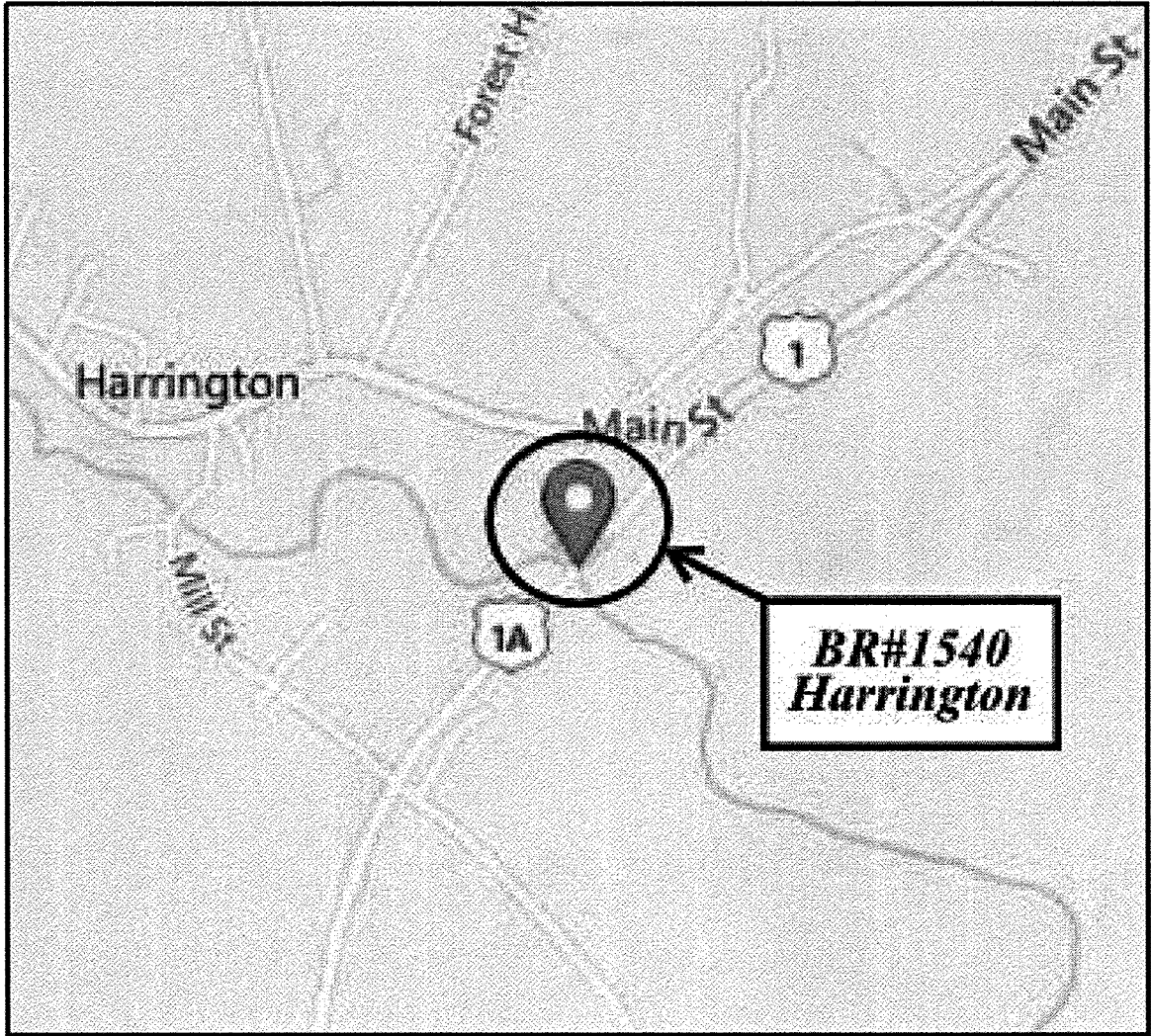


STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



HARRINGTON
WASHINGTON COUNTY
US Route 1A
OVER
THE HARRINGTON RIVER
BRIDGE NO. 1540
BRIDGE REHABILITATION
WR ~ 33866
WIN ~ 23682.00



PROJECT LOCATION	Harrington Bridge over the Harrington River in Harrington Lat./Long. 44°37'0.94" N 67°48'9.97" W
PROGRAM AREA	Bridge and Structure Maintenance
OUTLINE OF WORK	Bridge Rehabilitation.

