STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

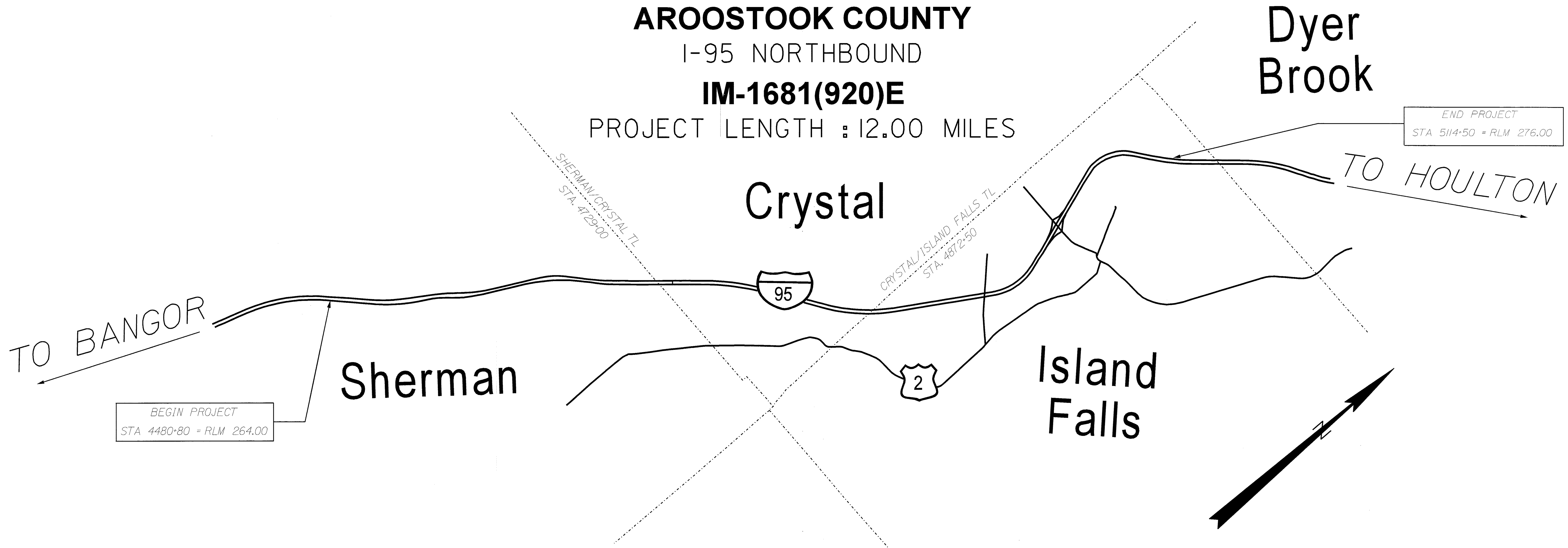
SHERMAN - ISLAND FALLS

AROOSTOOK COUNTY

I-95 NORTHBOUND

IM-1681(920)E

PROJECT LENGTH : 12.00 MILES



TRAFFIC DATA

	SEC. 1 Exit 264-SHERMAN TO EXIT 276-ISLAND FALLS	SEC. 2 EXIT 276-ISLAND FALLS TO EXIT 286-OAKFIELD
Current (2012) AADT	2060	2120
Future (2032) AADT	2580	2740
DHV - % of AADT	12	12
Design Hour Volume	310	329
% Heavy Trucks (AADT)	24	23
% Heavy Trucks (DHV)	21	20
Directional Distribution (DHV)	100	100
18 kip Equivalent P 2.0	314	314
18 kip Equivalent P 2.5	299	299
Design Speed (mph)	75	75
Functional Class:	PRINCIPAL ARTERIAL INTERSTATE	

PROJECT LOCATION:	Beginning 2.45 miles north of the Benedicta/Sherman town line and extending northerly 12.00 miles ending 1.21 miles south of the Island Falls/Dyer Brook town line.
PROGRAM AREA:	Highway Program
SCOPE OF WORK:	Mill and Fill with drainage and safety improvements.

WIN 16819.20 IM-1681(920)E

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED | DATE
COMMISSIONER: | 3/30/12
CHIEF ENGINEER: | 3/28/12

STATE OF MAINE, Scott C. Bickford, No. 8231, LICENSED PROFESSIONAL ENGINEER

SIGNATURE
P.E. NUMBER
DATE

PROJECT INFORMATION

PROGRAM	HIGHWAY
PROJECT MANAGER	THOMAS STEVENS
DESIGNER	
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SHERMAN-ISLAND FALLS
I-95 NORTHBOUND

TITLE SHEET

SHEET NUMBER
1
OF 1

	ESTIMATED BRIDGE QUANTITIES					
ITEM NO.	DESCRIPTION	QUANTITY Patten Road & Railroad Br. No. 1403	QUANTITY Bog Brook Road & Fish Stream Br. No. 1402	QUANTITY West Branch Mattawamkeag Br. No. 1401	TOTAL	UNIT
202.30	REMOVING EXISTING CONCRETE WEARING SURFACE (680 SY)	0	0	1	1	LS
403.208	HOT MIX ASPHALT 12.5 MM SURFACE	0	0	66	66	T
403.213	HOT MIX ASPHALT 12.5 MM BASE	0	0	56	56	T
409.15	BITUMINOUS TACK COAT - APPLIED	0	0	17	17	GAL
429.34	GRID/FABRIC COMPOSITE PAVEMENT INTERLAYER	0	0	255	255	SF
507.0926	FURNISH ALUMINUM BRIDGE RAIL COMPONENTS	0.17	0.66	0.17	1	LS
507.0927	ALUMINUM BRIDGE RAIL, 2 BAR POST REPLACEMENT	0	6	0	6	EA
507.0928	ALUMINUM BRIDGE RAIL, RAIL SECTION REPLACEMENT	0	40	0	40	LF
507.30	ALUMINUM BRIDGE RAIL SPLICE RETROFIT	2	1	4	7	EA
507.31	ALUMINUM BRIDGE RAIL SPLICE INSPECTION	0.33	0.34	0.33	1	LS
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE (680 SY)	0	0	1	1	LS
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (112 SY)	0.33	0.34	0.33	1	LS
*	518.391 REPAIRING GRANITE CURB JOINT AND BEDDING MORTAR	55	104	142	301	LF
*	518.50 REPAIR OF UPWARD FACING SURFACES - TO REINFORCING STEEL <7.9 IN.	0	0	490	490	SF
*	518.51 REPAIR OF UPWARD FACING SURFACES - BELOW REINFORCING STEEL <7.9 IN.	0	0	110	110	SF
*	518.52 REPAIR OF UPWARD FACING SURFACES >7.9 IN.	0	0	1	1	CY
*	518.60 REPAIR OF VERTICAL SURFACES < 7.9 IN.	0	0	10	10	SF
*	518.61 REPAIR OF VERTICAL SURFACES > 7.9 IN	0	0	1	1	CY
520.242	BRIDGE JOINT MODIFICATION TYPE 2	0	0	1	1	EA
520.2421	BRIDGE JOINT MODIFICATION TYPE 2A	2	1	0	3	EA
520.2422	BRIDGE JOINT MODIFICATION TYPE 2B	0	1	0	1	EA
520.246	BRIDGE JOINT MODIFICATION TYPE 6	0	0	1	1	EA
521.32	FABRIC TROUGH FOR FINGER JOINT	0	1	0	1	EA
521.51	FABRIC COVERING FOR CONCRETE SURFACES	0	1	0	1	LS
526.301	TEMPORARY CONCRETE BARRIER - TYPE 1 (880 LF)	0.28	0.47	0.25	1	LS
526.34	PERMANENT CONCRETE TRANSITION BARRIER	4	4	4	12	EA
527.34	WORK ZONE CRASH CUSHIONS	1	1	1	3	UN
*	610.08 PLAIN RIPRAP	10	10	10	30	CY
*	620.58 EROSION CONTROL GEOTEXTILE	20	20	20	60	SY
627.77	REMOVING EXISTING PAVEMENT MARKING	1280	800	1240	3320	SF
*	631.10 AIR COMPRESSOR (INCLUDING OPERATOR)	8	8	8	24	HR
*	631.11 AIR TOOL (INCLUDING OPERATOR)	8	8	8	24	HR
652.30	FLASHING ARROW BOARD	1	1	1	3	EA

* Undetermined Location

Notes:

1. Estimated Quantities for each bridge are provided here for reference purposes only.

Username: mcundiff Date:4/2/2012

Division: BRIDGE

Filename: 002_Estimate&GN-NB.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)E

PIN 16819.20

BRIDGE NO. Varies

BRIDGE PLANS

	BY	DATE
DESIGNED	MPC	04\12
CHECKED	DGE	04\12
DESIGN2	-	-
DESIGN3	-	-
REVISIONS 1	-	-
REVISIONS 2	-	-
REVISIONS 3	-	-
REVISIONS 4	-	-

SIGNATURE

P.E. NUMBER

DATE

PROJ. MGR.	
DESIGN-DETAILED	CAH
CHECKED-REVIEWED	DGE
DESIGN2-DETAILED2	-
DESIGN3-DETAILED3	-
REVISIONS 1	-
REVISIONS 2	-
REVISIONS 3	-
REVISIONS 4	-
FIELD CHANGES	-

INTERSTATE 95 NORTHBOUND
ISLAND FALLS
AROOSTOOK COUNTY

ESTIMATED BRIDGE QUANTITIES

SHEET NUMBER

2

OF 13

GENERAL

1. Project information referred to below may be accessed at the following MaineDOT web address: http://maine.gov/mdot/comprehensive-list-projects/project-information.php.

2. The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproduction of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

3. All dimensions, angles and stationing shown on existing plans are taken from as-built construction drawings from 1965 through 1990, supplemented by limited field measurements and are not guaranteed to be correct. All existing bridge information shall be verified in the field by the Contractor prior to commencing any work.

4. The Resident shall review the embankment armor/slope protection at all drain replacement locations and verify the existing embankment armor/slope protection is adequate to protect the embankment/slope from eroding or undermining during heavy rain events. The Contractor shall undertake embankment armor/slope protection modifications at the request/direction of the Resident. The work, if required, will be paid for under the various hand labor and hourly equipment items.

UTILITIES

1. Utilities in this contract are listed in Special Provision Section 104, Utilities.

2. All utility facilities shall be adjusted by the respective utilities unless otherwise noted. No utility adjustment is anticipated.

3. The locations of the existing utilities, bridge wiring and monitoring instruments (i.e. Utilities and Special Equipment) shown on these plans are based on the best available information and are approximate. The Contractor shall verify the location of all existing utilities and special equipment prior to starting work. The Contractor shall protect existing utilities and special equipment during construction and shall provide temporary supports where required by his operations. Temporary supports shall be approved by the utility or special equipment owner prior to their installation and use. The cost of this work shall be considered incidental to the work required under Item 659.10 Mobilization.

BRIDGE RAILING

1. All aluminum bridge rail, rail posts, and associated hardware components which are to be removed shall be carefully salvaged by the Contractor and will remain property of the Department. Contractor shall transport materials to the Maine DOT maintenance lot at 159 Bangor Street, Houlton, Maine. Contact is Joel Rideout at 532-3684. Payment will be considered incidental to related Contract items.

2. The drawings show or note the approximate number of damaged bridge rail posts and damaged bridge rail sections that are to be replaced on this project. The actual quantity of bridge rail and post replacement shall be as directed by the Resident.

3. The Contractor shall furnish the quantity of bridge rail, posts, toggle bolts, splice bars and end caps specified in the Contract. The Department will not furnish any bridge materials for this project. See Special Provisions for additional information.

4. Misaligned bridge rail splices shall be modified in accordance with the project specifications, standard and supplemental details and as noted on the drawings. All splice rail modification bolts shall be furnished by the Contractor.

