

STATE OF MAINE DEPARTMENT OF TRANSPORTATION



HARRISON CUMBERLAND COUNTY BEAR RIVER BRIDGE OVER BEAR RIVER STATE ROUTE 117 FEDERAL PROJECT NO. 2319800 PROJECT LENGTH 0.08 mi. BRIDGE NO. 6121

LIST OF DRAWINGS

Title Sheet	1
Estimated Quantities & General Construction Notes	2
General Plan	3
Profile/Sections	4
West Pier Repairs	5
Construction Joint Repairs	6
Fascia Repairs	7

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Ninth Edition, 2020

TRAFFIC DATA

Current (2019) AADT	3790
Future (2039) AADT	4170
DHV - (% of AADT)	12
Design Hourly Volume	500
Heavy Trucks (% of AADT)	8
Directional Distribution (% of DHV)	53
18 kip Equivalent P 2.0	168
18 kip Equivalent P 2.5	160
Design Speed (mph)	35

MAINTENANCE OF TRAFFIC

Staged construction, maintaining one 17'-0" wide lane of alternating one-way traffic during construction.

MATERIALS

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

BASIC DESIGN STRESSES

Concrete	f 'c = 4,000 psi
Reinforcing Steel	f y = 60,000 psi

UTILITIES

Central Maine Power Company
Consolidated Communications
Charter Communications
Town of Harrison

PROJECT LOCATION:	Bear Brook Bridge (#6121) over Bear Brook located on State Route 117, 0.2 miles westerly of Route 35 Latitude 44°-06'-44.64" N Longitude 70°-41'-16.98" W
PROGRAM AREA:	Bridge Program
OUTLINE OF WORK:	Bridge Wearing Surface Replacement with 50' of Approach Work Bottom of Superstructure and Fascia Deck Repairs West Pile Bent Repairs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
ENGINEER

GREGORY
MACALISTER
No. 1401
Professional Engineer

SIGNATURE	DATE
P.E. NUMBER 14077	AUG 2023

PROJECT INFORMATION	
PROGRAM BRIDGE	PROJECT COMPLETION DATE
PROJECT MANAGER D. EATON	
DESIGNER G. MACALISTER	
CONSULTANT CALDERWOOD ENGINEERING	
PROJECT RESIDENT CONTRACTOR	

HARRISON
BEAR RIVER BRIDGE
TITLE SHEET

2319800 WIN 023198.00

SHEET NUMBER
1
OF 7



Date: 8/8/2023

Username: common

Division: BRIDGE

Filename: Phase II\Details\001_Title.dgn

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	DATE 8-14-23
APPROVED	COMMISSIONER
[Signature]	[Signature]
CHIEF ENGINEER	CHIEF ENGINEER

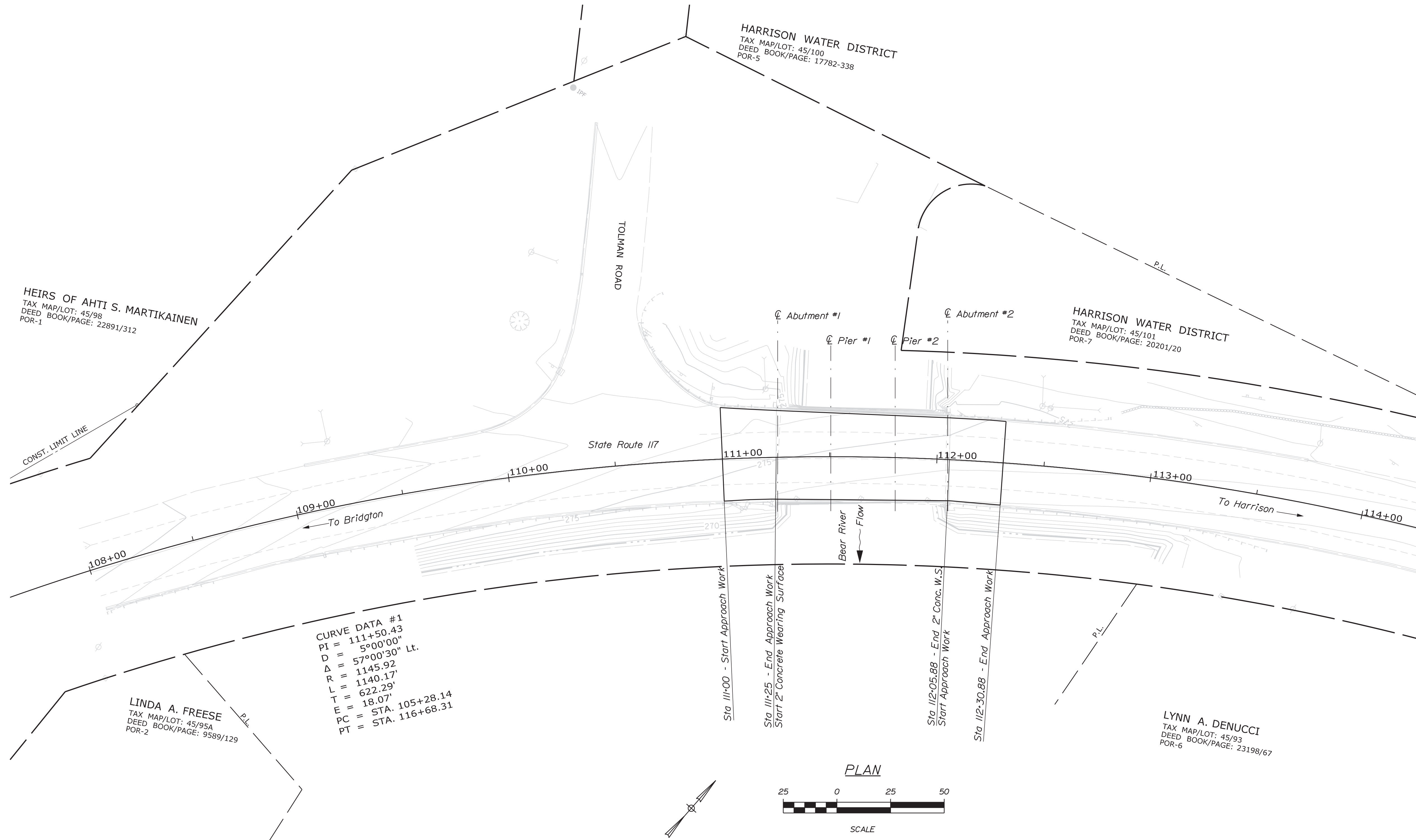
ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.202	REMOVING PAVEMENT SURFACE	230	SY
202.30	REMOVE EXISTING CONCRETE WEARING SURFACE	1	LS
403.208	HOT MIX ASPHALT, 12.5MM	19	TN
403.213	HOT MIX ASPHALT, 12.5MM (BASE AND INTERMEDIATE COURSE)	26	TN
409.15	BITUMINOUS TACK COAT, APPLIED	24	GAL
502.44	STRUCTURAL CONCRETE WEARING SURFACE ON BRIDGES	20	CY
503.12	REINFORCING STEEL, FAB & DEL	460	LB
503.13	REINFORCING STEEL, PLACING	690	LB
515.20	PROTECTIVE COATING FOR CONCRETE SURFACES	380	SY
518.50	REPAIR OF UPWARD FACING SURFACES- TO REINFORCING STEEL < 8 INCHES	400	SF
518.51	REPAIR OF UPWARD FACING SURFACES- BELOW REINFORCING STEEL	400	SF
518.60	REPAIR OF VERTICAL SURFACES < 8 IN	6	SF
518.61	REPAIR OF VERTICAL SURFACES > 8 IN	0.5	CY
518.70	REPAIR OF OVERHEAD SURFACES < 8 IN	225	SF
520.241	BRIDGE JOINT MODIFICATION - TYPE I	1	EA
526.301	PORTABLE CONCRETE BARRIER, TYPE I (420 LF)	1	LS
639.19	FIELD OFFICE TYPE B	1	EA
643.72	TEMPORARY TRAFFIC SIGNAL	1	LS
652.312	TYPE III BARRICADES	6	EA
652.33	DRUM	40	EA
652.34	CONE	40	EA
652.35	CONSTRUCTION SIGNS	100	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGER	40	HR
655.511	EMBEDDED GALVANIC ANODE	35	EA
656.75	TEMP. SOIL EROSION AND WATER POLL. CONTROL	1	LS
659.10	MOBILIZATION	1	LS

