STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Fifth Edition 2010.

DESIGN LOADING

Live Load ..... 22 Tons

TRAFFIC DATA

Current (2013) AADT 1160
Future (2033) AADT 1740
Design Speed (mph) 25

MATERIALS

Concrete:
All ..... Class "A"
Reinforcing Steel ..... ASTM A 615/A 615M, Grade 60

Structural Steel:
All Material (except as noted) ..... ASTM A 709, Grade 36
High Strength Bolts ..... ASTM A 325, Type 3

Timber:
All ..... Construction Grade Hemlock or Southern Yellow Pine

BASIC DESIGN STRESSES

Concrete ..... f 'c = 4,000 psi

Reinforcing Steel ..... f y = 60,000 psi
Structural Steel:
ASTM A 709, Grade 36 ..... F y = 36,000 psi
ASTM A 325 ..... F μ = 120,000 psi

FALMOUTH
CUMBERLAND
MACKWORTH ISLAND BRIDGE
OVER
PRESUMPSCOT RIVER OUTLET
ANDREWS AVE.
PROJECT #18819.00
PROJECT LENGTH 0.01 mi.
BRIDGE NO. 5600

LIST OF DRAWINGS

Title Sheet 1
Estimated Quantities 2
Existing Plans 3
Construction Framing Plans 4-5
Sections and Details 6-8
Steel Details 9
Assembly Plans 10

UTILITIES

Central Maine Power Company
Fairpoint Communications
Portland Water District
Time Warner Cable
Town of Falmouth Sewer Department

MAINTENANCE OF TRAFFIC

Maintain one 11'-0" wide lane of alternating two-way traffic on the approaches using traffic signals when possible. If the Bridge & Causeway is not closed to facilitate the Contractor's operations as allowed and specified in Special Provision Section 652 Maintenance of Traffic (Bridge and Causeway Closures), then the Contractor must submit a sequence of stage construction on the bridge providing for one lane of alternating traffic at all times to the Resident for approval.

PROJECT LOCATION:	Mackworth Island Bridge On Andrews Ave. in Falmouth. Lat. 43°41'31.89 N Long. 70°14'13.01" W
PROGRAM AREA:	Bridge Maintenance
OUTLINE OF WORK:	Sturctural Reinforcement

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED — DATE
COMMISSIONER: 12/18/14
CHIEF ENGINEER: 12-10-14

STATE OF MAINE BRENT A. SNOWDEN No. 4838 LICENSED PROFESSIONAL ENGINEER
SIGNATURE
P.E. NUMBER 4838
DATE 12-8-2014

PROJECT INFORMATION

PROGRAM	BRIDGE
PROJECT MANAGER	MARK PARLIN
DESIGNER	BRENT A. SNOWDEN
CONSULTANT	
PROJECT RESIDENT	CRAIG HURD
CONTRACTOR	
PROJECT COMPLETION DATE	APRIL 3, 2015

FALMOUTH
MACKWORTH ISLAND BRIDGE

TITLE SHEET

SHEET NUMBER 1 OF 10

WIN 18819.00

18819.00

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ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
203.35	Crushed Stone, ¾"	6	CY
206.082	Structural Earth Excavation - Major Structures	18	CY
502.21	Structural Concrete Abutment and Retaining Wall	12	CY
503.12	Reinforced Steel, Fabrication & Delivery	1,810	LB
503.13	Reinforced Steel, Placing	1,810	LB
504.70	Structural Steel Fabrication & Delivery (12,023 LB)	1	LS
504.705	Structural Steel - State Supplied (54,300 LB)	1	LS
504.71	Structural Steel Erection (66,323 LB)	1	LS
506.9102	Zinc Rich Coating System (Shop Applied) (25,498 LB)	1	LS
506.9103	Galvanizing (1,925 LB)	1	LS
507.0813	Bridge Railing, 2 Bar - Install Only	204	LF
526.301	Temporary Concrete Barrier, Type I (40 LF)	1	LS
528.01	Structural Timber Fab. & Delivery (20- 21' Long Stringers) (2,170 BF)	1	LS
528.02	Structural Timber Erection (12,730 BF)	1	LS
528.60	Structural Timber Decking (110 - 24' Long Planks) (2,170 BF)	10,560	BF
606.36	Guardrail - Removed & Reset	150	LF
639.19	Field Office - Type B	1	EA
652.312	Type III Barricade	2	EA
652.33	Drum	25	EA
652.34	Cone	25	EA
652.35	Construction Signs	150	SF
652.36	Maintenance Of Traffic Control Devices	65	CD
652.38	Flagger	960	HR
652.41	Portable Changeable Message Sign	2	EA
656.75	Temporary Soil Erosion & Water Polution Control	1	LS
659.10	Mobilization	1	LS

GENERAL NOTES:

1.) Bracing of the main steel girders from steel bridge rail posts will be done at two rail post locations near the center of the structure as directed by the Resident. This will be on both sides of the structure and shall not interfere with the cross stringer hanger system.

2.) Any Timber Decking or Stringers that are not installed shall become the property of the Department.

3.) All timber to be construction grade Hemlock or Southern Yellow Pine. All timber to be treated per Special Provision Section 528 Structural Timber. All timber shall be left in rough-sawn condition.

4.) The two (2) 102' main structural girders supplied by the Department, labeled "bl" on sheet 9 of the plans, are already painted and do not require additional protective coating. However, some spot areas of the girders may need "touch up" as directed by the Resident. This "touch up" will require SSPC-SP3 Power Tool Cleaning and a top coat over the spot areas. Paint shall be as specified in Special Provision Section 506, Shop Applied Coating - Steel.

5.) The ten (10) cross stringers supplied by the Department, labeled "Bl" on sheet 9 of the plans, need additional protective coating as specified in Special Provision Section 506 Shop Applied Coating - Steel and surface preparation shall be SSPC-SP3 Power Tool Cleaning.

6.) All new steel required for this project; W36x150 labeled "b2", C15x50 labeled "cl", Bearing Plates labeled "pbl" and "pb2", Saddle Plates labeled "Pl" and "P2" and Angles labeled "ad", "ab" and "Al" on sheet 9 of the plans, need protective coating as specified in Special Provision Section 506 Shop Applied Protective Coating - Steel. The color of the top coat protective coating shall approximately match the paint color on the two 102' main structural steel girders supplied by the Department.

7.) The one inch diameter rods labeled "Rl" and the one inch diameter anchor rods labeled "R2" on sheet 9 of the plans, shall be Hot-Dipped Galvanized. All heavy hex nuts and washers used with "Rl" and "R2" shall also be Hot-Dipped Galvanized in accordance with the State of Maine Department of Transportation Standard Specifications, November 2014 Edition Section 506 - Shop Applied Protective Coating - Steel, subsection 506.20 through 506.29.

8.) Use Class A/Method C concrete per Standard Specification Section 502. The concrete mix shall have Calcium Nitrite added at the rate of 3 gallons per cubic yard. Concrete shall have a minimum of 7 days cure time and shall reach a compressive strength of 4,000 psi before steel girders can be placed on the reinforced concrete slabs.

9.) All crane work must be done from the westerly approach to the bridge. Guardrail can be removed as directed by the Resident to provide room for a crane to operate and still allow one lane of traffic as required. Barges in the water will not be allowed as a crane platform.

10.) Each deck plank shall have two (2) ½" x 8" HCR/ext Hex Lag Screws that will be countersunk into the timber deck so that the Hex Lag Screw is ½" below the top of the Timber Deck. New Timber Stringers replacing deteriorated Timber Stringers as directed by the Resident will have a ⅝"ϕ x 2'-0" Drift Bolt driven through the Timber Stringers into the timber pile caps at each end of the Timber Stringer.

11.) Steel posts for the approach guardrail transition that sit on the concrete pad will be cut to the proper height and have a 1" thick steel base plate welded to the bottom. ¾"ϕ A36 galvanized threaded rod will be drilled and grouted in the concrete pad to anchor the steel base plate in the holes provided.

12.) The Contractor may use the allowable Bridge and Causeway closure dates specified in Special Provision Section 652 - Maintenance of Traffic (Bridge and Causeway Closures) to replace the existing timber deck and timber stringers as directed, erection of steel girders, erection of steel cross stringers and removal and resetting existing bridge rail as well as other operations that would require lane closures on the bridge. If the contractor does not utilize the allowable bridge and causeway closure dates for these activities, then the Contractor will use staged construction and maintain one lane of alternating traffic at all times. The Contractor shall then submit a stage construction plan to the Resident for approval.

