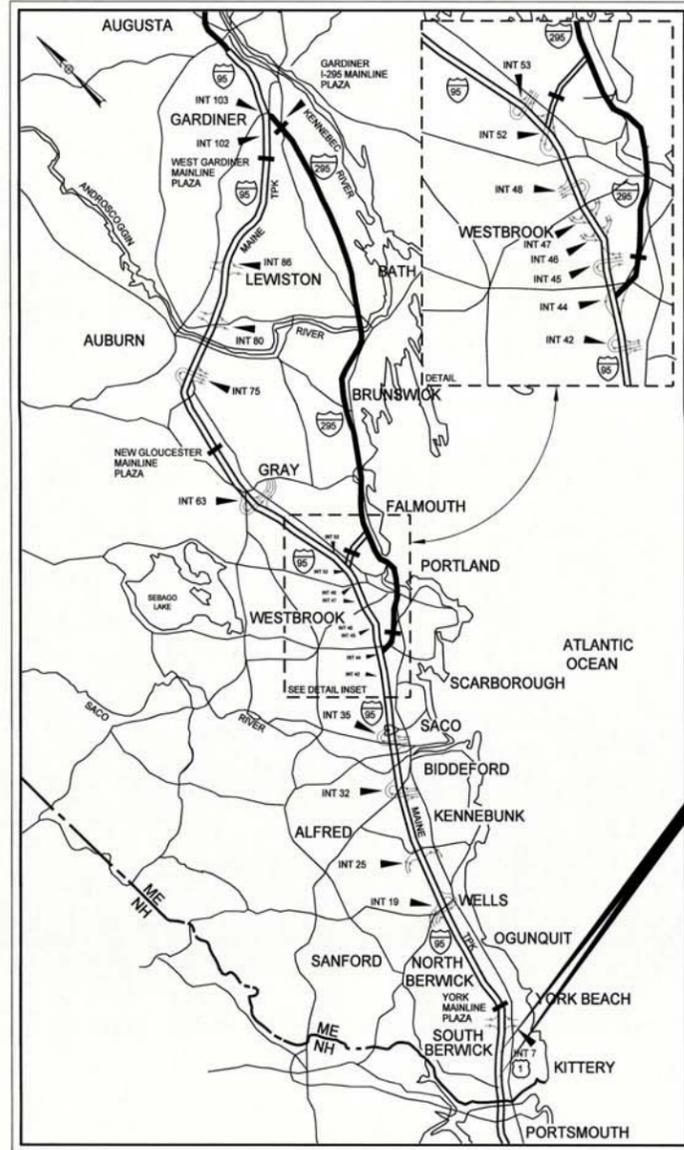


Date: 3/24/2014

Filename: ...st\planiset\001\_title\_01.dgn



LOCATION MAP



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 2014.16  
 Wearing Surface Replacement and  
 Substructure Rehabilitation  
 York River Bridges  
 Mile 5.20  
 Web Stiffener Rehabilitation  
 Cutts Road Bridge  
 Mile 3.10

## CONTRACT 2014.16 WEARING SURFACE REPLACEMENT AND SUBSTRUCTURE REHABILITATION YORK RIVER BRIDGES (MILE 5.20) WEB STIFFENER REHABILITATION CUTTS ROAD BRIDGE (MILE 3.10)

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
2	Estimated Quantities
3-5	General Construction Notes (3 Sheets)
6	Bridge Plan and Elevation
7	Superstructure Transverse Section
8-9	Bridge Construction Phasing (2 Sheets)
10-14	Roadway Plans (5 Sheets)
15	Permanent Sign Details & Summary
16-17	Maintenance of Traffic Notes & Details for York River Bridges (2 Sheets)
18	Guardrail and Drainage Details
19-30	Maintenance of Traffic Plans (12 Sheets)
31-37	Maintenance of Traffic Cross Sections (7 Sheets)
38-40	Framing Plan (3 Sheets)
41-45	Fabric Trough for Finger Joints Details (5 Sheets)
46-49	Concrete Transition Barrier Details (4 Sheets)
50	Bridge Rail Rehabilitation Details
51	Pin and Link Repair Details
52	Bridge Drain Pipe Extension Details
53	Pier Bearing Repair Details
54	Abutment Bearing Replacement Details
55	NB Bridge Abutment 1 Repair Areas
56	NB Bridge Abutment 2 Repair Areas
57	SB Bridge Abutment 1 Repair Areas
58	SB Bridge Abutment 2 Repair Areas
59	Typical Concrete Repair Details
60-71	NB Bridge Pier Bent Concrete Repair Areas (12 Sheets)
72-83	SB Bridge Pier Bent Concrete Repair Areas (12 Sheets)
84	Pile Repairs Location Plan
85	Type 1 Pile Repairs Alternate 1 Details
86	Type 1 Pile Repairs Alternate 2 Details
87	Type 2 Pile Repairs Details
88	Type 3 Pile Repairs Details
89-94	Disturbance Areas & Erosion Sediment Control (6 Sheets)
95	Reinforcing Steel Schedule
96	Right of Way Map
97	Cutts Road Estimated Quantities, Notes & Details
98	Cutts Road Framing Plan & Girder Elevation
99	Cutts Road Maintenance of Traffic Notes & Details
100-101	Cutts Road Snow Fence Details (2 Sheets)

APPROVED: MAINE TURNPIKE AUTHORITY

*Peter S. Merfeld*  
 PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER  
 DATE: 3/24/14

*Stephen R. Tartre*  
 STEPHEN R. TARTRE, P.E. - DIRECTOR OF ENGINEERING & BUILDING MAINTENANCE  
 DATE: 3/24/14



**VHB** Vanasse Hangen Brustlin, Inc.

*Timothy S. Bryant*  
 Timothy S. Bryant, P.E.  
 Consultant Project Manager  
 DATE: 3/24/2014

YORK RIVER BRIDGES

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.12	Removing Existing Structural Concrete (Bridge Seat)	4	CY
202.202	Removing Pavement Surface	6150	SY
202.2021	Remove Pavement Surface - Bridge Deck	8525	SY
202.206	Removing Rumble Strips	5700	LF
203.2	Common Excavation	2170	CY
203.25	Granular Borrow	825	CY
206.061	Structural Earth Excavation - Drainage Minor Structures Below Grade	3	CY
304.09	Aggregate Base Course - Crushed	385	CY
304.1	Aggregate Subbase Course - Gravel	830	CY
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	310	TON
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum, Surface	695	TON
403.211	Hot Mix Asphalt, Shimming	50	TON
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size, Base	185	TON
409.15	Bituminous Tack Coat, Applied	3190	GAL
419.3	Sawing Bituminous Pavement	2575	LF
501.971	Type 1A Pile Repairs	172	EA
501.972	Type 1B Pile Repairs	20	EA
501.98	Type 2 Pile Repairs	40	EA
501.99	Type 3 Pile Repairs	13	EA
502.21	Structural Concrete Abutments and Retaining Walls	8	CY
502.29	Structural Concrete Wearing Surface on Bridges (900 CY)	1	LS
502.71	Bridge Drain Extension	96	EA
503.12	Reinforcing Steel, Fabricated and Delivered	5000	LB
503.13	Reinforcing Steel, Placing	5000	LB
504.814	Structural Steel Repairs - Link Plates Rehabilitation	48	EA
506.141	Field Painting of Existing Structural Steel Girders	1	LS
506.17	Surface Preparation of Existing Structural Steel	1	LS
506.9108	Containment System and Pollution Control	1	LS
506.9109	Disposal of Hazardous or Toxic Material	1	LS
507.0926	Furnish Aluminum Bridge Railing Components	1	LS
507.0928	Aluminum Bridge Railing - Rail Section Replace	140	LF
507.0929	Aluminum Bridge Railing - 2 Bar Post Remove & Reset	1	EA
507.095	Aluminum Bridge Railing - Splice Modification	64	EA
515.202	Clear Protective Coating for Concrete Surfaces	12600	SY
518.391	Repairing Granite Curb Bedding Mortar	50	LF
518.4	Epoxy Injection Crack Repair	93	LF
518.6313	Abutment and Bridge Seat Repair	191	SF
518.6314	Pier Repairs	712	SF
518.8	Partial Depth Concrete Deck Repairs	2000	SF
521.32	Fabric Trough for Finger Joint	10	EA
523.32	Bearing Rehabilitation Type A	14	EA
523.33	Bearing Rehabilitation Type B	15	EA
523.521	Bearing Removal & Installation	32	EA
523.5404	PTFE Elastomeric Bearings, Expansion	32	EA
524.4	Protective Shield - Steel Girders	75	SY
524.7211	Jacking Existing Superstructure	1	LS
526.306	Temporary Concrete Barrier, Type 1 - Supplied by the Authority	1	LS
526.342	Permanent Concrete Transition Barrier - Modified	8	EA
527.341	Work Zone Crash Cushions - TL3	3	UNIT
603.155	12 Inch Reinforced Concrete Pipe - Class III	7	LF
603.28	Concrete Collar for Reinforced Concrete Pipe	2	EA
606.1721	Bridge Transition - Type I	4	EA
606.1723	Bridge Transition - Type III	4	EA
606.178	Guardrail Beam	25	LF
606.24	Guardrail Type 3d - Single Rail	287.5	LF
606.277	Terminal End - Trailing End	2	EA
606.35	Permanent Guardrail Delineator Post	6	EA
606.352	Reflectorized Beam Guardrail Delineator	31	EA
606.355	Delineator Post - Remove and Stack	21	EA
606.3605	Guardrail - Remove, Modify and Reset, Single Rail	1380	LF
606.48	Single Galvanized Steel Post	10	EA
606.8	Guardrail 350 FLEAT Terminal	2	EA

YORK RIVER BRIDGES

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
610.08	Plain Riprap	45	CY
613.319	Erosion Control Blanket	660	SY
615.07	Loam	220	CY
618.1401	Seeding Method Number 2, Plan Quantity	35	UNIT
619.12	Mulch	35	UNIT
620.58	Erosion Control Geotextile	15	SY
627.73	Temporary 6' Inch Pavement Marking Tape, White or Yellow	53400	LF
627.77	Removing Existing Pavement Markings	9300	SF
629.05	Hand Labor, Straight Time	270	HR
631.12	All-Purpose Excavator (Including Operator)	95	HR
631.171	Truck - Small (Including Operator)	130	HR
631.36	Foreperson	125	HR
639.19	Field Office Type B	1	EA
644.1	Glare Screen - Supplied by Authority	1400	LF
645.105	Remove and Stack Sign	2	EA
645.12	Overhead Guide Sign (Channel Marker Sign)	4	EA
645.251	Roadside Guide Signs, Type I	156	SF
652.3	Flashing Arrow Board	2	EA
652.312	Type III Barricades	4	EA
652.33	Drums	200	EA
652.34	Cones	50	EA
652.35	Construction Signs	886	SF
652.361	Maintenance of Traffic Control Devices	1	LS
652.41	Portable Changeable Message Sign	2	EA
652.45	Truck Mounted Attenuator	35	CD
655.301	Weigh Station Warning Signal	1	LS
656.5	Baled Hay, In Place	30	EA
656.632	30 inch Temporary Silt Fence	3725	LF
656.64	Boom Supported Floating Silt Fence	450	LF
659.1	Mobilization	1	LS

Date: 3/26/2014

Filename: ...:\cad\st\plan\set\002\_Quant.dgn

Scale:			
No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed RSB	3/14	Checked KJG	3/14
Drawn BJM	3/14	In Charge of TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

ESTIMATED QUANTITIES

SHEET NUMBER: \_\_\_\_\_

CONTRACT: 2014.16

2 OF 101

Date: 3/25/2014

Filename: ...\\sf\planset\003\_Notes\_01.dgn

**SPECIFICATIONS**

Design: AASHTO LRFD Bridge Design Specifications, 2012 with 2013 Interims.  
 Construction: State of Maine Department of Transportation Standard Specifications, Revision of December 2002.  
 State of Maine Department of Transportation Standard Details for Highways and Bridges, Revision of December of 2002, with all revisions thereto.  
 AASHTO LRFD Bridge Construction Specifications, Third Edition with 2010 Interims

**DESIGN LOADING**

Live Load (for new components)..... HL 93  
 Live Load (for existing components)..... HS 20-44

**NEW MATERIALS**

Concrete for Bridge Deck Repairs & Wearing Surface..... Class AAA - Deck Concrete (Unless noted otherwise)..... Class AAA  
 Reinforcing Steel..... ASTM A615/A615M, Grade 60  
 Structural Steel:  
 All Material (except as noted)..... ASTM A709/A709M, Grade 50  
 High Strength Bolts (except as noted)..... ASTM A325, Type 1

**BASIC DESIGN STRESSES (NEW MATERIALS)**

Concrete..... f'c = 4,500 psi  
 Reinforcing Steel..... fy = 60,000 psi  
 Structural Steel:  
 ASTM A 709/A 709M, Grade 50..... Fy = 50,000 psi  
 ASTM A 709/A 709M, Grade 36..... Fy = 36,000 psi  
 ASTM A 325..... Fu = 120,000 psi

**TRAFFIC DATA (I-95)**

AADT..... 27,076  
 Design Speed (MPH) (for existing)..... 70  
 Design Speed (MPH) (for median x-overs)..... 60  
 Functional Class..... Principal Arterial

**HYDROLOGIC DATA**

Mean Low Water (MLW)..... -5.05 ft  
 Mean High Water (MHW)..... 3.55 ft  
 Extreme High Tide..... 7.35 ft  
 Mean Sea Level..... -0.75 ft

**GENERAL CONSTRUCTION NOTES**

1. All details shall be in conformance with Maine Department of Transportation (MaineDOT) Standard Details Highways and Bridges latest revision and MaineDOT Best Management Practices for Erosion and Sediment Control latest revision unless otherwise included in these plans.
2. There are no permanent or temporary easements associated with this project. All work shall be completed within the existing Right of Way. See existing Right-of-Way Map Sheet for limits of existing Right-of-Way.
3. The Contractor shall submit his proposed staging area(s) and field trailer location to the Resident for approval prior to starting work. A portion of existing weigh station areas NB & SB may be used as project staging areas.
4. The Contractor shall provide, set, maintain and remove navigational aids in the river, as requested by the Resident. The navigational aids shall be positioned to advise boaters of the construction hazards ahead. Additional navigational aids may be needed depending on Contractor activities. Payment for obtaining, setting, maintaining, and removing the navigational aids shall be incidental to the contract.
5. The existing bearings shall be delivered by the Contractor to the MTA Crosby Yard. Any additional portions of the existing bridge removed by the Contractor shall become the property of the Contractor. The steel portions of the York River and Cutts Road existing bridges are coated with a lead-based paint system. The Contractor is responsible for the containment, proper management and disposal of all lead-contaminated hazardous waste generated by the work of this project.
6. For additional details referenced or not shown in these drawings, see the State of Maine, Department of Transportation Standard Details, Highways and Bridges, December 2002 with updates.
7. Copies of the As-Built plans are posted on the Maine Turnpike Authority website at [www.maineturnpike.com/project-and-planning/construction-contracts](http://www.maineturnpike.com/project-and-planning/construction-contracts). The completeness and accuracy of these plans is not guaranteed.
8. Chamfer all exposed new concrete edges 3/4" unless otherwise noted.
9. The proposed elevations shown in these plans are based on NAVD 88 datum. The as-built plans from 1972 and 1946 are based on the NGVD 29 datum.
10. Protective coating for concrete surfaces shall be applied to the following areas:  
 All exposed surfaces of concrete curbs,  
 Fascia down to drip notch,  
 All exposed surfaces of concrete transition barriers,  
 Concrete wearing surfaces,  
 All exposed concrete surfaces of the abutments and pier caps
11. Any aluminum bridge rail, rail posts, and associated hardware removed shall be carefully salvaged by the Contractor and shall remain the property of the Maine Turnpike Authority. Payment shall be incidental to related Contract items.
12. The Contractor shall perform topographic survey of the deck surface so that the proposed wearing surface can be installed to the existing lines and grade. The Contractor shall also determine via field survey the existing bottom of beam elevations at the centerline of bearing at both abutments so that the existing bottom of beam elevations can be maintained after installation of the proposed replacement bearings. Payment shall be incidental to related contract items.
13. Areas of river debris removal shall be completed on a time and material basis using the hourly pay items included in the contract. The limits of river debris removal shall be as directed by the Resident. All debris removed shall be disposed of outside the limits of the turnpike right-of-way in accordance with the Maine Department of Environmental Protection Solid Waste Regulations. Debris shall not be allowed to float downstream.
14. Final pavement marking lines on the Maine Turnpike will be installed by the Maine Turnpike Authority.

**EARTHWORK SUMMARY - YORK RIVER BRIDGES**

**COMMON EXCAVATION FOR ESTIMATE**

	I-95
Common Excavation from Sections	1803 CY
Common Excavation at Bridge	20 CY
Structural Earth Excavation	3 CY
Grubbing in Fill	347 CY
Pavement Removal	48 CY
Subtotal	<u>2,221 CY</u>
Total Common Excavation	<u>2,221 CY</u>

**FILL FOR BORROW CALCULATIONS**

	I-95
Common Fill (From Cross Section)	69 CY
Subtotal	<u>69 CY</u>
Total Fill	<u>69 CY</u>

**AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS**

	I-95
(1) Total Common Excavation	2,221 CY
Deductions:	
Grubbing	347 CY
Existing Pavement Removal	48 CY
(2) Total Deductions:	<u>395 CY</u>
Total Available Common Excavation	1,826 CY
Total Available Non-Rock Excavation	<u>1,826 CY</u>

**COMPUTATION OF COMMON BORROW FOR ESTIMATE**

	I-95
(3) Total Fill	69 CY
Total Available Non-Rock Excavation	1,826 CY
(4) Total Available Excavation	<u>1,757 CY</u>
(5) Total Deficit	<u>0 CY</u>

Scale:			
No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed RSB	3/14	Checked KJG	3/14
Drawn CLC	3/14	In Charge of TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
 MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 GENERAL CONSTRUCTION NOTES  
 (1 OF 3)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 3 OF 101

Date: 3/25/2014

Filename: ...sf\planset\004\_Notes\_02.dgn

EROSION CONTROL

1. The anticipated erosion control devices are shown on the Disturbance Areas & Erosion Sediment Control Plans.
2. All temporary and permanent erosion control devices shall be installed in accordance with the Maine Department of Transportation Best Management Practices.
3. Erosion Control Blanket, Item 613.319 shall be installed on any disturbed 2:1 slopes from the top to toe of slope. Loam and seed shall be placed prior to the installation of the erosion control blanket.

GUARDRAIL

1. Connections for proposed guardrail to existing guardrail shall be incidental to the proposed guardrail items, unless otherwise noted in the plans.
2. Contractor shall stockpile all guardrail to be removed and reset, removed and disposed and removed, modified and reset until guardrail installation has been complete. Stockpiling the guardrail shall be incidental to Items 606.1721, 606.1723. All usable existing guardrail, as determined by the Resident, shall be modified and reset prior to being paid to install new guardrail.
3. At the end of each work day, all guardrail within work areas accessible to traffic shall have an approved crashworthy end treatment.
4. Connections for proposed guardrail to existing guardrail shall be incidental to the proposed guardrail items.
5. For all new guardrail Type 3d W-Beam, offset blocks shall be non-wood conforming to NCHRP 350 test level.
6. All proposed guardrail and reset guardrail shall be installed in a manner to avoid drainage structures and utilities.

UTILITIES

1. Existing utilities on these plans were compiled from existing plans and various other sources. Locations are not guaranteed to be accurate nor is it guaranteed that all utilities are shown. No separate or additional compensation will be allowed to the Contractor due to any variance between the data shown on the plans and the actual field conditions encountered. No work shall be started until the owners of the various utilities are notified by the Contractor of the proposed construction. The Contractor is also required to call Dig Safe at 1-888-344-7233 at least 72 hours prior to the start of the work.
2. The Contractor shall notify the Resident 10 days prior to construction so the Resident can arrange for Maine Turnpike underground utility location. All proposed sign locations and excavation locations shall be marked at the notification time. Excavation will not be permitted until the Authority has located and marked its underground utilities, or notified the Resident there are no underground utilities in the marked areas.  
  
The Authority has programmed two field visits for Maine Turnpike utility coordination on this project. Should the Contractor need additional sign locations and/or additional excavation locations marked, or should the Contractor fail to maintain the Authority's previously established Dig Safe marks, the Authority shall deduct the added marking costs from the Contractor's payments.
3. The contractor shall protect all existing utilities from damage during construction as directed by the Resident and approved by the utility owners.
4. The utilities involved in this project are:  
  
Central Maine Power Company
5. The Contractor shall use caution when working in the vicinity of the CMP conduits located between the southern-most beams in the NB Bridge. The Contractor shall protect the conduit per Special Provision 524 Temporary Structural Supports (Protective Shielding - Steel Girders) or other methods as directed by the Resident.
6. The Contractor shall coordinate daily with CMP when construction activities will be in proximity to the utilities on the bridge to ensure a "Do Not Reclose" is requested and granted. Reference Special Provision Section 104.4.6.
7. As directed by the Resident, the Contractor shall perform sufficient exploratory excavation to determine the location of the buried electrical conduit in the right shoulder on the approaches to the NB Bridge within one month of the contract award date. This exploratory excavation work shall be completed on a time and material basis using the hourly pay items in the contract. All exploratory holes shall be backfilled with excavated material. Existing bituminous concrete pavement shall not be used for backfill. All exploratory holes in pavement shall be repaved to the depths and types as shown in the Widening Detail on the Maintenance of Traffic Notes & Details for York River Bridges Sheet. The Contractor shall survey the horizontal and vertical location of the existing electrical conduit while it is exposed during the exploratory excavation. After the exploratory excavation and survey are complete the Contractor shall coordinate with the Resident as necessary to modify the layout and installation of the guardrail, signs, and any other proposed work as necessary to avoid impacts to the existing electrical conduit bank.

ABUTMENT CONCRETE REPAIR NOTES

1. For approximate locations of abutment repairs, see NB and SB Bridge Abutment Repair Area Sheets. Prior to the start of concrete repairs the Resident and the Contractor shall sound all abutment surfaces to determine the repair limits.
2. The estimated repair quantities are based on an inspection completed in April 2013. An additional 50 SF of abutment repair and 25 LF of crack repair have been included at each abutment as a contingency.
3. Sawcut 1" deep along all limits of removal.
4. Chip concrete to the depth specified in Special Provision 518. If the removal limits change during the demolition process the Contractor shall notify the Resident. The Resident and Contractor shall agree on the revised pay limits prior to the Contractor continuing the removals.
5. Prepare and patch repair areas. See Specifications for surface preparation materials.
6. Reinforcing steel shall have a minimum concrete cover of 2 inches in walls.
7. Removal of existing concrete bearing pedestals at abutments shall be paid as Item 202.12 Removing Existing Structural Concrete (Bridge Seat). Concrete for new pedestals shall be paid as Item 502.21 Structural Concrete, Abutments and Retaining Walls. Drilling and anchoring of reinforcing steel in pedestals shall be incidental to Item 502.21. All costs for jacking and shoring of the existing beams for bearing pedestal replacements shall be included in Item 524.7211, Jacking Existing Superstructure.

EPOXY INJECTION CRACK REPAIR

1. All crack repairs shall be completed by an individual qualified and experienced in the type of repair proposed.
2. All crack repairs shall be completed in accordance with Special Provision 518.
3. Prepare concrete surface and crack area by cleaning substrate with wire brush to remove laitance and contaminants. Blast clean the crack and concrete surface; do not use water.
4. Set injection ports along the length of the crack using high-modulus epoxy adhesive. Once set, seal ports and crack with same epoxy adhesive.
5. When the epoxy adhesive seal has cured, inject a high-modulus, low-viscosity epoxy such as Sikadur 35, Sikadur 55, or approved equal.

SUPERSTRUCTURE NOTES

1. Protective shielding shall be required per Special Provision Section 524 Temporary Structural Supports (Protective Shielding - Steel Girders).
2. Mortar for bedding and for joints in the granite curb shall be an approved non-shrink mortar.
3. Existing channel marker signs attached to the south fascia of the NB Bridge and the north fascia of the SB Bridge shall remain visible to boat traffic during construction.

DECK CONCRETE REPAIR NOTES

1. After removal of the existing wearing surface, waterproofing membrane, and shim prior to the start of deck concrete repairs, the Resident and the Contractor shall sound all deck concrete using a chain drag or other method approved by the Resident to determine the required repair limits.
2. Sawcut 1" deep along all limits of removal.
3. Chip concrete to the depth specified in Special Provision 518. If the removal limits change during the demolition process, the Contractor shall notify the Resident. The Resident and Contractor shall agree on the revised pay limits prior to the Contractor continuing the removals.
4. Prepare and patch repair areas. Install new reinforcing steel, drill and grout bars into existing concrete as required. See Special Provision 518 for surface preparation materials.

PIER REPAIR NOTES

1. Pier repair work shall include: providing access for pier inspection, pier surface patch repairs, epoxy injection crack repair and pile repairs.
2. Where pier cap concrete patch repairs are specified the work shall include removal of unsound concrete, deleterious materials and placement and curing of the repair materials.
3. The quantities of pier cap concrete patch repair noted on these drawings are based on an April 2013 hands-on field inspection. The estimated quantities for each pier include an additional 5 SF for contingencies.
4. For approximate locations and areas of pier cap concrete patch repair see NB and SB Bridge Pier Bent Concrete Repair Areas Sheets. Actual repair areas shall be determined by the Resident during construction. Prior to the start of repairs the Resident and the Contractor shall sound all pier surfaces and agree on the repair limits.
5. For pier bent pile repairs, see Pile Repairs Location Plan and Pile Repair Details Sheets.
6. Drilling and anchoring of reinforcing steel in pier repair areas shall be included in Item 518.6314 Pier Repairs.

PERMANENT SIGNS

1. The permanent signs for this project shall be supplied by the Contractor.
2. The Contractor shall be responsible for furnishing and installing all mounting hardware, supports, foundations and auxiliary equipment to install the permanent signs.

SALVAGE EXISTING SIGNS AND SUPPORTS

1. All existing signs, support posts, removed foundations and associated hardware shall be salvaged to MTA. The Contractor shall remove and stack existing signs, supports, foundations and hardware and deliver these materials to the Sign Shop at Mile 58.3 Northbound in Cumberland. See Special Provision 645 for additional information.

Scale:			
No.	Revision	By	Date

Designed by:



**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 GENERAL CONSTRUCTION NOTES  
 (2 OF 3)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 4 OF 101

Date: 3/25/2014

Filename: ...\\sf\planset\005\_Notes\_03.dgn

ELASTOMERIC BEARING NOTES

1. The contractor shall temporarily support the beams at each abutment and replace all of the existing rocker bearings with new elastomeric bearings. The Contractor shall submit a shoring plan for approval by the Resident. The shoring plan shall be prepared and stamped by a Professional Engineer licensed in the State of Maine. All costs for jacking and shoring of the existing beams at the abutments for bearing replacements shall be included in Item 524.72II, Jacking Existing Superstructure.
2. Elastomer shall be virgin Neoprene (Polychloroprene) meeting the requirements of AASHTO M251. The shear modulus of the elastomer shall be between 100 and 130 psi.
3. Vulcanizing of the elastomer to the steel plates shall be done during the primary mold process.
4. Sole plates and load plates shall meet the requirements of ASTM A709/A709M, Grade 50.
5. Horizontal PTFE at expansion bearings shall be dimpled and lubricated. Lubrication shall be supplied and installed per the bearing manufacturers recommendation to ensure a coefficient of friction less than or equal to 0.03 at 68 degrees F. Cost included in Bearing item.
6. All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge and a direction arrow which points upstation. All marks shall be permanent and shall be visible after the bearing is installed.
7. Bearings shall be covered during transit.
8. All necessary precautions shall be taken to protect bearing components from field weld flash and spatter.
9. All exposed steel components shall be hot dip galvanized after steel fabrication in accordance with ASTM A123 and ASTM A153 as applicable.
10. Contractor shall re-finish galvanizing in accordance with ASTM A780 after field welding.

BEARING ANCHOR BOLT NOTES

1. All anchor rods, nuts, and plate washers shall be galvanized after fabrication in accordance with ASTM A153. Anchor rods shall be fully threaded.
2. Burr threads on anchor rods after nuts tightened snug to prevent removal. Touch up damaged galvanized areas with zinc-rich paint. Cost included in Bearing item.

PIN AND LINK REPAIR NOTES

1. At all of the pin and link connections the existing link plates shall be removed, cleaned and painted, and reinstalled. Any pin nuts, pins or link plates damaged by the Contractor during link plate removal shall be repaired or replaced as directed by the Resident at the Contractor's expense. At the Contractor's option, instead of cleaning and painting the existing link plates they may be replaced with new stainless steel link plates of the same dimensions and same or better material properties. All costs for removal and replacement of the link plates shall be included in Item 504.814, Structural Steel Repairs - Link Plates Rehabilitation.
2. The Contractor shall temporarily support the suspended span beam at each pin and link connection. The Contractor shall submit a shoring plan for approval by the Resident. The shoring plan shall be prepared and stamped by a Professional Engineer licensed in the State of Maine. The design, erection, and removal of the shoring system for the suspended span beams shall be in accordance with the requirements of Special Provision 524 Temporary Structural Supports (Jacking Existing Superstructure). All costs for shoring of the suspended span beams during link plate removal shall be included in Item 504.814, Structural Steel Repairs - Link Plates Rehabilitation.
3. All exposed structural steel within 5 ft to either side of the centerline of the pin and link connections shall be cleaned and painted including diaphragms, shear locks, pin plates, beam webs and flanges. The pin plates and beam webs behind the link plates shall be cleaned and painted while the pin plates are temporarily removed.

BRIDGE RAIL REHABILITATION NOTES

1. Retrofit all 16 of the splice bars in both the top and bottom rail of the existing two-bar aluminum bridge railing on each side of both the NB and SB bridges as shown in these plans. All costs for the rail splice retrofits shall be paid under Item 507.095, Aluminum Bridge Railing - Splice Modification.
2. Replace the individual sections of bent bottom rail between existing splices where noted on the Bridge Plan and Elevation Sheet. Field measure the length of the rail sections requiring replacement and provide the measurements to the Resident. The Maine Turnpike Authority will supply used rail sections from existing stockpiles for the Contractor to install. Contractor shall pick up the used rail sections from the Maine Turnpike Authority Stockpiles. All costs for transporting and installing the replacement rail sections, including removal of the existing rails and cutting over-long replacement sections to the required length if necessary, shall be included in Item 507.0928, Aluminum Bridge Railing - Rail Section Replace.
3. Replace missing bridge rail post anchor bolt nuts where noted on the Bridge Plan and Elevation Sheet. All costs for furnishing and installing all the missing anchor bolt nuts noted on the Bridge Plan and Elevation Sheet shall be included in Item 507.0926, Furnish Aluminum Bridge Railing Components.
4. Remove the bridge rail post that has missing and damaged anchor bolts where noted on the Bridge Plan and Elevation Sheet and reset it with a new complete rail post anchorage assembly. This work includes partially removing the existing concrete brush curb to the limits shown in the details on this sheet, taking care to leave the existing brush curb reinforcing steel in place, and forming and placement of new Structural Concrete to replace the brush curb after installation of the new post anchorage assembly. For details of the replacement post anchorage assembly refer to the Aluminum Railing Standard Details in the As-built Plans for the existing bridge included in these plans. All costs for resetting the bridge rail post, including furnishing all required materials and labor, shall be included in Item 507.0929, Aluminum Bridge Railing - 2 Bar Post Remove & Reset.

STRUCTURAL STEEL PAINTING NOTES:

1. All steel components within 5 feet of all pin and link connections, and within 5 feet of the ends of the beams at all abutments, shall be cleaned and painted. See the Framing Plan Sheets for painting locations
2. All costs for cleaning and painting of the existing structural steel using a one-coat high-ratio calcium sulfonate paint system, including surface preparation, field painting, containment, and disposal of hazardous material shall be included in Items 506.17, 506.141, 506.9108, 506.9109 respectively.

Scale:			
No.	Revision	By	Date

Designed by:



**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

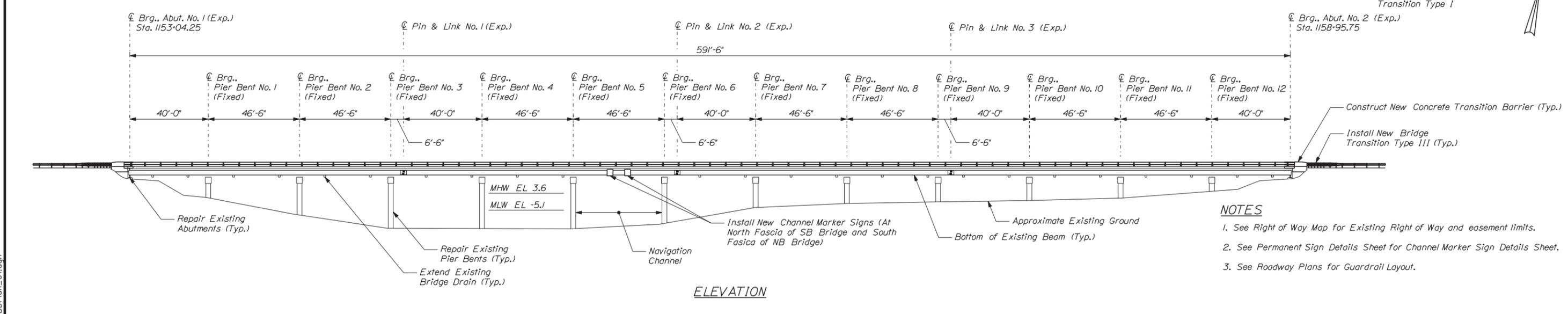
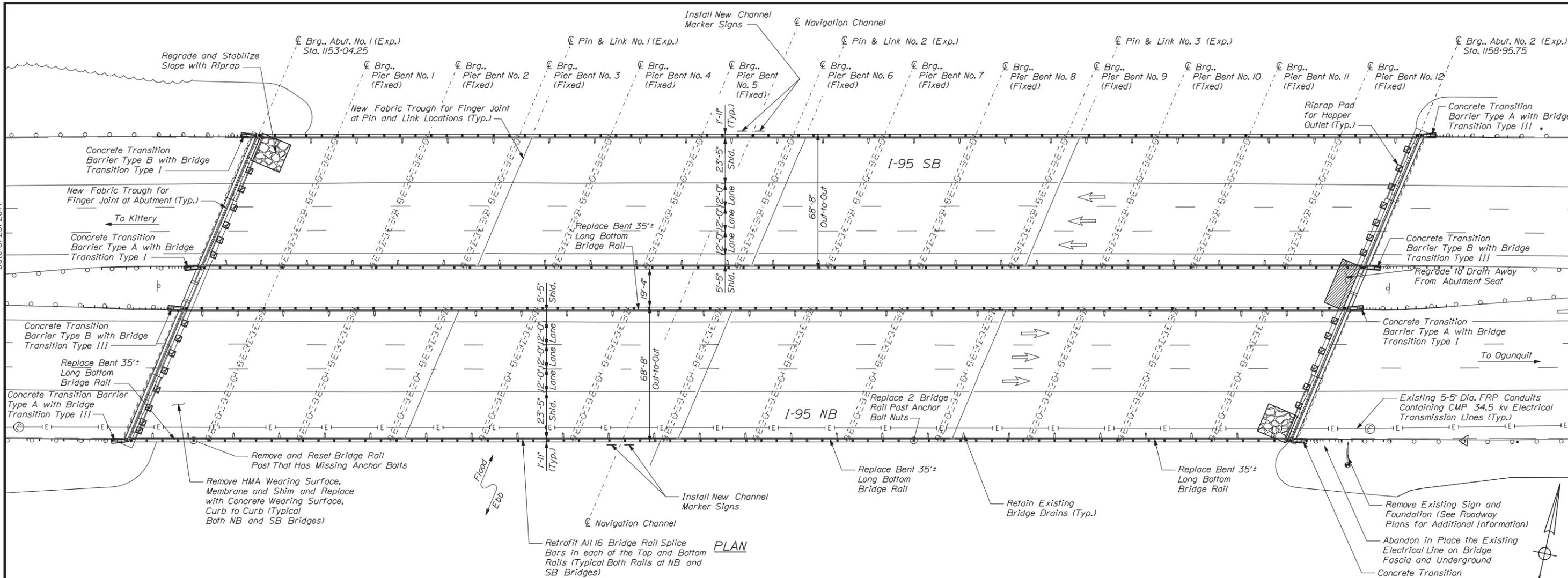
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 GENERAL CONSTRUCTION NOTES  
 (3 OF 3)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 5 OF 101

Date: 3/25/2014

Filename: ...st\plan\set\006\_BDPlan\_01.dgn



- NOTES**
- See Right of Way Map for Existing Right of Way and easement limits.
  - See Permanent Sign Details Sheet for Channel Marker Sign Details Sheet.
  - See Roadway Plans for Guardrail Layout.

Scale: 1" = 25'-0"

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

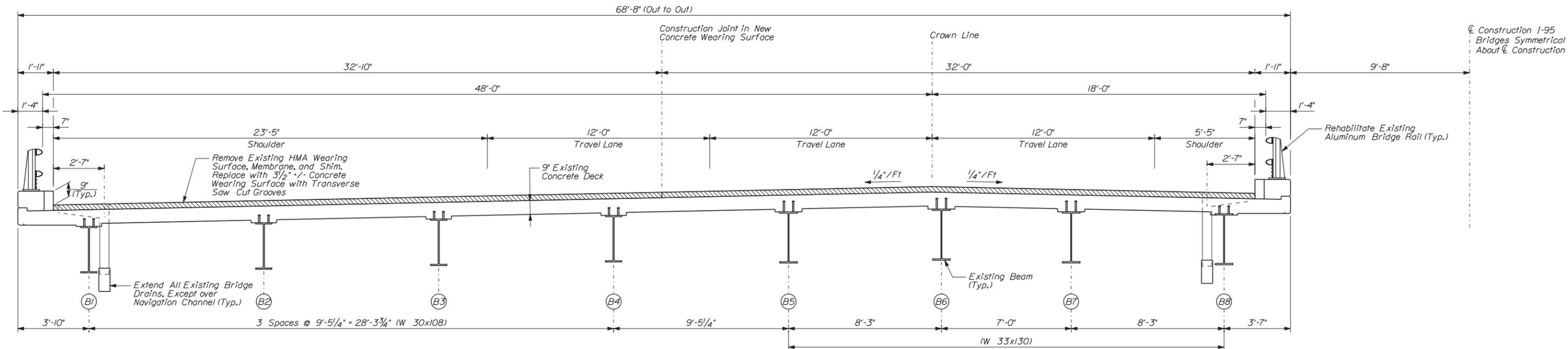
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

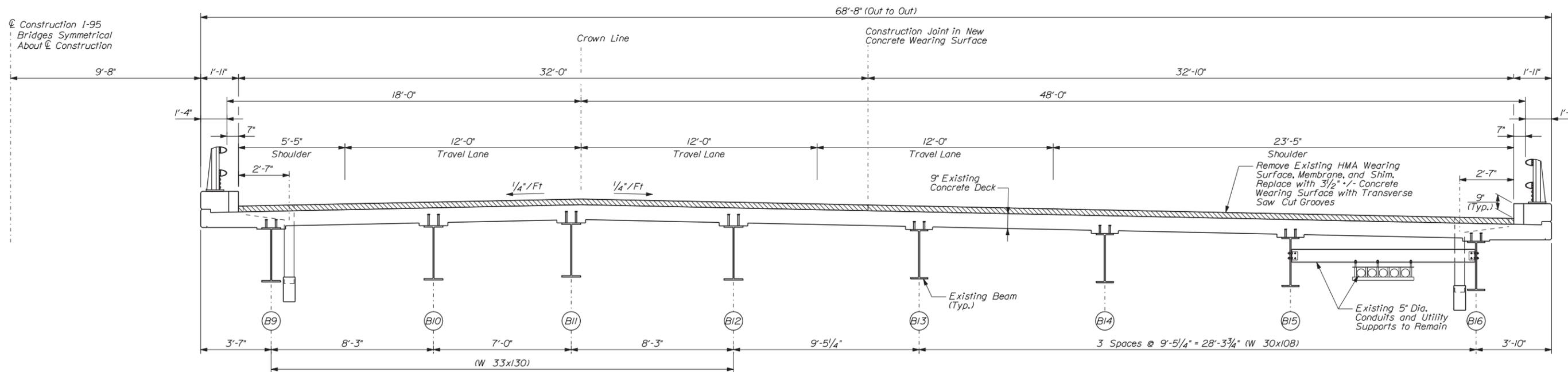
BRIDGE PLAN AND ELEVATION

SHEET NUMBER:  
 CONTRACT: 2014.16  
 6 OF 101

Date: 3/25/2014



**SUPERSTRUCTURE SECTION**  
(Southbound Looking Upstation)



**SUPERSTRUCTURE SECTION**  
(Northbound Looking Upstation)

Scale: 3/8" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed	RSB 3/14	Checked	KJG 3/14
Drawn	BJM 3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES

SUPERSTRUCTURE TRANSVERSE SECTION

SHEET NUMBER:

CONTRACT: 2014.16

7 OF 101

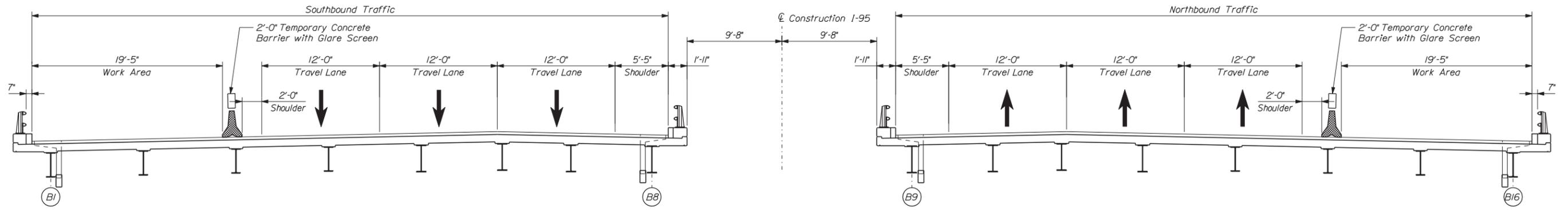
Filename: ...:\planset\007\_bridgetyp\_01.dgn

Date: 3/25/2014

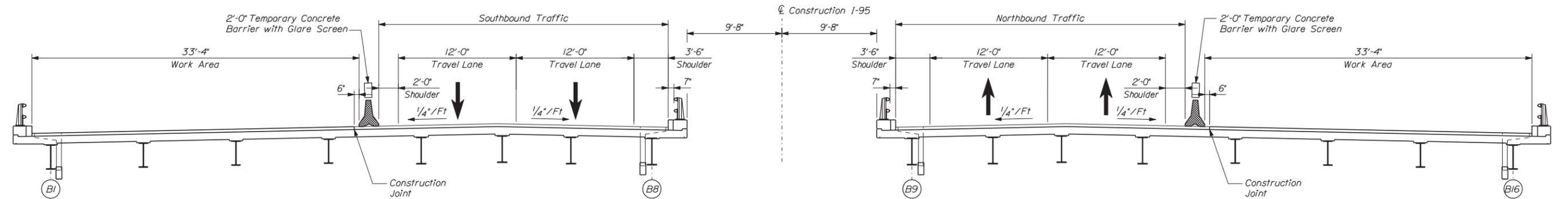
Filename: ... \008\_bridge\_phasing\_01.dgn

**SOUTHBOUND BRIDGE**

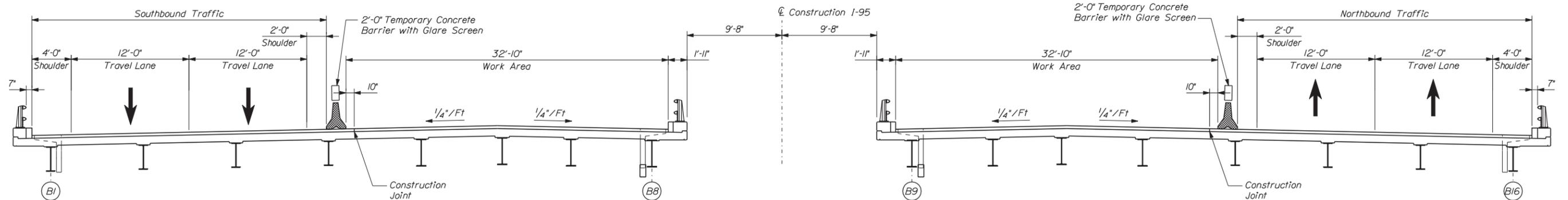
**NORTHBOUND BRIDGE**



**PHASE 1**  
(Looking Upstation)



**PHASE 2**  
(Looking Upstation)



**PHASE 3**  
(Looking Upstation)

Scale: 3/16" = 1'-0"

Designed by:



VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
BRIDGE CONSTRUCTION PHASING (1 OF 2)

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	BJM	3/14	In Charge of	TSB 3/14

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

CONTRACT: 2014.16

SHEET NUMBER:

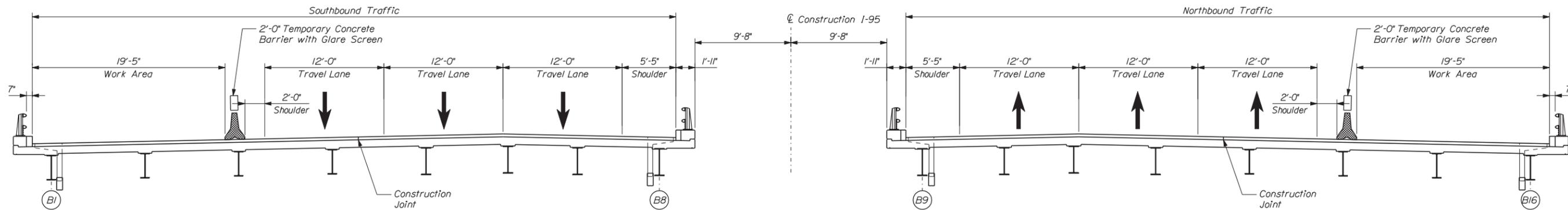
8 OF 101

Date: 3/25/2014

Filename: ... \009\_bridge\_phasing\_02.dgn

SOUTHBOUND BRIDGE

NORTHBOUND BRIDGE



PHASE 4  
(Looking Upstation)

BRIDGE CONSTRUCTION PHASING NOTES

1. Wearing surface replacement and interior side bridge railing repairs on each bridge shall be completed in phases as shown. All other work of the project may be completed independent of the phases shown.
2. At each bridge the Phase I work area provides access for work below the bridge deck. During Phase I the Contractor may at his option also perform other project work in this work area including removal of the existing wearing surface, repair of the existing concrete deck surface, bridge railing repairs and channel marker sign replacements.
3. At each bridge Phase 4 is an optional phase provided to allow access for any remaining work below the bridge deck after the new wearing surface on the concrete deck is completed. The contractor shall be responsible to provide the necessary protection of the new bridge deck. Any damage caused to the bridge during this phase shall be the sole responsibility of the contractor to remedy the damage as directed by MTA.
4. The glare screen on the temporary concrete barrier that separates traffic from the work area shall be 700 feet long centered about the bridge.

Scale: 3/16" = 1'-0"

No.	Revision	By	Date

Designed by:

**VIIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

BRIDGE CONSTRUCTION PHASING (2 OF 2)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 9 OF 101

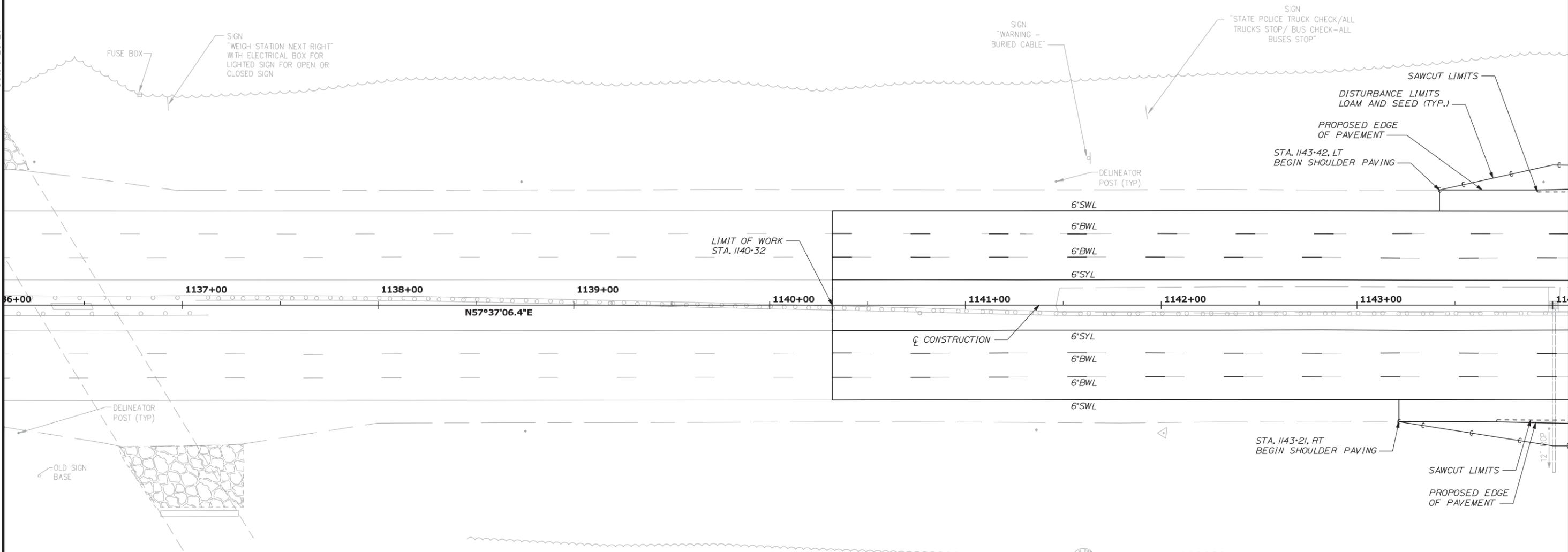
**ITEM 419.3 - SAWING BITUMINOUS PAVEMENT**

STATION TO	STATION	QUANTITY
STA. 1143+93, LT	TO STA. 1152+00, LT	807 LF
STA. 1143+71, RT	TO STA. 1152+00, RT	829 LF

**ITEM 202.206 - REMOVING RUMBLE STRIPS**

STATION TO	STATION	QUANTITY
NB STA. 1151+25, LT	TO STA. 1152+95, LT	170 LF
NB STA. 1140+25, RT	TO STA. 1152+80, RT	1255 LF
SB STA. 1151+50, LT	TO STA. 1153+25, LT	175 LF
SB STA. 1140+75, RT	TO STA. 1153+10, RT	1235 LF

Date: 3/25/2014



- NOTES:**
- CONTRACTOR SHALL REPLACE ALL STEEL OFFSET BLOCKS WITH COMPOSITE OFFSET BLOCKS WITHIN DEFINED LIMITS. REPLACEMENT OF THE OFFSET BLOCKS SHALL BE INCIDENTAL TO THE REMOVE, MODIFY, AND RESET GUARDRAIL ITEM.
  - THE PROPOSED ROADWAY WIDENING ON THE OUTSIDES OF THE ROADWAY ARE TO BE CONSTRUCTED FROM THE EXISTING TRAVELWAY PAVEMENT ELEVATIONS, AS DETERMINED IN THE FIELD, AND THE DETAILS AND CROSS SECTIONS PROVIDED.
  - THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT AND DRAINAGE MANUFACTURER PRIOR TO FINALIZING PROPOSED DRAINAGE PIPE EXTENSIONS.

Filename: ...\\te\planset\010\_HDPlan\_01.dgn

Scale: 25 0 25 50			
No.	Revision	By	Date

Designed by:

**VHB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 ROADWAY PLANS  
 (1 OF 5)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 10 OF 101

ITEM 606.3605 - GUARDRAIL - REMOVE, MODIFY AND RESET, SINGLE RAIL

STATION TO STATION QUANTITY  
 STA. 1149+19.5, RT TO STA. 1152+32.0, RT 313 LF  
 STA. 1151+23.5, LT TO STA. 1153+11.0, LT 188 LF

ITEM 606.277 - TERMINAL END - TRAILING END

STATION TO STATION QUANTITY  
 STA. 1151+11.0, LT TO STA. 1151+23.5, LT 1 EA

ITEM 603.28 - CONCRETE COLLAR FOR REINFORCED CONCRETE PIPE

STATION TO STATION QUANTITY  
 STA. 1149+00, LT 1 EA  
 STA. 1149+00, RT 1 EA

ITEM 603.155 - 12 INCH RCP - CLASS III

STATION TO STATION QUANTITY  
 STA. 1149+00, LT 87.1' TO STA. 1149+00, LT 88.7' 2 LF  
 STA. 1149+00, RT 88.1' TO STA. 1149+00, RT 92.6' 5 LF

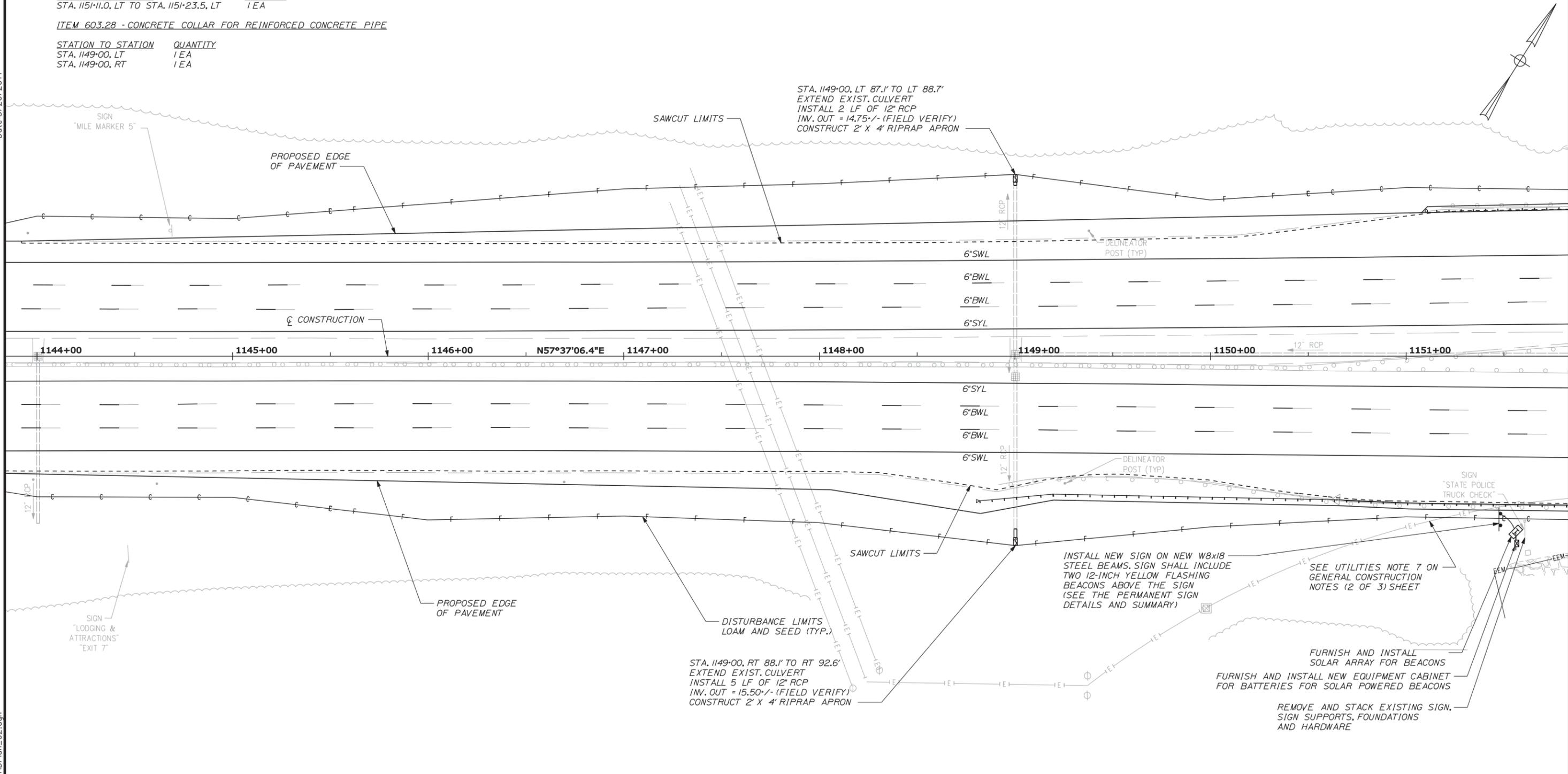
ITEM 610.08 - PLAIN RIPRAP

STATION TO STATION QUANTITY  
 STA. 1149+00, LT 88.7' TO STA. 1149+00, LT 92.7' 0.60 CY  
 STA. 1149+00, RT 92.6' TO STA. 1149+00, RT 96.6' 0.60 CY

ITEM 606.8 - GUARDRAIL 350 FLEAT TERMINAL

STATION TO STATION QUANTITY  
 STA. 1148+82.0, RT TO STA. 1149+19.5, RT 1 EA

Date: 3/26/2014



Filename: ... \te\planset\011\_HDPlan\_02.dgn

Scale: 25 0 25 50

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 ROADWAY PLANS  
 (2 OF 5)

SHEET NUMBER: 11 OF 101

CONTRACT: 2014.16

Date: 3/26/2014

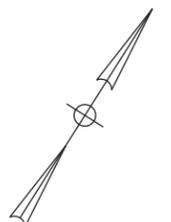
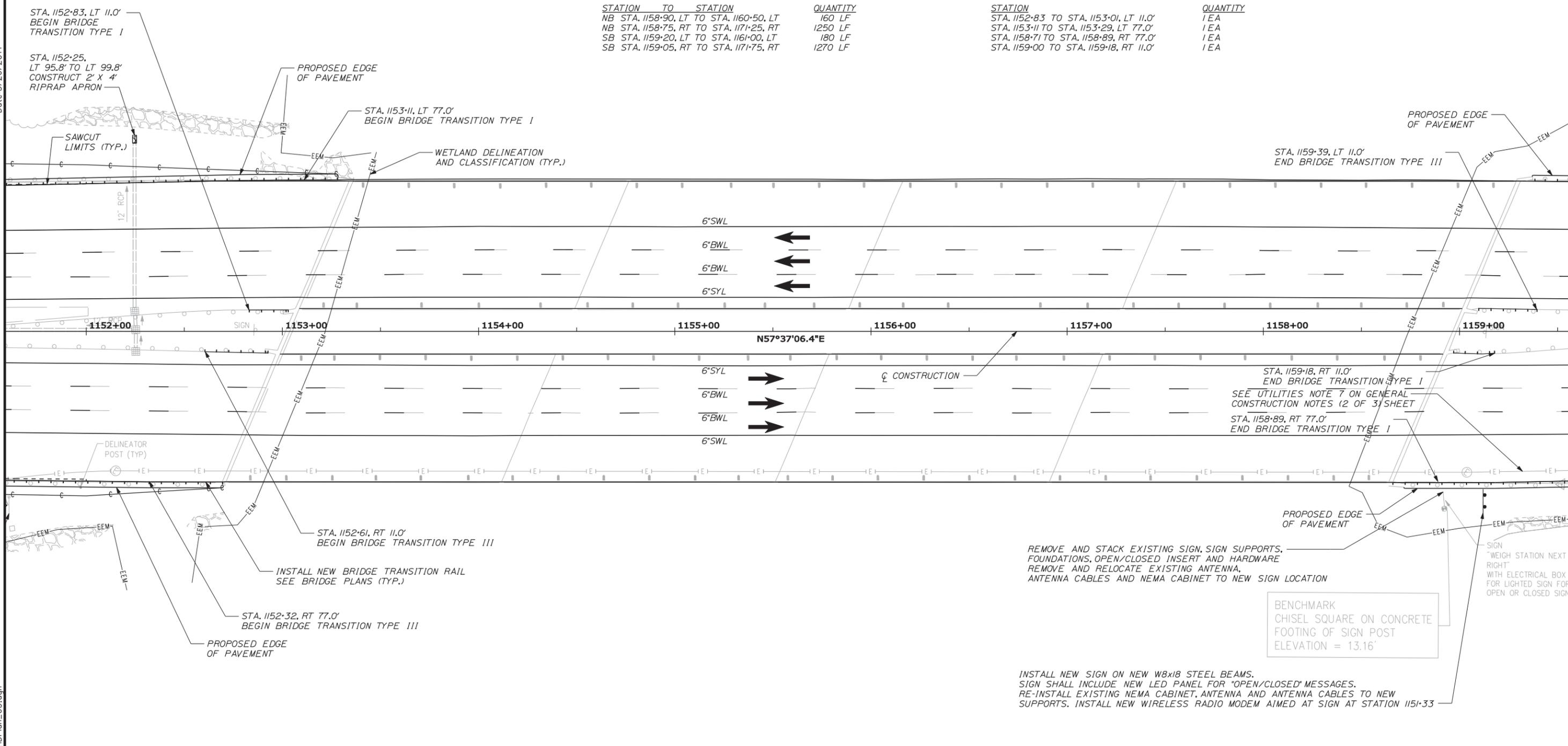
Filename: ... \te\planset\012\_HDPlan\_03.dgn

ITEM 610.08 - PLAIN RIPRAP  
 STATION TO STATION QUANTITY  
 STA. 1152-25, LT 95.8' TO STA. 1152-25, LT 99.8' 0.60 CY

ITEM 606.1723 - BRIDGE TRANSITION - TYPE III  
 STATION QUANTITY  
 STA. 1152-32 TO STA. 1152-63, RT 77.0' 1 EA  
 STA. 1152-61 TO STA. 1152-92, RT 11.0' 1 EA  
 STA. 1159-08 TO STA. 1159-39, LT 11.0' 1 EA  
 STA. 1159-37 TO STA. 1159-68, LT 77.0' 1 EA

ITEM 202.206 - REMOVING RUMBLE STRIPS  
 STATION TO STATION QUANTITY  
 NB STA. 1158-90, LT TO STA. 1160-50, LT 160 LF  
 NB STA. 1158-75, RT TO STA. 1171-25, RT 1250 LF  
 SB STA. 1159-20, LT TO STA. 1161-00, LT 180 LF  
 SB STA. 1159-05, RT TO STA. 1171-75, RT 1270 LF

ITEM 606.1721 - BRIDGE TRANSITION TYPE I  
 STATION QUANTITY  
 STA. 1152-83 TO STA. 1153-01, LT 11.0' 1 EA  
 STA. 1153-11 TO STA. 1153-29, LT 77.0' 1 EA  
 STA. 1158-71 TO STA. 1158-89, RT 77.0' 1 EA  
 STA. 1159-00 TO STA. 1159-18, RT 11.0' 1 EA



Scale: 25 0 25 50

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 ROADWAY PLANS  
 (3 OF 5)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 12 OF 101

ITEM 606.3605 - GUARDRAIL - REMOVE, MODIFY AND RESET, SINGLE RAIL

STATION TO	STATION	QUANTITY
STA. 1158+89.0, RT TO STA. 1162+32.0, RT		343 LF
STA. 1159+68.0, LT TO STA. 1164+97.0, LT		529 LF

ITEM 606.24 - GUARDRAIL TYPE 3d - SINGLE RAIL

STATION TO	STATION	QUANTITY
STA. 1162+32.0, RT TO STA. 1163+76.5, RT		145 LF
STA. 1164+97.0, LT TO STA. 1166+30.5, LT		134 LF

ITEM 606.277 - TERMINAL END - TRAILING END

STATION TO STATION	QUANTITY
STA. 1163+76.5, RT TO STA. 1163+89.0, RT	1 EA

ITEM 610.08 - PLAIN RIPRAP

STATION TO STATION	QUANTITY
STA. 1161+00, RT 91.1' TO STA. 1161+00, RT 93.1'	0.30 CY

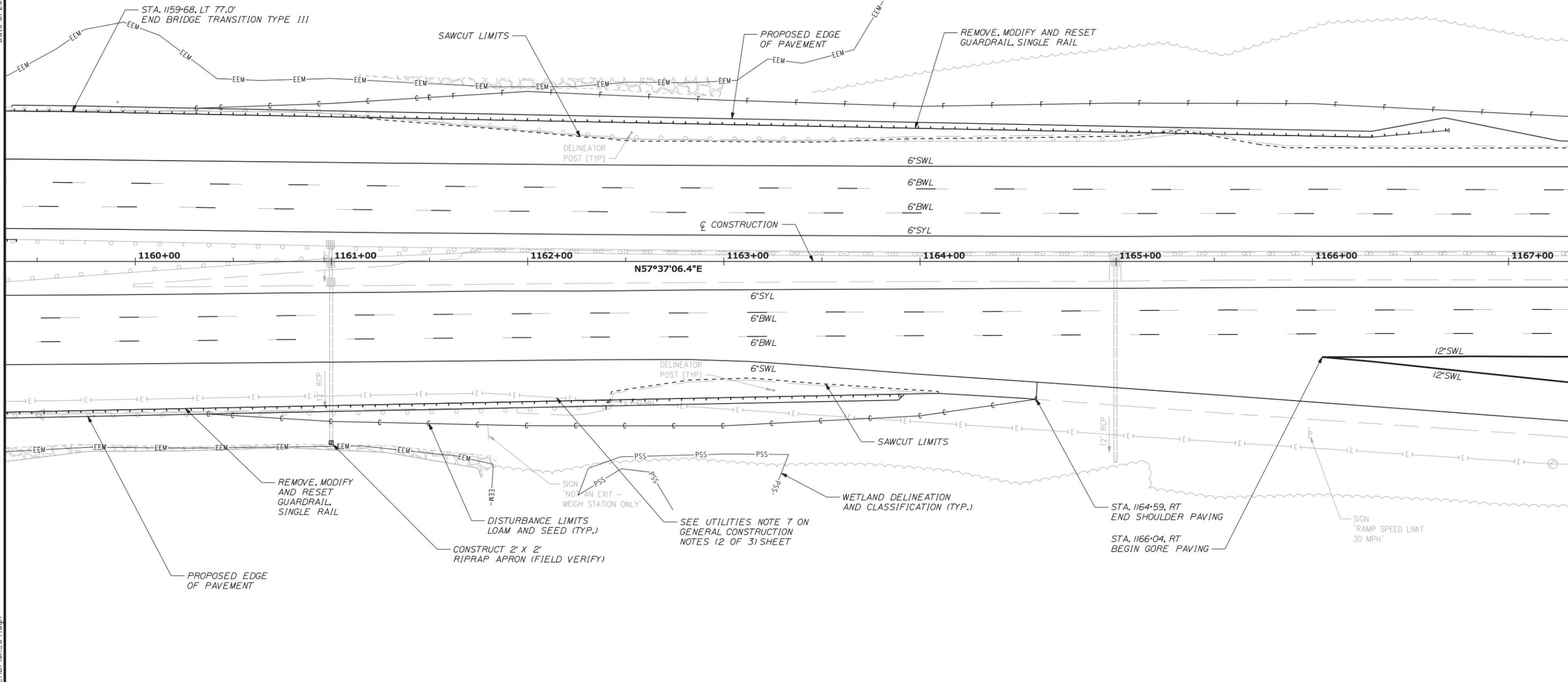
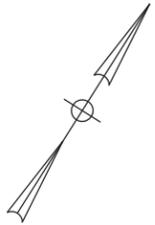
ITEM 419.3 - SAWING BITUMINOUS PAVEMENT

STATION TO STATION	QUANTITY
STA. 1161+10, LT TO STA. 1168+64, LT	756 LF
STA. 1162+40, RT TO STA. 1164+09, RT	181 LF

ITEM 606.8 - GUARDRAIL 350 FLEAT TERMINAL

STATION TO STATION	QUANTITY
STA. 1166+30.5, LT TO STA. 1166+68.0, LT	1 EA

Date: 3/26/2014



Filename: ...\\te\planset\013\_HDPlan\_04.dgn

Scale: 25 0 25 50			
No.	Revision	By	Date

Designed by:

**VHB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

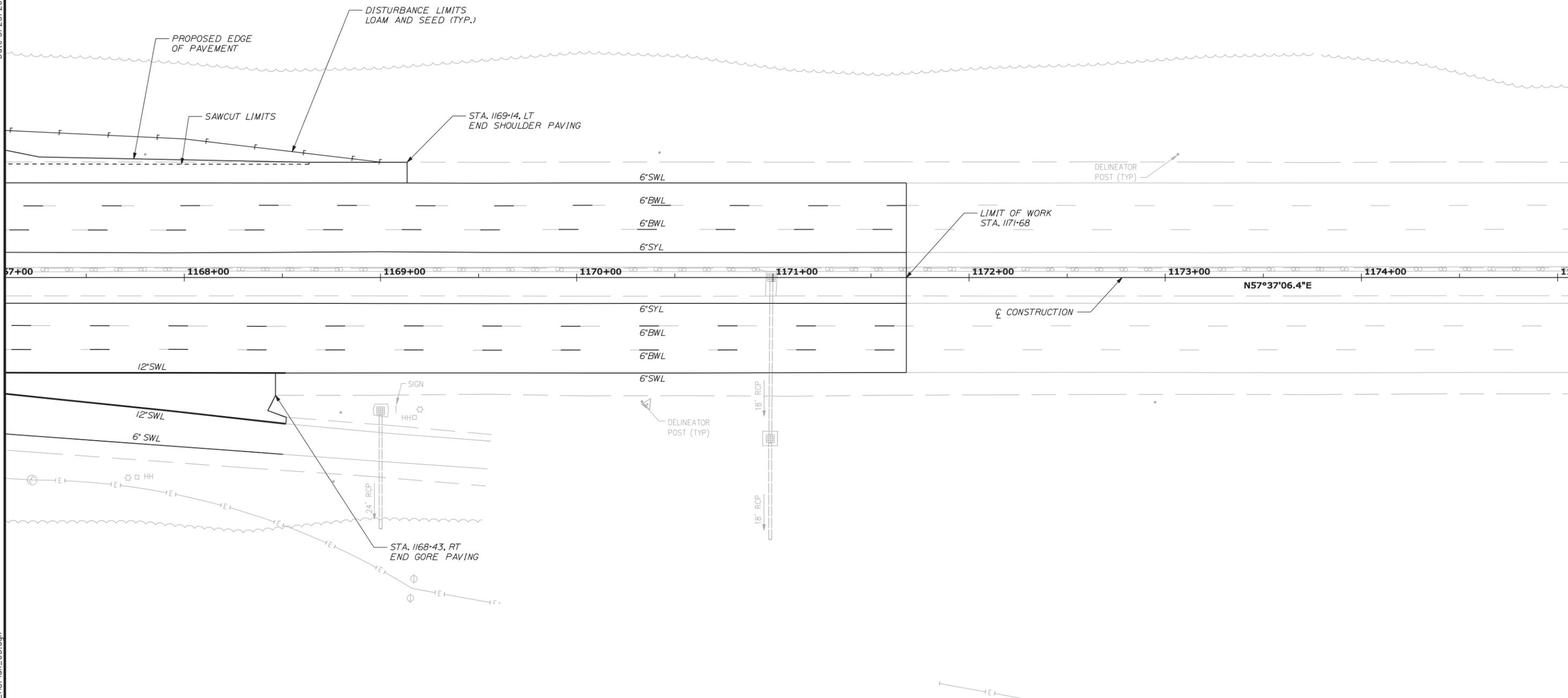
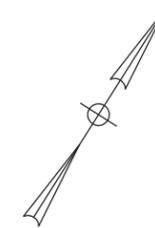
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 ROADWAY PLANS  
 (4 OF 5)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 13 OF 101

Date: 3/25/2014



Filename: ... \te\planset\014\_HDPlan\_05.dgn

Scale: 25 0 25 50

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

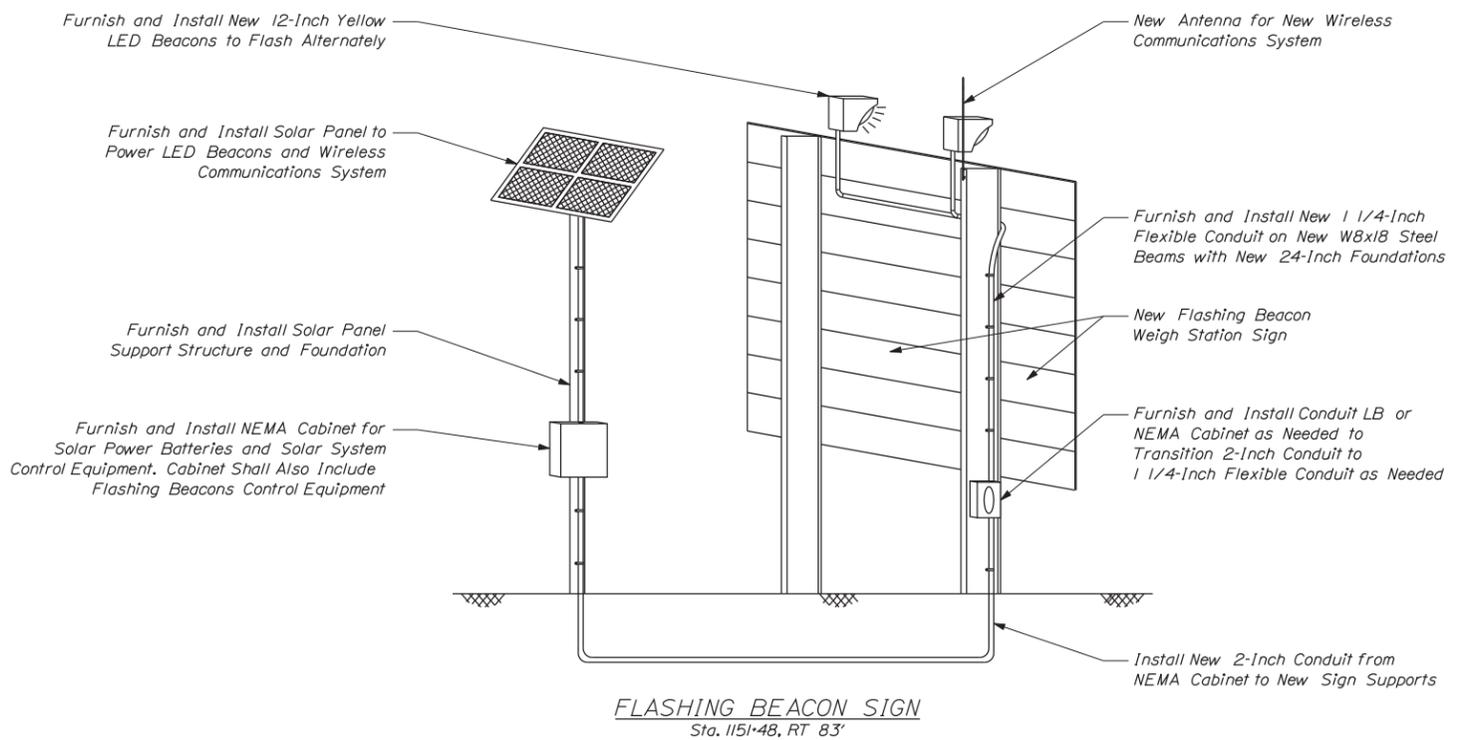
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 ROADWAY PLANS  
 (5 OF 5)

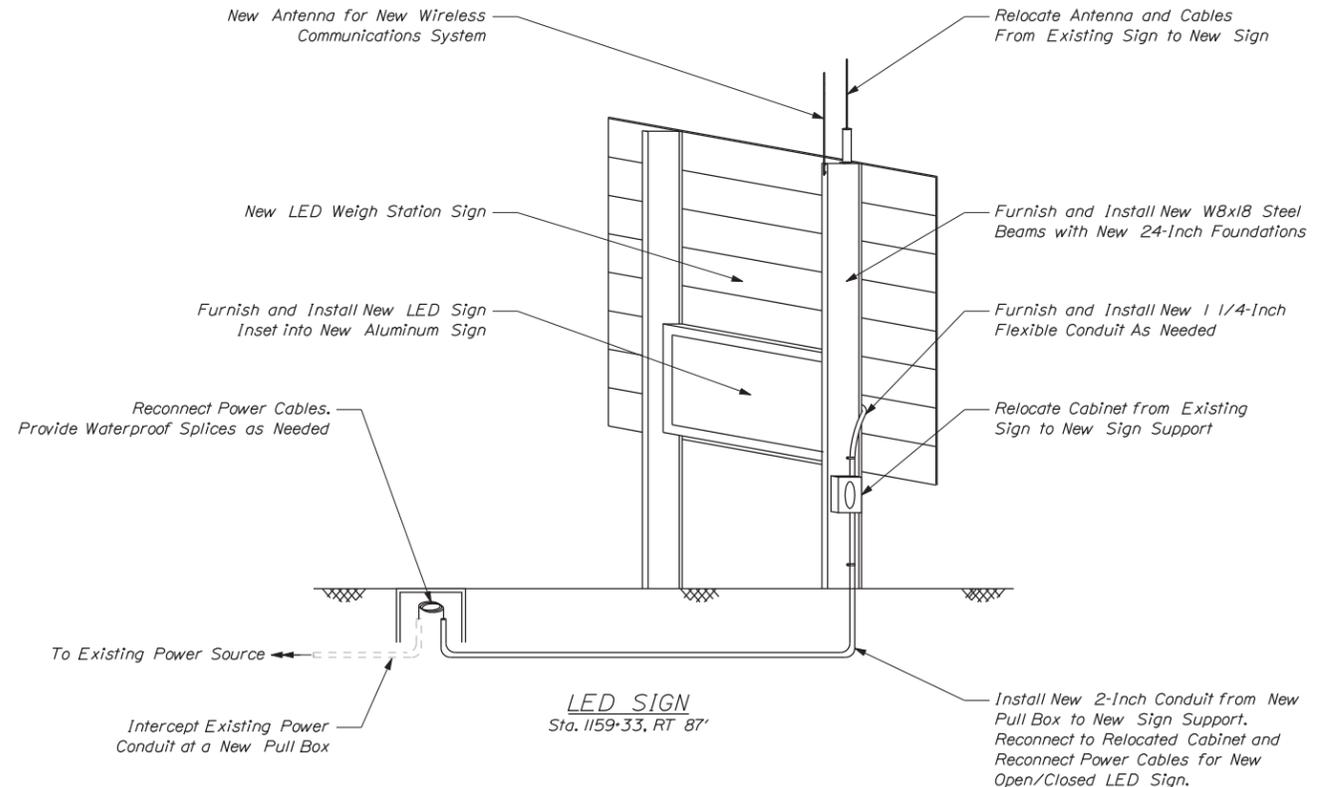
SHEET NUMBER: 14 OF 101

CONTRACT: 2014.16

Date: 3/25/2014



**FLASHING BEACON SIGN**  
Sta. 1151+48, RT 83'



**LED SIGN**  
Sta. 1159+33, RT 87'

PERMANENT SIGN SUMMARY				
Sign	Text Dimensions (Inches)		Size	Quantity and Color
	Letter Height	Vertical Spacing		
 *	6"	6"	48"x36"	2 - Black on Yellow
 *	3" 3" 10" 3"	3" 3.5" 3"	48"x36"	2 - Black on Yellow
 **	8" 8" 8" 8"	6" 10" 6" 6"	144"x84"	<u>FLASHING BEACON SIGN</u> 1 - White on Green with Flashing Beacons
 **	10" 10" 10"	7" 7" 10"	108"x96"	<u>LED SIGN</u> 1 - White on Green with Inset LED Sign

\* - Item 645.12 Overhead Guide Sign (Channel Marker Sign) (EA)  
\*\* - Item 645.251 Roadside Guide Signs, Type I (SF)

**NOTES:**

- Erect Channel Marker signs on concrete deck fascia in same location as existing. Sign attachment hardware shall be stainless steel drilled and anchored. Contractor shall submit details of proposed attachment method to Resident for approval. All costs related to the removal of the existing and erection of the channel marker signs shall be paid under Item 645.12.
- The new flashing beacon sign shall be installed, powered, tested and operational prior to the removal of the existing bridge-mounted conduit that supplies power to the existing flashing beacon sign.