SPECIFICATIONS

2014 MaineDOT Standard Specifications with updates and
the 2014 MaineDOT Standard Details with Updates.

TRAFFIC DATA

Current (2015) AADT..... 3,010

MATERIALS

Concrete:..... Class "LP"
All concrete.....
Reinforcing Steel.....ASTM A 615/A 615M, Grade 60
Structural Steel:
All Material (except as noted)..... AASHTO M 270M/M 270 Grade 36
High Strength Bolts..... ASTM F3125, Grade 325, Type 3

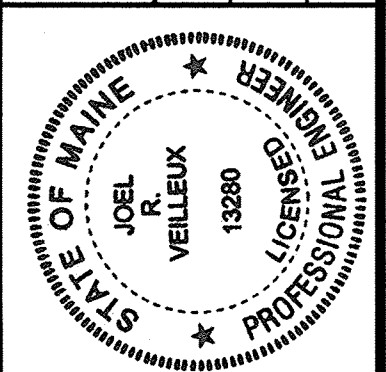
BASIC DESIGN STRESSES

Concrete..... f 'c = 5000 psi
Reinforcing Steel..... f y = 60,000 psi
Structural Steel:
ASTM A 709, Grade 36..... F y = 36,000 psi
ASTM F3125, Grade A325, Type 3..... F μ = 120,000 psi

LIST OF DRAWINGS

Title Sheet.....	1
Armored Joint Plans.....	2
Joint Sections.....	3
Maine Joint Layout.....	4
Steel Details.....	5

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
	COMMISSIONER: DEPUTY CHIEF ENGINEER:	3/2/19



Joel R. Veilleux
SIGNATURE
73280
P.E. NUMBER
3-7-2019
DATE

PROJECT INFORMATION	
PROGRAM	Bridge & Structure Maintenance
PROJECT MANAGER	Mike Thompson
DESIGNER	G. Libby
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

