DIAGRAM - EXISTING CONDITION**  
(WEST FASCIA GIRDER SHOWN - RIVERSIDE DRIVE)  
1" = 5'-0"

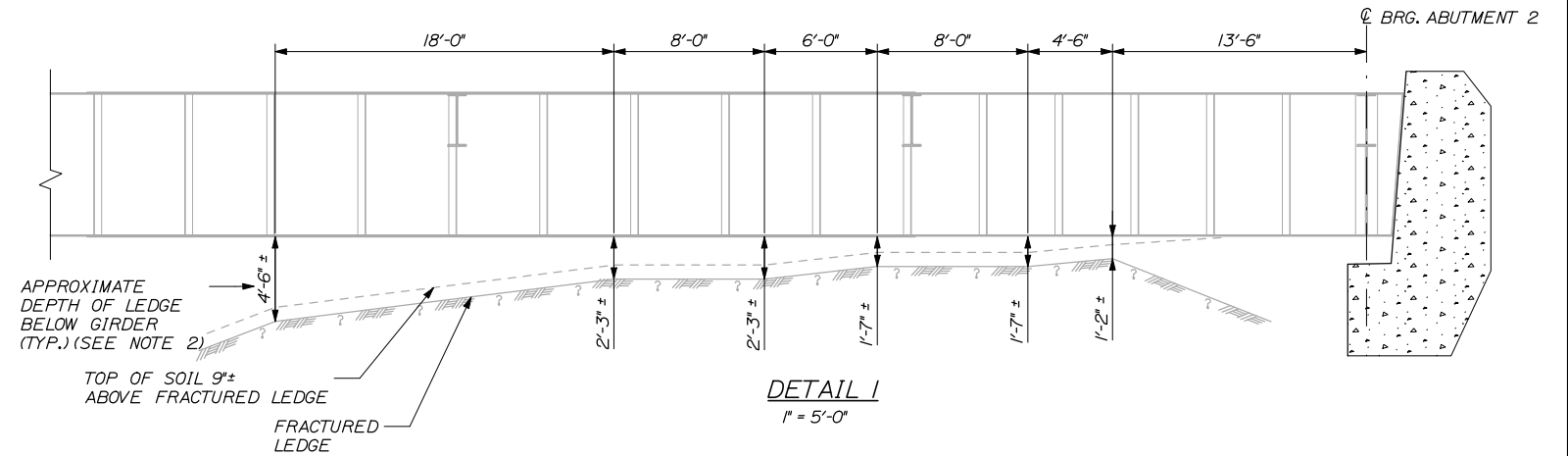
**CLEARANCE DIAGRAM - PROPOSED CONDITION**  
(WEST FASCIA GIRDER SHOWN - RIVERSIDE DRIVE)  
1" = 5'-0"



**ELEVATION**  
(NORTHBOUND BRIDGE, NORTH ABUTMENT END SPAN, GIRDER G4)  
(LOOKING NORTHWEST)  
1" = 10'-0"



**SECTION A-A**  
1" = 1'-0"



**DETAIL I**  
1" = 5'-0"

**NOTES:**

1. ALL ROCK AND COMMON EXCAVATION, CRUSHED STONE, AND EROSION CONTROL MIX SHALL BE PAID UNDER PAY ITEM 203.22 CLEARANCE EXCAVATION.
2. DURING CONSTRUCTION UTILITIES SHALL BE RELOCATED TEMPORARILY TO PROVIDE CLEARANCE FOR SCAFFOLDING AND POST-TENSIONING SYSTEM. FOR ADDITIONAL INFORMATION ON UTILITY COORDINATION SEE SPECIAL PROVISION 104.4.6.
3. FRACTURED LEDGE OUTCROP SHALL BE REMOVED TO FACILITATE CONSTRUCTION, PAINTING, AND POST-TENSIONING. CLEARANCE MAY BE LIMITED AT NORTHBOUND BRIDGE NEAR NORTH ABUTMENT. FOR ESTIMATING PURPOSES, A VOLUME OF 6 CY OF ROCK AND 5 CY COMMON EXCAVATION IS ASSUMED TO BE REMOVED FOR INSTALLATION OF ANCHOR BLOCK AND TENDON. A TRENCH SHALL BE INSTALLED WHERE EXCAVATION OCCURS, EXCAVATED TRENCH MUST SLOPE TO DRAIN.
4. DURING CONSTRUCTION SCAFFOLDING SHALL PROVIDE A MINIMUM OF 15'-6" CLEARANCE AT RIVERSIDE DRIVE.

Filename: 020\_Existing Structure Details.dgn

Scale:		Designed by:	
No.	Revision	By	Date

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CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.			
	By	Date	
Designed	KEB	03/13	Checked AJF 03/13
Drawn	MPC	03/13	In Charge of RAL 03/13

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THE GOLD STAR  
MEMORIAL HIGHWAY

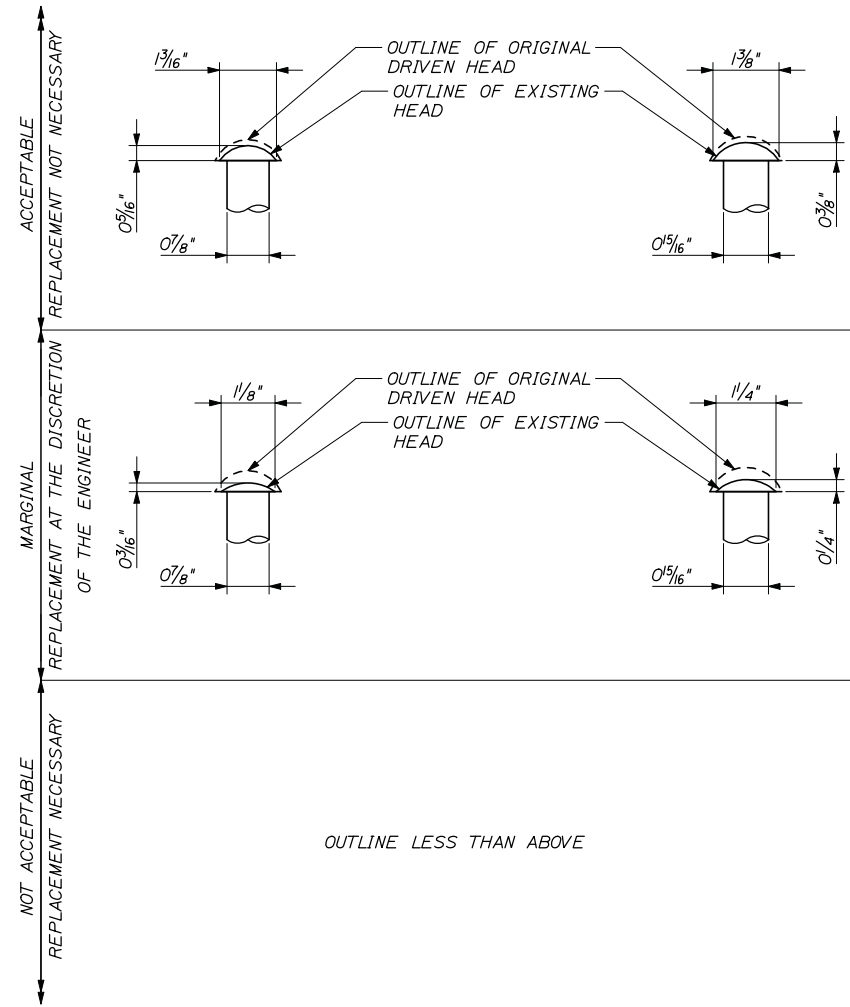
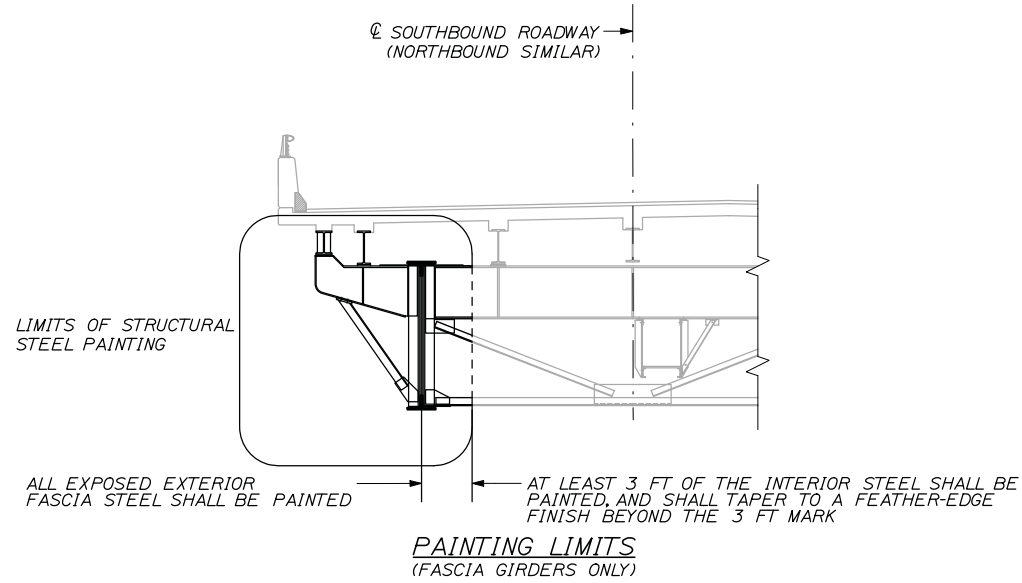
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REPAIR AND STRENGTHENING  
ANDROSCOGGIN RIVER OVERPASS

EXISTING STRUCTURE DETAILS

SHEET NUMBER: S-09  
CONTRACT: 2013.10  
20 OF 39

Date: 3/29/2013




RIVET REPLACEMENT CRITERIA  
N.T.S

NOTES:

1. ALL STRUCTURAL STEEL LOCATED IN THE PAINTING LIMIT ENVELOPED AREA SHALL BE PAINTED. THIS SHALL INCLUDE ALL TRANSVERSE BRACING STEEL AS WELL.
2. THE CONTRACTOR SHALL PERFORM SURFACE PREPARATION, CONTAINMENT, DISPOSAL AND PAINTING WORK IN CONFORMANCE WITH SPECIAL PROVISION 506, "LEAD ABATEMENT AND COATING APPLICATION". PAYMENT SHALL BE MADE UNDER THE APPLICABLE PAY ITEMS IN SPECIAL PROVISION 506.
3. THE RESIDENT SHALL INSPECT THE CONDITION OF ALL FASCIA GIRDER RIVETS FOR UNACCEPTABLE DETERIORATION. RIVET REMOVAL AND REPLACEMENT SHALL BE IN ACCORDANCE WITH THE "RIVET REPLACEMENT CRITERIA" DETAIL. RIVETS REMOVED DUE TO UNACCEPTABLE DETERIORATION SHALL BE REPLACED WITH HOT DIP GALVANIZED HIGH STRENGTH BOLTS AND SHALL BE MEASURED FOR PAYMENT UNDER PAY ITEM 504.81.

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				No.	Revision	By	Date												
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By	Date	By	Date																
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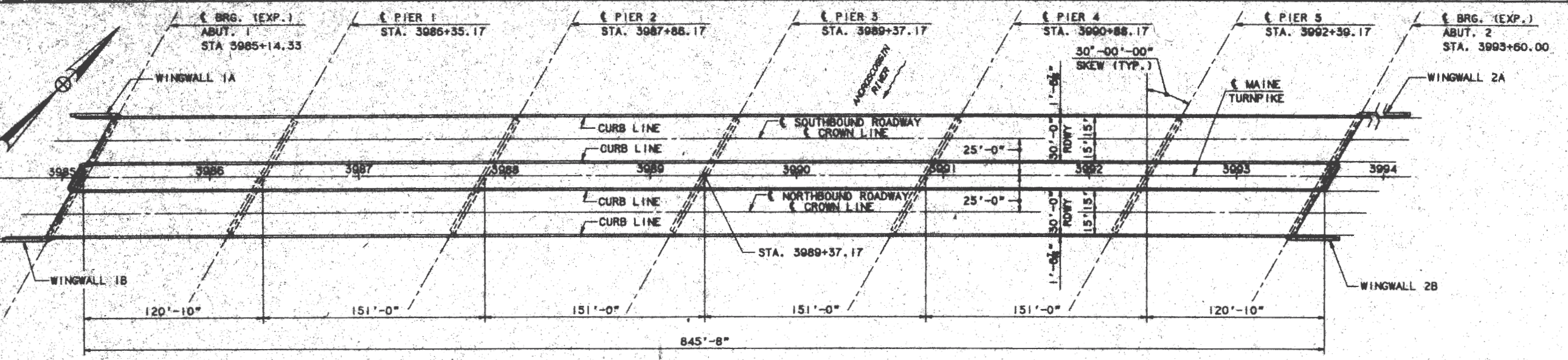
**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