GENERAL CONSTRUCTION NOTES

- Project information referred to below may be accessed at the following MaineDOT web address <http://www.maine.gov/mdot/contractors/>.
- The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions 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.
- Protective Coating for Concrete Surfaces shall be applied to the following areas:
Concrete Wearing Surface,
All exposed surfaces of concrete curbs,
Fascias down to the drip notch.
- Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT for informational purposes only. Lump Sum pay items will be paid for at the Contract Bid amount, with no addition or reduction in payment to the Contractor if the actual final quantities are different from the MaineDOT provided estimated quantities, except as follows:
 - If a Lump Sum pay item is eliminated, the requirements of Standard Specifications Section 109.2, Elimination of Items, will take precedence.
 - If other Contract Documents specifically allow a change in payment for a Lump Sum pay item, those requirements will be followed.
 - If a design change results in changes to estimated quantities for Lump Sum pay items, price adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation.
- Once the rehabilitation work is complete, the Contractor is responsible for removing and appropriate disposal of components not re-used in the completed work.
- The Contractor shall submit a Rehabilitation Plan to the Resident at least 30 business days prior to the start of the rehabilitation work. The plan shall outline the methods and equipment to be used for removal, forming and casting rehabilitation to the existing structure. It shall also include containment methods, sequence and schedule specific to rehab items. No work related to the rehabilitation of the existing structure shall be undertaken by the Contractor until MaineDOT has reviewed the Rehabilitation Plan for appropriateness and completeness. Payment for all work necessary for developing, submitting, and finalizing, the Rehabilitation Plan will be considered incidental to related items.
- Repair areas indicated in plans are anticipated areas based on site inspection. Areas and locations are subject to change based on actual field conditions and the results of the concrete removal process, as determined by the Resident. Prior to the rehabilitation work the Resident and the Contractor shall go over and agree on all areas that will receive repair.
- All dimensions, elevations and other information shown on the contract plans to define the structure are based upon the original construction drawings and are not guaranteed to represent as-built conditions. The contractor shall verify all conditions and dimensions as required for the completion of the work under the contract. The contractor shall be responsible for the accuracy and for the correct fit of all construction.
- All work is to be performed with care so that materials which are to remain in place are not damaged. Areas not agreed upon between the Resident and the Contractor for rehabilitation that are damaged shall be repaired at no additional cost to the Department.
- Concrete repair surfaces and top of deck shall be saturated surface dry (SSD) prior to placing any new concrete/repair material. Neither bonding agent nor bonding grout shall be used for bonding new concrete/repair material to existing concrete. For repair materials, the manufacturers written recommendations shall be followed with respect to surface preparation of existing concrete, if contrary to the first two sentences of this note.
- Contractor shall restore all areas disturbed by construction activities to neat limits and shall place loam, mulch and seed as required to restore areas and as directed by the Resident. Payment for restoring disturbed areas will be considered incidental to related Contract items.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION 2319800 WIN 023198.00 BRIDGE PLANS 6121	HARRISON BEAR RIVER BRIDGE ESTIMATED QUANTITIES & GENERAL CONSTRUCTION NOTES	SHEET NUMBER <div style="font-size: 2em; text-align: center;">2</div> OF 7
PROJ. MANAGER DESIGN-DETAILED CHECKED-REVIEWED DESIGNS-DETAILED DESIGNS-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES	D. EATON PAC GJM	BY PAC JH
DATE MAR 2023 MAR 2023	SIGNATURE P.E. NUMBER DATE	DATE





STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 2319800
 WIN 023198.00
 6121 BRIDGE PLANS

PROJ. MGR.	D. EATON	BY	DATE
DESIGN-DETAILED	PAC	PAC	MAR 2022
CHECKED-REVIEWED	GWM	JJH	MAR 2022
DESIGN-DETAILED			SIGNATURE
REVISIONS 1			P.E. NUMBER
REVISIONS 2			DATE
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