Filename: ...:\cad\st\plan\set\015\_Sign\_dt.dgn

Scale: Not to Scale

No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	MDS	3/14	Checked	PAC	3/14
Drawn	JAR	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES

PERMANENT SIGN DETAILS & SUMMARY

SHEET NUMBER: \_\_\_\_\_

CONTRACT: 2014.16

15 OF 101

Date: 3/25/2014

**MAINTENANCE OF TRAFFIC GENERAL NOTES**

1. There are six phases of traffic control proposed for this project:
  - a. York River Bridge Phases 1-4 (see MOT plans)
  - b. Cutts Road Bridge Northbound
  - c. Cutts Road Bridge Southbound

The York River Bridges shall be reconstructed in four phases: Phase 1 includes work along the right shoulder areas; Phase 2 includes work along the right shoulder areas with a right lane closure; Phase 3 includes work along the left side of the bridge with a left lane closure; and Phase 4 includes any remaining work on the bridges. To accommodate the proposed lane shifts, there are proposed outside widenings along both the northbound and southbound I-95 roadways. The lane closures shall be restricted to the time period of mid-October through May with all three lanes being available for traffic from June through mid-October. The proposed shoulder closures and lane closures shall be installed in accordance with the Maintenance of Traffic plans that follow and the additional Maintenance of Traffic notes below.

2. All traffic control equipment shall conform to the latest edition of the Maine Department of Transportation (MaineDOT) Standard Specifications and applicable traffic control standards and practices of the Maine Turnpike Authority (MTA).
3. All traffic control equipment and devices shall conform to the 2009 edition of the MUTCD, Chapter 6. All traffic control signs, sign support structures, channelizing devices, flashing arrow panels, portable changeable message signs, and other traffic control equipment along the roadside shall meet or exceed NCHRP 350 Test Level 3 (TL-3) requirements.
4. All traffic control signs shall have ASTM 4956 Type IV, Type VIII or Type IX super high intensity or prismatic fluorescent retroreflective sheeting and shall be maintained in like-new condition. All orange construction signs shall be fluorescent orange with Type VIII, IX, or XI sheeting. Placement of signs shall be adjusted to avoid obstructing existing signs and to ensure proper sight lines to the construction signs as determined by the Resident.
5. Any signs, equipment, or devices found to be damaged or unserviceable shall be replaced at the Contractor's expense except for the temporary concrete barrier supplied by the Authority.
6. During night operations, temporary work lighting shall be directed away from approaching lanes of traffic.
7. Uniformed traffic officers (State Troopers only) shall be used for all work that may require stopping through traffic along I-95. Scheduling State Troopers will be at the discretion of the Resident and the MTA.
8. Remove and fill existing rumble strips as directed by the Resident in all areas where maintenance of traffic plan requires traffic to cross or travel along the rumble strips. Payment for removing the rumble strips shall be paid for under Item 202.206, Removing Rumble Strips.
9. All lane closures (temporary and permanent) shall require approval of the Resident a minimum of two work days in advance of the lane closure.
10. See Special Provision 652 for all project travel lane restrictions.
11. Contractor shall provide notice of all changes in traffic patterns, including advanced notice of lane closures, using PCMS at least seven days prior to the implementation of the new temporary traffic control phase.
12. Maximum spacing for channelizing devices (drums) shall be:
  - 80' on center along tangents
  - 40' on center along tapers

Devices may be installed with reduced spacing where directed by the Resident.

**MAINTENANCE OF TRAFFIC FOR THE YORK RIVER BRIDGES**

1. Shoulder closures and traffic lane shifts are proposed along I-95 northbound and southbound for the York River Bridges. During Phase 1, the right shoulders of northbound and southbound I-95 shall be closed to prepare the roadway for future traffic shifts. During Phase 2, the right lanes of northbound and southbound I-95 shall be closed and traffic shall shift 2 feet left to allow access to approximately half of each bridge for the deck rehabilitation. Between Phase 2 and Phase 3, the Contractor shall return the roadway to existing conditions, with all three lanes open for both directions. During Phase 3, the left lanes of northbound and southbound I-95 shall be closed and traffic shall shift approximately 20 feet right to allow access to the other half of each bridge for the deck construction. The shoulder closures and lane closures shall use temporary concrete barrier wall with glare screens to isolate the work zone. At the completion of Phase 3, the Contractor may re-establish the Phase 1 traffic controls to complete any work remaining on the bridges.
2. Approach ends of temporary concrete barrier shall be placed outside of the highway clear zone (minimum 34 feet from the traveled way) or protected by temporary impact attenuators or with guardrail overlaps as approved by the Resident.
3. The Contractor shall grind all conflicting pavement markings along I-95 northbound and southbound. Contractor shall install temporary pavement markings along the closure taper, along tangent segments and along the temporary concrete barrier as shown in the Maintenance of Traffic Plans. All temporary pavement markings shall be temporary tape, except between Phases 2 and 3 when the temporary pavement markings shall be paint for the northbound and southbound roadways.
4. Maintenance of Traffic sign supports shall not be embedded in temporary or permanent pavement sections. If a sign is shown in an area of existing pavement, the sign shall be mounted on an easel or other non-invasive support.
5. The Authority will supply the temporary concrete traffic barrier (10-foot sections) and glare screens for the project. The Contractor shall install the Authority-supplied glare screens on the Authority-supplied traffic barriers beginning 50 feet upstream of the bridge joint and continuing to 50 feet beyond the bridge for each roadway direction during each construction phase. MTA will provide the barriers at the York Weigh Stations for Contractor pick-up. MTA will provide the glare screens at the Crosby Maintenance Yard for Contractor pick-up. At the conclusion of the project, Contractor shall return the barriers and glare screens to the Crosby Maintenance Yard at Mile 45.8 Southbound in South Portland.
6. The Contractor shall not conduct construction operations along the outside and median sides of the roadway simultaneously.

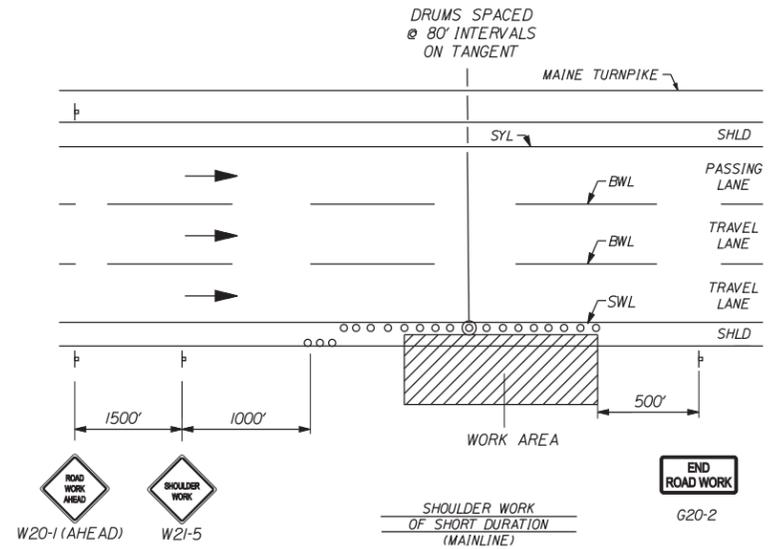
**TEMPORARY LANE & ROADWAY CLOSURES**

CONSTRUCTION SIGN SUMMARY				
Sign	Text Dimensions (Inches)		Size	Quantity and Color
	Letter Height	Vertical Spacing		
G20-2		Text Dimensions Shall Conform to "Standard Highway Signs" - 2012	48"x24"	4 - Black on Orange
G20-5aP			36"x24"	4 - Black on Orange
R2-1(50)			36"x48"	4 - Black on White
R2-6aP			36"x24"	4 - Black on White
R2-1(65)			36"x48"	4 - Black on White
R2-12			36"x54"	4 - Black on White
R4-9			36"x48"	4 - Black on White
W1-4bL			48"x48"	2 - Black on Orange
W1-4bR			48"x48"	4 - Black on Orange
W3-5(50)			48"x48"	4 - Black on Orange
W4-2L			48"x48"	4 - Black on Orange
W4-2R			48"x48"	4 - Black on Orange
W20-1A			48"x48"	4 - Black on Orange
W20-1(1)			48"x48"	4 - Black on Orange
W20-5L			48"x48"	4 - Black on Orange

**TEMPORARY LANE & ROADWAY CLOSURES**

CONSTRUCTION SIGN SUMMARY				
Sign	Text Dimensions (Inches)		Size	Quantity and Color
	Letter Height	Vertical Spacing		
W20-5R		Text Dimensions Shall Conform to "Standard Highway Signs" - 2012	48"x48"	4 - Black on Orange
W21-5AR			48"x48"	4 - Black on Orange

\* The Lane Closure Diagrammatic Sign shall be used in place of the Diagrammatic sign anytime the Contractor closes one of the two lanes adjacent to the bridge work.



1. THE W20-1 AND G20-2 SIGNS ARE NOT REQUIRED IF THE SHOULDER CLOSURE IS WITHIN A PREVIOUSLY ESTABLISHED WORK ZONE.

**SHORT TERM SHOULDER WORK**

Filename: ...:\te\planset\016\_Details\_01.dgn

Scale:			
No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed	MDS 3/14	Checked	PAC 3/14
Drawn	JAR 3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

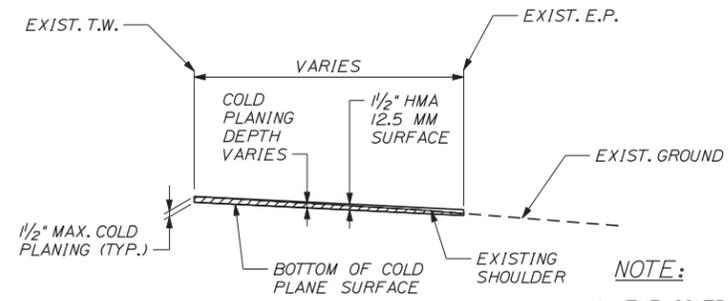
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC NOTES &  
 DETAILS FOR YORK RIVER BRIDGES

SHEET NUMBER:  
 CONTRACT: 2014.16  
 16 OF 101

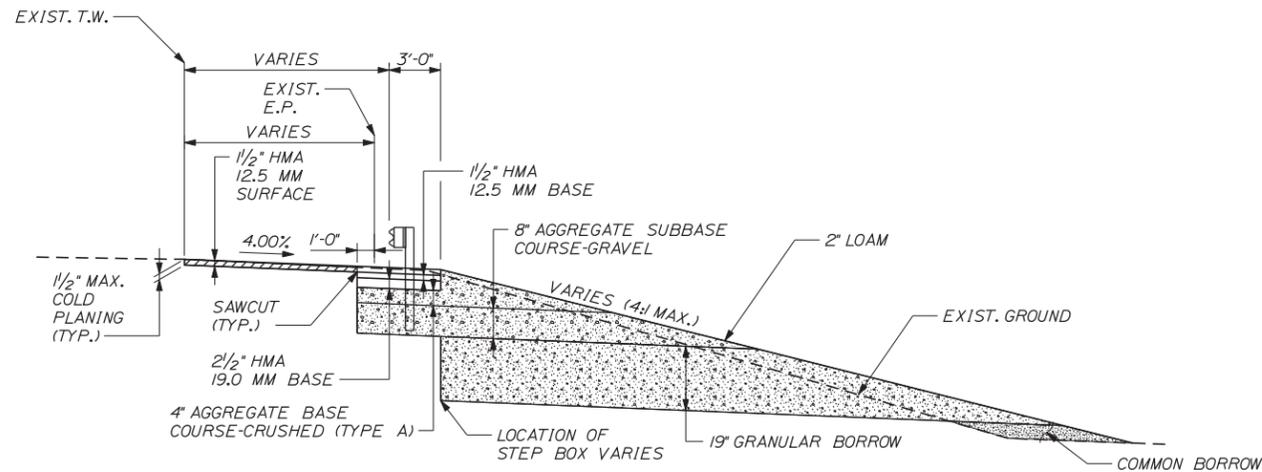
Date: 3/25/2014



**NOTE:**

1. THE CONTRACTOR SHALL COLD PLANE AND PAVE A TRANSITION THAT MATCHES THE EXISTING CONDITION TO THE PROPOSED CONDITION OVER 50 FEET.

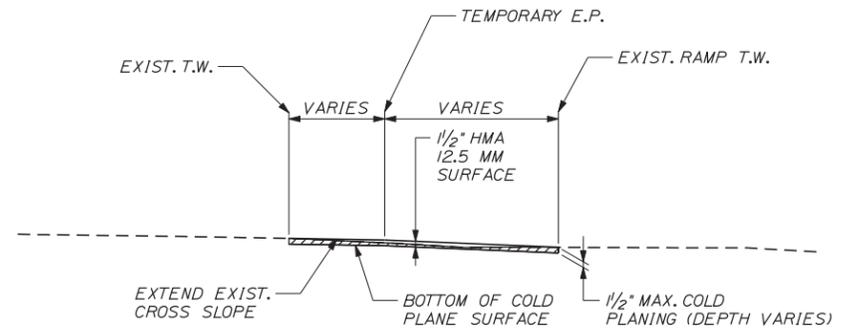
OUTSIDE SHOULDER PAVEMENT TRANSITION DETAIL  
 NOT TO SCALE



WIDENING DETAIL

**NOTES:**

1. SEE CROSS SECTIONS FOR ACTUAL LOCATIONS OF THE AGGREGATE AND GRANULAR BORROW LAYERS.
2. GUARDRAIL LOCATIONS VARY. SEE ROADWAY PLANS FOR ACTUAL LOCATIONS.
3. COAT VERTICAL FACE OF PAVEMENT WITH HOT RUBBERIZED SEALANT WHICH IS INCIDENTAL TO MEDIAN WORK.



GORE DETAIL

STA. 1166+04 TO STA. 1168+43, RT

**NOTE:**

1. COLD PLANE THE GORE AREA TO PROVIDE FOR 1/2" OF HMA 12.5 MM SURFACE.

Filename: ...:\te\planset\017\_Details\_03.dgn

Scale:			
No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
 MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

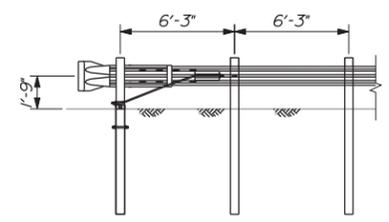
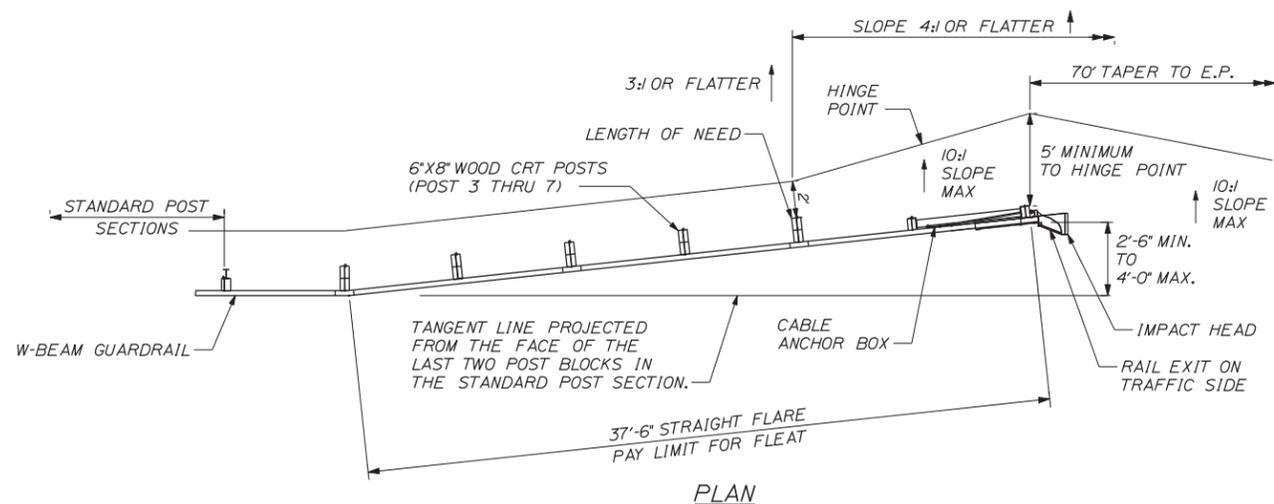
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC NOTES &  
 DETAILS FOR YORK RIVER BRIDGES

CONTRACT: 2014.16

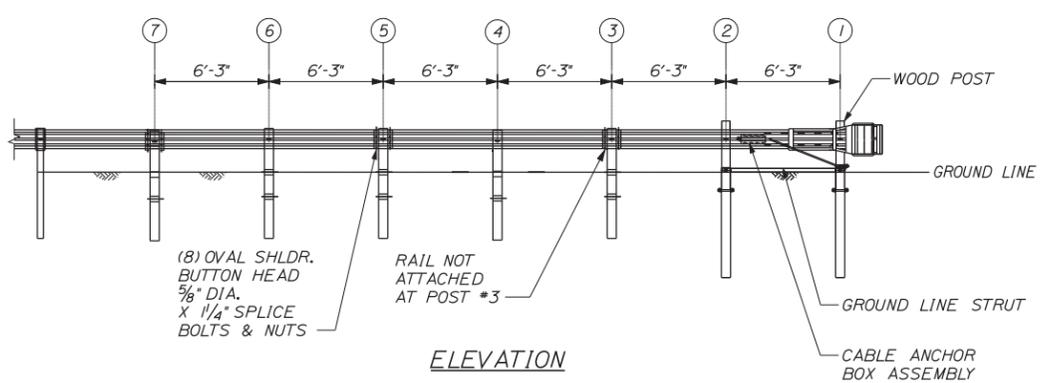
SHEET NUMBER:

17 OF 101

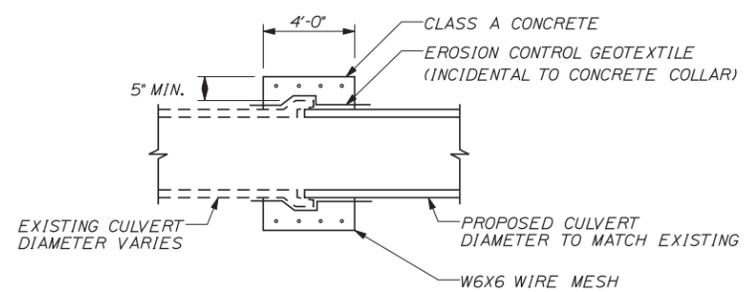
Date: 3/25/2014



TERMINAL END - TRAILING END  
NOT TO SCALE



GUARDRAIL 350 FLEAT TERMINAL  
NOT TO SCALE



CONCRETE COLLAR FOR REINFORCED CONCRETE PIPES

**GUARDRAIL NOTES:**

1. WOOD POSTS ARE REQUIRED WITH THE FLEAT.
2. SEE SPECIFICATIONS FOR REFLECTIVE SHEETING REQUIREMENTS.

Filename: ...:\te\planset\018\_Details\_05.dgn

Scale:			
No.	Revision	By	Date

Designed by:

**VHIB** Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
PAC	3/14	RSB	3/14
CLC	3/14	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES

GUARDRAIL AND DRAINAGE DETAILS

SHEET NUMBER:

CONTRACT: 2014.16

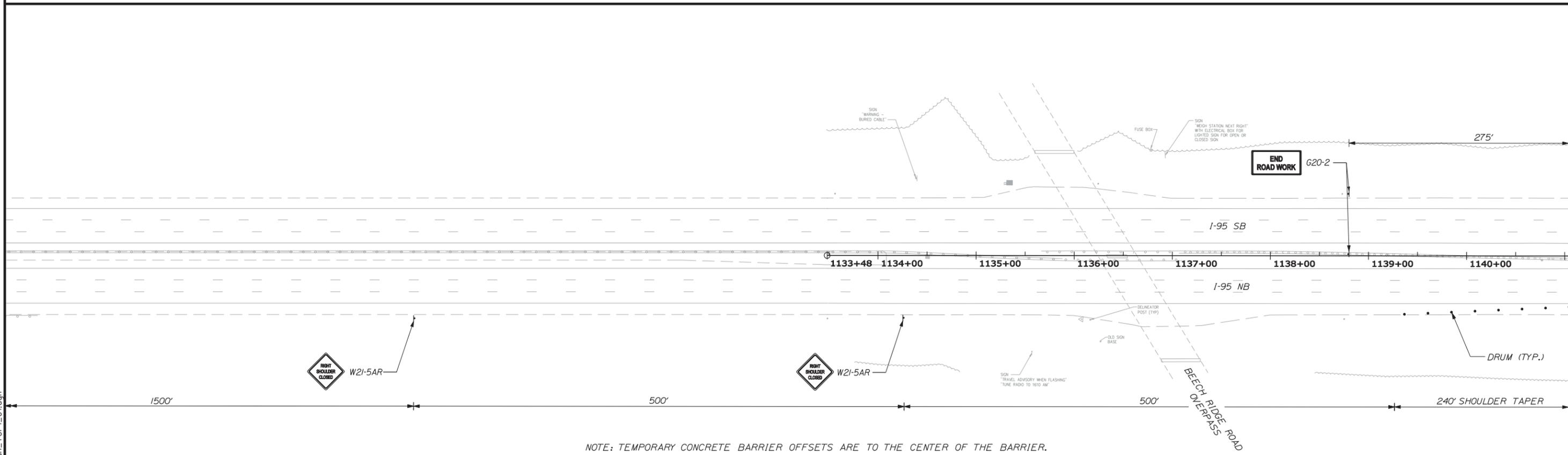
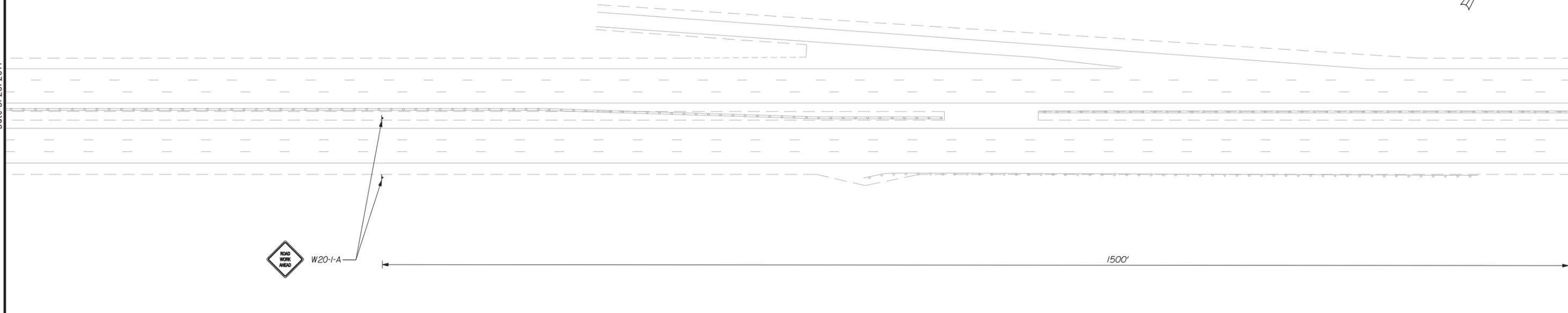
18 OF 101

LEGEND

	Construction Sign on Post Support		Drums/Channelizing Devices
	Construction Sign on Easel		Temporary Concrete Barrier, Type I
	Work Area		Type III Barricades
			Work Zone Crash Cushion - TL-3



Date: 3/25/2014



NOTE: TEMPORARY CONCRETE BARRIER OFFSETS ARE TO THE CENTER OF THE BARRIER.

Filename: ...planset\019\_Plan\_TCPI\_01.dgn

Scale:

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	MDS	3/14	Checked	PAC	3/14
Drawn	JAR	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

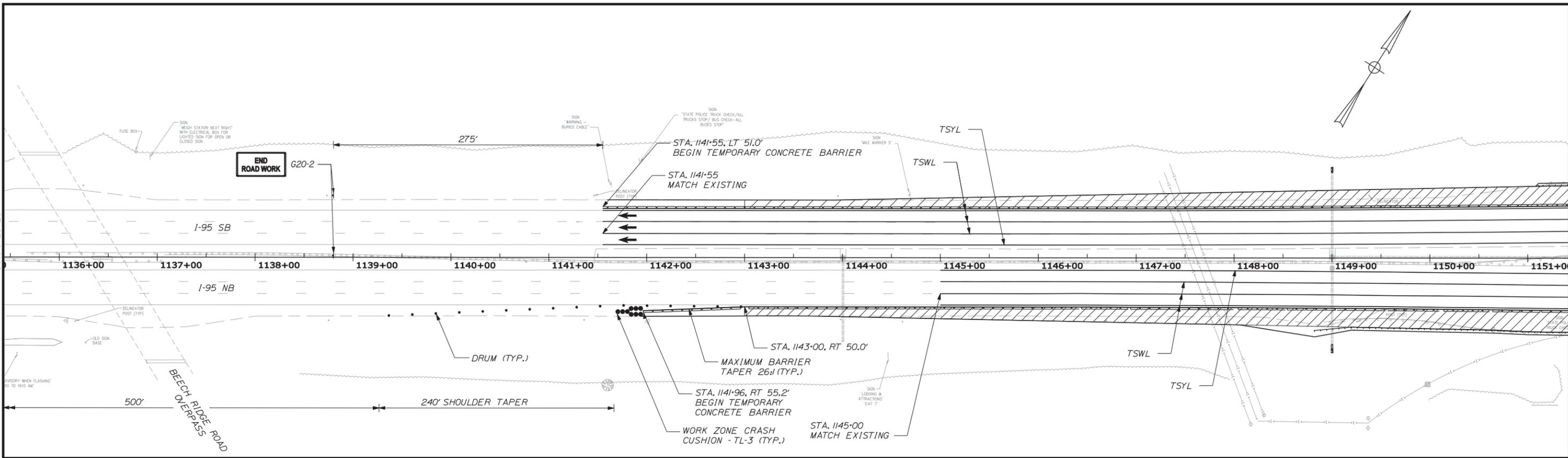
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC PLANS  
 PHASES 1 & 4 (1 OF 12)

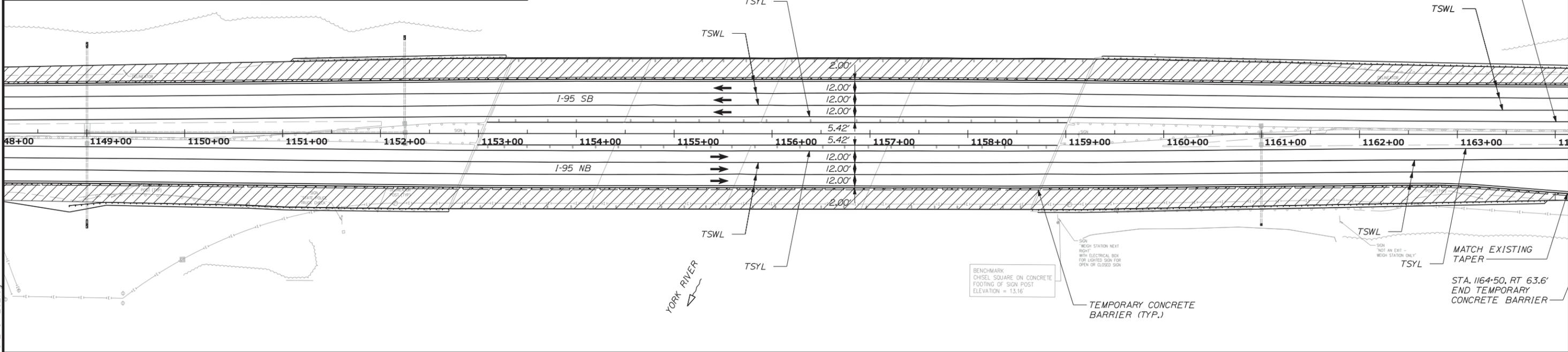
SHEET NUMBER:  
 CONTRACT: 2014.16  
 19 OF 101

Date: 3/25/2014



**LEGEND**

	Construction Sign on Post Support		Drums/Channelizing Devices
	Construction Sign on Easel		Temporary Concrete Barrier, Type I
	Work Area		Type III Barricades
			Work Zone Crash Cushion - TL-3



Filename: ...planset\020\_Plan\_TCP1\_02.dgn

Scale:

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date	
Designed	MDS	3/14	Checked	PAC	3/14
Drawn	JAR	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

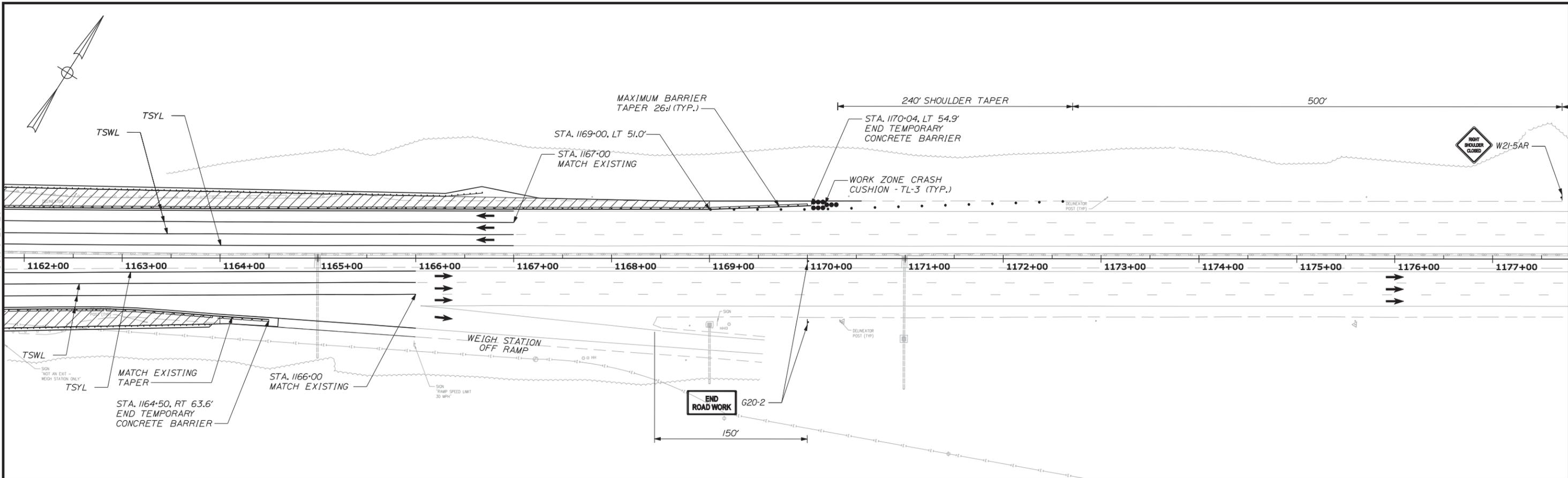
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC PLANS  
 PHASES 1 & 4 (2 OF 12)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 20 OF 101

Date: 3/25/2014



LEGEND

	Construction Sign on Post Support		Drums/Channelizing Devices
	Construction Sign on Easel		Temporary Concrete Barrier, Type I
	Work Area		Type III Barricades
			Work Zone Crash Cushion - TL-3

Scale: 50 0 50 100

No.	Revision	By	Date

Designed by:

**VHIB** Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	MDS	3/14	Checked	PAC	3/14
Drawn	JAR	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

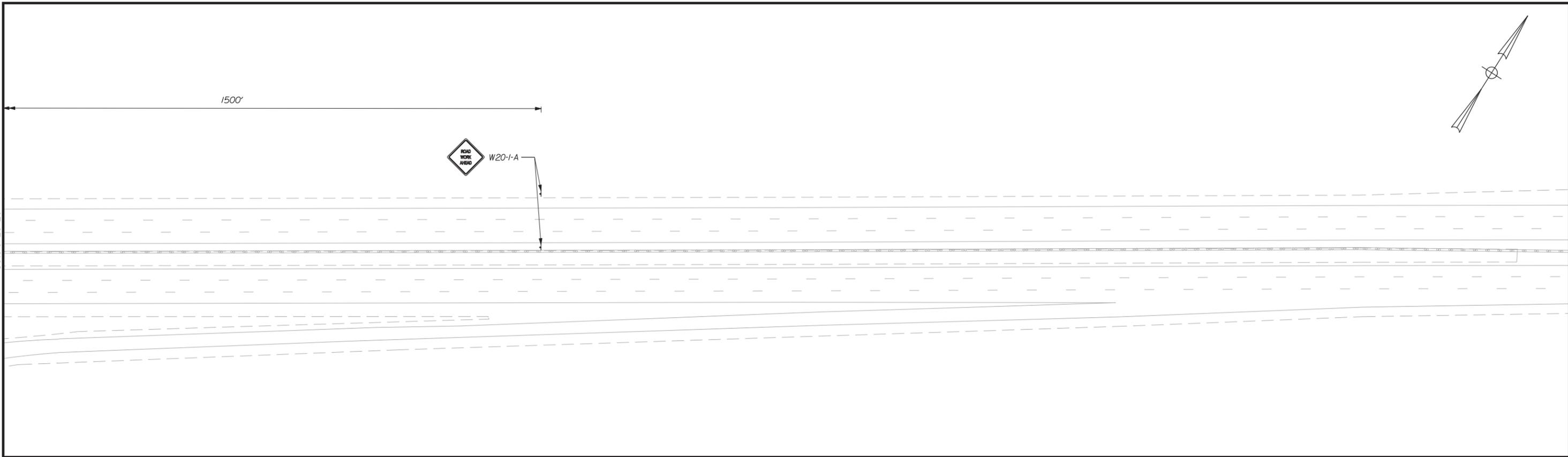
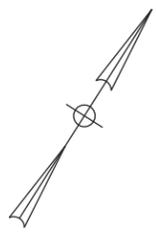
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
MAINTENANCE OF TRAFFIC PLANS  
PHASES 1 & 4 (3 OF 12)

SHEET NUMBER:  
CONTRACT: 2014.16  
21 OF 101

Filename: ...:\planset\021\_Plan\_TCPI\_03.dgn

Date: 3/25/2014



PHASE 1 SEQUENCING NOTES:

1. REMOVE AND FILL ALL EXISTING SHOULDER RUMBLE STRIPS BETWEEN THE FOLLOWING STATIONS:  
 NORTHBOUND LEFT SHOULDER - STA. 1151+25 TO STA. 1152+95  
 NORTHBOUND RIGHT SHOULDER - STA. 1140+25 TO STA. 1152+80  
 SOUTHBOUND LEFT SHOULDER - STA. 1151+50 TO STA. 1153+25  
 SOUTHBOUND RIGHT SHOULDER - STA. 1140+75 TO STA. 1153+10  
 NORTHBOUND LEFT SHOULDER - STA. 1158+90 TO STA. 1160+50  
 NORTHBOUND RIGHT SHOULDER - STA. 1158+75 TO STA. 1171+25  
 SOUTHBOUND LEFT SHOULDER - STA. 1159+20 TO STA. 1161+00  
 SOUTHBOUND RIGHT SHOULDER - STA. 1159+05 TO STA. 1171+75
2. MAINTAIN EXISTING TRAFFIC AND INSTALL PORTABLE CONCRETE BARRIER TO PROVIDE A 2' SHOULDER ADJACENT TO THE WORK ZONE.
3. CONSTRUCT OUTSIDE WIDENINGS AND BRIDGE WORK AS APPROPRIATE.

PHASE 4 SEQUENCING NOTES:

1. SHIFT TRAFFIC BACK TO EXISTING LANE USE.
2. REMOVE TEMPORARY TAPE PAVEMENT MARKINGS AND APPLY FINAL PAINT PAVEMENT MARKINGS.
3. IF ADDITIONAL BRIDGE WORK BENEATH THE DECK IS NECESSARY INSTALL PORTABLE CONCRETE BARRIER TO PROVIDE A 2' SHOULDER ADJACENT TO THE WORK ZONE.
4. WHEN ALL WORK IS COMPLETE REMOVE ALL TRAFFIC CONTROL DEVICES, CONSTRUCTION SIGNS, ETC.

LEGEND

†	Construction Sign on Post Support	• •	Drums/Channelizing Devices
k	Construction Sign on Easel	▬▬▬▬	Temporary Concrete Barrier, Type I
	Work Area	#	Type III Barricades
			Work Zone Crash Cushion - TL-3



No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date	
Designed	MDS	3/14	Checked	PAC	3/14
Drawn	JAR	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

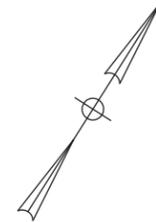
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC PLANS  
 PHASES 1 & 4 (4 OF 12)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 22 OF 101

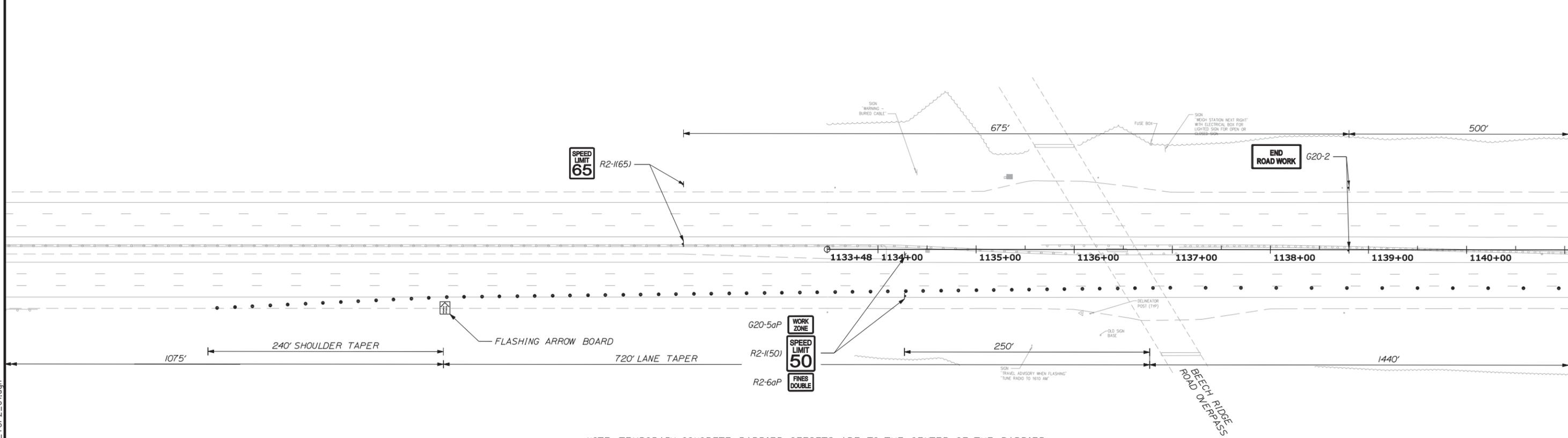
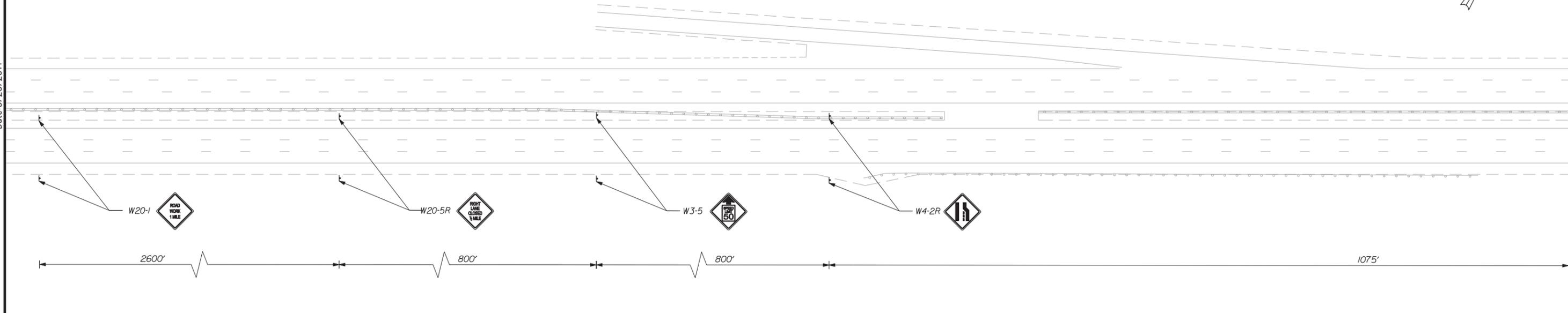
Filename: ...planset\022\_Plan\_TCP1\_04.dgn

LEGEND

†	Construction Sign on Post Support	• •	Drums/Channelizing Devices
k	Construction Sign on Easel	— — — —	Temporary Concrete Barrier, Type I
	Work Area	⊞	Type III Barricades
		•••••	Work Zone Crash Cushion - TL-3



Date: 3/25/2014



NOTE: TEMPORARY CONCRETE BARRIER OFFSETS ARE TO THE CENTER OF THE BARRIER.

Filename: ...plan\set\023\_Plan\_TCP2\_01.dgn

Scale: 

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date	
Designed	MDS	3/14	Checked	PAC	3/14
Drawn	JAR	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

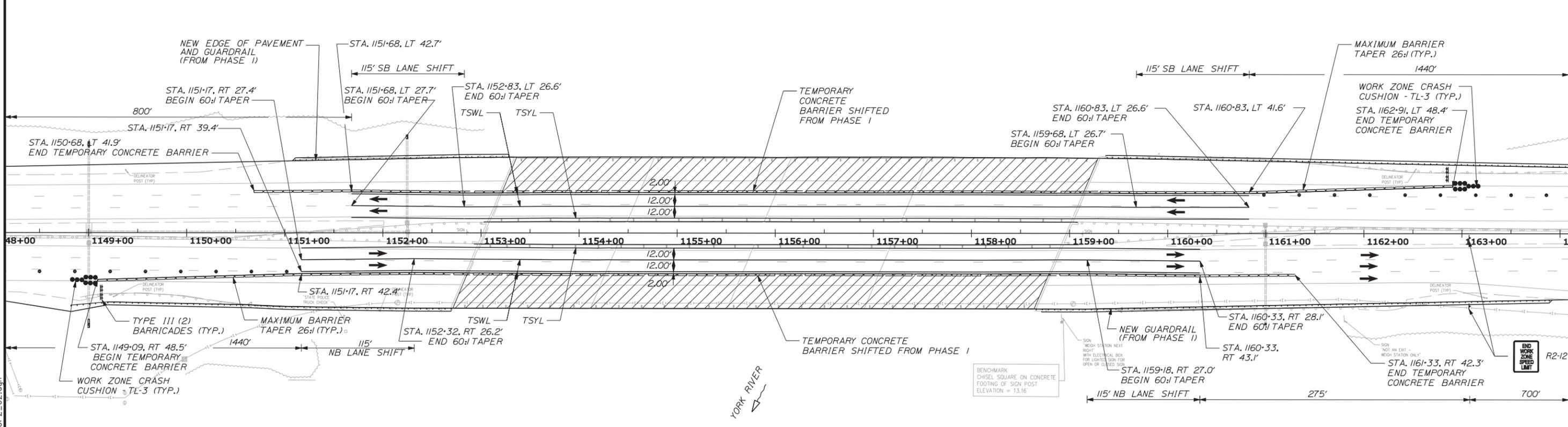
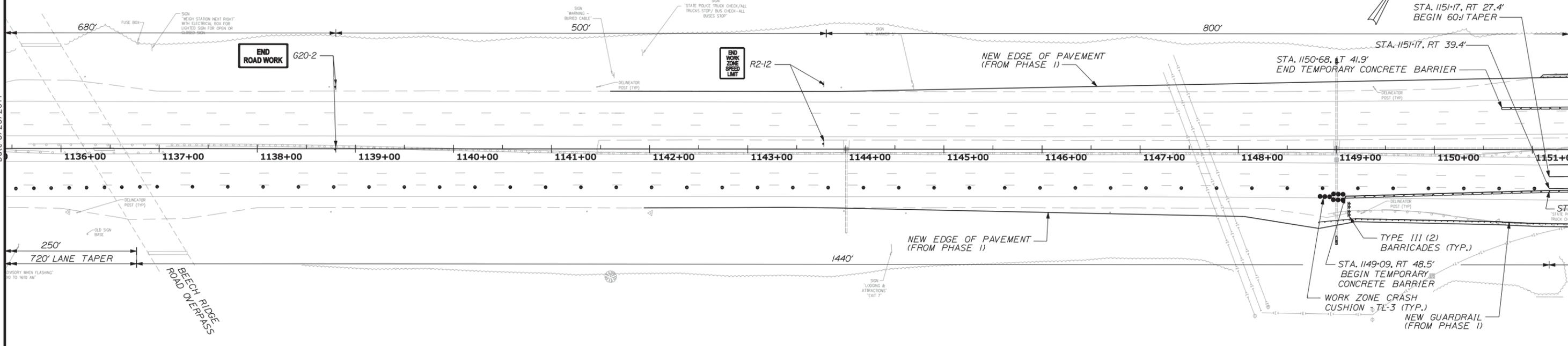
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC PLANS  
 PHASE 2 (5 OF 12)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 23 OF 101

**LEGEND**

	Construction Sign on Post Support		Drums/Channelizing Devices
	Construction Sign on Easel		Temporary Concrete Barrier, Type I
	Work Area		Type III Barricades
			Work Zone Crash Cushion - TL-3

Date: 3/25/2014



NOTE: TEMPORARY CONCRETE BARRIER OFFSETS ARE TO THE CENTER OF THE BARRIER.

Scale:

No.	Revision	By	Date

Designed by:

**VHIB** Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	MDS	3/14	Checked	PAC	3/14
Drawn	JAR	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

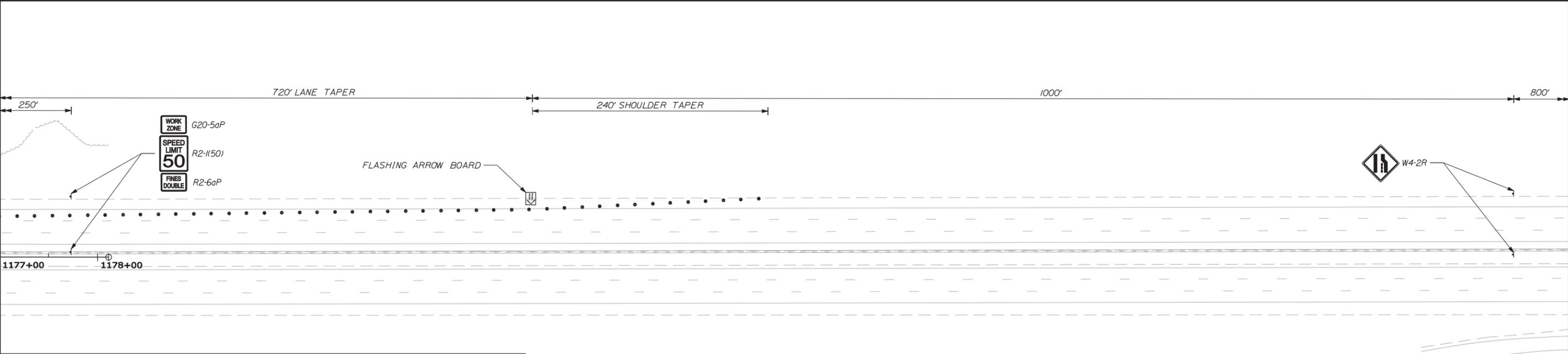
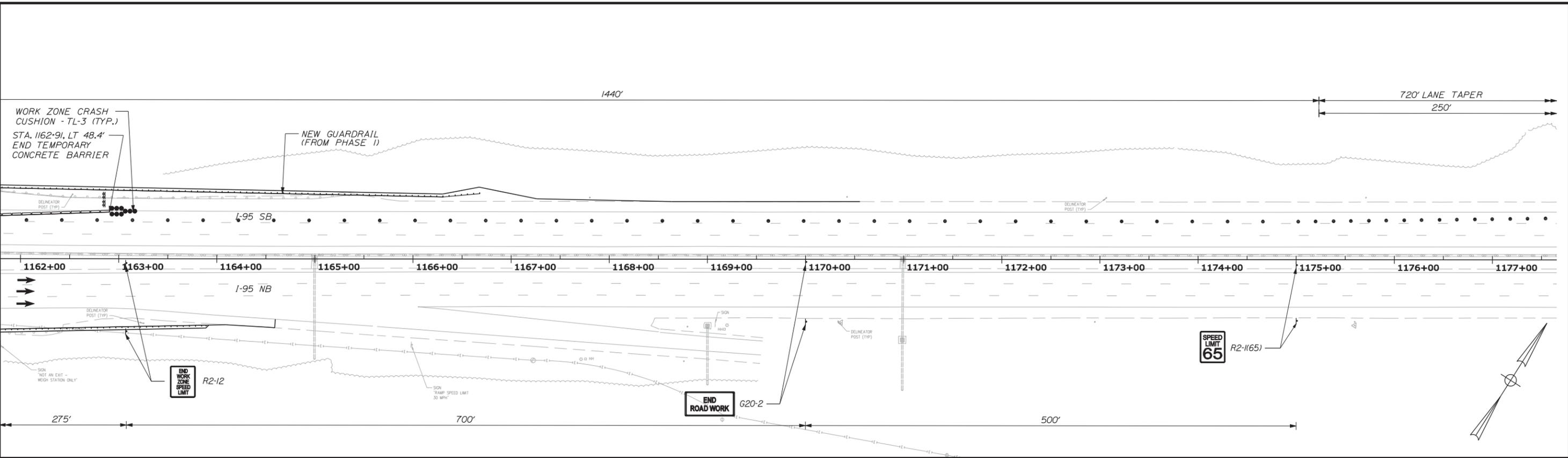
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC PLANS  
 PHASE 2 (6 OF 12)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 24 OF 101

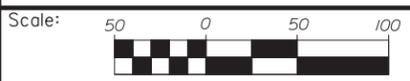
Filename: ...planset\024\_Plan\_TCP2\_02.dgn

Date: 3/25/2014



**LEGEND**

	Construction Sign on Post Support		Drums/Channelizing Devices
	Construction Sign on Easel		Temporary Concrete Barrier, Type I
	Work Area		Type III Barricades
			Work Zone Crash Cushion - TL-3



Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed MDS	3/14	Checked PAC	3/14
Drawn JAR	3/14	In Charge of TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

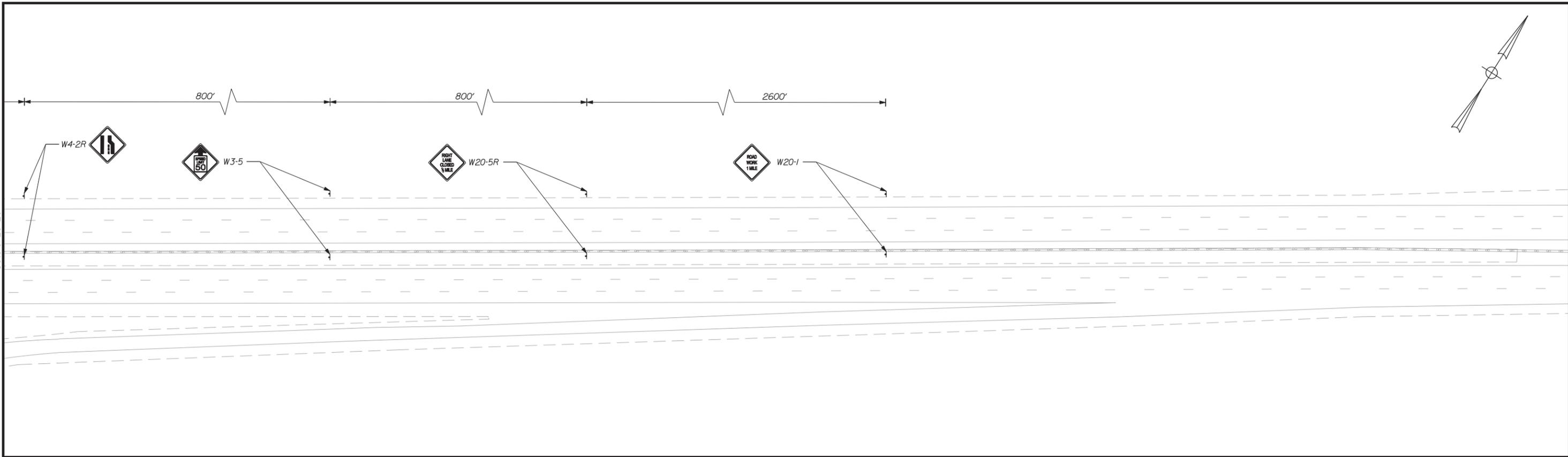
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC PLANS  
 PHASE 2 (7 OF 12)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 25 OF 101

Filename: ...plan\025\_Plan\_TCP2\_03.dgn

Date: 3/25/2014

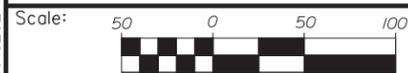


PHASE 2 SEQUENCING NOTES:

1. CLOSE RIGHT LANE OF NORTHBOUND AND SOUTHBOUND TRAFFIC. OBLITERATE EXISTING PAVEMENT MARKINGS WITHIN LIMITS OF LANE SHIFT.
2. SHIFT REMAINING 2 LANES IN EACH DIRECTION 2' TOWARDS THE MEDIAN AND APPLY TEMPORARY TAPE PAVEMENT MARKINGS.
3. RELOCATE PORTABLE CONCRETE BARRIER AND IMPACT ATTENUATORS AS SHOWN.
4. COMPLETE BRIDGE DECK REHABILITATION ON NORTHBOUND AND SOUTHBOUND BRIDGES.
5. IF TRAFFIC IS RETURNED TO EXISTING LANE USE AND LAYOUT FOR THE WINTER APPLY PAINT PAVEMENT MARKINGS.

LEGEND

	Construction Sign on Post Support		Drums/Channelizing Devices
	Construction Sign on Easel		Temporary Concrete Barrier, Type I
	Work Area		Type III Barricades
			Work Zone Crash Cushion - TL-3



Designed by:



VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
 MEMORIAL HIGHWAY**

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC PLANS  
 PHASE 2 (8 OF 12)

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. BRYANT					
Designed	By	Date	Checked	By	Date
Drawn	JAR	3/14	In Charge of	TSB	3/14

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

CONTRACT: 2014.16

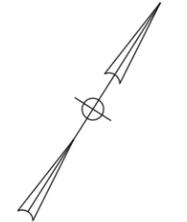
SHEET NUMBER:

26 OF 101

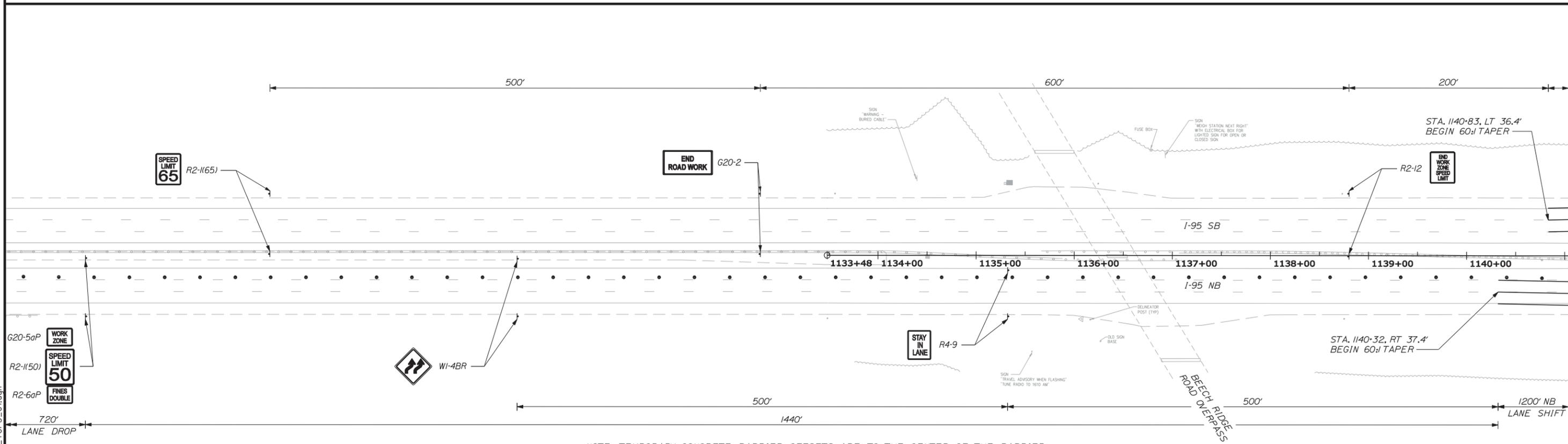
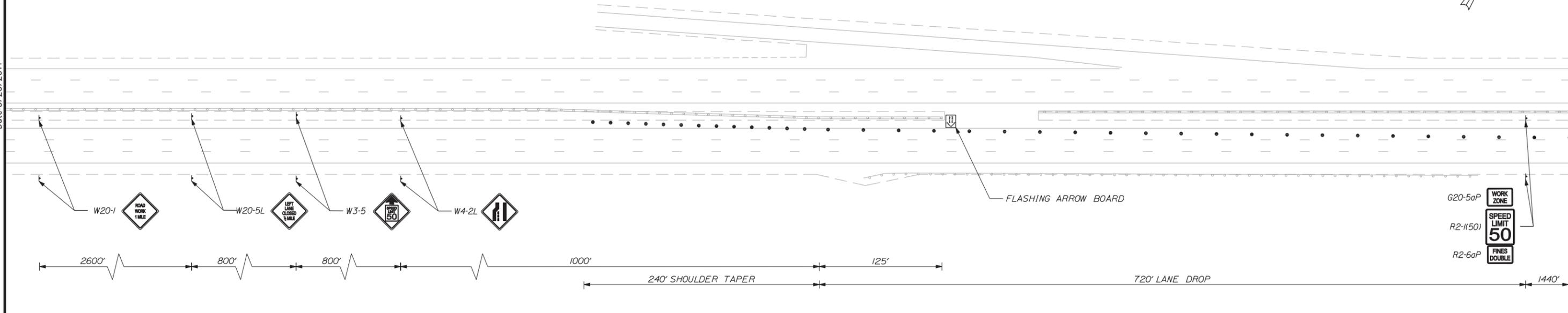
Filename: ... \planset\026\_Plan\_TCP2\_04.dgn

**LEGEND**

	Construction Sign on Post Support		Drums/Channelizing Devices
	Construction Sign on Easel		Temporary Concrete Barrier, Type I
	Work Area		Type III Barricades
			Work Zone Crash Cushion - TL-3



Date: 3/25/2014



NOTE: TEMPORARY CONCRETE BARRIER OFFSETS ARE TO THE CENTER OF THE BARRIER.

Filename: ... \planset\027\_Plan\_TCP3\_01.dgn

Scale:

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	MDS	3/14	Checked	PAC	3/14
Drawn	JAR	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

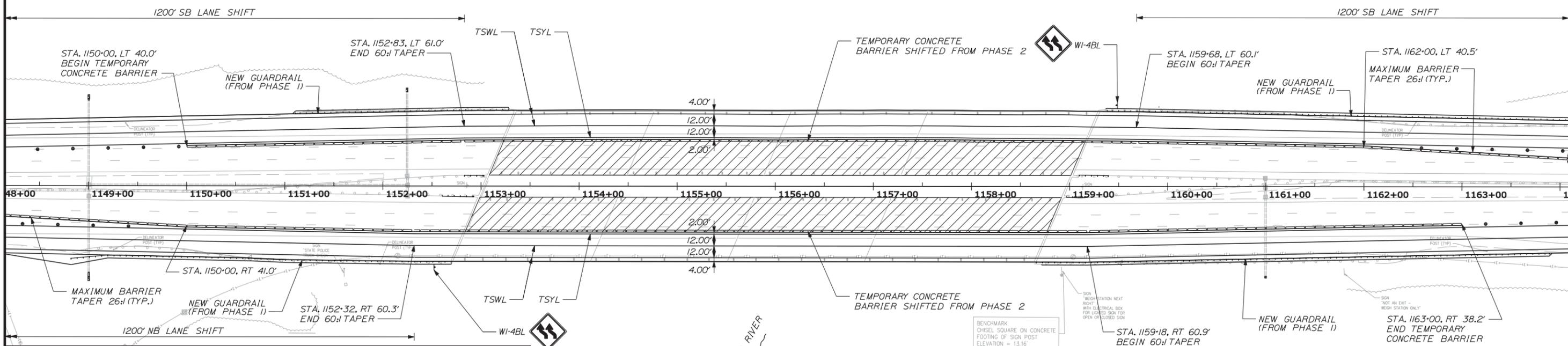
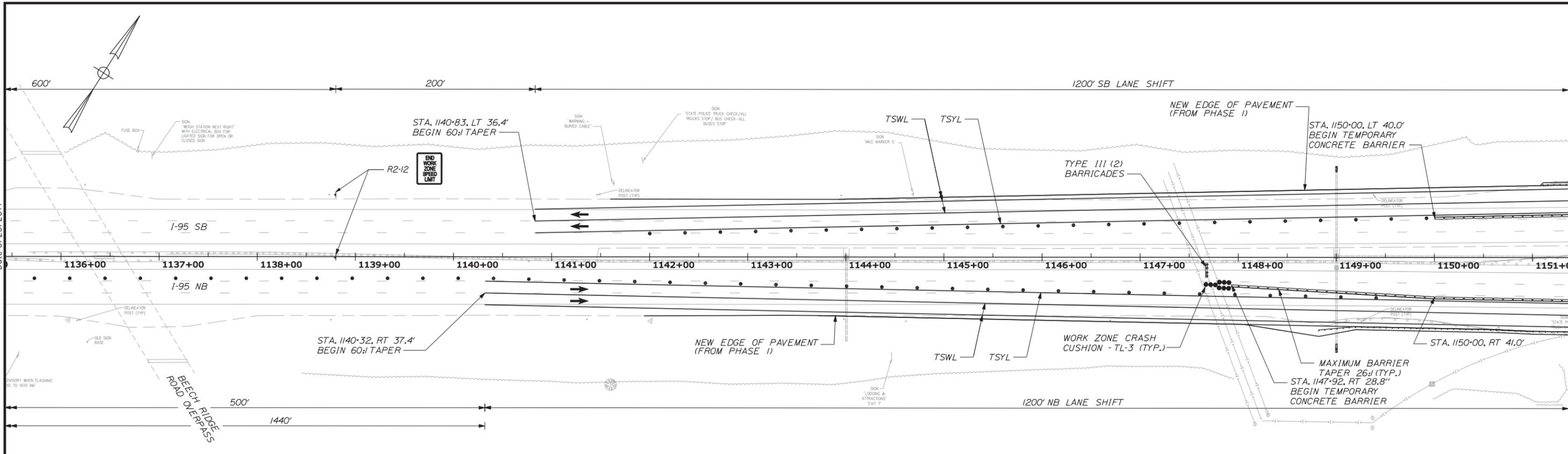
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC PLANS  
 PHASE 3 (9 OF 12)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 27 OF 101

Date: 3/25/2014



**LEGEND**

	Construction Sign on Post Support		Drums/Channelizing Devices
	Construction Sign on Easel		Temporary Concrete Barrier, Type I
	Work Area		Type III Barricades
			Work Zone Crash Cushion - TL-3

NOTE: TEMPORARY CONCRETE BARRIER OFFSETS ARE TO THE CENTER OF THE BARRIER.

Scale:

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	MDS	3/14	Checked	PAC	3/14
Drawn	JAR	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

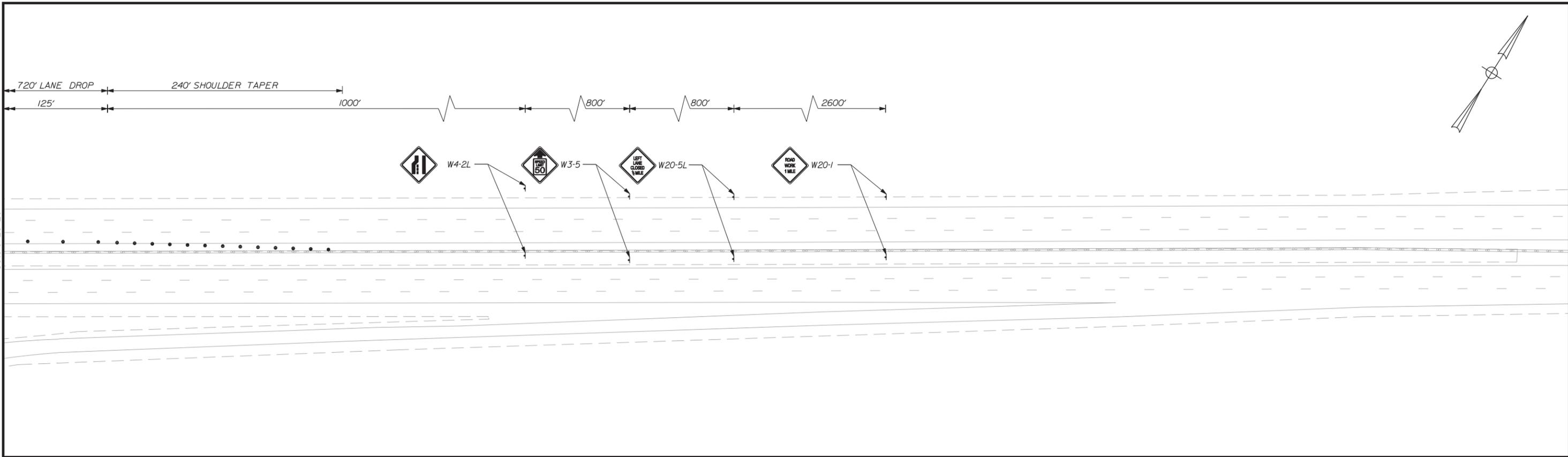
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC PLANS  
 PHASE 3 (10 OF 12)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 28 OF 101

Filename: ...:\planset\028\_Plan\_TCP3\_02.dgn



Date: 3/25/2014



PHASE 3 SEQUENCING NOTES:

1. CLOSE LEFT LANE OF NORTHBOUND AND SOUTHBOUND TRAFFIC. OBLITERATE EXISTING PAVEMENT MARKINGS WITHIN LIMITS OF LANE SHIFT.
2. SHIFT REMAINING 2 LANES IN EACH DIRECTION TO THE OUTSIDE OF BRIDGES AND APPLY TEMPORARY TAPE PAVEMENT MARKINGS.
3. PLACE PORTABLE CONCRETE BARRIER AND IMPACT ATTENUATORS AS SHOWN.
4. COMPLETE BRIDGE DECK REHABILITATION ON NORTHBOUND AND SOUTHBOUND BRIDGES.

LEGEND

†	Construction Sign on Post Support	• •	Drums/Channelizing Devices
k	Construction Sign on Easel	▬▬▬▬	Temporary Concrete Barrier, Type I
▨	Work Area	#	Type III Barricades
		•••••	Work Zone Crash Cushion - TL-3



No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date	
Designed	MDS	3/14	Checked	PAC	3/14
Drawn	JAR	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

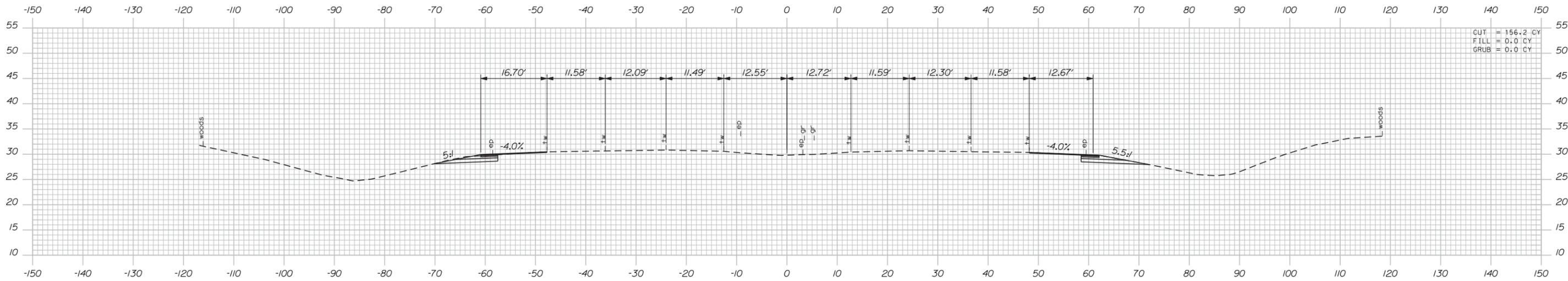
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 MAINTENANCE OF TRAFFIC PLANS  
 PHASE 3 (12 OF 12)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 30 OF 101

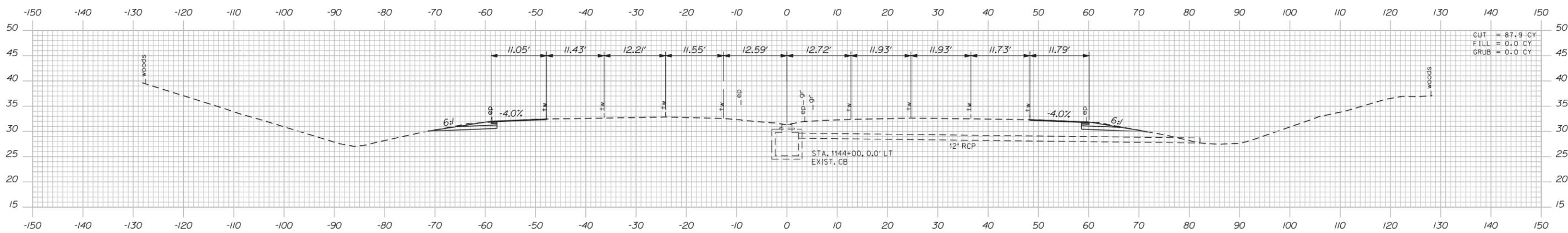
Filename: ...planset\030\_Plan\_TCP3\_04.dgn

Date: 3/26/2014

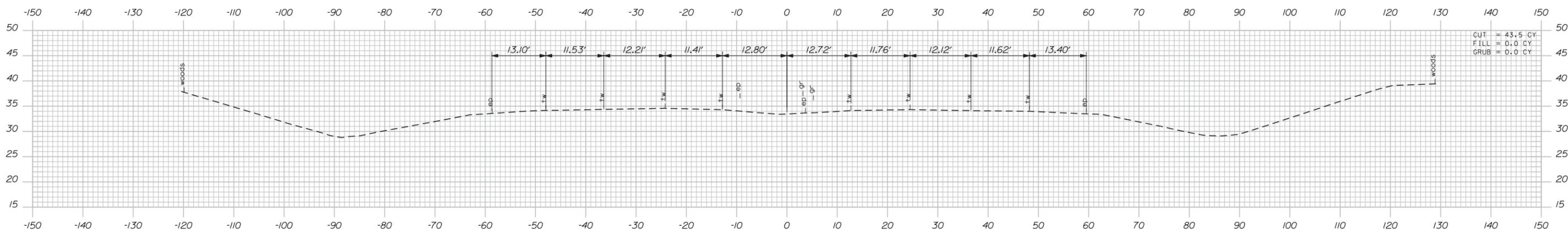
Filename: ...\\cad\te\plan\set\031\_XSect.dgn



1145+00.00



1144+00.00



1143+00.00

NOTE:  
THE TRAVEL WAY DIMENSIONS ON THE CROSS SECTIONS ARE TAKEN FROM THE SURVEY. THE INTENT OF THE PERMANENT PAVEMENT MARKING IS TO REPLICATE THEM IN EXISTING LOCATIONS. THEREFORE, THE VARYING DIMENSIONS HAVE BEEN SHOWN FOR REFERENCE PURPOSES.