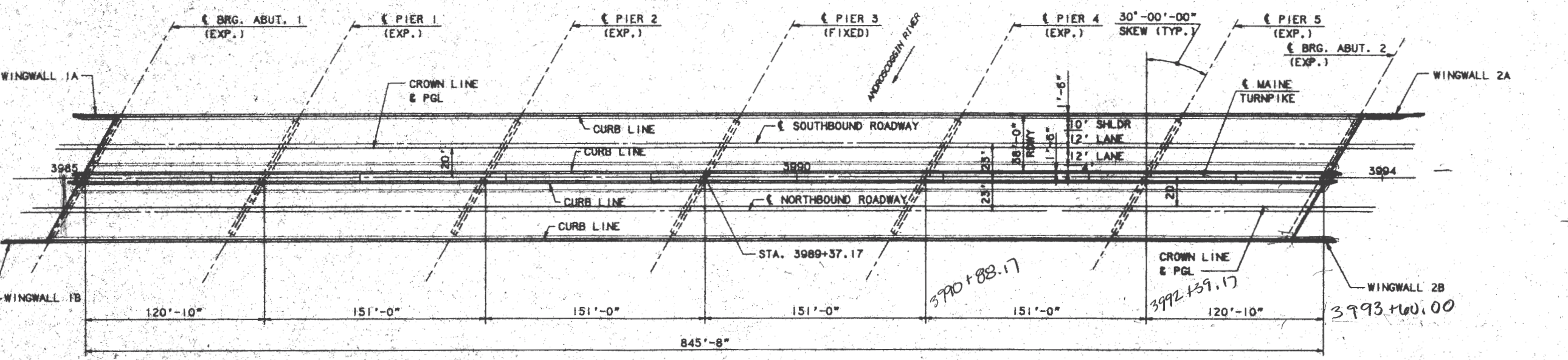
BRIDGE REPAIR AND STRENGTHENING  
ANDROSCOGGIN RIVER OVERPASS

PAINTING DETAILS

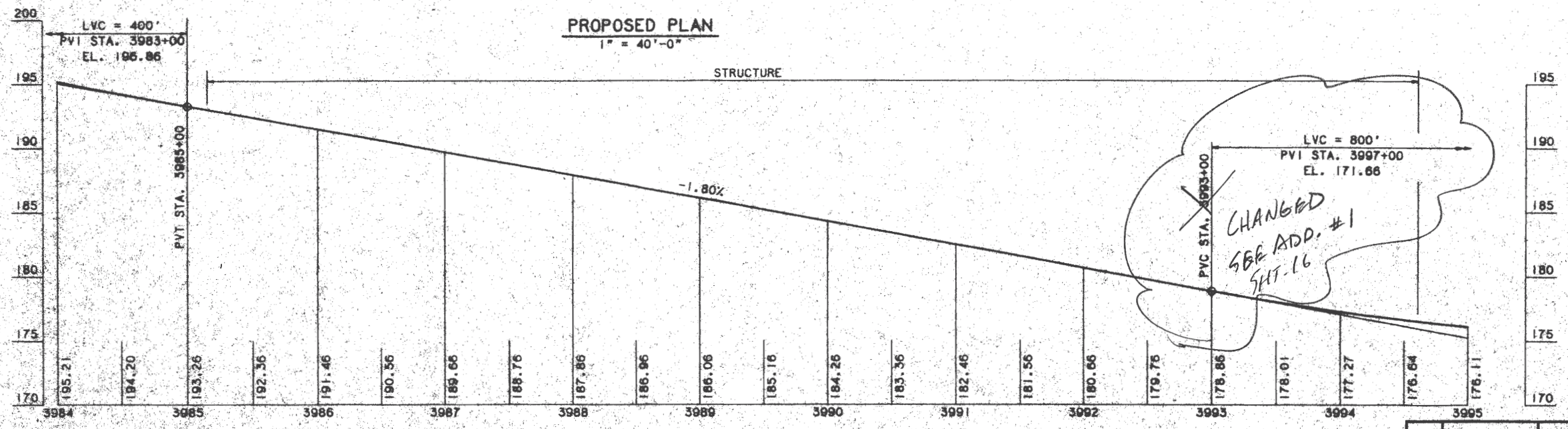
SHEET NUMBER: S-10  
CONTRACT: 2013.10  
21 OF 39



**EXISTING PLAN**  
1" = 40'-0"



**PROPOSED PLAN**  
1" = 40'-0"



**PROPOSED PROFILE**  
HORIZ. 1" = 50'  
VERT. 1" = 5'

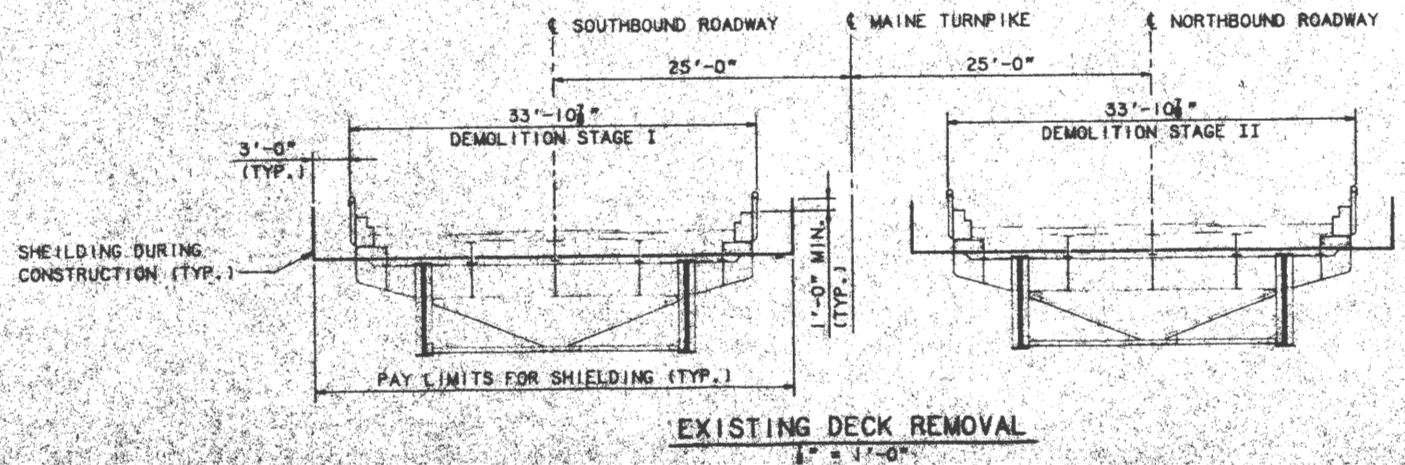
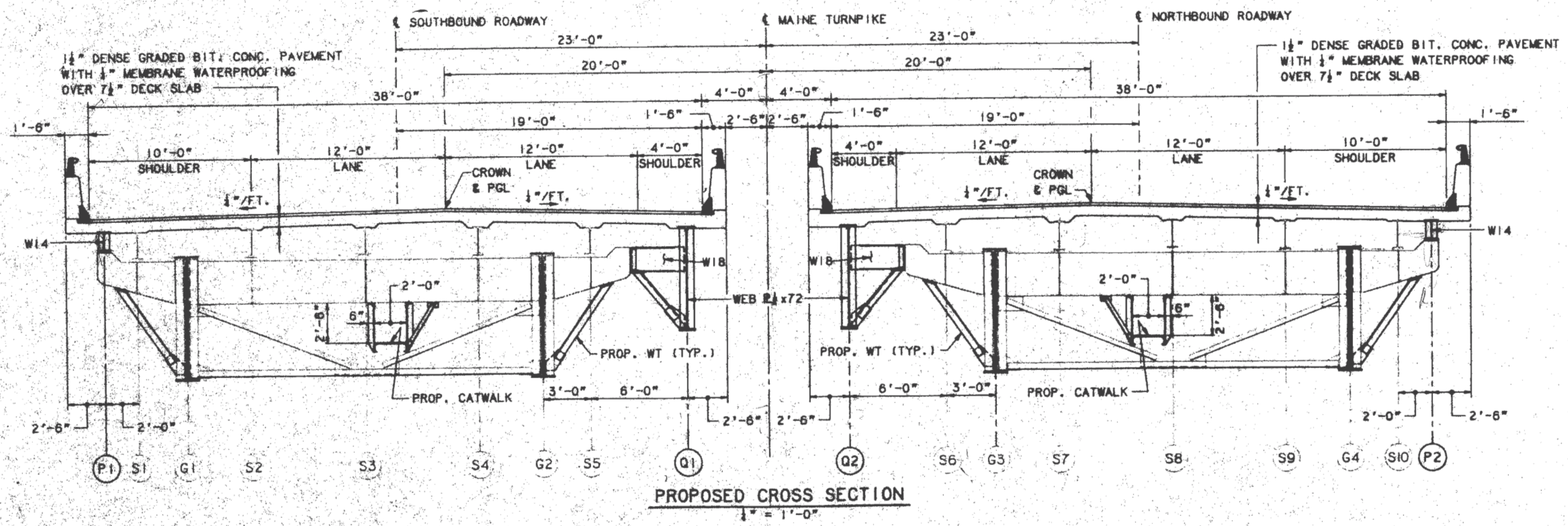
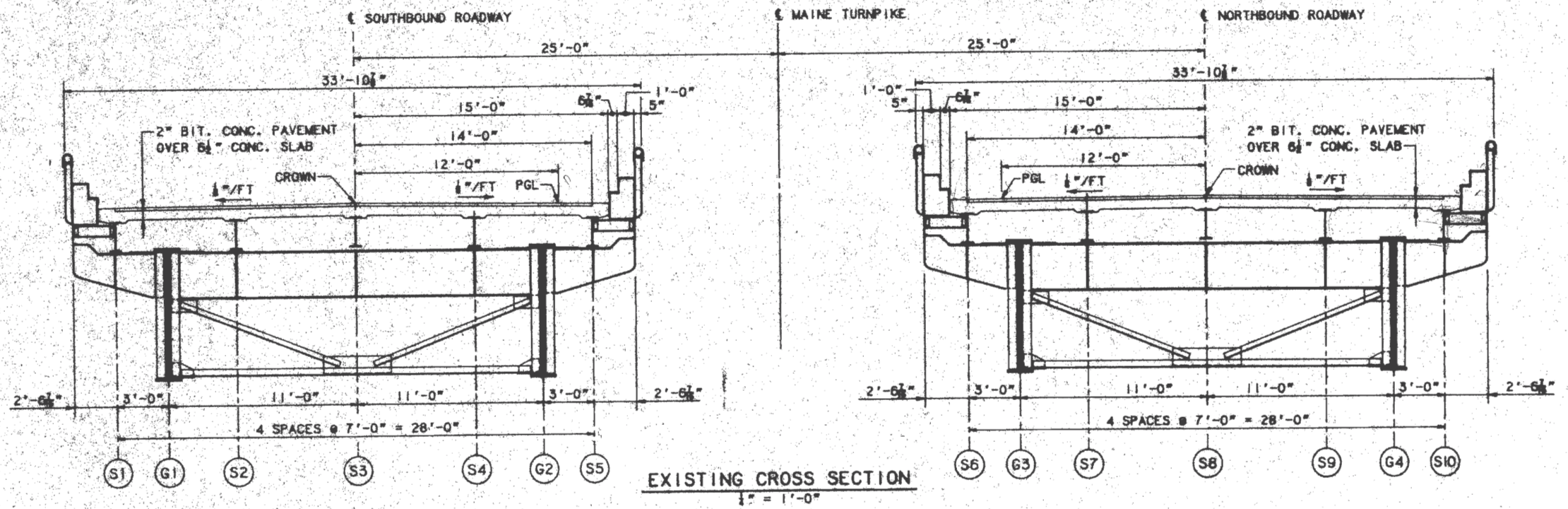
Handwritten notes and calculations:

$\tan 30 = \frac{y}{x}$   
 $x = 2.89$   
 $3993 + 60.00$

Maine Turnpike Authority  
**Maine Turnpike**  
 ANDROSCOGGIN RIVER  
 OVERPASS  
 GENERAL PLAN

M T  
 HOWARD NEEDLES TAMM & BERNEPOT, THE ARCHITECTS ENGINEERS PLANNERS  
 Contract 95.10 Sheet No. AR-2  
 37.22 OF 99

By	Date
Designed CJS	2/96
Drawn RJT	2/96
Checked PML	2/96



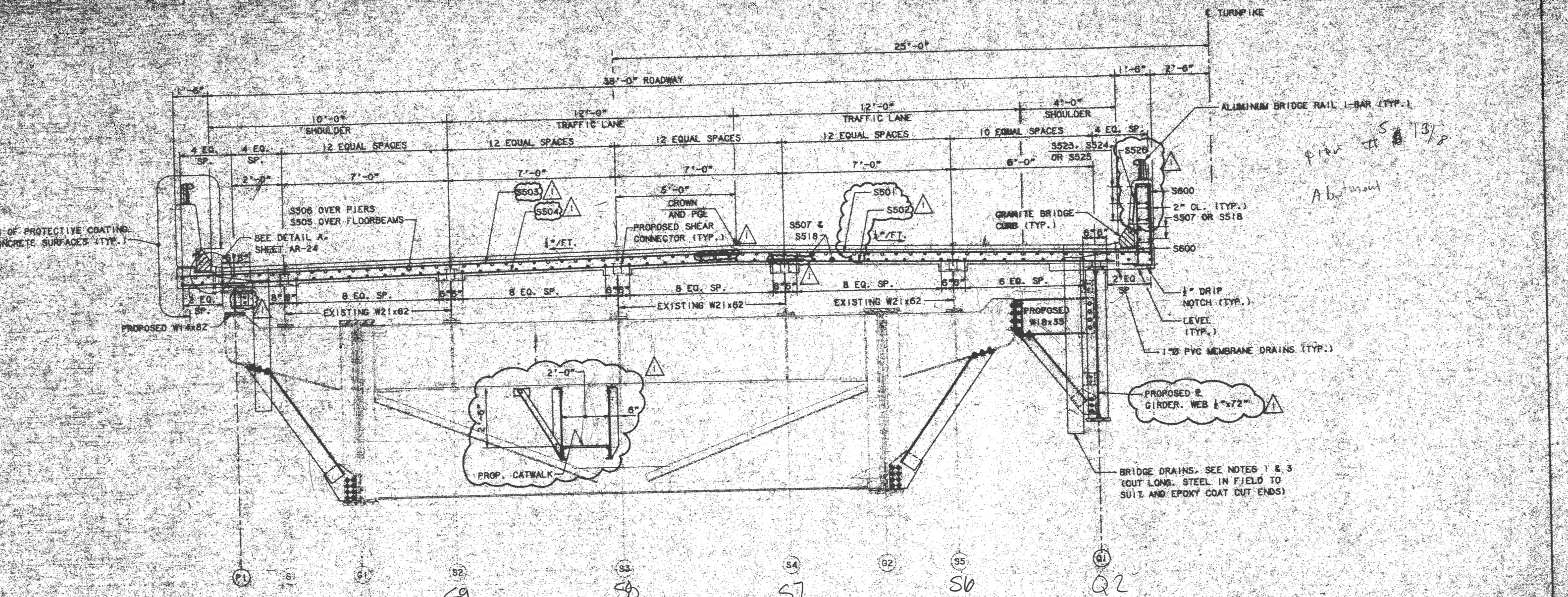
Maine Turnpike Authority  
**Maine Turnpike**

ANDROSCOGGIN RIVER  
 OVERPASS  
 SEQUENCE OF  
 CONSTRUCTION

**HNTE** HOWARD, NEEDLES, TAMM & BERKELEY, INC.  
 ARCHITECTS-ENGINEERS-PLANNERS

By:	Date:
Designed:	CJS 2/88
Drawn:	RJT 2/88
Checked:	HNE 2/88
By:	Date:
In charge:	RAL

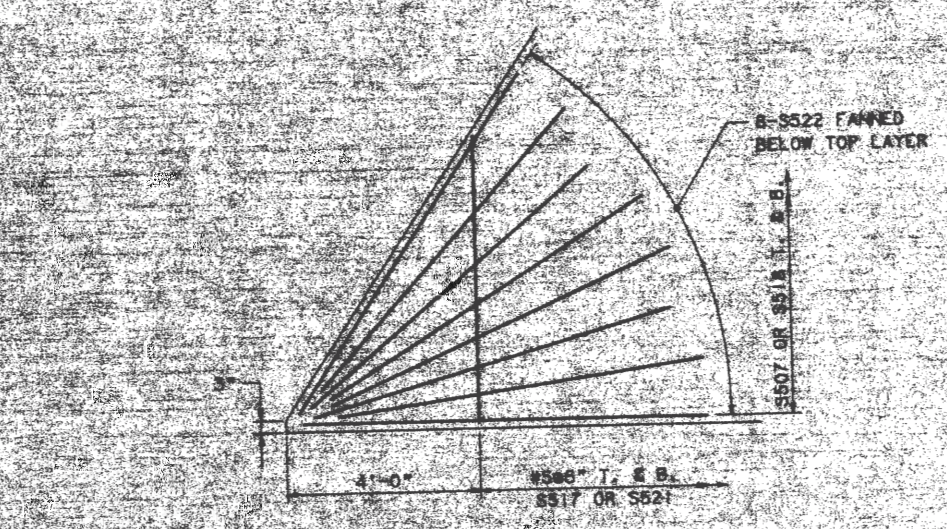
Contract 95.10 Sheet No. AR-3  
 38 of 69  
 23 OF 39



PROPOSED TYPICAL SECTION  
1" = 1'-0"

**SUPERSTRUCTURE NOTES**

1. ADJUST REINFORCING STEEL TO FIT AROUND THE DRAINS IN A MANNER APPROVED BY THE ENGINEER. DO NOT CUT TRANSVERSE REINFORCING BARS.
2. FOR STEEL REINFORCING SCHEDULE, SEE SHEET AR-30 AND AR-31.
3. FOR SCUPPER AND DRAIN DETAILS, SEE SHEET AR-25.
4. FOR 1-BAR ALUMINUM BRIDGE RAILING DETAILS, SEE SHEET AR-29.
5. FOR SLAB DETAILS, SEE SHEET AR-24 AND AR-25.
6. FOR ROADWAY EXPANSION JOINT DETAILS, SEE SHEET AR-26, AR-27 AND AR-28.
7. FOR SHEAR CONNECTOR DETAILS, SEE SHEET AR-18.