HARRISON BEAR RIVER BRIDGE
GENERAL PLAN

SHEET NUMBER
3
 OF 7

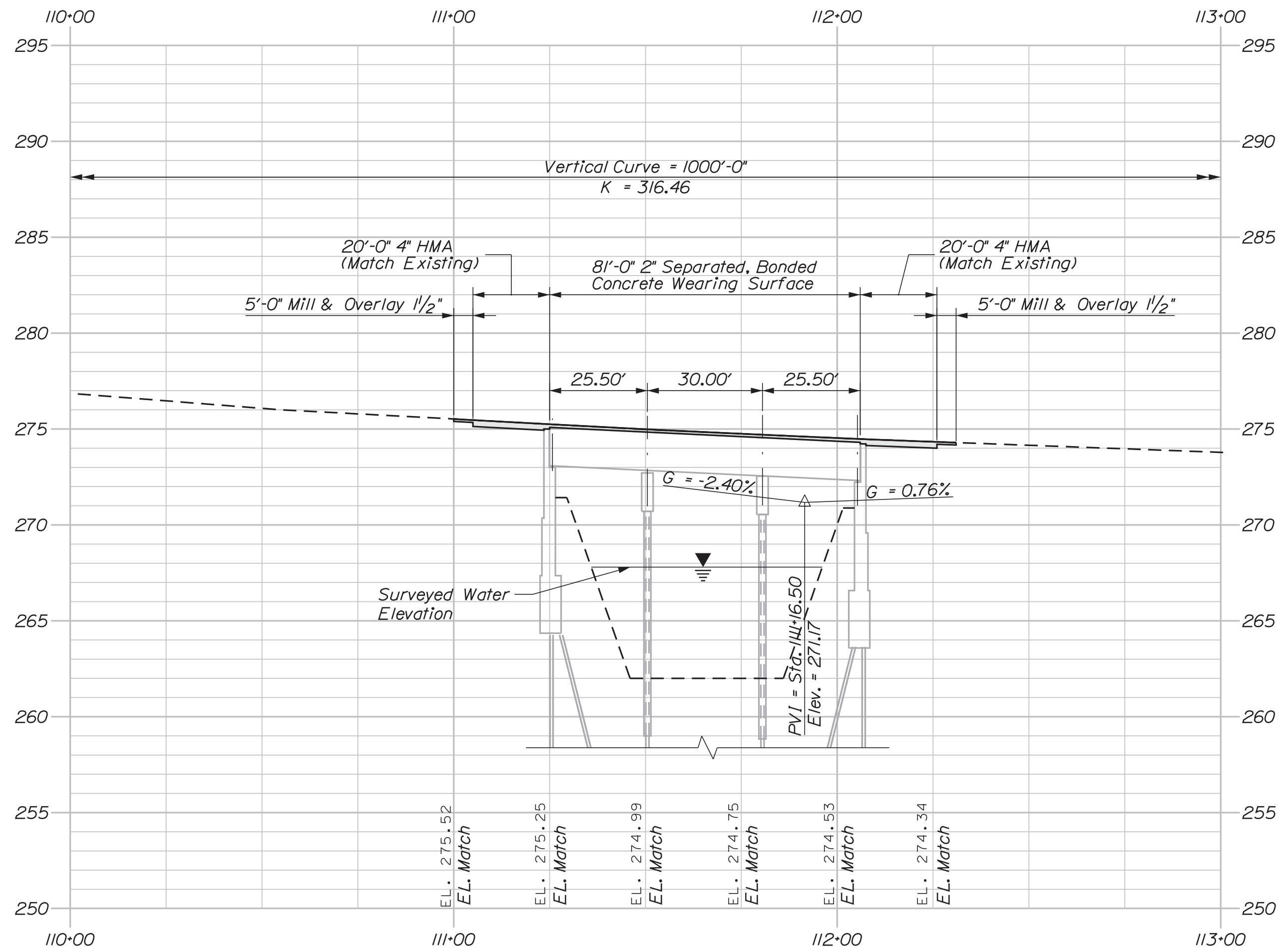


Username: devan.c.eaton

Date: 8/9/2023

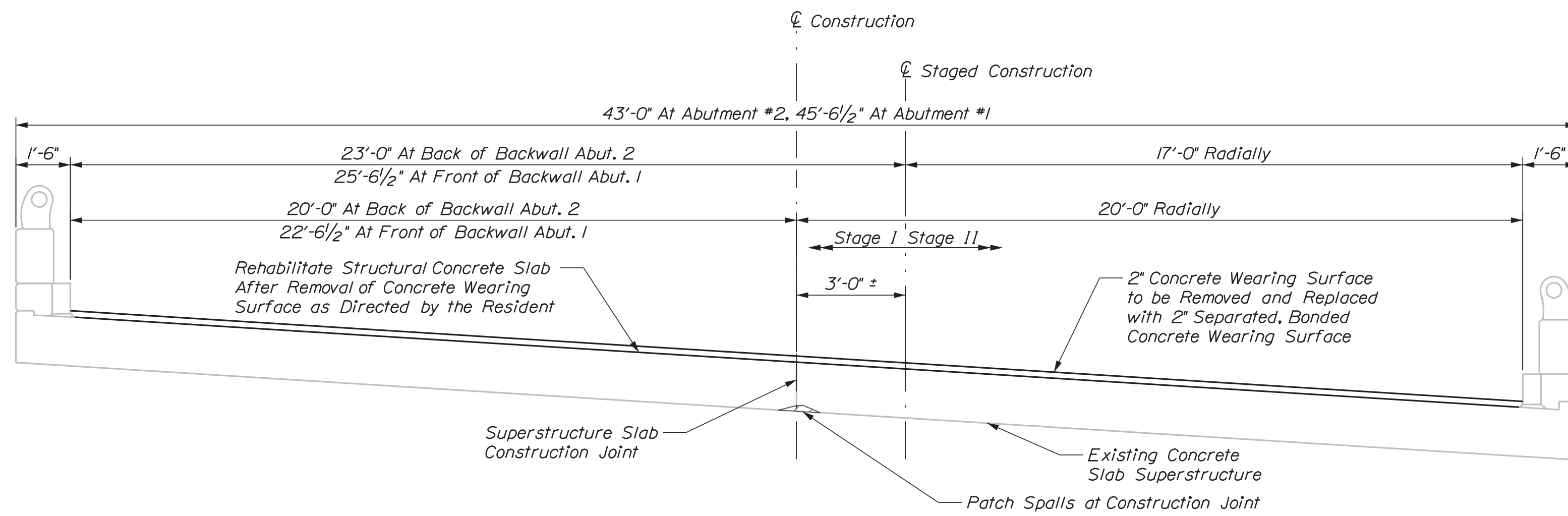
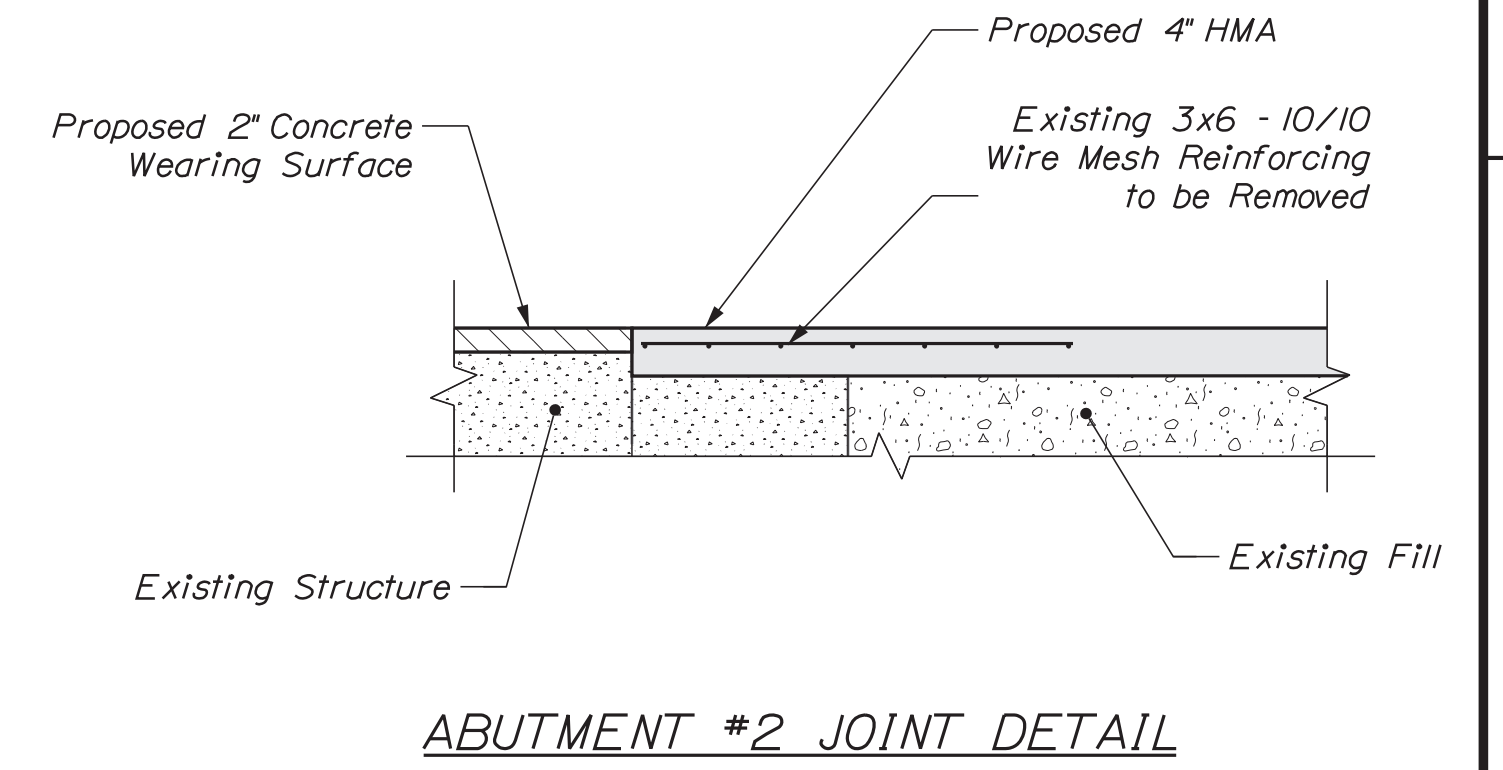
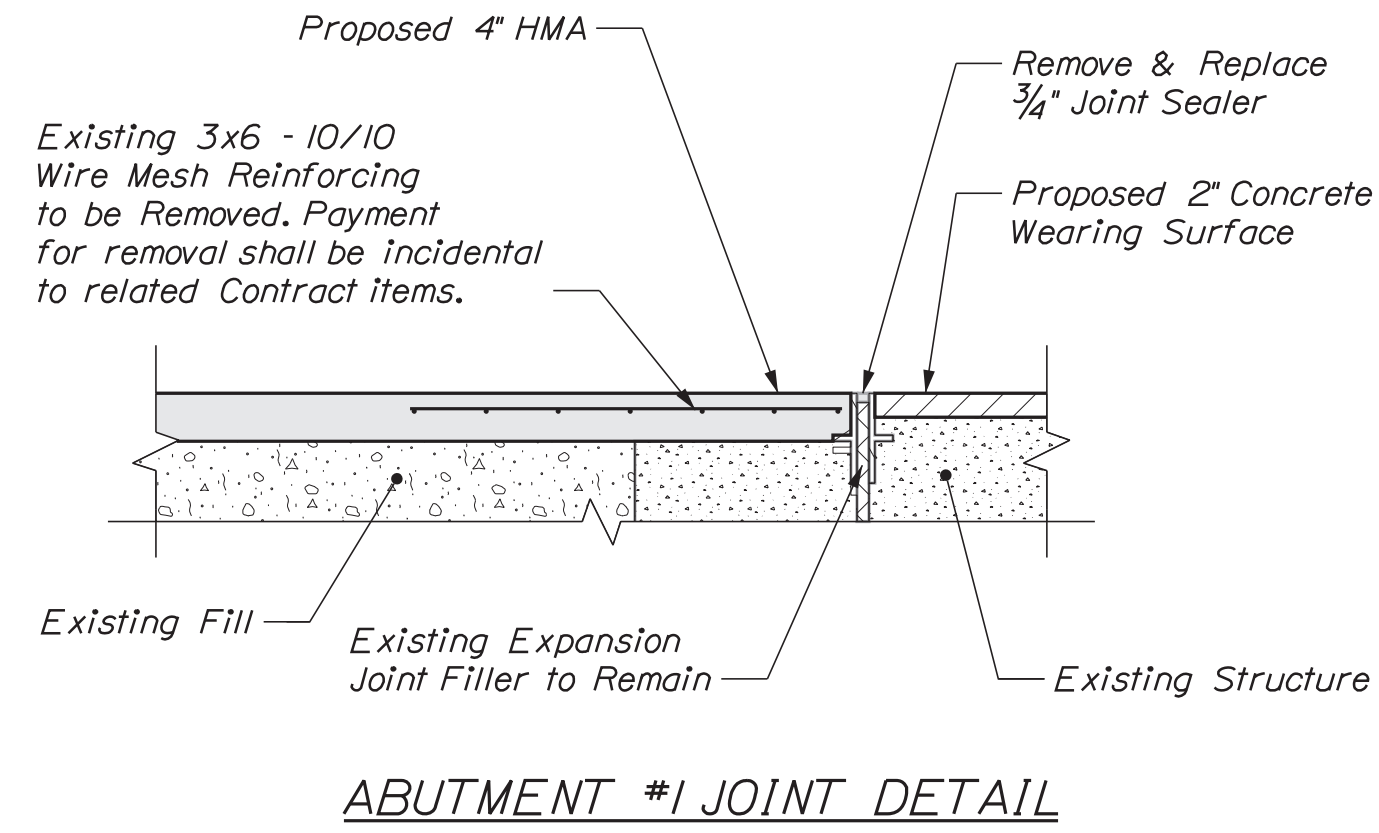
Division: BRIDGE

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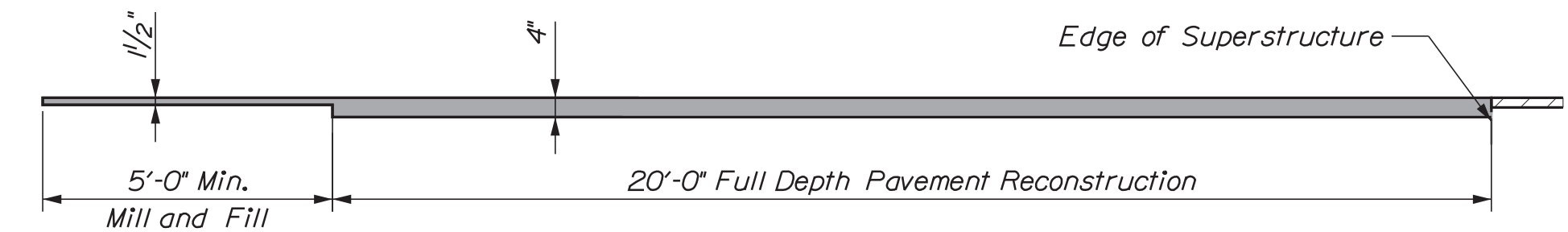
PROFILE

Note: Vertical Curve to match existing elevations.
Vertical curve information given based on as-built details



TYPICAL SECTION

Note: Stage I & Stage II May be Completed in Reverse Order



APPROACH PAVEMENT LONGITUDINAL SECTION

Note: Abutment #1 Shown, Abutment #2 Similar

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2319800
WIN 023198.00
6121 BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	PAC	PAC	MAR 2022
CHECKED-REVIEWED	GWM	JJH	MAR 2022
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