HARRINGTON Route 1A over the Harrington River	TITLE SHEET
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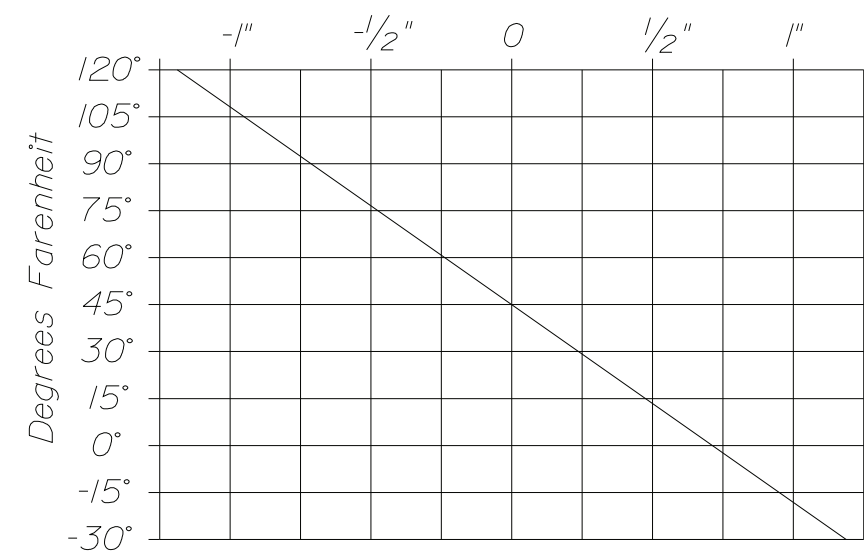
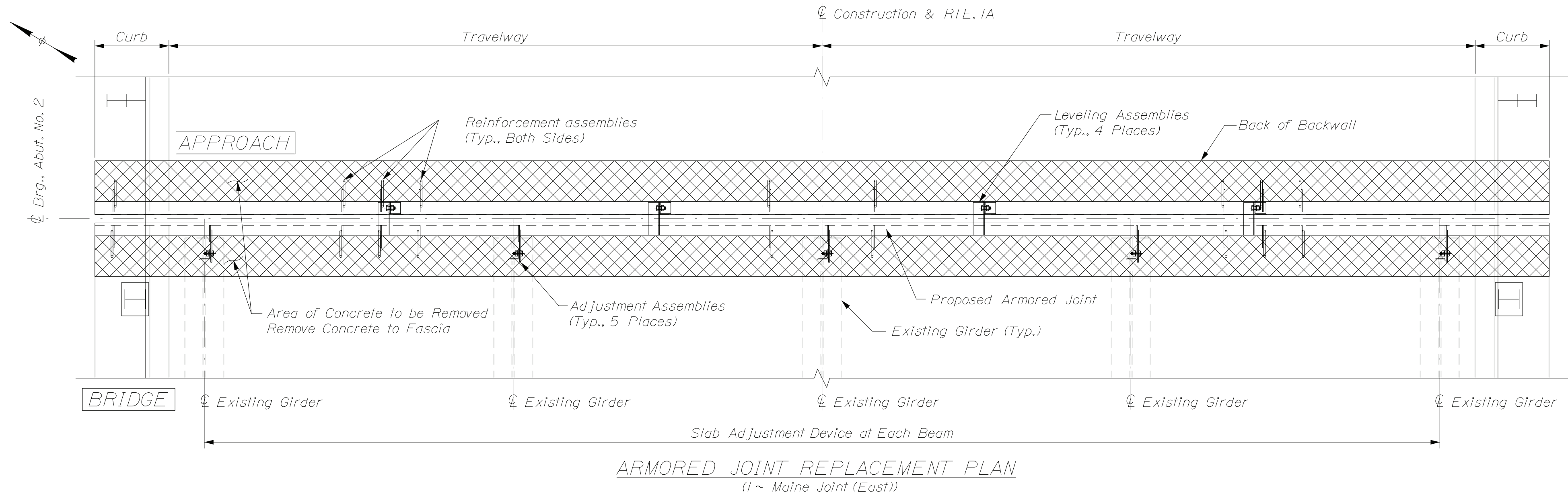
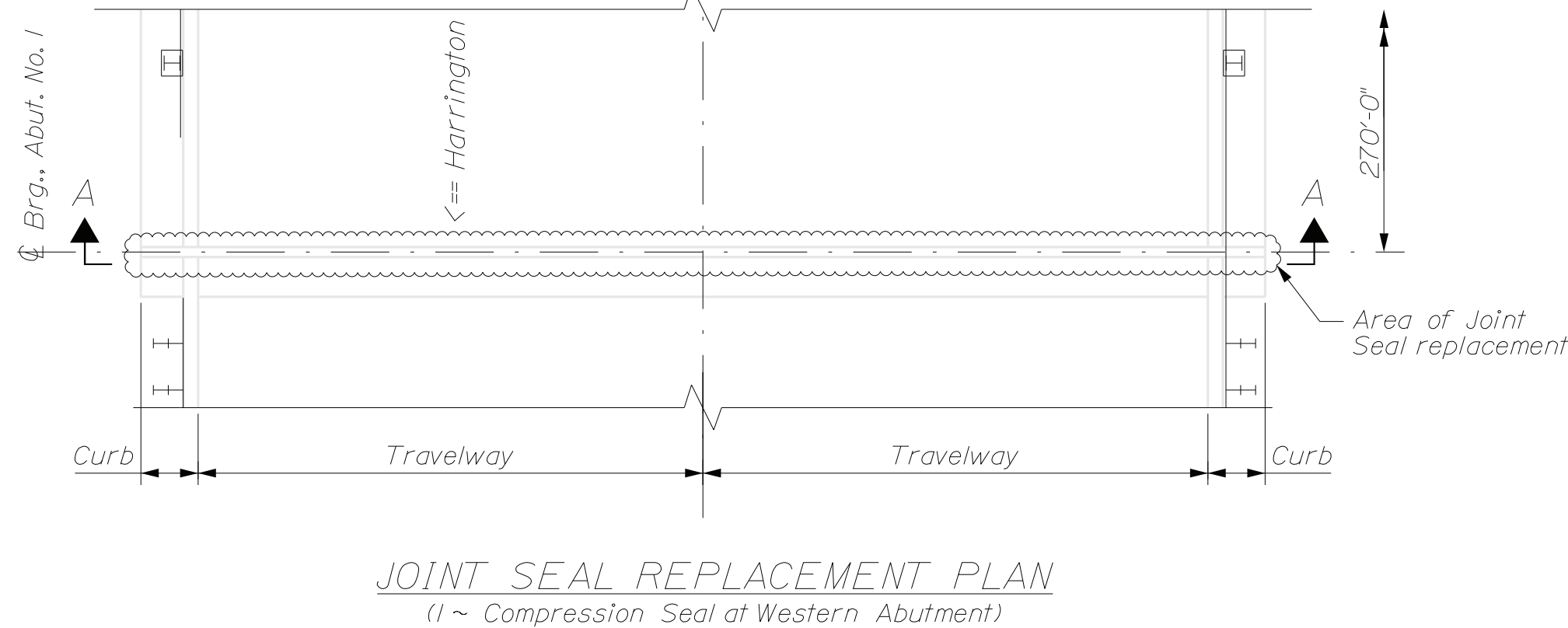
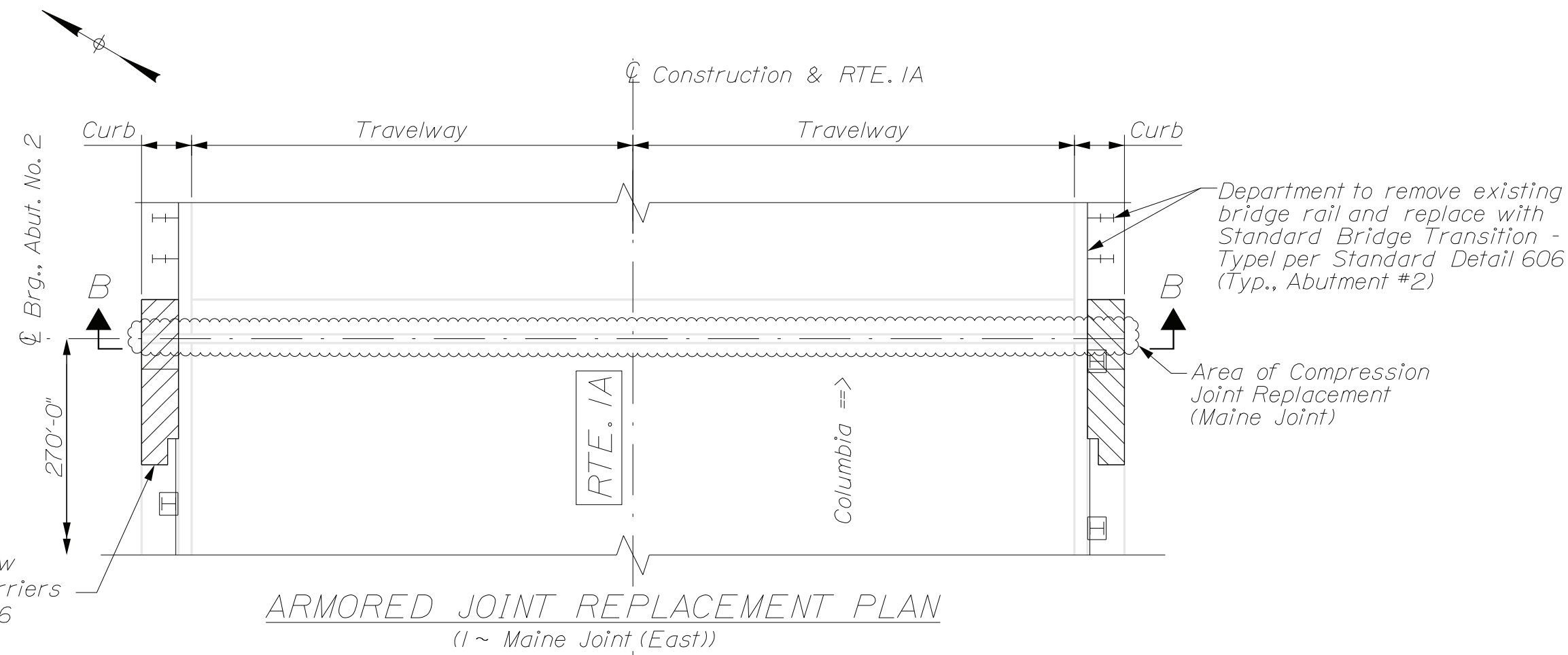
SHEET NUMBER
1
OF 5