5. At the Resident's discretion, and based on available materials, damaged bridge rail sections may be replaced in either full length sections or in shorter rail sections. Bridge rail section replacement shall be completed such that all proposed and existing lengths of rail are attached to a minimum of two posts, and such that all rail splices are located two feet from a post.

6. Bridge rail posts that are relocated as part of the concrete transition barrier modifications, and bridge rail sections shortened or extended as part of the concrete transition barrier modifications, shall be considered incidental to the permanent concrete transition barrier pay item. All components necessary to extend rails section or relocate bridge posts including rail, posts, toggle bolts, splice bars, rail post anchor bolts, anchor bolt anchoring materials, and splice rail modification bolts shall be furnished by the Contractor.

7. The quantities for bridge rail end caps assume full placement on many bridges. If the contractor determines that rail end caps are present, replacement of those items may not be necessary, coordinate with Resident. Materials purchased under this contract and not used shall become the property of the Department.

8. The splice requirements for 2-Bar Aluminum Bridge Rail Type Z are documented in the Special Provision 507.

STRUCTURAL

1. Payment for removing existing concrete end posts will be considered incidental to item 526.34.

2. Reinforcing steel schedules will be the responsibility of the Contractor. Refer to Subsection 503.03 of the Standard Specifications for more information. Payment for all work associated with developing reinforcing steel schedules will be considered incidental to related Contract items.

3. Protective coating for concrete surfaces shall be applied to the following areas of new concrete:

   All exposed surfaces of concrete curbs,
   Fascias down to the drip notch,
   All exposed surfaces of Concrete Transition Barriers,
   12 Inches below the top of backwalls on the back side.
   Concrete wearing surfaces.

4. An NCHRP350 compliant impact attenuation system (work zone crash cushion) shall be installed concurrently with the placement of each run of concrete barrier.

5. Removal of existing bridge rail transition barriers and installation of new bridge rail transition barriers shall occur behind concrete barrier and NCHRP350 compliant impact attenuation systems (work zone crash cushions).

6. Any damage to existing concrete or reinforcing steel resulting from the work performed, shall be repaired or replaced by a method approved by the Resident at no cost to the Department.

7. All reinforcing steel that is to be exposed and reused shall be cleaned by a method approved by the Resident. Payment shall be incidental to related contract items.

8. The integrity of existing approach pavement and subbase gravel shall be maintained during removal of backwall concrete. Payment for any repair or damages shall be incidental to related contract items.

9. Gland seal(s) or compression seal(s) shall be approved by the Resident prior to installation of joint armor.

10. All expansion joints shall be fabricated so the expansion joints construction joints align with the bridge phasing. New seals shall be installed full length after all sections of the joint armor have been installed.

11. All existing materials which are removed from the work area shall be removed from the site and properly disposed of by the Contractor in a manner approved by the Resident. These existing materials include, but are not limited to, concrete, metal casing, reinforcing steel, silt and other debris on or attached to the structure within the work areas. The cost of removal and disposal shall be incidental to the cost of the work items for which these removals are required.

12. Contractor shall form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.

13. Reinforcing steel shall have a 2 inch minimum cover unless otherwise noted.

14. Mortar for bedding and for joints in the granite curb shall contain an approved non-shrink additive.

15. The Contractor is advised none of the bridge decks are scheduled to be scarified. Only the existing pavement, membrane, and pavement shim (if applicable) are to be removed. See Section 202.031 of the Specifications for additional information.

16. If the depth of the deteriorated concrete is below the reinforcing steel then remove the concrete to a minimum depth of 1 inch below the bars.

17. Where bridge rail posts are required to be relocated new hot dip galvanized anchor rods conforming to ASTM F1554 Grade 50 shall be furnished and drilled and anchored into the existing curb. The depth of embedment shall be sufficient to develop an ultimate tension capacity of 33 kips per anchor rod. This work may also require replacement or repair of rail clamp bars, and replacement of bolts, where the bolt or clamp bar threads are damaged during the rail disassembly process. Where the Contractor elects to repair the damaged mounting bars the existing threads shall be repaired through the use of a stainless steel heli-coil insert. The proposed repair shall be completed in a manner which maintains the original fastener size and diameter. Payment for bridge rail post relocation and associated materials, equipment, labor and incidentals necessary to complete the work will be considered incidental to Item 526.34, Permanent Concrete Transition Barrier.

18. All transverse reinforcing steel in the deck and backwall shall run continuously along the full width of the bridge. Payment for lap splices and threaded couplers will not be paid for directly, but shall be considered incidental to the related contract items.

19. The reinforcing steel and anchor rod anchoring material shall be selected from Maine DOT's qualified products list. The contractor shall submit the proposed system to the resident for approval. The selected anchoring material shall be installed in strict accordance with the manufacturer's recommendations. Reinforcing steel and anchor rods, drilled and anchored into existing concrete, shall be embedded to develop 125% of the yield strength of the bar.

20. When a new joint is being installed or an existing joint is being substantially modified, and field conditions permit, the approach side of the joint shall be set 1/8" - 1/4" higher than the departure side of the joint. Under no circumstances shall the departing side of the joint be higher than the approach side of the joint.

21. Deck or backwall repairs located below areas of elastomeric concrete shall be filled with Class LP concrete and allowed to cure prior to placing elastomeric concrete. The concrete repairs shall be completed to provide an elastomeric concrete thickness of 3". The depth of elastomeric concrete may be increased to 4" maximum only in cases where doing so eliminates the need for patching with Class LP concrete.

22. The contractor is required to have on-site a copy of the Technical Guideline No. 03732 or latest version published by the International Concrete Repair Institute as well as a set of nine molded replicas of surfaces textures, for use on this project. All associated costs considered incidental to pay item 508.14.

CONSTRUCTION PHASING

1. All traffic control shall be in accordance with the Manual for Uniform Traffic Control Devices for Streets and Highways, USDOT, FHWA, Latest Edition

2. Contractor shall submit traffic control plans for all bridges in accordance with the Special Provisions 105 & 652 and the Manual of Uniform Traffic Control Devices, latest edition.

3. Contractor shall provide one 12 foot travel lane minimum and two 1 foot shoulders in all work zones, unless otherwise noted on the plans or in the specifications.

4. All lanes in long term lane closures and work zones shall be delineated with temporary paint lines or temporary raised pavement markings. Temporary paint lines will not be permitted on the surface course of new pavement. Temporary raised pavement markings shall only be used when approved by the Resident.

5. Excessively wide lane widths may cause driver confusion. Contractor shall avoid lane widths in excess of 15'-0" unless approved by the Resident.

6. Contractor shall install longitudinal pavement joints at crown lines or lane lines.

7. Placement of the high performance membrane shall be in accordance with standard specifications and manufacturers published recommendations. Contractor shall submit proposed membrane overlap details at the longitudinal joints to the Resident for review and approval. Details shall include proposed methodology for bond breaker for the overlaps between construction phases as well as procedures for infilling and removal of bituminous material without damage to the membrane.

8. Contractor is responsible for all maintenance of traffic required for all work including ramp traffic control.

9. Long term lane closures required for bridge work shall be protected with temporary concrete barrier at the work zones.

10. Long term lane closures shall be defined as closures that occur at a location for more than 3 days.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)E

PIN 16819.20

BRIDGE NO. Varies — BRIDGE PLANS

	DSE	BY	DATE
PROJ. MANAGER	DSE	MPC	03\12
DESIGN-DETAILED	CAH	-	03\12
CHECKED-REVIEWED	DSE	-	-
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 95 NORTHBOUND
ISLAND FALLS
AROOSTOOK COUNTY

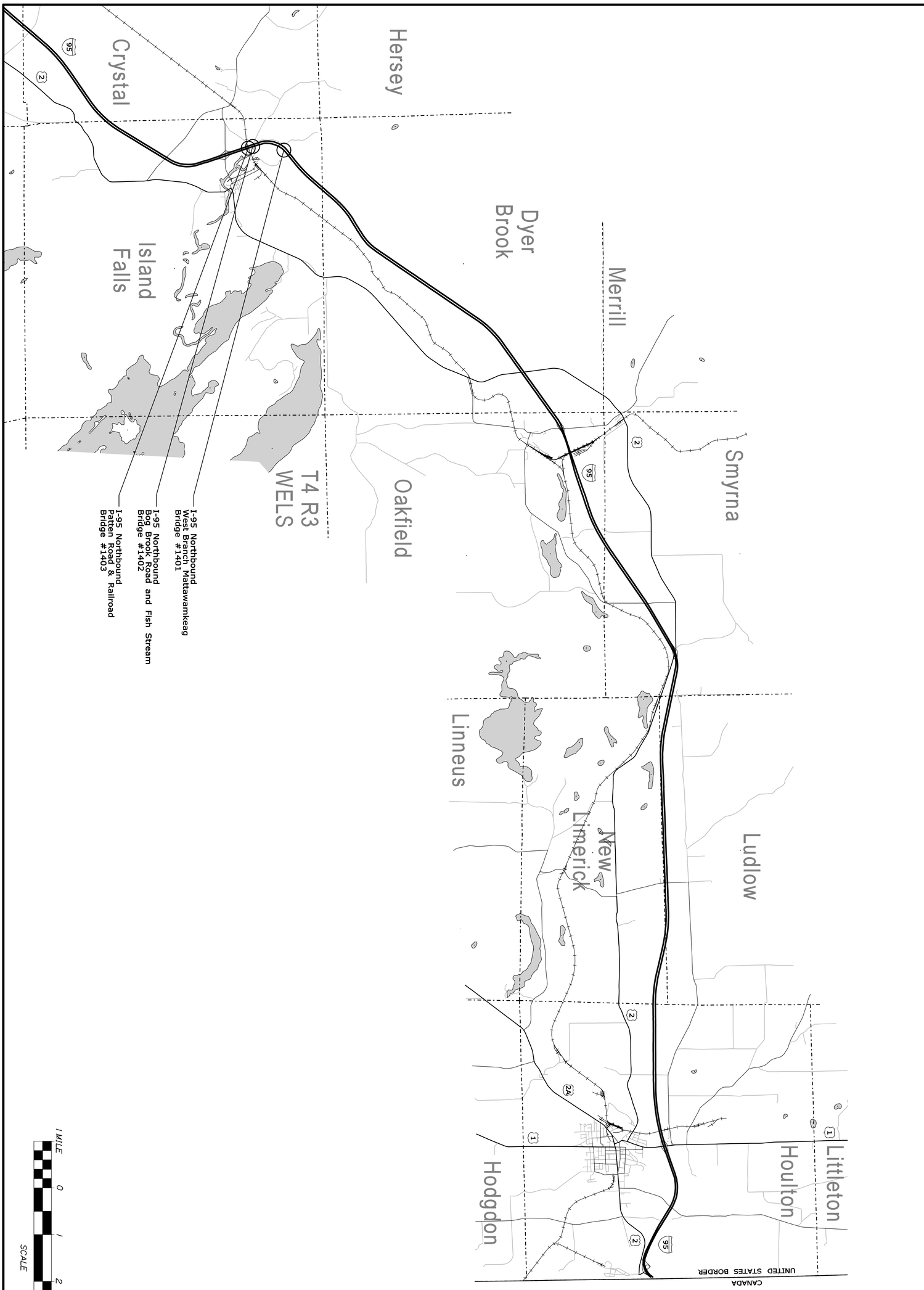
GENERAL NOTES

SHEET NUMBER

3

OF 13

Filename: 003_GeneralNotes-NB.dgn Username: bhavu Division: BRIDGE Date:3/21/2012



INTERSTATE 95 NORTHBOUND
ISLAND FALLS
AROOSTOOK COUNTY

LOCATION MAP

SHEET NUMBER 4 OF 13

PROJ. MANAGER	DGE	BY	DATE
DESIGN-DETAILED	CAH	MPC	03\12
CHECKED-REVIEWED	DGE	DGE	03\12
DESIGN2-DETAILED2	_	_	_
DESIGN3-DETAILED3	_	_	_
REVISIONS 1	_		_
REVISIONS 2	_		_
REVISIONS 3	_		_
REVISIONS 4	_		_
FIELD CHANGES	_		_