13.) The Contractor will transition the approach finished grade from 10' behind the centerline of bearings to the bridge so that the approach finished grade matches the finished grade of the new deck planks on both ends of the structure. Material used to transition shall be pavement patch material or other equal or stronger material as approved by the Resident. This work shall be considered incidental to all project pay items.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

66210.00

WIN 18819.00

BRIDGE NO. 5600

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	B. SNOWDEN		
DESIGN-DETAILED	B. SNOWDEN		
CHECKED-REVIEWED	B. SNOWDEN		
DESIGN2-DETAILED2	G. LIBBY		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

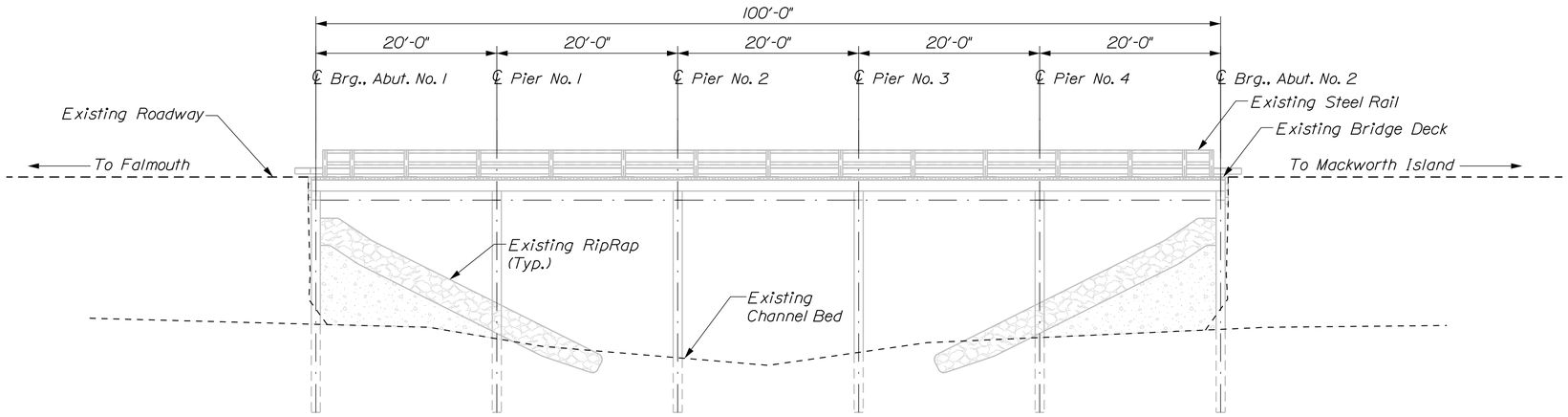
DATE

MACKWORTH ISLAND BRIDGE
PRESUMPSCOT RIVER OUTLET
FALMOUTH CUMBERLAND

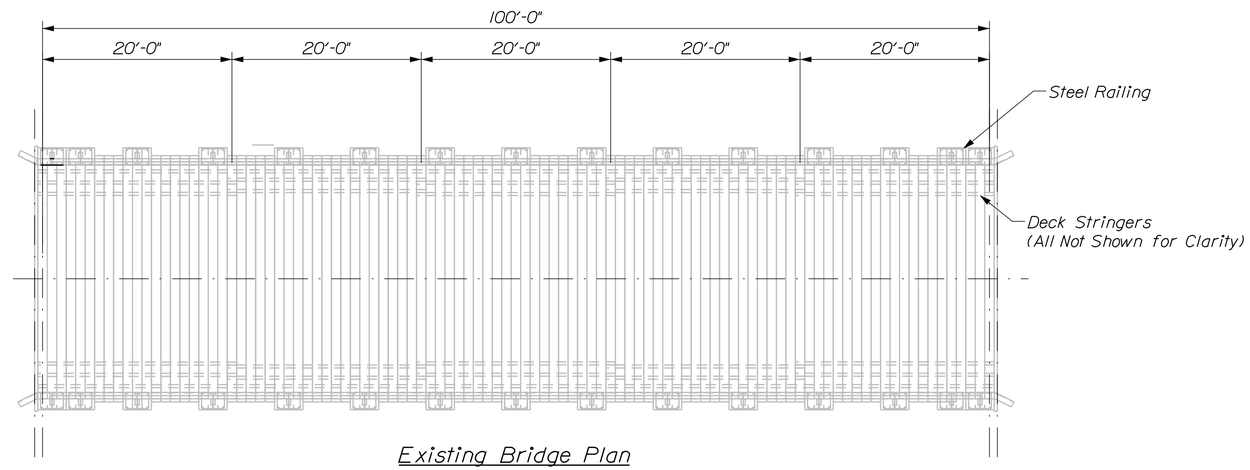
ESTIMATED QUANTITIES

SHEET NUMBER
2
OF 10

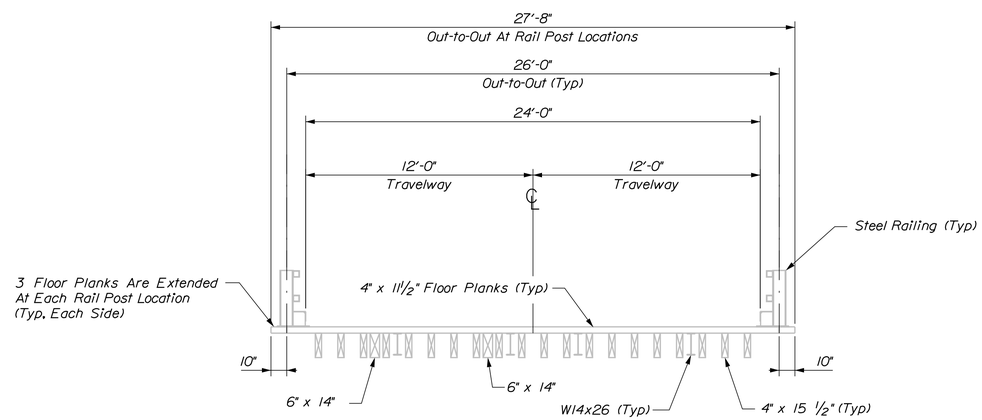
Filename: ...\BRIDGE\MSTA\002_Estimate.dgn Division: BRIDGE Username: gerald.libby Date:12/8/2014



Existing Elevation



Existing Bridge Plan



Existing Bridge Section

(Looking WEST Towards Falmouth)

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

66210.00

WIN 18819.00

BRIDGE NO. 5600

BRIDGE PLANS

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PROJ. MANAGER	B. SNOWDEN		
DESIGN-DETAILED	B. SNOWDEN		
CHECKED-REVIEWED	B. SNOWDEN		
DESIGN2-DETAILED2	G. LIBBY		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