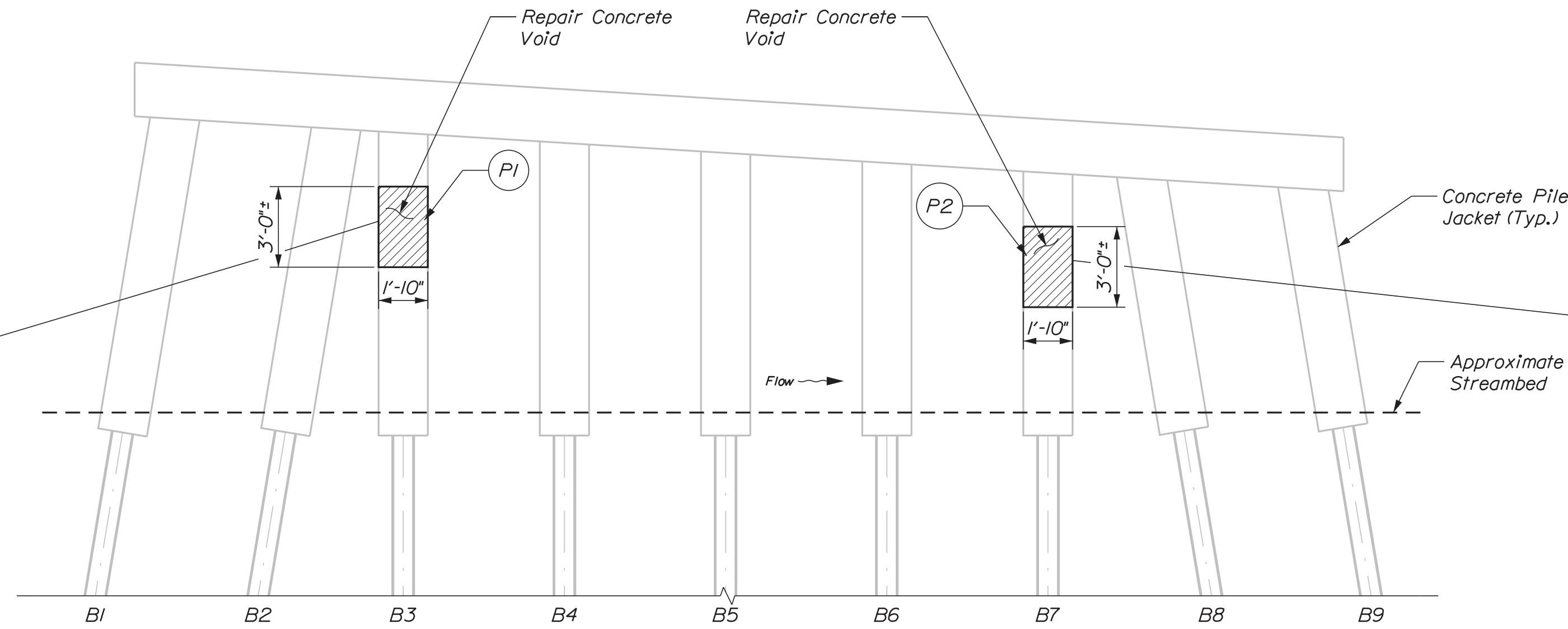
HARRISON
BEAR RIVER BRIDGE
PROFILE/SECTIONS

SHEET NUMBER

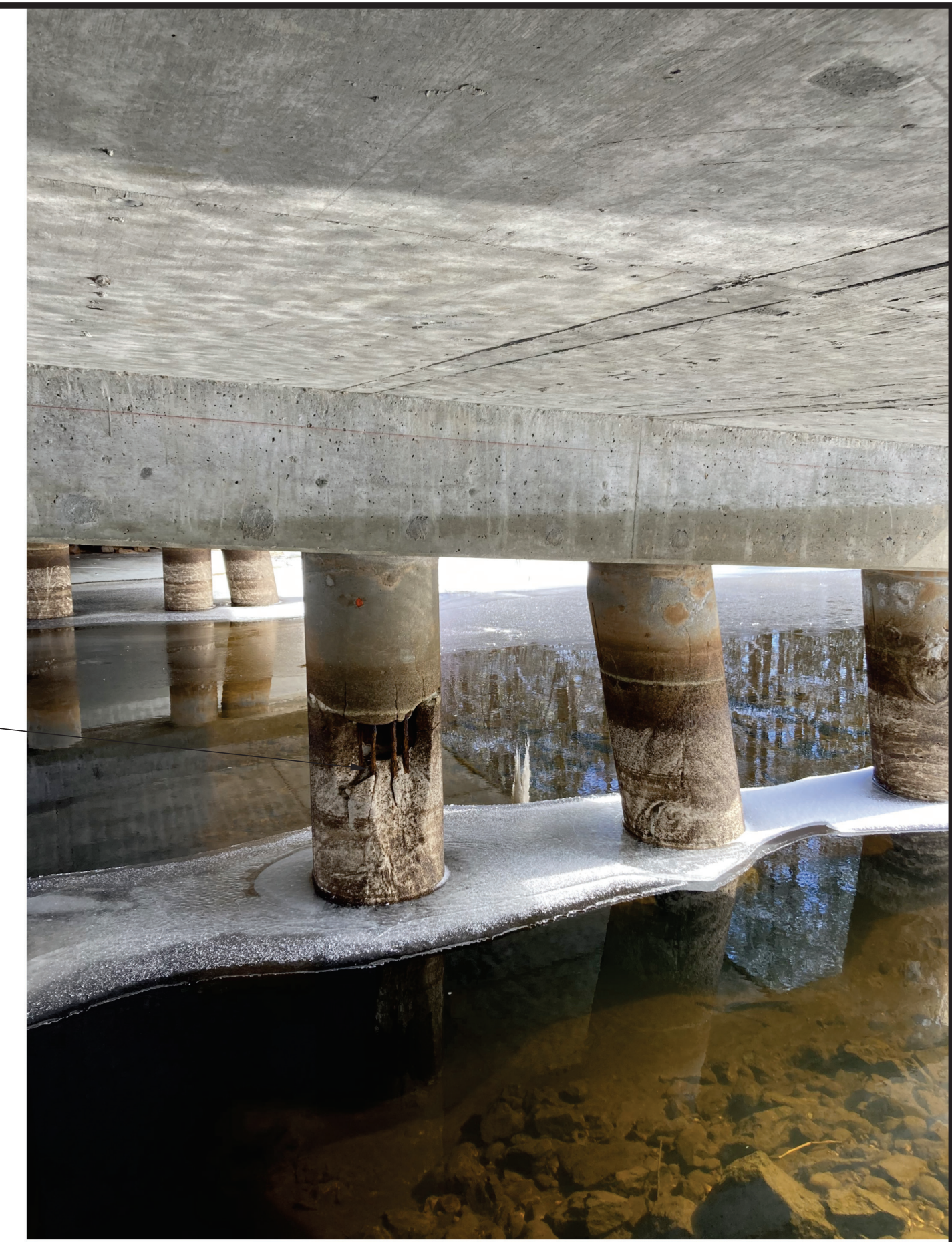
4

OF 7





WEST PILE BENT
LOOKING UP STATION

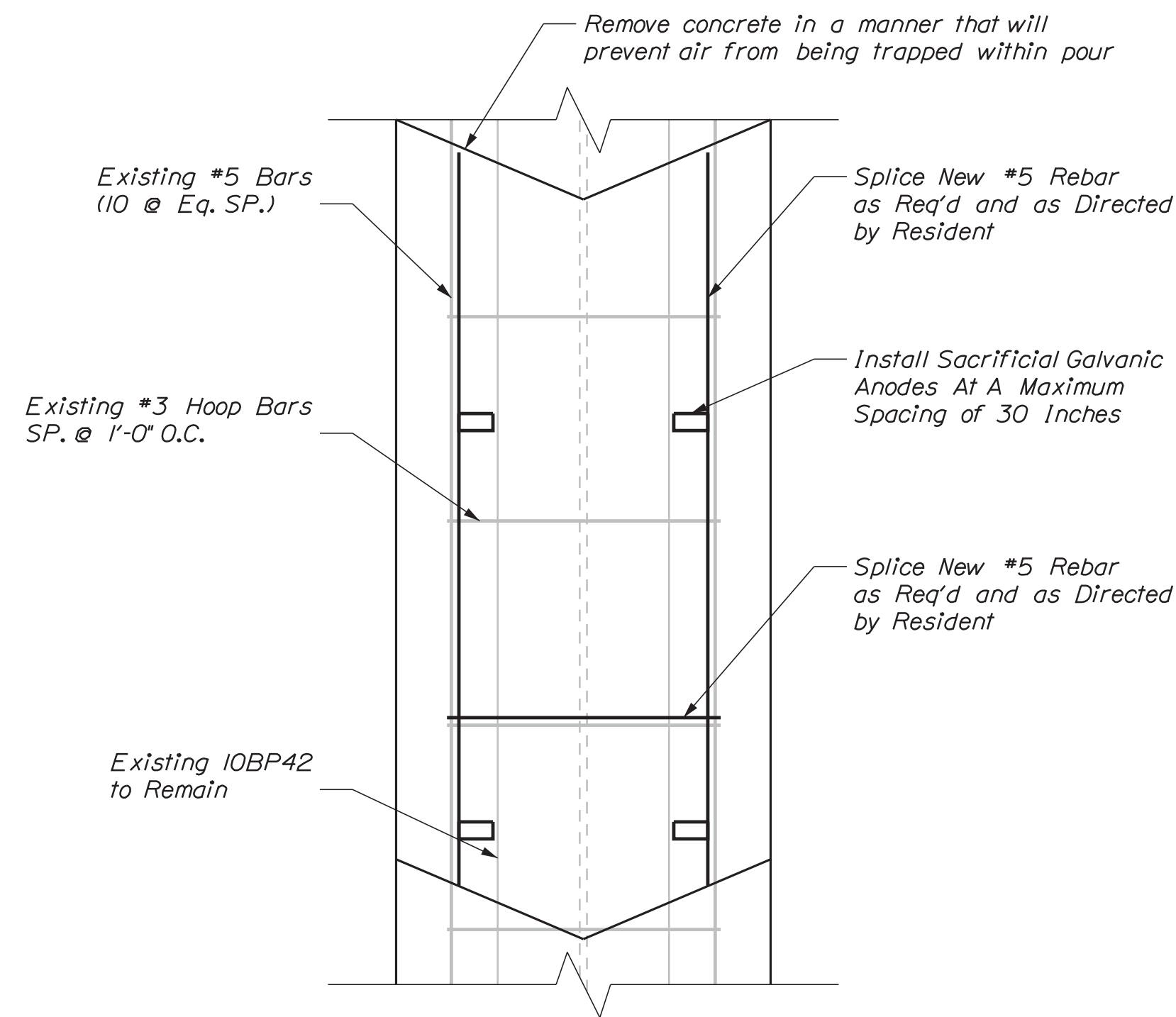


PIER CONCRETE REMOVAL NOTES

1. Containment and debris collection will not be paid for directly, but will be considered incidental to the appropriate Section 518 items. No separate payment will be made.
2. Areas listed are approximations of unsound concrete.
3. After the removal of the concrete the surface area should be cleaned of loose debris using high pressure water or air. If air is used, care shall be used to prevent airborne oil contamination.
4. Install sacrificial galvanic anodes along all exposed rebar locations at a maximum of 30 inches O.C.