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)E

PIN 16819.20

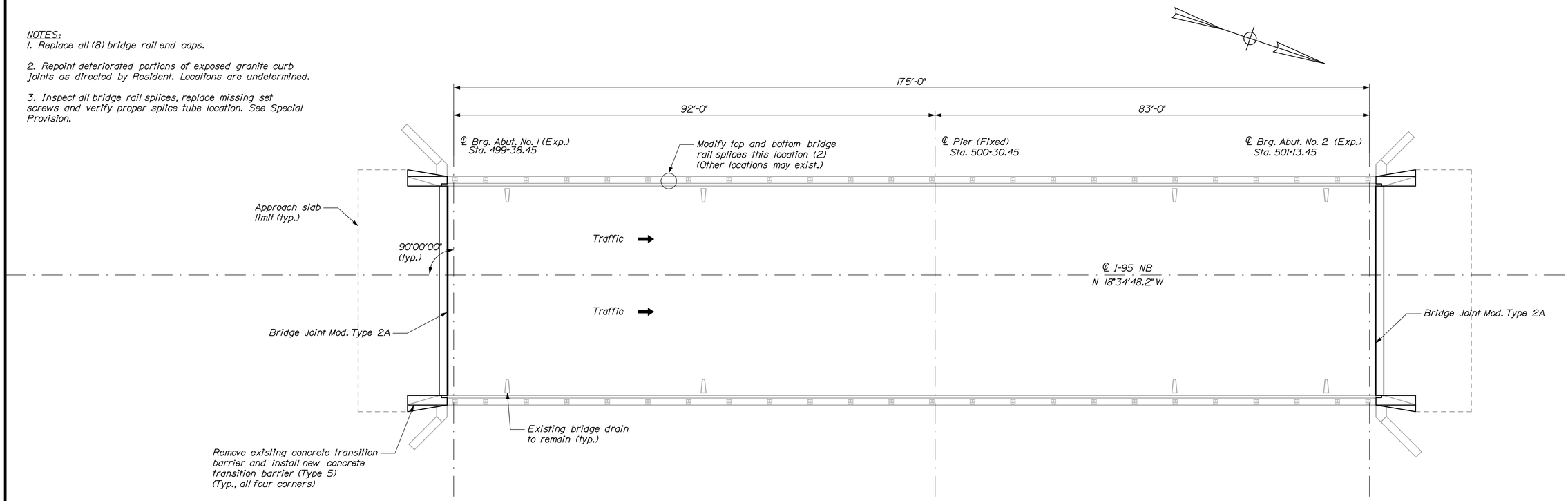
BRIDGE NO. Varies

BRIDGE PLANS

NOTES:
1. Replace all (8) bridge rail end caps.

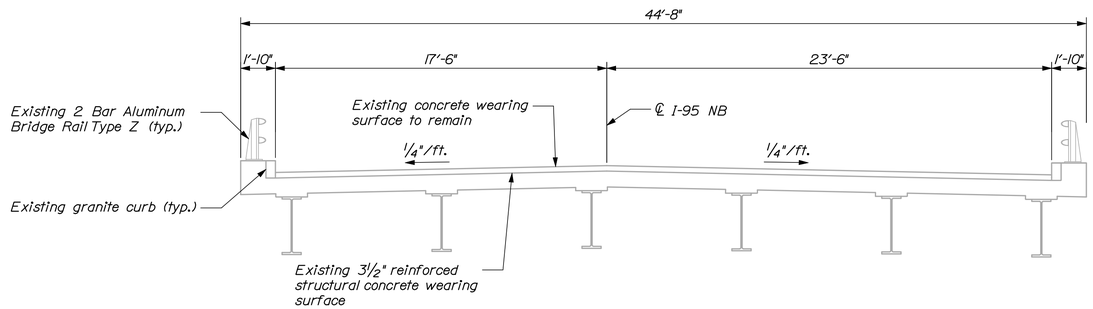
2. Repoint deteriorated portions of exposed granite curb joints as directed by Resident. Locations are undetermined.

3. Inspect all bridge rail splices, replace missing set screws and verify proper splice tube location. See Special Provision.



INTERSTATE 95 NORTHBOUND OVER PATTEN ROAD AND RAILROAD

Island Falls ~ Bridge No. 1403
N.T.S.



TRANSVERSE SECTION

N.T.S.

Looking Upstation

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)IE

PIN 16819.20

BRIDGE NO. 1403

BRIDGE PLANS

	DES	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	CAH	MPC	03\12
CHECKED-REVIEWED	TRC	-	03\12
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 95 NORTHBOUND
PATTEN ROAD AND RAILROAD
ISLAND FALLS AROOSTOOK COUNTY

PLAN AND TRANS. SECTION

SHEET NUMBER

5

OF 13

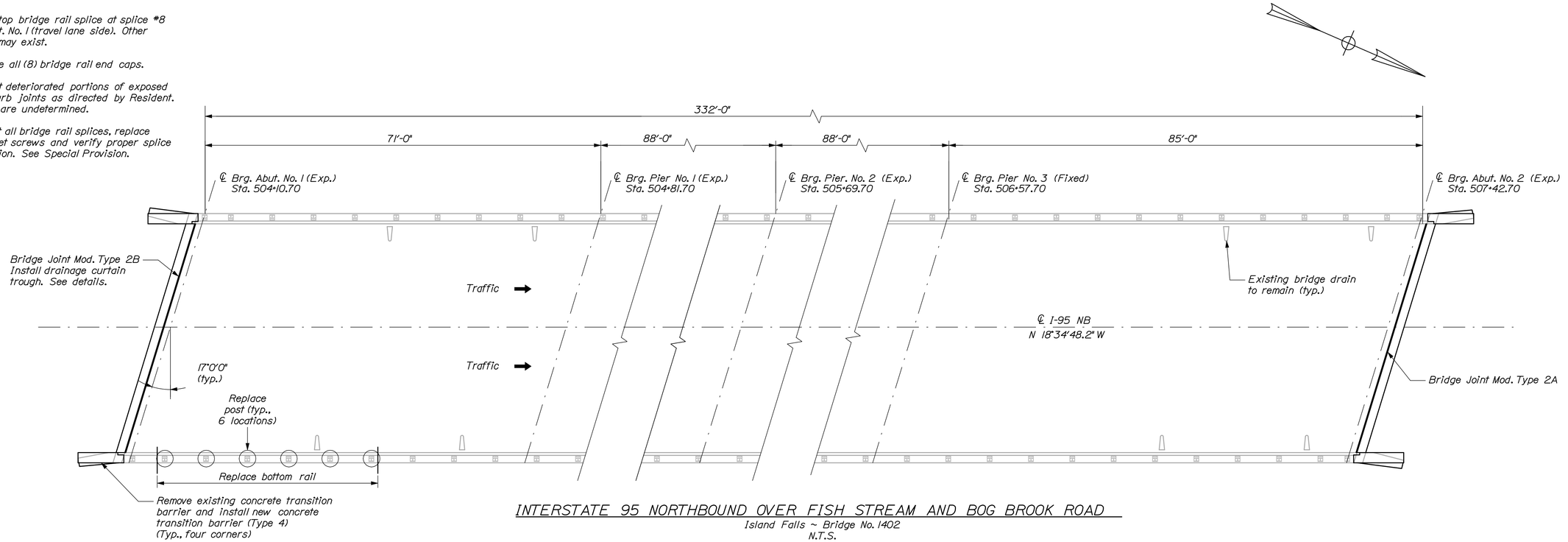
Filename: 005_PlanXsec-PattenRoad-1403.dgn Division: BRIDGE Username: bhavu Date:3/21/2012

NOTES:
1. Modify top bridge rail splice at splice #8 from Abut. No. 1 (travel lane side). Other locations may exist.

2. Replace all (8) bridge rail end caps.

3. Repoint deteriorated portions of exposed granite curb joints as directed by Resident. Locations are undetermined.

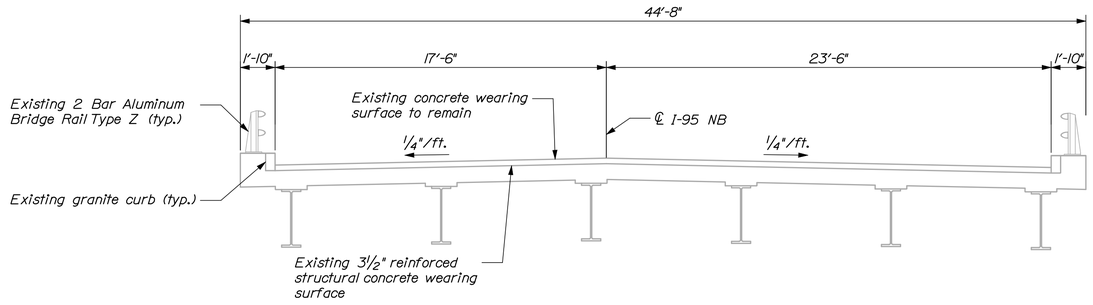
4. Inspect all bridge rail splices, replace missing set screws and verify proper splice tube location. See Special Provision.



INTERSTATE 95 NORTHBOUND OVER FISH STREAM AND BOG BROOK ROAD

Island Falls ~ Bridge No. 1402

N.T.S.



TRANSVERSE SECTION

N.T.S.

Looking Upstation

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)E

PIN 16819.20

BRIDGE NO. 1402

BRIDGE PLANS

PROJ. MANAGER	DSE		
DESIGN-DETAILED	CAH	MPC	03\12
CHECKED-REVIEWED	TRC	-	-
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 95 NORTHBOUND
FISH STREAM AND BOG BROOK ROAD
ISLAND FALLS AROOSTOOK COUNTY

PLAN AND TRANS. SECTION

SHEET NUMBER

6

OF 13

Filename: 006_PlanXsec-FishStreamBogBrookRood-1681(920)E_BRIDGE Username: bhavu Date:3/21/2012

NOTES:

1. Contractor shall repair areas of concrete deck deterioration as directed by the Resident. Locations of deck repairs are undetermined for this bridge. Contractor shall identify and mark areas for deck repair after removing the wearing surface. Coordinate work with Resident. Payment for deck repair work shall be under the 518 pay items.

2. Contractor shall repair areas of deteriorated granite curb bedding mortar on the deck as required. Locations of deteriorated granite curb bedding mortar are undetermined. (Typ.)

3. Modify (4) bridge rail splices (1 passing lane, 3 travel lane). Locations to be determined by the Resident. Other locations may exist.

