TOWN OF MONTAGUE

Invitation to Bid

11th Street Bridge Repair Project

Bids Due at 1pm Wednesday October 2, 2024

Bid Conference Thursday, September 19, 2024

Project Manager
Chris Nolan-Zeller
1 Avenue A
Turners Falls, MA 01376
(413) 863-3200 x109
chrisn@montague-ma.gov

INVITATION TO BID
11th Street Bridge Rehabilitation Project

The Town of Montague is accepting sealed bids for repairs to the 11th Street Bridge over the Utility Canal in Turners Falls, MA. Work includes concrete abutment deep patch repairs, bearing and anchor bolt repair.

Bids shall be submitted in a sealed envelope clearly labeled "11th Street Bridge Rehabilitation Project" and be delivered to the Selectboard Office, Montague Town Hall, One Avenue A, Turners Falls, Massachusetts 01376. This IFB is offered per M.G.L. c. 30, § 39M and work is subject to Prevailing Wage Requirements.

Sealed Bids must be received by Wed. October 2, 2024 @ 1:00 PM, at which time all bid packages will be opened and read at the Town Hall Annex Meeting Room at the same address listed above. No exceptions or allowances will be made for late submittals.

A bidders' conference will be held on Thurs. September 19, 2024 at 9:00 AM at 11th Street over Utility Canal, Turners Falls, MA 01376. Attendance is not mandatory but is strongly encouraged. The IFB is available at https://www.montague-ma.gov/BIDS. Registration is required. Once registered, any addenda or notifications will automatically be sent to the email address of registrants on record. Written questions can be submitted to the Project Manager, Chris Nolan-Zeller, at chrisn@montague-ma.gov until Wednesday, September 25 at 1:00 PM.

Qualified proposers who are Minority/Women/Disabled Owned Business Enterprises (M/W/D/BE) businesses are encouraged to apply. Other qualified proposers are encouraged to
partner with disadvantaged businesses. A listing of certified disadvantaged businesses can be
found at http://www.mass.gov/sdo.

The Town of Montague reserves the right to accept or reject any or all proposals in total or in part as they may deem in the public's best interest.

By: Walter Ramsey, Chief Procurement Officer
September 11, 2024

Introduction

The 11th Street Bridge is a historic steel truss bridge built in 1915 in Turners Falls, MA. Routine MassDOT inspections in 2020 and 2022 identified structural deficiencies, as described in Appendices C and D. The winning bidder will be responsible for making repairs as specified in the Project work and specifications, in accordance with state and local laws and regulations, including but not limited to M.G.L. c. 30, § 39M. Work is subject to Prevailing Wage Requirements.

The Town will award the project to the lowest bidder found responsible and qualified. The Town reserves the right to award or not award a contract as it determines it is in its own best interest.

A. Contractor General Requirements

- All work will be coordinated with the Director of Public Works and Assistant Town Administrator to ensure disruption to local transportation infrastructure is minimized.
- Respondent must be a licensed contractor in the Commonwealth of MA.
- Contractor must provide OSHA training certifications verifying that employees to be employed at the worksite have completed approved OSHA (United States Occupational Safety and Health Administration) training in a construction safety and health course that is at least ten hours in duration. This certification must accompany the certified payroll submittal.
- Contractor must submit an OSHA safety plan to the Town for review and approval.
- The prevailing wage requirements of Massachusetts General Laws, Chapter 39M, are applicable to this IFB. Wage rates, as determined by the Massachusetts Division of Occupational Safety, are attached as Appendix F. The contractor agrees that the rate per hour and wages paid to employees used in the performance of this project shall not be less than the minimum rates of wages as determined in accordance with Massachusetts General Law Chapter 39M as may be amended. The contractor shall provide a certified copy of payroll every week to the Montague Town Administrator for all employees working under the contract for this project.
- Minority-owned business enterprises or Woman-owned business enterprises are strongly encouraged to submit quotes. These business enterprises shall be determined by SOMWBA, the State Office of Minority and Woman-Owned Business Assistance. All such businesses are encouraged to contact SOMWBA at (617) 973-8692 for further information.

B. Bidder Instructions

- Participation in the bidder's inspection tour is strongly encouraged. Contact the IFB contact for further information as may be needed.

- Questions related to the IFB should be submitted via email to Chris Nolan-Zeller at

chrisn@montague-ma.gov no later than 1pm on September 25. Responses will be shared with all registered bidders that indicate interest in receiving responses to questions via email.

- The contract will be awarded to the responsible bidder that offers demonstrated expertise at the lowest price and is responsive to the IFB requirements. The Town of Montague will review bidder experience and references. The town retains the right to contact additional references beyond those provided or to not award the contract to a bidder if it judges a bid to not be in the best interest of the town.

- Construction labor associated with this bid is subject to prevailing wage rates as per MGL Chapter 149, Section 26 - 27f inclusive. A current prevailing wage sheet for this job is included as an attachment.

- A 50% Payment Bond will be required upon signing the contract. Selected contractor will be subject to the terms and conditions of the Town of Montague standard contract - sample attached.

- A bid deposit of 5% of the value of the total bid is required.

- The Town of Montague is tax exempt. A tax-exempt certificate will be provided upon request. Payments will be made within 30 days of receipt of the invoice.

C. GENERAL INSTRUCTIONS and CONTRACT TERMS

1. Sealed Bids should be marked "11th Street Bridge Repair Project" and will be received by the Town of Montague until October 2 at 1:00PM. Emailed bids will not be accepted. Mailed or delivered bids should be delivered to Selectboard Office, Town of Montague, One Avenue A, Montague, MA 01376. Bids received after the deadline will not be accepted. Bids must be signed by an authorized representative of the bidder organization.

2. IFB should be downloaded from www.montague-ma.gov/BIDS. Notice and addenda will be forwarded to those who are registered as having downloaded the IFB.

3. All work is to be done by a Massachusetts licensed general contractor, certified, and skilled in the work proposed.

4. The contractor will be bound by all applicable statutory provisions of law of the Federal Government, the Commonwealth of Massachusetts, and local codes (including current building and fire codes). Municipal permit fees will be waived by the Town.

5. As the Town is exempt from the payment of Federal Excise Taxes and Massachusetts Sales Tax, prices bid herein are not to include these taxes. Tax exempt forms will be provided to the contractor upon request.

6. Prevailing Wage rates set at the Massachusetts Department of Labor and Industries apply. Appropriate wage schedule is attached. Certified Payroll shall be submitted weekly to Chris Nolan-Zeller, Assistant Town Administrator, Town of Montague, 1 Avenue A, Turners Falls, MA 01376.

7. A 5% bid bond/deposit is required at the time of bid submittal. A Labor and Materials/Payment Bond is required at the time of contract signing in the amount of 50% of the total bid at the time of contract signing.

8. A bidder will be held to the terms and the prices submitted for the duration of the contract period if a contract is signed by both parties within 45 days from bid opening.

9. Contract execution will be conditioned upon producing an insurance certificate as outlined on the SAMPLE CONTRACT page.

10. A contract substantially in accord with the Sample Contract found in this bid package will be required to be signed by the Contractor and the Montague Selectboard. Submitting a bid denotes acceptance of these terms and conditions. Any terms or conditions that cannot be met by the bidder must be brought to the Town's attention in a Written Question before the deadline for written questions. If the matter can be resolved through the Architect's response, an Addendum will be issued so that all Bidders are notified of any exceptions allowed.

11. The bid will be awarded to the responsible and responsive contractor based upon price, past performance and reliability of the contractor, quality of product and/or service, and degree of exclusion, exemption, or restrictions on the bid.

12. Statement of Warranty must be provided with the Bid. Workmanship shall be warranted for one year.

13. The project Manager Chris Nolan-Zeller will be available to answer any general questions about procedure, etc., but no question will be answered that in any way could give an unfair advantage to a contractor except through a written Addendum. Inquiries should be directed to: Chris Nolan-Zeller, Assistant Town Administrator, 413-863-3200 x109 or chrisn@montague-ma.gov

14. The Contractor must submit with their response a list of at least three (3) projects which they have successfully completed, giving the name and address of the projects so that they may be investigated prior to the award of the contract. Public projects and projects completed in a professional workplace are preferred. A contact person with CURRENT PHONE NUMBER must be provided for each reference (see form).

15. Bids which are incomplete, not properly endorsed or signed, or otherwise contrary to instructions may be rejected as non-responsive by the Town. Conditional Bids will not be accepted.

16. Any restrictions, qualifications, or deviations from specifications must appear either on the Bid Form or on an attachment thereto.

17. OSHA Certification

All contractors working on public works projects will be required to certify that ALL employees employed at the work site have successfully completed an OSHA approved course in construction safety of at least 10 hours in duration. This law requires general contractors to have on file records of all employees' OSHA 10- hour training and provide proof to the various agencies in charge of the work. This also applies to all subcontractors, hired trucks, and hired equipment with operators. Every bidder must certify that all persons who are employed by them for this bid are certified. Proof does not have to be submitted with this bid but must be available upon request.

REQUIRED SUBMITTALS

Checklist of Required Submittals:

- Schedule A / Bid Tabulation Form
- References
- Non-Collusion Form
- Tax Compliance Form
- Certificate of Corporate Authority (if applicable)
- Sign Wherever You See 

Submit one (1) copy of your fully signed proposal materials in a sealed envelope labeled "11th Street Bridge Repair Project" and addressed to:

Wendy Bogusz
Montague Town Hall
Selectboard Office
One Avenue A
Turners Falls MA 01376

Bids must be submitted by 1:00pm on Wednesday October 2, 2024.

Late bids cannot be accepted.

Item No.	Brief Description, Unit or Lump Sum Price (In Both Words and Figures)	11TH STREET REHABILITATION PROJECT	
		Estimated Quantity, Unit	Total in Figures
	SCHEDULE A-11th STREET BRIDGE REHABILITATION		
107.97	STRUCTURAL STEEL REPAIRS , per pounds (LBS)		
		35 LBS	
	Unitprice, Dollarsandcents(words)		
	UnitPricein Figures		
107.99	JACKING FOR BEARING REPAIR, per each (EA.)		
		2 EA.	
	Unitprice, Dollarsandcents(words)		
	Unit Price in Figures		
127.01	REINFORCED CONCRETE EXCAVATION, per cubic yard (C.Y.)		
		2 C.Y.	
	Unitprice, Dollarsandcents(words)		
	UnitPricein Figures		
180.01	ENVIROMENTAL HEALTH AND SAFETY PROGRAM, lump sum (LS.)		
		1 L.S.	
	Unitprice, Dollarsandcents(words)		
	UnitPricein Figures		
180.02	PERSONEL PROTECTION LEVEL C UPGRADE, per hour (HR.)		
		40 HR.	
	Unitprice, Dollarsandcents(words)		
	Unit Price in Figures		
748.01	MOBILIZATION, lump sum (L.S.)		
		1 L.S.	
	Unitprice, Dollarsandcents(words)		
	Unit Price in Figures		
909.2	CEMENTITIOUS MORTAR FOR PATCHING, per square foot (S.F.)		
		40 S.F.	
	Unitprice, Dollarsandcents(words)		
	Unit Price in Figures		
994.1	TEMPORARY PROTECTIVE SHIELDING, per square foot (S.F.)		
		400 S.F.	
	Unitprice, Dollarsandcents(words)		
	UnitPricein Figures		
	BID GRAND TOTAL		
		$	
	GrandTotalBidPrice, Dollarsandcents(words)	*Grand Total Bid Price, Dollars and cents in Figurns*	

REFERENCES

Please list AT LEAST THREE references, preferably for PUBLIC projects of similar size and scope. Please make sure contact information is CURRENT. Inability to check references may affect the eligibility of your bid. Use additional sheet for more references. TOWN RESERVES THE RIGHT TO CHECK PAST PERFORMANCE BEYOND REFERENCES PROVIDED.

1_____ _____

Name of Project Contract Dates

_____

Name of Contact Person Title of Contact Person Phone Number

_____

Describe Scope of Work (nature and cost)

2_____ _____

Name of Project Contract Dates

_____

Name of Contact Person Title of Contact Person Phone Number

_____

Describe Scope of Work (nature and cost)

3_____ _____

Name of Project Contract Dates

_____

Name of Contact Person Title of Contact Person Phone Number

_____

Describe Scope of Work (nature and cost)

TAX COMPLIANCE AND NON-COLLUSION STATEMENTS

Any person or corporation that fails to date, sign with original signature, and submit the following statements shall not be awarded this contract.

Tax Compliance

Pursuant to M.G.L. Ch. 62C, Sec. 49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

_____

Authorized Official's Signature Title of Person Signing

_____

Typed or Printed Name of Person Signing Company Name

_____

Telephone Number _____ Address _____

Fax Number _____

Date _____ Email _____

Certificate of Non-Collusion

The undersigned certifies under penalties of perjury that this bid has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Date _____

Authorized Official's Signature

_____

Typed or Printed Name of Person Signing

_____

Company or Corporation

DEBARMENT STATEMENT

Any person or corporation that fails to date, sign with original signature, and submit the following statement shall not be awarded this contract.

Debarment (Chapter 550, Acts of 1991)

The undersigned certifies under penalties of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth of Massachusetts under the provisions of Section 29F of Chapter 29 of the General Laws, or any other applicable debarment provisions of any other Chapter of the General Laws, or any Rule or Regulation promulgated thereunder.

Date _____

Authorized Official's Signature

_____

Typed or Printed Name of Person Signing

_____

Company or Corporation

OSHA CERTIFICATION

I hereby certify that all of our employees who will be employed at the work site have successfully passed the OSHA approved 10-hour safety course, and we have proof on file. I also certify that I am able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work.

Date _____

Authorized Official's Signature

_____

Typed or Printed Name of Person Signing

_____

Company or Corporation

_____

Name and Telephone # of Person who will be filing CERTIFIED PAYROLL

CERTIFICATE OF CORPORATE AUTHORITY (if applicable)

At a duly authorized meeting of the Board of Directors of

_____

(Name of Corporation)

held on_____it
was VOTED that:
(Date)

_____ _____

(Name) (Officer)

of this corporation, be and he/she hereby is authorized to execute contracts, deeds and bonds in the name and on behalf of said corporation, and affix its corporate seal hereto; and such execution of any contract, deed or obligation in this corporation's name on its behalf by such _____unde
r seal of the

(Officer)

company, shall be valid and binding upon this corporation.

A True Copy,

ATTEST: _____

TITLE: _____

PLACE OF BUSINESS: _____

_____

DATE OF THIS CERTIFICATE: _____

I hereby certify that I am the clerk of the _____

that_____is the duly elected_____of said corporation, and that the above vote has not been amended or rescinded and remains in full force and effect as of the date of this contract.

_____

(Clerk)

CORPORATE SEAL

Appendix A

MassDOT Bridge Division

Full Plan Set

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
BRIDGE DIVISION

MONTAGUE
ELEVENTH STREET OVER UTILITY CANAL

STATE	FED. AID PROJ. NO.	SHEET NO.
MA	—	—
PROJECT FILE NO.		—

TITLE SHEET AND INDEX

PLAN OF

ELEVENTH STREET OVER UTILITY CANAL

(BRIDGE NO. M-28-017)(0R4)

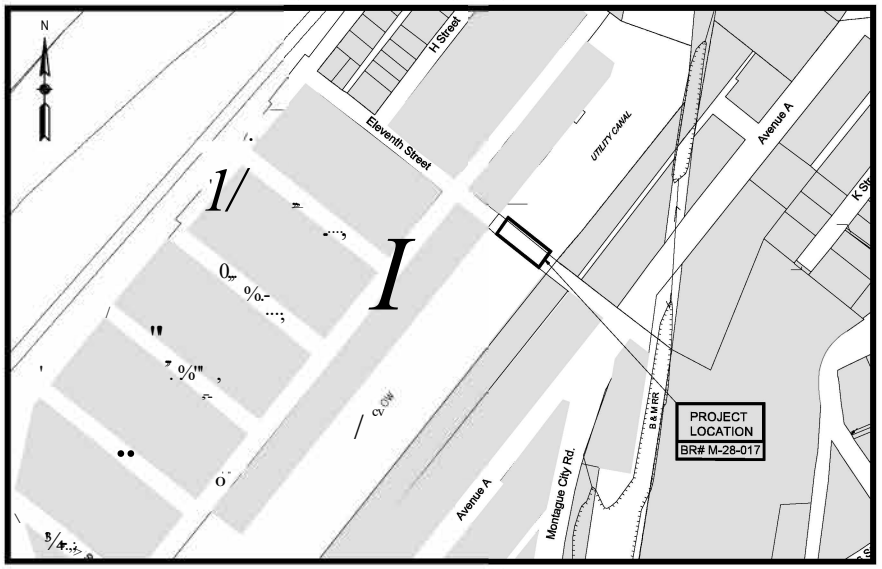
IN THE TOWN OF

MONTAGUE

FRANKLIN COUNTY

THE MASSACHUSETTS HIGHWAY DEPARTMENT 2023 STANDARD SPECIFICATIONS FOR HIGHWAYS ANO BRIDGES, SUPPLEMENTAL SPECIFICATIONS TO THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES (JUNE 30, 2023), THE 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRA\MNGS, MASSDOT TRAFFIC MANAGEMENT PLANS ANO DETAIL DRA\MNGS, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS ANO HIGHWAYS \MTH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRA\IIIINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRA\MNGS FOR TRAFFIC SIGNALS ANO HIGHWAYS LIGHTING, ANO THE LATEST EDITON OF THE AMERICAN STANDARD FOR NURSERY STOCK, \WILL GOVERN.

INDEX



LENGTH OF PROJECT= 166.66 FEET= 0.032 MILES

DATE	DESCRIPTION
a/21/2024	ISSUED FOR CONSTRUCTION

AUTHORIZED ENGINEER

SHEET 1 OF 10 BRIDGE NO. M-28-017 (OR4)

GENERAL NOTES

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IN ACCO◆DANCE W◆TH ┬HE 2020 AME◆ICAN ASSOCIA┬ION OF S┬A┬E HIGHWAY AND ┬◆ANSPO◆┬A┬ION OFFICIALS L◆FD B◆IDGE DESIGN SPECIFICA┬IONS W◆TH CU◆◆ENT INT◆IM SPECIFICATIONS THROUGH 2022 FOR HL-93 LOADING.

.EXISTING_BRIDGE_PLANS:

IF REQUIRED, PLANS FOR THE EXISTING BRIDGE NO. M-28-017, DATED 1915, MAY BE SEEN A┬ ┬HE OFFICE OF ┬HE B◆IDGE ENGINEE◆, MASSDO┬ - HIGHWAY DIVISION, 10 PA◆K PLAZA, BOS┬ON, MASSACHUSETTS.

.EXISTING_CONDITIONS:

ALL DIMENSIONS AND DE┬AILS SHOWN FO◆ ┬HE EXIS┬ING S┬◆UC┬U◆E A◆E BASED UPON ┬HE O◆IGINAL B◆IDGE PLANS AND A◆E NO┬ GUA◆AN┬EED. ┬HE CON┬◆AC┬O◆ SHALL DE┬E◆MINE AND ES┬ABLISH ALL DIMENSIONS AND DE┬AILS NECESSA◆Y FO◆ COMPLE┬ION OF ALL WO◆K BY FIELD MEASU◆EMEN┬ AND SU◆VEY. ┬HE CON┬◆AC┬O◆ SHALL BE ◆ESPONSIBLE FO◆ ┬HE ADEQUACY AND ACCU◆ACY ┬HE◆EOF AND NO┬ O◆DER ANY MA┬E◆IAL O◆ COMMENCE ANY FAB◆ICA┬ION UN┬IL ┬HEY HAVE MADE ┬HE ◆EQUI◆ED MEASU◆EMEN┬S ON ┬HE AC┬UAL S┬◆UC┬U◆E AND ┬HE EX┬EN┬ OF ┬HE P◆OPOSED WO◆K HAS BEEN APP◆OVED BY ┬HE ENGINEE◆.

┬HE OBSE◆VED WA┬E◆ ELEVA┬ION SHOWN ON ┬HE PLANS WAS MEASU◆ED ON ┬HE DA┬ES OF ┬HE SU◆VEY AND DOES NO┬ NECESSA◆ILY ◆EP◆ESEN┬ ┬HE WA┬E◆ LEVEL A┬ ┬HE ┬IME OF CONS┬◆UC┬ION. I┬ IS ┬HE CON┬◆AC┬O◆S ◆ESPONSIBILITY ┬O VE◆IFY ┬HE WA┬E◆ LEVELS. PA◆┬ICULA◆ ATTEN┬ION SHOULD BE GIVEN ┬O UPS┬◆EAM OR DOWNS┬◆EAM FACILI┬IES AND CON┬◆OL S┬◆UC┬U◆ES WHICH MAY ADVE◆SELY AFFEC┬ ┬HE WA┬E◆ LEVELS W┬HIN ┬HE WA┬E◆ BODY WHICH MASSDO┬ HAS NO CON┬◆OL OVE◆. ┬HE◆E WILL BE NO ADDI┬IONAL COMPENSA┬ION FOR WO◆K INVOLVING VARYING WA┬E◆ LEVELS OR ┬HOSE ┬HA┬ DIFFE◆ FROM ┬HE INFO◆MA┬ION ◆ECO◆DED ON ┬HE PLANS.

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SCALES NO┬ED ON ┬HE PLANS A◆E NO┬ APPLICABLE ┬O ◆EDUCED SIZE P◆IN┬S. DIVIDE SCALES BY 2 FOR HALF-SIZE PRIN┬S (A3).

.FOUNDATIONS:

FOUNDA┬IONS MAY BE AL┬E◆ED, IF NECESSA◆Y, TO SUI┬ CONDI┬IONS ENCOUN┬E◆ED DU◆ING CONS┬◆UC┬ION, W┬H APP◆OVAL OF ┬HE ENGINEE◆.

.UNSUITABLE_MATERIAL:

ALL UNSUI┬ABLE MA┬E◆IAL SHALL BE REMOVED W┬HIN ┬HE LIMI┬S OF ┬HE FOUNDA┬IONS OF ┬HE S┬◆UC┬U◆E, AS DI◆EC┬ED BY ┬HE ENGINEE◆.

ANCHOR_BOLTS:

ALL ANCHO◆ BOL┬S SHALL BE AS┬M F1554 G◆ADE 105, GALVANIZA┬ION AASH┬O M 232 (GALVANIZED).

.CONCRETE_MIX:

ALL CONC◆E┬E SHALL BE 4000 HP CONC◆E┬E EXCEP┬ AS NO┬ED BELOW: SIDEWALKS, WINGWALL COPINGS, AND HIGHWAY GUA◆D◆AIL ┬◆ANSI┬IONS SHALL BE 5000 HP CONC◆E┬E.

┬HE CEMEN┬ CONC◆E┬E SPECIFIED BELOW SHALL BE USED ON ┬HE FOLLOWING B◆IDGE COMPONEN┬S:

4000 PSI, 3/8", 660 CEMEN┬ CONC◆E┬E..... SUBS┬◆UC┬U◆E CONC◆E┬E ◆EPAI◆S

.REINFORCEMENT:

◆EINFO◆CING S┬EEL SHALL CONFO◆M ┬O ┬HE ◆EQUI◆EMEN┬S OF AASH┬O M31 G◆ADE 60. UNLESS O┬HE◆WISE NO┬ED ON ┬HE CONS┬◆UC┬ION D◆AWINGS, ALL BA◆S SHALL BE LAPPED AS FOLLOWS:

MOPIFICAIION CONDITION	#4 BARS	/& MIIS	Jo.1ARS
1. NONE	16"	19"	23"
2. 12" OF CONC◆E┬E BELOW BA◆	20"	25"	30"
3. COA┬ED BA◆S, COVER < $3d_b$, O◆ CLEA◆ SPACING < 6q,	23"	29"	34"
4. COA┬ED BA◆S, ALL O┬HE◆ CASES	18"	23"	27"
5. CONDI┬ION 2. AND 3.	26"	32"	39"
6. CONDI┬ION 2. AND 4.	24"	30"	36"

ALL O┬HE◆ BA◆S SHALL BE LAPPED AS SHOWN ON ┬HE CONS┬◆UC┬ION D◆AWINGS.

.EPOXY_COATED_BARS:

◆EINFO◆CING P◆O┬EC┬ION PE◆ ELEMEN┬ SHALL BE AS FOLLOWS:

EPOXY COA┬ED BA◆S: B◆IDGE PIE◆.

STRUCTURAL_STEEL-

ALL S┬◆UC┬U◆AL S┬EEL, INCLUDING U┬ILI┬Y SUPPO◆┬S SHALL CONFO◆M ┬O AASH┬O M270 GRADE 50 UNLESS O┬HE◆WISE NO┬ED. S┬EEL FO◆ ◆AILINGS, SOLE PLA┬ES, AND BEA◆INGS SHALL BE G◆ADE 36 UNLESS O┬HE◆WISE NO┬ED. "S┬EEL ◆EPAI◆S ┬O ◆AILING SYS┬EM SHALL BE G◆ADE 36 AND S┬EEL ◆EPAI◆S ┬HROUGHU┬ ┬HE ◆ES┬ OF ┬HE BRIDGE S┬◆UC┬URE SHALL CONFO◆M ┬O AASH┬O M270 G◆ADE 50.

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LOCA┬IONS OF EXIS┬ING U┬ILI┬IES SHOWN A◆E APP◆OXIMA┬E. ┬HE CON┬◆AC┬O◆ SHALL LOCA┬E AND P◆O┬EC┬ FROM DAMAGE ALL EXIS┬ING U┬ILI┬IES. ┬HE CON┬◆AC┬O◆ SHALL COO◆DINA┬E AND COOPE◆A┬E W┬H ┬HE ◆ESPEC┬IVE U┬ILI┬Y OWNERS FO◆ ALL U┬ILI┬IES ┬HA┬ A◆E ┬O BE ┬EMPO◆A◆ILY O◆ PE◆MANEN┬LY ◆ELOCA┬ED FO◆ B◆IDGE ◆EPLACEMEN┬ WO◆K.

.IBAFEIC;

┬HE B◆IDGE WILL BE MODIFIED ┬O CLOSE PEDES┬◆IAN ┬◆AFFIC A┬ ONE SIDE OF ┬HE B◆IDGE DU◆ING ALL PHASES OF ◆EPAI◆. SHOULDE◆ WILL BE CLOSED A┬ ◆OADWAY APPROACHES FO◆ ALL PHASES OF ◆EPAI◆ WO◆K.

SUGGESTED_CONSTRUCTION_SEQUENCE:

1. MOBILIZE ┬O B◆IDGE NO. M-28-017.
2. INS┬ALL MAIN┬ENANCE AND P◆O┬EC┬ION OF ┬◆AFFIC A┬ SIDEWALK AND SHOULDE◆ ALONG EAS┬BOUND SIDE OF ◆OADWAY. COMPLE┬E ◆EPAI◆S ┬O SUBS┬◆UC┬U◆E CONC◆E┬E A┬ WES┬ PIE◆.
3. REPAI◆ BEARING A┬ WES┬ PIE◆.
4. ◆EPAI◆ S┬EEL TO EXIS┬ING ◆AILING.
5. ◆EMOVE MAIN┬ENANCE AND P◆O┬EC┬ION OF ┬◆AFFIC A┬ SIDEWALK AND SHOULDE◆ EAS┬BOUND SIDE OF ◆OADWAY.
6. DEMOBILIZE FROM B◆IDGE NO. M-28-017.

MONTAGUE
ELEVENTH STREET OVER UTILITY CANAL

STATE	FED.AI◆PROJ.NO.	SHEET NO.	TOTAL SHEETS
MA	-	–	–
PROJECTFILENQ		–	

GENERA◆ NOTES

DA┬E	DESC◆IP┬ION
8/21/2024	ISSUED FO◆ CONS┬◆UC┬ION

AU┬HO◆I ENGINEE◆

SHEET 2 OF 10 BRIDGE NO. M-28-017 (OR4)

28017R4_BR2(GENERAL_

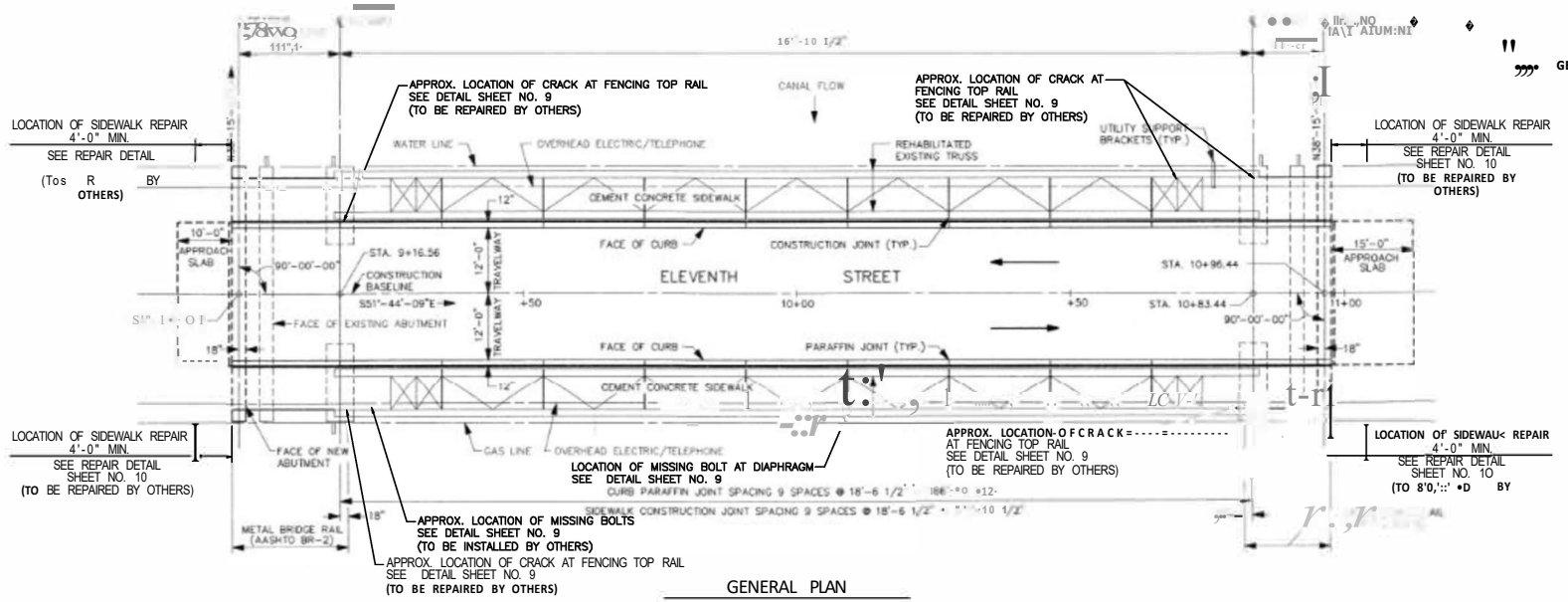
26-SEPTEMBER-2023

MONTAGUE

ELEVENTH STREET

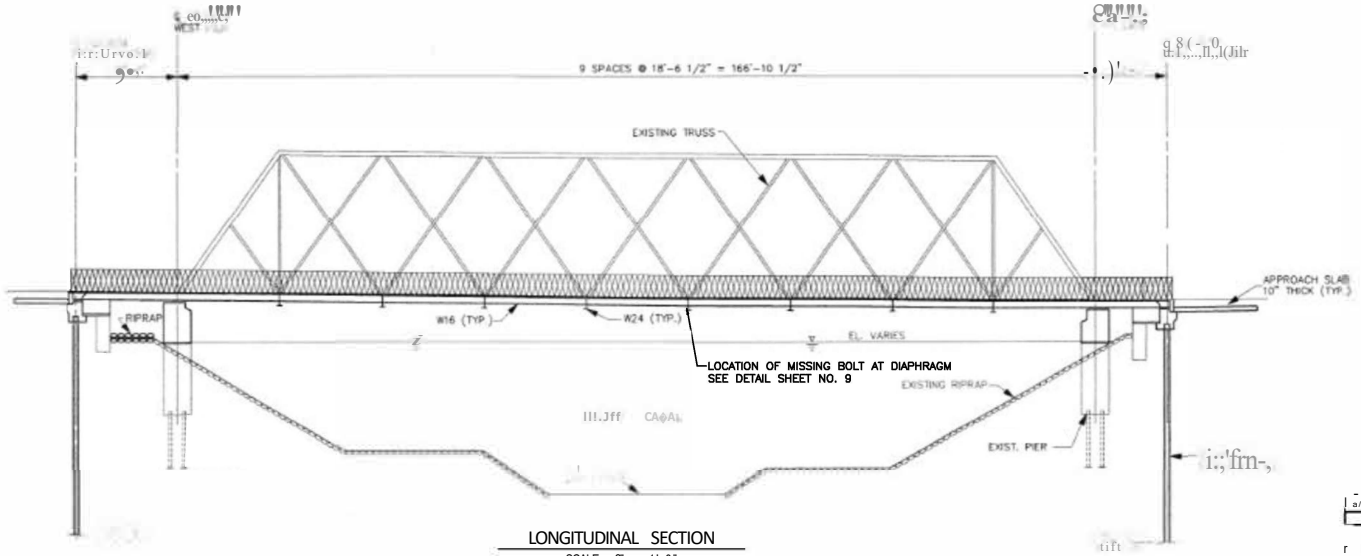
PROJECT FILE NO.

GENERAL PLAN AND LONGITUDINAL SECTION



GENERAL PLAN

SCALE: :f:f" - 1'-0"



LONGITUDINAL SECTION

SCALE: r:?" - 1'-0"

DATE	DESCRIPTION
a/21/2024	ISSUED FOR CONSTRUCTION

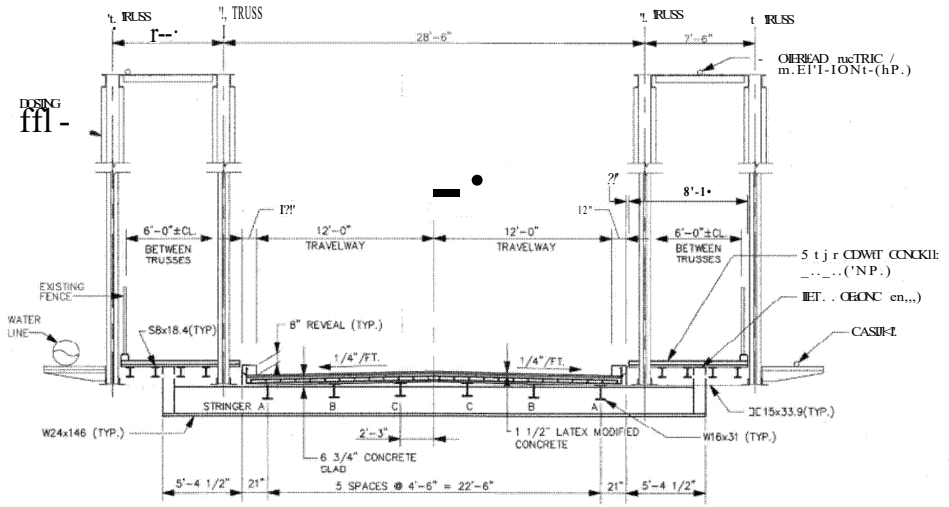
AUTHORIZATION - DATE - ENGINEER

SHEET 3 OF 10 BRIDGE NO. M-28-017 (OR4)

MONTAGUE
ELEVENTH STREET OVER UTILITY CANAL

STATE	FED. AID PROJ. NO.	BH I #s I
MA	—	– –
PROJECT FILE NO.	–	

EXISTING IYPICAL SECTION



EXISTING TYPICAL SECTION

SCALE: f = 1'-0"

DATE	DESCRIPTION
8/21/2024	ISSUED FOR CONSTRUCTION

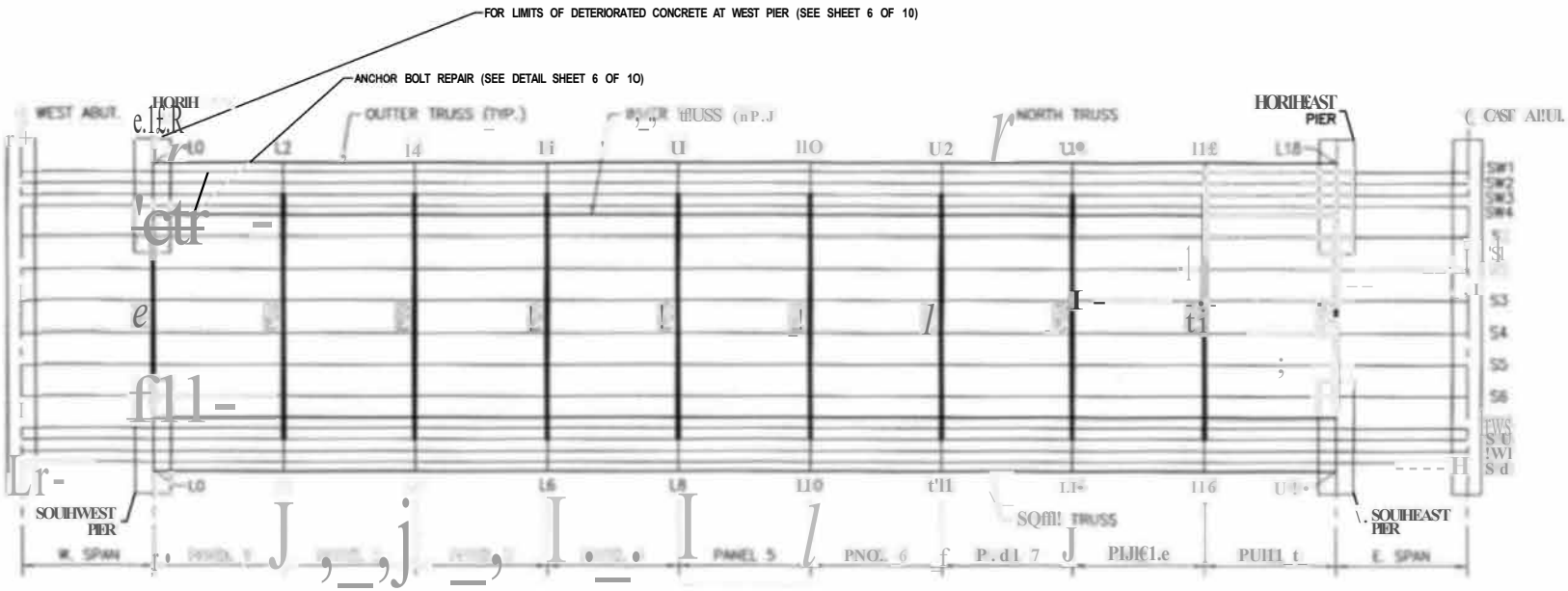
AUTHORIZED ENGINEER

SHEET 4 OF 10 BRIDGE NO. M-28-017 (OR4)

MONTAGUE
ELEVENTH STREET OVER UTILITY CANAL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOT. SHEETS
MA	—	–	–
PROJECT/FILE NO.		–	

EXISTING F ING PLAN



EXISTING FRAMING PLAN
SCALE: f = 1'-0"

a/21/2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

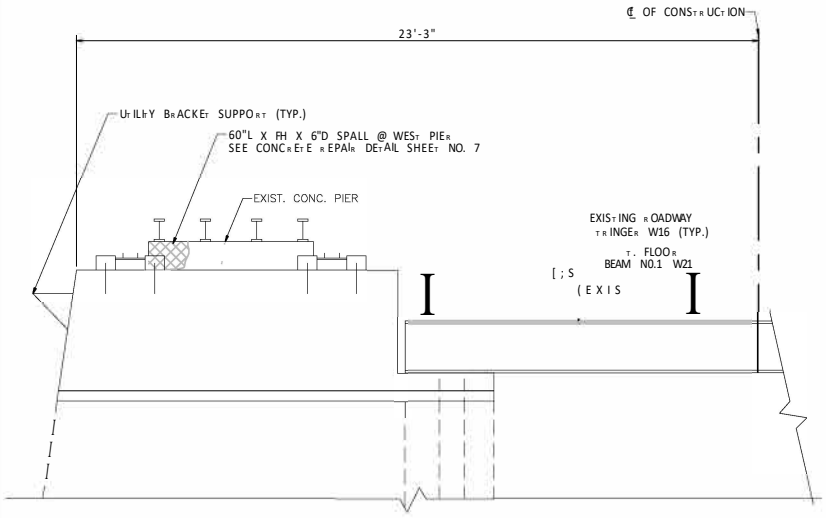
ENGINEER

SHEET 5 OF 10 BRIDGE NO. M-28-017 (OR4)

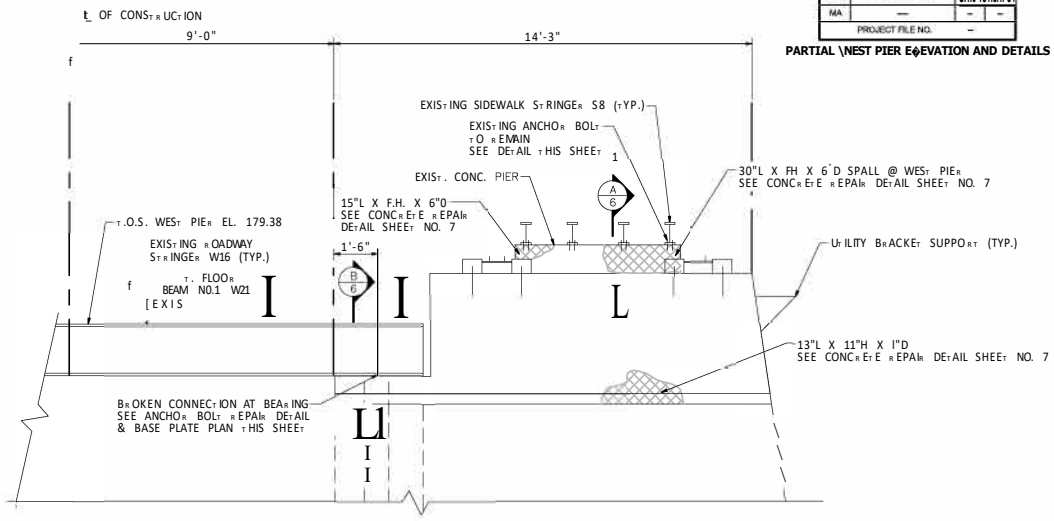
MONTAGUE
ELEVENTH STREET OVER UTILITY CANAL

STATE	FED. AID PROJ. NO.	SHEET NO.
MA	—	—
PROJECT FILE NO.		—

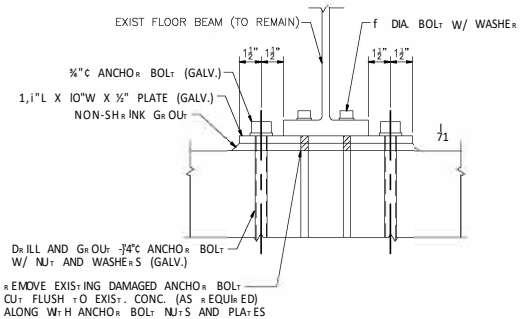
PARTIAL \NEST PIER E◆EVATION AND DETAILS



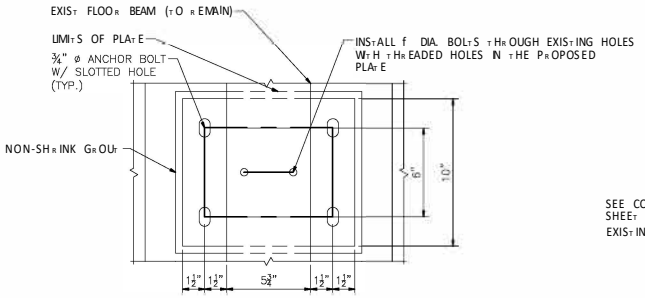
PARTIAL SOUTHWEST PIER ELEVATION
{EAST FACE OF PIER)
SCALE: f = 1'-0"



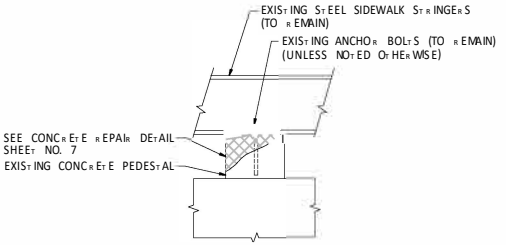
PARTIAL NORTHWEST PIER ELEVATION
{EAST FACE OF PIER)
SCALE: f" = 1'-0"



SECTION B - BEARING REPAIR DETAIL
SCALE: J" = 1'-0"



BASE PLATE PLAN
SCALE: J" = 1•-0-



SECTION A
SCALE: 1 ½ " = 1'-0"

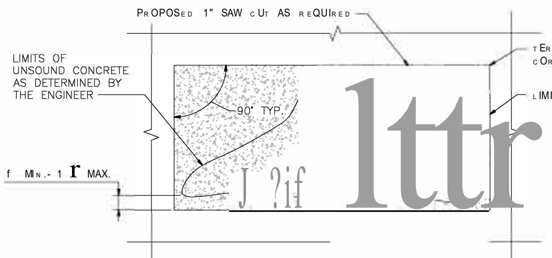
1. MATCH EXISTING COLOR WITH PROPOSED 3 COAT SYSTEM.