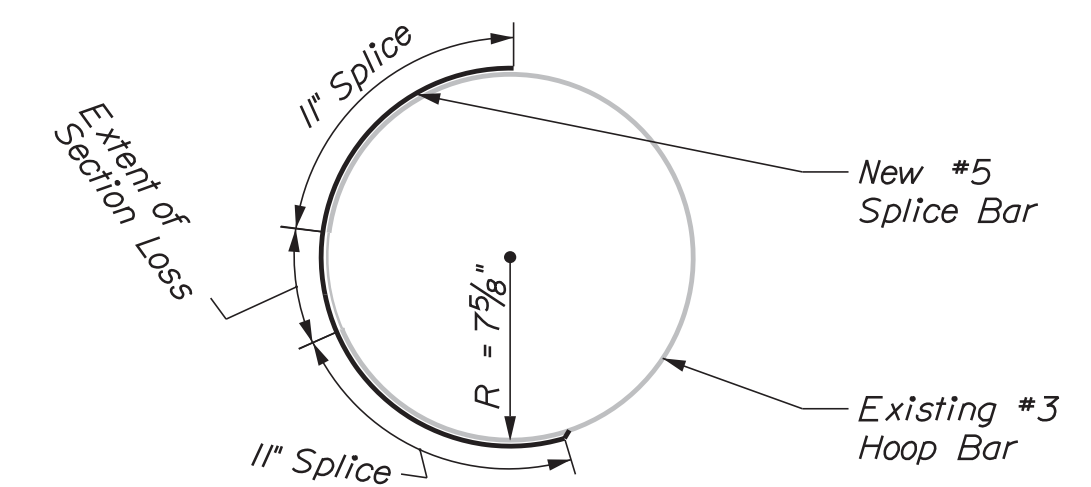
PIER REPAIR NOTES

1. Payment for the removal and replacement of unsound concrete shall be made under pay item 518.61.
2. The contractor shall provide an acceptable means of access at the pier to allow the Resident to safely perform an inspection of all repair work to the concrete. Payment for access shall be considered incidental to related items.
3. All unsound concrete shall be removed prior to the placement of concrete.
4. The main reinforcing bars shall be replaced if an individual bar has greater than 25% section loss (less than 75% section remaining) or if the group of bars in any section has greater than 15% section loss (less than 85% section remaining) as determined by the Resident.