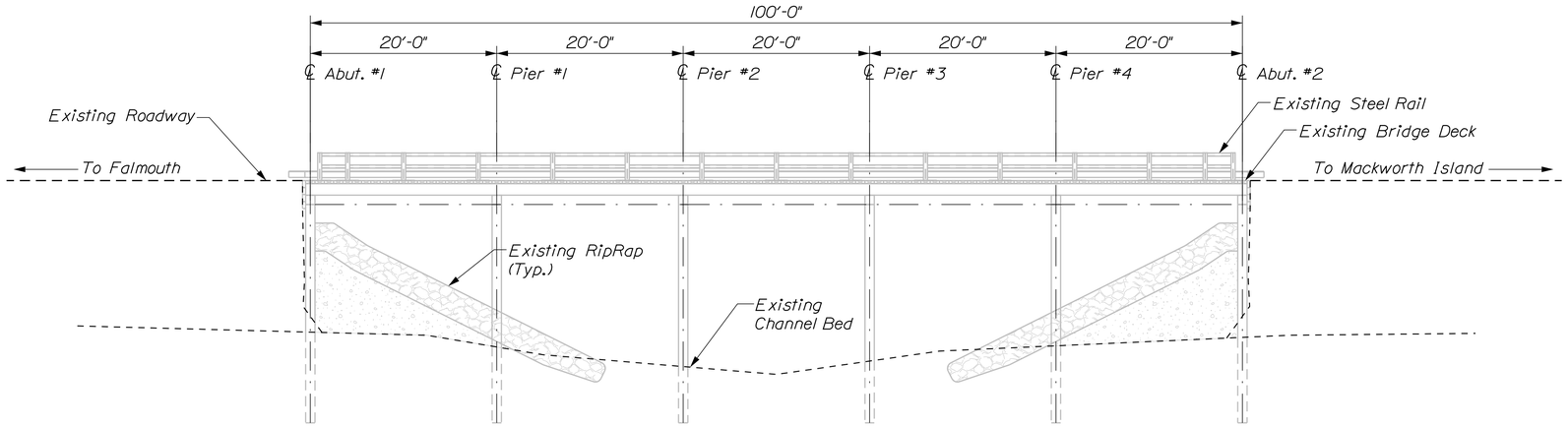
MACKWORTH ISLAND BRIDGE
PRESUMPSCOT RIVER OUTLET
FALMOUTH CUMBERLAND

EXISTING PLANS

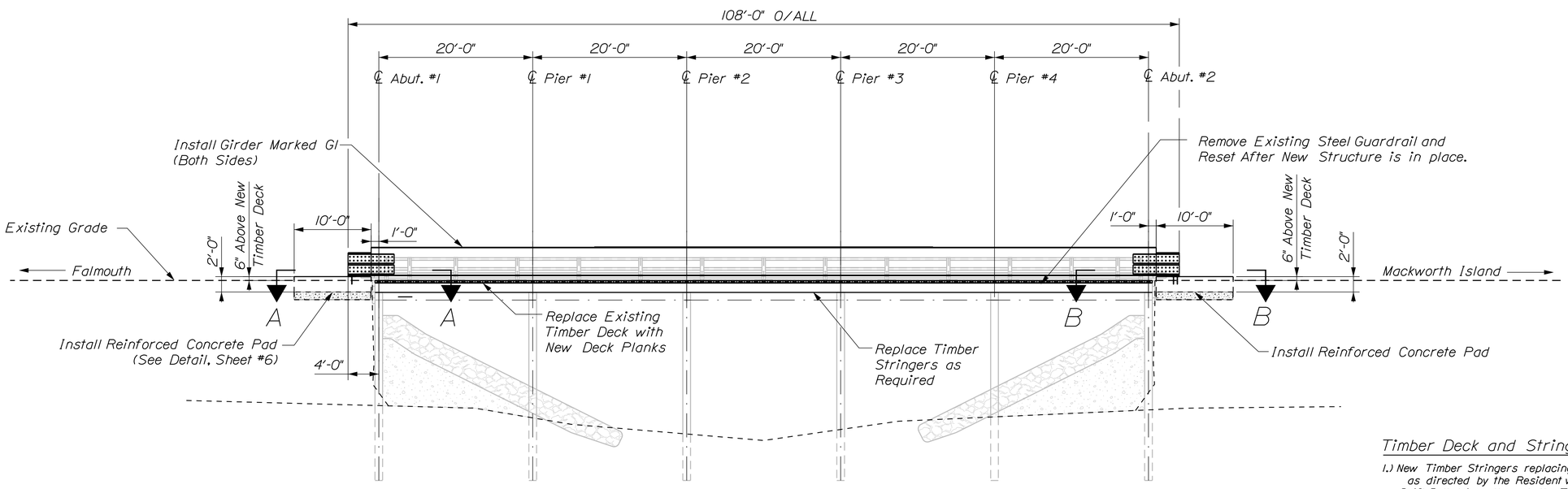
SHEET NUMBER

3

OF 10



Existing Elevation



Phase I Elevation View

CONSTRUCTION PHASE NOTES:

Phase I -

1.) Remove existing guardrail and set aside to be reinstalled after new structure has been erected.
2.) Install reinforced Concrete Slabs on each side and at each end of existing bridge as directed by the Resident.
3.) Remove existing Timber Deck planks.
4.) Replace deteriorated Timber Stringers with new 4" x 15½" Timber Stringers as directed by the Resident.
5.) Install New treated 4" x 11½" Timber Decking as directed by the Resident. See schedule this sheet.
6.) Install Assembled Girder Marked GI at specified locations with girder ends resting on concrete slabs.

Phase 2 -

7.) Install W18x55 Cross Stringers Marked BI using Saddle Plates and Steel Rods Marked RI at designated points. Cut decking to avoid steel rods as required.

Phase 3 -

8.) Reinstall Steel Guardrail on each side of bridge. See "Detail I" on Sheet 7.
9.) Attach Torsional Buckling Brace to Girder GI and guardrail at locations to be determined by the Resident.
10.) Field Weld Guardrail attached end of brace AI after it has been installed and inspected.

Phase 4 -

11.) Open Bridge.

Timber Deck and Stringer Installation Notes

1.) New Timber Stringers replacing deteriorated Timber Stringers as directed by the Resident will have a ⅝"ϕ x 2'-0" Drift Bolt driven through the Timber Stringers into the timber pile caps at each end of the Timber Stringer.
2.) Each deck plank shall have two (2) ½" x 8" HCR/ext Hex Lag Screws that shall be countersunk into the Timber Deck so that the Hex Lag Screw is flush with the top of the Timber Deck.

MATERIAL SCHEDULES

TIMBER SCHEDULE

QUANTITY	DESCRIPTION	NOMINAL SIZE	FINISHED SIZE	LENGTH
110	Deck Panels	4" x 12"	4" x 11½"	24'-0"
20	Stringers	4" x 16"	4" x 15½"	21'-0"

HARDWARE SCHEDULE

QUANTITY	DESCRIPTION	SIZE	LENGTH	LOCATION
50	Drift Bolts	⅝"ϕ	2'-0"	Stringers to Pile Caps
4500	HCR/ext Hex Lag Screws	½"ϕ	8"	Decking to Stringers

STATE OF MAINE
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BRIDGE NO. 5600

BRIDGE PLANS

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PROJ. MANAGER	B. SNOWDEN	
DESIGN-DETAILED	B. SNOWDEN	
CHECKED-REVIEWED	B. SNOWDEN	
DESIGN2-DETAILED2	G. LIBBY	
DESIGN3-DETAILED3		
REVISIONS: 1		
REVISIONS: 2		
REVISIONS: 3		
REVISIONS: 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MACKWORTH ISLAND BRIDGE
PRESUMPSCOT RIVER OUTLET
FALMOUTH CUMBERLAND