SLOTTED HOLE DETAIL
SCALE: 6" - 1'-0"

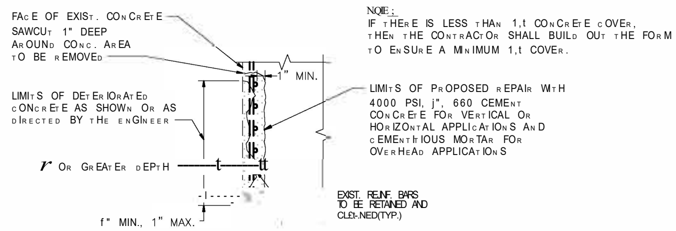
DATE	DESCRIPTION
a/21/2024	ISSUED FOR CONSTRUCTION

ENGINEER

SHEET 6 OF 10 BRIDGE NO. M-28-017 (OR4)

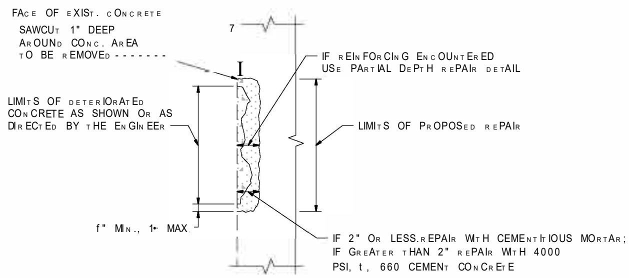


TYPICAL CONCRETE REPAIR - PLAN VIEW
SCALE: N.T.S.

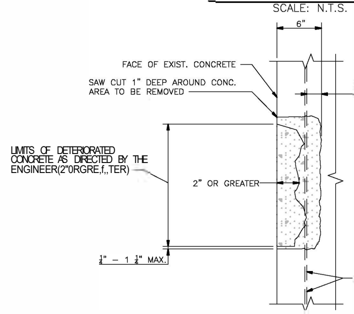


NOTE:
IF THERE IS LESS THAN 1" COVER, THEN THE CONTRACTOR SHALL BUILD OUT THE FORM TO ENSURE A MINIMUM 1" COVER.

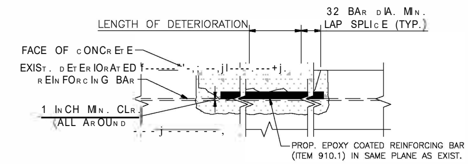
PARTIAL REPAIR DETAIL
SCALE: N.T.S.



SHALLOW DEPTH STRUCTURE REPAIR DETAIL
SCALE: N.T.S.



DEEP PATCH REPAIR DETAIL
SCALE: N.T.S.



DETERIORATED REINFORCING BAR REPAIR
SCALE: N.T.S.

SUBSTRUCTURE CONCRETE REPAIR NOTES:

1. SUBSTRUCTURE REPAIRS SHALL CONSIST OF REMOVING DETERIORATED CONCRETE, PREPARING THE REPAIR SURFACE, FORMING WHERE REQUIRED, PLACING AND FINISHING NEW CONCRETE OR CEMENTITIOUS MORTAR. THE SCOPE OF REPAIRS MAY ALSO REQUIRE APPLYING ELECTROMETRIC COATING (ITEM 964.3) TO THE REPAIRED SUBSTRUCTURE UNITS. THE LIMITS FOR THE ELECTROMETRIC COATING WILL BE ESTABLISHED BY THE ENGINEER.
2. THE REPAIR IS DESIGNATED AS A DEEP PATCH WHEN THE EXCAVATED DEPTH TO SOUND CONCRETE EXCEEDS 2" FROM THE FACE OF THE CONCRETE OR REINFORCING STEEL IS ENCOUNTERED.
3. THE REPAIR IS DESIGNATED AS A SHALLOW DEPTH WHEN THE DEPTH OF SOUND CONCRETE IS REACHED AT OR LESS THAN 2" FROM THE FACE OF THE CONCRETE AND REINFORCING STEEL IS NOT ENCOUNTERED.
4. 4000 PSI i" 660 CEMENT CONCRETE (ITEM 905) SHALL BE USED FOR ALL DEEP PATCH REPAIRS. ALL SHALLOW DEPTH REPAIRS SHALL BE PATCHED WITH CEMENTITIOUS MORTAR FOR PATCHING (ITEM 909.2) OR IF ITEM 909.2 IS NT INCLUDED IN THIS CONTRACT, MORTAR REPAIRS DIRECTED BY THE ENGINEER WILL BE PAID AS NON BID ITEMS. CEMENTITIOUS MORTAR SHALL BE SELECTED FROM MASSDOT QUALIFIED PRODUCT LIST AND APPROVED BY THE ENGINEER.
5. THE CONTRACTOR SHALL ESTABLISH LIMITS OF REPAIRS AT THE DIRECTION OF THE ENGINEER. THE EXTENT, LOCATION AND REPAIR TYPE (DEEP PATCH OR SHALLOW DEPTH REPAIR) ARE TO BE FIELD VERIFIED AND APPROVED BY THE ENGINEER AFTER THE CONTRACTOR HAS SOUNDED AND MARKED OUT THE REPAIR AREA. THE AREAS OF REPAIR SHALL BE MADE APPROXIMATELY RECTANGULAR WITH THE SIDES GENERALLY PERPENDICULAR TO THE SURFACE BEING REPAIRED.
6. THE DETERIORATED CONCRETE SHALL BE REMOVED AS REQUIRED TO PROVIDE GOOD SOUND CONCRETE ON WHICH NEW CONCRETE CAN BE PLACED AND SATISFACTORILY BONDED TO UNDAMAGED OR UNDISTURBED REINFORCEMENT.
7. SAW CUT ALONG NEAT LINES AROUND REPAIR AREA PRIOR TO CONCRETE EXCAVATION. USE SAW CUT DEPTH OF 1", OR AS REQUIRED TO AVOID CUTTING REINFORCING STEEL.
8. SUBSTRUCTURE REPAIR SHOULD INCLUDE THE REMOVAL OF ALL DETERIORATED, LOOSE, SPALLED, AND HOLLOW SOUNDING CONCRETE. THE DETERIORATED CONCRETE SHALL BE REMOVED FROM WITHIN THE REPAIR AREAS TO THE DEPTH OF SOUND CONCRETE. WHEN REINFORCING STEEL IS UNCOVERED, CARE SHALL BE TAKEN SO AS NOT TO DAMAGE THE STEEL OR ITS BOND TO THE SURROUNDING CONCRETE. MAXIMUM 25 LB. HAMMERS WITH CHISEL POINTS SHALL BE USED FOR CONCRETE REMOVAL. MAXIMUM 15 LB. HAMMERS SHALL BE USED ONCE REINFORCING STEEL IS EXPOSED.
9. THE CONTRACTOR SHALL STOP REMOVING DETERIORATED CONCRETE WHEN A MAXIMUM DEPTH OF 6 INCHES IS REACHED. THE DISTRICT BRIDGE ENGINEER SHALL BE IMMEDIATELY NOTIFIED TO DETERMINE IF THE EXCAVATION CAN BE CONTINUED.
10. IF REINFORCING STEEL IS EXPOSED THEN CLEAN BY MECHANICAL CLEANING OR HIGH PRESSURE WASHING WITH WATER THAT CONTAINS NO DITTRGENTS OR BOND INHIBITING CHEMICALS. WHERE ACTIVE CORROSION HAS OCCURRED THAT WOULD INHIBIT BONDING, CLEAN STEEL USING ABRASIVE BLASTING METHODS ACCEPTABLE TO THE ENGINEER, THEN PAINT WITH A ZINC - RICH PRIMER CONFORMING TO MASSDOT STANDARD SPECIFICATION NO, M?.04.11

SUBSTRUCTURE CONCRETE REPAIR NOTES (CONT.):

11. EXISTING REINFORCING BARS, WHICH ARE BROKEN OR HAVE LOST 25% OR MORE OF THEIR CROSS SECTIONAL AREA, OR AS ORDERED REPAIRED BY THE ENGINEER, SHALL BE REPAIRED BY SPLICING IN NEW REINFORCING BARS OF THE SAME DIAMETER. SEE EXISTING BRIDGE PLANS FOR BAR SIZES. SPLICE LAPS ARE TO BE AT LEAST 32 BAR DIAMETERS. MISSING OR DETERIORATED REINFORCING STEEL SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AND WILL BE PAID UNDER ITEM 910.1.1.
12. EXISTING REINFORCING BARS, WHICH ARE BROKEN OR HAVE LOST 25% OR MORE OF THEIR CROSS SECTIONAL AREA, OR AS ORDERED BY THE ENGINEER, SHALL BE REPAIRED BY SPLICING IN NEW REINFORCING BARS OF THE SAME DIAMETER. SEE EXISTING BRIDGE PLANS FOR BAR SIZES. SPLICE LAPS ARE TO BE AT LEAST 32 BAR DIAMETERS. MISSING OR DETERIORATED REINFORCING STEEL SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AND WILL BE PAID UNDER ITEM 910.1.
13. ALL SURFACES WHERE NEW CONCRETE WILL BE BONDED TO EXISTING CONCRETE SHALL BE PRE-WETTED WITH CLEAN WATER TO SATURATED SURFACE DRY (SSD) CONDITION (WITH NO STANDING WATER) IMMEDIATELY PRIOR TO THE CONCRETE PLACEMENT. IF INDICATED ON THE PLANS OR THE PLANS OR DIRECTED BY THE ENGINEER, APPLY EPOXY BONDING COMPOUND SUITABLE FOR BONDING FRESH CONCRETE TO HARDENED CONCRETE FOR LOAD BEARING APPLICATIONS TO INTERFACE BETWEEN NEW AND EXISTING CONCRETE. EACH APPLICATION AND SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND THE SPECIAL PROVISIONS. THE COST ASSOCIATED WITH THIS WORK WILL BE PAID UNDER ITEM 964.1.
14. IN GENERAL, EPOXY BONDING COMPOUND (ITEM 964.1) SHALL BE USED FOR ALL SHALLOW DEPTH REPAIR AND HORIZONTAL SURFACES OF DEEP PATCH REPAIR, SUCH AT TOP EXCAVATED SURFACES OF PIER CAP AND BEAM SEAT.
15. IF EPOXY BONDING COMPOUND IS USED, THE FORMS SHALL BE INSTALLED AT LEAST ONCE PRIOR TO APPLICATION OF THE EPOXY BONDING COMPOUND IN ORDER TO ENSURE FORMS CAN BE REINSTALLED AND FILLED BEFORE THE EPOXY BONDING COMPOUND HARDENS.
16. ALL CONCRETE SURFACES ONCE CURED, SHALL BE RUBBED TO PRODUCE A SMOOTH FINISH TO MATCH EXISTING SURFACES. WET CURING IN ACCORDANCE WITH THE SUPPLEMENTAL SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SECTION 901.65, SUB-SECTION A-2 WILL BE REQUIRED.

EXCAVATION AND SURFACE REPAIR NOTES:

1. THE CONTRACTOR SHALL EXERCISE CARE WHEN REMOVING CONCRETE AROUND REINFORCEMENT TO ONLY REMOVE DETERIORATED CONCRETE AND TO LIMIT THE SOUND CONCRETE REMOVED TO THE MINIMUM NECESSARY TO EFFECT A GOOD REPAIR.
2. THE CONTRACTOR SHALL ESTABLISH LIMITS OF VARIOUS REPAIRS AS SHOWN N THE PLANS AND AT THE DIRECTION OF THE ENGINEER. THE LOCATIONS SHOWN ON THE PLANS ARE BASED UPON RECORDS OF BRIDGE INSPECTIONS AND OBSERVATION FROM THE GROUND AND ARE NOT GUARANTEED. THE LOCATION AND EXTENT OF ALL CONCRETE REPAIRS ARE TO BE FIELD VERIFIED AND APPROVED BY THE ENGINEER AFTER THE CONTRACTOR HAS SOUNDED AND MARKED OUT THE REPAIR AREAS. REPAIR CONFIGURATIONS SHOULD BE KEPT AS SIMPLE AS POSSIBLE, PREFERABLY WITH SQUARE CORNERS.
3. THE LIMITS OF THE REPAIRS SHALL BE SAW CUT ALONG NEAT LINES TO A DEPTH OF 1" TO PRODUCE A CLEAN EDGE.
4. REMOVE DETERIORATED AND UNSOUND CONCRETE AS WELL AS SOUND CONCRETE WHERE NECESSARY TO A MINIMUM OF 1" BEYOND SURFACE REINFORCEMENT.
5. EXPOSED REINFORCEMENT IS TO BE CLEANED BY MECHANICAL CLEANING AND HIGH PRESSURE WASHING WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS. WHERE ACTIVE CORROSION HAS OCCURRED (THAT WHICH WOULD INHIBIT BONDING) SANDBLAST STEEL TO SSPC-SPS.
6. MISSING OR DETERIORATED REINFORCING STEEL SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. AFTER REMOVAL AND EDGE PREPARATION ARE COMPLETE, REMOVE BOND INHIBITING MATERIALS (DIRT, GREASE, LOOSELY BONDED AGGREGATE) BY ABRASION BLASTING OR HIGH PRESSURE WATER BLASTING WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS. CHECK THE CONCRETE SURFACES AFTER CLEANING TO INSURE THAT THE SURFACE IS FREE FROM ADDITIONAL LOOSE AGGREGATE OR THAT ADDITIONAL DELAMINATIONS ARE NOT PRESENT.
7. 4000 PSI a" 660 CEMENT CONCRETE SHALL BE USED TO PERFORM THE REPAIRS.
8. PRESOAK CONCRETE SUBSTRATE WITH A WATER HOSE FOR 25 HOURS OR AS LONG AS SITE CONSTRAINTS PERMIT. AT TIME OF REPAIR CONCRETE PLACEMENT, SUBSTRATE SHALL BE SATURATED SURFACE DRY WITH NO STANDING WATER.
9. ALL SURFACES SHALL BE RUBBED TO PRODUCE A SMOOTH FINISH TO MATCH EXISTING SURFACES.
10. IF AN EPOXY BONDING COMPOUND IS USED (AS DIRECTED BY THE ENGINEER), THE MATERIALS SHALL MEET AASHTO M235 TYPE V. GRADE AND CLASS SHALL BE SPECIFIED FOR EACH INDIVIDUAL APPLICATION. THE EPOXY COMPOUND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. IN NO CASE WILL THE EPOXY BONDING COMPOUND BE ... NCRETE PLACEMENT.

MONTAGUE
ELEVENTH STREET OVER UTILITY CANAL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	—	–	–

PROJECT FILE NO. –

CONCRETE REPAIR DETAILS

DATE	DESCRIPTION
a/21/2024	ISSUED FOR CONSTRUCTION

AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

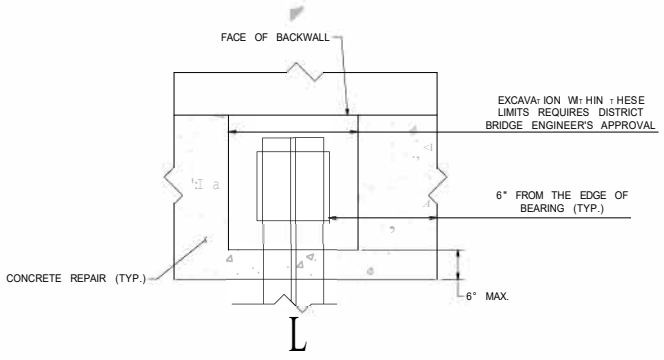
SHEET 7 OF 10 BRIDGE NO. M-28-017 (OR4)

28-SEPTEMBER-2023

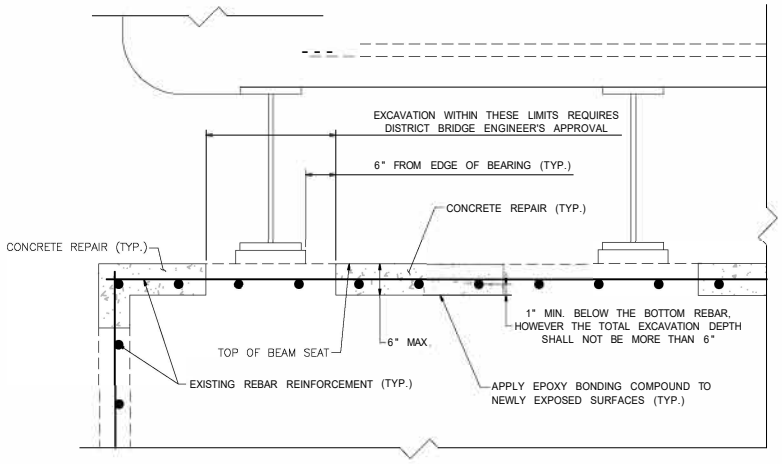
MONTAGUE
ELEVENTH STREET OVER UTILITY CANAL

STATE	FED. AID PROJ. NO.	SHEET NO.
MA	—	–
PROJECT FILE NO.	–	

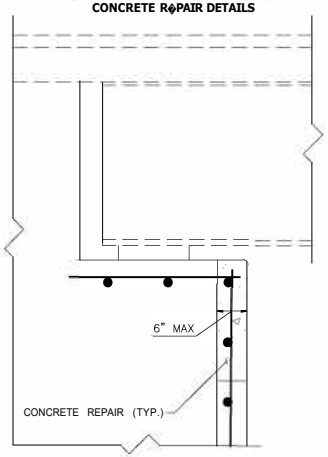
CONCRETE REPAIR DETAILS



PLAN



ELEVATION



L S E C T I O N

ABUTMENT DEEP PATCH REPAIR LIMITS

SCALE: N.T.S.

a/21/2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

T NirREU TI N A R go6 R

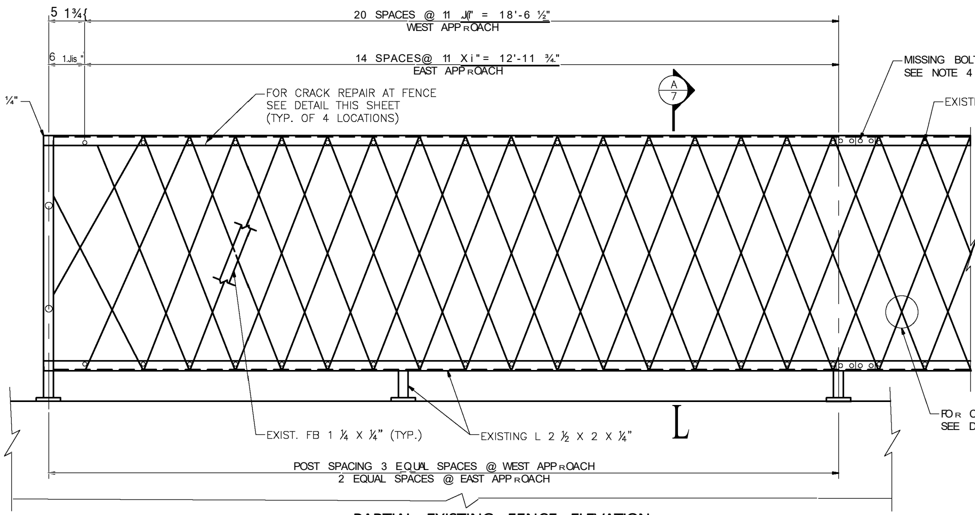
AU: HORI ENGINEER

SHEET 8 OF 10 BRIDGE NO. M-28-017 (OR4)

MONTAGUE
ELEVENTII STREET OVER UTILITY CANAL

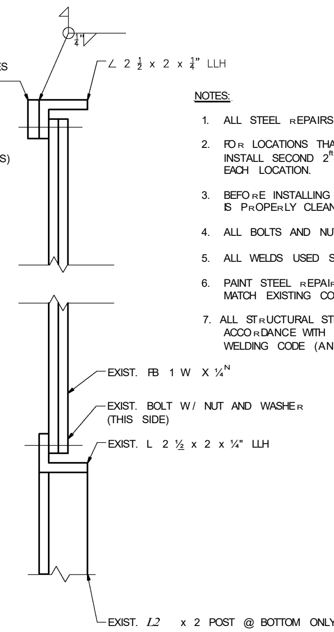
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	—	–	–
PROJECT FILE NO.	–		

PARTIAL EXISTING FENCE ELEVATION,
SECIION, AND REPAIR CETAILS



PARTIAL EXISTING FENCE ELEVATION

SCALE: 1" = 1'-0"



SECTION A

NOT TO SCALE

NOTES:

1. ALL STEEL REPAIRS TO BE A36 STEEL.
2. FOR LOCATIONS THAT CRACKS MITIGATE ONTO TOP EDGE OF ANGLE, INSTALL SECOND 2" X ¾" PLATE OF SIMILAR DIMENSIONS TO STIFFEN AT EACH LOCATION.
3. BEFORE INSTALLING ANY REPAIRS, ENSURE THE CURRENT STEEL SURFACE IS PROPERLY CLEANED OF ANY RUST, OIL OR OTHER FOREIGN DEBRIS.
4. ALL BOLTS AND NUTS SHALL BE A325. (GALV)
5. ALL WELDS USED SHALL BE 1/4" ALL AROUND.
6. PAINT STEEL REPAIR PLATE, BOLTS AND SPOT PAINT REPAIR AREAS. MATCH EXISTING COLOR USING 3 COAT SYSTEM.
7. ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL SHALL BE WELDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MSHTO/ AWS BRIDGE WELDING CODE (ANSI/ AASHTO/ AWS DI .5)

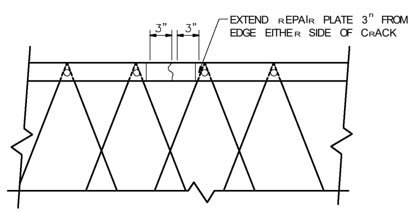
f

EXIST. FB 1 ¼ X ¼" (1YP.)

REPLACE LOOSE OR MISSING BOLT WITH "¢ BOLT (GALV.) (IYP. OF 4 LOCATIONS)

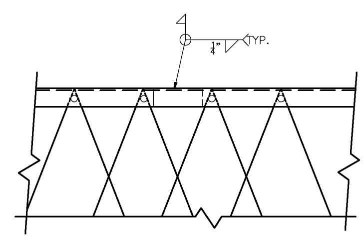
TYPICAL RAIL CROSS BRACE BOLT DETAIL {BY OTHERS}

SCALE: 1r' = 1•-o"



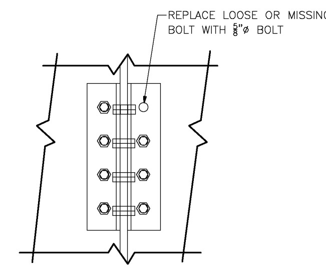
EXISTING FENCE TOP RAIL CRACK DETAIL {BY OTHERS}

SCALE: 1 t = 1'-O"



FENCE REPAIR DETAIL {BY OTHERS}

SCALE: 1" = 1'-0"



DIAPHRAGM BOLT REPLACEMENT DETAIL

SCALE: 1 t = 1•-o"

e/21/2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

T N : Ti'6N A: R R o6

AUTHORI ¢T ₮s· 0T E 1: E ENGINEER

10:59 AM

26-SEPTEMBER-2023

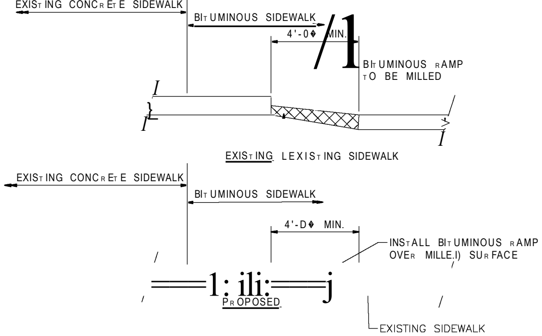
ITTAL

SHEET 9 OF 10 BRIDGE NO. M-28-017 (OR4)

MONTAGUE
ELEVENTH STREET OVER UTILITY CANAL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	–	–
PROJECT FILE NO.		–	

SIDEWALK REPAIR DETAILS



SIDEWALK REPAIR DETAIL (BY OTHERS)
SCALE: N.T.S.

SEQUENCE OF CONSTRUCTION FOR SPALL REPAIRS:

1. REMOVE CONCRETE SURROUNDING SPALL TO SOUND CONCRETE.
2. CLEAN EXISTING REINFORCING STEEL, STRUCTURAL STEEL, AND CONCRETE (NEWLY EXPOSED). MISSING OR DETERIORATED REINFORCING STEEL SHALL BE REPLACED, AS DIRECTED BY THE ENGINEER.
3. APPLY EPOXY BONDING COMPOUND TO ALL EXISTING REINFORCING STEEL AND CONCRETE (NEWLY EXPOSED) IMMEDIATELY PRIOR TO PLACING CONCRETE.
4. FORM AND PATCH SURFACE.
5. A MINIMUM OF 72 HOURS SHALL ELAPSE BETWEEN PLACING OF CONCRETE AND START OF NEXT PATCH ON A MEMBER.

DATE	DESCRIPTION
8/21/2024	ISSUED FOR CONSTRUCTION

AUTHORIZATION ENGINEER

SHEET 10 OF 10 BRIDGE NO. M-28-017 (OR4)

10:59 AM 280170R4_BR7A(CONCRETE DETAILS)_RECOVER_RECOVER.DWG 26-SEPTEMBER-2023

Appendix B

Special Provisions

SPECIAL PROVISIONS

MONTAGUE

Eleventh Street over Utility Canal
Rehabilitation of Bridge No. M-28-017

SCOPE OF WORK

All work under this Contract shall be done in conformance with the *2024 Standard Specifications for Highways and Bridges*, the *Supplemental Specifications* contained in this book, the *2017 Construction Standard Details*, the *Traffic Management Plans and Detail Drawings*, *MassDOT Work Zone Safety Temporary Traffic Control,* the *1990 Standard Drawings for Signs and Supports*; the 2015 Overhead Signal Structure and Foundation Standard Drawings, the *2009 Manual on Uniform Traffic Control Devices (MUTCD)* with Massachusetts Amendments; the *1968 Standard Drawings for Traffic Signals and Highway Lighting*; *The American Standard for Nursery Stock*; the Plans and these Special Provisions.

Bridge No. M-28-017 carries Eleventh Street over Utility Canal. The existing Eleventh Street bridge was originally constructed in 1915, rehabilitated in 1996 and 202.5-feet span steel thru truss on cast-in-place concrete gravity abutments. The concrete deck slab is supported on steel floor beams spanning to steel floor girders located at the lower panel point of the truss. The bridge has some currently severe deficient items at the bearings with a condition rating of 4. The railing systems observed with minor deficient as well and the pier have some observed minor concrete deficiencies as well but have a condition rating of 5. The bridge is currently not weight posted.

The intent of the project is to rehabilitate the bearing, the rail system, and some of the concrete deficient concrete areas at the Pier.

All work shall be performed within, and accessed by, existing State, City or Town roadway layouts. No rights to enter on, or occupy, private property have been acquired for this project.

SUBSECTION 7.05 INSURANCE REQUIREMENTS
B. Public Liability Insurance

The insurance requirements set forth in this subsection are in addition to the requirements of the Standard Specifications and supersede all other requirements.

The Town of Montague shall be named as additional insureds.

CONTRACTOR QUESTIONS AND ADDENDUM ACKNOWLEDGEMENTS

Prospective bidders are required to submit all questions to the Construction Contracts Engineer by 3:00 P.M. on the Tuesday of the previous week before the scheduled bid opening date. Any questions received after this time will not be considered for review by the Department.

Contractors should email questions and addendum acknowledgements to the following email address Assistant.TownAdmin@montague-ma.gov The Municipality project file number is to be placed in the subject line.

SECTION 6.00: CONTROL OF MATERIALS

Subsection 6.01: Source of Supply and Quality
Replace this subsection with the following:

The Engineer may approve material at the source of supply before delivery to the project.

The Town of Montague reserves the right to require approval of the source of supply for any material to be incorporated into the work prior to delivery or manufacture.

The Engineer reserves the right to prohibit the use of materials, products, or components which, in their opinion, may be supplied in a manner not reasonably consistent with contract requirements.

The determination of the Engineer shall be final upon all questions which pertain to supplier approval.

Fabricators of structural steel, miscellaneous steel and aluminum products, and producers of concrete must be on the Department's approved fabricators list on the date the bids are opened. Only approved fabricators will be allowed to perform work for the Town of Montague.

SECTION 6.00 (Continued)

The Contractor shall furnish all materials required for the work specified in the Contract. Said materials shall meet the requirements of the specifications for the kind of work involving their use. For any materials named or described in these specifications, an approved equivalent to that named or described in the said specifications, may be furnished.

Chapter 7, Section 22, Clause 17, of the General Laws, as amended, shall apply to the purchase by the Contractor of supplies and materials to be used in the execution of this Contract.

The rules referred to require a preference in the purchase of supplies and materials, other considerations being equal, in favor first, of supplies and materials manufactured and sold within the Commonwealth, and second, of supplies and materials manufactured and sold within the United States.

All iron and steel products, manufactured products, and construction materials shall comply with all Federal Buy America and Federal Build America Buy America (BABA) requirements, where applicable.

In Contracts requiring structural steel, concrete, the Contractor shall furnish approved shop drawings, and fabrication procedures to the Department's inspector at the supply source or fabrication site. Materials for permanent construction shall be new, shall conform to the requirements of these specifications, and shall be approved by the Engineer.

Materials for temporary structures or supports adjacent to traveled ways, the failure of which would compromise the safety of the public or the traveled ways, need not be new but the Contractor shall be required to submit certification by a Structural Professional Engineer that the material meets the requirements for the intended use and shall be approved by the Engineer. Any fabrication shall conform to the requirements of these specifications. These requirements shall not apply to gantry systems and supports as well as other mechanized systems.

If testing finds that an approved supplier does not furnish a uniform product, or if the product from such source proves unacceptable at any time, the Contractor shall, at their own expense, take any and all steps necessary to furnish approved materials.

The Contractor shall submit to the Town of Montague for approval a notarized Certificate of Compliance (COC) from the Manufacturer or Supplier for each kind of manufactured or fabricated material furnished.

SECTION 6.00 (Continued)

The COC shall certify compliance with the specifications and shall contain the following information:

1. Contract Number, City or Town, Name of Road and Federal Aid Number;
2. Name of the Contractor to which the material is supplied;
3. Kind of material supplied;
4. Quantity of material represented by the certificate;
5. Means of definitively identifying the consignment, such as invoice number, lot number, bill of lading number, label, marking, etc.;
6. Date and method of shipment;
7. Statement indicating that the material has been tested and found in conformity with the pertinent parts of the Contract;
8. Statement indicating that the material meets the requirements of Buy America and BABA, where applicable;
9. Results of all required tests including the chemical analysis in the case of metal: or in lieu of furnishing the results a statement that results of all required tests pertinent to the certificate and not submitted shall be maintained available by the undersigned for a period of not less than three years from date of final acceptance or not less than three years from date of final payment (whichever period is the longest shall apply).
10. Signature of a person having legal authority to bind the supplier.

These COCs shall be delivered to the contract site at the same time that the materials are delivered and before such materials are incorporated into the work. The Contractor shall attach to the COC a document listing the contract bid item number(s), sub item(s), or lump sum breakdown item number(s), as applicable, under which the material will be compensated. Payment for the item in which the materials are incorporated may be withheld until these COCs are received in a form that meets the contract requirements.

If the Contractor has new materials purchased for use on a previous Contract which have never been used and which comply with the specifications, these materials may be furnished and used. The Contractor shall submit their own sworn statement certifying that such materials were purchased for use on a previous Contract (naming and identifying such Contract) and shall attach the original COC.

Any cost involved in furnishing the certificate shall be borne by the Contractor.

SECTION 6.00 (Continued)

Subsection 6.03: Delivery and Storage of Materials

Replace this Subsection with the following:

Materials and equipment shall be progressively delivered to or removed from the site so that there will be neither delay in the progress of the work nor an accumulation of materials that are not to be used or removed within a reasonable time. All materials shall be stored in pre-approved locations per the conditions of the property owner.

Delivered materials and materials originating from the site, shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection.

Approved portions of the Town's Layout (TLO) may be used for storage of project materials and for the placing of the Contractor's plant and equipment upon obtaining a state highway access permit. All storage sites shall be restored to their original condition by the Contractor. No additional compensation shall be given for the design, construction, preparation, or restoration of the storage site(s) or obtaining the access permit which may include but is not limited to a Traffic Management Plan (TMP), utilities, and lighting.

The application for a permit shall contain a locus map identifying the proposed location, a description of the specific activities and uses of the staging area, a TMP in accordance with Subsection 7.10 depicting minimum setbacks from the roadway and any existing structures for stored materials and equipment and how equipment will safely access and exit the staging area.

Any additional space required must be provided by the Contractor at their expense. Municipal, private, or other state-owned property shall not be used for storage purposes without written permission of the owner or lessee, and copies of such written permission shall be furnished to the Engineer.

SECTION 7.00: LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Subsection 7.03: Permits and Licenses

(page I.47) Replace Subsection 7.03 in its entirety with the following:

The Contractor shall procure all required permits and licenses, pay all charges, fees and taxes and shall give all notices necessary and incidental to the due and lawful prosecution of the work. The cost thereof shall be included in the prices bid for the various items listed in the Proposal. Copies of all required permits and licenses shall be filed with the Engineer prior to the beginning of work.

COVID 19 GUIDELINES AND PROCEDURES

Per Subsection 5.09 – Inspection of the Work - the Contractor is required to provide assistance to the Engineer to make a complete and detailed inspection of the work. That assistance includes furnishing equipment to perform the inspection, therefore the Contractor will be required to provide CDC compliant Personal Protective Equipment (PPE) to the Town of Montague personnel field staff. The CDC compliant PPE shall consist of face masks, gloves and eye protection.

All costs associated with compliance with this provision are considered to be incidental to the contract cost and therefore the Contractor will not be entitled to any additional compensation.

PUBLIC SAFETY AND CONVENIENCE

(Supplementing Subsection 7.09)

The majority of the work activities on this project are expected to be done during daytime hours utilizing a standard schedule for work during a 5-day work week, with the Prime Contractor and all Subcontractors working on the same shift. Certain activities may be completed utilizing off-peak lane closures and shall be completed within the work schedule hours shown in the contract documents.

Unless otherwise noted in the contract documents or as approved by Town of Montague, work hours other than construction activities during the full road closures shall be restricted to the following:

Weekdays

Monday through Friday 8-hour days for all work performed at sidewalk areas behind cones areas within the established work zones identified in the Contract Drawings. No work is permitted during the day unless work is behind traffic coned areas within an established work zone identified in the Contract Documents or approved in writing by the Engineer.

Work that is performed outside of the established work zones may be performed between the hours of 8:00 A.M. and 5:00 P.M. during weekdays upon written approval from the Engineer and Town of Montague, including milling and paving operations. Milling and paving operations shall be performed between the hours of 8:00 A.M. and 5:00 P.M. during weekdays upon written approval from the Engineer and Town of Montague.

The Contractor shall submit a proposed work zone protection plan for workers and traffic and may only commence work upon written approval of this protection plan from the Town of Montague.

The Contractor cannot work at any other times unless written approval from the Engineer is obtained. All lane closures, sidewalk closures, and detours are subject to the approval of the Town of Montague. It should be noted that nighttime lane closures may only be approved for certain

days of the week and may not be approved for all 7 days in a given week. The Contractor may request the Engineer's written approval to work additional shifts.

HOLIDAY WORK RESTRICTIONS
(Supplementing Subsection 7.09)

The Town of Montague may authorize work to continue during these specified time periods if it is determined by the District that the work will not negatively impact the traveling public. Town of Montague may allow work in those areas on a case by case basis and where work is behind barrier and will not impact traffic.

Below are the holiday work restrictions:

New Years Day (Federal Holiday)
No work on major arterial roadways from 5:00 AM on the day before until the normal start of business on the next subsequent business day. No work on local roadways on the holiday without permission by the Town of Montague and the local police chief.

Martin Luther King's Birthday (Federal Holiday)
No work restrictions due to traffic concerns, however work on local roadways requires permission by the Town of Montague and local police chief.

President's Day (Federal Holiday)
No work restrictions due to traffic concerns, however work on local roadways requires permission by the Town of Montague and local police chief.

Evacuation Day (Suffolk County State Holiday)
No work restrictions due to traffic concerns.

Patriot's Day (State Holiday)
No work restrictions due to traffic concerns, however work on local roadways requires permission by the Town of Montague and local police chief.

Mother's Day
No work on Eleventh Street Bridge from 5:00 AM on the Friday before, until the normal start of business on the following day.

Memorial Day (Federal Holiday)
No work on major arterial roadways from 5:00 AM on the Friday before, until the normal start of business on the following day.

Bunker Hill Day (Suffolk County State Holiday)
No work restrictions due to traffic concerns.

Juneteenth
No work restrictions due to traffic concerns, however work on local roadways requires permission by the Town of Montague and local police chief.

HOLIDAY WORK RESTRICTIONS (Continued)

Independence Day (Federal Holiday)
No work on major arterial roadways from 5:00 AM on the day before until the normal start of business on the next subsequent business day. No work on local roadways on the holiday without permission by the Town of Montague and the local police chief.

Labor Day (Federal Holiday)
No work on major arterial roadways from 5:00 AM on the Friday before, until the normal start of business on the following day.

Columbus Day (Federal Holiday)
No work on major arterials from 5:00 AM on the Friday before, until the normal start of business on the following day

Veterans' Day (Federal Holiday)
No work restrictions due to traffic concerns.

Thanksgiving Day (Federal Holiday)
No work on major arterials from 5:00 AM two days before until the normal start of business on the following Monday.

Christmas Day (Federal Holiday)
No work on major arterial roadways from 5:00 AM on the day before until the normal start of business on the next subsequent business day.