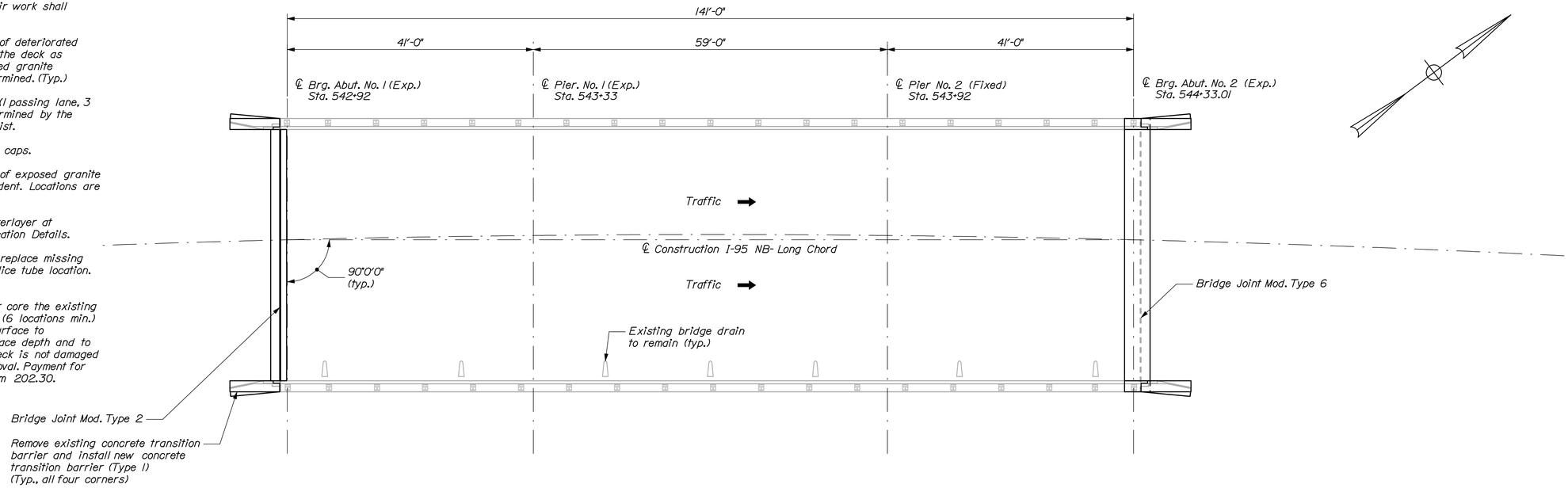
4. Replace all (8) bridge rail end caps.

5. Repoint deteriorated portions of exposed granite curb joints as directed by Resident. Locations are undetermined.

6. Install Composite Pavement Interlayer at Abutment No. 2. See Joint Modification Details.

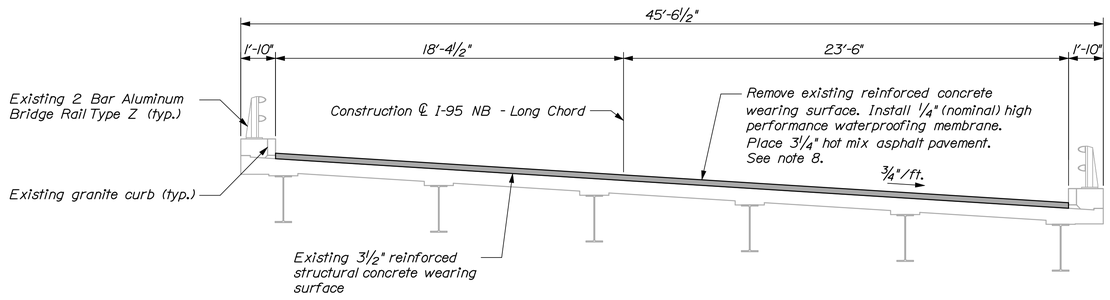
7. Inspect all bridge rail splices, replace missing set screws and verify proper splice tube location. See Special Provision.

8. The contractor shall pothole or core the existing concrete deck in multiple places (6 locations min.) prior to removing the wearing surface to determine/confirm wearing surface depth and to ensure the structural concrete deck is not damaged during the wearing surface removal. Payment for work considered incidental to item 202.30.



INTERSTATE 95 NORTHBOUND OVER WEST BRANCH MATTAWAMKEAG RIVER

Island Falls ~ Bridge No. 1401
N.T.S.



TRANSVERSE SECTION

N.T.S.

Looking Upstation

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)E

PIN 16819.20

BRIDGE NO. 1401

BRIDGE PLANS

PROJ. MANAGER	DSE	BY	DATE
DESIGN-DETAILED	CAH	MPC	03\12
CHECKED-REVIEWED	TRC	-	03\12
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 95 NORTHBOUND
WEST BRANCH MATTAWAMKEAG RIVER
ISLAND FALLS AROOSTOOK COUNTY

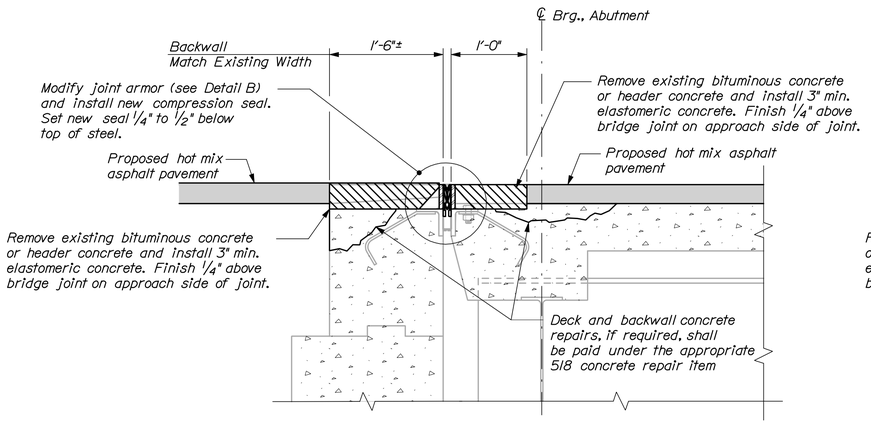
PLAN AND TRANS. SECTION

SHEET NUMBER

7

OF 13

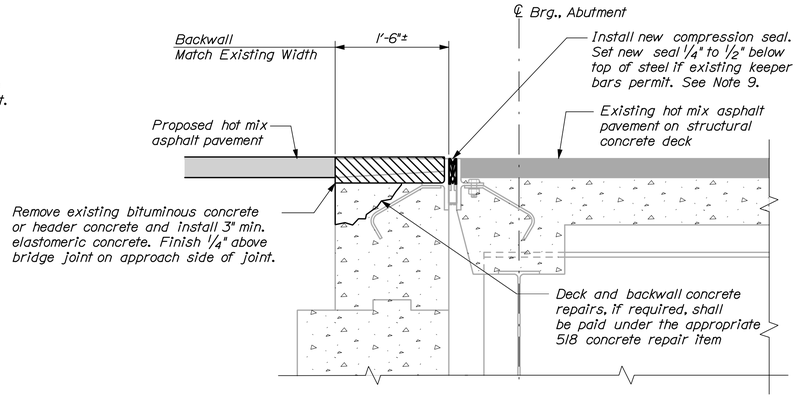
Filename: 007_PlanXsec-WBRMatawamkeag River-1401.dgn Division: BRIDGE Username: bhavu Date:3/21/2012



BRIDGE JOINT MODIFICATION TYPE 2

1" = 1'-0"

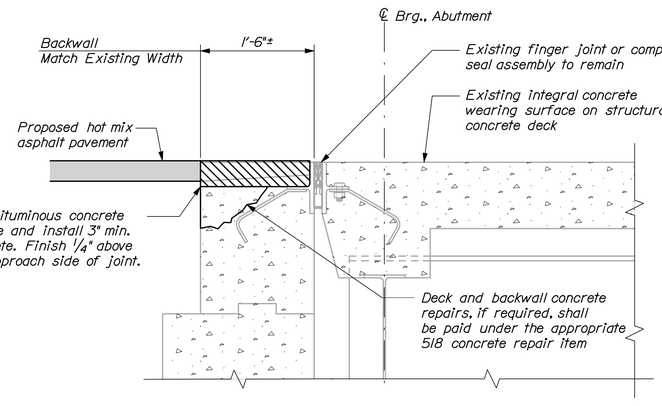
Limits of joint modification:
Compression seal - full deck width and completely through raised curbs plus six inch extensions per side;
Joint armor replacement and elastomeric concrete - full deck width to face of raised curb.



BRIDGE JOINT MODIFICATION TYPE 2A

1" = 1'-0"

Limits of joint modification:
Compression seal - full deck width and completely through raised curbs plus six inch extensions per side;
Elastomeric concrete - full deck width to face of raised curb.

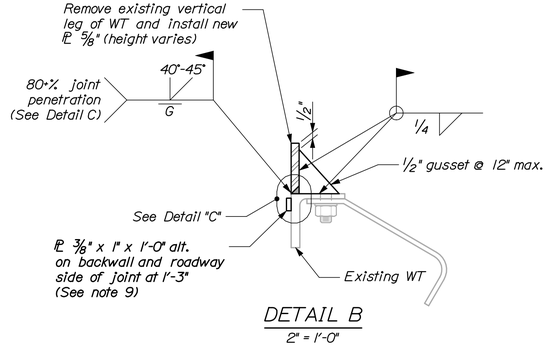


BRIDGE JOINT MODIFICATION TYPE 2B

1" = 1'-0"

Limits of joint modification:
Elastomeric concrete - full deck width to face of raised curb.

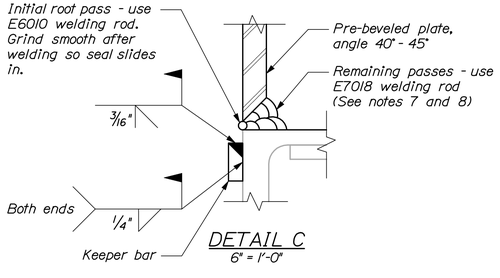
COMPRESSION SEAL JOINT DETAIL AT CURB



DETAIL B

2" = 1'-0"

Note:
One side of joint repair shown.
Repair detail required at both sides of joint.



DETAIL C

6" = 1'-0"

NOTES

1. Refer to Standard Details Section 520 for details and information not shown.

2. All concrete surfaces where elastomeric concrete is to be applied shall have a 1/4-in. minimum anchor profile or roughened surface.

3. Elastomeric concrete shall be applied according to the manufacturer's recommendations.

4. All new steel supplied for the bridge joint modification shall be galvanized.

5. The Contractor shall be fully responsible for selecting the appropriate compression seal based on the bridge movement rating from the approved products list.

6. Removal and replacement of existing bituminous or header concrete shall be completed along the full width of the roadway. Bridge joint armor and extrusion modifications shall extend to the limits described on the respective joint modification details.

7. Welding shall be completed as a series of skip welds to minimize welding distortion.

8. If the base metal temperature falls below 32 degrees Fahrenheit, the base metal shall be heated to a minimum of 80 degrees Fahrenheit before welding. If the base metal temperature falls below 50 degrees Fahrenheit, the base metal shall be heated to remove any moisture. A welding procedure and listing of proposed welding consumables shall be submitted to the Resident for approval.