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	KDP	3/14	Checked	PAC	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

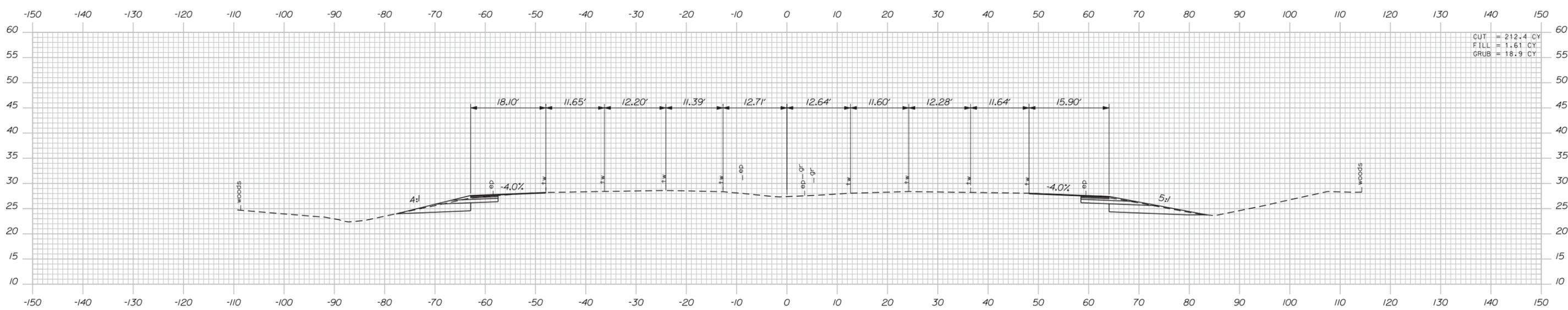
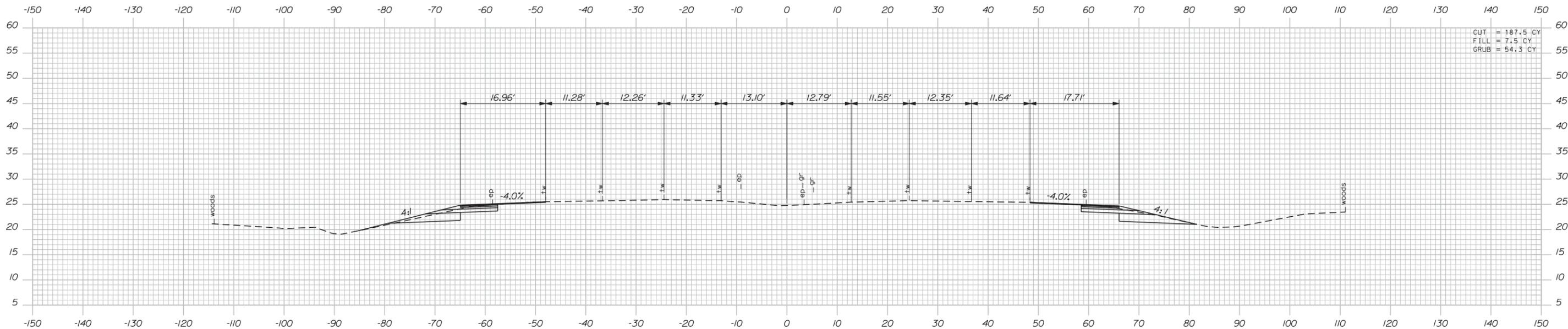
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES

MAINTENANCE OF TRAFFIC CROSS SECTIONS

SHEET NUMBER:  
CONTRACT: 2014.16  
31 OF 101

Date: 3/26/2014



NOTE:  
 THE TRAVEL WAY DIMENSIONS ON THE CROSS SECTIONS ARE TAKEN FROM THE SURVEY. THE INTENT OF THE PERMANENT PAVEMENT MARKING IS TO REPLICATE THEM IN EXISTING LOCATIONS. THEREFORE, THE VARYING DIMENSIONS HAVE BEEN SHOWN FOR REFERENCE PURPOSES.

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	KDP	3/14	Checked	PAC	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

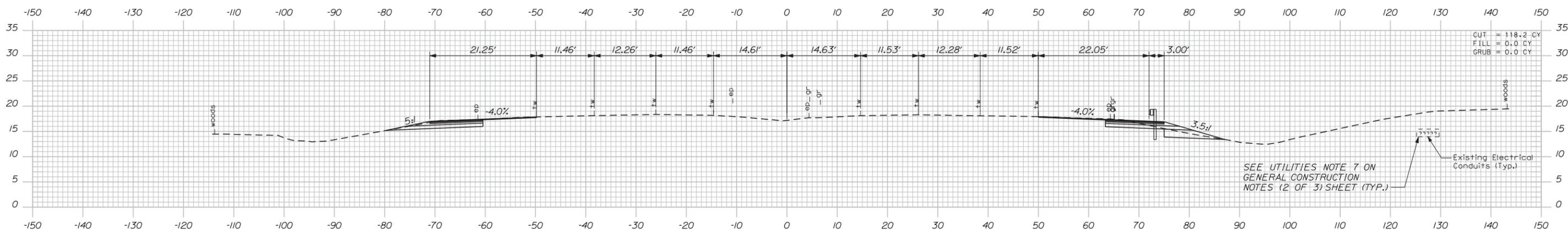
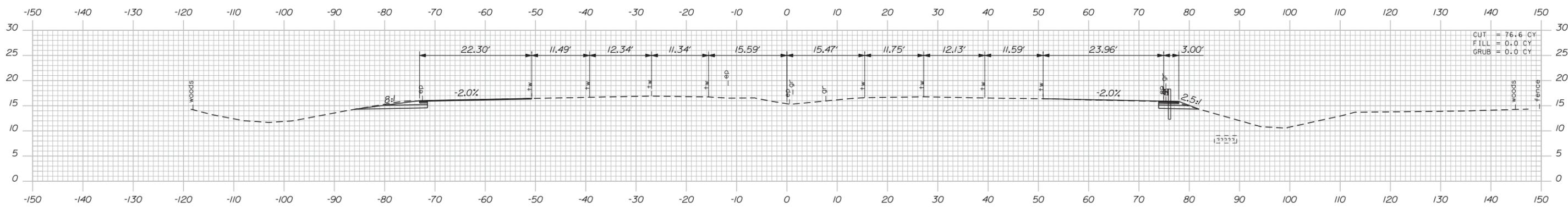
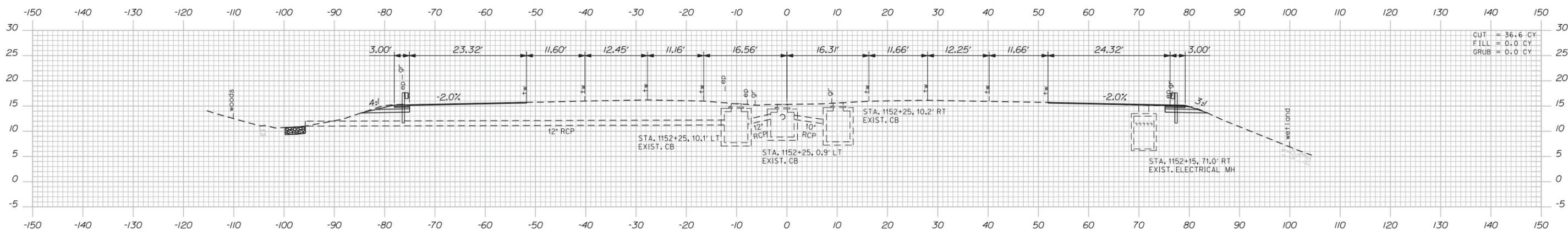
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

MAINTENANCE OF TRAFFIC CROSS SECTIONS

SHEET NUMBER:  
 CONTRACT: 2014.16  
 32 OF 101



Date: 3/26/2014



NOTE:  
 THE TRAVEL WAY DIMENSIONS ON THE CROSS SECTIONS ARE TAKEN FROM THE SURVEY. THE INTENT OF THE PERMANENT PAVEMENT MARKING IS TO REPLICATE THEM IN EXISTING LOCATIONS. THEREFORE, THE VARYING DIMENSIONS HAVE BEEN SHOWN FOR REFERENCE PURPOSES.

Scale: As Noted

No.	Revision	By	Date

Designed by:  
**VHIB Vanasse Hangen Brustlin, Inc.**  
 CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	KDP	3/14	Checked	PAC	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

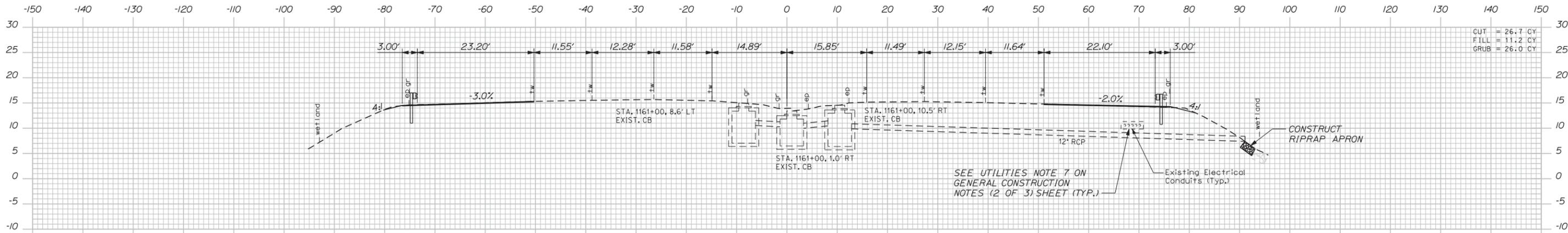
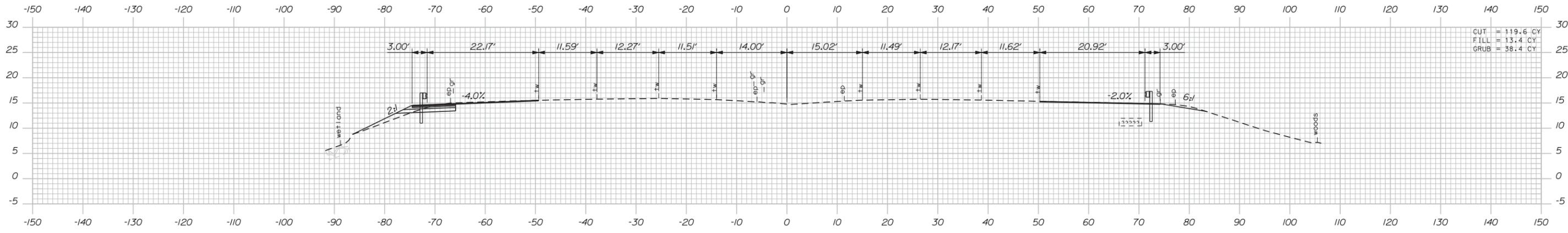
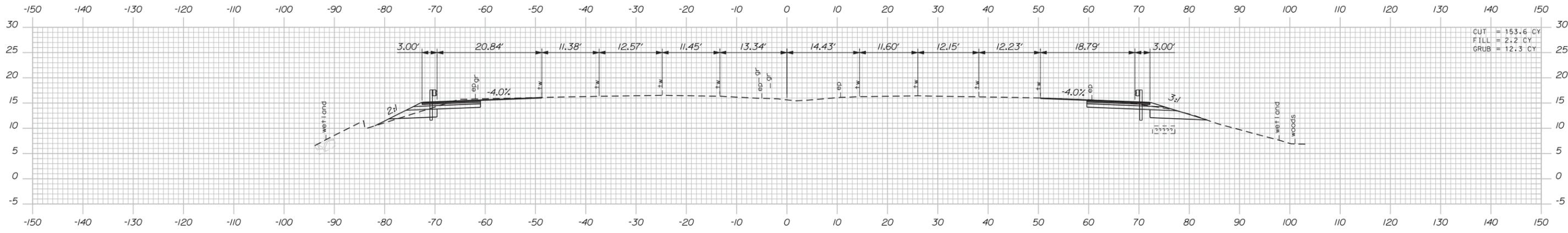
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

MAINTENANCE OF TRAFFIC CROSS SECTIONS

SHEET NUMBER:  
 CONTRACT: 2014.16  
 34 OF 101

Date: 3/26/2014



SEE UTILITIES NOTE 7 ON GENERAL CONSTRUCTION NOTES (2 OF 3) SHEET (TYP.)

NOTE:  
THE TRAVEL WAY DIMENSIONS ON THE CROSS SECTIONS ARE TAKEN FROM THE SURVEY. THE INTENT OF THE PERMANENT PAVEMENT MARKING IS TO REPLICATE THEM IN EXISTING LOCATIONS. THEREFORE, THE VARYING DIMENSIONS HAVE BEEN SHOWN FOR REFERENCE PURPOSES.

Filename: ...\\cad\te\plan\set\031\_XSect.dgn

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	KDP	3/14	Checked	PAC	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES

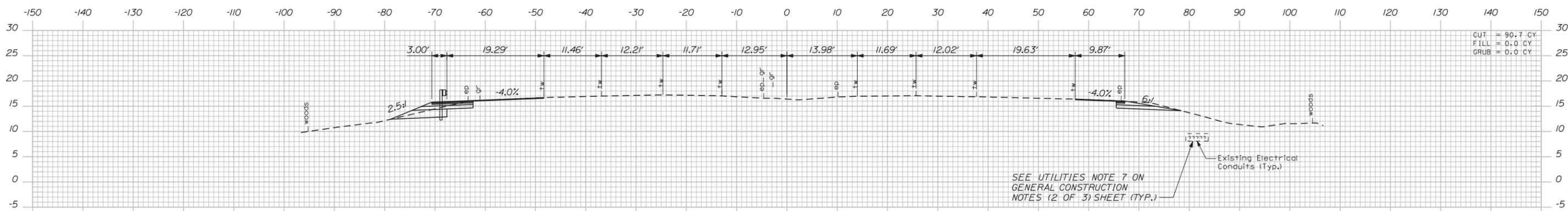
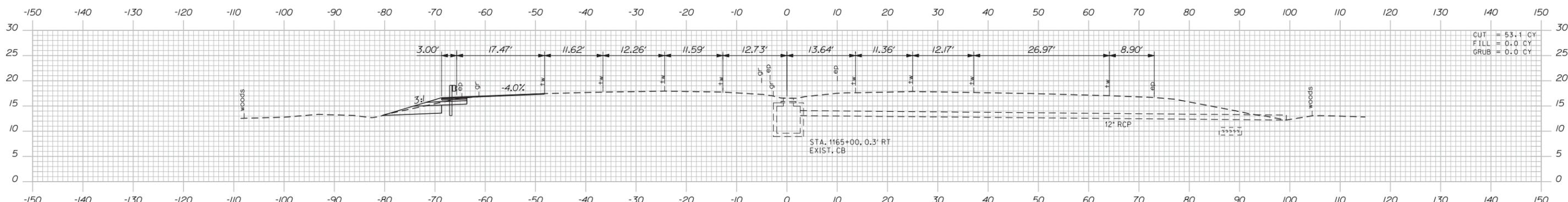
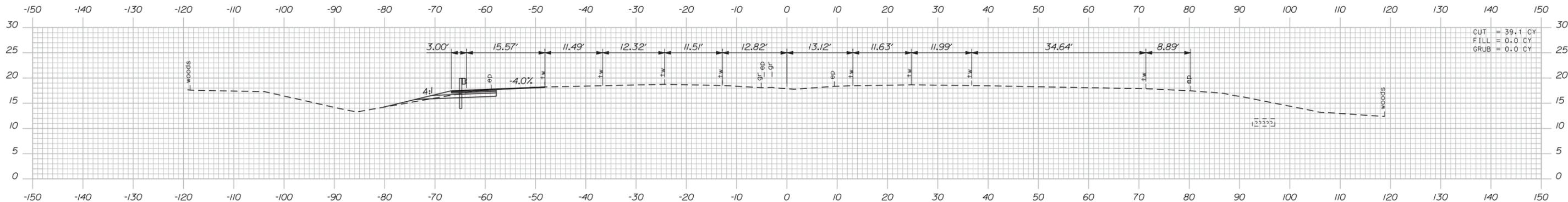
MAINTENANCE OF TRAFFIC CROSS SECTIONS

SHEET NUMBER: 35 OF 101

CONTRACT: 2014.16

Date: 3/26/2014

Filename: ...\\cad\te\plan\set\031\_XSect.dgn



NOTE:  
THE TRAVEL WAY DIMENSIONS ON THE CROSS SECTIONS ARE TAKEN FROM THE SURVEY. THE INTENT OF THE PERMANENT PAVEMENT MARKING IS TO REPLICATE THEM IN EXISTING LOCATIONS. THEREFORE, THE VARYING DIMENSIONS HAVE BEEN SHOWN FOR REFERENCE PURPOSES.

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	KDP	3/14	Checked	PAC	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

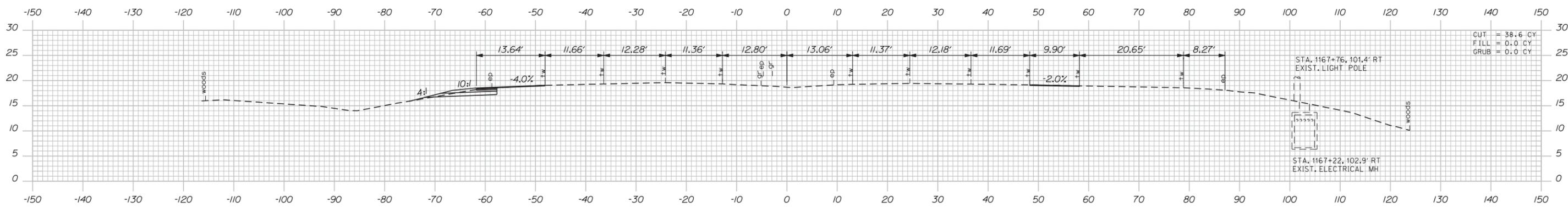
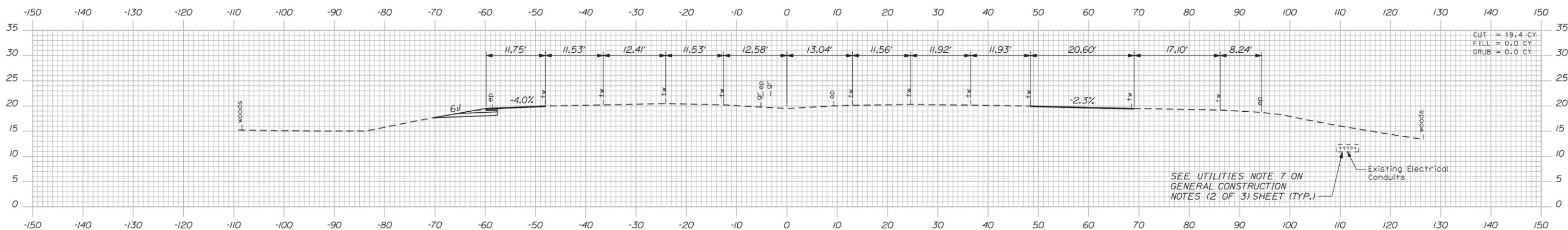
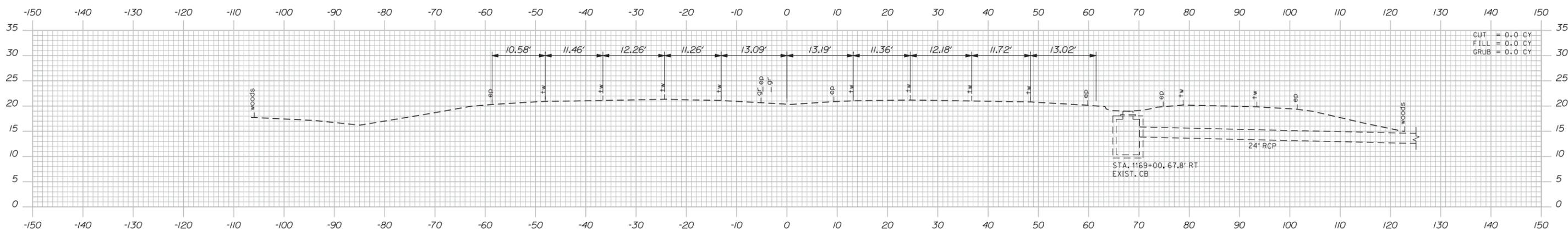
BRIDGE REHABILITATION  
YORK RIVER BRIDGES

MAINTENANCE OF TRAFFIC CROSS SECTIONS

SHEET NUMBER: 36 OF 101

CONTRACT: 2014.16

Date: 3/26/2014



NOTE:  
THE TRAVEL WAY DIMENSIONS ON THE CROSS SECTIONS ARE TAKEN FROM THE SURVEY. THE INTENT OF THE PERMANENT PAVEMENT MARKING IS TO REPLICATE THEM IN EXISTING LOCATIONS. THEREFORE, THE VARYING DIMENSIONS HAVE BEEN SHOWN FOR REFERENCE PURPOSES.

Filename: ...\\cad\te\plan\set\031\_XSect.dgn

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	KDP	3/14	Checked	PAC	3/14
Drawn	KDP	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES

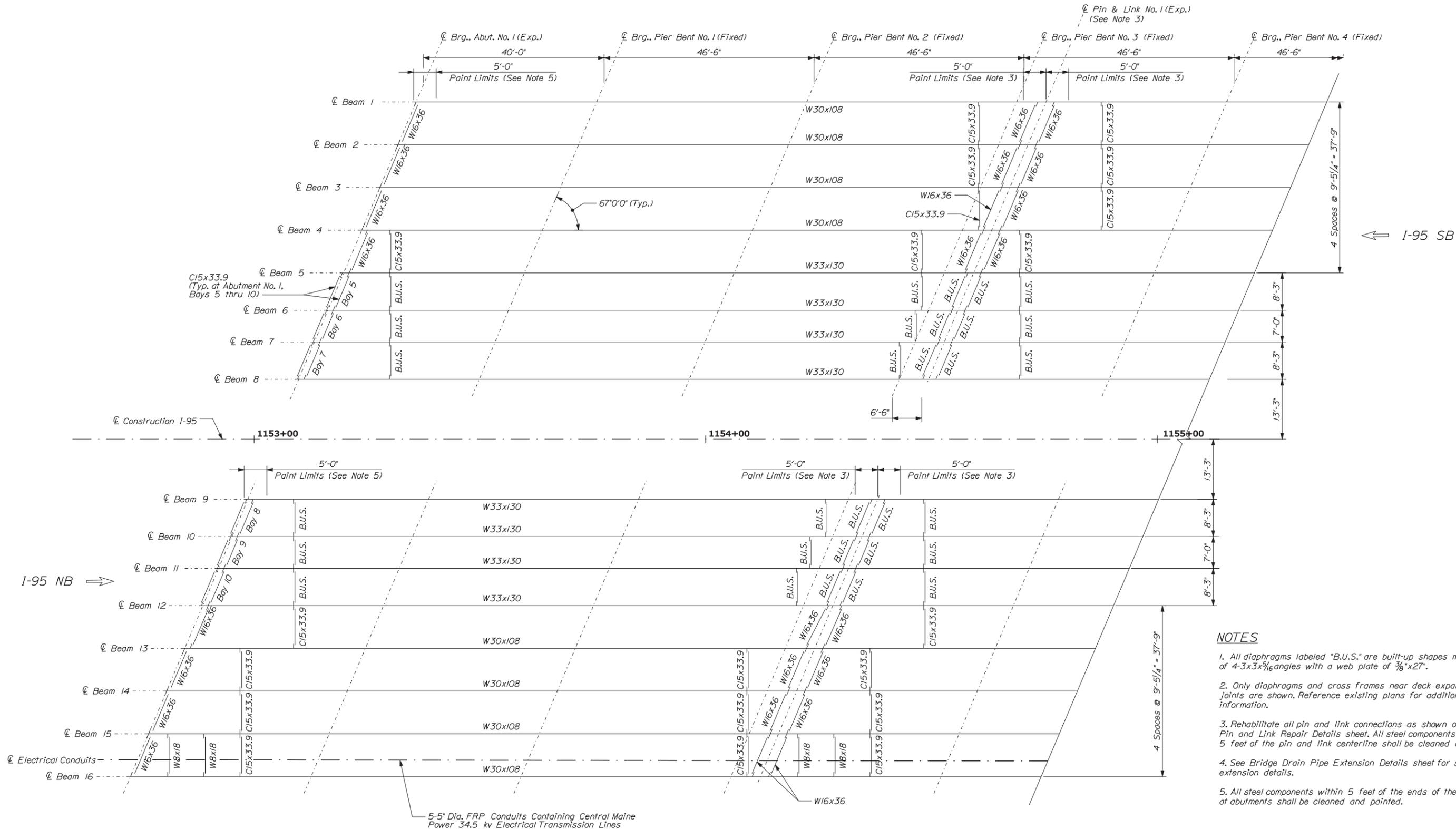
MAINTENANCE OF TRAFFIC CROSS SECTIONS

SHEET NUMBER: 37 OF 101

CONTRACT: 2014.16

Date: 3/26/2014

Filename: ...sf\planset\038\_framing\_01.dgn



- NOTES**
- All diaphragms labeled "B.U.S." are built-up shapes made of 4-3x3x<sup>5</sup>/<sub>16</sub> gangles with a web plate of <sup>3</sup>/<sub>8</sub>"x27".
  - Only diaphragms and cross frames near deck expansion joints are shown. Reference existing plans for additional information.
  - Rehabilitate all pin and link connections as shown on Pin and Link Repair Details sheet. All steel components within 5 feet of the pin and link centerline shall be cleaned and painted.
  - See Bridge Drain Pipe Extension Details sheet for scupper extension details.
  - All steel components within 5 feet of the ends of the beams at abutments shall be cleaned and painted.

Scale: 3/32" = 1'-0"

Designed by:

**VIIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed	RSB 3/14	Checked	KJG 3/14
Drawn	CLC 3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 FRAMING PLAN (SHEET 1 OF 3)

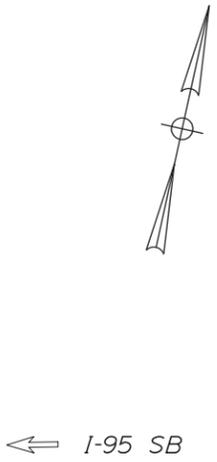
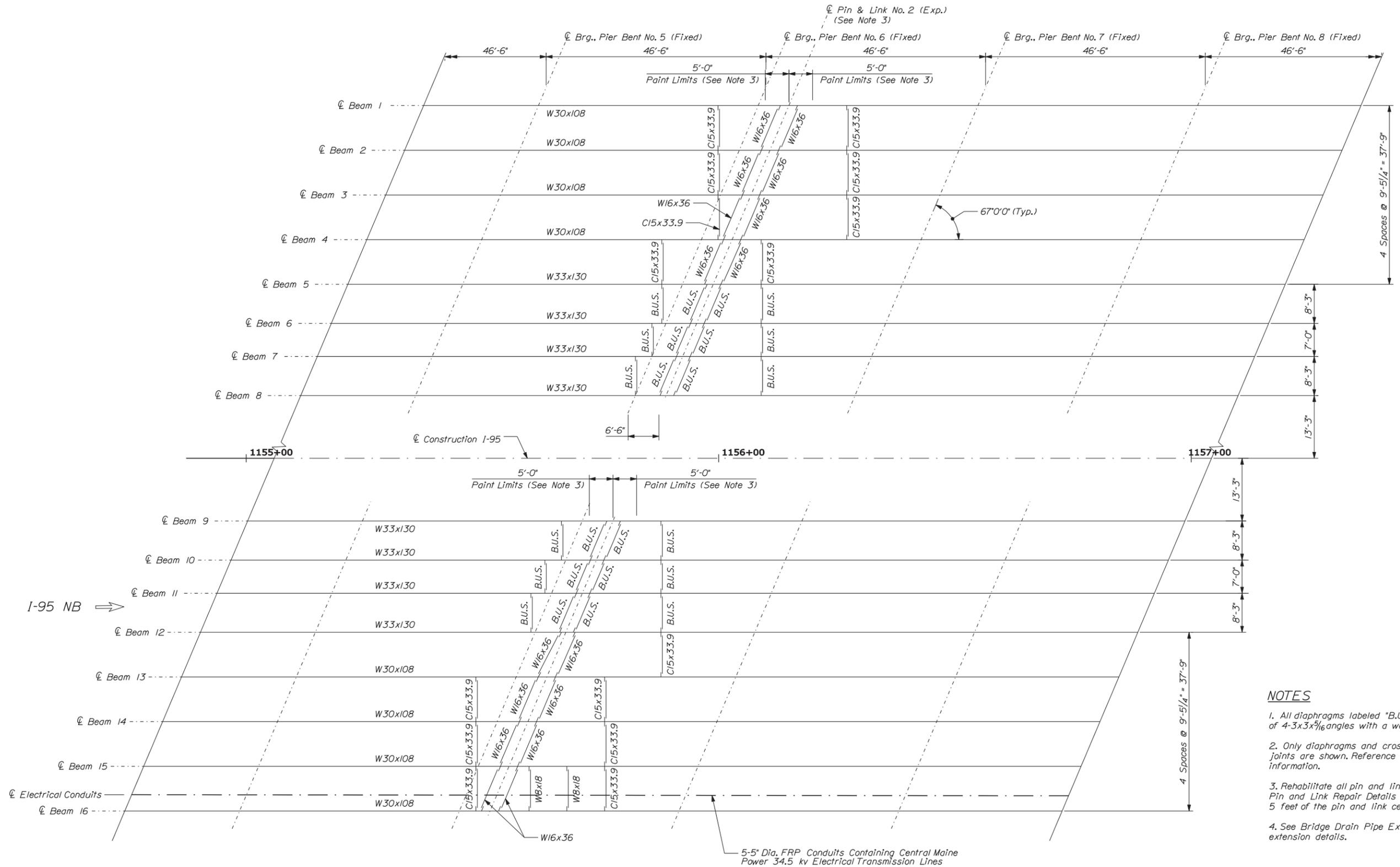
CONTRACT: 2014.16

SHEET NUMBER:

38 OF 101

Date: 3/26/2014

Filename: ...st\planset\039\_framing\_02.dgn



**NOTES**

- All diaphragms labeled "B.U.S." are built-up shapes made of 4-3x3x3/16 angles with a web plate of 3/8"x27".
- Only diaphragms and cross frames near deck expansion joints are shown. Reference existing plans for additional information.
- Rehabilitate all pin and link connections as shown on Pin and Link Repair Details sheet. All steel components within 5 feet of the pin and link centerline shall be cleaned and painted.
- See Bridge Drain Pipe Extension Details sheet for scupper extension details.

Scale: 3/32" = 1'-0"

Designed by:



VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
 MEMORIAL HIGHWAY**

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

FRAMING PLAN (SHEET 2 OF 3)

SHEET NUMBER:

CONTRACT: 2014.16

39 OF 101

CONSULTANT PROJECT MANAGER: T. BRYANT

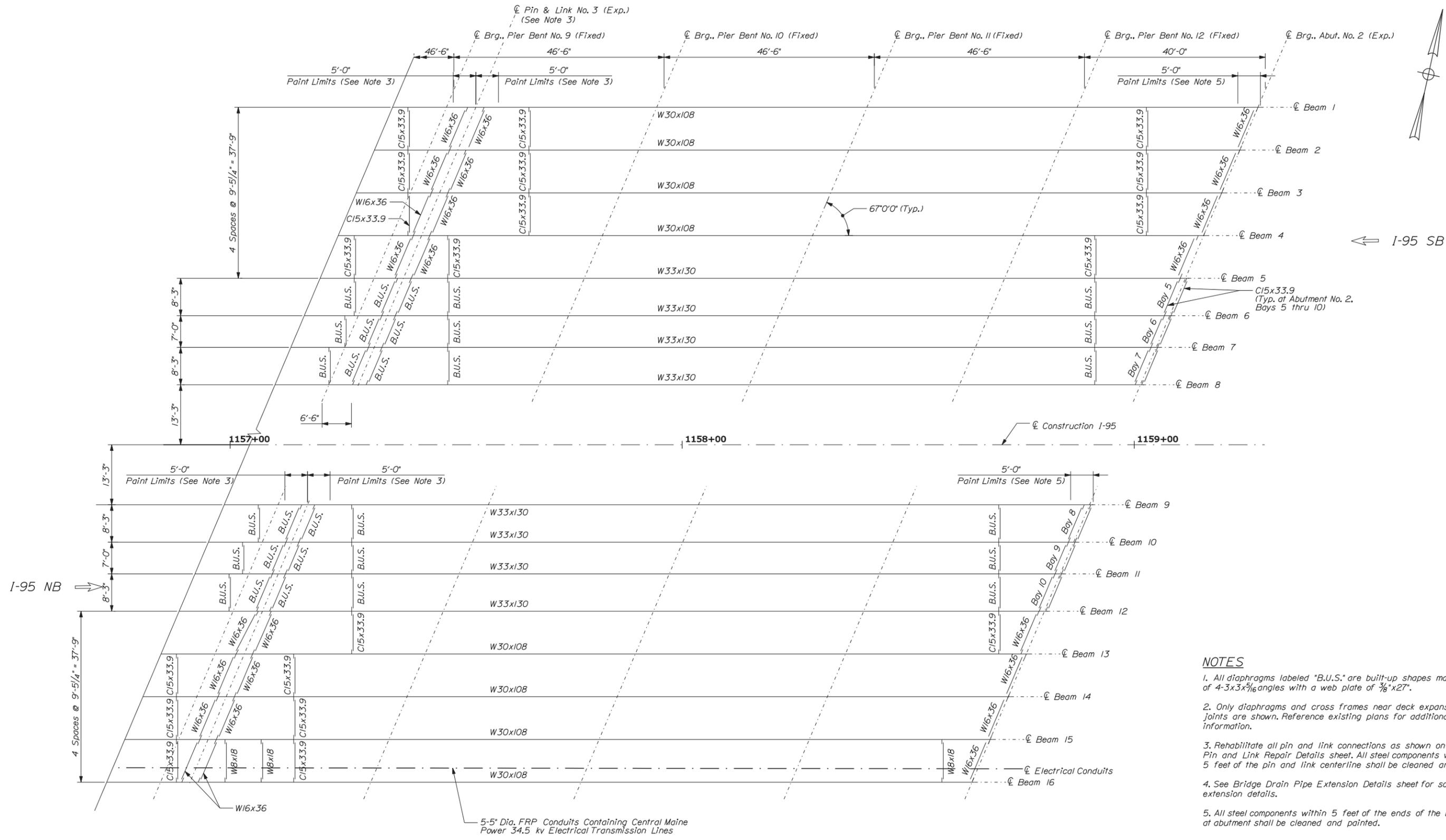
No.	Revision	By	Date

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

Date: 3/26/2014

Filename: ...st\planset\040\_framing\_03.dgn



← I-95 SB

I-95 NB →

**NOTES**

1. All diaphragms labeled "B.U.S." are built-up shapes made of 4-3x3x<sup>5</sup>/<sub>16</sub> angles with a web plate of <sup>3</sup>/<sub>8</sub>"x27".
2. Only diaphragms and cross frames near deck expansion joints are shown. Reference existing plans for additional information.
3. Rehabilitate all pin and link connections as shown on Pin and Link Repair Details sheet. All steel components within 5 feet of the pin and link centerline shall be cleaned and painted.
4. See Bridge Drain Pipe Extension Details sheet for scupper extension details.
5. All steel components within 5 feet of the ends of the beams at abutment shall be cleaned and painted.

Scale: 3/32" = 1'-0"

Designed by:



VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
 MEMORIAL HIGHWAY**

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

FRAMING PLAN (SHEET 3 OF 3)

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. BRYANT			
Designed	By	Date	Checked
Drawn	By	Date	In Charge of
	RSB	3/14	KJG
	CLC	3/14	TSB

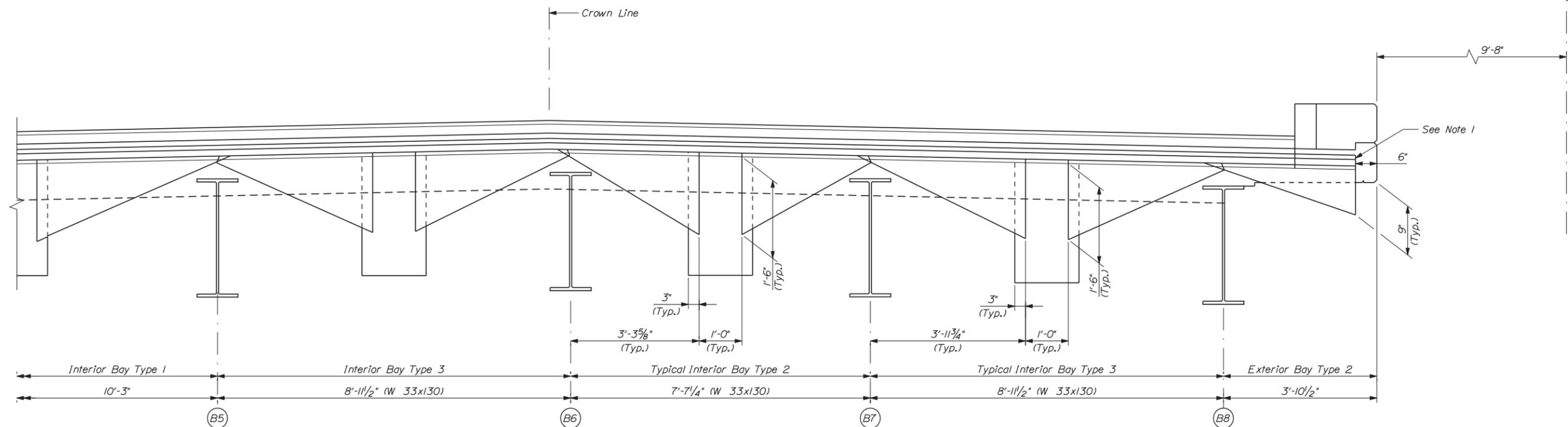
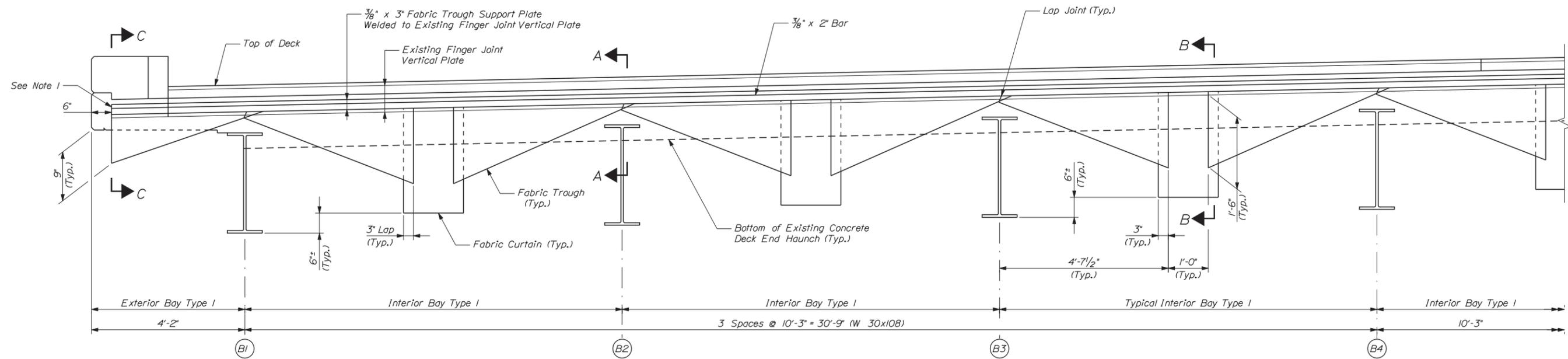
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

CONTRACT: 2014.16

SHEET NUMBER:

40 OF 101

Date: 3/26/2014



Construction 1-95  
Bridges Symmetrical  
About Construction

**SB BRIDGE TYPICAL SECTION THROUGH DECK EXPANSION JOINT**  
(Looking North, Section Cut Along Skew)

**NOTES:**

1. The existing finger joint vertical plates do not extend beyond the face of curb in each exterior bay. The fabric trough support plates shall be cantilevered beyond the face of curb.
2. Deck end structural steel diaphragms are not shown for clarity.
3. All horizontal dimensions shown are measured along the skew.
4. See the Pin and Link Repair Details Sheet for additional details at the pin and link connections.
5. See the Fabric Trough for Finger Joint Details (4 of 5) Sheet for Sections A-A, B-B and C-C.

Scale: As Noted

Designed by:



VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
FABRIC TROUGH FOR FINGER  
JOINTS DETAILS (1 OF 5)

SHEET NUMBER:

410F 101

CONSULTANT PROJECT MANAGER: T. BRYANT

No.	Revision	By	Date

	By	Date		By	Date
Designed	RSB	3/14	Checked	TSB	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

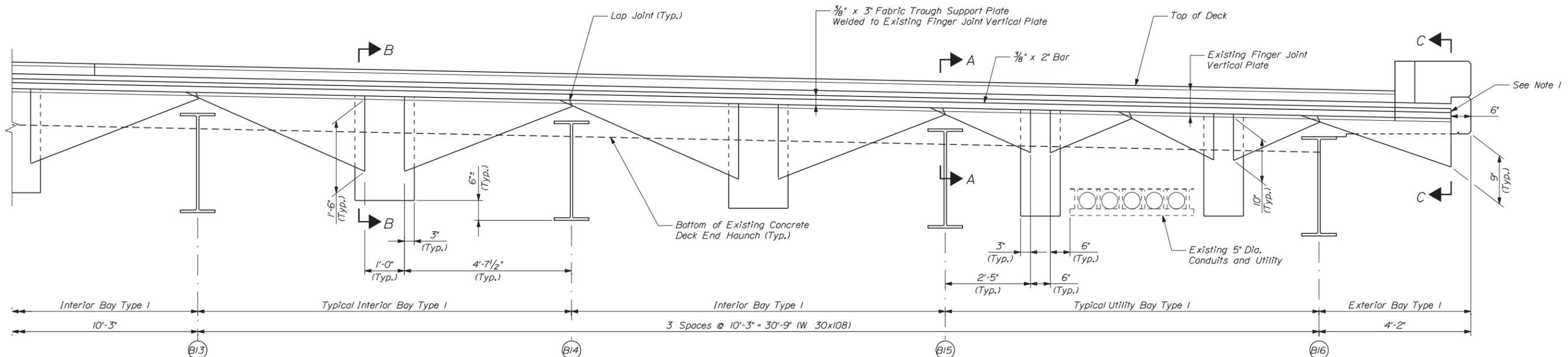
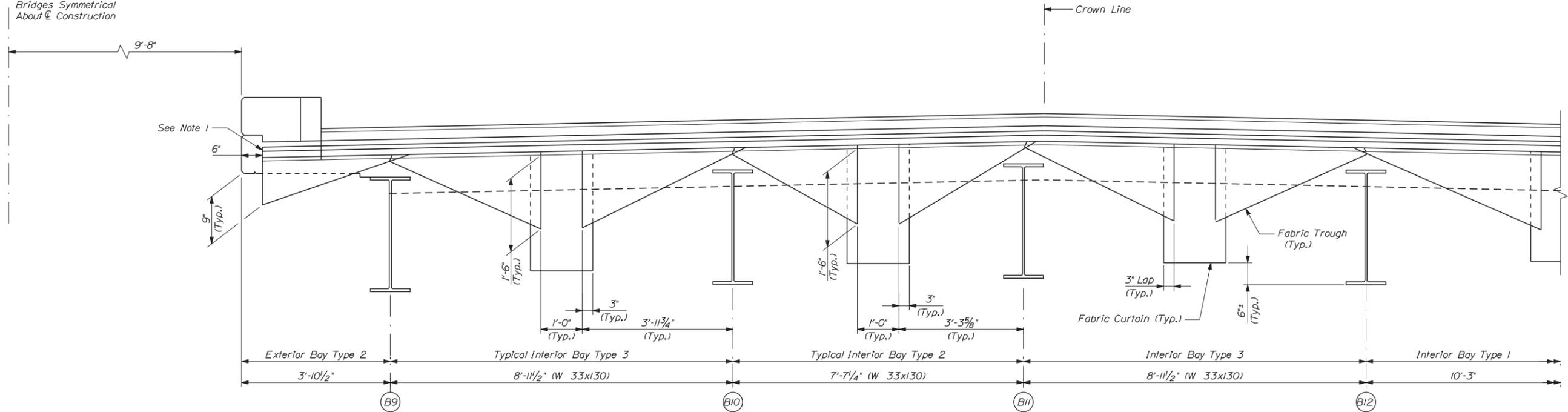
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

CONTRACT: 2014.16

Filename: ...sf\planset\041\_joint\_dt\_01.dgn

Construction I-95  
Bridges Symmetrical  
About Construction

Date: 3/26/2014



**NB BRIDGE TYPICAL SECTION THROUGH DECK EXPANSION JOINT**  
(Looking North, Section Cut Along Skew)

**NOTES:**

1. The existing finger joint vertical plates do not extend beyond the face of curb in each exterior bay. The fabric trough support plates shall be cantilevered beyond the face of curb.
2. Deck end structural steel diaphragms are not shown for clarity.
3. All horizontal dimensions shown are measured along the skew.
4. See the Pin and Link Repair Details Sheet for additional details at the pin and link connections.
5. See the Fabric Trough for Finger Joint Details (4 of 5) Sheet for Sections A-A, B-B and C-C.

Scale: As Noted			
No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed RSB	3/14	Checked TSB	3/14
Drawn CLC	3/14	In Charge of TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

  
**THE GOLD STAR  
MEMORIAL HIGHWAY**

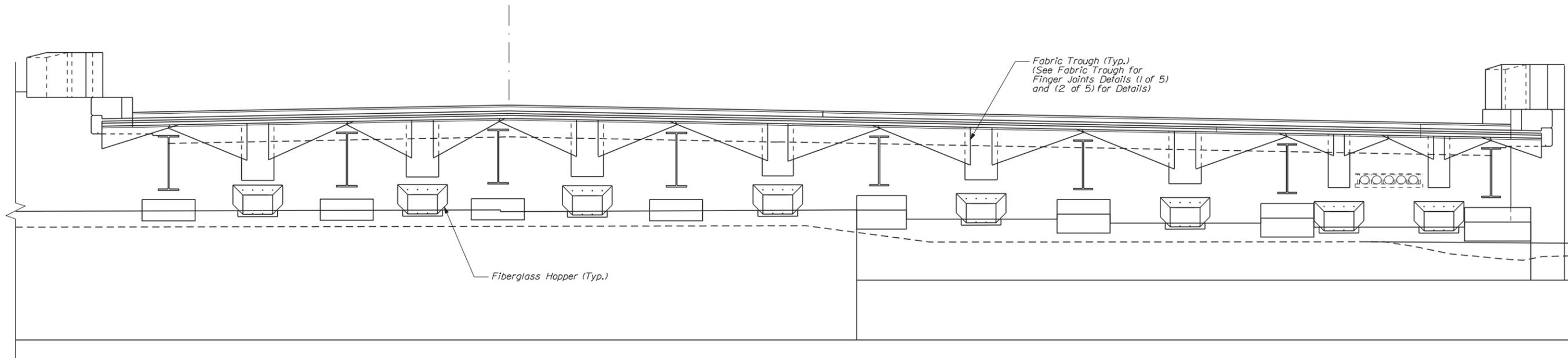
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

**BRIDGE REHABILITATION  
YORK RIVER BRIDGES**  
 FABRIC TROUGH FOR FINGER  
 JOINTS DETAILS (2 OF 5)

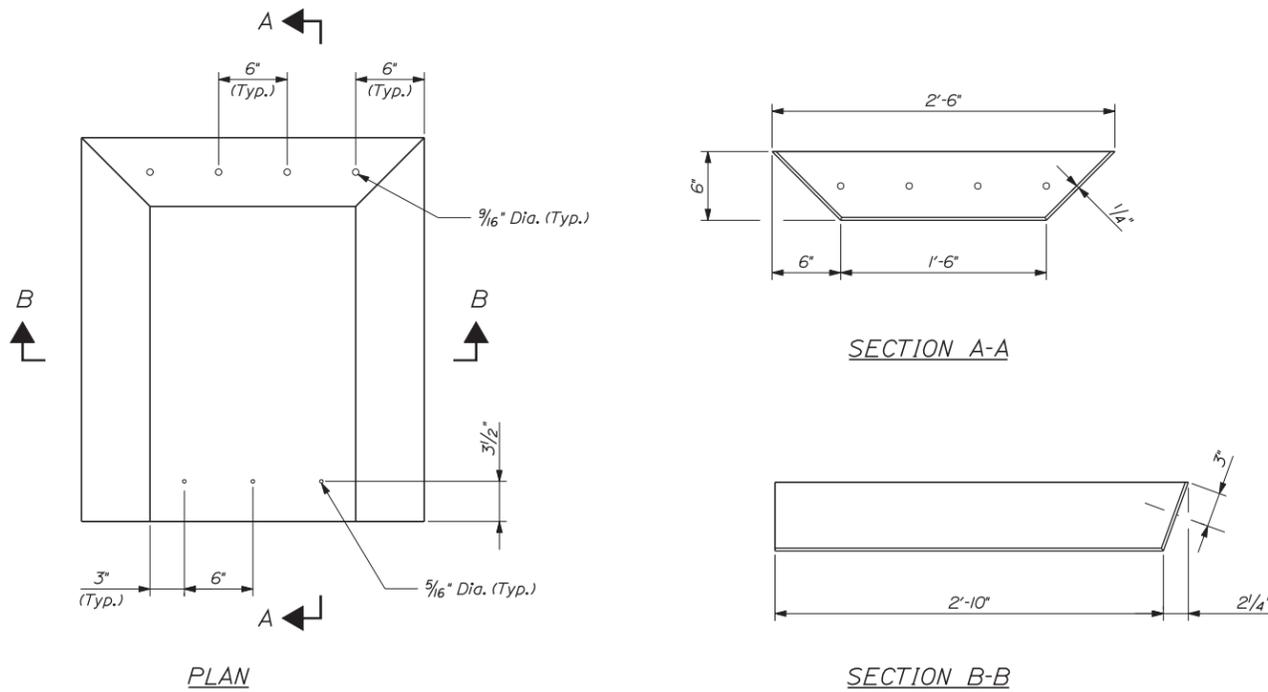
SHEET NUMBER:  
CONTRACT: 2014.16  
42 OF 101

Filename: ...sf\planset\042\_joint\_dt\_02.dgn

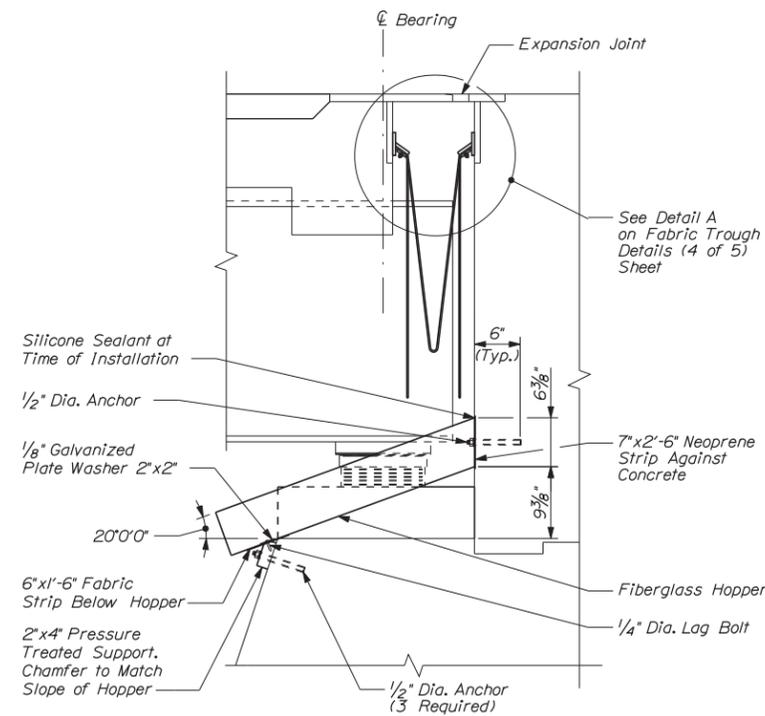
Date: 3/26/2014



**HOPPER ELEVATION**  
(Looking Upstation)  
Scale: 3/8" = 1'-0"



**FIBERGLASS HOPPER DETAILS**  
Scale: 1/2" = 1'-0"



**SECTION AT EXPANSION JOINT**  
Scale: 1" = 1'-0"

**NOTES:**

1. Northbound Bridge Abutment 2 is shown. The fiberglass hopper configuration at NB Bridge Abutment 1 is similar, but opposite hand. The number of hoppers required at each abutment for the Southbound bridge will be one less than the Northbound bridge. The fascia bay on the Southbound Bridge does not contain electrical conduits.
2. All costs for fiberglass hoppers shall be included in Item 521.32, Fabric Trough for Finger Joint.
3. All hopper hardware shall be galvanized steel.
4. Seal all anchorage locations with silicone sealant during installation.

Filename: ...st\planset\043...joint\_dt\_05.dgn

Scale: As Noted			
No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed RSB	3/14	Checked KJG	3/14
Drawn CLC	3/14	In Charge of TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

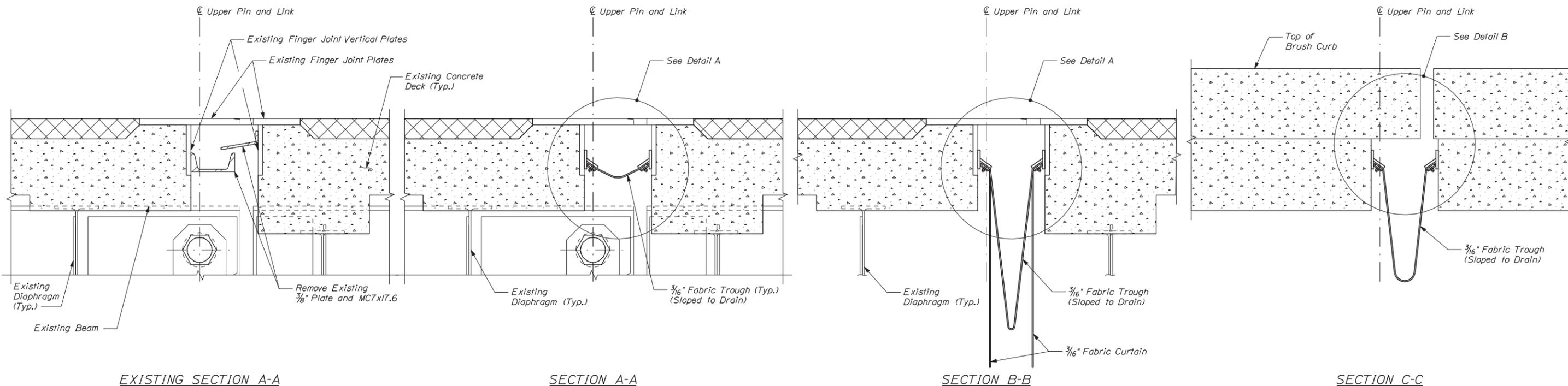
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
FABRIC TROUGH FOR FINGER  
JOINTS DETAILS (3 OF 5)

SHEET NUMBER:  
CONTRACT: 2014.16  
43 OF 101

Date: 3/26/2014



EXISTING SECTION A-A

SECTION A-A

(Interior Bay Over Beams)

SECTION B-B

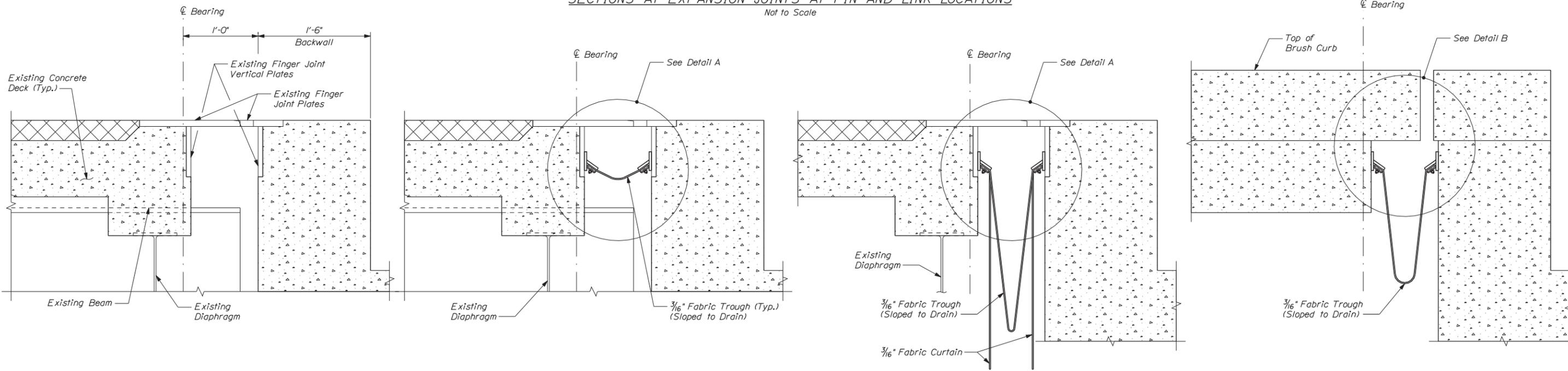
(Interior Bay Near Trough End)

SECTION C-C

(Exterior Bay Near Trough End)

SECTIONS AT EXPANSION JOINTS AT PIN AND LINK LOCATIONS

Not to Scale



EXISTING SECTION A-A

SECTION A-A

(Interior Bay Over Beams)

SECTION B-B

(Interior Bay Near Trough End)

SECTION C-C

(Exterior Bay Near Trough End)

SECTIONS AT EXPANSION JOINTS AT ABUTMENTS

Not to Scale

NOTE:

1. See Fabric Trough For Finger Joints Details (5 of 5) Sheet for Details A and B.

Filename: ...st\planset\044\_joint\_dt\_03.dgn

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VHIB** Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	TSB	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

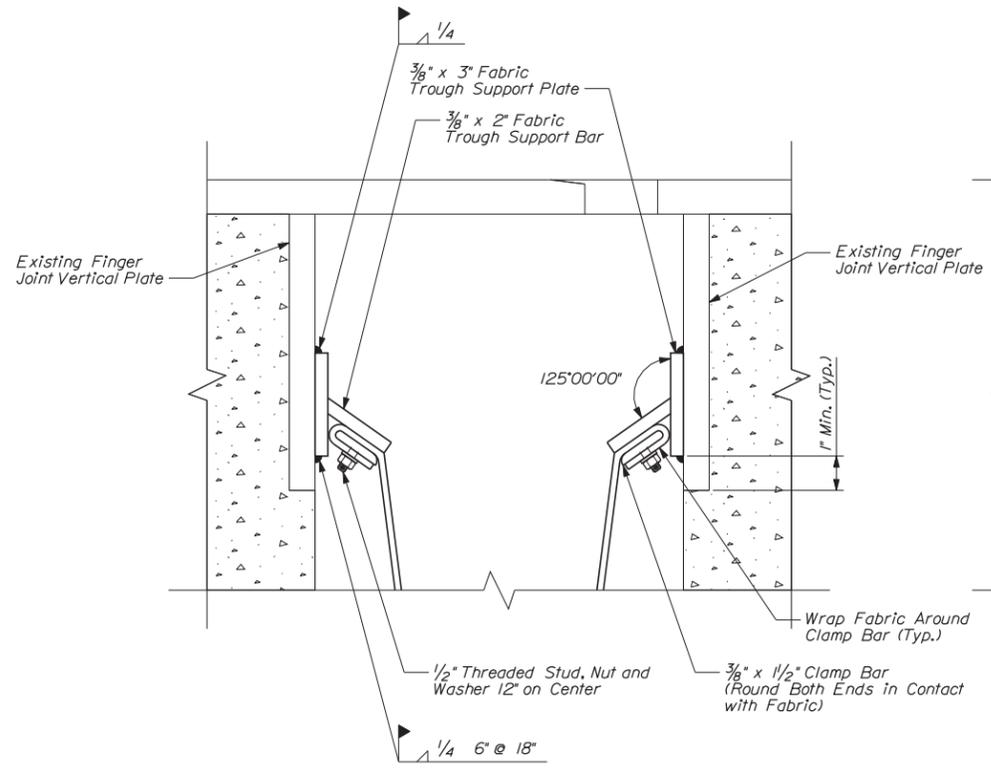
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 FABRIC TROUGH FOR FINGER  
 JOINTS DETAILS (4 OF 5)

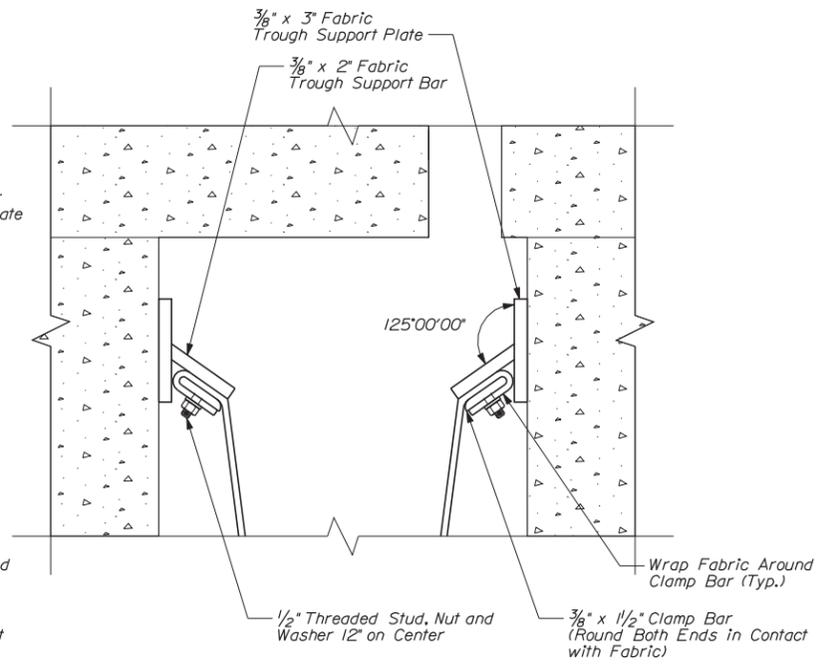
SHEET NUMBER:  
 CONTRACT: 2014.16  
 44 OF 101

Date: 3/25/2014

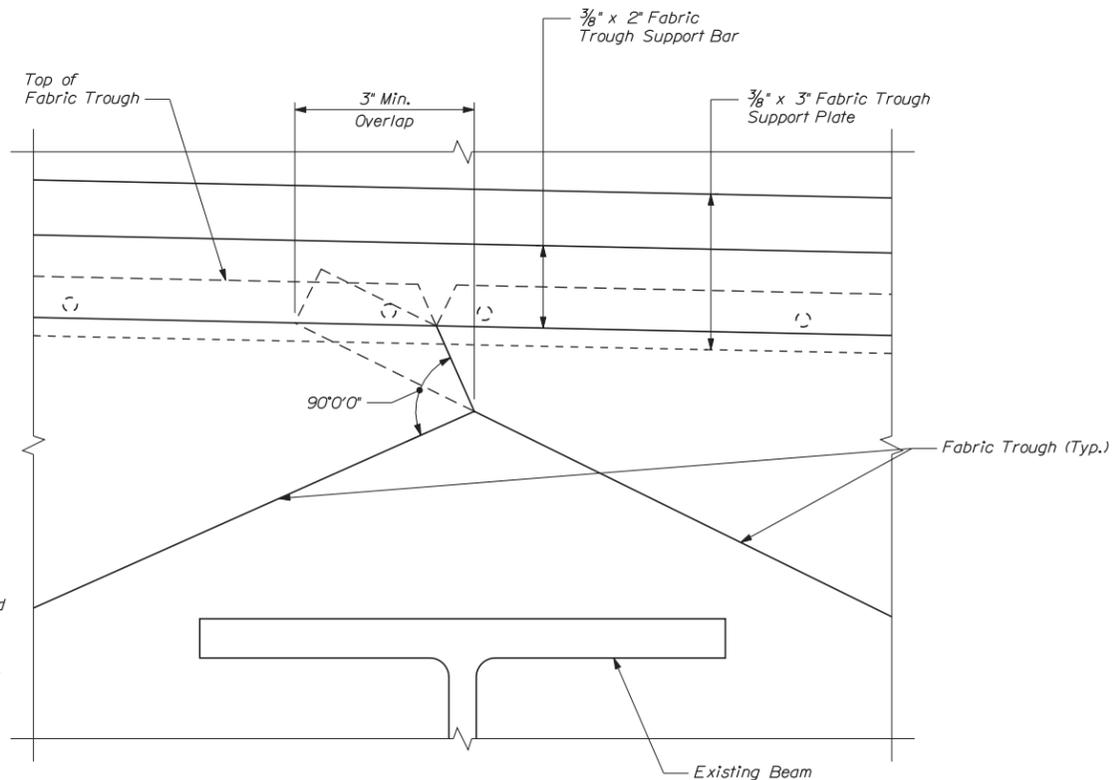
Filename: ...st\planset\045\_joint\_dtl\_04.dgn



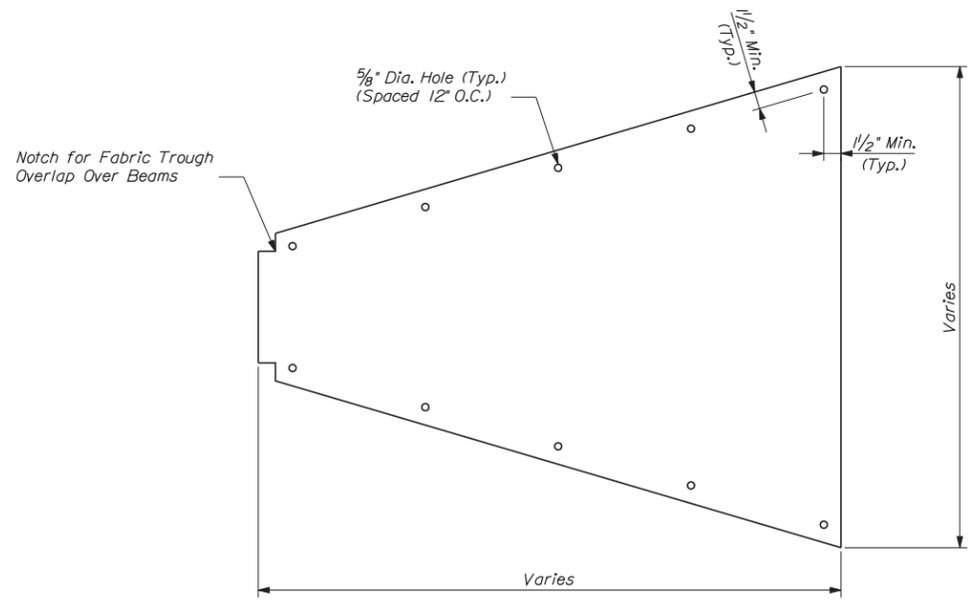
DETAIL A



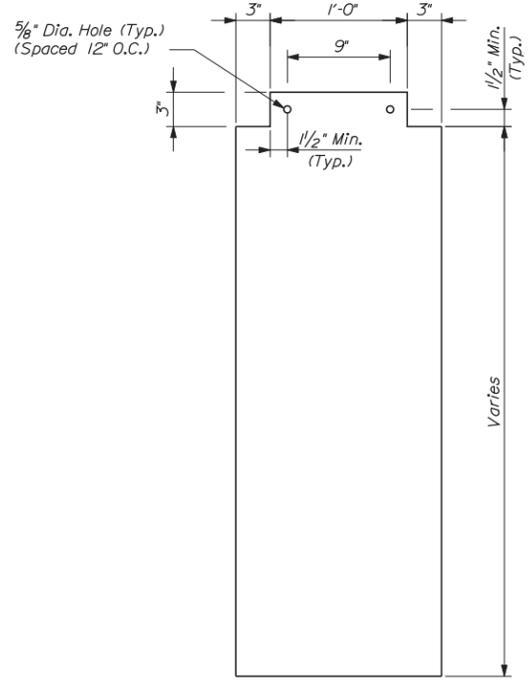
DETAIL B



TYPICAL FABRIC TROUGH OVER BEAMS OVERLAP DETAIL  
(Clamp Bar Not Shown For Clarity)



TYPICAL FABRIC TROUGH  
Not To Scale



TYPICAL FABRIC CURTAIN  
Not To Scale

**FABRIC TROUGH FOR FINGER JOINT NOTES:**

1. Fabric troughs and curtains shall be installed below all existing finger plate expansion joints on both the NB and the SB bridges.
2. Shop drawings for the complete fabric trough and curtain system including the steel attachment plates, fasteners, and the fabric troughs and curtains shall be submitted for approval prior to fabrication.
3. All costs for the complete fabric trough and curtain system at each finger plate expansion joint shall be included in Item 521.32 Fabric Trough for Finger Joint.
4. All steel components shall be galvanized or metalized. The Contractor shall coat the exposed surfaces of the existing finger joint vertical plates with cold-applied galvanizing paint prior to fabric installation.
5. Coat bolts, threaded studs and nuts with nickel based anti-seize lubricant during installation of fabric trough.
6. The fabric trough shall be installed after concrete wearing surface installation and shall be protected during the placement.
7. Under the supervision of the Resident Engineer, the Contractor shall thoroughly clean and flush the fabric troughs and the fiberglass hoppers prior to completion of the project.