SUBSECTION 8.02 SCHEDULE OF OPERATIONS
Replace this subsection with the following:

An integrated cost and schedule controls program shall be implemented by the Contractor to track and document the progress of the Work from Notice to Proceed (NTP) through the Contractor Field Completion (CFC) Milestone. The Contractor's schedules will be used by the Engineer to monitor project progress, plan the level-of-effort required by the Department's work force and consultants and as a critical decision-making tool. Accordingly, the Contractor shall ensure that it complies fully with the requirements specified herein and that its schedules are both accurate and updated as required by the specification throughout the life of the project. Detailed requirements are provided in Division II, Section 722 Construction Scheduling.

BUILD AMERICA BUY AMERICA PREFERENCE

On Federally-aid projects the Buy America (23.CFR § 635.410) and Build America, Buy America Act (Pub. L. No. 117-58, §§ 70901-52). requires the following,

(1) all iron and steel used in the project are produced in the United States--this means all manufacturing processes, from the initial melting stage through the application of coatings, must occur in the United States. Foreign steel and iron can be used if the cost of the materials does not exceed 0.1% of the total Contract cost or $2,500, whichever is greater. The action of applying a coating to a covered material (i.e., steel and iron) is deemed a manufacturing process subject to Buy America. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to requirements of Build America, Buy America. Steel used for temporary support of excavation, including H piles, soldier piles, and sheeting when the steel is required to be left in place is subject to requirements of Build America, Buy America. Temporary steel shall remain in place when it falls within the influence zone of the soil supporting any structure or railroad tracks.

(2) all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation; and

(3) all construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States. "Construction materials" includes an article, material, or supply—other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives—that is or consists primarily of:

- non-ferrous metals,
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables),
- glass (including optic glass),
- lumber; or
- drywall.

The Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable

computer equipment, that are used at or within the finished infrastructure project but are not an integral part of the structure or permanently affixed to the infrastructure project.

NOTE: The requirements for manufactured products indicated in paragraph (2) above are not in effect for this contract.

NOTICE TO OWNERS OF UTILITIES

The bridge and highway plans indicate the location of the existing known utilities in the vicinity of the work. As the accuracy and completeness of the plans are not guaranteed in any manner, it is the Contractor's responsibility to make his own investigation in order to assure that no damage to existing structures, drainage lines, traffic signal conduits, etc., will occur.

Written notice shall be given by the Contractor to all public service corporations or officials owning or having charge of publicly or privately owned utilities of his/her intention to commence operations affecting such utilities at least one week in advance of the commencement of such operations and the Contractor shall at that time file a copy of such notice with the Engineer.

A list of public and private utilities can be found on the MassDOT website at: https://www.mass.gov/info-details/utility-contacts-by-district-and-municipality
Select District 2 on the webpage,
Select the City/Town, and then locate the utility.

NOTICE TO OWNERS OF UTILITIES (Continued)

The utility contact list is for guidance only and is not guaranteed to be complete or up to date. Town officials are shown at website https://www.mass.gov/lists/massachusetts-cities-and-towns and select the required City/Town website.

State Police are shown at website https://www.mass.gov/orgs/massachusetts-state-police/locations. Select the area of jurisdiction to find the local station.

The Contractor shall be responsible for informing the following officials in each area that he is assigned to work in:

Montague Department of Public Works: Samuel Urkiel, Superintendent, 413-863-2054

Montague Clean Water Facility: Chelsey Little, Superintendent, 413-773-8865

Montague Sewer Commission: Wendy M. Bogusz, Executive Assistant ,431-863-3200.

Montague Police Department: Christopher Williams, Chief of Police, 413-863-8911

Turners Falls Fire Department: Todd Brunelle, Fire Chief, 413-863-9023

Electric Company- Eversource Electric West: Nicholas Langone, 413-787-9022

POLICE DEPARTMENT:
Non-Emergency: 413-863-8911

FIRE DEPARTMENT:
Dispatch Center: 413-625-8200
Station: 413-367-2757

GENERAL REQUIREMENTS FOR DEMOLITION AND WORK INVOLVING PAINTED STEEL

Demolition and work involving painted steel shall conform to the requirements of Subsection 961 of the Standard Specifications.

Work Involving Painted Steel.

Hazardous materials shall be removed in the immediate area of any intended welding, heating, saw cutting or burning of steel. Hazardous material removal is required to allow the demolition of structural steel, railings, drainage systems, utility supports, steel lamp posts, etc.

The contractor shall assume that the coatings on the steel contain lead (Pb), unless otherwise determined by testing. The contractor shall certify in writing to the Engineer the results of all testing and shall also certify that any lead (Pb) coated steel removed from the project was not reused or buried, but was sent to a scrap metal recycling facility.

Implement and maintain programs and procedures, which comply with the requirements of this specification and all applicable standards and regulations. Comply with all applicable regulations even if the regulation is not specifically referenced herein. If a state or local regulation is more restrictive than the regulation of this specification, follow the more restrictive requirements.

This requirement is intended only for the demolition and preparation prior to repair and does not include provisions for recoating of steel.

Environmental

All applicable portions of Subsections 961.65 “Worker Protection” and 961.66 “Environmental Protection and Monitoring” shall be followed when performing this work.

During chemical stripping a hand washing facility may be used in lieu of a decontamination/changing facility.

Hazardous material shall be collected during the disassembly and disposed of as outlined in Subsection 961.68 “Handling of Hazardous Waste and Reporting Release Programs”.

The applicable submittals shall be according to Subsection 961.69 “Submittals”.

Cleaning/Removal

Cutting Or Burning Of Steel

All surfaces to be welded, heated, saw cut or burned shall be cleaned so as to remove all contaminants and/or hazardous materials, which could be discharged to the environment as a function of the subsequent operations.

Lead paint shall be removed in its entirety in an area prescribed by a 6 inch (15 cm) minimum offset from the required work. The paint removal operation may be dry abrasive blasting, wet abrasive blasting or chemical stripping.

Proper level of containment shall be used when performing this work in accordance with Subsection 961.67 "Containment". Full containment is not required during chemical stripping operation however; the Contractor shall install proper shielding and/or tarpaulins under the chemical stripping operations in order to catch all debris generated during this procedure. A cleaned area must be inspected and approved before the demolition operations are started.

During cleaning operations the Contractor shall be required to furnish and erect temporary floodlights illuminating the steel surface at a minimum of 30-foot candles. This lighting shall be used in areas where there is insufficient lighting for proper cleaning operations and inspection. The Contractor shall supply electrical power.

The Contractor shall provide support for interim and final inspection of the bridge during cleaning operations. This support shall include the necessary traffic controls and safe access to the work.

Mechanical Disassembly Of Steel

All surfaces to be mechanically disassembled by shear cutting or removing bolts or rivets shall not require deleading. When shear cutting or removing bolts or rivets, the Contractor shall not use any method that will cause dust and/or particles to be emitted and/or dispersed into the environment to an extent that would expose the workers above the Action Levels of 30µg/m3.

For purposes of limiting the lead (Pb) dust, the Contractor will be required to dampen the lead paint work areas.

The contractor shall install a proper shielding and/or tarpaulins under all lead-paint-coated surfaces to be shear cut or bolts or rivets ordered removed in order to catch any loose lead paint chips, dust or particles.

ENVIRONMENTAL PERMITTING

The proposed work does not occur in jurisdictional wetland resources subject to section 401 or section 404 of the Clean Water Act; therefore, the project does not require a Water Quality Certification from the Massachusetts Department of Environmental Protection or authorization from the US Army Corps of Engineers. The proposed work qualifies for the bridge exemption authorized in the Transportation Bond Bill and is therefore not subject to the Massachusetts Wetlands Protection Act, the Massachusetts Public Waterfront Act (Chapter 91), or the Massachusetts Environmental Policy Act.

If field conditions and/or Contractor-proposed erection, demolition, staging, or other procedures (i.e. fill under ordinary high water including but not limited to concrete blocks, sandbags, and placement of cofferdams) require work to occur in or otherwise impact water or wetland resource areas, the Contractor is advised that no associated work can occur until all required environmental permits have been obtained allowing such work. The Contractor must notify the Town Highway Director and Resident Engineer in writing at least 60 days prior to desire commencement of the proposed activity. All environmental submittals, including any Contract with Local, State, or Federal environmental agencies, must be coordinated with the District 2 Environmental Engineer. The Contractor is expected to fully cooperate with requests for information and provide same in a timely manner. The Contractor is further advised that the Department will not entertain a delay claim due to the time required to obtain the environmental permits.

ITEM 107.97 STRUCTURAL STEEL REPAIRS LBS

Included in this section is the materials, labor and equipment to install bearing plates, handrail repair plates, and high strength bolts to repair the existing steel bearings at beams and existing handrail system at the walkways..

Structural steel shall conform to ASTM A36 and shall meet the requirements of MassDOT Specification – Division III Subsection M8.05.0. All structural steel_shall be hot-dipped galvanized shall meet the requirements of MassDOT Specification – Division III Subsection M7.10.0. High strength_bolts (ASTM A325) shall meet the requirements of MassDOT Specification – Division III Subsection M8.04.3_and shall be galvanized.

The contractor shall field verify existing conditions and dimensions prior to fabricating plates. The Contractor has the option to field fabricate the structural steel for the repairs or have the structural steel fabricated in a shop after field verifying all existing dimensions. Thermal cutting of structural steel in the field will not be allowed.

All galvanized structural steel that is cut in the field shall have the cut areas, including field drilled holes, touch up painted with a cold applied galvanizing paint.

Steel shall be cleaned to meet the requirements of SSPC SP-3 Power Tool Cleaning. Localized spot lead-based paint abatement shall be included in the unit price and be performed per MassDOT Supplemental Specification Section 961 with the following modifications:

Subsection 961.20 General
Delete the fifth paragraph from this Subsection and REPLACE with the following:

"Prequalification by MassDOT in the Painting (Structural) category is not required for Contractors and Subcontractors. All Contractors and Subcontractors performing lead-based paint removal, containment and collection, surface preparation, and coating of structural steel must perform the work in accordance with these specifications."

An epoxy based metal filler shall be applied to the faying surfaces to ensure full contact between the angel stiffener, the filler plates, and the existing steel beam. Pairs of stiffener angles and filler plates shall be bolted through the existing beam web. Bolts shall be fully tensioned and shall meet the requirements of "Connections Using High Strength Bolts" in MassDOT Supplemental Specification Section 960, Subsection 960.60.

The Contractor shall submit as-built drawings to the Engineer upon completion of the structural steel repairs. The as-built drawings shall document the locations of all steel repairs and shall include the locations of all bolts. The Contractor shall also submit material certification and mill test reports for all structural steel and high strength bolts used for the repairs.

Basis of Payment

Payment shall be paid at the contract price per pound of repair. This price shall include full compensation for all labor, equipment and materials to complete the surface preparation, lead paint abatement, and the furnishing and installation of steel plates and filler plates at each beam or handrail repair.

ITEM 107.99 JACKING FOR BEARING REPAIRS EACH

DESCRIPTION

Work under this item shall consist of designing, furnishing, installing, operating, maintaining and removing temporary jacking systems (false-work bents, towers, or devices) that can raise the existing superstructure members the minimum amount necessary to relieve load from the substructure components necessary to replace existing bearings, repair undermined bearing seats, reset existing bearing pads and to permit the work and substructure work components as shown on the plans, in accordance with these specifications, and as directed by the Engineer. The installation and removal, if required by the Engineer, of jacking stiffeners on the existing girders and supplemental members shall also be included as necessary.

Work under this item shall also include any earthwork and temporary support of excavation necessary to facilitate the construction of the temporary jacking system assemblies as designed by the Contractor.

MATERIAL

Steel, timber or any other material or combination of materials may be used for the temporary jacking and supporting of the girders and temporary support of excavation if required.

The materials used shall be of satisfactory quality, and capable of safely carrying the anticipated loads. All materials shall be approved by the Engineer before use.

The materials for the jacking stiffeners on the existing girders shall conform to the requirements of AASHTO M270 (ASTM A709), Grade 50.

CONSTRUCTION METHODS

The jacking of the existing beams shall be performed such that the beams are jacked the minimum amount necessary to relieve load from the substructure components and to permit the work and substructure components. Prior to construction, the Contractor shall submit working drawings, design computations and catalog cuts for review. The design shall conform to the AASHTO LRFD Bridge Design Specifications, latest edition and interims, and the AASHTO Guide Design Specifications for Bridge Temporary Works.

The design computations shall include, but not be limited to, the following:

1. Material designations and material lists.
2. Allowable loads or capacities for all structural members and components. Appropriate reductions in allowable stresses and loads shall be used in design when other than new or undamaged materials are used in the construction of the temporary jacking system.
3. Soil or pavement bearing capacities, if applicable.
4. Anticipated lifting loads.

5. Anticipated design loads and stresses on structural members and components.
6. References for all design equations.

The working drawings shall include, but not be limited to, the following:

1. General Notes.
2. Model number and capacity for each jack. The rated capacity shall be at least 1.5 times the anticipated lifting load and each jack shall have its rated capacity clearly shown on the attached manufacturer's name plate. The jacks shall be hydraulically operated.
3. Schematic diagram showing the jack hoses, pumps and gages and any other jacking equipment. Pressure gages or other load measuring devices shall be used to monitor the applied lifting pressure. The jacks shall be joined to operate collectively.
4. Maximum anticipated lifting load for each jacking point location.
5. Anticipated lift at each jacking point location
6. Conversion table listing hydraulic pressures and their equivalent lifting forces.
7. Jacking procedures outlining the complete sequence of operations to be followed when jacking, supporting, and lowering the beam-ends.
8. A plan showing the layout of the jacking point locations and the details of the bracing and supporting members. All connections shall be detailed. Jacks shall be set level.
9. The details of jacking stiffeners on the existing girders include location, size and size of weld.
10. Details of proposed modifications to the existing structure and the methods of restoration, including modifications and restoration due to temporary scaffolding (if necessary) configurations. All modifications to the bridge shall be removed unless otherwise permitted by the Engineer to remain. Welds are to be removed by grinding or "arc" gouging without damaging the base metal that is to remain. No holes shall be drilled into or concrete removed from the superstructure.
11. A plan showing proposed locations of temporary scaffolding for jacking location access, including minimum height over road, where applicable, and minimum horizontal clearance from roadway gutterline. Metal beam rail systems or concrete barrier shall also be located relative to the roadway gutterline.

Any temporary earth retaining systems, if necessary, shall be safely designed and shall be carried to adequate depths and braced as necessary for proper performance of the work.

The working drawings and design calculations shall be sealed by a Professional Engineer licensed in the State of Massachusetts, who shall also be available for consultation interpreting his drawings and calculations, and in the resolution of any problem that may occur during the performance of the work. Each working drawing must be sealed.

The furnishing of calculations and working drawings shall not serve to relieve the Contractor of any responsibility for the safety of the work or the successful completion of the work.

The catalog cuts shall contain the specifications for the jacks.

The Contractor shall field verify all working drawing dimensions before fabricating any materials. The jacking system and pier cap support system shall be installed as detailed on the working drawings. The jacking system and pier cap support system, once installed, shall not prohibit the Contractor from performing any work required by the contract plans. The Engineer may require that any lifting equipment which the Engineer deems to be inadequate or faulty be removed from the project site. If part of the jacking system or pier cap support system (false-work bents, etc.) is placed adjacent to vehicular traffic; the Contractor shall take adequate precautions to protect the system. Temporary barriers shall be placed around the system as directed by the Engineer, and in accordance with the plans.

Jacking against existing cross frames or diaphragms or proposed modifications to cross frames or diaphragms, for jacking purposes, will not be allowed without the approval of the Engineer. A structural analysis of the cross frame or diaphragm capacity or the design of any proposed modifications to cross frames or diaphragms, stamped by a Professional Engineer licensed in the State of Connecticut, is required for approval.

Jacking against the concrete deck or any portion thereof shall not be permitted.

One week before jacking the superstructure member's the Engineer shall notify the Office of Oversize / Over Weight Permits at (857) 368-3690 and inform the office when the superstructure members will be jacked and the duration of jacking operations.

Jacking will be performed with no live load on the bridge structure until the jacking height is completed. The jacks shall be lockoff and/or temporary dunnage material shall be place near the jack location to adequately support 1.5 times Dead Load and Live loads.

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The beam ends shall be jacked uniformly and simultaneously through the use of a manifold system to the minimum amount necessary to complete the work detailed on the contract plans. Jacking shall not exceed ¼ -inch. The differential lift between adjacent beams shall not exceed 1/8-inch at any time during the jacking or lowering of the beams.

The applied lifting force at each jacking point location shall not exceed the maximum anticipated lifting load without approval by the Engineer. The Contractor shall carefully inspect and maintain the jacking system during its use. After load is released from the pier caps, load shall be transferred from jacks to blocking installed under the beam ends to support the superstructure while work is performed on substructure components.

After substructure and repair work has been completed and accepted, the beam-ends shall be lowered uniformly and simultaneously through the use of a manifold, until all loads are carried by the bearings and substructure.

When the jacking systems are no longer required, the Contractor shall promptly remove and dispose of the equipment and materials. The area shall be restored to its original grading and condition, and to the satisfaction of the Engineer.

Unless otherwise ordered by the Engineer, all parts of any temporary earth retaining systems shall be removed upon completion of the work for which it was provided. The excavation shall be backfilled and properly compacted, prior to removal of the system unless otherwise permitted by the Engineer.

The Contractor shall be responsible for any damage caused to any part of the structure, utilities, pavement below, or vehicular traffic as a result of the work required by this special provision. He shall repair and/or replace any such damage at no cost to the State, and to the satisfaction of the Engineer.

COMPENSATION

Method of Measurement: This work will be measured for payment by the number of bearings replaced using jacking. Each bearing shall only be counted once.

Any earthwork, as well as any temporary support of excavation, that may be necessary to facilitate the construction, maintenance, and removal of the temporary jacking assemblies shall not be measured for payment.

Basis of Payment: This work shall be paid for at the contract unit price for each "Jacking for Bearing Repair", complete and accepted, which price shall include designing, furnishing, installing, operating, maintaining and removing temporary jacking systems, designing, furnishing and installing additional the jacking stiffeners as required for the Contractor's proposed jacking system and all materials, tools, equipment, and labor incidental thereto.

Any earthwork and temporary support of excavation necessary to facilitate the construction, maintenance, and removal of the temporary jacking system assemblies, including excavation backfill, design, construction and removal of temporary support of excavation, as designed by the Contractor, shall be included in the overall contract unit price for this item.

ITEM 127.1 REINFORCED CONCRETE EXCAVATION CUBIC YARD

The work under this Item shall conform to the relevant provisions of Sections 112 and 120 of the Standard Specifications and the following:

DESCRIPTION

The work shall include furnishing all material, labor, equipment, and tools necessary to perform the removal of loose/unsound concrete and satisfactory disposal of the existing concrete at the existing abutment faces for repair depths greater than two inches identified during repair operations identified for work performed under Pay Item 909.2 Cementitious Mortar for patching, identified on the Contract Drawings, and/or found by field investigation.

CONSTRUCTION METHODS

During the prosecution of this work, the Engineer may reject the use of any method or equipment that causes undue vibration or possible damage to the remaining structure or any part thereof. The noise and dust created by demolition operations must be reduced to the maximum extent possible. Blasting and saw cutting will not be allowed without written permission from MassDOT.

The removal of deteriorated concrete shall be accomplished by pneumatic or power hammers approved by the Engineer. For concrete removal, the weight of pneumatic or power hammers shall not exceed 30 pounds. Fillets at inside corners of intersecting limit lines shall be carefully removed.

The Contractor shall not damage any existing reinforcing steel in areas where deteriorated or spalled concrete is being removed. If existing reinforcing steel is damaged or deteriorated, it shall be supplemented with new reinforcing steel of the same size. Pneumatic tools shall not be placed in direct contact with reinforcing steel. Any sound reinforcing steel damaged during the concrete removal operations shall be repaired or replaced by the Contractor at his expense as directed by the Engineer. New steel shall be attached beside existing steel with a minimum splice length as indicated on the Contract Drawings or as directed by the Engineer.

All materials removed in this demolition operation shall become the property of the Contractor and shall be properly disposed of away from the jobsite in accordance with the Standard Specifications.

The Contractor shall take care not to damage any portion of the existing structure to remain. Any damage caused by the Contractors operations shall be repaired as directed by the Engineer at the Contractor's expense.

The Contractor will not be paid for the removal of any concrete beyond the limits described under this Item and approved by the Engineer.

COMPENSATION

Method of Measurement

Item 127.1 will be measured for payment by the Cubic Yard of actual reinforced concrete volume removed, properly disposed, and accepted by the Engineer.

Basis of Payment

Item 127.1 will be paid for at the Contract unit price per Cubic Yard, which price shall include all labor, materials, tools, equipment, staging, access, removals, storage, the cost of all field measurements and survey required, and incidental costs required to complete the work.

ITEM 180.01 ENVIRONMENTAL HEALTH AND SAFETY PROGRAM LUMP SUM

DESCRIPTION

The work under this item shall consist of ensuring the health and safety of the Contractor's employees and subcontracting personnel, the Engineer, their representatives, the environment, and public welfare from any on-site chemical contamination present in air, soil, water and sediment.

The Contractor shall prepare and implement a site-specific Environmental Health and Safety Plan (EHASP) which has been approved and stamped by a Certified Industrial Hygienist (CIH) and includes the preparer's name and work experience. The EHASP shall include appropriate components required by OSHA Standard 29 CFR 1910.120(b) and the Massachusetts Contingency plan (MCP) 310 CMR 40.0018 and must comply with all applicable state and federal laws, regulations, standards and guidelines, and provide a degree of protection and training appropriate for implementation on the project. The EHASP shall be a dynamic document with provision for change to reflect new information, new practices or procedures, changing site environmental conditions or other situations which may affect site workers and the public. The EHASP shall be developed and implemented independently from the standard construction HASP required to work on all MassDOT construction projects.

Health and safety procedures provided by the Contractor shall comply with all the appropriate regulations that address employee working conditions, including but not limited to standards established by OSHA and National Institute for Occupational Safety and Health (NIOSH). Equipment used for the purpose of health and safety shall be approved by and meet pertinent standards and specifications of the appropriate regulatory agencies.

A copy of the most up-to-date version of the EHASP shall be maintained on-site at all times by the Contractor. The on-site copy shall contain the signature of the Engineer and each on-site employee of the MassDOT, Contractor, and Subcontractors involved with on-site activities. The employee's signature on the EHASP shall be deemed prima facie evidence that the employee has read and understands the plan. Updated copies of signature sheets shall be submitted to the Engineer.

The EHASP shall specify a Contractor Site Safety and Health Officer responsible for implementation of the EHASP and to oversee all construction activities, including handling, storage, sampling and transport, which require contact with or exposure to potentially hazardous materials.

The level of protection, required to ensure the health and safety of on-site personnel will be stipulated in the EHASP. The Site Safety and Health Officer shall implement the EHASP based on changing site and weather conditions, type of operation or activity, chemical compounds identified on-site, concentration of the chemicals, air monitoring data, physical state of the hazardous materials, potential duration of exposure to hazardous materials, dexterity required to perform work, decontamination procedures, necessary personnel and type of equipment to be utilized.

During implementation of the EHASP, a daily log shall be kept by the Site Safety and Health Officer and a copy shall be provided weekly to the Engineer. This log shall be used to record a description of the weather conditions, levels of personal protection being employed, screening data and any other information relevant to on-site environmental safety conditions. The Site Safety and Health Officer shall sign and date the daily log.

COMPENSATION

Method of Measurement and Basis of Payment

Preparation and implementation of the Environmental Health and Safety Program, including the monitoring, protection and storage of all contaminated materials, as well as subsequent modifications to the EHASP, will be measured and paid for at the Lump Sum Bid Price.

Payment of 50% of the Environmental Health and Safety Program contract price will be made upon the initial acceptance of the EHASP by the Engineer. Payment of the remaining 50% of the Environmental Health and Safety Program contract price will be made upon completion of the work. The bid price shall include preparation and implementation of the EHASP as well as the cost for its enforcement by the Site Safety and Health Officer along with any necessary revisions and updates. The work of implementing the Environmental Health and Safety Program includes work involving, but not limited to, the monitoring, protection, and storage of all contaminated materials.

ITEM 180.02 PERSONAL PROTECTION LEVEL C UPGRADE HOUR

DESCRIPTION

The work shall consist of providing appropriate personal protective equipment (PPE) for all personnel in an area either containing or suspected of containing a hazardous environment.

Contingencies for upgrading the level of protection for on-site workers will be identified in the EHASP and the Contractor shall have the capability to implement the personal protection upgrade in a timely manner. The protective equipment and its use shall be in compliance with the EHASP and all appropriate regulations and/or standards for employee working conditions.

COMPENSATION

Method of Measurement and Basis of Payment

Personal Protection Level C Upgrade will be measured and paid only upon upgrade to Level C and will be at the contract unit price, per hour, per worker, required in Level C personal protection. No payment will be made to the Contractor to provide Level D PPE.

ITEM 181.13 Measurement for Disposal of Regulated Soil - Out-of-State Facility shall be under the Contract Unit Price by the weight in tons of contaminated materials removed from the site and transported to and disposed of at an approved out-of-state facility, and includes any and all costs for approvals, permits, fees and taxes, testing/characterization required by the facility beyond the standard disposal test set, decontamination procedures, transportation and disposal.

ITEM 181.14 Measurement for Disposal of Hazardous Waste shall be under the Contract Unit Price by the weight in tons of hazardous waste removed from the site and transported to and disposed of at the licensed hazardous waste facility, and includes any and all costs for approvals, permits, fees and taxes, testing/characterization required by the facility beyond the standard disposal test set, decontamination procedures, transportation and disposal.

ITEM 909.2 CEMENTITIOUS MORTAR FOR PATCHING SQUARE FOOT

DESCRIPTION

The work under this item shall conform to the relevant provisions of Subsections 140 and 901 of the Standard Specifications and the following:

The work shall include the removal of loose/unsound concrete and placement of cementitious mortar patch material as required by the Engineer at areas of spalled, delaminated, or cracked concrete identified on the Contract Drawings and/or found by field investigation. Repairs shall not begin until all demolition activities are complete.

This item does not include the repair of any horizontal or vertical spalls which exceed 2 inches in depth. For areas of concrete removal exceeding 2 inches in depth, the repair of these areas shall be in accordance with and paid under item 127.1 Reinforced concrete Excavation and Item 905.0 4000 PSI – 3/8" – 660 Cement Concrete.

Cracks to be repaired under this item shall have a 45-degree v-groove of existing concrete.

MATERIAL

The cementitious mortar material used to repair/patch concrete surfaces for this Item shall be a polymer-modified, cementitious, 2-component, fast-setting, trowel grade patching mortar to patch vertical surfaces. Manufacturer's literature shall be submitted by the Contractor describing the products to be used. The materials shall be delivered to the site clearly marked with legible and intact labels containing the manufacturer's name, brand name, and identifications of the temperatures that conform to the manufacturer's recommendations and instructions.

All materials for patching shall be from MassDOT's Qualified Construction Materials list.

CONSTRUCTION METHODS

Inspection of the Concrete Surfaces

The Contractor shall perform his own investigations and will "evaluate" and mark out the surfaces of the concrete to determine the areas for repairs, including cracks. Methods for evaluation shall include non-destructive methods such as visual observations and acoustic impact method using a hammer. The Contractor is referenced to ACI Report 201.1R-92 "Guide for Making a Condition Survey of Concrete in Service" and ACI Report 364.1R-94 "Guide for Evaluation of Concrete Structures Prior to Rehabilitation" in regard to evaluation methods. Before any existing concrete is removed, the Contractor will provide the Engineer clear access to the areas designated for repair. During this time, the Engineer will perform an inspection of the areas and will approve and/or designate the areas where concrete removal and repair will be required.

It shall be the responsibility of the Contractor to inform the Engineer, in writing, of the date that a structure element will be available for inspection operations. Notification shall be given to the Engineer at least seven (7) days prior to the date that the area in question will be in a condition acceptable to the Engineer.

The Contractor will not be allowed to do any repair work until all necessary inspection operations have been performed, unless given permission by the Engineer. The Contractor will include any costs related to this inspection in the general cost of the work.

Removal of Deteriorated Concrete

The lateral limits of each area to be repaired will be delineated by the Contractor and suitably marked and subsequently approved by the Engineer. Where several areas to be repaired are very close together, the Engineer may combine these individual repairs into a larger area.

Existing deteriorated concrete shall be removed to the limits of sound concrete as directed by the Engineer and as shown on the Contract Drawings. If sound concrete has been reached at more than 1½" from the outside surface, but less than 1" clearance exists between the sound concrete and the inside surface of exposed reinforcing steel, enough sound concrete as is necessary to achieve this 1" minimum clearance shall be removed.

The removal of deteriorated concrete shall be accomplished by pneumatic or power hammers approved by the Engineer. For concrete removal, the weight of pneumatic or power hammers shall not exceed 30 pounds. Fillets at inside corners of intersecting limit lines shall be carefully removed. After completion of concrete removal, the sides of the patch shall be vertical down to the bottom of the patch.

The Contractor shall not damage any existing reinforcing steel in areas where deteriorated or spalled concrete is being removed. If existing reinforcing steel is damaged or deteriorated, it shall be supplemented with new reinforcing steel of the same size. Pneumatic tools shall not be placed in direct contact with reinforcing steel. Any sound reinforcing steel damaged during the concrete removal operations shall be repaired or replaced by the Contractor at his expense as directed by the Engineer. New steel shall be attached beside existing steel with a minimum splice length as indicated on the Contract Drawings or as directed by the Engineer.

The outlines of each repair area shall first be cut to a depth of 1/2 inch with an approved power-saw capable of making straight cuts. In the event that reinforcing steel is encountered within the outer 1/2 inch depth during sawing operations, the depth of sawcut shall immediately be adjusted to a shallower depth so as not to damage the steel bars. If so directed by the Engineer, saw cutting shall again be carried down to the 1/2 inch depth at other locations of repair provided reinforcing steel is not again encountered. Where over-breakage occurs resulting in a featheredge, the featheredge shall be squared up to a vertical edge in an approved manner. Where sawing is impractical, the area shall be outlined by chisel or other approved means.

Surface Preparation

Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means. Mechanically prepare the concrete substrate to obtain a surface profile of ±0.06 inch with a new exposed aggregate surface. Areas to be patched shall not be less than ½-inch in or greater than 2-inch depth or for repairs using Cementitious Mortar for Patching.

If reinforcing steel is exposed, then clean by mechanical cleaning and then high pressure washing with water that does not contain detergents or any bond inhibiting chemicals. Where active corrosion has occurred that would inhibit bonding, sandblast steel to white metal finish.

After removals and edge conditioning are complete, remove bond inhibiting materials (dirt, grease, loosely bonded aggregate) by abrasion blasting or high pressure water blasting with water that does not contain detergents or any bond inhibiting chemicals. Check the concrete surfaces after cleaning to ensure that surface is free from additional loose aggregate or that additional delaminations are not present.

Repair Procedure

Prior to the placement of the patch material, the concrete shall receive a coating of epoxy bonding compound conforming to M4.05.5 and shall be incidental to this item. The grade and viscosity of the bonding compound shall be as required based on site conditions or as determined by the Engineer. Bonding Agent shall be listed on the MassDOT QCML. Fill the patch area with mortar and finish the patch area as required in maximum 1” lifts up to 2 inch repairs. All materials removed in this repair shall become the property of the Contractor and shall be disposed of away from the work site.

The preparation, mixing, application and curing of the cementitious mortar shall be in accordance with the manufacturer’s recommendations.

The Contractor shall arrange with the material’s manufacturer or distributor to have services of a competent field representative at the work site prior to any mixing of components to instruct the work crews in the proper mixing and application procedures. The field representative shall remain at the job site after work commences and continue to instruct until the representative and the Contractor, Inspector and/or Engineer are satisfied that the crew has mastered the technique of installing the system successfully. The representative shall make periodic visits to the project as the work progresses and shall confer on each visit with the Contractor, Inspector and/or Engineer.

The manufacturer's field representative must be fully qualified to instruct the field crews in performance of the work and shall be subject to the approval of the Engineer. The Contractor shall be responsible for the expense of the services of the required field representative and the bid contract price shall be full compensation for all costs in connection therewith.

COMPENSATION

Method of Measurement

Cementitious Mortar for Patching will be measured for payment by the square foot of the vertical face of wall/abutment repaired, complete in place, regardless of depth.

Basis of Payment

Cementitious Mortar for Patching will be paid for at the Contract unit price per square foot, which price shall include all labor, materials, equipment and incidental costs required to complete the work including the inspection, sounding and removal of existing concrete.

SCHEDULE OF BASIS FOR PARTIAL PAYMENT

Within ten (10) days after Notice to Proceed, the Contractor shall submit on his/her proposal form a schedule of unit priced for the major component Sub-Items that make up Item 992.1 as well as his/her total bridge structure Lump Sum cost for Bridge Structure No. A-16-052. The bridge structure Lump Sum breakdown quantities provided in the proposal form are estimated and not guaranteed. The total of all partial payments to the Contractor shall equal the Lump Sum contract price regardless of the accuracy of quantities furnished by the Engineer for the individual bridge components. The cost of labor and materials for any Item not listed but required to complete the work shall be considered incidental to Item 992.1 and no further compensation will be allowed.

The schedule on the proposal form applies only to Bridge Structure No. A-16-052. Payment for similar materials and construction at locations other than at this bridge structure shall not be included under this Item. Sub-Item numbering is presented for information only in coordination with MassDOT Standard Nomenclature.

ITEM 994.1 TEMPORARY PROTECTIVE SHIELDING SQUARE FOOT

DESCRIPTION

The work to be done under this Item shall provide for the protection of Ten Mile River from falling debris during removal of concrete superstructure, beams, and from other demolition of appurtenances on bridge superstructure.

This shall be accomplished by utilization of adequate shielding placed beneath the existing superstructure prior to demolition of the bridge.

All shielding shall meet the following requirements:

1. The Contractor is responsible for designing, furnishing, installing, maintaining, removing, and disposing of all shielding materials.

2. The Contractor shall submit for review Plans of proposed shielding stamped by a Professional Structural Engineer Registered in the Commonwealth of Massachusetts, for conformance to the Contract Documents, prior to installation of shielding. The drawings shall include details of all connections, brackets and fasteners and shall be submitted at the preconstruction conference.

3. Protective shielding shall not be installed until the Engineer's review has been completed and approved. No portion of the bridge deck shall be removed until the protective shielding is in place and complete.

4. The shielding shall extend a sufficient distance beyond the deck limits, and have walls sufficient to contain any debris. The shielding shall extend the full length of the bridge. The Contractor may utilize the existing abutments and piers as supports for the protective shielding. All spaces along the perimeter of the shielding and at the seams shall be sealed to prevent dust and debris from escaping and falling into the water below.

5. Shielding shall be designed to safely withstand all loads it would be subjected to during construction. The allowable design stresses shall be in accordance with AASHTO Standard Specifications for Highway Bridges. The design shall also include a complete description of the equipment and construction methods proposed for the deck removal and the maximum size of deck area excavated.

6. The shielding shall also be designed to withstand impact loads from the maximum size of concrete decking should it fall during removal.

7. The shielding shall be maintained and remain in place until the deck is completely removed. Shielding shall be removed only upon approval of the Engineer. After completion, the shielding shall be removed and disposed of the satisfaction of the Engineer.

All materials used in the shielding system shall be the property of the Contractor and shall be properly removed from this site at the completion of the project.

COMPENSATION

Method of Measurement and Basis of Payment

The method of measurement for Item 994.1 will be made on a Square Foot unit cost basis.

Item 994.1 will be paid as follows: Payment of 75% of the total Bid Price of this item will be made upon complete installation to the satisfaction and approval of the Engineer. The remaining 25% of the total Bid Price of this item will be paid following proper removal and disposal of the shielding from the project.

Appendix C

MassDOT Bridge Inspection Report 2020

11th St Bridge

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator

MassDOT
Massachusetts Department of Transportation
Highway Division

November 17, 2020

Town of Montague
Town Selectboard
Town Hall, One Avenue 'A'
Turners Falls, MA 01376

Attn: Tom Bergeron, Highway Superintendent

SUBJECT: NATIONAL BRIDGE INSPECTION STANDARDS (NBIS)
BRIDGE INSPECTION REPORTS

M-28-017 (0R4) ELEVENTH ST / UTILITY CANAL (ROUTINE & FC) Dated: 09/16/20

Dear Mr. Bergeron:

As part of the Massachusetts Bridge Inspection Program, MassDOT - Highway Division performs the inspection of municipally owned bridges that have a clear span of 20 feet or greater. These bridges are scheduled to be inspected every two years or less.

For your records is a copy of recent bridge inspection field reports for the referenced municipally owned bridge. Repair, rehabilitation or reconstruction of any bridges to address the deficiencies reported is the owner/custodian's responsibility. Chapter 90 funds may be used for these purposes.

Questions regarding the content of the report may be directed to the District Bridge Inspection Engineer, Matthew Barrett, at 857-368-2081.

Sincerely,

Peter J. Cavicchi
Digitally signed by Peter J. Cavicchi
Date: 2020.11.17 11:49:19 -05'00'

Peter Cavicchi, P.E.
District 2 Highway Director

MB/
cc: BIE (2), DHD D-2, DBIE D-2
Enclosure

811 North King Street, Northampton, MA 01060
Tel: (857) 368-2011, Fax: (857) 368-0200
www.mass.gov/massdot

AI Engineers

60 K Street, 3rd Floor
Boston, MA 02127
(617) 451-2828 phone
(617) 451-2822 fax
www.aiengineers.com

November 13, 2020

Mr. Alexander K. Bardow, P.E.
State Bridge Engineer
MassDOT, Highway Division
Ten Park Plaza Room 6430
Boston, MA 02116

Attention: Mr. Brian Clang, P.E., State Bridge Inspection Engineer

RE: Statewide NBIS Bridge Inspection Services
Contract No. 99470, Assignment No. 28
NBIS Consultant Contract Administrator – Marie Paul
AI Engineers Job No. 0798-28

Dear Mr. Bardow,

AI Engineers, Inc. is pleased to submit the enclosed Routine and Fracture Critical Inspection Reports and the edited SI&A Form for the following bridge:

District 2: M-28-017 (BIN 0R4): Montague: M28017-0R4-MUN-NBI; Eleventh Street over Utility Canal in the town of Montague (September, 2020)

The Component condition ratings are summarized as follows:

Item	2020 Routine & Fracture Critical Inspection Ratings (AI)	2018 Routine & Fracture Critical Inspection Ratings	2016 Routine & Fracture Inspection Ratings
58 - Deck	7	7	7
59 - Superstructure	6	6	6
60 - Substructure	5	5	6
61 - Channel & Channel Protection	7	7	7

Summary of the Bridge M-28-017 (BIN 0R4) in this submission is as follows:

Rating needed:	No
Divers inspection required:	N/A
Historical significance check:	Potentially Eligible
Potential scour problems:	No
Missing posting signs:	No
As soon as possible repairs needed:	Yes
Immediate repairs needed:	No

Please refer to the enclosed report for additional information. If you should have any questions, please contact me.

Thank you for this Assignment and we look forward to continuing to work with MassDOT on this contract.

Sincerely,

AI Engineers, Inc.