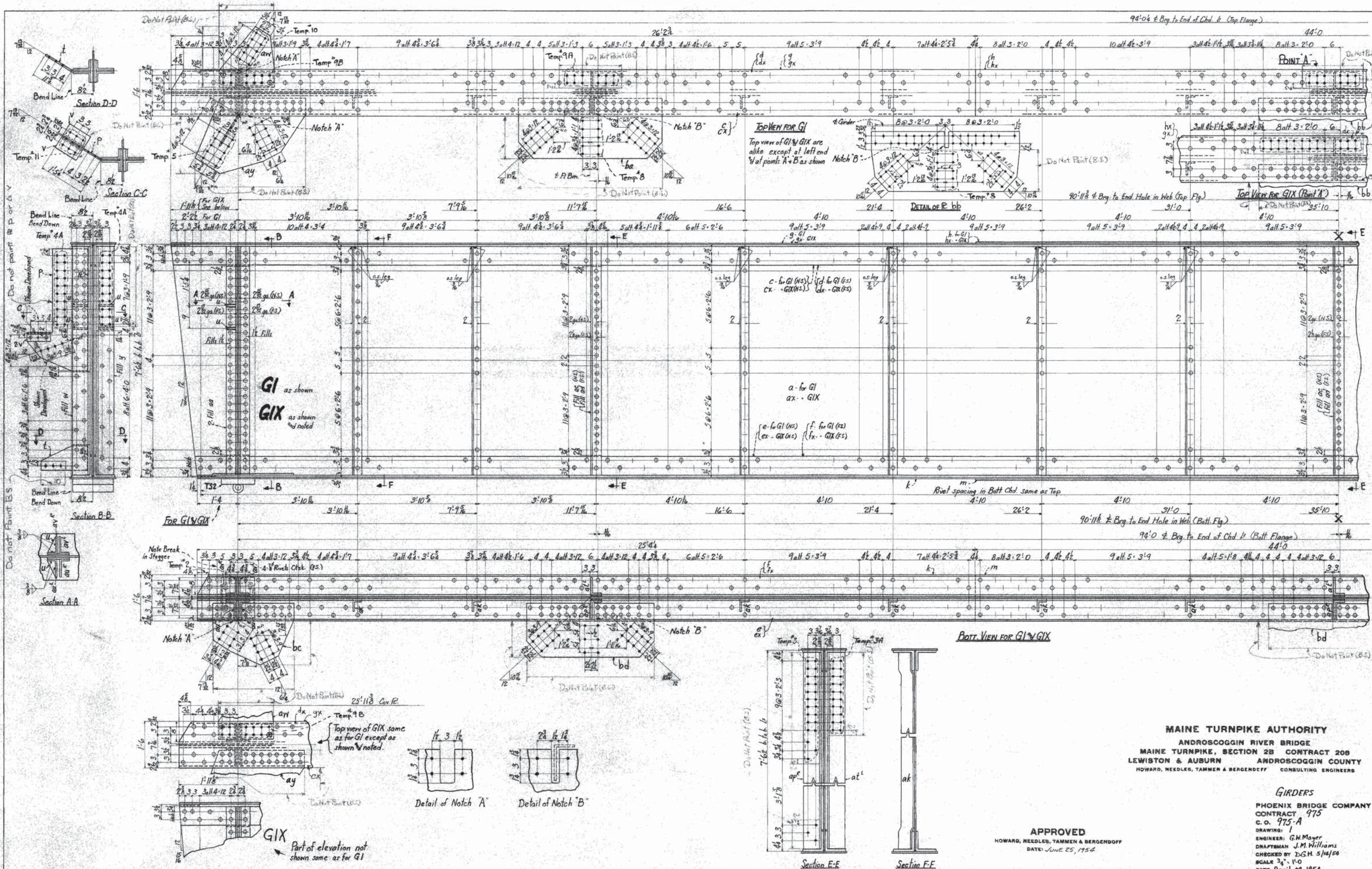


DETAIL A  
1" = 1'-0"

*Handwritten notes:*  
 3/11 Final  
 9/4 Prop  
 (Signature)

Maine Turnpike Authority <b>Maine Turnpike</b>																	
ANDROSCOGGIN RIVER OVERPASS																	
<b>TYPICAL SECTION</b>																	
<small>BRAND NAME: TAYLOR &amp; BERKELEY, INC. ARCHITECTS ENGINEERS PLANNERS</small>																	
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Rev.	Description	Date	By	Check													
Cohirool 95.10 Sheet No. <b>AR-23</b> 58 of 59																	

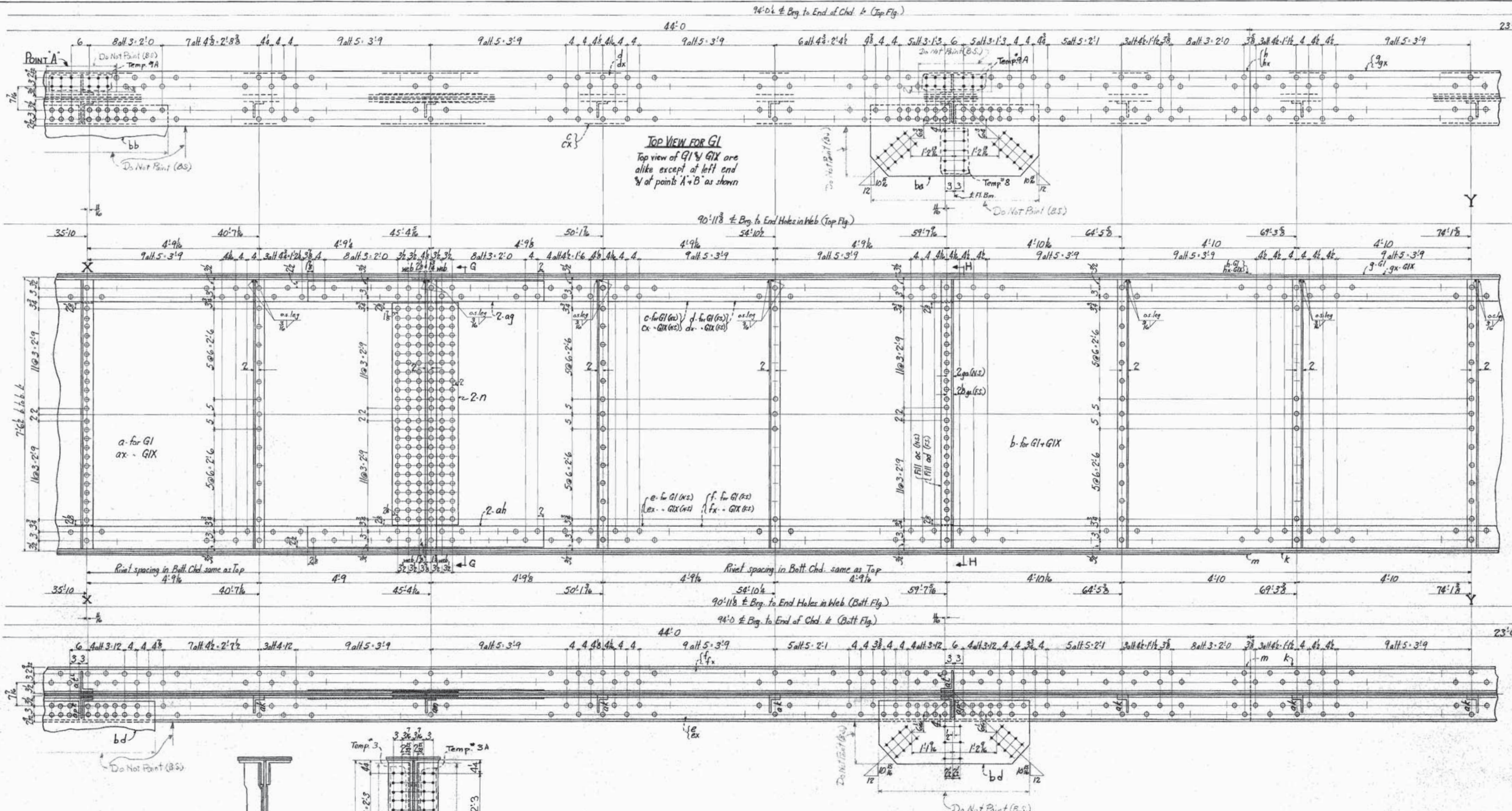




**MAINE TURNPIKE AUTHORITY**  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 2B CONTRACT 208  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS

**GIRDERS**  
 PHOENIX BRIDGE COMPANY  
 CONTRACT 975  
 C. O. 975-A  
 DRAWING 1  
 ENGINEER: G.H. Mayer  
 DRAFTSMAN: J.M. Williams  
 CHECKED BY: D.G.H. 5/14/54  
 SCALE 3/4" = 1'-0"  
 DATE April 29, 1954

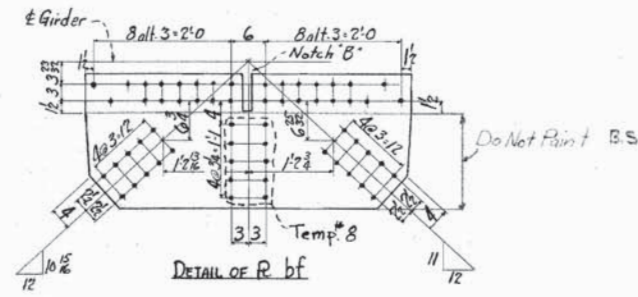
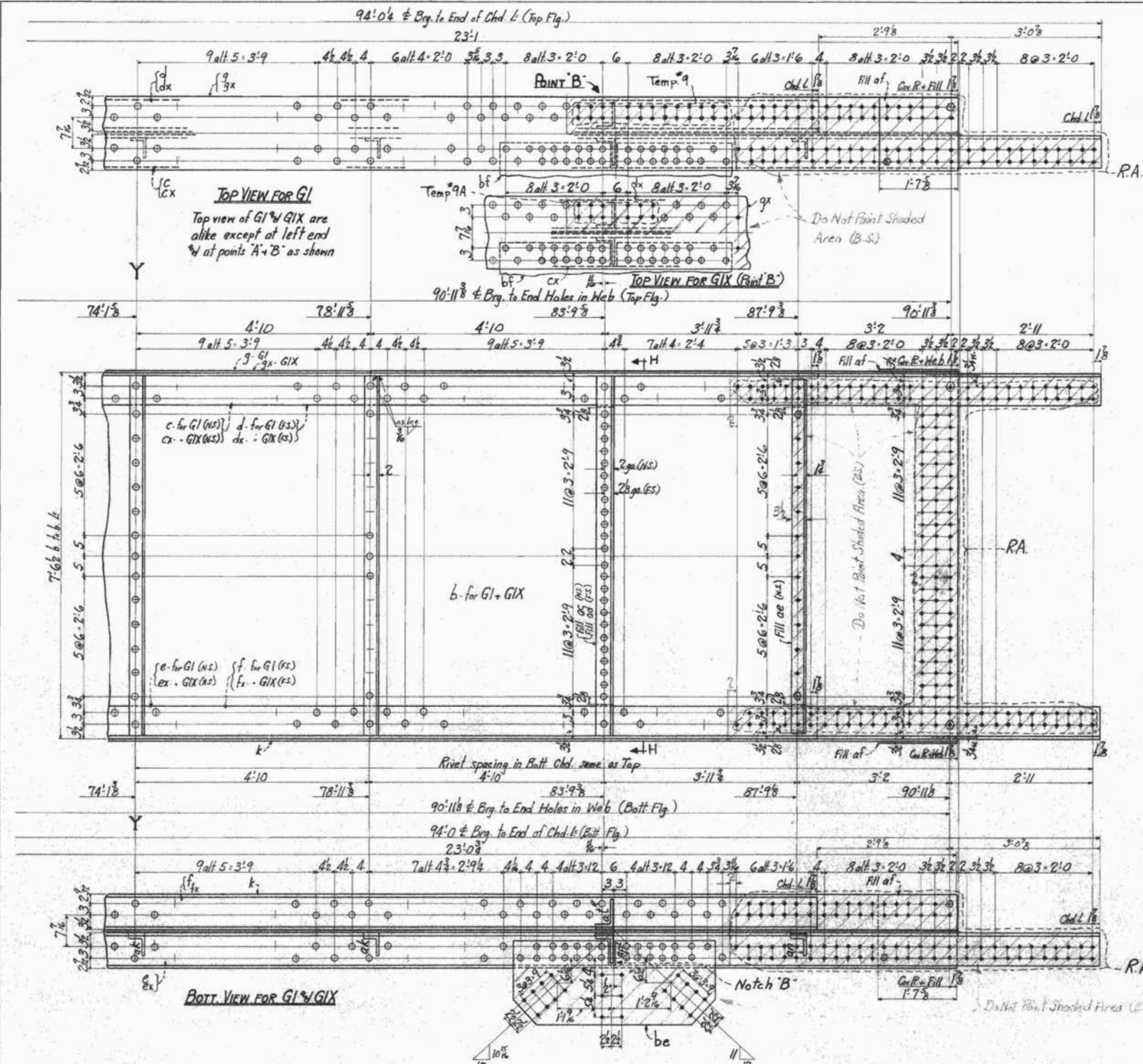
**APPROVED**  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
 DATE: JUNE 25, 1954