9. Keeper bars shall be positioned to allow top of compression seal to sit 1/4" to 1/2" below top of armor. If existing keeper bar does not permit the seal to set at the specified depth, contractor shall notify the Resident.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)E

PIN 16819.20

BRIDGE NO. Varies

BRIDGE PLANS

	DATE	BY	SIGNATURE
PROJ. MANAGER			
DESIGN-DETAILED	03\12	MPC	-
CHECKED-REVIEWED	03\12	TRC	-
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

P.E. NUMBER

DATE

INTERSTATE 95 NORTHBOUND
ISLAND FALLS
AROOSTOOK COUNTY

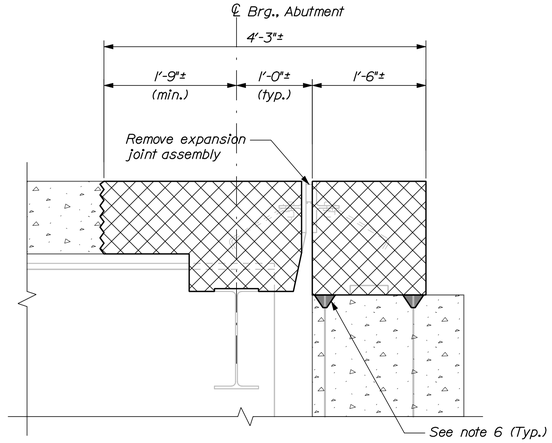
JOINT MODIFICATION DETAILS I

SHEET NUMBER

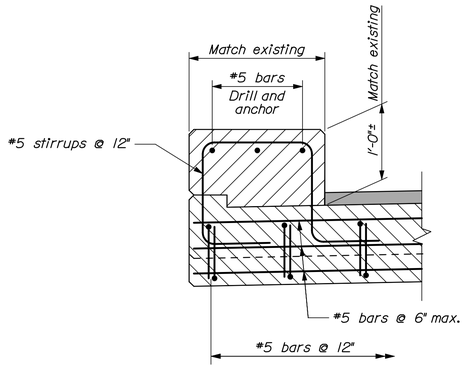
8

OF 13

Filename: 008_JointDetails1.dgn Division: BRIDGE Username: bhavu Date:3/21/2012



DEMOLITION



RECONSTRUCTED CURB & OVERHANG DETAIL

1" = 1'-0"

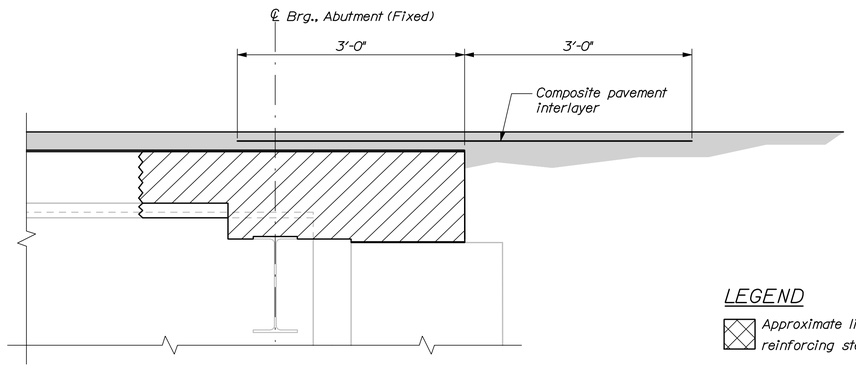
CONSTRUCTION

JOINT MODIFICATION TYPE 6

(See also "Reconstructed Curb & Overhang Detail")

1" = 1'-0"

Limits of joint modification:
Structural concrete - full deck width, out to out.



COMPOSITE PAVEMENT INTERLAYER

Typical at all existing or reconstructed slab-over-backwall locations

LEGEND

Approximate limit of concrete and reinforcing steel removal

NOTES

1. Minimum depth of backwall reconstruction shall be to backwall construction joint or solid concrete, whichever is greater.

2. Refer to Standard Details Section 520 for details and information not shown.

3. All concrete surfaces where elastomeric concrete is to be applied shall have a 1/4-in. minimum anchor profile or roughened surface.

4. Elastomeric concrete shall be applied according to the manufacturer's recommendations.

5. Removal and replacement of existing bituminous or header concrete shall be completed along the full width of the roadway. Bridge joint armor and extrusion modifications shall extend to the limits described on the respective joint modification details.

6. After demolishing the existing backwall concrete the existing reinforcing steel shall be cut 2" below the demolished surface. The contractor shall chip localized areas of concrete as required to allow the bars to be cut and then fill the depressions with grout to provide a flush surface. Following demolition of the backwall concrete the top of the backwall surface shall receive a thin layer of patching mortar to provide a smooth uniform surface on which to cast the new concrete. The patching mortar shall be selected from Maine DOT's qualified products list.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)E

PIN 16819.20

BRIDGE NO. Varies

BRIDGE PLANS

	DSE	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	CAH	MPC	03\12
CHECKED-REVIEWED	TRC	-	03\12
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 95 NORTHBOUND
ISLAND FALLS
AROOSTOOK COUNTY

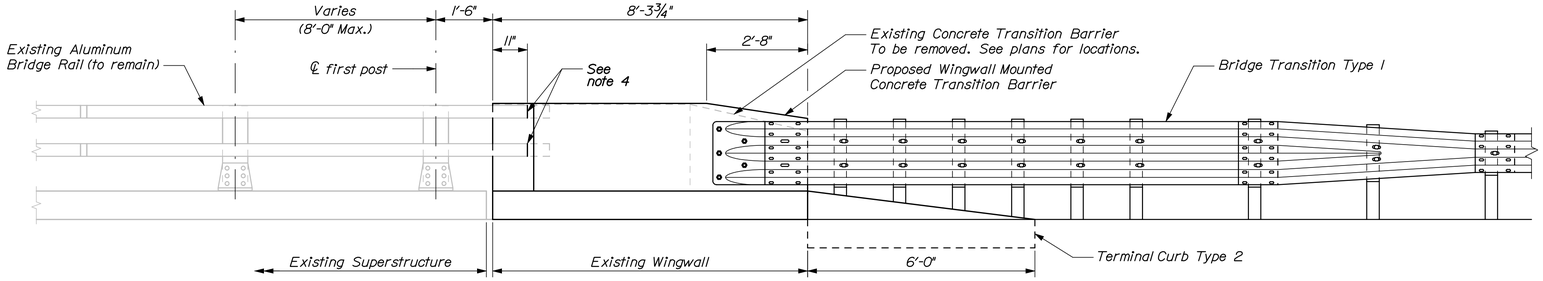
JOINT MODIFICATION DETAILS II

SHEET NUMBER

9

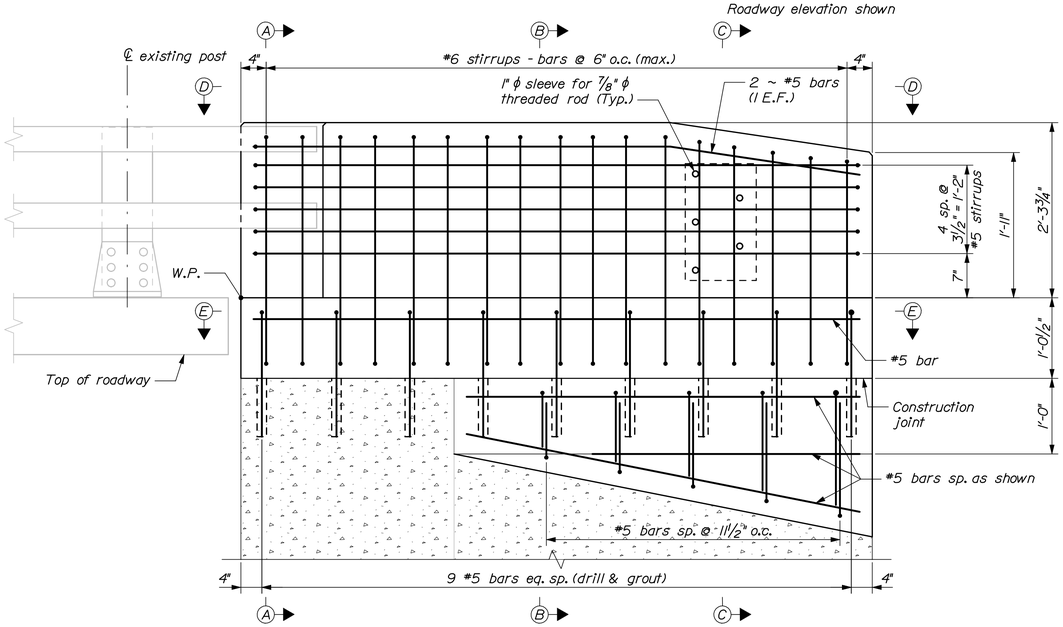
OF 13

Filename: 009_JointDetails2.dgn Division: BRIDGE Username: bhavu Date:3/21/2012



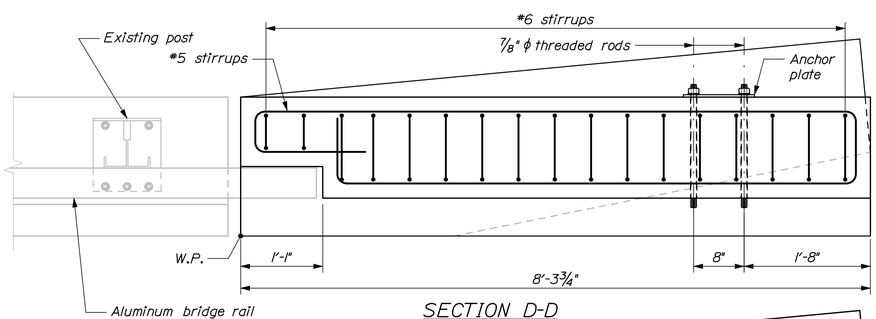
CONCRETE TRANSITION BARRIER (TYPE 1)

Roadway elevation shown

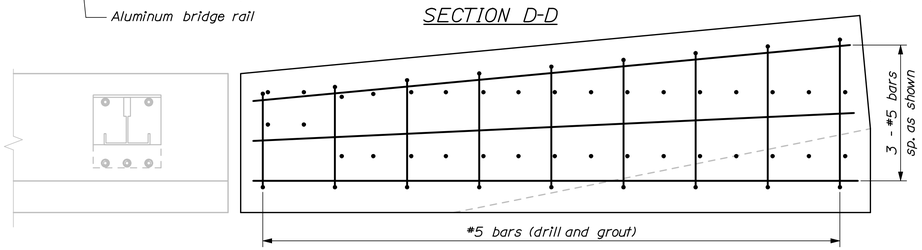


TRANSITION BARRIER ELEVATION

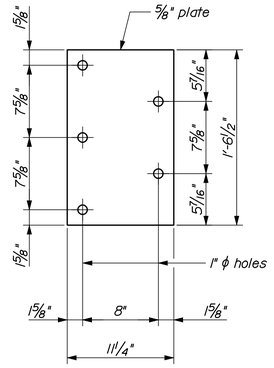
Roadway elevation shown



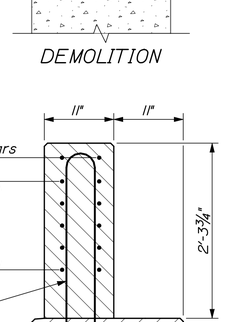
SECTION D-D



SECTION E-E

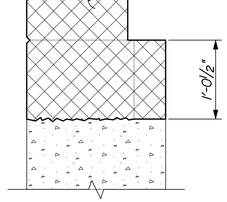


ANCHOR PLATE

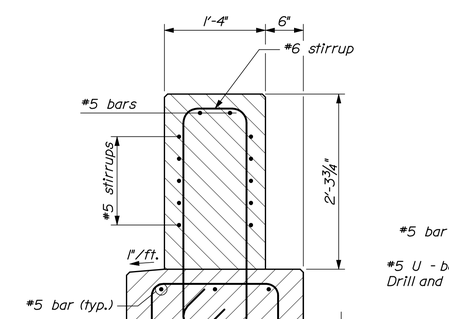


CONSTRUCTION

SECTION A-A

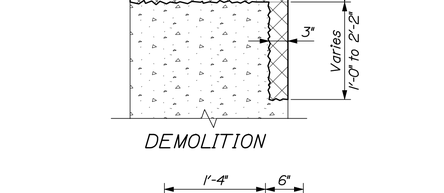


DEMOLITION

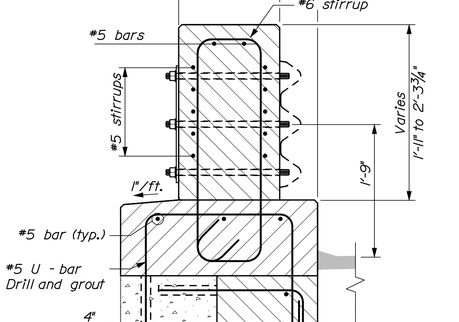


CONSTRUCTION

SECTION B-B

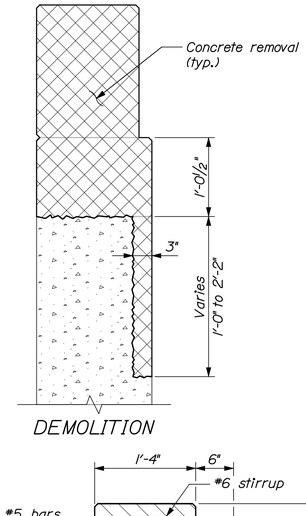


DEMOLITION



CONSTRUCTION

SECTION C-C



DEMOLITION

CONCRETE TRANSITION BARRIER NOTES

1. Refer to Standard Details Section 526 - Concrete Transition Barrier for details and information not shown.

2. Reinforcing steel for the Transition Barriers is based on details shown in the Standard Details. Reinforcing steel shall be modified to fit the details and conditions shown on the plans. Payment for modifying reinforcing steel and for drilling and anchoring bars as shown will be considered incidental to Item No. 526.34, Permanent Concrete Transition Barrier.