Shahvir Vimadalal

Shahvir Vimadalal, P.E.
Project Manager

cc: AI File 0798-28

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
STRUCTURES INSPECTION FIELD REPORT
ROUTINE INSPECTION

2-DIST	B.I.N.	BR. DEPT. NO.
02	0R4	M-28-017

CITY/TOWN	8.-STRUCTURE NO.	11-Kilo. POINT	41-STATUS	90-ROUTINE INSP. DATE
MONTAGUE	M28017-0R4-MUN-NBI	000.097	P:POSTED	SEP 16, 2020

07-FACILITY CARRIED	MEMORIAL NAME/LOCAL NAME	27-YR BUILT	106-YR REBUILT	YR REHAB'D (NON 106)
HWY ELEVENTH ST		1915	1996	0000

06-FEATURES INTERSECTED	26-FUNCTIONAL CLASS	DIST. BRIDGE INSPECTION ENGINEER
WATER UTILITY CANAL	Urban Local	M. Barrett

43-STRUCTURE TYPE	22-OWNER	21-MAINTAINER	TEAM LEADER P. Andrews	PROJ MGR AI Engineers Inc
310 : Steel Truss - Thru	Town Agency	Town Agency		Shashvin Vimadalal

107-DECK TYPE	WEATHER	TEMP. (air)	TEAM MEMBERS
1 : Concrete Cast-in-Place	Clear	21°C	M. WHITE

ITEM 58 — DECK — 7

		DEF
1.Wearing Surface	6	-
2.Deck Condition	7	-
3.Stay in place forms	6	-
4.Curbs	6	-
5.Median	N	-
6.Sidewalks	6	M-P
7.Parapets	N	-
8.Railing	5	S-A
9.Anti Missile Fence	N	-
10.Drainage System	N	-
11.Lighting Standards	N	-
12.Utilities	6	-
13.Deck Joints	N	-
14.	N	-
15.	N	-
16.	N	-

CURB REVEAL (In millimeters)	N	S
	215	215

APPROACHES

		DEF
a. Appr. Pavement Condition	7	-
b. Appr. Roadway Settlement	6	-
c. Appr. Sidewalk Settlement	7	-
d. Appr. Sidewalk Condition	7	-

OVERHEAD SIGNS (Attached to bridge) (Y/N) N

		DEF
a. Condition of Welds	N	-
b. Condition of Bolts	N	-
c. Condition of Signs	N	-

ITEM 59 — SUPERSTRUCTURE — 6

		DEF
1.Stringers	7	-
2.Floorbeams	7	-
3.Floor System Bracing	N	-
4.Girders or Beams	N	-
5.Trusses - General	6	-
a. Upper Chords	6	-
b. Lower Chords	6	-
c. Web Members	5	M-P
d. Lateral Bracing	6	-
e. Sway Bracings	N	-
f. Portals	N	-
g. End Posts	6	-
6.Pin & Hangers	N	-
7.Conn Plt's, Gussets & Angles	6	-
8.Cover Plates	N	-
9.Bearing Devices	5	S-A
10.Diaphragms/Cross Frames	N	-
11.Rivets & Bolts	6	-
12.Welds	7	-
13.Member Alignment	6	-
14.Paint/Coating	5	M-P
15.	N	-

Year Painted	1996

COLLISION DAMAGE: *Please explain*
None ( ) Minor (X) Moderate ( ) Severe ( )

LOAD DEFLECTION: *Please explain*
None ( ) Minor (X) Moderate ( ) Severe ( )

LOAD VIBRATION: *Please explain*
None ( ) Minor (X) Moderate ( ) Severe ( )

Any Fracture Critical Member: (Y/N) Y

Any Cracks: (Y/N) N

ITEM 60 — SUBSTRUCTURE — 5

	Dive	Cur		DEF
1. Abutments			7	
a. Pedestals	N	N		-
b. Bridge Seats	N	N		-
c. Backwalls	N	7		-
d. Breastwalls	N	7		-
e. Wingwalls	N	7		-
f. Slope Paving/Rip-Rap	N	7		-
g. Pointing	N	N		-
h. Footings	N	N		-
i. Piles	N	H		-
j. Scour	N	7		-
k. Settlement	N	7		-
l.	N	N		-
m.	N	N		-
2. Piers or Bents			5	
a. Pedestals	N	4		S-A
b. Caps	N	N		-
c. Columns	N	N		-
d. Stems/Webs/Pierwalls	N	5		M-P
e. Pointing	N	N		-
f. Footing	N	H		-
g. Piles	N	H		-
h. Scour	N	7		-
i. Settlement	N	7		-
j.	N	N		-
k.	N	N		-
3. Pile Bents			N	
a. Pile Caps	N	N		-
b. Piles	N	N		-
c. Diagonal Bracing	N	N		-
d. Horizontal Bracing	N	N		-
e. Fasteners	N	N		-

UNDERMINING (Y/N) If YES please explain N

COLLISION DAMAGE:
None (X) Minor ( ) Moderate ( ) Severe ( )

SCOUR: *Please explain*
None (X) Minor ( ) Moderate ( ) Severe ( )

I-60 (Dive Report): N *I-60 (This Report):* 5

93B-U/W (DIVE) Insp 00/00/0000

X=UNKNOWN N=NOT APPLICABLE H=HIDDEN/INACCESSIBLE R=REMOVED

RTN(1)7-96

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	0R4	M-28-017	M28017-0R4-MUN-NBI	SEP 16, 2020

ITEM 61 — CHANNEL & CHANNEL PROTECTION — 7

	Dive	Cur	DEF
1.Channel Scour	N	7	-
2.Embankment Erosion	N	7	-
3.Debris	N	6	-
4.Vegetation	N	7	-
5.Utilities	N	N	-
6.Rip-Rap/Slope Protection	N	7	-
7.Aggradation	N	7	-
8.Fender System	N	N	-

STREAM FLOW VELOCITY: Tidal ( ) High ( ) Moderate ( ) Low (X) None ( )

ITEM 61 (Dive Report): N *ITEM 61 (This Report):* 7

93b-U/W INSP. DATE: 00/00/0000

ITEM 36 — TRAFFIC SAFETY

	36	COND	DEF
A. Bridge Railing	0	5	S-A
B. Transitions	N	N	-
C. Approach Guardrail	1	7	-
D. Approach Guardrail Ends	0	7	-

WEIGHT POSTING — *Not Applicable* ☐

	H	3	3S2	Single
Actual Posting	16	22	25	N
Recommended Posting	16	22	25	N

Waived Date: 00/00/0000 EJDMT Date: 00/00/0000

Signs In Place (Y=Yes,N=No, NR=NotRequired) Legibility/ Visibility	At bridge E	At bridge W	Other Advance E	Other Advance W
	NR	NR	Y	Y
			8 / 8	8 / 8

CLEARANCE POSTING — *Not* ☐

	N ft	N in	S ft	S in	meter
Actual Field Measurement		0		0	
Posted Clearance		0		0	

Signs In Place (Y=Yes,N=No, NR=Not Required) Legibility/ Visibility	At bridge N	At bridge S	Advance N	Advance S
	N	N	N	N

ACCESSIBILITY (Y/N/P)

	Needed	Used
Lift Bucket	Y	Y
Ladder	P	N
Boat	P	Y
Waders	N	N
Inspector 50	N	N
Rigging	N	N
Staging	N	N
Traffic Control	Y	Y
RR Flagger	N	N
Police	Y	Y
Other:		
CANAL DRAINED	Y	Y

TOTAL HOURS 106

PLANS (Y/N): Y

(V.C.R.) (Y/N): N

TAPE#: _____

List of field tests performed:

RATING

Rating Report (Y/N): Y

Date: 10/01/2008

Inspection data at time of existing rating

I 58: 7 I 59. 6 I 60: 6 Date :07/10/2008

Recommend for Rating or Rerating (Y/N): N

If YES please give priority: HIGH ( ) MEDIUM ( ) LOW ( )

REASON: _____

CONDITION RATING GUIDE (For Items 58, 59, 60 and 61)

	CODE	CONDITION	DEFECTS
	N	NOT APPLICABLE	
G	9	EXCELLENT	Excellent condition.
G	8	VERY GOOD	No problem noted.
G	7	GOOD	Some minor problems.
F	6	SATISFACTORY	Structural elements show some minor deterioration.
F	5	FAIR	All primary structural elements are sound but may have minor section loss, cracking, spalling or scour.
P	4	POOR	Advanced section loss, deterioration, spalling or scour.
P	3	SERIOUS	Loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.
C	2	CRITICAL	Advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.
C	1	"IMMINENT" FAILURE	Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic but corrective action may put it back in light service.
	0	FAILED	Out of service - beyond corrective action.

DEFICIENCY REPORTING GUIDE

DEFICIENCY: A defect in a structure that requires corrective action.

CATEGORIES OF DEFICIENCIES:

M= Minor Deficiency - Deficiencies which are minor in nature, generally do not impact the structural integrity of the bridge and could easily be repaired. Examples include but are not limited to: Spalled concrete, Minor pot holes, Minor corrosion of steel, Minor scouring, Clogged drainage, etc.

S= Severe/Major Deficiency - Deficiencies which are more extensive in nature and need more planning and effort to repair. Examples include but are not limited to: Moderate to major deterioration in concrete, Exposed and corroded rebars, Considerable settlement, Considerable scouring or undermining, Moderate to extensive corrosion to structural steel with measurable loss of section, etc.

C-S= Critical Structural Deficiency - A deficiency in a structural element of a bridge that poses an extreme unsafe condition due to the failure or imminent failure of the element which will affect the structural integrity of the bridge.

C-H= Critical Hazard Deficiency - A deficiency in a component or element of a bridge that poses an extreme hazard or unsafe condition to the public, but does not impair the structural integrity of the bridge. Examples include but are not limited to: Loose concrete hanging down over traffic or pedestrians, A hole in a sidewalk that may cause injuries to pedestrians, Missing section of bridge railing, etc.

URGENCY OF REPAIR:

I = Immediate- [Inspector(s) immediately contact District Bridge Inspection Engineer (DBIE) to report the Deficiency and to receive further instruction from him/her].

A = ASAP- [Action/Repair should be initiated by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) upon receipt of the Inspection Report].

P = Prioritize- [Shall be prioritized by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) and repairs made when funds and/or manpower is available].

RTB(2)04-07

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REMARKS

BRIDGE ORIENTATION

Bridge No. M-28-017 (0R4) carries Eleventh Street over the Utility Canal in the town of Montague. The two truss towers are labeled North and South, with the inner truss in each tower noted as closer to the roadway. The spans, panels, floorbeams, and truss nodes are numbered west to east. The stringers supporting the roadway are numbered S1 to S6 and the stringers supporting the sidewalks are numbered SW1 to SW8 each from north to south. The piers are labeled Northwest, Southwest, Northeast, and Southeast. The abutments and approaches are labeled West and East **(see Sketch 1)**.

GENERAL REMARKS

The bridge is a three-span continuous superstructure consisting of a truss-floorbeam-stringer system with two (4) thru-trusses (two (2) trusses per tower), ten (10) floorbeams, six (6) stringers between the floorbeams supporting the roadway, and four (4) stringers between the floorbeams supporting each sidewalk. The deck is comprised of a reinforced concrete slab with a latex-modified concrete wearing surface. The substructure consists of reinforced concrete stub abutments and four (4) reinforced concrete pier columns.

ACCESS NOTES

The top of deck and trusses were accessed using a 40' bucket truck in conjunction with alternating single lane closures on Eleventh Street, between the hours of 9:00 AM and 4:00 PM. All police details were provided by the Montague Police Department. The underside of Spans 1 and 3 were accessed from the embankments while the canal was drained. The underside of Span 2 was accessed utilizing a safety boat while the canal was filled; however, no further boat access will be permitted for future inspections.

The Utility Canal below is owned and operated by First Light Power Resources. The canal is dewatered for only one week a year and there is no boat access when the canal is filled. The primary contact at First Light is Nick Hollister <Nick.Hollister@firstlightpower.com> and the office phone number is (413)-659-4489.

ITEM 58 - DECK

Item 58.1 - Wearing Surface

The latex modified concrete wearing surface exhibits random transverse hairline cracks up to full width. The previously noted water ponding along the south curb line was not observed.

Item 58.2 - Deck Condition

The underside of deck beneath the roadway and sidewalks are covered by Stay-In-Place (SIP) forms. The deck overhangs exhibit scattered hairline cracks throughout. Specific deficiencies are as follows:

North Fascia

- *North Face, at FB4 and FB 5* - spall with exposed rebar 2'-6" long x 1'-3" high x up to 2" deep **(see Photo 1)**.
- *North Face, at FB 6* - spall 1'-4" long x 10" high x up to 2-1/2" deep.

Item 58.3 - Stay in place forms

The Stay-in-place (SIP) forms under the both sidewalks have scattered areas of moderate to heavy rust and efflorescence leakage, primarily under the sidewalks adjacent to the floorbeams up to 10' long **(see Photo 2).** Under both sidewalks near the East Abutment, the SIP forms have isolated areas of up to 100% section loss **(see Photo 3).**

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REMARKS

Item 58.4 - Curbs

There is a minor accumulation of debris along both curb lines and moderate to heavy vegetation growth near the approaches **(see Photo 4)**. The concrete curbs have scattered vertical cracks up to 1/16" wide, mainly in Spans 1 and 3. Specific deficiencies are as follows:

North Curb

- *Near L8* - two (2) spalls up to 10" long x 8" high x 2" deep.
- *Near L10* - spall 5" diameter x 1/2" deep.
- *Near L16* - spall 10" long x 8" high x 2" deep **(see Photo 5).**
- *Near East Abutment* - spall 10" long x 2" high x 2" deep.

Item 58.6 - Sidewalks

There are reinforced concrete sidewalks along both sides of the bridge which exhibit isolated minor scaling transverse hairline cracks. At numerous transverse joints, both sidewalks exhibit edge spalls up to 3' long x 3" wide x 1" deep on either side of the joint. Specific deficiencies are as follows:

North Sidewalk

- *At L0* - spall 1'-8" long x 5' wide x 1" deep.
- *At L18* - spall 2'-6" long x 5'-6" wide x 1" deep.

South Sidewalk

- *At L16* - spall 1'-6" long x 5'-6" wide x 1-1/2" deep.
- *At L18* - spall 3' long x up to full width x 2" deep **(see Photo 6).**

Item 58.8 - Railing

There is no bridge railing along the inside face of either truss. The pedestrian bridge railings along the bridge fascia exhibit random chipped paint with light to moderate rust throughout. At the truss end posts, there is a crack up to 2" long in the top tail extending from the cut out section **(see Photo 7).**

There are short lengths of BR-2 Rail bolted to top of the concrete curbs over the approach spans. The BR-2 rails exhibit random scrapes and gouges throughout **(see Photo 8).** Specific deficiencies are as follows:

South Sidewalk - Pedestrian Rail

- ***DEF=S-A: At L0, top rail* - four (4) connection bolts missing (see Photo 9).**
- ***DEF=S-A: At U1-L0, top rail* - top rail is loose.**
- *At L6, top rail* - one (1) connection bolt missing
- *At L14, lattice members* - two (2) missing and one (1) loose connection bolt **(see Photo 10)**.

Item 58.12 - Utilities

The water main on the north side of the bridge has a thin metal protector wrap with scattered minor dents, punctures, and torn sections of insulation throughout.

The steel utility supports exhibit scattered areas of chipped paint with light to moderate rust and minor delaminated rust **(see Photo 11).**

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REMARKS

APPROACHES

Approaches a - Appr. Pavement Condition
There are no deck joints on this bridge, however at the West Abutment and bridge deck interface, there is bituminous breakup up to 1/2" wide throughout and there is raveling full length x up to 1-3/4" high **(see Photo 12)**. In the Eastbound lane, there are 2 patches up to 2'-6" long x 1' wide.

The East Abutment and bridge deck interface has been paved over with hot mix asphalt (HMA). In the middle of the interface, there is bituminous breakup 3'-6" long x 8" wide **(see Photo 13).**

Both approach roadways have random map cracks up to 1/4" wide in areas up to 15 square feet **(see Photo 14).**

Approaches b - Appr. Roadway Settlement
The West Approach roadway exhibits raveling. See Item 58.13 - Deck Joints for comments.

Approaches c - Appr. Sidewalk Settlement
All four sidewalk approaches have Hot Mix Asphalt (HMA) ramps leading to the bridge with up to a 1" vertical height differential between the top of the ramp and the sidewalk.

ITEM 59 - SUPERSTRUCTURE

Item 59.1 - Stringers
The roadway stringers exhibit isolates areas of chipped paint and light rust. At the piers, the sidewalk stringers exhibit random areas of chipped paint moderate rust **(see Photo 15).**

Item 59.2 - Floorbeams
The roadway floobeams exhibit isolated chipped paint and minor rust. The sidewalk floorbeams exhibit random chipped paint, moderate rust, and bleeding rust from the above Stay-In-Place (SIP) forms **(see Photo 2).**

At random connection plates between the roadway and sidewalk floorbeams, the connection bolts, nuts, and washers exhibit moderate rust **(see Photo 16).**

Item 59.5 - Trusses - General
All chords, web members, gusset plates, connection bolts/rivets, and bracing exhibit scattered chipped paint and minor to moderate rust **(see Photos 17 and 18).**

Item 59.5.a - Upper Chords
At the North Outer Truss, in members U2-U4 and U14-U16, there is 1 bent lattice member.

Item 59.5.c - Web Members
Along the South Inner Truss, at the bottom of members U2-L2, U2-L4, U4-L6, U8-L10, and U10-L8, there are dents up to 1" deep due to collision damage. At all trusses, at numerous panel connections at the web member midpoints, there is pack rust up to 1" thick (1/2" average thickness) with flange section loss down to knife edge remaining thickness (1/4" average remaining thickness). Members with section loss at locations of pack rust are as follows:

North Outer Truss
- *U4-L6 at M5* - flange section loss 7" long x 1/4" remaining thickness.
- *U6-L4 at M5 and U10-L12 at M11* - inner flange section loss 8" long x 1/8" remaining thickness.

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REMARKS

Item 59.5.c - Web Members (Cont'd)

- *U8-L6 at M7* - flange section loss 7" long x knife edge remaining thickness **(see Photo 19).**
- *U10-L8 at M9* - flange section loss 6" long x 1/4" remaining thickness.
- *U12-L14 at M13* - flange 6" long x 1/8" remaining thickness.

North Inner Truss
- *U8-L10 at M9* - flange 7" long x 1/4" remaining thickness.
- *U10-L12 at M11* - inner flange 8" long x 1/8" remaining thickness.

South Outer Truss
- *U4-L2 at M3* - outer flange 6" long x knife edge remaining thickness; inner connection plate 10" long x 1/4" remaining thickness **(see Photo 20).**
- *U6-L4 at M5* - outer flange 6" long x 1/4" remaining thickness; inner flange 6" long x knife edge remaining thickness.
- *U8-L10 at M9* - flange 8" long x 1/4" remaining thickness
- *U10-L12 at M11* - inner flange 8" long x 1/8" remaining thickness
- *U12-L14 at M13* - flange 6" long x 3/8" remaining thickness

South Inner Truss
- *U4-L2 at M3* - outer flange 6" long x 3/8" remaining thickness.
- *U6-L4 at M5* - outer flange 6" long x 1/4" remaining thickness.
- *U6-L8 at M7* - outer flange 8" long x 1/4" remaining thickness.
- *U8-L10 at M9* - outer flange 10" long x 1/4" remaining thickness; inner flange 7" long x 3/8" remaining thickness.
- *U12-L10 at M11* - inner flange 7" long x 3/8" remaining thickness.

Item 59.5.d - Lateral Bracing
The lateral bracing between the upper chords of the inner and outer trusses have pack rust up to 1" thick between the angles throughout **(see Photo 21).**

Item 59.5.g - End Posts
Random lattice bars are bent and/or buckled due to pack rust, primarily at the underside of member U16-L18 of both South Trusses.

Item 59.7 - Conn Plt's, Gussets & Angles
At the South Outer Truss, Node L10, outer gusset plate diaphragm angle, 1 of 6 bolt heads sheared off **(see Photo 22).**

Item 59.9 - Bearing Devices
The truss bearings have minor to moderate rust **(see Photo 23). DEF=S-A: At the Northwest Pier, at FB1, both anchor bolts are sheared off (see Photo 24).**

Item 59.11 - Rivets & Bolts
The connection bolts exhibit minor to moderate rust and one gusset plate diaphragm bolt head sheared off. See Item 59.2 - Floorbeams, Item 59.5 - Trusses - General, and Item 59.7 - Gusset plates for comments.

Item 59.13 - Member Alignment
There is slight bowing of the South Lower Chord.

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REMARKS

Item 59.14 - Paint/Coating
All super structure elements exhibit chipped paint and minor to moderate rust. See Item 59.1 - Stringers, Item 59.2 - Floobeams, and Item 59.5 - Trusses - General for comments.

SuperStructure Collision Notes
There is minor collision damage to the web diagonals along the South Inner Truss. See Item 59.5c - Web Members for comments.

SuperStructure Load Deflection Notes
In Span 1, the roadway stringers have minor negative camber due to the sheared bearing anchor rods at the Northwest Pier, FB1. See 59.9 - Bearings for comments.

SuperStructure Load Vibration Notes
There are minor vibrations under heavy live loads.

ITEM 60 - SUBSTRUCTURE

Item 60.1 - Abutments
Item 60.1.c - Backwalls
Both backwalls have scattered hairline cracks and efflorescence at the stringer ends **(see Photo 25).**

Item 60.1.d - Breastwalls
Both breastwalls have scattered hairline cracks and efflorescence at the stringer ends **(see Photo 25).**

Item 60.1.e - Wingwalls
The Northwest Wingwall/Cheekwall has hairline cracking and a spall 1'-4" long x 5" high x up to 4" deep near the footing.

Item 60.2 - Piers or Bents
Item 60.2.a - Pedestals
Both piers have concrete pedestals that support the approach sidewalk stringers and separate pedestals beneath the floorbeams at the bearings. At the Northwest and Southwest Piers, the floorbeam pedestals have spalled away **(see Photo 24)**. Specific deficiencies are as follows:

Northwest Pier
- ***DEF=S-A West Face, at SW3 and SW4*** **- spall 3'-4" long x 9" high x 4" deep exposing the anchor bolts and undermining the masonry plate up to 4" (see Photo 26).**

Southwest Pier
- ***DEF=S-A: West Face, at SW5 and SW8*** **- spall 1'-8" long x 9" high x up to 5" deep exposing the anchor bolts. The masonry plate at SW5 is undermined 2" and the masonry plate at SW8 is complete undermined (see Photo 27).**

Item 60.2.d - Stems/Webs/Pierwalls
All piers at the high (normal) waterline exhibit abrasion up to 3'-0" high x full perimeter x 2" deep, hollow areas up to 2' high x 80% perimeter, and scattered hairline cracks with efflorescence **(see Photo 28).** Specific deficiencies are as follows:

Southwest Pier
- *West Face* - spall 4'-6" long x 2'-3" high x up to 4" deep near the rip-rap **(see Photo 29).**

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REMARKS

Item 60.2.d - Stems/Webs/Pierwalls (Cont'd)

Northeast Pier

- *West Face - North End:* spall 4' long x 6" high x 2" deep at the normal water line; *Center:* spall 4'-2" long x 2' high x 4" deep at the normal water line **(see Photo 30)**; *South End* - spall 2'-10" long x 1' high x 7" deep at the normal water line extending into the north extension full width **(see Photo 31)**.
- *South Face* - spall 3'-6" long x 10" high x 1-1/2" deep at the normal water line.

Southeast Pier

- *West Face* - spall 3'-4" long x 1'-8" high x 3" deep at the normal water line.
- *East Face* - spall 2'-3" long x 1" high x up to 2" deep.

ITEM 61 - CHANNEL AND CHANNEL PROTECTION

Item 61.1 - Channel Scour
The Rip-Rap at the West Piers has minor settlement.

Item 61.3 - Debris
There are several large metal and wooden object in the channel bed just south of the bridge.

Item 61.4 - Vegetation
There is vegetation growth along the embankments above the waterline.

TRAFFIC SAFETY

Item 36a - Bridge Railing
See Item 58.8 - Railing for comments.

Item 36b - Transitions
There are no transitions.

Item 36c - Approach Guardrail
Only the southwest corner of the bridge has an approach guardrail. The approach guardrails consists of W-beam on steel H-posts with plastic offset blocks that runs perpendicular to the sidewalk pedestrian rails.

Item 36d - Approach Guardrail Ends
Approach guardrails terminate in boxing gloves ends.

Sketch / Photo Log

Sketch 1 : Location Map
Sketch 2 : Framing Plan and Truss Elevation
Photo 1 : Deck, North Fascia, at FB4 - spall with exposed rebar
Photo 2 : South Sidewalk, at FB3 - SIP forms with rust and efflorescence leakage. Note chipped paint and rust on the sidewalk floorbeam.
Photo 3 : South Sidewalk, near East Abutment - SIP forms with rust and section loss.
Photo 4 : North Curb, East End - Vegetation growth along curb
Photo 5 : North Curb, near L16 - spall
Photo 6 : South Sidewalk, at L18 - spall along transverse joint
Photo 7 : South Sidewalk Pedestrian Railing, top rail, at U1-L0 - crack extending from the cut-out section
Photo 8 : BR-2 Bridge Rail, Northeast Corner - scrapes and gouges
Photo 9 : South Pedestrian Railing, at L0, top rail – four (4) missing connection bolts

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REMARKS

Sketch / Photo Log (Cont'd)

Photo 10 : South Sidewalk Pedestrian Railing, lattice members - 2 missing and 1 loose connection bolt
Photo 11 : Steel utility supports - chipped paint, and delaminated rust
Photo 12 : West Abutment and Deck Interface - Bituminous break up and ravelling
Photo 13 : East Abutment and Deck Interface – Bituminous breakup at the middle of the joint
Photo 14 : East Approach Wearing Surface - map cracks
Photo 15 : South Sidewalk Stringers, at Southeast Pier – stringers with chipped paint and rust
Photo 16 : Roadway floorbeam to sidewalk floorbeam connection bolts with rust
Photo 17 : South Inner Tower, at U12 – Upper chord, web members, lateral bracing, and gusset plates with chipped paint and rust
Photo 18 : South Truss, at east portal – Web members and bracing with chipped paint with rust
Photo 19 : North Outer Truss, U8-L6 at M7 – pack rust and flange section loss
Photo 20 : South Outer Truss, U4-L2 at M3 – pack rust and connection plate section loss
Photo 21 : South Truss – pack rust between the lateral bracing angles
Photo 22 : South Outer Truss, Outer Gusset Plate Diaphragm Angle - Sheared off connection bolt head
Photo 23 : North truss, East bearing with light rust
Photo 24 : Northwest Pier, at Floorbeam 1 - both anchor rods sheared off. Note the spalled pedestal.
Photo 25 : East Breastwall and Backwall with scattered hairline cracks and efflorescence at the stringer ends
Photo 26 : Northwest Pier Sidewalk Stringer Pedestal, west face, at SW3 and S4 - spall exposing the anchor bolts and undermining the masonry plate
Photo 27 : Southwest Pier Sidewalk Stringer Pedestal, West Face, at SW 8 - spall exposing the anchor rods and undermining the masonry plate
Photo 28 : Southeast Pier – abrasion, hollow areas, and cracks around the perimeter at the normal water line
Photo 29 : Southwest Pier, West Face – Spall near the rip-rap
Photo 30 : Northeast Pier, West Face, Center – Spall at the normal water line
Photo 31 : Northeast Pier, West Face, South End – Spall at the normal water line extending into the north extension

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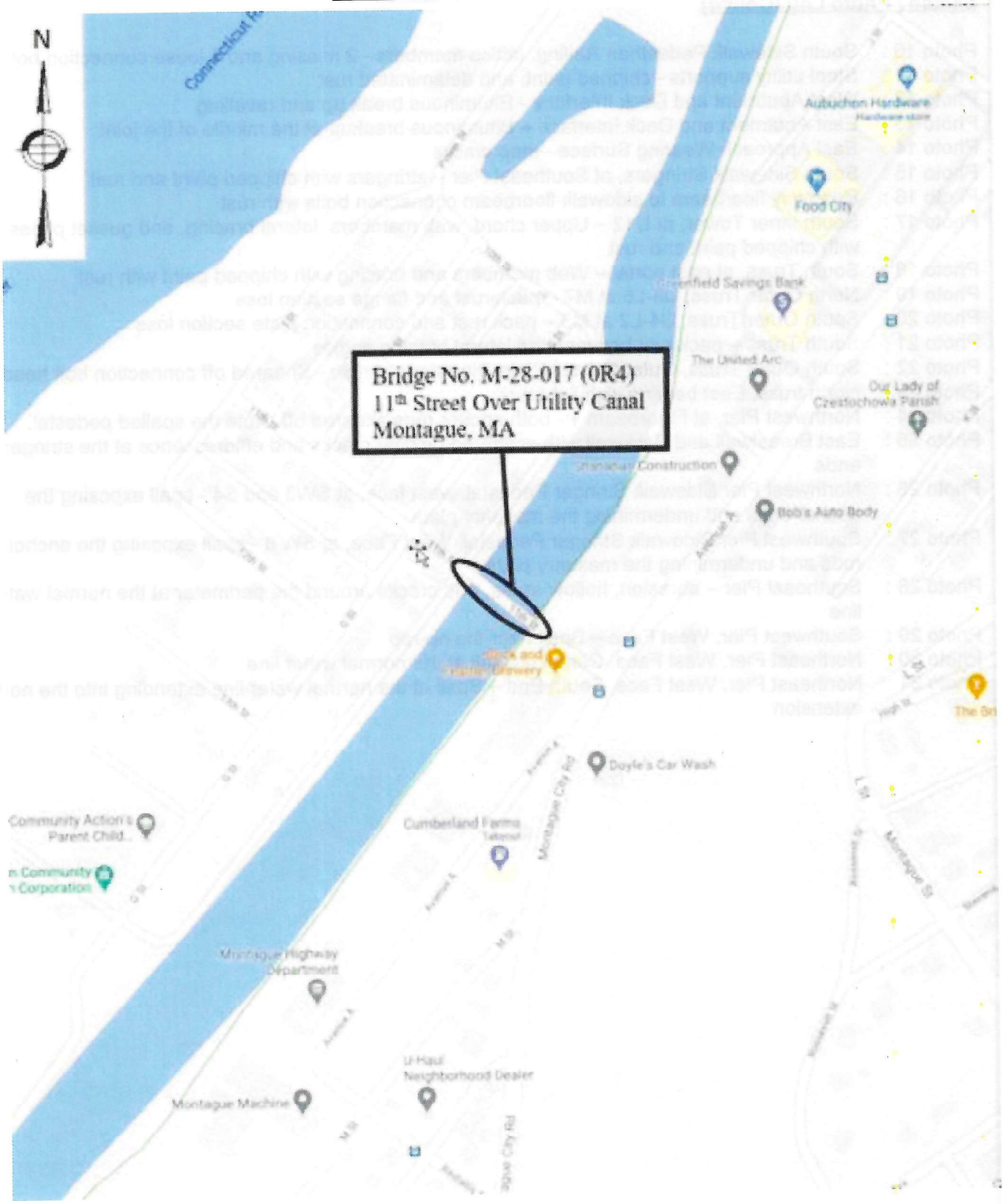
SKETCHES



Sketch 1: Location Map

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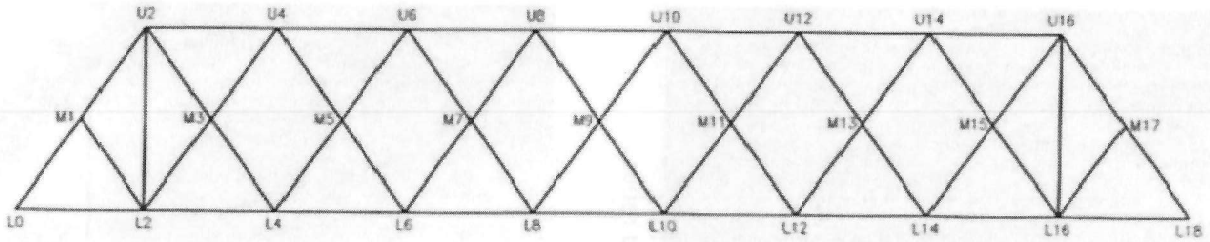
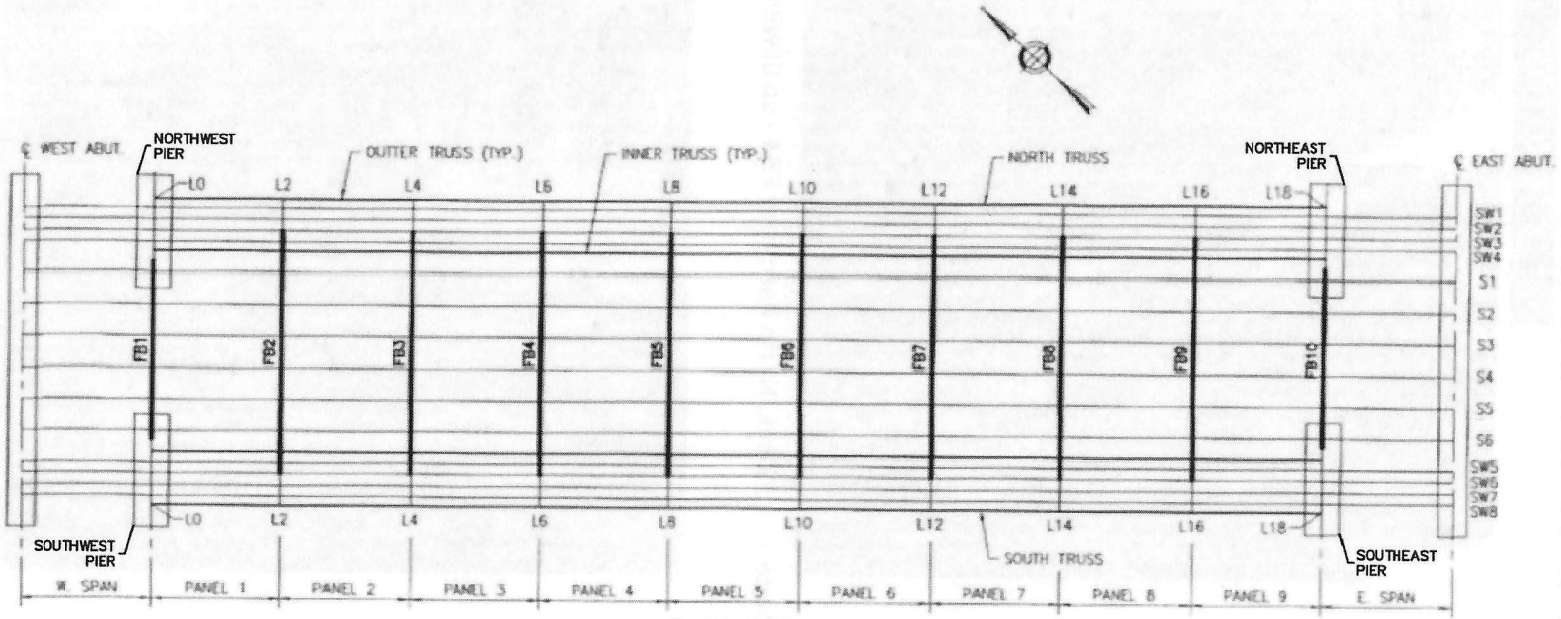
SKETCHES



SOUTH ELEVATION VIEW
(NORTH ELEVATION OPPOSITE HAND)



PLAN VIEW

Sketch 2: Framing Plan and Truss Elevation

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PHOTOS

Photo 1: Deck, North Fascia, at FB4 - spall with exposed rebar

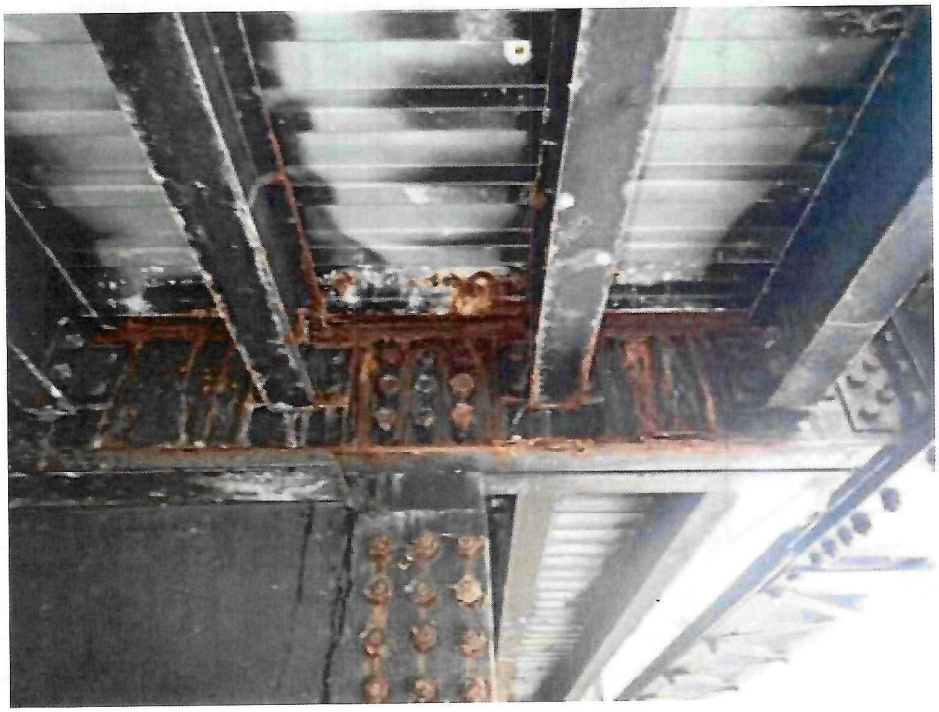

Photo 2: South Sidewalk, at FB3 - SIP forms with rust and efflorescence leakage. Note chipped paint and rust on the sidewalk floorbeam.

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PHOTOS

Photo 3: South Sidewalk, near East Abutment - SIP forms with rust and section loss.

Photo 4: North Curb, East End - Vegetation growth along curb

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PHOTOS

Photo 5: North Curb, near L16 - spall

Photo 6: South Sidewalk, at L18 - spall along transverse joint

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PHOTOS

Photo 7: South Sidewalk Pedestrian Railing, top rail, at U1-L0 - crack extending from the cut-out section

Photo 8: BR-2 Bridge Rail, Northeast Corner - scrapes and gouges

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PHOTOS

Photo 9: South Pedestrian Railing, at L0, top rail – four (4) missing connection bolts

Photo 10: South Sidewalk Pedestrian Railing, lattice members - 2 missing and 1 loose connection bolt

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PHOTOS

Photo 11: Steel utility supports - chipped paint, and delaminated rust

Photo 12: West Abutment and Deck Interface - Bituminous break up and ravelling

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PHOTOS

Photo 13: East Abutment and Deck Interface – Bituminous breakup at the middle of the joint

Photo 14: East Approach Wearing Surface - map cracks

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PHOTOS

Photo 15: South Sidewalk Stringers, at Southeast Pier – stringers with chipped paint and rust

Photo 16: Roadway floorbeam to sidewalk floorbeam connection bolts with rust

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PHOTOS

Photo 17: South Inner Tower, at U12 – Upper chord, web members, lateral bracing, and gusset plates with chipped paint and rust

Photo 18: South Truss, at east portal – Web members and bracing with chipped paint with rust

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PHOTOS

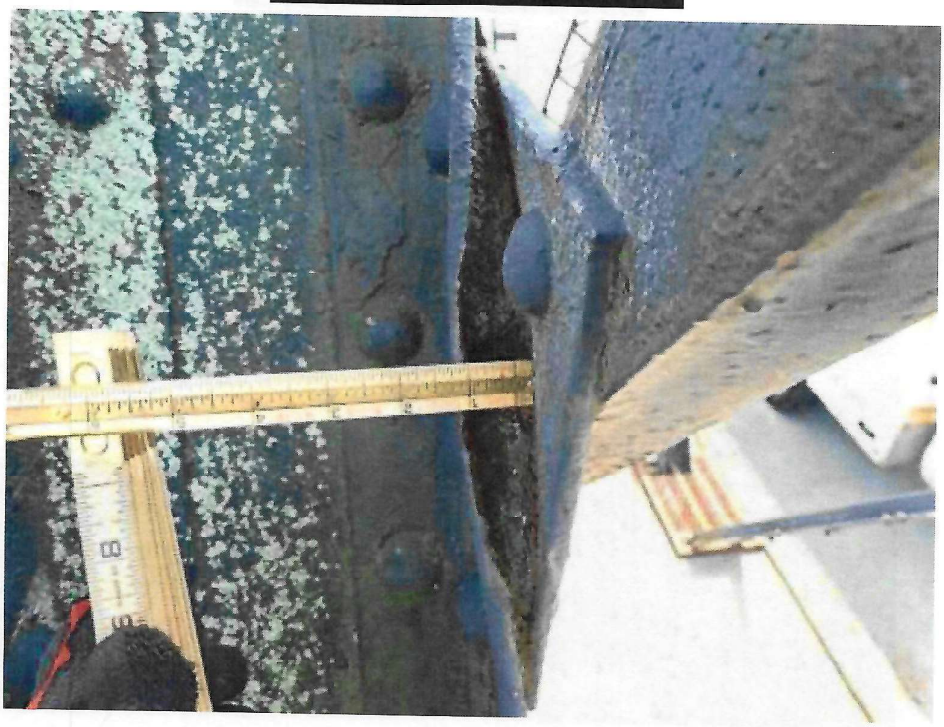


Photo 19: North Outer Truss, U8-L6 at M7 – pack rust and flange section loss

Photo 20: South Outer Truss, U4-L2 at M3 – pack rust and connection plate section loss

REM.(2)7-96

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	0R4	M-28-017	M28017-0R4-MUN-NBI	SEP 16, 2020

PHOTOS

Photo 21: South Truss – pack rust between the lateral bracing angles

Photo 22: South Outer Truss, Outer Gusset Plate Diaphragm Angle - Sheared off connection bolt head

REM.(2)7-96

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	0R4	M-28-017	M28017-0R4-MUN-NBI	SEP 16, 2020

PHOTOS

Photo 23: North truss, East bearing with light rust

Photo 24: Northwest Pier, at Floorbeam 1 - both anchor rods sheared off. Note the spalled pedestal.