Scale: As Noted			
No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed RSB	3/14	Checked TSB	3/14
Drawn CLC	3/14	In Charge of TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

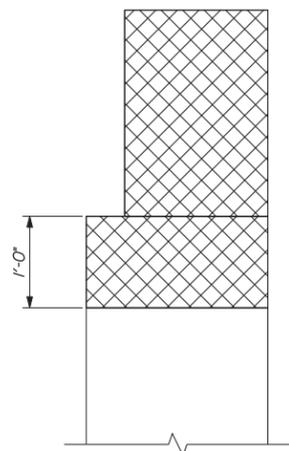
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES

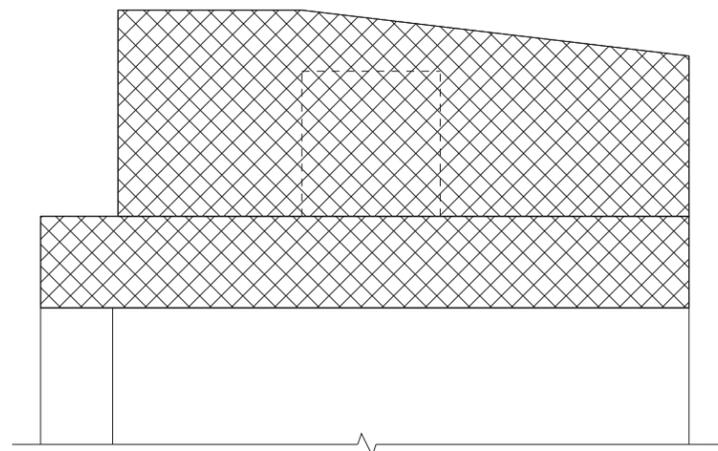
FABRIC TROUGH FOR FINGER JOINT DETAILS (5 OF 5)

SHEET NUMBER: CONTRACT: 2014.16 45 OF 101

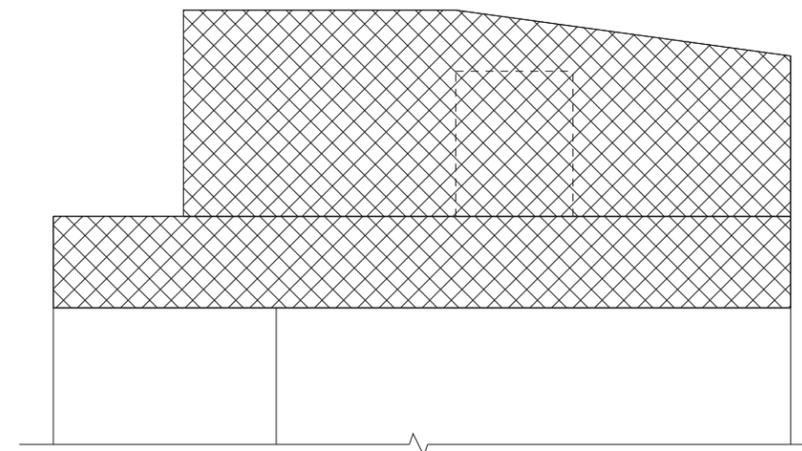
Date: 3/25/2014



**SECTION A-A**  
Scale: 1" = 1'-0"  
(SB Bridge, Northeast Wingwall Shown)

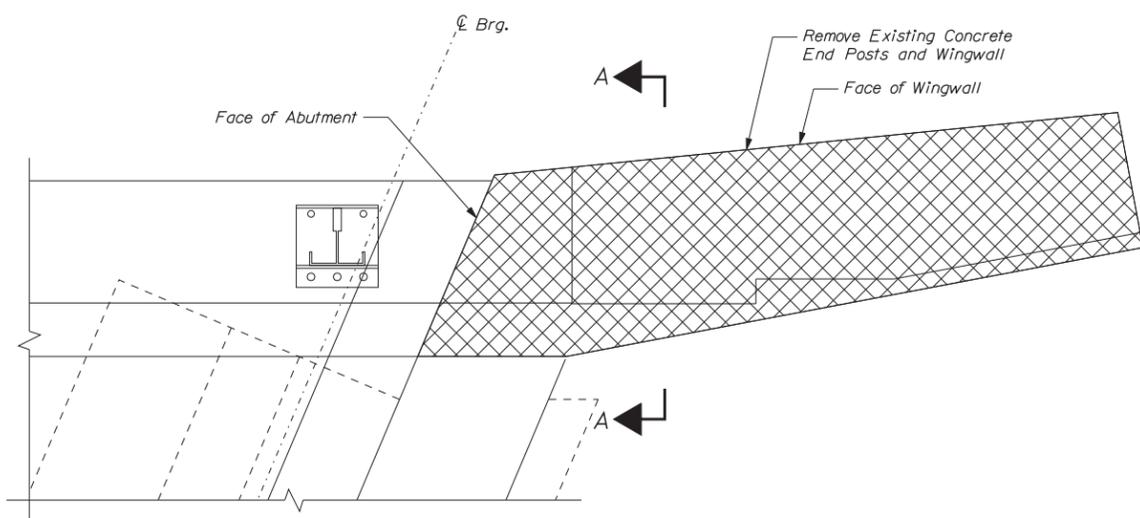


**CONCRETE TRANSITION BARRIER ELEVATION - TYPE A**  
Scale: 1" = 1'-0"  
(SB Bridge, Northeast Wingwall Shown)

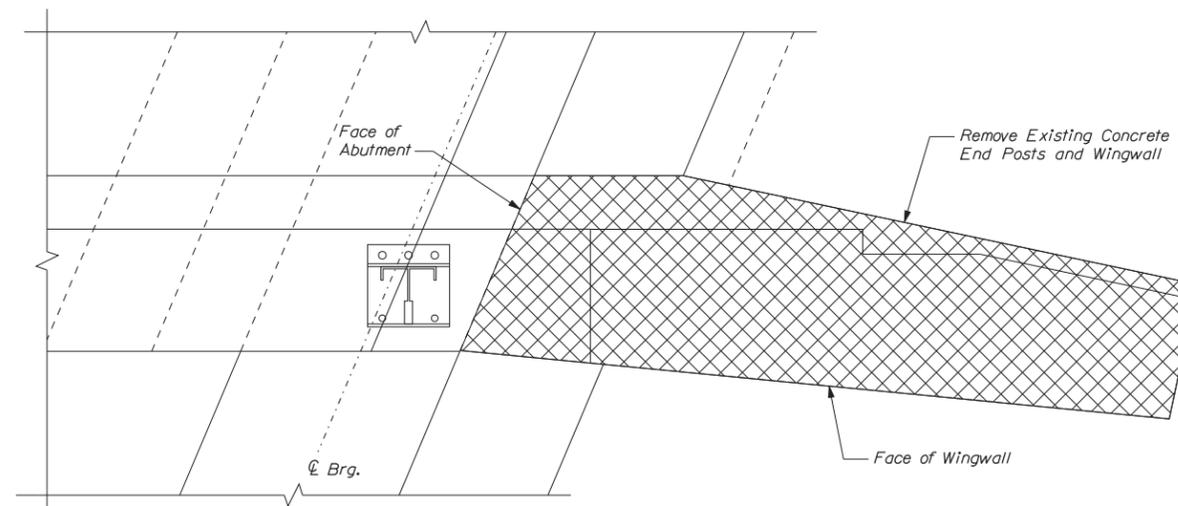


**CONCRETE TRANSITION BARRIER ELEVATION - TYPE B**  
Scale: 1" = 1'-0"  
(SB Bridge, Southeast Wingwall Shown)

 Limits of Concrete Removal



**CONCRETE TRANSITION BARRIER PLAN - TYPE A**  
Scale: 1" = 1'-0"  
(SB Bridge, Northeast Wingwall Shown)



**CONCRETE TRANSITION BARRIER PLAN - TYPE B**  
Scale: 1" = 1'-0"  
(SB Bridge, Southeast Wingwall Shown)

**NOTE**  
1. See Bridge Plan and Elevation for locations of Barrier Types A and B.

Filename: ...\\046\_Conc\_Trans\_Barrier\_01.dgn

Scale: As Noted

No.	Revision	By	Date

Designed by:

 **Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	JAW	3/14	Checked	SMH	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

 **THE GOLD STAR MEMORIAL HIGHWAY**

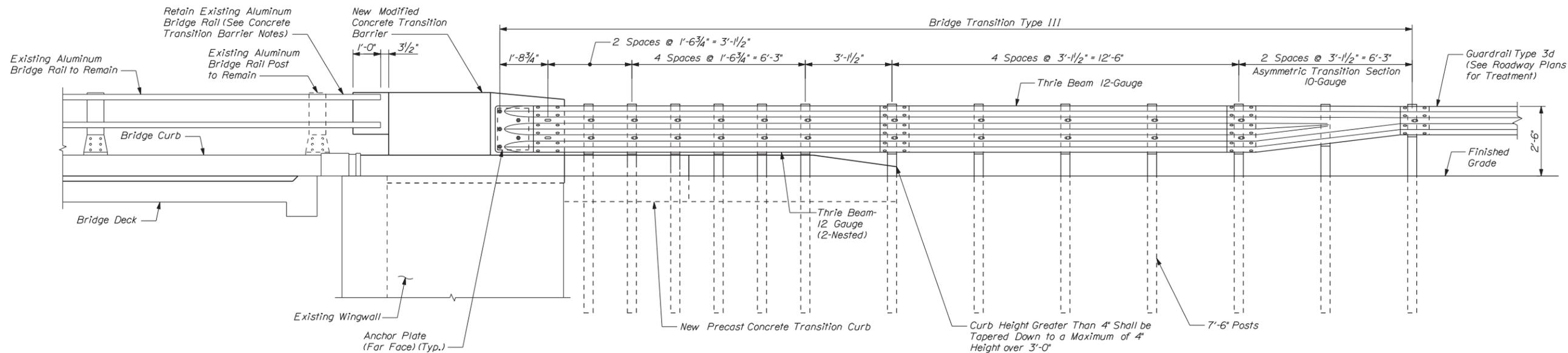
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
CONCRETE TRANSITION BARRIER DETAILS  
(1 OF 4)

SHEET NUMBER:  
CONTRACT: 2014.16

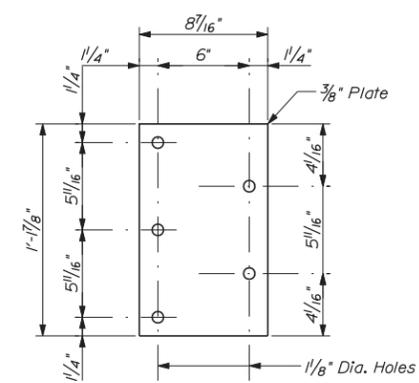
46 OF 101

Date: 3/25/2014

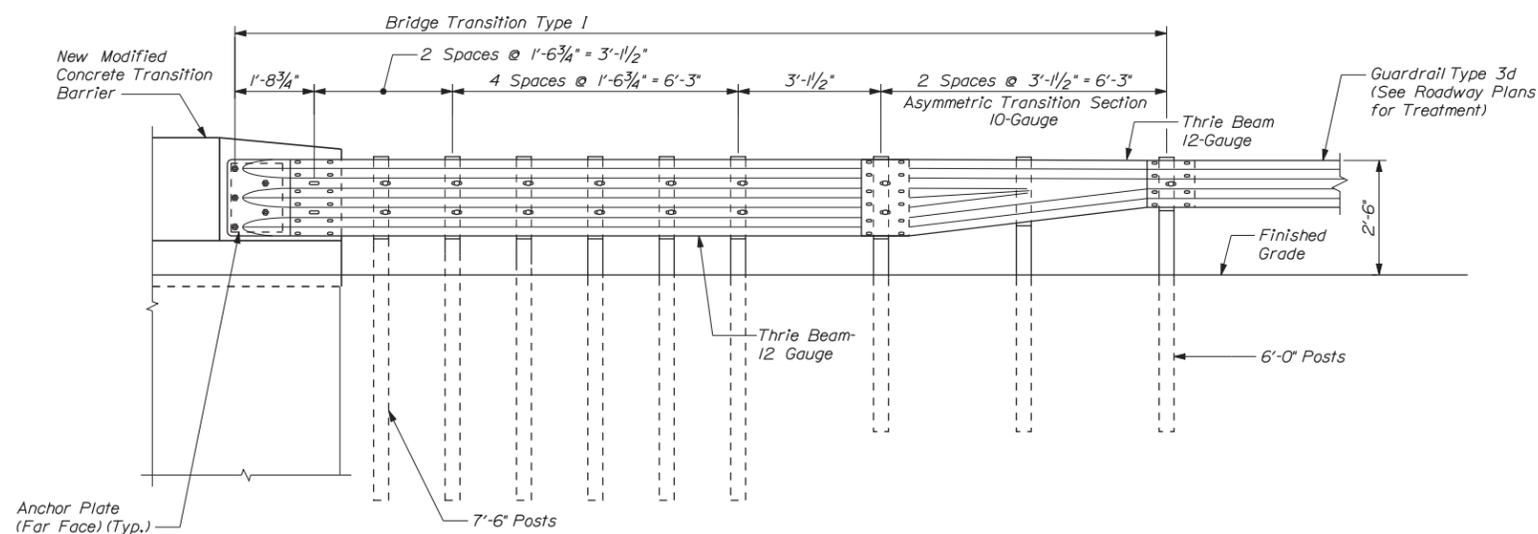


**GUARDRAIL CONNECTION DETAIL - BRIDGE APPROACH END**

Scale: 1/2" = 1'-0"  
 (SB Bridge, Northeast Corner Shown, All Others Similar)  
 (Roadway Subgrade and Approach Slab Not Shown for Clarity)



**ANCHOR PLATE**  
 (Far Face of all new Transition Connections - 8 Total)  
 Note to Scale



**GUARDRAIL CONNECTION DETAIL - BRIDGE DEPARTURE END**

Scale: 1/2" = 1'-0"  
 (NB Bridge, Northeast Corner Shown, All Others Similar)  
 (See Guardrail Connection Detail - Bridge Approach End for additional Information)

**CONCRETE TRANSITION BARRIER NOTES**

1. Refer to MaineDOT Standard Details Section 526 - Concrete Transitions Barrier for details and information not shown.
2. Reinforcing bar designation Type MTB refer to bars in the modified transition barrier. The reinforcing steel fabrication, delivery, anchoring and placement will be paid for as incidental to Item 526.342, Permanent Concrete Transition Barrier - Modified.
3. Anchor plates and threaded rods shall be galvanized in accordance with the Standard Specification and the MaineDOT Standard Details.
4. Excavation and backfill required for construction or modification of the concrete transition barrier shall be incidental to Item 526.342, Permanent Concrete Transition Barrier - Modified.
5. The proposed precast concrete transition curb shall be field cut as necessary to match tightly against the end of the wingwall. Payment for this effort will not be made directly, but shall be considered incidental to Item 526.342, Permanent Concrete Transition Barrier - Modified.
6. The Contractor shall field verify all dimensions prior to the fabrication of the reinforcing steel.
7. All bridge transition offset blocks shall be composite offset blocks.
8. The removal of the existing concrete and proposed concrete will be paid for as incidental to Item 526.342, Permanent Concrete Transition Barrier - Modified.

Filename: ...\\047\_Conc\_Trans\_Barrier\_02.dgn

Scale: As Noted			
No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed	RSB 3/14	Checked	KJG 3/14
Drawn	CLC 3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

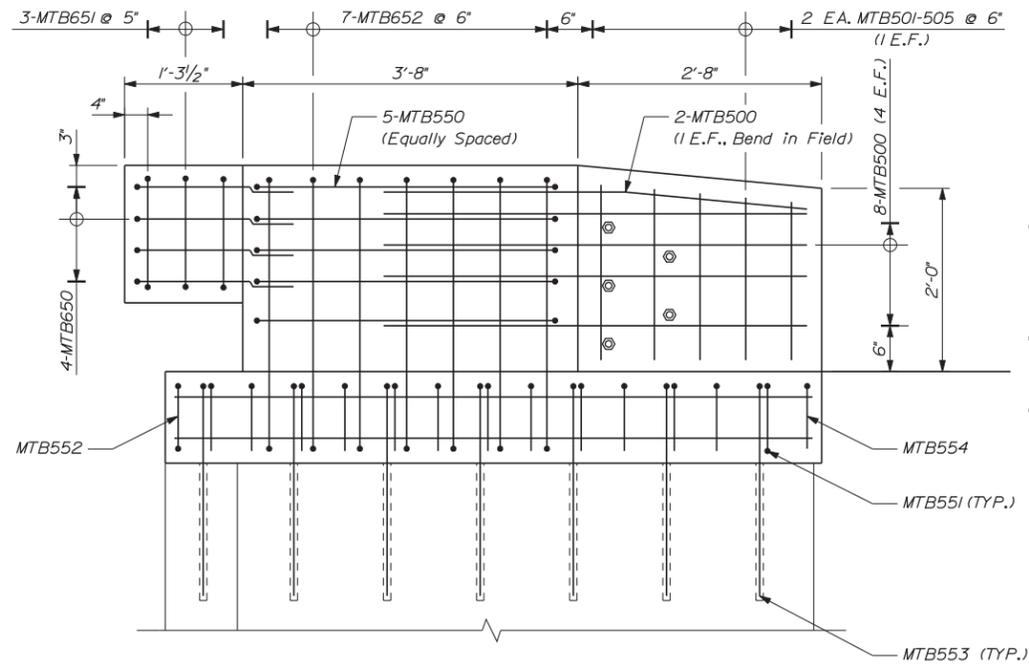
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

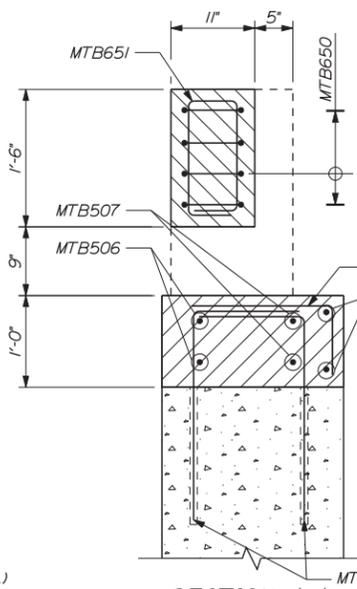
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 CONCRETE TRANSITION BARRIER DETAILS  
 (2 OF 4)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 47 OF 101

Date: 3/25/2014

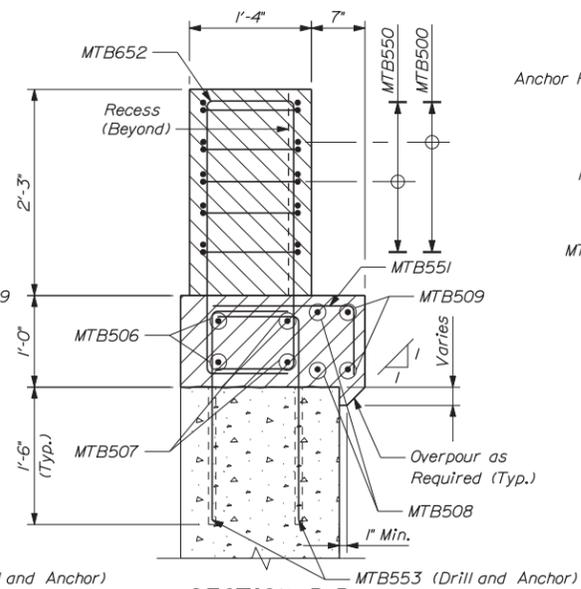


**CONCRETE TRANSITION BARRIER ELEVATION - TYPE A**  
Scale: 1" = 1'-0"  
(SB Bridge, Northeast Wingwall Shown)



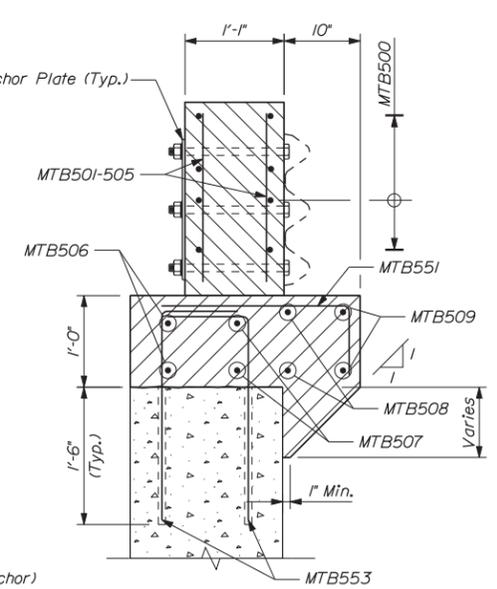
**SECTION A-A**

Scale: 1" = 1'-0"  
(SB Bridge, Northeast Wingwall Shown)



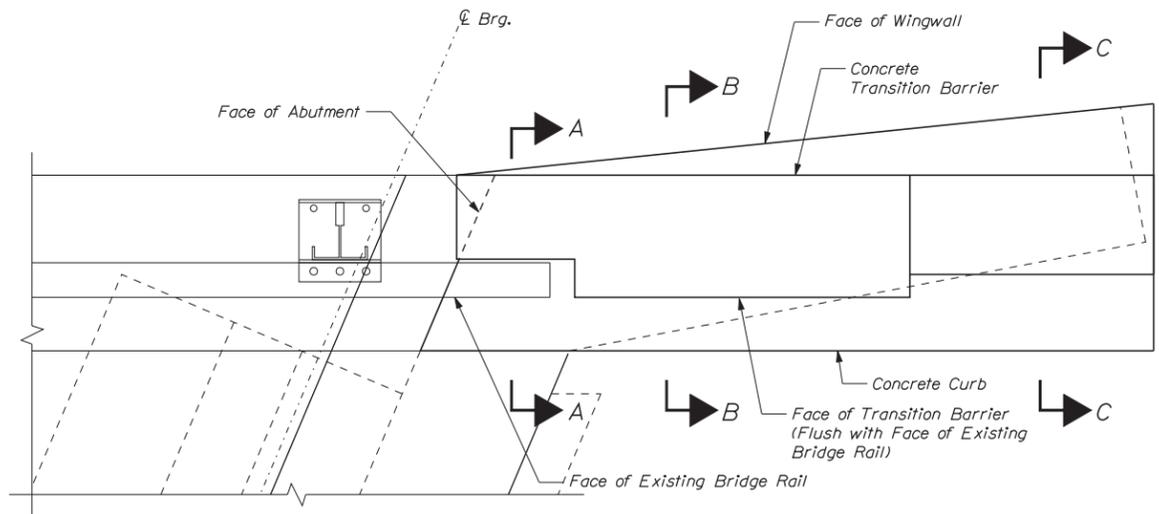
**SECTION B-B**

Scale: 1" = 1'-0"  
(SB Bridge, Northeast Wingwall Shown)

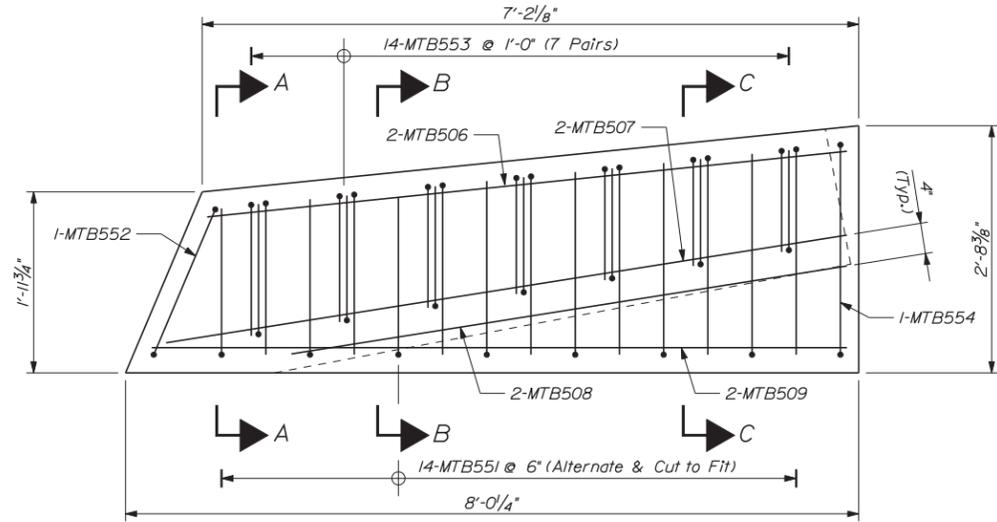


**SECTION C-C**

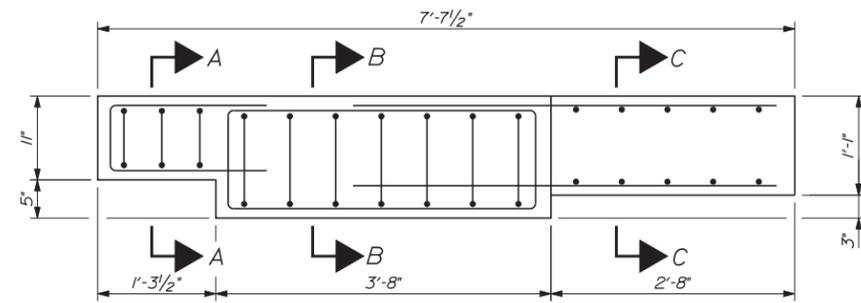
Scale: 1" = 1'-0"  
(SB Bridge, Northeast Wingwall Shown)



**CONCRETE TRANSITION BARRIER PLAN - TYPE A**  
Scale: 1" = 1'-0"  
(SB Bridge, Northeast Wingwall Shown)



**PLAN - CONCRETE CURB REINFORCEMENT - TYPE A**  
Not to Scale



**PLAN - CONCRETE TRANSITION BARRIER REINFORCEMENT - TYPE A & B**  
Not to Scale

**NOTE**  
1. See Bridge Plan and Elevation for locations of Barrier Type A.

Filename: ...\\048\_Conc\_Trans\_Barrier\_03.dgn

No.	Revision	By	Date

Designed by:

**VHB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	JAW	3/14	Checked	SMH	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

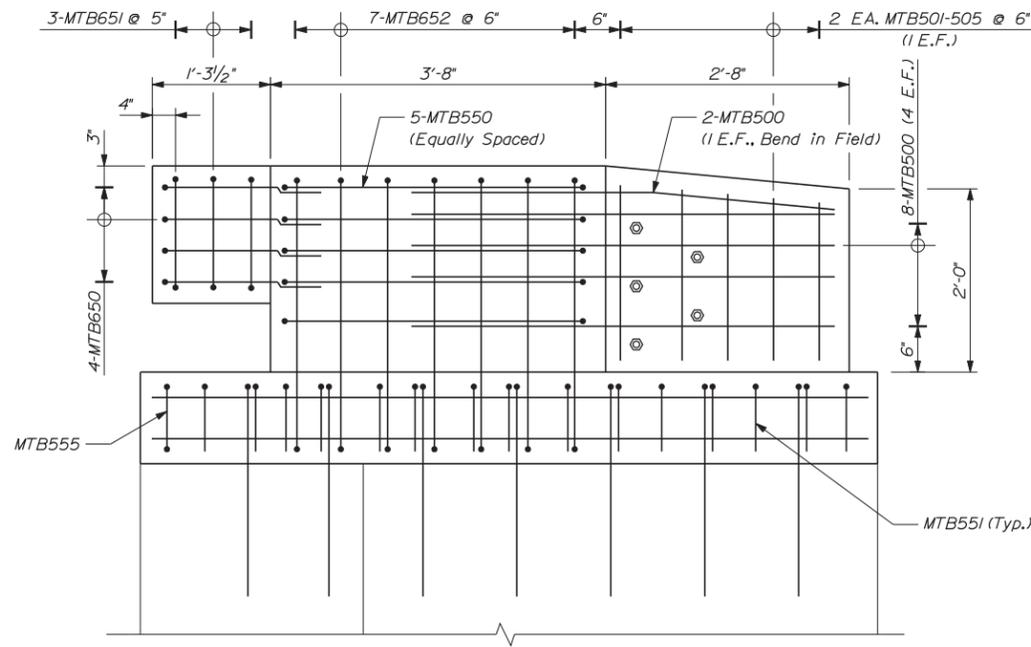
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

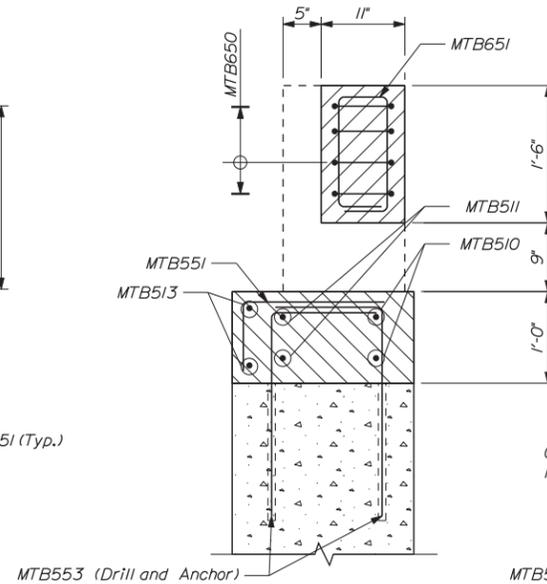
BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
CONCRETE TRANSITION BARRIER DETAILS  
(3 OF 4)

SHEET NUMBER:  
CONTRACT: 2014.16  
48 OF 101

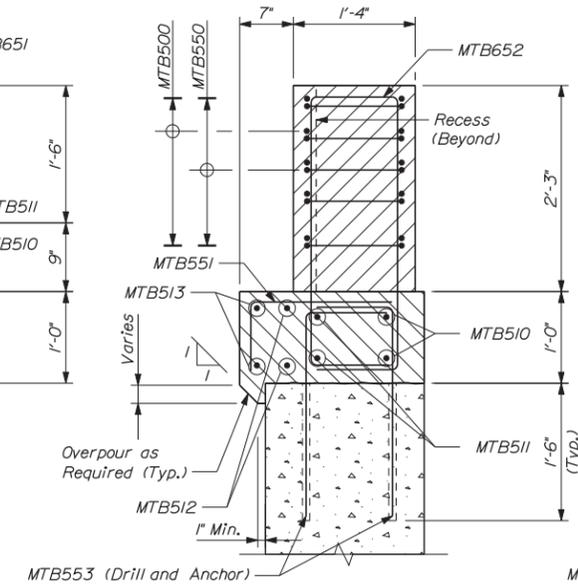
Date: 3/25/2014



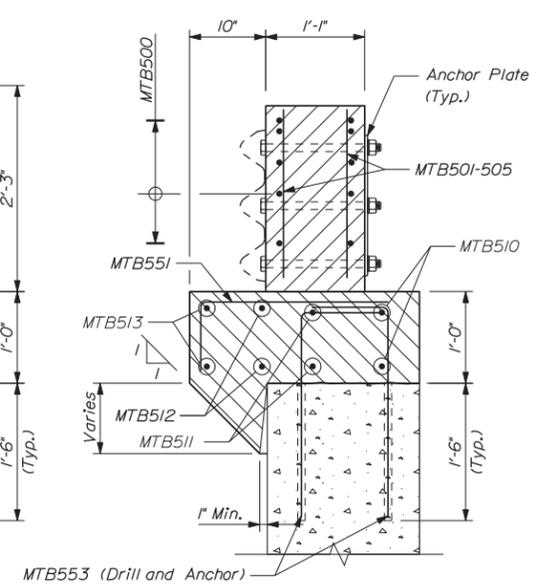
**CONCRETE TRANSITION BARRIER ELEVATION - TYPE B**  
 Scale: 1" = 1'-0"  
 (SB Bridge, Southeast Wingwall Shown)



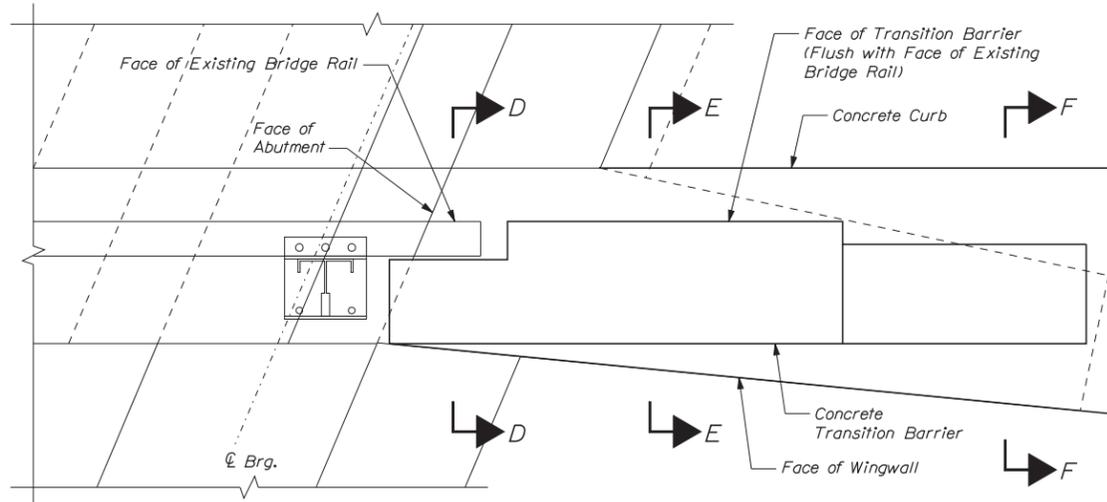
**SECTION D-D**  
 Scale: 1" = 1'-0"  
 (SB Bridge, Southeast Wingwall Shown)



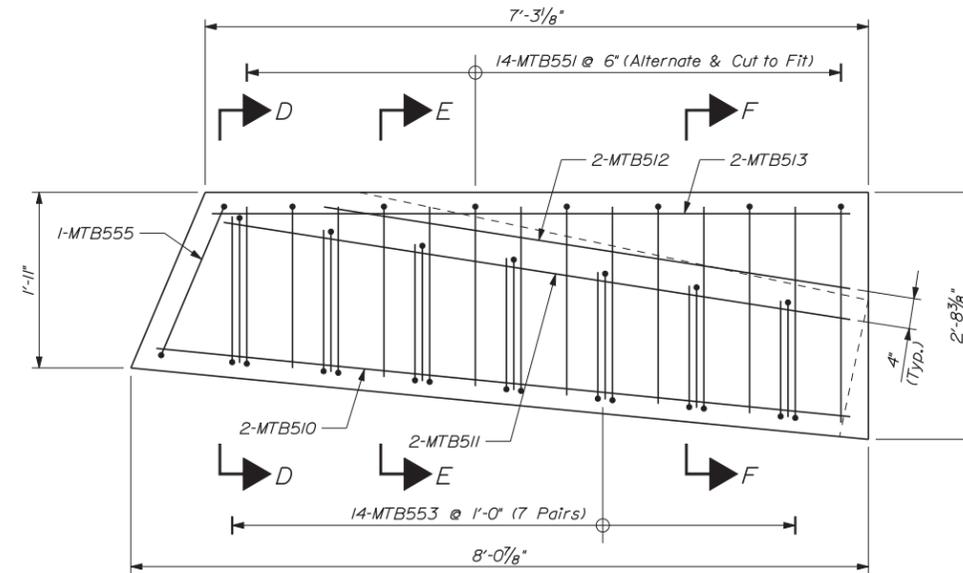
**SECTION E-E**  
 Scale: 1" = 1'-0"  
 (SB Bridge, Southeast Wingwall Shown)



**SECTION F-F**  
 Scale: 1" = 1'-0"  
 (SB Bridge, Southeast Wingwall Shown)



**CONCRETE TRANSITION BARRIER PLAN - TYPE B**  
 Scale: 1" = 1'-0"  
 (SB Bridge, Southeast Wingwall Shown)



**PLAN - CONCRETE CURB REINFORCEMENT - TYPE B**  
 Not to Scale

**NOTE**  
 1. See Bridge Plan and Elevation for locations of Barrier Type B.

Filename: ...\\049\_Conc\_Trans\_Barrier\_04.dgn

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	JAW	3/14	Checked SMH	KJG 3/14
Drawn	BJM	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

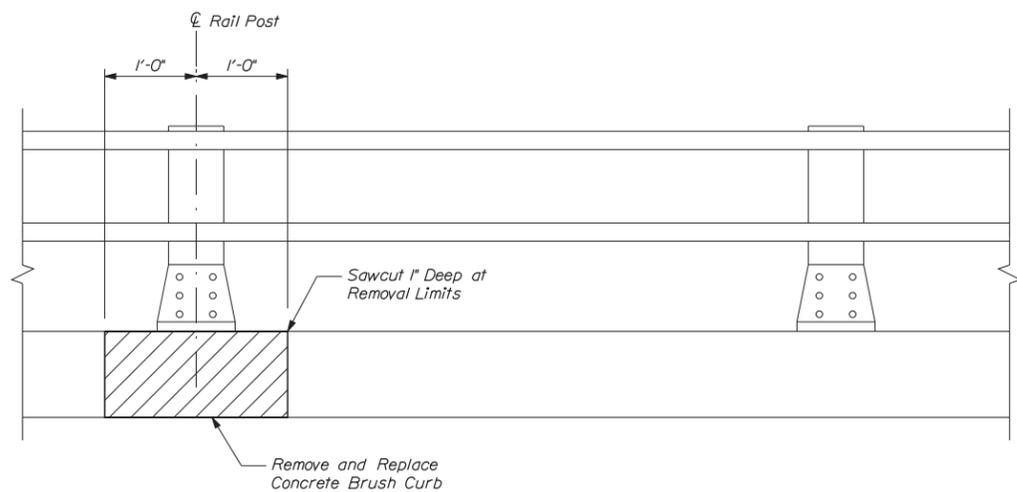
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

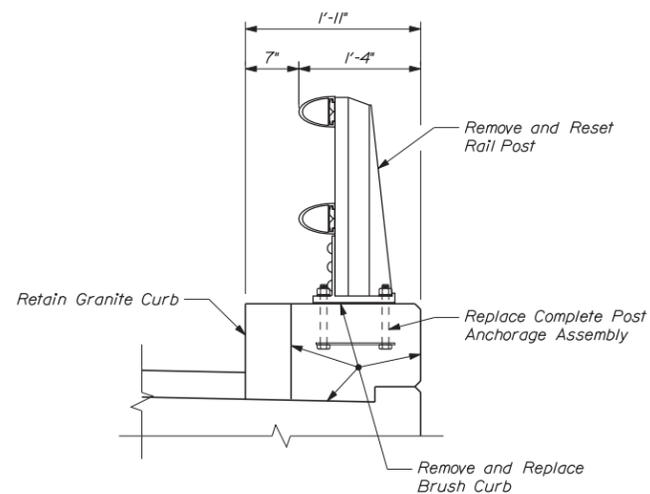
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 CONCRETE TRANSITION BARRIER DETAILS  
 (4 OF 4)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 49 OF 101

Date: 3/25/2014

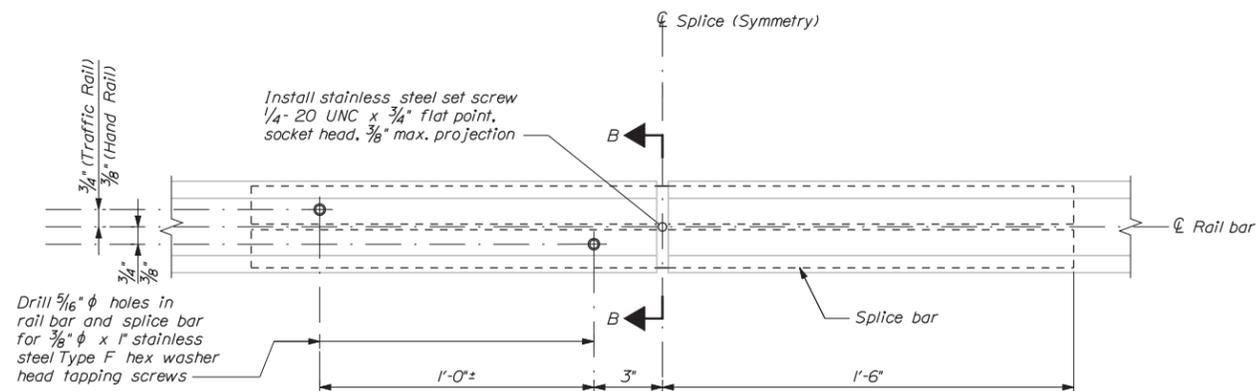


ELEVATION

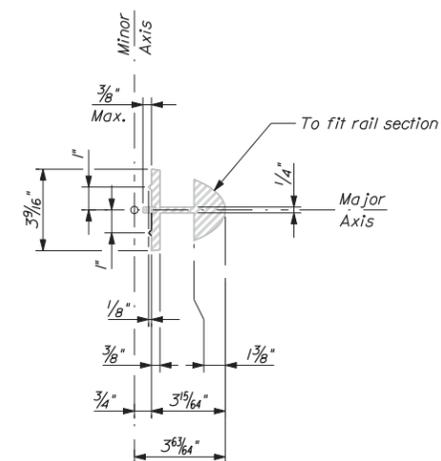


SECTION

REMOVE AND RESET BRIDGE RAIL POST DETAILS  
Not to Scale



REAR ELEVATION



BRIDGE RAILING SPLICE  
MODIFICATION DETAILS  
Not to Scale

NOTE:

- See General Construction Notes (3 of 3) Sheet for Bridge Rail Rehabilitation Notes.

Filename: ...:\cad\st\plan\set\050\_Misc\_d1.dgn

Scale: As Noted

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	BJM	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

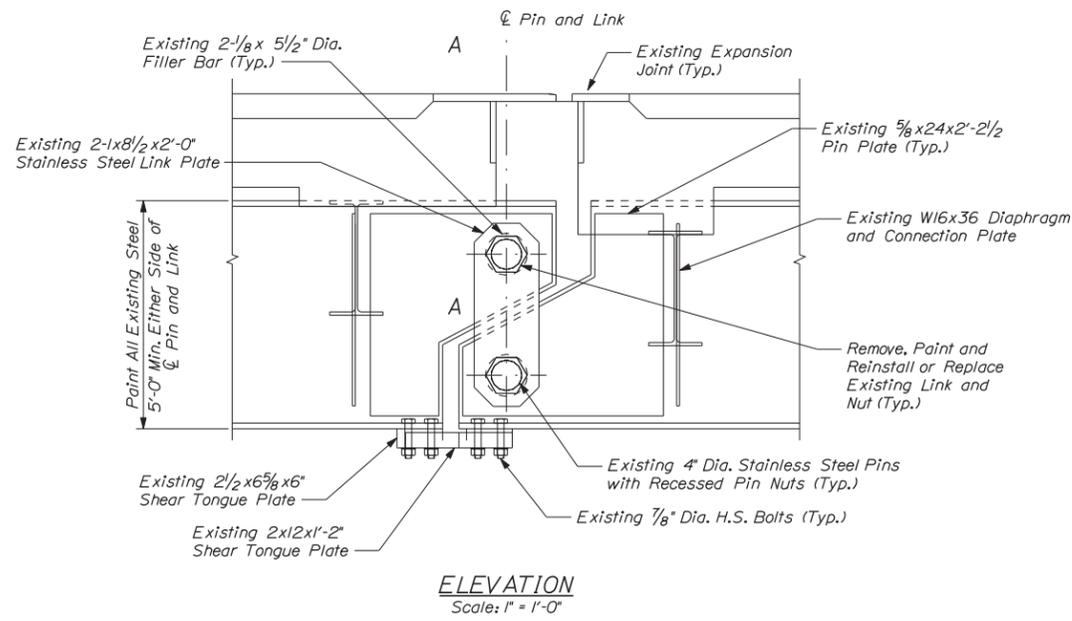
BRIDGE RAIL REHABILITATION DETAILS

SHEET NUMBER:

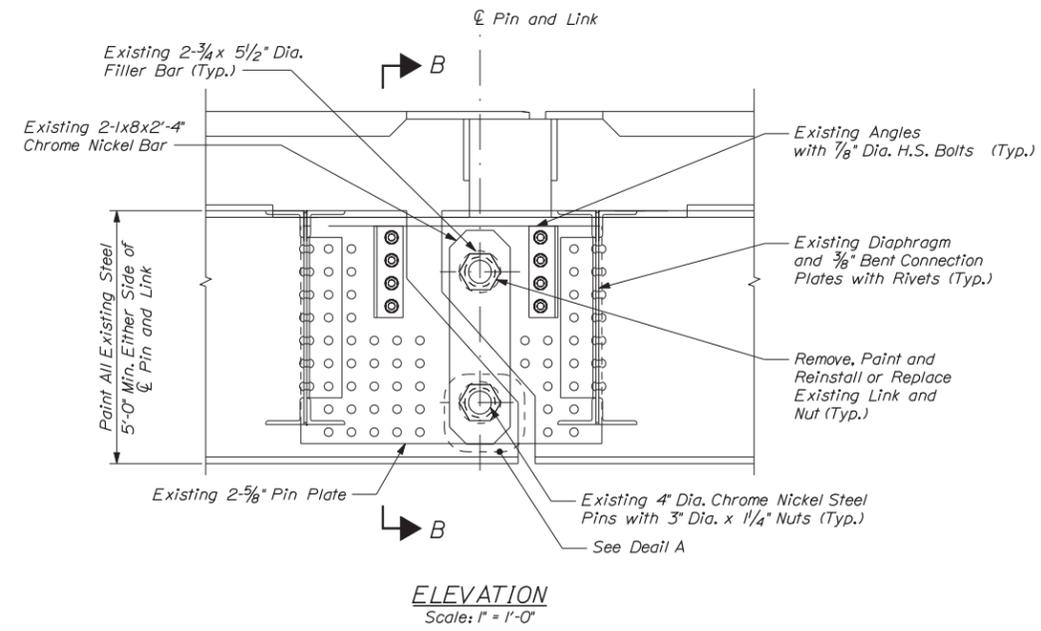
CONTRACT: 2014.16

50 OF 101

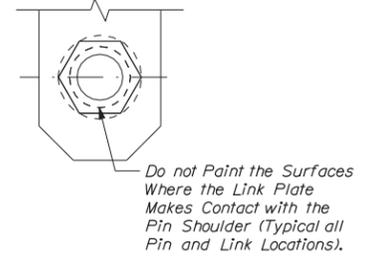
Date: 3/25/2014



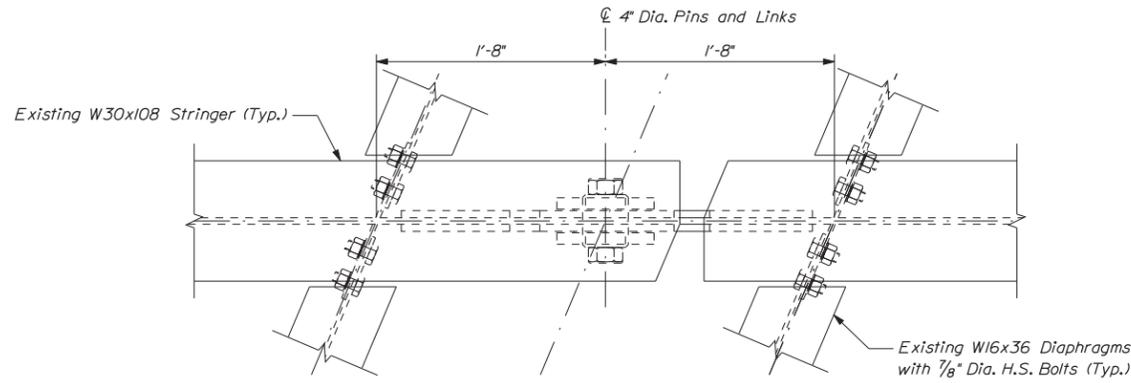
**ELEVATION**  
Scale: 1" = 1'-0"



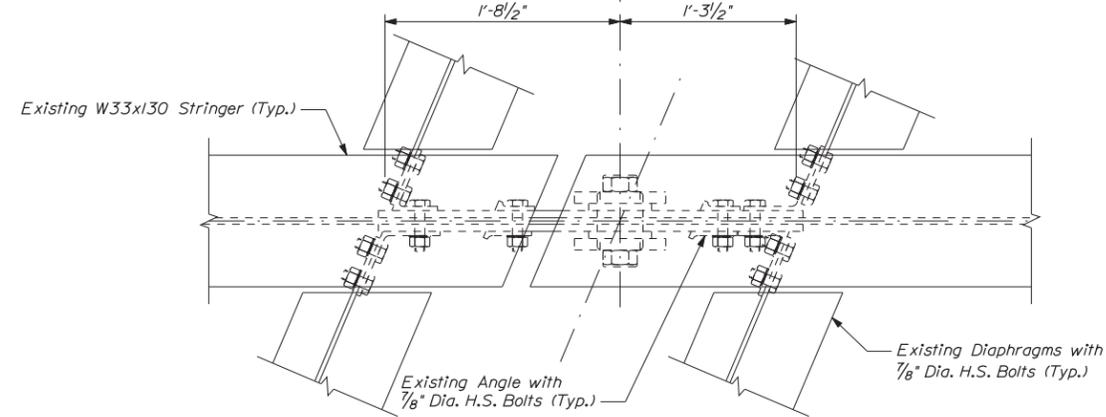
**ELEVATION**  
Scale: 1" = 1'-0"



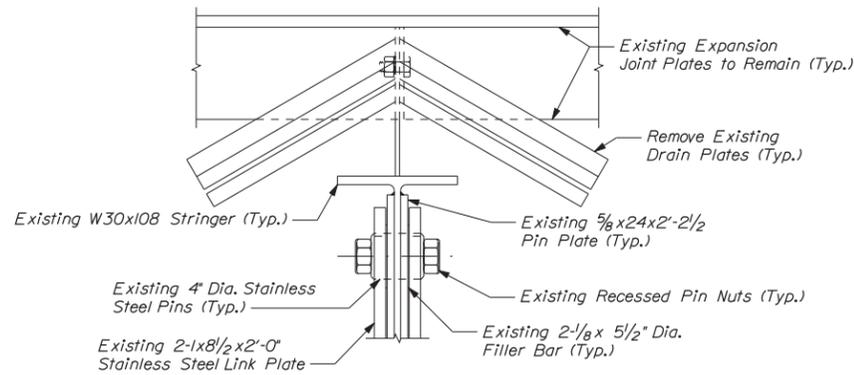
**DETAIL A**  
Scale: 2" = 1'-0"



**PLAN**  
(Bottom Flange, Shear Tongue and Drain Detail Not Shown for Clarity)  
Scale: 1/2" = 1'-0"

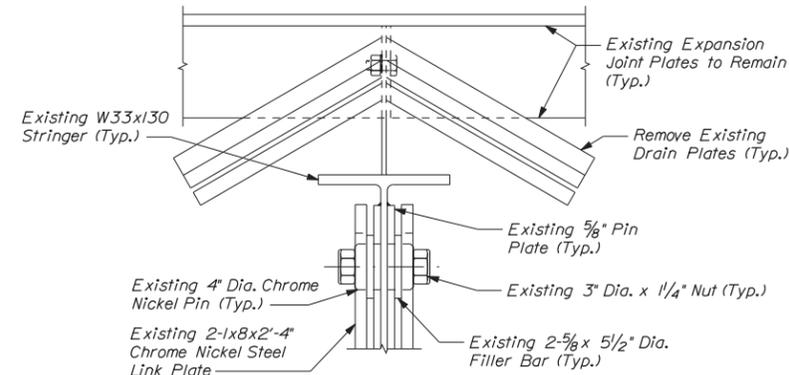


**PLAN**  
(Bottom Flange and Drain Detail Not Shown for Clarity)  
Scale: 1/2" = 1'-0"



**SECTION A-A**  
Scale: 1/2" = 1'-0"

**PIN AND LINK DETAILS FOR W30X108 BEAMS**



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

**PIN AND LINK DETAILS FOR W33X130 BEAMS**

**NOTES:**

1. The Proposed Fabric Troughs for Finger Joints are not shown on this sheet for clarity. See Fabric Trough for Finger Joint Details Sheets for Fabric Trough Details.
2. Payment for the removal of existing drain plate assembly shall be paid for as incidental to Item 521.32 Fabric Trough for Finger Joint.
3. See General Construction Notes (3 of 3) Sheet for Pin and Link Repair Notes.

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed	RSB 3/14	Checked	KJG 3/14
Drawn	CLC 3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

**BRIDGE REHABILITATION  
YORK RIVER BRIDGES**

**PIN AND LINK REPAIR DETAILS**

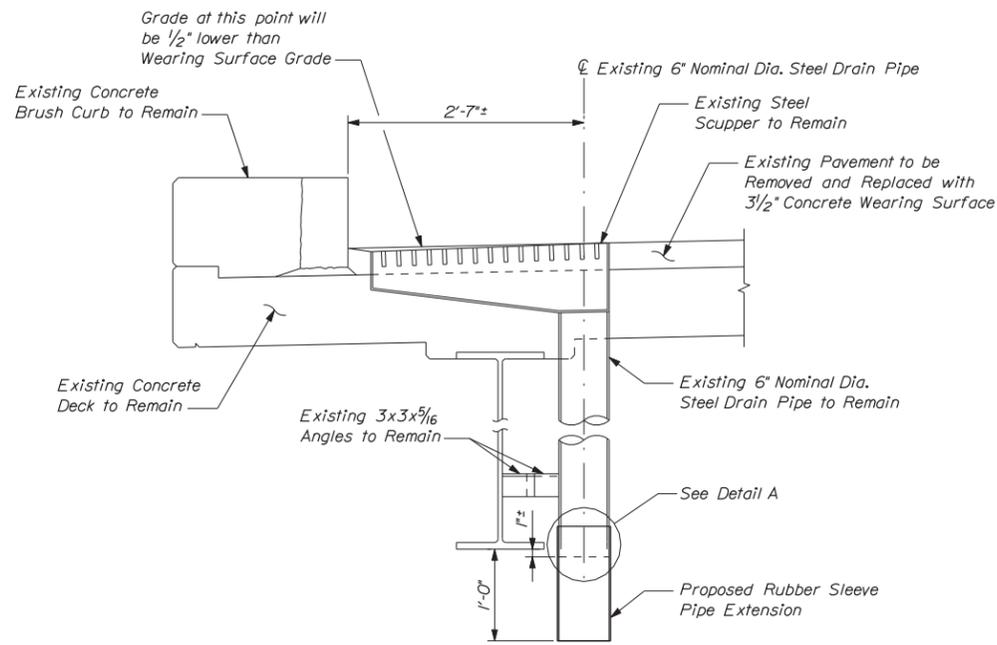
CONTRACT: 2014.16

SHEET NUMBER:

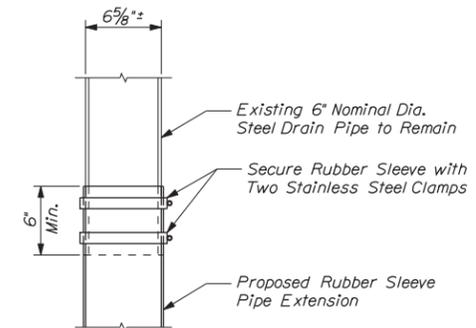
51 OF 101

Filename: ...:\cad\st\plan\set\051\_fram\_dt.dgn

Date: 3/25/2014



**TYPICAL BRIDGE DRAIN SECTION**  
Scale: 1" = 1'-0"



**DETAIL A**  
Scale: 1/2" = 1'-0"

**NOTES**

1. Install rubber sleeve on the end of each steel drain pipe except over navigation channel. Pipe surface preparation prior to installation is not required.
2. Secure each rubber sleeve to drain pipe with two stainless steel clamps.
3. All costs for bridge drain pipe extensions shall be included in Item 502.71, Bridge Drain Extension.
4. Contractor shall field verify diameter of rubber sleeve required for drain pipe extensions prior to ordering sleeves.

Filename: ...st\planset\052\_scupper\_dt.dgn

Scale: As Noted

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

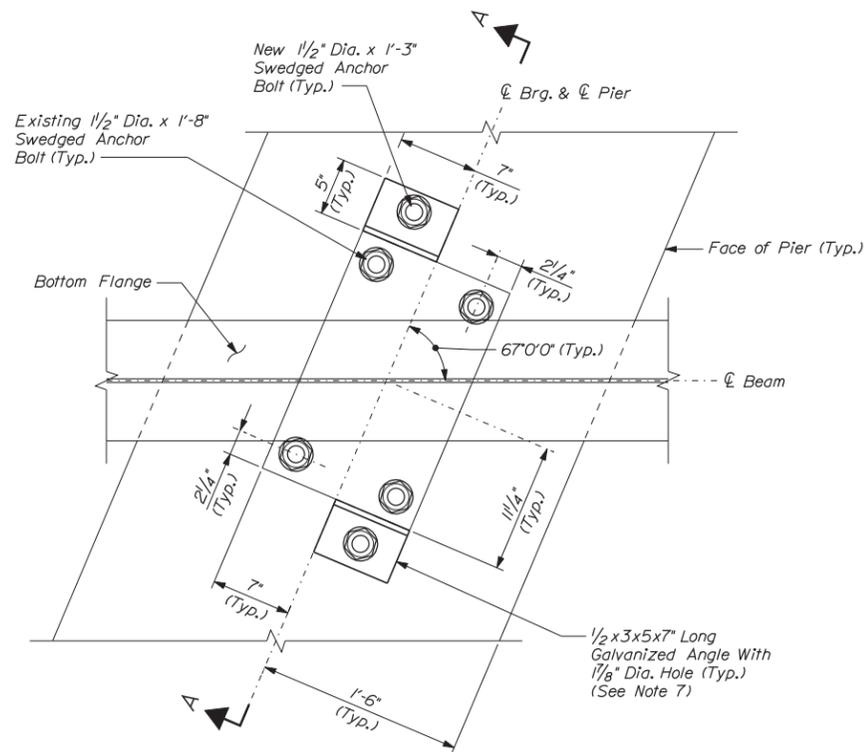
BRIDGE REHABILITATION  
YORK RIVER BRIDGES

BRIDGE DRAIN PIPE EXTENSION DETAILS

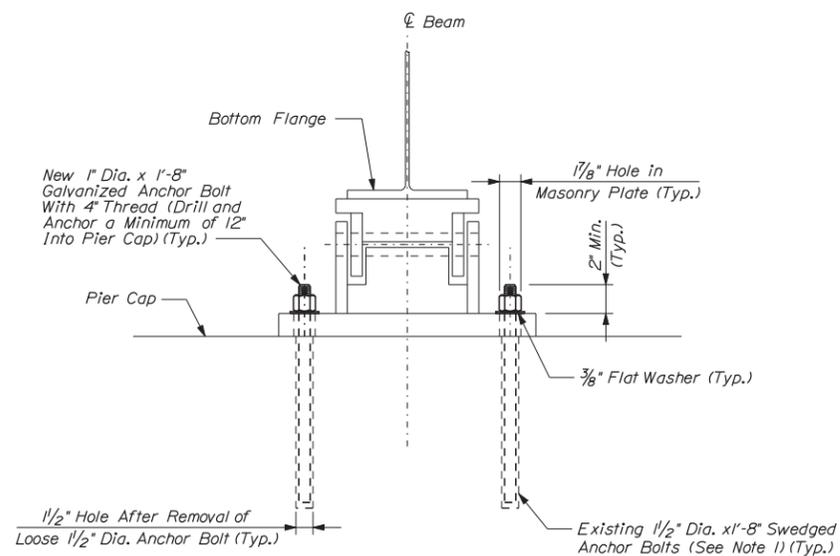
SHEET NUMBER: 52 OF 101

CONTRACT: 2014.16

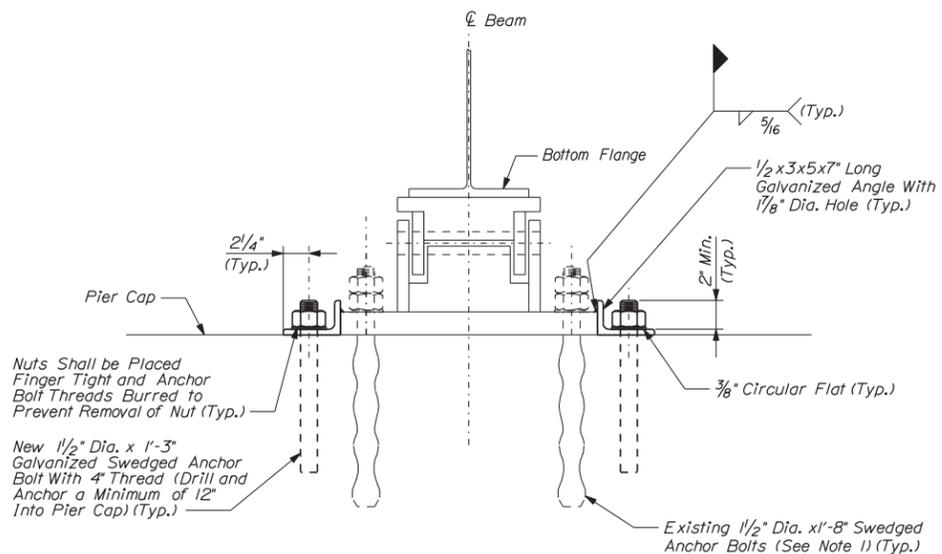
Date: 3/25/2014



**DETAIL A PLAN**  
Scale: 1/2" = 1'-0"



**DETAIL B**  
Scale: 1/2" = 1'-0"



**SECTION A-A**  
Scale: 1/2" = 1'-0"

**BEARING CONDITION TABLES**

Bent/Broken Anchor Bolts			
Pier	Beam	Anchor Bolt Location	Quantity
4	1	Southwest	1
	2	-	1
8	3	-	1
	4	-	1
9	1	-	1
	2	-	2
	3	-	2
12	4	One Bent/One Broken	2
	3	-	2
Bent Anchor Bolt Total:			14

Loose/Missing Anchor Bolts			
Pier	Beam	Anchor Bolt Location	Quantity
2	16	Southeast	1
3	3	Southwest	1
8	13	Southwest and Northeast	2
10	2	-	1
	4	Southwest	1
	13	Northeast Missing	1
11	1	-	2
	3	-	3
	4	-	3
Loose/Missing Anchor Bolt Total:			15

**NOTES:**

1. Loose anchor bolts shall be removed if possible. If removed successfully, pier bearing repairs shown in Detail B shall be completed. Otherwise, existing anchor bolts shall be kept in place and repairs shown in Detail A shall be completed.
2. Bent or broken anchor bolts shall be inspected by the Resident, to determine whether the bearing needs repair. If the Resident determines that repair is needed, the steps in Note 1 shall be followed to determine which repair detail will be required.
3. Missing anchor bolts shall be repaired as shown in Detail B.
4. Anchor bolts that have a nut and washer with significant section loss shall have existing nuts and washers removed, shall be sandblasted and shall have new nuts and washers installed.
5. Anchor bolts removed less than 10" below the concrete shall be repaired as shown in Detail A. The void created shall be filled with non-shrink grout or epoxy.
6. All anchor bolts shall be galvanized and swedged and conform to ASTM 1554, Grade 105.
7. In Detail A, the locations of the proposed galvanized steel angles can be adjusted to avoid proposed anchor bolt conflicts with existing reinforcing steel in the pier cap. Each angle may be located anywhere along the edge of the masonry plate provided the angle does not extend beyond the edge of the masonry plate.

Filename: ...st\plan\set\053\_bearing\_01.dgn

Scale: 1/2" = 1'-0"

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES

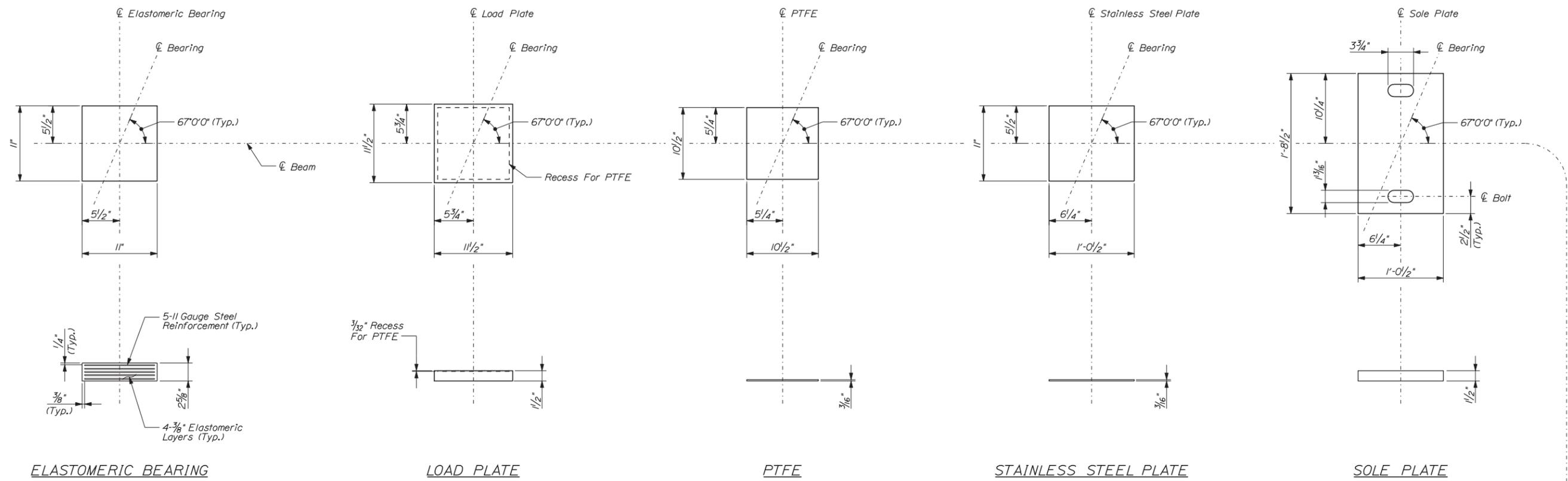
PIER BEARING REPAIR DETAILS

SHEET NUMBER:  
CONTRACT: 2014.16  
53 OF 101

Date: 3/25/2014

Filename: ...sf\planset\054\_bearing\_02.dgn

Stationing →



ELASTOMERIC BEARING

LOAD PLATE

PTFE

STAINLESS STEEL PLATE

SOLE PLATE

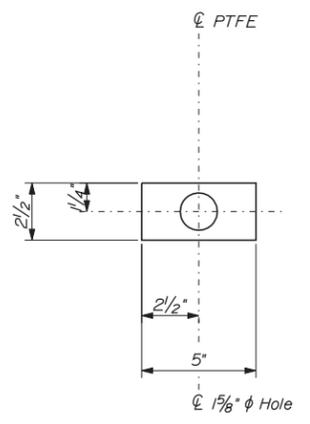
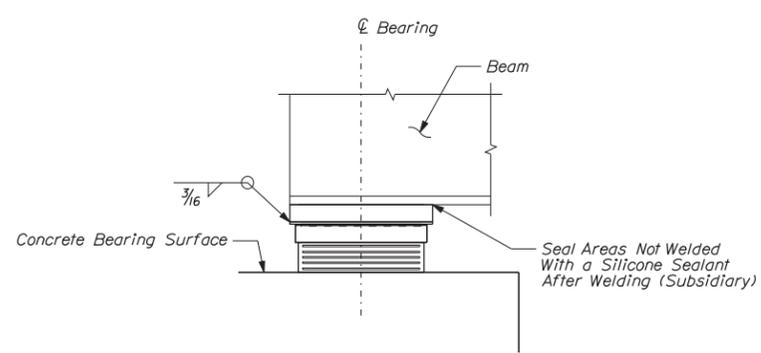
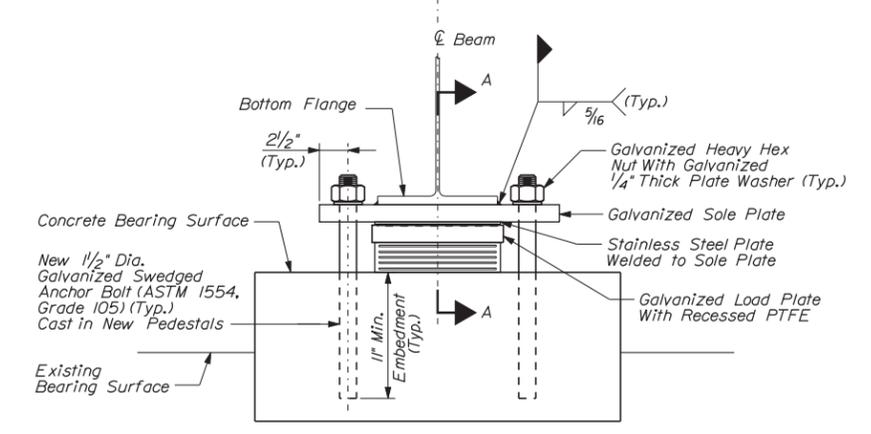


PLATE WASHER

BEARING DESIGN CRITERIA	
LOADS	ABUTMENTS
Unfactored Dead Load (Max.)	27k
Unfactored Live Load (Max.)	77k
DESIGN METHOD A	



SECTION A-A



ELEVATION

**ABUTMENT BEARING (EXPANSION)**  
 (Bearing Stiffener Not Shown For Clarity)  
 (Abutment No. 1 Shown, Abutment No. 2 Similar)

**NOTE:**  
 1. See General Construction Notes (3 of 3) Sheet for Elastomeric Bearing Notes.

Scale: 1/2" = 1'-0"

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	CLC	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

ABUTMENT BEARING REPLACEMENT DETAILS

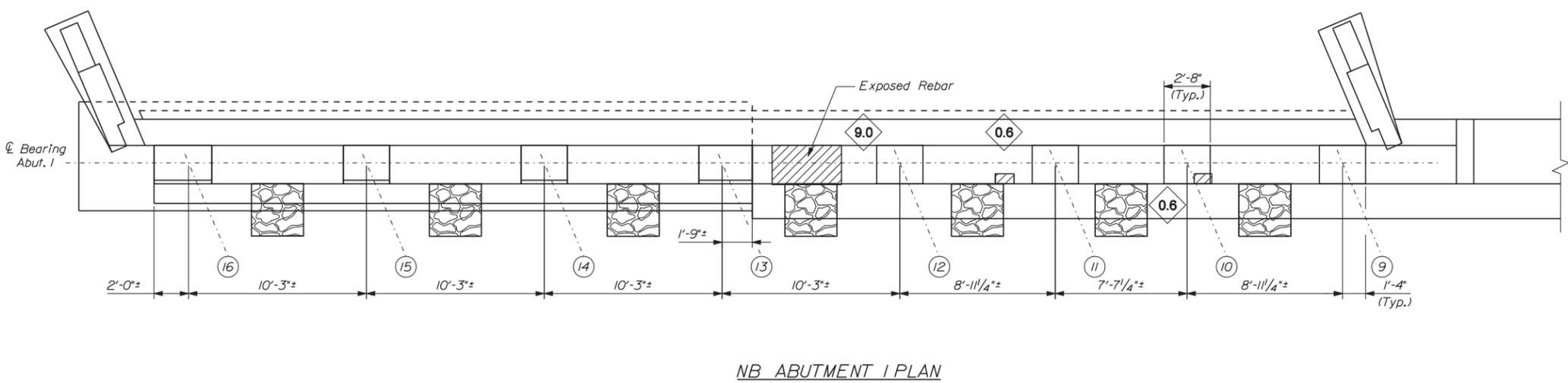
SHEET NUMBER: \_\_\_\_\_

CONTRACT: 2014.16

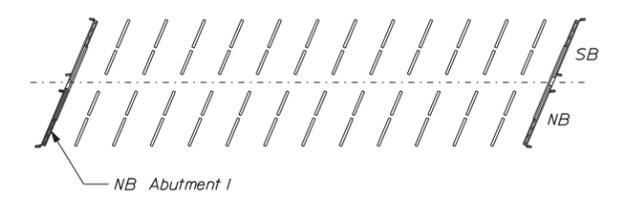
54 OF 101

Date: 3/25/2014

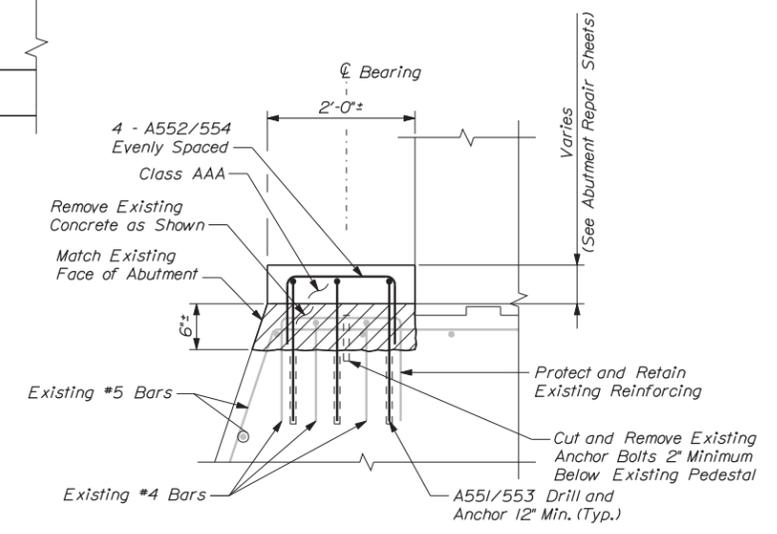
Filename: ... \055\_Abument Details\_02.dgn



NB ABUTMENT I PLAN

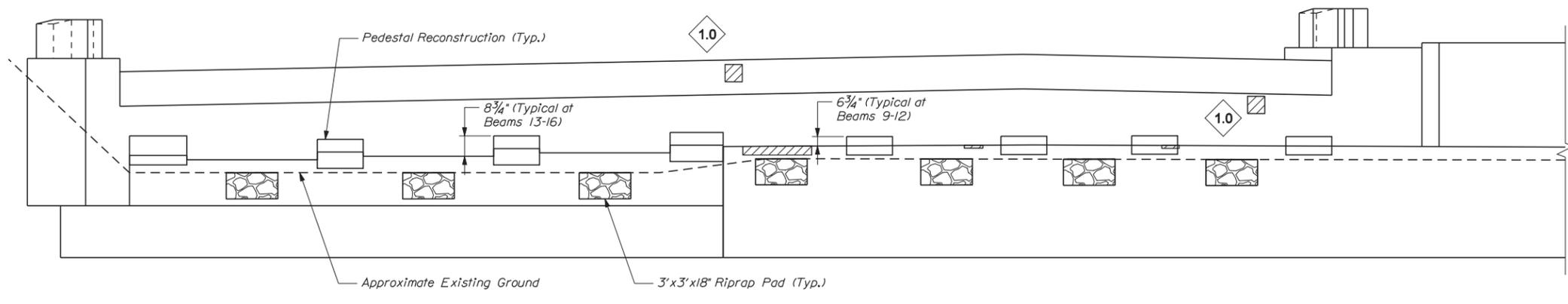


KEY PLAN



TYPICAL PEDESTAL DETAIL AT ABUTMENTS

Not to Scale



NB ABUTMENT I ELEVATION

- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack

Scale: 1/4" = 1'-0"

Designed by:



VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
 MEMORIAL HIGHWAY**

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 NB BRIDGE ABUTMENT 1  
 REPAIR AREAS

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. BRYANT					
	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	MJB	3/14	In Charge of	TSB	3/14

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

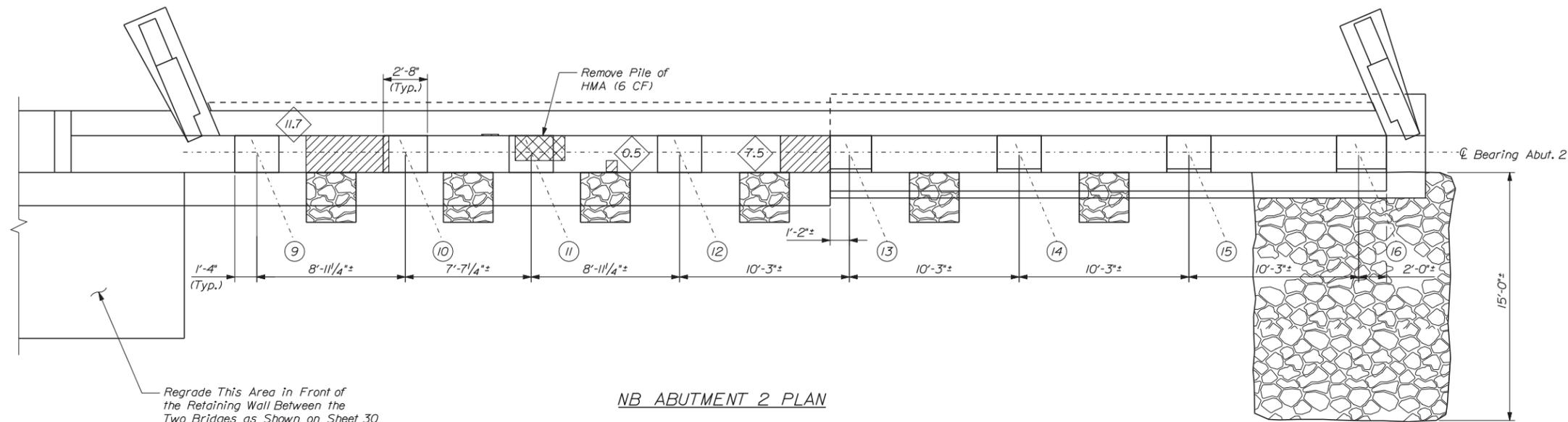
CONTRACT: 2014.16

SHEET NUMBER:

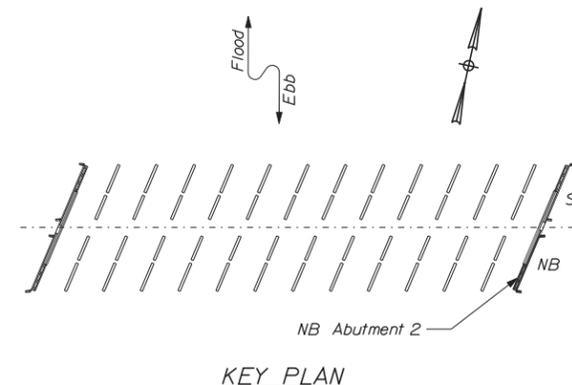
55 OF 101

Date: 3/25/2014

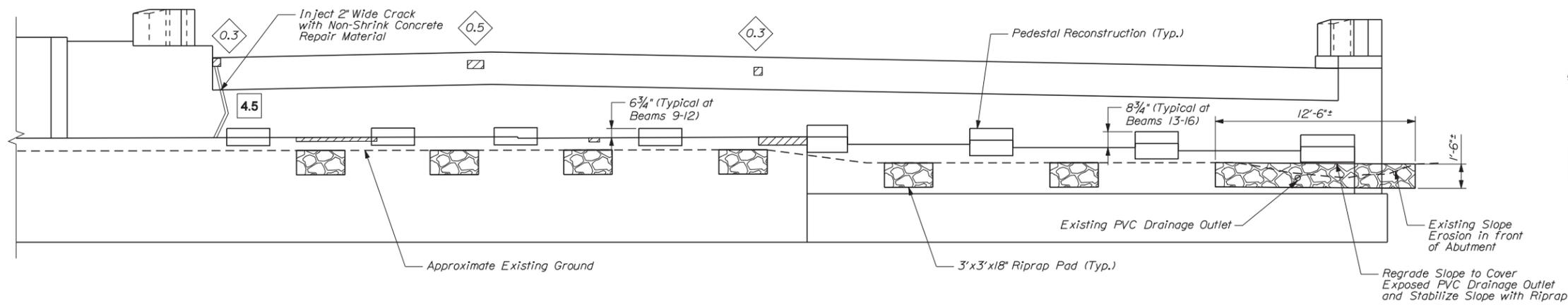
Filename: ...056\_Abument Details\_01.dgn



NB ABUTMENT 2 PLAN



KEY PLAN



NB ABUTMENT 2 ELEVATION

NOTES:

1. See Typical Concrete Repair Details for Typical Pedestal Repair Details.
2. Payment to regrade the slope will be incidental to Item 610.08, Plain Riprap.