3. Anchor plates and threaded rods shall be galvanized in accordance with the Standard Specifications and the Standard Details.

4. The contractor shall trim or install longer rail sections as directed by the resident to provide 11" of projection into the transition barrier recess.

5. All curb and endpost modifications shall be incidental to Item 526.34, Permanent Concrete Transition Barrier.

6. Excavation and backfill required for construction or modification of concrete transition barrier shall be incidental to Item 526.34, Permanent Concrete Transition Barrier.

7. The existing expansion joint is not shown for clarity. The contractor shall not damage existing armor scheduled for re-use during concrete demolition, and shall recast re-used armor into the new work.

NOTE:
This transition barrier to be constructed at West Branch Mattawamkeag Bridge, #1401, all four corners.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)E

PIN 16819.20

BRIDGE NO. As Noted

BRIDGE PLANS

		DATE
PROJ. MANAGER	DGE	BY
DESIGN-DETAILED	CAH	MPC
CHECKED-REVIEWED	TRC	03\12
DESIGN2-DETAILED2	–	–
DESIGN3-DETAILED3	–	–
REVISIONS 1	–	–
REVISIONS 2	–	–
REVISIONS 3	–	–
REVISIONS 4	–	–
FIELD CHANGES	–	–

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 95 NORTHBOUND
ISLAND FALLS
AROOSTOOK COUNTY

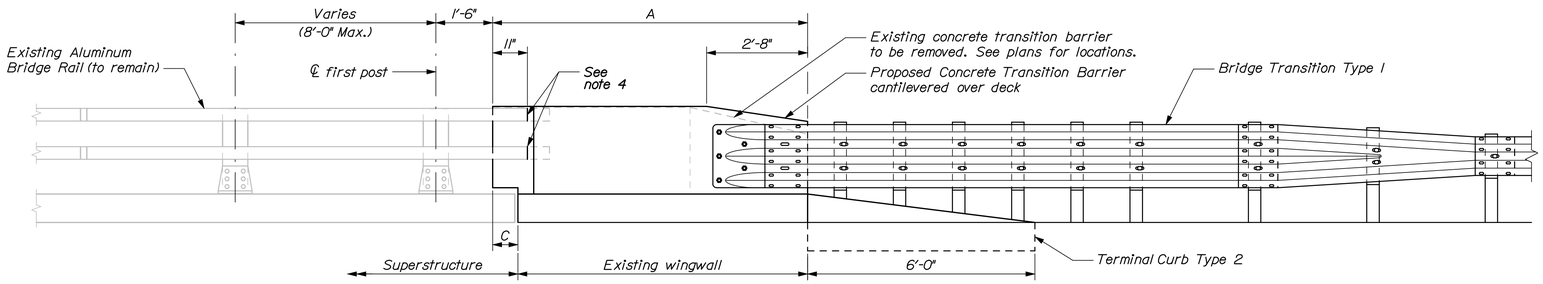
CONCRETE TRANSITION BARRIER
(TYPE 1)

SHEET NUMBER

10

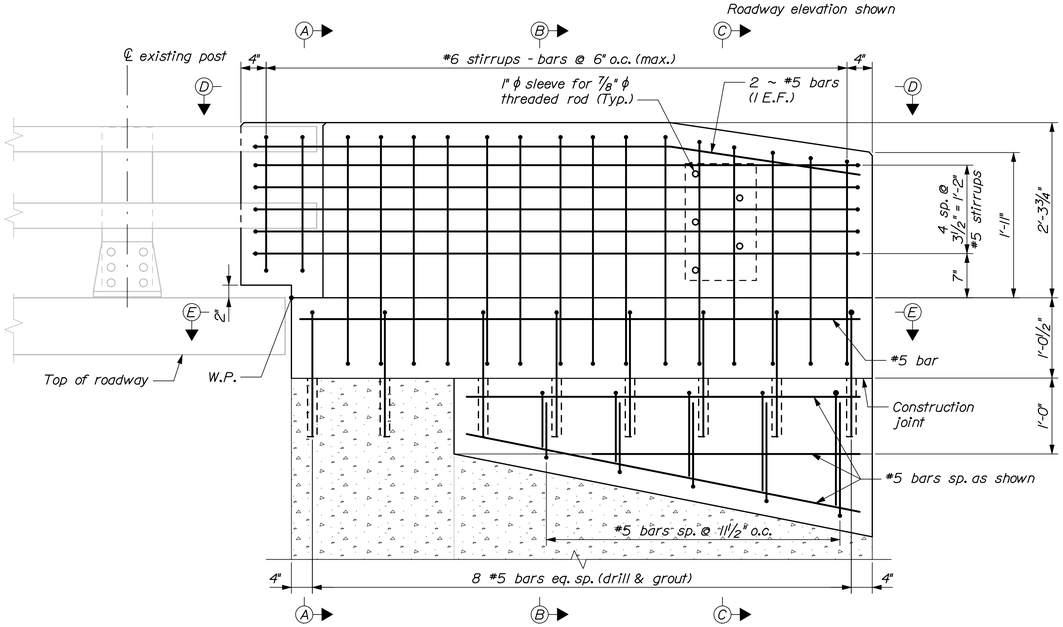
OF 13

Filename: 010_TransitionBarrier1.dgn Username: bhavu Date:3/21/2012 Division: BRIDGE



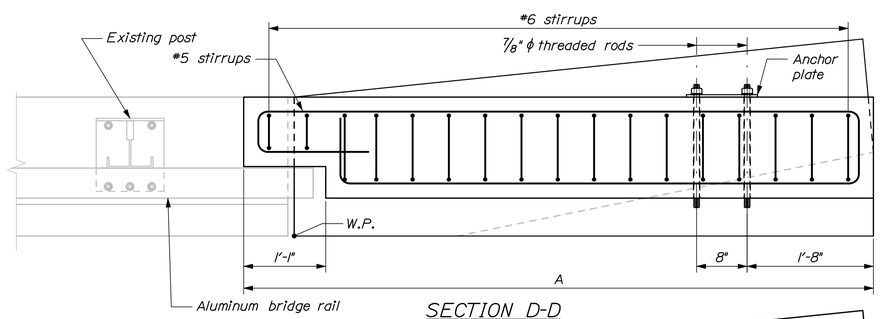
CONCRETE TRANSITION BARRIER (TYPE 4)

Roadway elevation shown

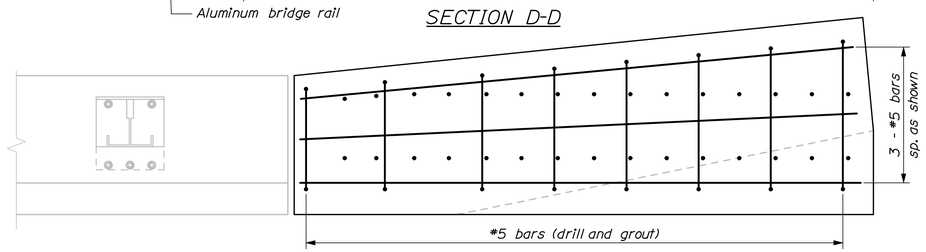


TRANSITION BARRIER ELEVATION

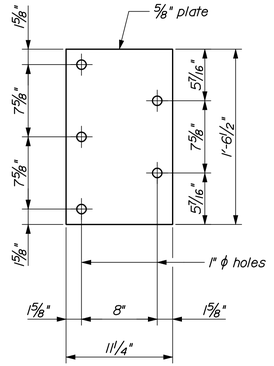
Roadway elevation shown



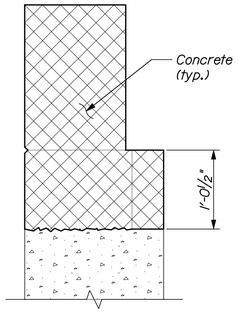
SECTION D-D



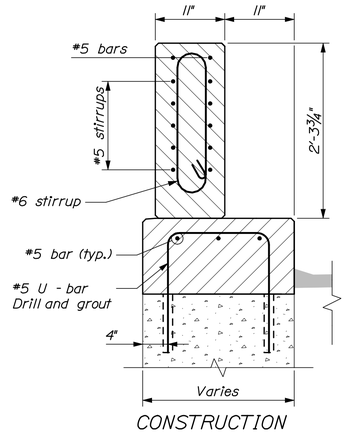
SECTION E-E



ANCHOR PLATE



DEMOLITION



CONSTRUCTION

SECTION A-A

CONCRETE TRANSITION BARRIER NOTES

1. Refer to Standard Details Section 526 - Concrete Transition Barrier for details and information not shown.

2. Reinforcing steel for the Transition Barriers is based on details shown in the Standard Details. Reinforcing steel shall be modified to fit the details and conditions shown on the plans. Payment for modifying reinforcing steel and for drilling and anchoring bars as shown will be considered incidental to Item No. 526.34, Permanent Concrete Transition Barrier.

3. Anchor plates and threaded rods shall be galvanized in accordance with the Standard Specifications and the Standard Details.

4. The contractor shall trim or install longer rail sections as directed by the resident to provide 11" of projection into the transition barrier recess.

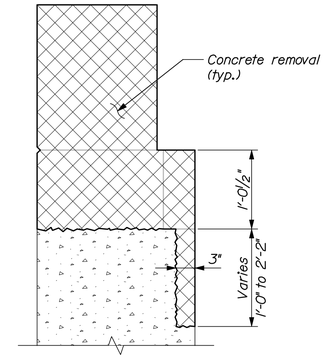
5. All curb and endpost modifications shall be incidental to Item 526.34, Permanent Concrete Transition Barrier.

6. Excavation and backfill required for construction or modification of concrete transition barrier shall be incidental to Item 526.34, Permanent Concrete Transition Barrier.

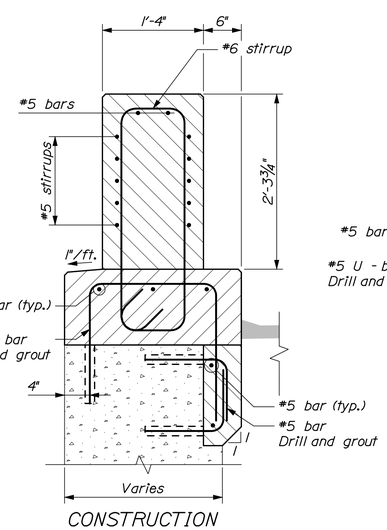
7. The existing expansion joint is not shown for clarity. The contractor shall not damage existing armor scheduled for re-use during concrete demolition, and shall recast re-used armor into the new work.