REM.(2)7-96

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	0R4	M-28-017	M28017-0R4-MUN-NBI	SEP 16, 2020

PHOTOS

Photo 25: East Breastwall and Backwall with scattered hairline cracks and efflorescence at the stringer ends

Photo 26: Northwest Pier Sidewalk Stringer Pedestal, west face, at SW3 and S4 - spall exposing the anchor bolts and undermining the masonry plate

REM.(2)7-96

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	0R4	M-28-017	M28017-0R4-MUN-NBI	SEP 16, 2020

PHOTOS

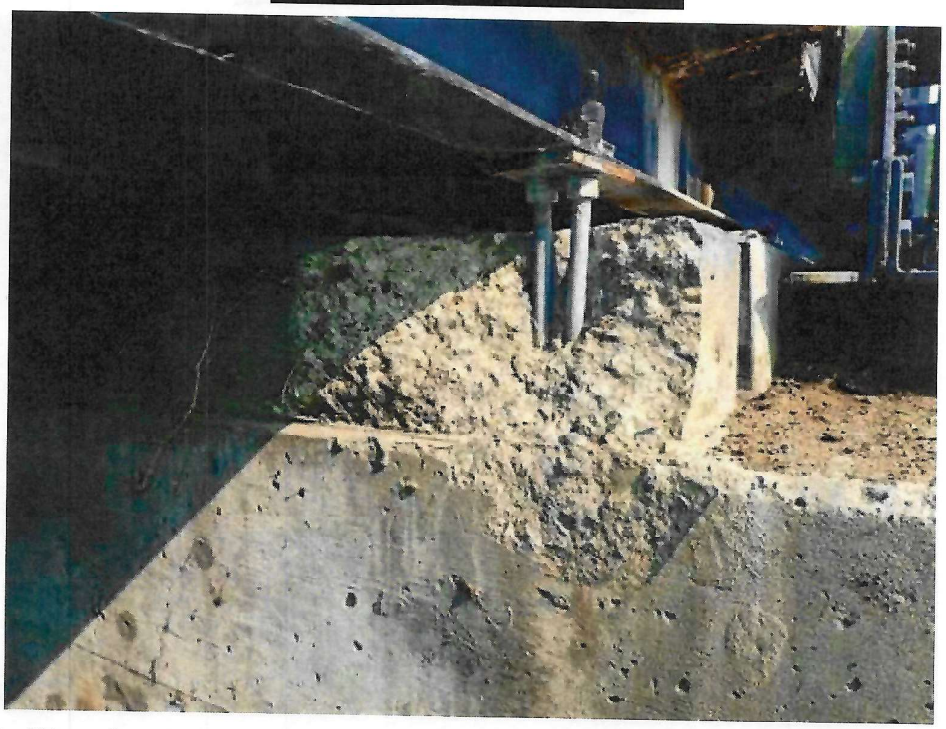


Photo 27: Southwest Pier Sidewalk Stringer Pedestal, West Face, at SW 8 - spall exposing the anchor rods and undermining the masonry plate

Photo 28: Southeast Pier – abrasion, hollow areas, and cracks around the perimeter at the normal water line

REM.(2)7-96

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	0R4	M-28-017	M28017-0R4-MUN-NBI	SEP 16, 2020

PHOTOS

Photo 29: Southwest Pier, West Face – Spall near the rip-rap

Photo 30: Northeast Pier, West Face, Center – Spall at the normal water line

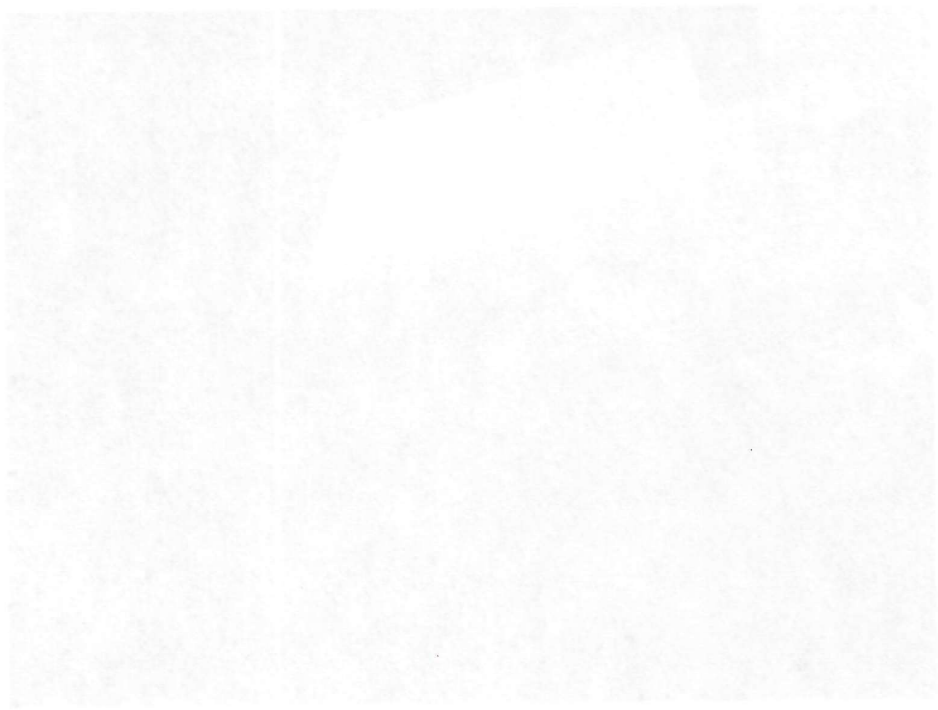
REM.(2)7-96

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	0R4	M-28-017	M28017-0R4-MUN-NBI	SEP 16, 2020

PHOTOS

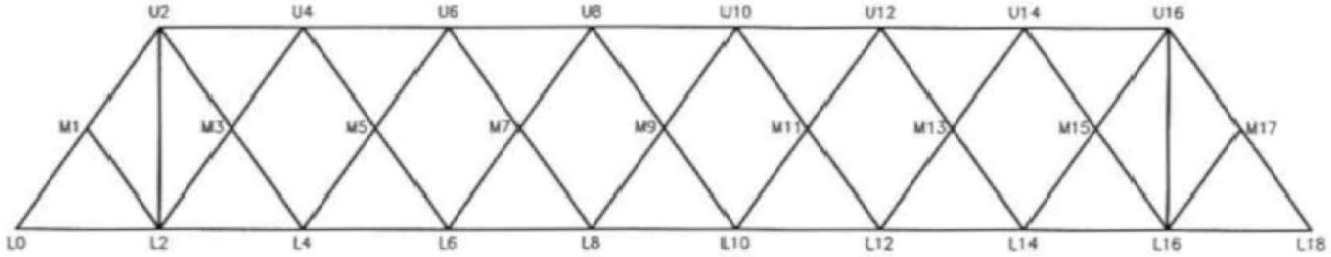
Photo 31: **Northeast Pier, West Face, South End – Spall at the normal water line extending into the north extension**

REM.(2)7-96



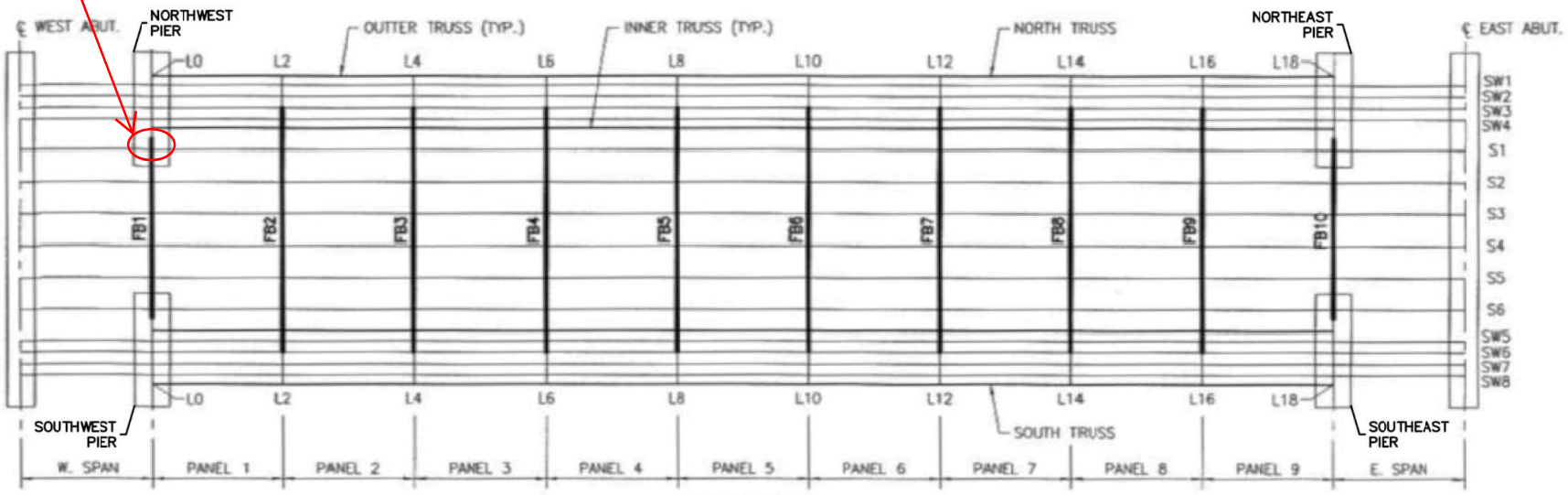
CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	0R4	M-28-017	M28017-0R4-MUN-NBI	SEP 16, 2020

SKETCHES



SOUTH ELEVATION VIEW
(NORTH ELEVATION OPPOSITE HAND)

Location of deficiency being reported.



PLAN VIEW

Sketch 2: Framing Plan and Truss Elevation

Appendix D

MassDOT Bridge Inspection Report 2022

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Jamey Tesler, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator

MassDOT
Massachusetts Department of Transportation
Highway Division

December 13, 2022

Town of Montague
Town Selectboard
Town Hall, One Avenue 'A'
Turners Falls, MA 01376

Attn: Tom Bergeron, Highway Superintendent

SUBJECT: NATIONAL BRIDGE INSPECTION STANDARDS (NBIS)
BRIDGE INSPECTION REPORTS

M-28-017 (0R4)	ELEVENTH ST / UTILITY CANAL (ROUT. & FC)	Dated: 09/01/22
M-28-028 (AQ9)	PROSPECT ST / SPRING ST	Dated: 10/19/22

Dear Mr. Bergeron:

As part of the Massachusetts Bridge Inspection Program, MassDOT - Highway Division performs the inspection of municipally owned bridges that have a clear span of 20 feet or greater. These bridges are scheduled to be inspected every two years or less.

For your records are copies of recent bridge inspection field reports for the referenced municipally owned bridges. Repair, rehabilitation or reconstruction of any bridges to address the deficiencies reported is the owner/custodian's responsibility. Chapter 90 funds may be used for these purposes.

Questions regarding the content of the reports may be directed to the District Bridge Inspection Engineer, Matthew Barrett, at 857-368-2081.

Sincerely,

for

Patricia A. Leavenworth, P.E.
District 2 Highway Director

MB/
cc: BIE (2), DHD D-2, DBIE D-2
Enclosure

811 North King Street, Northampton, MA 01060
Tel: (857) 368-2000, Fax: (857) 368-0200
www.mass.gov/massdot

December 11, 2022

Bruce Sylvia,
Bridge Inspection Engineer
MassDOT Bridges / Structures
10 Park Plaza, Suite 6340
Boston, MA 02116

Attn: Matthew Barrett, District 2 Bridge Inspection Engineer

Re: Inspection of Statewide Complex Structures
Contract Number: 110112
Bridge Inspection M-28-017 (0R4)

Dear Mr. Sylvia,

Attached please find an electronic copy of the Routine and Fracture Critical Inspection Reports for Bridge Number M-28-017 (0R4). This bridge carries Eleventh Street over the Utility Canal in the Town of Montague.

Item 58 – Deck is coded 7. No change.

- Item 58.8 – Railings
  - (DEF=S/A) South sidewalk – pedestrian rail: at L0, the top rail at the splice connection is missing four (4) bolts and the adjacent sections are laterally misaligned up to 1/4". The lattice members are missing two (2) rivets. The bottom rail at the splice connection is missing one (1) rivet and the adjacent lattice connection bolt to the west is loose. Note: the railing at this location is loose and translates laterally up to 3" by hand.

Item 59 – Superstructure is coded 6. No change.

- Item 59.9 – Bearing Devices
  - (DEF=S/A) At the northwest pier, at floorbeam 1, both bearing anchor bolts are sheared off with minor horizontal displacement between sheared sections; floorbeam 1 is unsupported at the north bearing. This deficiency was reported to MassDOT District 2 DBIE via phone call and email dated 10/6/2022.

Item 60 – Substructure is coded 5. No change.

- Item 60.2.a – Pedestals
  - Northwest pier – west face at sidewalk stingers SW3 and SW4: 3'-4" long x 9" high x 4" deep spall exposing the anchor bolts and undermining the masonry plate up to 75% of the total area.
  - Southwest pier – west face at sidewalk stringers SW5 and SW8: 20" long x 9" high x up to 5" deep spall exposing the anchor bolts. The masonry plate at sidewalk stringer SW5 is undermined for up to 75% of the total area and the masonry plate at sidewalk stringer SW8 is completely undermined.

Concerns or special needs noted:

- On 10/06/2022, MassDOT District 2 DBIE was notified via phone call and email of the two (2) sheared off anchor bolts for floorbeam 1 bearing at the northwest pier. Floorbeam 1 is unsupported at the north bearing and there is minor horizontal displacement between the sheared sections.
- Re-rating: No.
- S/A Deficiencies: Yes, see the inspection report for complete details.
- Critical Deficiencies: No.

If you have any questions or comments, please contact us at your earliest convenience.

Very truly yours,
ATANE Engineers, P.C.

Mahmood Mohammed, P.E.
Executive Vice President

STRUCTURES INSPECTION FIELD REPORT

ROUTINE INSPECTION

2-DIST	B.I.N.	BR. DEPT. NO.
02	0R4	M-28-017

CITY/TOWN	8.-STRUCTURE NO.	11-Kilo. POINT	41-STATUS	90-ROUTINE INSP. DATE
MONTAGUE	M28017-0R4-MUN-NBI	000.097	P:POSTED	SEP 1, 2022

07-FACILITY CARRIED	MEMORIAL NAME/LOCAL NAME	27-YR BUILT	106-YR REBUILT	YR REHAB'D (NON 106)
HWY ELEVENTH ST		1915	1996	0000

06-FEATURES INTERSECTED	26-FUNCTIONAL CLASS	DIST. BRIDGE INSPECTION ENGINEER
WATER UTILITY CANAL	Urban Local	M. Barrett

43-STRUCTURE TYPE	22-OWNER	21-MAINTAINER	TEAM LEADER B. Slater	PROJ MGR ATANE Engineers P C
310 : Steel Truss - Thru	Town Agency	Town Agency		

107-DECK TYPE	WEATHER	TEMP. (air)	TEAM MEMBERS
1 : Concrete Cast-in-Place	Clear	21°C	N. MUNOT

ITEM 58 — DECK — 7

		DEF
1.Wearing Surface	6	-
2.Deck Condition	7	-
3.Stay in place forms	6	M-P
4.Curbs	6	-
5.Median	N	-
6.Sidewalks	6	M-P
7.Parapets	N	-
8.Railing	5	S-A
9.Anti Missile Fence	N	-
10.Drainage System	N	-
11.Lighting Standards	N	-
12.Utilities	6	-
13.Deck Joints	N	-
14.	N	-
15.	N	-
16.	N	-

CURB REVEAL (In millimeters)	N	S
	215	215

APPROACHES

		DEF
a. Appr. Pavement Condition	6	M-P
b. Appr. Roadway Settlement	6	M-P
c. Appr. Sidewalk Settlement	6	M-P
d. Appr. Sidewalk Condition	7	-

OVERHEAD SIGNS (Attached to bridge) (Y/N) N

		DEF
a. Condition of Welds	N	-
b. Condition of Bolts	N	-
c. Condition of Signs	N	-

ITEM 59 — SUPERSTRUCTURE — 6

			DEF
1.Stringers		7	-
2.Floorbeams		7	-
3.Floor System Bracing		N	-
4.Girders or Beams		N	-
5.Trusses - General		6	-
a. Upper Chords	6		-
b. Lower Chords	6		-
c. Web Members	5		M-P
d. Lateral Bracing	6		-
e. Sway Bracings	N		-
f. Portals	N		-
g. End Posts	6		-
6.Pin & Hangers		N	-
7.Conn Plt's, Gussets & Angles		6	M-P
8.Cover Plates		N	-
9.Bearing Devices		4	S-A
10.Diaphragms/Cross Frames		N	-
11. Rivets & Bolts		6	M-P
12.Welds		7	-
13.Member Alignment		6	-
14.Paint/Coating		5	M-P
15.		N	-

Year Painted	1996

COLLISION DAMAGE: *Please explain*
None ( ) Minor (X) Moderate ( ) Severe ( )

LOAD DEFLECTION: *Please explain*
None ( ) Minor (X) Moderate ( ) Severe ( )

LOAD VIBRATION: *Please explain*
None ( ) Minor (X) Moderate ( ) Severe ( )

Any Fracture Critical Member: (Y/N) Y

Any Cracks: (Y/N) N

ITEM 60 — SUBSTRUCTURE — 5

	Dive	Cur		DEF
1. Abutments			7	
a. Pedestals	N	N		-
b. Bridge Seats	N	N		-
c. Backwalls	N	7		-
d. Breastwalls	N	7		-
e. Wingwalls	N	7		-
f. Slope Paving/Rip-Rap	N	7		-
g. Pointing	N	N		-
h. Footings	N	N		-
i. Piles	N	H		-
j. Scour	N	7		-
k. Settlement	N	7		-
l.	N	N		-
m.	N	N		-
2. Piers or Bents			5	
a. Pedestals	N	4		S-A
b. Caps	N	N		-
c. Columns	N	N		-
d. Stems/Webs/Pierwalls	N	5		M-P
e. Pointing	N	N		-
f. Footing	N	H		-
g. Piles	N	H		-
h. Scour	N	7		-
i. Settlement	N	7		-
j.	N	N		-
k.	N	N		-
3. Pile Bents			N	
a. Pile Caps	N	N		-
b. Piles	N	N		-
c. Diagonal Bracing	N	N		-
d. Horizontal Bracing	N	N		-
e. Fasteners	N	N		-

UNDERMINING (Y/N) If YES please explain: N

COLLISION DAMAGE:
None (X) Minor ( ) Moderate ( ) Severe ( )

SCOUR: *Please explain*
None (X) Minor ( ) Moderate ( ) Severe ( )

I-60 (Dive Report): N *I-60 (This Report):* 5

93B-U/W (DIVE) Insp 00/00/0000

X=UNKNOWN N=NOT APPLICABLE H=HIDDEN/INACCESSIBLE R=REMOVED

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	0R4	M-28-017	M28017-0R4-MUN-NBI	SEP 1, 2022

ITEM 61 — CHANNEL & CHANNEL PROTECTION

7

	Dive	Cur	DEF
1.Channel Scour	N	7	-
2.Embankment Erosion	N	7	-
3.Debris	N	6	-
4.Vegetation	N	7	-
5.Utilities	N	N	-
6.Rip-Rap/Slope Protection	N	7	-
7.Aggradation	N	7	-
8.Fender System	N	N	-

STREAM FLOW VELOCITY:

Tidal ( ) High ( ) Moderate ( ) Low (X) None ( )

ITEM 61 (Dive Report): N *ITEM 61 (This Report):* 7

93b-U/W INSP. DATE: 00/00/0000

ITEM 36 — *TRAFFIC SAFETY*

	36	COND	DEF
A. Bridge Railing	0	5	S-A
B. Transitions	N	N	-
C. Approach Guardrail	0	7	-
D. Approach Guardrail Ends	0	7	-

WEIGHT POSTING

Not Applicable ☐

	H	3	3S2	Single
Actual Posting	16	22	25	N
Recommended Posting	16	22	25	N

Waived Date: 00/00/0000 **EJDMT Date:** 00/00/0000

Signs In Place (Y=Yes,N=No, NR=NotRequired) Legibility/ Visibility	At bridge E	At bridge W	Other Advance E	Other Advance W
	NR	NR	Y	Y
			8 / 8	8 / 8

CLEARANCE POSTING

Not X Actual Field Measurement

Posted Clearance

	N ft	N in	S ft	S in	meter
		0		0	
		0		0	

Signs In Place (Y=Yes,N=No, NR=Not Required) Legibility/ Visibility	At bridge N	At bridge S	Advance N	Advance S

ACCESSIBILITY (Y/N/P)

	Needed	Used
Lift Bucket	Y	Y
Ladder	P	Y
Boat	P	N
Waders	N	N
Inspector 50	N	N
Rigging	N	N
Staging	N	N
Traffic Control	Y	Y
RR Flagger	N	N
Police	Y	Y
Other:		
CANAL DRAINED	P	Y

TOTAL HOURS 106

PLANS (Y/N): Y

(V.C.R.) (Y/N): N

TAPE#: _____

List of field tests performed:

Visual and hands-on

RATING

Rating Report (Y/N): Y

Date: 10/01/2008

Inspection data at time of existing rating

I 58: **7** I 59: **6** I 60: **6** Date : 07/10/2008

Recommend for Rating or Rerating (Y/N): N

If YES please give priority: HIGH ( ) MEDIUM ( ) LOW ( )

REASON: _____

CONDITION RATING GUIDE

(For Items 58, 59, 60 and 61)

	CODE	CONDITION	DEFECTS
	N	NOT APPLICABLE	
G	9	EXCELLENT	Excellent condition.
G	8	VERY GOOD	No problem noted.
G	7	GOOD	Some minor problems.
F	6	SATISFACTORY	Structural elements show some minor deterioration.
F	5	FAIR	All primary structural elements are sound but may have minor section loss, cracking, spalling or scour.
P	4	POOR	Advanced section loss, deterioration, spalling or scour.
P	3	SERIOUS	Loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.
C	2	CRITICAL	Advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.
C	1	"IMMINENT" FAILURE	Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stablility. Bridge is closed to traffic but corrective action may put it back in light service.
	0	FAILED	Out of service - beyond corrective action.

DEFICIENCY REPORTING GUIDE

DEFICIENCY: A defect in a structure that requires corrective action.

CATEGORIES OF DEFICIENCIES:

M= Minor Deficiency Deficiencies which are minor in nature, generally do not impact the structural integrity of the bridge and could easily be repaired. Examples include but are not limited to: Spalled concrete, Minor pot holes, Minor corrosion of steel, Minor scouring, Clogged drainage, etc.

S= Severe/Major Deficiency Deficiencies which are more extensive in nature and need more planning and effort to repair. Examples include but are not limited to: Moderate to major deterioration in concrete, Exposed and corroded rebars, Considerable settlement, Considerable scouring or undermining, Moderate to extensive corrosion to structural steel with measurable loss of section, etc.

C-S= Critical Structural Deficiency A deficiency in a structural element of a bridge that poses an extreme unsafe condition due to the failure or imminent failure of the element which will affect the structural integrity of the bridge.

C-H= Critical Hazard Deficiency A deficiency in a component or element of a bridge that poses an extreme hazard or unsafe condition to the public, but does not impair the structural integrity of the bridge. Examples include but are not limited to: Loose concrete hanging down over traffic or pedestrians, A hole in a sidewalk that may cause injuries to pedestrians, Missing section of bridge railing, etc.

URGENCY OF REPAIR:

I = Immediate- [Inspector(s) immediately contact District Bridge Inspection Engineer (DBIE) to report the Deficiency and to receive further instruction from him/her].

A = ASAP- [Action/Repair should be initiated by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) upon receipt of the Inspection Report].

P = Prioritize- [Shall be prioritized by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) and repairs made when funds and/or manpower is available].

RTB(2)04-07

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	**0R4**	**M-28-017**	**M28017-0R4-MUN-NBI**	**SEP 1, 2022**

REMARKS

BRIDGE ORIENTATION

Bridge No. M-28-017 (0R4) carries Eleventh Street over the Utility Canal in the Town of Montague. The two truss towers are labeled north and south, with the inner truss in each tower noted as closer to the roadway and the outer truss in each tower noted as closer to the fascia. The spans, panels, floorbeams, and truss nodes are numbered west to east. The stringers supporting the roadway are numbered S1 to S6 and the stringers supporting the sidewalks are numbered SW1 to SW8 each from north to south. The piers are labeled northwest, southwest, northeast, and southeast. The abutments and approaches are labeled west and east **(sketch 1 and photos 1 through 5)**.

GENERAL REMARKS

The bridge is a three (3) span continuous superstructure consisting of a truss-floorbeam-stringer system with four (4) thru-trusses (two (2) trusses per tower), ten (10) floorbeams, six (6) stringers between the floorbeams supporting the roadway, and four (4) stringers between the floorbeams supporting each sidewalk **(sketch 2)**. The deck is comprised of a reinforced concrete slab with a latex-modified concrete wearing surface. The substructure consists of reinforced concrete stub abutments and four (4) reinforced concrete pier columns.

ACCESS NOTES

The top of deck and trusses were accessed using a 40' bucket truck in conjunction with alternating single lane closures on Eleventh Street during the day with a Montague Police detail. The underside of spans 1 and 3, and portions of span 2, were accessed from the embankments while the canal was dewatered. The utility canal below the bridge is owned and operated by First Light Power Resources and no boat access was allowed to inspect the underside of the bridge. As access to span 2 is limited (no access with boat in canal), a drone was utilized for the remaining portions of span 2, as a visual inspection aide, to get high-definition images and robust live video feedback of the existing conditions.

The utility canal below the bridge is owned and operated by First Light Power Resources. The canal is dewatered for only one week a year and there is no boat access is allowed (when the canal is filled or dewatered). The primary contact at First Light is Nick Hollister <Nick.Hollister@firstlightpower.com> and the office phone number is (413)-659-4489.

ITEM 58 - DECK

Item 58.1 - Wearing Surface

The latex modified concrete wearing surface has random hairline cracks up to full width throughout **(photo 6).**

Item 58.2 - Deck Condition

The underside of deck beneath the roadway and sidewalks is covered by Stay-In-Place (SIP) forms. The exposed portions of the deck at the deck overhangs have scattered hairline cracks and isolated spalls with and without exposed rebar. Specific deficiencies are as follows:

North deck overhang, north face:
At floorbeams 4 and 5 – up to 2'-6" long x 15" high x 2" deep spall with exposed rebar **(photo 7)**.

At floorbeams 3 and 6 – up to 16" long x 10" high x 2-1/2" deep spall.

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	**0R4**	**M-28-017**	**M28017-0R4-MUN-NBI**	**SEP 1, 2022**

REMARKS

Item 58.3 - Stay in place forms
The SIP forms under both sidewalks have scattered areas of moderate to heavy rust and efflorescence leakage, primarily under the sidewalks adjacent to the floorbeams, for up to 10'-0" long **(photo 8)**.

The underside of the south sidewalk SIP forms at the ends of the panels has isolated heavy efflorescence leakage onto the superstructure elements below. The SIP forms under the south sidewalks in panel 2 (between floorbeams 2 and 3) and in panel 9 (between floorbeams 9 and 10) have heavy rust with isolated areas of up to 100% section loss **(photos 9 and 10)**.

Item 58.4 - Curbs
Along both curbs is a very minor accumulation of debris. At the ends of the bridge is moderate vegetation growth **(photo 11)**. The concrete curbs have scattered 1/16" wide vertical cracks, mainly in spans 1 and 3. Specific deficiencies are as follows:

North Curb
- Near L8 - two (2) spalls up to 10" long x 8" high x 2" deep.
- Near L10 - 5" diameter x 1/2" deep spall.
- Near L16 - 10" long x 8" high x 2" deep spall **(photo 12)**.
- Near L18 - 10" long x 3" high x 1-1/2" deep spall **(photo 13)**.
- Near east abutment - 10" long x 2" high x 2" deep spall.

Item 58.6 - Sidewalks
The reinforced concrete sidewalks along both sides of the bridge have random scale along the curbs and at the transverse joints, random transverse hairline cracks up to full width and isolated vegetation growth.

The north sidewalk at numerous transverse joints has edge spalls up to 2'-6" long x 5'-6" wide x 1" deep. The south sidewalk at the transverse joints has concrete repair patches; the patches have random transverse 1/8" wide cracks that extend up to full width of the sidewalk **(photo 14)**.

Specific deficiencies are as follows:

North Sidewalk
- At L0 – up to 20" long x 5'-0" wide x 1" deep spall and vegetation growth **(photo 15)**.
- Between L0 and L2: along the curb is scale for up to 3'-0" long x 3" wide x 1" deep.
- At L8 – 6" long x up to 3'-4" wide x 1/2" deep spall.
- At L10 – 6" long x up to 3'-0" wide x 1/2" deep spall with vegetation growth.
- At L14 – 4" long x 15" wide x 1/2" deep spall.
- At L16 – 5" long x 8" wide x 1/2" deep spall.
- At L18 – up to 2'-6" long x 5'-6" wide x 1" deep spall.

South Sidewalk
- In span 3, at the east end, is an edge spall up to 6" long x 15" wide x 1-1/4" deep **(photo 16)**.

Item 58.8 - Railing
There is no vehicular bridge railing along the inside face of either inner truss. The pedestrian bridge railings along the bridge fascia have random locations throughout with chipped paint and light to moderate rust. At the truss end posts, at the cut-out section of the top rail, is a transverse crack up to 2" long **(photo 17)**.

There are short lengths of BR-2 Rail bolted to the top of the concrete curbs over the approach spans. The BR-2 rails have random scrapes and gouges throughout.

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	**0R4**	**M-28-017**	**M28017-0R4-MUN-NBI**	**SEP 1, 2022**

REMARKS

Specific deficiencies are as follows:

North Sidewalk - Pedestrian Rail

- Near L4, the lattice members have one (1) missing rivet.

South Sidewalk - Pedestrian Rail

- **(DEF=S/A)** At L0, the top rail at the splice connection is missing four (4) bolts and the adjacent sections are laterally misaligned up to 1/4" **(photo 18)**. The lattice members are missing two (2) rivets. The bottom rail at the splice connection is missing one (1) rivet and the adjacent lattice connection bolt to the west is loose **(photo 19)**. Note: **the railing at this location is loose and translates laterally up to 3" by hand.**
- At L6, top rail, one (1) connection bolt missing
- At L14, the lattice members have two (2) missing rivets and the bottom rail has one (1) missing lattice member connection bolt.

Item 58.12 - Utilities

The water main on the north side of the bridge has a thin metal protector wrap with scattered minor dents, punctures, and torn sections of insulation throughout.

The steel utility supports have widespread peeling paint with light to moderate rust **(photo 20)**.

APPROACHES

Approaches a - Appr. Pavement Condition

At the west and east abutment, the saw cut deck joint is covered by an up to 2'-0" long x full roadway width bituminous patch (installed since the previous inspection) with vertical unevenness for up to 1" **(photo 21)**.

West Approach Pavement:

There are random longitudinal and transverse cracks up to 3/4" wide. In the eastbound lane, at about 9'-0" from the bridge, is a bituminous patch up to 2'-6" long x 12" wide with an adjacent 3'-0" long x 18" wide area of bituminous break-up. At the north and south curbs, near the bridge, around the drainage basins is bituminous break-up for the full circumference x up to 12" wide **(photo 22)**.

East Approach Pavement:

There are random longitudinal cracks up to 4'-0" long x 1/4" wide within up to 15 square foot areas of map cracks **(photo 23)**.

Approaches b - Appr. Roadway Settlement

The west approach roadway has light to moderate raveling. Refer to 'Approaches a – Appr. Pavement Condition' for additional comments.

Approaches c - Appr. Sidewalk Settlement

All four sidewalk approaches have Hot Mix Asphalt (HMA) ramps leading to the bridge with up to a 1" vertical height differential between the top of the ramp and the sidewalk.

Approaches d - Appr. Sidewalk Condition

Along the perimeter and edges of the approach sidewalks is moderate vegetation growth.

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ITEM 59 - SUPERSTRUCTURE

Item 59.1 - Stringers
The roadway stringers have isolated areas of peeling paint and light rust.

The sidewalk stringers, mostly near the piers, have random areas of peeling paint with moderate rust **(photo 24)**. In span 3, the south sidewalk stringers have moderate vine growth from below.

Item 59.2 - Floorbeams
The roadway floorbeams have isolated locations of peeling paint with light rust and locations of rust and efflorescence leakage from above.

The sidewalk floorbeams have random peeling paint, moderate rust, and bleeding rust and efflorescence leakage from the above Stay-In-Place (SIP) forms and the sidewalk (topside) concrete patches **(photo 25)**.

Item 59.5 - Trusses - General
All chords, web members, gusset plates, connection bolts/rivets, and bracing have scattered peeling paint and light to moderate rust **(photos 26 and 27)**.

Item 59.5.a - Upper Chords
At the north tower outer truss, members U2-U4 and U14-U16 each have 1 bent lattice member **(photo 28)**.

Item 59.5.b - Lower Chords
North outer truss lower chord at and near node L12 has moderate vine growth.

Item 59.5.c - Web Members
Along the south tower inner truss at the bottom of members U2-L2, U2-L4, U4-L6, U8-L10, and U10-L8 are dents up to 1" deep due to collision damage. At all trusses, at numerous panel connections at the web member midpoints, is pack rust up to full length (approximately 8” long) x 1" thick (1/2” average thickness) with flange section loss typically up to 1” wide x knife edge remaining thickness; the remaining width typically has up to 1/16” deep section loss. Members with section loss at locations of pack rust are as follows:

North outer truss
- U4-L6 at M5 – outer flange has 7" long x 1/4" remaining thickness.
- U6-L4 at M5 and U10-L12 at M11 – inner flange has 8" long x 1/8" remaining thickness.
- U8-L6 at M7 – inner flange has 7" long x 1” wide x knife edge remaining thickness at the edge **(photo 29)**.
- U10-L8 at M9 - flange has 6" long x 1/4" remaining thickness.
- U12-L14 at M13 – outer flange has 6" long x 1/8" remaining thickness.
- U16-L14 at M15 – both flanges have 8" long x 1” wide x 1/8" remaining thickness **(photo 30)**.

North inner truss
- U8-L10 at M9 - flange has 7" long x 1/4" remaining thickness.
- U10-L12 at M11 - inner flange has 8" long x 1/2” wide x 1/8" remaining thickness.

South Outer Truss
- U4-L2 at M3 - outer flange has 6" long x knife edge remaining thickness; inner connection plate has 10" long x 1/4" remaining thickness.

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- U6-L4 at M5 - outer flange has 6" long x 1/4" remaining thickness; inner flange has 6" long x knife edge remaining thickness.
- U8-L10 at M9 – outer flange has 8" long x 1/4" remaining thickness.
- U10-L12 at M11 - inner flange has 8" long x 1/8" remaining thickness.
- U12-L14 at M13 – outer flange has 6" long x 3/8" remaining thickness.

South Inner Truss

- U4-L2 at M3 - outer flange has 6" long x 3/8" remaining thickness **(photo 31).**
- U6-L4 at M5 - outer flange has 6" long x 1/4" remaining thickness.
- U6-L8 at M7 - outer flange has 8" long x 1/4" remaining thickness.
- U8-L10 at M9 - outer flange has 10" long x 1/4" remaining thickness; inner flange has 7" long x 3/8" remaining thickness.
- U12-L10 at M11 - inner flange has 7" long x 3/8" remaining thickness.

Item 59.5.d - Lateral Bracing

The lateral bracing between the upper chords of the inner and outer trusses have pack rust up to 1" thick between the angles throughout **(photo 32)**. At isolated locations, between lateral bracing and horizontal connection plates is pack rust.

Item 59.5.g - End Posts

Random lattice bars are bent and/or buckled due to pack rust, primarily at the underside of member U16-L18 of both south trusses.

Item 59.7 - Conn Plt's, Gussets & Angles

Lateral bracing connection plates along the top chords have isolated locations of pack rust at the interface with the bracing members; the connection plates at these locations typically have minor bends **(photo 33)**.

The roadway floorbeam to sidewalk floorbeams connection plates typically have peeling paint and light to moderate rust and moderate efflorescence leakage from above at random locations.

At the south outer truss, at node L10, the diaphragm angle connection (also serves as outer connection angle for the utility support bracket) has one (1) of six (6) connection bolts that are sheared / missing **(photo 34)**.

At the north outer truss, the lateral bracing horizontal connection plate at the center of member U14-U16 has a minor bend.

Item 59.9 - Bearing Devices

Truss Bearings

The elastomeric bearings have steel bearing angles with light to moderate rust. At the northeast pier, inspection of the inner and outer truss bearings is inhibited due to moderate vegetation growth and debris accumulation **(photo 35)**.

Floorbeam Bearings (at piers only)

At the northwest and southwest piers, the floorbeam grout pads are spalled away/ missing. **(DEF=S/A)** At the northwest pier, at floorbeam 1, both anchor bolts are sheared off with minor horizontal displacement between

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sheared sections; floorbeam 1 is unsupported at the north bearing **(photo 36)**. This deficiency was reported to MassDOT District 2 DBIE via phone call and email dated on 10/6/2022.

Item 59.11 - Rivets & Bolts
The roadway floorbeam to sidewalk floorbeams connection plate bolts, nuts, and washers typically have peeling paint and light to moderate rust and moderate efflorescence leakage from above at random locations.

All connection bolts have minor to moderate rust. At the south outer truss, at node L10, the outer connection angle for the utility support bracket has one (1) of six (6) bolt heads that are missing.

See Item 59.2 - Floorbeams, Item 59.5 - Trusses - General, and Item 59.7 - Gusset plates for additional comments.

Item 59.13 - Member Alignment
The previously noted slight bowing of the south lower chord could not be verified during this inspection.

Item 59.14 - Paint/Coating
All superstructure elements have chipped paint and minor to moderate rust.

See Item 59.1 - Stringers, Item 59.2 - Floorbeams, and Item 59.5 - Trusses - General for additional comments.

SuperStructure Collision Notes
There is minor collision damage to the web diagonals along the south inner truss.
See Item 59.5c - Web Members for comments.

SuperStructure Load Deflection Notes
In Span 1, the roadway stringers have minor negative camber due to the sheared bearing anchor rods at the northwest pier, floorbeam 1.
See 59.9 - Bearings for comments.

SuperStructure Load Vibration Notes
There are minor vibrations under heavy live loads.

ITEM 60 - SUBSTRUCTURE

Item 60.1 - Abutments
Item 60.1.c - Backwalls
The backwalls have scattered hairline cracks and efflorescence at the stringer ends **(photo 37).**

Item 60.1.d - Breastwalls
The breastwalls have scattered hairline cracks and efflorescence at the stringer ends **(photo 37).**

Item 60.1.e - Wingwalls
The wingwalls typically have moderate to heavy vegetation growth at the embankment which inhibits inspection of the wingwalls.

Northwest Wingwall/Cheekwall:
The previously noted 16" long x 5" high x up to 4" deep spall was not found during this inspection.

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Item 60.2 - Piers or Bents
Item 60.2.a - Pedestals
Both piers have concrete pedestals that support the approach sidewalk stringers. Specific deficiencies are as follows:

Northwest Pier
(DEF=S/A) West face at sidewalk stingers SW3 and SW4: 3'-4" long x 9" high x 4" deep spall exposing the anchor bolts and undermining the masonry plate up to 75% of the total area **(photo 38).**

Southwest Pier
(DEF=S/A) West face at sidewalk stringers SW5 and SW8: 20" long x 9" high x up to 5" deep spall exposing the anchor bolts. The masonry plate at sidewalk stringer SW5 is undermined for up to 75% of the total area and the masonry plate at sidewalk stringer SW8 is complete undermined **(photos 24 and 39).**

Northeast Pier
There are three (3) spalls totaling 4'-6" long x up to 10" high x 2" deep.

Item 60.2.d - Stems/Webs/Pierwalls
All piers at the high (normal) waterline have abrasion up to 3'-0" high x full perimeter x 2" deep, hollow sounding areas up to 2' high x 80% perimeter, and scattered hairline cracks with efflorescence. Specific deficiencies are as follows:

Southwest Pier
- West face - near the base is a 4'-6" long x 2'-3" high x up to 4" deep spall **(photo 40).**
- East face – two (2) spalls up to 7" long x 17" high x up to 4-1/2" deep.

Northeast Pier
- West face, north end, at the normal water line: two (2) spalls up to 4'-10" long x 22" high x 4" deep.
- West face, near the center, at the normal water line: 4'-2" long x 2'-0" high x 4" deep spall.
- West face, south end, at the normal water line: 2'-10" long x 14" high x 7" deep spall **(photo 41).**
- South face at the normal water line: west end has a 3'-6" long x 10" high x 1-1/2" deep spall and the east end has a 14” long x 13” high x 2” deep spall.

Southeast Pier
- West face, at the normal water line: 4'-5" long x 2'-2" high x 3" deep spall with exposed rebar with an adjacent delamination up to 5'-0" long x 2'-5" high **(photo 42).**
- East face: 2'-3" long x 10" high x up to 3" deep spall.

ITEM 61 - CHANNEL AND CHANNEL PROTECTION

Item 61.1 - Channel Scour
The riprap at the southwest and northwest piers has minor settlement and displacement.

Item 61.3 - Debris
There are several large metal and wooden objects in the channel bed and at the bridge.

Item 61.4 - Vegetation
There is heavy vegetation growth along the embankments above the waterline encroaching at bridge substructure, especially at the east embankment.

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TRAFFIC SAFETY

Item 36a - Bridge Railing
The bridge railing does not conform to current standards.

See Item 58.8 - Railing for comments.

Item 36b - Transitions
There are no transitions.

Item 36c - Approach Guardrail
The approach guardrail at all four (4) corners consist of W-beam on steel H-posts with plastic offset blocks that run perpendicular to the sidewalk pedestrian rails. The approach guardrails do not conform to current standards.

Item 36d - Approach Guardrail Ends
Approach guardrails terminate in boxing gloves ends. The approach guardrail ends do not conform to current standards.