KEY:

- Approximate Limits of Delamination
- Approximate Limits of Spall
- Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
- Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
- Linear Foot of Crack

Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



THE GOLD STAR  
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
NB BRIDGE ABUTMENT 2  
REPAIR AREAS

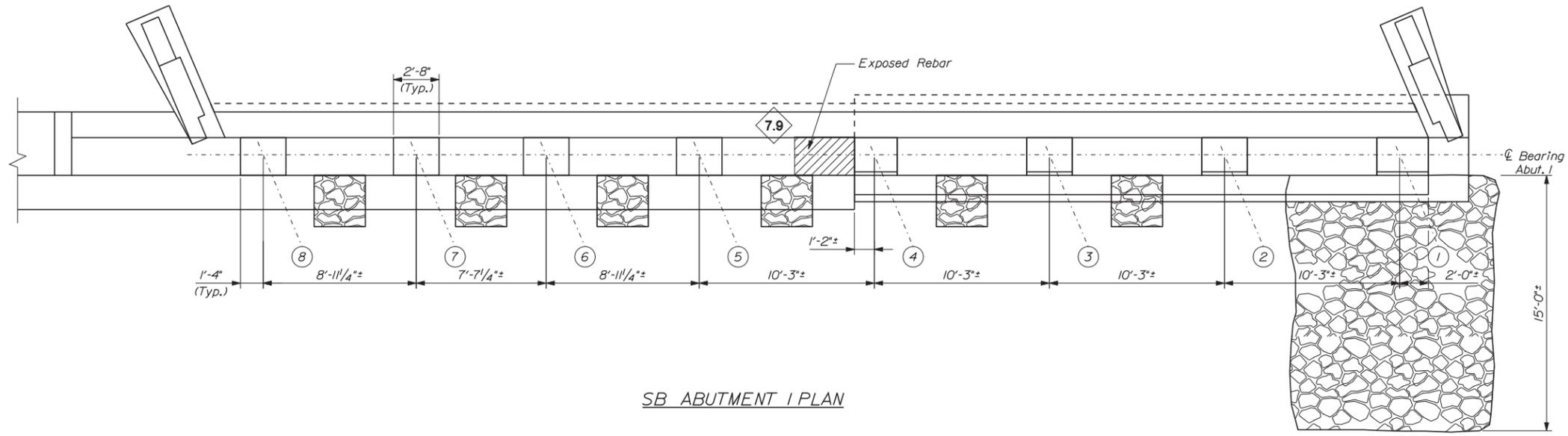
CONTRACT: 2014.16

SHEET NUMBER:

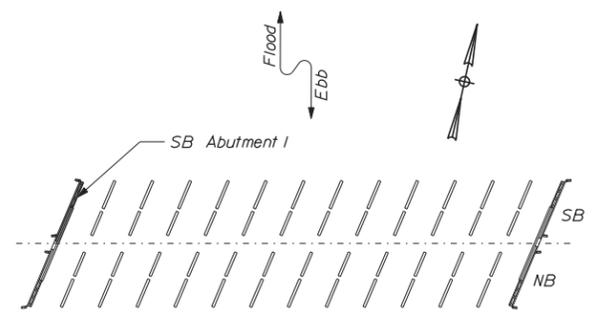
56 OF 101

Date: 3/25/2014

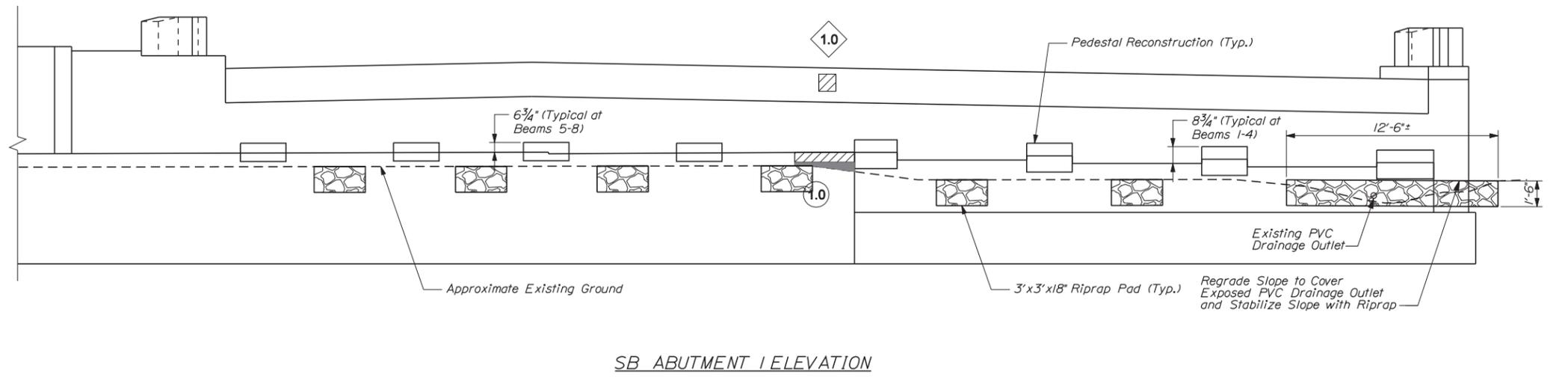
Filename: ...057\_Abument Details\_04.dgn



SB ABUTMENT I PLAN



KEY PLAN



SB ABUTMENT I ELEVATION

NOTES:

1. See Typical Concrete Repair Details for Typical Pedestal Repair Details.
2. Payment to regrade the slope will be incidental to Item 610.08, Plain Riprap.

KEY:

- Approximate Limits of Delamination
- Approximate Limits of Spall
- Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
- Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
- Linear Foot of Crack

Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

**VIIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 SB BRIDGE ABUTMENT 1  
 REPAIR AREAS

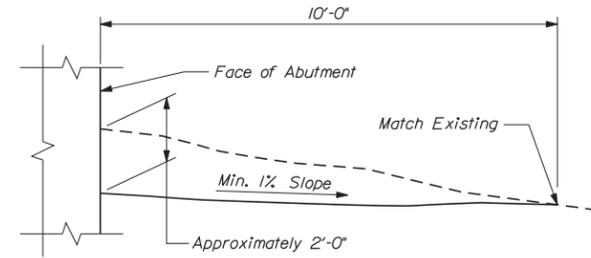
SHEET NUMBER: \_\_\_\_\_

CONTRACT: 2014.16

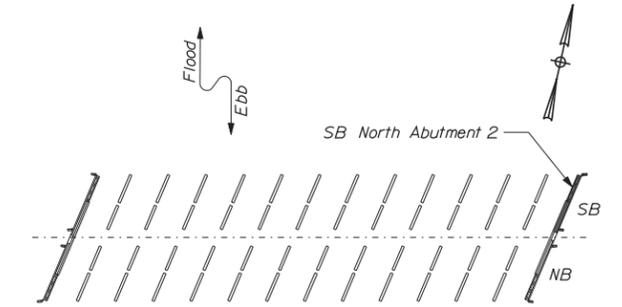
57 OF 101

Date: 3/25/2014

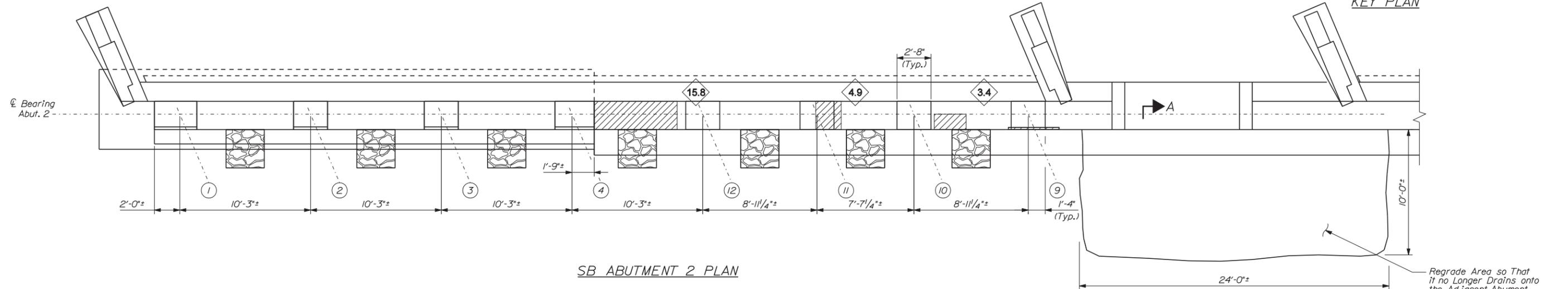
Filename: ... \058\_Abument Details\_03.dgn



SECTION A-A



KEY PLAN



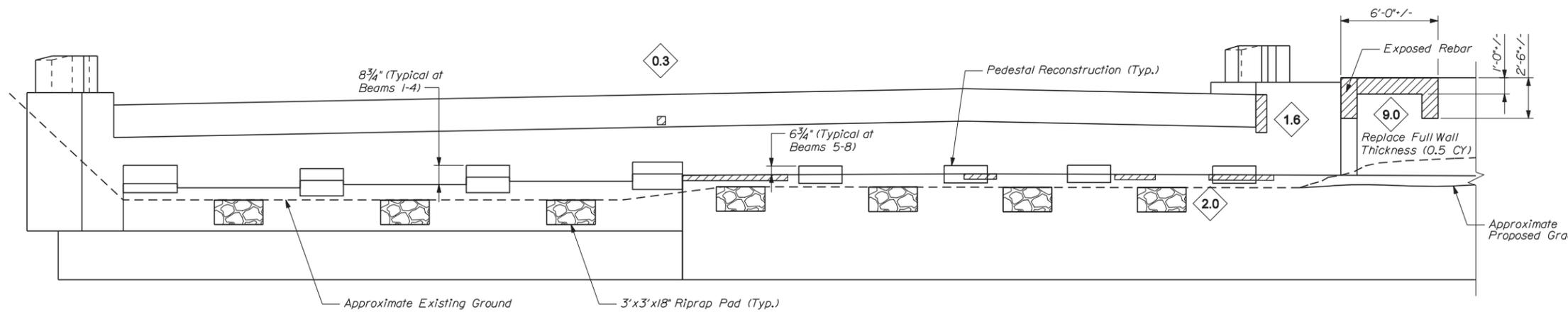
SB ABUTMENT 2 PLAN

**NOTES:**

1. See Typical Concrete Repair Details for Typical Pedestal Repair Details.
2. After regrading the area in front of the retaining wall between the bridges, loam and seed all disturbed areas.
3. Excavation and regrading of the area shown between the bridges shall be paid as Item 203.2, Common Excavation.

**KEY:**

- Approximate Limits of Delamination
- Approximate Limits of Spall
- Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
- Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
- Linear Foot of Crack



SB ABUTMENT 2 ELEVATION

Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
 MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

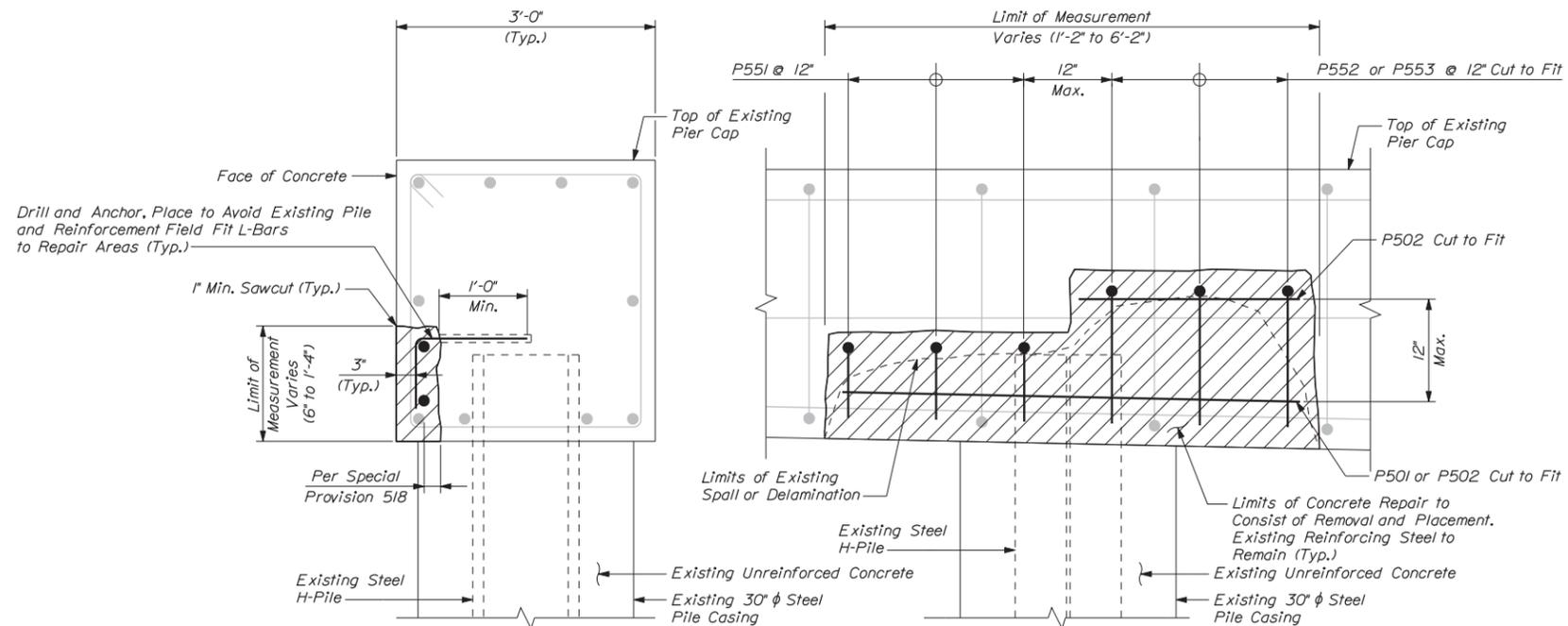
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 SB BRIDGE ABUTMENT 2  
 REPAIR AREAS

SHEET NUMBER:

CONTRACT: 2014.16

58 OF 101

Date: 3/25/2014

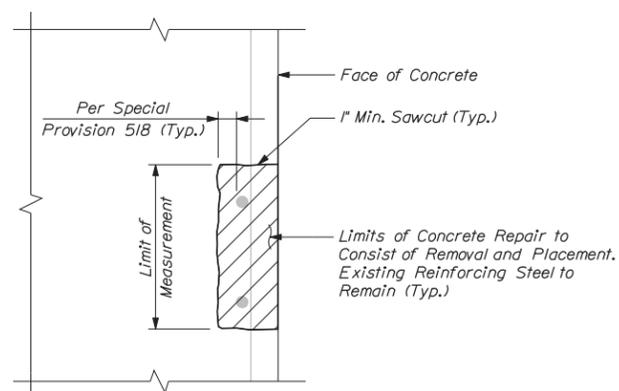


SIDE VIEW

ELEVATION

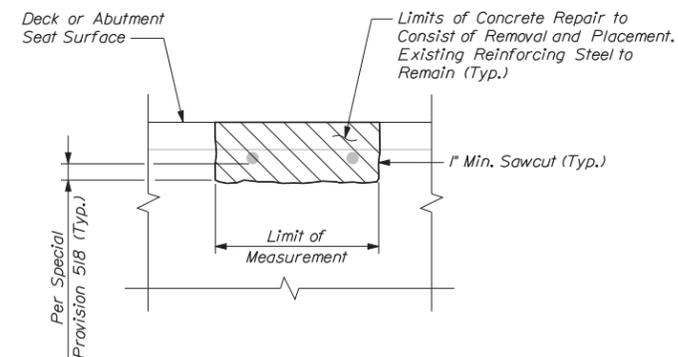
TYPICAL PIER CAP CONCRETE REPAIR AT PILE

Not to Scale



TYPICAL VERTICAL SURFACE CONCRETE REPAIR DETAILS

Not to Scale



TYPICAL HORIZONTAL SURFACE CONCRETE REPAIR DETAILS

Not to Scale

NOTE:

1. See General Construction Notes (2 of 3) Sheet for Pile Repair Notes.

Scale: As Noted

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	BJM	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



THE GOLD STAR  
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES

TYPICAL CONCRETE REPAIR DETAILS

SHEET NUMBER:

CONTRACT: 2014.16

59 OF 101

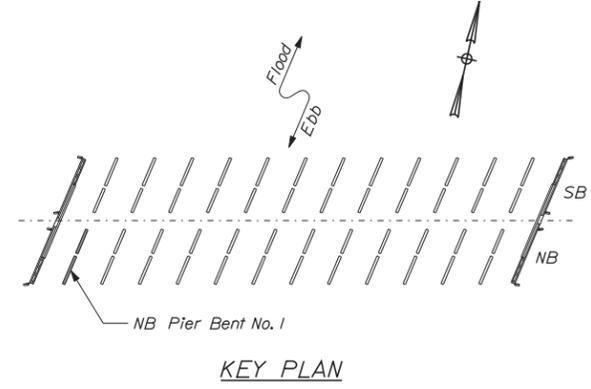
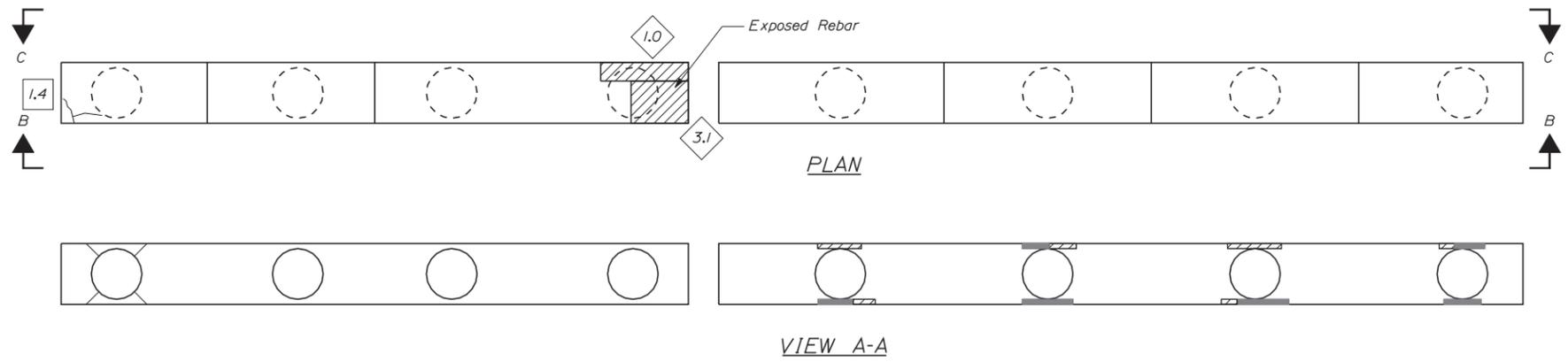
Filename: ...:\cad\st\plan\set\059\_Conc\_dt.dgn

Date: 3/25/2014

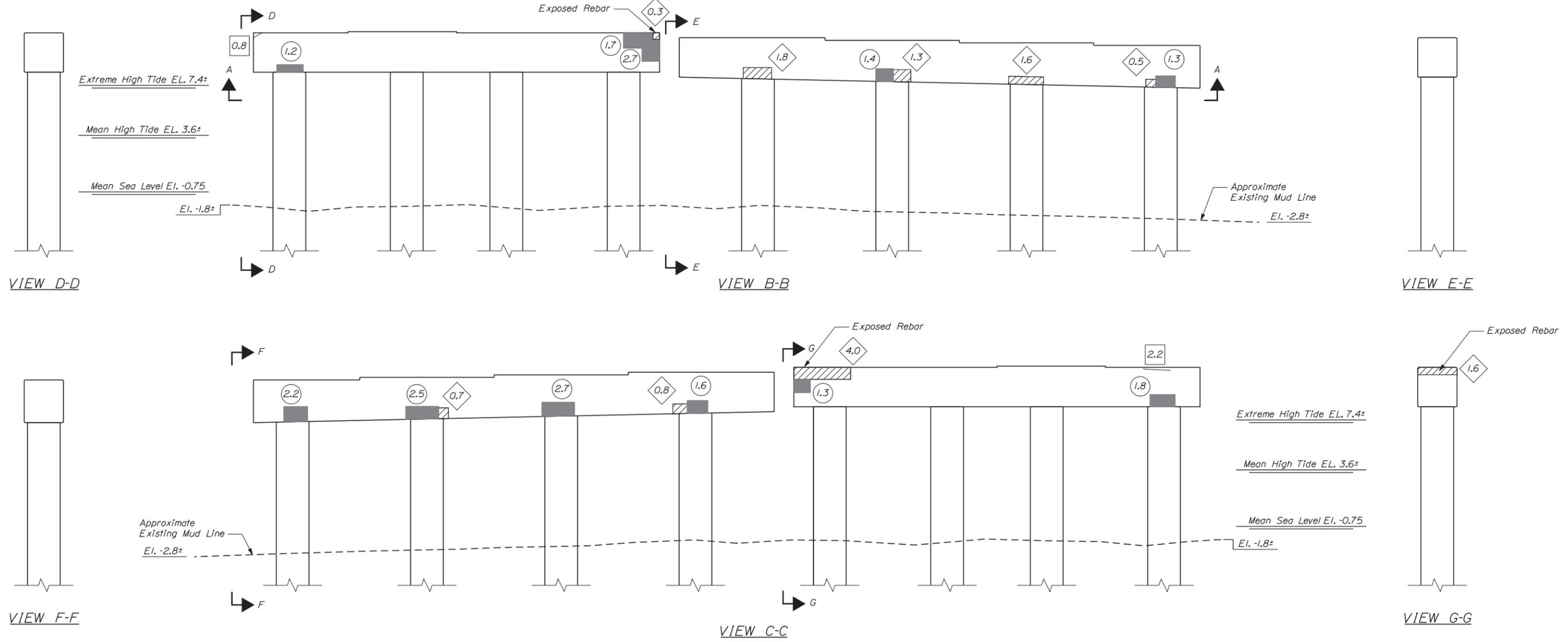
Filename: ...sf\planset\060\_pier\_NB\_01.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:  
**VIIB Vanasse Hangen Brustlin, Inc.**  
 CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	BJM	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 NB BRIDGE PIER BENT 1  
 CONCRETE REPAIR AREAS

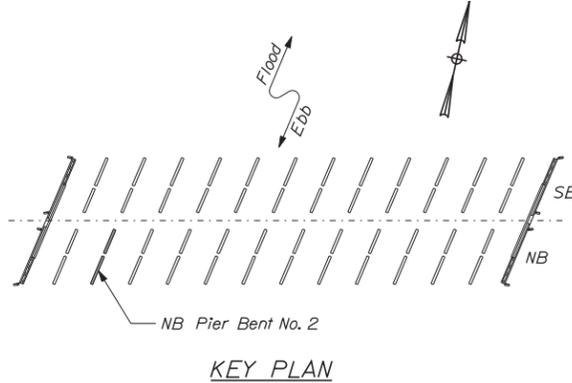
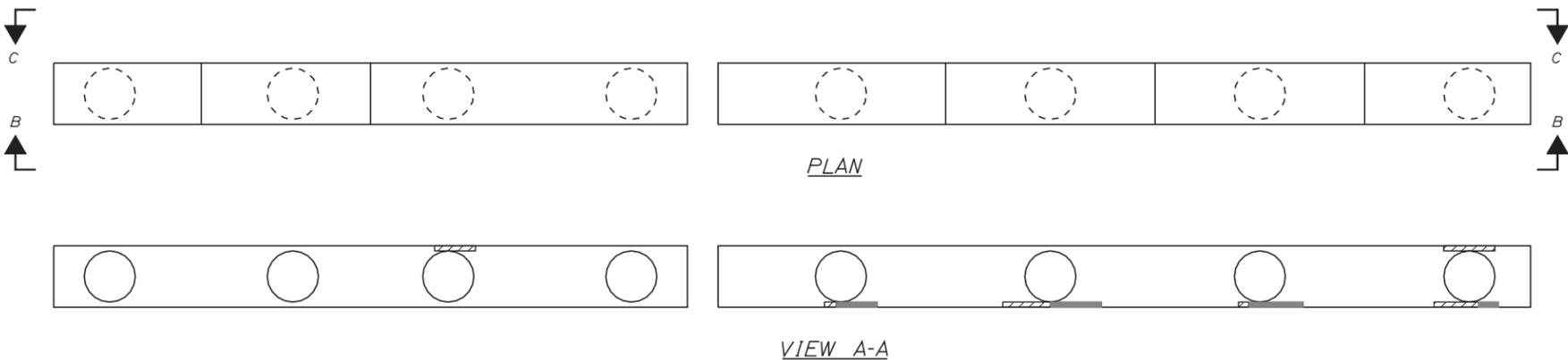
SHEET NUMBER:  
CONTRACT: 2014.16 60 OF 101

Date: 3/25/2014

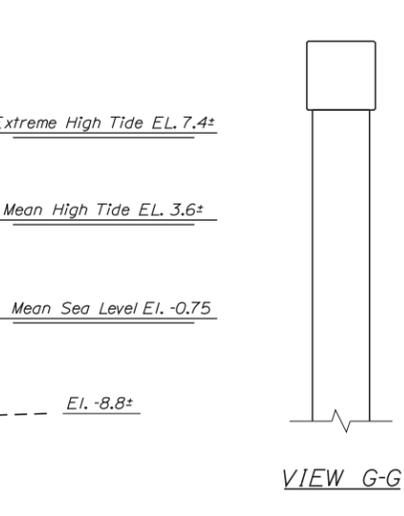
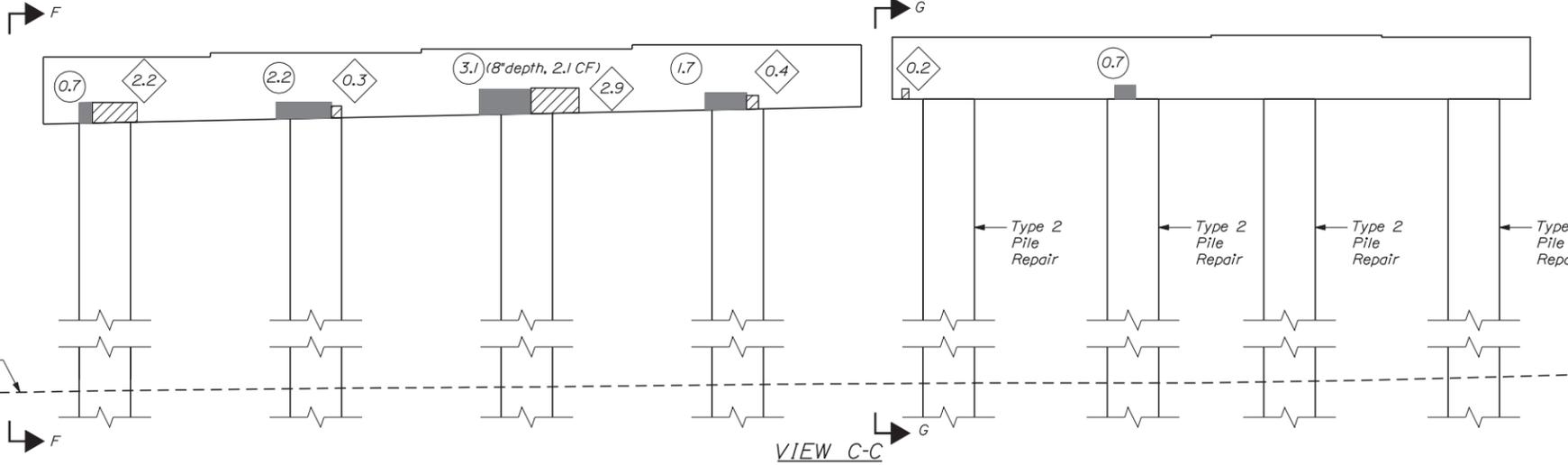
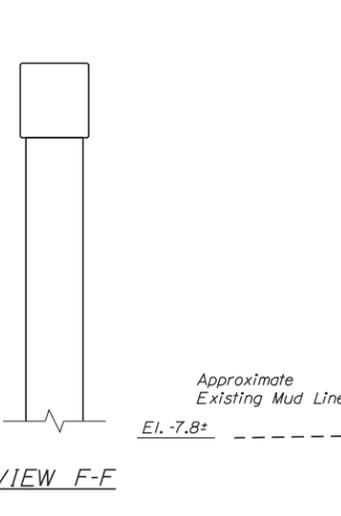
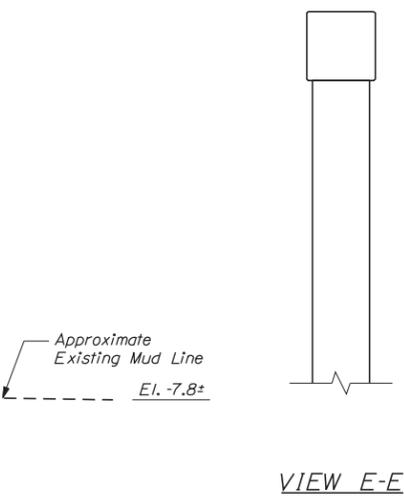
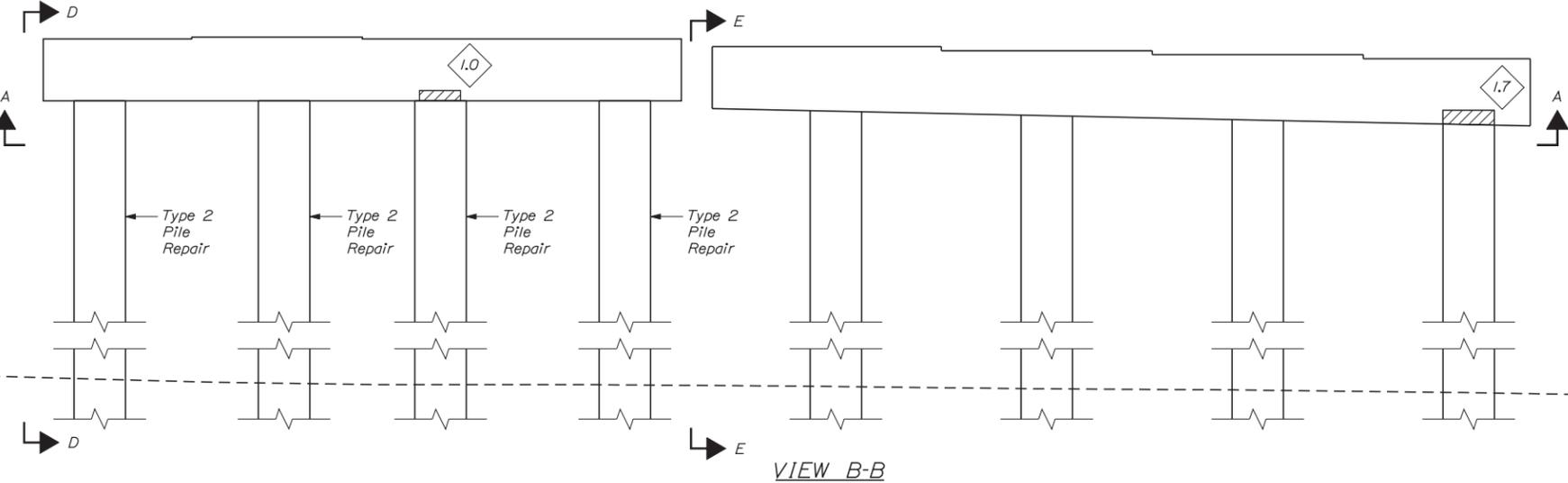
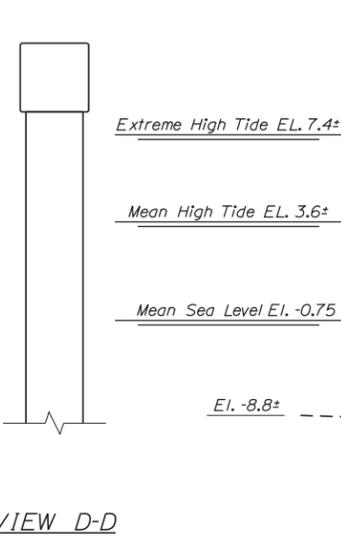
Filename: ...sf\planset\061\_pier\_NB\_02.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT					
Designed	By	Date	Checked	By	Date
Drawn	RSB	3/14	KJG	TSB	3/14
	MJB	3/14	In Charge of		

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
NB BRIDGE PIER BENT 2  
CONCRETE REPAIR AREAS

CONTRACT: 2014.16

SHEET NUMBER:

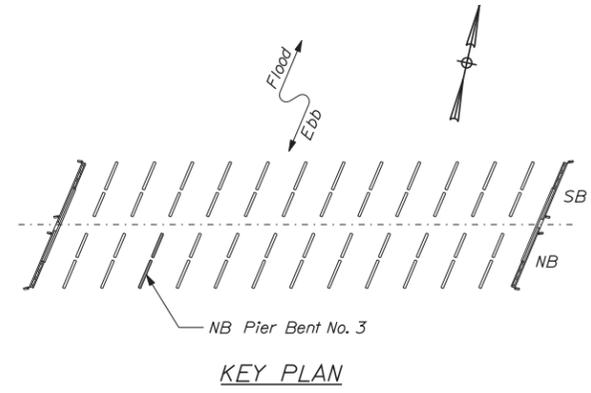
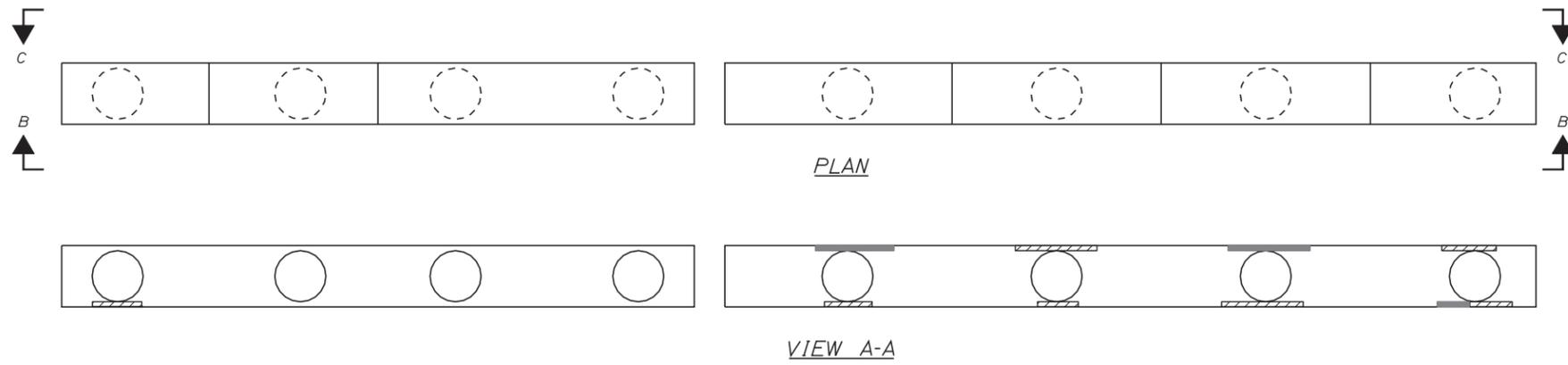
61 OF 101

Date: 3/25/2014

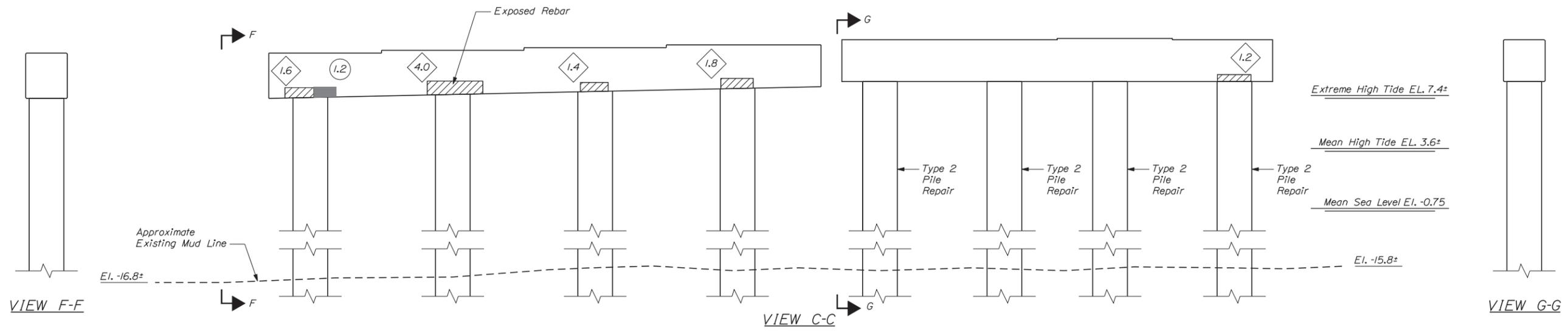
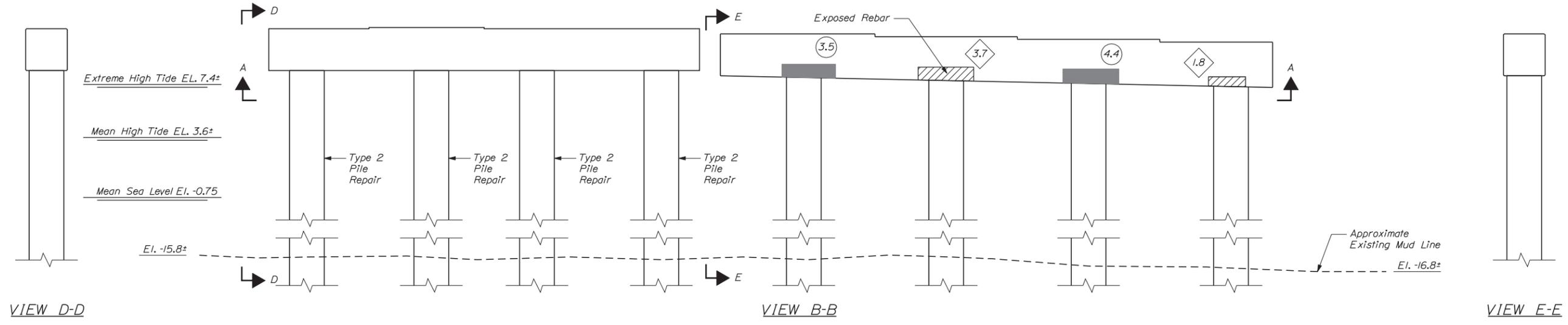
Filename: ...\\sf\planset\062\_pier\_NB\_03.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
NB BRIDGE PIER BENT 3  
CONCRETE REPAIR AREAS

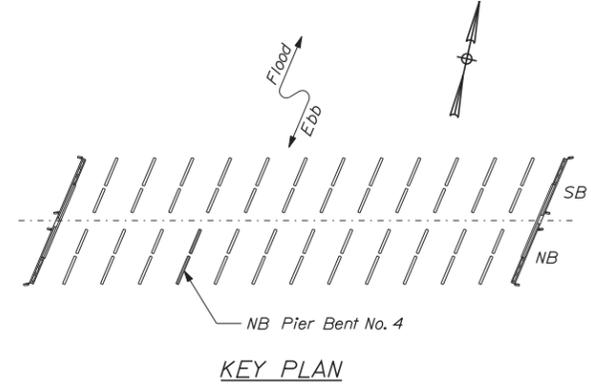
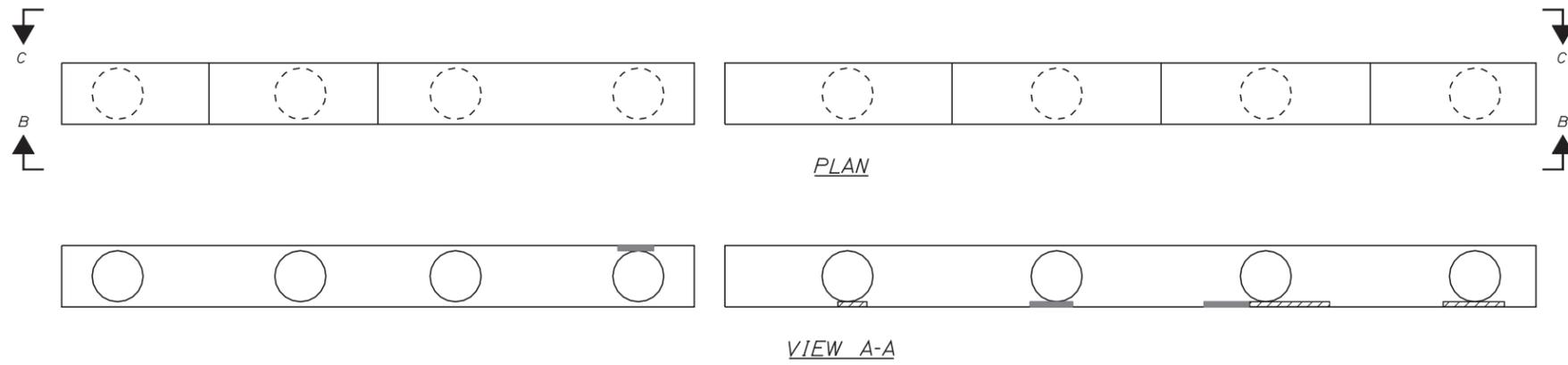
SHEET NUMBER:  
CONTRACT: 2014.16      62 OF 101

Date: 3/25/2014

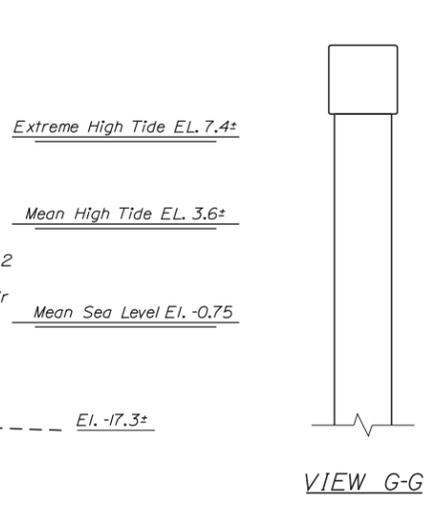
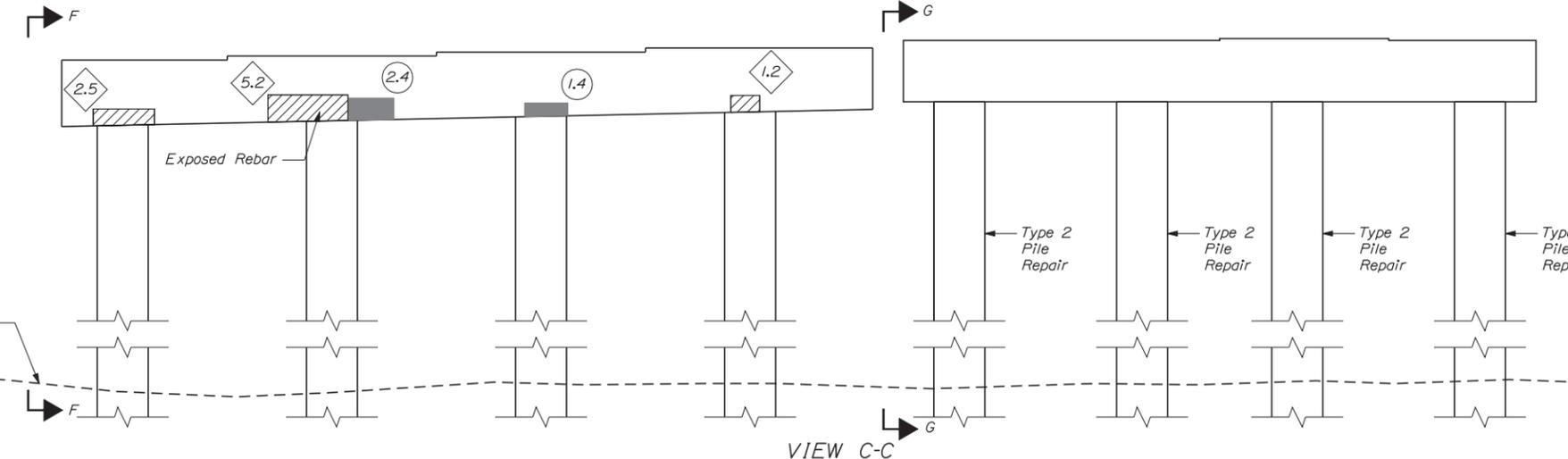
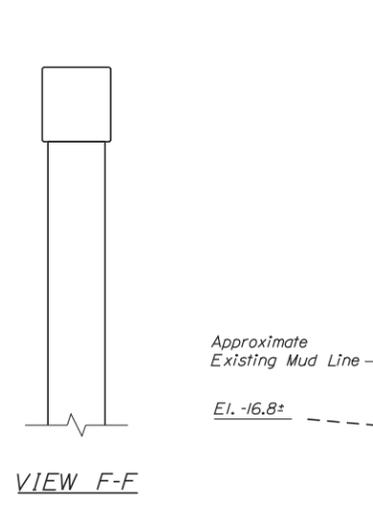
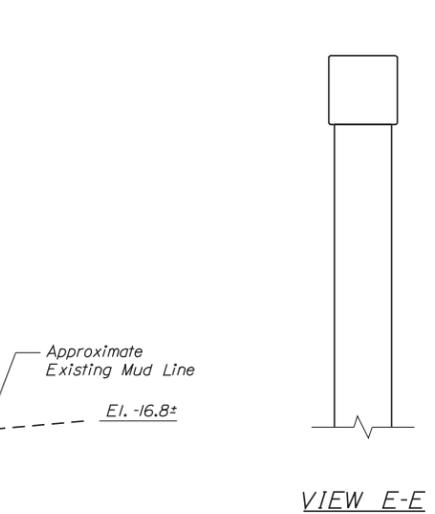
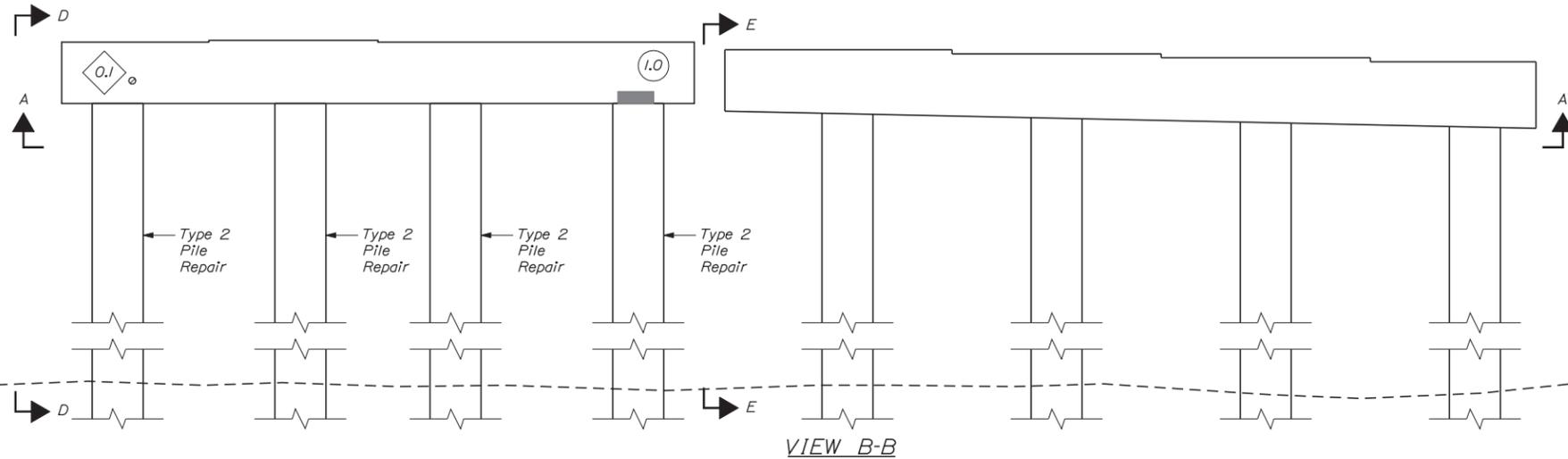
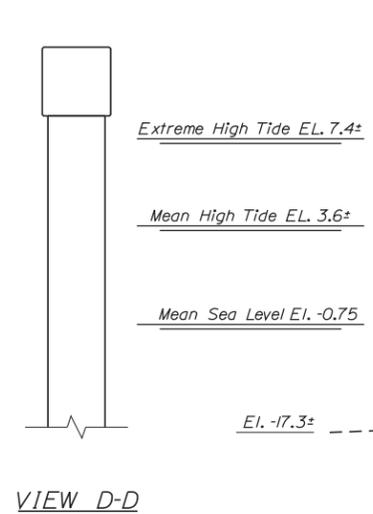
Filename: ...\\sf\planset\063\_pier\_NB\_04.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

**VIIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date	
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	MJB	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
NB BRIDGE PIER BENT 4  
CONCRETE REPAIR AREAS

SHEET NUMBER:  
CONTRACT: 2014.16

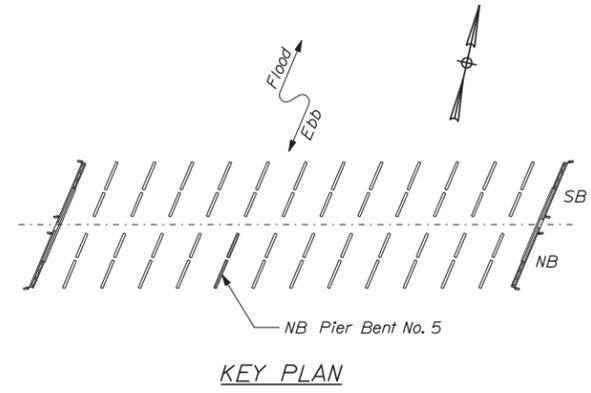
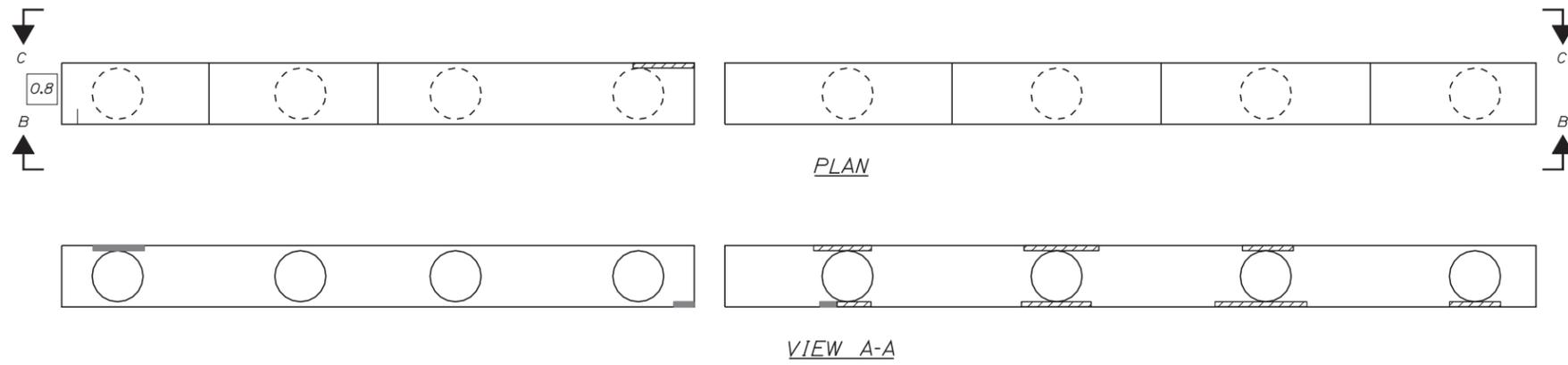
63 OF 101

Date: 3/25/2014

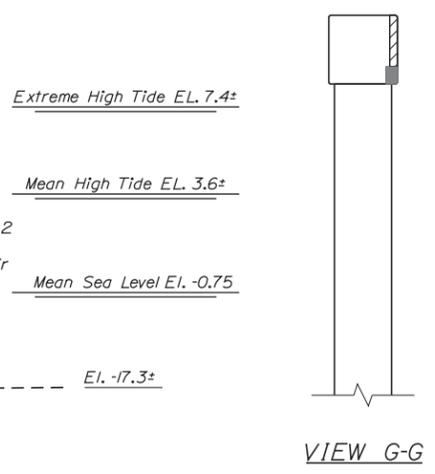
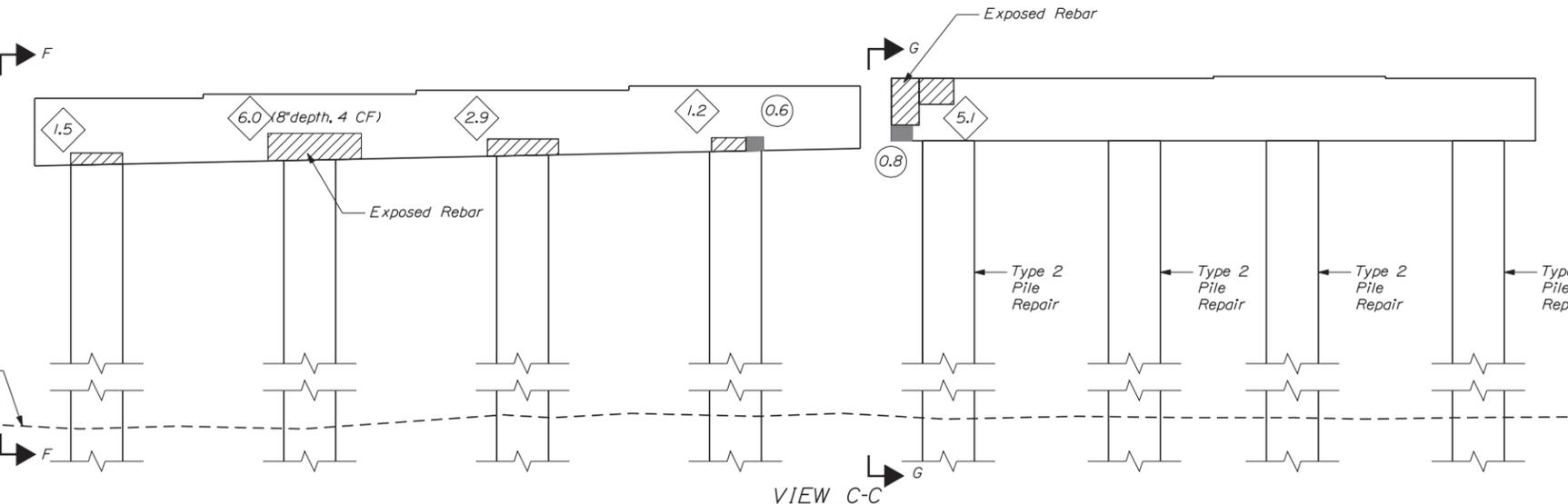
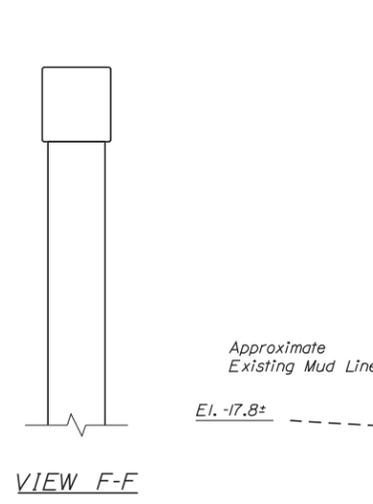
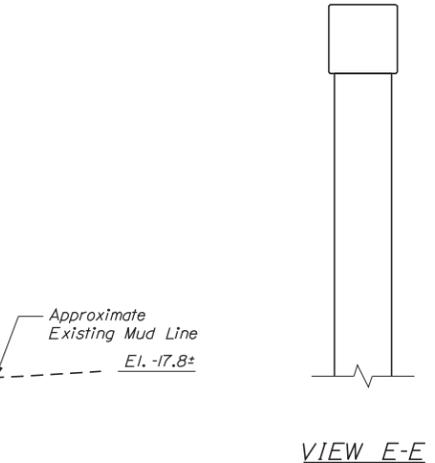
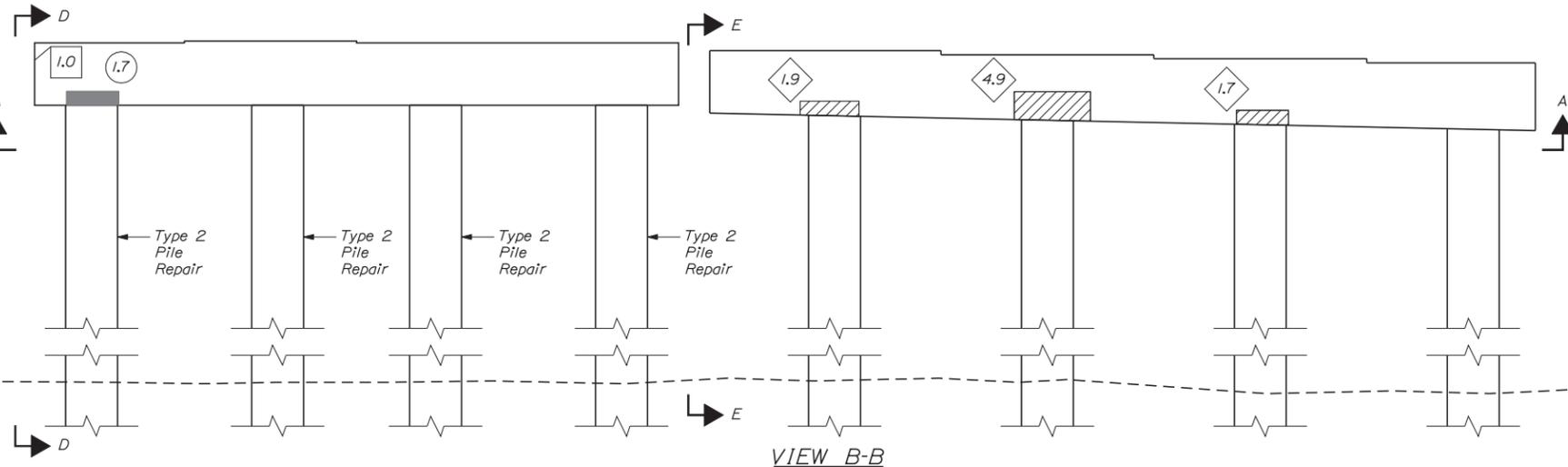
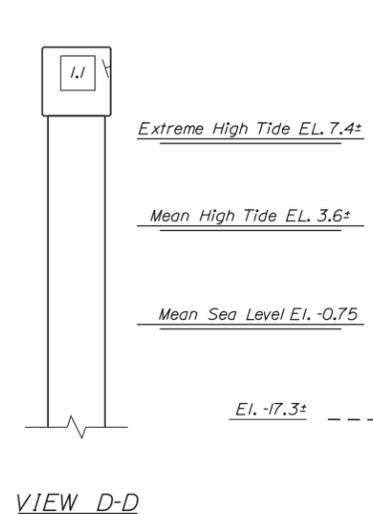
Filename: ...\\sf\planset\064\_pier\_NB\_05.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT					
Designed	By	Date	Checked	By	Date
Drawn	By	Date	In Charge of	By	Date
	RSB	3/14		KJG	3/14
	MJB	3/14		TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
NB BRIDGE PIER BENT 5  
CONCRETE REPAIR AREAS

CONTRACT: 2014.16

SHEET NUMBER:

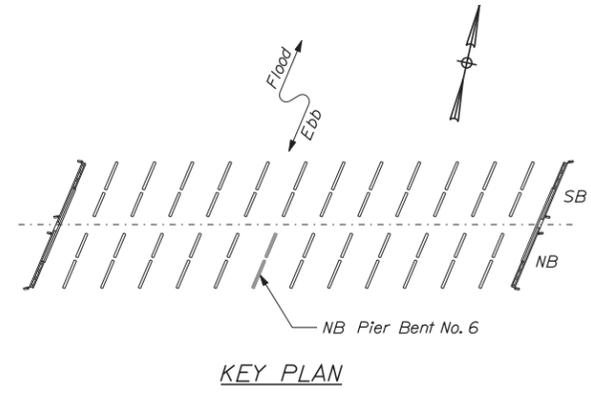
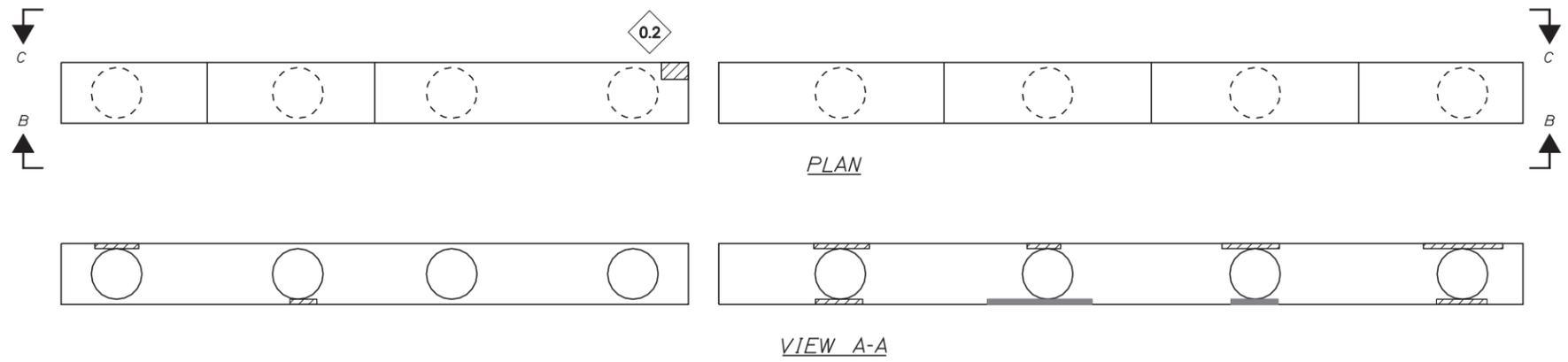
64 OF 101

Date: 3/25/2014

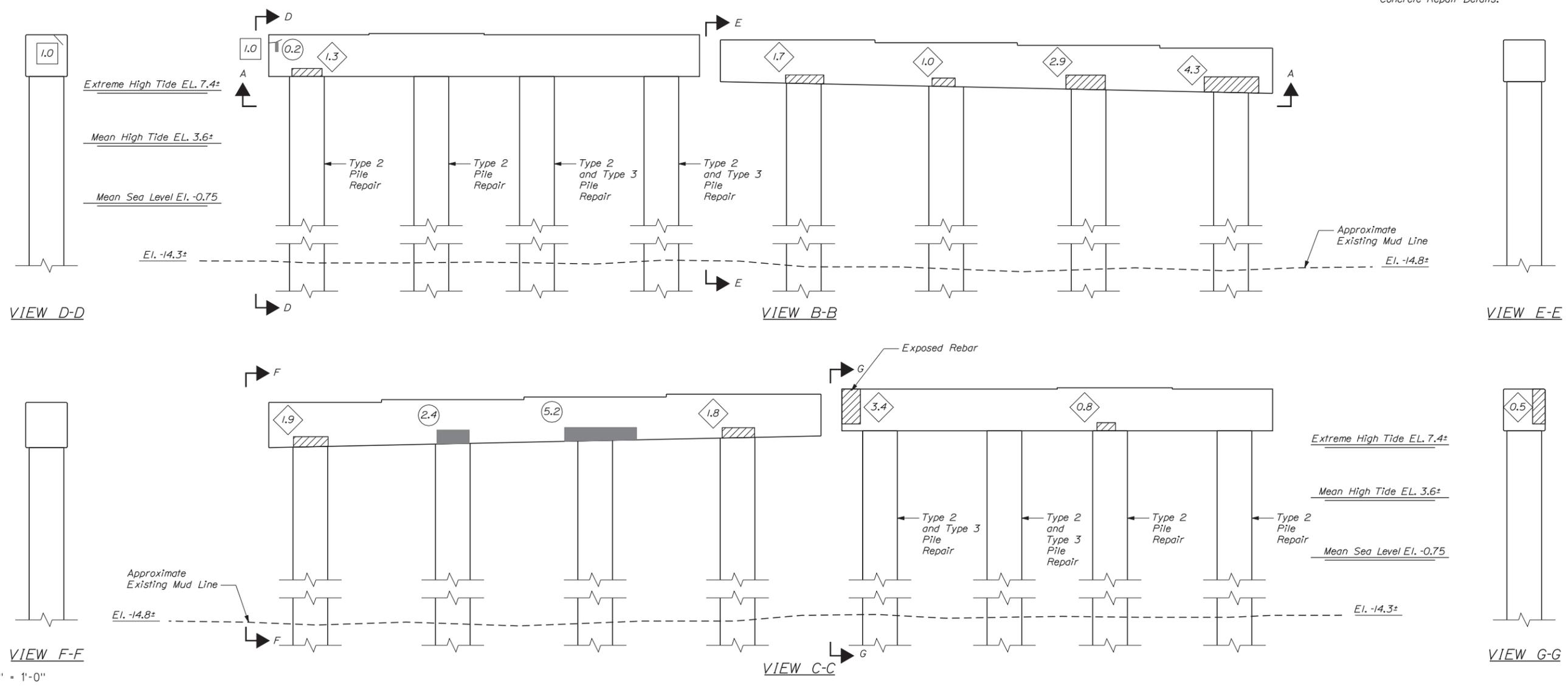
Filename: ...sf\planset\065\_pier\_NB\_06.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	MJB	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
NB BRIDGE PIER BENT 6  
CONCRETE REPAIR AREAS

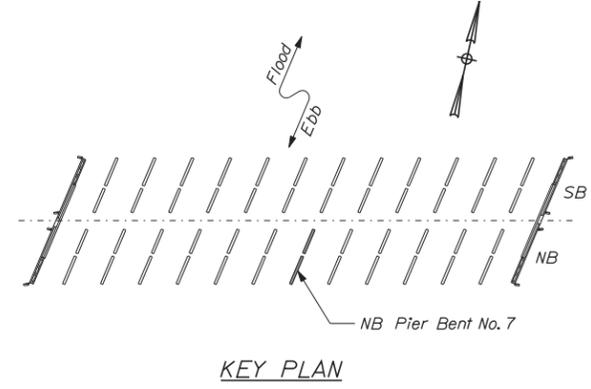
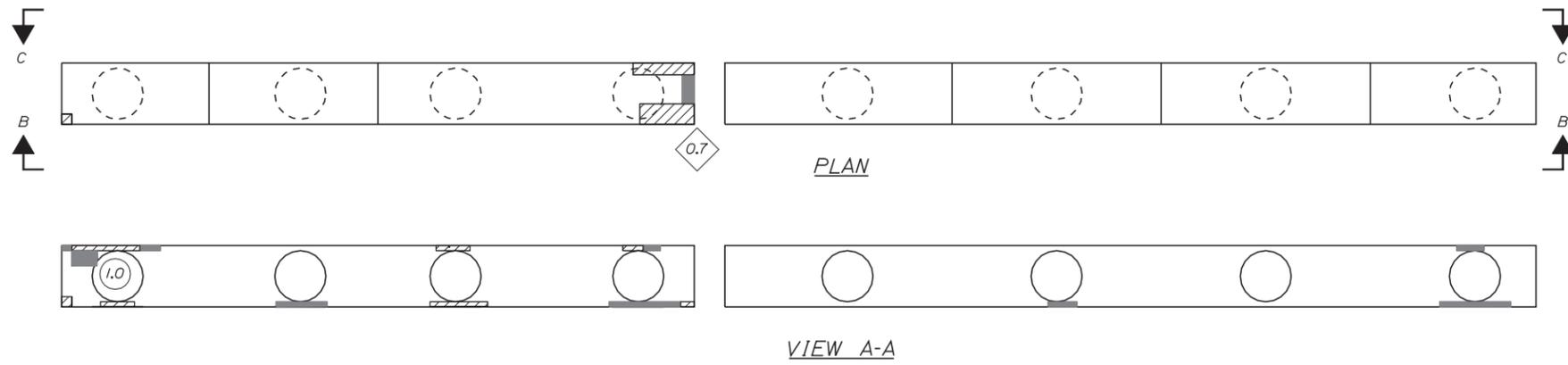
SHEET NUMBER:  
CONTRACT: 2014.16  
65 OF 101

Date: 3/25/2014

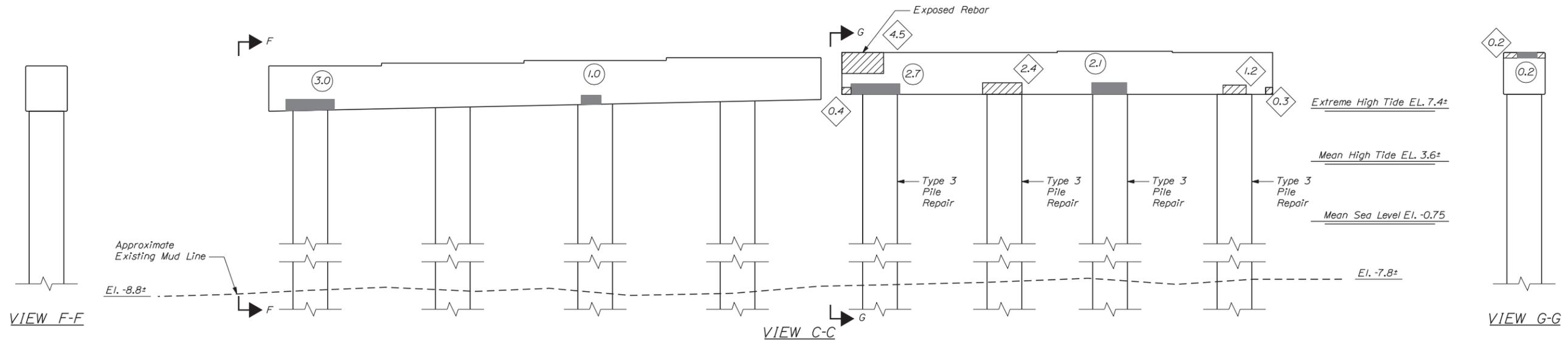
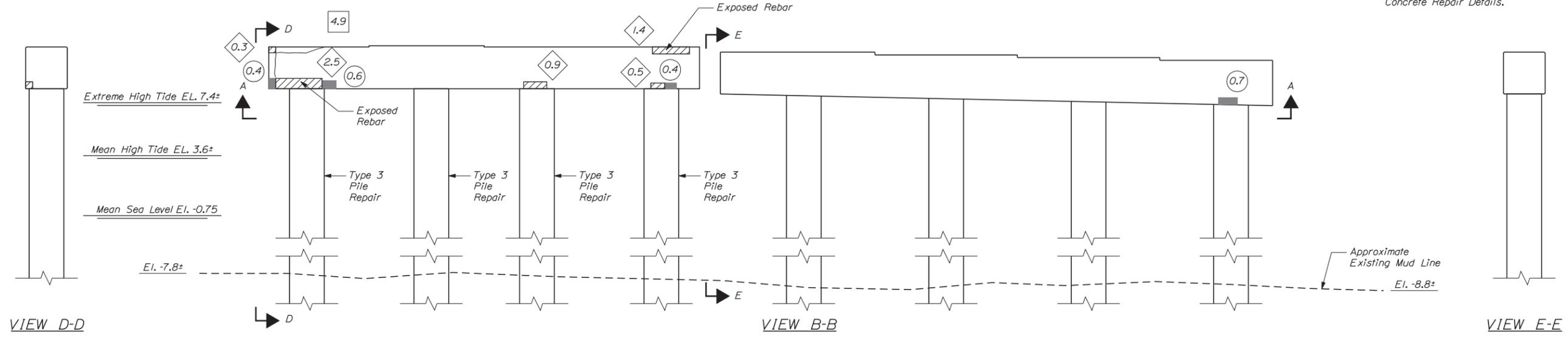
Filename: ...sf\planset\066\_pier\_NB\_07.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
NB BRIDGE PIER BENT 7  
CONCRETE REPAIR AREAS

SHEET NUMBER:  
CONTRACT: 2014.16  
66 OF 101

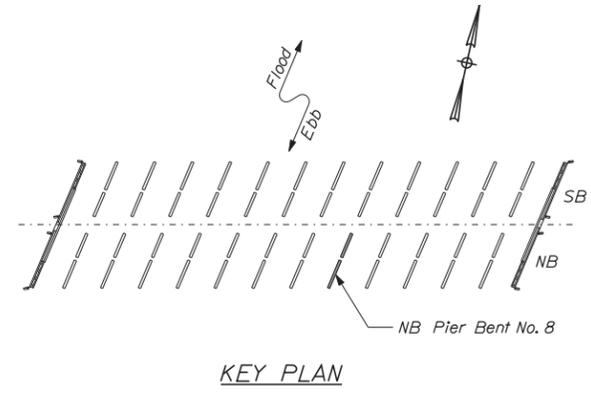
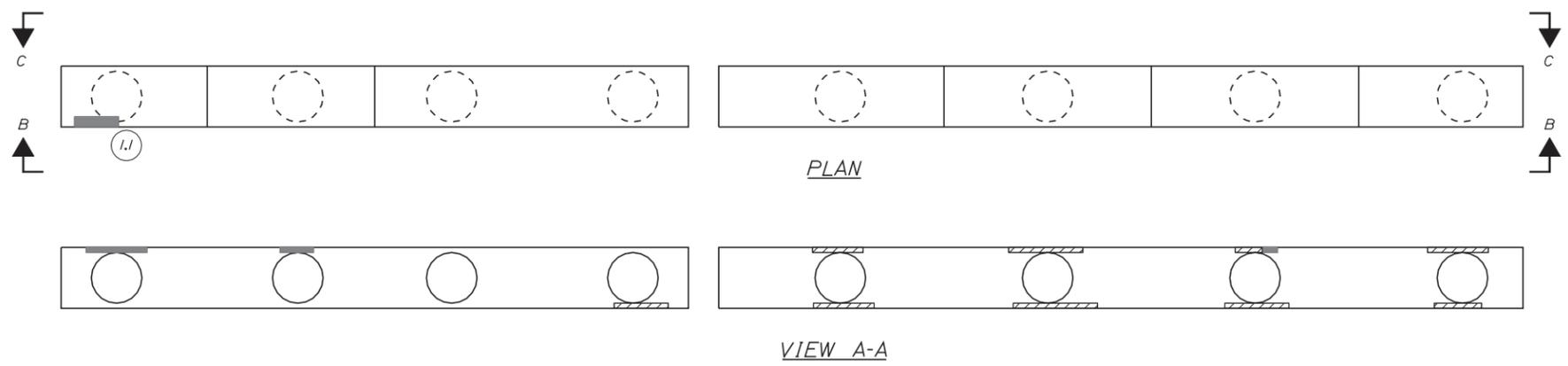
Date: 3/25/2014