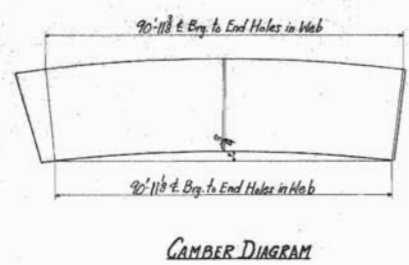
**MAINE TURNPIKE AUTHORITY**  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 2B CONTRACT 208  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENOFF CONSULTING ENGINEERS

**GIRDERS**  
 PHOENIX BRIDGE COMPANY  
 CONTRACT 975  
 C. O. 975-A  
 DRAWING: 1-A  
 ENGINEER: G.W. Mayer  
 DRAFTSMAN: J.M. Williams  
 CHECKED BY: D.G.H. 5/10/54  
 SCALE: 3/4" = 1'-0"  
 DATE: April 29, 1954

**APPROVED**  
 HOWARD, NEEDLES, TAMMEN & BERGENOFF  
 DATE: June 25, 1954



G1		Material for G1 & G1X	
1	a	90 x 7/8 WbR	47'-1 3/8" T
1	ax	do	47'-1 3/8" T
1	b	do	45'-10 1/8" T
1	c	8 x 8 x 3/4 L	96'-2 3/8" T
1	cx	do	95'-9 1/8" T
1	d	do	90'-4 1/2" T
1	dx	do	90'-1 1/8" T
1	e	do	95'-4 1/8" T
1	ex	do	95'-4 1/8" T
1	f	do	89'-6 1/8" T
1	fx	do	89'-6 1/8" T
1	g	18 x 2 UMR	93'-3 3/8" T
1	gx	do	93'-0 3/8" T
1	h	do	44'-0" T
1	hx	do	44'-0" T
1	k	do	92'-5" T
1	m	do	44'-0" T
2	n	22 x 3 UMSR	6'-2 1/4"
1	p	24 x 3/4 UMR	3'-11 1/4" T bent
1	l	7 1/2 x 7/8 UMR	1'-6 1/2" T bent
4	u	3 3/8 x 3/4 R	6 3/8" T weld
2	v	5 x 3 1/2 x 3/8 L	9 1/2" bolt
1	w	7 x 3/8 Fill	2'-5 1/4"
1	y	7 x 3/8	4'-8 1/4"
2	aa	8 1/2 x 3/4 - UM	6'-2 1/4"
4	ac	4 x 3/4	6'-2 1/4"
4	ad	do	6'-2 1/4"
1	ae	3 1/2 x 3/4	6'-2 1/4" bolt
2	af	18 x 4 - UM	1'-7 1/8" bolt
2	ag	7 x 3/8 SpLR	6'-6"
2	ah	do	6'-6"
13	ak	5 x 3 1/2 x 3/8 L	7'-5" M2E 2 comp. bolt
1	am	do	7'-5" - 2 - 3/4"
1	an	do	7'-3 1/2" - 2 - 3/4"
4	ap	7 x 4 x 3/8 L	7'-5" "
4	at	do	7'-5" "
2	au	7 x 4 x 3/8 L	7'-5" - Rn. b.h.h.
2	av	do	7'-5" - b.h.h.
1	ax	23 1/2 x 2 UMR	1'-9 1/2" T
1	ay	29 1/2 x 2	3'-7 1/2" T
2	ba	23 1/2 x 2	4'-7 1/2" T
1	bb	do	4'-9" T
1	bc	24 1/2 x 2	2'-7 1/2" T
3	bd	21 1/2 x 2	4'-1 1/2" T
1	be	do	4'-1 1/2" T
1	bf	23 1/2 x 2	4'-9" T
10	10	8" Slip Bolt	2 1/2"
2	2	3"	3 1/4"
2	2	2 1/2" Washer	1 1/2" hole
2	2	2 x 4	1 1/2" hole



1-GIRDERS Mk G1 as shown  
 1- " " G1X as shown & noted  
 1- " " G1 exactly the same as G1  
 1- " " G1X exactly the same as G1X

One Top Shoe T32 riveted to each Girder in shop Detailed on Draw'g CO. 975-H

SPEC. FOR FIELD BOLTS:  
 ASRSF Hex hd. high strength 3/8" struct. bolts, Carbon Steel heat treated to ASTM. Spec. A-325. Each with one ASHSF hex nut & 2 hardened ASH round washers to ASTM. Spec. A-325.

Summary of High Strength Bolts  
 48-8 3/8" Bolts 3 1/4" u.h.  
 52-3/8" Bolts 3" u.h.  
 12-3/8" - 2 1/2" u.h.  
 224-2 1/2" x 3/4" washers 1 1/2" hole

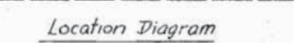
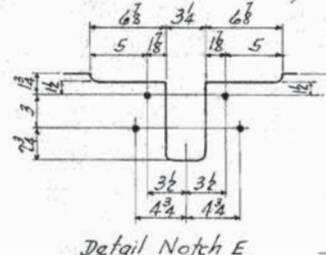
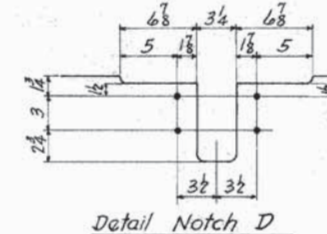
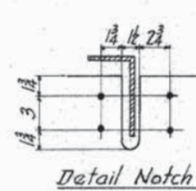
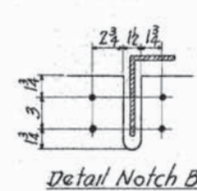
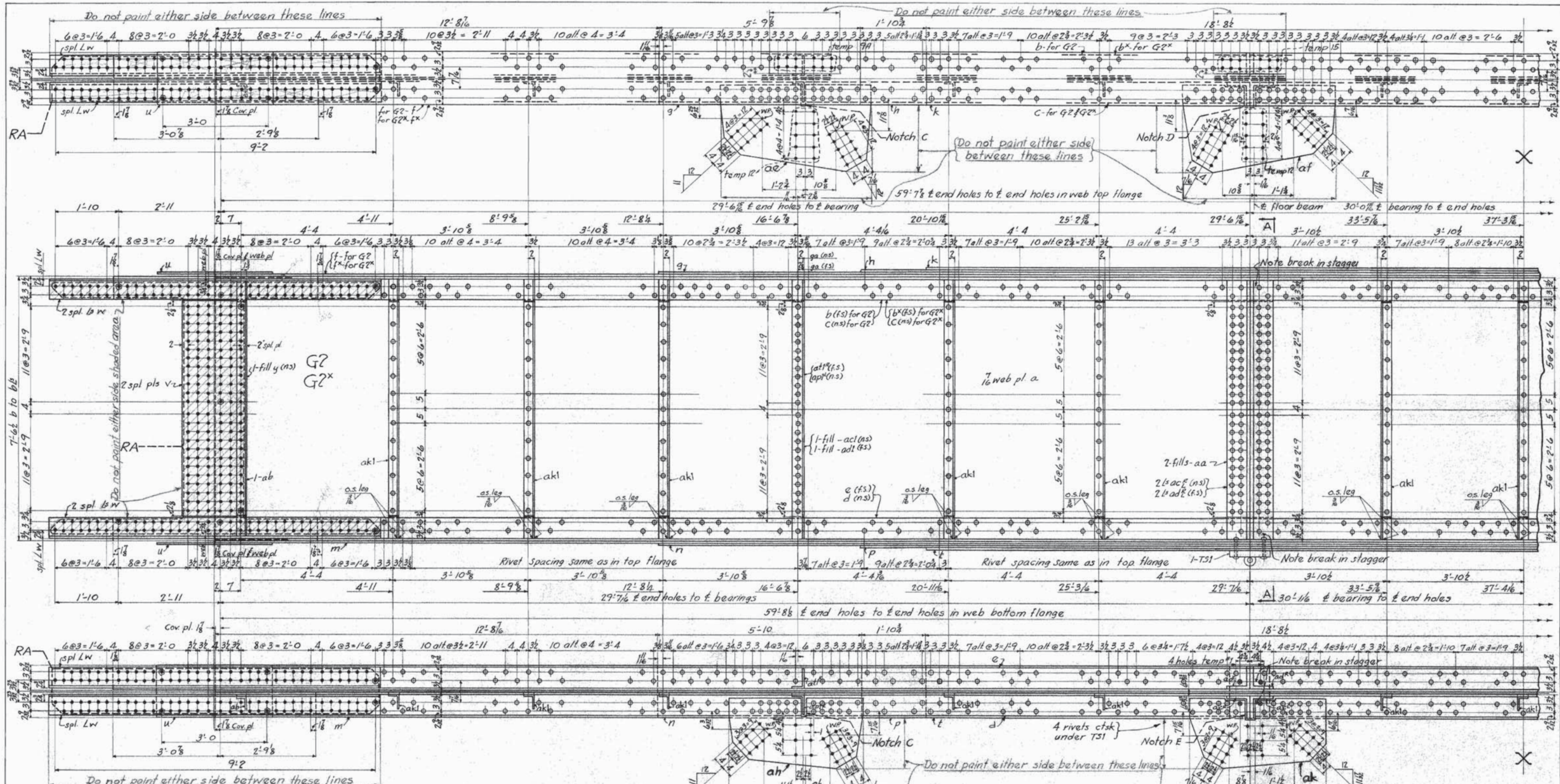
APPROVED  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
 DATE: June 25, 1954

STRUCTURAL STEEL: A.S.T.M. A1-53  
 RIVET STEEL: A.S.T.M. A141-52  
 RIVETS UNLESS NOTED, OPEN HOLES UNLESS NOTED. MATERIAL FORMING PARTS OF A MEMBER COMPOSED OF NOT MORE THAN 5 THICKNESSES MAY BE PUNCHED LARGER THAN THE NOMINAL DIAMETER OF THE RIVET WHEN THE THICKNESS OF THE METAL IS NOT MORE THAN 3/4". WHEN THERE ARE MORE THAN 5 THICKNESSES OR WHEN ANY OF THE MAIN MATERIAL IS MORE THAN 1/2" THICK, ALL HOLES SHALL BE SUBPUNCHED OR EVER DRILLED AND REAMED AFTER ASSEMBLING, OR DRILLED FULL SIZE FROM THE SOLID WITH THE CONNECTING PARTS ASSEMBLED. HOLES IN METAL MORE THAN 1/2" SHALL BE DRILLED FULL SIZE FROM THE SOLID WITH ALL CONNECTING PARTS ASSEMBLED, OR SUBDRILLED AND REAMED TO THE FINISHED SIZE AFTER ASSEMBLING. IN NO CASE SHALL THERE BE BOTH REAMED HOLES AND HOLES PUNCHED OR DRILLED FULL SIZE. HOLES MARKED TEMPLET SHALL BE SUBPUNCHED AND REAMED OR DRILLED TO A METAL TEMPLET. HOLES MARKED R.A. SHALL BE SUBPUNCHED OR SUBDRILLED AS 3 W/ILT ASSEMBLED W/T A CONNECTING PARTS REAMED TO SIZE. RE-ENTRANT CUTS SHALL BE FILLETED WITH A 2" RADIUS UNLESS OTHERWISE NOTED.

UNLESS NOTED { SHOP PAINT: ONE COAT OF APPROVED RED LEAD-IRON OXIDE PRIMER.  
 COYTA IT SURFAC'S NOT PAINTED. EDGE DISTANCES NOT GIVEN ARE 1/8"  
 LAST ASSEMBLY MARK bf SHOP LIST PAGES 1, 2

MAINE TURNPIKE AUTHORITY  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 2B CONTRACT 208  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS

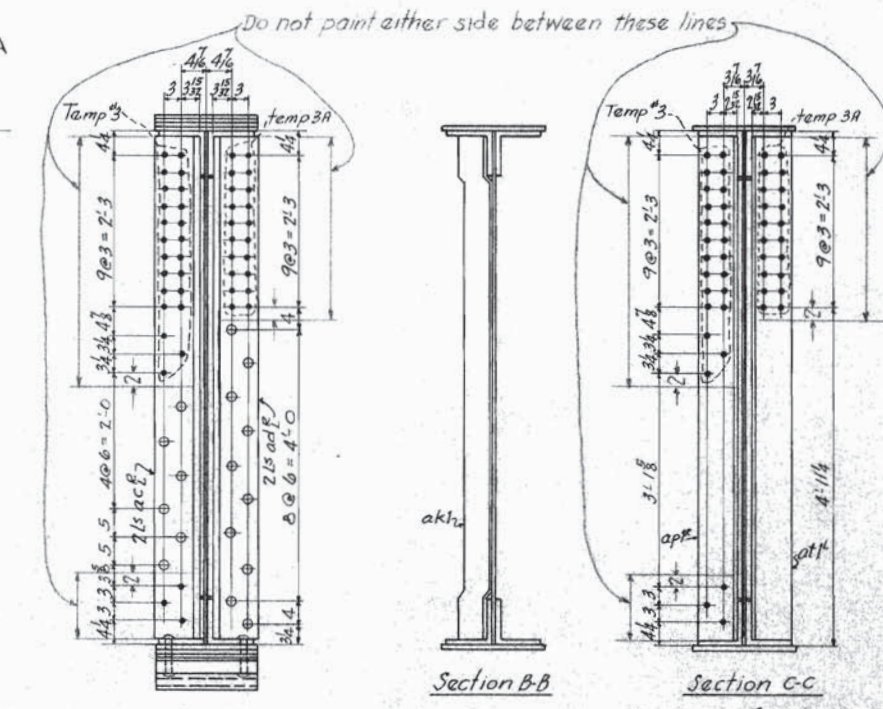
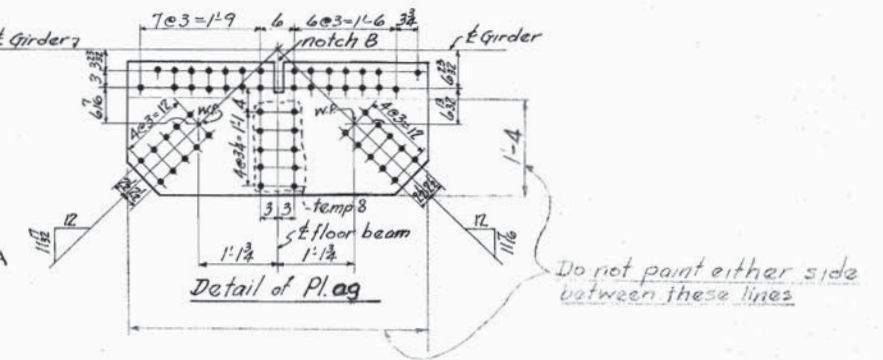
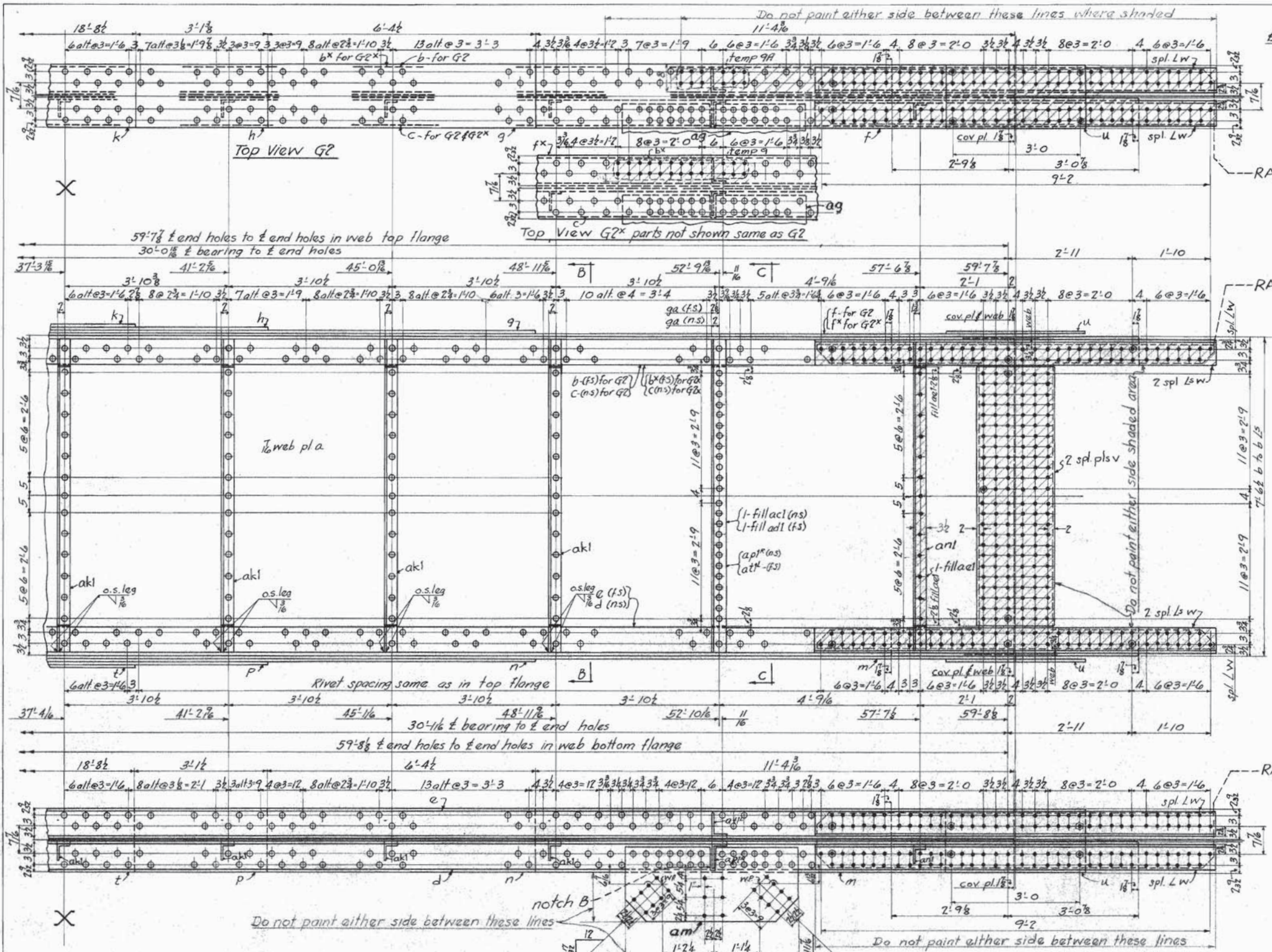
GIRDERS  
 PHOENIX BRIDGE COMPANY  
 CONTRACT 975  
 C.O. 975 A  
 DRAWING: 1 B  
 ENGINEER: G.M. Mayer  
 DRAFTSMAN: J.M. Williams  
 CHECKED BY: D.G.H. 5/18/54  
 G-29-51 Revised per returned Drawg. SCALE 3/4" = 1'-0"  
 G/1154 Revised per returned Drawg. DATE April 29, 1954



MAINE TURNPIKE AUTHORITY  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 28 CONTRACT 208  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENCOFF CONSULTING ENGINEERS

Girder  
 PHOENIX BRIDGE COMPANY,  
 CONTRACT 775  
 C. O. 775A  
 DRAWING: 2  
 ENGINEER: G.W. Moyer  
 DRAFTSMAN: F.T. Jouch  
 CHECKED BY: D.G.H. 5-18-54  
 SCALE: 3/4" = 1'-0"  
 DATE: 4-29-54

APPROVED  
 HOWARD, NEEDLES, TAMMEN & BERGENCOFF  
 DATE: June 25, 1954



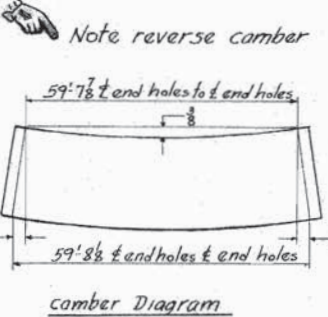
Summary of High Strength Bolts

768-3/4 F	Bolts	4 1/2 u/h
736-"	"	3 1/2 u/h
832-"	"	3 1/2 u/h
64-"	"	5 1/2 u/h
1056-"	"	4 1/2 u/h
1056-"	"	2 1/2 u/h
52-"	"	3 u/h
9128-2 1/4 x 8	washer @ 1/16" hole	

Make One Girder G2 as shown  
 Make One Girder 1G2 exactly same as G2  
 Make One Girder G2X as shown & noted  
 Make One Girder 1G2X exactly same as G2X

For General Notes, See dwg # 1B

material for one G2 & one G2X				G2				G2X									
No.	Notes	Mark	Description	Length	Remarks	No.	Notes	Mark	Description	Length	Remarks	No.	Notes	Mark	Description	Length	Remarks
1	1	a	90 x 1/16 web pl	59'-11 3/8"		1	1	p	18 x 5/8 U.M. Cov pl	23'-8 3/4"	m.z.E	2	2	atlf	7 x 4 x 7/8 L	7'-5"	m.z.E
1	1	b	8 x 8 x 3/4 chrd L	59'-11 3/8"		1	1	t	18 x 5/8 "	18'-8 1/2"		1	1	ael	3 1/2 x 3/8 fill	6'-2 1/4"	
1	1	bX	8 x 8 x 3/4 "	59'-11 3/8"		4	4	u	18 x 1/2 "	3'-3 1/2"	bolts	2	2	ac1	4 x 3/4 fill	6'-2 1/4"	
1	1	c	8 x 8 x 3/4 "	59'-11 3/8"		4	4	v	22 x 3/8 U.M. Spl pl	6'-2 1/4"		2	2	ad1	4 x 3/4 fill	6'-2 1/4"	
1	1	d	8 x 8 x 3/4 "	59'-11 3/8"		8	8	w	7 1/4 x 7 1/4 x 3/8 spl b	9'-5 1/2"	cf. 8' x 8' x 3/4"	14	14		3/8" shpt bolts	3 u/h	
1	1	e	8 x 8 x 3/4 "	59'-11 3/8"		1	1	y	3 1/2 x 1/2 fill	6'-2 1/4"		12	12		do	4 u/h	
1	1	f	18 x 3/4 U.M. Cov pl	59'-11 3/8"		2	2	aa	16 x 3/4 fill U.M	6'-2 1/4"		10	10		do	4 u/h	
1	1	fx	18 x 3/4 "	59'-11 3/8"		1	1	ab	5 x 3 1/2 x 3/8 L	7'-3 1/2"	m.z.E	1	1	ae	30 x 6 pl. u.m	4'-3 1/2"	TP
1	1	g	18 x 3/4 "	35'-11"		2	2	acE	8 x 8 x 1/8 L	7'-5"	TP	1	1	af	30 x 1/2 pl "	4'-4 1/2"	"
1	1	h	18 x 3/4 "	23'-8 1/2"		2	2	adR	8 x 8 x 1/8 L	7'-5"	TP	1	1	ag	23 1/2 x 1/2 pl "	4'-4 1/2"	"
1	1	k	18 x 3/4 "	18'-8 1/2"		1	1	anl	5 x 3 1/2 x 3/8 L	7'-3 1/2"	m.z.E	1	1	ah	24 x 1/2 pl "	3'-9 1/2"	"
1	1	m	18 x 3/4 "	59'-11 3/8"		10	10	akl	5 x 3 1/2 x 3/8 L	7'-5"	m.z.E	1	1	ak	24 1/2 x 1/2 pl "	3'-11 1/2"	"
1	1	n	18 x 3/4 "	35'-11 1/4"		2	2	aplE	7 x 4 x 7/8 L	7'-5"	m.z.E	1	1	am	21 1/2 x 1/2 pl "	4'-0 1/2"	"

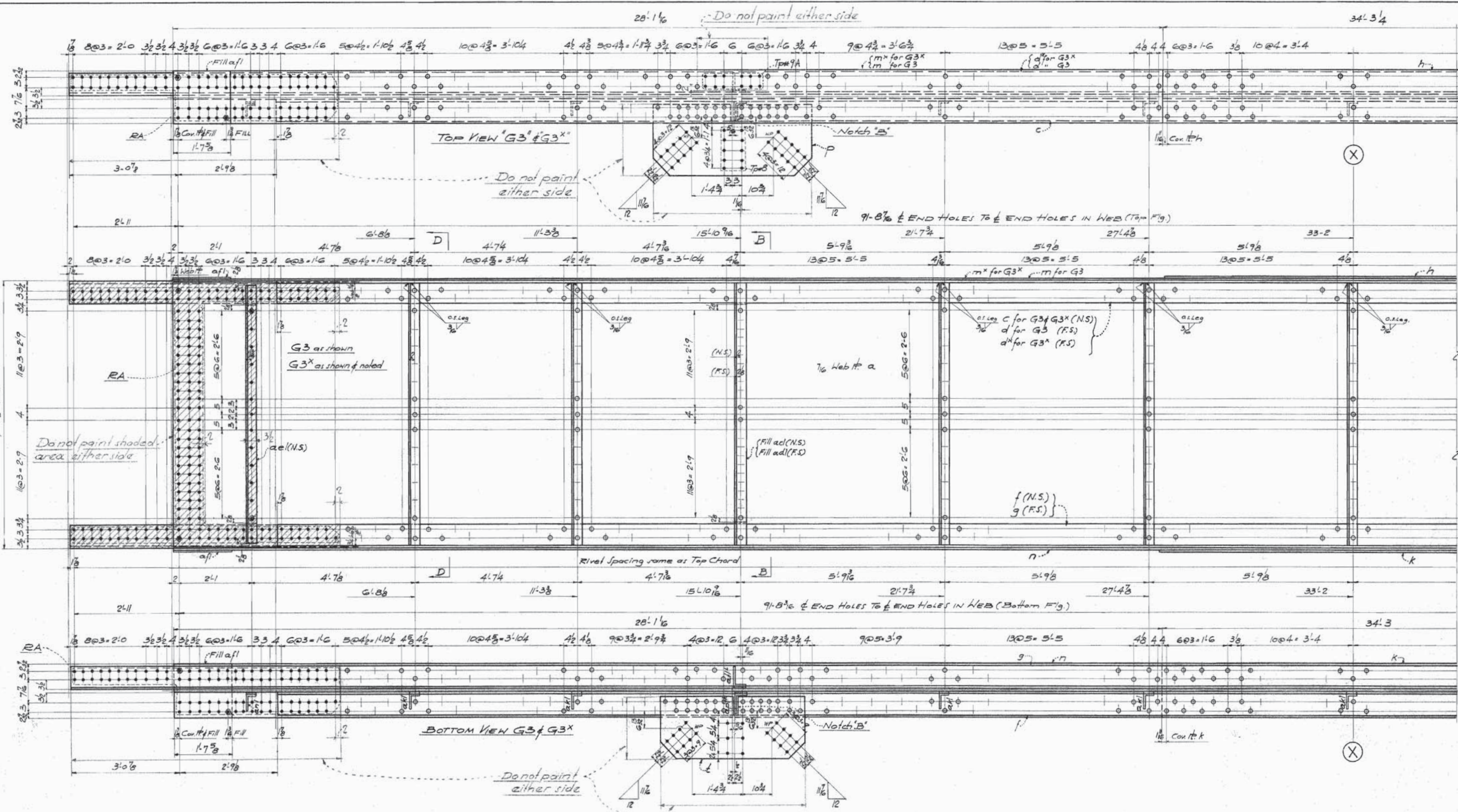


APPROVED  
 HOWARD, NEEDLES, TAMMEN & BERGENDORFF  
 DATE: JUNE 25, 1954

Last Assembly mark: at Shop List pages: 3, 4

MAINE TURNPIKE AUTHORITY  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 2B CONTRACT 208  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENDORFF CONSULTING ENGINEERS

Girders  
 PHOENIX BRIDGE COMPANY  
 CONTRACT 975  
 C.O. 975 R  
 DRAWING: #2A  
 ENGINEER: G.W. Mayer  
 DRAFTSMAN: F.J. South  
 CHECKED BY: D.G.H. 5-18-54  
 SCALE: 3/8" = 1"  
 DATE: 4-29-54