Sketch / Photo Log

Sketch 1 : Location map.
Sketch 2 : Framing plan and truss elevation.
Photo 1 : North elevation.
Photo 2 : South elevation.
Photo 3 : Bridge from west approach.
Photo 4 : Bridge from east approach.
Photo 5 : Underside of deck and superstructure, span 2 shown, looking west.
Photo 6 : Wearing surface, span 2 shown, looking west - random insignificant cracks.
Photo 7 : North deck overhang, north face, span 2 at floorbeam 4, looking east - spall with exposed rebar.
Photo 8 : SIP forms, underside of south sidewalk, span 2, panel 1 (between floorbeams 1 and 2), near the southwest pier, looking west - moderate to heavy corrosion.
Photo 9 : SIP forms, underside of south sidewalk in span 2, panel 2 (between floorbeams 2 and 3), looking east - heavy rust with isolated holes and heavy efflorescence leakage.
Photo 10 : SIP forms, underside of south sidewalk, span 2, panel 9 (between floorbeams 9 and 10), looking west - heavy rust with isolated holes.
Photo 11 : North curb at the east end, at the abutment saw cut - moderate vegetation growth.
Photo 12 : North curb, span 2, near L16, looking northeast – spall.
Photo 13 : North curb, span 2, near L18, looking north – spall.
Photo 14 : South sidewalk, span 2, at L18, looking west - concrete patch repair at the transverse joints.
Photo 15 : North sidewalk at L0, looking east - spall and vegetation growth.
Photo 16 : South sidewalk at the east end (at the interface with the southeast approach sidewalk), looking west - edge spall.
Photo 17 : South sidewalk pedestrian railing, top rail, at L0-U1 - at the cut-out section is a transverse crack.
Photo 18 : South pedestrian railing at L0: top rail at the splice connection is missing four (4) connection bolts and adjacent sections are laterally misaligned.

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Photo 19 : South sidewalk pedestrian railing at L0 - the top and bottom rail splice connections and the lattice members have missing rivets. Additionally, a lattice member to bottom rail connection bolt is loose.
Photo 20 : Steel utility support at the northwest pier, looking east - peeling paint and moderate rust.
Photo 21 : East abutment and bridge deck interface, looking southwest - bituminous repair patch.
Photo 22 : West approach pavement - random longitudinal and transverse cracks. Eastbound lane has a bituminous patch with adjacent area of break-up. Surrounding the drainage basins is bituminous break-up.
Photo 23 : East approach pavement, looking south - random longitudinal cracks.
Photo 24 : South sidewalk stringers at the southwest pier, looking east - peeling paint and moderate rust. Note the pedestals spalls below sidewalk stringers SW5 and SW8.
Photo 25 : Span 2, floorbeam 6, west face at the south end - sidewalk floorbeam has moderate rust; roadway floorbeam has light rust. Note the connection bolts and nuts with moderate rust.
Photo 26 : South tower inner truss at U12 – upper chord, lateral bracing and gusset plates with peeling paint and light rust.
Photo 27 : South truss at east portal – end posts and bracing with peeling paint and light rust.
Photo 28 : North tower, outer truss, member U14-U16, looking east - bent lattice member.
Photo 29 : North tower outer truss, member U8-L6 at M7 – the edge of the inner flange has knife edge remaining thickness.
Photo 30 : North tower outer truss, member U16-L14 at M15 – flanges have section loss at the edge.
Photo 31 : South tower inner truss, members U4-L2 at M3 – outer flange has section loss at the edge.
Photo 32 : South tower at outer truss, looking south – lateral bracing angles have pack rust between adjacent legs.
Photo 33 : North tower outer truss, member U12-U14 lateral bracing connection plate - pack rust and minor bends.
Photo 34 : South tower outer truss at node L10: the diaphragm angle connection (also serves as outer connection angle for the utility support bracket) has a sheared / missing connection bolt.
Photo 35 : North tower, inner truss, east bearing - steel angles have light to moderate rust and an accumulation of debris that inhibits inspection.
Photo 36 : Northwest pier, at floorbeam 1 - both anchor rods are sheared and the floorbeam is unsupported. Note the completely spalled pedestal.
Photo 37 : East abutment breastwall and backwall - scattered hairline cracks and efflorescence at the stringer ends.
Photo 38 : Northwest pier pedestal, west face, at sidewalk stringers SW3 and SW4 - spall exposing the anchor bolts and undermining the masonry plate.
Photo 39 : Southwest pier pedestal, west face, at sidewalk stringer SW8 - spall exposing the anchor rods and undermining the masonry plate.
Photo 40 : Southwest pier, west face – spall near the base.
Photo 41 : Northeast pier, west face – at the normal water line are spalls and hollow areas.
Photo 42 : Southeast pier, west face - spall with exposed rebar with an adjacent delamination.

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SKETCHES

Sketch 1: Location map.

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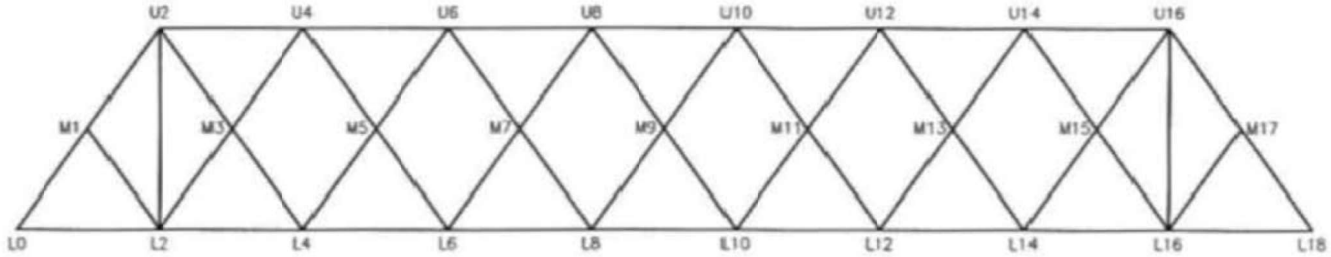
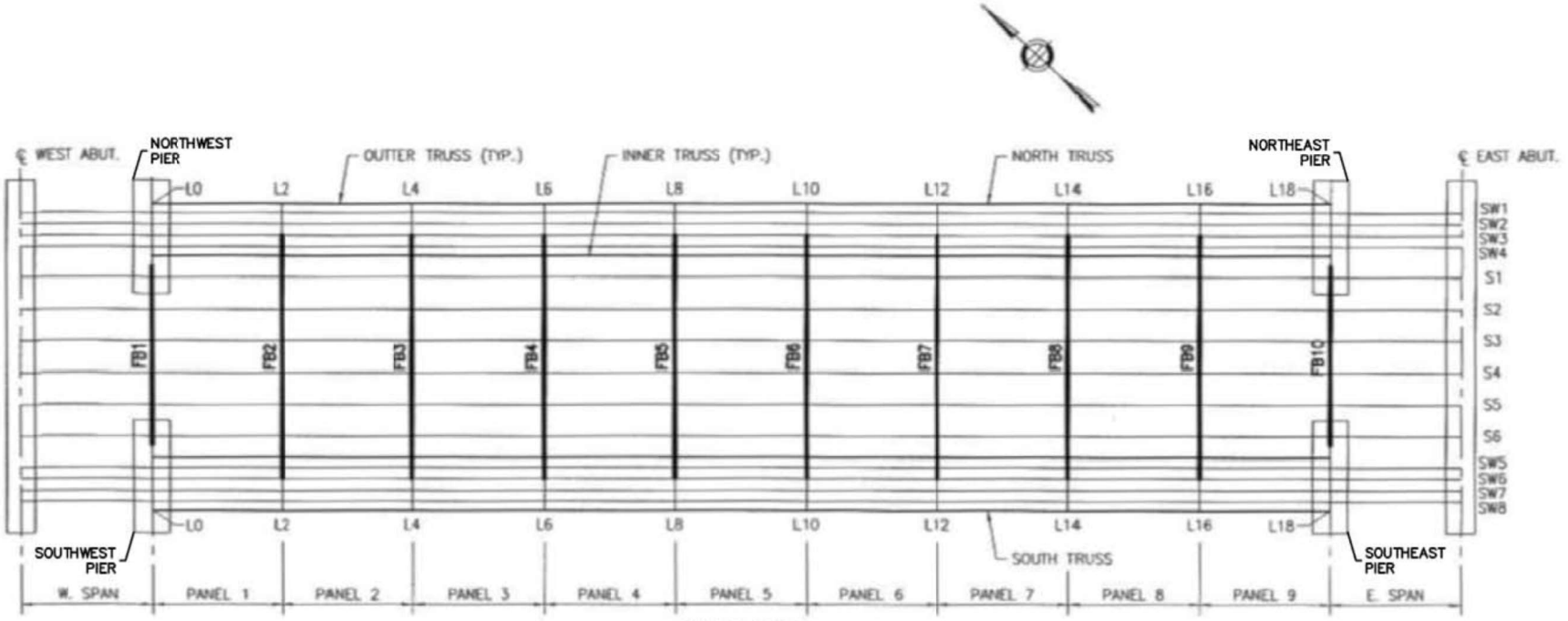
SKETCHES



SOUTH ELEVATION VIEW
(NORTH ELEVATION OPPOSITE HAND)



PLAN VIEW

Sketch 2: Framing plan and truss elevation.

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Photo 1: North elevation.

Photo 2: South elevation.

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Photo 3: Bridge from west approach.

Photo 4: Bridge from east approach.

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PHOTOS

Photo 5: Underside of deck and superstructure, span 2 shown, looking west.

Photo 6: Wearing surface, span 2 shown, looking west - random insignificant cracks.

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PHOTOS

Photo 7: **North deck overhang, north face, span 2 at floorbeam 4, looking east - spall with exposed rebar.**

Photo 8: **SIP forms, underside of south sidewalk, span 2, panel 1 (between floorbeams 1 and 2), near the southwest pier, looking west - moderate to heavy corrosion.**

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PHOTOS

Photo 9: **SIP forms, underside of south sidewalk in span 2, panel 2 (between floorbeams 2 and 3), looking east - heavy rust with isolated holes and heavy efflorescence leakage.**

Photo 10: **SIP forms, underside of south sidewalk, span 2, panel 9 (between floorbeams 9 and 10), looking west - heavy rust with isolated holes.**

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PHOTOS

Photo 11: **North curb at the east end, at the abutment saw cut - moderate vegetation growth.**

Photo 12: **North curb, span 2, near L16, looking northeast – spall.**

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PHOTOS

Photo 13: North curb, span 2, near L18, looking north – spall.

Photo 14: South sidewalk, span 2, at L18, looking west - concrete patch repair at the transverse joints.

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PHOTOS

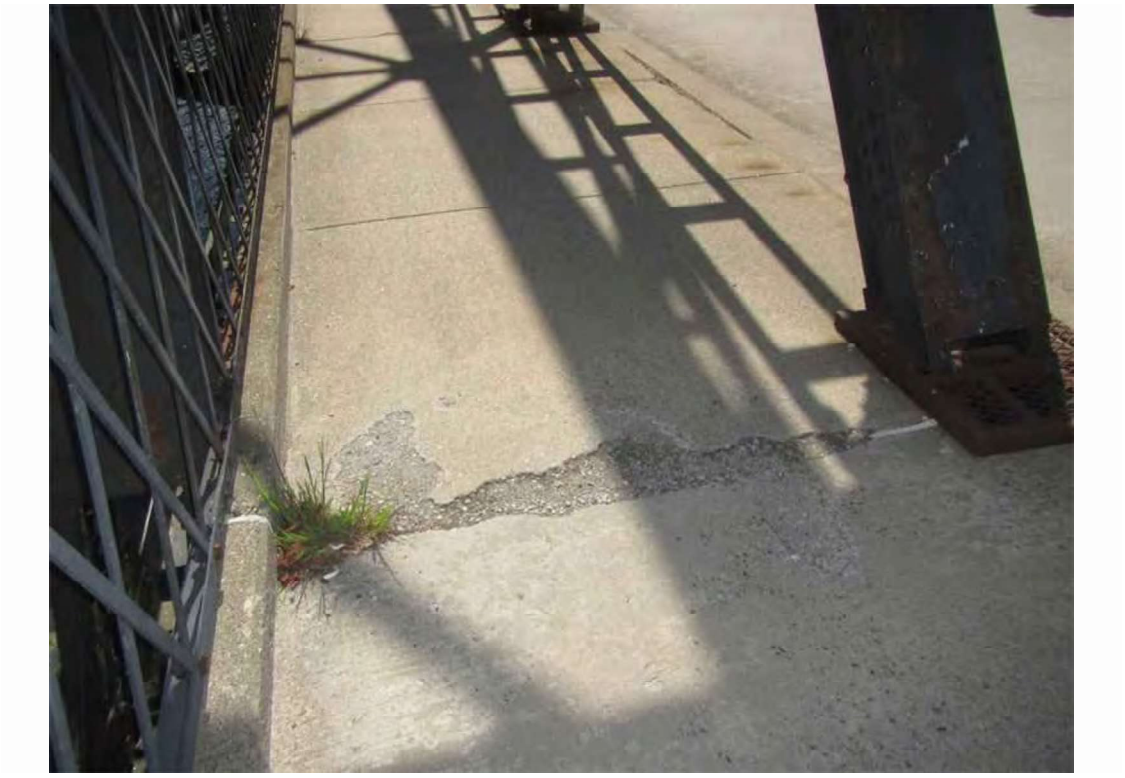

Photo 15: North sidewalk at L0, looking east - spall and vegetation growth.

Photo 16: South sidewalk at the east end (at the interface with the southeast approach sidewalk), looking west - edge spall.

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PHOTOS

Photo 17: South sidewalk pedestrian railing, top rail, at L0-U1 - at the cut-out section is a transverse crack.

Photo 18: South pedestrian railing at L0: top rail at the splice connection is missing four (4) connection bolts and adjacent sections are laterally misaligned.

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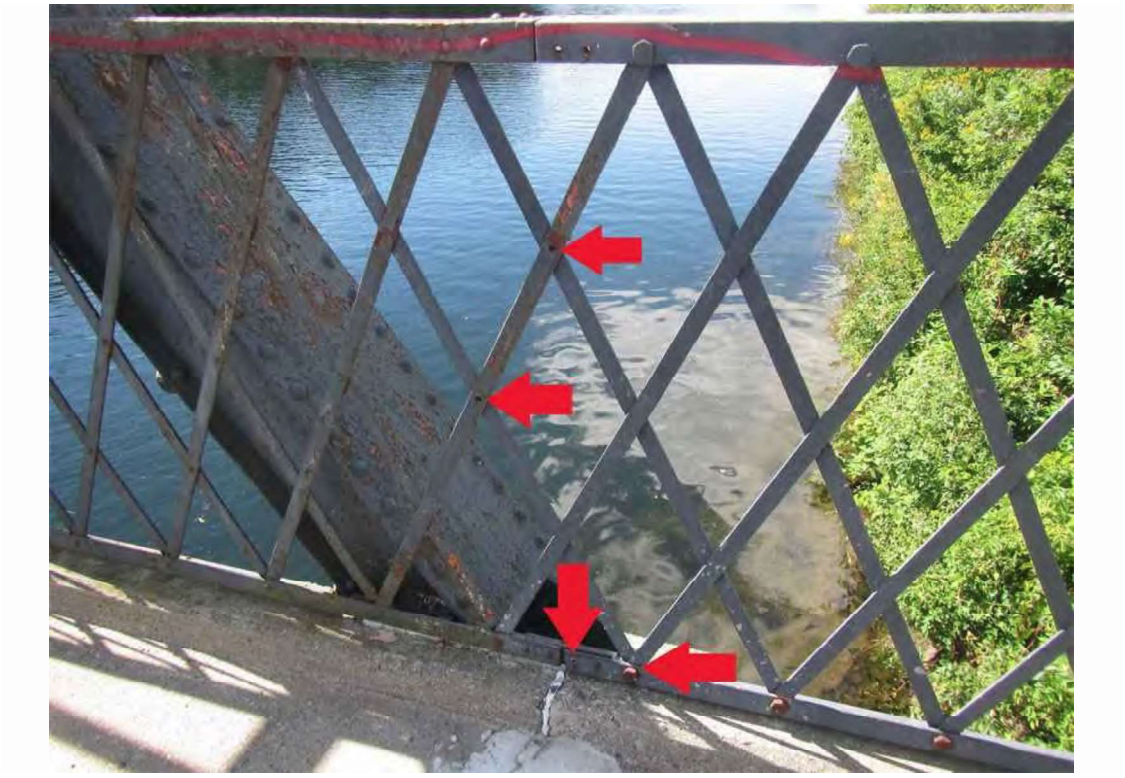

Photo 19: South sidewalk pedestrian railing at L0 - the top and bottom rail splice connections and the lattice members have missing rivets. Additionally, a lattice member to bottom rail connection bolt is loose.

Photo 20: Steel utility support at the northwest pier, looking east - peeling paint and moderate rust.

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PHOTOS

Photo 21: East abutment and bridge deck interface, looking southwest - bituminous repair patch.

Photo 22: West approach pavement - random longitudinal and transverse cracks. Eastbound lane has a bituminous patch with adjacent area of break-up. Surrounding the drainage basins is bituminous break-up.

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PHOTOS

Photo 23: East approach pavement, looking south - random longitudinal cracks.

Photo 24: South sidewalk stringers at the southwest pier, looking east - peeling paint and moderate rust. Note the pedestals spalls below sidewalk stringers SW5 and SW8.

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PHOTOS

Photo 25: Span 2, floorbeam 6, west face at the south end - sidewalk floorbeam has moderate rust; roadway floorbeam has light rust. Note the connection bolts and nuts with moderate rust.

Photo 26: South tower inner truss at U12 – upper chord, lateral bracing and gusset plates with peeling paint and light rust.

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PHOTOS

Photo 27: South truss at east portal – end posts and bracing with peeling paint and light rust.

Photo 28: North tower, outer truss, member U14-U16, looking east - bent lattice member.

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PHOTOS

Photo 29: North tower outer truss, member U8-L6 at M7 – the edge of the inner flange has knife edge remaining thickness.

Photo 30: North tower outer truss, member U16-L14 at M15 – flanges have section loss at the edge.

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PHOTOS

Photo 31: South tower inner truss, members U4-L2 at M3 – outer flange has section loss at the edge.

Photo 32: South tower at outer truss, looking south – lateral bracing angles have pack rust between adjacent legs.

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PHOTOS

Photo 33: North tower outer truss, member U12-U14 lateral bracing connection plate - pack rust and minor bends.

Photo 34: South tower outer truss at node L10: the diaphragm angle connection (also serves as outer connection angle for the utility support bracket) has a sheared / missing connection bolt.

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PHOTOS

Photo 35: North tower, inner truss, east bearing - steel angles have light to moderate rust and an accumulation of debris that inhibits inspection.

Photo 36: Northwest pier, at floorbeam 1 - both anchor rods are sheared and the floorbeam is unsupported. Note the completely spalled pedestal.

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	**0R4**	**M-28-017**	**M28017-0R4-MUN-NBI**	**SEP 1, 2022**

PHOTOS

Photo 37: **East abutment breastwall and backwall - scattered hairline cracks and efflorescence at the stringer ends.**

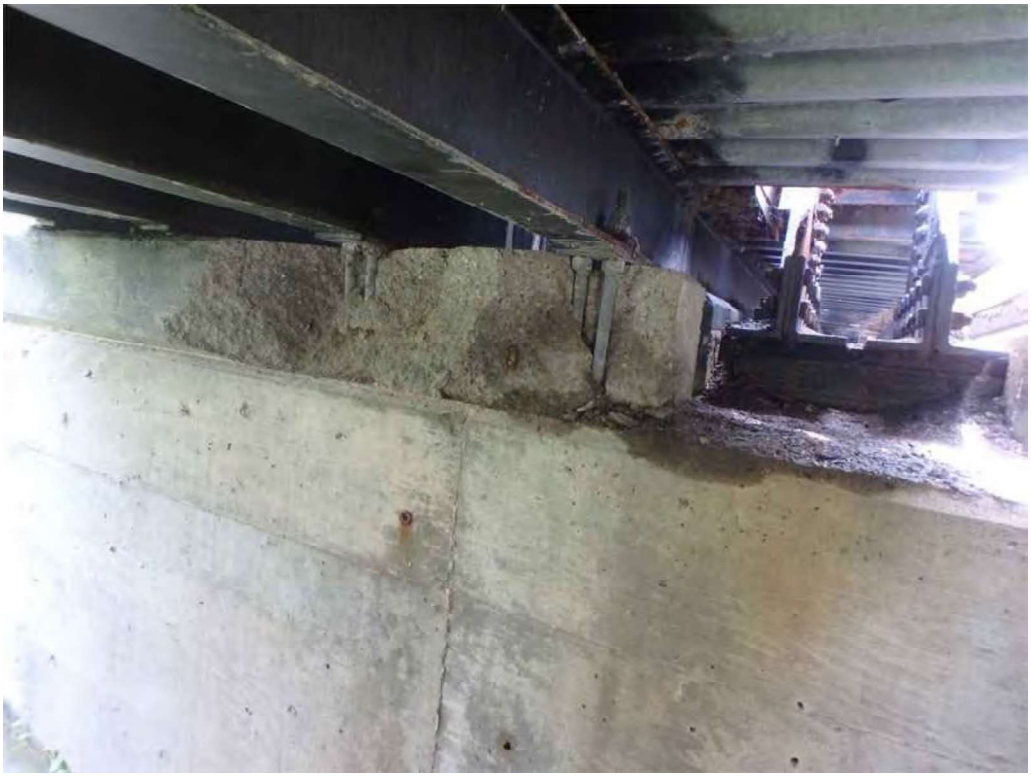

Photo 38: **Northwest pier pedestal, west face, at sidewalk stringers SW3 and SW4 - spall exposing the anchor bolts and undermining the masonry plate.**

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	0R4	M-28-017	M28017-0R4-MUN-NBI	SEP 1, 2022

PHOTOS

Photo 39: Southwest pier pedestal, west face, at sidewalk stringer SW8 - spall exposing the anchor rods and undermining the masonry plate.

Photo 40: Southwest pier, west face – spall near the base.

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
MONTAGUE	**0R4**	**M-28-017**	**M28017-0R4-MUN-NBI**	**SEP 1, 2022**

PHOTOS

Photo 41: Northeast pier, west face – at the normal water line are spalls and hollow areas.

Photo 42: Southeast pier, west face - spall with exposed rebar with an adjacent delamination.

Appendix E

Chapter 85 Bridge Preservation Requirements

Municipal Bridge Preservation Projects
MGL Chapter 85 Section 35 Review Process
Design Requirements and Submittals for Bridge Preservation Projects for both BRI (10 feet < span ≤ 20 feet) and NBI (20 feet < clear span) Structures

Note: If the Category of the Structure to be worked on is neither BRI nor NBI (i.e., span ≤ 10 feet), a Chapter 85 review is not required

Preservation Project Type	Hydraulic Design	Geotechnical Design	Structural Design	Construction Details	Design Review Submittals	Other Considerations
Cleaning and painting of Structural Steel (if performed without repairs)	Not required	Not required	Not required	Not required	Project Special Provisions	MGL and federal requirements for lead removal and air quality (see MassDOT specifications for Cleaning and Painting Structural Steel.
Concrete Deck Patching with or without applying waterproofing membranes and wearing surface	Not required	Not required	Not required. If reinforcing bars are deteriorated, provide additional reinforcing in kind and provide proper lap lengths with existing reinforcing. If changing wearing surface thickness from existing (either more OR less) perform a rating calculation to determine the change in load carrying capacity. Can use AASHTO Standard Specs.	Typical details showing limits of concrete deck chipping and forming deck repairs. If additional reinforcing steel is needed, show installation details along with lap lengths. Provide membrane details and wearing surface thickness.	Either a complete final set of Construction Plans (if used) or pages of typical details to be inserted into job Special Provisions (if "book job") as well as the job Special Provisions. If calculations are required, one set of design calculations checked by a second engineer. After MassDOT accepts the design, a complete final set of Construction Plan mylars or pages of typical details with the MassDOT Chapter 85 approval stamp printed on each sheet (page) for Bridge Engineer's signature.	Traffic control plan: close bridge during work or work in stages. If working in stages, provide barrier or other delineation of work zone. If more than 50% of deck area requires patching, consider a full deck replacement project instead.
Joint Sealing, Rehabilitation or Replacement	Not required	Not required	Not required if not reconstructing the end of deck. If reconstructing the end of deck, design any new deck configuration for wheel loads with Dynamic Allowance. Can use AASHTO Standard Specs.	Typical details showing all aspects of work, including limits of work, any demolition details and reconstruction details, new joint details.	Either a complete final set of Construction Plans (if used) or pages of typical details to be inserted into job Special Provisions (if "book job") as well as the job Special Provisions. If calculations are required, one set of design calculations checked by a second engineer. After MassDOT accepts the design, a complete final set of Construction Plan mylars or pages of typical details with the MassDOT Chapter 85 approval stamp printed on each sheet (page) for Bridge Engineer's signature.	Traffic control plan: close bridge during work or work in stages. If working in stages, provide barrier or other delineation of work zone or other temporary measures to allow work to be performed without impact to traffic.

Preservation Project Type	Hydraulic Design	Geotechnical Design	Structural Design	Construction Details	Design Review Submittals	Other Considerations
Rehabilitation, patching or protection of concrete abutments and piers	Not required	Not required	Not required. If reinforcing bars are deteriorated, provide additional reinforcing in kind and provide proper lap lengths with existing reinforcing. If work will undermine existing beam bearings or if pier cap reinforcing will be exposed, design temporary shoring in accordance with the AASHTO Handbook for Temporary Works to carry all dead loads, and live loads if bridge is open to traffic, that the member under repair sees. AASHTO Standard Specifications can be used.	Typical details showing limits of work, limits of concrete chipping and forming of repairs. If additional reinforcing steel is needed, show installation details along with lap lengths. If shoring is required, provide details of shoring including locations, foundation and member sizes.	Either a complete final set of Construction Plans (if used) or pages of typical details to be inserted into job Special Provisions (if "book job") as well as the job Special Provisions. If calculations are required, one set of design calculations checked by a second engineer. After MassDOT accepts the design, a complete final set of Construction Plan mylars or pages of typical details with the MassDOT Chapter 85 approval stamp printed on each sheet (page) for Bridge Engineer's signature.	If temporary shoring is to be designed by the Contractor, the Designer should provide loads to be used, shoring material and that the design should be in accordance with the AASHTO Standard Specifications and the AASHTO Handbook for Temporary Work. Permits are required for temporary shoring in wetland resource areas.
Structural Repairs to Steel Beams (can be combined with cleaning and painting Structural Steel)	Not required	Not required	Can use AASHTO Standard Specifications for either the original design truck or H20, whichever is greater. Design all replacement member sizes and connections for the load that it will see (dead and/or live load). Consider fatigue loading if applicable. Bolting should also consider sealing of plates edges. If a beam needs to be unloaded, design temporary shoring and jacking in accordance with the AASHTO Specifications and the AASHTO Handbook for Temporary Works.	Develop specific details for each repair location or alternatively, typical details that can be used in multiple locations. Details should show all member sizes, bolt sizes and spacing.	Either a complete final set of Construction Plans (if used) or pages of typical details to be inserted into job Special Provisions (if "book job") as well as the job Special Provisions. One set of design calculations checked by a second engineer. After MassDOT accepts the design, a complete final set of Construction Plan mylars or pages of typical details with the MassDOT Chapter 85 approval stamp printed on each sheet (page) for Bridge Engineer's signature.	Field welding can be used, however the Designer must verify if the existing steel is weldable. Welds should be designed considering weld behavior and loads paths. Job Special Provisions should provide for field inspection of welds using Mag Particle or Ultrasonic Testing. If temporary shoring is to be designed by the Contractor, the Designer should provide loads to be used, shoring material and that the design should be in accordance with the AASHTO Specifications and the AASHTO Handbook for Temporary Works. Permits are required for temporary shoring in wetland resource areas.
Structural Repairs to Concrete Beams and Slabs	Not required	Not required	Can use AASHTO Standard Specifications for either the original design truck or H20, whichever is greater. Design all repairs so that in the repaired condition the beam or slab will carry all required loads. If reinforcing bars are deteriorated, provide additional reinforcing in kind and provide proper lap lengths with existing reinforcing. If a beam needs to be unloaded, design temporary shoring and jacking in accordance with the AASHTO Handbook for Temporary Works.	Typical details showing limits of work, limits of concrete chipping and forming of repairs. If additional steel if needed show how to install along with lap lengths. If shoring is required, provide details of shoring including locations, foundation and member sizes.	Either a complete final set of Construction Plans (if used) or pages of typical details to be inserted into job Special Provisions (if "book job") as well as the job Special Provisions. One set of design calculations checked by a second engineer. After MassDOT accepts the design, a complete final set of Construction Plan mylars or pages of typical details with the MassDOT Chapter 85 approval stamp printed on each sheet (page) for Bridge Engineer's signature.	If temporary shoring is to be designed by the Contractor, the Designer should provide loads to be used, shoring material and that the design should be in accordance with the AASHTO Specifications. If a prestressed concrete girder is being repaired, un-bonding of the prestressing strands will result in loss of prestress that should be taken into account in the design calculations. Permits are required for temporary shoring in wetland resource areas.

Preservation Project Type	Hydraulic Design	Geotechnical Design	Structural Design	Construction Details	Design Review Submittals	Other Considerations
Stone Masonry and Concrete Masonry Arch Repairs	Not required	Not required	Can use AASHTO Standard Specifications for either the original design truck or H20, whichever is greater. Design all repairs so that in the repaired condition the arch will carry all required loads. If reinforcing bars are deteriorated, provide additional reinforcing in kind and provide proper lap lengths with existing reinforcing. Design should ensure that the arch will still be stable after chipping of deteriorated concrete. If not, a shoring system needs to be provided.	Typical details showing limits of work, limits of concrete chipping and forming of repairs. If additional reinforcing steel is needed, show installation details along with lap lengths. If shoring is required, provide details of shoring including locations, foundation and member sizes. For stone masonry arch repairs, such as chinking gaps or mortaring voids and gaps, provide typical details.	Either a complete final set of Construction Plans (if used) or pages of typical details to be inserted into job Special Provisions (if "book job") as well as the job Special Provisions. If required, one set of design calculations checked by a second engineer. After MassDOT accepts the design, a complete final set of Construction Plan mylars or pages of typical details with the MassDOT Chapter 85 approval stamp printed on each sheet (page) for Bridge Engineer's signature.	Other preservation options: Consider lining the inside of the arch with a metal culvert structure and grouting the annular space between them. Metal culvert should be designed for full dead and live load as if masonry or concrete arch was not there. If there is sufficient backfill over the arch, consider casting a reinforced concrete moment slab over the entire arch so that live loads are distributed over a larger area and not as point loads.
Replacement or Jacketing of Timber or Other Piles	Not required	<u>For pile jacketing projects:</u> Geotechnical Report not required. <u>For pile replacement or installation of additional sister pile(s):</u> Geotechnical Report per Bridge Manual (except as noted below) At least one boring to refusal below bottom of pile tip at each pier where pile is to be installed. If rock is encountered, a 10 foot core is recommended.	<u>For pile jacketing projects:</u> Not required. <u>For pile replacement or installation of additional piles:</u> Design the new pile(s) to take all required loads. Design pile cap extension, modification, or sister pile cap to take all required DL and LL from superstructure that need to be removed from damaged pile. Can use AASHTO Standard Specifications for either the original design truck or H20, whichever is greater. If the superstructure needs to be unloaded as part of the work, design temporary shoring and jacking in accordance with the AASHTO Handbook for Temporary Works.	<u>For pile jacketing projects:</u> Show pile locations for jacketing, develop typical details showing pile jacket type and installation, grouting, and installation procedures. <u>For pile replacement or installation of additional piles:</u> Develop specific details for each repair location or alternatively, including pile details, pile driving notes, extension and modification of existing pile cap details, new sister pile cap details, method for transferring superstructure loads to the new pile, develop installation procedures consistent with design assumptions. If shoring is required, provide details of shoring including locations, foundation and member sizes.	<u>For pile jacketing projects:</u> Either a complete final set of Construction Plans (if used) or pages of typical details to be inserted into job Special Provisions (if "book "job) as well as the job Special Provisions. <u>For pile replacement or installation of additional piles:</u> Geotechnical Report and a Complete final set of Construction Plans, one set of design calculations checked by a second engineer and the job Special Provisions. After MassDOT accepts the design, a complete final set of Construction Plan mylars or pages of typical details with the MassDOT Chapter 85 approval stamp printed on each sheet (page) for Bridge Engineer's signature.	Work in water will require environmental permitting. Special Provisions should address pile driving specifications and testing (e.g. Wave Equation) to ensure that pile has reached capacity. If temporary shoring is to be designed by the Contractor, the Designer should provide loads to be used, shoring material and that the design should be in accordance with the AASHTO Specifications and the AASHTO Handbook for Temporary Works. Time of year restrictions must be considered for any work in water.

| Preservation Project Type | Hydraulic Design | Geotechnical Design | Structural Design | Construction Details | Design Review Submittals | Other Considerations |

Preservation Project Type	Hydraulic Design	Geotechnical Design	Structural Design	Construction Details	Design Review Submittals	Other Considerations
Deck Replacement	Not required	Not required	Design in accordance as follows: AASHTO LRFD for HL-93 Design Loading, or AASHTO Standard Specifications for preferably HS25 but not less than HS20. Follow Bridge Manual DL and LL load distribution procedures and deck design charts. Seismic design is not required. Check existing beams for load carrying capacity with the new deck loads. Check fatigue sensitive details (if any) for fatigue stress ranges. Design fatigue retrofits if needed to ensure 75 year fatigue life after deck replacement.	<u>For Rural Minor Collector, Rural Local Road, Urban Collector, and Urban Local Road:</u> Need not follow MassDOT Bridge Manual construction details. If not using standard MassDOT bridge railings or barriers and transitions, those used must be crash tested to either NCHRP 350 or MASH, Test Level 2 minimum if roadway speed ≤ 45 mph, minimum Test Level 3 if roadway speed > 45 mph. Provide 42" railing height if pedestrians are allowed on bridge. <u>For Rural Major Collector, Urban Minor Arterial, Rural Principal Arterial, Rural Minor Arterial, Urban Principal Arterial, Or Any structure on the National Highway System (NHS) (See Note 1 Below):</u> Follow MassDOT Bridge Manual construction details. Use MassDOT bridge railings and barriers and transitions.	Complete final set of Construction Plans and one set of design calculations checked by a second engineer. After MassDOT accepts the design, a complete final set of Construction Plan mylars with the MassDOT Chapter 85 approval stamp printed on each sheet for Bridge Engineer's signature.	Steel beams should also be painted as part of a deck replacement project. Structural repairs to beams may also be required. When considering a deck replacement, also consider the feasibility of doing a full superstructure replacement. This may be cheaper overall, especially if beam painting and structural repairs are required or if the existing beams cannot carry the required minimum loading and the bridge will require posting after completion of the work. Elimination of bridge joints by using Bridge Manual details is encouraged.
Bridge Superstructure Replacement	<u>For Rural Minor Collector, Rural Local Road, Urban Collector, and Urban Local Road:</u> Full hydraulic report is not required. The municipality's Designer of Record shall prepare an abbreviated Hydraulic Evaluation that shall evaluate current and past conditions and site specific critical hydraulic issues including past floods of record the bridge has withstood, local flooding issues, FEMA flood profiles, past and/or current scour of bridge substructure elements, and shall determine if the existing hydraulic opening is adequate to remain. <u>For Rural Major Collector, Urban Minor Arterial, Rural Principal Arterial, Rural Minor Arterial, Urban Principal Arterial, Or Any structure on the National Highway System (NHS) (See Note 1 Below):</u> Hydraulic report per Bridge Manual.	<u>For Rural Minor Collector, Rural Local Road, Urban Collector, and Urban Local Road:</u> Full geotechnical report is not required. The municipality's Designer of Record shall prepare a memo on the adequacy of the substructure to be re-used considering both a condition standpoint, including any demonstrated scour, and load carrying capacity. <u>For Rural Major Collector, Urban Minor Arterial:</u> Geotechnical report per Bridge Manual. <u>For Rural Principal Arterial, Rural Minor Arterial, Urban Principal Arterial, Or Any structure on the National Highway System (NHS) (See Note 1 Below):</u> Geotechnical report per Bridge Manual. Preliminary Structures Report per MassDOT Bridge Manual with material sampling.	Full Seismic design not required, except that restraint devices (anchor bolts, backwalls, cheek walls, or keeper blocks) shall be designed for SDC A loads. <u>For Rural Minor Collector, Rural Local Road, Urban Collector, and Urban Local Road:</u> Design in accordance as follows: AASHTO LRFD for HL-93 Design Loading, or AASHTO Standard Specifications for preferably HS25 but not less than HS20. Use Bridge Manual DL and LL load distribution procedure. <u>For Rural Major Collector, Urban Minor Arterial, Rural Principal Arterial, Rural Minor Arterial, Urban Principal Arterial, Or Any structure on the National Highway System (NHS) (See Note 1 Below):</u> Design in full accordance with AASHTO LRFD and MassDOT Bridge Manual for HL-93 Design Loading.	<u>For Rural Minor Collector, Rural Local Road, Urban Collector, and Urban Local Road:</u> Need not follow MassDOT Bridge Manual construction details. If not using standard MassDOT bridge railings or barriers and transitions, those used must be crash tested to either NCHRP 350 or MASH, Test Level 2 minimum if roadway speed ≤ 45 mph, minimum Test Level 3 if roadway speed > 45 mph. Provide 42" railing height if pedestrians are allowed on bridge (See Note 2). <u>For Rural Major Collector, Urban Minor Arterial, Rural Principal Arterial, Rural Minor Arterial, Urban Principal Arterial, Or Any structure on the National Highway System (NHS) (See Note 1 Below):</u> Use standard MassDOT Bridge Manual construction details. Use MassDOT bridge railings and barriers and transitions.	Hydraulic Evaluation; or Hydraulic Report (depending on Roadway Functional Class). Geotechnical Memo on adequacy of substructure re-use; or Geotechnical Report and Preliminary Structures Report (depending on Roadway Functional Class). Complete final set of Construction Plans and one set of design calculations checked by a second engineer. After MassDOT accepts the design, a complete final set of Construction Plan mylars with the MassDOT Chapter 85 approval stamp printed on each sheet for Bridge Engineer's signature.	Evaluation of structure from a Cultural Resources standpoint. Consider Complete Streets guidelines. Provide for utilities (water, gas, etc.) if it is expected that they will be installed in the future. If there is existing scour, scour repairs should also be performed. The need for scour countermeasures should also be evaluated. If scour remediation work will be required, environmental permitting may put restrictions on time of year when work can be done in the water.

Scour Damage Repairs and Scour Mitigation/Countermeasures	Not required if only filling scour void with concrete. <u>For scour mitigation:</u> Prepare hydraulic report and calculate scour depth to be mitigated as follows: <u>For Rural Minor Collector, Rural Local Road, Urban Collector, and Urban Local Road:</u> Flood frequency: 10 year Design Scour freq.: 25 year Check Scour freq.: 50 year Must be scour stable after Design Scour Event but not necessarily available for use. <u>For Rural Major Collector, Urban Minor Arterial:</u> Flood frequency: 25 year Design Scour freq.: 50 year Check Scour freq.: 100 year Must be scour stable and available for limited use after the Design Scour Event. <u>Rural Principal Arterial, Rural Minor Arterial, Urban Principal Arterial, Or Any structure on the National Highway System (NHS) (See Note 1 Below)</u>: Flood frequency: 50 year Design Scour freq.: 100 year Check Scour freq.: 200 year Must be scour stable and available for limited use after the Check Scour Event.	Geotechnical Report not required. Design should consist of rip rap and keying of rip rap toe required or the use of other scour countermeasures (see Bridge Manual for acceptable countermeasures) to withstand the calculated scour depth and ensure that structure shall meet the required performance requirements.	Not required	<u>For filling of scour void with concrete:</u> Provide typical details of concrete bag berm and method of placing tremie concrete into void. If void extends under the substructure footing, provide typical details and method of placement to ensure that void is fully filled and bears up against the substructure. <u>For scour mitigation/countermeasures:</u> Provide details showing excavation, rip rap placement and keying (refer to Bridge Manual for typical details). If other types of countermeasures are used, such as concrete block mattresses, provide all relevant details of the countermeasure and its method of placement.	<u>For filling of scour void:</u> Either a complete final set of Construction Plans (if used) or pages of typical details to be inserted into job Special Provisions (if "book job") as well as the project Special Provisions. If required, one set of design calculations checked by a second engineer. <u>For scour mitigation/countermeasures:</u> A Hydraulic Report and a complete final set of Construction Plans and the job Special Provisions. If required, one set of design calculations checked by a second engineer. After MassDOT accepts the design, a complete final set of Construction Plan mylars or pages of typical details with the MassDOT Chapter 85 approval stamp printed on each sheet (page) for Bridge Engineer's signature.	Work in water will require environmental permitting. Installing scour countermeasures especially if altering the stream crossing's bed, may complicate the environmental permitting process. Time of year restrictions must be considered for any work in water.