FRAMING PLANS

SHEET NUMBER

4

OF 10

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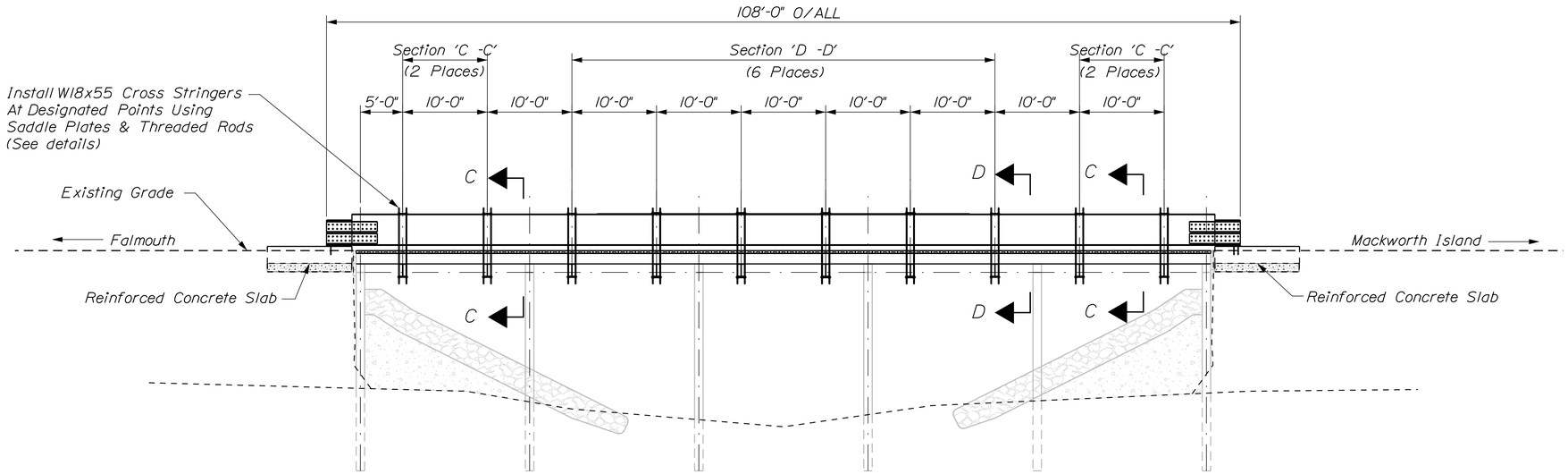
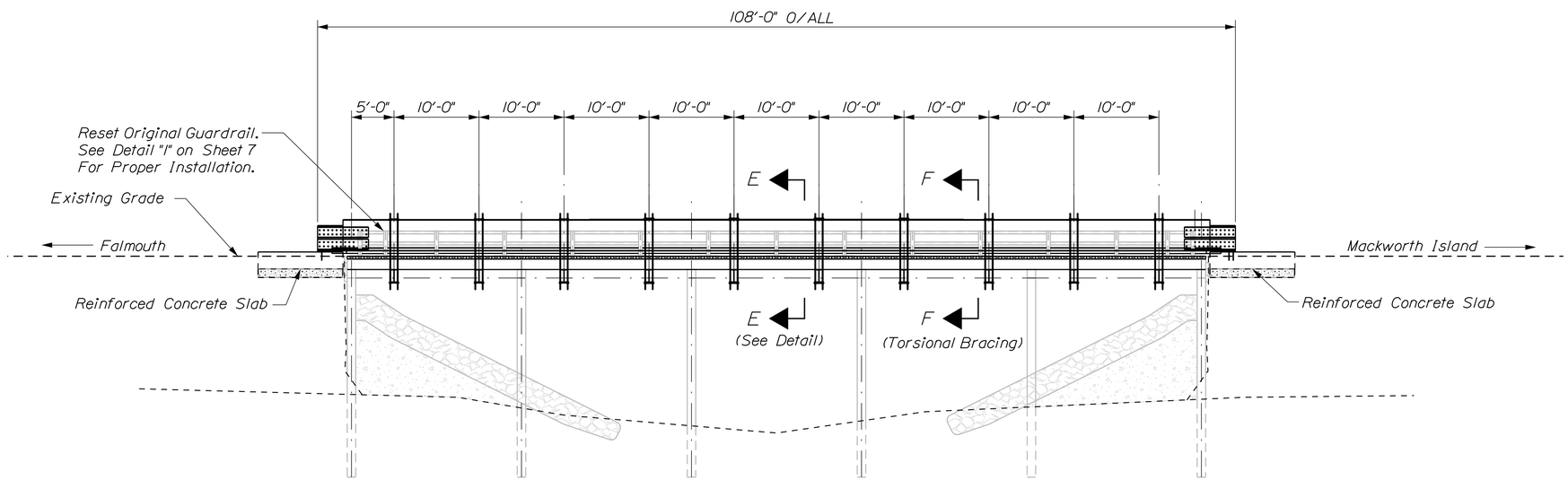


Phase 2 Elevation View



Phase 3 Elevation View

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

66210.00

WIN 18819.00

BRIDGE NO. 5600

BRIDGE PLANS

PROJ. MANAGER	B. SNOWDEN	BY	DATE
DESIGN-DETAILED	B. SNOWDEN		
CHECKED-REVIEWED	B. SNOWDEN		
DESIGN2-DETAILED2	G. LIBBY		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MACKWORTH ISLAND BRIDGE
PRESUMPSCOT RIVER OUTLET
FALMOUTH CUMBERLAND

FRAMING PLANS

SHEET NUMBER

5

OF 10

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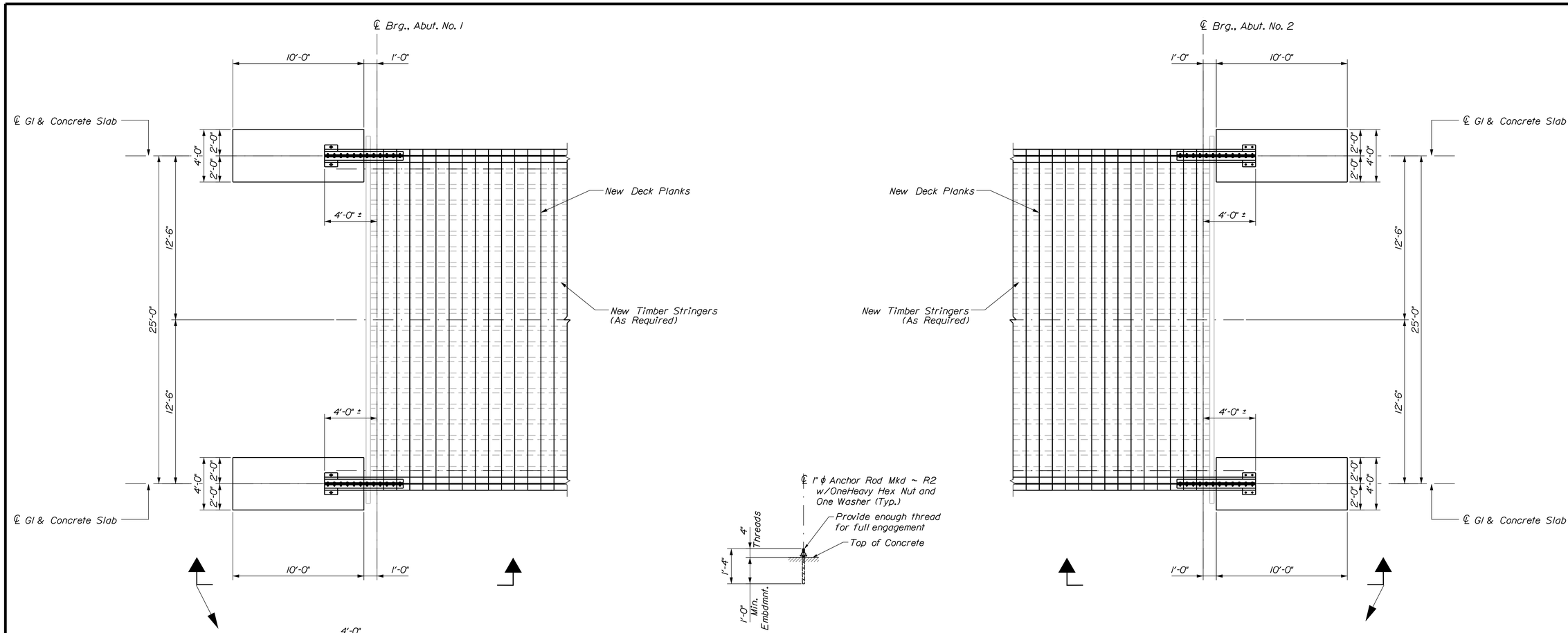
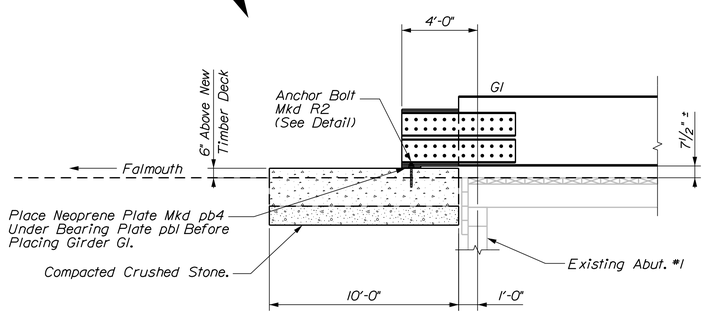