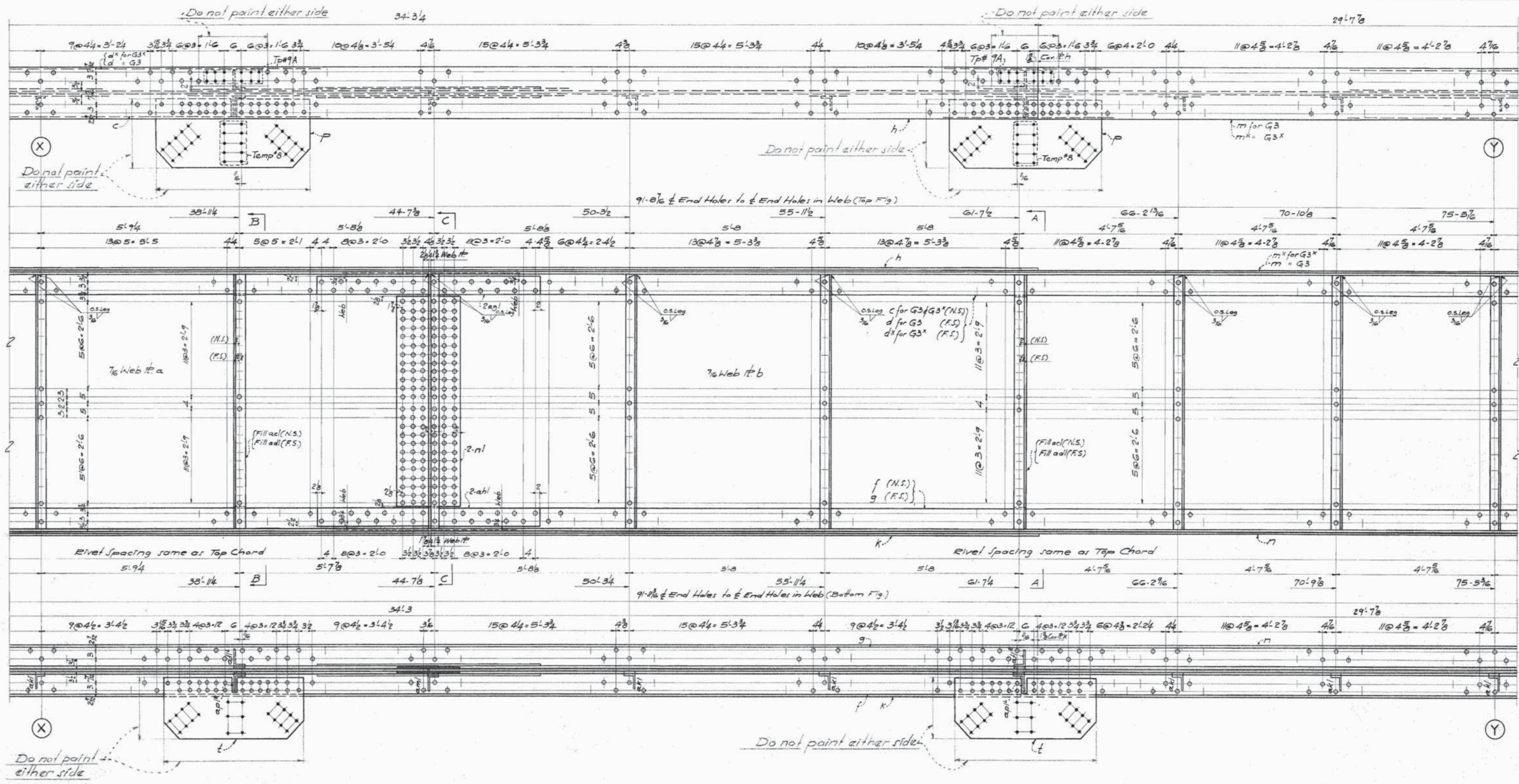


MAINE TURNPIKE AUTHORITY  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 2B CONTRACT 208  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS

GIRDERS

APPROVED  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
 DATE: JUNE 25, 1954

PHOENIX BRIDGE COMPANY  
 CONTRACT 975  
 C. O. 975 A  
 DRAWING: 3  
 ENGINEER: G. L. Mayer  
 DRAFTSMAN: P. H. Mueller  
 CHECKED BY: D. G. H. 5/20/54  
 SCALE: 3/4" = 1 Foot  
 DATE: May 1, 1954



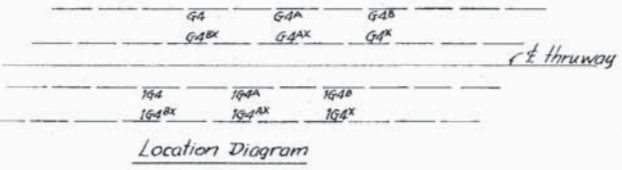
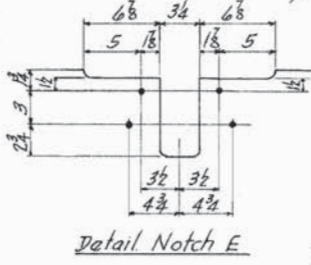
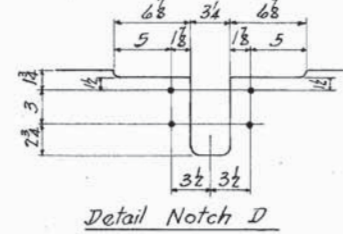
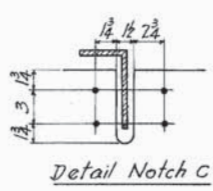
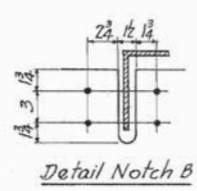
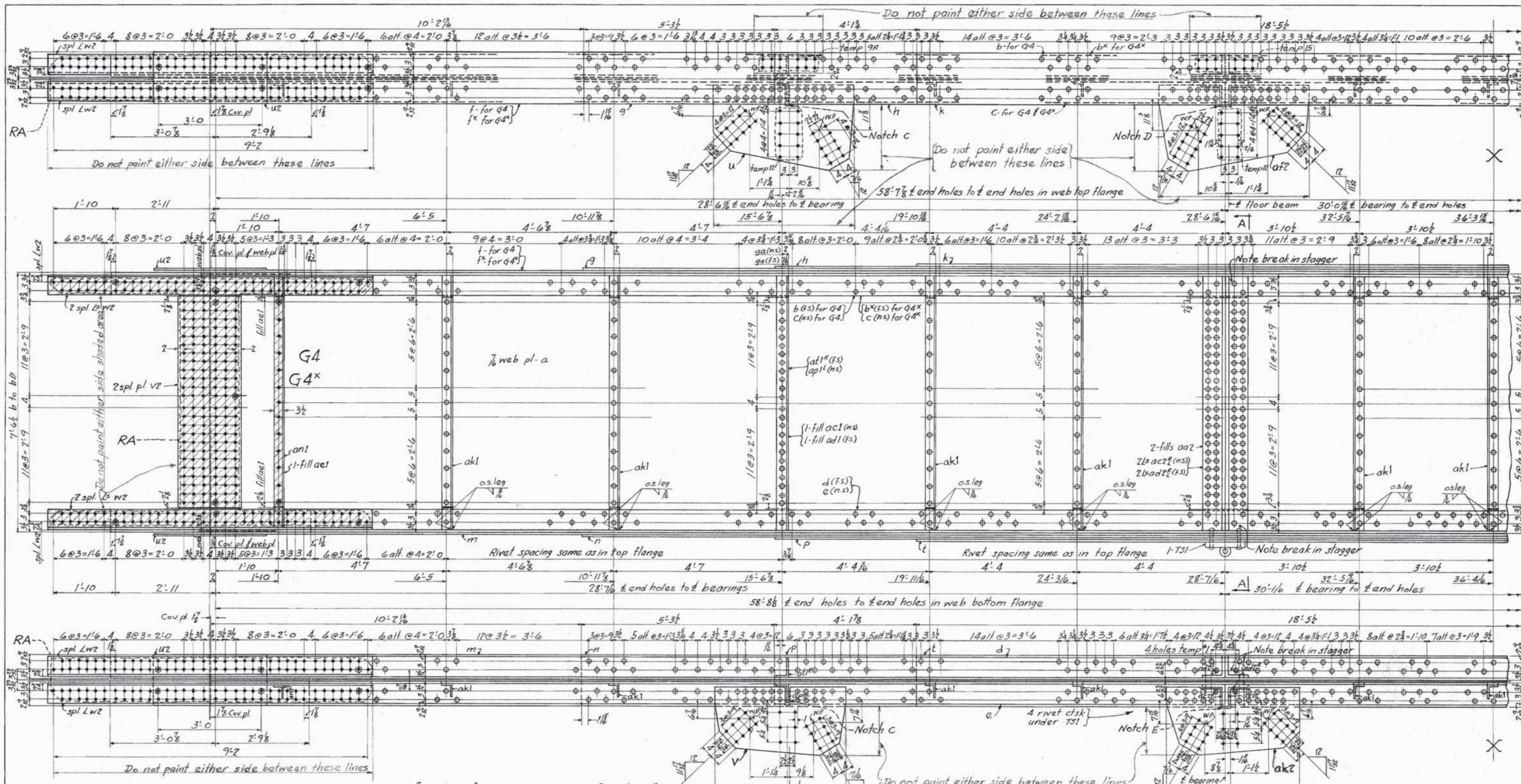
MAINE TURNPIKE AUTHORITY  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 2B CONTRACT 208  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS

GIDEES  
 PHOENIX BRIDGE COMPANY  
 CONTRACT 975  
 C.O. 975A  
 DRAWING 3A  
 ENGINEER: G.W. Mayer  
 DRAFTSMAN: P.H. Mueller  
 CHECKED BY: D.G.H. 5/20/54  
 SCALE: 3/4" = 1'-0"  
 DATE: May 1, 1954

APPROVED  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
 DATE: JUNE 25, 1954



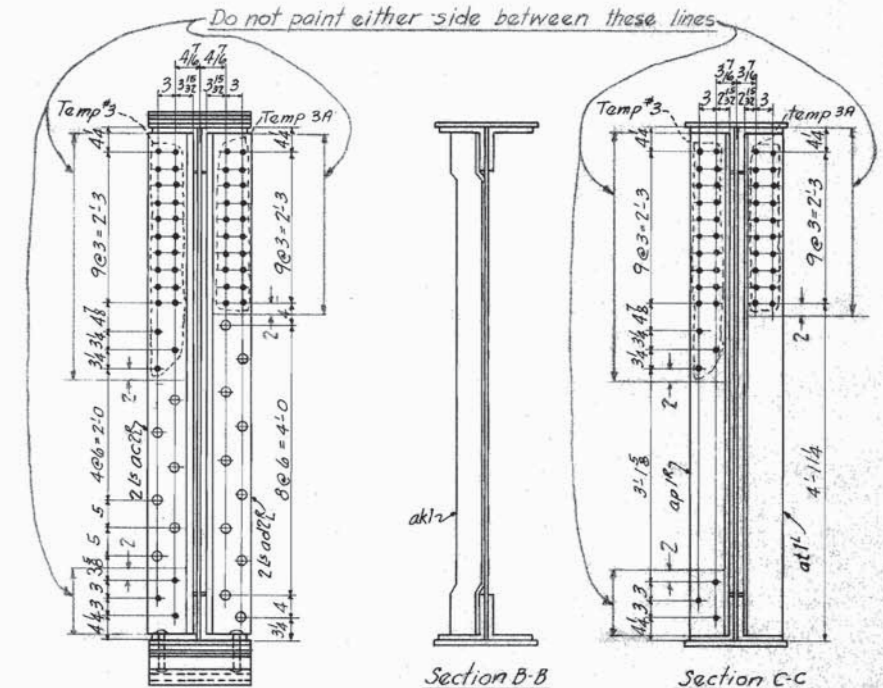
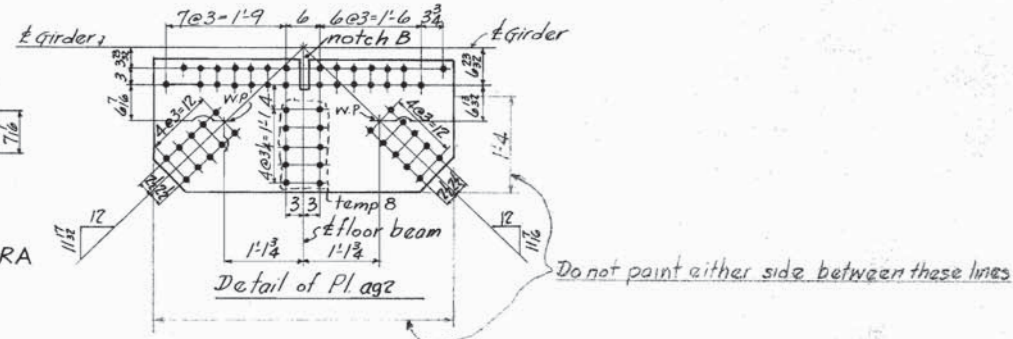
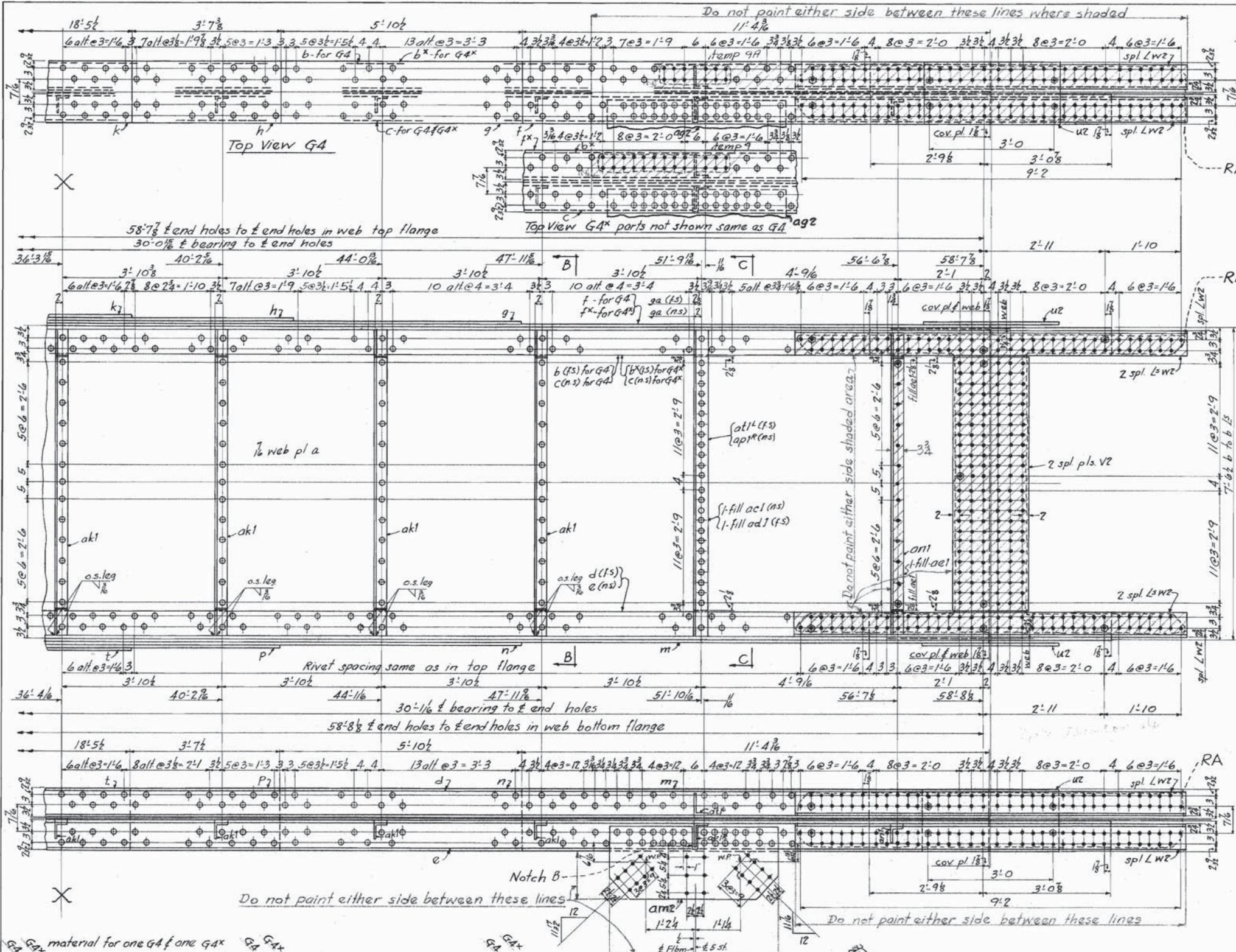