Preservation Project Type	Hydraulic Design	Geotechnical Design	Structural Design	Construction Details	Design Review Submittals	Other Considerations

Safety improvements to Bridge and Approach Railing	Not required	Not required (Assumes that approaches shall not be raised or approach walls, if any, shall not be modified).	If using MassDOT standard bridge railings and transitions, use predesigned reinforcing bars and standard details from Bridge Manual. If not using standard MassDOT bridge railings and transitions, provide the same details and reinforcing bars as used and shown in the crash test report. If any modification of the bridge is required to withstand the crash loads, use the AASHTO LRFD Section 13 TL loads and design methodology. DO NOT use the AASHTO Standard Specifications 10 kip force for these calculations.	For Rural Minor Collector, Rural Local Road, Urban Collector, and Urban Local Road: Need not use standard MassDOT bridge railings or transitions. Those used must be crash tested to either NCHRP 350 or MASH, minimum Test Level 2 if roadway speed ≤ 45 mph, minimum Test Level 3 if roadway speed > 45 mph. Provide 42" railing height if pedestrians are allowed on bridge. For Rural Major Collector, Urban Minor Arterial, Rural Principal Arterial, Rural Minor Arterial, Urban Principal Arterial, Or Any structure on the National Highway System (NHS) (See Note 1 Below): Use MassDOT bridge railings and barriers and transitions Show limits of existing bridge demolition, modifications to be made include reinforcing bars and their spacing, and show details of new bridge railing and transition.	Complete final set of Construction Plans and one set of design calculations checked by a second engineer. After MassDOT accepts the design, a complete final set of Construction Plan mylars with the MassDOT Chapter 85 approval stamp printed on each sheet for Bridge Engineer's signature.	Traffic control plan: can close bridge during work or work in stages. If working in stages, provide temporary barrier when existing railing has been removed and before the new one has been completely installed and is functional to maintain traffic safety. Existing railings and barriers can sometimes be retrofitted by running a Thrie Beam highway guardrail in front of the existing bridge railing. This eliminates the need for a transition element, since the Thrie Beam continues off the bridge and transitions to the W Beam guardrail off the bridge. For more bridge rail and bridge rail retrofit options, see Note 2 at end of this table.
Note 1: The following NHS routes: Eisenhower Interstate, Other NHS Routes and STRAHNET Routes and Connectors, are considered Critical/Essential in that they are the primary routes for emergency use during and after an emergency or natural event. Structures on NHS routes must be available for limited use after such an event. See MassDOT Bridge Manual for more information on these requirements. A map of NHS Routes in Massachusetts is available on the following website: http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/						
Note 2: Bridge Railing and Transition and Bridge Railing Retrofit Resources: Federal Highway Administration: http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/ctrmeasures/bridge_railings/ AASHTO | AGC | ARTBA Task Force 13: http://www.aashtotf13.org/Bridge-Rail.php						
Note 3: AASHTO Handbook for Temporary Works = **Construction Handbook for Bridge Temporary Works, 1st Edition, with 2008 Interim Revisions**						
Note 4: AASHTO Standard Specs = AASHTO **Standard Specifications for Highway Bridges, 17th Edition with current interims and errata**						
Note 5: AASHTO LRFD = AASHTO **LRFD Bridge Design Specifications, Latest Edition with current interims and errata**						

Appendix F

Prevailing Wage Rate Sheets

MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Director under the provisions of the Massachusetts General Laws, Chapter 149, Sections 26 to 27H

LAUREN JONES
Secretary

MICHAEL FLANAGAN
Director

Awarding Authority: Town of Montague

Contract Number:

City/Town: MONTAGUE

Description of Work: Repairs to substructure concrete at west pier, repair bearing at west pier, repair steel to existing railing

Job Location: 11th Street over Utility Canal

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, the awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.
- This annual update requirement is generally not applicable to 27F "rental of equipment" contracts. For such contracts, the prevailing wage rates issued by DLS shall remain in effect for the duration of the contract term. However, if the prevailing wage rate sheet issued does not contain wage rates for each year covered by the contract term, the Awarding Authority must request updated rate sheets from DLS and provide them to the contractor to ensure the correct rates are being paid throughout the duration of the contract. Additionally, if an Awarding Authority exercises an option to renew or extend the contract term, they must request updated rate sheets form DLS and provide them to the contractor.
- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentices must keep their apprentice identification card on their persons during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.**
- Every contractor or subcontractor working on the construction project must submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. For a sample payroll reporting form go to http://www.mass.gov/dols/pw.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Contractors must obtain the wage schedules from awarding authorities. Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	06/01/2024	$39.95	$15.07	$18.67	$0.00	$73.69
	12/01/2024	$39.95	$15.07	$20.17	$0.00	$75.19
	01/01/2025	$39.95	$15.57	$20.17	$0.00	$75.69
	06/01/2025	$40.95	$15.57	$20.17	$0.00	$76.69
	12/01/2025	$40.95	$15.57	$21.78	$0.00	$78.30
	01/01/2026	$40.95	$16.17	$21.78	$0.00	$78.90
	06/01/2026	$41.95	$16.17	$21.78	$0.00	$79.90
	12/01/2026	$41.95	$16.17	$23.52	$0.00	$81.64
	01/01/2027	$41.95	$16.77	$23.52	$0.00	$82.24
(3 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	06/01/2024	$40.02	$15.07	$18.67	$0.00	$73.76
	12/01/2024	$40.02	$15.07	$20.17	$0.00	$75.26
	01/01/2025	$40.02	$15.57	$20.17	$0.00	$75.76
	06/01/2025	$41.02	$15.57	$20.17	$0.00	$76.76
	12/01/2025	$41.02	$15.57	$21.78	$0.00	$78.37
	01/01/2026	$41.02	$16.17	$21.78	$0.00	$78.97
	06/01/2026	$42.02	$16.17	$21.78	$0.00	$79.97
	12/01/2026	$42.02	$16.17	$23.52	$0.00	$81.71
	01/01/2027	$42.02	$16.77	$23.52	$0.00	$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	06/01/2024	$40.14	$15.07	$18.67	$0.00	$73.88
	12/01/2024	$40.14	$15.07	$20.17	$0.00	$75.38
	01/01/2025	$40.14	$15.57	$20.17	$0.00	$75.88
	06/01/2025	$41.14	$15.57	$20.17	$0.00	$76.88
	12/01/2025	$41.14	$15.57	$21.78	$0.00	$78.49
	01/01/2026	$41.14	$16.17	$21.78	$0.00	$79.09
	06/01/2026	$42.14	$16.17	$21.78	$0.00	$80.09
	12/01/2026	$42.14	$16.17	$23.52	$0.00	$81.83
	01/01/2027	$42.14	$16.77	$23.52	$0.00	$82.43
ADS/SUBMERSIBLE PILOT *PILE DRIVER LOCAL 56 (ZONE 3)*	08/01/2020	$103.05	$9.40	$23.12	$0.00	$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$34.38	$9.65	$16.84	$0.00	$60.87
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$35.30	$9.65	$15.06	$0.00	$60.01
	12/01/2024	$36.50	$9.65	$15.06	$0.00	$61.21
	06/01/2025	$37.75	$9.65	$15.06	$0.00	$62.46
	12/01/2025	$38.99	$9.65	$15.06	$0.00	$63.70
	06/01/2026	$40.29	$9.65	$15.06	$0.00	$65.00
	12/01/2026	$41.58	$9.65	$15.06	$0.00	$66.29
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS WORKER (PIPES & TANKS) *HEAT & FROST INSULATORS LOCAL 6 (SPRINGFIELD)*	06/01/2024	$37.62	$14.50	$10.55	$0.00	$62.67
	12/01/2024	$38.52	$14.50	$10.55	$0.00	$63.57
	06/01/2025	$39.42	$14.50	$10.55	$0.00	$64.47
	12/01/2025	$40.32	$14.50	$10.55	$0.00	$65.37

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASPHALT RAKER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.88	$9.65	$16.84	$0.00	$60.37
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$34.80	$9.65	$15.06	$0.00	$59.51
	12/01/2024	$36.00	$9.65	$15.06	$0.00	$60.71
	06/01/2025	$37.25	$9.65	$15.06	$0.00	$61.96
	12/01/2025	$38.49	$9.65	$15.06	$0.00	$63.20
	06/01/2026	$39.79	$9.65	$15.06	$0.00	$64.50
	12/01/2026	$41.08	$9.65	$15.06	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
AUTOMATIC GRADER-EXCAVATOR (RECLAIMER) *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$39.56	$13.78	$15.15	$0.00	$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER OPERATOR *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$39.56	$13.78	$15.15	$0.00	$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.88	$9.65	$16.84	$0.00	$60.37
For apprentice rates see "Apprentice- LABORER"						
BATCH/CEMENT PLANT - ON SITE *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$39.03	$13.78	$15.15	$0.00	$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BLOCK PAVER, RAMMER / CURB SETTER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$34.38	$9.65	$16.84	$0.00	$60.87
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$35.30	$9.65	$15.06	$0.00	$60.01
	12/01/2024	$36.50	$9.65	$15.06	$0.00	$61.21
	06/01/2025	$37.75	$9.65	$15.06	$0.00	$62.46
	12/01/2025	$38.99	$9.65	$15.06	$0.00	$63.70
	06/01/2026	$40.29	$9.65	$15.06	$0.00	$65.00
	12/01/2026	$41.58	$9.65	$15.06	$0.00	$66.29
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER *BOILERMAKERS LOCAL 29*	01/01/2024	$48.12	$7.07	$20.60	$0.00	$75.79

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *BOILERMAKER - Local 29*

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	$31.28	$7.07	$13.22	$0.00	$51.57
2	65	$31.28	$7.07	$13.22	$0.00	$51.57
3	70	$33.68	$7.07	$14.23	$0.00	$54.98
4	75	$36.09	$7.07	$15.24	$0.00	$58.40
5	80	$38.50	$7.07	$16.25	$0.00	$61.82
6	85	$40.90	$7.07	$17.28	$0.00	$65.25
7	90	$43.31	$7.07	$18.28	$0.00	$68.66
8	95	$45.71	$7.07	$19.32	$0.00	$72.10

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) *BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)*	08/01/2024	$52.06	$11.49	$21.46	$0.00	$85.01
	02/01/2025	$53.36	$11.49	$21.46	$0.00	$86.31
	08/01/2025	$55.51	$11.49	$21.46	$0.00	$88.46
	02/01/2026	$56.86	$11.49	$21.46	$0.00	$89.81
	08/01/2026	$59.06	$11.49	$21.46	$0.00	$92.01
	02/01/2027	$60.46	$11.49	$21.46	$0.00	$93.41

Apprentice - *BRICK/PLASTER/CEMENT MASON - Local 3 Springfield/Pittsfield*

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.03	$11.49	$21.46	$0.00	$58.98
2	60	$31.24	$11.49	$21.46	$0.00	$64.19
3	70	$36.44	$11.49	$21.46	$0.00	$69.39
4	80	$41.65	$11.49	$21.46	$0.00	$74.60
5	90	$46.85	$11.49	$21.46	$0.00	$79.80

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.68	$11.49	$21.46	$0.00	$59.63
2	60	$32.02	$11.49	$21.46	$0.00	$64.97
3	70	$37.35	$11.49	$21.46	$0.00	$70.30
4	80	$42.69	$11.49	$21.46	$0.00	$75.64
5	90	$48.02	$11.49	$21.46	$0.00	$80.97

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BULLDOZER/POWER SHOVEL/TREE SHREDDER /CLAM SHELL *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$39.56	$13.78	$15.15	$0.00	$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN *LABORERS - FOUNDATION AND MARINE*	06/01/2024	$46.63	$9.65	$18.22	$0.00	$74.50
	12/01/2024	$48.10	$9.65	$18.22	$0.00	$75.97
	06/01/2025	$49.60	$9.65	$18.22	$0.00	$77.47
	12/01/2025	$51.10	$9.65	$18.22	$0.00	$78.97
	06/01/2026	$52.65	$9.65	$18.22	$0.00	$80.52
	12/01/2026	$54.15	$9.65	$18.22	$0.00	$82.02
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER *LABORERS - FOUNDATION AND MARINE*	06/01/2024	$45.48	$9.65	$18.22	$0.00	$73.35
	12/01/2024	$46.95	$9.65	$18.22	$0.00	$74.82
	06/01/2025	$48.45	$9.65	$18.22	$0.00	$76.32
	12/01/2025	$49.95	$9.65	$18.22	$0.00	$77.82
	06/01/2026	$51.50	$9.65	$18.22	$0.00	$79.37
	12/01/2026	$53.00	$9.65	$18.22	$0.00	$80.87
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN *LABORERS - FOUNDATION AND MARINE*	06/01/2024	$45.81	$9.65	$18.22	$0.00	$73.68
	12/01/2024	$47.28	$9.65	$18.22	$0.00	$75.15
	06/01/2025	$48.78	$9.65	$18.22	$0.00	$76.65
	12/01/2025	$50.28	$9.65	$18.22	$0.00	$78.15
	06/01/2026	$51.83	$9.65	$18.22	$0.00	$79.70
	12/01/2026	$53.33	$9.65	$18.22	$0.00	$81.20
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.88	$9.65	$16.84	$0.00	$60.37
For apprentice rates see "Apprentice- LABORER"						
CARPENTER *CARPENTERS LOCAL 336 - HAMPDEN HAMPSHIRE FRANKLIN*	03/01/2024	$41.41	$7.91	$18.15	$0.00	$67.47
	09/01/2024	$42.36	$7.91	$18.15	$0.00	$68.42
	03/01/2025	$43.26	$7.91	$18.15	$0.00	$69.32
	09/01/2025	$44.21	$7.91	$18.15	$0.00	$70.27
	03/01/2026	$45.11	$7.91	$18.15	$0.00	$71.17
	09/01/2026	$46.06	$7.91	$18.15	$0.00	$72.12
	03/01/2027	$46.96	$7.91	$18.15	$0.00	$73.02

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CARPENTER - Local 336 Hampden Hampshire Franklin*

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$18.63	$7.91	$1.40	$0.00	$27.94
2	45	$18.63	$7.91	$1.40	$0.00	$27.94
3	55	$22.78	$7.91	$2.76	$0.00	$33.45
4	55	$22.78	$7.91	$2.76	$0.00	$33.45
5	70	$28.99	$7.91	$15.39	$0.00	$52.29
6	70	$28.99	$7.91	$15.39	$0.00	$52.29
7	80	$33.13	$7.91	$16.77	$0.00	$57.81
8	80	$33.13	$7.91	$16.77	$0.00	$57.81

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$19.06	$7.91	$1.40	$0.00	$28.37
2	45	$19.06	$7.91	$1.40	$0.00	$28.37
3	55	$23.30	$7.91	$2.76	$0.00	$33.97
4	55	$23.30	$7.91	$2.76	$0.00	$33.97
5	70	$29.65	$7.91	$15.39	$0.00	$52.95
6	70	$29.65	$7.91	$15.39	$0.00	$52.95
7	80	$33.89	$7.91	$16.77	$0.00	$58.57
8	80	$33.89	$7.91	$16.77	$0.00	$58.57

Notes:

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME *CARPENTERS-ZONE 3 (Wood Frame)*	10/01/2023	$25.55	$7.02	$4.80	$0.00	$37.37
	10/01/2024	$26.65	$7.02	$4.80	$0.00	$38.47
	10/01/2025	$27.75	$7.02	$4.80	$0.00	$39.57
	10/01/2026	$28.85	$7.02	$4.80	$0.00	$40.67

All Aspects of New Wood Frame Work

Apprentice - *CARPENTER (Wood Frame) - Zone 3*

Effective Date - 10/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$15.33	$7.02	$0.00	$0.00	$22.35
2	60	$15.33	$7.02	$0.00	$0.00	$22.35
3	65	$16.61	$7.02	$1.00	$0.00	$24.63
4	70	$17.89	$7.02	$1.00	$0.00	$25.91
5	75	$19.16	$7.02	$4.80	$0.00	$30.98
6	80	$20.44	$7.02	$4.80	$0.00	$32.26
7	85	$21.72	$7.02	$4.80	$0.00	$33.54
8	90	$23.00	$7.02	$4.80	$0.00	$34.82

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$15.99	$7.02	$0.00	$0.00	$23.01
2	60	$15.99	$7.02	$0.00	$0.00	$23.01
3	65	$17.32	$7.02	$1.00	$0.00	$25.34
4	70	$18.66	$7.02	$1.00	$0.00	$26.68
5	75	$19.99	$7.02	$4.80	$0.00	$31.81
6	80	$21.32	$7.02	$4.80	$0.00	$33.14
7	85	$22.65	$7.02	$4.80	$0.00	$34.47
8	90	$23.99	$7.02	$4.80	$0.00	$35.81

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 $18.52/ 3&4 $21.07/ 5&6 $28.70/ 7&8 $31.26

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING *BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)*	01/01/2024	$44.68	$12.90	$18.66	$1.25	$77.49

Apprentice - *CEMENT MASONRY/PLASTERING - Springfield/Pittsfield*

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.34	$12.90	$15.86	$0.00	$51.10
2	60	$26.81	$12.90	$18.66	$1.25	$59.62
3	65	$29.04	$12.90	$18.66	$1.25	$61.85
4	70	$31.28	$12.90	$18.66	$1.25	$64.09
5	75	$33.51	$12.90	$18.66	$1.25	$66.32
6	80	$35.74	$12.90	$18.66	$1.25	$68.55
7	90	$40.21	$12.90	$18.66	$1.25	$73.02

Notes:

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2023	$33.88	$9.65	$16.84	$0.00	$60.37
COMPRESSOR OPERATOR *OPERATING ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2023	$39.03	$13.78	$15.15	$0.00	$67.96
CRANE OPERATOR *OPERATING ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2023	$43.06	$13.78	$15.15	$0.00	$71.99
DELEADER (BRIDGE) *PAINTERS LOCAL 35 - ZONE 3*	07/01/2024	$57.26	$9.95	$23.95	$0.00	$91.16
	01/01/2025	$58.46	$9.95	$23.95	$0.00	$92.36

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.63	$9.95	$0.00	$0.00	$38.58
2	55	$31.49	$9.95	$6.66	$0.00	$48.10
3	60	$34.36	$9.95	$7.26	$0.00	$51.57
4	65	$37.22	$9.95	$7.87	$0.00	$55.04
5	70	$40.08	$9.95	$20.32	$0.00	$70.35
6	75	$42.95	$9.95	$20.93	$0.00	$73.83
7	80	$45.81	$9.95	$21.53	$0.00	$77.29
8	90	$51.53	$9.95	$22.74	$0.00	$84.22

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$29.23	$9.95	$0.00	$0.00	$39.18
2	55	$32.15	$9.95	$6.66	$0.00	$48.76
3	60	$35.08	$9.95	$7.26	$0.00	$52.29
4	65	$38.00	$9.95	$7.87	$0.00	$55.82
5	70	$40.92	$9.95	$20.32	$0.00	$71.19
6	75	$43.85	$9.95	$20.93	$0.00	$74.73
7	80	$46.77	$9.95	$21.53	$0.00	$78.25
8	90	$52.61	$9.95	$22.74	$0.00	$85.30

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2023	$44.98	$9.40	$17.82	$0.00	$72.20
DEMO: BACKHOE/LOADER/HAMMER OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2023	$45.48	$9.65	$18.07	$0.00	$73.20
DEMO: BURNERS *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2023	$45.73	$9.40	$17.82	$0.00	$72.95

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: CONCRETE CUTTER/SAWYER *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2023	$45.48	$9.65	$18.07	$0.00	$73.20
DEMO: JACKHAMMER OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2023	$45.73	$9.40	$17.82	$0.00	$72.95
DEMO: WRECKING LABORER *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2023	$44.98	$9.40	$17.82	$0.00	$72.20
DIVER *PILE DRIVER LOCAL 56 (ZONE 3)* For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	$68.70	$9.40	$23.12	$0.00	$101.22
DIVER TENDER *PILE DRIVER LOCAL 56 (ZONE 3)* For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	$49.07	$9.40	$23.12	$0.00	$81.59
DIVER TENDER (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 3)* For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	$73.60	$9.40	$23.12	$0.00	$106.12
DIVER/SLURRY (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 3)* For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	$103.05	$9.40	$23.12	$0.00	$135.57
DRAWBRIDGE OPERATOR (Construction) *DRAWBRIDGE - SEIU LOCAL 888*	07/01/2020	$26.77	$6.67	$3.93	$0.16	$37.53
ELECTRICIAN (Including Core Drilling) *ELECTRICIANS LOCAL 7*	06/30/2024	$50.01	$13.00	$14.86	$0.00	$77.87
	12/29/2024	$51.06	$13.25	$15.06	$0.00	$79.37
	06/29/2025	$52.16	$13.50	$15.21	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$15.36	$0.00	$82.37
	06/28/2026	$54.41	$14.00	$15.46	$0.00	$83.87
	01/03/2027	$55.56	$14.25	$15.56	$0.00	$85.37

Apprentice - *ELECTRICIAN - Local 7*

Effective Date - 06/30/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$20.00	$7.20	$0.60	$0.00	$27.80
2	45	$22.50	$7.20	$0.68	$0.00	$30.38
3	50	$25.01	$13.00	$7.40	$0.00	$45.41
4	55	$27.51	$13.00	$7.48	$0.00	$47.99
5	65	$32.51	$13.00	$9.64	$0.00	$55.15
6	70	$35.01	$13.00	$11.06	$0.00	$59.07

Effective Date - 12/29/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$20.42	$7.35	$0.61	$0.00	$28.38
2	45	$22.98	$7.35	$0.69	$0.00	$31.02
3	50	$25.53	$13.25	$7.47	$0.00	$46.25
4	55	$28.08	$13.25	$7.54	$0.00	$48.87
5	65	$33.19	$13.25	$9.74	$0.00	$56.18
6	70	$35.74	$13.25	$11.19	$0.00	$60.18

Notes:
Steps 1-2 are 1000 hrs; Steps 3-6 are 1500 hrs.

Apprentice to Journeyworker Ratio:2:3****

ELEVATOR CONSTRUCTOR *ELEVATOR CONSTRUCTORS LOCAL 41*	01/01/2024	$61.98	$16.18	$20.96	$0.00	$99.12
	01/01/2025	$62.83	$16.28	$21.36	$0.00	$100.47
	01/01/2026	$63.68	$16.38	$21.76	$0.00	$101.82
	01/01/2027	$64.53	$16.48	$22.16	$0.00	$103.17

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ELEVATOR CONSTRUCTOR - Local 41*

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$30.99	$16.18	$0.00	$0.00	$47.17
2	55	$34.09	$16.18	$20.96	$0.00	$71.23
3	65	$40.29	$16.18	$20.96	$0.00	$77.43
4	70	$43.39	$16.18	$20.96	$0.00	$80.53
5	80	$49.58	$16.18	$20.96	$0.00	$86.72

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$31.42	$16.28	$0.00	$0.00	$47.70
2	55	$34.56	$16.28	$21.36	$0.00	$72.20
3	65	$40.84	$16.28	$21.36	$0.00	$78.48
4	70	$43.98	$16.28	$21.36	$0.00	$81.62
5	80	$50.26	$16.28	$21.36	$0.00	$87.90

Notes:
Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER *ELEVATOR CONSTRUCTORS LOCAL 41*	01/01/2024	$43.39	$16.18	$20.96	$0.00	$80.53
	01/01/2025	$43.98	$16.28	$21.36	$0.00	$81.62
	01/01/2026	$44.58	$16.38	$21.76	$0.00	$82.72
	01/01/2027	$45.17	$16.48	$22.16	$0.00	$83.81
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$34.80	$9.65	$15.06	$0.00	$59.51
	12/01/2024	$36.00	$9.65	$15.06	$0.00	$60.71
	06/01/2025	$37.25	$9.65	$15.06	$0.00	$61.96
	12/01/2025	$38.49	$9.65	$15.06	$0.00	$63.20
	06/01/2026	$39.79	$9.65	$15.06	$0.00	$64.50
	12/01/2026	$41.08	$9.65	$15.06	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FIELD ENG.INST/ROD-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 98*	06/01/1999	$18.84	$4.80	$4.10	$0.00	$27.74
FIELD ENG.PARTY CHIEF:BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 98*	06/01/1999	$21.33	$4.80	$4.10	$0.00	$30.23
FIELD ENG.SURVEY CHIEF-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 98*	06/01/1999	$22.33	$4.80	$4.10	$0.00	$31.23
FIRE ALARM INSTALLER *ELECTRICIANS LOCAL 7*	06/30/2024	$50.01	$13.00	$14.86	$0.00	$77.87
	12/29/2024	$51.06	$13.25	$15.06	$0.00	$79.37
	06/29/2025	$52.16	$13.50	$15.21	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$15.36	$0.00	$82.37
	06/28/2026	$54.41	$14.00	$15.46	$0.00	$83.87
	01/03/2027	$55.56	$14.25	$15.56	$0.00	$85.37
For apprentice rates see "Apprentice- ELECTRICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING *ELECTRICIANS LOCAL 7*	06/30/2024	$50.01	$13.00	$14.86	$0.00	$77.87
	12/29/2024	$51.06	$13.25	$15.06	$0.00	$79.37
	06/29/2025	$52.16	$13.50	$15.21	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$15.36	$0.00	$82.37
	06/28/2026	$54.41	$14.00	$15.46	$0.00	$83.87
	01/03/2027	$55.56	$14.25	$15.56	$0.00	$85.37
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$39.03	$13.78	$15.15	$0.00	$67.96

Apprentice - *OPERATING ENGINEERS - Local 98 Class 3*

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$23.42	$13.78	$15.15	$0.00	$52.35
2	70	$27.32	$13.78	$15.15	$0.00	$56.25
3	80	$31.22	$13.78	$15.15	$0.00	$60.15
4	90	$35.13	$13.78	$15.15	$0.00	$64.06

Notes:
Steps 1-2 are 1000 hrs.; Steps 3-4 are 2000 hrs.

Apprentice to Journeyworker Ratio:1:6

FLAGGER & SIGNALER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$27.01	$9.65	$15.06	$0.00	$51.72
	12/01/2024	$27.01	$9.65	$15.06	$0.00	$51.72
	06/01/2025	$28.09	$9.65	$15.06	$0.00	$52.80
	12/01/2025	$28.09	$9.65	$15.06	$0.00	$52.80
	06/01/2026	$29.21	$9.65	$15.06	$0.00	$53.92
	12/01/2026	$29.21	$9.65	$15.06	$0.00	$53.92
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FLOORCOVERER *FLOORCOVERERS LOCAL 2168 ZONE III*	03/01/2024	$41.41	$7.91	$18.15	$0.00	$67.47
	09/01/2024	$42.36	$7.91	$18.15	$0.00	$68.42
	03/01/2025	$43.26	$7.91	$18.15	$0.00	$69.32
	09/01/2025	$44.21	$7.91	$18.15	$0.00	$70.27
	03/01/2026	$45.11	$7.91	$18.15	$0.00	$71.17
	09/01/2026	$46.06	$7.91	$18.15	$0.00	$72.12
	03/01/2027	$46.96	$7.91	$18.15	$0.00	$73.02

Apprentice - *FLOORCOVERER - Local 2168 Zone III*

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.71	$7.31	$1.38	$0.00	$29.40
2	55	$22.78	$7.31	$1.38	$0.00	$31.47
3	60	$24.85	$7.31	$2.76	$0.00	$34.92
4	65	$26.92	$7.31	$2.76	$0.00	$36.99
5	70	$28.99	$7.31	$15.39	$0.00	$51.69
6	75	$31.06	$7.31	$15.39	$0.00	$53.76
7	80	$33.13	$7.31	$16.77	$0.00	$57.21
8	85	$35.20	$7.31	$16.77	$0.00	$59.28

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.18	$7.31	$1.38	$0.00	$29.87
2	55	$23.30	$7.31	$1.38	$0.00	$31.99
3	60	$25.42	$7.31	$2.76	$0.00	$35.49
4	65	$27.53	$7.31	$2.76	$0.00	$37.60
5	70	$29.65	$7.31	$15.39	$0.00	$52.35
6	75	$31.77	$7.31	$15.39	$0.00	$54.47
7	80	$33.89	$7.31	$16.77	$0.00	$57.97
8	85	$36.01	$7.31	$16.77	$0.00	$60.09

Notes: Steps are 750 hrs.
% After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
Step 1&2 $26.72.24/ 3&4 $32.11/ 5&6 $50.75/ 7&8 $56.14

Apprentice to Journeyworker Ratio:1:1

FORK LIFT *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$39.25	$13.78	$15.15	$0.00	$68.18
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATORS/LIGHTING PLANTS *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$35.80	$13.78	$15.15	$0.00	$64.73
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) *GLAZIERS LOCAL 1333*	06/01/2020	$39.18	$10.80	$10.45	$0.00	$60.43

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *GLAZIER - Local 1333*

Effective Date - 06/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$19.59	$10.80	$1.80	$0.00	$32.19
2	56	$22.04	$10.80	$1.80	$0.00	$34.64
3	63	$24.49	$10.80	$2.45	$0.00	$37.74
4	69	$26.94	$10.80	$2.45	$0.00	$40.19
5	75	$29.39	$10.80	$3.15	$0.00	$43.34
6	81	$31.83	$10.80	$3.15	$0.00	$45.78
7	88	$34.28	$10.80	$10.45	$0.00	$55.53
8	94	$36.73	$10.80	$10.45	$0.00	$57.98

Notes:

Apprentice to Journeyworker Ratio:1:3

GRADER/TRENCHING MACHINE/DERRICK *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$39.56	$13.78	$15.15	$0.00	$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
HVAC (DUCTWORK) *SHEETMETAL WORKERS LOCAL 63*	07/01/2024	$40.98	$12.20	$18.74	$2.13	$74.05
	01/01/2025	$42.23	$12.20	$18.74	$2.13	$75.30
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) *ELECTRICIANS LOCAL 7*	06/30/2024	$50.01	$13.00	$14.86	$0.00	$77.87
	12/29/2024	$51.06	$13.25	$15.06	$0.00	$79.37
	06/29/2025	$52.16	$13.50	$15.21	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$15.36	$0.00	$82.37
	06/28/2026	$54.41	$14.00	$15.46	$0.00	$83.87
	01/03/2027	$55.56	$14.25	$15.56	$0.00	$85.37
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) *SHEETMETAL WORKERS LOCAL 63*	07/01/2024	$40.98	$12.20	$18.74	$2.13	$74.05
	01/01/2025	$42.23	$12.20	$18.74	$2.13	$75.30
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) *PLUMBERS & PIPEFITTERS LOCAL 104*	03/17/2024	$49.21	$9.55	$17.10	$0.00	$75.86
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC *PLUMBERS & PIPEFITTERS LOCAL 104*	03/17/2024	$49.21	$9.55	$17.10	$0.00	$75.86
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$35.30	$9.65	$15.06	$0.00	$60.01
	12/01/2024	$36.50	$9.65	$15.06	$0.00	$61.21
	06/01/2025	$37.75	$9.65	$15.06	$0.00	$62.46
	12/01/2025	$38.99	$9.65	$15.06	$0.00	$63.70
	06/01/2026	$40.29	$9.65	$15.06	$0.00	$65.00
	12/01/2026	$41.58	$9.65	$15.06	$0.00	$66.29
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
INSULATOR (PIPES & TANKS) *HEAT & FROST INSULATORS LOCAL 6 (SPRINGFIELD)*	09/01/2023	$42.80	$14.75	$19.61	$0.00	$77.16
	09/01/2024	$45.54	$14.75	$19.61	$0.00	$79.90
	09/01/2025	$48.27	$14.75	$19.61	$0.00	$82.63
	09/01/2026	$51.01	$14.75	$19.61	$0.00	$85.37

Apprentice - *ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Springfield*

Effective Date - 09/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.40	$14.75	$14.32	$0.00	$50.47
2	60	$25.68	$14.75	$15.37	$0.00	$55.80
3	70	$29.96	$14.75	$16.43	$0.00	$61.14
4	80	$34.24	$14.75	$17.49	$0.00	$66.48

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.77	$14.75	$14.32	$0.00	$51.84
2	60	$27.32	$14.75	$15.37	$0.00	$57.44
3	70	$31.88	$14.75	$16.43	$0.00	$63.06
4	80	$36.43	$14.75	$17.49	$0.00	$68.67

Notes:
Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER *IRONWORKERS LOCAL 7 (SPRINGFIELD AREA)*	03/16/2024	$40.66	$8.25	$22.70	$0.00	$71.61

Apprentice - *IRONWORKER - Local 7 Springfield*

Effective Date - 03/16/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$24.40	$8.25	$22.70	$0.00	$55.35
2	70	$28.46	$8.25	$22.70	$0.00	$59.41
3	75	$30.50	$8.25	$22.70	$0.00	$61.45
4	80	$32.53	$8.25	$22.70	$0.00	$63.48
5	85	$34.56	$8.25	$22.70	$0.00	$65.51
6	90	$36.59	$8.25	$22.70	$0.00	$67.54

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.88	$9.65	$16.84	$0.00	$60.37

For apprentice rates see "Apprentice- LABORER"

LABORER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.50	$9.65	$16.84	$0.00	$59.99

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *LABORER - Zone 3 Building & Site*

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$20.10	$9.65	$16.84	$0.00	$46.59
2	70	$23.45	$9.65	$16.84	$0.00	$49.94
3	80	$26.80	$9.65	$16.84	$0.00	$53.29
4	90	$30.15	$9.65	$16.84	$0.00	$56.64

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$34.55	$9.65	$15.06	$0.00	$59.26
	12/01/2024	$35.75	$9.65	$15.06	$0.00	$60.46
	06/01/2025	$37.00	$9.65	$15.06	$0.00	$61.71
	12/01/2025	$38.24	$9.65	$15.06	$0.00	$62.95
	06/01/2026	$39.54	$9.65	$15.06	$0.00	$64.25
	12/01/2026	$40.83	$9.65	$15.06	$0.00	$65.54

Apprentice - *LABORER (Heavy & Highway) - Zone 3*

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$20.73	$9.65	$15.06	$0.00	$45.44
2	70	$24.19	$9.65	$15.06	$0.00	$48.90
3	80	$27.64	$9.65	$15.06	$0.00	$52.35
4	90	$31.10	$9.65	$15.06	$0.00	$55.81

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$21.45	$9.65	$15.06	$0.00	$46.16
2	70	$25.03	$9.65	$15.06	$0.00	$49.74
3	80	$28.60	$9.65	$15.06	$0.00	$53.31
4	90	$32.18	$9.65	$15.06	$0.00	$56.89

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.50	$9.65	$16.84	$0.00	$59.99
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$34.13	$9.40	$16.59	$0.00	$60.12
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.60	$9.65	$16.97	$0.00	$60.22

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$34.63	$9.65	$16.84	$0.00	$61.12
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$34.80	$9.65	$15.06	$0.00	$59.51
	12/01/2024	$36.00	$9.65	$15.06	$0.00	$60.71
	06/01/2025	$37.25	$9.65	$15.06	$0.00	$61.96
	12/01/2025	$38.49	$9.65	$15.06	$0.00	$63.20
	06/01/2026	$39.79	$9.65	$15.06	$0.00	$64.50
	12/01/2026	$41.08	$9.65	$15.06	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.50	$9.65	$16.84	$0.00	$59.99
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.50	$9.65	$16.84	$0.00	$59.99
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.88	$9.65	$16.84	$0.00	$60.37
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$34.80	$9.65	$15.06	$0.00	$59.51
	12/01/2024	$36.00	$9.65	$15.06	$0.00	$60.71
	06/01/2025	$37.25	$9.65	$15.06	$0.00	$61.96
	12/01/2025	$38.49	$9.65	$15.06	$0.00	$63.20
	06/01/2026	$39.79	$9.65	$15.06	$0.00	$64.50
	12/01/2026	$41.08	$9.65	$15.06	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS *BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE*	08/01/2024	$43.05	$11.49	$20.53	$0.00	$75.07
	02/01/2025	$44.90	$11.49	$20.53	$0.00	$76.92
	08/01/2025	$45.81	$11.49	$20.53	$0.00	$77.83
	02/01/2026	$46.89	$11.49	$20.53	$0.00	$78.91
	08/01/2026	$48.65	$11.49	$20.53	$0.00	$80.67
	02/01/2027	$49.77	$11.49	$20.53	$0.00	$81.79

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MARBLE-TILE FINISHER-Local 3 Marble/Tile (Spr/Pitt)*

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.53	$11.49	$20.53	$0.00	$53.55
2	60	$25.83	$11.49	$20.53	$0.00	$57.85
3	70	$30.14	$11.49	$20.53	$0.00	$62.16
4	80	$34.44	$11.49	$20.53	$0.00	$66.46
5	90	$38.75	$11.49	$20.53	$0.00	$70.77

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.45	$11.49	$20.53	$0.00	$54.47
2	60	$26.94	$11.49	$20.53	$0.00	$58.96
3	70	$31.43	$11.49	$20.53	$0.00	$63.45
4	80	$35.92	$11.49	$20.53	$0.00	$67.94
5	90	$40.41	$11.49	$20.53	$0.00	$72.43

Notes:

Apprentice to Journeyworker Ratio:1:5

MARBLE MASON/TILE LAYER(SP/PT)SeeBrick
BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE

See "BRICK/STONE/ARTIFICIAL MASONRY(INCL.MASONRY WATERPROOFING)

MECH. SWEEPER OPERATOR (ON CONST. SITES) *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$39.56	$13.78	$15.15	$0.00	$68.49

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANIC/WELDER/BOOM TRUCK *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$39.03	$13.78	$15.15	$0.00	$67.96

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 3) *MILLWRIGHTS LOCAL 1121 - Zone 3*	01/01/2024	$41.20	$10.08	$21.22	$0.00	$72.50
	01/06/2025	$43.48	$10.08	$21.22	$0.00	$74.78
	01/05/2026	$45.76	$10.08	$21.22	$0.00	$77.06

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MILLWRIGHT - Local 1121 Zone 3*

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$22.66	$10.08	$5.36	$0.00	$38.10
2	65	$26.78	$10.08	$6.34	$0.00	$43.20
3	75	$30.90	$10.08	$18.78	$0.00	$59.76
4	85	$35.02	$10.08	$19.76	$0.00	$64.86

Effective Date - 01/06/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$23.91	$10.08	$5.36	$0.00	$39.35
2	65	$28.26	$10.08	$6.34	$0.00	$44.68
3	75	$32.61	$10.08	$18.78	$0.00	$61.47
4	85	$36.96	$10.08	$19.76	$0.00	$66.80

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 $5.72, Step 2 $6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:4

MORTAR MIXER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$33.88	$9.65	$16.84	$0.00	$60.37
For apprentice rates see "Apprentice- LABORER"						
OILER *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$35.02	$13.78	$15.15	$0.00	$63.95
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS VI *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$32.74	$13.78	$15.15	$0.00	$61.67
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) *PAINTERS LOCAL 35 - ZONE 3*	07/01/2024	$57.26	$9.95	$23.95	$0.00	$91.16
	01/01/2025	$58.46	$9.95	$23.95	$0.00	$92.36

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.63	$9.95	$0.00	$0.00	$38.58
2	55	$31.49	$9.95	$6.66	$0.00	$48.10
3	60	$34.36	$9.95	$7.26	$0.00	$51.57
4	65	$37.22	$9.95	$7.87	$0.00	$55.04
5	70	$40.08	$9.95	$20.32	$0.00	$70.35
6	75	$42.95	$9.95	$20.93	$0.00	$73.83
7	80	$45.81	$9.95	$21.53	$0.00	$77.29
8	90	$51.53	$9.95	$22.74	$0.00	$84.22

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$29.23	$9.95	$0.00	$0.00	$39.18
2	55	$32.15	$9.95	$6.66	$0.00	$48.76
3	60	$35.08	$9.95	$7.26	$0.00	$52.29
4	65	$38.00	$9.95	$7.87	$0.00	$55.82
5	70	$40.92	$9.95	$20.32	$0.00	$71.19
6	75	$43.85	$9.95	$20.93	$0.00	$74.73
7	80	$46.77	$9.95	$21.53	$0.00	$78.25
8	90	$52.61	$9.95	$22.74	$0.00	$85.30

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	07/01/2024	$40.03	$9.65	$19.90	$0.00	$69.58
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 3*	01/01/2025	$41.23	$9.65	$19.90	$0.00	$70.78

Apprentice - *PAINTER Local 35 Zone 3 - Spray/Sandblast - New*

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.02	$9.95	$0.00	$0.00	$29.97
2	55	$22.02	$9.95	$4.43	$0.00	$36.40
3	60	$24.02	$9.95	$4.83	$0.00	$38.80
4	65	$26.02	$9.95	$5.23	$0.00	$41.20
5	70	$28.02	$9.95	$17.49	$0.00	$55.46
6	75	$30.02	$9.95	$17.89	$0.00	$57.86
7	80	$32.02	$9.95	$18.29	$0.00	$60.26
8	90	$36.03	$9.95	$19.10	$0.00	$65.08

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.62	$9.95	$0.00	$0.00	$30.57
2	55	$22.68	$9.95	$4.43	$0.00	$37.06
3	60	$24.74	$9.95	$4.83	$0.00	$39.52
4	65	$26.80	$9.95	$5.23	$0.00	$41.98
5	70	$28.86	$9.95	$17.49	$0.00	$56.30
6	75	$30.92	$9.95	$17.89	$0.00	$58.76
7	80	$32.98	$9.95	$18.29	$0.00	$61.22
8	90	$37.11	$9.95	$19.10	$0.00	$66.16

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) *PAINTERS LOCAL 35 - ZONE 3*	07/01/2024	$37.35	$9.95	$19.90	$0.00	$67.20
	01/01/2025	$38.55	$9.95	$19.90	$0.00	$68.40

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 Zone 3 - Spray/Sandblast - Repaint*

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.68	$9.95	$0.00	$0.00	$28.63
2	55	$20.54	$9.95	$4.43	$0.00	$34.92
3	60	$22.41	$9.95	$4.83	$0.00	$37.19
4	65	$24.28	$9.95	$5.23	$0.00	$39.46
5	70	$26.15	$9.95	$17.49	$0.00	$53.59
6	75	$28.01	$9.95	$17.89	$0.00	$55.85
7	80	$29.88	$9.95	$18.29	$0.00	$58.12
8	90	$33.62	$9.95	$19.10	$0.00	$62.67

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$19.28	$9.95	$0.00	$0.00	$29.23
2	55	$21.20	$9.95	$4.43	$0.00	$35.58
3	60	$23.13	$9.95	$4.83	$0.00	$37.91
4	65	$25.06	$9.95	$5.23	$0.00	$40.24
5	70	$26.99	$9.95	$17.49	$0.00	$54.43
6	75	$28.91	$9.95	$17.89	$0.00	$56.75
7	80	$30.84	$9.95	$18.29	$0.00	$59.08
8	90	$34.70	$9.95	$19.10	$0.00	$63.75