Filename: ...\\sf\planset\067\_pier\_NB\_08.dgn

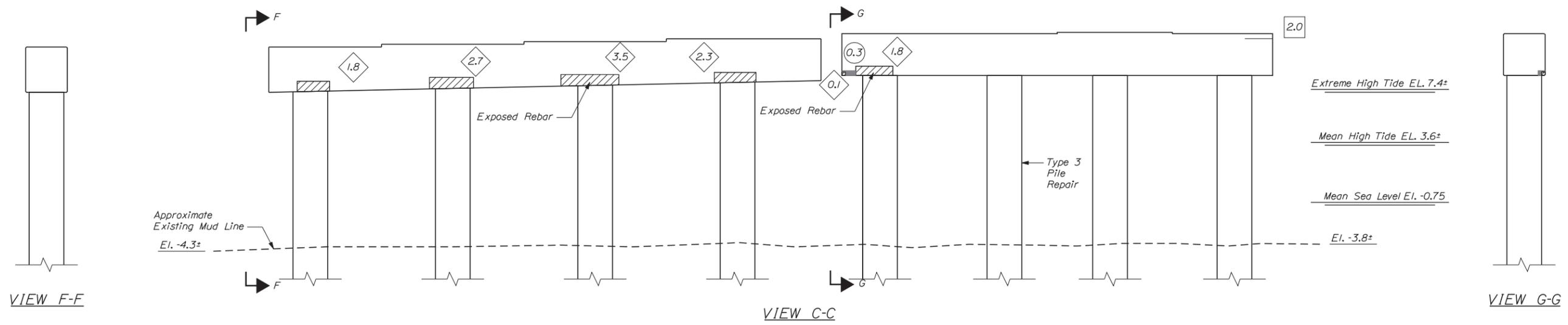
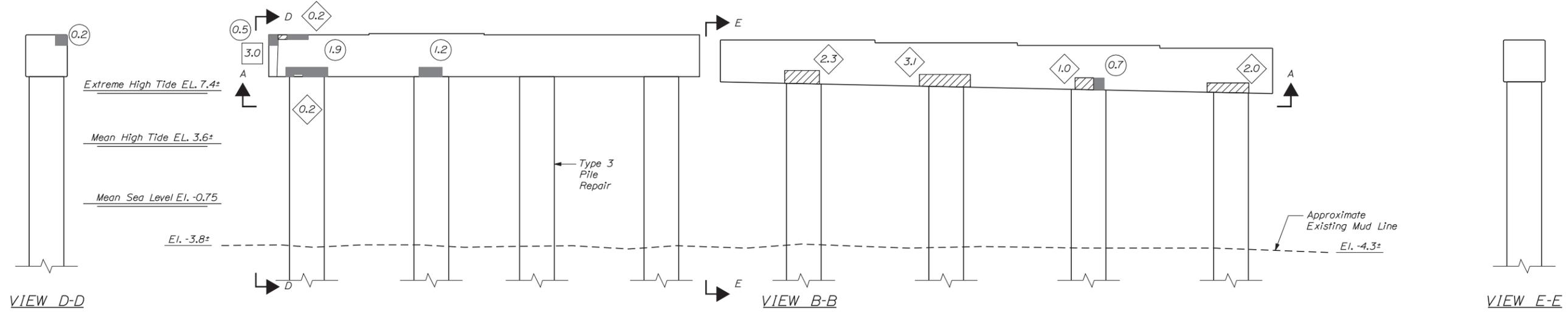


**KEY:**

- Approximate Limits of Delamination
- Approximate Limits of Spall
- Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
- Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
- Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT					
Designed	By	Date	Checked	By	Date
Drawn	RSB	3/14	In Charge of	KJG	3/14
	MJB	3/14		TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
NB BRIDGE PIER BENT 8  
CONCRETE REPAIR AREAS

CONTRACT: 2014.16

SHEET NUMBER:

67 OF 101

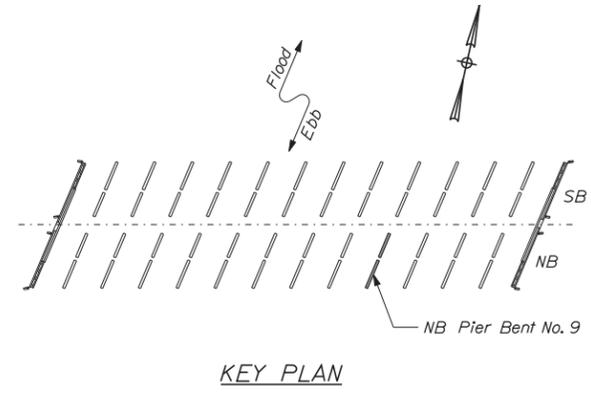
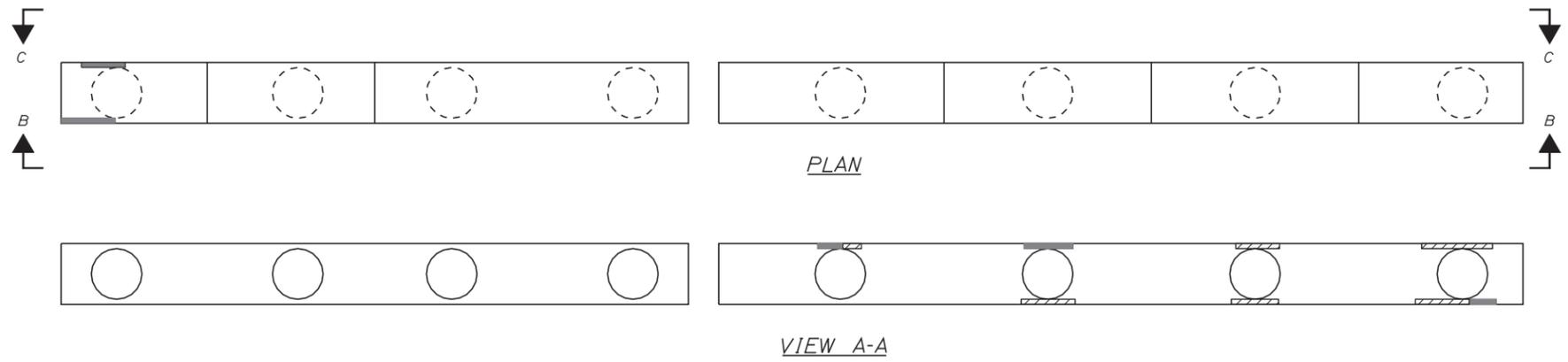
Date: 3/25/2014

Filename: ...sf\planset\068\_pier\_NB\_09.dgn

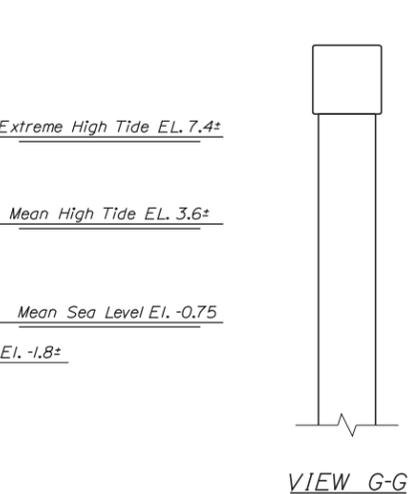
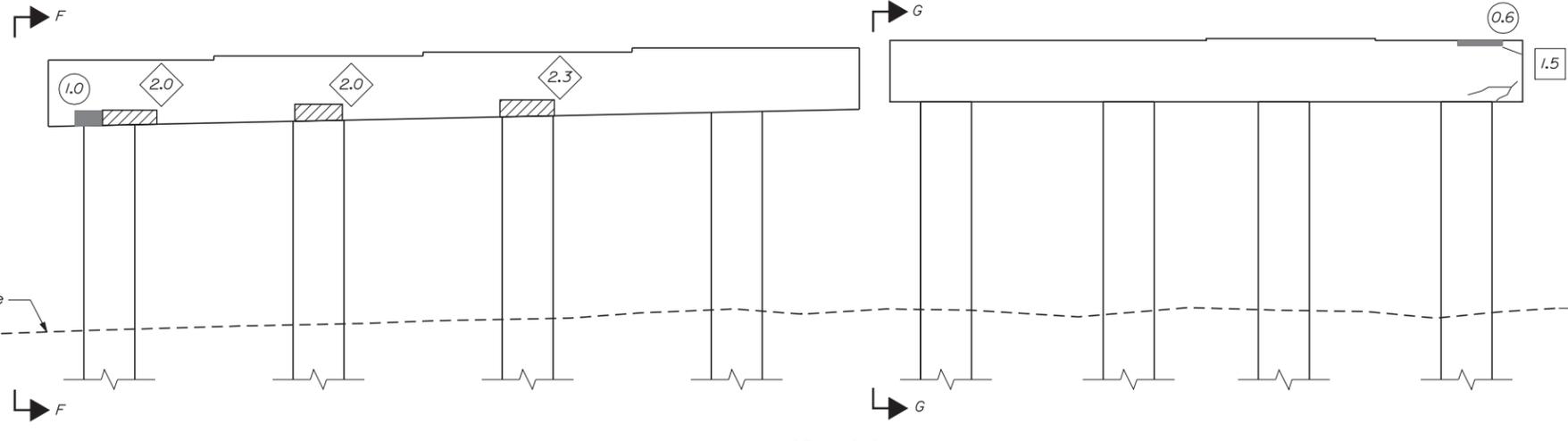
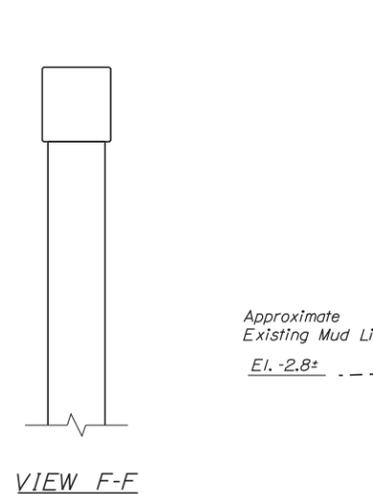
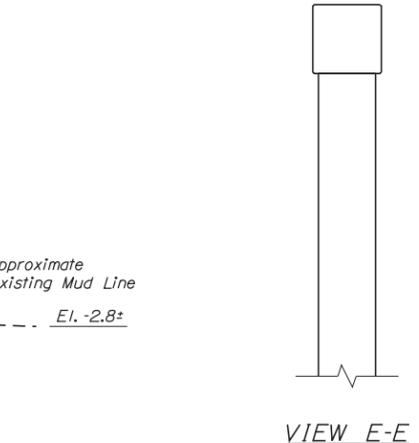
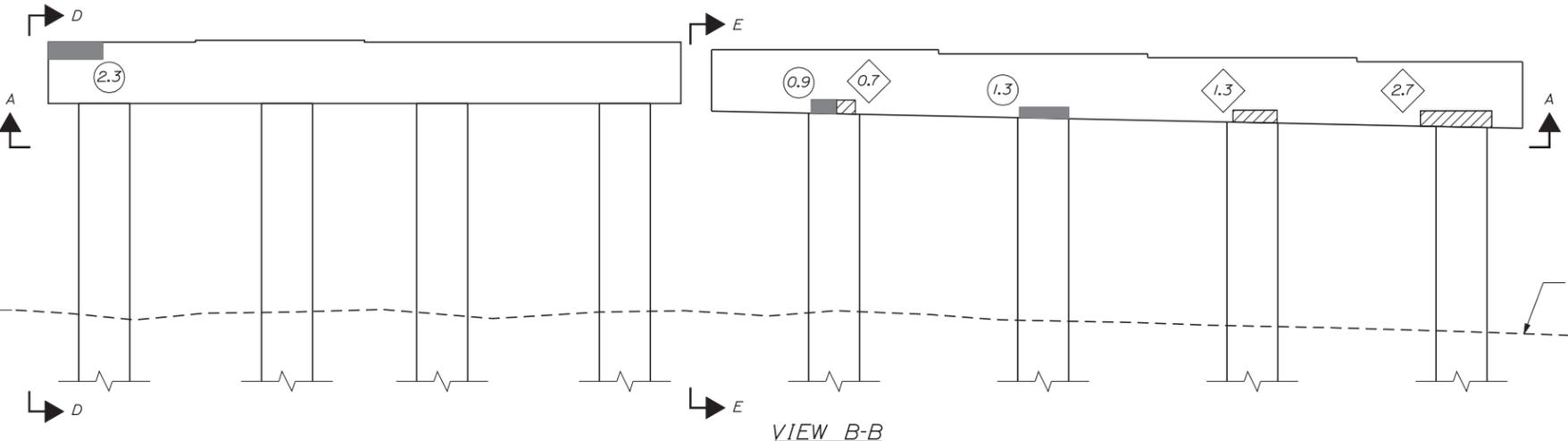
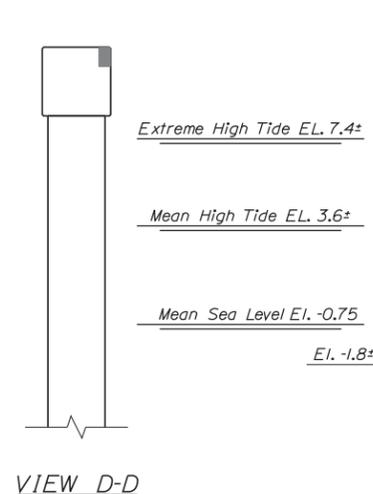


**KEY:**

- Approximate Limits of Delamination
- Approximate Limits of Spall
- Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
- Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
- Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

**VIIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
NB BRIDGE PIER BENT 9  
CONCRETE REPAIR AREAS

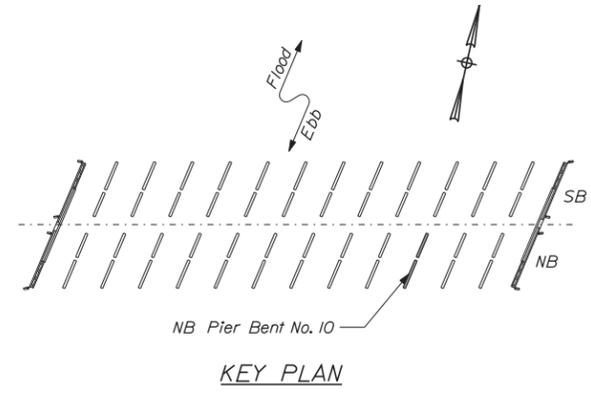
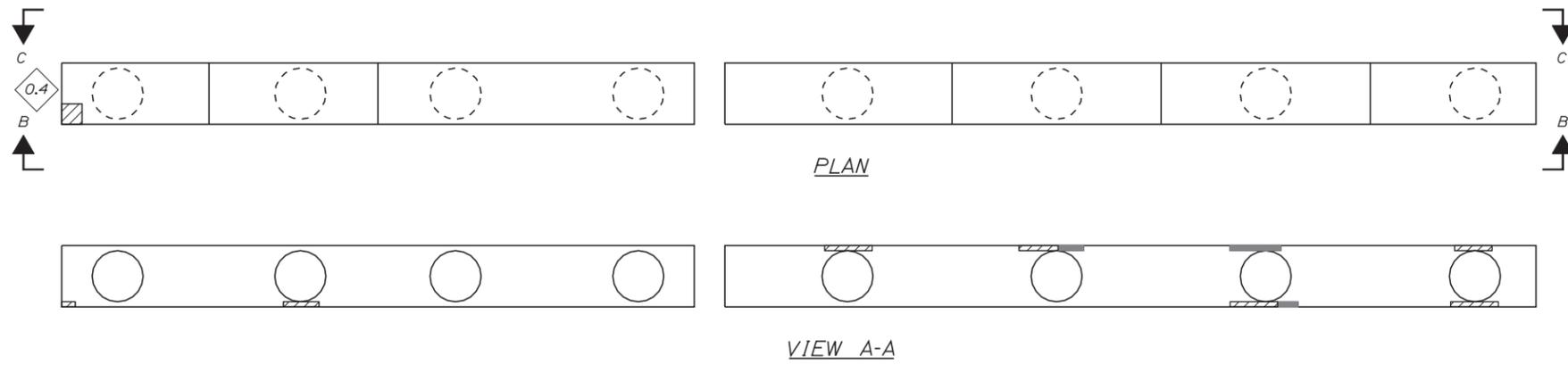
SHEET NUMBER:  
CONTRACT: 2014.16 68 OF 101

Date: 3/25/2014

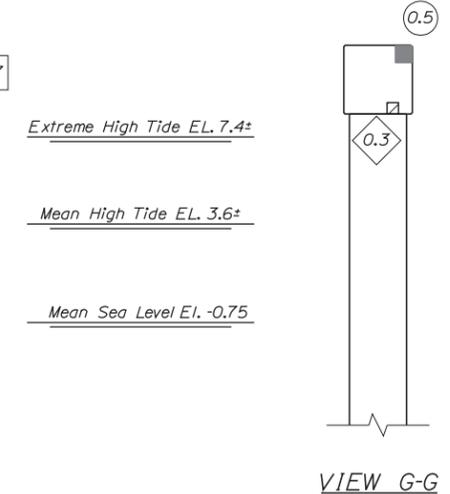
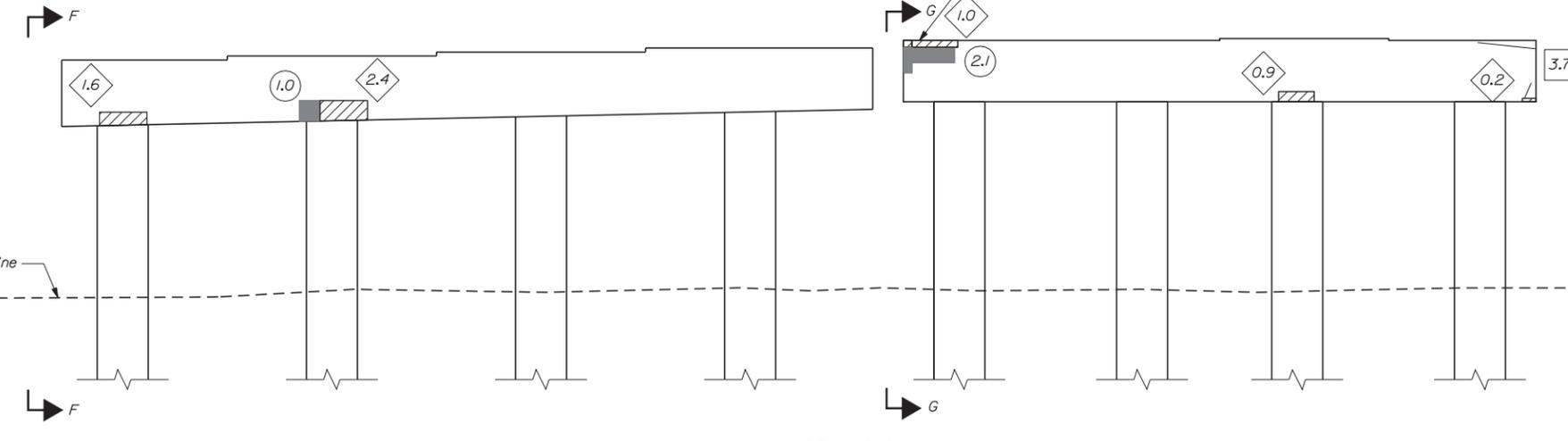
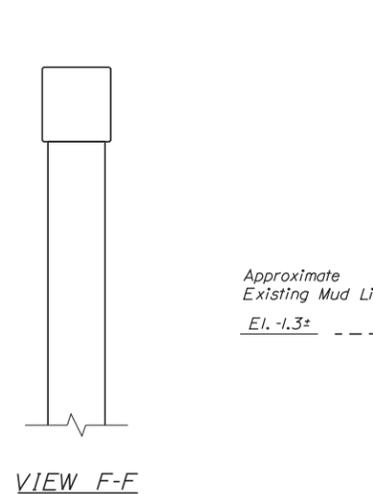
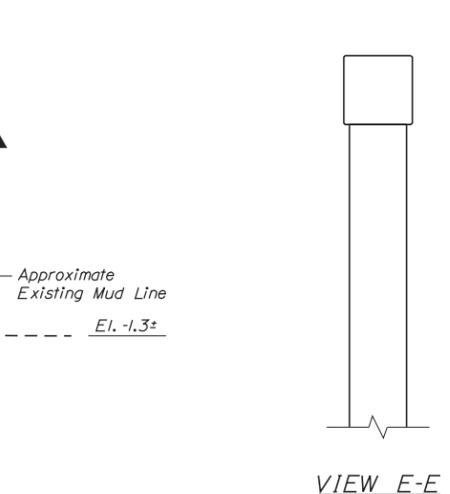
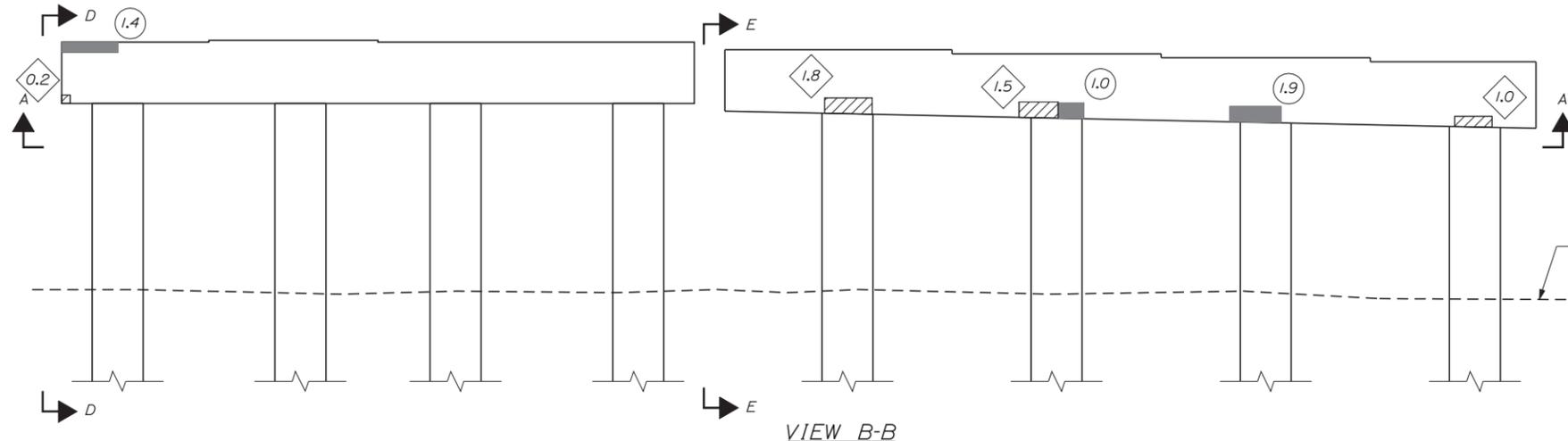
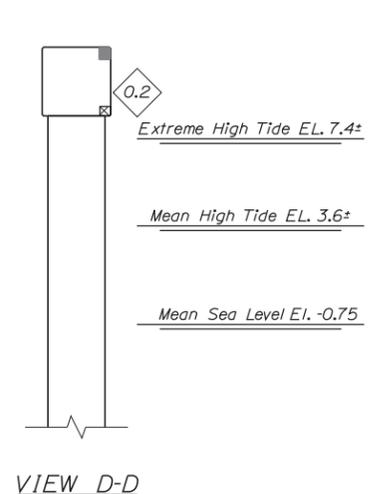
Filename: ...sf\planset\069\_pier\_NB\_10.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:  
**VIIB Vanasse Hangen Brustlin, Inc.**  
 CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date	
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 NB BRIDGE PIER BENT 10  
 CONCRETE REPAIR AREAS

SHEET NUMBER:  
CONTRACT: 2014.16 69 OF 101

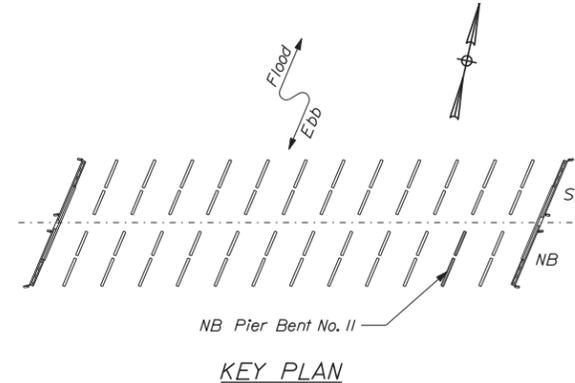
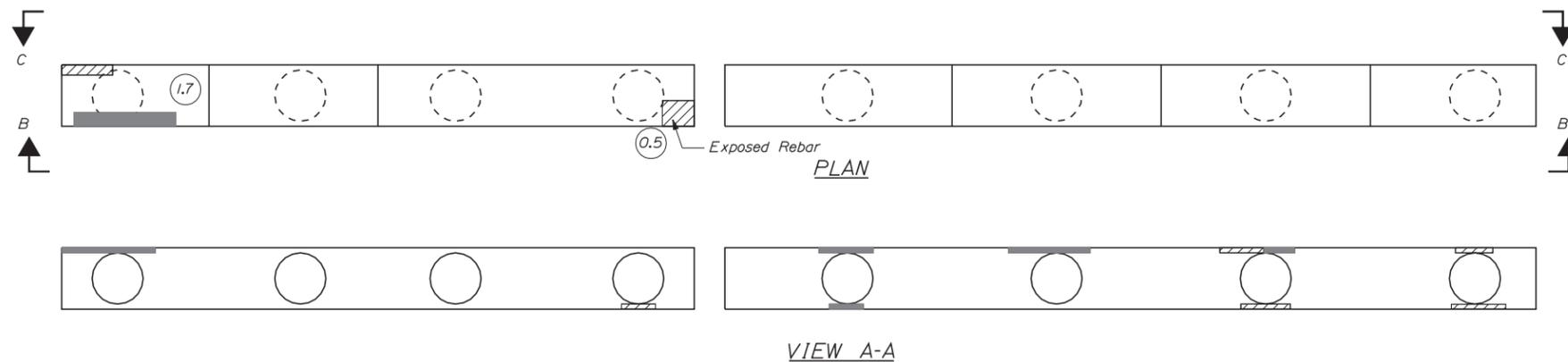
Date: 3/25/2014

Filename: ...\\sf\planset\070\_pier\_NB\_11.dgn



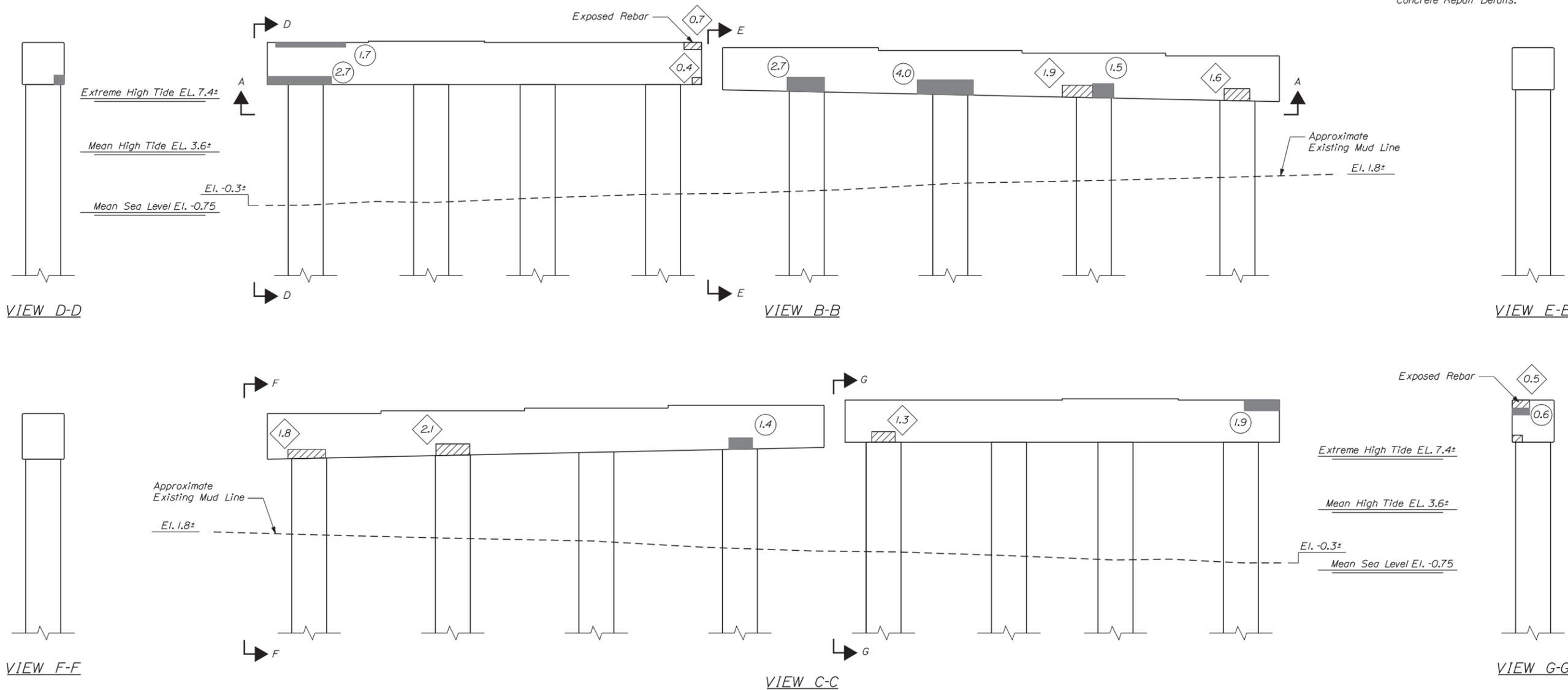
**KEY:**

- Approximate Limits of Delamination
- Approximate Limits of Spall
- Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
- Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
- Linear Foot of Crack



**NOTE:**

1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
 MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 NB BRIDGE PIER BENT 11  
 CONCRETE REPAIR AREAS

CONTRACT: 2014.16

SHEET NUMBER:

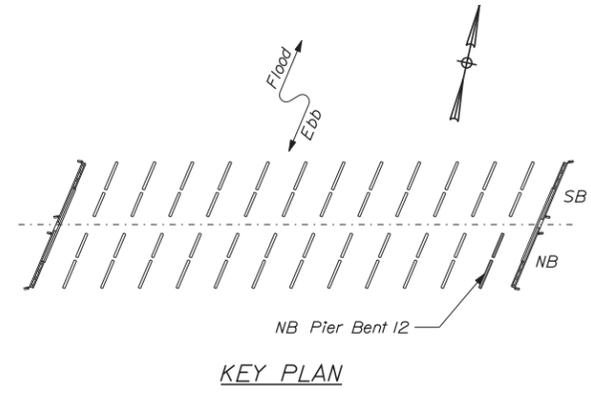
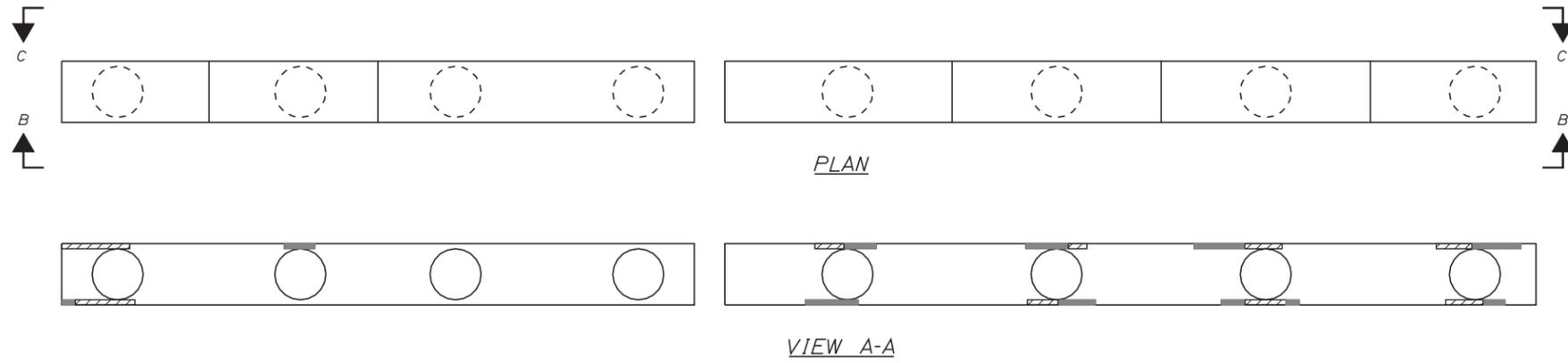
70 OF 101

Date: 3/25/2014

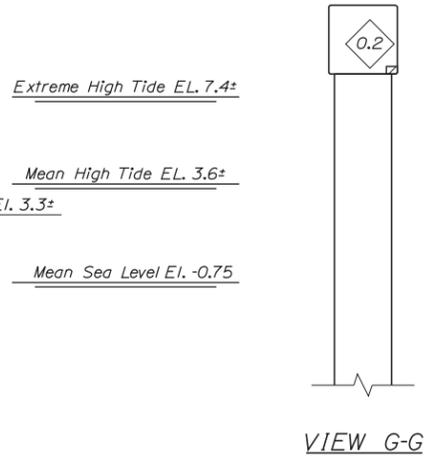
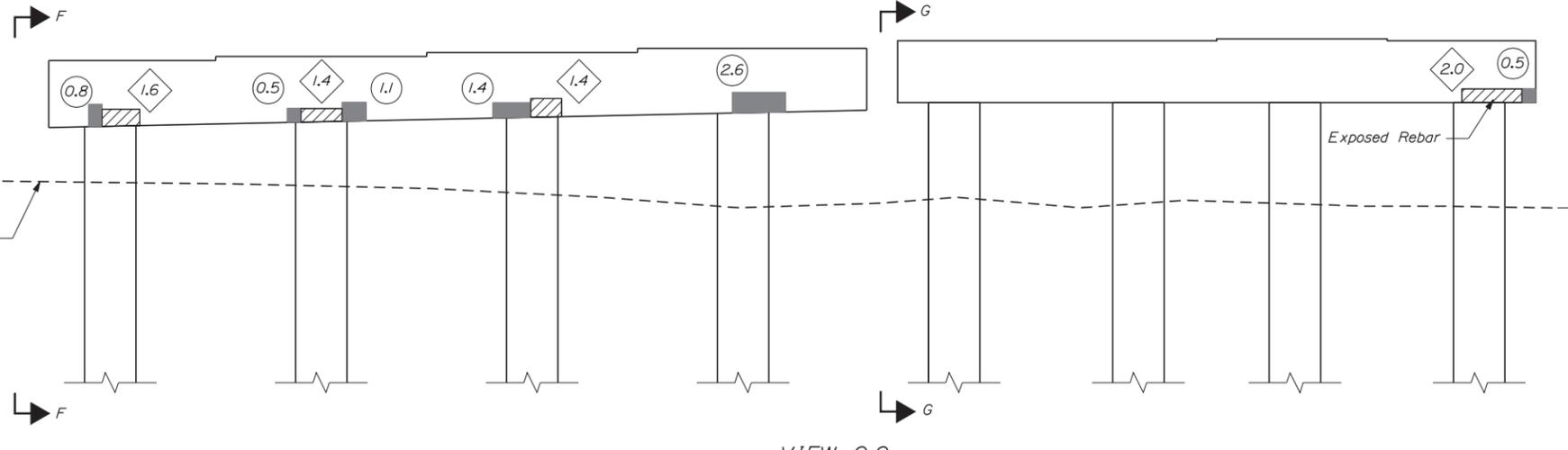
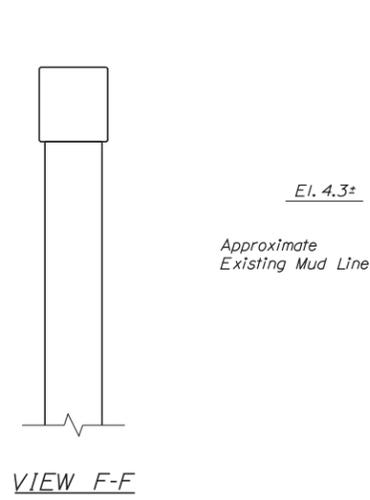
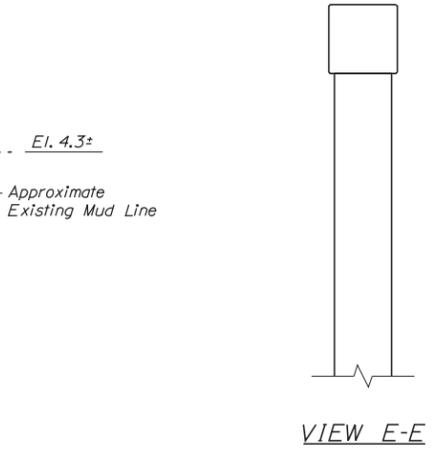
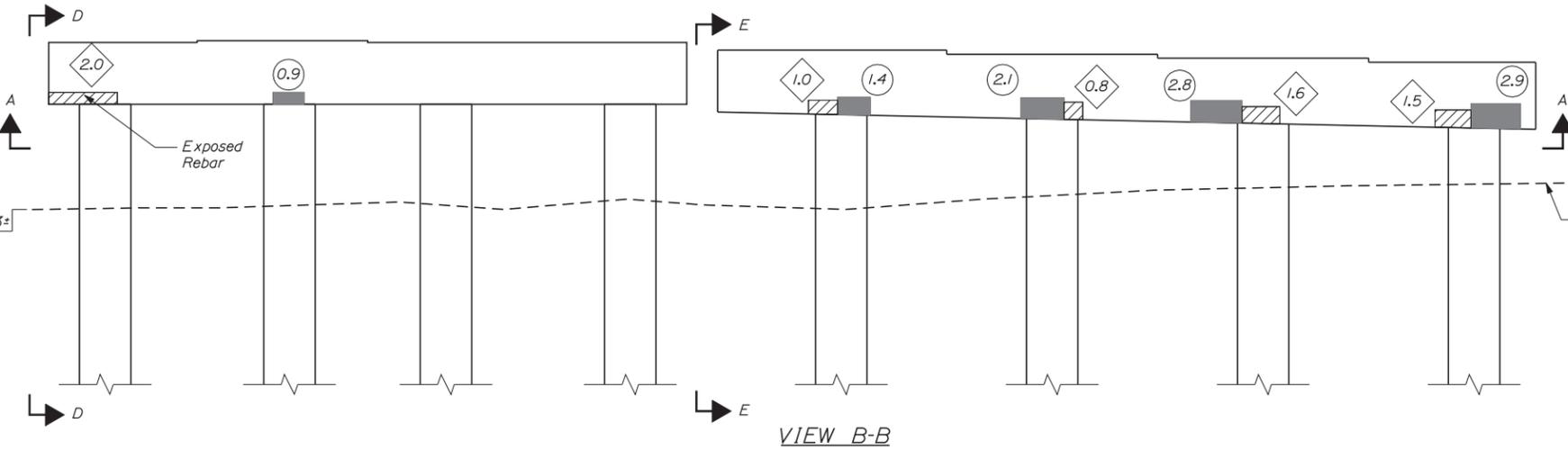
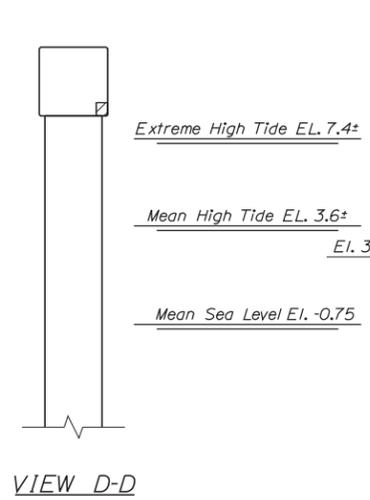
Filename: ...sf\planset\071\_pier\_NB\_12.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
NB BRIDGE PIER BENT 12  
CONCRETE REPAIR AREAS

CONTRACT: 2014.16

SHEET NUMBER:

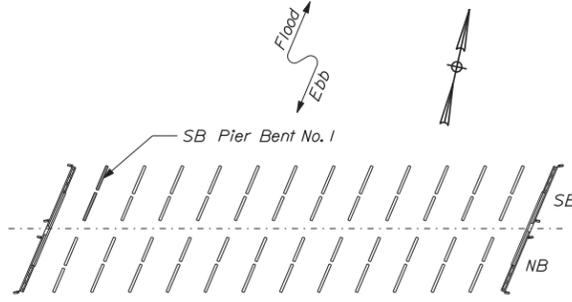
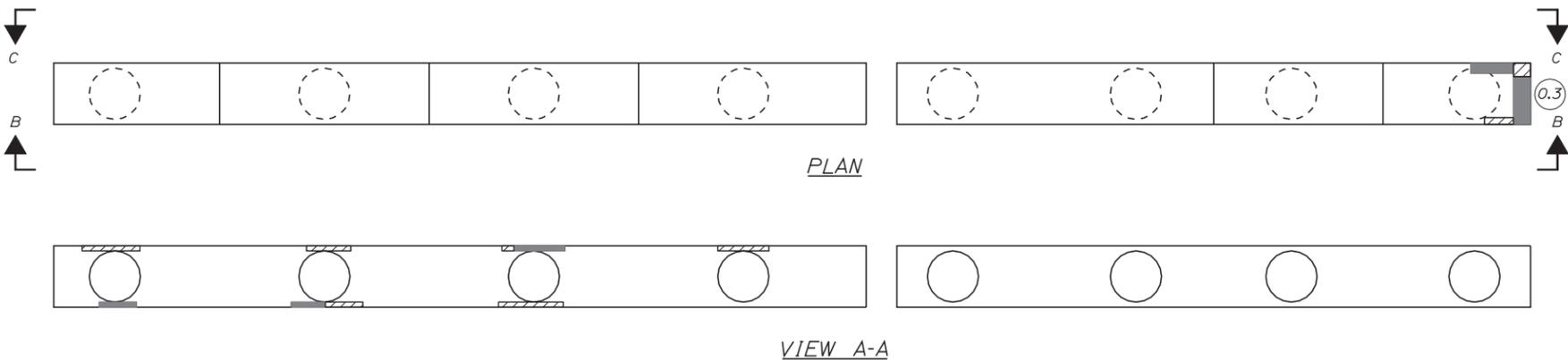
71 OF 101

Date: 3/25/2014

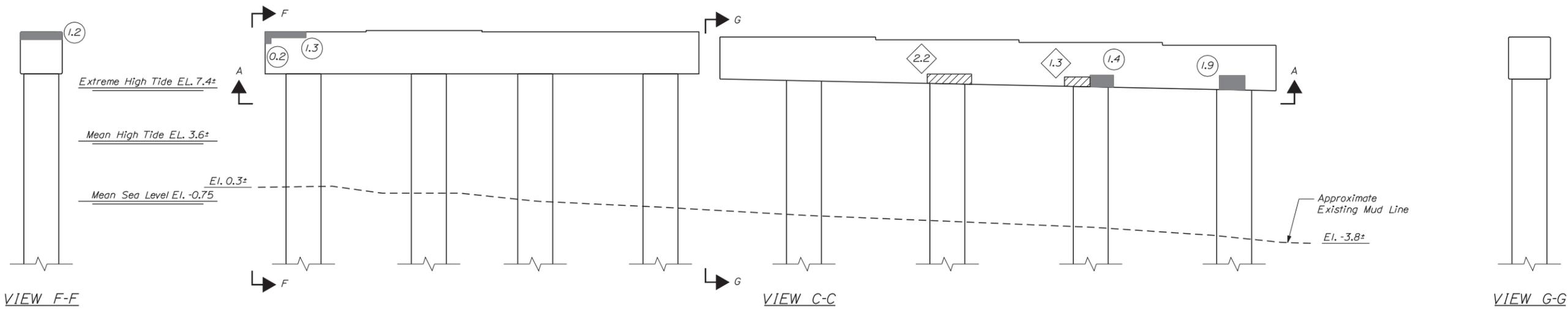
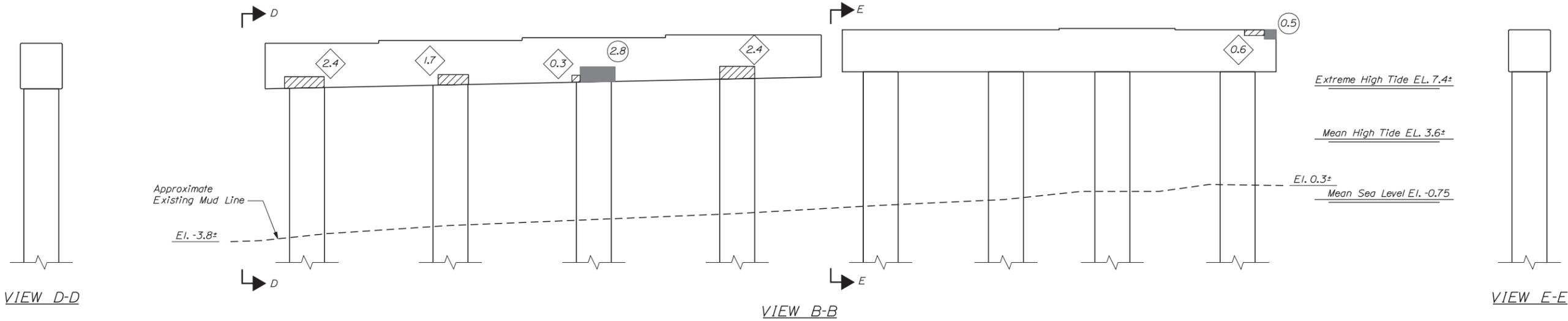
Filename: ...\\sf\planset\072\_pier\_SB\_01.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 1  
CONCRETE REPAIR AREAS

CONTRACT: 2014.16

SHEET NUMBER:

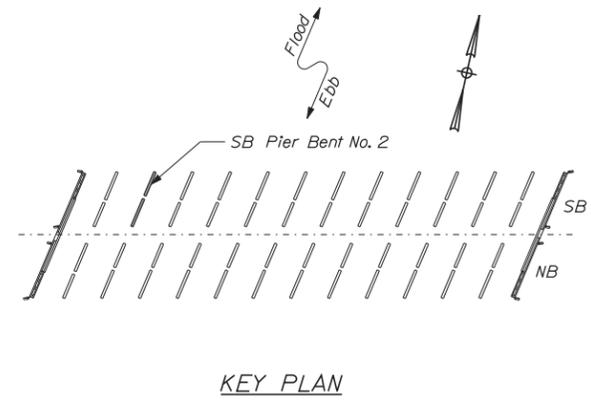
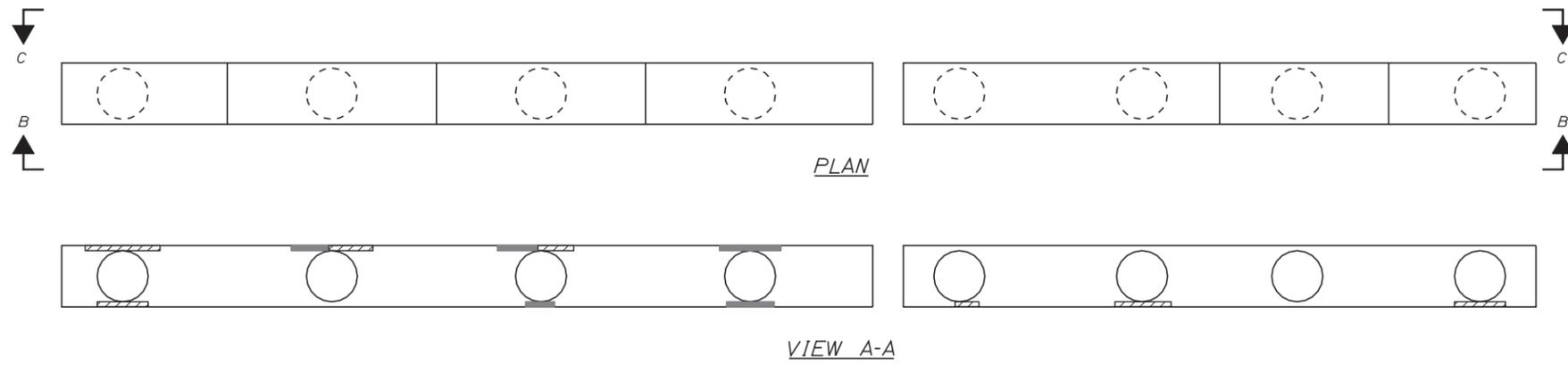
72 OF 101

Date: 3/25/2014

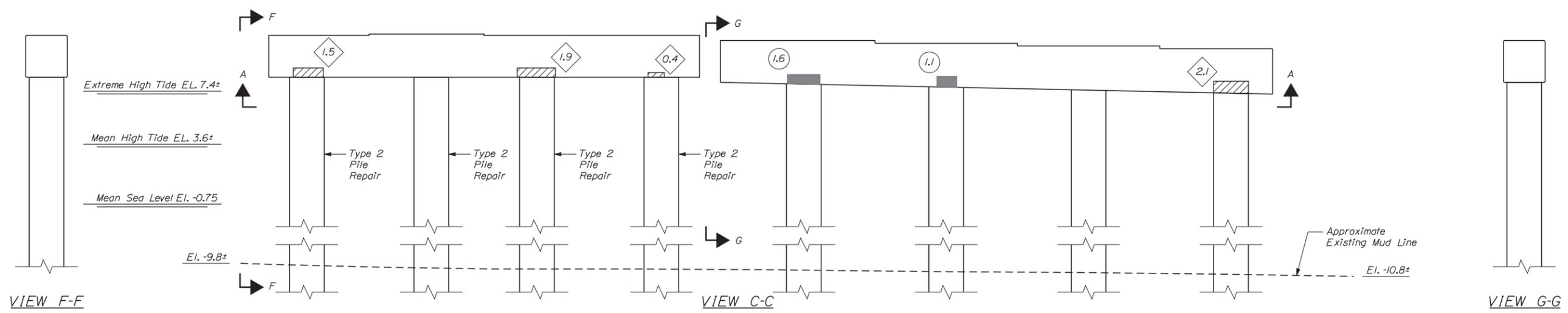
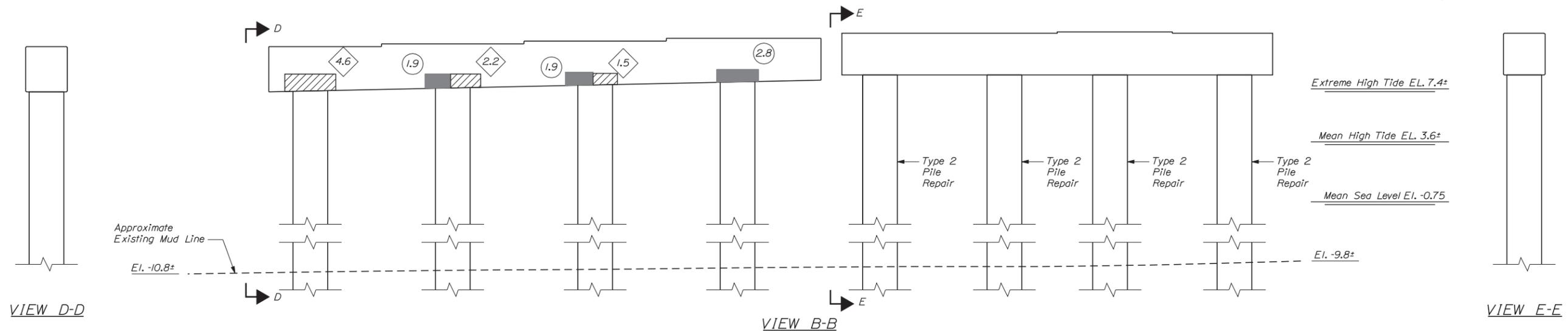
Filename: ...sf\planset\073\_pier\_SB\_02.dgn



- KEY:**
-  Approximate Limits of Delamination
  -  Approximate Limits of Spall
  -  Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  -  Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  -  Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:  
**VIIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	MJB	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 2  
CONCRETE REPAIR AREAS

SHEET NUMBER:  
CONTRACT: 2014.16      73 OF 101

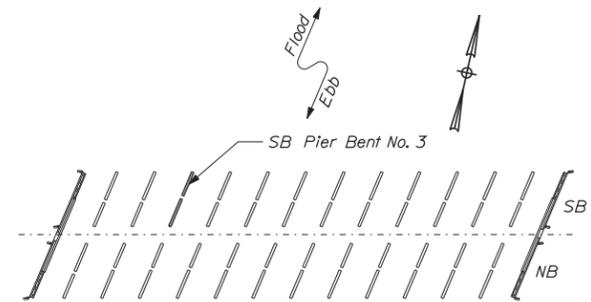
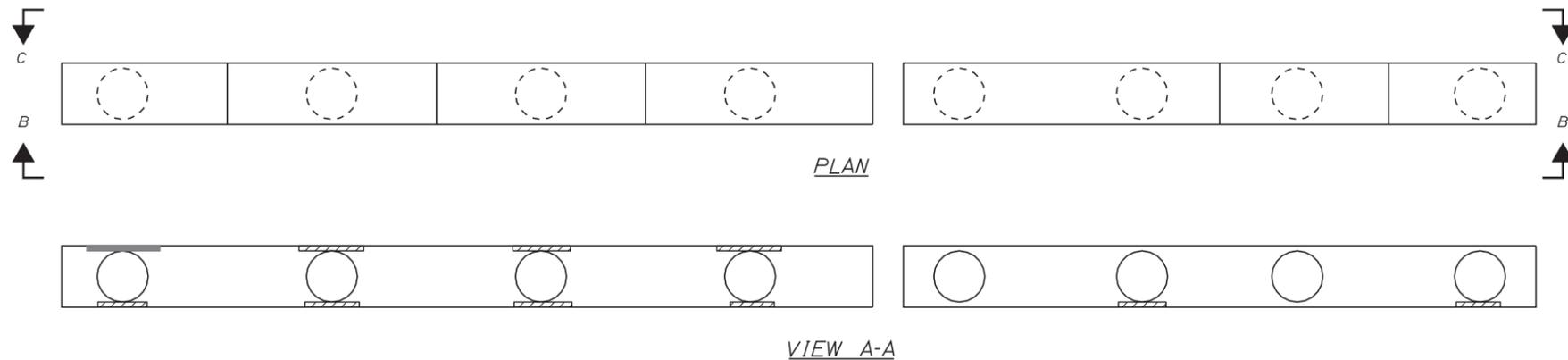
Date: 3/25/2014

Filename: ...sf\planset\074\_pier\_SB\_03.dgn



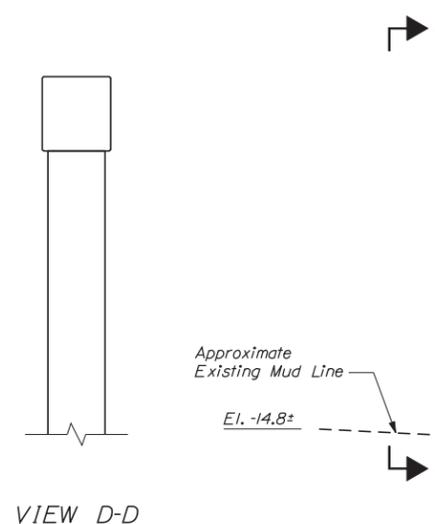
**KEY:**

- Approximate Limits of Delamination
- Approximate Limits of Spall
- Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
- Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
- Linear Foot of Crack

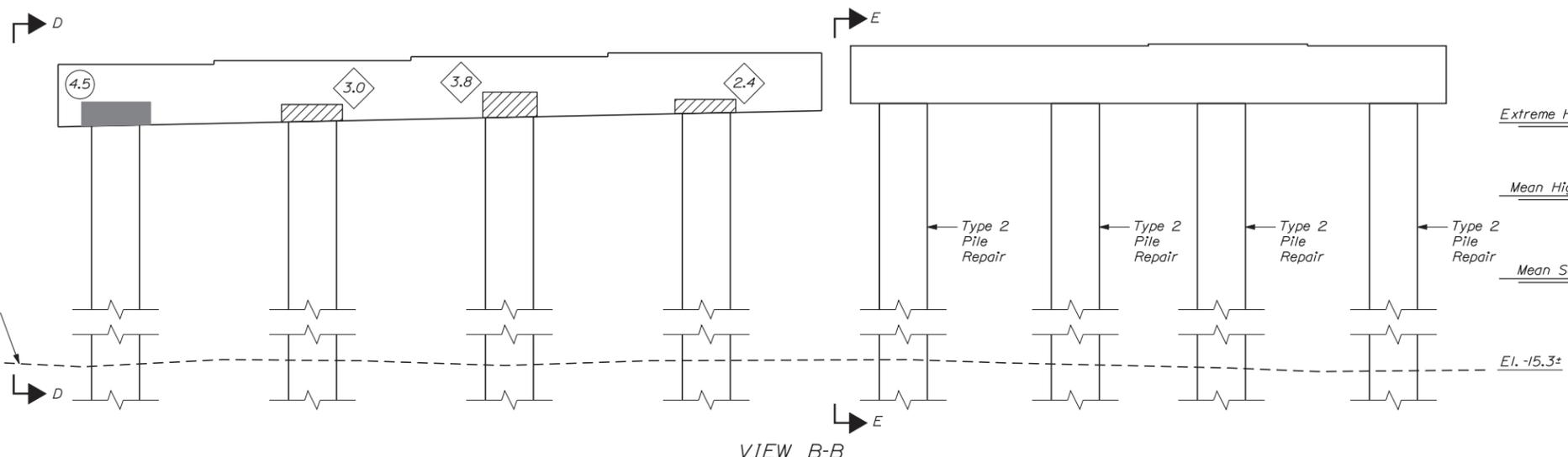


**KEY PLAN**

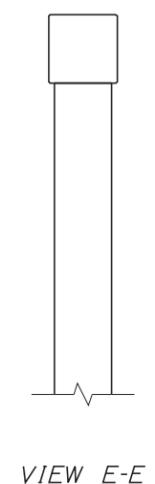
**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



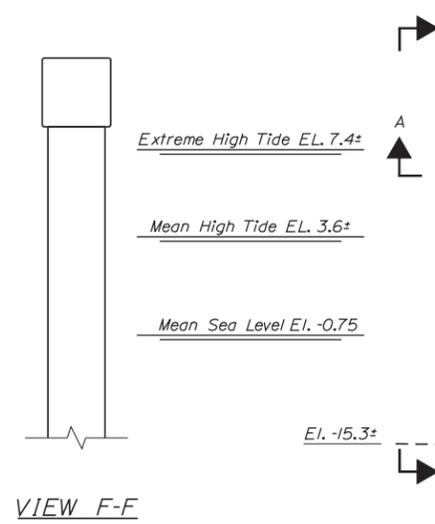
**VIEW D-D**



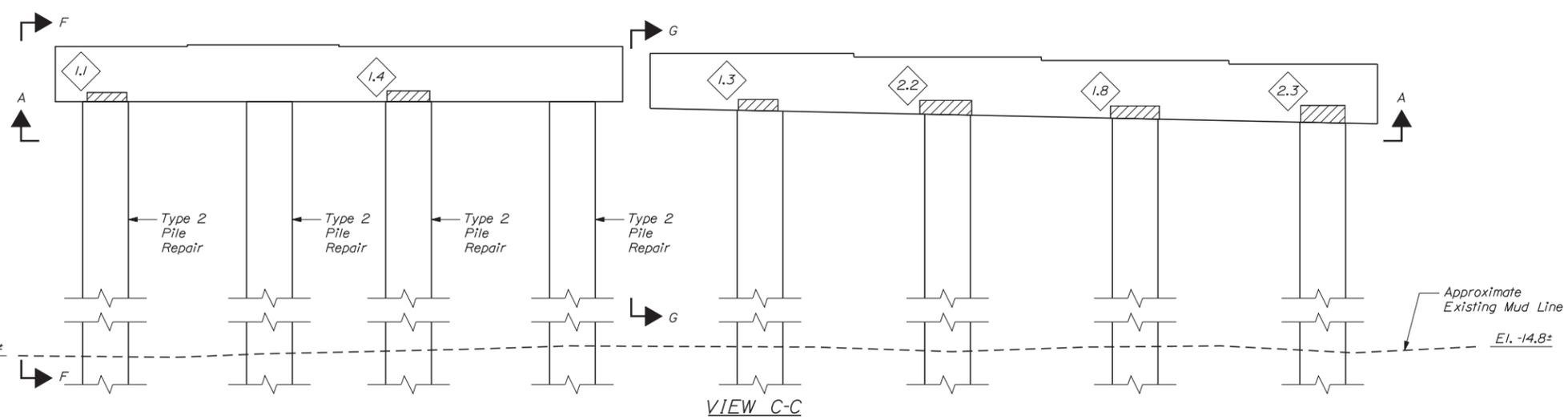
**VIEW B-B**



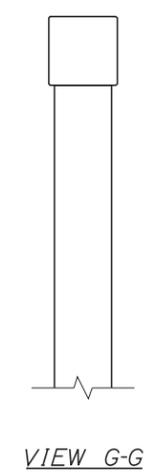
**VIEW E-E**



**VIEW F-F**



**VIEW C-C**



**VIEW G-G**

Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	MJB	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 3  
CONCRETE REPAIR AREAS

SHEET NUMBER:  
CONTRACT: 2014.16

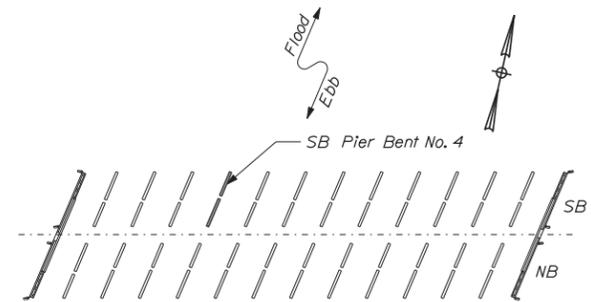
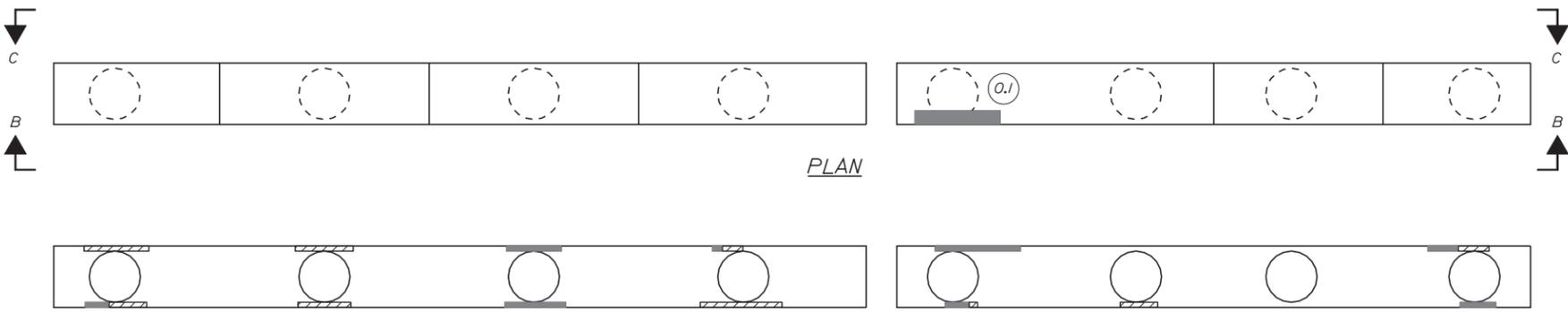
74 OF 101

Date: 3/25/2014

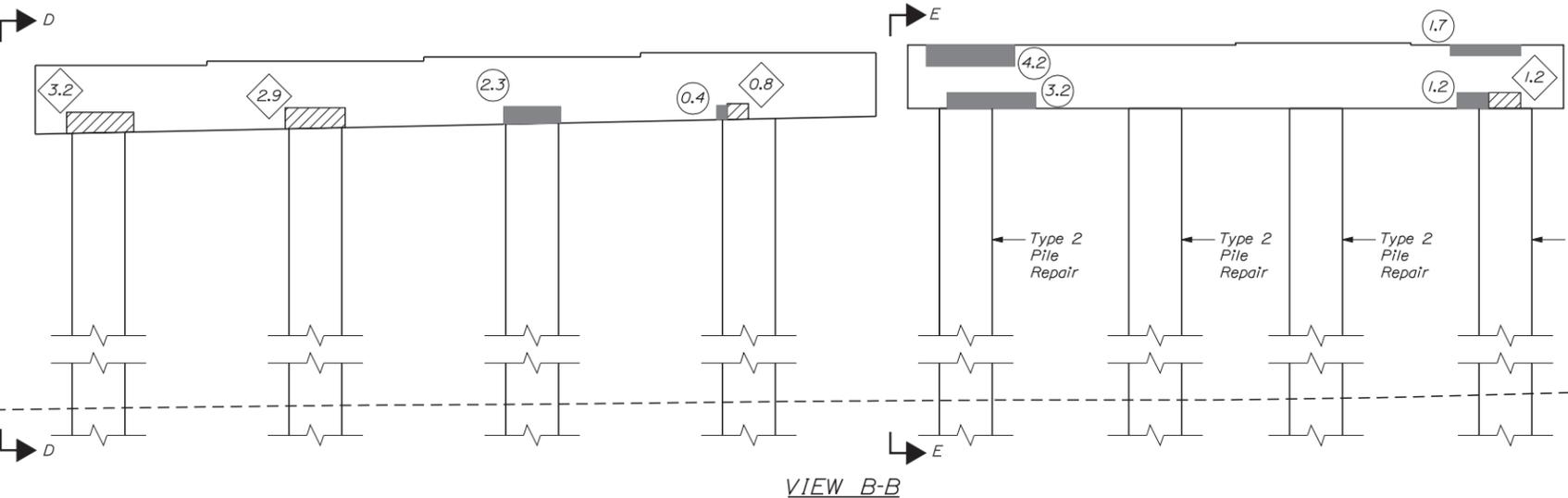
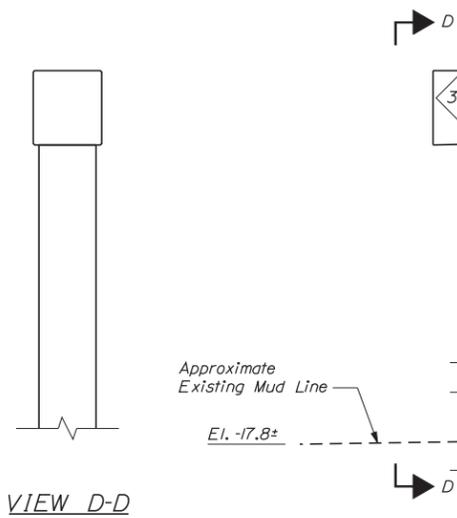
Filename: ...sf\planset\075\_pier\_SB\_04.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack

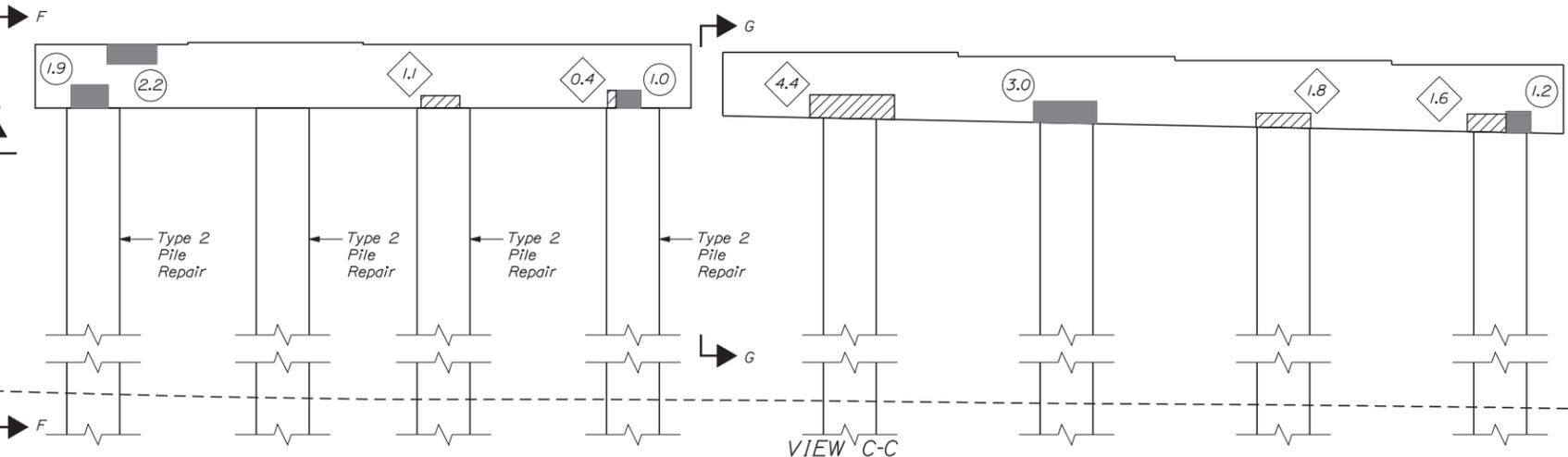
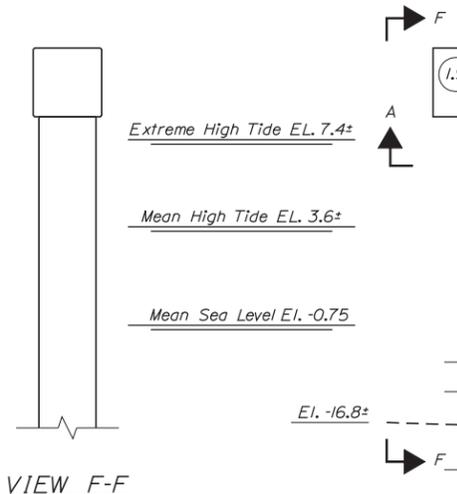
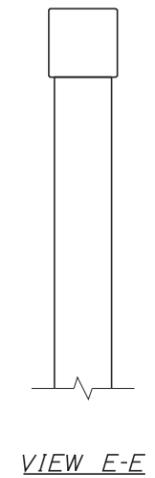


**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.

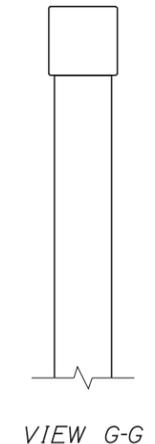


Extreme High Tide EL. 7.4±  
Mean High Tide EL. 3.6±  
Mean Sea Level EL. -0.75

EL. -16.8±



Approximate Existing Mud Line  
EL. -17.8±



Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 4  
CONCRETE REPAIR AREAS

CONTRACT: 2014.16

SHEET NUMBER:

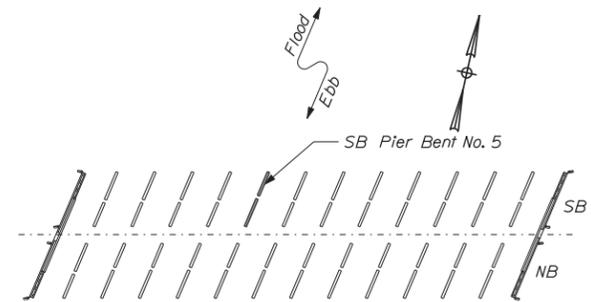
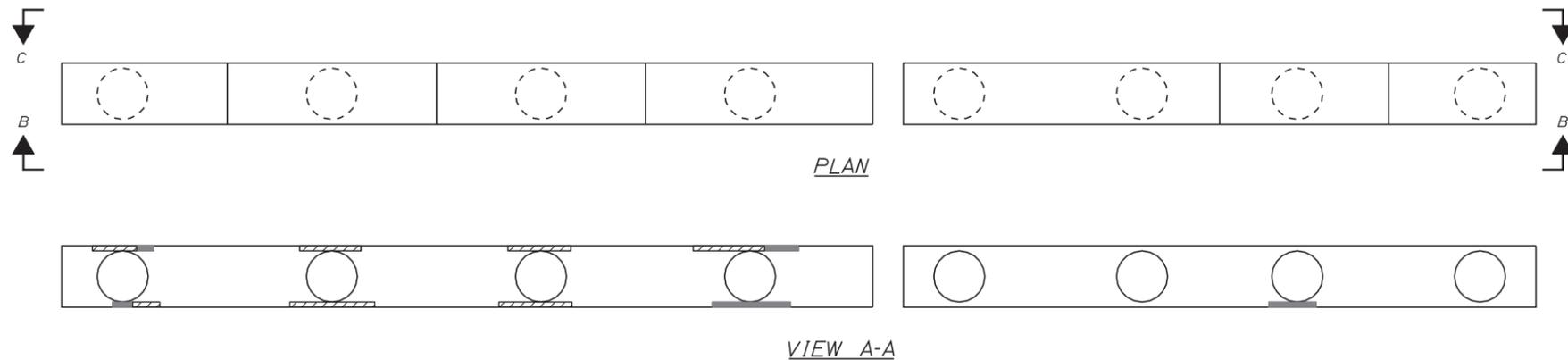
75 OF 101

Date: 3/25/2014

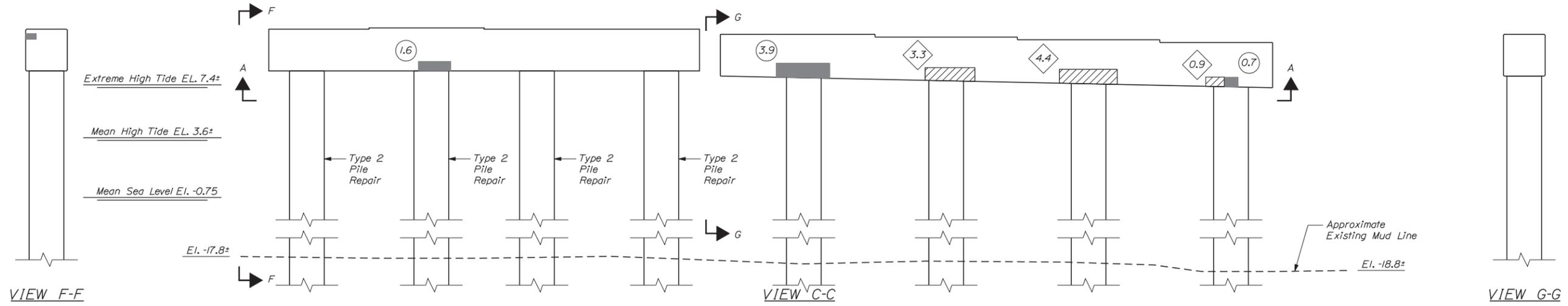
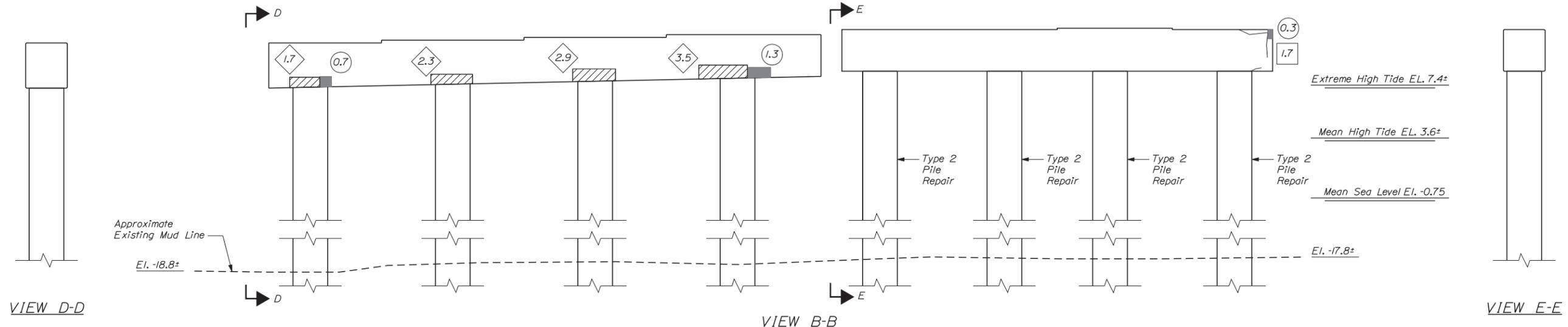
Filename: ...\\sf\planset\076\_pier\_SB\_05.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 5  
CONCRETE REPAIR AREAS