R2 ANCHOR ROD PLACEMENT
12 Required



Section A - A
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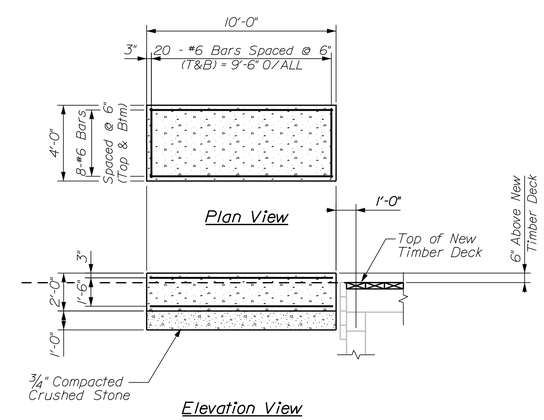
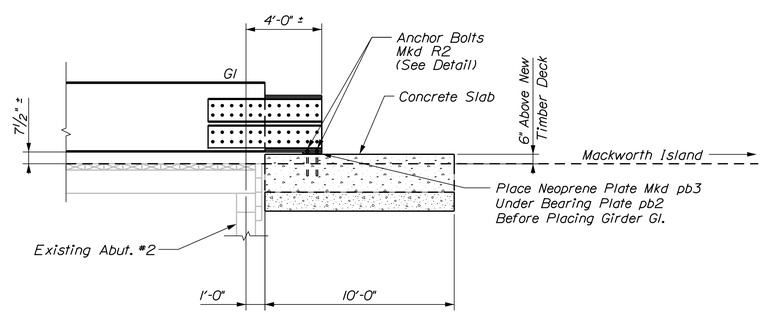


Detail of Concrete Bearing Slab



Section B - B
(Typ., Both Sides)

STATE OF MAINE
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WIN 18819.00

BRIDGE NO. 5600

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	B. SNOWDEN		
DESIGN-DETAILED	B. SNOWDEN		
CHECKED-REVIEWED	B. SNOWDEN		
DESIGN2-DETAILED2	G. LIBBY		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

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MACKWORTH ISLAND BRIDGE
PRESUMPSCOT RIVER OUTLET
FALMOUTH CUMBERLAND

BEARING PAD & GIRDER INSTALLATION PLANS

SHEET NUMBER
6
OF 10

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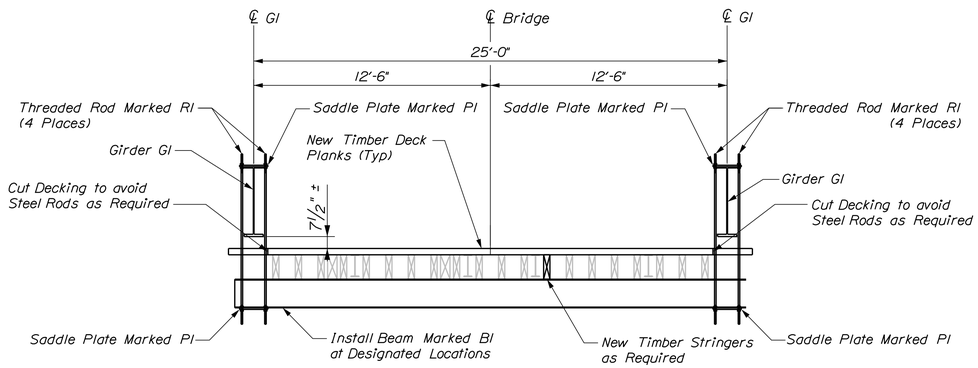
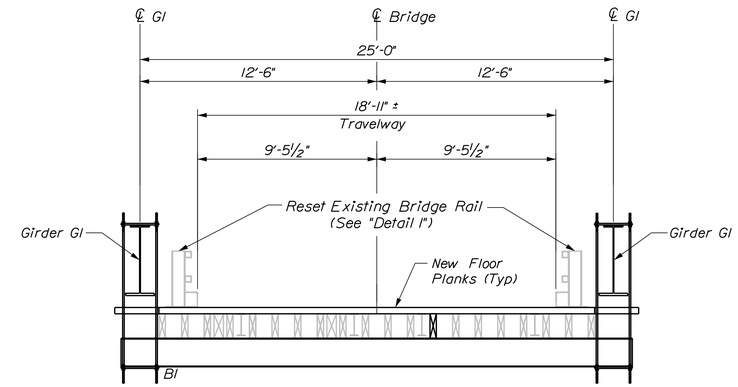


Section C - C

(Looking WEST Towards Falmouth)

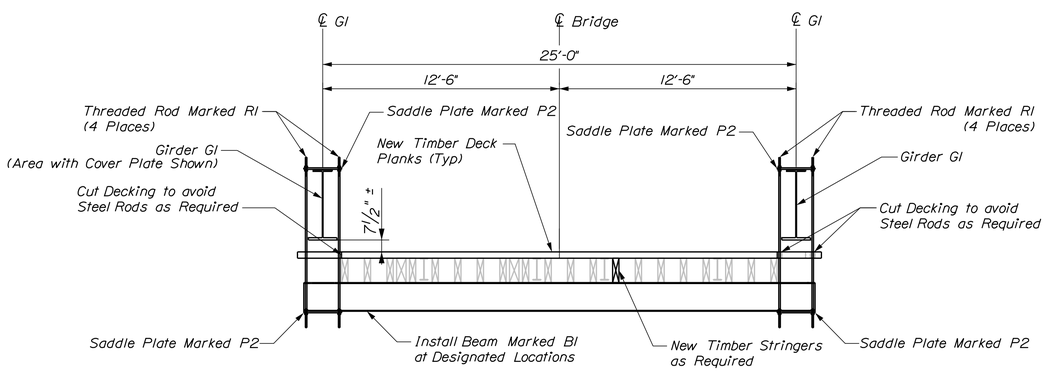
Note:

Shim between top of Beams Mkd. BI and bottom of Timber Stringers with hardwood or steel shims as required and as directed by the Resident>



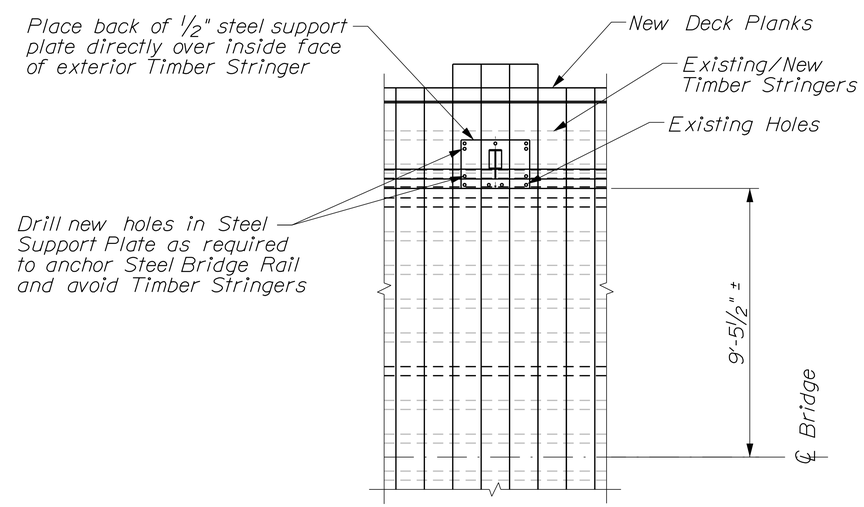
Section E - E

(Looking WEST Towards Falmouth)



Section D - D

(Looking WEST Towards Falmouth)



Detail "I"

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

66210.00

WIN 18819.00

BRIDGE NO. 5600

BRIDGE PLANS

PROJ. MANAGER	B. SNOWDEN	BY	DATE
DESIGN-DETAILED	B. SNOWDEN		
CHECKED-REVIEWED	B. SNOWDEN		
DESIGN2-DETAILED2	G. LIBBY		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MACKWORTH ISLAND BRIDGE
PRESUMPSCOT RIVER OUTLET
FALMOUTH CUMBERLAND