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	07/01/2024	$38.63	$9.95	$19.90	$0.00	$68.48
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 3*	01/01/2025	$39.83	$9.95	$19.90	$0.00	$69.68

Apprentice - *PAINTER - Local 35 Zone 3 - BRUSH NEW*

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$19.32	$9.95	$0.00	$0.00	$29.27
2	55	$21.25	$9.95	$4.43	$0.00	$35.63
3	60	$23.18	$9.95	$4.83	$0.00	$37.96
4	65	$25.11	$9.95	$5.23	$0.00	$40.29
5	70	$27.04	$9.95	$17.49	$0.00	$54.48
6	75	$28.97	$9.95	$17.89	$0.00	$56.81
7	80	$30.90	$9.95	$18.29	$0.00	$59.14
8	90	$34.77	$9.95	$19.10	$0.00	$63.82

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$19.92	$9.95	$0.00	$0.00	$29.87
2	55	$21.91	$9.95	$4.43	$0.00	$36.29
3	60	$23.90	$9.95	$4.83	$0.00	$38.68
4	65	$25.89	$9.95	$5.23	$0.00	$41.07
5	70	$27.88	$9.95	$17.49	$0.00	$55.32
6	75	$29.87	$9.95	$17.89	$0.00	$57.71
7	80	$31.86	$9.95	$18.29	$0.00	$60.10
8	90	$35.85	$9.95	$19.10	$0.00	$64.90

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT) *PAINTERS LOCAL 35 - ZONE 3*	07/01/2024	$35.95	$9.95	$19.90	$0.00	$65.80
	01/01/2025	$37.15	$9.95	$19.90	$0.00	$67.00

Apprentice - *PAINTER Local 35 Zone 3 - BRUSH REPAINT*

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$17.98	$9.95	$0.00	$0.00	$27.93
2	55	$19.77	$9.95	$4.43	$0.00	$34.15
3	60	$21.57	$9.95	$4.83	$0.00	$36.35
4	65	$23.37	$9.95	$5.23	$0.00	$38.55
5	70	$25.17	$9.95	$17.49	$0.00	$52.61
6	75	$26.96	$9.95	$17.89	$0.00	$54.80
7	80	$28.76	$9.95	$18.29	$0.00	$57.00
8	90	$32.36	$9.95	$19.10	$0.00	$61.41

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.58	$9.95	$0.00	$0.00	$28.53
2	55	$20.43	$9.95	$4.43	$0.00	$34.81
3	60	$22.29	$9.95	$4.83	$0.00	$37.07
4	65	$24.15	$9.95	$5.23	$0.00	$39.33
5	70	$26.01	$9.95	$17.49	$0.00	$53.45
6	75	$27.86	$9.95	$17.89	$0.00	$55.70
7	80	$29.72	$9.95	$18.29	$0.00	$57.96
8	90	$33.44	$9.95	$19.10	$0.00	$62.49

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$34.55	$9.65	$15.06	$0.00	$59.26
	12/01/2024	$35.75	$9.65	$15.06	$0.00	$60.46
	06/01/2025	$37.00	$9.65	$15.06	$0.00	$61.71
	12/01/2025	$38.24	$9.65	$15.06	$0.00	$62.95
	06/01/2026	$39.54	$9.65	$15.06	$0.00	$64.25
	12/01/2026	$40.83	$9.65	$15.06	$0.00	$65.54
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
PANEL & PICKUP TRUCKS DRIVER *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	06/01/2024	$39.78	$15.07	$18.67	$0.00	$73.52
	12/01/2024	$39.78	$15.07	$20.17	$0.00	$75.02
	01/01/2025	$39.78	$15.57	$20.17	$0.00	$75.52
	06/01/2025	$40.78	$15.57	$20.17	$0.00	$76.52
	12/01/2025	$40.78	$15.57	$21.78	$0.00	$78.13
	01/01/2026	$40.78	$16.17	$21.78	$0.00	$78.73
	06/01/2026	$41.78	$16.17	$21.78	$0.00	$79.73
	12/01/2026	$41.78	$16.17	$23.52	$0.00	$81.47
	01/01/2027	$41.78	$16.77	$23.52	$0.00	$82.07

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) *PILE DRIVER LOCAL 56 (ZONE 3)* For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	$43.53	$9.40	$23.12	$0.00	$76.05
PILE DRIVER *PILE DRIVER LOCAL 56 (ZONE 3)*	08/01/2020	$43.53	$9.40	$23.12	$0.00	$76.05

Apprentice - *PILE DRIVER - Local 56 Zone 3*

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	$0.00	$0.00	$0.00	$0.00	$0.00

Notes: Apprentice wages shall be no less than the following Steps;
(Same as set in Zone 1)
1$57.06/2$61.96/3$66.87/4$69.32/5$71.78/6$71.78/7$76.68/8$76.68

Apprentice to Journeyworker Ratio:1:5

PIPELAYER *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2023	$33.88	$9.65	$16.84	$0.00	$60.37
PIPELAYER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$34.80	$9.65	$15.06	$0.00	$59.51
	12/01/2024	$36.00	$9.65	$15.06	$0.00	$60.71
	06/01/2025	$37.25	$9.65	$15.06	$0.00	$61.96
	12/01/2025	$38.49	$9.65	$15.06	$0.00	$63.20
	06/01/2026	$39.79	$9.65	$15.06	$0.00	$64.50
	12/01/2026	$41.08	$9.65	$15.06	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PLUMBER & PIPEFITTER *PLUMBERS & PIPEFITTERS LOCAL 104*	03/17/2024	$49.21	$9.55	$17.10	$0.00	$75.86

Apprentice - *PLUMBER/PIPEFITTER - Local 104*

Effective Date - 03/17/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$22.14	$9.55	$10.10	$0.00	$41.79
2	50	$24.61	$9.55	$10.10	$0.00	$44.26
3	55	$27.07	$9.55	$10.10	$0.00	$46.72
4	60	$29.53	$9.55	$10.10	$0.00	$49.18
5	65	$31.99	$9.55	$10.10	$0.00	$51.64
6	70	$34.45	$9.55	$10.10	$0.00	$54.10
7	75	$36.91	$9.55	$10.10	$0.00	$56.56
8	80	$39.37	$9.55	$10.10	$0.00	$59.02
9	80	$39.37	$9.55	$17.10	$0.00	$66.02
10	80	$39.37	$9.55	$17.10	$0.00	$66.02

Notes: **1:1,2:5,3:9,4:12

Apprentice to Journeyworker Ratio:**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC CONTROLS (TEMP.) *PLUMBERS & PIPEFITTERS LOCAL 104* For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"	03/17/2024	$49.21	$9.55	$17.10	$0.00	$75.86
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$34.80	$9.65	$15.06	$0.00	$59.51
	12/01/2024	$36.00	$9.65	$15.06	$0.00	$60.71
	06/01/2025	$37.25	$9.65	$15.06	$0.00	$61.96
	12/01/2025	$38.49	$9.65	$15.06	$0.00	$63.20
	06/01/2026	$39.79	$9.65	$15.06	$0.00	$64.50
	12/01/2026	$41.08	$9.65	$15.06	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2023	$35.13	$9.40	$16.59	$0.00	$61.12
POWDERMAN & BLASTER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$35.55	$9.65	$15.06	$0.00	$60.26
	12/01/2024	$36.75	$9.65	$15.06	$0.00	$61.46
	06/01/2025	$38.00	$9.65	$15.06	$0.00	$62.71
	12/01/2025	$39.24	$9.65	$15.06	$0.00	$63.95
	06/01/2026	$40.54	$9.65	$15.06	$0.00	$65.25
	12/01/2026	$41.83	$9.65	$15.06	$0.00	$66.54
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PUMP OPERATOR (CONCRETE) *OPERATING ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2023	$39.56	$13.78	$15.15	$0.00	$68.49
PUMP OPERATOR (DEWATERING, OTHER) *OPERATING ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2023	$39.03	$13.78	$15.15	$0.00	$67.96
READY-MIX CONCRETE DRIVER *TEAMSTERS 404 - Construction Service (Northampton)*	05/01/2024	$26.14	$11.82	$7.25	$0.00	$45.21
RIDE-ON MOTORIZED BUGGY OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2023	$33.88	$9.65	$16.84	$0.00	$60.37
ROLLER OPERATOR *OPERATING ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2023	$38.42	$13.78	$15.15	$0.00	$67.35
ROOFER (Coal tar pitch) *ROOFERS LOCAL 248* For apprentice rates see "Apprentice- ROOFER"	07/16/2023	$38.91	$10.35	$18.00	$0.00	$67.26
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) *ROOFERS LOCAL 248*	07/16/2023	$38.41	$10.35	$18.00	$0.00	$66.76

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ROOFER - Local 248*

Effective Date - 07/16/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$23.05	$10.35	$0.00	$0.00	$33.40
2	65	$24.97	$10.35	$18.00	$0.00	$53.32
3	70	$26.89	$10.35	$18.00	$0.00	$55.24
4	75	$28.81	$10.35	$18.00	$0.00	$57.16
5	80	$30.73	$10.35	$18.00	$0.00	$59.08
6	85	$32.65	$10.35	$18.00	$0.00	$61.00
7	90	$34.57	$10.35	$18.00	$0.00	$62.92
8	95	$36.49	$10.35	$18.00	$0.00	$64.84

Notes:

Steps are 750 hrs.Roofer(Tear Off)1:1; Same as above

Apprentice to Journeyworker Ratio:1:3

ROOFER SLATE / TILE / PRECAST CONCRETE *ROOFERS LOCAL 248*	07/16/2023	$38.91	$10.35	$18.00	$0.00	$67.26
For apprentice rates see "Apprentice- ROOFER"						
SCRAPER *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$39.03	$13.78	$15.15	$0.00	$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
SELF-POWERED ROLLERS AND COMPACTORS (TAMPERS) *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$38.42	$13.78	$15.15	$0.00	$67.35
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
SELF-PROPELLED POWER BROOM *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$35.80	$13.78	$15.15	$0.00	$64.73
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
SHEETMETAL WORKER *SHEETMETAL WORKERS LOCAL 63*	07/01/2024	$40.98	$12.20	$18.74	$2.13	$74.05
	01/01/2025	$42.23	$12.20	$18.74	$2.13	$75.30

Apprentice - *SHEET METAL WORKER - Local 63*

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$18.44	$5.49	$4.86	$0.85	$29.64
2	50	$20.49	$6.10	$5.40	$0.94	$32.93
3	55	$22.54	$6.71	$9.71	$1.15	$40.11
4	60	$24.59	$7.32	$9.71	$1.23	$42.85
5	65	$26.64	$7.93	$9.71	$1.31	$45.59
6	70	$28.69	$8.54	$9.71	$1.39	$48.33
7	75	$30.74	$9.15	$9.71	$1.47	$51.07
8	80	$32.78	$9.76	$17.66	$1.78	$61.98
9	85	$34.83	$10.37	$17.66	$1.86	$64.72
10	90	$36.88	$10.98	$17.66	$1.94	$67.46

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$19.00	$5.49	$4.86	$0.85	$30.20
2	50	$21.12	$6.10	$5.40	$0.94	$33.56
3	55	$23.23	$6.71	$9.71	$1.15	$40.80
4	60	$25.34	$7.32	$9.71	$1.23	$43.60
5	65	$27.45	$7.93	$9.71	$1.31	$46.40
6	70	$29.56	$8.54	$9.71	$1.39	$49.20
7	75	$31.67	$9.15	$9.71	$1.47	$52.00
8	80	$33.78	$9.76	$17.66	$1.78	$62.98
9	85	$35.90	$10.37	$17.66	$1.86	$65.79
10	90	$38.01	$10.98	$17.66	$1.94	$68.59

Notes:

Apprentice to Journeyworker Ratio:1:3

SPECIALIZED EARTH MOVING EQUIP < 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	06/01/2024	$40.24	$15.07	$18.67	$0.00	$73.98
	12/01/2024	$40.24	$15.07	$20.17	$0.00	$75.48
	01/01/2025	$40.24	$15.57	$20.17	$0.00	$75.98
	06/01/2025	$41.24	$15.57	$20.17	$0.00	$76.98
	12/01/2025	$41.24	$15.57	$21.78	$0.00	$78.59
	01/01/2026	$41.24	$16.17	$21.78	$0.00	$79.19
	06/01/2026	$42.24	$16.17	$21.78	$0.00	$80.19
	12/01/2026	$42.24	$16.17	$23.52	$0.00	$81.93
	01/01/2027	$42.24	$16.77	$23.52	$0.00	$82.53

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP > 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	06/01/2024	$40.53	$15.07	$18.67	$0.00	$74.27
	12/01/2024	$40.53	$15.07	$20.17	$0.00	$75.77
	01/01/2025	$40.53	$15.57	$20.17	$0.00	$76.27
	06/01/2025	$41.53	$15.57	$20.17	$0.00	$77.27
	12/01/2025	$41.53	$15.57	$21.78	$0.00	$78.88
	01/01/2026	$41.53	$16.17	$21.78	$0.00	$79.48
	06/01/2026	$42.53	$16.17	$21.78	$0.00	$80.48
	12/01/2026	$42.53	$16.17	$23.52	$0.00	$82.22
	01/01/2027	$42.53	$16.77	$23.52	$0.00	$82.82
SPRINKLER FITTER *SPRINKLER FITTERS LOCAL 669*	04/01/2023	$47.43	$11.45	$16.61	$0.00	$75.49

Apprentice - *SPRINKLER FITTER - Local 669*

Effective Date - 04/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$21.34	$8.22	$0.00	$0.00	$29.56
2	50	$23.72	$8.22	$0.00	$0.00	$31.94
3	55	$26.09	$11.45	$7.20	$0.00	$44.74
4	60	$28.46	$11.45	$8.35	$0.00	$48.26
5	65	$30.83	$11.45	$8.35	$0.00	$50.63
6	70	$33.20	$11.45	$8.60	$0.00	$53.25
7	75	$35.57	$11.45	$8.60	$0.00	$55.62
8	80	$37.94	$11.45	$8.60	$0.00	$57.99
9	85	$40.32	$11.45	$8.60	$0.00	$60.37
10	90	$42.69	$11.45	$8.60	$0.00	$62.74

Notes:

Apprentice to Journeyworker Ratio:1:1

TELECOMMUNICATION TECHNICIAN *ELECTRICIANS LOCAL 7*	06/30/2024	$50.01	$13.00	$14.86	$0.00	$77.87
	12/29/2024	$51.06	$13.25	$15.06	$0.00	$79.37
	06/29/2025	$52.16	$13.50	$15.21	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$15.36	$0.00	$82.37
	06/28/2026	$54.41	$14.00	$15.46	$0.00	$83.87
	01/03/2027	$55.56	$14.25	$15.56	$0.00	$85.37

Apprentice - *TELECOMMUNICATION TECHNICIAN - Local 7*

Effective Date - 06/30/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$20.00	$7.20	$0.60	$0.00	$27.80
2	45	$22.50	$7.20	$0.68	$0.00	$30.38
3	50	$25.01	$13.00	$7.40	$0.00	$45.41
4	55	$27.51	$13.00	$7.48	$0.00	$47.99
5	65	$32.51	$13.00	$9.64	$0.00	$55.15
6	70	$35.01	$13.00	$11.06	$0.00	$59.07

Effective Date - 12/29/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$20.42	$7.35	$0.61	$0.00	$28.38
2	45	$22.98	$7.35	$0.69	$0.00	$31.02
3	50	$25.53	$13.25	$7.47	$0.00	$46.25
4	55	$28.08	$13.25	$7.54	$0.00	$48.87
5	65	$33.19	$13.25	$9.74	$0.00	$56.18
6	70	$35.74	$13.25	$11.19	$0.00	$60.18

Notes:
Steps are 800 hours

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS *BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE*	08/01/2024	$63.44	$11.49	$23.59	$0.00	$98.52
	02/01/2025	$64.74	$11.49	$23.59	$0.00	$99.82
	08/01/2025	$66.89	$11.49	$23.59	$0.00	$101.97
	02/10/2026	$68.24	$11.49	$23.59	$0.00	$103.32
	08/01/2026	$70.44	$11.49	$23.59	$0.00	$105.52
	02/01/2027	$71.84	$11.49	$23.59	$0.00	$106.92

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *TERRAZZO FINISHER-Local 3 Marble/Tile (Spr/Ptt)*

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$31.72	$11.49	$23.59	$0.00	$66.80
2	60	$38.06	$11.49	$23.59	$0.00	$73.14
3	70	$44.41	$11.49	$23.59	$0.00	$79.49
4	80	$50.75	$11.49	$23.59	$0.00	$85.83
5	90	$57.10	$11.49	$23.59	$0.00	$92.18

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$32.37	$11.49	$23.59	$0.00	$67.45
2	60	$38.84	$11.49	$23.59	$0.00	$73.92
3	70	$45.32	$11.49	$23.59	$0.00	$80.40
4	80	$51.79	$11.49	$23.59	$0.00	$86.87
5	90	$58.27	$11.49	$23.59	$0.00	$93.35

Notes:

Apprentice to Journeyworker Ratio:1:5

TERRAZZO MECHANIC *BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE*	08/01/2024	$64.52	$11.49	$23.56	$0.00	$99.57
	02/01/2025	$65.82	$11.49	$23.56	$0.00	$100.87
	08/01/2025	$67.97	$11.49	$23.56	$0.00	$103.02
	02/01/2026	$69.32	$11.49	$23.56	$0.00	$104.37
	08/01/2026	$71.52	$11.49	$23.56	$0.00	$106.57
	02/01/2027	$72.92	$11.49	$23.56	$0.00	$107.97

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *TERRAZZO MECH - Local 3 Marble/Tile (Spr/Pitt)*

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$32.26	$11.49	$23.56	$0.00	$67.31
2	60	$38.71	$11.49	$23.56	$0.00	$73.76
3	70	$45.16	$11.49	$23.56	$0.00	$80.21
4	80	$51.62	$11.49	$23.56	$0.00	$86.67
5	90	$58.07	$11.49	$23.56	$0.00	$93.12

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$32.91	$11.49	$23.56	$0.00	$67.96
2	60	$39.49	$11.49	$23.56	$0.00	$74.54
3	70	$46.07	$11.49	$23.56	$0.00	$81.12
4	80	$52.66	$11.49	$23.56	$0.00	$87.71
5	90	$59.24	$11.49	$23.56	$0.00	$94.29

Notes:

Apprentice to Journeyworker Ratio:1:5

TEST BORING DRILLER *LABORERS - FOUNDATION AND MARINE*	06/01/2024	$49.81	$9.65	$18.22	$0.00	$77.68
	12/01/2024	$51.28	$9.65	$18.22	$0.00	$79.15
	06/01/2025	$52.78	$9.65	$18.22	$0.00	$80.65
	12/01/2025	$54.28	$9.65	$18.22	$0.00	$82.15
	06/01/2026	$55.83	$9.65	$18.22	$0.00	$83.70
	12/01/2026	$57.33	$9.65	$18.22	$0.00	$85.20
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER *LABORERS - FOUNDATION AND MARINE*	06/01/2024	$45.60	$9.65	$18.22	$0.00	$73.47
	12/01/2024	$47.07	$9.65	$18.22	$0.00	$74.94
	06/01/2025	$48.57	$9.65	$18.22	$0.00	$76.44
	12/01/2025	$50.07	$9.65	$18.22	$0.00	$77.94
	06/01/2026	$51.62	$9.65	$18.22	$0.00	$79.49
	12/01/2026	$53.12	$9.65	$18.22	$0.00	$80.99
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER *LABORERS - FOUNDATION AND MARINE*	06/01/2024	$45.48	$9.65	$18.22	$0.00	$73.35
	12/01/2024	$46.95	$9.65	$18.22	$0.00	$74.82
	06/01/2025	$48.45	$9.65	$18.22	$0.00	$76.32
	12/01/2025	$49.95	$9.65	$18.22	$0.00	$77.82
	06/01/2026	$51.50	$9.65	$18.22	$0.00	$79.37
	12/01/2026	$53.00	$9.65	$18.22	$0.00	$80.87
For apprentice rates see "Apprentice- LABORER"						
TRACTORS *OPERATING ENGINEERS LOCAL 98*	12/01/2023	$38.42	$13.78	$15.15	$0.00	$67.35
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRAILERS FOR EARTH MOVING EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	06/01/2024	$40.82	$15.07	$18.67	$0.00	$74.56
	12/01/2024	$40.82	$15.07	$20.17	$0.00	$76.06
	01/01/2025	$40.82	$15.57	$20.17	$0.00	$76.56
	06/01/2025	$41.82	$15.57	$20.17	$0.00	$77.56
	12/01/2025	$41.82	$15.57	$21.78	$0.00	$79.17
	01/01/2026	$41.82	$16.17	$21.78	$0.00	$79.77
	06/01/2026	$42.82	$16.17	$21.78	$0.00	$80.77
	12/01/2026	$42.82	$16.17	$23.52	$0.00	$82.51
	01/01/2027	$42.82	$16.77	$23.52	$0.00	$83.11
TUNNEL WORK - COMPRESSED AIR *LABORERS (COMPRESSED AIR)*	06/01/2024	$57.71	$9.65	$19.00	$0.00	$86.36
	12/01/2024	$59.18	$9.65	$19.00	$0.00	$87.83
	06/01/2025	$60.68	$9.65	$19.00	$0.00	$89.33
	12/01/2025	$62.18	$9.65	$19.00	$0.00	$90.83
	06/01/2026	$63.73	$9.65	$19.00	$0.00	$92.38
	12/01/2026	$65.23	$9.65	$19.00	$0.00	$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) *LABORERS (COMPRESSED AIR)*	06/01/2024	$59.71	$9.65	$19.00	$0.00	$88.36
	12/01/2024	$61.18	$9.65	$19.00	$0.00	$89.83
	06/01/2025	$62.68	$9.65	$19.00	$0.00	$91.33
	12/01/2025	$64.18	$9.65	$19.00	$0.00	$92.83
	06/01/2026	$65.73	$9.65	$19.00	$0.00	$94.38
	12/01/2026	$67.23	$9.65	$19.00	$0.00	$95.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR *LABORERS (FREE AIR TUNNEL)*	06/01/2024	$49.78	$9.65	$19.00	$0.00	$78.43
	12/01/2024	$51.25	$9.65	$19.00	$0.00	$79.90
	06/01/2025	$52.75	$9.65	$19.00	$0.00	$81.40
	12/01/2025	$54.25	$9.65	$19.00	$0.00	$82.90
	06/01/2026	$55.80	$9.65	$19.00	$0.00	$84.45
	12/01/2026	$57.30	$9.65	$19.00	$0.00	$85.95
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) *LABORERS (FREE AIR TUNNEL)*	06/01/2024	$51.78	$9.65	$19.00	$0.00	$80.43
	12/01/2024	$53.25	$9.65	$19.00	$0.00	$81.90
	06/01/2025	$54.75	$9.65	$19.00	$0.00	$83.40
	12/01/2025	$56.25	$9.65	$19.00	$0.00	$84.90
	06/01/2026	$57.80	$9.65	$19.00	$0.00	$86.45
	12/01/2026	$59.30	$9.65	$19.00	$0.00	$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	06/01/2024	$40.24	$15.07	$18.67	$0.00	$73.98
	12/01/2024	$40.24	$15.07	$20.17	$0.00	$75.48
	01/01/2025	$40.24	$15.57	$20.17	$0.00	$75.98
	06/01/2025	$41.24	$15.57	$20.17	$0.00	$76.98
	12/01/2025	$41.24	$15.57	$21.78	$0.00	$78.59
	01/01/2026	$41.24	$16.17	$21.78	$0.00	$79.19
	06/01/2026	$42.24	$16.17	$21.78	$0.00	$80.19
	12/01/2026	$42.24	$16.17	$23.52	$0.00	$81.93
	01/01/2027	$42.24	$16.77	$23.52	$0.00	$82.53

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2023	$34.38	$9.40	$16.59	$0.00	$60.37
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	06/01/2024	$34.80	$9.65	$15.06	$0.00	$59.51
	12/01/2024	$36.00	$9.65	$15.06	$0.00	$60.71
	06/01/2025	$37.25	$9.65	$15.06	$0.00	$61.96
	12/01/2025	$38.49	$9.65	$15.06	$0.00	$63.20
	06/01/2026	$39.79	$9.65	$15.06	$0.00	$64.50
	12/01/2026	$41.08	$9.65	$15.06	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WATER METER INSTALLER *PLUMBERS & PIPEFITTERS LOCAL 104*	03/17/2024	$49.21	$9.55	$17.10	$0.00	$75.86
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)
Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.
*** APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.
**** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

Appendix G

Sample Contract

Sample Contract – Submission of a bid denotes acceptance of the following terms and conditions. Any suggested changes to the Contract must be submitted during the written question period and will be addressed in an addendum if required.

AGREEMENT

THIS AGREEMENT made this _____ day of _____

in the year Two Thousand and ____, between _____, with a usual place of business at _____, hereinafter called the CONTRACTOR, and the Town of Montague, acting by its Selectboard, with a usual place of business at 1 Avenue A, Turners Falls, MA 01376, hereinafter called the OWNER.

The CONTRACTOR and the OWNER, for the consideration hereinafter named, agree as follows:

1. Scope of Work

The Contractor shall furnish all labor, materials, equipment and insurance to perform all work required for the project known as 11th Street Bridge Rehabilitation, in strict accordance with the Contract Documents and all related Specifications. The said Documents, Specifications, and any supplemental general conditions are incorporated herein by reference and are made a part of this Agreement.

2. Contract Price

The Owner shall pay the Contractor for the performance of this Agreement, subject to additions and deductions provided herein, in current funds, the sum of _____.

3. Commencement and Completion of Work and Liquidated Damages

It is agreed that time is of the essence of this Agreement. The Contractor shall commence and prosecute the work under this Agreement upon execution hereof and shall complete the work on or before _____.

A. Definition of Term: The Term "Substantial completion" shall mean the date certified by the Owner when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner may occupy the project, or designated portion(s) thereof, for the use for which it is intended.

B. Time as Essential Condition: It is understood and agreed that the commencement of and substantial completion of the work are essential conditions of this Agreement. It is further agreed that time is of the essence for each and every portion of the Contract.

Documents wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract Documents any additional time is allowed for the completion of any work, the new time fixed by such extension shall be of the essence of this Agreement. It is understood and agreed that the times for the completion of the work are reasonable, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

C. Progress and Completion: Contractor shall commence work promptly upon execution of this Agreement and shall prosecute and complete the work regularly, diligently and uninterruptedly at such a rate of progress as will insure Substantial Completion within the stipulated number of calendar days.

4. Performance of the Work

A. Direction of the Work: The Contractor shall supervise and direct the Work, using their best skills and attention which shall not be less than such state of skill and attention generally rendered by the contracting profession for projects similar to the Project in scope, difficulty and location. The Contractor shall maintain adequate supervisory personnel at the project site during the performance of the Work. They shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Agreement.

B. Responsibility for the Work:

(1) The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor. This obligation shall also extend to the presence on the Site of suppliers of materials or equipment, their employees, contractors, and agents engaged in the work.

(2) The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Owner in its administration of the Agreement, or by inspections, tests or approvals required or performed by persons other than the Contractor.

C. Permits and Fees: Unless otherwise expressly provided, the Contractor shall secure and pay for all permits and fees, licenses and inspections necessary for the proper execution and completion of the Work which are customarily secured after execution of the

Agreement and which are legally required at the time the bids are received, and the same shall at all times be the property of the Owner and shall be delivered to the Owner upon completion of the Project. Municipal Building Permit fees are waived.

D. Notices, Compliance With Laws: (1) The Contractor shall give all notices and comply with all federal, state and local laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work. The Contractor shall provide the Owner with reproductions of all permits, licenses and receipts for any fees paid. The Owner represents that it has disclosed to the Contractor all orders and requirements known to the Owner of any public authority particular to this Agreement.

(2) If the Contractor observes that any of the Contract Documents are at variance with applicable laws, statutes, codes and regulations in any respect, they shall promptly notify the Owner in writing, and any necessary changes shall be accomplished by appropriate modification.

(3) If the Contractor performs any Work which they know or should know is contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility therefor and shall bear all costs attributable thereto.

(4) In the performance of the Work, the Contractor shall comply with all applicable federal, state and local laws and regulations including those relating to workplace and employee safety. The Contractor shall notify the Owner immediately of any conditions at the place of the work which violate said laws and regulations and shall take prompt action to correct and eliminate any such violations.

E. Project Superintendent: The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site at all times during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed on written request in each case.

F. Progress Schedule: The Contractor, immediately after being awarded the Contract, shall prepare and submit for the Owner's information an estimated progress schedule for the Work. The progress schedule shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

G. Drawings, Specifications and Submittals:

(1) The Contractor shall maintain at the site for the Owner one record copy of all Specifications, Addenda, Change Orders and other Modifications in good order and marked currently to record all changes made during construction, and approved Product Data and Samples. These shall be delivered to the Owner upon completion of the Work.

(2) By approving and submitting Product Data and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

(3) The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Owner's approval of Product Data or Samples unless the Contractor has specifically informed the Owner in writing of such deviation at the time of submission and the Owner has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Owner's approval thereof.

(4) The Contractor shall direct specific attention, in writing or on resubmitted Product Data or Samples, to revisions other than those requested by the Owner on previous submittals.

(5) No portion of the Work requiring submission of a Product Data or Sample shall be commenced until the submittal has been approved by the Owner. All such portions of the Work shall be in accordance with approved submittals.

H. Protection of the Work and Owner's Property: The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this Agreement. He shall at all times safely guard and protect his own work, and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury. The Contractor shall clean the work area and restore it to its original condition upon completion of the work.

I. Quality of the Work: The Contractor shall perform the work in a good, workmanlike manner. The Contractor hereby guarantees that the entire work constructed by him under the Agreement will meet fully all requirements thereof as to quality of workmanship and materials. The Contractor hereby agrees to make at his own expense any repairs or replacements made necessary by defects in materials or workmanship supplied to him that become evident within one (1) year after the date of the final payment, and to restore to full compliance with the requirements set forth herein any part of the work constructed hereunder, which during said one (1) year period is found to be deficient with respect to any provisions of the Contract Documents. The Contractor also agrees to hold the Owner

harmless from claims of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written orders for same from the Owner. If the Contractor fails to make the repairs and replacements promptly, the Owner may do the work and the Contractor shall be liable to the Owner for the cost thereof.

J. Warranty: The Contractor guarantees to Owner that all materials incorporated into the work will be new unless otherwise specified or agreed. Prior to final payment, the Contractor shall deliver to the Owner all manufacturers' warranties, together with such endorsements or assignments as are necessary to ensure to the Owner the full rights and benefits of such warranties.

5. Affirmative Action/Equal Employment Opportunity

The Contractor is directed to comply with all applicable State Laws, Ordinances, Bylaws, and rules and regulations regarding affirmative action/equal employment opportunity requirements. Failure of the Contractor to comply with any such law, rule or regulation shall constitute grounds for the Owner to terminate the Agreement.

6. Site Information Not Guaranteed; Contractor's Investigation

All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the Owner. All such information is furnished only for the information and convenience of the Contractor and is not guaranteed.

It is agreed and understood that the Owner does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes, or other structures encountered during construction will be the same as those indicated in the Contract Documents.

Contractor has familiarized himself with the nature and extent of the Contract Documents, work, locality, and with all local conditions and federal, state, and local laws, rules, ordinances, and regulations that in any manner may affect costs, progress, or performance of the work. Contractor has made, or has caused to be made, examinations, investigations, and tests and studies of such reports and related data in addition to those referred to in the paragraph above as he deems necessary for the performance of the work at the Contract Price, within the Contract Time, and in accordance with the other Terms and Conditions of the Contract Documents; and no additional examinations, tests, investigations, reports, and similar data are or will be required by the Contractor for such purposes.

Contractor has correlated the results of all such observations, examinations, investigations, tests, reports, and data with the Contract Documents. Contractor has given

the Owner written notice of all conflicts, errors, or discrepancies that he has discovered in the Contract Documents, and the resolution thereof by the Owner is acceptable to the Contractor.

It is further agreed and understood that the Contractor shall not use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the Owner, arising from or by reason of any variance which may exist between the information made available and the actual subsurface conditions or other conditions or structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

7. Project Architect or Engineer

The project architect-engineer for this project is Peter Grandy. Except as otherwise indicated in the Contract Documents, the Architect/Engineer shall be a representative of the Owner and the Contractor shall direct all communications, questions and comments on the work and the performance thereof to the Architect/Engineer. Except as otherwise provided, the Architect/Engineer shall have all the authority of the Owner set forth in the Contract Documents. In general, the Architect/Engineer shall have the authority to review the performance of the work, reject work which is defective or otherwise does not comply with the Contract Documents and to order the Contractor to remedy defective work and take such actions which are necessary to make the work conform to the Contract Documents.

8. Wage Rates

Prevailing Wage Rates as determined by the Commissioner of the Department of Labor and Workforce Development under the provisions of Massachusetts General Laws, Chapter 149, Section 26 to 27G, as amended, apply to specific elements of this project. It is the responsibility of the Contractor to provide the Town with certified payrolls and to comply with all requirements of the above-cited statutes.

The schedules of prevailing wage rates are included in the Contract Documents.

9. Payments to the Contractor

Within fifteen (15) days after receipt from the Contractor of a proper and satisfactory invoice requesting payment of the lump sum amount due for completion of the project, the Owner shall have fifteen (15) days to make payment for:

A. The work performed.

B. Less the following retention items:

1. A retention based on an estimate of the fair value of the Owner's claims against the Contractor.

2. A retention for direct payments to Subcontractors, if any, based on demands for same in accordance with the provisions of Section 39F of Chapter 30 of the General Laws.

C. Changes in the Work: No changes in the work covered by the approved Contract Documents shall be made without prior written approval of the Owner. Charges or credits for the work covered by the approved change shall be determined by Negotiation based on lump sum.

F. Claims for Additional Costs: If the Contractor wishes to make a claim for an increase in the Contract Sum, he shall give the Owner written notice thereof within twenty days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property. No such claim shall be valid unless so made. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

The Contractor hereby agrees that the Contractor shall have no claim for damages of any kind against the Town on account of any delay in the commencement or performance of the work and/or any hindrance, delay or suspension of any portion of the work including, but not limited to, any claims or damages on account of having to perform out of sequence work, claims for damages on account of loss of production or other interference with the work whether such delay is caused by the Town or otherwise, except as and to the extent expressly provided under G.L. c.30, §39O in the case of written orders by the Town. The Contractor acknowledges that the Contractor's sole remedy for any such claim will be an extension of time as provided herein.

10. Final Payment, Effect

The acceptance of final payment by the Contractor shall constitute a waiver of all claims by the Contractor arising under the Agreement.

11. Contract Documents

The Contract Documents consist of the following, together with this Agreement:

- Request for Bids
- Instructions to Bidders
- This Contract Form

- Price Bid Form
- Labor & Materials Payment Bond (if required)
- Non-Collusion Certificate
- Tax Compliance Certificate
- Clerk's Certificate of Corporate Vote
- Certificate of Insurance
- General Conditions
- Specifications and Addenda
- Schedule of Prevailing Wages
- (Strike out any inapplicable item)

12. Terms Required By Law

This Agreement shall be considered to include all terms required to be included in it by the Massachusetts General Laws, and all other laws, as though such terms were set forth in full herein.

13. Indemnification

The Contractor shall indemnify and hold harmless the Owner from and against any and all claims, damages, losses, and expenses, including attorney's fees, arising out of the performance of this Agreement when such claims, damages, losses, and expenses are caused, in whole or in part, by the acts, errors, or omissions of the Contractor or his employees, agents, subcontractors or representatives.

14. Insurance

The Contractor shall be responsible to the Town or any third party for any property damage or bodily injury caused by it, any of its subcontractors, employees or agents in the performance of, or as a result of, the work under this Agreement. The Contractor and any subcontractors used hereby certify that they are insured for workers' compensation, property damage, personal and product liability. The Contractor and any subcontractor it uses shall purchase, furnish copies of, and maintain in full force and effect insurance policies in the amounts here indicated.

The Contractor shall at all times during the contract maintain in full force and effect Employer's Liability, Worker's Compensation, Bodily Injury Liability, and Property Damage

and General Liability Insurance, including contractual liability coverage. All insurance shall be by insurers and for policy limits acceptable to the Town of Montague and before commencement of work hereunder the Contractor agrees to furnish the Town certificates of insurance or other evidence satisfactory to the Town to the effect that such insurance has been procured and is in force.

For the purpose of the Contract, the Contractor shall carry the following types of insurance in at least the limits specified below:

COVERAGES	**LIMITS OF LIABILITY**
Worker's Compensation	Statutory
Employer's Liability	$500,000/$500,000/$500,000
Automobile Liability property damage	$1,000,000.00 combined single limit for bodily injury and
General Liability	$1,000,000.00 each occurrence
	$3,000,000.00 aggregate
Excess Umbrella Liability	$2,000,000 each occurrence
	$2,000,000 annual aggregate

The Town of Montague shall be named as additional insured under the liability and automobile insurance. The excess/umbrella liability insurance policy should contain a broad form general liability endorsement.

Prior to commencement of any work under this Agreement, the Contractor shall provide the Town with Certificates of Insurance which include the Town as an additional named insured and which include a thirty day notice of cancellation to the Town. These certificates will be updated and submitted annually.

15. Notice

All notices required to be given hereunder shall be in writing and delivered to, or mailed first class to, the parties' respective addresses stated above. In the event that immediate notice is required, it may be given by telephone or facsimile, but shall, to the extent possible, be followed by notice in writing in the manner set forth above.

16. Termination

A. Each party shall have the right to terminate this Agreement in the event of a failure of the other party to comply with the terms of the Agreement. Such termination shall be effective upon seven days' notice to the party in default and the failure within that time of said party to cure its default.

B. The Owner shall have the right to terminate the Agreement without cause, upon ten (10) days' written notice to the Contractor. In the event that the Agreement is terminated pursuant to this subparagraph, the Contractor shall be reimbursed in accordance with the Contract Documents for all Work performed up to the termination date, and for all materials or equipment not incorporated in the Work, but delivered and suitably stored at the site. Payment for material or equipment stored at the site shall be conditioned upon submission by the Contractor of bills of sale or such other evidence as is satisfactory to Owner to establish the Owner's title to such material or equipment or otherwise protect the Owner's interests.

17. Miscellaneous

A. Royalties and Patents: The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified; but if the Contractor believes or has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Owner, and thereafter the Owner insists on the use of the design, process or products specified.

B. Assignment: The Contractor shall not assign or transfer any of its rights, duties or obligations under this Agreement without the written approval of the Owner.

C. Governing Law: This Agreement shall be governed by and construed in accordance with the law of the Commonwealth of Massachusetts.

D. By its signature hereon, the Contractor certifies, under the pains and penalties of perjury, that it has complied with all laws of the Commonwealth of Massachusetts relating

to taxes, reporting of employees and contractors, and withholding and remitting child support.

AGREED:

TOWN OF MONTAGUE, MASSACHUSETTS (Owner)

By its Selectboard

_____

_____

_____

CONTRACTOR: _____

By_____

_____

(Name)

_____

(Title)

_____

(Address)

_____

(City and State)

In accordance with G.L. c.44, Section 31C, this is to certify that an appropriation in the amount of this contract is available therefor and that the _____ has been authorized to execute the contract and approve all requisitions and change orders.

By_____

(Owner's Accountant)

_____

(Name)

CERTIFICATE OF VOTE

(to be filed if Contractor is a Corporation)

I, _____, hereby certify that I am the duly qualified

(Secretary of the Corporation)

and acting Secretary of _____ and I further certify that a meeting of the

(Name of Corporation)

Directors of said Company, duly called and held on _____, at which

(Date of Meeting)

all Directors were present and voting, the following vote was unanimously passed:

VOTED: To authorize and empower

_____

_____

_____

_____

_____

Anyone acting singly, to execute Forms of General Bid, Contracts or Bonds on behalf of the Corporation.

I further certify that the above vote is still in effect and has not been changed or modified in any respect.

By:_____

(Secretary of Corporation)

A True Copy:

Attest:_____

(Notary Public)

My Commission Expires:_____

(Date)

SECTION 00620

PAYMENT BOND (required for Contracts $25,000 or more only)

KNOW ALL MEN BY THESE PRESENTS: That we _____

_____ a_____ _____

(Name of Contractor) (Corporation, Partnership, Joint Venture or Individual)

hereinafter called "Principal" and _____ of _____,

(Surety)

State of _____ hereinafter called the “Surety” and licensed by the State

(City and State)

Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are held and firmly bound to the City/Town of _____, Massachusetts, hereinafter called "Owner", in the penal sum of _____ Dollars

($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 23___, for the construction described as follows:

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in ____ ( ) counterparts, each one of which shall be deemed an original, this the _____ day of _____, 2023.

ATTEST:

_____

Surety

_____ By _____

(Attorney-in-Fact)

_____

_____

(Address-Zip Code)

_____ (SEAL)

Witness as to Surety

_____

_____

(Address-Zip Code)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

Incorporation of Applicable Provisions of the

Massachusetts General Laws

Certain provisions of the Massachusetts General Laws are applicable to Construction contracts including, but not limited to, those contained in Chapter 30 and Chapter 149. All applicable provisions of the Massachusetts General Laws are incorporated into the Contract as if fully set forth herein, and shall prevail over any conflicting provisions of the General or Supplemental General Conditions.