MAINE TURNPIKE AUTHORITY  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 2B CONTRACT 208  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENOFF CONSULTING ENGINEERS

APPROVED  
 HOWARD, NEEDLES, TAMMEN & BERGENOFF  
 DATE: June 25, 1954

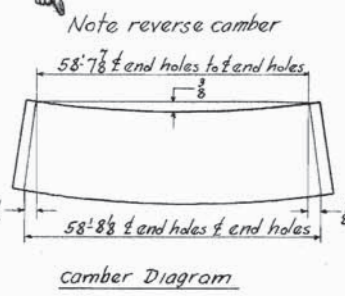
Girder  
 PHOENIX BRIDGE COMPANY  
 CONTRACT 975  
 C.O. 975  
 DRAWING: #4  
 ENGINEER: G.W. Mayer  
 DRAFTSMAN: F.J. Souch  
 CHECKED BY: J.G.H. 5-24-54  
 SCALE: 1/8" = 1'-0"  
 DATE: 5-6-54



- Section A-A
- Section B-B
- Section C-C
- Summary of High Strength bolts
- 2304-7/8 F. Bolts 44 u.h.
  - 2208- " " " 3 3/4 u.h.
  - 2208- " " " 3 1/2 u.h.
  - 3168- " " " 4 3/4 u.h.
  - 192- " " " 5 1/4 u.h.
  - 312- " " " 3 u.h.
  - 3A56- " " " 2 1/2 u.h.
  - 27,676- 2 1/2 x 8 ga. washer @ 1/8" hole
- each with one top bearing T31 riveted in shop  
Top bearing detailed on dwg #23. c.o. 975 H
- Make One Girder G4 as shown
- " One " G4A
  - " One " G4B
  - " One " IG4 exactly same as G4
  - " One " IG4A
  - " One " IG4B
  - " One " G4X as shown if noted
  - " One " G4AX
  - " One " G4BX
  - " One " IG4X exactly same as G4X
  - " One " IG4AX
  - " One " IG4BX

For General Notes, See dwg #1B

G4 material for one G4 & one G4X				G4X material for one G4 & one G4X					
No.	Mark	Description	Length	Remarks	No.	Mark	Description	Length	Remarks
1	a	90x7/8 web pl	58'-11 1/8"		1	p	18x3/4 Cov pl UM	26'-2 3/8"	
1	b	8x8x3/4 Chrd L	58'-11 1/8"		1	t	18x3/4 " " "	18'-5 1/2"	
1	bX	8x8x3/4 " " "	58'-11 1/8"		4	u2	18x2 " " "	3'-3 1/2"	-bolted
1	c	8x8x3/4 " " "	58'-11 1/8"		4	v2	22x3/8 spl pl UM	6'-2 1/4"	
1	d	8x8x3/4 " " "	58'-11 1/8"		8	w2	7/4x7/4x3/8 spl L	9'-5 1/2"	CFS 8x8 bolts
1	e	8x8x3/4 " " "	58'-11 1/8"		2	ae1	3 1/2x3/8 fill	6'-2 1/4"	
1	f	18x3/4 Cov pl UM	58'-11 1/8"		2	ac1	4x3/4 fill	6'-2 1/4"	
1	fx	18x3/4 " " "	58'-11 1/8"		2	ad1	4x3/4 fill	6'-2 1/4"	
1	g	18x3/4 " " "	37'-4 1/8"		2	aa2	16x3/4 fill UM	6'-2 1/4"	
1	h	18x3/4 " " "	26'-2 3/8"		2	an1	5x3 1/2x3/8 L	7'-3 3/4"	2 crimp m2E
1	k	18x3/4 " " "	18'-5 1/2"		9	ak1	5x3 1/2x3/8 L	7'-5"	2 crimp m2E
1	m	18x3/4 " " "	58'-11 1/8"		2	ap1E	7x4x1/8 L	7'-5"	m2E
1	n	18x3/4 " " "	37'-4 1/8"		2	at1E	7x4x1/8 L	7'-5"	m2E

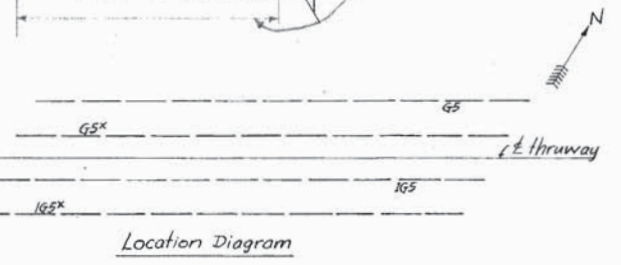
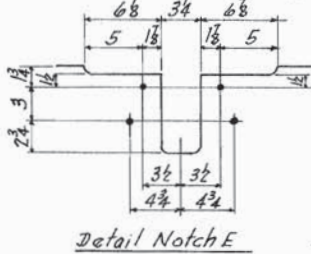
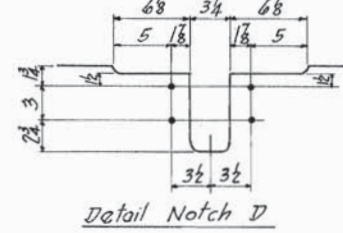
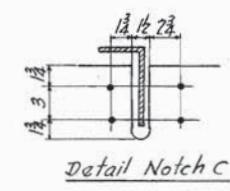
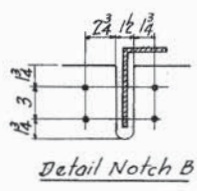
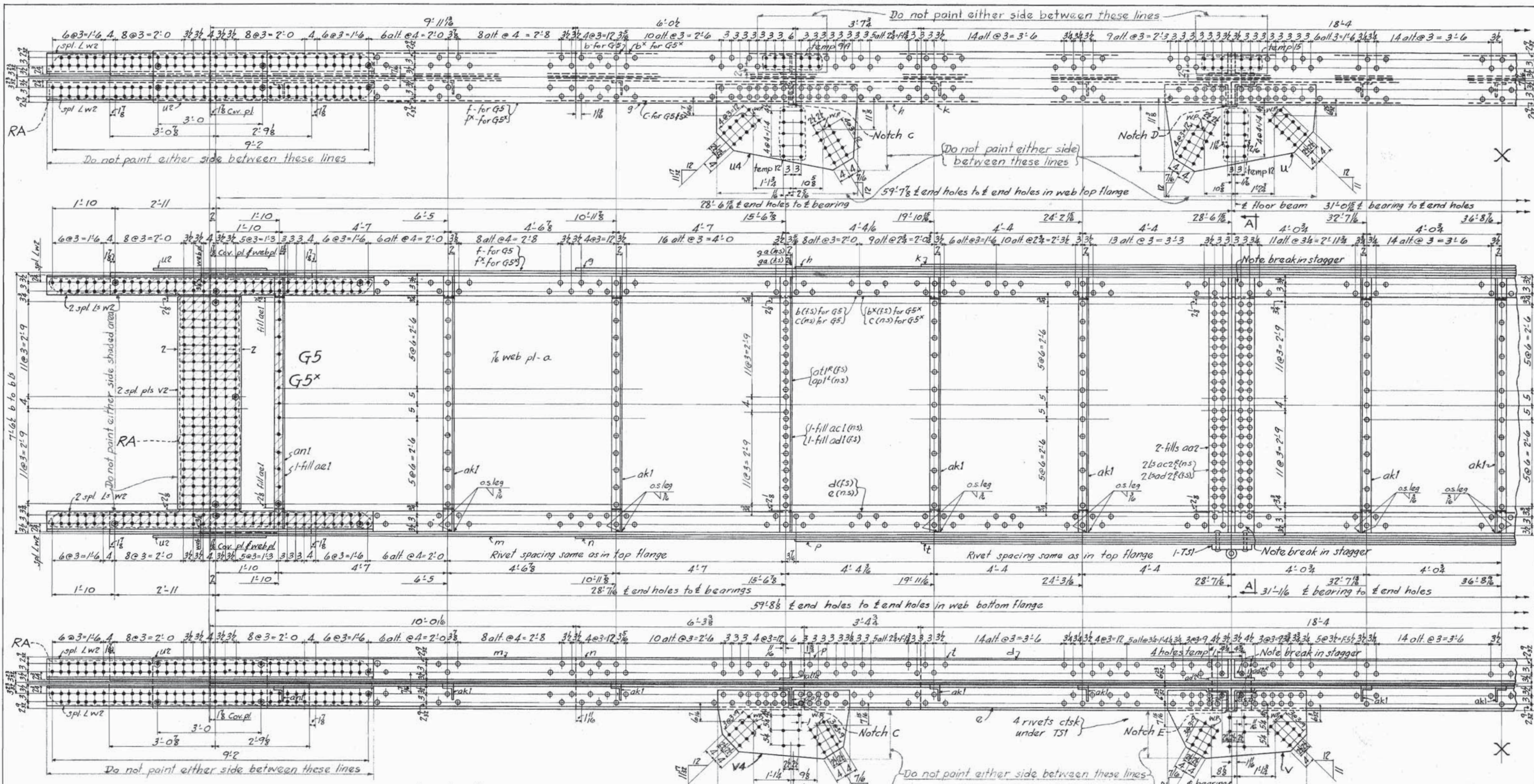


APPROVED  
HOWARD, NEEDLES, TAMMEN & BERGENOFF  
DATE: June 25, 1954

Last assembly mark: V  
Shop List pages: 6,7

MAINE TURNPIKE AUTHORITY  
ANDROSCOGGIN RIVER BRIDGE  
MAINE TURNPIKE, SECTION 2B CONTRACT 208  
LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
HOWARD, NEEDLES, TAMMEN & BERGENOFF CONSULTING ENGINEERS