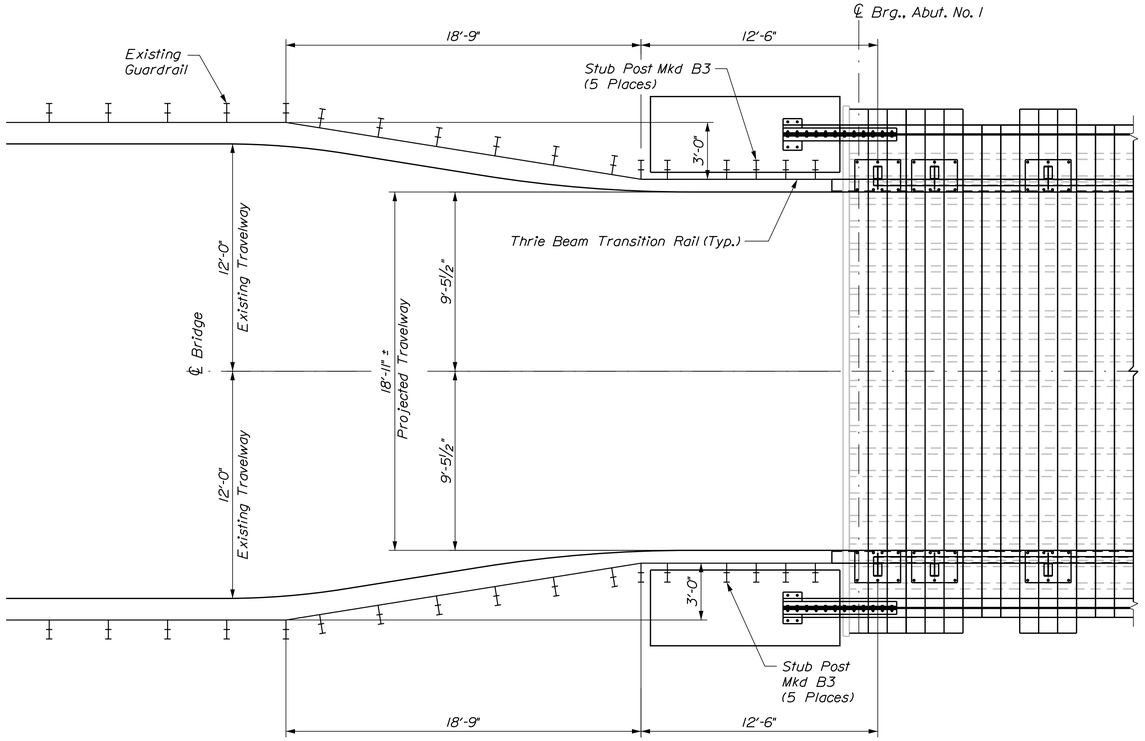
SECTIONS & DETAILS

SHEET NUMBER

7

OF 10

Filename: ...\BRIDGE\MSTA\007_Sections.dgn Division: BRIDGE Username: gerald.libby Date:12/8/2014

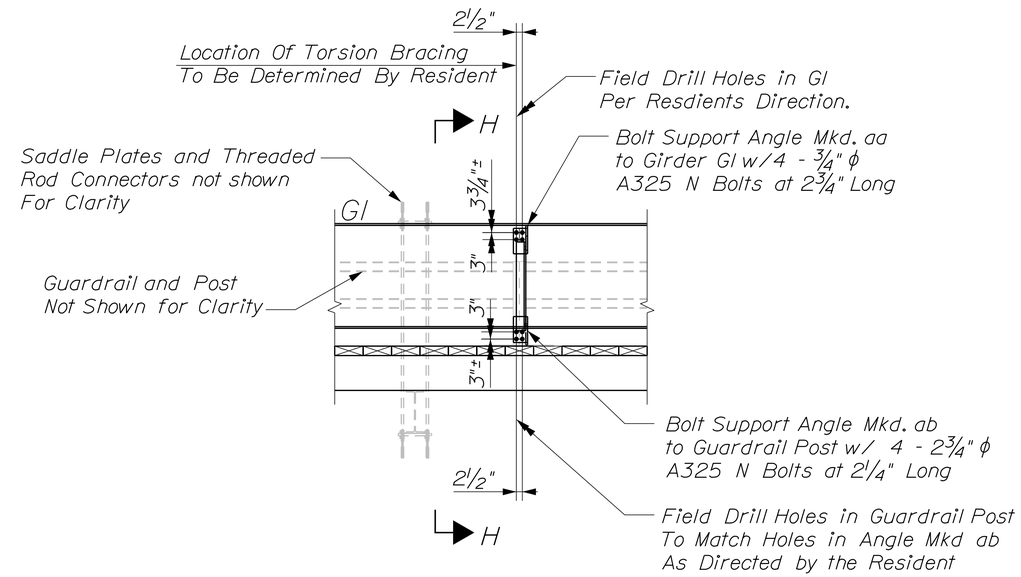


Plan View - Approach & Guardrail Placement

(Typical, Both Sides)

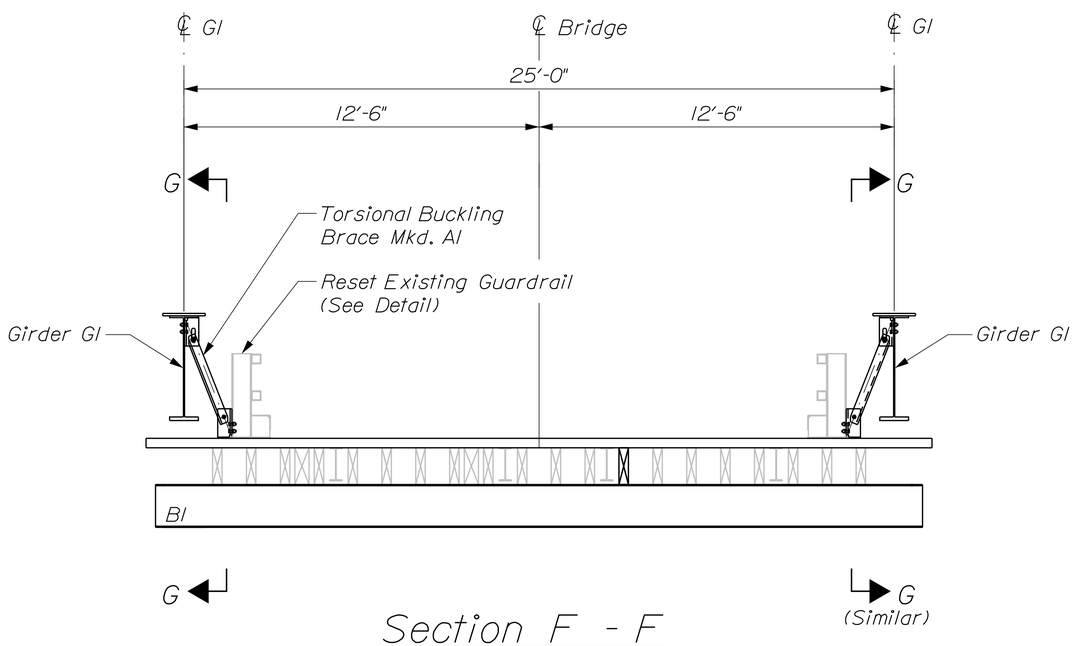
Support Angle Installation

1.) Locations of Torsional Buckling Bracing and Bracing Supports to be determined by the Resident.
2.) Field drill holes in GI to match support angle Mkd ~ aa and bolt angle with 4 - ¾"ϕ A325N Bolts at 2¾" Long.
3.) Field drill holes in guardrail post to match support angle Mkd ~ ab and bolt angle with 4 - ¾"ϕ A325N Bolts at 2¼" Long.
4.) Attach Torsion Brace Mkd ~ AI with 1"ϕ A325N Bolt to Angle aa (slotted hole). Bolt shall have washers on both sides of Angle AI and be fastened with 2 Nuts.
5.) Attach opposite end of Angle AI to Brace Support Mkd ~ ab with 1¾"ϕ A325N Bolt at 2¾" Long.
6.) Bracing to be Inspected by Resident to make sure it complies with Requirements.
7.) Add ¼" field weld to 3 sides of Angle Mkd ~ AI to support angle ab after inspection.



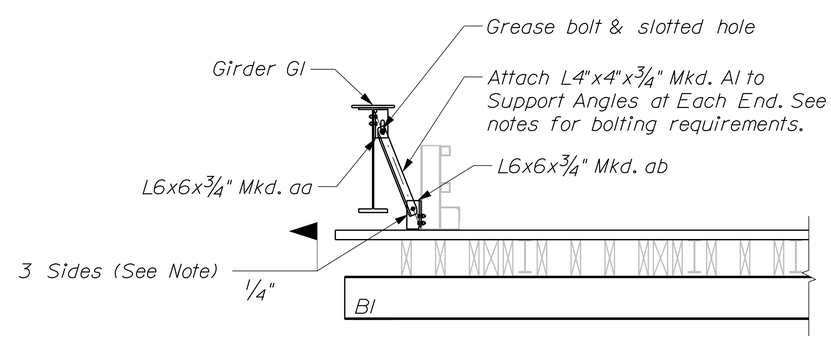
Section G - G

(Typical, 4 Places)



Section F - F

(Looking WEST Towards Falmouth)



Section H - H

Note:
Weld Angle AI after bracing assembly has been Installed and Inspected.