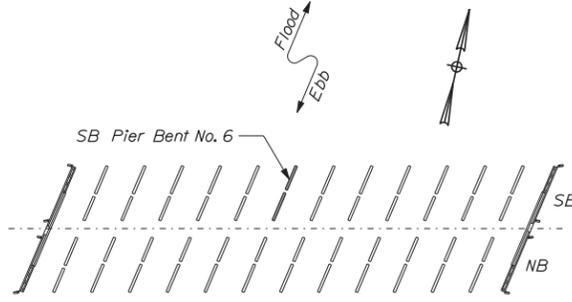
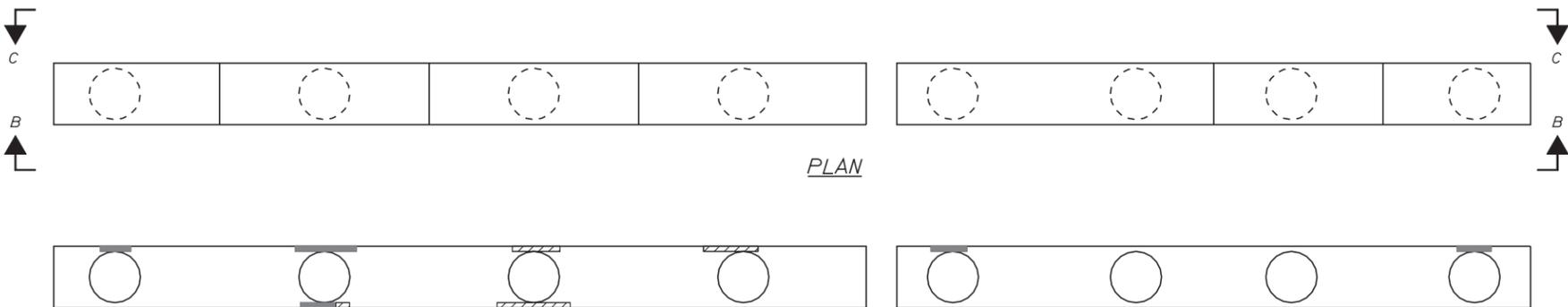
SHEET NUMBER:  
CONTRACT: 2014.16  
76 OF 101

Date: 3/25/2014

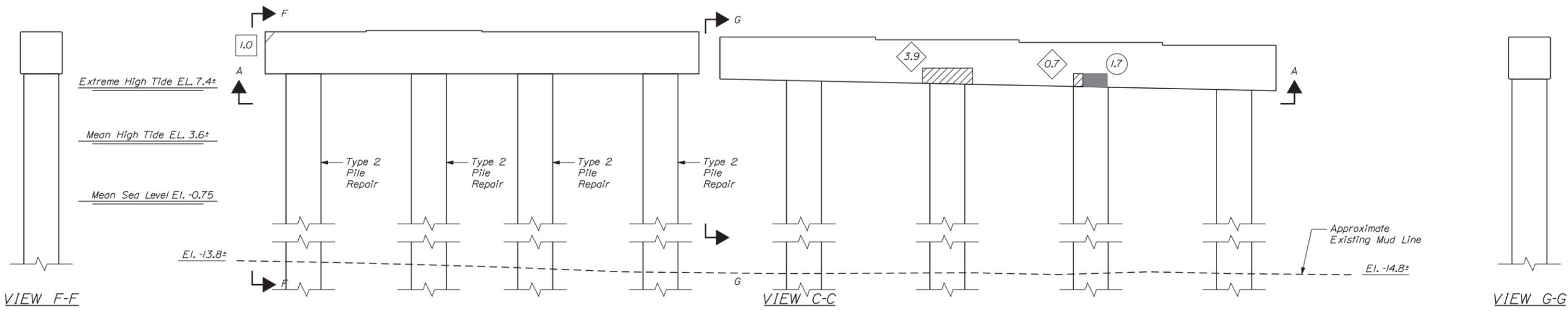
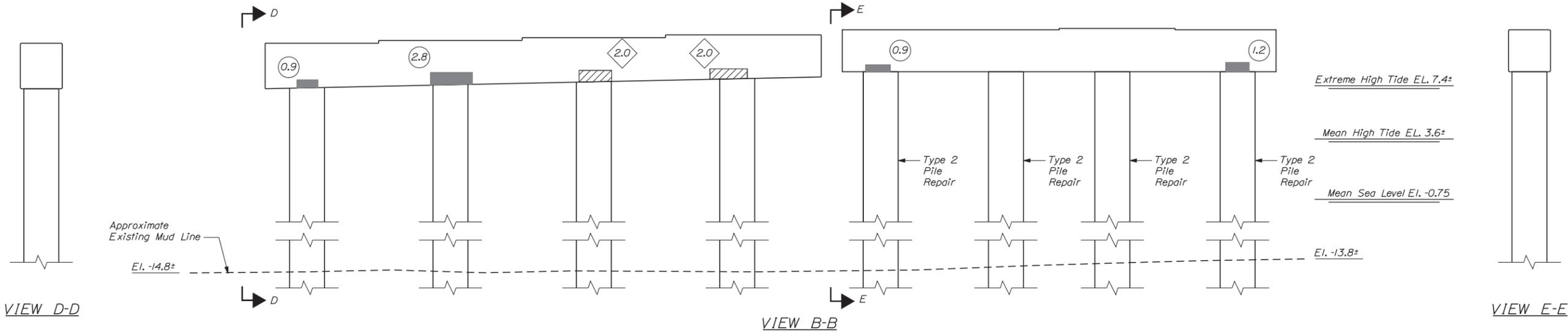
Filename: ...\\sf\planset\077\_pier\_SB\_06.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	MJB	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 6  
CONCRETE REPAIR AREAS

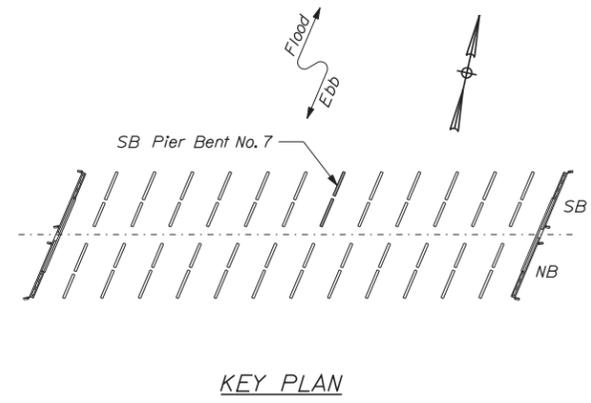
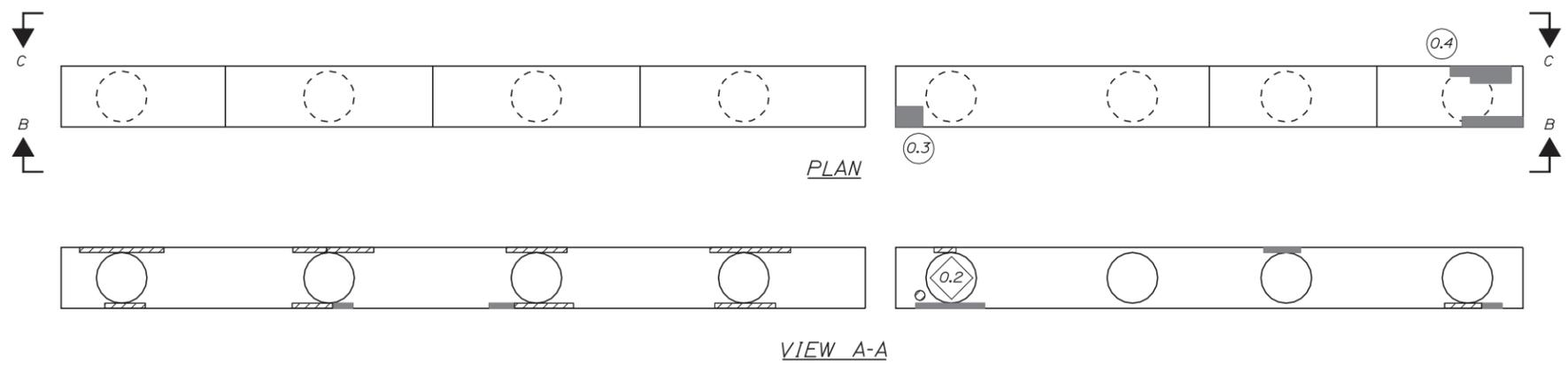
SHEET NUMBER:  
CONTRACT: 2014.16  
77 OF 101

Date: 3/25/2014

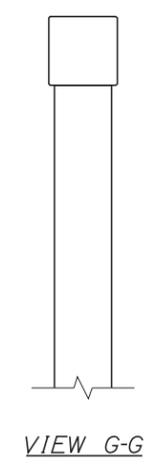
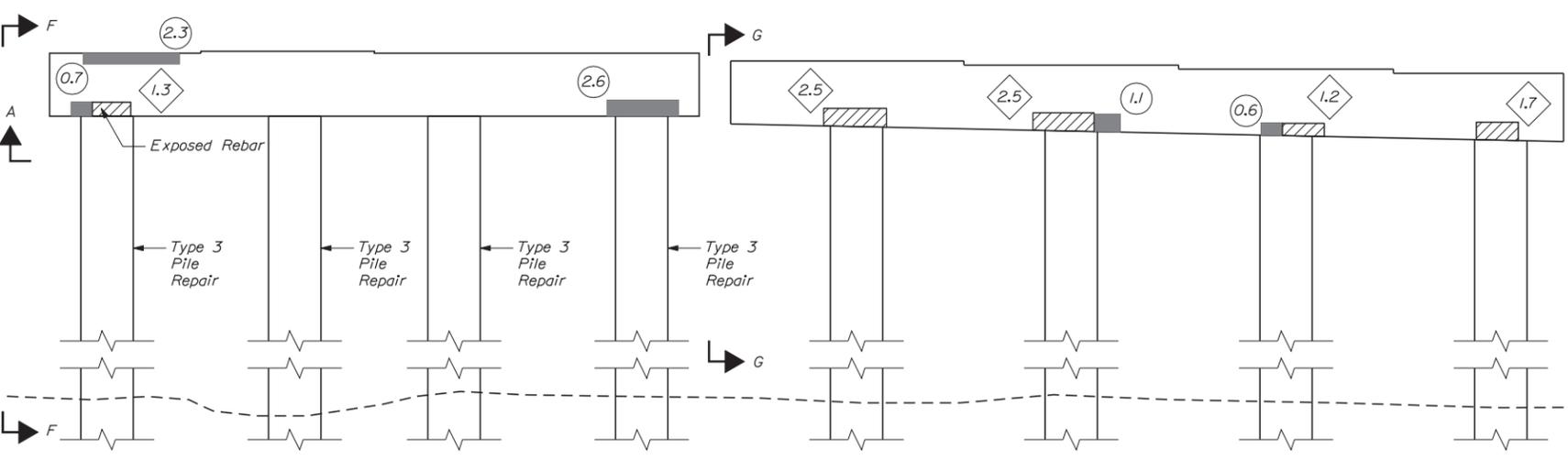
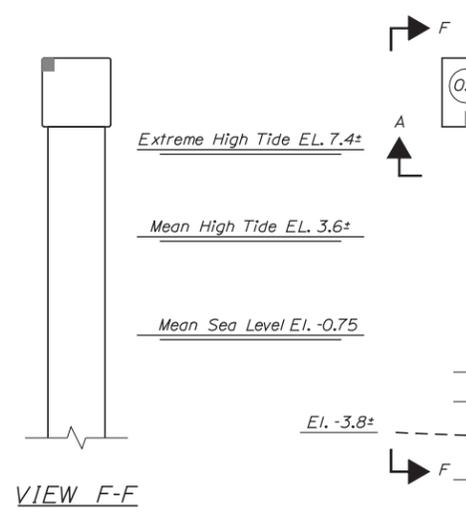
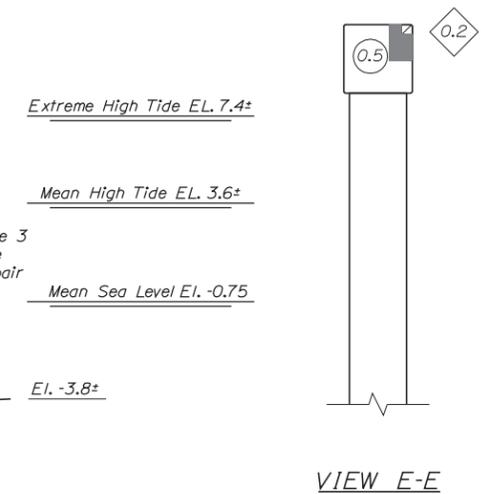
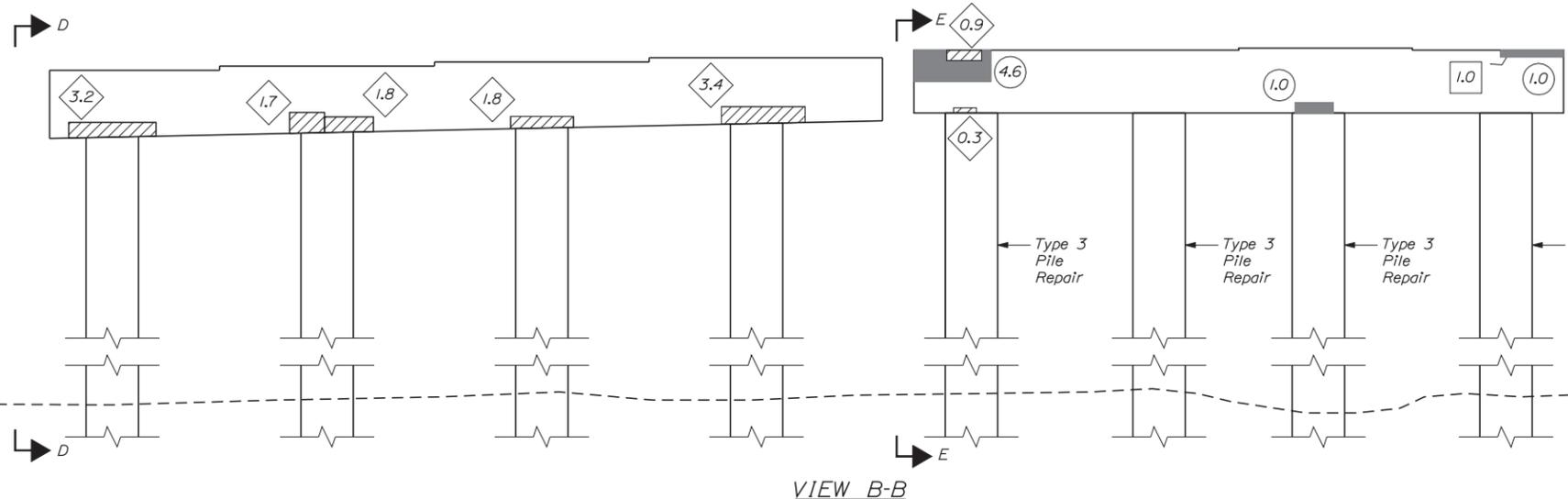
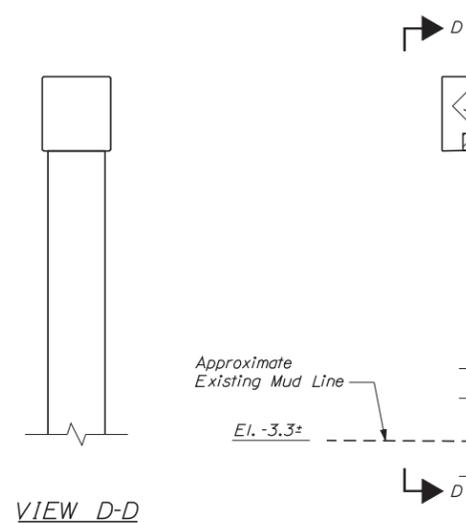
Filename: ...\\sf\planset\078\_pier\_SB\_07.dgn



- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT					
Designed	By	Date	Checked	By	Date
Drawn	By	Date	In Charge of	By	Date
	RSB	3/14		KJG	3/14
	MJB	3/14		TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 7  
CONCRETE REPAIR AREAS

CONTRACT: 2014.16

SHEET NUMBER:

78 OF 101

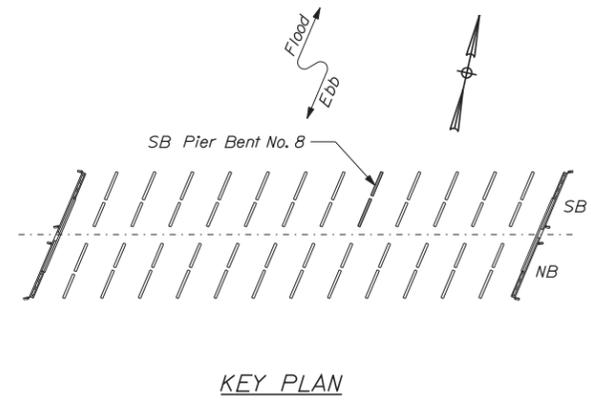
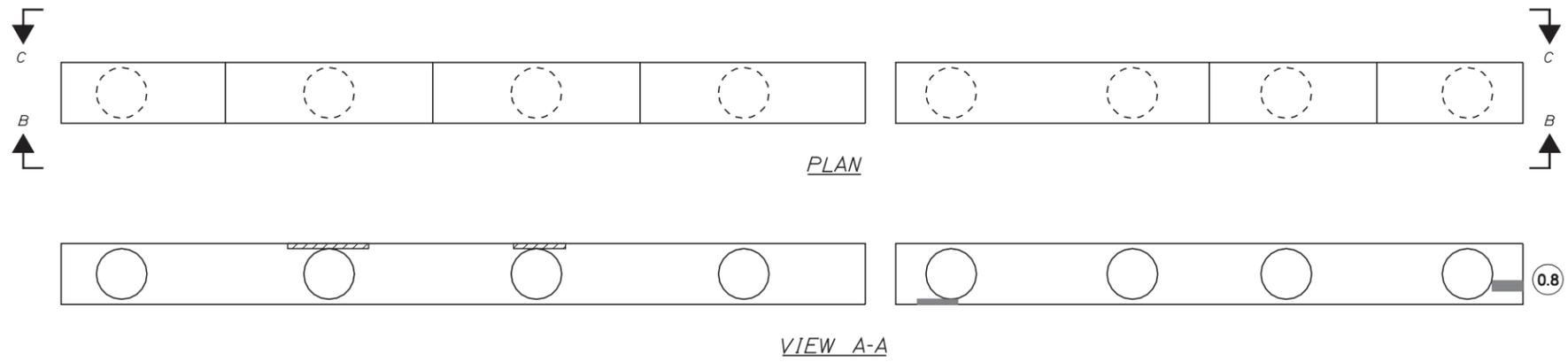
Date: 3/25/2014

Filename: ...sf\planset\079\_pier\_SB\_08.dgn

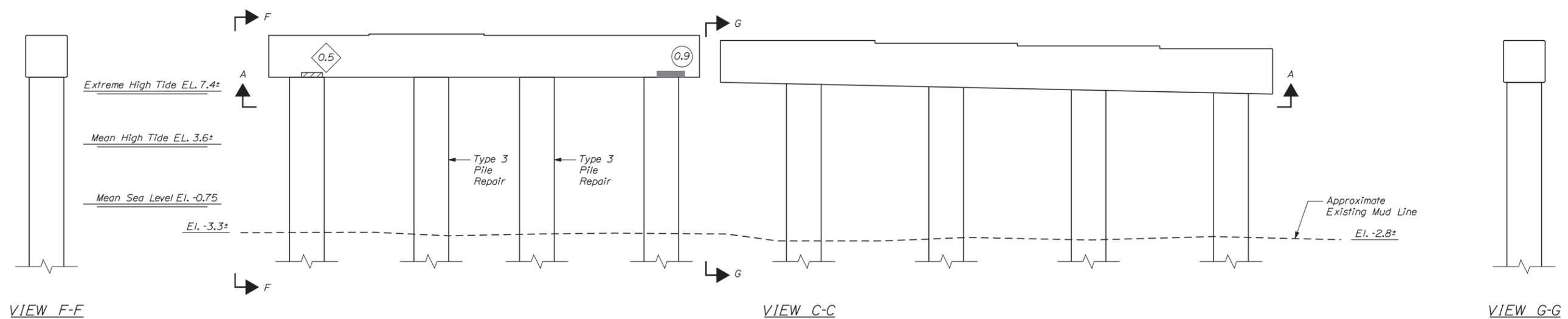
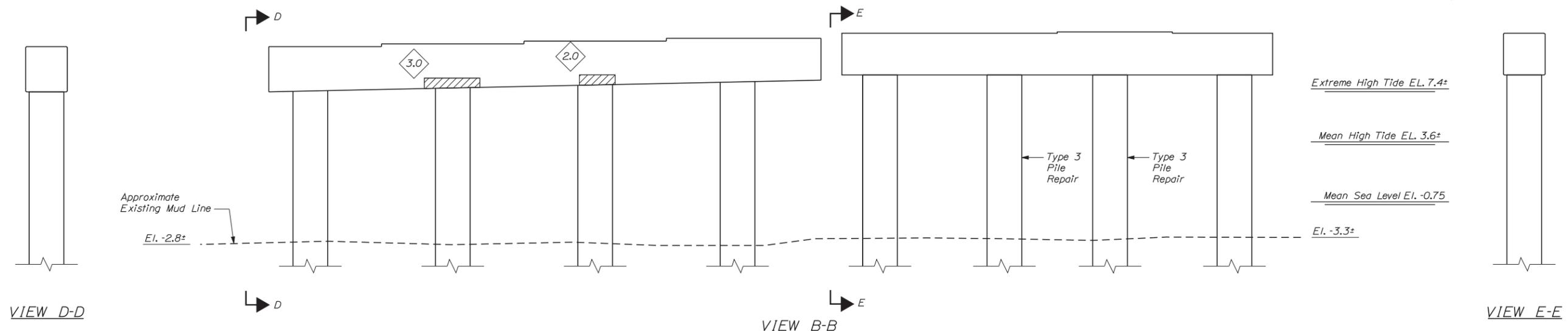


**KEY:**

- Approximate Limits of Delamination
- Approximate Limits of Spall
- Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
- Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
- Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 8  
CONCRETE REPAIR AREAS

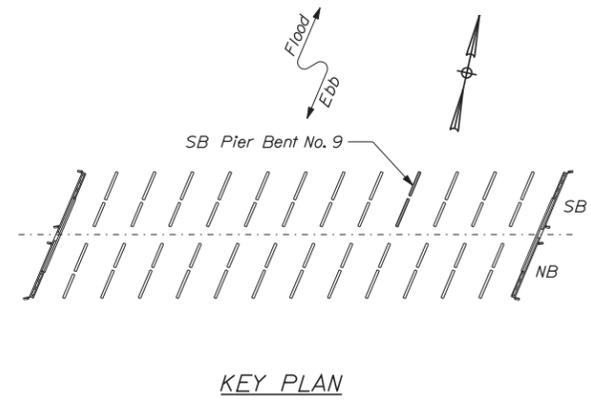
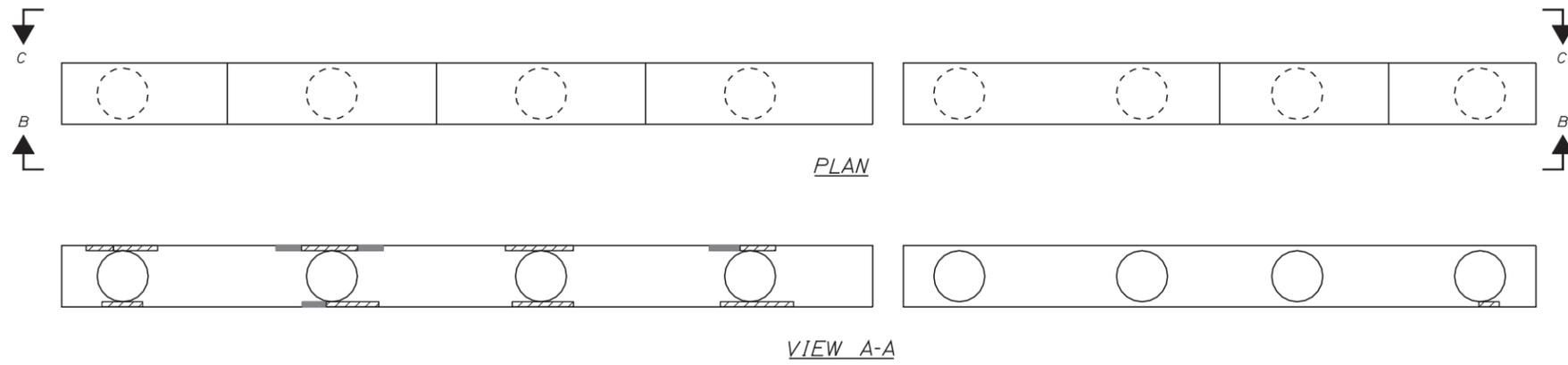
SHEET NUMBER:  
CONTRACT: 2014.16  
79 OF 101

Date: 3/25/2014

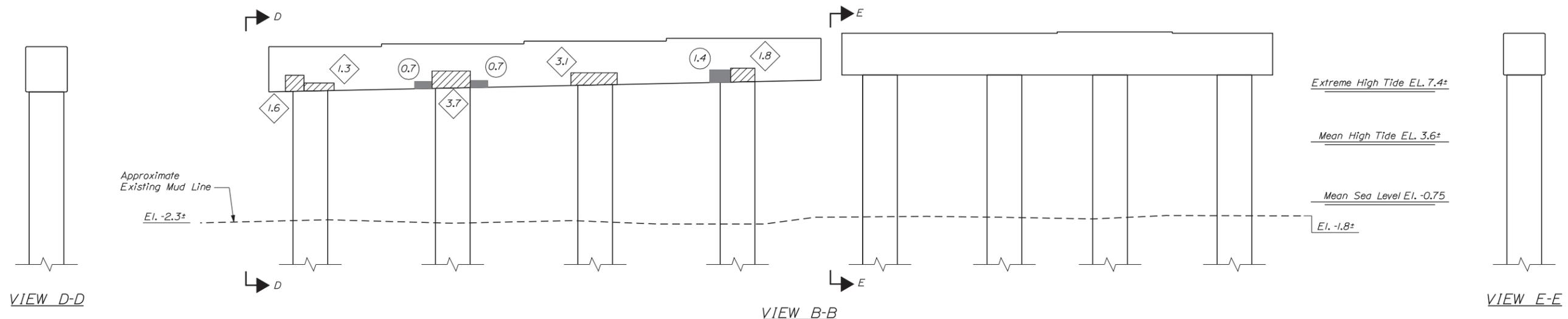
Filename: ...\\sf\planset\080\_pier\_SB\_09.dgn



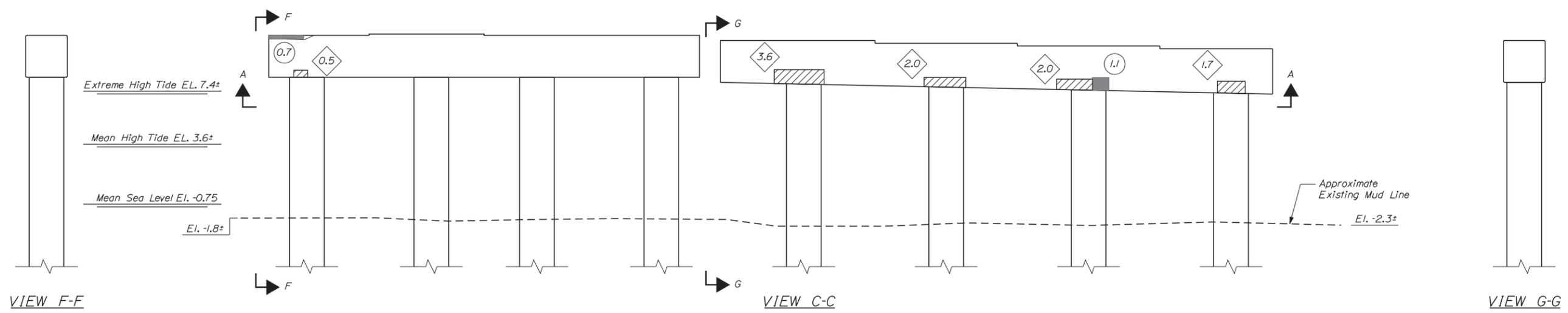
- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



Extreme High Tide EL. 7.4±  
Mean High Tide EL. 3.6±  
Mean Sea Level EL. -0.75  
El. -1.8±



Extreme High Tide EL. 7.4±  
Mean High Tide EL. 3.6±  
Mean Sea Level EL. -0.75  
El. -1.8±

Approximate Existing Mud Line  
El. -2.3±

Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	MJB	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 9  
CONCRETE REPAIR AREAS

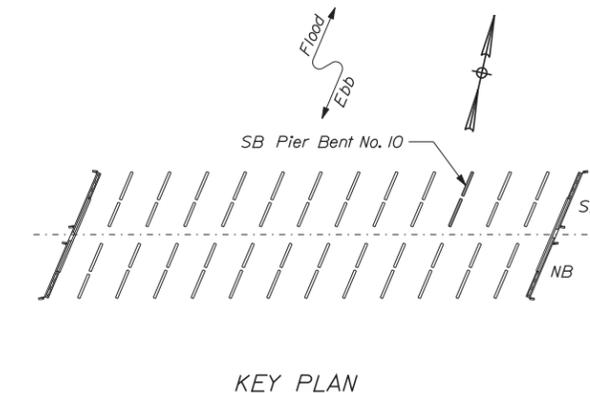
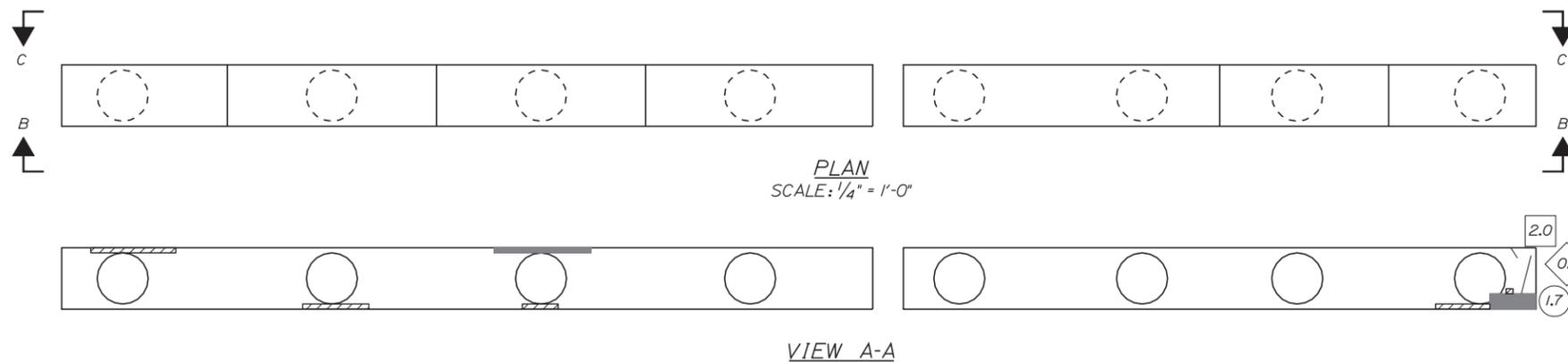
SHEET NUMBER:  
CONTRACT: 2014.16  
80 OF 101

Date: 3/25/2014

Filename: ...\\sf\planset\08\pier\_SB\_10.dgn

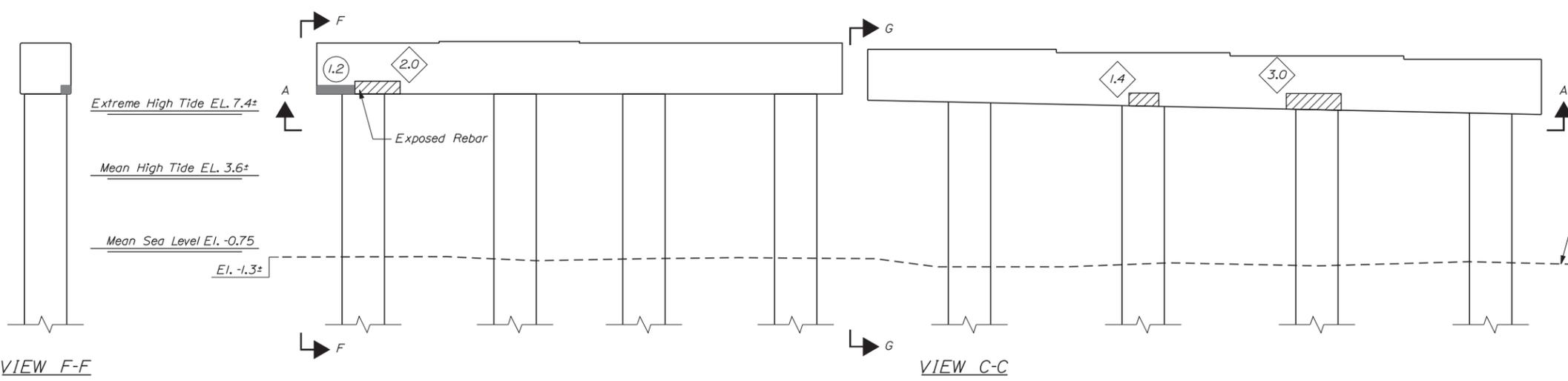
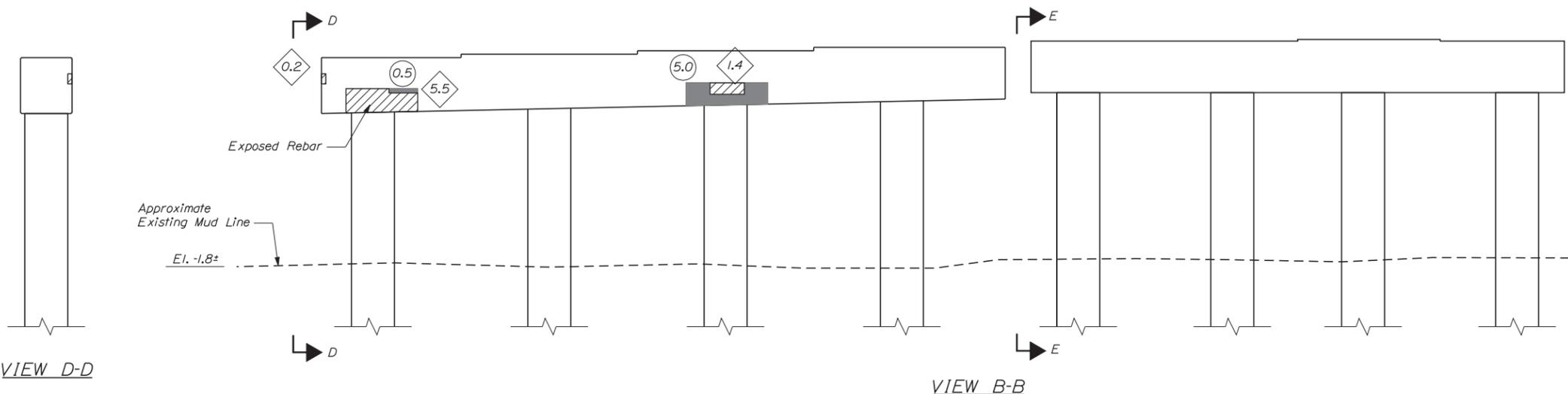


- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - # Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - # Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - # Linear Foot of Crack



**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.

Extreme High Tide EL. 7.4±  
Mean High Tide EL. 3.6±  
Mean Sea Level EL. -0.75  
El. -1.3±



Scale: 1/4" = 1'-0"

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	MJB	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 10  
CONCRETE REPAIR AREAS

SHEET NUMBER:  
81 OF 101

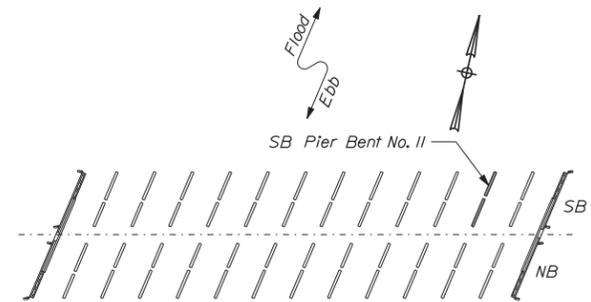
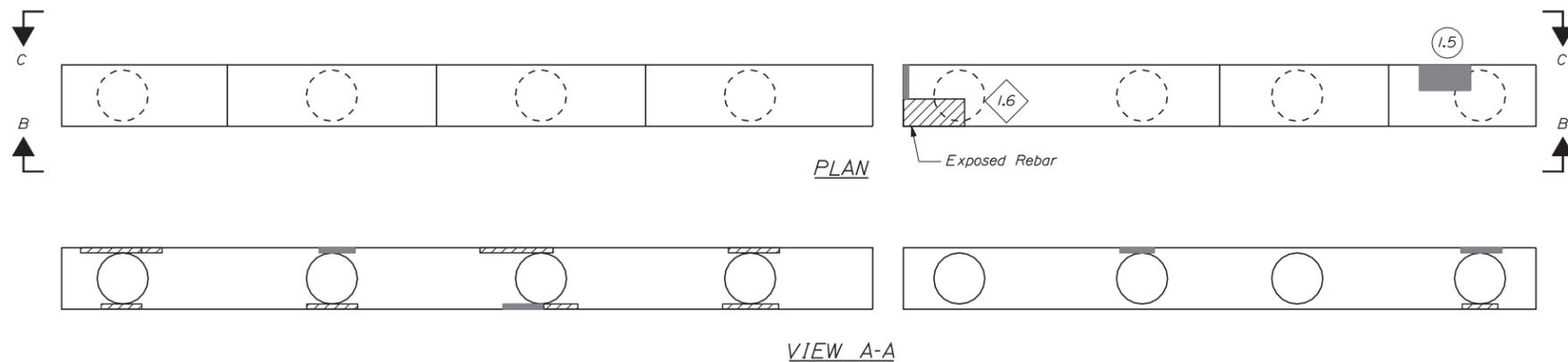
CONTRACT: 2014.16

Date: 3/25/2014

Filename: ...sf\planset\082\_pier\_SB\_11.dgn

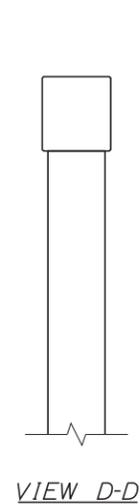


- KEY:**
- Approximate Limits of Delamination
  - Approximate Limits of Spall
  - Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  - Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  - Linear Foot of Crack

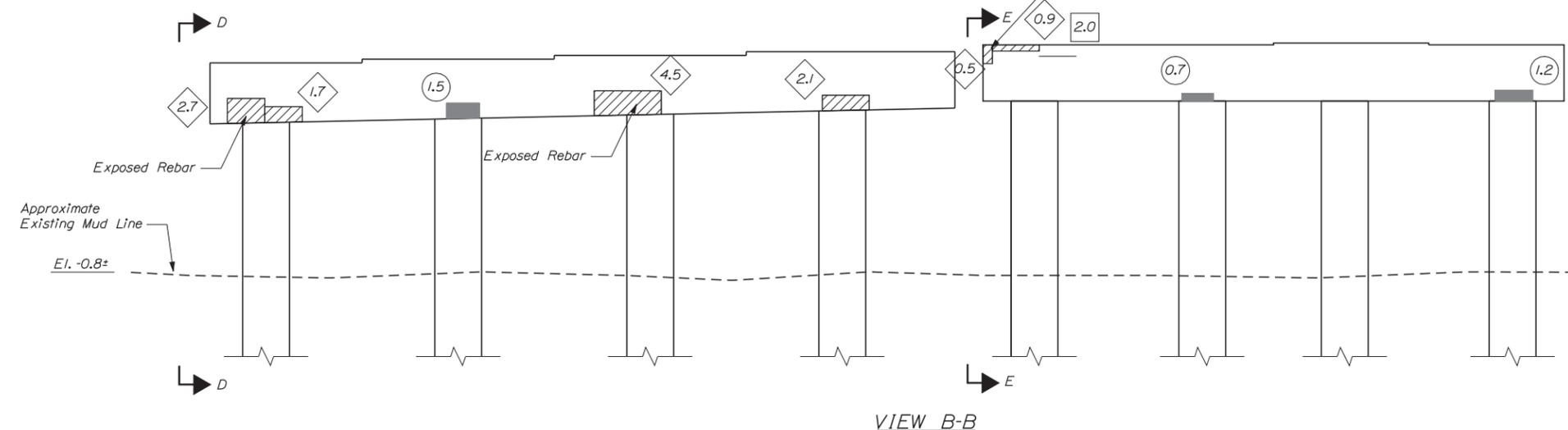


KEY PLAN

**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.

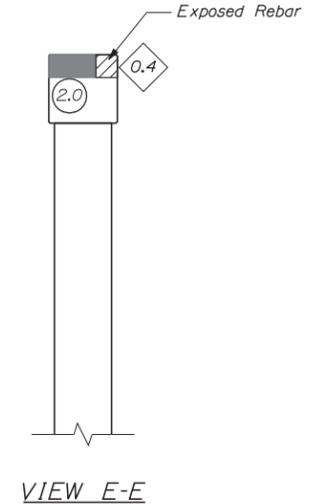


VIEW D-D

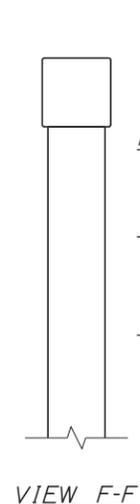


VIEW B-B

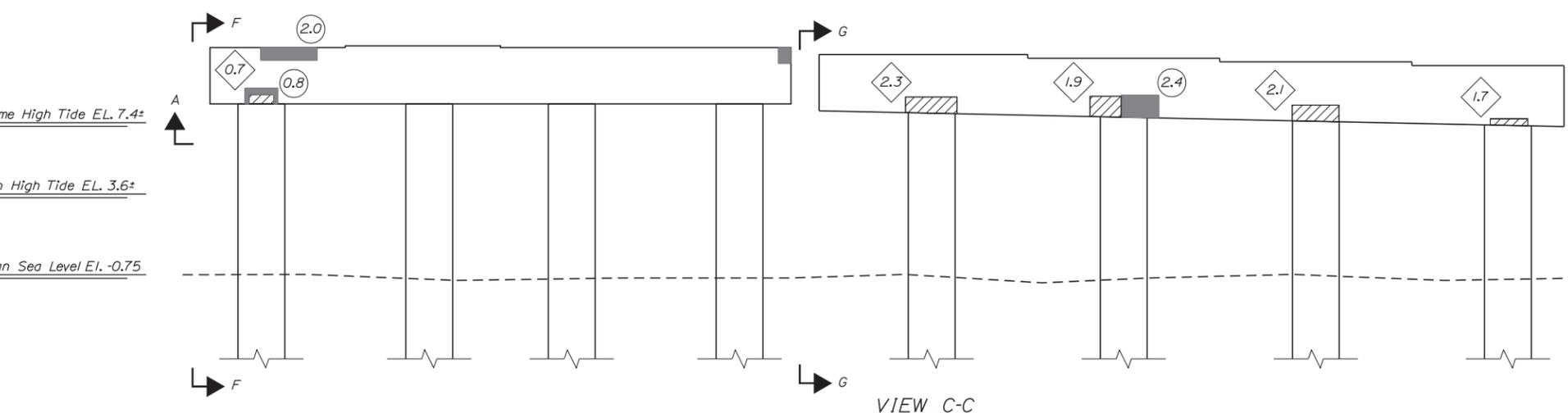
Extreme High Tide EL. 7.4±  
Mean High Tide EL. 3.6±  
Mean Sea Level EL. -0.75



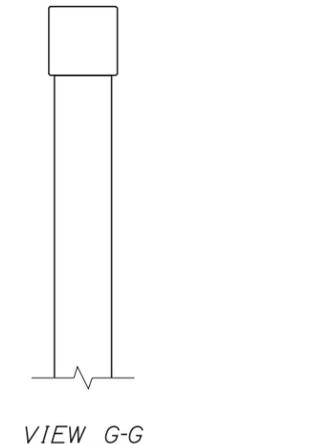
VIEW E-E



VIEW F-F



VIEW C-C



VIEW G-G

Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT					
Designed	By	Date	Checked	By	Date
Drawn	RSB	3/14	KJG	TSB	3/14
	MJB	3/14	In Charge of		

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 11  
CONCRETE REPAIR AREAS

CONTRACT: 2014.16

SHEET NUMBER:

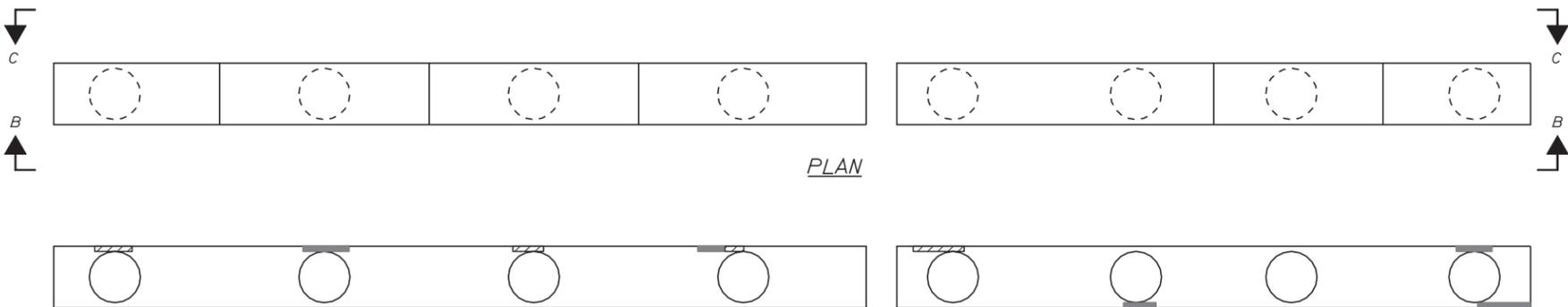
82 OF 101

Date: 3/25/2014

Filename: ...\\sf\planset\083\_pier\_SB-12.dgn

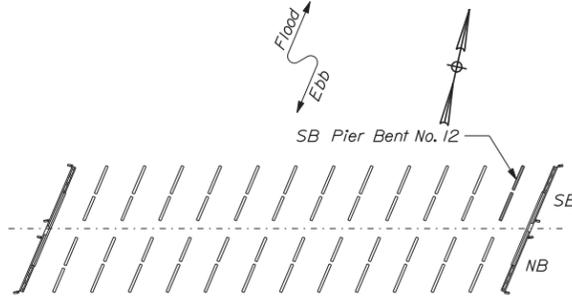


- KEY:**
-  Approximate Limits of Delamination
  -  Approximate Limits of Spall
  -  Square Foot Area of Delamination (<7.9' Deep unless otherwise noted)
  -  Square Foot Area of Spall (<7.9' Deep unless otherwise noted)
  -  Linear Foot of Crack



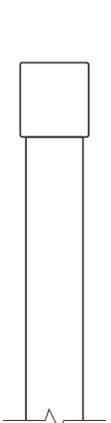
PLAN

VIEW A-A

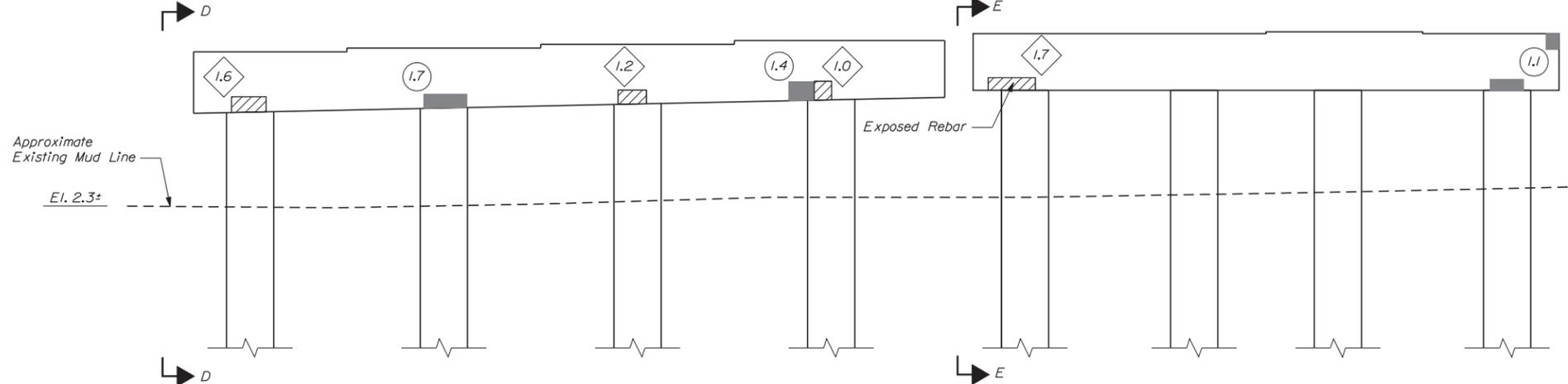


KEY PLAN

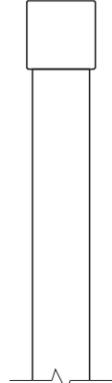
**NOTE:**  
1. See Typical Concrete Repair Details Sheet for Concrete Repair Details.



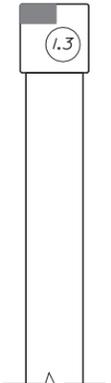
VIEW D-D



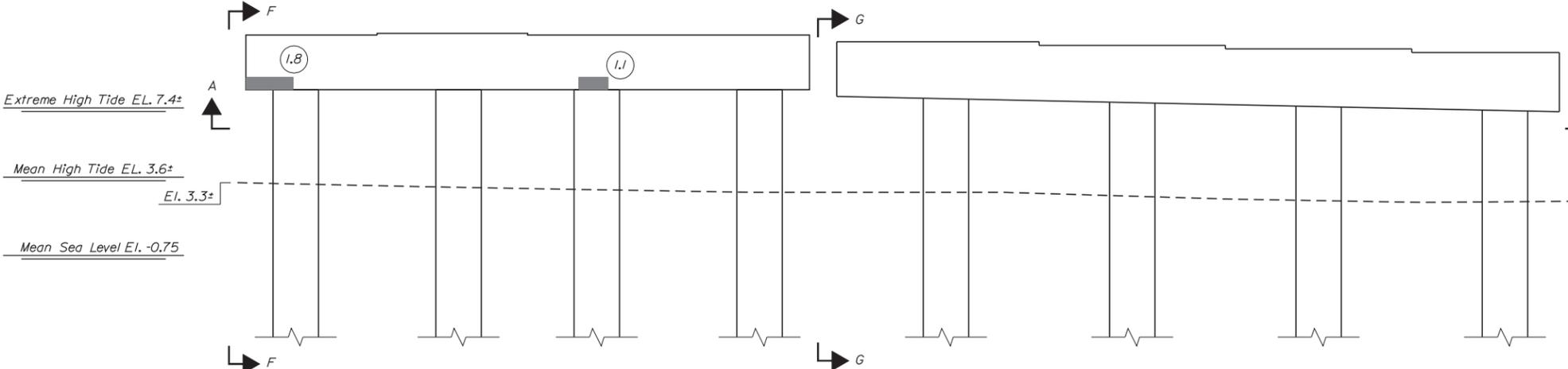
VIEW B-B



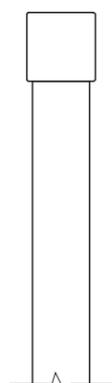
VIEW E-E



VIEW F-F



VIEW C-C



VIEW G-G

Scale: 1/4" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT					
Designed	By	Date	Checked	By	Date
Drawn	RSB	3/14	KJG	TSB	3/14
	MJB	3/14	In Charge of		

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

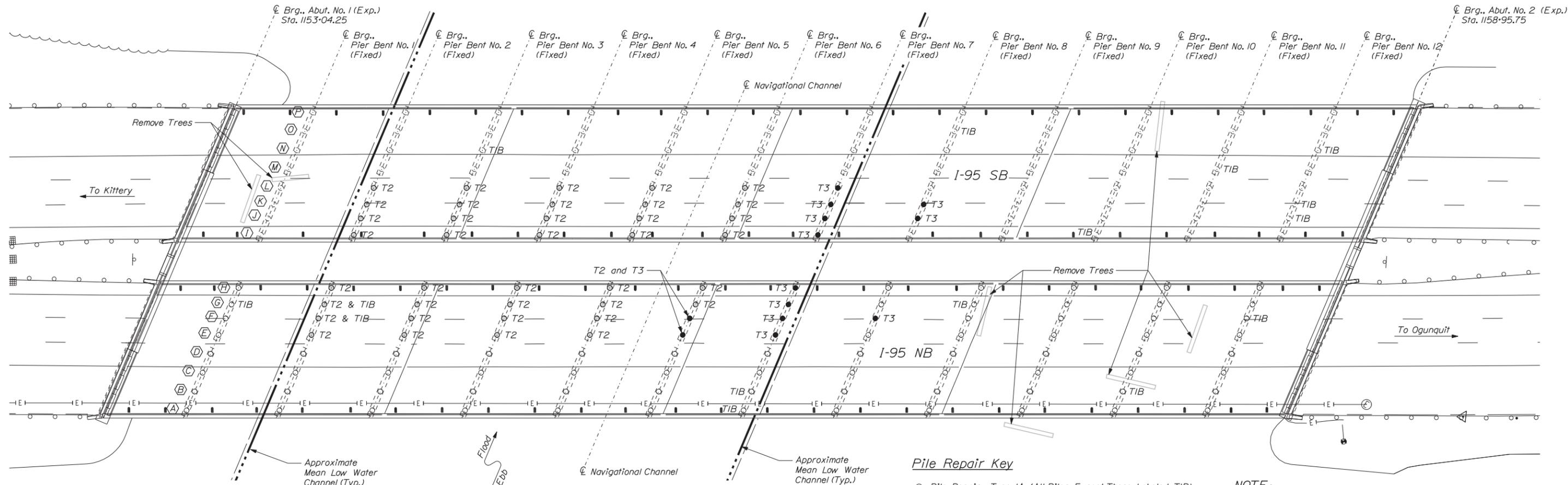
BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
SB BRIDGE PIER BENT 12  
CONCRETE REPAIR AREAS

CONTRACT: 2014.16

SHEET NUMBER:

83 OF 101

Date: 3/25/2014



PILE LAYOUT PLAN

**Pile Repair Key**

- Pile Repair - Type IA (All Piles Except Those Labeled TIB)
- TIB - Pile Repair - Type IB
- T2 - Pile Repair - Type 2
- T3 - Pile Repair - Type 3

**NOTE:**

1. Band dimensions in table refer to vertical height of deterioration.

PILE CONDITION TABLE

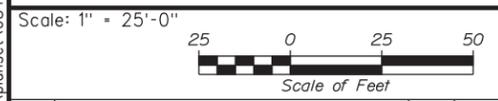
Pier Bent	Pile Location	Description
2	E	24" Band, 4" to 6" Deep
2	F	24" Band, Concrete Deteriorated up to 8" Deep
2	G	21" Band, Concrete Deteriorated up to 5" Deep
2	H	18" Band, Deteriorated up to 5" Deep. H-Pile Exposed 8" Height. FL = 0.50'
2	I	18" Band, Deteriorated 2" Deep
2	J	20" Band, Deteriorated 2" Deep
2	K L	16" Band, Deteriorated 2" Deep
3	E F	14" to 18" Bands, Concrete Deteriorated 3" Deep
3	G H	14" to 18" Bands, Concrete Deteriorated 1" Deep
3	I J	14" Band Steel Jacket Corroded
3	K	14" Band Steel Jacket Corroded. 2" x 6" Pocket, 2" Deep
3	L	14" Band Steel Jacket Corroded. 10" x 7" Pocket, 4" Deep
4	E F G H	14" Band, Concrete Deteriorated 1" Deep
4	I J L	12" to 24" Band, Concrete Deteriorated 2" Deep Maximum
4	K	12" to 24" Band, Concrete Deteriorated 2" Deep Maximum. Hole Above Band. 18" Long, 12" High, 12" Deep with H-Pile Exposed

PILE CONDITION TABLE

Pier Bent	Pile Location	Description
5	E	20" Band, Concrete Deteriorated 2" Deep
5	F	20" Band, Concrete Deteriorated 2" to 5" Deep
5	G	19" Band, Concrete Deteriorated 3" Deep
5	H	14" to 28" Band, Concrete Deteriorated 2" to 5" Deep
5	I L	24" to 28" Band, Concrete Deteriorated 2" to 3"
5	J K	24" to 28" Band, Concrete Deteriorated 3" to 4"
6	E	20" Band, H-Pile exposed, FL=0.50'. Sediment erosion at base of Pile. Bottom Steel Jacket is 12" to 18" from Mudline.
6	F	26" Band, H-Pile exposed, FL=0.50'. Sediment erosion at base of Pile. Bottom Steel Jacket is 12" to 18" from Mudline.
6	G	20" Band, H-Pile exposed, FL=0.44'
6	H	22" Band, Concrete Deteriorated 3" to 6" Deep
6	I	22" Band, Concrete Deteriorated 2" to 3" Deep
6	J K	20" Band, Concrete Deteriorated 2" Deep
6	L	1 SF Hole in Steel, Concrete Deteriorated 3" Deep. Second Hole in Steel 1 SF. 16" Band Steel Jacket Corroded

PILE CONDITION TABLE

Pier Bent	Pile Location	Description
7	E	Sediment Erosion at Base of Pile. Bottom of Steel Jacket is 27" from Mudline. H-Pile in Good condition. 12" Band concrete deteriorated 1/2" to 2" Deep.
7	F	Sediment Erosion at Base of Pile. Bottom of Steel Jacket is 28" from Mudline. H-Pile in Good condition. 12" Band concrete deteriorated 1/2" to 2" Deep.
7	G	Sediment Erosion at Base of Pile. Bottom of Steel Jacket is 22" from Mudline. H-Pile in Good condition. 12" Band concrete deteriorated 1/2" to 2" Deep.
7	H	Sediment Erosion at Base of Pile. Bottom of Steel Jacket is 21" from Mudline. H-Pile in Good condition. 12" Band concrete deteriorated 1/2" to 2" Deep.
7	I	Sediment Erosion at Base of Pile. Bottom of Steel Jacket is 14" from Mudline. FL = 0.625'
7	J	Sediment Erosion at Base of Pile. Bottom of Steel Jacket is 26" from Mudline. FL = 0.625'
7	K	Sediment Erosion at Base of Pile. Bottom of Steel Jacket is 24" from Mudline. Two Pockets of Deteriorated Concrete 4" Tall, 12" Wide, 6" Deep. FL = 0.60'
7	L	Sediment Erosion at Base of Pile. Bottom of Steel Jacket is 28" from Mudline. FL = 0.44'
8	F	8" Wide Pocket, 2" Deep
8	J	3" Band, 7" Deep, 1/2 Circumference
8	K	4" Band, 7" Deep, 1/2 Circumference



No.	Revision	By	Date

Designed by:  
**VHIB Vanasse Hangen Brustlin, Inc.**  
 CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	BJM	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

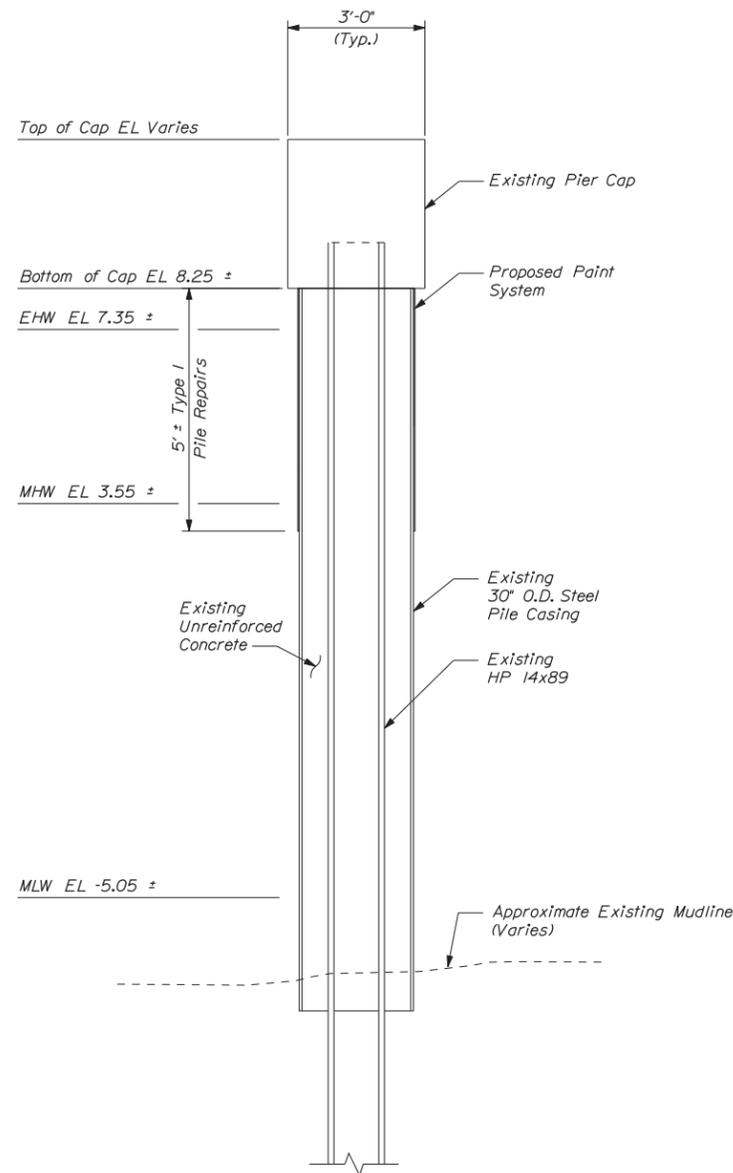
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

PILE REPAIRS LOCATION PLAN

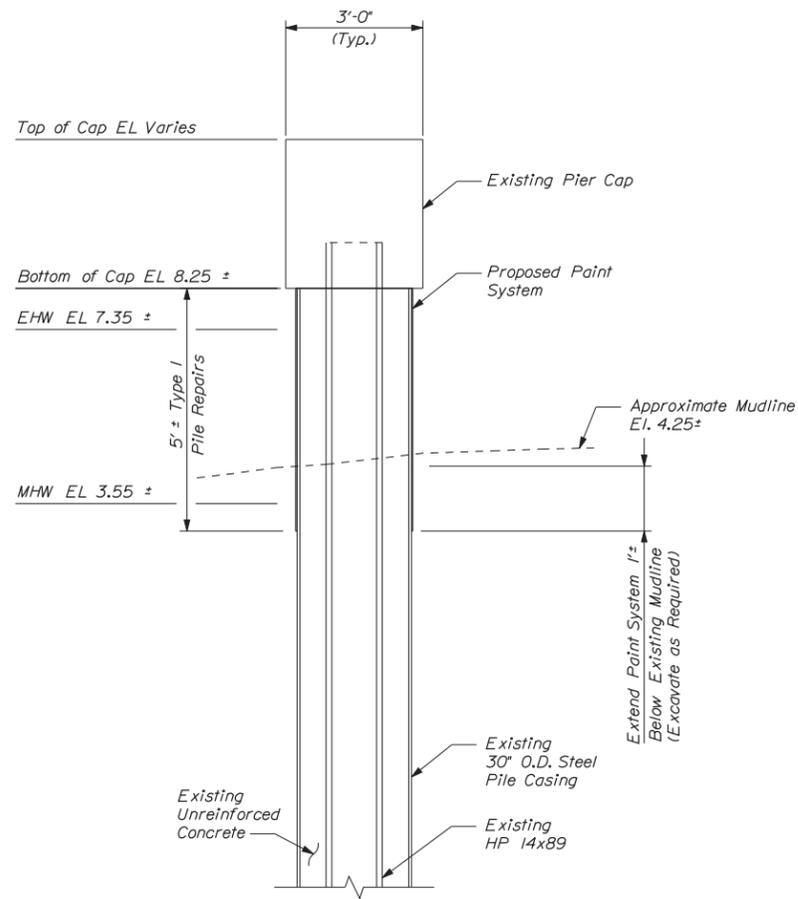
SHEET NUMBER:  
 CONTRACT: 2014.16  
 84 OF 101

Filename: ...st\planset\084\_Pile\_Loc\_01.dgn

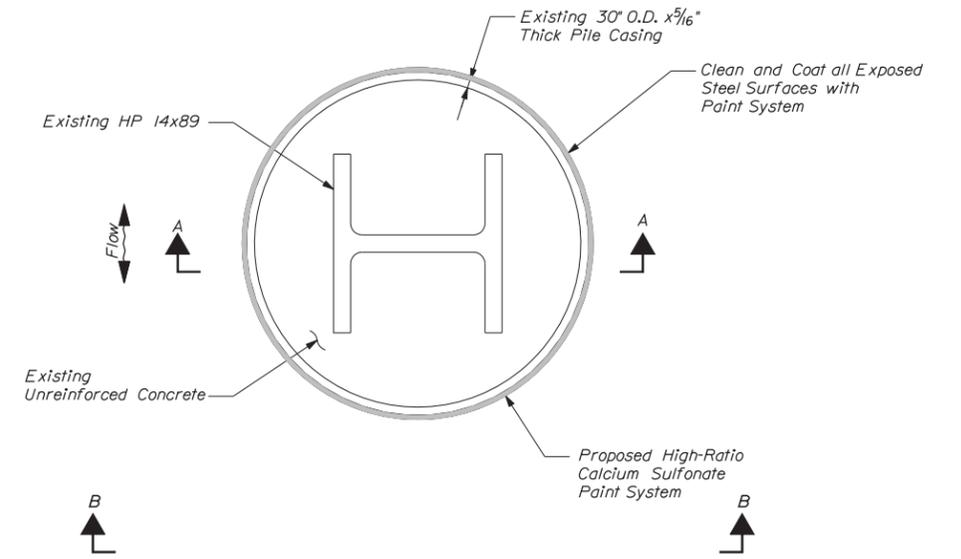
Date: 3/26/2014



**TYPICAL TYPE IA PILE REPAIRS SECTION A-A**  
(All Piles)



**TYPICAL TYPE IA PILE REPAIRS SECTION A-A**  
(At Northbound Pier 12, Piles A-D)



**TYPICAL TYPE IA PILE REPAIRS SECTION**

**TYPE IA PILE REPAIRS NOTES:**

1. Set up staging and shielding around pile repair area to provide access for cleaning, inspection and repair.
2. Pressure wash and mechanically clean repair area in accordance with the Special Provisions
3. Prior to the start of pile repair, the Resident and the Contractor shall inspect the pile and determine the repair limits.
4. Apply the high-ratio calcium sulfonate paint system flush with the bottom of the pier cap and extend it at least 5'-0".
5. The paint system shall extend 1'-0" below mudline at NB bridge Pier 12, Piles A-D, or to the agreed upon repair limits.
6. See Pile Repairs Location Plan Sheet for locations of Type IA pile repairs.

Filename: ...planset\085\_pile\_repair\_01.dgn

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VIIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

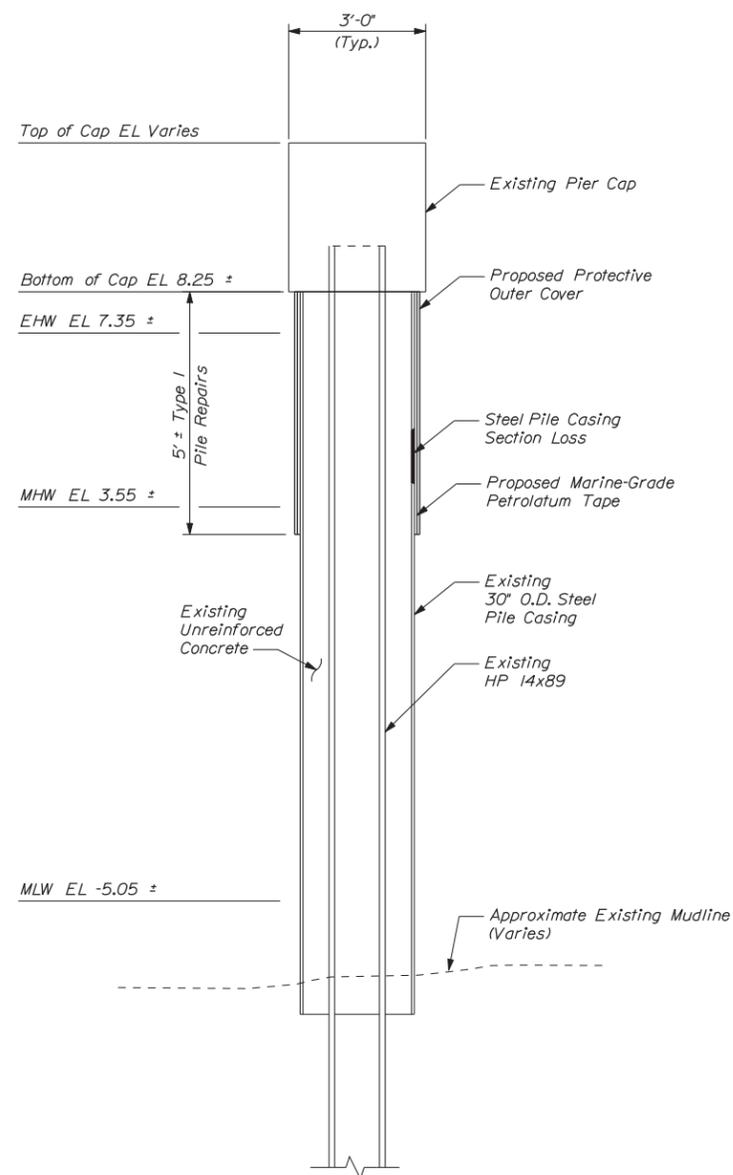
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES  
TYPE 1A PILE  
REPAIRS DETAILS

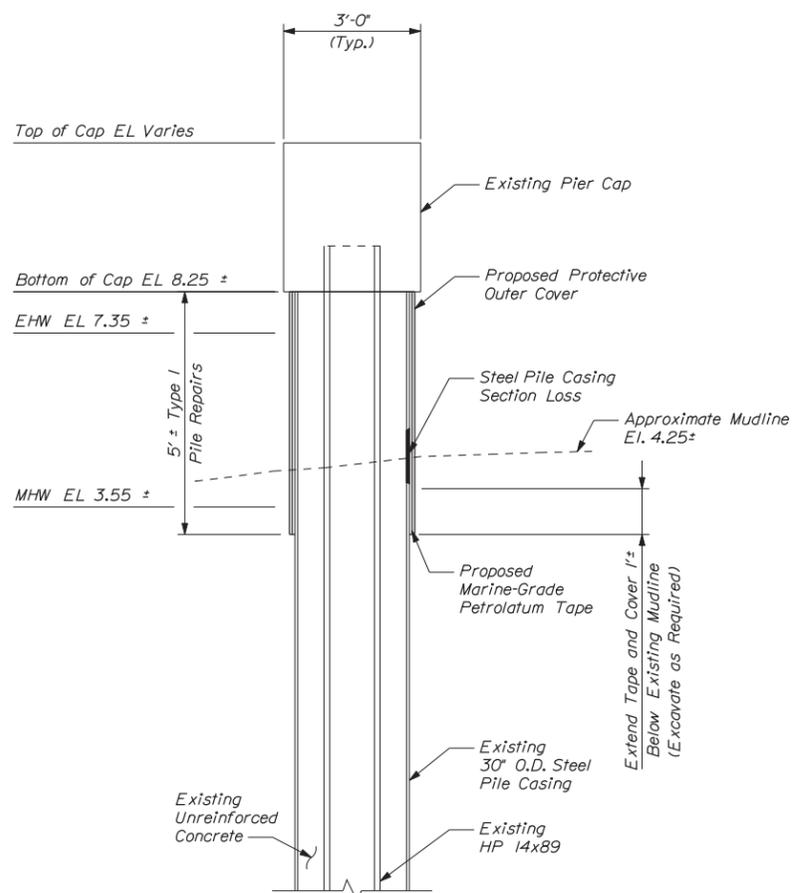
SHEET NUMBER: 85 OF 101

CONTRACT: 2014.16

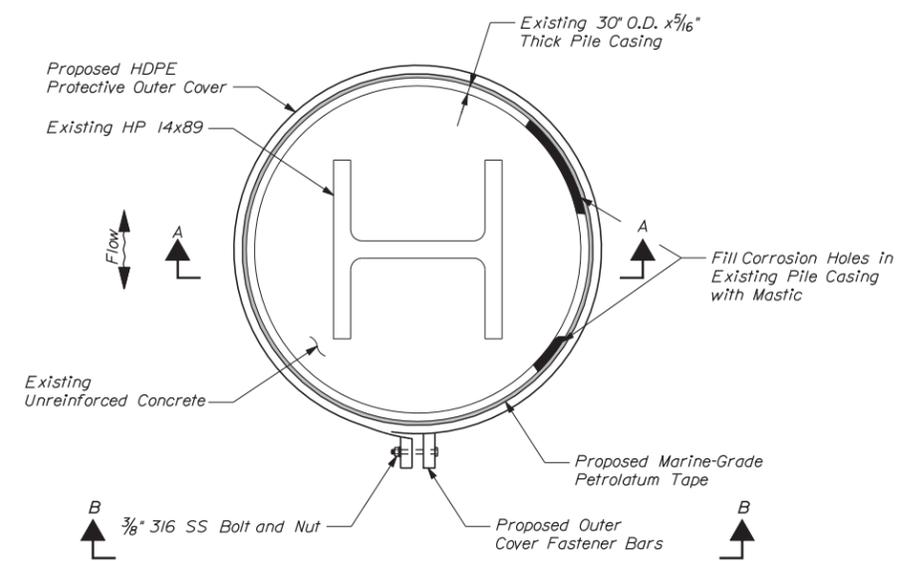
Date: 3/25/2014



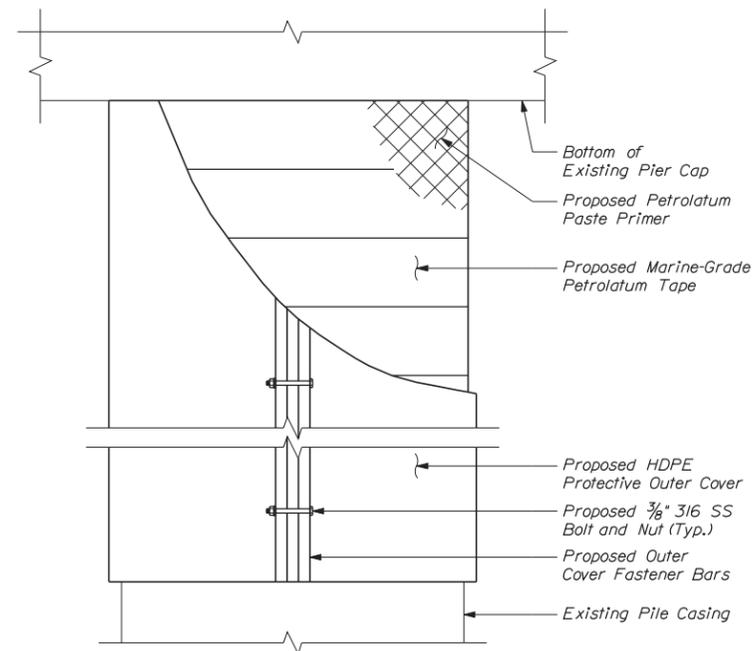
TYPICAL TYPE IB PILE REPAIRS SECTION A-A



TYPICAL TYPE IB PILE REPAIRS SECTION A-A  
(At Northbound Pier 12, Piles A-D)



TYPICAL TYPE IB PILE REPAIRS SECTION



ELEVATION VIEW B-B

**TYPE IB PILE REPAIRS NOTES:**

1. Set up staging and shielding around pile repair area to provide access for cleaning, inspection and repair.
2. Pressure wash and mechanically clean repair area, including any area that will be encapsulated with the marine-grade tape and protective cover. All marine life, loose rust and deleterious material shall be removed.
3. Prior to the start of pile repair, the Resident and the Contractor shall inspect the pile and determine the repair limits.
4. Install the tape and protective cover flush with the bottom of the pier cap and extend it at least 5'-0"
5. The marine-grade tape and protective cover shall extend 1'-0" below mudline at NB bridge Pier 12, Piles A-D, or to the agreed upon repair limits.
6. See Pile Repairs Location Plan Sheet for locations of Type IB pile repairs.