Date:2/20/2019

Username: gerard.libby

Division: BRIDGE

Filename: ... \002_Armored_Joint_Plans.dgn



JOINT OPENING NOTES:

The Expansion Device shall be set to an opening of $2/4"$ inches in the Fabrication Shop. The joint opening shall be adjusted for temperature in the field at the time of installation using the following formula:

$$0.00008 \times "D" \times "ΔT" = \text{Adjustment (in inches)}$$

"D" is the distance in feet between the backwall and the nearest fixed bearing (for joints at abutments) or between the fixed bearings at either side of the expansion joint (for joints or piers).

"ΔT" is the difference between the temperature of the bridge girders and 45°F.

A structure temperature above 45°F will result in a smaller joint opening.

GENERAL CONSTRUCTION NOTES:

1. The existing bridge plans may be accessed at the following MaineDOT web address:

<http://www.maine.gov/mdot/contractors/>

The plans are reproductions of the original drawings as prepared for construction of the bridge. It is very unlikely that the plans will show any construction field change or any alterations which may have been made to the bridge during it's life span.

2. Dimensions shown are from existing plans and may differ from actual field dimensions. Field verify all dimensions prior to installation.

3. Any necessary adjustments to existing bridge rail, addition of end posts, and the removal and replacement of sidewalk concrete shall be as approved by the Region Bridge TOM.

4. Existing Concrete curb which requires removal in order to install the armored joints and seal shall be carefully and neatly cut off and removed to sound concrete as required. Concrete shall be placed to the limits shown on the plans.

5. Fabricate and deliver the expansion joint to region 4 - Carmel Bridge Maintenance Lot at 991 Fuller Road in Carmel, ME. Contact for delivery arrangements is Mike Thompson (207) 712-6604 or Michael.Thompson@maine.gov

6. Recess joint seals $3/4"$ below top surface of joint armor.

7. Field paint beam ends in accordance with the Bridge Maintenance Manual. The coating limits are to be at the discretion of the Region Bridge TOM.

8. Seal existing and new concrete surfaces in accordance with the Bridge Maintenance Manual. The coating limits are to be at the discretion of the Region Bridge TOM.