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BRIDGE PLANS

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DESIGN-DETAILED	B. SNOWDEN		
CHECKED-REVIEWED	B. SNOWDEN		
DESIGN2-DETAILED2	G. LIBBY		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

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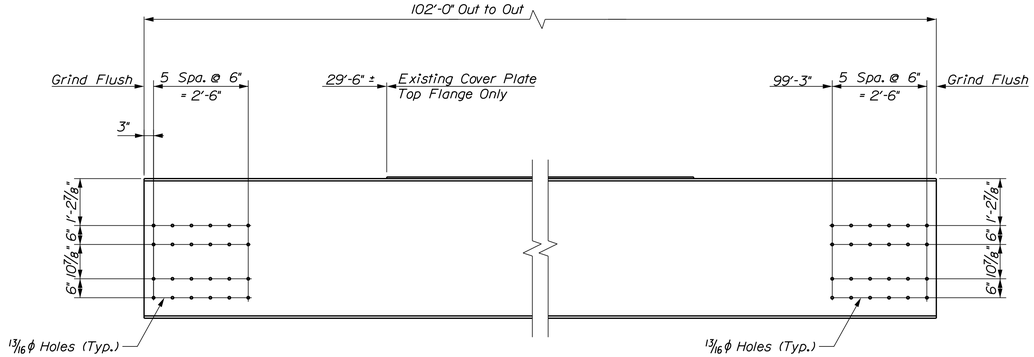
MACKWORTH ISLAND BRIDGE
PRESUMPSCOT RIVER OUTLET
FALMOUTH CUMBERLAND

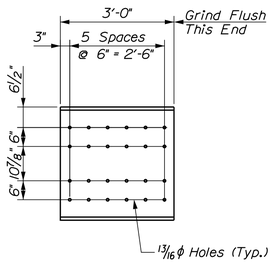
APPROACH & GUARDRAIL PLACEMENT DETAILS

SHEET NUMBER
8
OF 10

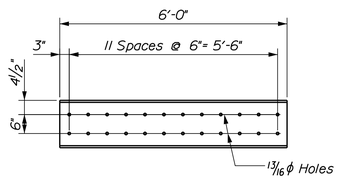
Filename: ...\BRIDGE\MSTA\008_Sections.dgn Division: BRIDGE Username: gerald.libby Date:12/8/2014



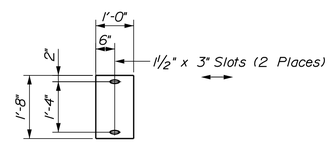
2 - Plate Girders Marked - bl



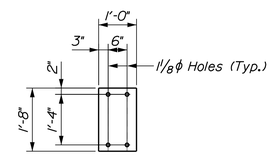
4 - W36 x 150 Marked - b2



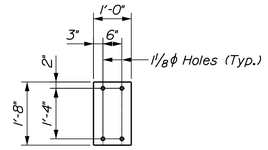
16 - C15 x 50 Marked - cl



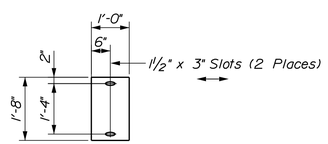
2 - Plates Marked - pbl



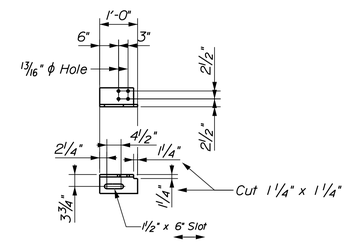
2 - Plates Marked - pb2



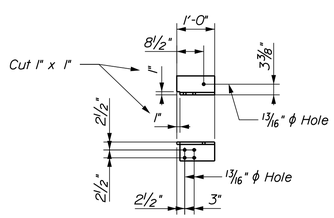
2 - Neoprene Plates Marked - pb3



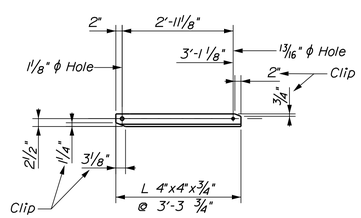
2 - Neoprene Plates Marked - pb4



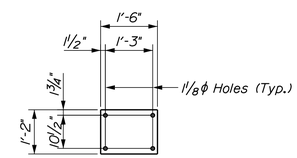
4 - Angles Marked - aa



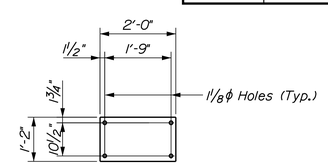
4 - Angles Marked - ab



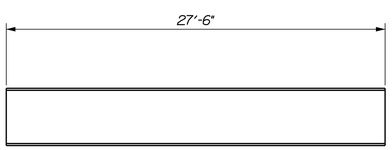
4 - Angles Marked - Al



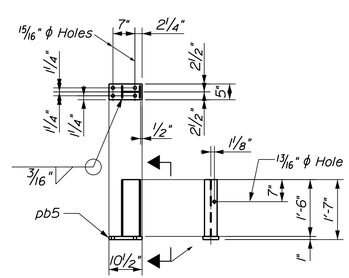
16 - Saddle Plates Marked - Pl



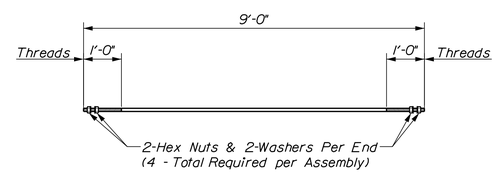
24 - Saddle Plates Marked - P2



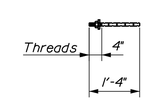
10 - W18 x 55 Marked - Bl
(NO HOLES)



20 - Stub Post Marked - B2



80 - 1"ϕ Threaded Rods Marked - Rl



ANCHOR ROD Mkd ~ R2

ESTIMATED QUANTITIES

MARK	QTY.	DESCRIPTION	FEET	IN.	MATERIAL	REMARKS
		ASSEMBLY PIECES				
bl	2	Presque Isle Plate Girder	102	0	Unknown	Girder from PI/ Flared Bottom Flange
						Grind Flush, Both Ends
						No Additional Paint Prep
b2	4	W36 x 150	3	0	A36	Beam Stub, Grind Flush 1 End,
						Prep - See Note 3
cl	16	C15 x 50	6	0	A36	Prep - See Note 3
pbl	2	Plt 12" x 1"	1	8	A36	Slotted Holes, Prep - See Note 3
pb2	2	Plt 12" x 1"	2	0	A36	Prep - See Note 3
pb3	2	Plt 12" x 1/2"	1	8	Neoprene	Bearing Pad
pb4	2	Plt 12" x 1/2"	1	8	Neoprene	Bearing Pad, Slotted Holes
aa	4	L6"x6"x3/4"	1	0	A36	Tosion Buckling Support, Clip One Corner/
						Large Slotted Hole, Prep - See Note 3
ab	4	L6"x6"x3/4"	1	0	A36	Tosion Buckling Support, Clip One Corner
						Prep - See Note 3
		MAJOR MARKS				
Al	4	L 4" x 4" x 3/4"	3	2 1/2	A36	Clip Both Ends, Prep - See Note 3
Pl	16	Plt 14" x 1"	1	6	A36	Saddle Plates, Top & Bottom,
						Prep - See Note 3
P2	24	Plt 14" x 1 1/2"	2	0	A36	Saddle Plates, Top & Bottom
						Prep - See Note 3
Bl	10	W18 x 55	27	6	A36	Cross Stringer, No Holes, Prep - See Note 2
B2	20	W6 x 16	1	6	A36	Guardrail Stub Post, Prep - See Note 3
pb5	20	Plt 1" x 5"		10 1/2	A36	Base Plate
Rl	80	1" ϕ Rod	9	0	A36	Thread Both Ends, Galvanized - See Note 4
	320	1"ϕ Heavy Hex Nut				Galvanized - See Note 4
	320	1"ϕ Circular Washer				Galvanized - See Note 4
R2	12	1" ϕ Anchor Rod	1	4	A36	Thread One End, Galvanized - See Note 4
	12	1"ϕ Heavy Hex Nut				For Anchor Rods, Galvanized - See Note 4
	12	1"ϕ Circular Washer				For Anchor Rods, Galvanized - See Note 4

STEEL PREPARATION NOTES:

1.) The two (2) 102' main structural girders supplied by the Department, labeled "bl", are already painted and do not require additional protective coating. However, some spot areas of the girders may need "touch up" as directed by the Resident. This "touch up" will require SSPC-SP3 Power Tool Cleaning and a top coat over the spot areas. Paint shall be as specified in Special Provision Section 506, Shop Applied Coating - Steel.