TYPICAL PIER REBAR REPAIR

DESIGNATION	BENT	SIDE
P1	3	West Pier
P2	7	West Pier



#3 HOOP BAR DETAIL

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	PAC	PAC	MAR 2022
CHECKED-REVIEWED	GMM	JJH	MAR 2022
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

HARRISON
BEAR RIVER BRIDGE
WEST PIER REPAIRS

SHEET NUMBER

5

OF 7





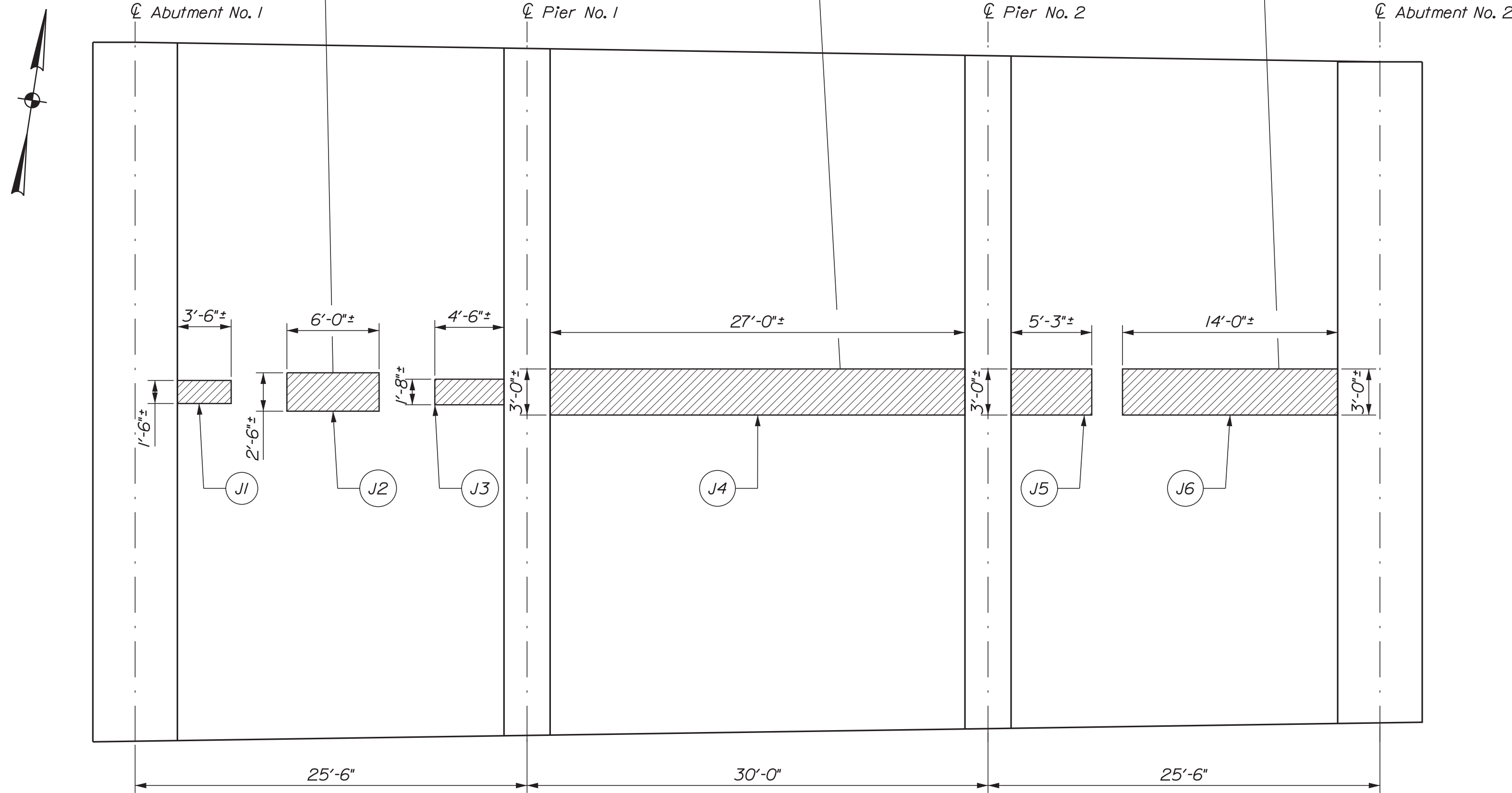
CONSTRUCTION JOINT REMOVAL NOTES

1. Containment and debris collection will not be paid for directly, but will be considered incidental to the appropriate Section 518 items. No separate payment will be made.
2. Areas listed are approximations of unsound concrete.
3. Install sacrificial galvanic anodes along all exposed rebar locations at a maximum of 30 inches O.C.