SCOPE OF WORK

Abutment #1 -

Replace expansion joint seal only. remove existing seal and replace with Emseal BEJS or Watson Bowman Acme WABO FS. Use 90° transition at curbs. Install seal in accordance with manufacturer's recommendations. Field measure and record the existing joint opening and steel temperature prior to ordering replacement seal. Seal to be appropriately sized by the Manufacturer's Representative.

Abutment #2 -

Replace expansion joint armor, concrete headers and joint seal. Add Standard Concrete Transition Barriers and Bridge Guardrail Transitions. Joint armor to be supplied by others. All other work by the Department. New joint seal to be Emseal BEJS or Watson Bowman Acme WABO FS. Install seal in accordance with manufacturer's recommendations. Seal to be appropriately sized by the Manufacturer's Representative.

Project Manager - Region 4 Bridge Transportation Operations Manager (TOM): Mike Thompson

OF 5		SHEET NUMBER		HARRINGTON BRIDGE		HARRINGTON RIVER		WASHINGTON		HARRINGTON		ARMORED JOINT PLANS		2	
				PROJ. MANAGER		M. Thompson		BY		DATE					
				DESIGN-DETAILED		C. LIBBY		G. LIBBY		JAN 2019					
				CHECKED-REVIEWED		J. VAILLANT		J. VAILLANT				SIGNATURE			
				DESIGN-DETAILED		DESIGN-DETAILED									
				REVISIONS 1		REVISIONS 1						P.E. NUMBER			
				REVISIONS 2		REVISIONS 2									
				REVISIONS 3		REVISIONS 3									
				REVISIONS 4		REVISIONS 4						DATE			
				FIELD CHANGES		FIELD CHANGES									
										</					



1. *The existing concrete shall be removed so as not to damage existing vertical and horizontal steel in the parapets or the longitudinal and transverse reinforcing steel in the superstructure. Any damaged reinforcing steel shall be replaced at the discretion of the Region Bridge TOM and at the Contractors expense.*
2. *Existing reinforcing steel to remain shall be cleaned as directed by the Region Bridge TOM prior to placing new concrete.*
3. *All rebar splices shall be 18" minimum.*
4. *Reinforcing steel shall have a minimum 2" of cover unless otherwise noted.*
5. *Any adjustment angles shall be welded after final position adjustments are made.*
6. *Concrete removal limits depend on the existing bridge and may not match what is shown here. Refer to existing bridge plans and field measurements. Limits may be reduced with the approval of the Region Bridge TOM.*

OF 5 3 SHEET NUMBER	HARRINGTON BRIDGE HARRINGTON RIVER HARRINGTON				PROJ. MANAGER M. Thompson		BY C. LIBBY		DATE JAN 2019	
	WASHINGTON				CHECKED-DETAILED C. LIBBY		CHECKED-REVIEWED J. Velleux		SIGNATURE	
					DESIGN-DETAILED E02		DESIGN-REVIEWED J. Velleux			
					REVISIONS 1		P.E. NUMBER			
					REVISIONS 2		DATE			
JOINT SECTIONS				REVISIONS 3		REVISIONS 4		BRIDGE NO. 1540		WIN 23682.00
				FIELD CHANGES				BRIDGE JOINT PLANS		



1. The Expansion Devices shall be fabricated to be installed normal to grade.
2. Prior to the installation of the seal the steel surfaces to receive the adhesive shall be blasted clean and solvent washed per the seal manufacturer's instructions.
3. The joint armor shall be furnished ungalvanized.

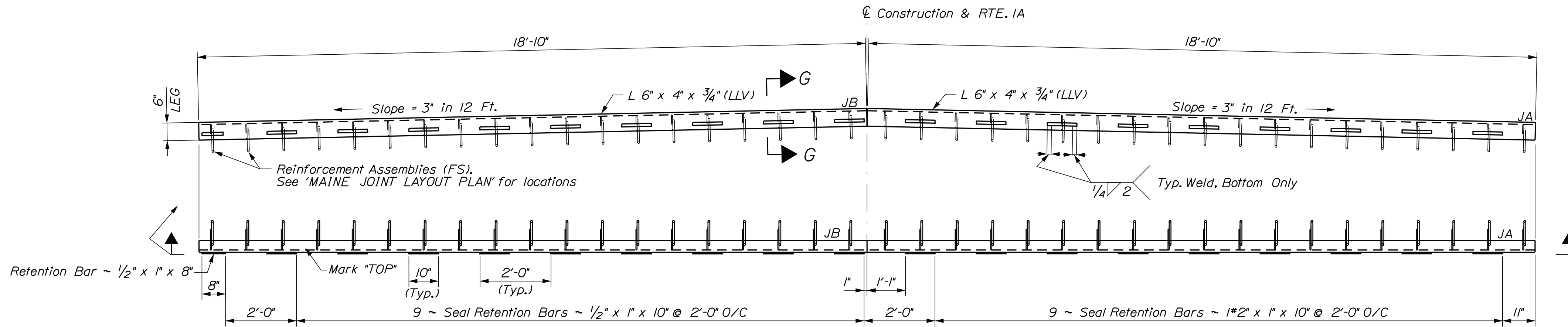
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Date:2/20/2019