2.) The ten (10) cross stringers supplied by the Department, labeled "Bl", need additional protective coating as specified in Special Provision Section 506 Shop Applied Coating - Steel. Surface preparation shall be SSPC-SP3 Power Tool Cleaning. Any existing steel connected to the webs of the Stringers Mkd "Bl" shall be cut off at the edge of the flanges or close to the webs. Any steel attached to the flanges shall be cut off.

3.) All new steel required for this project; W36x150 labeled "b2", C15x50 labeled "cl", Bearing Plates labeled "pbl" and "pb2", Angles labeled "aa", "ab" and "Al", and Saddle Plates labeled "Pl" and "P2" need protective coating as specified in Special Provision Section 506 - Shop Applied Protective Coating - Steel. The color of the top coat protective coating shall approximately match the paint color on the two 102' main structural steel girders supplied by the Department.

4.) The one inch diameter rods labeled "Rl", and the 1" anchor rods to be used with the bearing pads shall be Hot-Dipped Galvanized. All heavy hex nuts and washers used with "Rl" and the anchor bolts shall also be Hot-Dipped Galvanized in accordance with the State of Maine Department of Transportation Standard Specifications, November 2014 Edition Section 506 - Shop Applied Protective Coating - Steel, subsection 506.20 through 506.29.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

66210.00

WIN 18819.00

BRIDGE NO. 5600

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	B. SNOWDEN	
DESIGN-DETAILED	B. SNOWDEN	
CHECKED-REVIEWED	B. SNOWDEN	
DESIGN2-DETAILED2	G. LIBBY	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

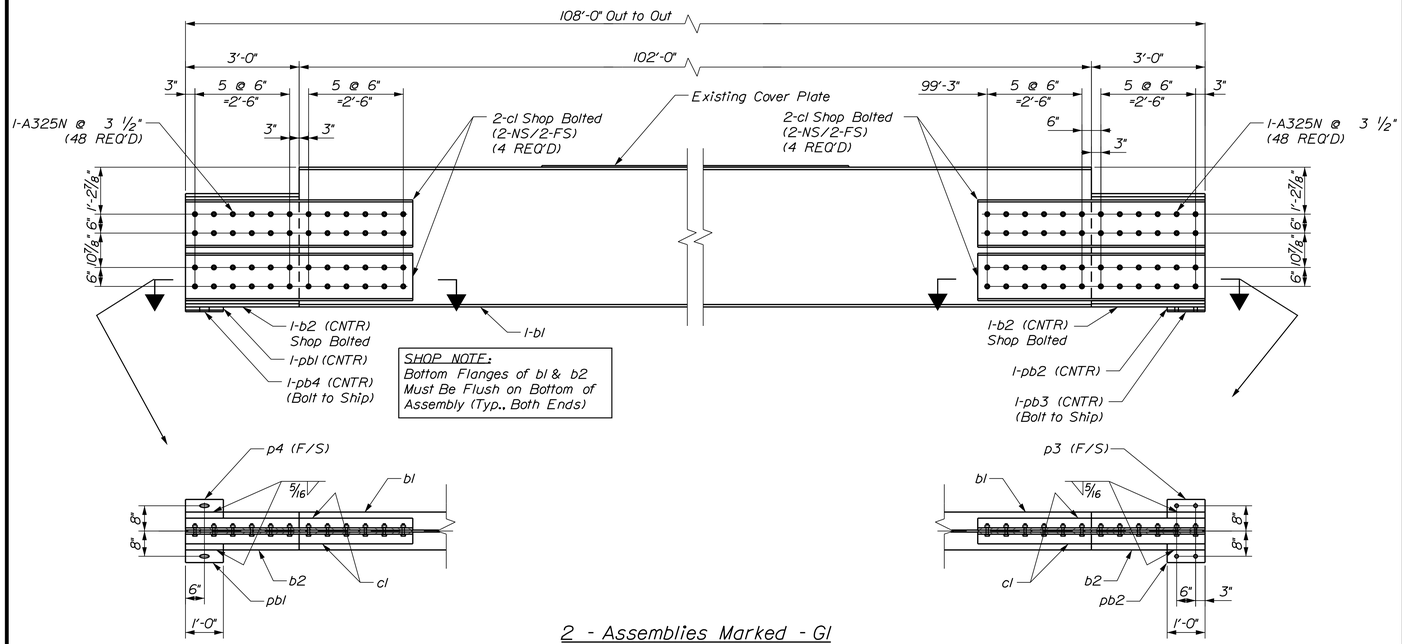
DATE

MACKWORTH ISLAND BRIDGE
PRESUMPSCOT RIVER OUTLET
FALMOUTH CUMBERLAND

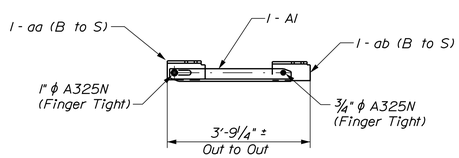
STEEL DETAILS

SHEET NUMBER
9
OF 10

Filename: ...\009_Steel_Shopdrawings.dgn Division: BRIDGE Username: gerald.libby Date:12/8/2014



2 - Assemblies Marked - Gl



4 - Assemblies Mkd - Al

ESTIMATED QUANTITIES

MARK	QTY.	DESCRIPTION	FEET	IN.	MATERIAL	REMARKS
Gl	2	Assembly	108	0		Shop Bolted
		Assembly Pieces				
bl	2	Existing Plate Girder	102	0	Unknown	Girder from Pl/ Flared Bottom Flange
						Grind Flush, Both Ends
b2	4	W36 x 150	3	0	A36	Beam Stub, Grind Flush 1 End
b3	10	W18 x 55	27	0	A36	Cross Stringer, No Holes
cl	16	C15 x 50	6	0	A36	
pbl	2	Plt 12" x 1"	1	8	A36	Slotted Holes
pb2	2	Plt 12" x 1"	1	8	A36	
pb3	2	Plt 12" x 1/2"	1	8	Neoprene	Bearing Pad, (Bolt to Ship)
pb4	2	Plt 12" x 1/2"	1	8	Neoprene	Bearing Pad, Slotted Holes, (Bolt to Ship)
	96	3/4" ϕ A325N Bolts		3 1/2		Shop Bolts, 1 - Hex Nut, 1 - Washer Each
Al	4	Assembly	3	9 1/4"		
		Assembly Pieces				
Al	4	L4"x4"x3/4"	3	2 1/2"	A36	1 1/8" Hole (Mkd End), 13/16" ϕ Hole (Opposite End)
aa	4	L6"x6"x3/4"	1	0	A36	Slotted, Bolt to Ship
ab	4	L6"x6"x3/4"	1	0	A36	Bolt to Ship
		Shipping Bolts				
	4	3/4" ϕ A325N Bolt		2 3/4"		1 - Hex Nut, 1 - Washer Each
	4	1" ϕ A325N Bolt		4 1/2"		2 - Hex Nuts, 2 - Washers Each
		Field Bolts				
	16	3/4" ϕ A325N Bolt		2 3/4"		1 - Hex Nut, 1 - Washer Each
	16	3/4" ϕ A325N Bolt		2 1/4"		1 - Hex Nut, 1 - Washer Each

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

66210.00

WIN 18819.00

BRIDGE PLANS

BRIDGE NO. 5600

	BY	DATE
PROJ. MANAGER	B. SNOWDEN	
DESIGN-DETAILED	B. SNOWDEN	
CHECKED-REVIEWED	B. SNOWDEN	
DESIGN2-DETAILED2	G. LIBBY	
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REVISIONS 1		
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FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MACKWORTH ISLAND BRIDGE
PRESUMPSCOT RIVER OUTLET
FALMOUTH CUMBERLAND

GIRDER ASSEMBLY PLAN

SHEET NUMBER
10
OF 10

Filename: ...\BRIDGE\MSTA\010_Assembly.dgn Division: BRIDGE Username: gerald.libby Date:12/8/2014