TABLE OF DIMENSIONS

Bridge #	Location	A	C
1402	Approach Travel Lane	8'-3"	8"
1402	Approach Passing Lane	8'-5"	1'-2"
1402	Departure Travel Lane	8'-5"	5"
1402	Departure Passing Lane	8'-3"	0"

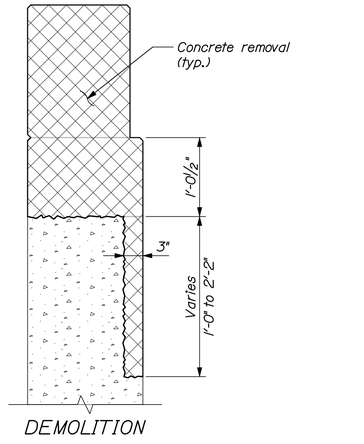


DEMOLITION

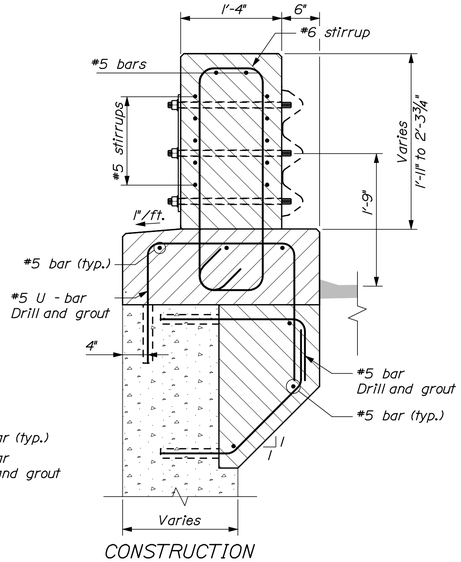


CONSTRUCTION

SECTION B-B



DEMOLITION



CONSTRUCTION

SECTION C-C

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)E

PIN 16819.20

BRIDGE NO. As Noted

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	DGE	
DESIGN-DETAILED	CAH	MPC 03\12
CHECKED-REVIEWED	TRC	03\12
DESIGN2-DETAILED2	–	–
DESIGN3-DETAILED3	–	–
REVISIONS 1	–	–
REVISIONS 2	–	–
REVISIONS 3	–	–
REVISIONS 4	–	–
FIELD CHANGES	–	–

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 95 NORTHBOUND
ISLAND FALLS
AROOSTOOK COUNTY

CONCRETE TRANSITION BARRIER
(TYPE 4)

SHEET NUMBER

11

OF 13

Filename: 011_TransitionBarrier4.dgn Division: BRIDGE Username: bhavu Date:3/21/2012

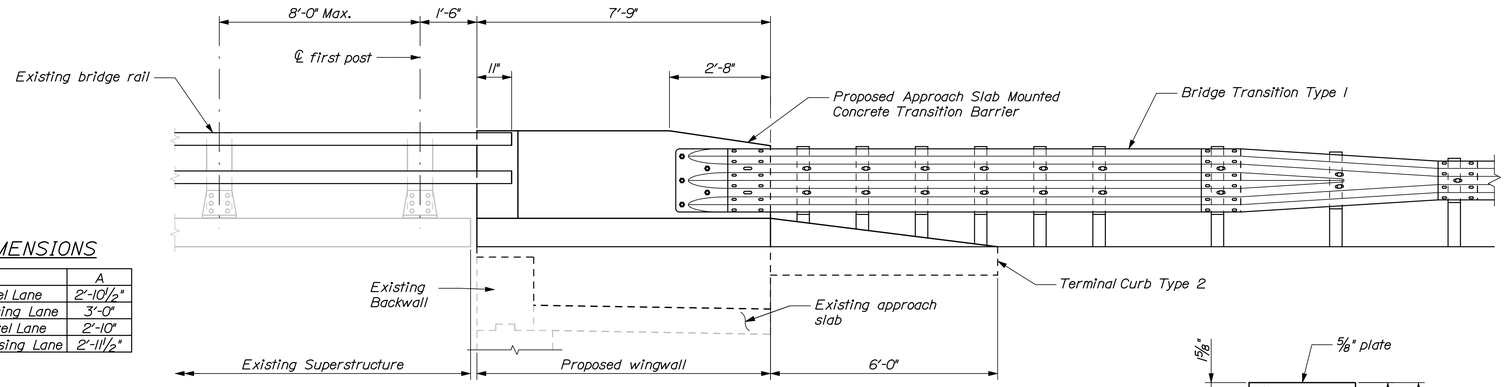


TABLE OF DIMENSIONS

Bridge #	Location	A
1403	Approach Travel Lane	2'-10½"
1403	Approach Passing Lane	3'-0"
1403	Departure Travel Lane	2'-10"
1403	Departure Passing Lane	2'-11½"

CONCRETE TRANSITION BARRIER NOTES

1. Refer to Standard Details Section 526 - Concrete Transition Barrier for details and information not shown.

2. Reinforcing steel for the Transition Barriers is based on details shown in the Standard Details. Reinforcing steel shall be modified to fit the details and conditions shown on the plans. Payment for modifying reinforcing steel and for drilling and anchoring bars as shown will be considered incidental to Item No. 526.34, Permanent Concrete Transition Barrier.

3. Anchor plates and threaded rods shall be galvanized in accordance with the Standard Specifications and the Standard Details.

4. The contractor shall trim or install longer rail sections as directed by the resident to provide 11" of projection into the transition barrier recess.

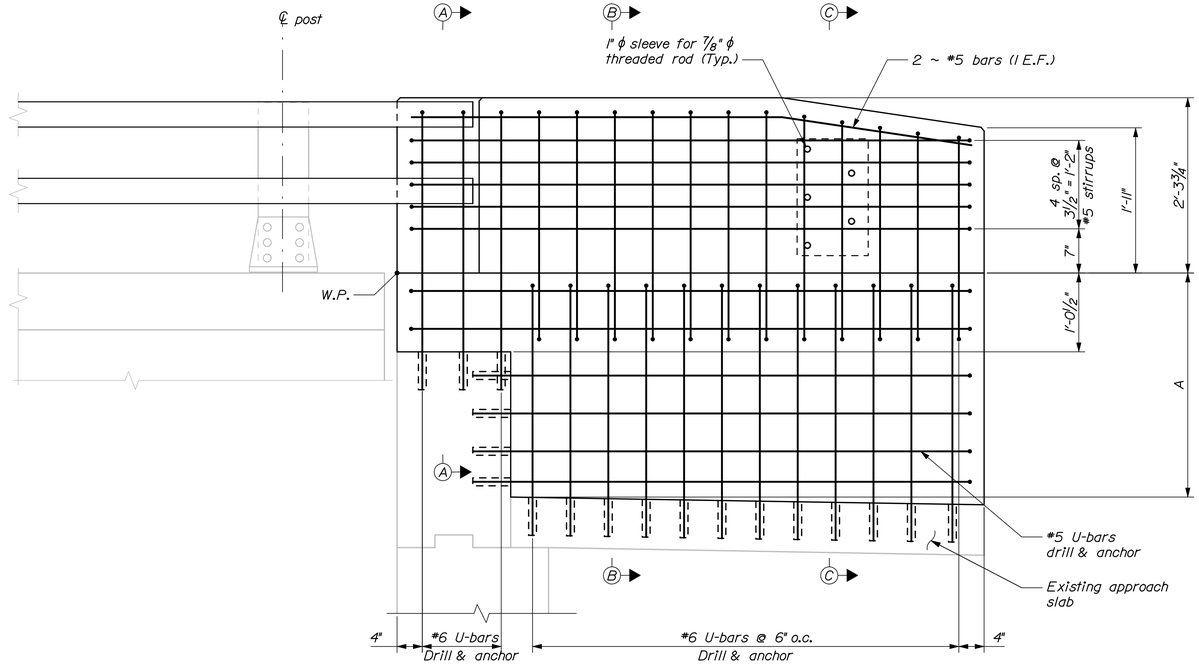
5. All curb and endpost modifications shall be incidental to Item 526.34, Permanent Concrete Transition Barrier.

6. Excavation and backfill required for construction or modification of concrete transition barrier shall be incidental to Item 526.34, Permanent Concrete Transition Barrier.

7. The existing expansion joint is not shown for clarity. The contractor shall not damage existing armor scheduled for re-use during concrete demolition, and shall recast re-used armor into the new work.

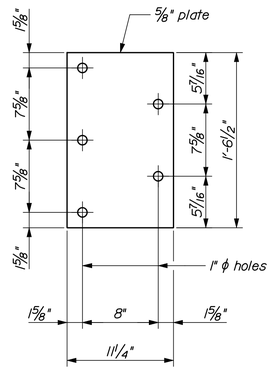
CONCRETE TRANSITION BARRIER (TYPE 5)

Roadway elevation shown

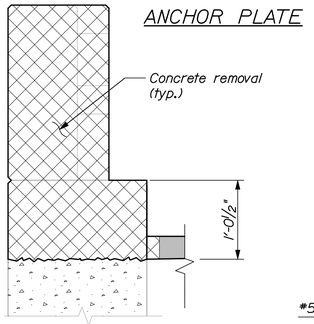


TRANSITION BARRIER ELEVATION

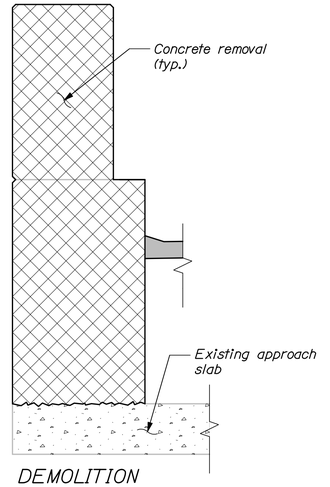
Roadway elevation shown



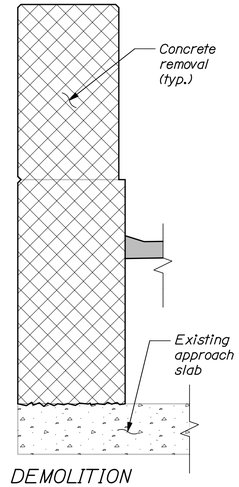
ANCHOR PLATE



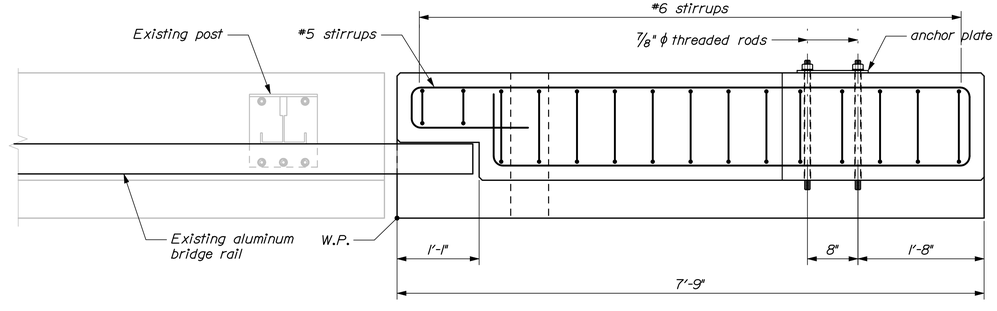
DEMOLITION



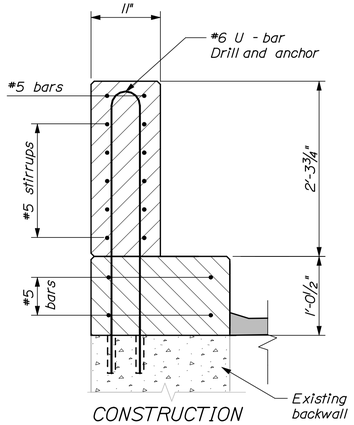
DEMOLITION



DEMOLITION

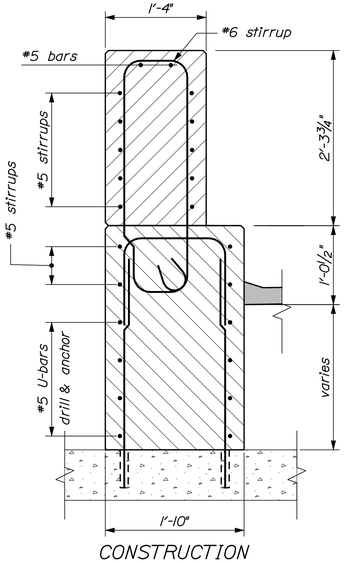


TRANSITION BARRIER PLAN



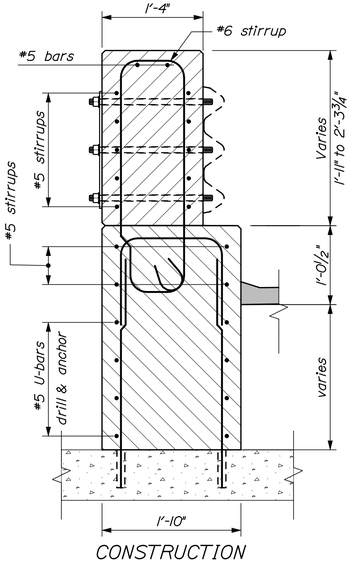
CONSTRUCTION

SECTION A-A



CONSTRUCTION

SECTION B-B



CONSTRUCTION

SECTION C-C

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)IE

PIN 16819.20

BRIDGE NO. As Noted

BRIDGE PLANS

PROJ. MANAGER	DGE	BY	DATE
DESIGN-DETAILED	CAH	MPC	03\12
CHECKED-REVIEWED	TRC	-	03\12
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