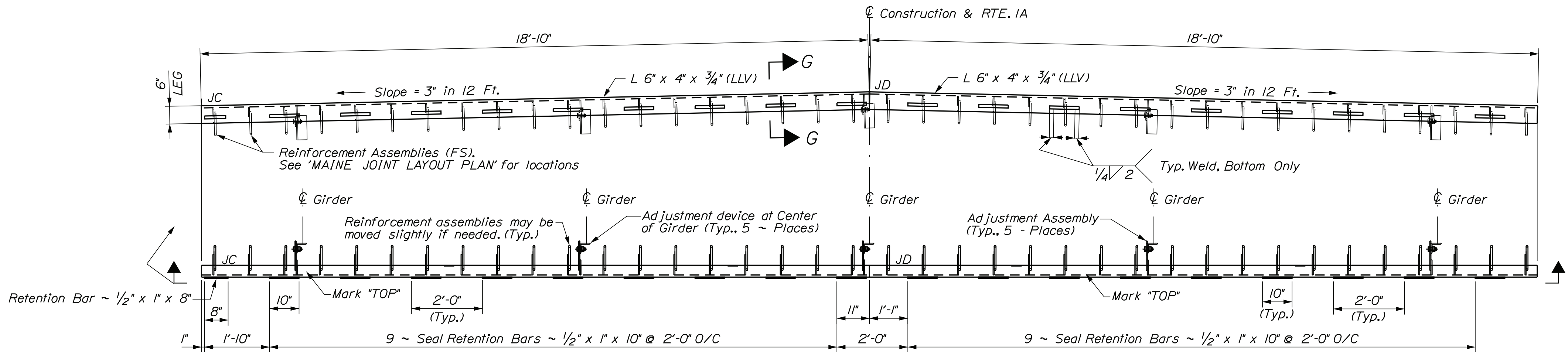
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Division: BRIDGE

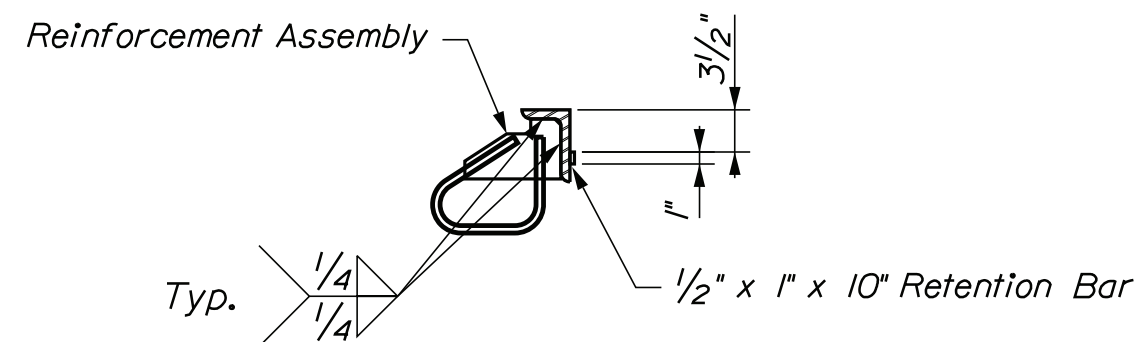
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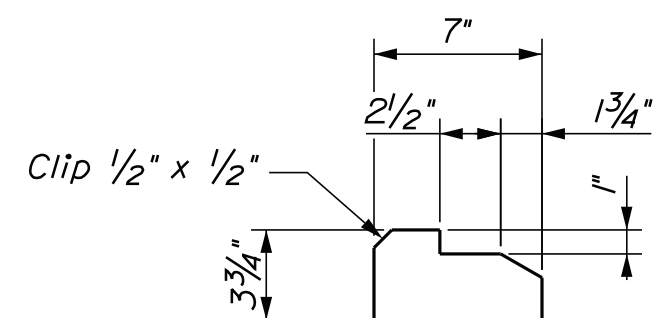
SECTION C - C