Filename: ...:\planset\086\_pile\_repair\_04.dgn

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VIIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

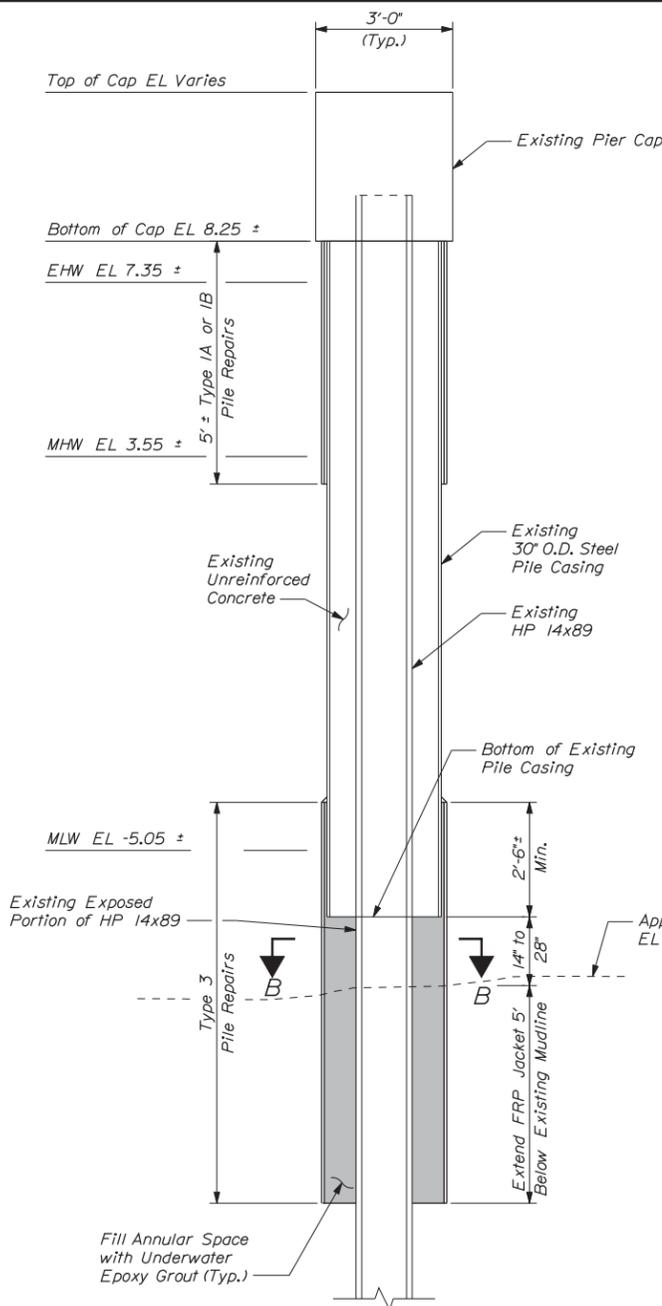
TYPE 1B PILE  
 REPAIRS DETAILS

SHEET NUMBER:  
 CONTRACT: 2014.16  
 86 OF 101

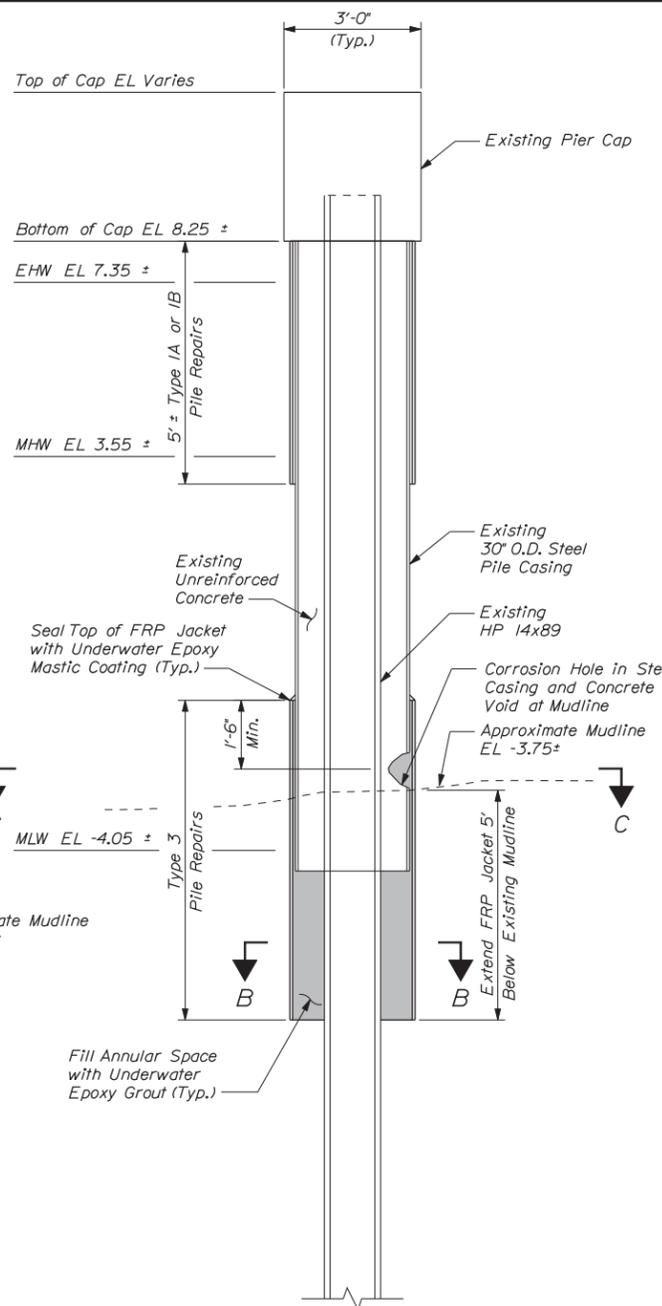


Date: 3/25/2014

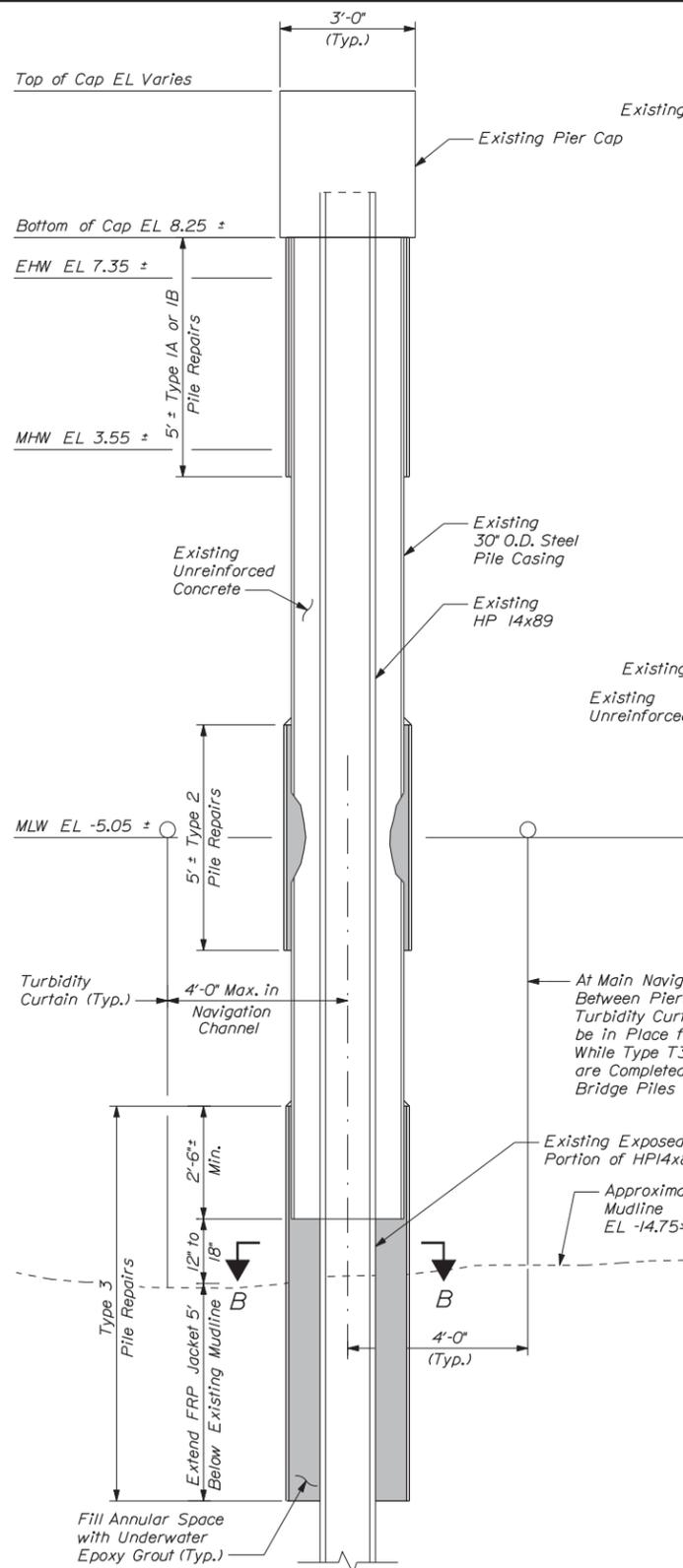
Filename: ...:\planset\088\_pile\_repair\_03.dgn



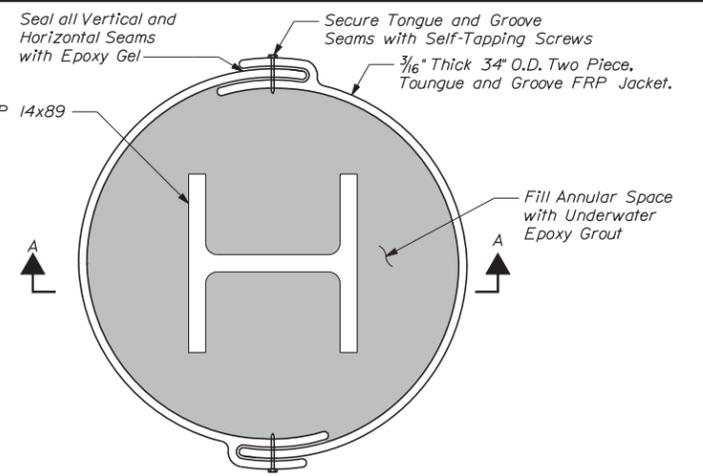
**TYPICAL TYPE 1 & 3 PILE REPAIRS**  
SECTION A-A  
(Receded Mudline)  
(NB & SB Pier 7, Piles E-L)



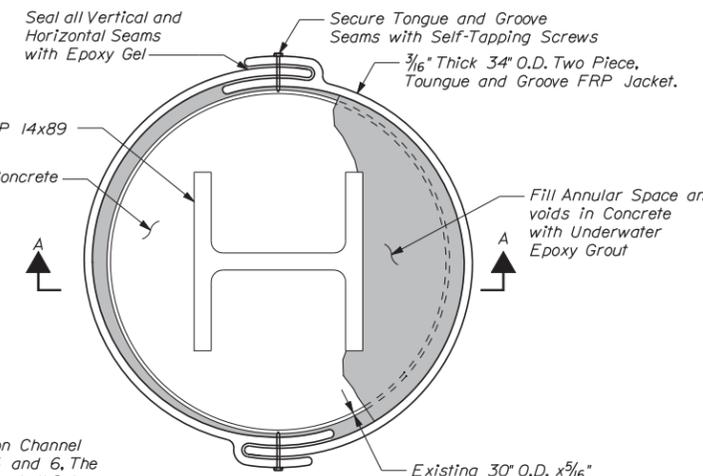
**TYPICAL TYPE 1 & 3 PILE REPAIRS**  
SECTION A-A  
(Corrosion of Steel Casing)  
(NB Pier 8, Pile F, SB Pier 8, Piles J & K)



**TYPICAL TYPE 1, 2 & 3 PILE REPAIRS**  
SECTION A-A  
(NB Pier 6, Pile E & F)



SECTION B-B



SECTION C-C

**TYPE 3 PILE REPAIRS NOTES:**

1. Type 3 Pile Repairs are similar to Type 2 Pile Repairs and Type 2 Repairs Details are applicable to Type 3 Repairs except as noted.
2. Set up staging and shielding around pile repair area to provide access for cleaning, inspection and repair.
3. Pressure wash and mechanically clean repair area, including any area that will be encapsulated with the pile jacket. All marine life, loose rust and deleterious material shall be removed.
4. Prior to the start of pile repair, the Resident and the Contractor shall inspect the pile and determine the repair limits.
5. Install two piece, tongue and groove jacket, according to the applicable details on this sheet.
6. Apply epoxy gel to all seams and secure using stainless steel self-tapping screws.
7. Install bottom seal of jacket using closed foam, oakum or expanding resin or other appropriate material.
8. Use approved method to fill jacket with underwater epoxy grout.
9. See Pile Repairs Location Plan Sheet for locations and sizes of Type 3 Pile Repairs.

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

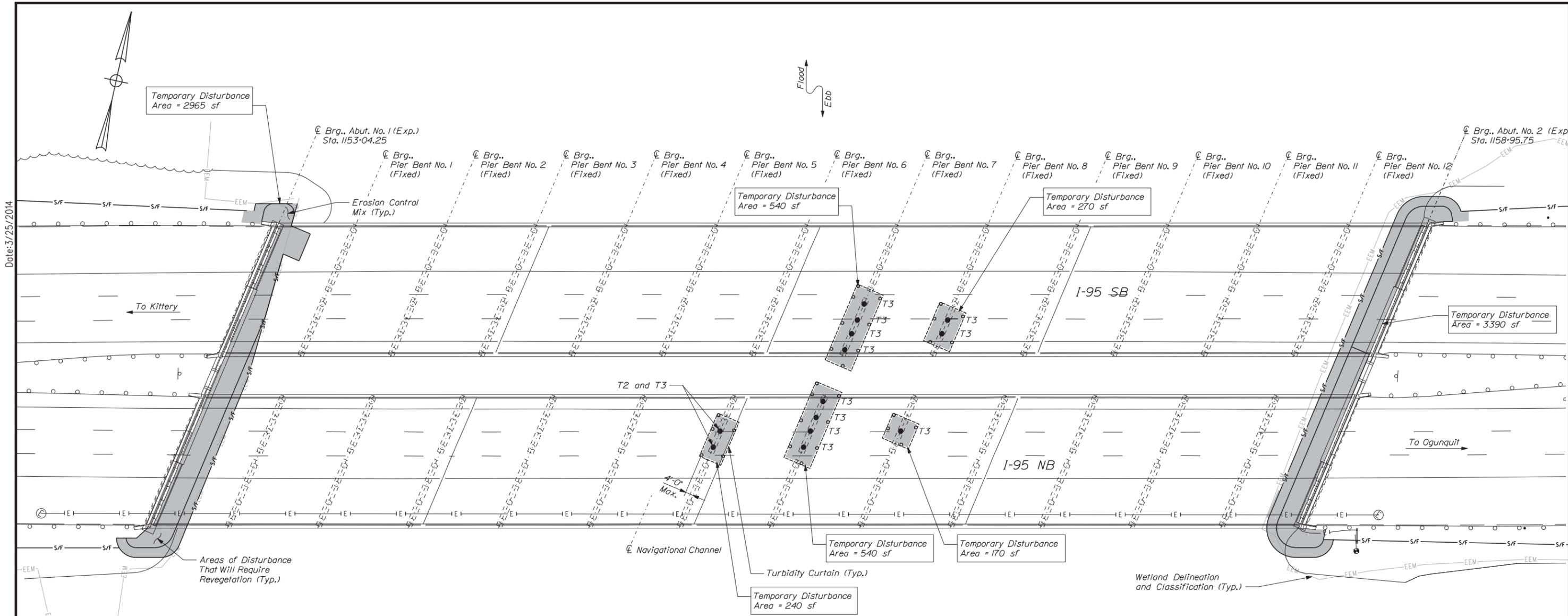
**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
YORK RIVER BRIDGES

TYPE 3 PILE REPAIR DETAILS

SHEET NUMBER:  
CONTRACT: 2014.16  
88 OF 101



**LEGEND**

- TEMPORARY = 24,520 SF (0.56 ACRES) (TOTAL 6 SHEETS)
- PERMANENT = 51,230 SF (1.18 ACRES) (TOTAL 6 SHEETS)  
TOTAL = 75,750 SF (1.74 ACRES) (TOTAL 6 SHEETS)
- s/f — Silt Fence
- Turbidity Curtain
- PERMANENT IMPERVIOUS = 16,400 SF (0.38 ACRES)
- PERMANENT SLOPE = 34,830 SF (0.80 ACRES)

**PLAN**

**NOTES:**

1. See Disturbance Areas & Erosion Sediment Control (4 of 6) for additional impacts.
2. Turbidity curtain in navigation channel shall only be in place for 7 days while Type T3 pile repairs are completed.
3. Turbidity curtain in navigation channel shall extend a maximum of 4' from the center of pier if placed within the navigational channel.

Filename: ...089\_disturbance\_impact\_01.dgn



No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

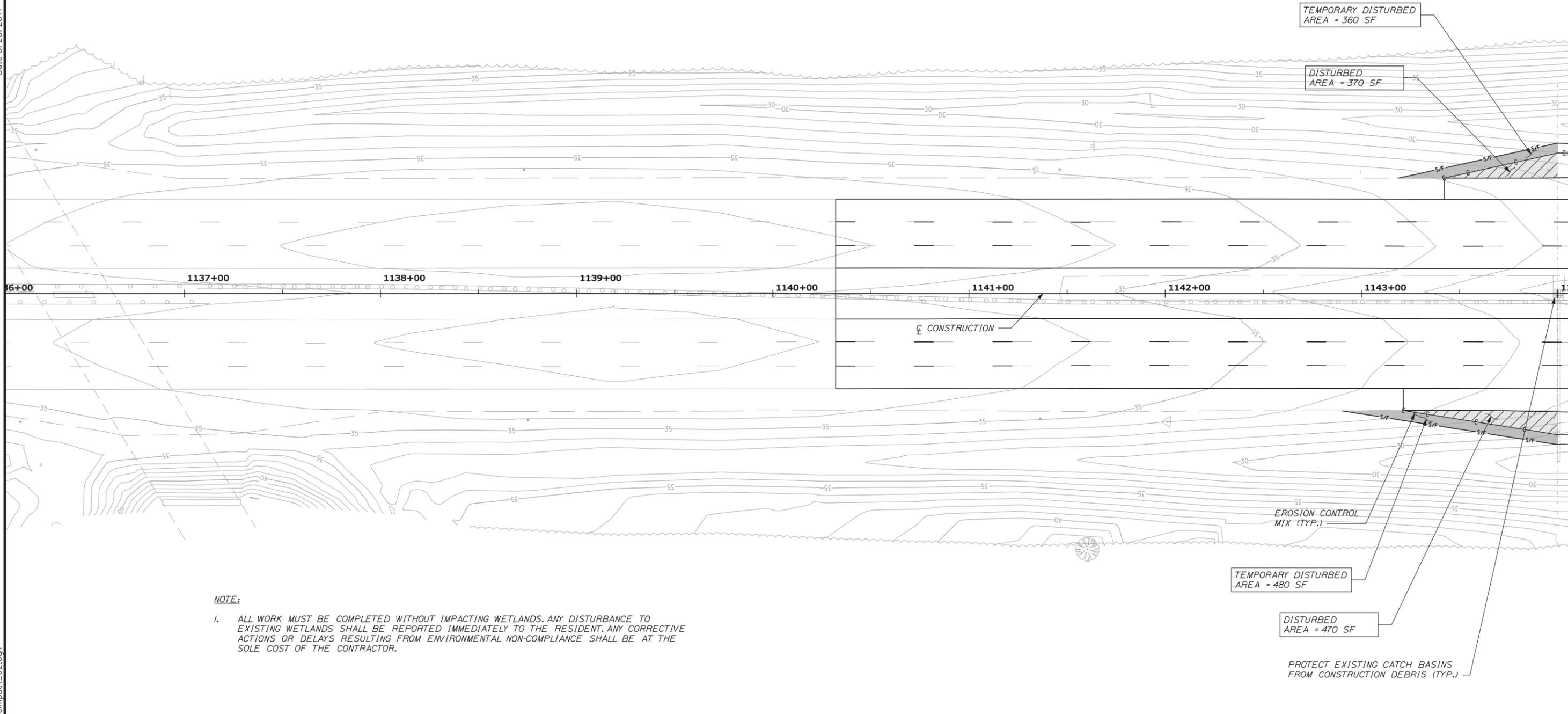
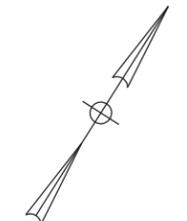
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 DISTURBANCE AREAS &  
 EROSION SEDIMENT CONTROL (1 OF 6)

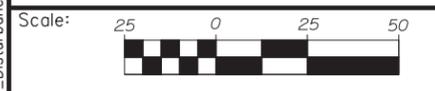
SHEET NUMBER:  
 CONTRACT: 2014.16  
 89 OF 101

Date: 3/25/2014

Filename: ... \090\_DisturbanceImpact\_02.dgn



**NOTE:**  
 1. ALL WORK MUST BE COMPLETED WITHOUT IMPACTING WETLANDS. ANY DISTURBANCE TO EXISTING WETLANDS SHALL BE REPORTED IMMEDIATELY TO THE RESIDENT. ANY CORRECTIVE ACTIONS OR DELAYS RESULTING FROM ENVIRONMENTAL NON-COMPLIANCE SHALL BE AT THE SOLE COST OF THE CONTRACTOR.



No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date	
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

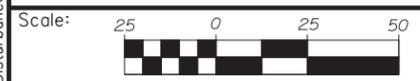
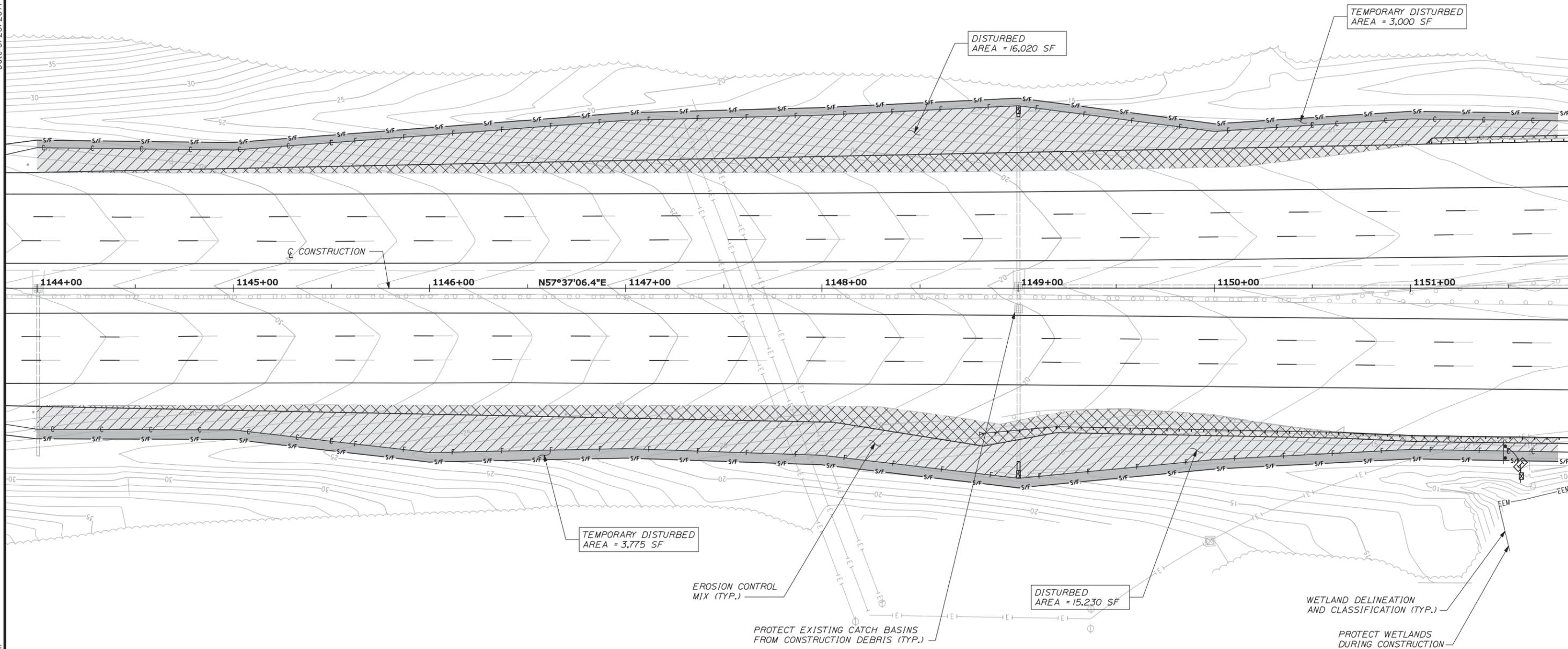
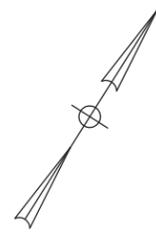
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 DISTURBANCE IMPACT PLANS  
 (2 OF 6)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 90 OF 101

Date: 3/25/2014

Filename: ... \091\_DisturbanceImpact\_03.dgn

TEMPORARY IMPACT  
 PERMANENT IMPACT  
 — S/F — SILT FENCE  
 PERMANENT IMPERVIOUS  
 PERMANENT SLOPE



No.	Revision	By	Date

Designed by:

**VHIB** Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date	
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR  
 MEMORIAL HIGHWAY**

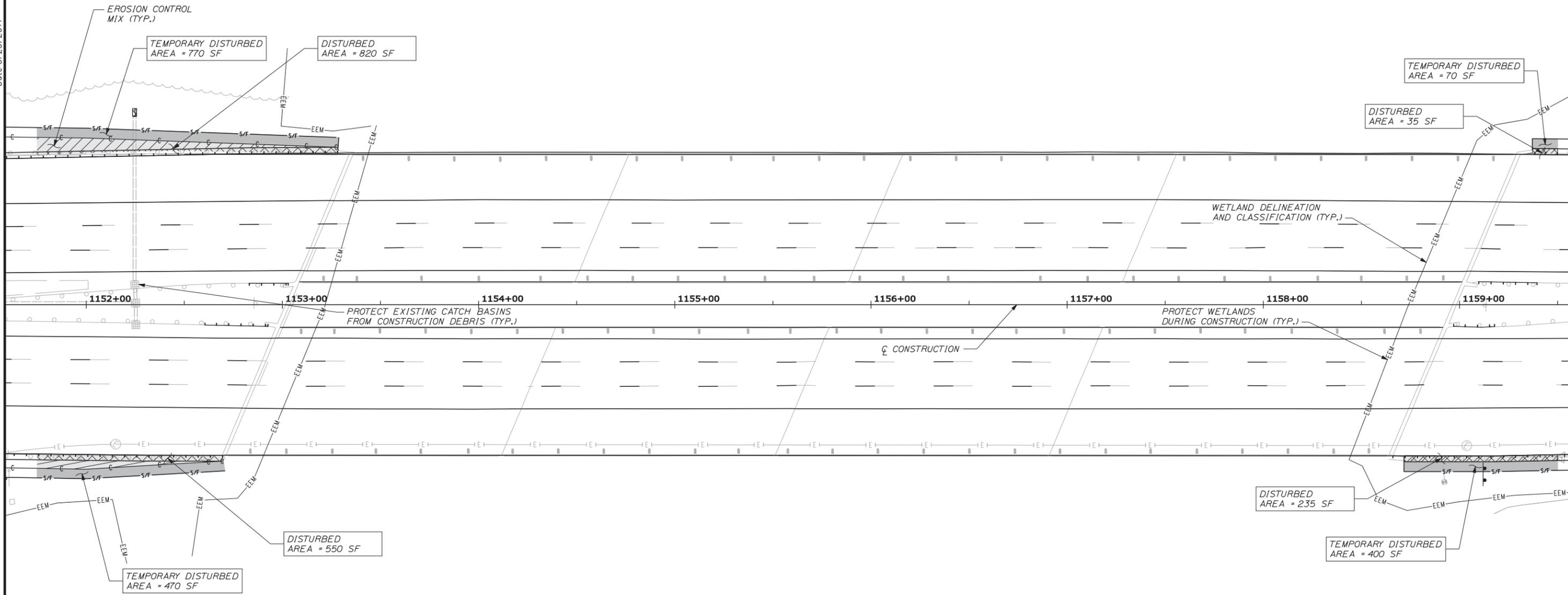
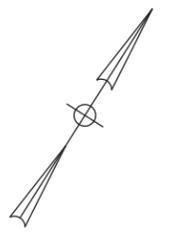
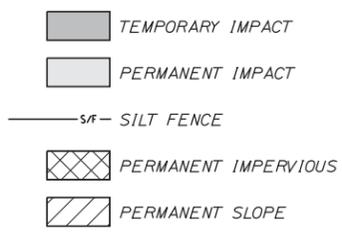
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 DISTURBANCE AREAS &  
 EROSION SEDIMENT CONTROL (3 OF 6)  
 SHEET NUMBER:

CONTRACT: 2014.16 91 OF 101

Date: 3/25/2014

Filename: ... \092\_DisturbanceImpact\_04.dgn



**NOTE:**  
 1. SEE DISTURBANCE AREAS AND EROSION SEDIMENT CONTROL (1 OF 6) FOR ADDITIONAL IMPACTS AT THE BRIDGE.

Scale: 25 0 25 50

No.	Revision	By	Date

Designed by:

**VHIB** Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

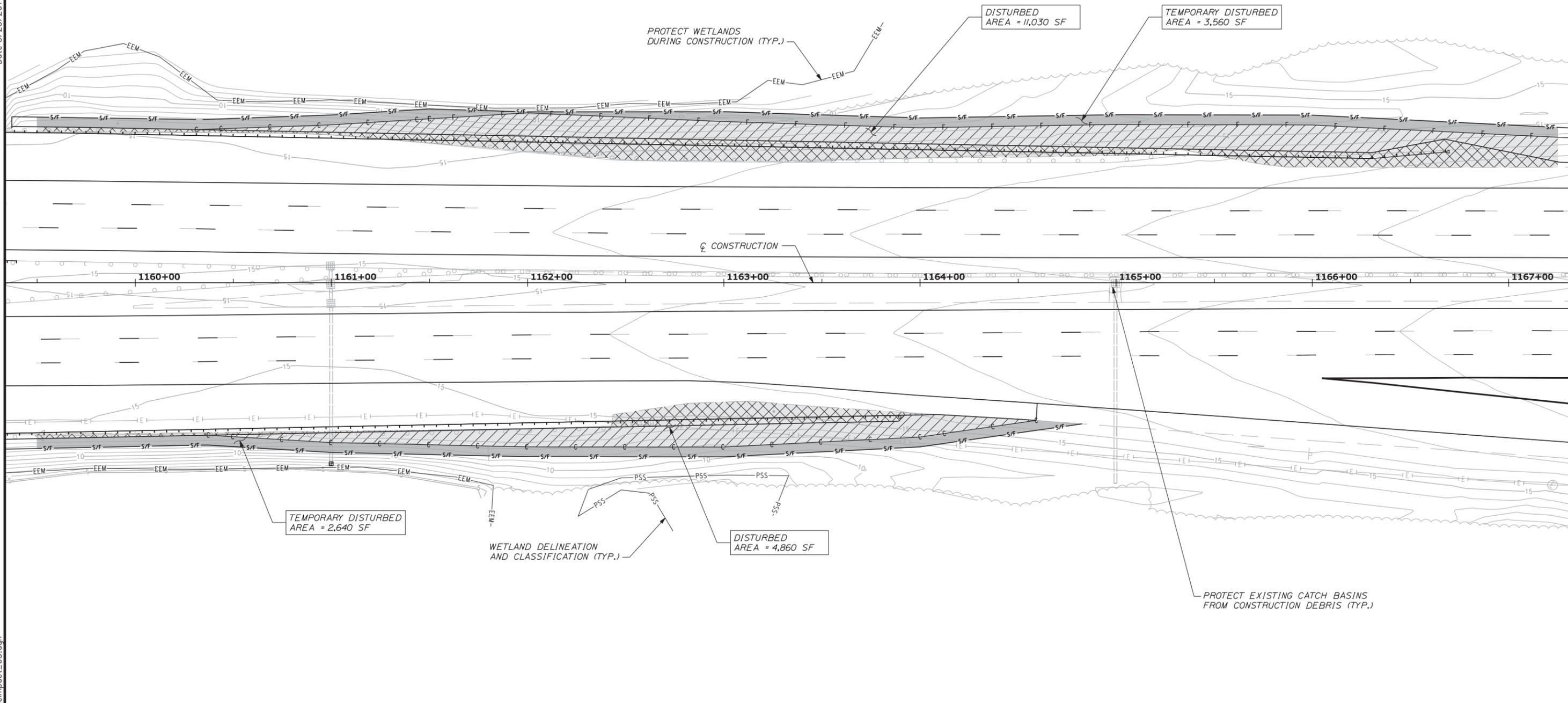
VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**  
 MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 DISTURBANCE AREAS &  
 EROSION SEDIMENT CONTROL (4 OF 6)  
 SHEET NUMBER:  
 CONTRACT: 2014.16

Date: 3/25/2014

■ TEMPORARY IMPACT
   
 ■ PERMANENT IMPACT
   
 — S/F — SILT FENCE
   
  
 PERMANENT IMPERVIOUS
   
 PERMANENT SLOPE



Filename: ... \093\_DisturbanceImpact\_05.dgn

Scale: 25 0 25 50

No.	Revision	By	Date

Designed by:

**VHB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

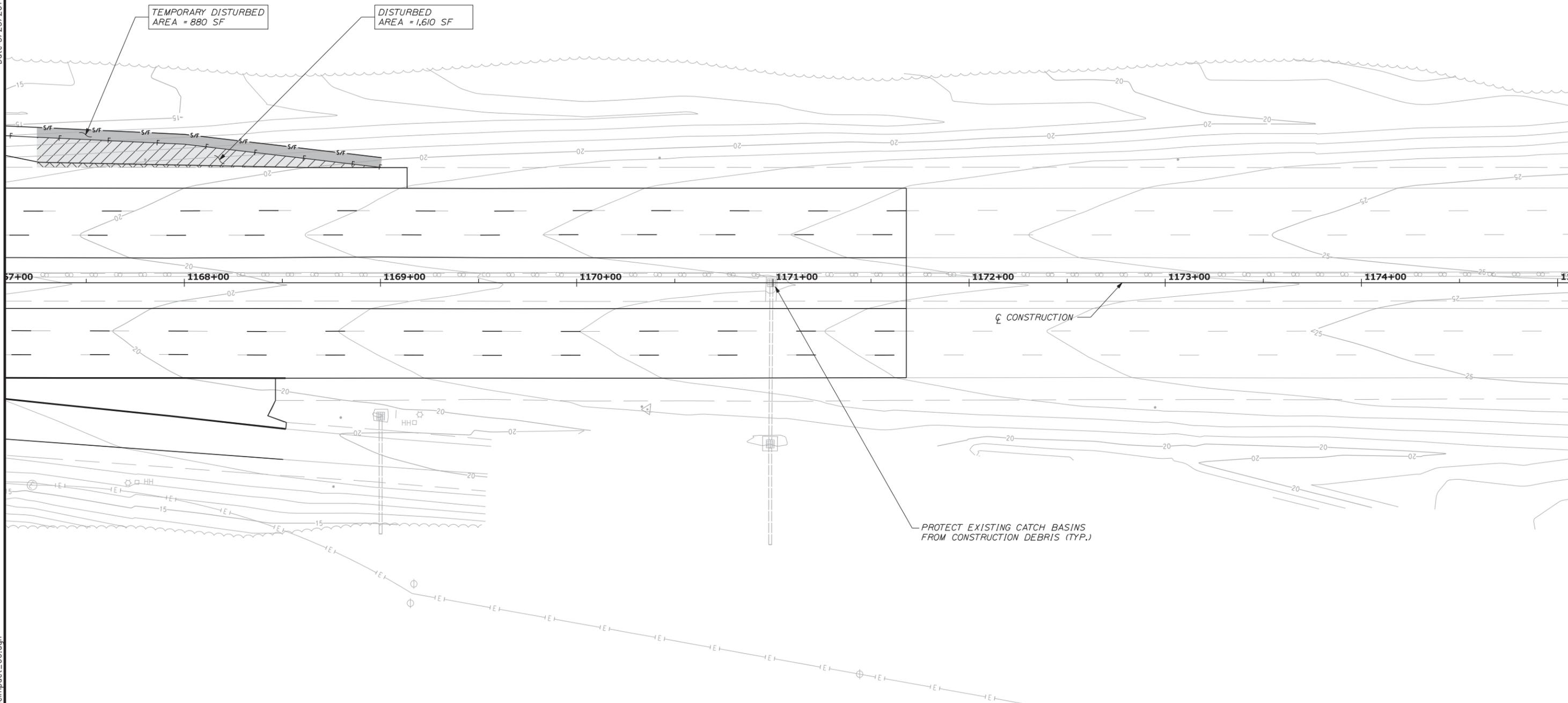
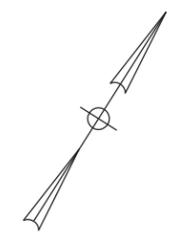
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 DISTURBANCE AREAS &  
 EROSION SEDIMENT CONTROL (5 OF 6)

SHEET NUMBER:  
 CONTRACT: 2014.16  
 93 OF 101

Date: 3/25/2014

Filename: ... \094\_DisturbanceImpact\_06.dgn

■ TEMPORARY IMPACT
   
 ■ PERMANENT IMPACT
   
 — S/F — SILT FENCE
   
 PERMANENT IMPERVIOUS
   
 PERMANENT SLOPE



Scale: 25 0 25 50

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT
 

	By	Date		By	Date
Designed	PAC	3/14	Checked	TSB	3/14
Drawn	CLC	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 DISTURBANCE AREAS &  
 EROSION SEDIMENT CONTROL (6 OF 6)

SHEET NUMBER:

CONTRACT: 2014.16

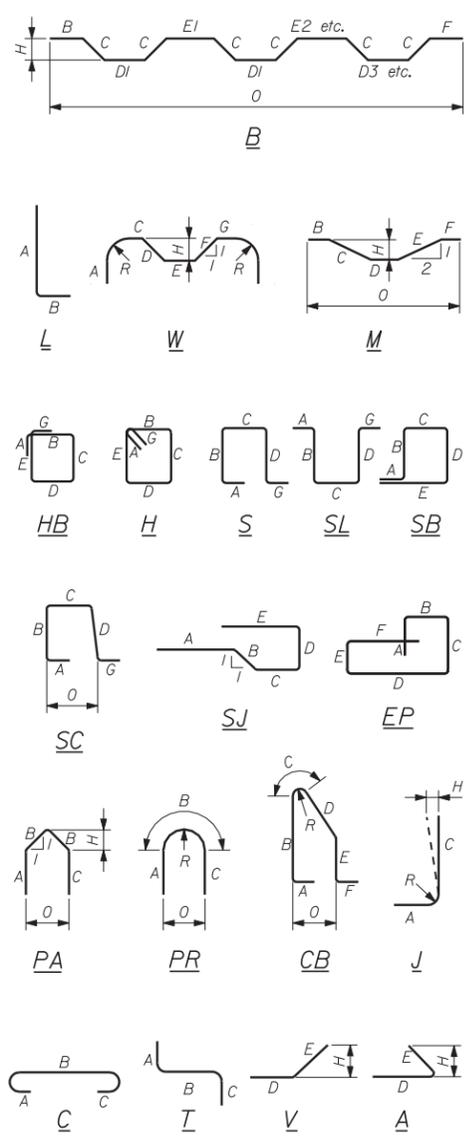
94 OF 101

Date: 3/25/2014

Filename: ...st\planset\095\_reinsch\_01.dgn

STRAIGHT BARS				BENT BARS																		
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Modified Concrete Transition Barrier				Substructure																		
MTB500	80	4'-6"	Modified Concrete Transition Barrier	A551	96	3'-10"	L	1'-10"	2'-0"													L-Bars in Abutment Pedestals (5-12)
MTB501	16	1'-8"		A552	64	3'-2"	SL		0'-9"	1'-8"	0'-9"											U-Bars in Abutment Pedestals (5-12)
MTB502	16	1'-8"		A553	96	4'-1"	L	2'-1"	2'-0"													L-Bars in Abutment Pedestals (1-4) & (13-16)
MTB503	16	1'-7"		A554	64	3'-6"	SL		0'-11"	1'-8"	0'-11"											U-Bars in Abutment Pedestals (1-4) & (13-16)
MTB504	16	1'-7"		Modified Concrete Transition Barrier																		
MTB505	16	1'-6"		MTB550	40	9'-5"	H	0'-5 1/2"	1'-0"	3'-3"	1'-0"	3'-3"				0'-5 1/2"						Modified Concrete Transition Barrier
MTB506	8	7'-0"		MTB551	112	4'-8"	L	2'-4"	2'-4"													
MTB507	8	7'-8"		MTB552	4	3'-1"	S	0'-0"	0'-8"	1'-9"	0'-8"						0'-0"					
MTB508	8	5'-0"		MTB553	112	3'-2"	L	2'-4"	0'-10"													
MTB509	8	7'-7"		MTB554	4	3'-8"	S	0'-0"	0'-8"	2'-4"	0'-8"						0'-0"					
MTB510	8	7'-7"		MTB555	4	3'-0"	S	0'-0"	0'-8"	1'-8"	0'-8"						0'-0"					
MTB511	8	7'-2"		MTB556	4	3'-8"	S	0'-0"	0'-8"	2'-4"	0'-8"						0'-0"					
MTB512	8	4'-5"		MTB650	32	4'-1"	S	0'-0"	1'-9"	0'-7"	1'-9"						0'-0"					
MTB513	8	6'-11"		MTB651	24	4'-3"	H	0'-6"	0'-5 1/2"	1'-2"	0'-5 1/2"	1'-2"				1'-2"						
				MTB652	56	8'-7"	H	0'-6"	0'-10 1/2"	2'-11"	0'-10 1/2"	2'-11"					0'-6"					

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.  
 Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.  
 Reinforcing Bar: ASTM A615/A615M, Grade 60

GENERAL NOTES

- The first digit following the letter(s) of the mark indicate the size of the bar:  
 Mark 'A502' = bar size #5  
 Mark 'P805' = bar size #8  
 Mark 'S650' = bar size #6

Scale:

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed KJG	3/14	Checked JAW	3/14
Drawn CLC	3/14	In Charge of TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

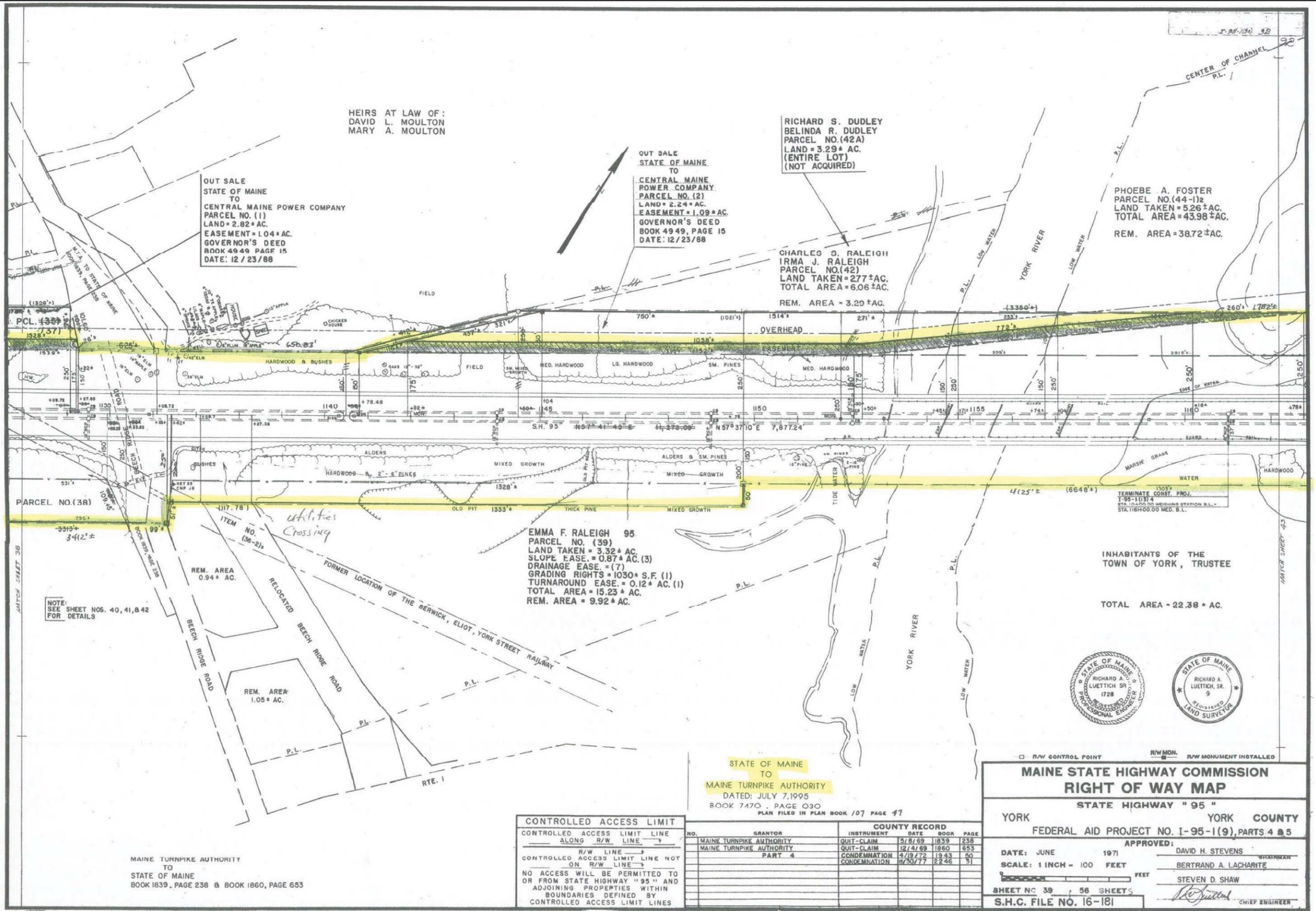
BRIDGE REHABILITATION  
 YORK RIVER BRIDGES

REINFORCING STEEL SCHEDULE

SHEET NUMBER:  
 CONTRACT: 2014.16  
 95 OF 101

Date: 3/25/2014

Filename: ...096\_Right-of-Way\_01.dgn



1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5

NOTE: SEE SHEET NOS. 40, 41, & 42 FOR DETAILS

**CONTROLLED ACCESS LIMIT**  
 CONTROLLED ACCESS LIMIT LINE ALONG R/W LINE  
 R/W LINE  
 CONTROLLED ACCESS LIMIT LINE NOT ON R/W LINE  
 NO ACCESS WILL BE PERMITTED TO OR FROM STATE HIGHWAY "95" AND ADJOINING PROPERTIES WITHIN BOUNDARIES DEFINED BY CONTROLLED ACCESS LIMIT LINES

NO.	GRANTOR	COUNTY RECORD		
		INSTRUMENT	DATE	BOOK PAGE
	MAINE TURNPIKE AUTHORITY	QUIT-CLAIM	5/8/69	1839 238
	MAINE TURNPIKE AUTHORITY	QUIT-CLAIM	12/4/69	1860 653
	PART 4	CONDEMNATION	4/19/72	1943 60
		CONDEMNATION	8/30/77	2246 31

**MAINE STATE HIGHWAY COMMISSION**  
**RIGHT OF WAY MAP**  
 STATE HIGHWAY "95"  
 YORK YORK COUNTY  
 FEDERAL AID PROJECT NO. I-95-1(9), PARTS 4 & 5

DATE: JUNE 1971  
 SCALE: 1 INCH = 100 FEET  
 SHEET NO. 39 OF 56 SHEETS  
 S.H.C. FILE NO. 16-181

APPROVED: DAVID H. STEVENS  
 BERTRAND A. LACHARTE  
 STEVEN D. SHAW  
 CHIEF ENGINEER

TEMP. SHEET NO. 7

Scale:

No.	Revision	By	Date

Designed by:  
**VIIB Vanasse Hangen Brustlin, Inc.**  
 CONSULTANT PROJECT MANAGER: T. BRYANT

By	Date	By	Date
Designed	RSB 3/14	Checked	KJG 3/14
Drawn	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

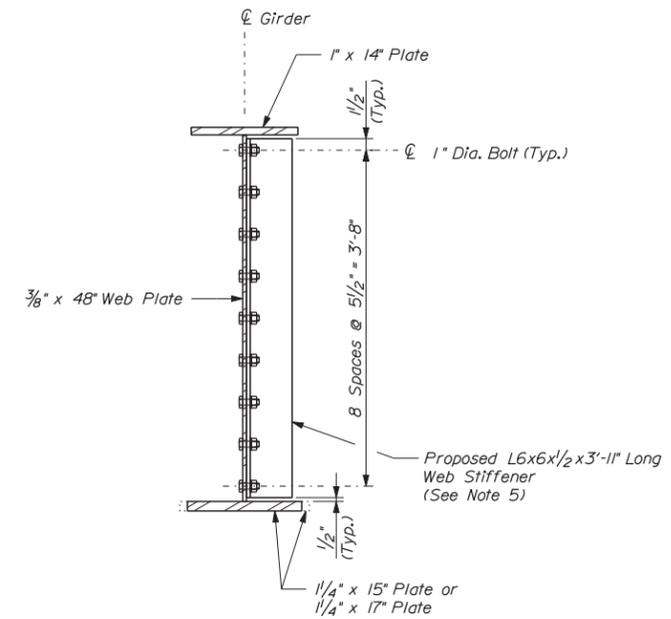
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
 YORK RIVER BRIDGES  
 RIGHT OF WAY MAP

SHEET NUMBER:  
 CONTRACT: 2014.16  
 96 OF 101

CUTTS ROAD BRIDGE

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
504.813	Structural Steel Repairs - Web Stiffener Repairs	10	EA
506.9102	Zinc Rich Coating System (Shop Applied)	1	LS
607.431	Snow Fence	320	LF
652.3	Flashing Arrow Board	2	EA
652.33	Drum	86	EA
652.34	Cones	25	EA
652.35	Construction Signs	371	SF
652.361	Maintenance of Traffic Control Devices	1	LS
652.380	Flagger	200	HR
652.45	Truck Mounted Attenuator	10	CD
659.1	Mobilization	1	LS



TYPICAL GIRDER SECTION

**NOTES:**

1. Intermediate web stiffeners may be either plumb or normal to the top flange.
2. All faying surfaces shall be painted or sealed in accordance with FHWA Technical Advisory T5140.22, Section 4.c.2.c to prevent the formation of pack rust.
3. The steel portions of the existing bridge are coated with a lead-based paint system. The Contractor is responsible for the containment and proper management of all lead-contaminated steel. The Contractor is responsible for implementing appropriate OSHA mandated personal protection standards related to this process.
4. Welding to existing structure shall not be permitted other than shown in the plans unless approved by the Resident.
5. Shop drill proposed web stiffener angle and field drill through web using the holes in the angle as a template.

Date: 3/25/2014

Filename: ...st\planset\097\_from\_dt\_CR.dgn

Scale: 1" = 1'-0"

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	BJM	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
 500 Southborough Dr.  
 Suite 105B  
 South Portland, ME 04106  
 TEL (207) 889-3150  
 FAX (207) 253-5596



**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
CUTTS ROAD BRIDGE

ESTIMATED QUANTITIES, NOTES & DETAILS

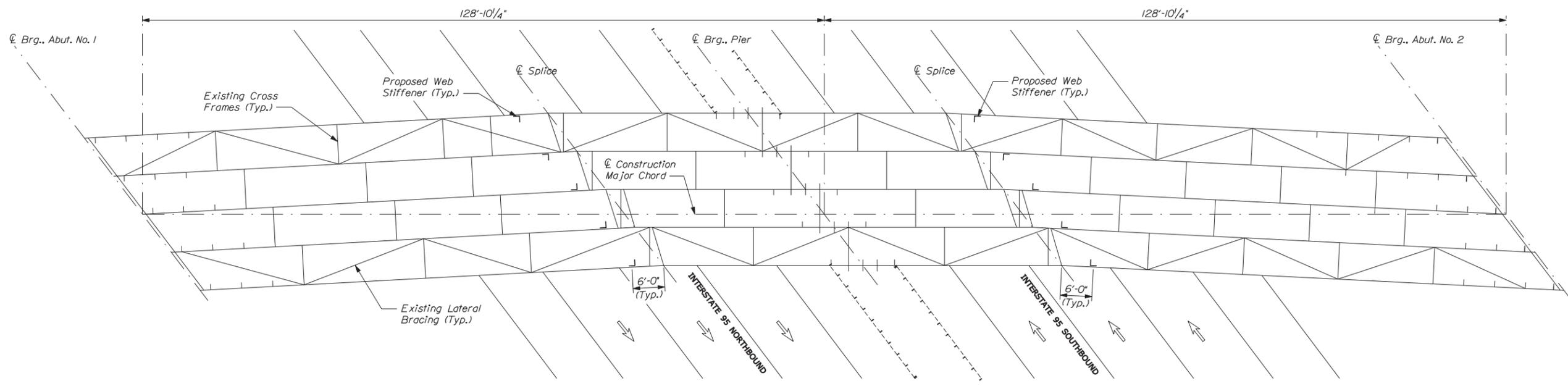
SHEET NUMBER:

CONTRACT: 2014.16

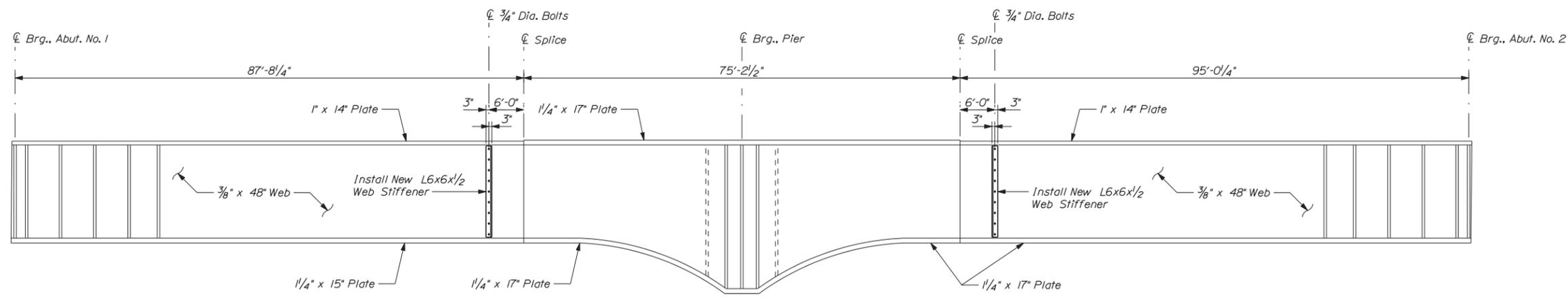
97 OF 101

Date: 3/25/2014

Filename: ...plan\set\098\_framing\_CR\_01.dgn



**FRAMING PLAN**  
Scale: 3/32" = 1'-0"



**GIRDER ELEVATION**  
Not to Scale

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VIIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
CUTTS ROAD BRIDGE

FRAMING PLAN & GIRDER ELEVATION

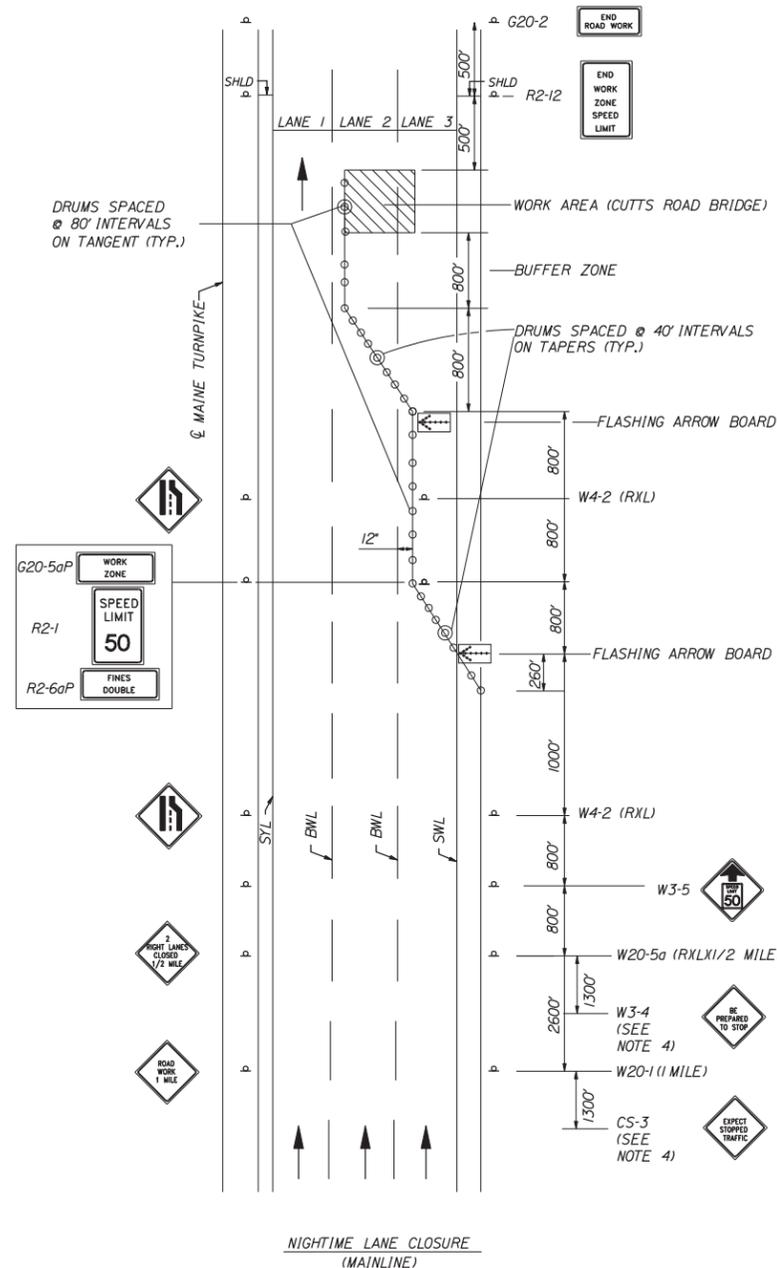
SHEET NUMBER:  
CONTRACT: 2014.16

98 OF 101

TEMPORARY LANE & ROADWAY CLOSURES

MAINTENANCE OF TRAFFIC FOR THE CUTTS ROAD BRIDGE

1. See the Maintenance of Traffic General Notes on Maintenance of Traffic Notes & Summary For York River Bridges for additional traffic control information.
2. Double lane closures on the right side (single left lane open) are proposed along I-95 northbound and southbound for the Cutts Road Bridge repairs. These double lane closures are restricted to nighttime operations between 10PM and 5AM.
3. Work on the Cutts Road Bridge may occur simultaneously with work along the York River Bridges; however, the Contractor shall strive to avoid conflicting traffic control layouts between the two segments of the project. If the END ROAD WORK signing for one layout conflicts with the advanced work zone signing for the downstream layout, the intermediate END ROAD WORK sign shall be removed.
4. In the event traffic through the work zone is slowed to the point of stop-and-go operations, the "EXPECT STOPPED TRAFFIC" and "BE PREPARED TO STOP" signs shall be used. These signs may be covered or turned away from traffic if traffic is substantially free flowing.
5. The installation of snow fence will require a flagging operation along Cutts Road. The Contractor shall establish a lane closure along Cutts Road in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) Typical Application 10 (TA-10) (See Figure 6H-10).



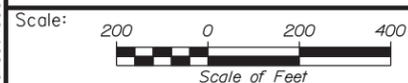
DOUBLE LANE CLOSURE FOR WORK AT CUTTS ROAD BRIDGE

CONSTRUCTION SIGN SUMMARY

Sign	Text Dimensions (Inches)		Size	Quantity and Color
	Letter Height	Vertical Spacing		
CS-3	7" 7"	4" 4"	48"x48"	2 - Black on Orange
G20-2	Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		36"x18"	2 - Black on Orange
G20-5aP			36"x24"	2 - Black on Orange
R2-1(50)			36"x48"	2 - Black on White
R2-6aP			36"x24"	2 - Black on White
R2-12			36"x54"	2 - Black on White
W3-4			48"x48"	2 - Black on Orange
W3-5(50)			48"x48"	2 - Black on Orange
W4-2(R)			48"x48"	4 - Black on Orange
W20-1 (AHEAD)			36"x36"	1 - Black on Orange (Along Piccott Road)
W20-1 (1500 FT)			36"x36"	2 - Black on Orange
W20-1 (1 MILE)			48"x48"	2 - Black on Orange
W20-4			36"x36"	2 - Black on Orange
W20-5aR (2012 SUPPLEMENT)			48"x48"	2 - Black on Orange
W20-7			36"x36"	2 - Black on Orange

Date: 3/25/2014

Filename: ...sf\planset\099\_tcp\_notes.dgn



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	JAR	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

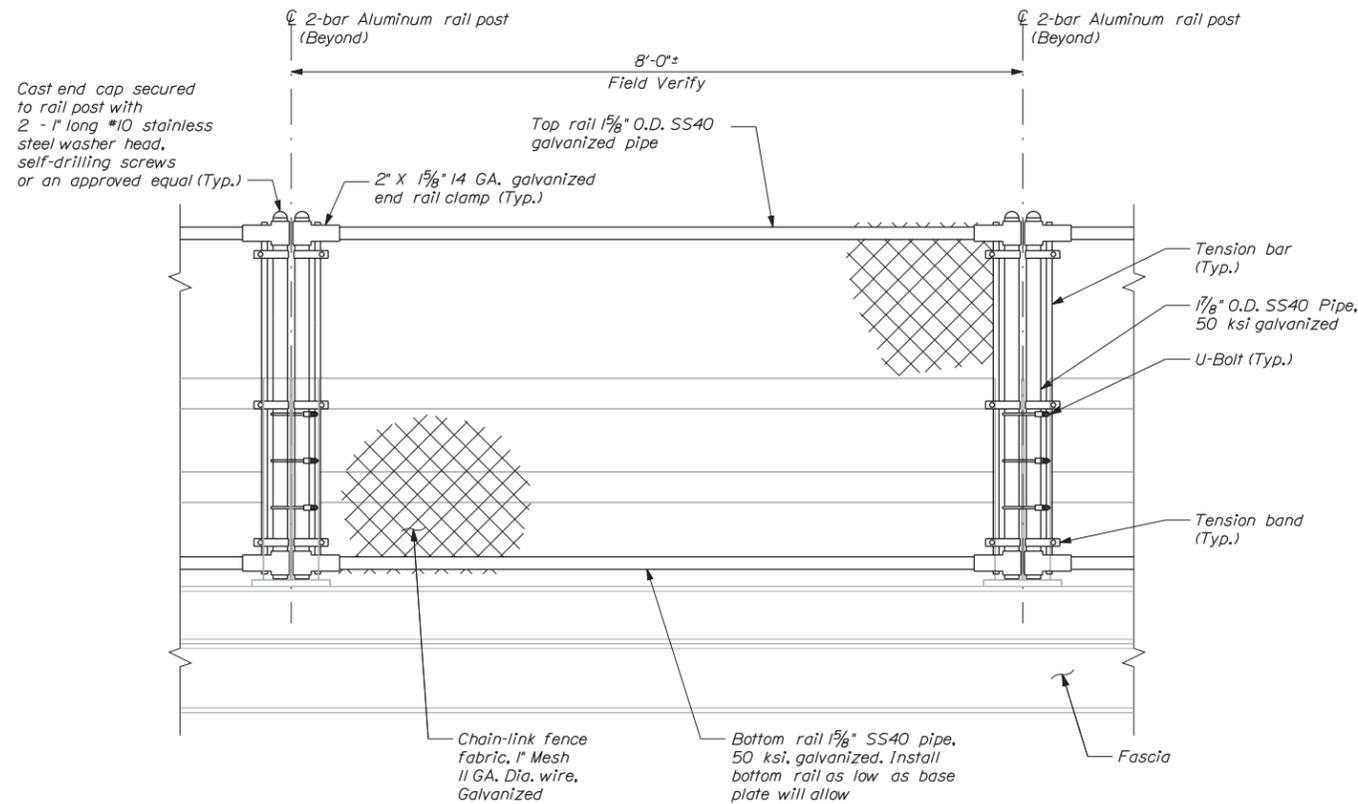
BRIDGE REHABILITATION  
CUTTS ROAD BRIDGE  
MAINTENANCE OF TRAFFIC  
NOTES & DETAILS

SHEET NUMBER:

CONTRACT: 2014.16

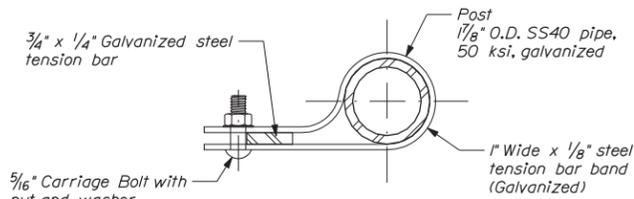
99 OF 101

Date: 3/25/2014  
Date: 3/25/2014

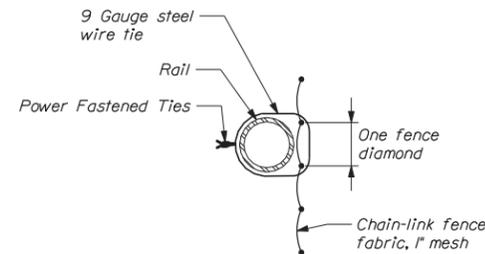


**SNOW FENCE POST ATTACHMENT TO 2-BAR ALUMINUM RAIL**  
Scale: 1" = 1'-0"

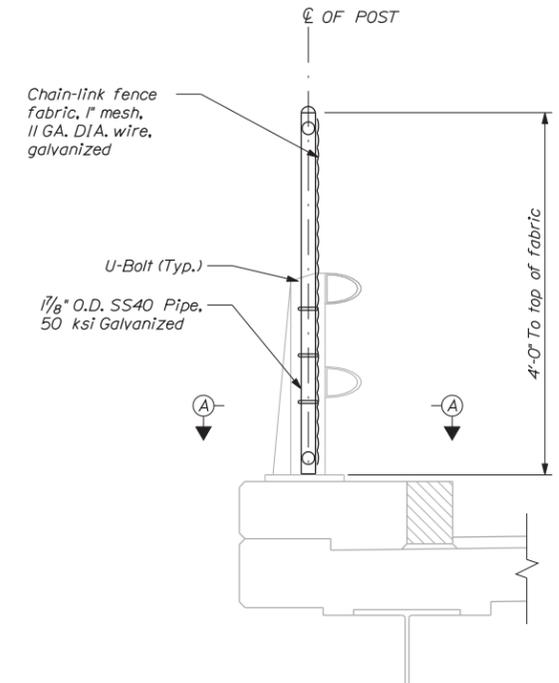
**NOTE:**  
Fence shown from back of bridge rail.



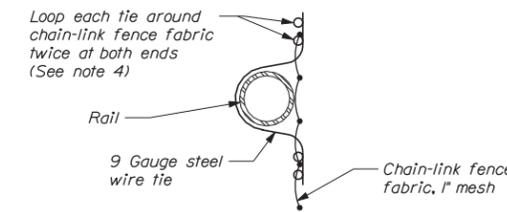
**TENSION BAND DETAIL**  
Scale: 6" = 1'-0"



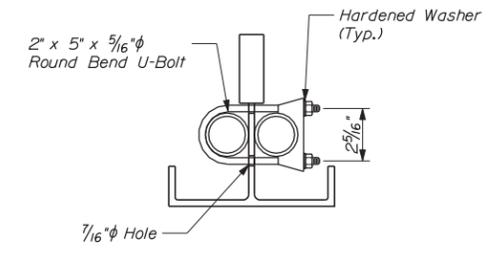
**POWER FASTENED TIE**  
Not to Scale



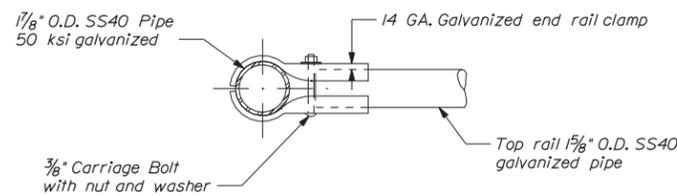
**BARRIER DETAIL**  
Scale: 1" = 1'-0"



**DOUBLE PIGTAILED TIE - ALTERNATE**  
Not to Scale



**SECTION A-A**  
Scale: 3\"/>



**END RAIL CLAMP (At Post)**  
Scale: 3\"/>

**NOTES:**

1. Install chain-link fence fabric between aluminum bridge rails and snow fence frame.
2. Install chain link fence fabric with twisted barbs at the bottom rail.
3. Round wire ties shall be 9 gauge zinc-coated steel preformed to the radius of the post and power-fastened to wrap 360 degrees around the post and one complete diameter of the chain-link fence. The two ends shall be twisted together in a close helix of 1/2 machine turns (3 full twists) tightly around the post and chain-link fence fabric. Space ties @ 6\"/>
- 4. Alternatively, wire ties may be standard round 9 gauge zinc-coated steel. All ties shall be wrapped around chain-link fence fabric twice (double pigtailed) at both ends. Space ties @ 6\"/>
- 5. All bolts and nuts shall be steel conforming to ASTM A307 and ASTM A563 Grade A respectively. Washers shall be hardened steel commercial Type A plain and shall meet the dimensional requirements of ANSI B18.22. All hardware shall be hot-dip galvanized in accordance with AASHTO M111 (ASTM A123) or AASHTO M232 (ASTM A153) as applicable.
- 6. See snow fence details (2 of 2) sheet for snow fence layout.

Filename: ...\\sf\planset\100\_SnowFence.dgn

Scale: As Noted

No.	Revision	By	Date

Designed by:

**VHIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date	By	Date
Designed	RSB	3/14	Checked	KJG 3/14
Drawn	CMD	3/14	In Charge of	TSB 3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596



**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

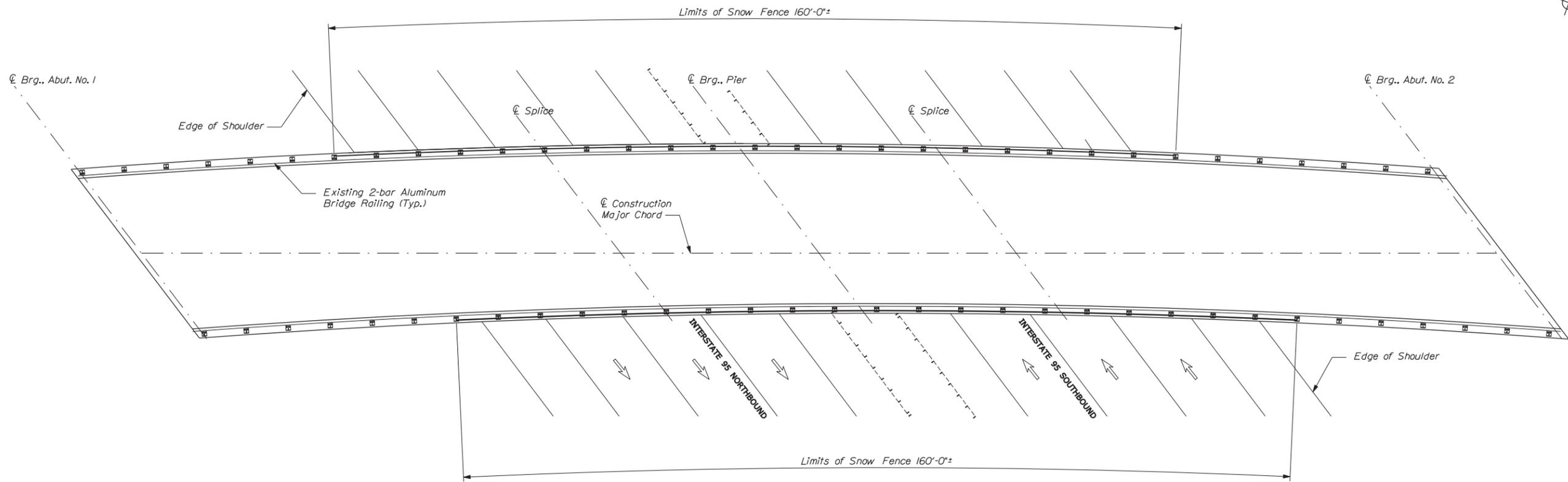
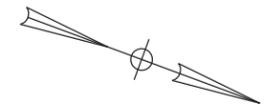
BRIDGE REHABILITATION  
CUTTS ROAD BRIDGE  
SNOW FENCE DETAILS (1 OF 2)

CONTRACT: 2014.16

SHEET NUMBER:

100 OF 101

Date: 3/25/2014



NEW SNOW FENCE ON EXISTING BRIDGE RAIL LAYOUT PLAN  
Scale: 1/32" = 1'-0"

Filename: ...101\_snowlimits\_CR\_01.dgn

Scale: As Noted			
No.	Revision	By	Date

Designed by:

**VIIB Vanasse Hangen Brustlin, Inc.**

CONSULTANT PROJECT MANAGER: T. BRYANT

	By	Date		By	Date
Designed	RSB	3/14	Checked	KJG	3/14
Drawn	BJM	3/14	In Charge of	TSB	3/14

VANASSE HANGEN BRUSTLIN, INC.  
500 Southborough Dr.  
Suite 105B  
South Portland, ME 04106  
TEL (207) 889-3150  
FAX (207) 253-5596

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E.

BRIDGE REHABILITATION  
CUTTS ROAD BRIDGE

SNOW FENCE DETAILS (2 OF 2)

SHEET NUMBER:

CONTRACT: 2014.16

101 OF 101