SIGNATURE

P.E. NUMBER

DATE

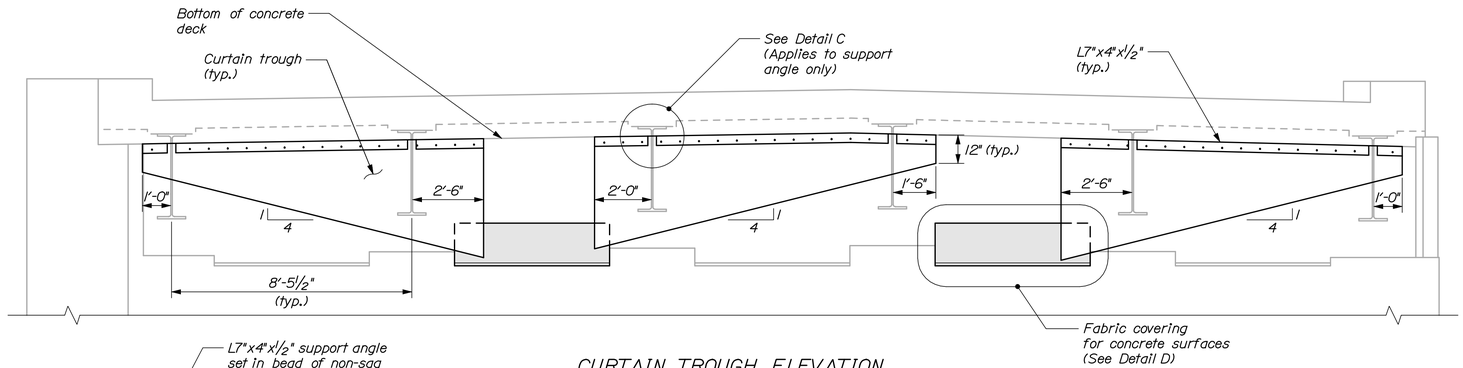
INTERSTATE 95 NORTHBOUND
ISLAND FALLS
AROOSTOOK COUNTY

CONCRETE TRANSITION BARRIER (TYPE 5)

SHEET NUMBER

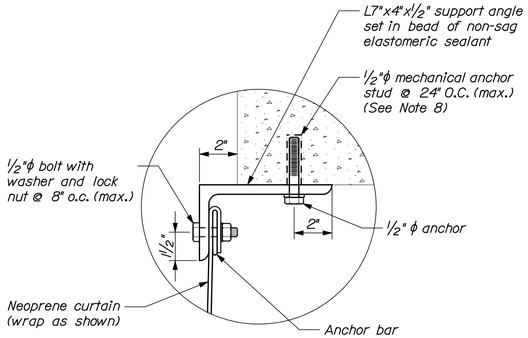
12

OF 13



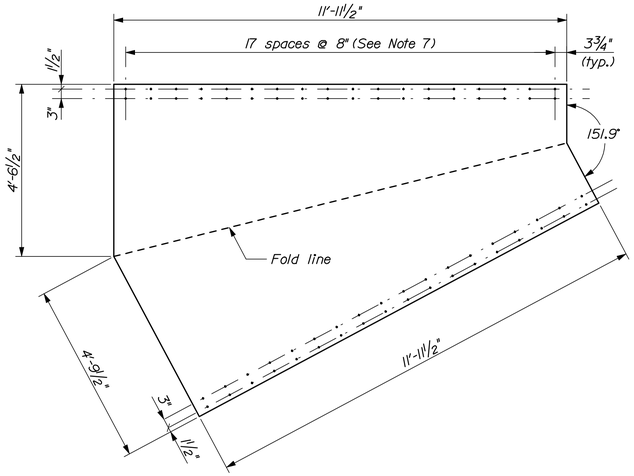
CURTAIN TROUGH ELEVATION

(Elevation taken along face of abutment)
3/8" = 1'-0"



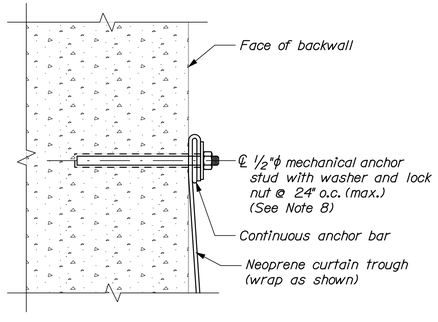
CURTAIN ATTACHMENT DETAIL A

3" = 1'-0"



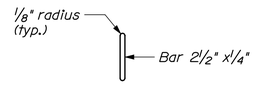
NEOPRENE SHEET

(Cut top edges and position holes to follow appropriate cross slope)



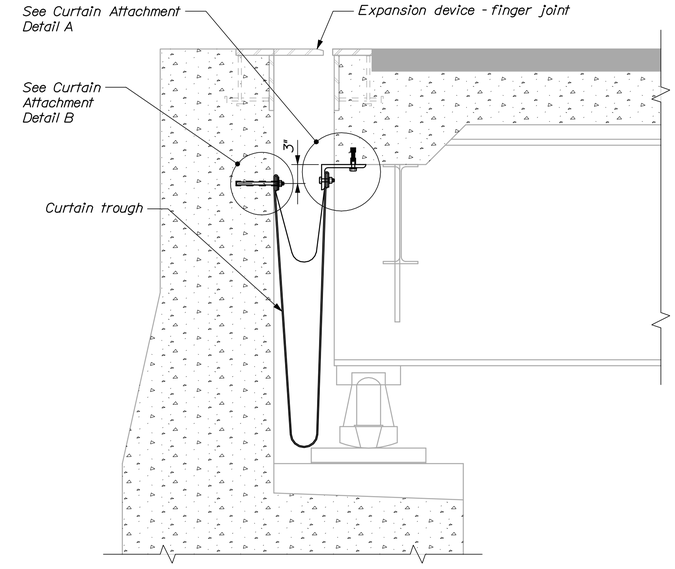
CURTAIN/FABRIC ATTACHMENT DETAIL B

3" = 1'-0"



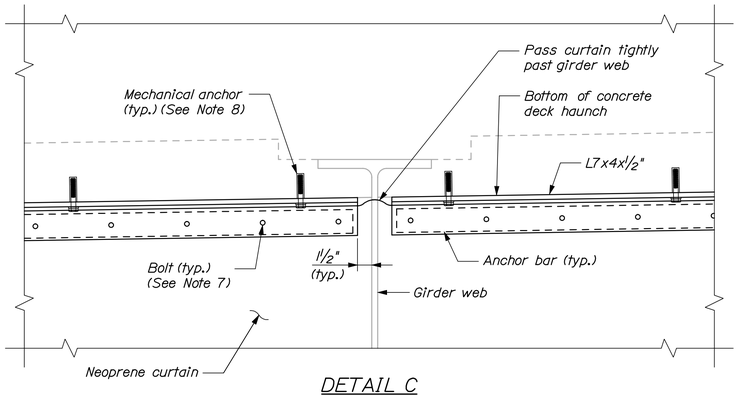
ANCHOR BAR

3" = 1'-0"



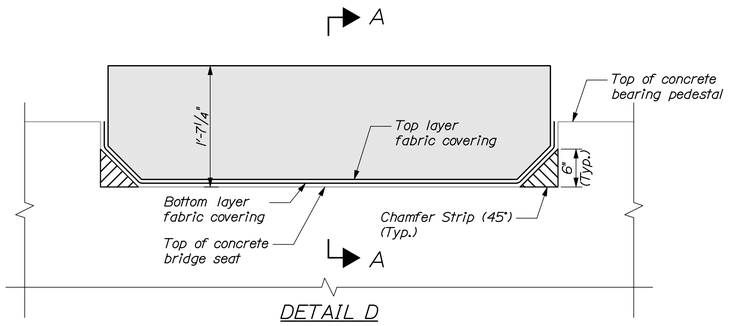
SECTION AT EXPANSION JOINT

1" = 1'-0"



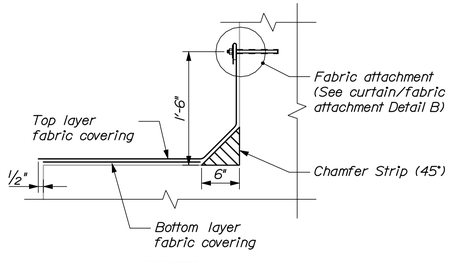
DETAIL C

1 1/2" = 1'-0"



DETAIL D

NTS



SECTION A-A

NTS

CURTAIN TROUGH NOTES:

1. Curtain trough to be installed at Abutment No. 1 of Bridge No. 1402, I-95 NB over Fish Stream & Bog Brook Road. Payment for all labor, materials and equipment necessary to complete the work will be made under item 521.32.

2. The three curtain troughs shown on these details will be measured as one unit combined. The quantity and payment for this curtain trough assembly will be considered as one unit complete in place and accepted.

3. Fabrication and materials for the curtain trough, including galvanization of steel components, shall be in accordance with the provisions of Standard Specifications Section 521, Finger Joint and Fabric Trough.

4. The neoprene sheets shall be fabricated in one piece with no seams.

5. Cut top edges and position holes of neoprene curtain to adjust for appropriate cross-slope, profile grade and bridge skew.

6. All mechanical anchors shall be hot dip galvanized or stainless steel stud type fasteners with a minimum embedment of 3 inches and a minimum allowable pull-out resistance of 2,000 pounds. Installation shall be per manufacturer's recommendations.

7. All anchor bars shall be attached with 1/2" diameter bolts at 8" on center with a minimum of two bolts per anchor bar length.

8. All support angles shall be attached with 1/2" diameter mechanical anchors at 24" on center with a minimum of two mechanical anchors per support angle section.

9. Contractor shall field verify the dimensions and submit shop drawings for approval prior to fabricating the curtain trough unit.

10. Payment for protective fabric covering shall be made under pay item 521.51 "Fabric covering for concrete surfaces"

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

IM-1681(920)E

PIN 16819.20

BRIDGE NO. 1402

BRIDGE PLANS

		DATE	BY	SIGNATURE
DSE	PROJ. MGR.			
	DESIGN-DETAILED	03\12	MPC	
CAH	CHECKED-REVIEWED	03\12	TRC	
	DESIGN2-DETAILED2	-	DSE	-
	DESIGN3-DETAILED3	-	-	-
	REVISIONS 1	-	-	-
	REVISIONS 2	-	-	-
	REVISIONS 3	-	-	-
	REVISIONS 4	-	-	-
	FIELD CHANGES	-	-	-

P.E. NUMBER

DATE

INTERSTATE 95 NORTHBOUND
ISLAND FALLS
AROOSTOOK COUNTY

CURTAIN TROUGH DETAILS

SHEET NUMBER

13

OF 13

Filename: 013_CurtainTrough.dgn Division: BRIDGE Username: bhavu Date:3/23/2012