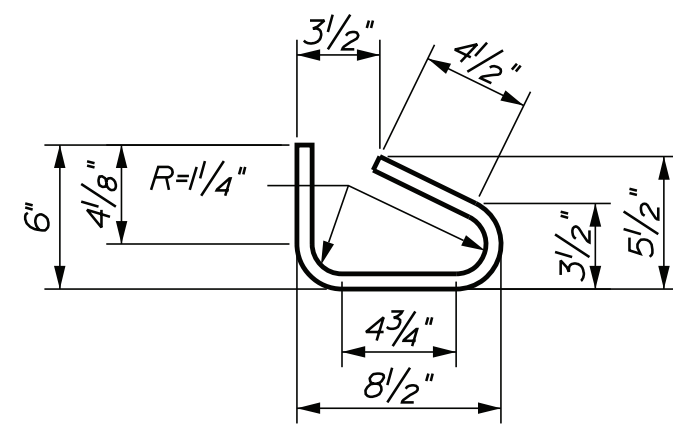
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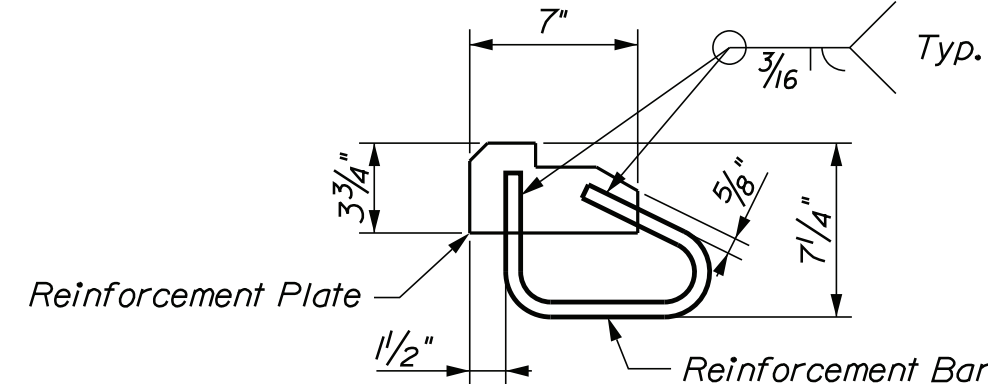
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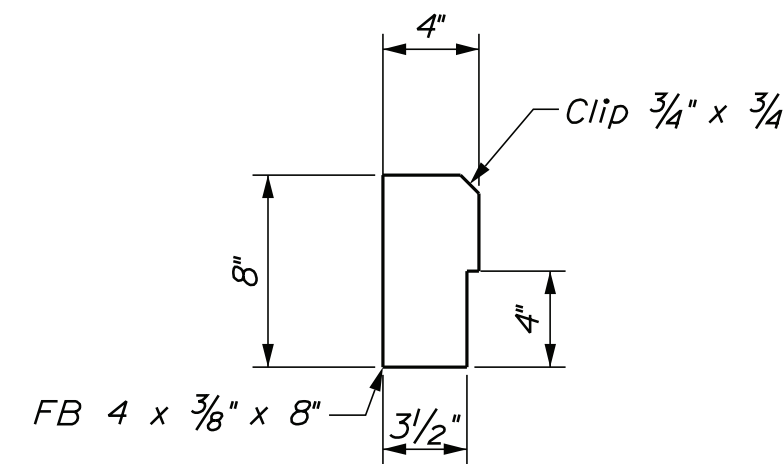
Detail of Reinforcement Plate
(76 ~ Required)



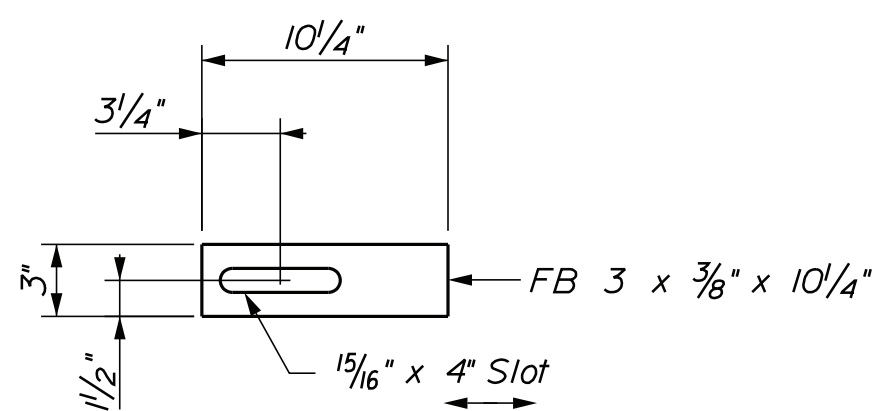
Detail of Bent Reinforcement Bar
NOTE: *5 Reinforcement Bar
(76 ~ Required)