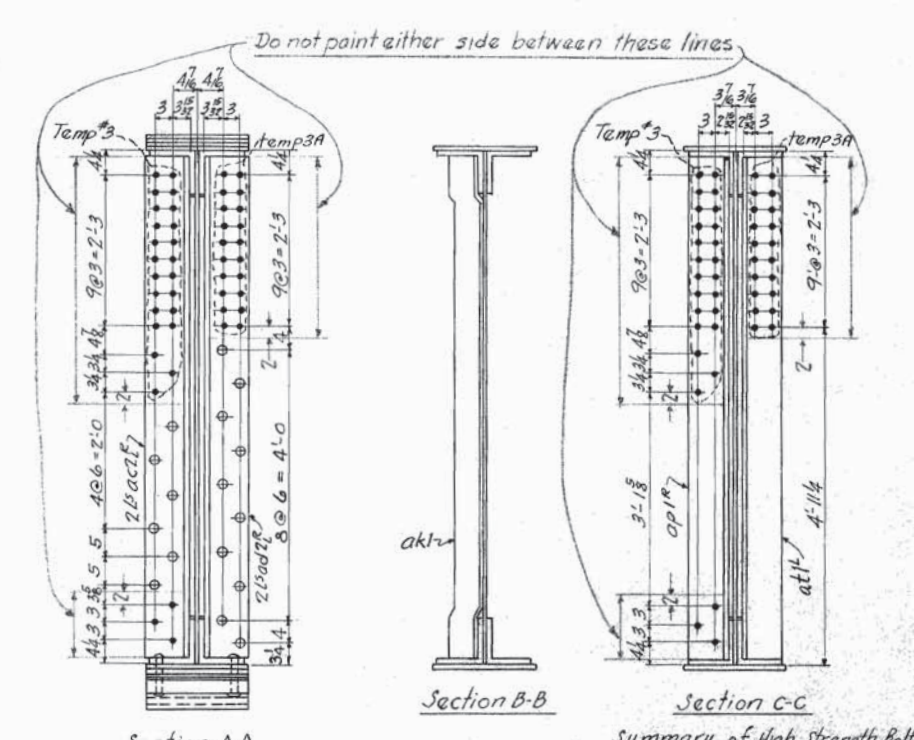
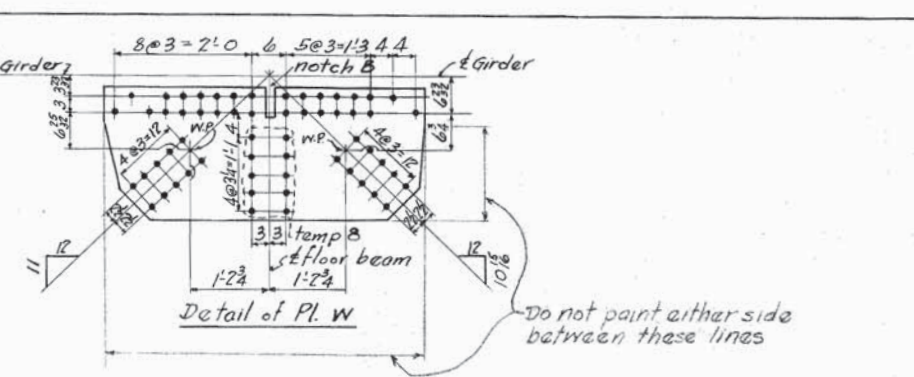
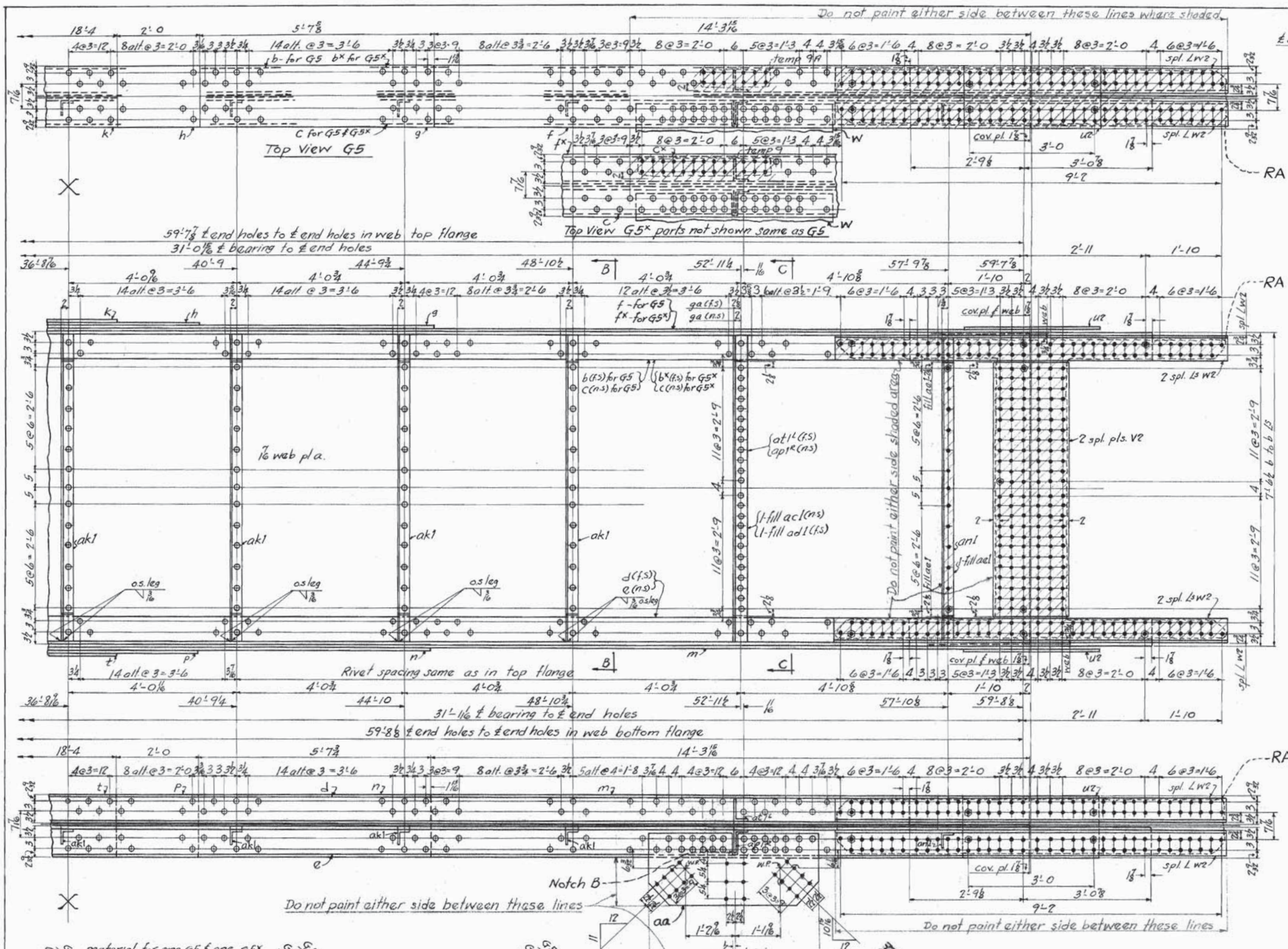
Girders  
PHOENIX BRIDGE COMPANY  
CONTRACT 975  
C. O. 975A  
DRAWING: #4A  
ENGINEER: G.W. Mayer  
DRAFTSMAN: F.J. Souch  
CHECKED BY: D.G. H. 5-24-54  
SCALE: 1/2" = 12'  
DATE: 5-6-54



MAINE TURNPIKE AUTHORITY  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 2B CONTRACT 20B  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS

Girder  
 PHOENIX BRIDGE COMPANY  
 CONTRACT 975  
 C.O. 975A  
 DRAWING: 5  
 ENGINEER: G.W. Mayer  
 DRAFTSMAN: F.J. Souch  
 CHECKED BY: DGH 5-26-54  
 SCALE: 3/4" = 12"  
 DATE: 5-11-54

APPROVED  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
 DATE: June 25, 1954



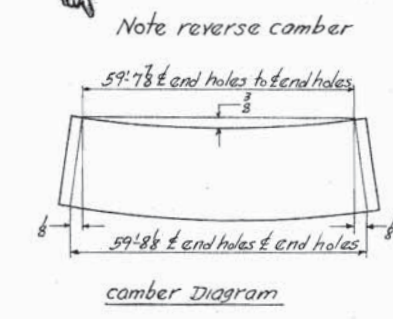
Summary of High Strength Bolts

768- $\frac{7}{8}$ F bolts	4 $\frac{1}{2}$ uh
736- $\frac{3}{4}$ "	3 $\frac{1}{2}$ uh
736- $\frac{1}{2}$ "	3 $\frac{1}{2}$ uh
1036- $\frac{1}{2}$ "	4 $\frac{1}{2}$ uh
64- $\frac{1}{2}$ "	5 $\frac{1}{2}$ uh
104- $\frac{1}{2}$ "	3 uh
1152- $\frac{1}{2}$ "	2 $\frac{1}{2}$ uh
9292-24x8ga washer @ $\frac{1}{8}$ hole	

Make One Girder G5 as shown  
 Make One Girder 1G5 exactly same as G5  
 Make One Girder G5<sup>x</sup> as shown & noted  
 Make One Girder 1G5<sup>x</sup> exactly same as G5<sup>x</sup>  
 each with one top bearing TSL riveted fast in shop. Top bearing detailed on dwg #23 C.A. 975H

For General Notes, See Dwg #1B

G5 material for one G5 if one G5 <sup>x</sup>				G5 <sup>x</sup>			
No.	Mark	Description	Length	No.	Mark	Description	Length
1	a	90x $\frac{1}{8}$ web pl	59'-11 $\frac{3}{8}$ "	1	p	18x $\frac{3}{8}$ Cov pl UM	23'-8 $\frac{3}{4}$ "
1	b	8x8x $\frac{3}{4}$ chrd L	59'-11 $\frac{3}{8}$ "	1	t	do	18'-4"
1	b <sup>x</sup>	do	59'-11 $\frac{3}{8}$ "	4	u2	18x $\frac{3}{8}$ Cov pl UM	3'-3 $\frac{1}{2}$ "
1	c	do	59'-11 $\frac{3}{8}$ "	4	v2	22x $\frac{3}{8}$ spl pl UM	6'-2 $\frac{1}{2}$ "
1	d	do	59'-11 $\frac{3}{8}$ "	8	w2	7 $\frac{1}{2}$ x7 $\frac{1}{4}$ x $\frac{3}{8}$ spl L	9'-5 $\frac{1}{2}$ "
1	e	do	59'-11 $\frac{3}{8}$ "	2	aal	3 $\frac{1}{2}$ x $\frac{3}{8}$ fill	6'-2 $\frac{1}{2}$ "
1	f	18x $\frac{3}{4}$ Cov pl UM	59'-11 $\frac{3}{8}$ "	2	ac1	4x $\frac{3}{4}$ fill	6'-2 $\frac{1}{2}$ "
1	fx	do	59'-11 $\frac{3}{8}$ "	2	ad1	4x $\frac{3}{4}$ fill	6'-2 $\frac{1}{2}$ "
1	g	do	35'-7 $\frac{3}{8}$ "	2	aa2	16x $\frac{3}{4}$ fill UM	6'-2 $\frac{1}{2}$ "
1	h	18x $\frac{3}{4}$ Cov pl UM	23'-11 $\frac{3}{8}$ "	2	an1	5x3 $\frac{1}{2}$ x $\frac{3}{8}$ L	7'-3 $\frac{1}{2}$ "
1	k	do	18'-4"	9	ak1	do	7'-5"
1	m	18x $\frac{3}{4}$ Cov pl UM	59'-11 $\frac{3}{8}$ "	2	apl2	7x4x7 $\frac{1}{8}$ L	7'-5"
1	n	do	35'-7 $\frac{3}{8}$ "	2	at1 <sup>x</sup>	do	7'-5"

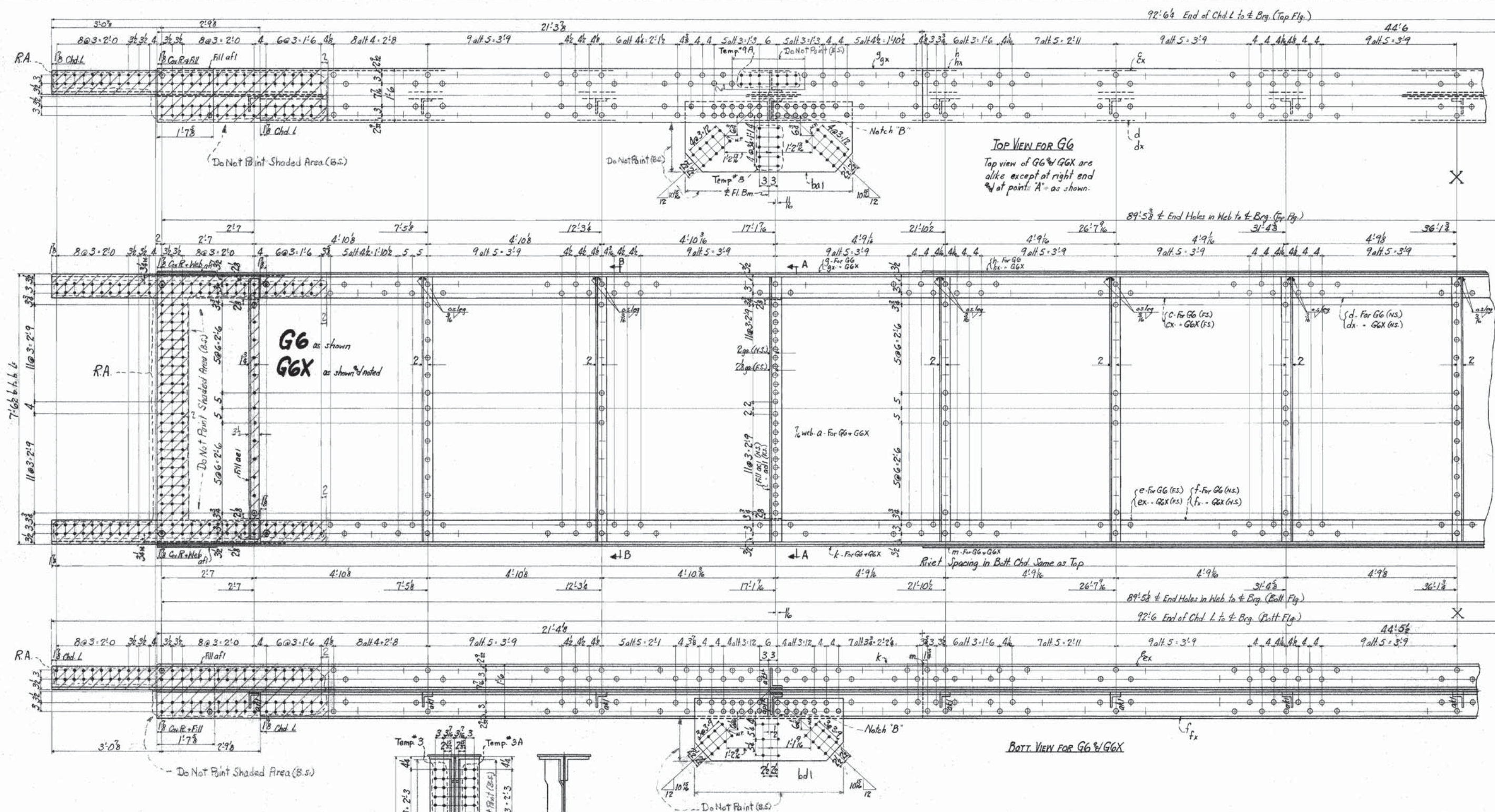


APPROVED  
 HOWARD, NEEDLES, TAMMEN & BERGENOFF  
 DATE: June 25, 1954

MAINE TURNPIKE AUTHORITY  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 2B CONTRACT 20B  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENOFF CONSULTING ENGINEERS

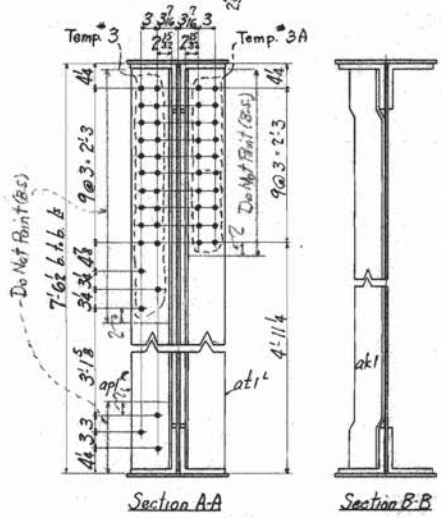
Girders  
 PHOENIX BRIDGE COMPANY  
 CONTRACT 975  
 C.O. 975A  
 DRAWING: #5A  
 ENGINEER: G.W. Mayer  
 DRAFTSMAN: F.J. South  
 CHECKED BY: D.G.H. 5-26-54  
 SCALE:  $\frac{3}{8}$ " = 12"  
 DATE: 5-11-54

Last assembly mark: w  
 Shop List pages 8,9



**TOP VIEW FOR G6**  
 Top view of G6 & G6X are alike except at right end & at points A as shown.

**BOT. VIEW FOR G6 & G6X**



**MAINE TURNPIKE AUTHORITY**  
 ANDROSCOGGIN RIVER BRIDGE  
 MAINE TURNPIKE, SECTION 2B CONTRACT 208  
 LEWISTON & AUBURN ANDROSCOGGIN COUNTY  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS

**GIRDERS**  
 PHOENIX BRIDGE COMPANY  
 CONTRACT 975  
 C.O. 975-A  
 DRAWING: G  
 ENGINEER: G.W. Mayer  
 DRAFTSMAN: J.M. Williams  
 CHECKED BY: D.C.H. 5/29/54  
 SCALE: 3/8" = 1'-0"  
 DATE: May 8, 1954

**APPROVED**  
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
 DATE: JUNE 25, 1954