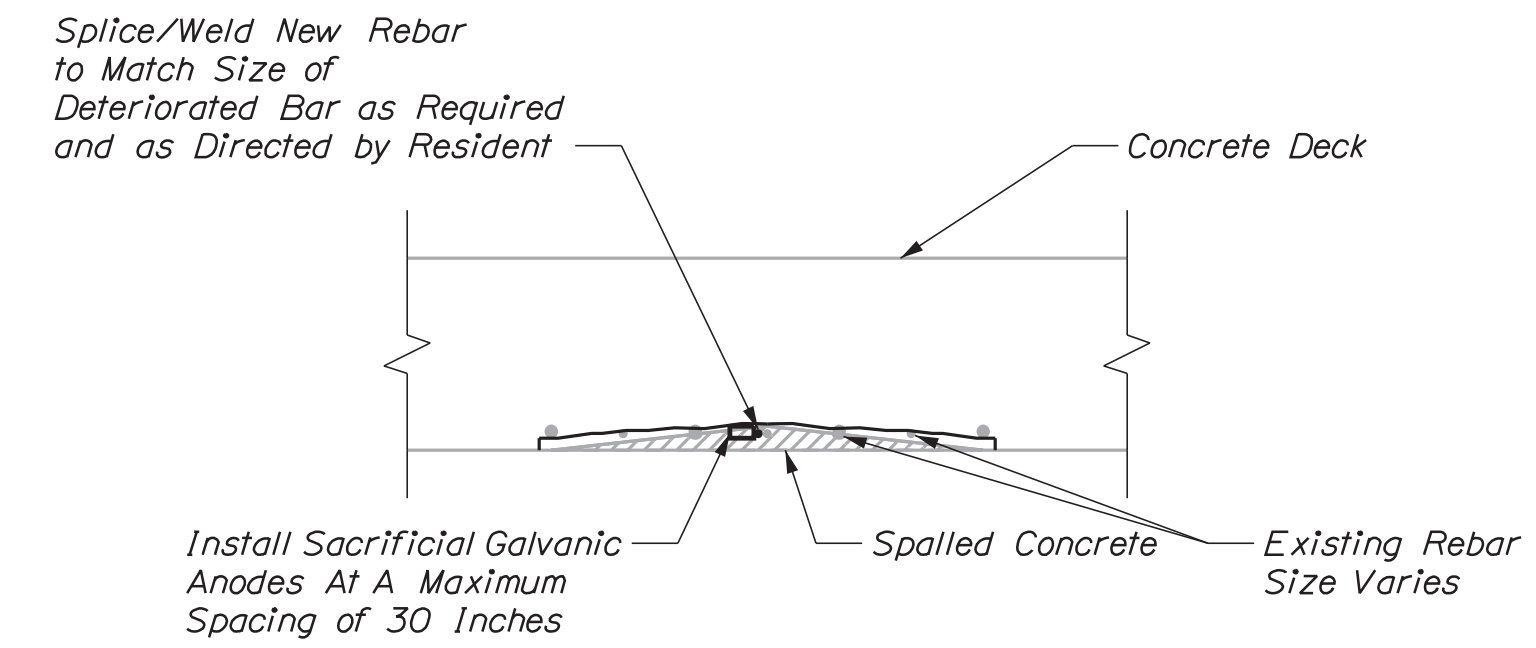
CONSTRUCTION JOINT REPAIR NOTES

1. Payment for the removal and replacement of unsound concrete shall be made under pay item 518.70.
2. The contractor shall provide an acceptable means of access at the construction joint to allow the Resident to safely perform an inspection of all repair work to the concrete. Payment for access shall be considered incidental to related items.
3. All unsound concrete shall be removed prior to the placement of concrete.
4. The main reinforcing bars shall be replaced if an individual bar has greater than 25% section loss (less than 75% section remaining) or if the group of bars in any section has greater than 15% section loss (less than 85% section remaining) as determined by the Resident.

DESIGNATION	SPAN LOCATION
J1	West Approach
J2	West Approach
J3	West Approach
J4	Center Span
J5	East Approach
J6	East Approach



CONSTRUCTION JOINT REPAIR PLAN



TYPICAL REBAR REPAIR

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	PAC	PAC	MAR 2023
CHECKED-REVIEWED	GWM	JJH	MAR 2023
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

HARRISON
BEAR RIVER BRIDGE
CONSTRUCTION JOINT
REPAIRS

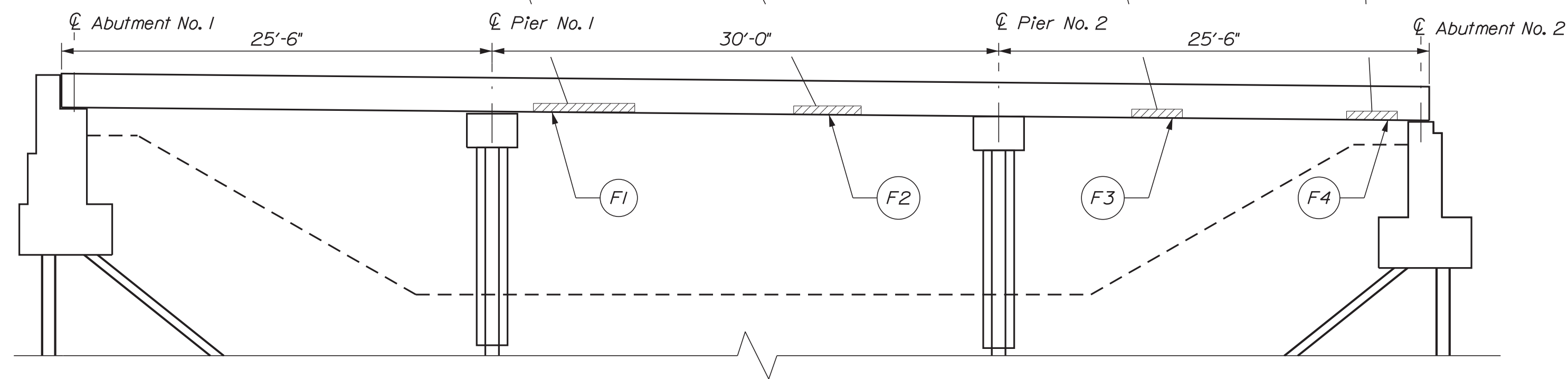




F1 & F2 LOCATIONS

F3 LOCATIONS

F4 LOCATIONS

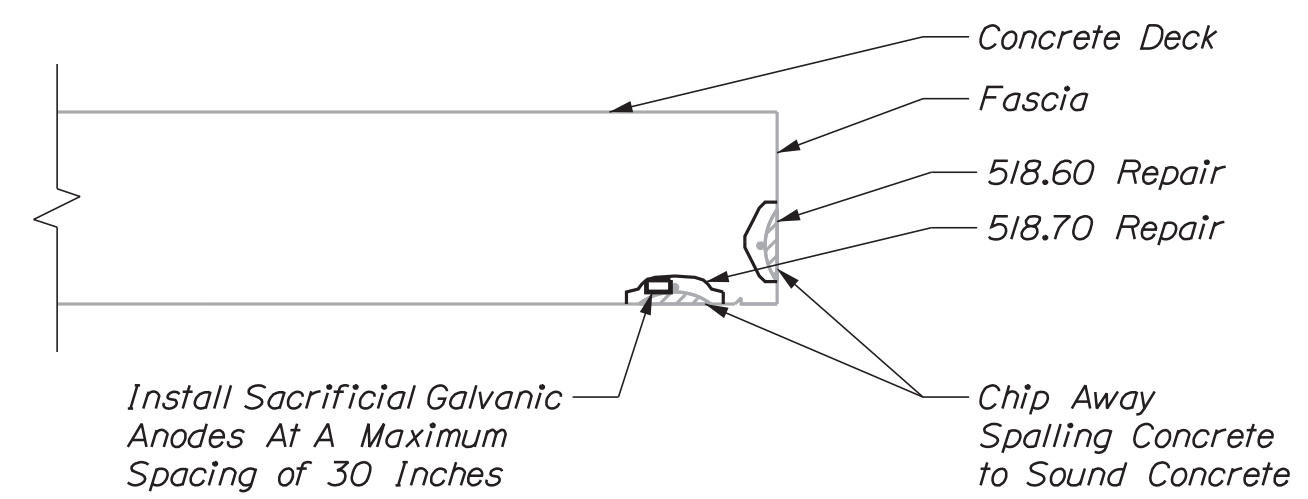


FASCIA ELEVATION
LOOKING NORTH

FASCIA CONCRETE REMOVAL NOTES

1. Containment and debris collection will not be paid for directly, but will be considered incidental to the appropriate Section 518 items. No separate payment will be made.
2. Areas listed are approximations of unsound concrete. The total area of estimated removal is 20 SF.
3. Install sacrificial galvanic anodes along all exposed rebar locations at a maximum of 30 inches O.C.

DESIGNATION	LOCATION
F1 - OH	Middle Span South Fascia
F1 - V	Middle Span South Fascia
F2 - OH	Middle Span South Fascia
F2 - V	Middle Span South Fascia
F3 - OH	West Approach South Fascia
F3 - V	West Approach South Fascia
F4 - OH	West Approach South Fascia
F4 - V	West Approach South Fascia



TYPICAL SECTION REPAIR

PROJ. MANAGER	D. LEATON	BY	DATE
DESIGN-DETAILED	PAC	PAC	MAR 2023
CHECKED-REVIEWED	GWM	JJH	MAR 2023
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

HARRISON
BEAR RIVER BRIDGE
FASCIA REPAIRS