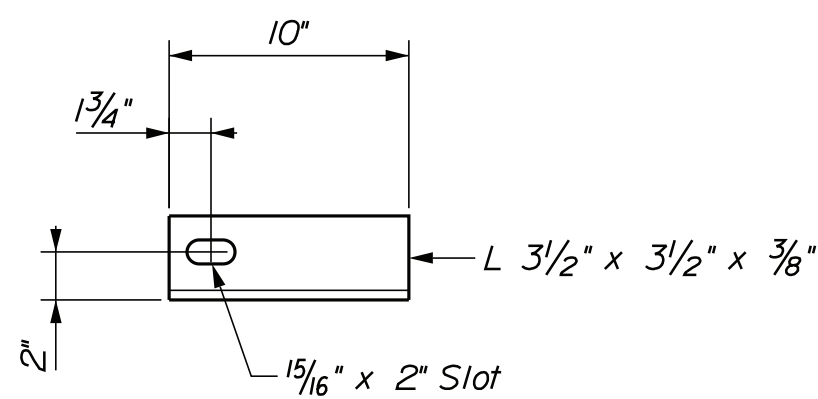
Typical Reinforcing Assembly Detail



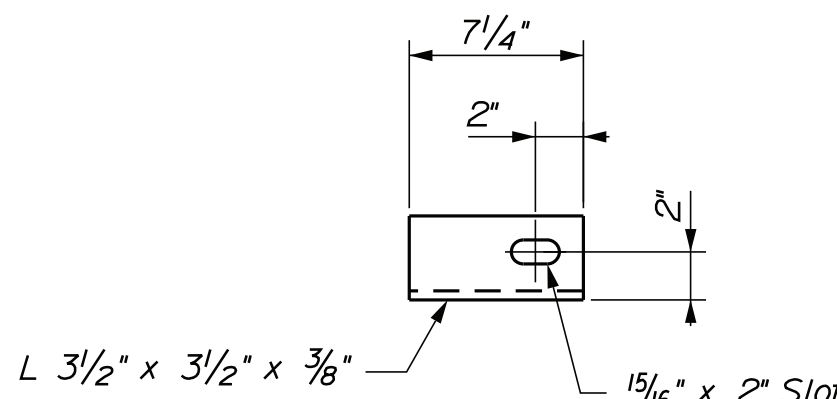
5 - Plates Mkd ~ PB
(No Holes)



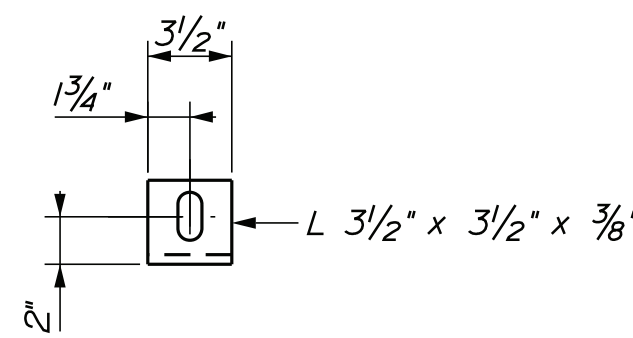
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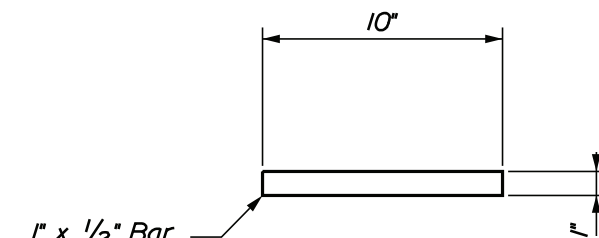
4 - Angles Mkd ~ AB



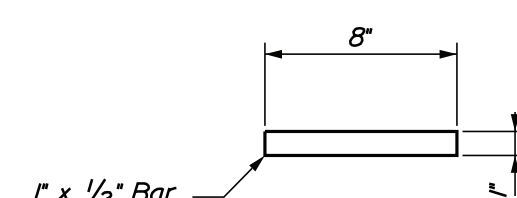
5 - Angles Mkd ~ AA



4 - Angles Mkd ~ AC



Detail of 10" Retention Bars
(36 ~ Required)



Detail of 8" Retention Bars
(2 ~ Required)

NOTE:

All Steel shall be Finished SSPC-SP6, Blast Clean and Ungalvanized.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
23682.00
BRIDGE NO. 1540
WIN 23682.00
BRIDGE JOINT PLANS

PROJ. MANAGER	Mike Thompson	BY	G. LIBBY	DATE	JAN 2019
CHECKED-DESIGNED	J. VELLEUX	CHECKED-REVIEWED	J. VELLEUX	SIGNATURE	
DESIGNS DETAILLED		DESIGNS DETAILLED		P.E. NUMBER	
REVISIONS 1		REVISIONS 1		DATE	
REVISIONS 2		REVISIONS 2			
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES		FIELD CHANGES			

HARRINGTON BRIDGE	WASHINGTON
HARRINGTON RIVER	
HARRINGTON	
STEEL DETAILS	

SHEET NUMBER
5
OF 5